APPENDIX E. LABORATORY REPORTS AND DATA VALIDATION REPORT

EcoChem, Inc.

DATA VALIDATION REPORT

Lower Duwamish Waterway
Clam Tissue & Sediment Sampling Report

Prepared for:

Windward Environmental, LLC
200 West Mercer Street, Suite 401
Seattle, Washington 98119

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, Washington 98101

EcoChem Project: C22033-4

September 25, 2018

Approved for Release:

Christina Mott Frans
Project Manager
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report presents the results of Full and Summary Validation (EPA Stage 4 and Stage 2B) performed on clam tissue and sediment and quality control sample data for the Lower Duwamish Waterway Baseline Sampling project. A complete list of samples is provided in the **Sample Index**.

Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington, Alpha Analytical, Mansfield, Massachusetts, Brooks Applied Laboratories, Bothell, Washington, and SGS Axys, Sidney BC, Canada. The analytical methods and EcoChem project chemists are listed below.

Analysis	Method	Primary Review	Secondary Review
Semivolatile Organic Compounds	SW 8270D	E. Clayton	C. Frans
Polynuclear Aromatic Hydrocarbon (PAH) Compounds	SW 8270D-SIM		
Tributyltin Compounds	SW 8270D-SIM		
PCB Aroclors	SW 8082A		
Organochlorine Pesticides	ALS SOP PEST MSMS	C. Frans	R. Frans
Dioxins & Furans	EPA 1613B	E. Clayton	C. Frans
PCB Congeners	EPA 1668C		
Total Vanadium	SW 6020A		
Inorganic Arsenic	EPA1632 Mod		
Total Organic Carbon	SW 9060		
Lipids	Bligh & Dyer		
Total Solids	SM 2540-G		
Black Carbon	SW9060M/Gustafsson		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Lower Duwamish Waterway Group Clam Collection and Chemical Analyses – Quality Assurance Project Plan and Appendix C* (Windward, April 2018); *National Functional Guidelines for Organic Data Review* (USEPA 2008 & 2014); *National Functional Guidelines for Inorganic Data Review* (USEPA 2010); and *National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) & Chlorinated Dibenzofurans (CDFs) Data Review,* (USEPA September 2011), USEPA *R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B and SW846 Method 8290A (USEPA May 2014)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced previously.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID					Dioxins	PCB Congeners	PCB Aroclors	PAH	SVOC	Pesticides	Metals	Conventional Tests			
		ARI	Axys	ALS-Kelso	BAL	Alpha								TOC	Lipids	Solids	Black Carbon
18E0231	LDW18-A11-CLWB-Comp1	18E0231-01								✓					✓	✓	
	LDW18-SSCL-A11	18E0231-02								✓				✓		✓	
	LDW18-SSCL-A11-FD	18E0231-03								✓				✓		✓	
	LDW18-SSCL-A01	18E0243-01								✓				✓		✓	
	LDW18-SSCL-A02	18E0243-02								✓				✓		✓	
	LDW18-SSCL-A03	18E0243-03								✓				✓		✓	
	LDW18-SSCL-A05	18E0243-04								✓				✓		✓	
	LDW18-SSCL-A04	18E0243-05								✓				✓		✓	
	LDW18-SSCL-A06	18E0243-06								✓				✓		✓	
	LDW18-A01-CLWB-Comp1	18E0243-07								✓					✓	✓	
	LDW18-A02-CLWB-Comp1	18E0243-08								✓					✓	✓	
	LDW18-A06-CLWB-Comp1	18E0243-09								✓					✓	✓	
	LDW18-A04-CLWB-Comp1	18E0243-10								✓					✓	✓	
	LDW18-A03-CLWB-Comp1	18E0243-11								✓					✓	✓	
	LDW18-A05-CLWB-Comp1	18E0243-12								✓					✓	✓	
	LDW18-SSCL-A13	18E0262-01								✓				✓		✓	
	LDW18-SSCL-A19	18E0262-02								✓				✓		✓	
	LDW18-A19-CLWB-Comp1	18E0262-03								✓					✓	✓	
	LDW18-SSCL-A12	18E0282-01								✓				✓		✓	
	LDW18-SSCL-A17	18E0282-02								✓				✓		✓	
	LDW18-SSCL-A18	18E0282-03								✓				✓		✓	
	LDW18-SSCL-A09	18E0282-04								✓				✓		✓	
	LDW18-SSCL-A10	18E0282-05								✓				✓		✓	
	LDW18-A12-CLWB-Comp1	18E0282-06								✓					✓	✓	
	LDW18-A09-CLWB-Comp1	18E0282-07								✓					✓	✓	
	LDW18-A10-CLWB-Comp1	18E0282-08								✓					✓	✓	
	LDW18-A18-CLWB-Comp1	18E0282-09								✓					✓	✓	
	LDW18-A17-CLWB-Comp1	18E0282-10								✓					✓	✓	
18E0231	LDW18-SSCL-A07	18E0309-01								✓				✓		✓	
	LDW18-SSCL-A08	18E0309-02								✓				✓		✓	
	LDW18-A07-CLWB-Comp1	18E0309-03								✓					✓	✓	
	LDW18-A08-CLWB-Comp1	18E0309-04								✓					✓	✓	

Sample Index
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID					Dioxins	PCB Congeners	PCB Aroclors	PAH	SVOC	Pesticides	Metals	Conventional Tests			
		ARI	Axys	ALS-Kelso	BAL	Alpha								TOC	Lipids	Solids	Black Carbon
18E0231	LDW18-A13-CLWB-Comp1	18E0389-01								✓					✓	✓	
18F0331	LDW18-C01-CLSP-Comp1	18F0331-01													✓	✓	
	LDW18-C01-CLRM-Comp1	18F0331-02													✓	✓	
	LDW18-C02-CLSP-Comp1	18F0331-03													✓	✓	
	LDW18-C02-CLRM-Comp1	18F0331-04													✓	✓	
	LDW18-C03-CLRM-Comp1	18F0331-05													✓	✓	
	LDW18-C03-CLSP-Comp1	18F0331-06													✓	✓	
	LDW18-C04-CLSP-Comp1	18F0331-07													✓	✓	
	LDW18-C04-CLRM-Comp1	18F0331-08													✓	✓	
	LDW18-C05-CLSP-Comp1	18F0331-09													✓	✓	
	LDW18-C05-CLRM-Comp1	18F0331-10													✓	✓	
	LDW18-C06-CLSP-Comp1	18F0331-11													✓	✓	
	LDW18-C06-CLRM-Comp1	18F0331-12													✓	✓	
	LDW18-C07-CLSP-Comp1	18F0331-13													✓	✓	
	LDW18-C07-CLRM-Comp1	18F0331-14													✓	✓	
	LDW18-C08-CLRM-Comp1	18F0331-15													✓	✓	
	LDW18-C08-CLSP-Comp1	18F0331-16													✓	✓	
	LDW18-C09-CLSP-Comp1	18F0331-17													✓	✓	
	LDW18-C09-CLRM-Comp1	18F0331-18													✓	✓	
	LDW18-C10-CLSP-Comp1	18F0331-19													✓	✓	
	LDW18-C10-CLRM-Comp1	18F0331-20													✓	✓	
	LDW18-C11-CLSP-Comp1	18F0331-21													✓	✓	
	LDW18-C11-CLRM-Comp1	18F0331-22													✓	✓	
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01							✓	✓					✓	✓	
	LDW18-C02-CLWB-Comp2	18F0364-02							✓	✓					✓	✓	
	LDW18-C03-CLWB-Comp2	18F0364-03							✓	✓					✓	✓	
	LDW18-C04-CLWB-Comp2	18F0364-04							✓	✓					✓	✓	
	LDW18-C05-CLWB-Comp2	18F0364-05							✓	✓					✓	✓	
	LDW18-C06-CLWB-Comp2	18F0364-06							✓	✓					✓	✓	
	LDW18-C08-CLWB-Comp2	18F0364-07							✓	✓					✓	✓	
	LDW18-C10-CLWB-Comp2	18F0364-08							✓	✓					✓	✓	
	LDW18-C11-CLWB-Comp2	18F0364-09							✓	✓					✓	✓	

Sample Index
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID					Dioxins	PCB Congeners	PCB Aroclors	PAH	SVOC	Pesticides	Metals	Conventional Tests			
		ARI	Axys	ALS-Kelso	BAL	Alpha								TOC	Lipids	Solids	Black Carbon
18F0364	LDW18-S1-CLWB-Comp1	18F0364-10								✓	✓		✓				
	LDW18-S2-CLWB-Comp1	18F0364-11								✓	✓		✓				
	LDW18-S3-CLWB-Comp1	18F0364-12								✓	✓		✓				
WG64557	LDW18-C01-CLWB-Comp2		L29626-1 (A)				✓										
	LDW18-C02-CLWB-Comp2		L29626-2				✓										
	LDW18-C03-CLWB-Comp2		L29626-3 i				✓										
	LDW18-C04-CLWB-Comp2		L29626-4				✓										
	LDW18-C05-CLWB-Comp2		L29626-5 i				✓										
	LDW18-C06-CLWB-Comp2		L29626-6				✓										
	LDW18-C08-CLWB-Comp2		L29626-7				✓										
	LDW18-C10-CLWB-Comp2		L29626-8				✓										
	LDW18-C11-CLWB-Comp2		L29626-9				✓										
WG64623	LDW18-C01-CLWB-Comp2		L29626-1						✓								
	LDW18-C02-CLWB-Comp2		L29626-2						✓								
	LDW18-C04-CLWB-Comp2		L29626-4 (A)						✓								
	LDW18-C06-CLWB-Comp2		L29626-6						✓								
	LDW18-C08-CLWB-Comp2		L29626-7						✓								
	LDW18-C11-CLWB-Comp2		L29626-9						✓								
K1806476	LDW18-S1-CLWB-Comp1			L11807476-001								✓					
	LDW18-S2-CLWB-Comp1			L11807476-002								✓					
	LDW18-S3-CLWB-Comp1			L11807476-003								✓					
1828027	LDW18-C01-CLSP-Comp1				1828027-01								✓				
	LDW18-C02-CLSP-Comp1				1828027-02								✓				
	LDW18-C03-CLSP-Comp1				1828027-03								✓				
	LDW18-C04-CLSP-Comp1				1828027-04								✓				
	LDW18-C05-CLSP-Comp1				1828027-05								✓				
	LDW18-C06-CLSP-Comp1				1828027-06RE1								✓				
	LDW18-C07-CLSP-Comp1				1828027-07RE1								✓				
	LDW18-C08-CLSP-Comp1				1828027-08								✓				
	LDW18-C09-CLSP-Comp1				1828027-09								✓				
	LDW18-C10-CLSP-Comp1				1828027-10								✓				
	LDW18-C11-CLSP-Comp1				1828027-11RE1								✓				

Sample Index
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID					Dioxins	PCB Congeners	PCB Aroclors	PAH	SVOC	Pesticides	Metals	Conventional Tests			
		ARI	Axys	ALS-Kelso	BAL	Alpha								TOC	Lipids	Solids	Black Carbon
1828027	LDW18-C01-CLRM-Comp1				1828027-12RE1								✓				
	LDW18-C02-CLRM-Comp1				1828027-13								✓				
	LDW18-C03-CLRM-Comp1				1828027-14								✓				
	LDW18-C04-CLRM-Comp1				1828027-15								✓				
	LDW18-C05-CLRM-Comp1				1828027-16								✓				
	LDW18-C06-CLRM-Comp1				1828027-17								✓				
	LDW18-C07-CLRM-Comp1				1828027-18								✓				
	LDW18-C08-CLRM-Comp1				1828027-19								✓				
	LDW18-C09-CLRM-Comp1				1828027-20								✓				
	LDW18-C10-CLRM-Comp1				1828027-21								✓				
	LDW18-C11-CLRM-Comp1				1828027-22								✓				
L1828580	LDW18-SSCL-A01					L1828580-01											✓
	LDW18-SSCL-A02					L1828580-02											✓
	LDW18-SSCL-A03					L1828580-03											✓
	LDW18-SSCL-A04					L1828580-04											✓
	LDW18-SSCL-A05					L1828580-05											✓
	LDW18-SSCL-A06					L1828580-06											✓
	LDW18-SSCL-A07					L1828580-07											✓
	LDW18-SSCL-A08					L1828580-08											✓
	LDW18-SSCL-A09					L1828580-09											✓
	LDW18-SSCL-A10					L1828580-10											✓
	LDW18-SSCL-A11					L1828580-11											✓
	LDW18-SSCL-A12					L1828580-12											✓
	LDW18-SSCL-A13					L1828580-13											✓
	LDW18-SSCL-A17					L1828580-14											✓
	LDW18-SSCL-A18					L1828580-15											✓
	LDW18-SSCL-A19					L1828580-16											✓
	LDW18-SSCL-A11-FD					L1828580-17											✓

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
Semi-Volatile Hydrocarbon Compounds by EPA SW8270D

This report documents the review of analytical data from the analysis of tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples	Validation Level
18F0364	3 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed in the following table:

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	GC/MS Instrument Performance	✓	Target Analyte List
✓	Initial Calibration (ICAL)	✓	Internal Standards
2	Continuing Calibration (CCAL)	1	Certified Reference Material
✓	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	✓	Reported Results
1	Surrogate Compounds	✓	Compound Identification
✓	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Continuing Calibration

A continuing calibration verification (CCAL) standard was analyzed at the required frequency. Relative response factors (RRF) were greater than or equal to 0.05 for all compounds except for poorly responding compounds with RRF values greater than or equal to 0.01. The percent difference

(%D) values were less than or equal to 25% for all compounds except for poorly responding compounds were less than or equal to 40.0%. When the CCAL %D values indicate a potential low bias, associated results are estimated (J/UJ-5BL). Only the associated positive results are estimated (J-5BH) if the %D value indicates a potential high bias.

The following CCAL outlier required qualification:

SDG	CCAL Date	Compound	Potential Bias	Action
18F0364	7/05/18	Pentachlorophenol	Low	UJ-5BL

Surrogate Compounds

The surrogate compounds d5-nitrobenzene, 2,4,6-tribromophenol, d14-p-terphenyl, d4-1,2-dichlorobenzene, 2-fluorophenol, d5-phenol, d4-2-chlorophenol, and 2-fluorobiphenyl, were added to all field and batch QC samples. When two or more surrogate %R values are below the control limits and indicate a potential low bias, associated results for the are estimated (J/UJ-13L). When two or more surrogate %R values are greater than the control limit and indicate a potential high bias, only the positive results for a sample are estimated (J-13H). If there is one surrogate outlier that is less than 10% recovery, the reporting limits for that fraction are rejected (R-13L) and the detections are estimated (J-13L). With the exceptions noted below, all surrogate spike recoveries were within the laboratory control limits.

For Samples LDW18-S1-CLWB-Comp1, LDW18-S2-CLWB-Comp1, and LDW18-S3-CLWB-Comp1, the %R values for 2,4,6-tribromophenol were greater than the upper control limit. The other acid surrogates were in control; no qualifiers were added based on these single outliers.

Field Blanks

No field blanks were submitted with this data set.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed at the appropriate frequency. No action is taken unless both the MS and MSD percent recovery (%R) values are outside the control limits for MS/MSD %R outliers. Precision is evaluated using the RPD values calculated between the MS and MSD results. Any RPD values outside the control limits indicate uncertainty in the measured results for the sample. Qualifiers were only issued to the parent sample.

When the MS/MSD %R values indicate a potential low bias, associated results are estimated (J/UJ-8). Only the associated positive results are estimated (J-8) if the %R values indicate a potential high bias. Associated positive results are estimated (J-9) if the RPD values indicate uncertainty.

The MS/MSD analyses were performed using Sample LDW18-S2-CLWB-Comp1. The MS %R value for bis(2-ethylhexyl)phthalate was greater than the upper control limit; the MSD %R value was acceptable. No action was taken for this single outlier.

Field Duplicates

No field duplicates were submitted.

Certified Reference Material

No certified reference material was analyzed.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exception noted previously, accuracy was acceptable as demonstrated by the surrogate, LCS, MS/MSD recovery values. Precision was acceptable as demonstrated by the RPD values for the MS/MSD and field duplicate analyses.

Results were estimated due to a continuing calibration verification accuracy outlier.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue & Sediment
Polynuclear Aromatic Hydrocarbon Compounds by EPA SW8270D-SIM

This report documents the review of analytical data from the analysis of sediment and tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
18E0231	17 Sediment & 16 Tissue	EPA Stage 4
18F0364	12 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed in the following table:

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	GC/MS Instrument Performance	✓	Target Analyte List
✓	Initial Calibration (ICAL)	✓	Internal Standards
✓	Continuing Calibration (CCAL)	✓	Certified Reference Material
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	2	Reported Results
1	Surrogate Compounds	✓	Compound Identification
2	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
✓	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of ≤6°C. The laboratory received the sample coolers within the advisory temperature range.

SDG 18E0231: The ID for Sample LDW18-SSCL-A09 was listed as LDW18-SSCL-A on the container. The ID listed on the COC was used for login purposes.

Surrogate Compounds

The surrogate compounds dibenzo(a,h)anthracene-d14, fluoranthrene-d10, and 2-methylnaphthalene-d10, were added to all field and batch QC samples. When two or more surrogate %R values are below the control limits and indicate a potential low bias, associated results for the are estimated (J/UJ-13L). When two or more surrogate %R values are greater than the control limit and indicate a potential high bias, only the positive results for a sample are estimated (J-13H). If there is one surrogate outlier that is less than 10% recovery, the reporting limits for that fraction are rejected (R-13L) and the detections are estimated (J-13L). With the exceptions noted below, all surrogate spike recoveries were within the laboratory control limits.

SDG 18E0231: For Samples LDW18-SSCL-A09 and LDW18-SSCL-A17, the %R values for 2-methylnaphthalene-d10) were less than the lower control limit at 31.8% and 30.8%, respectively. The other base-neutral surrogates were in control; no qualifiers were added based on these single outliers.

Field Blanks

No field blanks were submitted with this data set.

Field Duplicates

For sediment samples, the QAPP RPD control limit is 35% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL.

With the following exceptions, all acceptance criteria were met.

SDG	Parent Sample	Duplicate Sample	Analyte	Outlier Type
18E0231	LDW18-SSCL-A11	LDW18-SSCL-A11-FD	Benzo(a)anthracene	35% RPD
			Indeno(1,2,3-cd)pyrene	35% RPD

Certified Reference Material

SDG 18E0231: Certified reference materials (CRM) CRM142 (Silty Loam) was analyzed with this analytical data set. All acceptance criteria were met.

Reporting Limits

SDG 18E0231: Reporting limits were elevated due to required dilutions.

Reported Results

SDG 18E0231: Several analytes were reported with an "E" flag indicating a result that exceeded the upper calibration range for Samples LDW18-SSCL-A01, LDW18-SSCL-A03, and LDW18-SSCL-A18. The "E" flagged results were flagged as do-not-report (DNR-20) in the original analysis and all other results in the dilution analyses were flagged (DNR-11).

Calculation Verification

SDG 18E0231: Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted previously, accuracy was acceptable as demonstrated by the surrogate, LCS, MS/MSD recovery values. With the exceptions noted above, precision was acceptable as demonstrated by the RPD values for the MS/MSD and field duplicate analyses.

Data were qualified as do-not report to indicate which result from multiple reported results should not be used.

Data that have been flagged as do-not-report should not be used for any purpose.

All other data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
Organotin Compounds by SW8270D-SIM

This report documents the review of analytical data from the analyses of tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington. The Sample Index lists the samples reviewed.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
18F0364	3 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are summarized in the following table:

1	Sample Receipt, Preservation, and Holding Times	✓	Matrix Spike/Matrix Spike Duplicates (MS/MSD)
✓	GC/MS Instrument Performance Check	1	Field Duplicates
✓	Initial Calibration (ICAL)	✓	Internal Standards
✓	Continuing Calibration (CCAL)	1	Certified Reference Material
✓	Method Blanks	✓	Reporting Limits
1	Field Blanks	✓	Reported Results
✓	Surrogate Compounds	✓	Compound Identification
✓	Laboratory Control Samples (LCS)	1	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

No field blanks were submitted with this data set

Field Duplicates

No field duplicates were submitted with this data set.

Certified Reference Material

No reference material was analyzed with this data set.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate, LCS, and MS/MSD recovery values. Precision was acceptable as demonstrated by the RPD values for the matrix spike analyses.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
PCB Aroclors by EPA 8082A

This report documents the review of analytical data from the analysis of tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
18F0364	9 Sediment	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Certified Reference Material
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Continuing Calibration (CCAL)	✓	Target Analyte List
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	2	Compound Identification
✓	Surrogate Compounds	2	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification (Full validation only)
✓	Laboratory Control Samples (LCS)		

1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

No field blanks were submitted with this data set.

Certified Reference Material

Certified reference material, Puget Sound Reference Material, was analyzed with these analytical data sets. All recoveries were within acceptance criteria.

Field Duplicates

No field duplicates were submitted with this data set.

Reported Results

The laboratory reported results from both the primary and confirmation columns. One result for each analyte was flagged as do-not-report (DNR-11) to indicate which result to use from multiple reported results.

Compound Identification

As required by the method, the laboratory analyzed any samples with positive detections on a confirmatory column. The results from the two analytical columns were compared for agreement. An elevated RPD value may indicate the presence of an interference resulting in a high bias. When the RPD value was greater than or equal to 40% but less than 60% the reported value was estimated (J-3). If the RPD value was greater than 60%, the result was qualified as a tentative identification (NJ-3). Confirmation outliers resulting in data qualification are discussed below.

For the following sample, the second column confirmation RPD value was greater than 40% and were estimated (J-3):

SDG	Sample ID	Compound	RPD	Qualifier
18F0364	LDW18-C04-CLWB-Comp2	Aroclor-1260	55	J-3

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate, LCS, and MS/MSD recoveries. Precision was also acceptable as demonstrated by the MS/MSD and field duplicate RPD values.

One result was estimated due to a dual column confirmation RPD outlier. Data were qualified as do-not report to indicate which result from multiple reported results should not be used.

Data flagged as do-not-report should not be used for any reason.

All other data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
Chlorinated Pesticides by ALS SOP PEST MSMS

This report documents the review of analytical data from the analyses of tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by ALS Environmental, Kelso, Washington. Refer to the Sample Index for a list of samples reviewed.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
K1806476	6 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The tune summary was missing from the data package. The laboratory was contacted and provided the document.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	**1**	Reference Material
✓	Tune	**1**	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
✓	Initial Calibration	**1**	Field Duplicates
✓	Continuing Calibration	**1**	Internal Standards
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	**1**	Reporting Limits
1	Labeled Compounds/ Surrogate Compounds	✓	Reported Results
1	Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)	✓	Compound Identification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Continuing Calibration

Continuing calibration verification (CCV) standards were analyzed at the required frequency. With the exceptions noted, the percent difference (%D) values were less than or equal to 25% for all compounds. When the CCV %D values indicate a potential low bias, associated results are estimated (J/UJ-5BL). Only the associated positive results are estimated (J-5BH) if the %D value indicates a potential high bias.

Percent difference values were greater than the control limit for 2,4'-DDE, alpha-chlordane, and Dieldrin and indicated a potential high bias. There were no positive results for these compounds; no data were qualified.

Field Blanks

No field blanks were submitted.

Labeled Compounds/Surrogate Compounds

Isotope-stable labeled compounds were added to each field and QC sample extract. Because they are added prior to extraction and are also used to quantitate the associated target compound analog, they act as internal standards as well as surrogate compounds. Based on the dual nature of the way the labeled compounds are used in this method, they have been evaluated using both internal standard and surrogate criteria.

The responses for the labeled compounds were evaluated using the typical internal standard acceptance limits of 50-200% of the response in the associated calibration verification standard. The internal standard responses were all within the control limits.

The labeled compounds are added to the samples prior to extraction, so they function as indicators for extraction efficiency and matrix interference in addition to being used for target analyte quantitation. The labeled compound %R values were evaluated using the QAPP control limits of 30-150% recovery. There were several recovery values that were less than the control limits, however, all of them were associated with QC samples and did not require qualification.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

The recovery values for alpha-chlordane, gamma-chlordane, and cis-nonachlor were greater than the upper control limit of 150%, but these analytes were not detected in the associated field samples; no data were qualified.

Reference Material

A reference material sample was not analyzed with this data set.

Matrix Spikes/Matrix Spike Duplicates

Matrix spikes were not analyzed with the data set. Accuracy and precision were assessed using the Laboratory Control Sample/Laboratory Control Sample Duplicate.

Field Duplicates

No field duplicates were submitted.

Internal Standards

The internal standard, pyrene-d10, was added to all samples as a quantitation reference for the isotope-labeled compounds. All internal standard responses were within the method specified control limits of 50%-200% of the response in the associated calibration verification standard.

Reporting Limits

Reporting limits were adjusted based on the sample weight prepared and are greater than the QAP reporting limits.

Calculation Verification

Calculation verifications were performed for this sample delivery group (SDG). No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate and LCS/LCSD percent recoveries. Precision was also acceptable as demonstrated by the LCS/LCSD RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
Dioxin/Furan Compounds by EPA 1613B

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. Samples were analyzed by SGS Axys, Sidney, BC, Canada. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
WG64557	9 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

SDG WG64557: The collection dates were missing from the laboratory report. The collection dates were obtained from another data report and were entered into the EDD.

TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed in the following table.

1	Sample Receipt, Preservation, and Holding Times	1	Certified Reference Material
✓	System Performance and Resolution Checks	✓	Laboratory Duplicates
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Calibration Verification (CVER)	✓	Target Analyte List
1	Laboratory Blanks	✓	Reporting Limits
1	Field Blanks	2	Compound Identification
✓	Labeled Compound Recovery	✓	Compound Quantitation
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	1	Calculation Verification
✓	Ongoing Precision and Recovery (OPR)		

✓Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of ≤6°C. The laboratory received one of the sample coolers greater than the advisory temperature range at 6.5°C. No data were affected; no qualifiers were added.

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-7). No action is taken if the sample result is greater than the action level, or for non-detected results. The laboratory assigned EMPC-flags to values when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications, but are "estimated maximum possible concentrations". When these occurred in the method blank the results were considered as false positives. No action levels were established for these analytes.

Method blanks were analyzed at the appropriate frequency. Contaminant levels, associated samples, and action levels are documented in the data validation worksheets.

1,2,3,4,6,7,8-HpCDD was detected. All associated sample results were greater than the action level; no data were qualified.

Field Blanks

No field blanks were submitted with this data set.

Matrix Spike/Matrix Spike Duplicate

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Accuracy was assessed using labeled compound recoveries and the ongoing precision and recovery (OPR) sample. Precision was evaluated using the laboratory duplicate analyses.

Certified Reference Material

Certified reference material (CRM) National Research Council Canada CARP-2 was analyzed with this analytical data set. All acceptance criteria were met.

Field Duplicates

Field duplicates were not submitted with this data set.

Compound Identification

The method requires the confirmation of 2,3,7,8-TCDF detects using an alternate GC column. The DB5 column that is typically used cannot fully separate 2,3,7,8-TCDF from closely eluting non-target TCDF isomers. The laboratory performed a second column confirmation on a DB225 column. All 2,3,7,8-TCDF results reported from the DB5 column were qualified as do-not-report (DNR-11) in favor of the DB225 results.

The laboratory reported results for 1,2,3,7,8,9-HxCDD from both analysis columns and indicated the primary column as not reportable in the EDD. Therefore, all 1,2,3,7,8,9-HxCDD results reported from the DB5 column were qualified as do-not-report (DNR-11) in favor of the DB225 results.

For several samples, the laboratory reported EMPC or "estimated maximum possible concentrations" values for one or more of the target analytes. An EMPC value is reported when a peak was detected but did not meet identification criteria, as required by the method; therefore, the result cannot be considered as a positive identification for the analyte. To indicate that the reported result for an individual analyte is in effect an elevated detection limit, the EMPC values were qualified as not detected (U-25) for native compound results below the reporting limit and were estimated (J-25) for homolog values and native compound results greater than the reporting limit.

Calculation Verification

Calculation verifications were performed for this sample delivery group (SDG). No calculation or transcription errors were found.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable, as demonstrated by the labeled compound and OPR recoveries. Precision was also acceptable as indicated by the laboratory duplicate samples.

Data were qualified as estimated to indicate that EMPC values represent elevated detection limits. Data were qualified as do-not report to indicate which result from multiple reported results should not be used.

Data flagged as do-not-report should not be used for any reason.

All other data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
PCB Congeners by EPA 1668C

This report documents the review of analytical data from the analysis of tissue samples and the associated laboratory quality control (QC) samples. Samples were analyzed by SGS Axys, Sidney, BC, Canada. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
WG64623	6 Tissue	EPA Stage 4

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

✓	Sample Receipt, Preservation, and Holding Times	2	Laboratory Duplicates
✓	Initial Calibration (ICAL)	1	Field Duplicates
✓	Calibration Verification (CVER)	✓	Target Analyte List
2	Laboratory Blanks	✓	Reporting Limits
✓	Labeled Compound Recovery	2	Compound Identification
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	✓	Compound Quantitation
✓	Ongoing Precision and Recovery (OPR)	✓	Calculation Verification
2	Certified Reference Material		

1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted.
Data qualifiers were issued as discussed below.

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-7). No action is taken if the sample result is greater than the action level, or for

non-detected results. The laboratory assigned EMPC-flags to values when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications, but are "estimated maximum possible concentrations". When these occurred in the method blank the results were considered as false positives. No action levels were established for these analytes.

Ten (10) compounds were detected (excluding homologs and TEQs) in the laboratory method blank. All but three results for the associated samples were greater than the action levels. The PCB-209 results in Samples LDW18-C04-CLWB-Comp2, LDW18-C04-CLWB-Comp2 (Lab Duplicate), and LDW18-C06-CLWB-Comp2 were less than the action level and were qualified as not detected (U-7) at the reported concentrations.

Matrix Spikes/Matrix Spike Duplicates

Matrix spike/matrix spike duplicates (MS/MSD) were not analyzed. Accuracy was assessed using labeled compound recoveries and the ongoing precision and recovery (OPR) sample. Precision was evaluated using the laboratory duplicate analyses.

Certified Reference Material

National Research Council Canada (NRCC) certified reference material CARP-2 was analyzed with this analytical data set. With the following exceptions, all analytes were recovered with the QAP control limits of 40%-145% recovery.

PCB-44 was recovered greater than the upper control limit; associated positive sample results were estimated (J-12H). PCB-164, PCB-182, and PCB-190 recovered less than the lower control limits; associated sample results were estimated (J/UJ-12L).

Laboratory Duplicate Analysis

One sample from each laboratory batch was extracted and analyzed in duplicate. Relative percent difference (RPD) values were calculated for detected analytes where results are greater than five times the method detection limit (MDL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. With the exceptions noted below, all RPD values were less than the 50% control limit.

The laboratory performed a duplicate analysis for Sample LDW18-C04-CLWB-Comp2. The difference between the results for 2,4-DiCB was greater than 2x the RL; the results for this compound were estimated (J/UJ-9) in the parent and duplicate sample.

Field Duplicates

No field duplicates were submitted.

Compound Identification

For several samples, the laboratory reported EMPC or "estimated maximum possible concentration" values for one or more of the target analytes. An EMPC value is reported when a peak was detected but did not meet identification criteria, as required by the method; therefore, the result cannot be

considered as a positive identification for the analyte. To indicate that the reported result for an individual analyte is in effect an elevated detection limit, the EMPC values were qualified as not detected (U-25) for native compound results below the reporting limit and were estimated (J-25) for homolog values and native compound results greater than the reporting limit.

Calculation Verification

Calculation verifications were performed for this sample delivery group (SDG). No calculation or transcription errors were found.

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the labeled compound, laboratory control sample, and reference material percent recoveries. With the exception noted previously, precision was also acceptable as demonstrated by the laboratory duplicate values.

Data were flagged as not detected at the reported concentration due to laboratory blank contamination. Data were also flagged as not detected and were estimated to indicate that EMPC values represent elevated detection limits. Results were estimated due to a laboratory duplicate precision outliers and certified reference material recovery outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue
Vanadium by EPA 6020A
Inorganic Arsenic by EPA 1632 Mod

This report documents the review of analytical data from the analyses of sediment samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc. (ARI), Tukwila, Washington and Brooks Applied Labs, Bothell, Washington. Refer to the Sample Index for a complete list of samples.

SDG	Number of Samples and Matrix	Validation Level
18F0364	3 Tissue	EPA Stage 3
1828027	12 Tissue	Batch B181796 EPA Stage 3
	10 Tissue	Batch B181797 EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Matrix Spikes (MS) and Matrix Spike Duplicates (MSD)
✓	ICP-MS Tune	2	Laboratory Duplicates
✓	Initial Calibration	✓	ICP-MS Internal standards
✓	Calibration Verification	✓	Interference Check Samples
✓	CRDL Standards	1	Field Duplicates
✓	Laboratory Blanks	1	Reporting Limits
1	Field Blanks	✓	Reported Results
✓	Laboratory Control Samples (LCS)	1	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
1 Quality control outliers are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

Field blanks were not submitted with this data set.

Matrix Spike/Matrix Spike Duplicate

Matrix spike/matrix spike duplicate samples (MS/MSD) were analyzed at the proper frequency of one per 20 samples or one per batch for soil samples. Where analyte concentrations were less than 4x the spike amount, the percent recovery (%R) and relative percent difference (RPD) values were evaluated. If the percent recovery values indicate a potential low bias, associated results are estimated (J/UJ-8). If the %R values indicate a potential high bias, only the associated positive results are estimated (J-8).

For %R values less than 30%, indicating an extreme low bias, the results for the post digestion spike (PDS) were also evaluated. If the post spike %R values were acceptable, then associated results were estimated (J/UJ-8). If the post spike %R value was also less than the control limits of 75%-125%, the positive results were estimated (J/UJ-8) and the non-detects were rejected (R-8). If the PDS %R values were greater than the control limit, then associated positive results were estimated (J-8) and if the PDS %R was less than the control limit, associated results were estimated (J-8) without an indication of bias. For cases indicating conflicting bias because multiple matrix spike samples were included in a batch, only the parent sample was qualified with a bias indication.

Precision is indicated by the relative percent difference (RPD) between the MS and MSD values. RPD values outside the control limits indicate uncertainty in the measured results for the sample and positive results are estimated (J-9).

The following analytes were qualified in one or more samples based on %R and/or RPD value outliers. Qualifiers were issued to all samples associated with a QC batch.

SDG 1828027: Sample LDW18-C11-CLSP-Comp1 was analyzed as the matrix spike. The RPD value reported for arsenic (inorganic) was greater than the control limit at 168%. The parent sample concentration for this sample was significantly greater than 4 times the spike amount. The laboratory calculated the RPD value using the observed percent recoveries of the spiked samples. The concentrations for the matrix spike and matrix spike duplicate were consistent at 308 and 333 mg/kg. Using the concentrations of the spiked samples to calculate the RPD results in a value of 7.8% which is within the control limits. Based on the consistent concentrations measured for the spiked samples, the precision criterion was achieved, and qualifiers were not required.

Field Duplicates

Field duplicates were not submitted with this data set.

Reporting Limits

All SDGs: Several samples were diluted due to interferences or other factors and the reporting limits were elevated.

Calculation Verification

All SDGs: Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the LCS and MS/MSD %R values. Precision was acceptable as demonstrated by the laboratory duplicate and MS/MSD RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
Lower Duwamish Waterway: Clam Tissue & Sediment
Wet Chemistry Tests

This report documents the review of analytical data from the analysis of tissue samples and the associated laboratory quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. Refer to the Sample Index for a list of samples reviewed.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
18E0231	16 Tissue & 17 Sediment	EPA Stage 3
18F0331	22 Tissue	EPA Stage 2A
18F0364	29 Tissue	EPA Stage 2A
L1828580	17 Sediment	EPA Stage 3

The analytical tests that were performed are summarized below:

LABORATORY	PARAMETER	METHOD
Analytical Resources, Inc.	Lipid	Bligh & Dyer
	Total Solids	SM 2540-G
	Total Organic Carbon(TOC)	EPA 9060
Alpha Analytical	Black Carbon	EPA 9060M/Gustafsson

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results (100% verification) reported in the electronic data deliverable (EDD) were verified by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified

TECHNICAL DATA VALIDATION

The QC requirements for review are listed below.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
2	Laboratory Blanks	2	Laboratory Replicates
1	Field Blanks	✓	Reporting Limits
1	Reference Materials	✓	Reported Results
2	Matrix Spike/Matrix Spike Duplicate (MS/MSD)	✓	Calculation Verification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.
[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of ≤6°C. The laboratory received the sample coolers within the advisory temperature range.

SDG 18E0231: The ID for Sample LDW18-SSCL-A09 was listed as LDW18-SSCL-A on the container. The ID listed on the COC was used for login purposes.

SDG 18F0331: The samples arrived at the laboratory at 14.6°C. The samples arrived at the laboratory within 30 minutes of sample collection; no qualifiers were added.

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-7). No action is taken if the sample result is greater than the action level, or for non-detected results. For laboratory blanks that are less than the negative MDL, positive results less than the action level of five times the absolute value of the blank concentration are estimated (J-7) and non-detects are estimated (UJ-7) to indicate a potential low bias.

Laboratory blanks were analyzed at the appropriate frequency. Contaminant levels, associated samples, and action levels are documented in the data validation worksheets.

SDG 18E0231: The method blank for lipids analysis had a detected value. Associated sample concentrations were greater than the action level, no data were qualified.

SDG 18F0331: The method blanks for lipids analysis had detected values. Associated sample concentrations less than the action level were estimated (J-7H) to indicate a potential high bias.

Field Blanks

Field blanks were not submitted.

Reference Material

In lieu of a laboratory control sample, a standard reference material, NIST 1941B, was analyzed with each batch of total organic carbon analyses. All acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicate

Matrix spike/matrix spike duplicate samples (MS/MSD) were analyzed at the proper frequency of one per 20 samples or one per batch for soil samples.

For accuracy, where analyte concentrations were less than 4x the spike amount, the percent recovery (%R) values were evaluated. If the percent recovery values indicate a potential low bias, associated results are estimated (J/UJ-8L). If the %R values indicate a potential high bias, only the associated positive results are estimated (J-8H). No qualifiers were added for a single outlier in the MS or MSD only.

Precision is indicated by the relative percent difference (RPD) between the MS and MSD values. RPD values outside the control limit of 20% indicate uncertainty in the measured results for the sample and positive results are estimated (J-9).

Total organic carbon results were qualified based on %R or RPD value outliers. Qualifiers were issued to all samples associated with a QC batch.

SDG	Parent Sample ID	Analyte	MS %R	MSD %R	RPD	Potential Bias	Action
18E0231	LDW18-SSCL-A11-FD	TOC	17.2	No MSD	--	Low	J-8L
L1828580	LDW18-SSCL-A01-BC	%Soot	--	218	47	--	J-9

SDG L1828580: The RPD values for the matrix spikes performed on Sample LDW18-SSCL-A11 were reported as 43% and 49% for the two replicates. The percent recoveries for the matrix spikes were between 93% and 103%. The laboratory calculates the RPD based on the concentration values of the spiked samples rather than the percent recoveries. Because of different aliquot sizes analyzed for the matrix spike and its duplicate, the RPD value calculated using the concentrations was greater than the control limit. The RPD values using the percent recoveries are 5.2% and 8.1% for the two replicates. These values are less than the QAP control limit of ±20% RPD for inorganic tests and qualifiers were not required.

Field Duplicates

Field duplicate samples were not submitted for tissue samples.

For sediment samples, the RPD control limit is 20% for results greater than 5x the reporting limit (RL) for TOC and solids and particle size percentages greater than 5% for grain size. For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. No data were qualified based on field duplicate precision outliers. Users of the data should consider the impact of field precision outliers on the reported results.

SDG L1828580: Samples LDW18-SS-178 & LDW18-SS-178-FD were submitted as field duplicates. The RPD for black carbon was greater than the control limit at 63%.

Laboratory Duplicates

Total Organic Carbon and Grain Size:

One sample from each laboratory batch was prepared and analyzed in duplicate. Relative percent difference (RPD) values were calculated for detected analytes where results are greater than five times the method detection limit (MDL) for TOC and particle size percentages greater than 5% for grain size. For grain size, qualifiers are only applied to the parent sample due to the individual nature of each sample's composition. Qualifiers are applied to all samples in an analysis batch for TOC. With the exception noted below, all RPD values were less than the 20% control limit.

SDG	Parent Sample ID	Analyte	RPD	Action
18E0231	LDW18-SSCL-A11-FD	TOC	39.7	J-9

Black Carbon:

All samples were analyzed in duplicate. the RPD control limit is 20% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than 2x the RL. Qualifiers are applied to the parent and duplicate samples.

The following samples were estimated (J-9):

SDG	Sample ID	Analyte	RPD Outliers
L1828580	LDW18-SSCL-A04	Black Carbon	45.5%
	LDW18-SSCL-A05	Black Carbon	32.5%
	LDW18-SSCL-A09	Black Carbon	21.3%
	LDW18-SSCL-A10	Black Carbon	28.0%
	LDW18-SSCL-A18	Black Carbon	33.0%
	LDW18-SSCL-A19	Black Carbon	21.3%

Calculation Verification

SDG 18E0231: Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

SDG L1828580: The instrument raw data for black carbon are reported in concentration units only; no measured intensity values are provided. The calibration is preset by the instrument manufacturer and recalculations of the calibration could not be done. Calculation verifications were performed using the concentration values from the instrument and verifying percent recovery and RPD values. No calculation or transcription errors were observed.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. With the exceptions noted above, accuracy was acceptable as demonstrated by the reference material and MS/MSD recoveries and precision was acceptable as indicated by the MS/MSD and laboratory and field duplicate RPD values.

Data were estimated due to method blank contamination, matrix spike accuracy and precision outliers, and laboratory replicate or duplicate precision outliers.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG (1) Method (3)	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C (3)
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG (1) Method (3)	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG (1) Method (3)	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG (1) Method (3)	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method (3)	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [1] Method [3]	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG [1] Method [3]	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG [2] Method [3]	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG [2] Method [3]	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method [3]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method [3]	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(3)]	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG [(1)] Method [(2)]	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG [(1)] Method [(3)]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG [(1)] Method [(3)]	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG [1] Method [2]	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C [3]
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Exraction Tissue/Sediment (frozen):** 1 year **Analysis (all matrices)**: 40 days from extraction	NFG [1] Method [2]	**If required by project:** J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Use PJ to qualify for holding time outlier. ***Current SW846 does not have an extraction holding time limit.*** [3] Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Aroclors (± 0.07)	NFG [1]	NJ (pos)/R (ND) results for analytes with RT shifts	24	
Initial Calibration	Minimum 5 point with RSD ≤ 20% OR correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with co-efficient of determination (r2-value) ≥ 0.99	NFG [1] Method [4]	J (pos) if %RSD greater than 20% OR r-value < 0.995 OR r^2-value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L)[5] where appropriate
Initial Calibration Verification (ICV)	No NFG criteria. Project specific.	Project	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) where appropriate
Continuing Calibration (Prior to each 12 hr. shift)	%D ± 20%	Method [2]	If > 20% (high bias): J (pos) If <20% (low bias: J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L) where appropriate
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U (pos) if result is less than appropriate 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB and IB, qualify as needed** **#2 - Review FB , qualify as needed** Note: Actions as per NFG 1999 Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG [1] Method [2]	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG [1]	U (pos) if result is less than appropriate 5X action level.	7	

Copyright 2014 EcoChem, Inc.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) AR1016 and AR1260: %R = 29% - 135%, or project limits	NFG [1] Method [2]	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria. No action if native analyte conc. > 5x the amount spiked. Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in parent sample.
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) AR1016: RPD < 15%, AR1260: RPD < 20% or project limits	NFG [1] Method [2]	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) AR1016 and AR1260: %R = 50% - 150%, or project limits	NFG [1]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in associated samples.
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG [1]	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Precision and Accuracy					
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% or project limits	NFG [1] Method [2]	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (sample dilution is a factor), use PJ Use bias flags (H,L) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method [2]	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	use project limits if specified

Copyright 2014 EcoChem, Inc.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG [1] Method [2]	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info.
Calibration Range	on column concentration < high calibration standard	NFG [1] Method [2]	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 Rev. 1 for additional info.
Sample Clean-up					
GPC/Sulfur/ Florisil/Acid	No criteria - cleanups are optional	NFG [1] Method [2]	Use Professional Judgment	14	special cleanups may be required for project cleanup standards may be associated with GPC/florisil cleanups

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] Polychlorinated Biphenyls (PCBs) by Gas Chromatography USEPA Method SW846 8082A, Feb 2007, Rev. 1
[3] SW846, Chapter 4, Organic Analytes
[4] Determinative Chromatographic Separations , Method 8000C , March 2003, Rev.3
[5] "H" = high bias indicated; "L" = low bias indicated

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Waters/Solids ≤ 6°C & in the dark Tissues <-10°C & in the dark **Preservation Aqueous:** If Cl_2 is present Thiosulfate must be added and if pH > 9 it must be adjusted to 7 - 9	NFG [1] Method[2]	J(pos)/R(ND) if thiosulfate not added if Cl_2 present; J(pos)/UJ(ND) if pH not adjusted J(pos)/UJ(ND) if temp > 20°C	1	**EcoChem PJ, see TM-05**
Holding Time	**If properly stored, 1 year or:** **Extraction (all matrices):** 30 days from collection **Analysis (all matrices)**: 45 days from extraction	NFG [1] Method[2]	If not properly stored or HT exceedance: J(pos)/UJ(ND)	1	**EcoChem PJ, see TM-05** Gross exceedance = > 1 year 2011 NFG **Note:** Under CWA, SDWA, and RCRA the HT for H2O is 7 days.
Instrument Performance					
Mass Resolution (Tuning)	PFK (Perfluorokerosene) ≥10,000 resolving power at m/z 304.9824. Exact mass of m/z 380.9760 w/in 5 ppm of theoretical value (380.97410 to 380.97790) . Analyzed prior to ICAL and at the start and end of each 12 hr. shift.	NFG [1] Method [2]	R(pos/ND) all analytes in all samples associated with the tune	24	Notify PM
Windows Defining Mix	Peaks for first and last eluters must be within established retention time windows for each selector group (chlorination level)	NFG [1] Method [2]	If peaks are not completely within windows (clipped): If natives are ok, J(pos)/UJ(ND) homologs (Totals) If natives are affected, R all results for that selector group	24	Notify PM
Column Performance Mix	Both mixes must be analyzed before ICAL and CCAL Valley < 25% (valley = (x/y)*100%) where x = ht. of TCDD (or TCDF) & y = baseline to bottom of valley For all isomers eluting near the 2378-TCDD (TCDF) peak (TCDD only for 8290)	NFG [1] Method [2]	J(pos) if valley > 25%	24	**EcoChem PJ, see TM-05, Rev. 2**; Note: TCDF is evaluated only if second column confirmation is performed
Initial Calibration **Sensitivity**	S/N ratio > 10 for all native and labeled compounds in CS1 std.	NFG [1] Method [2]	If <10, elevate Det. Limit or R(ND)	5A	
Initial Calibration **Selectivity**	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG [1] Method [2]	If 2 or more ion ratios are out for one compound in ICAL, J(pos)	5A	**EcoChem PJ, see TM-05, Rev. 2**

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Initial Calibration (Minimum 5 stds.) **Stability**	%RSD < 20% for native compounds %RSD <30% for labeled compounds (%RSD < 35% for labeled compounds under 1613b)	NFG [1] Method [2]	J(pos) natives if %RSD > 20%	5A	
	Absolute RT of $^{13}C_{12}$-1234-TCDD >25 min on DB5 & >15 min on DB-225	NFG [1] Method [2]	Narrate, no action		**EcoChem PJ, see TM-05, Rev. 2**
Continuing Calibration (Prior to each 12 hr. shift) **Sensitivity**	S/N ratio for CS3 standard > 10	NFG [1] Method [2]	If <10, elevate Det. Limit or R(ND)	5B	
Continuing Calibration (Prior to each 12 hr. shift) **Selectivity**	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG [1] Method [2]	For congener with ion ratio outlier, J(pos) natives in all samples associated with CCAL. No action for labeled congener ion ratio outliers.	25	**EcoChem PJ, see TM-05**
Continuing Calibration (Prior to each 12 hr. shift) **Stability**	%D+/-20% for native compounds %D +/-30% for labeled compounds **(Must meet limits in Table 6, Method 1613B)** If %D in the closing CCAL are within 25%/35%, the mean RF from the two CCAL may be used to calculate samples **(Section 8.3.2.4 of 8290)**.	NFG [1] Method [2]	**Labeled compounds:** Narrate, no action. **Native compounds:** 1613: J(pos)/UJ(ND)if %D is outside Table 6 limits J(pos)/R(ND) if %D is +/-75% of Table 6 limits 8290: J(pos)/UJ(ND) if %D = 20% - 75% J(pos)/R(ND) if %D > 75%	5B (H,L)[3]	
	Absolute RT of $^{13}C_{12}$-1234-TCDD and $^{13}C_{12}$-123789-HxCDD should be ± 15 seconds of ICAL RRT for all other compounds must meet criteria listed in Table 2 Method 1316.	NFG [1] Method [2]	Narrate, no action	5B	**EcoChem PJ, see TM-05**
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG [1] Method [2]	U(pos) if result is < 5X action level.	7	**Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed**
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL		U(pos) if result is < 5X action level.	6	

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) if both %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	8 (H,L)[3]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only unless other QC indicates systematic problems.
MS/MSD (RPD)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) in parent sample if RPD > CL	9	Qualify parent sample only.
LCS (or OPR)	One per lab batch (of ≤ 20 samples) Use most current laboratory control limits **or** Limits from Table 6 of 1613B	NFG (1) Method (2)	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	**LCSD not typically required for HRMS analyses.** One set per matrix and batch of 20 samples RPD < 35%	Method (2) Ecochem standard policy	J(pos) assoc. compound in all samples if RPD > CL	9	Qualify all associated samples.
Lab Duplicate (RPD)	**Lab Dup not typically required for HRMS analyses.** One per lab batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos)/UJ(ND) if RPD > CL	9	
Labeled Compounds (Internal Standards)	Added to all samples %R = 40% - 135% in all samples 8290 %R must meet limits in Table 7 Method 1613B	NFG (1) Method (2)	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	13 (H,L)[3]	
Field Duplicates	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project	9	**Use professional judgment**

Copyright 2014 EcoChem, Inc.

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound ID and Calculation					
Quantitation/ Identification	All ions for each isomer must maximize within ± 2 seconds. S/N ratio >2.5 Ion ratios must meet criteria listed in Table 8 Method 8290, or Table 9 of 1613B; RRTs w/in limits in Table 2 of 1613B	NFG [1] Method [2]	Narrate in report; qualify if necessary NJ(pos) for retention time outliers. U(pos) for ion ratio outliers.	25	**EcoChem PJ, see TM-05**
EMPC (estimated maximum possible concentration)	If quantitation identification criteria are not met, laboratory should report an EMPC value.	NFG [1] Method [2]	If laboratory correctly reported an EMPC value, qualify the native compound U(pos) to indicate that the value is a detection limit and qualify total homolog groups J (pos)	25	**Use professional judgment See TM-18**
Interferences	Interferences from chlorodiphenyl ether compounds	NFG [1] Method [2]	J(pos)/UJ(ND) if present	23	**See TM-16**
	Lock masses must not deviate ± 20% from values in Table 8 of 1613B	Method [2]	J(pos)/UJ(ND) if present	24	**See TM-17**
Second Column Confirmation	All 2,3,7,8-TCDF hits must be confirmed on a DB-225 (or equiv) column. All QC criteria must also be met for the confirmation analysis.	NFG [1] Method [2]	Report the DB-225 value. If not performed use PJ.	3	DNR-11 DB5 result if both results from both columns are reported. **EcoChem PJ, see TM-05**
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.		Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	

(pos) - positive (detected) results; (ND) - not detected results

[1] National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) & Chlorinated Dibenzofurans (CDFs) Data Review, September 2011

[2] Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High-Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS), USEPA SW-846, Method 8290

[2] EPA Method 1613, Rev.B, Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGS/HRMS, October 1994

[3] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

Copyright 2014 EcoChem, Inc.

PCB Congener Analysis by HRMS
(Based on EPA DV Guidance[1] and Method EPA 1668C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Waters/Solids ≤ 6°C & in the dark Tissues <-10°C & in the dark **Preservation Aqueous:** If Cl_2 is present Thiosulfate must be added and if needed adjust pH to 2 - 3 (drinking water requirement)	EPA (1) Method (2)	J(pos)/R(ND) if thiosulfate not added if Cl_2 present and J(pos)/UJ(ND) if pH not adjusted; J(pos)/UJ(ND) if temp > 20°C	1	Note: EPA DV guidance documents use < 4°C, method uses ≤ 6°C. Info in EcoChem TM-05 also generally applies.
Holding Time	If properly stored, 1 year prior to extraction. If extracts properly stored (< -10°C & in dark), 1 year from extraction to analysis.	EPA (1) Method (2)	If not properly stored or HT exceeded: J(pos)/UJ(ND)	1	May **be dictated by QAPP** Info in EcoChem TM-05 also generally applies
Instrument Performance					
Mass Resolution (Tuning)	≥10,000 resolving power at m/z 330.9792 <5 ppm deviation from each m/z listed in **Table 7** of method. Analyzed prior to ICAL and at the beginning and end of each 12 hr. shift	EPA (1) Method (2)	R all analytes in all samples associated with a failed tune	24	PFK (Perfluorokerosene) tuning compound
Column Resolution	Mix of all 209 PCBs run prior to each ICAL/12 hours RT of PCB209 must be > 55 min PCB156 & 157 must coelute w/in 2 sec PCB34 & 23 and PCB187 & 182 must be resolved where ((x/y)*100%) < 40% x = ht of valley and y = ht of shortest peak RRT of all congeners must fall within the range in **Table 2** of the method	EPA (1) Method (2)	If criteria are not met, review sample chromatograms to determine if sample results are negatively impacted. If so, discuss with client for possible reanalyses, or J(pos) all data.	24	Criteria are for SPB-octyl column. If different column used, see Section 6.9.1.2 of method. Appendix A provides info for DB-1 column
Initial Calibration **Sensitivity**	S/N ratio > 10 for all native and labeled congeners in CS1 std.	EPA (1) Method (2)	If <10, elevate Det. Limit or R(ND)	5A	
Initial Calibration **Selectivity**	Ion Abundance ratios within QC limits (**Table 8** of Method 1668C)	EPA (1) Method (2)	If ion ratios are out for a given congener in 2 or more standards in ICAL, J(pos) results for that congener in all samples	5A	Professional judgement. The info in EcoChem TM-05 also generally applies
Initial Calibration (Minimum 5 stds.) **Stability**	%RSD < 20% for congeners listed in **Table 3** of method RRT of all congeners must meet **Table 2** of method	EPA (1) Method (2)	J(pos) natives if %RSD > 20% RRT outliers: narrate, no action	5A	RRT outliers: professional judgement. The info in EcoChem TM-05 also generally applies
Continuing Calibration (Prior to each 12 hr. shift) **Sensitivity**	S/N ratio for CS3 standard > 10	EPA (1) Method (2)	If <10, elevate Det. Limit to lowest calibration or R(ND)	5B	
Continuing Calibration (Prior to each 12 hr. shift) **Selectivity**	Ion Abundance ratios within QC limits (**Table 8** of Method 1668C)	EPA (1) Method (2)	No action if %D acceptable, review sample ion ratios, U(pos) if ion ratio outside limits	5B	Professional judgement. The info in EcoChem TM-05 also generally applies.

Copyright 2015 EcoChem, Inc.

PCB Congener Analysis by HRMS
(Based on EPA DV Guidance[1] and Method EPA 1668C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Continuing Calibration (Prior to each 12 hr. shift) **Stability**	Recoveries must meet VER% limits in **Table 6,** Method 1668C	EPA [(1)] Method [(2)]	**Labeled congeners:** Narrate, no action. **Native congeners:** J(pos)/UJ(ND) for low bias J(pos) for high bias	5B (H,L)[3]	
	Absolute RT of all Labeled congeners and Window Defining Congeners must be +/- 15 sec of RT in ICAL RRT of all congeners must be within range in **Table 2** of method	EPA [(1)] Method [(2)]	Narrate, no action	5B	Professional judgement. The info in EcoChem TM-05 also generally applies
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected congeners	EPA [(1)] Method [(2)]	U(pos) if sample result is < 5X blank concentration	7	**Heirarchy of blank review:** **#1 - Review MB, quaify as needed** **#2 - Review FB , qualify as needed** EMPC values in blanks as considered to be non-detects
Field Blank (FB)	FB: frequency as per QAPP No detected congeners		U(pos) if sample result is < 5X blank concentration	6	
Precision and Accuracy					
MS/MSD (recovery)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) if both %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias **PJ if only one %R outlier**	8 (H,L)[3]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only unless other QC indicates systematic problems.
MS/MSD (RPD)	**MS/MSD not typically required for HRMS analyses.** If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) in parent sample if RPD > CL	9	Qualify parent sample only.
LCS (or OPR)	One per lab batch (of ≤ 20 samples) %R must meet limits in **Table 6** Method 1668C	EPA [(1)] Method [(2)]	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	10 (H,L)[3]	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	**LCS/LCSD not typically required for HRMS analyses.** If lab analyzes LCS/LCSD then one set per matrix and batch of 20 samples RPD < 35%	EcoChem standard policy	J(pos) assoc. congener in all samples if RPD > CL	9	Qualify all associated samples.
Lab Duplicate (RPD) (if required)	**Lab Dup not typically required for HRMS analyses.** One per lab batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos)/UJ(ND) if RPD > CL	9	Optional element. Qualify parent sample only.

Copyright 2015 EcoChem, Inc.

PCB Congener Analysis by HRMS
(Based on EPA DV Guidance[1] and Method EPA 1668C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Labeled congeners (Internal Standards)	Added to all samples %R must meet limits in **Table 6** Method 1668C	EPA [(1)] Method [(2)]	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R <5% - very low bias J(pos)/UJ(ND) if %R between 5-10% for two or more labeled compounds in a substitution group (ie, mono, -di-, trichlorinated)- very low bias	13 (H,L)[3]	See next tab for labled congener associations as per **Table 2** Method 1668
Field Duplicates	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project **(EcoChem PJ)**	9	**RPD values may be dictated by QAPP** 35% and 50% are EcoChem defaults
Compound ID and Calculation					
Quantitation/ Identification	All ions for each isomer must maximize within +/- 2 seconds. S/N ratio >2.5 Ion ratios must meet criteria listed in **Table 8** of 1668C; RRTs w/in limits in **Table 2** of 1668C	EPA [(1)] Method [(2)]	Narrate in report; qualify if necessary NJ(pos) for retention time outliers. U(pos) for ion ratio outliers.	25	The info in EcoChem TM-05 also generally applies
EMPC (estimated maximum possible concentration)	If quantitation identification criteria are not met, laboratory should report an EMPC value.	EPA [(1)] Method [(2)]	If laboratory correctly reported an EMPC value, qualify the native congener U to indicate that the value is an elevated detection limit and qualify total homolog groups J(+)	25	**Use professional judgment.** **See TM-18**
Interferences	Lock masses must not deviate +/- 20% from values in **Table 7** of 1668C	Method [(2)]	J(pos)/UJ(ND) if present	24	**Use professional judgment.** **See TM-17**
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.		Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	

[1] USEPA Region 2 Data Validation, Standard Operating Procedure for EPA Method 1668A, Revision 1, September 2008
USEPA Region 3 Interim Guidelines for the Validation of Data Generated Using Method 1668 PCB Congener Data, Revision 0, April 2004
USEPA Region 10 SOP For the Validation of Method 1668 Toxic, Dioxin-like, PCB Data, Revision 1, December 1995
[2] EPA Method 1668, Rev.C, Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS, April 2010
[3] "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result(s)
(ND): Non-detects

Copyright 2015 EcoChem, Inc.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	**Solid:** Cooler temperature 4°C±2°C **Aqueous:** Nitric Acid to pH < 2 **Dissolved Metals:** 0.45 µm filter, preserve to pH < 2 after filtration	NFG (1) Method (2)	Cooler Temps: **If required by project** J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use **PJ** to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG (1) Method (2) EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tunignsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG (1) Method (2)	J(pos)/UJ(ND) if tune criteria not met	5A	Use **PJ** to evaluate tune. Alternate Resolution critteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG (1) Method (2)	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG (1) Method (2)	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R >111%	5A (H,L)[3]	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method (2)	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L)[3]	Qualify all samples in run

Copyright 2014 EcoChem, Inc.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance cont'd					
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG [1] Method [2]	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R >111%	5B (H,L)[3]	Qualify samples bracketed by CCV outliers
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements | ICSA | < MDL for all unspiked elements	NFG [1] Method [2]	For samples with Al, Ca, Fe, Mg > ICS levels: **ICSAB**: J(pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% **ICSA:** J (pos)< 2x ICSA/UJ (ND) for ICSA <Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L)[3]	Use **PJ** and molecular interferences to evaluate ICSA to determine if bias is present. Refer to **TM-14** for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG [1] Method [2]	U (pos) if result is < 5X method blank concentration	7	Refer to **TM-02** for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV | blank concentration | < MDL	NFG [1] Method [2]	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L[3]	Use blanks bracketing samples for Qualification Refer to **TM-02** for additional information. **Hierarchy of blank review: #1 - Review MB, quaify as needed #2 - Review IB , qualify as needed #3 - Review FB , qualify as needed**
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to **TM-02** for additional information.

Copyright 2014 EcoChem, Inc.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG [1] Method [2]	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method [2]	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L)[3]	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method [2]	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG [1] Method [2]	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L)[3]	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG [1] Method [2]	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG [1] Method [2]	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG [1] Method [2]	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

Copyright 2014 EcoChem, Inc.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy cont'd					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[3]	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D <10% for original sample conc. > 50x MDL	NFG [(1)]	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project **(EcoChem PJ)** Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG [(1)] Method [(2)]	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Inorganic Superfund Data Review, January 2010.
[2] Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.
[3] "H" = high bias indicated; "L" = low bias indicated
[4] SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result
(ND): Not detected

Copyright 2014 EcoChem, Inc.

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon)
(Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Cooler temperature: 4°C±2°C Preservation: Analyte/Method Specific	NFG [(1)] Method [(2)]	J (pos)/UJ (ND) if preservation requirements not met	1	Use **PJ** to qualify for cooler temp outliers.
Holding Time	Analyte/Method Specific	NFG [(1)] Method [(2)]	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	blank + multiple standards as per method requirements r ≥ 0.995	NFG [(1)] Method [(2)]	J (pos)/UJ (ND) for r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R method specific	NFG [(1)] Method [(2)]	J (pos)/UJ (ND) if %R < lower control limit (LCL) J (pos) if %R > upper control limit (UCL)	5A (H,L)[3]	Qualify all samples in run
Continuing Calibration Verification (CCV)	Immediately following ICV, every 10 samples, and end of run %R method specific	NFG [(1)] Method [(2)]	J(pos)/UJ(ND) if %R < LCL J(pos) if %R > UCL	5B (H,L)[3]	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG [(1)] Method [(2)]	U (pos) if result is < 5X method blank concentration	7	Refer to **TM-02** for additional information. Blank Evaluation based on NFG 1994

Copyright 2014 EcoChem, Inc.

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon)
(Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Blanks (ICB/CCB)	After each ICV & CCV | blank concentration | < MDL	NFG [(1)] Method [(2)]	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L[3]	Use blanks bracketing samples for Qualification Refer to **TM-02** for additional information. **Hierarchy of blank review:** **#1 - Review MB, quaify as needed** **#2 - Review IB , qualify as needed** **#3 - Review FB , qualify as needed**
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to **TM-02** for additional information.
Precision and Accuracy					
Laboratory Control Sample (LCS)	One per matrix per batch (of ≤ 20 samples) %R within Method control limits (or Laboratory control limtis if none specified in method)	NFG [(1)] Method [(2)]	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	10 (H,L)[3]	Qualify all samples in batch QAPP may have overriding accuracy limits.
Reference Materials (RM, CRM, SRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[3]	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits

Copyright 2014 EcoChem, Inc.

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon)
(Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Where applicable to method; MSD may not be required One per matrix per batch (of ≤ 20 samples) For samples <4x spike level, %R within method control limits (or Laboratory control limtis if none specified in method)	NFG [1] Method [2]	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	8 (H,L)3	Qualify all samples in batch No action if native analyte concentration ≥ 4x spike added. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Laboratory Duplicate (or MS/MSD)	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG [1] Method [2]	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Linear Range	Sample concentrations less than highest calibration standard	NFG [1] Method [2]	If result exceeds linear range & sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Inorganic Superfund Data Review, January 2010.
[2] SW846 or EPA Standard Methods
[3] "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result
(ND): Not Detected

Copyright 2014 EcoChem, Inc.

Conventional Methods by Gravimetric Analysis
(i.e., Total Solids, Total Dissolved Solids, Total Suspended Solids, Grain Size)
(Based on Inorganic NFG 2010 and EPA methods)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Cooler temperature: 4°C±2°C Preservation: Analyte/Method Specific	Method [1] NFG[2]	J (pos)/UJ (ND) if preservation requirements not met	1	Use **PJ** to qualify for cooler temp outliers.
Holding Time	Analyte/Method Specific	Method NFG[2]	J (pos)/UJ (ND) if holding time exceeded	1	
Blank Contamination					
Method Blank (MB)	If required by method,one per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG [1] Method [2]	U (pos) if result is < 5X method blank concentration	7	Refer to **TM-02** for additional information. Blank Evaluation based on NFG 1994
Precision and Accuracy					
LCS (If appropriate to method)	One per matrix per batch (of ≤ 20 samples) %R between 80-120%	Method [2]	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L)[3]	Qualify all samples in batch QAPP may have overriding accuracy limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[3]	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits

Copyright 2014 EcoChem, Inc.

Conventional Methods by Gravimetric Analysis
(i.e., Total Solids, Total Dissolved Solids, Total Suspended Solids, Grain Size)
(Based on Inorganic NFG 2010 and EPA methods)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG [1] Method [2]	J (pos)/UJ (ND) if RPD > 20% For Grain Size, no action if results for fraction are less than 5%	9	Qualify all samples in batch, except Grain Size - qualify parent only. QAPP may have overriding precision limits.
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte per sample	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	

[1] National Functional Guidelines for Inorganic Superfund Data Review, January 2010.
[2] SW846 or EPA Standard Methods
[3] "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result
(ND): Not Detected

Copyright 2014 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
18E0231	LDW18-SSCL-A11	18E0231-02	EPA 9060	Total Organic carbon (TOC)	1.39	%		J	8L,9
18E0231	LDW18-SSCL-A11-FD	18E0231-03	EPA 9060	Total Organic carbon (TOC)	1.34	%		J	8L,9
18E0231	LDW18-SSCL-A01	18E0243-01	EPA 9060	Total Organic carbon (TOC)	0.64	%		J	8L,9
18E0231	LDW18-SSCL-A01	18E0243-01	EPA 8270D-SIM	Benzo(a)anthracene	541	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A01	18E0243-01	EPA 8270D-SIM	Benzo(a)pyrene	567	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A01	18E0243-01	EPA 8270D-SIM	Chrysene	555	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A01	18E0243-01RE1	EPA 8270D-SIM	Dibenzo(a,h)anthracene	107	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A01	18E0243-01RE1	EPA 8270D-SIM	Benzo(k)fluoranthene	248	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A01	18E0243-01RE1	EPA 8270D-SIM	Benzo(b)fluoranthene	402	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A01	18E0243-01RE1	EPA 8270D-SIM	Indeno(1,2,3-cd)pyrene	332	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A02	18E0243-02	EPA 9060	Total Organic carbon (TOC)	0.74	%		J	8L,9
18E0231	LDW18-SSCL-A03	18E0243-03	EPA 8270D-SIM	Benzo(b)fluoranthene	5030	ug/kg	D E	DNR	20
18E0231	LDW18-SSCL-A03	18E0243-03	EPA 9060	Total Organic carbon (TOC)	1.78	%		J	8L,9
18E0231	LDW18-SSCL-A11-FDDUP2	BGE0592-DUP2	EPA 9060	Total Organic carbon (TOC)	0.89	%		J	8L,9
18E0231	LDW18-SSCL-A11-FDDUP1	BGE0592-DUP1	EPA 9060	Total Organic carbon (TOC)	1.21	%		J	8L,9
18E0231	LDW18-SSCL-A03	18E0243-03	EPA 8270D-SIM	Benzo(a)anthracene	8850	ug/kg	D E	DNR	20
18E0231	LDW18-SSCL-A03	18E0243-03	EPA 8270D-SIM	Benzo(a)pyrene	8900	ug/kg	D E	DNR	20
18E0231	LDW18-SSCL-A03	18E0243-03	EPA 8270D-SIM	Chrysene	8830	ug/kg	D E	DNR	20
18E0231	LDW18-SSCL-A03	18E0243-03RE1	EPA 8270D-SIM	Dibenzo(a,h)anthracene	1350	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A03	18E0243-03RE1	EPA 8270D-SIM	Benzo(k)fluoranthene	3330	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A03	18E0243-03RE1	EPA 8270D-SIM	Indeno(1,2,3-cd)pyrene	4210	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A05	18E0243-04	EPA 9060	Total Organic carbon (TOC)	1.26	%		J	8L,9
18E0231	LDW18-SSCL-A04	18E0243-05	EPA 9060	Total Organic carbon (TOC)	0.5	%		J	8L,9
18E0231	LDW18-SSCL-A06	18E0243-06	EPA 9060	Total Organic carbon (TOC)	0.53	%		J	8L,9
18E0231	LDW18-SSCL-A13	18E0262-01	EPA 9060	Total Organic carbon (TOC)	0.68	%		J	8L,9
18E0231	LDW18-SSCL-A19	18E0262-02	EPA 9060	Total Organic carbon (TOC)	0.84	%		J	8L,9
18E0231	LDW18-SSCL-A12	18E0282-01	EPA 9060	Total Organic carbon (TOC)	0.61	%		J	8L,9
18E0231	LDW18-SSCL-A17	18E0282-02	EPA 9060	Total Organic carbon (TOC)	1.05	%		J	8L,9
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 8270D-SIM	Indeno(1,2,3-cd)pyrene	601	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 8270D-SIM	Benzo(b)fluoranthene	795	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 9060	Total Organic carbon (TOC)	0.77	%		J	8L,9
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 8270D-SIM	Benzo(a)anthracene	848	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 8270D-SIM	Benzo(a)pyrene	1030	ug/kg	E	DNR	20
18E0231	LDW18-SSCL-A18	18E0282-03	EPA 8270D-SIM	Chrysene	898	ug/kg	E	DNR	20

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
18E0231	LDW18-SSCL-A18	18E0282-03RE1	EPA 8270D-SIM	Dibenzo(a,h)anthracene	209	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A18	18E0282-03RE1	EPA 8270D-SIM	Benzo(k)fluoranthene	494	ug/kg	D	DNR	11
18E0231	LDW18-SSCL-A09	18E0282-04	EPA 9060	Total Organic carbon (TOC)	0.77	%		J	8L,9
18E0231	LDW18-SSCL-A10	18E0282-05	EPA 9060	Total Organic carbon (TOC)	0.4	%		J	8L,9
18E0231	LDW18-SSCL-A07	18E0309-01	EPA 9060	Total Organic carbon (TOC)	1.9	%		J	8L,9
18E0231	LDW18-SSCL-A08	18E0309-02	EPA 9060	Total Organic carbon (TOC)	0.57	%		J	8L,9
18F0331	LDW18-C01-CLSP-Comp1	18F0331-01	Bligh&Dyer	Lipid	0.075	%		J	7H
18F0331	LDW18-C02-CLSP-Comp1	18F0331-03	Bligh&Dyer	Lipid	0.069	%		J	7H
18F0331	LDW18-C03-CLSP-Comp1	18F0331-06	Bligh&Dyer	Lipid	0.075	%		J	7H
18F0331	LDW18-C05-CLSP-Comp1	18F0331-09	Bligh&Dyer	Lipid	0.099	%		J	7H
18F0331	LDW18-C06-CLSP-Comp1	18F0331-11	Bligh&Dyer	Lipid	0.098	%		J	7H
18F0331	LDW18-C08-CLSP-Comp1	18F0331-16	Bligh&Dyer	Lipid	0.083	%		J	7H
18F0331	LDW18-C09-CLSP-Comp1	18F0331-17	Bligh&Dyer	Lipid	0.066	%		J	7H
18F0331	LDW18-C10-CLSP-Comp1	18F0331-19	Bligh&Dyer	Lipid	0.033	%		J	7H
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1260	2.4	ug/kg	J	DNR	11
18F0364	LDW18-C01-CLWB-Comp2	18F0364-01	EPA 8082A	Aroclor-1254	7.3	ug/kg		DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1254	7.4	ug/kg		DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C02-CLWB-Comp2	18F0364-02	EPA 8082A	Aroclor-1260	2.8	ug/kg	J	DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1260	2.8	ug/kg	J	DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1254	7.2	ug/kg		DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C03-CLWB-Comp2	18F0364-03	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1260	3.3	ug/kg	J	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1254	9.4	ug/kg		DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1260	5.8	ug/kg		J	3
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C04-CLWB-Comp2	18F0364-04	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1260	3.5	ug/kg	J	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1254	8.4	ug/kg		DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C05-CLWB-Comp2	18F0364-05	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1260	2.3	ug/kg	J	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1254	8.3	ug/kg		DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C06-CLWB-Comp2	18F0364-06	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1260	2.6	ug/kg	J	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1254	7.4	ug/kg		DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C08-CLWB-Comp2	18F0364-07	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1260		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1254	5.7	ug/kg		DNR	11

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C10-CLWB-Comp2	18F0364-08	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1260	2.2	ug/kg	J	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1254	6.9	ug/kg		DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1221		ug/kg	U	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1232		ug/kg	U	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1248		ug/kg	U	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1016		ug/kg	U	DNR	11
18F0364	LDW18-C11-CLWB-Comp2	18F0364-09	EPA 8082A	Aroclor-1242		ug/kg	U	DNR	11
18F0364	LDW18-S1-CLWB-Comp1	18F0364-10	EPA 8270D	Pentachlorophenol		ug/kg	U	UJ	5BL
18F0364	LDW18-S2-CLWB-Comp1	18F0364-11	EPA 8270D	Pentachlorophenol		ug/kg	U	UJ	5BL
18F0364	LDW18-S3-CLWB-Comp1	18F0364-12	EPA 8270D	Pentachlorophenol		ug/kg	U	UJ	5BL
L1828580	LDW18-SSCL-A01-BC	L1828580-01	EPA 9060M/Gustafsson	Black carbon	0.188	%		J	9
L1828580	LDW18-SSCL-A01-Rep2	L1828580-01-Rep2	EPA 9060M/Gustafsson	Black carbon	0.163	%		J	9
L1828580	LDW18-SSCL-A02-BC	L1828580-02	EPA 9060M/Gustafsson	Black carbon	0.173	%		J	9
L1828580	LDW18-SSCL-A02-Rep2	L1828580-02-Rep2	EPA 9060M/Gustafsson	Black carbon	0.162	%		J	9
L1828580	LDW18-SSCL-A03-BC	L1828580-03	EPA 9060M/Gustafsson	Black carbon	0.302	%		J	9
L1828580	LDW18-SSCL-A03-Rep2	L1828580-03-Rep2	EPA 9060M/Gustafsson	Black carbon	0.259	%		J	9
L1828580	LDW18-SSCL-A04-BC	L1828580-04	EPA 9060M/Gustafsson	Black carbon	0.056	%		J	9
L1828580	LDW18-SSCL-A04-Rep2	L1828580-04-Rep2	EPA 9060M/Gustafsson	Black carbon	0.089	%		J	9
L1828580	LDW18-SSCL-A05-BC	L1828580-05	EPA 9060M/Gustafsson	Black carbon	0.139	%		J	9
L1828580	LDW18-SSCL-A05-Rep2	L1828580-05-Rep2	EPA 9060M/Gustafsson	Black carbon	0.193	%		J	9
L1828580	LDW18-SSCL-A07-BC	L1828580-07	EPA 9060M/Gustafsson	Black carbon	0.07	%		J	9
L1828580	LDW18-SSCL-A07-Rep2	L1828580-07-Rep2	EPA 9060M/Gustafsson	Black carbon	0.068	%		J	9
L1828580	LDW18-SSCL-A09-BC	L1828580-09	EPA 9060M/Gustafsson	Black carbon	0.052	%		J	9
L1828580	LDW18-SSCL-A09-Rep2	L1828580-09-Rep2	EPA 9060M/Gustafsson	Black carbon	0.06	%		J	9
L1828580	LDW18-SSCL-A10-BC	L1828580-10	EPA 9060M/Gustafsson	Black carbon	0.026	%		J	9
L1828580	LDW18-SSCL-A10-Rep2	L1828580-10-Rep2	EPA 9060M/Gustafsson	Black carbon	0.021	%		J	9
L1828580	LDW18-SSCL-A18-BC	L1828580-15	EPA 9060M/Gustafsson	Black carbon	0.192	%		J	9
L1828580	LDW18-SSCL-A18-Rep2	L1828580-15-Rep2	EPA 9060M/Gustafsson	Black carbon	0.268	%		J	9

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
L1828580	LDW18-SSCL-A19-BC	L1828580-16	EPA 9060M/Gustafsson	Black carbon	0.177	%		J	9
L1828580	LDW18-SSCL-A19-Rep2	L1828580-16-Rep2	EPA 9060M/Gustafsson	Black carbon	0.143	%		J	9
L1828580	LDW18-SS-COMP01-BC	L1828580-18	EPA 9060M/Gustafsson	Black carbon	0.409	%		J	9
L1828580	LDW18-SS-COMP01-Rep2	L1828580-18-Rep2	EPA 9060M/Gustafsson	Black carbon	0.617	%		J	9
L1828580	LDW18-SS-COMP02-BC	L1828580-19	EPA 9060M/Gustafsson	Black carbon	0.174	%		J	9
L1828580	LDW18-SS-COMP02-Rep2	L1828580-19-Rep2	EPA 9060M/Gustafsson	Black carbon	0.235	%		J	9
L1828580	LDW18-SS-COMP03-BC	L1828580-20	EPA 9060M/Gustafsson	Black carbon	0.059	%		J	9
L1828580	LDW18-SS-COMP03-Rep2	L1828580-20-Rep2	EPA 9060M/Gustafsson	Black carbon	0.139	%		J	9
L1828580	LDW18-SS-COMP04-BC	L1828580-21	EPA 9060M/Gustafsson	Black carbon	0.12	%		J	9
L1828580	LDW18-SS-COMP04-Rep2	L1828580-21-Rep2	EPA 9060M/Gustafsson	Black carbon	0.124	%		J	9
L1828580	LDW18-SS-COMP05-BC	L1828580-22	EPA 9060M/Gustafsson	Black carbon	0.01	%		J	9
L1828580	LDW18-SS-COMP05-Rep2	L1828580-22-Rep2	EPA 9060M/Gustafsson	Black carbon	0.01	%		J	9
L1828580	LDW18-SS-COMP07-BC	L1828580-24	EPA 9060M/Gustafsson	Black carbon	0.025	%		J	9
L1828580	LDW18-SS-COMP07-Rep2	L1828580-24-Rep2	EPA 9060M/Gustafsson	Black carbon	0.074	%		J	9
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,5',6-HpCB	13.4	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,3,3',4',5',6-HxCB	79	ng/kg		J	12L
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,4',5,5'-OcCB	20.2	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,4',5,6,6'-HpCB	1.85	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,4,4',5,6'-HpCB	5	ng/kg	J	J	12L
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,3,3',4,4',5,6-HpCB	29.9	ng/kg		J	12L
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',5,5'-HxCB	39.4	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,5'-HxCB	77.7	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,4',6,6'-HxCB	2.4	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,4',5,6-OcCB	11.6	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,4',5,5',6-NoCB	11.5	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	6.41	ng/kg	K B J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,3',4,5',6,6'-OcCB	18.6	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',6,6'-TeCB	1.82	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	3,4',5-TriCB	2.77	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,5'-TeCB	433	ng/kg	C	J	12H
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2'-DiCB	15.2	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2-MoCB	2.24	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	4,4'-DiCB	25.6	ng/kg	K	J	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	3,4-DiCB	4.11	ng/kg	C K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	3,3'-DiCB	9.64	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,6,6'-PeCB	4.43	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,2',3,5,6'-PeCB	4.31	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2',3,3',4,5-PeCB	11	ng/kg	K	J	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,3',4,5,5'-PeCB	4.02	ng/kg	K J	U	25
WG64623	LDW18-C01-CLWB-Comp2	L29626-1	EPA 1668C	2,3',4,5-TeCB	12.6	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	2,3,7,8-TCDF	0.395	ng/kg		DNR	11
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	1,2,3,7,8,9-HxCDD	0.114	ng/kg	K J	DNR	11
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total HpCDF	3.01	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total HxCDF	1.34	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	1,2,3,6,7,8-HxCDF	0.056	ng/kg	K J	U	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total TCDF	2.08	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total HxCDD	1.64	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total TCDD	0.218	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.082	ng/kg	K J	U	25
WG64557	LDW18-C01-CLWB-Comp2	L29626-1 (A)	EPA 1613B	Total PeCDF	0.462	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	OCDF	7.91	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total HpCDF	7.23	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total HxCDF	2.95	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total PeCDF	0.939	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total TCDF	1.93	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total HxCDD	3.29	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	1,2,3,7,8,9-HxCDD	0.329	ng/kg	J	DNR	11
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	1,2,3,4,7,8-HxCDD	0.112	ng/kg	K J	U	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	1,2,3,7,8-PeCDF	0.08	ng/kg	K J	U	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	1,2,3,7,8-PeCDD	0.089	ng/kg	K J	U	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total TCDD	0.406	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.168	ng/kg	K J	U	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	Total PeCDD	0.646	ng/kg	K	J	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	2,3,7,8-TCDF	0.379	ng/kg		DNR	11
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	2,3,4,7,8-PeCDF	0.127	ng/kg	K J	U	25
WG64557	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1613B	2,3,7,8-TCDF	0.127	ng/kg	K J	U	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,3',4,5',6-HpCB	19.3	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,3',4',5',6-HxCB	105	ng/kg		J	12L
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,3',4,4',5,6-HpCB	47.2	ng/kg		J	12L
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4,4',5,6'-HpCB		ng/kg	U	UJ	12L
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4,4',5,6-HpCB	2.25	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4,4',6-HxCB	24.2	ng/kg	C K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,3',4,5,5'-HxCB	11.8	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,3',4',5,5'-HxCB	3.04	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4',6,6'-HxCB	4.26	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4',5,6'-HxCB	6.49	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,3',4,6-HxCB	11	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	3,3',4,4',5-PeCB	1.86	ng/kg	K B	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	3,3',4,4',5,5'-HxCB	0.214	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	5.07	ng/kg	K B J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,3',4,5,5',6,6'-NoCB	3.43	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,3',4,4',5,6,6'-NoCB	1.5	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	3,4',5-TriCB	2.09	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',6,6'-TeCB	2.08	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,6-TriCB	1	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,5'-TeCB	392	ng/kg	C	J	12H
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,5-TeCB	29.6	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	4-MoCB	1.69	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2-MoCB	1.76	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,4-DiCB	3.39	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	3,4-DiCB	3.55	ng/kg	C K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2',3,3',4,5-PeCB	14.3	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3',4,5,5'-PeCB	4.23	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2',3,5-TriCB	1.77	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3',4,5'-TeCB	3.27	ng/kg	K J	U	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,3,4',5-TeCB	15	ng/kg	K	J	25
WG64623	LDW18-C02-CLWB-Comp2	L29626-2	EPA 1668C	2,2',3,4,6'-PeCB	9.48	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	2,3,4,6,7,8-HxCDF	0.106	ng/kg	K J	U	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	1,2,3,7,8,9-HxCDD	0.232	ng/kg	K J	DNR	11

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	1,2,3,7,8-PeCDD	0.177	ng/kg	K J	U	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	2,3,7,8-TCDD	0.052	ng/kg	K J	U	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	2,3,7,8-TCDF	0.673	ng/kg	K	DNR	11
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total HxCDF	3.82	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total HpCDF	8.28	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.138	ng/kg	K J	U	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total PeCDF	1.68	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total TCDF	4.79	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total HxCDD	3.51	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total PeCDD	1.19	ng/kg	K	J	25
WG64557	LDW18-C03-CLWB-Comp2	L29626-3 i	EPA 1613B	Total TCDD	0.72	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total HxCDF	101	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total HpCDF	382	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total TCDF	4.99	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total PeCDF	15.4	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	1,2,3,4,7,8-HxCDD	0.597	ng/kg	K J	U	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	2,3,7,8-TCDF	0.197	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	1,2,3,7,8,9-HxCDF	0.133	ng/kg	K J	U	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total HxCDD	25	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total PeCDD	4.77	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	Total TCDD	1.15	ng/kg	K	J	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	1,2,3,7,8,9-HxCDD	1.36	ng/kg		DNR	11
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	1,2,3,7,8-PeCDF	0.386	ng/kg	K J	U	25
WG64557	LDW18-C04-CLWB-Comp2	L29626-4	EPA 1613B	2,3,7,8-TCDF	0.555	ng/kg		DNR	11
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,6-TriCB	1.85	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	3,3',4-TriCB	2.07	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2-MoCB	1.47	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,4-DiCB		ng/kg	U	UJ	9
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,4',5,6,6'-HpCB	2.21	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',4,4',5,6-HpCB	44.3	ng/kg		J	12L
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',4,4',5',6-HpCB	16.1	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,4,4',5,6-HpCB	3.1	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,4',5,6-OcCB	21.2	ng/kg	K	J	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,5',6,6'-OcCB	29.4	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,5,6,6'-HxCB	1.51	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,4,4',5,6'-HpCB	5.84	ng/kg	K J	UJ	12L,25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	4.23	ng/kg	B J	U	7
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,5,5'-HpCB	26.1	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',4',5',6-HxCB	132	ng/kg		J	12L
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,4',5,6,6'-NoCB	1.94	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	3,3',4,5'-TeCB	12.1	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,4,6'-PeCB	9.05	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,5'-TeCB	511	ng/kg	C	J	12H
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',6,6'-TeCB	1.66	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',4-TeCB	20.5	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',5-TeCB	2.68	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,3,3',5'-TeCB	2.99	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2',3,3',4,5-PeCB	9.99	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,3',4,6-HxCB	15.8	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',4,5',6-PeCB	19.3	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	L29626-4 (A)	EPA 1668C	2,2',3,5,6'-PeCB	6.1	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	2,3,4,7,8-PeCDF	0.088	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	1,2,3,7,8-PeCDF	0.071	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	2,3,7,8-TCDF	0.552	ng/kg		DNR	11
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	1,2,3,6,7,8-HxCDF	0.055	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	1,2,3,7,8-PeCDD	0.076	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	1,2,3,7,8,9-HxCDD	0.168	ng/kg	J	DNR	11
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total PeCDD	0.334	ng/kg	K	J	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total TCDD	0.403	ng/kg	K	J	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	2,3,4,6,7,8-HxCDF	0.052	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total TCDF	3.04	ng/kg	K	J	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	1,2,3,4,7,8-HxCDD	0.082	ng/kg	K J	U	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total HxCDD	2.62	ng/kg	K	J	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total HxCDF	2.01	ng/kg	K	J	25
WG64557	LDW18-C05-CLWB-Comp2	L29626-5 i	EPA 1613B	Total PeCDF	1.15	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	2,3,7,8-TCDD	0.051	ng/kg	K J	U	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	1,2,3,7,8-PeCDD	0.115	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.209	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	2,3,4,6,7,8-HxCDF	0.083	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	1,2,3,6,7,8-HxCDF	0.079	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	2,3,4,7,8-PeCDF	0.102	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total HxCDD	3.02	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	2,3,7,8-TCDF	0.406	ng/kg		DNR	11
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	1,2,3,7,8,9-HxCDD	0.225	ng/kg	J	DNR	11
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	1,2,3,4,7,8-HxCDD	0.129	ng/kg	K J	U	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total TCDD	0.4	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total PeCDD	0.539	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total HpCDF	6.63	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total HxCDF	3.18	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total PeCDF	1.16	ng/kg	K	J	25
WG64557	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1613B	Total TCDF	2.94	ng/kg	K	J	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',6,6'-TeCB	2.19	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,5'-TeCB	675	ng/kg	C	J	12H
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	3,4',5-TriCB	4.2	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	3,3',4,5'-TeCB	14.2	ng/kg	K	J	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	3,4-DiCB	4.23	ng/kg	C K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,5-DiCB	3.23	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,4-DiCB	2.9	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	4-MoCB	4.44	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2',3,5-TriCB	2.35	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	4.84	ng/kg	B J	U	7
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,3',4,5,5',6,6'-NoCB	5.04	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4',5,6,6'-HpCB	2.12	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4,4',5,6-HpCB	2.95	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4,4',5,6'-HpCB	5.97	ng/kg	K J	UJ	12L,25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,3,3',4,4',5,6-HpCB	54.6	ng/kg		J	12L
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,3,3',5,5'-PeCB	2.39	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,3',4,5,5'-PeCB	7.02	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2',3,3',4,5-PeCB	18	ng/kg	K	J	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	3,3',4,5,5'-PeCB	4.16	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,5,6,6'-HxCB	1.66	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,3,3',4',5',6-HxCB	143	ng/kg		J	12L
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4,4',6-HxCB	39.5	ng/kg	C K	J	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4',6,6'-HxCB	4.74	ng/kg	K J	U	25
WG64623	LDW18-C06-CLWB-Comp2	L29626-6	EPA 1668C	2,2',3,4,6,6'-HxCB	1.35	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',4',5',6-HxCB	143	ng/kg		J	12L
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,3',4,5',6-HpCB	28.4	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',4,4',5,6-HpCB	53.9	ng/kg		J	12L
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,3',4,4',5,5'-OcCB	39.2	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',4,4',5',6-HpCB	22.6	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,4,4',5,6'-HpCB	7.43	ng/kg	K J	UJ	12L,25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,4,4',5,6-HpCB	2.94	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,3',4,6-HxCB	17.9	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',4,4',6,6'-HxCB	1.02	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,4',6,6'-HxCB	5.27	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',4',5,5'-HxCB	4.49	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',4,4',5,5',6-OcCB	3.78	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	4.54	ng/kg	K B J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,3',4,4',5,6,6'-NoCB	1.1	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,6-TriCB	1.79	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	3,4',5-TriCB	2.54	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,6'-TeCB	18.7	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,5'-TeCB	487	ng/kg	C	J	12H
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2'-DiCB	13.8	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	4-MoCB	2.16	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	3,3'-DiCB	8.81	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,2',3,5,6'-PeCB	7.51	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',5-TeCB	3.35	ng/kg	K J	U	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2',3,3',4,5-PeCB	15.2	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3',4,5,5'-PeCB	8.69	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3',4,5-TeCB	17.9	ng/kg	K	J	25
WG64623	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1668C	2,3,3',5'-TeCB	3.96	ng/kg	K J	U	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total HpCDF	2.24	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	1,2,3,7,8,9-HxCDD	0.097	ng/kg	K J	DNR	11
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	1,2,3,7,8-PeCDD	0.086	ng/kg	K J	U	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	1,2,3,7,8-PeCDF	0.068	ng/kg	K J	U	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.073	ng/kg	K J	U	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total HxCDF	1.51	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total PeCDF	0.791	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total TCDF	2.22	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total HxCDD	1.48	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total PeCDD	0.179	ng/kg	K	J	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	OCDF	1.42	ng/kg	K J	U	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	2,3,7,8-TCDF	0.339	ng/kg		DNR	11
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	2,3,4,6,7,8-HxCDF	0.064	ng/kg	K J	U	25
WG64557	LDW18-C08-CLWB-Comp2	L29626-7	EPA 1613B	Total TCDD	0.318	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total HxCDF	1.1	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total TCDF	1.34	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total HxCDD	1.52	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total PeCDD	0.365	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total TCDD	0.446	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total HpCDF	1.89	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	Total PeCDF	0.707	ng/kg	K	J	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,6,7,8-HxCDF	0.063	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,4,7,8-HxCDF	0.13	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,7,8-PeCDF	0.14	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,4,6,7,8-HpCDF	0.476	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,7,8,9-HxCDD	0.132	ng/kg	K J	DNR	11
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,4,7,8-HxCDD	0.081	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	1,2,3,7,8-PeCDD	0.104	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	2,3,7,8-TCDD	0.113	ng/kg	K J	U	25
WG64557	LDW18-C10-CLWB-Comp2	L29626-8	EPA 1613B	2,3,7,8-TCDF	0.307	ng/kg		DNR	11
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	1,2,3,7,8-PeCDD	0.061	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	1,2,3,7,8,9-HxCDD	0.136	ng/kg	K J	DNR	11
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	1,2,3,6,7,8-HxCDF	0.059	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total HxCDD	1.8	ng/kg	K	J	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total PeCDD	0.271	ng/kg	K	J	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total TCDD	0.319	ng/kg	K	J	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	1,2,3,4,7,8,9-HpCDF	0.109	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total PeCDF	0.693	ng/kg	K	J	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	2,3,4,7,8-PeCDF	0.089	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	1,2,3,7,8-PeCDF	0.068	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	2,3,7,8-TCDF	0.349	ng/kg		DNR	11
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	2,3,4,6,7,8-HxCDF	0.052	ng/kg	K J	U	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total TCDF	1.85	ng/kg	K	J	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total HpCDF	3.61	ng/kg	K	J	25
WG64557	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1613B	Total HxCDF	1.86	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,3,3',5-TeCB	4.18	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',6,6'-TeCB	1.62	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,5,6'-PeCB	7.28	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4,6'-PeCB	10.5	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	4,4'-DiCB	15.9	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,4-DiCB	3.81	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	4-MoCB	2.57	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,5'-TeCB	513	ng/kg	C	J	12H
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	3,3',4-TriCB	1.66	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	4.82	ng/kg	K B J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,3',4,5,5',6,6'-NoCB	9.83	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,3,3',4,4',5,6-HpCB	42.2	ng/kg		J	12L
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,3',4,5',6,6'-OcCB	31.6	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4,4',5,5',6-OcCB	41.5	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,3',4,4',5,5',6-NoCB	14.5	ng/kg	K	J	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,3,3',5,5'-PeCB	3.01	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4,4',5,6-HpCB	2.79	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4,4',5,6'-HpCB		ng/kg	U	UJ	12L
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4',5,6'-HxCB	7.32	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,4',6,6'-HxCB	5.04	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,2',3,5,6,6'-HxCB	1.72	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,3,3',4',5,5'-HxCB	3.36	ng/kg	K J	U	25
WG64623	LDW18-C11-CLWB-Comp2	L29626-9	EPA 1668C	2,3,3',4',5',6-HxCB	109	ng/kg		J	12L

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
L1828580	WG1144091-3-DUP	WG1144091-3	EPA 9060M/Gustafsson	Black carbon	0.162	%		J	9
L1828580	WG1144091-3-DUP-Rep2	WG1144091-3-	EPA 9060M/Gustafsson	Black carbon	0.175	%		J	9
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total HxCDD	2.09	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total PeCDD	0.289	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total HxCDF	1.4	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total PeCDF	0.29	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total TCDF	2.6	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	Total TCDD	0.261	ng/kg	K	J	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	1,2,3,4,7,8-HxCDF	0.103	ng/kg	K J	U	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	1,2,3,7,8-PeCDD	0.078	ng/kg	K J	U	25
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	2,3,7,8-TCDF	0.442	ng/kg	K	DNR	11
WG64557	LDW18-C01-CLWB-Comp2	WG64557-103	EPA 1613B	1,2,3,7,8,9-HxCDD	0.095	ng/kg	K J	DNR	11
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,3,3',4,4',5',6-HpCB	14	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,4,4',5,6'-HpCB	6.47	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,4,4',5,6-HpCB	1.82	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,4,4',6-HxCB	32.3	ng/kg	C K	J	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,3',4,4',5,6-OcCB	17.2	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,3,3',4,5,5'-HxCB	7.99	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,5,6,6'-HxCB	1.97	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,4',6,6'-HxCB	4.55	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,3,3',4',5,5'-HxCB	3.48	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,3,3',4,4',5,5'-HpCB	5.19	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,3',4,4',5,5',6,6'-DeCB	3.65	ng/kg	B J	U	7
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,3',4,5,5',6,6'-NoCB	4.05	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2	WG64623-103	EPA 1668C	2,2',3,3',4,4',5,6,6'-NoCB	1.63	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,2',3,3',4,4',6,6'-OcCB	15.3	ng/kg	C K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,3',4,4',5,5',6-OcCB	4.05	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,3',4-TeCB	22.4	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	3,3',4-TriCB	2.26	ng/kg	K J	U	25

Qualified Data Summary Table
Lower Duwamish Waterway - Clam Tissue Sediment Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2-MoCB	1.51	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,6-TriCB	1.25	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	3,3'-DiCB	9.73	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,4-DiCB	7.79	ng/kg		J	9
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	3,4-DiCB	4.57	ng/kg	C K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,3',4,5'-PeCB	30.6	ng/kg	C K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,2',3,5,6'-PeCB	8.16	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,3',4',5-PeCB	63.6	ng/kg	K	J	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,3,3',5'-TeCB	3.76	ng/kg	K J	U	25
WG64623	LDW18-C04-CLWB-Comp2 (Duplicate)	WG64623-103 (DUP L29626-4)	EPA 1668C	2,2',3,4,6'-PeCB	10.9	ng/kg	K	J	25

DATA VALIDATION REPORT

Lower Duwamish Waterway
Passive Sampler Report

Prepared for:

Windward Environmental, LLC
200 West Mercer Street, Suite 401
Seattle, Washington 98119

Prepared by:

EcoChem, Inc.
500 Union Street, Suite 1010
Seattle, Washington 98101

EcoChem Project: C22033-4

January 25, 2019

Approved for Release:

Christina Mott Frans
Project Manager
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report presents the results of Summary Validation (EPA Stage 2B) performed on passive sampler and quality control sample data for the Lower Duwamish Waterway Baseline Sampling project. A complete list of samples is provided in the **Sample Index**.

Samples were analyzed by SGS Axys, Sidney BC, Canada. The analytical methods and EcoChem project chemists are listed below.

Analysis	Method	Primary Review	Secondary Review
Carcinogenic Polynuclear Aromatic Hydrocarbon (cPAH) Compounds	SW 8270D-SIM	R. Frans	C. Frans

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *Lower Duwamish Waterway Group Clam Collection and Chemical Analyses – Quality Assurance Project Plan and Appendix C* (Windward, April 2018) and *National Functional Guidelines for Organic Data Review* (USEPA 2008 & 2014).

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced previously.

Data qualifier definitions, reason codes, and validation criteria are included as Appendix A. A Qualified Data Summary Table is included in Appendix B. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Lower Duwamish Waterway - Passive Sampler Sampling

SDG	Sample ID	Axys Laboratory ID	cPAH
WG66438	PAH Day Zero #1	L30196-2	✓
	PAH Day Zero #2	L30196-3	✓
	PAH Day Zero #3	L30196-4	✓
	LDW18-PWPS-EXpBlk-PAH	L30540-1	✓
	LDW18-PWPS-A01	L30540-2	✓
	LDW18-PWPS-A02	L30540-3	✓
	LDW18-PWPS-A04	L30540-4	✓
	LDW18-PWPS-A06	L30540-5	✓
	LDW18-PWPS-A07	L30540-6	✓
	LDW18-PWPS-A07DUP	L30540-7	✓
	LDW18-PWPS-A08	L30540-8	✓
	LDW18-PWPS-A10	L30540-9	✓
	LDW18-PWPS-A11	L30540-10	✓
	LDW18-PWPS-A17	L30540-11	✓
	LDW18-PWPS-A18	L30540-12	✓

DATA VALIDATION REPORT
Lower Duwamish Waterway: Passive Sampler
Carcinogenic PAH Compounds by Axys SOP MLA-021 Rev 12

This report documents the review of analytical data from the analysis of passive samplers and the associated laboratory and field quality control (QC) samples. Samples were analyzed by SGS Axys, Sidney, BC, Canada. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
WG66438	11 Passive Sampler 3 Day Zero Samples 1 Exposure Blank Sample	EPA Stage 2B

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (100% verification) by comparing the EDD to the hardcopy laboratory data package. Ten percent (10%) of the laboratory QC results were also verified. The sample IDs recorded on the chain-of-custody did not reflect the convention indicated in the QAPP. This discrepancy was noticed after the samples were received at the laboratory. The laboratory updated the sample IDs in the EDD, but the data package forms reflect the original COC IDs. The correlation between the original and corrected sample IDs are included in the laboratory data package in their correlation table. This report uses the corrected sample IDs.

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

✓	Sample Receipt, Preservation, and Holding Times	✓	Ongoing Precision and Recovery (OPR)
✓	Initial Calibration (ICAL)	1	Certified Reference Material
✓	Calibration Verification (CVER)	1	Field Duplicates
2	Laboratory Blanks	1	Target Analyte List
1	Exposure Blank	✓	Reporting Limits
1	Labeled Compound Recovery	2	Compound Identification
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)	✓	Compound Quantitation

1 Quality control results are discussed below, but no data were qualified.
2 Quality control outliers that impact the reported data were noted.
Data qualifiers were issued as discussed below.

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-7). No action is taken if the sample result is greater than the action level, or for non-detected results.

Chrysene was detected in the laboratory method blank, associated sample results less than the action limit were qualified (U-7).

Exposure Blank

Action levels were established at five times (5x) the concentration reported in the exposure blank. Following evaluation of the laboratory method blank, if a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-6). No action is taken if the sample result is greater than the action level, or for non-detected results.

Sample LDW18-PWPS-ExpBLK-PAH was submitted as an exposure blank. The labeled compounds listed below were used as part of the passive sampler collection and are not evaluated as contamination in the blank:

13C6-Chrysene

13C6-Indeno(1,2,3-cd)pyrene

13C6-Phenanthrene

Fluoranthene d-10

Following method blank evaluation, no detections of target analytes remained; qualification was not required.

Labeled Compound Recovery

All labeled compounds were recovered within the laboratory control limits with the exception of phenanthrene-d10 which was recovered slightly less than the lower control limit in the method blank. No action was taken for this QC sample.

Matrix Spikes/Matrix Spike Duplicates

Matrix spike/matrix spike duplicates (MS/MSD) were not analyzed. Accuracy was assessed using labeled compound recoveries and ongoing precision and recovery (OPR) sample.

Certified Reference Material

No certified reference material was analyzed with this analytical data set.

Field Duplicates

For passive sampler samples, the QAPP RPD control limit is 40% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL. No data were qualified based on field duplicate precision outliers. Users of the data should consider the impact of field precision outliers on the reported results.

Samples LDW18-PWPS-A07 and LDW18-PWPS-A07Dup were identified as field duplicates. The RPD values for the analytes listed in flowing the table were greater than the control limit.

Analyte	RPD
Fluoranthene d-10	54
Benzo[j,k]fluoranthenes	51
Benzo[b]fluoranthene	46
Benzo[a]pyrene	52
13C6-Chrysene	44

Target Analyte List

The labeled analytes listed below are analyzed as target analytes in the field samples and trip blank and are listed as performance reference compounds (PRC). The analytes are used to measure the non-equilibrium conditions between the polyethylene sampler and the porewater. Data qualifiers are not applied to results for these compounds.

13C6-Chrysene

13C6-Indeno(1,2,3-cd)pyrene

13C6-Phenanthrene

Fluoranthene d-10

Compound Identification

The laboratory flagged several analytes, the with a "K" flag to indicate the ion ratio did not meet the laboratory criteria. Although the spectra were evaluated, and the parent ion was determined to be present, the ratio of the secondary ion to the primary (parent) ion was outside of the laboratory's criteria indicating potential uncertainly; these analytes were estimated (J-24).

OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. With the exception previously noted, accuracy was acceptable as demonstrated by the labeled compound and laboratory control sample recoveries. With the exceptions previously noted, precision was also acceptable as demonstrated by the field duplicate RPD values.

Four results were flagged as not detected at the reported concentrations due to method blank contamination and several results were estimated due to ion ratio outliers.

All data, as qualified, are acceptable for use.

ECOCHEM
Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L)[1] where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L)[1] where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L)[1] for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L)[1] where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L)[1] where appropriate
	12	Reference Material Use bias flags (H,L)[1] where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L)[1] where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L)[1] where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

[1] H = high bias indicated
L = low bias indicated

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG (1) Method (3)	**If required by project:** J (pos)/UJ (ND) if greater than 6° C	1	Use **PJ** for temp outliers; see **TM20** Current SW846 criterion is ≤ 6° C (3)
Holding Time	**Extraction Aqueous:** 7 days from collection **Extraction Solid:** 14 days from collection **Analysis (all matrices)**: 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG (1) Method (3)	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG (1) Method (3)	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG (1) Method (3)	Use **PJ** to qualify J (pos)/UJ (ND)	5A	**TM-06** EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance **PJ** - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration **Stability**	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * **or** co-efficient of determination (r^2) > 0.99	NFG (1) Method (3)	J (pos) if %RSD > limit **or** r^2 value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method (3)	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L)[4]	QAPP may have overriding accuracy limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration **Sensitivity**	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG [1] Method [3]	Use **PJ** to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration **Stability**	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG [1] Method [3]	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L)[4]	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG [2] Method [3]	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes **Hierarchy of blank review:** **#1 - Review MB, qualify as needed** **#2 - Review FB , qualify as needed** **Note: Actions as per 1999 NFG**
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG [2] Method [3]	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method [3]	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L)[4]	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method [3]	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L)[4]	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG (1) Method (3)	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L)[4]	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG (1) Method (2)	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG (1) Method (3)	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L)[4]	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG (1) Method (3)	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use **PJ**	19	Qualify compounds quantified using particular internal standard
Field Duplicates	**Solids:** RPD < 50% OR difference < 2X RL (for results < 5X RL) **Aqueous:** RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

Copyright 2015 EcoChem, Inc.

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG [(1)] Method [(3)]	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG [(1)] Method [(3)]	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	**TM-04** EcoChem Policy for Rejection/Selection Process for Multiple Results

[1] National Functional Guidelines for Organic Data Review, June, 2008
[2] National Functional Guidelines for Organic Data Review, October, 1999
[3] Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.
[4] NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)
(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

Copyright 2015 EcoChem, Inc.

ECOCHEM
Data Quality

APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
Lower Duwamish Waterway - Passive Sampler Sampling

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Qualifier	Validation Qualifier	Validation Reason
WG66438	LDW18-PWPS-A01	L30540-2	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	44.2	ng/g	K J	J	24
WG66438	LDW18-PWPS-A04	L30540-4	AXYS MLA-021 Rev 12	Indeno[1,2,3-cd]pyrene	9.94	ng/g	K J	J	24
WG66438	LDW18-PWPS-A06	L30540-5	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	18.4	ng/g	K J	J	24
WG66438	LDW18-PWPS-A07	L30540-6	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	24.1	ng/g	K J	J	24
WG66438	LDW18-PWPS-A07	L30540-6	AXYS MLA-021 Rev 12	Indeno[1,2,3-cd]pyrene	100	ng/g	K	J	24
WG66438	LDW18-PWPS-A07Dup	L30540-7	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	34.9	ng/g	K J	J	24
WG66438	LDW18-PWPS-A08	L30540-8	AXYS MLA-021 Rev 12	Benz[a]anthracene	141	ng/g	K	J	24
WG66438	LDW18-PWPS-A08	L30540-8	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	14.5	ng/g	K J	J	24
WG66438	LDW18-PWPS-A08	L30540-8	AXYS MLA-021 Rev 12	Indeno[1,2,3-cd]pyrene	75.4	ng/g	K	J	24
WG66438	LDW18-PWPS-A10	L30540-9	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	53.7	ng/g	K J	J	24
WG66438	LDW18-PWPS-A17	L30540-11	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	34	ng/g	K J	J	24
WG66438	LDW18-PWPS-A18	L30540-12	AXYS MLA-021 Rev 12	Dibenz[a,h]anthracene	44.1	ng/g	K J	J	24
WG66438	LDW18-PWPS-EXpBlk-PAH	L30540-1	AXYS MLA-021 Rev 12	Chrysene	0.975	ng/g	K B J	U	7
WG66438	PAH Day Zero #1	L30196-2	AXYS MLA-021 Rev 12	Chrysene	3.64	ng/g	K B J	U	7
WG66438	PAH Day Zero #2	L30196-3	AXYS MLA-021 Rev 12	Chrysene	2.36	ng/g	K B J	U	7
WG66438	PAH Day Zero #3	L30196-4	AXYS MLA-021 Rev 12	Chrysene	3.18	ng/g	K B J	U	7

Analytical Resources, Inc.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 July 2018

Amara Vandervort
Windward Environmental, LLC
200 West Mercer Street, Suite 401
Seattle, WA 98119-3958

RE: LDW AOC3 Task 4 (Inorganic As)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18F0331	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

1 of 2 18F0331

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3136

Project/Client Name: Windward
Project Number: AOC3 Task 4
Contact Name: Amara Vandervoort
Sampled By: Windward

Ship to: AR1
Attn: Sue Dunnihoo
Shipper: Hand-delivered
Form filled out by: AV

Shipping Date: 6/21/18
Airbill Number: NA
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Homogenize	Total % Solids	Total Lipids	Inorg As				Comments / Instructions [Jar tag number(s)]
6/21/18	1014	LDW18-C01-CLSP-Comp1	1	Tissue	X	X	X	X				Inorganic As SplW to Brooks Applied
	1014	LDW18-C01-CLRM-Comp1	1		X	X	X	X				
	1005	LDW18-C02-CLSP-Comp1	1		X	X	X	X				
	1005	LDW18-C02-CLRM Comp1	1		X	X	X	X				
	1022	LDW18-C03-CLRM-Comp1	1		X	X	X	X				
	1022	LDW18-C03-CLSP-Comp1	1		X	X	X	X				
	1029	LDW18-C04-CLSP-Comp1	1		X	X	X	X				
	1029	LDW18-C04-CLRM-Comp1	1		X	X	X	X				
	1038	LDW18-C05-CLSP-Comp1	1		X	X	X	X				
	1038	LDW18-C05-CLRM-Comp1	1		X	X	X	X				
	1046	LDW18-C06-CLSP-Comp1	1		X	X	X	X				
6/21/18	1046	LDW18-C06-CLRM-Comp1	1	Tissue	X	X	X	X				
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Amara Vandervoort		Print name:	
Signature: AVandervoort	Company: ARI	Signature:	Company:
Company: Windward		Company:	
Date/Time: 6/21/18 1205	Date/Time: 06/21/18 1205	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2 18F0331

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3137

Project/Client Name: Windward
Project Number: AOC3 Task 4
Contact Name: Amara Vandervort
Sampled By: Windward.

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: Hand Delivered
Form filled out by: AV

Shipping Date: 6/21/18
Airbill Number: NA
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Homogenize	Total Solids	Total Lipids	Inorg As				Comments / Instructions (Jar tag number(s))
6/21/18	1056	LDW18-C07-CLSP-Comp1	1	TISSUE	X	X	X	X				Inorganic As Split to Brooks Applied
	1056	LDW18-C07-CLRM-Comp1	1		X	X	X	X				
	1111	LDW18-C08-CLRM-Comp1	1		X	X	X	X				
	1111	LDW18-C08-CLSP-Comp1	1		X	X	X	X				
	1120	LDW18-C09-CLSP-Comp1	1		X	X	X	X				
	1120	LDW18-C09-CLRM-Comp1	1		X	X	X	X				
	1128	LDW18-C10-CLSP-Comp1	1		X	X	X	X				
	1128	LDW18-C10-CLRM-Comp1	1		X	X	X	X				
	1135	LDW18-C11-CLSP-Comp1	1		X	X	X	X				
6/21/18	1135	LDW18-C11-CLRM-Comp1	1	TISSUE	X	X	X	X				
		Total Number of Containers	10	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Amara Vandervort		Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: Windward		Company:	
Date/Time: 6/21/18 1205	Date/Time: 06/21/18 1205	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward Project Name: AOC3 TASK 4

COC No(s): (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other:

Assigned ARI Job No: 18F0331 Tracking No: (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 14.6

Time: 1205

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00256S

Cooler Accepted by: Set for Sue Date: 6/21/18 Time: 1205

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs (Baggies) Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	(NO)
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: Equipment: Split by:

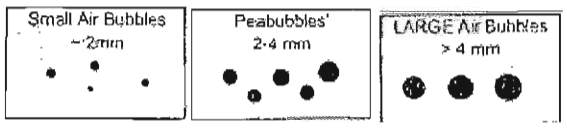
Samples Logged by: IBM Date: 06/22/18 Time: 1000

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Incorporated
Analytical Chemists and
Consultants

Cooler Temperature Compliance Form

ARI Work Order: 18F0331

Cooler#: _____ Temperature(°C): 1.4, 6

Sample ID	Bottle Count	Bottle Type
Samples received		
@ 6°		

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Completed by: SOF Date: 6/21/18 Time: 1105

Windward Environmental, LLC	Project: LDW AOC3 Task 4 (Inorganic As)	
200 West Mercer Street, Suite 401	Project Number: AOC3	**Reported:**
Seattle WA, 98119-3958	Project Manager: Amara Vandervort	17-Jul-2018 13:09

Case Narrative

Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4 (Inorganic As)
Work Order: 18F0331

Sample receipt

Samples as listed on the preceding page were received 21-Jun-2018 12:05 under ARI work order 18F0331. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Samples were received above temperature but within a few hours of sampling. Homogenates were prepared in-house, and splits transshipped to Brooks Applied Laboratories..

Percent Lipids

The samples were prepared and analyzed within the recommended holding times for samples store frozen.

The method blanks had measurable mass above the reporting limit.

The duplicate RPDs were within limits.

Percent Solids

The samples were prepared and analyzed within the recommended holding times for samples stored frozen.

The method blank was clean at the reporting limits.

Windward Environmental, LLC	Project: LDW AOC3 Task 4 (Inorganic As)	
200 West Mercer Street, Suite 401	Project Number: AOC3	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	07/17/2018 13:09

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18F0331-01	LDW18-CO1-CLSP-Comp1	Tissue	06/21/18 10:14	06/21/18 12:05
18F0331-02	LDW18-CO1-CLRM-Comp1	Tissue	06/21/18 10:14	06/21/18 12:05
18F0331-03	LDW18-CO2-CLSP-Comp1	Tissue	06/21/18 10:05	06/21/18 12:05
18F0331-04	LDW18-CO2-CLRM-Comp1	Tissue	06/21/18 10:05	06/21/18 12:05
18F0331-05	LDW18-CO3-CLRM-Comp1	Tissue	06/21/18 10:22	06/21/18 12:05
18F0331-06	LDW18-CO3-CLSP-Comp1	Tissue	06/21/18 10:22	06/21/18 12:05
18F0331-07	LDW18-CO4-CLSP-Comp1	Tissue	06/21/18 10:29	06/21/18 12:05
18F0331-08	LDW18-CO4-CLRM-Comp1	Tissue	06/21/18 10:29	06/21/18 12:05
18F0331-09	LDW18-CO5-CLSP-Comp1	Tissue	06/21/18 10:38	06/21/18 12:05
18F0331-10	LDW18-CO5-CLRM-Comp1	Tissue	06/21/18 10:38	06/21/18 12:05
18F0331-11	LDW18-CO6-CLSP-Comp1	Tissue	06/21/18 10:46	06/21/18 12:05
18F0331-12	LDW18-CO6-CLRM-Comp1	Tissue	06/21/18 10:46	06/21/18 12:05
18F0331-13	LDW18-CO7-CLSP-Comp1	Tissue	06/21/18 10:56	06/21/18 12:05
18F0331-14	LDW18-CO7-CLRM-Comp1	Tissue	06/21/18 10:56	06/21/18 12:05
18F0331-15	LDW18-CO8-CLRM-Comp1	Tissue	06/21/18 11:11	06/21/18 12:05
18F0331-16	LDW18-CO8-CLSP-Comp1	Tissue	06/21/18 11:11	06/21/18 12:05
18F0331-17	LDW18-CO9-CLSP-Comp1	Tissue	06/21/18 11:20	06/21/18 12:05
18F0331-18	LDW18-CO9-CLRM-Comp1	Tissue	06/21/18 11:20	06/21/18 12:05
18F0331-19	LDW18-C10-CLSP-Comp1	Tissue	06/21/18 11:28	06/21/18 12:05
18F0331-20	LDW18-C10-CLRM-Comp1	Tissue	06/21/18 11:28	06/21/18 12:05
18F0331-21	LDW18-C11-CLSP-Comp1	Tissue	06/21/18 11:35	06/21/18 12:05
18F0331-22	LDW18-C11-CLRM-Comp1	Tissue	06/21/18 11:35	06/21/18 12:05

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-01 (LDW18-CO1-CLSP-Comp1) Sampled 06/21/2018 10:14

Current Status	*Out*	*Location*	*In*
18F0331-01 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:05 by JBW	***START***	06/22/2018 10:05 by JBW
	06/22/2018 10:05 by JBW	***START***	06/22/2018 10:05 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-02 (LDW18-CO1-CLRM-Comp1) Sampled 06/21/2018 10:14

Current Status	*Out*	*Location*	*In*
18F0331-02 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:07 by JBW	***START***	06/22/2018 10:07 by JBW
	06/22/2018 10:07 by JBW	***START***	06/22/2018 10:07 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-03 (LDW18-CO2-CLSP-Comp1) Sampled 06/21/2018 10:05

Current Status	*Out*	*Location*	*In*
18F0331-03 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-04 (LDW18-CO2-CLRM-Comp1) Sampled 06/21/2018 10:05

Current Status	*Out*	*Location*	*In*
18F0331-04 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-05 (LDW18-CO3-CLRM-Comp1) Sampled 06/21/2018 10:22

Current Status	*Out*	*Location*	*In*
18F0331-05 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
	06/22/2018 10:08 by JBW	***START***	06/22/2018 10:08 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-06 (LDW18-CO3-CLSP-Comp1) Sampled 06/21/2018 10:22

Current Status	*Out*	*Location*	*In*
18F0331-06 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-07 (LDW18-CO4-CLSP-Comp1) Sampled 06/21/2018 10:29

Current Status	*Out*	*Location*	*In*
18F0331-07 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:51 by CT	Consumed	by
	07/10/2018 15:51 by CT	Consumed	by

18F0331-08 (LDW18-CO4-CLRM-Comp1) Sampled 06/21/2018 10:29

Current Status	*Out*	*Location*	*In*
18F0331-08 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-09 (LDW18-CO5-CLSP-Comp1) Sampled 06/21/2018 10:38

Current Status	*Out*	*Location*	*In*
18F0331-09 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
	06/22/2018 10:09 by JBW	***START***	06/22/2018 10:09 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-09 (LDW18-CO5-CLSP-Comp1) Sampled 06/21/2018 10:38

Current Status	*Out*	*Location*	*In*
18F0331-09 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Extractions	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-10 (LDW18-CO5-CLRM-Comp1) Sampled 06/21/2018 10:38

Current Status	*Out*	*Location*	*In*
18F0331-10 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-11 (LDW18-CO6-CLSP-Comp1) Sampled 06/21/2018 10:46

Current Status	*Out*	*Location*	*In*
18F0331-11 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-12 (LDW18-CO6-CLRM-Comp1) Sampled 06/21/2018 10:46

Current Status	*Out*	*Location*	*In*
18F0331-12 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
	06/22/2018 10:10 by JBW	***START***	06/22/2018 10:10 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-12 (LDW18-CO6-CLRM-Comp1) Sampled 06/21/2018 10:46

Current Status	*Out*	*Location*	*In*
18F0331-12 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Extractions	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-13 (LDW18-CO7-CLSP-Comp1) Sampled 06/21/2018 10:56

Current Status	*Out*	*Location*	*In*
18F0331-13 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:51 by CT	Consumed	by
	07/10/2018 15:51 by CT	Consumed	by

18F0331-14 (LDW18-CO7-CLRM-Comp1) Sampled 06/21/2018 10:56

Current Status	*Out*	*Location*	*In*
18F0331-14 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:37 by CCT	organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:37 by CCT	organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-15 (LDW18-CO8-CLRM-Comp1) Sampled 06/21/2018 11:11

Current Status	*Out*	*Location*	*In*
18F0331-15 A [Glass WM, Clear, 8 oz]			*Hazard Info:*

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-15 (LDW18-CO8-CLRM-Comp1) Sampled 06/21/2018 11:11

Current Status	*Out*	*Location*	*In*
18F0331-15 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-16 (LDW18-CO8-CLSP-Comp1) Sampled 06/21/2018 11:11

Current Status	*Out*	*Location*	*In*
18F0331-16 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-17 (LDW18-CO9-CLSP-Comp1) Sampled 06/21/2018 11:20

Current Status	*Out*	*Location*	*In*
18F0331-17 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-18 (LDW18-CO9-CLRM-Comp1) Sampled 06/21/2018 11:20

Current Status	*Out*	*Location*	*In*
18F0331-18 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
	06/22/2018 10:11 by JBW	***START***	06/22/2018 10:11 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-19 (LDW18-C10-CLSP-Comp1) Sampled 06/21/2018 11:28

Current Status	*Out*	*Location*	*In*
18F0331-19 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:51 by CT	Consumed	by
	07/10/2018 15:51 by CT	Consumed	by

18F0331-20 (LDW18-C10-CLRM-Comp1) Sampled 06/21/2018 11:28

Current Status	*Out*	*Location*	*In*
18F0331-20 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0331

Client:	Windward Environmental, LLC	Received:	21-Jun-2018 12:05
Project:	LDW AOC3 Task 4 (Inorganic As)	Received By:	Stephanie Fishel
Number:	AOC3	Temp (°C):	14.60

18F0331-20 (LDW18-C10-CLRM-Comp1) Sampled 06/21/2018 11:28

Current Status	*Out*	*Location*	*In*
18F0331-20 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Extractions	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

18F0331-21 (LDW18-C11-CLSP-Comp1) Sampled 06/21/2018 11:35

Current Status	*Out*	*Location*	*In*
18F0331-21 A [Glass WM, Clear, 4 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:50 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:50 by CT	Cleaning Rack	07/10/2018 15:51 by CT
	07/10/2018 15:51 by CT	Consumed	by
	07/10/2018 15:51 by CT	Consumed	by

18F0331-22 (LDW18-C11-CLRM-Comp1) Sampled 06/21/2018 11:35

Current Status	*Out*	*Location*	*In*
18F0331-22 A [Glass WM, Clear, 8 oz]			*Hazard Info:*
Sample Receiving	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
	06/22/2018 10:12 by JBW	***START***	06/22/2018 10:12 by JBW
Extractions	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	06/26/2018 13:30 by CCT	Organic Extractions	06/27/2018 09:07 by CCT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 08:43 by CCT	Organic Extractions	07/09/2018 13:49 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/09/2018 13:49 by CT	Organic Extractions	07/10/2018 09:55 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 09:55 by CT	Brooks Applied Labs, Inc	07/10/2018 15:03 by CT
	07/10/2018 15:03 by CT	F-51 H3-3	by
	07/10/2018 15:03 by CT	F-51 H3-3	by

QUALIFIERS AND NOTES

Qualifier	Definition
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO1-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-01	SDG:	18F0331
Sampled:	06/21/18 10:14	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	2.01 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.075	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO1-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-02	SDG:	18F0331
Sampled:	06/21/18 10:14	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.01 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.49	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO2-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-03	SDG:	18F0331
Sampled:	06/21/18 10:05	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.07 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.069	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO2-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-04	SDG:	18F0331
Sampled:	06/21/18 10:05	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.05 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.45	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO3-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-05	SDG:	18F0331
Sampled:	06/21/18 10:22	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.08 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.36	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO3-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-06	SDG:	18F0331
Sampled:	06/21/18 10:22	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	2.01 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.075	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO4-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-07	SDG:	18F0331
Sampled:	06/21/18 10:29	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	2.02 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.12	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO4-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-08	SDG:	18F0331
Sampled:	06/21/18 10:29	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.02 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.45	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO5-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-09	SDG:	18F0331
Sampled:	06/21/18 10:38	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	2.02 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.099	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO5-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-10	SDG:	18F0331
Sampled:	06/21/18 10:38	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	5.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.55	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO6-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-11	SDG:	18F0331
Sampled:	06/21/18 10:46	Prepared:	07/10/18 16:00	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:43
Batch:	BGG0168	Sequence:		Initial/Final:	2.04 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.098	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO6-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-12	SDG:	18F0331
Sampled:	06/21/18 10:46	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.07 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.28	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO7-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-13	SDG:	18F0331
Sampled:	06/21/18 10:56	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	3.01 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.18	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO7-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-14	SDG:	18F0331
Sampled:	06/21/18 10:56	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.51	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO8-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-15	SDG:	18F0331
Sampled:	06/21/18 11:11	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.37	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO8-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-16	SDG:	18F0331
Sampled:	06/21/18 11:11	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	3 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.083	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO9-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-17	SDG:	18F0331
Sampled:	06/21/18 11:20	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	3.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.066	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-CO9-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-18	SDG:	18F0331
Sampled:	06/21/18 11:20	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.02 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.56	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C10-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-19	SDG:	18F0331
Sampled:	06/21/18 11:28	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	3.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.033	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C10-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-20	SDG:	18F0331
Sampled:	06/21/18 11:28	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.33	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C11-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-21	SDG:	18F0331
Sampled:	06/21/18 11:35	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.11	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C11-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-22	SDG:	18F0331
Sampled:	06/21/18 11:35	Prepared:	07/11/18 12:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/13/18 09:41
Batch:	BGG0169	Sequence:		Initial/Final:	5.06 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.37	1	0.010	0.010	

PREPARATION BATCH SUMMARY

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Batch: BGG0168 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-CO1-CLSP-Comp1	18F0331-01		07/10/18 16:00	
LDW18-CO1-CLRM-Comp1	18F0331-02		07/10/18 16:00	
LDW18-CO2-CLSP-Comp1	18F0331-03		07/10/18 16:00	
LDW18-CO2-CLRM-Comp1	18F0331-04		07/10/18 16:00	
LDW18-CO3-CLRM-Comp1	18F0331-05		07/10/18 16:00	
LDW18-CO3-CLSP-Comp1	18F0331-06		07/10/18 16:00	
LDW18-CO4-CLSP-Comp1	18F0331-07		07/10/18 16:00	
LDW18-CO4-CLRM-Comp1	18F0331-08		07/10/18 16:00	
LDW18-CO5-CLSP-Comp1	18F0331-09		07/10/18 16:00	
LDW18-CO5-CLRM-Comp1	18F0331-10		07/10/18 16:00	
LDW18-CO6-CLSP-Comp1	18F0331-11		07/10/18 16:00	
Blank	BGG0168-BLK1		07/10/18 16:00	
LDW18-CO1-CLRM-Comp1	BGG0168-DUP1		07/10/18 16:00	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGG0168

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Matrix: Tissue Date Prepared: 07/10/18 Balance ID: B14646261 Set Up By: CCT 7/9/18

Analysis: Lipids, Percent

Lab Number & Container	Initial (g) Target Dry: 5 (Wet) Actual	(split aliquot) (Y / N)	Volume Taken (µL)	Tare Weight BAL2	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18F0331-01 A	~~(5.00)~~ ~~2.0~~ 2.01	(1:5) Y / N	(1000 µL)	1.0866	~~1.1154~~ 1.0959	5	NA	
18F0331-02 A	(5.00) 5.01	(1:5) Y / N	(1000 µL)	1.1105	1.1154	5	NA	
18F0331-03 A	~~(5.00)~~ ~~5.0~~ 5.07	(1:5) Y / N	(1000 µL)	1.1040	1.1047	5	NA	
18F0331-04 A	(5.00) 5.05	(1:5) Y / N	(1000 µL)	1.0812	1.0857	5	NA	
18F0331-05 A	(5.00) 5.08	(1:5) Y / N	(1000 µL)	1.0405	1.0942	5	NA	
18F0331-06 A	~~(5.00)~~ ~~2.0~~ 2.01	(1:5) Y / N	(1000 µL)	1.1153	1.1156	5	NA	
18F0331-07 A	~~(5.00)~~ ~~2.0~~ 2.02	(1:5) Y / N	(1000 µL)	1.0823	1.0828	5	NA	
18F0331-08 A	(5.00) 5.02	(1:5) Y / N	(1000 µL)	1.0754	1.0799	5	NA	
18F0331-09 A	~~(5.00)~~ ~~2.0~~ 2.02	(1:5) Y / N	(1000 µL)	1.0951	1.0955	5	NA	
18F0331-10 A	(5.00) 5.03	(1:5) Y / N	(1000 µL)	1.0876	1.0931	5	NA	
18F0331-11 A	~~(5.00)~~ ~~2.0~~ 2.04	(1:5) Y / N	(1000 µL)	1.0901	1.0905	5	NA	

Batch QC

Lab Number	Initial (g) Target Dry: 5 (Wet) Actual	(split aliquot) Y / N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGG0168-BLK1	(5.00) 5.04	(1:5) Y / N	(1000 µL)	1.0979	1.0980	5	NA	
BGG0168-DUP1	(5.00) 5.02	(1:5) Y / N	(1000 µL)	1.0752	1.0803	5	NA	Use 18F0331-02

MeO 7/10/18 — Client ID verified By / Date

CT 7/13/18 — Preparation Reviewed By / Date

07/10/18 16:00 — Extraction Date and Time

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGG0168

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Steps

KD 100°C

1 2 (3) 4 (5) 6

BH 7/11/18
Analyst/Date

TurboVap

1 2 3 (4) 5

AT 7/12/18
Analyst/Date

Vialing

AT 7/12/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: [illegible] Date: 7/10/18	
Anhydrous Sodium Sulfate	GBB5793
1:1 Methylene Chloride/Acetone	GBB6166
Methylene Chloride	GBB6135
Neutral Glass Wool	GBB3192
KD Analyst: BH Date: 7/11/18	
Anhydrous Sodium Sulfate	N/A
Neutral Glass Wool	N/A
Methylene Chloride	GBB6135
Vialing Analyst: AT Date: 7/12/18	
Methylene Chloride	GBB6135

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizzing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 100°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: LIPIDS

Element Batch: BGA0168 Work Order(s): 18F0331 (-01 → -11)

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Other (Details)= 01 — 11 Tissue.	MP 07/14/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
Limited volume samples.	CLS 7/10/18
Taken to Smk with 3rd split for weight.	CLS 7/12/18
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Sample ID	Sample Weight(g)	Split Taken (mL)	FEV (mL)	Tare Weight(g)	Tare+Sample(g)	% Lipids
BGG0168-BLK1	5.0000	1.0000	5.0000	1.0978	1.098	0.0200%
BGG0168-DUP1	5.0200	1.0000	5.0000	1.0752	1.0803	0.5080%
18F0331-01	2.0100	1.0000	5.0000	1.0866	1.0869	0.0746%
18F0331-02	5.0100	1.0000	5.0000	1.1105	1.1154	0.4890%
18F0331-03	5.0700	1.0000	5.0000	1.1040	1.1047	0.0690%
18F0331-04	5.0500	1.0000	5.0000	1.0812	1.0857	0.4455%
18F0331-05	5.0800	1.0000	5.0000	1.0905	1.0942	0.3642%
18F0331-06	2.0100	1.0000	5.0000	1.1153	1.1156	0.0746%
18F0331-07	2.0200	1.0000	5.0000	1.0823	1.0828	0.1238%
18F0331-08	5.0200	1.0000	5.0000	1.0754	1.0799	0.4482%
18F0331-09	2.0200	1.0000	5.0000	1.0951	1.0955	0.0990%
18F0331-10	5.0300	1.0000	5.0000	1.0876	1.0931	0.5467%
18F0331-11	2.0400	1.0000	5.0000	1.0901	1.0905	0.0980%

Lipids=(((FinalWeight__g -TareWeight__g) * (ExtractVolume_mL / AliquotVolume__mL)) / SampleAmount__g)*100

PREPARATION BATCH SUMMARY

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Batch: BGG0169 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-CO6-CLRM-Comp1	18F0331-12		07/11/18 12:05	
LDW18-CO7-CLSP-Comp1	18F0331-13		07/11/18 12:05	
LDW18-CO7-CLRM-Comp1	18F0331-14		07/11/18 12:05	
LDW18-CO8-CLRM-Comp1	18F0331-15		07/11/18 12:05	
LDW18-CO8-CLSP-Comp1	18F0331-16		07/11/18 12:05	
LDW18-CO9-CLSP-Comp1	18F0331-17		07/11/18 12:05	
LDW18-CO9-CLRM-Comp1	18F0331-18		07/11/18 12:05	
LDW18-C10-CLSP-Comp1	18F0331-19		07/11/18 12:05	
LDW18-C10-CLRM-Comp1	18F0331-20		07/11/18 12:05	
LDW18-C11-CLSP-Comp1	18F0331-21		07/11/18 12:05	
LDW18-C11-CLRM-Comp1	18F0331-22		07/11/18 12:05	
Blank	BGG0169-BLK1		07/11/18 12:05	
LDW18-CO9-CLRM-Comp1	BGG0169-DUP1		07/11/18 12:05	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGG0169

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Matrix: Tissue Date Prepared: 07/10/12 Balance ID: B146462614 Set Up By: CCT 7/9/18

Analysis: Lipids, Percent

Lab Number & Container	Initial (g) Target Dry: 5 (Wet)	Actual	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18F0331-12 A	(5.00)	5.07	(1:5) Y/N	(1000 µL)	1.0875	1.0903	5	NA	
18F0331-13 A	~~(5.00)~~ 5.0	3.01	(1:5) Y/N	(1000 µL)	1.0793	1.0804	5	NA	
18F0331-14 A	(5.00)	5.03	(1:5) Y/N	(1000 µL)	1.0952	1.1001	5	NA	
18F0331-15 A	(5.00)	5.04	(1:5) Y/N	(1000 µL)	1.0835	1.0872	5	NA	
18F0331-16 A	~~(5.00)~~ 5.0	3.00	(1:5) Y/N	(1000 µL)	1.0833	1.0838	5	NA	
18F0331-17 A	~~(5.00)~~ 5.0	3.03	(1:5) Y/N	(1000 µL)	1.0971	1.0975	5	NA	
18F0331-18 A	(5.00)	5.02	(1:5) Y/N	(1000 µL)	1.1104	1.1160	5	NA	
18F0331-19 A	~~(5.00)~~ 5.0	3.02	(1:5) Y/N	(1000 µL)	1.0835	1.0837	5	NA	
18F0331-20 A	(5.00)	5.03	(1:5) Y/N	(1000 µL)	1.1054	1.1087	5	NA	
18F0331-21 A	~~(5.00)~~ 5.0	5.03	(1:5) Y/N	(1000 µL)	1.0962	1.0973	5	NA	
18F0331-22 A	(5.00)	5.06	(1:5) Y/N	(1000 µL)	1.1194	1.1231	5	NA	

Batch QC

Lab Number	Initial (g) Target Dry: 5 (Wet)	Actual	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGG0169-BLK1	(5.00)	5.00	(1:5) Y/N	(µL)	1.1017	1.1019	5	NA	
BGG0169-DUP1	(5.00)	5.04	(1:5) Y/N	(µL)	1.1061	1.1113	5	NA	Use 18F0331-18

07/10/18 7/13/18 07/11/18 12:45

Client ID verified By / Date Preparation Reviewed By / Date Extraction Date and Time

Printed 7/9/2018 4:20:58PM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGG0169

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Steps

KD 100°C

1 2 (3) 4 (5) 6

BH 7/12/18
Analyst/Date

TurboVap

1 2 3 (4) 5

CT 7/12/18
Analyst/Date

Vialing

CT 7/12/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: CT Date: 7/11/18	
Anhydrous Sodium Sulfate	GBB5793
1:1 Methylene Chloride/Acetone	GBB6165
Methylene Chloride	GBB6135
Neutral Glass Wool	GBB3192
KD Analyst: BH Date: 7/12/18	
Anhydrous Sodium Sulfate	GBB5382
Neutral Glass Wool	N/A
Methylene Chloride	GBB6135
Vialing Analyst: CT Date: 7/12/18	
Methylene Chloride	GBB6135

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizzing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 100°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: LIPIDS

Element Batch: BGB0169 Work Order(s): 18F0331 (-12 → -22)

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☑ Other Notes/Comments= (Note problems, concerns, corrective actions).	
Limited volume samples.	CLF 7/10/18
Lab split from Sub for lipids.	CLF 7/12/18
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Sample ID	Sample Weight(g)	Split Taken (mL)	FEV (mL)	Tare Weight(g)	Tare+Sample(g)	% Lipids
BGG0169-BLK1	5.0000	1.0000	5.0000	1.1017	1.1019	0.0200%
BGG0169-BLK1	5.0000	1.0000	5.0000	1.1061	1.1113	0.5200%
18F0331-12	5.0700	1.0000	5.0000	1.0875	1.0903	0.2761%
18F0331-13	3.0100	1.0000	5.0000	1.0793	1.0804	0.1827%
18F0331-14	5.0300	1.0000	5.0000	1.0952	1.1003	0.5070%
18F0331-15	5.0000	1.0000	5.0000	1.0835	1.0872	0.3700%
18F0331-16	3.0000	1.0000	5.0000	1.0833	1.0838	0.0833%
18F0331-17	3.0300	1.0000	5.0000	1.0971	1.0975	0.0660%
18F0331-18	5.0200	1.0000	5.0000	1.1104	1.1160	0.5578%
18F0331-19	3.0300	1.0000	5.0000	1.0835	1.0837	0.0330%
18F0331-20	5.0300	1.0000	5.0000	1.1054	1.1087	0.3280%
18F0331-21	5.0300	1.0000	5.0000	1.0962	1.0973	0.1093%
18F0331-22	5.0600	1.0000	5.0000	1.1194	1.1231	0.3656%

Lipids=(((FinalWeight__g -TareWeight__g) * (ExtractVolume_mL / AliquotVolume__mL)) / SampleAmount__g)*100

Form I

METHOD BLANK DATA SHEET

Bligh & Dyer (Mod)

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0331
Client:	Windward Environmental, LLC			Project:	LDW AOC3 Task 4 (Inorganic As)
Matrix:	Tissue	Laboratory ID:	BGG0168-BLK1	File ID:	
Sampled:	N/A	Prepared:	07/10/18 16:00	Analyzed:	07/13/18 09:43
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	5 g / 5 mL
Batch:	BGG0168	Sequence:		Calibration:	
Instrument:	Inst	Column:			

CAS NO.	COMPOUND	DILUTION	CONC. (%)	Q	DL	RL
	Percent Lipids	1	0.020		0.010	0.010

Form I

METHOD BLANK DATA SHEET

Bligh & Dyer (Mod)

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0331
Client:	Windward Environmental, LLC			Project:	LDW AOC3 Task 4 (Inorganic As)
Matrix:	Tissue	Laboratory ID:	BGG0169-BLK1	File ID:	
Sampled:	N/A	Prepared:	07/11/18 12:05	Analyzed:	07/13/18 09:41
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	5 g / 5 mL
Batch:	BGG0169	Sequence:		Calibration:	
Instrument:	Inst	Column:			

CAS NO.	COMPOUND	DILUTION	CONC. (%)	Q	DL	RL
	Percent Lipids	1	0.020		0.010	0.010

LDW18-CO1-CLRM-Comp1

DUPLICATES

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18F0331
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4 (Inorganic As)
Matrix: Tissue
Laboratory ID: BGG0168-DUP1
Batch: BGG0168
Lab Source ID: 18F0331-02
Preparation: EPA 3550C-Mod (Ultrasonic)
Initial/Final: 5.02 g / 5 mL
Source Sample Name: LDW18-CO1-CLRM-Comp1
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Percent Lipids	30	0.49	0.51	3.81	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

LDW18-CO9-CLRM-Comp1

DUPLICATES

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18F0331
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4 (Inorganic As)
Matrix: Tissue
Laboratory ID: BGG0169-DUP1
Batch: BGG0169
Lab Source ID: 18F0331-18
Preparation: EPA 3550C-Mod (Ultrasonic)
Initial/Final: 5 g / 5 mL
Source Sample Name: LDW18-CO9-CLRM-Comp1
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Percent Lipids	30	0.56	0.52	7.01	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-CO1-CLSP-Comp1 18F0331-01	06/21/18 10:14	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO1-CLRM-Comp1 18F0331-02	06/21/18 10:14	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO2-CLSP-Comp1 18F0331-03	06/21/18 10:05	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO2-CLRM-Comp1 18F0331-04	06/21/18 10:05	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO3-CLRM-Comp1 18F0331-05	06/21/18 10:22	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO3-CLSP-Comp1 18F0331-06	06/21/18 10:22	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO4-CLSP-Comp1 18F0331-07	06/21/18 10:29	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO4-CLRM-Comp1 18F0331-08	06/21/18 10:29	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO5-CLSP-Comp1 18F0331-09	06/21/18 10:38	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO5-CLRM-Comp1 18F0331-10	06/21/18 10:38	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO6-CLSP-Comp1 18F0331-11	06/21/18 10:46	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
LDW18-CO6-CLRM-Comp1 18F0331-12	06/21/18 10:46	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO7-CLSP-Comp1 18F0331-13	06/21/18 10:56	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO7-CLRM-Comp1 18F0331-14	06/21/18 10:56	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO8-CLRM-Comp1 18F0331-15	06/21/18 11:11	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO8-CLSP-Comp1 18F0331-16	06/21/18 11:11	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO9-CLSP-Comp1 18F0331-17	06/21/18 11:20	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-CO9-CLRM-Comp1 18F0331-18	06/21/18 11:20	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-C10-CLSP-Comp1 18F0331-19	06/21/18 11:28	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-C10-CLRM-Comp1 18F0331-20	06/21/18 11:28	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-C11-CLSP-Comp1 18F0331-21	06/21/18 11:35	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	
LDW18-C11-CLRM-Comp1 18F0331-22	06/21/18 11:35	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	

HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
Duplicate BGG0168-DUP1	06/21/18 10:14	06/21/18 12:05	07/10/18 16:00	19	365	07/13/18 09:43	22	365	
Duplicate BGG0169-DUP1	06/21/18 11:20	06/21/18 12:05	07/11/18 12:05	20	365	07/13/18 09:41	22	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18F0331
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4 (Inorganic As)
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Percent Lipids	0.010	0.010	%

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO1-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-01	SDG:	18F0331
Sampled:	06/21/18 10:14	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	18.8	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO1-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-02	SDG:	18F0331
Sampled:	06/21/18 10:14	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.50	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO2-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-03	SDG:	18F0331
Sampled:	06/21/18 10:05	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	15.3	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO2-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-04	SDG:	18F0331
Sampled:	06/21/18 10:05	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.40	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO3-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-05	SDG:	18F0331
Sampled:	06/21/18 10:22	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.27	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO3-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-06	SDG:	18F0331
Sampled:	06/21/18 10:22	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	17.1	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO4-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-07	SDG:	18F0331
Sampled:	06/21/18 10:29	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	15.7	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO4-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-08	SDG:	18F0331
Sampled:	06/21/18 10:29	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.73	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO5-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-09	SDG:	18F0331
Sampled:	06/21/18 10:38	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	13.9	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO5-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-10	SDG:	18F0331
Sampled:	06/21/18 10:38	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.40	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO6-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-11	SDG:	18F0331
Sampled:	06/21/18 10:46	Prepared:	07/09/18 15:57	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0166	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	14.7	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO6-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-12	SDG:	18F0331
Sampled:	06/21/18 10:46	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	5.66	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO7-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-13	SDG:	18F0331
Sampled:	06/21/18 10:56	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	20.3	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO7-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-14	SDG:	18F0331
Sampled:	06/21/18 10:56	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.74	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO8-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-15	SDG:	18F0331
Sampled:	06/21/18 11:11	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	6.36	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO8-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-16	SDG:	18F0331
Sampled:	06/21/18 11:11	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	20.2	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO9-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-17	SDG:	18F0331
Sampled:	06/21/18 11:20	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	19.8	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-CO9-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-18	SDG:	18F0331
Sampled:	06/21/18 11:20	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.82	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C10-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-19	SDG:	18F0331
Sampled:	06/21/18 11:28	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	16.4	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C10-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-20	SDG:	18F0331
Sampled:	06/21/18 11:28	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	6.19	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C11-CLSP-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-21	SDG:	18F0331
Sampled:	06/21/18 11:35	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	21.8	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C11-CLRM-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4 (Inorganic As)				
Matrix:	Tissue	Laboratory ID:	18F0331-22	SDG:	18F0331
Sampled:	06/21/18 11:35	Prepared:	07/09/18 15:59	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	07/09/18 16:01
Batch:	BGG0167	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.41	1	0.0400	0.0400	

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Batch: BGG0166 Batch Matrix: Tissue Preparation: No Prep-Organics

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-CO1-CLSP-Comp1	18F0331-01		07/09/18 15:57	
LDW18-CO1-CLRM-Comp1	18F0331-02		07/09/18 15:57	
LDW18-CO2-CLSP-Comp1	18F0331-03		07/09/18 15:57	
LDW18-CO2-CLRM-Comp1	18F0331-04		07/09/18 15:57	
LDW18-CO3-CLRM-Comp1	18F0331-05		07/09/18 15:57	
LDW18-CO3-CLSP-Comp1	18F0331-06		07/09/18 15:57	
LDW18-CO4-CLSP-Comp1	18F0331-07		07/09/18 15:57	
LDW18-CO4-CLRM-Comp1	18F0331-08		07/09/18 15:57	
LDW18-CO5-CLSP-Comp1	18F0331-09		07/09/18 15:57	
LDW18-CO5-CLRM-Comp1	18F0331-10		07/09/18 15:57	
LDW18-CO6-CLSP-Comp1	18F0331-11		07/09/18 15:57	

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGG0166
Date:	7/9/2018 16:01
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B146462614

Batch drying time	
record times as mm/dd/yy hh:mm	
date/time in oven:	7/10/2018 12:41
date/time out:	7/11/2018 7:15
elapsed hrs:	18.6

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0331-01	1.0900	2.1000	1.2800	0.19	**18.81%**	No
18F0331-02	1.0600	2.2600	1.1500	0.09	**7.50%**	No
18F0331-03	1.0600	2.2400	1.2400	0.18	**15.25%**	No
18F0331-04	1.0800	2.2700	1.1800	0.10	**8.40%**	No
18F0331-05	1.0800	2.1800	1.1600	0.08	**7.27%**	No
18F0331-06	1.0700	2.1800	1.2600	0.19	**17.12%**	No
18F0331-07	1.0800	1.9700	1.2200	0.14	**15.73%**	No
18F0331-08	1.0800	2.2100	1.1900	0.11	**9.73%**	No
18F0331-09	1.0800	2.0900	1.2200	0.14	**13.86%**	No
18F0331-10	1.0900	2.2600	1.2000	0.11	**9.40%**	No
18F0331-11	1.1000	2.2600	1.2700	0.17	**14.66%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Batch:	BGG0166
Date:	7/9/2018 16:01
Analyst:	JD
Drying Oven:	Ø15
Analytical Balance:	B1464626 14

Instrumentation

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	7/10/18	12:41
date/time out:	7/11/18	0715
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0331-01	1.09	2.14	1.28			No
18F0331-02	1.06	2.26	1.15			No
18F0331-03	1.06	2.24	1.24			No
18F0331-04	1.08	2.27	1.18			No
18F0331-05	1.08	2.18	1.16			No
18F0331-06	1.07	2.18	1.26			No
18F0331-07	1.08	1.97	1.22			No
18F0331-08	1.08	2.21	1.19			No
18F0331-09	1.08	2.09	1.22			No
18F0331-10	1.09	2.26	1.28			No
18F0331-11	1.10	2.26	1.27			No

IN Dessicator @ 0720 7/11/18 SL

out of dessicator @ 0829 7/11/18

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Batch: BGG0167 Batch Matrix: Tissue Preparation: No Prep-Organics

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-CO6-CLRM-Comp1	18F0331-12		07/09/18 15:59	
LDW18-CO7-CLSP-Comp1	18F0331-13		07/09/18 15:59	
LDW18-CO7-CLRM-Comp1	18F0331-14		07/09/18 15:59	
LDW18-CO8-CLRM-Comp1	18F0331-15		07/09/18 15:59	
LDW18-CO8-CLSP-Comp1	18F0331-16		07/09/18 15:59	
LDW18-CO9-CLSP-Comp1	18F0331-17		07/09/18 15:59	
LDW18-CO9-CLRM-Comp1	18F0331-18		07/09/18 15:59	
LDW18-C10-CLSP-Comp1	18F0331-19		07/09/18 15:59	
LDW18-C10-CLRM-Comp1	18F0331-20		07/09/18 15:59	
LDW18-C11-CLSP-Comp1	18F0331-21		07/09/18 15:59	
LDW18-C11-CLRM-Comp1	18F0331-22		07/09/18 15:59	

TOTAL SOLIDS BENCHSHEET							Batch:	BGG0167
Method: PSEP 1986							Date:	7/9/2018 16:01
(dry at 103-105 C)							Analyst:	YL
Instrumentation							Drying Oven:	15
							Analytical Balance:	B146462614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	7/10/2018 14:57	
date/time out:	7/11/2018 7:15	
elapsed hrs:	16.3	

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0331-12	1.1000	2.1600	1.1600	0.06	**5.66%**	No
18F0331-13	1.0900	1.8800	1.2500	0.16	**20.25%**	No
18F0331-14	1.1300	2.1600	1.2200	0.09	**8.74%**	No
18F0331-15	1.0800	2.1800	1.1500	0.07	**6.36%**	No
18F0331-16	1.1000	2.1900	1.3200	0.22	**20.18%**	No
18F0331-17	1.1000	2.1600	1.3100	0.21	**19.81%**	No
18F0331-18	1.0800	2.1000	1.1700	0.09	**8.82%**	No
18F0331-19	1.1000	2.2600	1.2900	0.19	**16.38%**	No
18F0331-20	1.0800	2.2100	1.1500	0.07	**6.19%**	No
18F0331-21	1.1100	2.1200	1.3300	0.22	**21.78%**	No
18F0331-22	1.1000	2.1800	1.1800	0.08	**7.41%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGG0167
Date:	7/9/2018 16:01
Analyst:	VL
Drying Oven:	Ø15
Analytical Balance:	B14648614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	07/10/18	14:57
date/time out:	7/11/18	0715
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0331-12	1.10	2.16	1.16			No
18F0331-13	1.09	1.88	1.25			No
18F0331-14	1.13	2.16	1.22			No
18F0331-15	1.08	2.18	1.15			No
18F0331-16	1.10	2.19	1.32			No
18F0331-17	1.10	2.16	1.31			No
18F0331-18	1.08	2.10	1.17			No
18F0331-19	1.10	2.26	1.29			No
18F0331-20	1.08	2.21	1.15			No
18F0331-21	1.11	2.12	~~1.16~~ 1.33	7/11 1.33		No
18F0331-22	1.10	2.18	1.18			No

In Dessicator @ Ø720 7/11/18 SP

out of dessicator @ Ø829 7/11/18 SP

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18F0331

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4 (Inorganic As)

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-CO1-CLSP-Comp1 18F0331-01	06/21/18 10:14	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO1-CLRM-Comp1 18F0331-02	06/21/18 10:14	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO2-CLSP-Comp1 18F0331-03	06/21/18 10:05	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO2-CLRM-Comp1 18F0331-04	06/21/18 10:05	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO3-CLRM-Comp1 18F0331-05	06/21/18 10:22	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO3-CLSP-Comp1 18F0331-06	06/21/18 10:22	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO4-CLSP-Comp1 18F0331-07	06/21/18 10:29	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO4-CLRM-Comp1 18F0331-08	06/21/18 10:29	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO5-CLSP-Comp1 18F0331-09	06/21/18 10:38	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO5-CLRM-Comp1 18F0331-10	06/21/18 10:38	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO6-CLSP-Comp1 18F0331-11	06/21/18 10:46	06/21/18 12:05	07/09/18 15:57	18	365	07/09/18 16:01	18	365	
LDW18-CO6-CLRM-Comp1 18F0331-12	06/21/18 10:46	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO7-CLSP-Comp1 18F0331-13	06/21/18 10:56	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO7-CLRM-Comp1 18F0331-14	06/21/18 10:56	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO8-CLRM-Comp1 18F0331-15	06/21/18 11:11	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO8-CLSP-Comp1 18F0331-16	06/21/18 11:11	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO9-CLSP-Comp1 18F0331-17	06/21/18 11:20	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-CO9-CLRM-Comp1 18F0331-18	06/21/18 11:20	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-C10-CLSP-Comp1 18F0331-19	06/21/18 11:28	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-C10-CLRM-Comp1 18F0331-20	06/21/18 11:28	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-C11-CLSP-Comp1 18F0331-21	06/21/18 11:35	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	
LDW18-C11-CLRM-Comp1 18F0331-22	06/21/18 11:35	06/21/18 12:05	07/09/18 15:59	18	365	07/09/18 16:01	18	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18F0331
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4 (Inorganic As)
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.0400	0.0400	%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Daily Balance Check

Laboratory Section: Organics Extractions
Balance Manufacturer: Mettler Toledo
Model Number: MS403S/03
Serial Number: B146462614

Weights: B537421071 (200g) & B537421064 (5g) Cali due 9/23/2020

Mass:	5.0 gram	200 grams		
Tolerance:	± 0.001 grams	± 0.2 grams		
Date	Measured Mass	Measured Mass	Corrective Action	Initials
7/04/18	5.00	200.00		YL
7/5/18	5.00	200.00		SP
7/6/18	5.00	200.00		SP
7/7/18	5.00	200.00		YL
7/9/18	5.00	200.00		SP
7/10/18	5.00	200.00		SP
7/11/18	5.00	200.00		BH
7/12/18	5.00	199.99		BH
7/13/18	5.00	200.00		SP
7/14/18	5.00	200.00		CM
7/17/18	5.00	200.00		SP

Supervisor Review:_____ Date:_____

Form 5029F

Version 006
10/1/15

Analytical Resources, Incorporated
Analytical Chemists and Consultants

21 July 2018

Amara Vandervort
Windward Environmental, LLC
200 West Mercer Street, Suite 401
Seattle, WA 98119-3958

RE: AOC3 Clam Collection

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18F0364	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

1 of 1 18F0364

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name:	**AOC3 Clam Collection**	Ship to:	**ARI**		No.AOC320180622
Project Number:	Task 4	Attn:	Sue Dunnihoo	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Hand-Delivered	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Composite/Bag ID]
					cPAHs	PCB Aroclors	Total Lipids and %Solids	Dioxin/Furan				
		LDW18-C01-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C02-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C03-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C04-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C05-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C06-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C08-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C010-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
		LDW18-C011-CLWB-Comp2	1	Tissue	X	X	X	X				Dioxin/Furan splits to be sent to Axys, please
Total Number of Containers			9	Purchase Order / Statement of Work # PO 2018-0065								

1) Released by:	1) Rec'd by: Brandon Fisk	2) Released by:	2) Rec'd by:
Print name:		Print name:	
Signature:		Signature:	
Company:	Company: ARI	Company:	Company:
Date/Time:	Date/Time: 05/21/18 1010	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC

200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3042

Project/Client Name: LDW AOC3
Project Number: task 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger, T. Do

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: hand delivered
Form filled out by: S. Replinger

Shipping Date: 5.15.2018
Airbill Number: —
Turnaround requested: std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					Hold frozen (pending compositing instructions)							
5.15.2018	1045	LDW18-C07-CL01	1	tissue	x							
	1050	-CL02	1		x							
	1049	-CL03	1		x							
	1128	-CL04	1		x							
	1045	LDW18-C06-CL01	1		x							
	1048	-CL02	1		x							
	1100	-CL03	1		x							
	1105	-CL06	1		x							
	1118	-CL07	1		x							
	1126	-CL08	1		x							
	1137	-CL09	1		x							
	1149	-CL10	1		x							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Haltemeier	Print name:	
Signature:	Company: ARI 3.1°C 5.8°C	Signature:	Company:
Company: Windward Env.		Company:	
Date/Time: 5/15/2018 1632	Date/Time: 05/15/18 1637	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3044

Project/Client Name: LDW AOC3
Project Number: task 4
Contact Name: Amara Vanderveer
Sampled By: S. Replinger, T. DO

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: hand-delivered
Form filled out by: S. Replinger

Shipping Date: 5.15.2018
Airbill Number: —
Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					Hold frozen (pending compositing instructions)							
5.15.2018	1058	LDW18-C06-CL11	1	tissue	x							
	1103	-CL12	1		x							
	1112	-CL13	1		x							
	1115	-CL14	1		x							
	1125	-CL15	1		x							
	1155	-CL16	1		x							
	1133	-CL17	1		x							
	1136	-CL18	1		x							
	1140	-CL19	1		x							
	1148	-CL21	1		x							
		Total Number of Containers	10	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacobwalter	Print name:	
Signature:	Company: ARI 3.1°C 5.8°C	Signature:	Company:
Company: Windward Env.		Company:	
Date/Time: 5.15.2018 / 1632	Date/Time: 05/15/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: _____

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.8°C
Time: 1632

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D005206

Cooler Accepted by: JSW Date: 05/15/18 Time: 1630

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ...	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

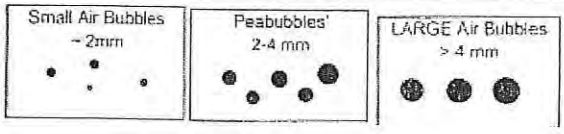
Samples Logged by: _____ Date: _____ Time: _____

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

1 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3047

Project/Client Name: LDW ACC3
Project Number: task 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: hand delivered
Form filled out by: S. Replinger

Shipping Date: 5.16.2018
Airbill Number: —
Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Hold (pending composite instructions)							Comments / Instructions [Jar tag number(s)]
5.16.2018	1312	LDW18-C01-CL01	1	tissue	x							
	1341	-CL02	1		x							
	1317	-CL03	1		x							
	1332	-CL04	1		x							
	1327	-CL06	1		x							
	1310	-CL07	1		x							
	1313	-CL10	1		x							
	1350	-CL11	1		x							
	1348	-CL14	1		x							
	1323	-CL15	1		x							
	1325	-CL16	1		x							
	1321	-CL17	1		x							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Inglett	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: Windward Env	Date/Time: 05/16/18 1625	Company:	
Date/Time: 05.16.18/ 1625		Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3048

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Donnikow
Shipper: hand del'd
Form filled out by: S. Replinger

Shipping Date: 05.16.18
Airbill Number: —
Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					Hold for 72 hr (pending composite MS results)							
5.16.2018	1320	LDW18-C01-CL18	1	tissue	x							
	1327	-CL19	1		x							
	1312	-CL20	1		x							
	1333	-CL21	1		x							
	1321	-CL23	1		x							
	1323	-CL24	1		x							
	1101	LDW18-C02-CL01	1		x							
	1147	-CL02	1		x							
	1102	-CL04	1		x							
	1059	-CL05	1		x							
	1156	-CL06	1		x							
	1142	-CL07	1		x							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Hagter	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: Wind Ward EW	2.3/4.8	Company:	
Date/Time: 05.16.18/1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

3 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3049

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Danielson
Shipper: hand del'd
Form filled out by: S Replinger

Shipping Date: 05.16.18
Airbill Number: —
Turnaround requested: std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FROZEN (PENDING COMPOSITING INSTRUCTIONS)							Comments / Instructions [Jar tag number(s)]
5.16.2018	1130	LDW18-C02-CL08	1	tissue	X							
	1134	-CL09	1		X							
	1057	-CL10	1		X							
	1109	-CL11	1		X							
	1202	-CL12	1		X							
	1103	-CL14	1		X							
	1157	-CL15	1		X							
	1124	-CL16	1		X							
	1146	-CL17	1		X							
	1110	-CL18	1		X							
	1131	-CL20	1		X							
↓	1053	↓ -CL22	1	↓	X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Walter	Print name:	
Signature:	Company: ARI 2.3/4.8	Signature:	Company:
Company: Windward ENV		Company:	
Date/Time: 05.16.18/1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

4 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3050

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Donnihoo
Shipper: Hand del'd
Form filled out by: S Replinger

Shipping Date: 05.16.18
Airbill Number:
Turnaround requested: STD.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					HOLD FROZEN pending composition instructions							
05.16.18	1220	LDW18-C03-CL04	1	TISSUE	X							
↓	1228	-CL05	1	↓	X							
	1141	-CL06	1		X							
	1143	-CL07	1		X							
	1145	-CL08	1		X							
	1146	-CL09	1		X							
	1150	-CL10	1		X							
	1149	-CL11	1		X							
	1155	-CL12	1		X							
	1200	-CL13	1		X							
	1220	-CL14	1		X							
↓	1225	↓ -CL15	1	↓	X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Ingalls	Print name:	
Signature:	Company: ARI 2.3/4.8	Signature:	Company:
Company: Windward Env.		Company:	
Date/Time: 05.16.18/1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

5 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3070

Project/Client Name: LDW AOC 3
Project Number: TASK 4
Contact Name: Amara Vandervart
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dominkoo
Shipper: hand del'd
Form filled out by: S. Replinger

Shipping Date: 05.16.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): Hold frozen (pending compositing instructions)							Comments / Instructions [Jar tag number(s)]
05.16.18	1228	LDW18-C03-CL16	1	TISSUE	X							
	1232	-CL17	1		X							
	1240	-CL18	1		X							
	1254	-CL19	1		X							
	1158	-CL20	1		X							
	1240	-CL24	1		X							
		Total Number of Containers	6	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacob Haffe	Print name:	
Signature:	Company: ARI 2-3/4.8	Signature:	Company:
Company: Wind Ward ENV		Company:	
Date/Time: 05.16.18/1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hubbard

COC No(s): _____ NA

Assigned ARI Job No: _____

Project Name: _____

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.3°C 4.8°C

Time: 1625

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D005206

Cooler Accepted by: JBW Date: 05/16/18 Time: 1625

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

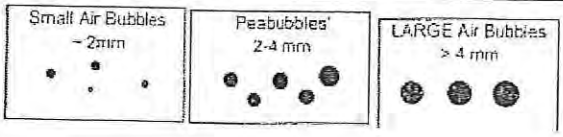
Samples Logged by: _____ Date: _____ Time: _____

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

2 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3074

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SE DUNNHOO
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.17.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	HOLD FROZEN (PENDING COMPOSITING INSTRUCTIONS)	Test(s) Requested (check test(s) required)						Comments / Instructions [Jar tag number(s)]
05.17.18	1335	LDW18-C10-CL12	1	TISSUE	X							
	1339	-CL13	1		X							
	1322	-CL14	1		X							
	1257	-CL18	1		X							
	1304	-CL19	1		X							
	1230	LDW18-C09-CL01	1		X							
	1220	-CL02	1		X							CL02, CL03, CL04 are possible cPAH comp clams for AI3. Hold.
	1209	-CL03	1		X							
	1148	-CL04	1		X							
	1335	-CL05	1		X							
	1200	-CL06	1		X							
	1305	-CL07	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacob Waite	Print name:	
Signature:	Company: ARI 5.4°C	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05-17-18 / 1632	Date/Time: 05/17/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3073

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ~~SUE~~ ARI
Attn: SUE DUMMHOD
Shipper: HAND DEL'D
Form filled out by: S REPLINGER

Shipping Date: 05.17.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FOR 90D (PENDING CONFIRMATION INSTRUCTION)						Comments / Instructions [Jar tag number(s)]
05.17.18	1213	LDW18-C10-CL01	1	TISSUE	X						
	1331	-CL02	1		X						
	1420	-CL03	1		X						
	1339	-CL04	1		X						
	1228	-CL05	1		X						
	1352	-CL06	1		X						
	1259	-CL07	1		X						
	1342	-CL08	1		X						
	1307	-CL09	1		X						
	1346	-CL10	1		X						
	1321	-CL11	1		X						
	1335	-CL12	1		X						
		Total Number of Containers	12	Purchase Order / Statement of Work #							

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobs	Print name:	
Signature:	Company: ARI 5.4°C	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.17.18/ 1632	Date/Time: 05/17/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Withchard

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: _____

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.4°C

Time: 1632

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00S206

Cooler Accepted by: JBW Date: 05/17/18 Time: 1632

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? (YES) NO

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA _____

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

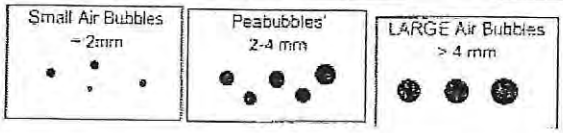
Samples Logged by: _____ Date: _____ Time: _____

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

1 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3071

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNLAP
Shipper: HAND DELD
Form filled out by: S. REPLINGER

Shipping Date: 05.18.18
Airbill Number:
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					Hold frozen (pending composite instructions)							
5.18.2018	1155	LDW18-C08-CL01	1	tissue	X							
	1202	-CL02	1		X							
	1301	-CL03	1		X							
	1320	-CL04	1		X							
	1221	-CL05	1		X							
	1223	-CL06	1		X							
	1222	-CL07	1		X							
	1225	-CL08	1		X							
	1229	-CL09	1		X							
	1230	-CL10	1		X							
	1254	-CL12	1		X							
	1253	-CL13	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Print name: Jacob Gaffe	Print name:	
Signature:	Signature:	Signature:	
Company: WINDWARD ENV	Company: ARI	Company:	Company:
Date/Time: 05.18.18/1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3039

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNHOOD
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): Hold frozen (pending compositing instructions)							Comments / Instructions [Jar tag number(s)]
5.18.2018	1250	LDW18-C08-CL14	1	TISSUE	X							
	1252	-CL15	1		X							
	1298	-CL16	1		X							
	1250	-CL17	1		X							
	1250	-CL19	1		X							
	1252	-CL20	1		X							
	1520	LDW18-C05-CL01	1		X							
	1491	-CL02	1		X							
	1505	-CL03	1		X							
	1443	-CL04	1		X							
	1530	-CL05	1		X							
	1459	-CL06	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobsen	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.18.18/1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3071

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNLAP
Shipper: HAND DELD
Form filled out by: S. REPLINGER

Shipping Date: 05.18.18
Airbill Number:
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					Hold frozen (pending composite instructions)							
5.18.2018	1155	LDW18-C08-CL01	1	tissue	X							
	1202	-CL02	1		X							
	1301	-CL03	1		X							
	1320	-CL04	1		X							
	1221	-CL05	1		X							
	1223	-CL06	1		X							
	1222	-CL07	1		X							
	1225	-CL08	1		X							
	1229	-CL09	1		X							
	1230	-CL10	1		X							
	1254	-CL12	1		X							
	1253	-CL13	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Print name: Jacob Ingalls	Print name:	
Signature:	Signature:	Signature:	
Company: WINDWARD ENV	Company: ARI	Company:	Company:
Date/Time: 05.18.18/1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3039

Project/Client Name: IDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNHOOD
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): Hold frozen (pending compositing instructions)							Comments / Instructions [Jar tag number(s)]
5.18.2018	1250	LDW18-C08-CL14	1	TISSUE	X							
	1252	-CL15	1		X							
	1298	-CL16	1		X							
	1250	-CL17	1		X							
	1250	-CL19	1		X							
	1252	-CL20	1		X							
	1520	LDW18-C05-CL01	1		X							
	1491	-CL02	1		X							
	1505	-CL03	1		X							
	1443	-CL04	1		X							
	1530	-CL05	1		X							
	1459	-CL06	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobsen	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.18.18/1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

3 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3075

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNNIHOO
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number:
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FOR CHEMISTRY COMPLETION INSTRUCTIONS							Comments / Instructions [Jar tag number(s)]
05.18.18	1507	LDW18-C05-CL07	1	TISSUE	X							
	1448	-CL09	1		X							
	1532	-CL10	1		X							
	1505	-CL13	1		X							
	1455	-CL14	1		X							
	1505	-CL15	1		X							
	1500	-CL16	1		X							
	1520	-CL17	1		X							
	1450	-CL18	1		X							
	1450	-CL19	1		X							
	1530	-CL23	1		X							
	1530	-CL24	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Print name: JACOB SMITH	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV	Date/Time: 05/18/18 1735	Company:	
Date/Time: 05.18.18/1735		Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

3 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3075

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNNIHOO
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number:
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FOR CRENULATE COMPOSITING INSTRUCTIONS						Comments / Instructions [Jar tag number(s)]
05.18.18	1507	LDW18-C05-CL07	1	TISSUE	X						
	1448	-CL09	1		X						
	1532	-CL10	1		X						
	1505	-CL13	1		X						
	1455	-CL14	1		X						
	1505	-CL15	1		X						
	1500	-CL16	1		X						
	1520	-CL17	1		X						
	1450	-CL18	1		X						
	1450	-CL19	1		X						
	1530	-CL23	1		X						
	1530	-CL24	1		X						
		Total Number of Containers	12	Purchase Order / Statement of Work #							

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Print name: JACOB SMITH	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV	Date/Time: 05/18/18 1735	Company:	
Date/Time: 05.18.18/1735		Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

4 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3076

Project/Client Name: LDW NOC3
Project Number: TASK 4
Contact Name: ANARA VANDERVOORT
Sampled By: S REPLINGER

Ship to: ARI
Attn: SUE DUNKHOD
Shipper: HAND DEL'D
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FOOTED CLPLIKE CONDITIONS INSTRUCTIONS						Comments / Instructions [Jar tag number(s)]
05.18.18	1310	LDW18-C11-CL01	1	TISSUE	X						
	1233	-CL02	1		X						
	1322	-CL03	1		X						
	1327	-CL04	1		X						
	1252	-CL05	1		X						
	1257	-CL06	1		X						
	1305	-CL07	1		X						
	1302	-CL13	1		X						
	1323	-CL14	1		X						
	1340	-CL16	1		X						
	1328	-CL17	1		X						
	1355	-CL18	1		X						
		Total Number of Containers	17	Purchase Order / Statement of Work #							

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacqueline	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.18.18 1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

5 of 5

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3077

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA JANDERUORT
Sampled By: S. REPLINGER

Ship to: ARI
Attn: SUE DUNLAP
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	HOLD PLEASE (READING COMPOSITE)	USP DIOXINS	Test(s) Requested (check test(s) required)						Comments / Instructions [Jar tag number(s)]
05.18.18	1247	LDW18-C11-CL19	1	TISSUE	X								
	1332	-CL20	1		X								
	1337	-CL21	1		X								
	1353	-CL22	1		X								
	1340	-CL23	1		X								
	1353	-CL24	1		X								
		Total Number of Containers	6	Purchase Order / Statement of Work #									

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacob Walter	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.18.18 / 1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: _____

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? ..... YES NO

Were custody papers properly filled out (ink, signed, etc.) ..... YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.4°C 1.7°C 2.8°C

Time: 1735

If cooler temperature is out of compliance fill out form 00070F (cooler # 1 / 2 / 3) Temp Gun ID#: 90005206

Cooler Accepted by: JAW Date: 05/18/18 Time: 1735

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ..... YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? ..... NA YES NO

Were all bottles sealed in individual plastic bags? ..... YES NO

Did all bottles arrive in good condition (unbroken)? ..... YES NO

Were all bottle labels complete and legible? ..... YES NO

Did the number of containers listed on COC match with the number of containers received? ..... YES NO

Did all bottle labels and tags agree with custody papers? ..... YES NO

Were all bottles used correct for the requested analyses? ..... YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? ..... NA YES NO

Was sufficient amount of sample sent in each bottle? ..... YES NO

Date VOC Trip Blank was made at ARI..... NA _____

Was Sample Split by ARI : NA YES Date/Time:_____ Equipment:_____ Split by:_____

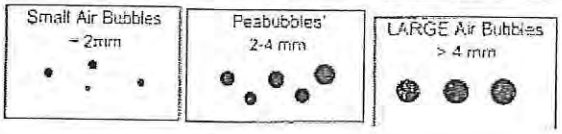
Samples Logged by: _____ Date: _____ Time: _____

*** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

19E0311

1 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3098

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. REPLINGER

Ship to: ARI
Attn: SUE DONNHOD
Shipper: HAND DEL'D
Form filled out by: S. REPLINGER

Shipping Date: 05.21.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): HOLD FROZEN (PRIORITY POLLUTANTS)							Comments / Instructions [Jar tag number(s)]
5.19.2018	1345	LDW18-C04-CL01	1	tissue	X							
	1445	-CL02	1		X							
	1400	-CL03	1		X							
	1416	-CL04	1		X							
	1435	-CL06	1		X							
	1424	-CL07	1		X							
	1448	-CL08	1		X							
	1415	-CL09	1		X							
	1400	-CL10	1		X							
	1320	-CL11	1		X							
	1300	-CL15	1		X							
↓	1250	↓ ↓ -CL16	1	↓	X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Amara Vandervort	Brandon Fisk	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV.		Company:	
Date/Time: 05.21.18/1010	Date/Time: 5/21/18 1010	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2 18E0311

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3100

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. REPLINGER

Ship to: ARI
Attn: SUE DUNNIHOO
Shipper: HAND DELD
Form filled out by: S. REPLINGER

Shipping Date: 05.21.18
Airbill Number:
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Jar tag number(s)]
					HOLD FROZEN (PENDING COMPOSITING INSTRUCTIONS)							
5.19.2018	1316	LDW18-C04-CL17	1	tissue	X							
	1347	-CL18	1		X							
	1321	-CL20	1		X							
	1354	-CL21	1		X							
	1305	-CL23	1		X							
	1259	-CL24	1		X							
		Total Number of Containers	6	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Aaron Egglington	Brandon Fisk	Print name:	
Signature:		Signature:	
Company: Windward ENV LLC	Company: ARI	Company:	Company:
Date/Time: 05.21.18/1010	Date/Time: 5/21/18 1010	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18E0311 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 5.9

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90002565

Cooler Accepted by: BF Date: 5/21/18 Time: 1010

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ...	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		_____

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

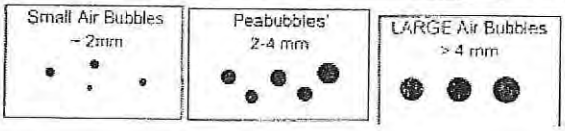
Samples Logged by: BF Date: 5/22/18 Time: 1236

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: 18F0364

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 5.9°C

Time: 1010

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D002565

Cooler Accepted by: JBw for BF Date: 06/21/18 Time: 1010

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ...	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

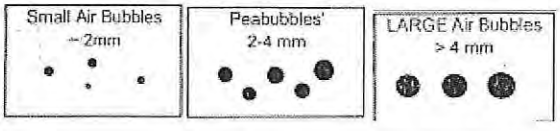
Samples Logged by: JBw Date: 06/25/18 Time: 1355

** ***Notify Project Manager of discrepancies or concerns*** **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Composite ID	Clam Area ID	Individual Speciman ID	Collection Date	Collection Time	Sample Handling/Analysis
LDW18-C01-CLWB-Comp2	C01	LDW18-C01-CL03	5/16/2018	13:17	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S1-CLWB-Comp1). • Send split (40g) to Axys for PCB congener and dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C01-CL07	5/16/2018	13:10	
		LDW18-C01-CL06	5/16/2018	13:27	
		LDW18-C01-CL15	5/16/2018	13:23	
		LDW18-C01-CL24	5/16/2018	13:23	
		LDW18-C01-CL17	5/16/2018	13:21	
		LDW18-C01-CL19	5/16/2018	13:27	
		LDW18-C01-CL20	5/16/2018	13:12	
		LDW18-C01-CL16	5/16/2018	13:25	
		LDW18-C01-CL21	5/16/2018	13:33	
LDW18-C02-CLWB-Comp2	C02	LDW18-C02-CL14	5/16/2018	11:03	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S1-CLWB-Comp1). • Send split (40g) to Axys for PCB congener and dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C02-CL06	5/16/2018	11:56	
		LDW18-C02-CL16	5/16/2018	11:24	
		LDW18-C02-CL01	5/16/2018	11:01	
		LDW18-C02-CL10	5/16/2018	10:57	
		LDW18-C02-CL17	5/16/2018	11:46	
		LDW18-C02-CL20	5/16/2018	11:31	
		LDW18-C02-CL05	5/16/2018	10:59	
		LDW18-C02-CL15	5/16/2018	11:57	
		LDW18-C02-CL08	5/16/2018	11:30	
LDW18-C03-CLWB-Comp2	C03	LDW18-C03-CL04	5/16/2018	12:20	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S1-CLWB-Comp1). • Send split (40g) to Axys for PCB congener and dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C03-CL06	5/16/2018	11:41	
		LDW18-C03-CL12	5/16/2018	11:55	
		LDW18-C03-CL14	5/16/2018	12:20	
		LDW18-C03-CL24	5/16/2018	12:40	
		LDW18-C03-CL17	5/16/2018	12:32	
		LDW18-C03-CL08	5/16/2018	11:45	
		LDW18-C03-CL11	5/16/2018	11:49	
		LDW18-C03-CL20	5/16/2018	11:58	
		LDW18-C03-CL15	5/16/2018	12:25	

Composite ID	Clam Area ID	Individual Speciman ID	Collection Date	Collection Time	Sample Handling/Analysis
LDW18-C04-CLWB-Comp2	C04	LDW18-C04-CL10	5/19/2018	14:00	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S2-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C04-CL20	5/19/2018	13:21	
		LDW18-C04-CL01	5/19/2018	13:45	
		LDW18-C04-CL04	5/19/2018	14:16	
		LDW18-C04-CL07	5/19/2018	14:24	
		LDW18-C04-CL16	5/19/2018	12:50	
		LDW18-C04-CL18	5/19/2018	13:47	
		LDW18-C04-CL02	5/19/2018	14:45	
		LDW18-C04-CL11	5/19/2018	13:20	
		LDW18-C04-CL21	5/19/2018	13:54	
LDW18-C05-CLWB-Comp2	C05	LDW18-C05-CL24	5/18/2018	15:30	• Split an equal portion of the composite to create segment-wide composite (minimum of about 25 g) (LDW18-S2-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C05-CL06	5/18/2018	14:59	
		LDW18-C05-CL05	5/18/2018	15:30	
		LDW18-C05-CL18	5/18/2018	14:50	
		LDW18-C05-CL01	5/18/2018	15:20	
		LDW18-C05-CL16	5/18/2018	15:00	
		LDW18-C05-CL07	5/18/2018	15:07	
		LDW18-C05-CL13	5/18/2018	15:05	
		LDW18-C05-CL10	5/18/2018	15:32	
		LDW18-C05-CL02	5/18/2018	14:41	
LDW18-C06-CLWB-Comp2	C06	LDW18-C06-CL01	5/15/2018	10:45	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S2-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C06-CL11	5/15/2018	10:58	
		LDW18-C06-CL16	5/15/2018	11:55	
		LDW18-C06-CL13	5/15/2018	11:12	
		LDW18-C06-CL21	5/15/2018	11:48	
		LDW18-C06-CL19	5/15/2018	11:40	
		LDW18-C06-CL02	5/15/2018	10:48	
		LDW18-C06-CL09	5/15/2018	11:37	
		LDW18-C06-CL06	5/15/2018	11:05	
		LDW18-C06-CL17	5/15/2018	11:33	

Composite ID	Clam Area ID	Individual Speciman ID	Collection Date	Collection Time	Sample Handling/Analysis
LDW18-C08-CLWB-Comp2	C08	LDW18-C08-CL04	5/18/2018	13:20	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S3-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C08-CL07	5/18/2018	12:22	
		LDW18-C08-CL12	5/18/2018	12:54	
		LDW18-C08-CL20	5/18/2018	12:52	
		LDW18-C08-CL13	5/18/2018	12:53	
		LDW18-C08-CL05	5/18/2018	12:21	
		LDW18-C08-CL15	5/18/2018	12:52	
		LDW18-C08-CL03	5/18/2018	13:01	
		LDW18-C08-CL01	5/18/2018	11:55	
		LDW18-C08-CL10	5/18/2018	12:30	
LDW18-C10-CLWB-Comp2	C10	LDW18-C10-CL01	5/17/2018	12:13	• Split an equal portion of the composite (minimum of about 25 g)to create segment-wide composite (LDW18-S3-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C10-CL09	5/17/2018	13:07	
		LDW18-C10-CL14	5/17/2018	13:22	
		LDW18-C10-CL11	5/17/2018	13:21	
		LDW18-C10-CL12	5/17/2018	13:35	
		LDW18-C10-CL13	5/17/2018	13:39	
		LDW18-C10-CL19	5/17/2018	13:43	
		LDW18-C10-CL06	5/17/2018	13:52	
		LDW18-C10-CL07	5/17/2018	12:59	
		LDW18-C10-CL18	5/17/2018	12:57	
LDW18-C11-CLWB-Comp2	C11	LDW18-C11-CL23	5/18/2018	13:40	• Split an equal portion of the composite (minimum of about 25 g) to create segment-wide composite (LDW18-S3-CLWB-Comp1). • Send split (40g) to Axys for dioxin/furan analyses. • Analyze remaining sample for cPAHs, PCB Aroclors, total lipids, and total solids.
		LDW18-C11-CL14	5/18/2018	13:23	
		LDW18-C11-CL21	5/18/2018	13:37	
		LDW18-C11-CL01	5/18/2018	13:10	
		LDW18-C11-CL18	5/18/2018	13:35	
		LDW18-C11-CL02	5/18/2018	12:33	
		LDW18-C11-CL03	5/18/2018	13:22	
		LDW18-C11-CL24	5/18/2018	13:53	
		LDW18-C11-CL05	5/18/2018	12:52	
		LDW18-C11-CL17	5/18/2018	13:28	

Composite ID	Clam Area ID	Individual Speciman ID	Collection Date	Collection Time	Sample Handling/Analysis

ee samples below from composites above

Composite ID	Clam Area ID	Individual Composite ID	Sample Handling/Analysis
LDW18-S1-CLWB-Comp1	C01,C02,C03	LDW18-C01-CLWB-Comp2 LDW18-C02-CLWB-Comp2 LDW18-C03-CLWB-Comp2	• Create segment-wide composite from equal portions of each composite sample (minimum of 70g needed). • Send split (10g) to ALS-Kelso for OC Pesticide analysis • Analyze for vanadium, TBT, SVOCs
LDW18-S2-CLWB-Comp1	C04,C05,C06	LDW18-C04-CLWB-Comp2 LDW18-C05-CLWB-Comp2 LDW18-C06-CLWB-Comp2	• Create segment-wide composite from equal portions of each composite sample (minimum of 70g needed). • Send split (10g) to ALS-Kelso for OC Pesticide analysis • Analyze for vanadium, TBT, SVOCs
LDW18-S3-CLWB-Comp1	C08,C10,C11	LDW18-C08-CLWB-Comp2 LDW18-C10-CLWB-Comp2 LDW18-C11-CLWB-Comp2	• Create segment-wide composite from equal portions of each composite sample (minimum of 70g needed). • Send split (10g) to ALS-Kelso for OC Pesticide analysis • Analyze for vanadium, TBT, SVOCs

Windward Environmental, LLC	Project: AOC3 Clam Collection	
200 West Mercer Street, Suite 401	Project Number: Task 4	**Reported:**
Seattle WA, 98119-3958	Project Manager: Amara Vandervort	21-Jul-2018 13:17

Case Narrative

Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Work Order: 18F0364

Sample receipt

Samples as listed on the preceding page were received 21-May-2018 10:10 under ARI work order 18F0364. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Samples were homogenized according to the scheme in the tables included here.

Semivolatiles - EPA Method SW8270D

The samples were extracted and analyzed within the recommended holding times for samples stored frozen.

The initial and continuing calibrations were within method requirements, except for high recovery of 2,4,6- Tribromophenol in SGG051-CCV1. The associated results have been "Q"-flagged and none of the target list of compounds are associated with the surrogate.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

The recovery of bis(2-ethylhexyl)phthalate was high in the matrix spike at 136% (limit 130%). The outlier has been flagged on the summary sheet.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

The matrix Spike/matrix spike duplicate recoveries and RPD were within limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

Windward Environmental, LLC	Project: AOC3 Clam Collection	
200 West Mercer Street, Suite 401	Project Number: Task 4	**Reported:**
Seattle WA, 98119-3958	Project Manager: Amara Vandervort	21-Jul-2018 13:17

Case Narrative

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

The matrix spike/matrix spike duplicate recoveries and RPD were within limits.

Butyl Tin - EPA Method SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The method blank showed high recovery of tripropyltin in the method blank at 137% (limit 130%). All other surrogate results were within limits.

The method blank was clean at the reporting limits.

The LCS percent recovery was within control limits.

The matrix spike/matrix spike duplicate recoveries and RPD were within limits.

Total vanadium - EPA Method 6020A

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Duplicate RPD was high at 25.2% (limit 20%). The data was checked and the outlier flagged on the summary sheet. Matrix spike/matrix spike recoveries and RPDs were within limits.

Percent Lipids

The samples were prepared and analyzed within the recommended holding times stored frozen.

Initial and continuing calibrations were within method requirements.

The method blank had response above the calculated reporting limit.

The duplicate RPD was within limits.

Windward Environmental, LLC	Project:	AOC3 Clam Collection	
200 West Mercer Street, Suite 401	Project Number:	Task 4	**Reported:**
Seattle, WA 98119-3958	Project Manager:	Amara Vandervort	07/21/2018 13:17

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18F0364-01	LDW18-C01-CLWB-Comp2	Tissue	05/16/18 13:33	05/21/18 10:10
18F0364-02	LDW18-C02-CLWB-Comp2	Tissue	05/16/18 11:57	05/21/18 10:10
18F0364-03	LDW18-C03-CLWB-Comp2	Tissue	05/16/18 12:40	05/21/18 10:10
18F0364-04	LDW18-C04-CLWB-Comp2	Tissue	05/19/18 14:45	05/21/18 10:10
18F0364-05	LDW18-C05-CLWB-Comp2	Tissue	05/18/18 15:32	05/21/18 10:10
18F0364-06	LDW18-C06-CLWB-Comp2	Tissue	05/15/18 11:55	05/21/18 10:10
18F0364-07	LDW18-C08-CLWB-Comp2	Tissue	05/18/18 13:20	05/21/18 10:10
18F0364-08	LDW18-C10-CLWB-Comp2	Tissue	05/17/18 13:52	05/21/18 10:10
18F0364-09	LDW18-C11-CLWB-Comp2	Tissue	05/18/18 13:53	05/21/18 10:10
18F0364-10	LDW18-S1-CLWB-Comp1	Tissue	05/16/18 10:57	05/21/18 10:10
18F0364-11	LDW18-S2-CLWB-Comp1	Tissue	05/15/18 10:45	05/21/18 10:10
18F0364-12	LDW18-S3-CLWB-Comp1	Tissue	05/17/18 12:13	05/21/18 10:10

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-01 (LDW18-C01-CLWB-Comp2) Sampled 05/16/2018 13:33

Current Status	*Out*	*Location*	*In*
18F0364-01 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [6.908955ug/kg];Fluoranthene [17.0806ug/kg];Pyrene*	
Sample Receiving	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

18F0364-02 (LDW18-C02-CLWB-Comp2) Sampled 05/16/2018 11:57

Current Status	*Out*	*Location*	*In*
18F0364-02 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.634062ug/kg];Fluoranthene [16.96524ug/kg];Pyrene*	
Sample Receiving	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-03 (LDW18-C03-CLWB-Comp2) Sampled 05/16/2018 12:40

Current Status	*Out*	*Location*	*In*
18F0364-03 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [3.5315ug/kg];Fluoranthene [8.8995ug/kg];Pyrene [7.0*	
Sample Receiving	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
	06/25/2018 13:59 by JBW	***START***	06/25/2018 13:59 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

18F0364-04 (LDW18-C04-CLWB-Comp2) Sampled 05/19/2018 14:45

Current Status	*Out*	*Location*	*In*
18F0364-04 A [Ziploc Bag, Gallon]		*Hazard Info:Fluorene [3.328842ug/kg];Phenanthrene [8.293912ug/kg];Fluoranthe*	
Sample Receiving	06/25/2018 14:00 by JBW	***START***	06/25/2018 14:00 by JBW
	06/25/2018 14:00 by JBW	***START***	06/25/2018 14:00 by JBW
	06/25/2018 14:00 by JBW	***START***	06/25/2018 14:00 by JBW
	06/25/2018 14:00 by JBW	***START***	06/25/2018 14:00 by JBW
	06/25/2018 14:00 by JBW	***START***	06/25/2018 14:00 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-05 (LDW18-C05-CLWB-Comp2) Sampled 05/18/2018 15:32

Current Status	*Out*	*Location*	*In*
18F0364-05 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [7.680597ug/kg];Fluoranthene [20.50547ug/kg];Pyrene*	
Sample Receiving	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

18F0364-06 (LDW18-C06-CLWB-Comp2) Sampled 05/15/2018 11:55

Current Status	*Out*	*Location*	*In*
18F0364-06 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.017875ug/kg];Fluoranthene [8.906654ug/kg];Pyrene*	
Sample Receiving	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-07 (LDW18-C08-CLWB-Comp2) Sampled 05/18/2018 13:20

Current Status	*Out*	*Location*	*In*
18F0364-07 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [3.237339ug/kg];Anthracene [2.9429ug/kg];Fluoranthe*	
Sample Receiving	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
	06/25/2018 14:01 by JBW	***START***	06/25/2018 14:01 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

18F0364-08 (LDW18-C10-CLWB-Comp2) Sampled 05/17/2018 13:52

Current Status	*Out*	*Location*	*In*
18F0364-08 A [Ziploc Bag, Gallon]		*Hazard Info:Fluoranthene [6.2585ug/kg];Pyrene [5.2215ug/kg];Indeno(1,2,3-cd)py*	
Sample Receiving	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-09 (LDW18-C11-CLWB-Comp2) Sampled 05/18/2018 13:53

Current Status	*Out*	*Location*	*In*
18F0364-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.645771ug/kg];Fluoranthene [8.212438ug/kg];Pyrene*	
Sample Receiving	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
	06/25/2018 14:02 by JBW	***START***	06/25/2018 14:02 by JBW
Extractions	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/27/2018 09:12 by CCT	Organic Extractions	06/29/2018 14:22 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:29 by CCT	R-05 S09 Ext	06/29/2018 14:33 by CCT
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by
	06/29/2018 14:33 by CCT	R-05 S09 Ext	by

18F0364-10 (LDW18-S1-CLWB-Comp1) Sampled 05/16/2018 10:57

Current Status	*Out*	*Location*	*In*
*18F0364-10 A [*** DEFAULT CONTAINER*		*Hazard Info:Acenaphthylene [6.747ug/kg];Fluoranthene [10.287ug/kg];Pyrene [20*	
Admin	06/25/2018 14:58 by SDD	***START***	06/25/2018 14:58 by SDD
	06/25/2018 14:58 by SDD	***START***	06/25/2018 14:58 by SDD
	06/25/2018 14:58 by SDD	***START***	06/25/2018 14:58 by SDD
	06/25/2018 14:58 by SDD	***START***	06/25/2018 14:58 by SDD
Extractions	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM

18F0364-11 (LDW18-S2-CLWB-Comp1) Sampled 05/15/2018 10:45

Current Status	*Out*	*Location*	*In*
*18F0364-11 A [*** DEFAULT CONTAINER*		*Hazard Info:Phenanthrene [10.04ug/kg];Fluoranthene [8.516ug/kg];Pyrene [10.95*	
Admin	06/25/2018 15:04 by SDD	***START***	06/25/2018 15:04 by SDD
	06/25/2018 15:04 by SDD	***START***	06/25/2018 15:04 by SDD
	06/25/2018 15:04 by SDD	***START***	06/25/2018 15:04 by SDD
	06/25/2018 15:04 by SDD	***START***	06/25/2018 15:04 by SDD
Extractions	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM

INTERNAL CHAIN OF CUSTODY

Work Order: 18F0364

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	AOC3 Clam Collection	Received By:	Brandon Fisk
Number:	Task 4	Temp (°C):	5.90

18F0364-12 (LDW18-S3-CLWB-Comp1) Sampled 05/17/2018 12:13

Current Status	*Out*	*Location*	*In*
*18F0364-12 A [*** DEFAULT CONTAINER*			*Hazard Info:*
Admin	06/25/2018 15:05 by SDD	***START***	06/25/2018 15:05 by SDD
	06/25/2018 15:05 by SDD	***START***	06/25/2018 15:05 by SDD
	06/25/2018 15:05 by SDD	***START***	06/25/2018 15:05 by SDD
	06/25/2018 15:05 by SDD	***START***	06/25/2018 15:05 by SDD
Extractions	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM
	06/29/2018 14:28 by WPW	Metals Prep Lab	06/29/2018 14:56 by SKM

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
J	Estimated concentration value detected below the reporting limit.
H	Hold time violation - Hold time was exceeded.
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

LDW18-S1-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

Semivolatiles (20 ug/kg - 0.2 ug/L SepF)

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-10	SDG:	18F0364
Sampled:	05/16/18 10:57	Prepared:	06/29/18 15:30	File ID:	NT1018070513.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 18:40
Batch:	BGF0720	Sequence:	SGG0051	Initial/Final:	10 g Wet / 1 mL
Instrument:	NT10	Column:	ZB-5MSi	Calibration:	BE00068

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
118-74-1	Hexachlorobenzene	1	20.0	U		20.0
87-86-5	Pentachlorophenol	1	100	U		100
86-74-8	Carbazole	1	20.0	U		20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	50.0	U		50.0

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	401	53.4	20 - 130	
Phenol-d5	750.00	406	54.2	20 - 130	
2-Chlorophenol-d4	750.00	570	76.1	20 - 130	
1,2-Dichlorobenzene-d4	500.00	353	70.6	20 - 130	
Nitrobenzene-d5	500.00	424	84.7	20 - 130	
2-Fluorobiphenyl	500.00	442	88.4	20 - 130	
2,4,6-Tribromophenol	750.00	1280	170	20 - 130	*,Q
p-Terphenyl-d14	500.00	418	83.7	20 - 130	

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

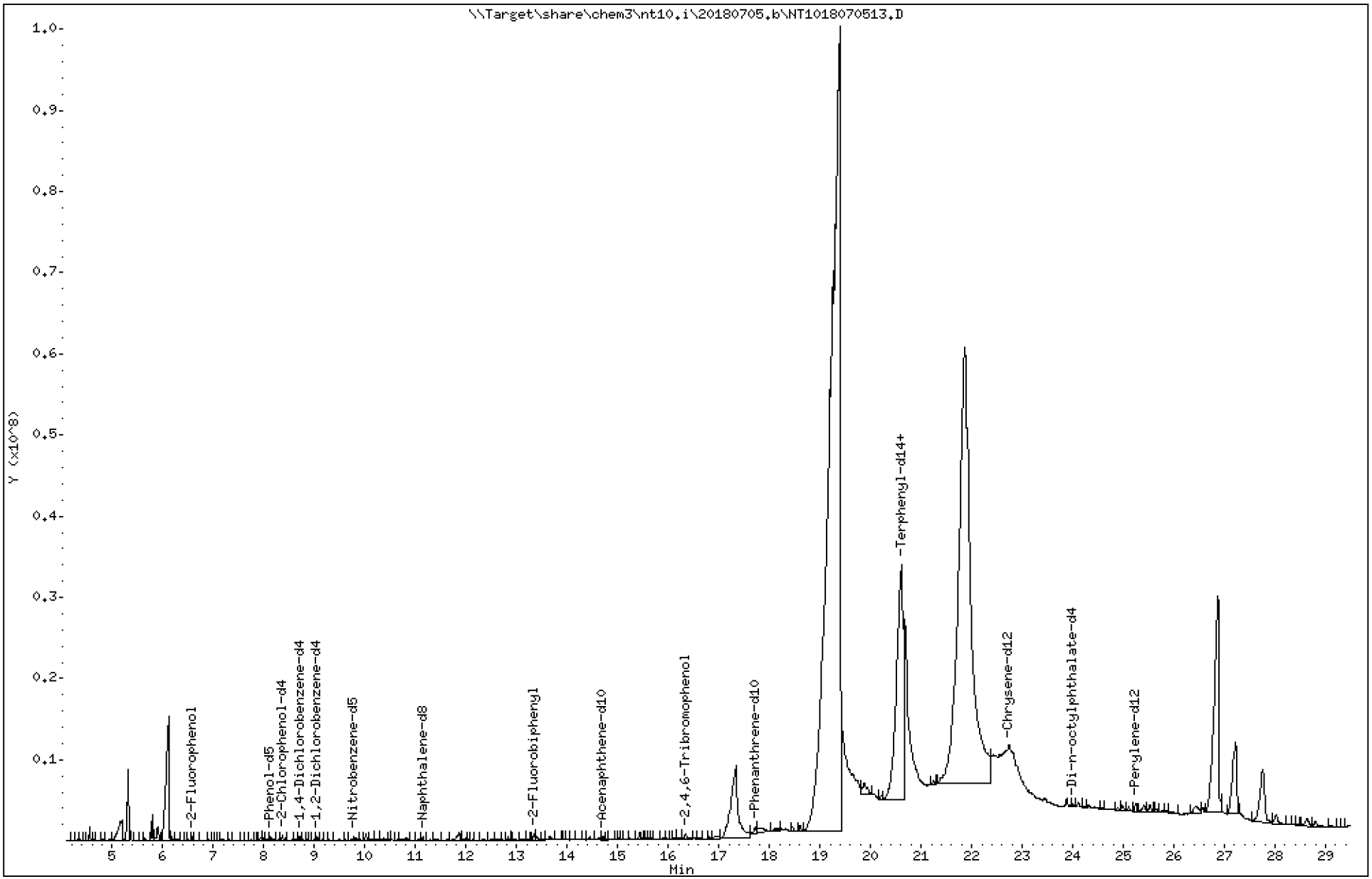
Instrument: nt10.i

Sample Info: 18F0364-10

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

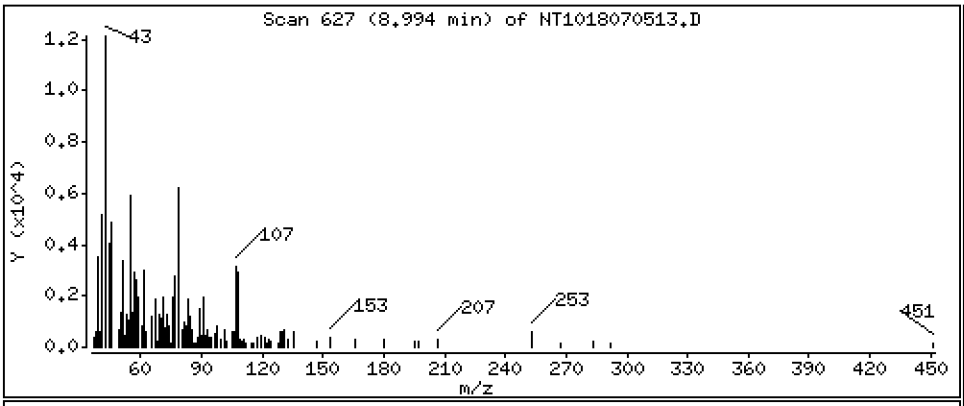
Operator: YZ

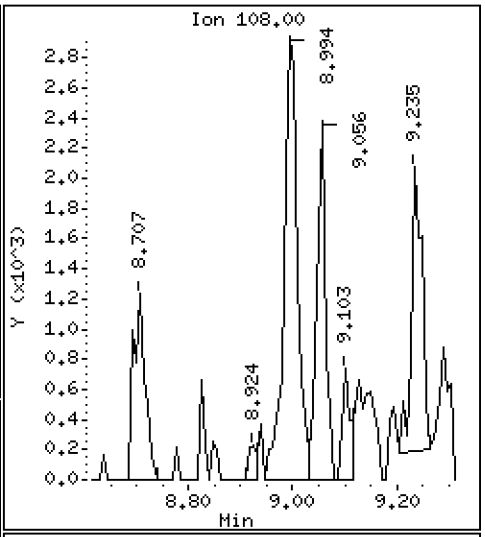
Column phase: ZB-5msi

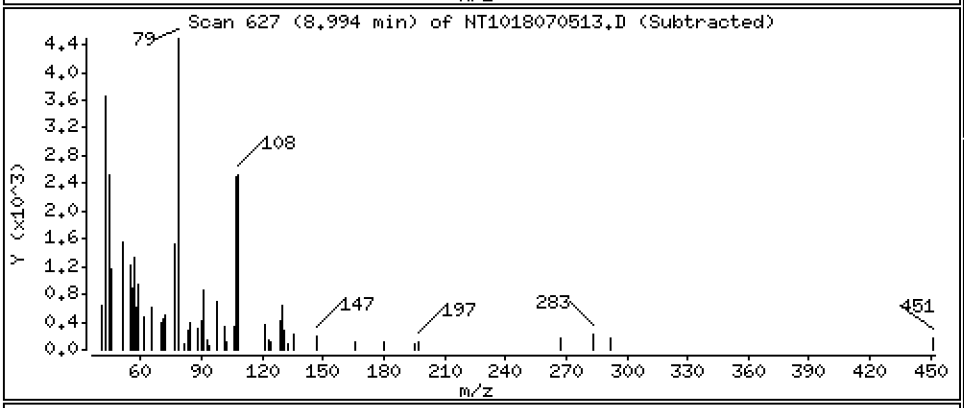
Column diameter: 0.25

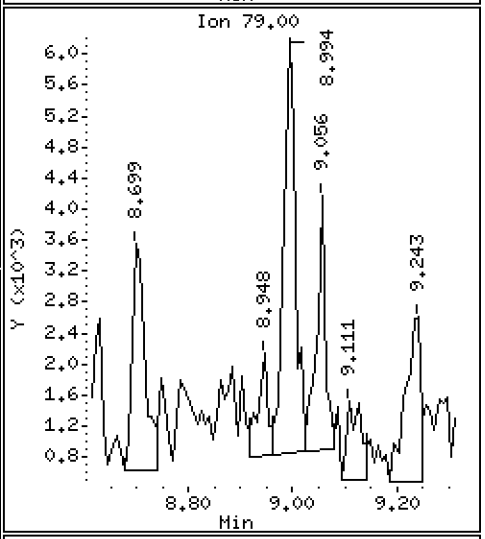
11 Benzyl alcohol

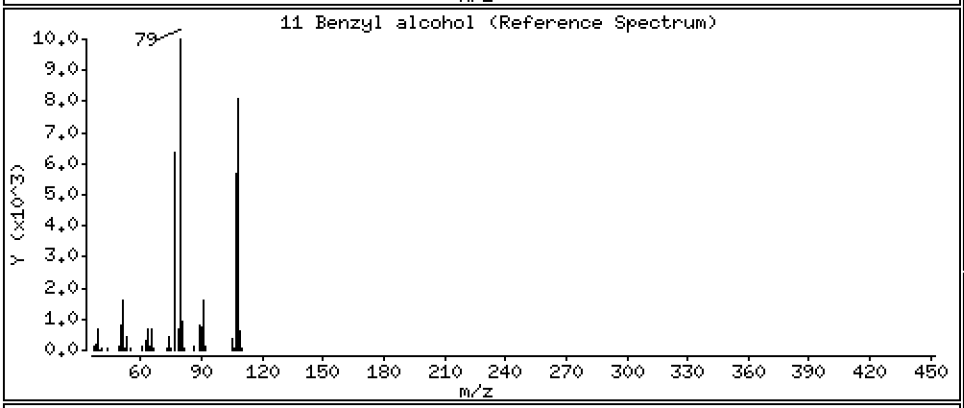
Concentration: 0.2775 ug/mL

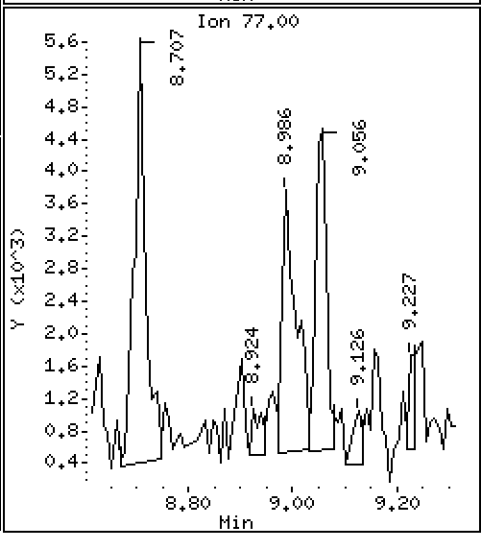


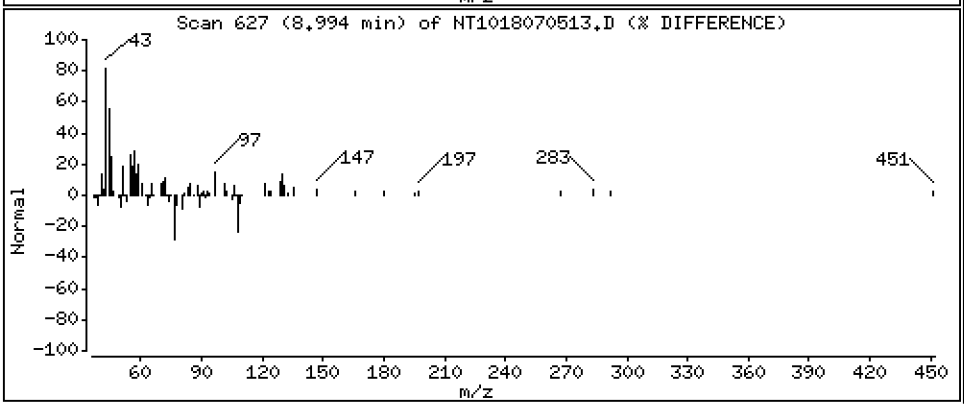












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

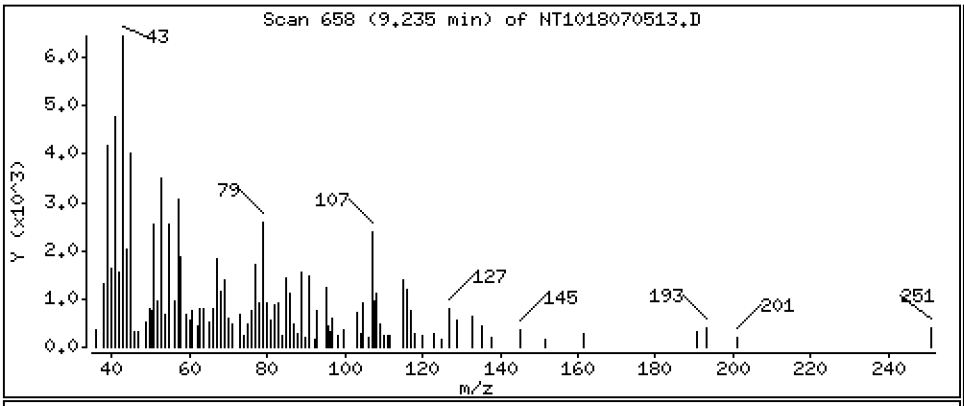
Operator: YZ

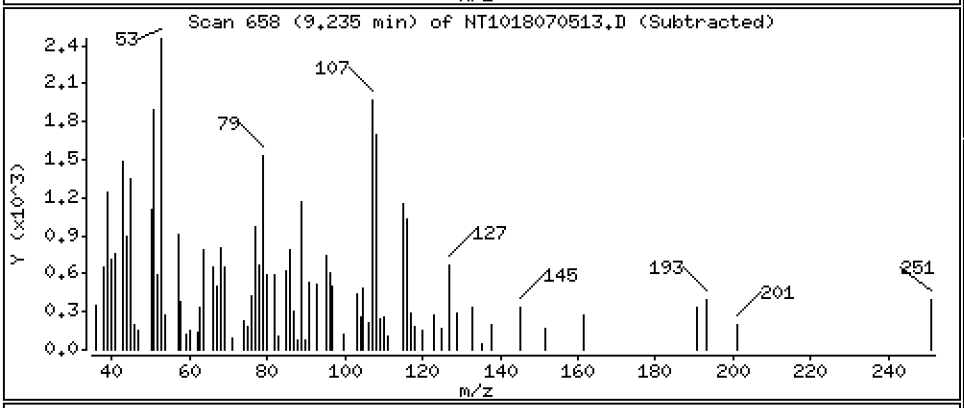
Column phase: ZB-5msi

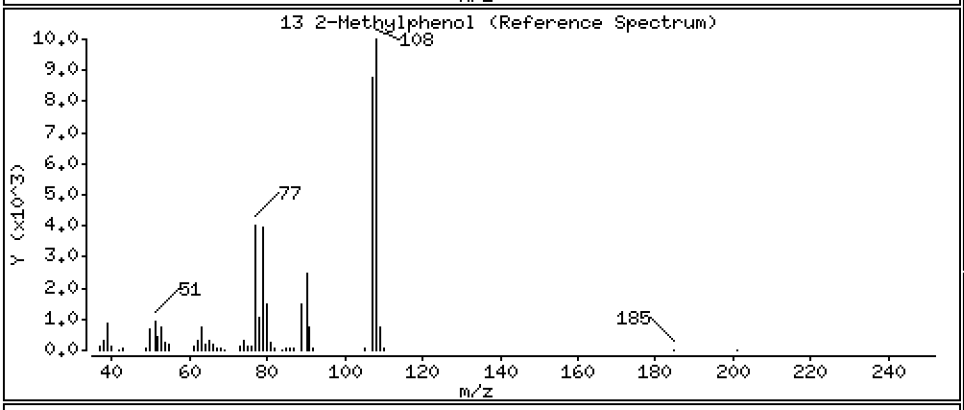
Column diameter: 0.25

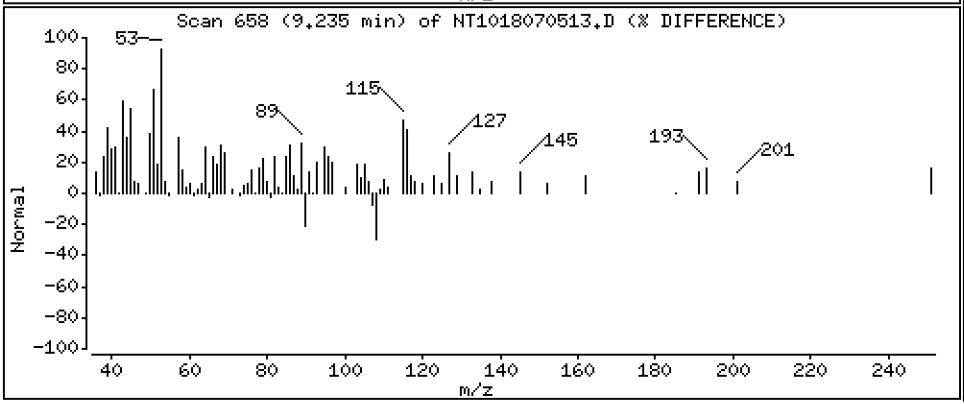
13 2-Methylphenol

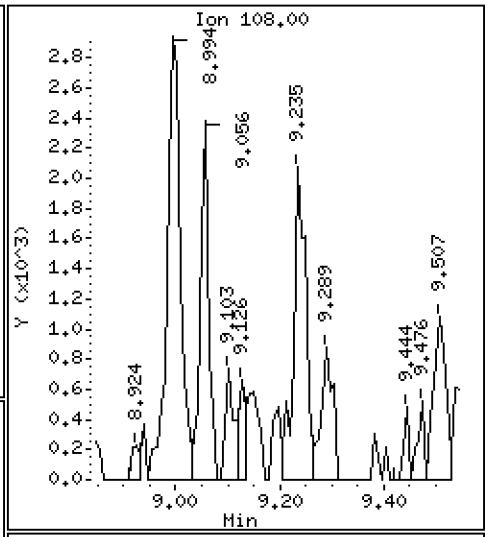
Concentration: 0.1352 ug/mL

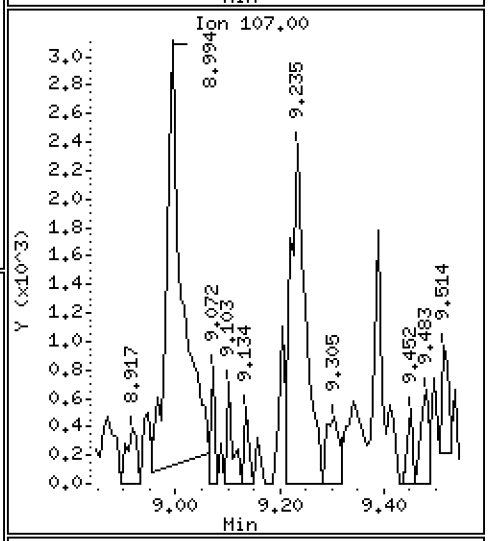


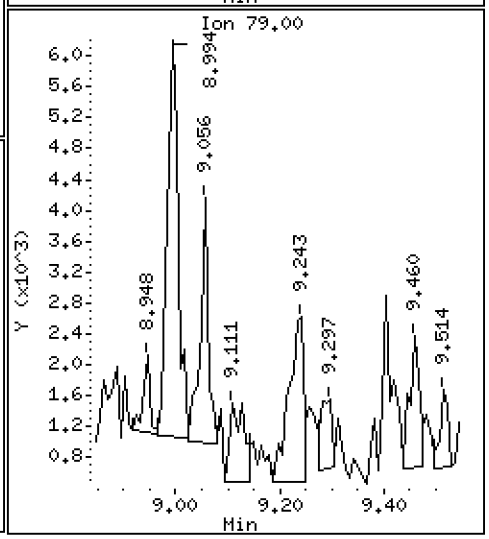












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

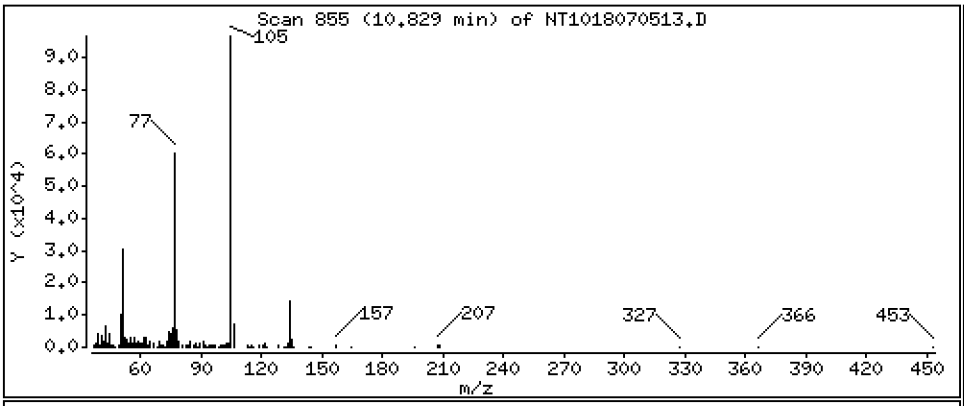
Operator: YZ

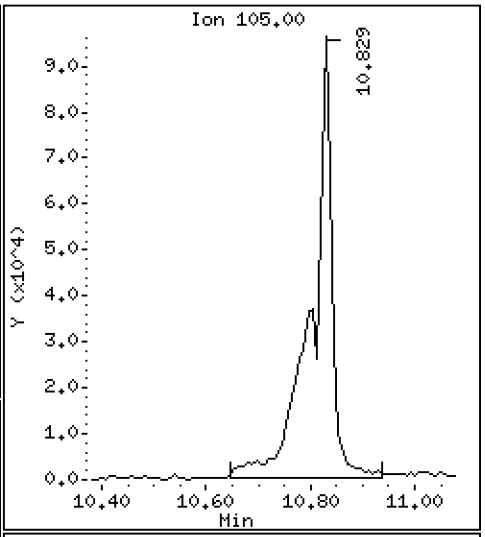
Column phase: ZB-5msi

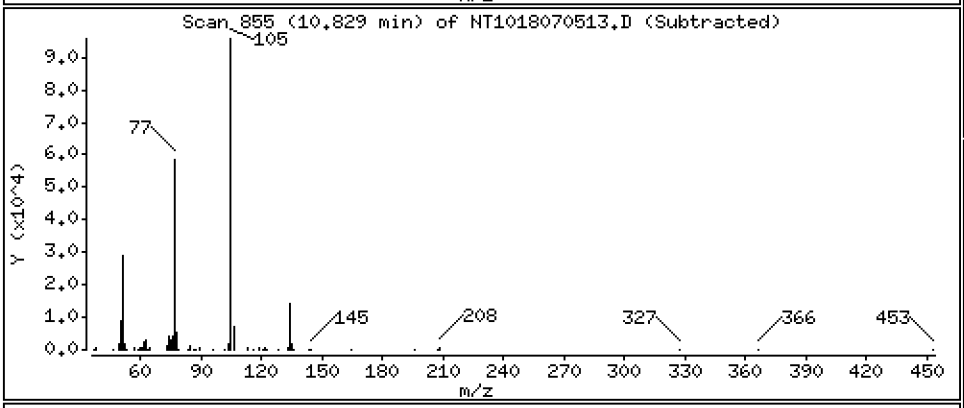
Column diameter: 0.25

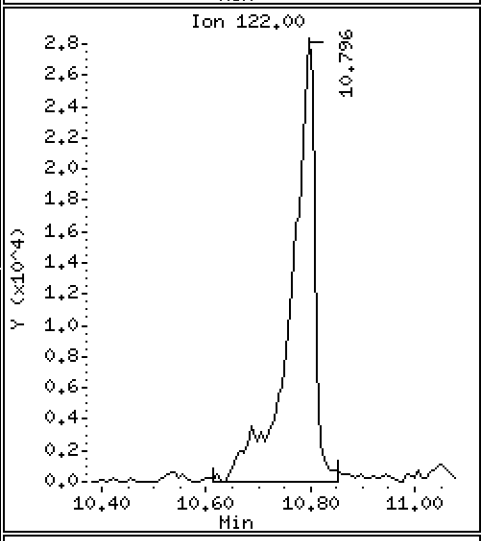
24 Benzoic acid

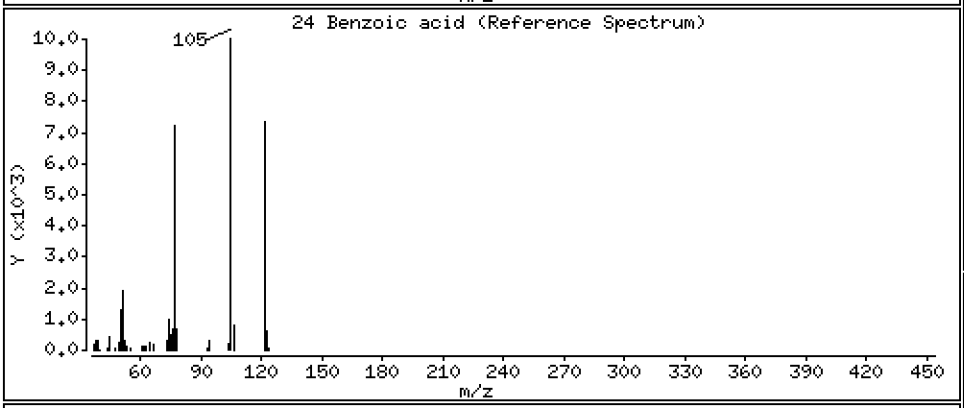
Concentration: 13.10 ug/mL

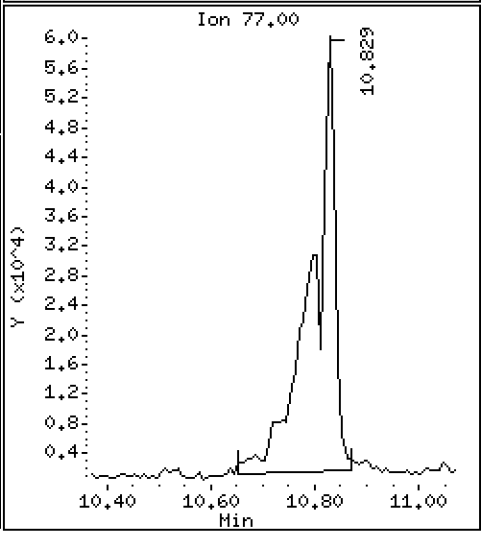


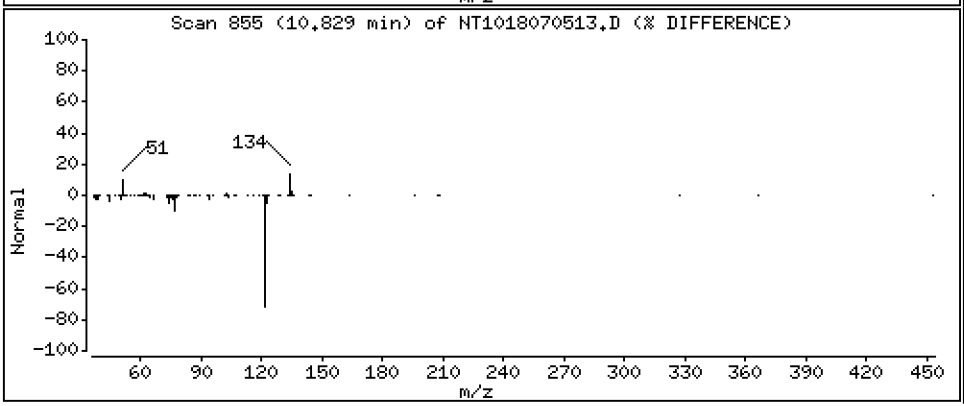












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

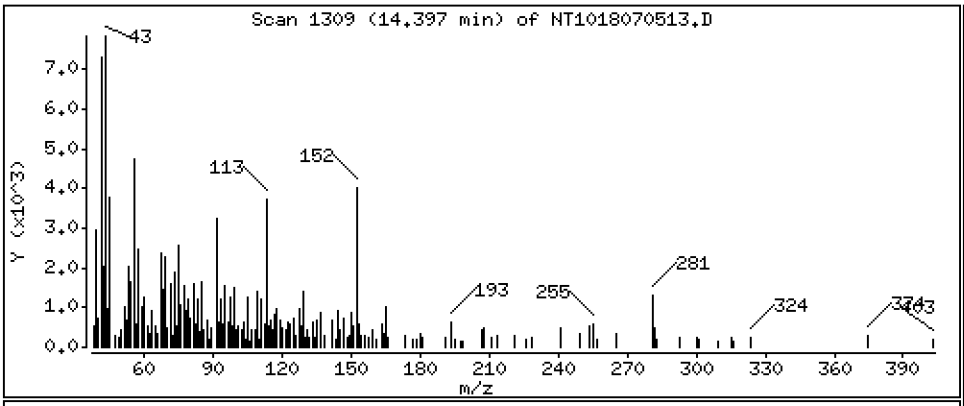
Operator: YZ

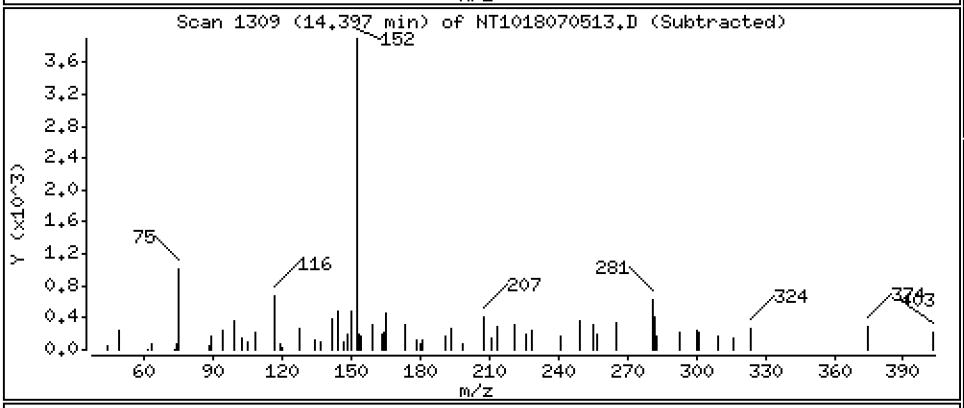
Column phase: ZB-5msi

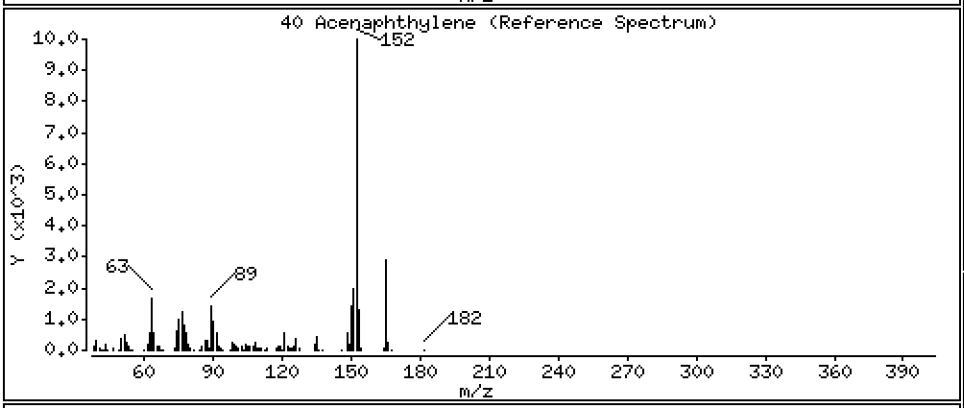
Column diameter: 0.25

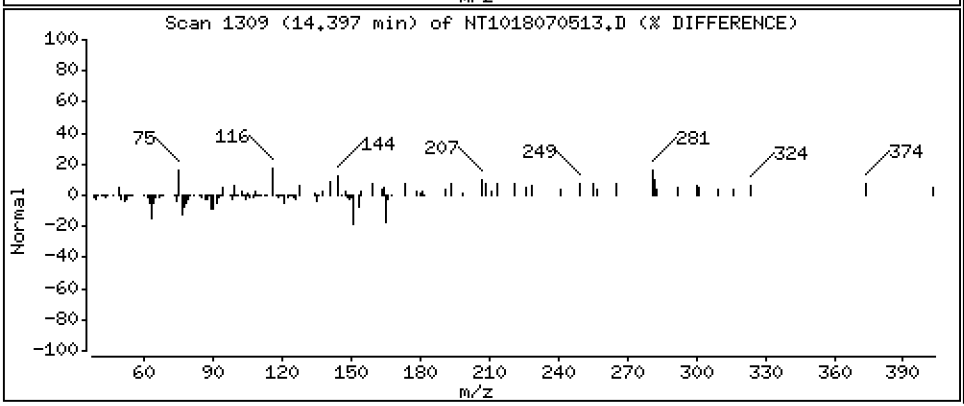
40 Acenaphthylene

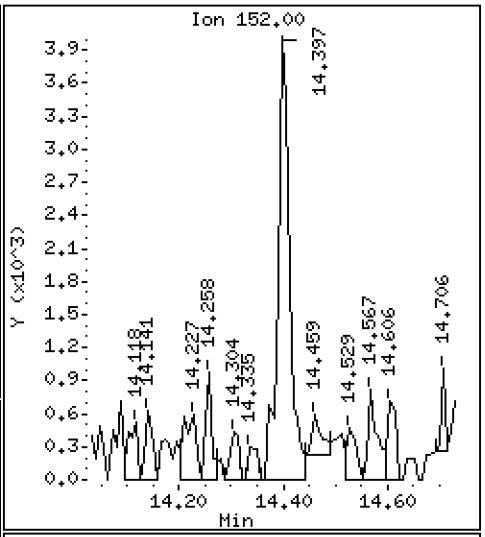
Concentration: 0.06747 ug/mL

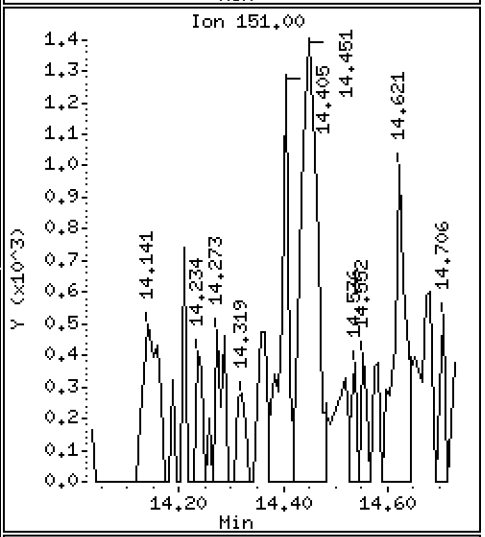


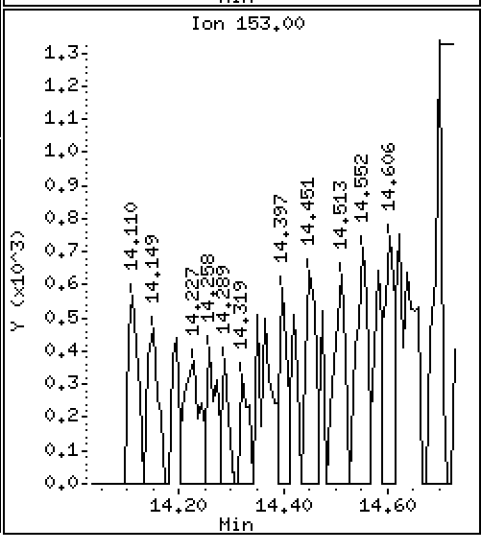












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

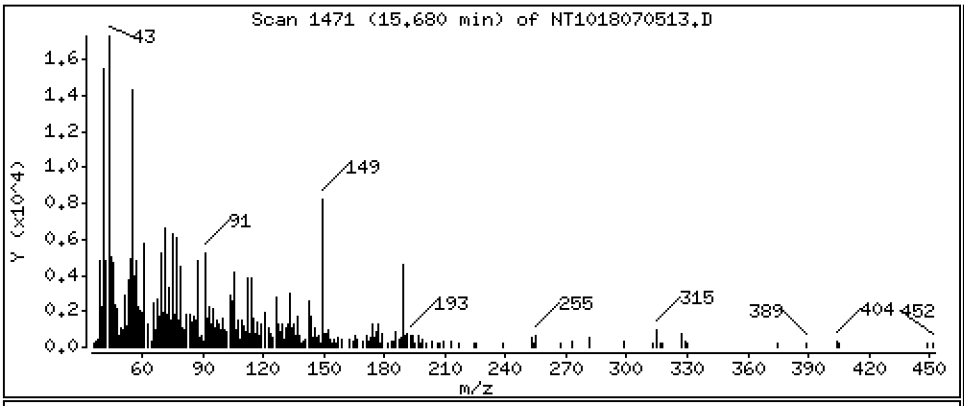
Operator: YZ

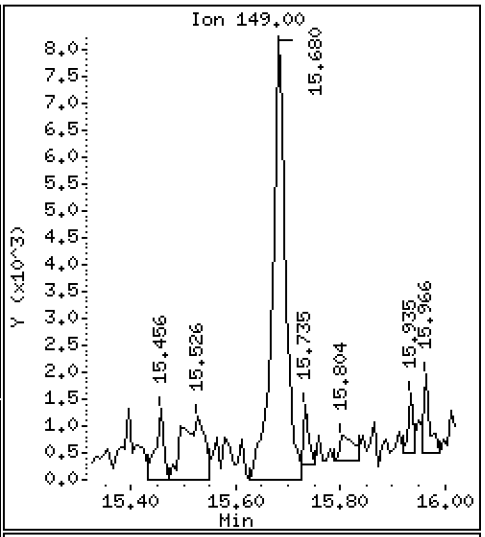
Column phase: ZB-5msi

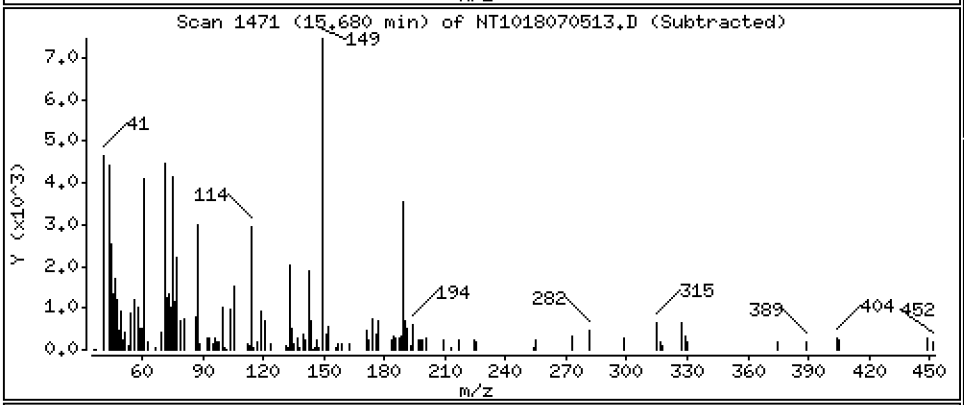
Column diameter: 0.25

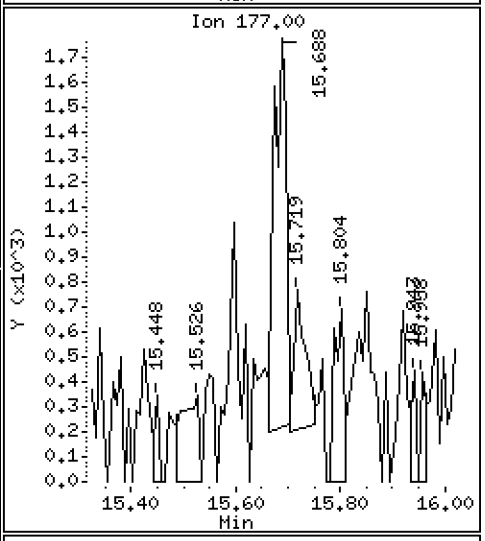
50 Diethylphthalate

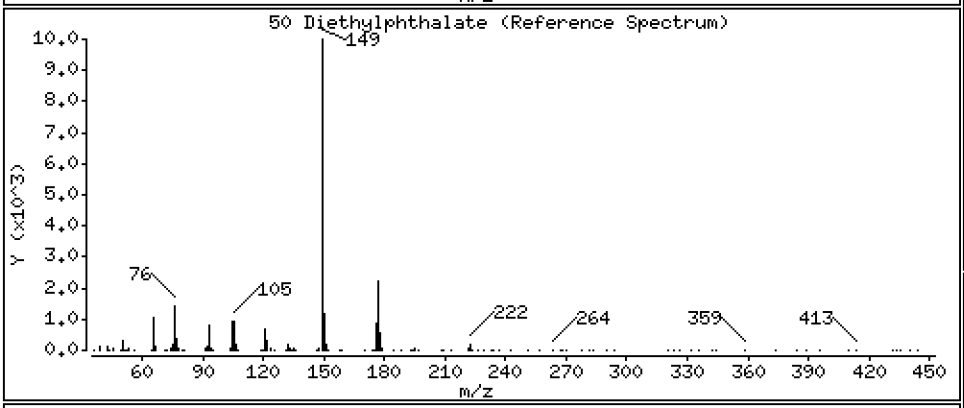
Concentration: 0.2170 ug/mL

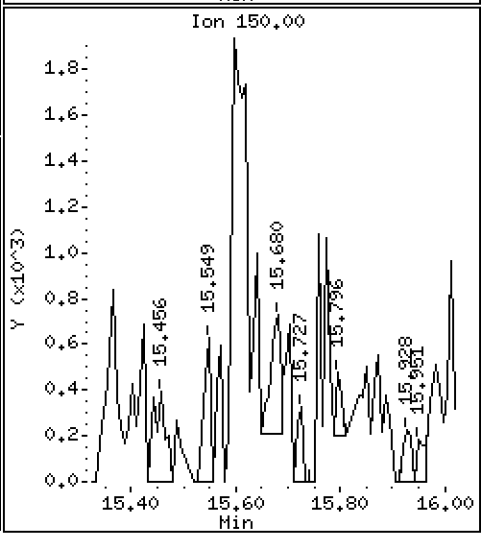


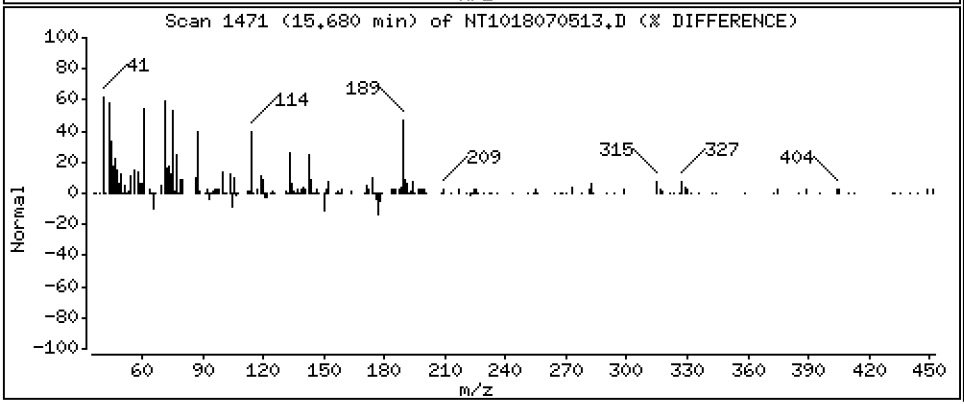












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

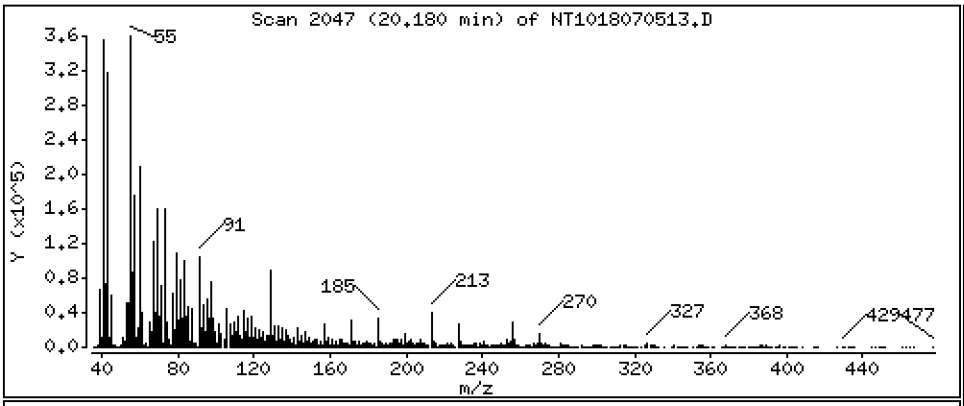
Operator: YZ

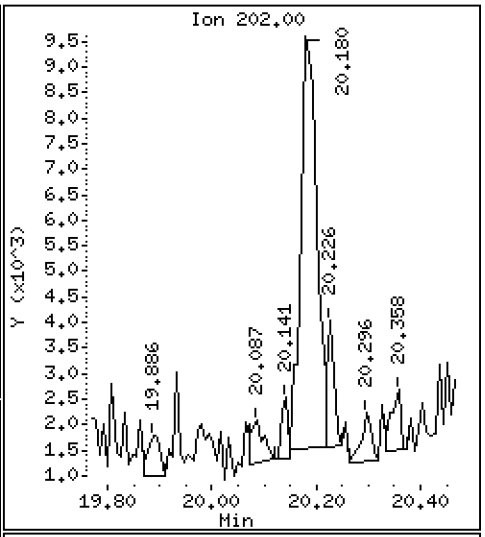
Column phase: ZB-5msi

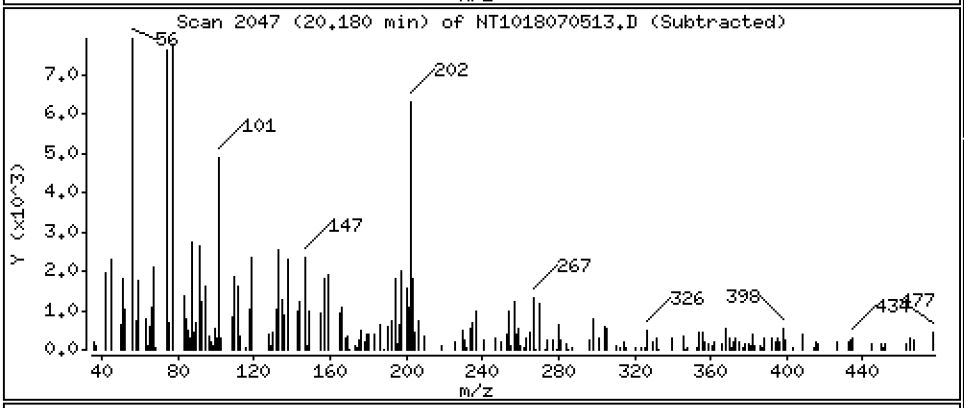
Column diameter: 0.25

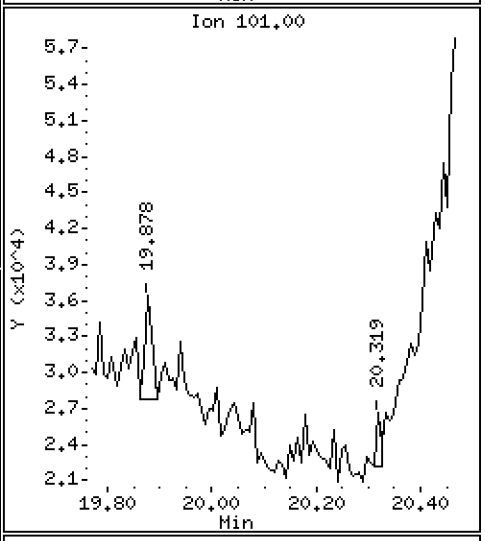
64 Fluoranthene

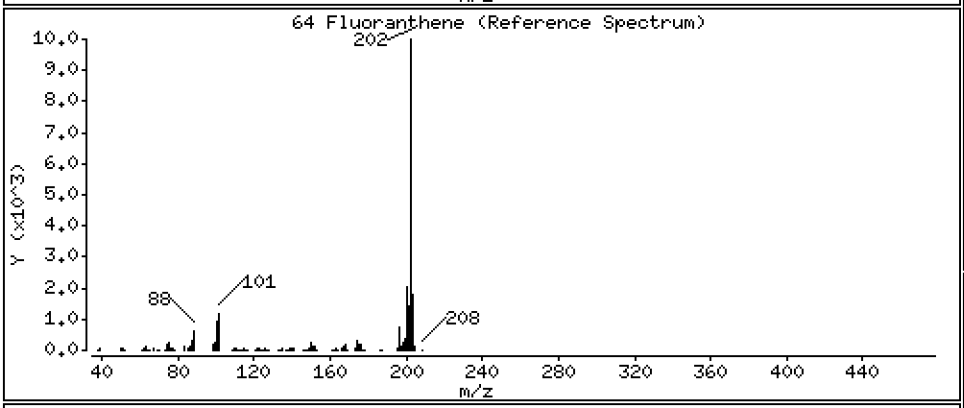
Concentration: 0.1029 ug/mL

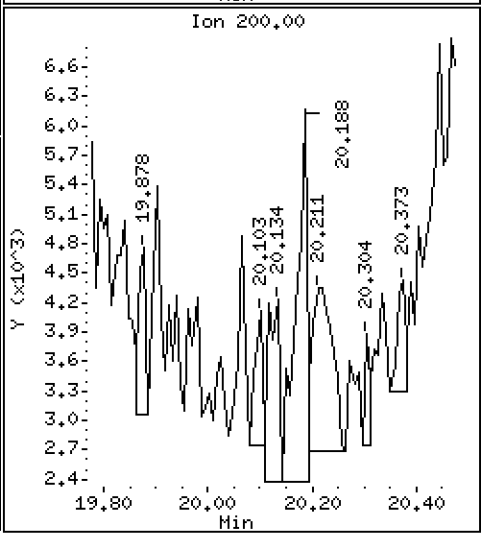


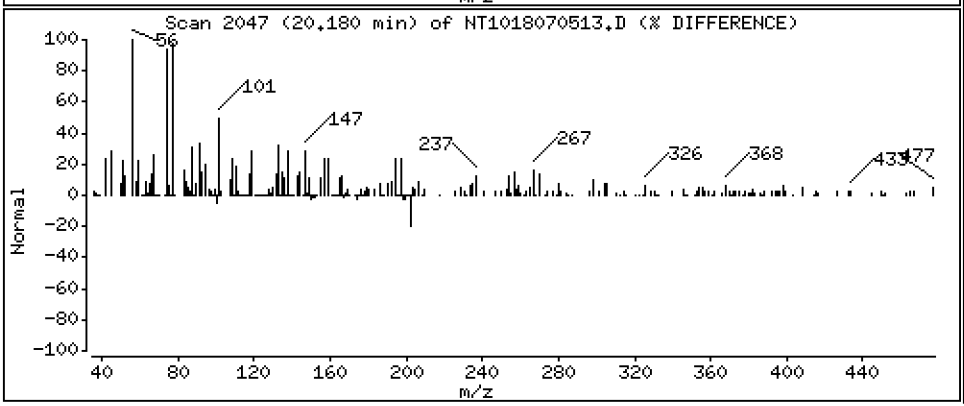












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D

Date : 05-JUL-2018 18:40

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-10

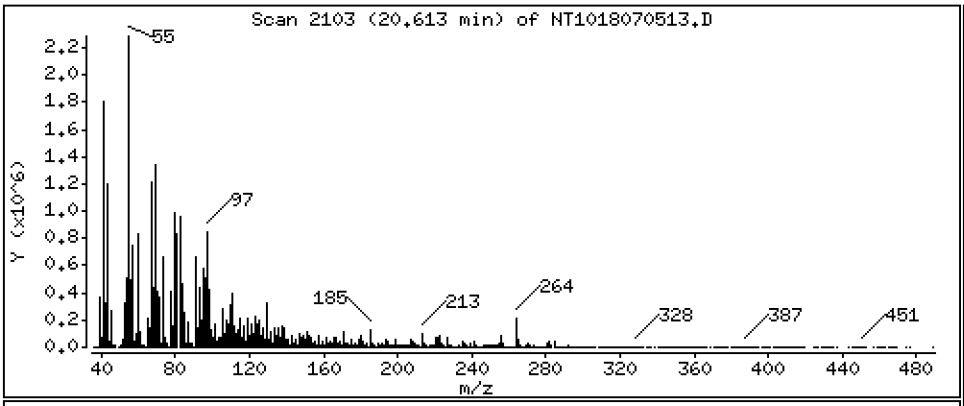
Operator: YZ

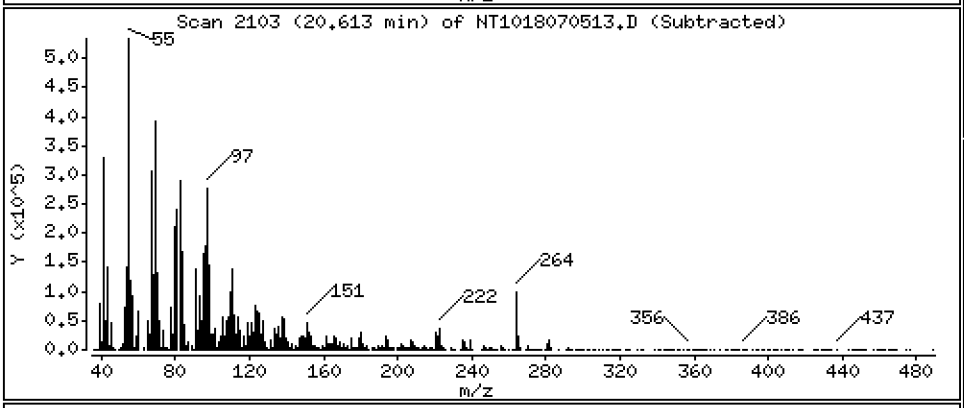
Column phase: ZB-5msi

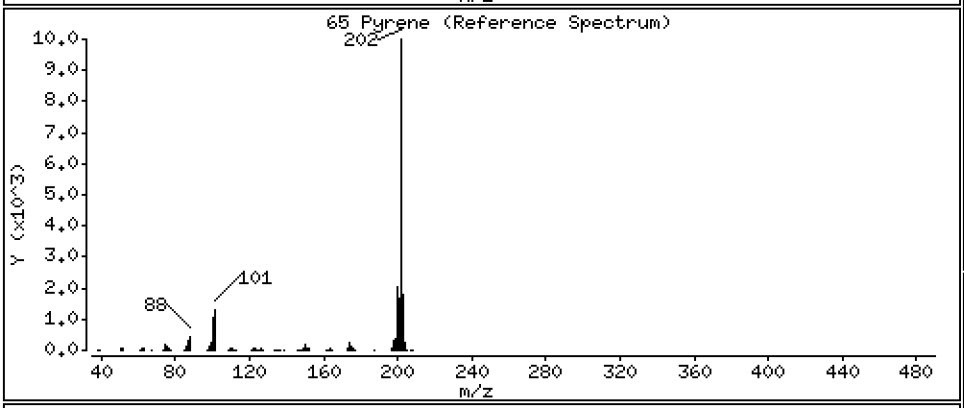
Column diameter: 0.25

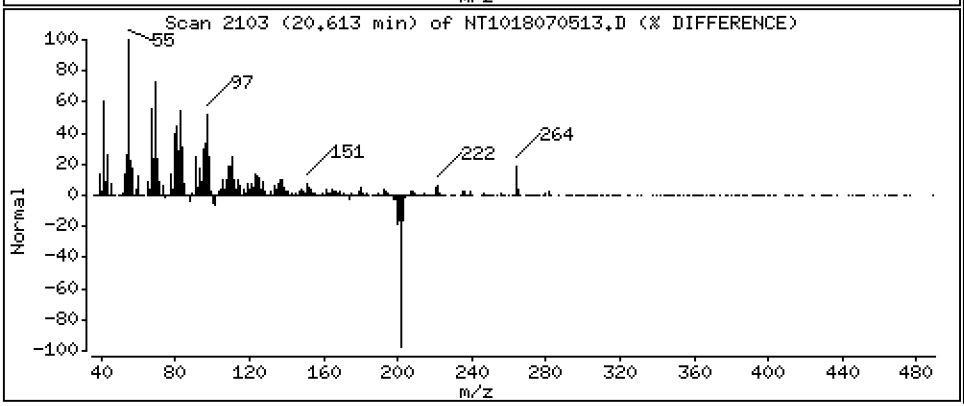
65 Pyrene

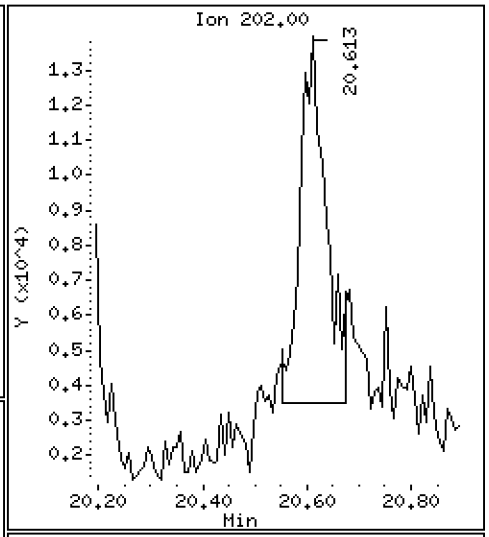
Concentration: 0.2074 ug/mL

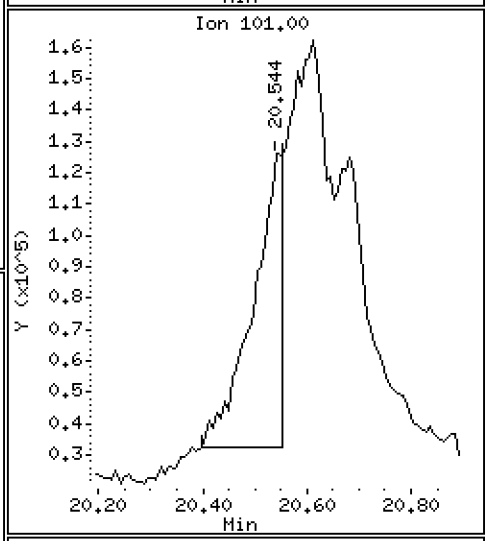


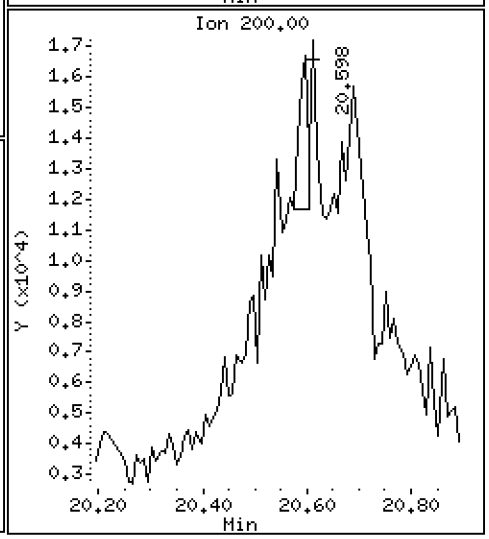












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070513.D
Lab Smp Id: 18F0364-10
Inj Date : 05-JUL-2018 18:40
Operator : YZ Inst ID: nt10.i
Smp Info : 18F0364-10
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	6.573	6.512	(0.755)	123293	4.00787	4.008
$ 2	Phenol-d5	99	8.126	8.088	(0.933)	165214	4.06387	4.064
3	Phenol	94	Compound Not Detected.					
$ 5	2-Chlorophenol-d4	132	8.366	8.335	(0.961)	180842	5.70488	5.705
4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
6	2-Chlorophenol	128	Compound Not Detected.					
7	1,3-Dichlorobenzene	146	Compound Not Detected.					
* 8	1,4-Dichlorobenzene-d4	152	8.706	8.691	(1.000)	89796	4.00000	
9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$ 10	1,2-Dichlorobenzene-d4	152	9.056	9.041	(1.040)	79053	3.52824	3.528
12	1,2-Dichlorobenzene	146	Compound Not Detected.					
11	Benzyl alcohol	108	8.994	8.963	(1.033)	5549	0.27753	0.2775
14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
13	2-Methylphenol	108	9.234	9.196	(1.061)	3661	0.13520	0.1352
17	Hexachloroethane	117	Compound Not Detected.					
16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
15	4-Methylphenol	108	Compound Not Detected.					
$ 18	Nitrobenzene-d5	82	9.778	9.770	(0.877)	130185	4.23653	4.237
19	Nitrobenzene	77	Compound Not Detected.					
20	Isophorone	82	Compound Not Detected.					
21	2-Nitrophenol	139	Compound Not Detected.					
22	2,4-Dimethylphenol	107	Compound Not Detected.					
23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
24	Benzoic acid	105	10.828	10.729	(0.971)	259220	13.1049	13.10(M)
25	2,4-Dichlorophenol	162	Compound Not Detected.					
26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
* 27	Naphthalene-d8	136	11.147	11.131	(1.000)	307791	4.00000	
28	Naphthalene	128	Compound Not Detected.					
29	4-Chloroaniline	127	Compound Not Detected.					
30	Hexachlorobutadiene	225	Compound Not Detected.					
31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
32	2-Methylnaphthalene	142	Compound Not Detected.					
33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS ON-COLUMN	CONCENTRATIONS FINAL	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)	
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.						
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.						
$	36	2-Fluorobiphenyl	172	13.344	13.329	(0.907)	328226	4.41845	4.418	
	37	2-Chloronaphthalene	162	Compound Not Detected.						
	38	2-Nitroaniline	65	Compound Not Detected.						
	39	Dimethylphthalate	163	Compound Not Detected.						
	40	Acenaphthylene	152	14.396	14.381	(0.978)	6500	0.06747	0.06747	
	41	2,6-Dinitrotoluene	165	Compound Not Detected.						
*	42	Acenaphthene-d10	164	14.714	14.698	(1.000)	168378	4.00000		
	43	3-Nitroaniline	138	Compound Not Detected.						
	44	Acenaphthene	153	Compound Not Detected.						
	45	2,4-Dinitrophenol	184	Compound Not Detected.						
	46	Dibenzofuran	168	Compound Not Detected.						
	47	4-Nitrophenol	109	Compound Not Detected.						
	48	2,4-Dinitrotoluene	165	Compound Not Detected.						
	50	Diethylphthalate	149	15.680	15.673	(1.066)	14393	0.21700	0.2170	
	49	Fluorene	166	Compound Not Detected.						
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.						
	52	4-Nitroaniline	138	Compound Not Detected.						
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.						
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.						
$	55	2,4,6-Tribromophenol	330	16.343	16.313	(1.111)	116048	12.7572	12.76	
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.						
	57	Hexachlorobenzene	284	Compound Not Detected.						
	58	Pentachlorophenol	266	Compound Not Detected.						
*	59	Phenanthrene-d10	188	17.711	17.689	(1.000)	343269	4.00000		
	60	Phenanthrene	178	Compound Not Detected.						
	61	Anthracene	178	Compound Not Detected.						
	62	Carbazole	167	Compound Not Detected.						
	63	Di-n-butylphthalate	149	Compound Not Detected.						
	64	Fluoranthene	202	20.180	20.118	(1.000)	17378	0.10287	0.1029(H)	
	65	Pyrene	202	20.613	20.544	(0.903)	36516	0.20741	0.2074(MH)	
$	66	Terphenyl-d14	244	20.922	20.853	(1.000)	465569	4.18349	4.183	
	67	Butylbenzylphthalate	149	Compound Not Detected.						
	68	Benzo(a)anthracene	228	Compound Not Detected.						
*	69	Chrysene-d12	240	22.835	22.735	(1.000)	424241	4.00000	(M)	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.						
	71	Chrysene	228	Compound Not Detected.						
	72	bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.						
*	134	Di-n-octylphthalate-d4	153	23.880	23.811	(1.000)	652218	4.00000		
	73	Di-n-octylphthalate	149	Compound Not Detected.						
	74	Benzo(b)fluoranthene	252	Compound Not Detected.						
	75	Benzo(k)fluoranthene	252	Compound Not Detected.						
	76	Benzo(a)pyrene	252	Compound Not Detected.						
*	77	Perylene-d12	264	25.266	25.166	(1.000)	385320	4.00000		
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.						
	90	N-Nitrosodimethylamine	74	Compound Not Detected.						
	91	Aniline	93	Compound Not Detected.						
	93	Benzidine	184	Compound Not Detected.						
	103	Pyridine	79	Compound Not Detected.						
	105	1-methylnaphthalene	142	Compound Not Detected.						
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.						

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	Compound Not Detected.					
99	Perylene	252	Compound Not Detected.					
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070513.D
Lab Smp Id: 18F0364-10
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	89796	-18.88
27 Naphthalene-d8	393946	196973	787892	307791	-21.87
42 Acenaphthene-d10	203210	101605	406420	168378	-17.14
59 Phenanthrene-d10	403506	201753	807012	343269	-14.93
69 Chrysene-d12	354618	177309	709236	424241	19.63
134 Di-n-octylphthala	800232	400116	1600464	652218	-18.50
77 Perylene-d12	378948	189474	757896	385320	1.68

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.71	0.17
27 Naphthalene-d8	11.13	10.63	11.63	11.15	0.14
42 Acenaphthene-d10	14.70	14.20	15.20	14.71	0.10
59 Phenanthrene-d10	17.69	17.19	18.19	17.71	0.13
69 Chrysene-d12	22.74	22.24	23.24	22.84	0.44
134 Di-n-octylphthala	23.81	23.31	24.31	23.88	0.29
77 Perylene-d12	25.17	24.67	25.67	25.27	0.40

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070513.D

Lab ID: 18F0364-10
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 18:40

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

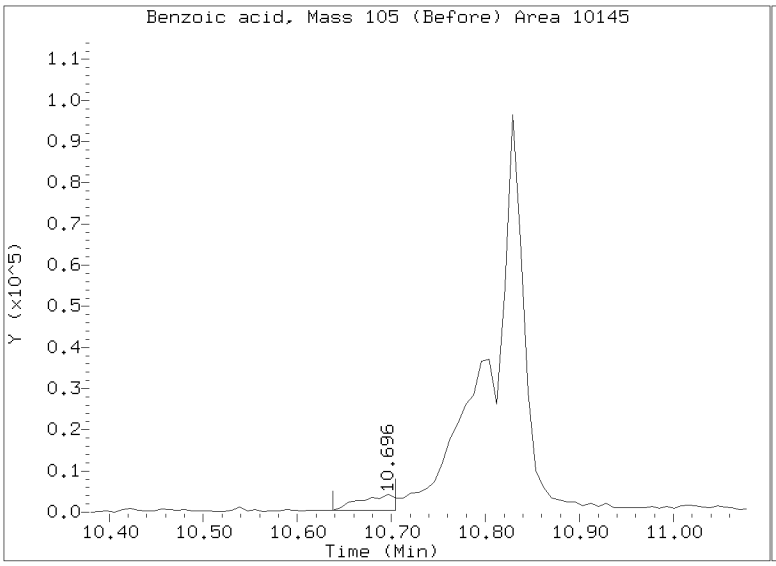
NONE

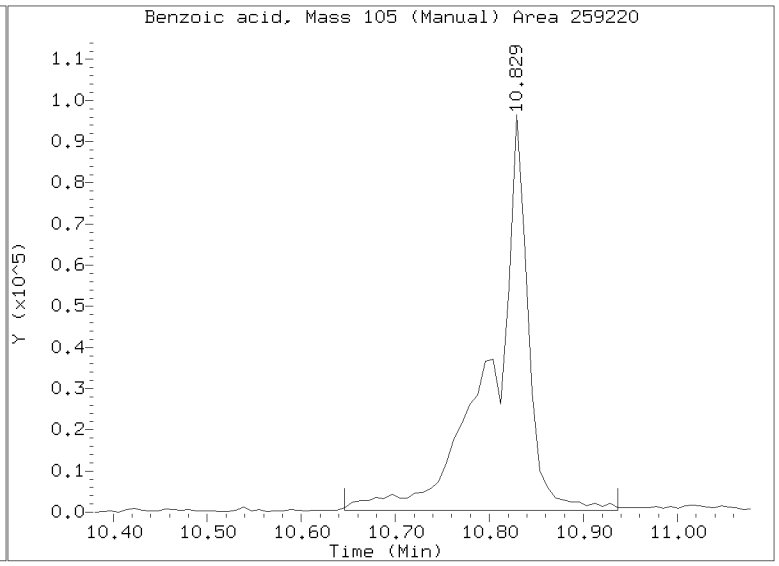
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

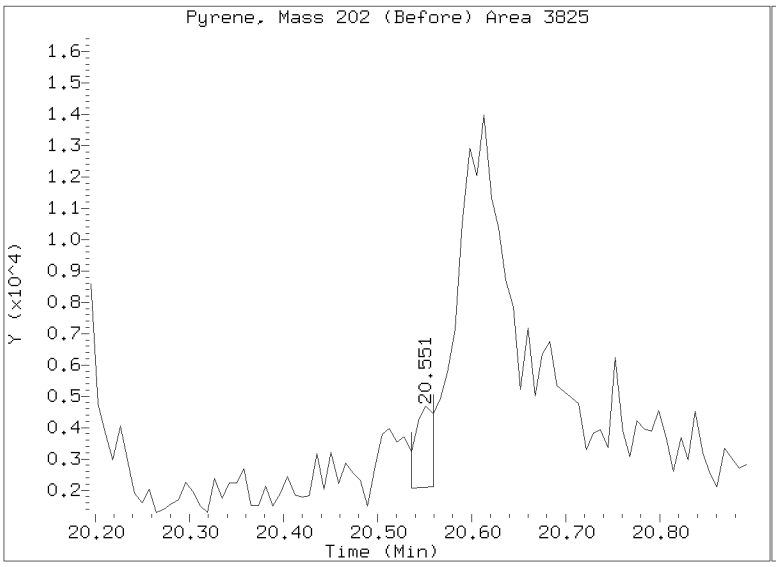
* Only compounds listed in the work order have been verified by the analyst *

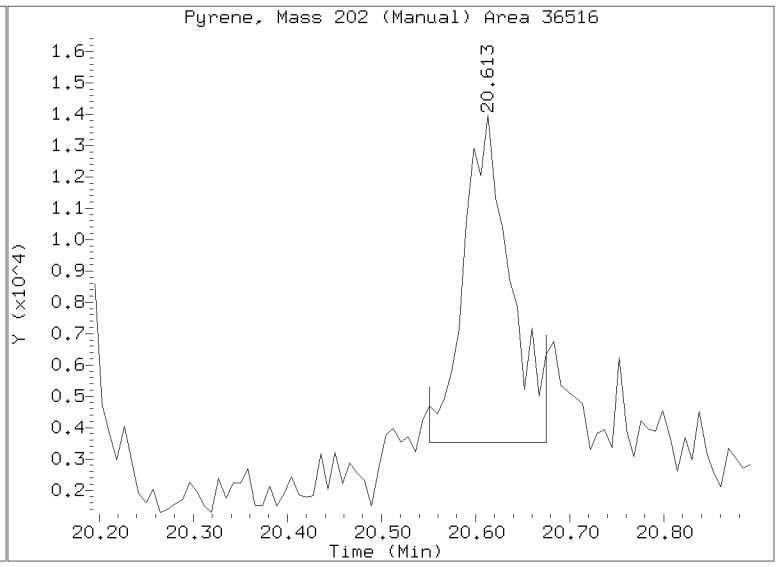
Quant Ion Manual Peak Adjustment Report

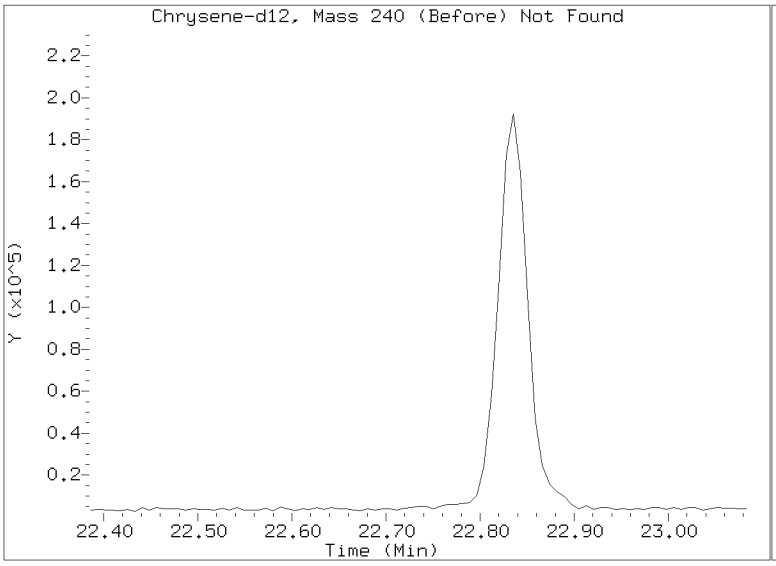
Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070513.D
Injection Date: 05-JUL-2018 18:40
Lab ID:18F0364-10 Client ID:
Report Date: 07/09/2018 10:17

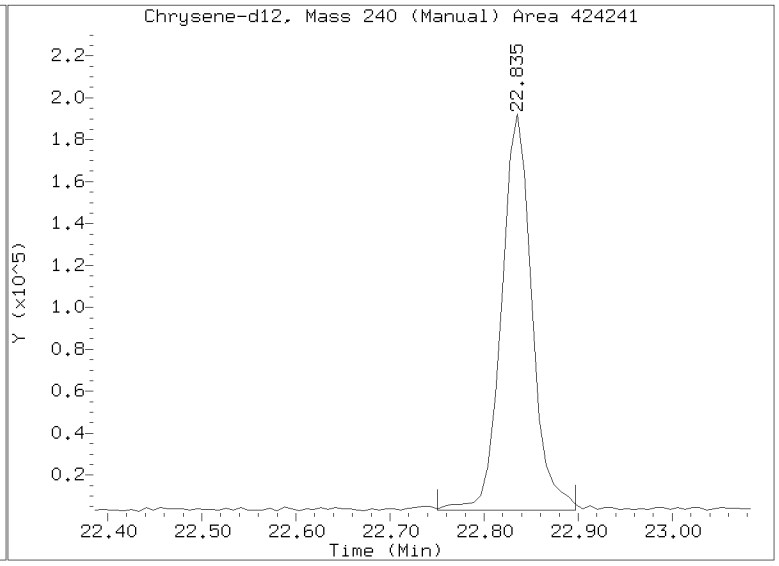












LDW18-S2-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

Semivolatiles (20 ug/kg - 0.2 ug/L SepF)

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-11	SDG:	18F0364
Sampled:	05/15/18 10:45	Prepared:	06/29/18 15:30	File ID:	NT1018070514.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 19:16
Batch:	BGF0720	Sequence:	SGG0051	Initial/Final:	10 g Wet / 1 mL
Instrument:	NT10	Column:	ZB-5MSi	Calibration:	BE00068

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
118-74-1	Hexachlorobenzene	1	20.0	U		20.0
87-86-5	Pentachlorophenol	1	100	U		100
86-74-8	Carbazole	1	20.0	U		20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	50.0	U		50.0

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	326	43.5	20 - 130	
Phenol-d5	750.00	340	45.3	20 - 130	
2-Chlorophenol-d4	750.00	450	60.0	20 - 130	
1,2-Dichlorobenzene-d4	500.00	285	56.9	20 - 130	
Nitrobenzene-d5	500.00	367	73.3	20 - 130	
2-Fluorobiphenyl	500.00	381	76.2	20 - 130	
2,4,6-Tribromophenol	750.00	1070	142	20 - 130	*,Q
p-Terphenyl-d14	500.00	424	84.8	20 - 130	

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

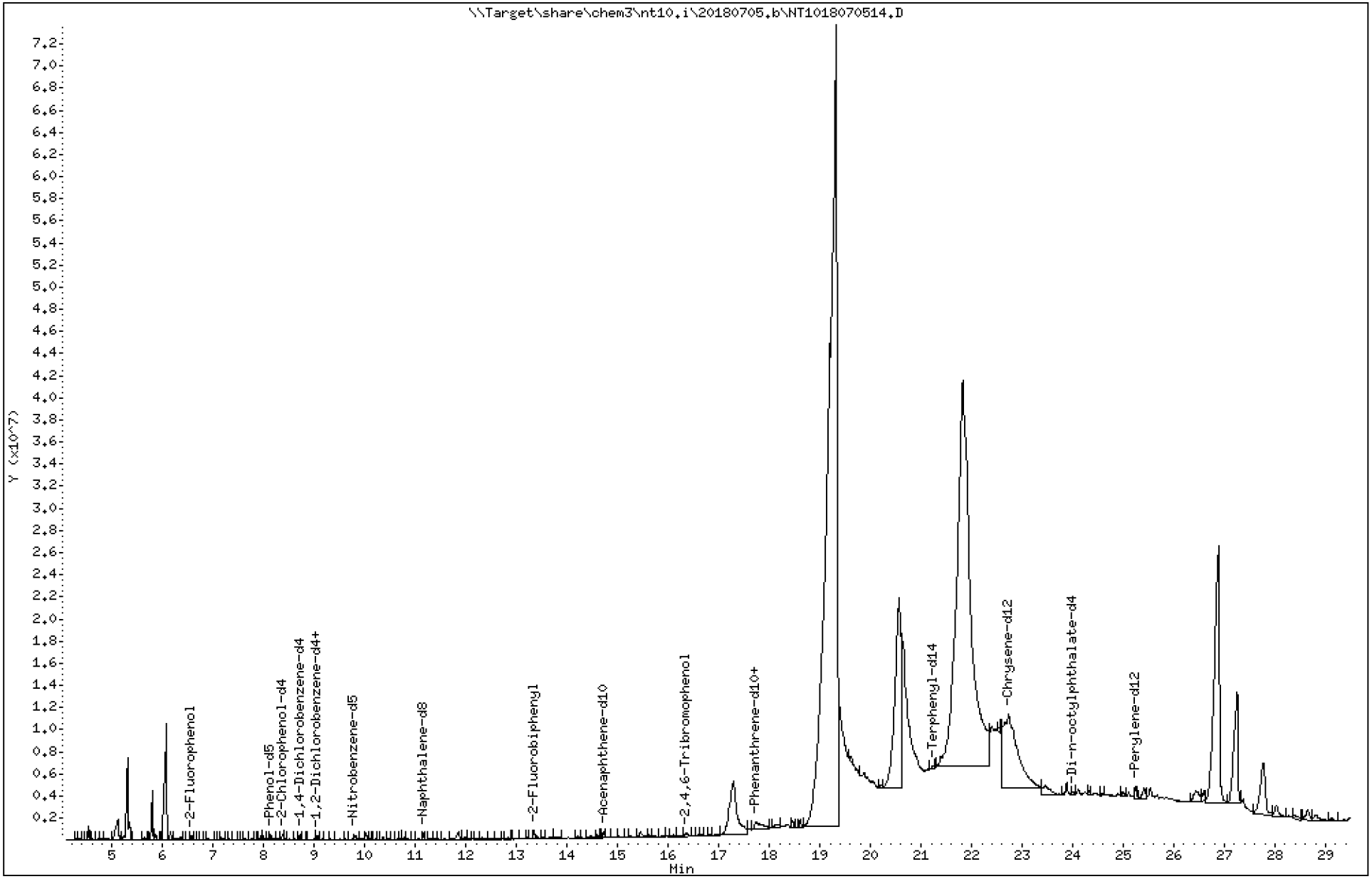
Instrument: nt10.i

Sample Info: 18F0364-11

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

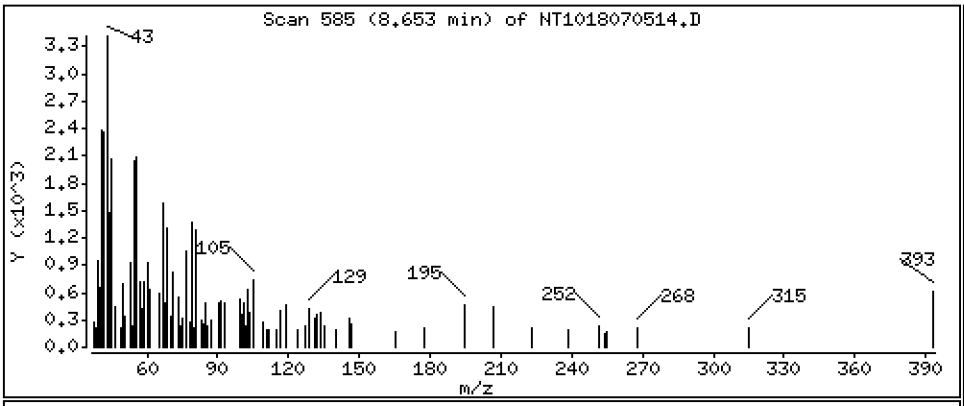
Operator: YZ

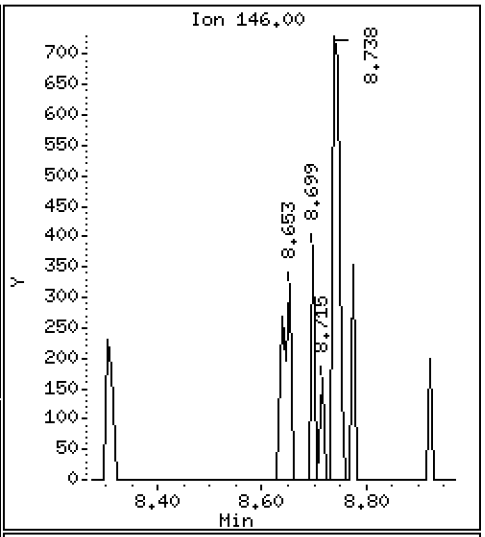
Column phase: ZB-5msi

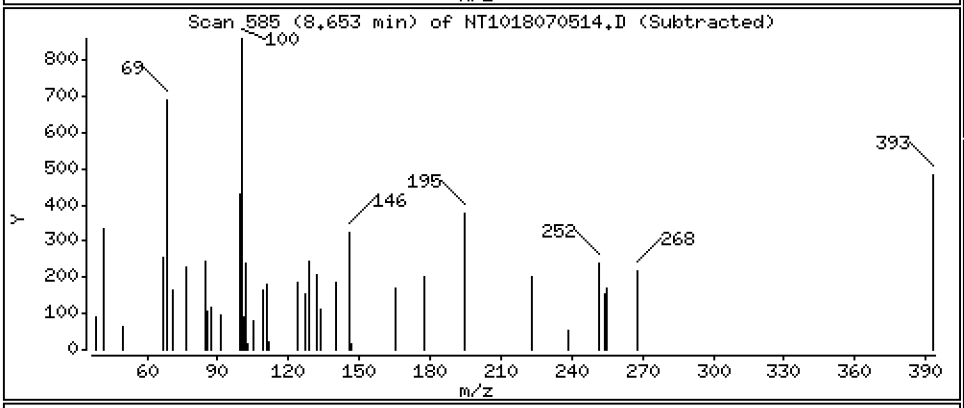
Column diameter: 0.25

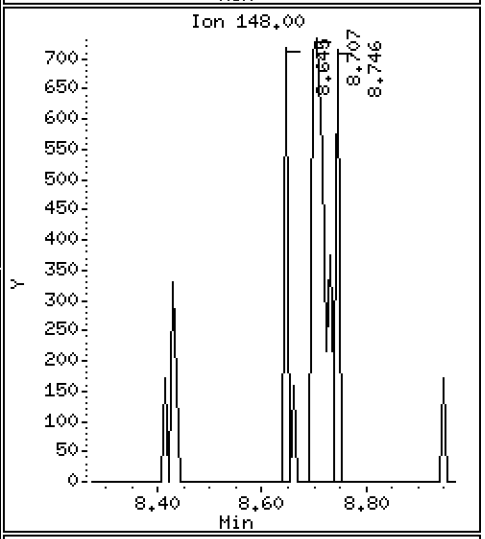
7 1,3-Dichlorobenzene

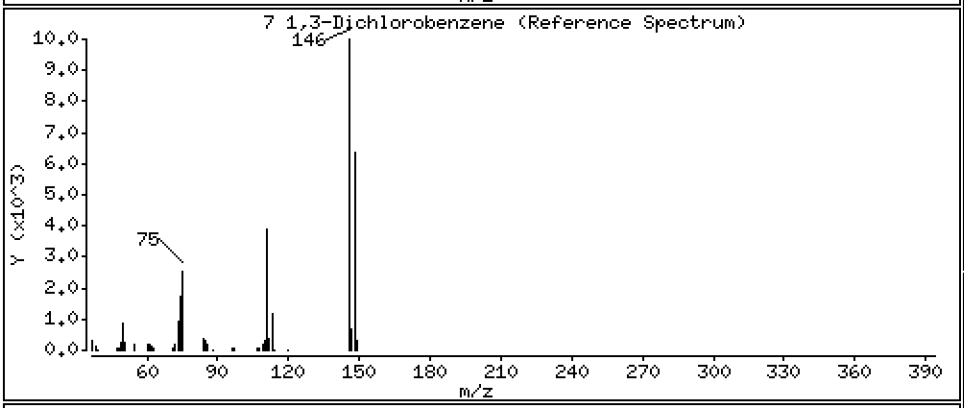
Concentration: 0.01022 ug/mL

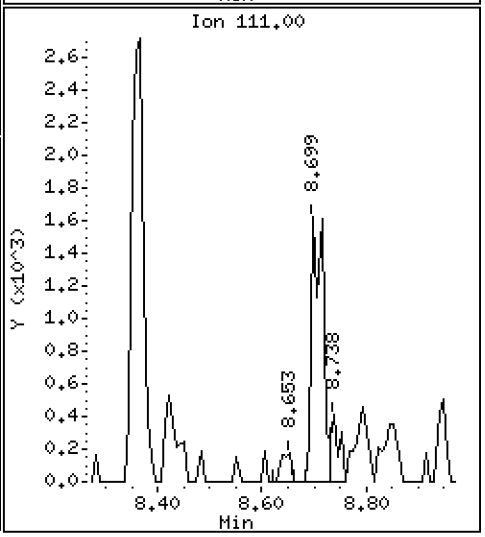


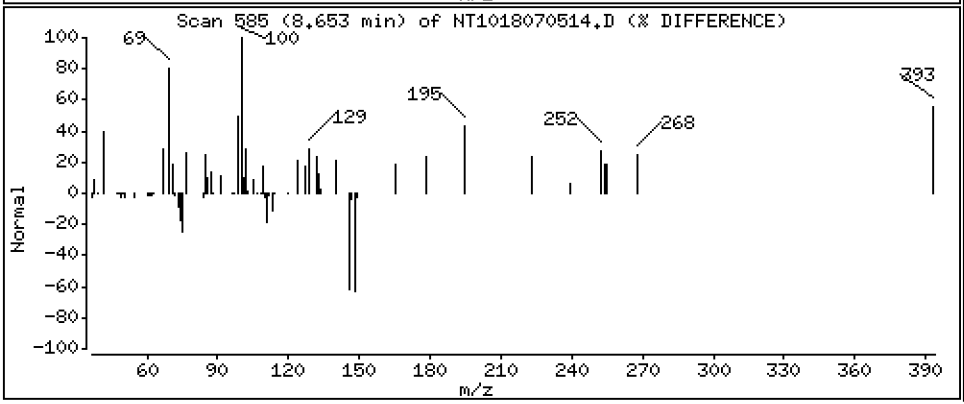












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

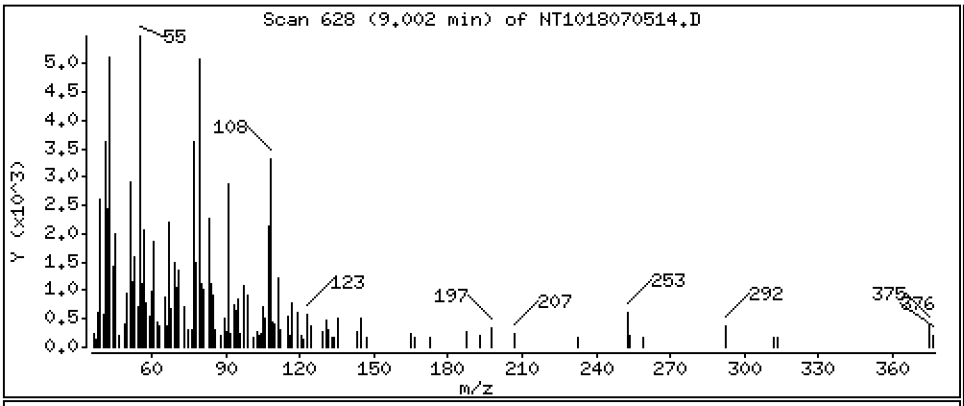
Operator: YZ

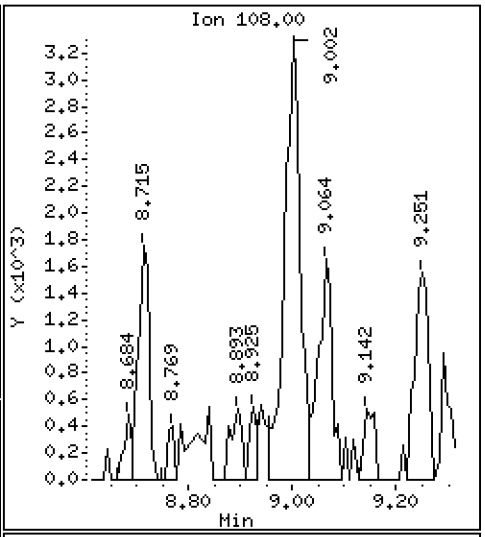
Column phase: ZB-5msi

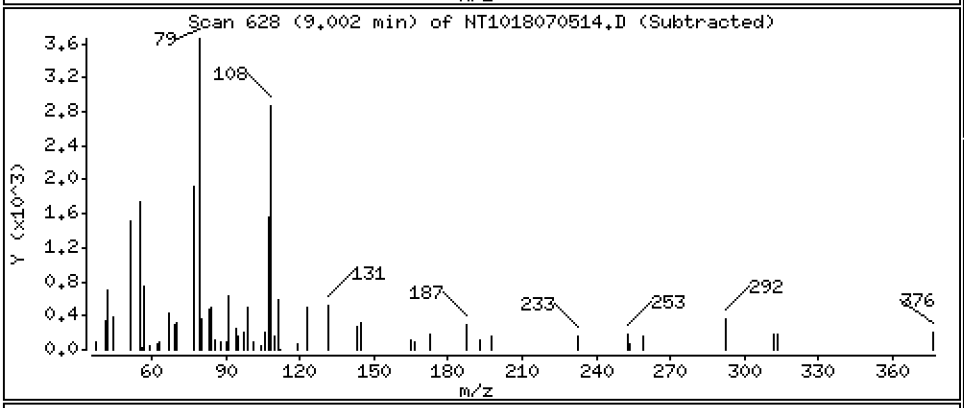
Column diameter: 0.25

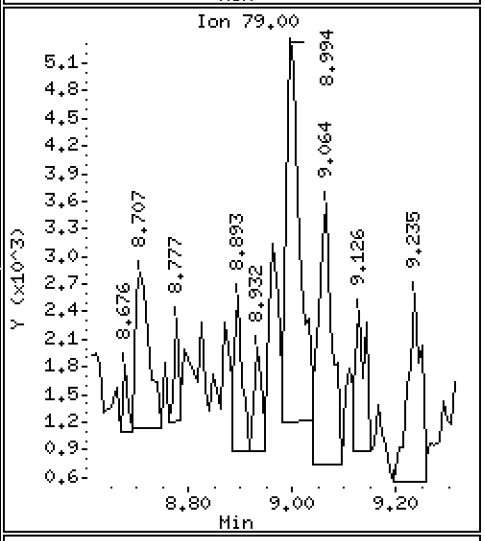
11 Benzyl alcohol

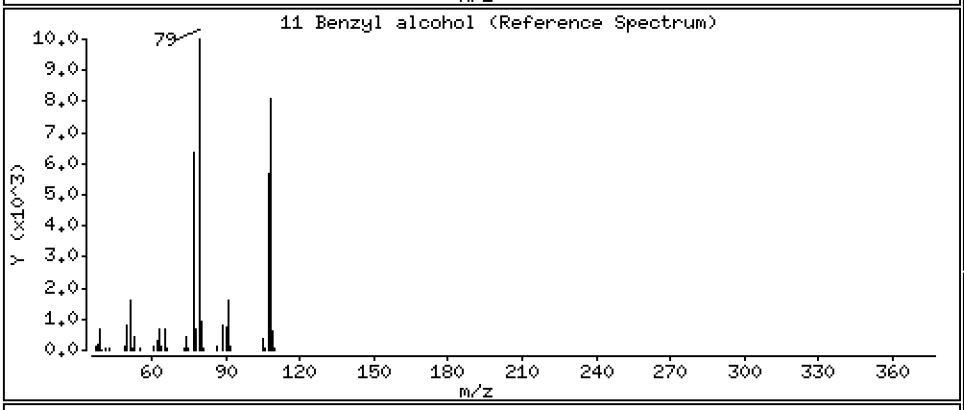
Concentration: 0.3401 ug/mL

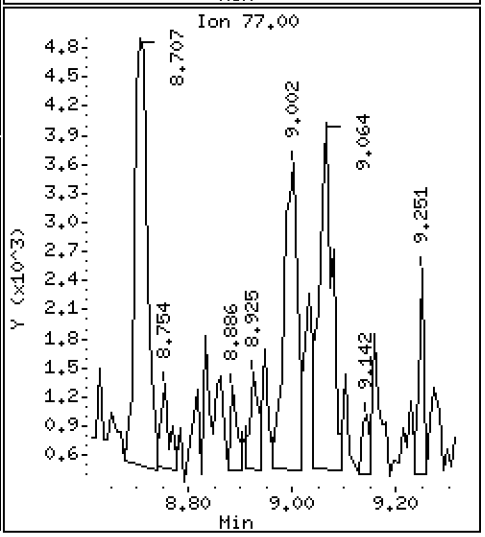


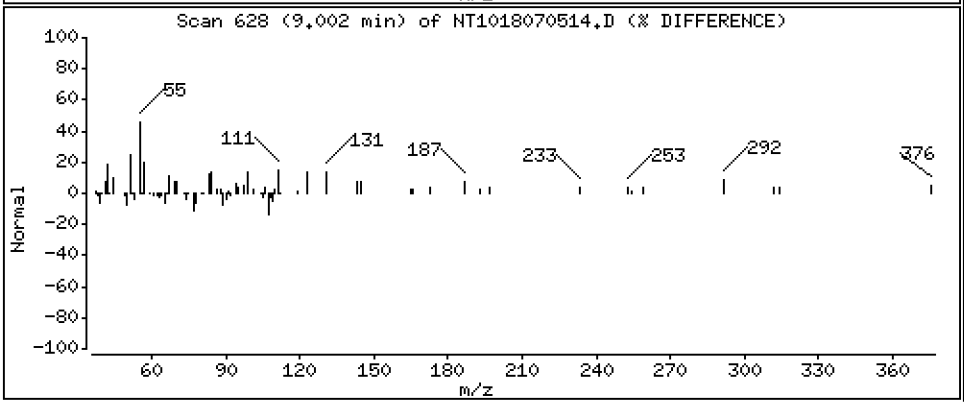












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

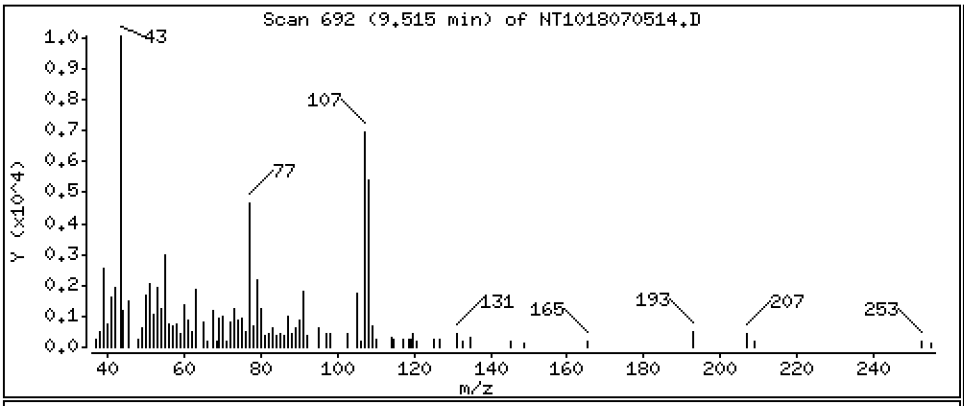
Operator: YZ

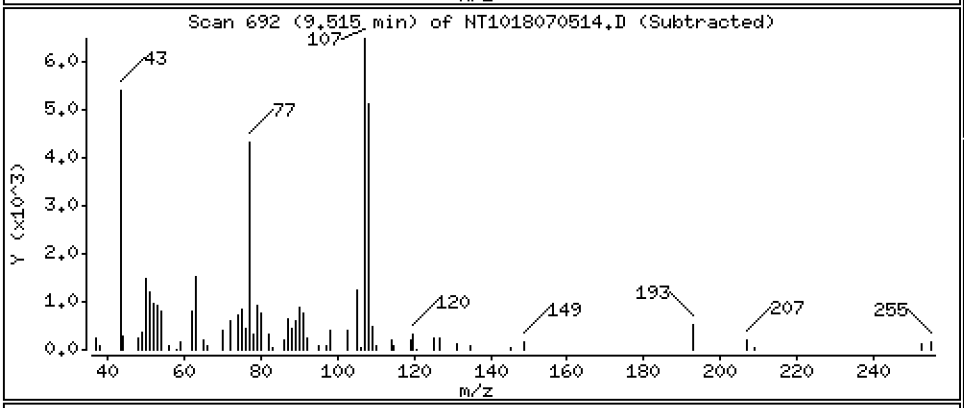
Column phase: ZB-5msi

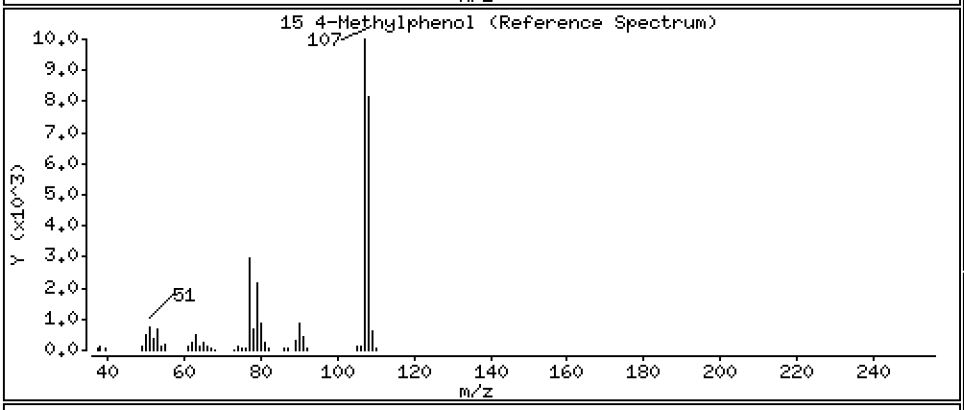
Column diameter: 0.25

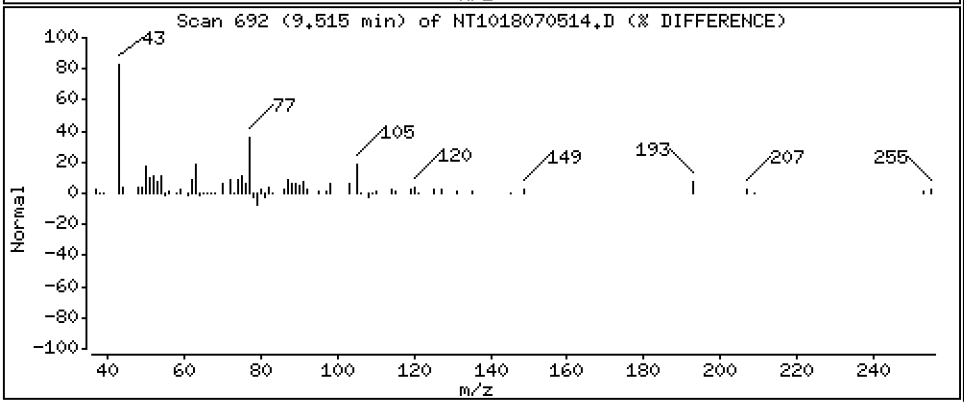
15 4-Methylphenol

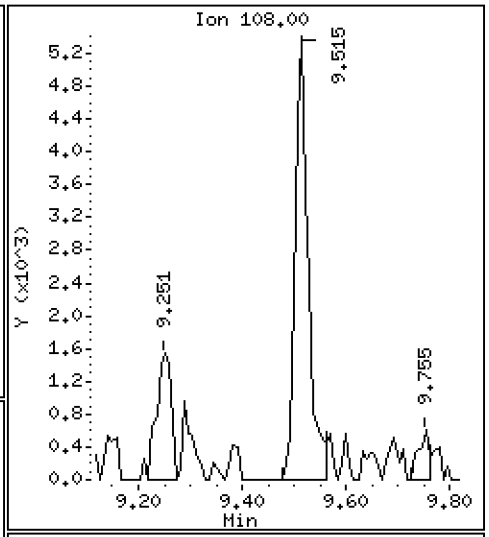
Concentration: 0.3163 ug/mL

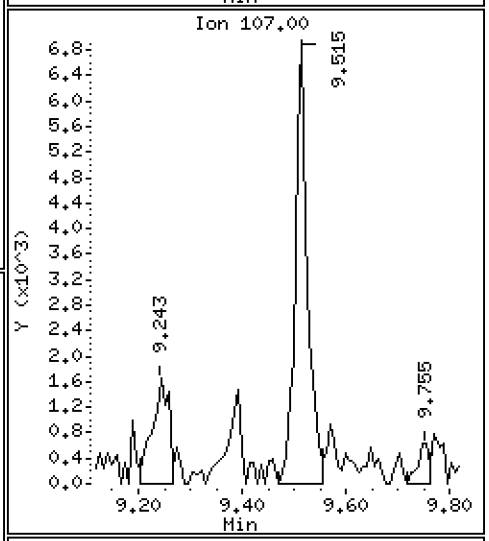


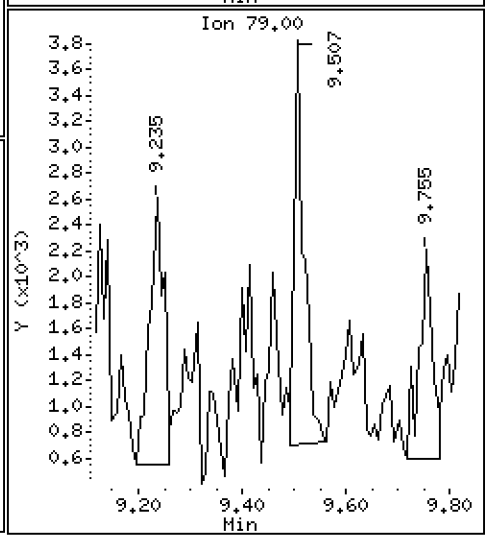












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

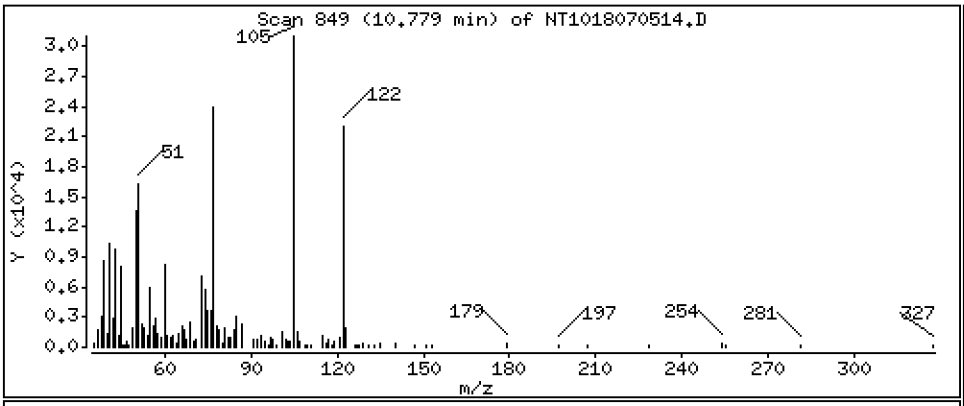
Operator: YZ

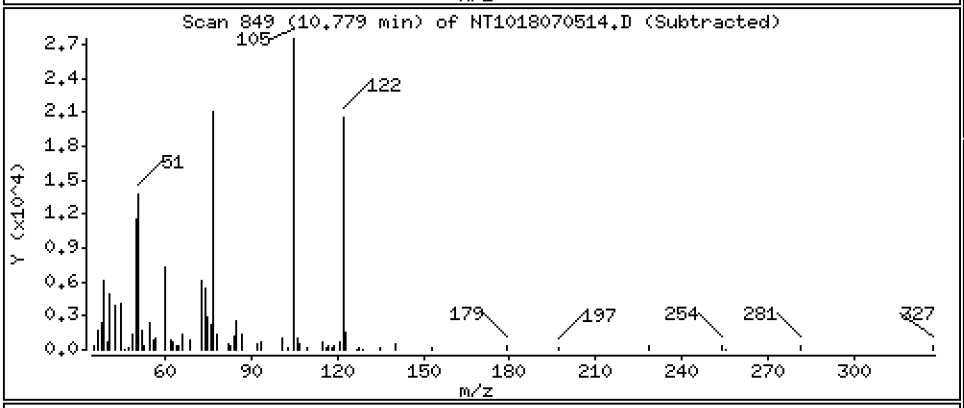
Column phase: ZB-5msi

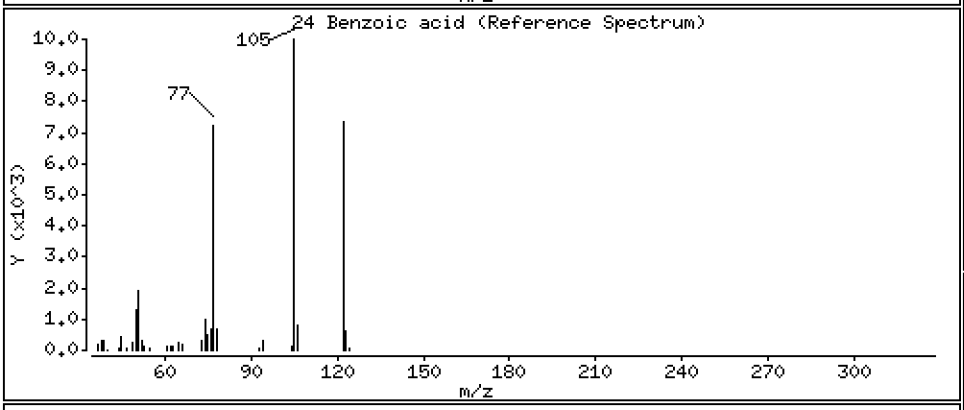
Column diameter: 0.25

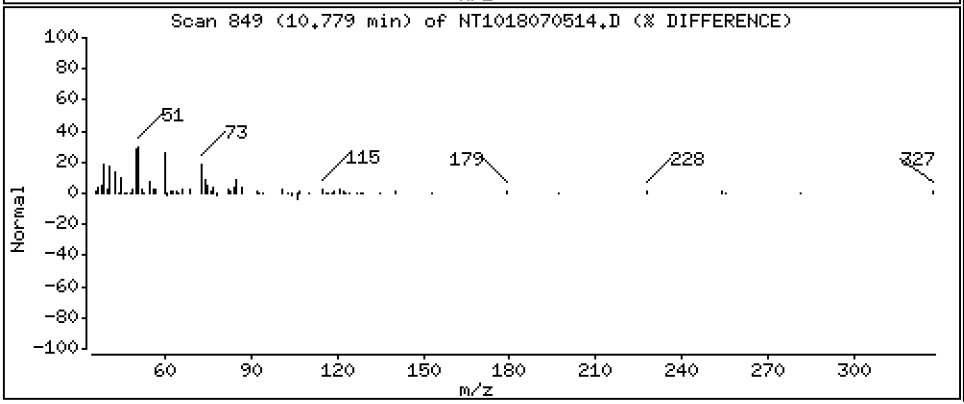
24 Benzoic acid

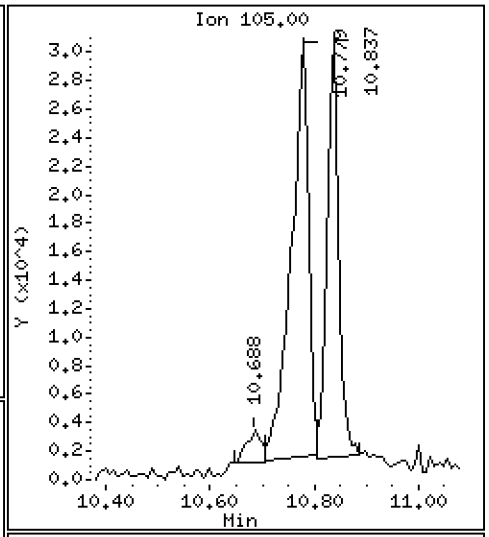
Concentration: 3.273 ug/mL

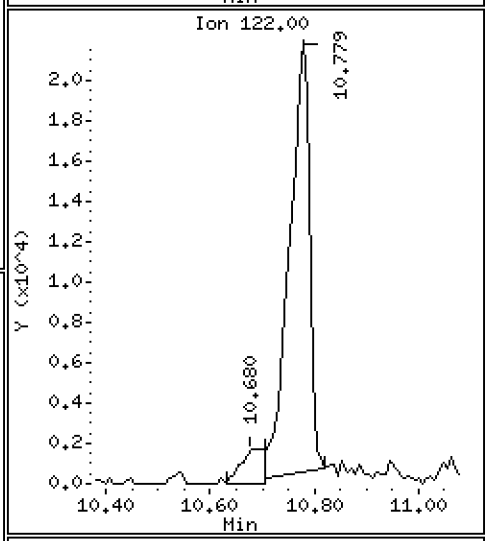


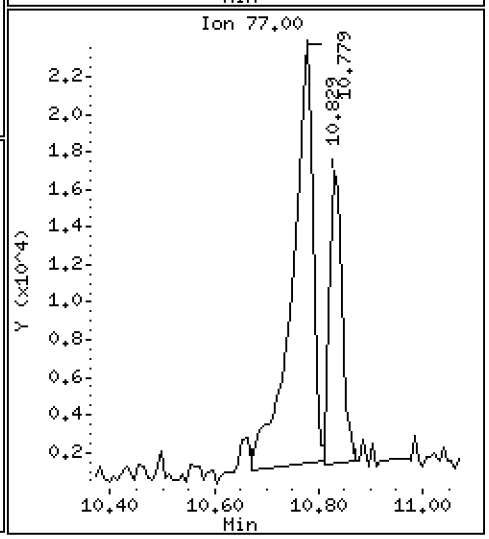












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

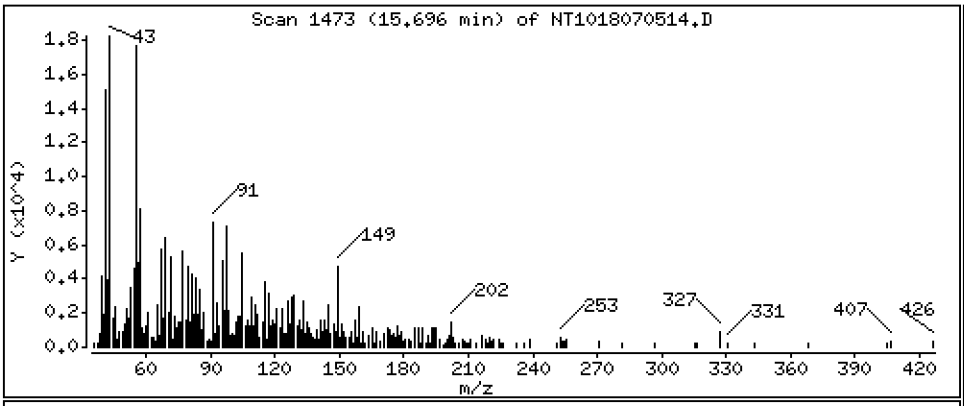
Operator: YZ

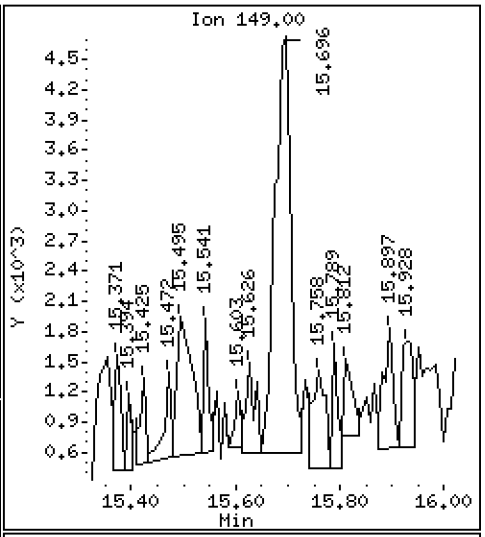
Column phase: ZB-5msi

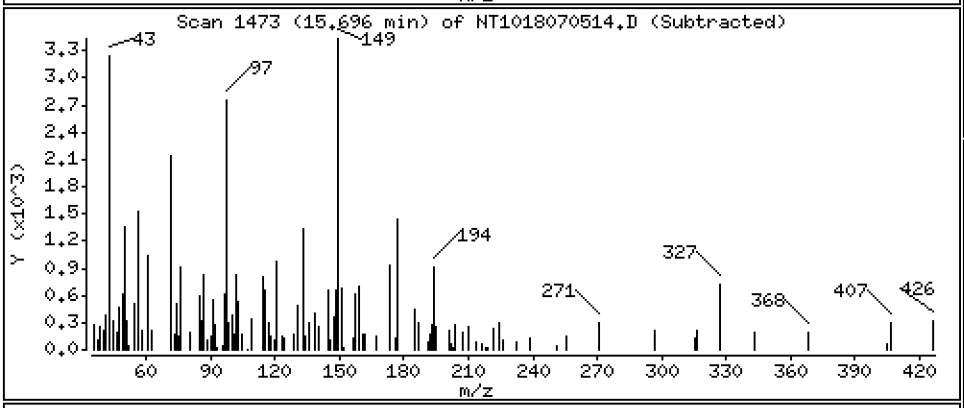
Column diameter: 0.25

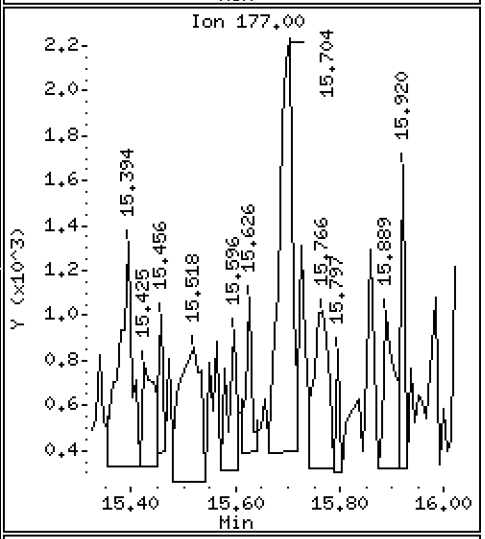
50 Diethylphthalate

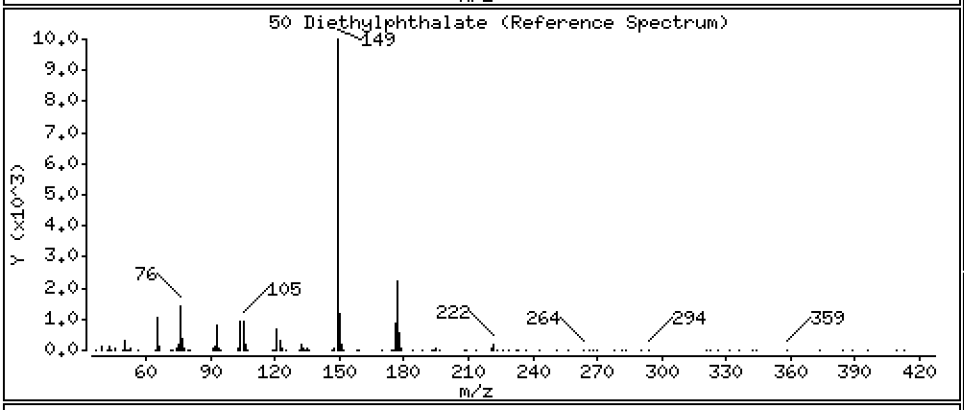
Concentration: 0.1167 ug/mL

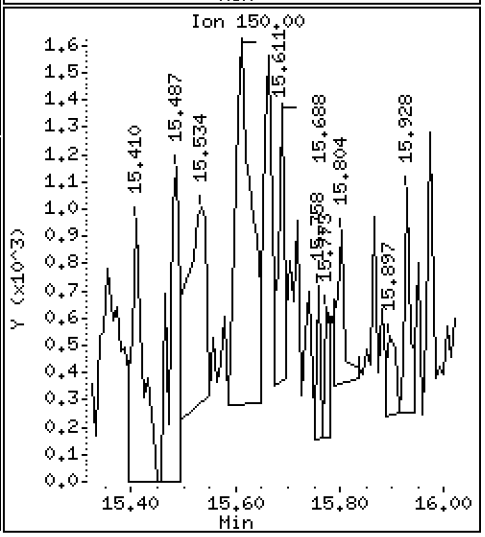


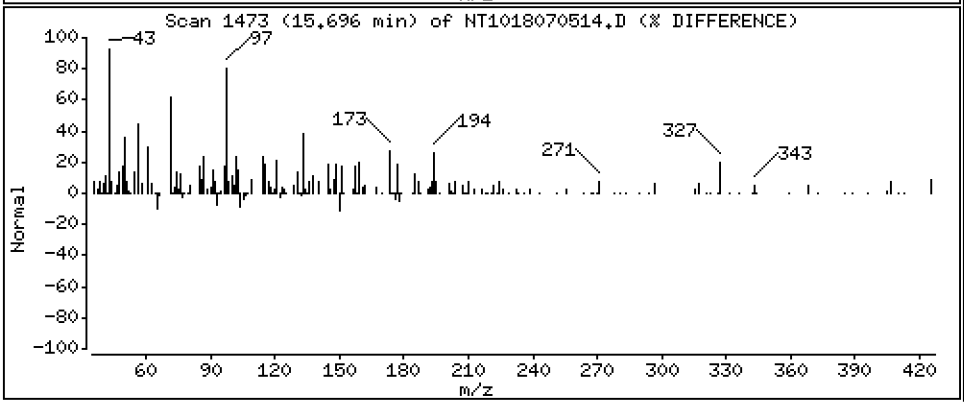












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

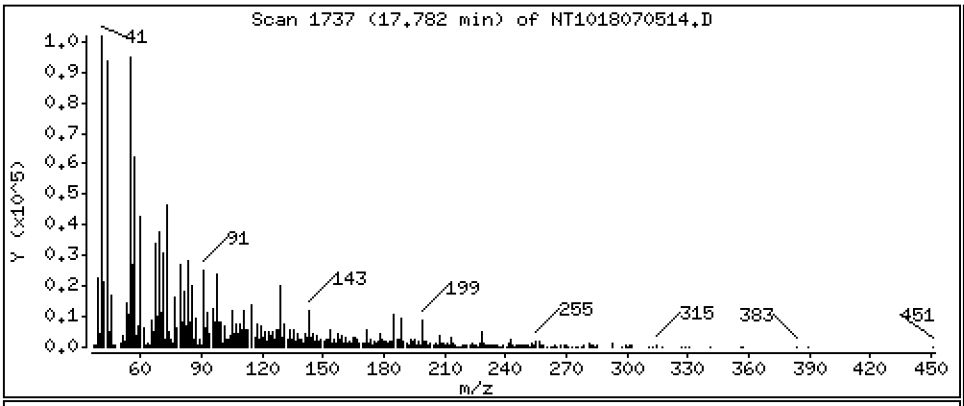
Operator: YZ

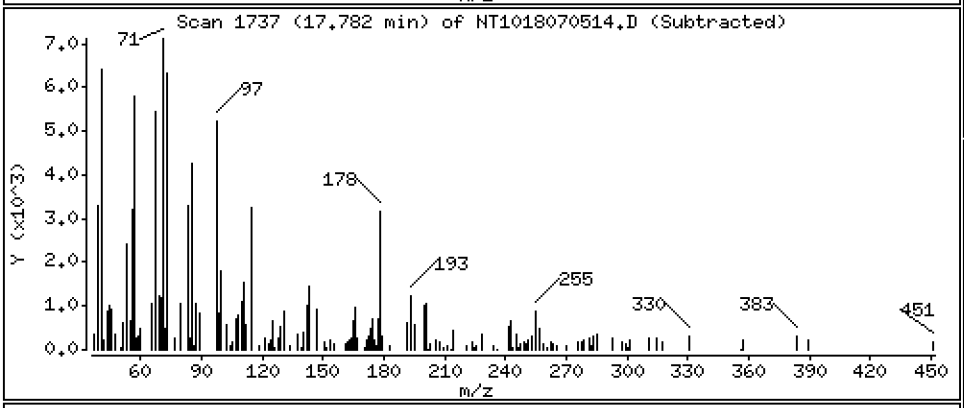
Column phase: ZB-5msi

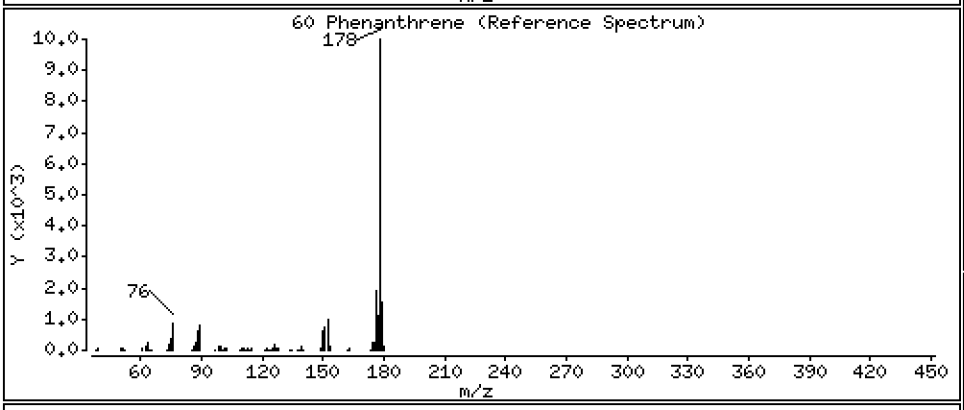
Column diameter: 0.25

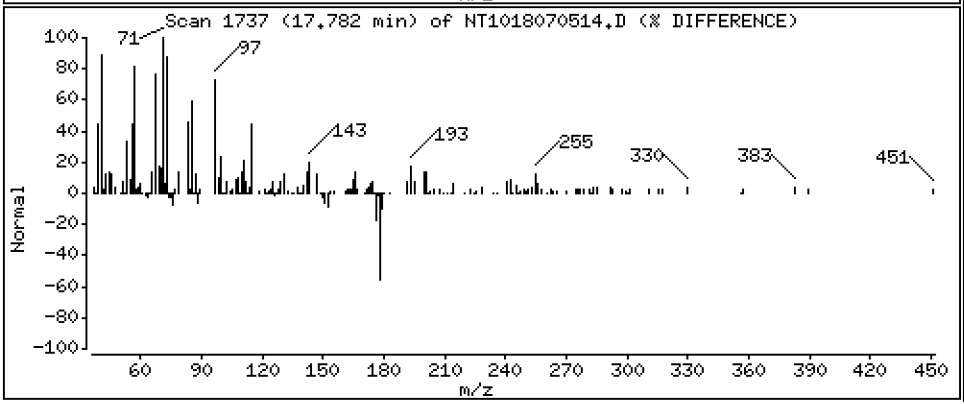
60 Phenanthrene

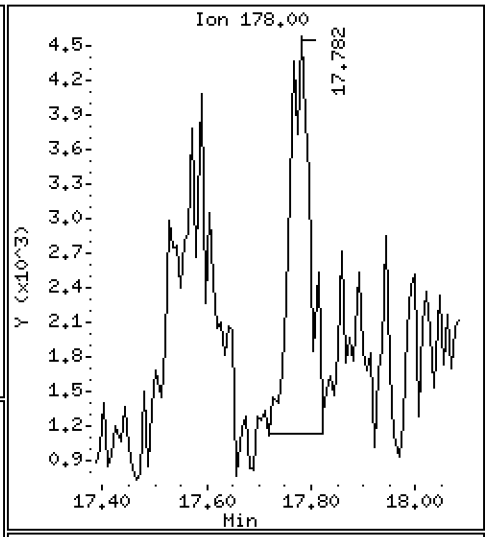
Concentration: 0.1004 ug/mL

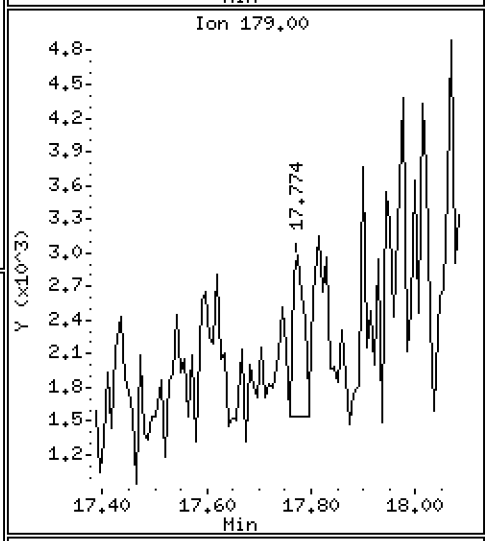


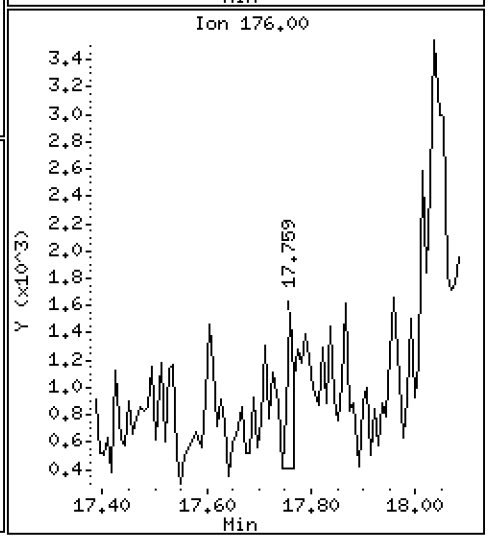












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

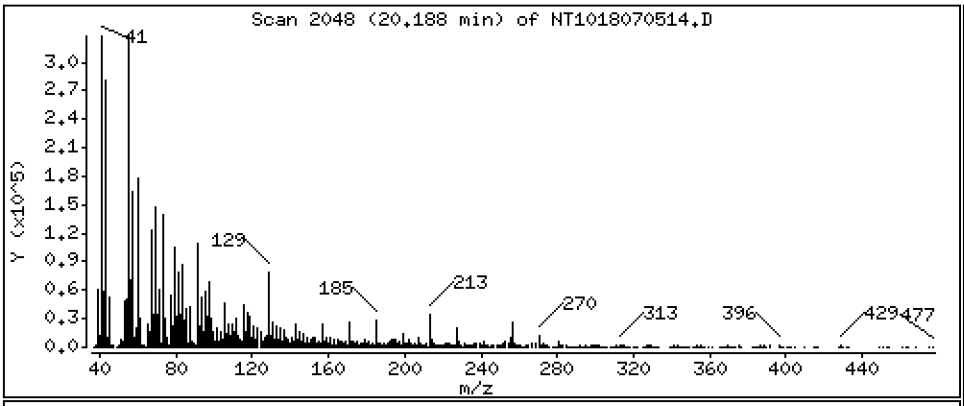
Operator: YZ

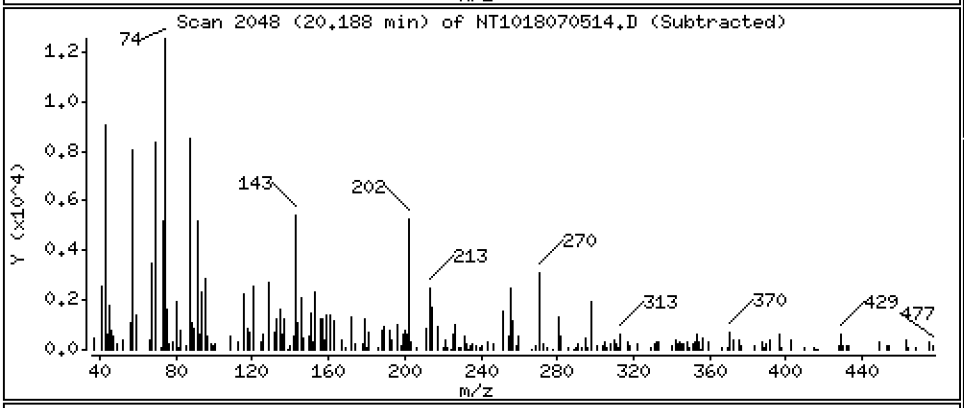
Column phase: ZB-5msi

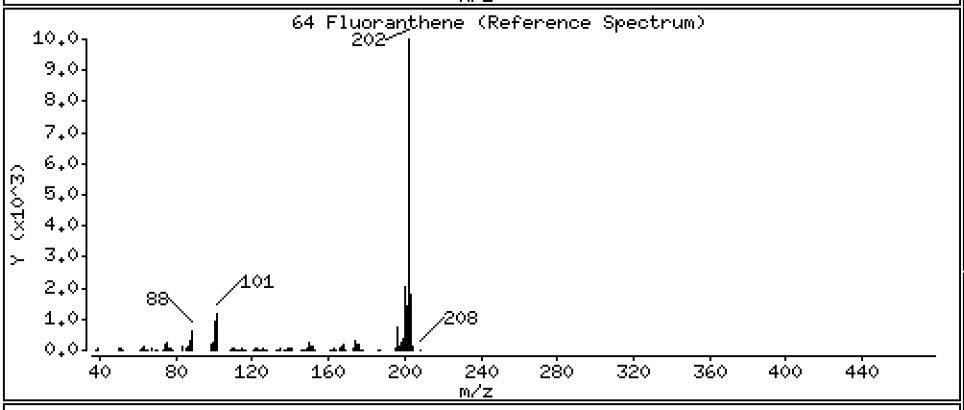
Column diameter: 0.25

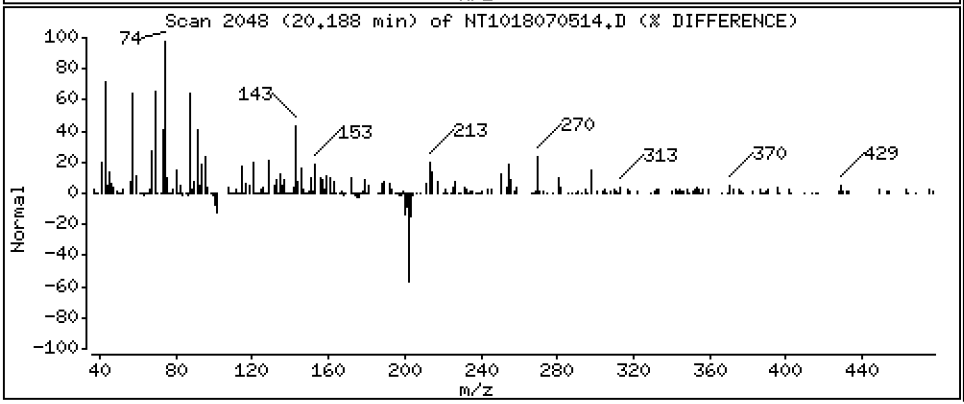
64 Fluoranthene

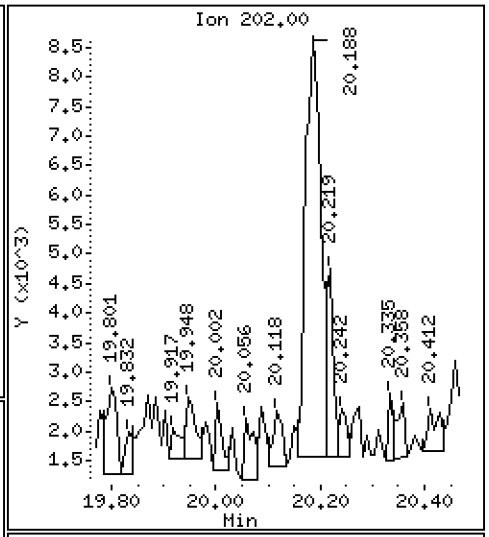
Concentration: 0.08516 ug/mL

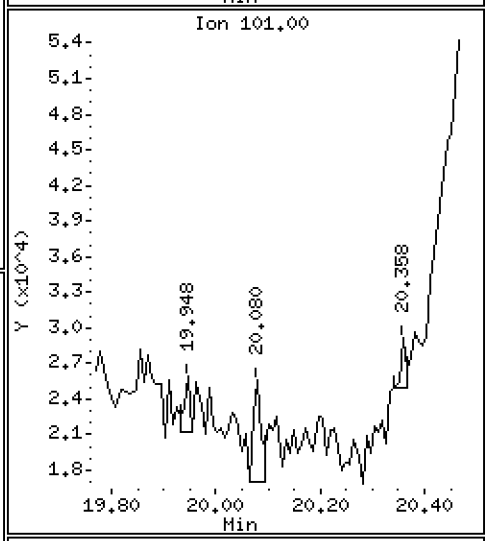


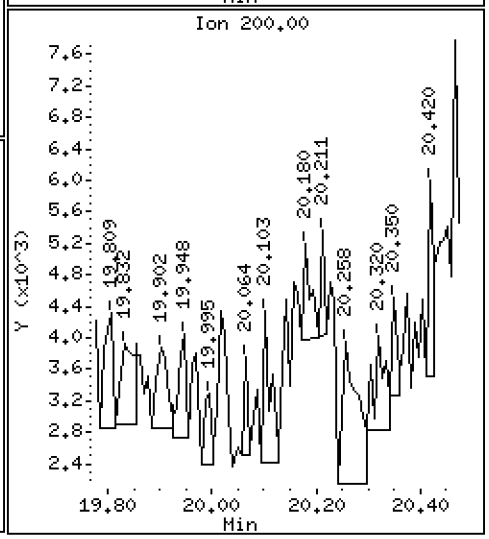












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D

Date : 05-JUL-2018 19:16

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-11

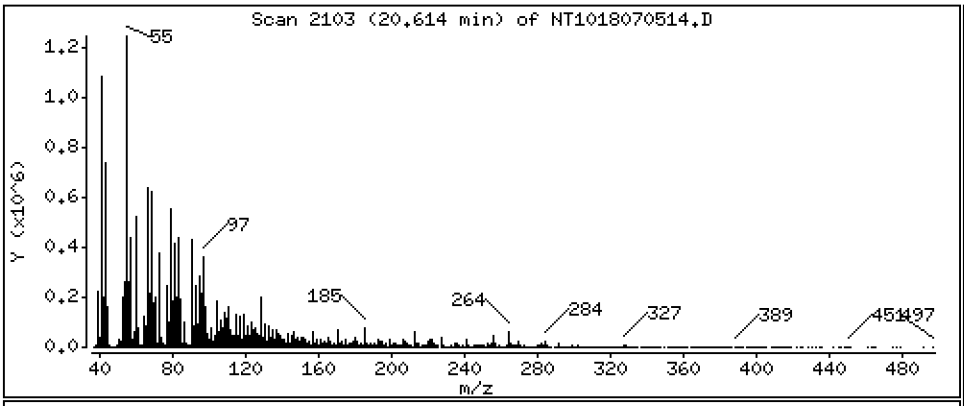
Operator: YZ

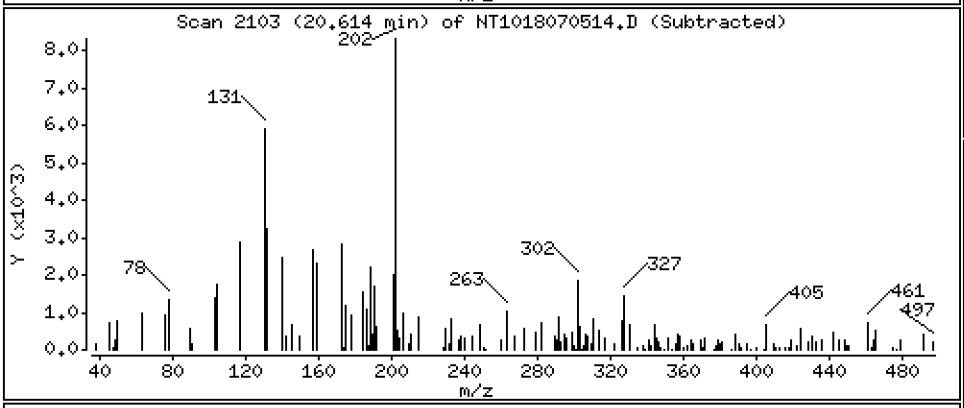
Column phase: ZB-5msi

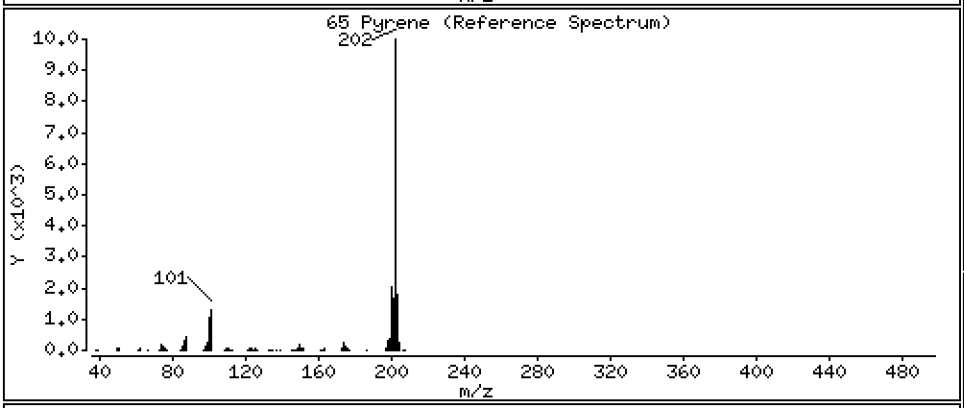
Column diameter: 0.25

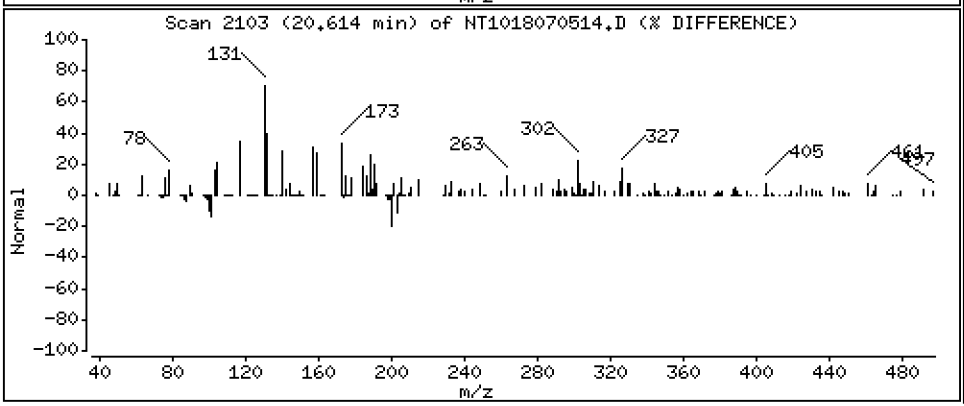
65 Pyrene

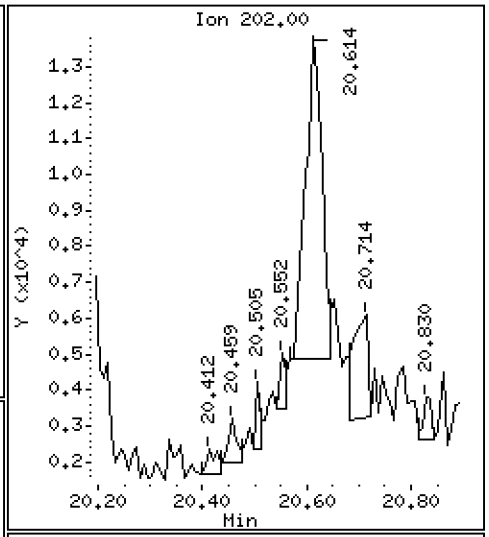
Concentration: 0.1095 ug/mL

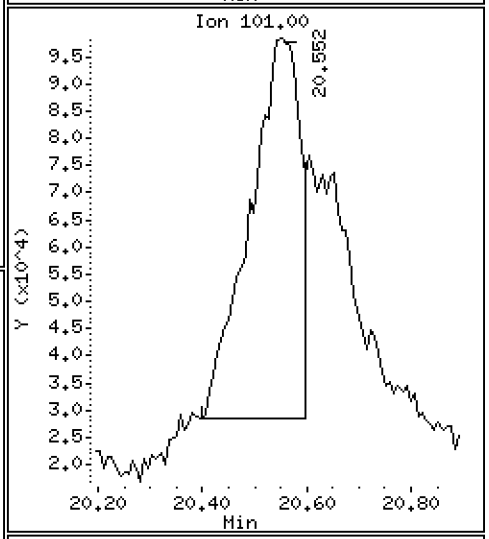


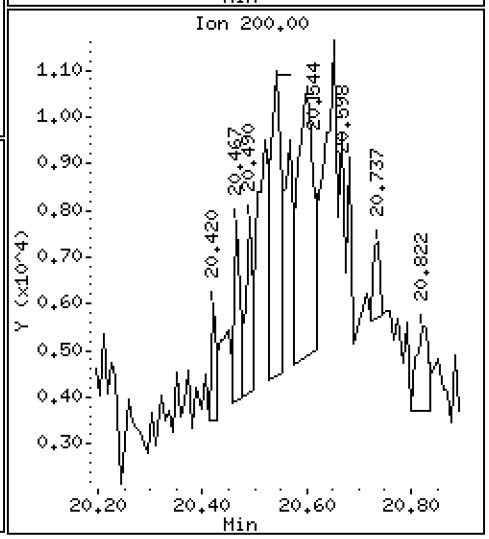












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070514.D
Lab Smp Id: 18F0364-11
Inj Date : 05-JUL-2018 19:16
Operator : YZ Inst ID: nt10.i
Smp Info : 18F0364-11
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)	
$	1	2-Fluorophenol	112	6.566	6.512	(0.754)	108552	3.26396	3.264	
$	2	Phenol-d5	99	8.134	8.088	(0.934)	149264	3.39609	3.396	
	3	Phenol	94	Compound Not Detected.						
$	5	2-Chlorophenol-d4	132	8.366	8.335	(0.961)	154303	4.50250	4.502	
	4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.						
	6	2-Chlorophenol	128	Compound Not Detected.						
	7	1,3-Dichlorobenzene	146	8.652	8.622	(0.994)	366	0.01022	0.01022	
*	8	1,4-Dichlorobenzene-d4	152	8.707	8.691	(1.000)	97079	4.00000		(H)
	9	1,4-Dichlorobenzene	146	Compound Not Detected.						
$	10	1,2-Dichlorobenzene-d4	152	9.056	9.041	(1.040)	68966	2.84712	2.847	
	12	1,2-Dichlorobenzene	146	Compound Not Detected.						
	11	Benzyl alcohol	108	9.002	8.963	(1.034)	7352	0.34012	0.3401	
	14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.						
	13	2-Methylphenol	108	Compound Not Detected.						
	17	Hexachloroethane	117	Compound Not Detected.						
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.						
	15	4-Methylphenol	108	9.514	9.468	(1.093)	9831	0.31626	0.3163	
$	18	Nitrobenzene-d5	82	9.786	9.770	(0.877)	119861	3.66745	3.667	
	19	Nitrobenzene	77	Compound Not Detected.						
	20	Isophorone	82	Compound Not Detected.						
	21	2-Nitrophenol	139	Compound Not Detected.						
	22	2,4-Dimethylphenol	107	Compound Not Detected.						
	23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.						
	24	Benzoic acid	105	10.779	10.729	(0.966)	68730	3.27339	3.273	(H)
	25	2,4-Dichlorophenol	162	Compound Not Detected.						
	26	1,2,4-Trichlorobenzene	180	Compound Not Detected.						
*	27	Naphthalene-d8	136	11.155	11.131	(1.000)	327355	4.00000		
	28	Naphthalene	128	Compound Not Detected.						
	29	4-Chloroaniline	127	Compound Not Detected.						
	30	Hexachlorobutadiene	225	Compound Not Detected.						
	31	4-Chloro-3-methylphenol	107	Compound Not Detected.						
	32	2-Methylnaphthalene	142	Compound Not Detected.						
	33	Hexachlorocyclopentadiene	237	Compound Not Detected.						

			QUANT SIG					CONCENTRATIONS ON-COLUMN	CONCENTRATIONS FINAL	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)	
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.						
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.						
$	36	2-Fluorobiphenyl	172	13.344	13.329	(0.907)	324507	3.80928	3.809	
	37	2-Chloronaphthalene	162	Compound Not Detected.						
	38	2-Nitroaniline	65	Compound Not Detected.						
	39	Dimethylphthalate	163	Compound Not Detected.						
	40	Acenaphthylene	152	Compound Not Detected.						
	41	2,6-Dinitrotoluene	165	Compound Not Detected.						
*	42	Acenaphthene-d10	164	14.714	14.698	(1.000)	193092	4.00000		
	43	3-Nitroaniline	138	Compound Not Detected.						
	44	Acenaphthene	153	Compound Not Detected.						
	45	2,4-Dinitrophenol	184	Compound Not Detected.						
	46	Dibenzofuran	168	Compound Not Detected.						
	47	4-Nitrophenol	109	Compound Not Detected.						
	48	2,4-Dinitrotoluene	165	Compound Not Detected.						
	50	Diethylphthalate	149	15.696	15.673	(1.067)	8879	0.11673	0.1167	
	49	Fluorene	166	Compound Not Detected.						
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.						
	52	4-Nitroaniline	138	Compound Not Detected.						
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.						
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.						
$	55	2,4,6-Tribromophenol	330	16.351	16.313	(1.111)	111209	10.6605	10.66	
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.						
	57	Hexachlorobenzene	284	Compound Not Detected.						
	58	Pentachlorophenol	266	Compound Not Detected.						
*	59	Phenanthrene-d10	188	17.727	17.689	(1.000)	366493	4.00000		
	60	Phenanthrene	178	17.781	17.735	(1.003)	9754	0.10040	0.1004	(M)
	61	Anthracene	178	Compound Not Detected.						
	62	Carbazole	167	Compound Not Detected.						
	63	Di-n-butylphthalate	149	Compound Not Detected.						
	64	Fluoranthene	202	20.187	20.118	(1.000)	14440	0.08516	0.08516	(H)
	65	Pyrene	202	20.613	20.544	(1.000)	19352	0.10951	0.1095	(H)
$	66	Terphenyl-d14	244	20.923	20.853	(1.000)	473680	4.24052	4.241	
	67	Butylbenzylphthalate	149	Compound Not Detected.						
	68	Benzo(a)anthracene	228	Compound Not Detected.						
*	69	Chrysene-d12	240	22.835	22.735	(1.000)	425827	4.00000		(M)
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.						
	71	Chrysene	228	Compound Not Detected.						
	72	bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.						
*	134	Di-n-octylphthalate-d4	153	23.880	23.811	(1.000)	688431	4.00000		
	73	Di-n-octylphthalate	149	Compound Not Detected.						
	74	Benzo(b)fluoranthene	252	Compound Not Detected.						
	75	Benzo(k)fluoranthene	252	Compound Not Detected.						
	76	Benzo(a)pyrene	252	Compound Not Detected.						
*	77	Perylene-d12	264	25.266	25.166	(1.000)	418973	4.00000		
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.						
	90	N-Nitrosodimethylamine	74	Compound Not Detected.						
	91	Aniline	93	Compound Not Detected.						
	93	Benzidine	184	Compound Not Detected.						
	103	Pyridine	79	Compound Not Detected.						
	105	1-methylnaphthalene	142	Compound Not Detected.						
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.						

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	Compound Not Detected.					
99	Perylene	252	Compound Not Detected.					
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070514.D
Lab Smp Id: 18F0364-11
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	97079	-12.30
27 Naphthalene-d8	393946	196973	787892	327355	-16.90
42 Acenaphthene-d10	203210	101605	406420	193092	-4.98
59 Phenanthrene-d10	403506	201753	807012	366493	-9.17
69 Chrysene-d12	354618	177309	709236	425827	20.08
134 Di-n-octylphthala	800232	400116	1600464	688431	-13.97
77 Perylene-d12	378948	189474	757896	418973	10.56

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.71	0.18
27 Naphthalene-d8	11.13	10.63	11.63	11.16	0.21
42 Acenaphthene-d10	14.70	14.20	15.20	14.71	0.10
59 Phenanthrene-d10	17.69	17.19	18.19	17.73	0.22
69 Chrysene-d12	22.74	22.24	23.24	22.84	0.44
134 Di-n-octylphthala	23.81	23.31	24.31	23.88	0.29
77 Perylene-d12	25.17	24.67	25.67	25.27	0.40

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070514.D

Lab ID: 18F0364-11
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 19:16

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

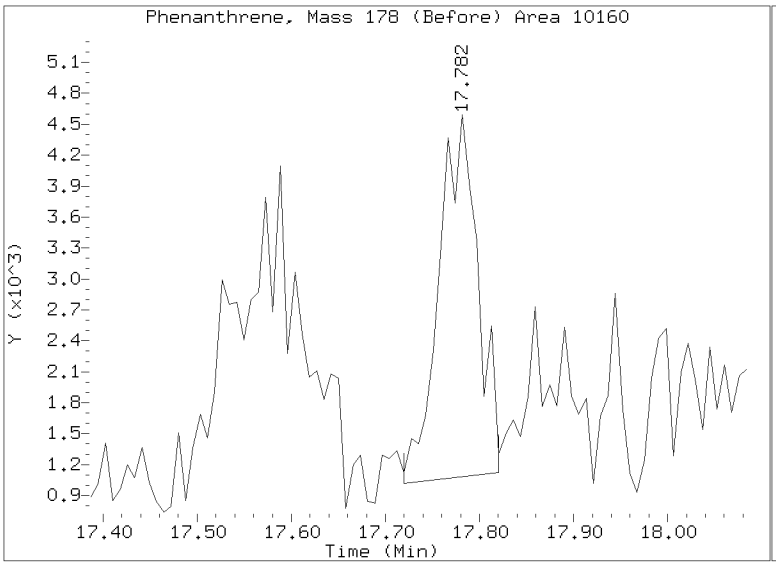
NONE

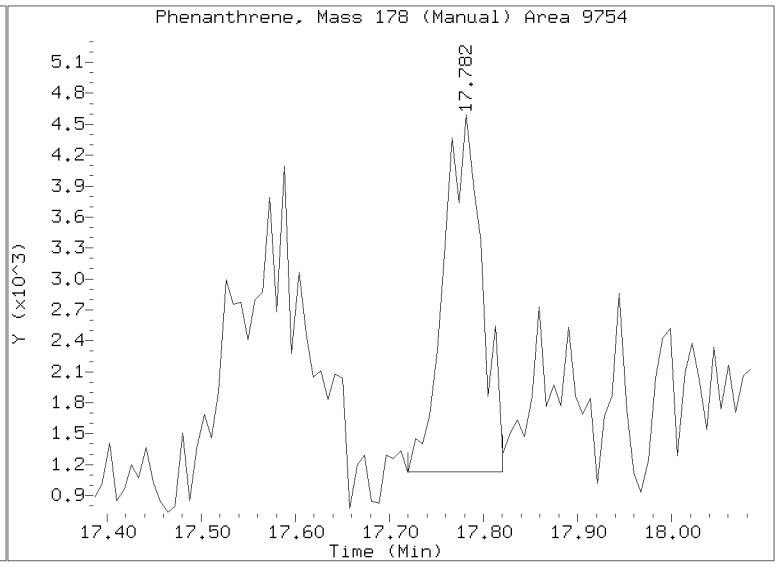
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

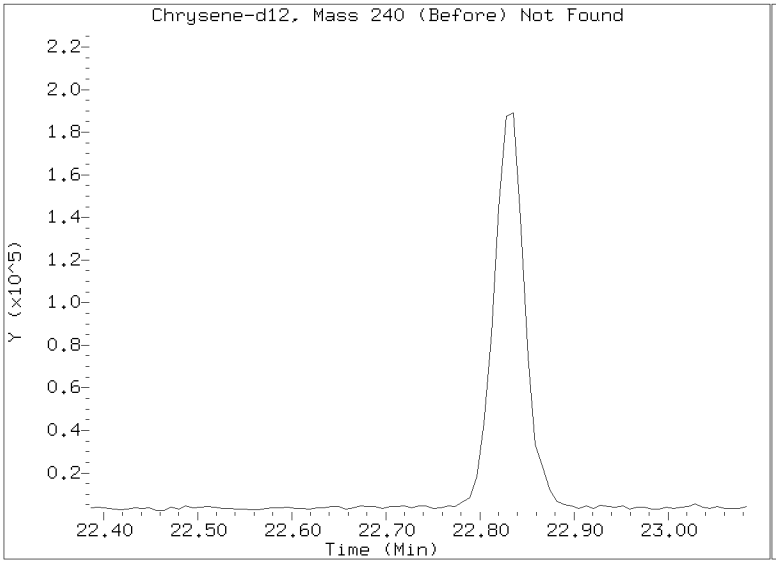
* Only compounds listed in the work order have been verified by the analyst *

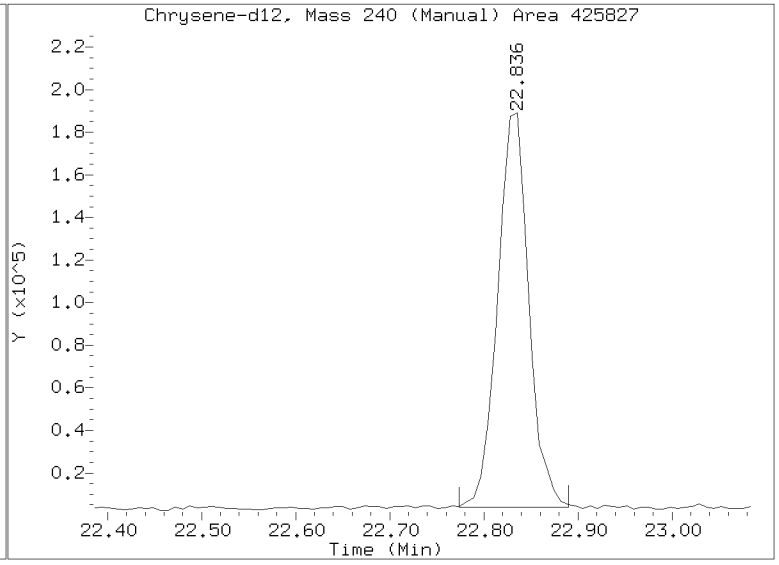
Quant Ion Manual Peak Adjustment Report

Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070514.D
Injection Date: 05-JUL-2018 19:16
Lab ID:18F0364-11 Client ID:
Report Date: 07/09/2018 10:18









LDW18-S3-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

Semivolatiles (20 ug/kg - 0.2 ug/L SepF)

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-12	SDG:	18F0364
Sampled:	05/17/18 12:13	Prepared:	06/29/18 15:30	File ID:	NT1018070515.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 19:52
Batch:	BGF0720	Sequence:	SGG0051	Initial/Final:	10.04 g Wet / 1 mL
Instrument:	NT10	Column:	ZB-5MSi	Calibration:	BE00068

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
118-74-1	Hexachlorobenzene	1	19.9	U		19.9
87-86-5	Pentachlorophenol	1	99.6	U		99.6
86-74-8	Carbazole	1	19.9	U		19.9
117-81-7	bis(2-Ethylhexyl)phthalate	1	70.7			49.8

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Fluorophenol	747.01	412	55.1	20 - 130	
Phenol-d5	747.01	384	51.4	20 - 130	
2-Chlorophenol-d4	747.01	561	75.1	20 - 130	
1,2-Dichlorobenzene-d4	498.01	351	70.4	20 - 130	
Nitrobenzene-d5	498.01	412	82.7	20 - 130	
2-Fluorobiphenyl	498.01	415	83.4	20 - 130	
2,4,6-Tribromophenol	747.01	1200	160	20 - 130	*,Q
p-Terphenyl-d14	498.01	420	84.4	20 - 130	

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D

Date : 05-JUL-2018 19:52

Client ID:

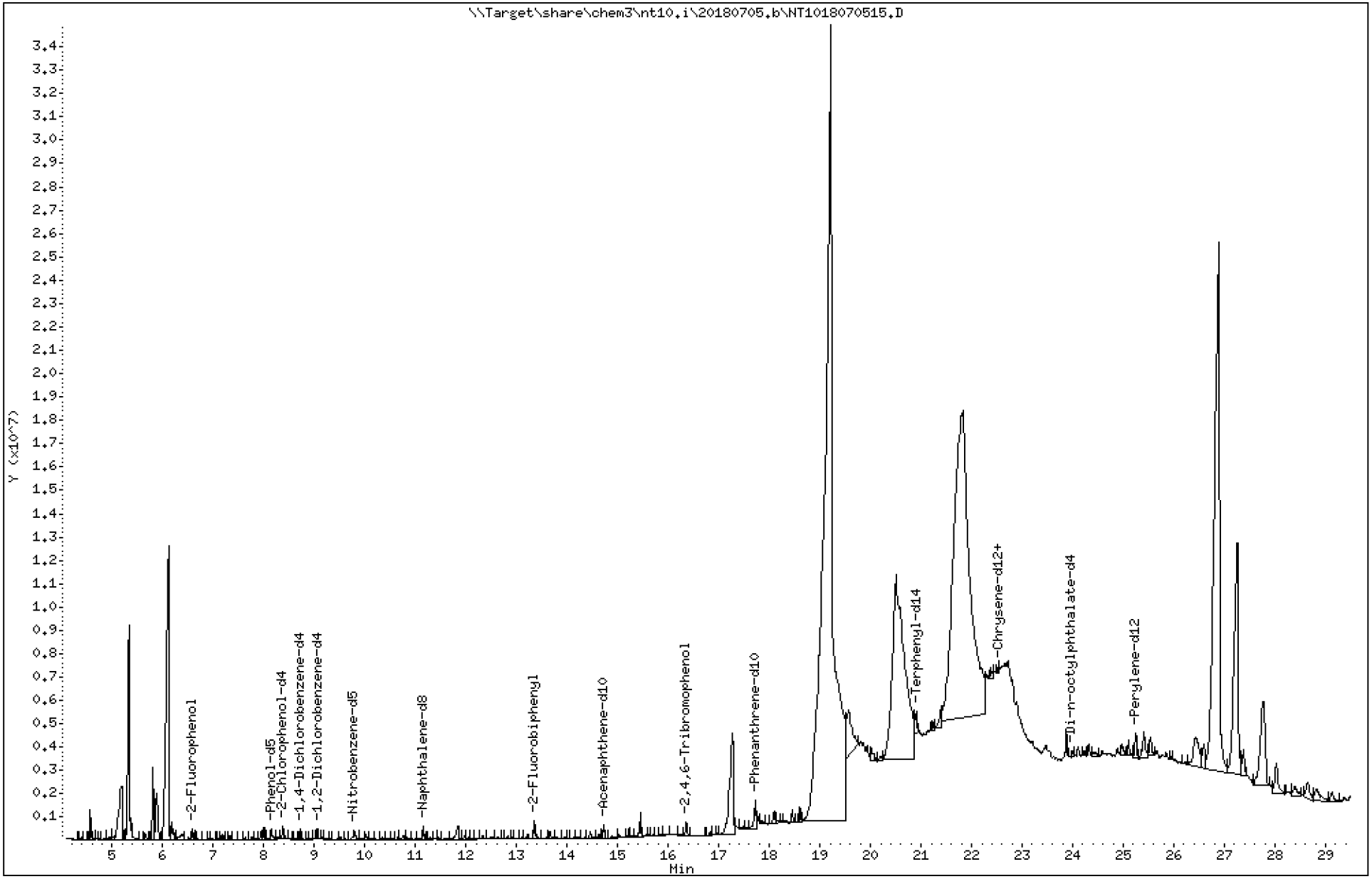
Instrument: nt10.i

Sample Info: 18F0364-12

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D

Date : 05-JUL-2018 19:52

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-12

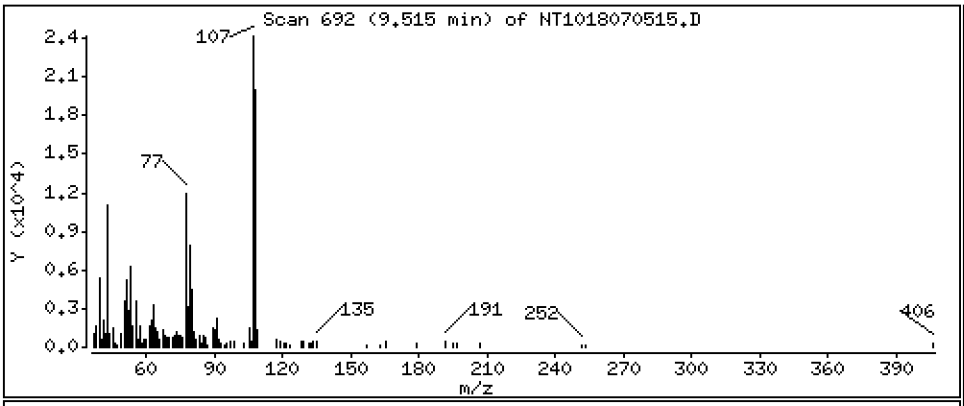
Operator: YZ

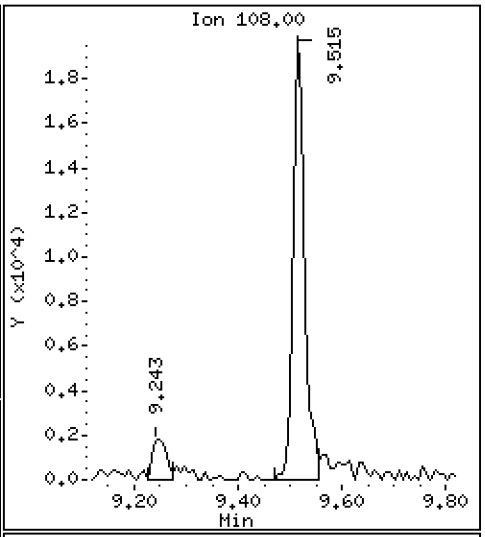
Column phase: ZB-5msi

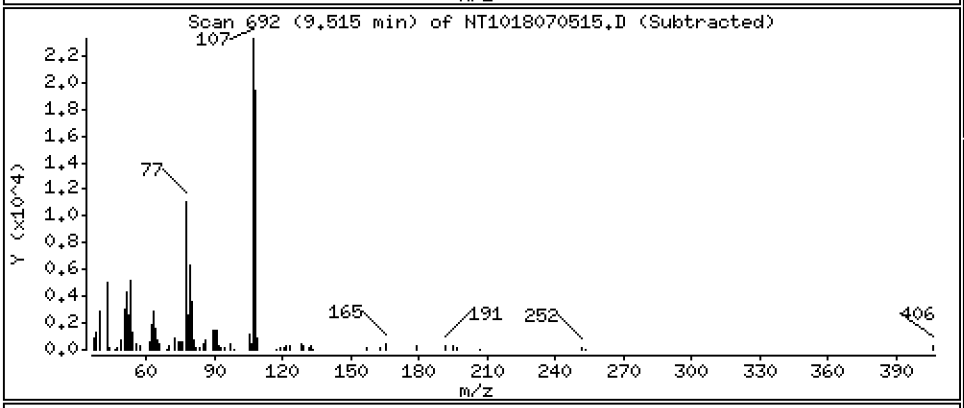
Column diameter: 0.25

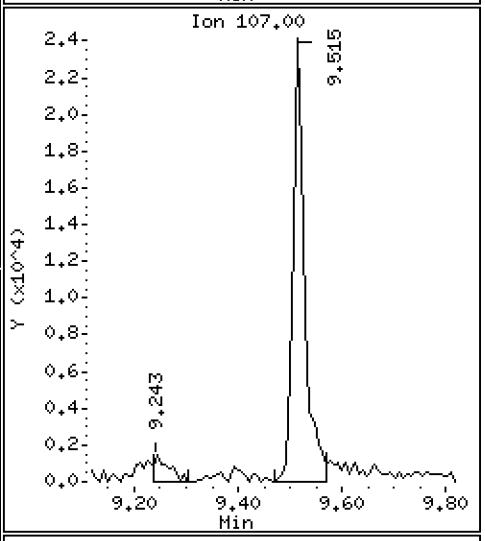
15 4-Methylphenol

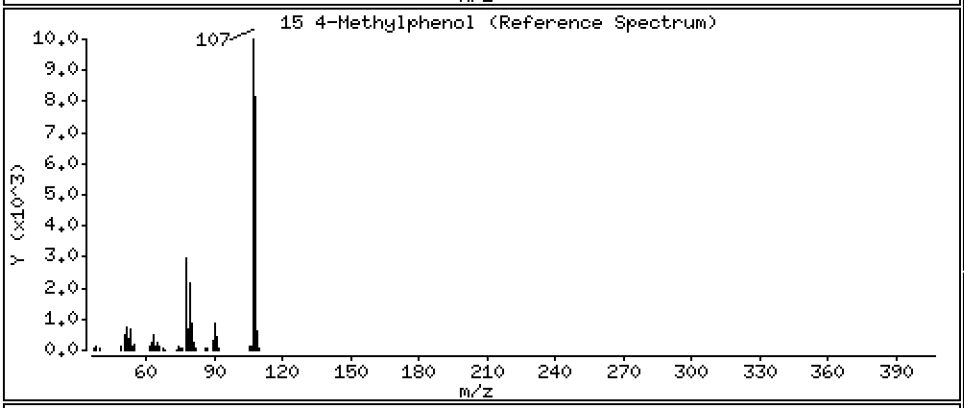
Concentration: 1.088 ug/mL

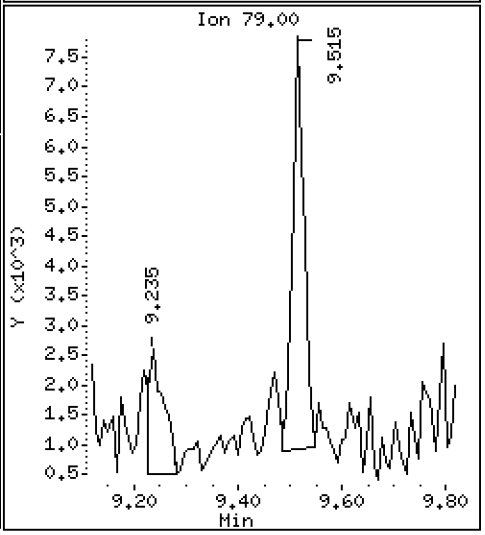


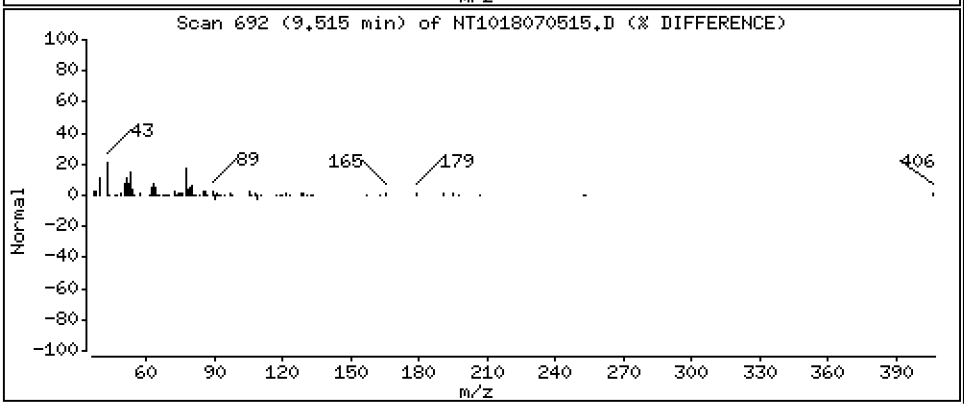












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D

Date : 05-JUL-2018 19:52

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-12

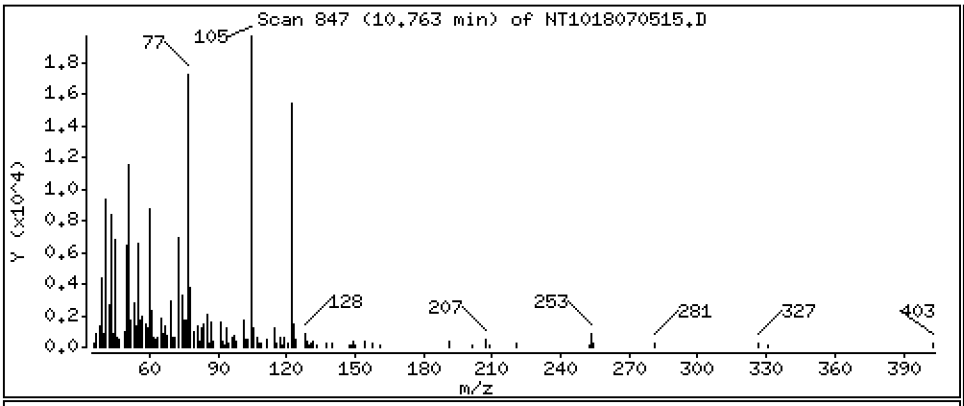
Operator: YZ

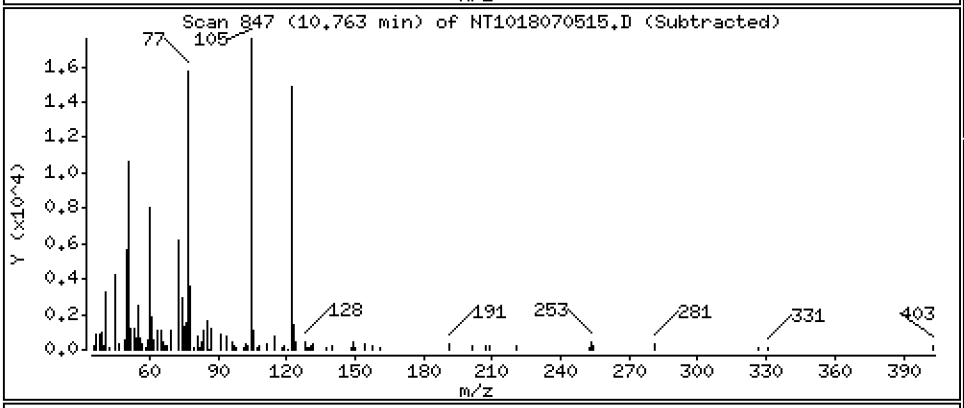
Column phase: ZB-5msi

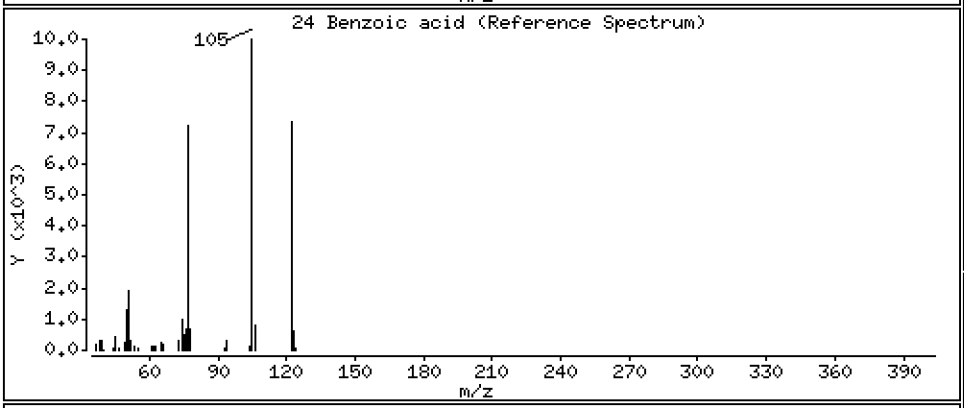
Column diameter: 0.25

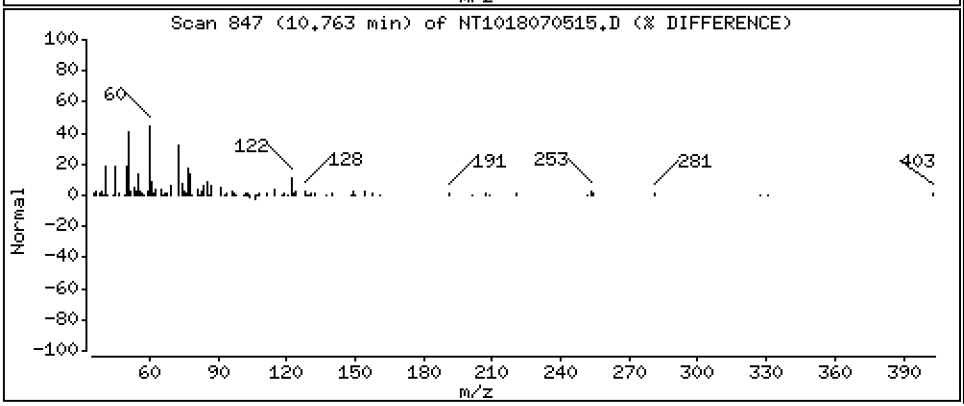
24 Benzoic acid

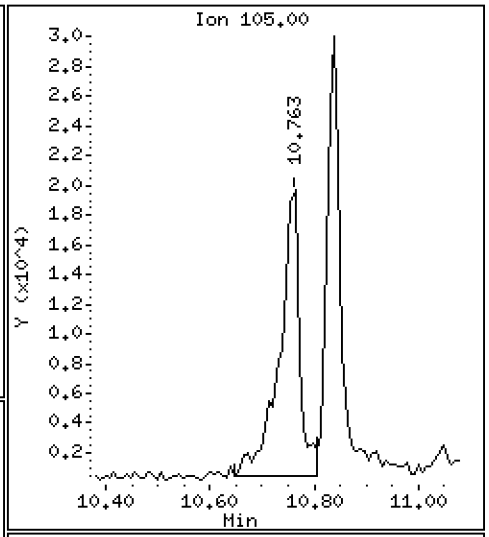
Concentration: 2.551 ug/mL

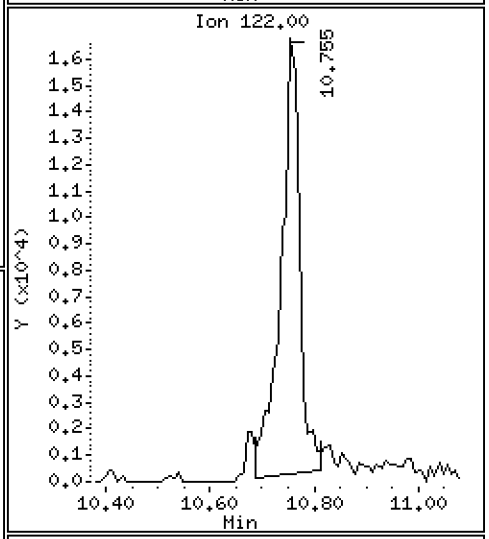


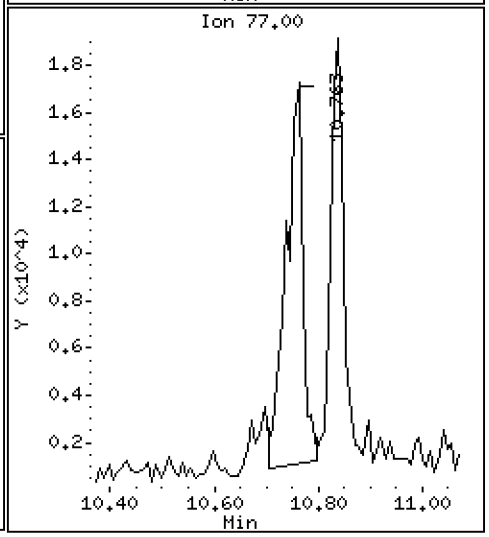












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D

Date : 05-JUL-2018 19:52

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-12

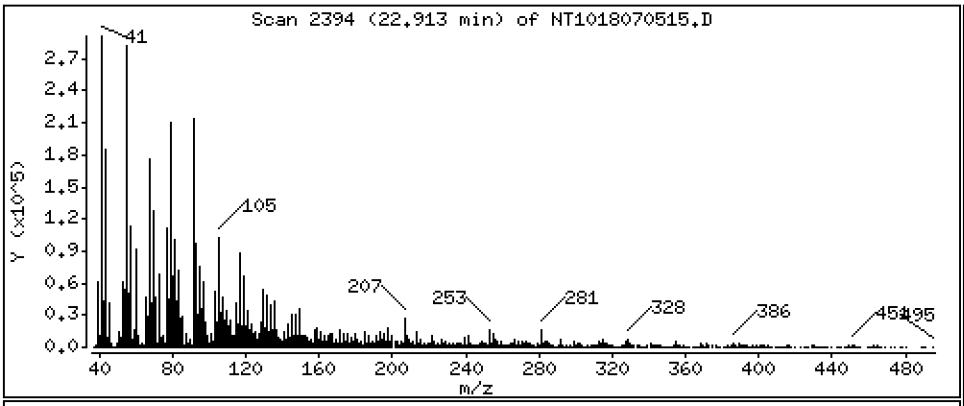
Operator: YZ

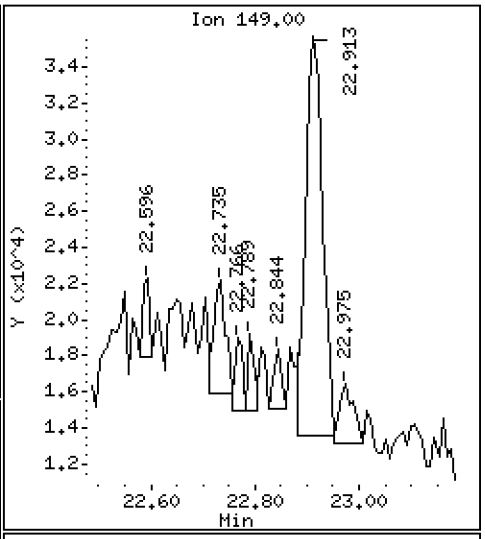
Column phase: ZB-5msi

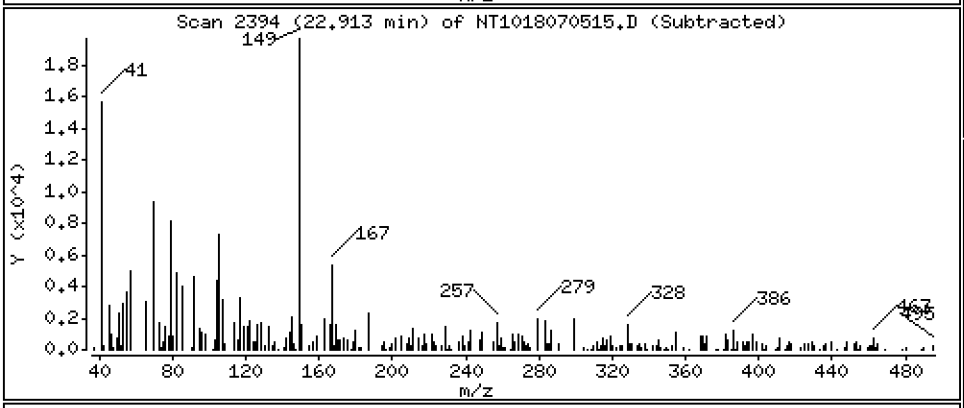
Column diameter: 0.25

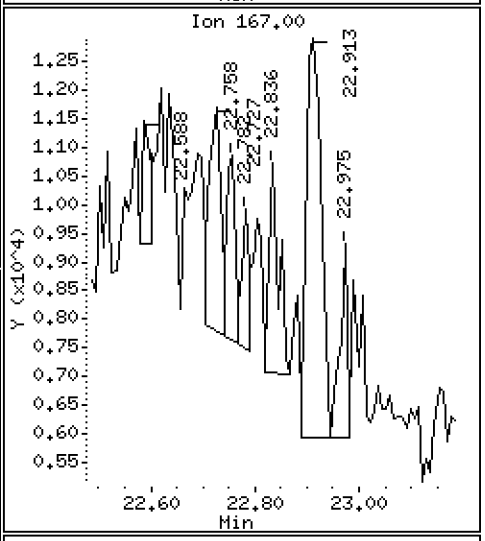
72 bis(2-Ethylhexyl)phthalate

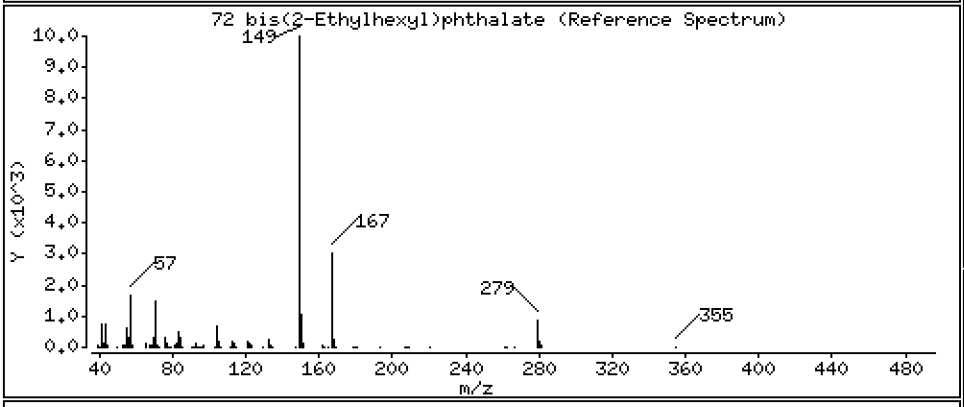
Concentration: 0.7103 ug/mL

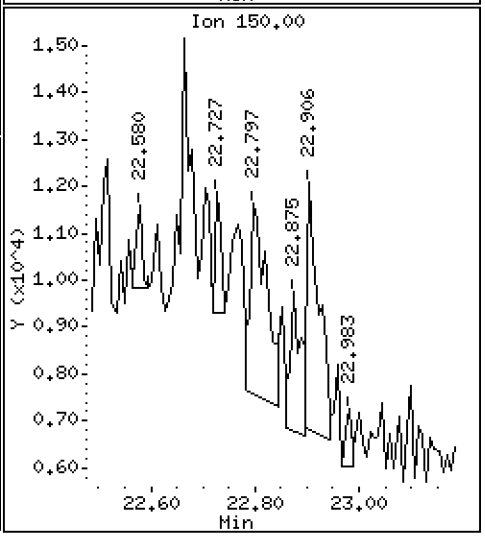


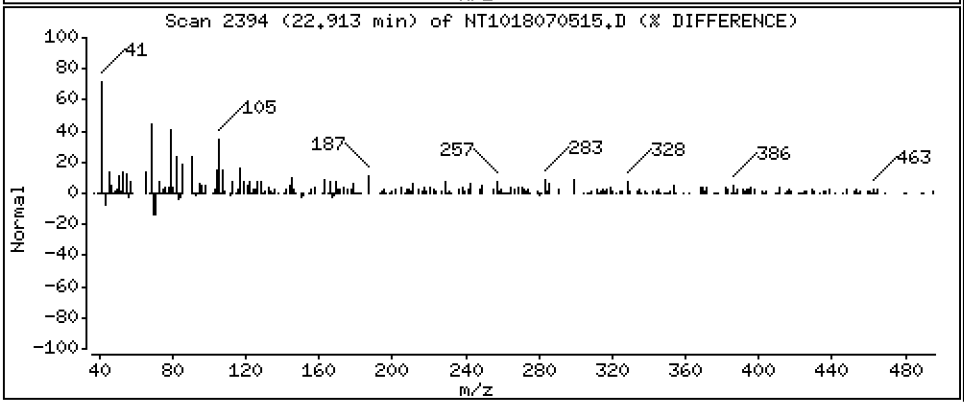












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D

Date : 05-JUL-2018 19:52

Client ID:

Instrument: nt10.i

Sample Info: 18F0364-12

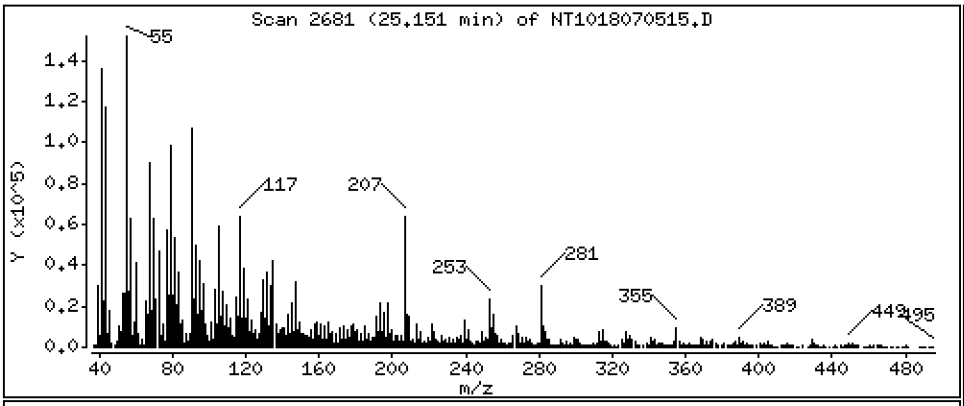
Operator: YZ

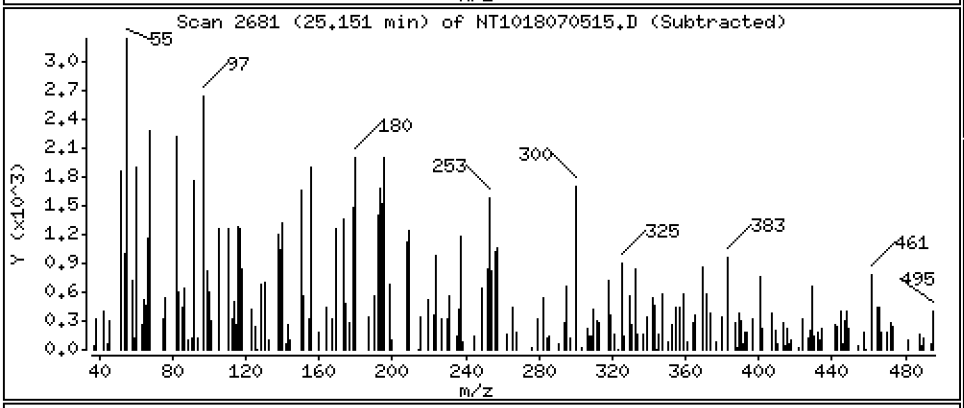
Column phase: ZB-5msi

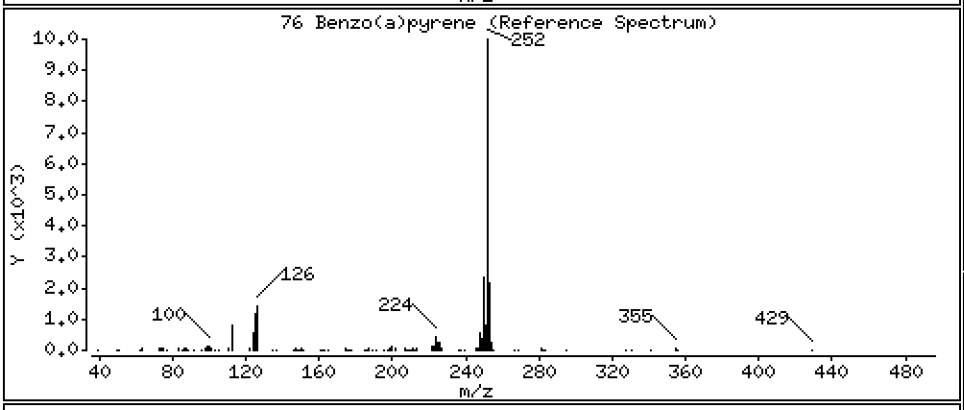
Column diameter: 0.25

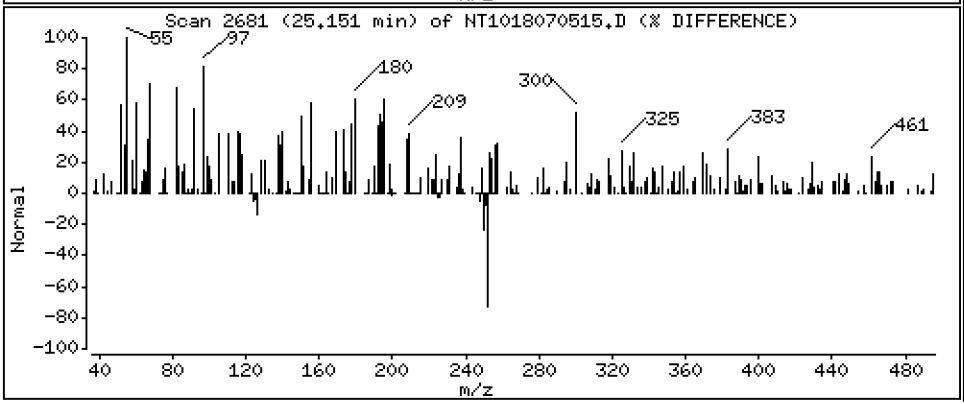
76 Benzo(a)pyrene

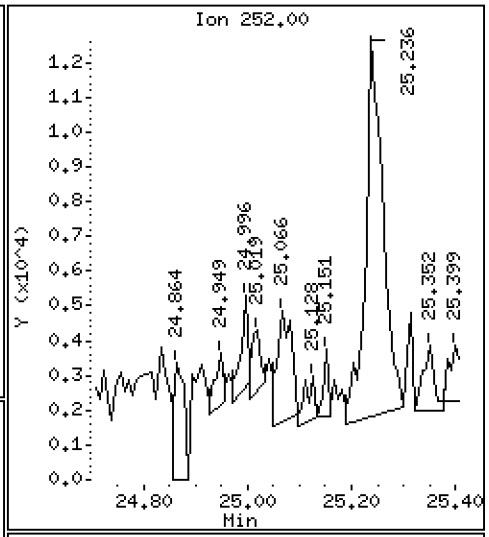
Concentration: 0.009504 ug/mL

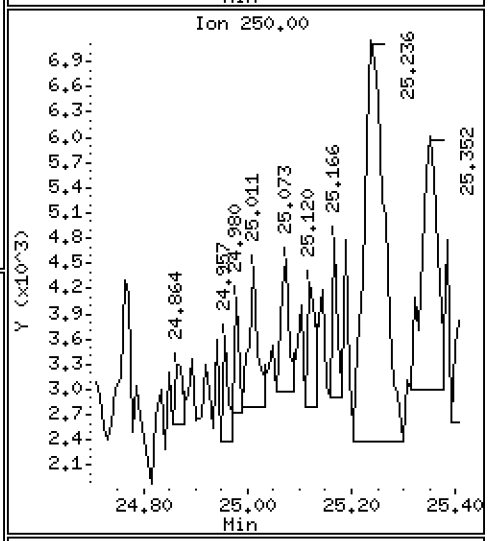


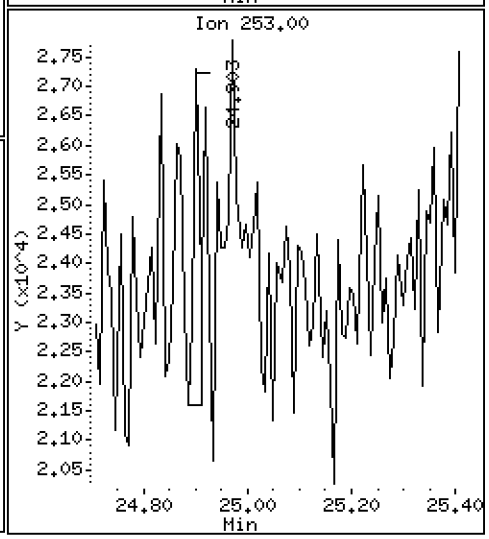












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070515.D
Lab Smp Id: 18F0364-12
Inj Date : 05-JUL-2018 19:52
Operator : YZ Inst ID: nt10.i
Smp Info : 18F0364-12
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.589	6.512	(0.756)	128212	4.13170	4.132
$	2 Phenol-d5	99	8.142	8.088	(0.934)	158101	3.85525	3.855
	3 Phenol	94	Compound Not Detected.					
$	5 2-Chlorophenol-d4	132	8.374	8.335	(0.961)	180135	5.63339	5.633
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.715	8.691	(1.000)	90580	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.064	9.041	(1.040)	79581	3.52106	3.521
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	9.514	9.468	(1.092)	31561	1.08816	1.088
$	18 Nitrobenzene-d5	82	9.786	9.770	(0.877)	132445	4.13349	4.133
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	10.762	10.729	(0.965)	52500	2.55075	2.551(M)
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.155	11.131	(1.000)	320940	4.00000	
	28 Naphthalene	128	Compound Not Detected.					
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36	2-Fluorobiphenyl	172	13.352	13.329	(0.907)	342511	4.16841	4.168
	37	2-Chloronaphthalene	162	Compound Not Detected.					
	38	2-Nitroaniline	65	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
	40	Acenaphthylene	152	Compound Not Detected.					
	41	2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42	Acenaphthene-d10	164	14.722	14.698	(1.000)	186246	4.00000	
	43	3-Nitroaniline	138	Compound Not Detected.					
	44	Acenaphthene	153	Compound Not Detected.					
	45	2,4-Dinitrophenol	184	Compound Not Detected.					
	46	Dibenzofuran	168	Compound Not Detected.					
	47	4-Nitrophenol	109	Compound Not Detected.					
	48	2,4-Dinitrotoluene	165	Compound Not Detected.					
	50	Diethylphthalate	149	Compound Not Detected.					
	49	Fluorene	166	Compound Not Detected.					
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52	4-Nitroaniline	138	Compound Not Detected.					
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55	2,4,6-Tribromophenol	330	16.352	16.313	(1.111)	120764	12.0020	12.00
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	Compound Not Detected.					
*	59	Phenanthrene-d10	188	17.720	17.689	(1.000)	351632	4.00000	
	60	Phenanthrene	178	Compound Not Detected.					
	61	Anthracene	178	Compound Not Detected.					
	62	Carbazole	167	Compound Not Detected.					
	63	Di-n-butylphthalate	149	Compound Not Detected.					
	64	Fluoranthene	202	Compound Not Detected.					
	65	Pyrene	202	Compound Not Detected.					
$	66	Terphenyl-d14	244	20.915	20.853	(0.917)	445657	4.21847	4.218
	67	Butylbenzylphthalate	149	Compound Not Detected.					
	68	Benzo(a)anthracene	228	Compound Not Detected.					
*	69	Chrysene-d12	240	22.820	22.735	(1.000)	402729	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	Compound Not Detected.					
	72	bis(2-Ethylhexyl)phthalate	149	22.913	22.835	(0.960)	48998	0.71028	0.7103
*	134	Di-n-octylphthalate-d4	153	23.873	23.811	(1.000)	662199	4.00000	
	73	Di-n-octylphthalate	149	Compound Not Detected.					
	74	Benzo(b)fluoranthene	252	Compound Not Detected.					
	75	Benzo(k)fluoranthene	252	Compound Not Detected.					
	76	Benzo(a)pyrene	252	25.150	25.057	(0.995)	1319	0.00950	0.009504
*	77	Perylene-d12	264	25.266	25.166	(1.000)	393401	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	Compound Not Detected.					
	105	1-methylnaphthalene	142	Compound Not Detected.					
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	Compound Not Detected.					
99	Perylene	252	Compound Not Detected.					
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070515.D
Lab Smp Id: 18F0364-12
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	90580	-18.17
27 Naphthalene-d8	393946	196973	787892	320940	-18.53
42 Acenaphthene-d10	203210	101605	406420	186246	-8.35
59 Phenanthrene-d10	403506	201753	807012	351632	-12.86
69 Chrysene-d12	354618	177309	709236	402729	13.57
134 Di-n-octylphthala	800232	400116	1600464	662199	-17.25
77 Perylene-d12	378948	189474	757896	393401	3.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.72	0.27
27 Naphthalene-d8	11.13	10.63	11.63	11.16	0.21
42 Acenaphthene-d10	14.70	14.20	15.20	14.72	0.16
59 Phenanthrene-d10	17.69	17.19	18.19	17.72	0.18
69 Chrysene-d12	22.74	22.24	23.24	22.82	0.37
134 Di-n-octylphthala	23.81	23.31	24.31	23.87	0.26
77 Perylene-d12	25.17	24.67	25.67	25.27	0.40

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070515.D

Lab ID: 18F0364-12
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 19:52

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

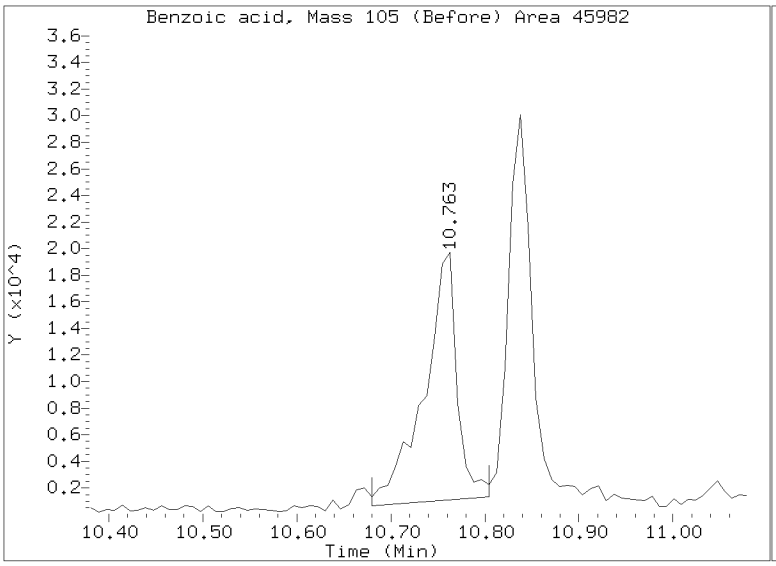
NONE

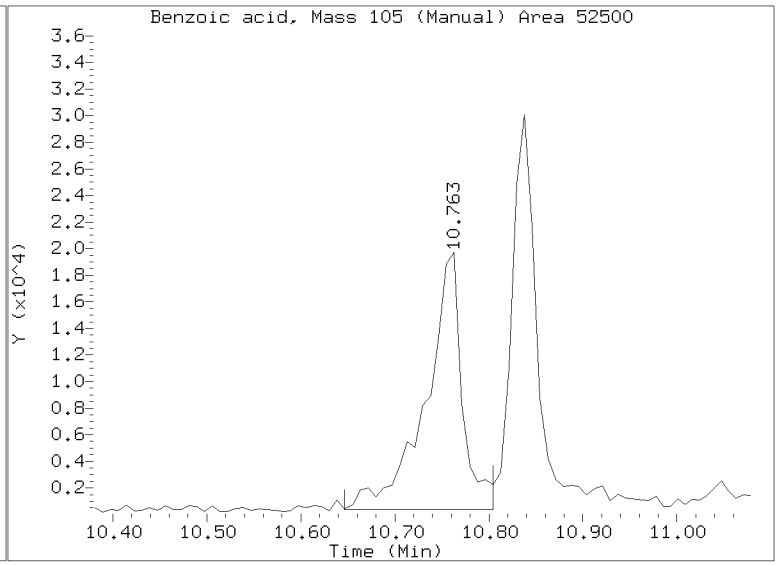
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070515.D
Injection Date: 05-JUL-2018 19:52
Lab ID:18F0364-12 Client ID:
Report Date: 07/09/2018 10:18





PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0720 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-S1-CLWB-Comp1	18F0364-10	NT1018070513.D	06/29/18 15:30	
LDW18-S2-CLWB-Comp1	18F0364-11	NT1018070514.D	06/29/18 15:30	
LDW18-S3-CLWB-Comp1	18F0364-12	NT1018070515.D	06/29/18 15:30	
Blank	BGF0720-BLK1	NT1018070509.D	06/29/18 15:30	
LCS	BGF0720-BS1	NT1018070510.D	06/29/18 15:30	
LDW18-S2-CLWB-Comp1	BGF0720-MS1	NT1018070511.D	06/29/18 15:30	
LDW18-S2-CLWB-Comp1	BGF0720-MSD1	NT1018070512.D	06/29/18 15:30	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0720

Prepared using: EPA 3550C-Mod (Ultrasonic)

(20-200 ppb) or (0.2-2 ppb Low LVL SepF) in Tissue (Version:BEHP PCP HCB Carbazole only)

Matrix: Tissue **Date Prepared:** 06/29/18 **Balance ID:** B14646214 **Set Up By:** CCT 6/29/18

The following standards may be missing from this batch!

Designator	Description
39	Benzidine Spike

Analysis: 8270D SV (20-200 ppb) or (0.2-2 ppb Low LVL SepF)

Lab Number & Container	Initial (g) Target Wet: 10 (Wet)	Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
18F0364-10 A	(10.000)	10.00	(1:1)	1mL	1 ____	0.5 ____	
18F0364-11 A	(10.000)	10.00	(1:1)	1mL	1 ____	0.5 ____	
18F0364-12 A	(10.000)	10.04	(1:1)	1mL	1 ____	0.5 ____	

Batch QC

Lab Number	Initial (g) Target Wet: 10 (Wet)	Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
BGF0720-BLK1	(10.000)	10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BGF0720-BS1	(10.000)	10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BGF0720-MS1	(10.000)	10.00	(1:1)	1mL	1 ____	0.5 ____	Use 18F0364-11
BGF0720-MSD1	(10.000)	10.04	(1:1)	1mL	1 ____	0.5 ____	Use 18F0364-11

MJ 06/29/18
Client ID Verified By Date

Preparation Reviewed By Date

06/29/18 15:30
Extraction Date and Time

Printed 6/29/2018 8:48:46AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0720

Prepared using: EPA 3550C-Mod (Ultrasonic)

(20-200 ppb) or (0.2-2 ppb Low LVL SepF) in Tissue (Version:BEHP PCP HCB Carbazole only)

Prep Steps	Reagents Used		Surrogates & Spike Standards Used

TissueMizer
CT 06/30/18
Analyst/Date

Station/Reagent	Standard ID
TissueMizing Analyst: CT Date: 06/30/18	
1:1 Methylene Chloride/Acetone	G005712
Anhydrous Sodium Sulfate	G005573
Methylene Chloride	G005858
Pre-Deactivated Glass Wool	G004951

Pre-GPC KD
100°C
Exchnage to Hexane
(add 10mL to KD)
1 2 3 4 5 6
BH
YM 07/2/18
Analyst/Date

Pre GPC KD BH Analyst: YM Date: 07/2/18	
Hexane	G004645
Methylene Chloride	G005487

TurboVap
Pre GPC
1 2 3 4 5
SP 7/2/18
Analyst/Date

GPC Filter Prep Analyst: SP Date: 7/2/18	
Methylene Chloride	G005487

GPC
Prep Filter (1:1)
SP 7/2/18
Analyst/Date

GPC Analyst: SP Date: 7/2/18	
Methylene Chloride	G005487
GPC Calibration File	CG00067 GPC4

Post GPC KD
80-85°C
1 2 3 4 5 6
YM 7/3/18
Analyst/Date

Post GPC KD Analyst: YM Date: 7/3/18	
Methylene Chloride	G005858

TurboVap
1 2 3 4 5
Analyst/Date

Vialing Analyst: VTS Date: 7.5.18	
Methylene Chloride G005858	

Water Wash
VTS 7.5.18
Analyst/Date

Vialing
Analyst/Date

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate 100/150µg/mL	A G005127 Exp: 12/05/2018	50µL		CT
Full List Spike (Freezer) 100µg/mL	7 G001872 (V) Exp: 07/30/2018	50µL		CT
Base Spike 200µg/mL	56 G001872 (V) Exp: 07/30/2018	50µL		CT
Acid Spike 100/200µg/mL	38 G001872 (V) Exp: 07/30/2018	50µL		CT

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Printed: 6/29/2018 8:48:46AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: BAN

Element Batch: BGF0724 Work Order(s): 18F0364 (10, 11, 12.)

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Other (Details)= 10, 11, 12. = Tissue	NJe 06/29/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y / N	NJe 06/29/18
☒ Multiple Jars Y / N	NJe 06/29/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Prepared using: EPA 3550C-Mod (Ultrasonic)

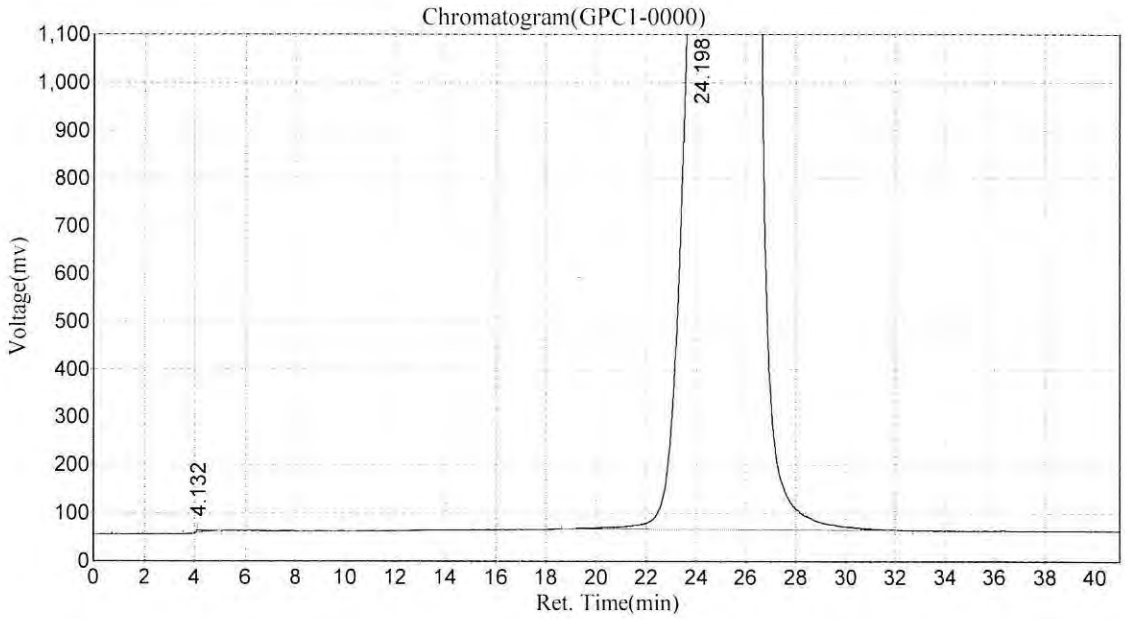
(20-200 ppb) or (0.2-2 ppb Low LVL SepF) in Tissue (Version:BEHP PCP HCB Carbazole only)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL centrifuge bottle. 2. Add surr/spike and add 1:1 DCM/Acetone. 3. Add sodium sulfate just before tissuemizing. 4. Extract 2 times with 1:1 DCM/Acetone followed by 3rd time with DCM only. 5. Collect in 500mL flask with funnel and glasswool plug (may us small amount of sodium sulfate if fines are present). 6. KD Add 10mL Hexane directly to extract in KD. 7. GPC REQ = KD on 100°C water bath to 5mL. Transfer to TubroTube in DCM. 8. (After GPC) KD at 80°C. 9.TurboVap 10. Vial in DCM. 11. Water Wash 12. 0.5mL split for GC. A. Need Total Solids Y / (N) B. Archive/Freeze Y / (N)	

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,5:56:34 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0000
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,5:56:35 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		4.132	6236.630	153078.000	0.0508
2		24.198	1422657.500	301463648.000	99.9492
Total			1428894.130	301616726.000	100.000

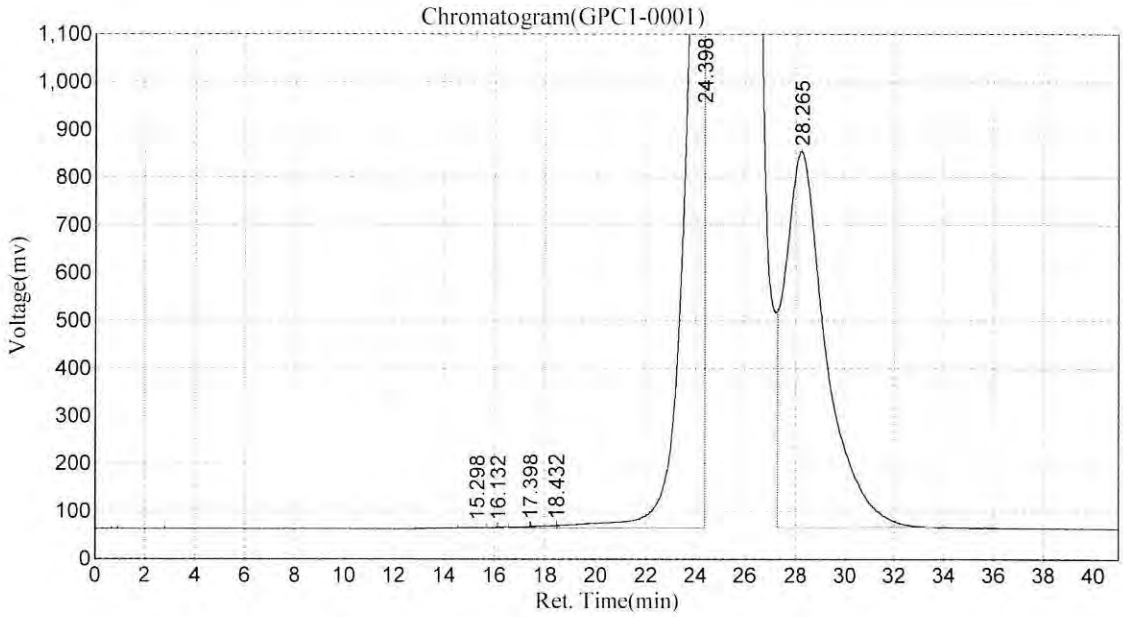
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,6:39:19 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0001
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,6:39:19 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		15.298	2771.102	128656.469	0.0732
2		16.132	3355.629	119046.164	0.0677
3		17.398	4569.150	202839.594	0.1154
4		18.432	5517.443	299543.250	0.1704
5		24.398	1423823.000	83183736.000	47.3139
6		28.265	787998.438	91878600.000	52.2594
Total			2228034.761	175812421.477	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

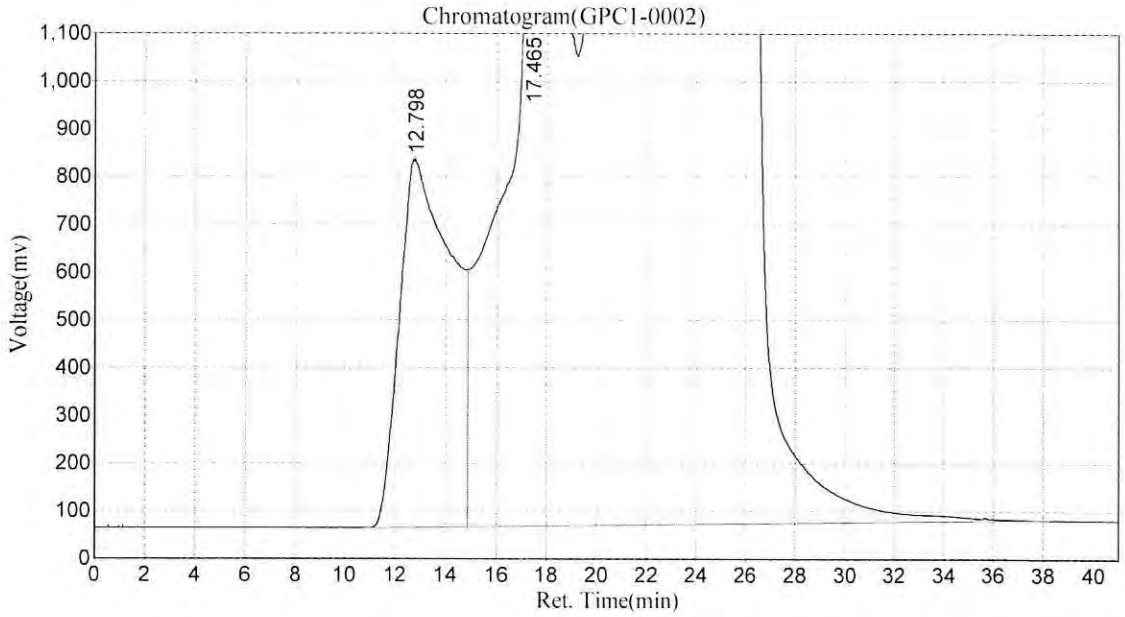
2018-07-02

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,7:22:01 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0002
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,7:22:02 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.798	768636.313	111692992.000	10.8646
2		17.465	1420546.625	916353792.000	89.1354
Total			2189182.938	1028046784.000	100.000

Ingredient Table

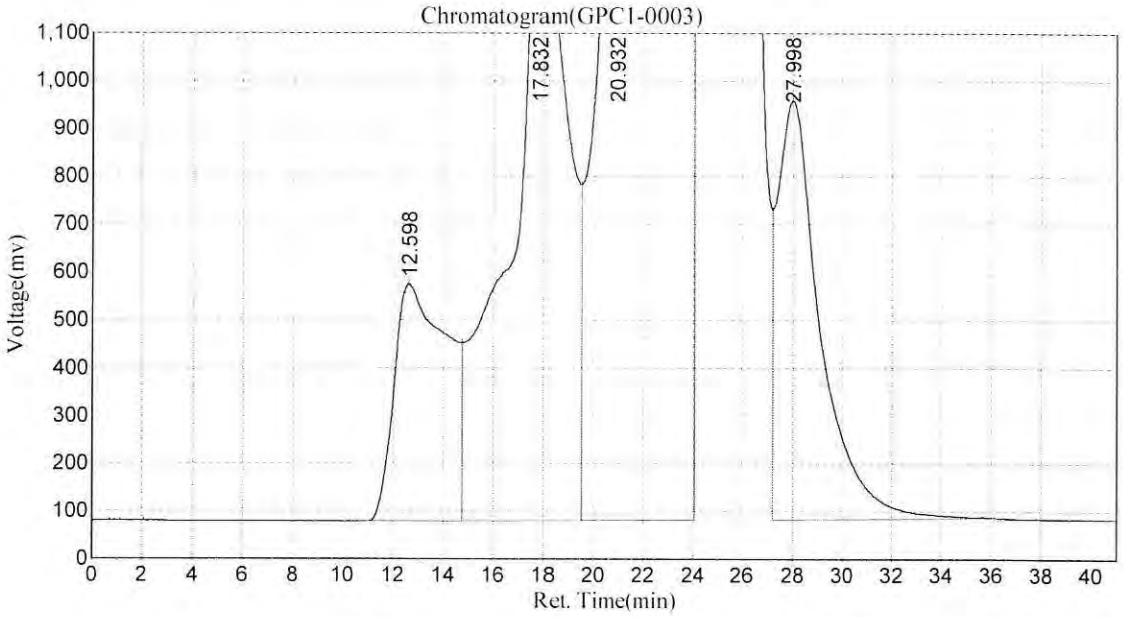
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

-MS

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,8:04:45 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0003
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-02,8:04:46 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.598	496884.094	73168640.000	9.8086
2		17.832	1279118.625	212374096.000	28.4698
3		20.932	1408000.250	355086144.000	47.6011
4		27.998	875172.625	105333208.000	14.1205
Total			4059175.594	745962088.000	100.000

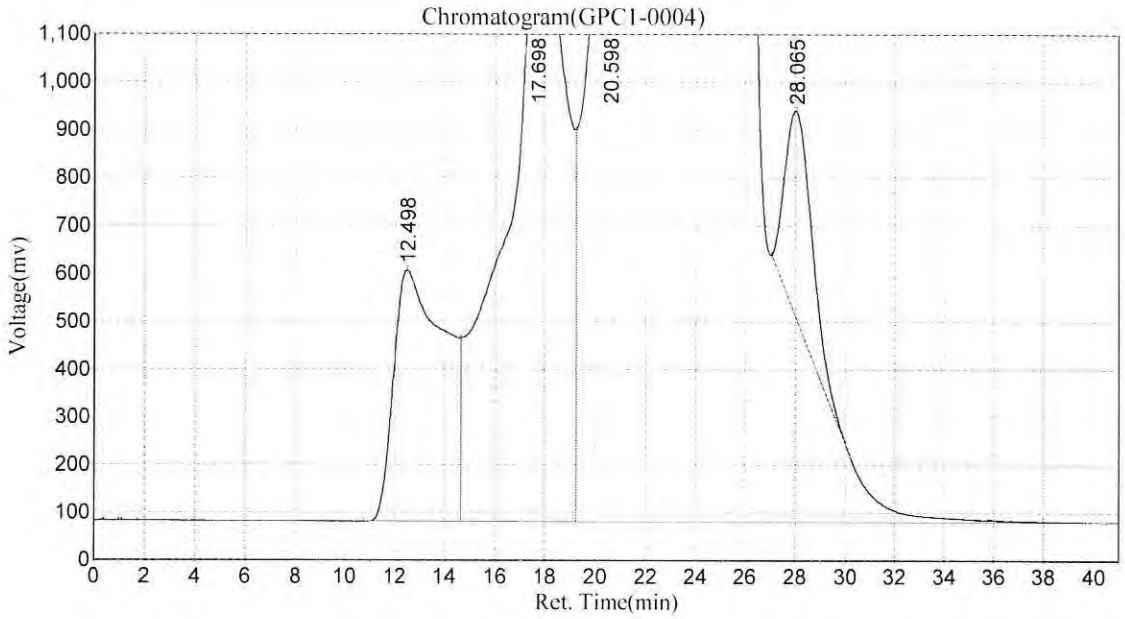
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,8:47:27 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0004
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,8:47:28 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.498	526828.063	75494736.000	9.8754
2		17.698	1334701.125	219972512.000	28.7743
3		20.598	1408467.125	436624384.000	57.1143
4		28.065	435110.969	32383218.000	4.2360
Total			3705107.281	764474850.000	100.000

Ingredient Table

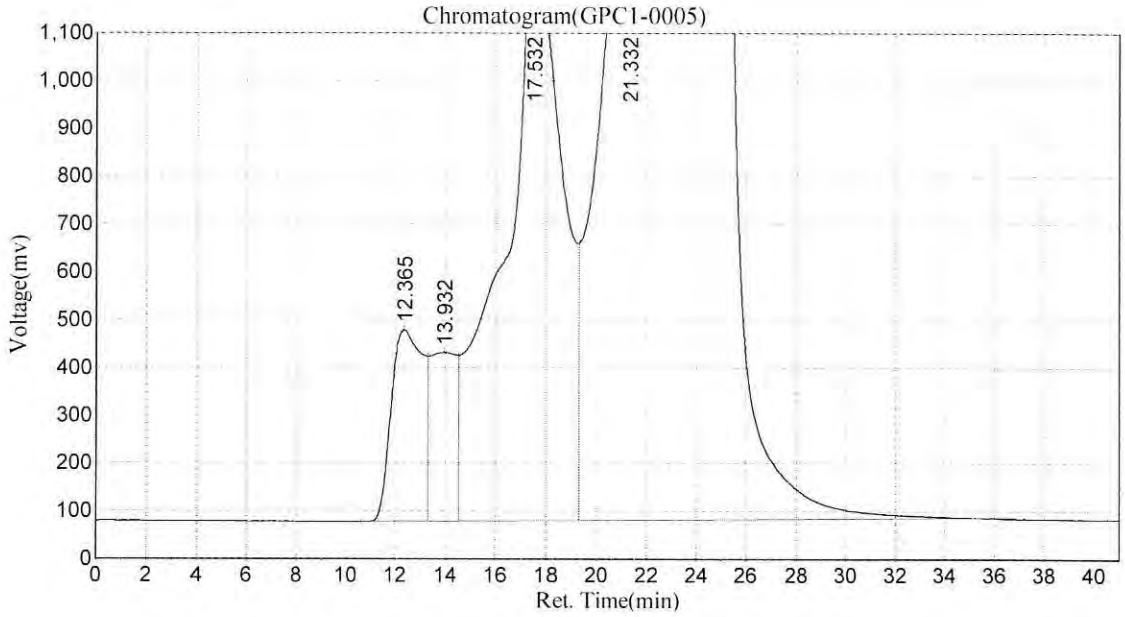
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

2018-07-02 *Analytical Resources, Inc.*

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,9:30:11 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0005
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,9:30:12 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.365	402163.594	35460768.000	4.5879
2		13.932	353449.500	25908152.000	3.3520
3		17.532	1243618.625	197909744.000	25.6057
4		21.332	1408034.250	513635360.000	66.4544
Total			3407265.969	772914024.000	100.000

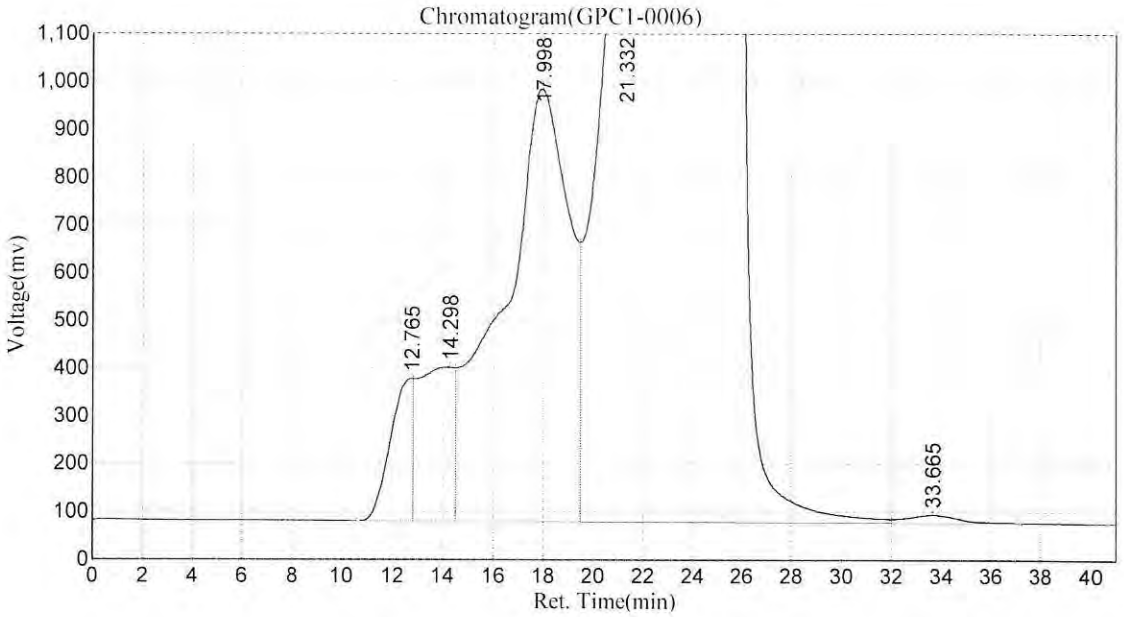
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,10:12:53 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0006
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-02,10:12:54 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.765	297155.375	18082668.000	2.3722
2		14.298	321541.625	31157280.000	4.0874
3		17.998	904391.438	171297504.000	22.4721
4		21.332	1409506.875	539502848.000	70.7760
5		33.665	16212.775	2227920.000	0.2923
Total			2948808.088	762268220.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

Form I

METHOD BLANK DATA SHEET

EPA 8270D

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	BGF0720-BLK1	File ID:	NT1018070509.D
Sampled:	N/A	Prepared:	06/29/18 15:30	Analyzed:	07/05/18 16:13
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	10 g / 1 mL
Batch:	BGF0720	Sequence:	SGG0051	Calibration:	BE00068
Instrument:	NT10	Column:	ZB-5MSi		

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
118-74-1	Hexachlorobenzene	1	20.0	U		20.0
87-86-5	Pentachlorophenol	1	100	U		100
86-74-8	Carbazole	1	20.0	U		20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	50.0	U		50.0

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	418	55.7	20 - 130	
Phenol-d5	750.00	390	52.0	20 - 130	
2-Chlorophenol-d4	750.00	518	69.0	20 - 130	
1,2-Dichlorobenzene-d4	500.00	364	72.8	20 - 130	
Nitrobenzene-d5	500.00	414	82.9	20 - 130	
2-Fluorobiphenyl	500.00	378	75.7	20 - 130	
2,4,6-Tribromophenol	750.00	936	125	20 - 130	
p-Terphenyl-d14	500.00	452	90.4	20 - 130	

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070509.D

Date : 05-JUL-2018 16:13

Client ID:

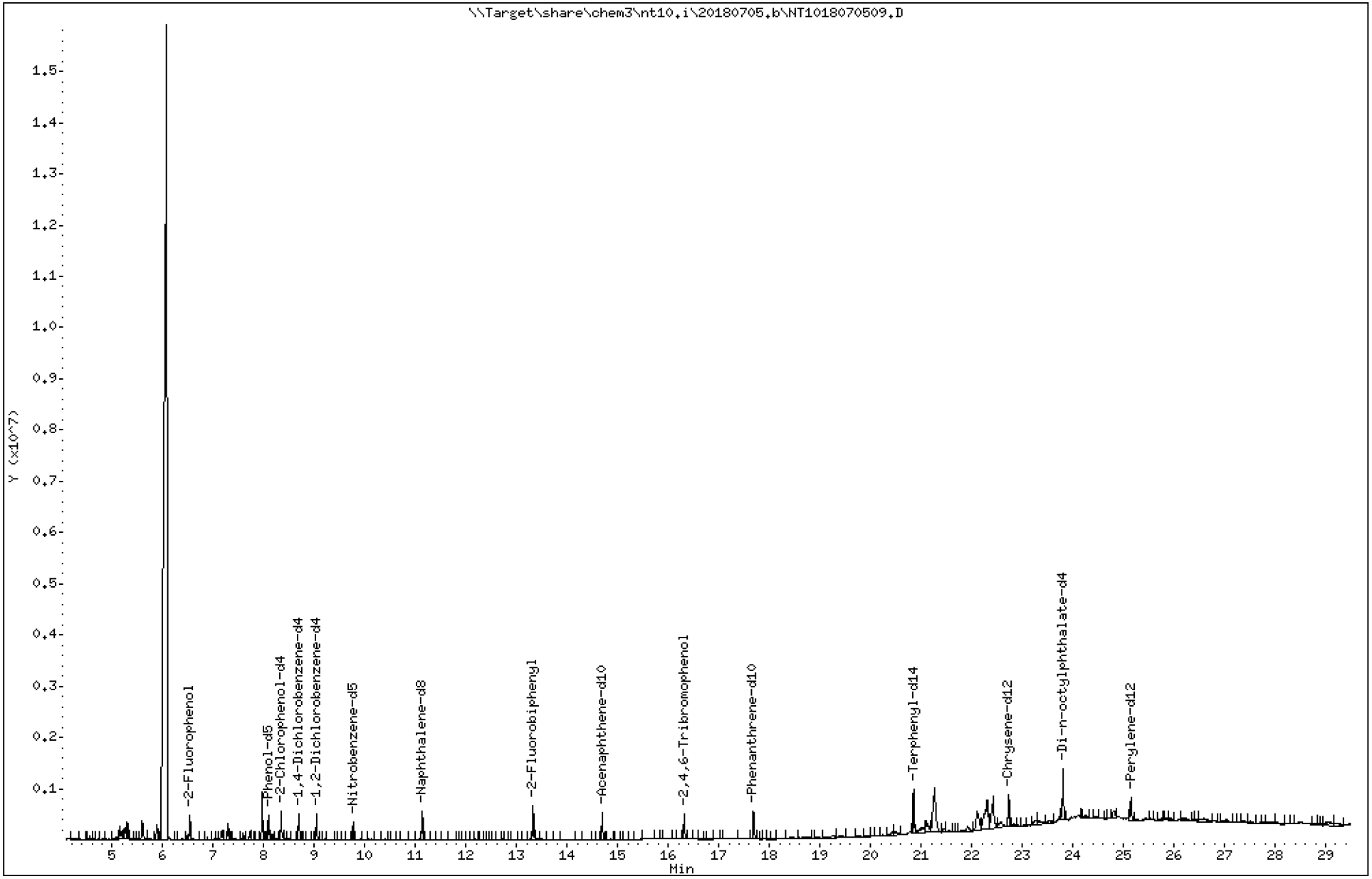
Instrument: nt10.i

Sample Info: BGF0720-BLK1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070509.D

Date : 05-JUL-2018 16:13

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BLK1

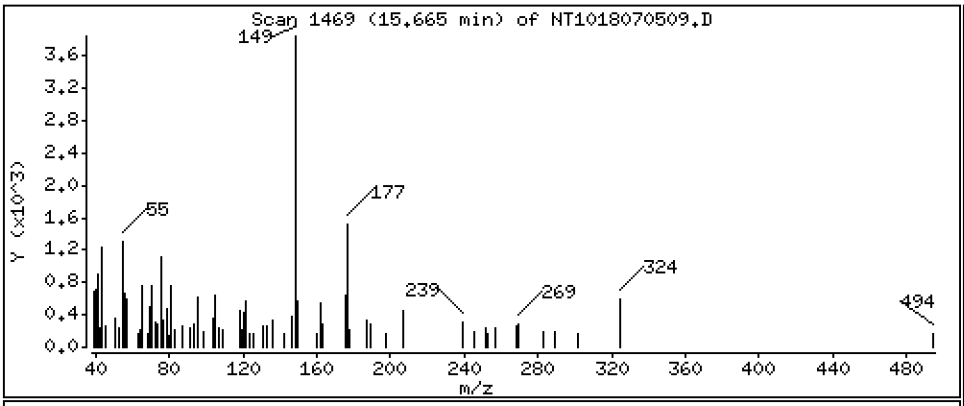
Operator: YZ

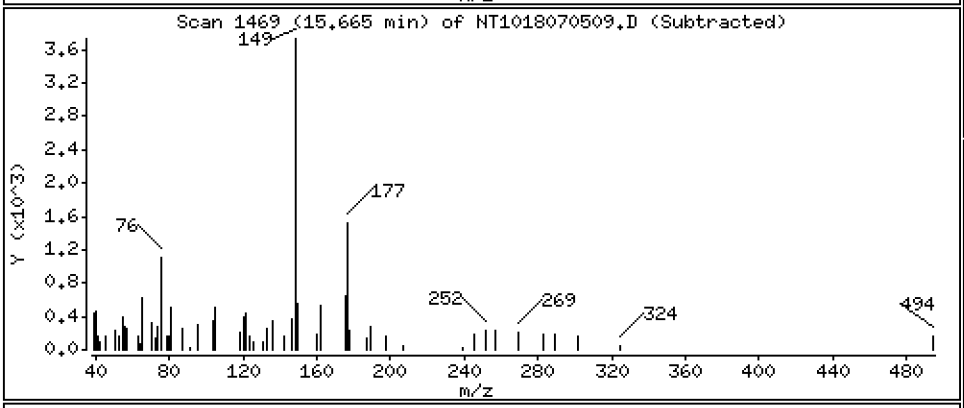
Column phase: ZB-5msi

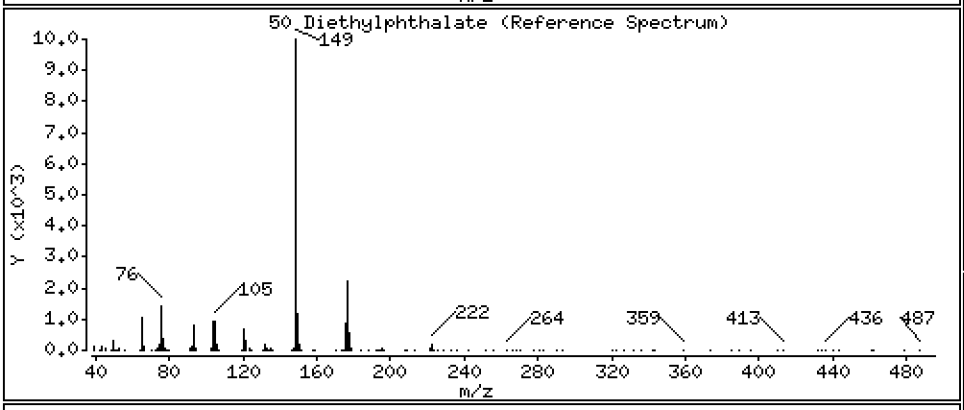
Column diameter: 0.25

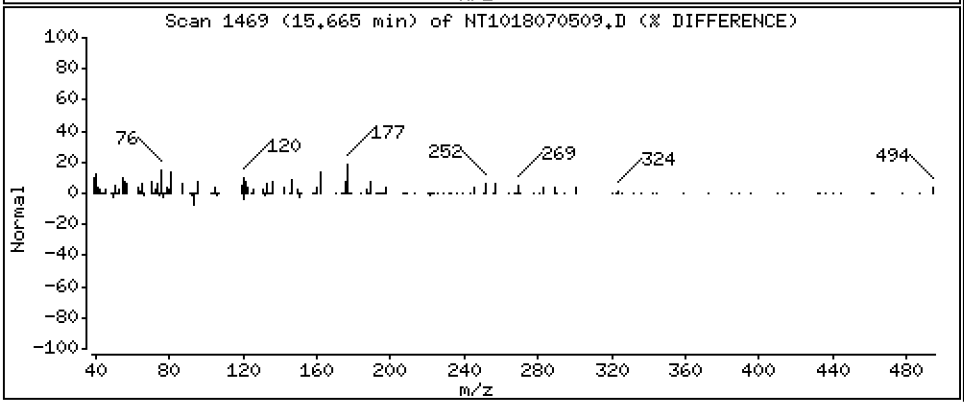
50 Diethylphthalate

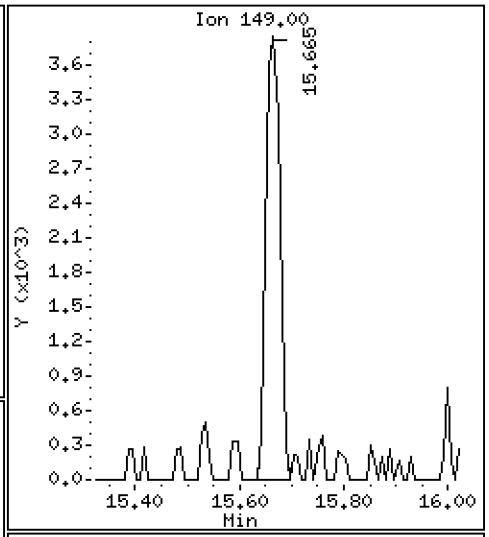
Concentration: 0.1067 ug/mL

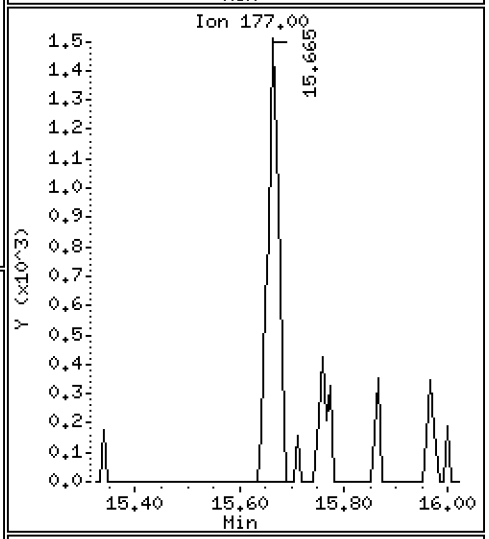


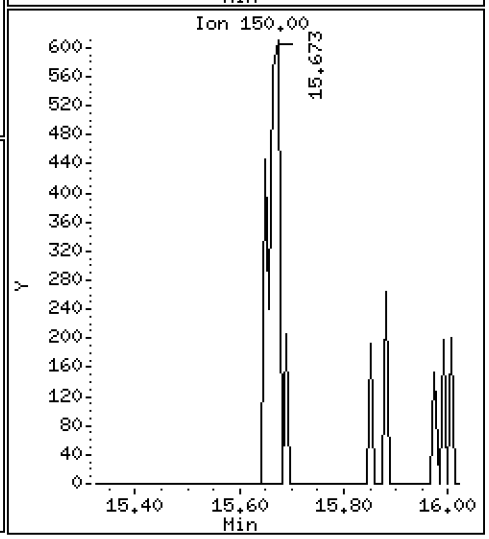












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070509.D
Lab Smp Id: BGF0720-BLK1
Inj Date : 05-JUL-2018 16:13
Operator : YZ Inst ID: nt10.i
Smp Info : BGF0720-BLK1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	6.535	6.512	(0.752)	128433	4.18054	4.181
$ 2	Phenol-d5	99	8.088	8.088	(0.931)	158454	3.90281	3.903
3	Phenol	94	Compound Not Detected.					
$ 5	2-Chlorophenol-d4	132	8.335	8.335	(0.959)	163901	5.17738	5.177
4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
6	2-Chlorophenol	128	Compound Not Detected.					
7	1,3-Dichlorobenzene	146	Compound Not Detected.					
* 8	1,4-Dichlorobenzene-d4	152	8.691	8.691	(1.000)	89676	4.00000	
9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$ 10	1,2-Dichlorobenzene-d4	152	9.041	9.041	(1.040)	81416	3.63856	3.639
12	1,2-Dichlorobenzene	146	Compound Not Detected.					
11	Benzyl alcohol	108	Compound Not Detected.					
14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
13	2-Methylphenol	108	Compound Not Detected.					
17	Hexachloroethane	117	Compound Not Detected.					
16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
15	4-Methylphenol	108	Compound Not Detected.					
$ 18	Nitrobenzene-d5	82	9.763	9.770	(0.877)	127377	4.14334	4.143
19	Nitrobenzene	77	Compound Not Detected.					
20	Isophorone	82	Compound Not Detected.					
21	2-Nitrophenol	139	Compound Not Detected.					
22	2,4-Dimethylphenol	107	Compound Not Detected.					
23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
24	Benzoic acid	105	Compound Not Detected.					
25	2,4-Dichlorophenol	162	Compound Not Detected.					
26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
* 27	Naphthalene-d8	136	11.132	11.131	(1.000)	307926	4.00000	
28	Naphthalene	128	Compound Not Detected.					
29	4-Chloroaniline	127	Compound Not Detected.					
30	Hexachlorobutadiene	225	Compound Not Detected.					
31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
32	2-Methylnaphthalene	142	Compound Not Detected.					
33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS ON-COLUMN	CONCENTRATIONS FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36	2-Fluorobiphenyl	172	13.329	13.329	(0.907)	272987	3.78469	3.785
	37	2-Chloronaphthalene	162	Compound Not Detected.					
	38	2-Nitroaniline	65	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
	40	Acenaphthylene	152	Compound Not Detected.					
	41	2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42	Acenaphthene-d10	164	14.691	14.698	(1.000)	163491	4.00000	
	43	3-Nitroaniline	138	Compound Not Detected.					
	44	Acenaphthene	153	Compound Not Detected.					
	45	2,4-Dinitrophenol	184	Compound Not Detected.					
	46	Dibenzofuran	168	Compound Not Detected.					
	47	4-Nitrophenol	109	Compound Not Detected.					
	48	2,4-Dinitrotoluene	165	Compound Not Detected.					
	50	Diethylphthalate	149	15.665	15.673	(1.066)	6869	0.10666	0.1067
	49	Fluorene	166	Compound Not Detected.					
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52	4-Nitroaniline	138	Compound Not Detected.					
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55	2,4,6-Tribromophenol	330	16.313	16.313	(1.110)	82678	9.36051	9.361
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	Compound Not Detected.					
*	59	Phenanthrene-d10	188	17.681	17.689	(1.000)	352315	4.00000	
	60	Phenanthrene	178	Compound Not Detected.					
	61	Anthracene	178	Compound Not Detected.					
	62	Carbazole	167	Compound Not Detected.					
	63	Di-n-butylphthalate	149	Compound Not Detected.					
	64	Fluoranthene	202	Compound Not Detected.					
	65	Pyrene	202	Compound Not Detected.					
$	66	Terphenyl-d14	244	20.853	20.853	(0.917)	398222	4.52197	4.522
	67	Butylbenzylphthalate	149	Compound Not Detected.					
	68	Benzo(a)anthracene	228	Compound Not Detected.					
*	69	Chrysene-d12	240	22.735	22.735	(1.000)	335710	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	Compound Not Detected.					
	72	bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134	Di-n-octylphthalate-d4	153	23.803	23.811	(1.000)	637234	4.00000	
	73	Di-n-octylphthalate	149	Compound Not Detected.					
	74	Benzo(b)fluoranthene	252	Compound Not Detected.					
	75	Benzo(k)fluoranthene	252	Compound Not Detected.					
	76	Benzo(a)pyrene	252	Compound Not Detected.					
*	77	Perylene-d12	264	25.158	25.166	(1.000)	380337	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	Compound Not Detected.					
	105	1-methylnaphthalene	142	Compound Not Detected.					
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	Compound Not Detected.					
99	Perylene	252	Compound Not Detected.					
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070509.D
Lab Smp Id: BGF0720-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	89676	-18.99
27 Naphthalene-d8	393946	196973	787892	307926	-21.84
42 Acenaphthene-d10	203210	101605	406420	163491	-19.55
59 Phenanthrene-d10	403506	201753	807012	352315	-12.69
69 Chrysene-d12	354618	177309	709236	335710	-5.33
134 Di-n-octylphthala	800232	400116	1600464	637234	-20.37
77 Perylene-d12	378948	189474	757896	380337	0.37

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.69	0.00
27 Naphthalene-d8	11.13	10.63	11.63	11.13	0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.69	-0.05
59 Phenanthrene-d10	17.69	17.19	18.19	17.68	-0.04
69 Chrysene-d12	22.74	22.24	23.24	22.74	0.00
134 Di-n-octylphthala	23.81	23.31	24.31	23.80	-0.03
77 Perylene-d12	25.17	24.67	25.67	25.16	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070509.D

Lab ID: BGF0720-BLK1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 16:13

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 16:50
Batch:	BGF0720	Laboratory ID:	BGF0720-BS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	LCS
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	Q	LCS % REC. #	QC LIMITS REC.
Hexachlorobenzene	500	525		105	20 - 130
Pentachlorophenol	1500	1380		92.1	15 - 130
Carbazole	500	448		89.7	20 - 130
bis(2-Ethylhexyl)phthalate	500	529		106	20 - 130

* Indicates values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

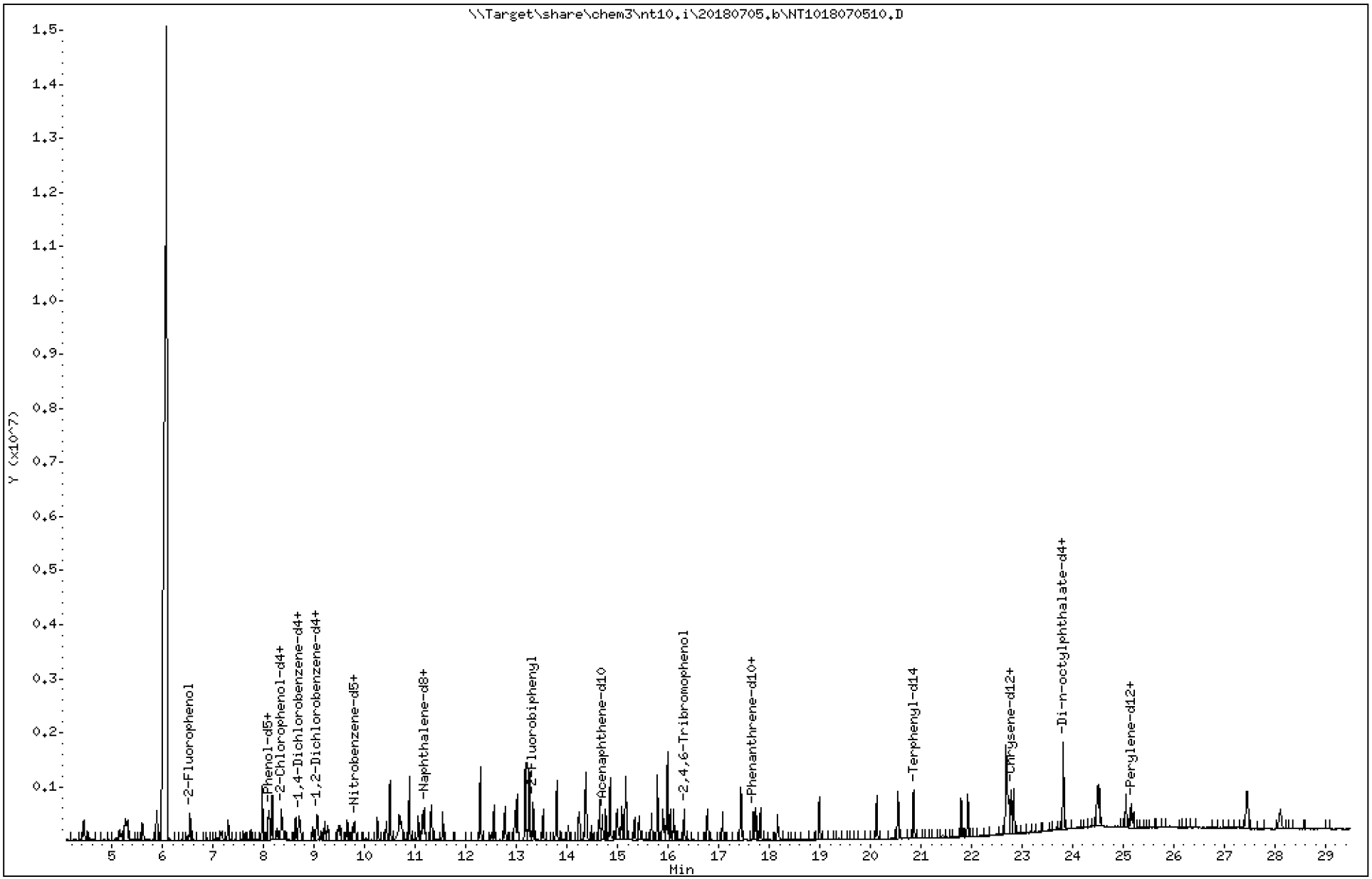
Instrument: nt10.i

Sample Info: BGF0720-BS1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

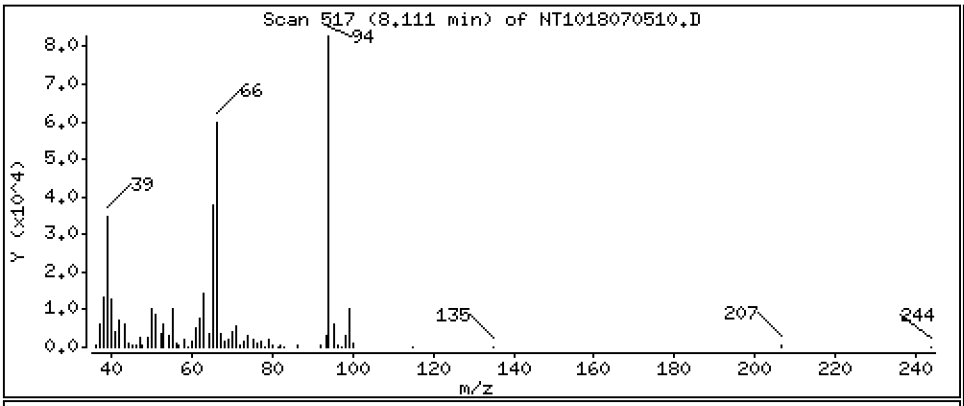
Operator: YZ

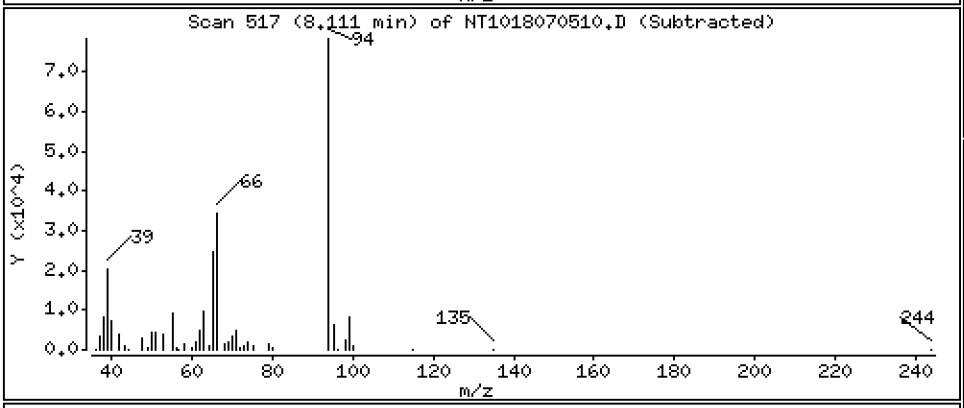
Column phase: ZB-5msi

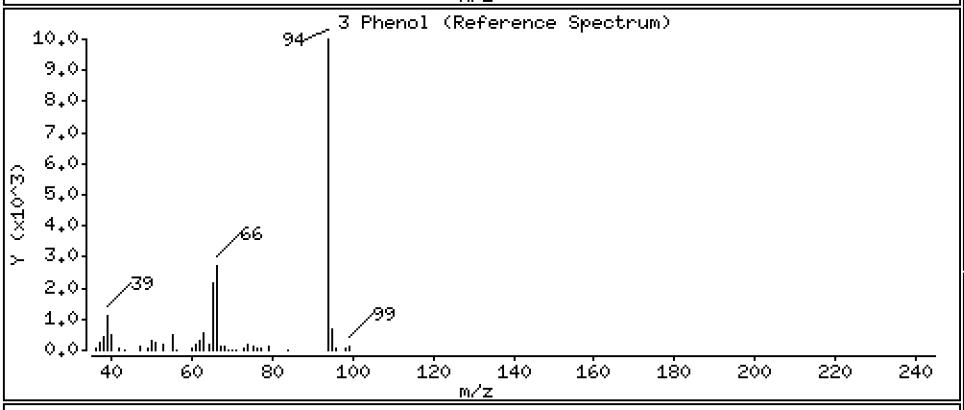
Column diameter: 0.25

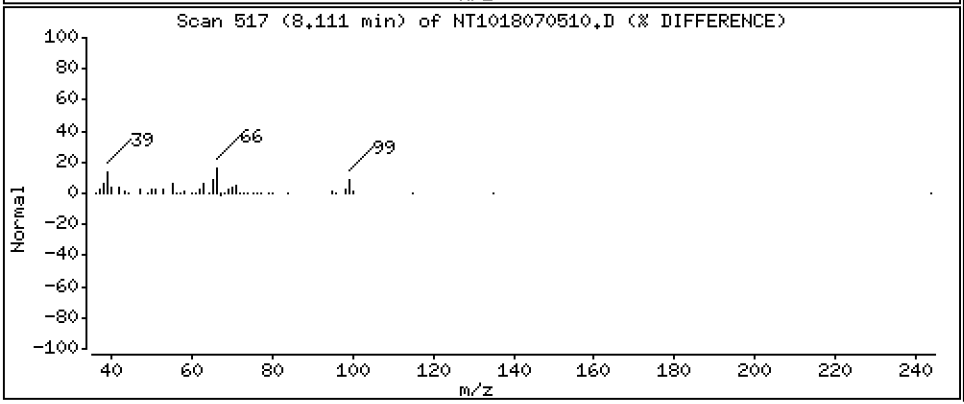
3 Phenol

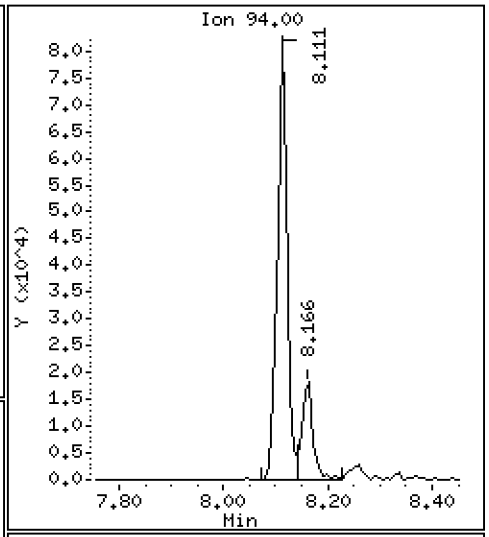
Concentration: 2.955 ug/mL

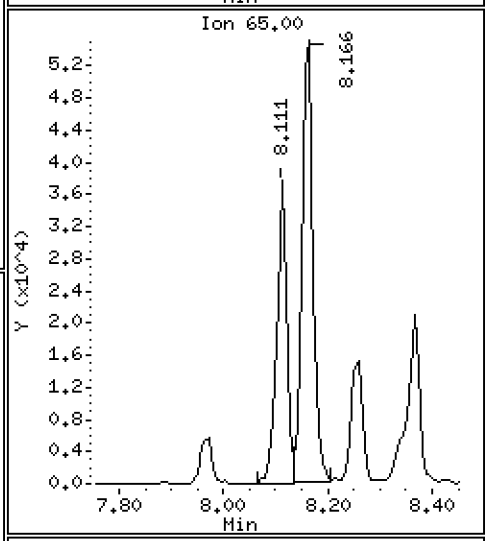


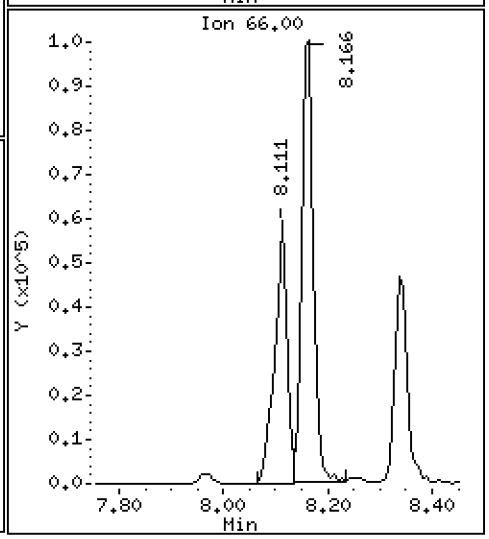












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

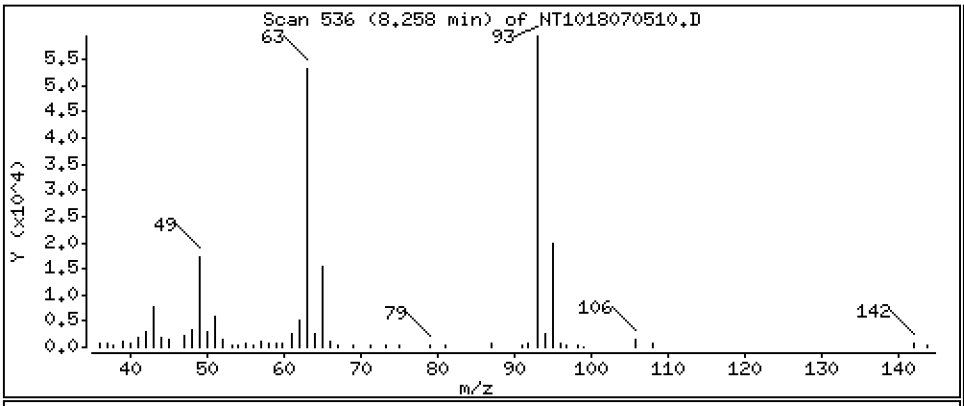
Operator: YZ

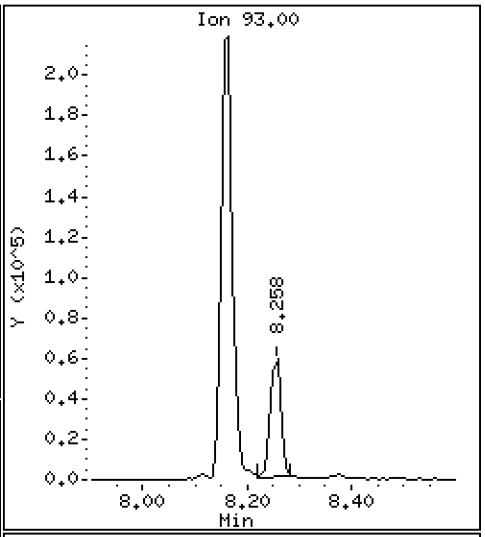
Column phase: ZB-5msi

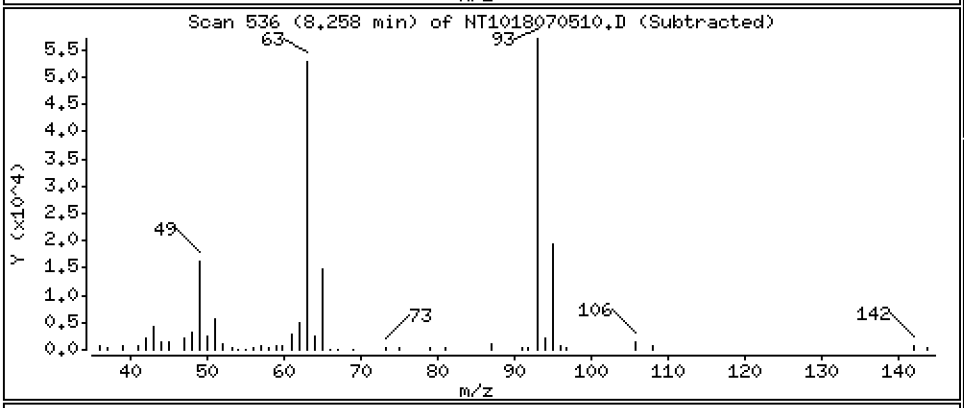
Column diameter: 0.25

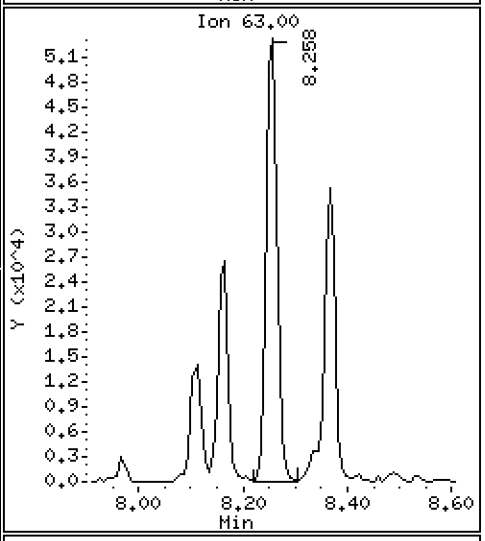
4 Bis(2-Chloroethyl)ether

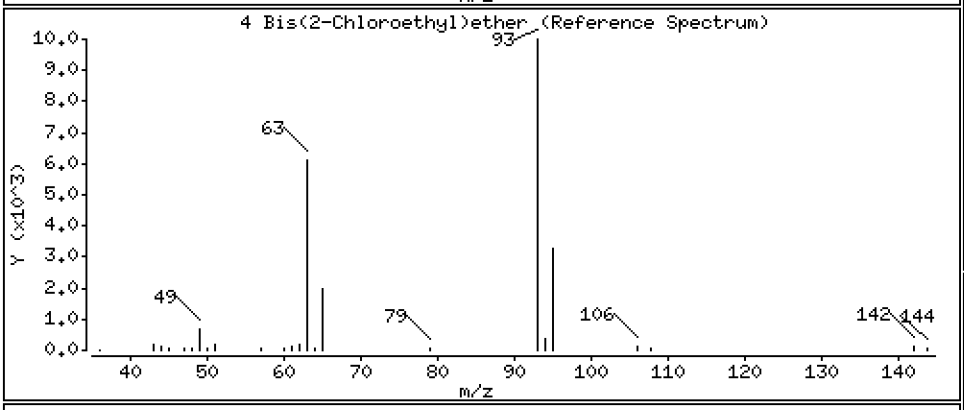
Concentration: 2.801 ug/mL

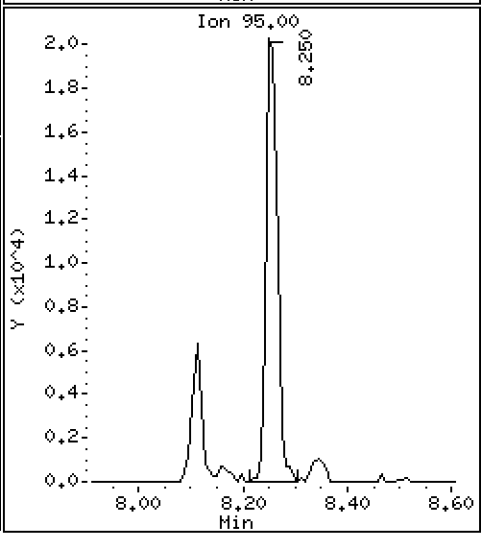


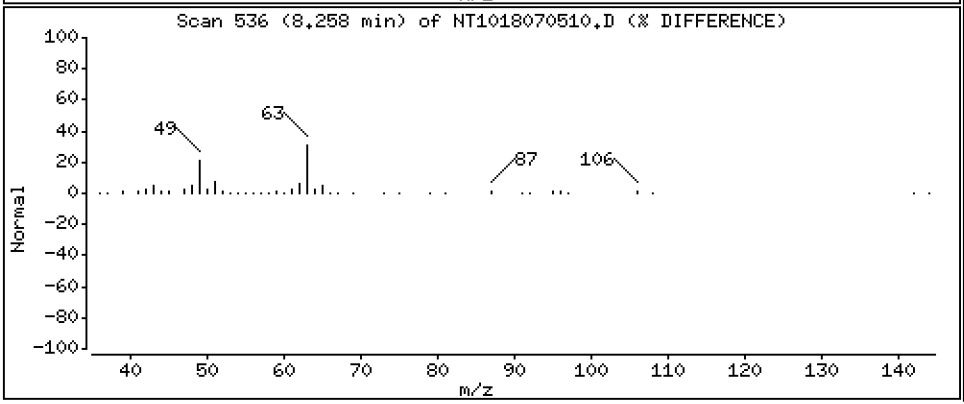












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

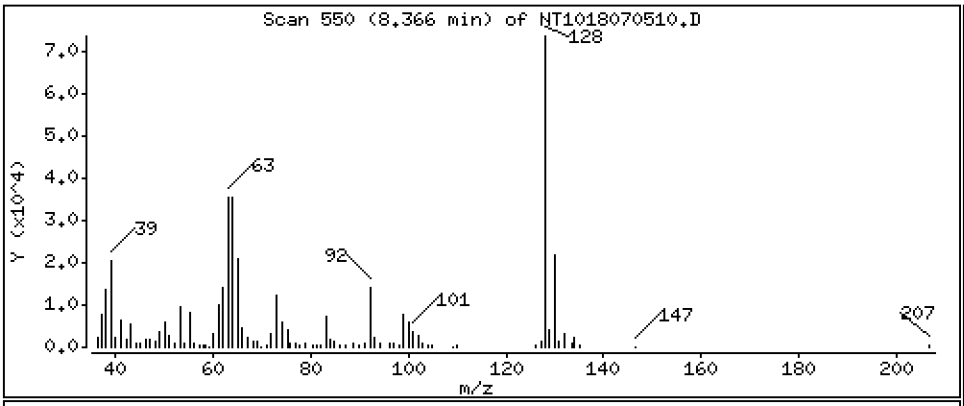
Operator: YZ

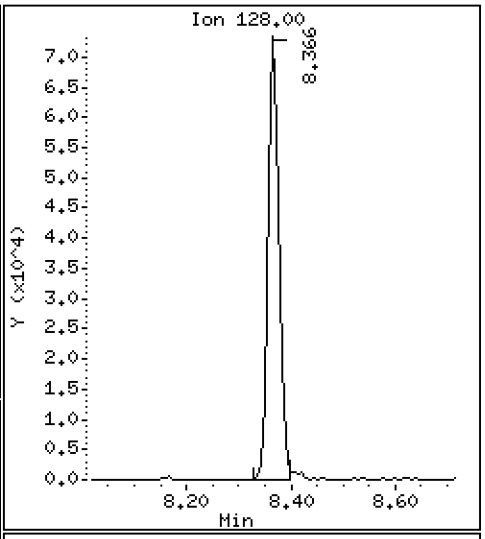
Column phase: ZB-5msi

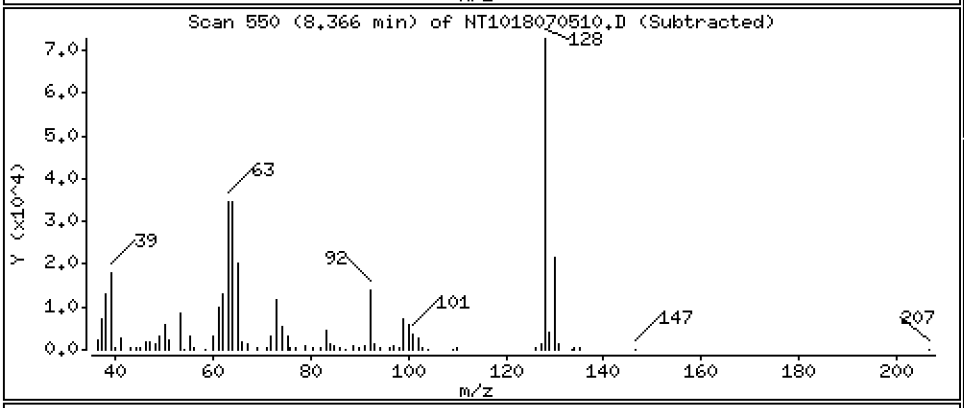
Column diameter: 0.25

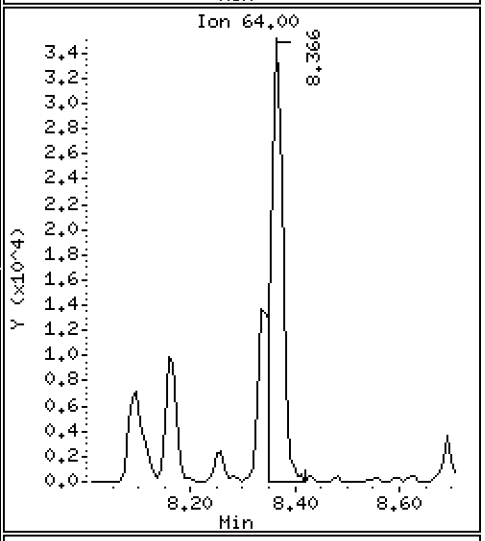
6 2-Chlorophenol

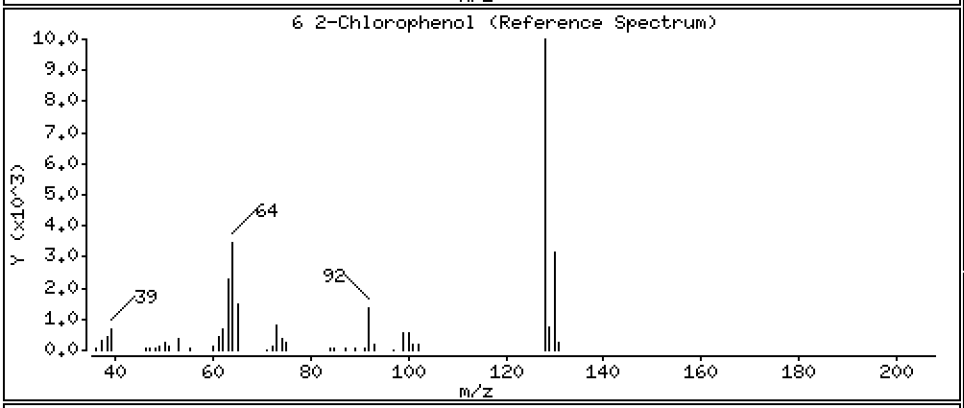
Concentration: 3.541 ug/mL

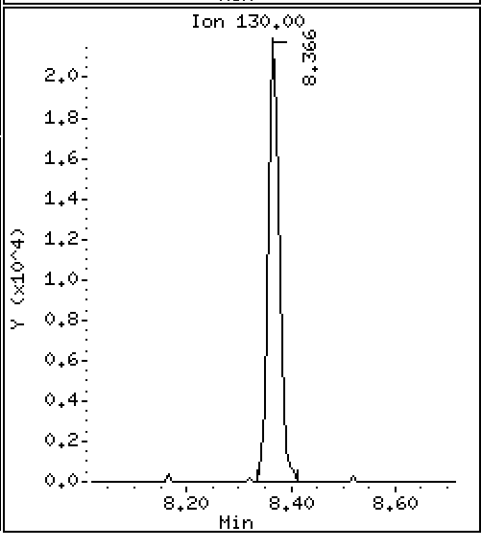


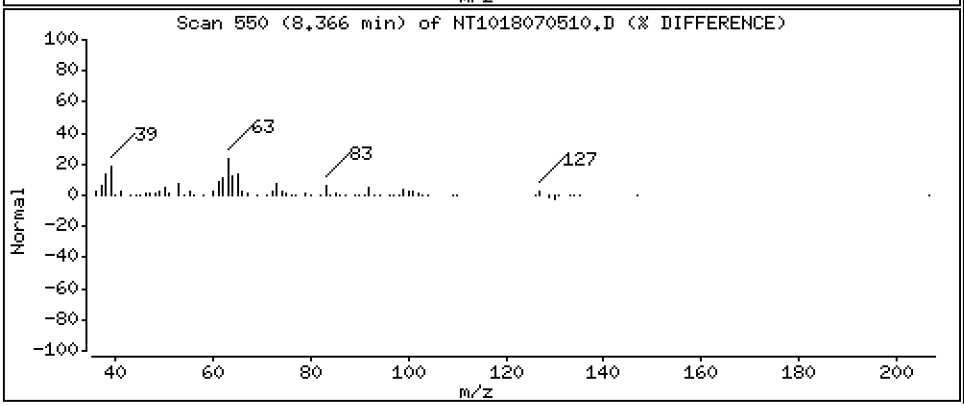












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

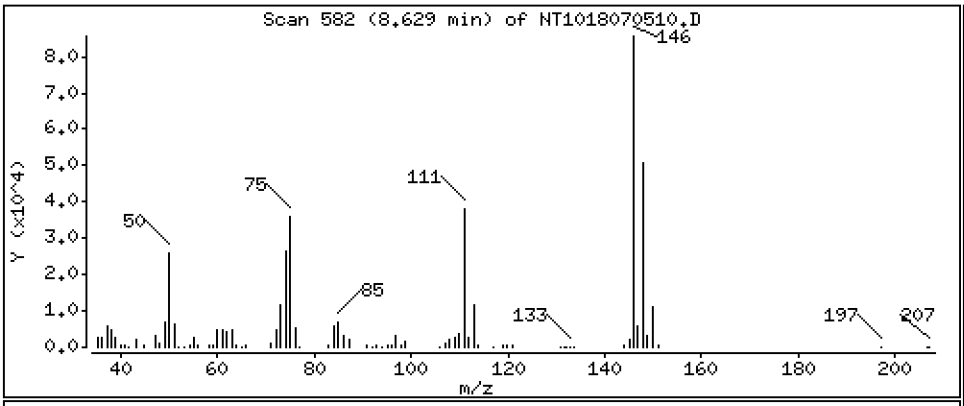
Operator: YZ

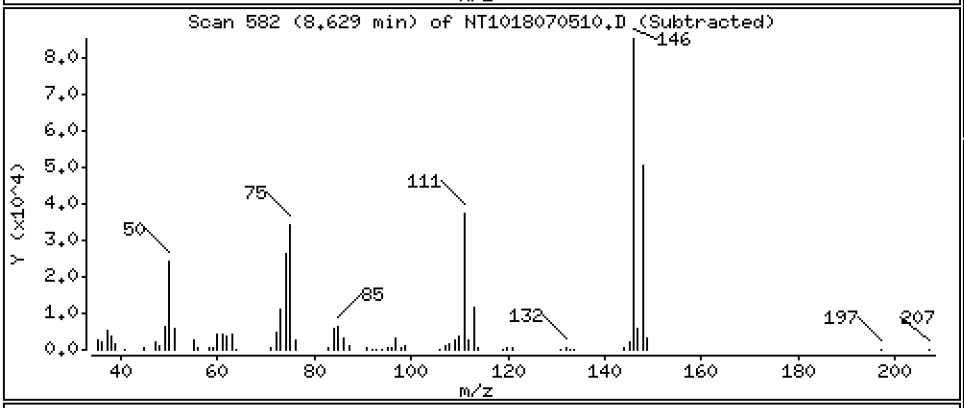
Column phase: ZB-5msi

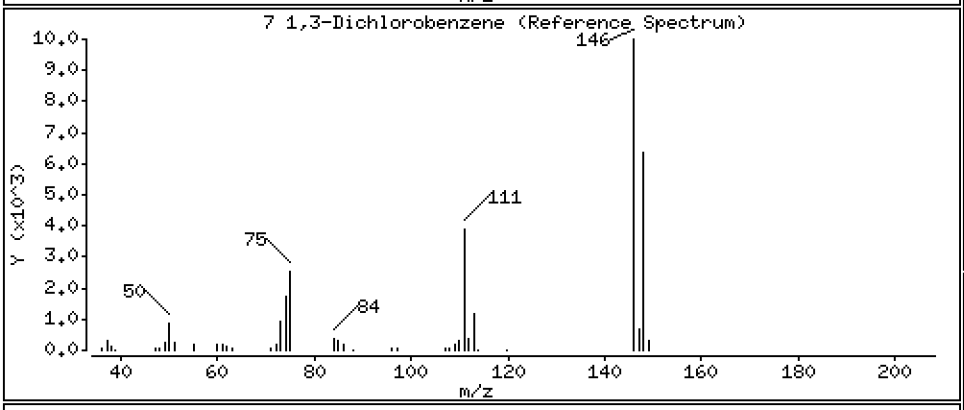
Column diameter: 0.25

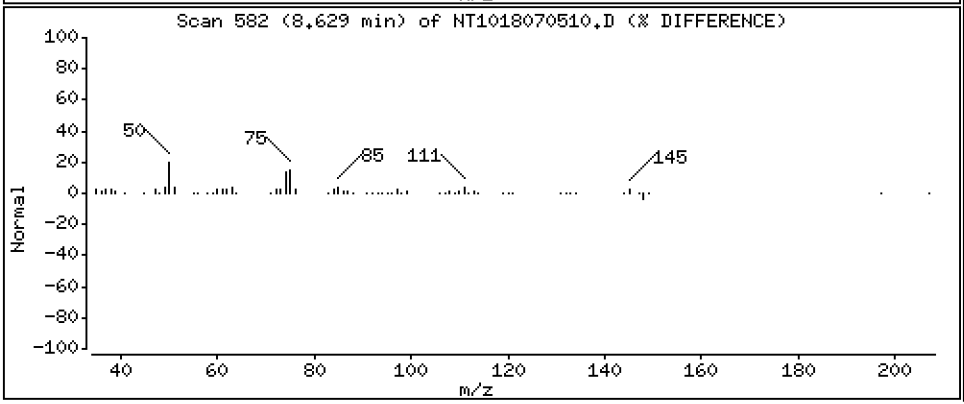
7 1,3-Dichlorobenzene

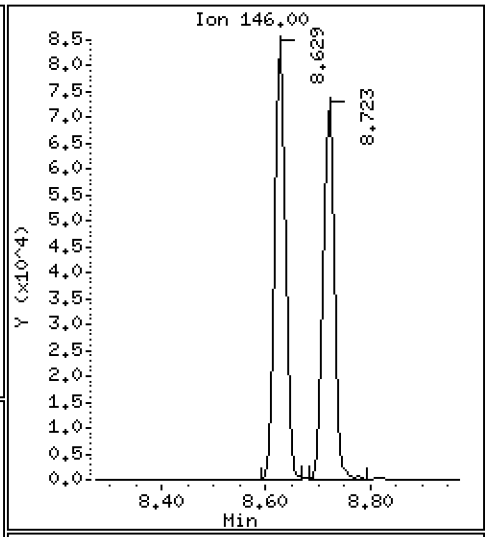
Concentration: 3.883 ug/mL

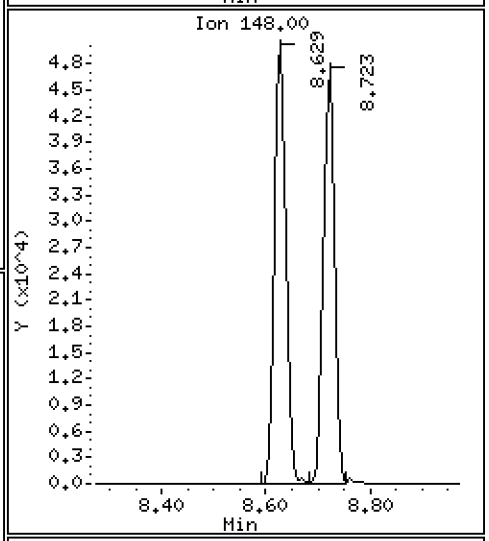


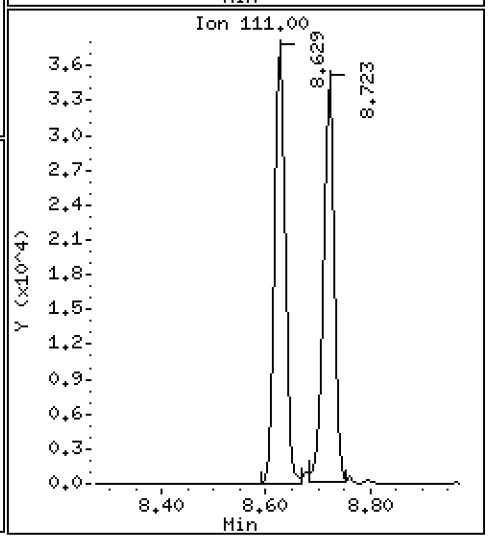












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

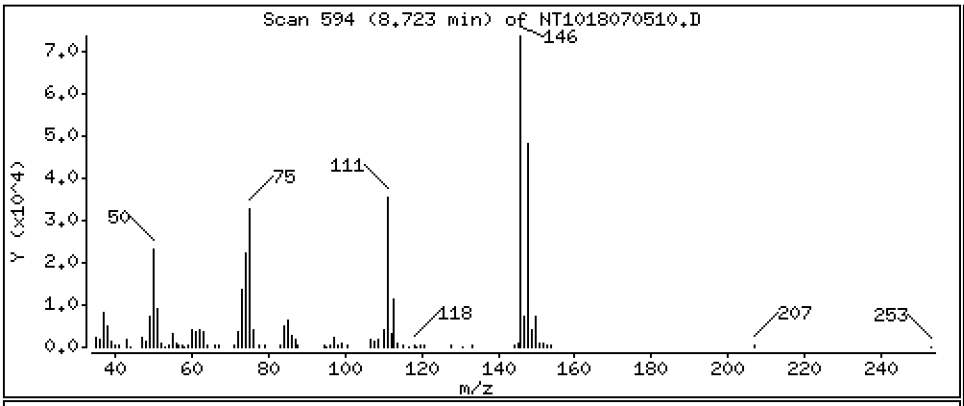
Operator: YZ

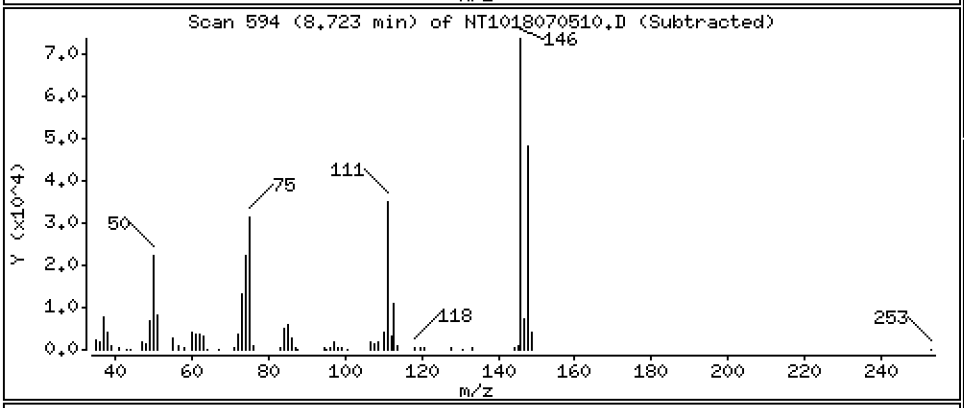
Column phase: ZB-5msi

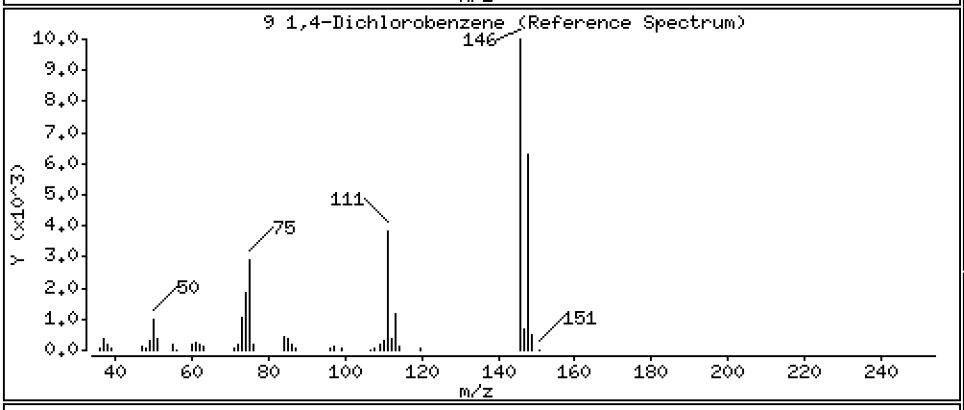
Column diameter: 0.25

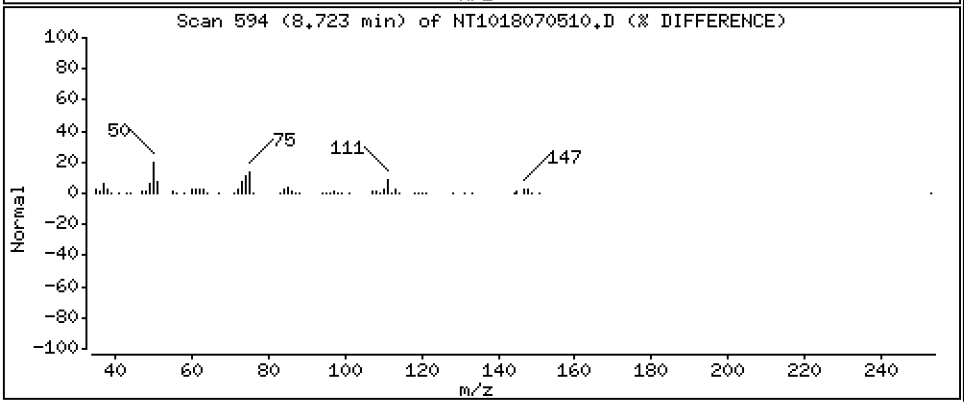
9 1,4-Dichlorobenzene

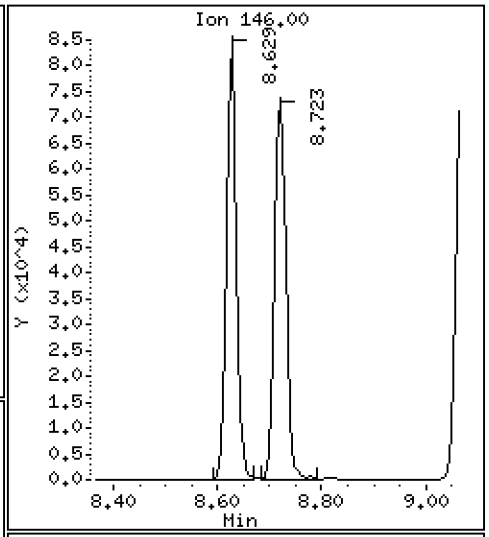
Concentration: 3.964 ug/mL

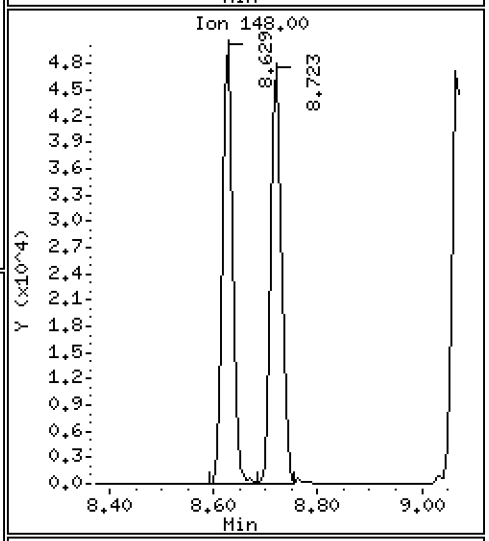


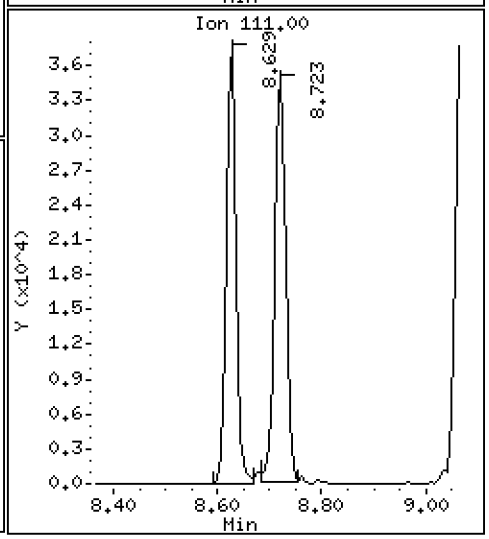












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

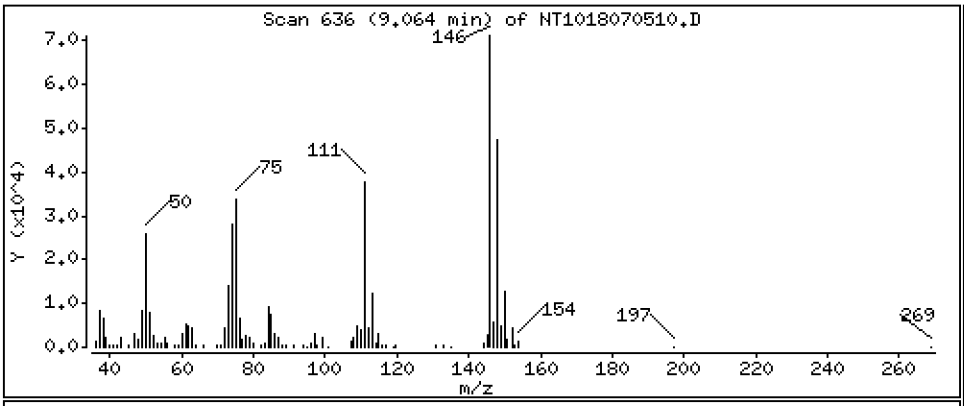
Operator: YZ

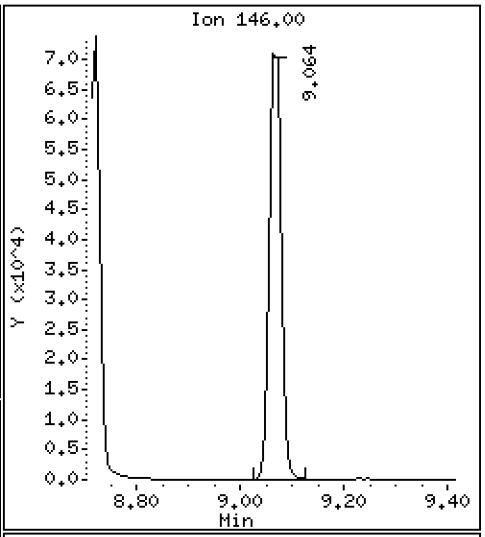
Column phase: ZB-5msi

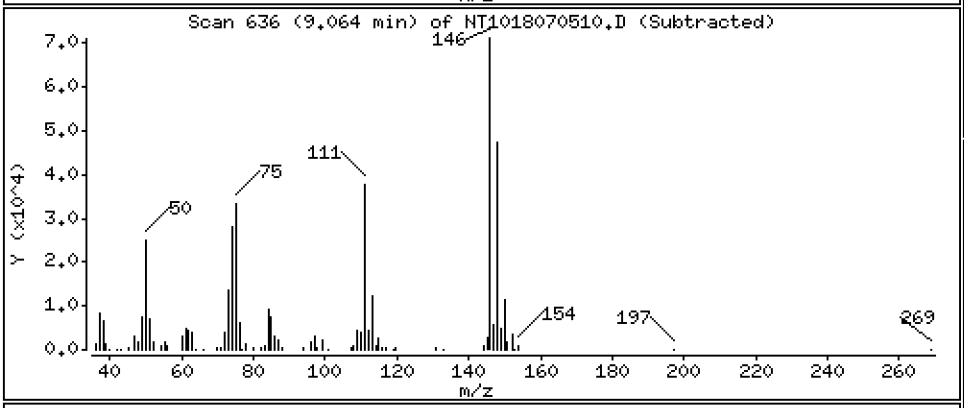
Column diameter: 0.25

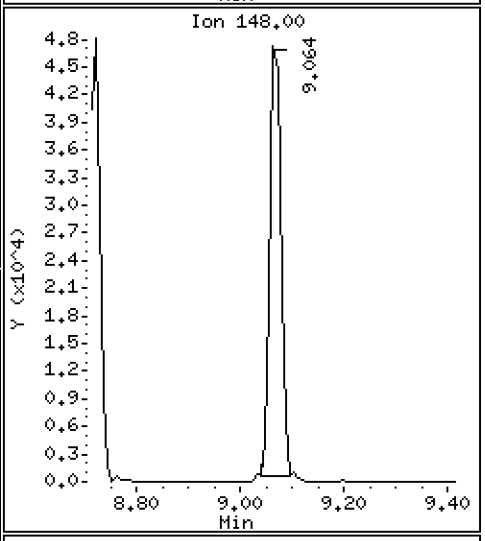
12 1,2-Dichlorobenzene

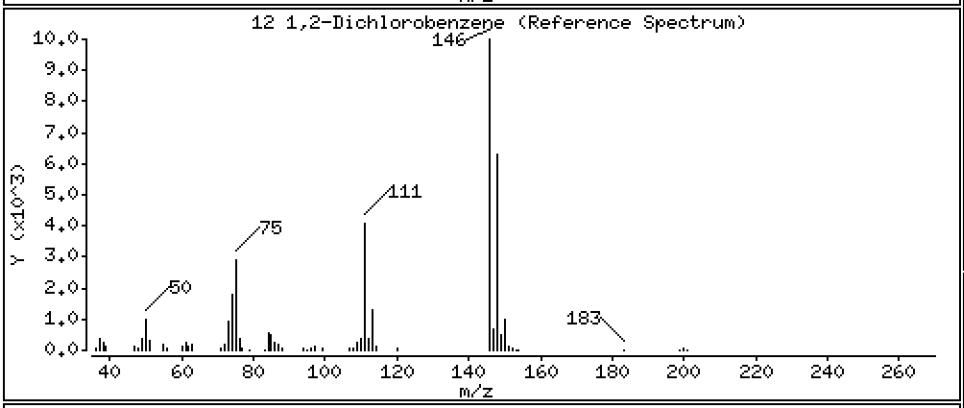
Concentration: 4.009 ug/mL

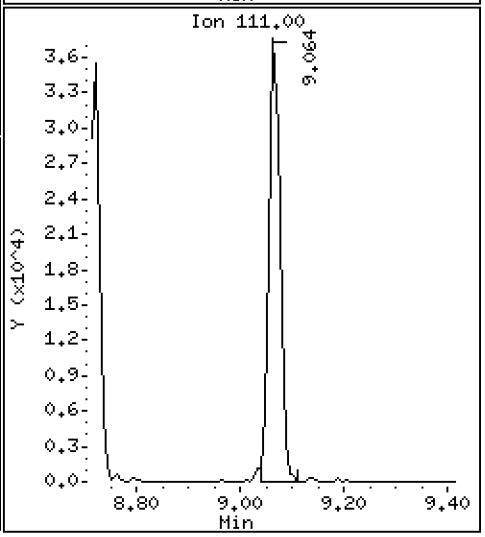


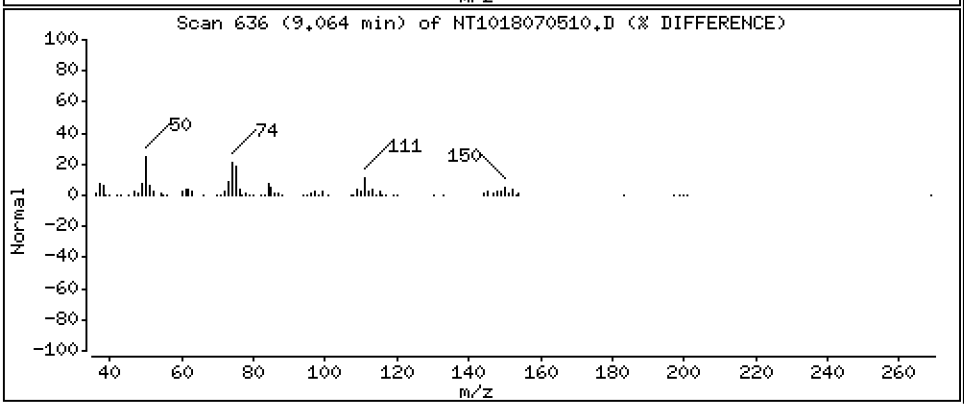












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

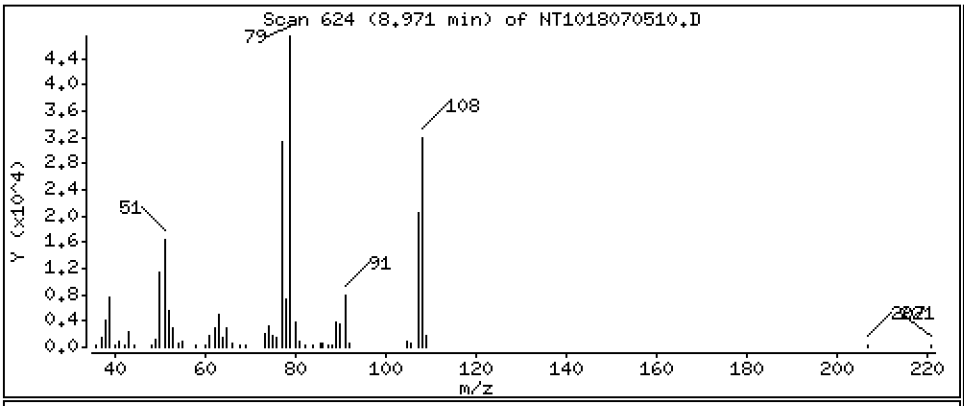
Operator: YZ

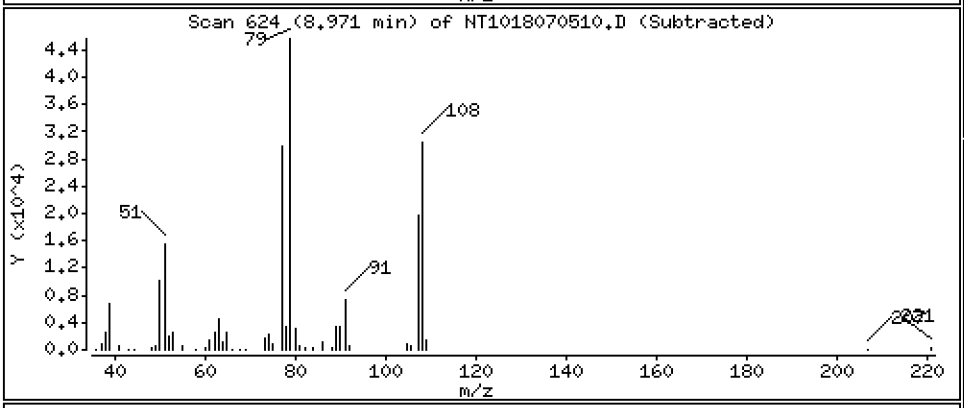
Column phase: ZB-5msi

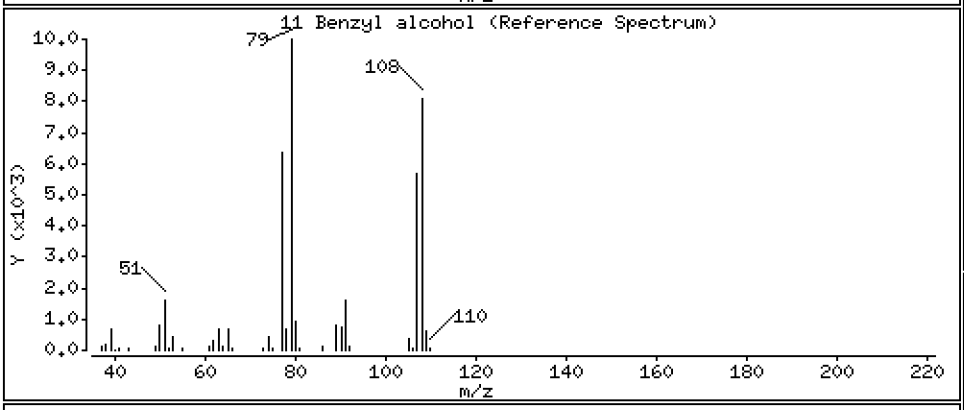
Column diameter: 0.25

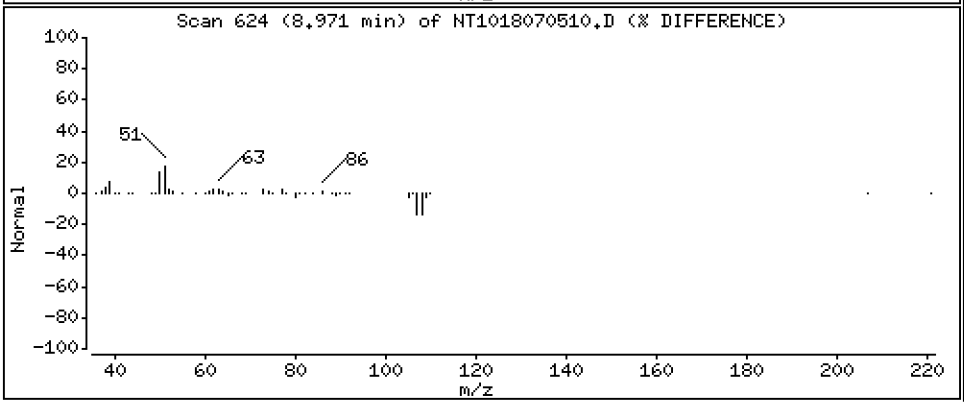
11 Benzyl alcohol

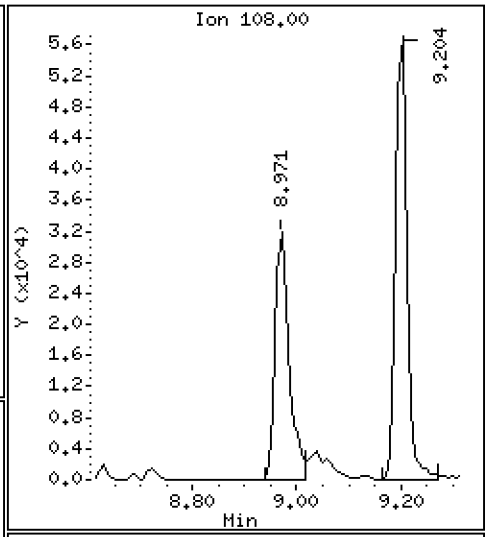
Concentration: 3.209 ug/mL

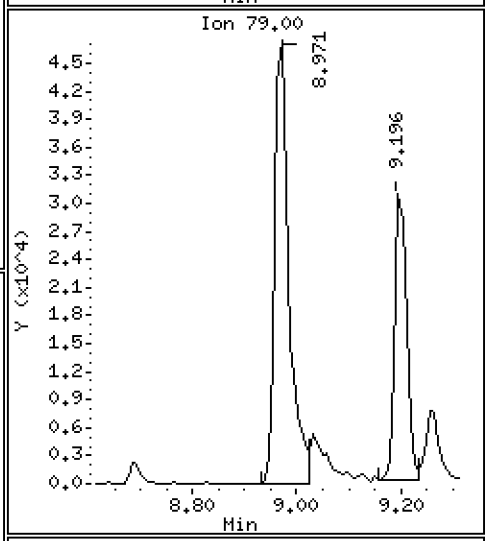


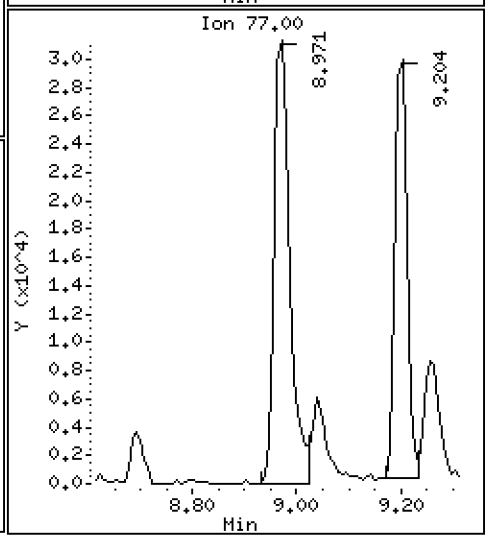












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

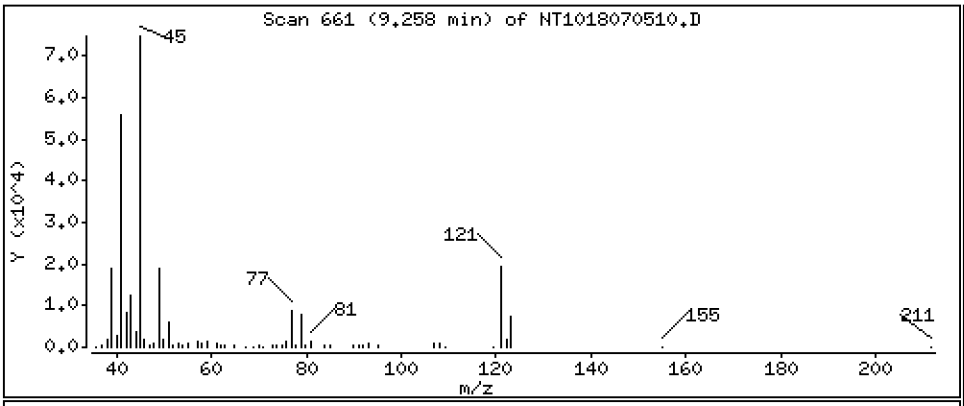
Operator: YZ

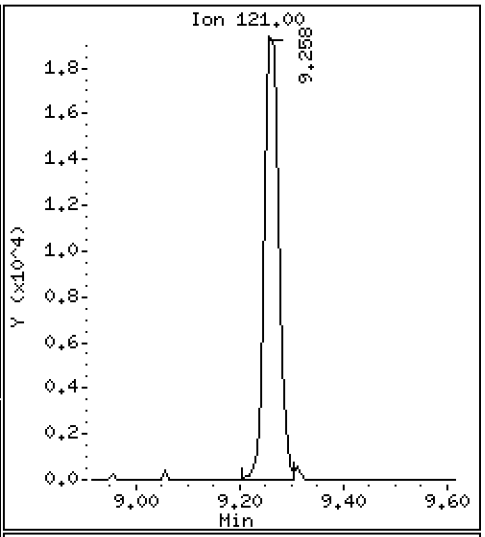
Column phase: ZB-5msi

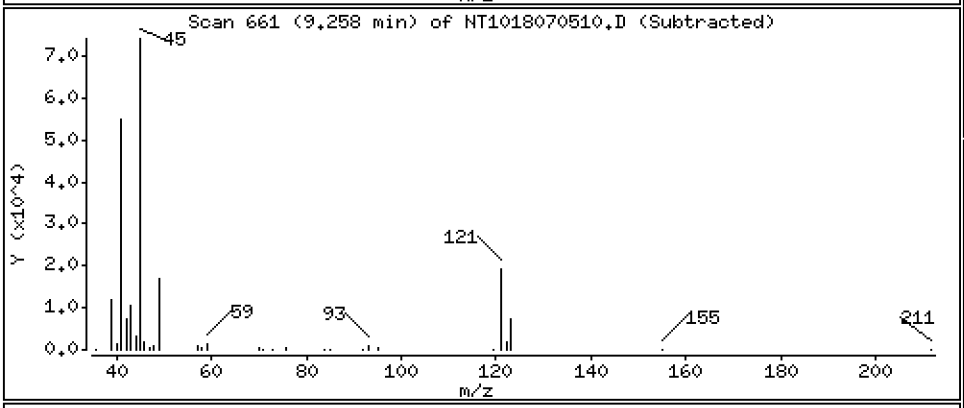
Column diameter: 0.25

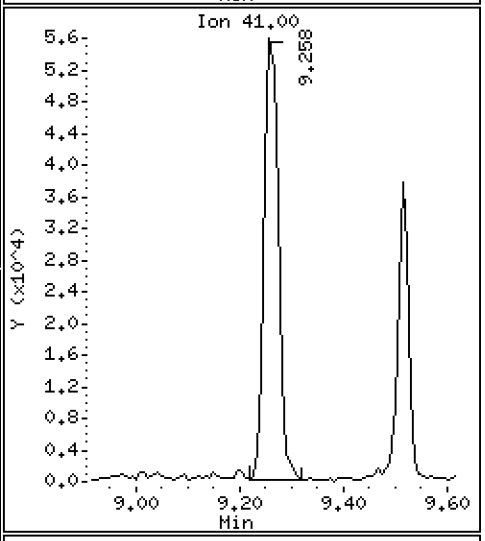
14 2,2'-oxybis(1-Chloropropane)

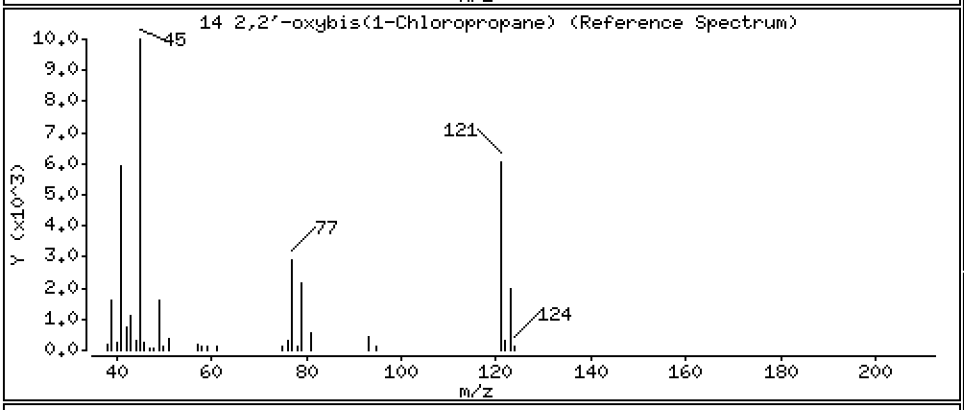
Concentration: 3.406 ug/mL

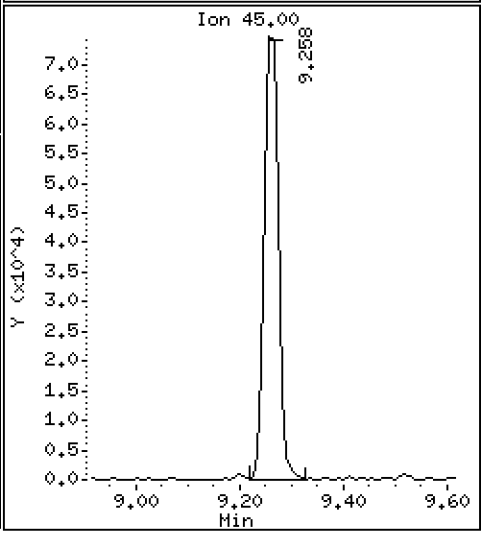


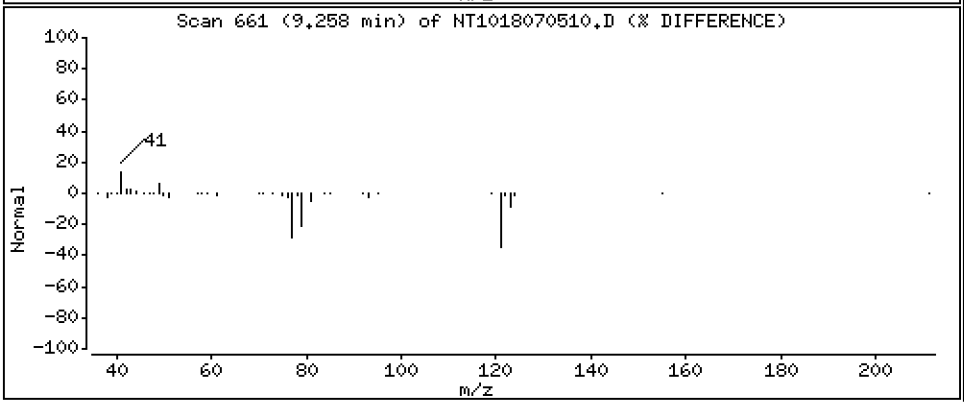












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

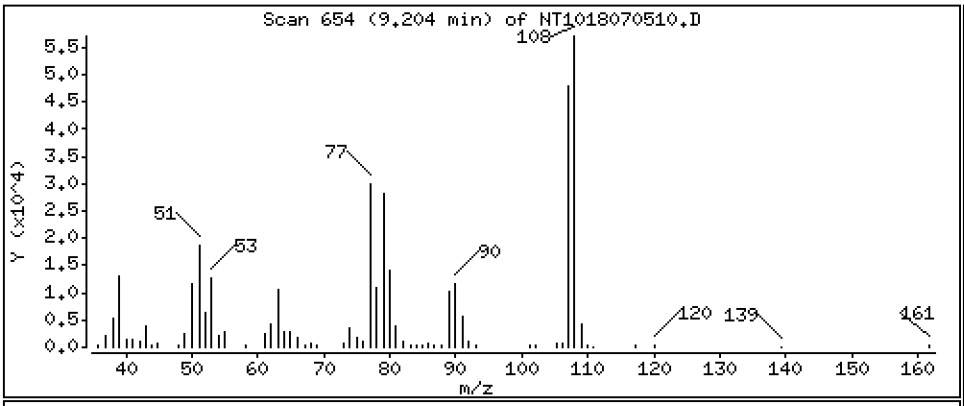
Operator: YZ

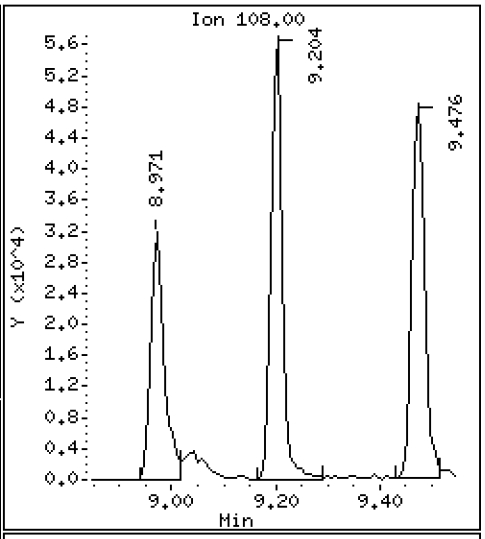
Column phase: ZB-5msi

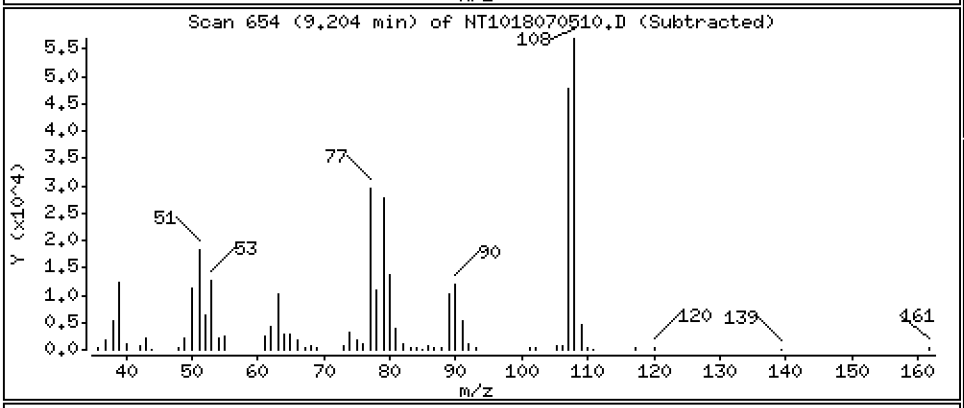
Column diameter: 0.25

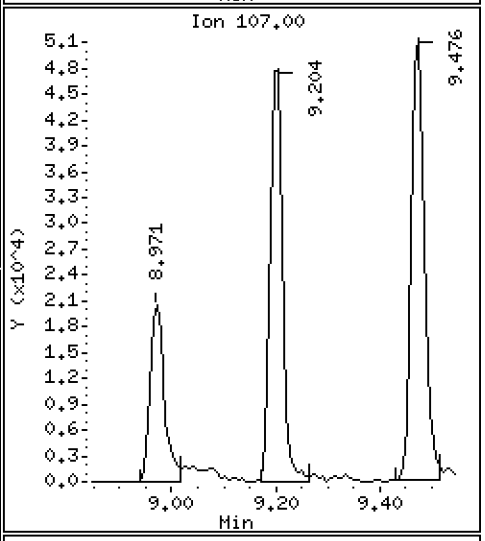
13 2-Methylphenol

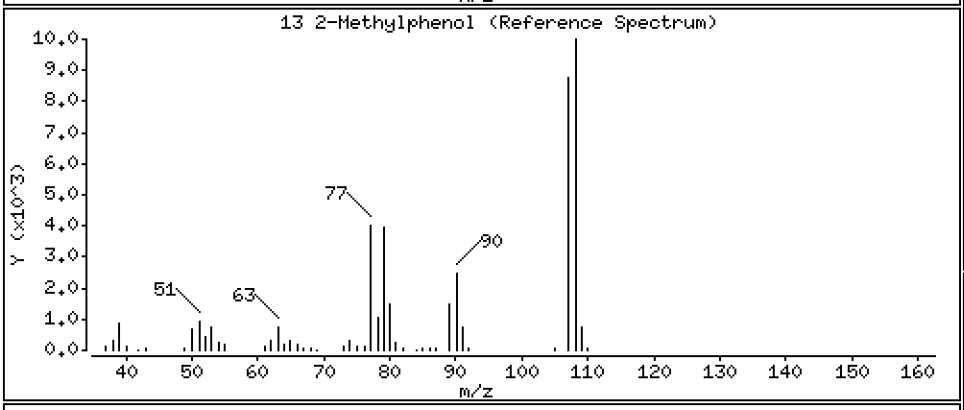
Concentration: 3.420 ug/mL

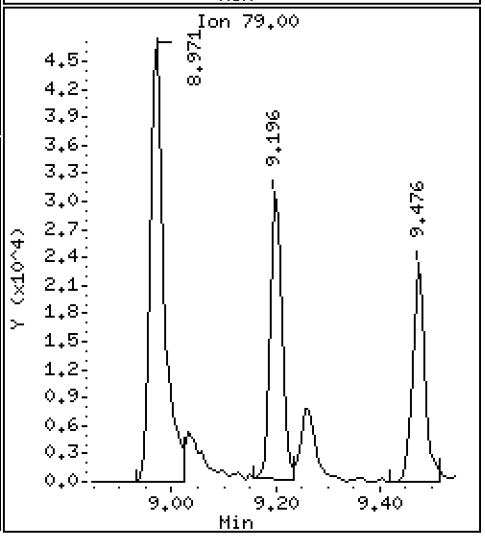


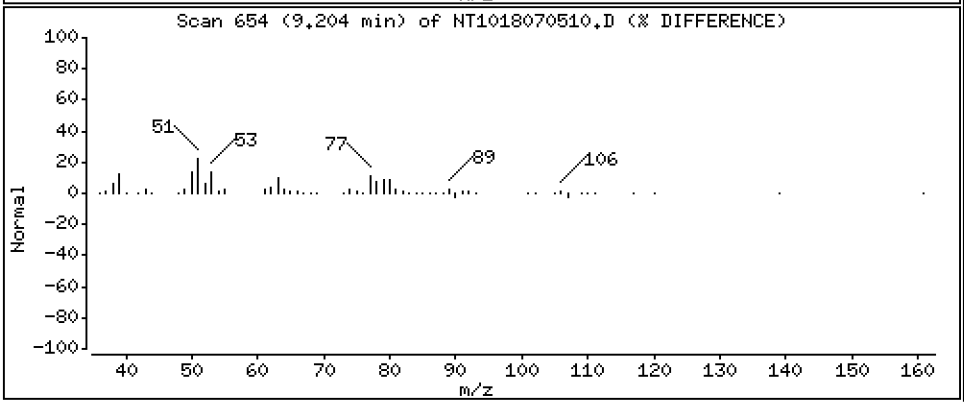












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

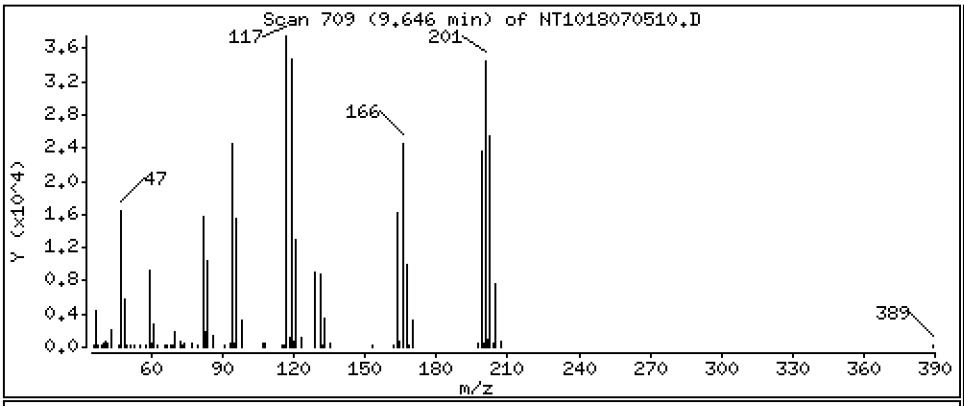
Operator: YZ

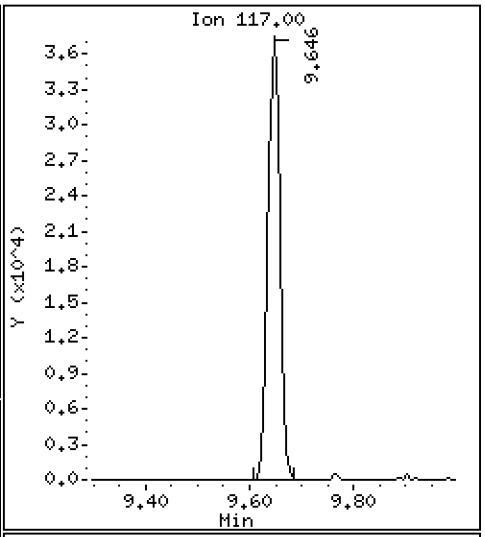
Column phase: ZB-5msi

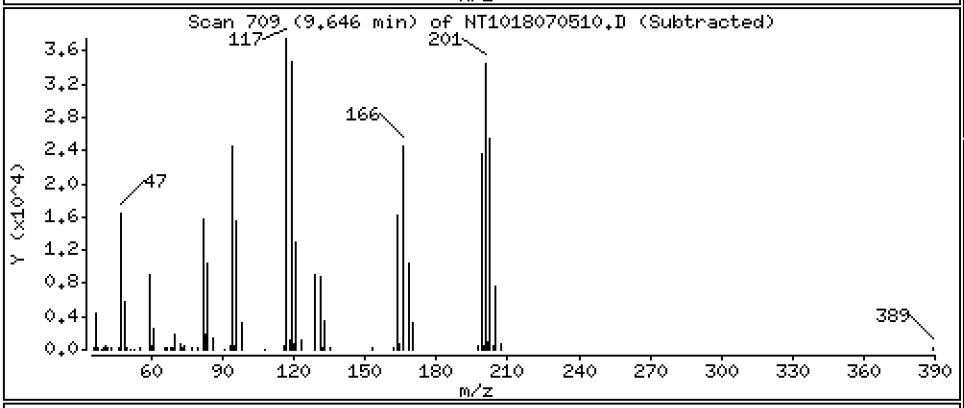
Column diameter: 0.25

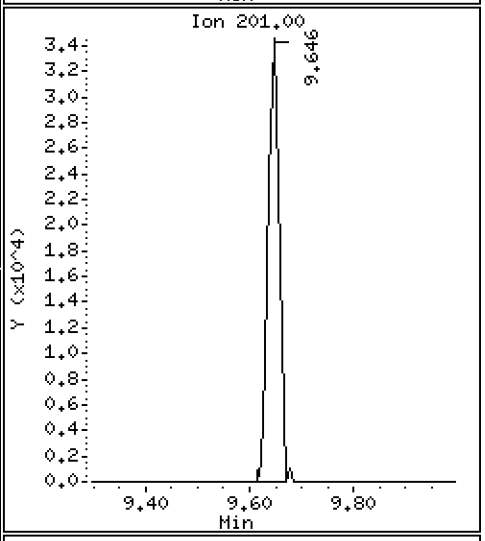
17 Hexachloroethane

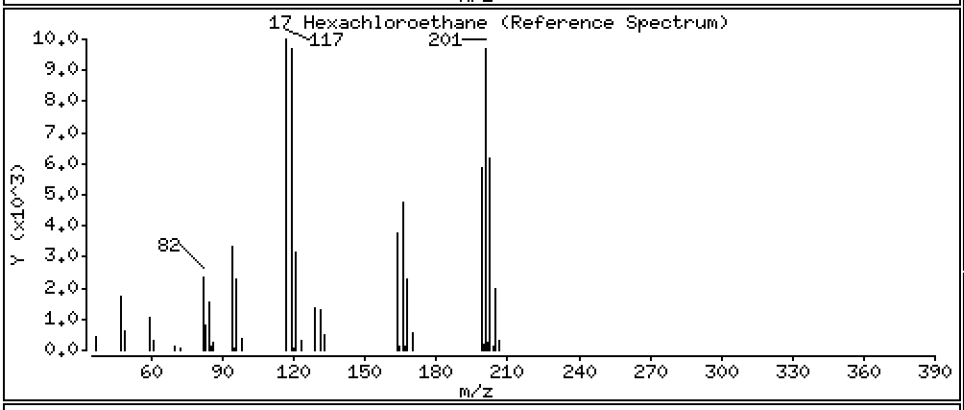
Concentration: 4.562 ug/mL

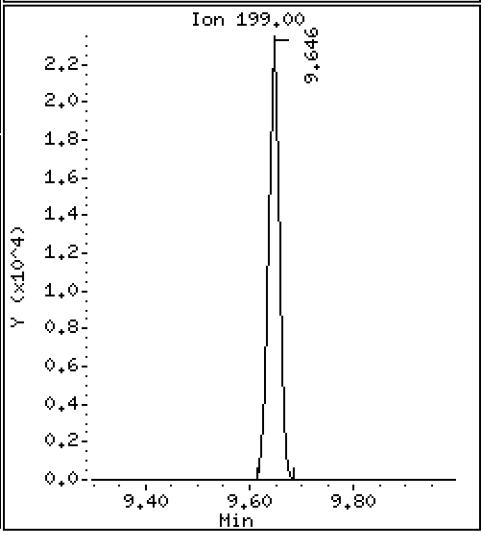


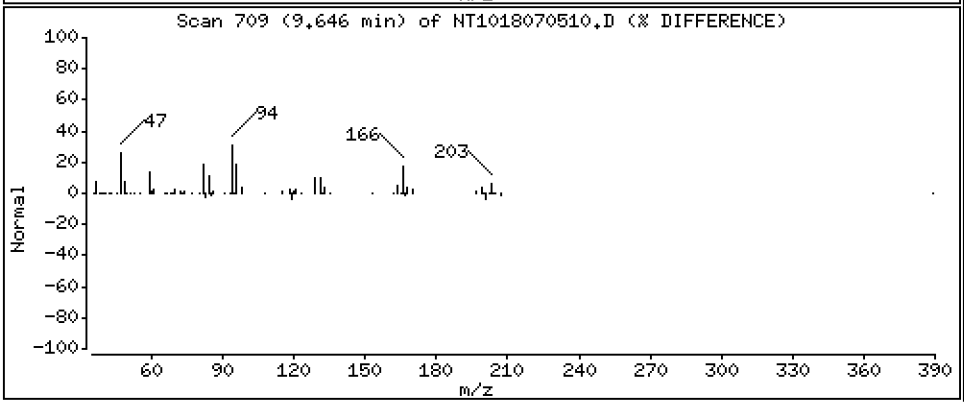












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

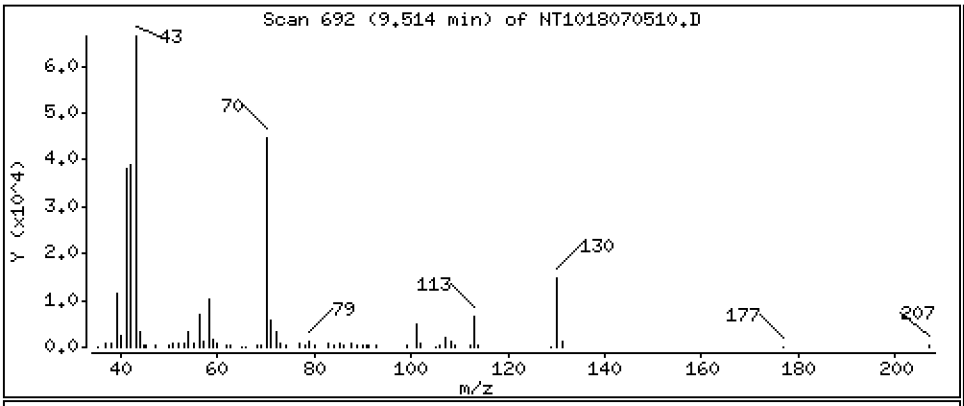
Operator: YZ

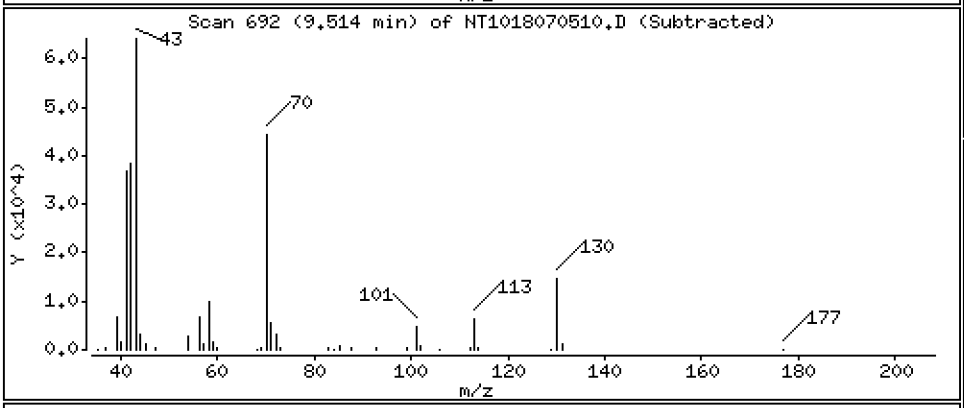
Column phase: ZB-5msi

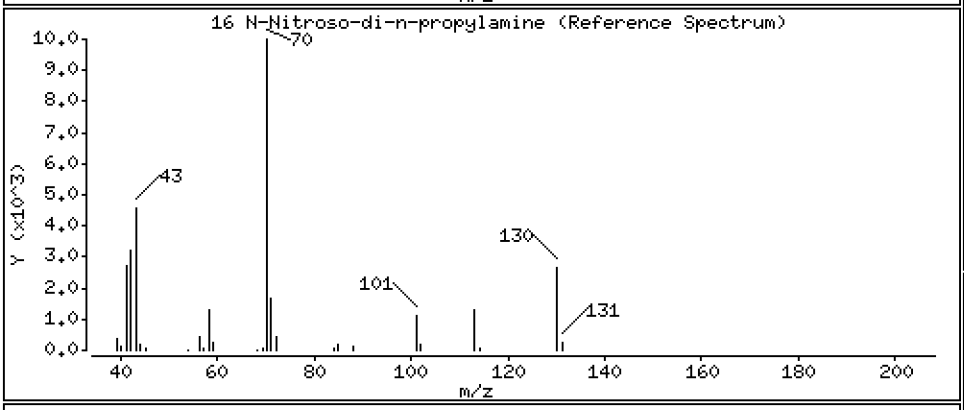
Column diameter: 0.25

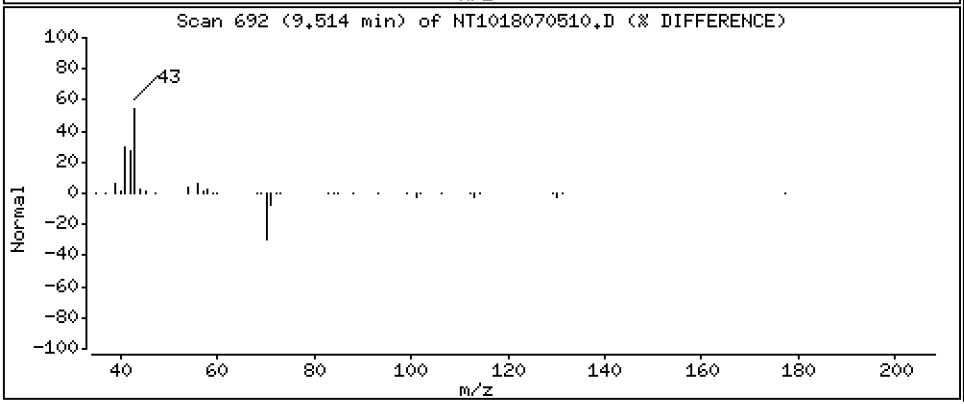
16 N-Nitroso-di-n-propylamine

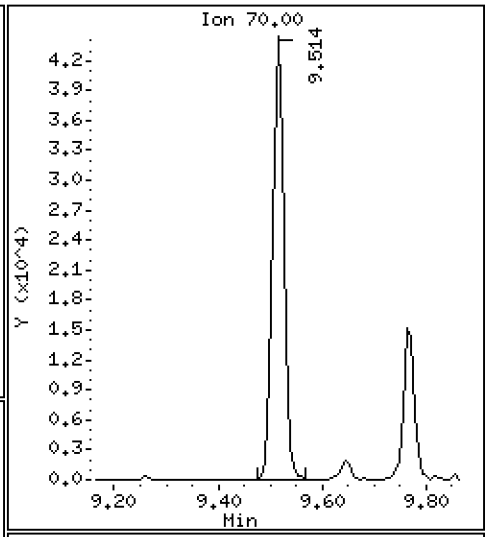
Concentration: 3.557 ug/mL

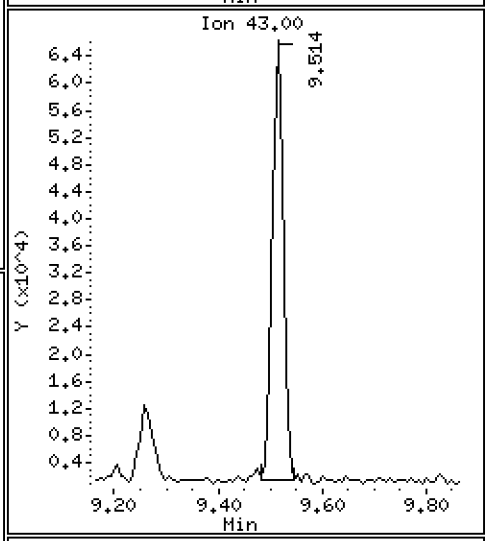


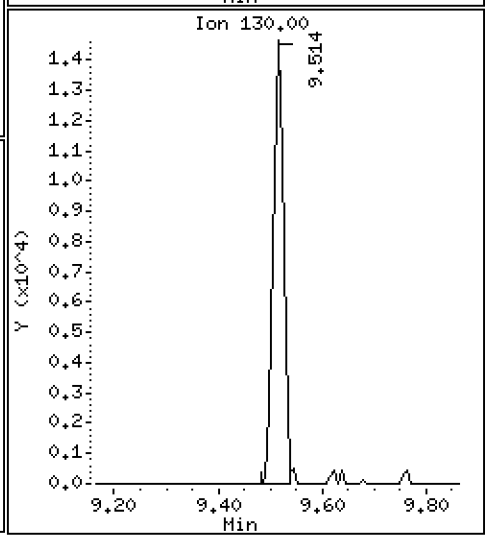












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

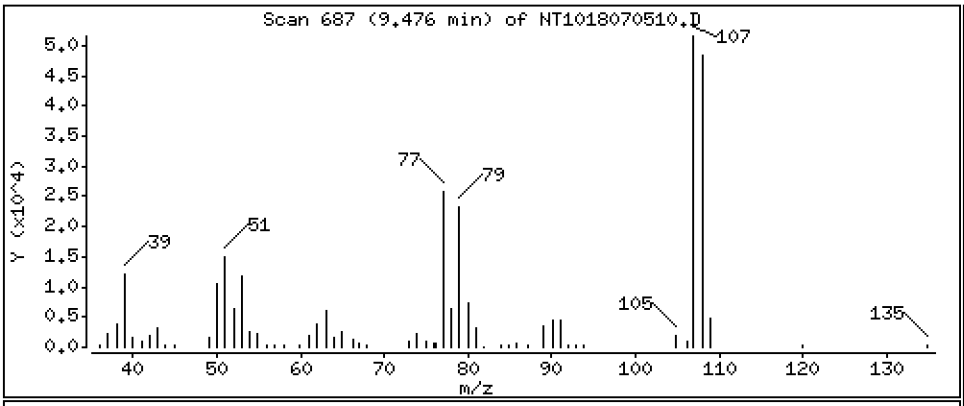
Operator: YZ

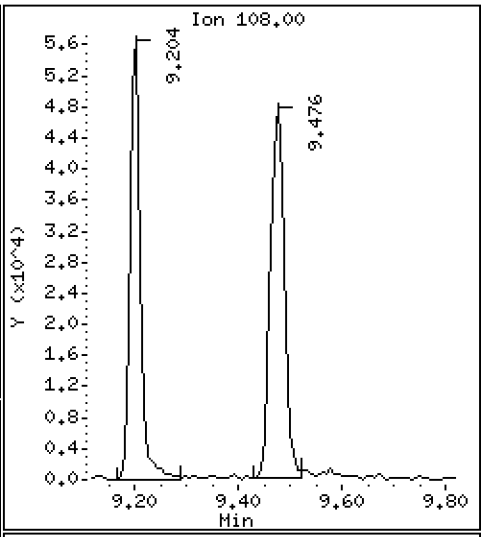
Column phase: ZB-5msi

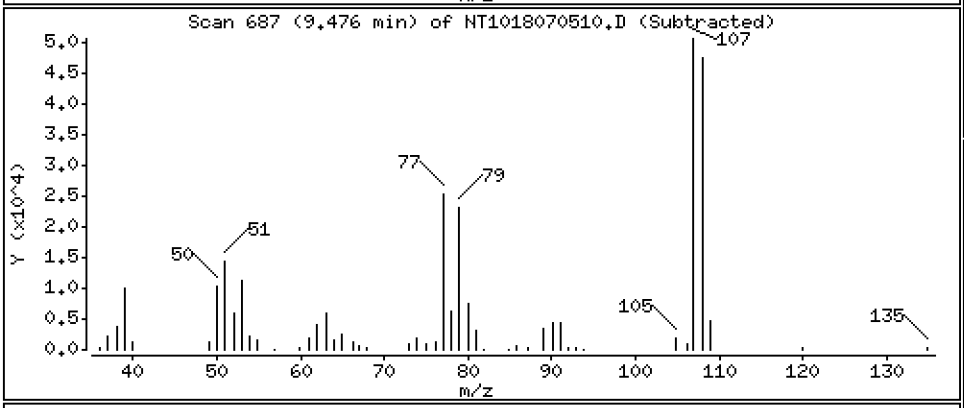
Column diameter: 0.25

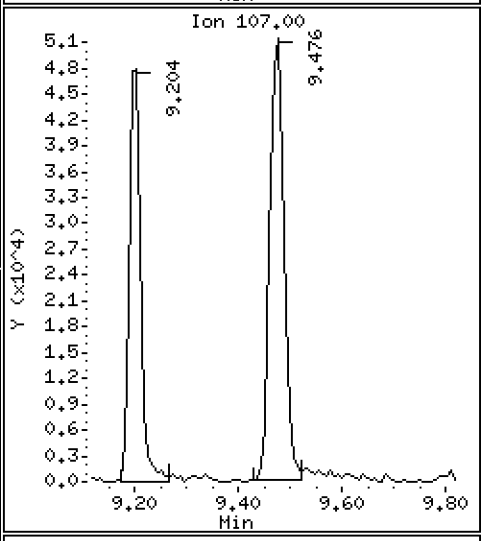
15 4-Methylphenol

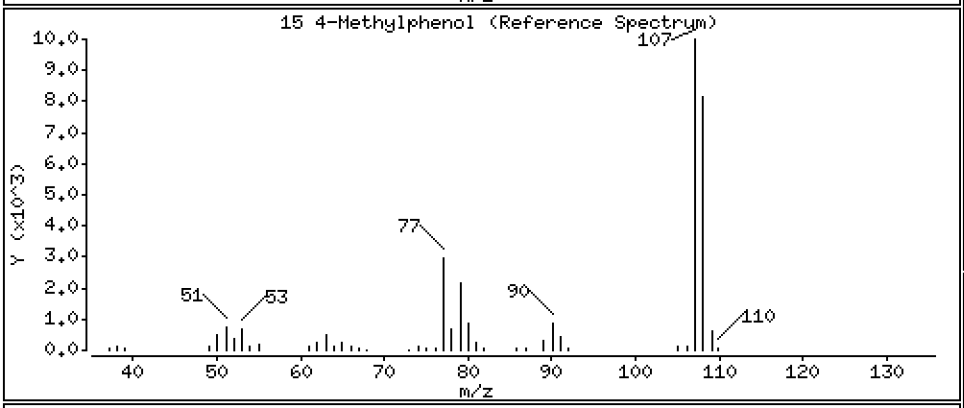
Concentration: 3.408 ug/mL

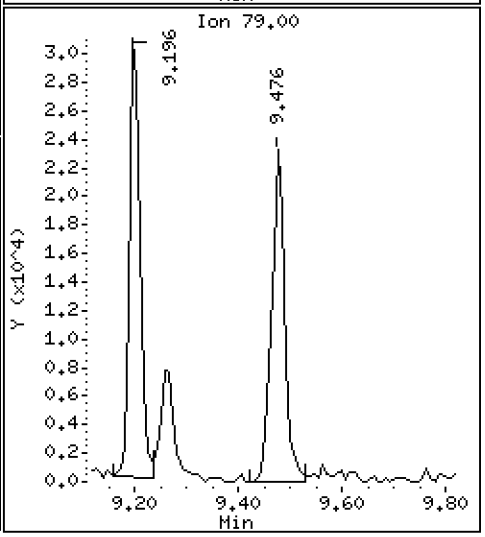


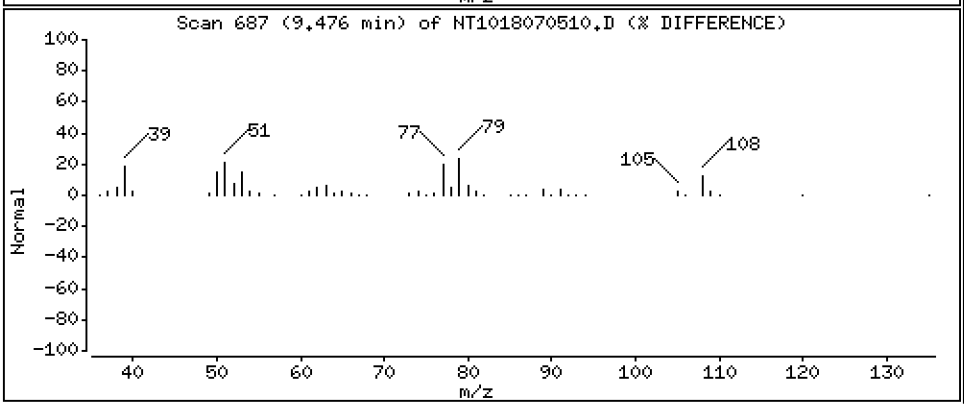












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

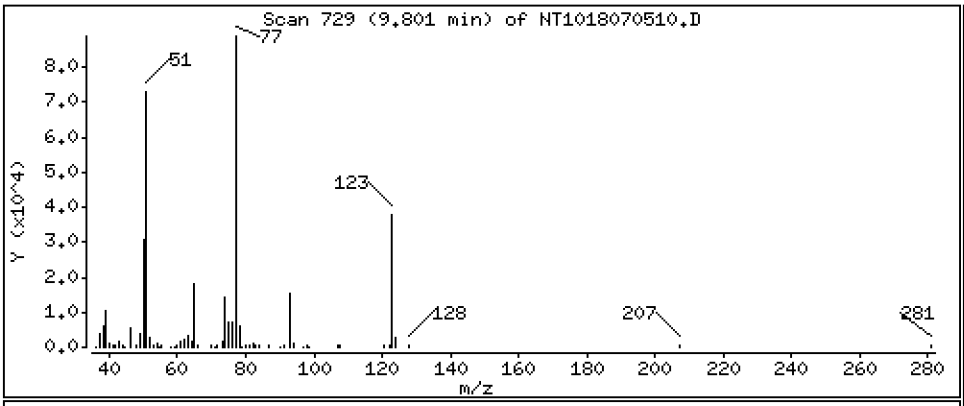
Operator: YZ

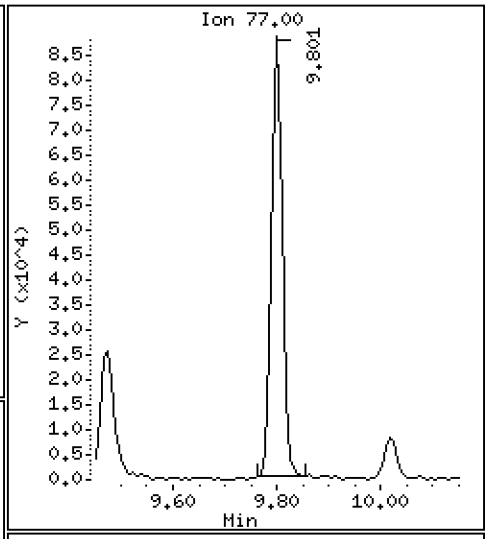
Column phase: ZB-5msi

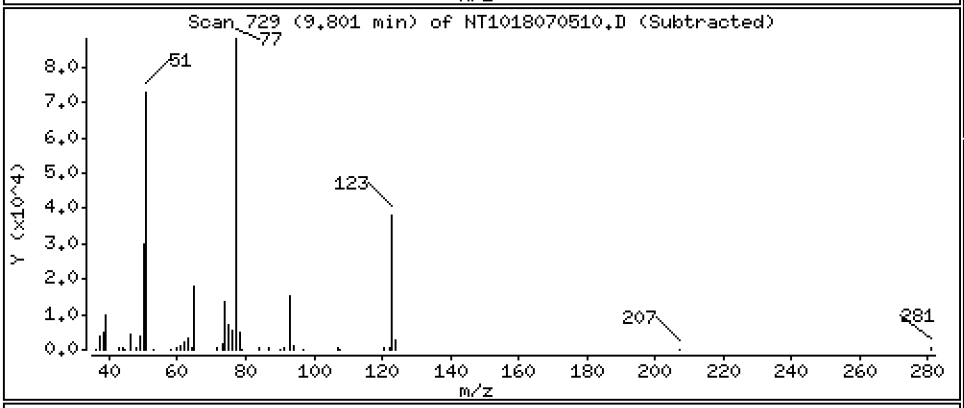
Column diameter: 0.25

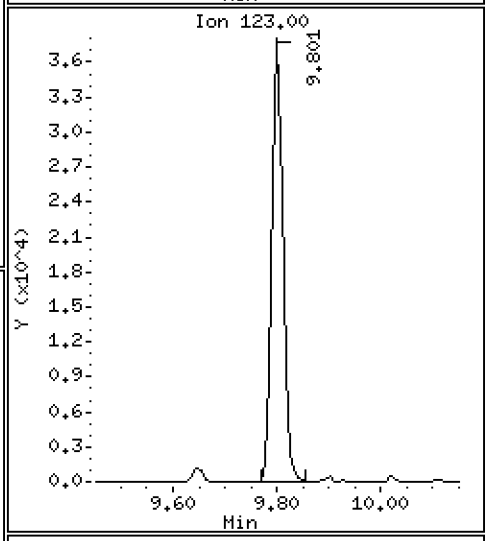
19 Nitrobenzene

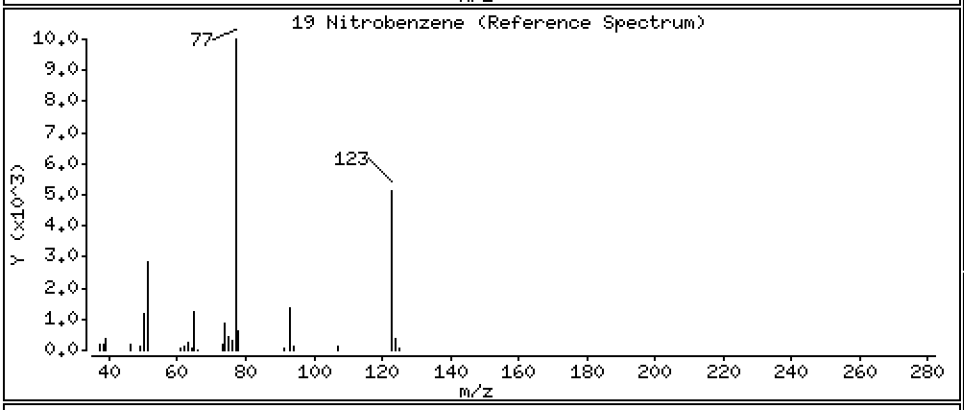
Concentration: 4.131 ug/mL

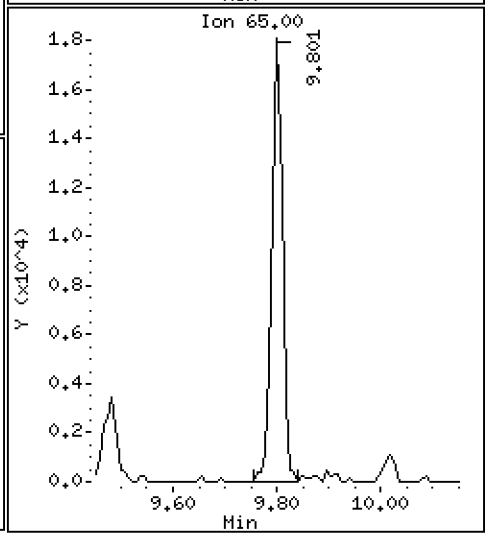


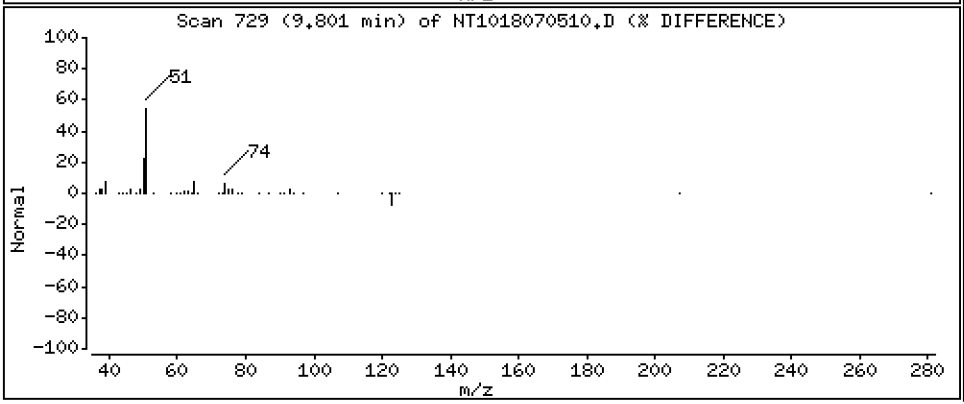












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

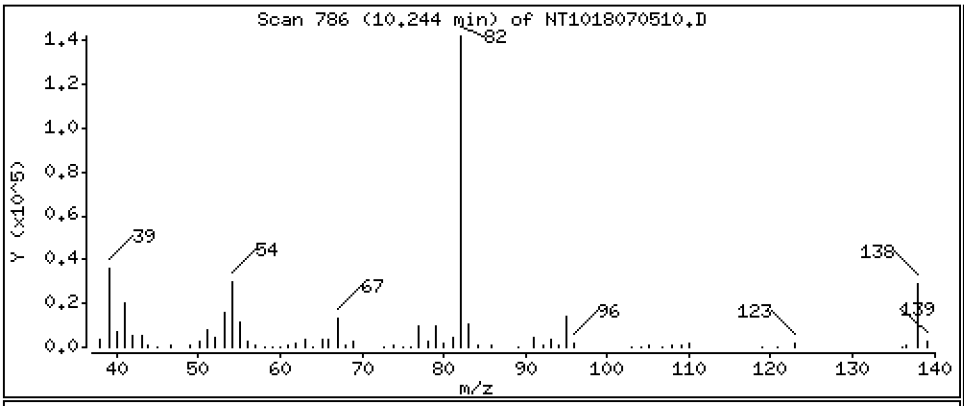
Operator: YZ

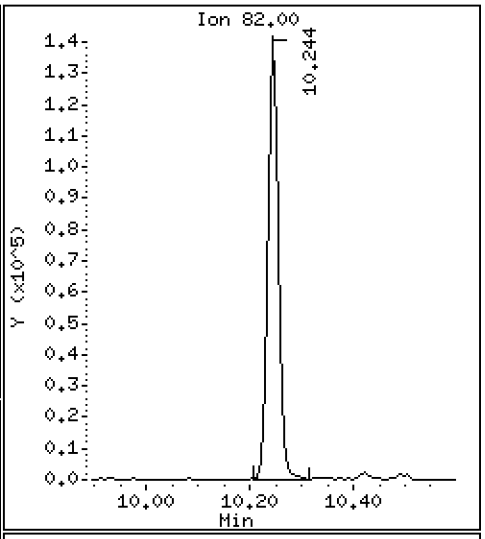
Column phase: ZB-5msi

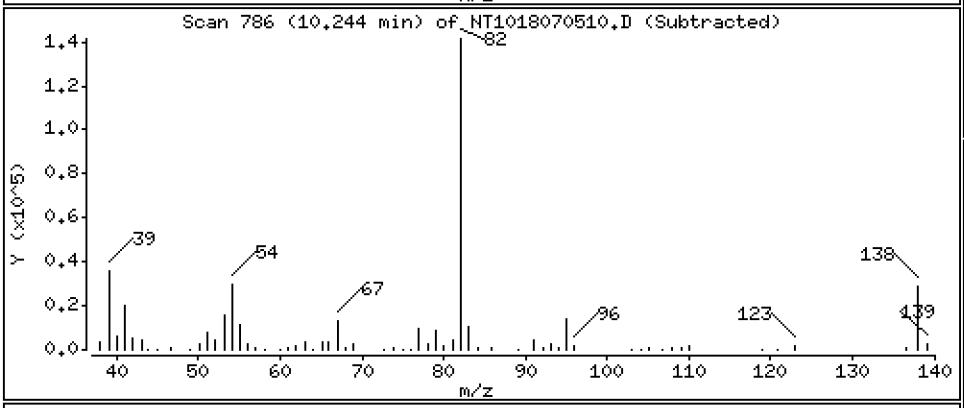
Column diameter: 0.25

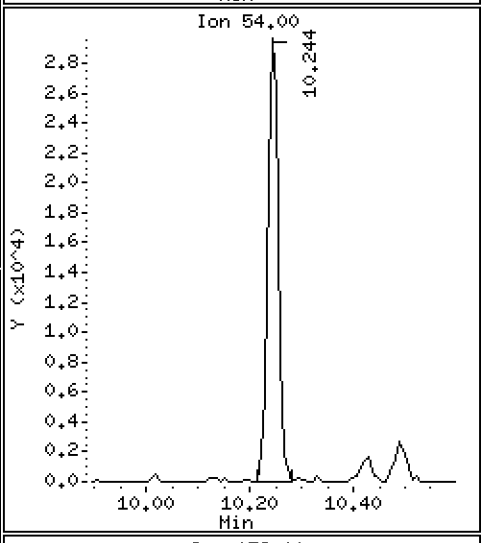
20 Isophorone

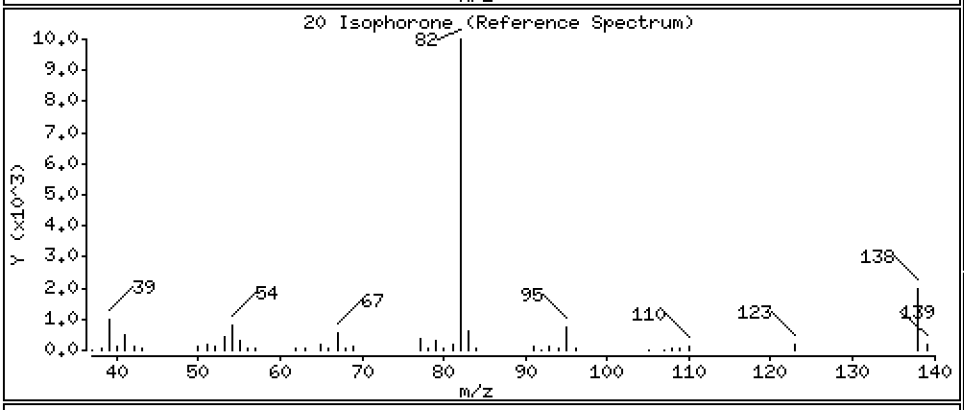
Concentration: 4.122 ug/mL

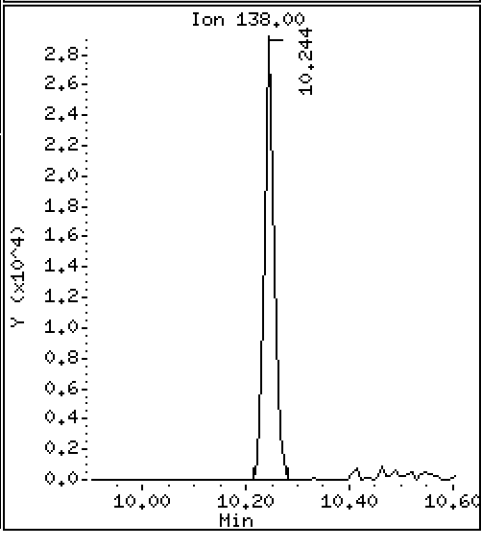


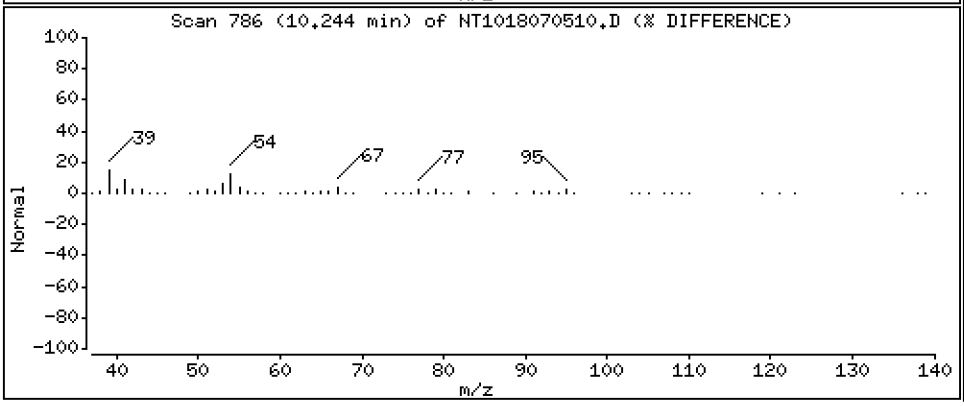












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

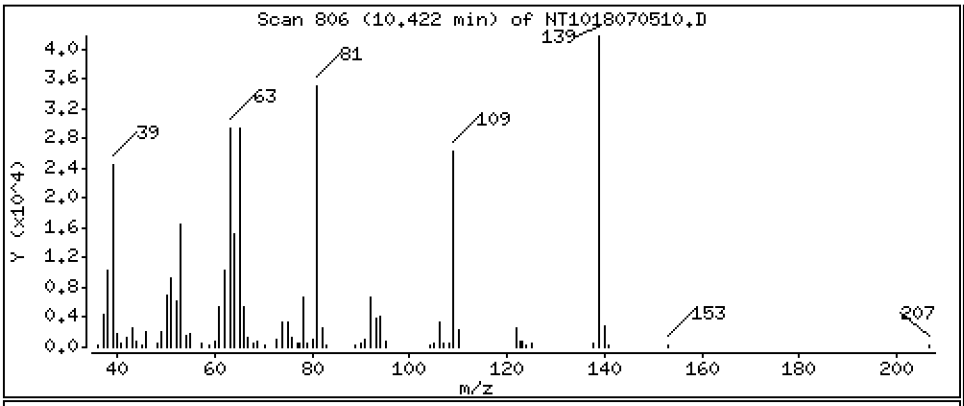
Operator: YZ

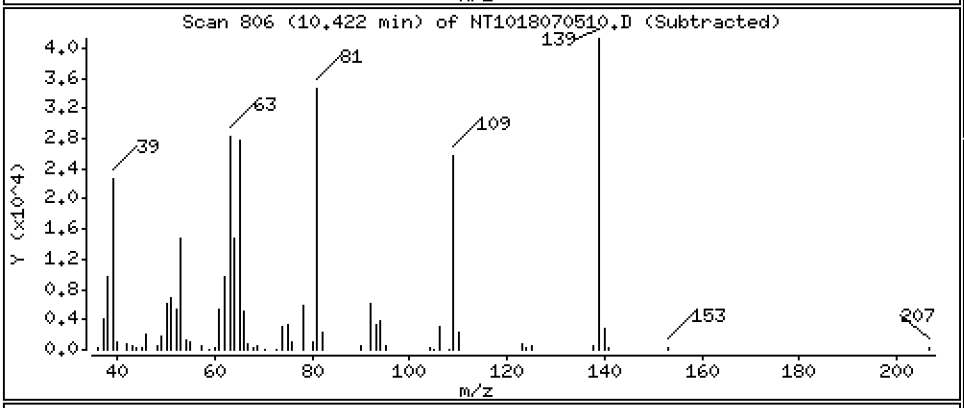
Column phase: ZB-5msi

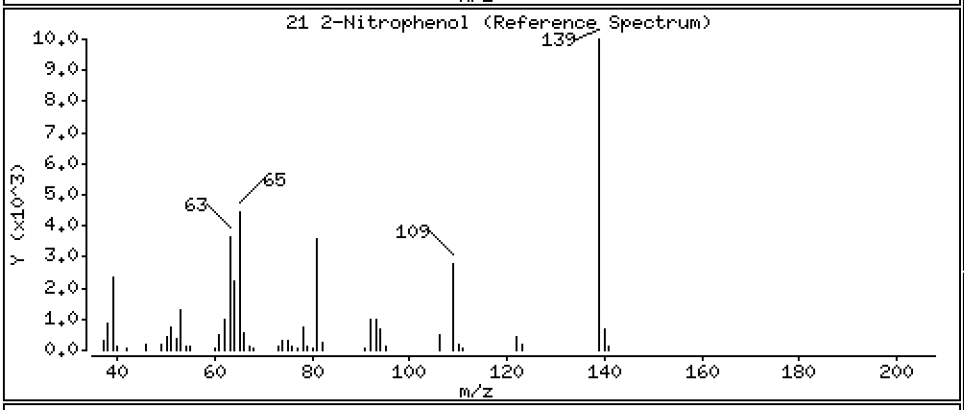
Column diameter: 0.25

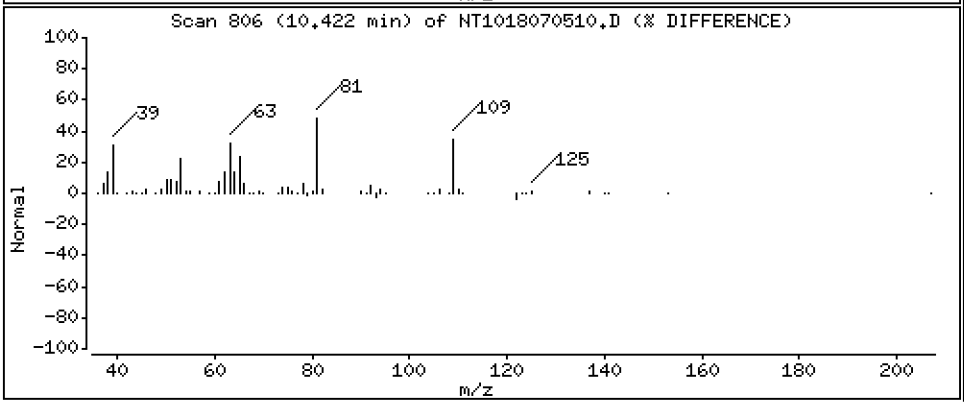
21 2-Nitrophenol

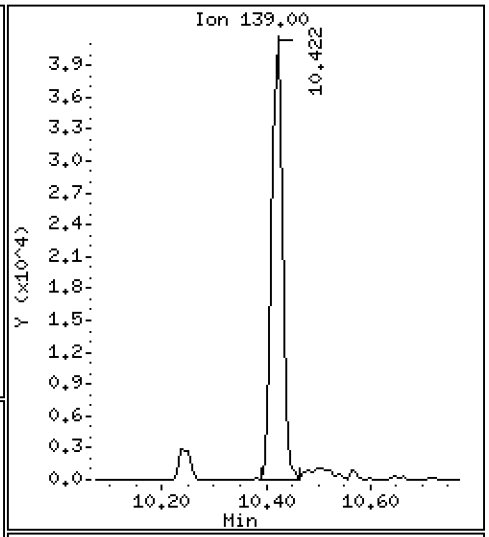
Concentration: 3.773 ug/mL

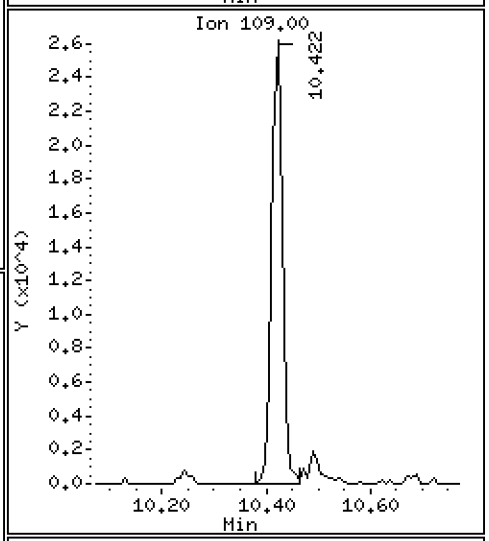


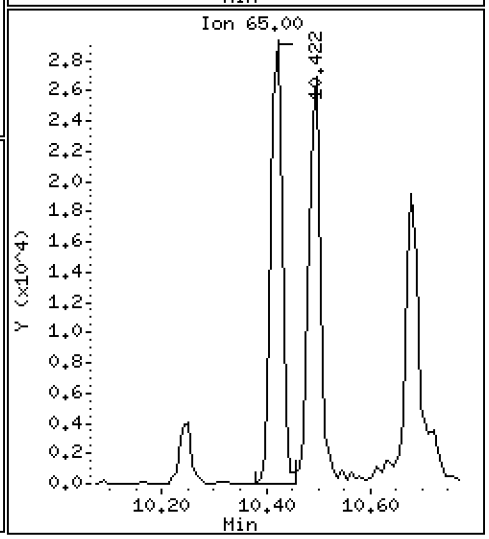












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

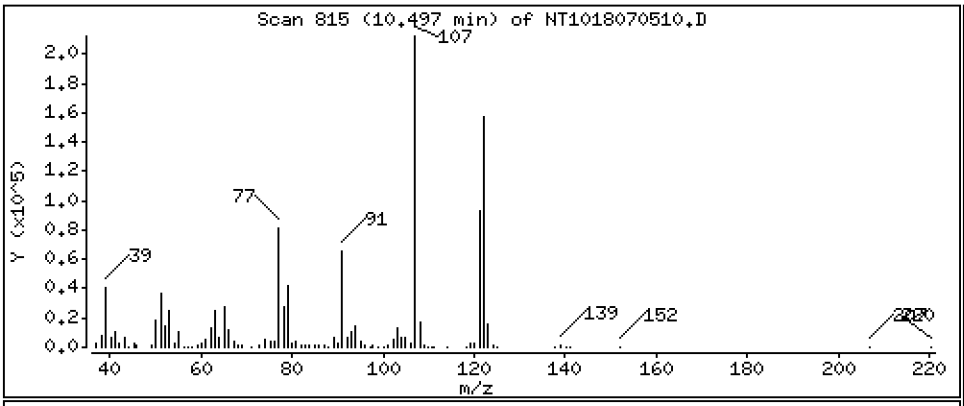
Operator: YZ

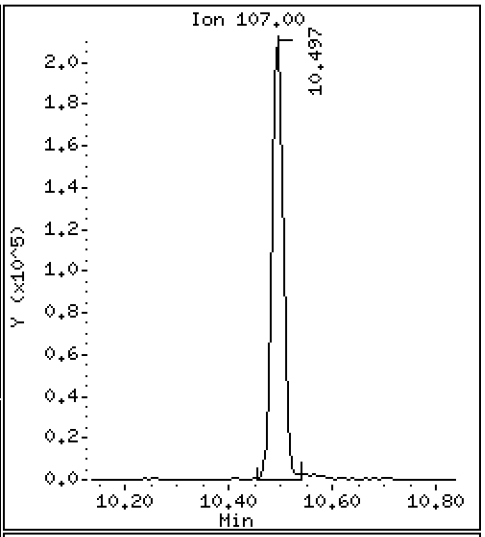
Column phase: ZB-5msi

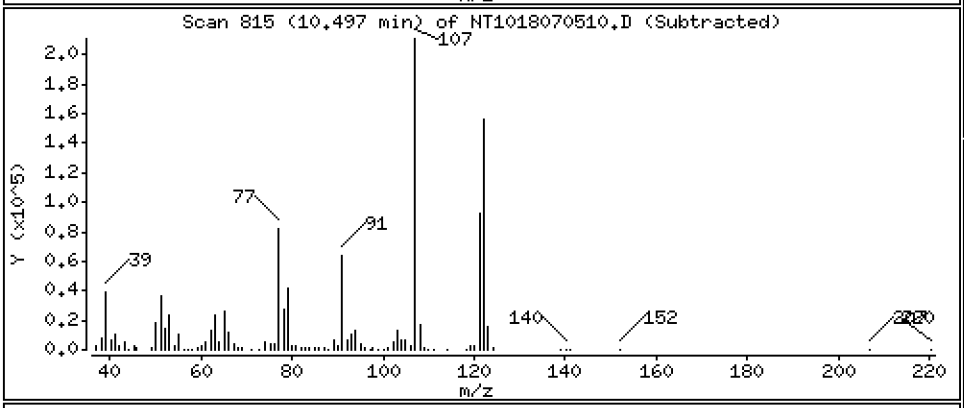
Column diameter: 0.25

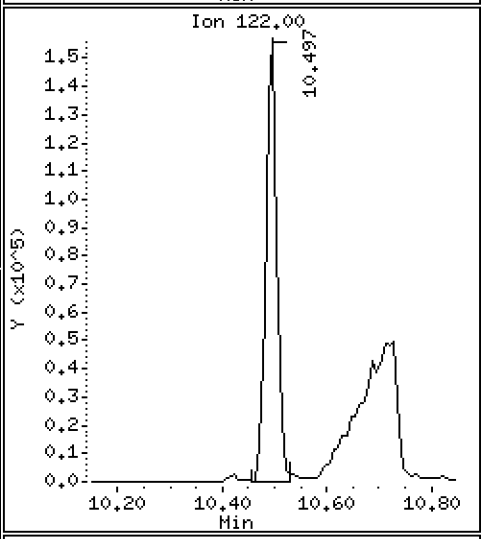
22 2,4-Dimethylphenol

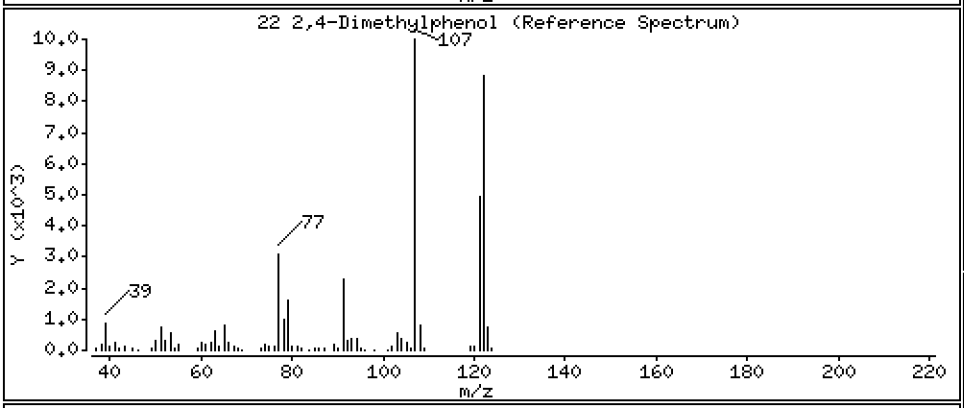
Concentration: 11.40 ug/mL

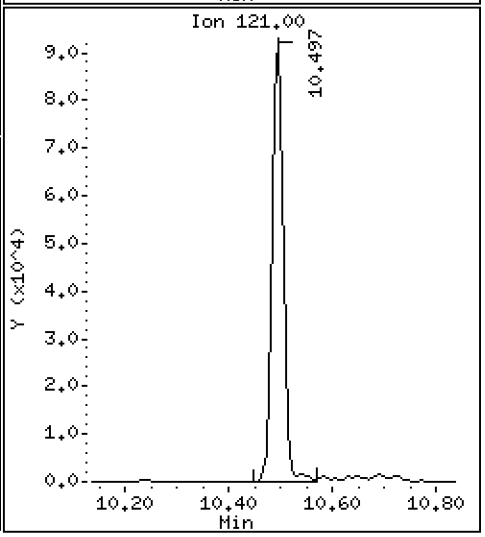


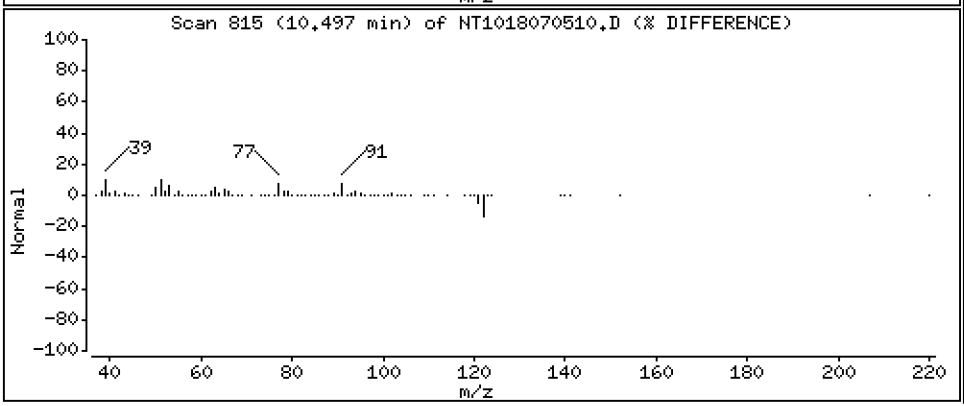












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

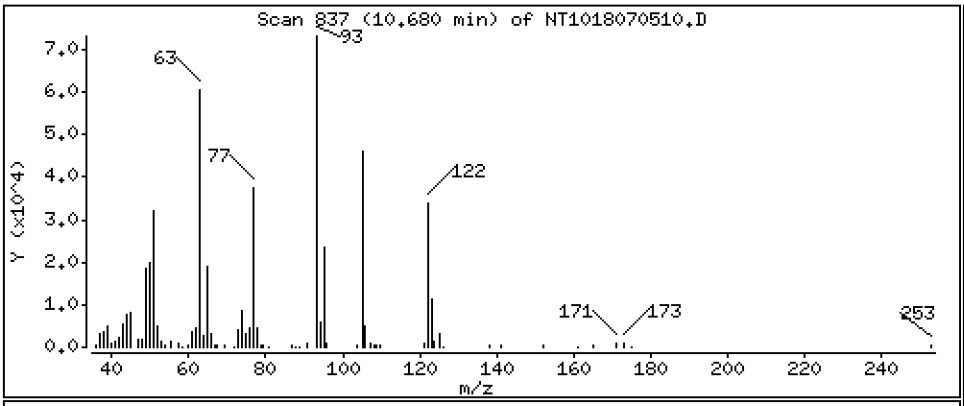
Operator: YZ

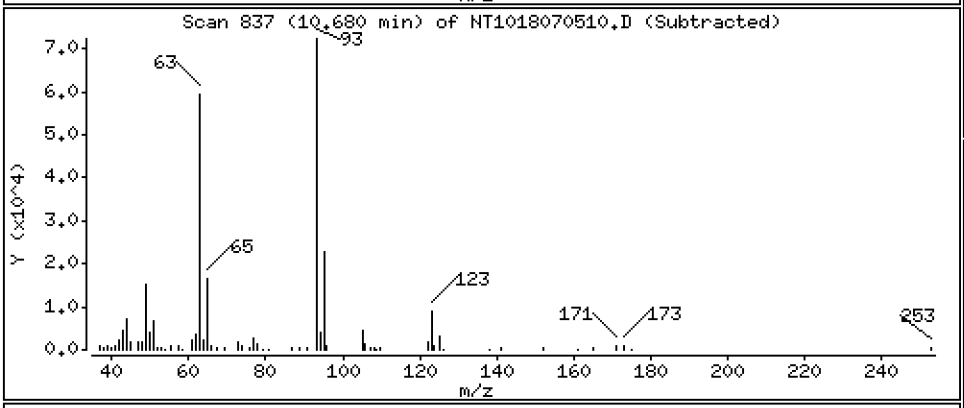
Column phase: ZB-5msi

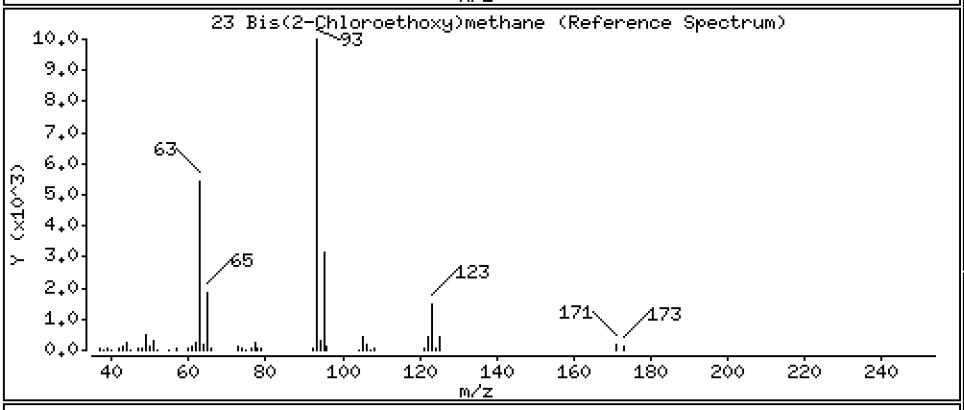
Column diameter: 0.25

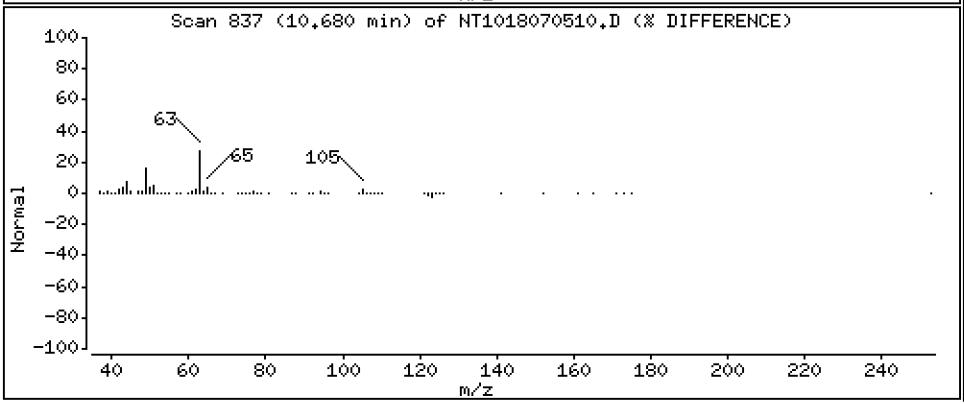
23 Bis(2-Chloroethoxy)methane

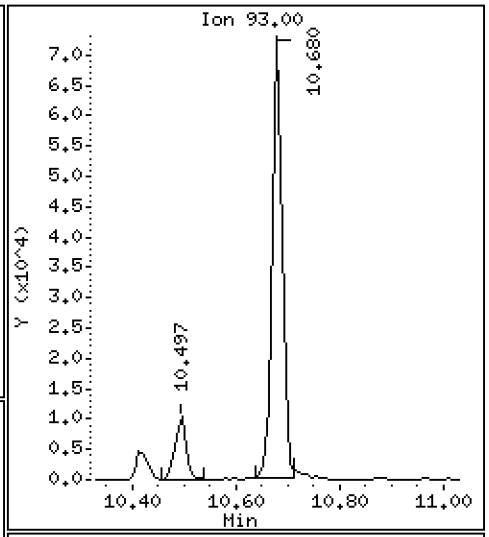
Concentration: 3.232 ug/mL

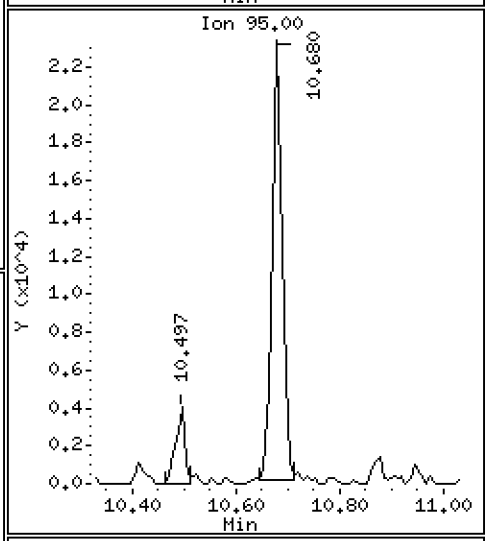


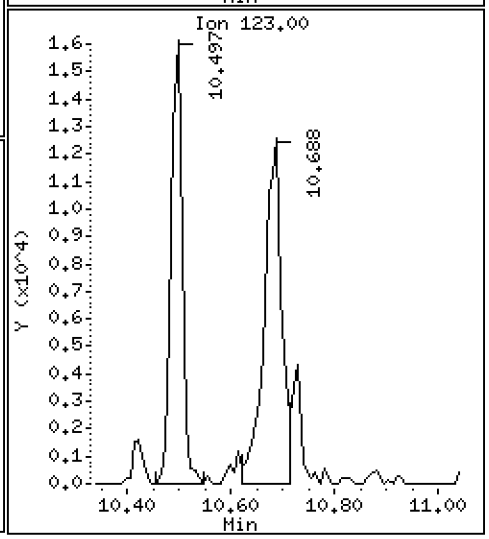












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

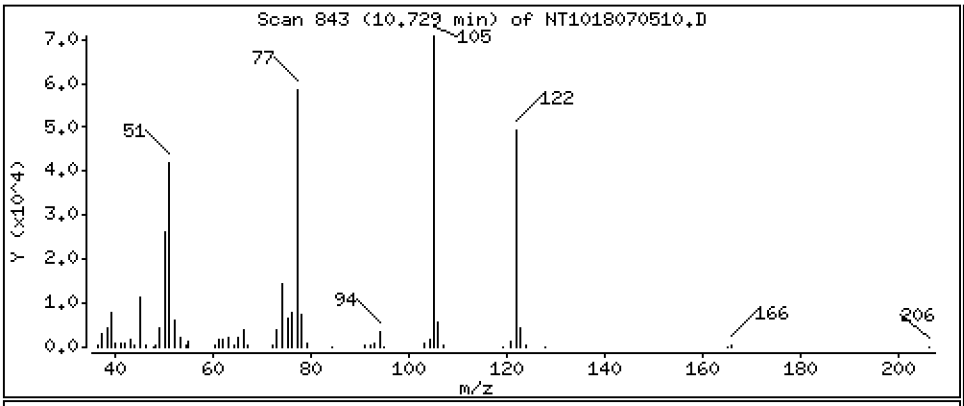
Operator: YZ

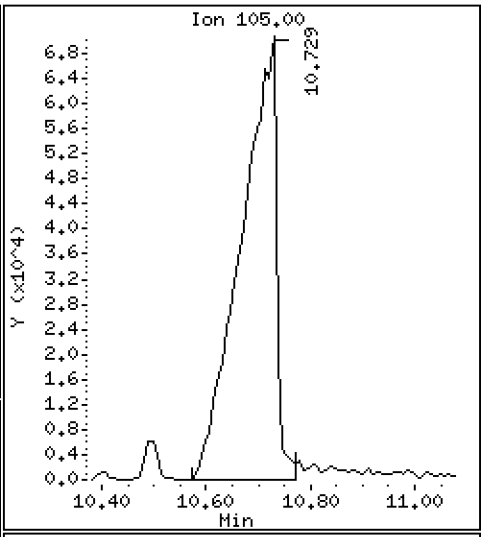
Column phase: ZB-5msi

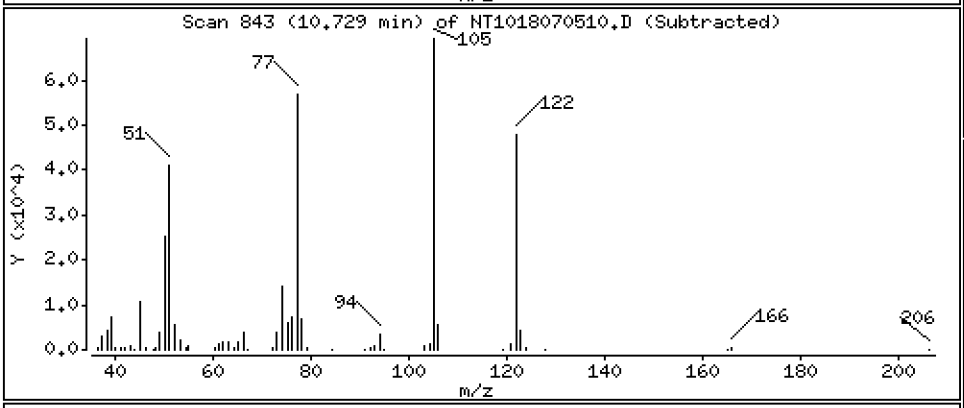
Column diameter: 0.25

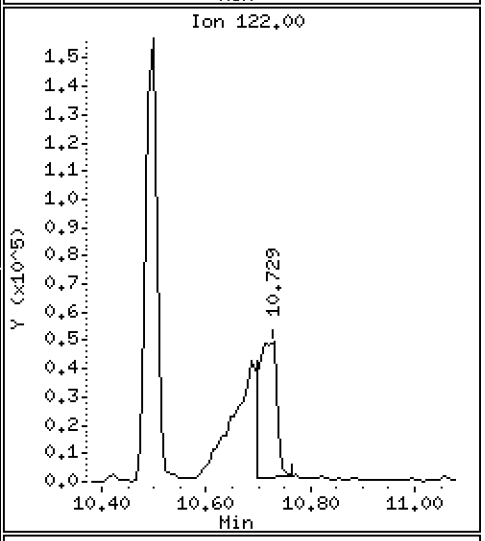
24 Benzoic acid

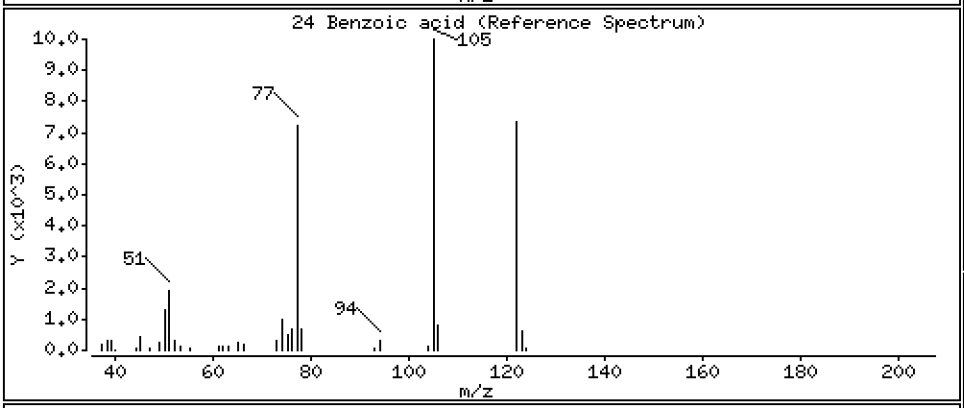
Concentration: 17.65 ug/mL

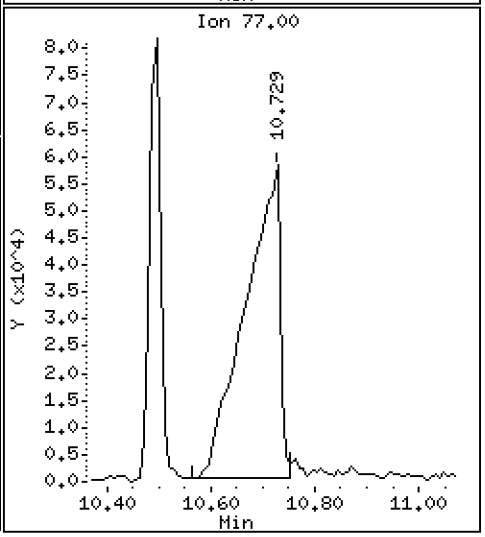


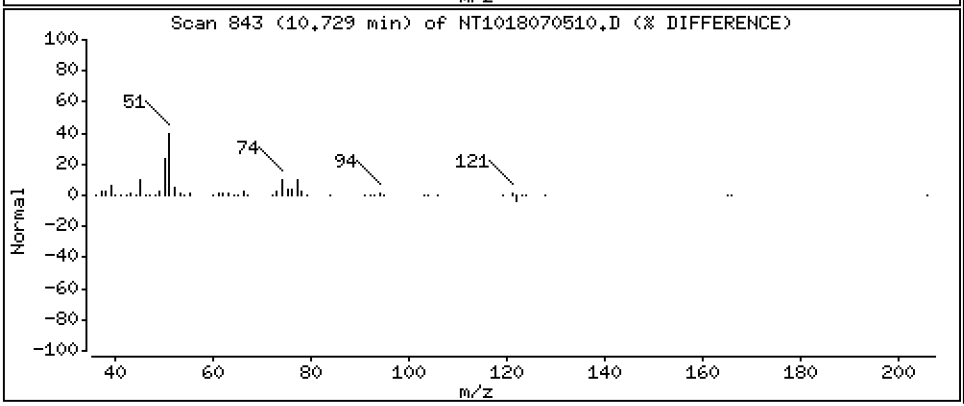












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

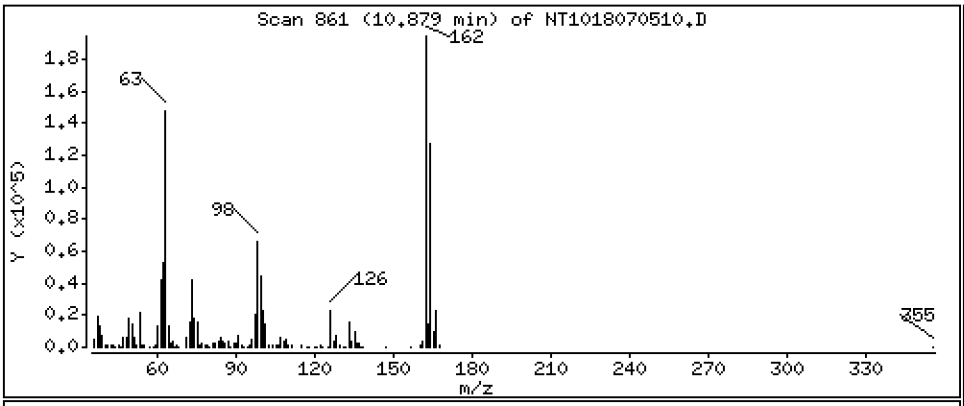
Operator: YZ

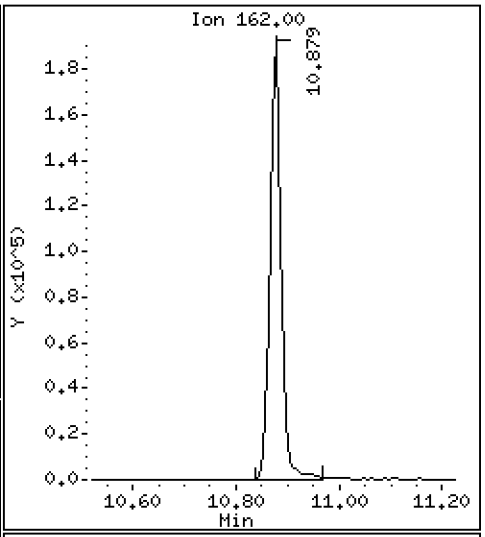
Column phase: ZB-5msi

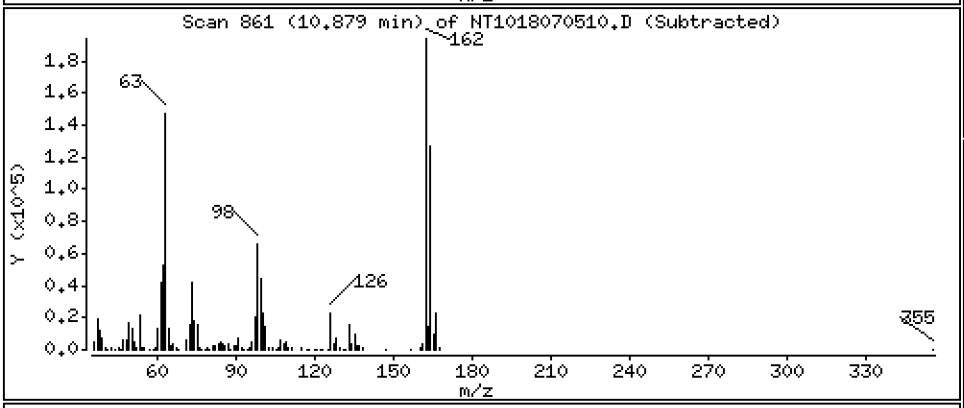
Column diameter: 0.25

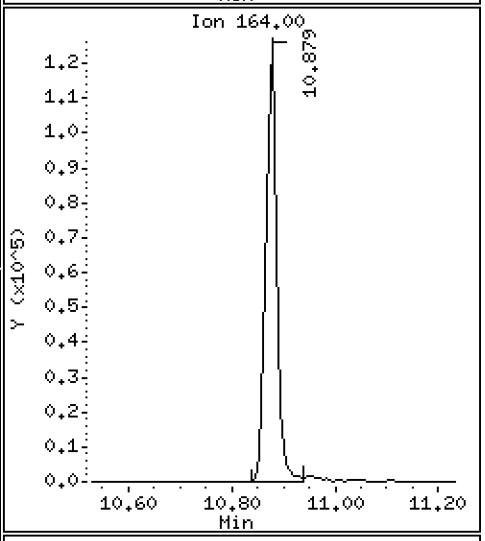
25 2,4-Dichlorophenol

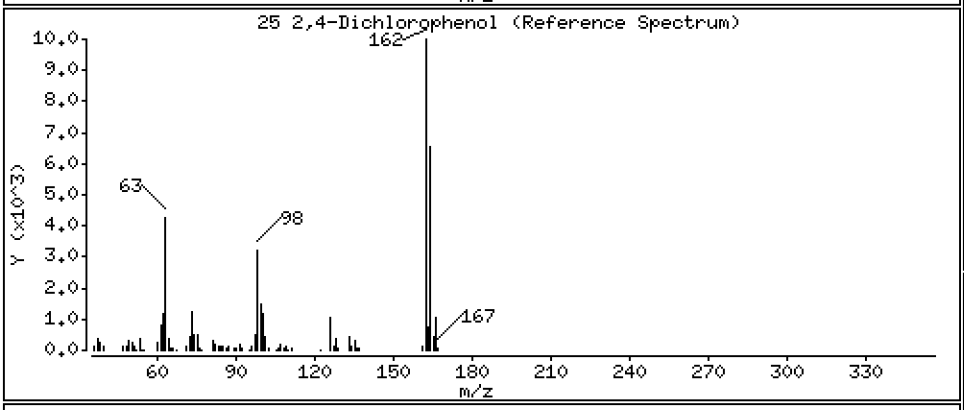
Concentration: 14.65 ug/mL

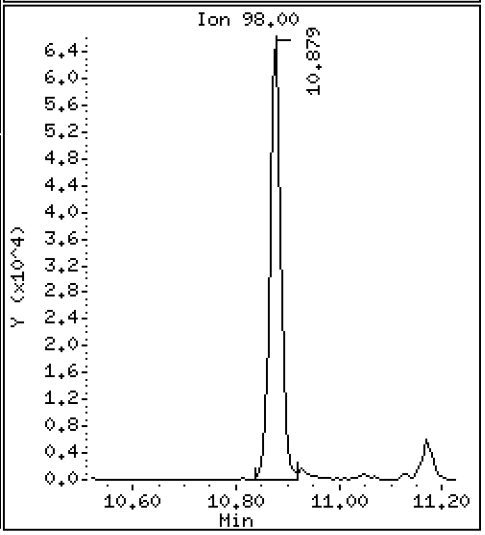


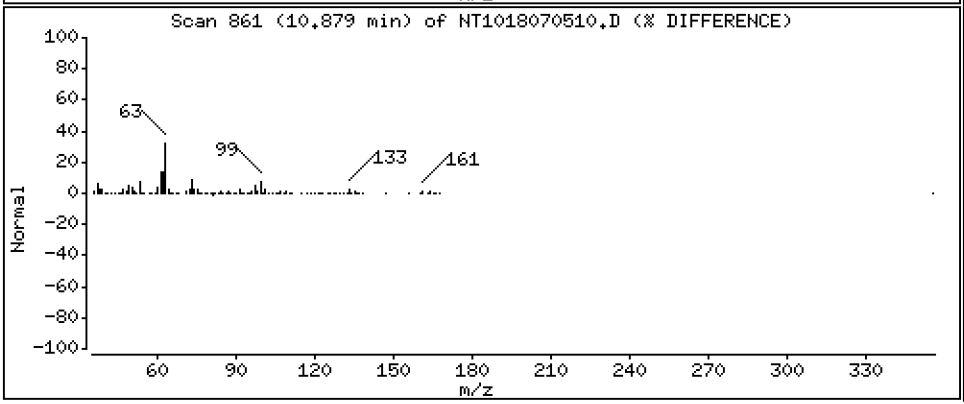












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

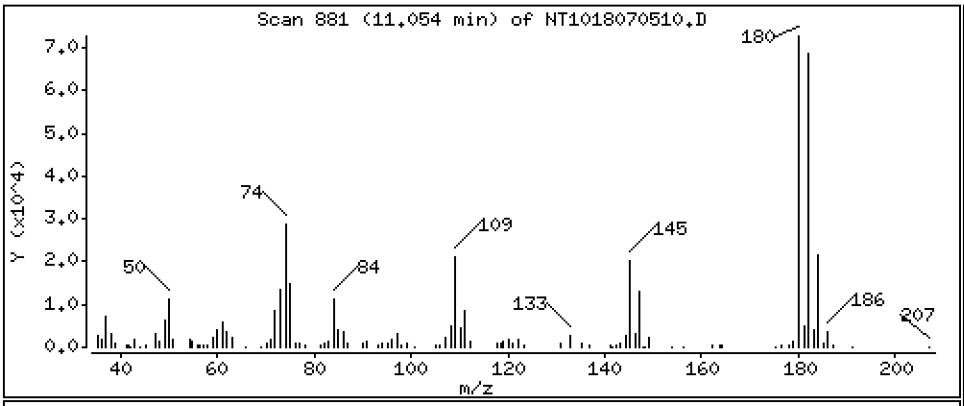
Operator: YZ

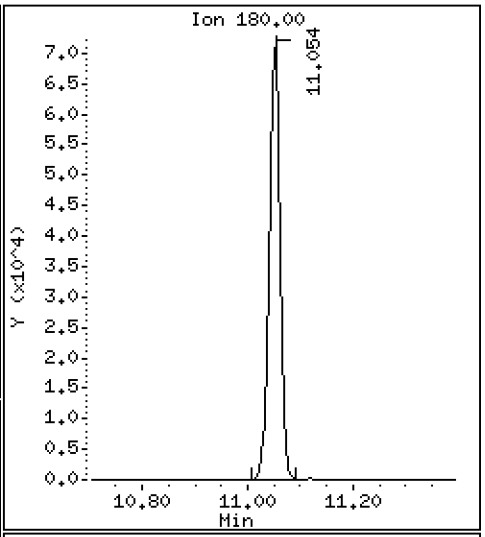
Column phase: ZB-5msi

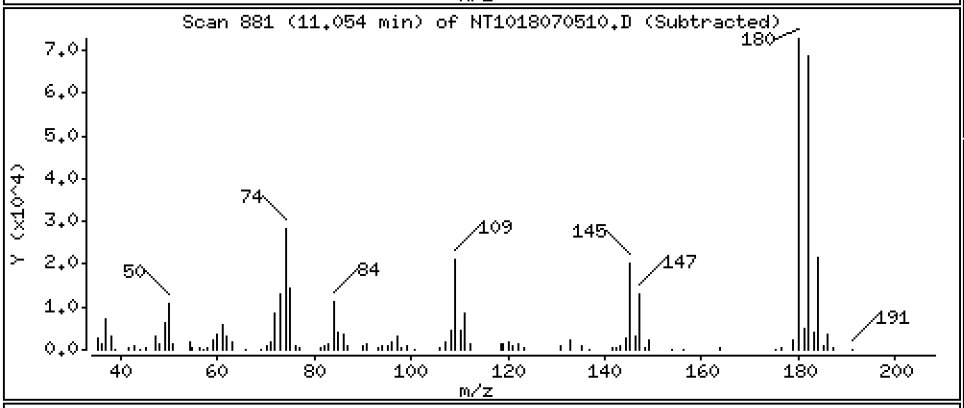
Column diameter: 0.25

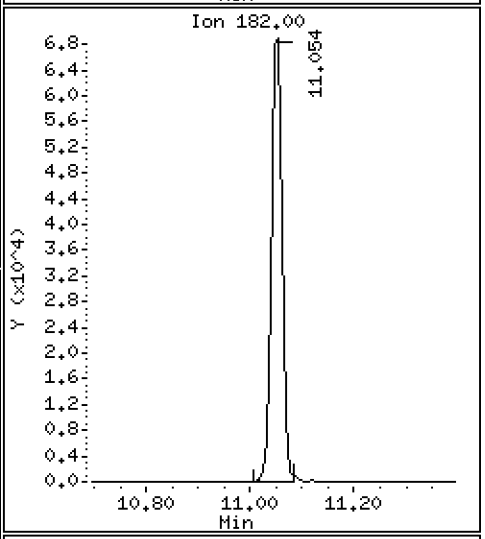
26 1,2,4-Trichlorobenzene

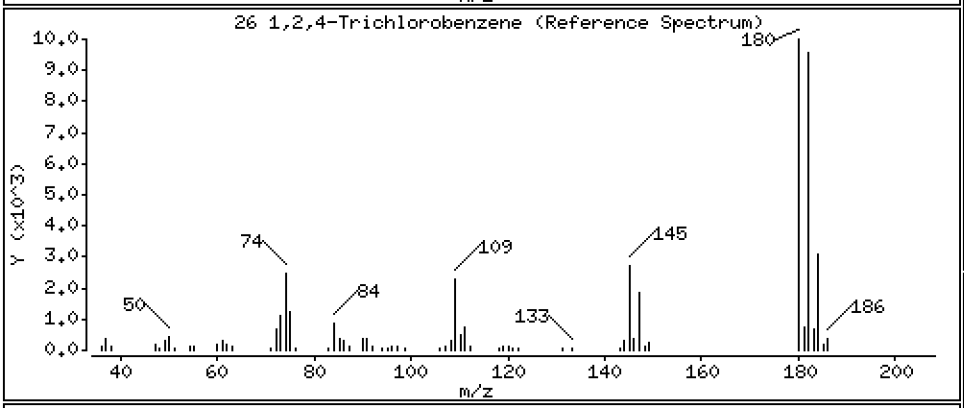
Concentration: 4.374 ug/mL

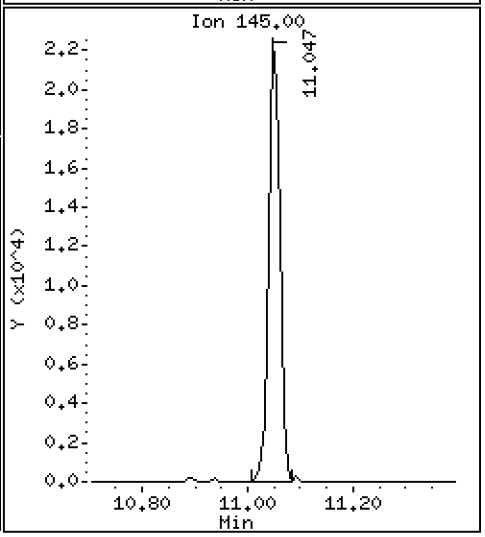


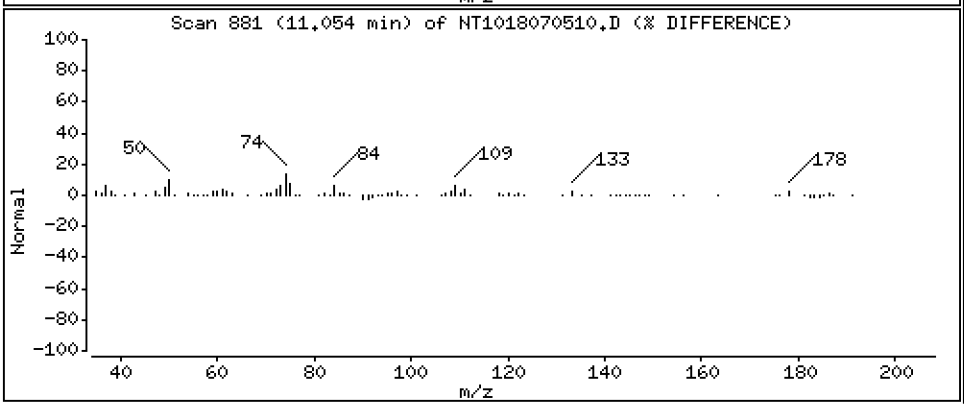












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

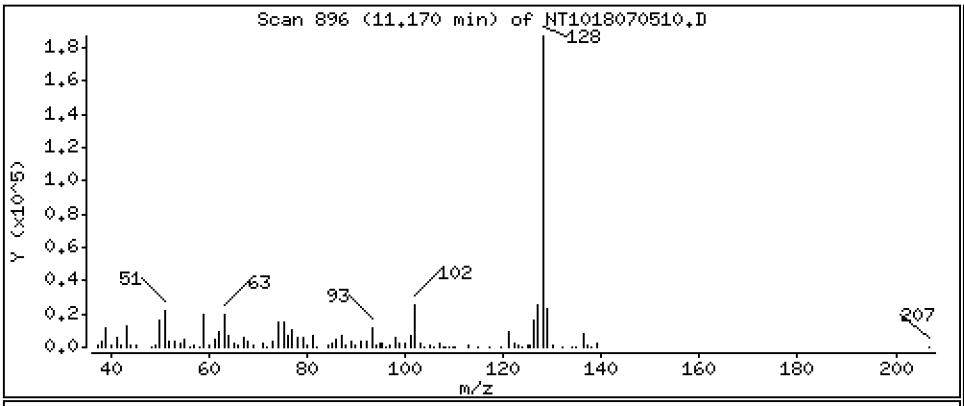
Operator: YZ

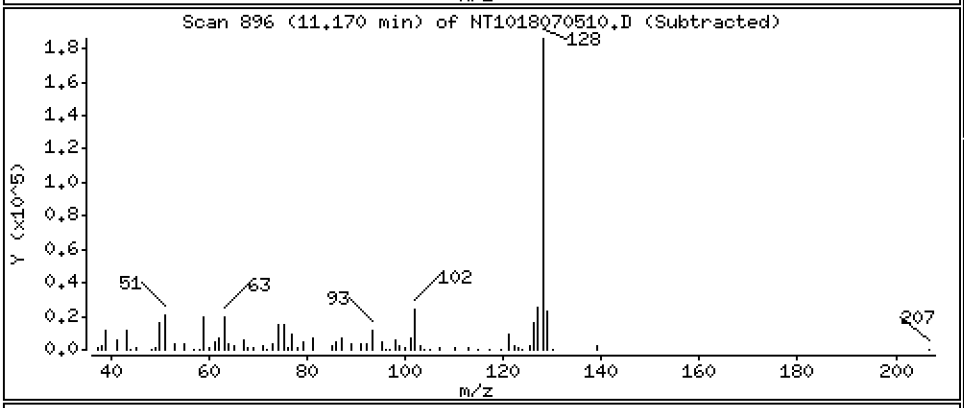
Column phase: ZB-5msi

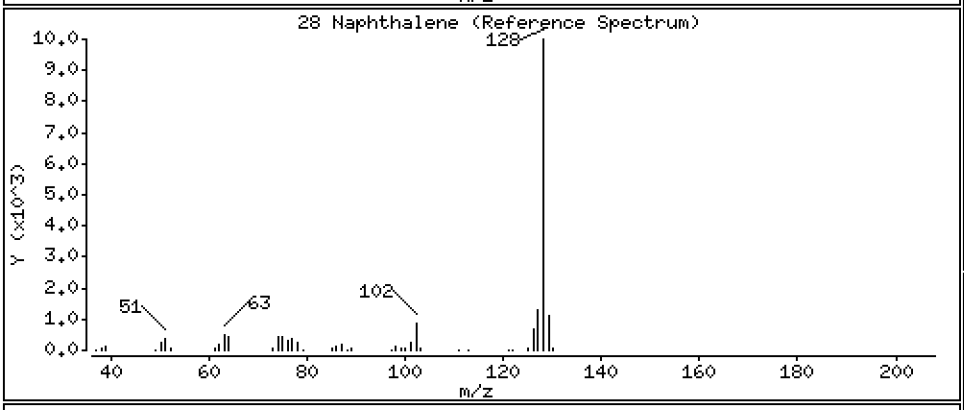
Column diameter: 0.25

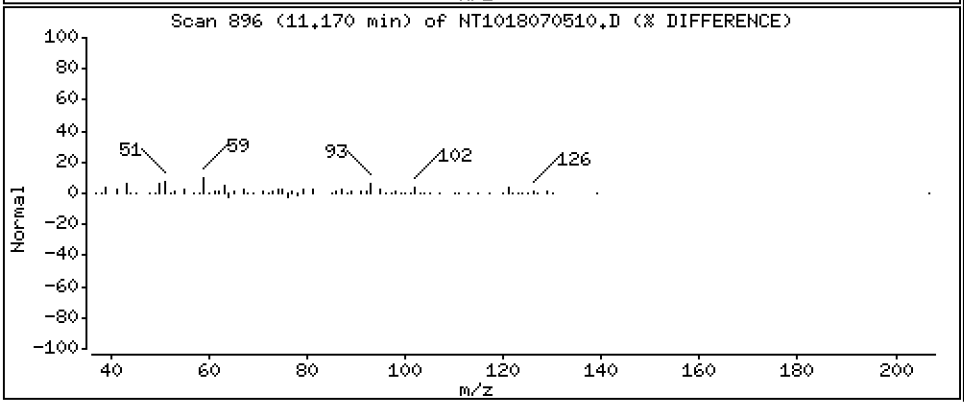
28 Naphthalene

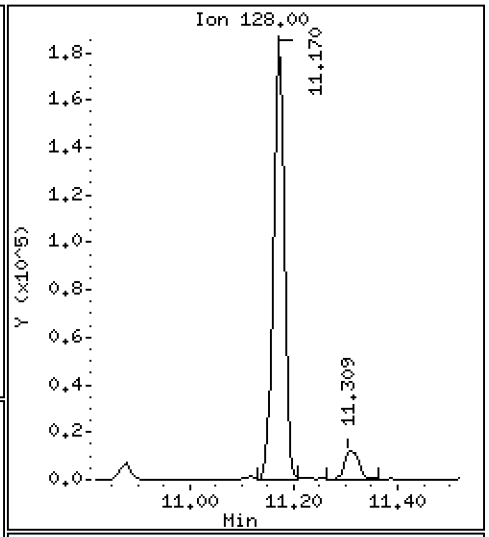
Concentration: 3.660 ug/mL

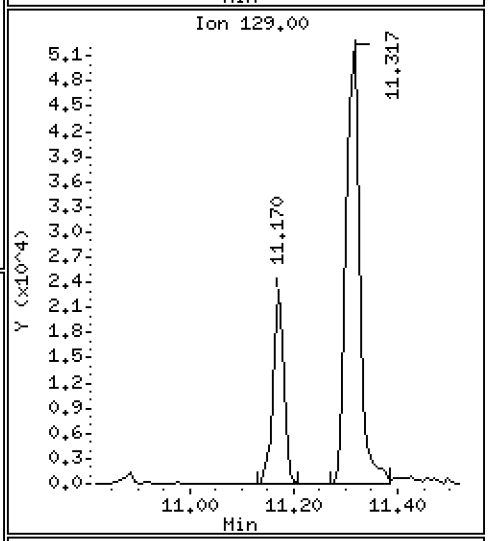


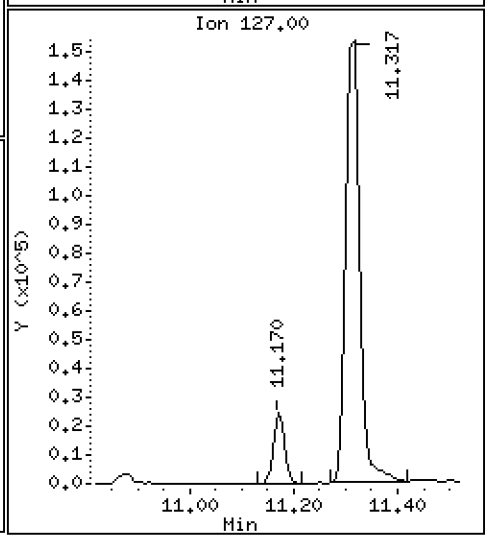












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

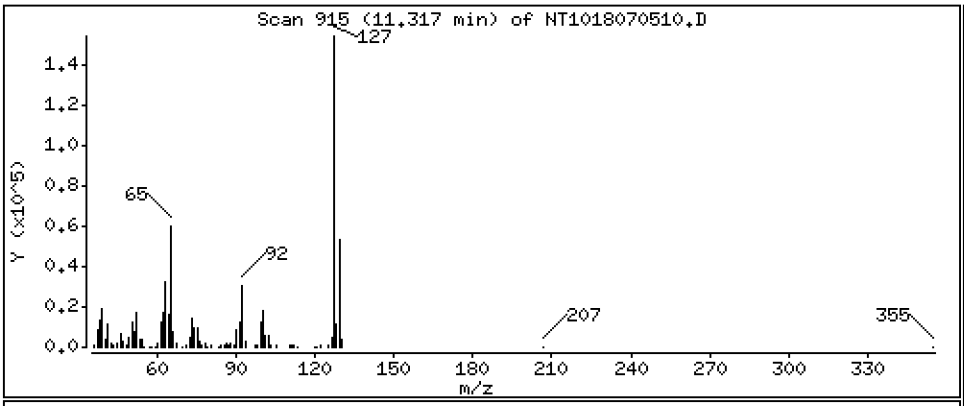
Operator: YZ

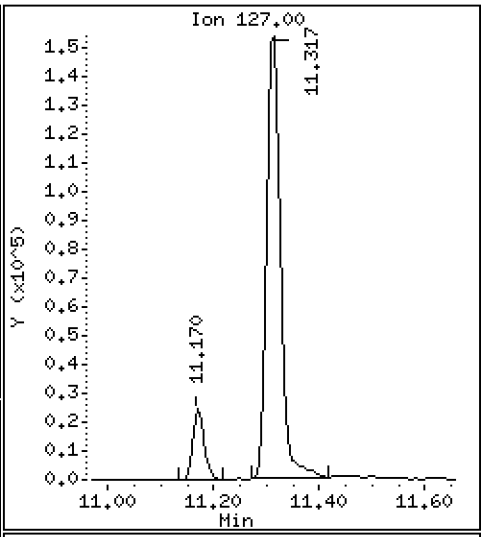
Column phase: ZB-5msi

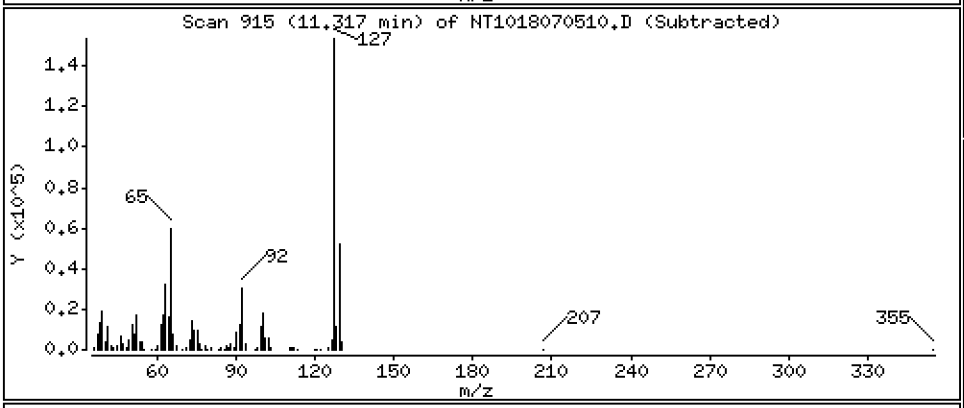
Column diameter: 0.25

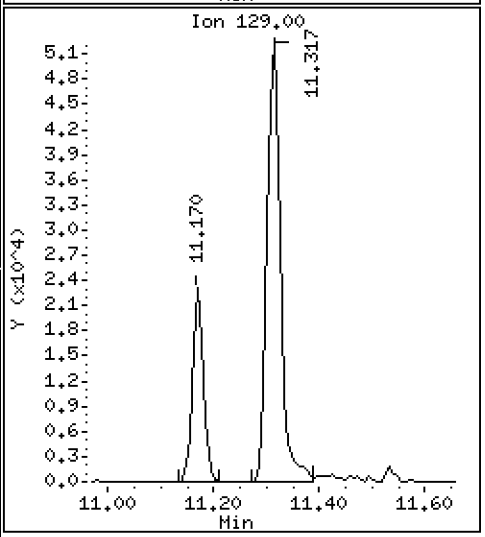
29 4-Chloroaniline

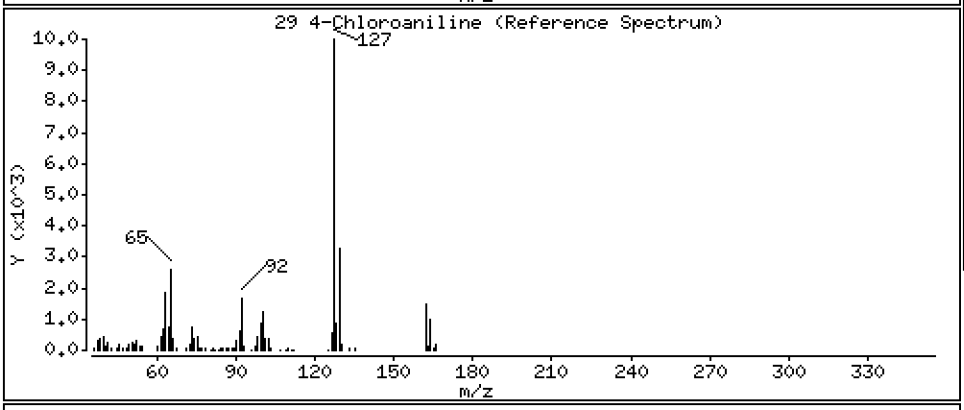
Concentration: 9.134 ug/mL

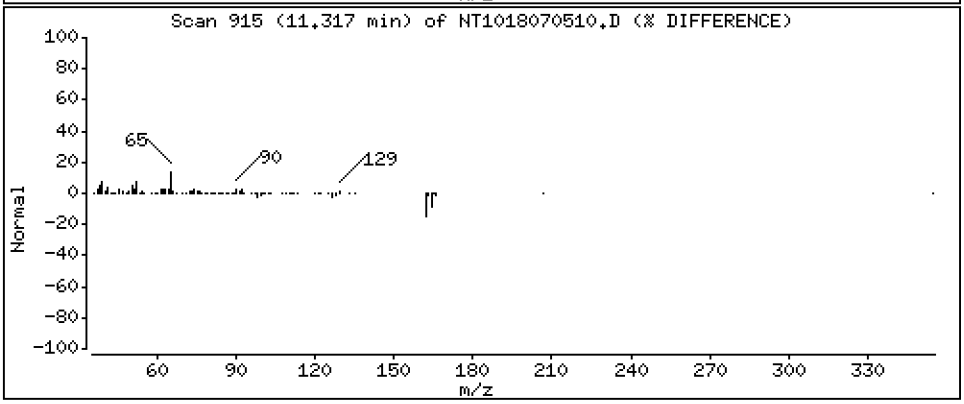












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

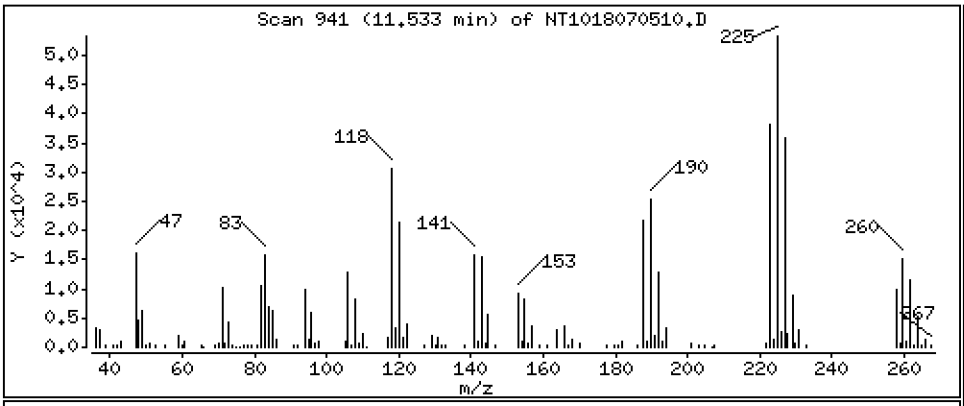
Operator: YZ

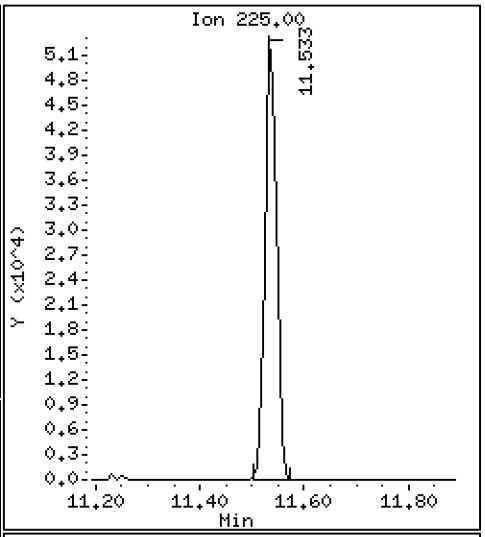
Column phase: ZB-5msi

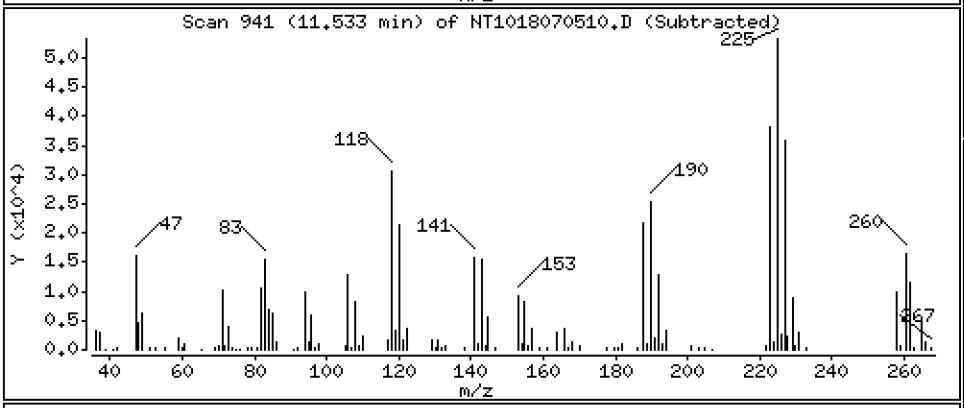
Column diameter: 0.25

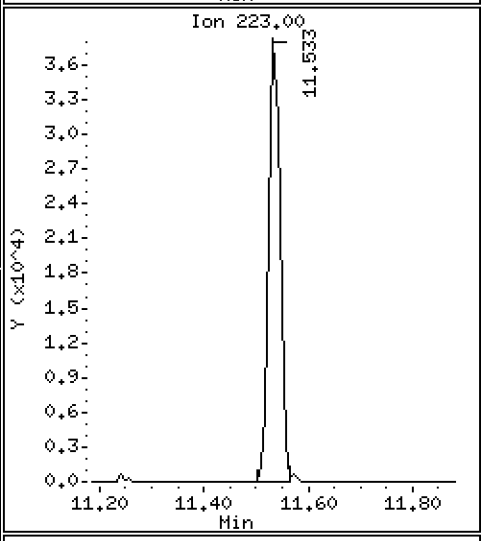
30 Hexachlorobutadiene

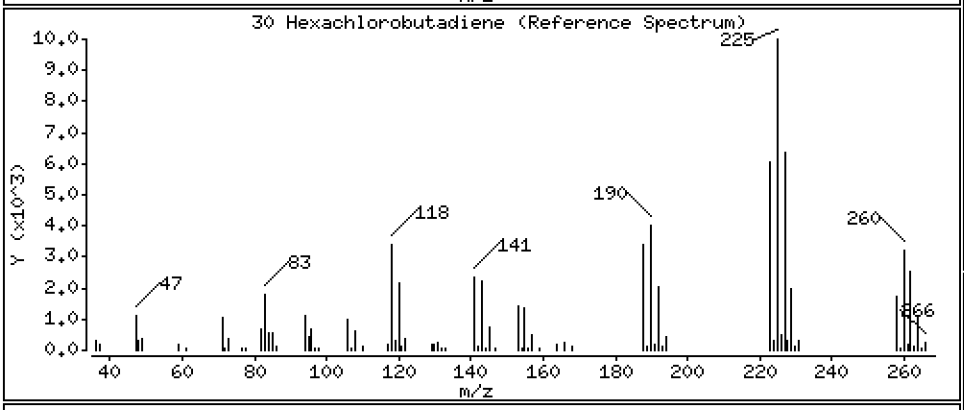
Concentration: 5.120 ug/mL

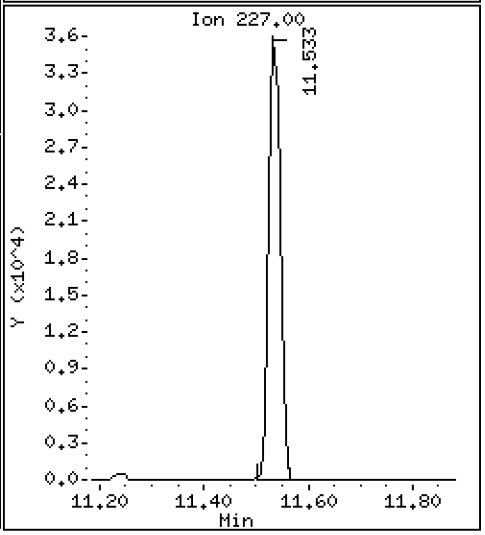


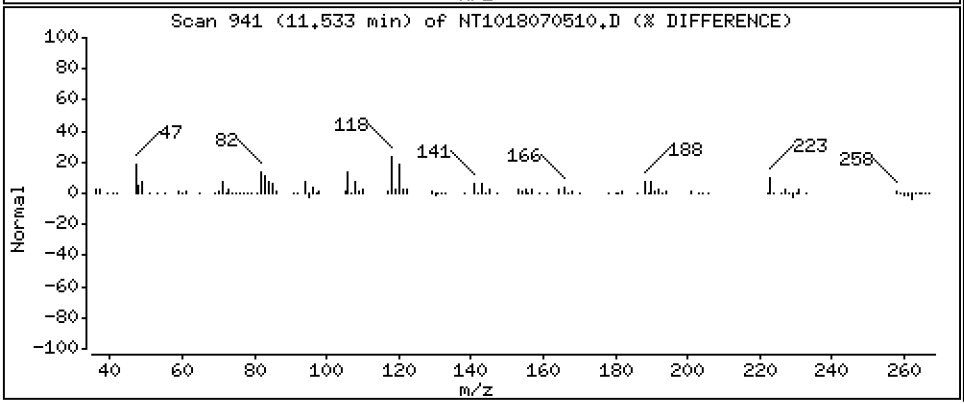












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

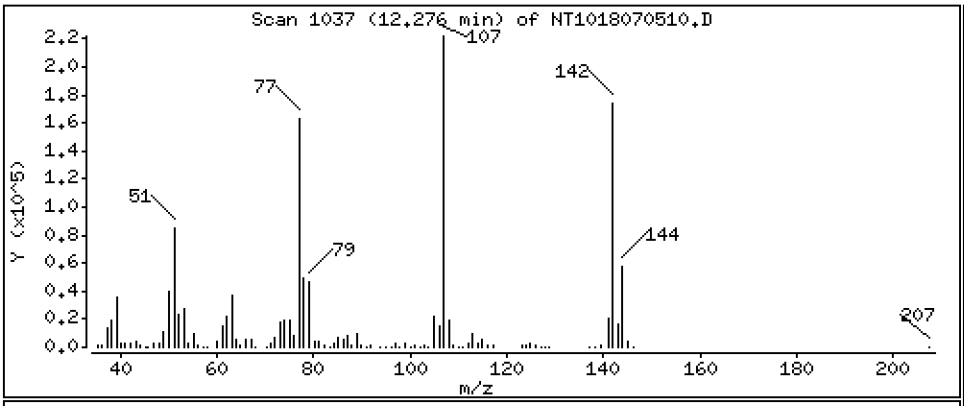
Operator: YZ

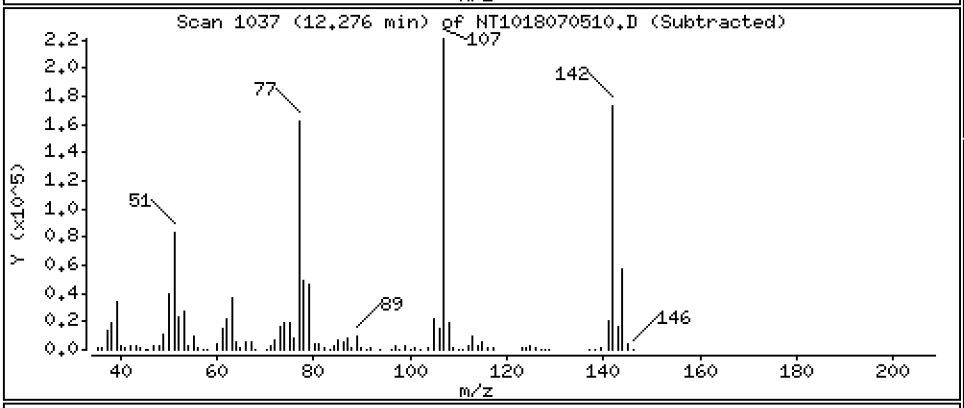
Column phase: ZB-5msi

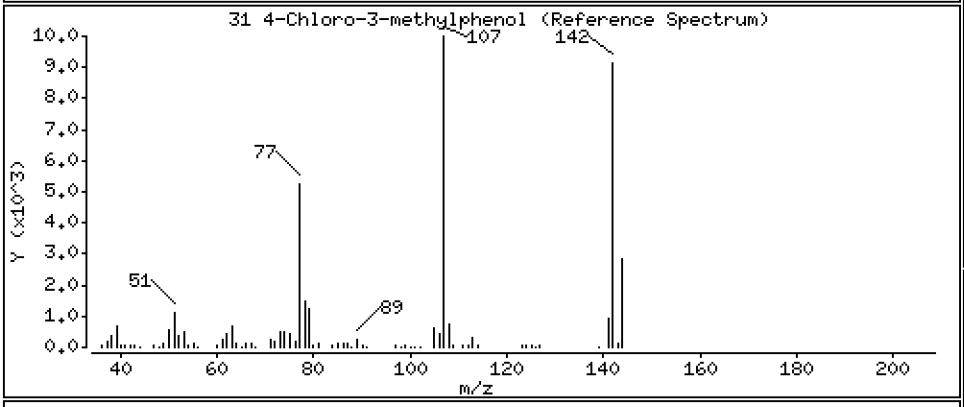
Column diameter: 0.25

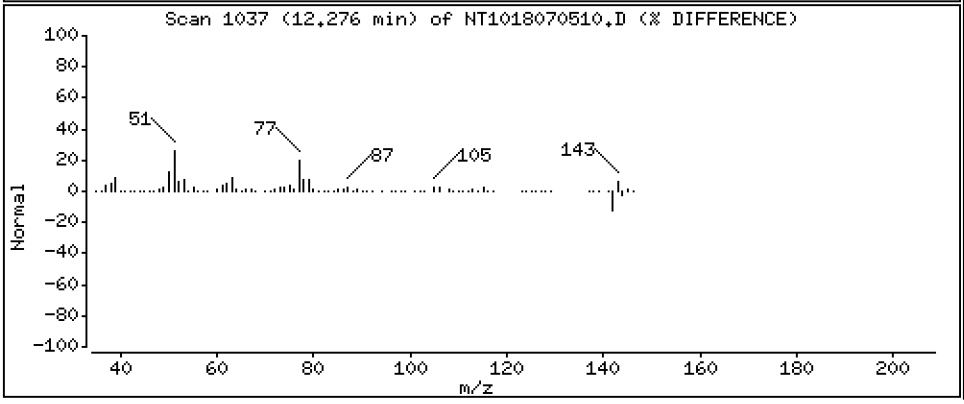
31 4-Chloro-3-methylphenol

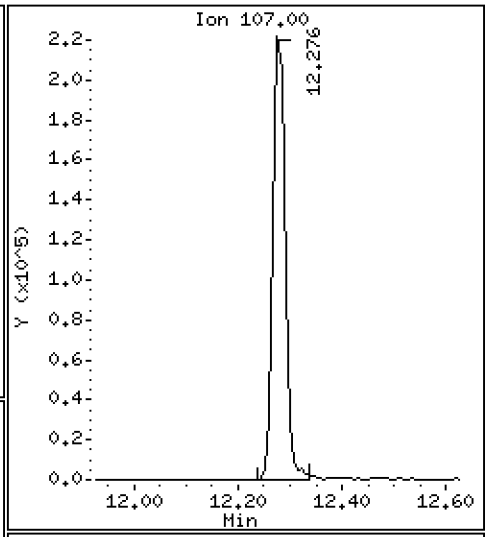
Concentration: 13.97 ug/mL

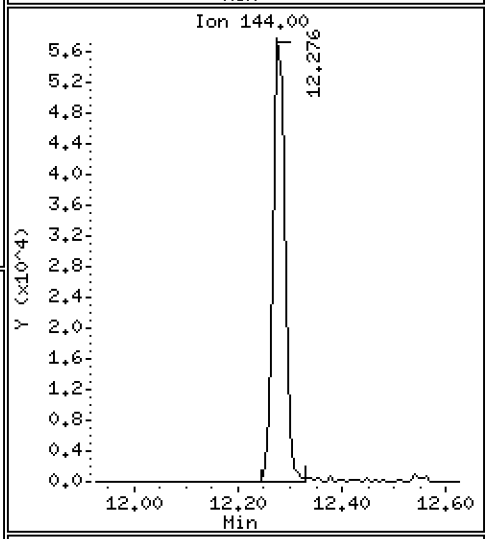


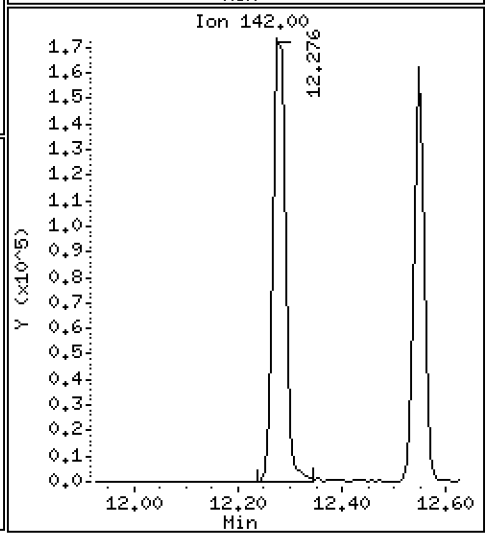












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

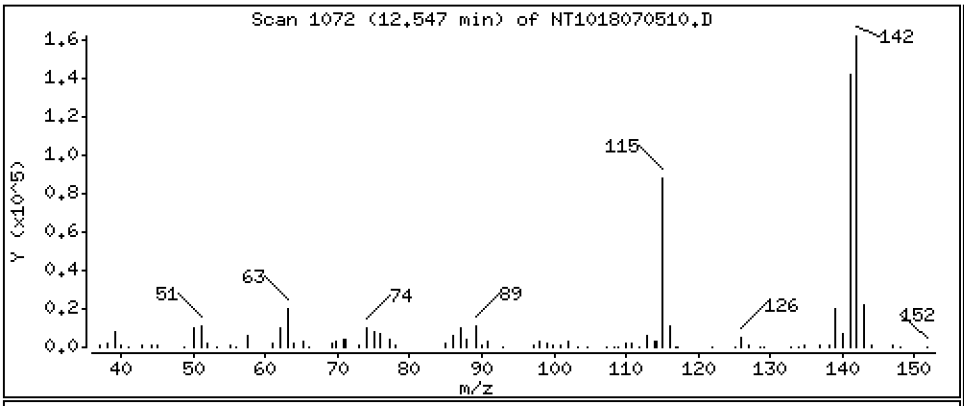
Operator: YZ

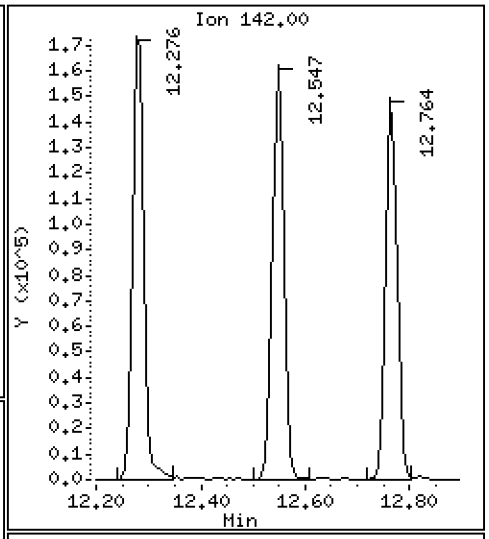
Column phase: ZB-5msi

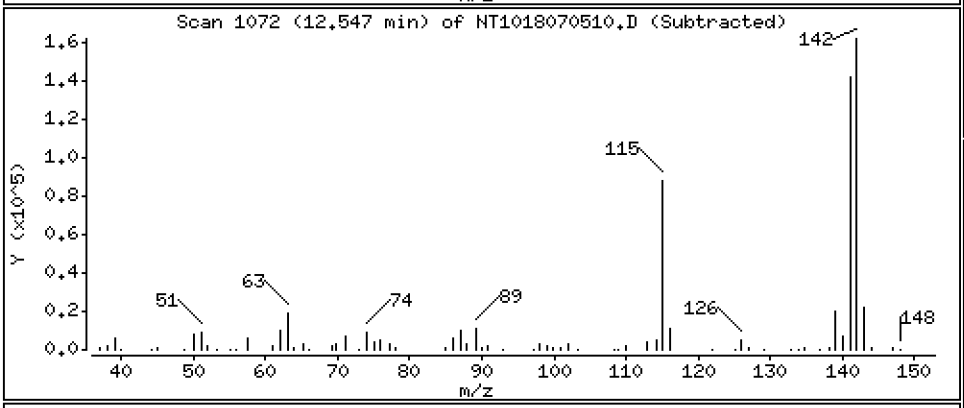
Column diameter: 0.25

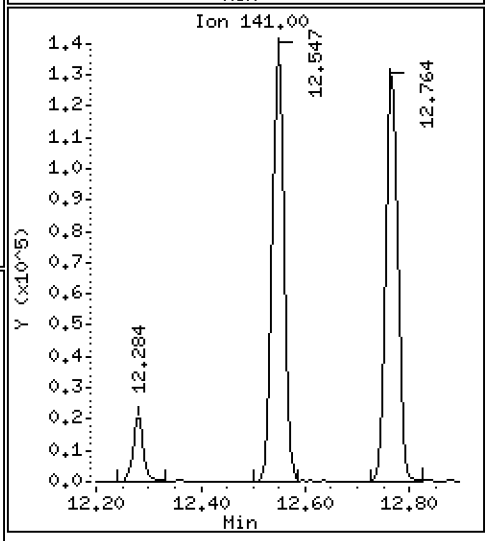
32 2-Methylnaphthalene

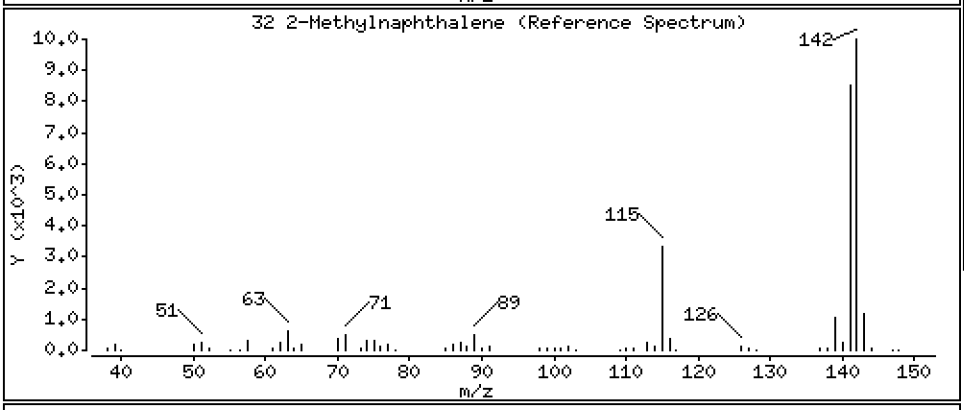
Concentration: 3.955 ug/mL

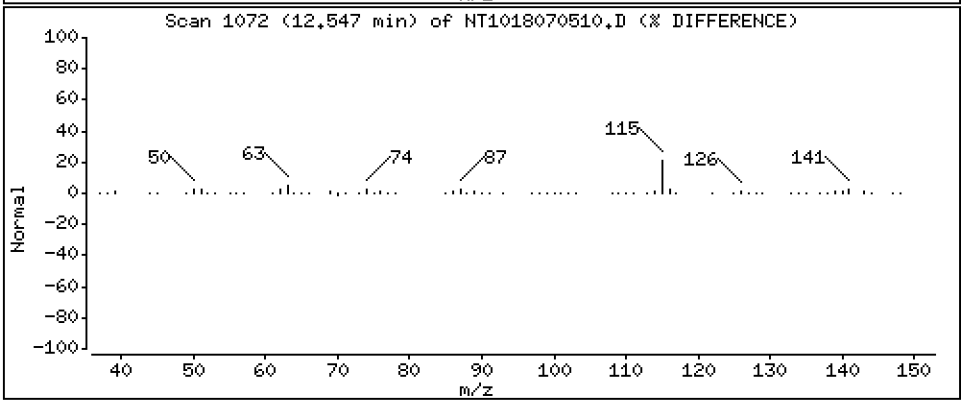












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

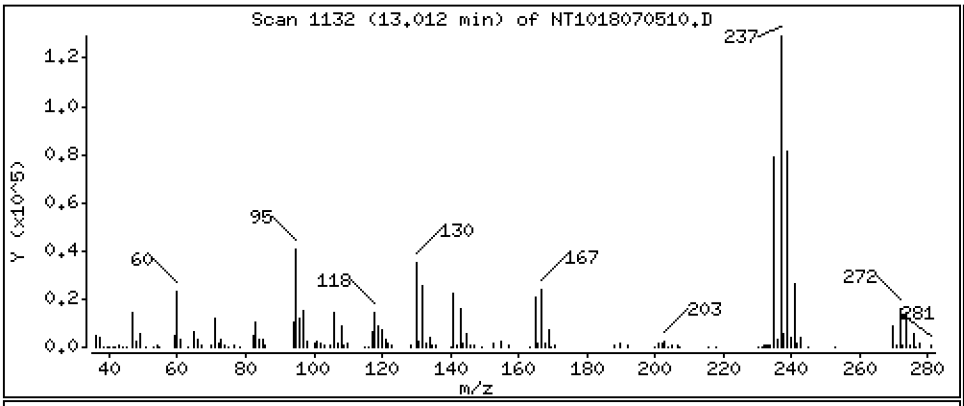
Operator: YZ

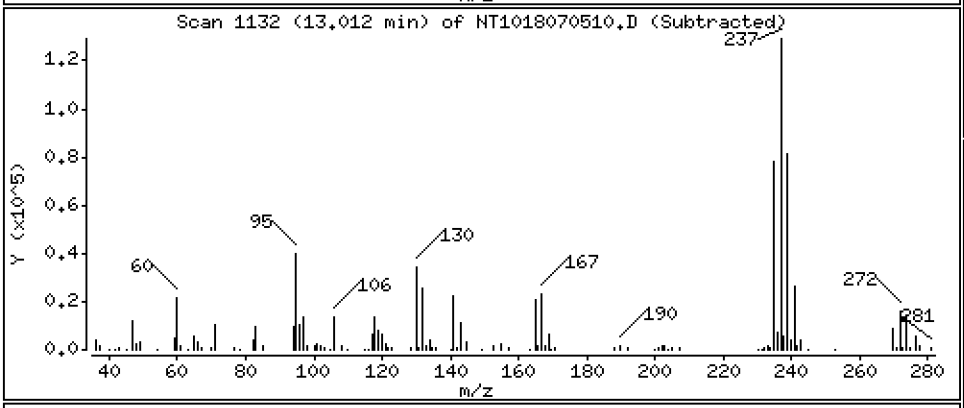
Column phase: ZB-5msi

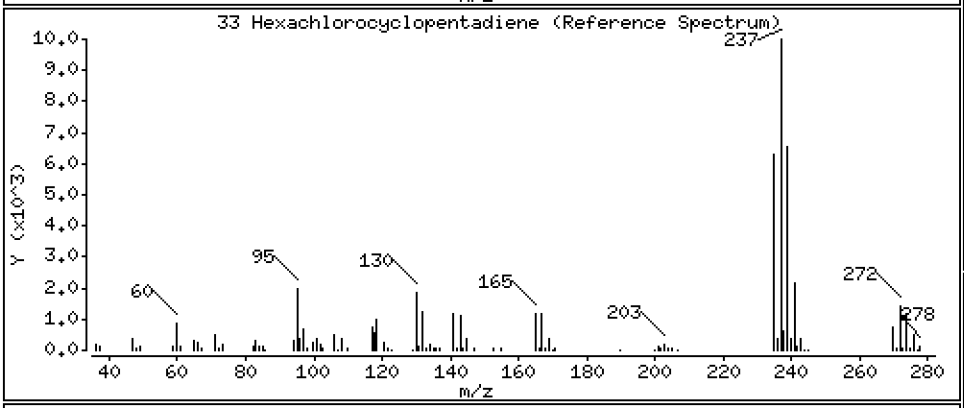
Column diameter: 0.25

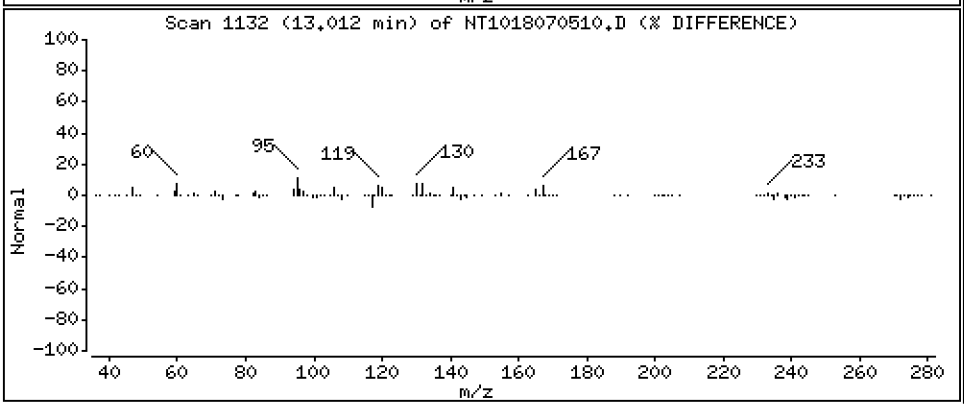
33 Hexachlorocyclopentadiene

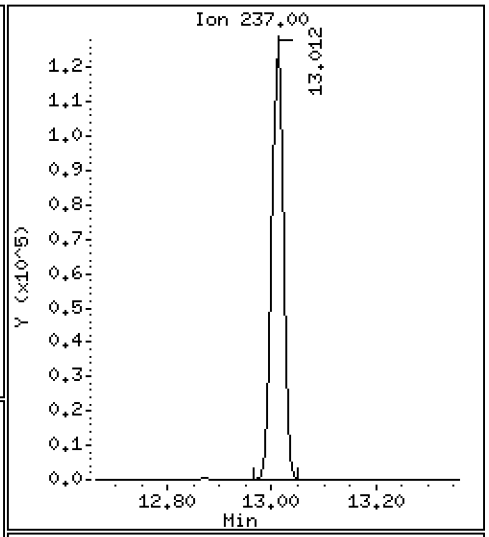
Concentration: 10.80 ug/mL

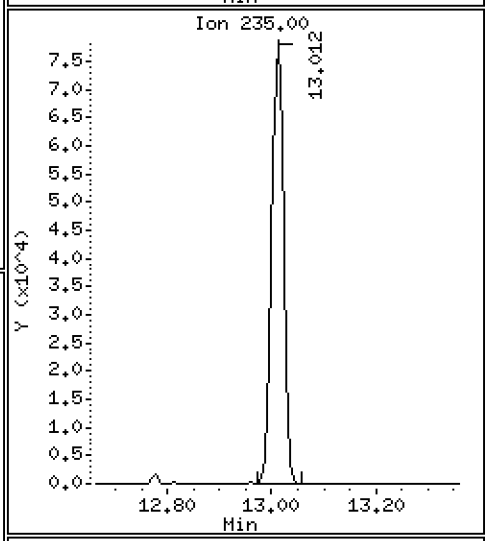


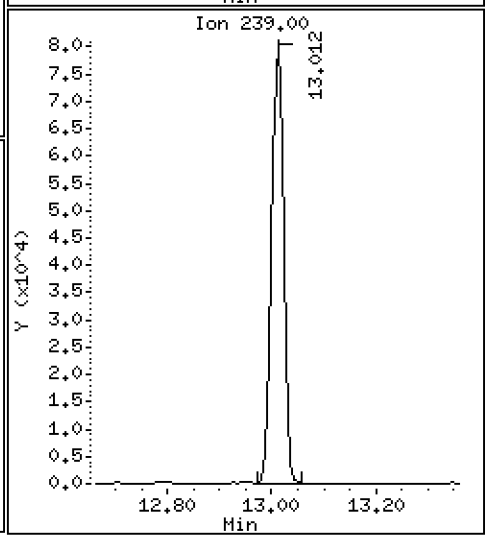












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

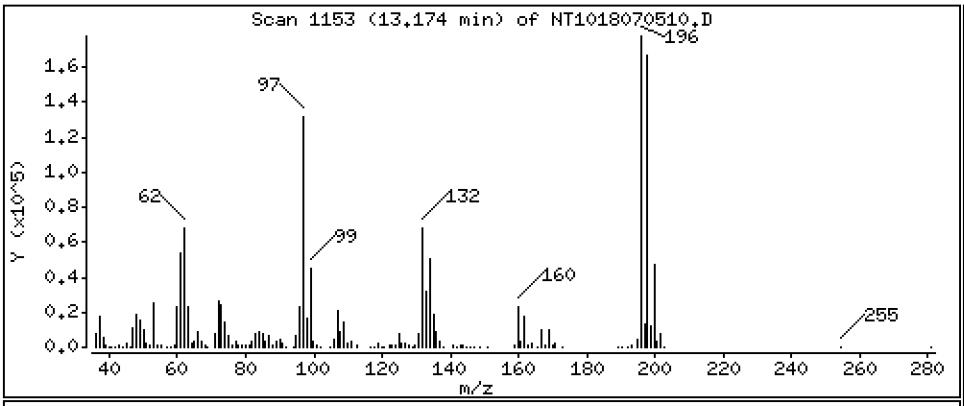
Operator: YZ

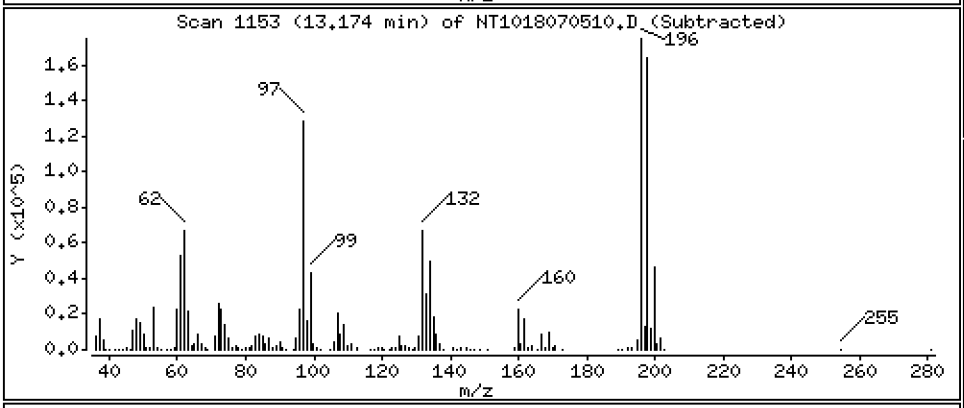
Column phase: ZB-5msi

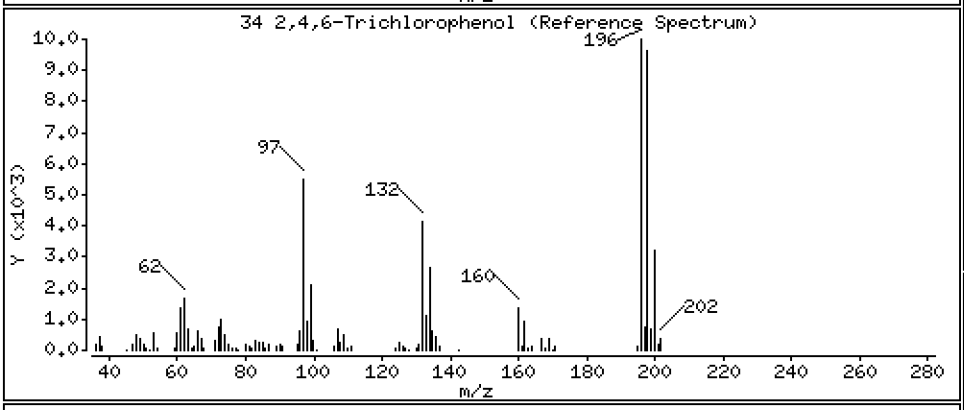
Column diameter: 0.25

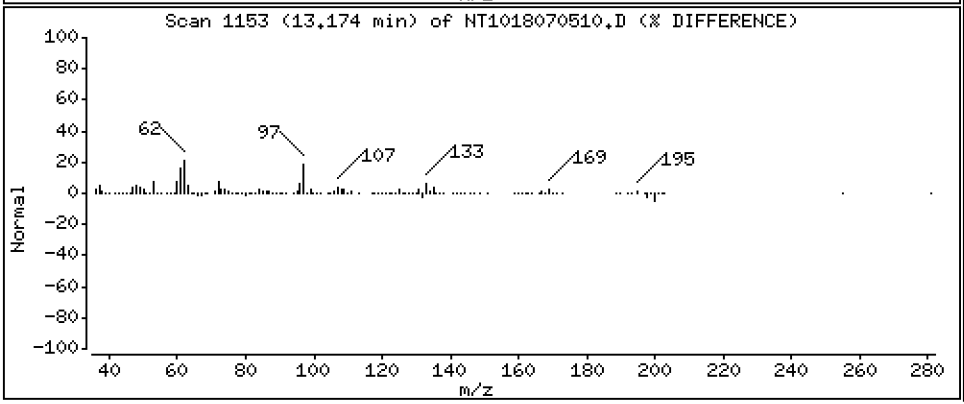
34 2,4,6-Trichlorophenol

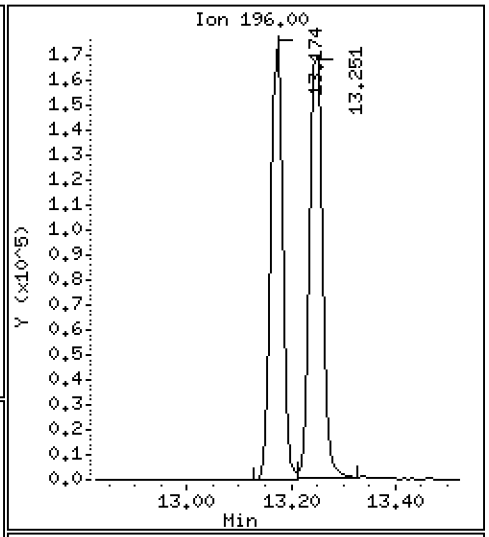
Concentration: 13.91 ug/mL

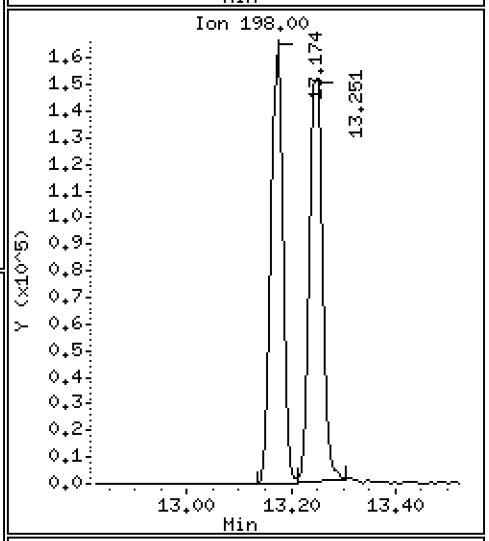


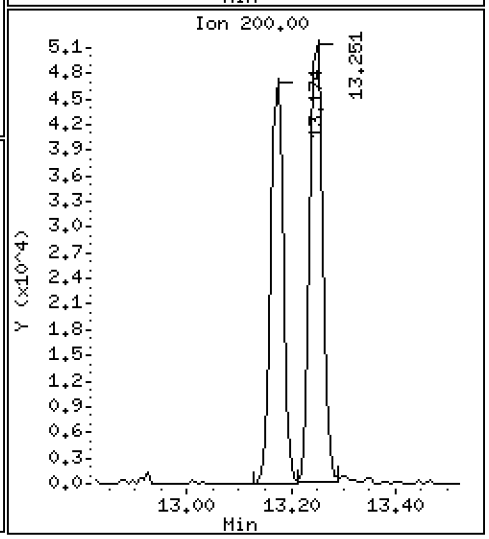












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

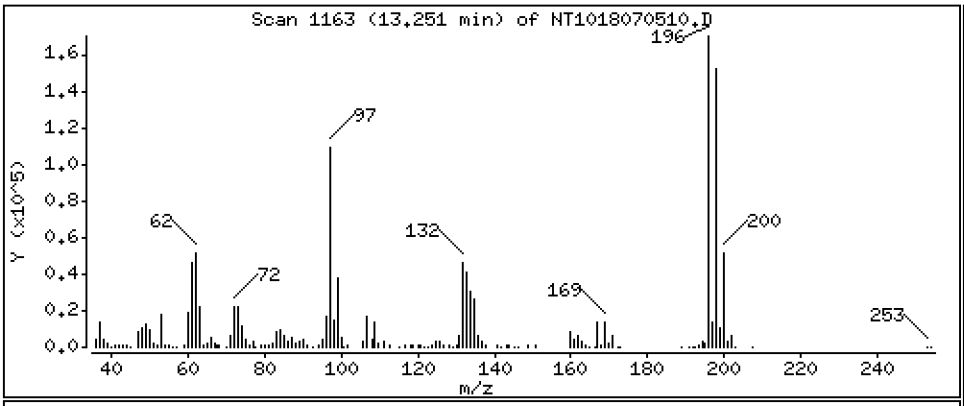
Operator: YZ

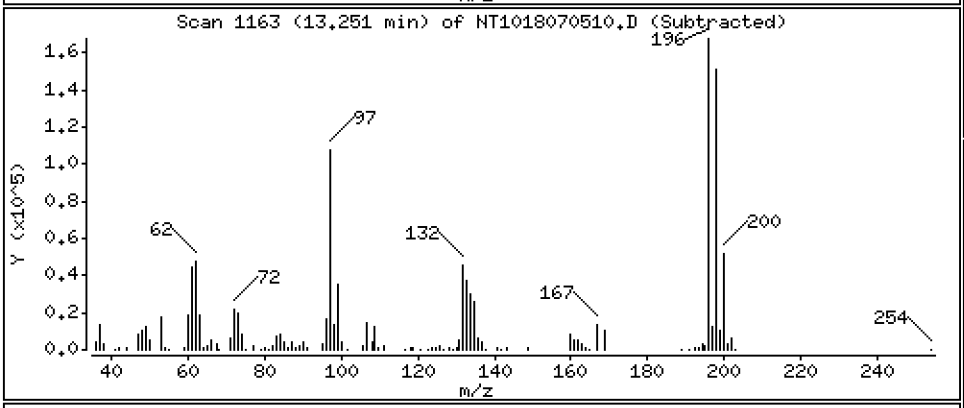
Column phase: ZB-5msi

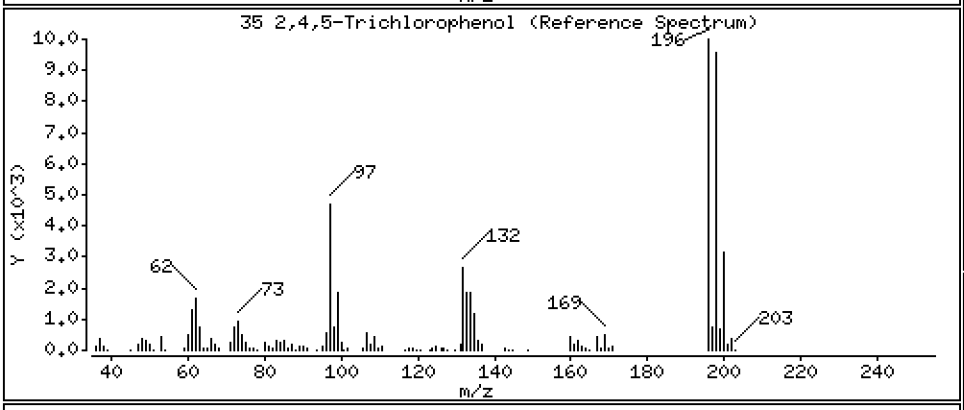
Column diameter: 0.25

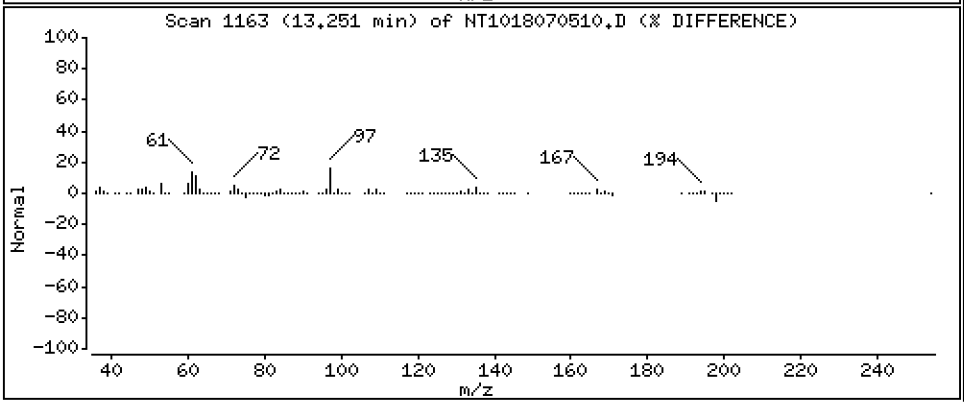
35 2,4,5-Trichlorophenol

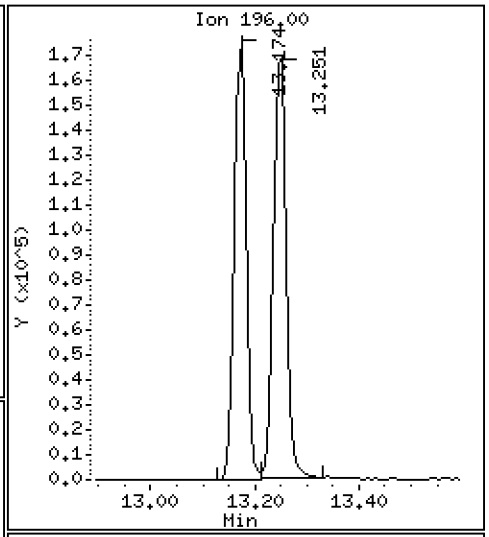
Concentration: 13.27 ug/mL

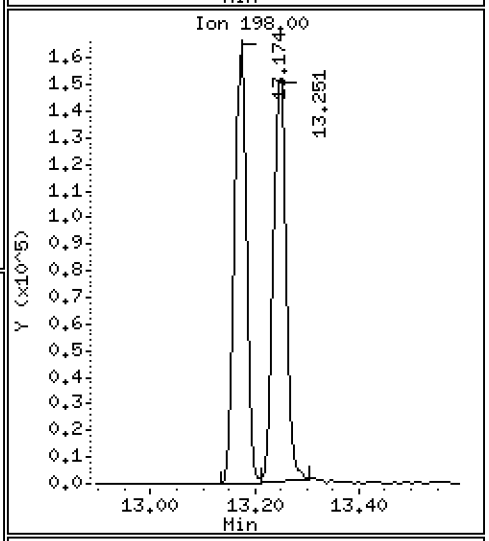


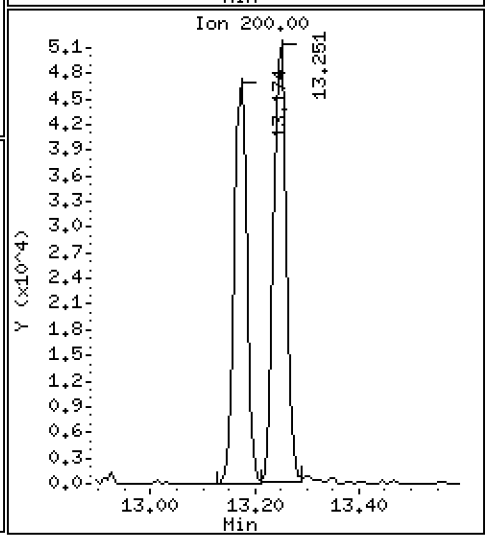












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

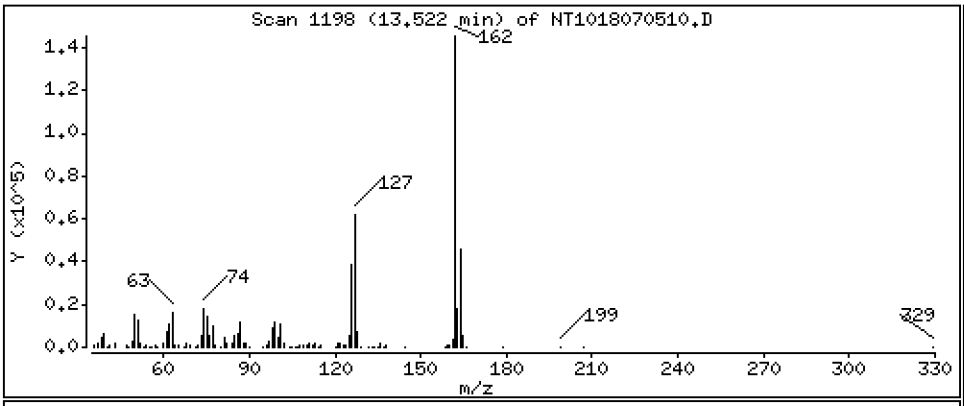
Operator: YZ

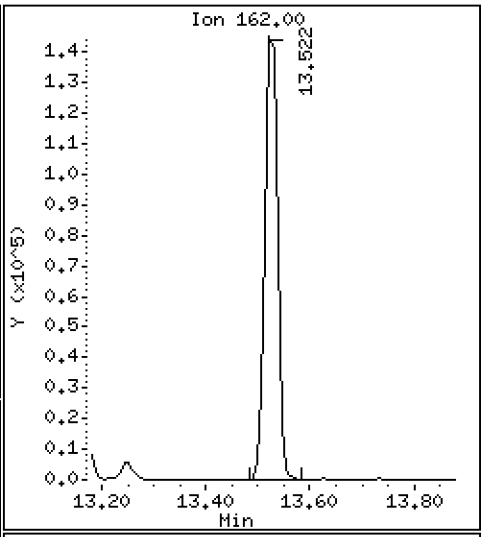
Column phase: ZB-5msi

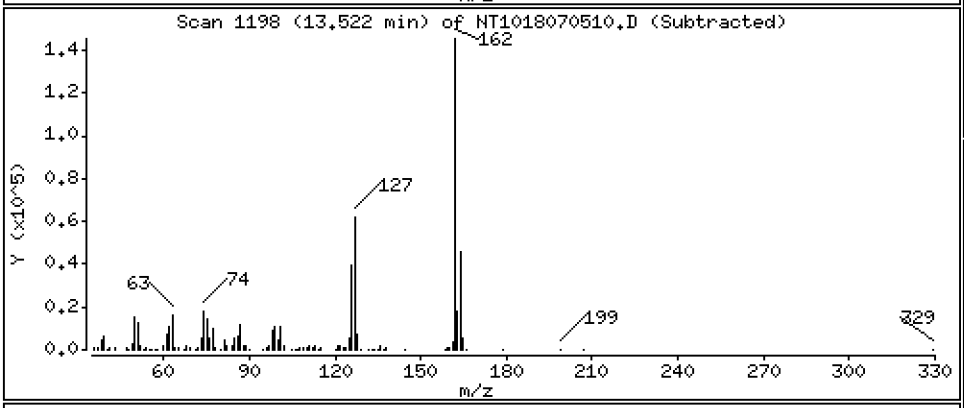
Column diameter: 0.25

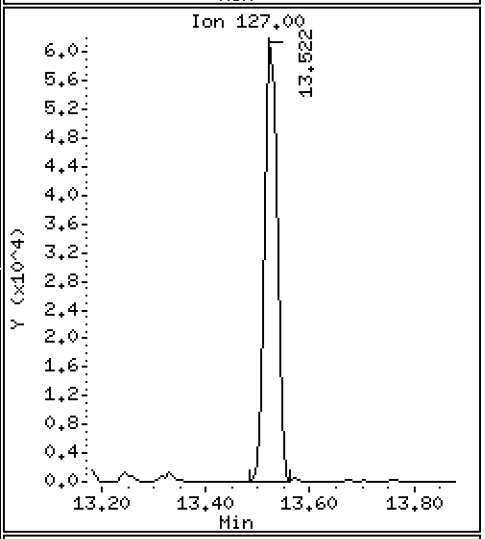
37 2-Chloronaphthalene

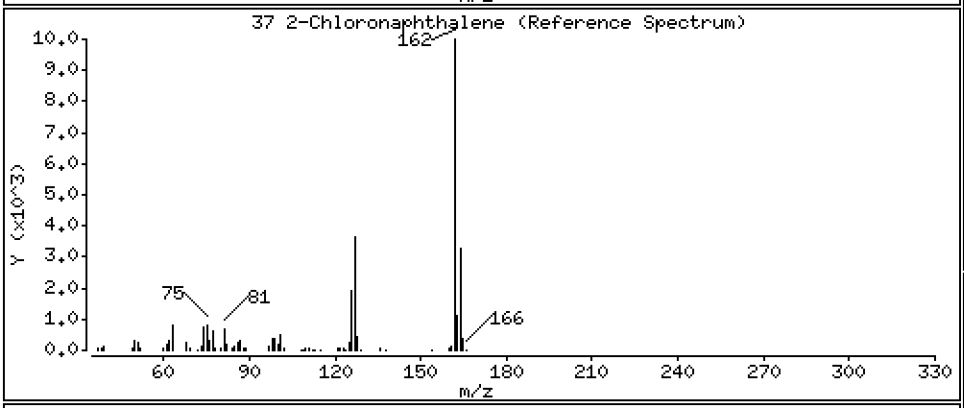
Concentration: 4.137 ug/mL

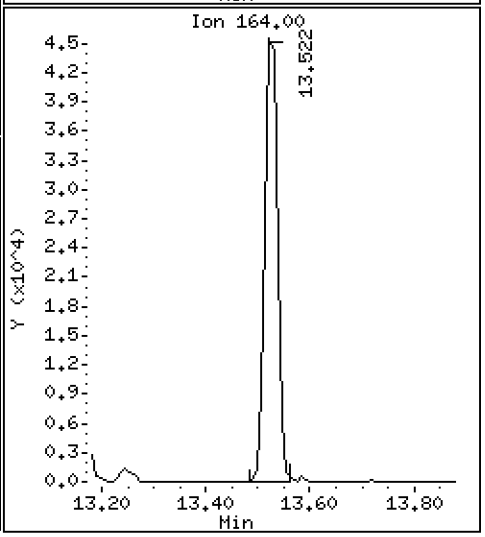


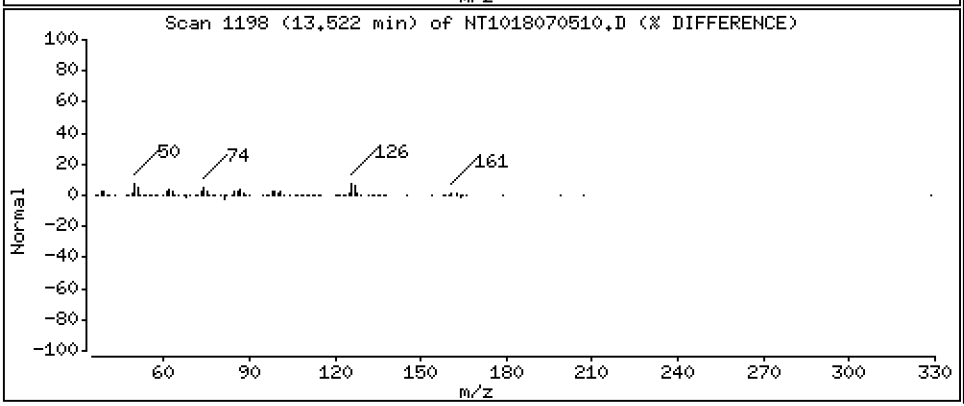












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

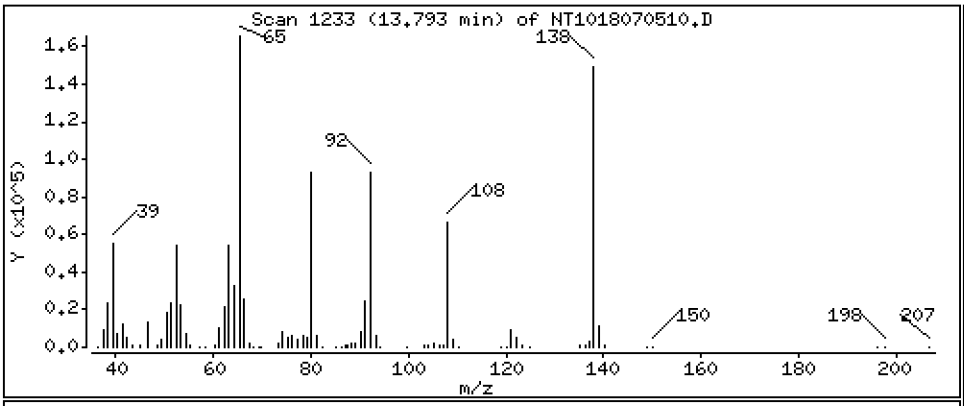
Operator: YZ

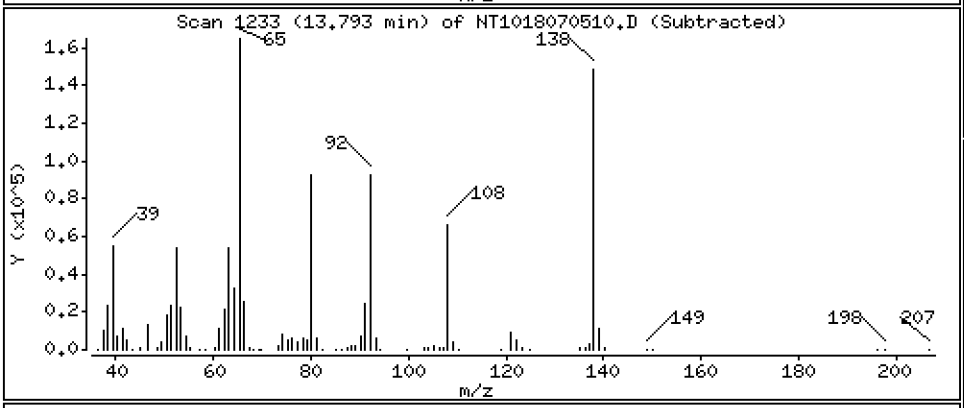
Column phase: ZB-5msi

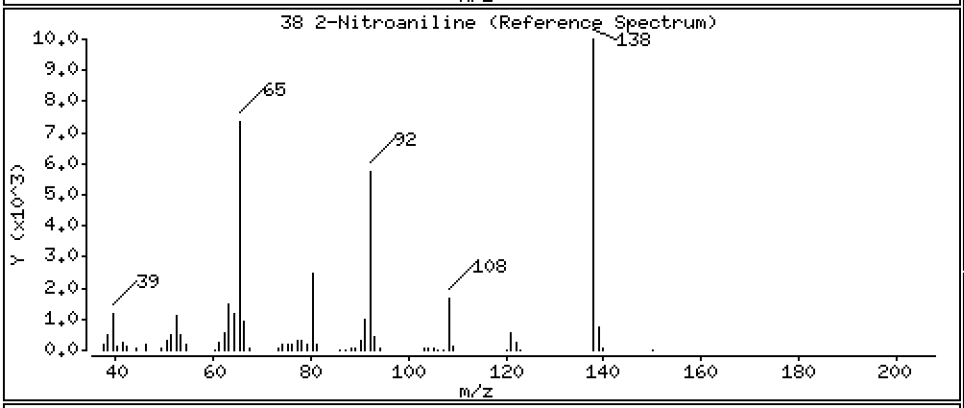
Column diameter: 0.25

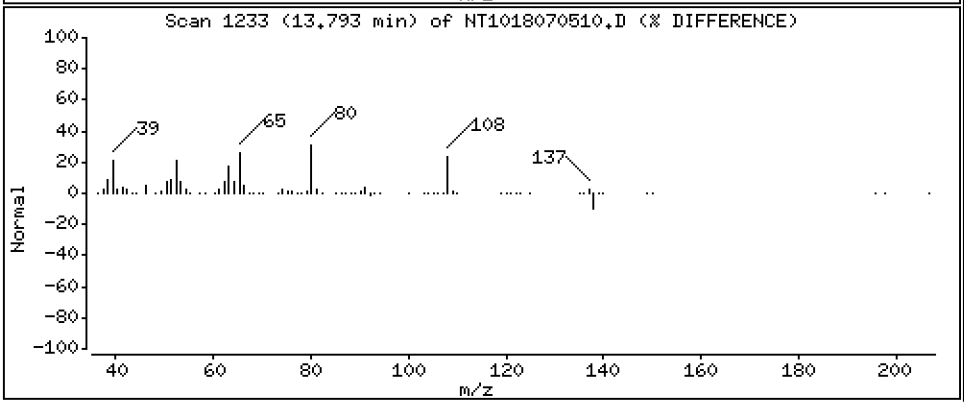
38 2-Nitroaniline

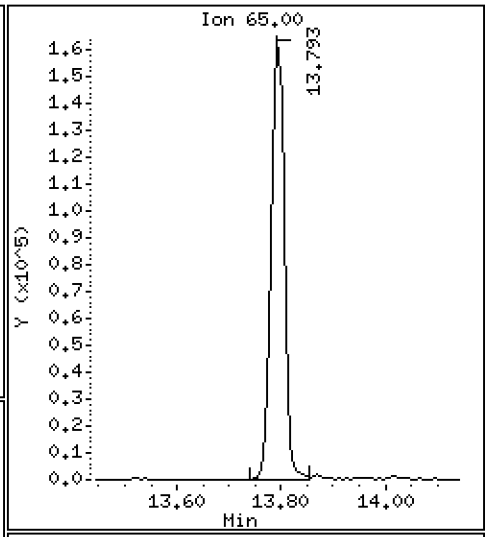
Concentration: 17.42 ug/mL

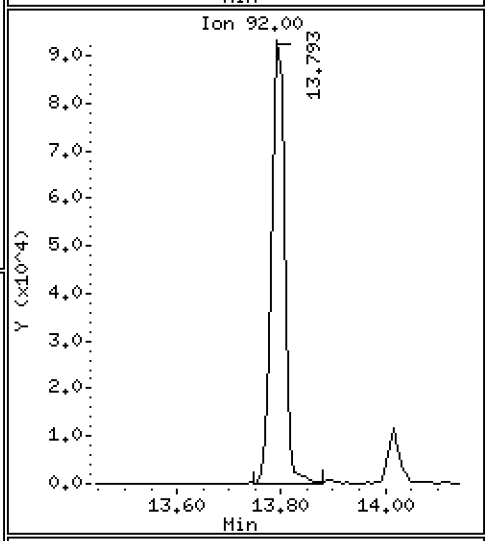


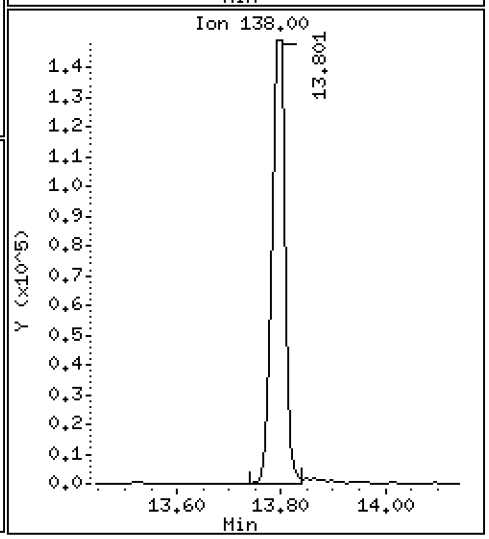












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

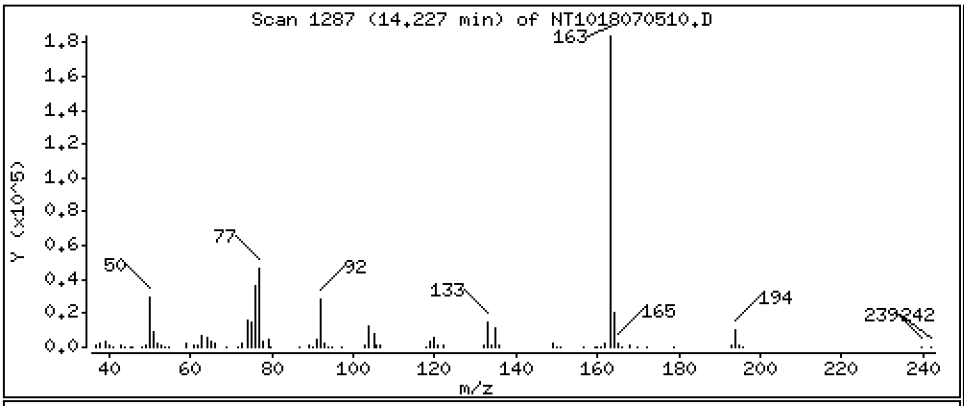
Operator: YZ

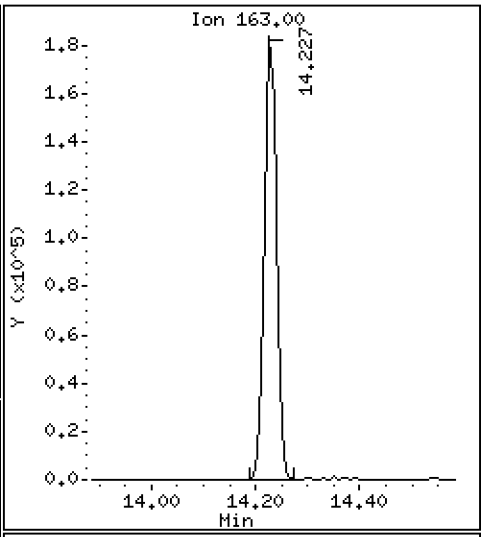
Column phase: ZB-5msi

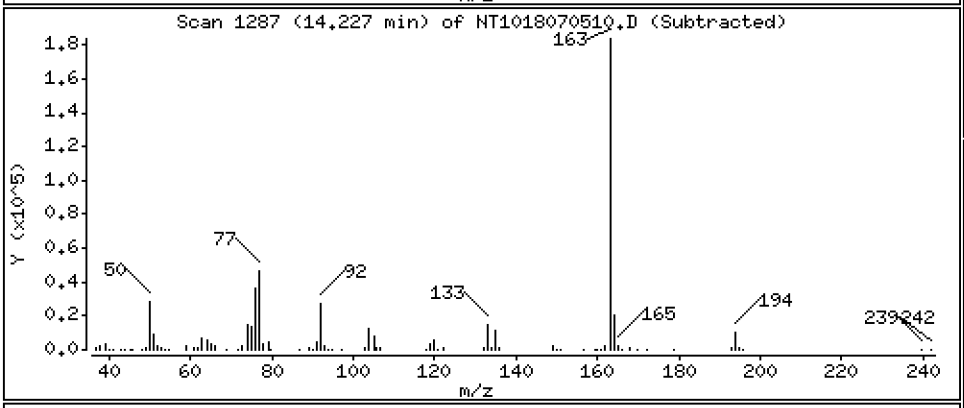
Column diameter: 0.25

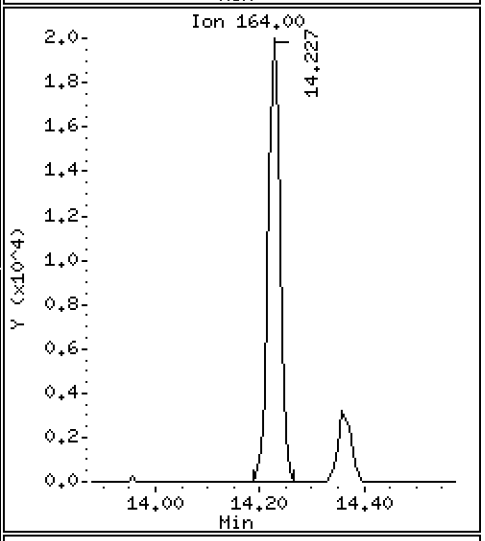
39 Dimethylphthalate

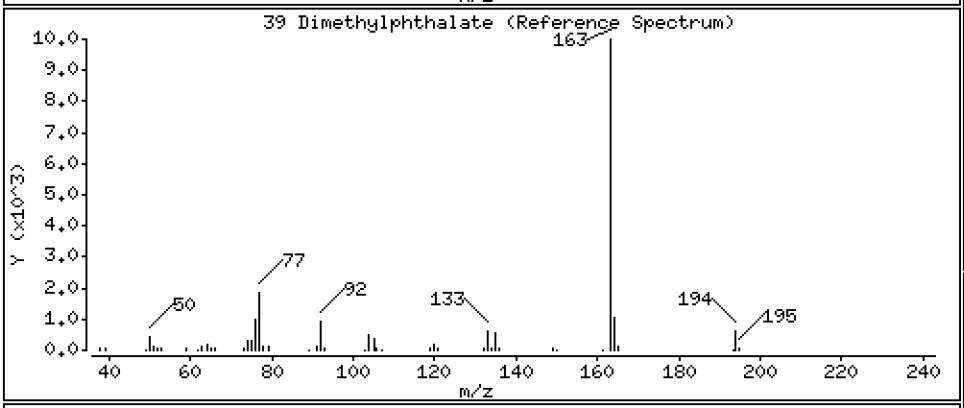
Concentration: 4.634 ug/mL

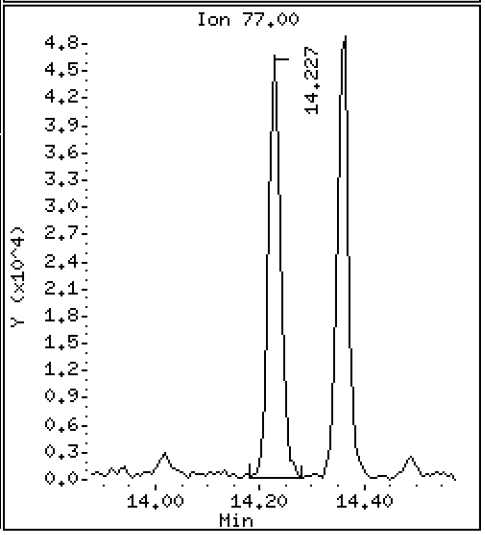


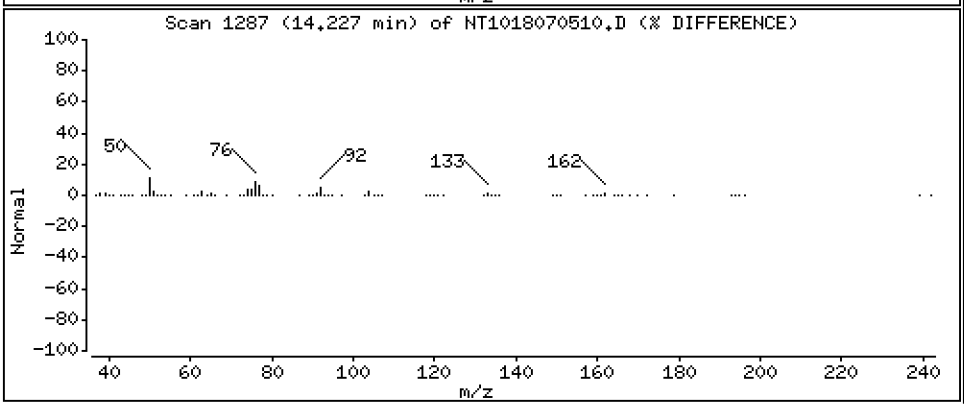












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

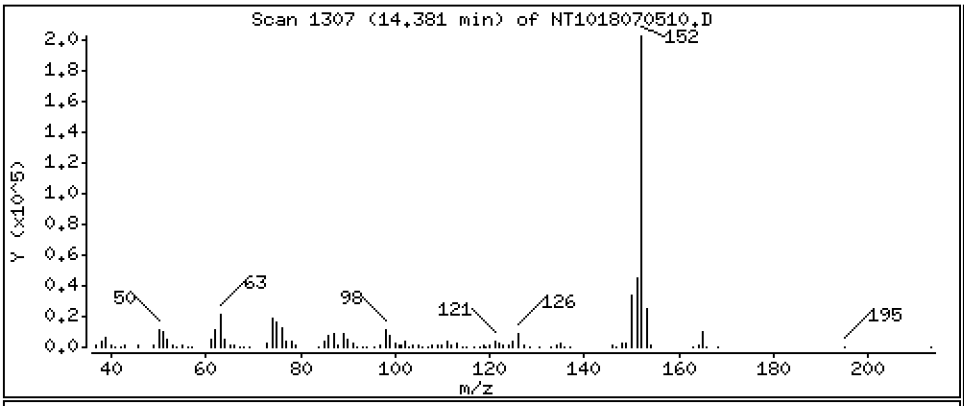
Operator: YZ

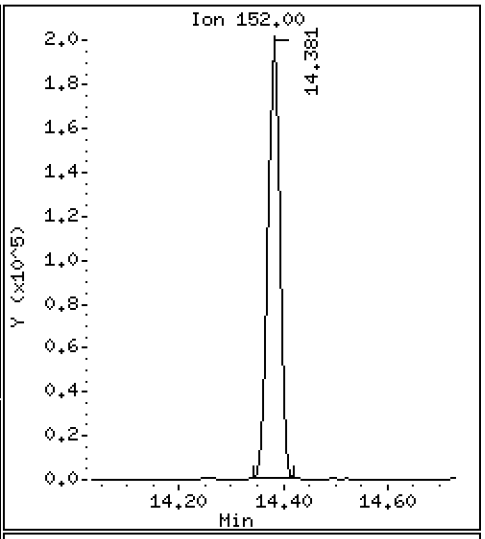
Column phase: ZB-5msi

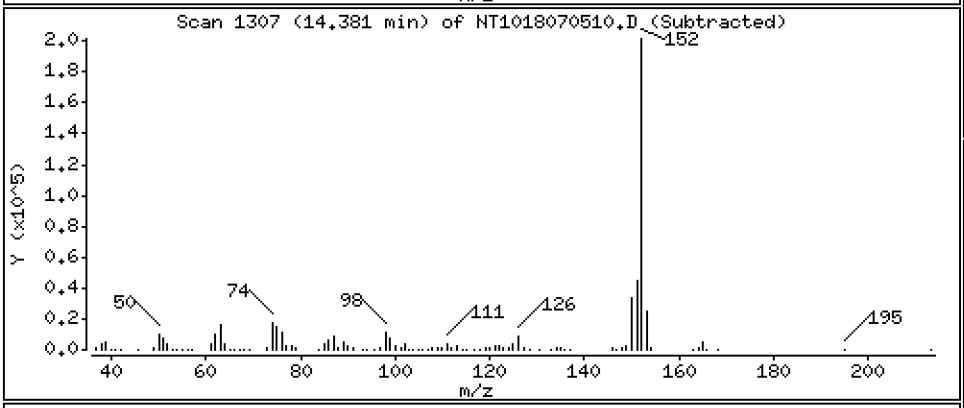
Column diameter: 0.25

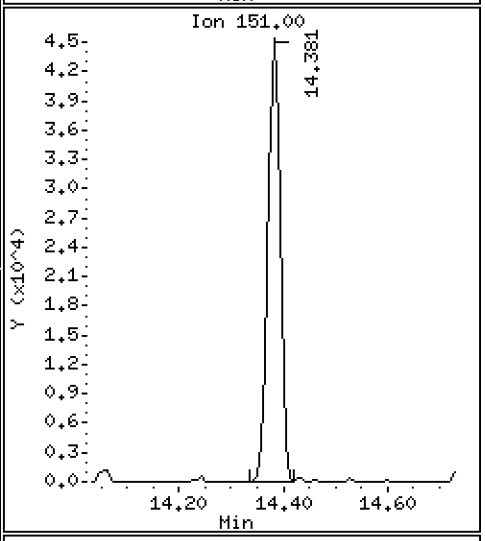
40 Acenaphthylene

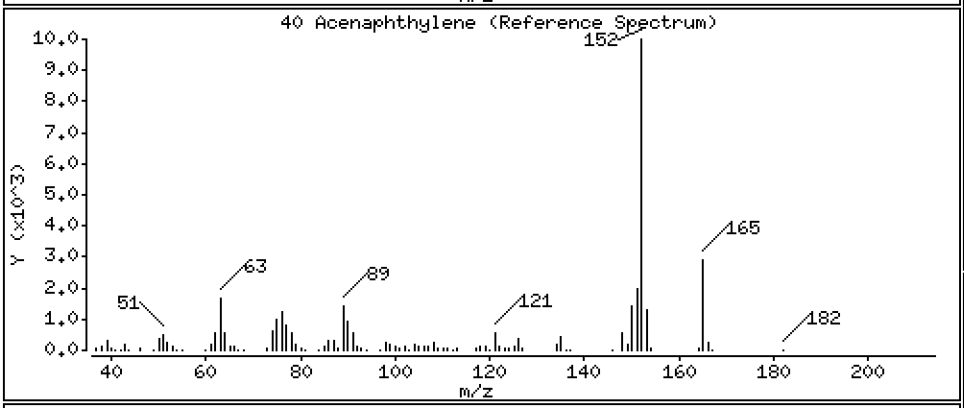
Concentration: 3.384 ug/mL

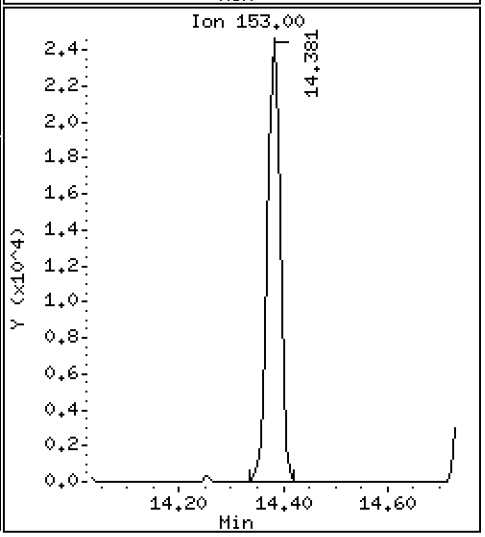


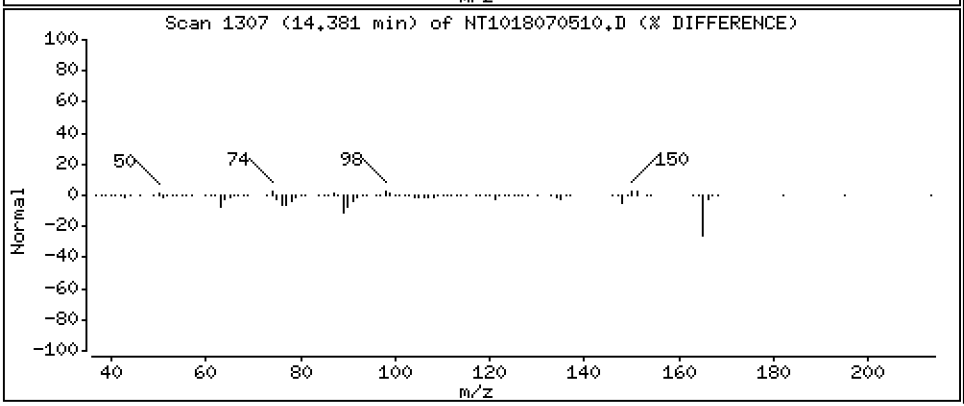












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

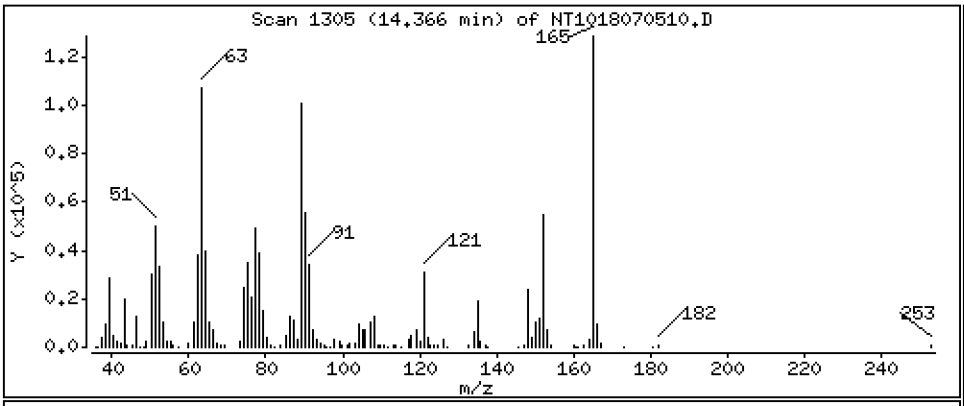
Operator: YZ

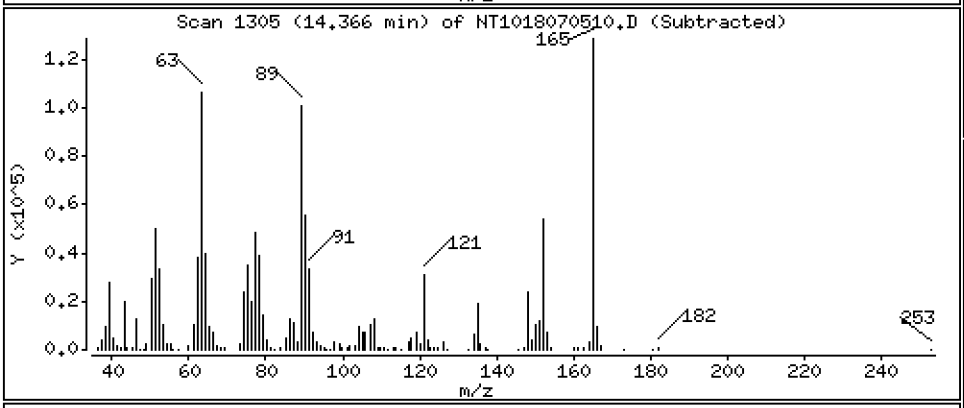
Column phase: ZB-5msi

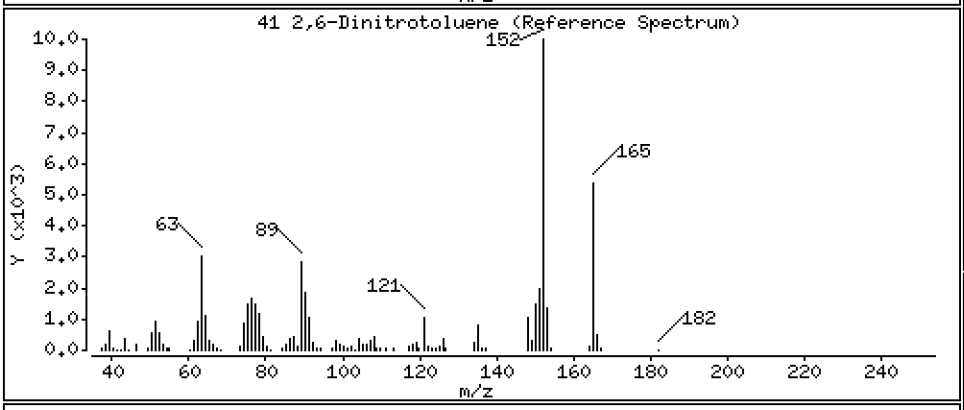
Column diameter: 0.25

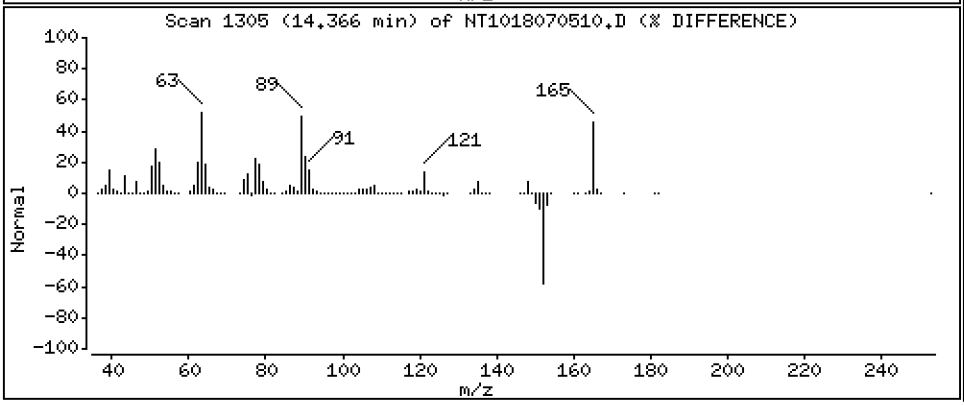
41 2,6-Dinitrotoluene

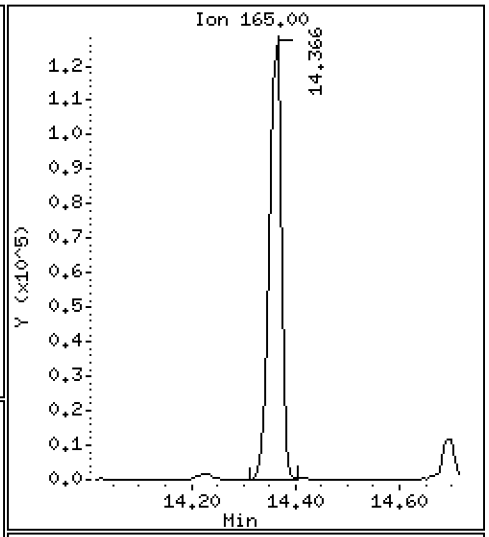
Concentration: 15.00 ug/mL

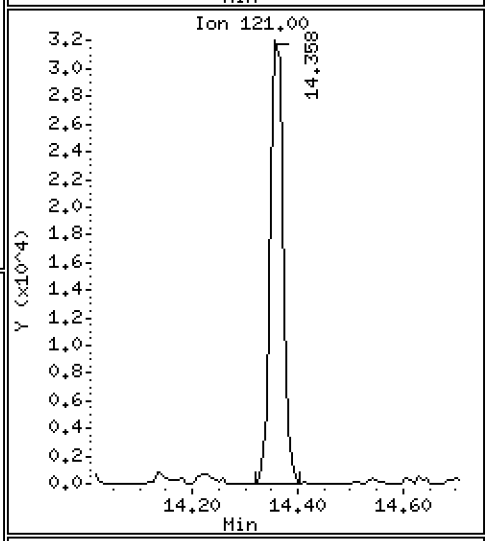


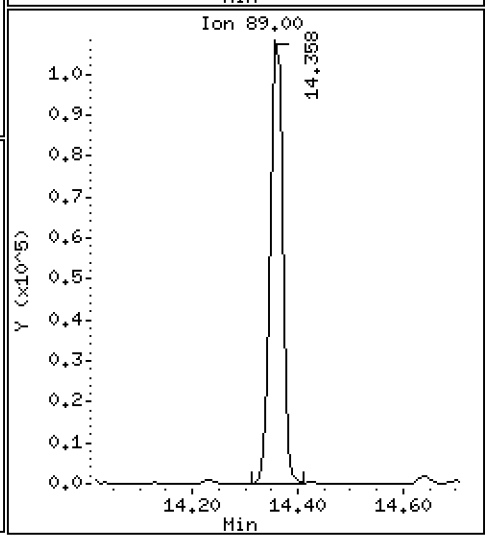












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

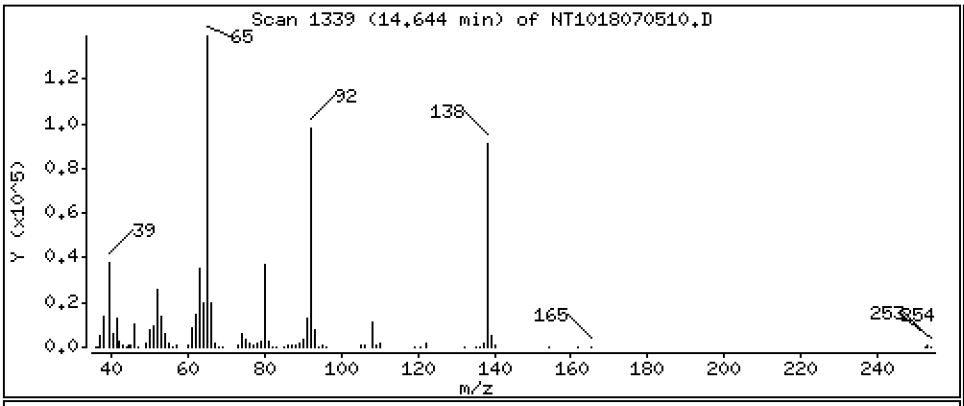
Operator: YZ

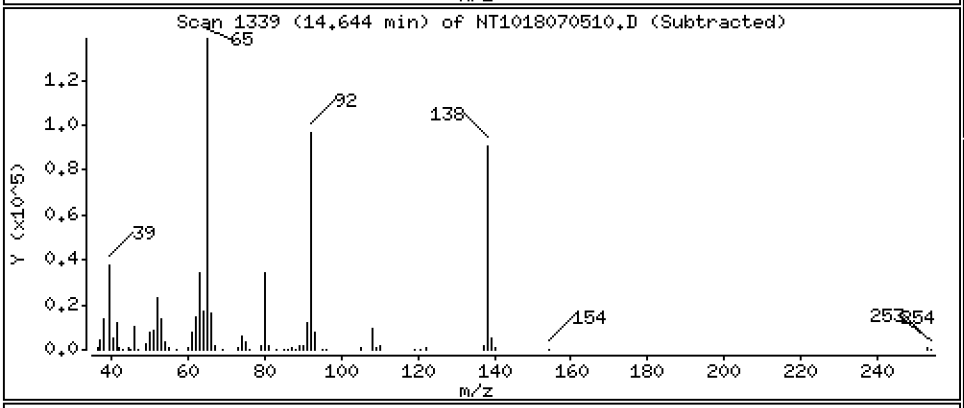
Column phase: ZB-5msi

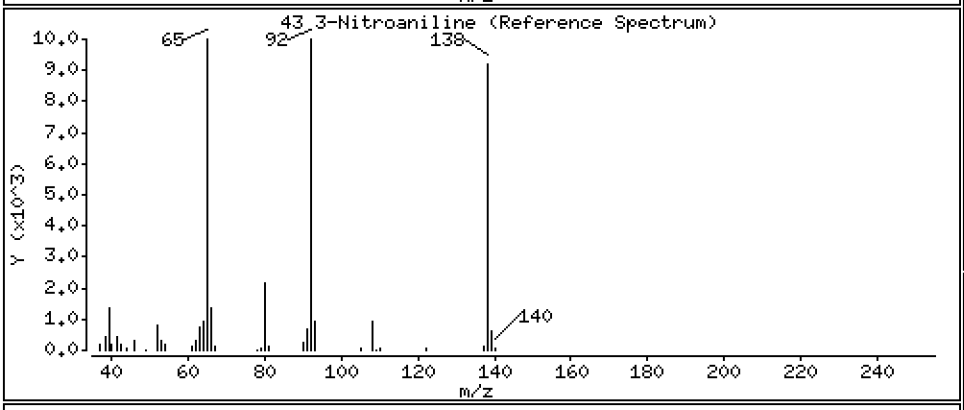
Column diameter: 0.25

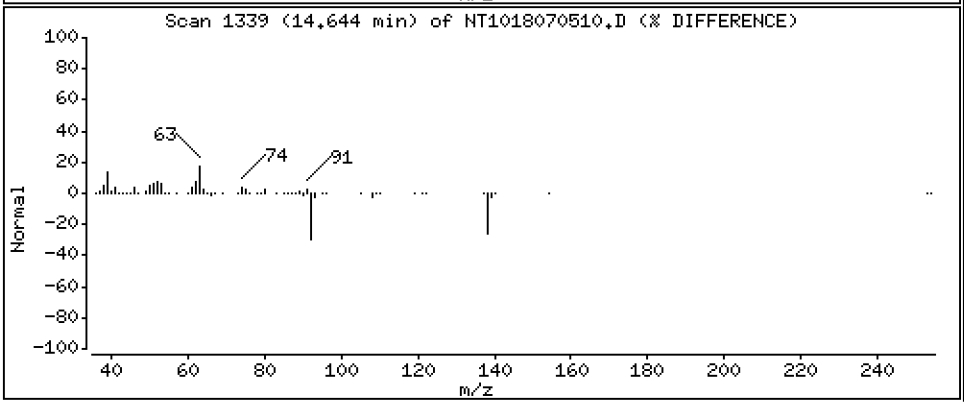
43 3-Nitroaniline

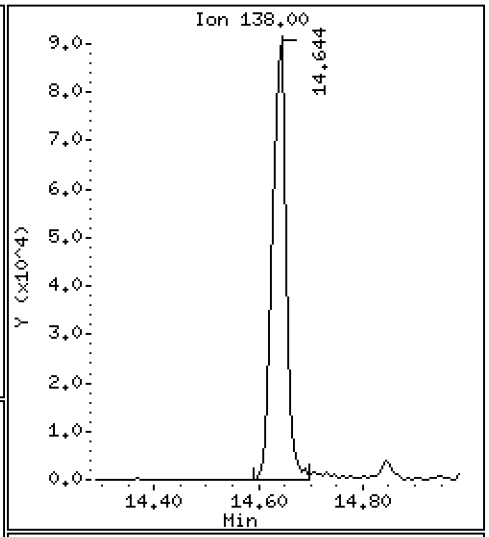
Concentration: 10.84 ug/mL

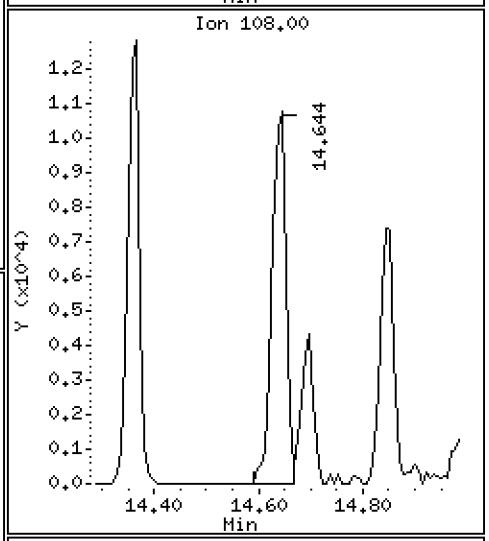


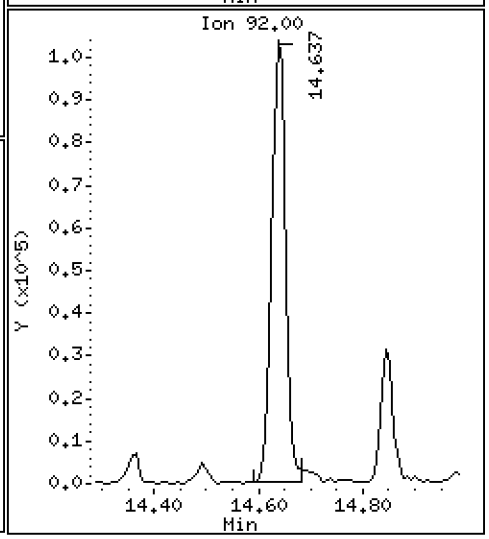












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

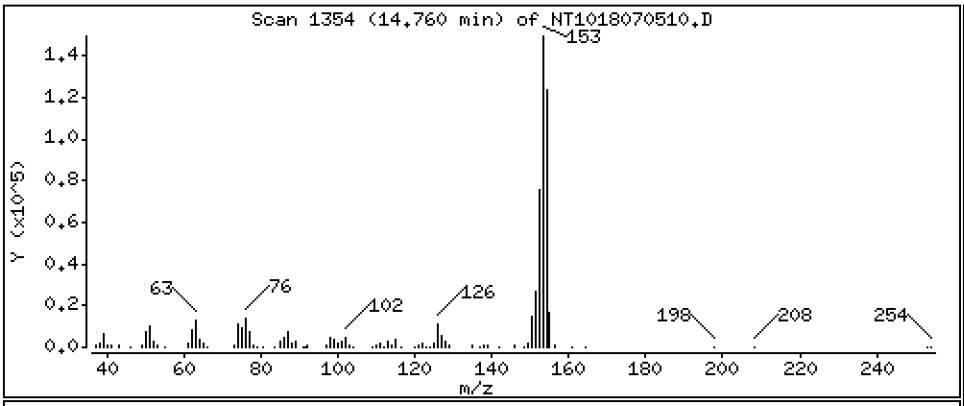
Operator: YZ

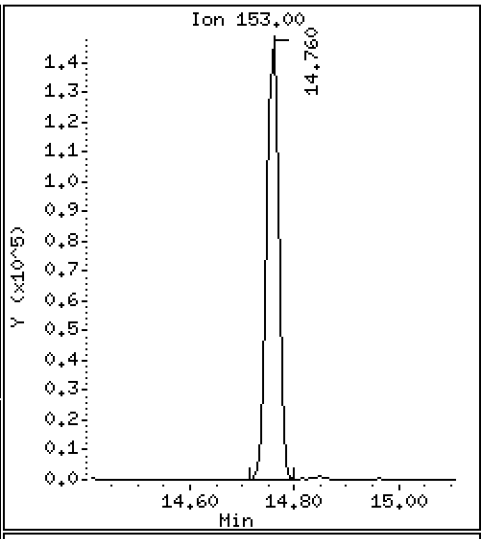
Column phase: ZB-5msi

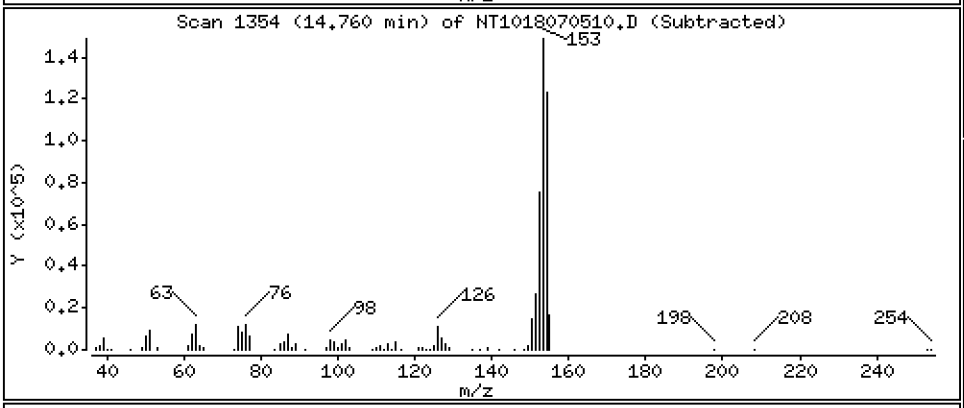
Column diameter: 0.25

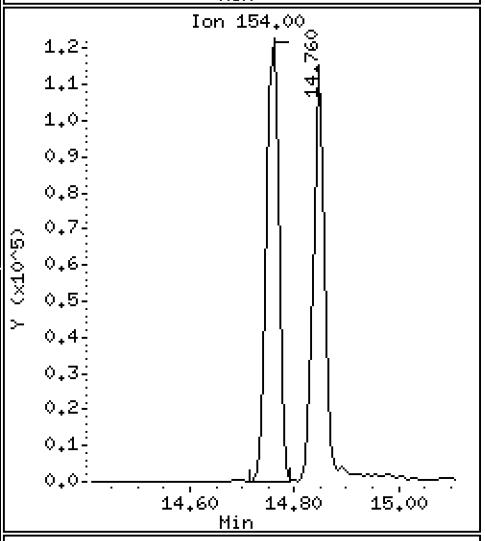
44 Acenaphthene

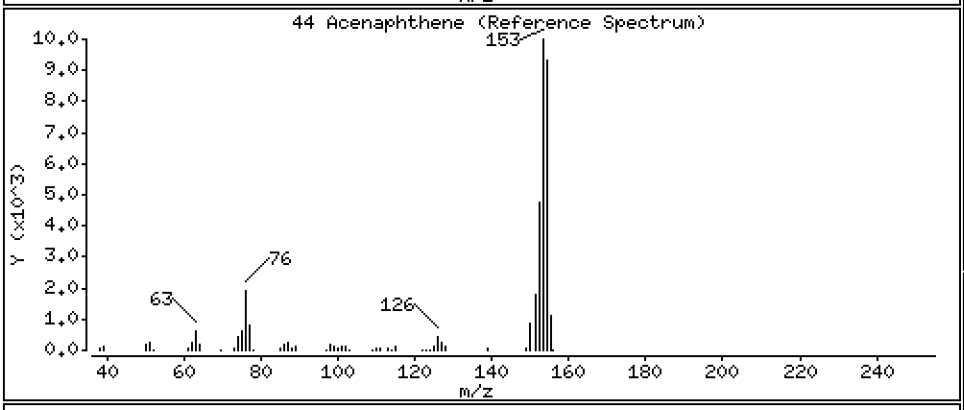
Concentration: 4.265 ug/mL

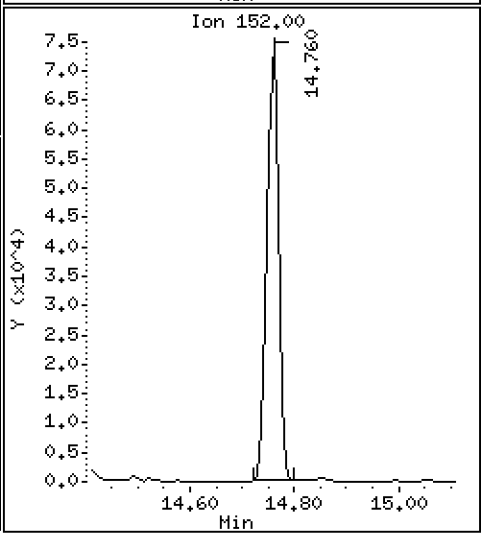


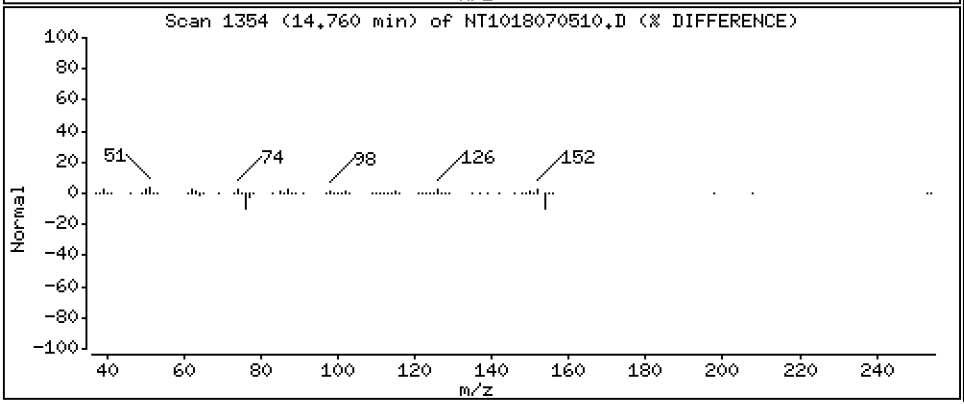












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

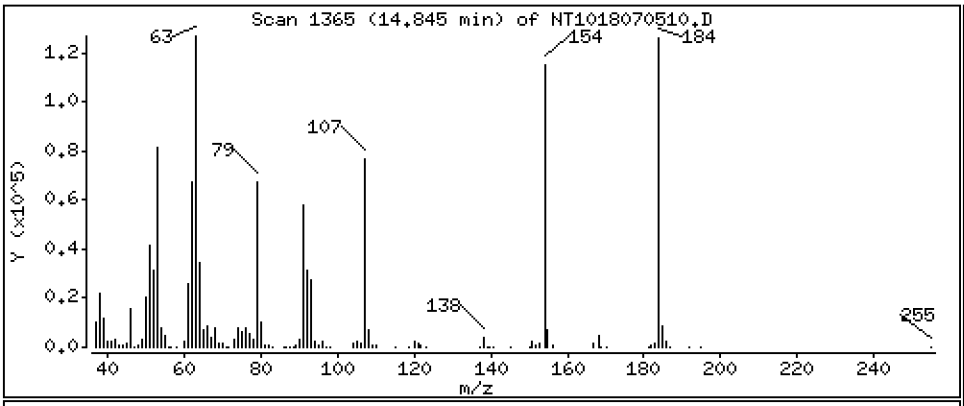
Operator: YZ

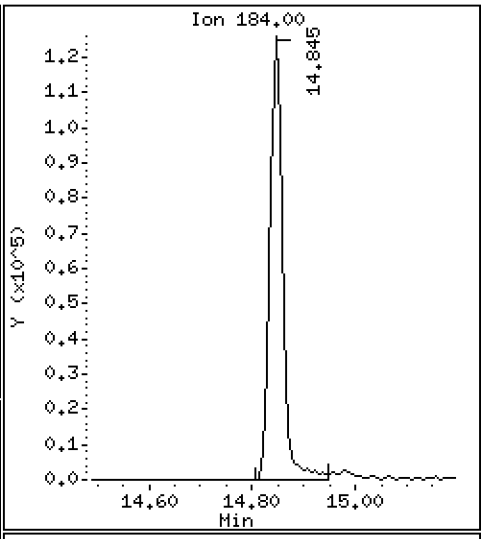
Column phase: ZB-5msi

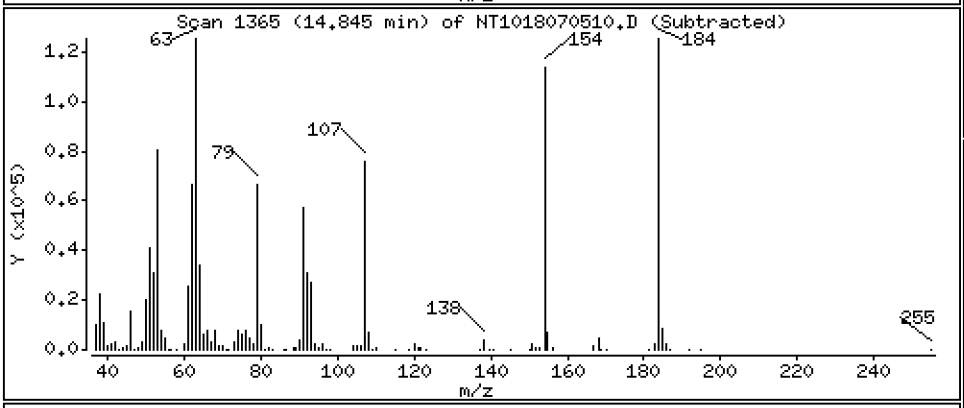
Column diameter: 0.25

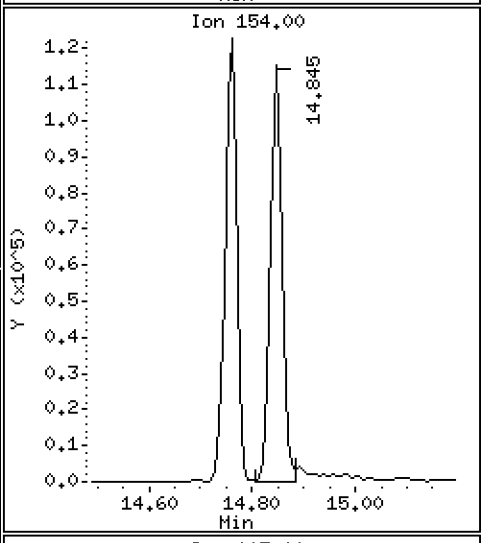
45 2,4-Dinitrophenol

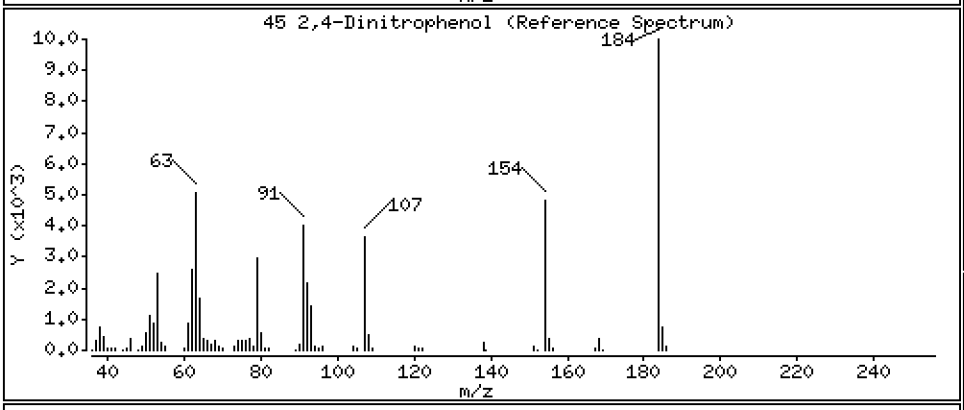
Concentration: 24.65 ug/mL

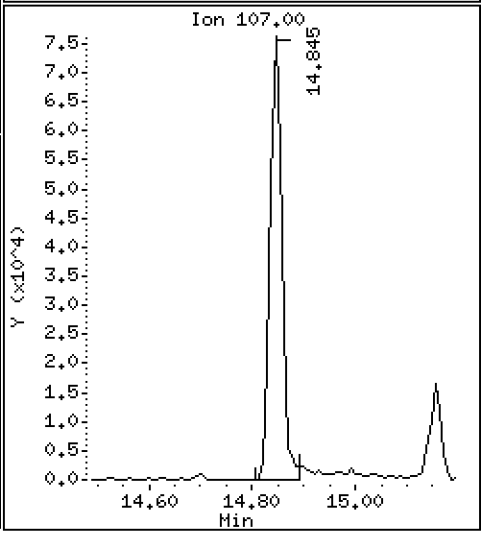


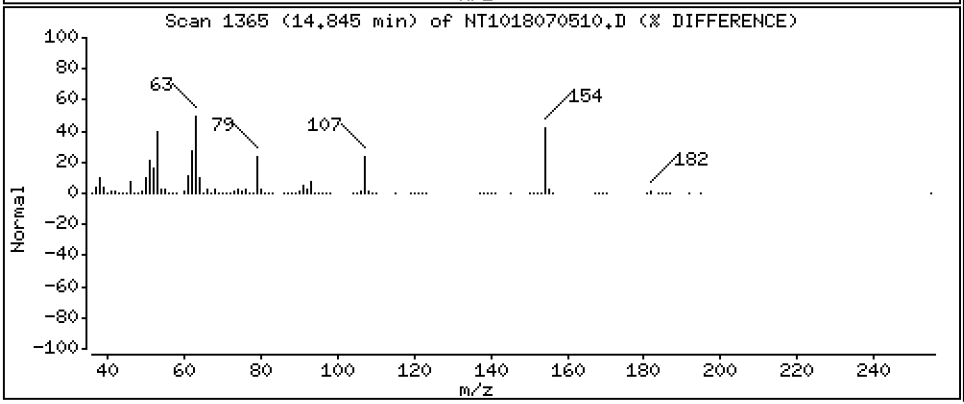












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

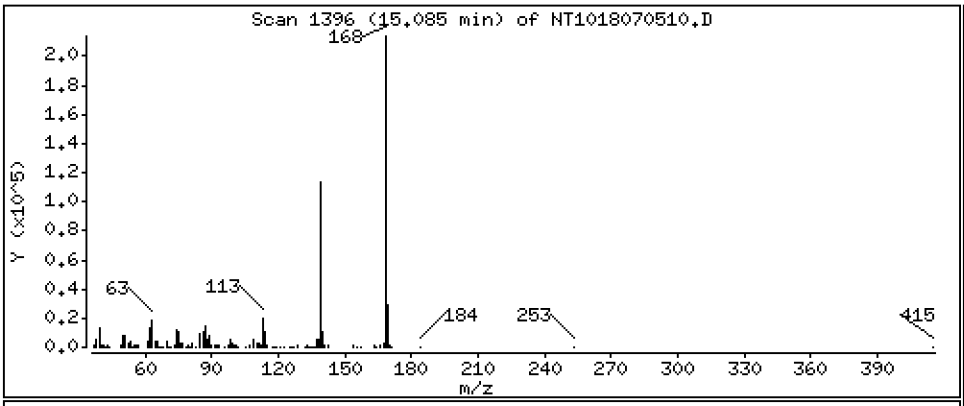
Operator: YZ

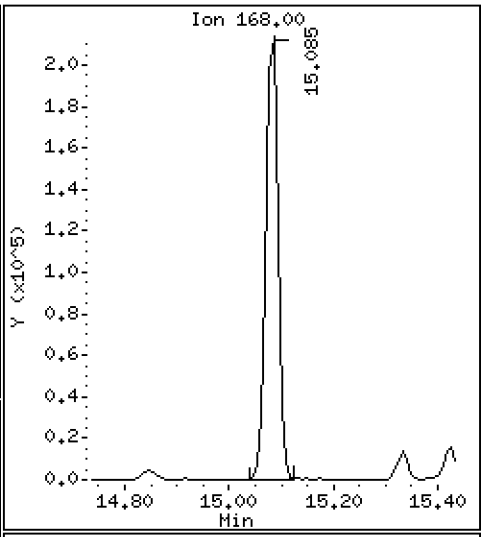
Column phase: ZB-5msi

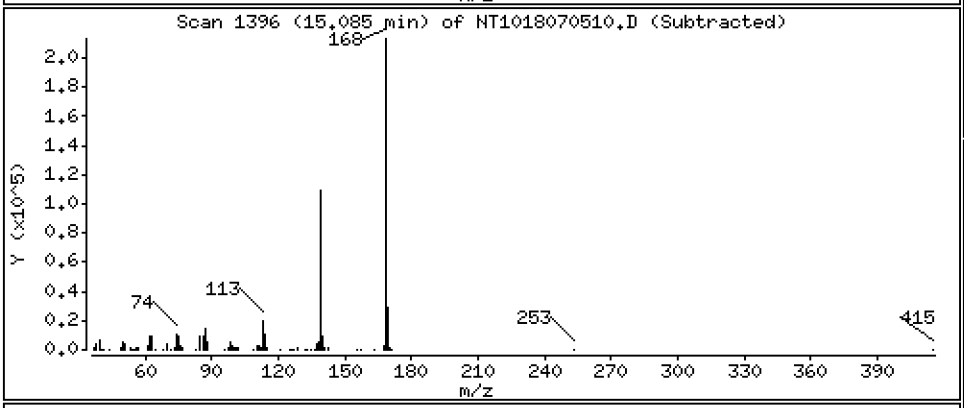
Column diameter: 0.25

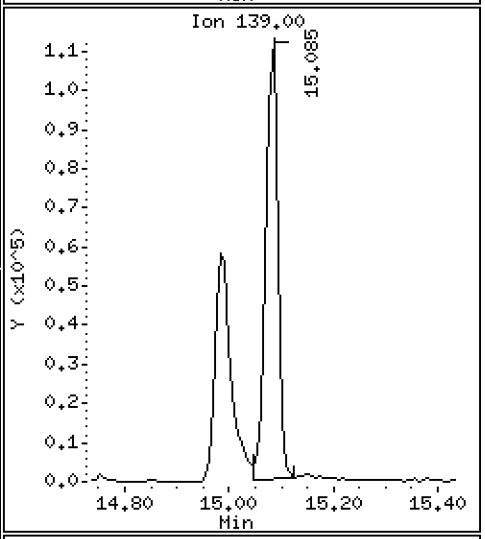
46 Dibenzofuran

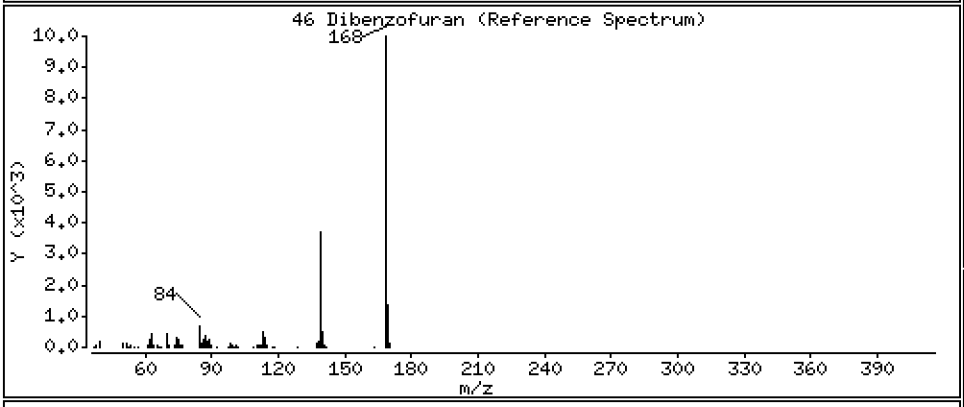
Concentration: 4.020 ug/mL

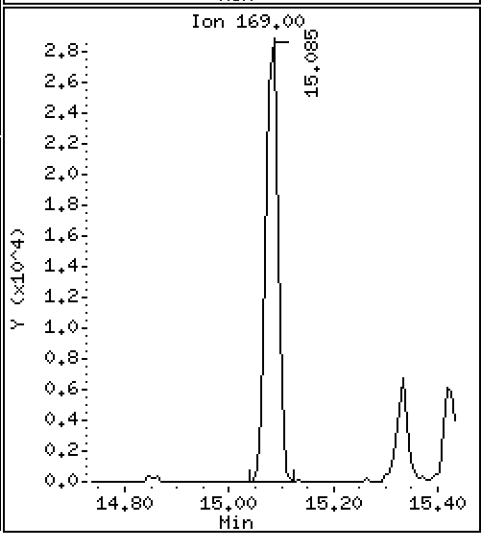


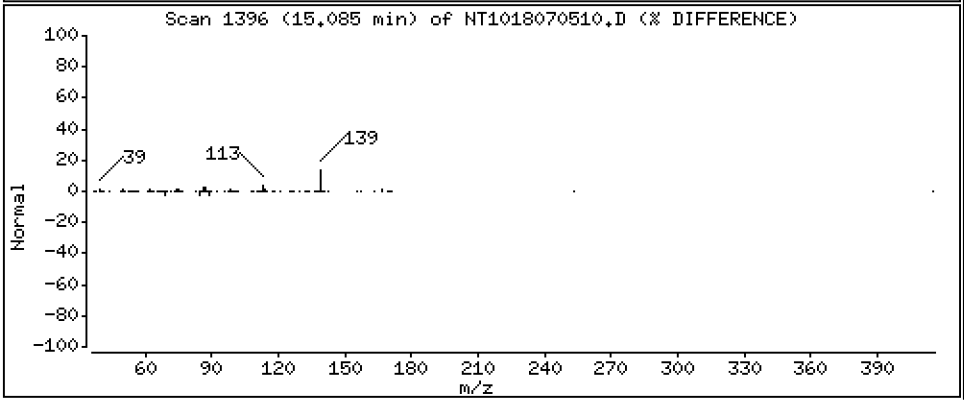












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

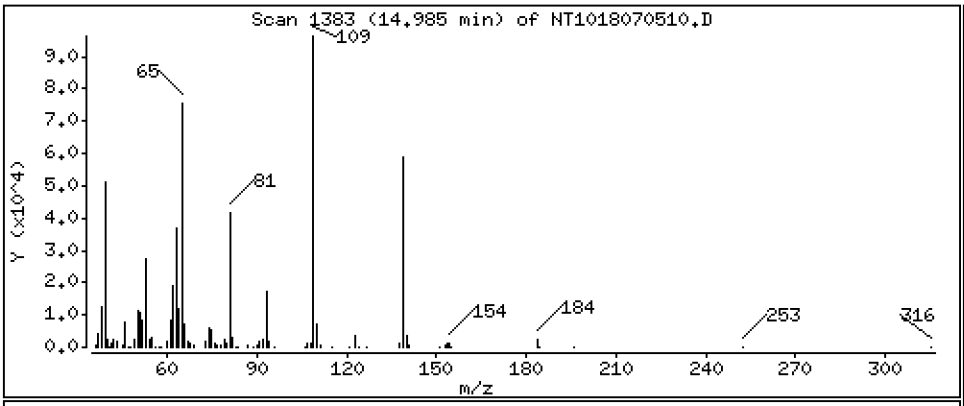
Operator: YZ

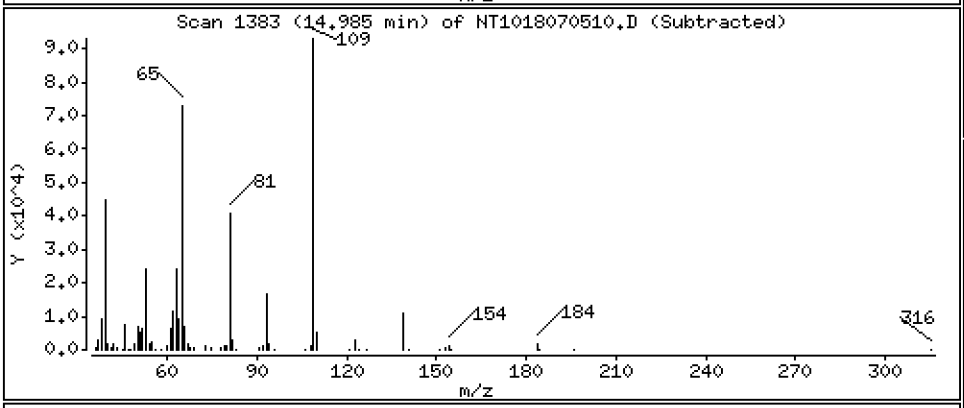
Column phase: ZB-5msi

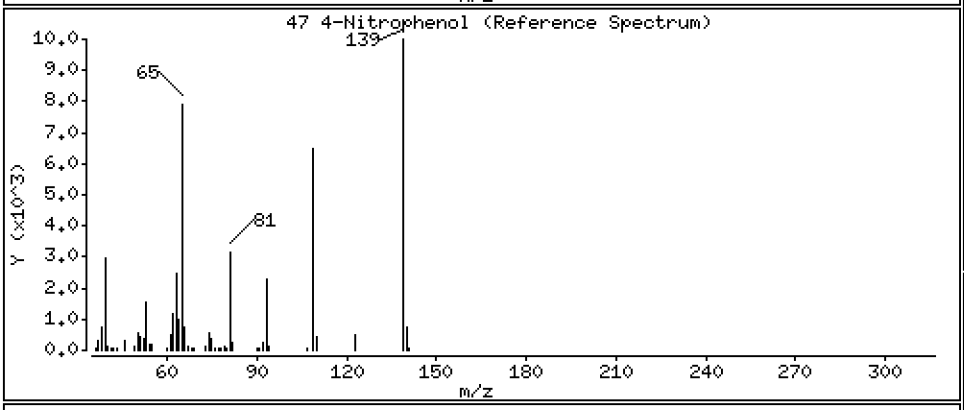
Column diameter: 0.25

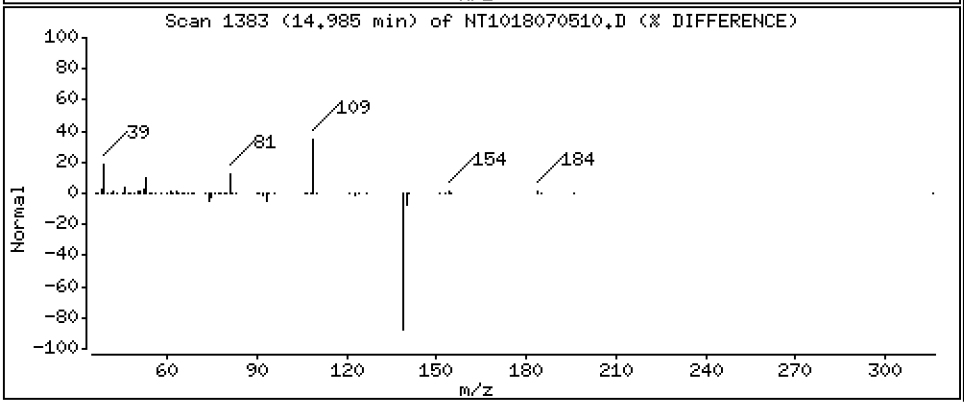
47 4-Nitrophenol

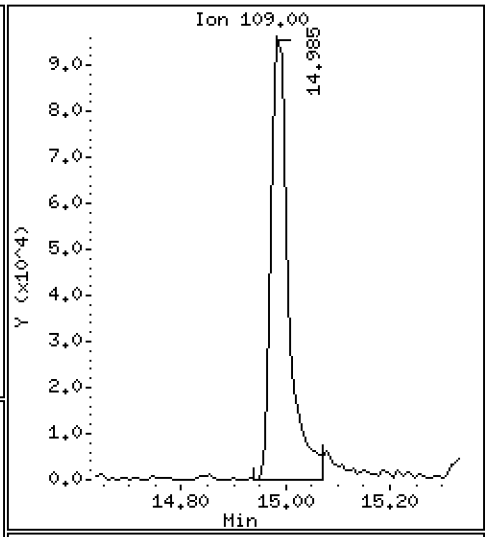
Concentration: 23.82 ug/mL

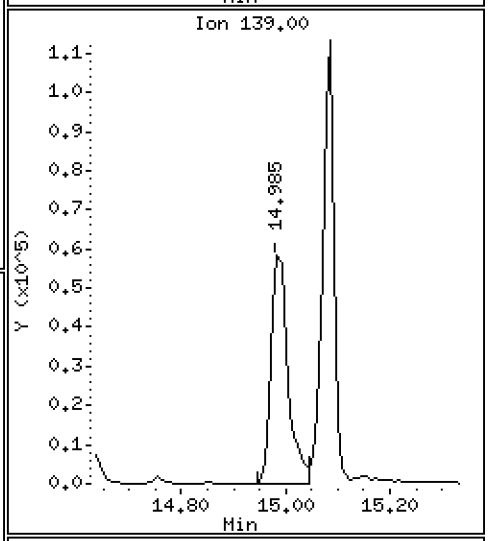


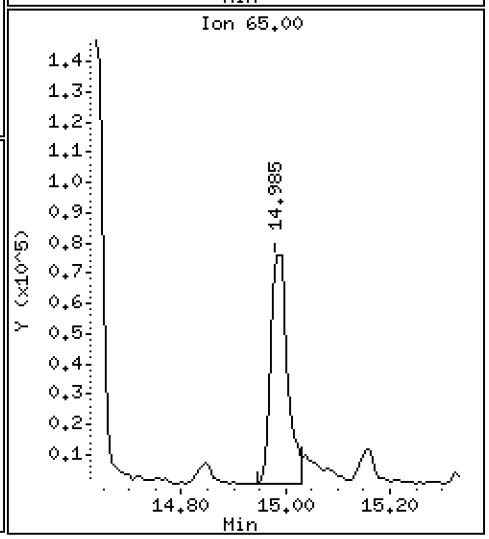












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

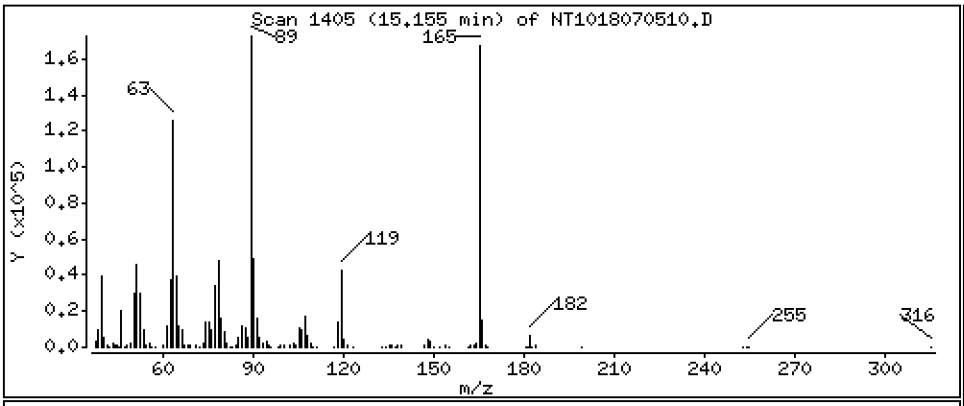
Operator: YZ

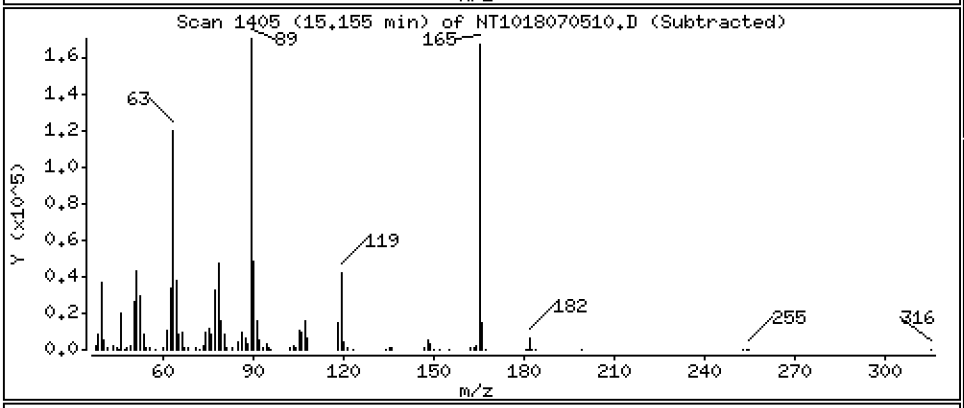
Column phase: ZB-5msi

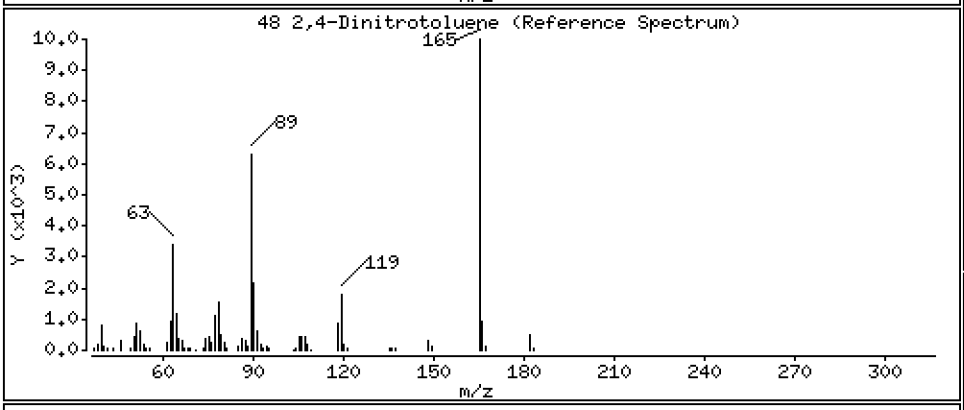
Column diameter: 0.25

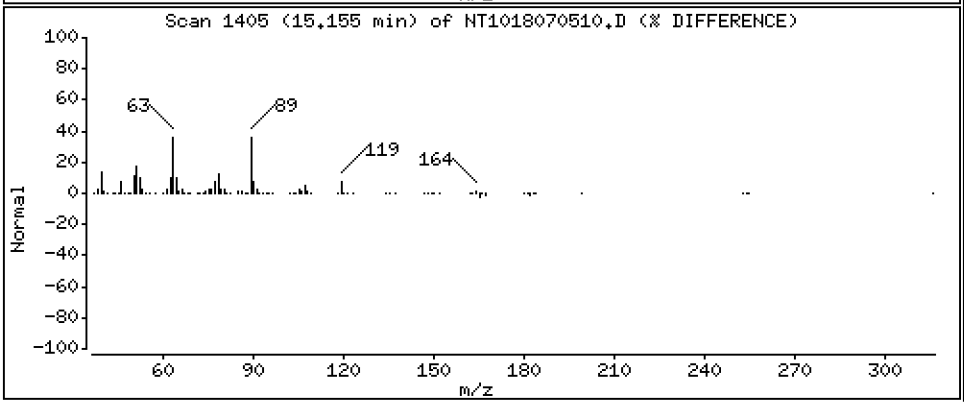
48 2,4-Dinitrotoluene

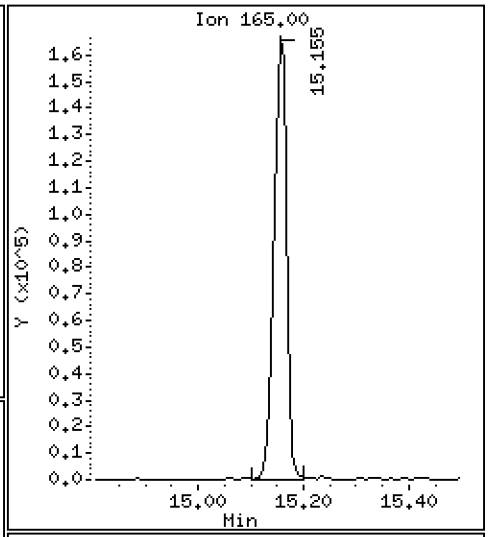
Concentration: 16.08 ug/mL

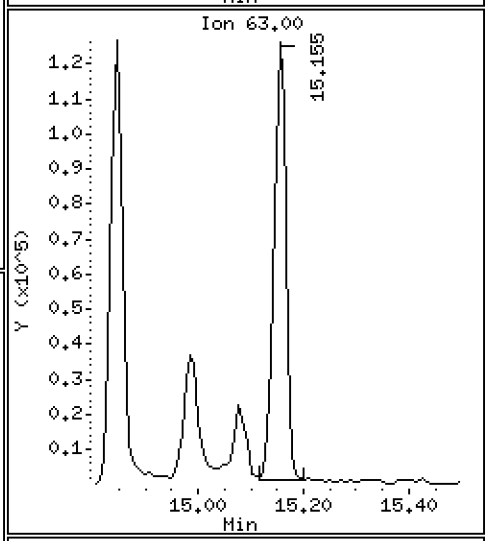


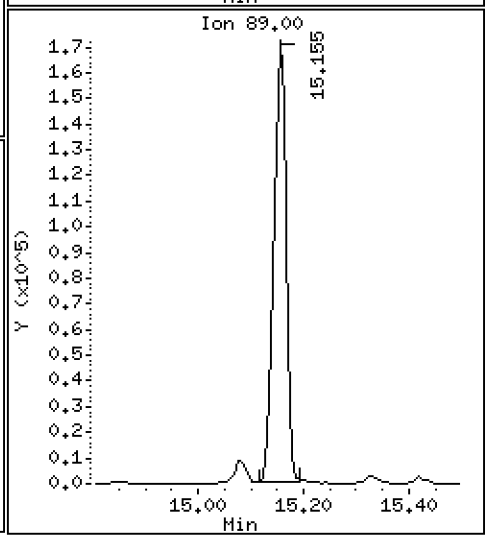












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

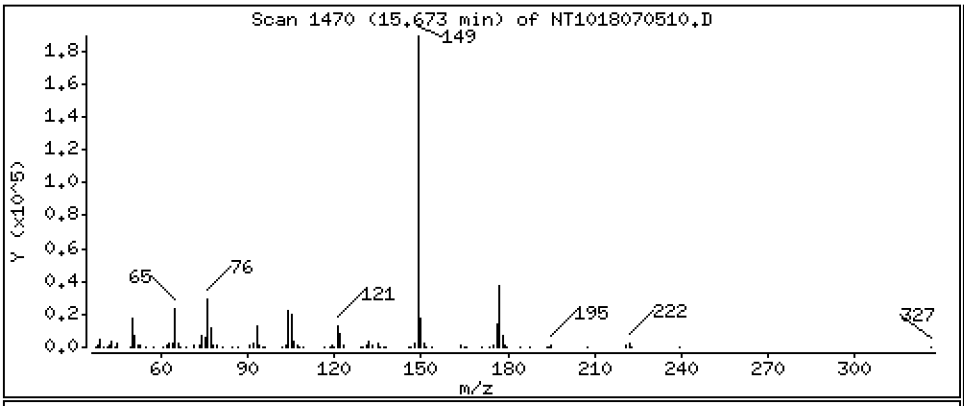
Operator: YZ

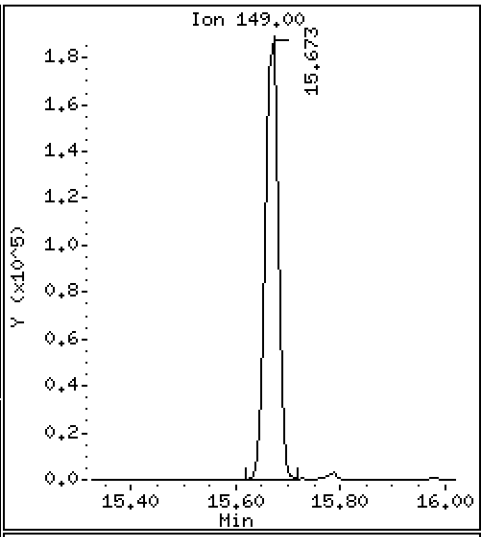
Column phase: ZB-5msi

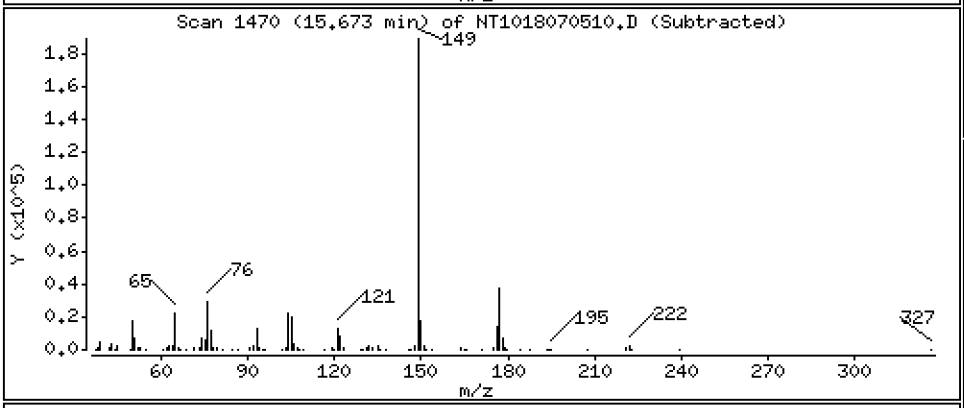
Column diameter: 0.25

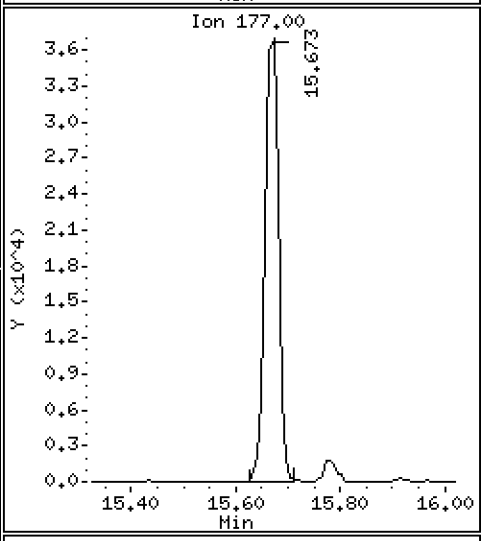
50 Diethylphthalate

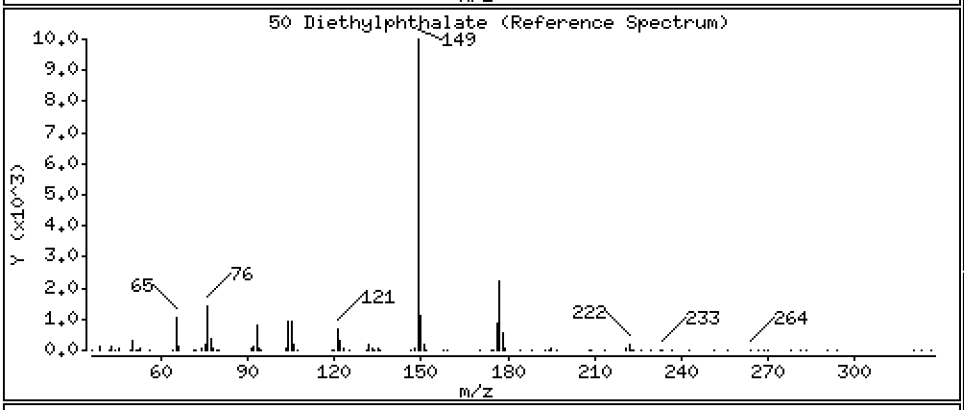
Concentration: 5.076 ug/mL

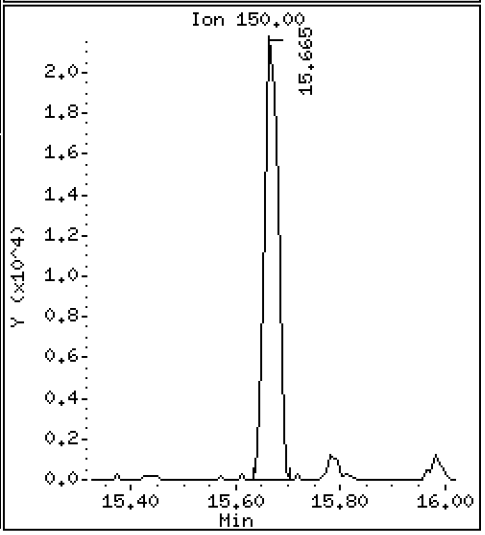


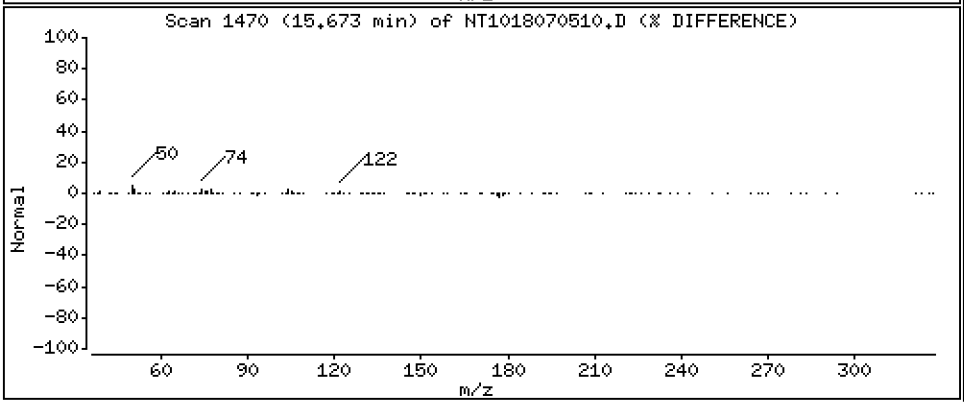












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

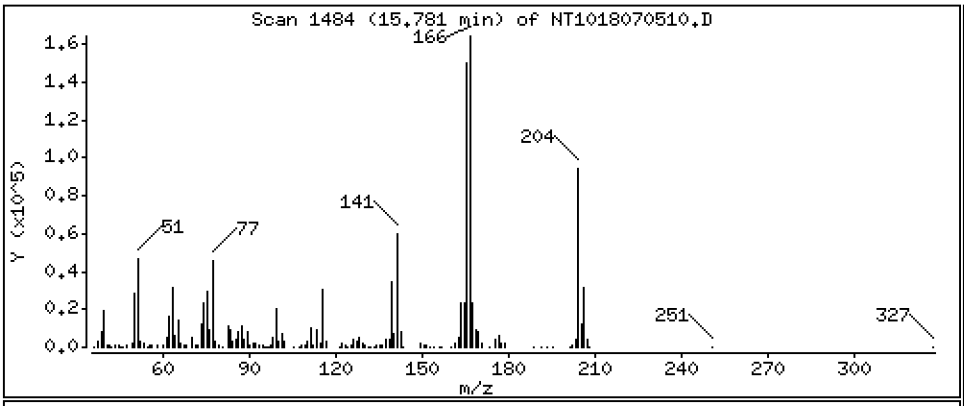
Operator: YZ

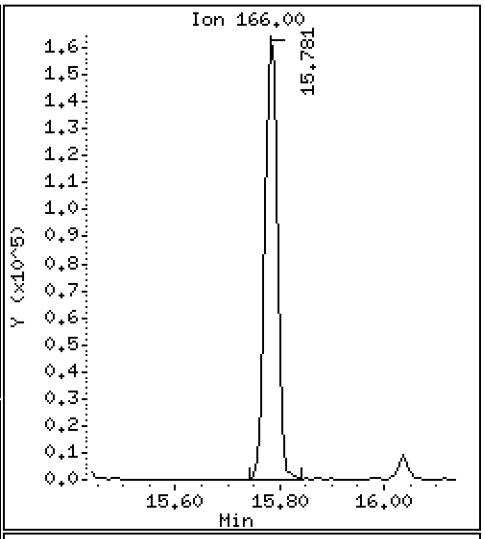
Column phase: ZB-5msi

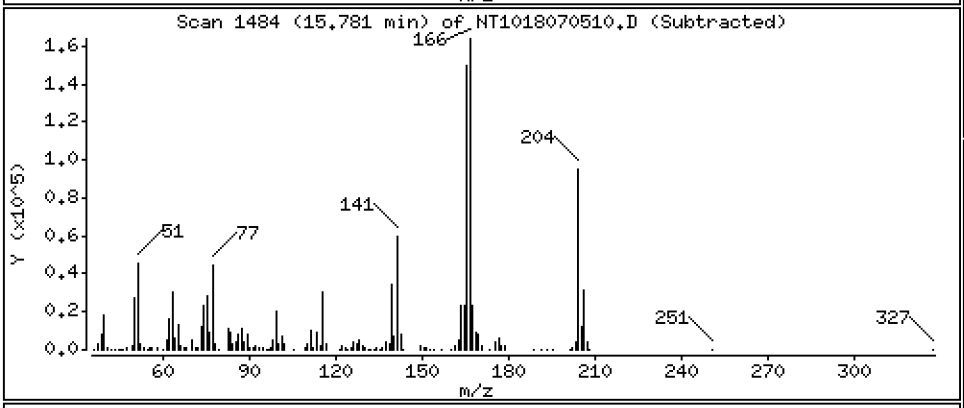
Column diameter: 0.25

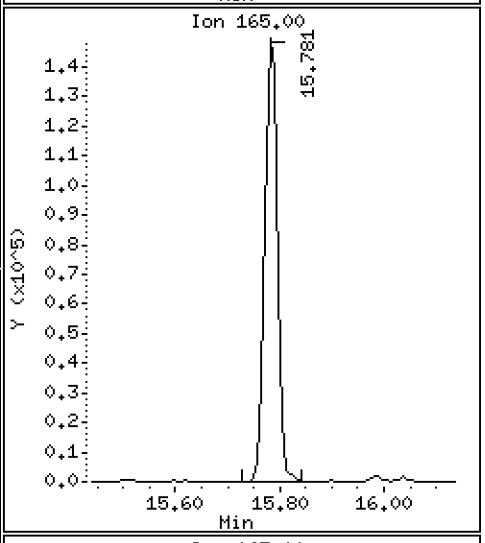
49 Fluorene

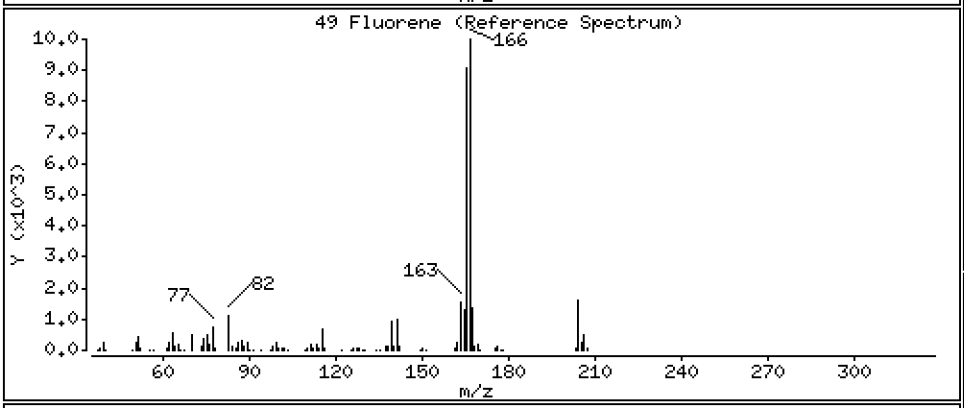
Concentration: 4.895 ug/mL

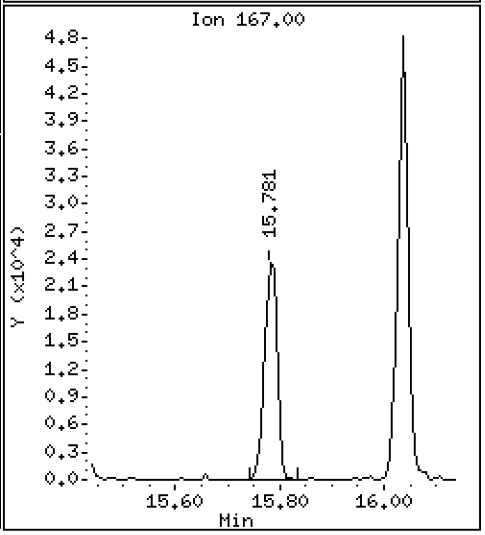


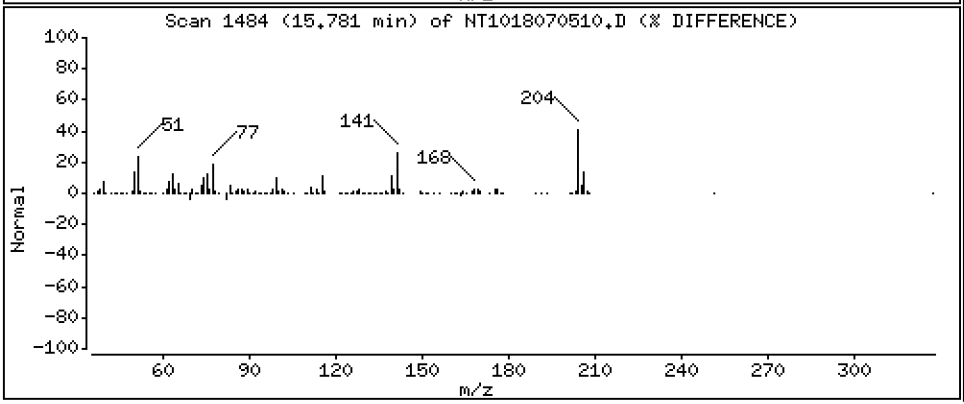












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

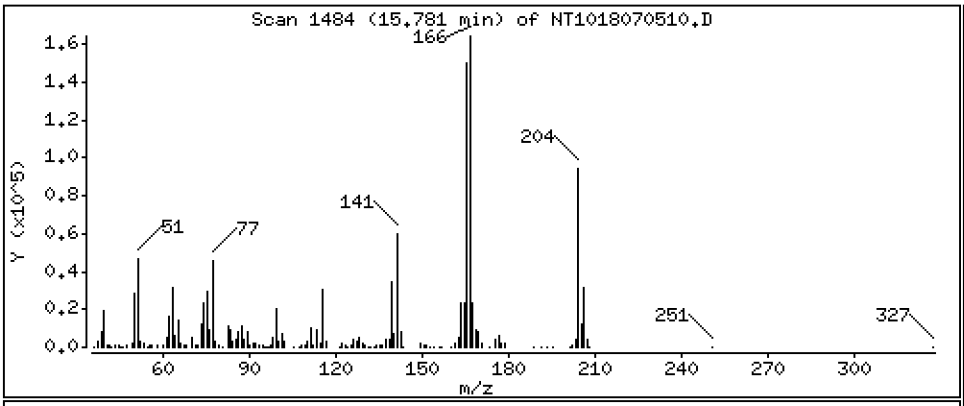
Operator: YZ

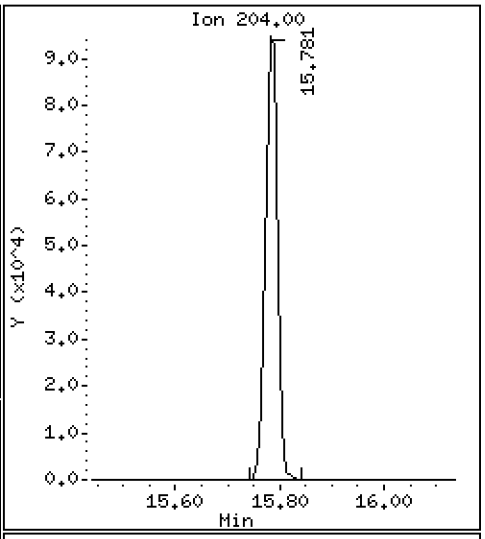
Column phase: ZB-5msi

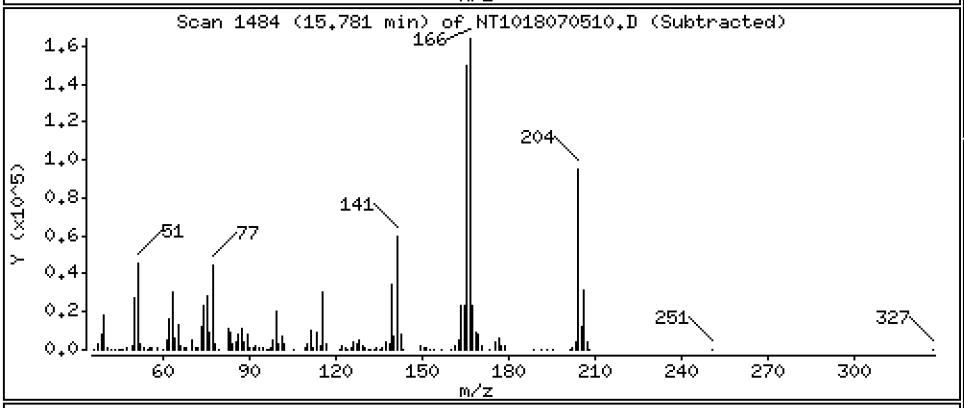
Column diameter: 0.25

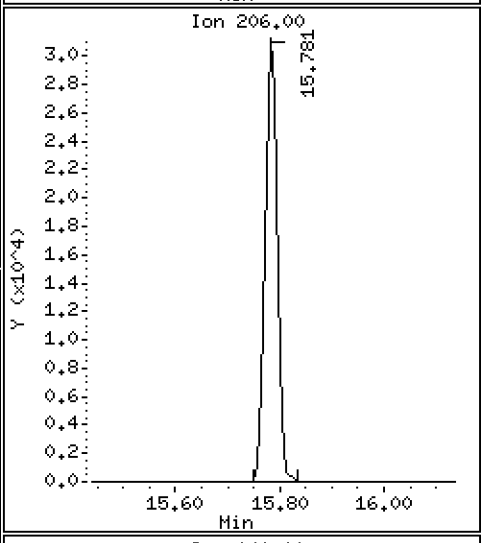
51 4-Chlorophenyl-phenylether

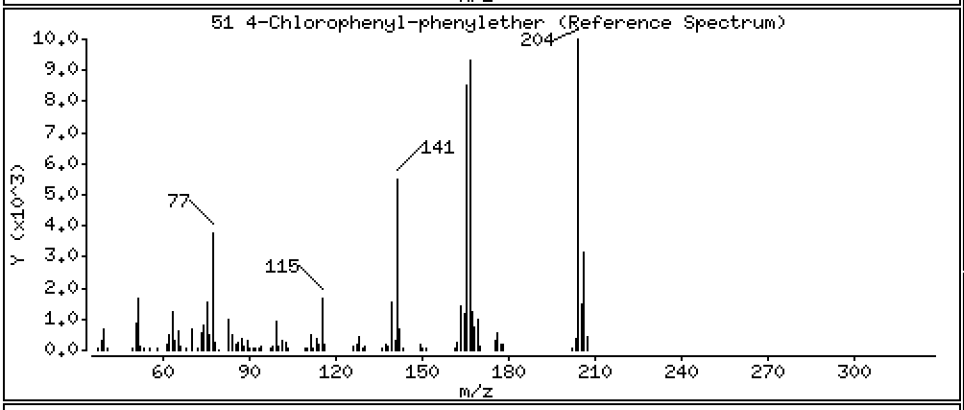
Concentration: 5.601 ug/mL

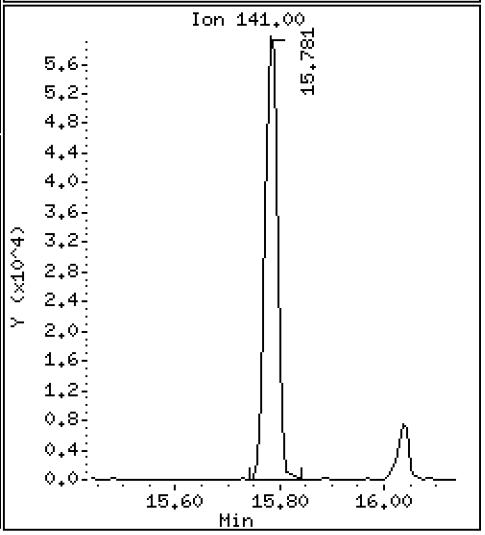


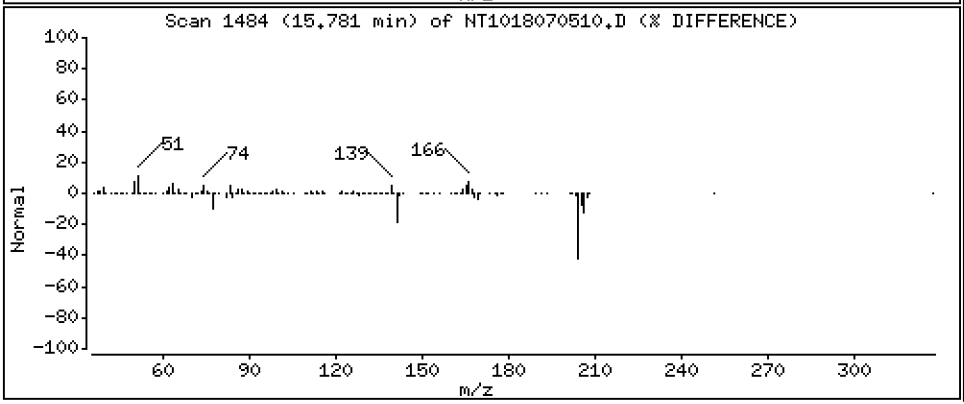












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

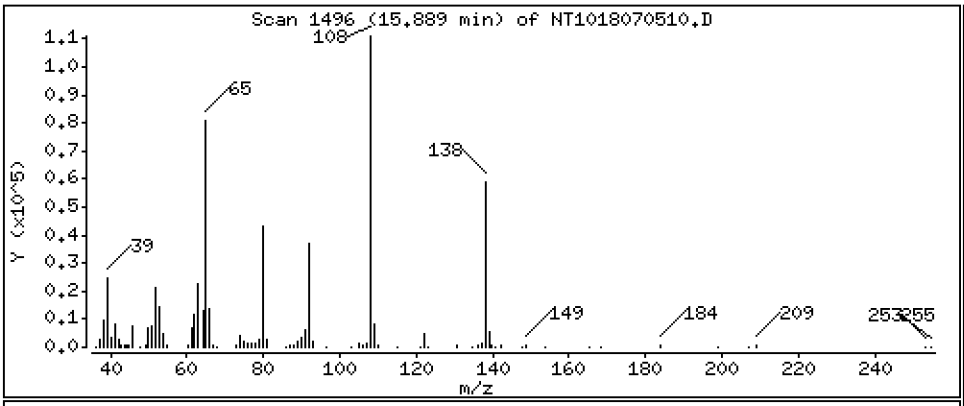
Operator: YZ

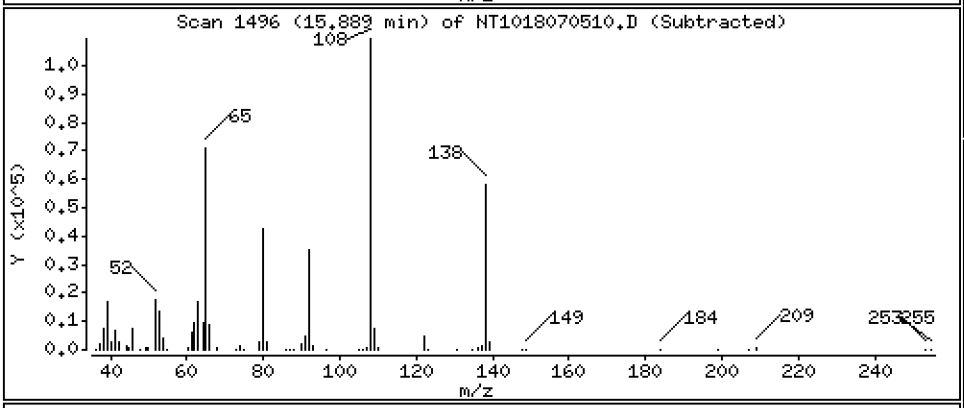
Column phase: ZB-5msi

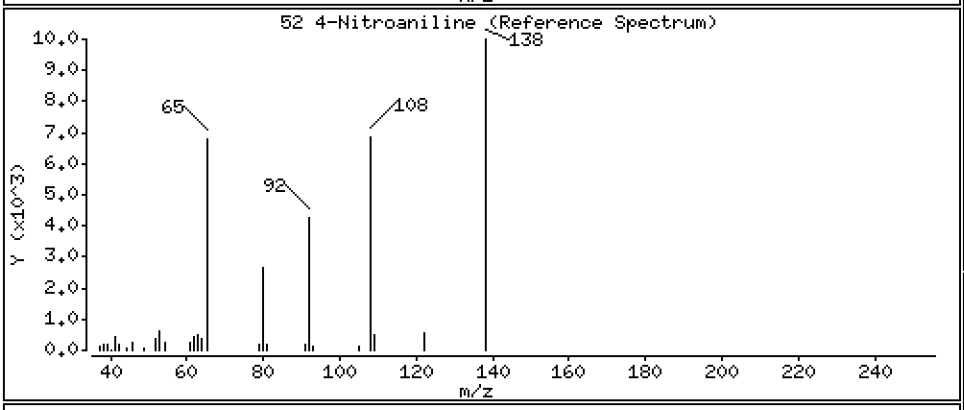
Column diameter: 0.25

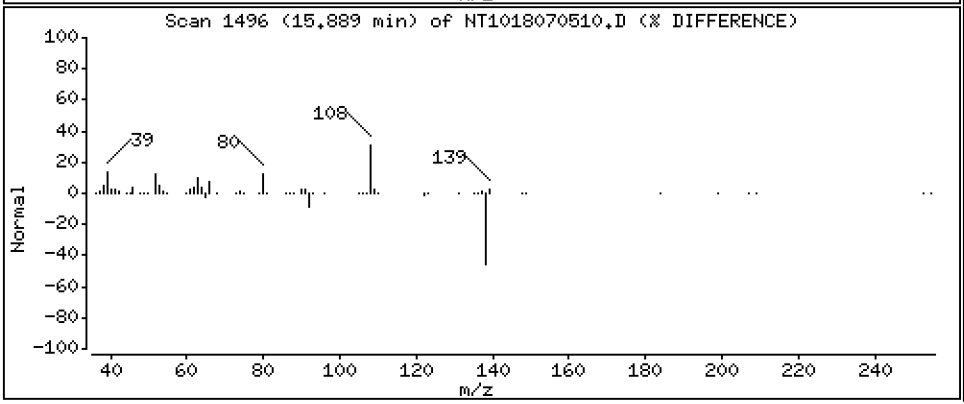
52 4-Nitroaniline

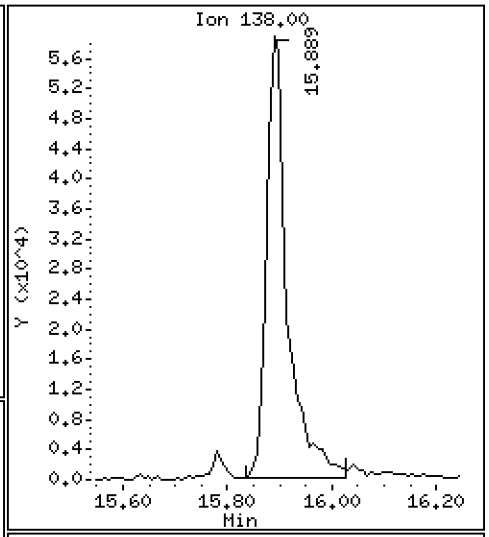
Concentration: 11.21 ug/mL

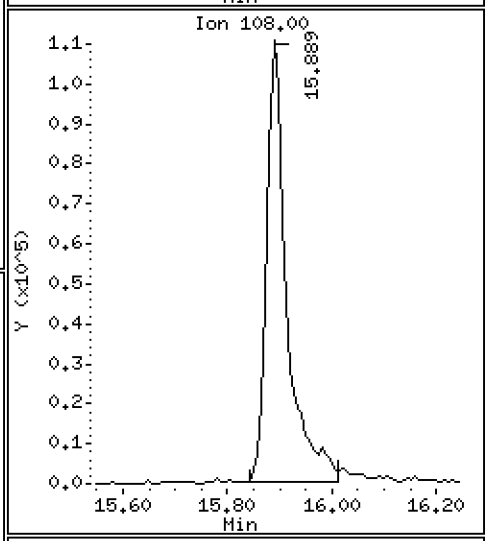


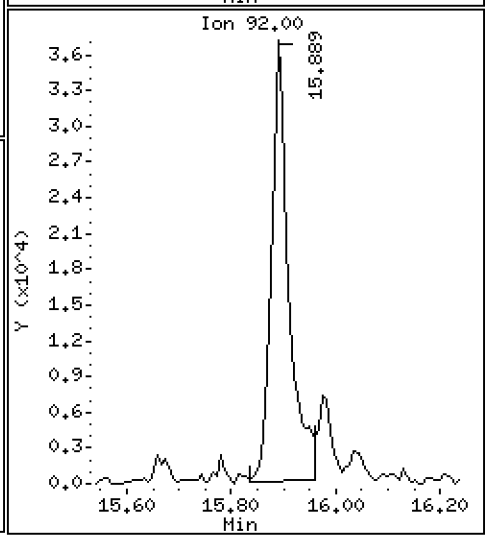












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

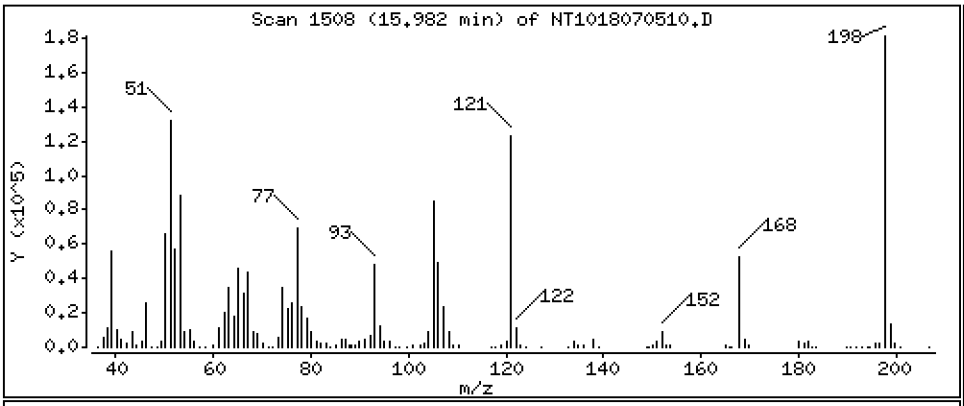
Operator: YZ

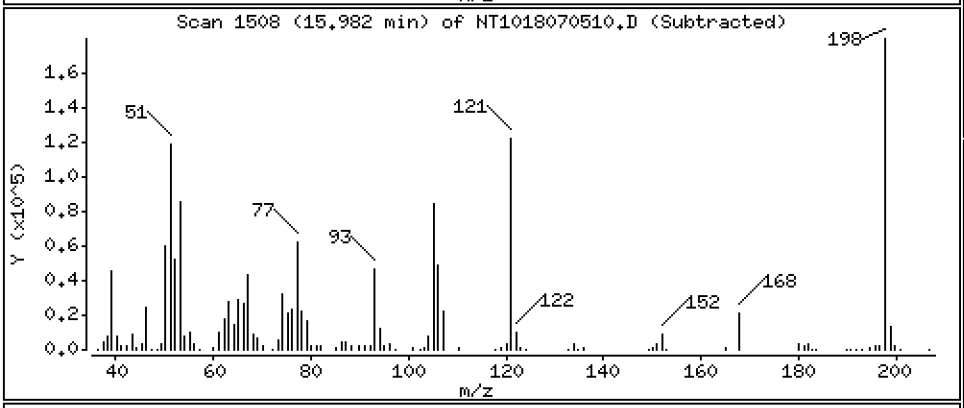
Column phase: ZB-5msi

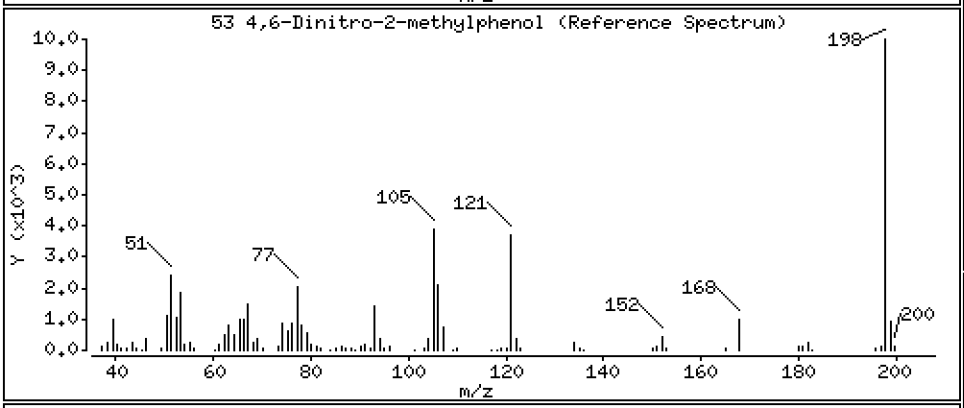
Column diameter: 0.25

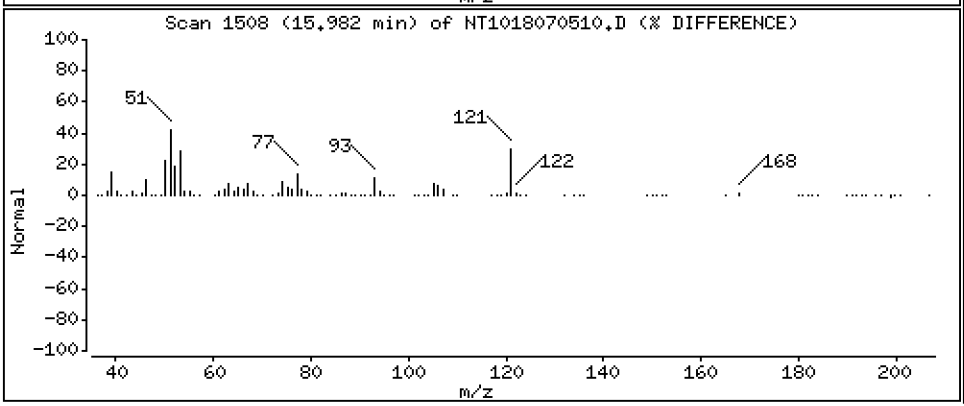
53 4,6-Dinitro-2-methylphenol

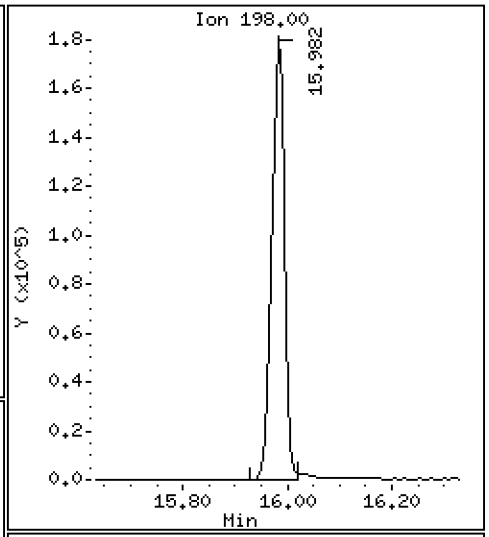
Concentration: 21.15 ug/mL

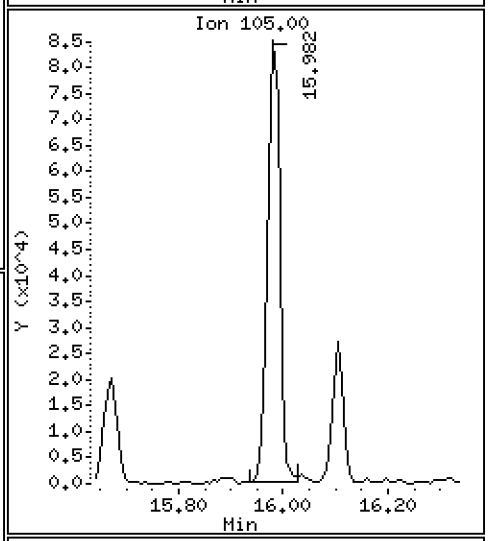


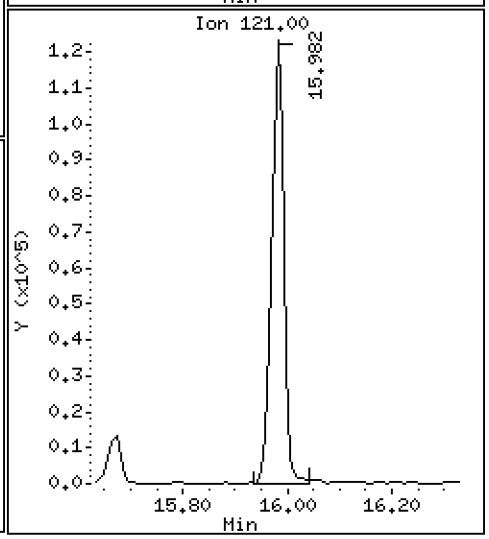












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

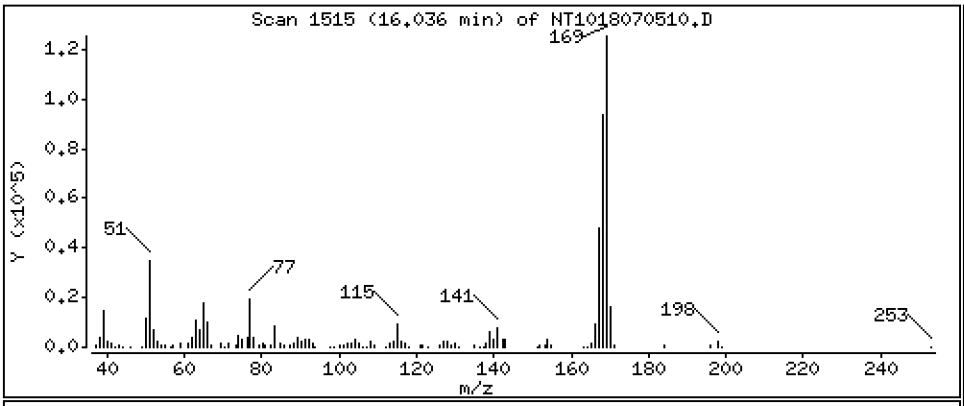
Operator: YZ

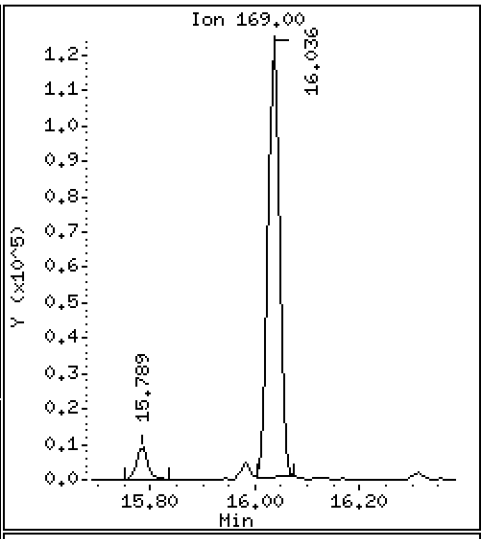
Column phase: ZB-5msi

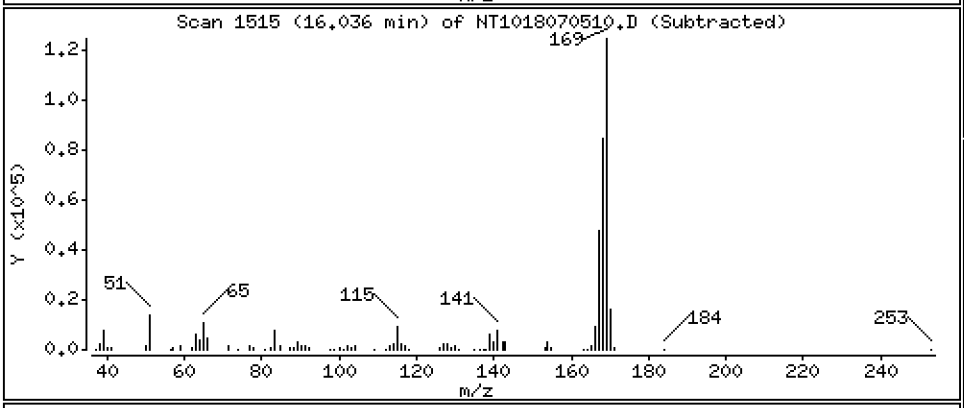
Column diameter: 0.25

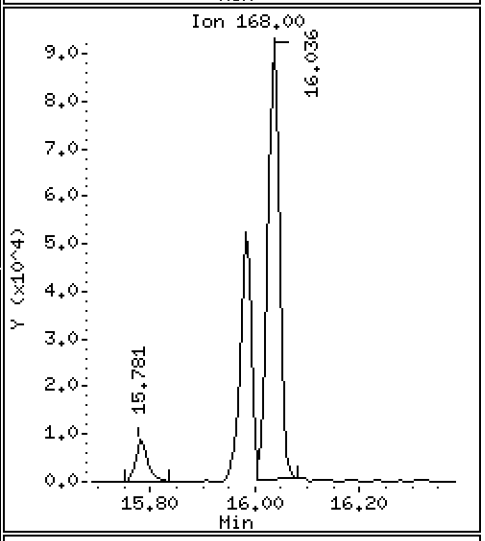
54 N-Nitrosodiphenylamine

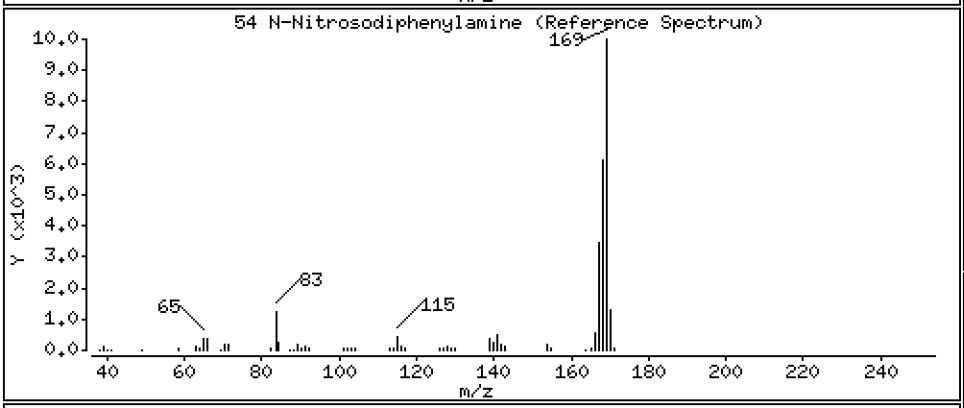
Concentration: 4.112 ug/mL

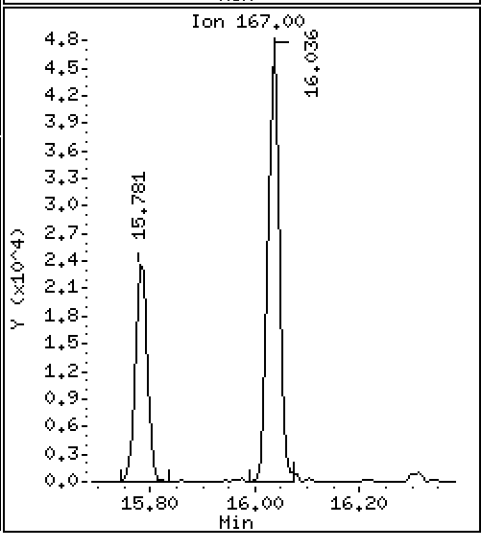


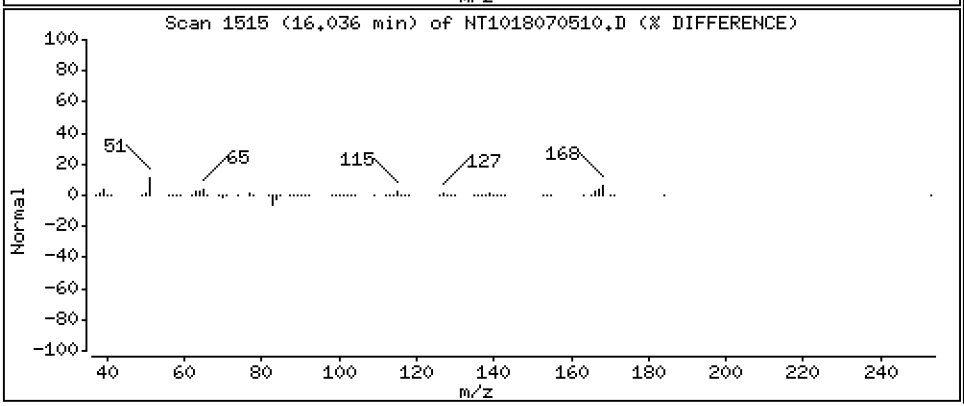












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

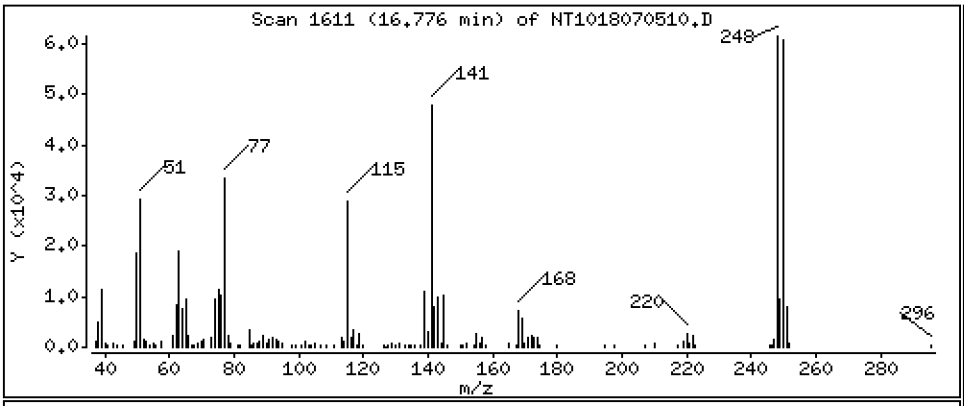
Operator: YZ

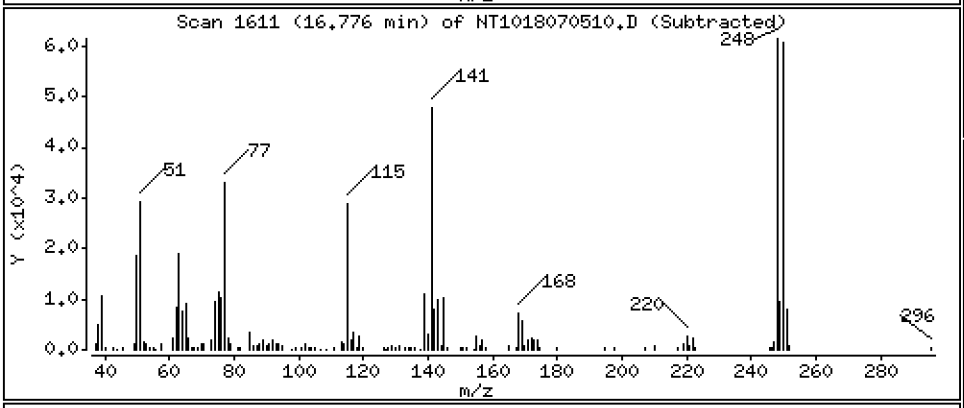
Column phase: ZB-5msi

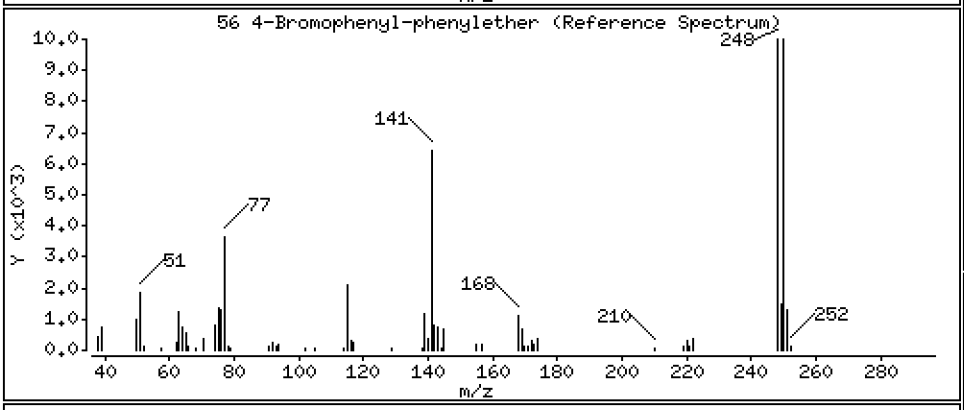
Column diameter: 0.25

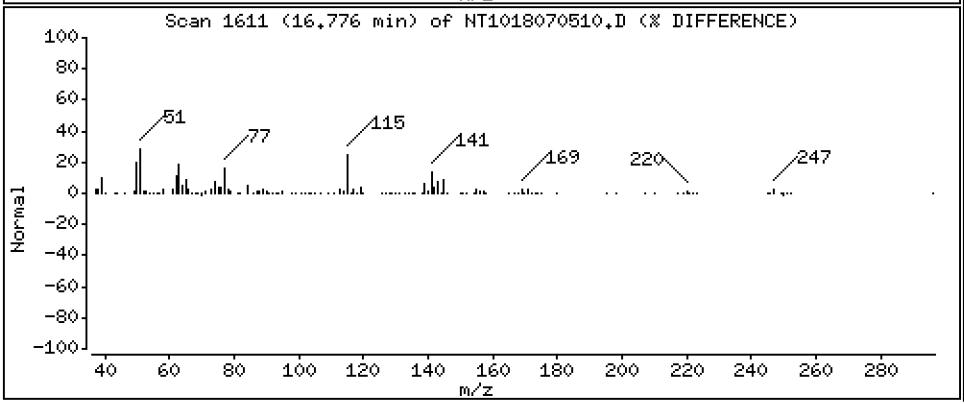
56 4-Bromophenyl-phenylether

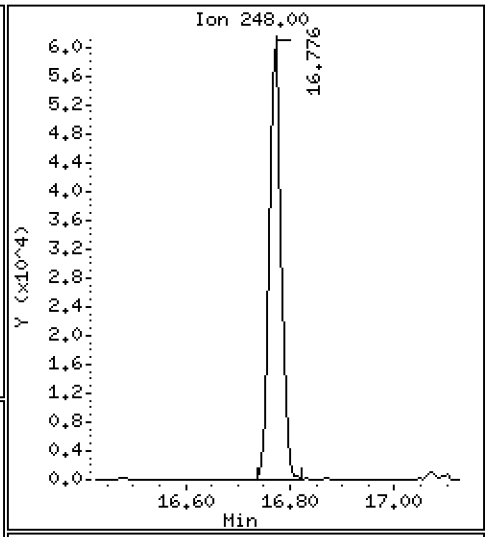
Concentration: 4.929 ug/mL

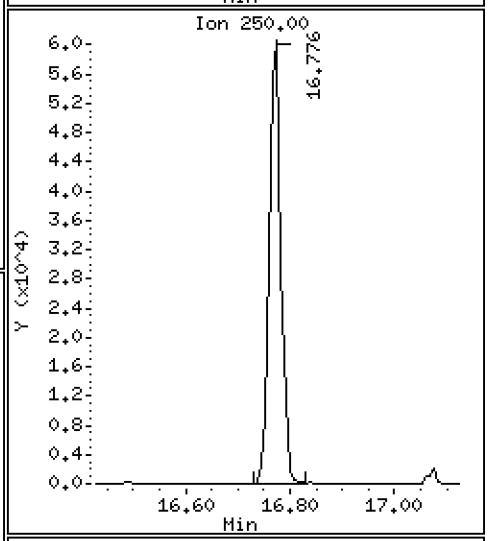


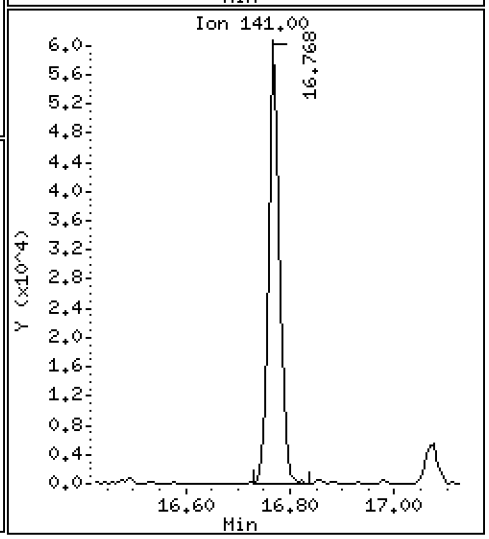












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

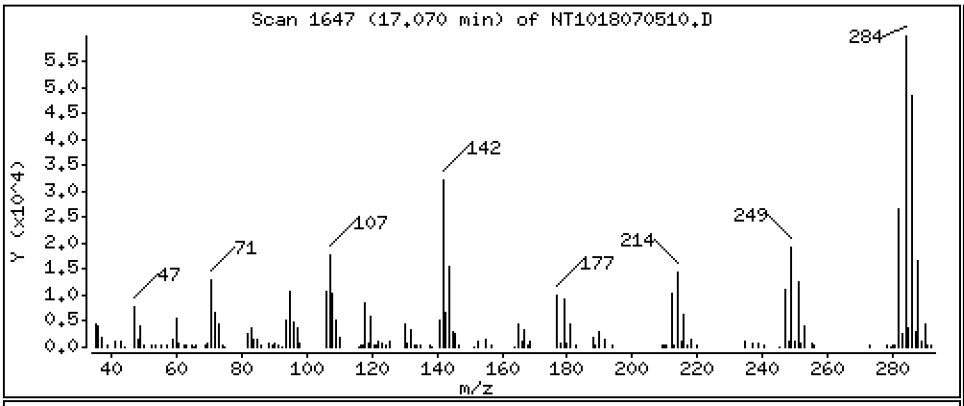
Operator: YZ

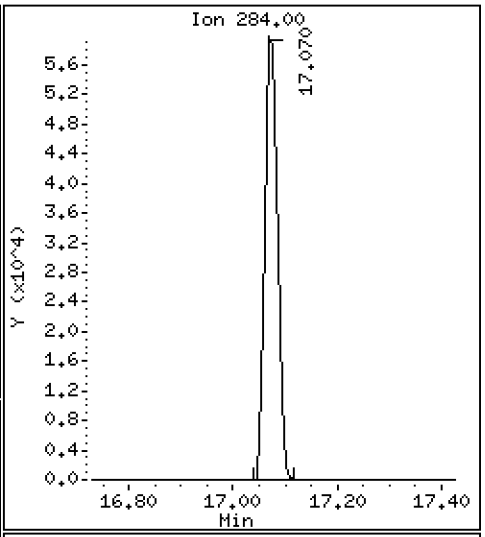
Column phase: ZB-5msi

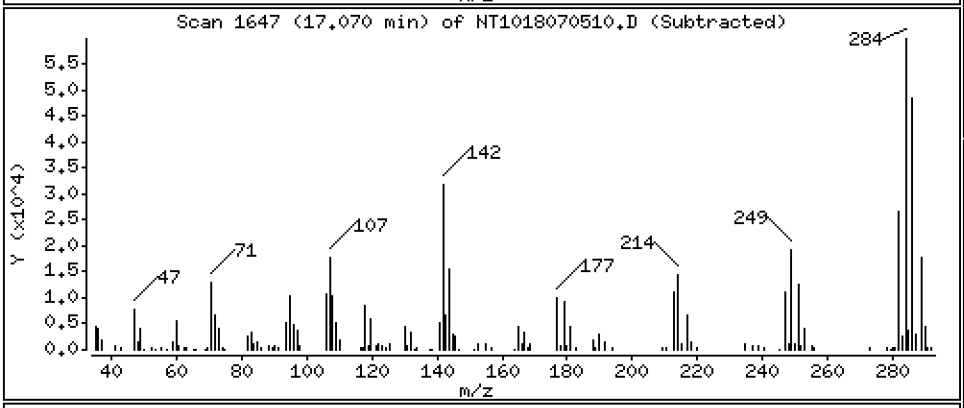
Column diameter: 0.25

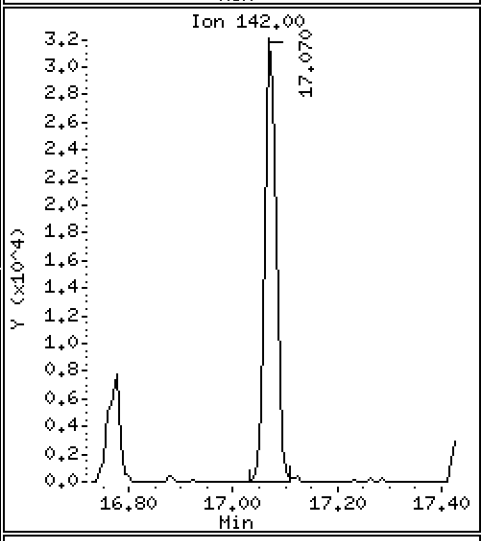
57 Hexachlorobenzene

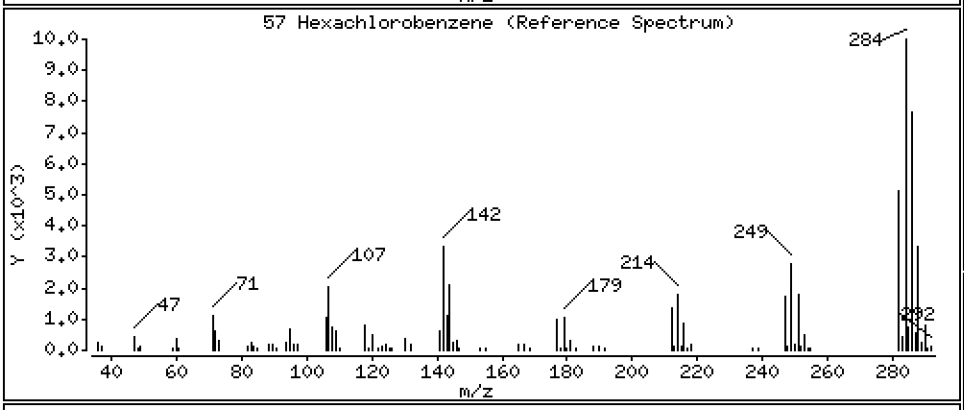
Concentration: 5.252 ug/mL

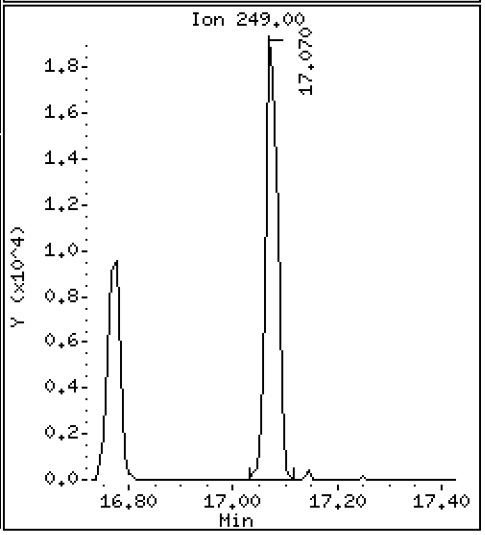


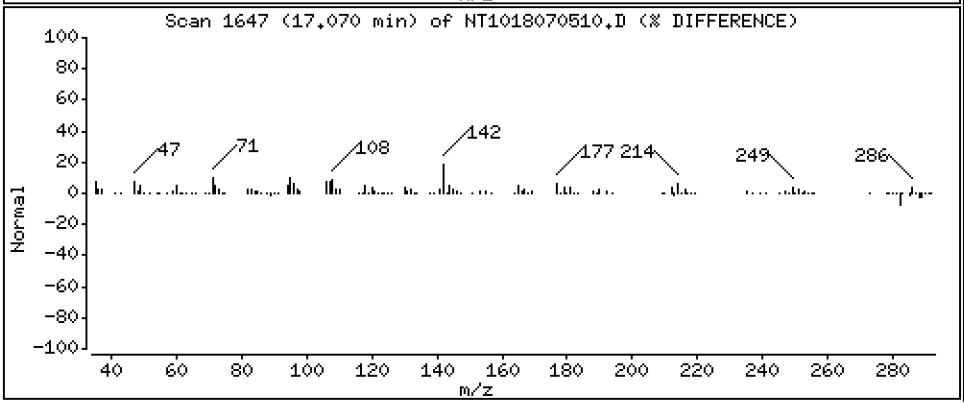












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

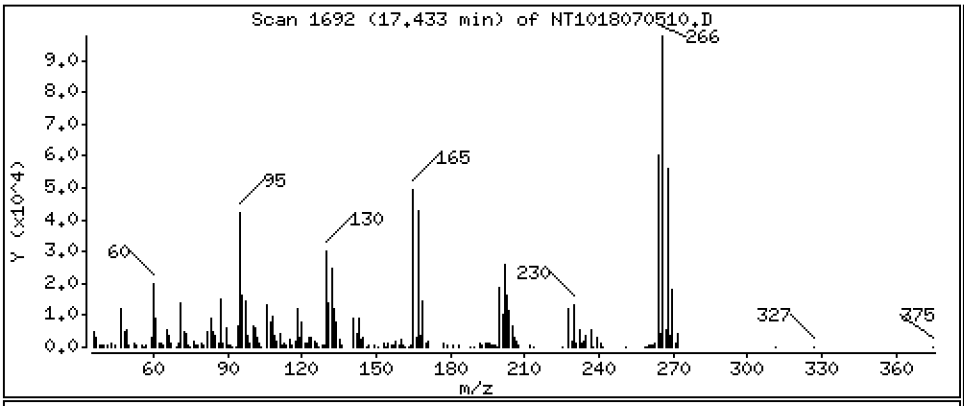
Operator: YZ

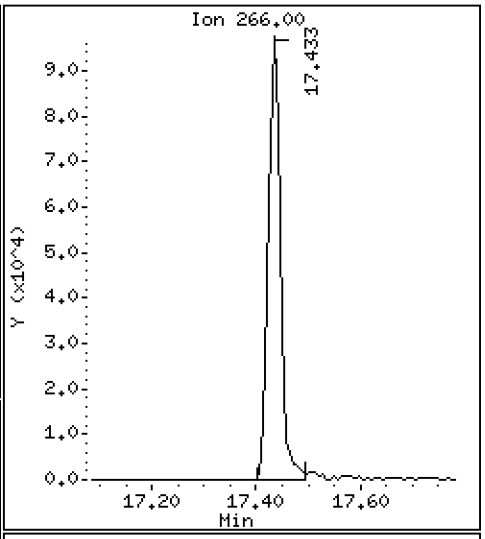
Column phase: ZB-5msi

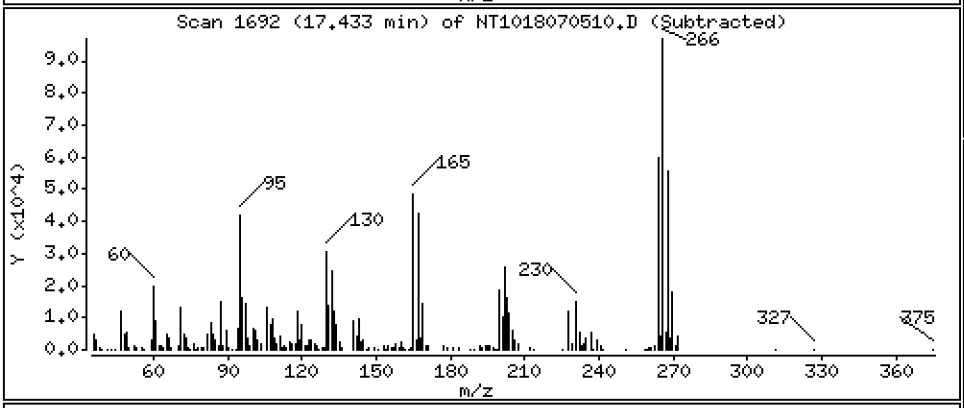
Column diameter: 0.25

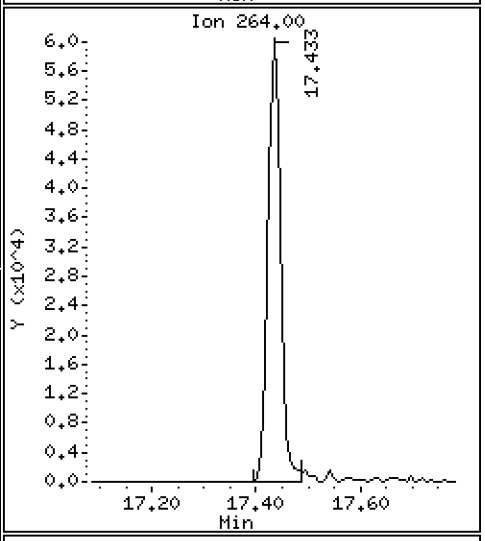
58 Pentachlorophenol

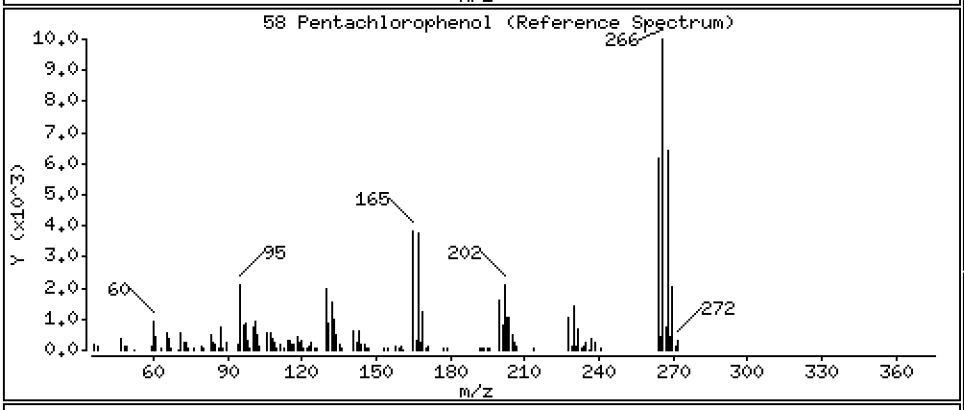
Concentration: 13.81 ug/mL

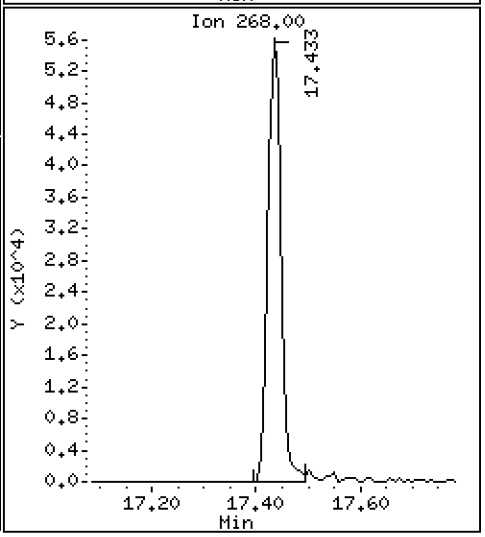


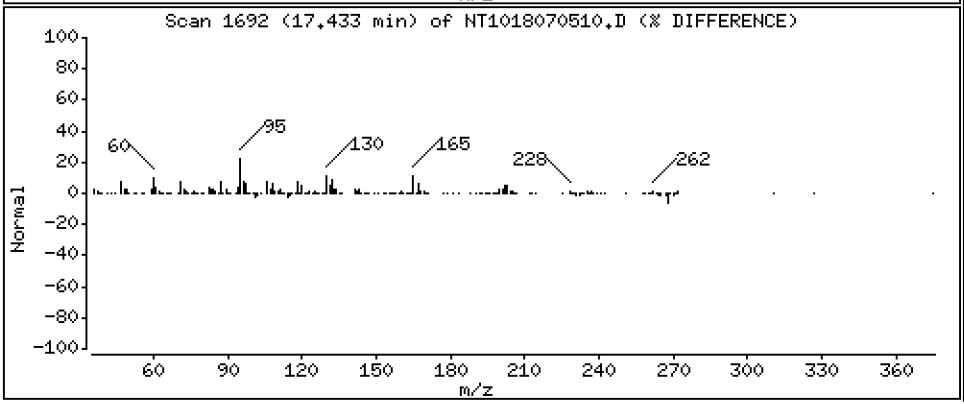












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

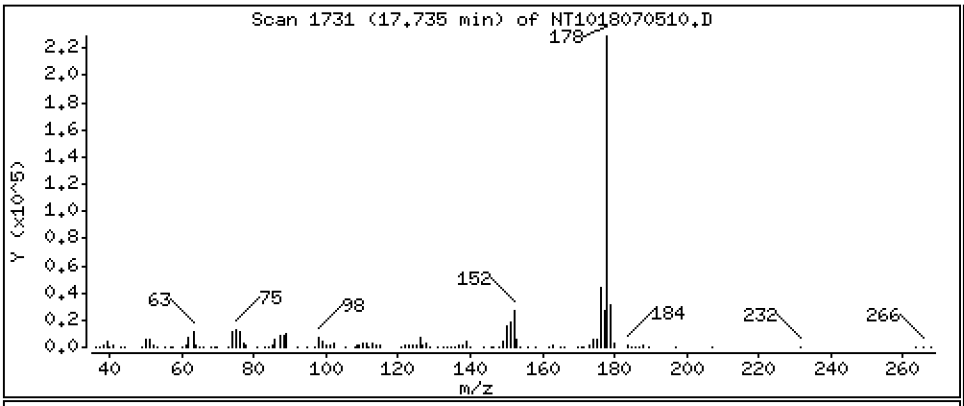
Operator: YZ

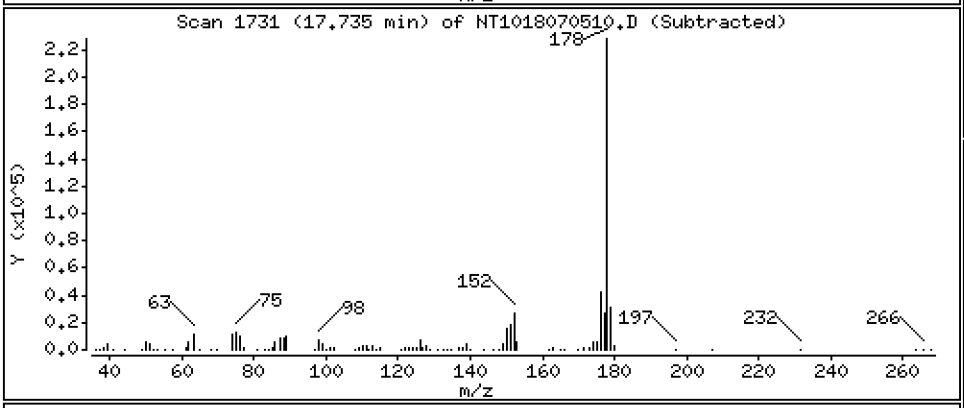
Column phase: ZB-5msi

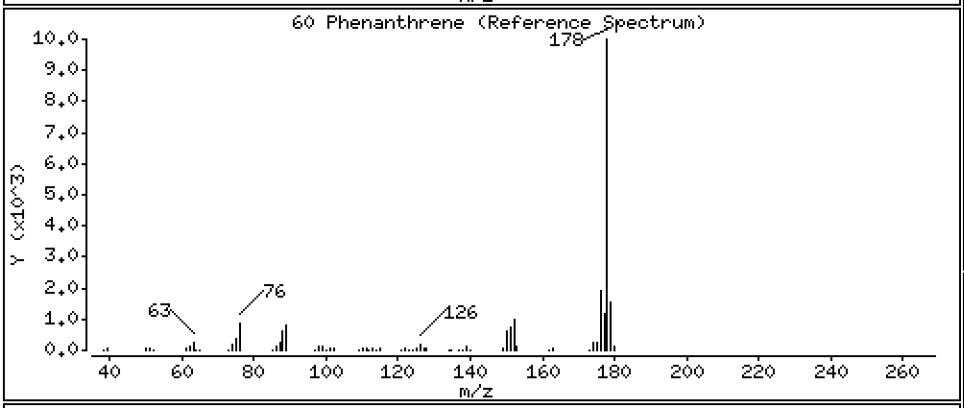
Column diameter: 0.25

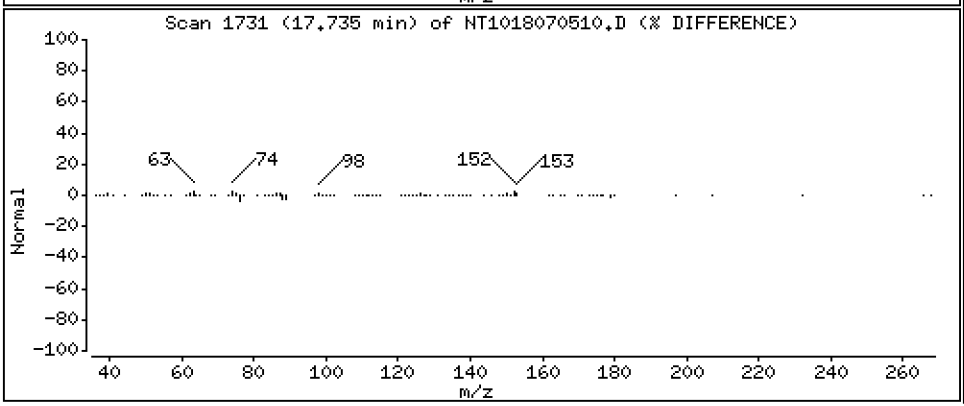
60 Phenanthrene

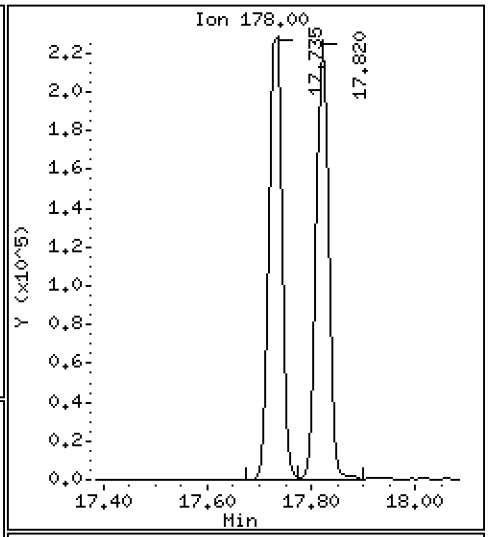
Concentration: 4.431 ug/mL

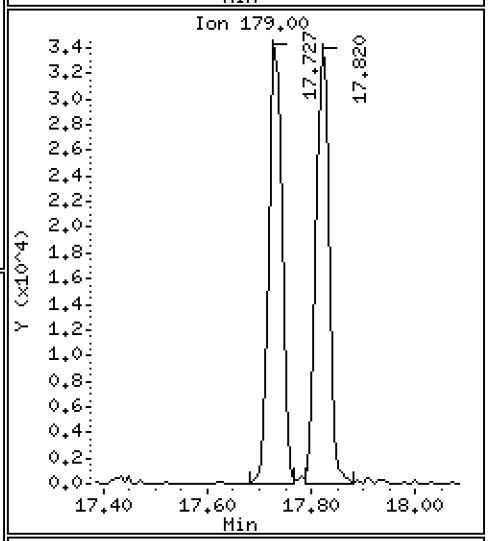


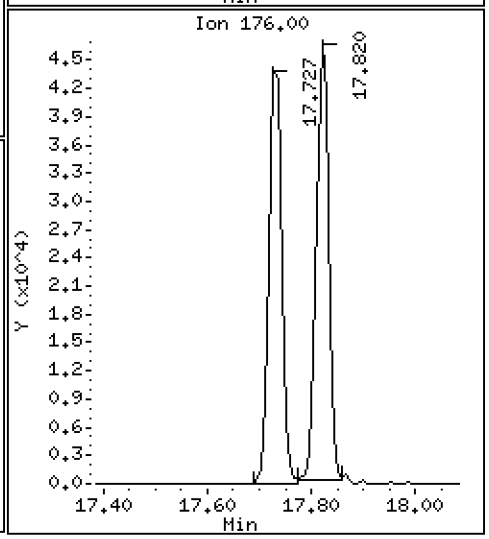












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

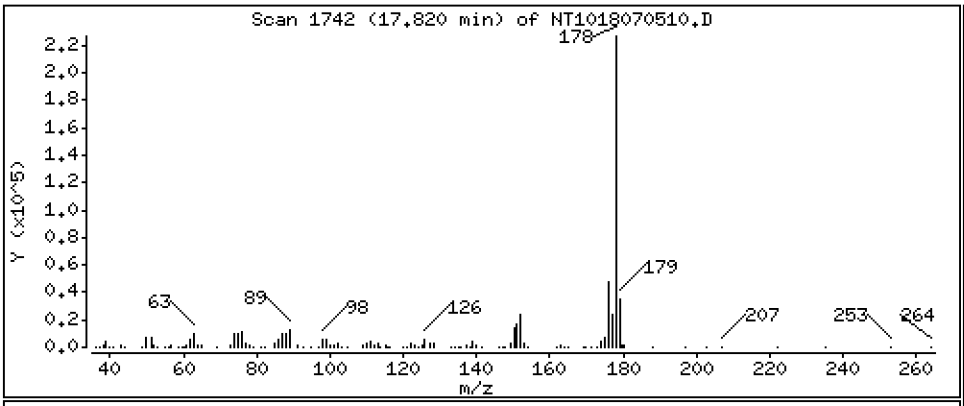
Operator: YZ

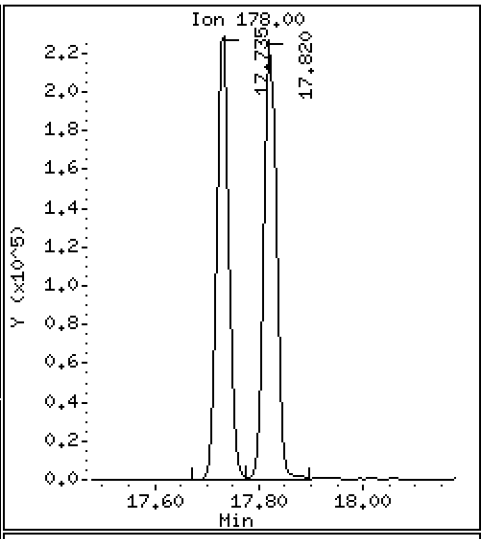
Column phase: ZB-5msi

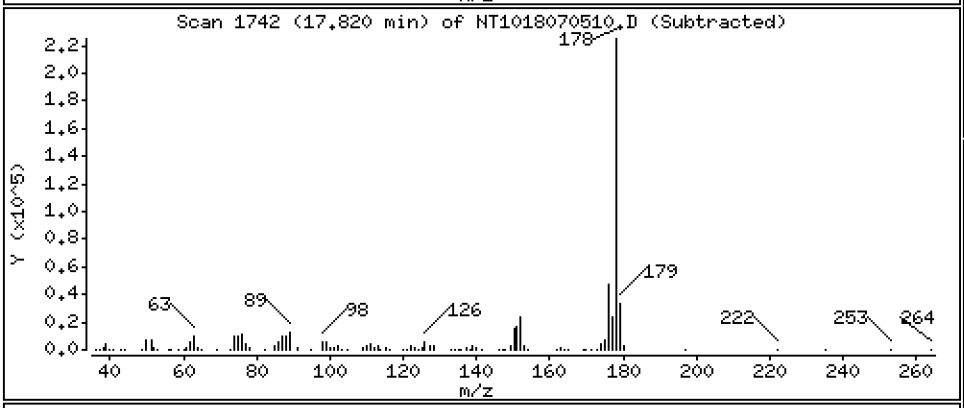
Column diameter: 0.25

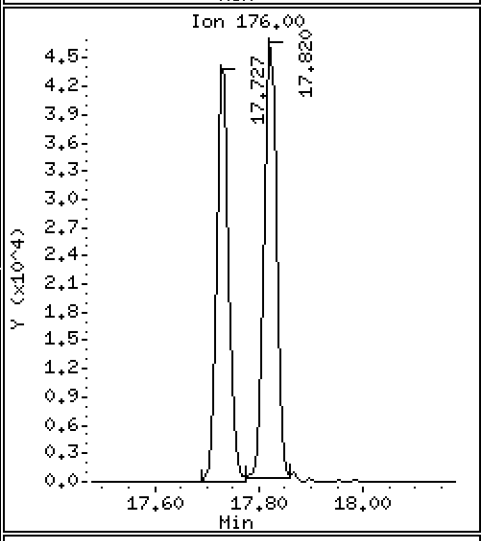
61 Anthracene

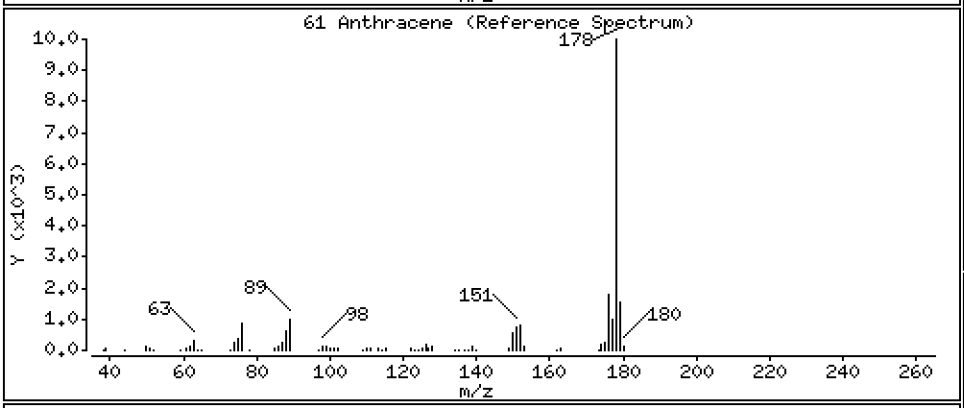
Concentration: 3.985 ug/mL

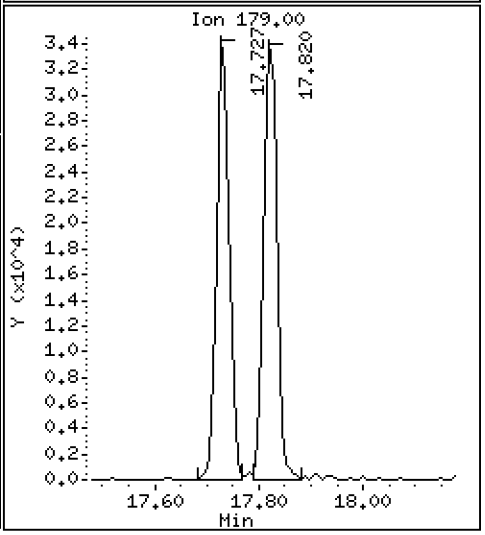


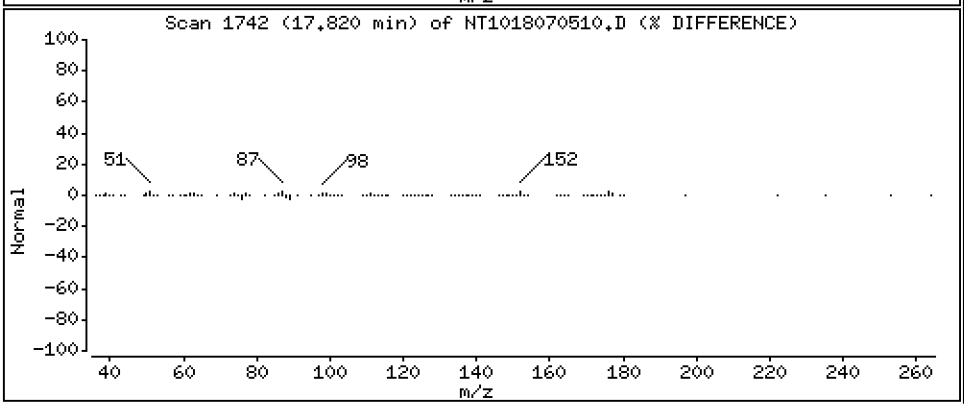












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

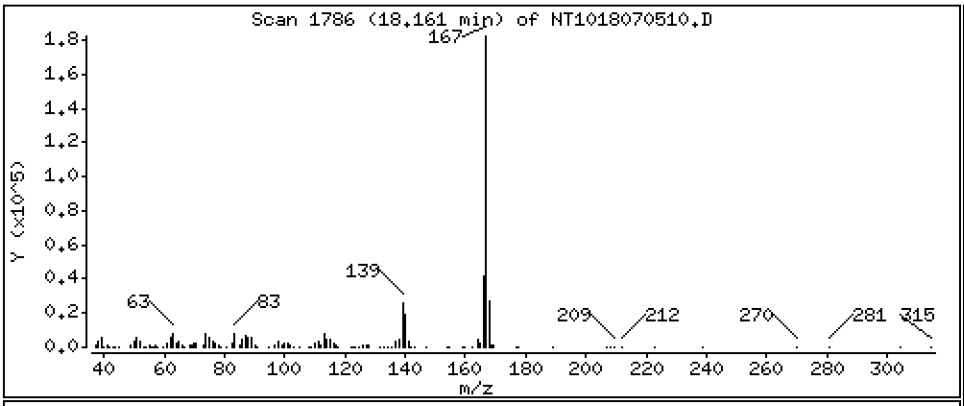
Operator: YZ

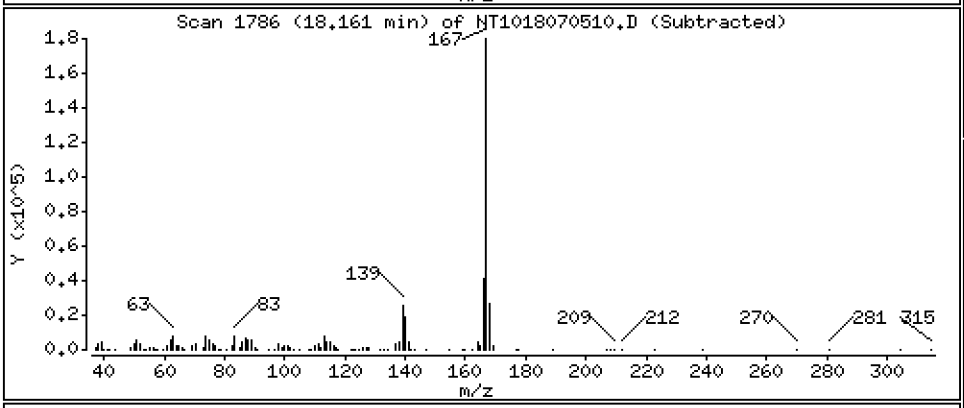
Column phase: ZB-5msi

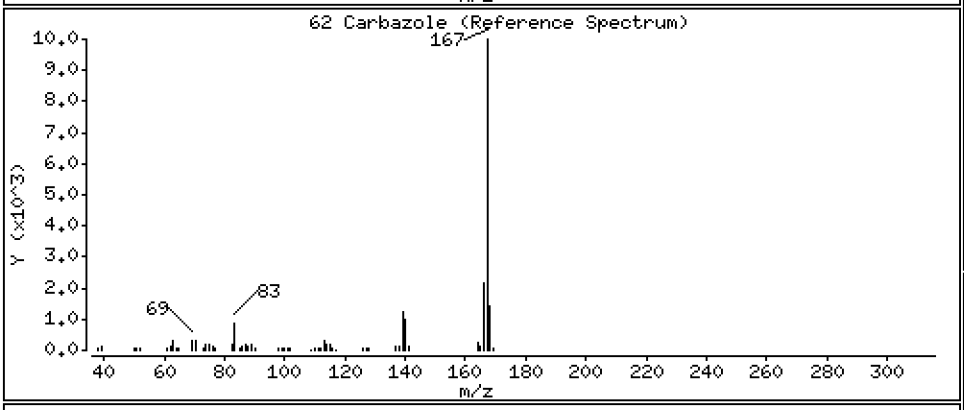
Column diameter: 0.25

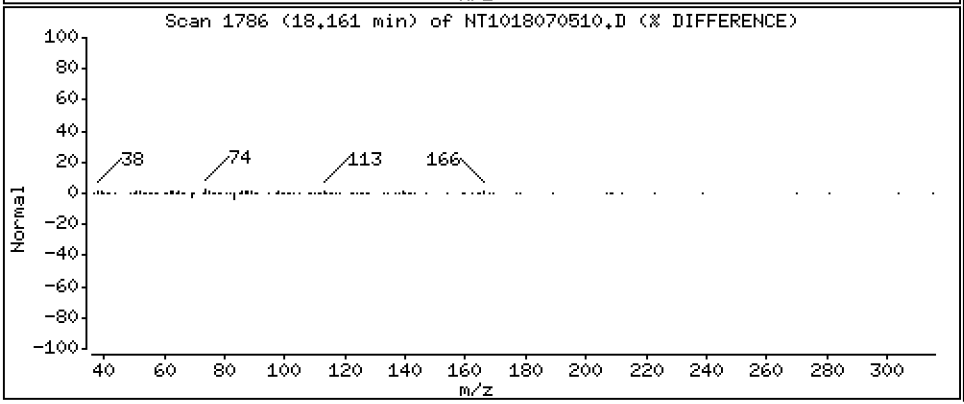
62 Carbazole

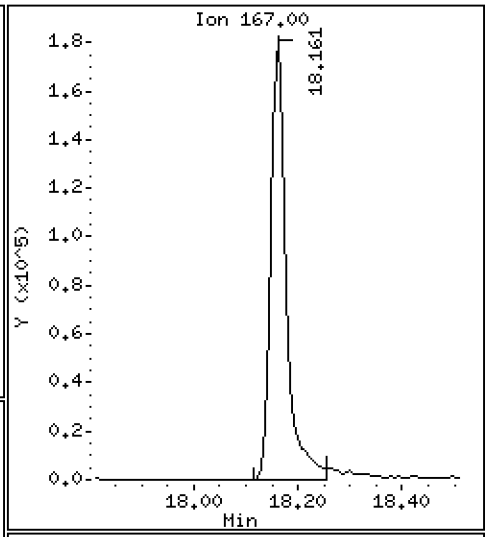
Concentration: 4.483 ug/mL

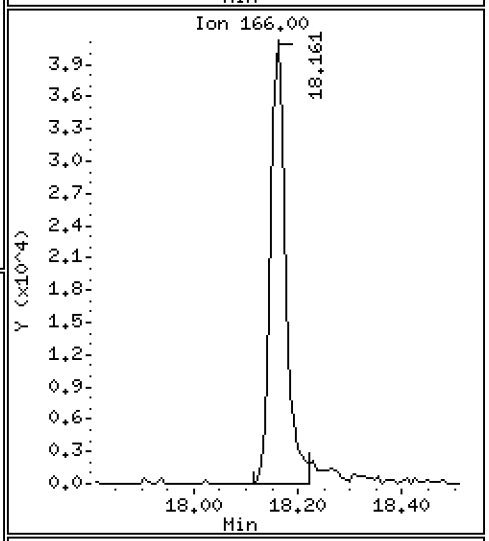


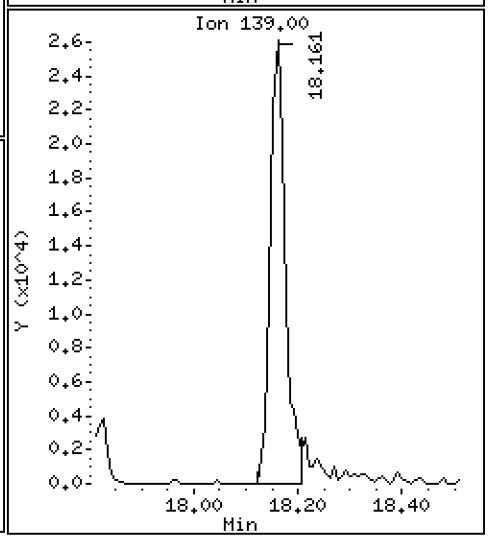












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

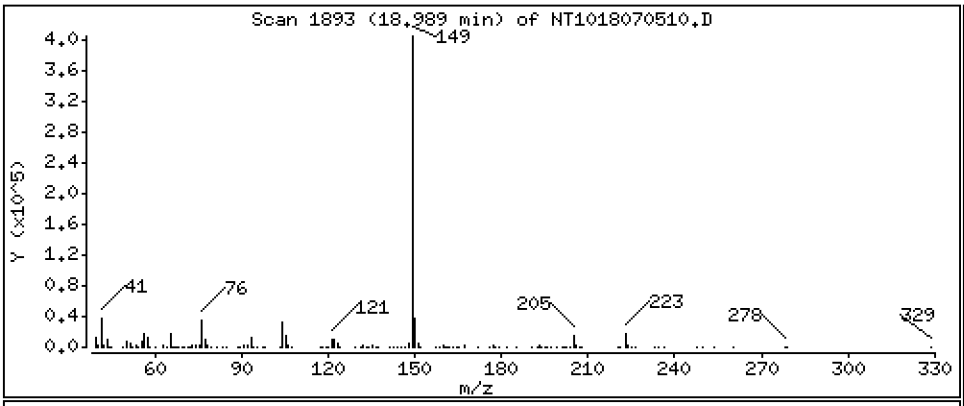
Operator: YZ

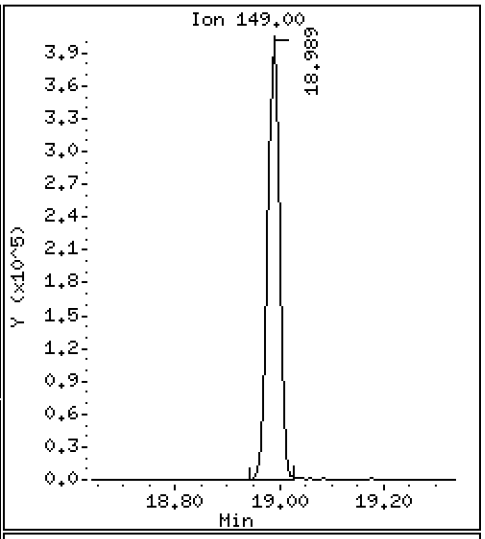
Column phase: ZB-5msi

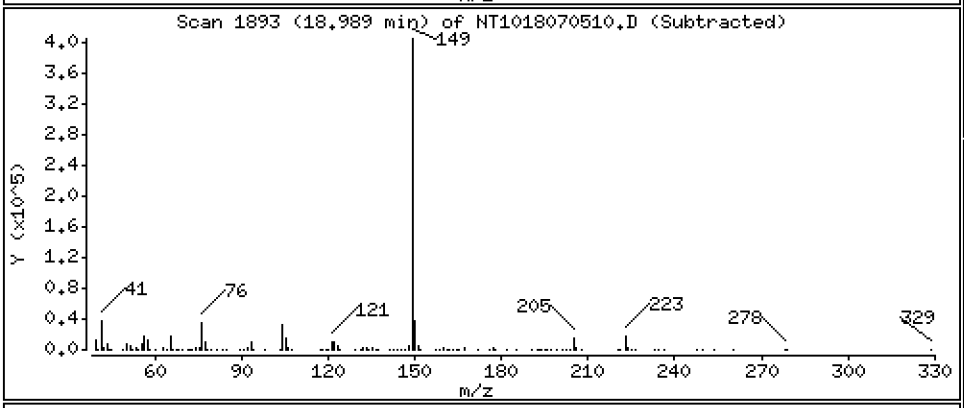
Column diameter: 0.25

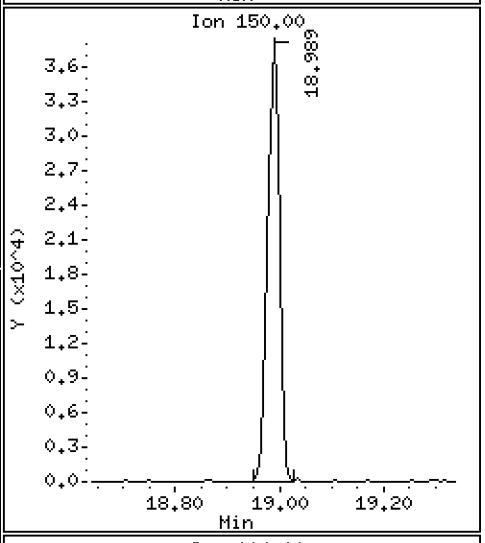
63 Di-n-butylphthalate

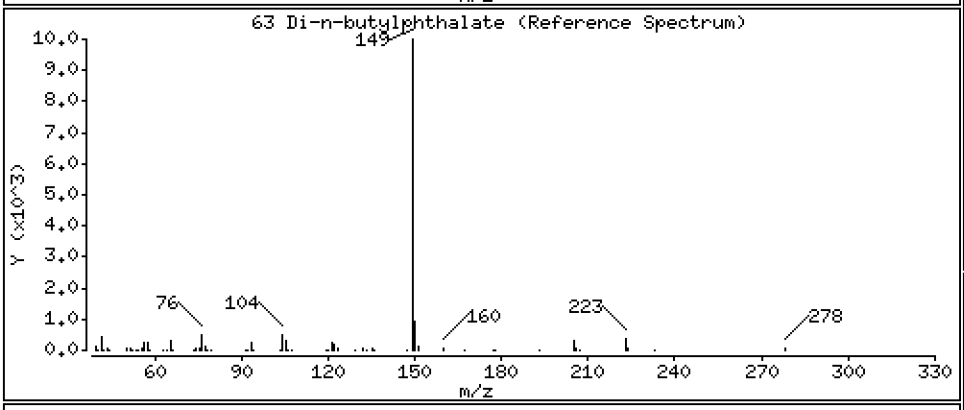
Concentration: 4.912 ug/mL

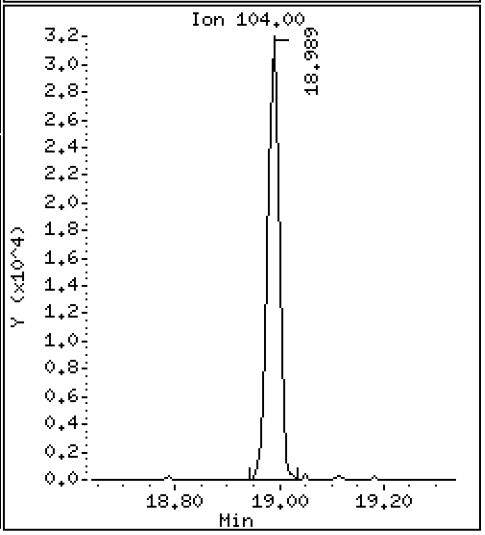


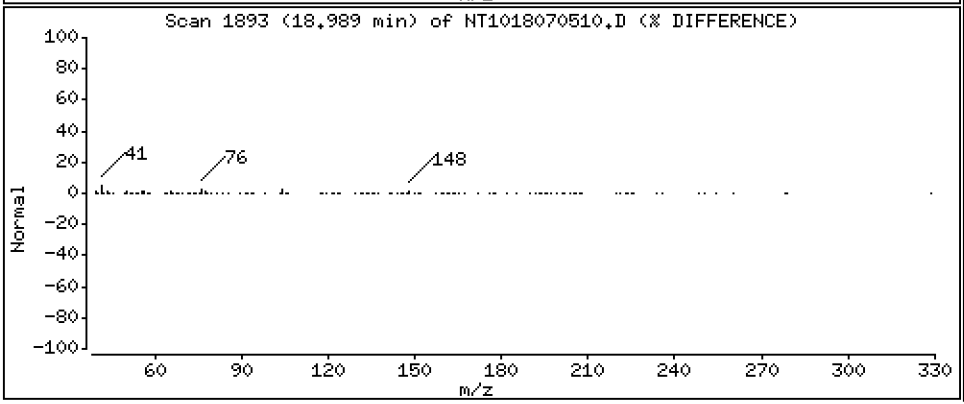












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

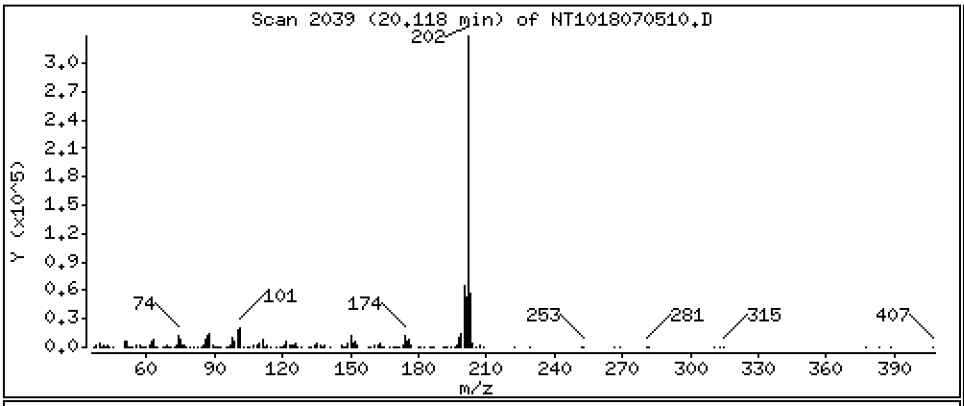
Operator: YZ

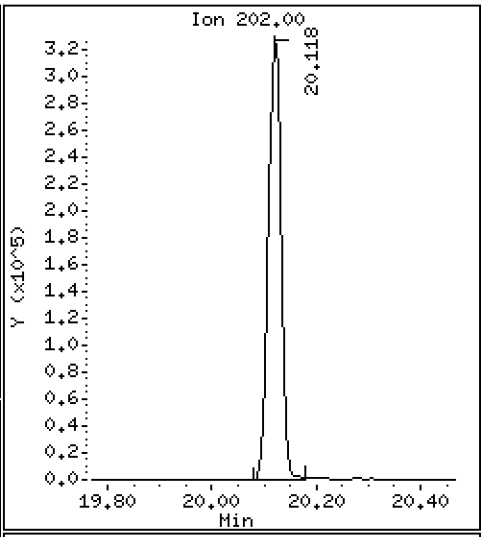
Column phase: ZB-5msi

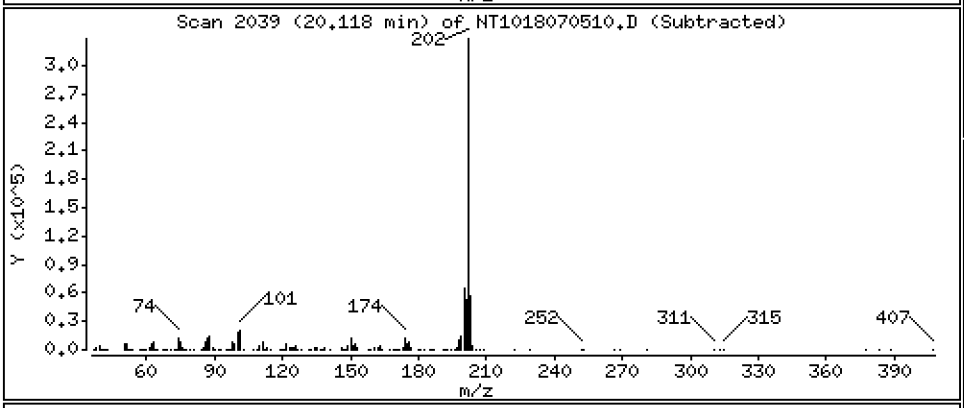
Column diameter: 0.25

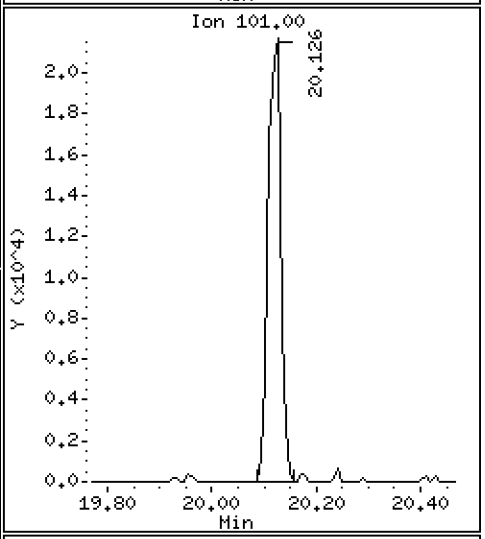
64 Fluoranthene

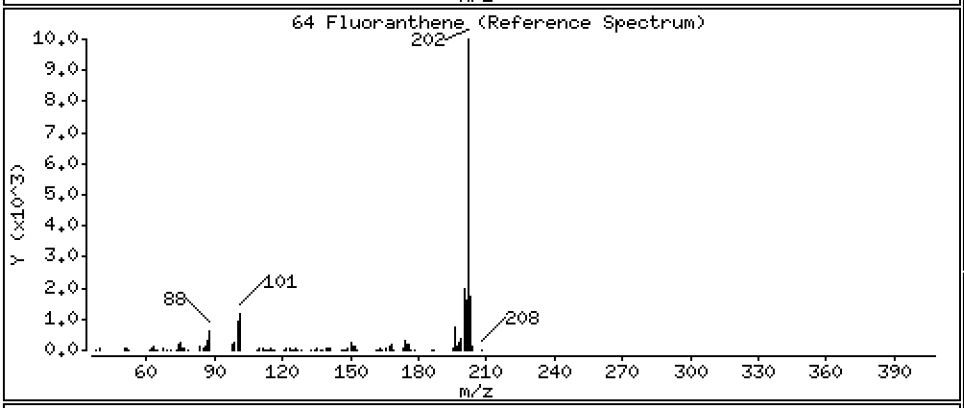
Concentration: 3.889 ug/mL

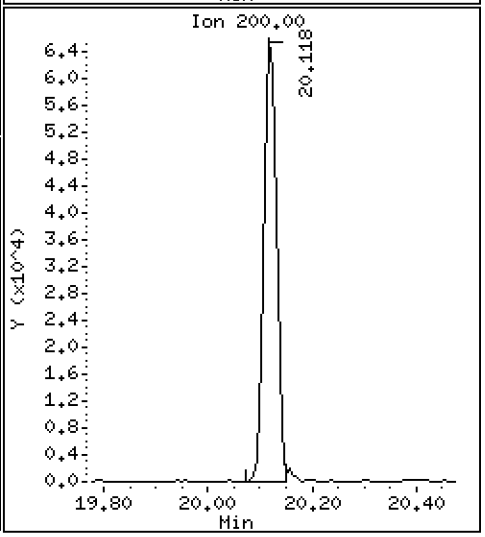


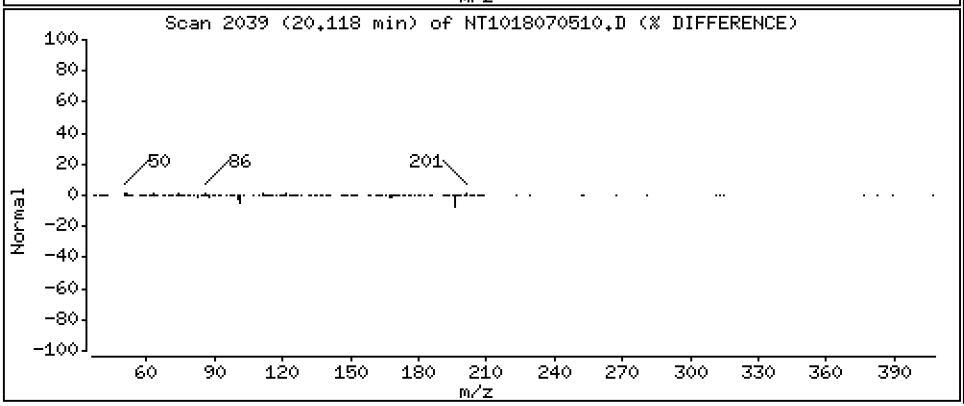












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

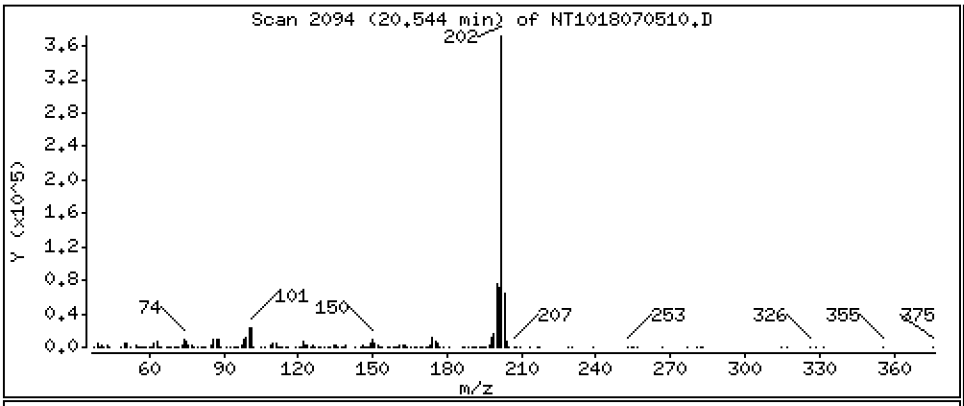
Operator: YZ

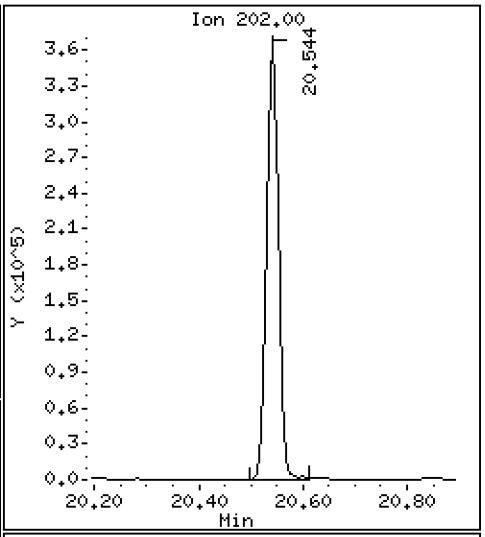
Column phase: ZB-5msi

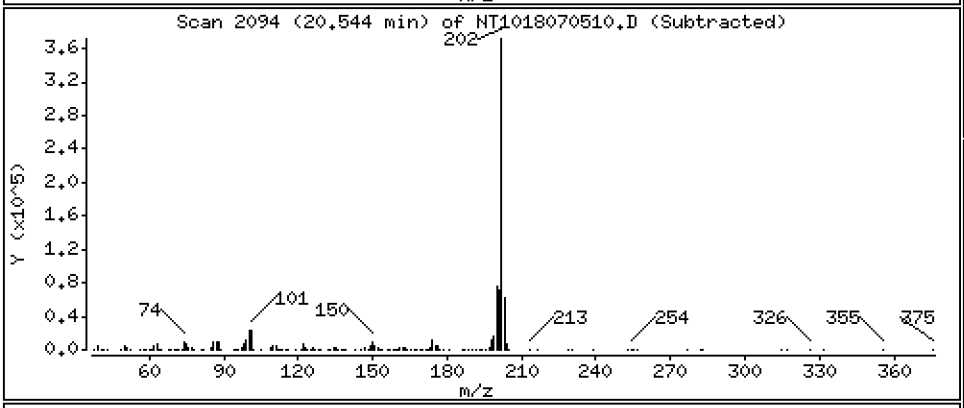
Column diameter: 0.25

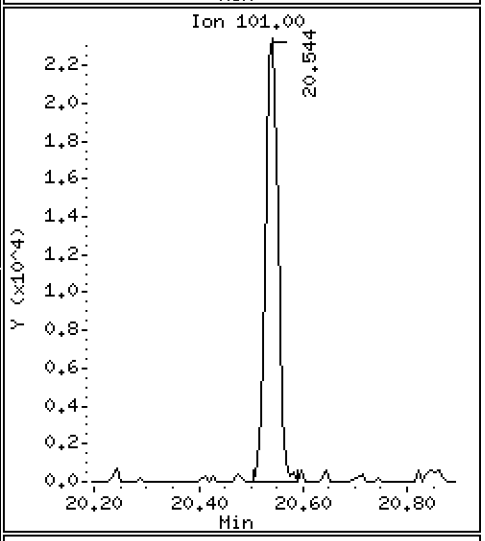
65 Pyrene

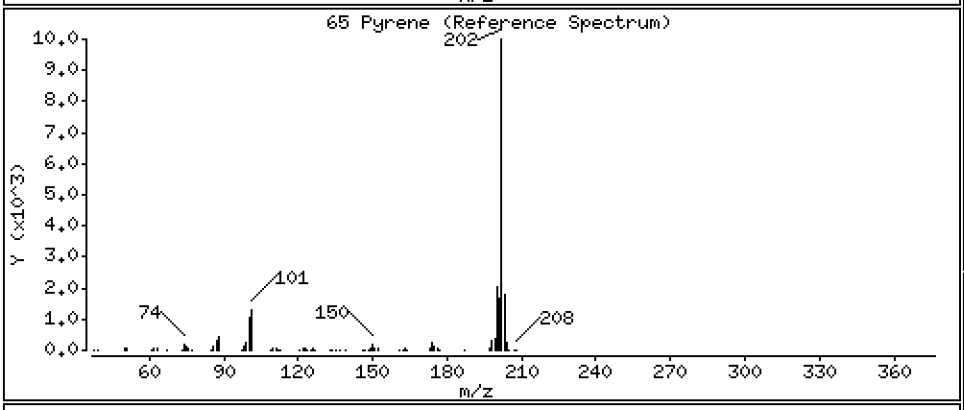
Concentration: 3.858 ug/mL

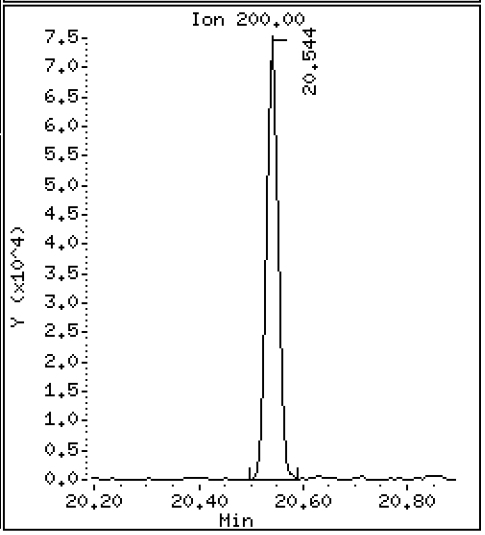


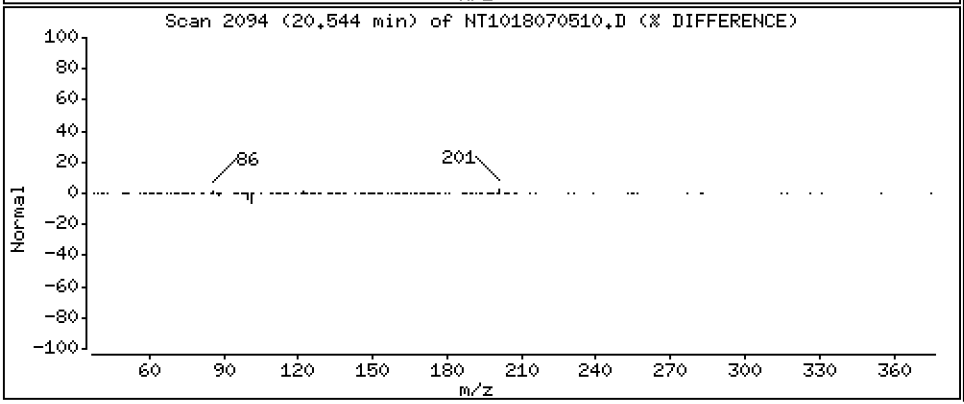












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

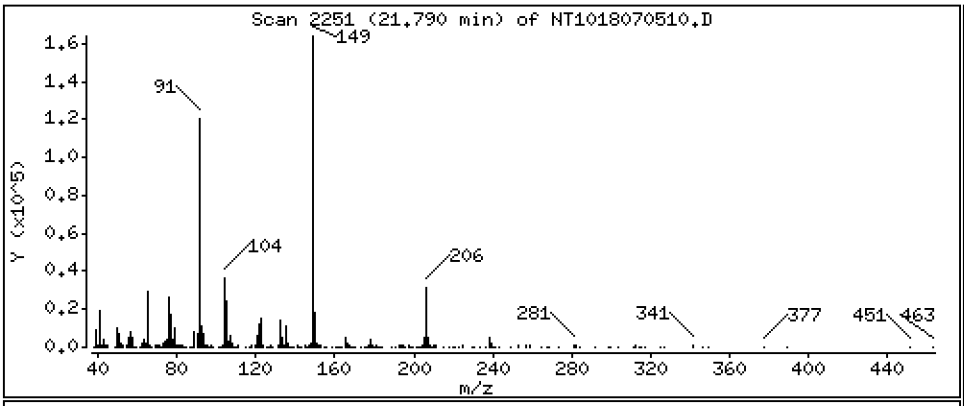
Operator: YZ

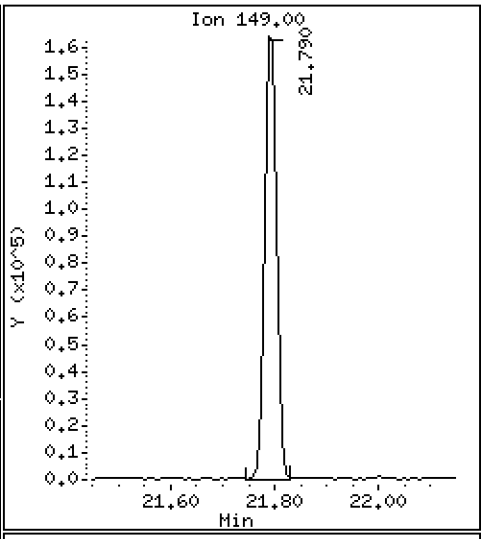
Column phase: ZB-5msi

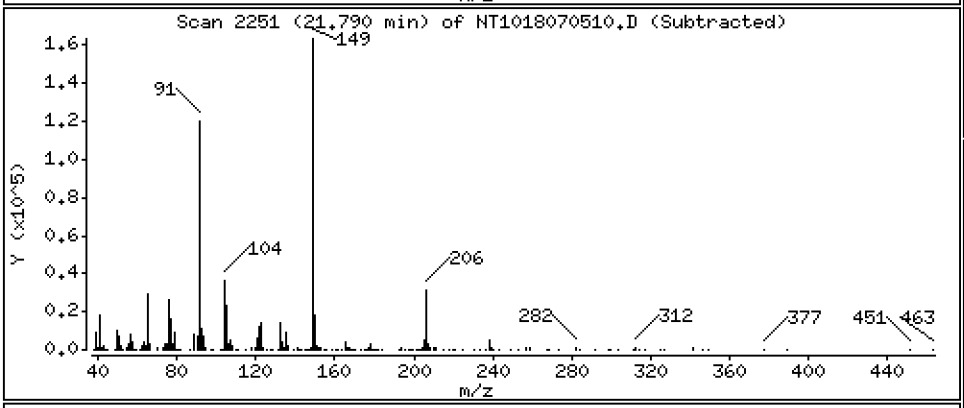
Column diameter: 0.25

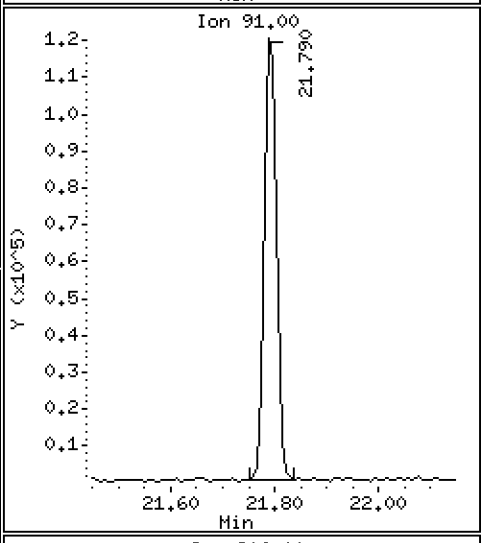
67 Butylbenzylphthalate

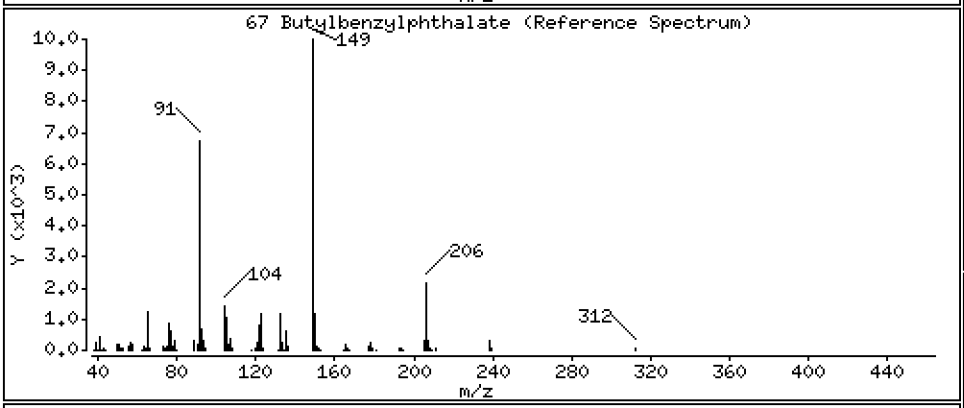
Concentration: 4.475 ug/mL

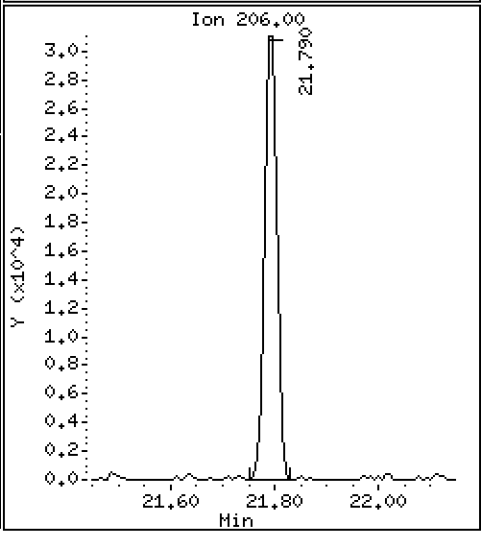


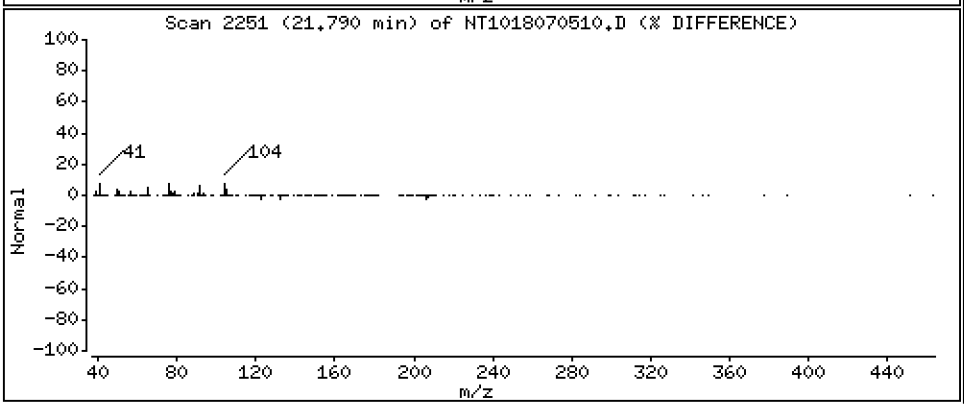












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

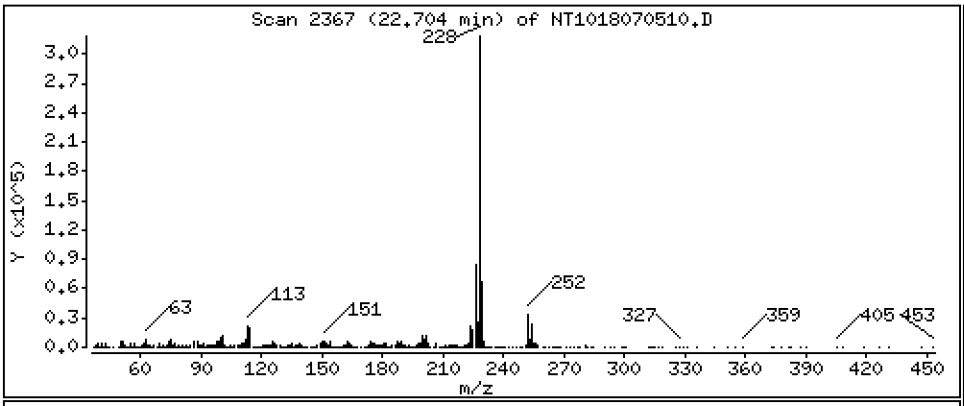
Operator: YZ

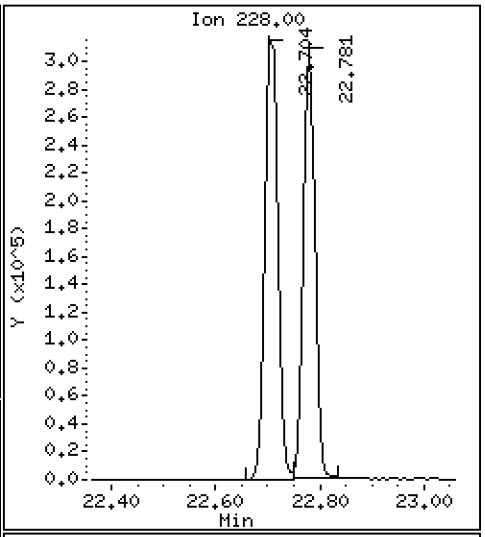
Column phase: ZB-5msi

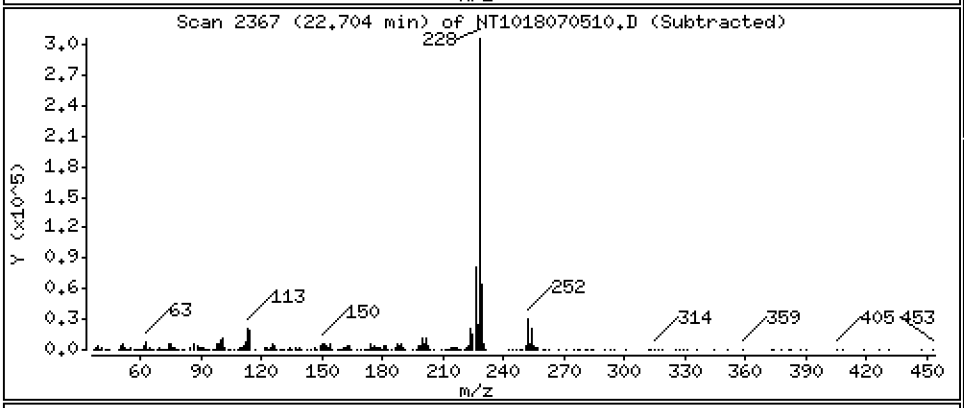
Column diameter: 0.25

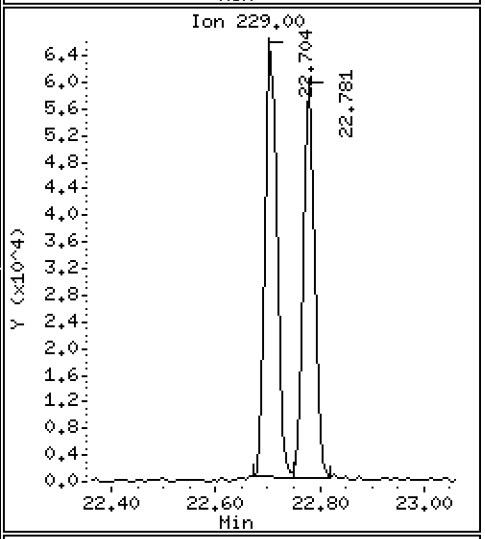
68 Benzo(a)anthracene

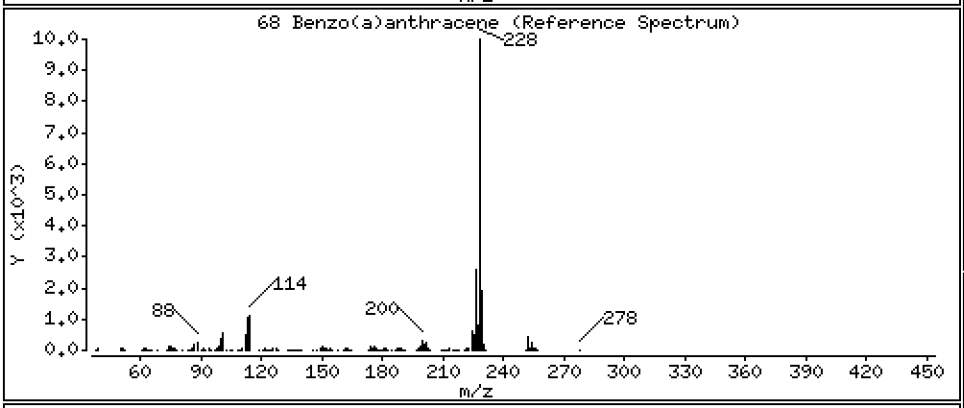
Concentration: 4.182 ug/mL

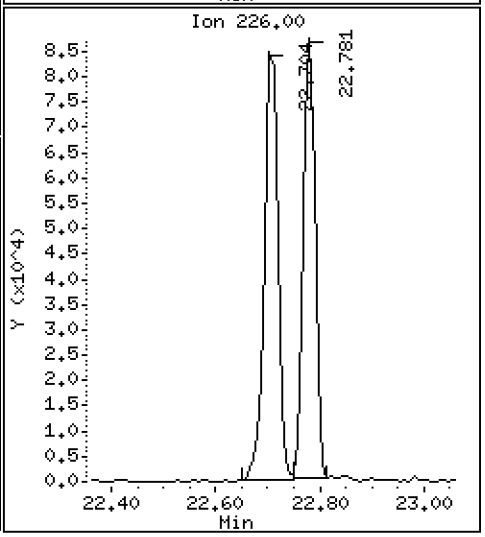


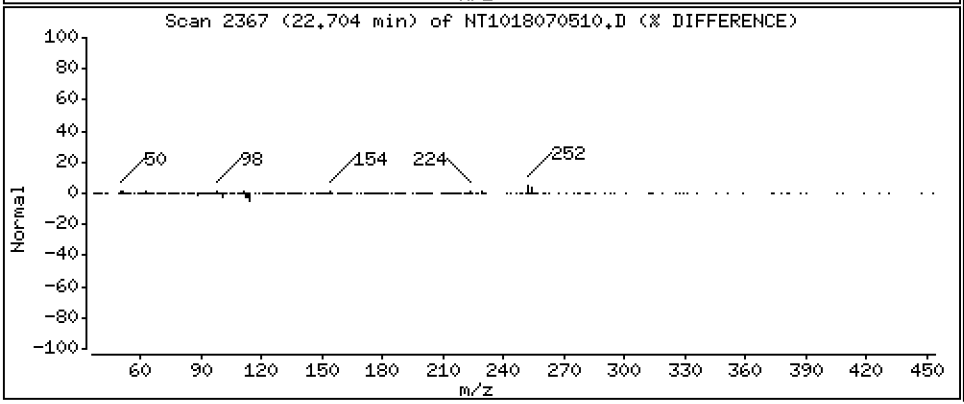












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

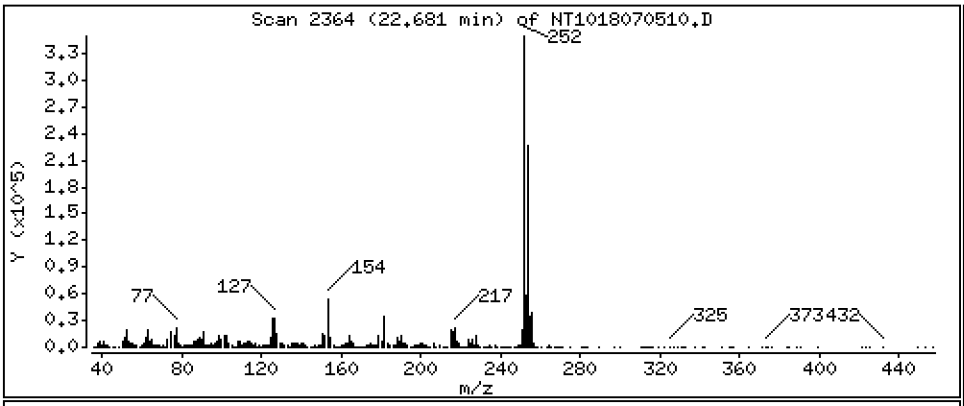
Operator: YZ

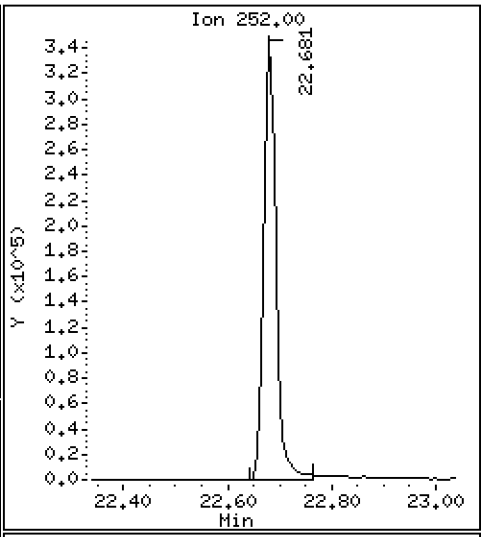
Column phase: ZB-5msi

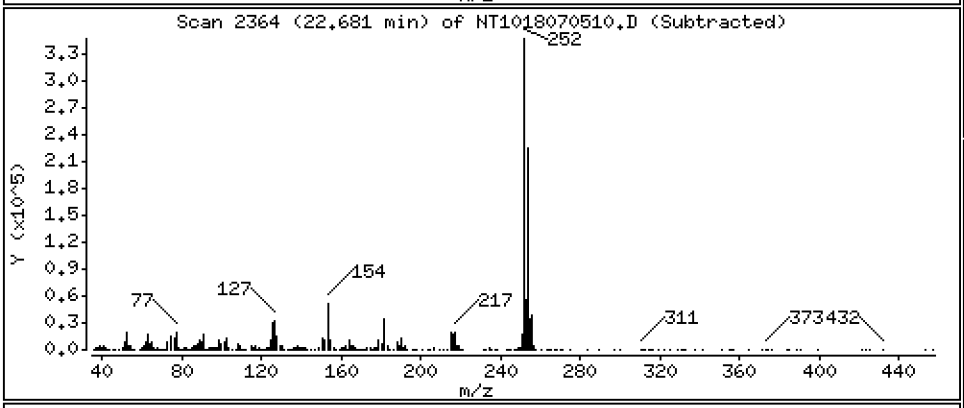
Column diameter: 0.25

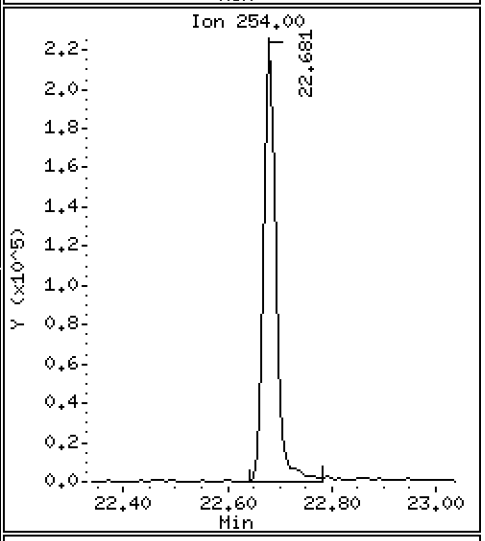
70 3,3'-Dichlorobenzidine

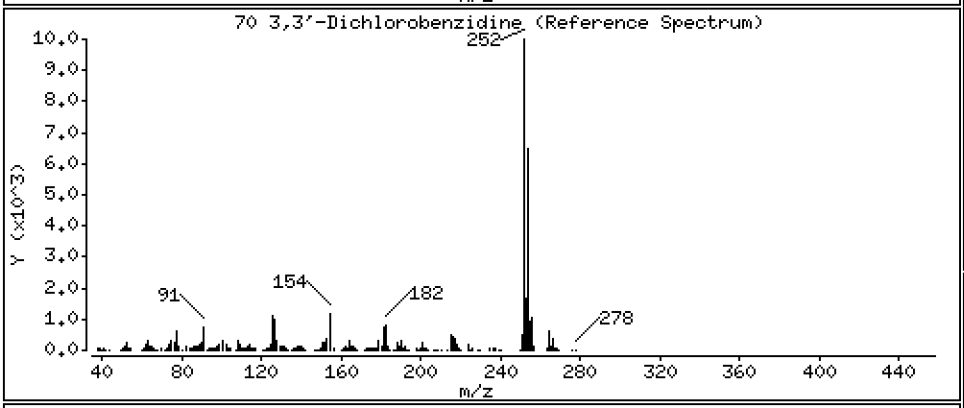
Concentration: 12.22 ug/mL

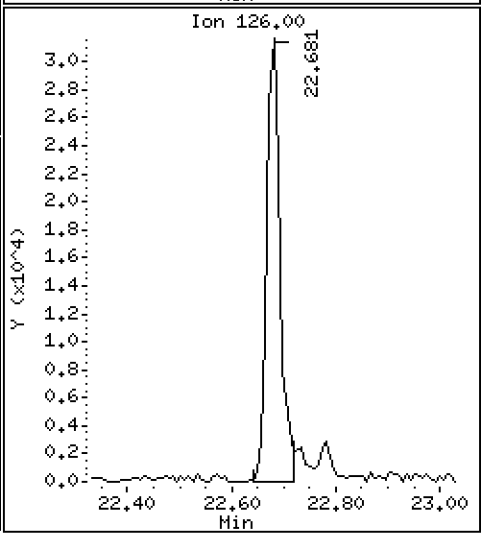


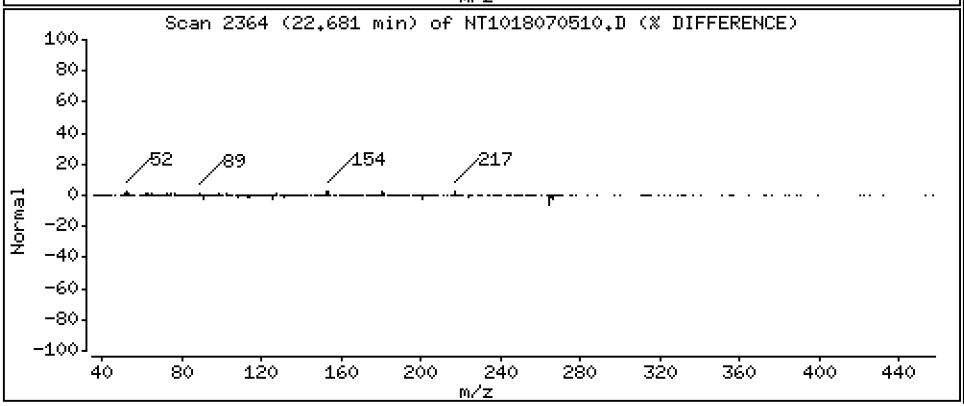












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

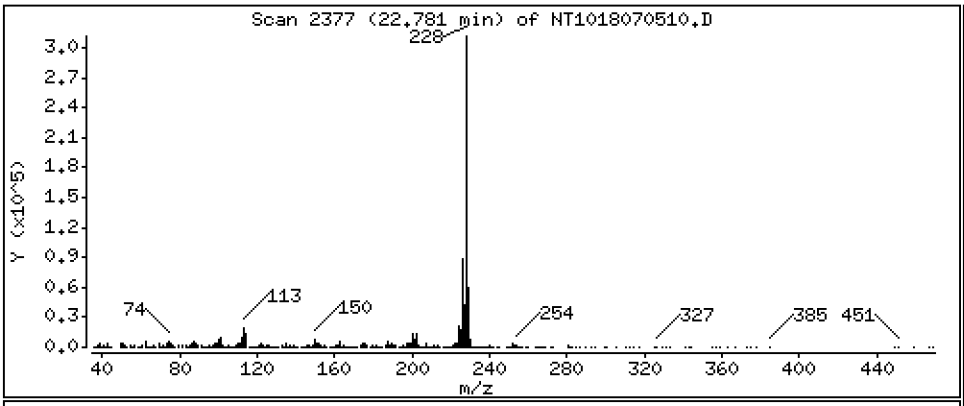
Operator: YZ

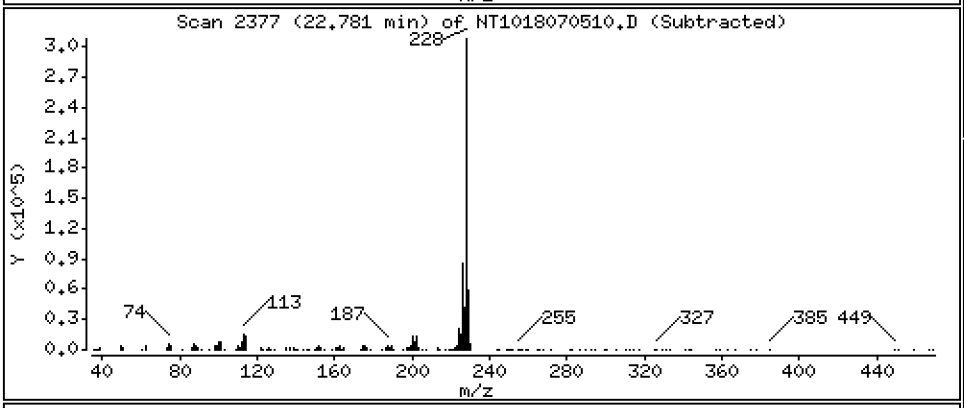
Column phase: ZB-5msi

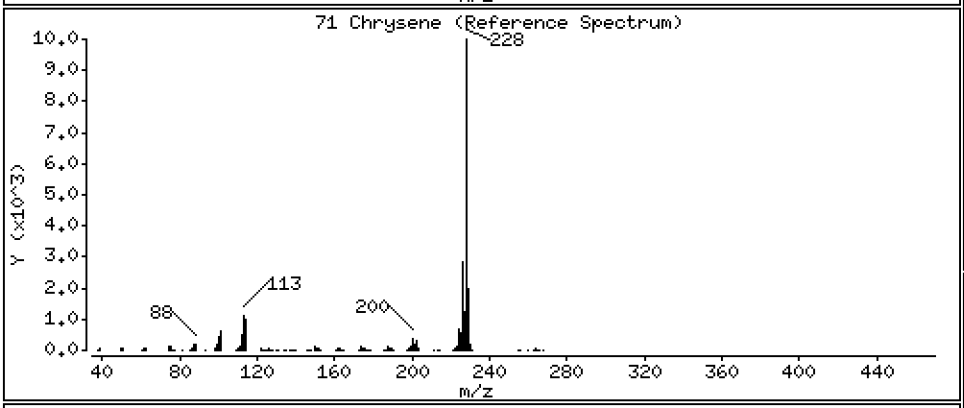
Column diameter: 0.25

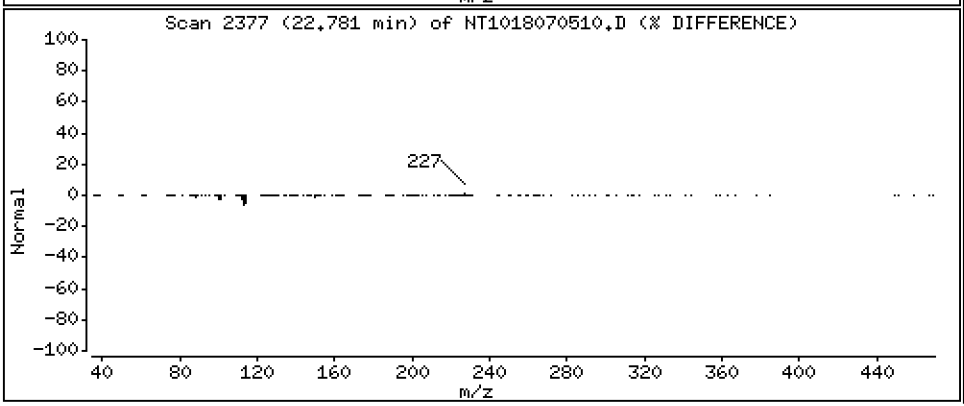
71 Chrysene

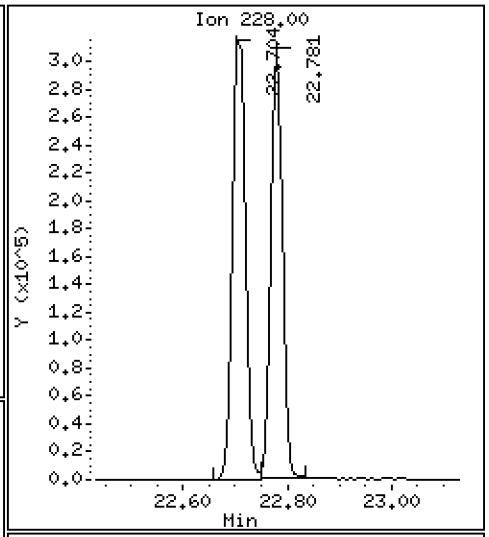
Concentration: 4.503 ug/mL

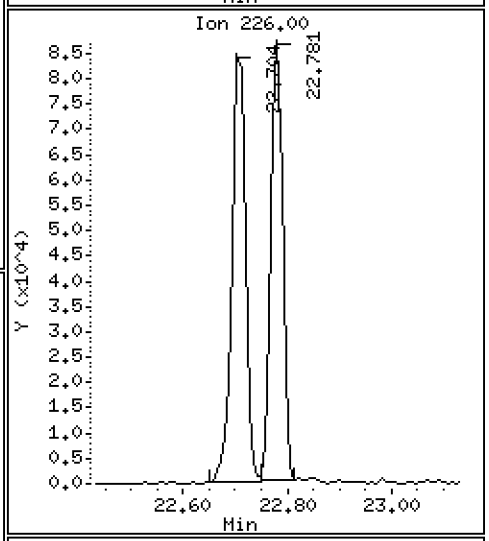


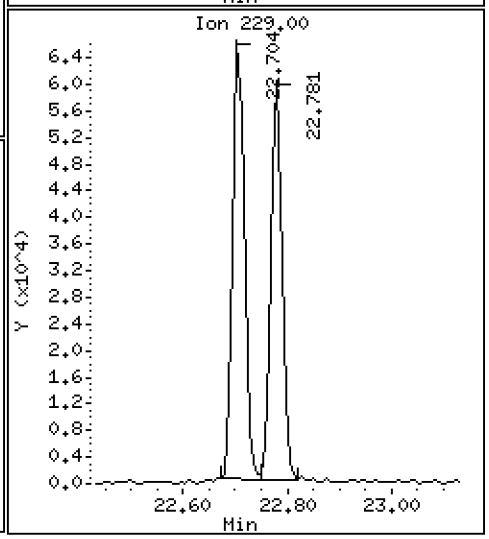












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

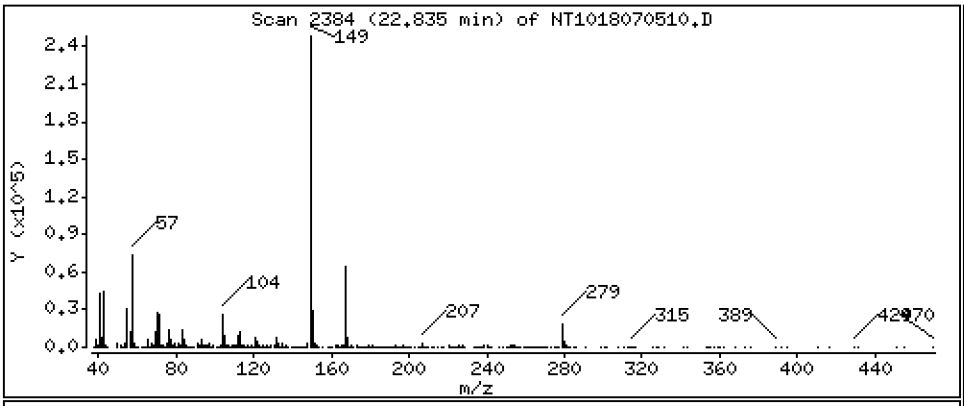
Operator: YZ

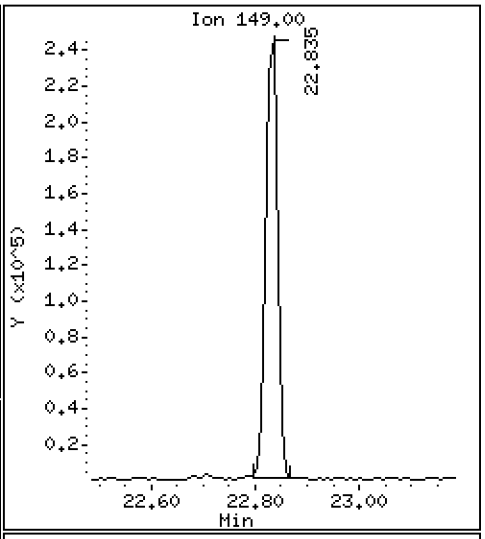
Column phase: ZB-5msi

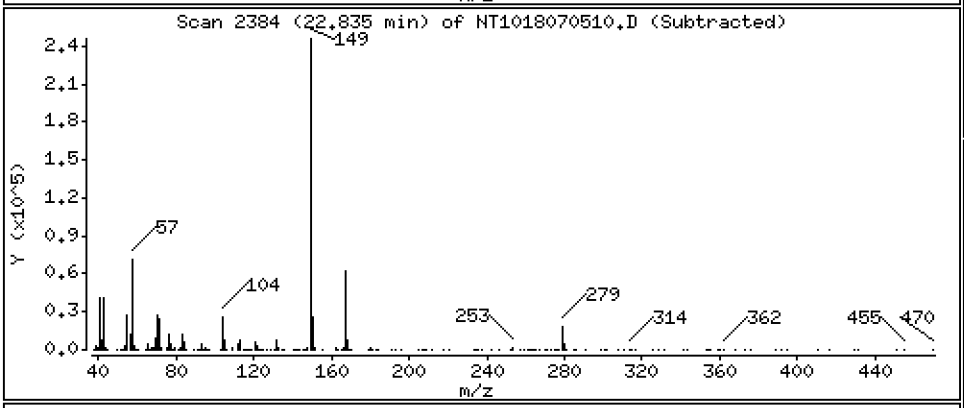
Column diameter: 0.25

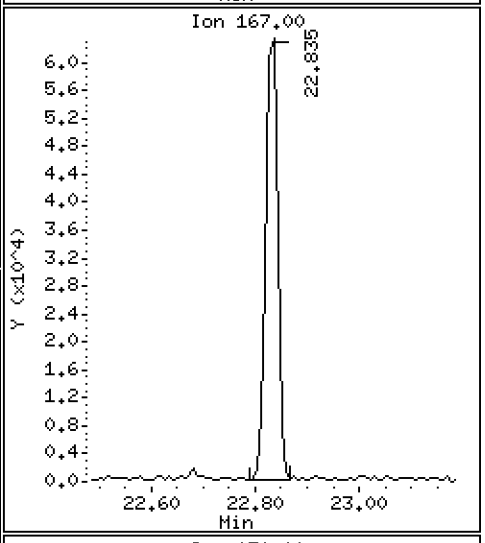
72 bis(2-Ethylhexyl)phthalate

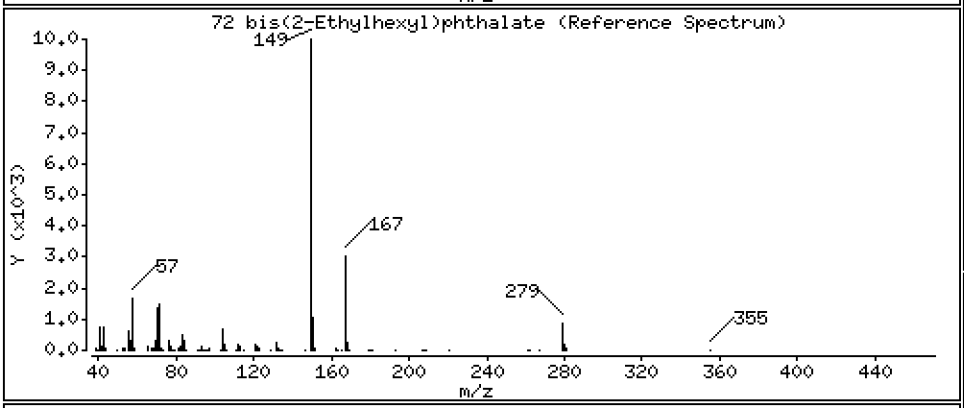
Concentration: 5.285 ug/mL

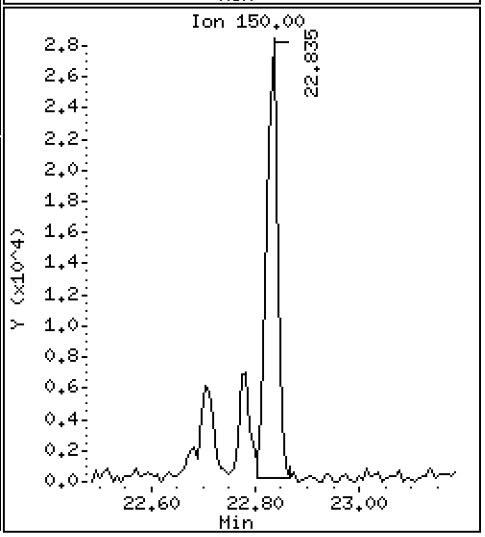


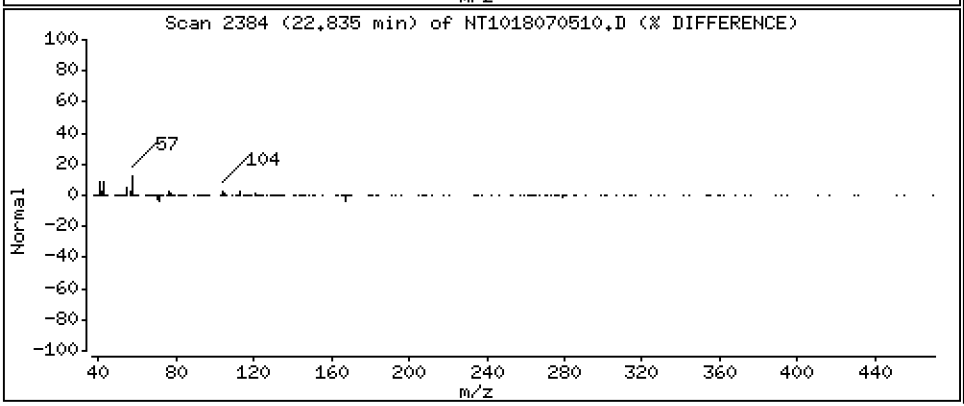












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

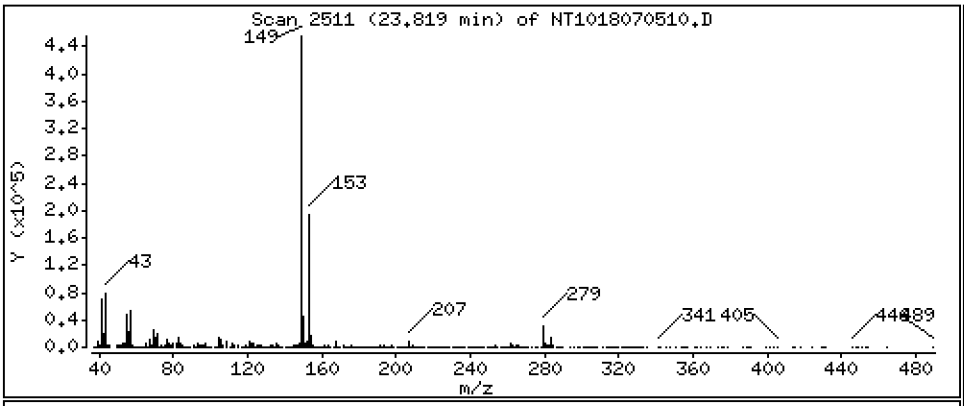
Operator: YZ

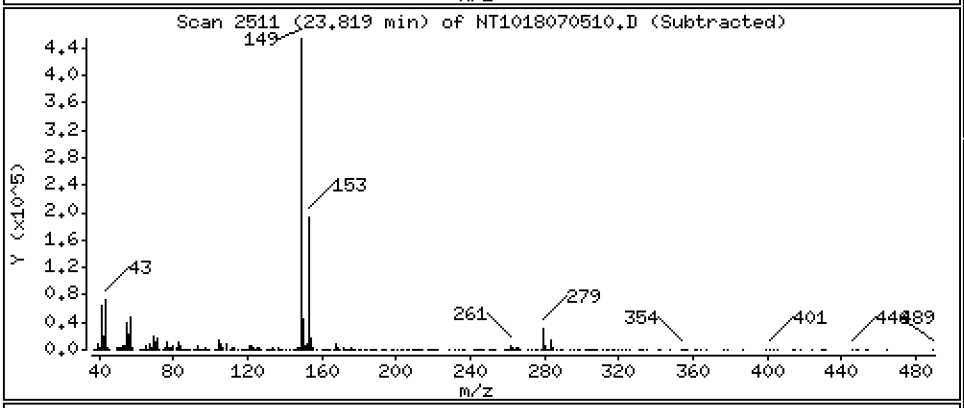
Column phase: ZB-5msi

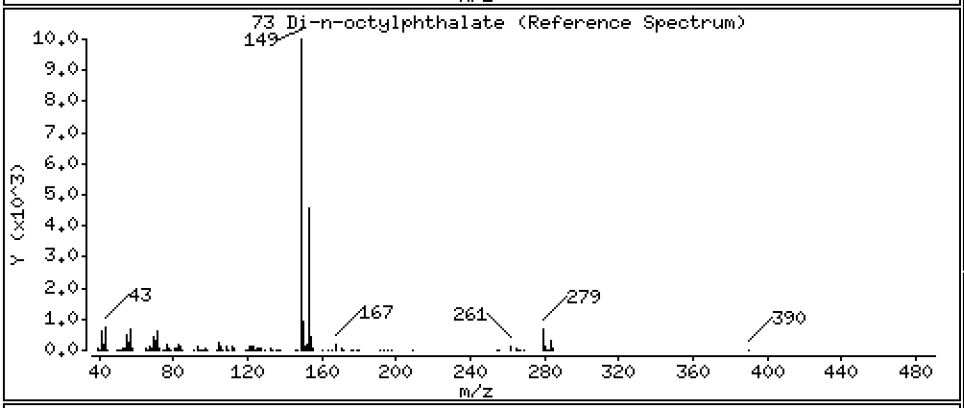
Column diameter: 0.25

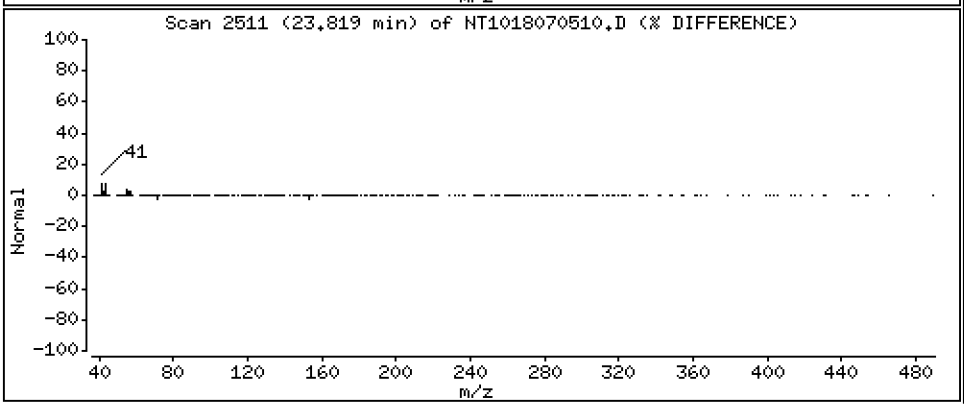
73 Di-n-octylphthalate

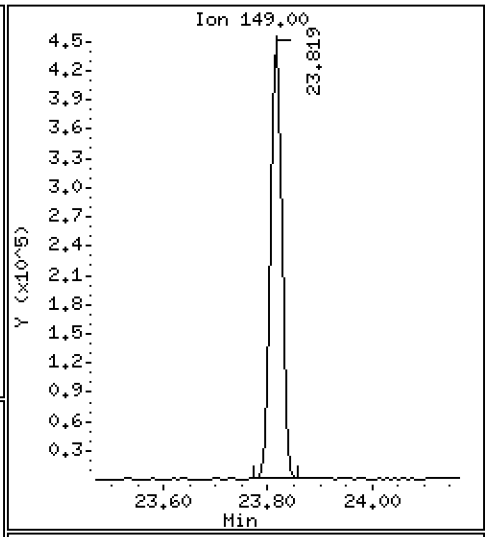
Concentration: 4.482 ug/mL

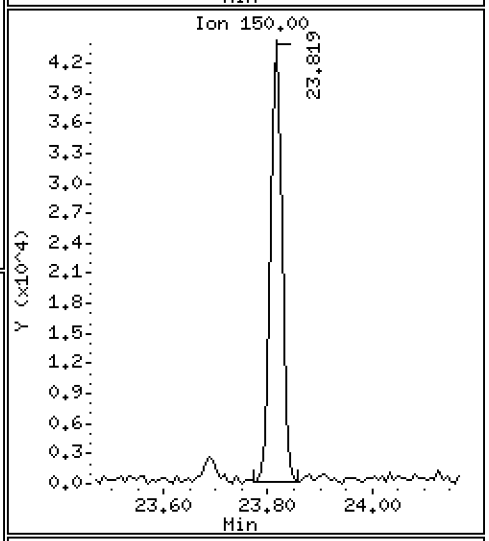


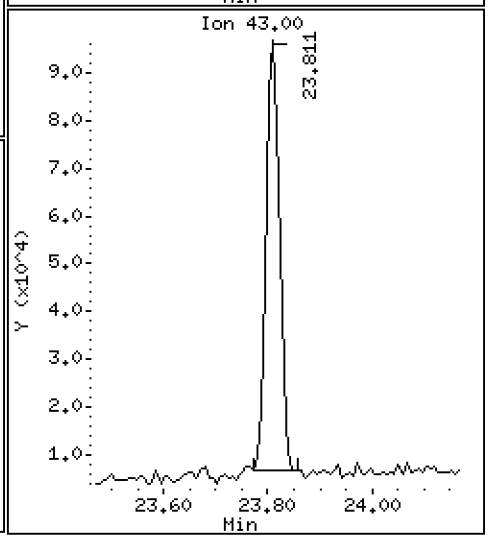












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

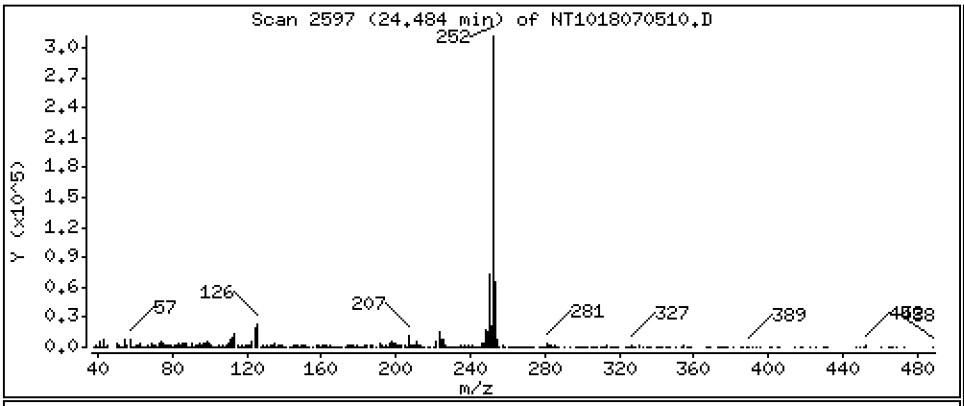
Operator: YZ

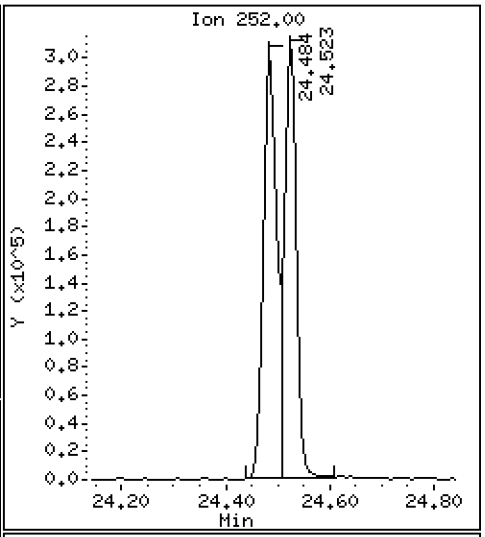
Column phase: ZB-5msi

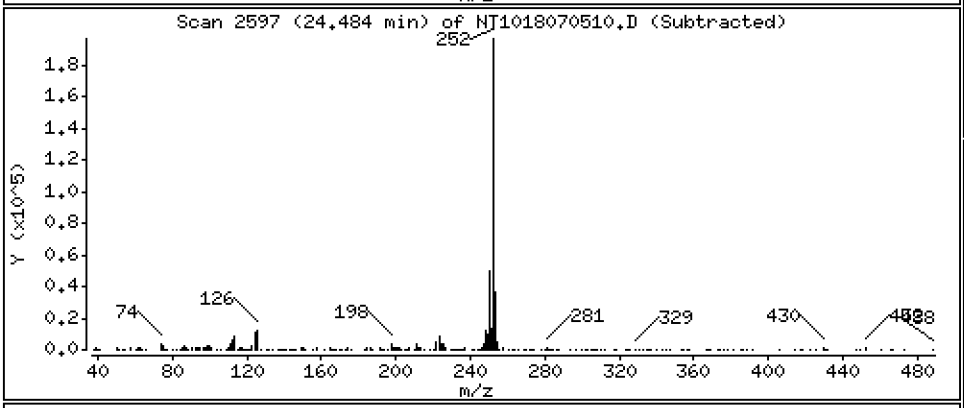
Column diameter: 0.25

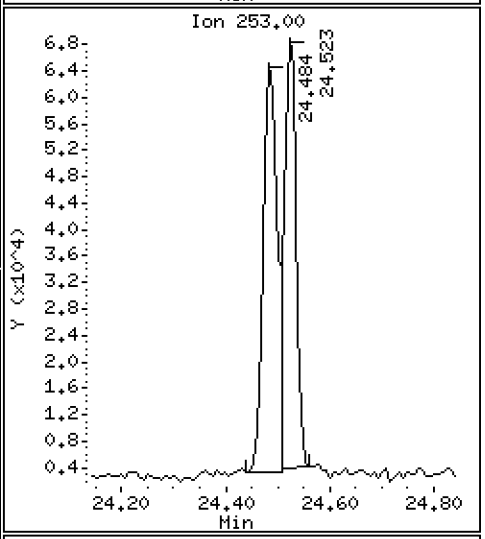
74 Benzo(b)fluoranthene

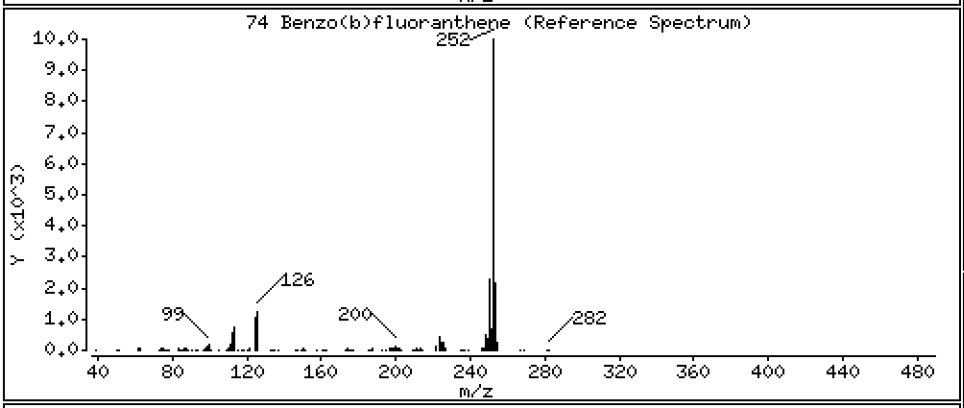
Concentration: 4.413 ug/mL

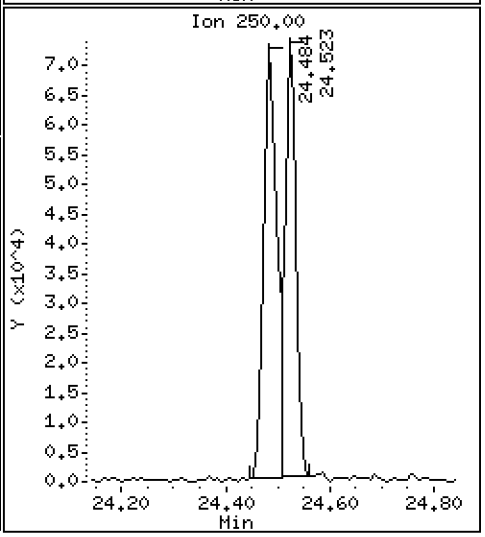


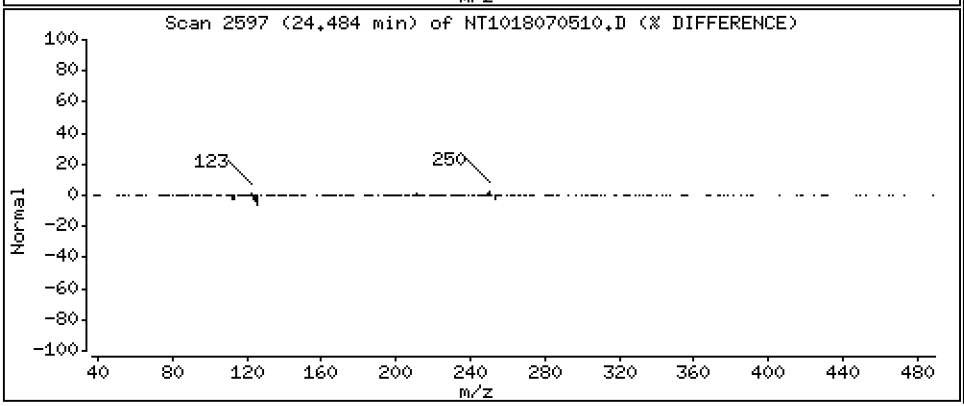












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

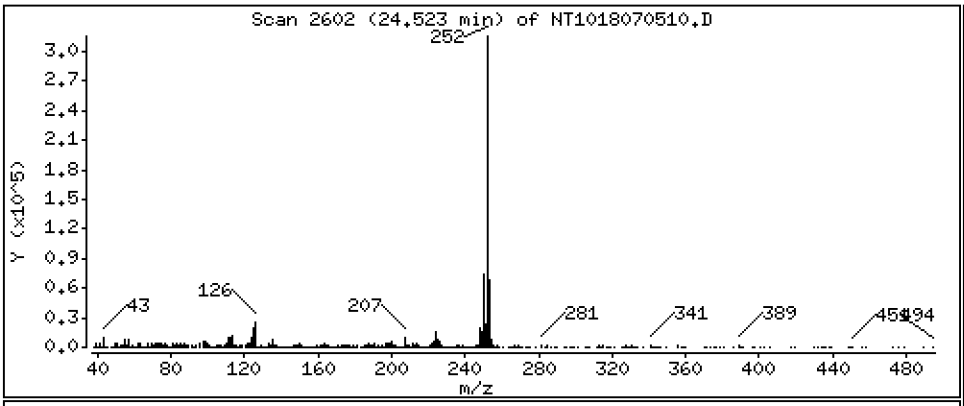
Operator: YZ

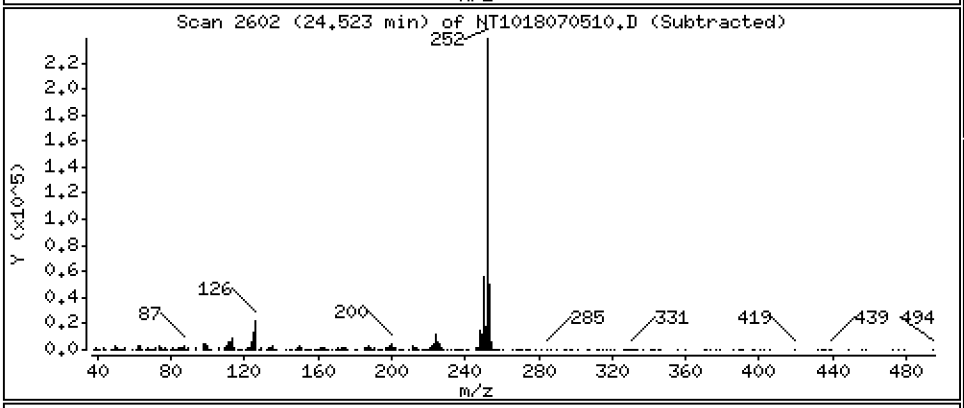
Column phase: ZB-5msi

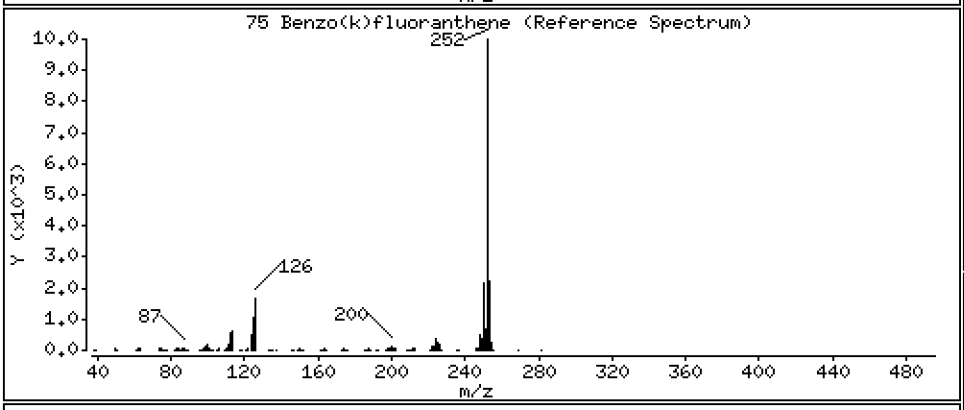
Column diameter: 0.25

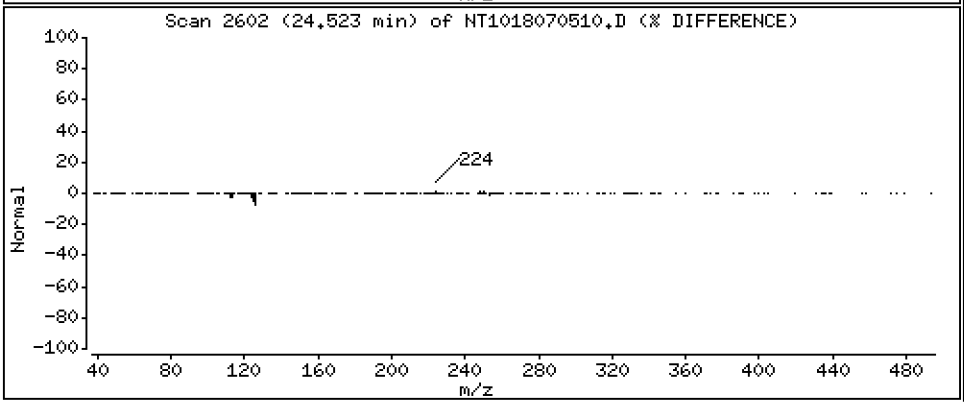
75 Benzo(k)fluoranthene

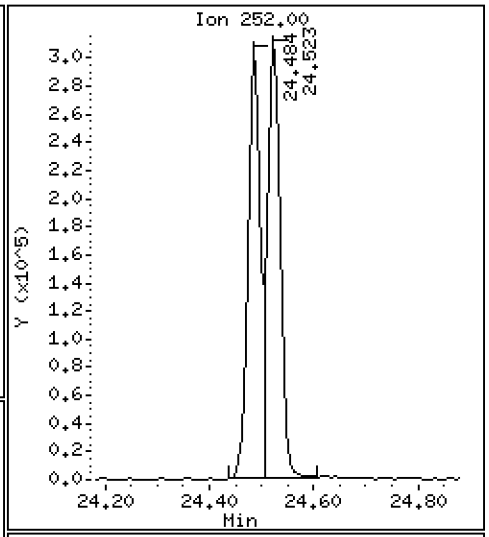
Concentration: 4.129 ug/mL

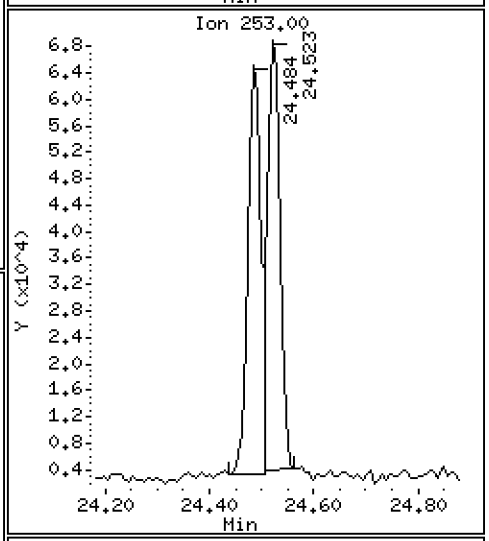


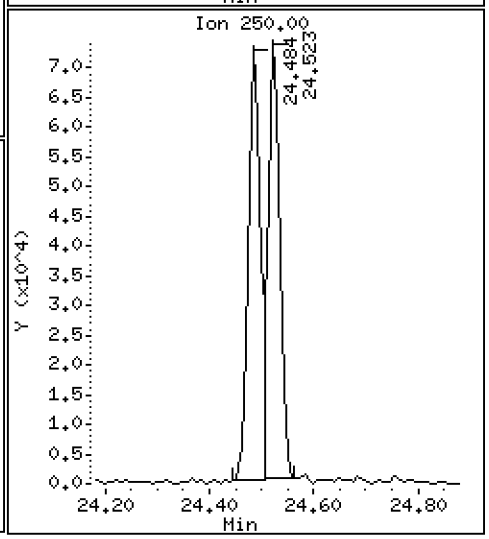












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

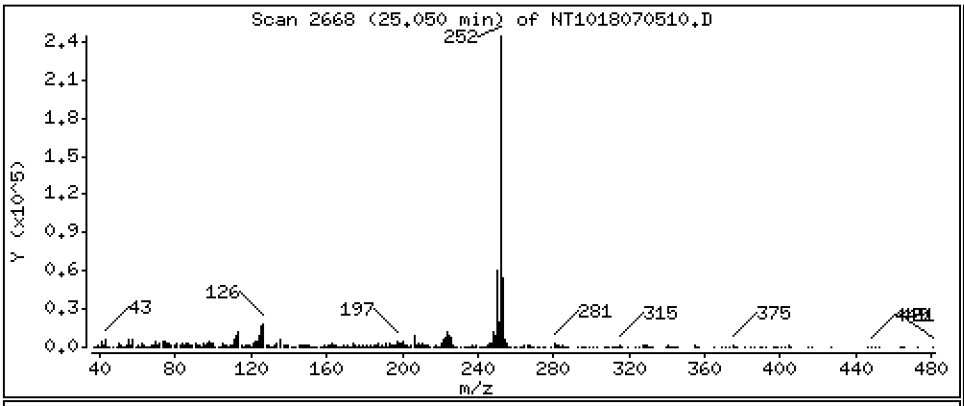
Operator: YZ

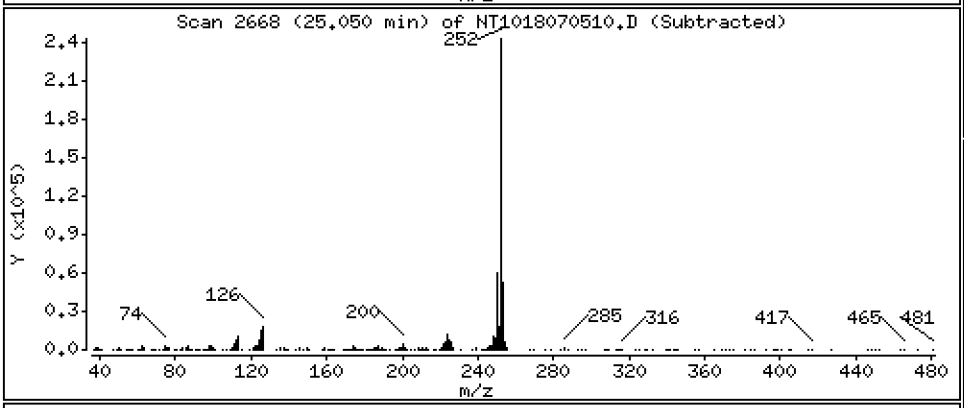
Column phase: ZB-5msi

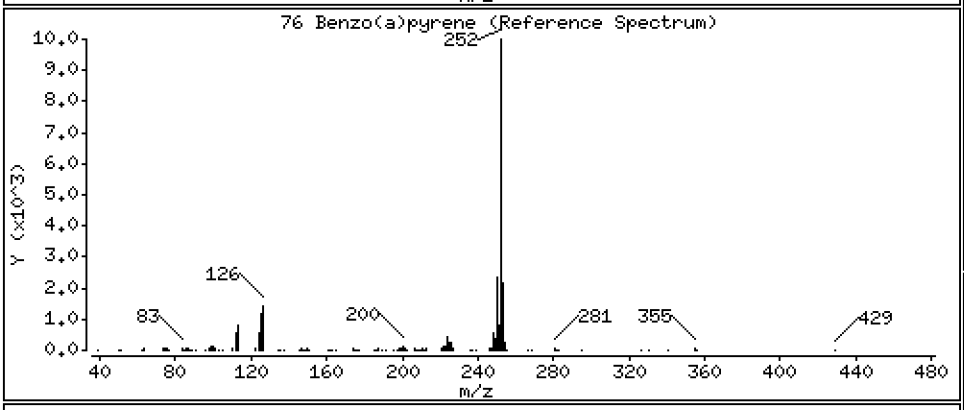
Column diameter: 0.25

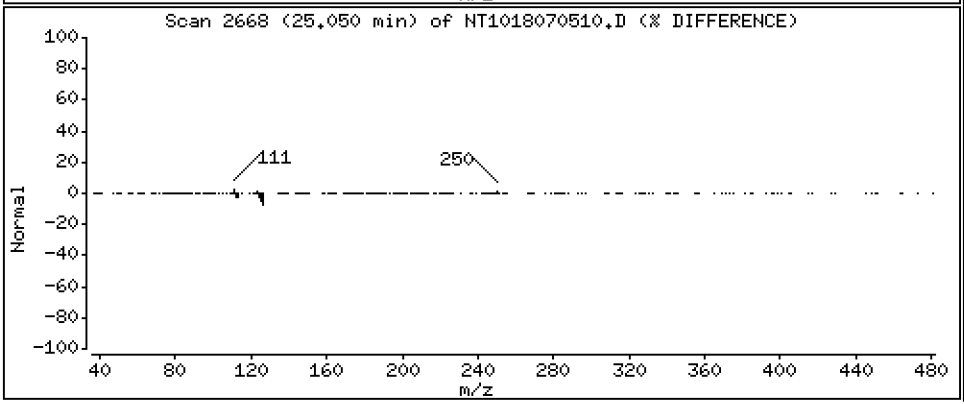
76 Benzo(a)pyrene

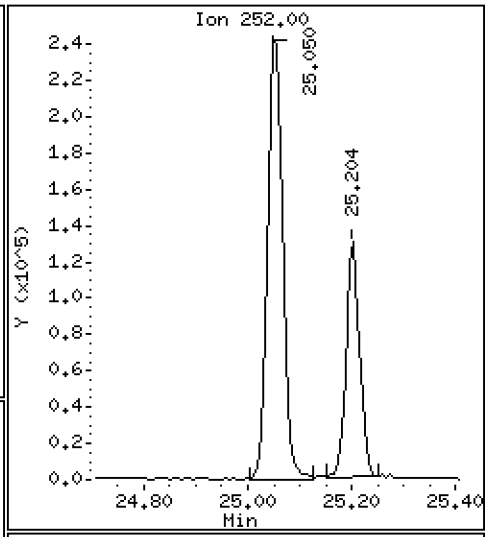
Concentration: 3.719 ug/mL

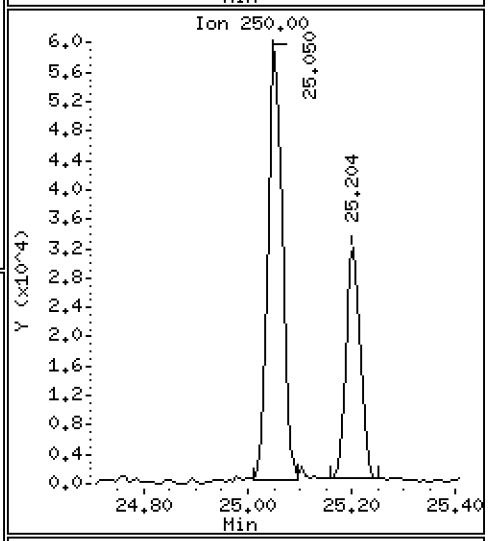


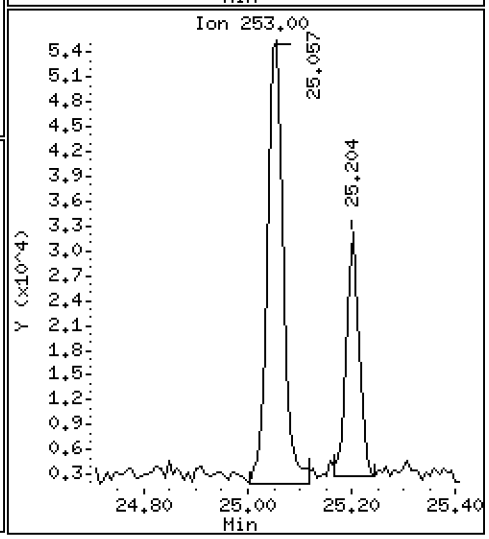












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

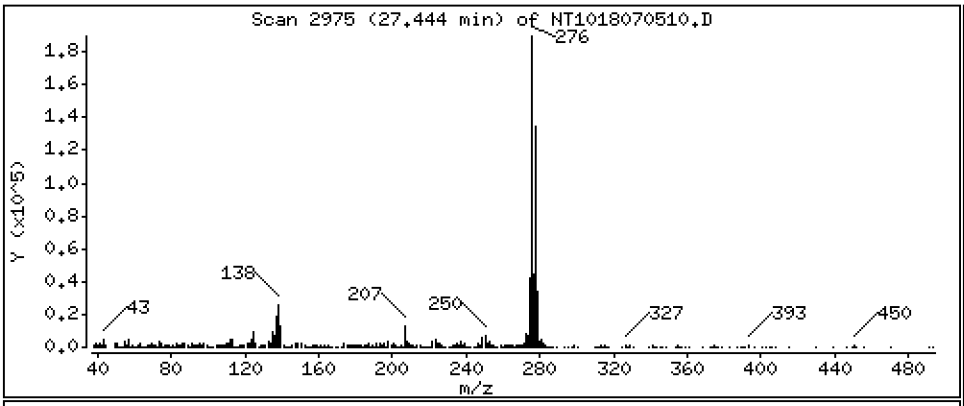
Operator: YZ

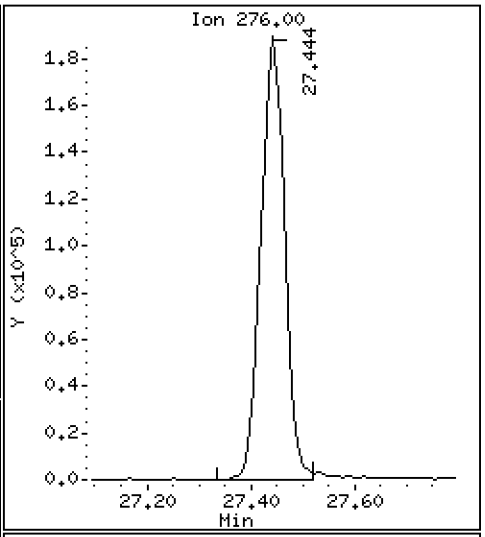
Column phase: ZB-5msi

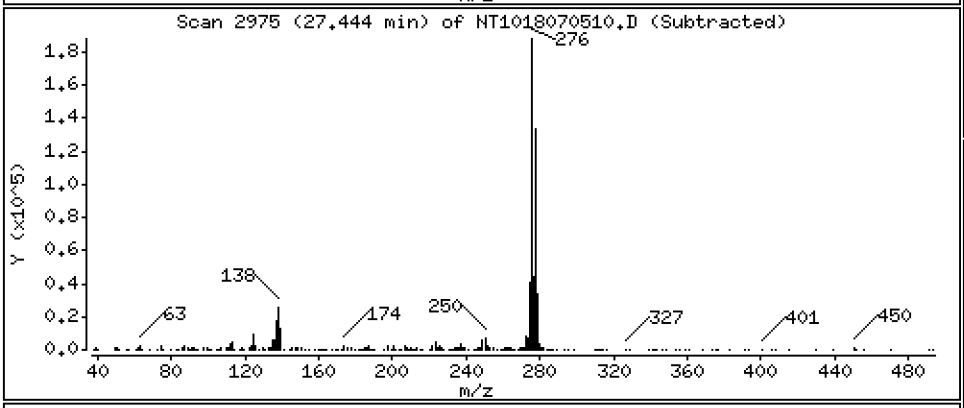
Column diameter: 0.25

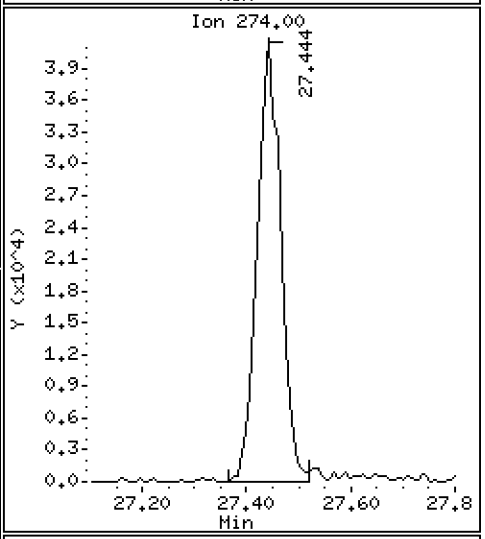
78 Indeno(1,2,3-cd)pyrene

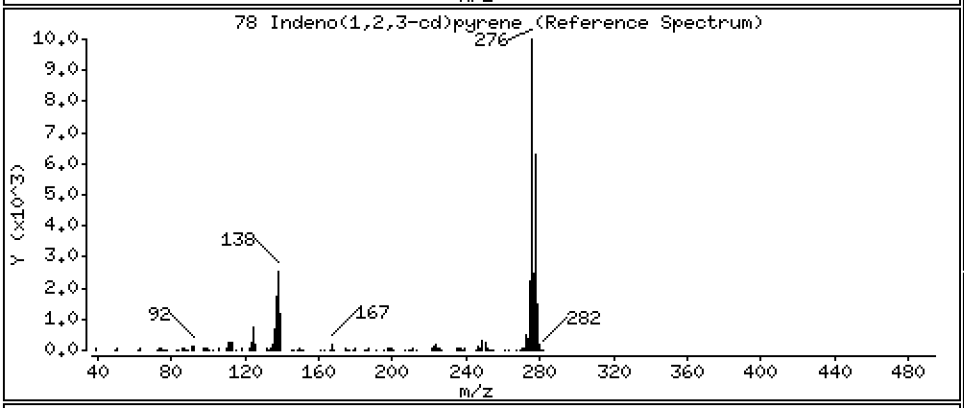
Concentration: 4.740 ug/mL

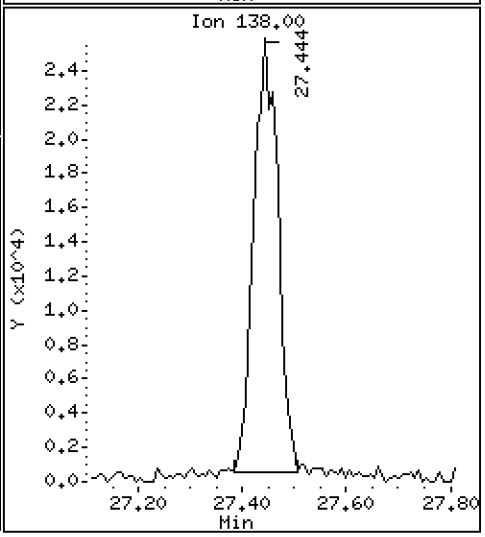


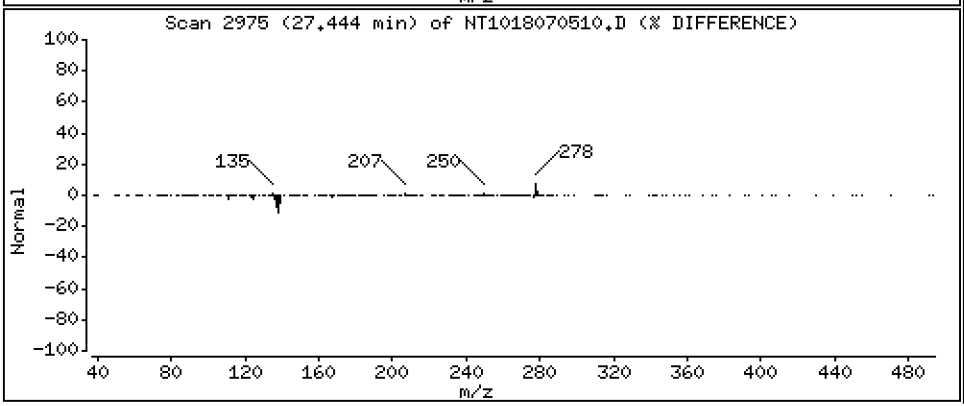












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

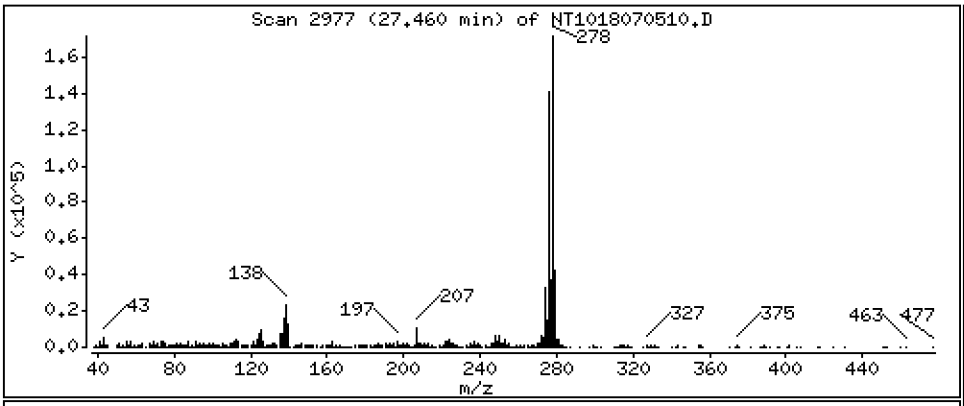
Operator: YZ

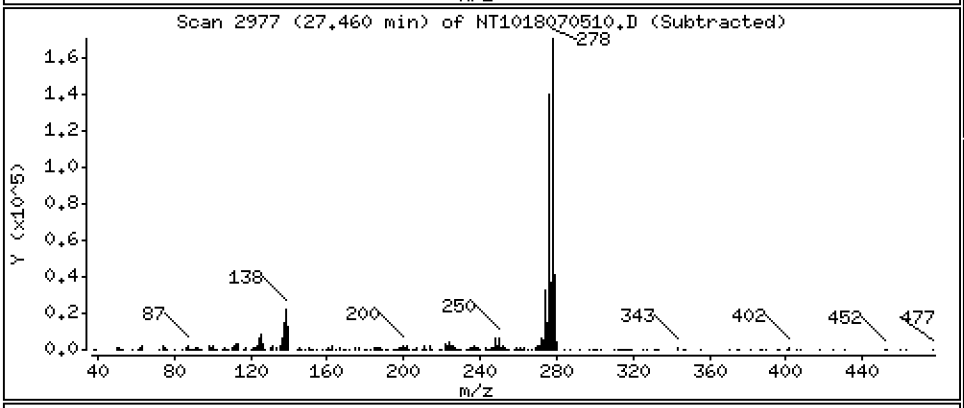
Column phase: ZB-5msi

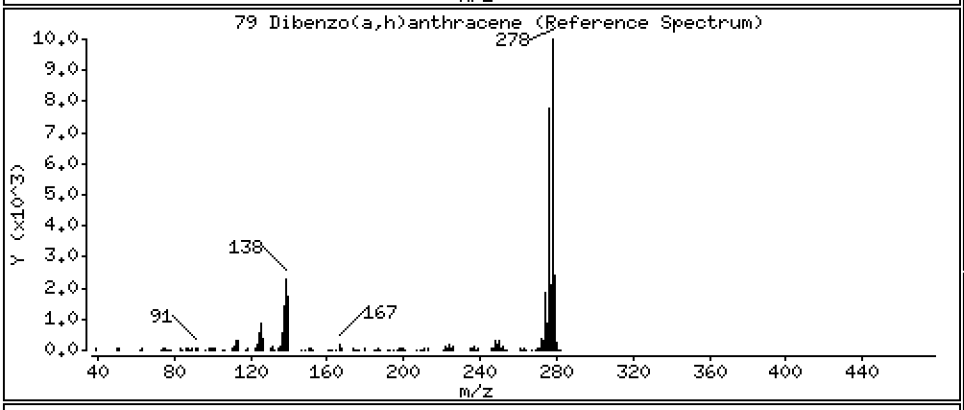
Column diameter: 0.25

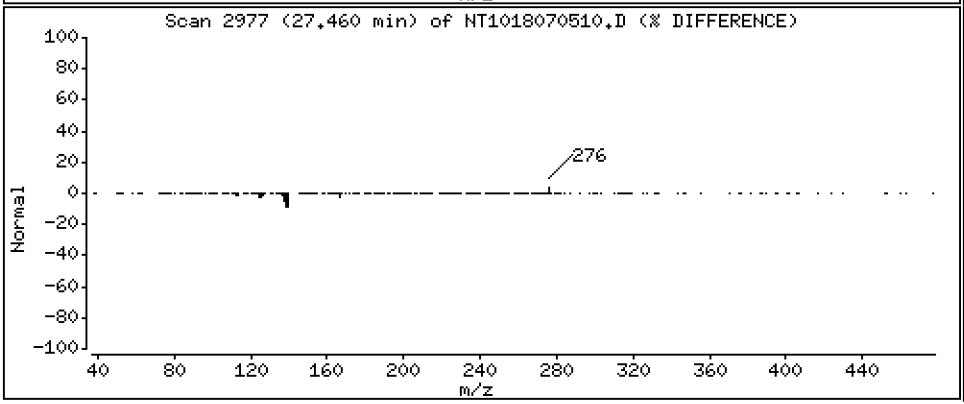
79 Dibenzo(a,h)anthracene

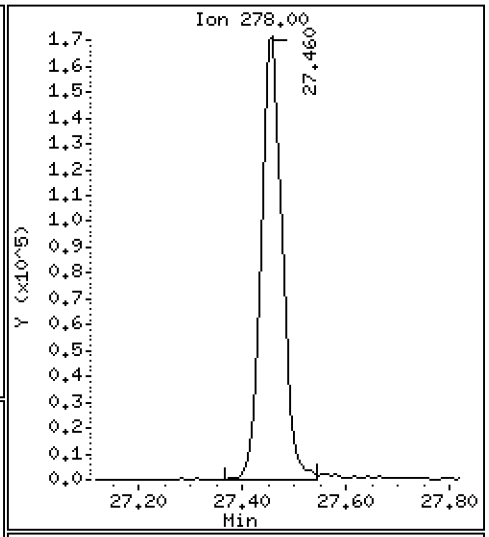
Concentration: 4.778 ug/mL

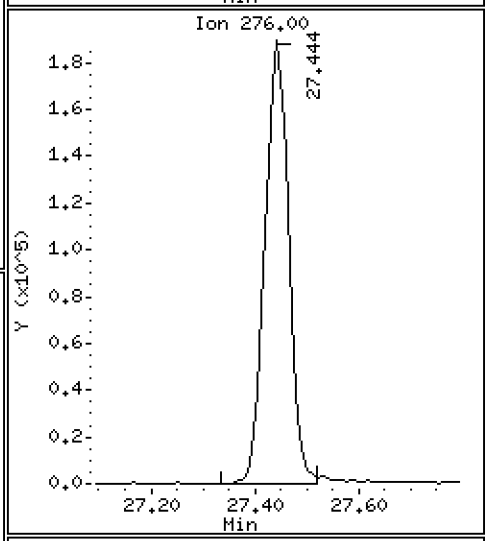


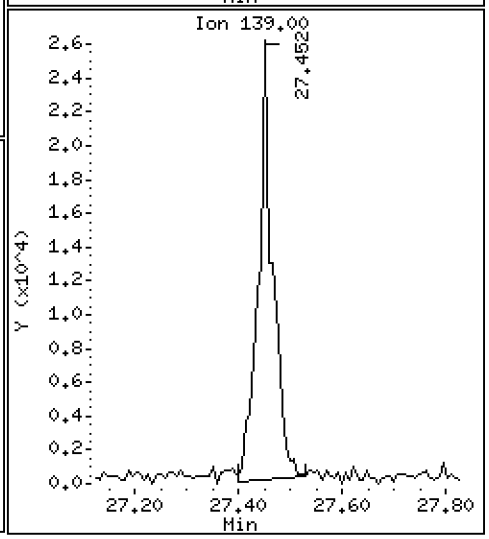












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

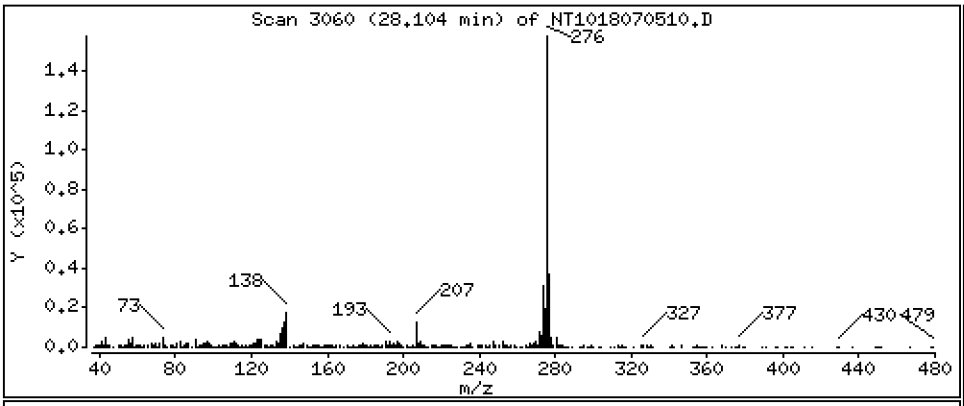
Operator: YZ

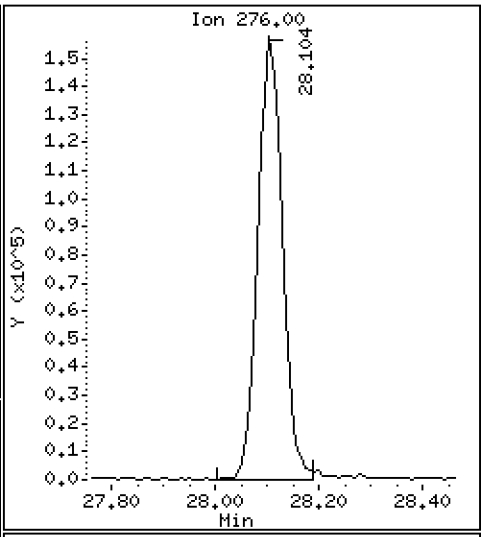
Column phase: ZB-5msi

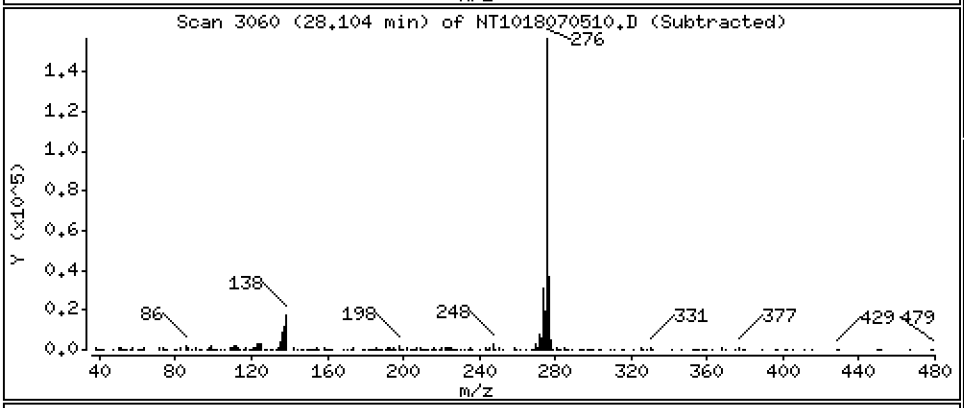
Column diameter: 0.25

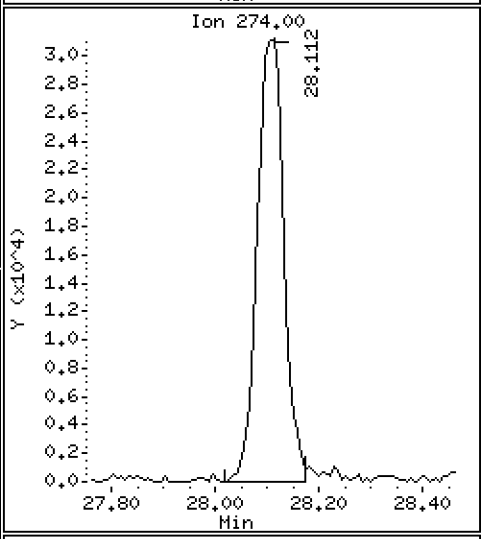
80 Benzo(g,h,i)perylene

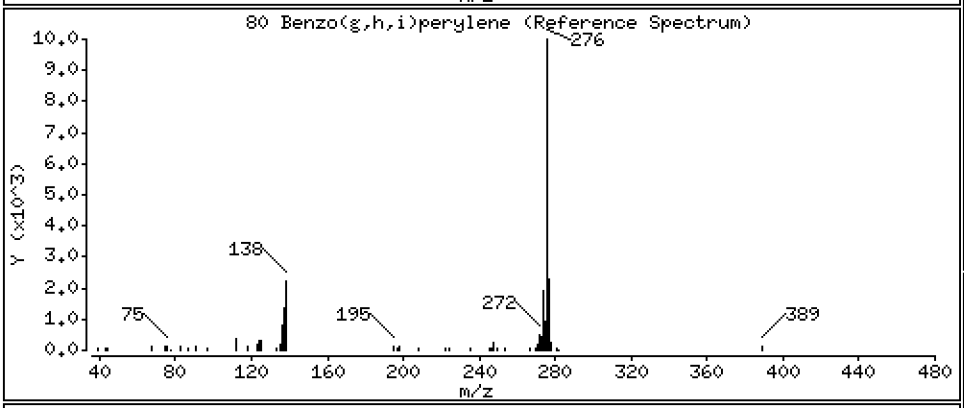
Concentration: 4.599 ug/mL

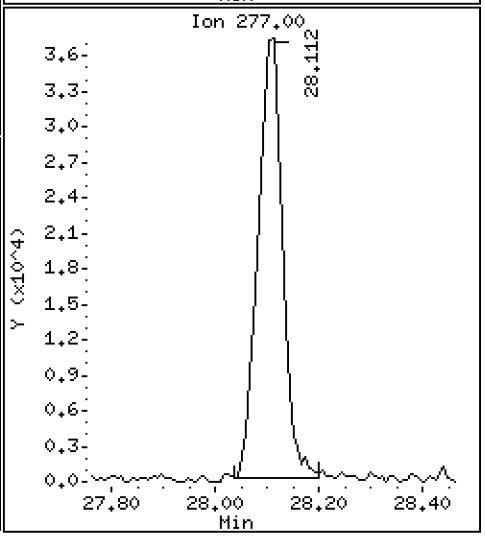


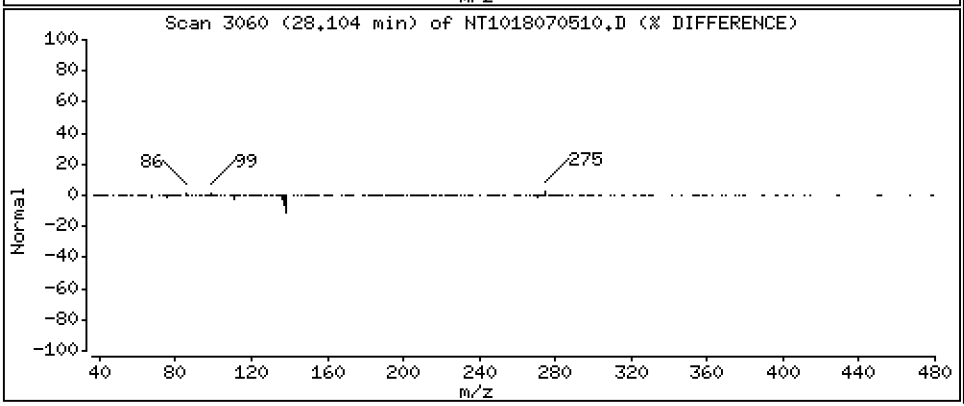












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

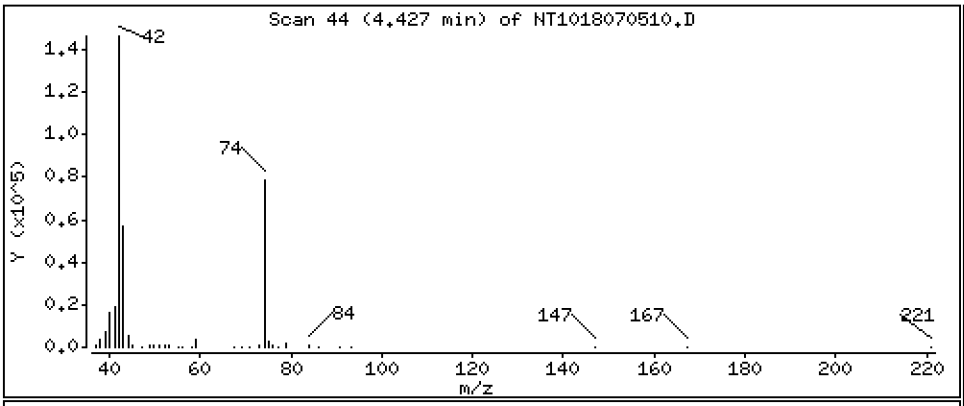
Operator: YZ

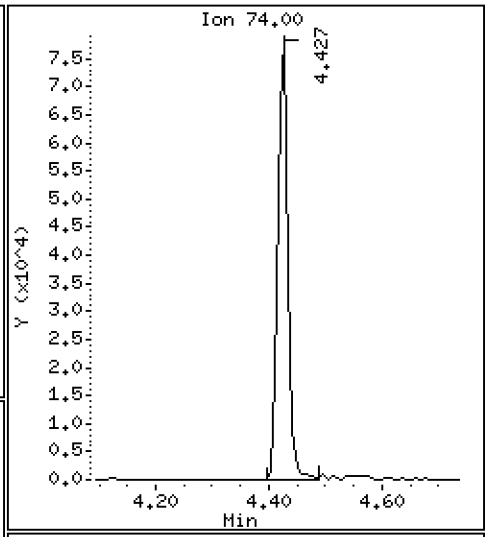
Column phase: ZB-5msi

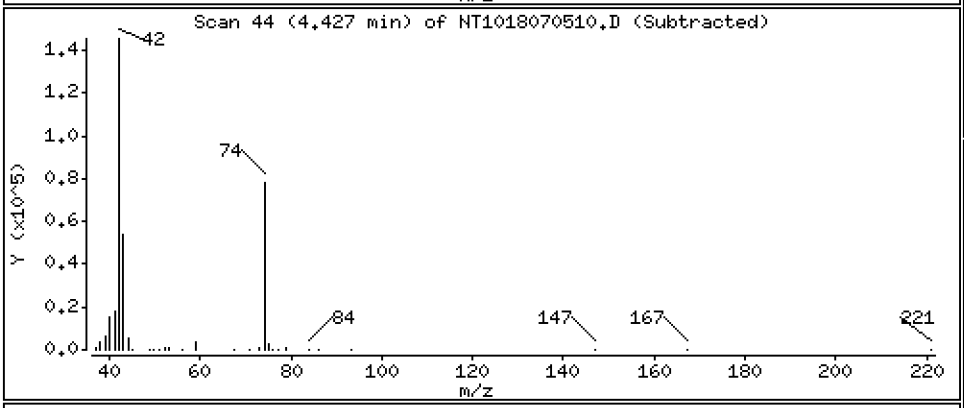
Column diameter: 0.25

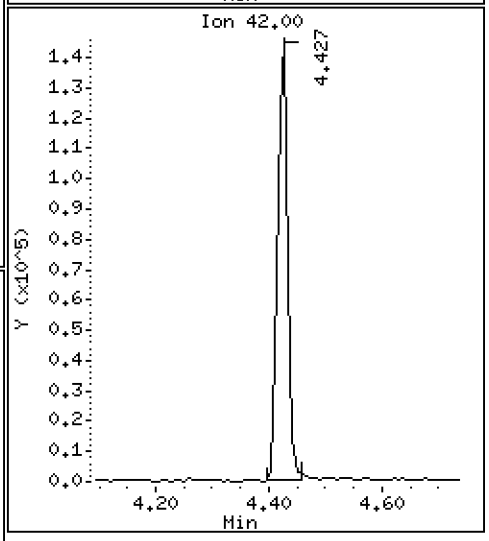
90 N-Nitrosodimethylamine

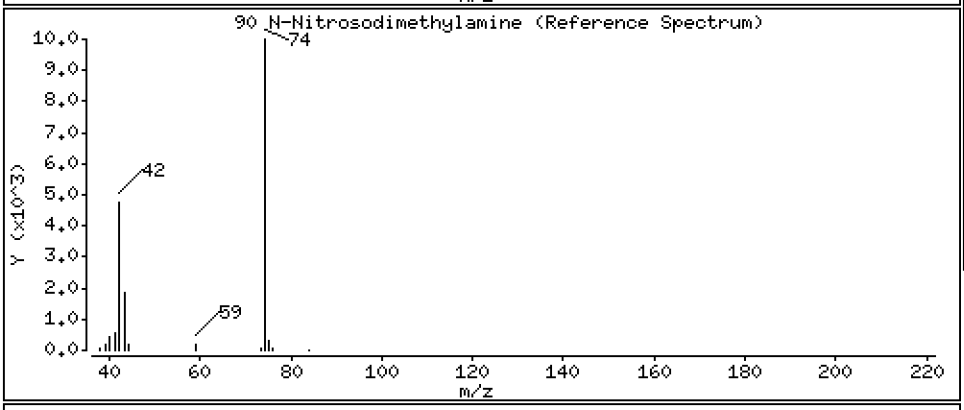
Concentration: 6.201 ug/mL

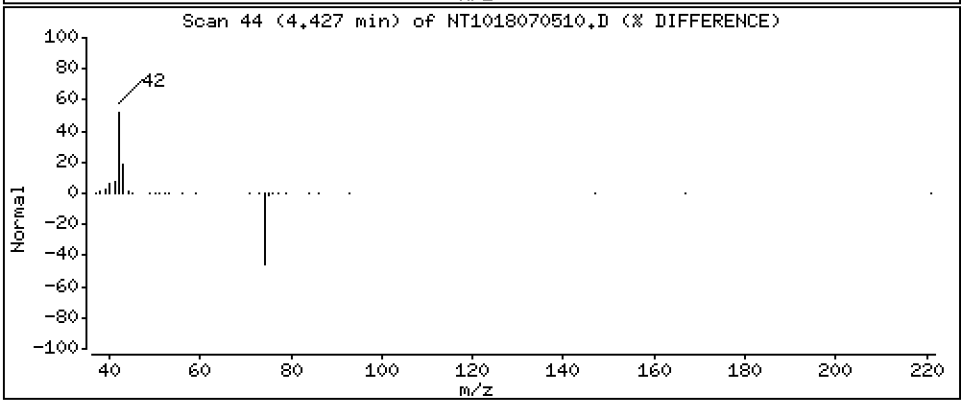












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

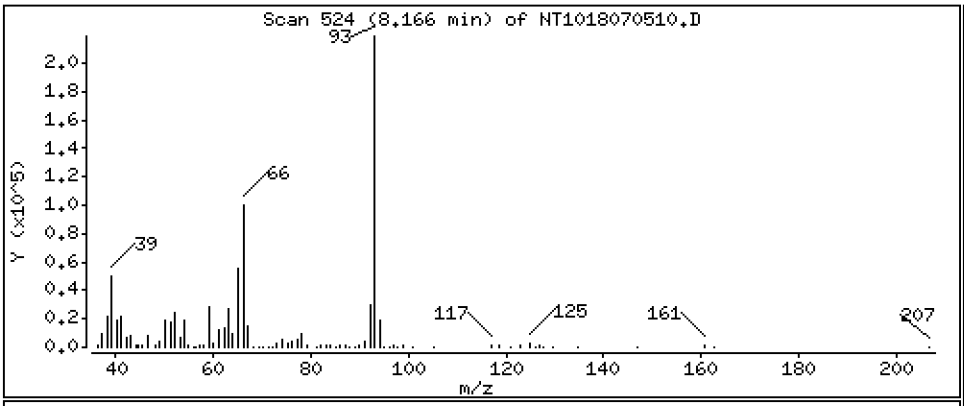
Operator: YZ

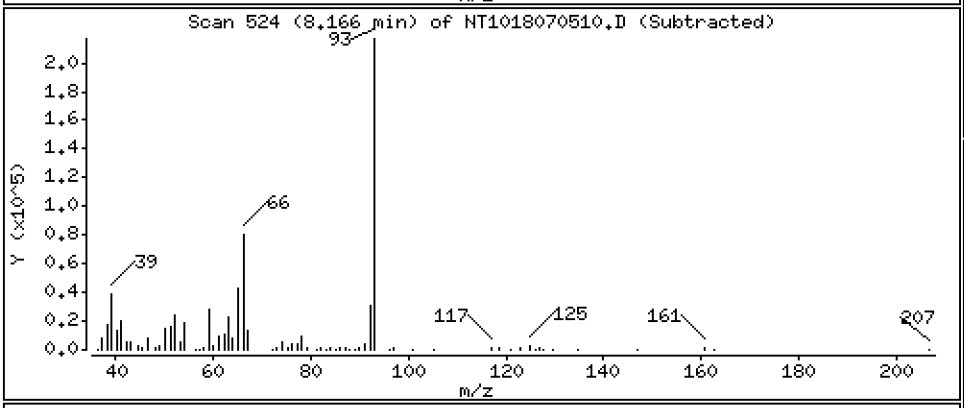
Column phase: ZB-5msi

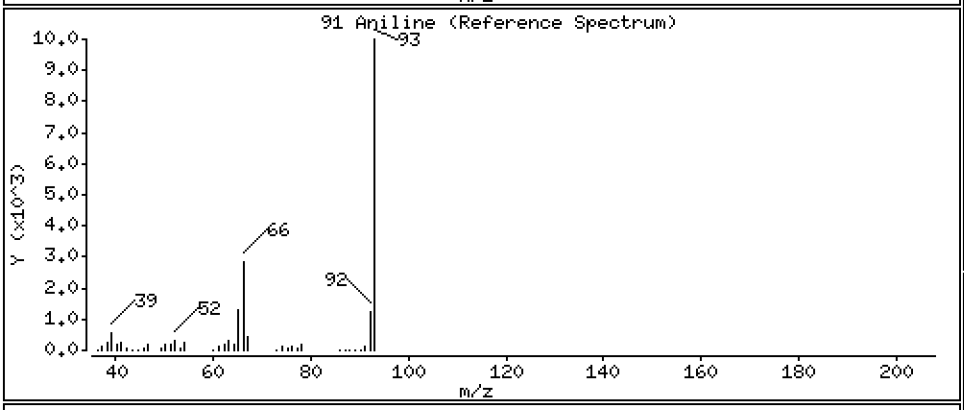
Column diameter: 0.25

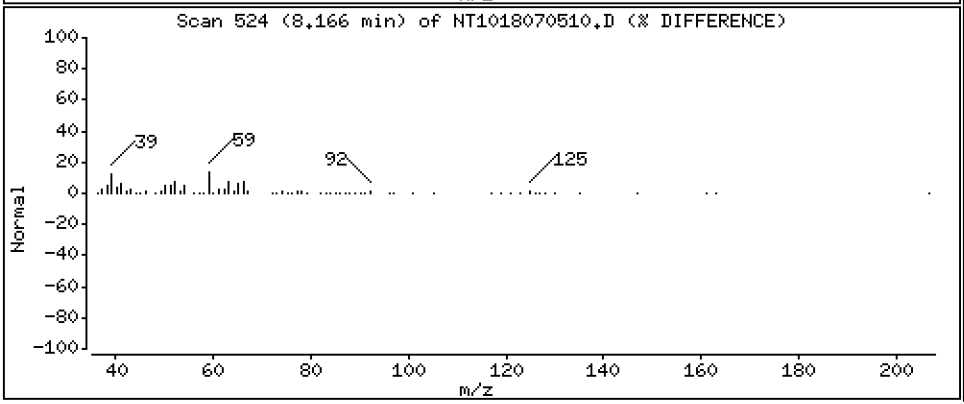
91 Aniline

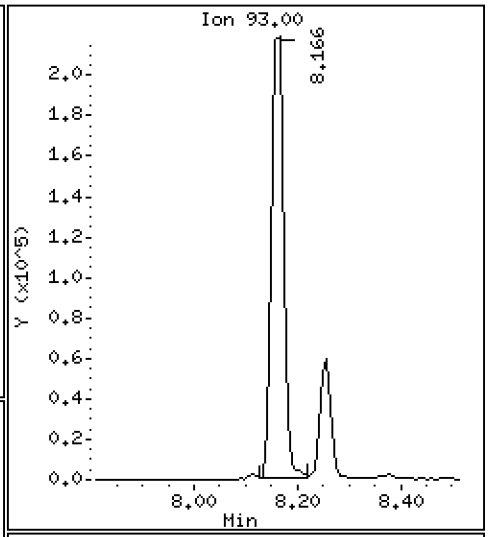
Concentration: 8.298 ug/mL

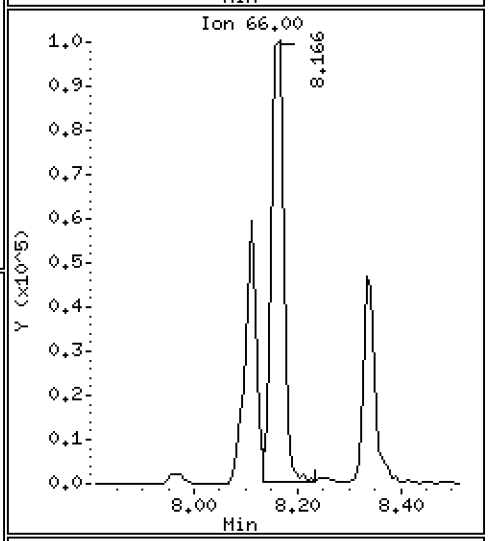


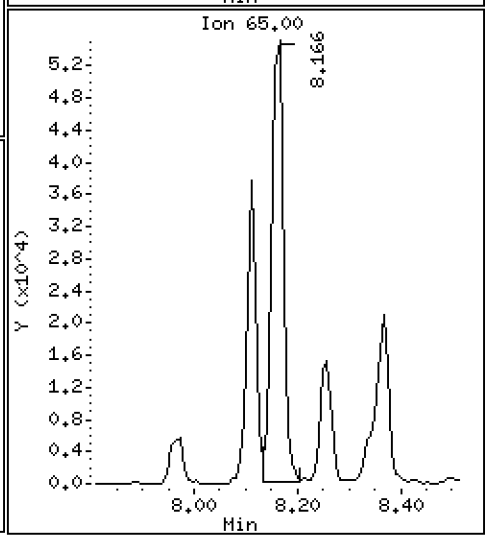












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

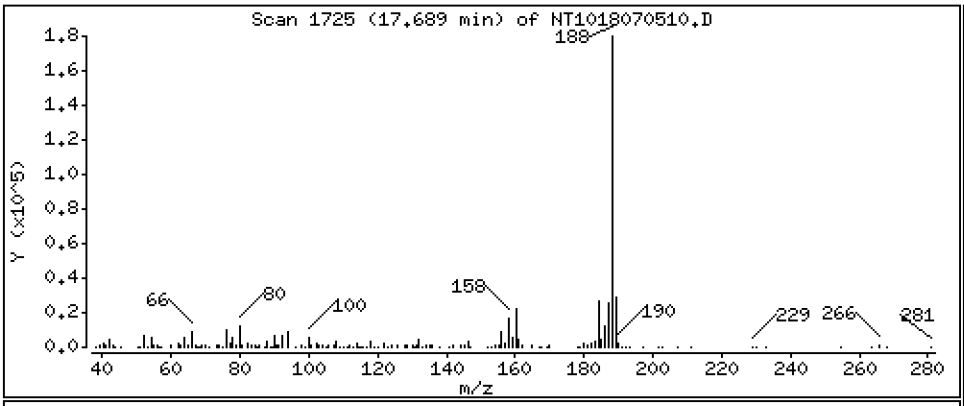
Operator: YZ

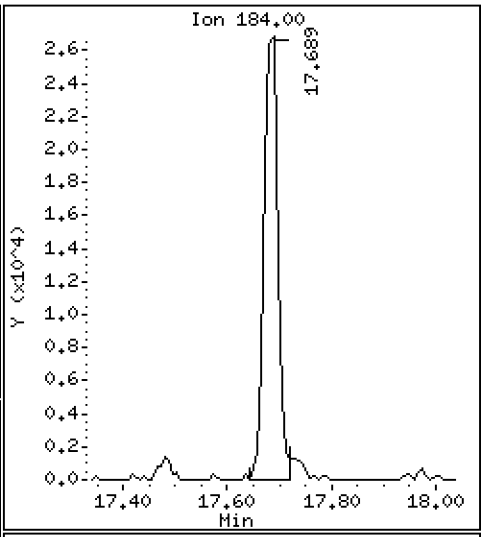
Column phase: ZB-5msi

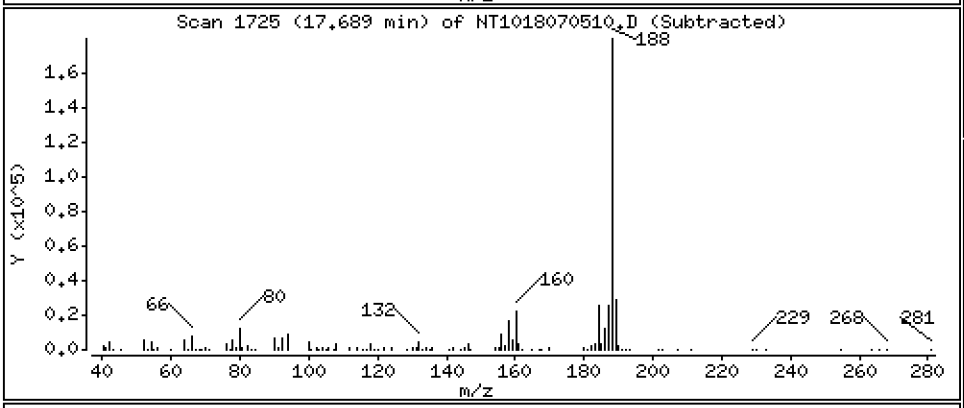
Column diameter: 0.25

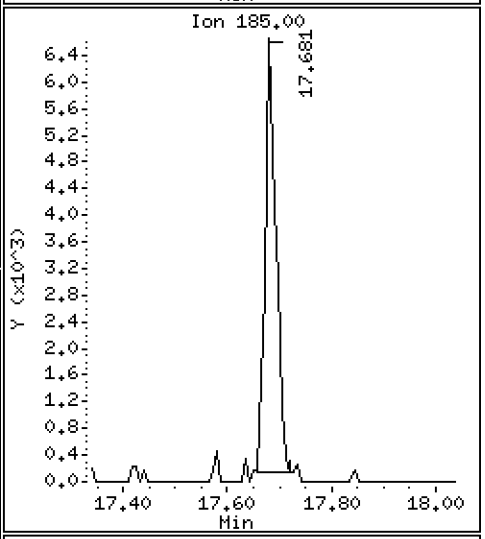
93 Benzidine

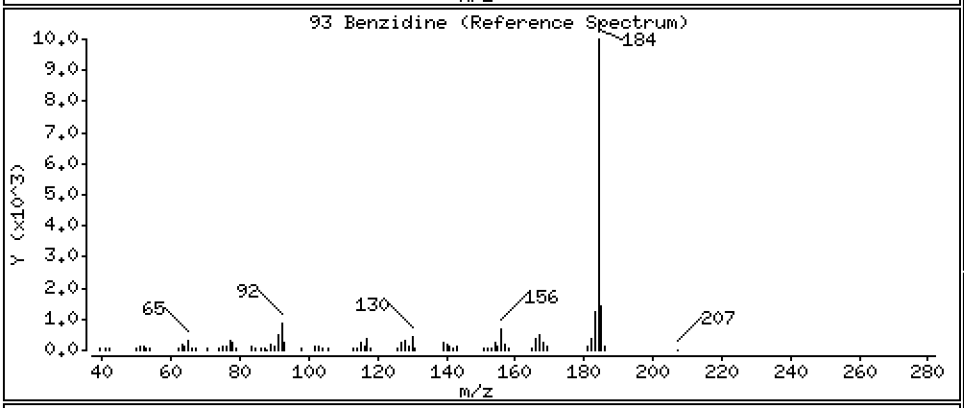
Concentration: 0.8269 ug/mL

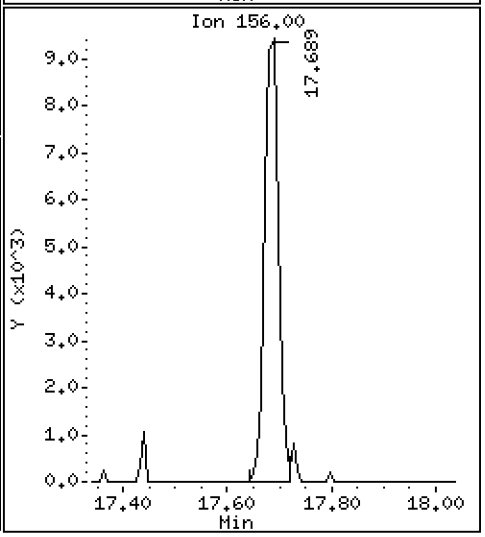


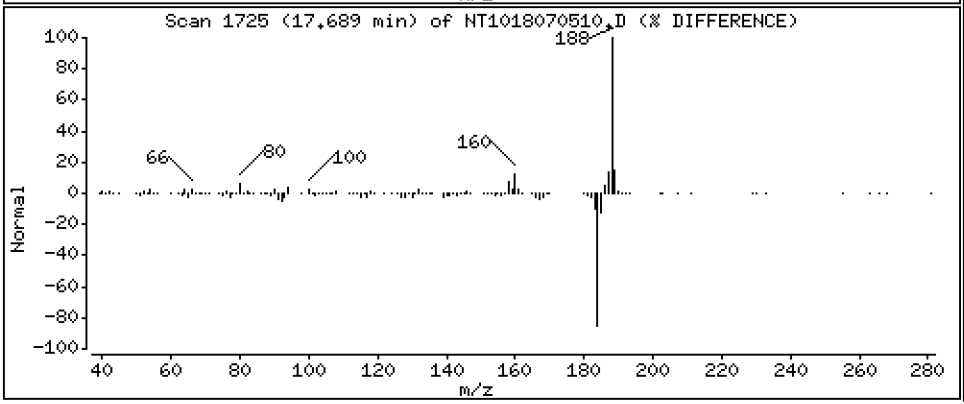












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

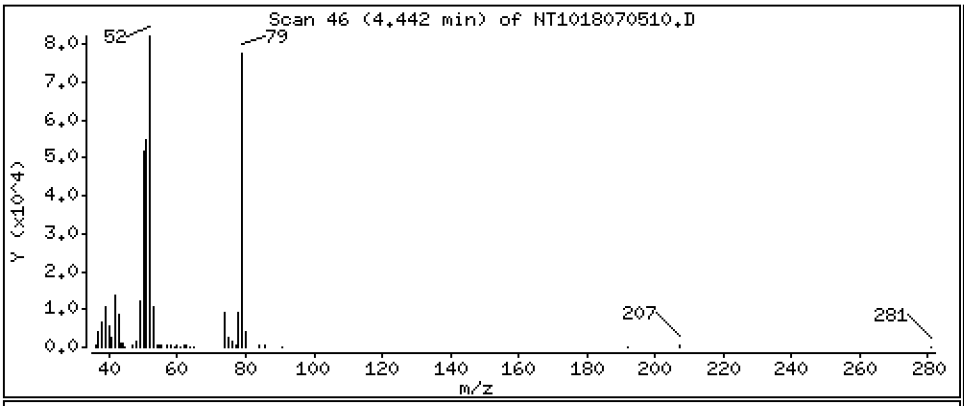
Operator: YZ

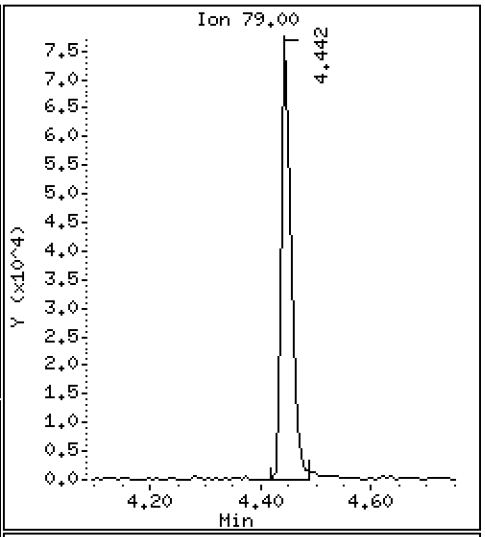
Column phase: ZB-5msi

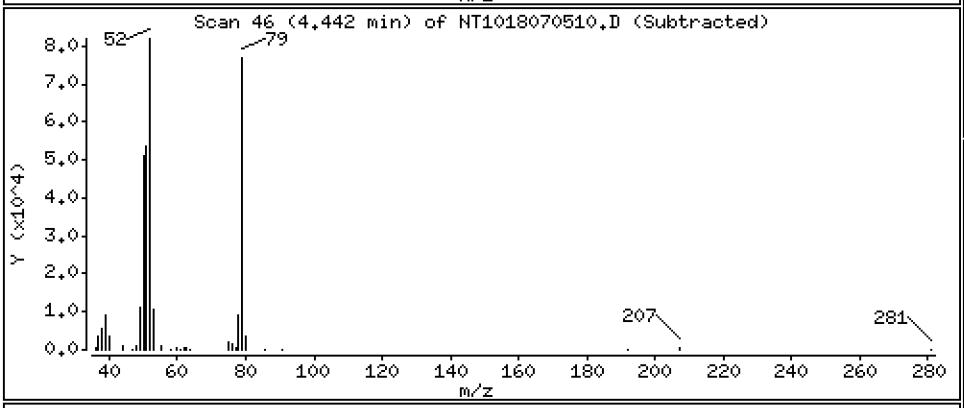
Column diameter: 0.25

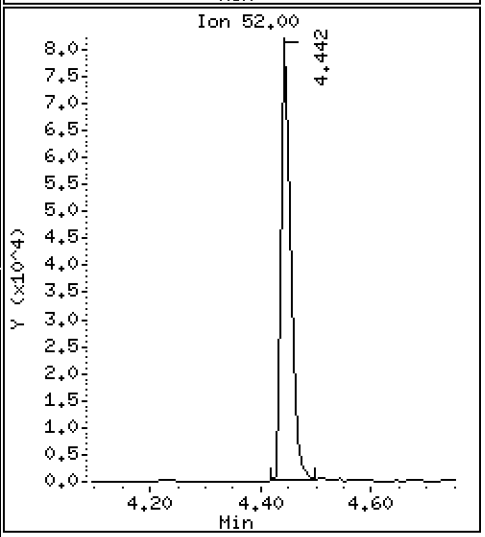
103 Pyridine

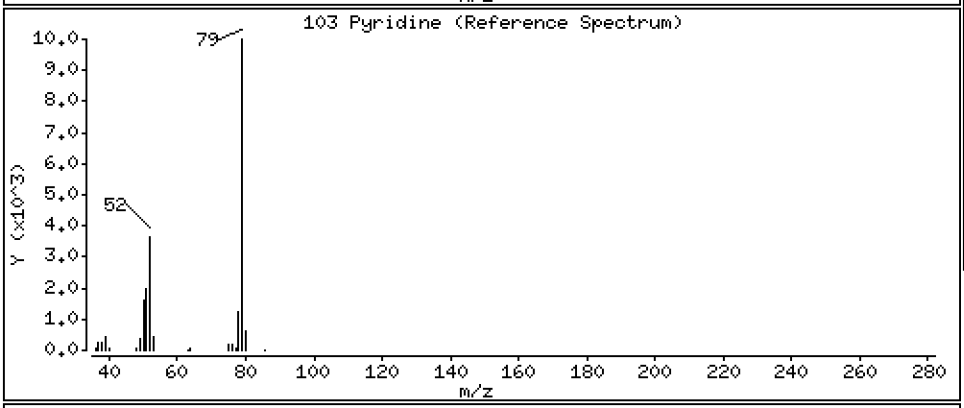
Concentration: 3.336 ug/mL

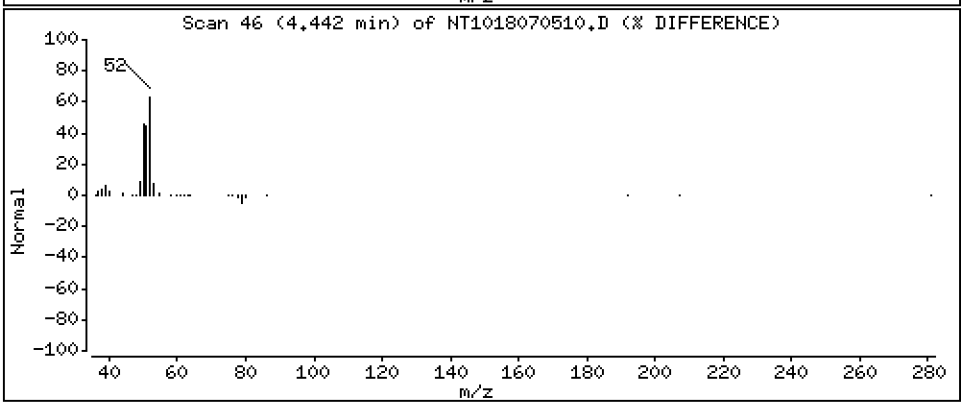












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

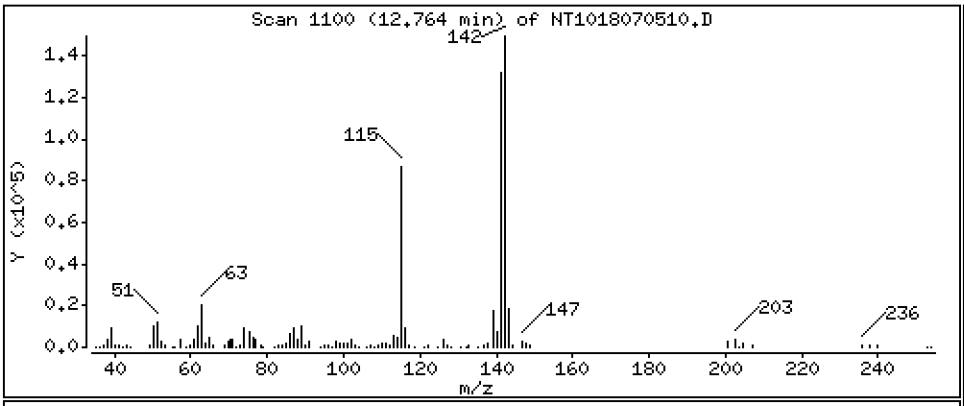
Operator: YZ

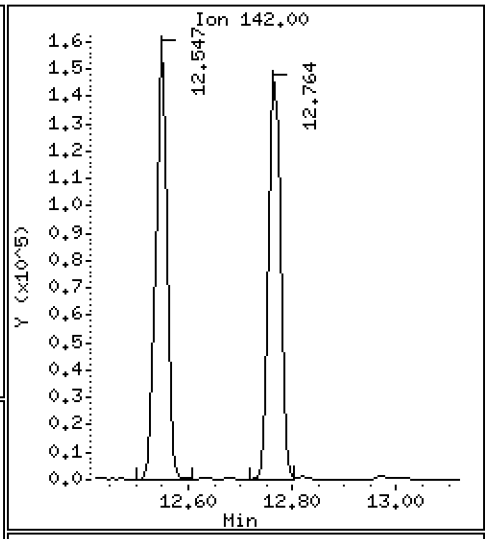
Column phase: ZB-5msi

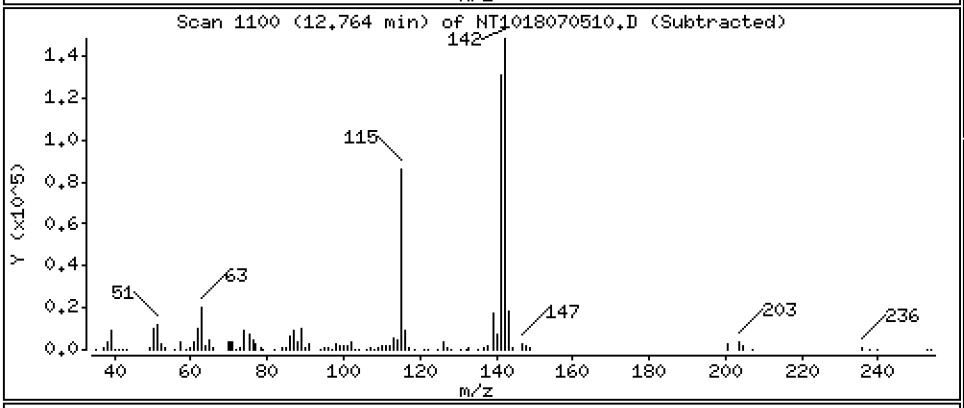
Column diameter: 0.25

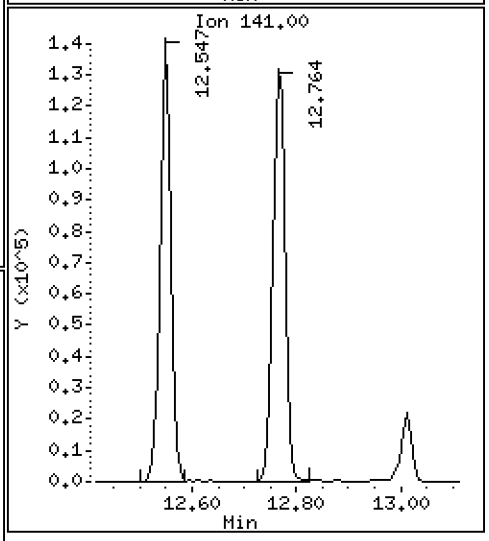
105 1-methylnaphthalene

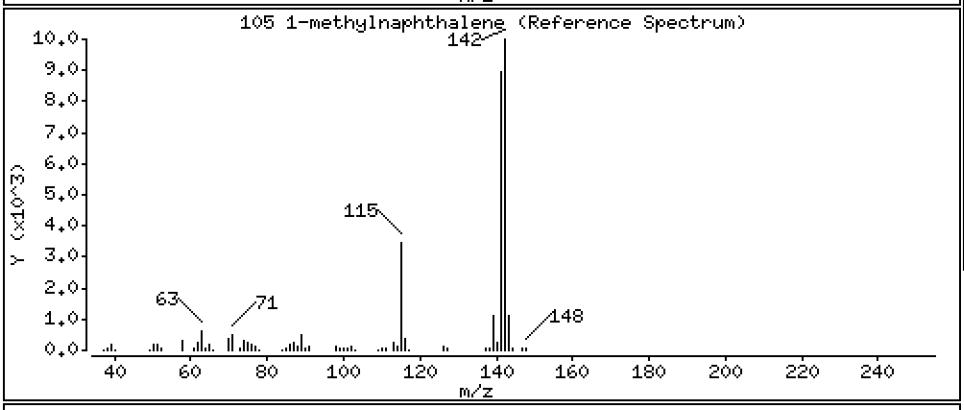
Concentration: 3.638 ug/mL

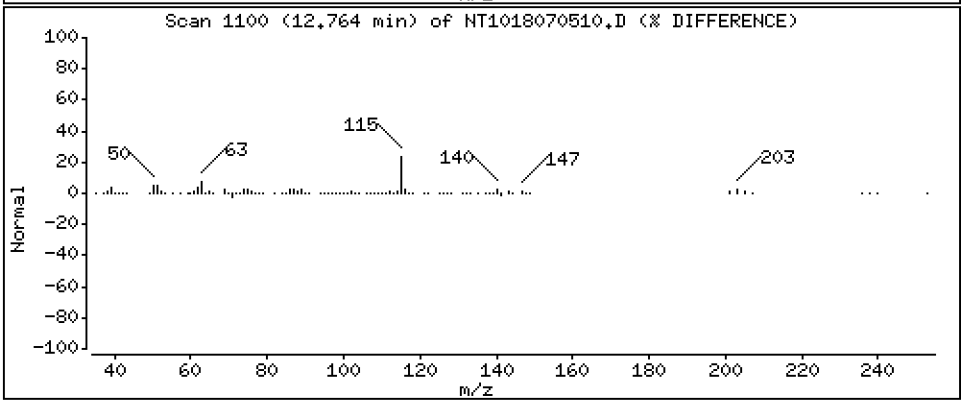












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

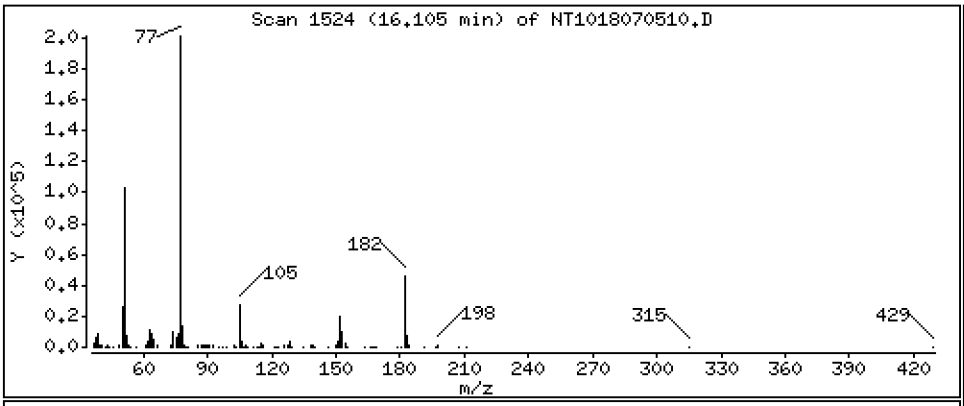
Operator: YZ

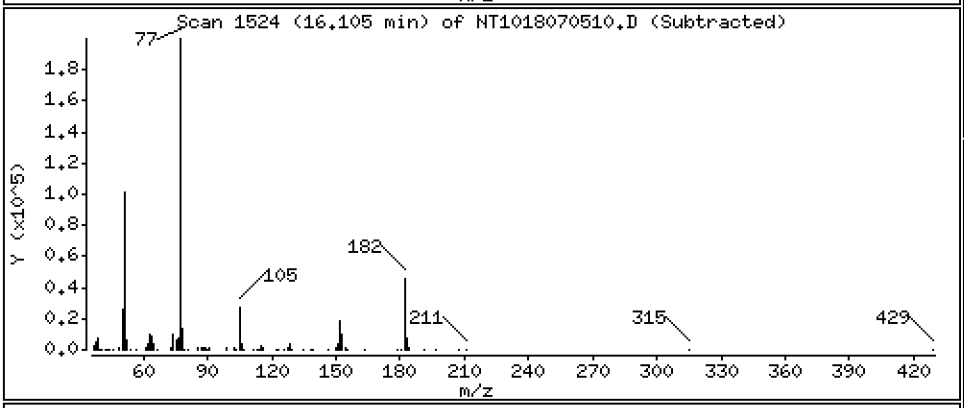
Column phase: ZB-5msi

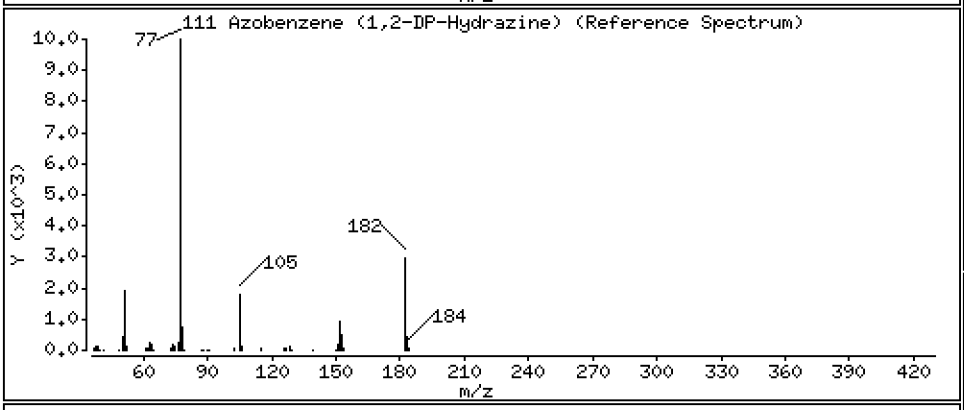
Column diameter: 0.25

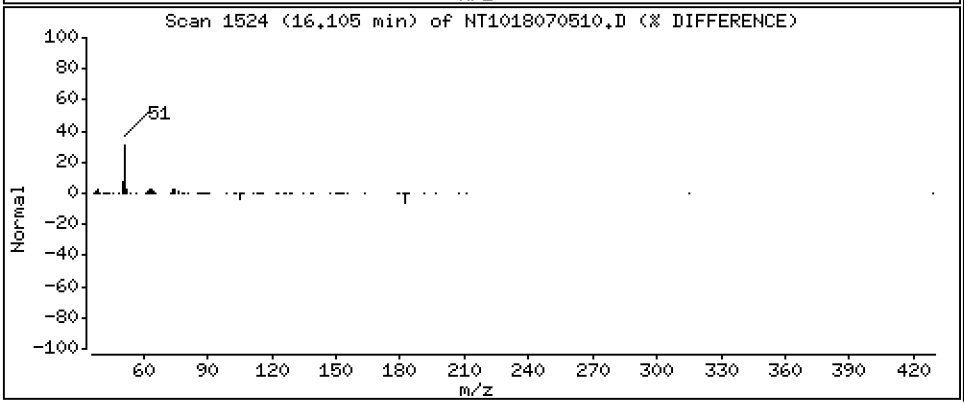
111 Azobenzene (1,2-DP-Hydrazine)

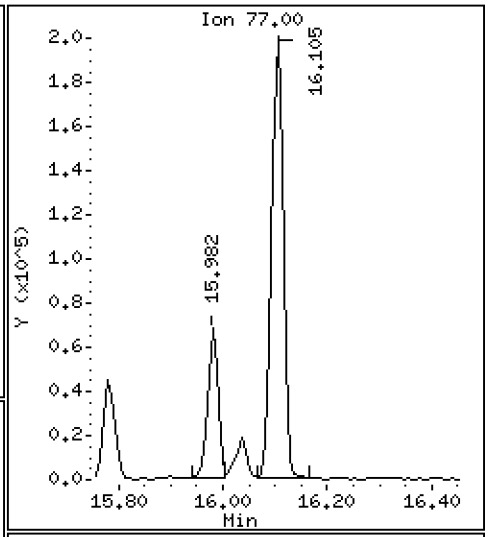
Concentration: 5.038 ug/mL

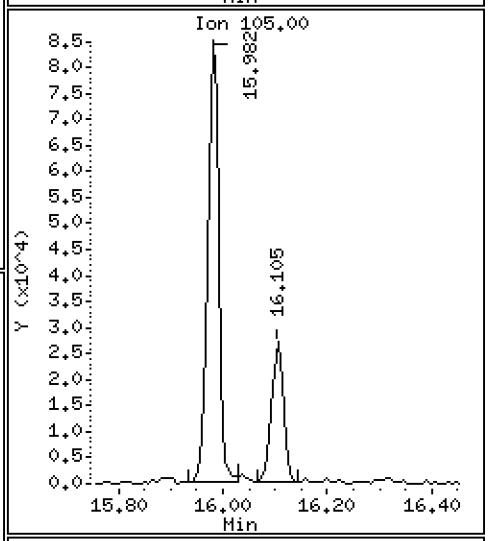


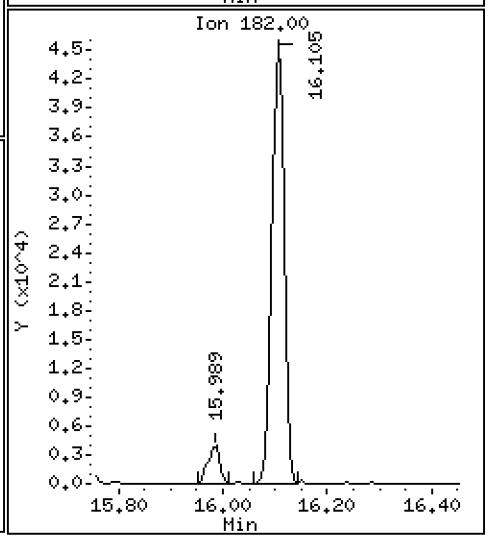












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

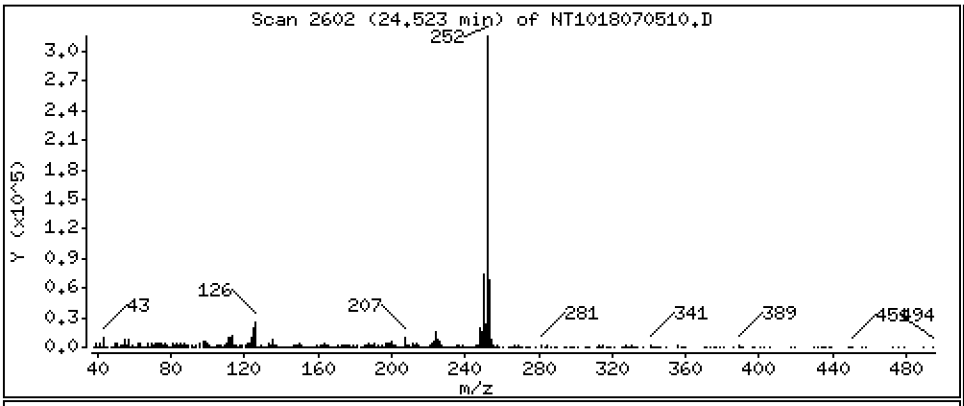
Operator: YZ

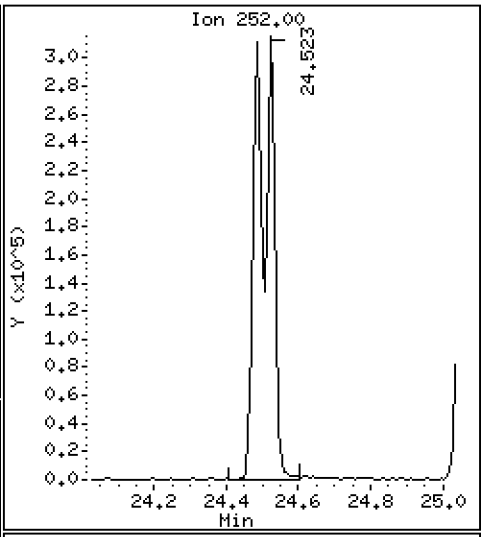
Column phase: ZB-5msi

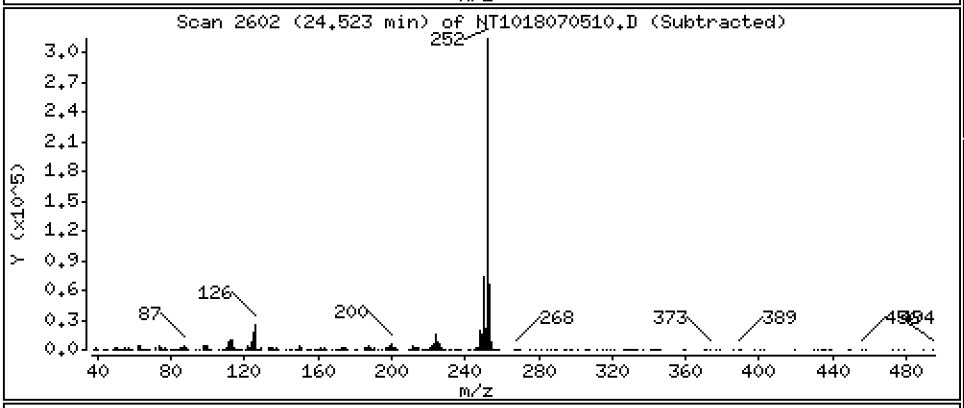
Column diameter: 0.25

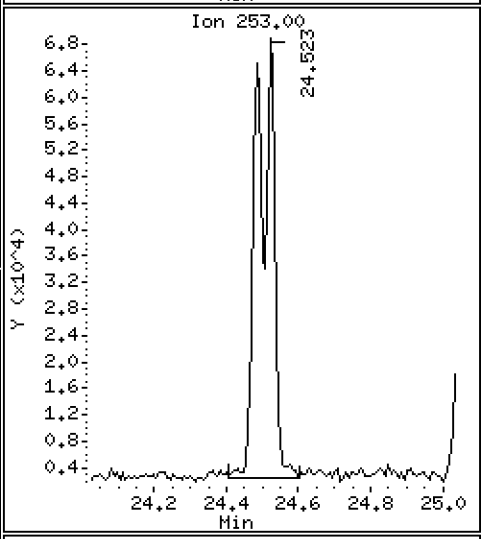
187 Total Benzofluoranthenes

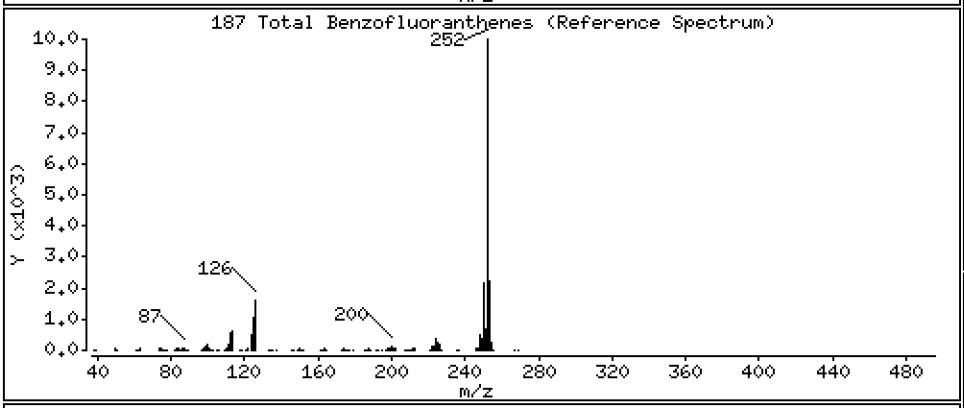
Concentration: 8.455 ug/mL

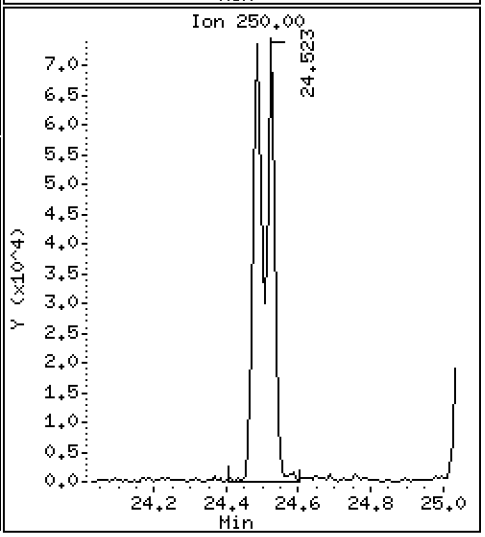


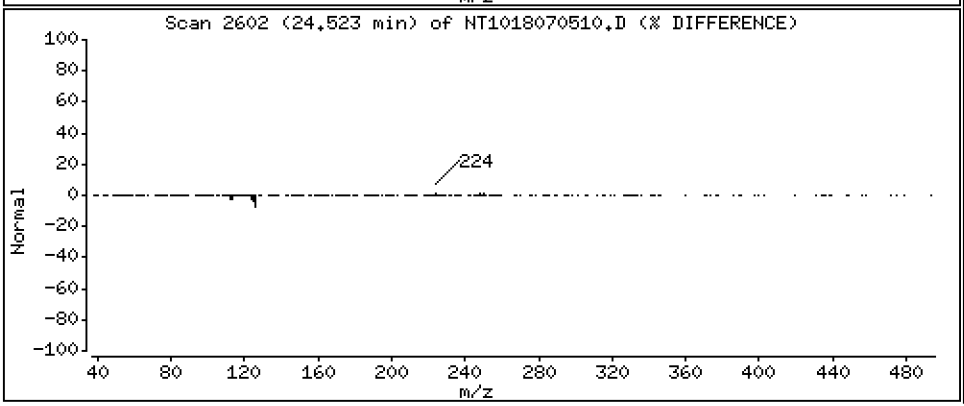












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

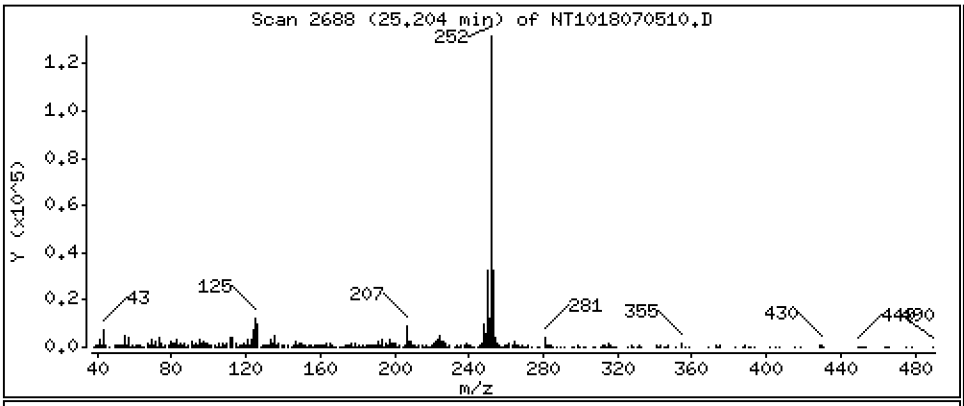
Operator: YZ

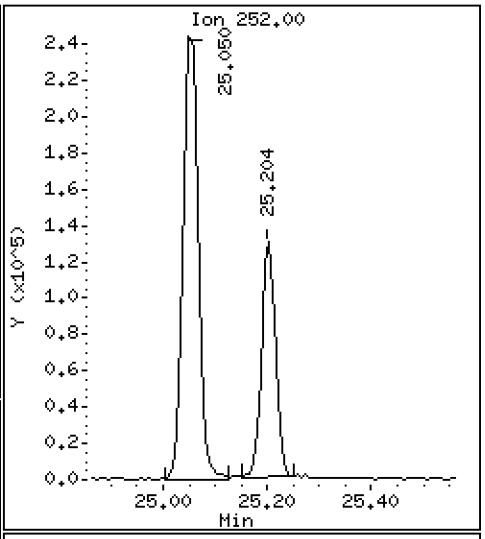
Column phase: ZB-5msi

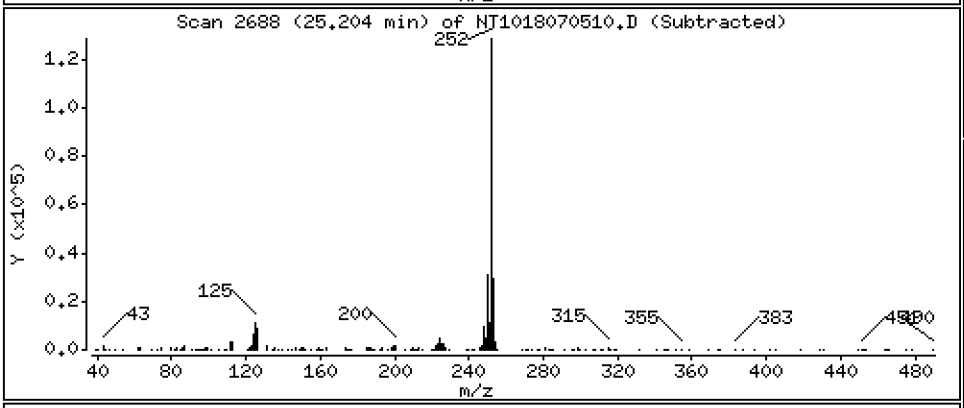
Column diameter: 0.25

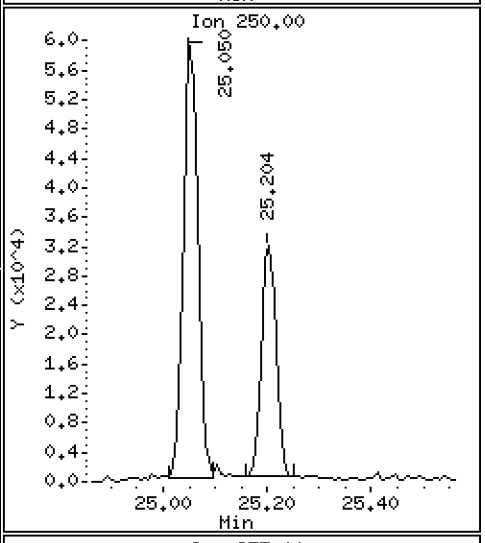
99 Perylene

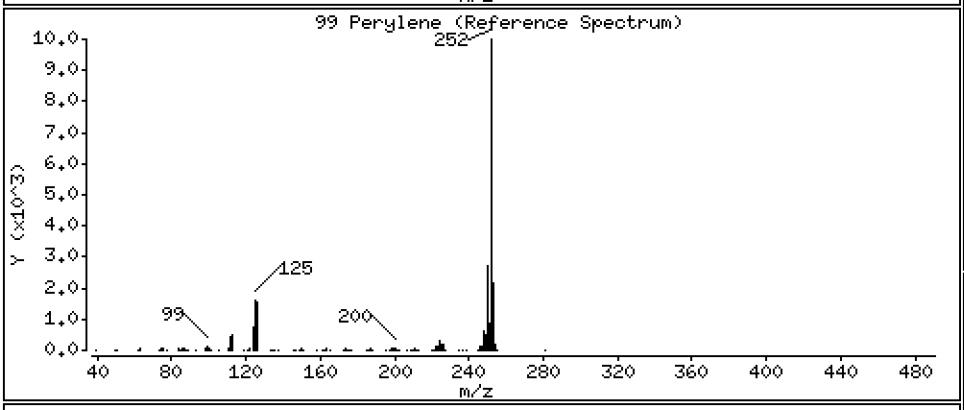
Concentration: 2.242 ug/mL

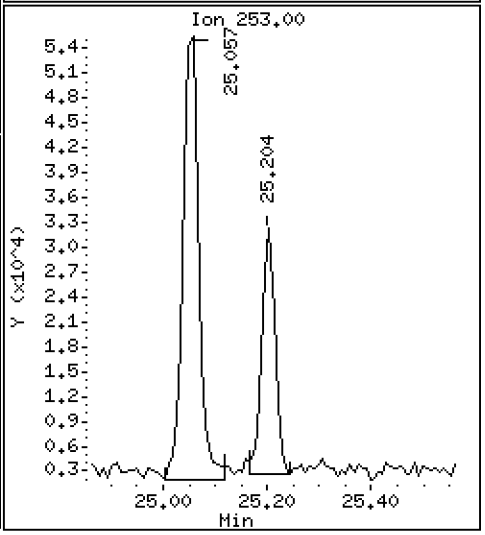


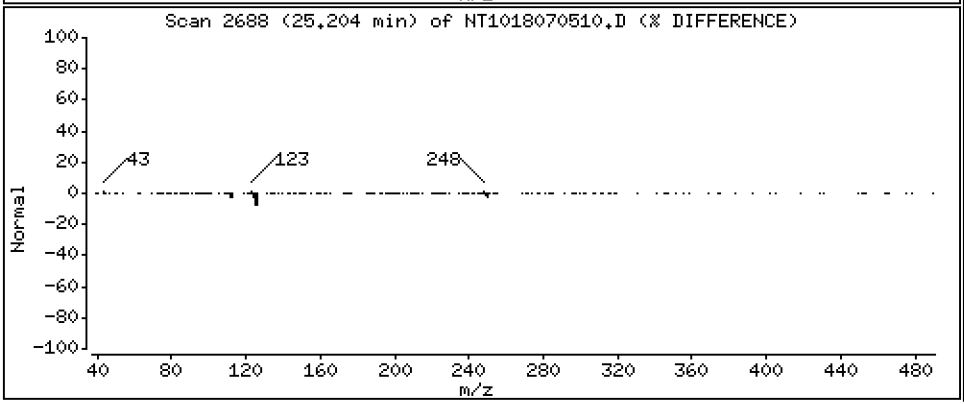












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D

Date : 05-JUL-2018 16:50

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-BS1

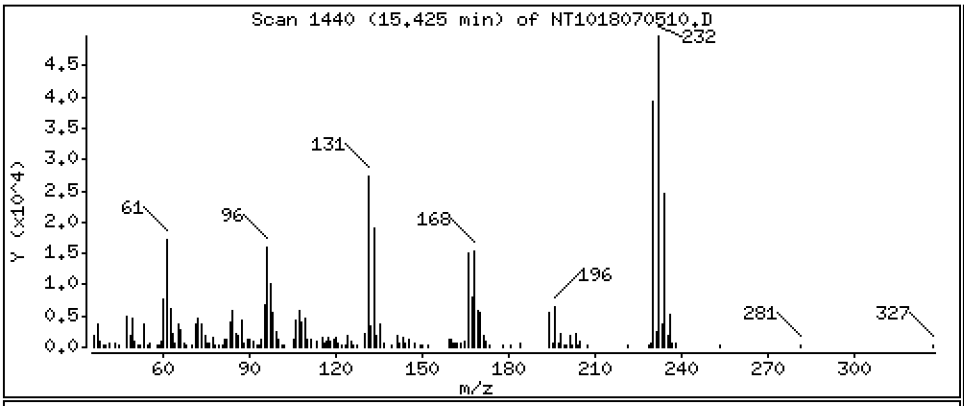
Operator: YZ

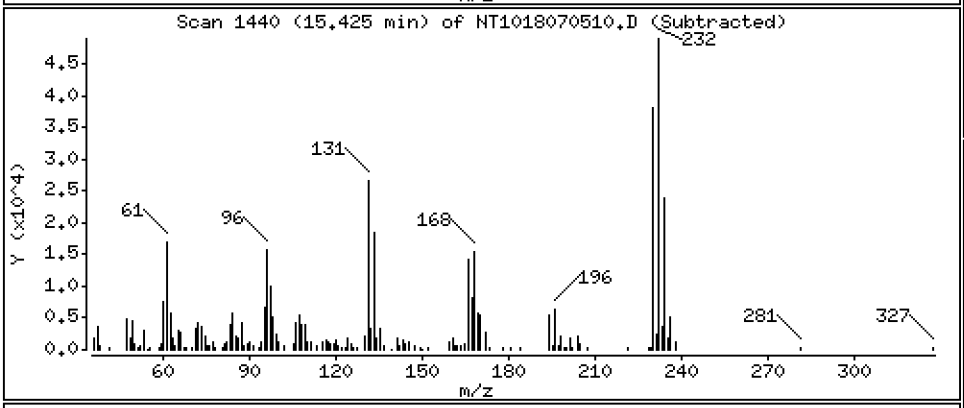
Column phase: ZB-5msi

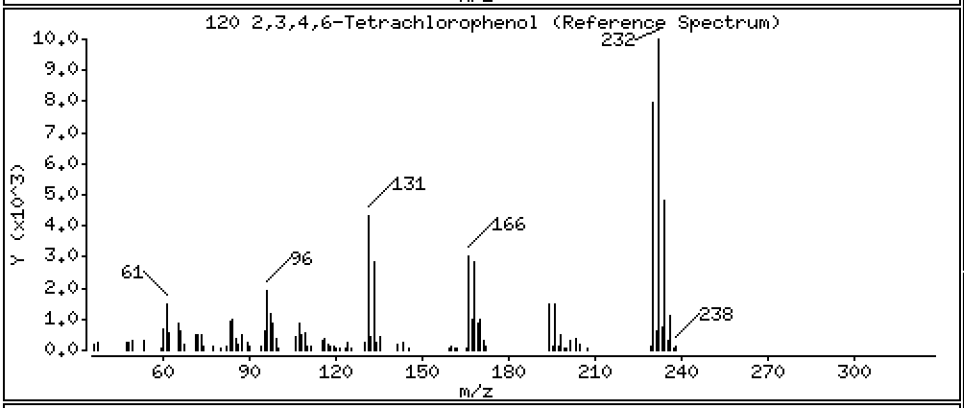
Column diameter: 0.25

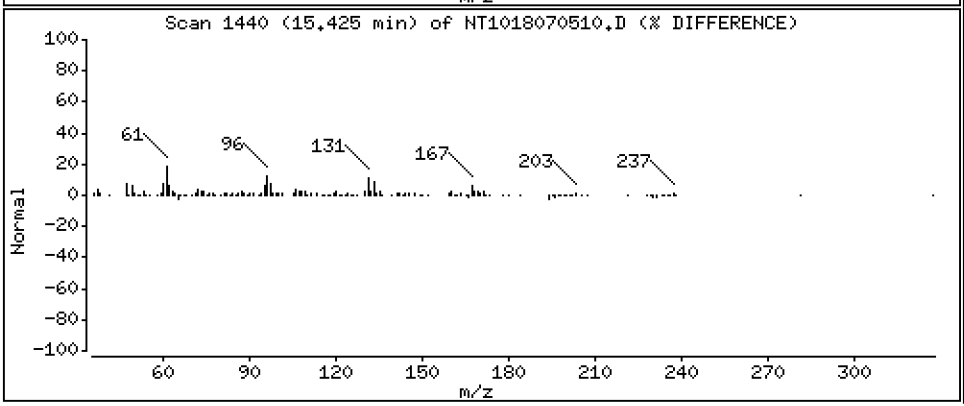
120 2,3,4,6-Tetrachlorophenol

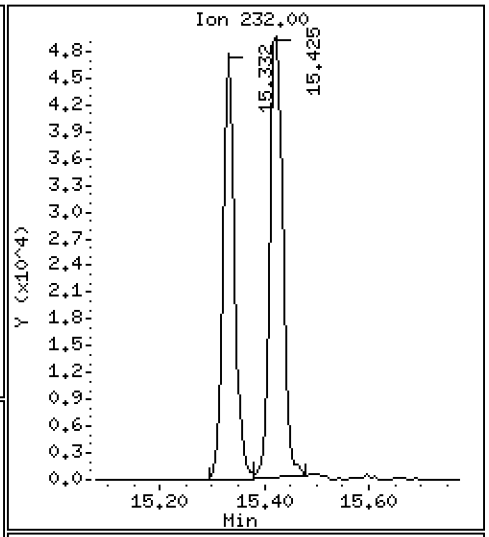
Concentration: 4.683 ug/mL

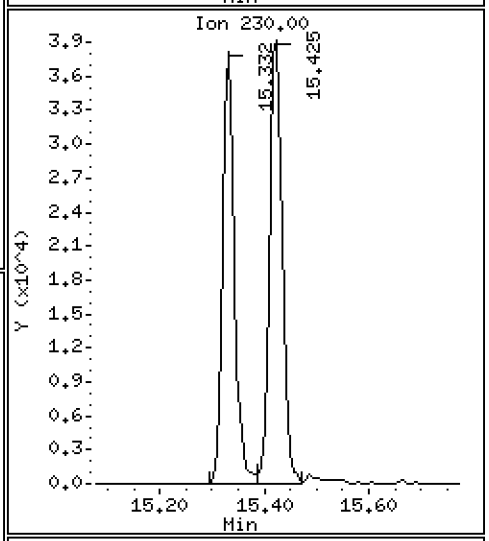


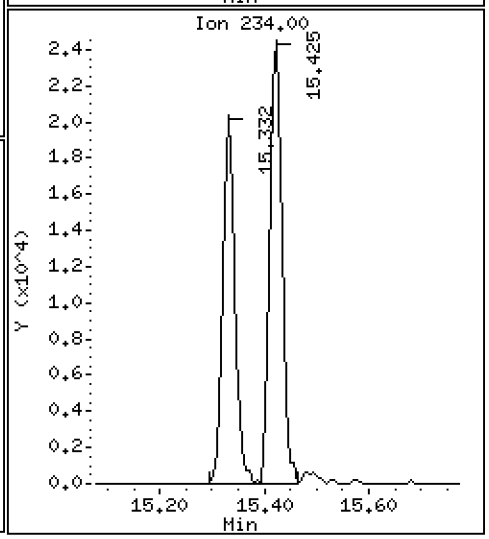












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070510.D
Lab Smp Id: BGF0720-BS1
Inj Date : 05-JUL-2018 16:50
Operator : YZ Inst ID: nt10.i
Smp Info : BGF0720-BS1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.535	6.512	(0.752)	140677	5.13691	5.137
$	2 Phenol-d5	99	8.088	8.088	(0.931)	182009	5.02909	5.029
	3 Phenol	94	8.111	8.104	(0.933)	106207	2.95508	2.955
$	5 2-Chlorophenol-d4	132	8.343	8.335	(0.960)	173407	6.14494	6.145
	4 Bis(2-Chloroethyl)ether	93	8.258	8.250	(0.950)	77415	2.80109	2.801
	6 2-Chlorophenol	128	8.366	8.366	(0.963)	103864	3.54141	3.541
	7 1,3-Dichlorobenzene	146	8.629	8.622	(0.993)	114514	3.88313	3.883
*	8 1,4-Dichlorobenzene-d4	152	8.691	8.691	(1.000)	79938	4.00000	
	9 1,4-Dichlorobenzene	146	8.722	8.715	(1.004)	105963	3.96355	3.964
$	10 1,2-Dichlorobenzene-d4	152	9.040	9.041	(1.040)	79412	3.98134	3.981
	12 1,2-Dichlorobenzene	146	9.064	9.064	(1.043)	106344	4.00925	4.009
	11 Benzyl alcohol	108	8.970	8.963	(1.032)	57113	3.20872	3.209
	14 2,2'-oxybis(1-Chloropropane)	121	9.258	9.266	(1.065)	35966	3.40624	3.406
	13 2-Methylphenol	108	9.203	9.196	(1.059)	82444	3.42020	3.420
	17 Hexachloroethane	117	9.646	9.646	(1.110)	56708	4.56161	4.562
	16 N-Nitroso-di-n-propylamine	70	9.514	9.514	(1.095)	63266	3.55717	3.557
	15 4-Methylphenol	108	9.475	9.468	(1.090)	87229	3.40786	3.408
$	18 Nitrobenzene-d5	82	9.762	9.770	(0.877)	136109	4.63800	4.638
	19 Nitrobenzene	77	9.801	9.801	(0.881)	119249	4.13079	4.131
	20 Isophorone	82	10.243	10.244	(0.920)	244315	4.12189	4.122
	21 2-Nitrophenol	139	10.422	10.422	(0.936)	60038	3.77279	3.773
	22 2,4-Dimethylphenol	107	10.496	10.488	(0.943)	321941	11.3986	11.40
	23 Bis(2-Chloroethoxy)methane	93	10.679	10.679	(0.959)	100521	3.23171	3.232
	24 Benzoic acid	105	10.729	10.729	(0.964)	333625	17.6451	17.65
	25 2,4-Dichlorophenol	162	10.878	10.870	(0.977)	333512	14.6546	14.65
	26 1,2,4-Trichlorobenzene	180	11.054	11.054	(0.993)	107050	4.37429	4.374
*	27 Naphthalene-d8	136	11.131	11.131	(1.000)	293942	4.00000	
	28 Naphthalene	128	11.170	11.170	(1.003)	274712	3.66020	3.660
	29 4-Chloroaniline	127	11.316	11.309	(1.017)	305784	9.13366	9.134
	30 Hexachlorobutadiene	225	11.533	11.541	(1.036)	78694	5.12009	5.120
	31 4-Chloro-3-methylphenol	107	12.276	12.276	(1.103)	344098	13.9660	13.97
	32 2-Methylnaphthalene	142	12.547	12.547	(1.127)	234250	3.95533	3.955
	33 Hexachlorocyclopentadiene	237	13.011	13.011	(0.885)	185090	10.7990	10.80

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.174	13.174	(0.896)	262057	13.9055	13.91
	35 2,4,5-Trichlorophenol	196	13.251	13.244	(0.902)	276752	13.2705	13.27
$	36 2-Fluorobiphenyl	172	13.328	13.329	(0.907)	302185	4.43012	4.430
	37 2-Chloronaphthalene	162	13.522	13.530	(0.920)	232014	4.13713	4.137
	38 2-Nitroaniline	65	13.793	13.793	(0.938)	272562	17.4186	17.42
	39 Dimethylphthalate	163	14.226	14.234	(0.968)	276595	4.63428	4.634
	40 Acenaphthylene	152	14.381	14.381	(0.978)	299367	3.38397	3.384
	41 2,6-Dinitrotoluene	165	14.365	14.366	(0.977)	192005	15.0017	15.00
*	42 Acenaphthene-d10	164	14.698	14.698	(1.000)	154611	4.00000	
	43 3-Nitroaniline	138	14.644	14.637	(0.996)	160554	10.8426	10.84
	44 Acenaphthene	153	14.760	14.760	(1.004)	224420	4.26500	4.265
	45 2,4-Dinitrophenol	184	14.845	14.845	(1.010)	204668	24.6469	24.65
	46 Dibenzofuran	168	15.085	15.085	(1.026)	328511	4.02032	4.020
	47 4-Nitrophenol	109	14.984	14.984	(1.019)	217353	23.8224	23.82
	48 2,4-Dinitrotoluene	165	15.154	15.155	(1.031)	264788	16.0794	16.08
	50 Diethylphthalate	149	15.672	15.673	(1.066)	309143	5.07589	5.076
	49 Fluorene	166	15.780	15.789	(1.074)	305276	4.89523	4.895
	51 4-Chlorophenyl-phenylether	204	15.780	15.789	(1.074)	170654	5.60128	5.601
	52 4-Nitroaniline	138	15.889	15.897	(1.081)	160302	11.2059	11.21
	53 4,6-Dinitro-2-methylphenol	198	15.981	15.981	(0.904)	284827	21.1538	21.15
	54 N-Nitrosodiphenylamine	169	16.035	16.035	(0.907)	176480	4.11182	4.112
$	55 2,4,6-Tribromophenol	330	16.313	16.313	(1.110)	88362	10.5786	10.58
	56 4-Bromophenyl-phenylether	248	16.775	16.776	(0.949)	95488	4.92879	4.929
	57 Hexachlorobenzene	284	17.069	17.077	(0.965)	97147	5.25240	5.252
	58 Pentachlorophenol	266	17.433	17.433	(0.986)	150202	13.8100	13.81
*	59 Phenanthrene-d10	188	17.681	17.689	(1.000)	319014	4.00000	
	60 Phenanthrene	178	17.735	17.735	(1.003)	374710	4.43085	4.431
	61 Anthracene	178	17.820	17.828	(1.008)	357260	3.98453	3.985
	62 Carbazole	167	18.160	18.161	(1.027)	358865	4.48301	4.483
	63 Di-n-butylphthalate	149	18.988	18.988	(1.074)	599083	4.91157	4.912
	64 Fluoranthene	202	20.118	20.118	(0.885)	526363	3.88870	3.889
	65 Pyrene	202	20.543	20.544	(0.904)	544220	3.85792	3.858
$	66 Terphenyl-d14	244	20.853	20.853	(0.917)	411313	4.61266	4.613
	67 Butylbenzylphthalate	149	21.790	21.798	(0.958)	249956	4.47458	4.475
	68 Benzo(a)anthracene	228	22.703	22.711	(0.999)	517538	4.18201	4.182
*	69 Chrysene-d12	240	22.734	22.735	(1.000)	339929	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.680	22.688	(0.998)	530453	12.2170	12.22
	71 Chrysene	228	22.781	22.781	(1.002)	447616	4.50344	4.503
	72 bis(2-Ethylhexyl)phthalate	149	22.835	22.835	(0.959)	359673	5.28550	5.285
*	134 Di-n-octylphthalate-d4	153	23.803	23.811	(1.000)	653226	4.00000	
	73 Di-n-octylphthalate	149	23.818	23.818	(1.001)	637491	4.48168	4.482
	74 Benzo(b)fluoranthene	252	24.484	24.492	(0.973)	557095	4.41345	4.413
	75 Benzo(k)fluoranthene	252	24.523	24.531	(0.975)	524505	4.12926	4.129
	76 Benzo(a)pyrene	252	25.049	25.057	(0.996)	473645	3.71945	3.719
*	77 Perylene-d12	264	25.158	25.166	(1.000)	360979	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.444	27.444	(1.091)	593193	4.74015	4.740
	79 Dibenzo(a,h)anthracene	278	27.459	27.467	(1.091)	482728	4.77849	4.778
	80 Benzo(g,h,i)perylene	276	28.104	28.112	(1.117)	512217	4.59880	4.599
	90 N-Nitrosodimethylamine	74	4.426	4.388	(0.509)	100293	6.20091	6.201
	91 Aniline	93	8.165	8.158	(0.939)	331471	8.29839	8.298
	93 Benzidine	184	17.688	17.689	(0.778)	47541	0.82693	0.8269
	103 Pyridine	79	4.442	4.404	(0.511)	97502	3.33556	3.336
	105 1-methylnaphthalene	142	12.763	12.771	(1.147)	221849	3.63761	3.638
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.104	16.105	(1.096)	293706	5.03826	5.038

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.523	24.531	(0.975)	1029577	8.45477	8.455
99	Perylene	252	25.204	25.212	(1.002)	228922	2.24208	2.242
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.425	15.425	(1.049)	81762	4.68271	4.683

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070510.D
Lab Smp Id: BGF0720-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	79938	-27.79
27 Naphthalene-d8	393946	196973	787892	293942	-25.39
42 Acenaphthene-d10	203210	101605	406420	154611	-23.92
59 Phenanthrene-d10	403506	201753	807012	319014	-20.94
69 Chrysene-d12	354618	177309	709236	339929	-4.14
134 Di-n-octylphthala	800232	400116	1600464	653226	-18.37
77 Perylene-d12	378948	189474	757896	360979	-4.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.69	-0.00
27 Naphthalene-d8	11.13	10.63	11.63	11.13	-0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.70	-0.00
59 Phenanthrene-d10	17.69	17.19	18.19	17.68	-0.05
69 Chrysene-d12	22.74	22.24	23.24	22.73	-0.00
134 Di-n-octylphthala	23.81	23.31	24.31	23.80	-0.03
77 Perylene-d12	25.17	24.67	25.67	25.16	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070510.D

Lab ID: BGF0720-BS1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 16:50

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

MS / MS DUPLICATE RECOVERY
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 17:26
Batch:	BGF0720	Laboratory ID:	BGF0720-MS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike
Initial/Final:	10 g / 1 mL	Source Sample:	LDW18-S2-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	Q	MS CONCENTRATION (ug/kg)	Q	MS % REC. #	QC LIMITS REC.
Hexachlorobenzene	500	ND	U	573		115	20 - 130
Pentachlorophenol	1500	ND	U	1720		114	15 - 130
Carbazole	500	ND	U	440		87.9	20 - 130
bis(2-Ethylhexyl)phthalate	500	ND	U	681	*	136 *	20 - 130

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 18:03
Batch:	BGF0720	Laboratory ID:	BGF0720-MSD1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike Dup
Initial/Final:	10.04 g / 1 mL	Source Sample:	LDW18-S2-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Hexachlorobenzene	498	598		120	4.27	35	20 - 130
Pentachlorophenol	1490	1710		114	0.462	35	15 - 130
Carbazole	498	443		89.0	0.830	35	20 - 130
bis(2-Ethylhexyl)phthalate	498	641		129	5.98	35	20 - 130

* Values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

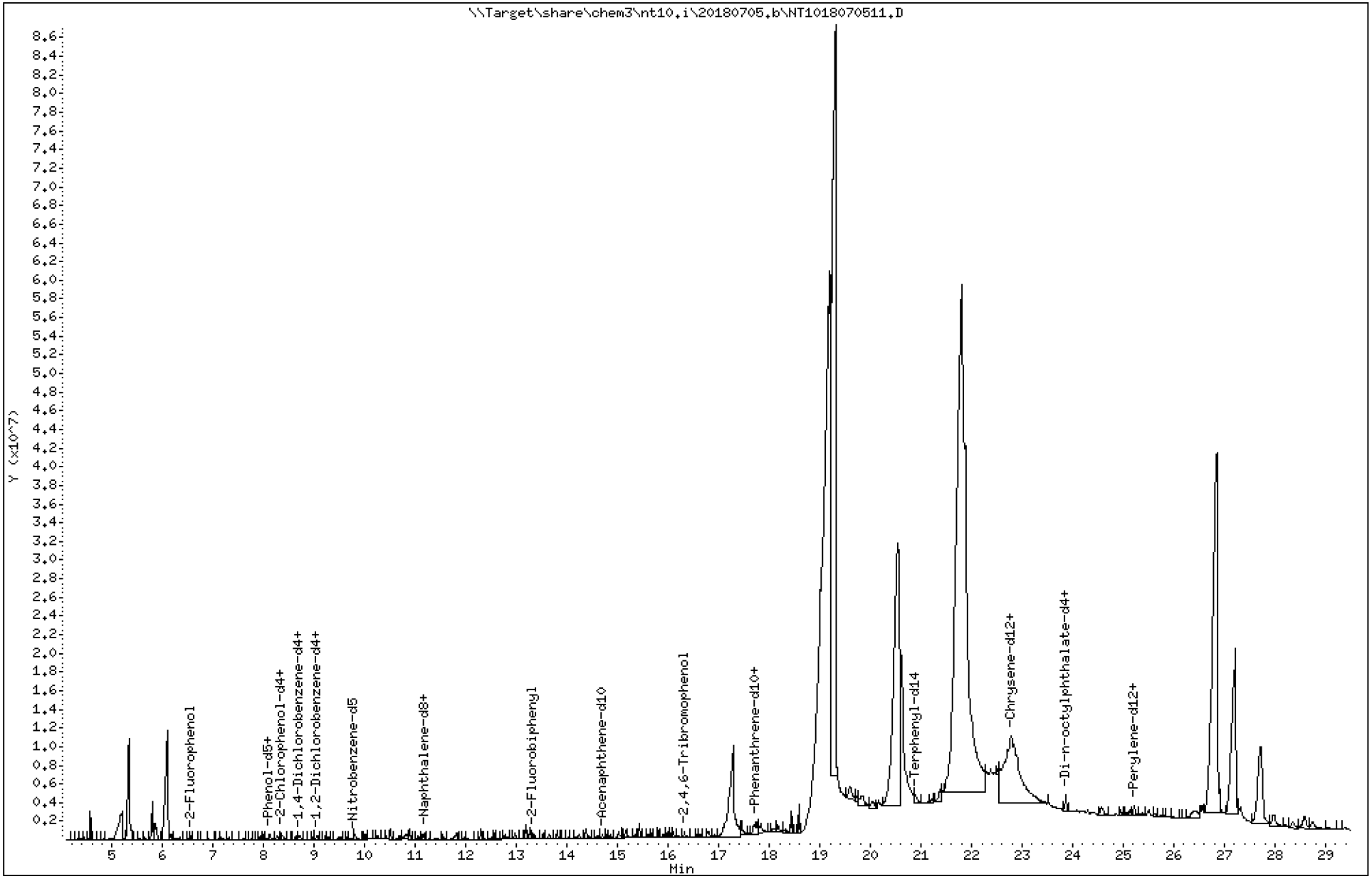
Instrument: nt10.i

Sample Info: BGF0720-MS1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

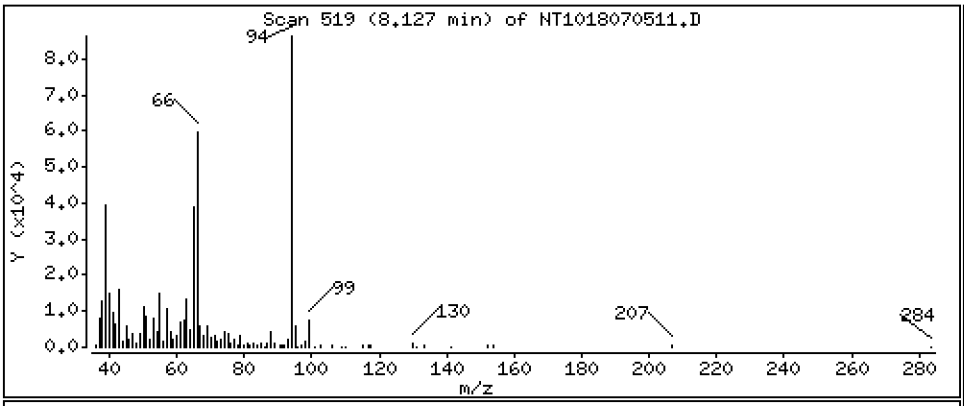
Operator: YZ

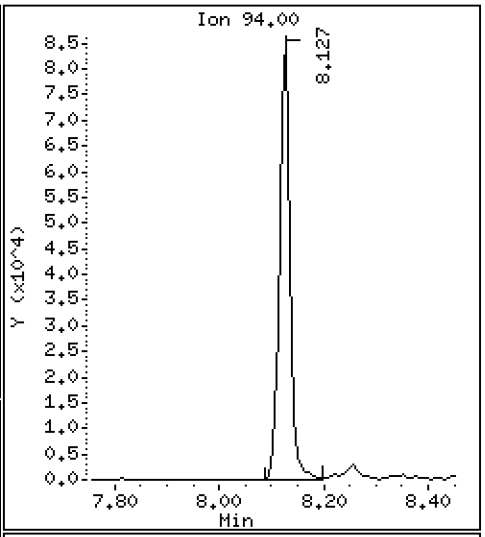
Column phase: ZB-5msi

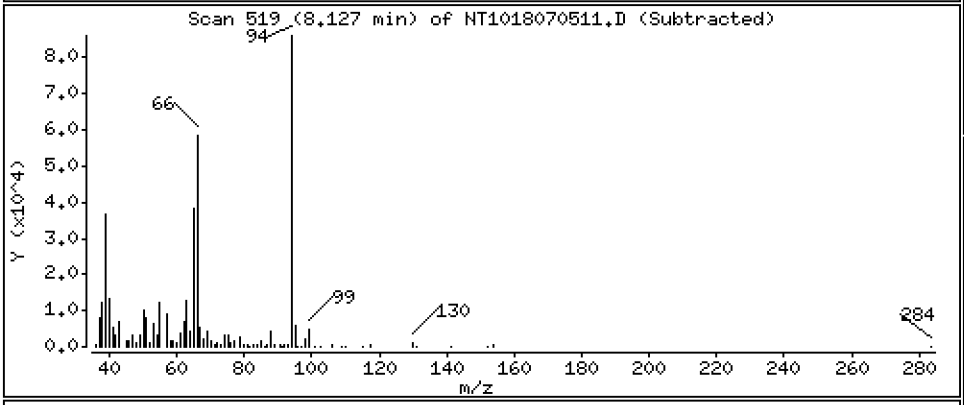
Column diameter: 0.25

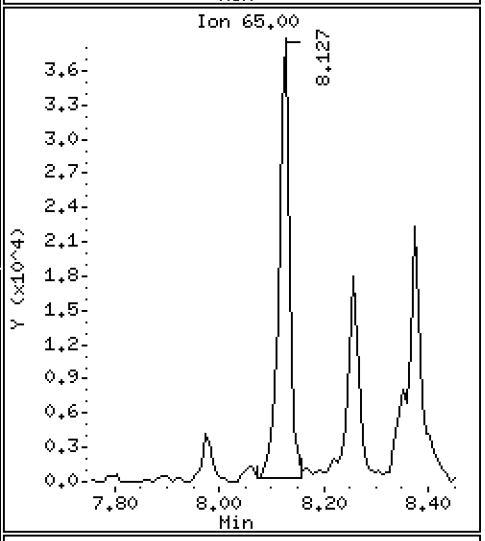
3 Phenol

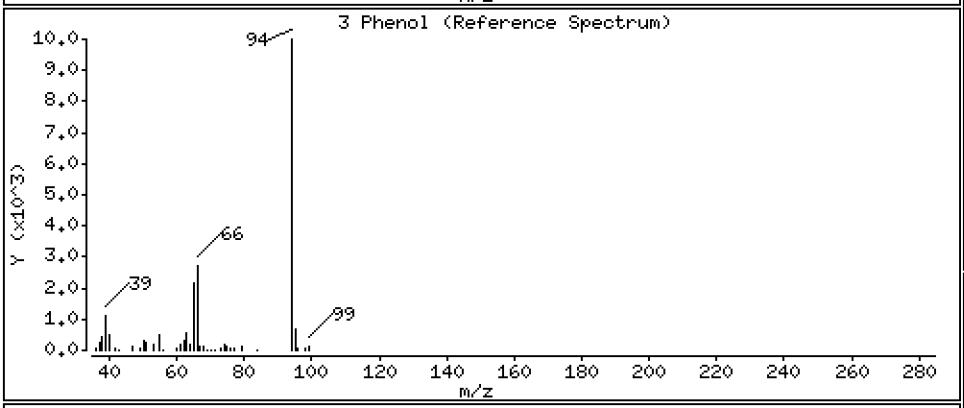
Concentration: 3.370 ug/mL

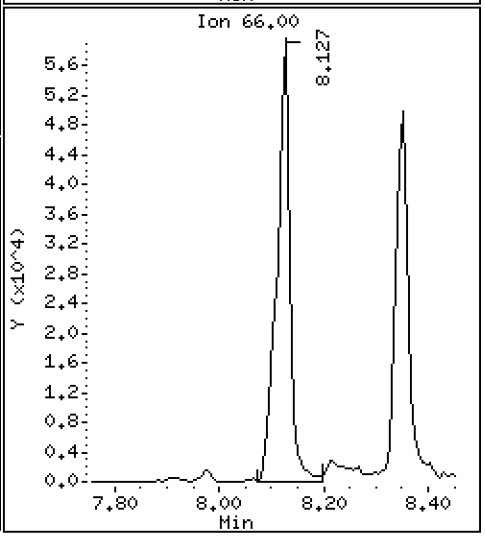


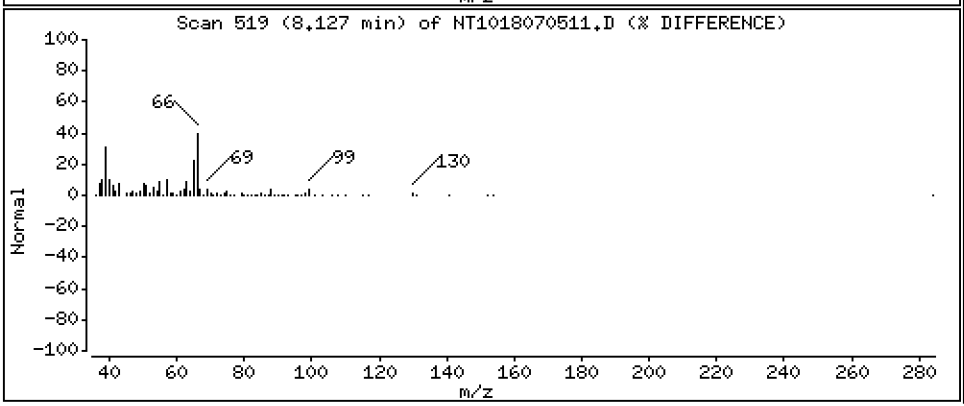












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

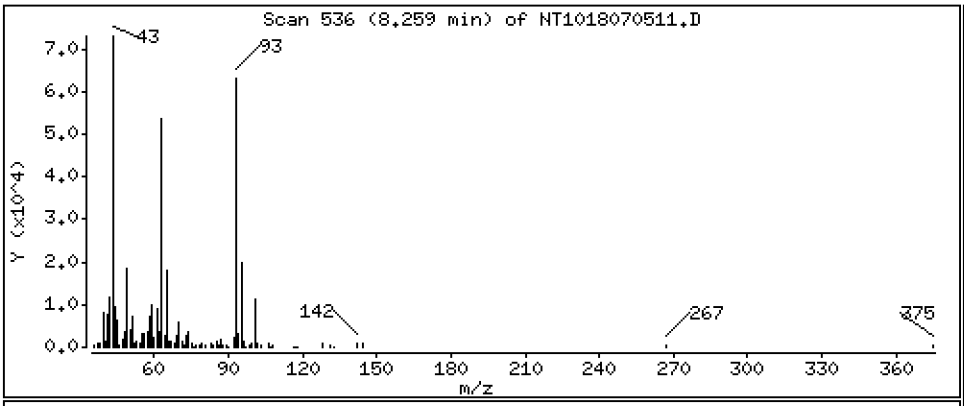
Operator: YZ

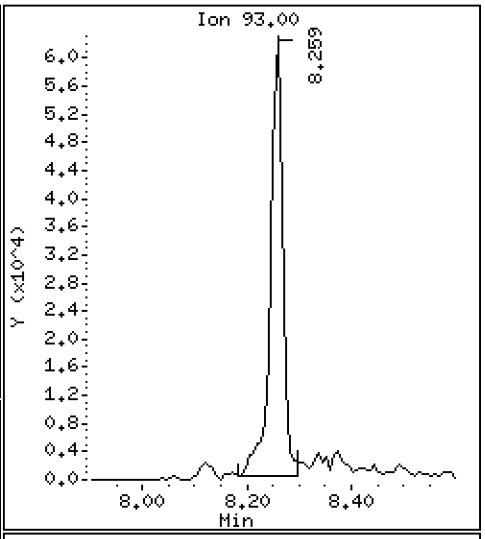
Column phase: ZB-5msi

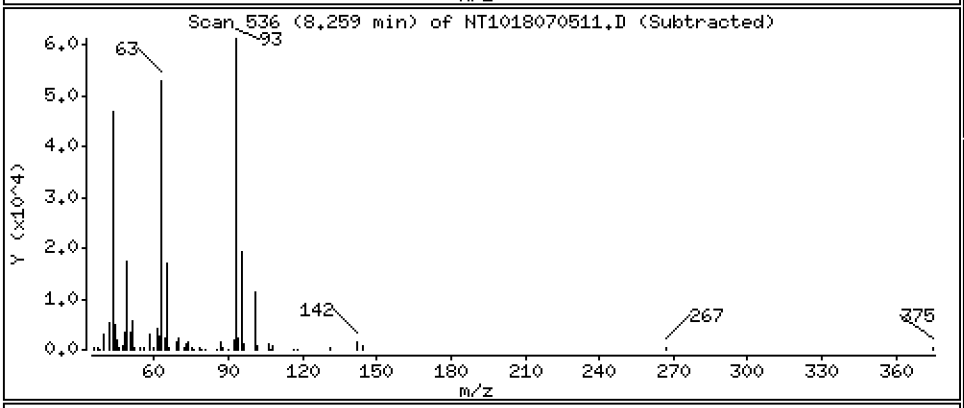
Column diameter: 0.25

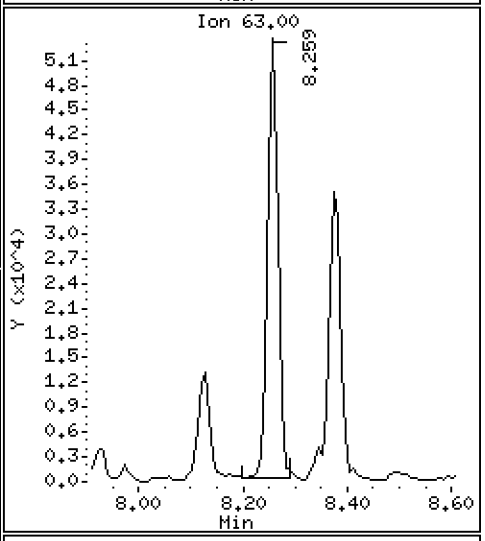
4 Bis(2-Chloroethyl)ether

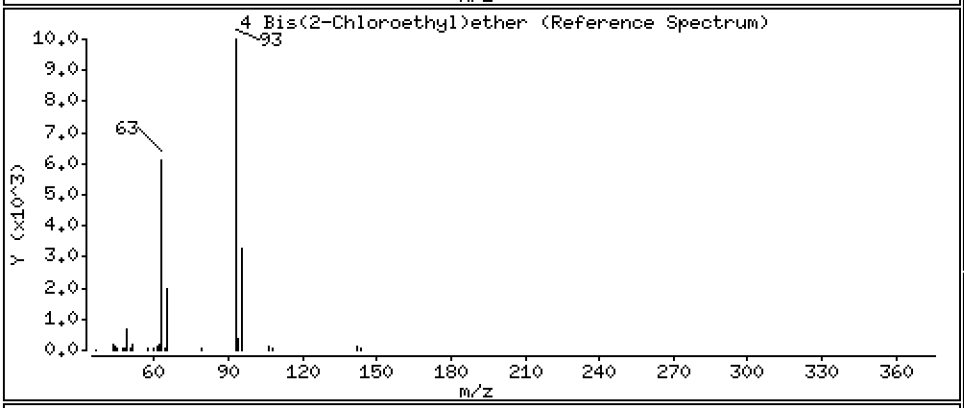
Concentration: 3.515 ug/mL

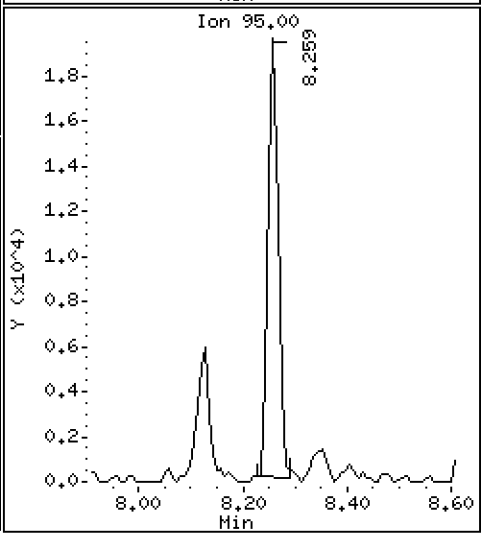


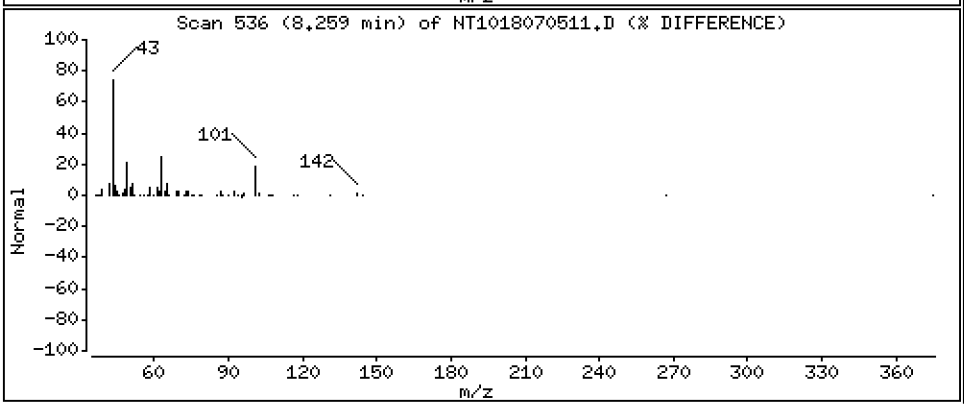












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

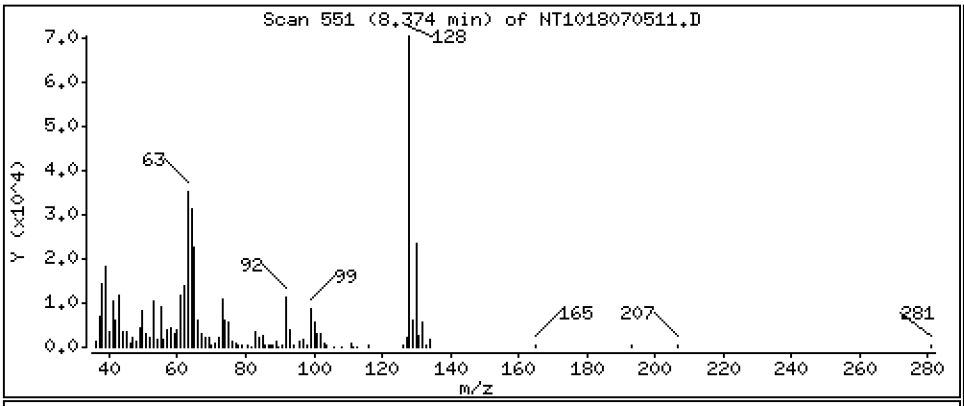
Operator: YZ

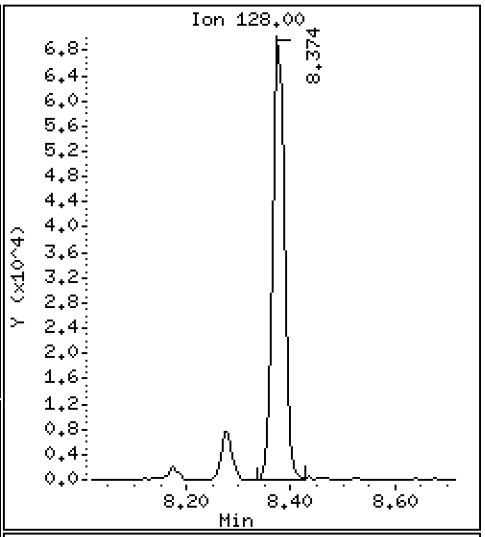
Column phase: ZB-5msi

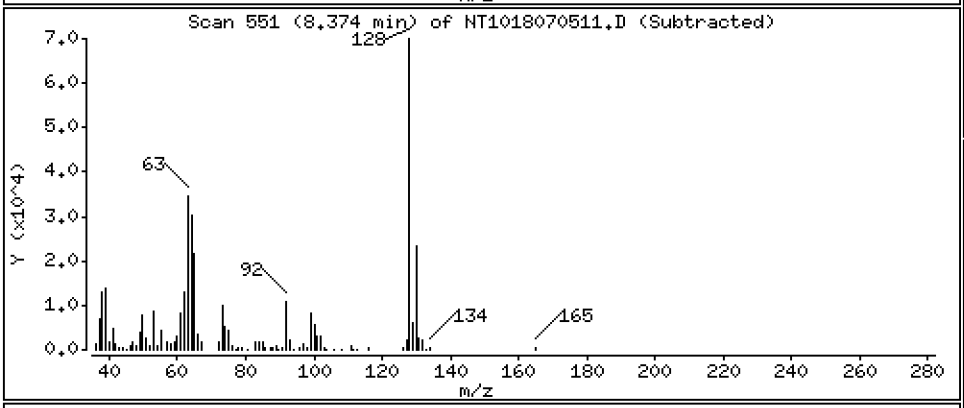
Column diameter: 0.25

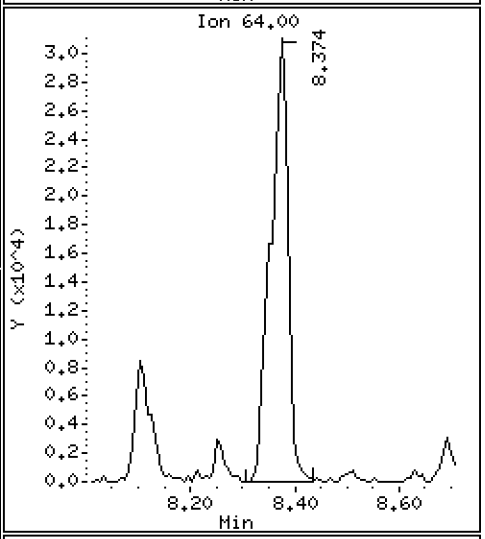
6 2-Chlorophenol

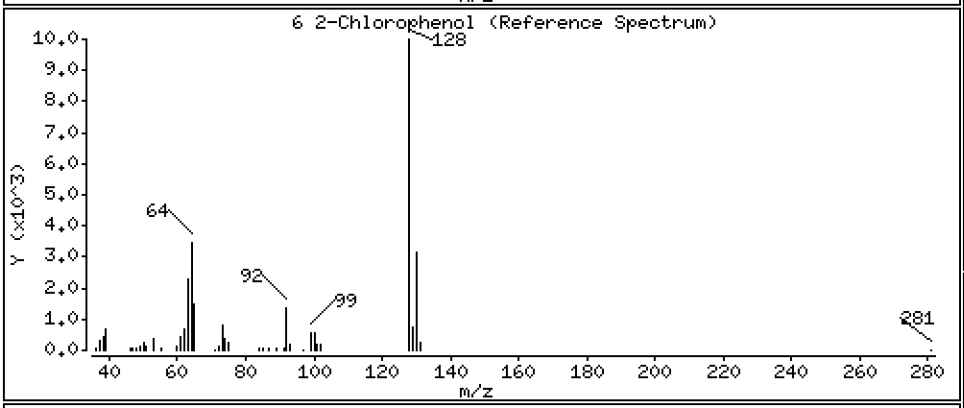
Concentration: 3.478 ug/mL

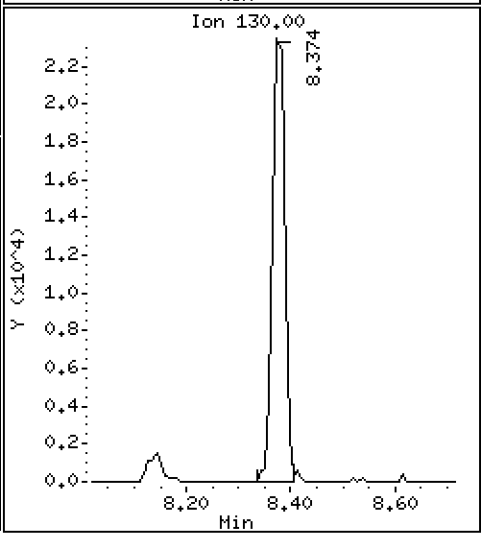


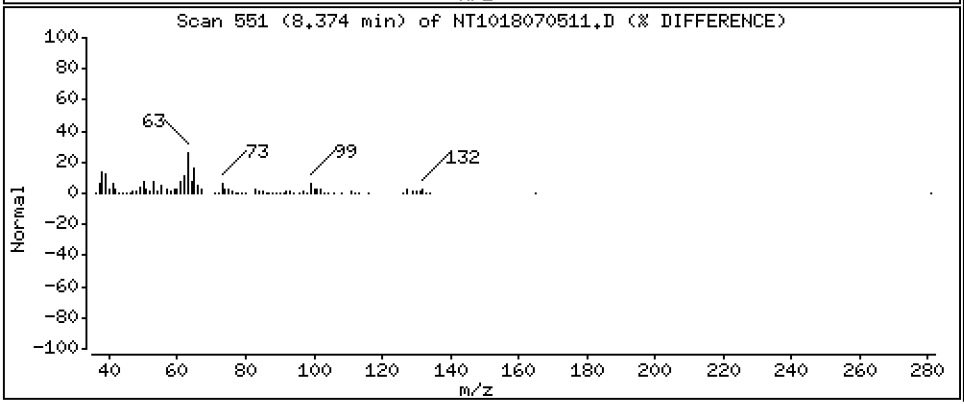












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

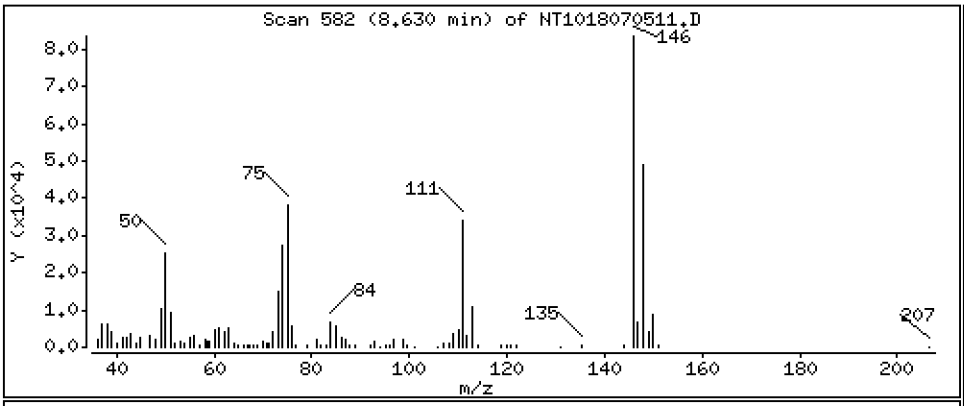
Operator: YZ

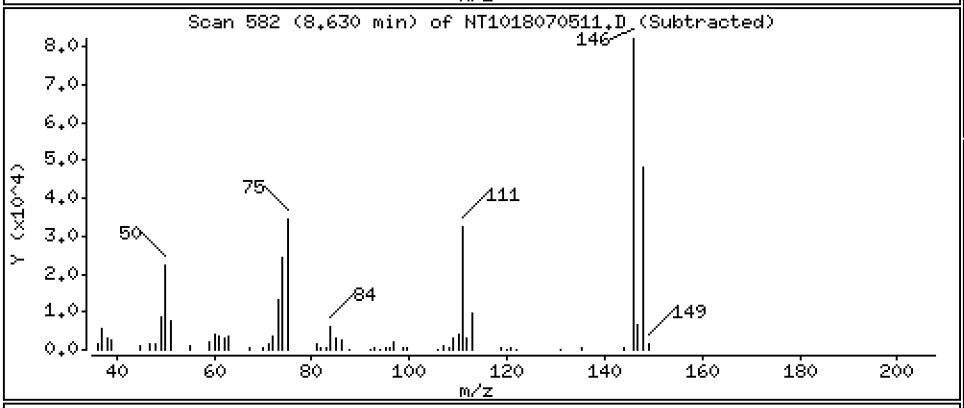
Column phase: ZB-5msi

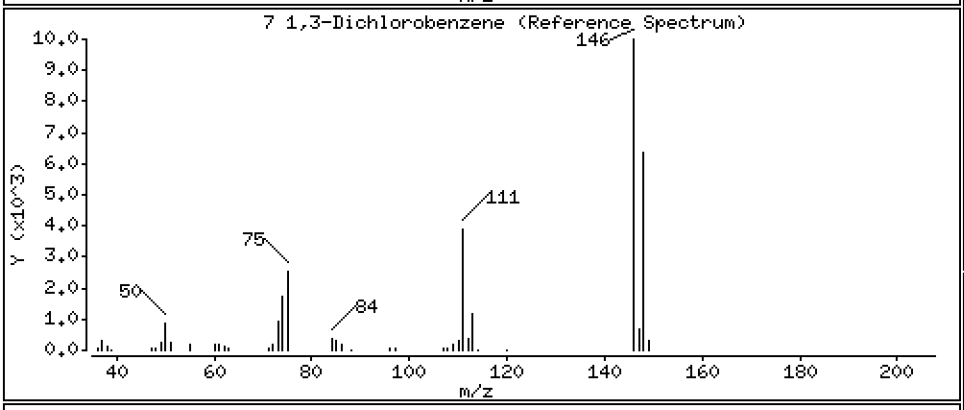
Column diameter: 0.25

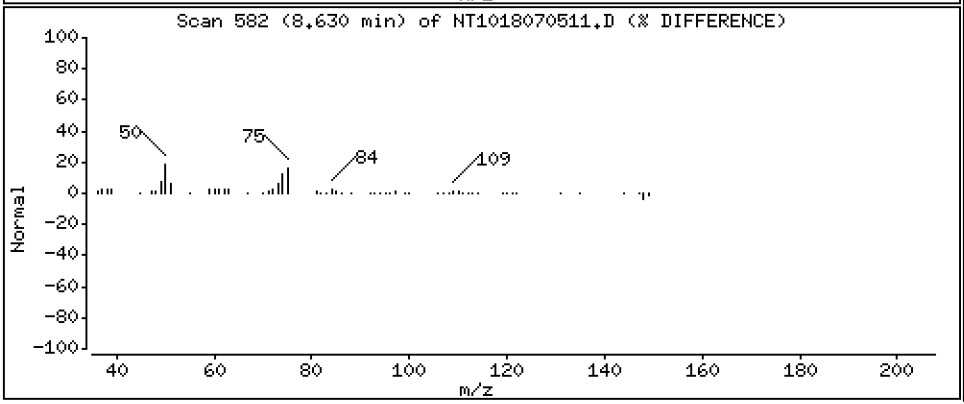
7 1,3-Dichlorobenzene

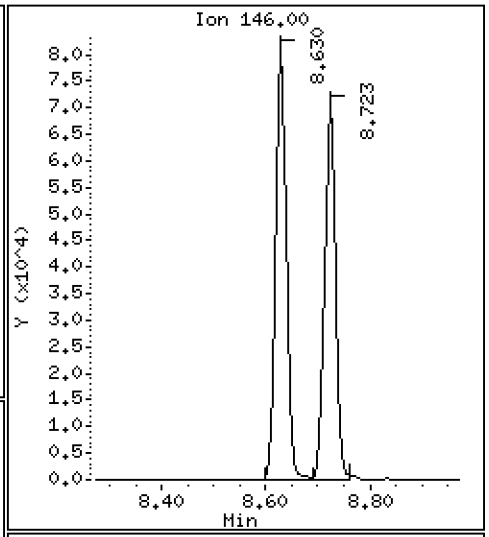
Concentration: 3.636 ug/mL

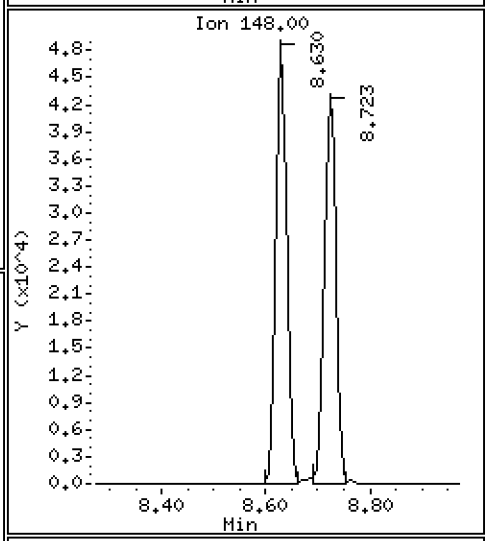


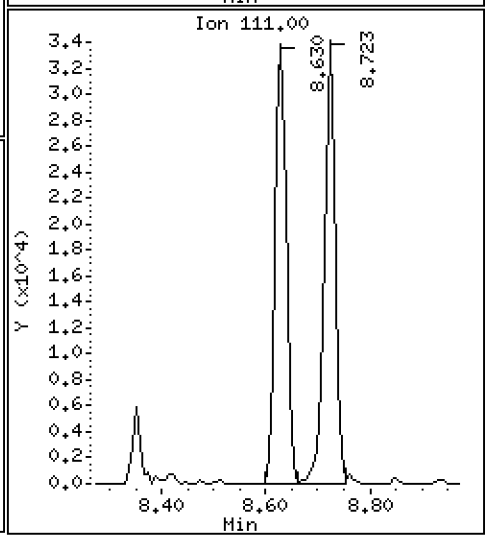












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

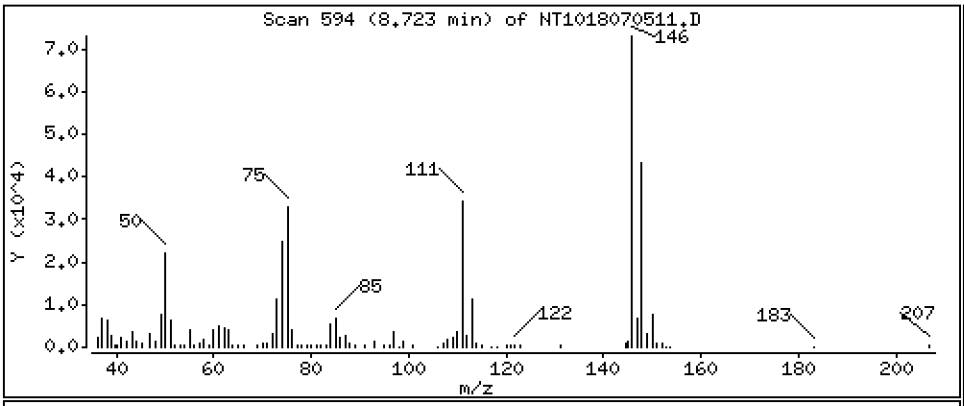
Operator: YZ

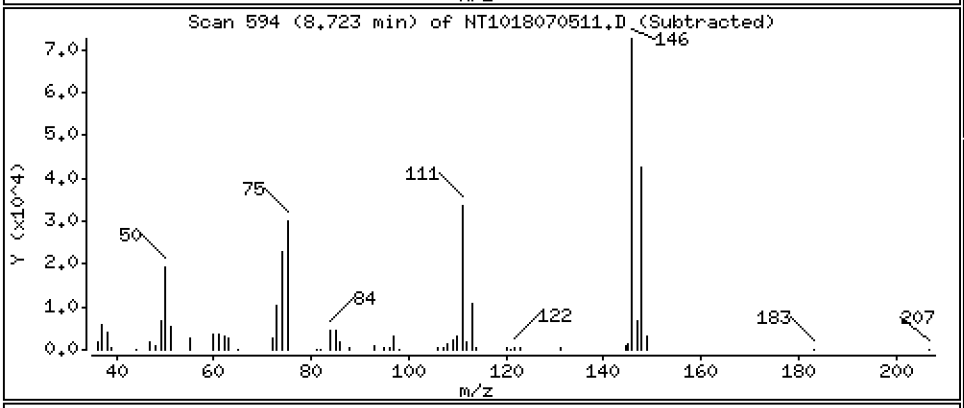
Column phase: ZB-5msi

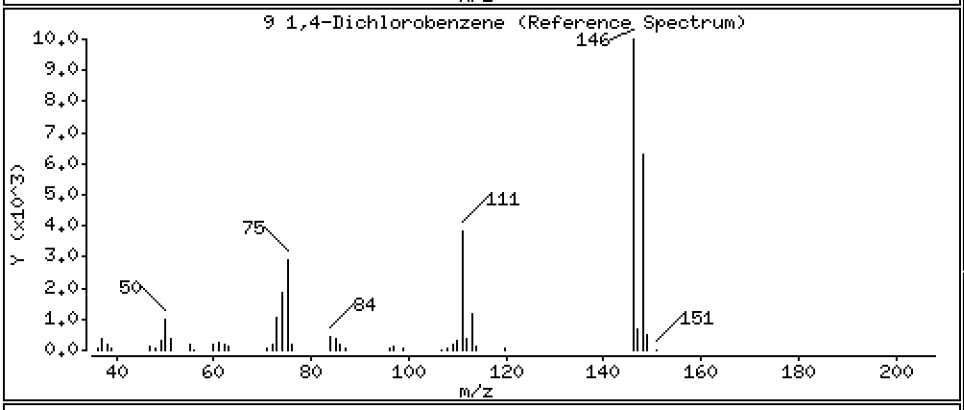
Column diameter: 0.25

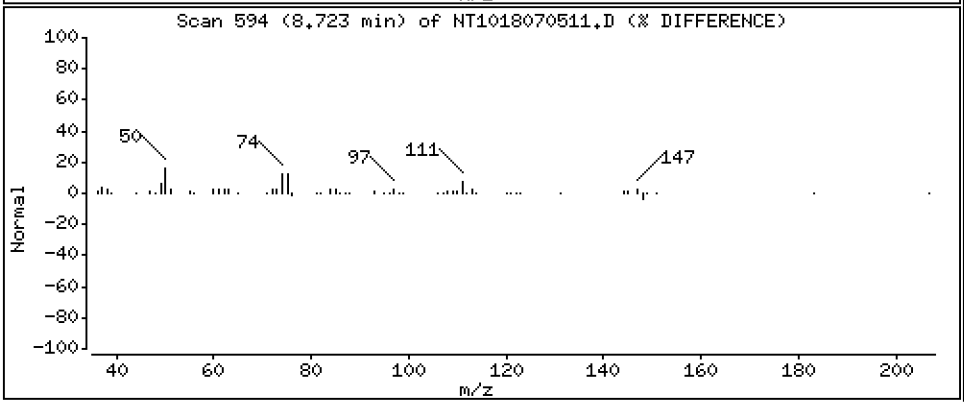
9 1,4-Dichlorobenzene

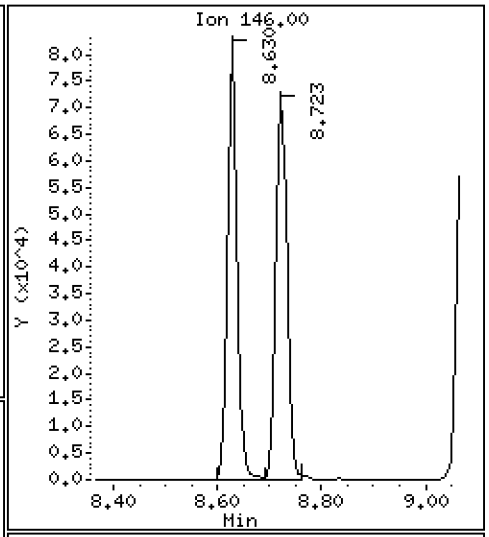
Concentration: 3.784 ug/mL

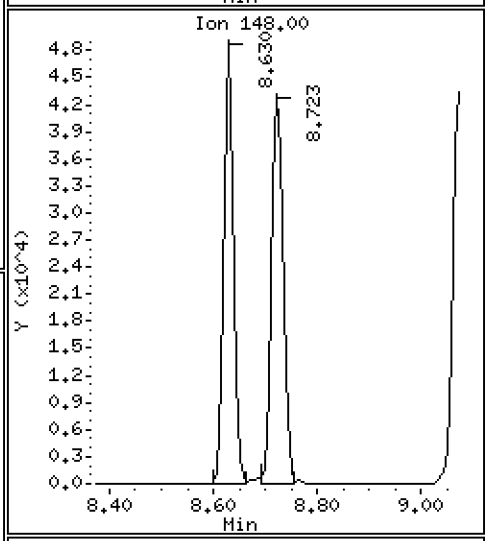


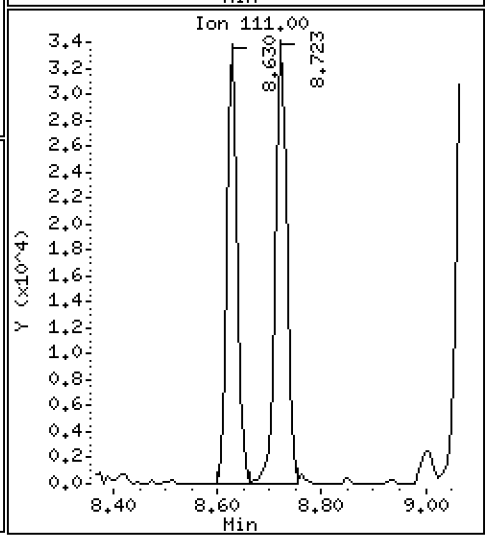












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

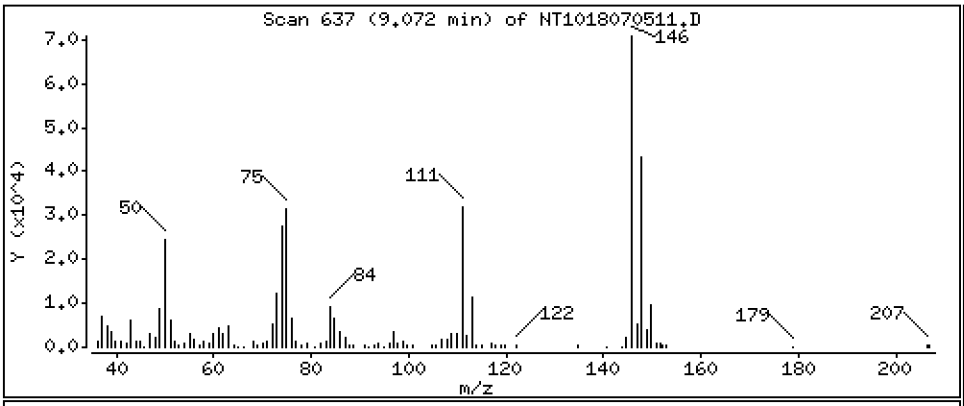
Operator: YZ

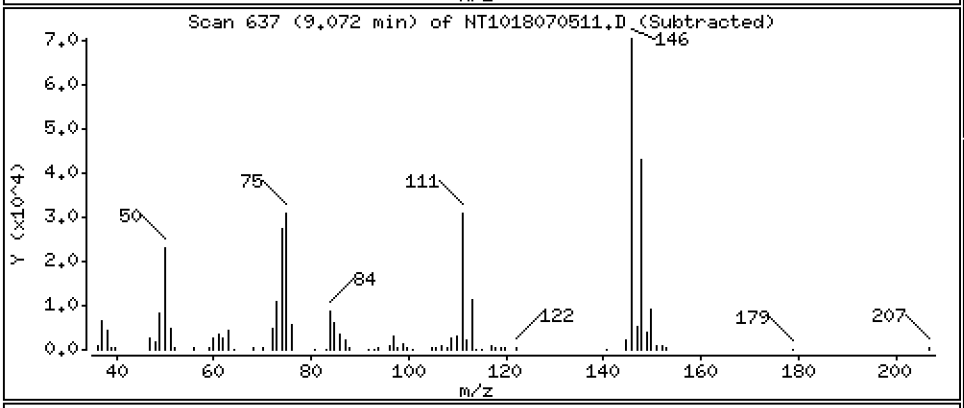
Column phase: ZB-5msi

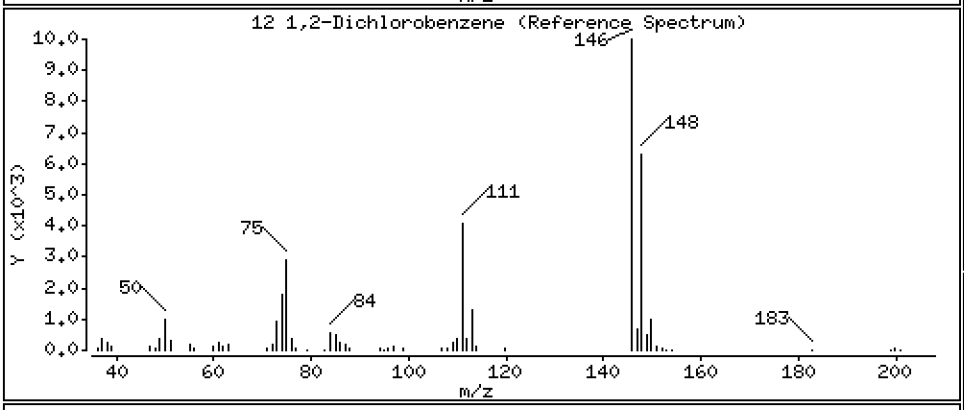
Column diameter: 0.25

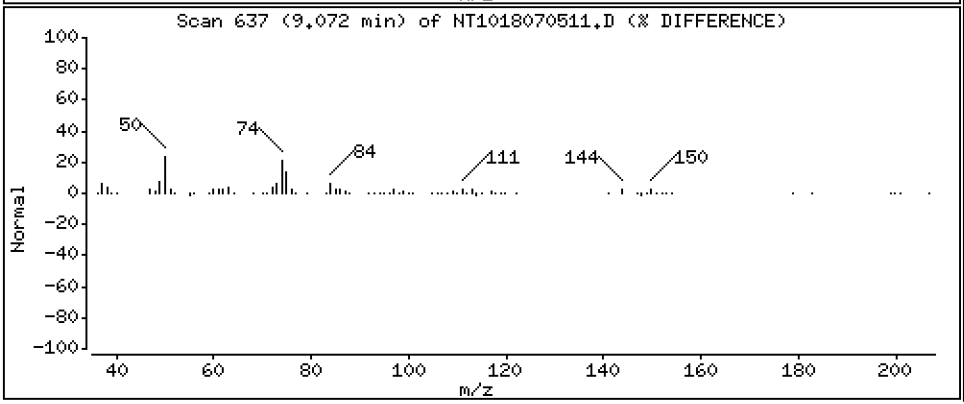
12 1,2-Dichlorobenzene

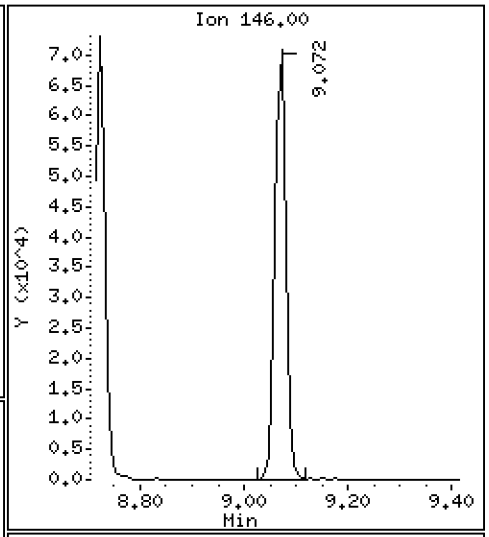
Concentration: 3.687 ug/mL

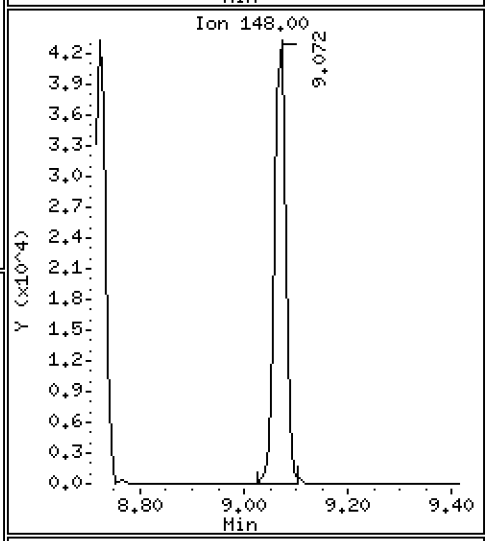


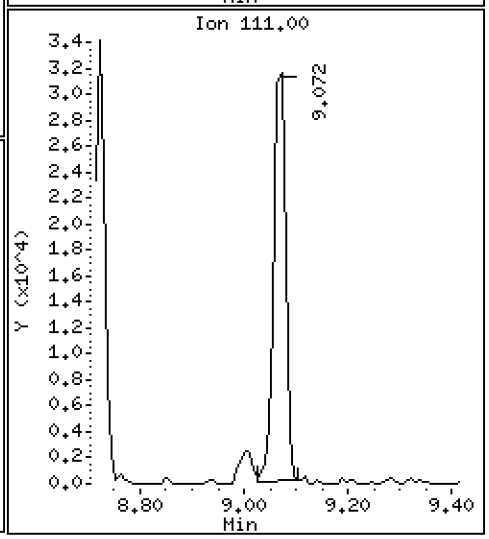












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

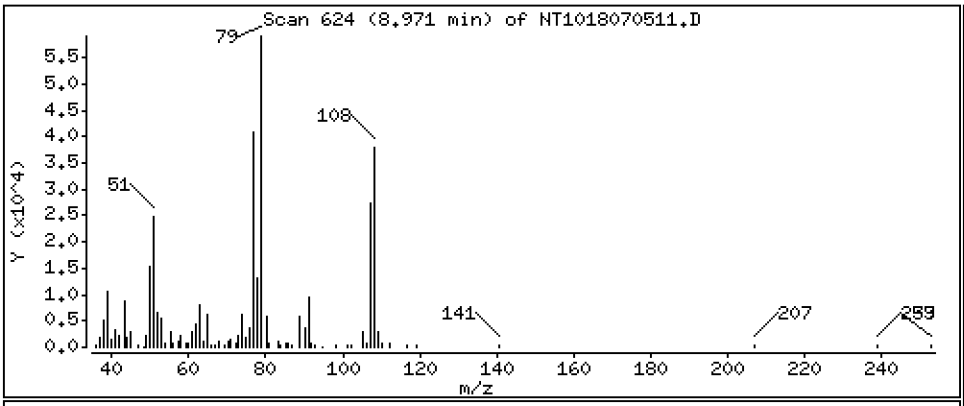
Operator: YZ

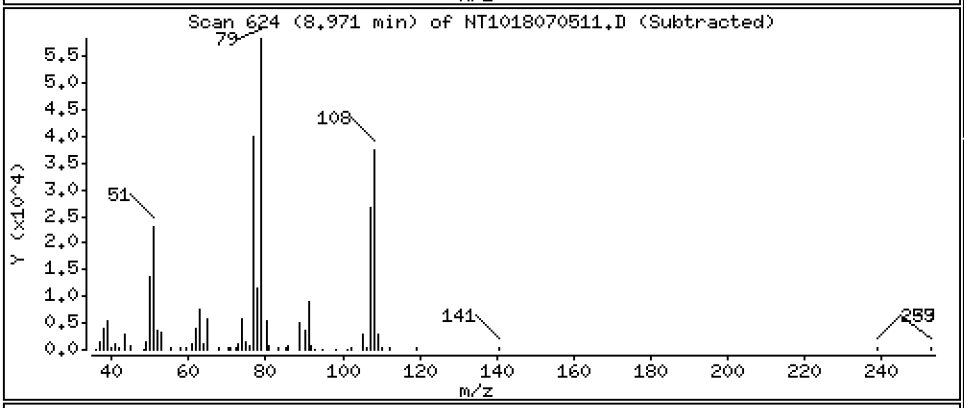
Column phase: ZB-5msi

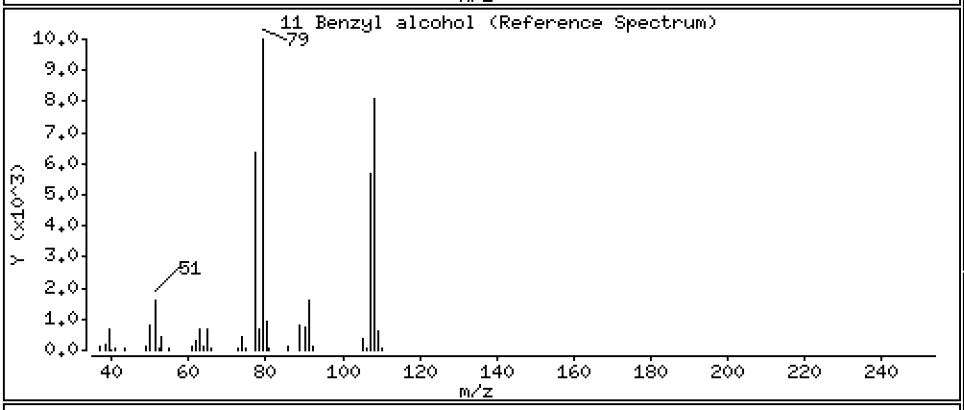
Column diameter: 0.25

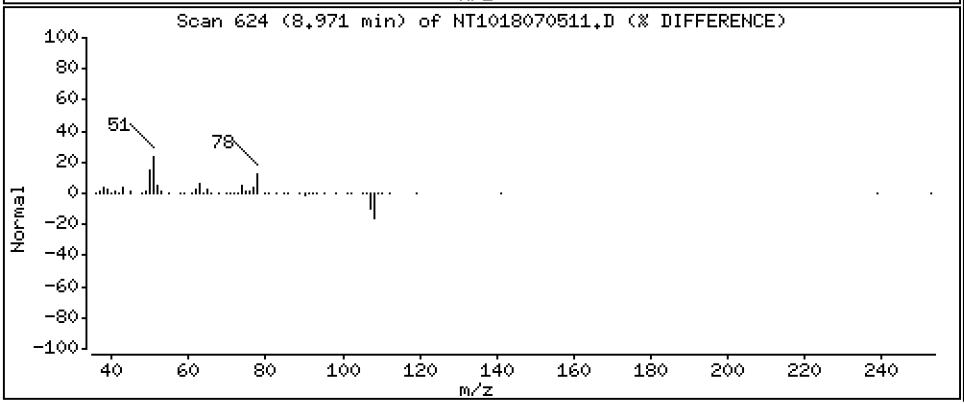
11 Benzyl alcohol

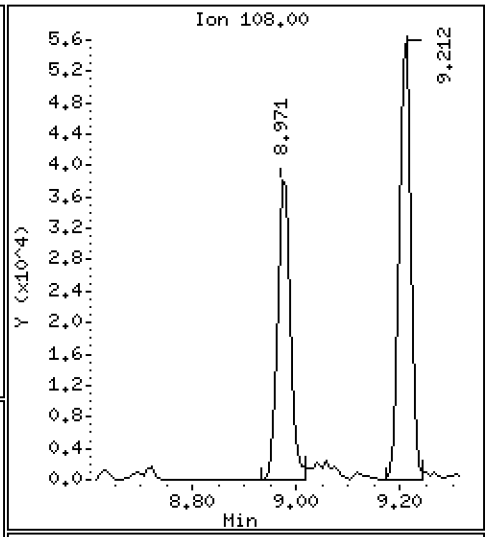
Concentration: 3.541 ug/mL

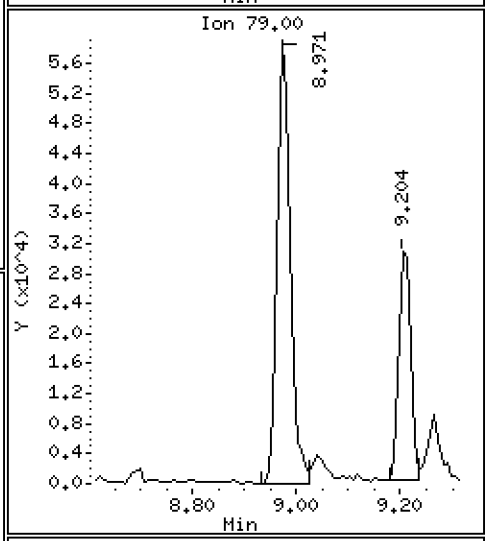


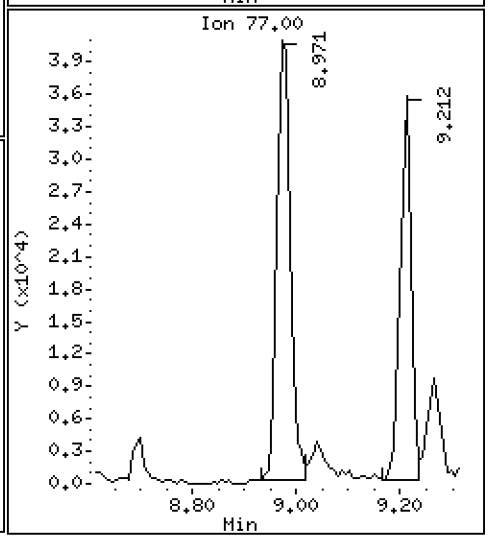












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

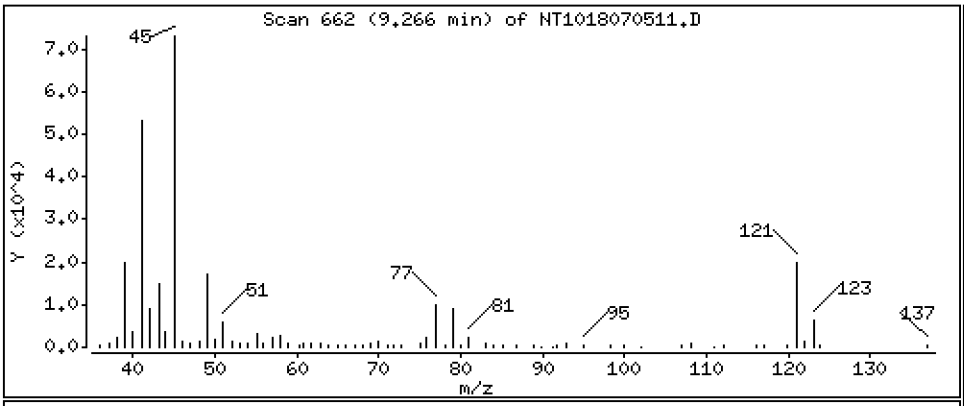
Operator: YZ

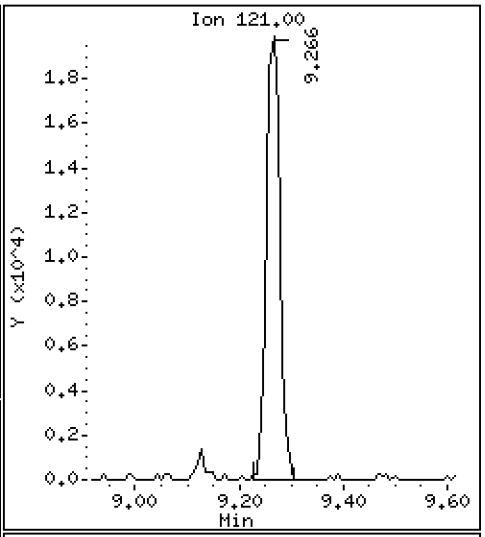
Column phase: ZB-5msi

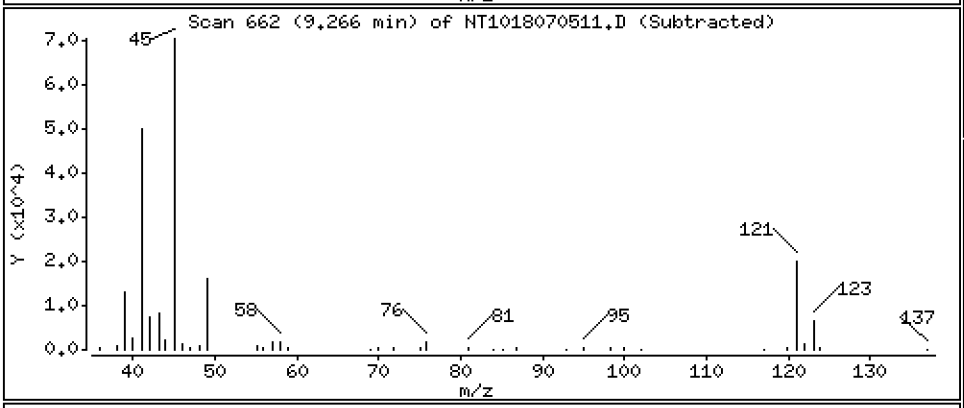
Column diameter: 0.25

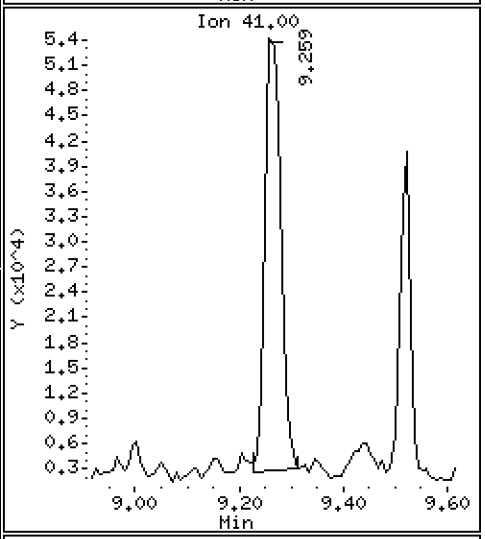
14 2,2'-oxybis(1-Chloropropane)

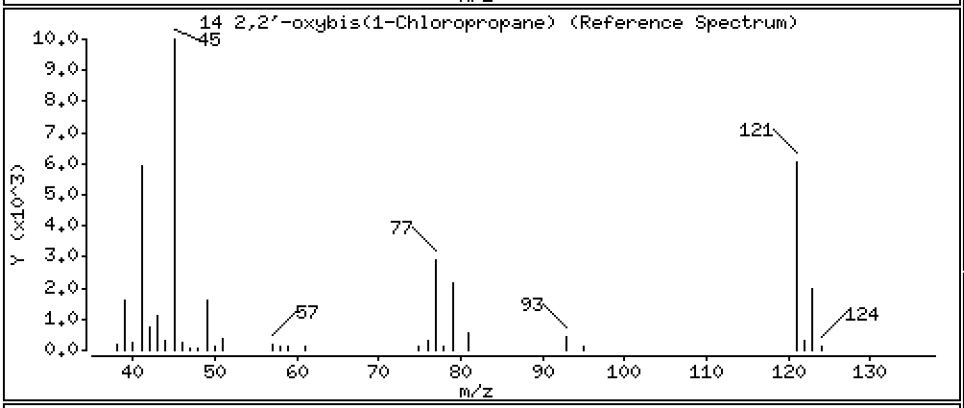
Concentration: 3.235 ug/mL

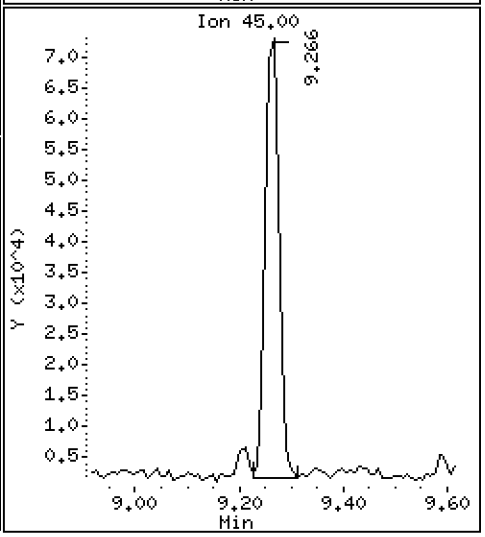


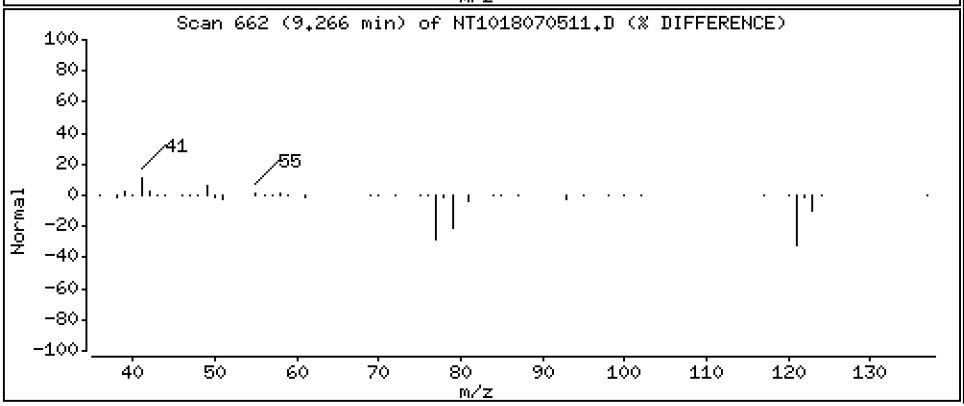












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

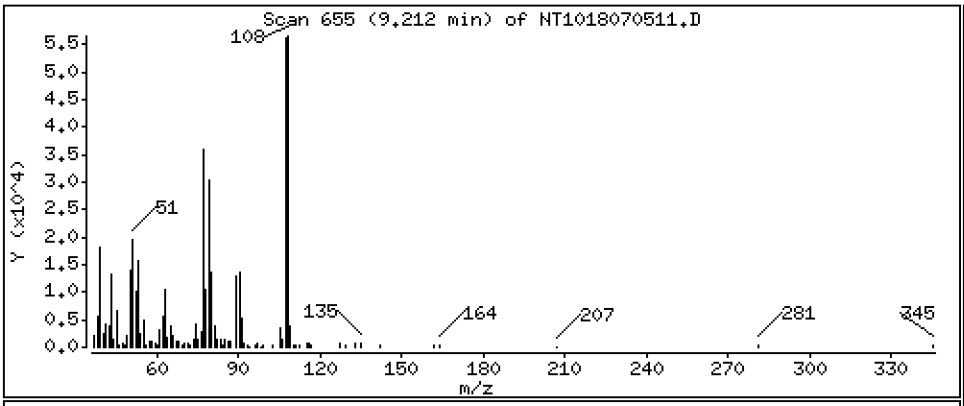
Operator: YZ

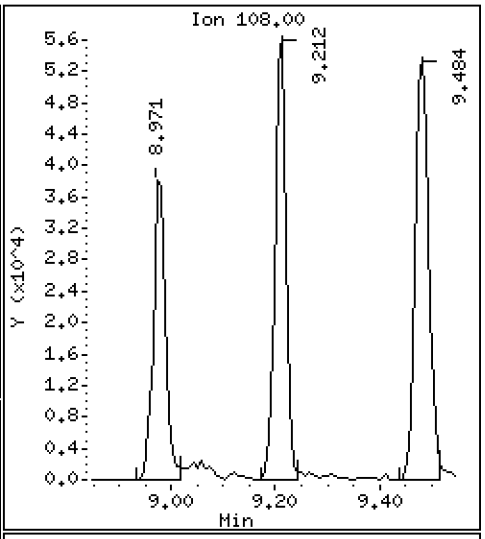
Column phase: ZB-5msi

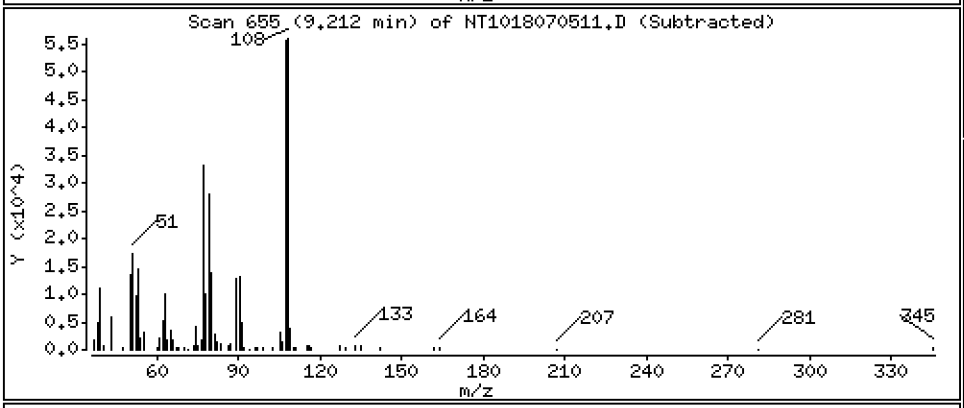
Column diameter: 0.25

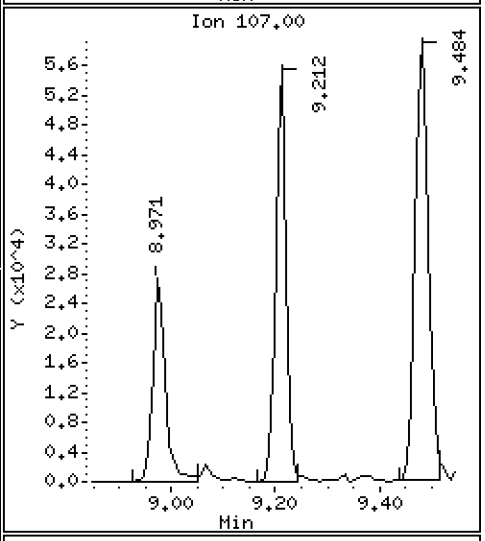
13 2-Methylphenol

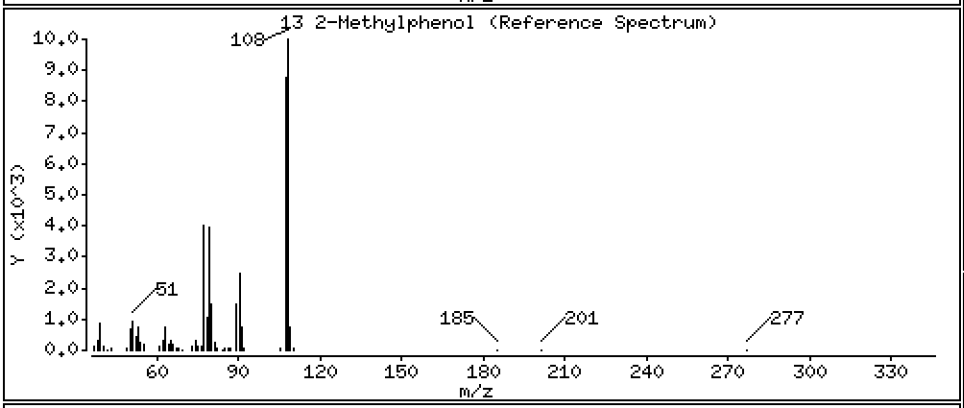
Concentration: 3.475 ug/mL

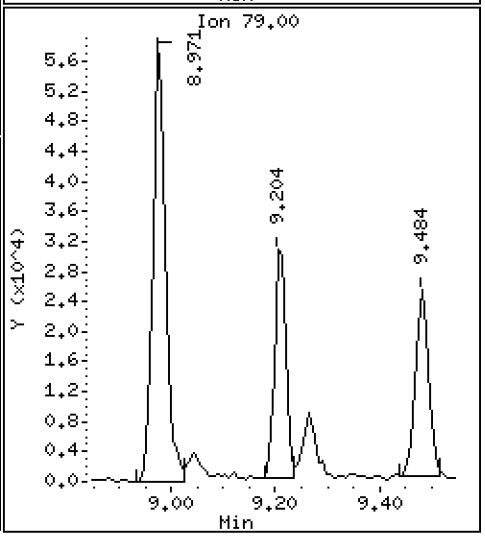


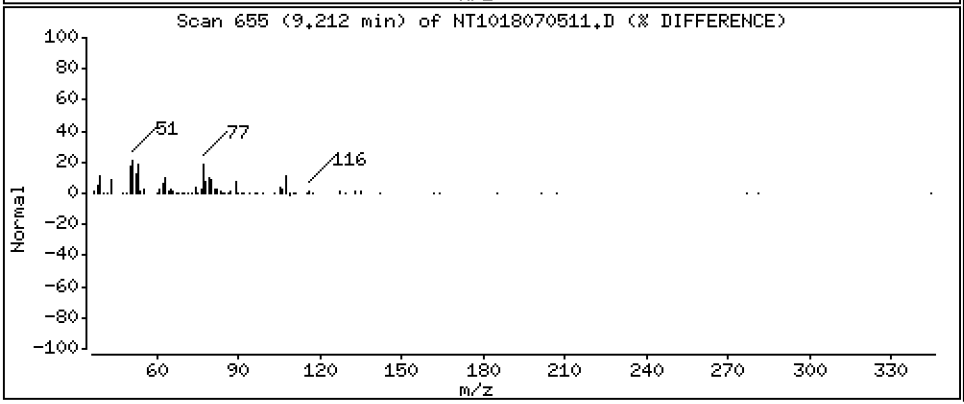












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

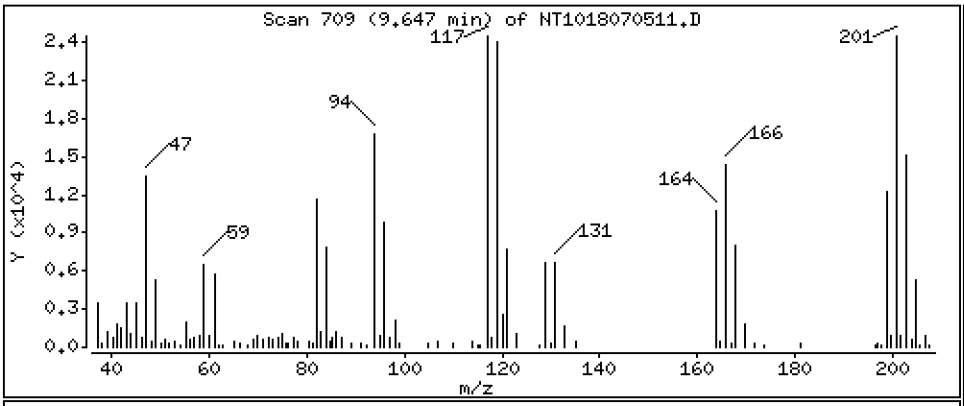
Operator: YZ

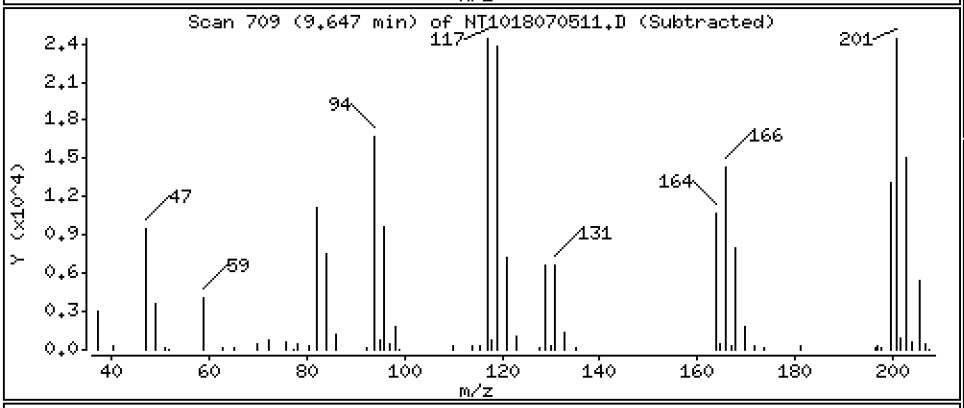
Column phase: ZB-5msi

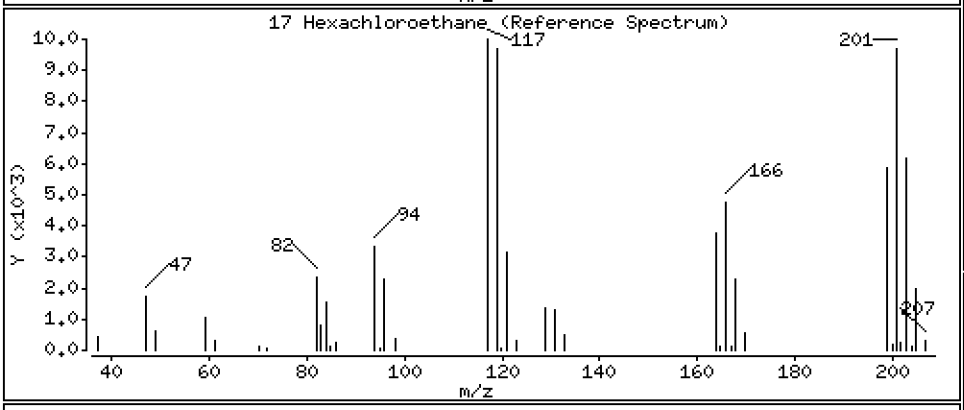
Column diameter: 0.25

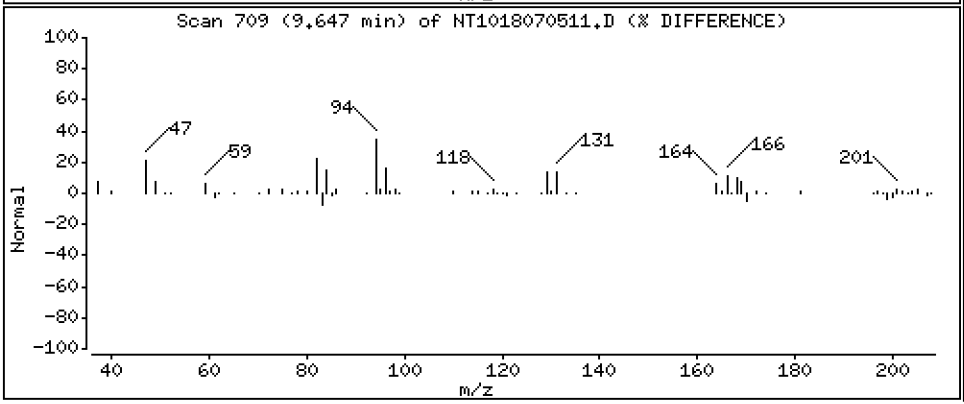
17 Hexachloroethane

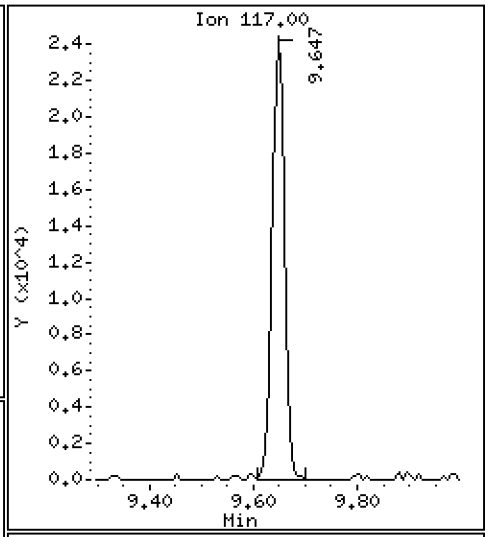
Concentration: 3.049 ug/mL

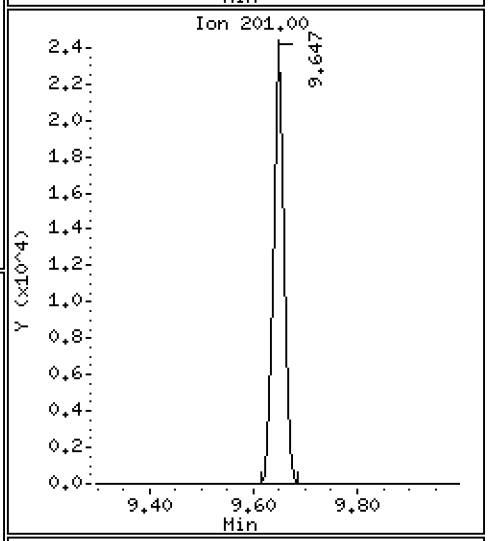


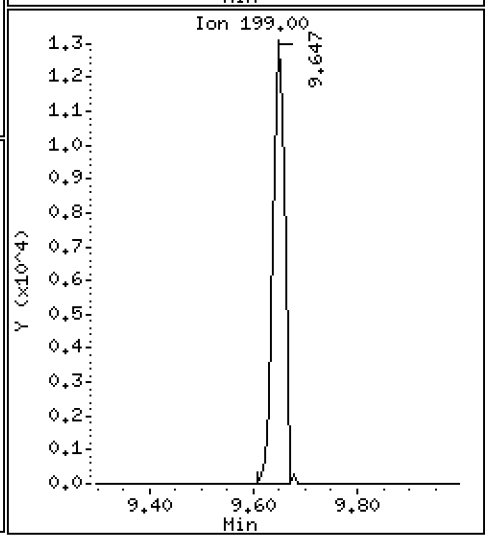












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

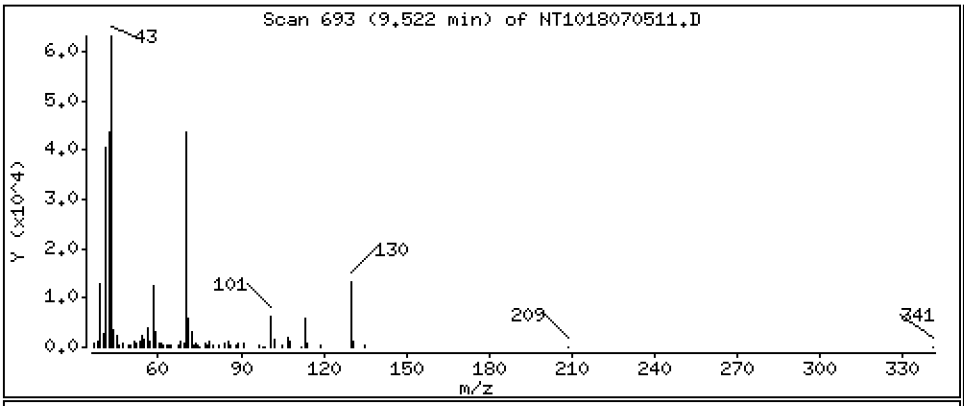
Operator: YZ

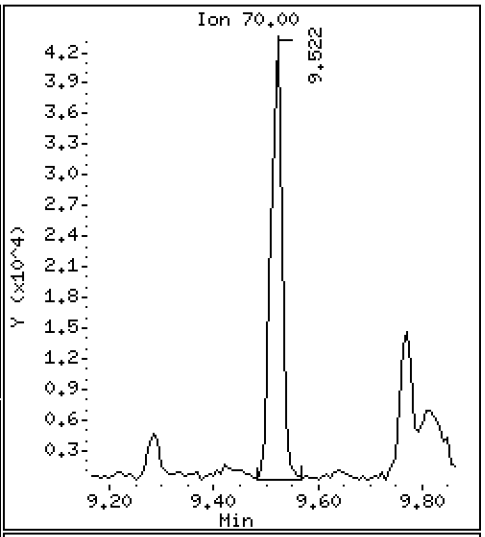
Column phase: ZB-5msi

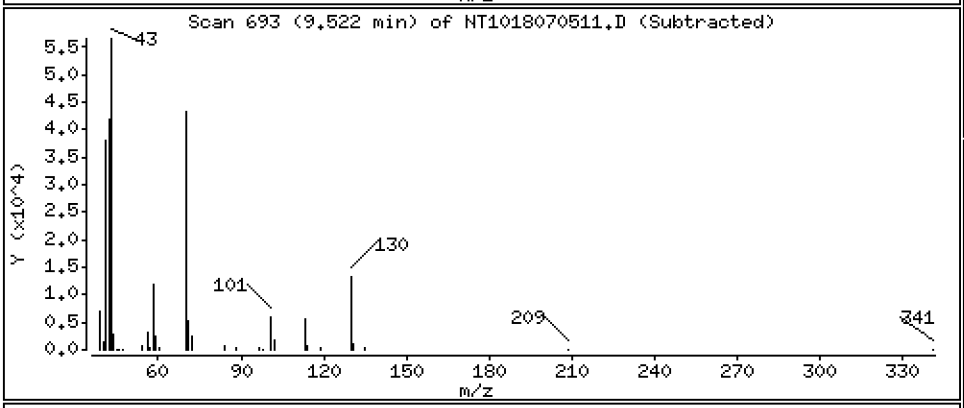
Column diameter: 0.25

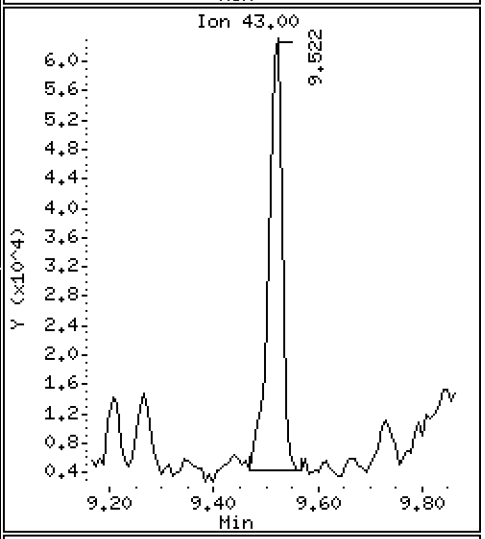
16 N-Nitroso-di-n-propylamine

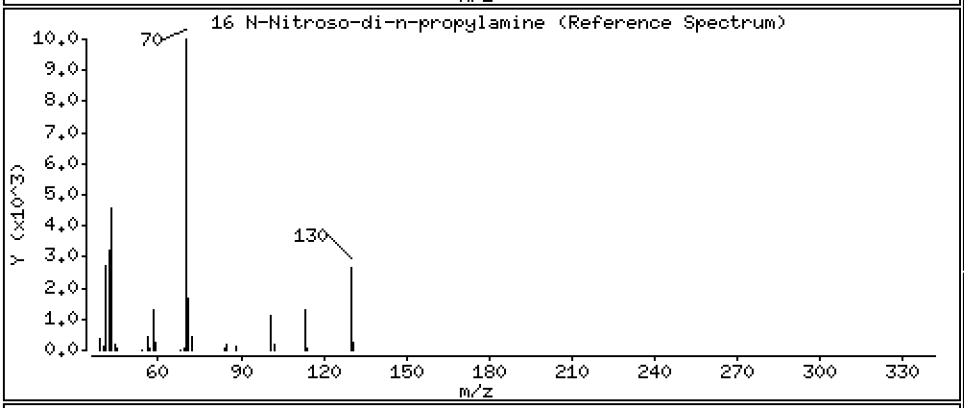
Concentration: 3.508 ug/mL

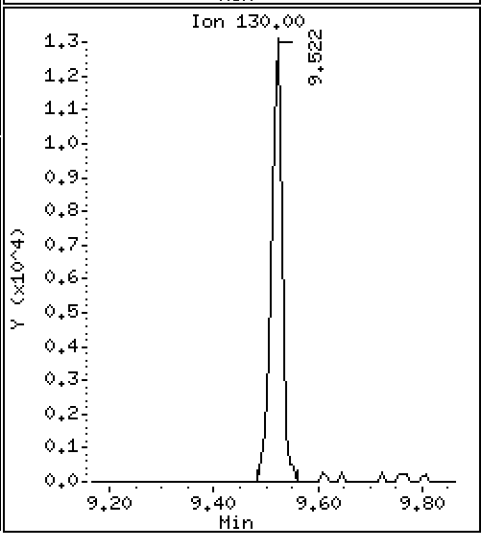


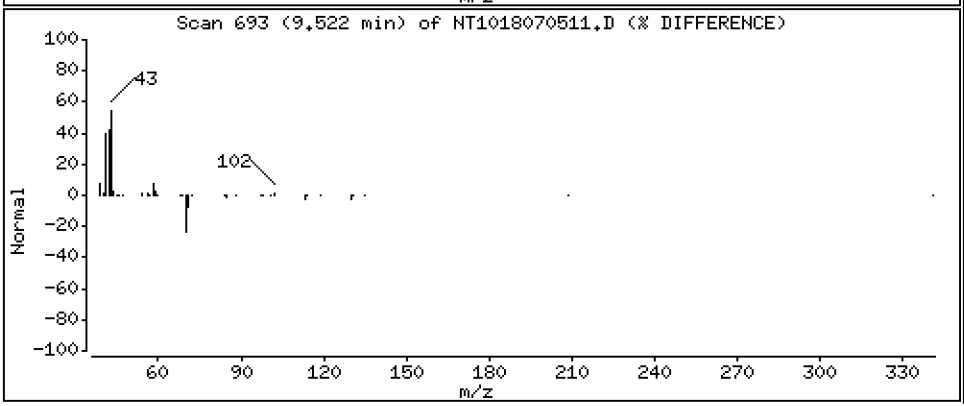












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

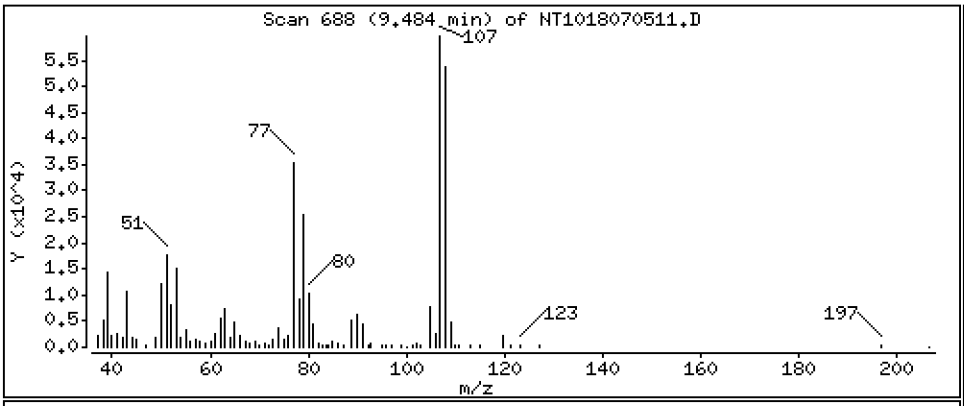
Operator: YZ

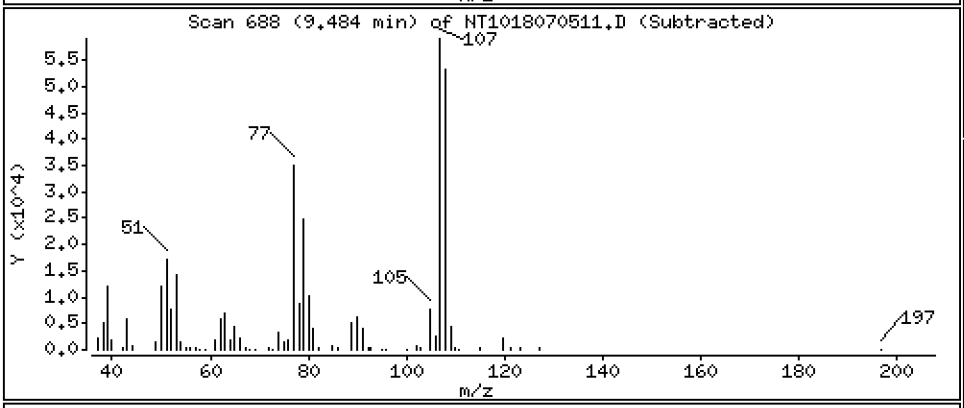
Column phase: ZB-5msi

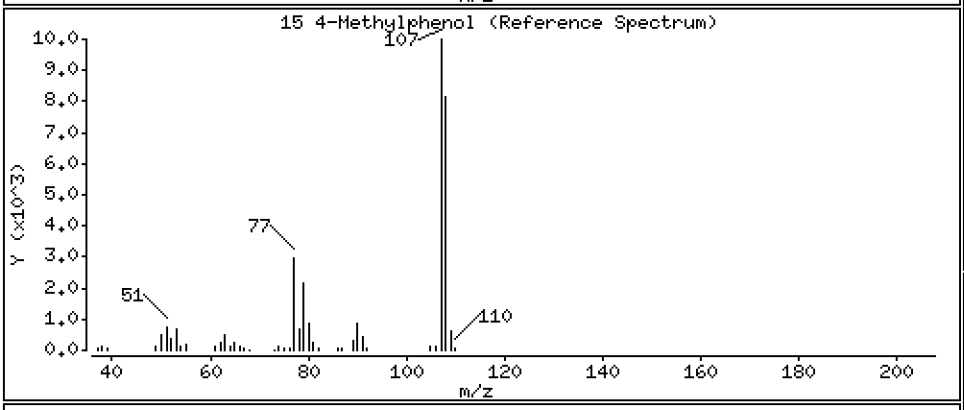
Column diameter: 0.25

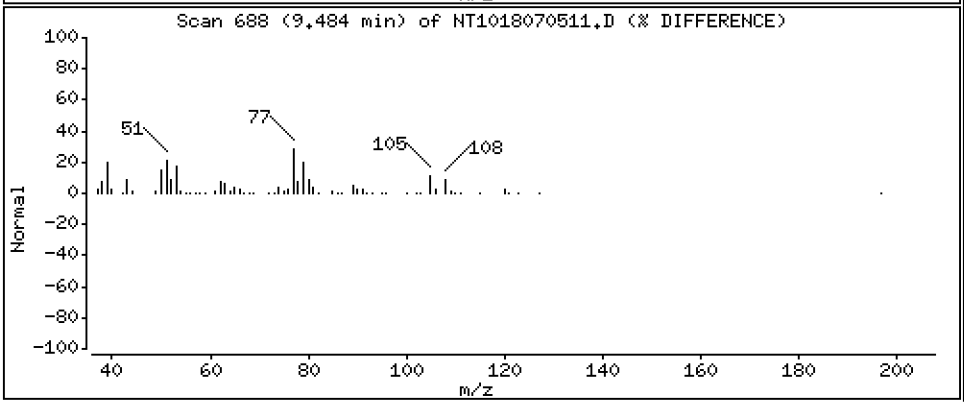
15 4-Methylphenol

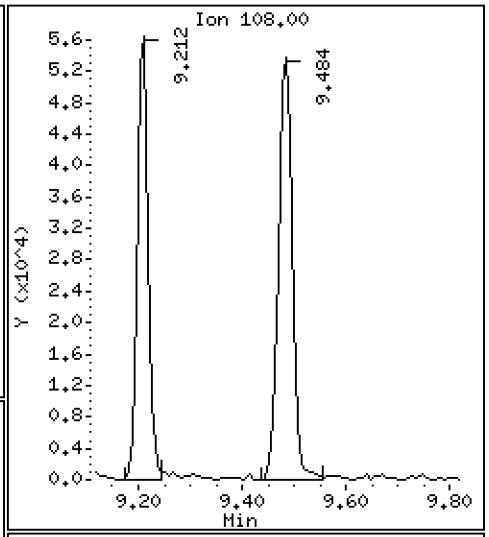
Concentration: 3.968 ug/mL

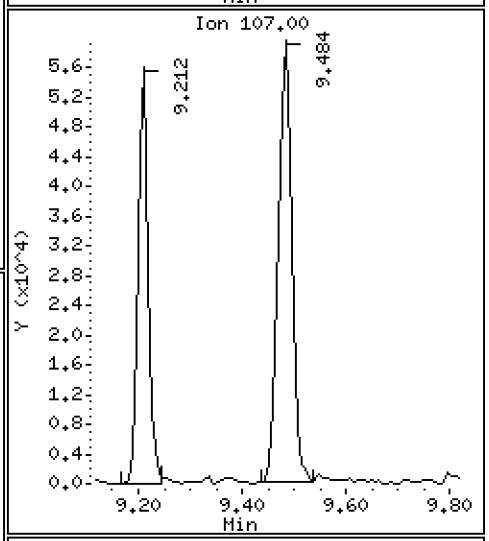


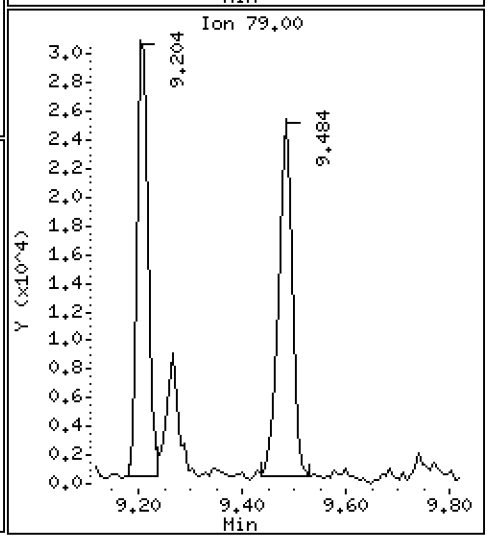












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

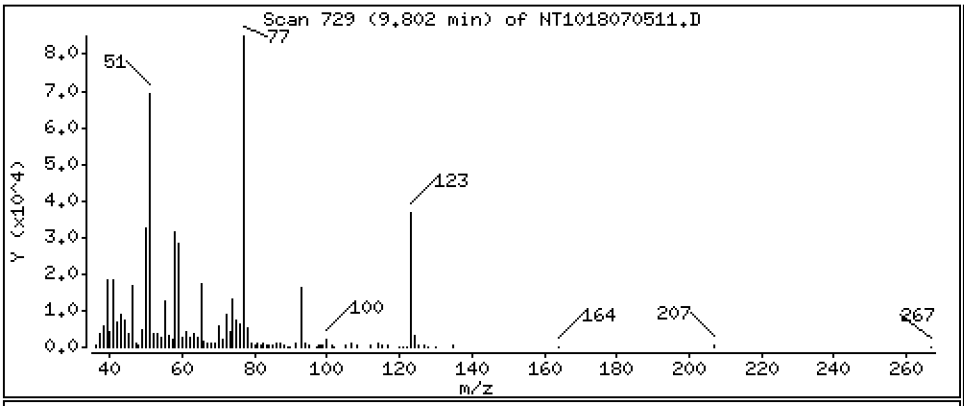
Operator: YZ

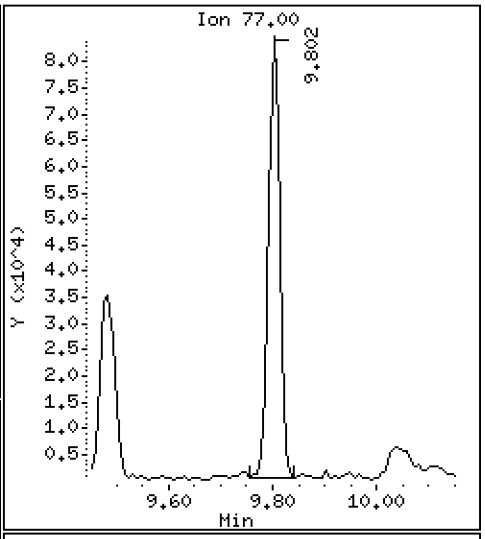
Column phase: ZB-5msi

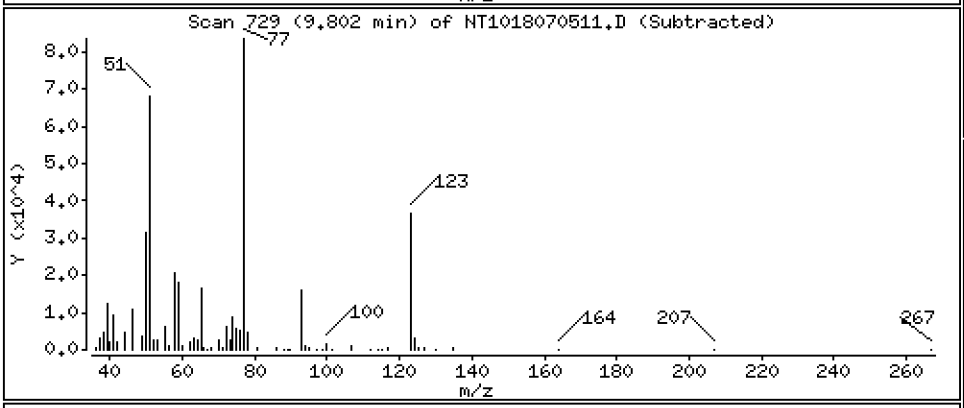
Column diameter: 0.25

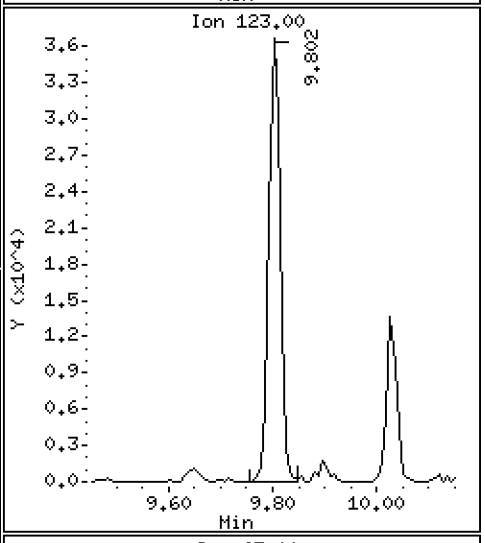
19 Nitrobenzene

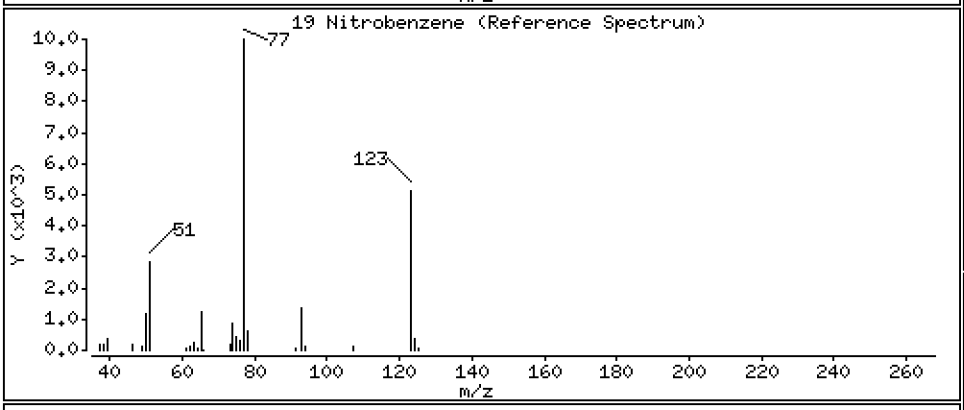
Concentration: 4.320 ug/mL

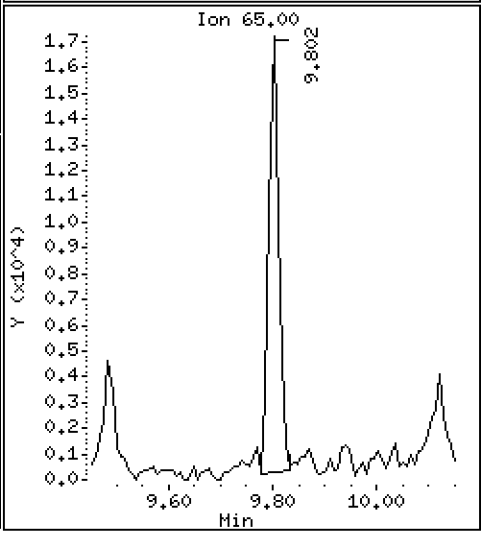


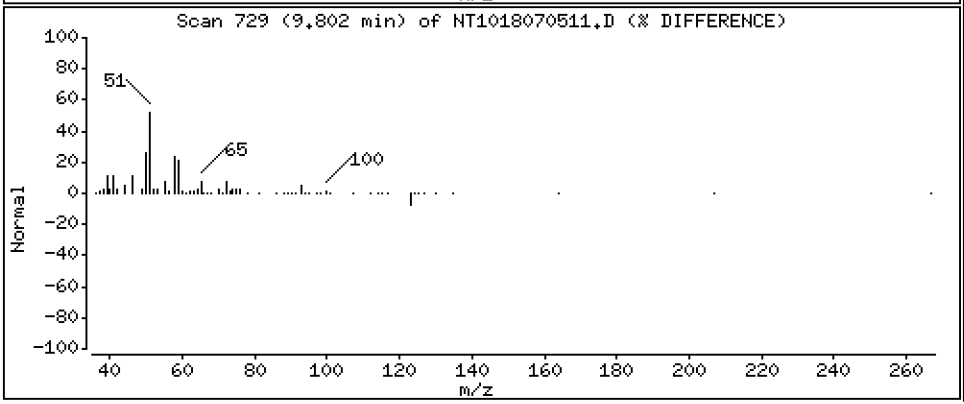












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

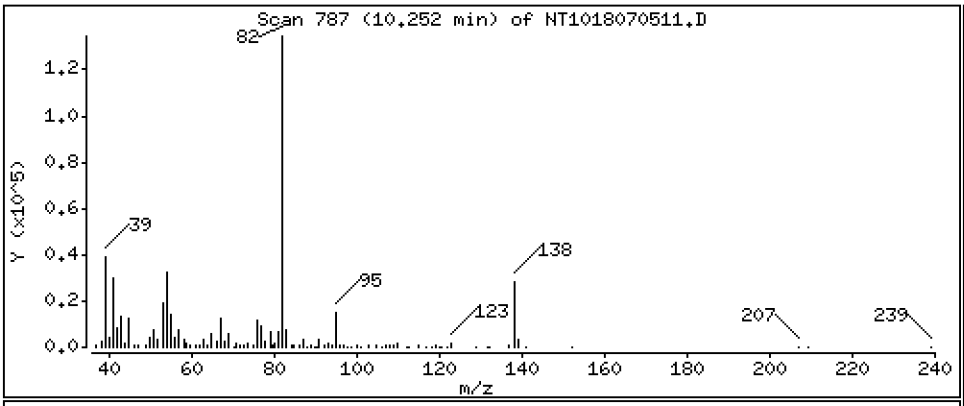
Operator: YZ

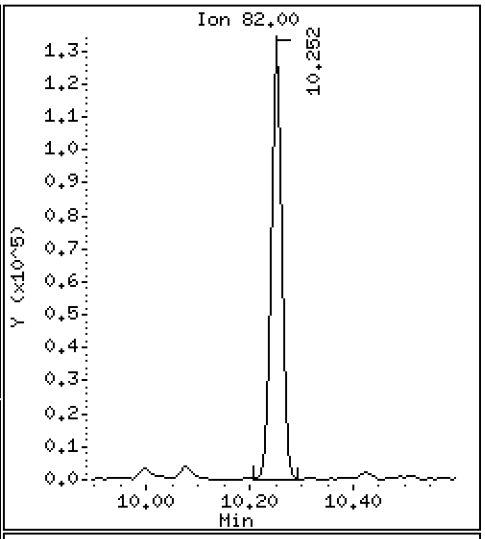
Column phase: ZB-5msi

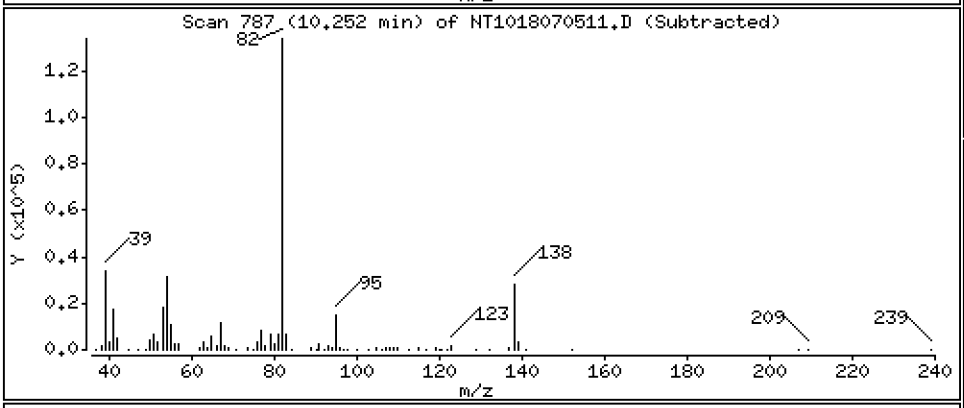
Column diameter: 0.25

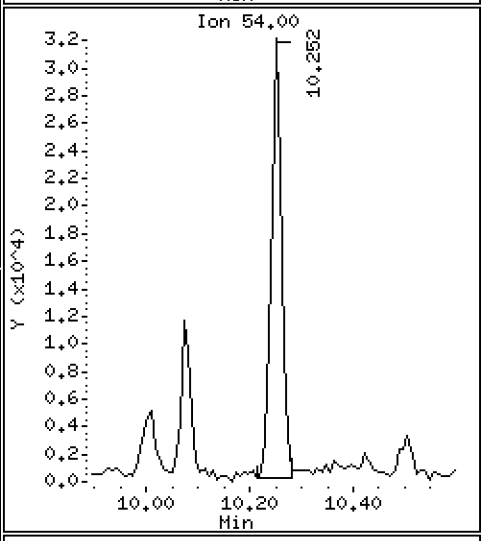
20 Isophorone

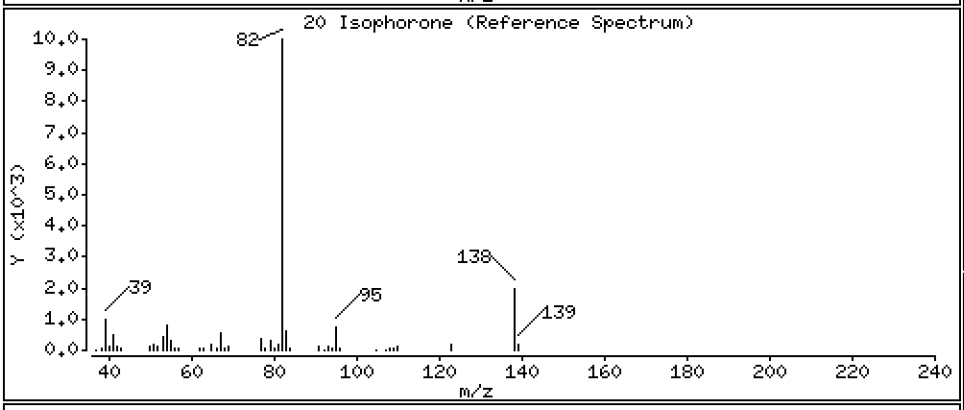
Concentration: 3.409 ug/mL

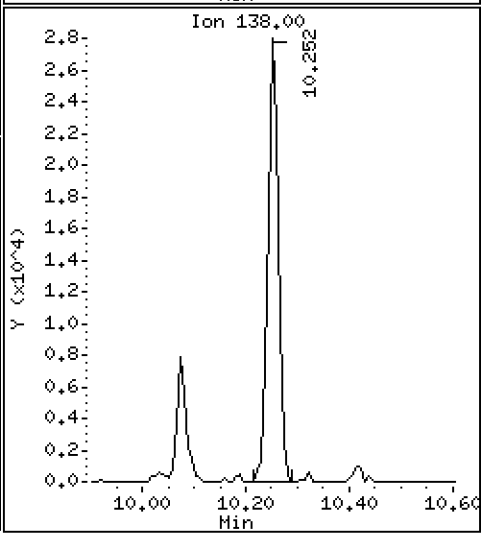


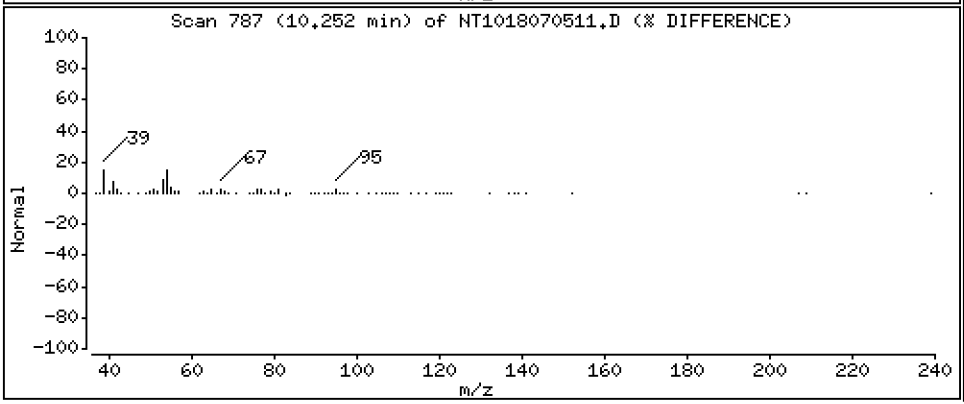












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

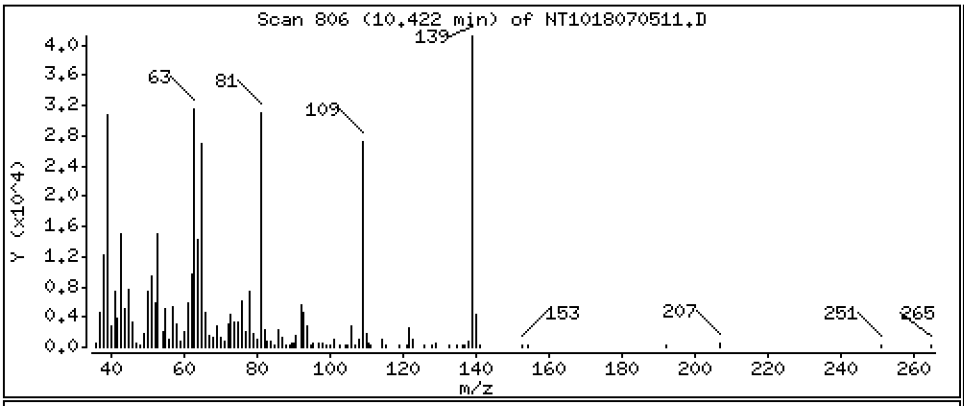
Operator: YZ

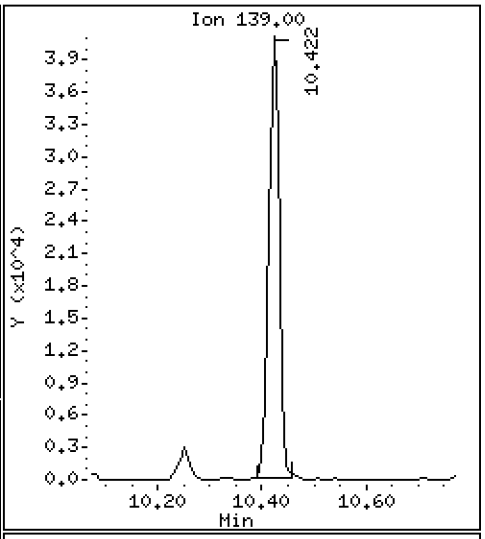
Column phase: ZB-5msi

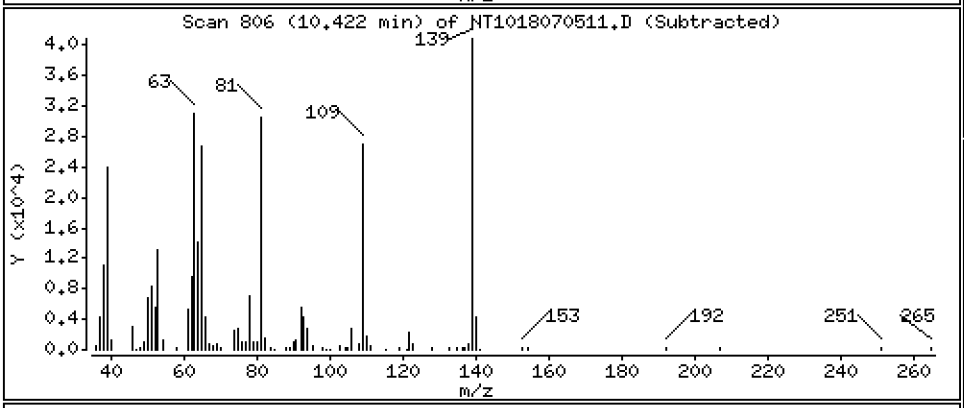
Column diameter: 0.25

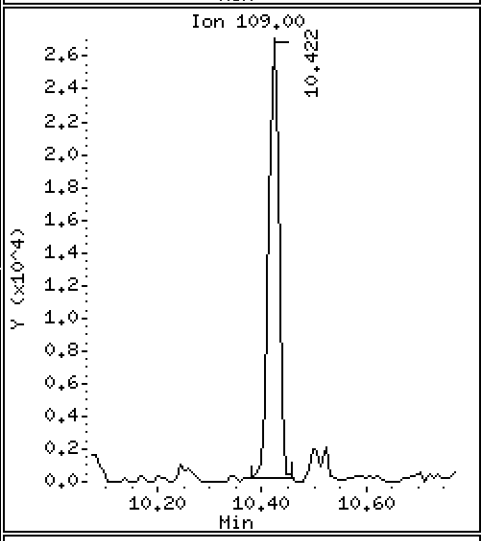
21 2-Nitrophenol

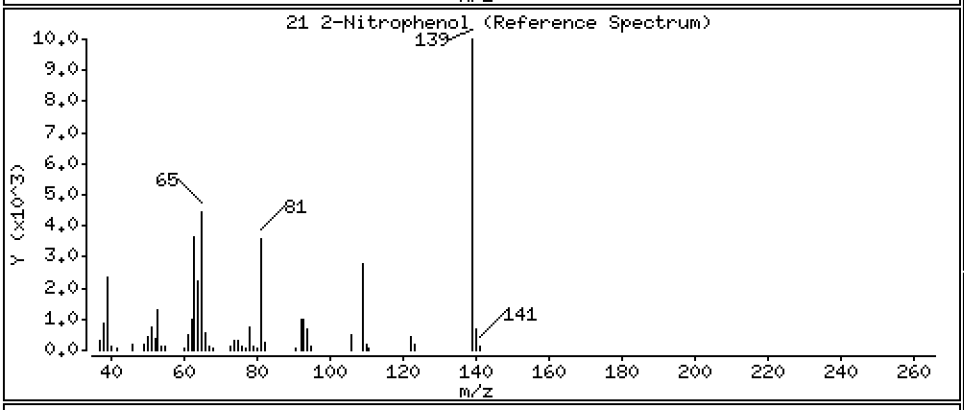
Concentration: 3.688 ug/mL

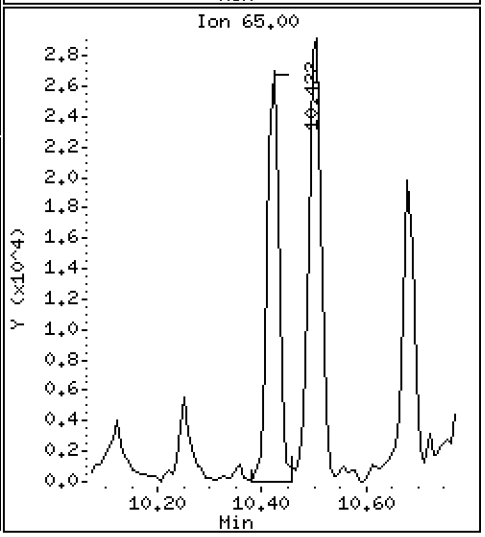


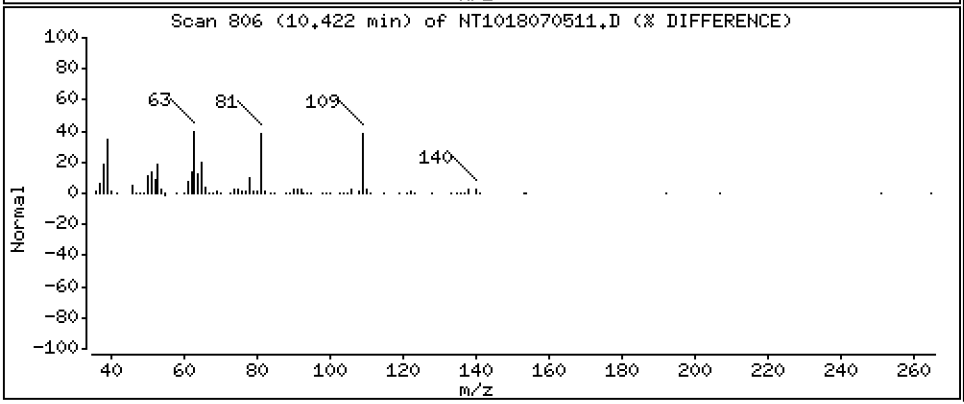












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

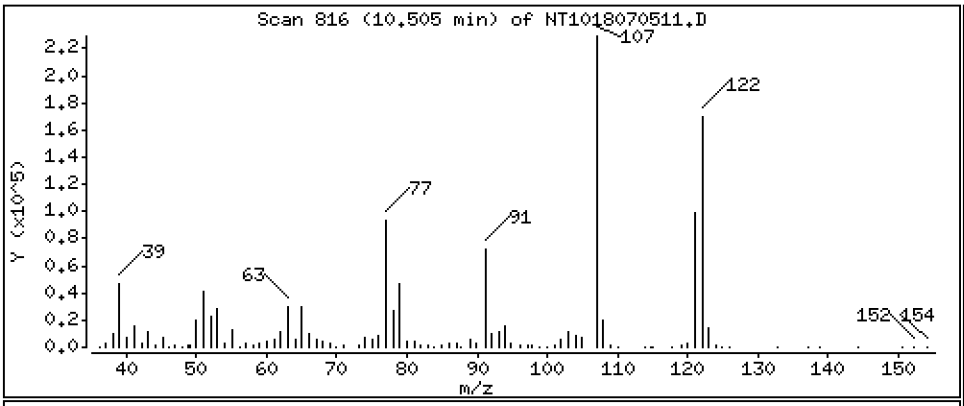
Operator: YZ

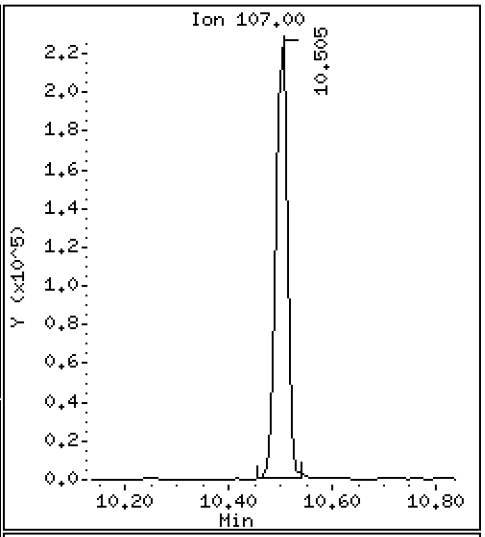
Column phase: ZB-5msi

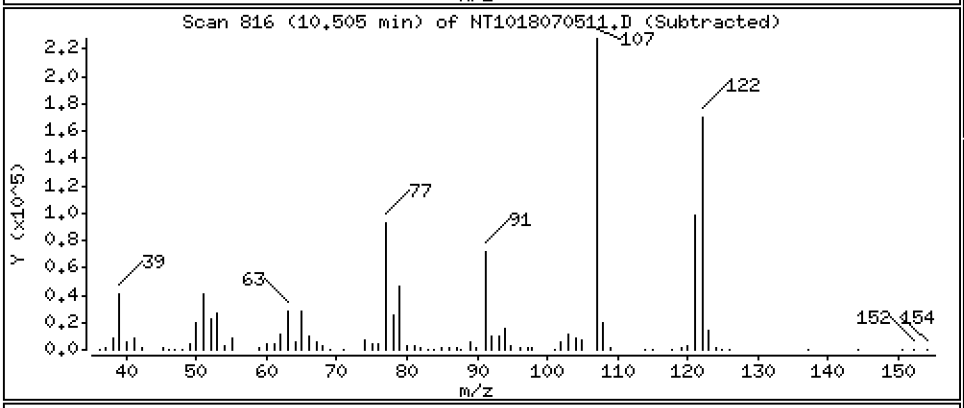
Column diameter: 0.25

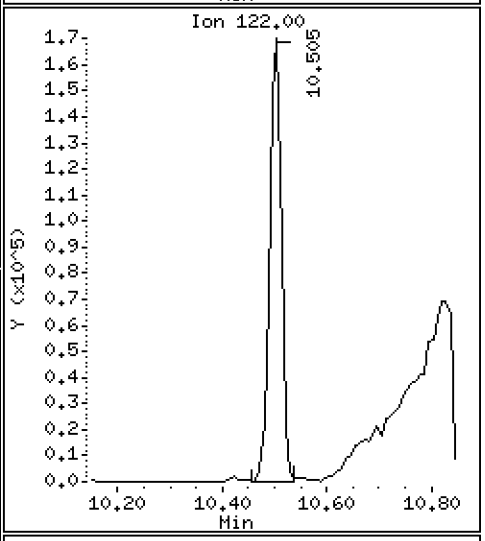
22 2,4-Dimethylphenol

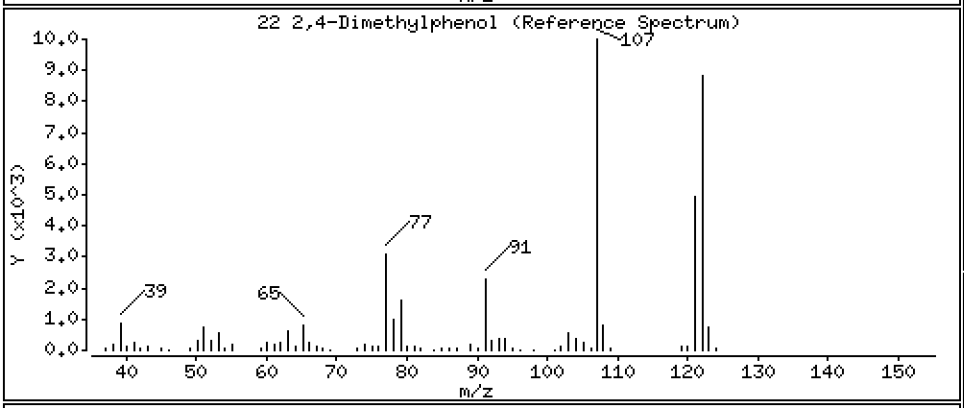
Concentration: 12.67 ug/mL

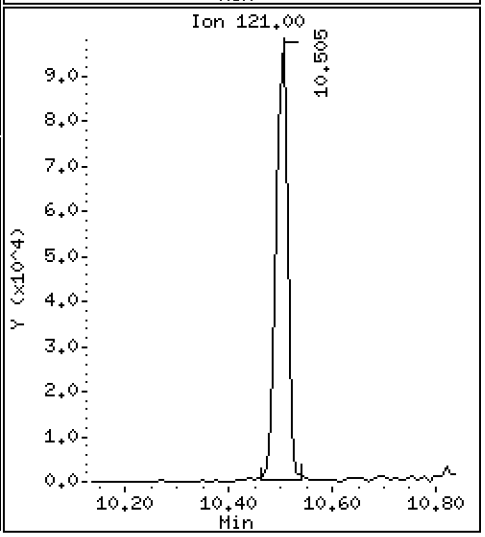


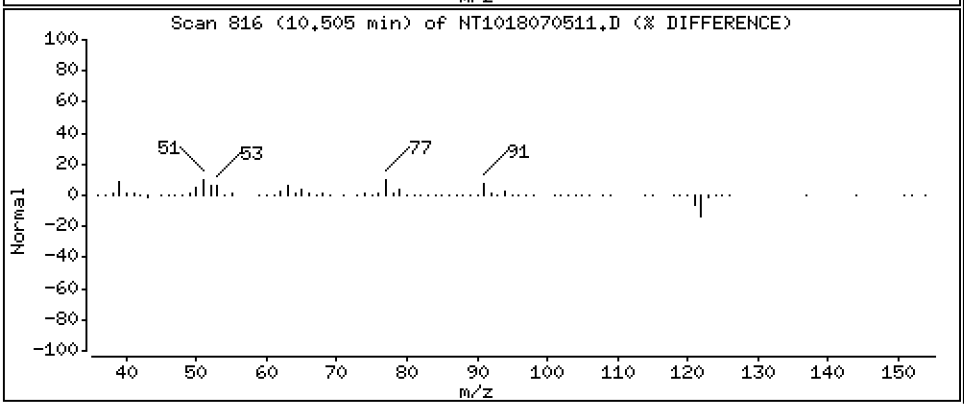












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

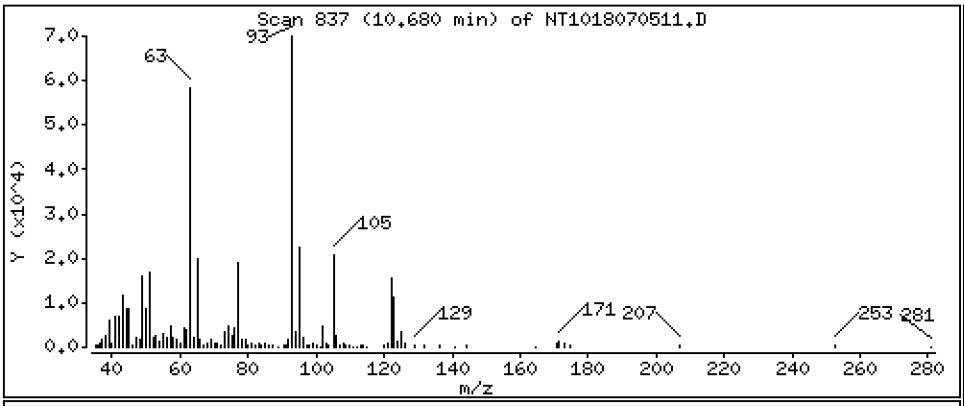
Operator: YZ

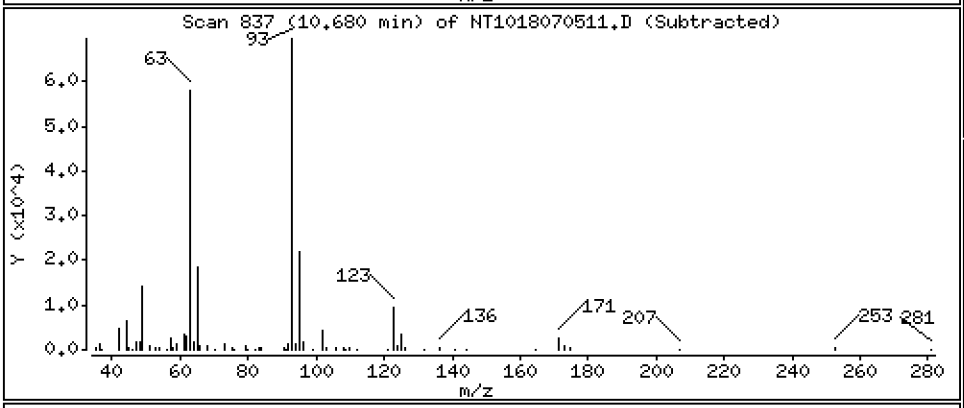
Column phase: ZB-5msi

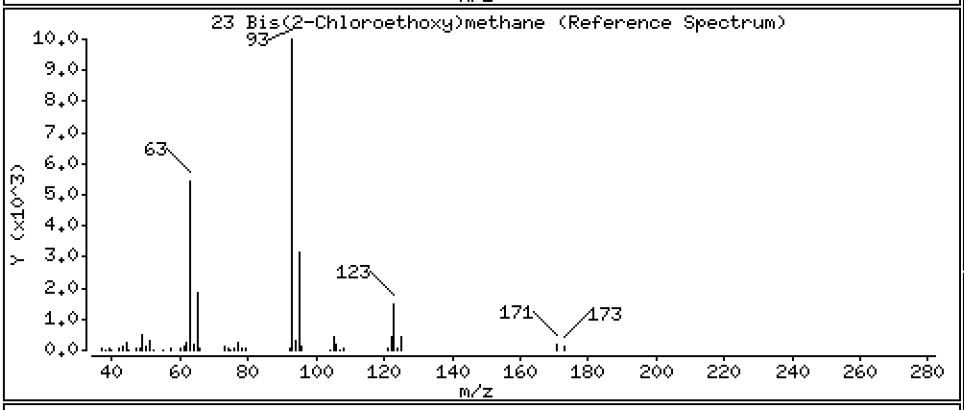
Column diameter: 0.25

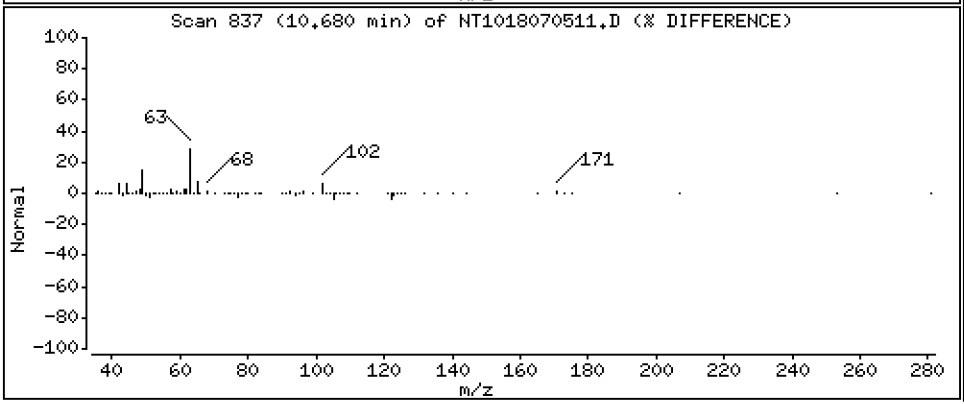
23 Bis(2-Chloroethoxy)methane

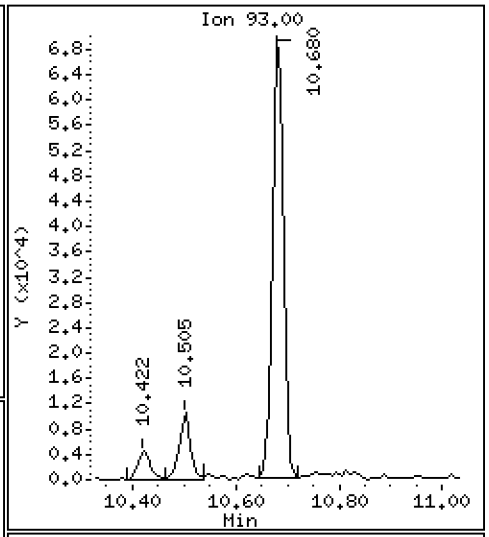
Concentration: 3.408 ug/mL

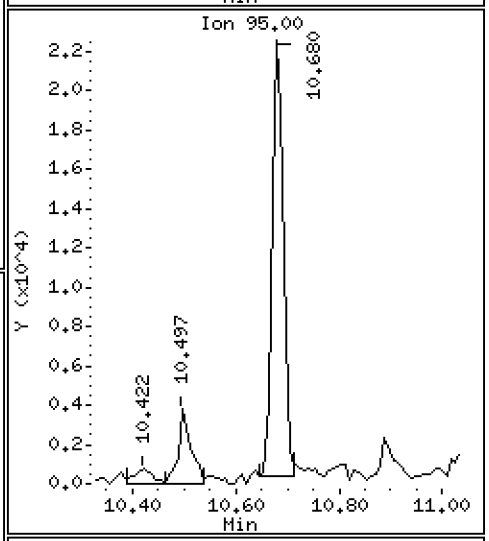


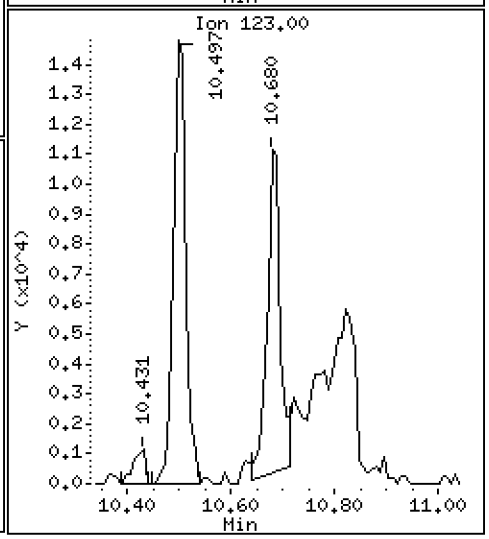












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

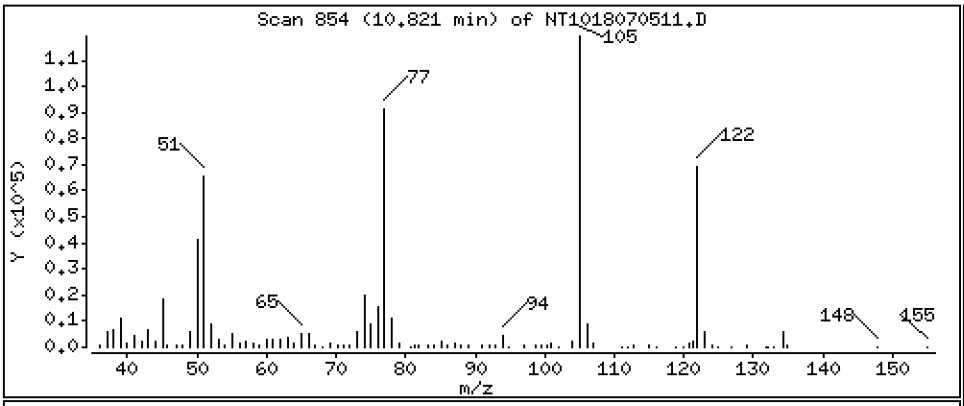
Operator: YZ

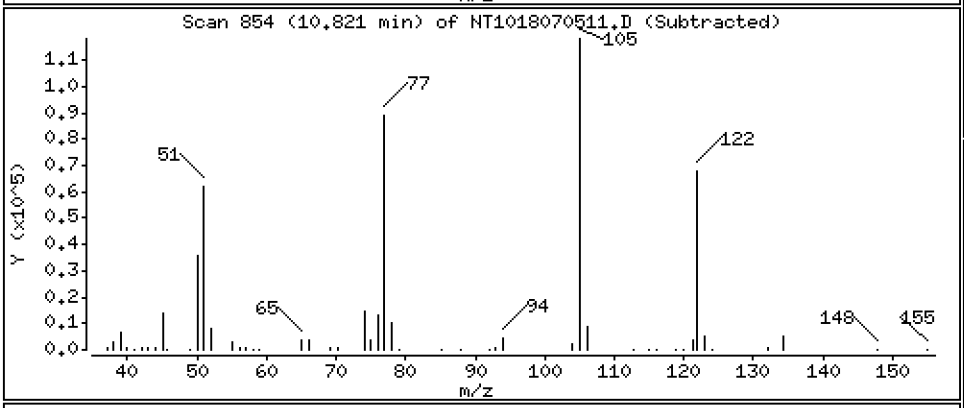
Column phase: ZB-5msi

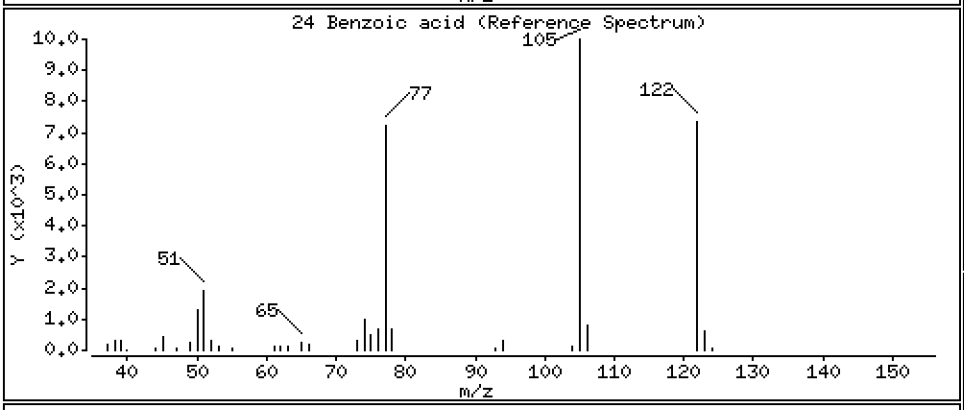
Column diameter: 0.25

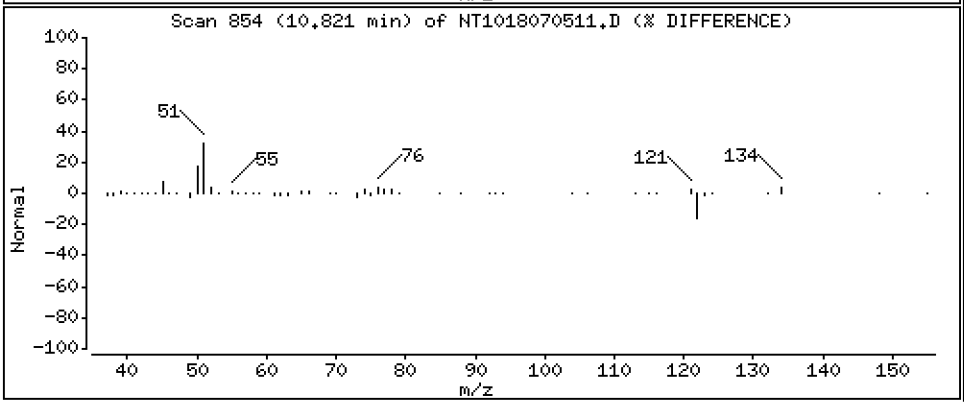
24 Benzoic acid

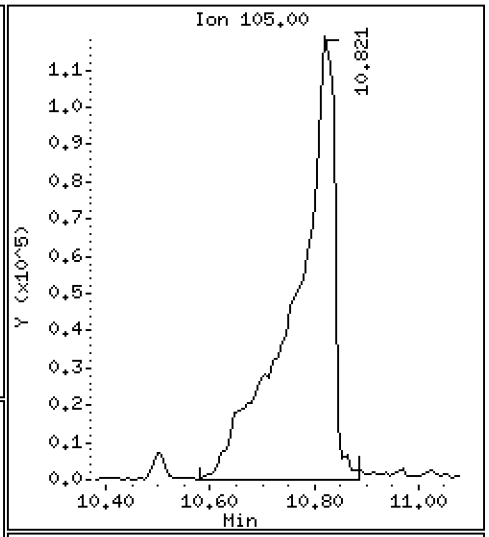
Concentration: 34.09 ug/mL

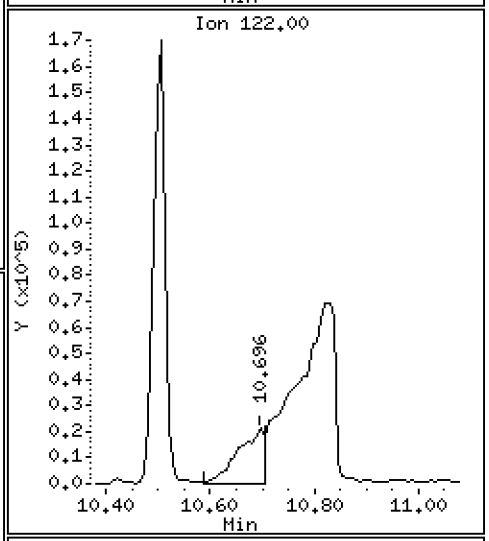


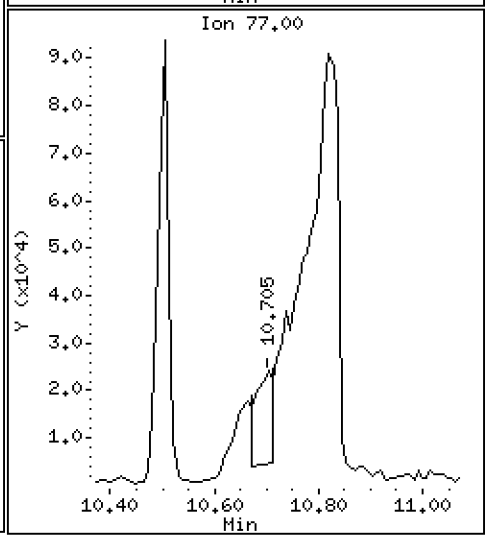












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

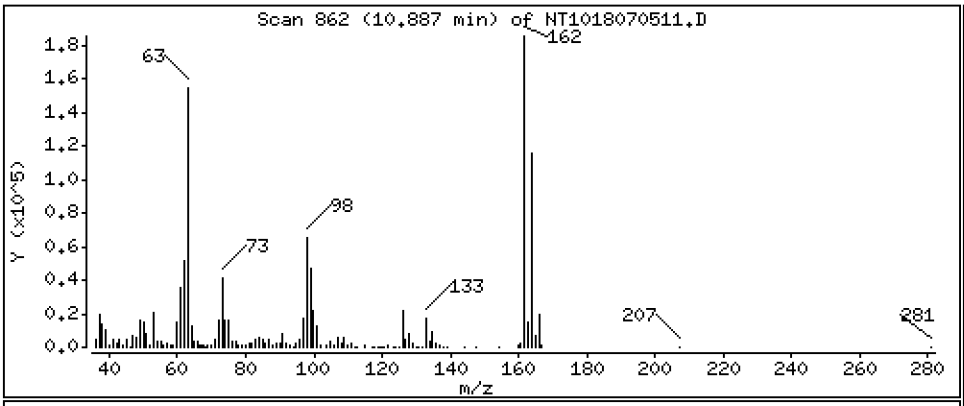
Operator: YZ

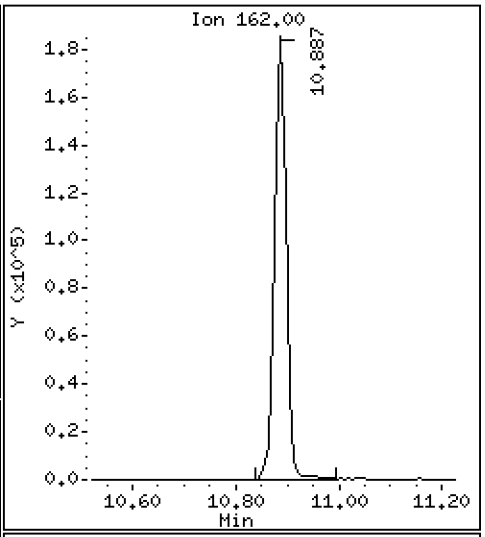
Column phase: ZB-5msi

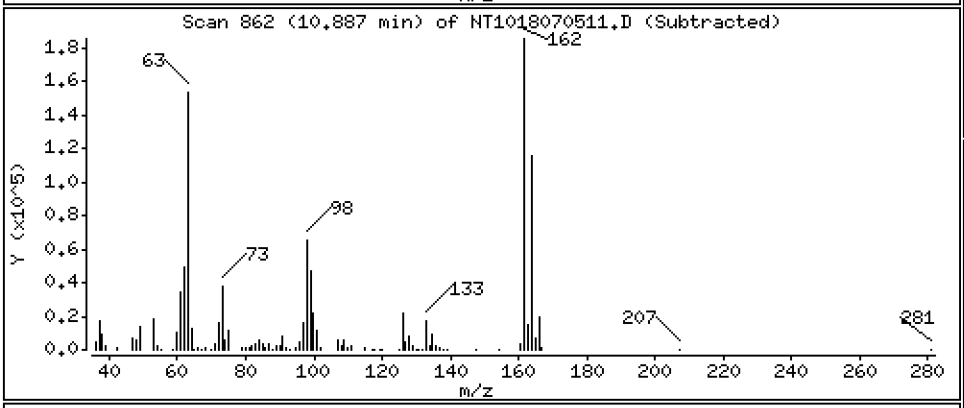
Column diameter: 0.25

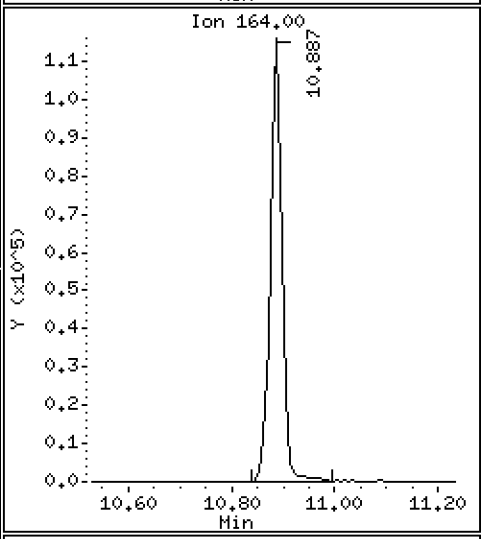
25 2,4-Dichlorophenol

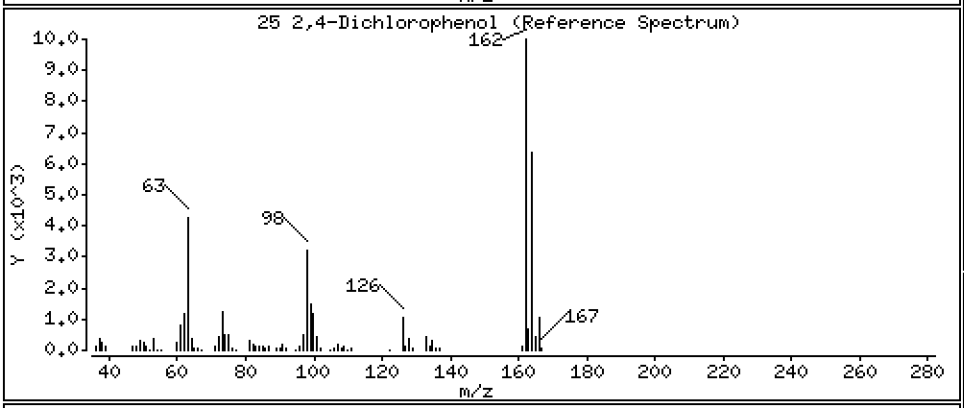
Concentration: 14.40 ug/mL

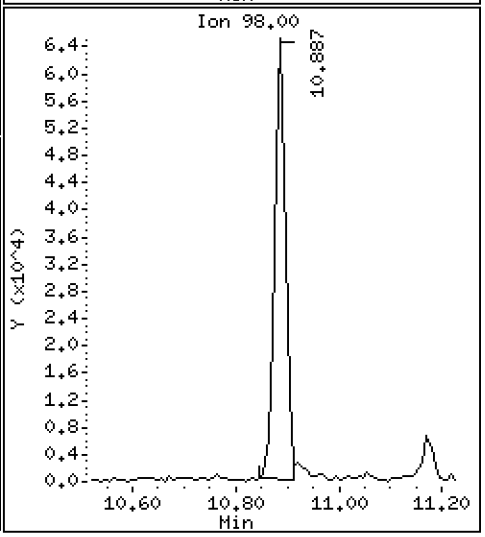


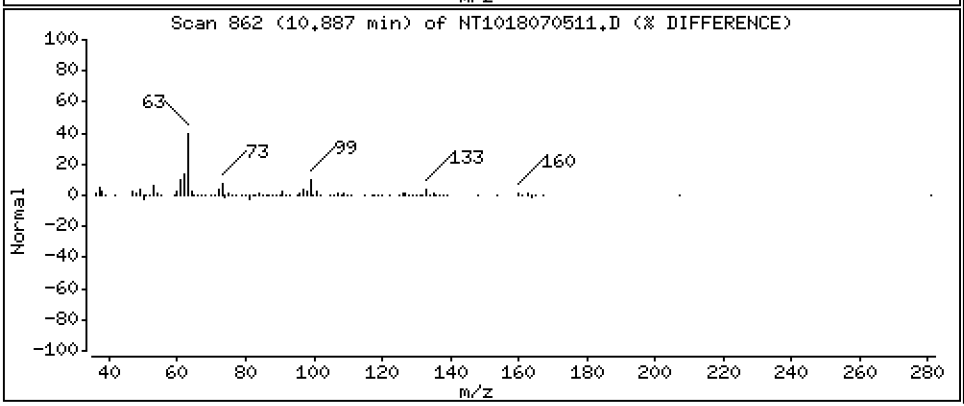












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

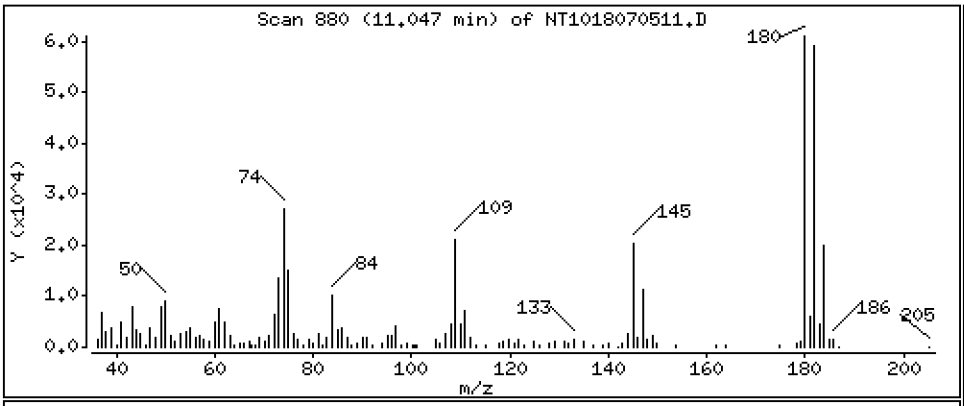
Operator: YZ

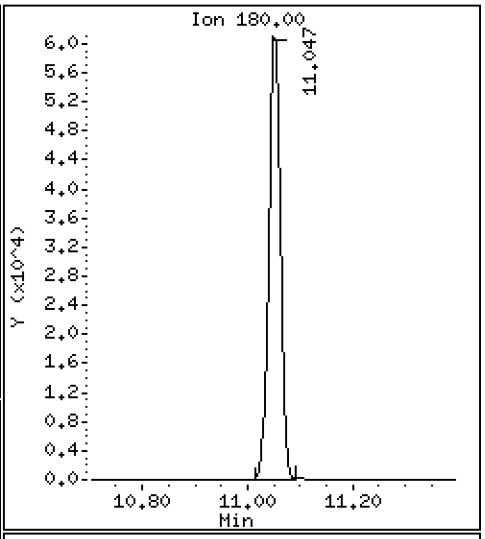
Column phase: ZB-5msi

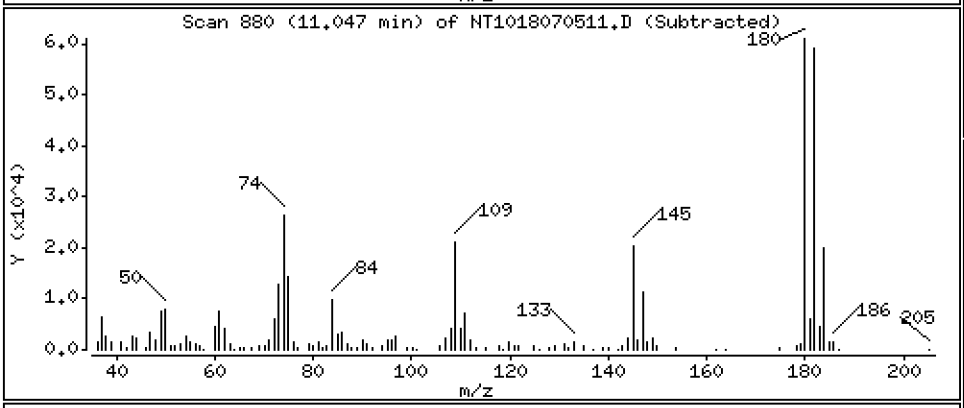
Column diameter: 0.25

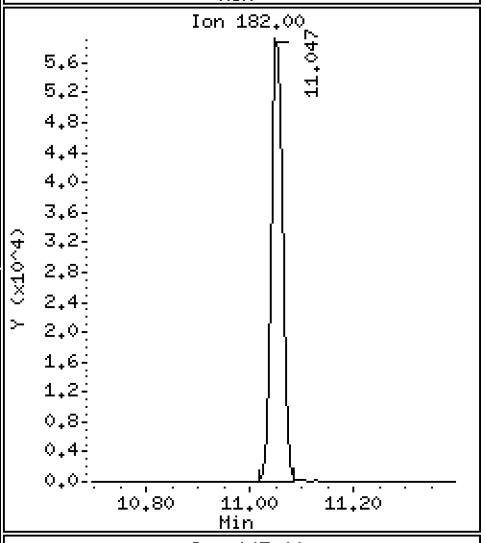
26 1,2,4-Trichlorobenzene

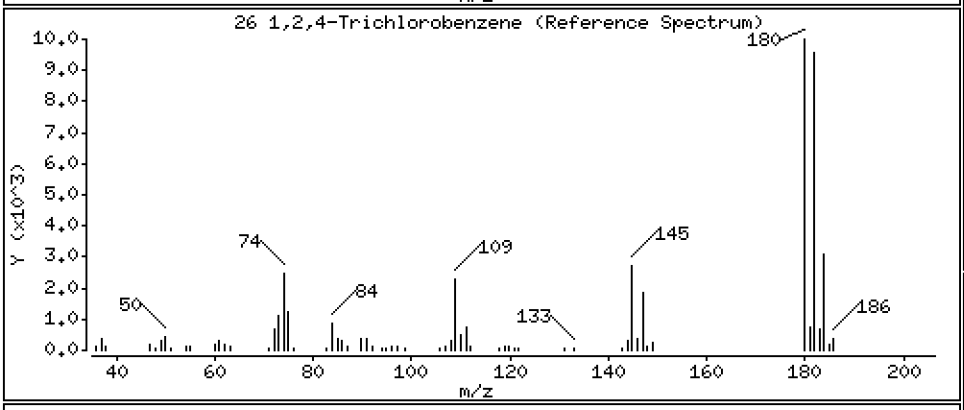
Concentration: 4.153 ug/mL

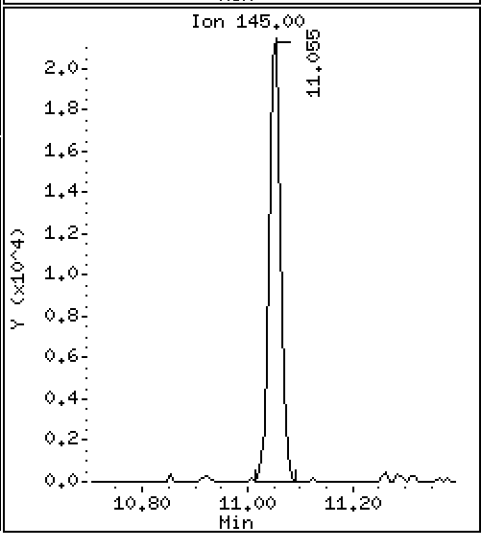


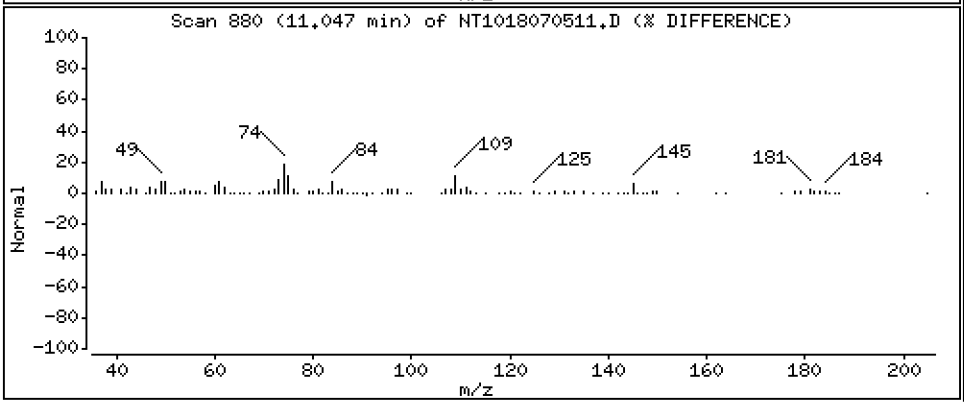












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

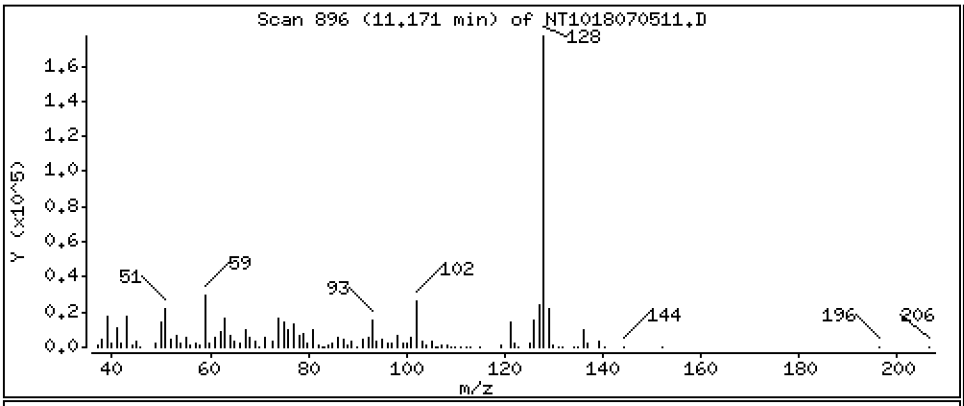
Operator: YZ

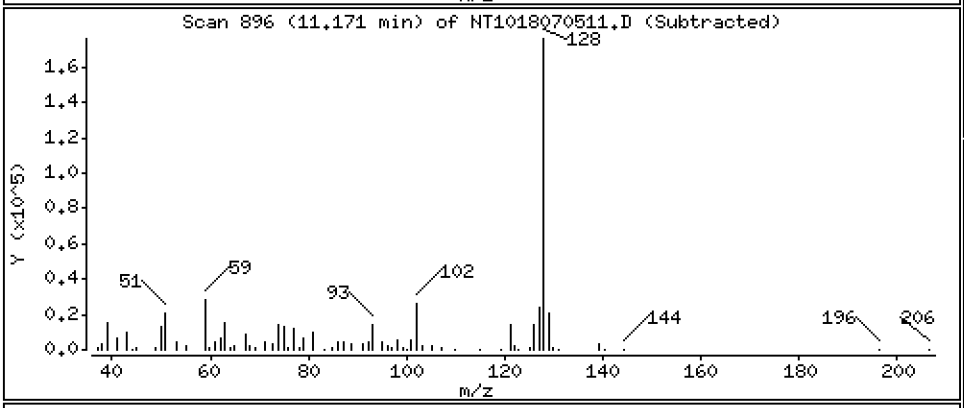
Column phase: ZB-5msi

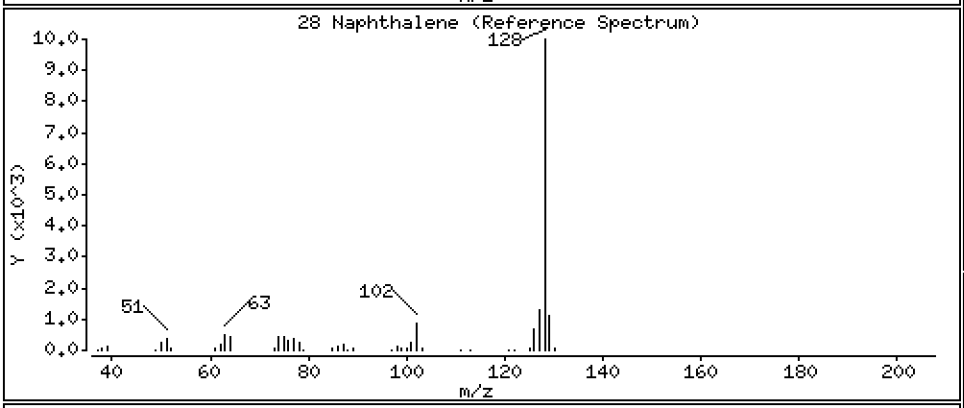
Column diameter: 0.25

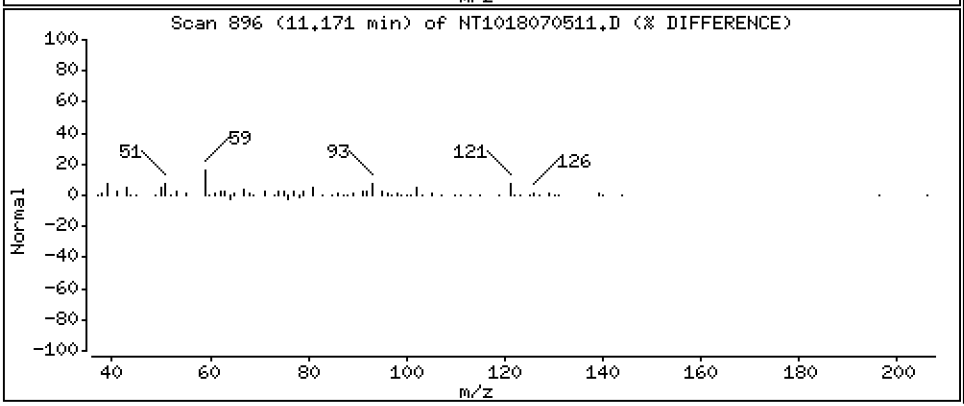
28 Naphthalene

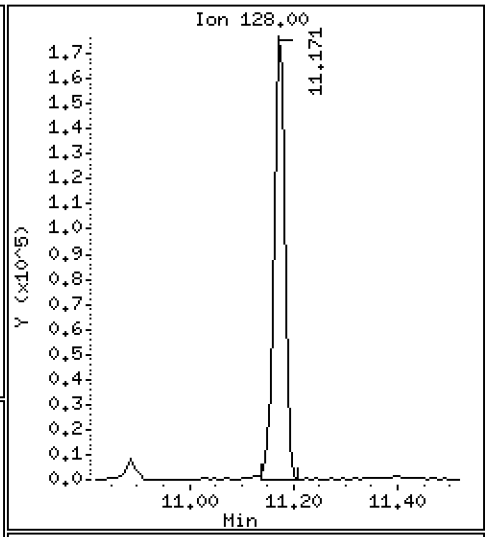
Concentration: 3.641 ug/mL

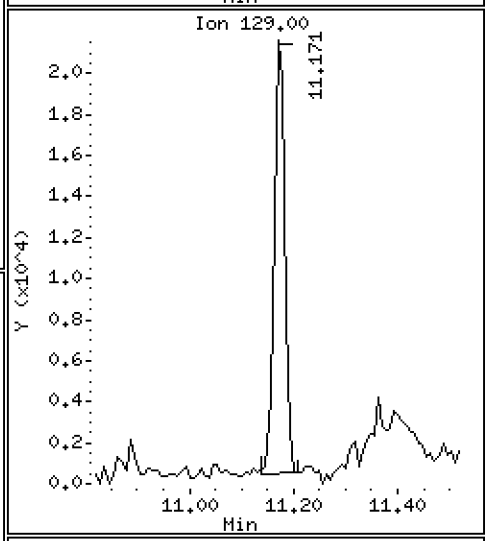


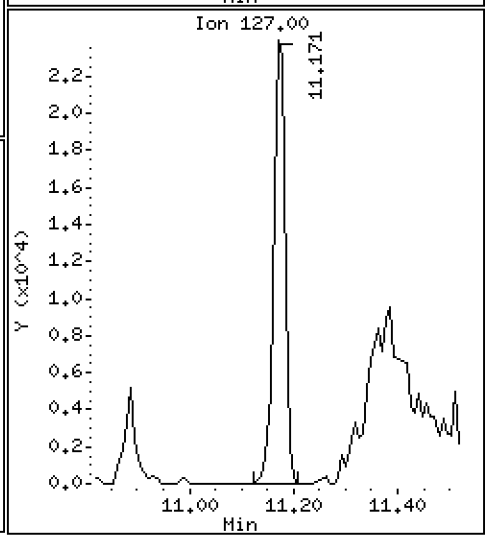












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

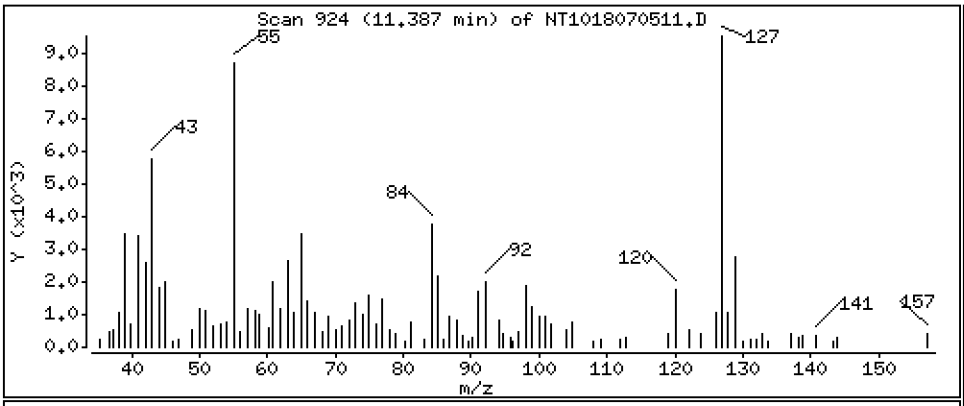
Operator: YZ

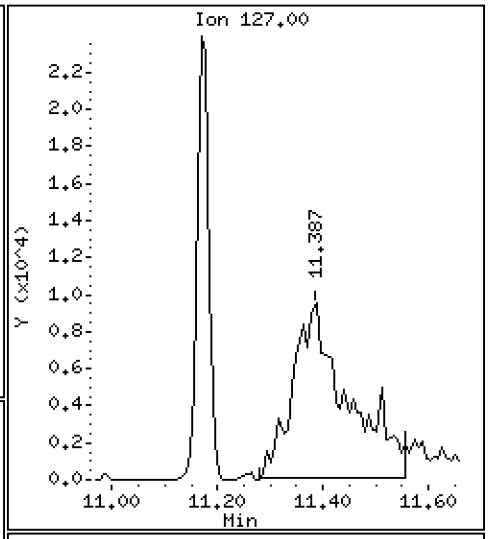
Column phase: ZB-5msi

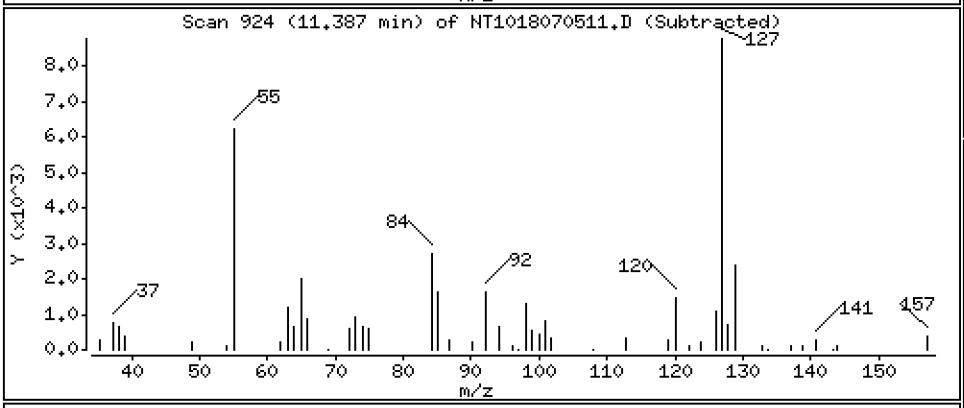
Column diameter: 0.25

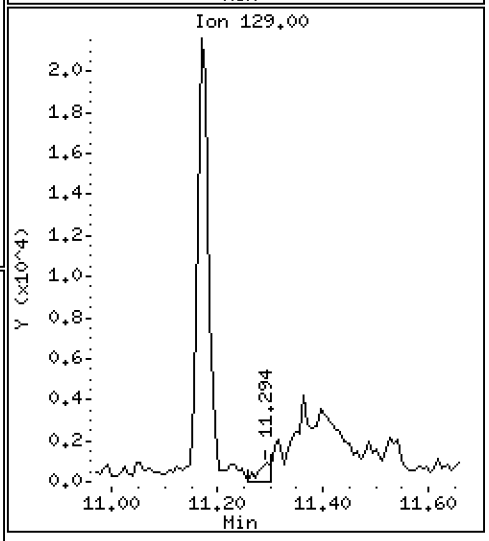
29 4-Chloroaniline

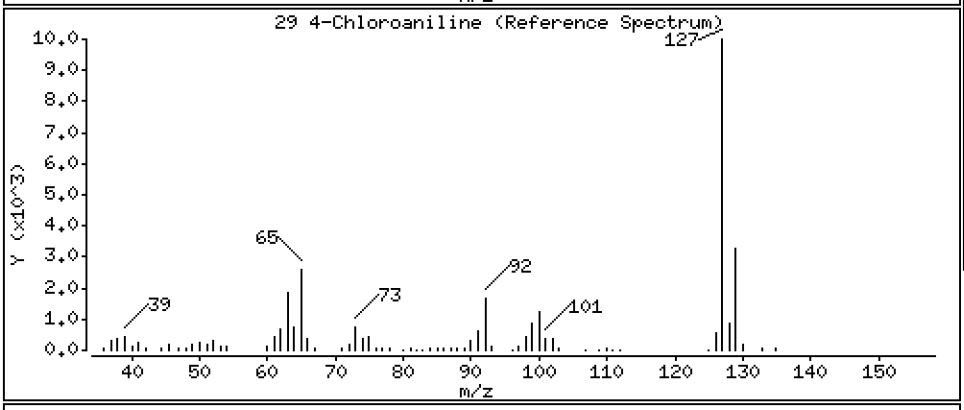
Concentration: 1.996 ug/mL

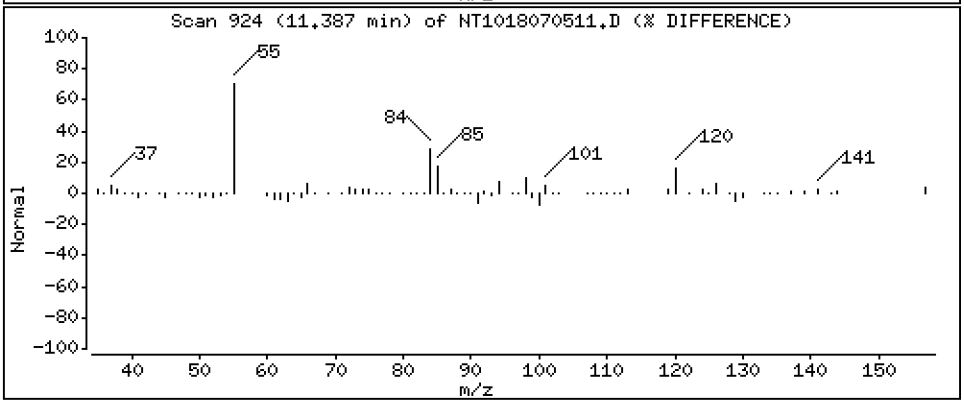












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

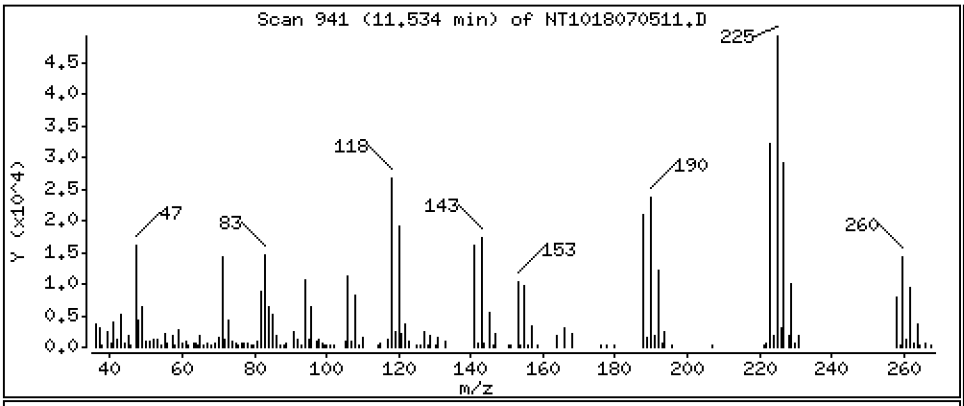
Operator: YZ

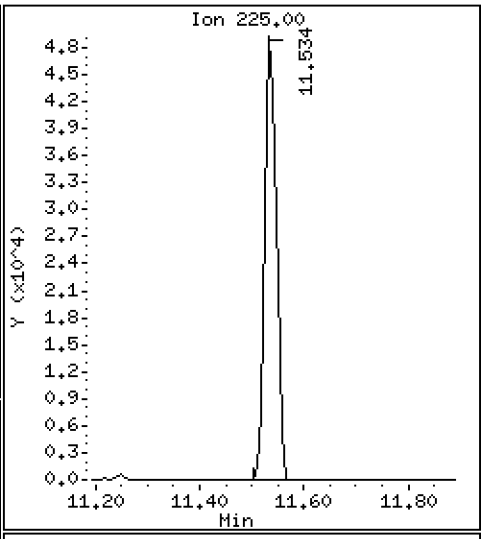
Column phase: ZB-5msi

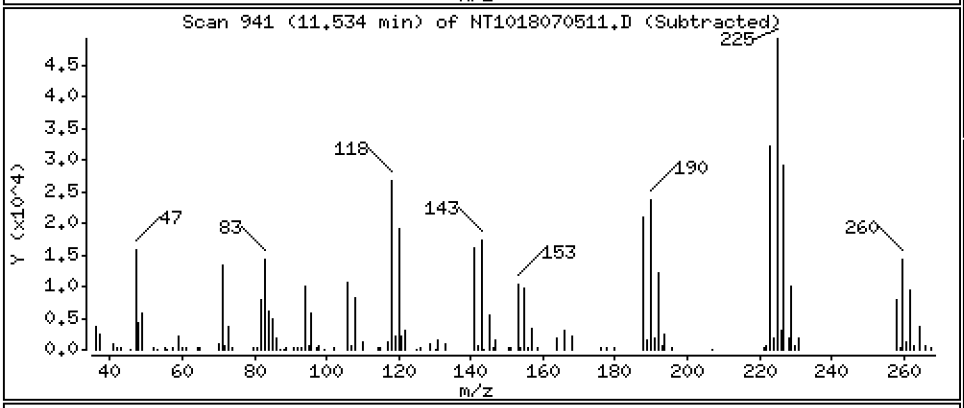
Column diameter: 0.25

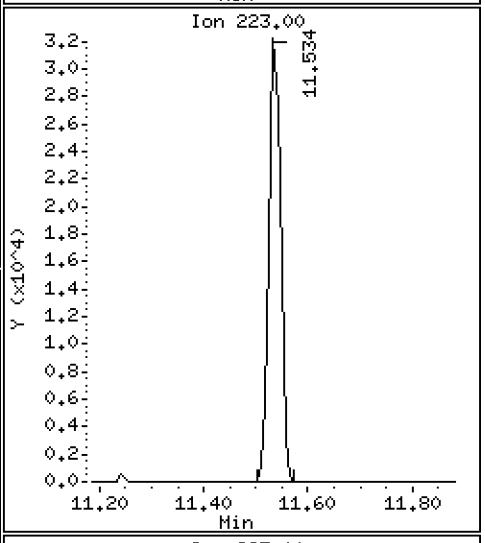
30 Hexachlorobutadiene

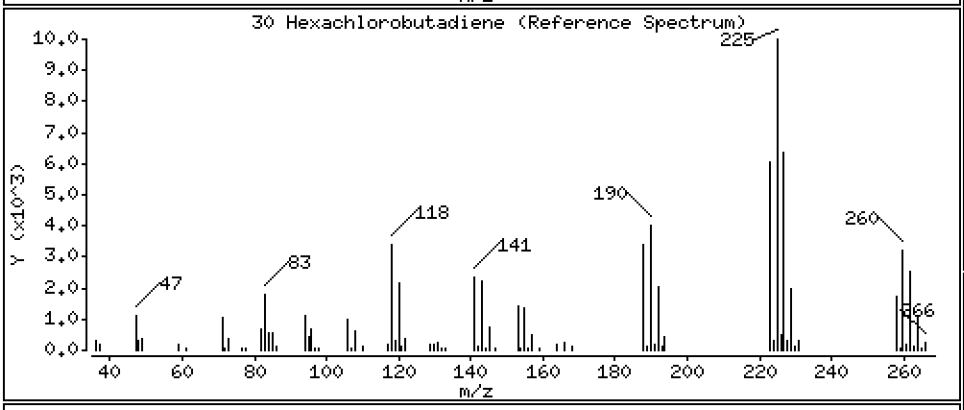
Concentration: 4.925 ug/mL

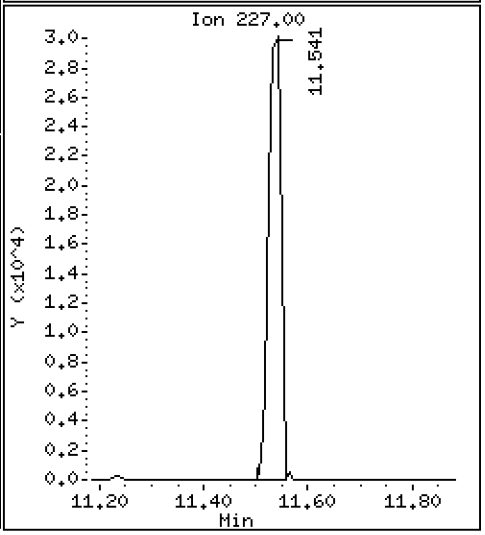


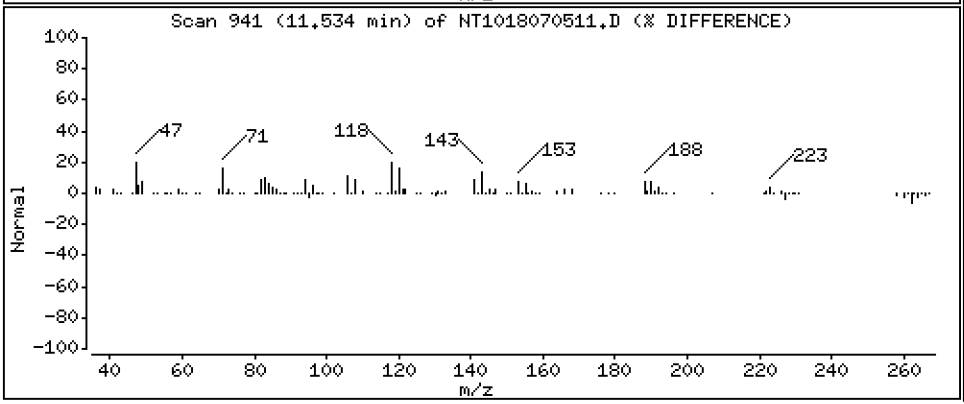












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

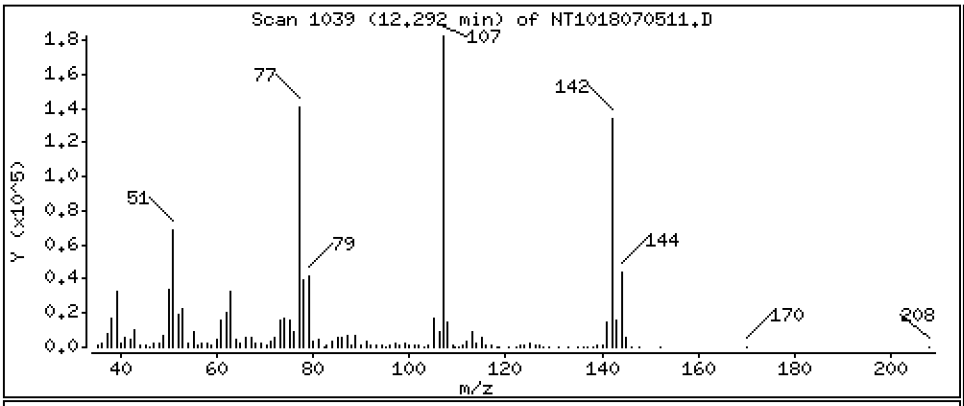
Operator: YZ

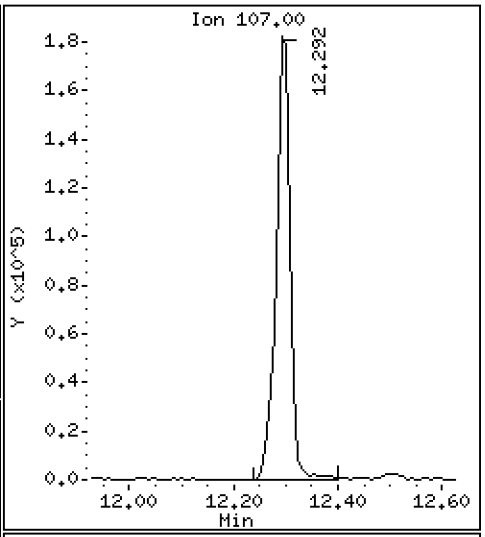
Column phase: ZB-5msi

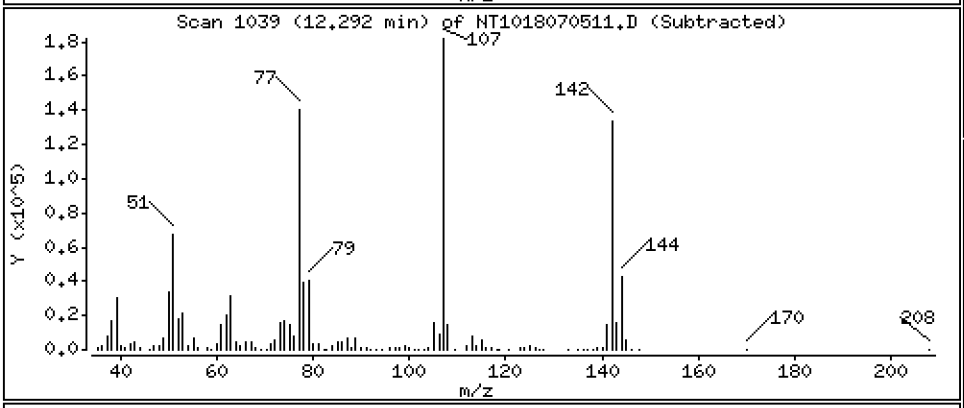
Column diameter: 0.25

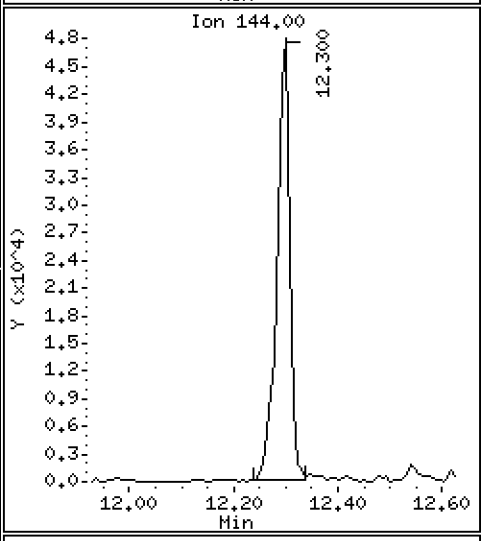
31 4-Chloro-3-methylphenol

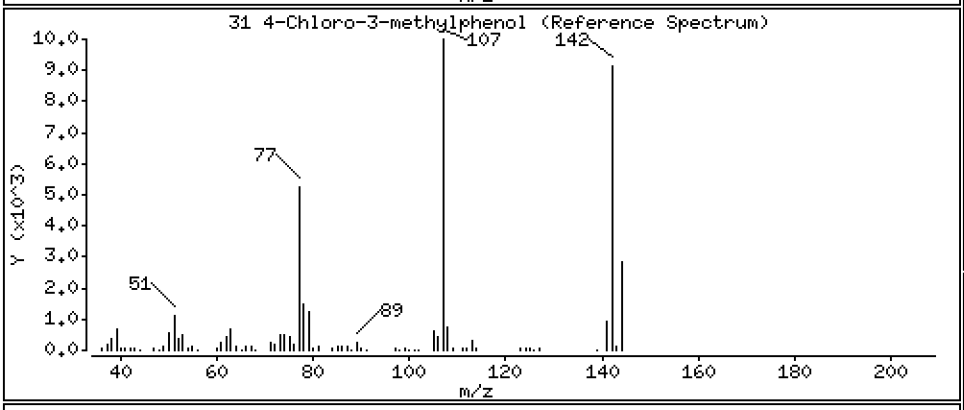
Concentration: 14.44 ug/mL

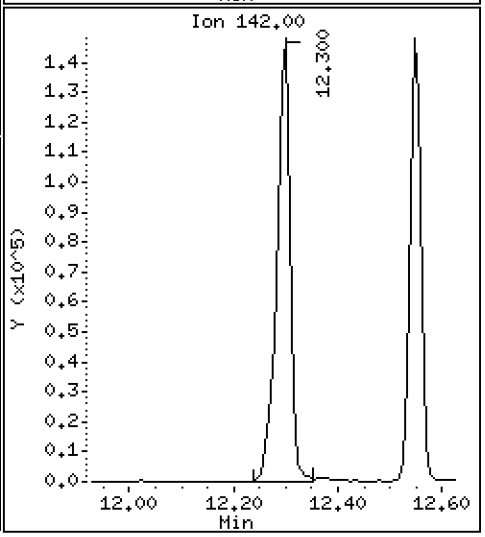


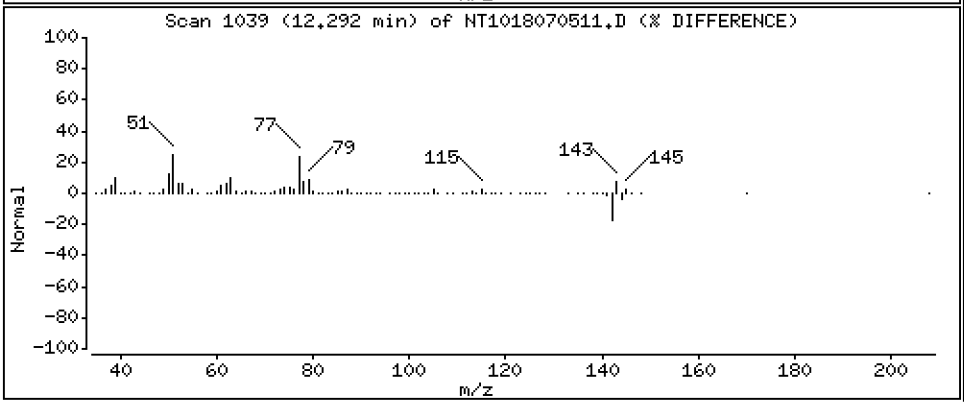












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

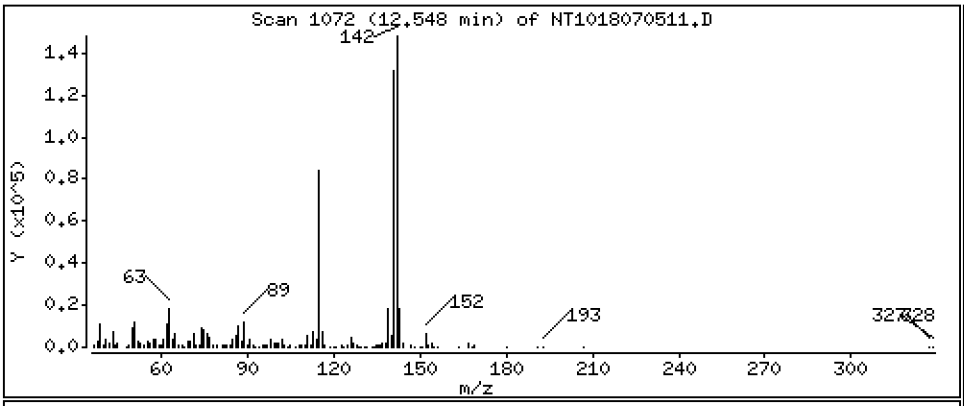
Operator: YZ

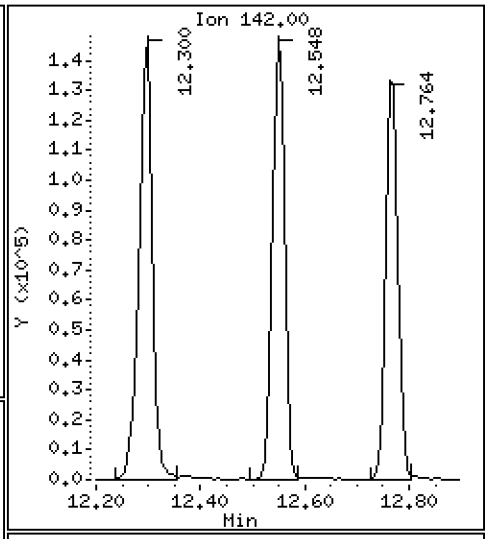
Column phase: ZB-5msi

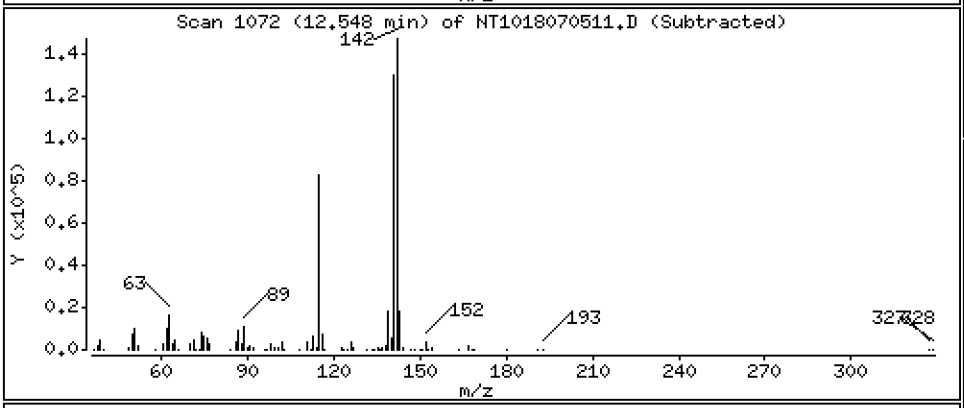
Column diameter: 0.25

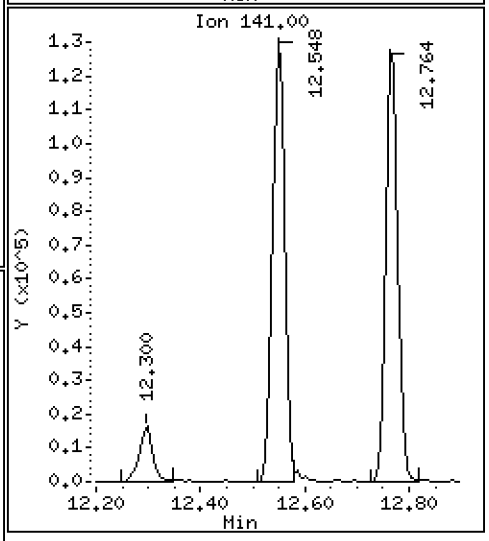
32 2-Methylnaphthalene

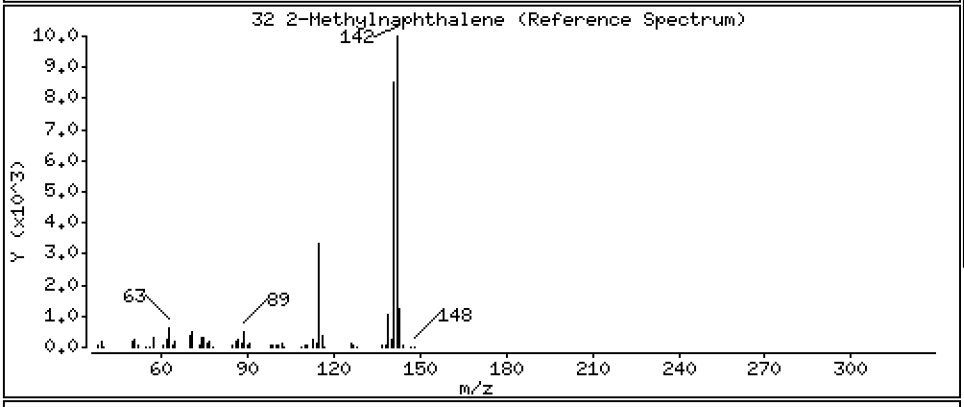
Concentration: 3.975 ug/mL

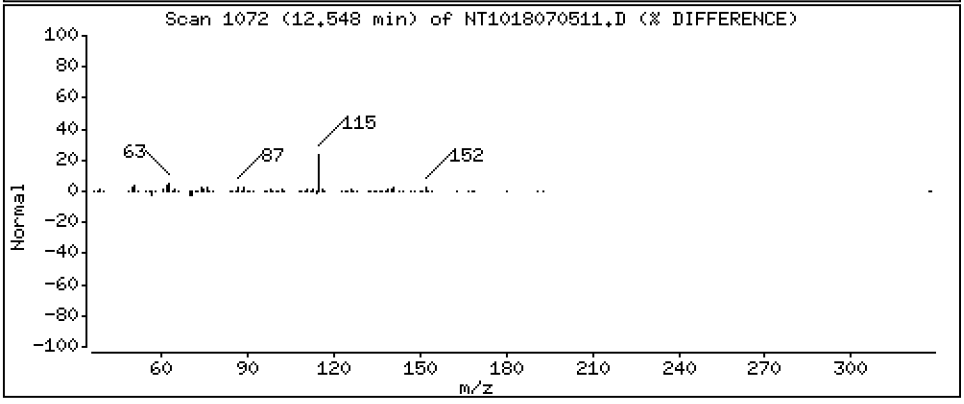












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

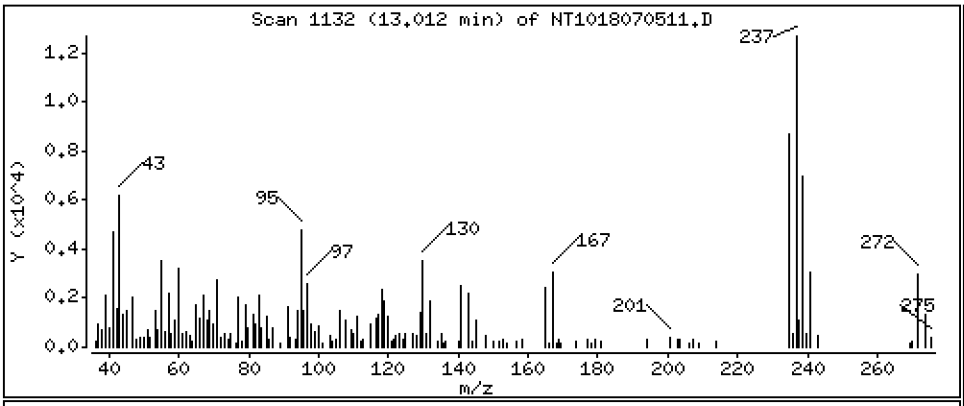
Operator: YZ

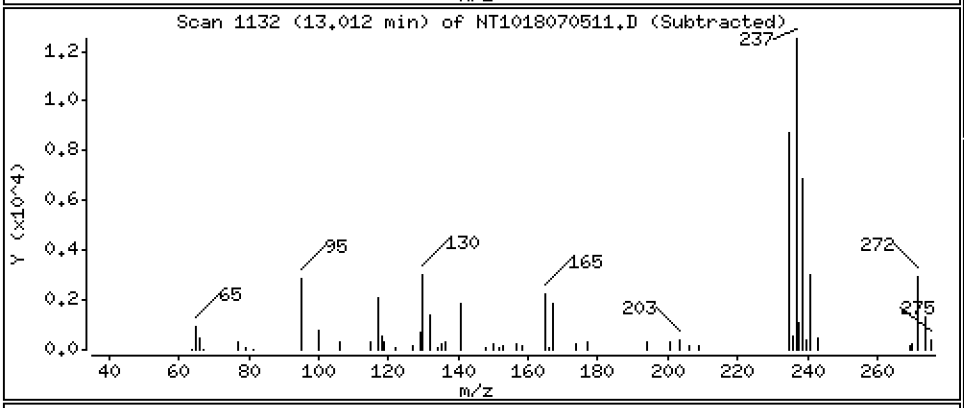
Column phase: ZB-5msi

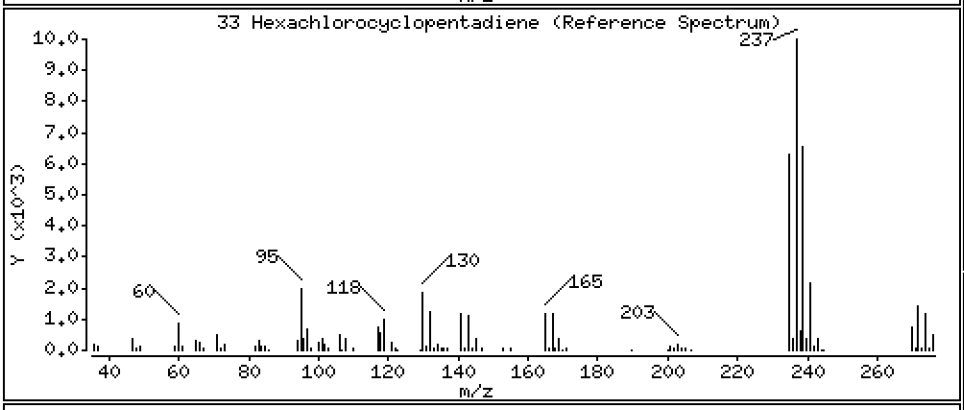
Column diameter: 0.25

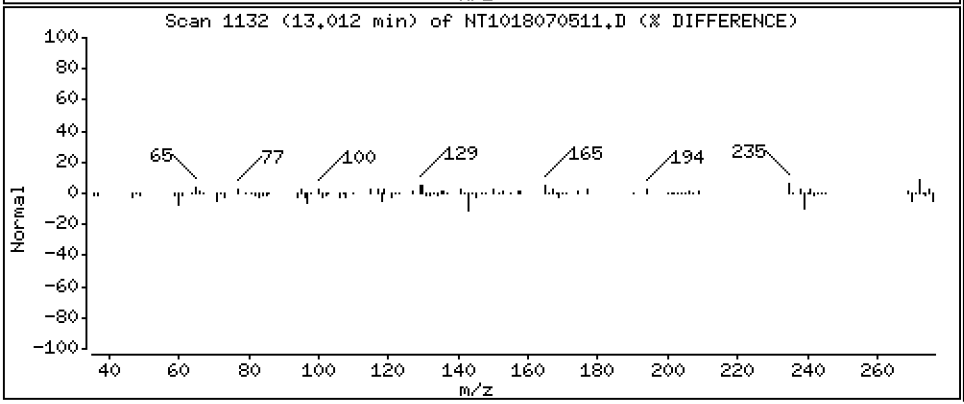
33 Hexachlorocyclopentadiene

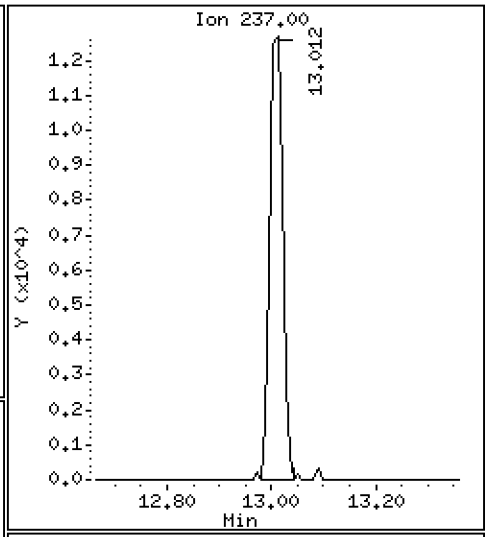
Concentration: 1.268 ug/mL

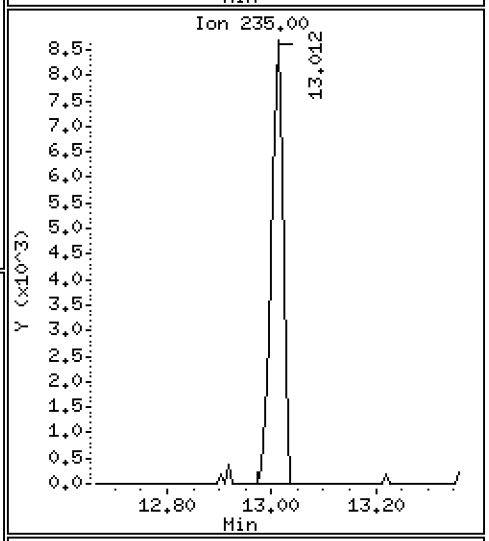


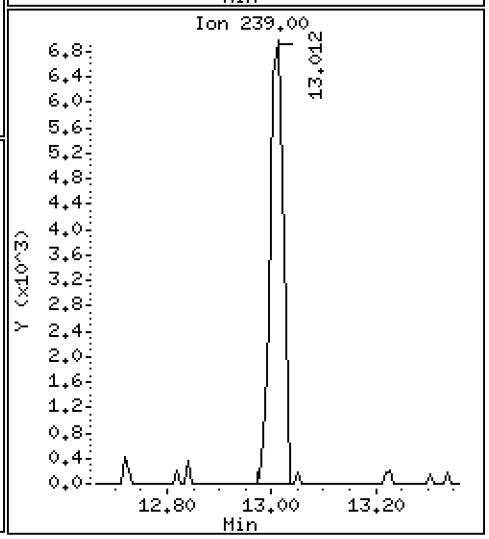












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

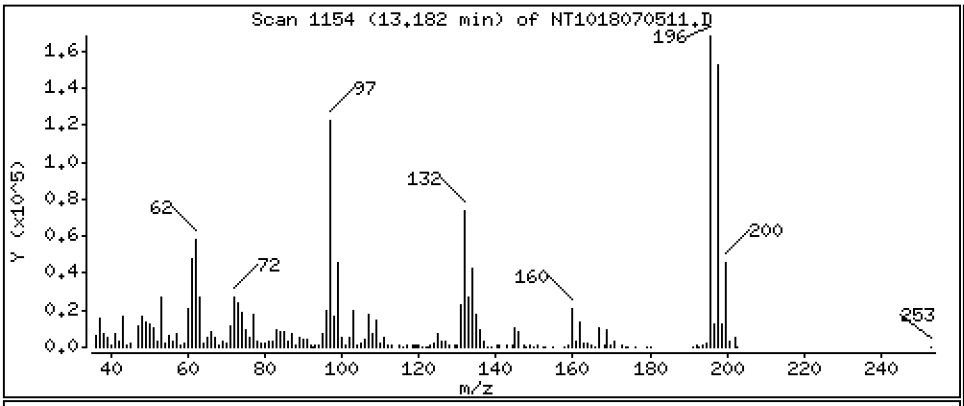
Operator: YZ

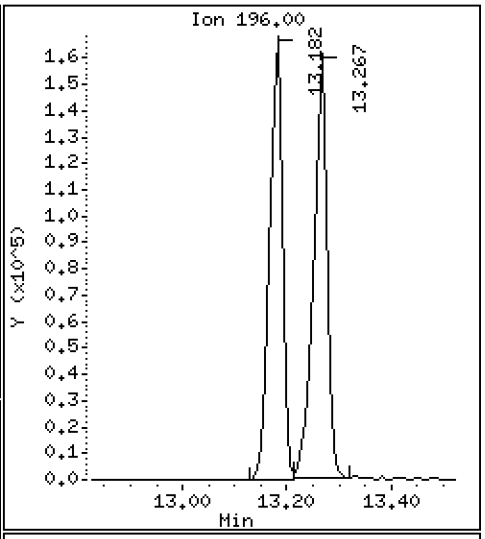
Column phase: ZB-5msi

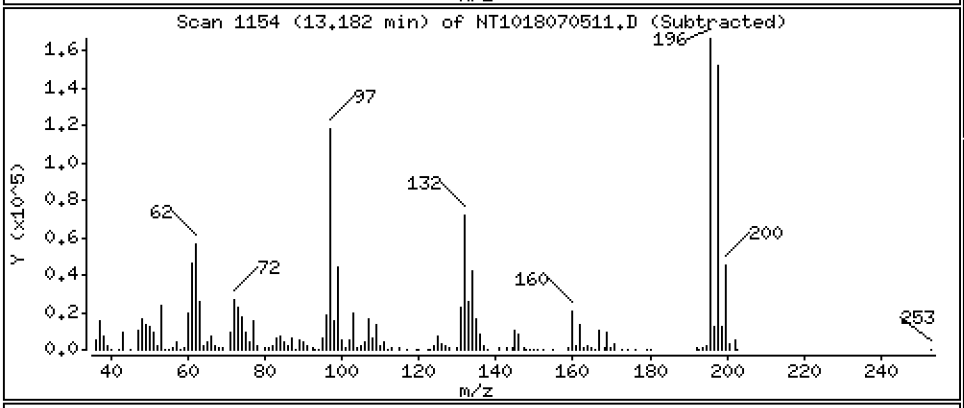
Column diameter: 0.25

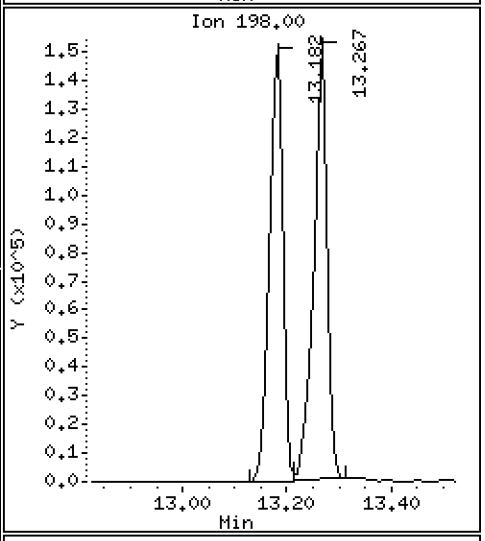
34 2,4,6-Trichlorophenol

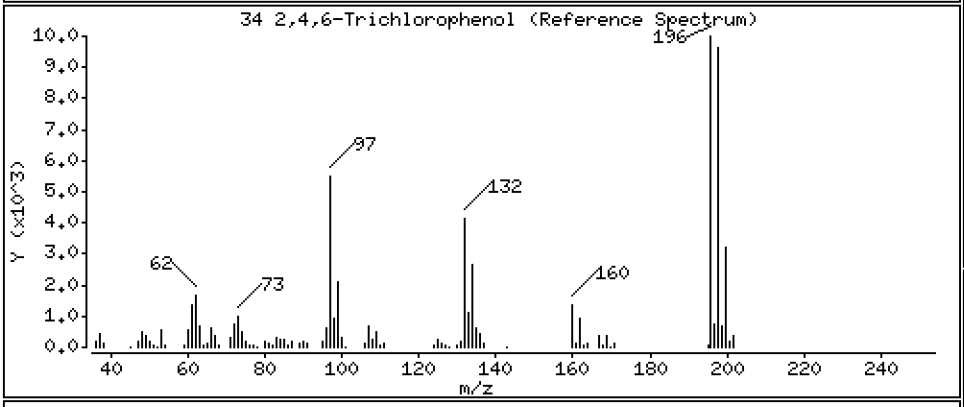
Concentration: 15.47 ug/mL

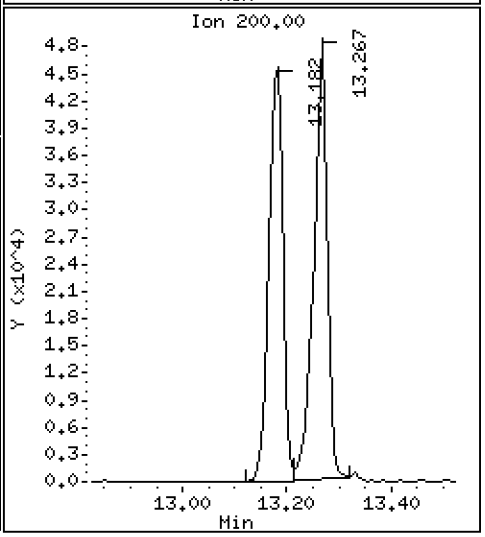


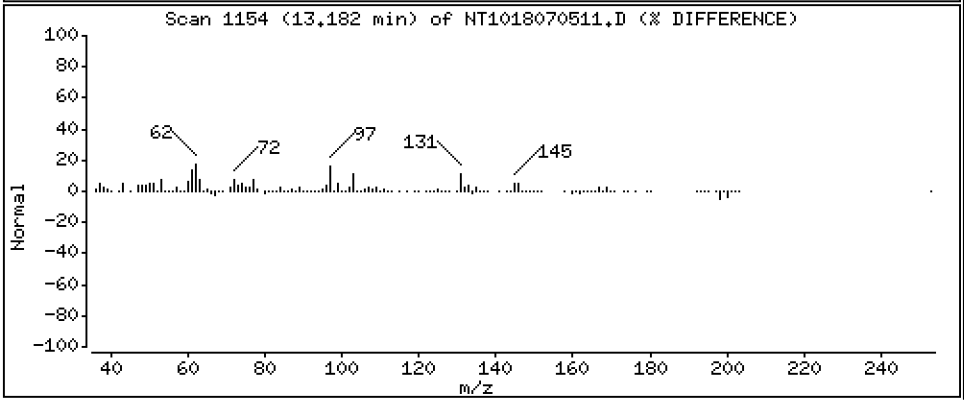












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

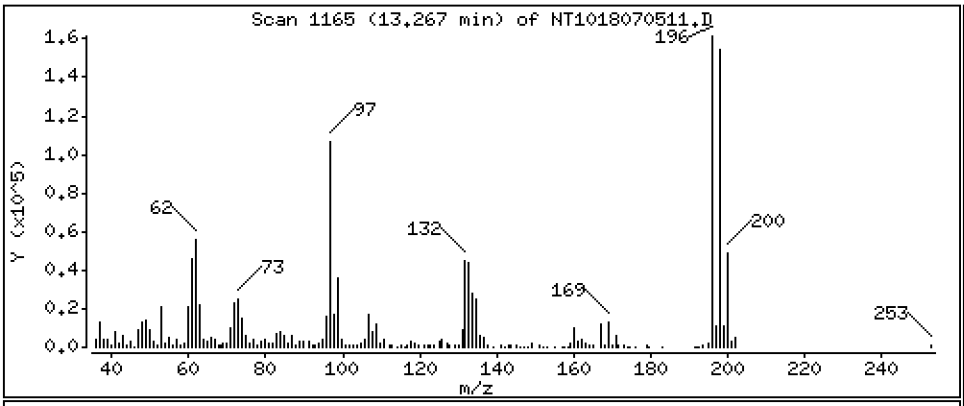
Operator: YZ

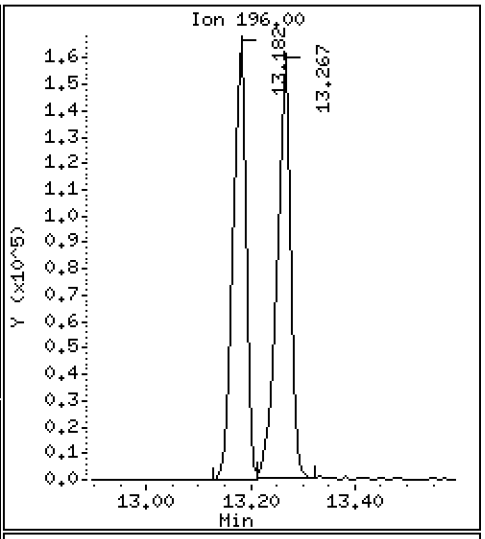
Column phase: ZB-5msi

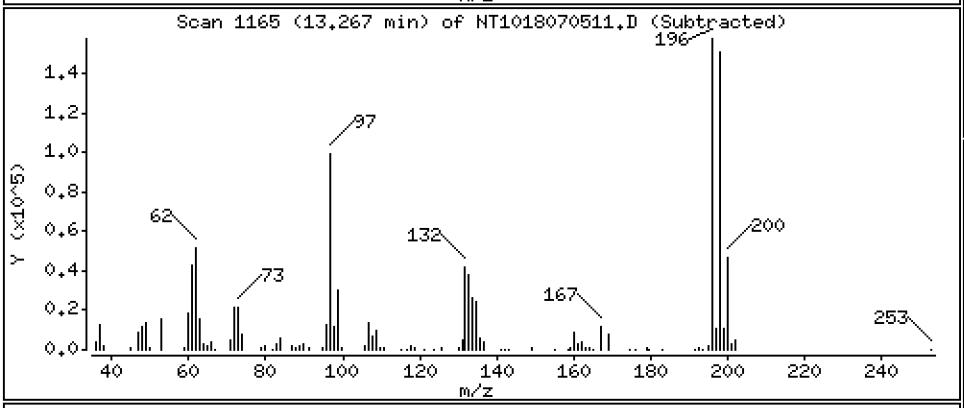
Column diameter: 0.25

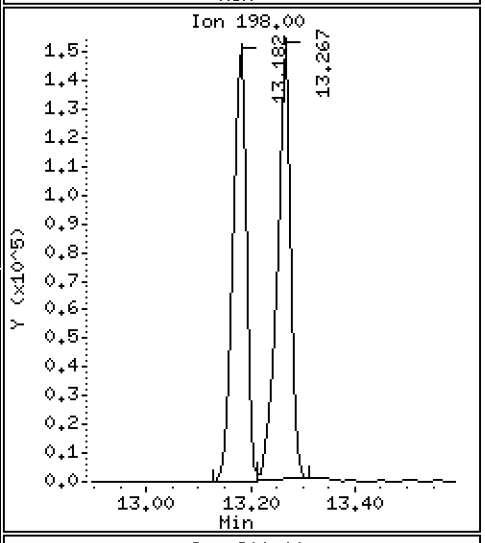
35 2,4,5-Trichlorophenol

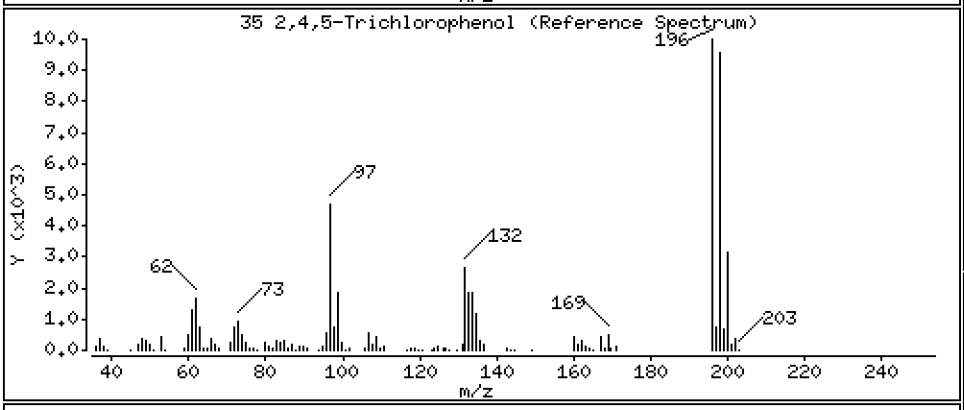
Concentration: 14.45 ug/mL

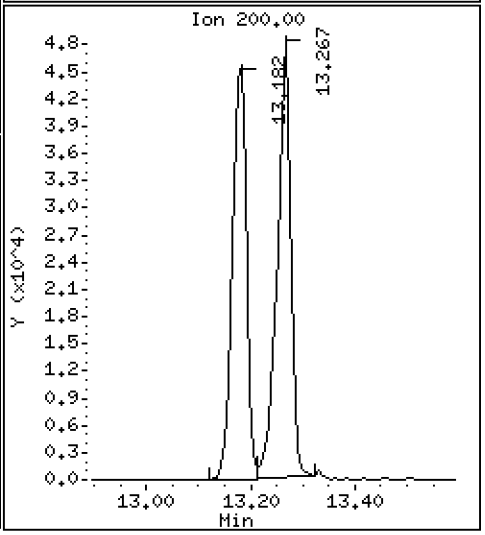


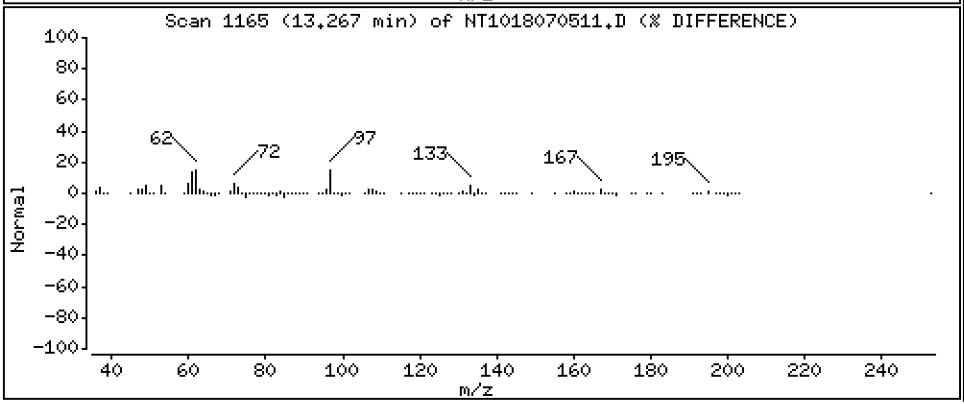












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

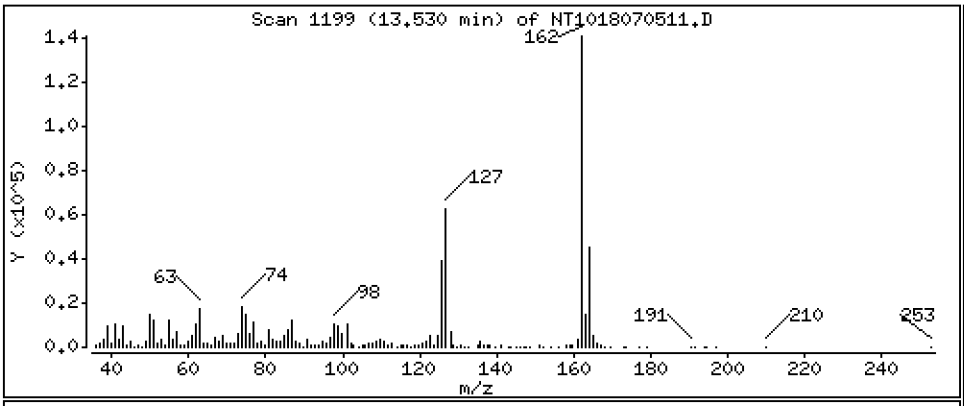
Operator: YZ

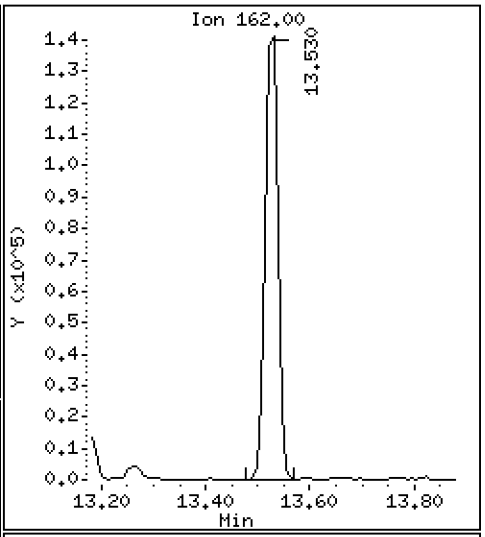
Column phase: ZB-5msi

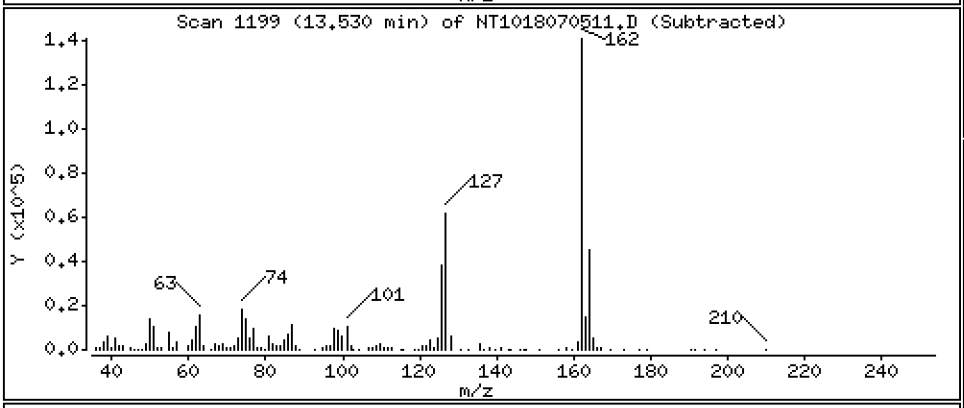
Column diameter: 0.25

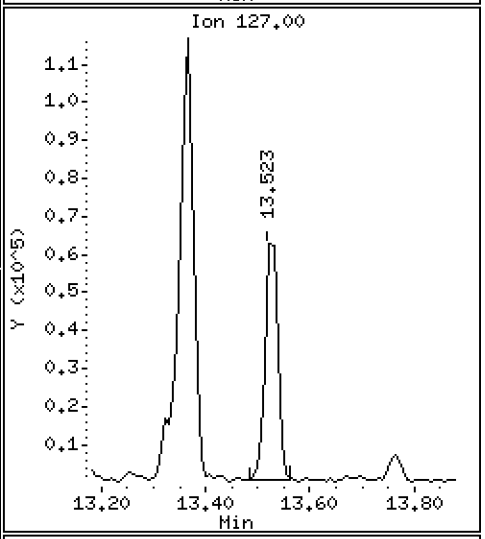
37 2-Chloronaphthalene

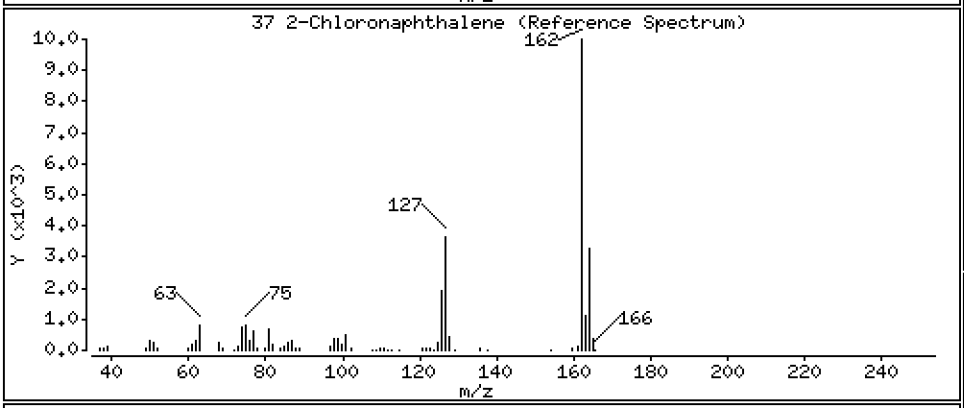
Concentration: 4.249 ug/mL

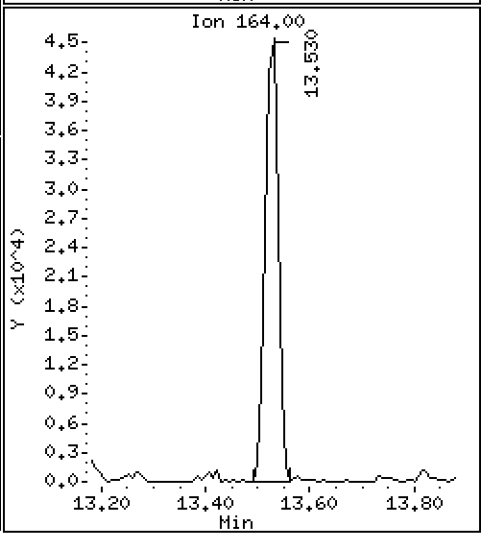


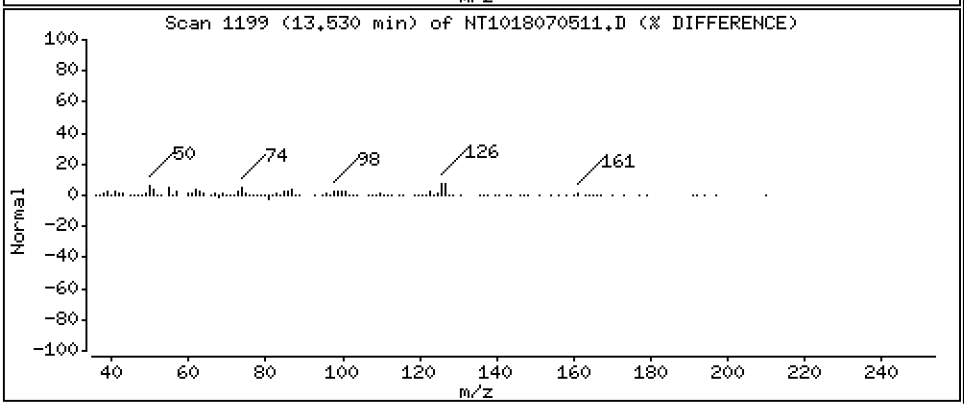












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

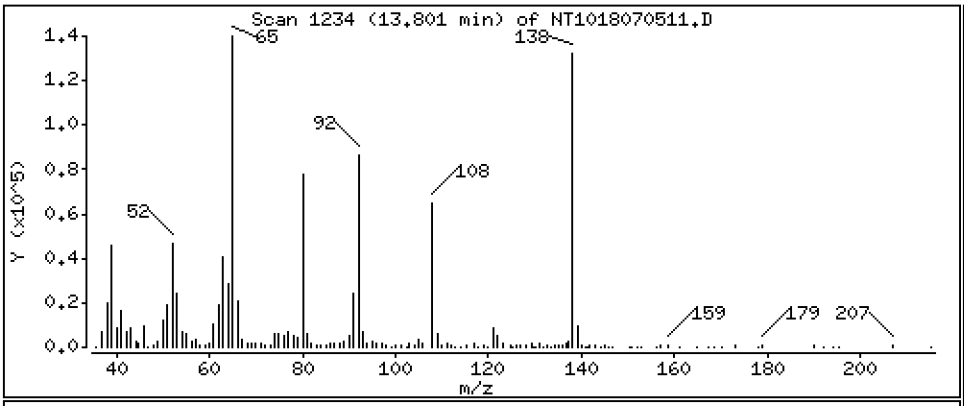
Operator: YZ

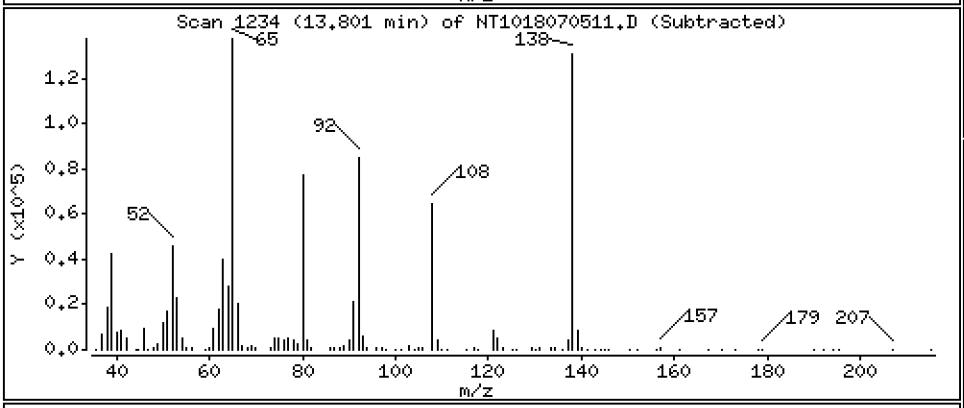
Column phase: ZB-5msi

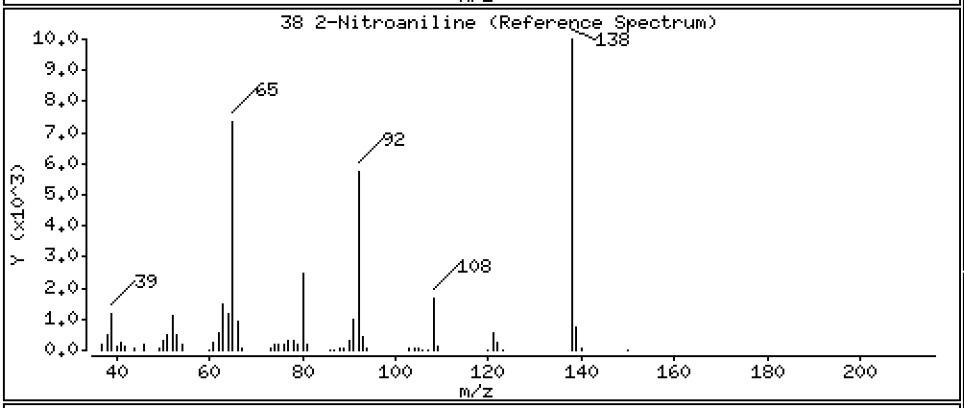
Column diameter: 0.25

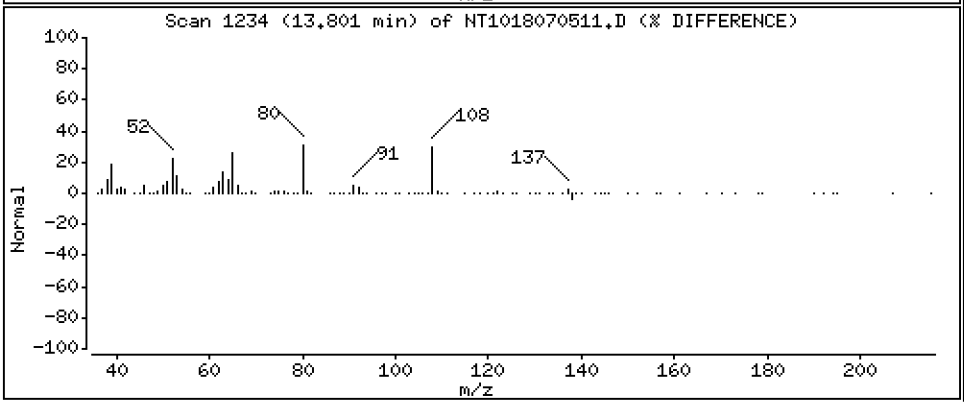
38 2-Nitroaniline

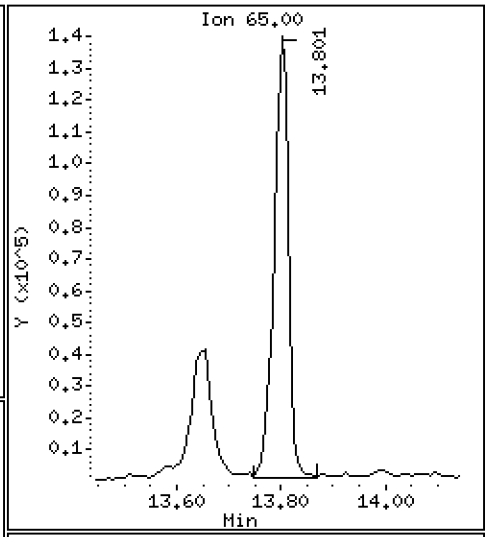
Concentration: 16.95 ug/mL

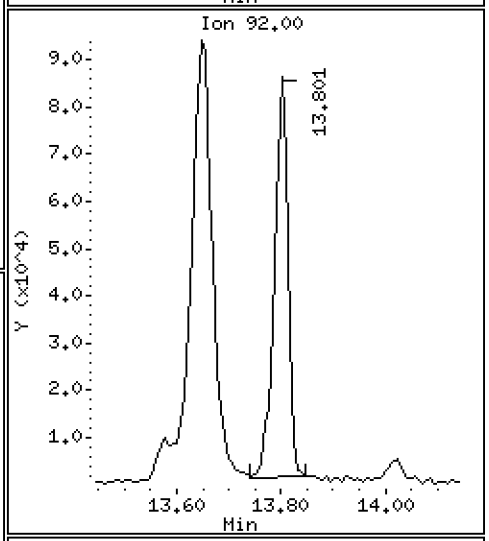


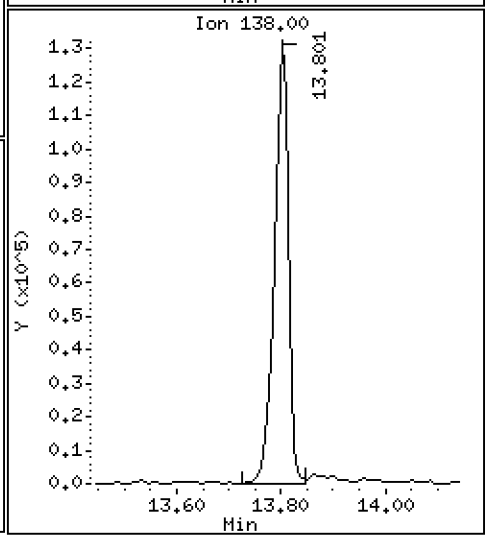












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

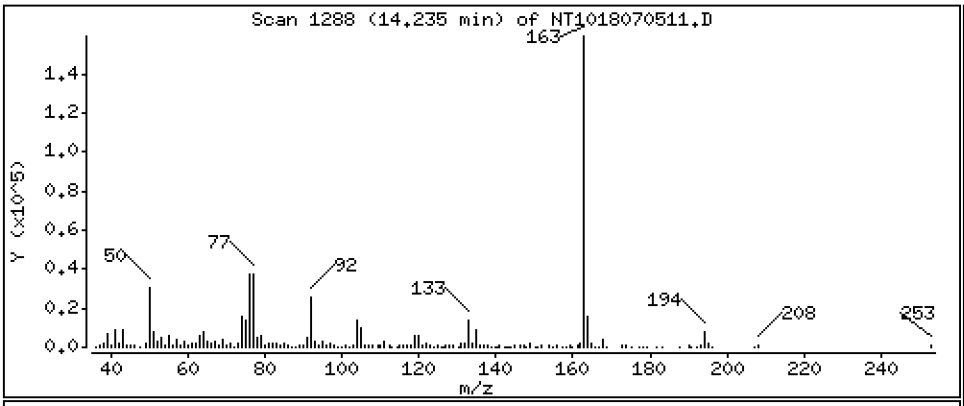
Operator: YZ

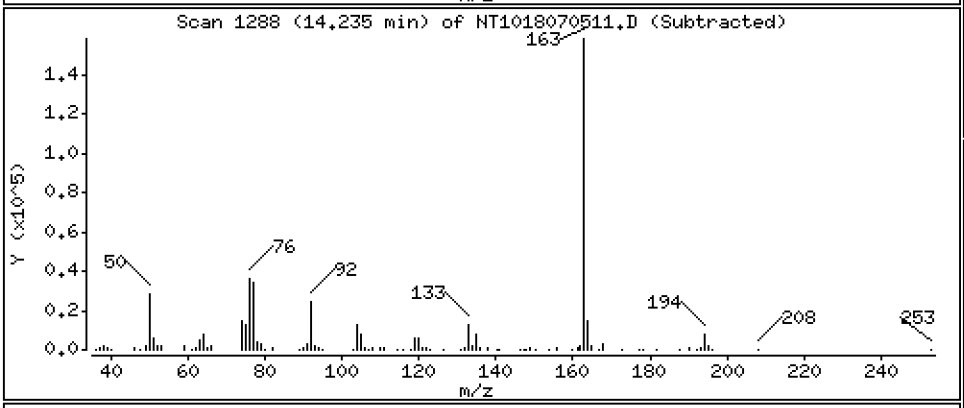
Column phase: ZB-5msi

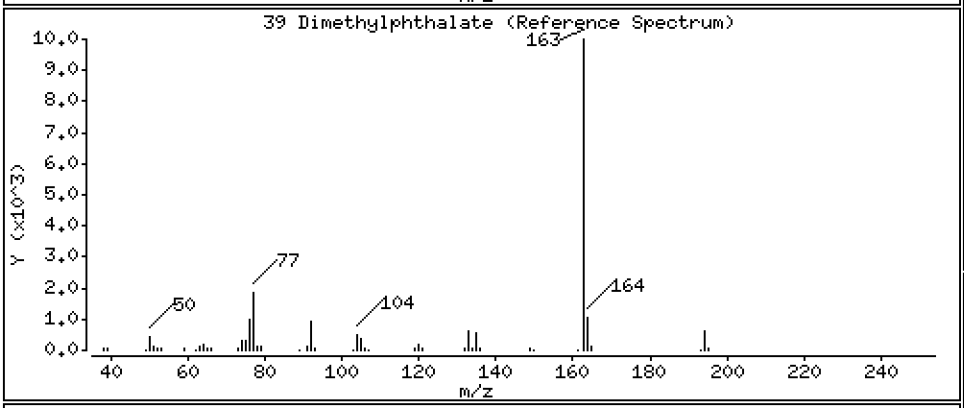
Column diameter: 0.25

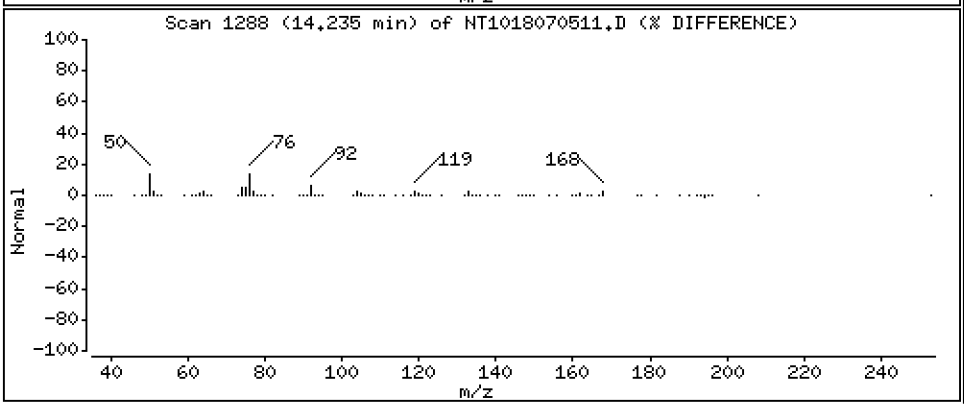
39 Dimethylphthalate

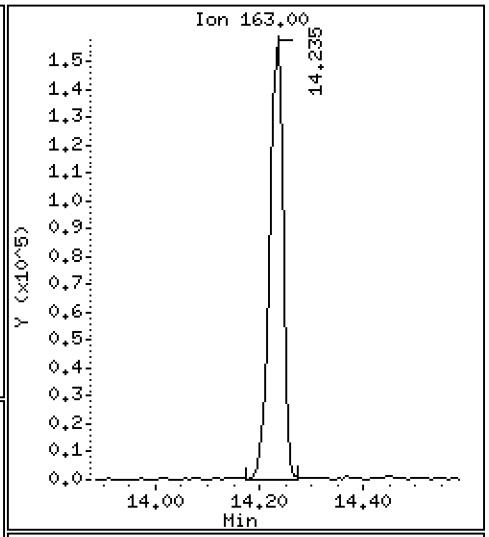
Concentration: 4.689 ug/mL

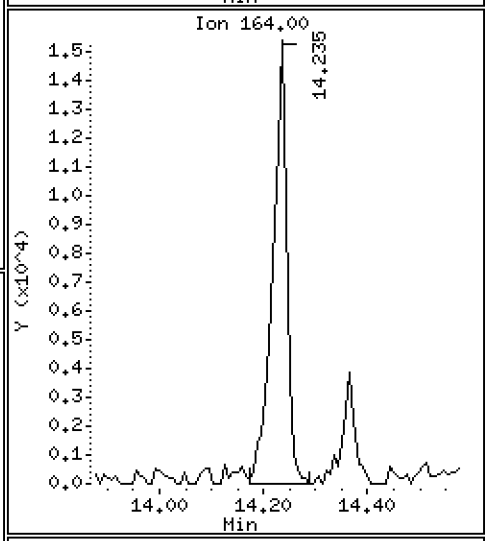


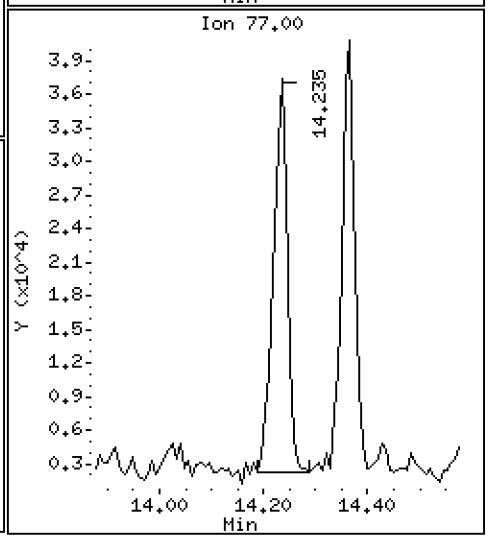












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

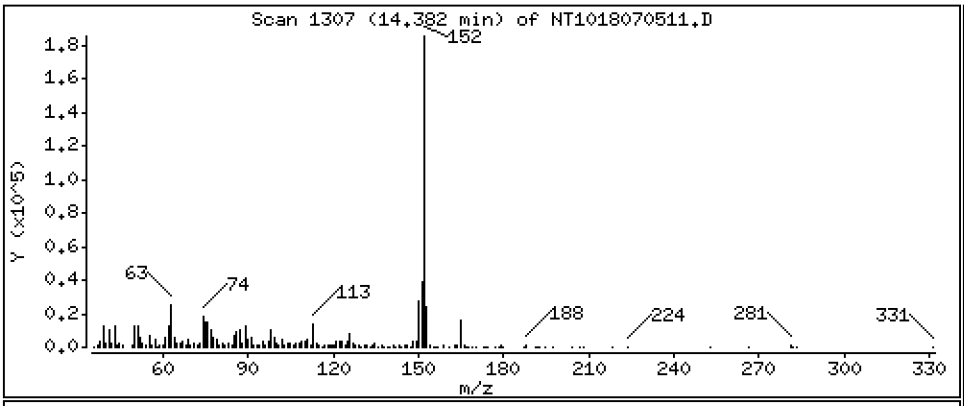
Operator: YZ

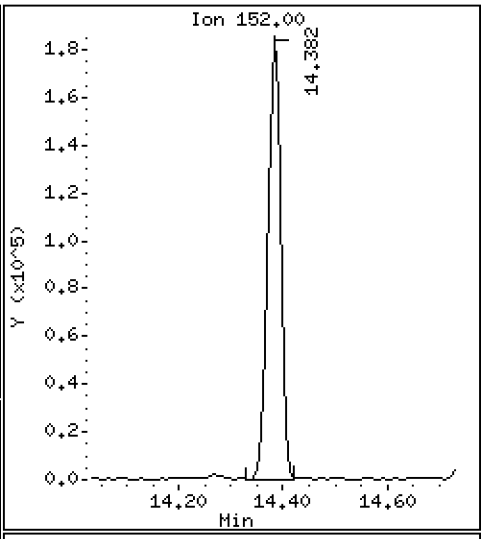
Column phase: ZB-5msi

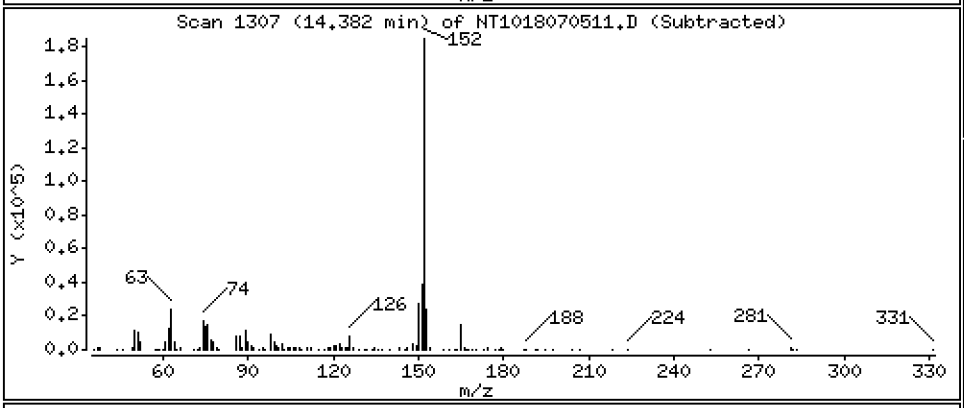
Column diameter: 0.25

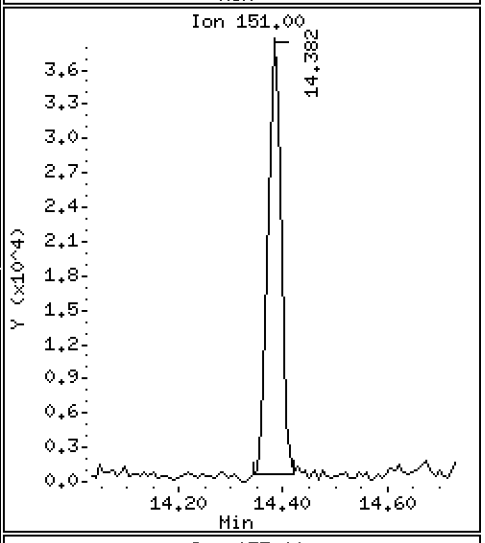
40 Acenaphthylene

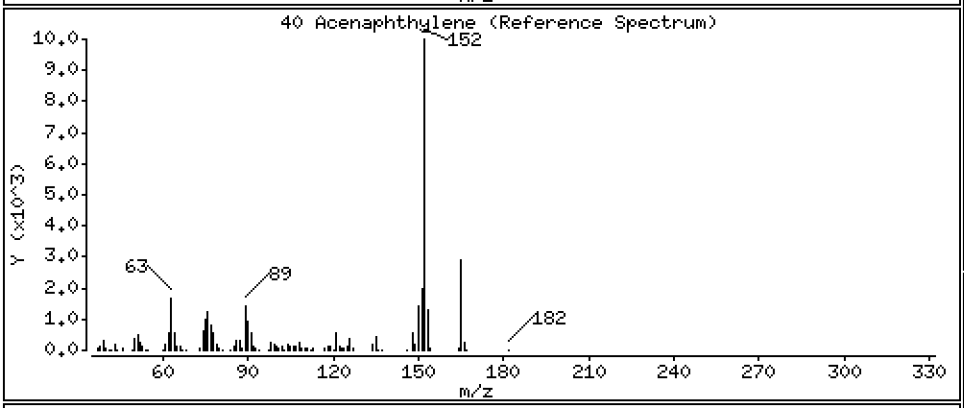
Concentration: 3.535 ug/mL

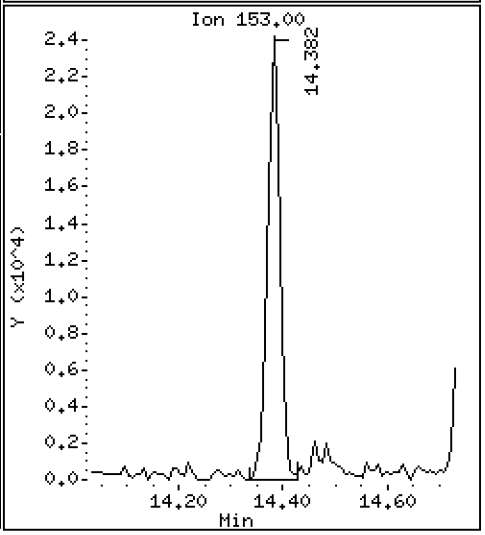


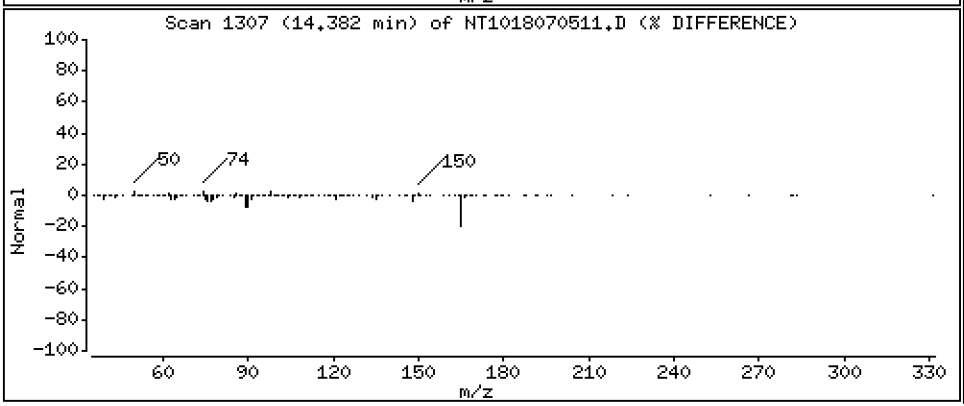












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

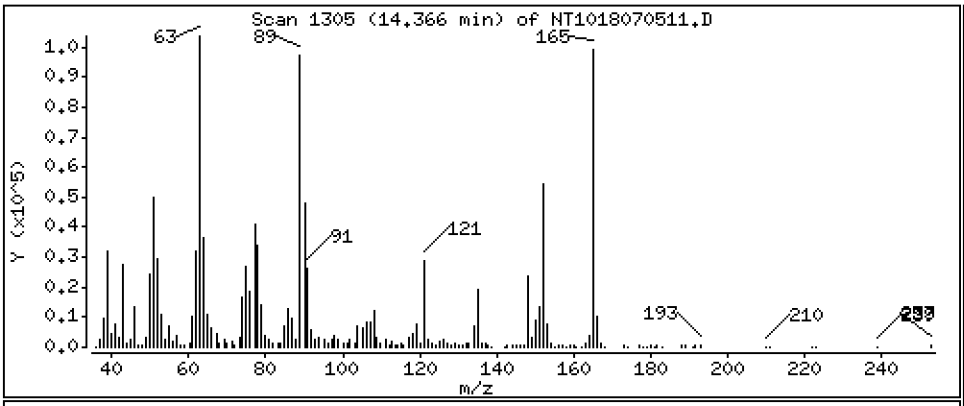
Operator: YZ

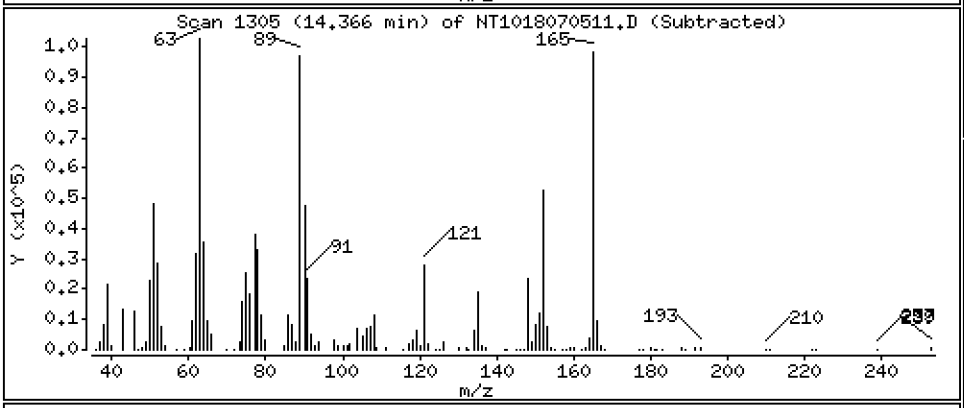
Column phase: ZB-5msi

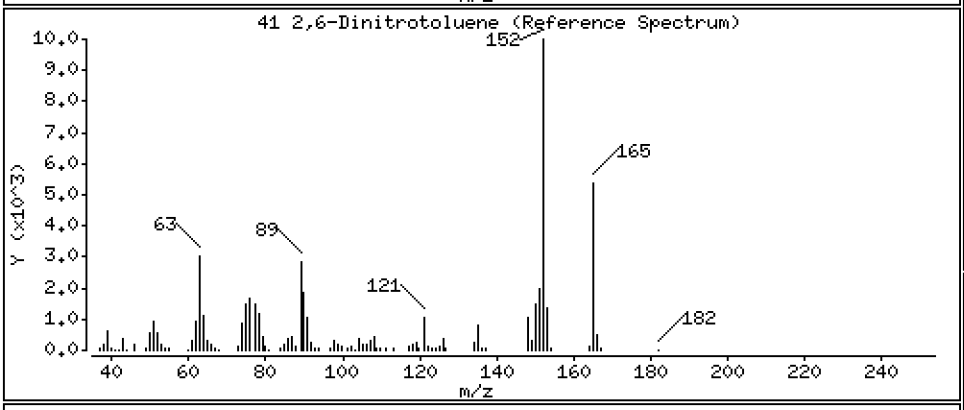
Column diameter: 0.25

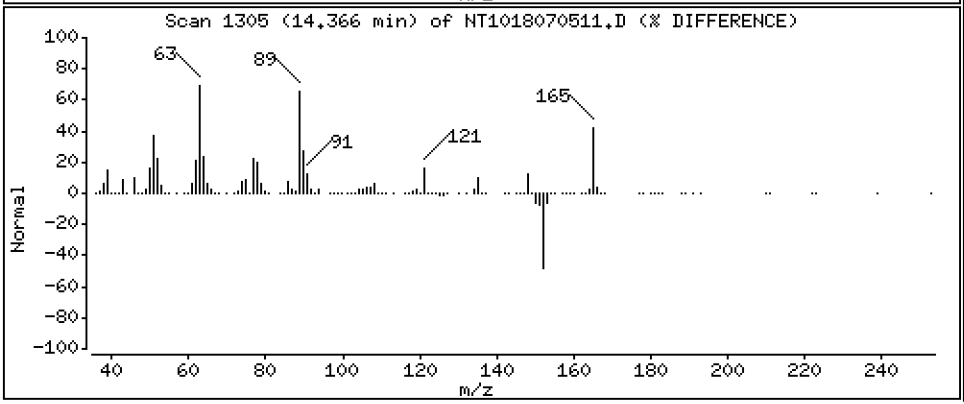
41 2,6-Dinitrotoluene

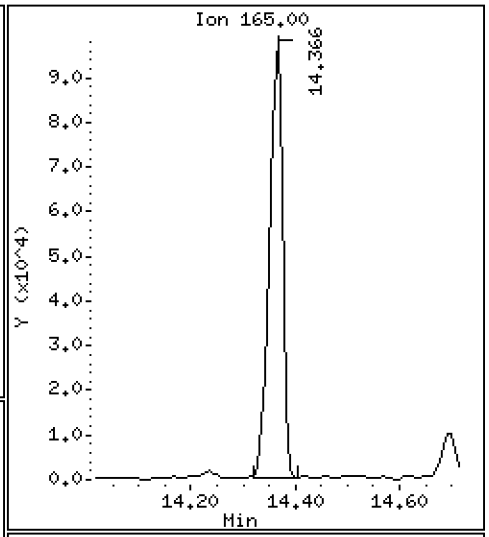
Concentration: 13.25 ug/mL

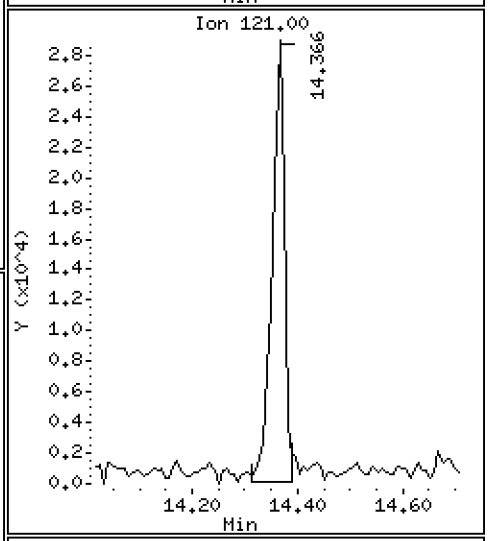


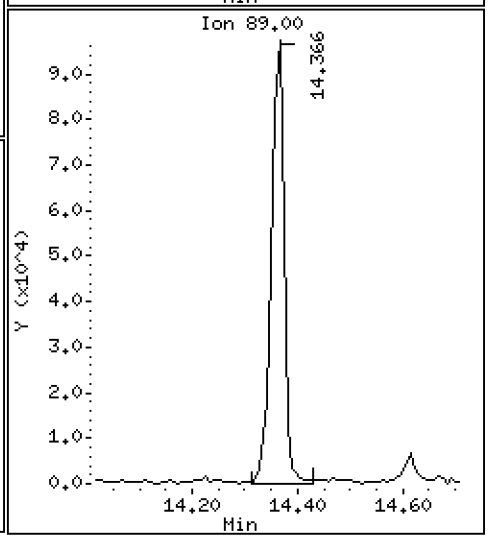












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

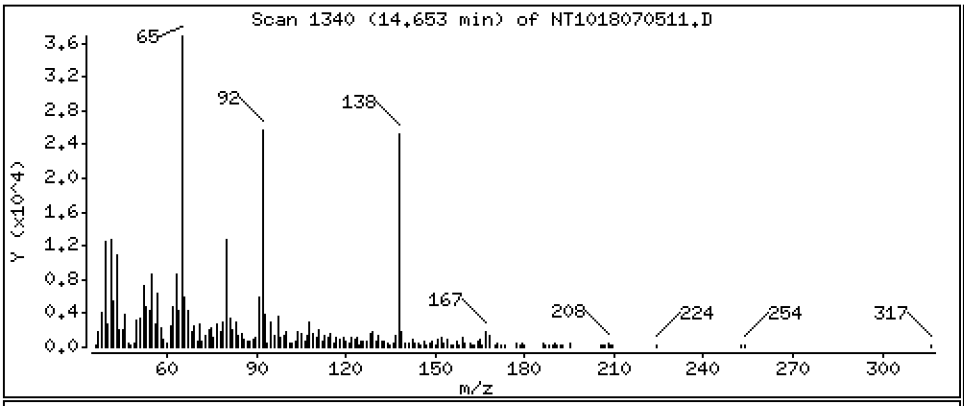
Operator: YZ

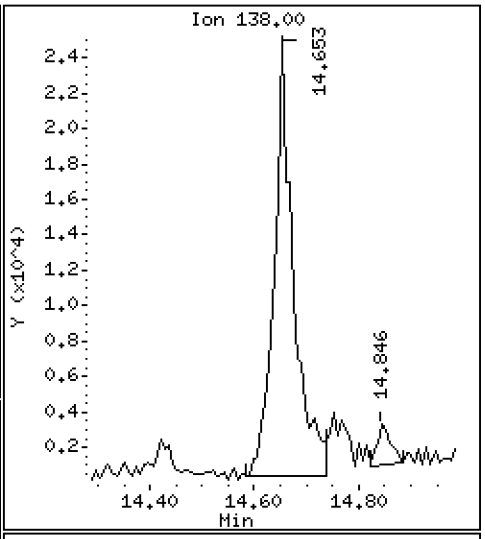
Column phase: ZB-5msi

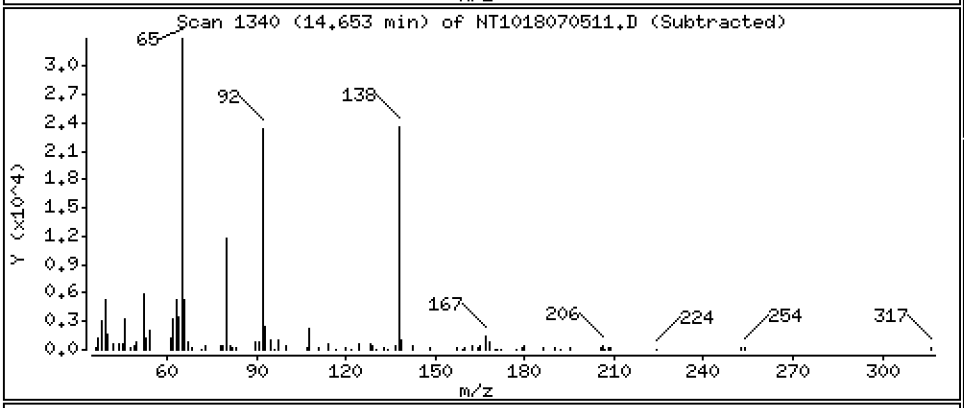
Column diameter: 0.25

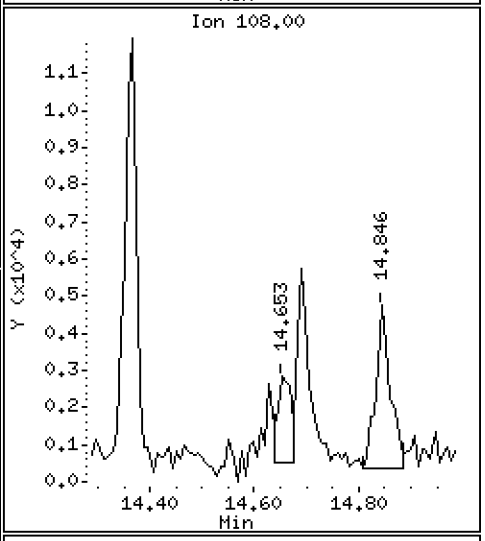
43 3-Nitroaniline

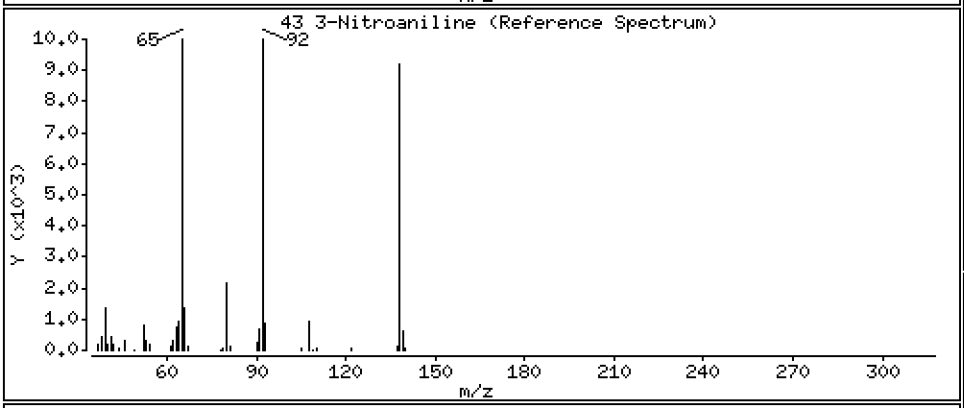
Concentration: 4.593 ug/mL

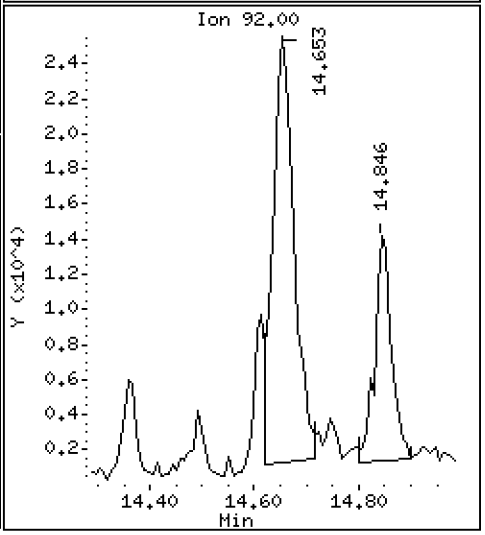


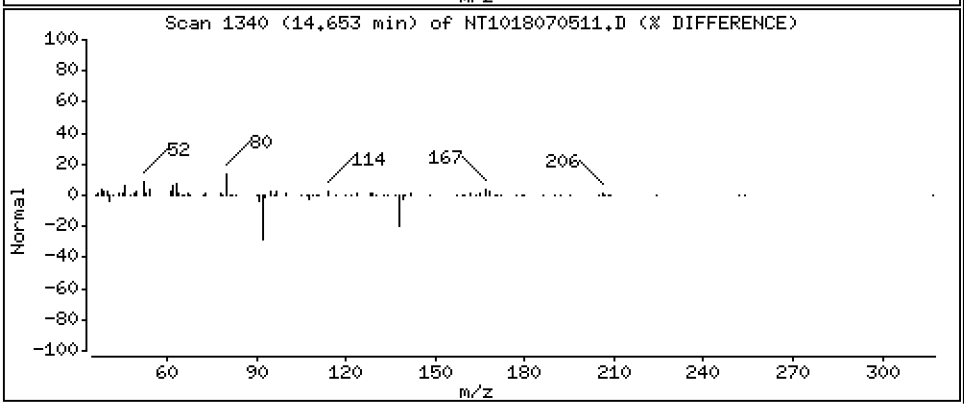












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

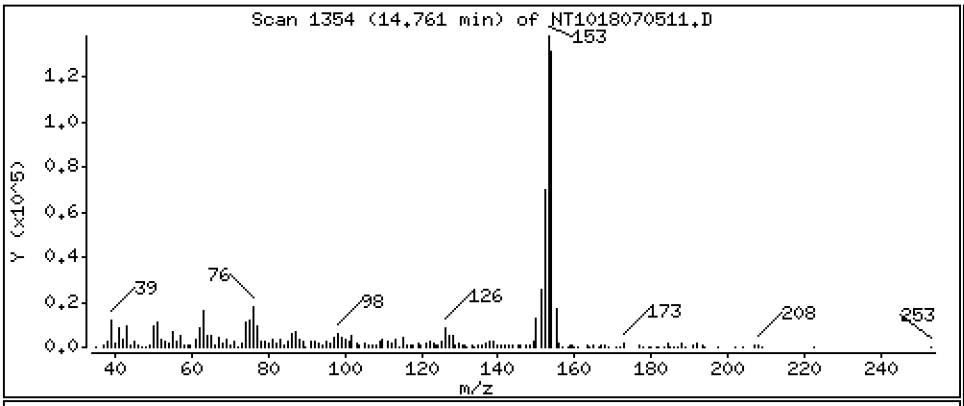
Operator: YZ

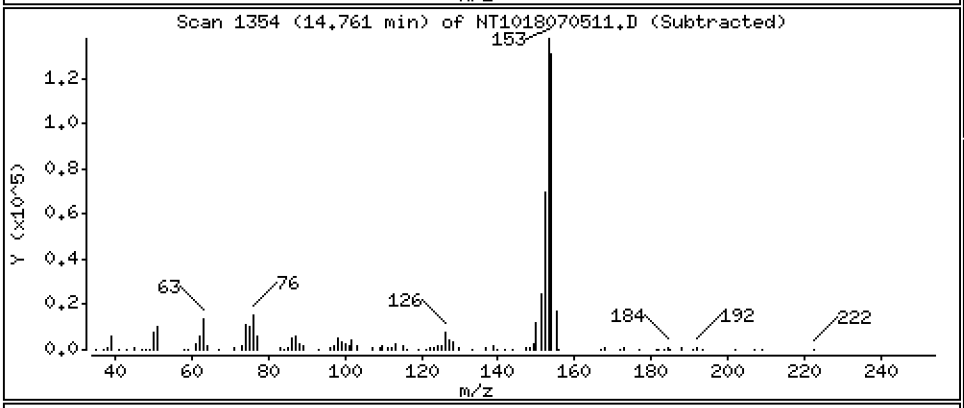
Column phase: ZB-5msi

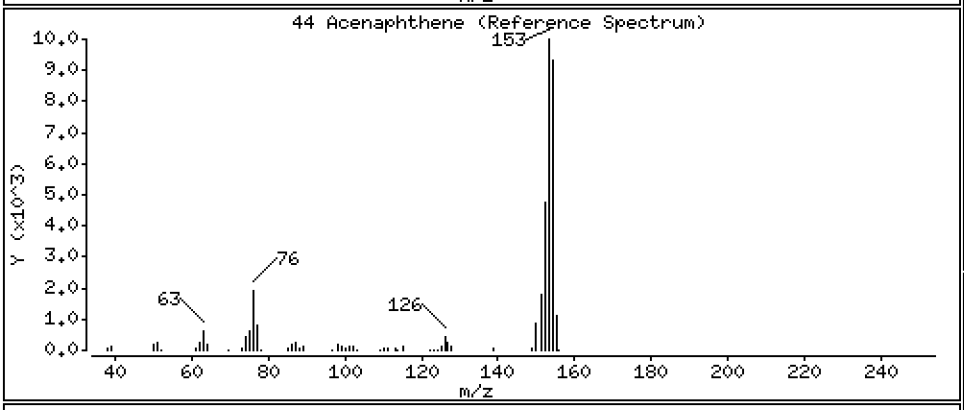
Column diameter: 0.25

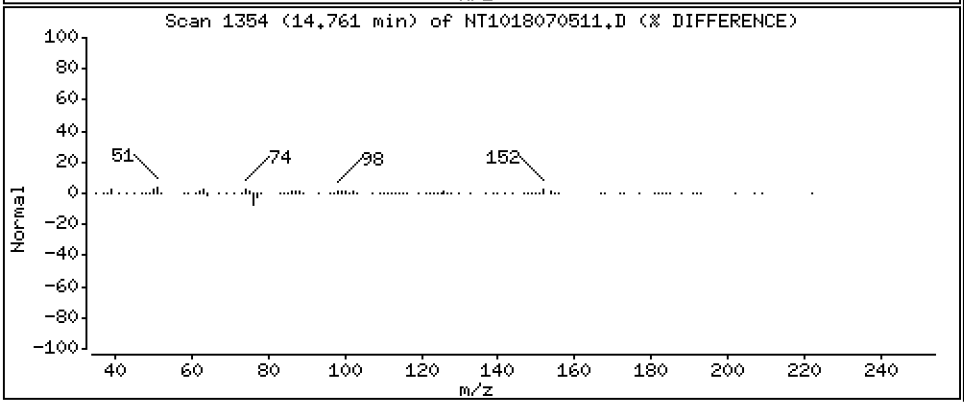
44 Acenaphthene

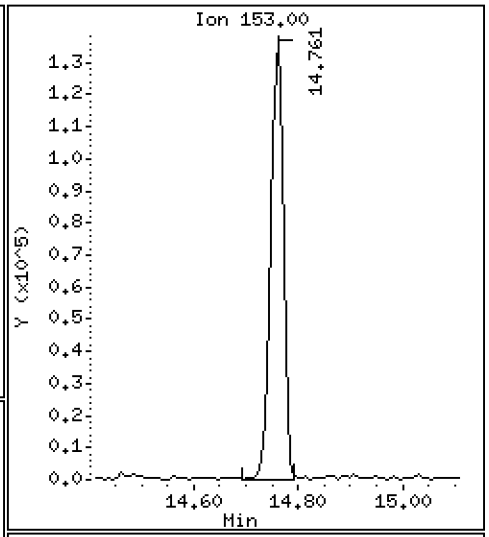
Concentration: 4.328 ug/mL

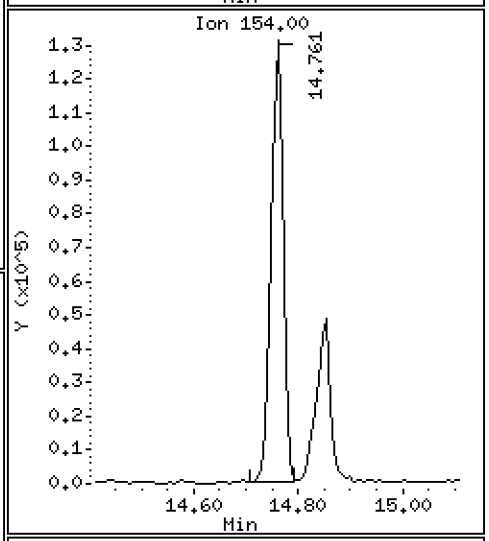


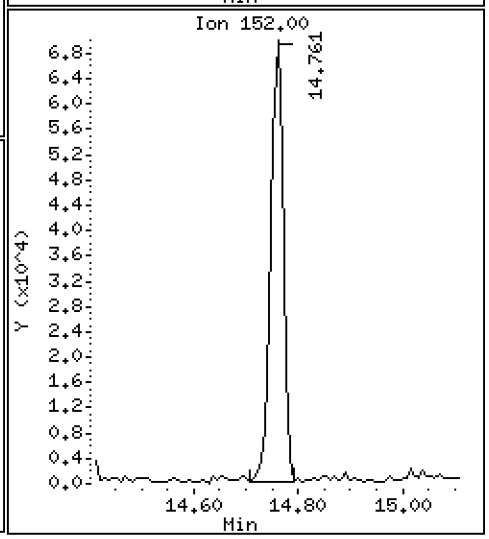












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

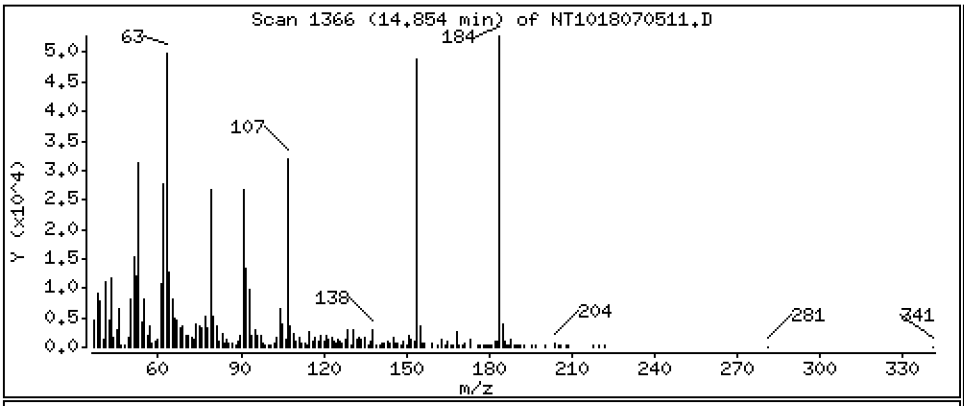
Operator: YZ

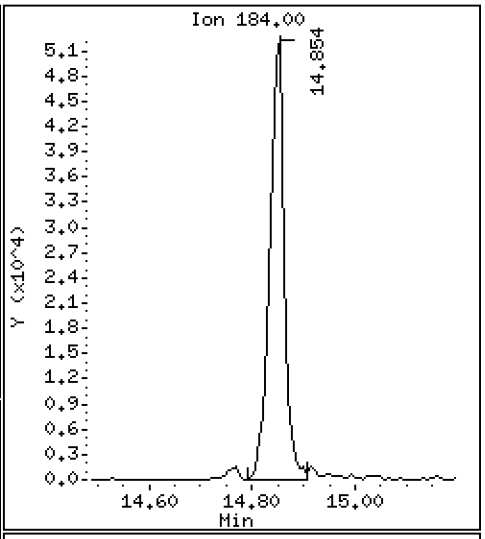
Column phase: ZB-5msi

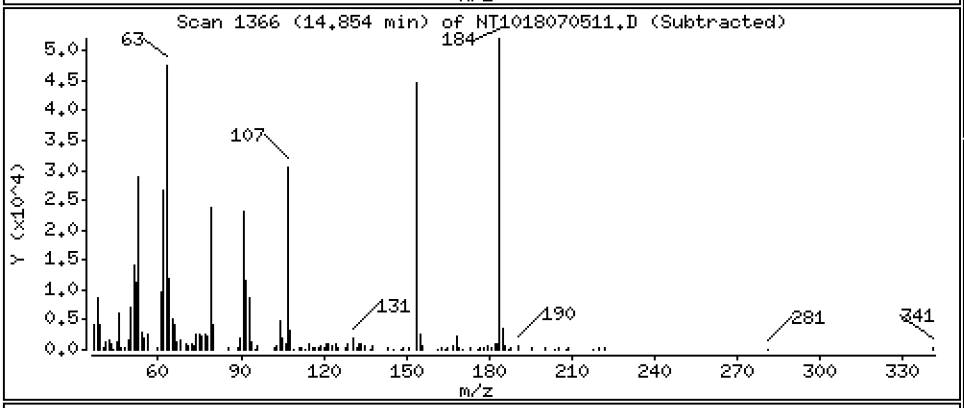
Column diameter: 0.25

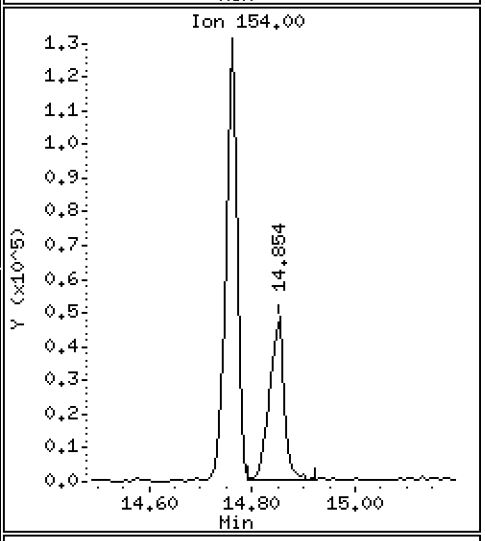
45 2,4-Dinitrophenol

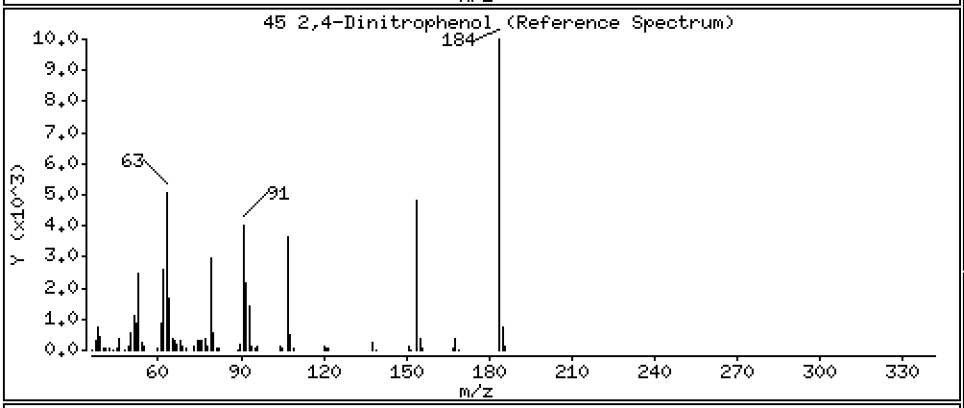
Concentration: 12.72 ug/mL

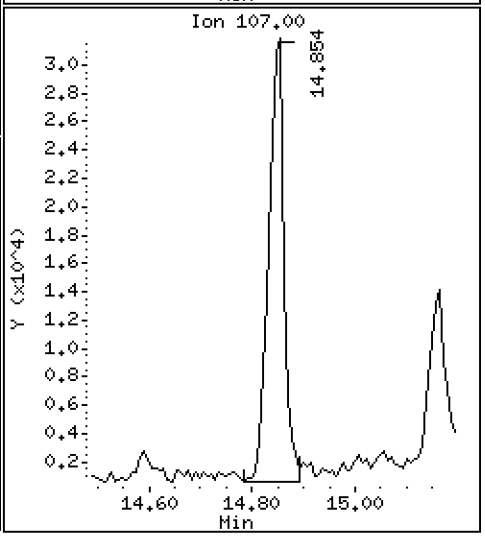


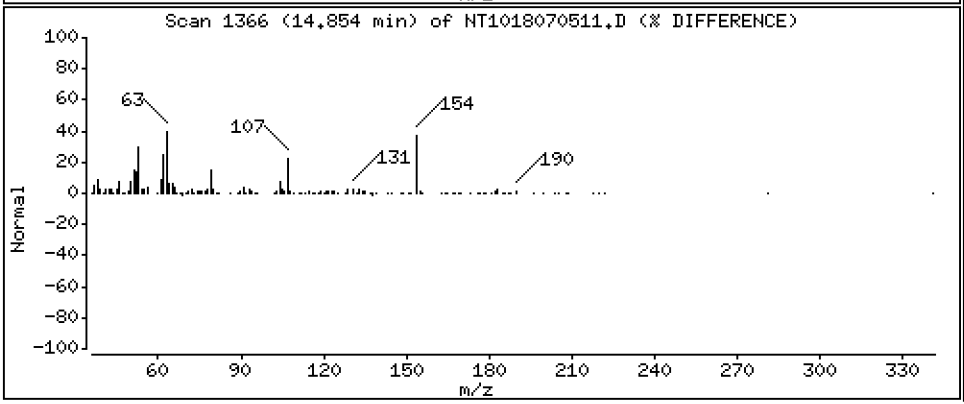












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

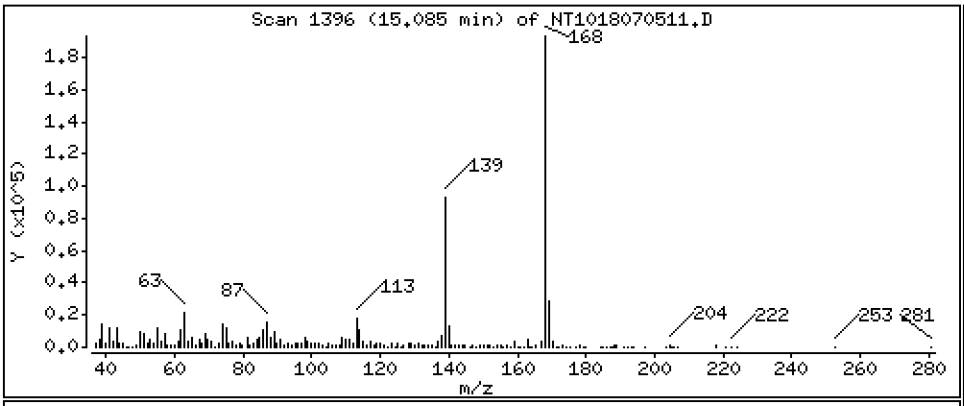
Operator: YZ

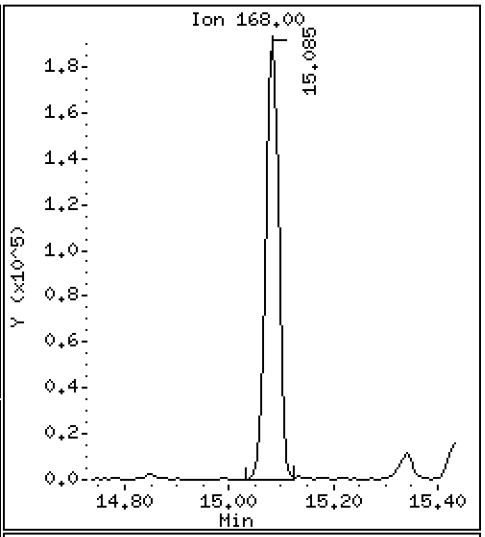
Column phase: ZB-5msi

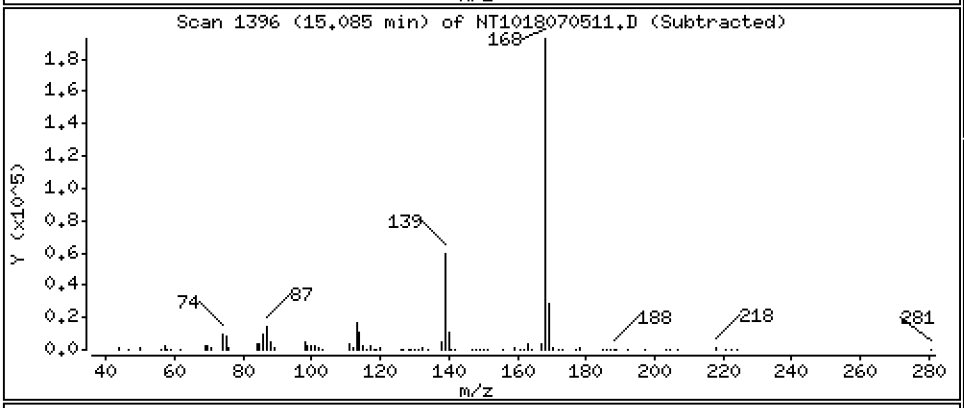
Column diameter: 0.25

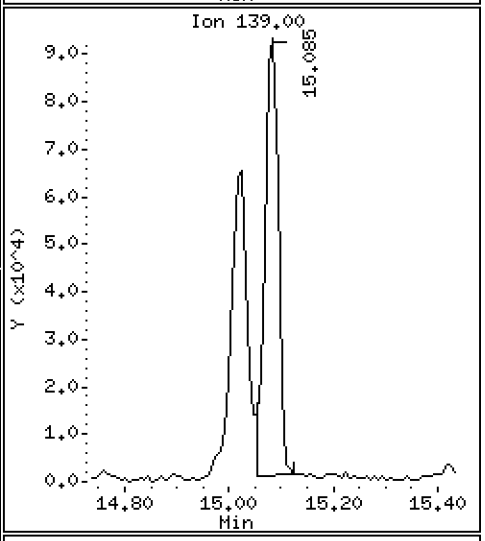
46 Dibenzofuran

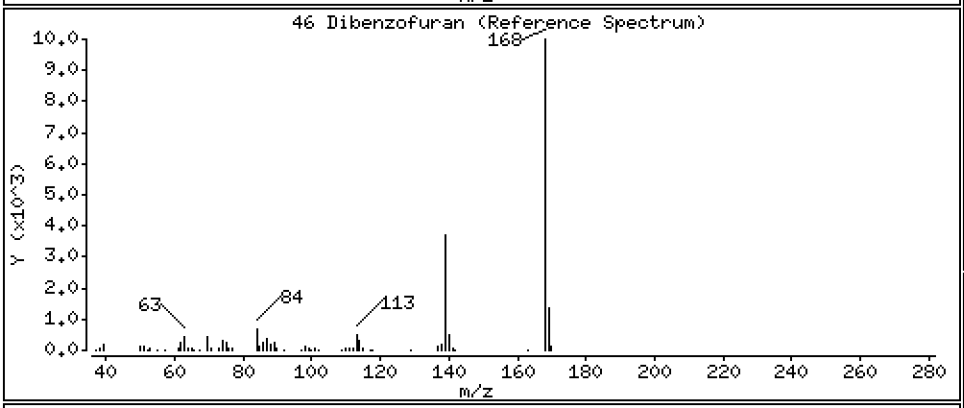
Concentration: 4.038 ug/mL

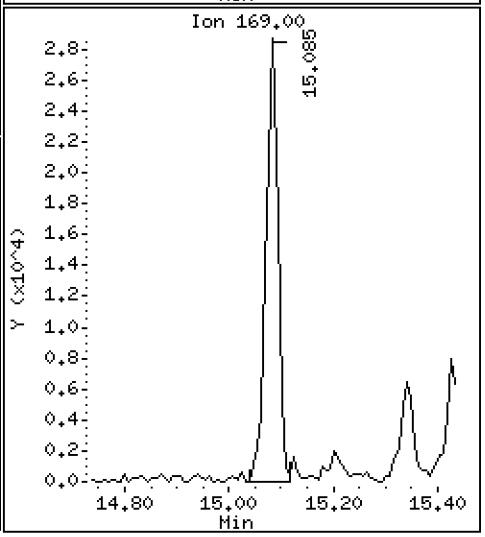


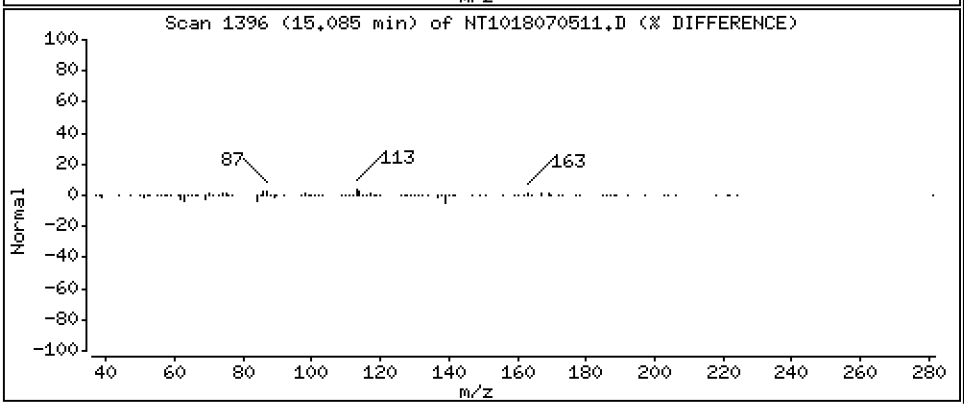












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

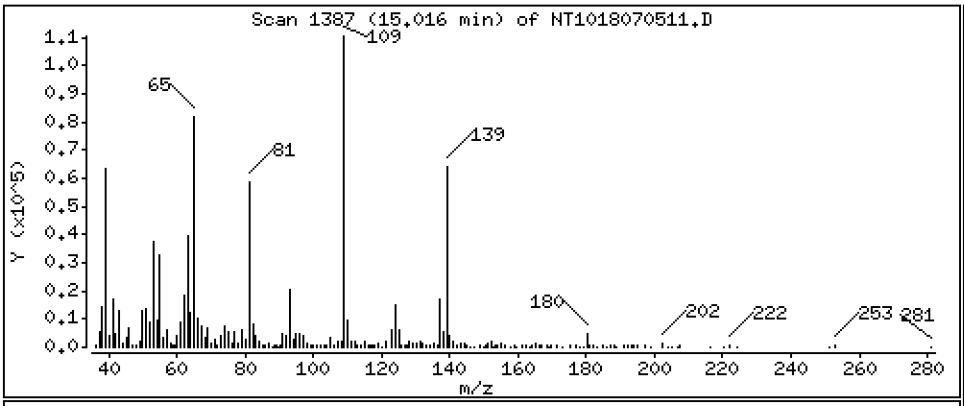
Operator: YZ

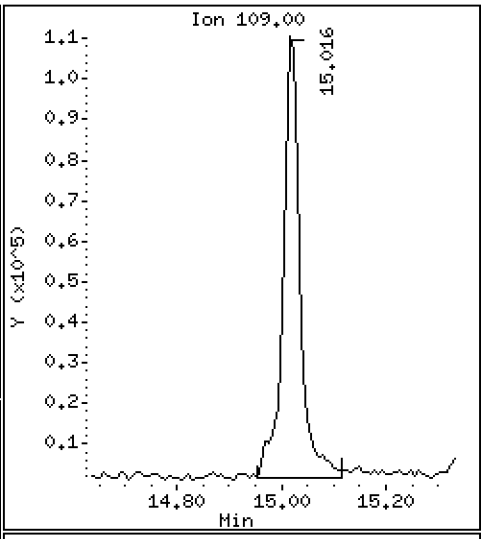
Column phase: ZB-5msi

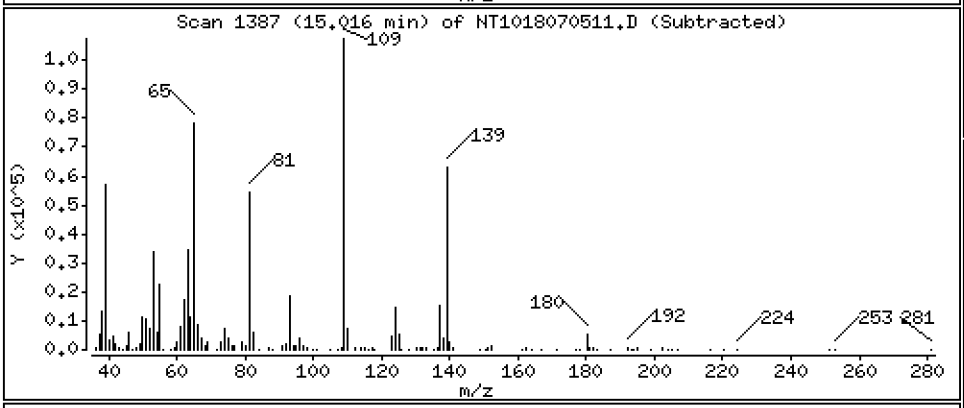
Column diameter: 0.25

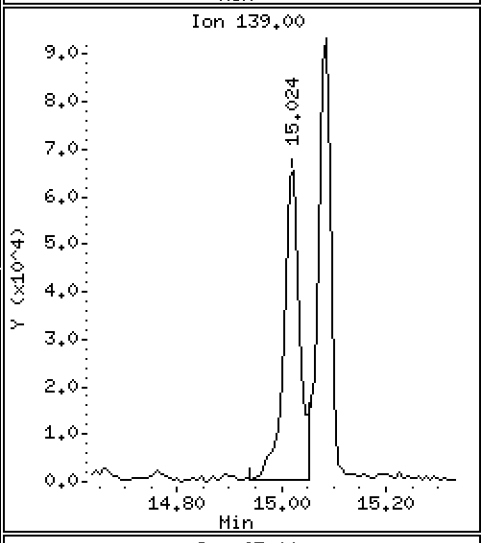
47 4-Nitrophenol

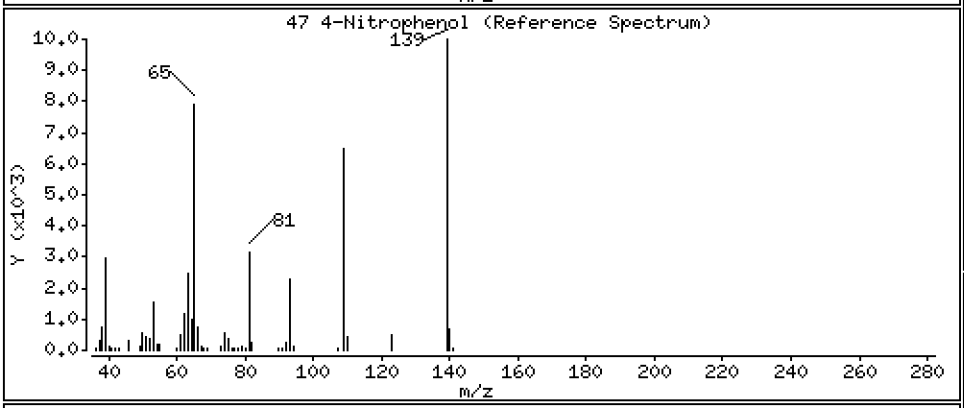
Concentration: 29.38 ug/mL

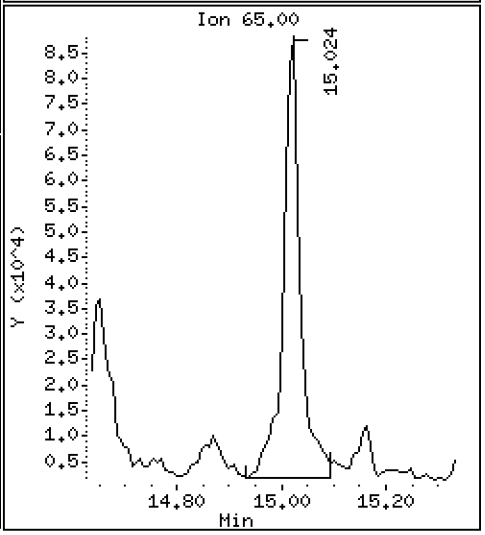


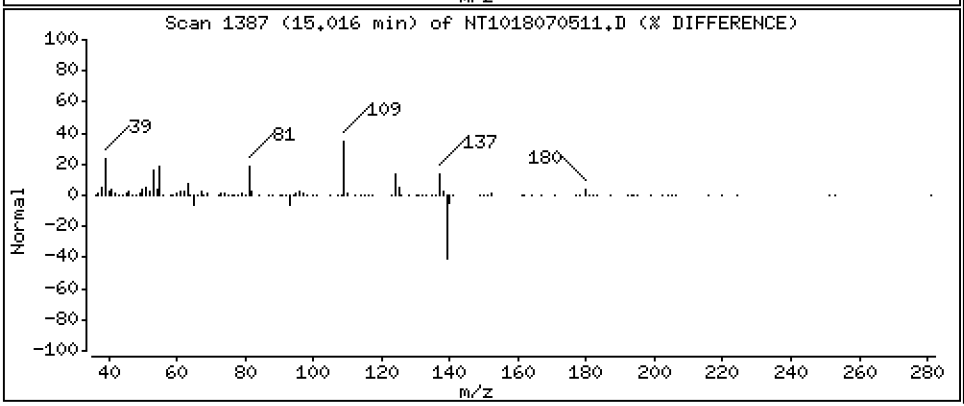












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

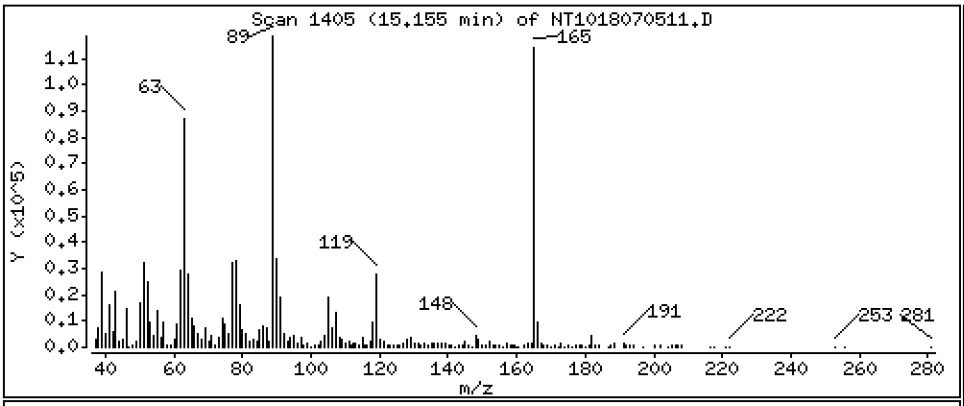
Operator: YZ

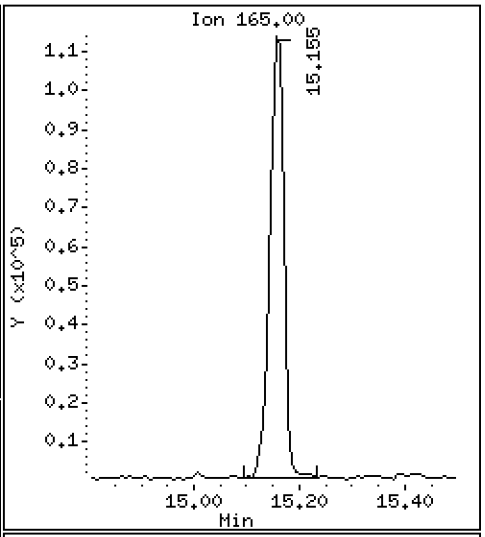
Column phase: ZB-5msi

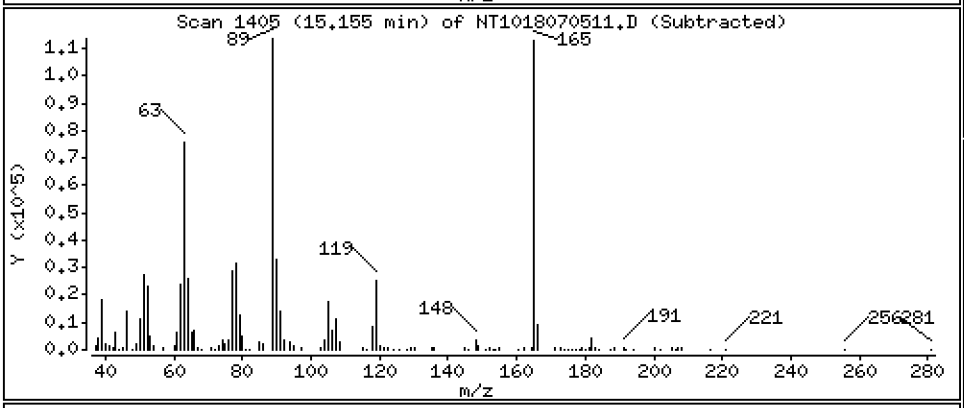
Column diameter: 0.25

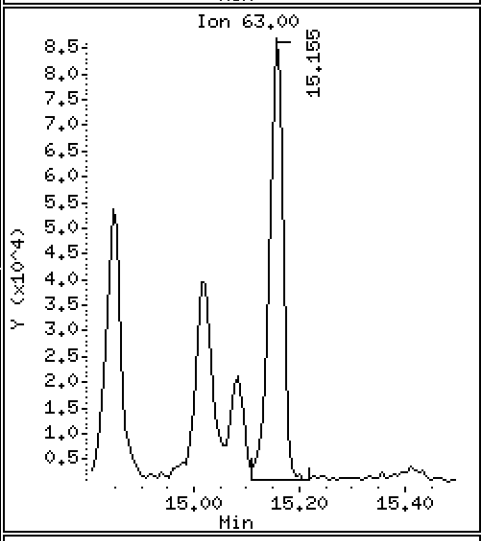
48 2,4-Dinitrotoluene

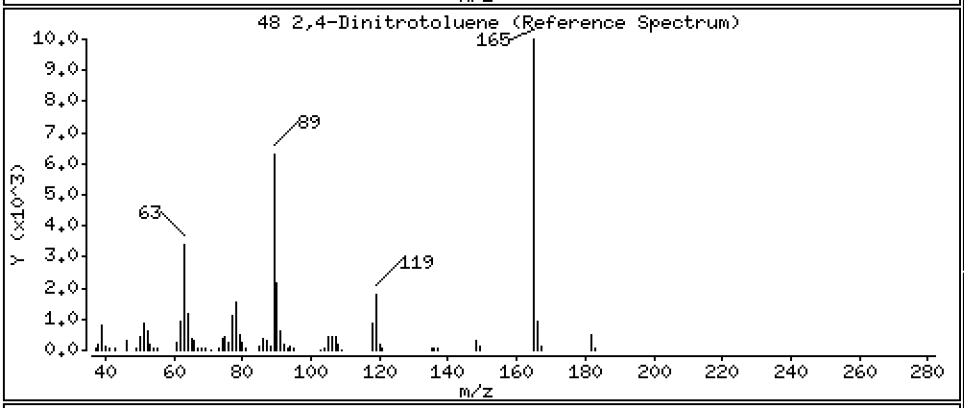
Concentration: 13.08 ug/mL

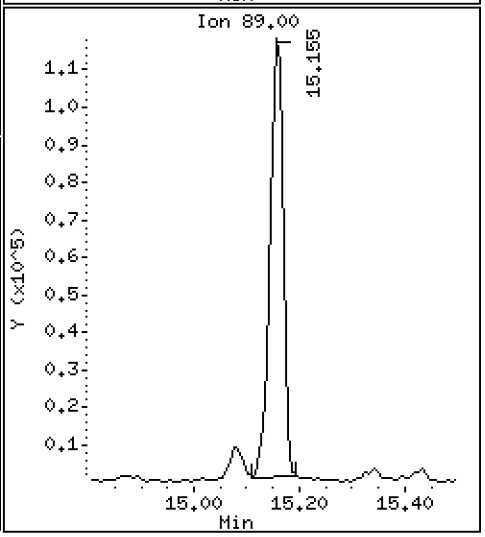


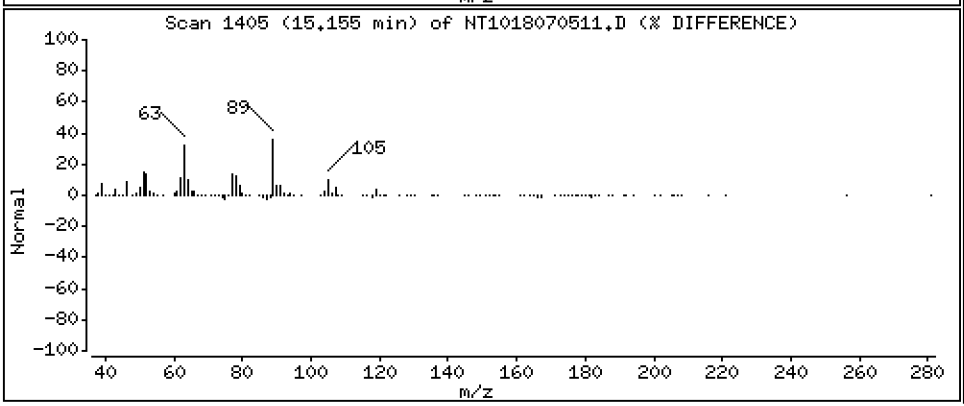












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

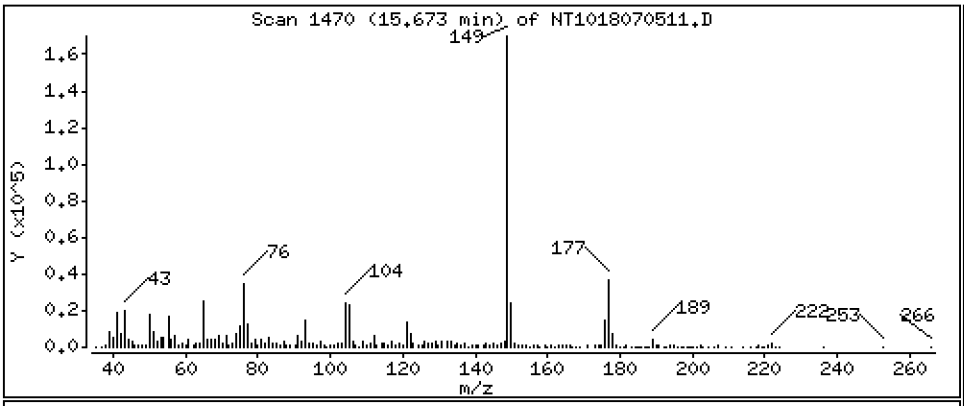
Operator: YZ

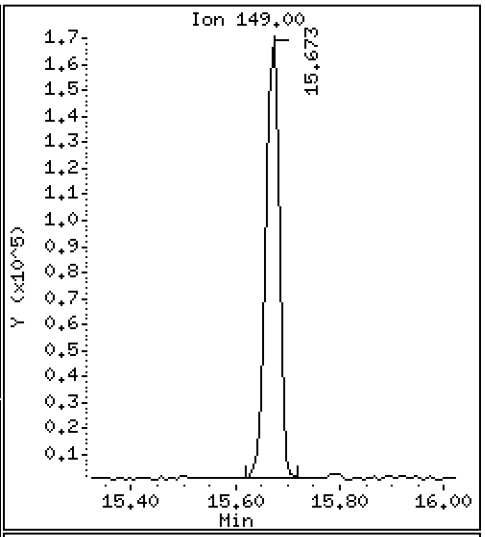
Column phase: ZB-5msi

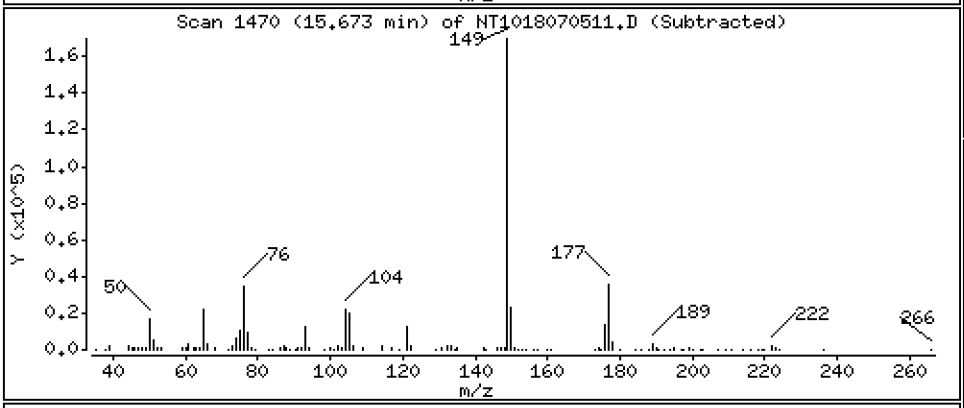
Column diameter: 0.25

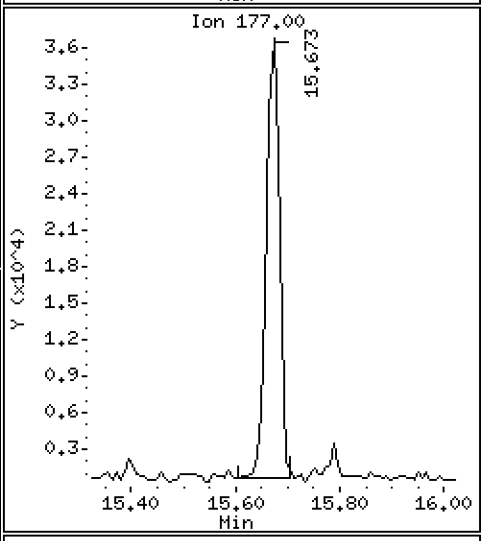
50 Diethylphthalate

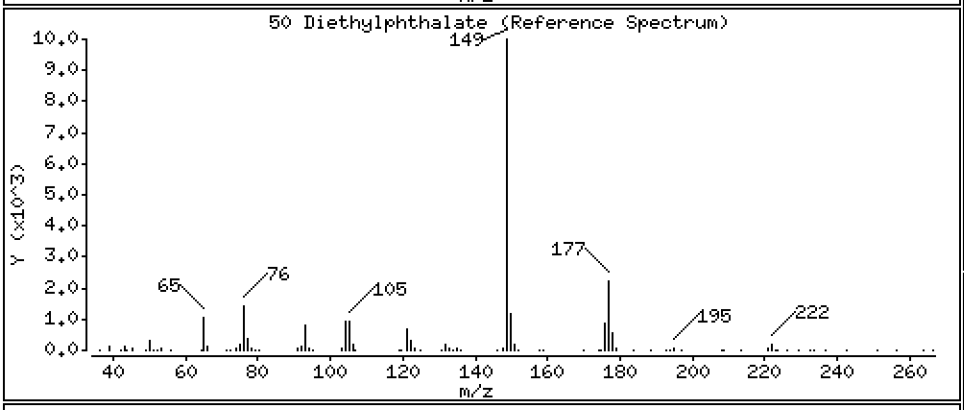
Concentration: 4.993 ug/mL

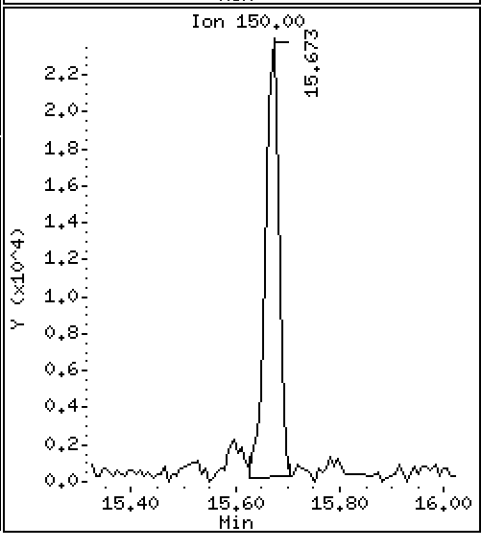


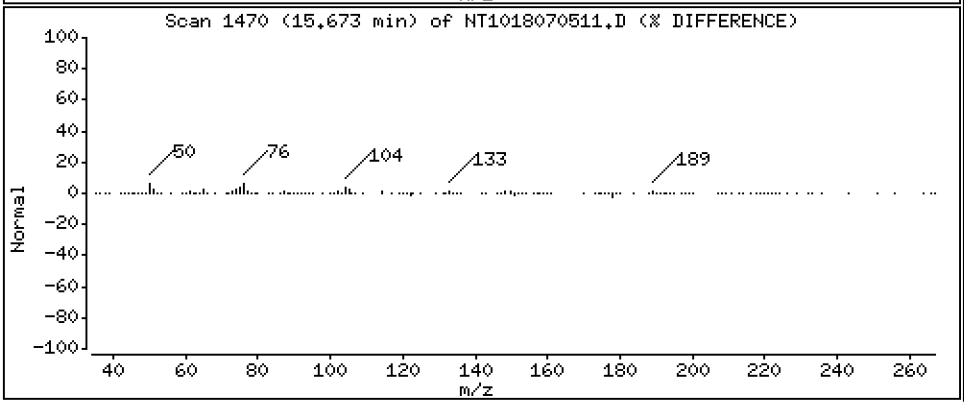












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

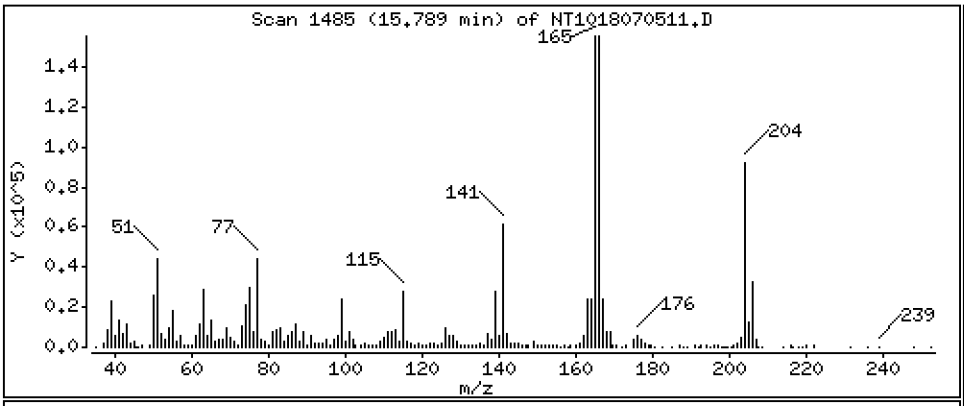
Operator: YZ

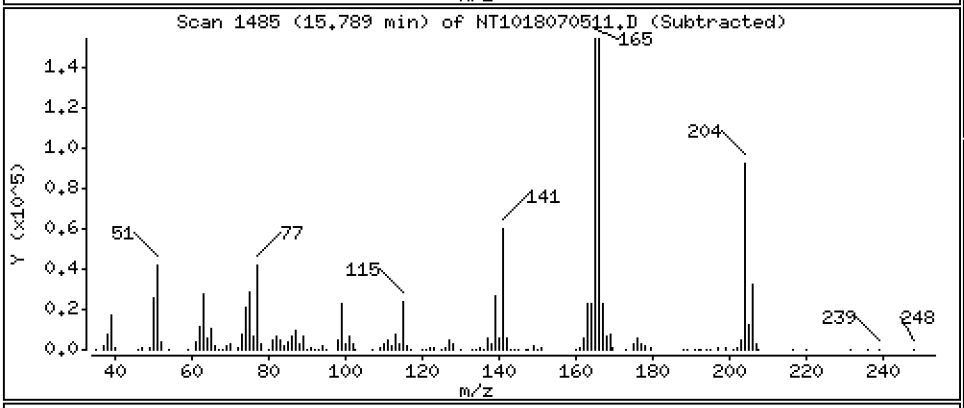
Column phase: ZB-5msi

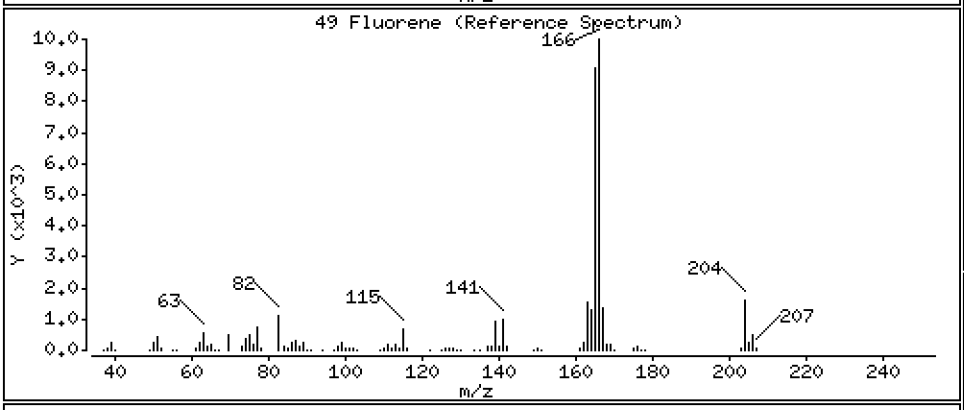
Column diameter: 0.25

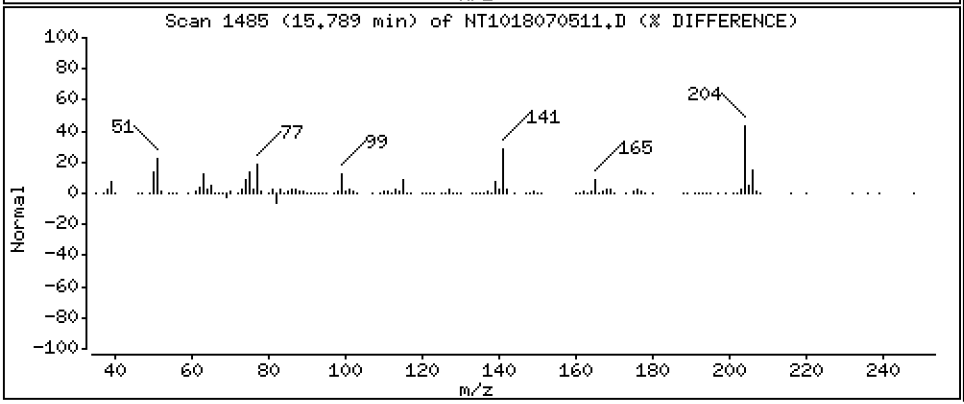
49 Fluorene

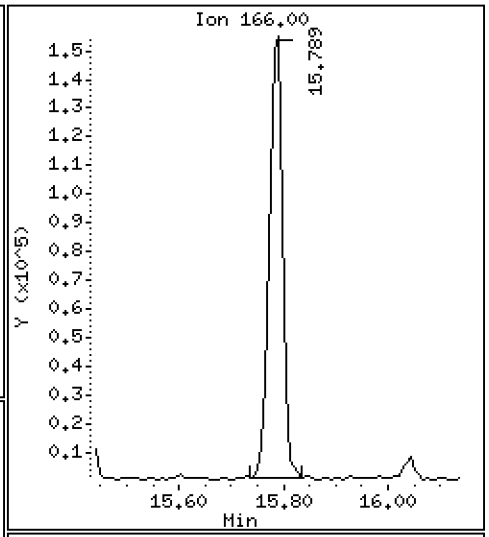
Concentration: 5.135 ug/mL

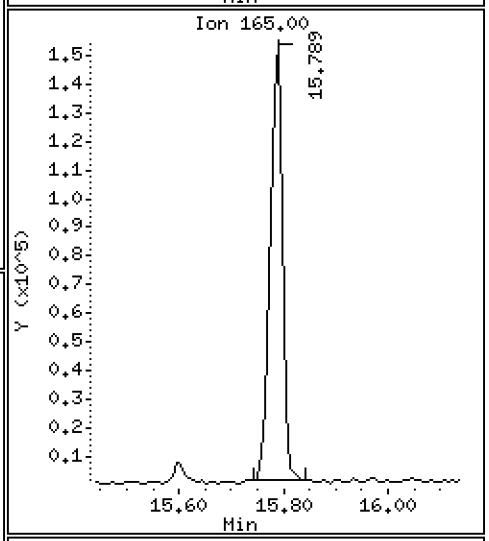


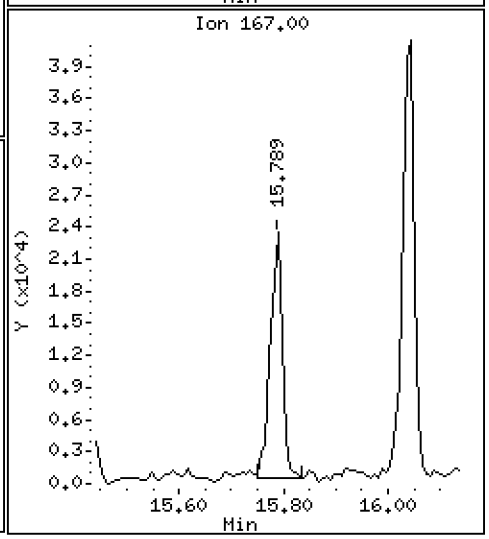












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

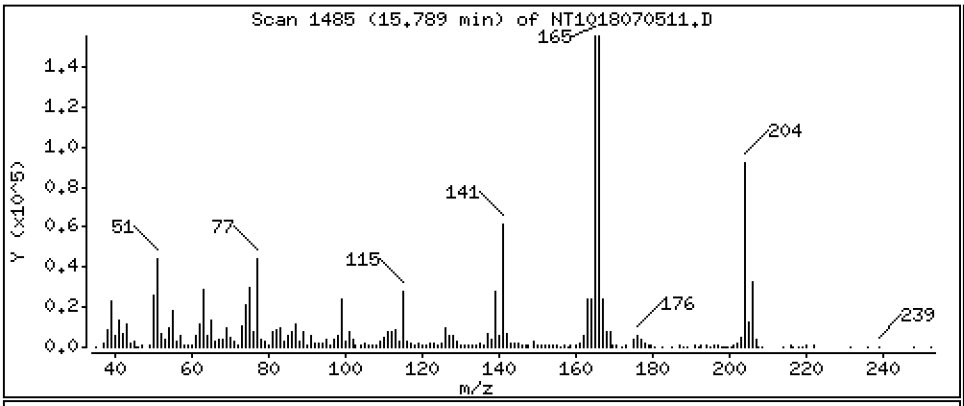
Operator: YZ

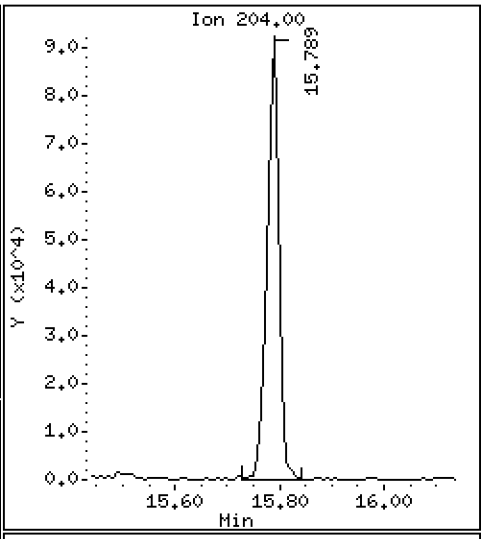
Column phase: ZB-5msi

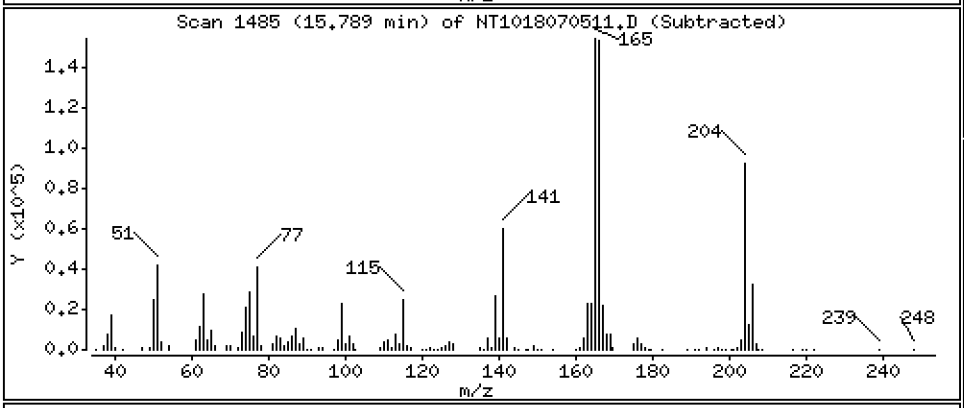
Column diameter: 0.25

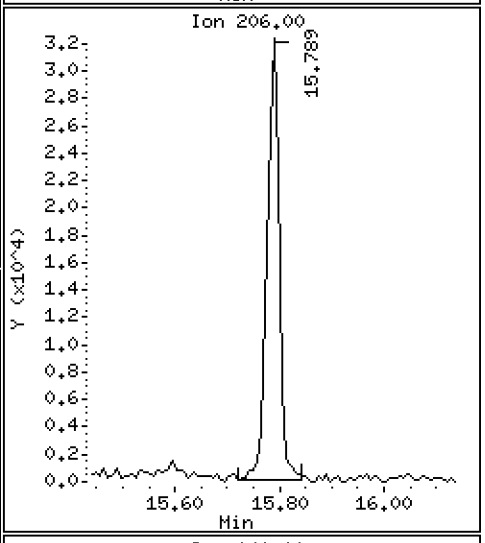
51 4-Chlorophenyl-phenylether

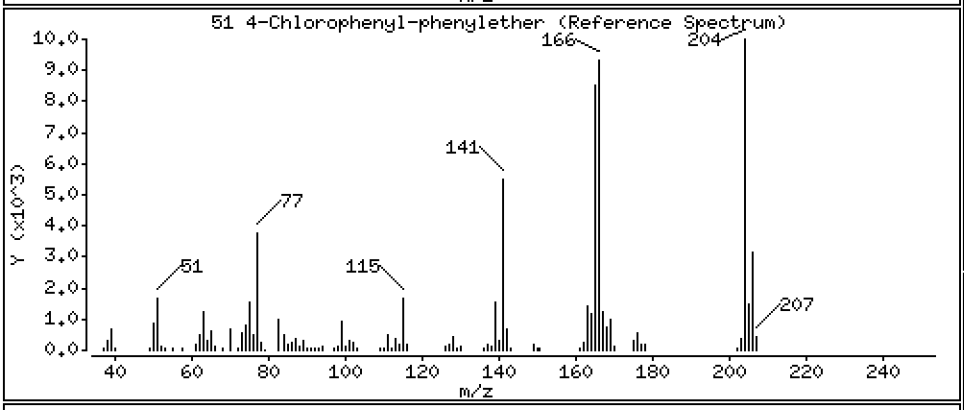
Concentration: 5.580 ug/mL

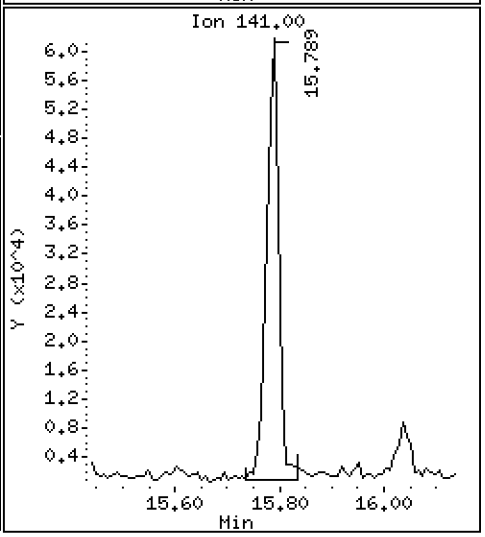


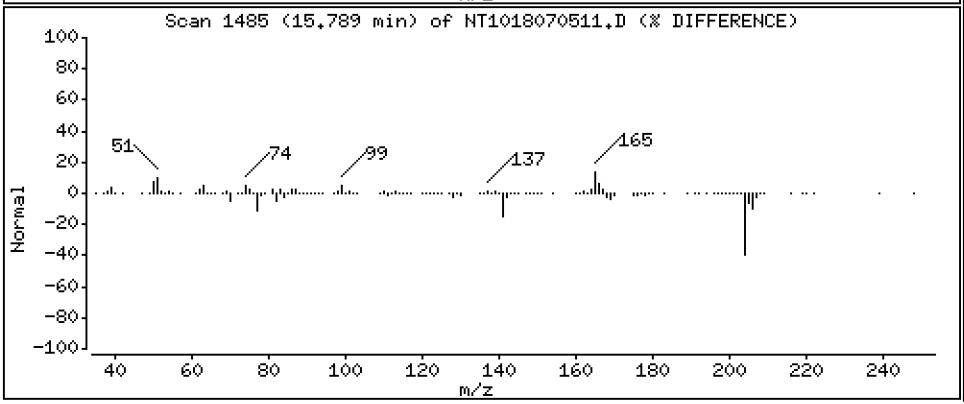












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

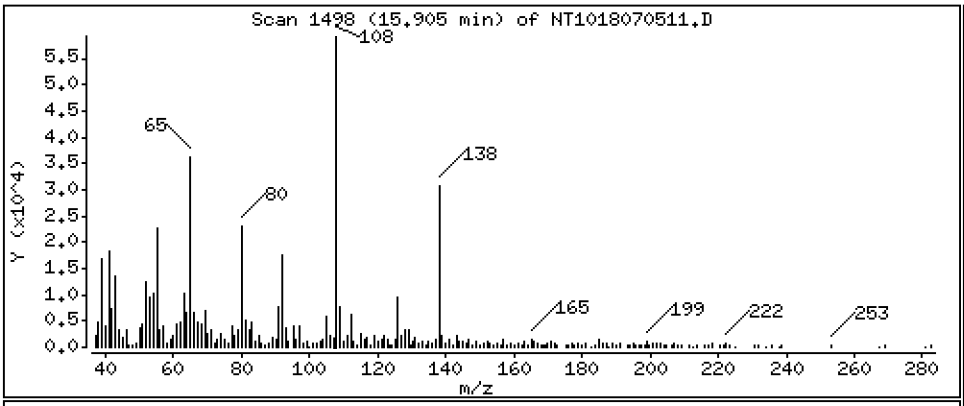
Operator: YZ

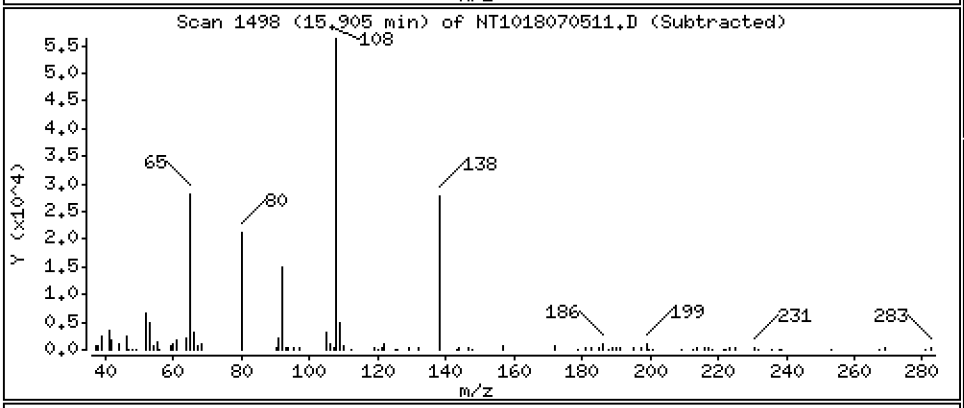
Column phase: ZB-5msi

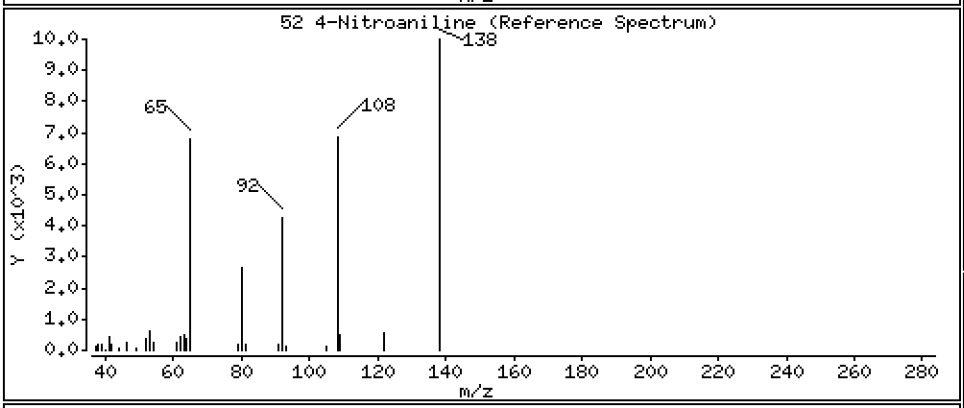
Column diameter: 0.25

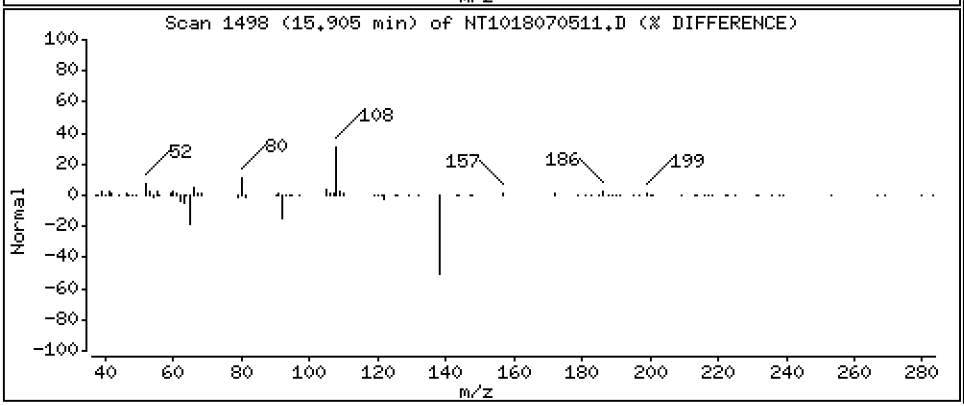
52 4-Nitroaniline

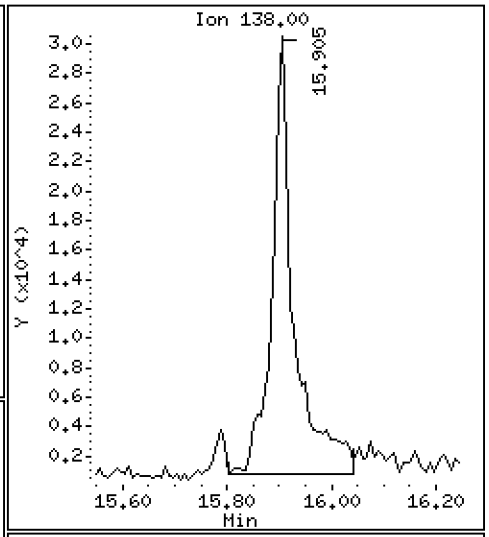
Concentration: 6.811 ug/mL

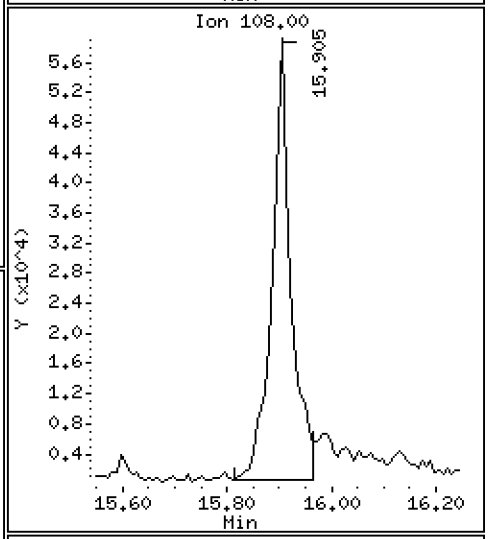


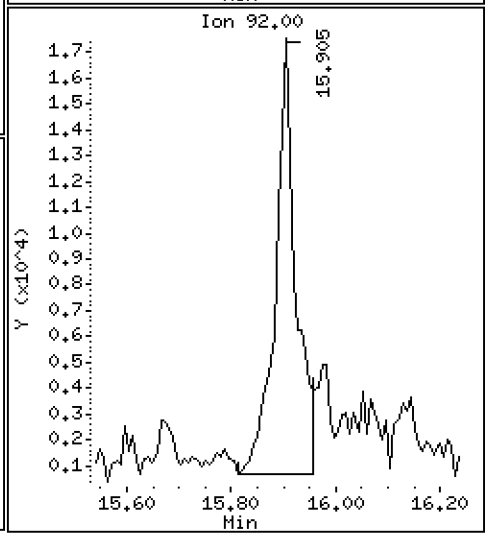












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

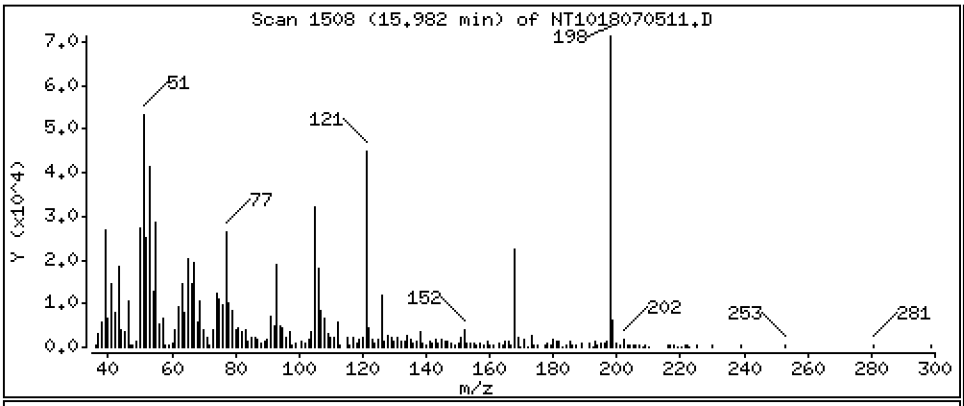
Operator: YZ

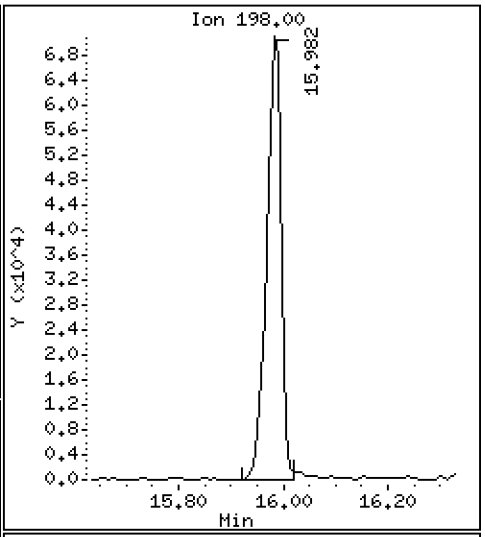
Column phase: ZB-5msi

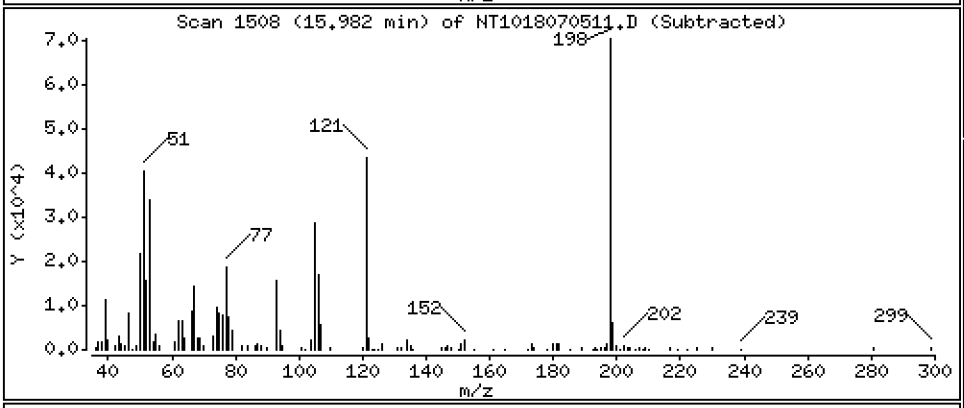
Column diameter: 0.25

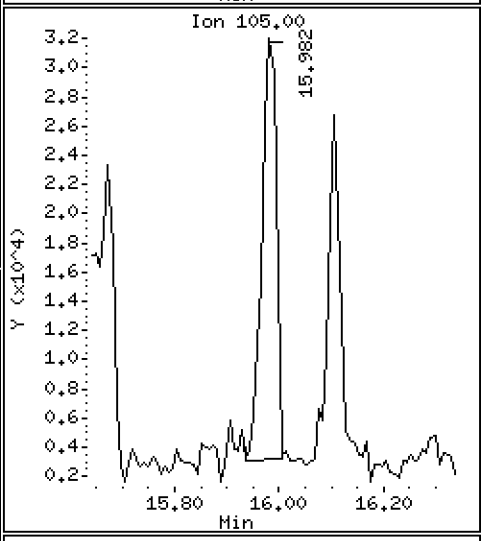
53 4,6-Dinitro-2-methylphenol

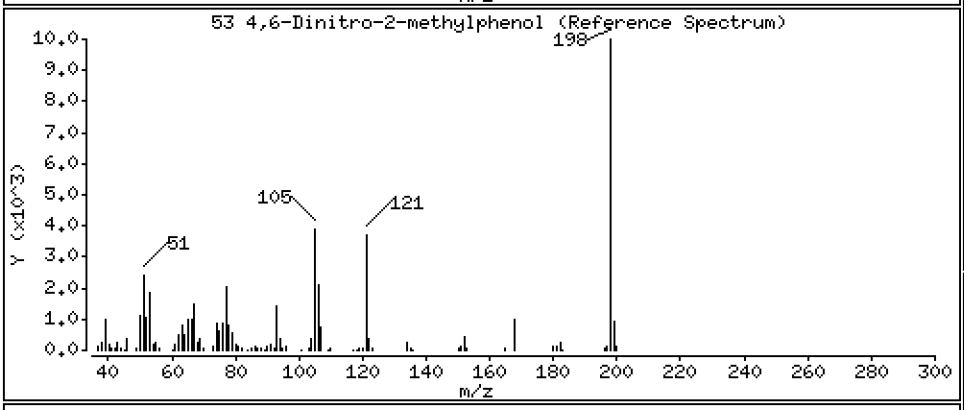
Concentration: 9.748 ug/mL

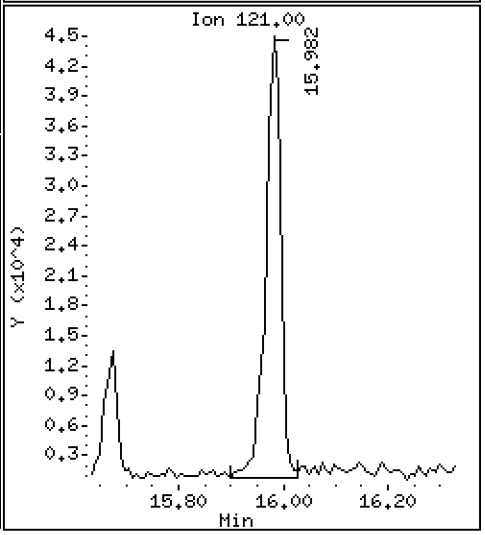


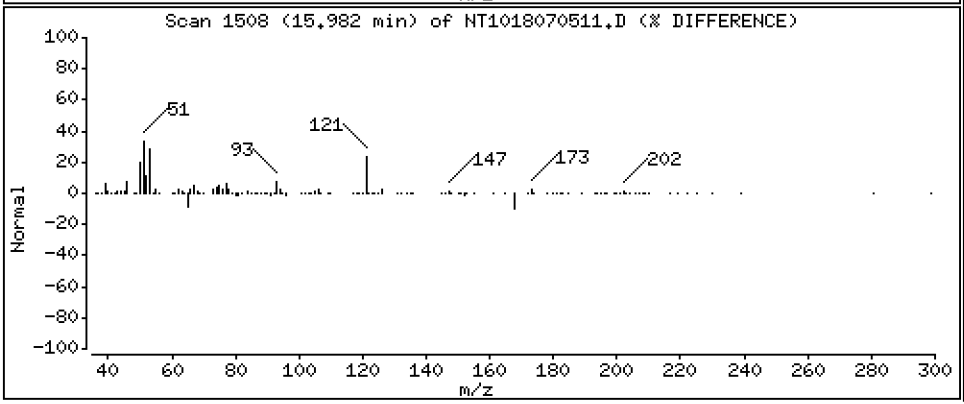












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

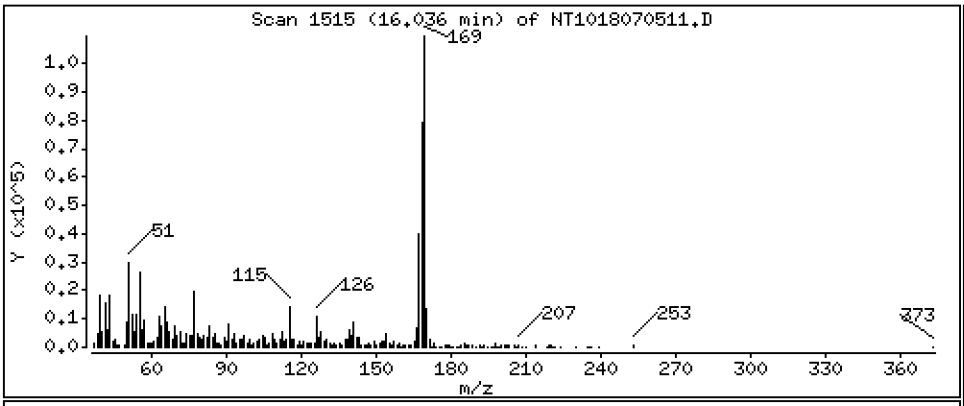
Operator: YZ

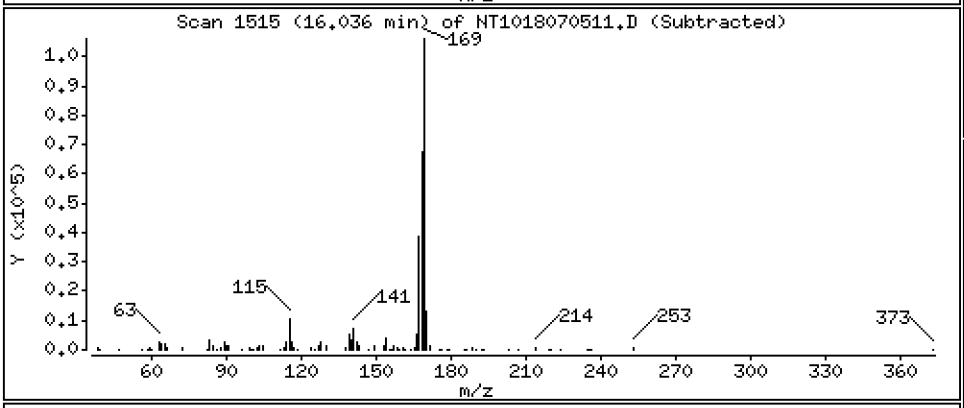
Column phase: ZB-5msi

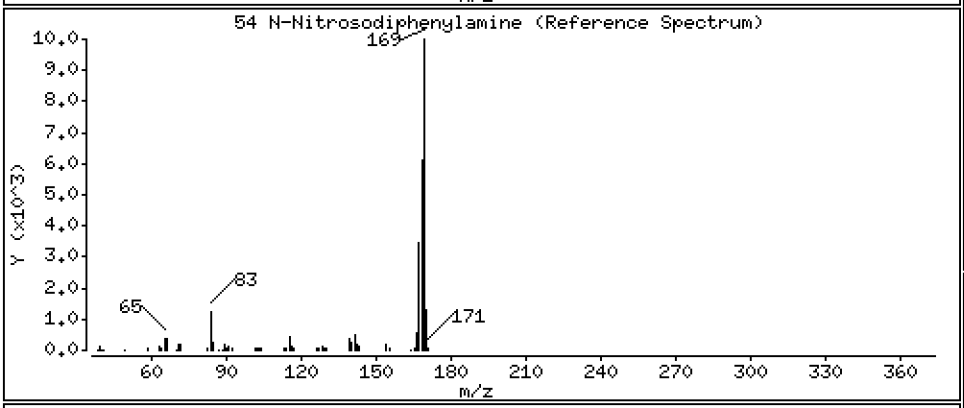
Column diameter: 0.25

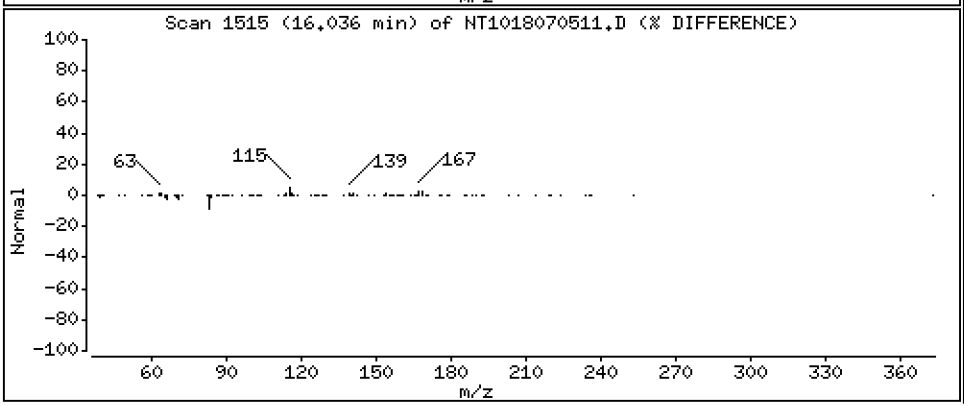
54 N-Nitrosodiphenylamine

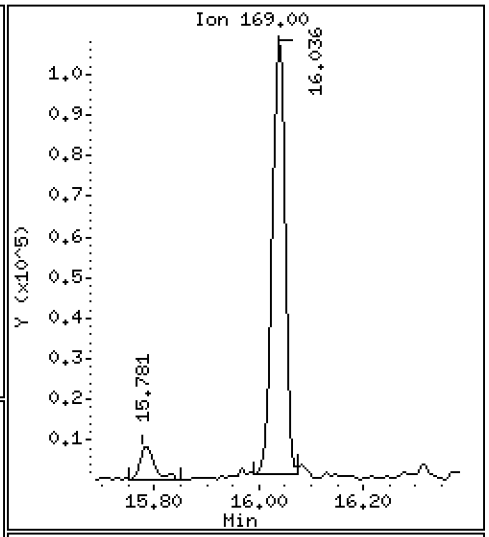
Concentration: 4.087 ug/mL

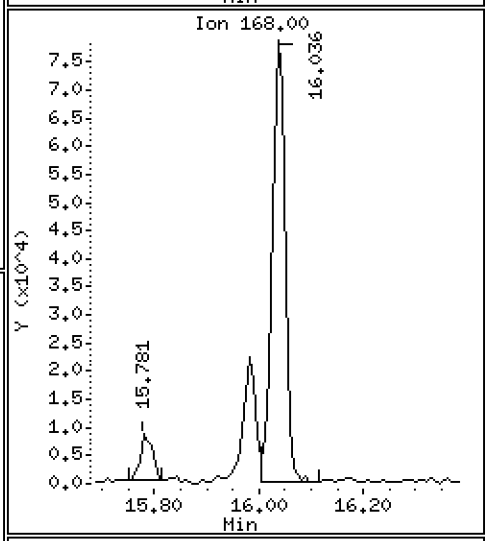


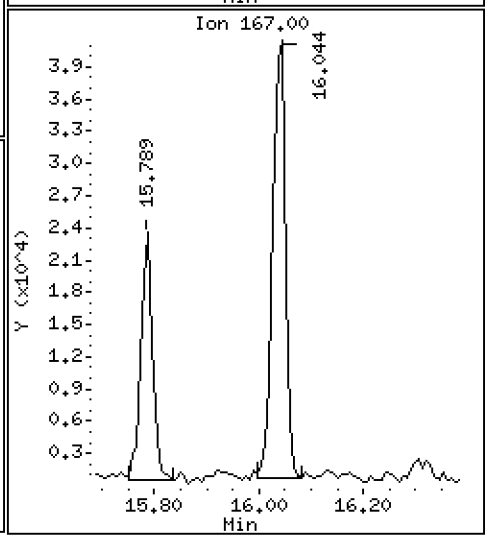












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

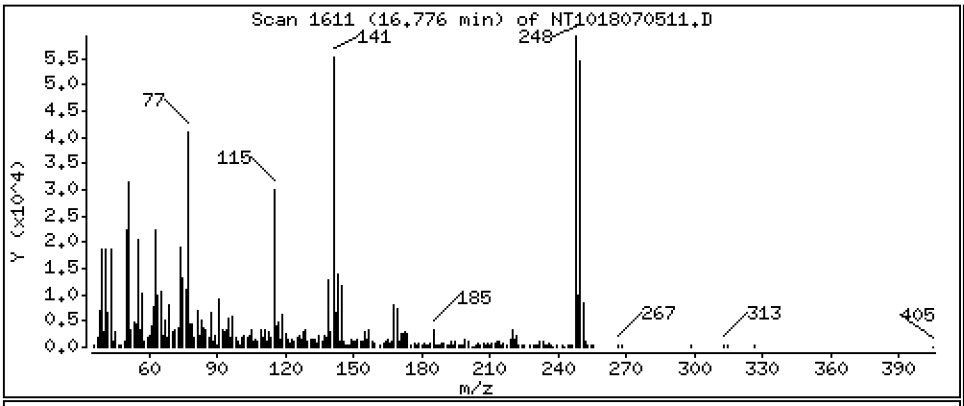
Operator: YZ

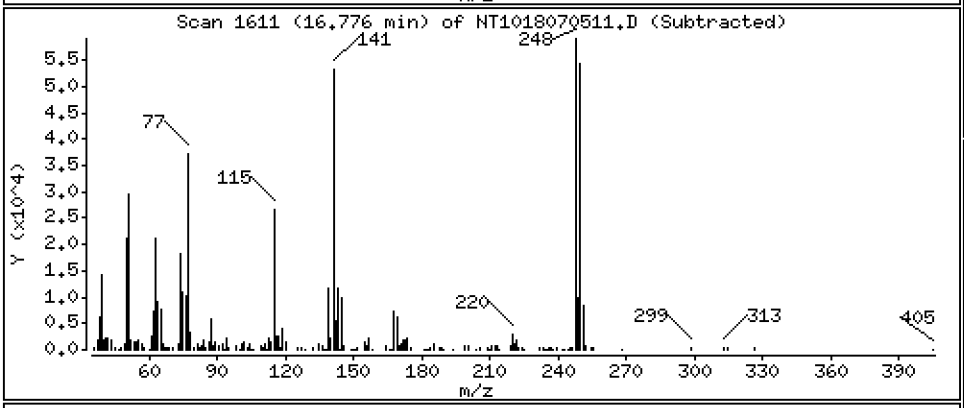
Column phase: ZB-5msi

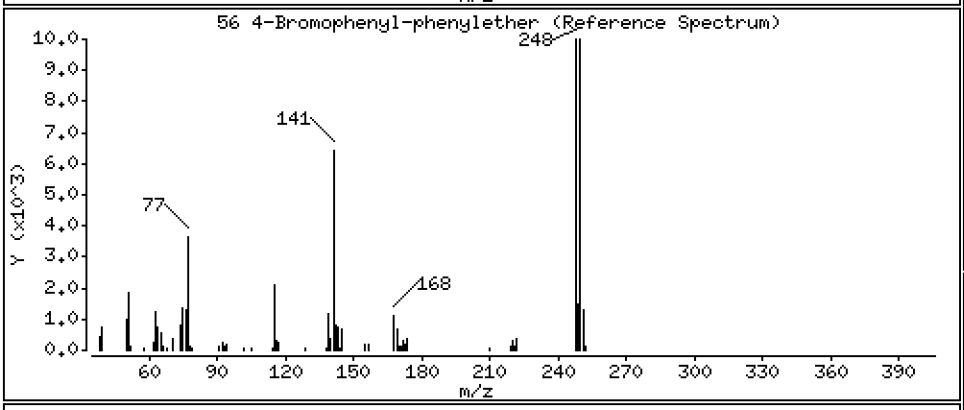
Column diameter: 0.25

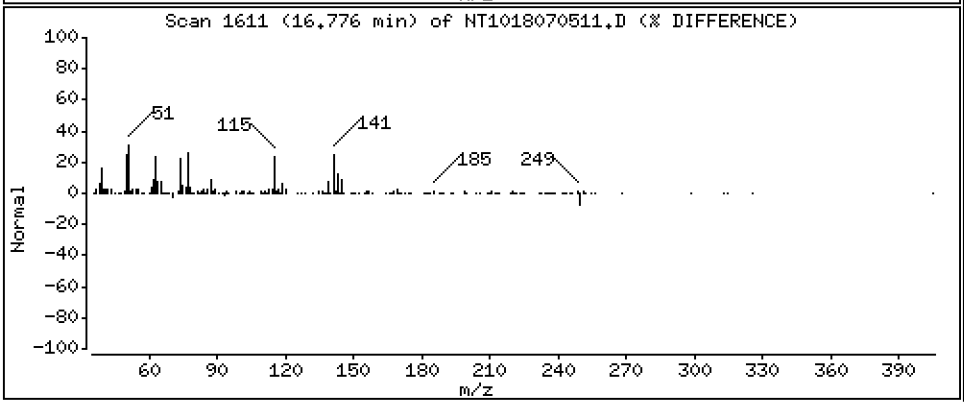
56 4-Bromophenyl-phenylether

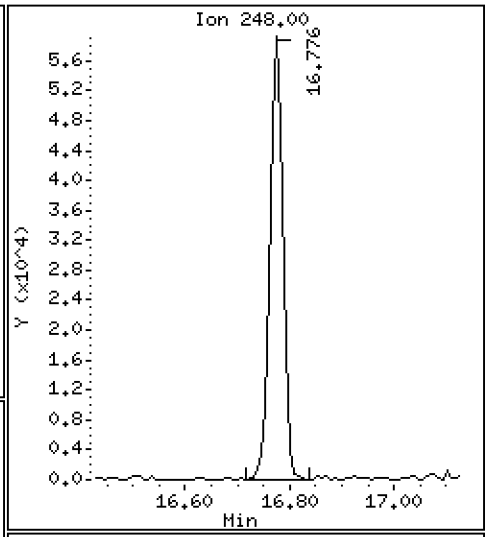
Concentration: 5.282 ug/mL

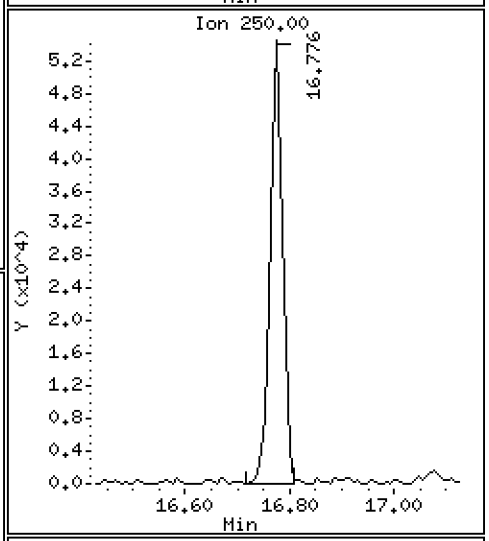


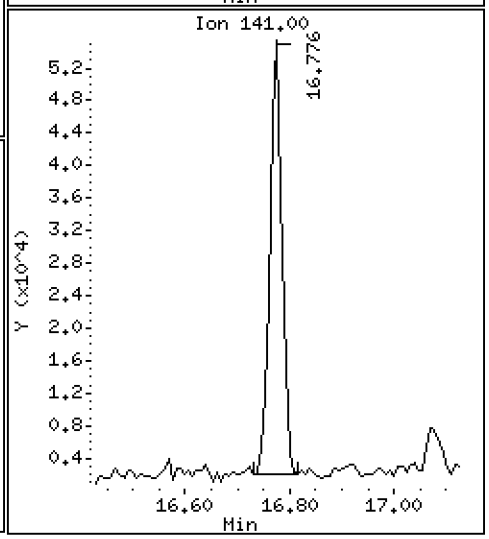












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

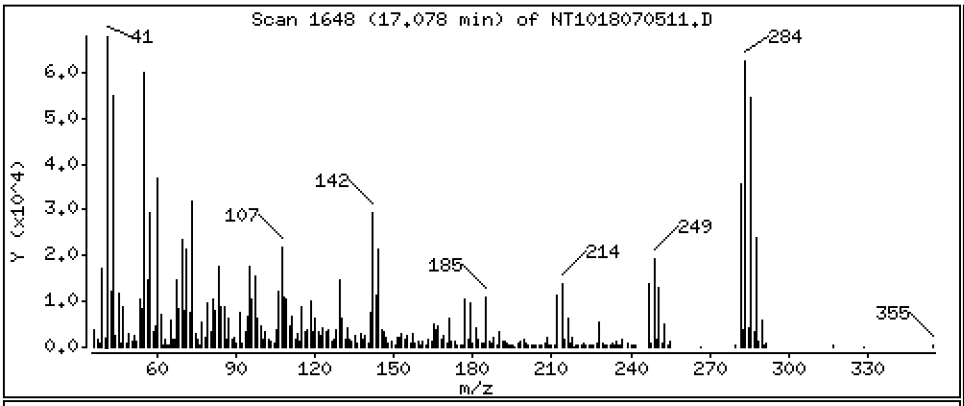
Operator: YZ

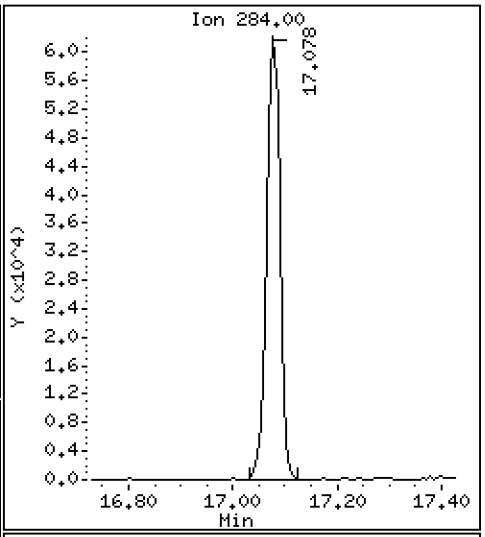
Column phase: ZB-5msi

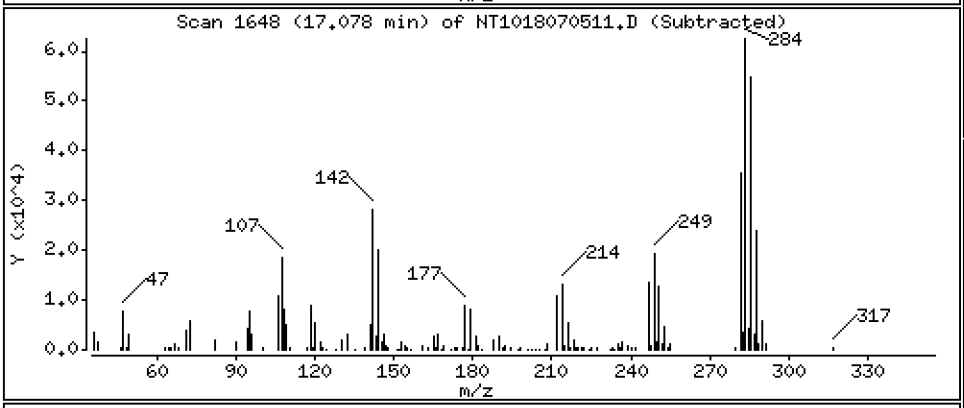
Column diameter: 0.25

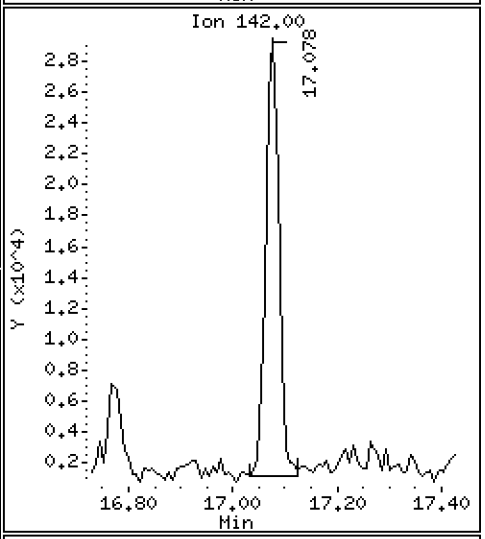
57 Hexachlorobenzene

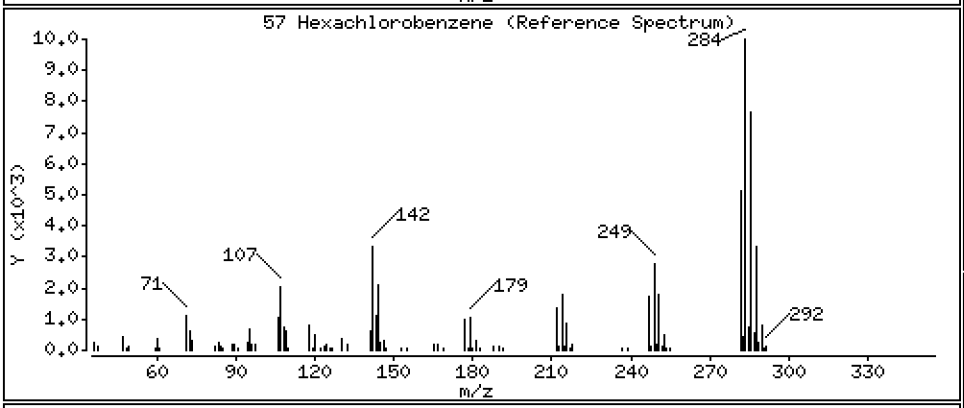
Concentration: 5.732 ug/mL

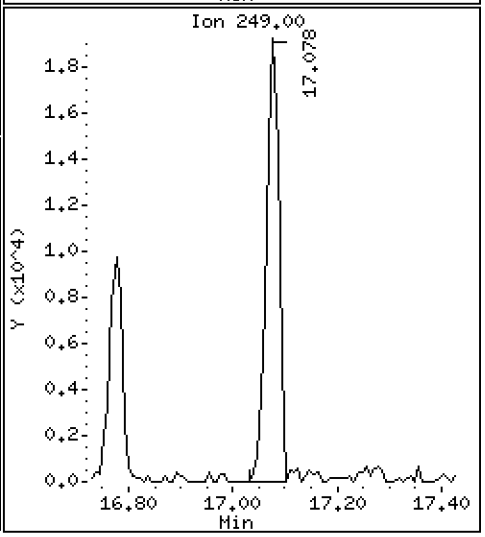


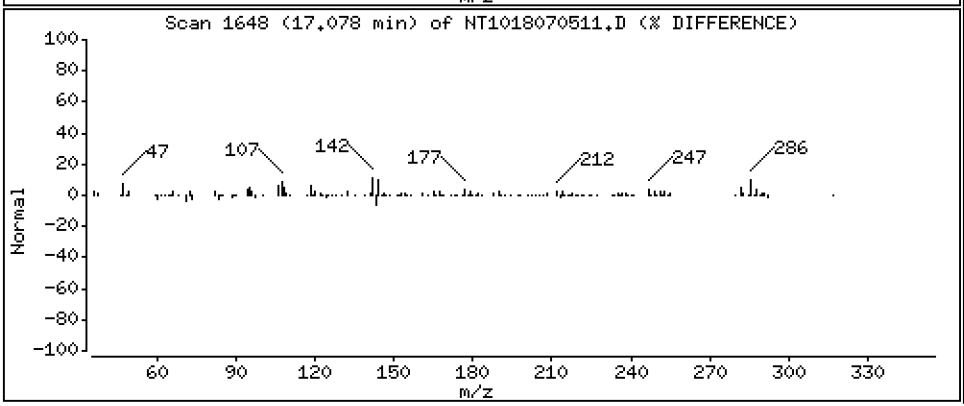












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

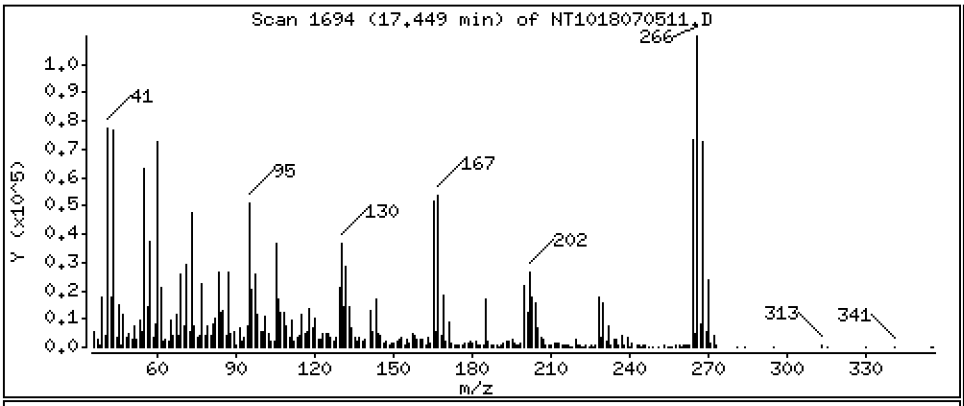
Operator: YZ

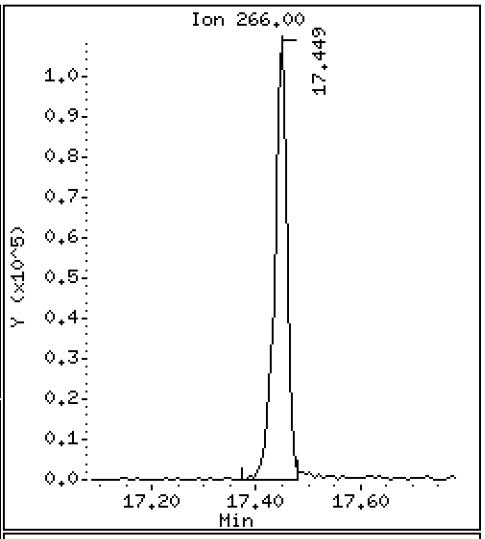
Column phase: ZB-5msi

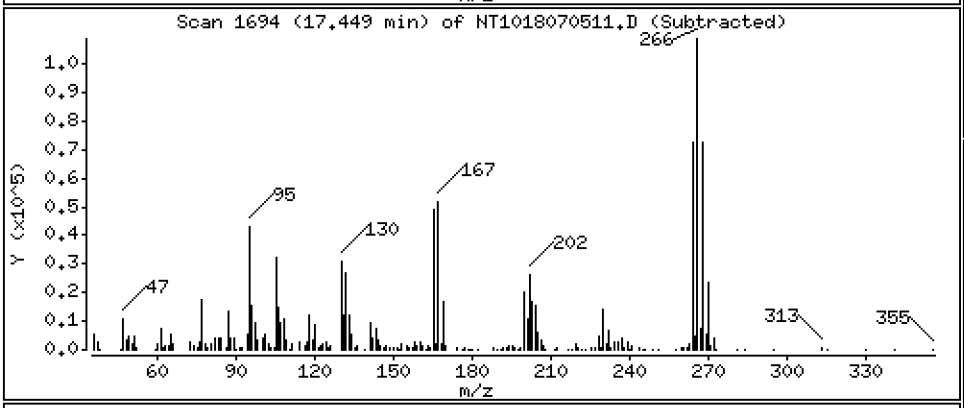
Column diameter: 0.25

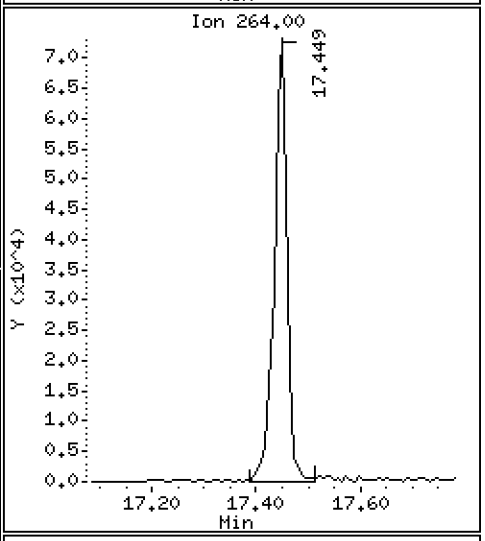
58 Pentachlorophenol

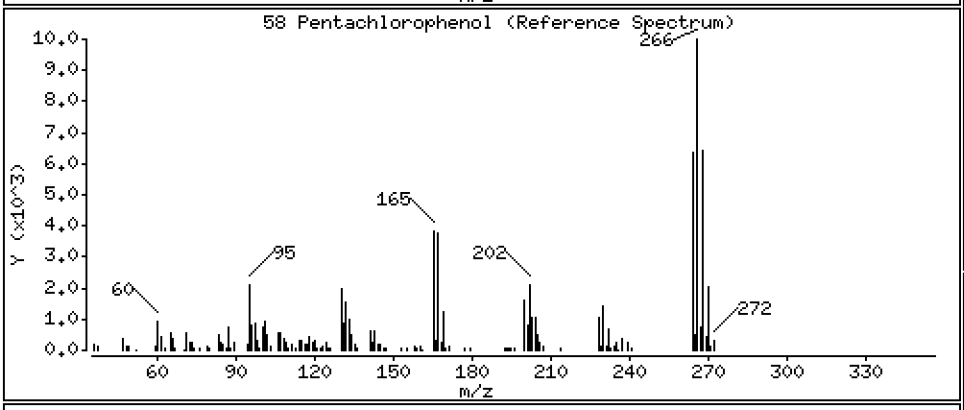
Concentration: 17.16 ug/mL

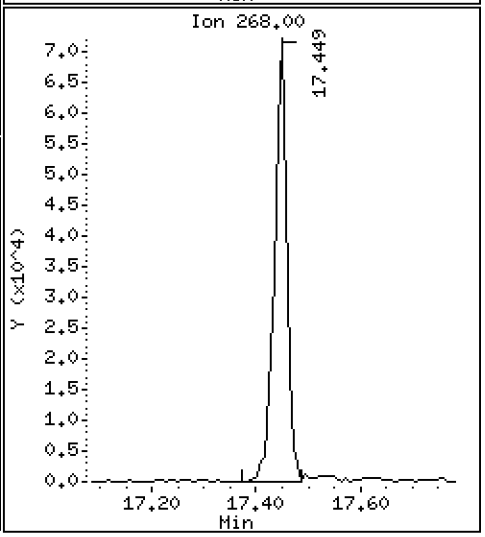


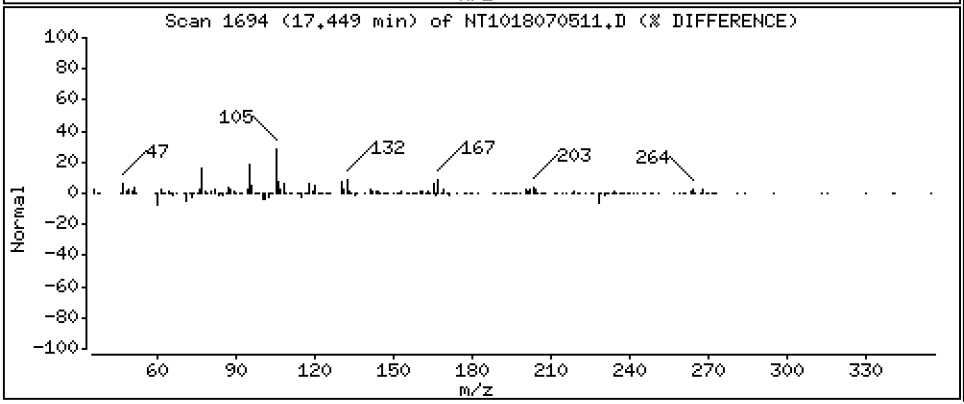












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

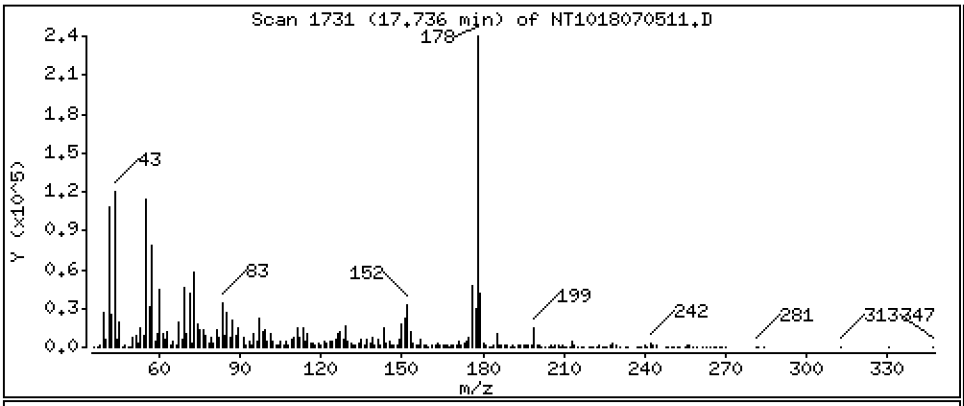
Operator: YZ

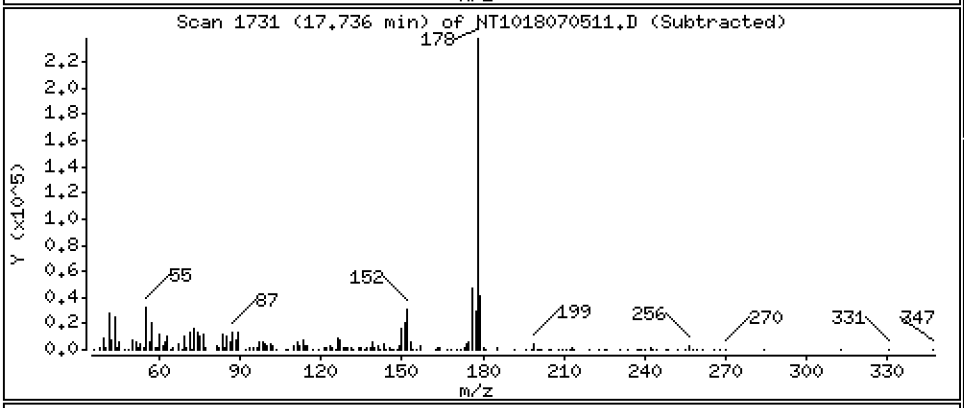
Column phase: ZB-5msi

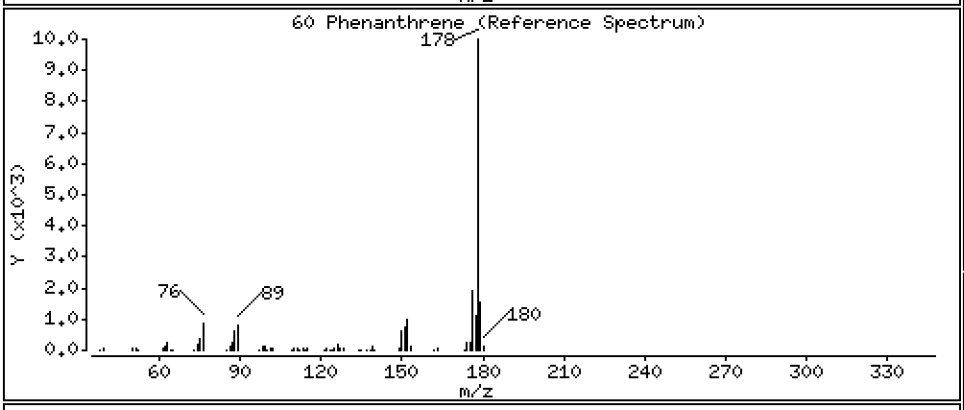
Column diameter: 0.25

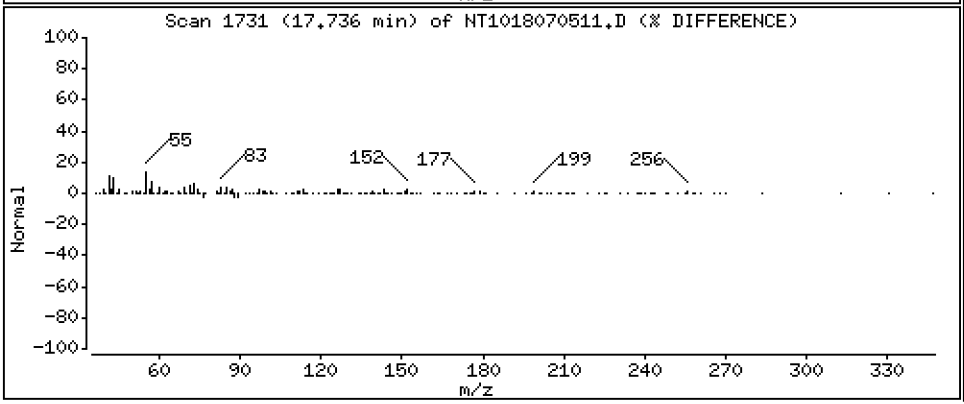
60 Phenanthrene

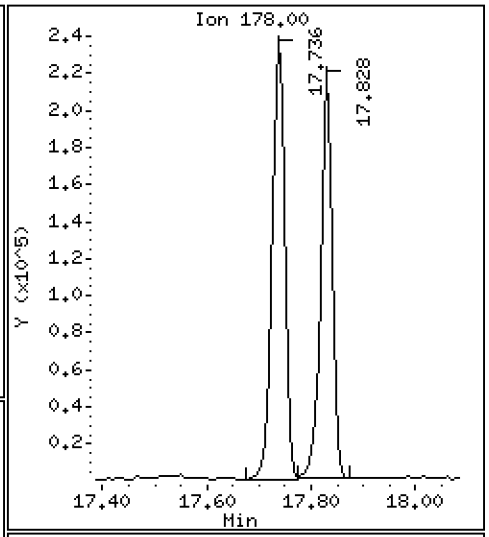
Concentration: 4.534 ug/mL

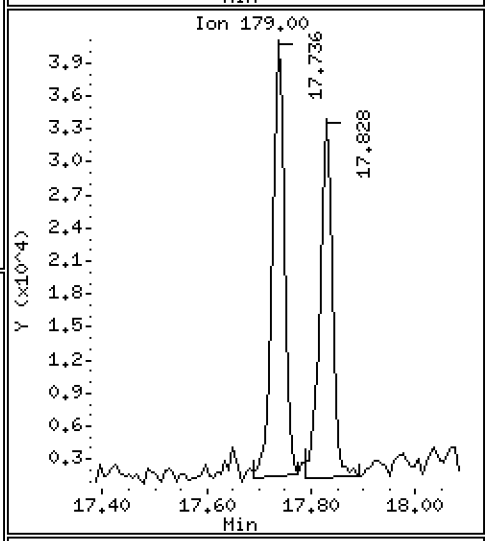


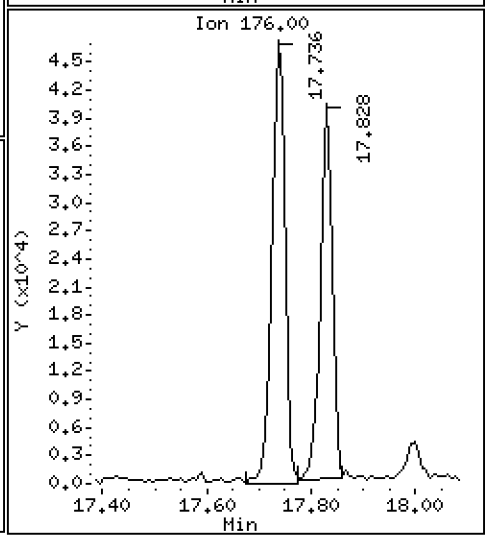












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

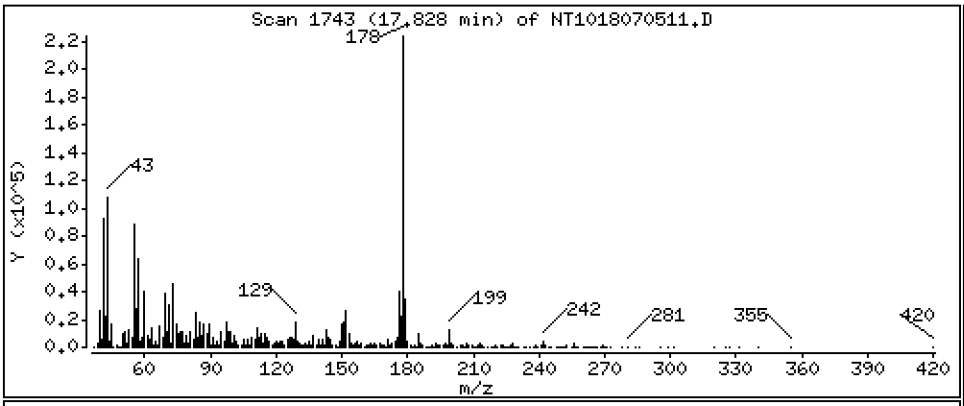
Operator: YZ

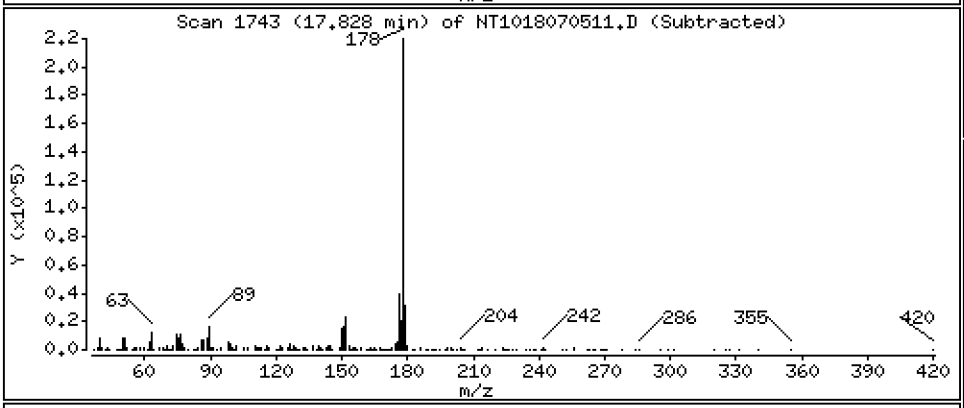
Column phase: ZB-5msi

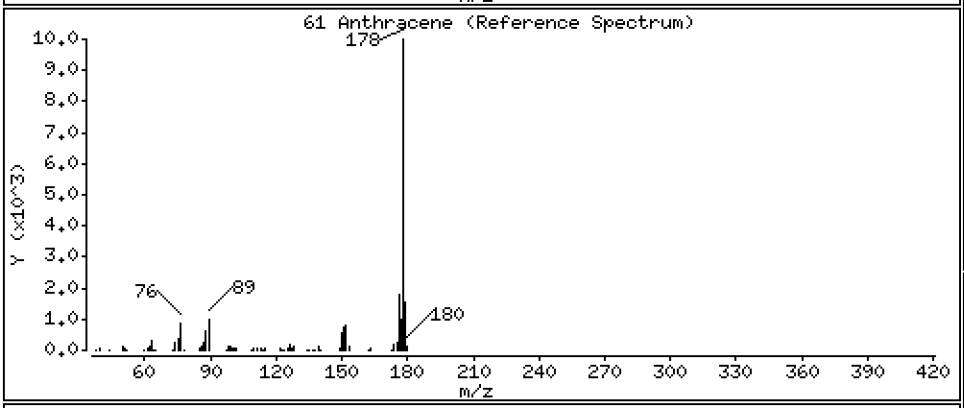
Column diameter: 0.25

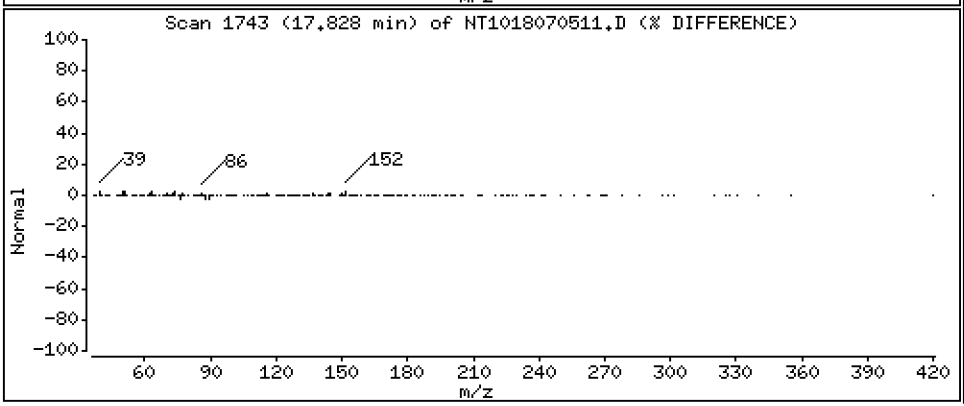
61 Anthracene

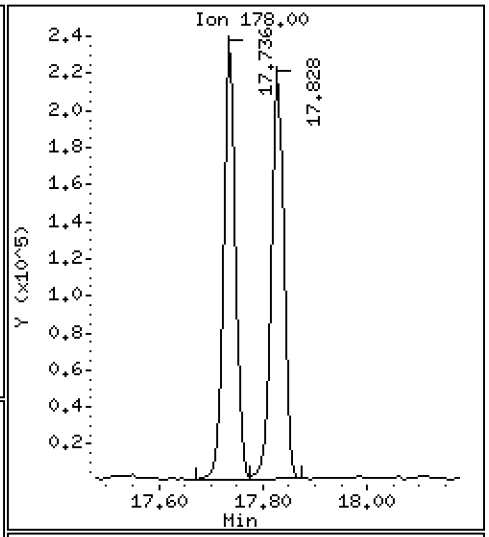
Concentration: 3.865 ug/mL

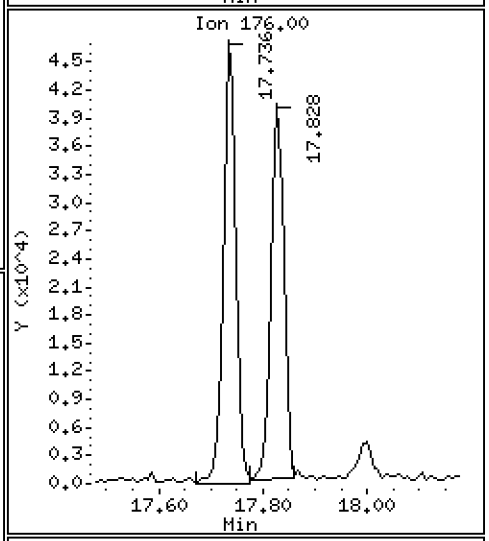


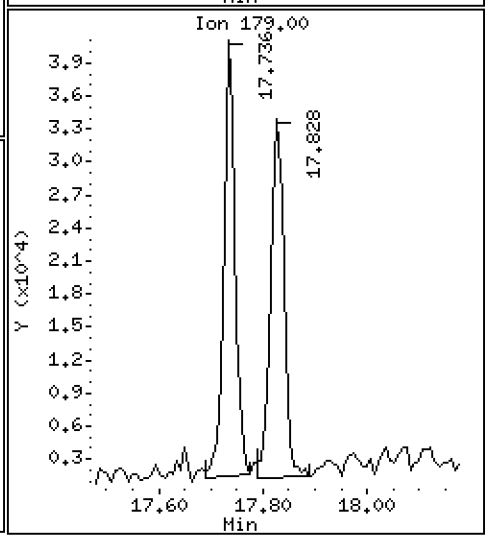












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

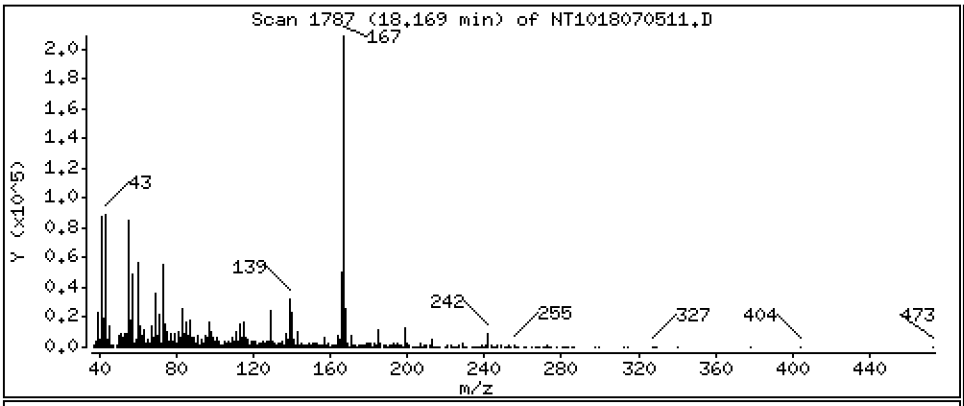
Operator: YZ

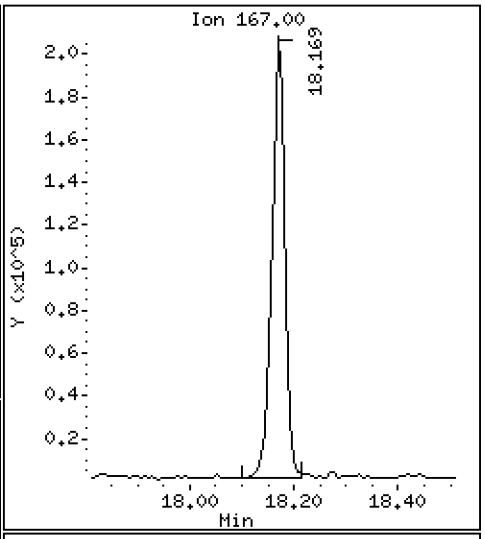
Column phase: ZB-5msi

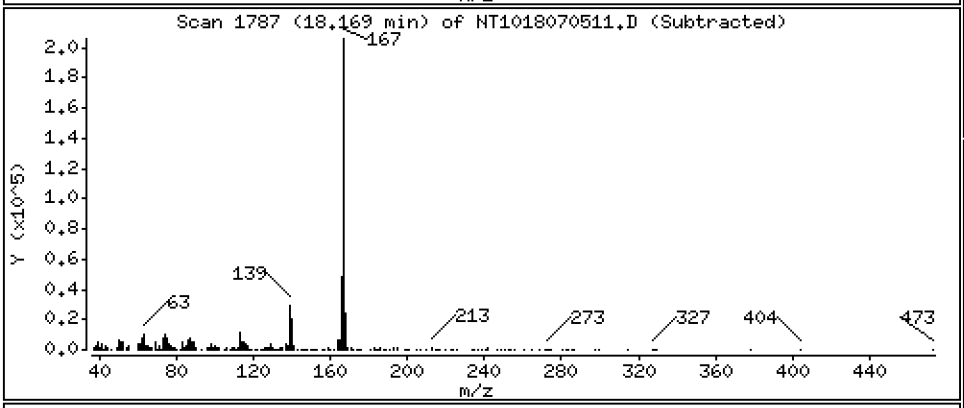
Column diameter: 0.25

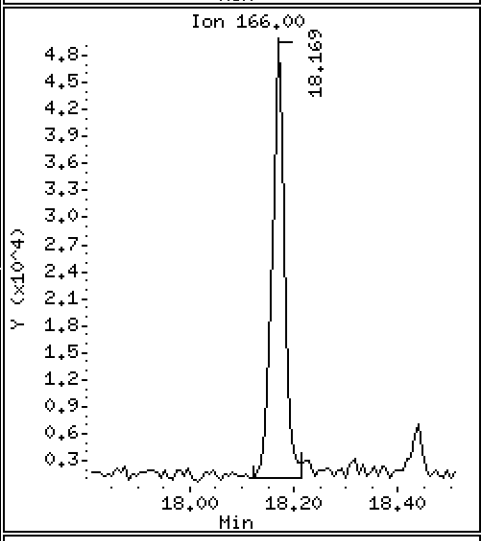
62 Carbazole

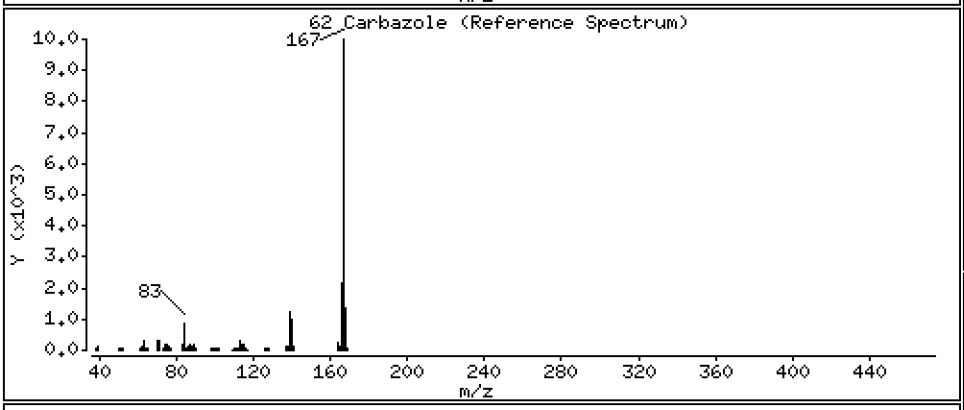
Concentration: 4.397 ug/mL

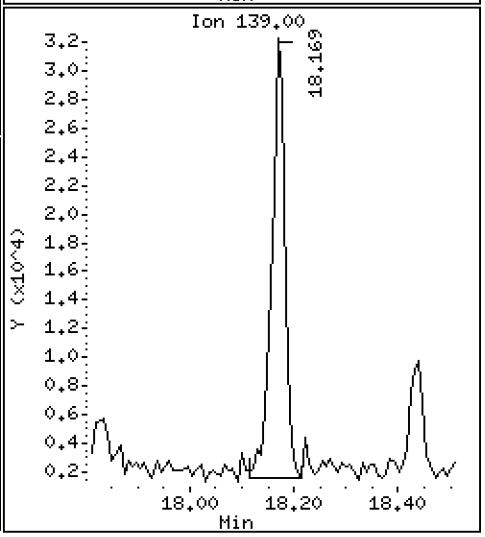


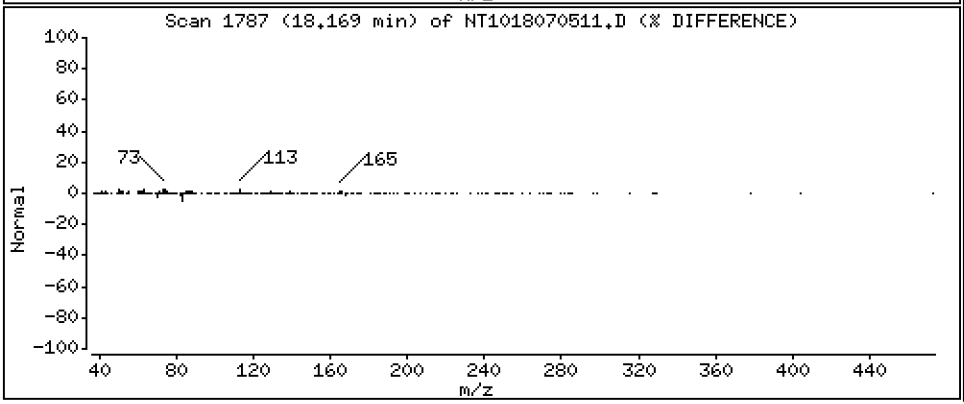












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

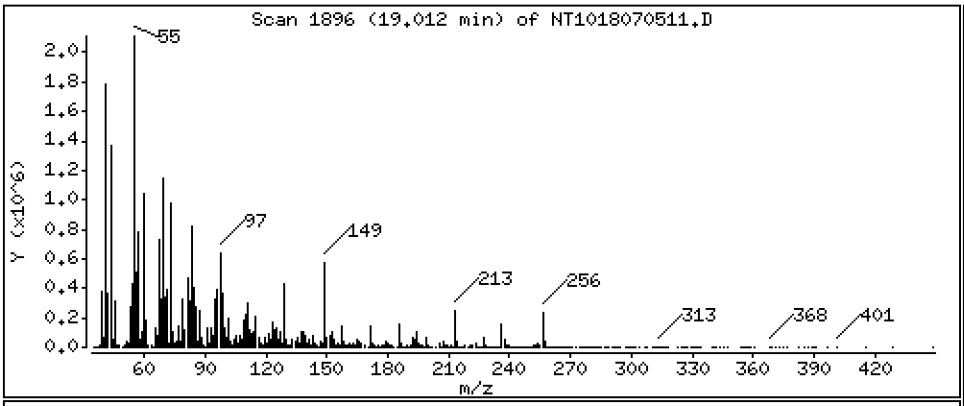
Operator: YZ

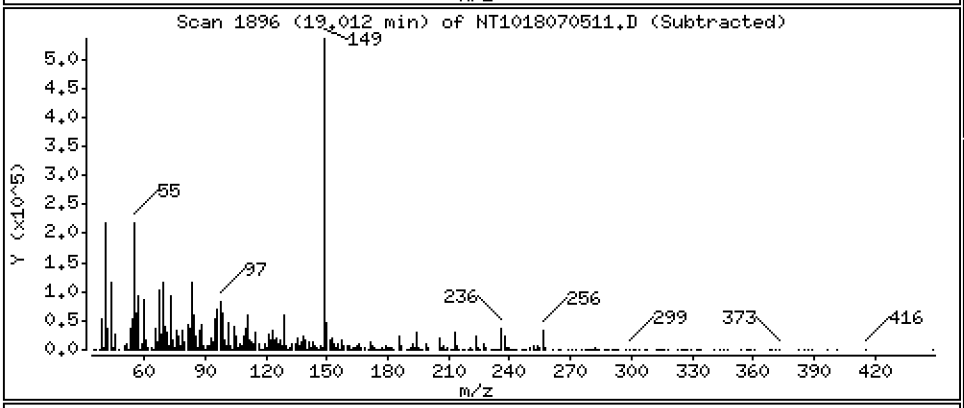
Column phase: ZB-5msi

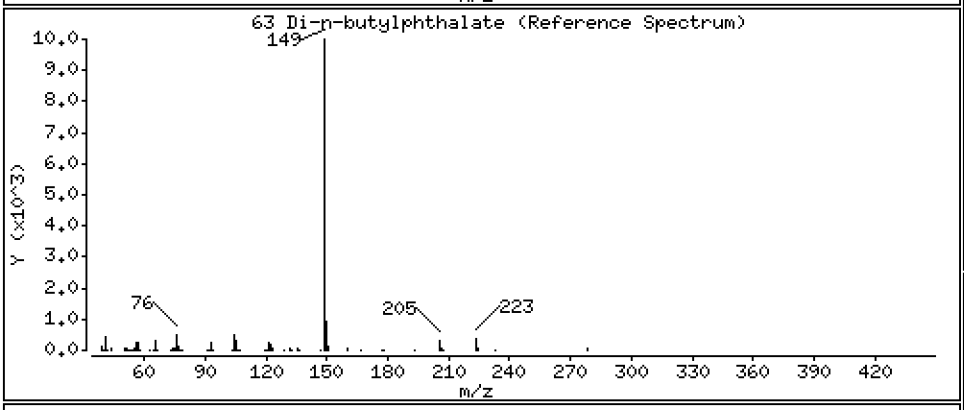
Column diameter: 0.25

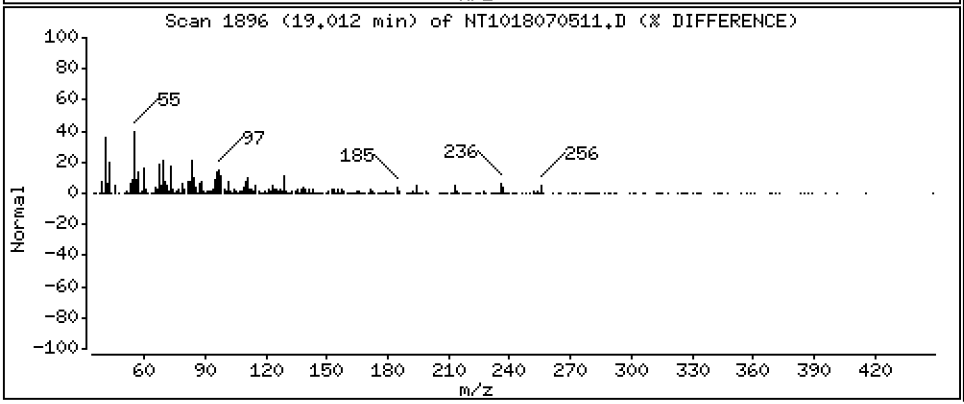
63 Di-n-butylphthalate

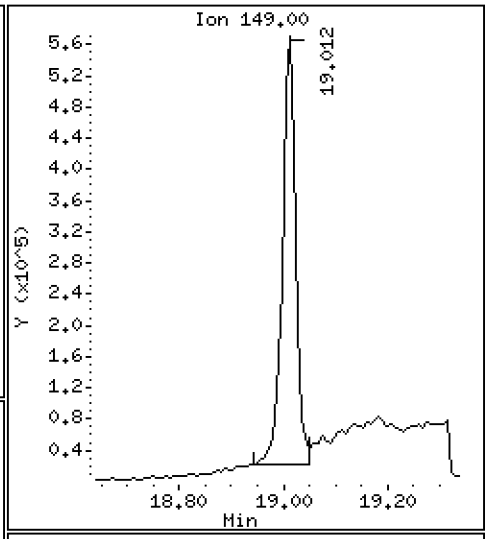
Concentration: 8.209 ug/mL

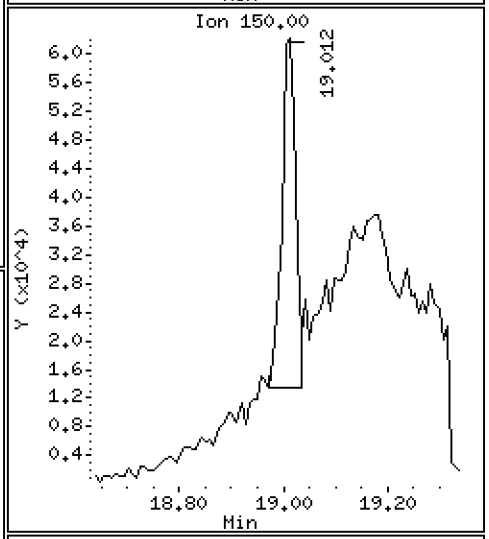


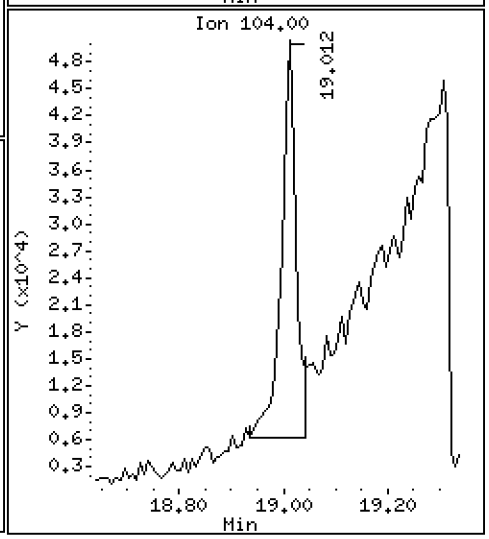












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

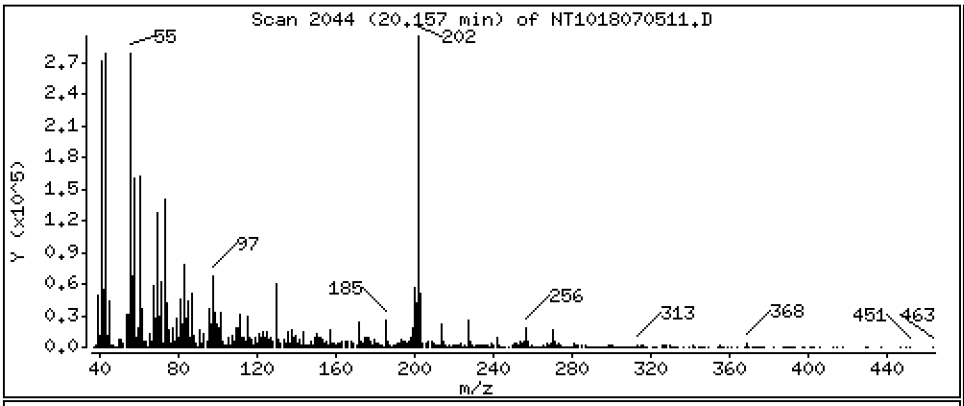
Operator: YZ

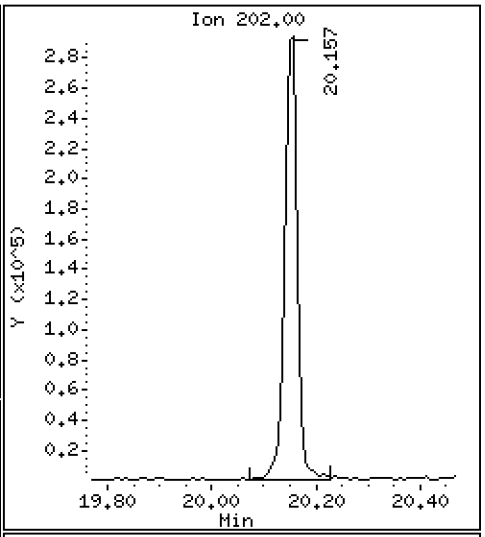
Column phase: ZB-5msi

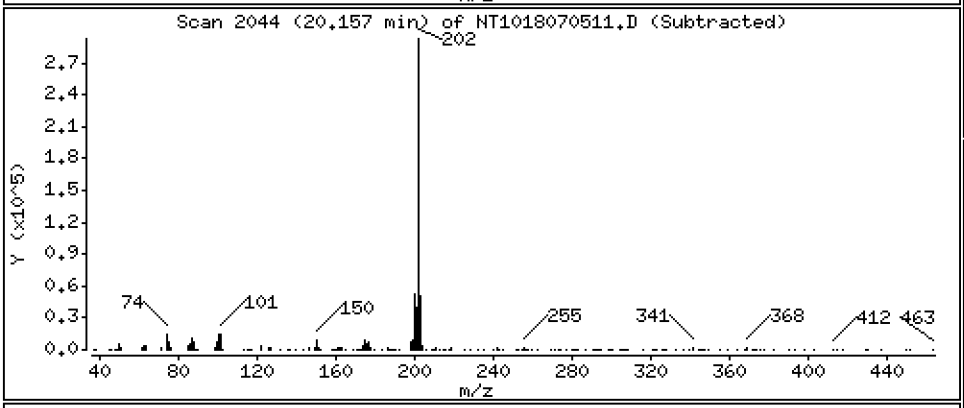
Column diameter: 0.25

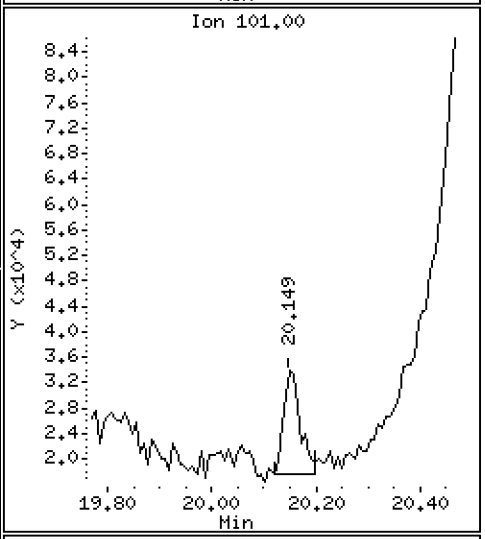
64 Fluoranthene

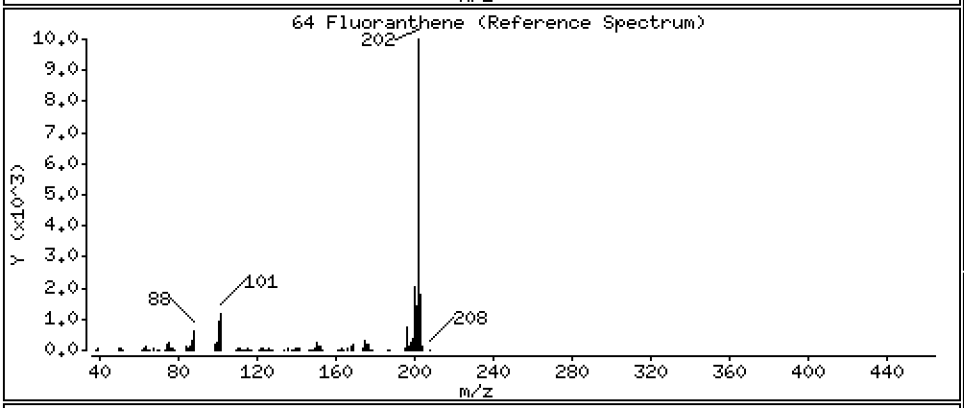
Concentration: 3.131 ug/mL

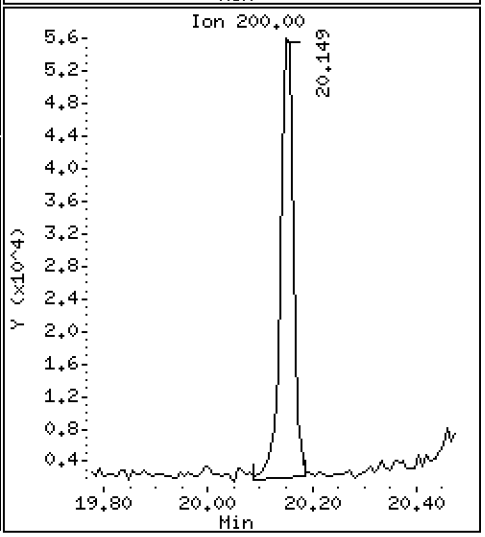


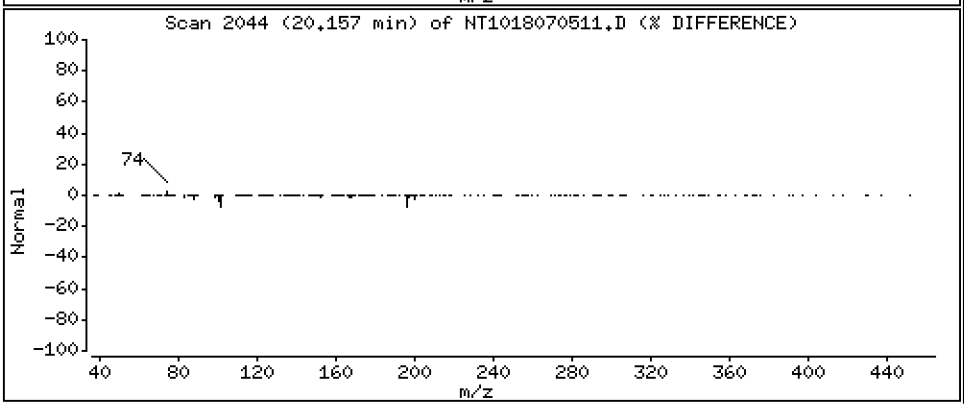












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

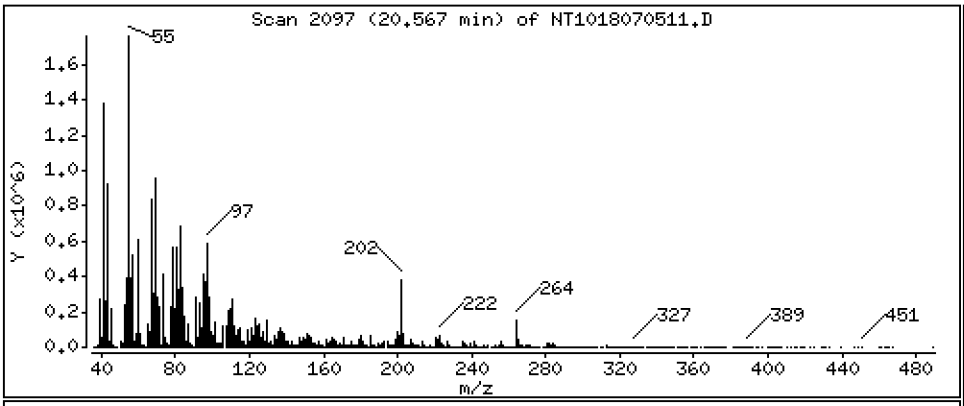
Operator: YZ

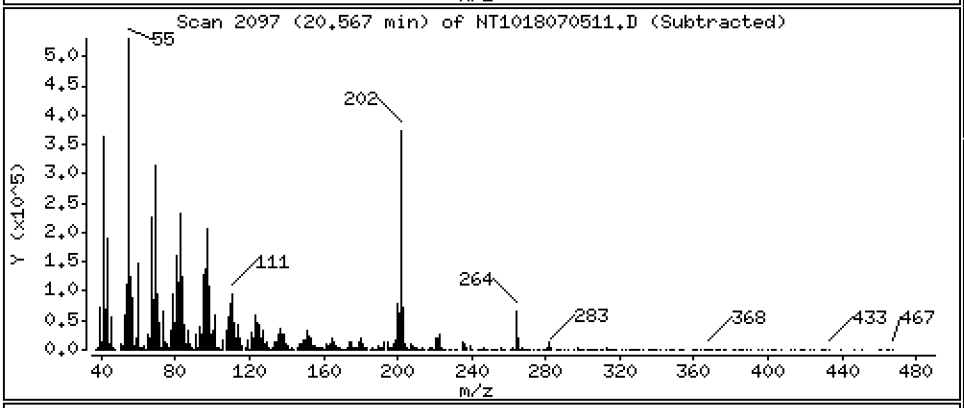
Column phase: ZB-5msi

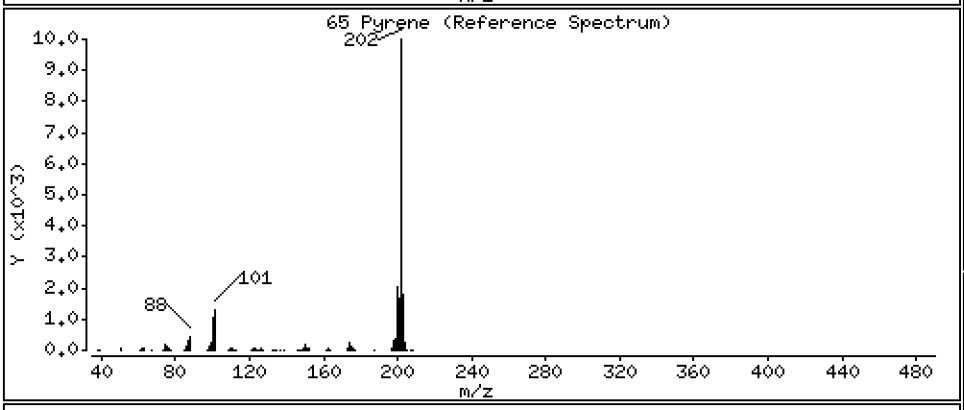
Column diameter: 0.25

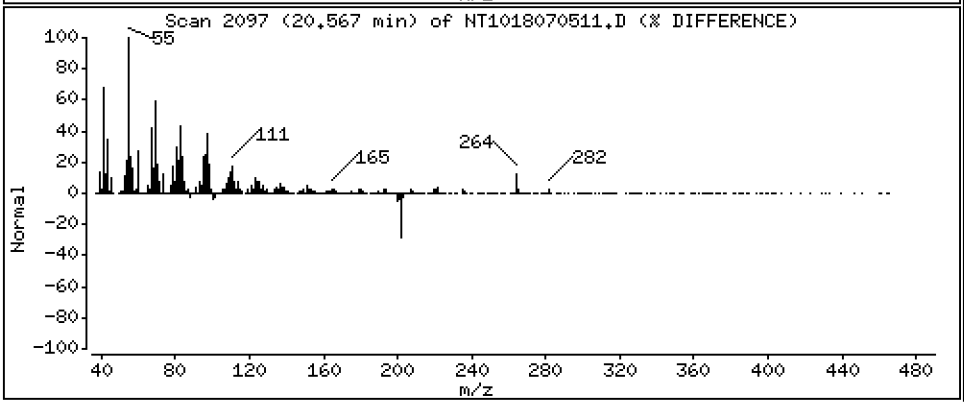
65 Pyrene

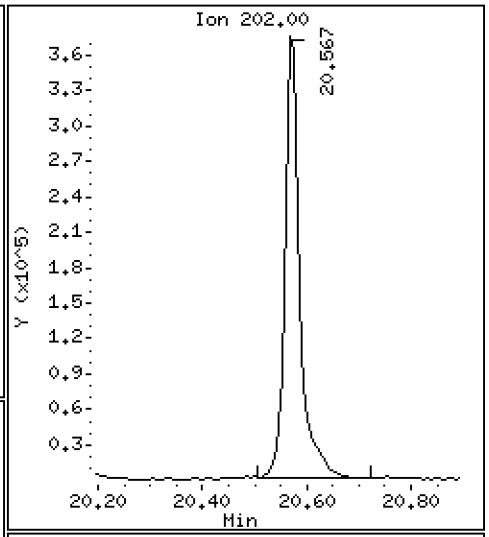
Concentration: 4.743 ug/mL

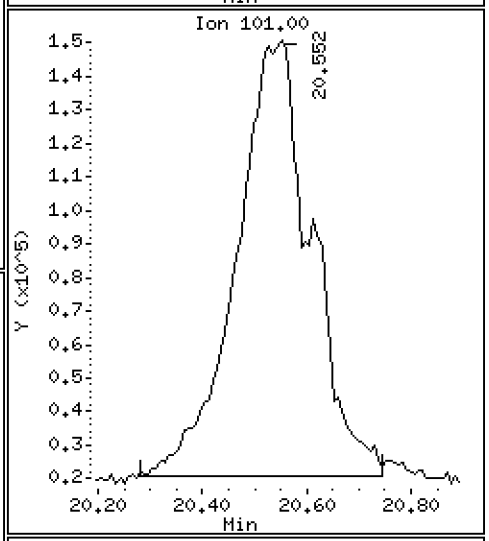


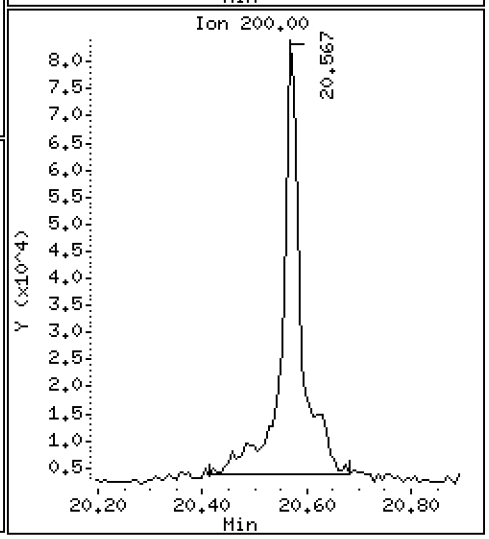












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

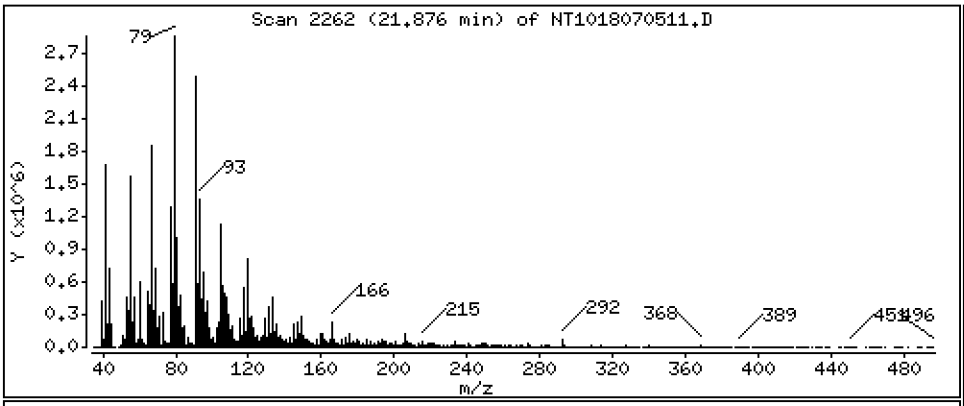
Operator: YZ

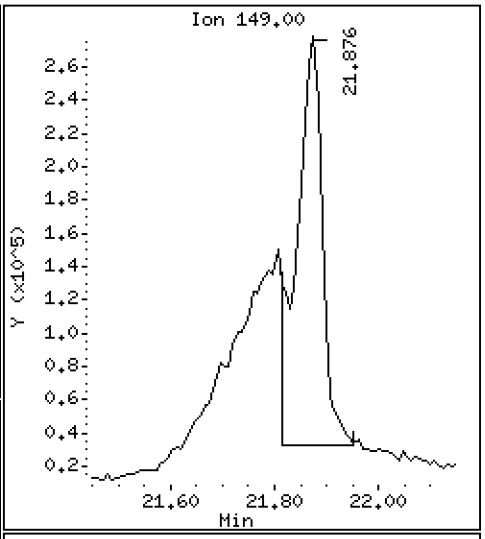
Column phase: ZB-5msi

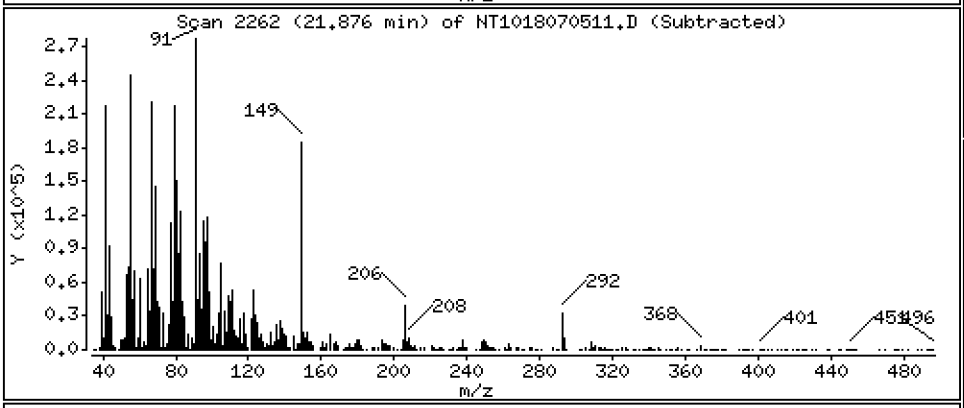
Column diameter: 0.25

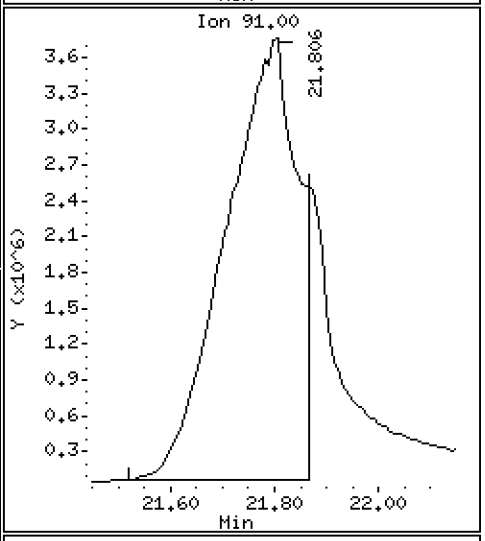
67 Butylbenzylphthalate

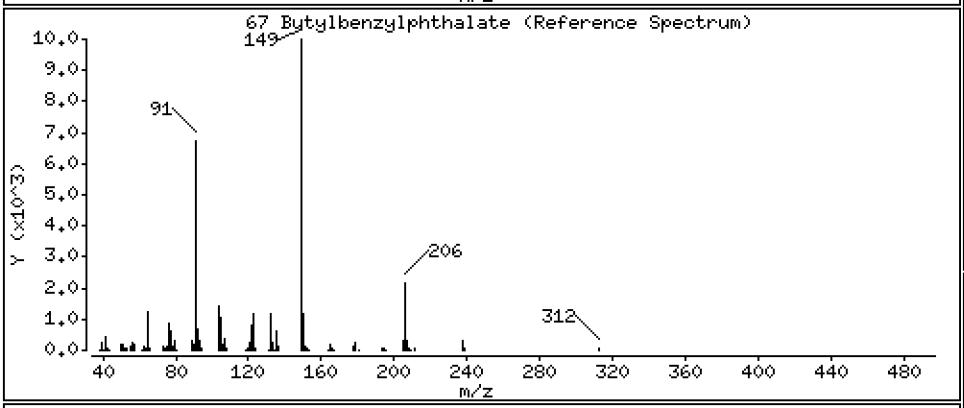
Concentration: 12.28 ug/mL

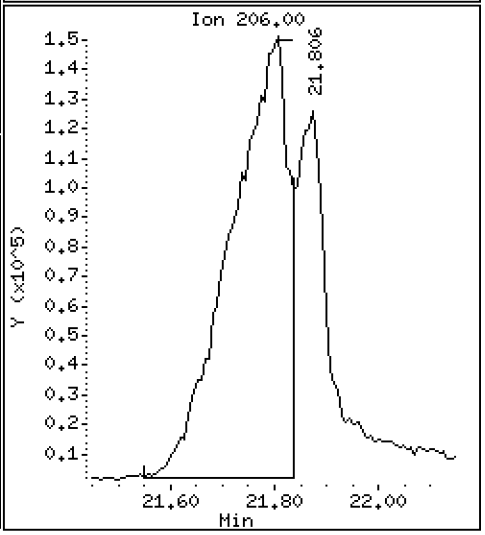


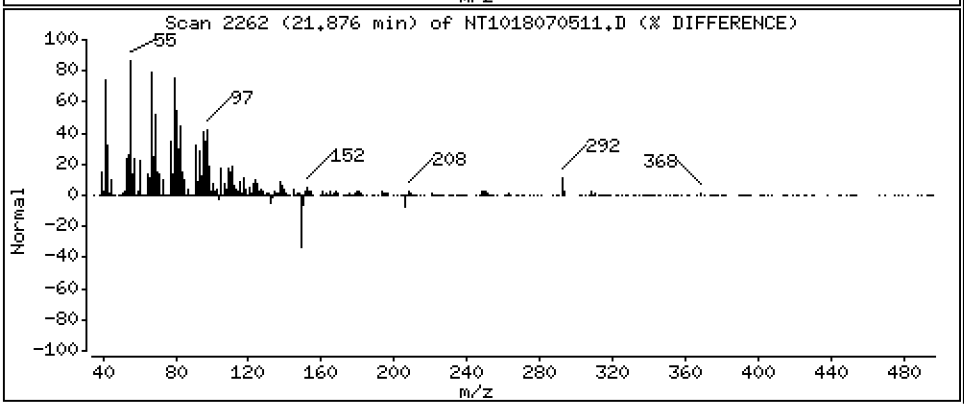












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

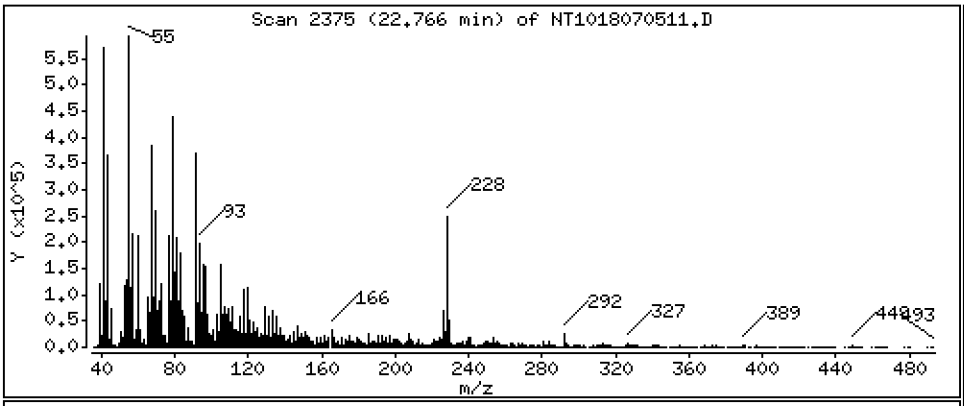
Operator: YZ

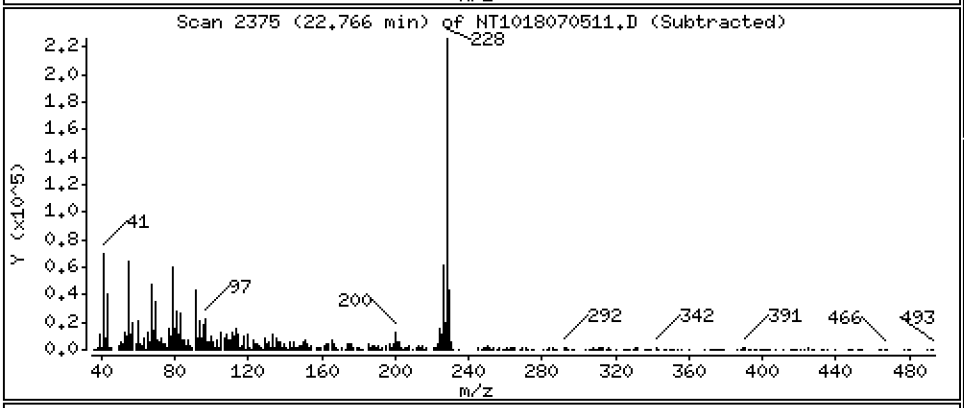
Column phase: ZB-5msi

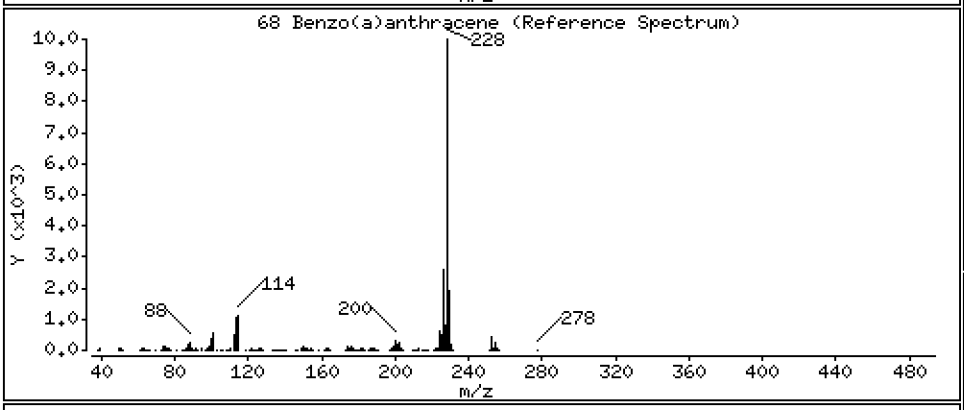
Column diameter: 0.25

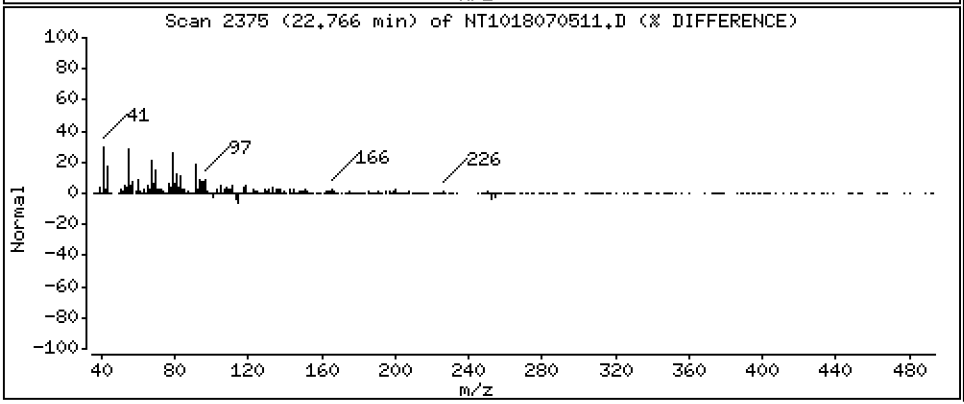
68 Benzo(a)anthracene

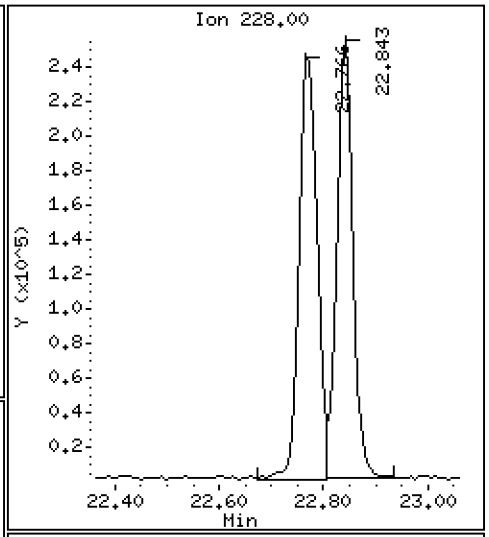
Concentration: 3.905 ug/mL

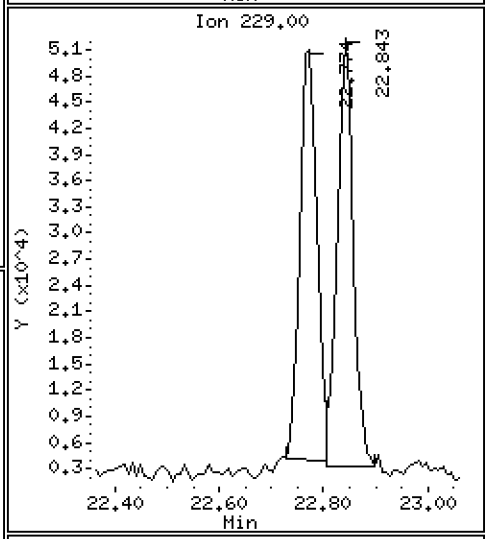


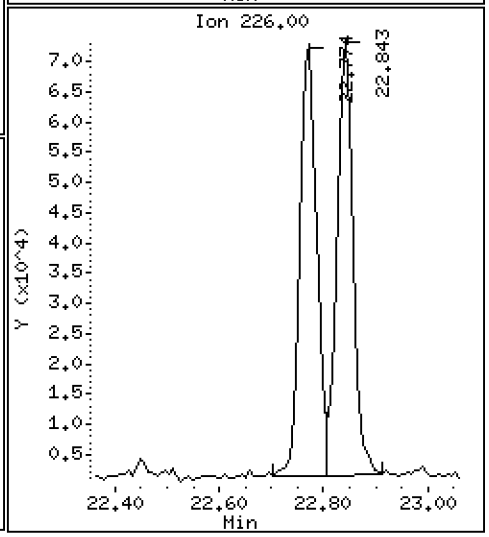












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

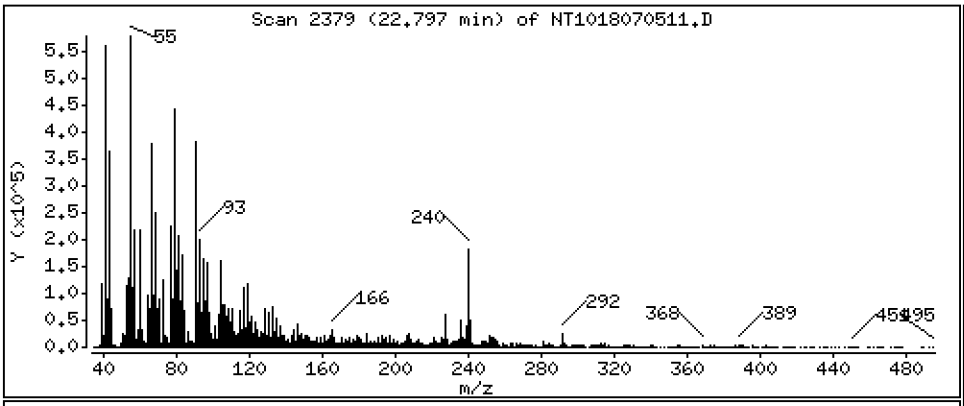
Operator: YZ

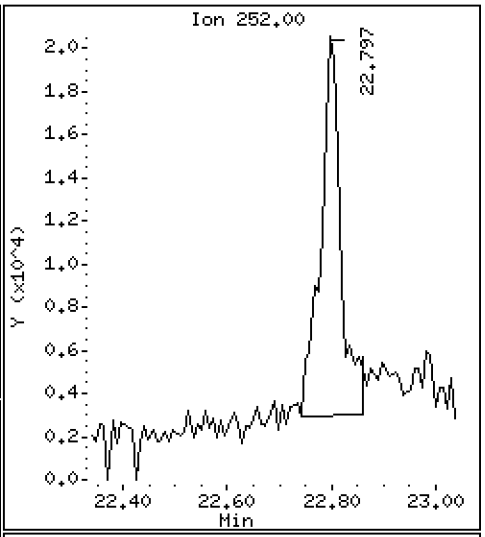
Column phase: ZB-5msi

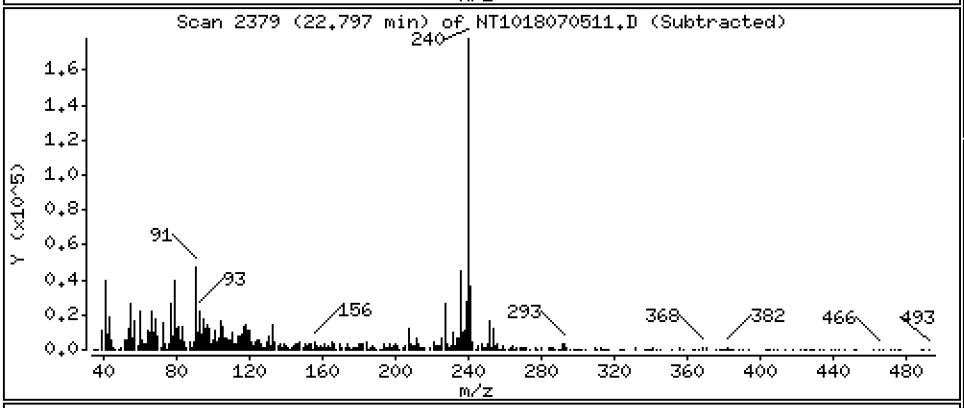
Column diameter: 0.25

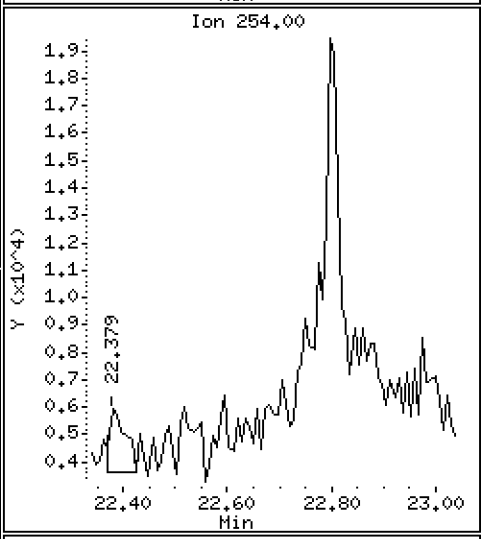
70 3,3'-Dichlorobenzidine

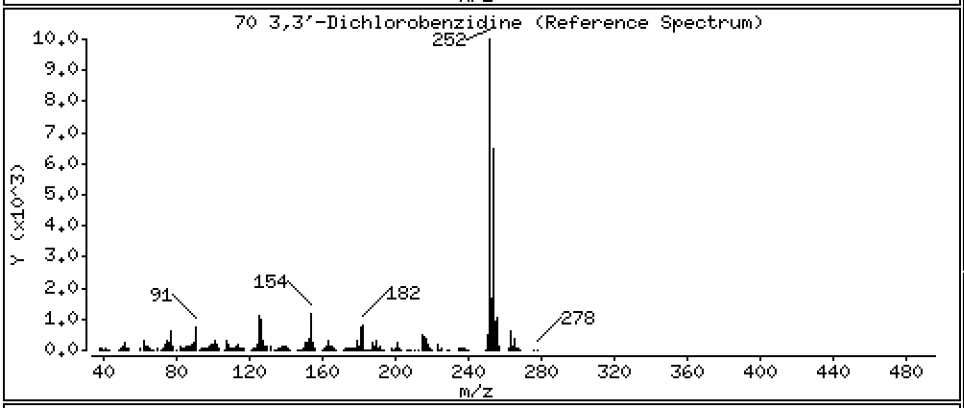
Concentration: 0.9107 ug/mL

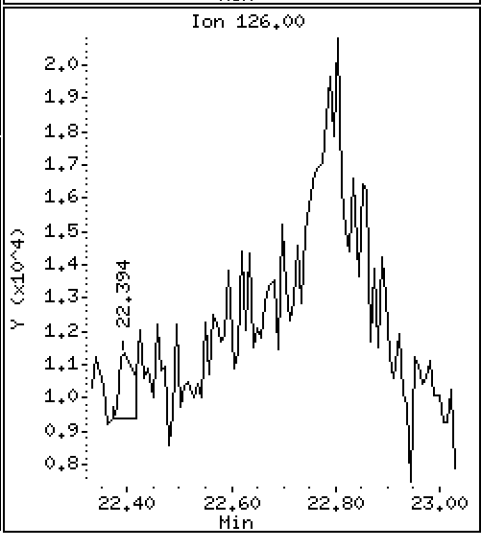


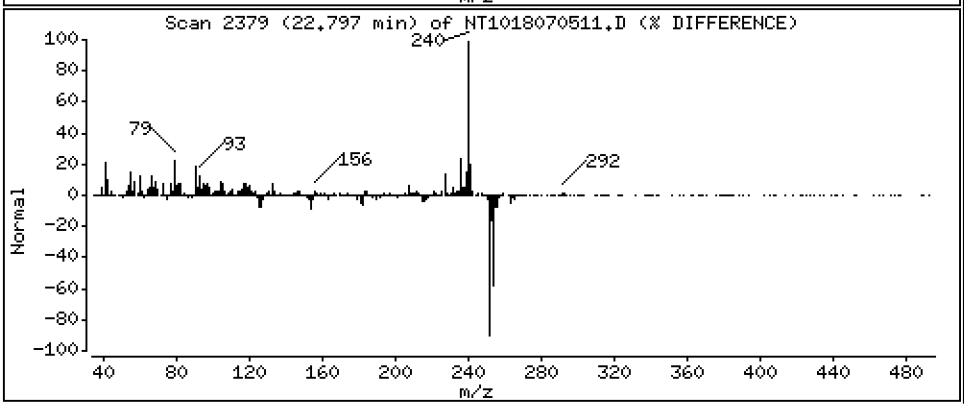












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

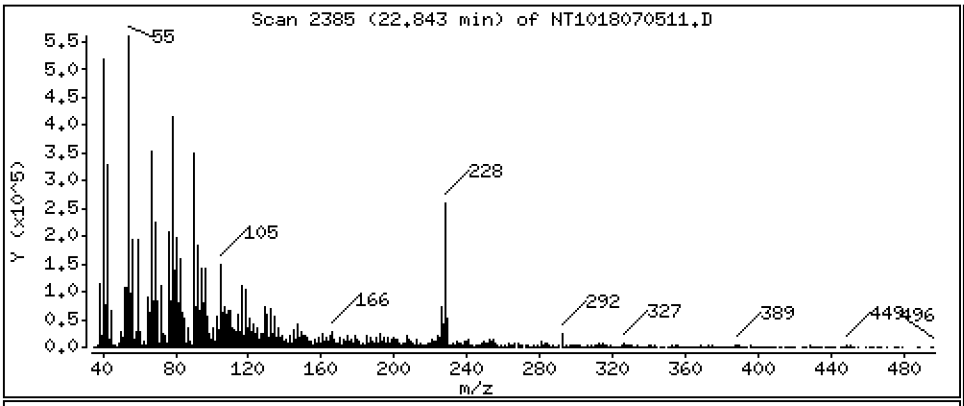
Operator: YZ

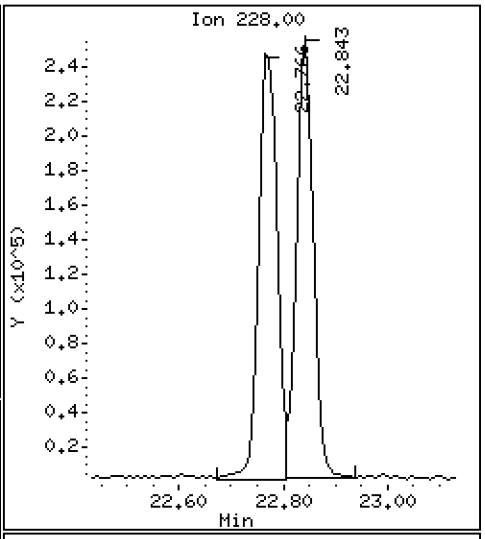
Column phase: ZB-5msi

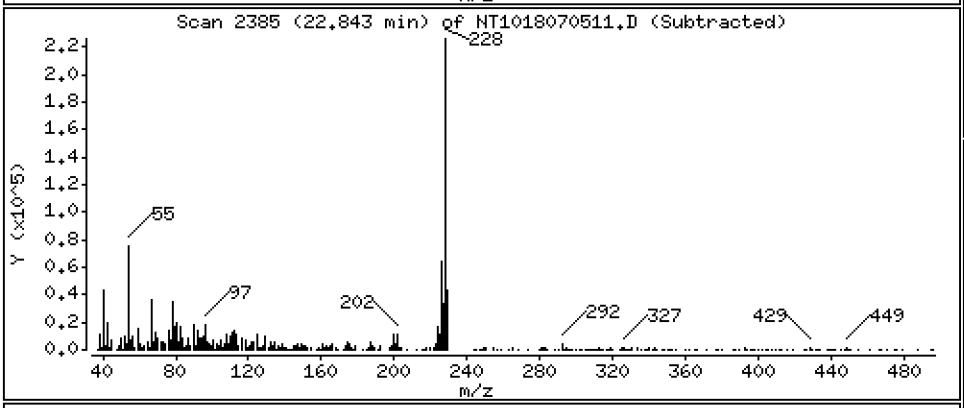
Column diameter: 0.25

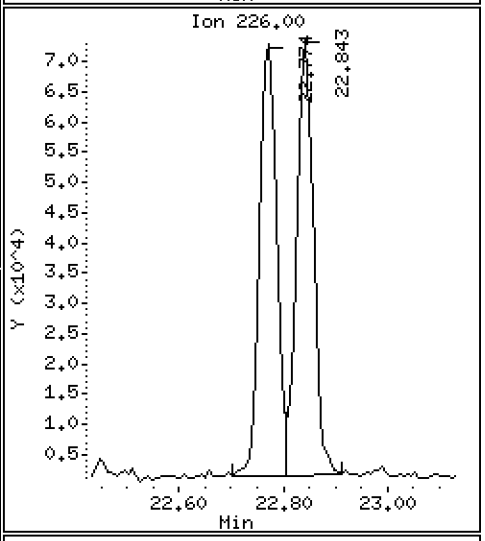
71 Chrysene

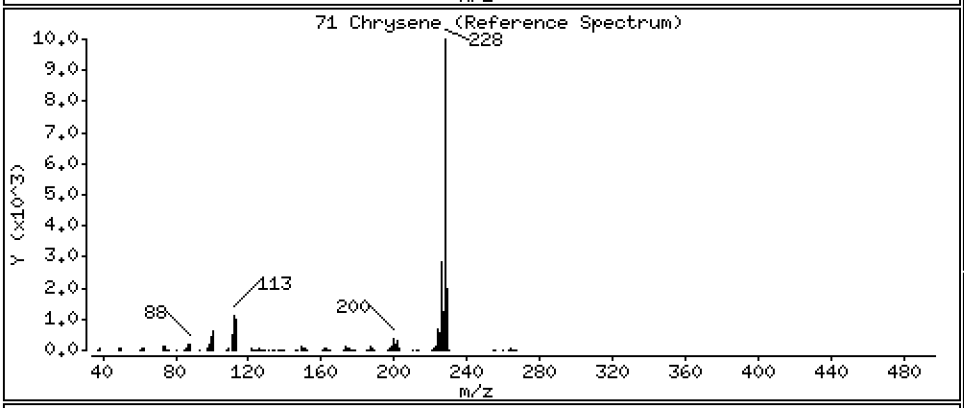
Concentration: 4.681 ug/mL

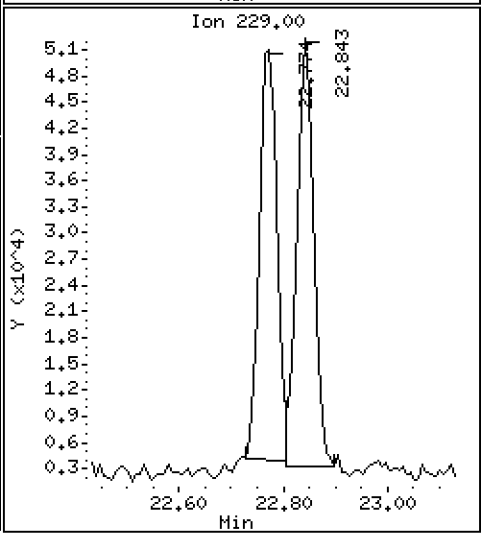


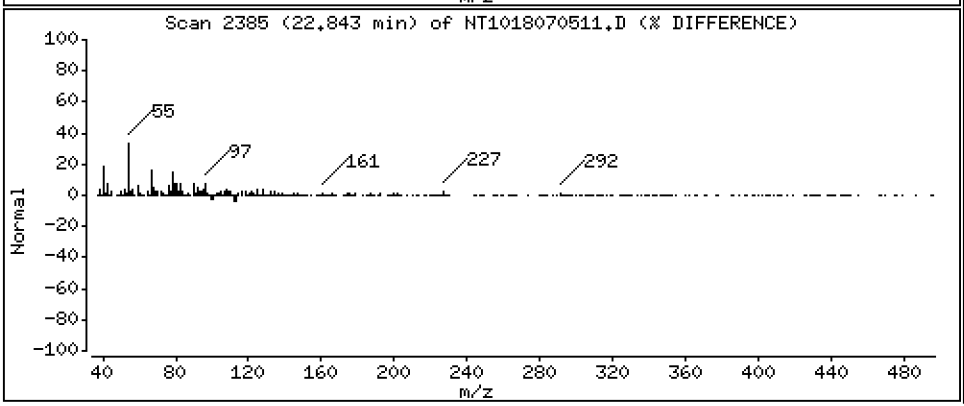












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

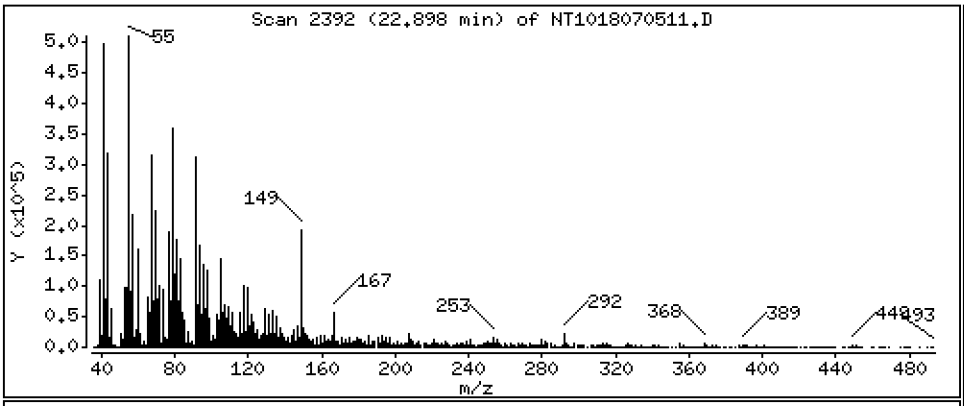
Operator: YZ

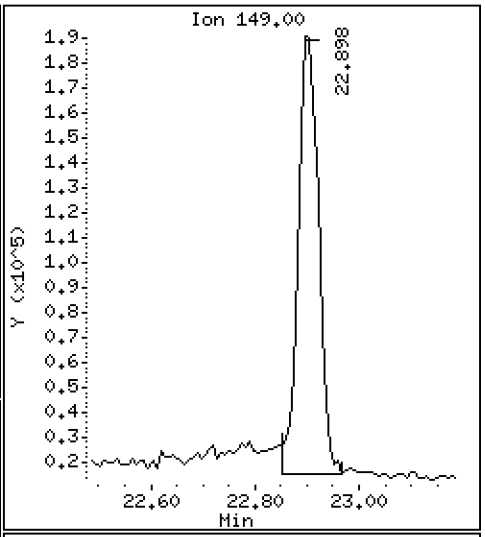
Column phase: ZB-5msi

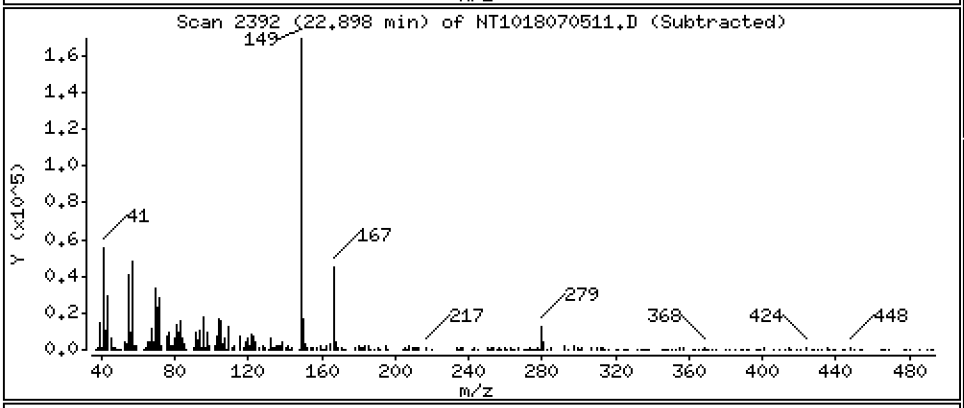
Column diameter: 0.25

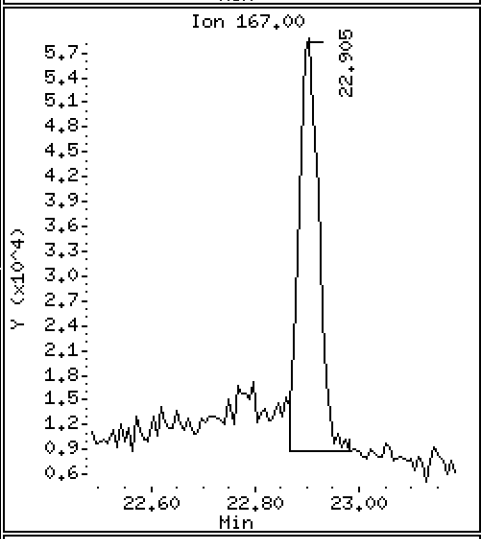
72 bis(2-Ethylhexyl)phthalate

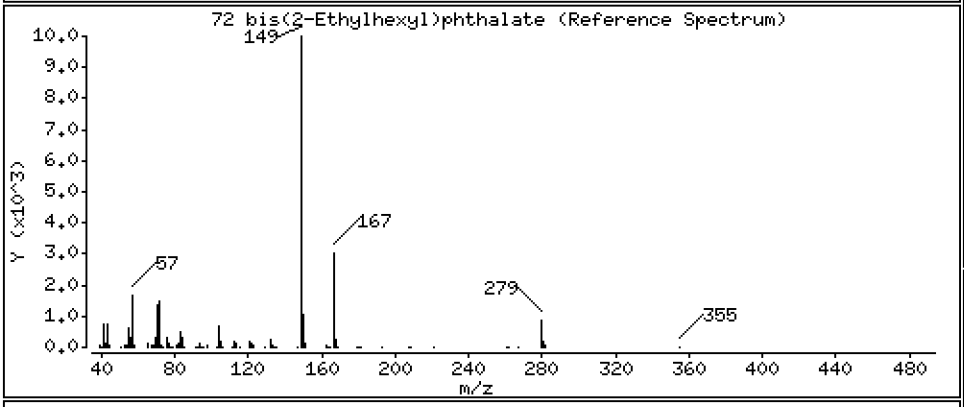
Concentration: 6.808 ug/mL

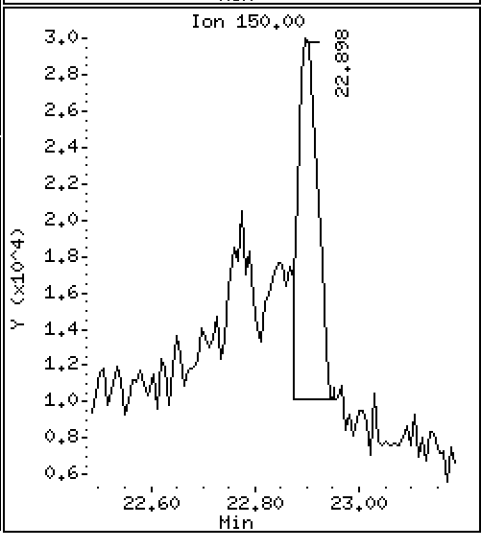


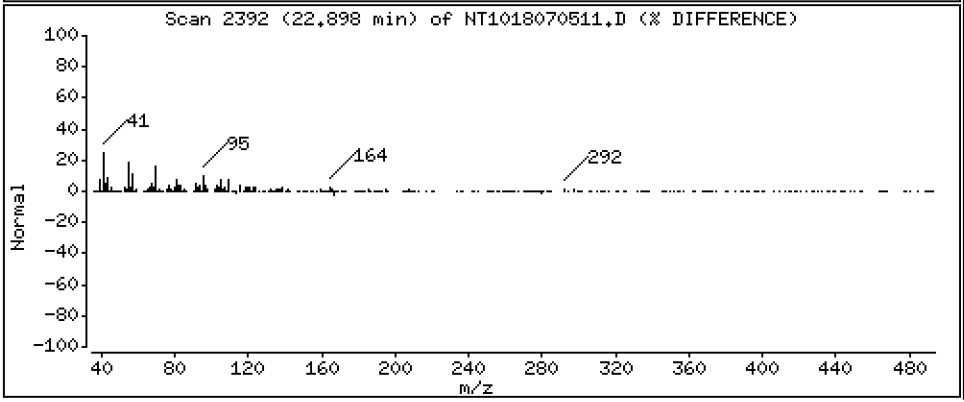












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

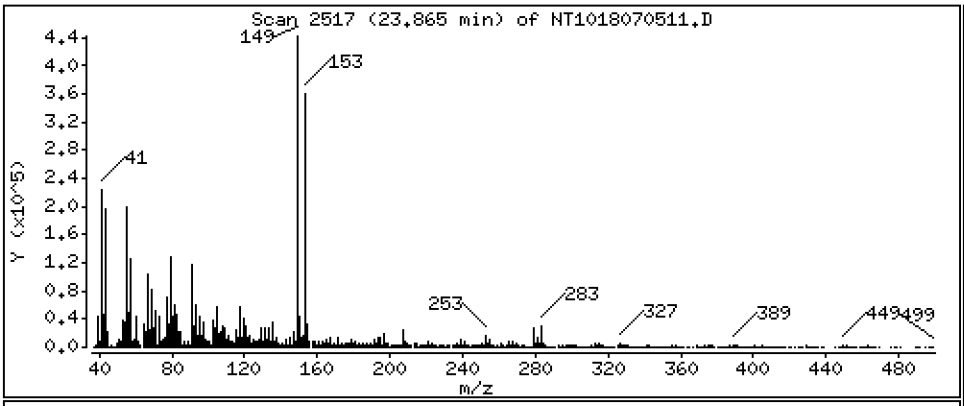
Operator: YZ

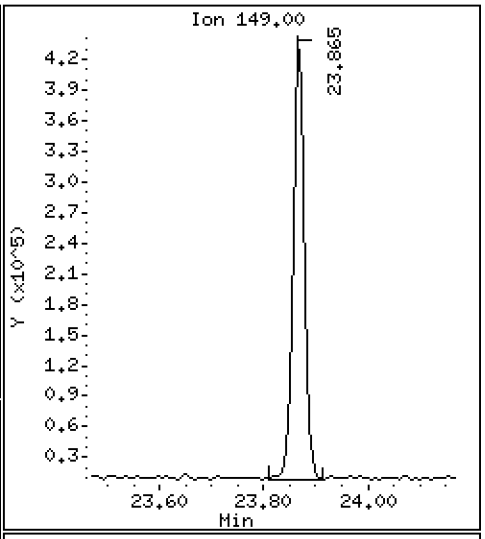
Column phase: ZB-5msi

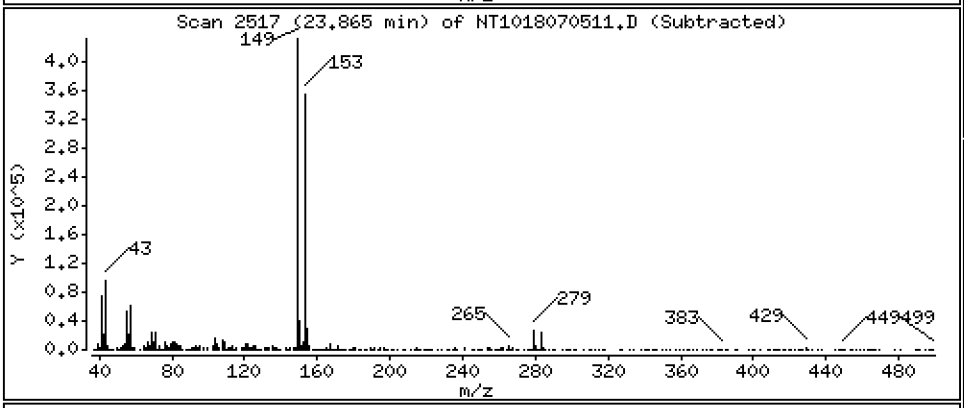
Column diameter: 0.25

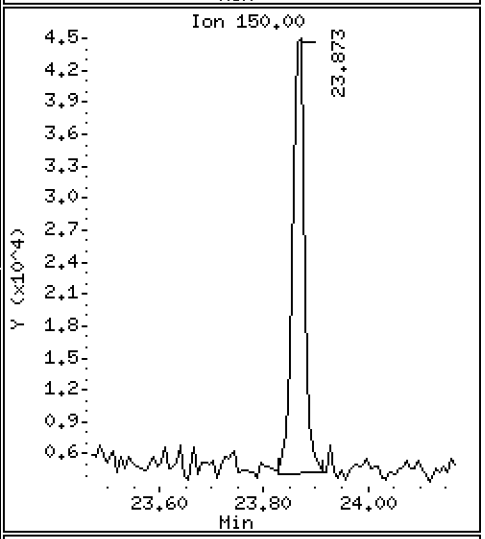
73 Di-n-octylphthalate

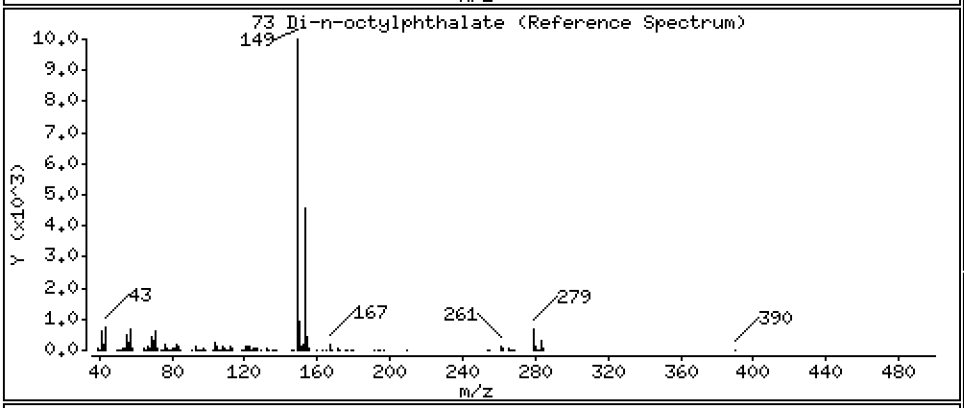
Concentration: 4.513 ug/mL

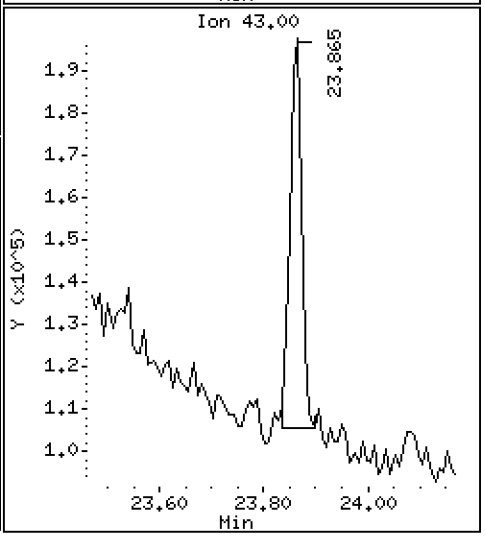


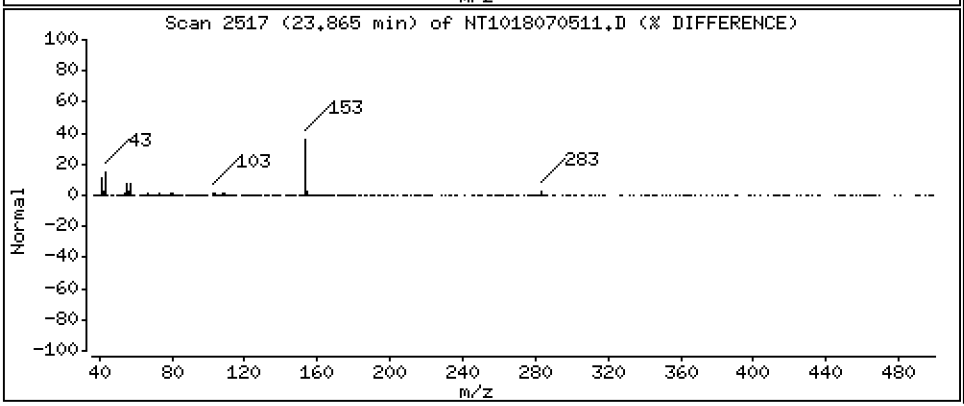












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

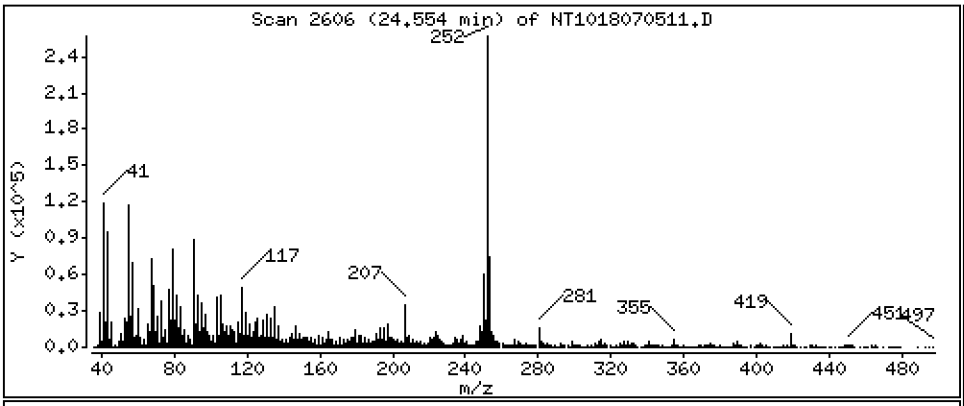
Operator: YZ

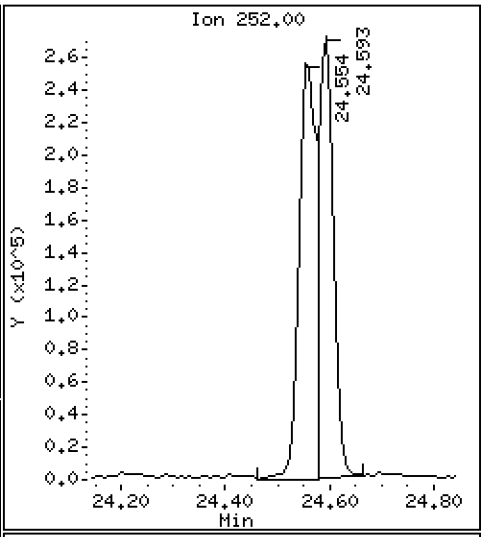
Column phase: ZB-5msi

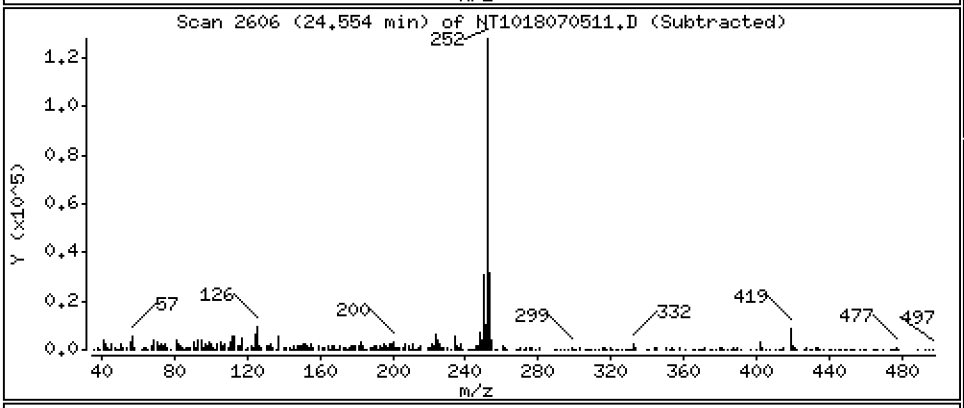
Column diameter: 0.25

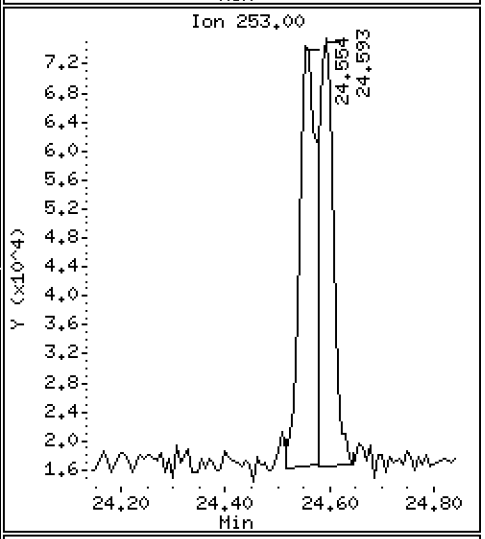
74 Benzo(b)fluoranthene

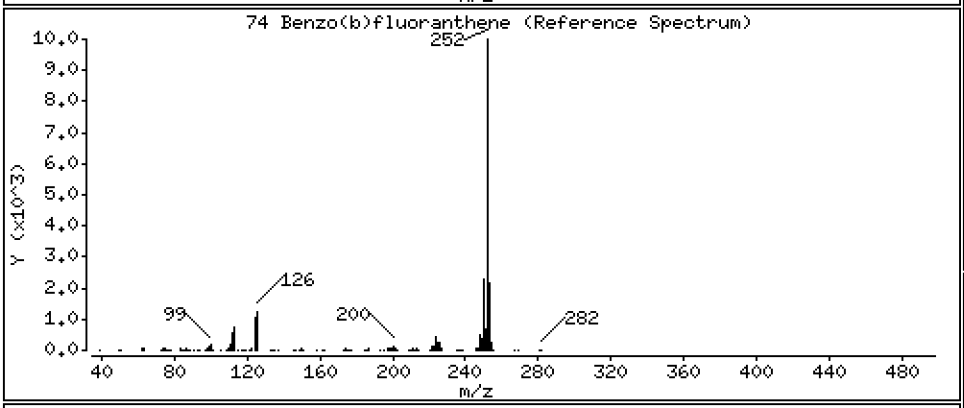
Concentration: 4.765 ug/mL

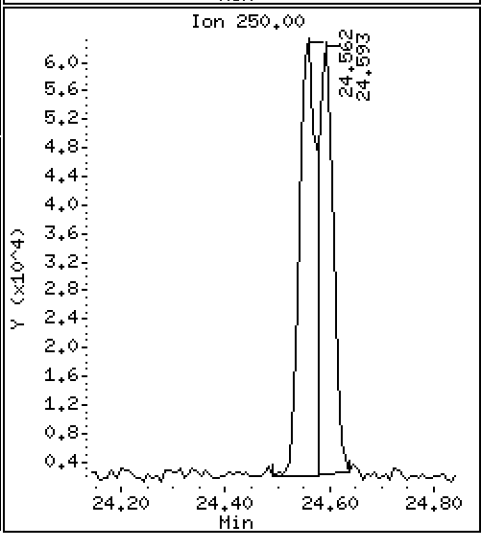


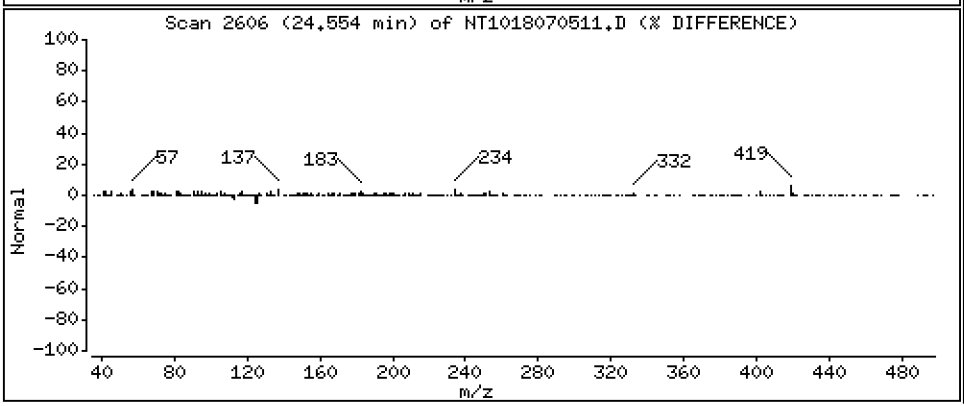












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

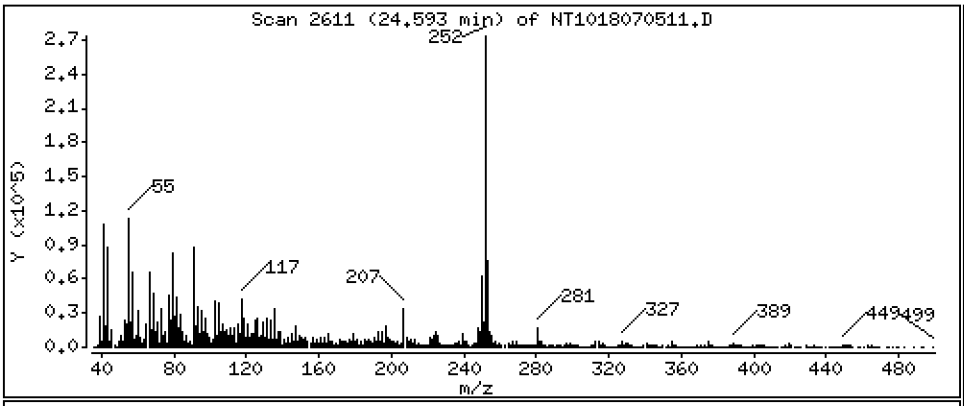
Operator: YZ

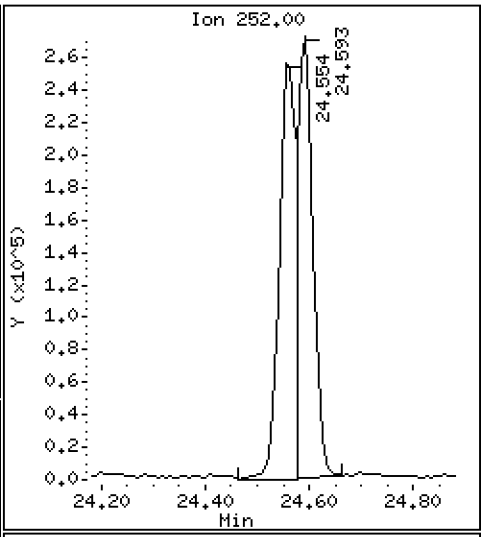
Column phase: ZB-5msi

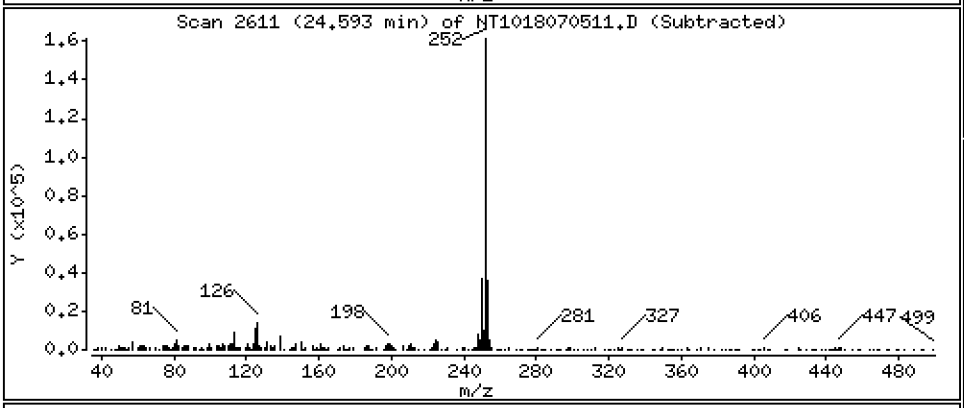
Column diameter: 0.25

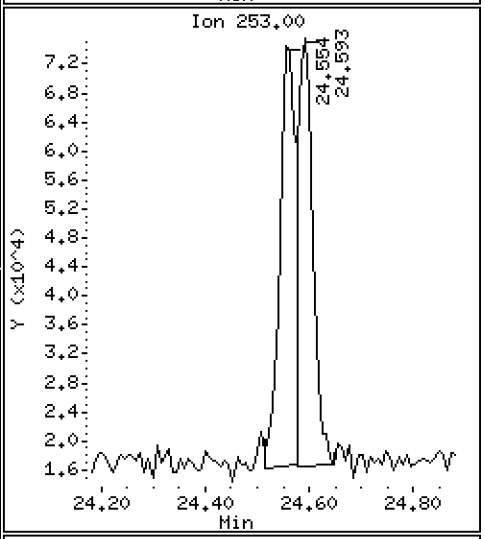
75 Benzo(k)fluoranthene

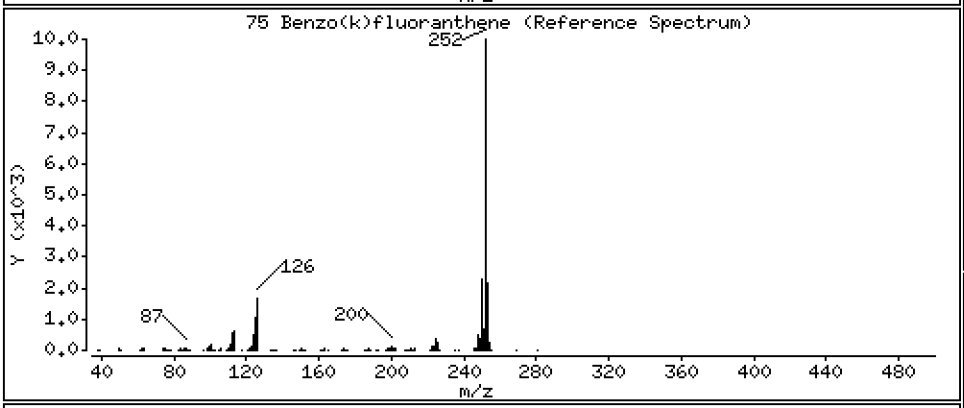
Concentration: 4.291 ug/mL

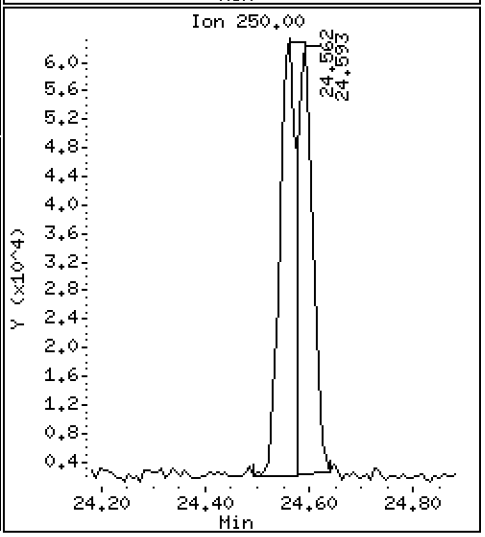


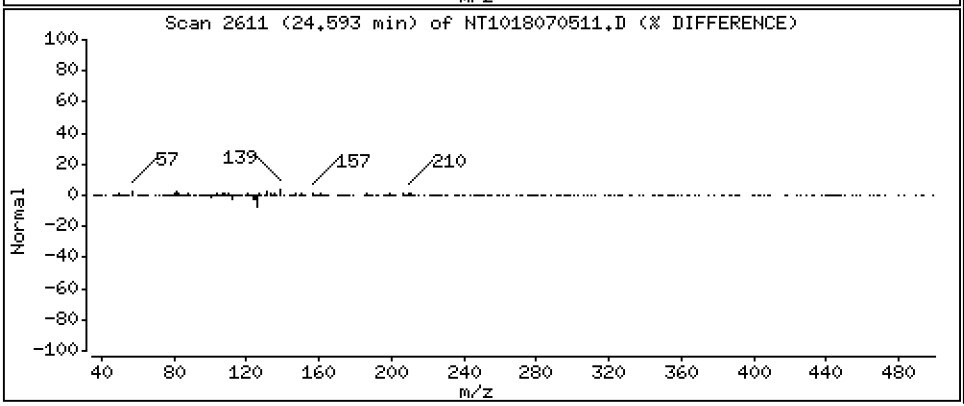












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

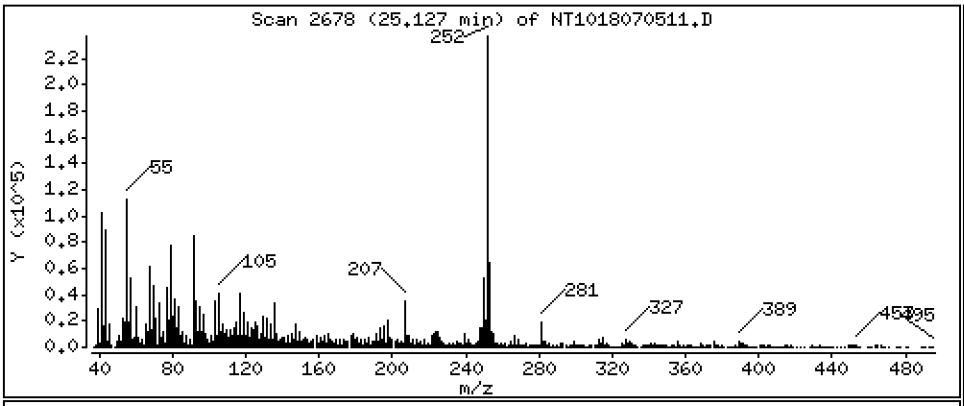
Operator: YZ

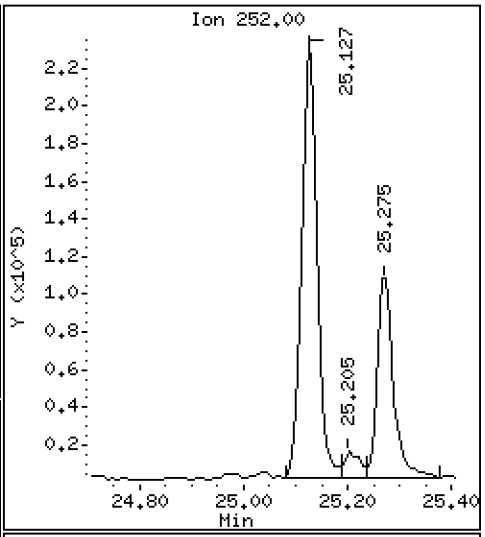
Column phase: ZB-5msi

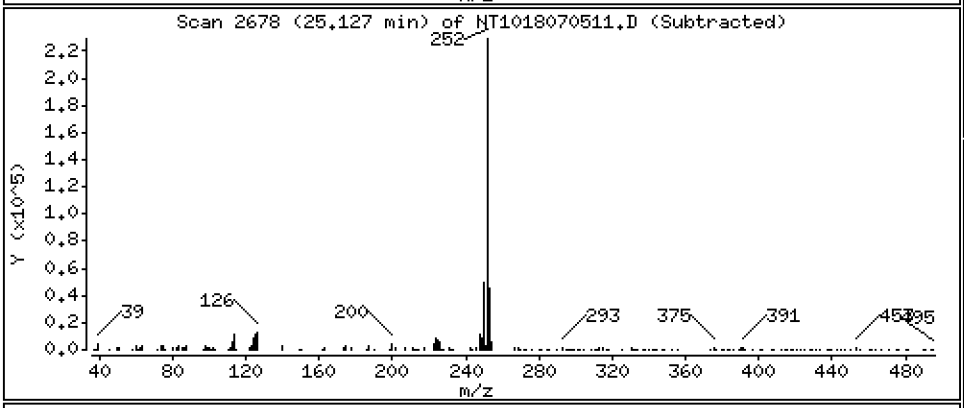
Column diameter: 0.25

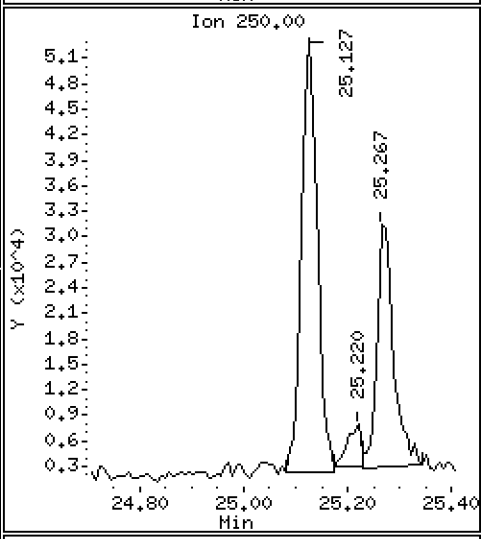
76 Benzo(a)pyrene

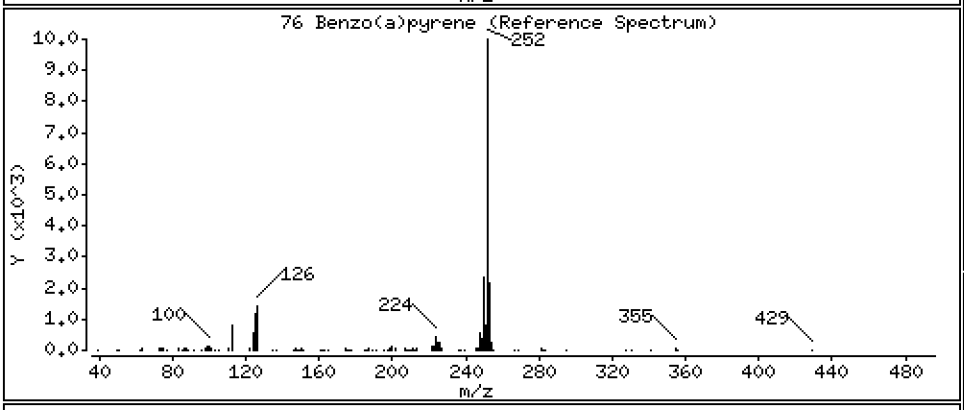
Concentration: 3.577 ug/mL

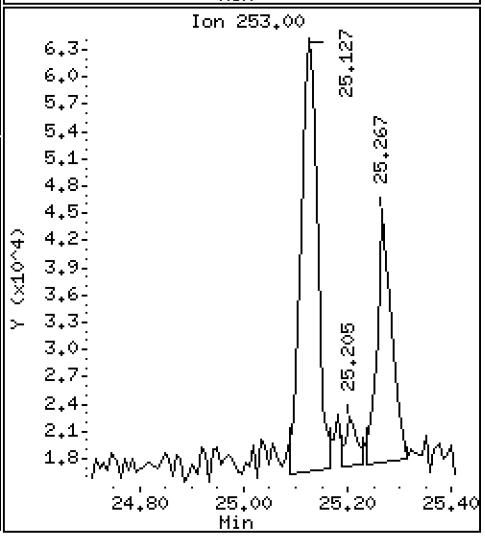


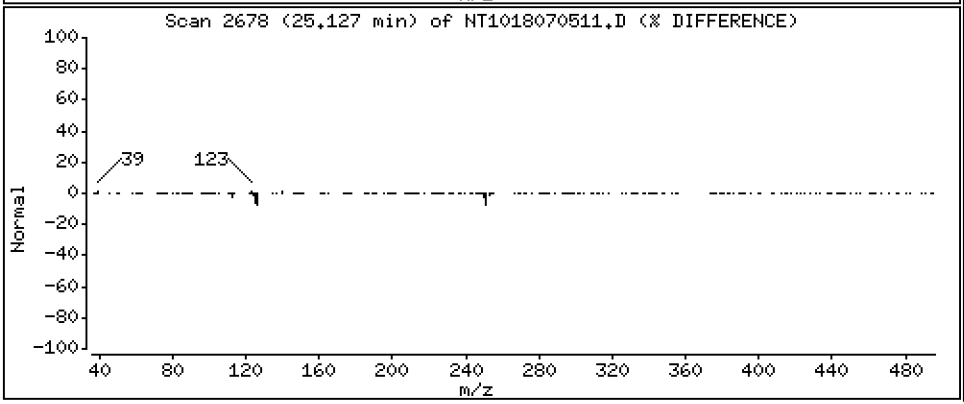












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

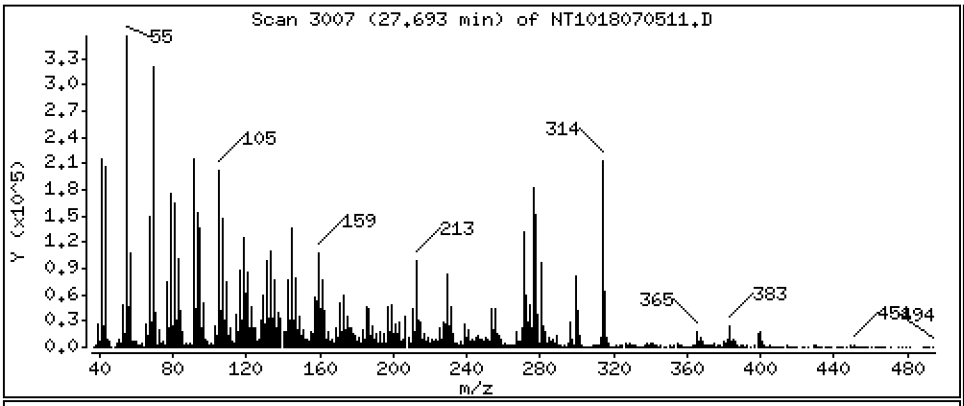
Operator: YZ

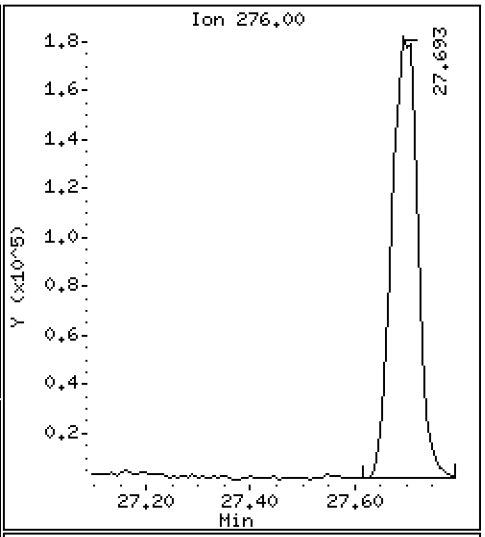
Column phase: ZB-5msi

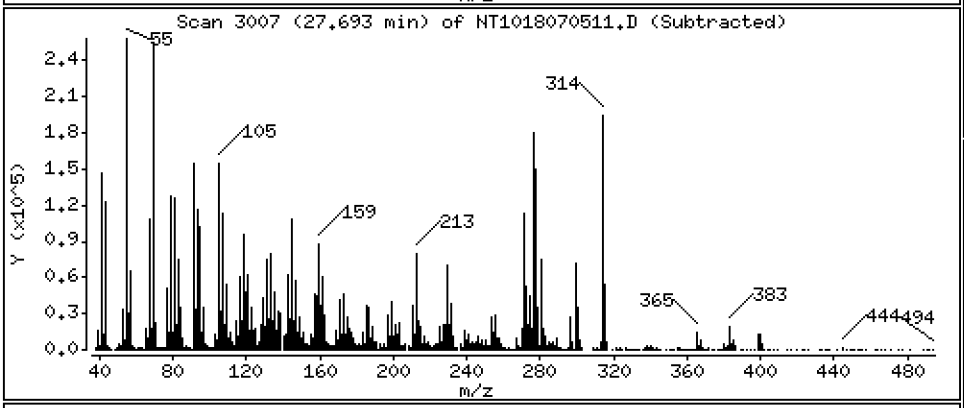
Column diameter: 0.25

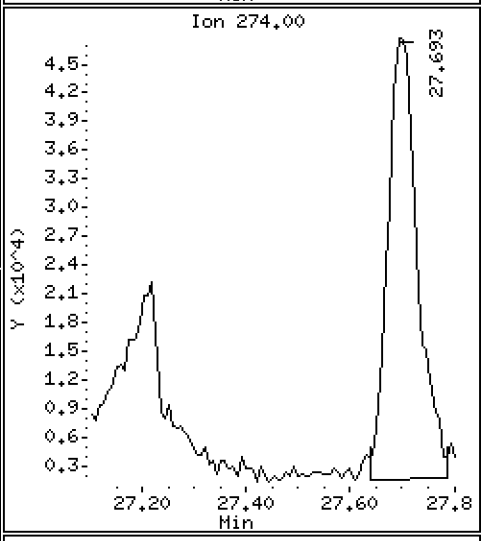
78 Indeno(1,2,3-cd)pyrene

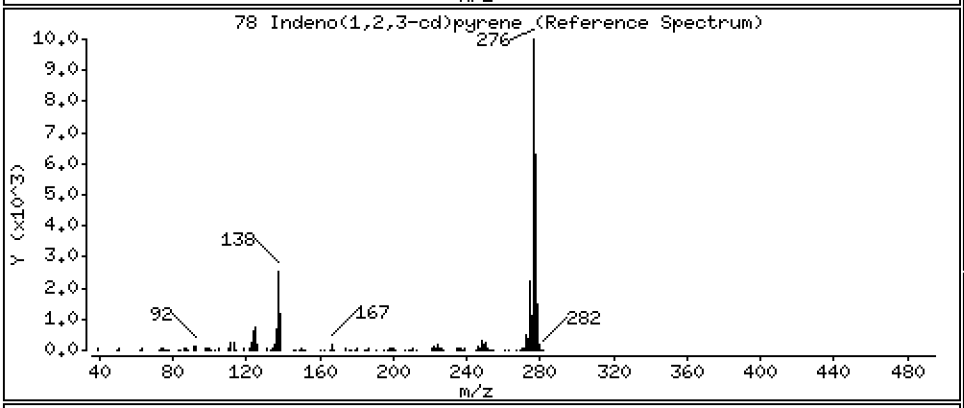
Concentration: 4.938 ug/mL

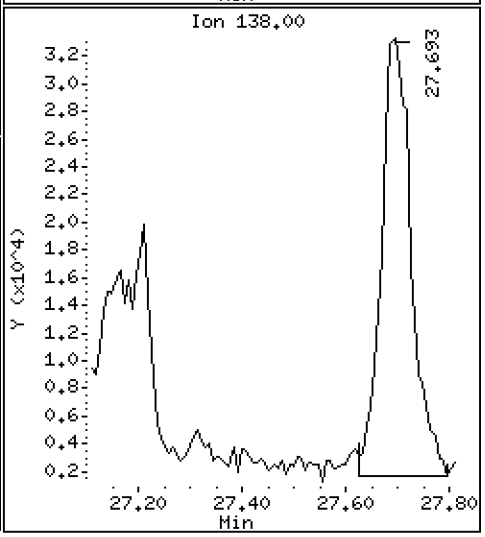


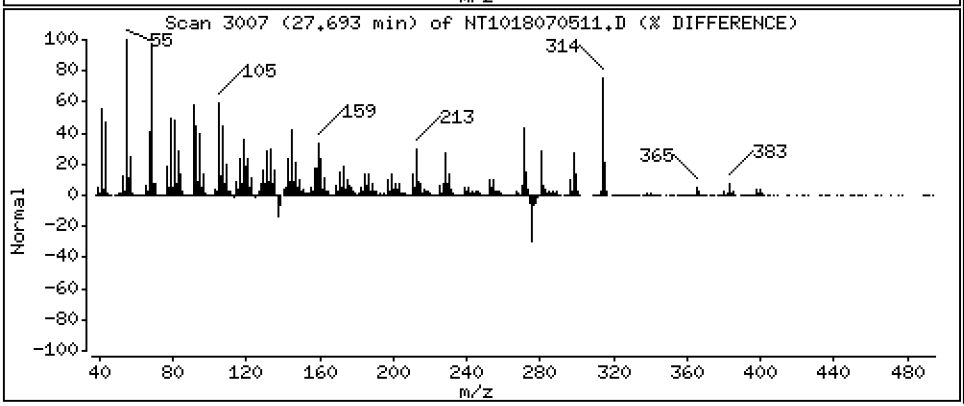












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

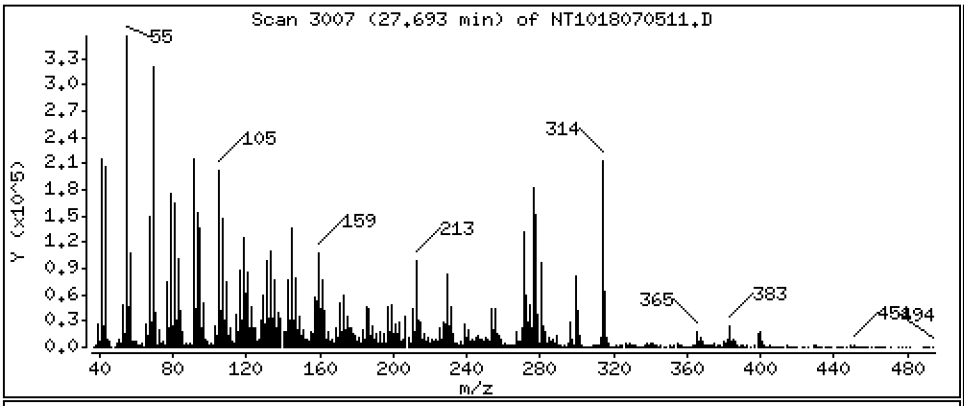
Operator: YZ

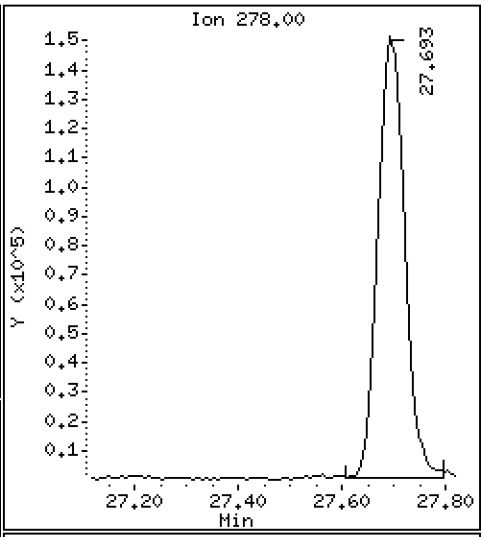
Column phase: ZB-5msi

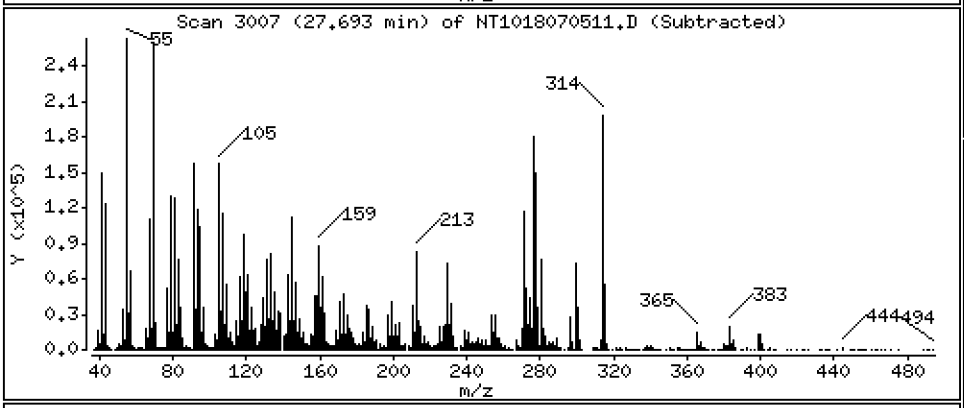
Column diameter: 0.25

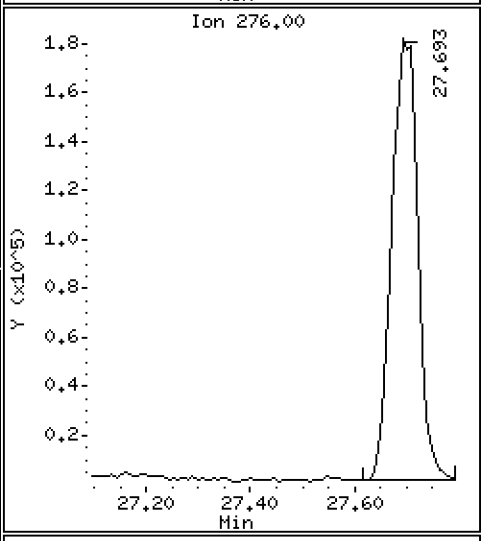
79 Dibenzo(a,h)anthracene

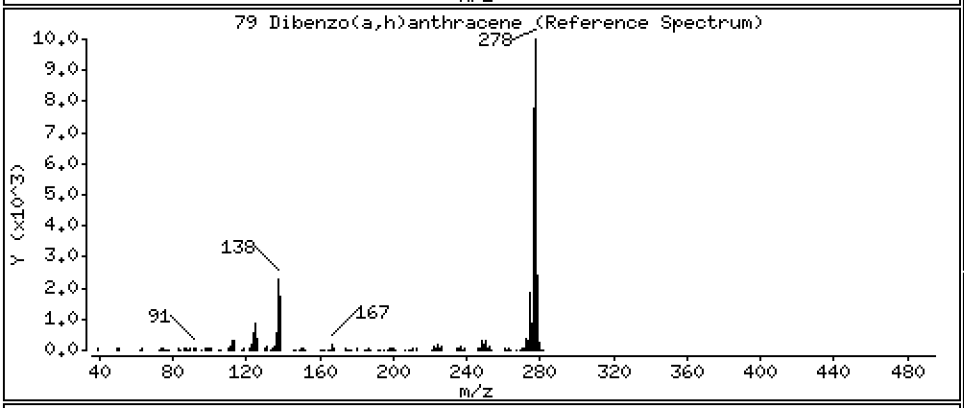
Concentration: 5.198 ug/mL

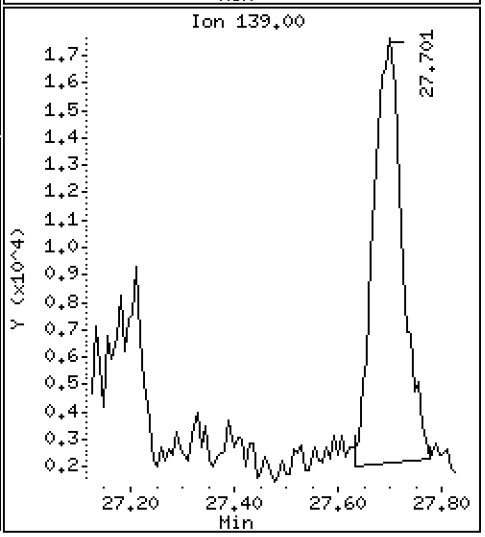


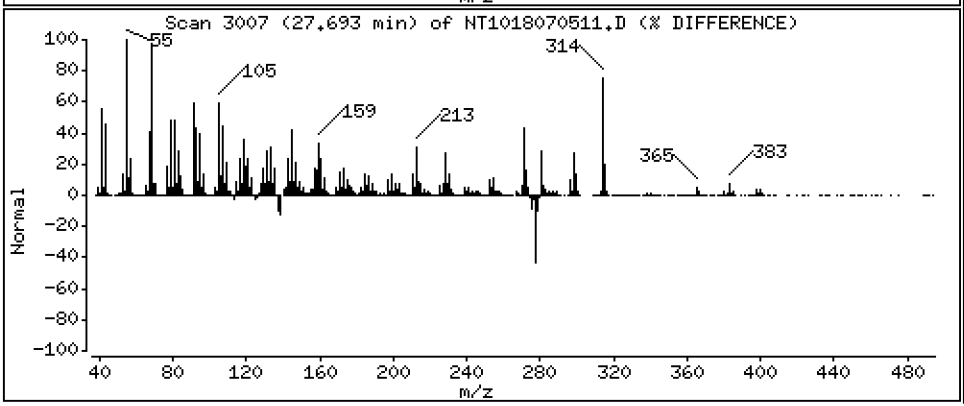












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

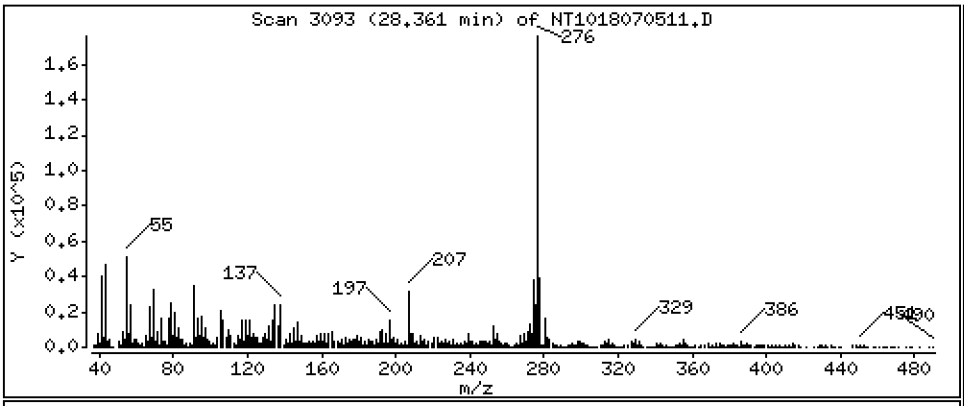
Operator: YZ

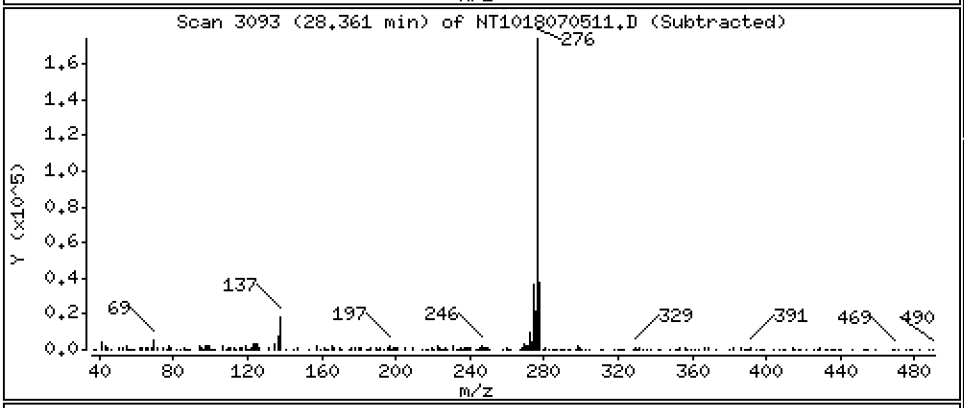
Column phase: ZB-5msi

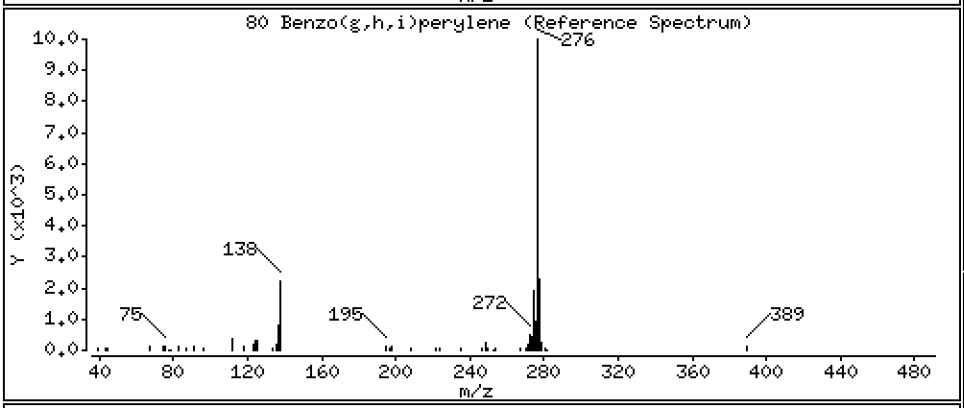
Column diameter: 0.25

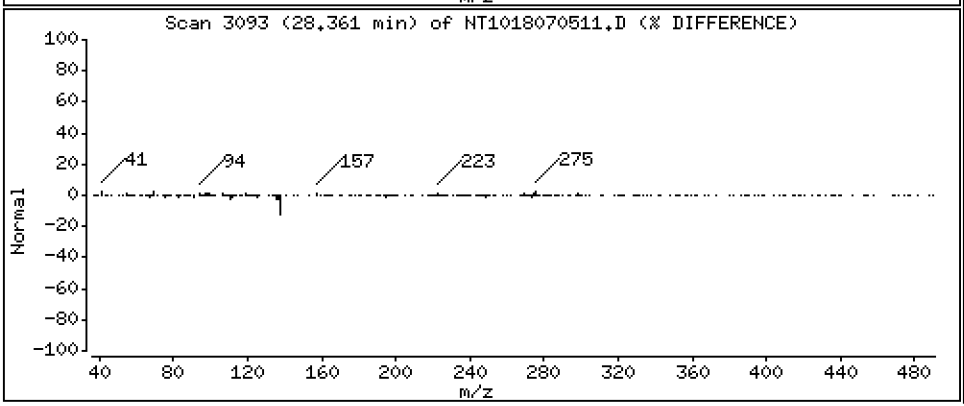
80 Benzo(g,h,i)perylene

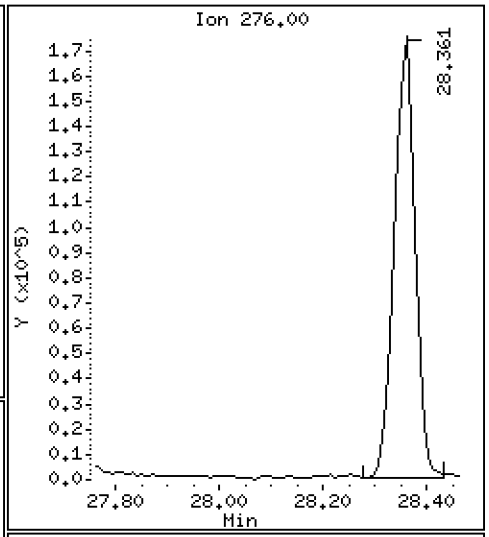
Concentration: 4.213 ug/mL

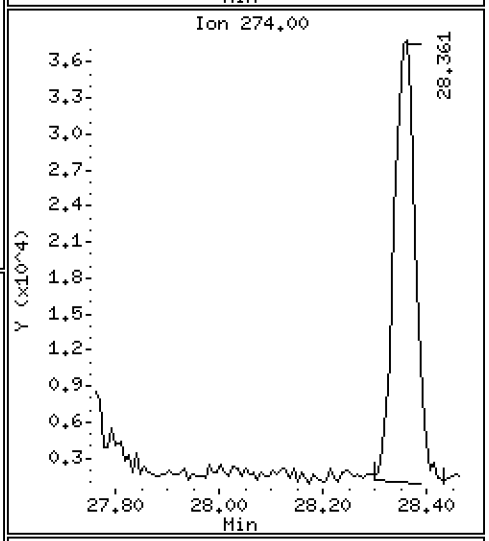


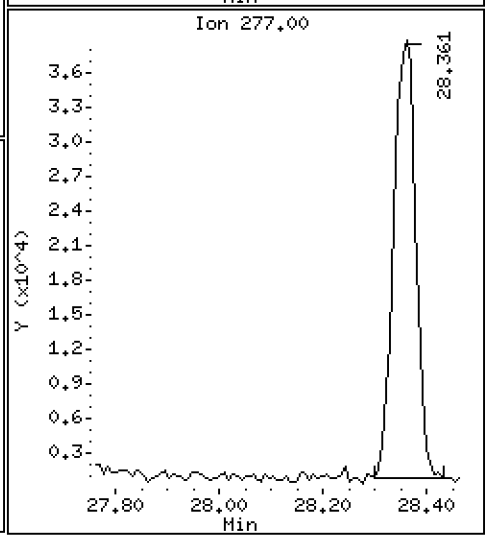












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

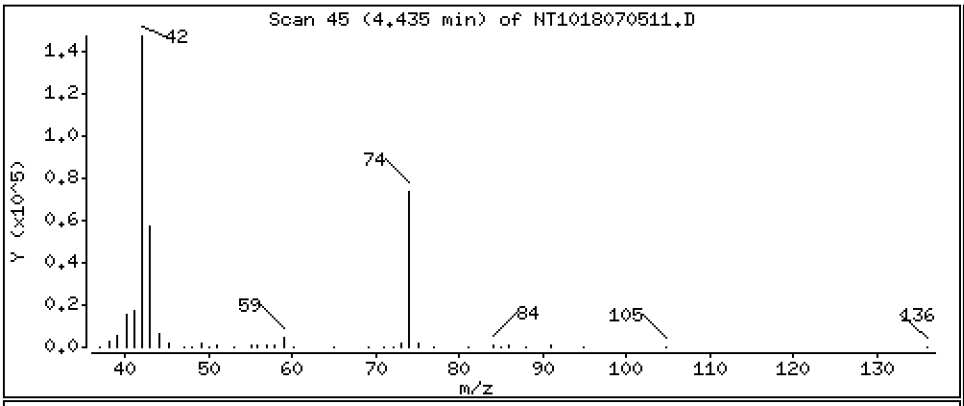
Operator: YZ

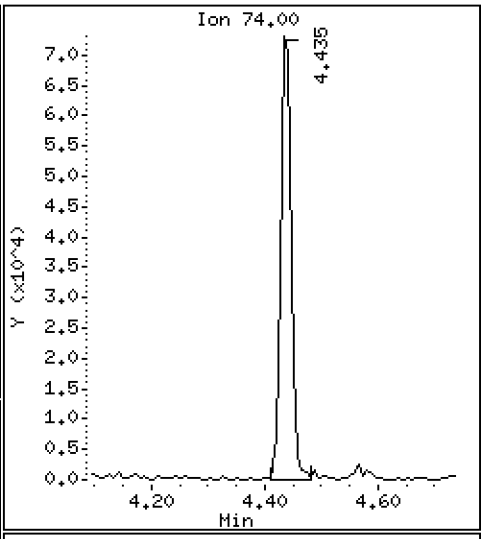
Column phase: ZB-5msi

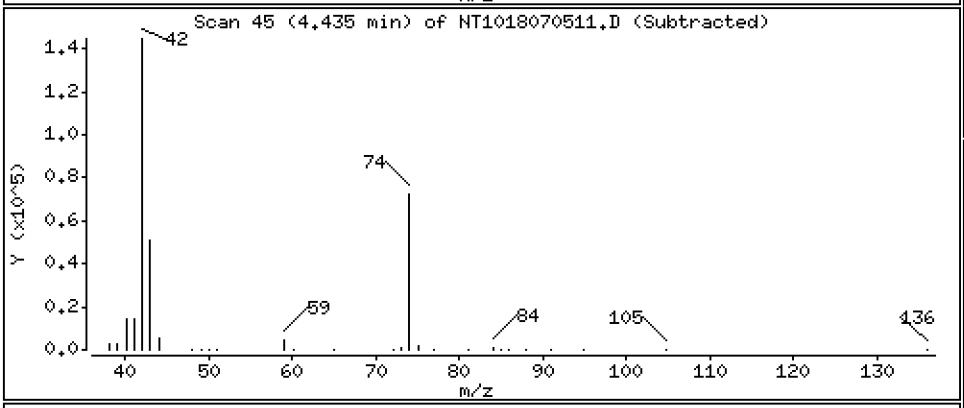
Column diameter: 0.25

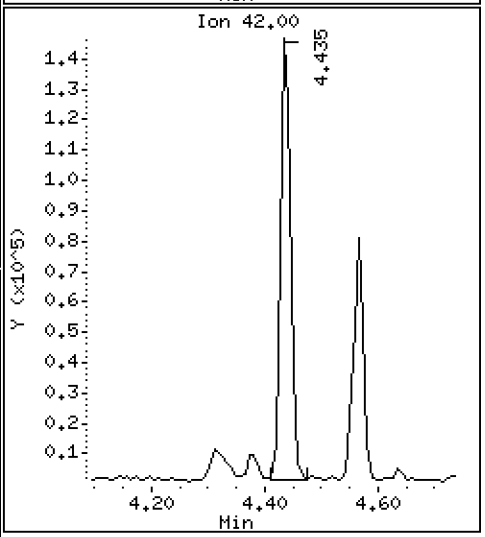
90 N-Nitrosodimethylamine

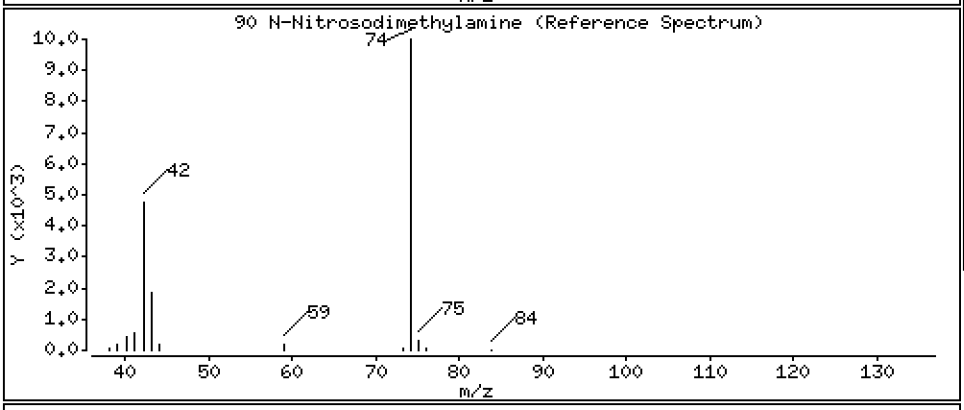
Concentration: 5.922 ug/mL

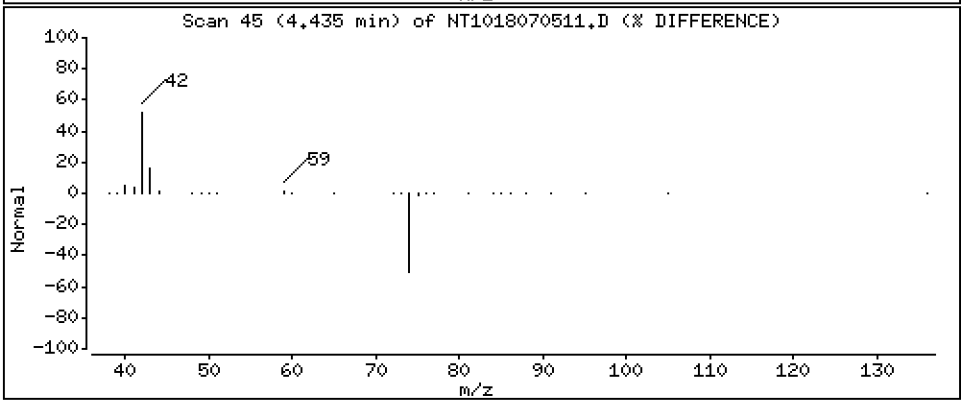












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

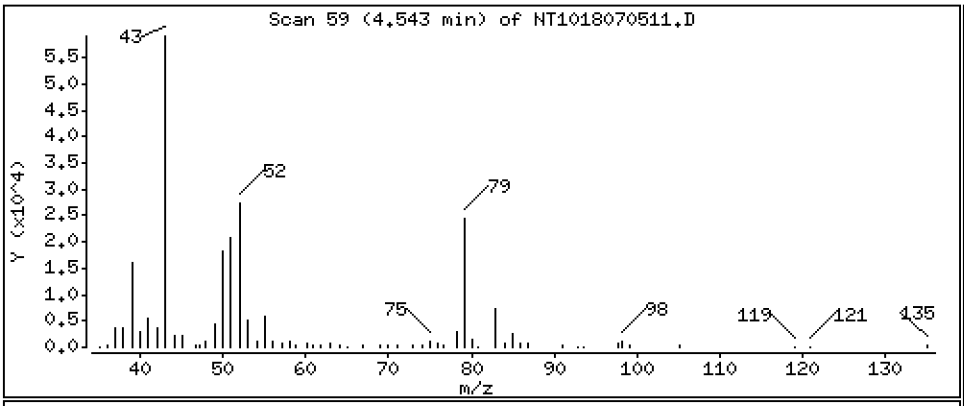
Operator: YZ

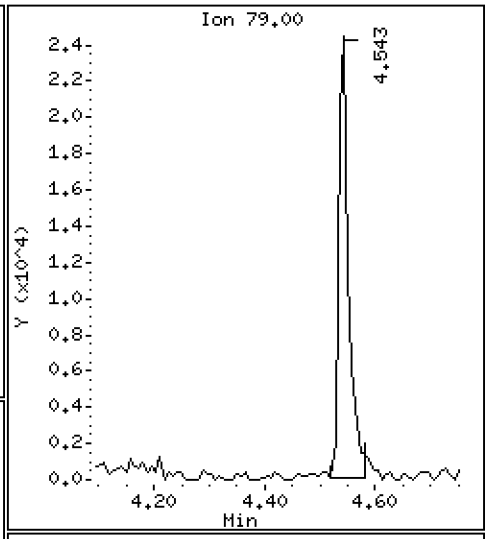
Column phase: ZB-5msi

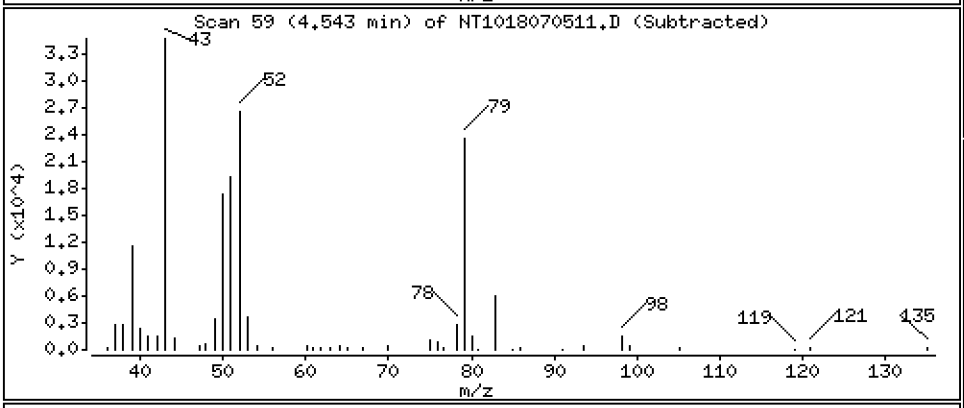
Column diameter: 0.25

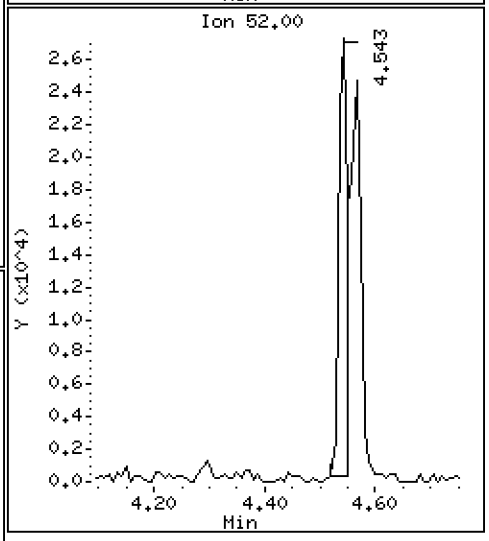
103 Pyridine

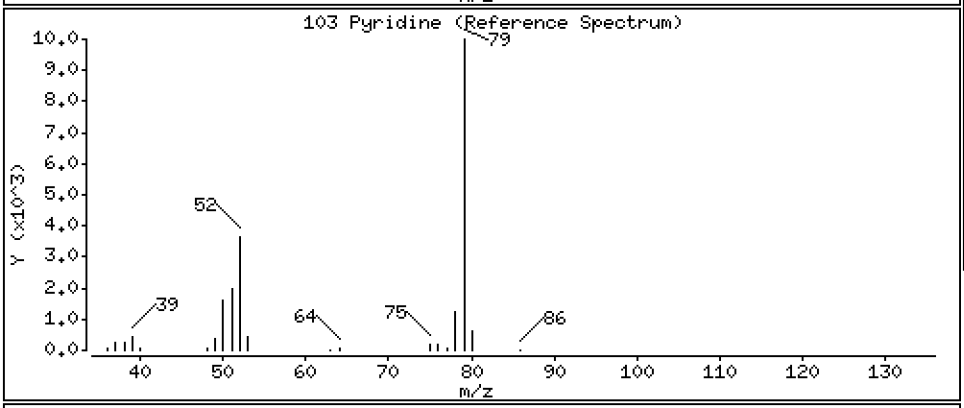
Concentration: 1.095 ug/mL

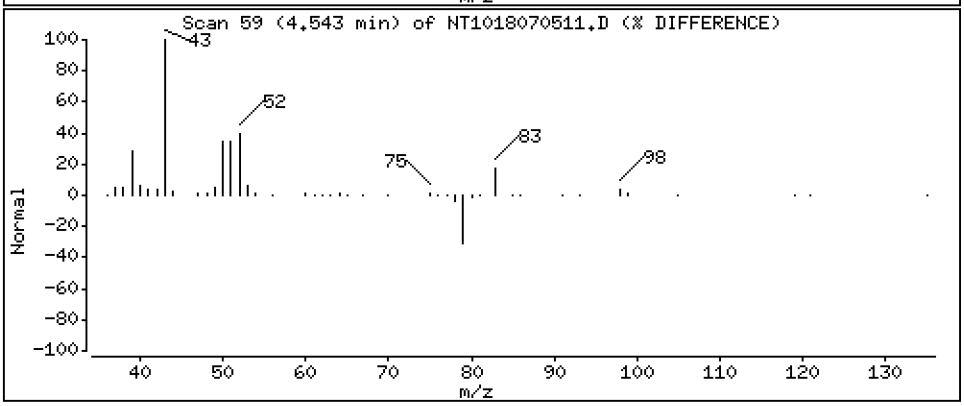












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

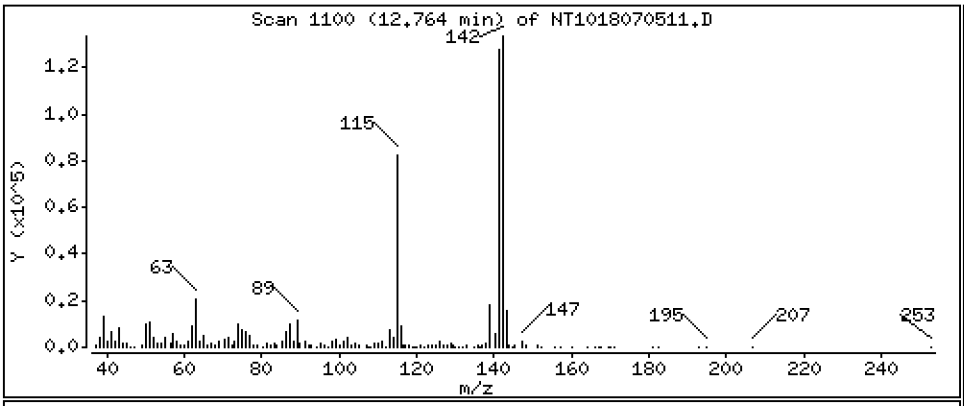
Operator: YZ

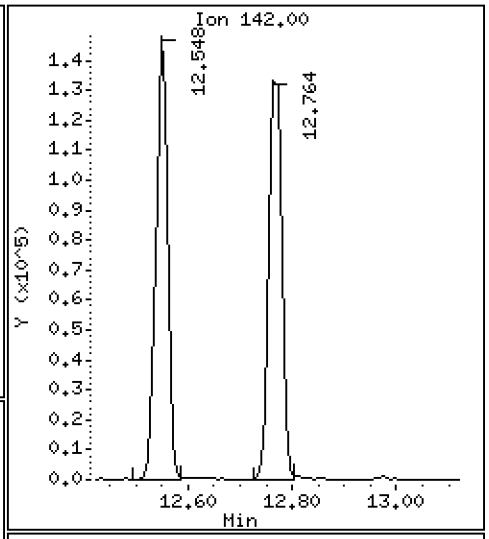
Column phase: ZB-5msi

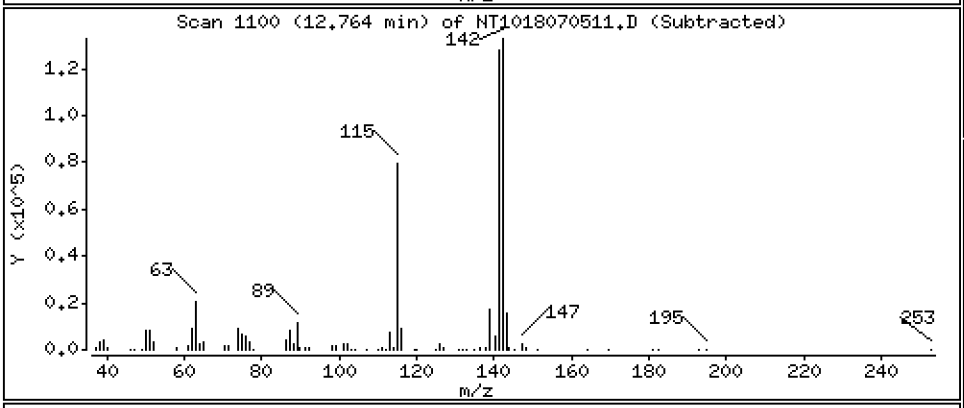
Column diameter: 0.25

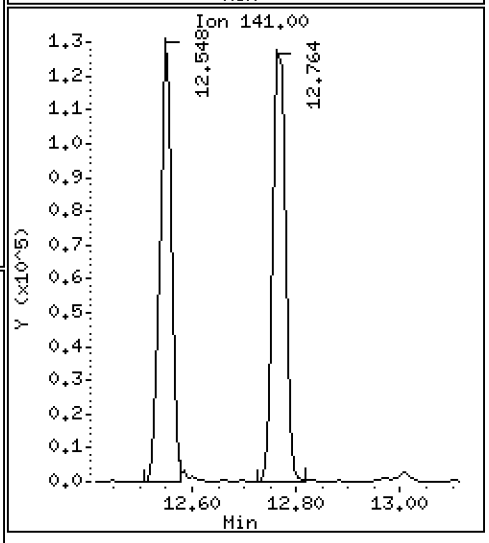
105 1-methylnaphthalene

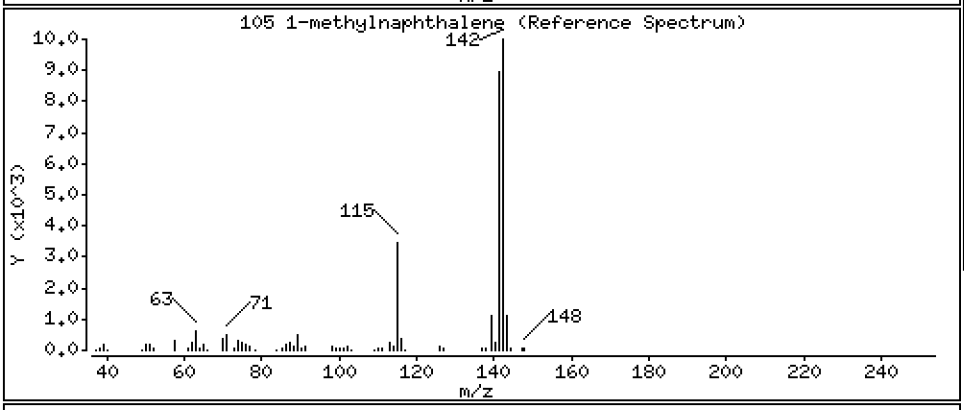
Concentration: 3.731 ug/mL

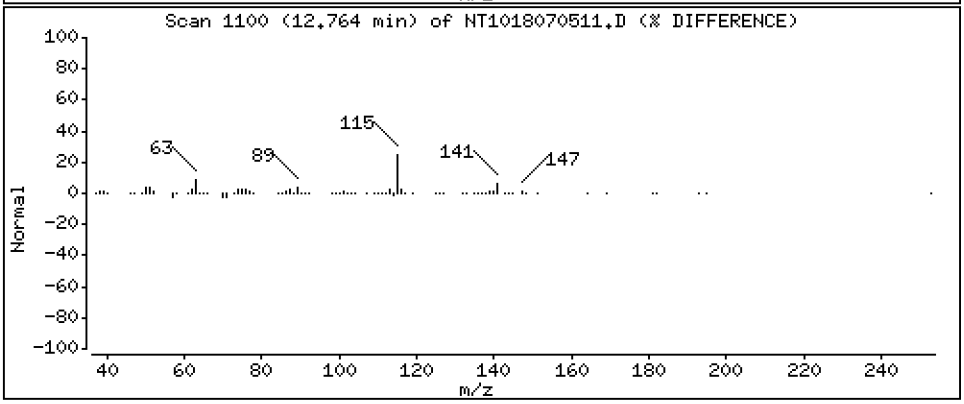












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

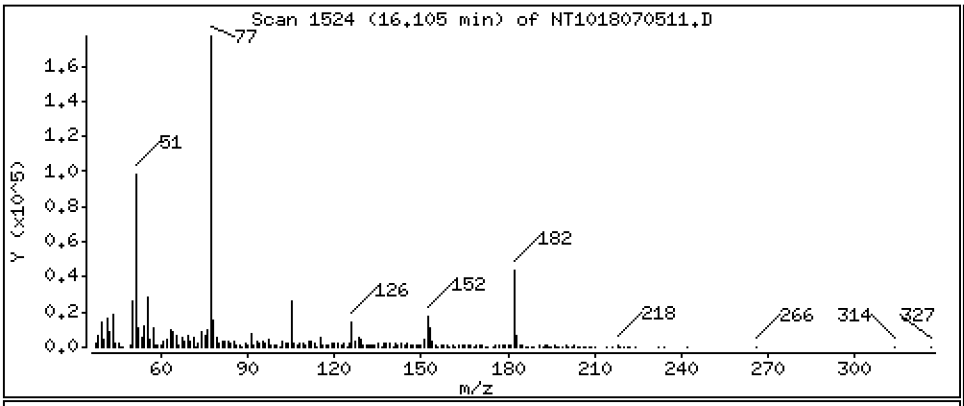
Operator: YZ

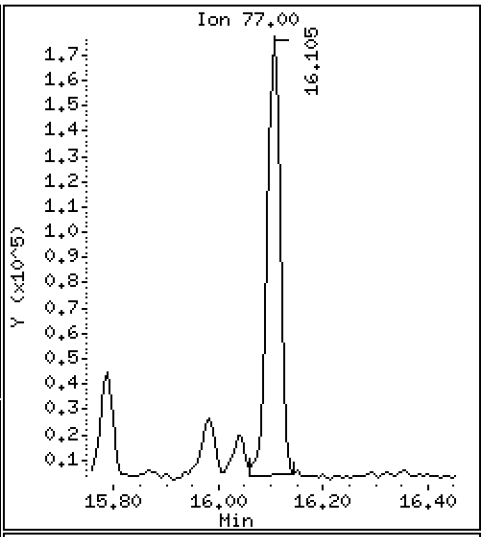
Column phase: ZB-5msi

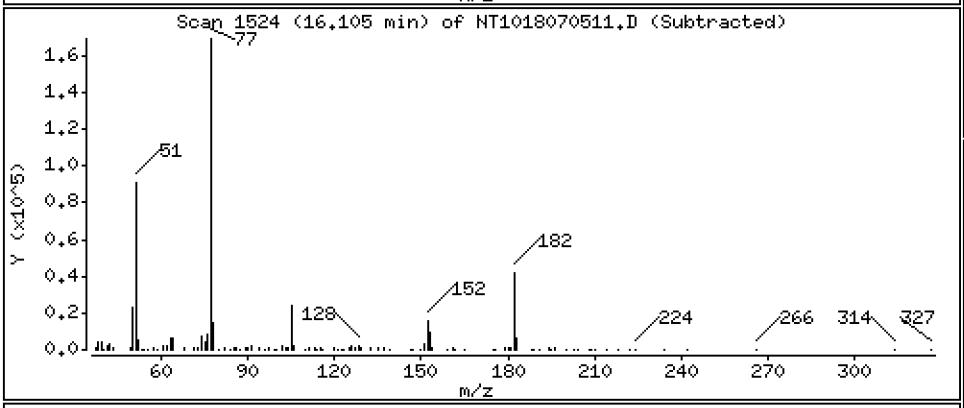
Column diameter: 0.25

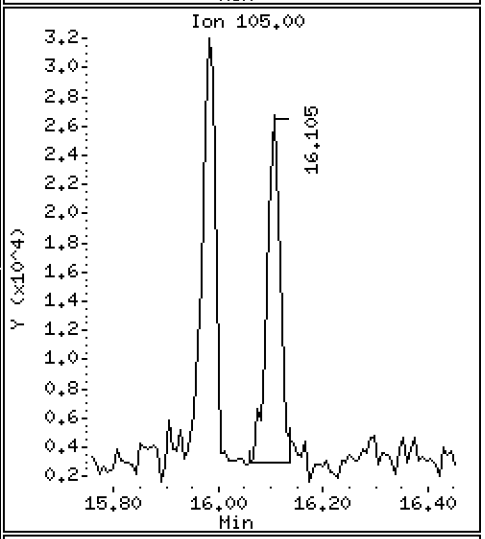
111 Azobenzene (1,2-DP-Hydrazine)

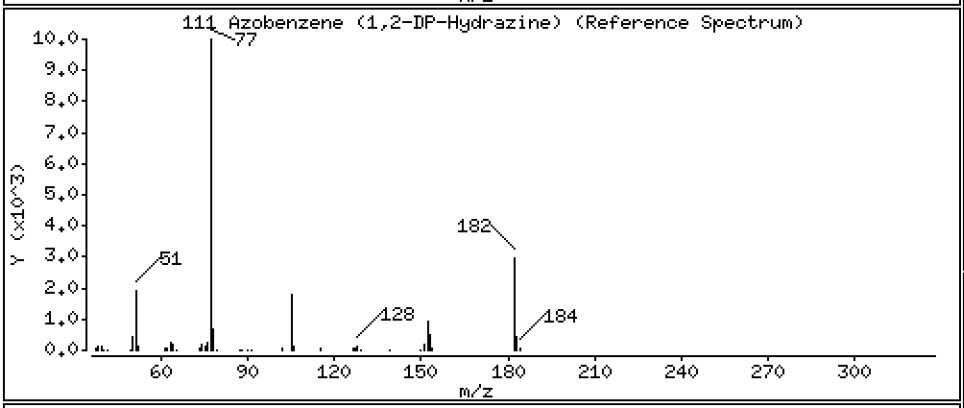
Concentration: 5.127 ug/mL

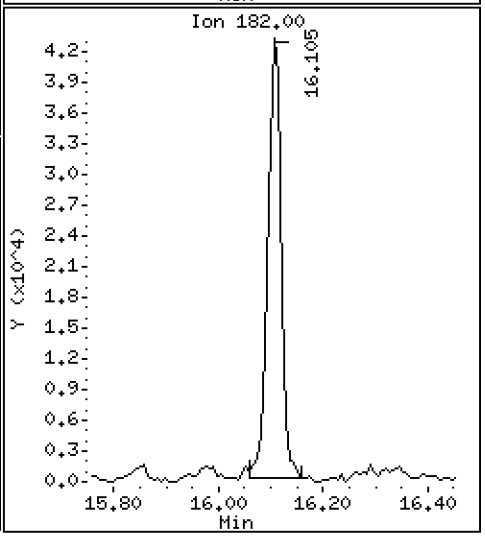


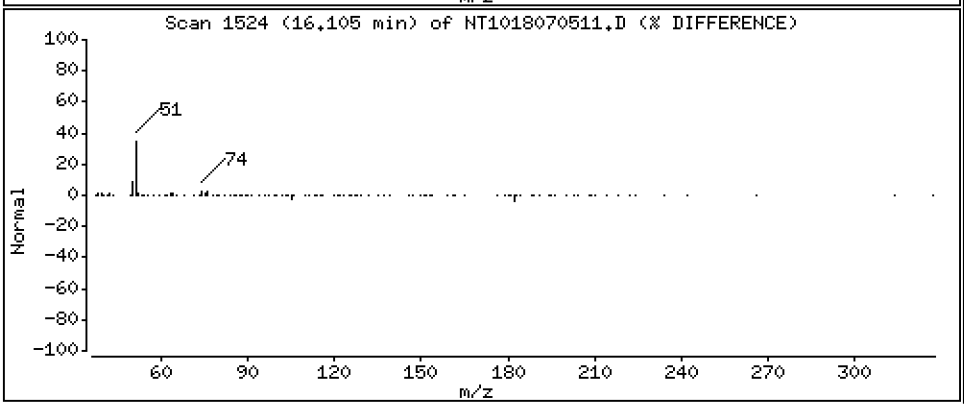












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

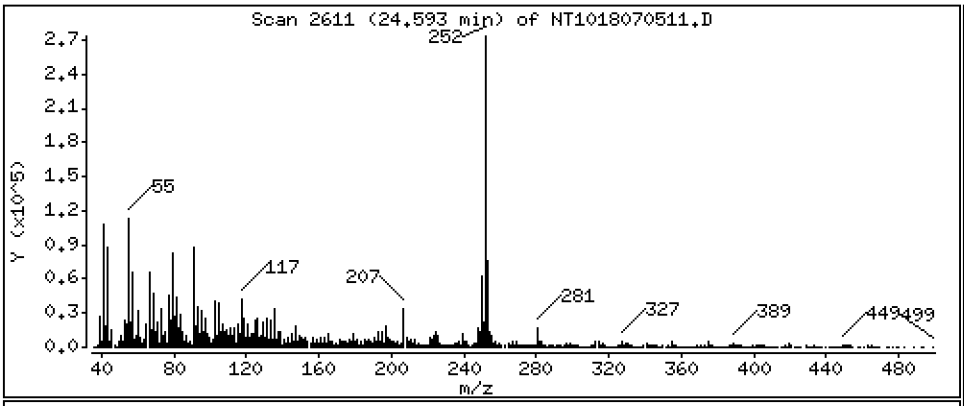
Operator: YZ

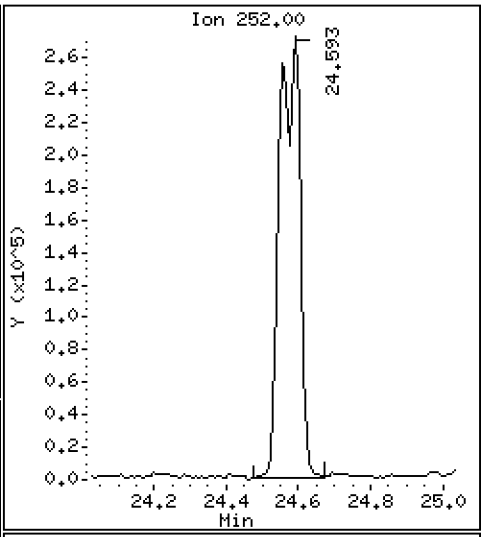
Column phase: ZB-5msi

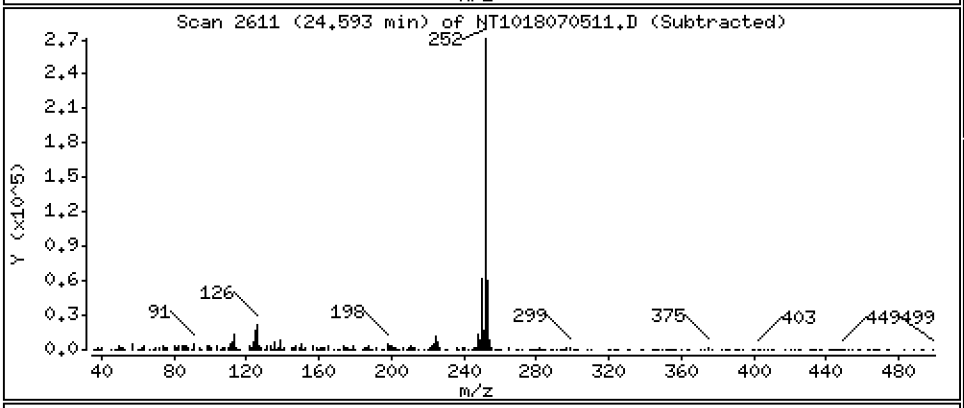
Column diameter: 0.25

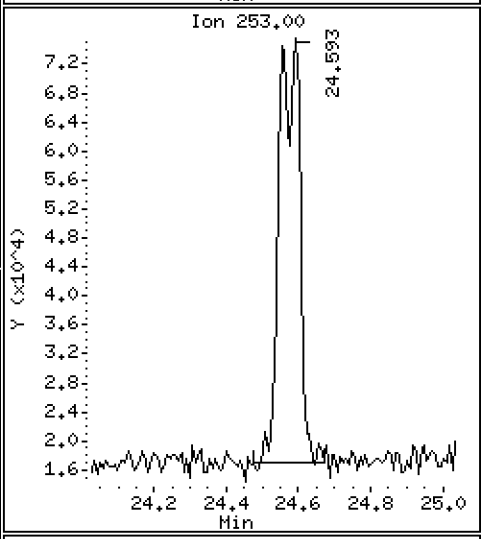
187 Total Benzofluoranthenes

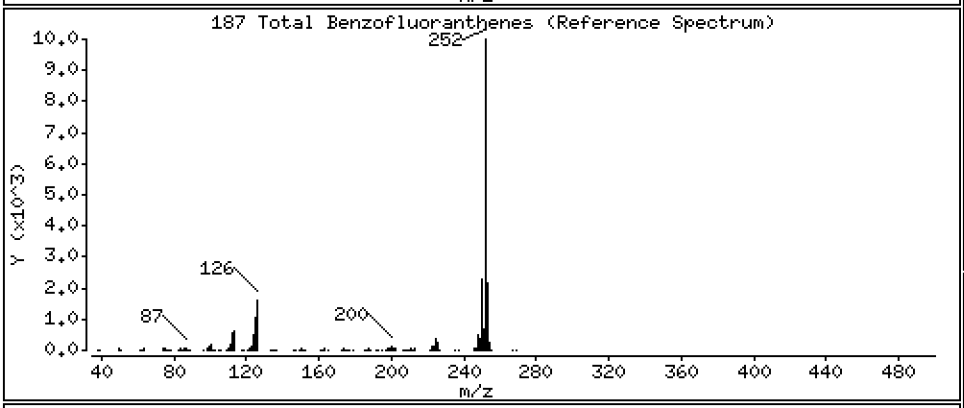
Concentration: 8.605 ug/mL

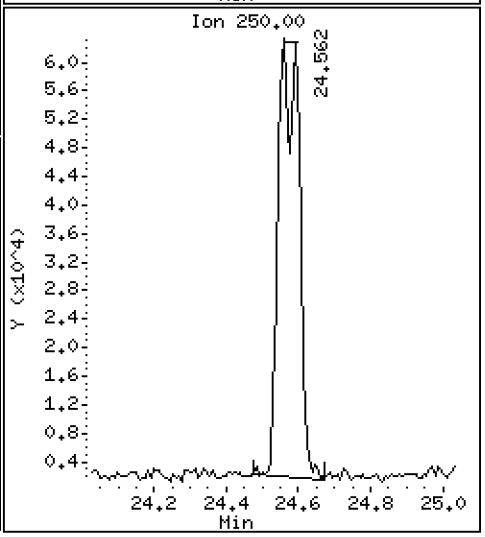


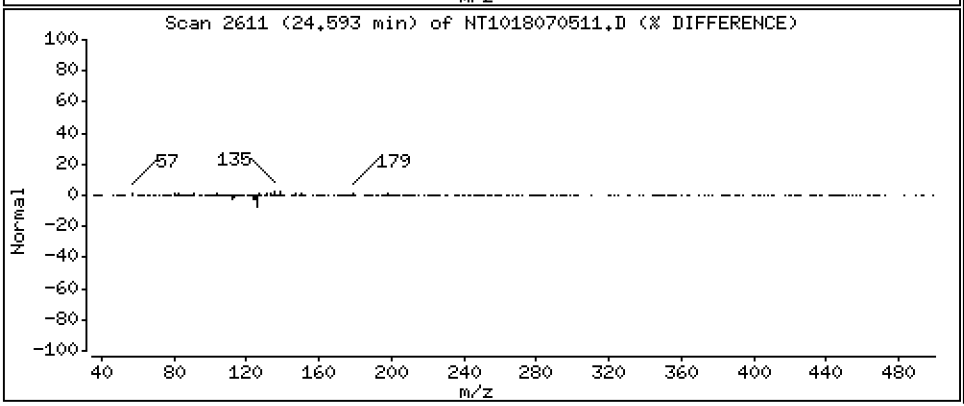












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

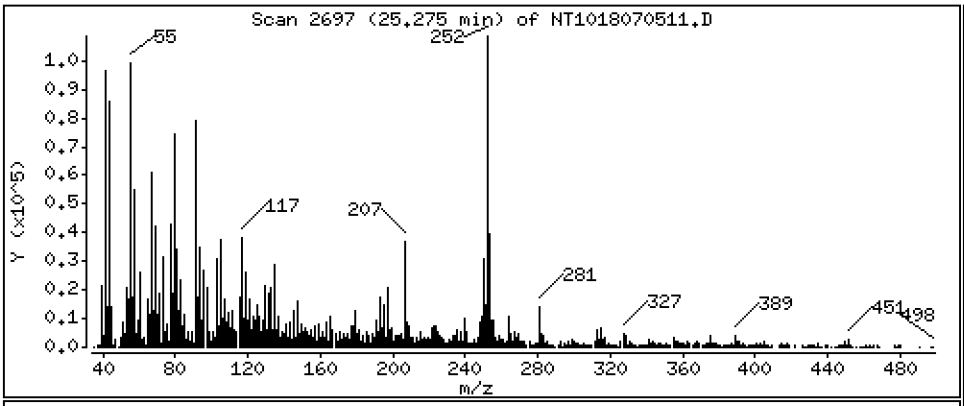
Operator: YZ

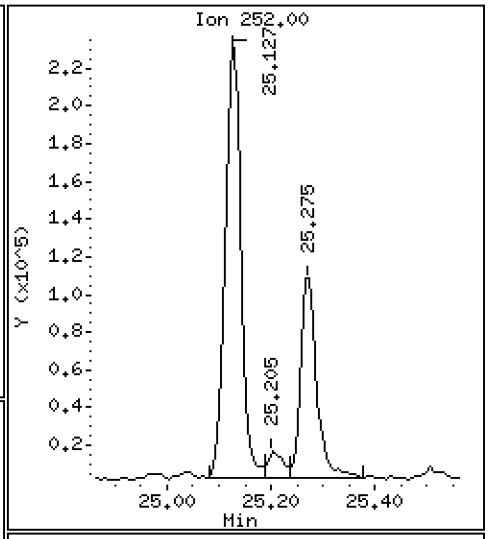
Column phase: ZB-5msi

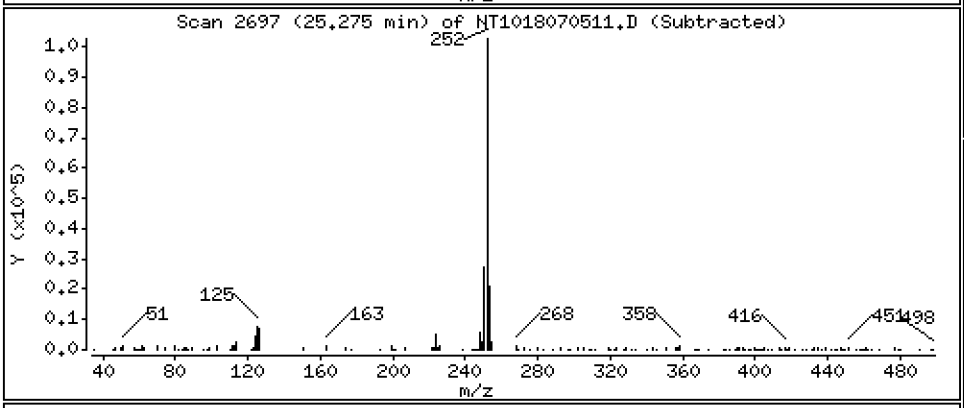
Column diameter: 0.25

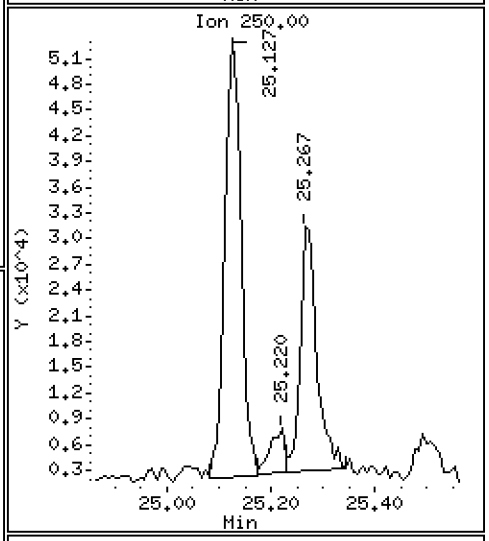
99 Perylene

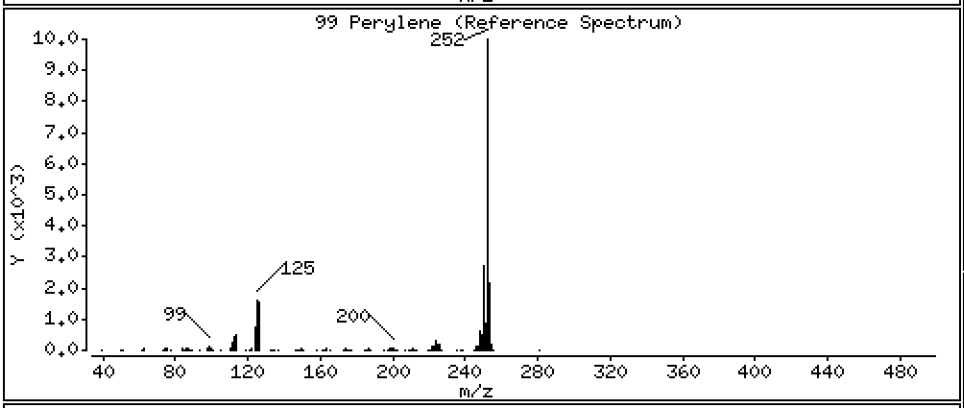
Concentration: 2.252 ug/mL

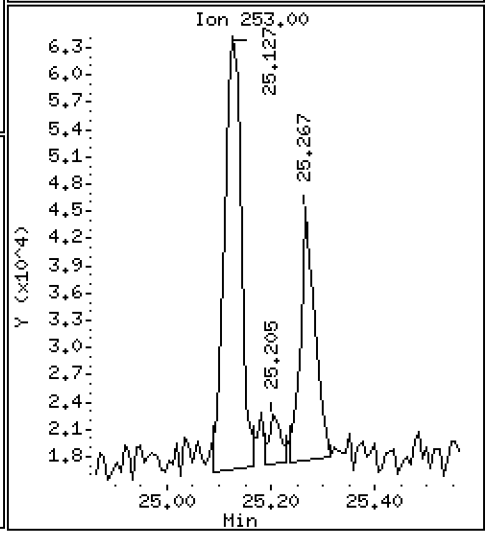


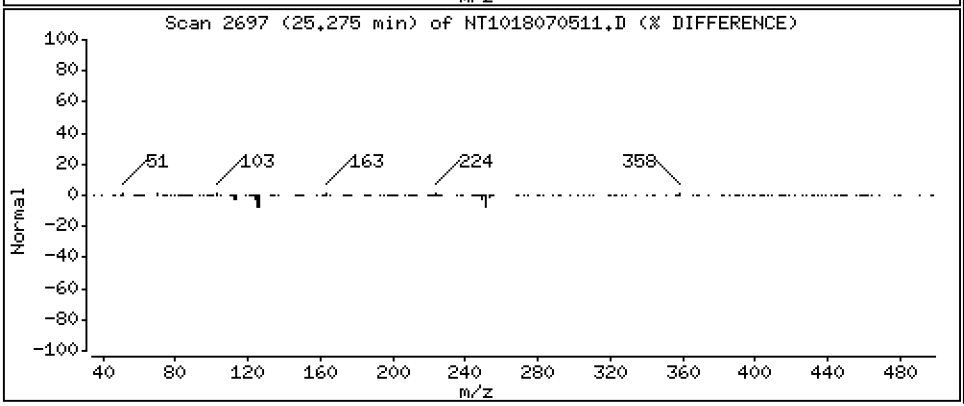












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D

Date : 05-JUL-2018 17:26

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MS1

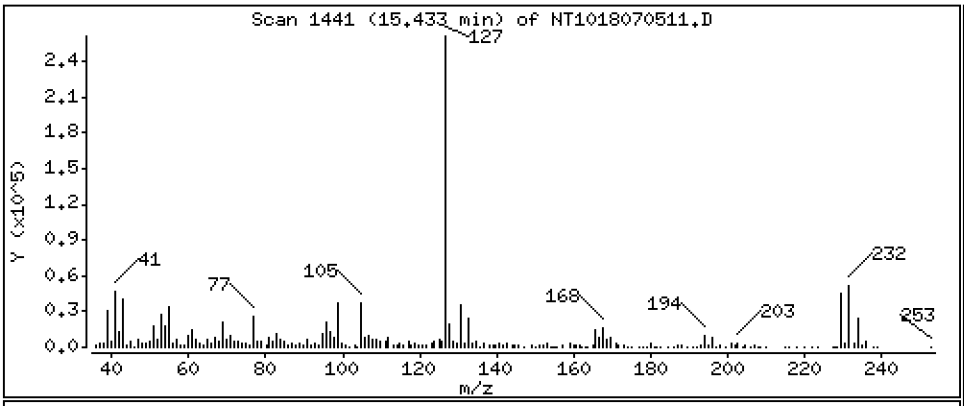
Operator: YZ

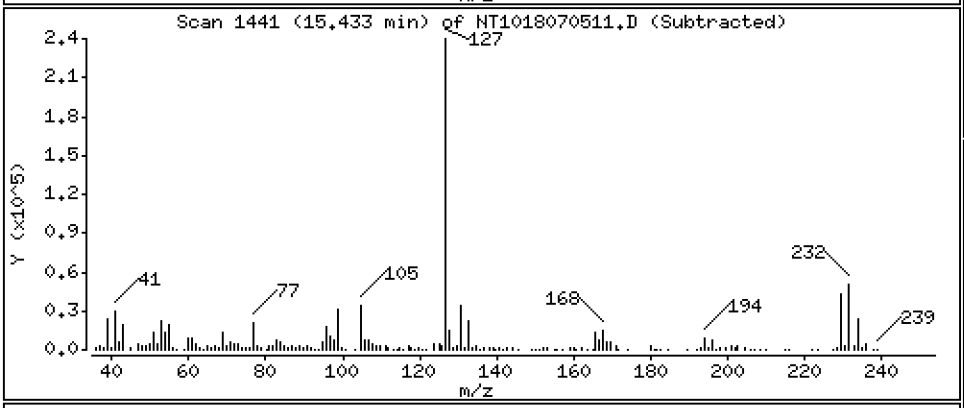
Column phase: ZB-5msi

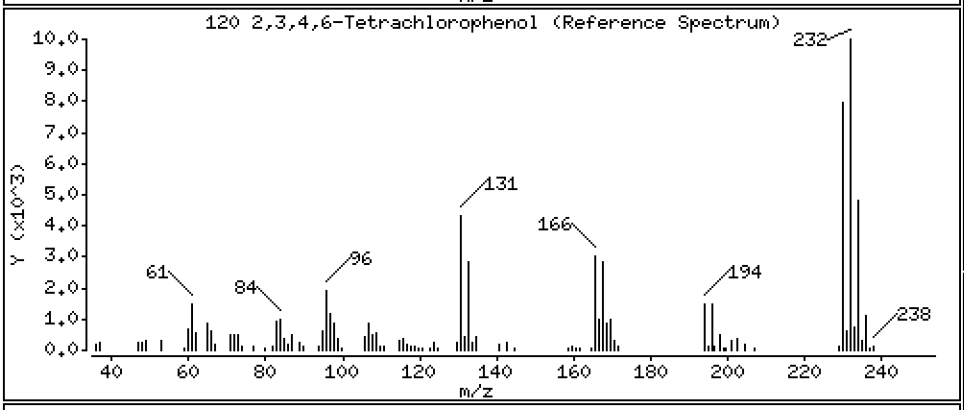
Column diameter: 0.25

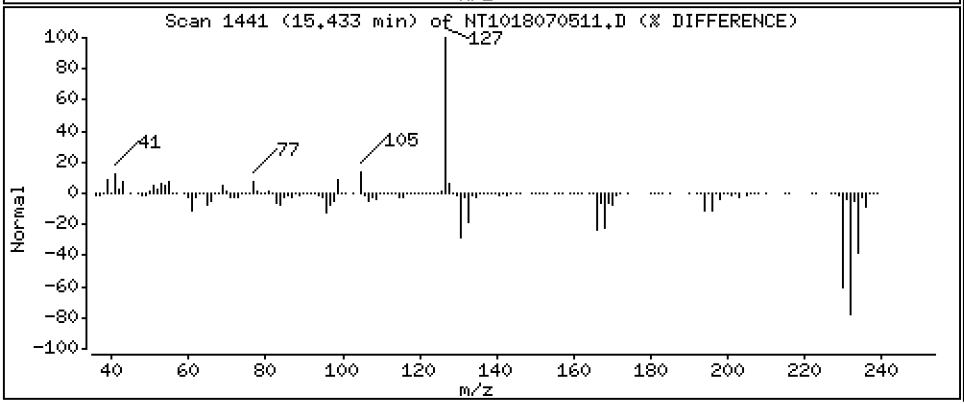
120 2,3,4,6-Tetrachlorophenol

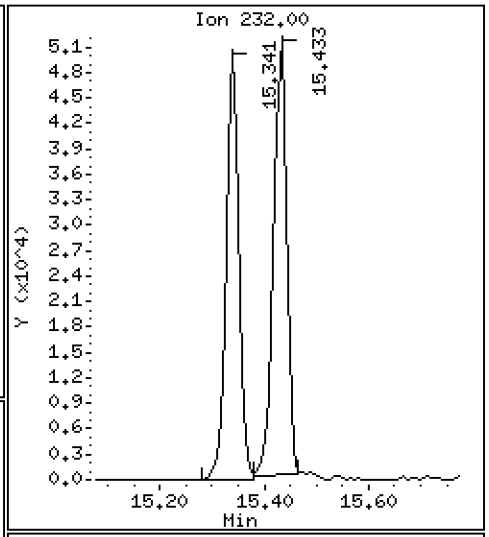
Concentration: 5.084 ug/mL

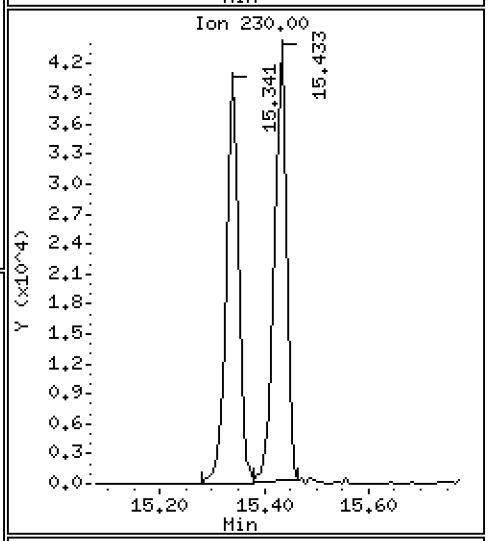


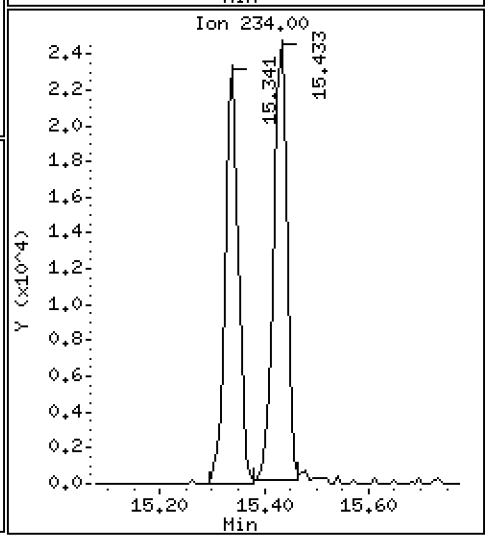












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070511.D
Lab Smp Id: BGF0720-MS1
Inj Date : 05-JUL-2018 17:26
Operator : YZ Inst ID: nt10.i
Smp Info : BGF0720-MS1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.558	6.512	(0.755)	133839	4.87715	4.877
$	2 Phenol-d5	99	8.104	8.088	(0.932)	179258	4.94288	4.943
	3 Phenol	94	8.127	8.104	(0.935)	121353	3.36954	3.370
$	5 2-Chlorophenol-d4	132	8.351	8.335	(0.961)	170394	6.02573	6.026
	4 Bis(2-Chloroethyl)ether	93	8.258	8.250	(0.950)	97341	3.51481	3.515
	6 2-Chlorophenol	128	8.374	8.366	(0.963)	102210	3.47783	3.478
	7 1,3-Dichlorobenzene	146	8.629	8.622	(0.993)	107438	3.63568	3.636
*	8 1,4-Dichlorobenzene-d4	152	8.691	8.691	(1.000)	80103	4.00000	
	9 1,4-Dichlorobenzene	146	8.722	8.715	(1.004)	101374	3.78408	3.784
$	10 1,2-Dichlorobenzene-d4	152	9.048	9.041	(1.041)	78309	3.91795	3.918
	12 1,2-Dichlorobenzene	146	9.072	9.064	(1.044)	97995	3.68687	3.687
	11 Benzyl alcohol	108	8.971	8.963	(1.032)	63150	3.54058	3.541
	14 2,2'-oxybis(1-Chloropropane)	121	9.266	9.266	(1.066)	34232	3.23533	3.235
	13 2-Methylphenol	108	9.211	9.196	(1.060)	83927	3.47455	3.475
	17 Hexachloroethane	117	9.646	9.646	(1.110)	37986	3.04931	3.049
	16 N-Nitroso-di-n-propylamine	70	9.522	9.514	(1.096)	62520	3.50798	3.508
	15 4-Methylphenol	108	9.483	9.468	(1.091)	101774	3.96791	3.968
$	18 Nitrobenzene-d5	82	9.770	9.770	(0.878)	127917	4.49065	4.491
	19 Nitrobenzene	77	9.801	9.801	(0.881)	121042	4.31968	4.320
	20 Isophorone	82	10.251	10.244	(0.921)	196149	3.40934	3.409
	21 2-Nitrophenol	139	10.422	10.422	(0.936)	56970	3.68825	3.688
	22 2,4-Dimethylphenol	107	10.505	10.488	(0.944)	347302	12.6683	12.67
	23 Bis(2-Chloroethoxy)methane	93	10.679	10.679	(0.959)	102891	3.40793	3.408
	24 Benzoic acid	105	10.820	10.729	(0.972)	627797	34.0945	34.09(M)
	25 2,4-Dichlorophenol	162	10.887	10.870	(0.978)	318166	14.4030	14.40
	26 1,2,4-Trichlorobenzene	180	11.047	11.054	(0.992)	98654	4.15310	4.153
*	27 Naphthalene-d8	136	11.131	11.131	(1.000)	285315	4.00000	
	28 Naphthalene	128	11.170	11.170	(1.003)	265267	3.64122	3.641
	29 4-Chloroaniline	127	11.386	11.309	(1.023)	64867	1.99614	1.996(M)
	30 Hexachlorobutadiene	225	11.533	11.541	(1.036)	73478	4.92528	4.925
	31 4-Chloro-3-methylphenol	107	12.292	12.276	(1.104)	345427	14.4439	14.44
	32 2-Methylnaphthalene	142	12.547	12.547	(1.127)	228521	3.97527	3.975
	33 Hexachlorocyclopentadiene	237	13.011	13.011	(0.885)	20806	1.26795	1.268

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.182	13.174	(0.897)	279195	15.4743	15.47
35	2,4,5-Trichlorophenol	196	13.267	13.244	(0.903)	288264	14.4503	14.45
$ 36	2-Fluorobiphenyl	172	13.329	13.329	(0.907)	303891	4.65344	4.653
37	2-Chloronaphthalene	162	13.530	13.530	(0.920)	228136	4.24906	4.249
38	2-Nitroaniline	65	13.801	13.793	(0.939)	253878	16.9468	16.95
39	Dimethylphthalate	163	14.234	14.234	(0.968)	267926	4.68886	4.689
40	Acenaphthylene	152	14.381	14.381	(0.978)	299407	3.53507	3.535
41	2,6-Dinitrotoluene	165	14.366	14.366	(0.977)	162368	13.2508	13.25
* 42	Acenaphthene-d10	164	14.698	14.698	(1.000)	148022	4.00000	
43	3-Nitroaniline	138	14.652	14.637	(0.997)	65117	4.59324	4.593
44	Acenaphthene	153	14.760	14.760	(1.004)	218018	4.32777	4.328
45	2,4-Dinitrophenol	184	14.853	14.845	(1.011)	98396	12.7166	12.72
46	Dibenzofuran	168	15.085	15.085	(1.026)	315923	4.03837	4.038
47	4-Nitrophenol	109	15.015	14.984	(1.022)	256158	29.3777	29.38
48	2,4-Dinitrotoluene	165	15.154	15.155	(1.031)	206150	13.0758	13.08
50	Diethylphthalate	149	15.673	15.673	(1.066)	291126	4.99285	4.993
49	Fluorene	166	15.789	15.789	(1.074)	306598	5.13528	5.135
51	4-Chlorophenyl-phenylether	204	15.789	15.789	(1.074)	162772	5.58040	5.580
52	4-Nitroaniline	138	15.904	15.897	(1.082)	93280	6.81101	6.811
53	4,6-Dinitro-2-methylphenol	198	15.981	15.981	(0.903)	131848	9.74827	9.748
54	N-Nitrosodiphenylamine	169	16.035	16.035	(0.907)	173532	4.08740	4.087
$ 55	2,4,6-Tribromophenol	330	16.321	16.313	(1.110)	89225	11.1574	11.16
56	4-Bromophenyl-phenylether	248	16.776	16.776	(0.948)	101231	5.28244	5.282
57	Hexachlorobenzene	284	17.077	17.077	(0.965)	104864	5.73170	5.732
58	Pentachlorophenol	266	17.449	17.433	(0.986)	184656	17.1637	17.16
* 59	Phenanthrene-d10	188	17.689	17.689	(1.000)	315559	4.00000	
60	Phenanthrene	178	17.735	17.735	(1.003)	379257	4.53372	4.534
61	Anthracene	178	17.828	17.828	(1.008)	342800	3.86512	3.865
62	Carbazole	167	18.168	18.161	(1.027)	348155	4.39684	4.397
63	Di-n-butylphthalate	149	19.012	18.988	(1.075)	990495	8.20946	8.209
64	Fluoranthene	202	20.157	20.118	(1.000)	520037	3.13092	3.131
65	Pyrene	202	20.567	20.544	(0.902)	821090	4.74337	4.743(M)
$ 66	Terphenyl-d14	244	20.900	20.853	(1.000)	445906	4.07511	4.075
67	Butylbenzylphthalate	149	21.875	21.798	(0.960)	841612	12.2777	12.28(M)
68	Benzo(a)anthracene	228	22.766	22.711	(1.000)	593031	3.90515	3.905
* 69	Chrysene-d12	240	22.797	22.735	(1.000)	417129	4.00000	(M)
70	3,3'-Dichlorobenzidine	252	22.797	22.688	(1.000)	48520	0.91066	0.9107(MH)
71	Chrysene	228	22.843	22.781	(1.000)	570897	4.68074	4.681(H)
72	bis(2-Ethylhexyl)phthalate	149	22.897	22.835	(0.960)	477945	6.80834	6.808
* 134	Di-n-octylphthalate-d4	153	23.857	23.811	(1.000)	673873	4.00000	
73	Di-n-octylphthalate	149	23.865	23.818	(1.000)	662195	4.51272	4.513
74	Benzo(b)fluoranthene	252	24.554	24.492	(0.973)	614640	4.76474	4.765
75	Benzo(k)fluoranthene	252	24.593	24.531	(0.975)	556991	4.29083	4.291
76	Benzo(a)pyrene	252	25.127	25.057	(0.996)	465459	3.57666	3.577
* 77	Perylene-d12	264	25.228	25.166	(1.000)	368903	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	27.693	27.444	(1.098)	631465	4.93759	4.938
79	Dibenzo(a,h)anthracene	278	27.693	27.467	(1.098)	536602	5.19769	5.198
80	Benzo(g,h,i)perylene	276	28.361	28.112	(1.124)	479533	4.21287	4.213
90	N-Nitrosodimethylamine	74	4.434	4.388	(0.510)	95982	5.92215	5.922
91	Aniline	93	Compound Not Detected.					
93	Benzidine	184	Compound Not Detected.					
103	Pyridine	79	4.543	4.404	(0.523)	32063	1.09462	1.095
105	1-methylnaphthalene	142	12.764	12.771	(1.147)	220867	3.73101	3.731
111	Azobenzene (1,2-DP-Hydrazine)	77	16.105	16.105	(1.096)	286125	5.12670	5.127

						CONCENTRATIONS	
	QUANT SIG					ON-COLUMN	FINAL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
187 Total Benzofluoranthenes	252	24.593	24.531	(0.975)	1070882	8.60506	8.605
99 Perylene	252	25.274	25.212	(1.002)	234973	2.25191	2.252
98 Retene	219	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	15.433	15.425	(1.050)	85173	5.08419	5.084

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070511.D
Lab Smp Id: BGF0720-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	80103	-27.64
27 Naphthalene-d8	393946	196973	787892	285315	-27.58
42 Acenaphthene-d10	203210	101605	406420	148022	-27.16
59 Phenanthrene-d10	403506	201753	807012	315559	-21.80
69 Chrysene-d12	354618	177309	709236	417129	17.63
134 Di-n-octylphthala	800232	400116	1600464	673873	-15.79
77 Perylene-d12	378948	189474	757896	368903	-2.65

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.69	-0.00
27 Naphthalene-d8	11.13	10.63	11.63	11.13	-0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.70	-0.00
59 Phenanthrene-d10	17.69	17.19	18.19	17.69	-0.00
69 Chrysene-d12	22.74	22.24	23.24	22.80	0.27
134 Di-n-octylphthala	23.81	23.31	24.31	23.86	0.19
77 Perylene-d12	25.17	24.67	25.67	25.23	0.25

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070511.D

Lab ID: BGF0720-MS1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 17:26

RT	CO-ELUTION COMPOUNDS
27.693	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
27.693	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

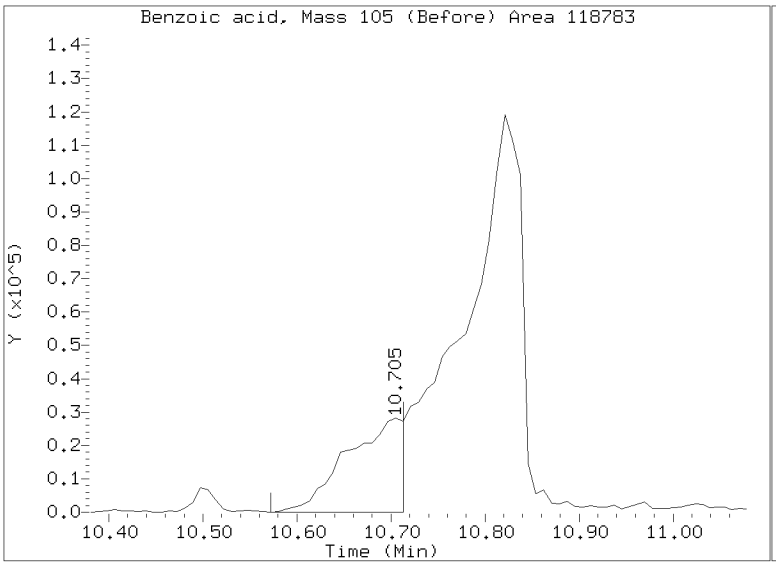
RRT	CCV RRT	DELTA	COMPOUND
NONE			

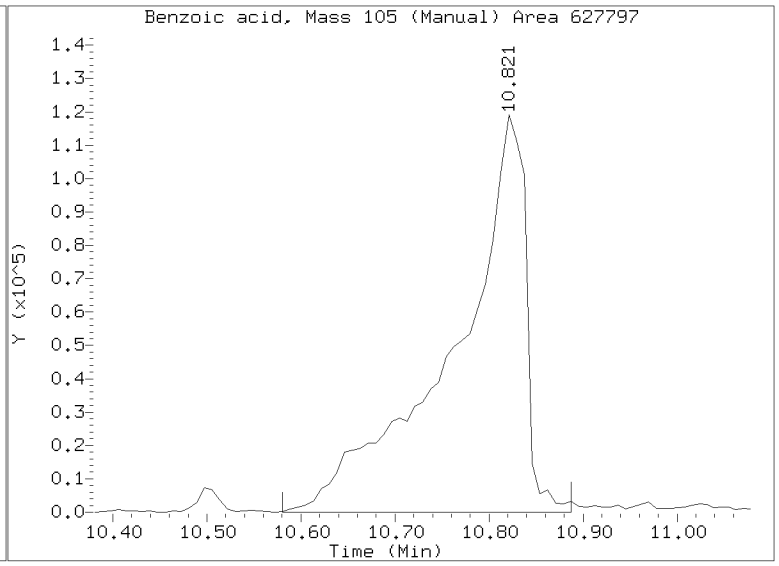
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

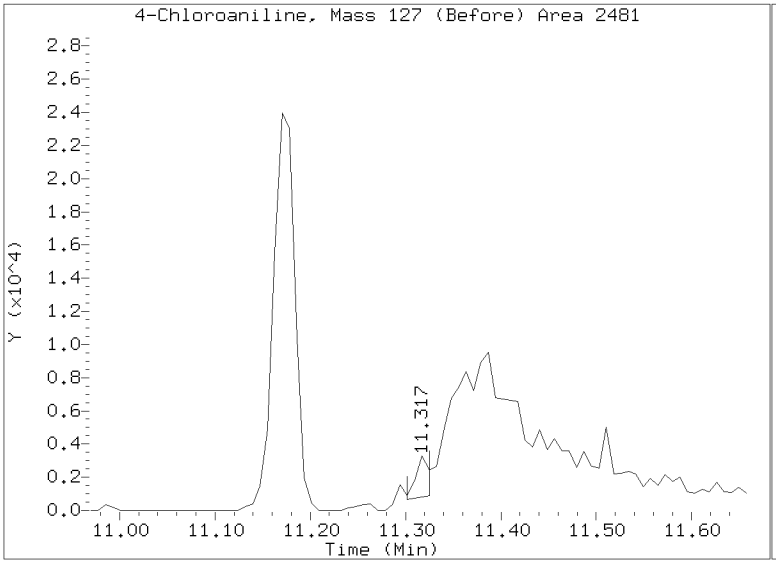
* Only compounds listed in the work order have been verified by the analyst *

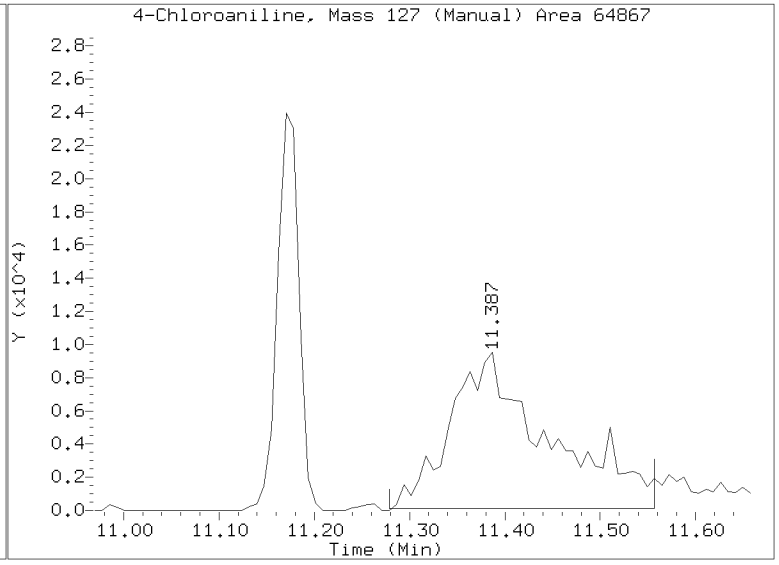
Quant Ion Manual Peak Adjustment Report

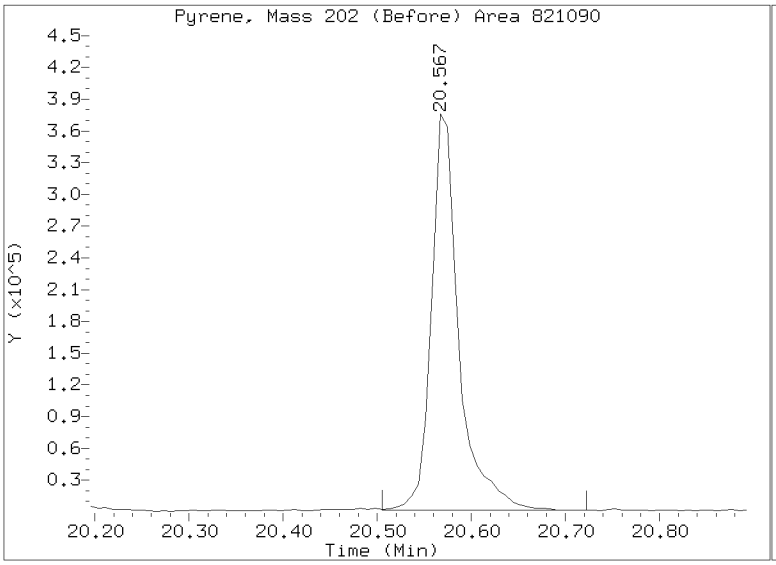
Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070511.D
Injection Date: 05-JUL-2018 17:26
Lab ID:BGF0720-MS1 Client ID:
Report Date: 07/09/2018 10:17

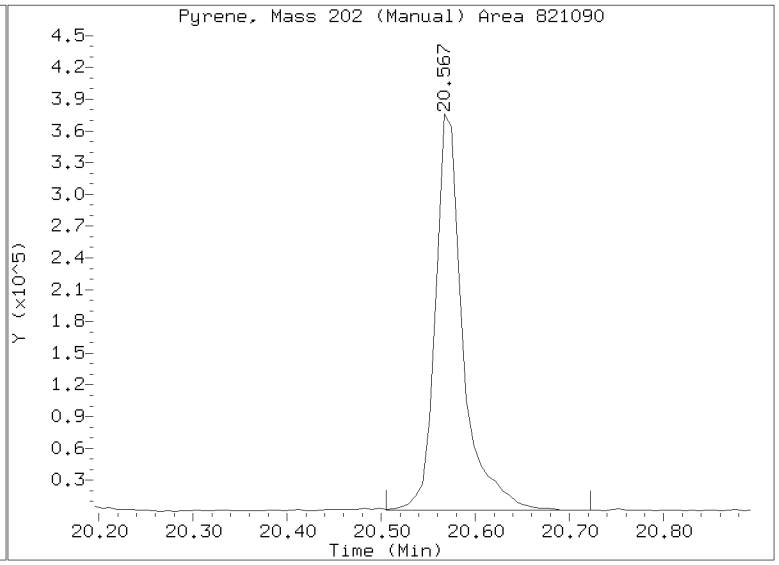






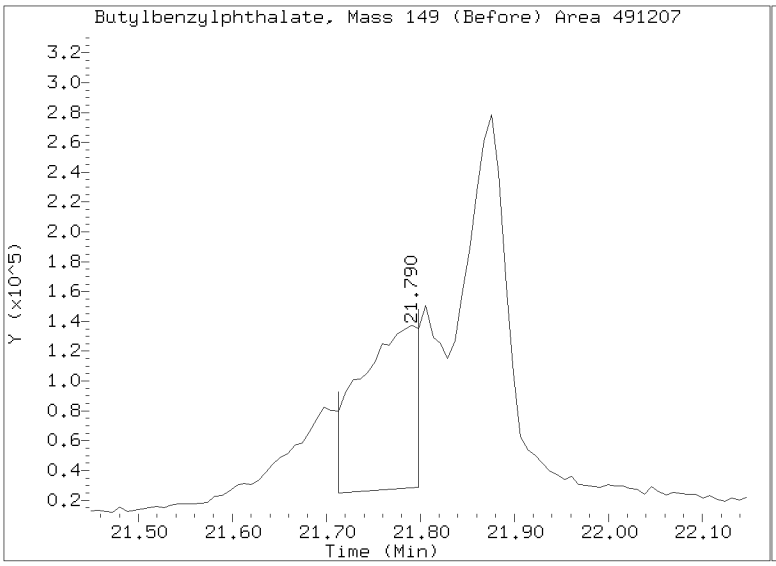


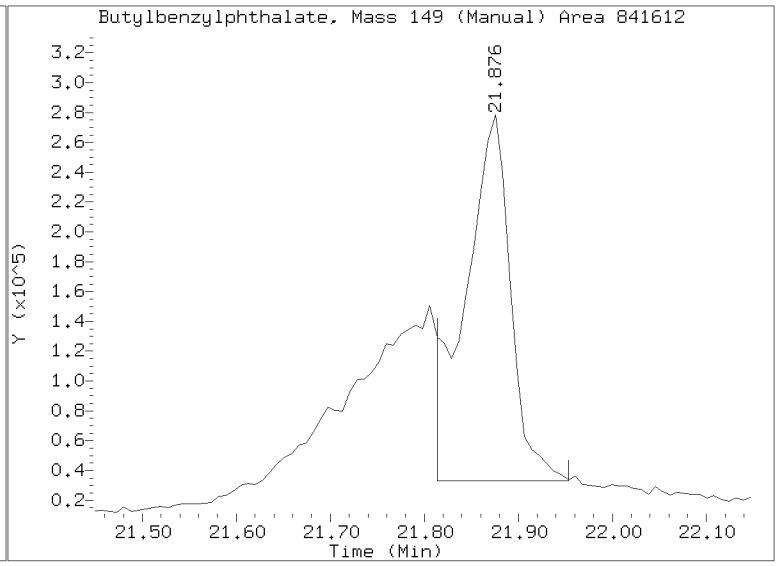


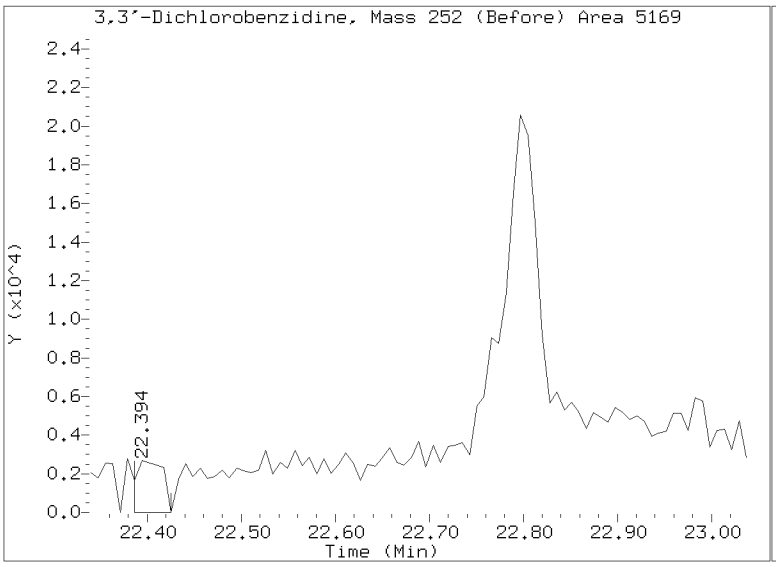


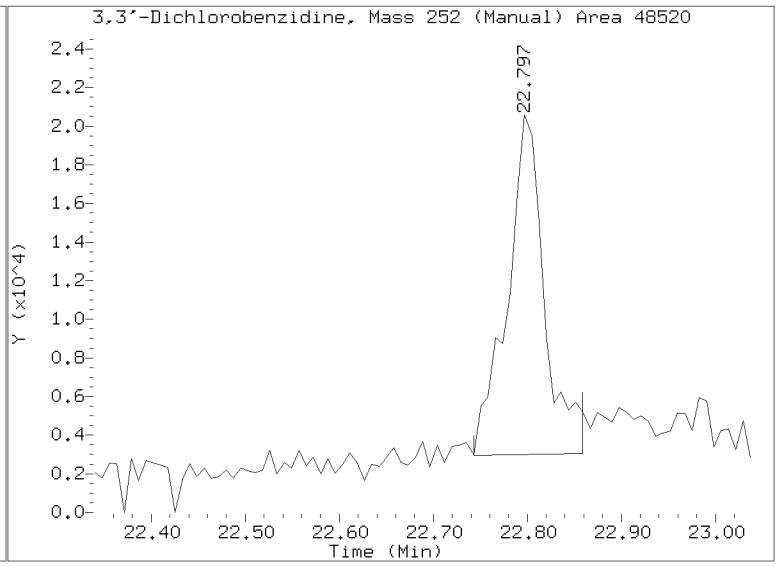
Quant Ion Manual Peak Adjustment Report

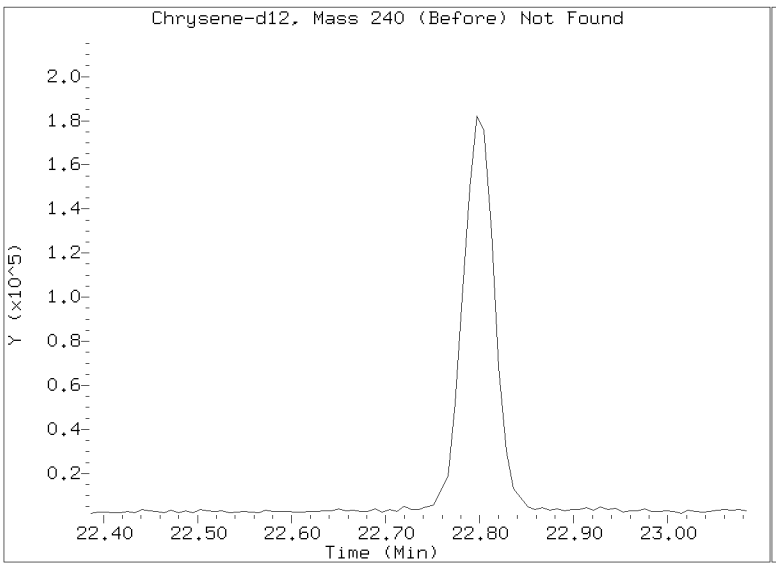
Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070511.D
Injection Date: 05-JUL-2018 17:26
Lab ID:BGF0720-MS1 Client ID:
Report Date: 07/09/2018 10:17

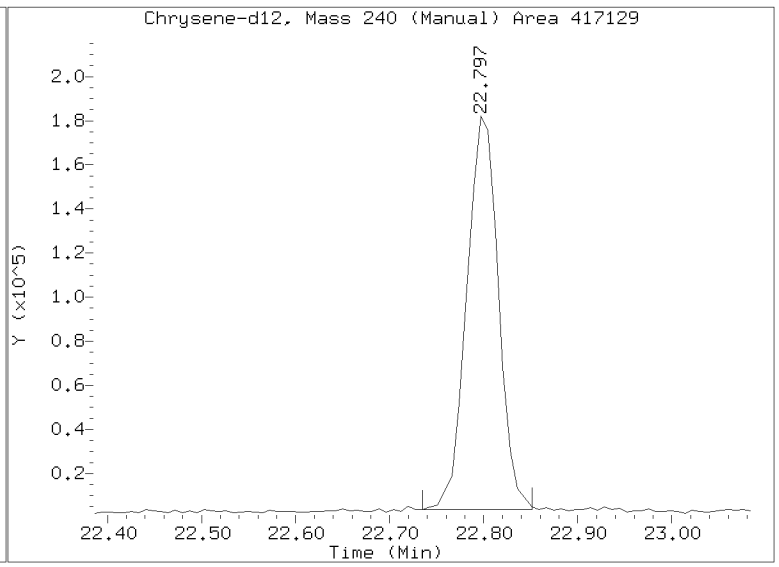












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

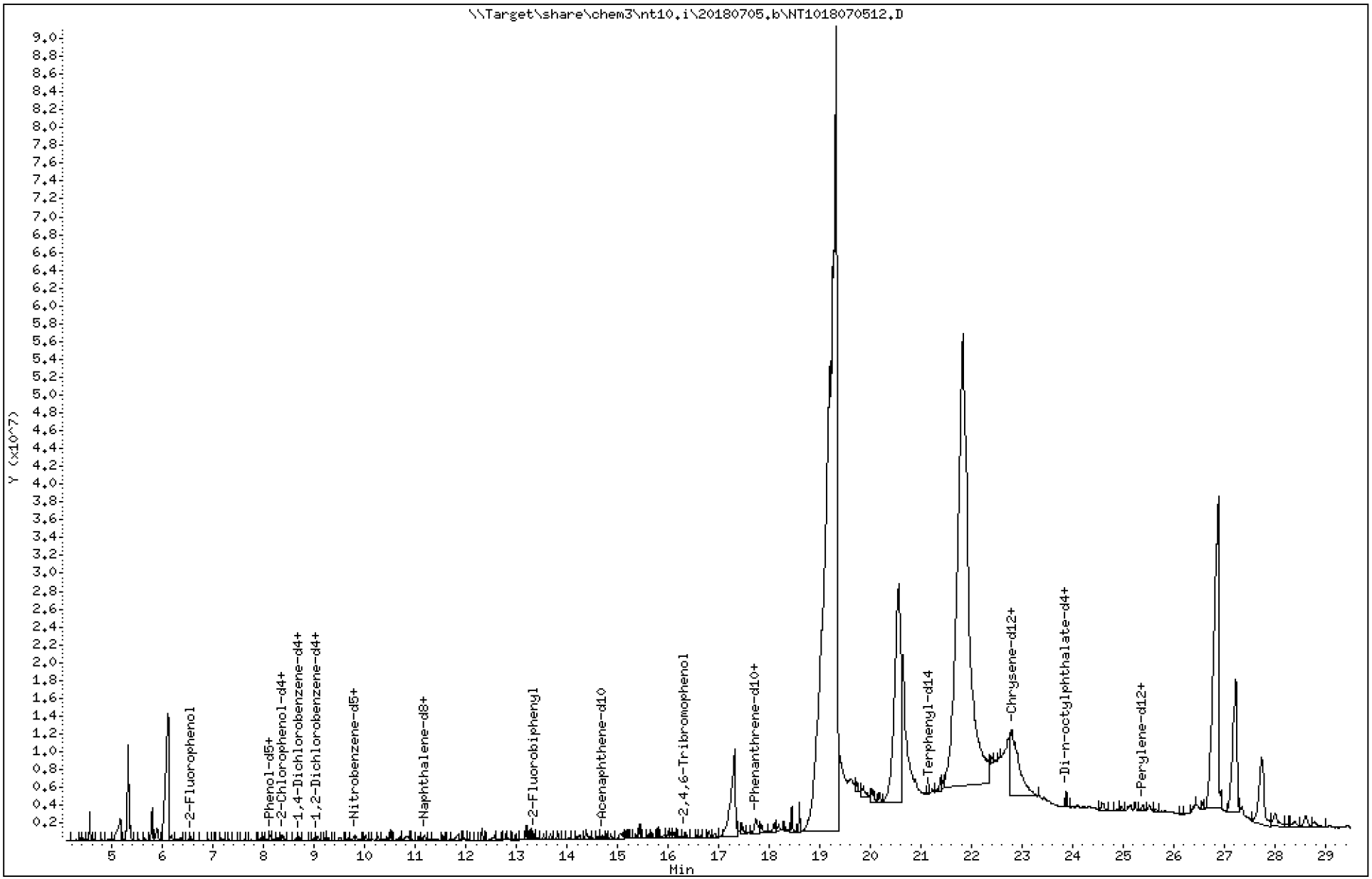
Instrument: nt10.i

Sample Info: BGF0720-MSD1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

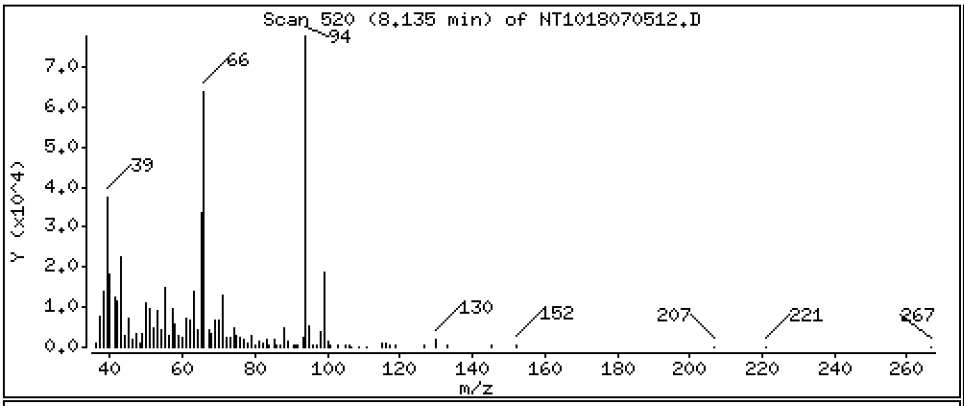
Operator: YZ

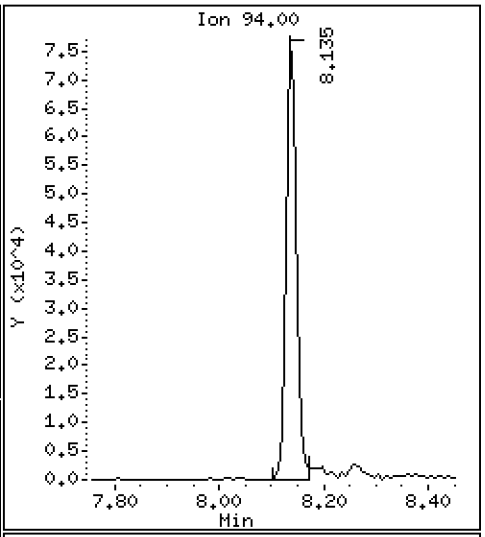
Column phase: ZB-5msi

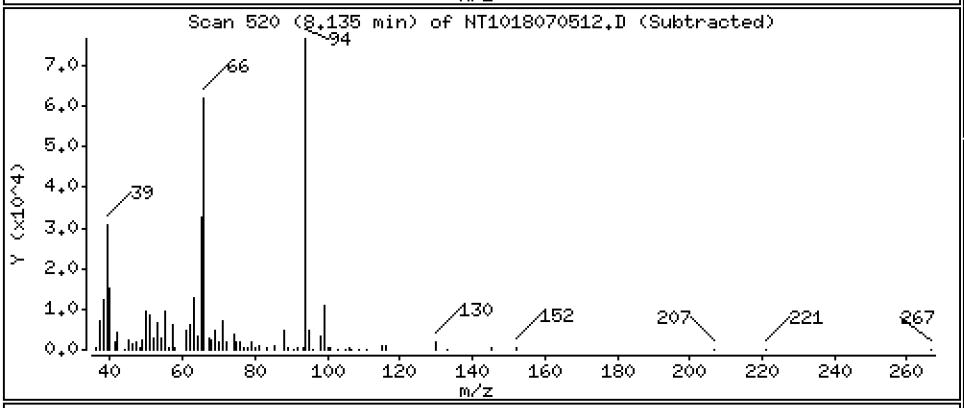
Column diameter: 0.25

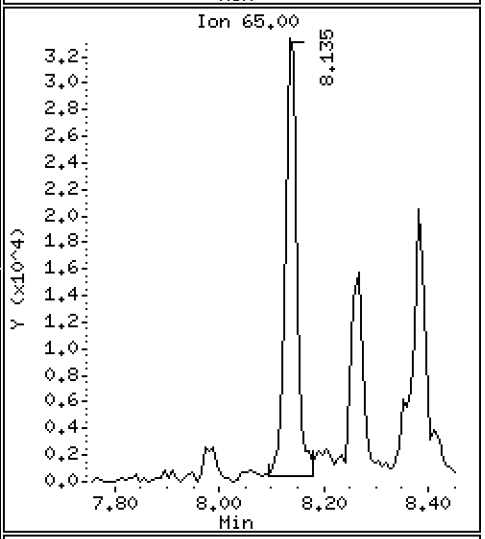
3 Phenol

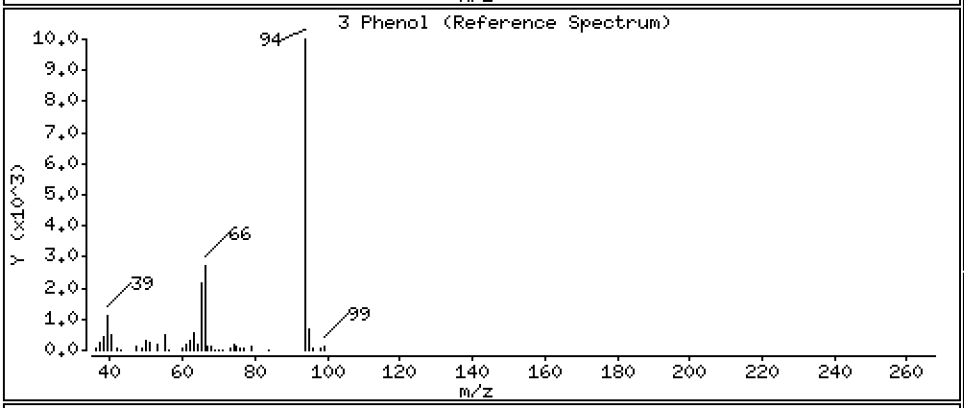
Concentration: 3.076 ug/mL

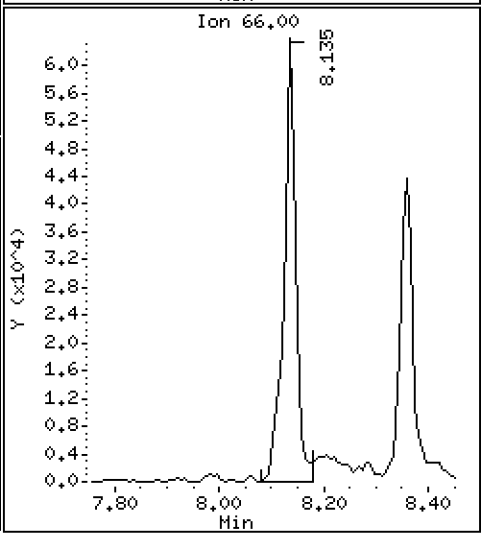


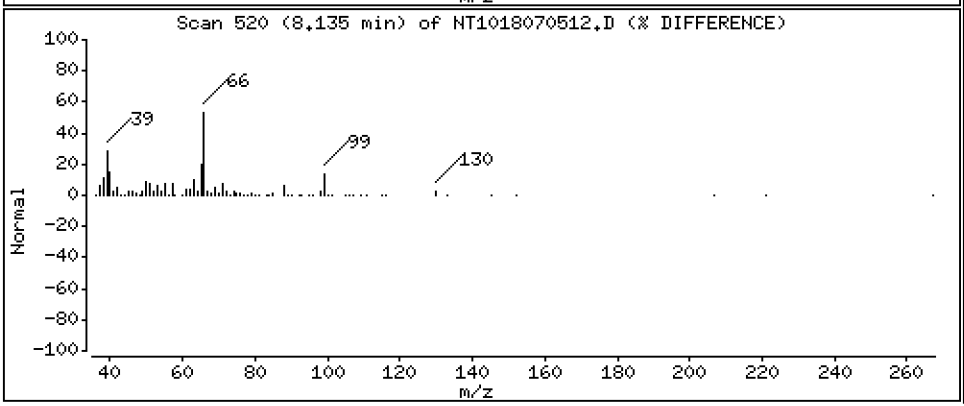












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

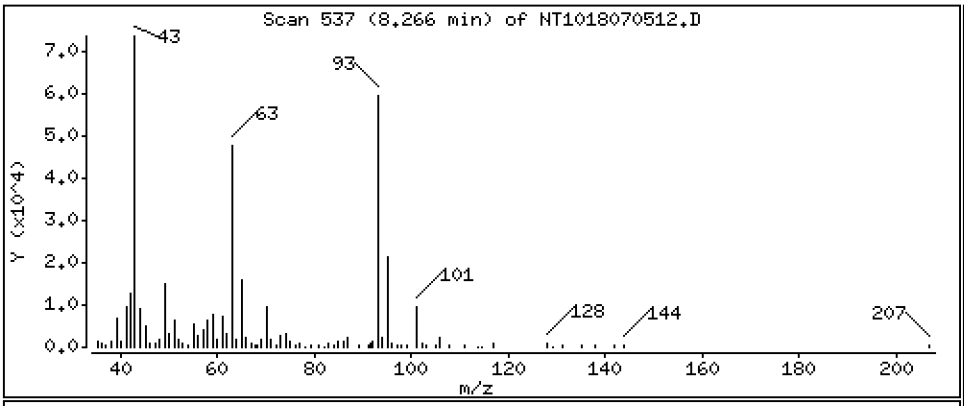
Operator: YZ

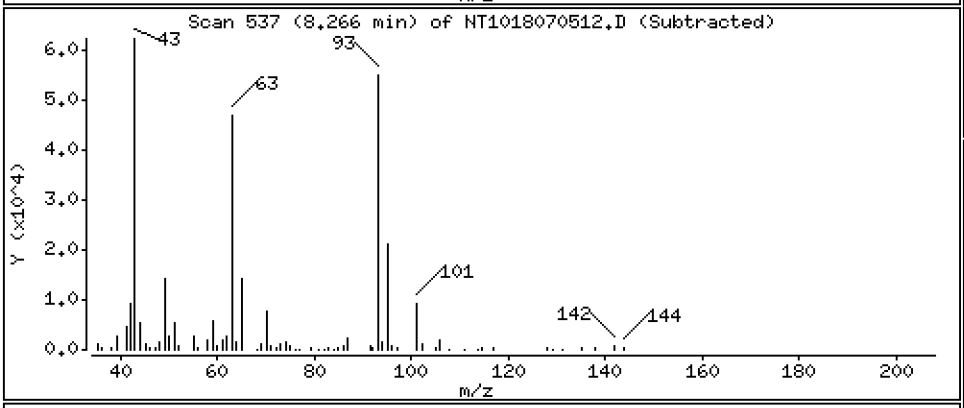
Column phase: ZB-5msi

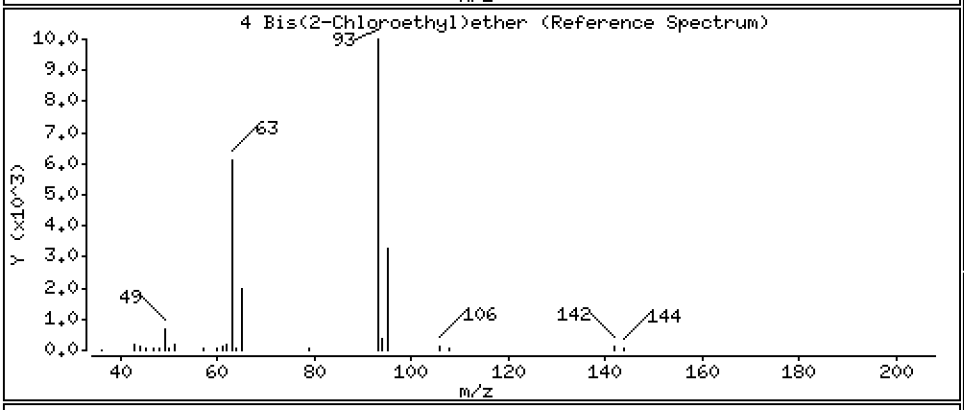
Column diameter: 0.25

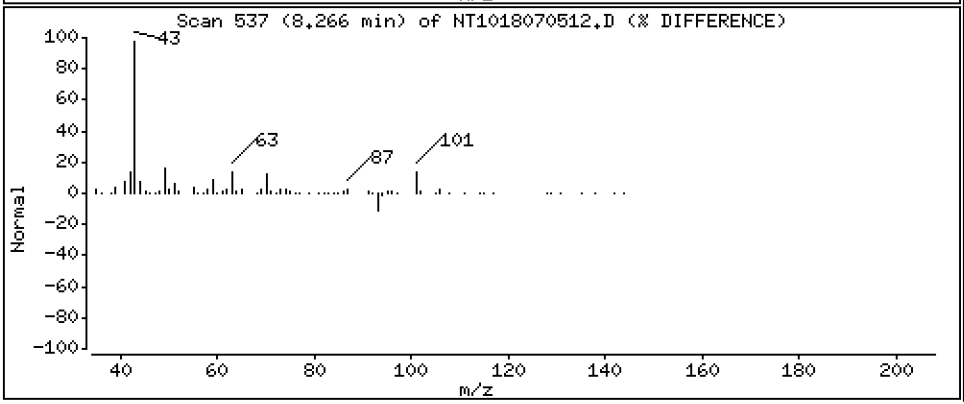
4 Bis(2-Chloroethyl)ether

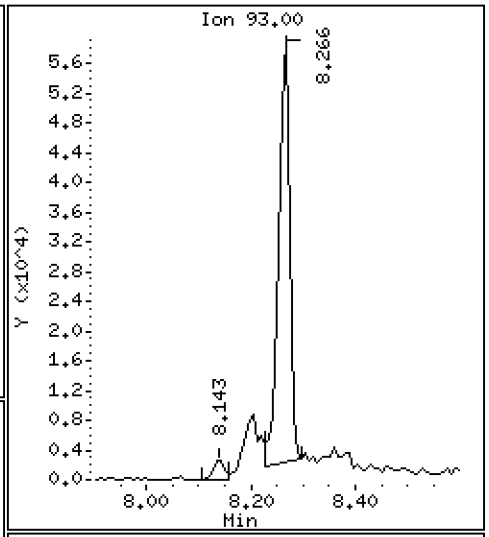
Concentration: 2.937 ug/mL

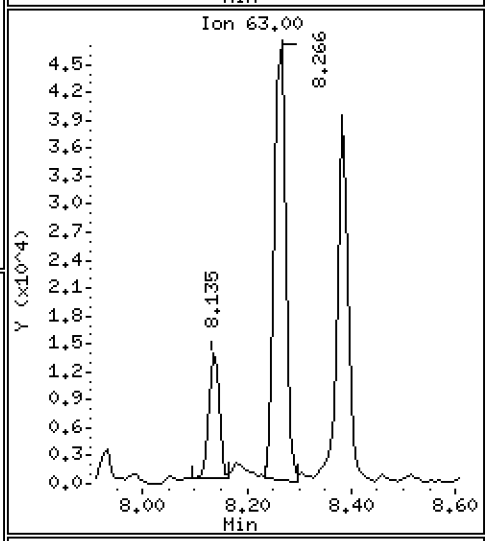


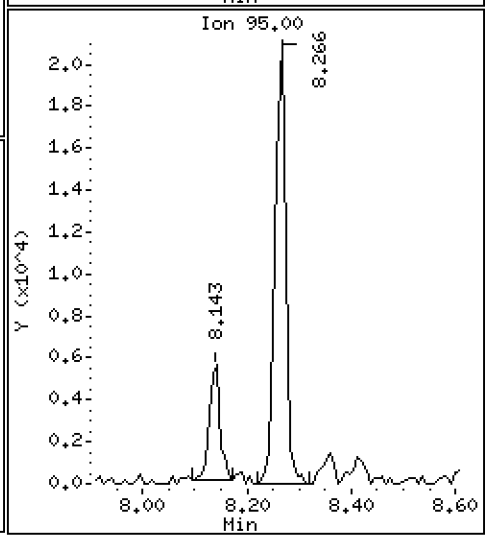












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

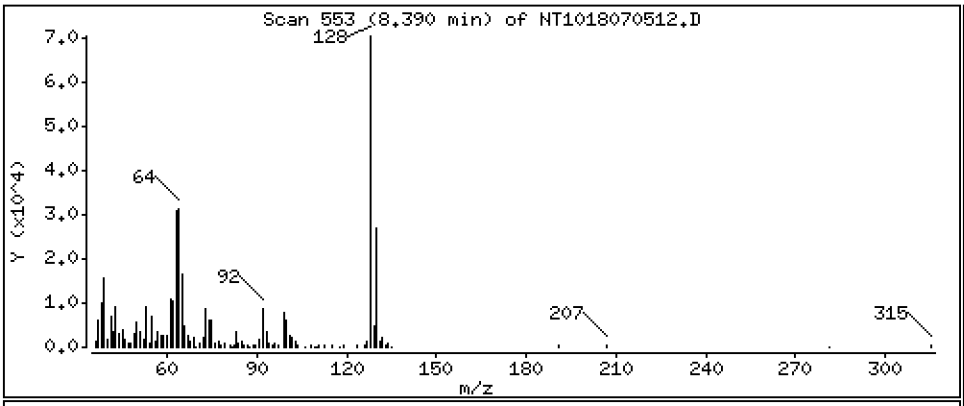
Operator: YZ

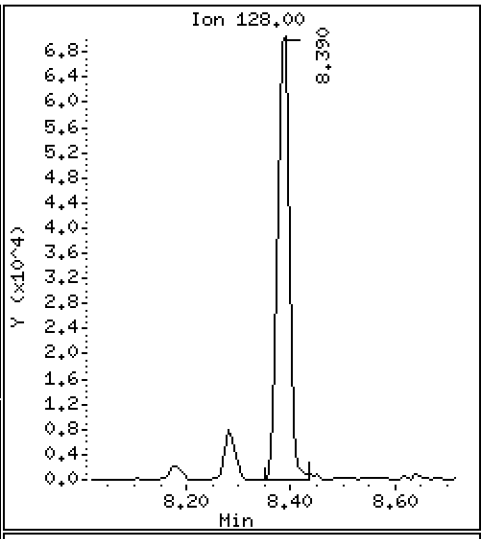
Column phase: ZB-5msi

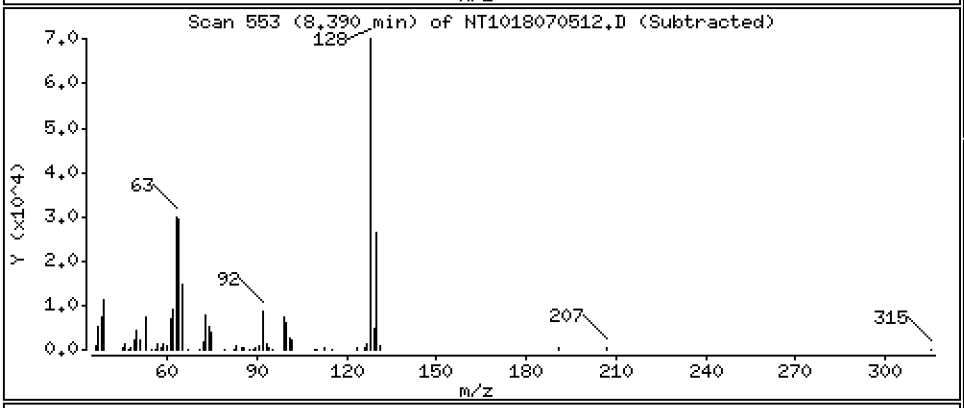
Column diameter: 0.25

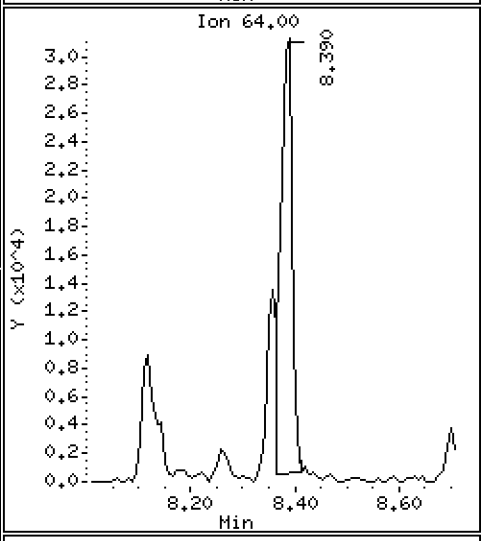
6 2-Chlorophenol

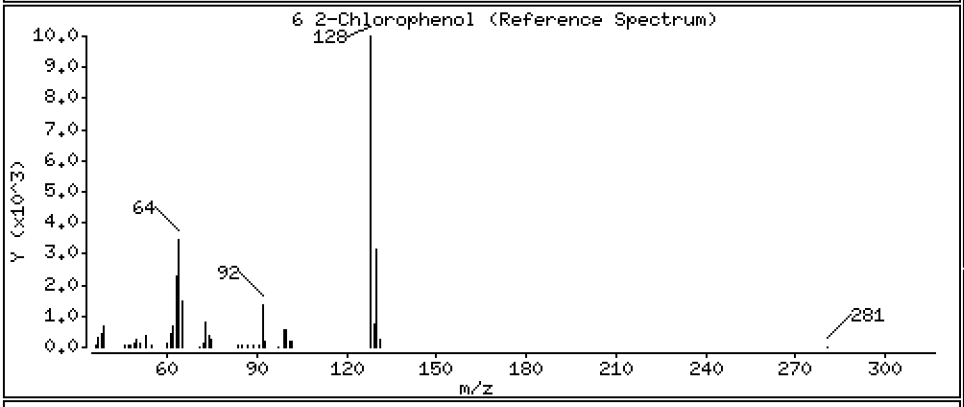
Concentration: 3.625 ug/mL

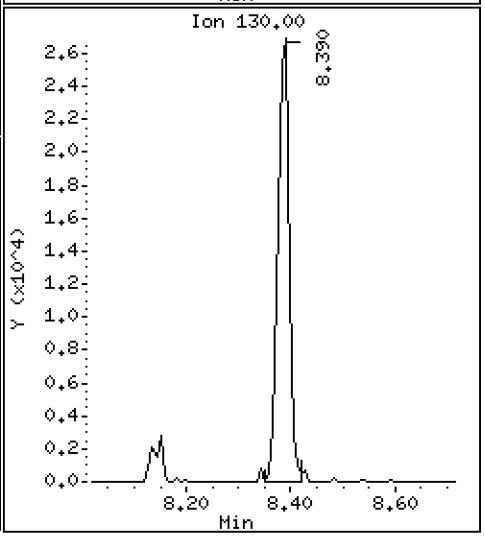


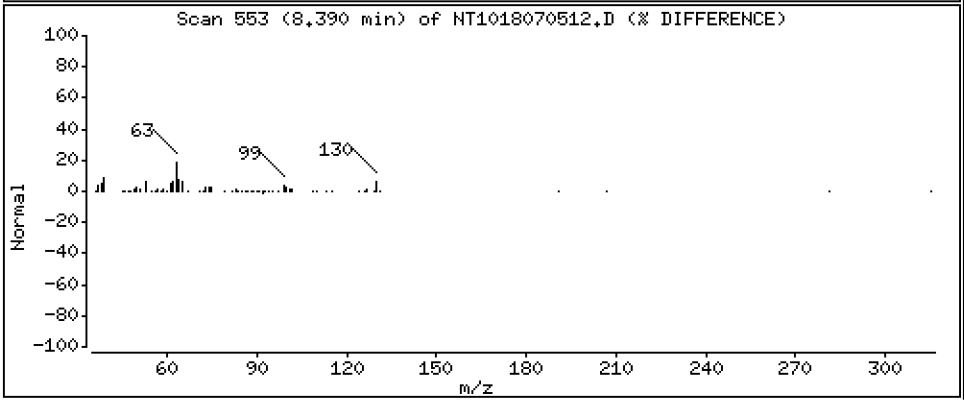












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

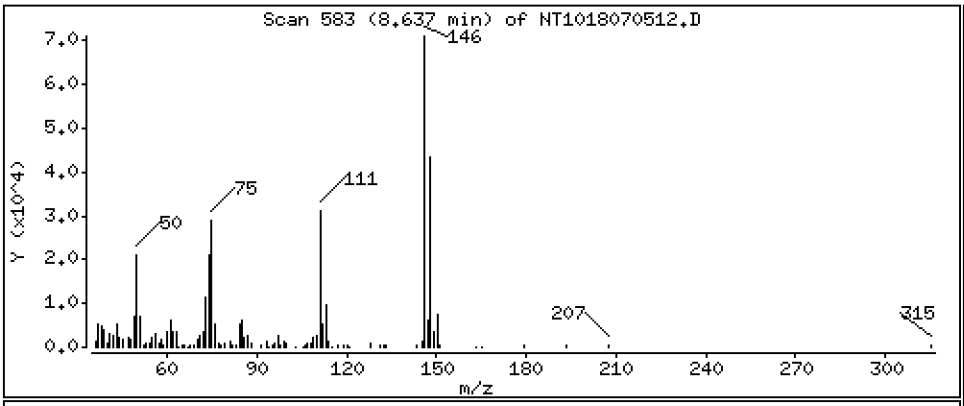
Operator: YZ

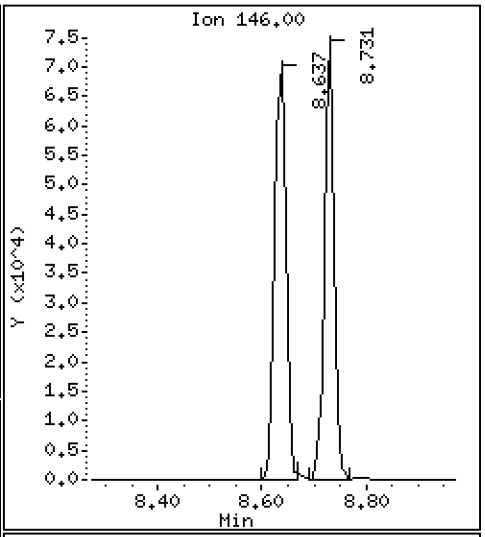
Column phase: ZB-5msi

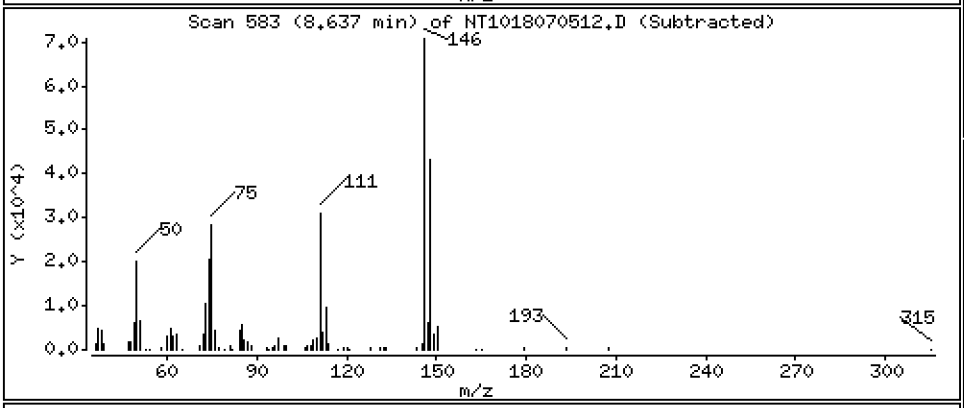
Column diameter: 0.25

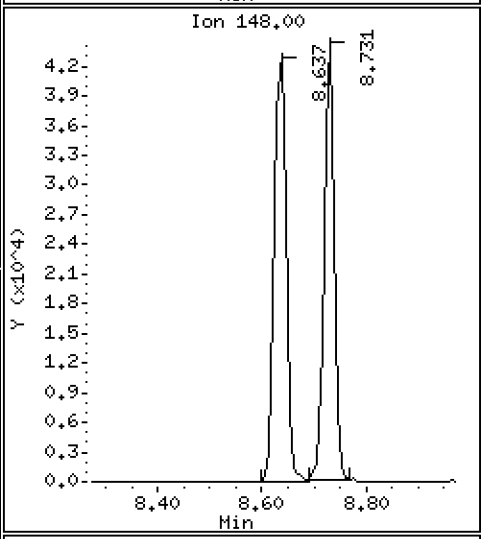
7 1,3-Dichlorobenzene

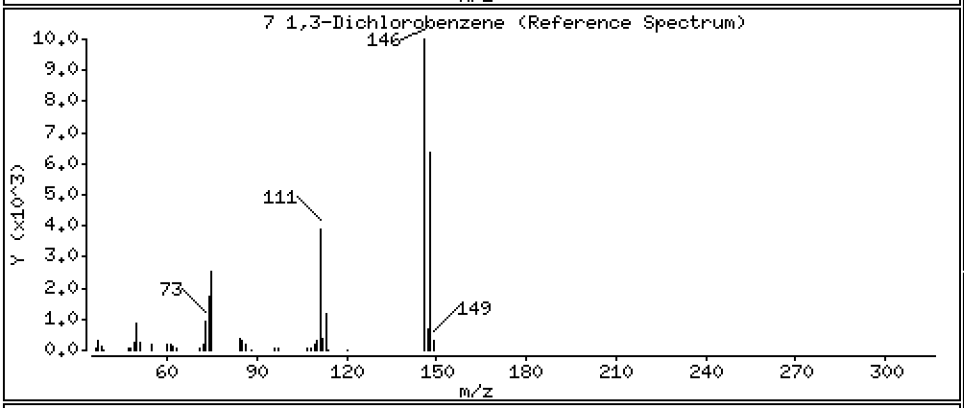
Concentration: 3.424 ug/mL

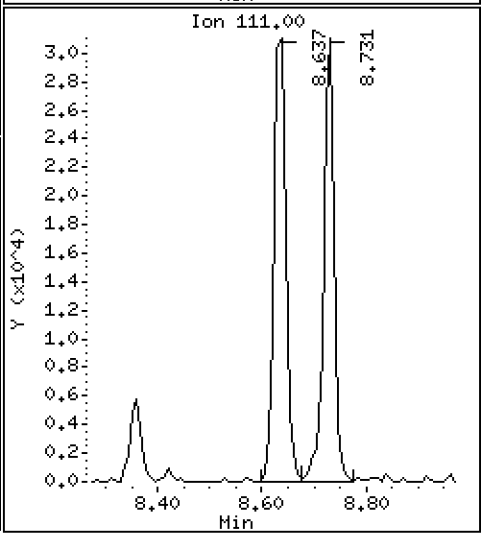


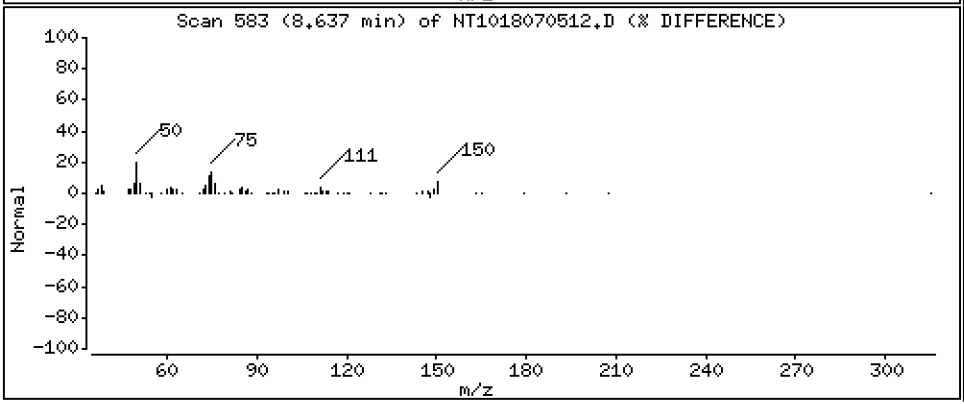












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

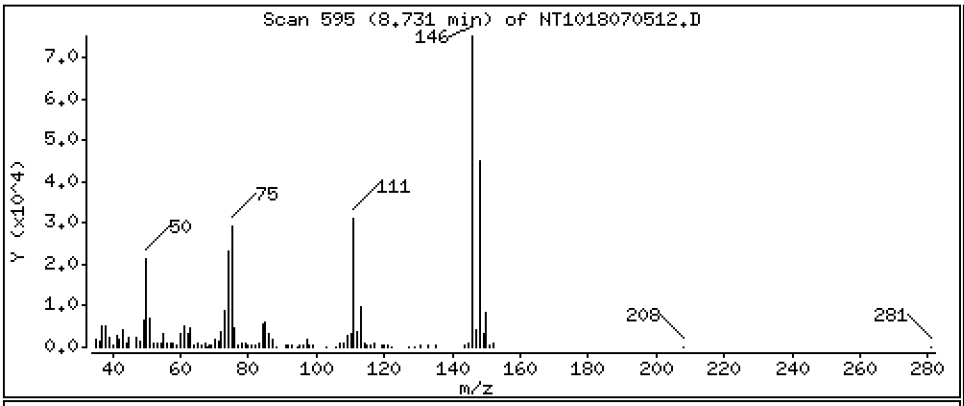
Operator: YZ

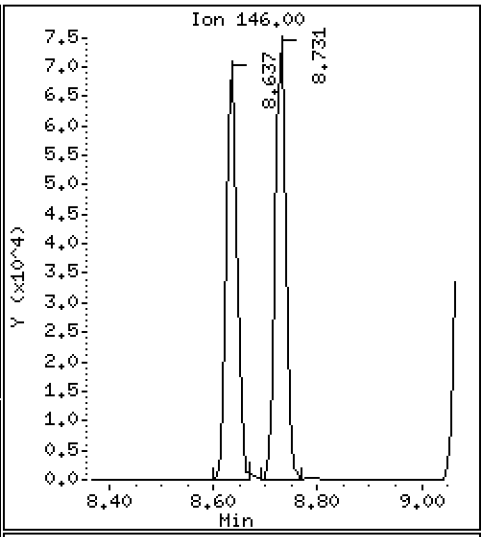
Column phase: ZB-5msi

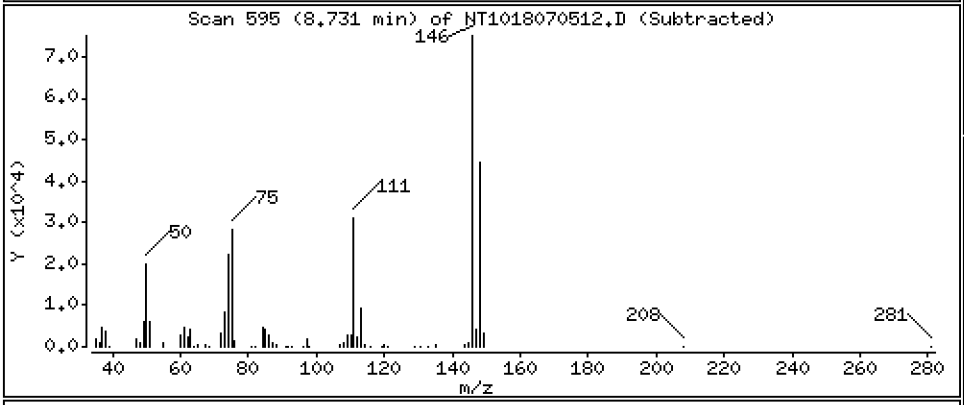
Column diameter: 0.25

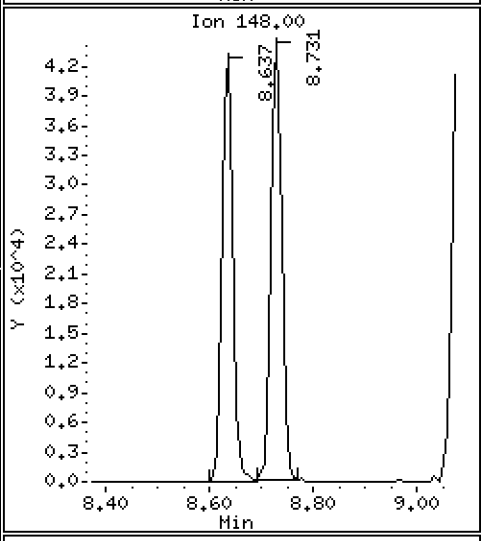
9 1,4-Dichlorobenzene

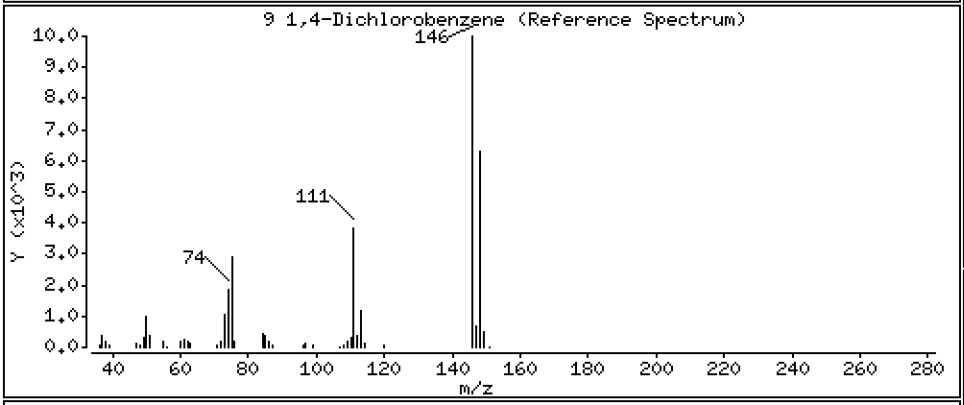
Concentration: 3.648 ug/mL

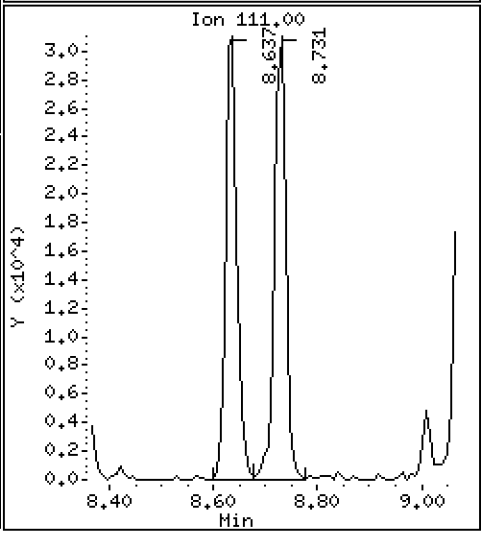


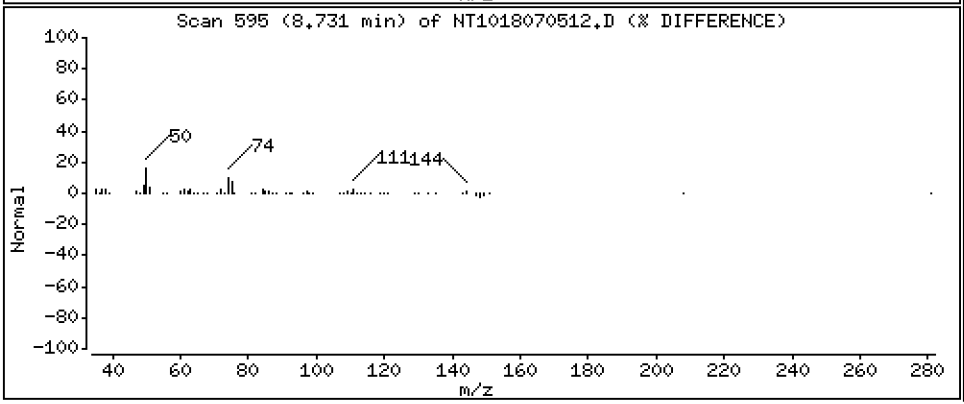












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

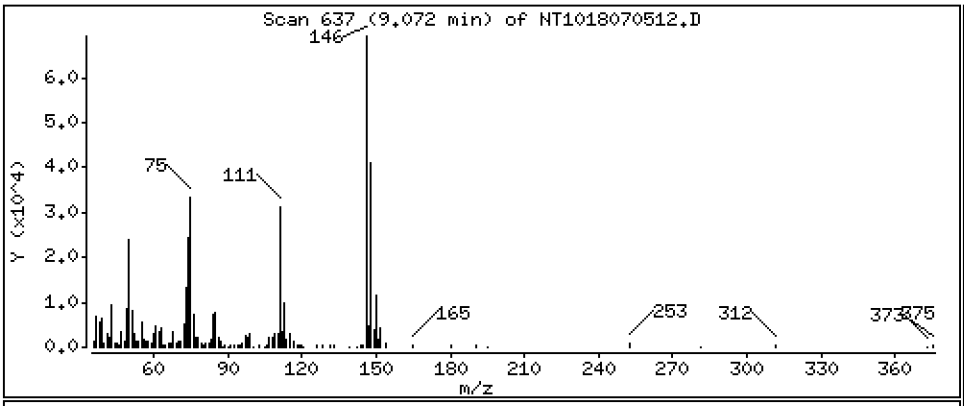
Operator: YZ

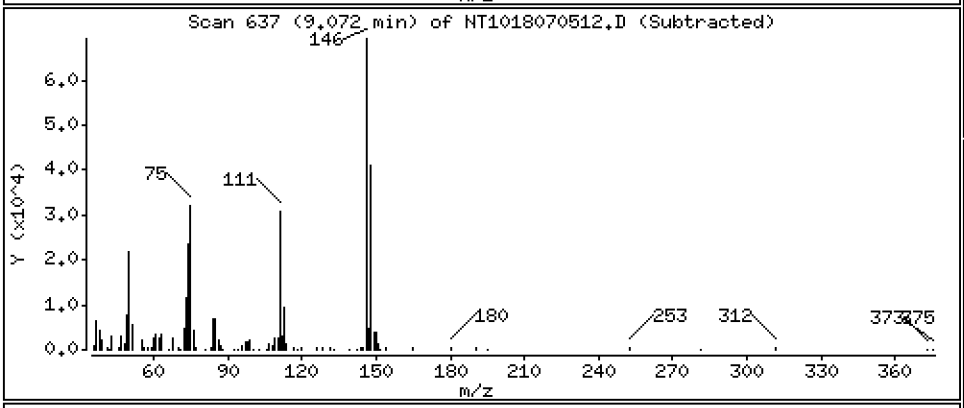
Column phase: ZB-5msi

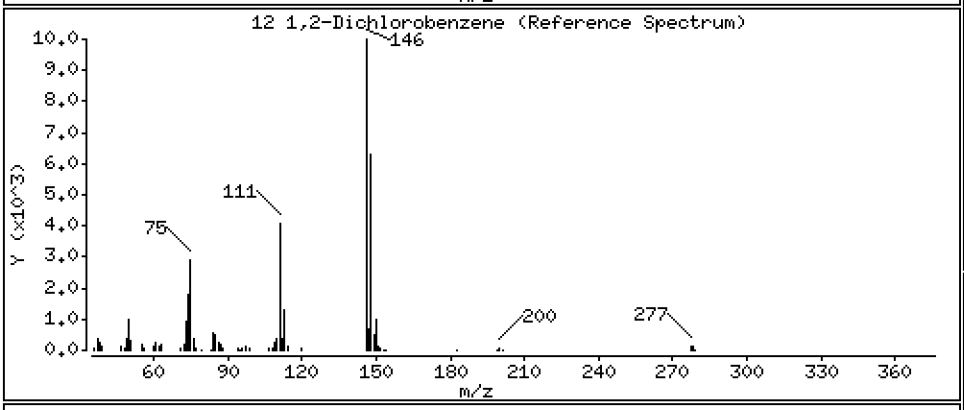
Column diameter: 0.25

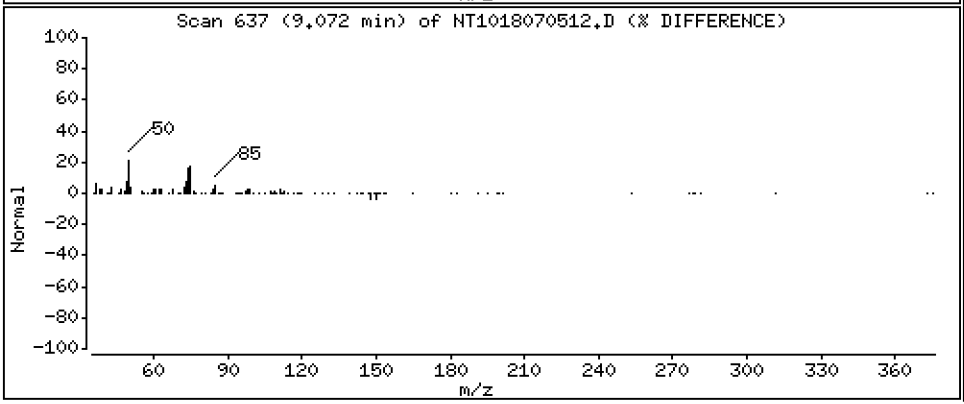
12 1,2-Dichlorobenzene

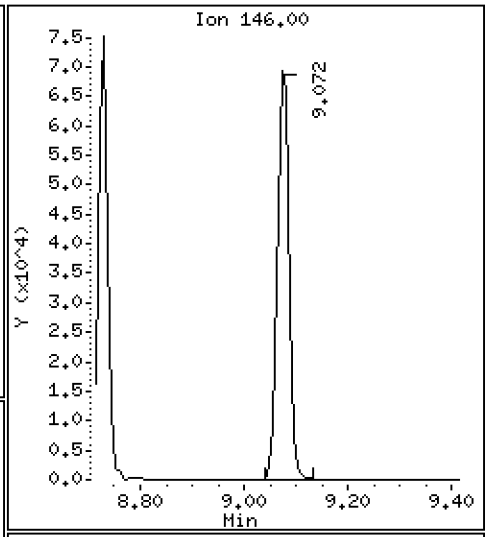
Concentration: 3.854 ug/mL

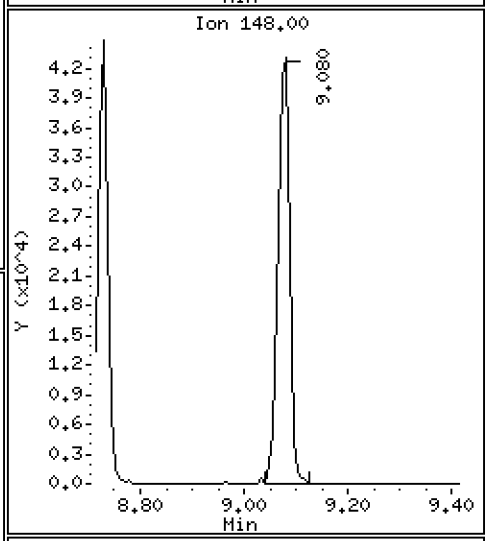


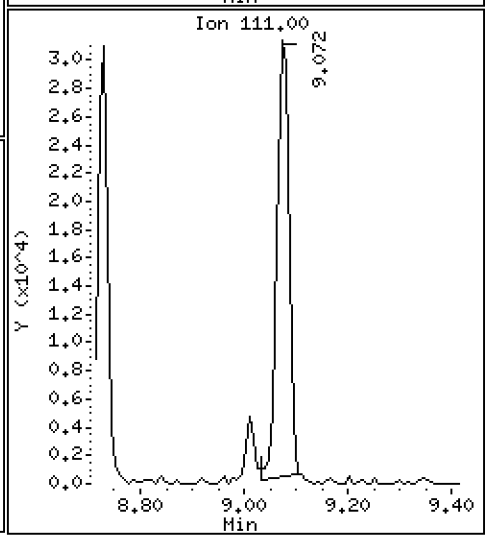












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

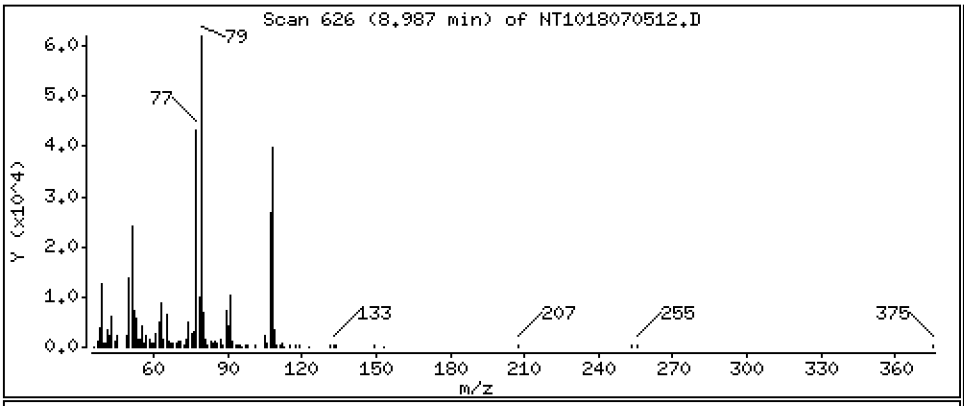
Operator: YZ

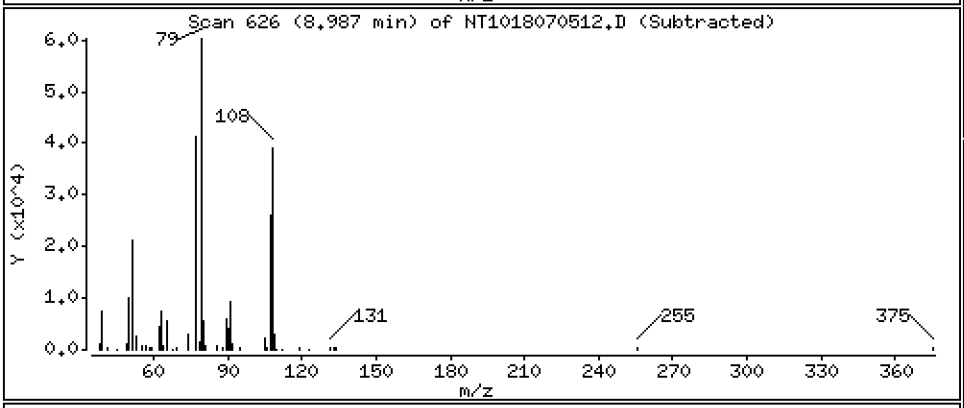
Column phase: ZB-5msi

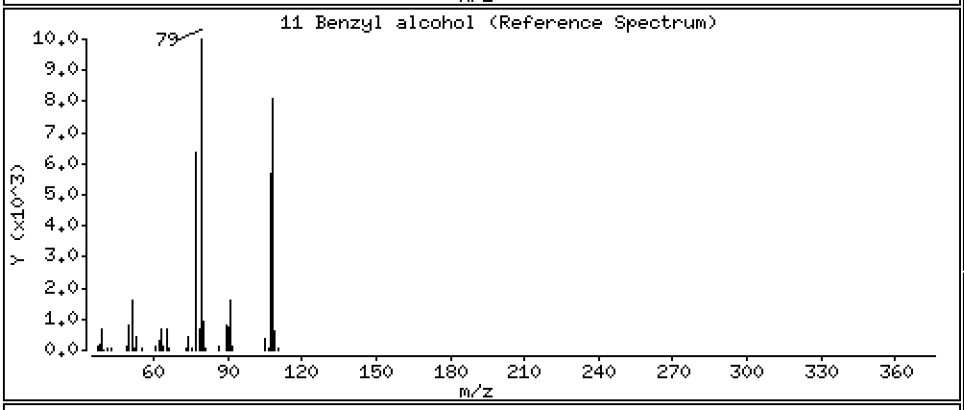
Column diameter: 0.25

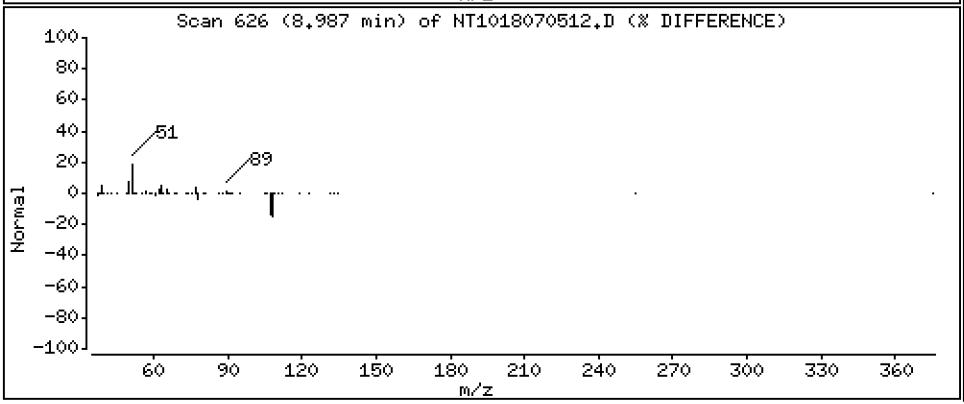
11 Benzyl alcohol

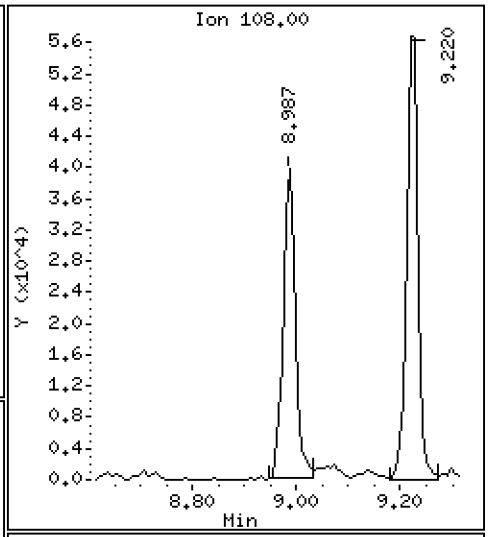
Concentration: 3.686 ug/mL

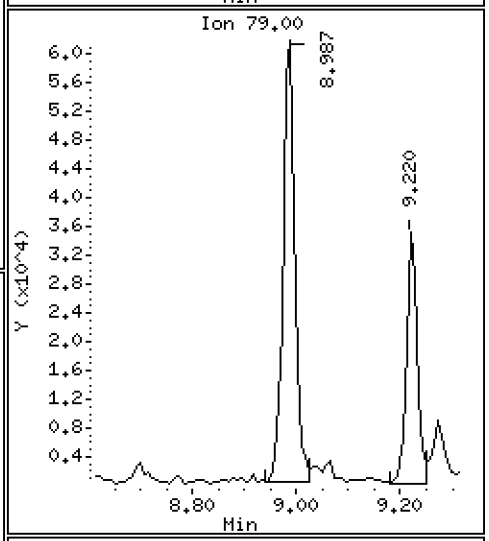


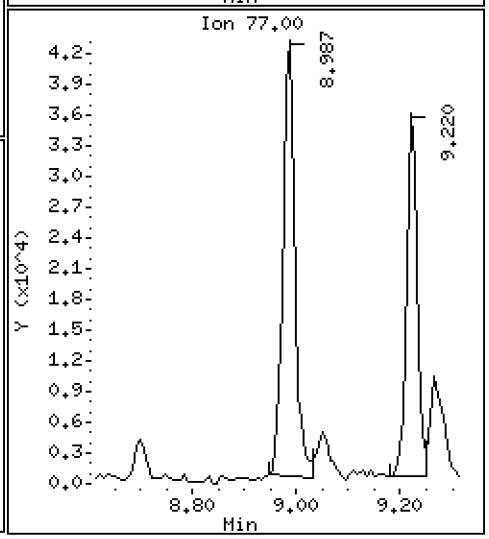












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

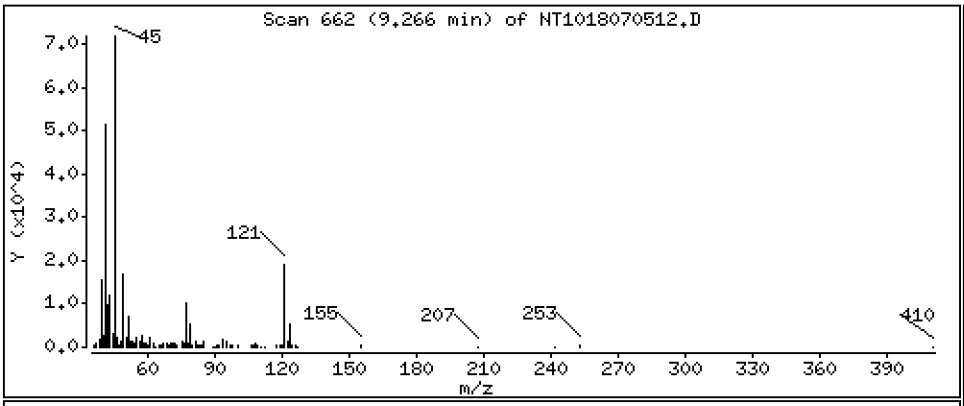
Operator: YZ

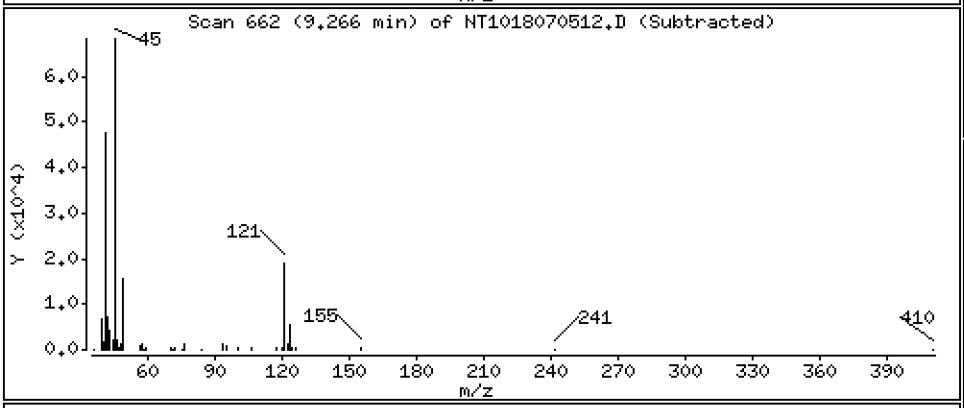
Column phase: ZB-5msi

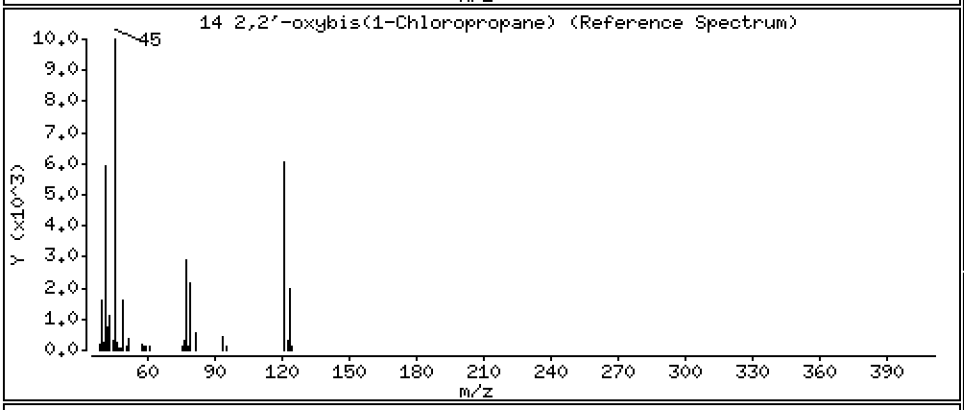
Column diameter: 0.25

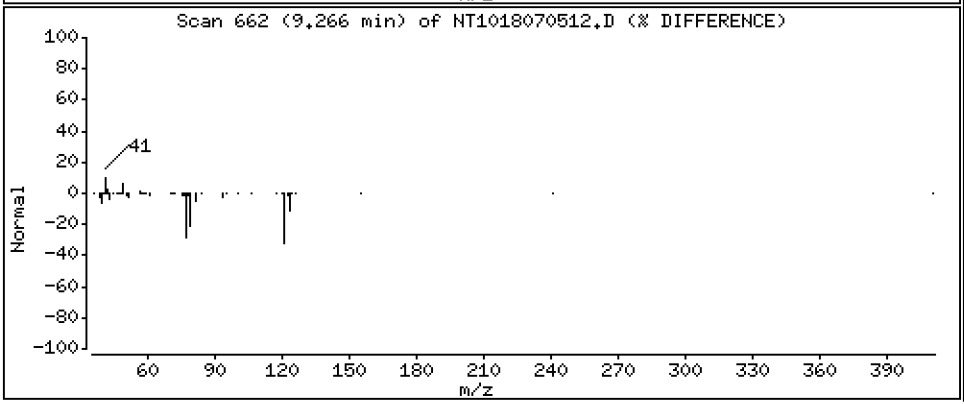
14 2,2'-oxybis(1-Chloropropane)

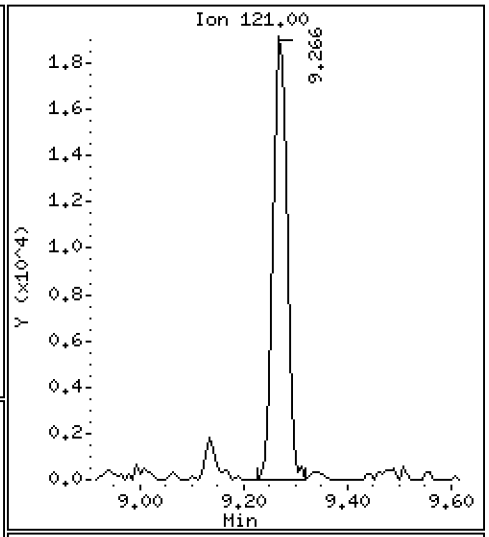
Concentration: 3.282 ug/mL

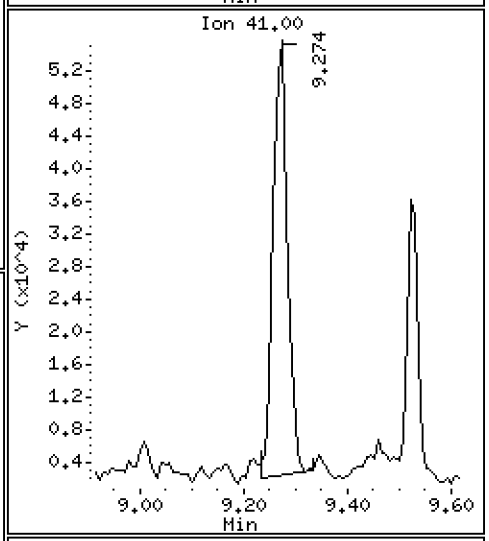


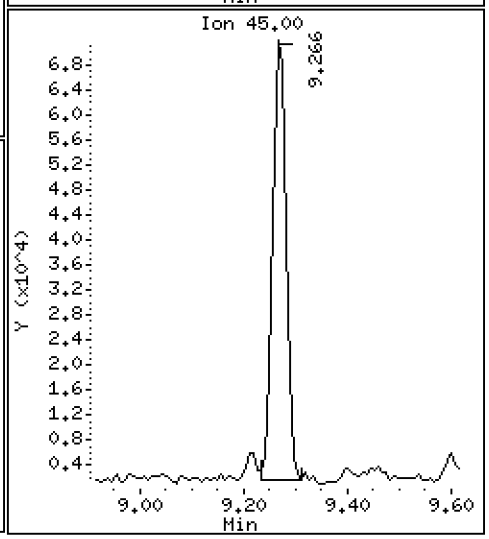












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

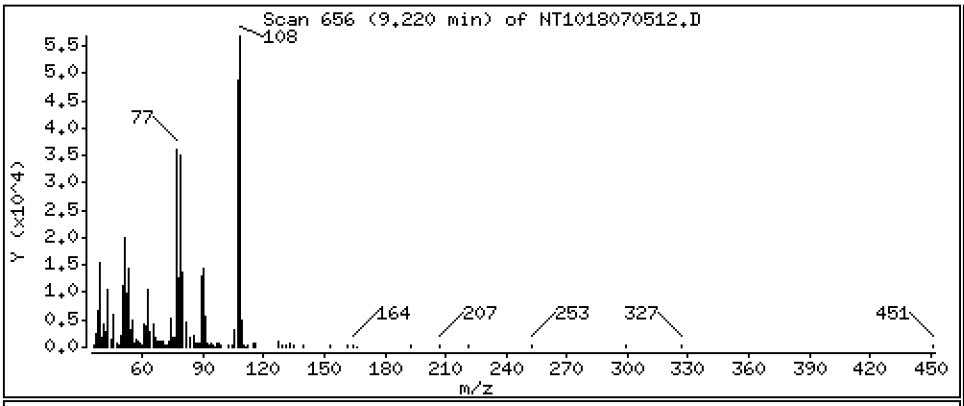
Operator: YZ

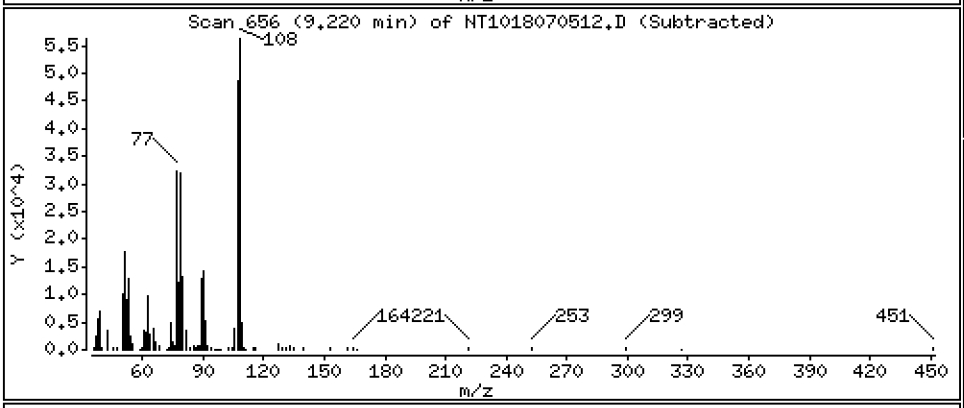
Column phase: ZB-5msi

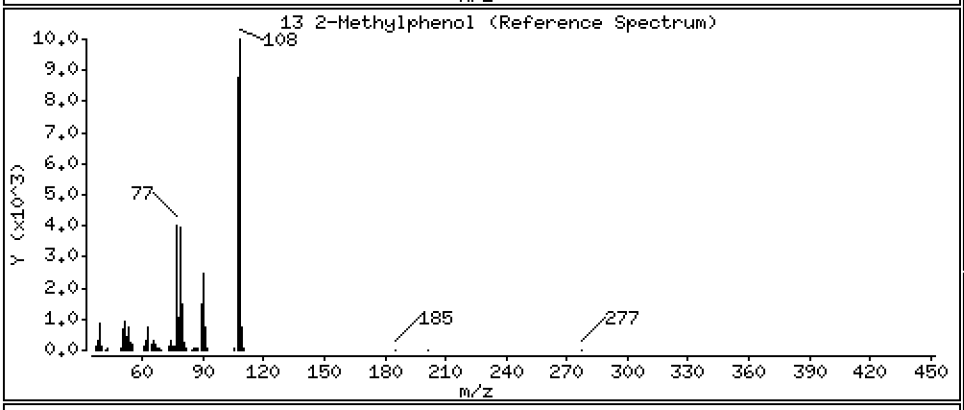
Column diameter: 0.25

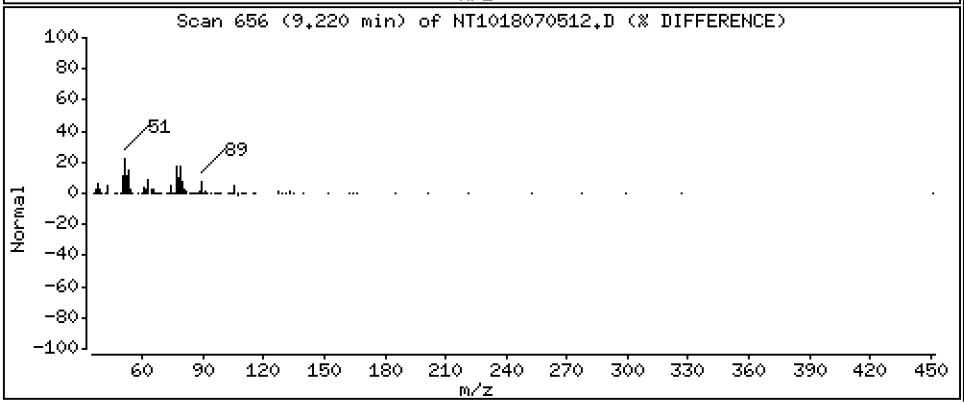
13 2-Methylphenol

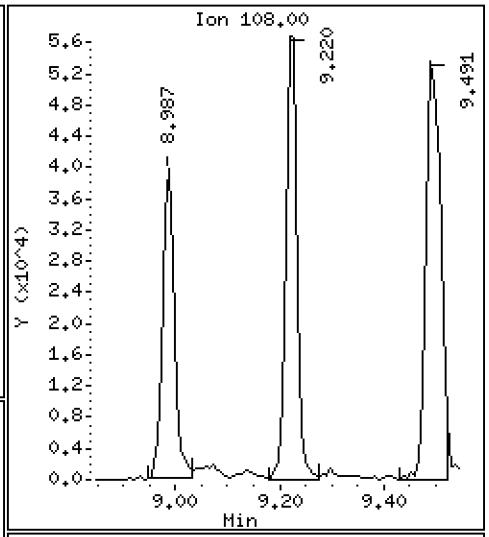
Concentration: 3.688 ug/mL

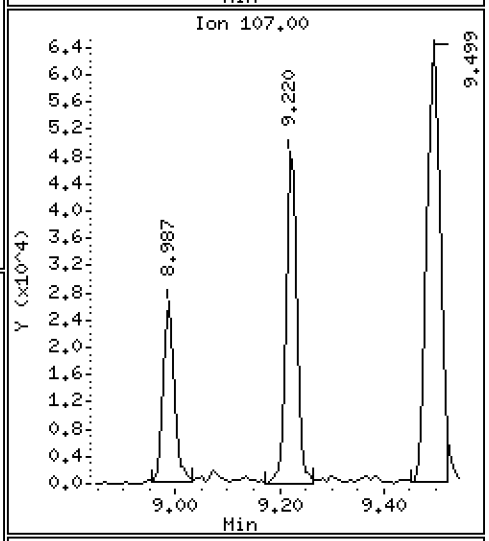


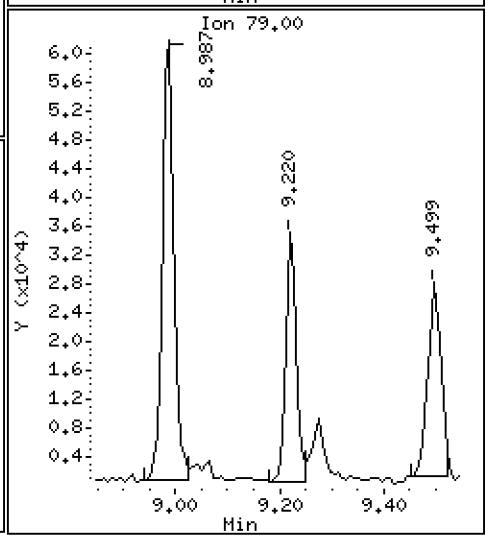












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

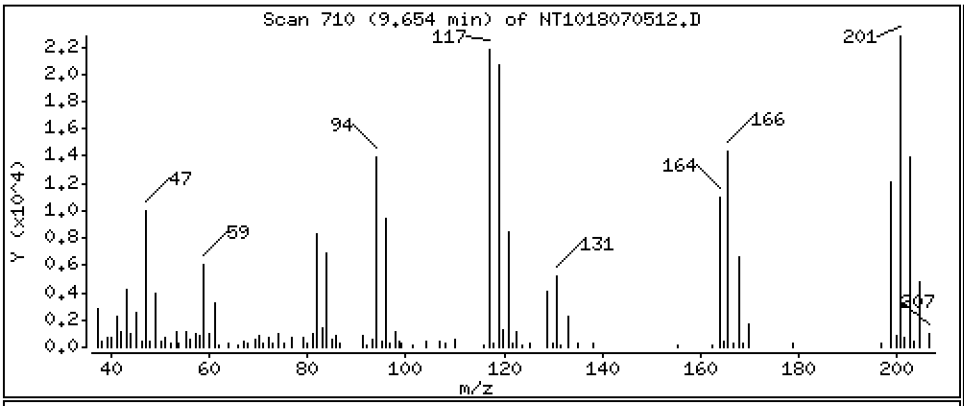
Operator: YZ

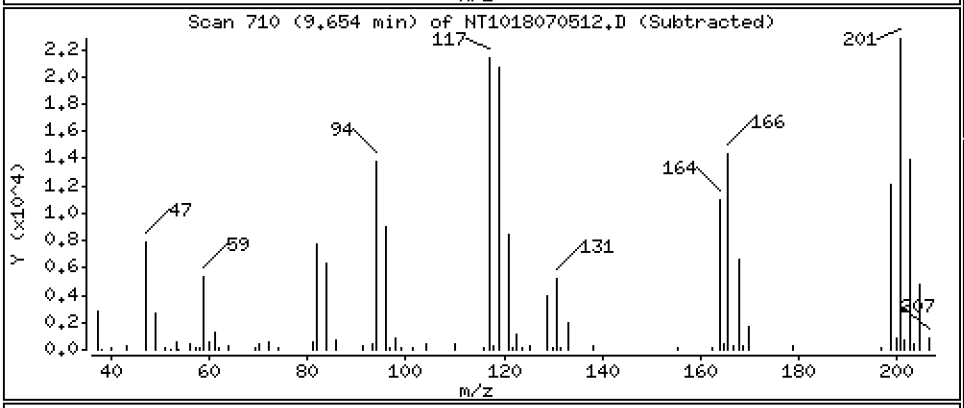
Column phase: ZB-5msi

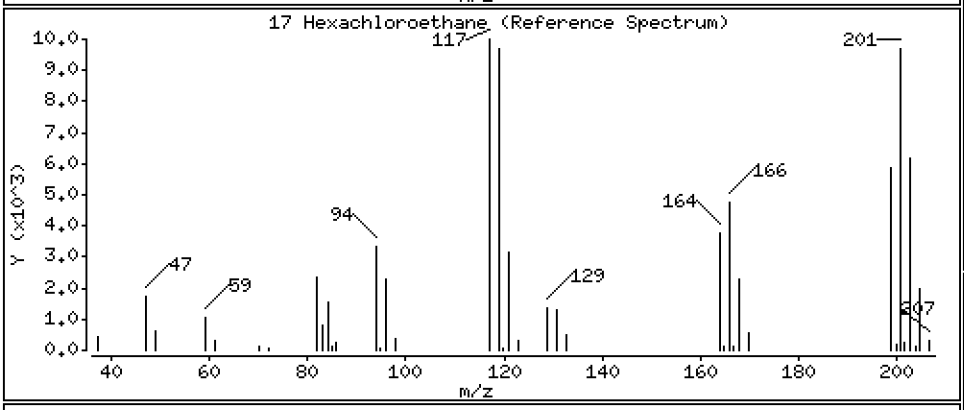
Column diameter: 0.25

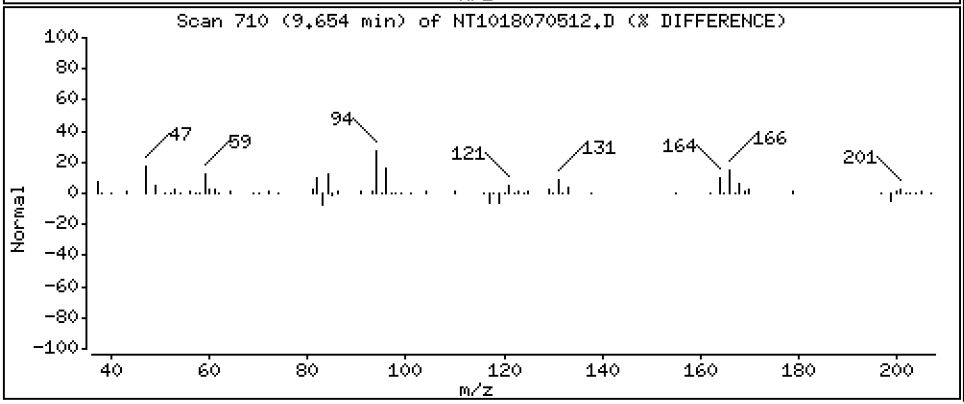
17 Hexachloroethane

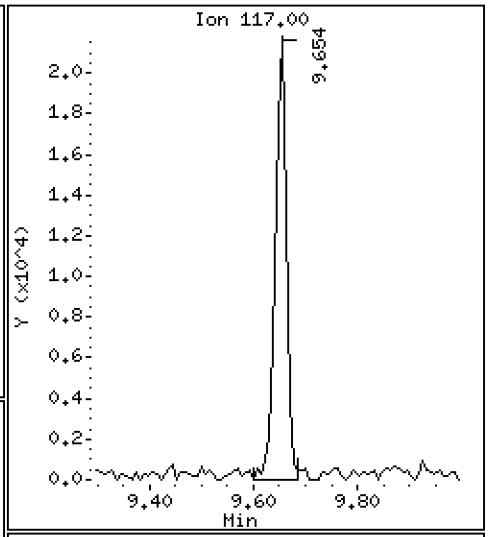
Concentration: 2.544 ug/mL

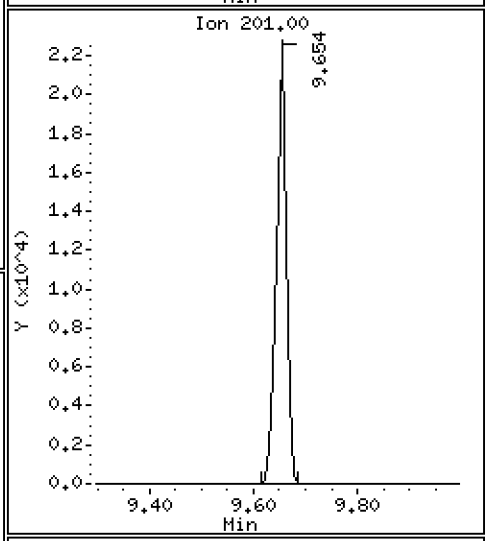


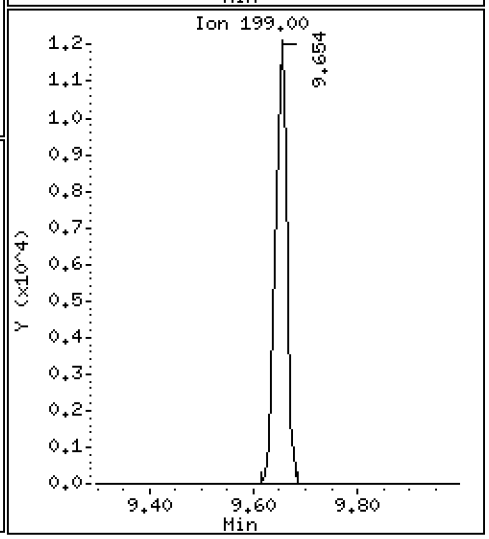












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

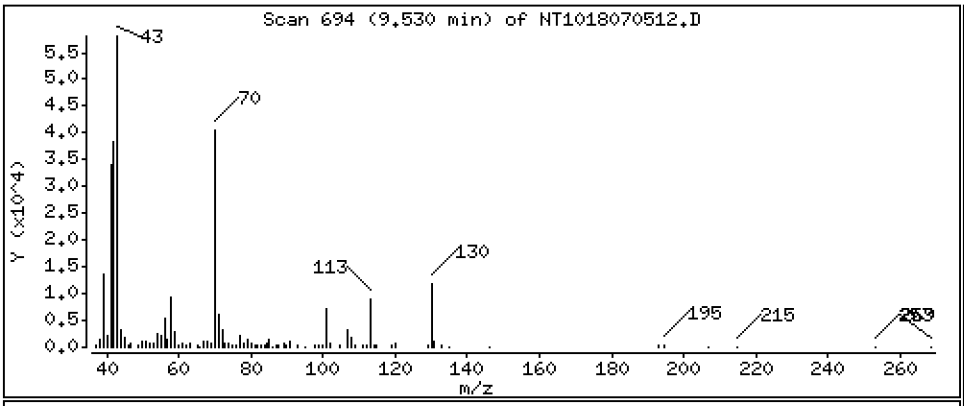
Operator: YZ

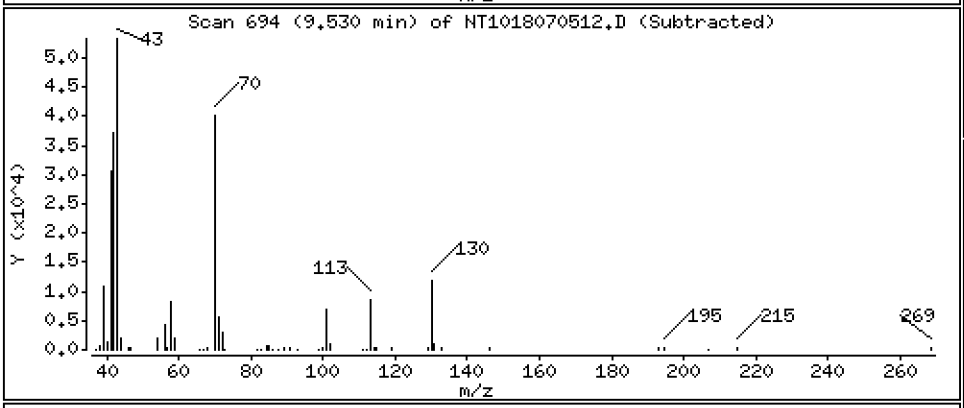
Column phase: ZB-5msi

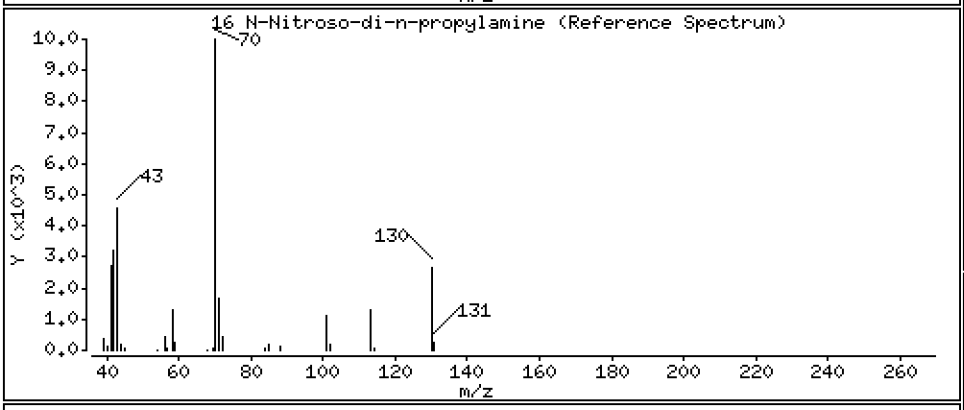
Column diameter: 0.25

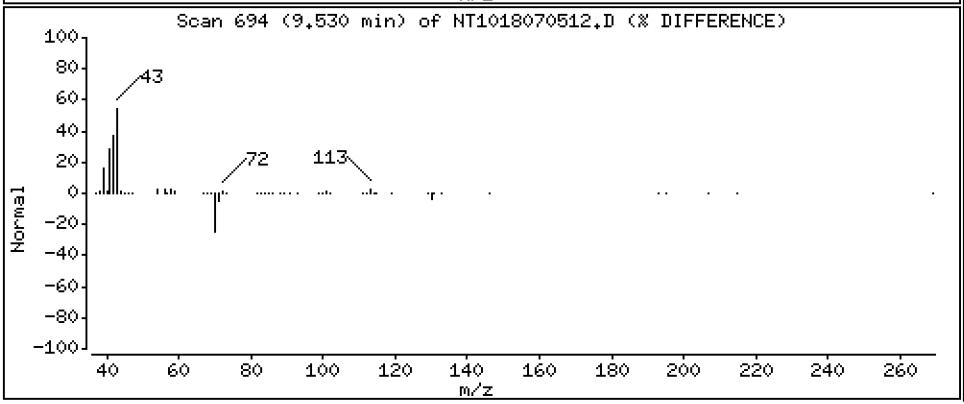
16 N-Nitroso-di-n-propylamine

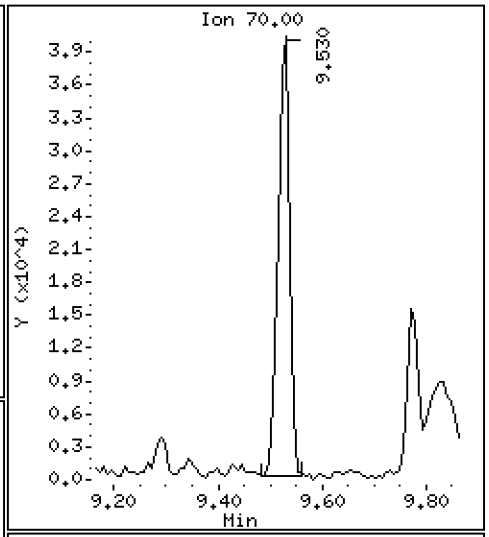
Concentration: 3.462 ug/mL

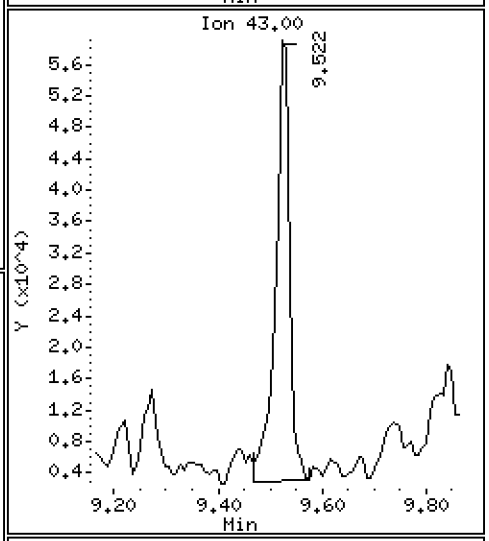


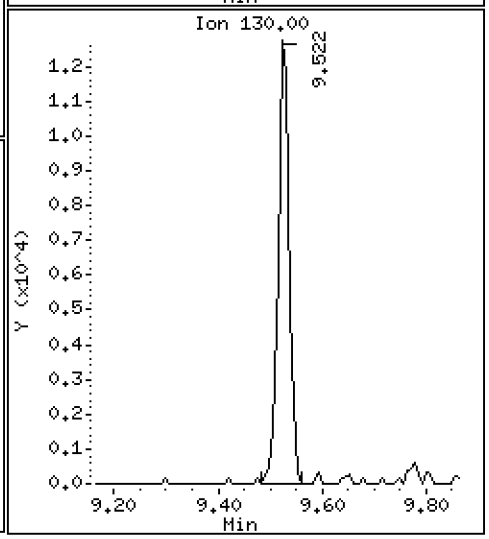












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

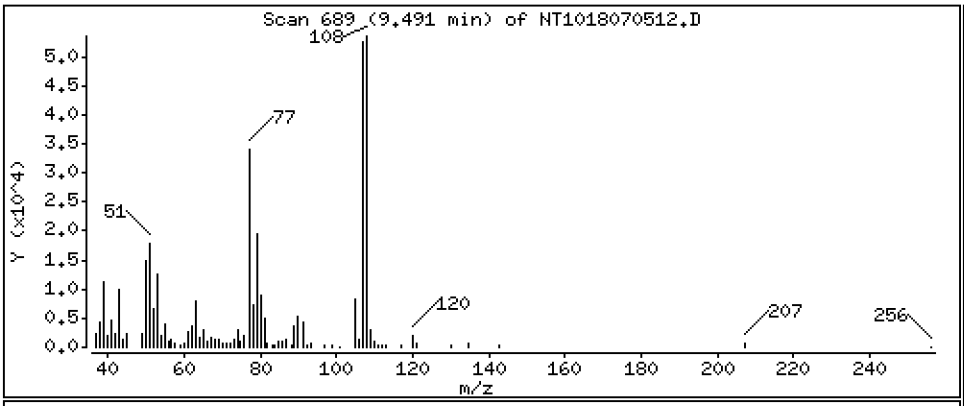
Operator: YZ

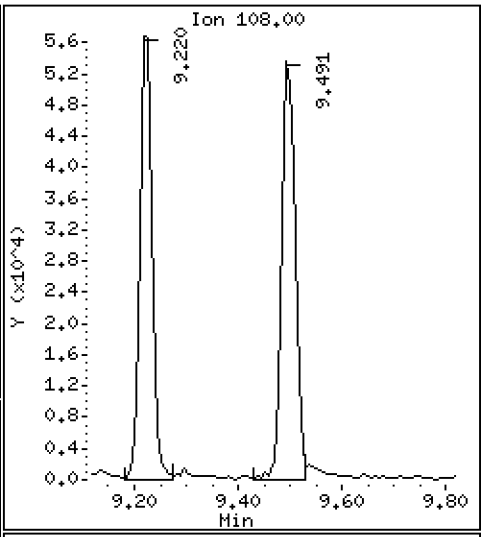
Column phase: ZB-5msi

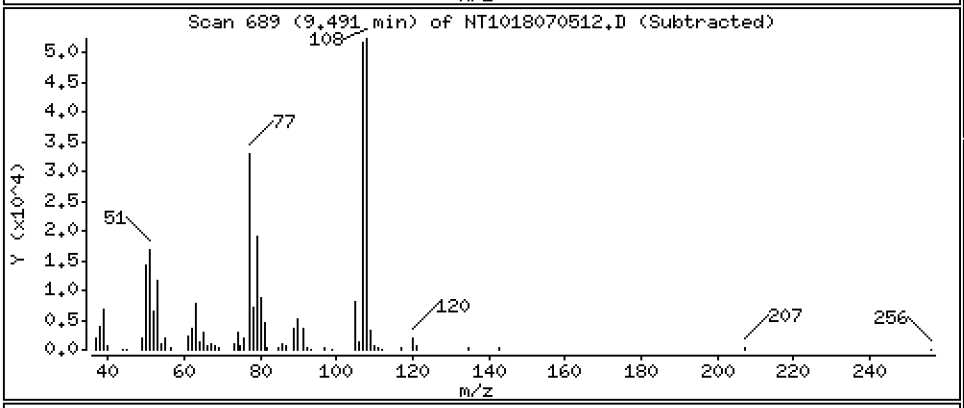
Column diameter: 0.25

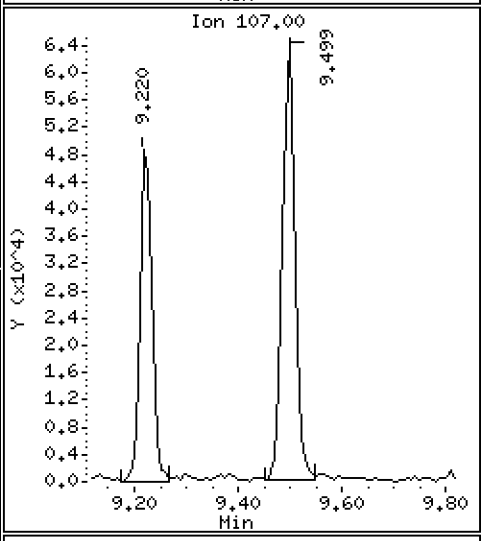
15 4-Methylphenol

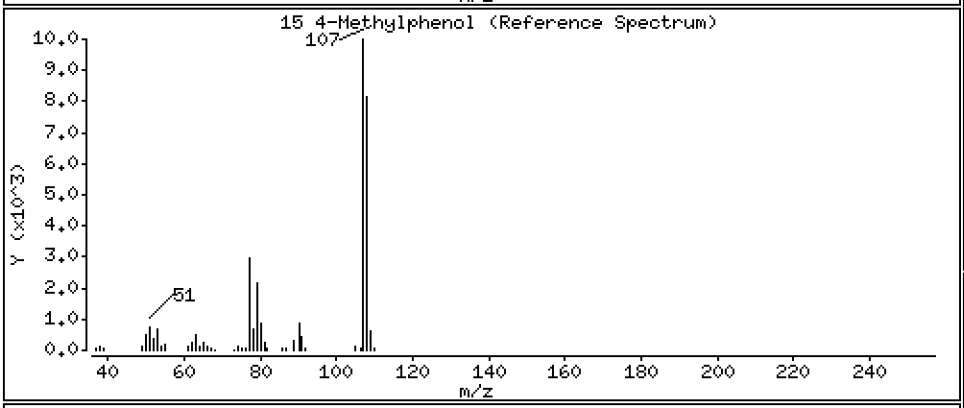
Concentration: 4.039 ug/mL

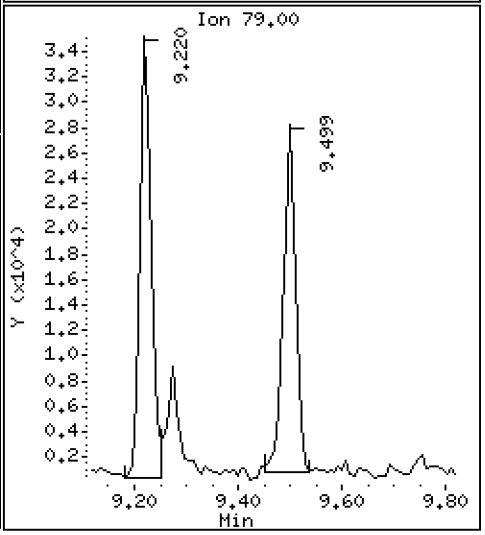


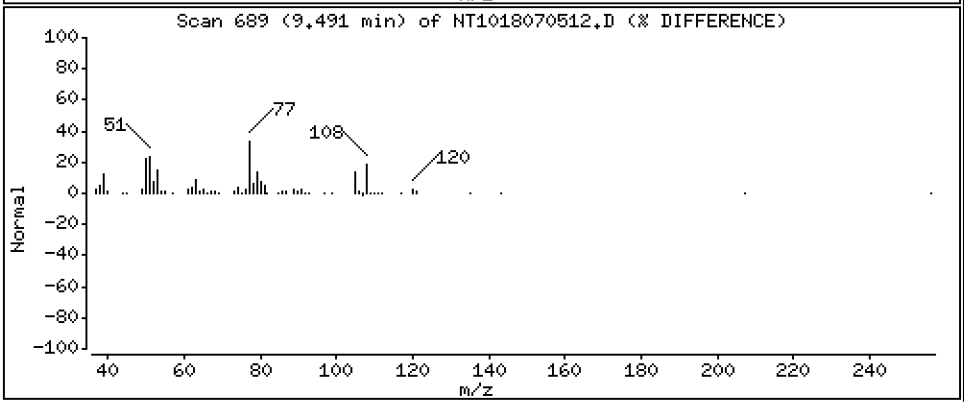












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

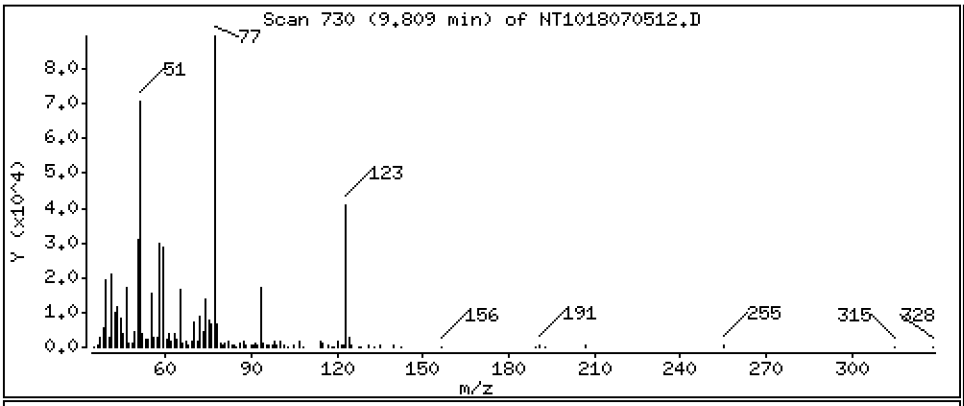
Operator: YZ

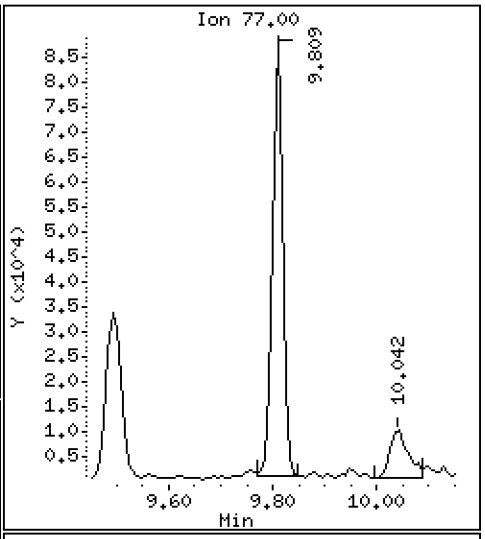
Column phase: ZB-5msi

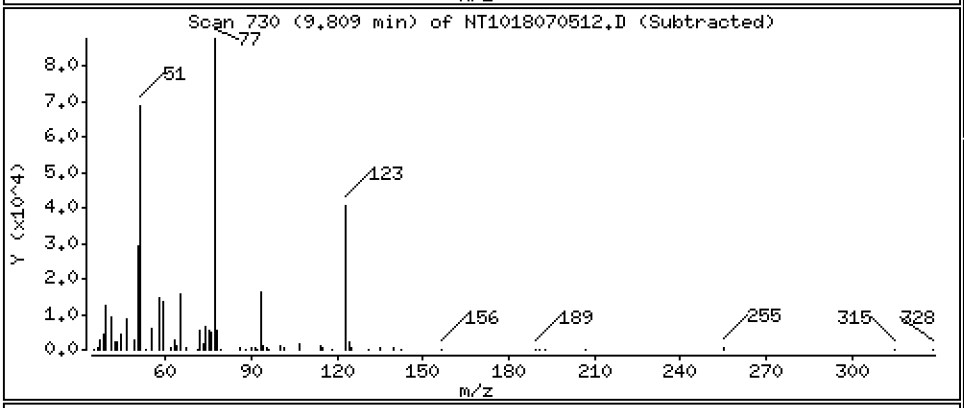
Column diameter: 0.25

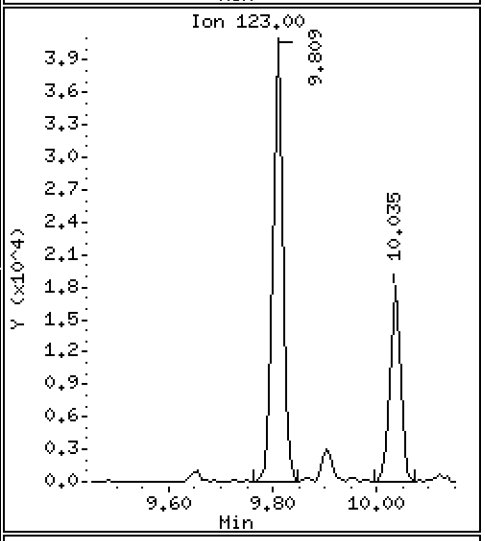
19 Nitrobenzene

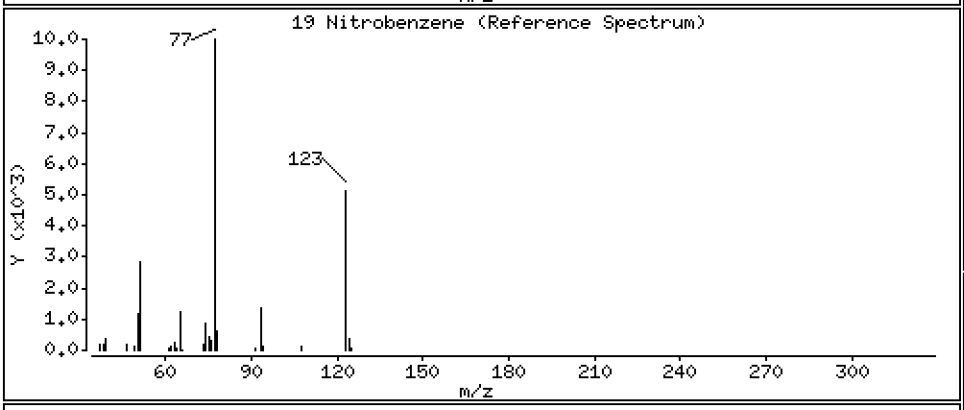
Concentration: 4.099 ug/mL

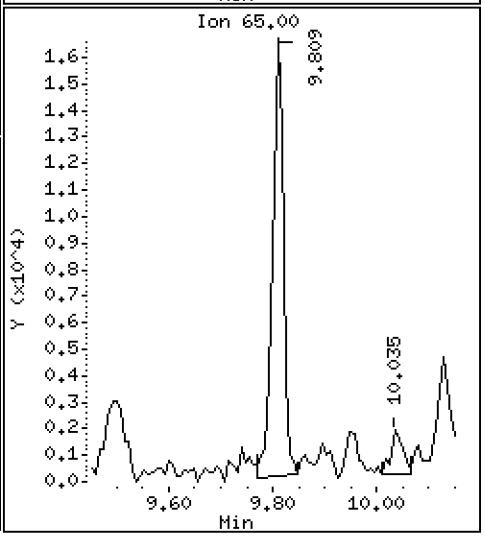


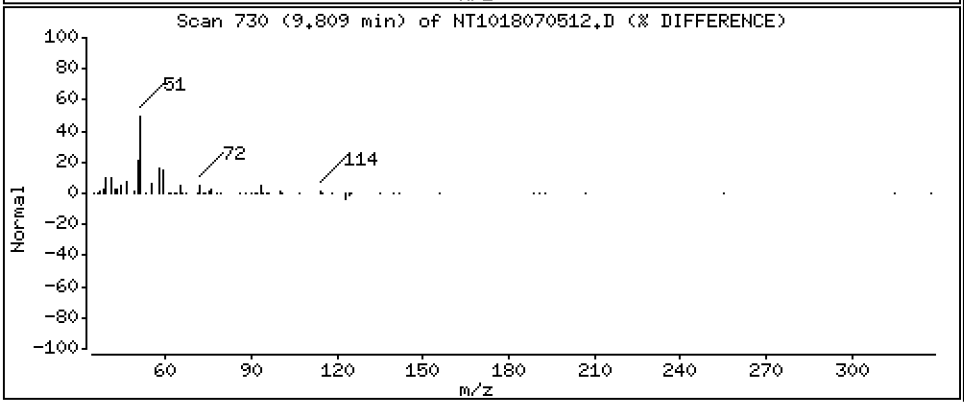












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

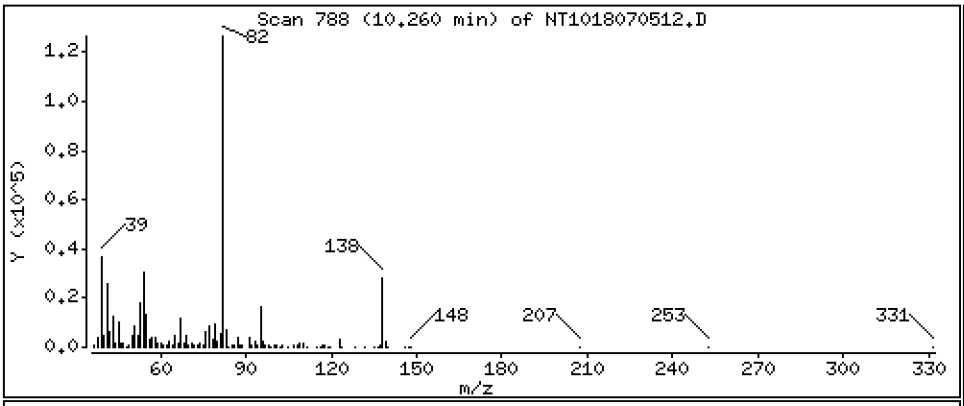
Operator: YZ

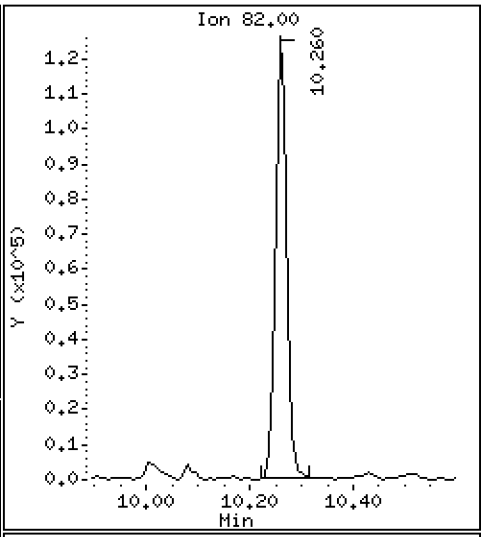
Column phase: ZB-5msi

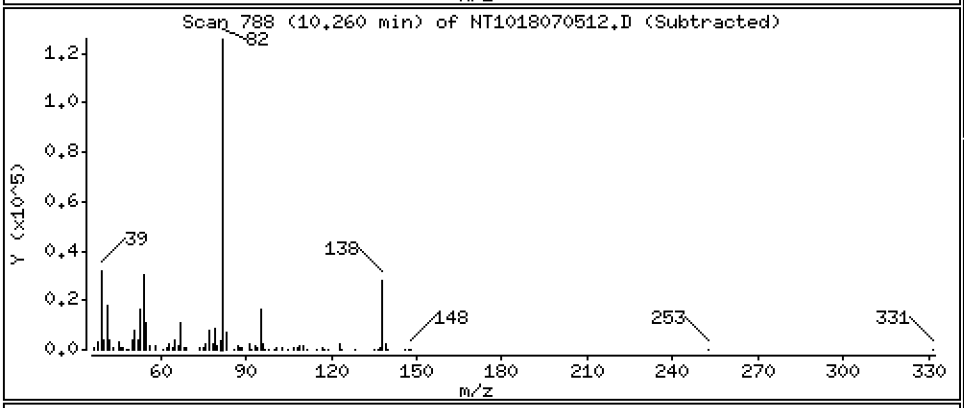
Column diameter: 0.25

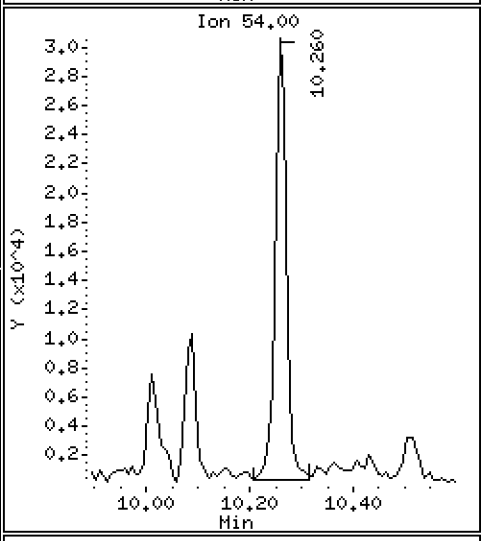
20 Isophorone

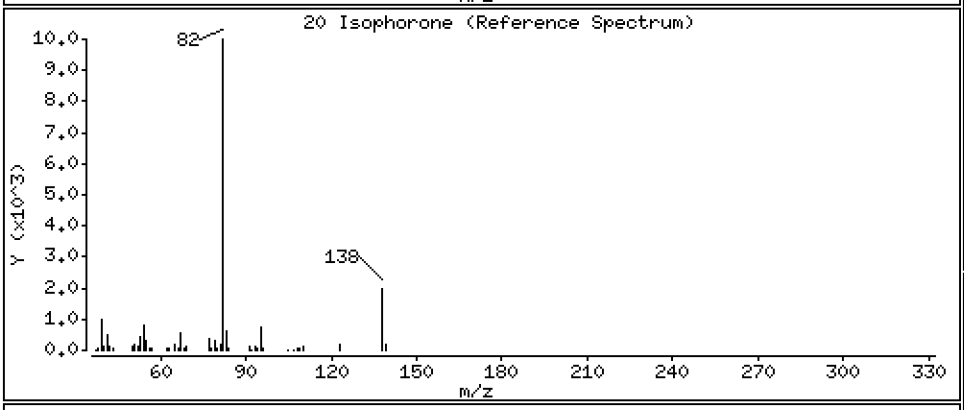
Concentration: 3.978 ug/mL

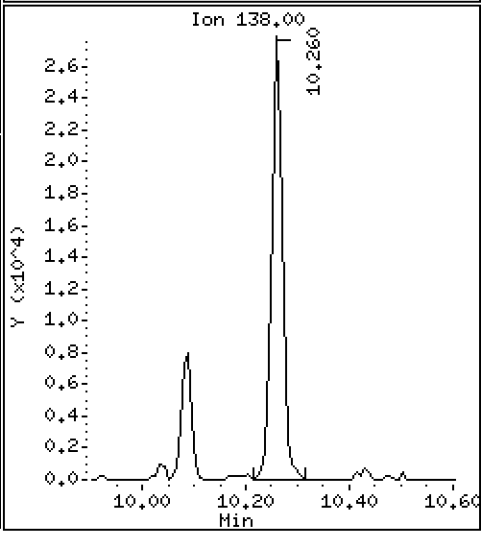


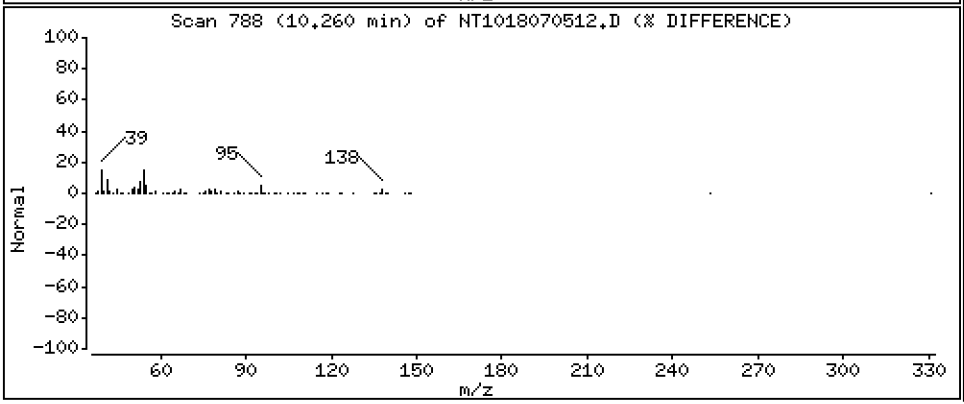












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

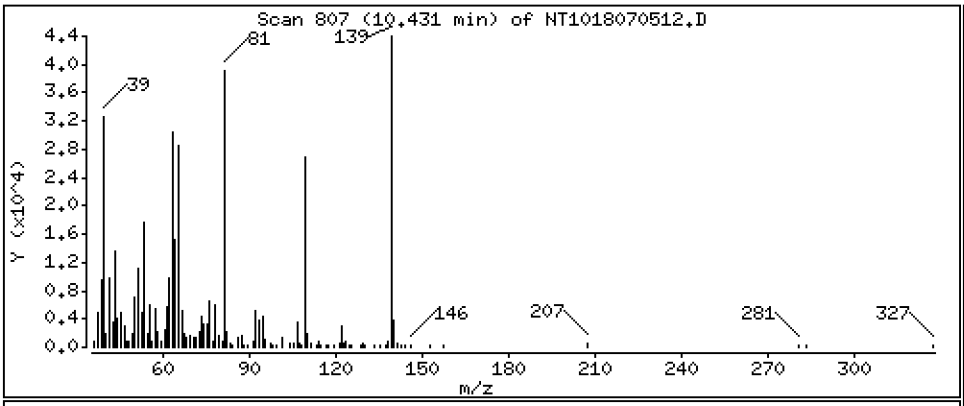
Operator: YZ

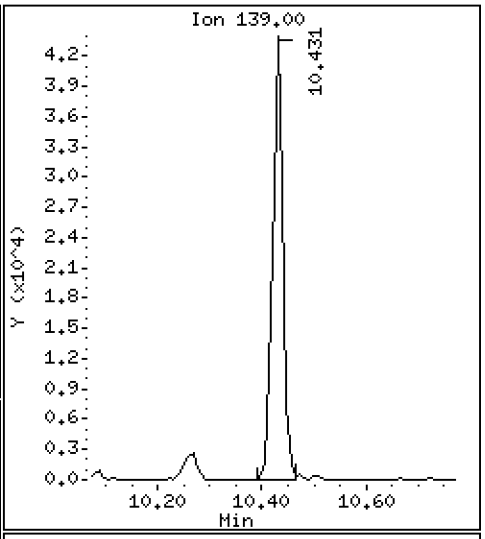
Column phase: ZB-5msi

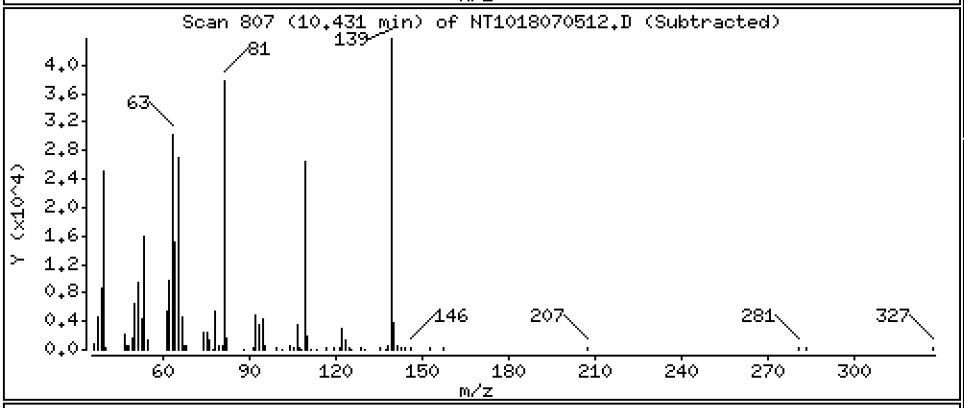
Column diameter: 0.25

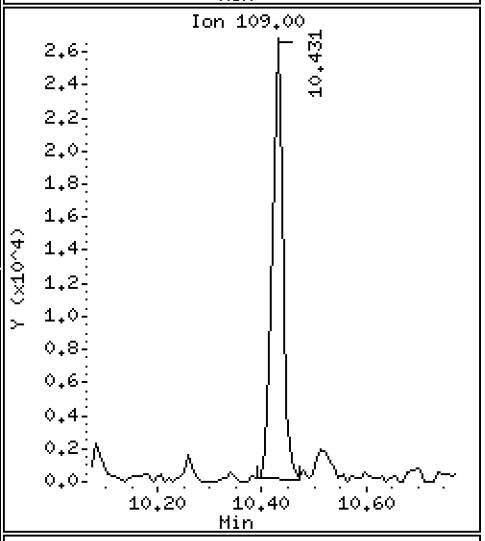
21 2-Nitrophenol

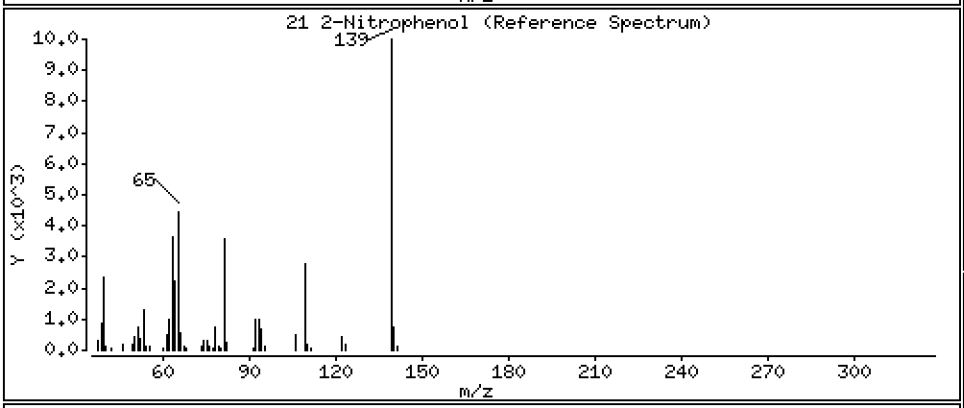
Concentration: 3.933 ug/mL

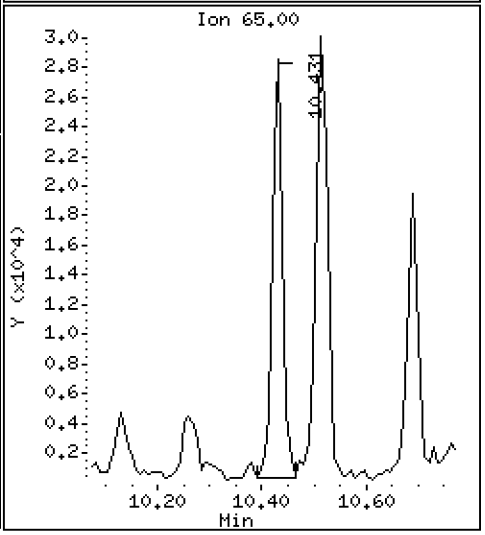


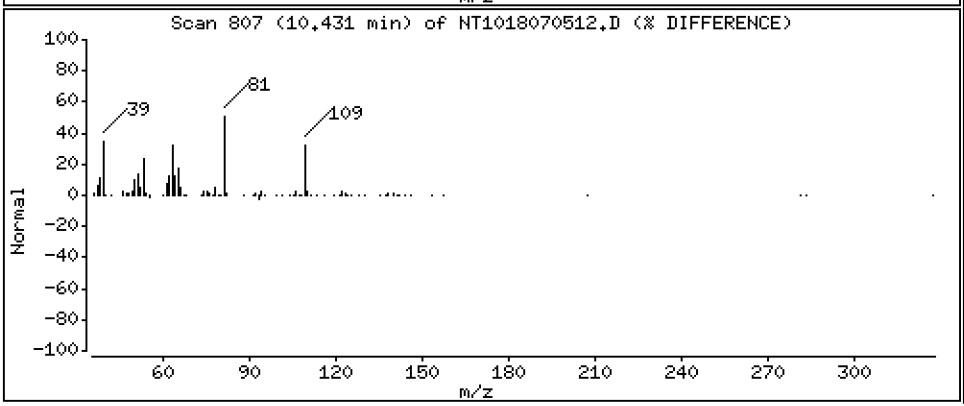












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

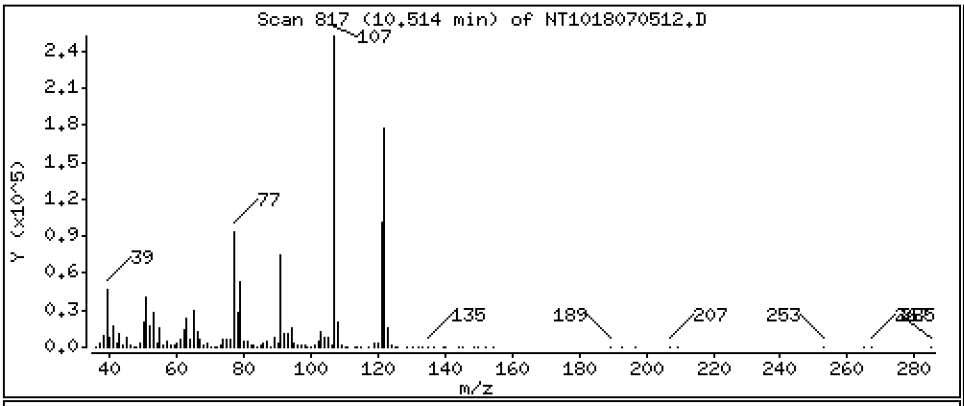
Operator: YZ

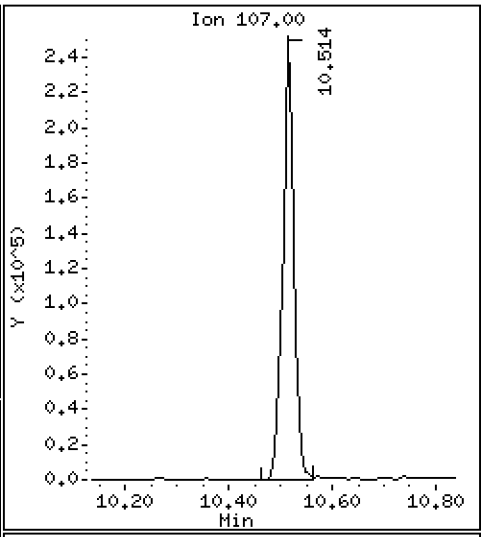
Column phase: ZB-5msi

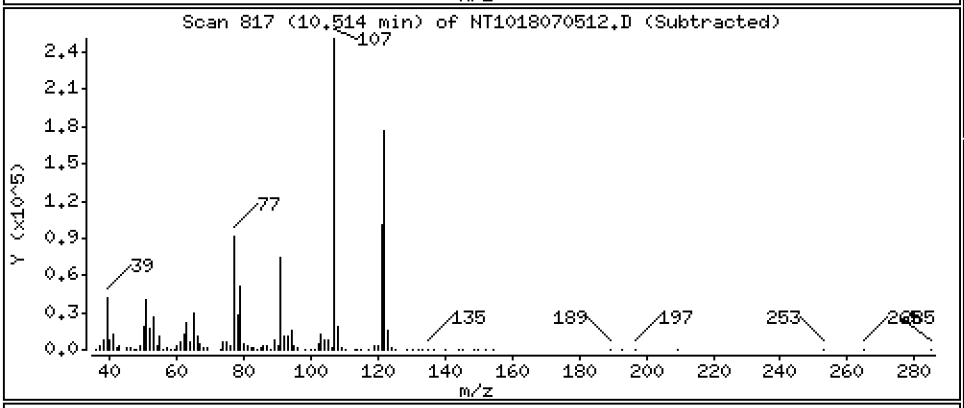
Column diameter: 0.25

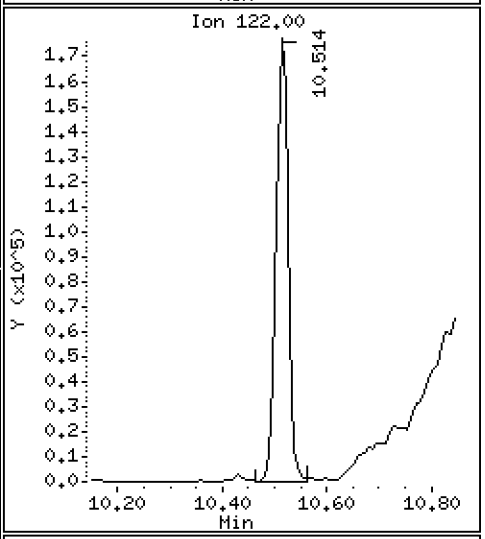
22 2,4-Dimethylphenol

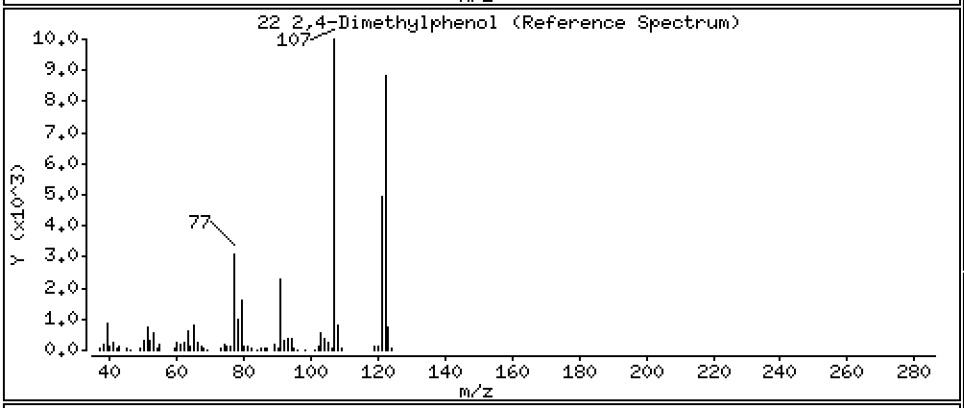
Concentration: 13.58 ug/mL

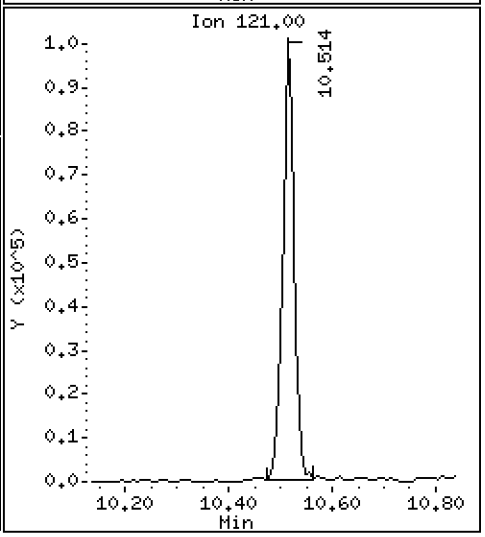


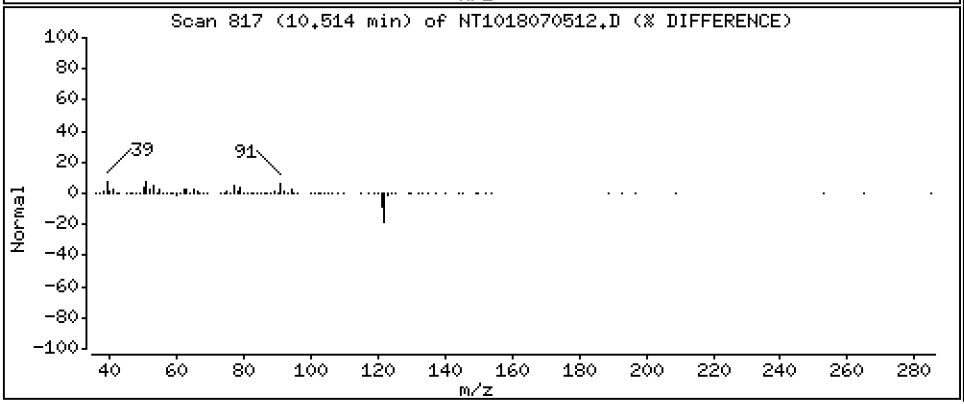












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

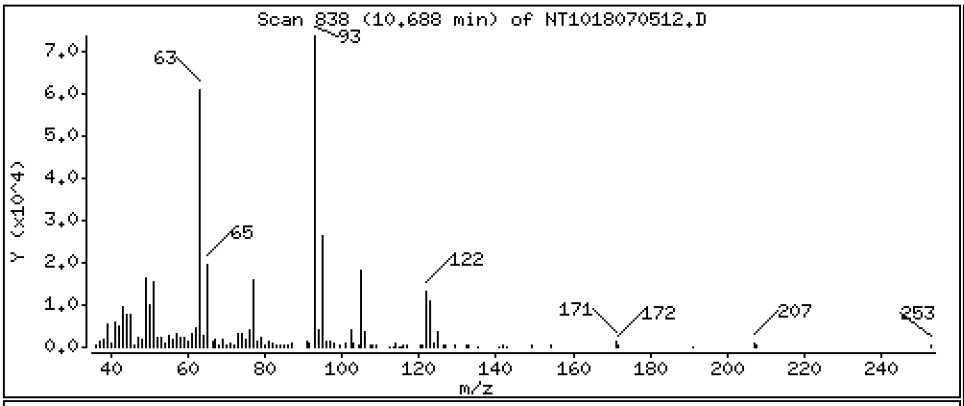
Operator: YZ

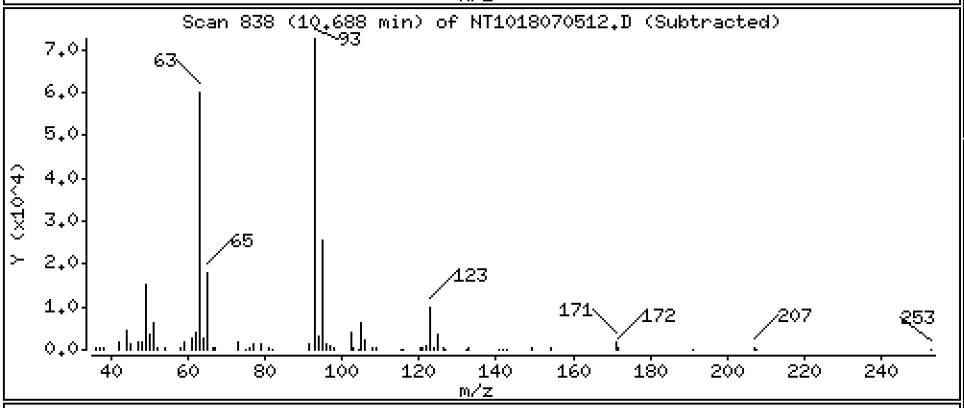
Column phase: ZB-5msi

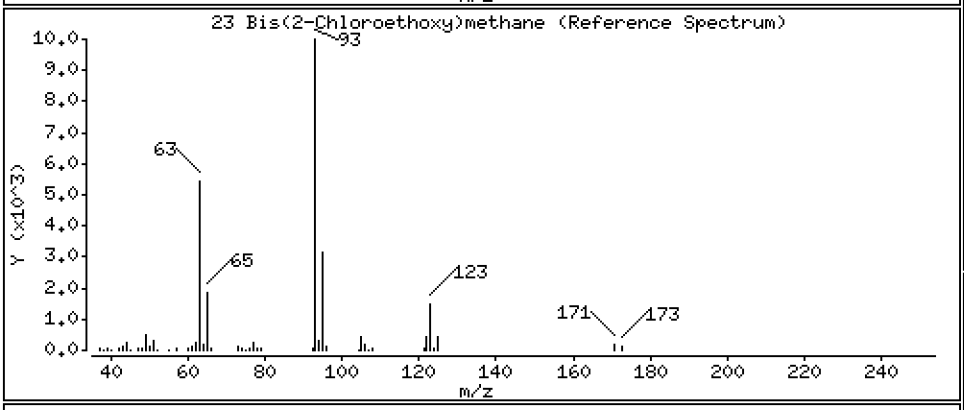
Column diameter: 0.25

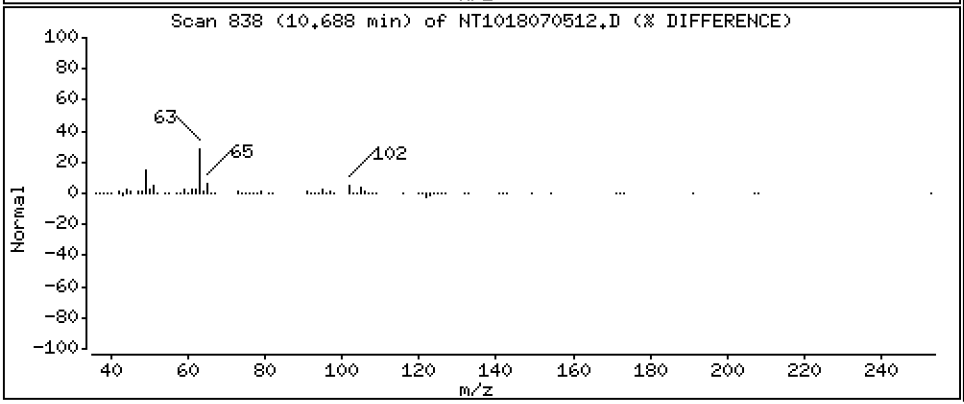
23 Bis(2-Chloroethoxy)methane

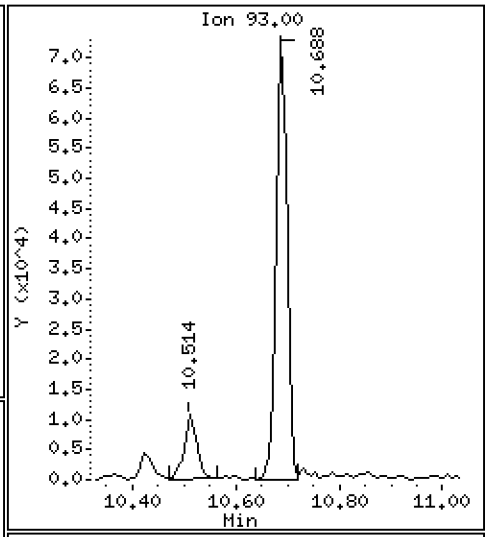
Concentration: 3.451 ug/mL

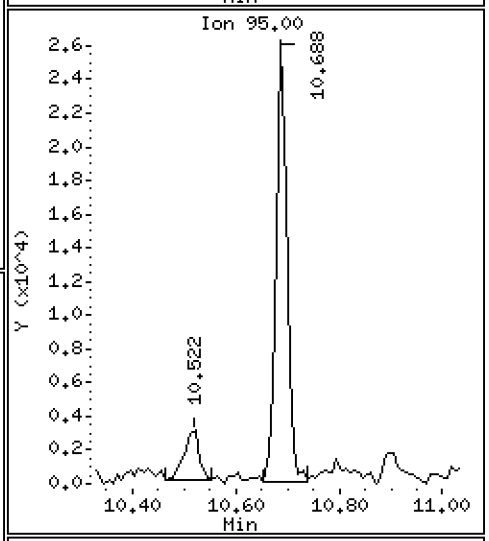


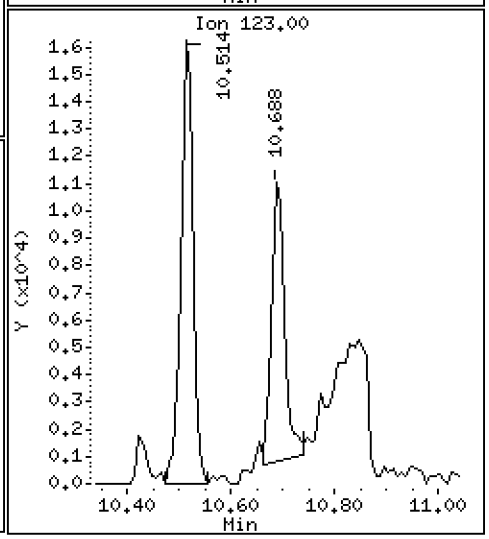












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

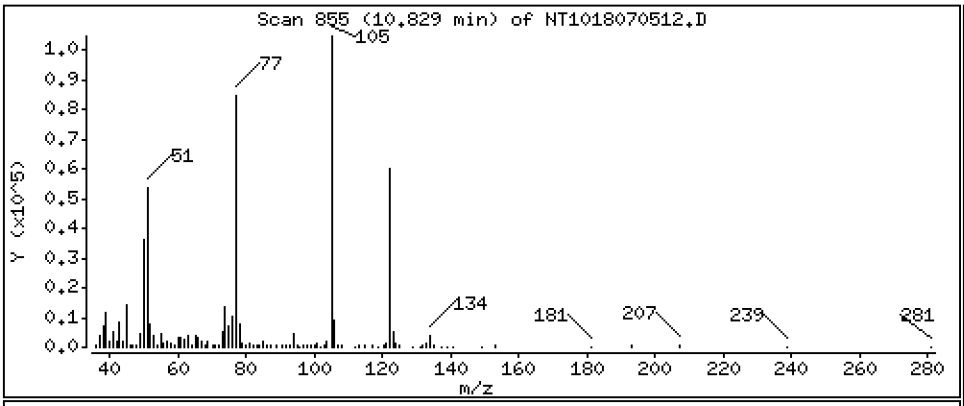
Operator: YZ

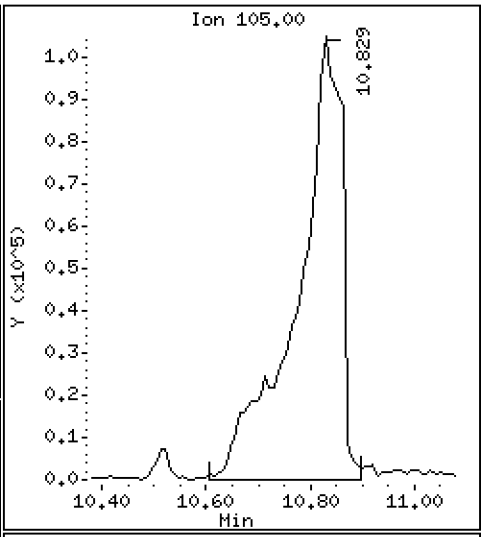
Column phase: ZB-5msi

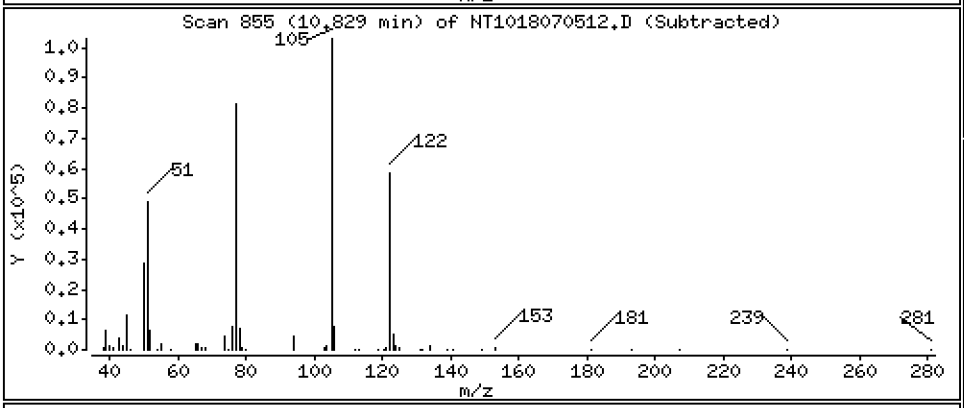
Column diameter: 0.25

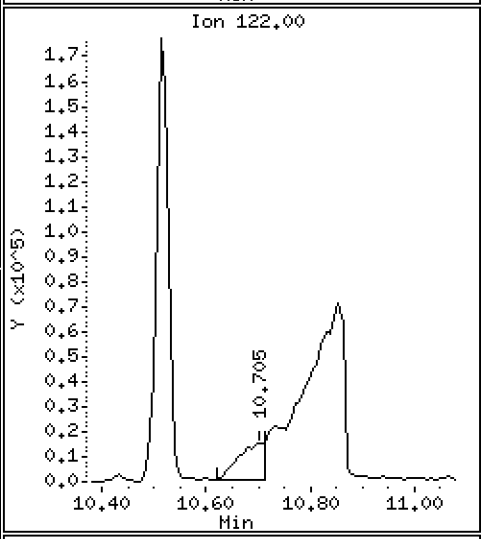
24 Benzoic acid

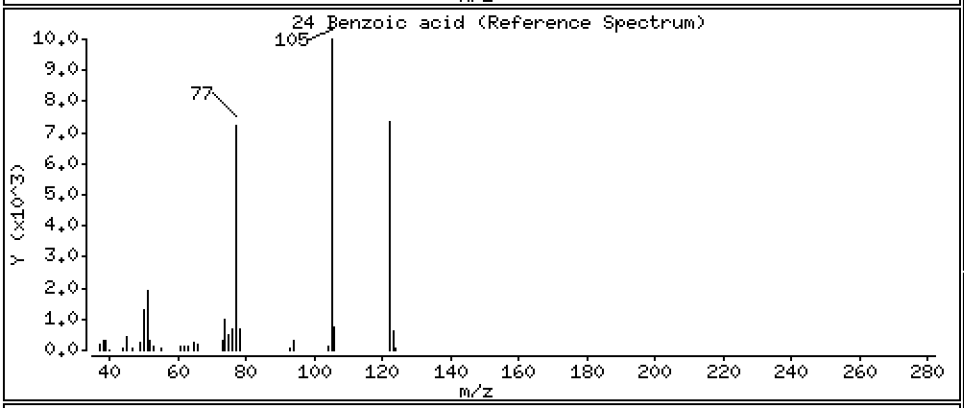
Concentration: 32.75 ug/mL

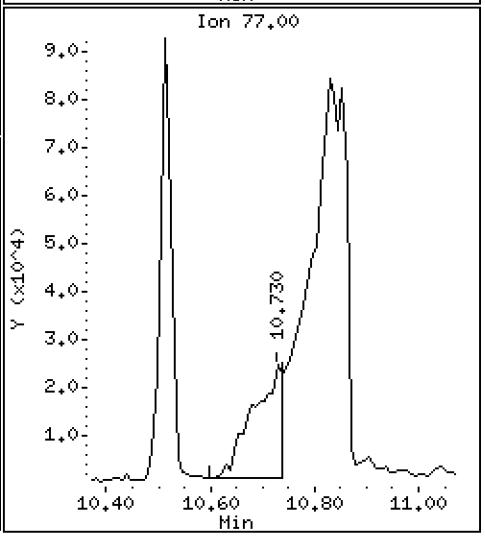


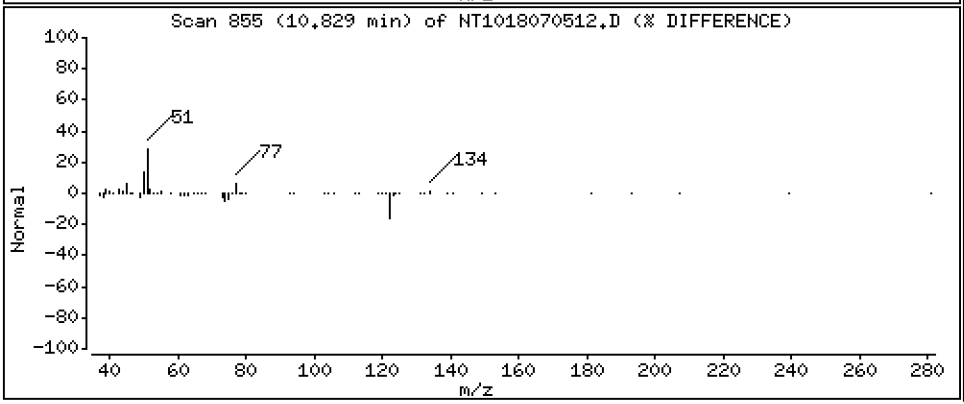












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

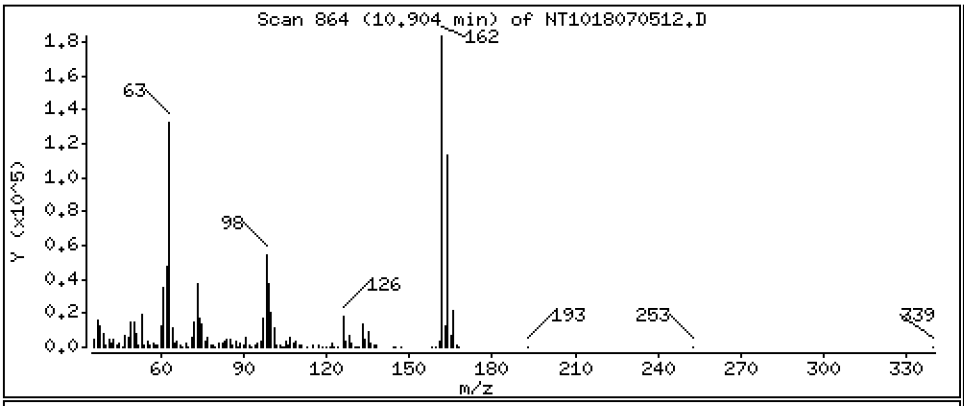
Operator: YZ

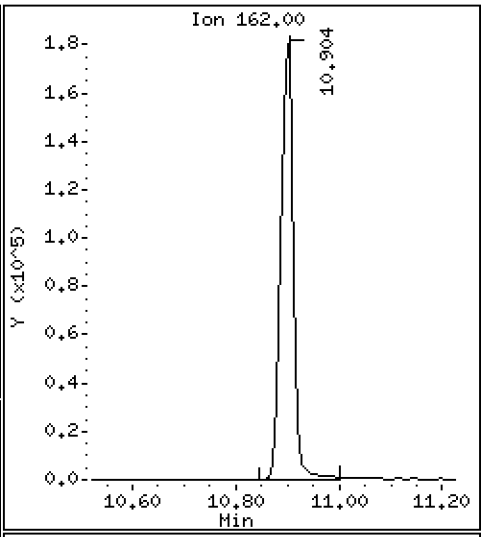
Column phase: ZB-5msi

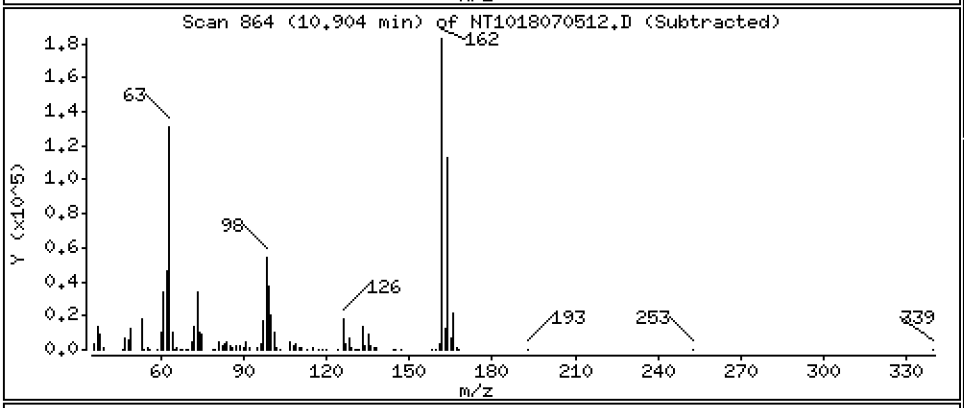
Column diameter: 0.25

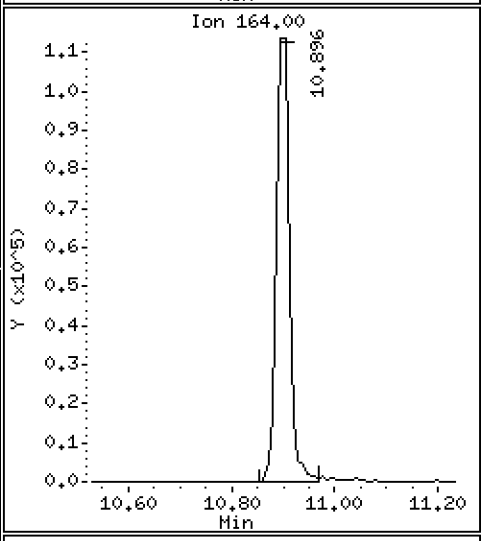
25 2,4-Dichlorophenol

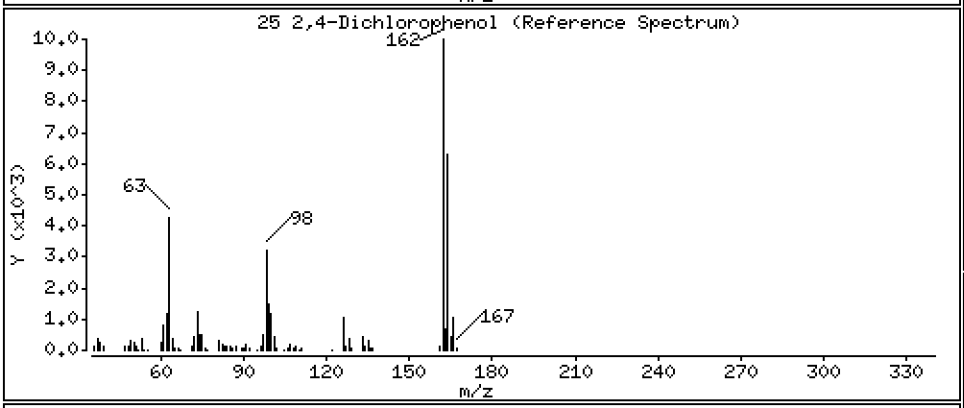
Concentration: 14.99 ug/mL

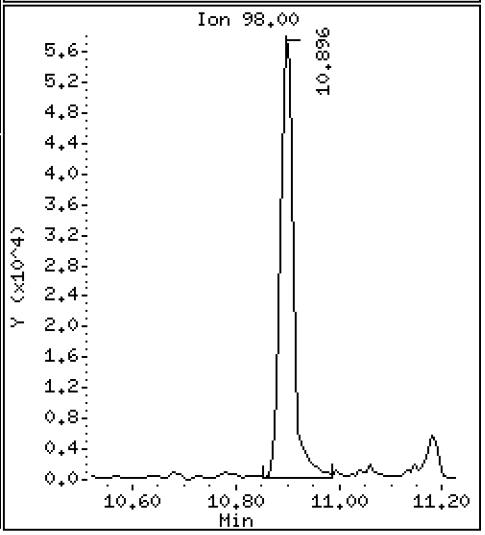


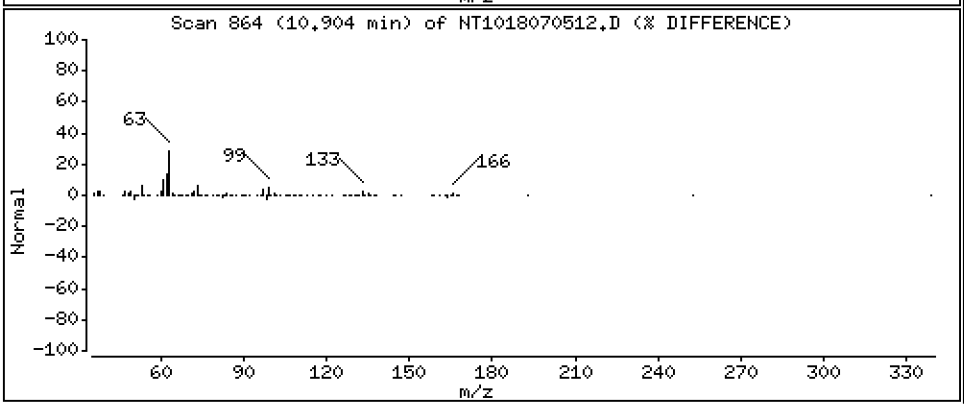












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

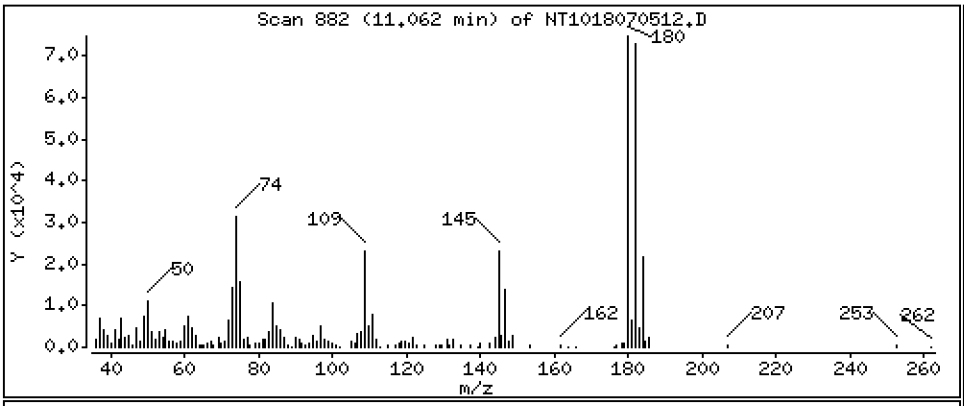
Operator: YZ

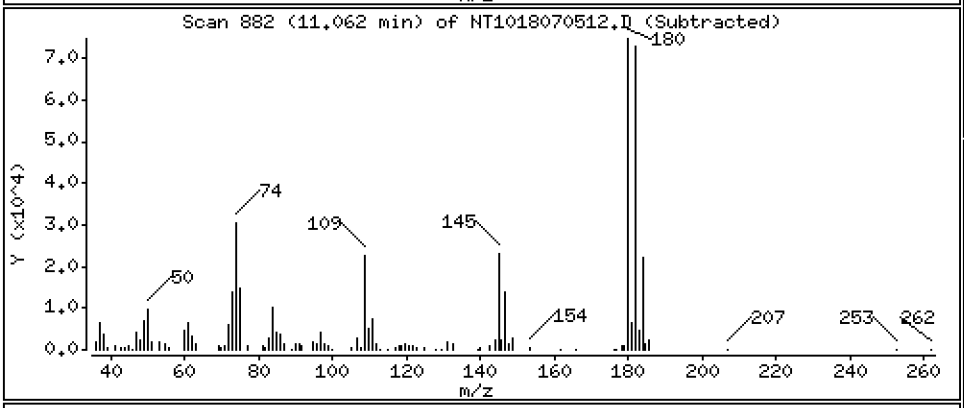
Column phase: ZB-5msi

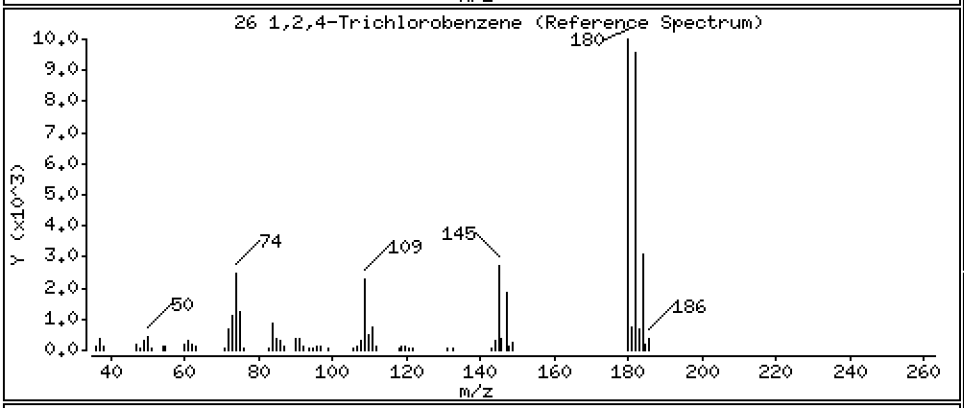
Column diameter: 0.25

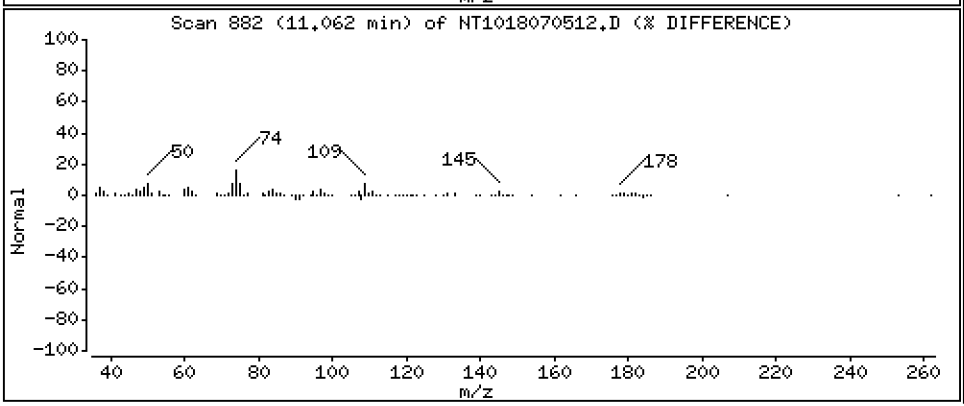
26 1,2,4-Trichlorobenzene

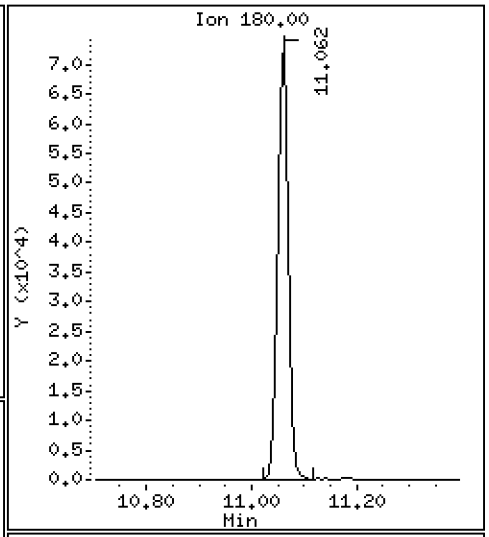
Concentration: 4.496 ug/mL

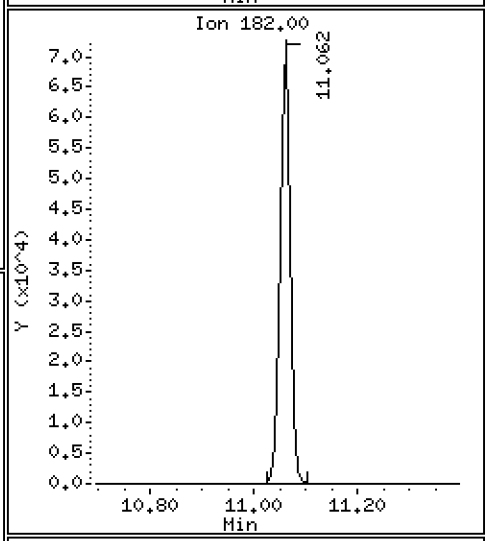


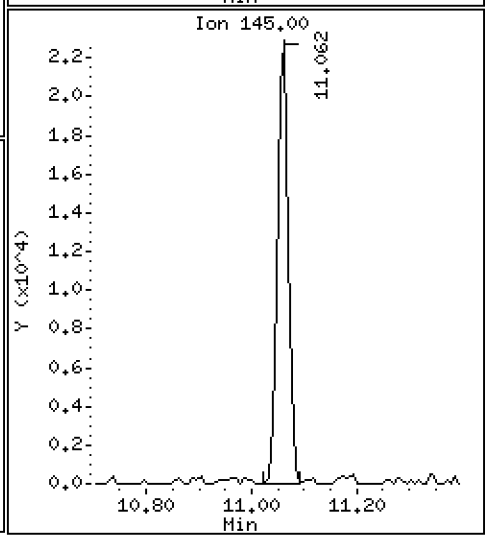












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

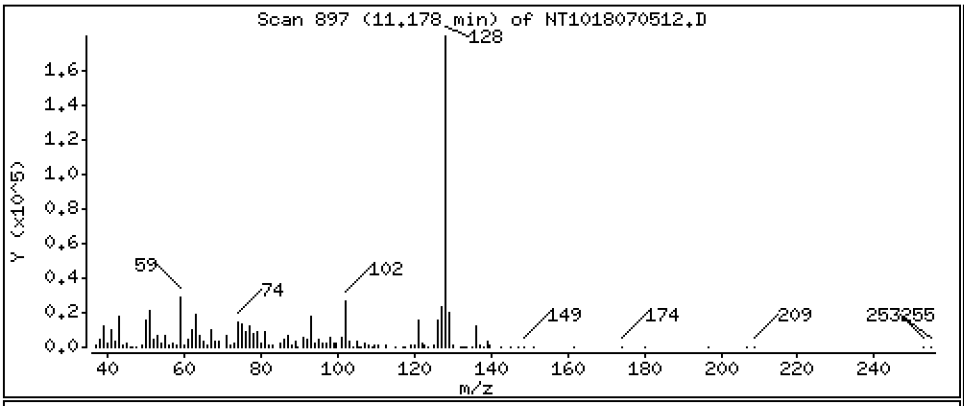
Operator: YZ

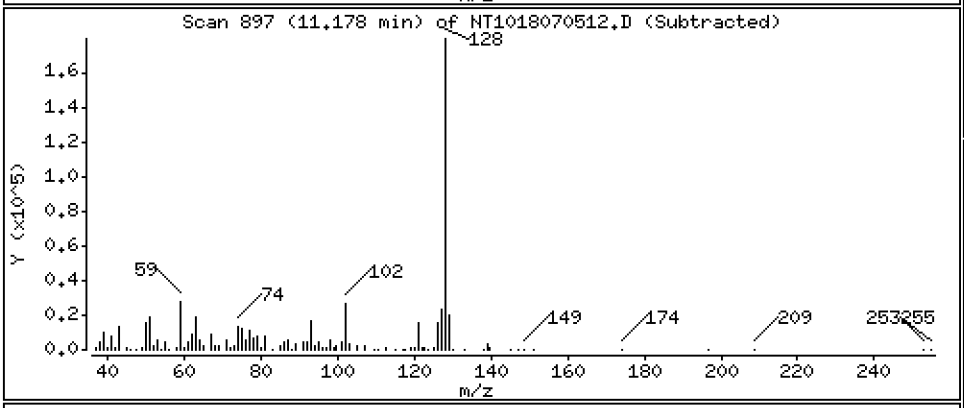
Column phase: ZB-5msi

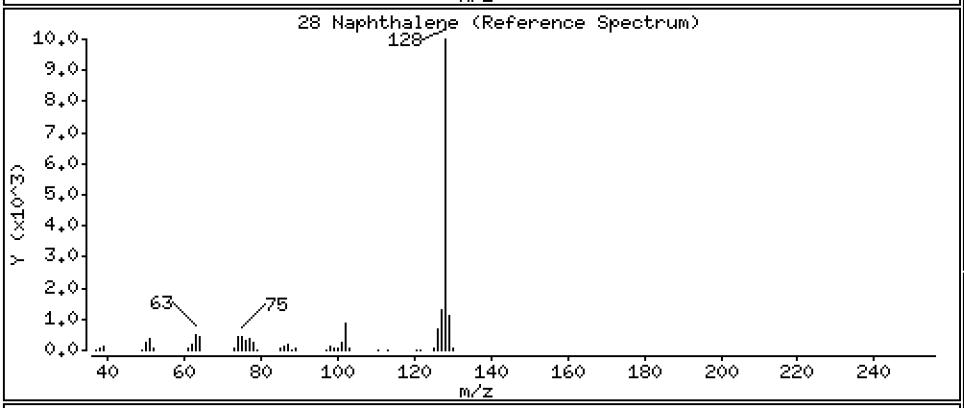
Column diameter: 0.25

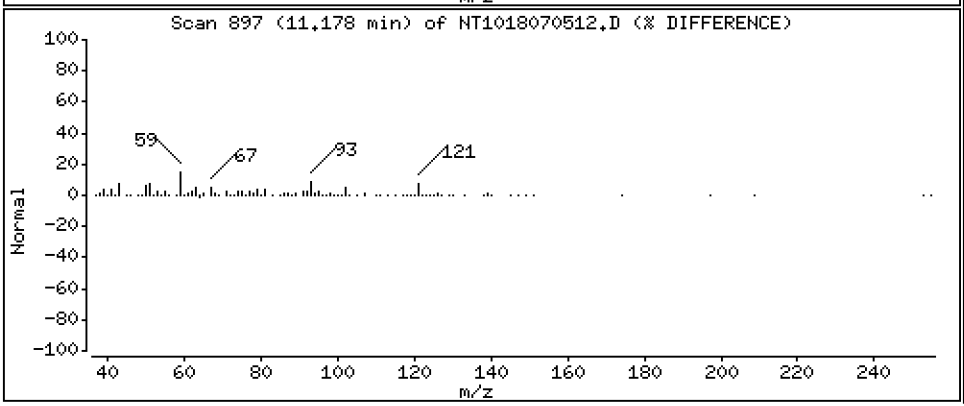
28 Naphthalene

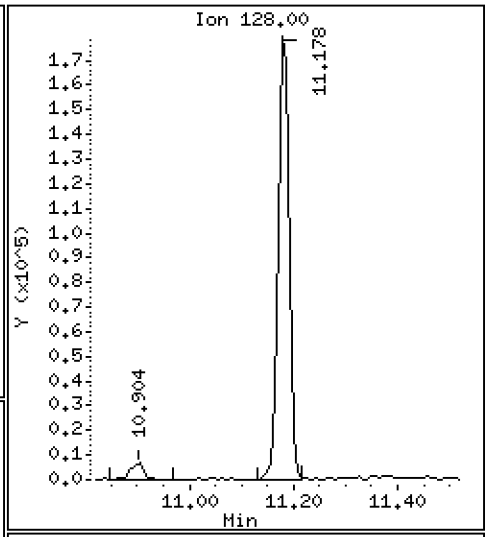
Concentration: 3.751 ug/mL

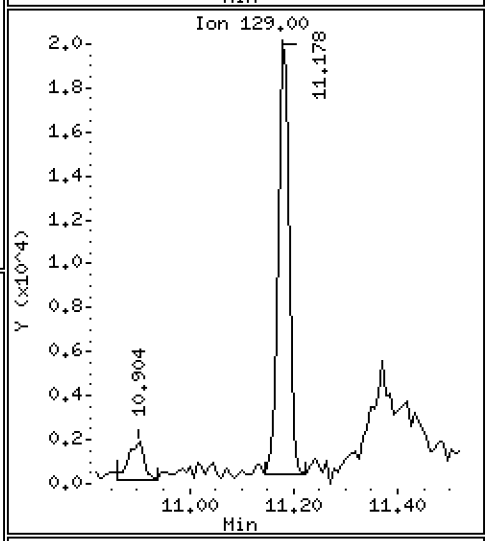


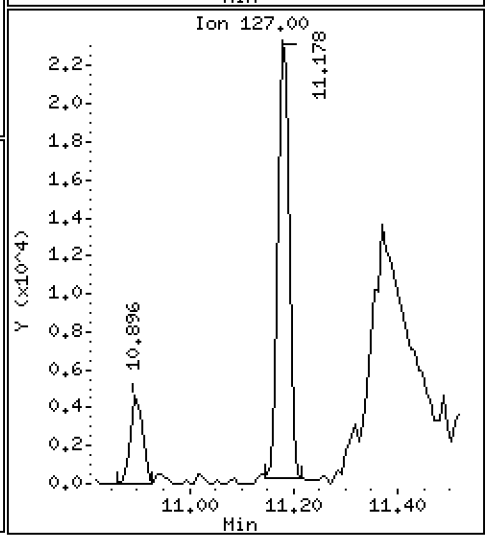












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

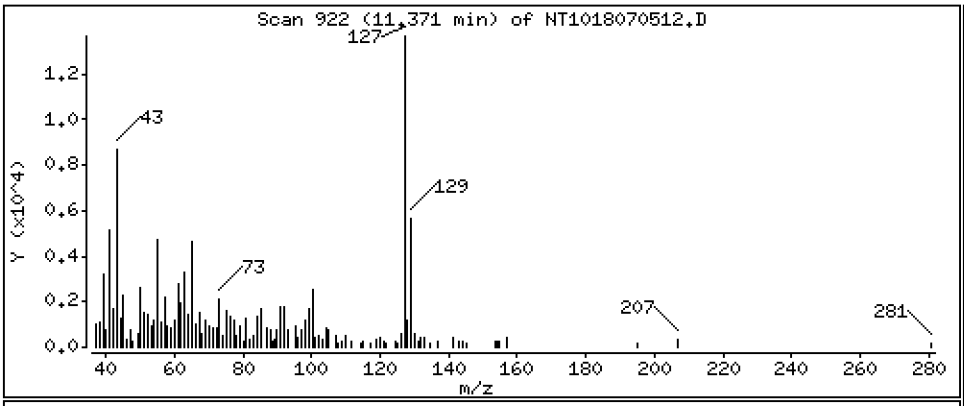
Operator: YZ

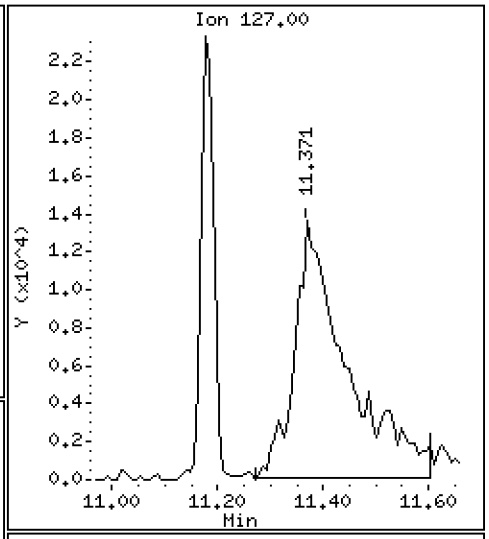
Column phase: ZB-5msi

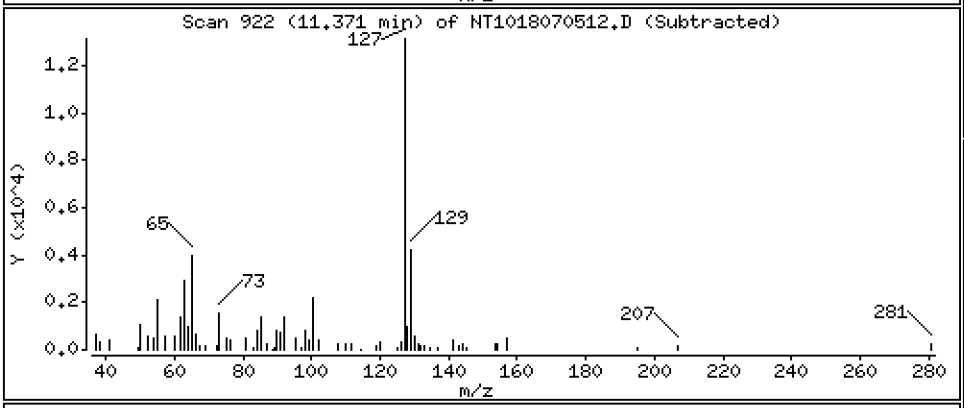
Column diameter: 0.25

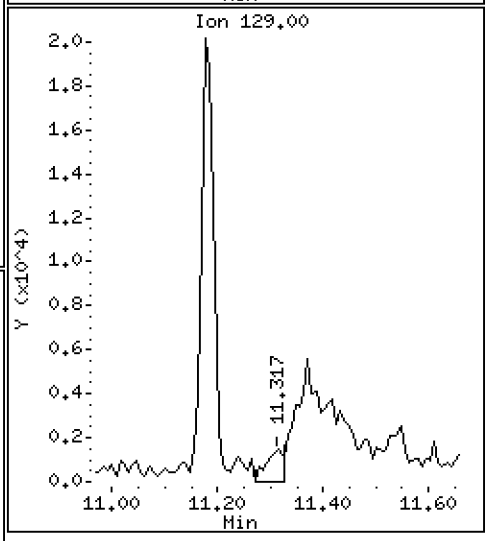
29 4-Chloroaniline

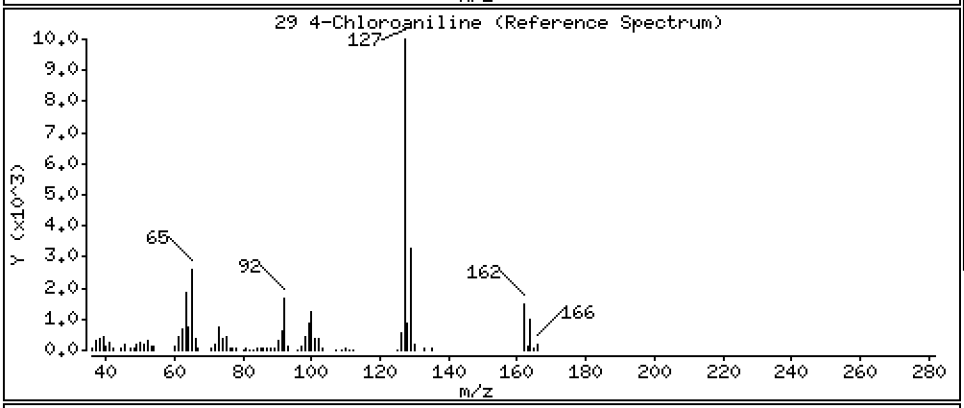
Concentration: 2.657 ug/mL

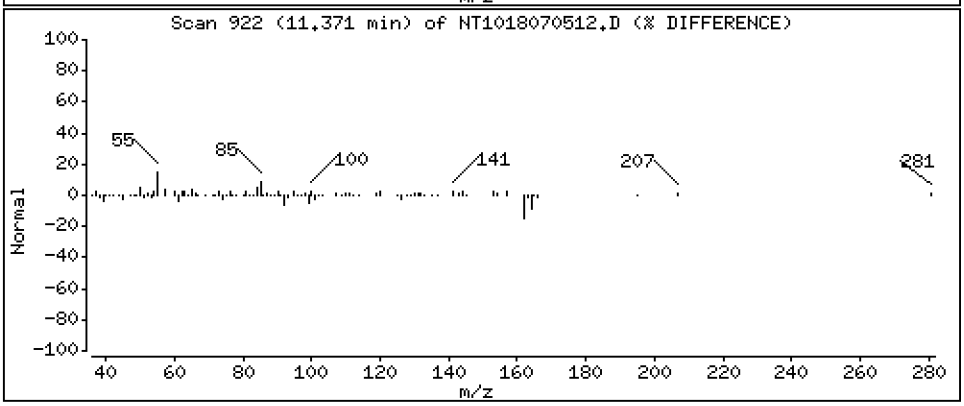












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

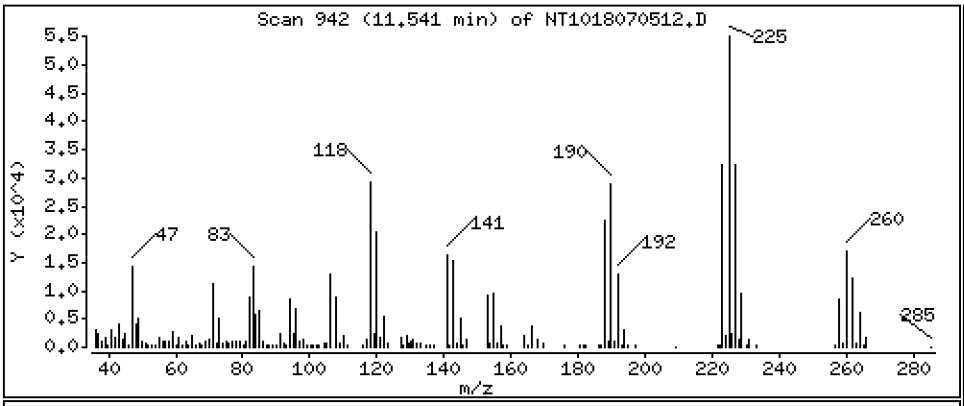
Operator: YZ

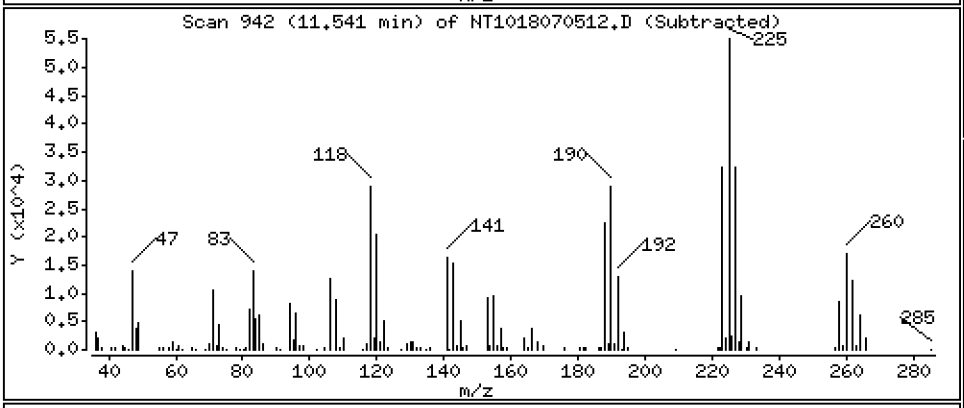
Column phase: ZB-5msi

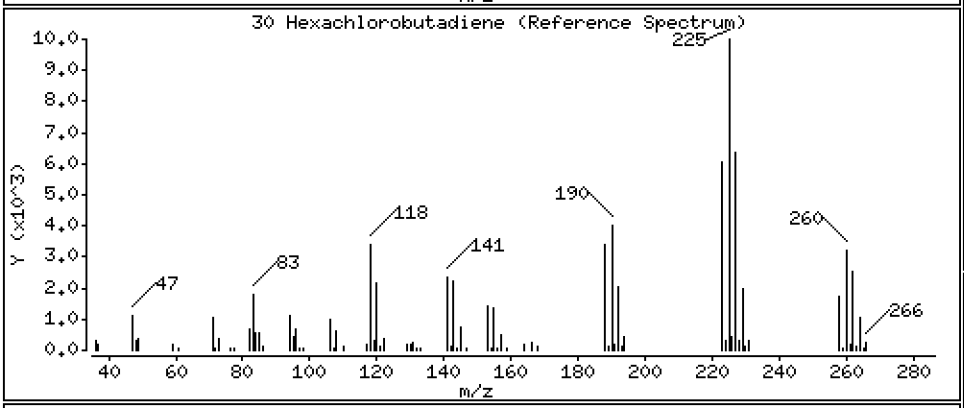
Column diameter: 0.25

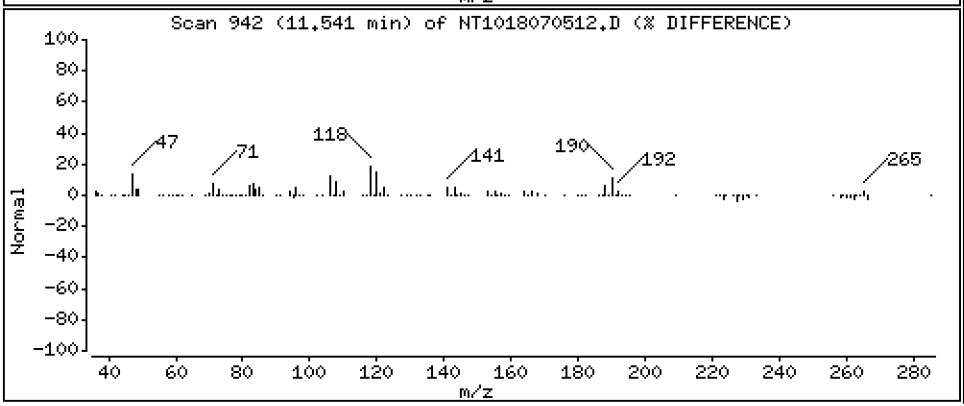
30 Hexachlorobutadiene

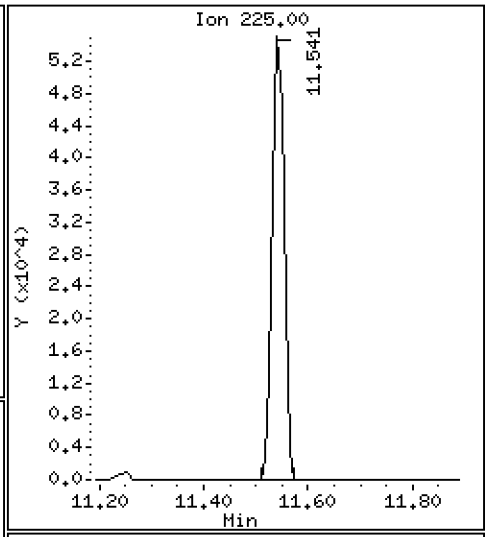
Concentration: 5.479 ug/mL

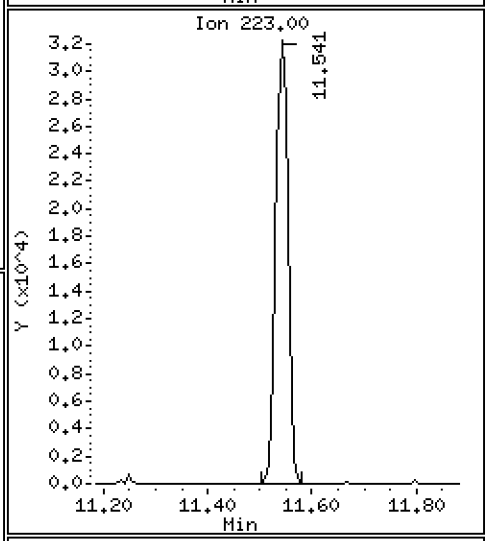


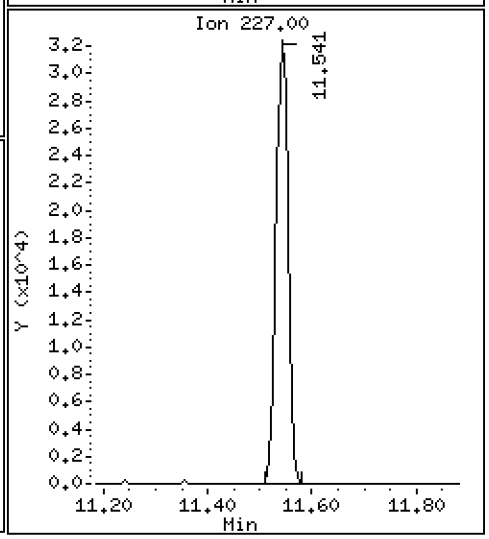












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

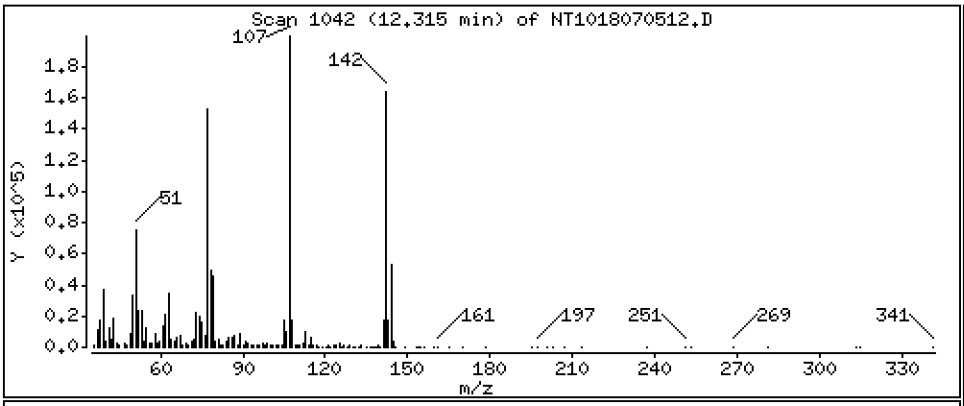
Operator: YZ

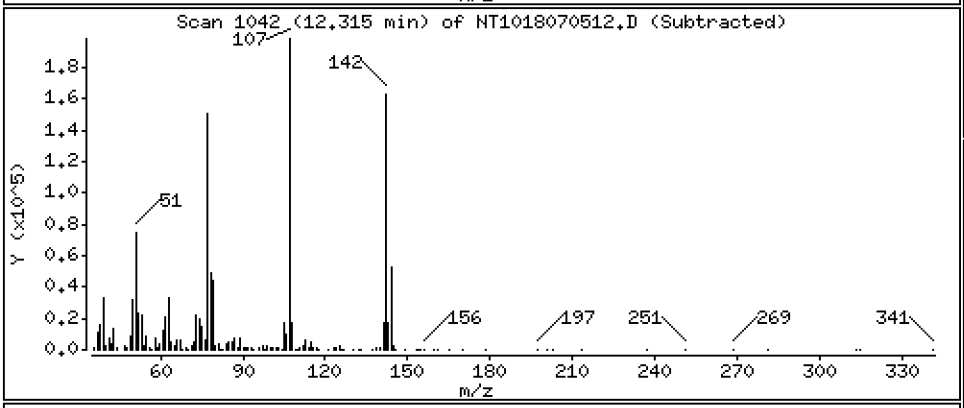
Column phase: ZB-5msi

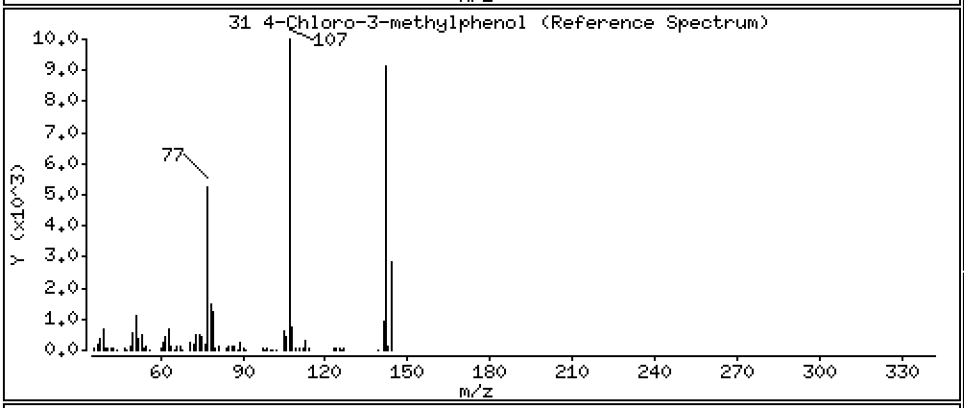
Column diameter: 0.25

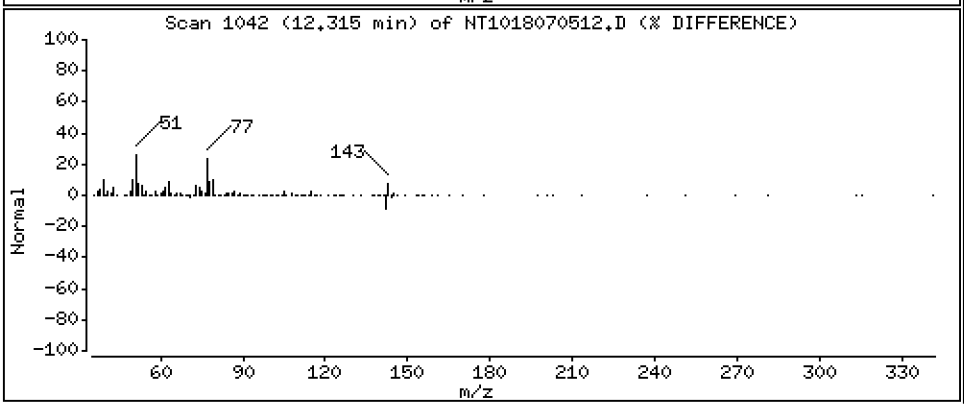
31 4-Chloro-3-methylphenol

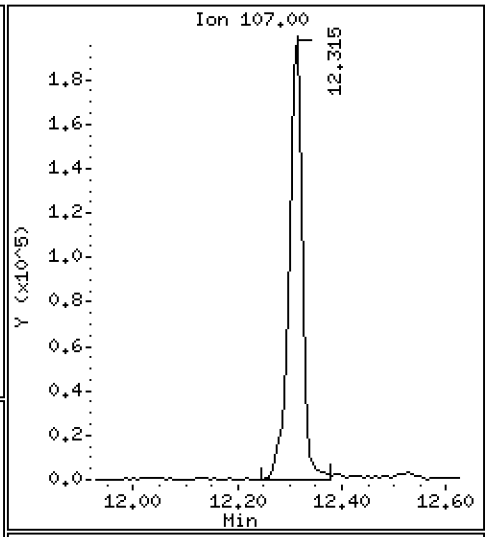
Concentration: 15.06 ug/mL

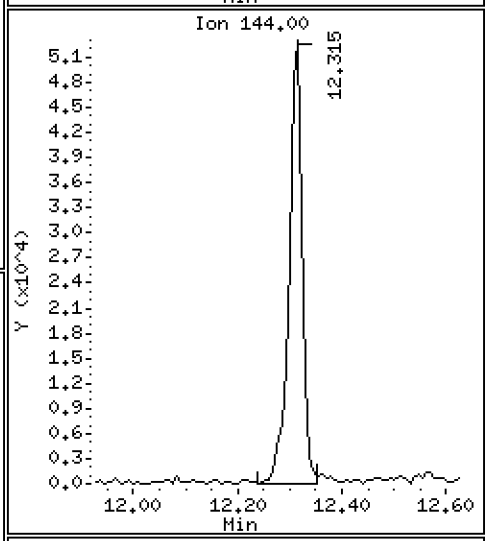


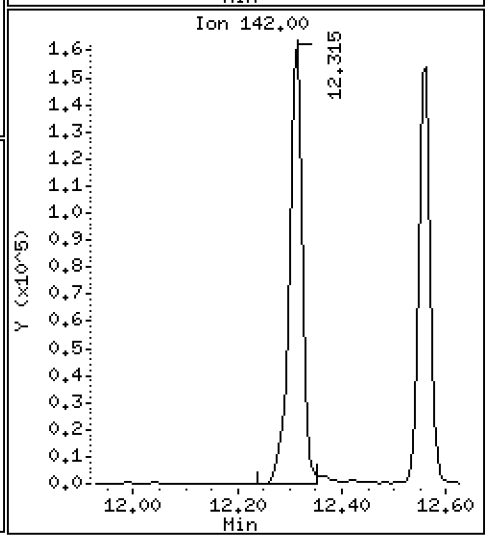












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

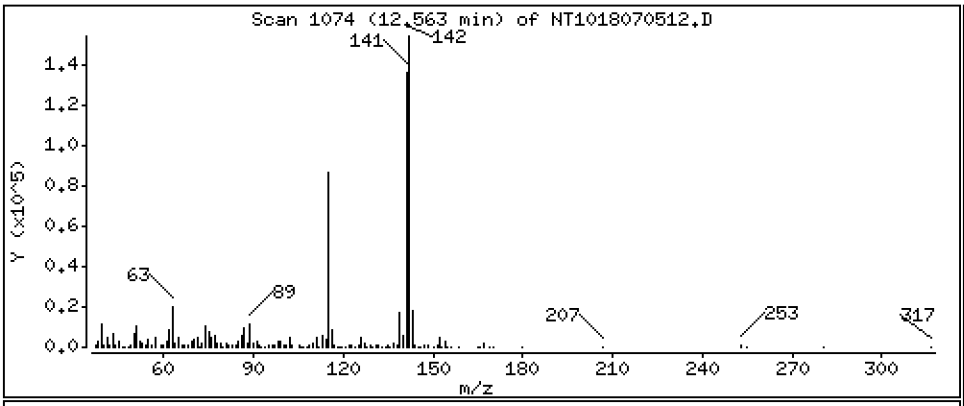
Operator: YZ

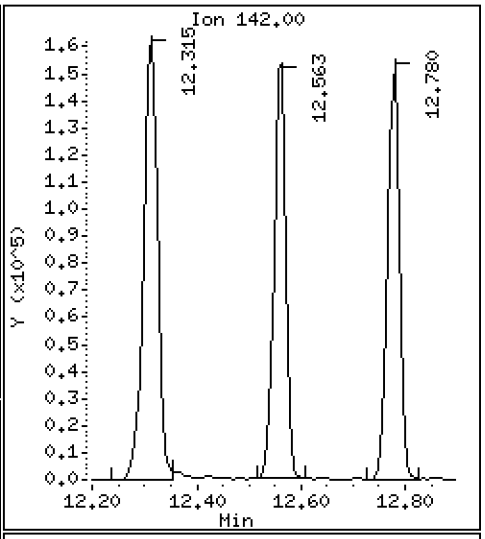
Column phase: ZB-5msi

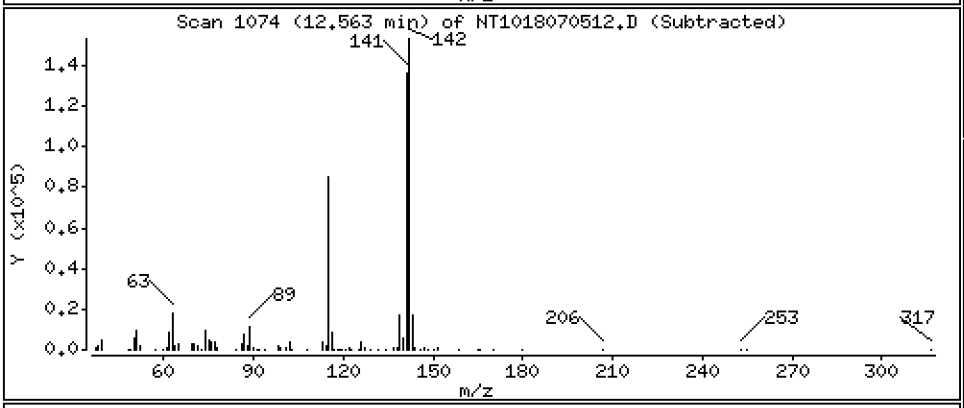
Column diameter: 0.25

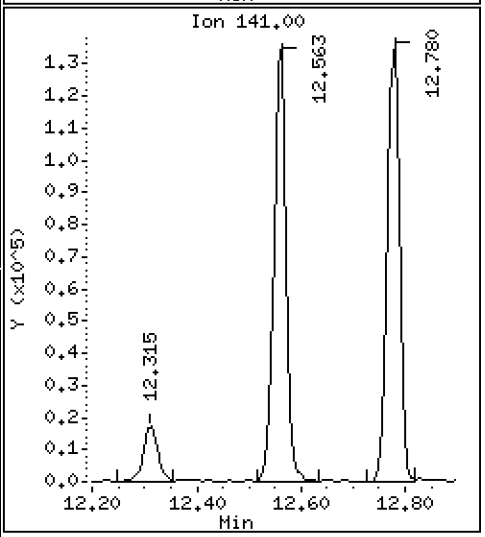
32 2-Methylnaphthalene

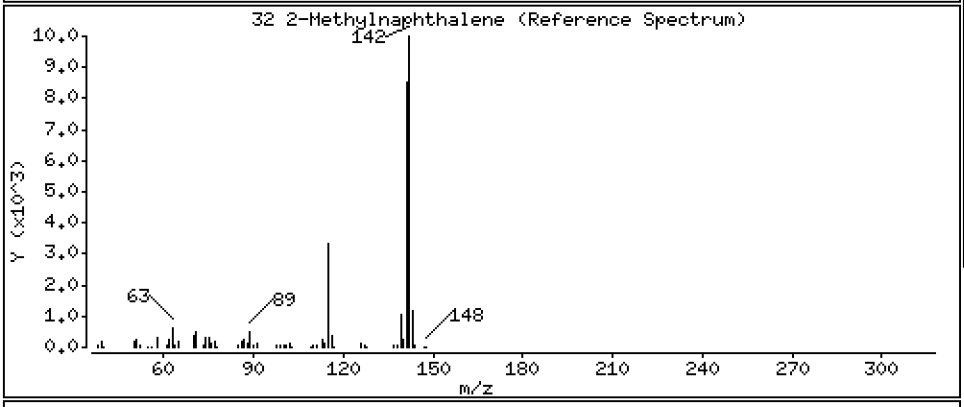
Concentration: 4.135 ug/mL

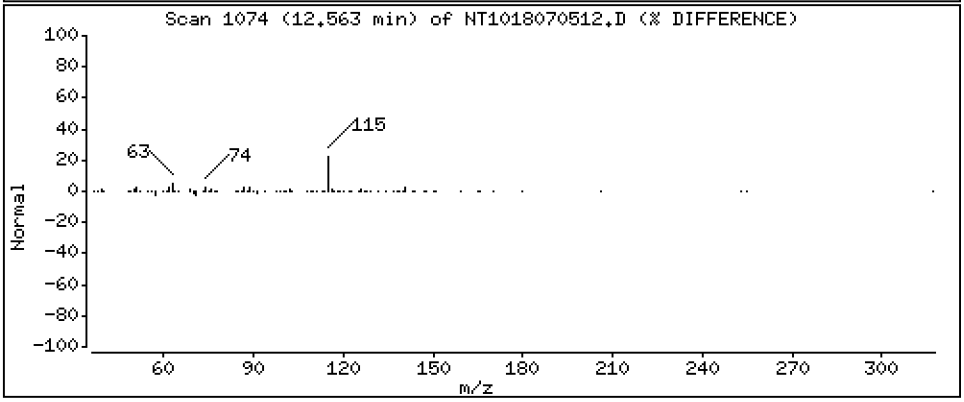












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

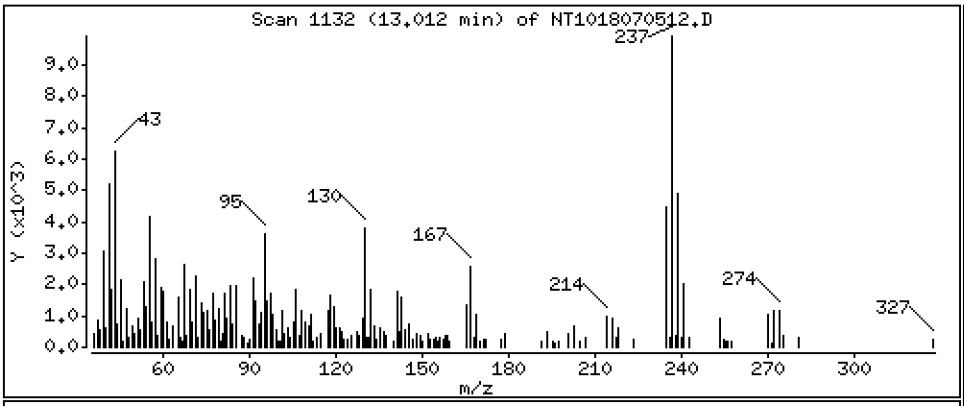
Operator: YZ

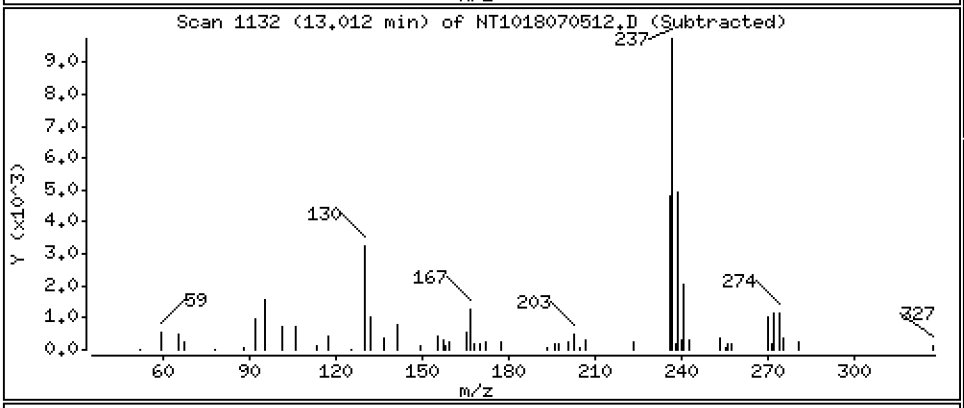
Column phase: ZB-5msi

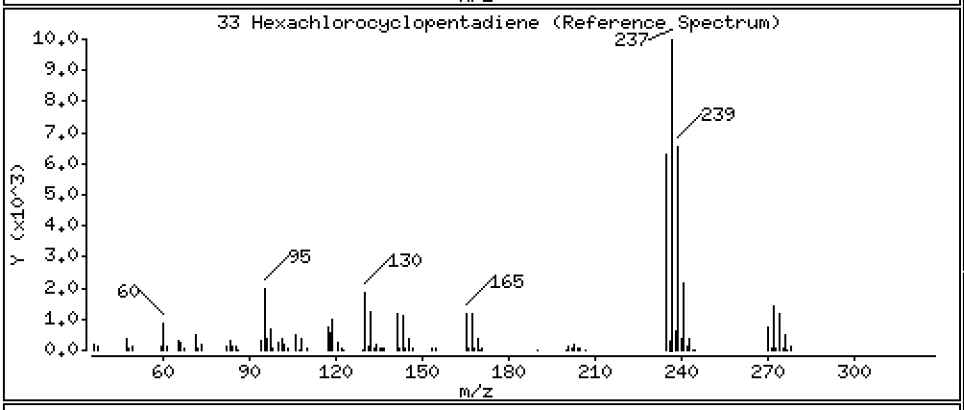
Column diameter: 0.25

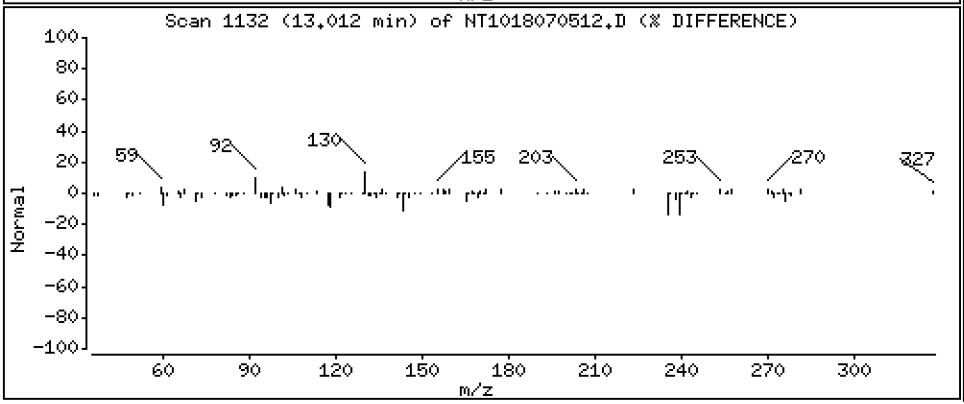
33 Hexachlorocyclopentadiene

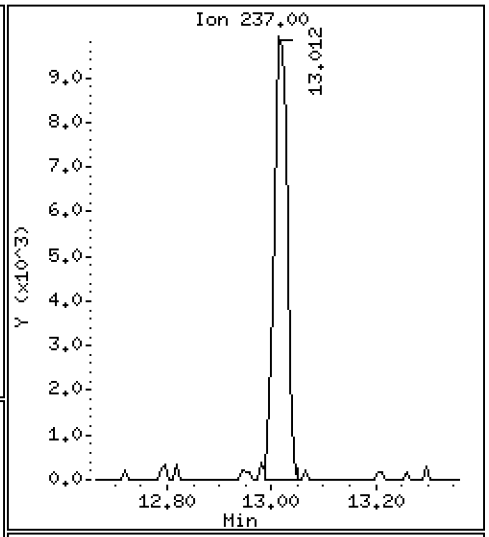
Concentration: 0.9472 ug/mL

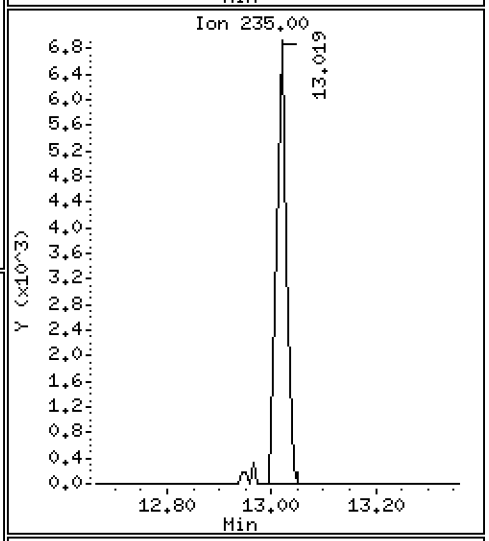


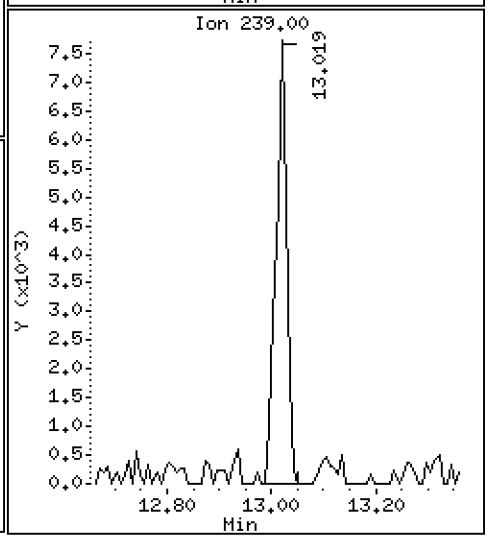












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

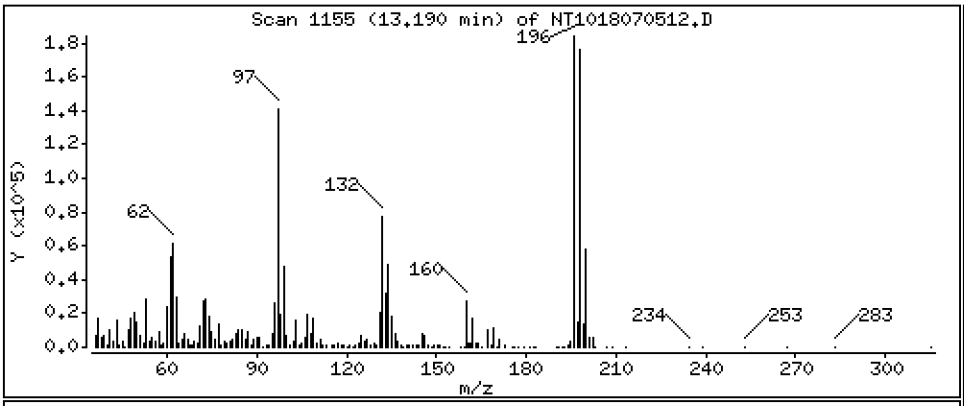
Operator: YZ

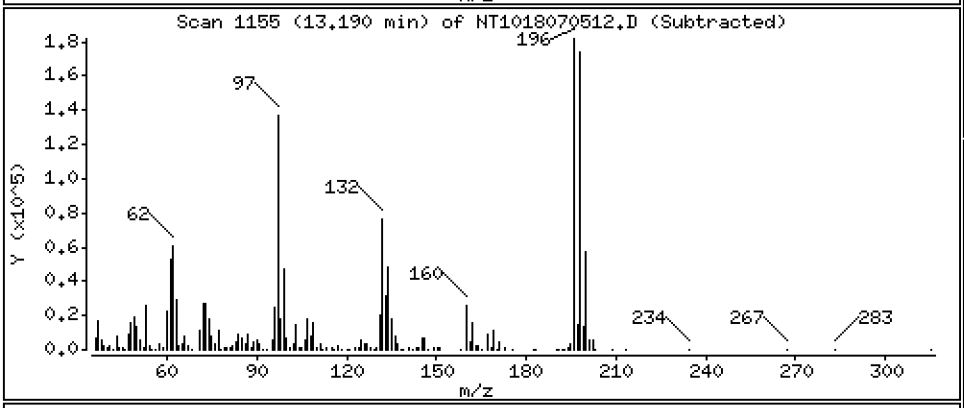
Column phase: ZB-5msi

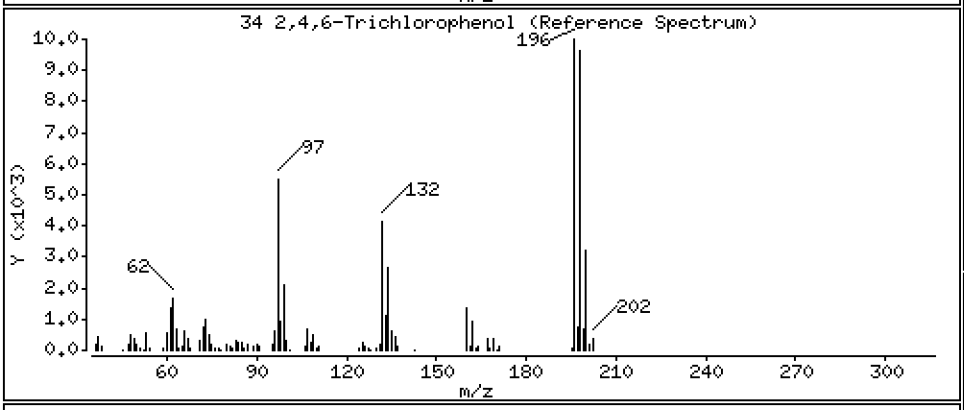
Column diameter: 0.25

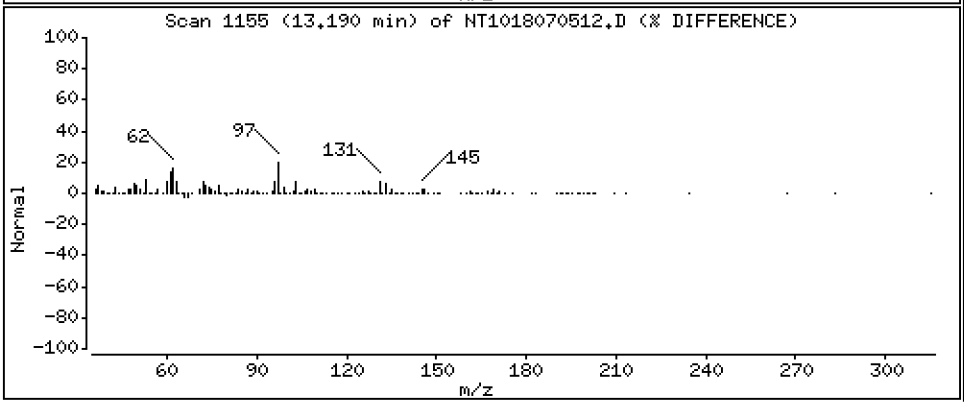
34 2,4,6-Trichlorophenol

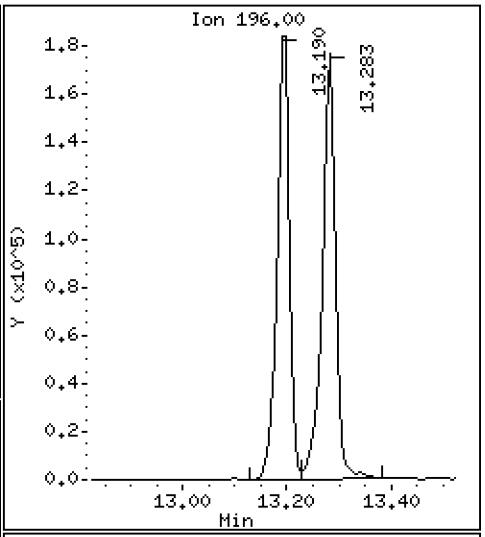
Concentration: 15.91 ug/mL

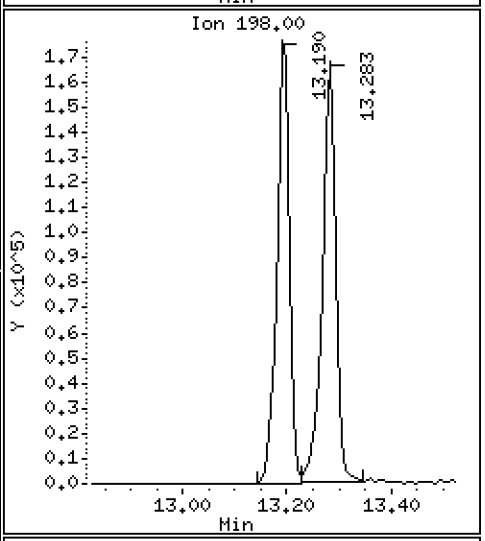


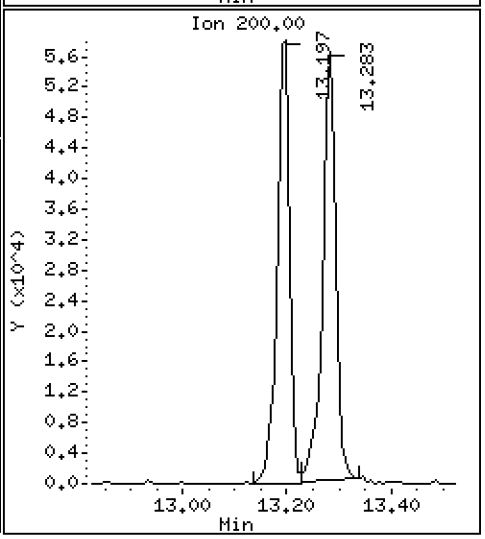












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

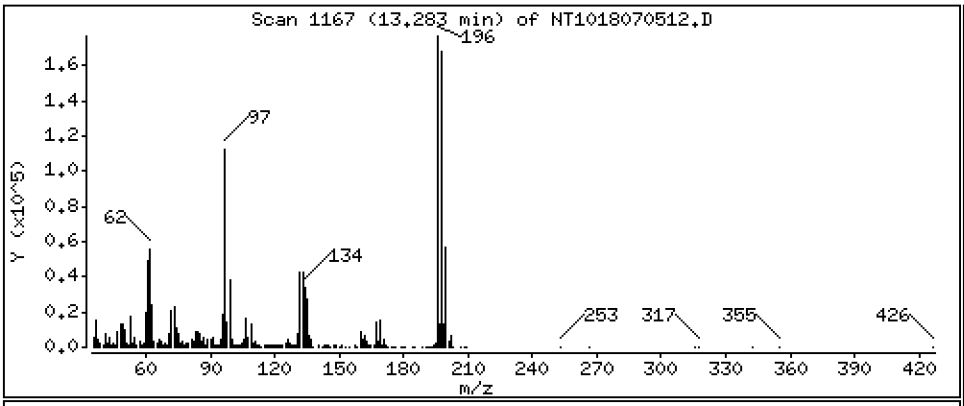
Operator: YZ

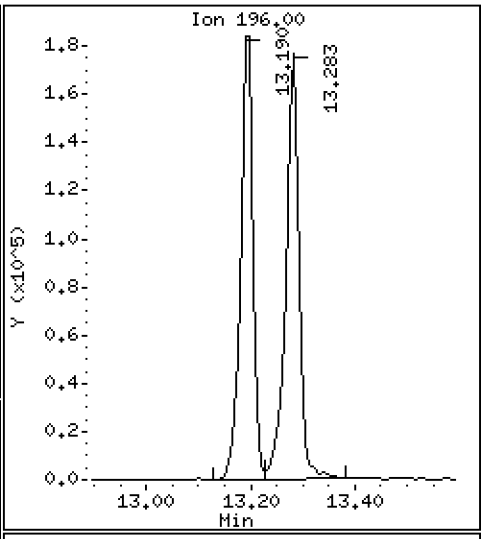
Column phase: ZB-5msi

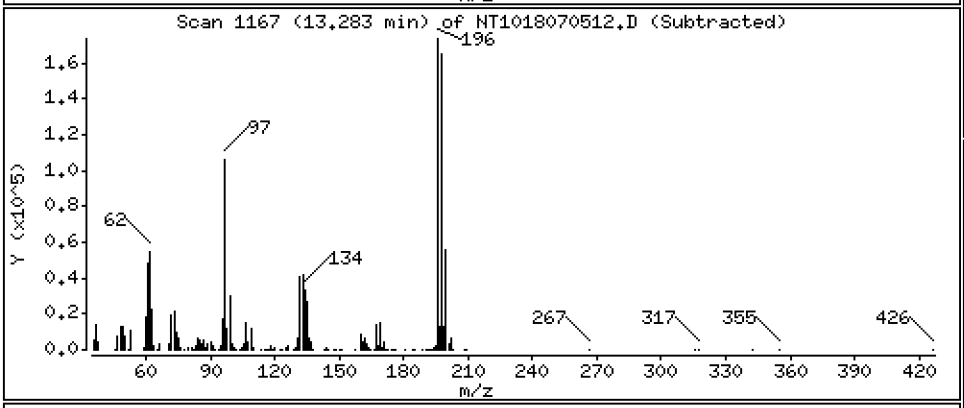
Column diameter: 0.25

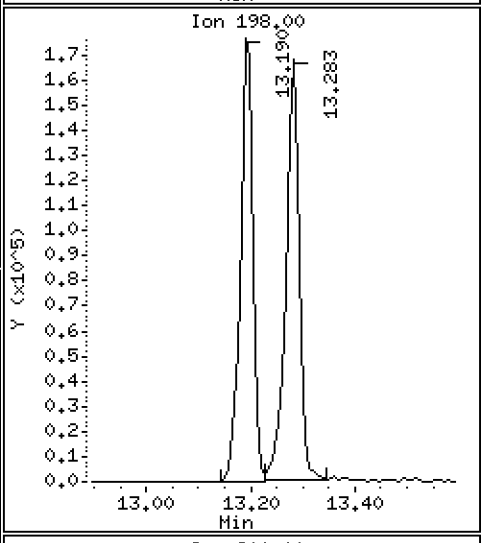
35 2,4,5-Trichlorophenol

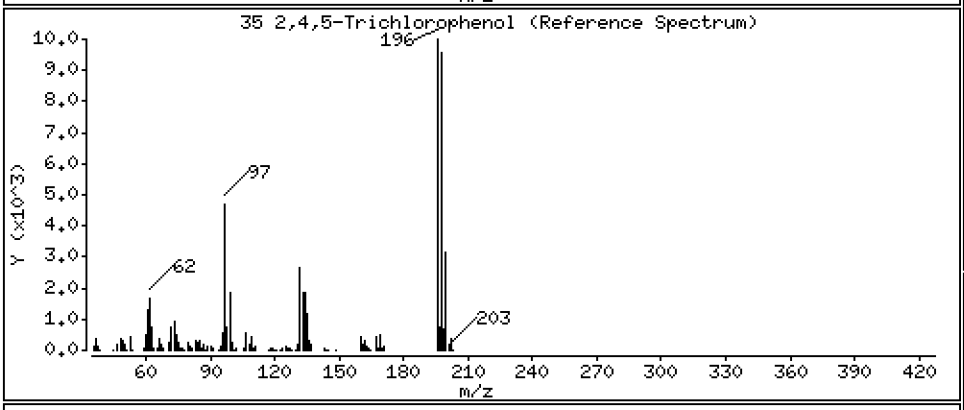
Concentration: 14.88 ug/mL

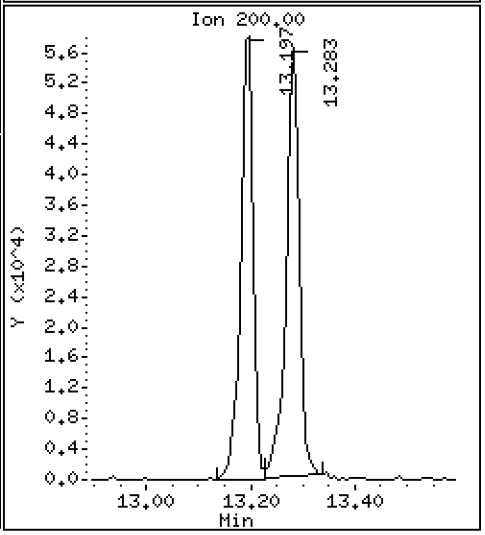


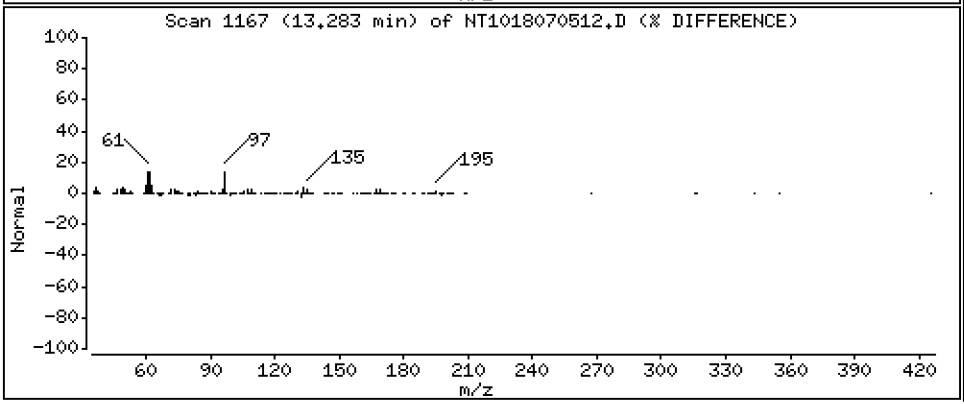












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

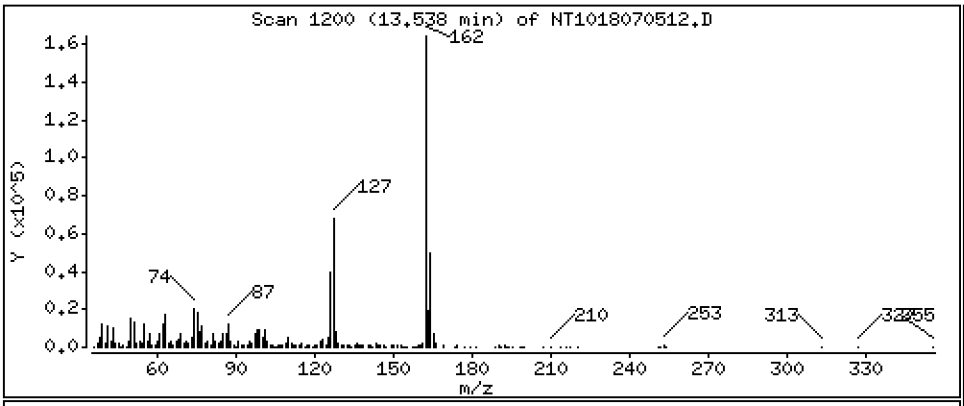
Operator: YZ

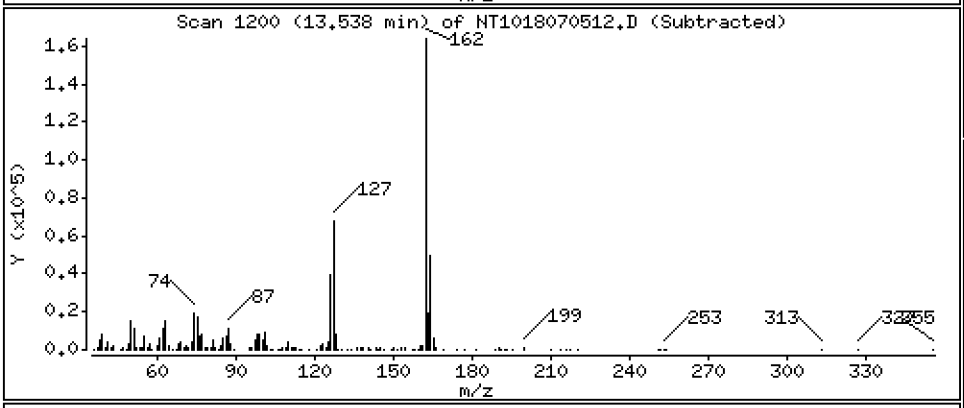
Column phase: ZB-5msi

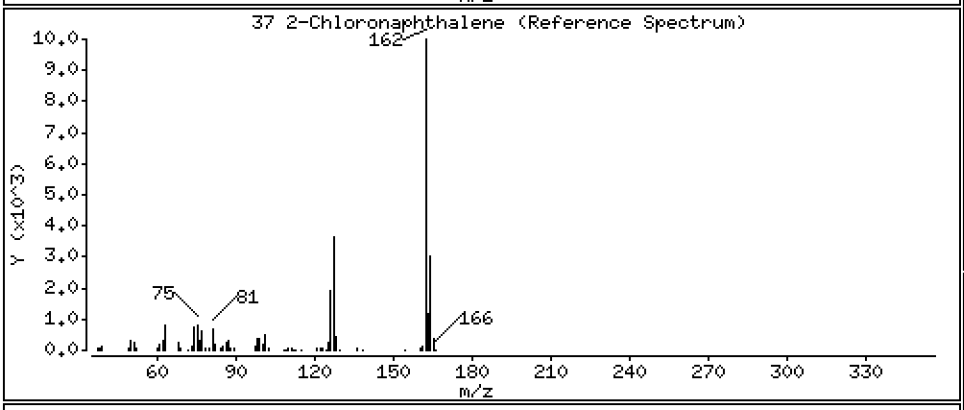
Column diameter: 0.25

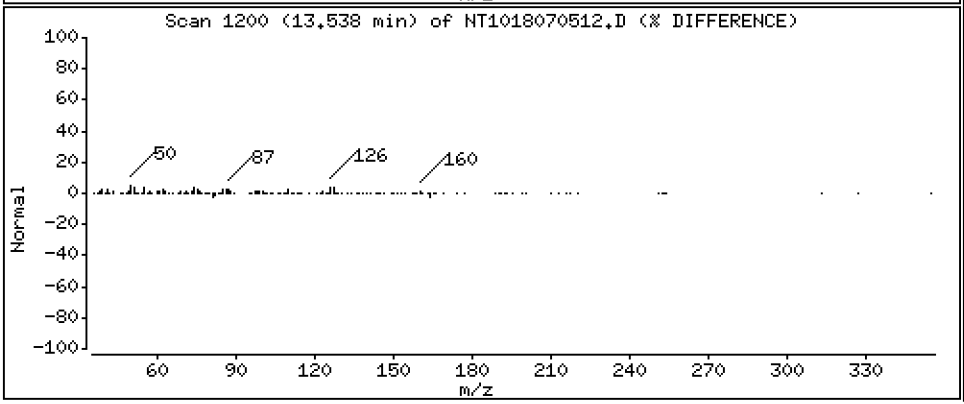
37 2-Chloronaphthalene

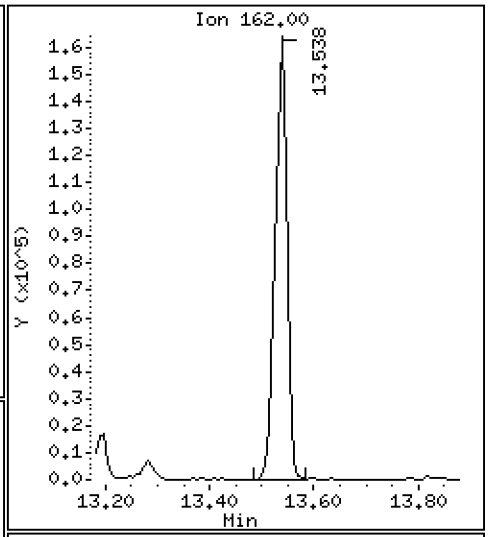
Concentration: 4.320 ug/mL

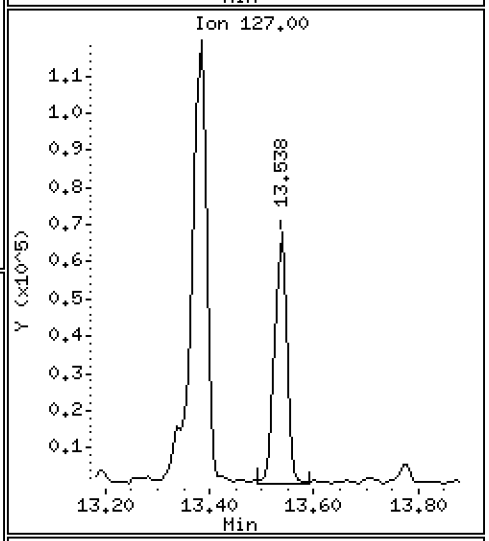


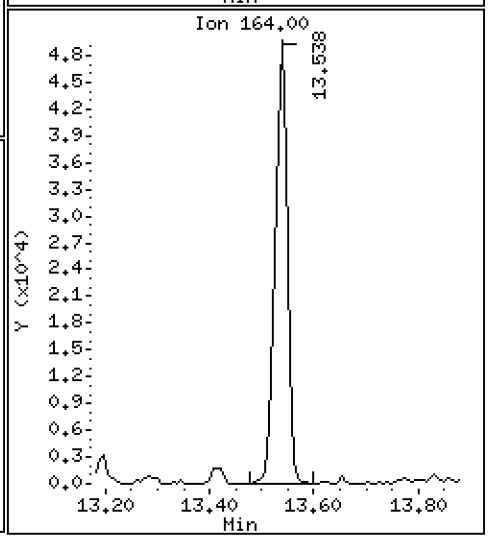












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

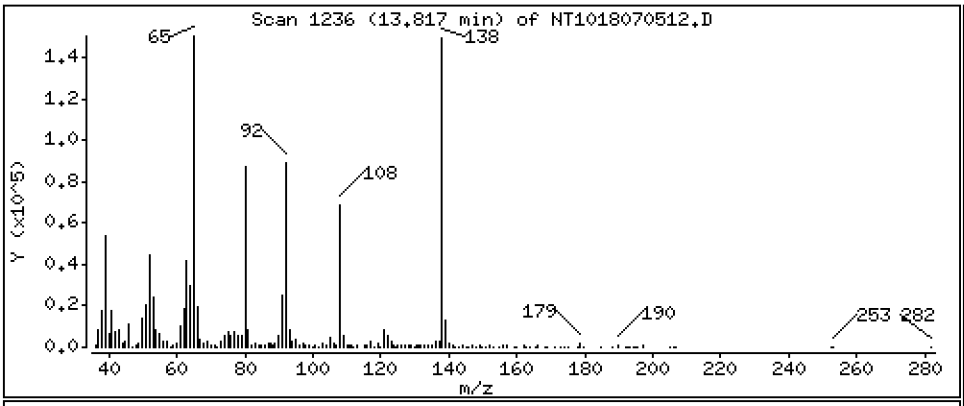
Operator: YZ

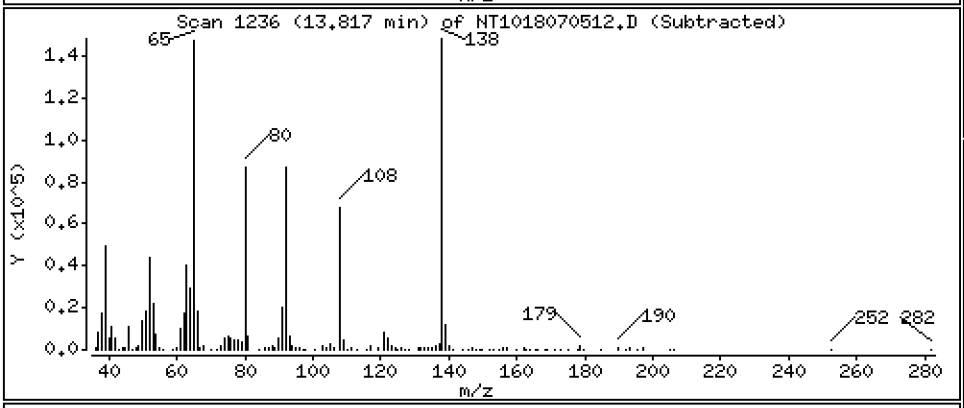
Column phase: ZB-5msi

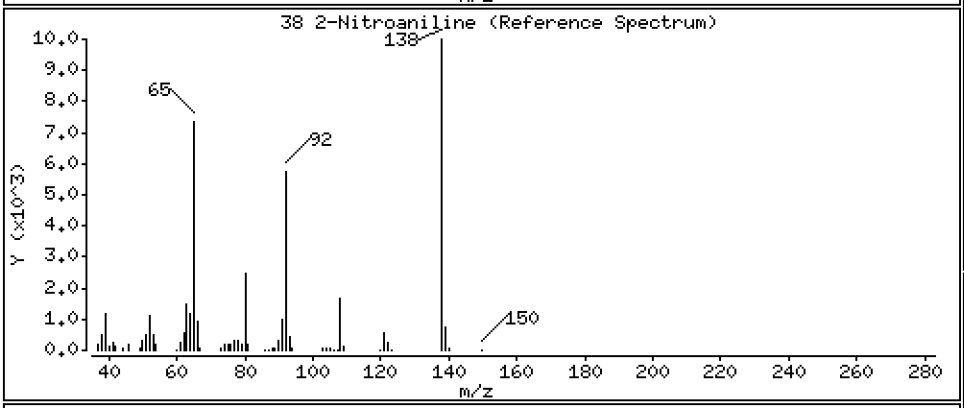
Column diameter: 0.25

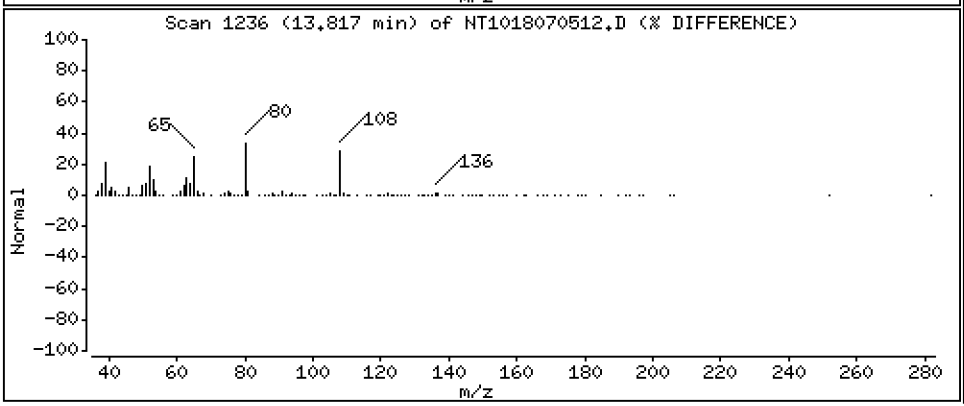
38 2-Nitroaniline

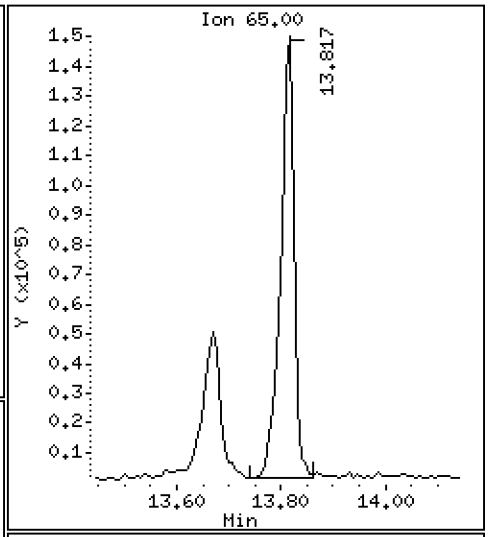
Concentration: 16.45 ug/mL

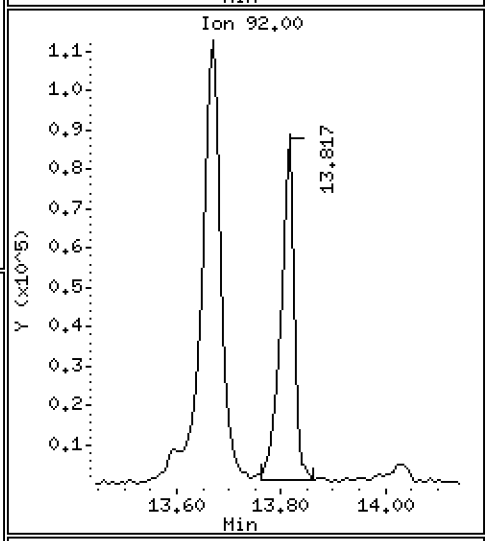


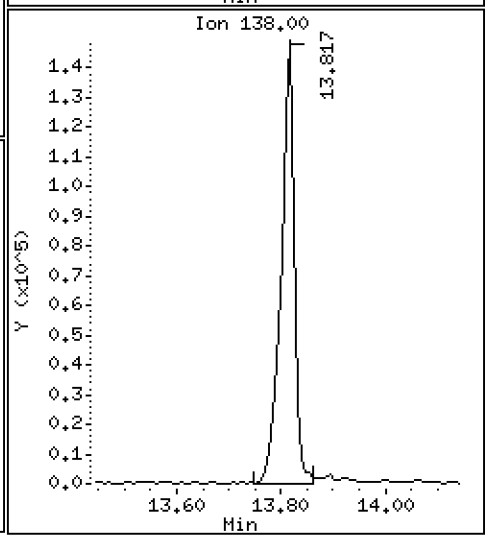












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

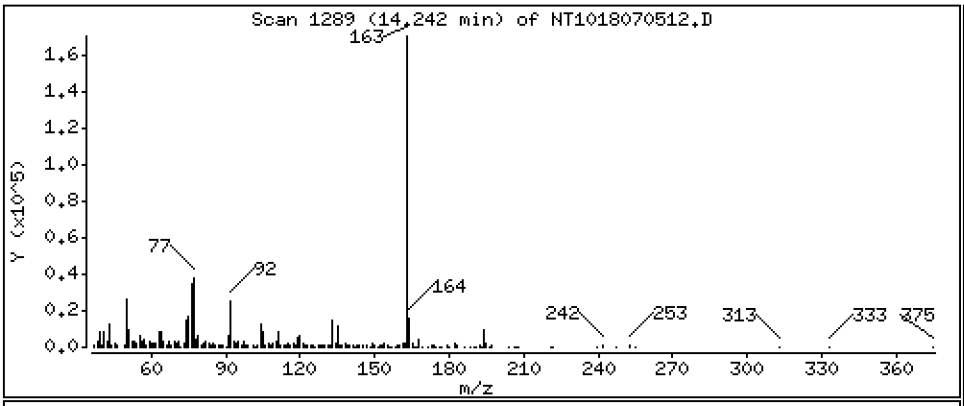
Operator: YZ

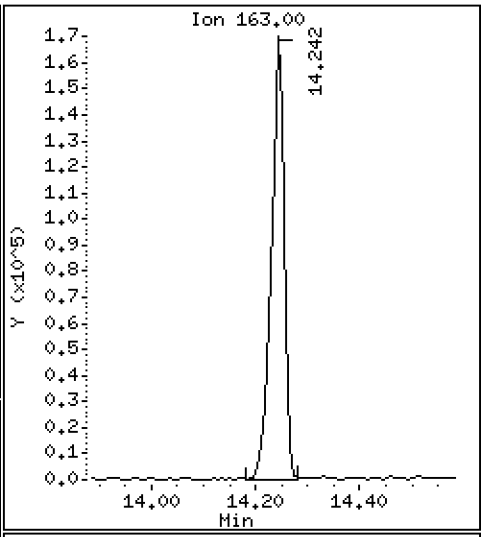
Column phase: ZB-5msi

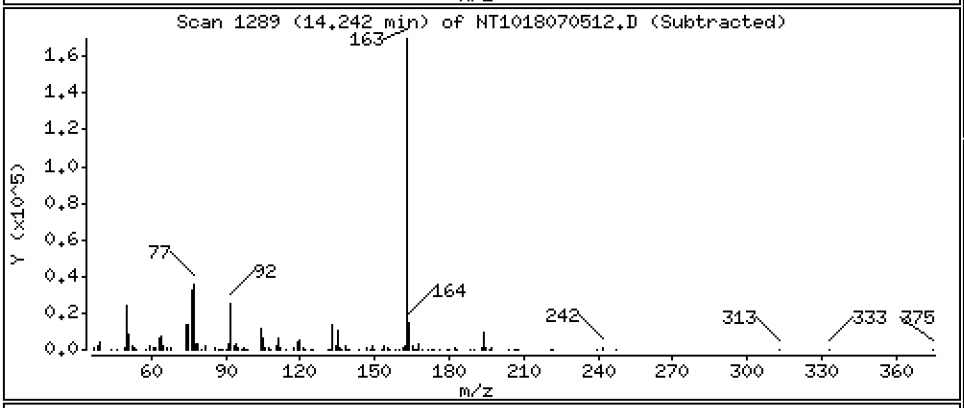
Column diameter: 0.25

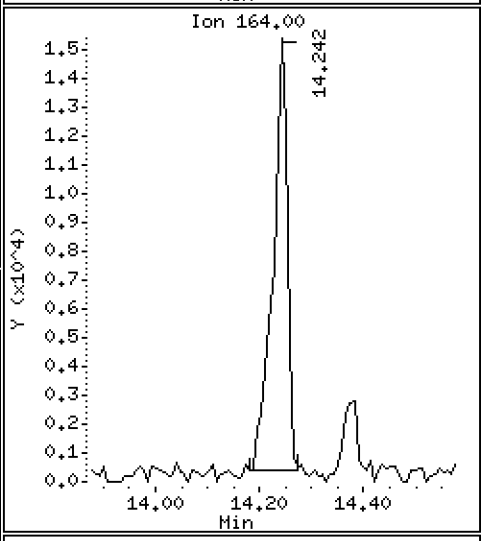
39 Dimethylphthalate

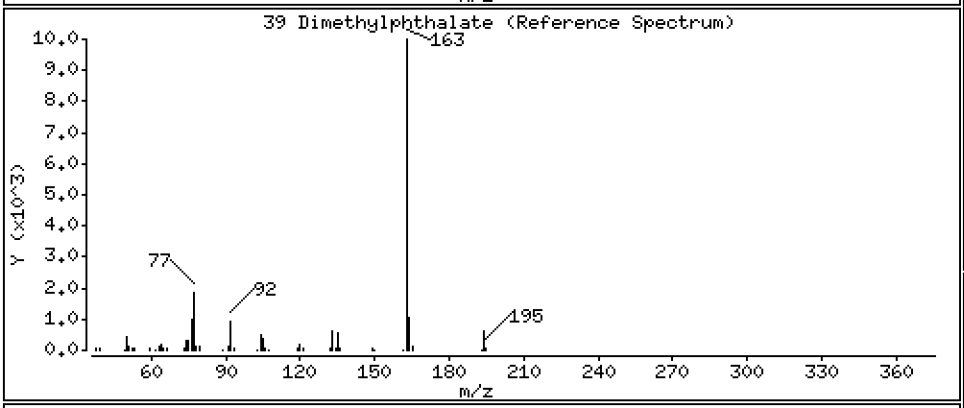
Concentration: 4.566 ug/mL

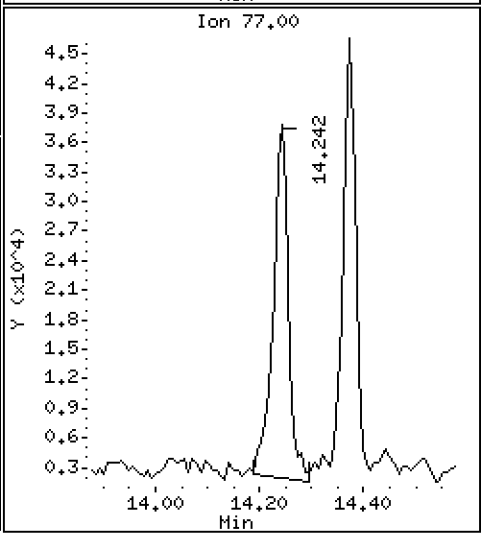


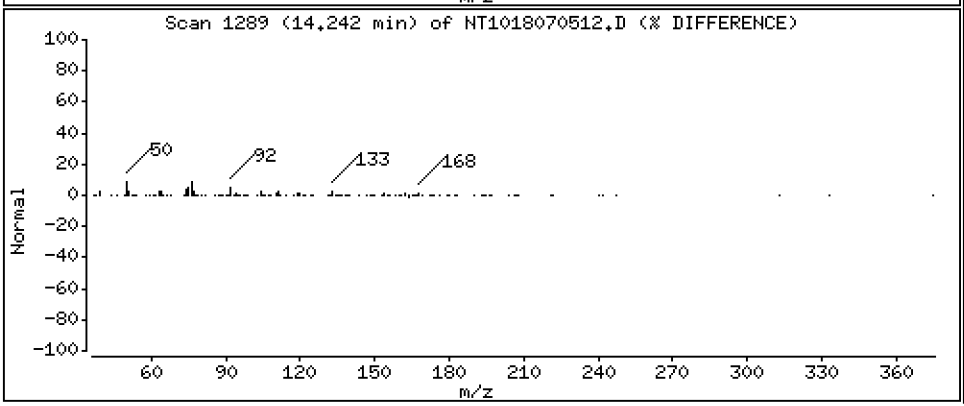












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

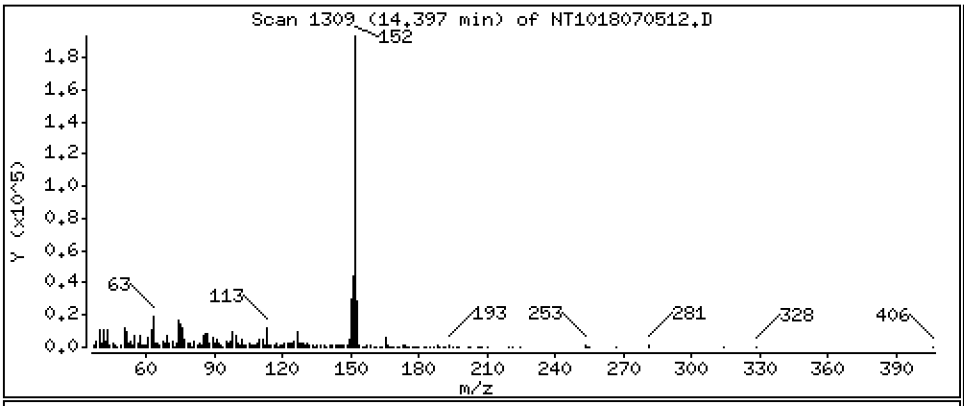
Operator: YZ

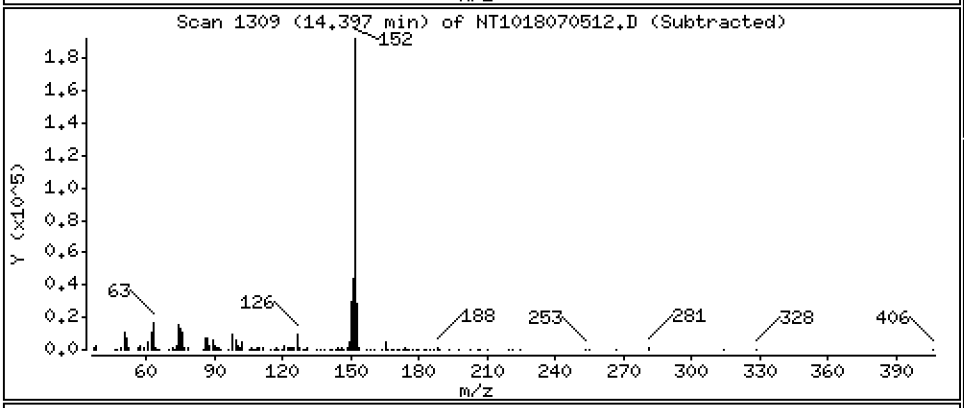
Column phase: ZB-5msi

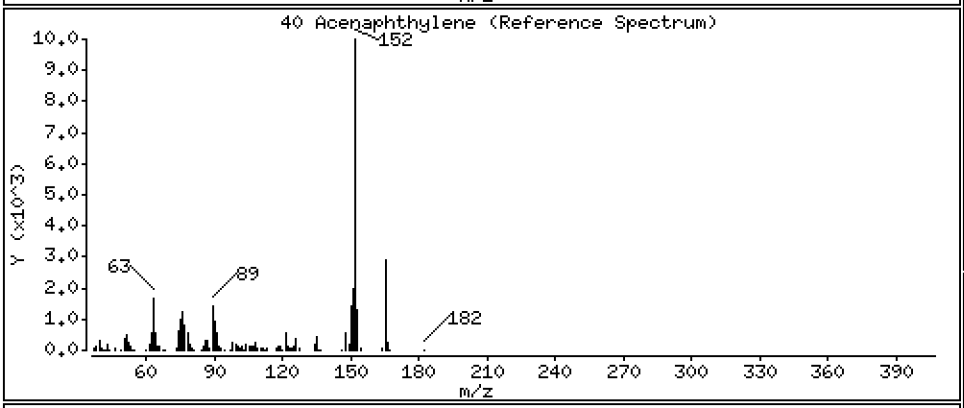
Column diameter: 0.25

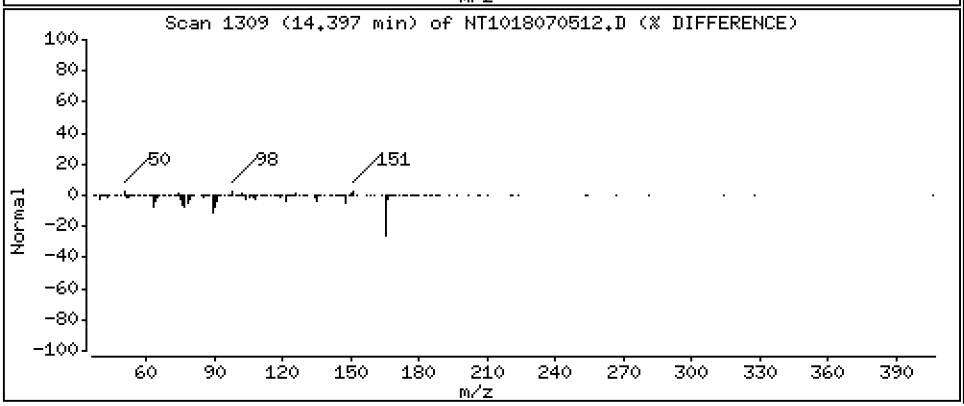
40 Acenaphthylene

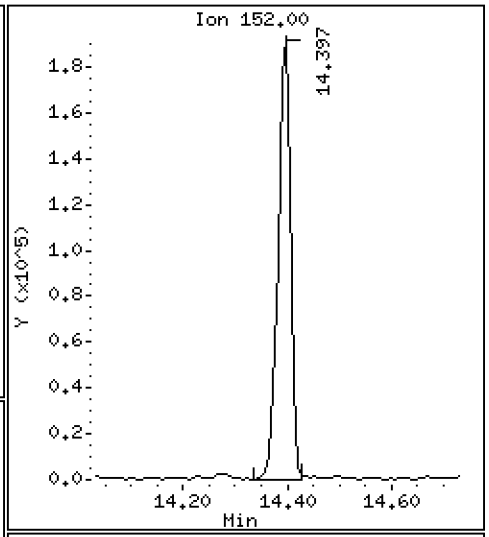
Concentration: 3.501 ug/mL

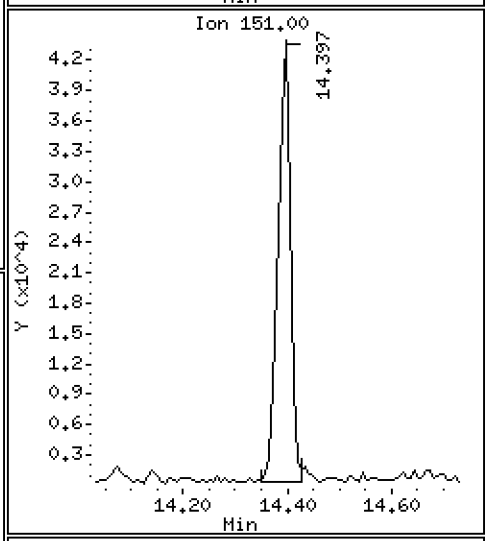


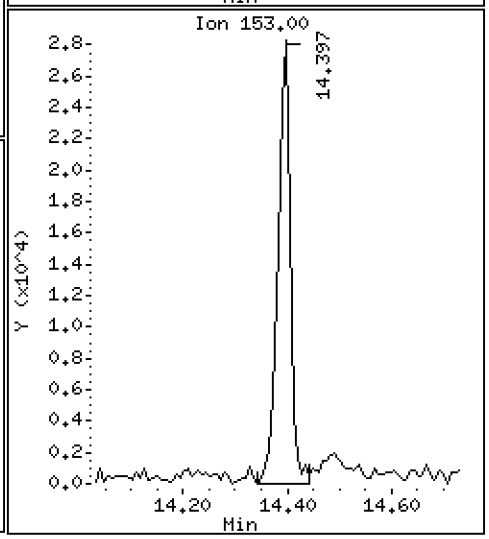












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

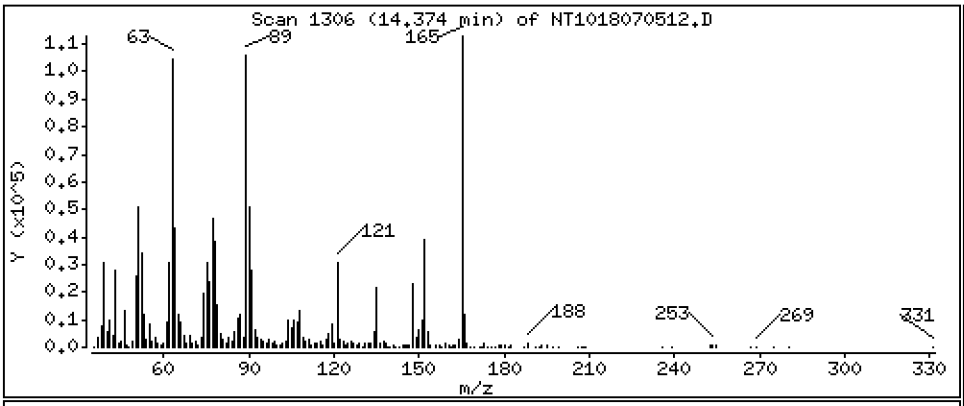
Operator: YZ

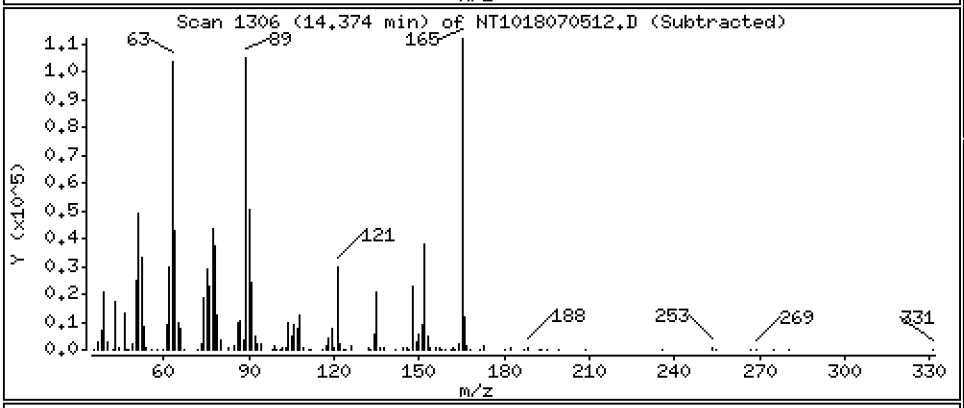
Column phase: ZB-5msi

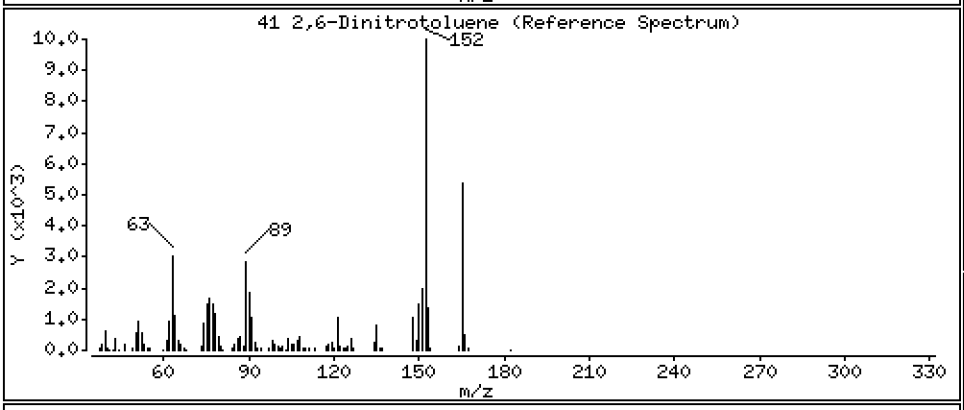
Column diameter: 0.25

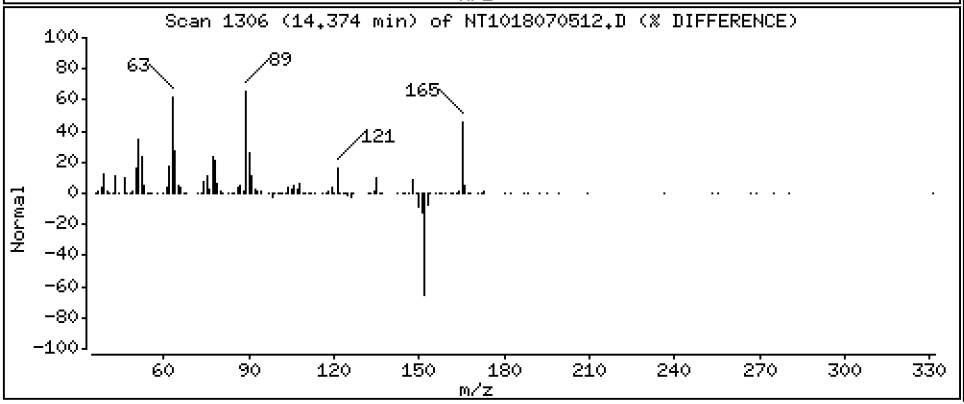
41 2,6-Dinitrotoluene

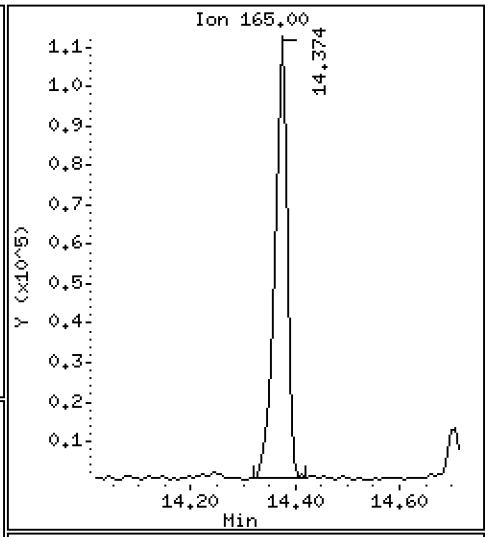
Concentration: 13.53 ug/mL

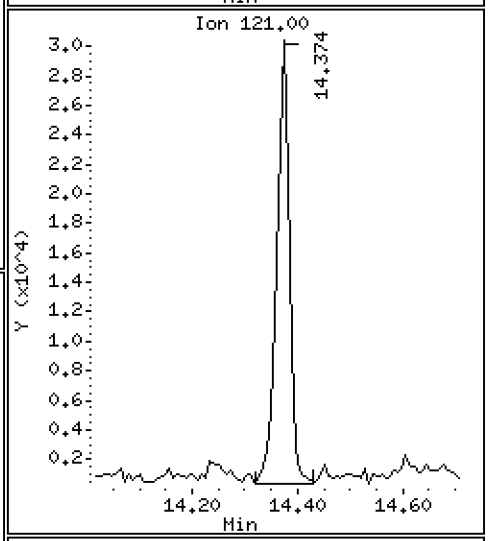


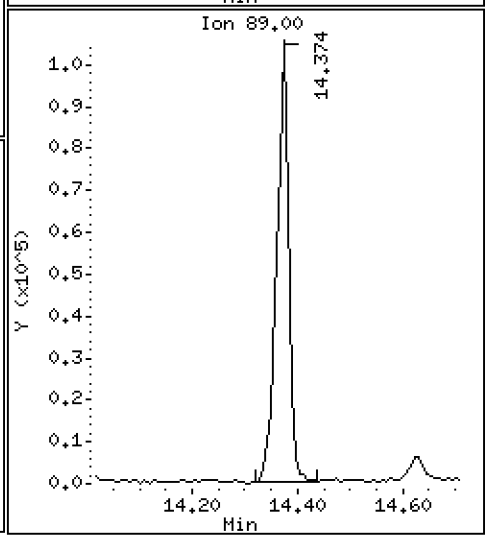












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

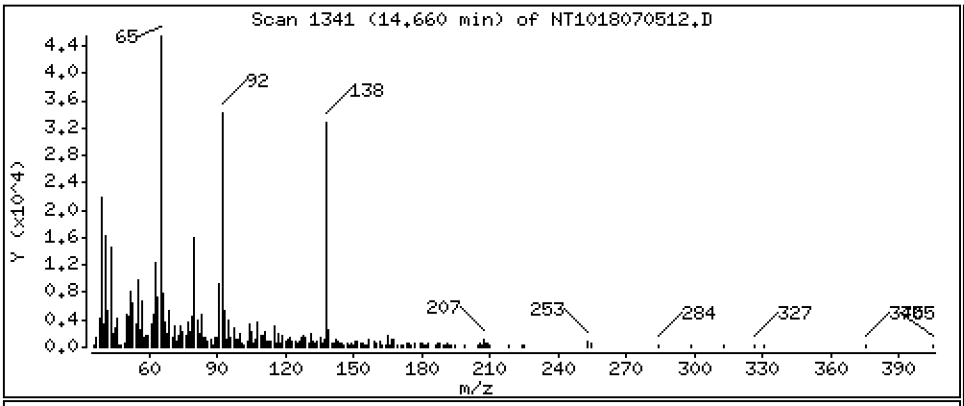
Operator: YZ

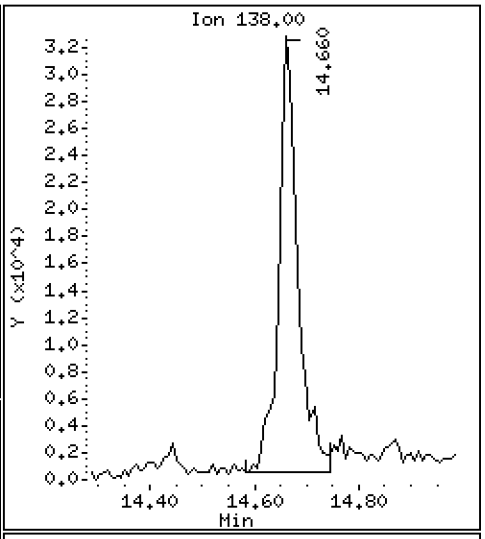
Column phase: ZB-5msi

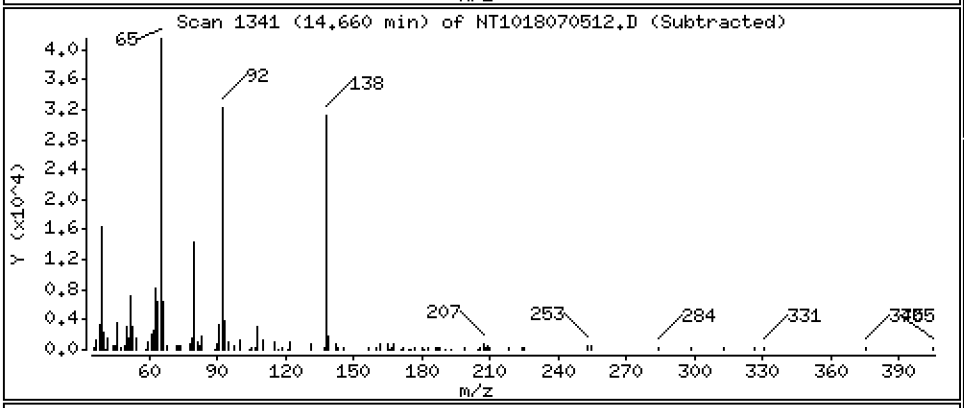
Column diameter: 0.25

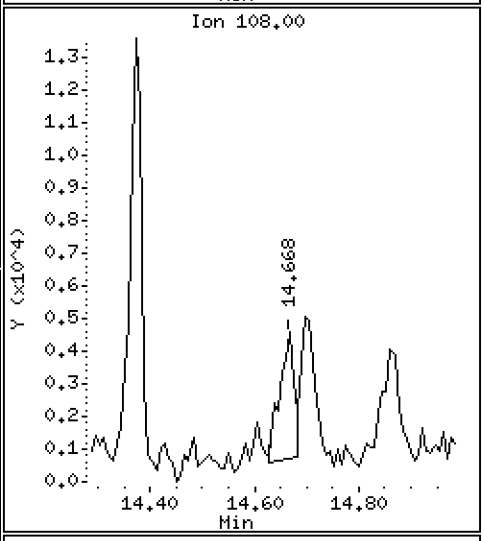
43 3-Nitroaniline

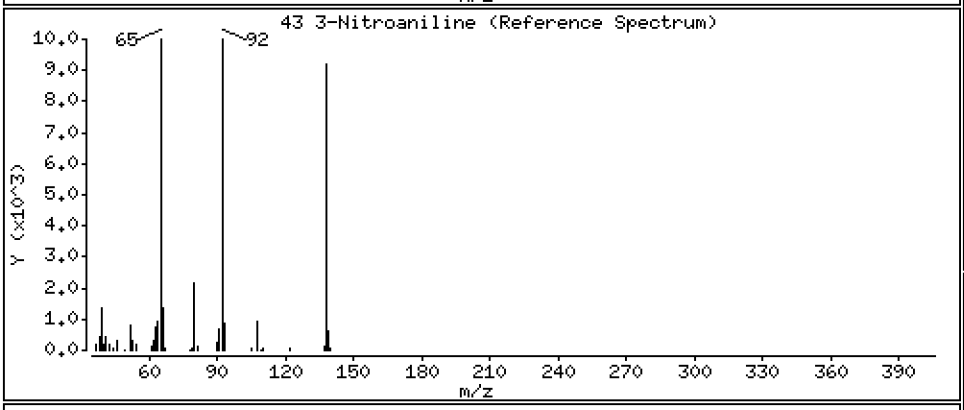
Concentration: 5.521 ug/mL

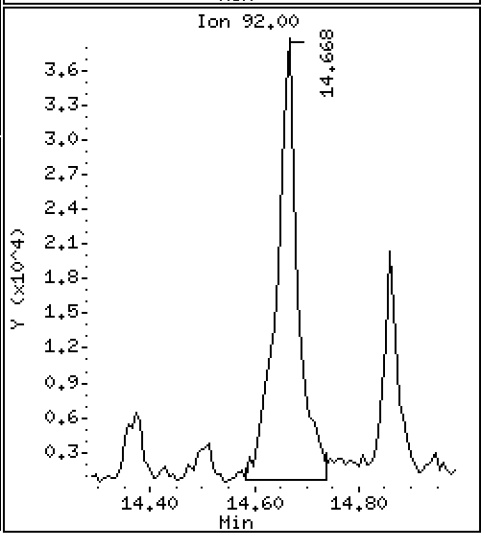


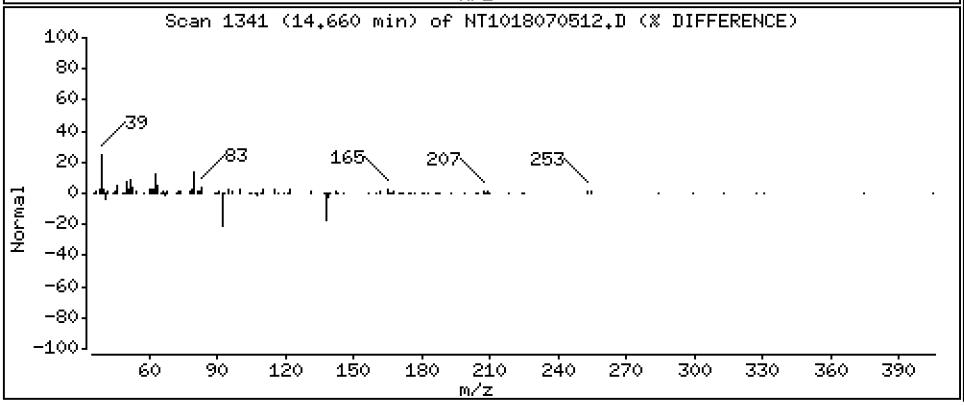












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

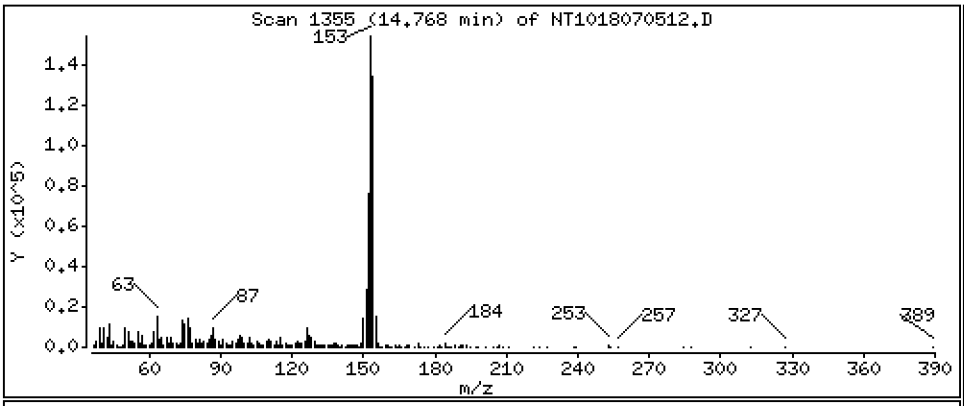
Operator: YZ

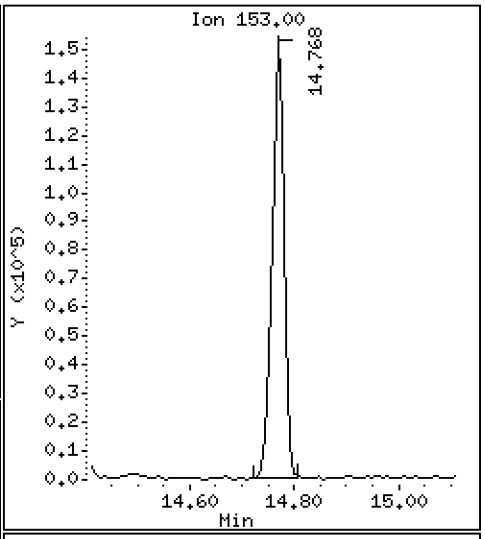
Column phase: ZB-5msi

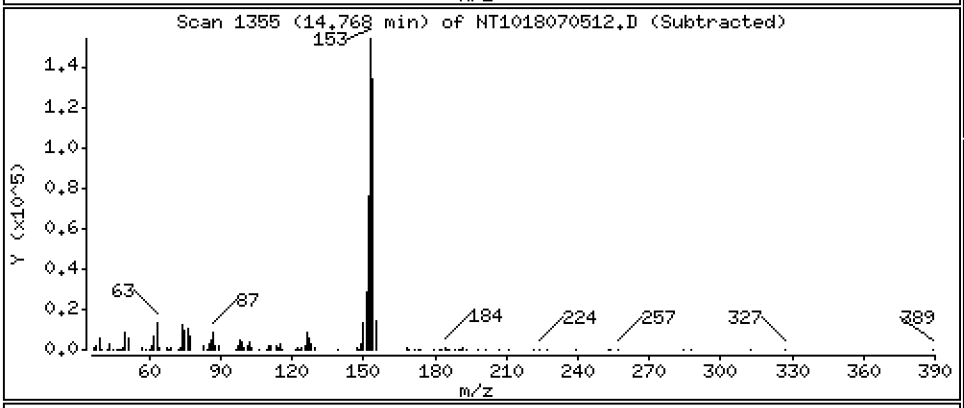
Column diameter: 0.25

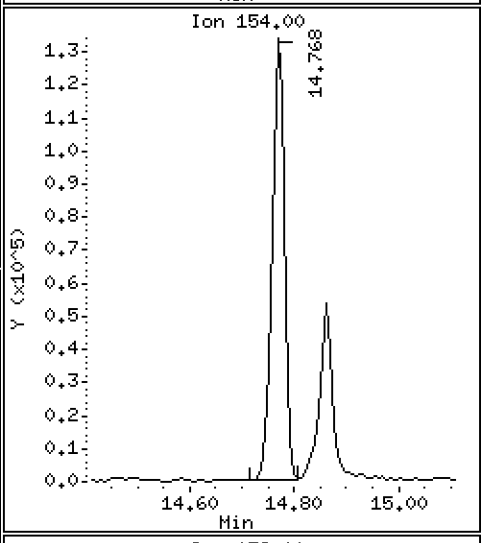
44 Acenaphthene

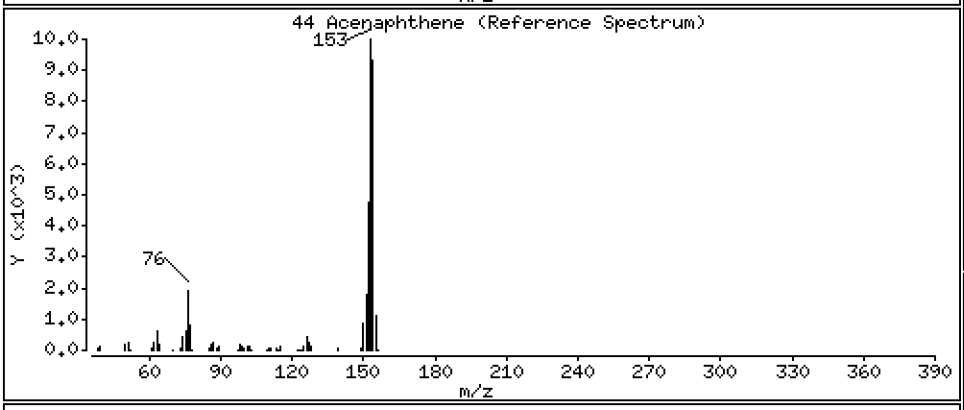
Concentration: 4.306 ug/mL

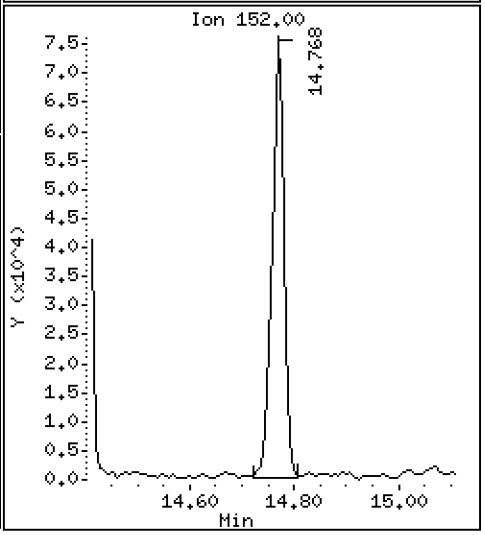


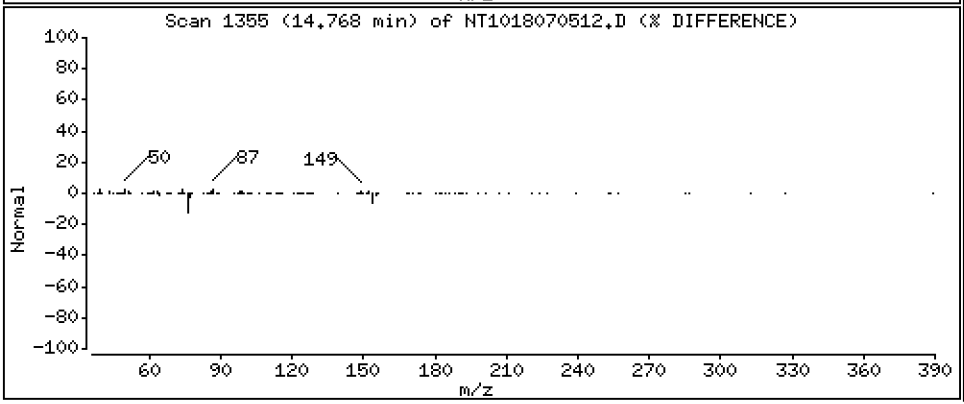












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

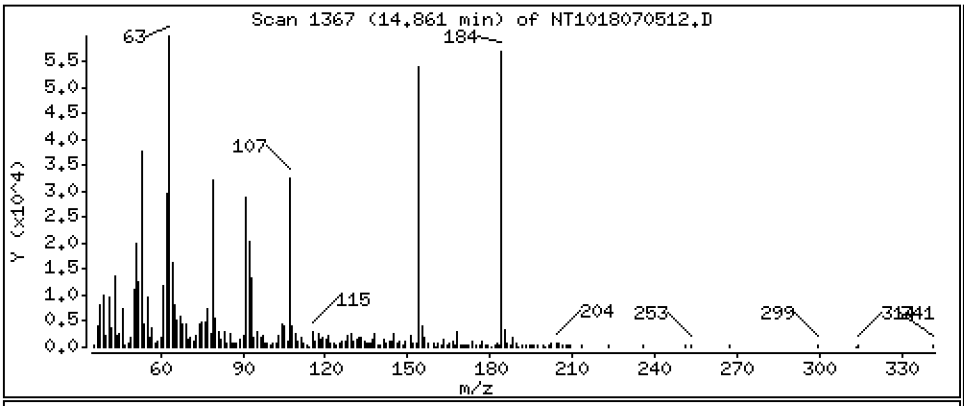
Operator: YZ

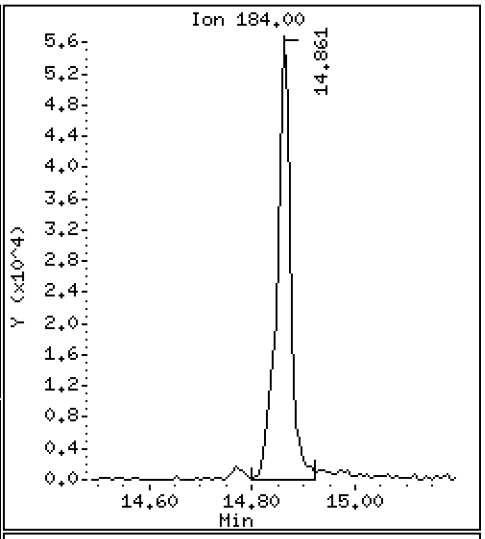
Column phase: ZB-5msi

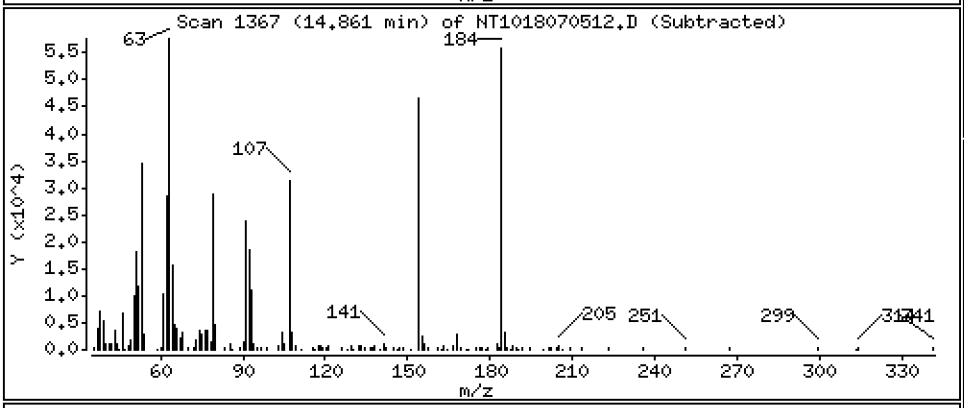
Column diameter: 0.25

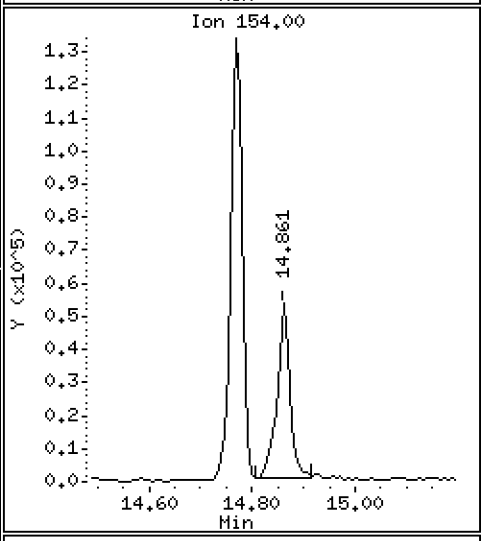
45 2,4-Dinitrophenol

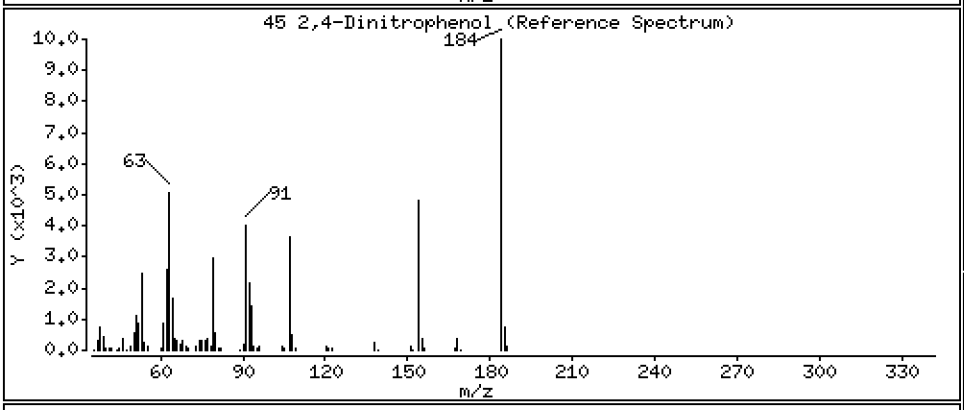
Concentration: 12.58 ug/mL

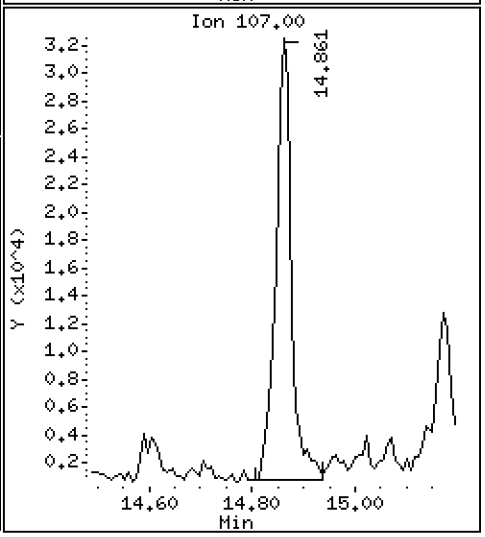


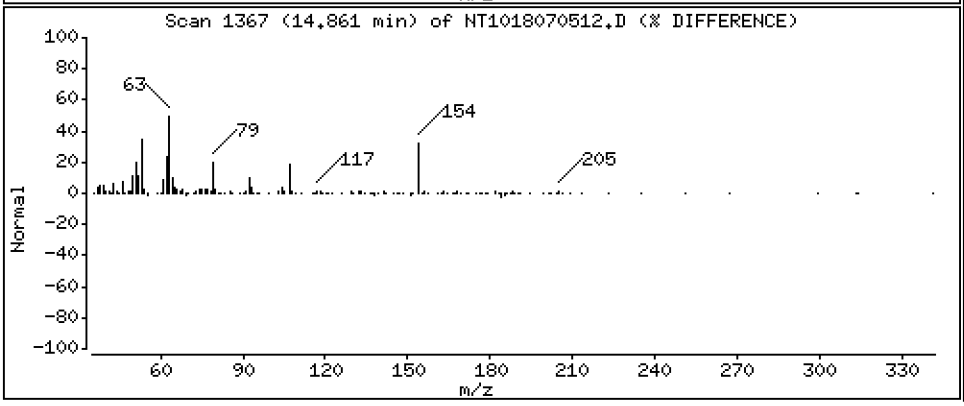












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

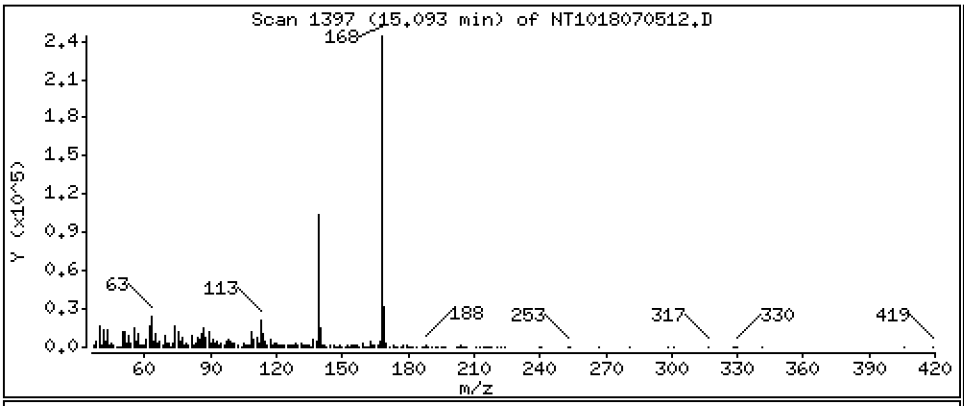
Operator: YZ

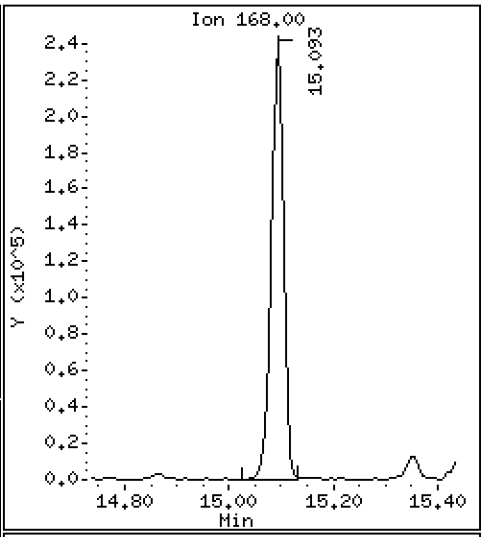
Column phase: ZB-5msi

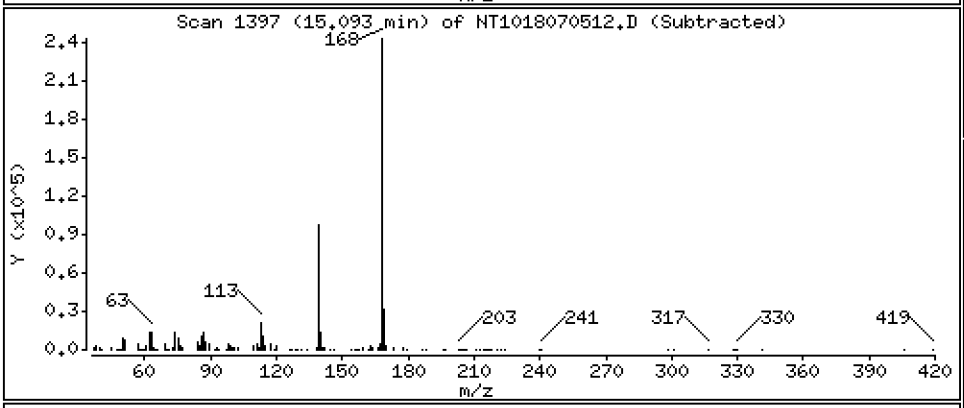
Column diameter: 0.25

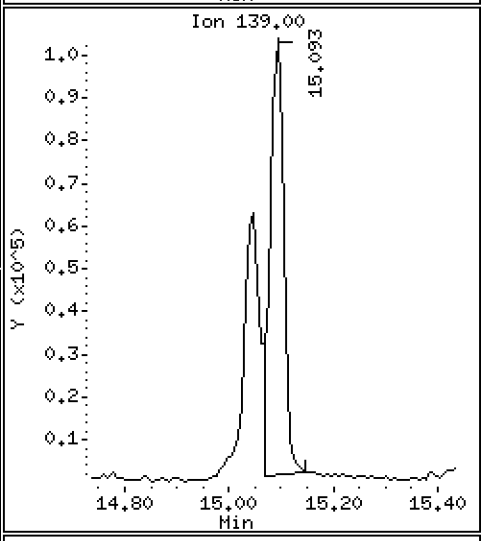
46 Dibenzofuran

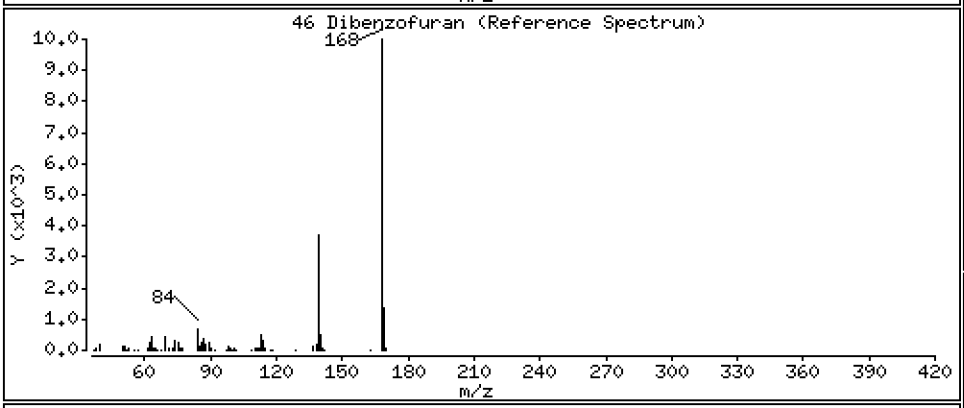
Concentration: 4.350 ug/mL

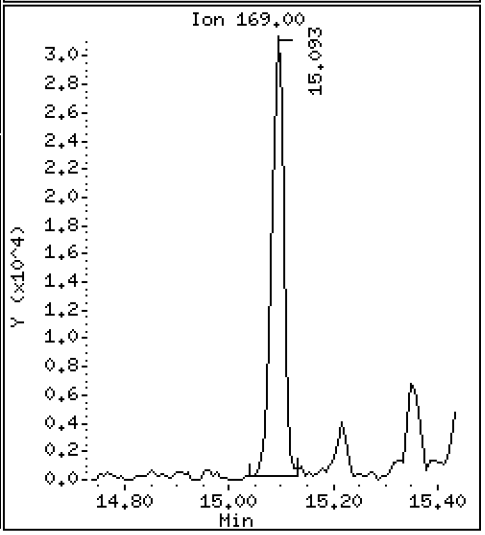


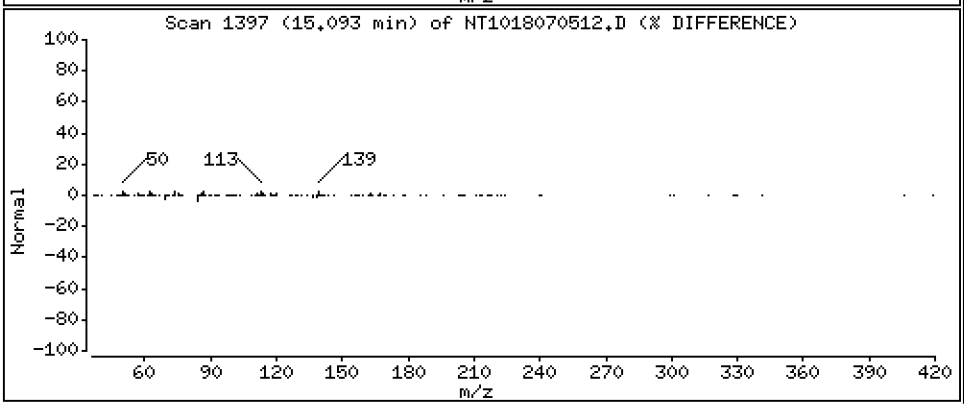












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

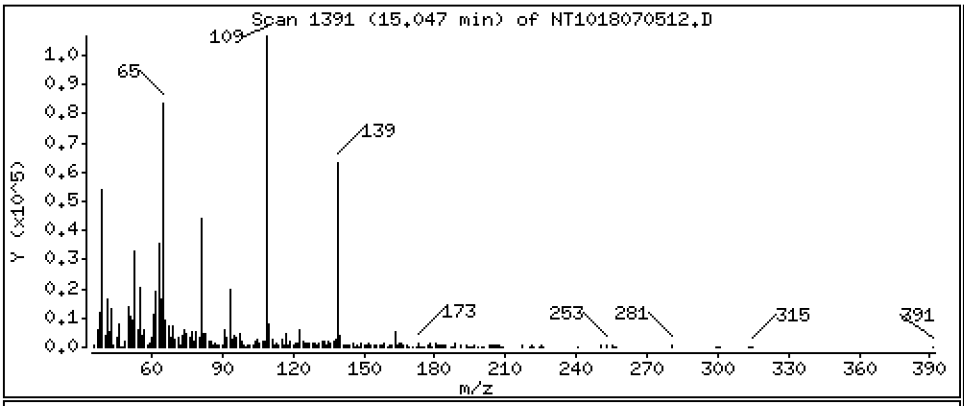
Operator: YZ

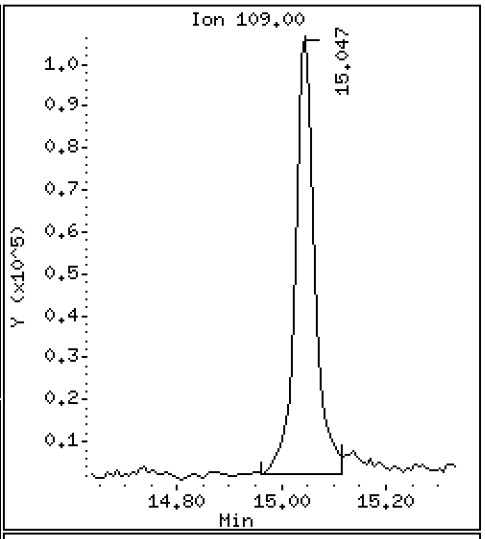
Column phase: ZB-5msi

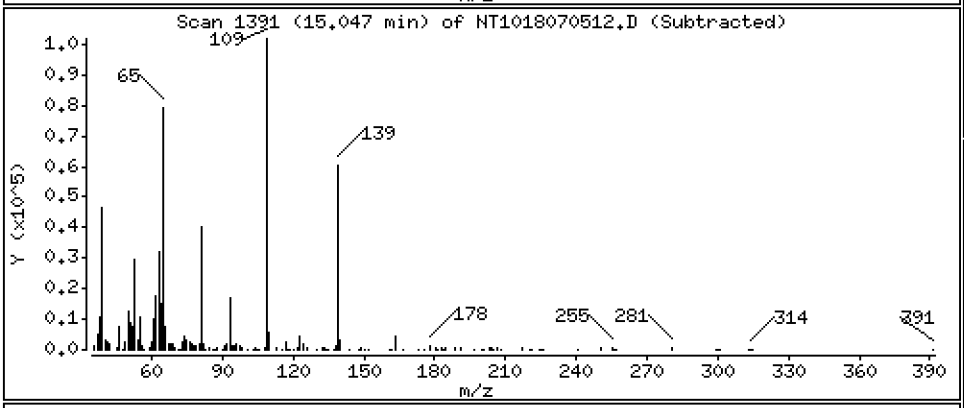
Column diameter: 0.25

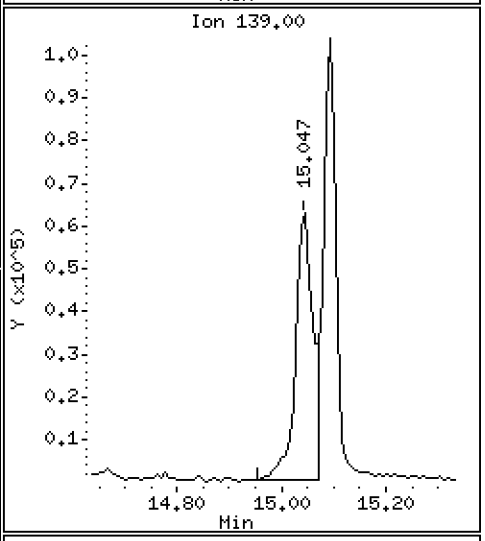
47 4-Nitrophenol

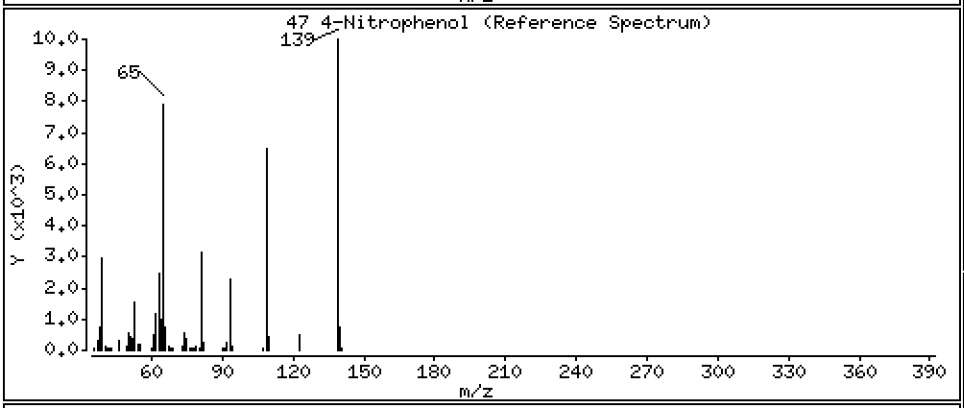
Concentration: 28.21 ug/mL

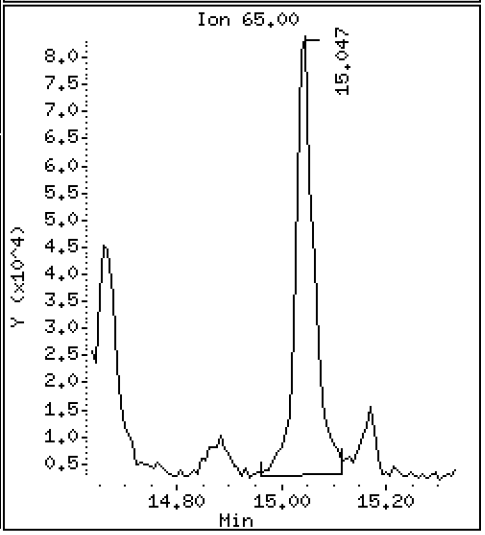


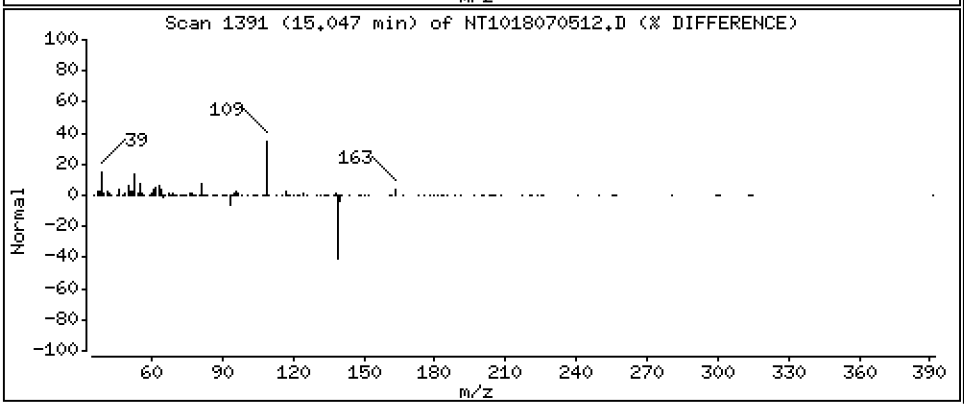












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

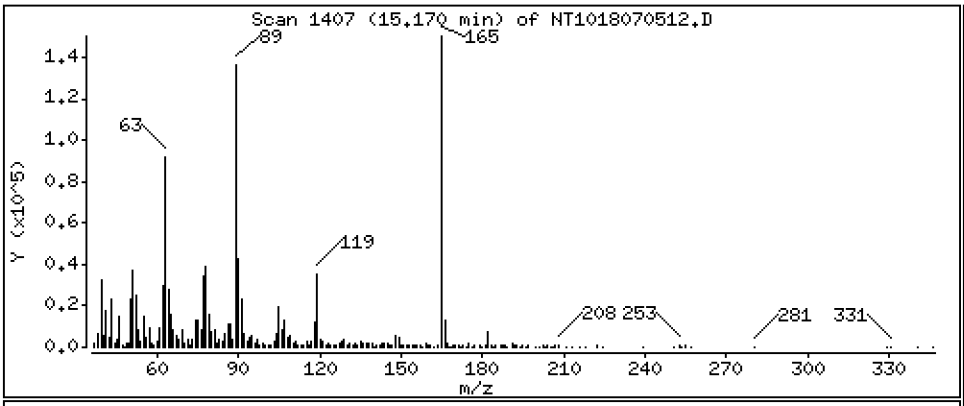
Operator: YZ

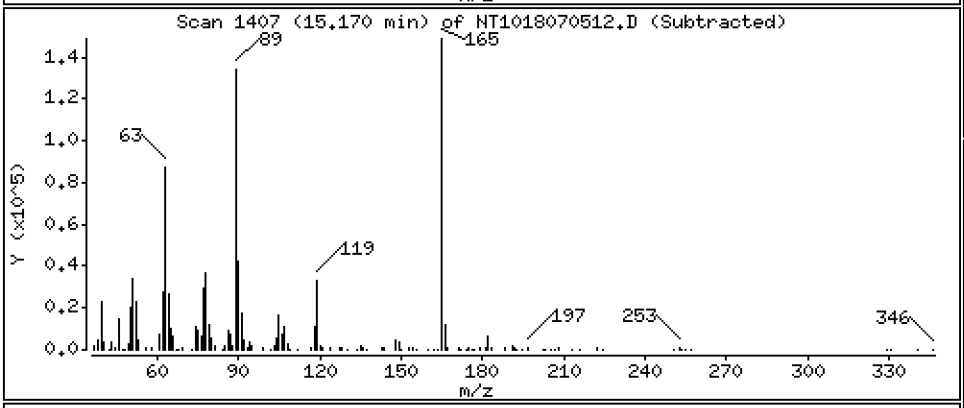
Column phase: ZB-5msi

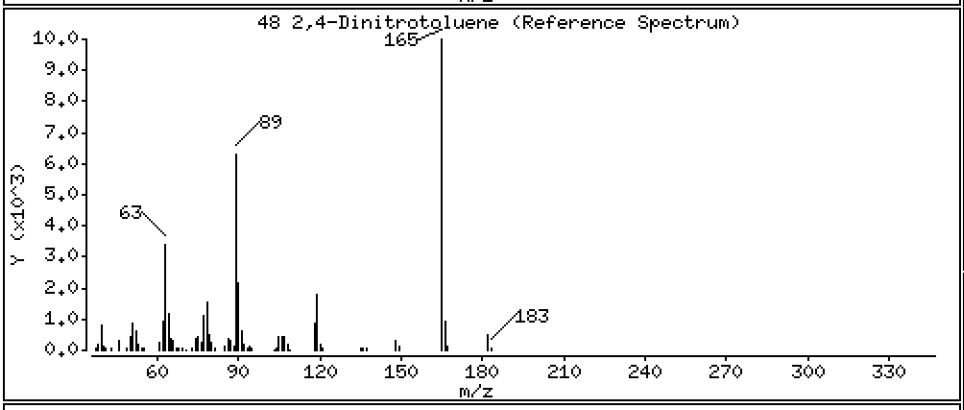
Column diameter: 0.25

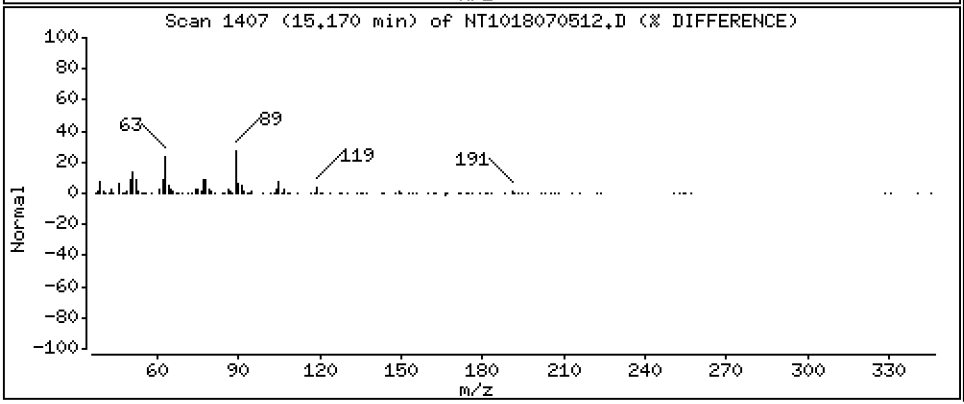
48 2,4-Dinitrotoluene

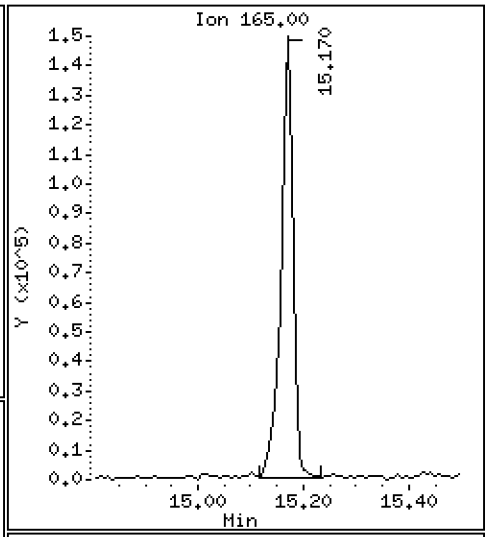
Concentration: 14.18 ug/mL

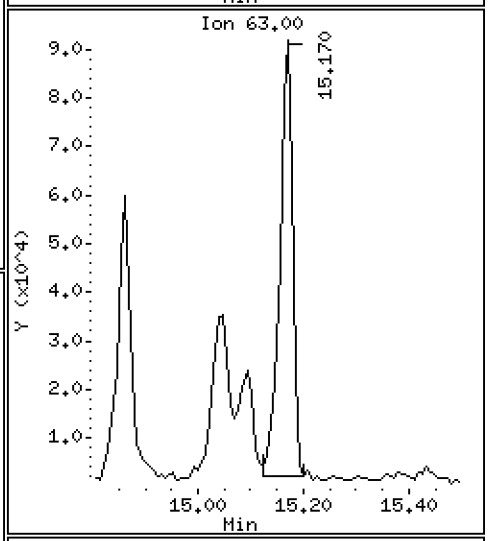


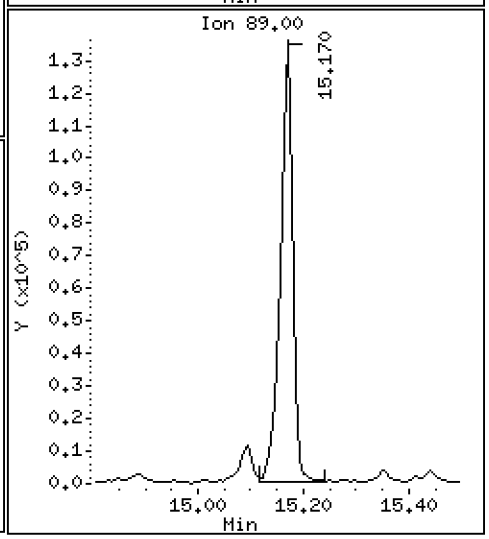












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

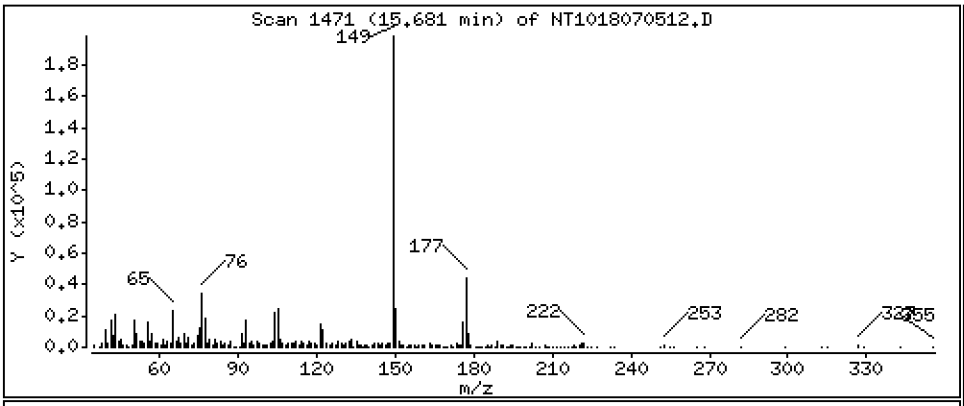
Operator: YZ

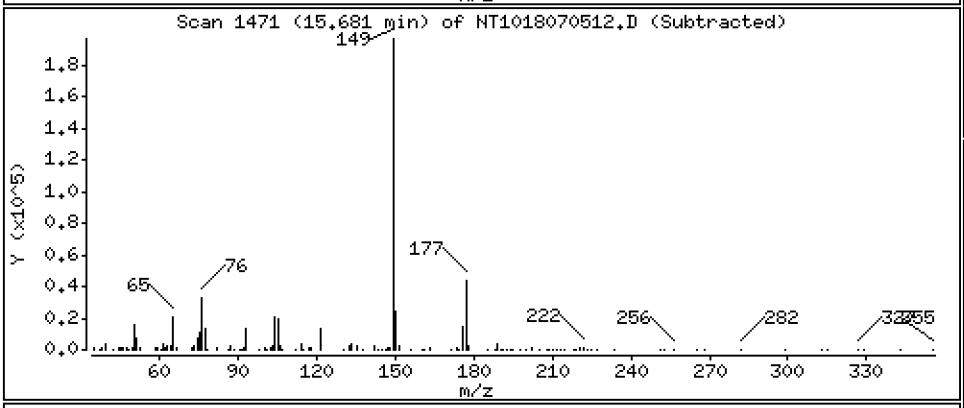
Column phase: ZB-5msi

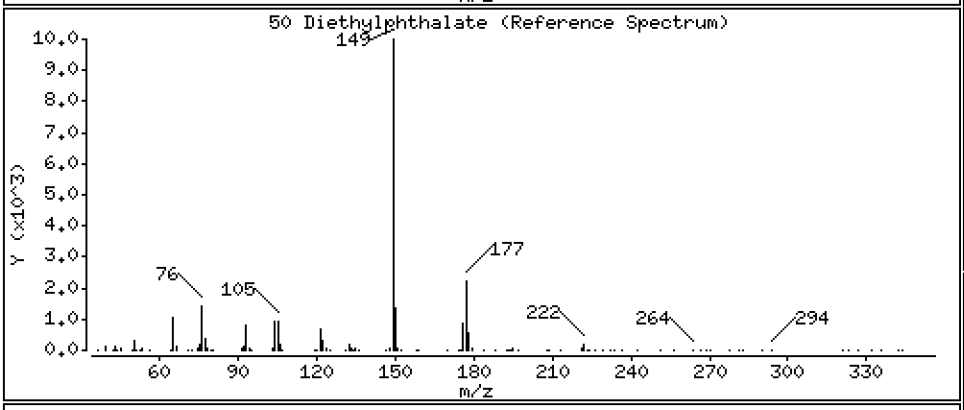
Column diameter: 0.25

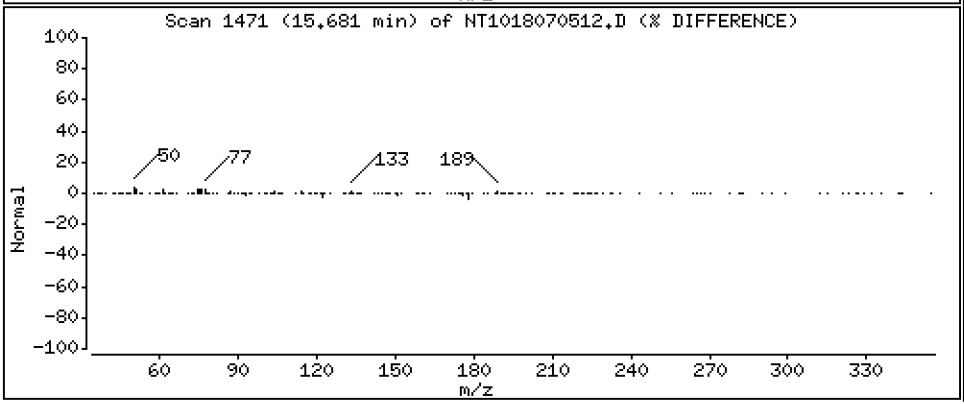
50 Diethylphthalate

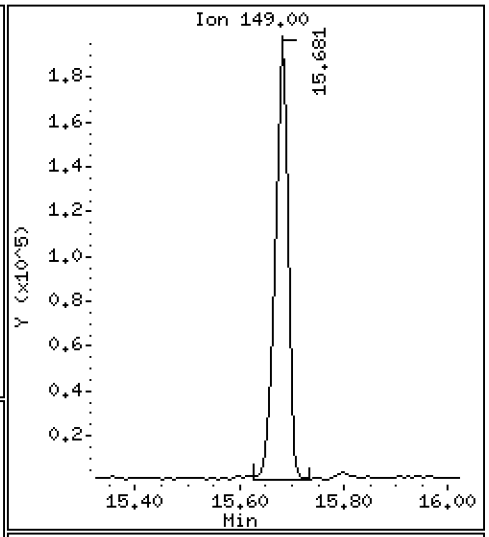
Concentration: 5.197 ug/mL

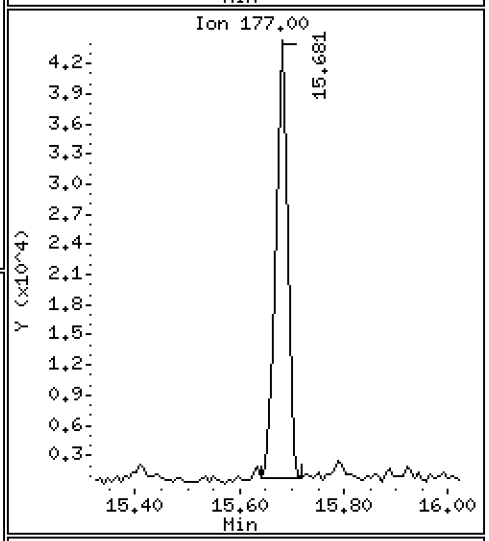


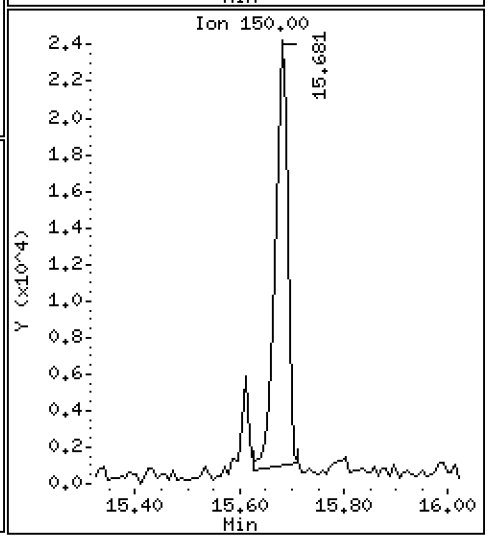












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

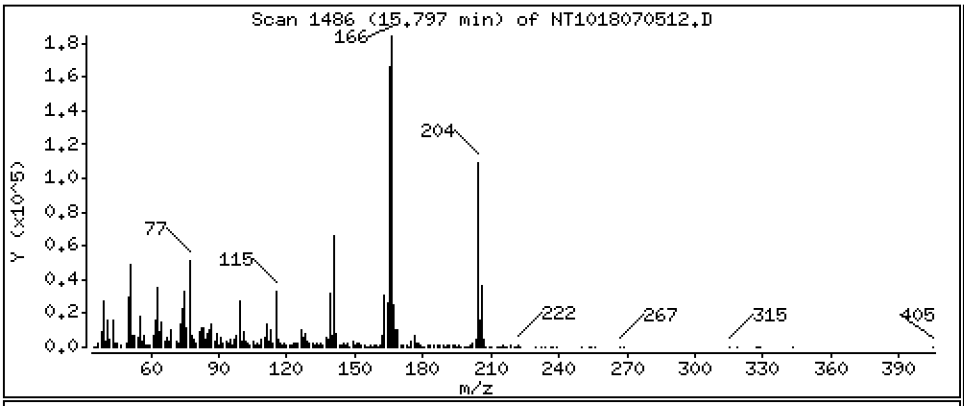
Operator: YZ

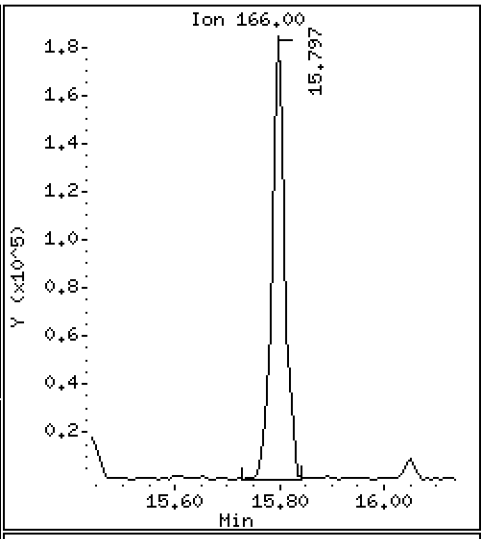
Column phase: ZB-5msi

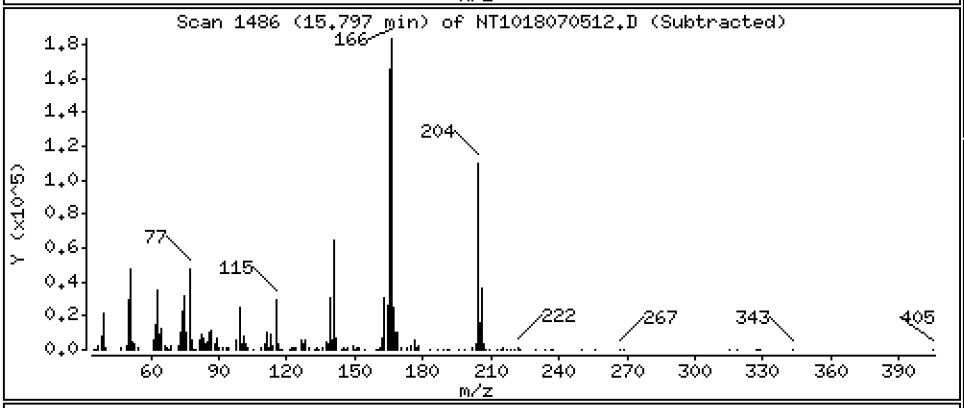
Column diameter: 0.25

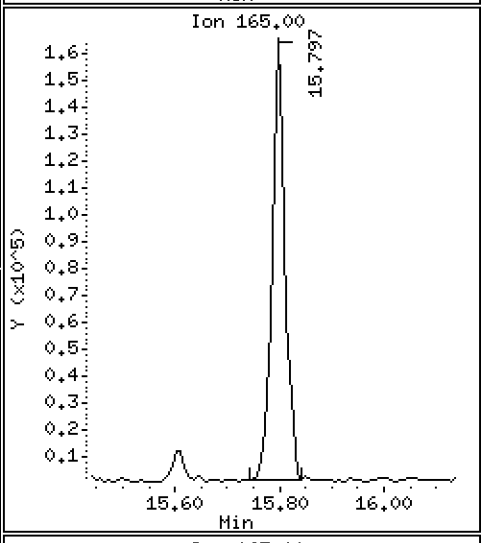
49 Fluorene

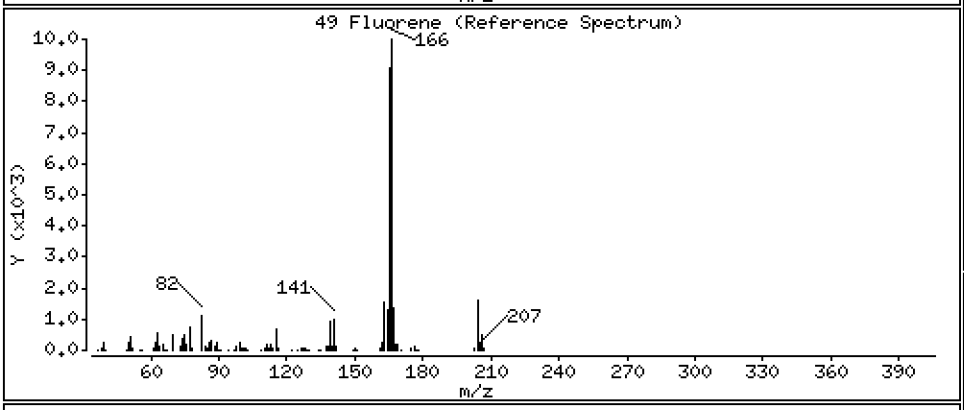
Concentration: 5.218 ug/mL

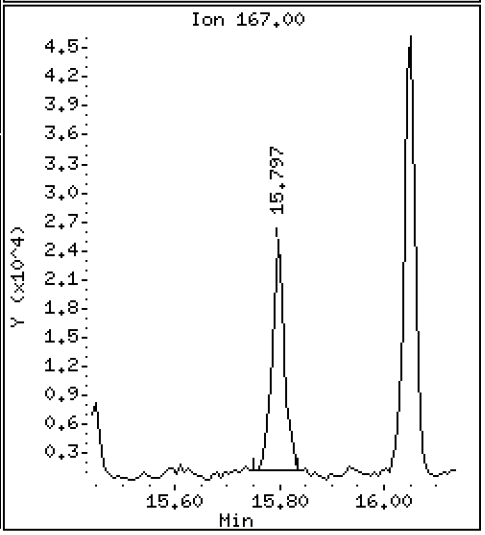


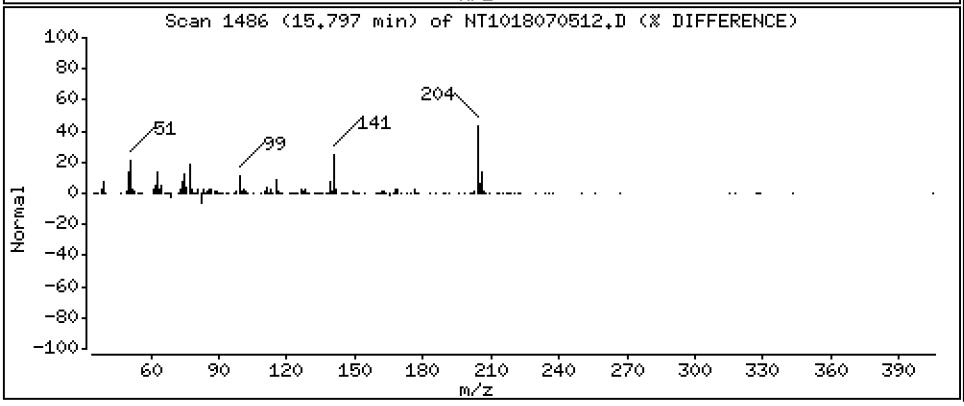












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

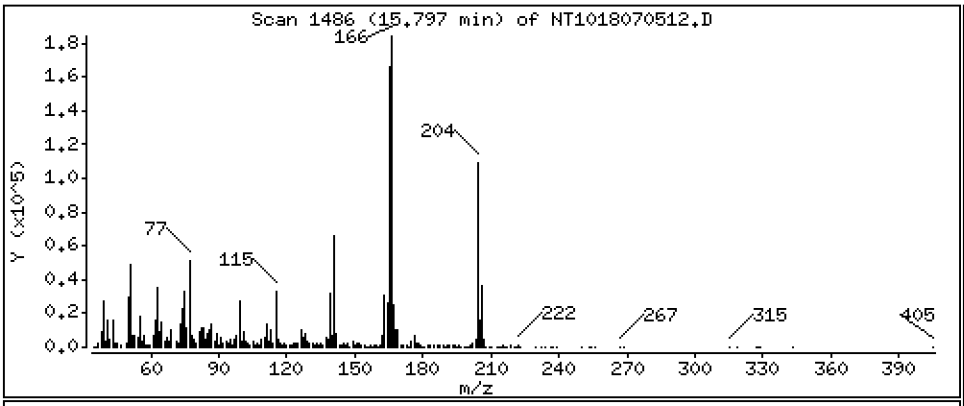
Operator: YZ

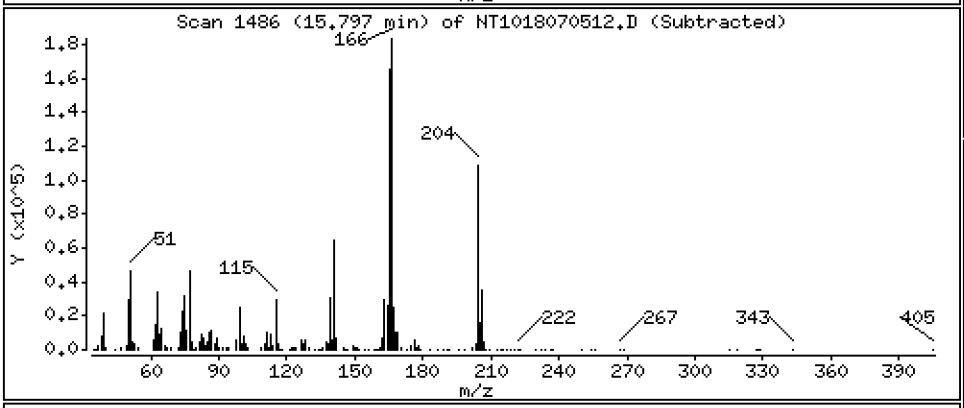
Column phase: ZB-5msi

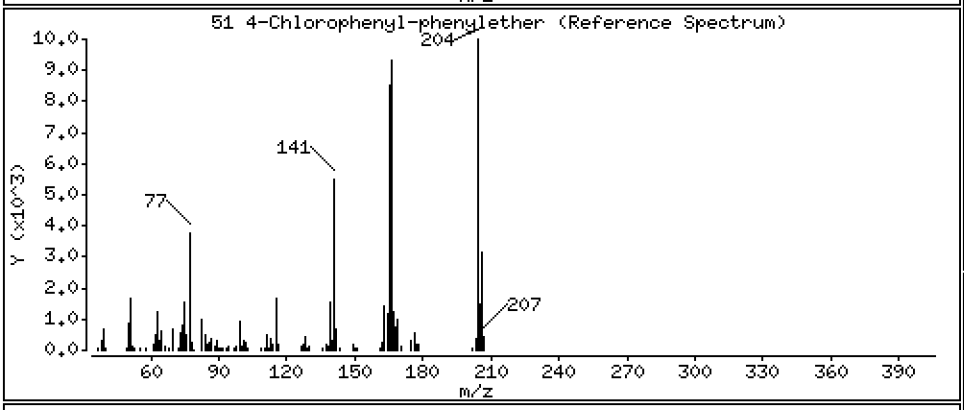
Column diameter: 0.25

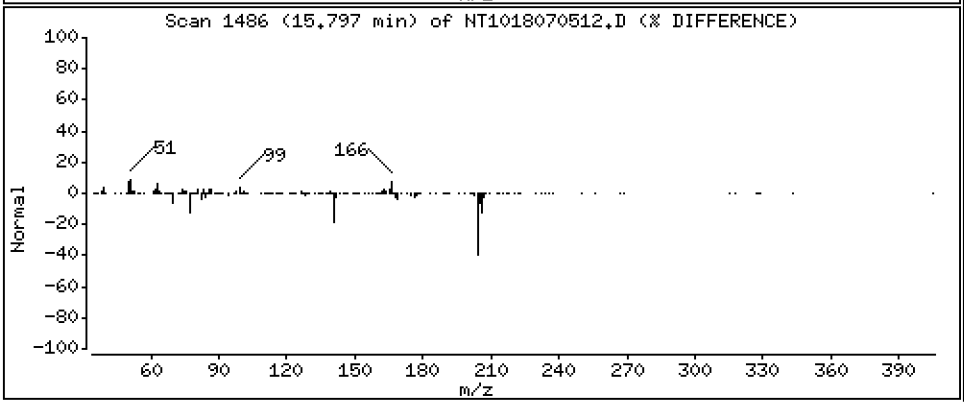
51 4-Chlorophenyl-phenylether

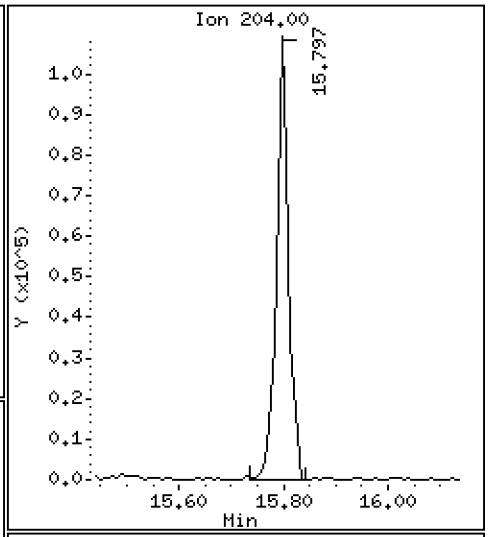
Concentration: 5.918 ug/mL

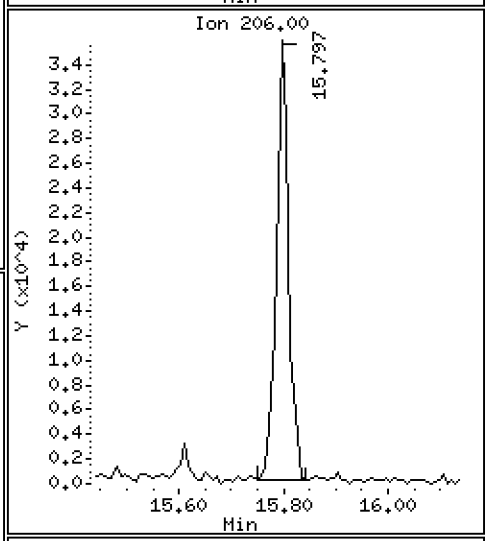


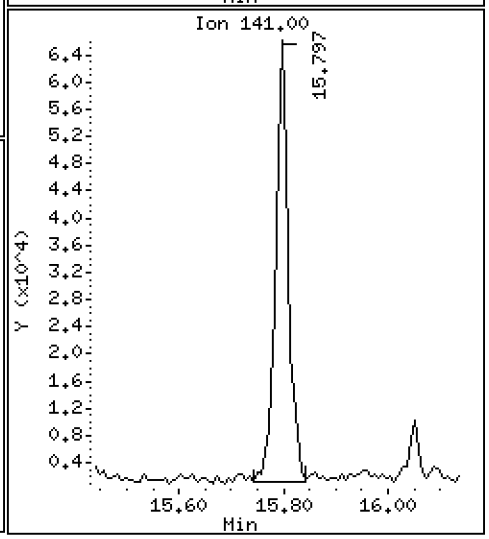












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

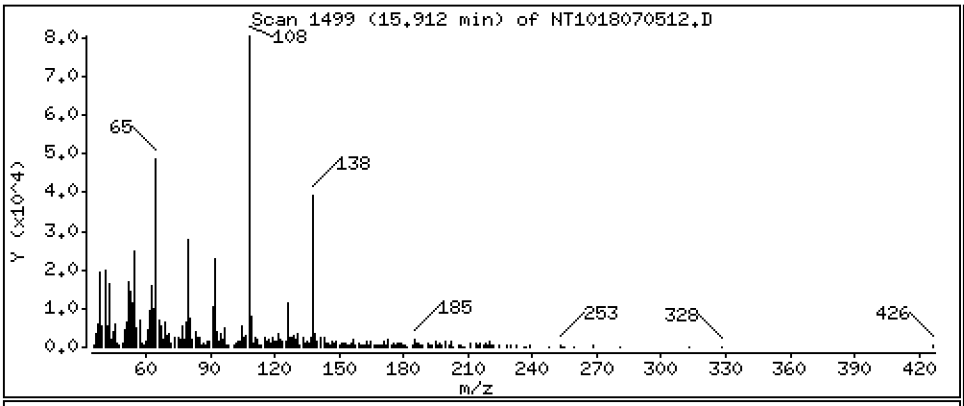
Operator: YZ

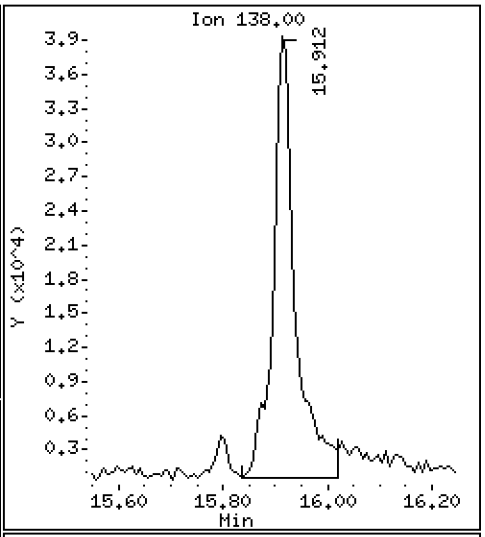
Column phase: ZB-5msi

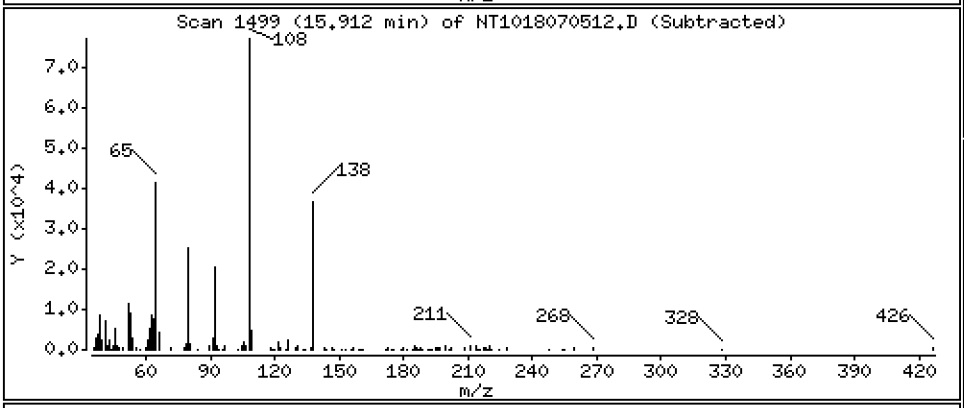
Column diameter: 0.25

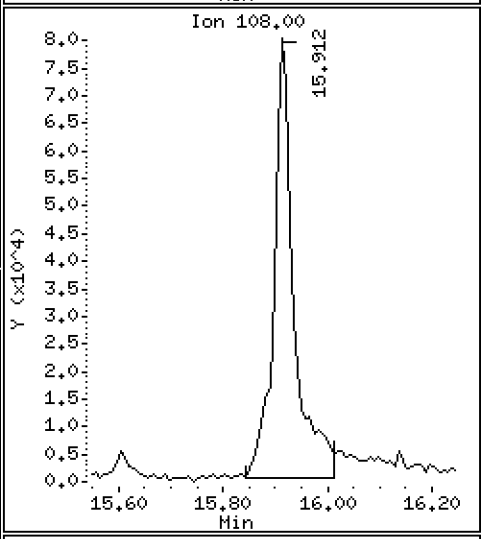
52 4-Nitroaniline

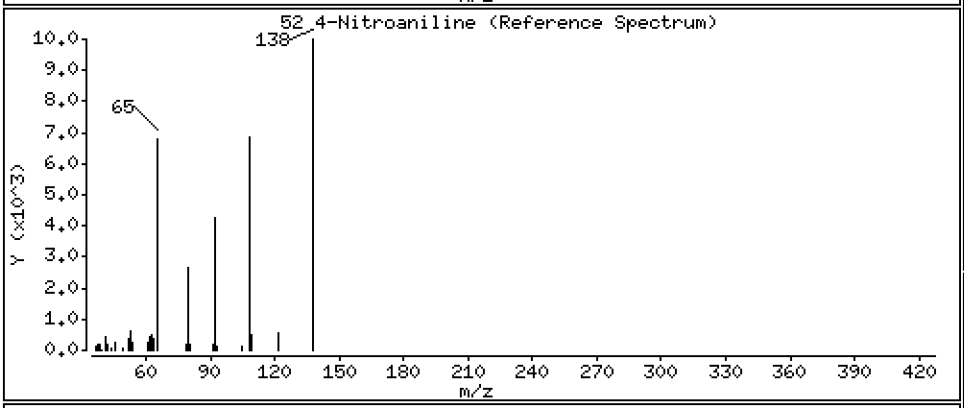
Concentration: 7.923 ug/mL

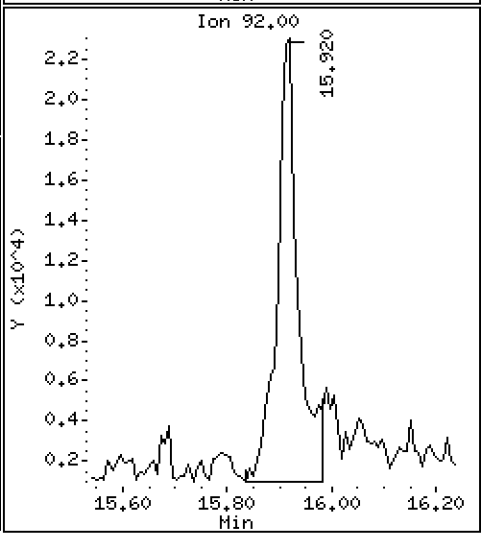


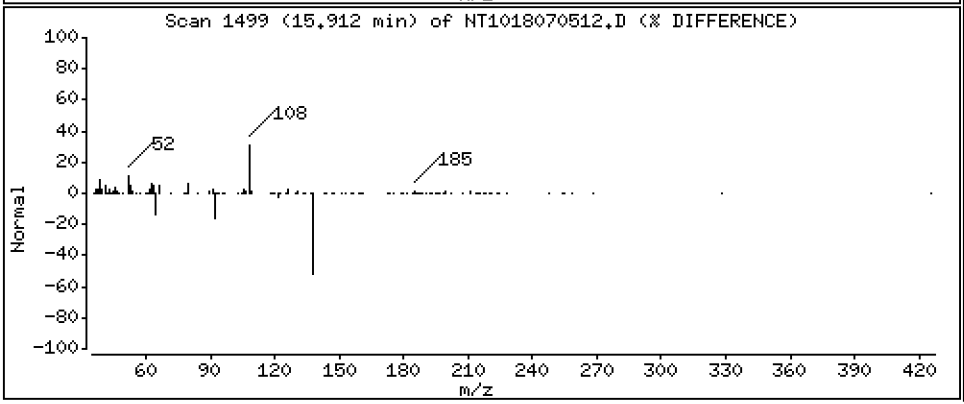












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

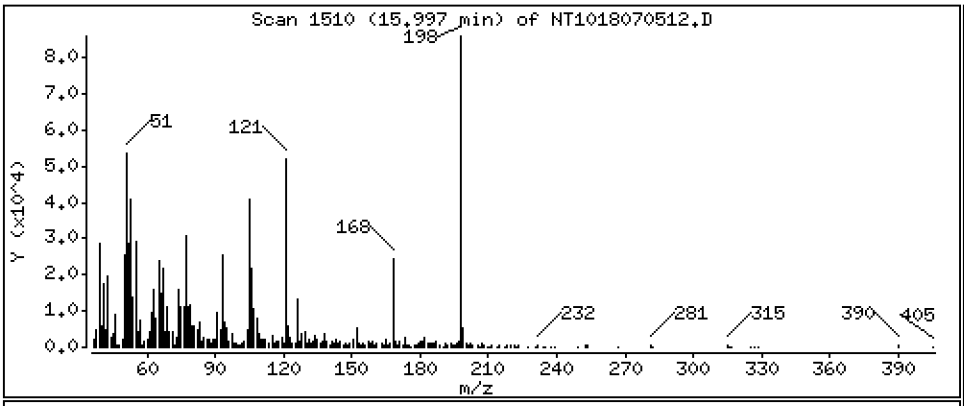
Operator: YZ

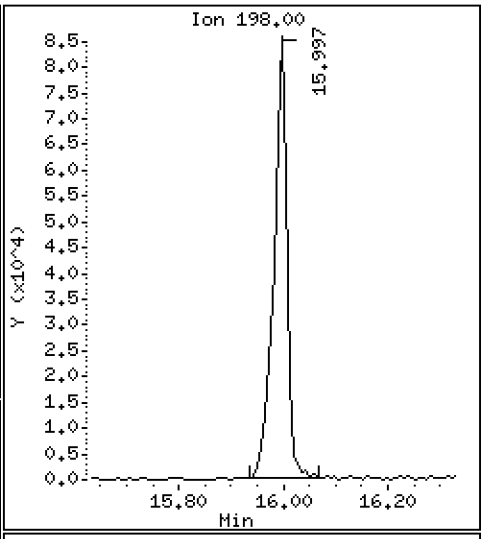
Column phase: ZB-5msi

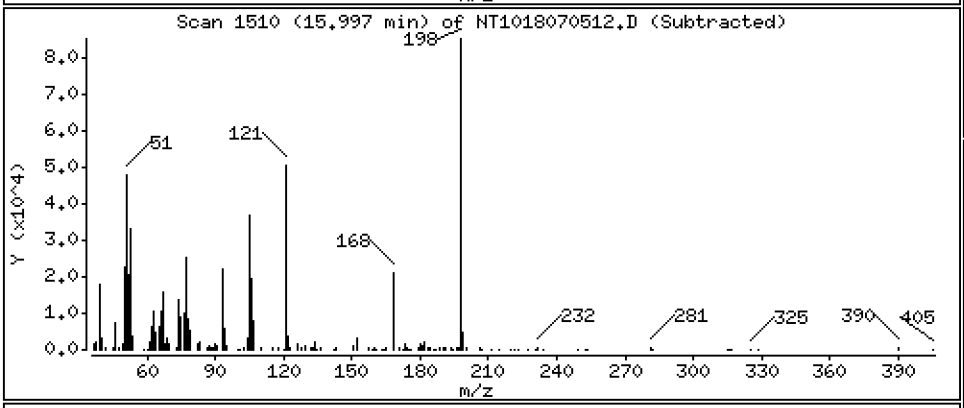
Column diameter: 0.25

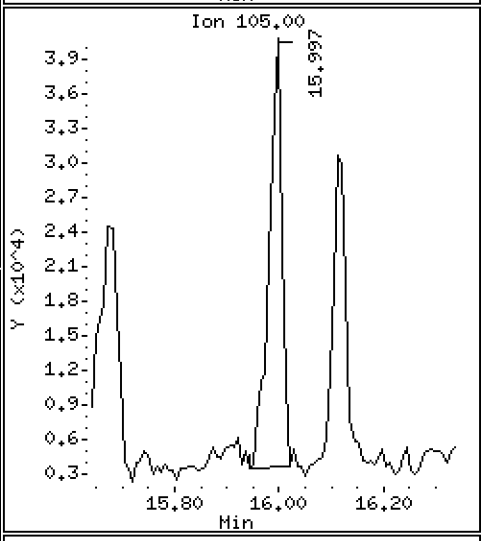
53 4,6-Dinitro-2-methylphenol

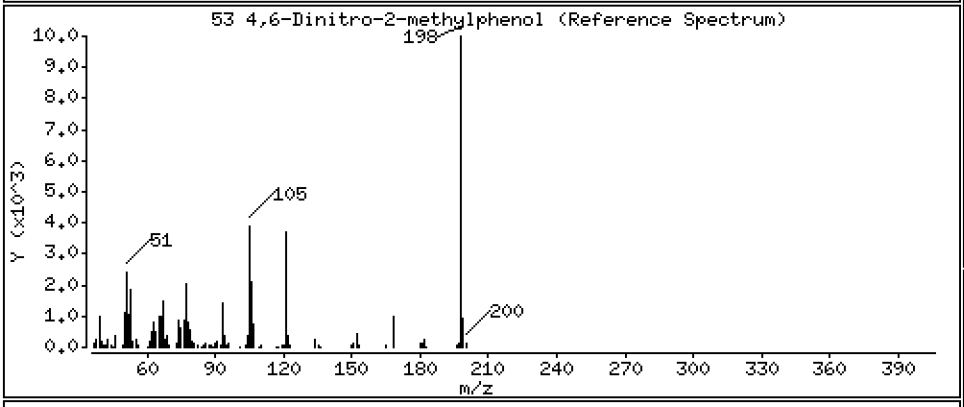
Concentration: 10.68 ug/mL

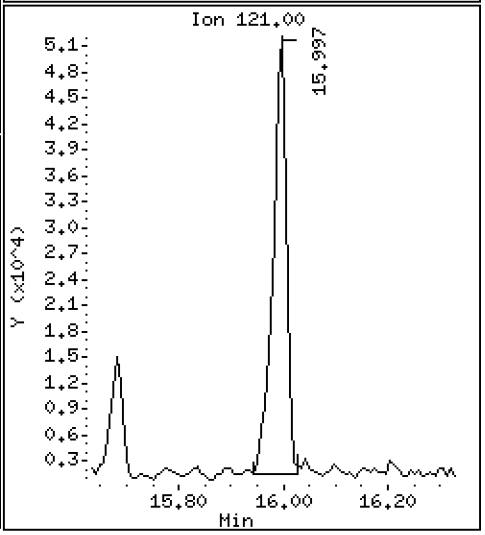


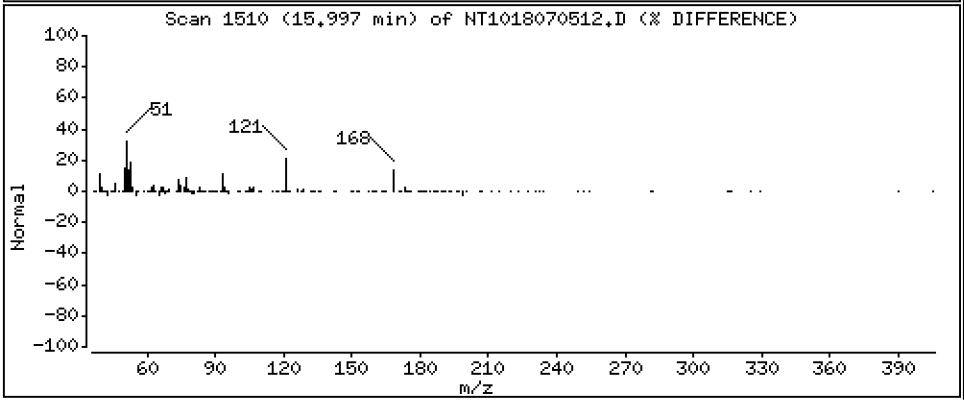












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

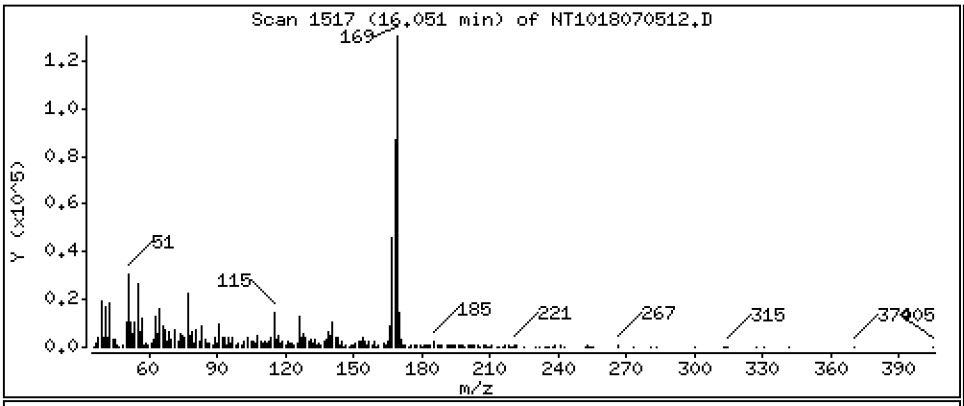
Operator: YZ

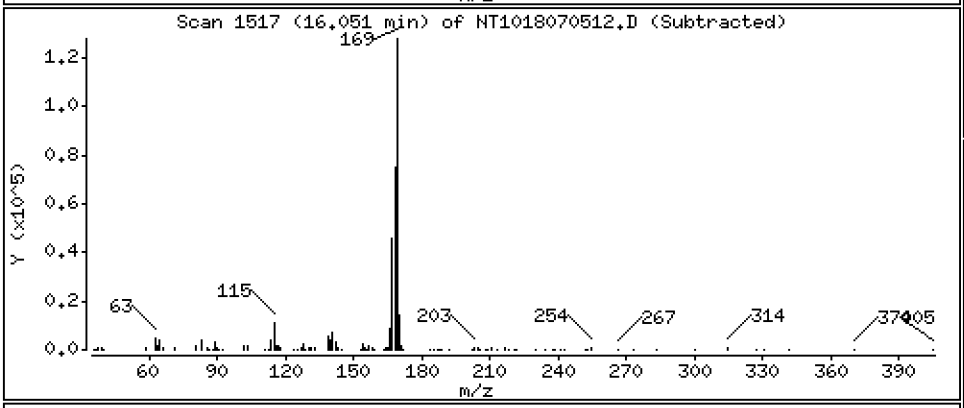
Column phase: ZB-5msi

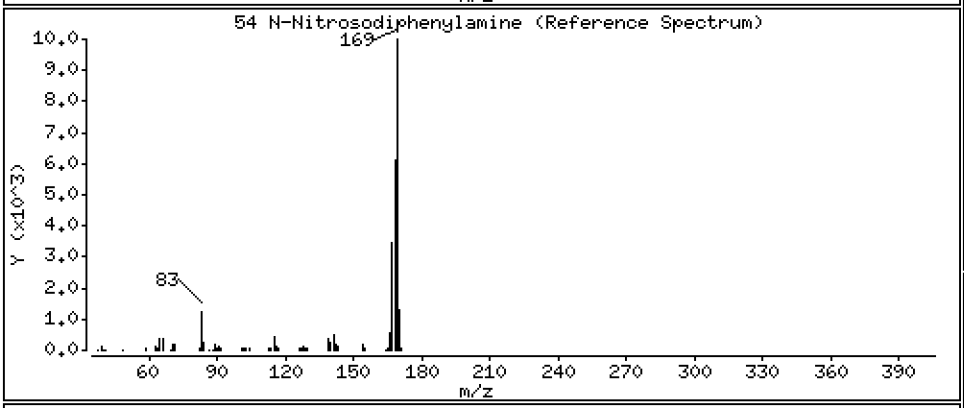
Column diameter: 0.25

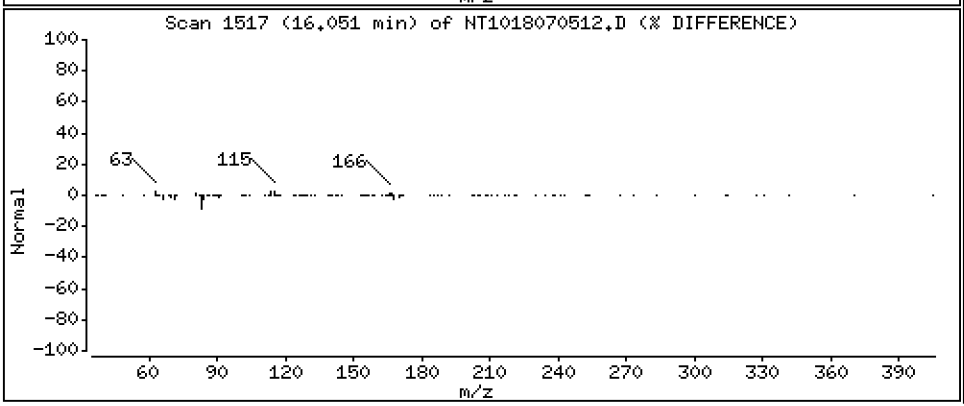
54 N-Nitrosodiphenylamine

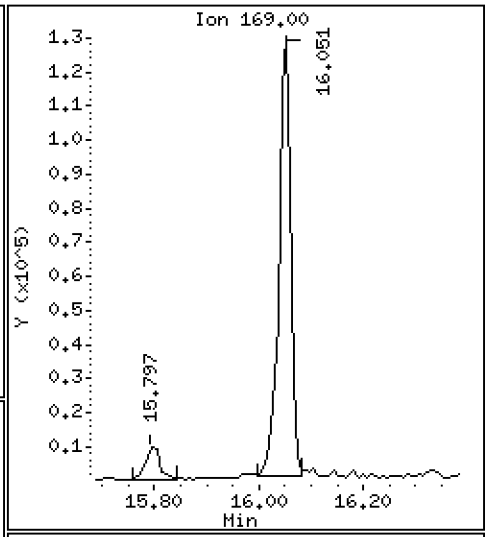
Concentration: 4.596 ug/mL

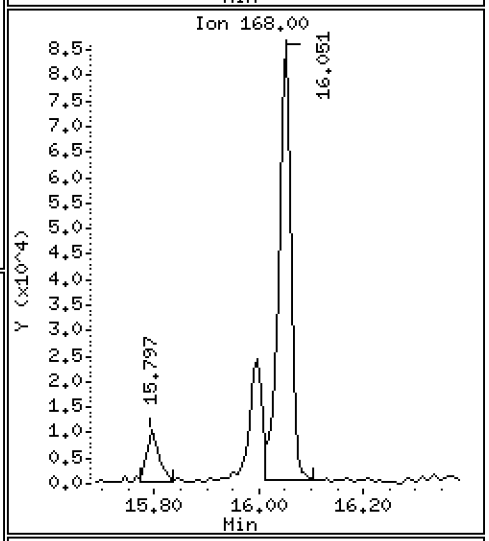


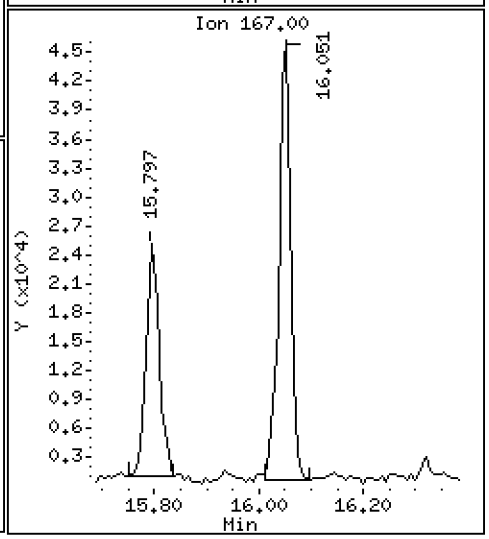












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

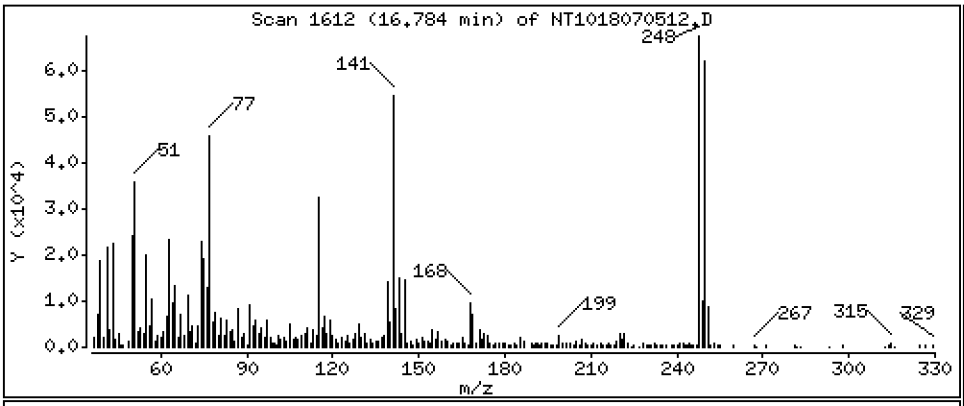
Operator: YZ

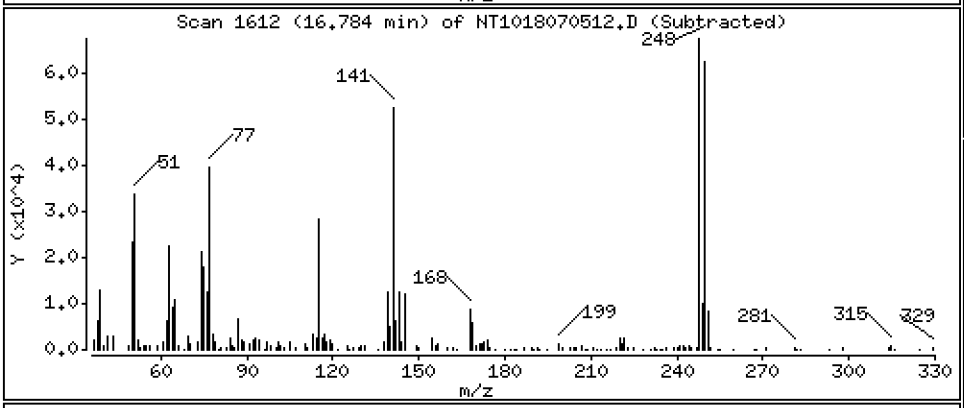
Column phase: ZB-5msi

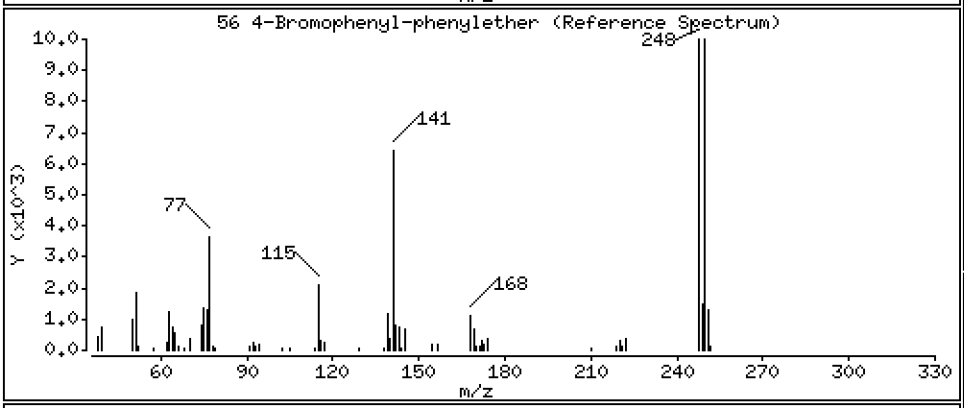
Column diameter: 0.25

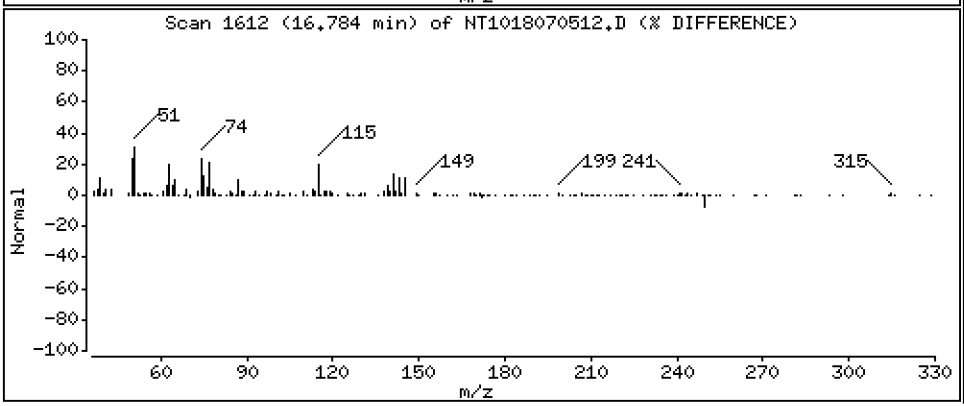
56 4-Bromophenyl-phenylether

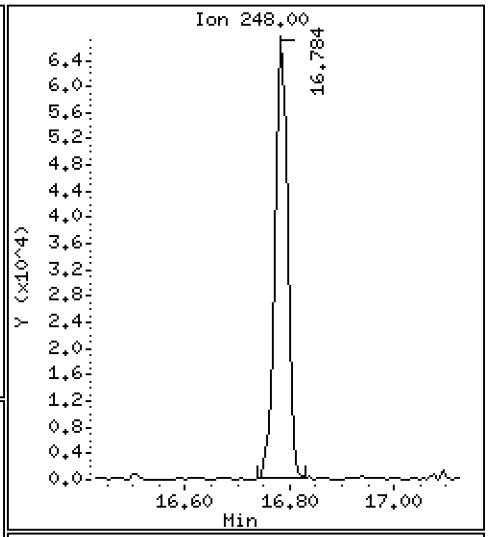
Concentration: 5.237 ug/mL

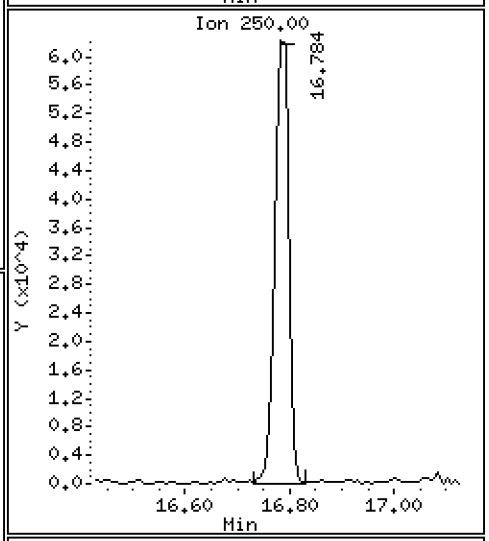


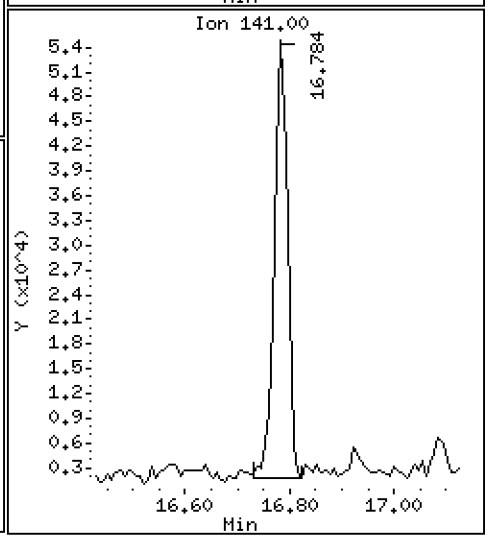












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

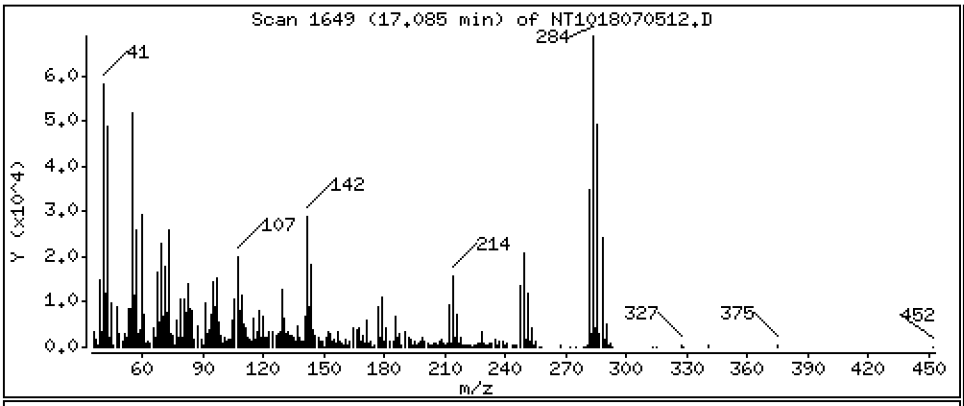
Operator: YZ

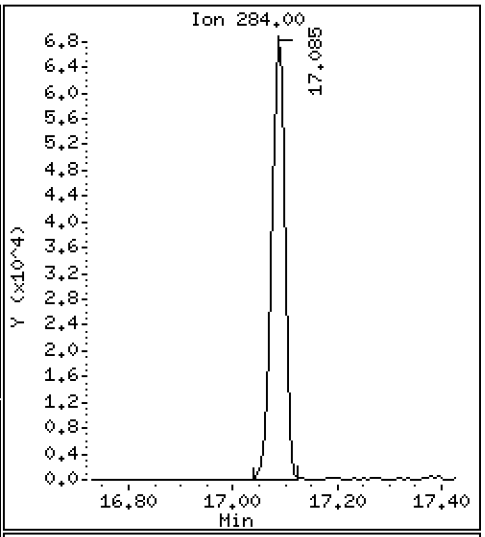
Column phase: ZB-5msi

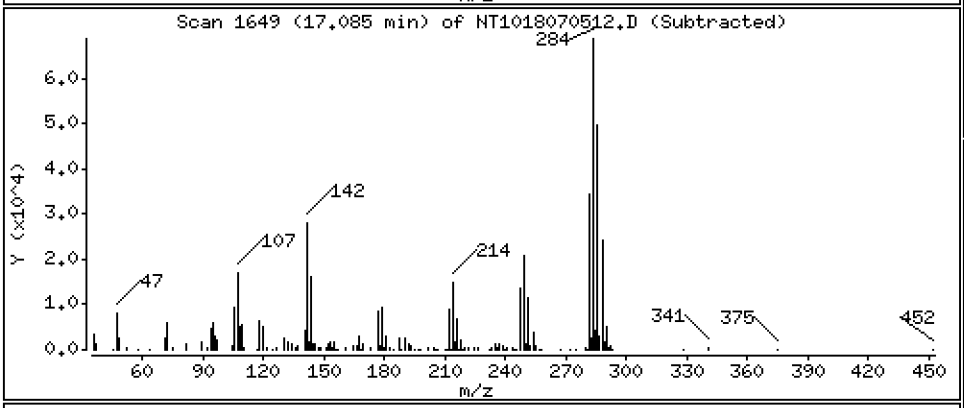
Column diameter: 0.25

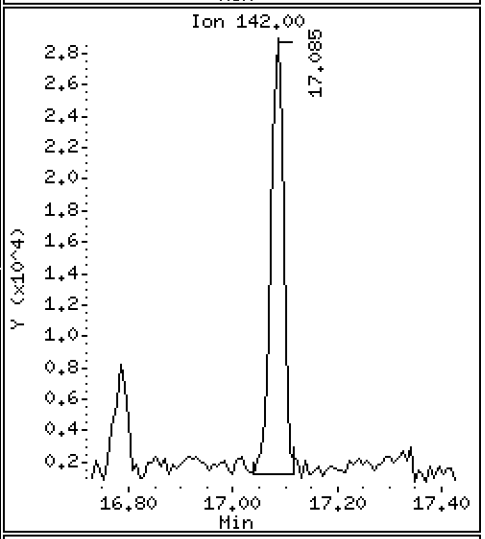
57 Hexachlorobenzene

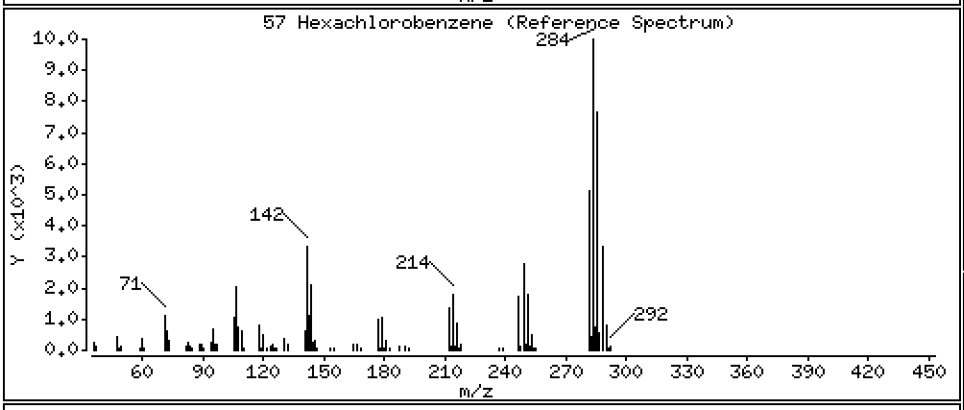
Concentration: 6.006 ug/mL

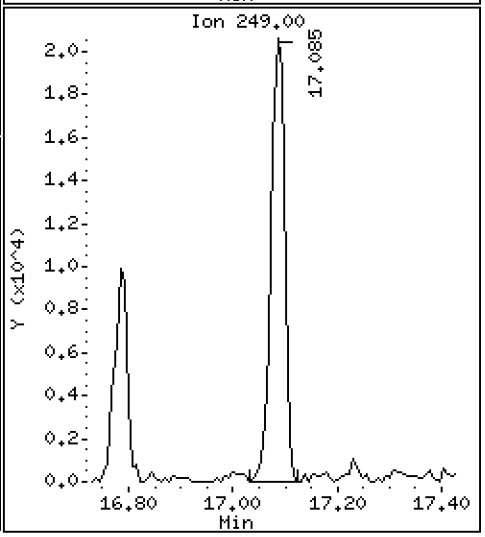


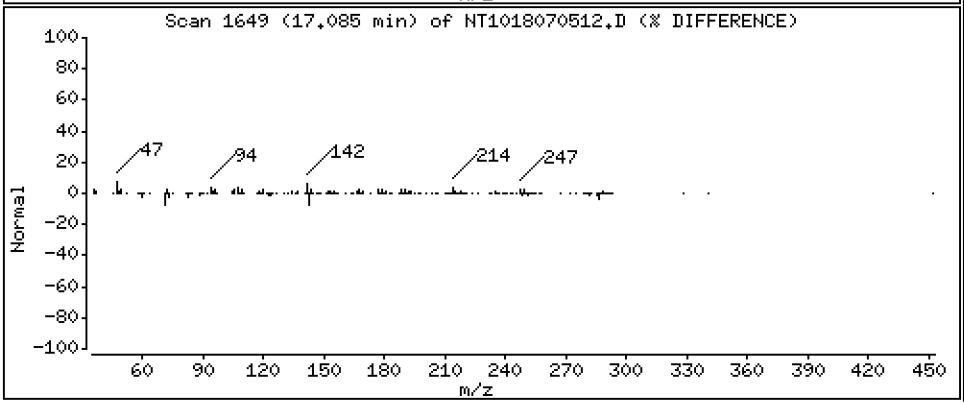












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

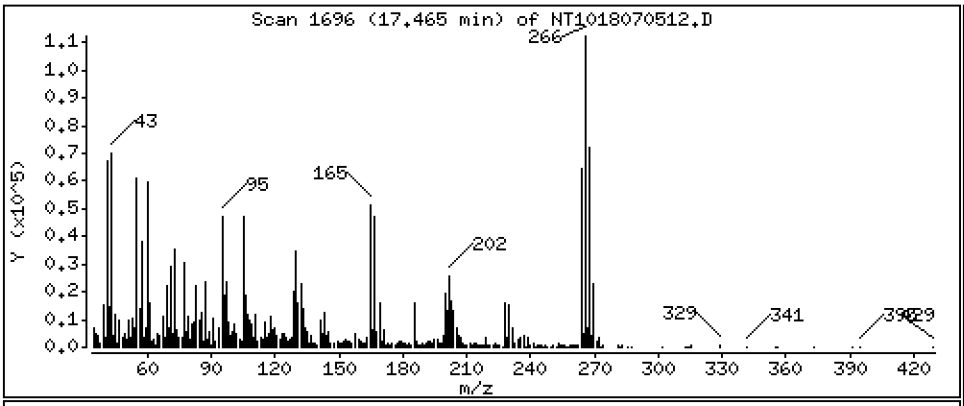
Operator: YZ

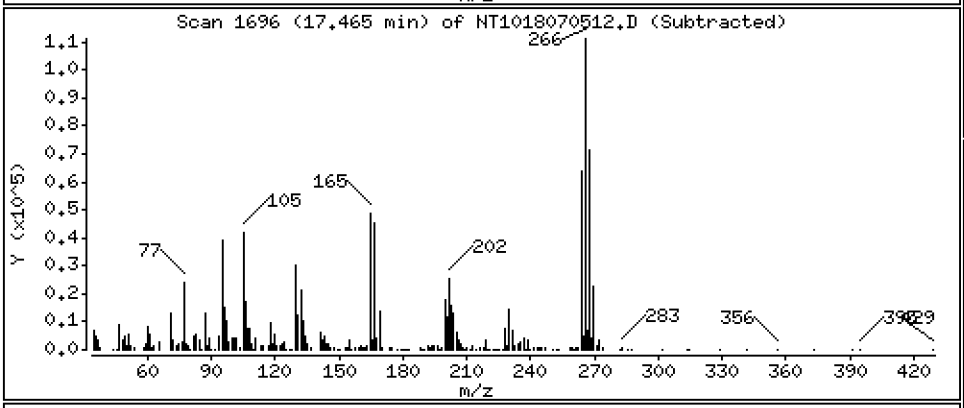
Column phase: ZB-5msi

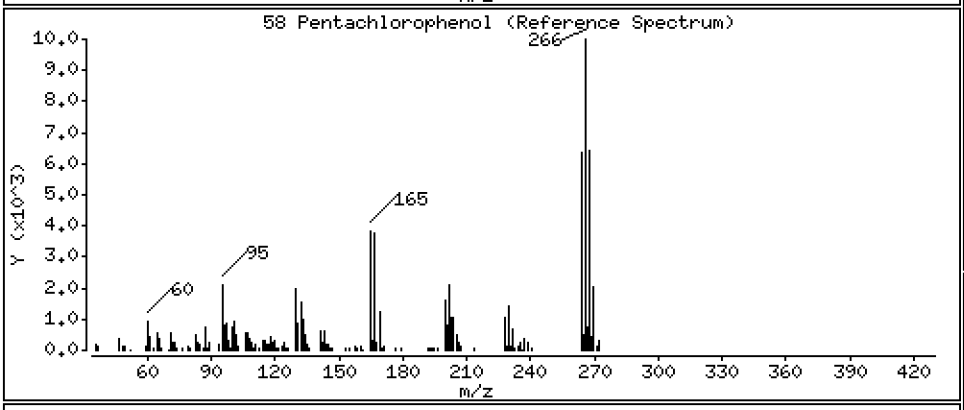
Column diameter: 0.25

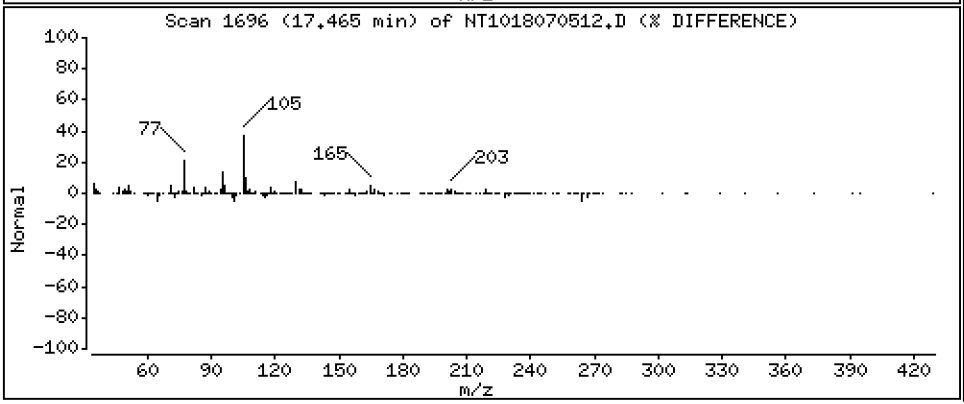
58 Pentachlorophenol

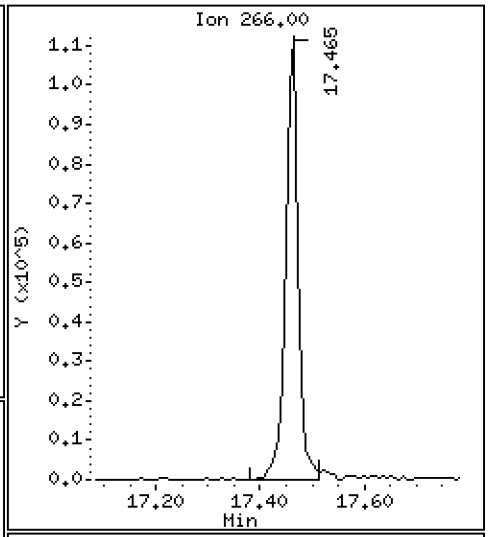
Concentration: 17.15 ug/mL

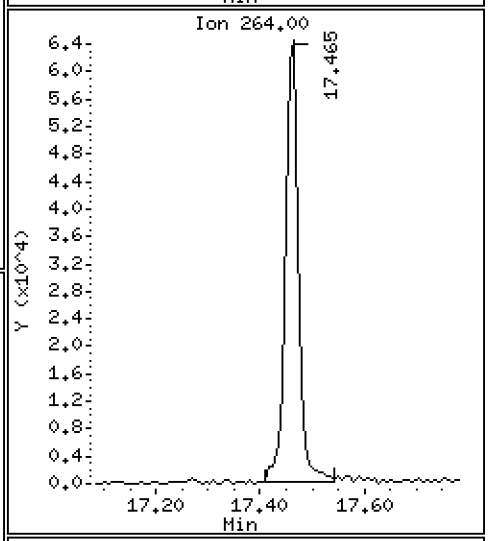


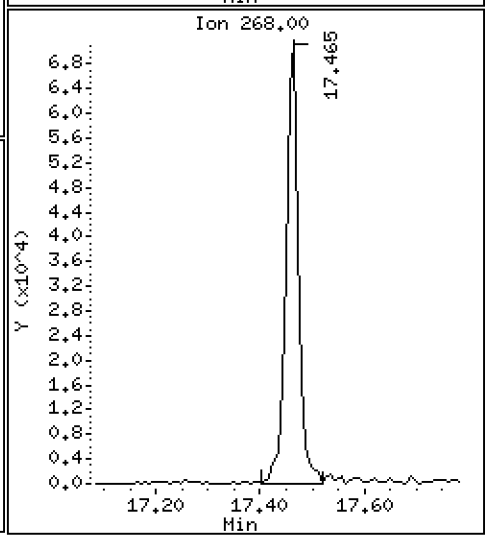












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

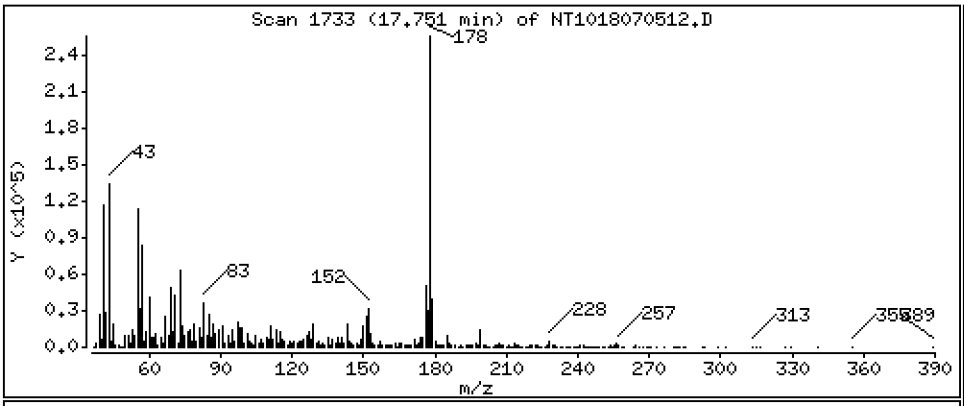
Operator: YZ

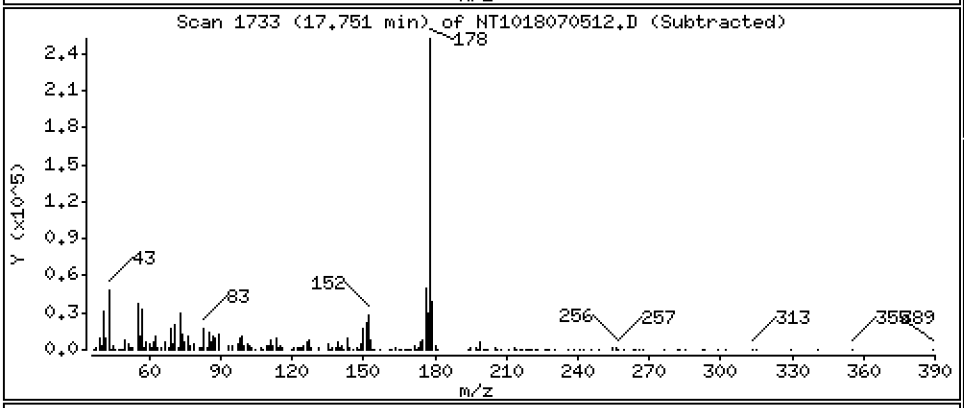
Column phase: ZB-5msi

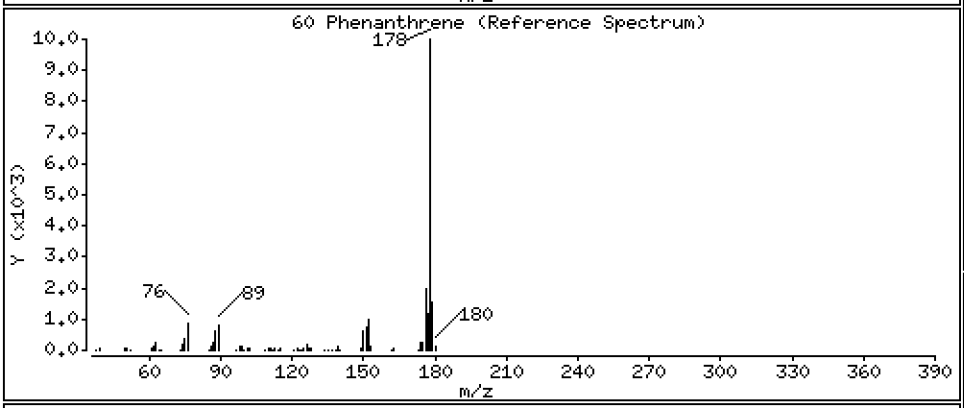
Column diameter: 0.25

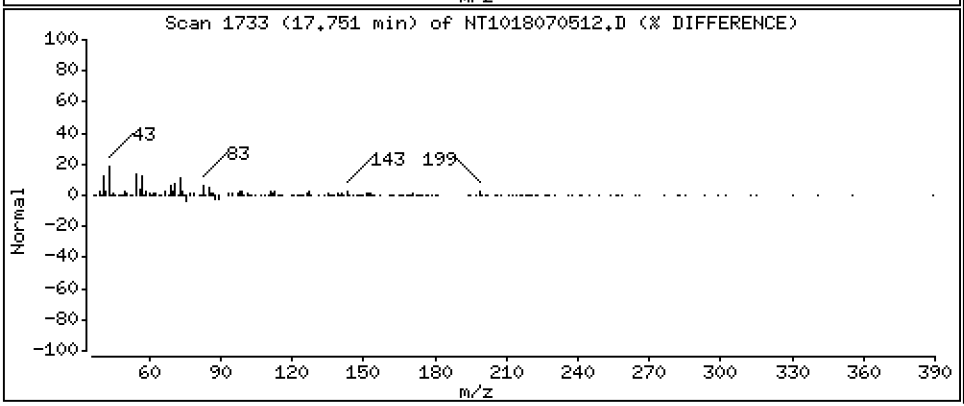
60 Phenanthrene

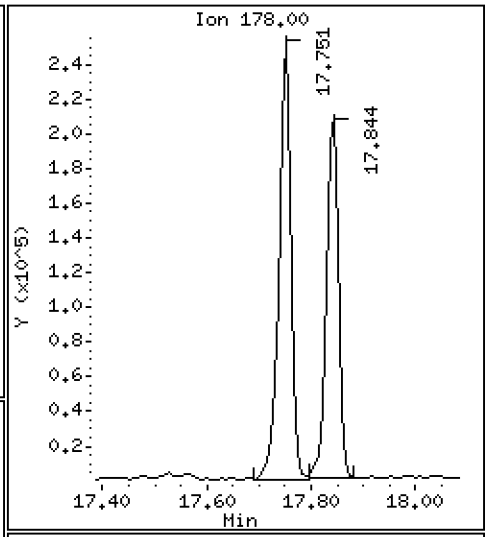
Concentration: 4.618 ug/mL

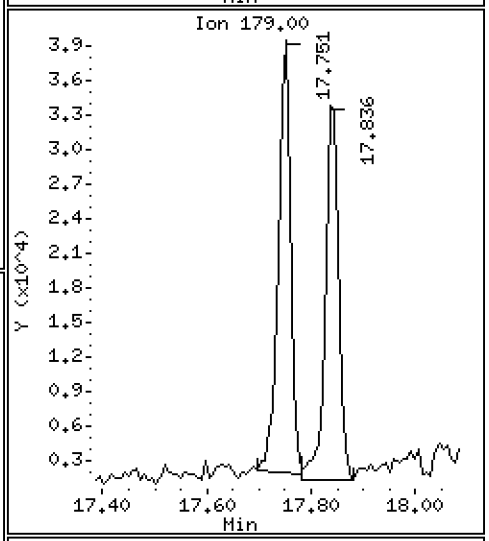


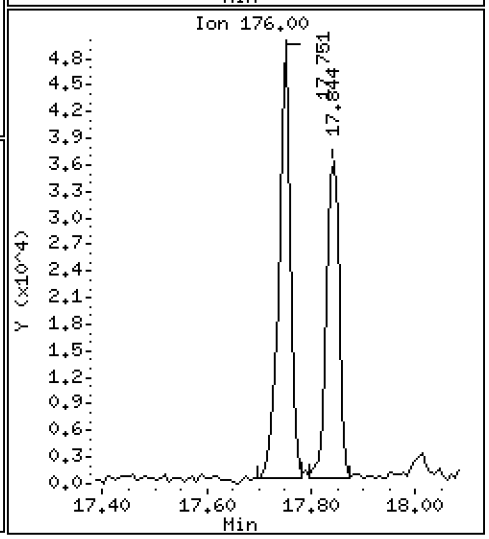












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

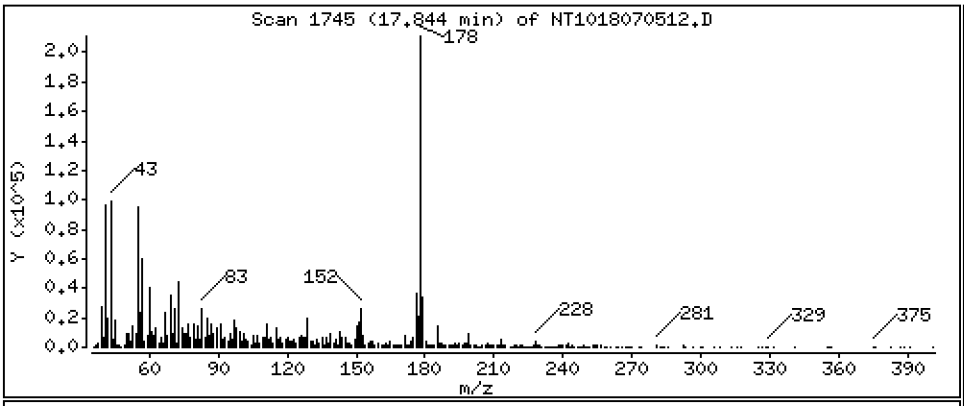
Operator: YZ

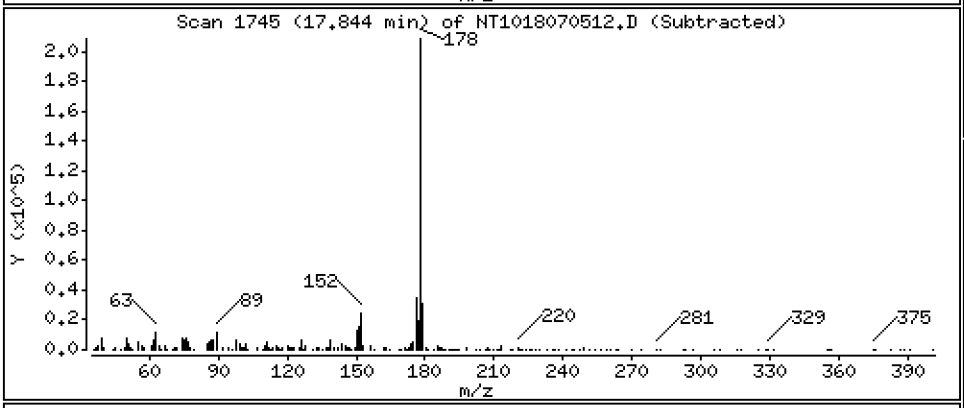
Column phase: ZB-5msi

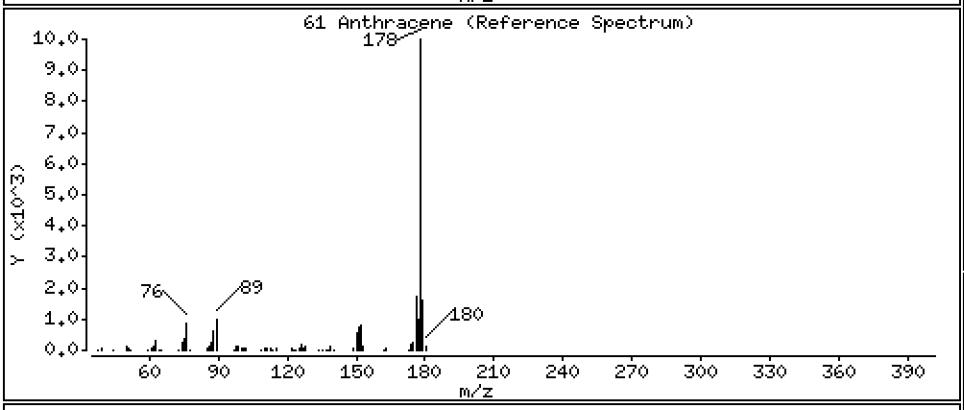
Column diameter: 0.25

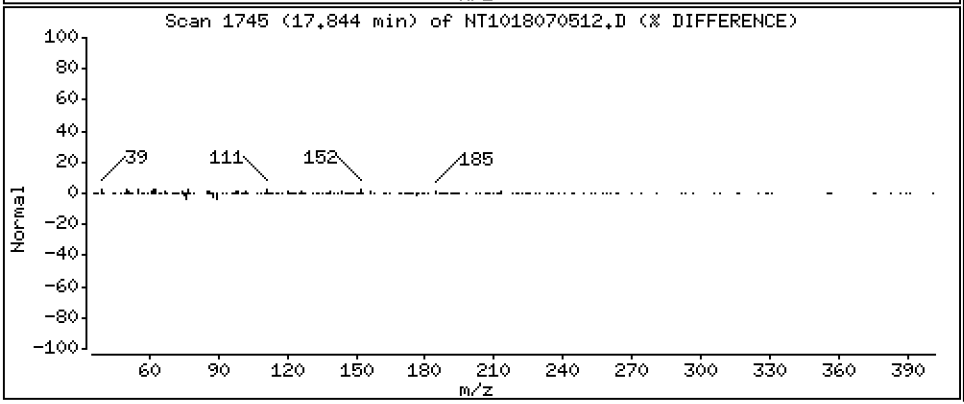
61 Anthracene

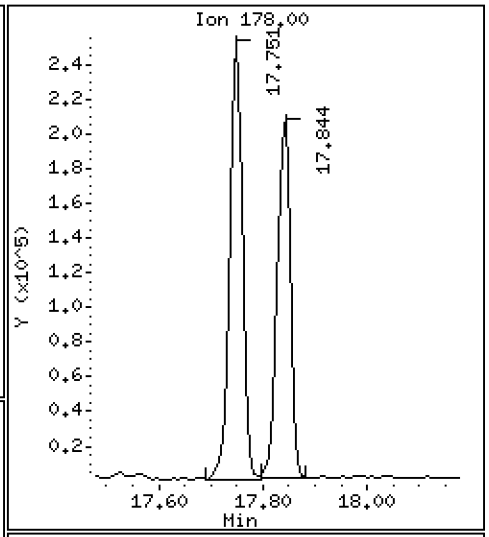
Concentration: 3.789 ug/mL

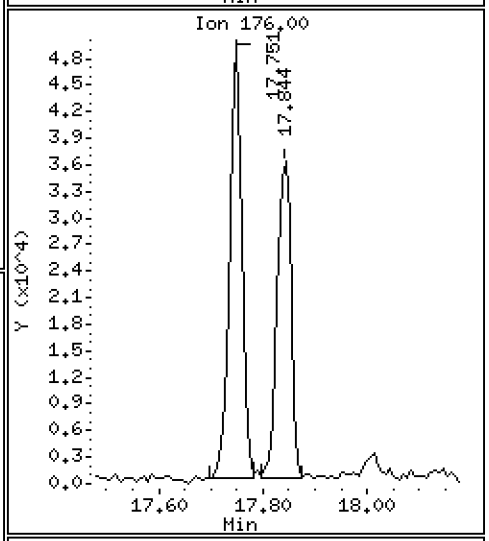


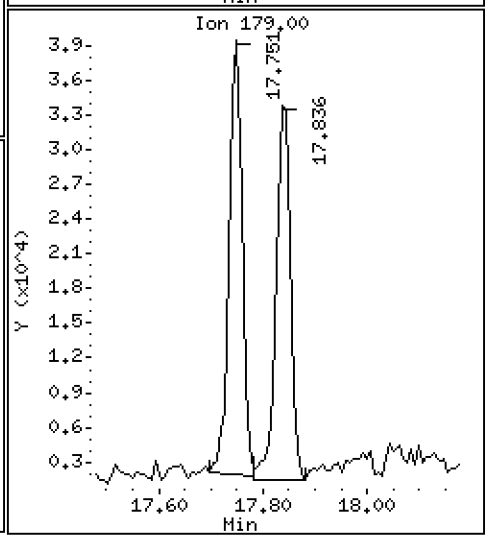












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

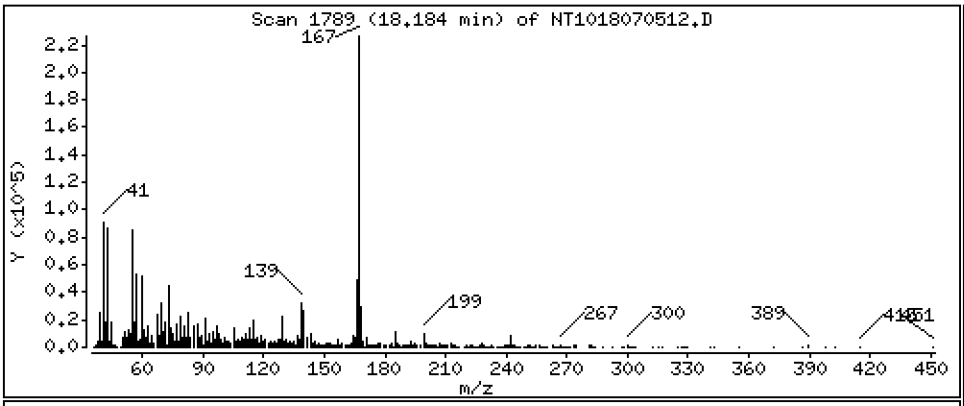
Operator: YZ

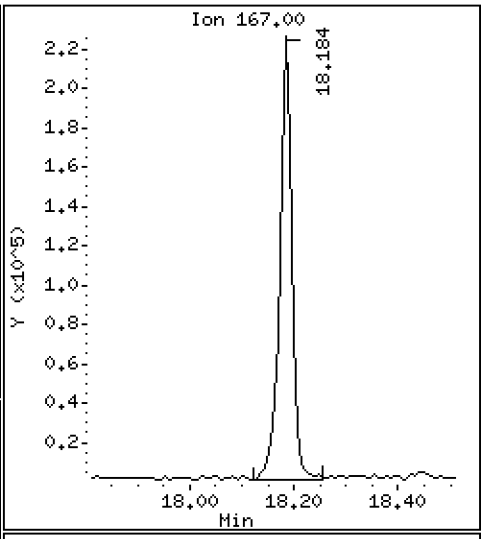
Column phase: ZB-5msi

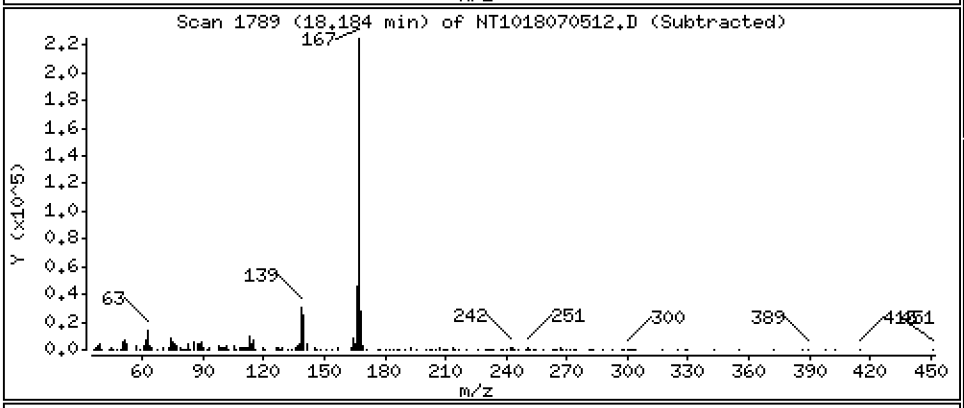
Column diameter: 0.25

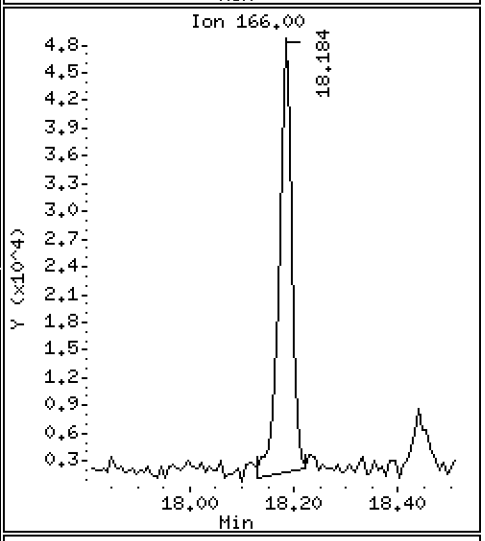
62 Carbazole

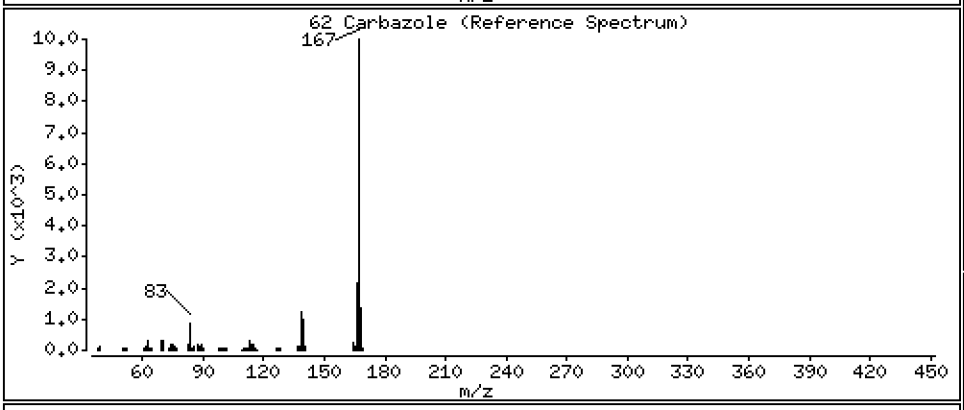
Concentration: 4.451 ug/mL

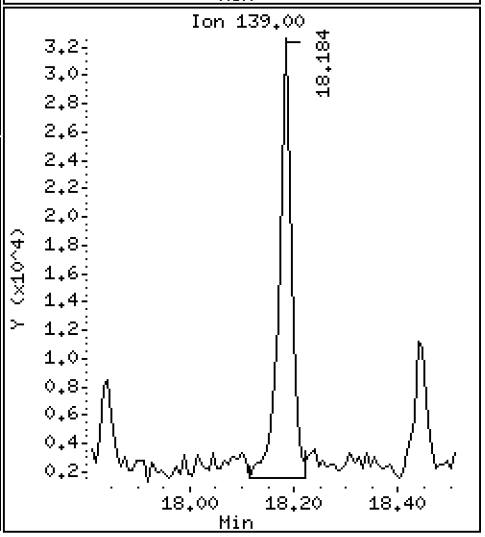


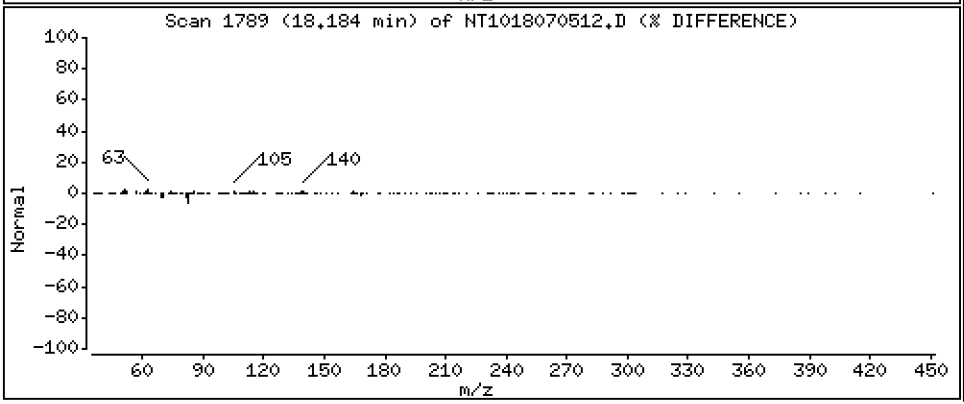












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

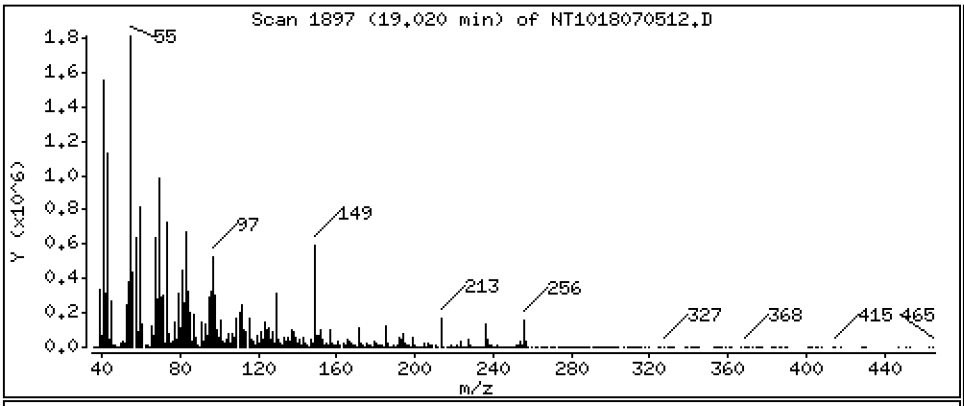
Operator: YZ

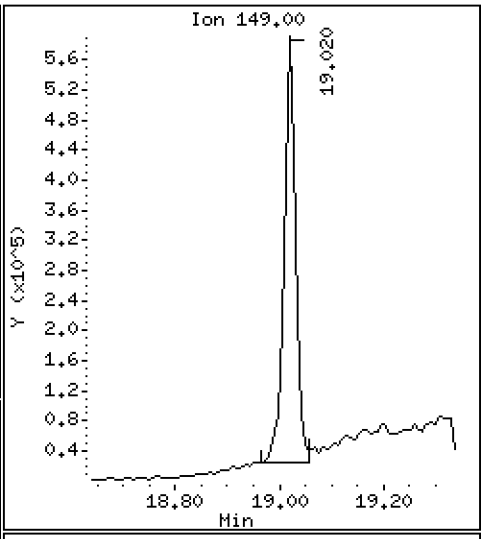
Column phase: ZB-5msi

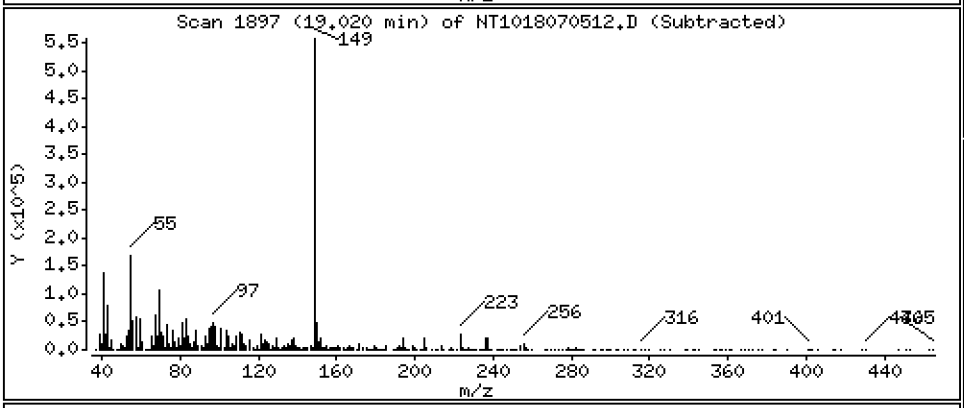
Column diameter: 0.25

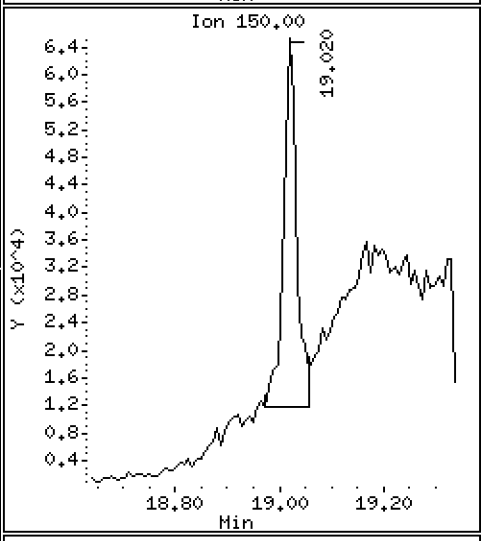
63 Di-n-butylphthalate

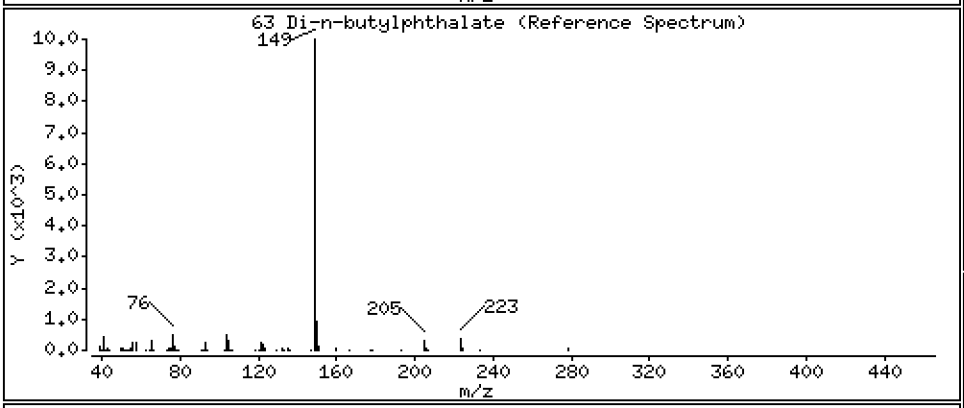
Concentration: 7.167 ug/mL

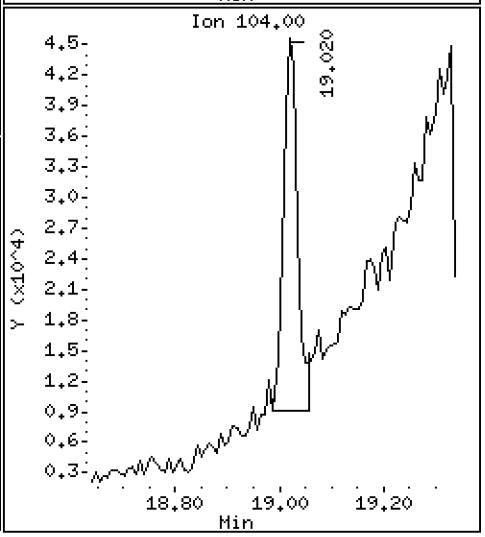


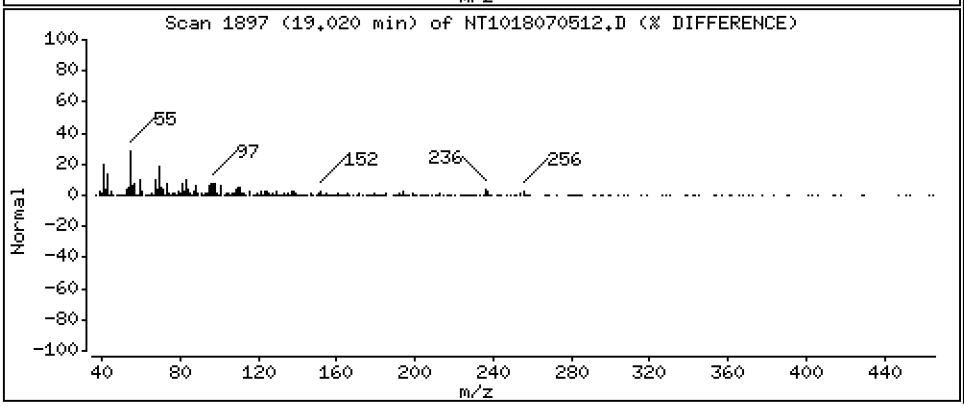












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

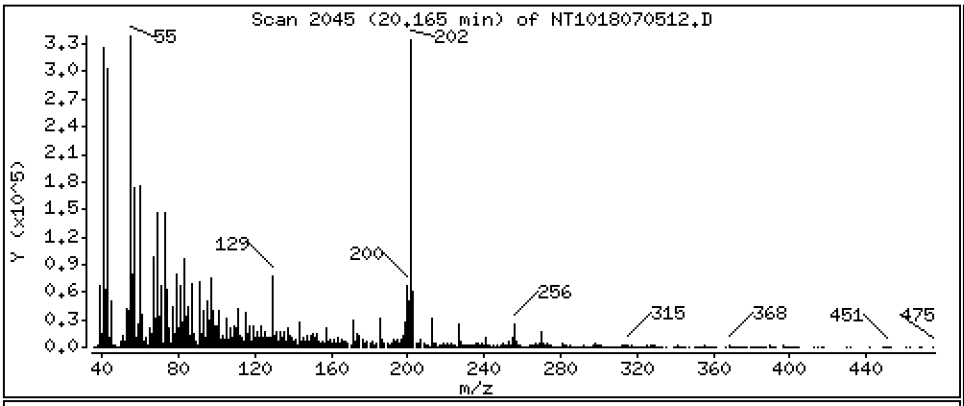
Operator: YZ

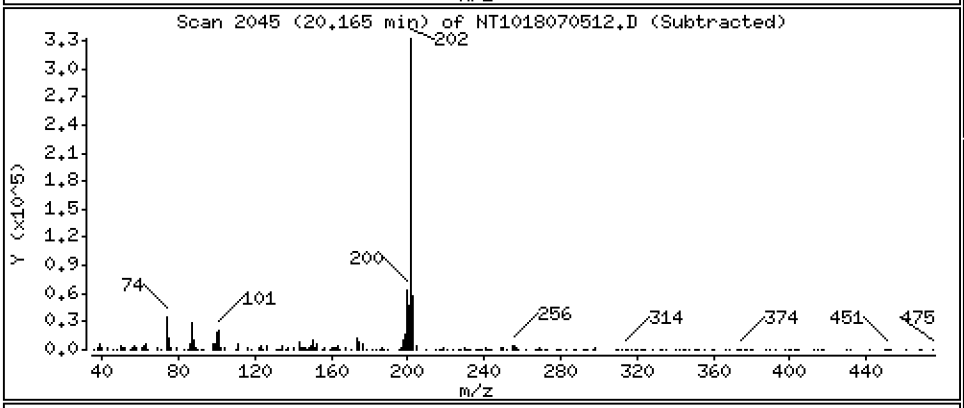
Column phase: ZB-5msi

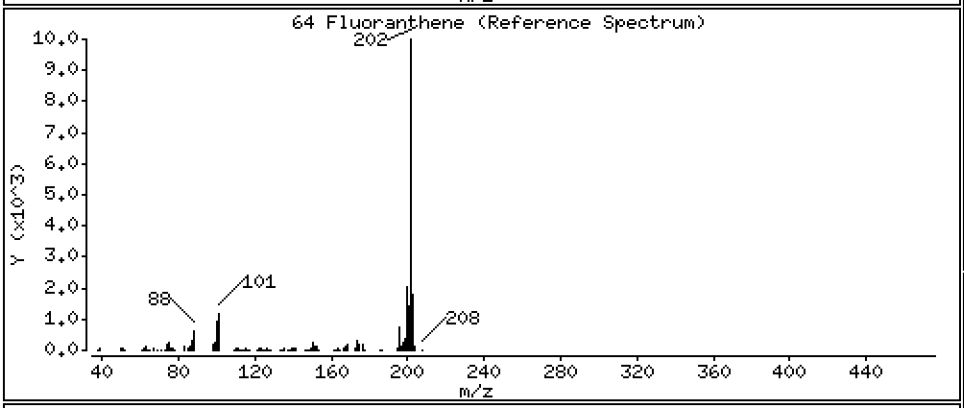
Column diameter: 0.25

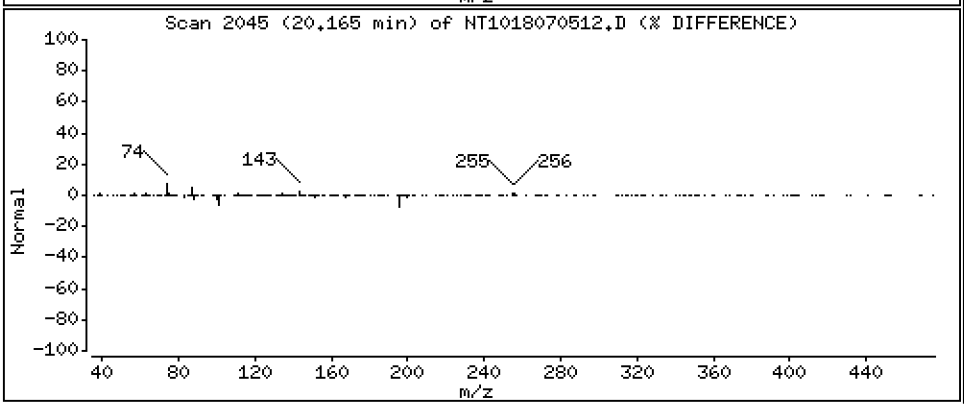
64 Fluoranthene

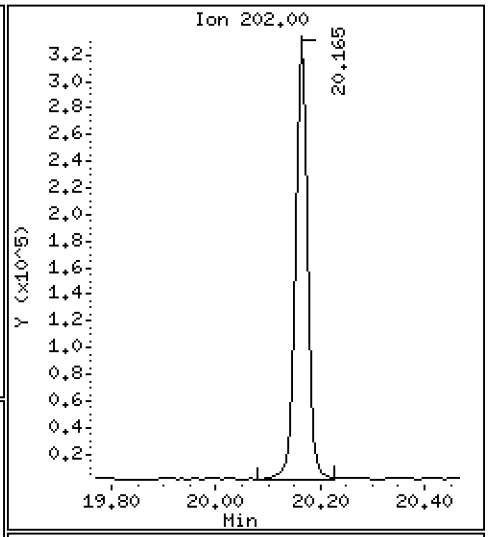
Concentration: 3.163 ug/mL

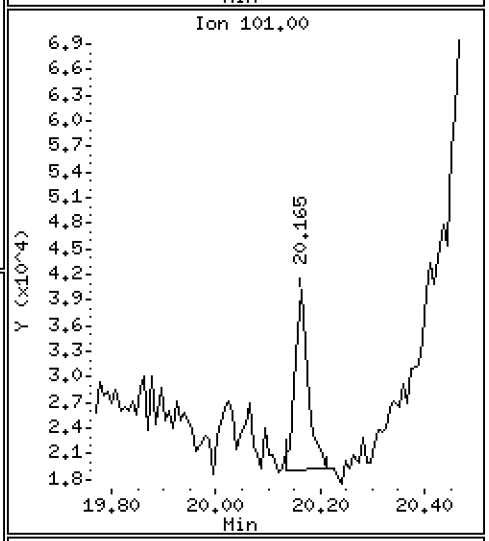


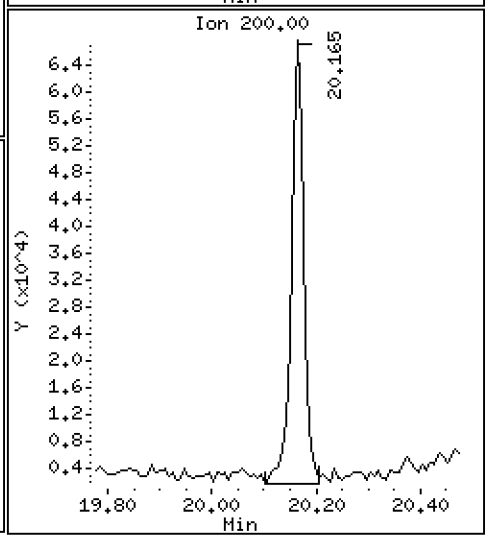












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

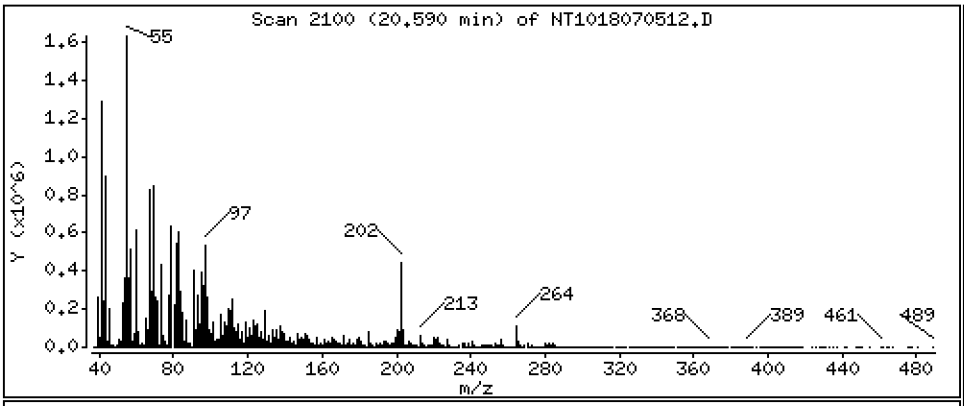
Operator: YZ

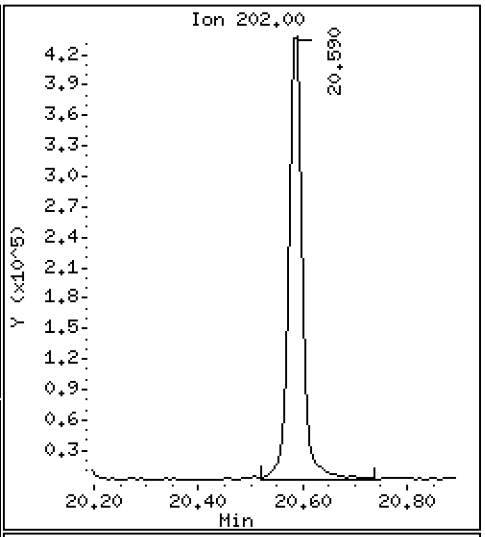
Column phase: ZB-5msi

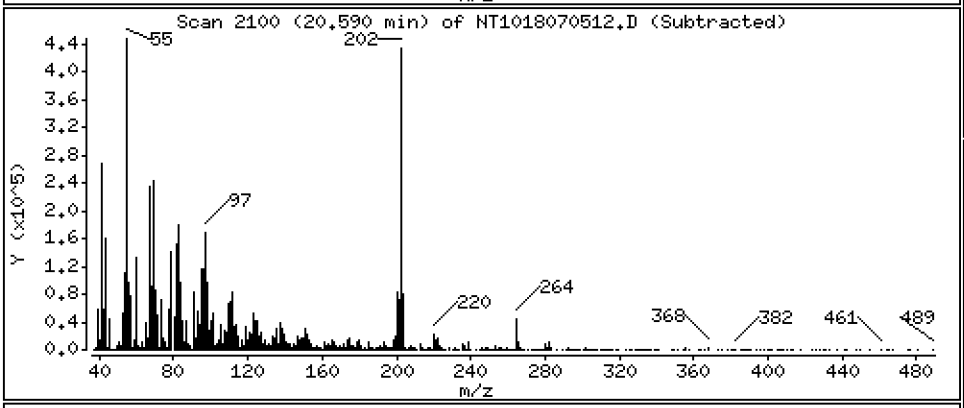
Column diameter: 0.25

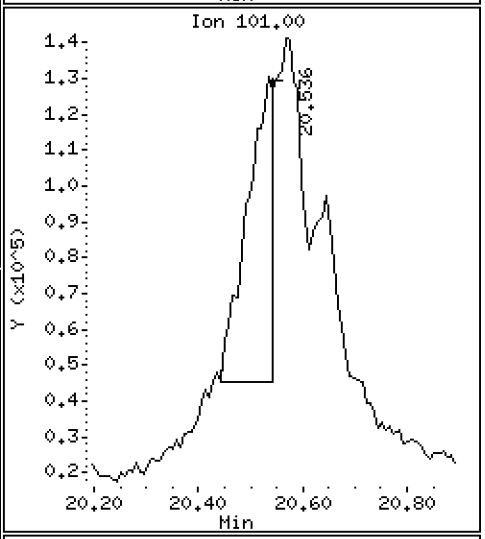
65 Pyrene

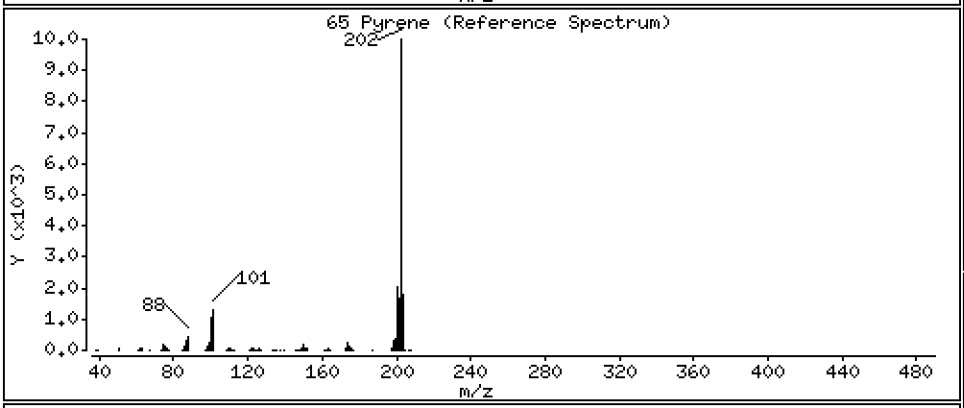
Concentration: 4.883 ug/mL

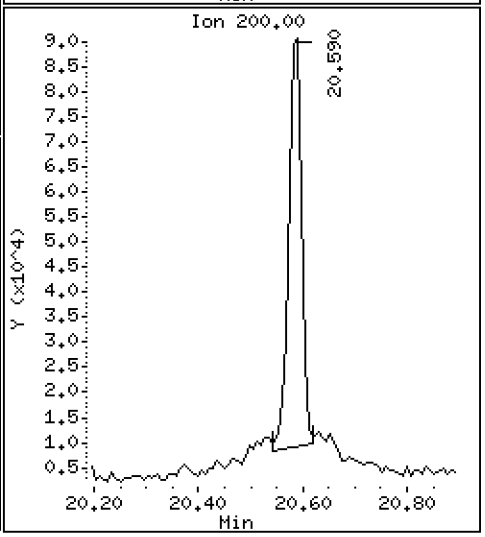


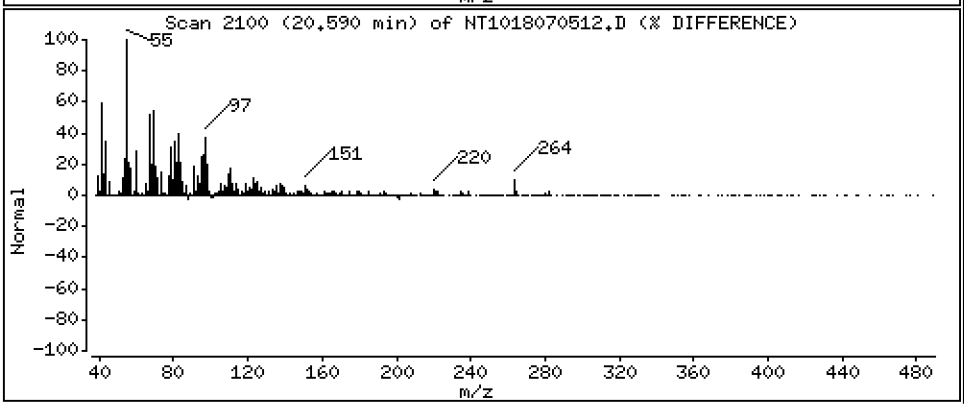












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

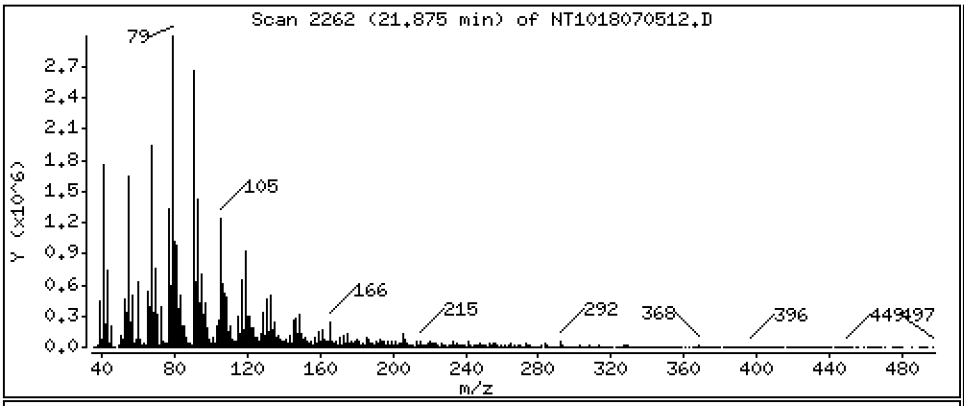
Operator: YZ

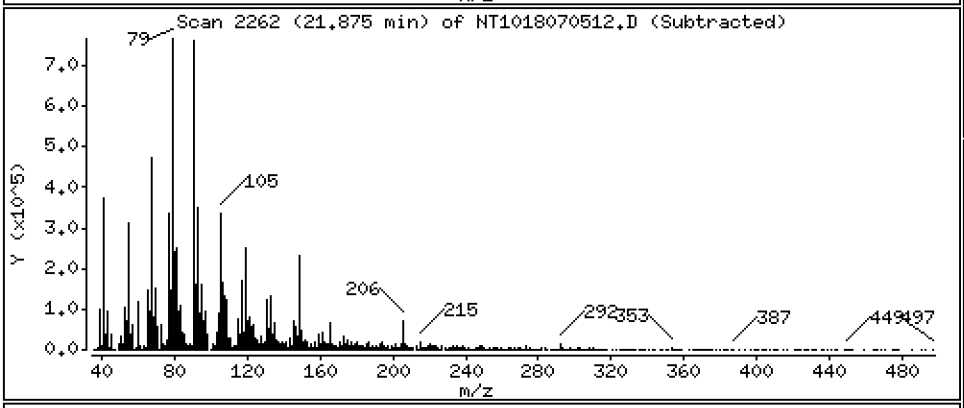
Column phase: ZB-5msi

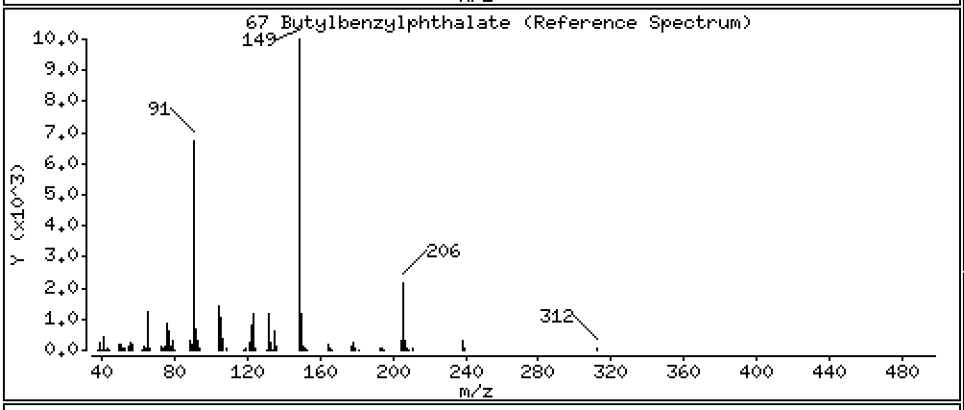
Column diameter: 0.25

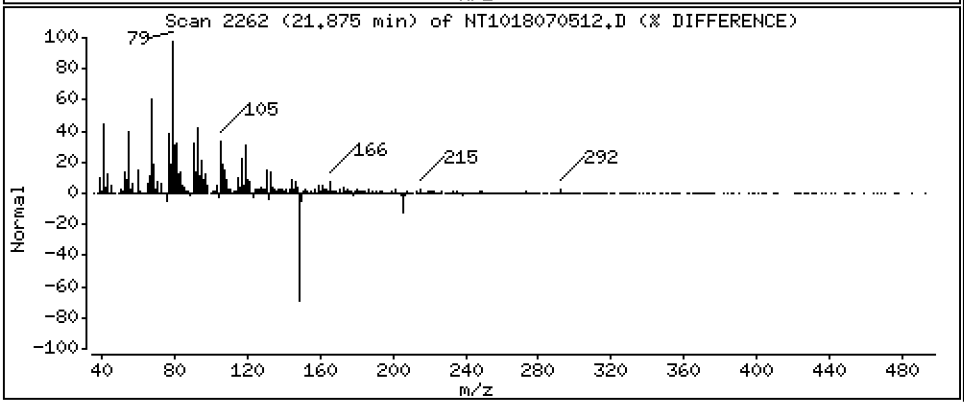
67 Butylbenzylphthalate

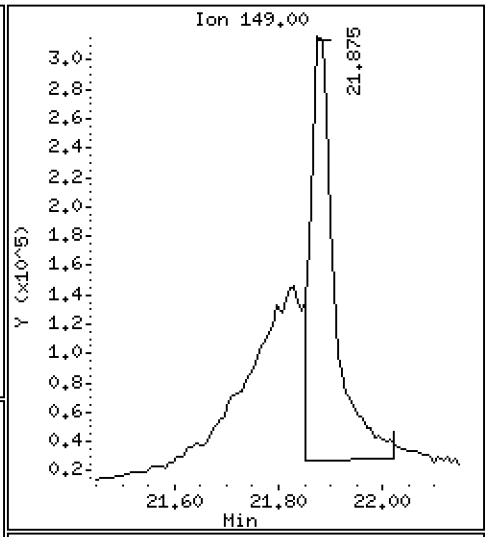
Concentration: 12.75 ug/mL

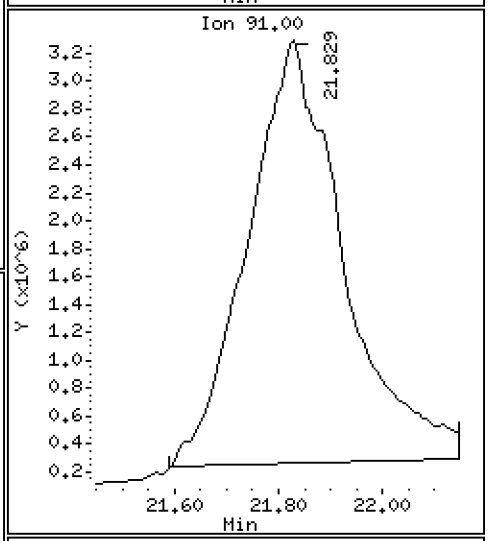


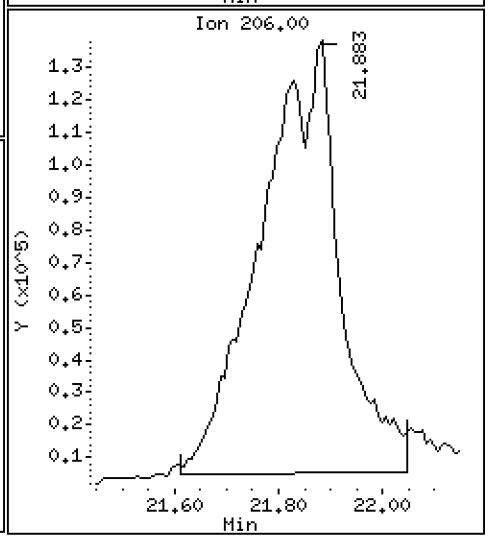












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

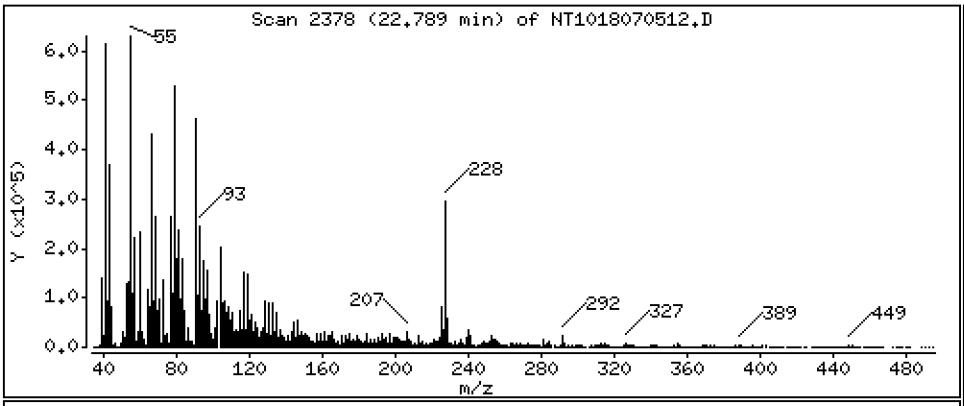
Operator: YZ

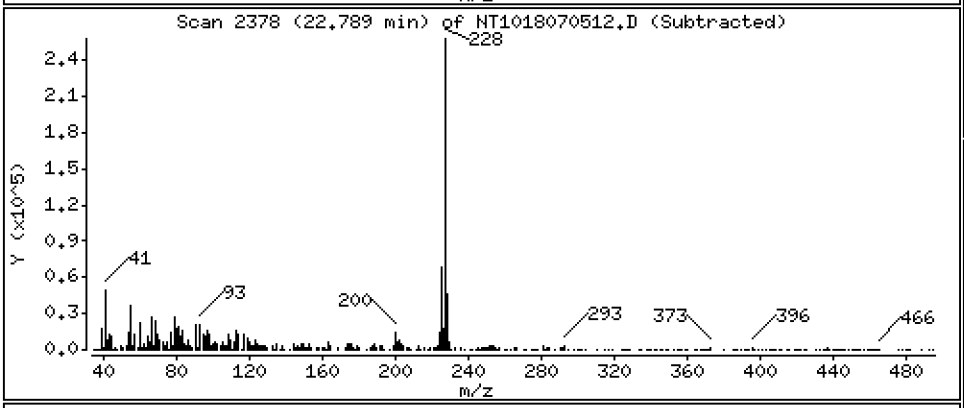
Column phase: ZB-5msi

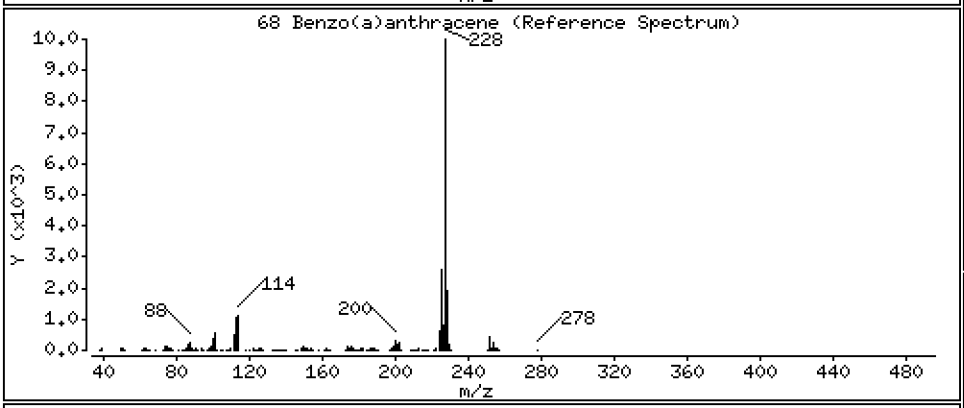
Column diameter: 0.25

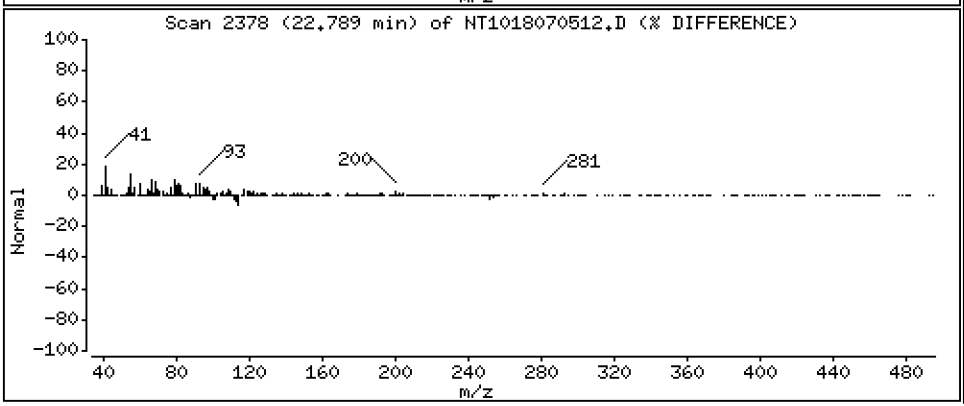
68 Benzo(a)anthracene

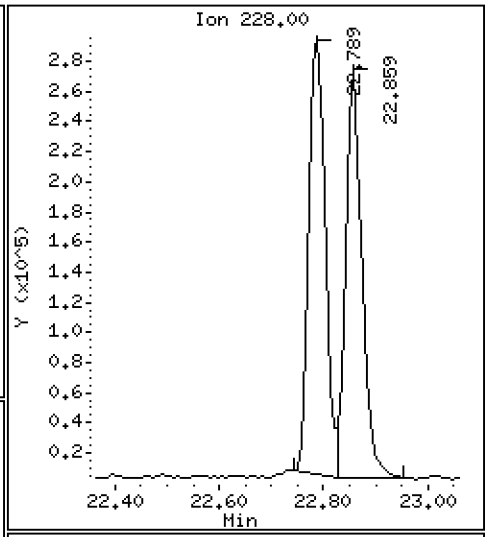
Concentration: 3.893 ug/mL

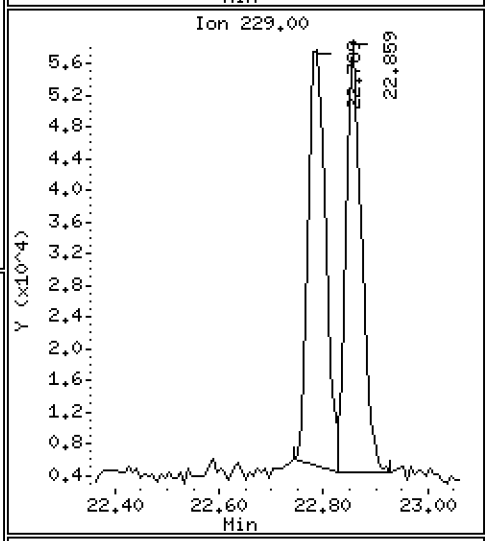


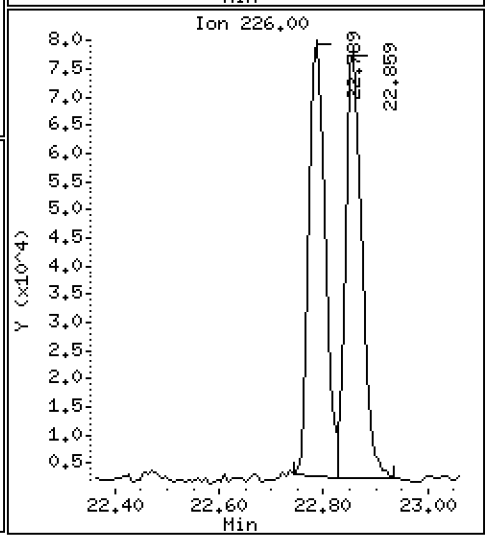












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

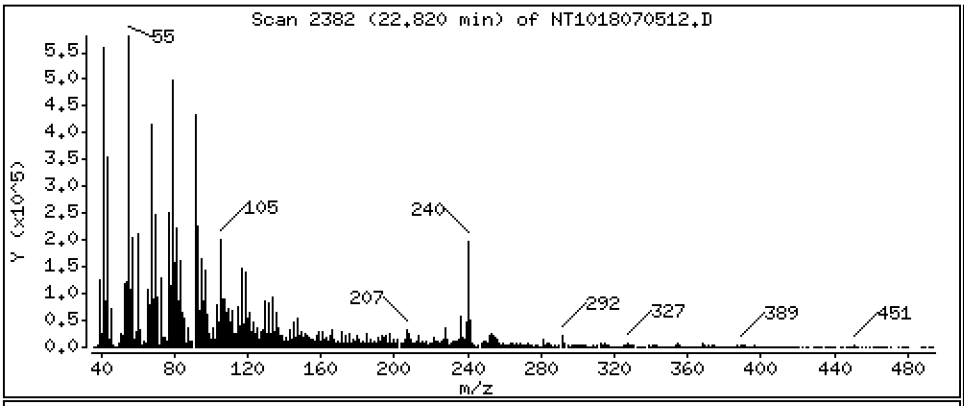
Operator: YZ

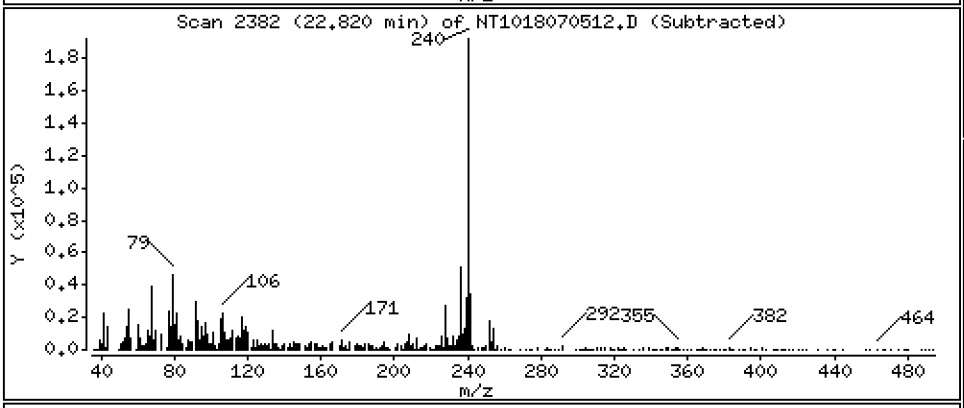
Column phase: ZB-5msi

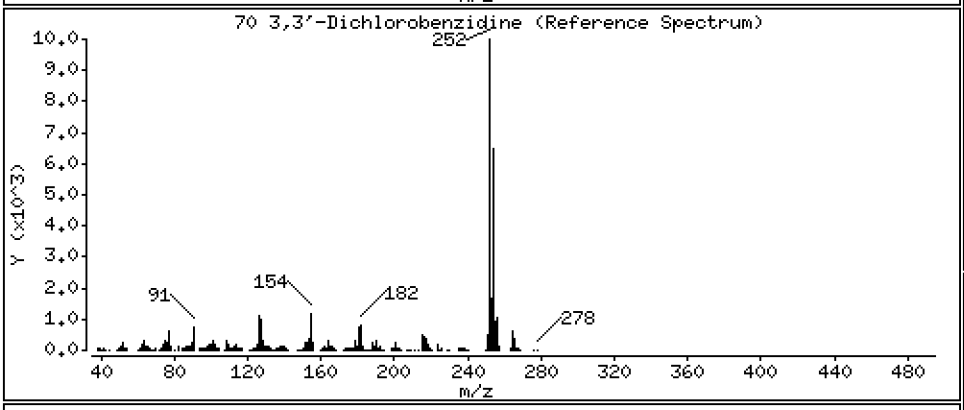
Column diameter: 0.25

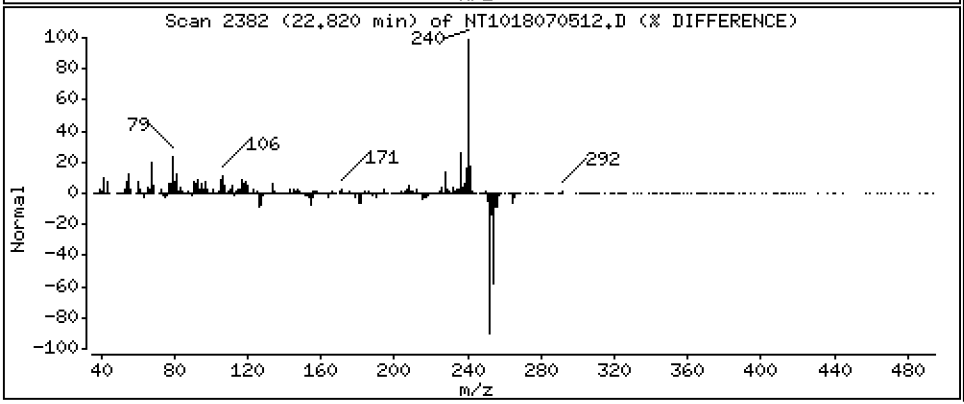
70 3,3'-Dichlorobenzidine

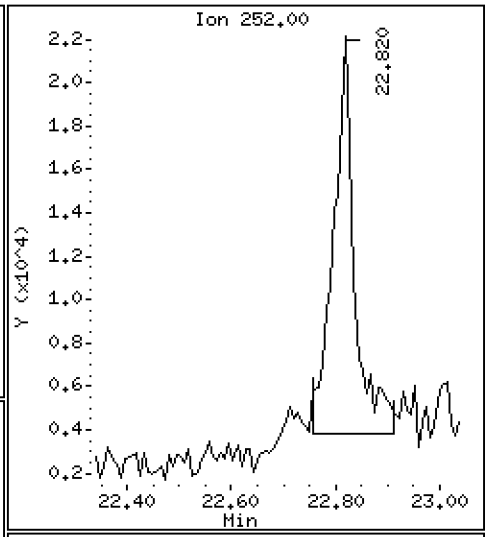
Concentration: 0.9488 ug/mL

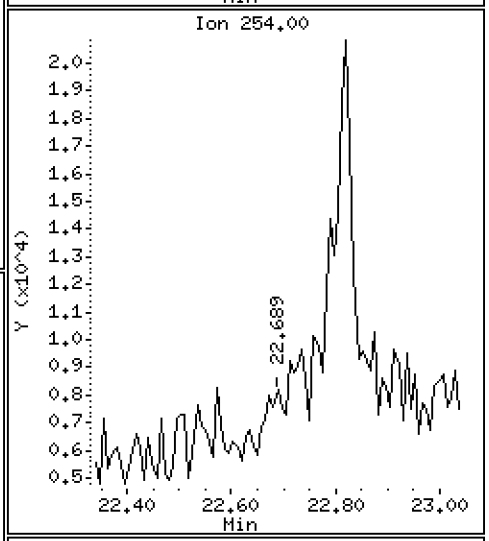


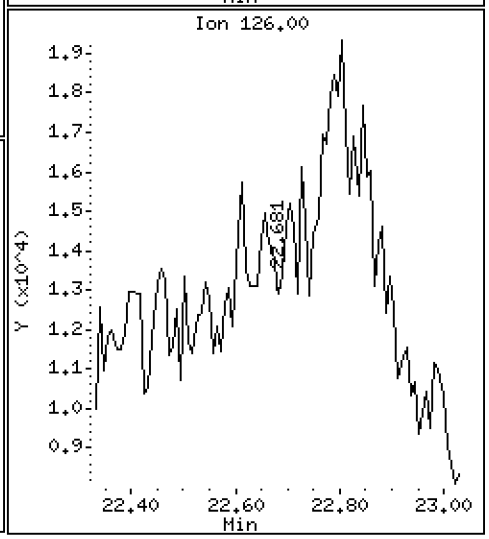












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

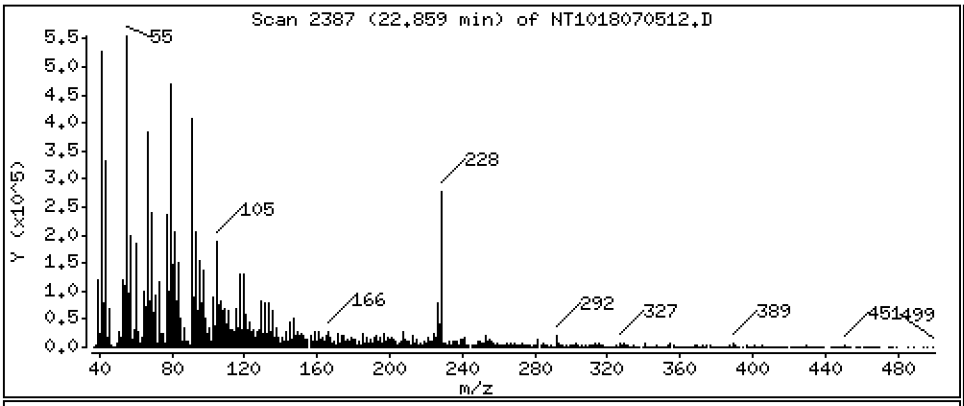
Operator: YZ

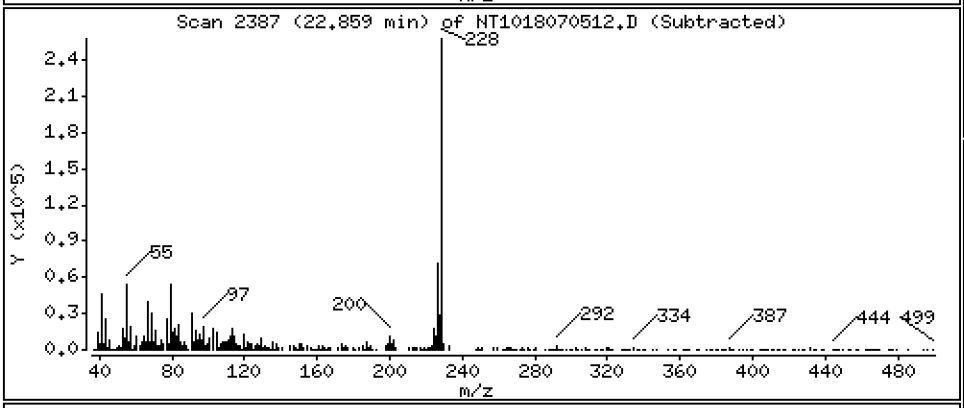
Column phase: ZB-5msi

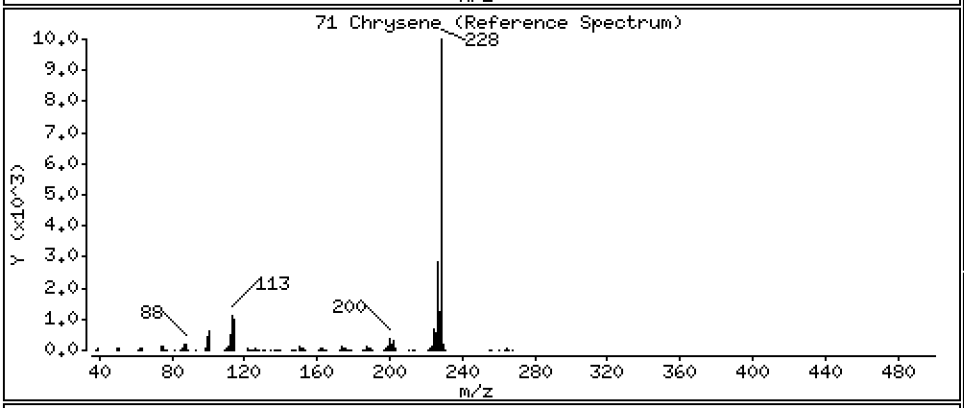
Column diameter: 0.25

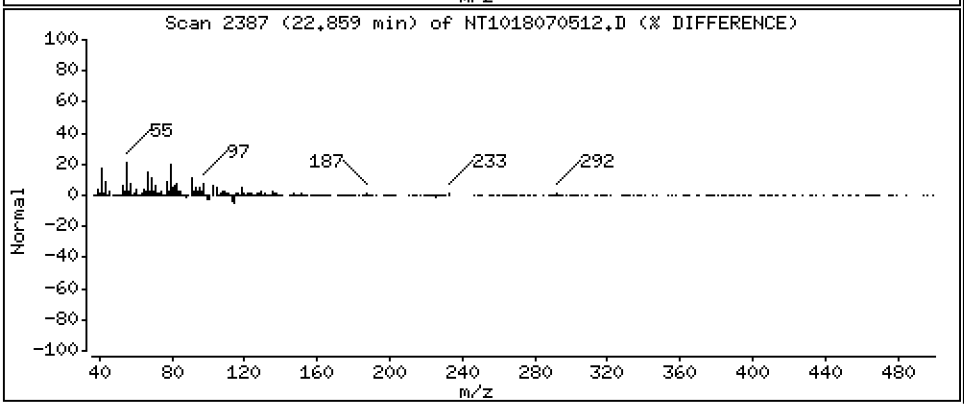
71 Chrysene

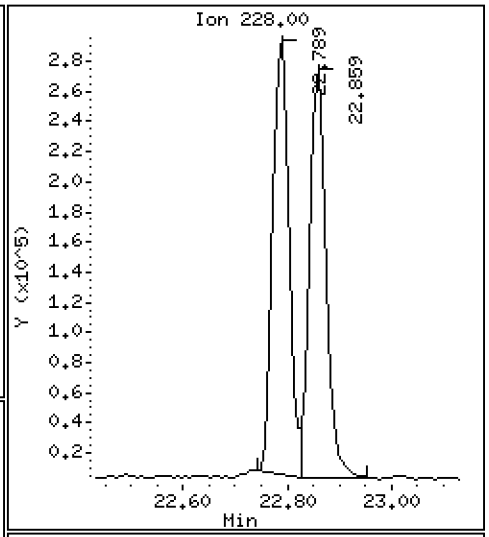
Concentration: 4.516 ug/mL

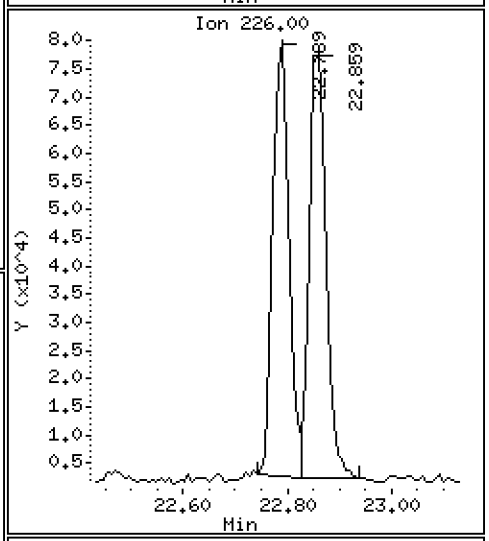


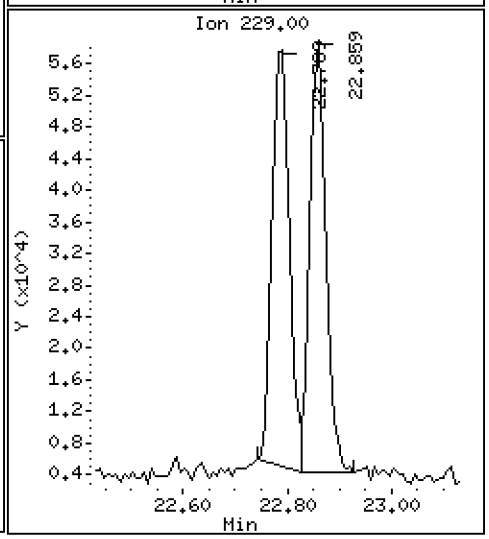












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

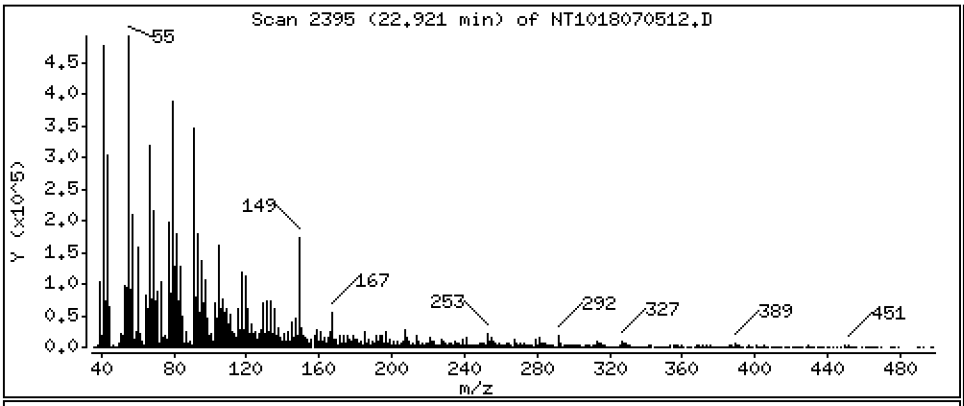
Operator: YZ

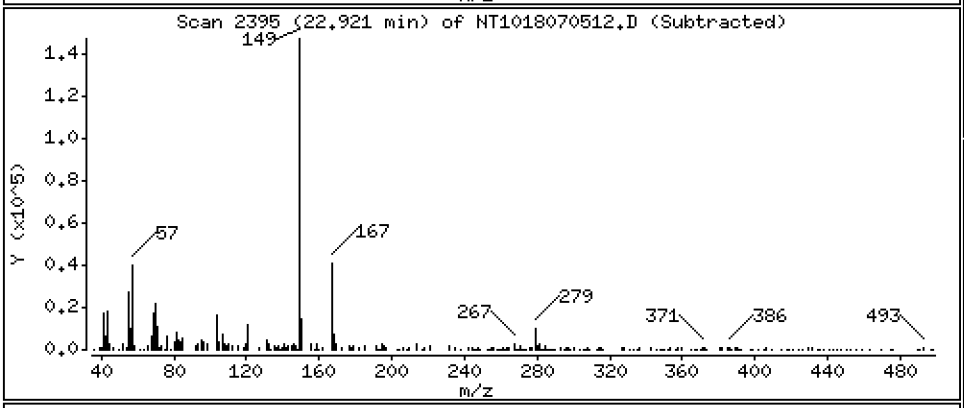
Column phase: ZB-5msi

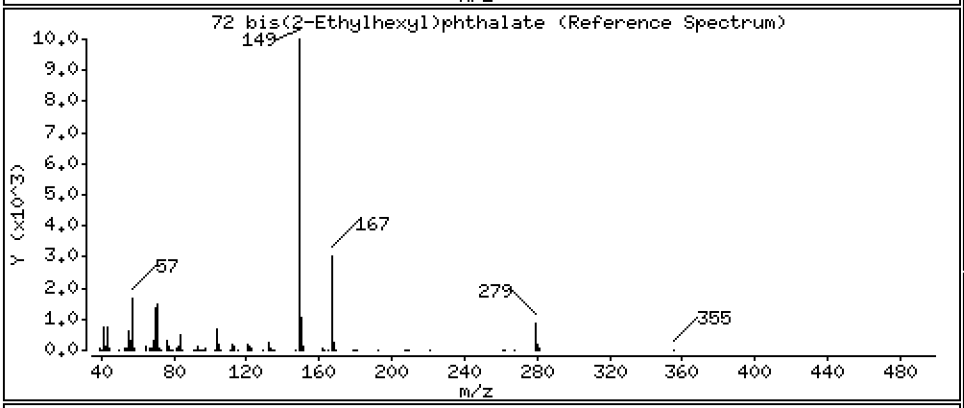
Column diameter: 0.25

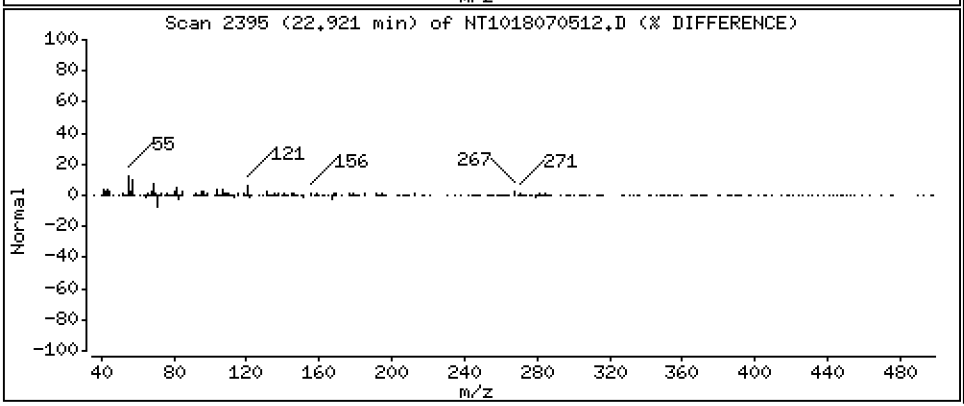
72 bis(2-Ethylhexyl)phthalate

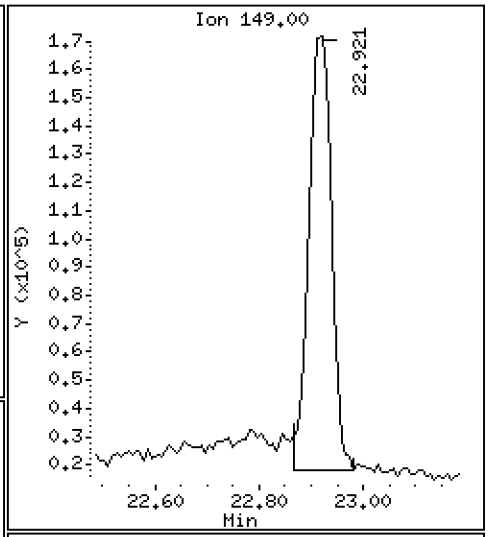
Concentration: 6.439 ug/mL

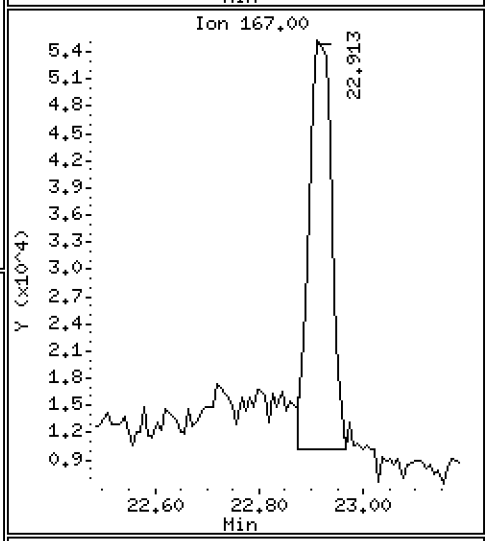


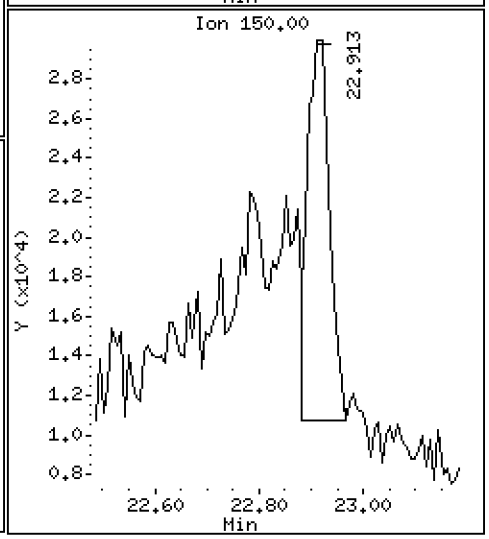












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

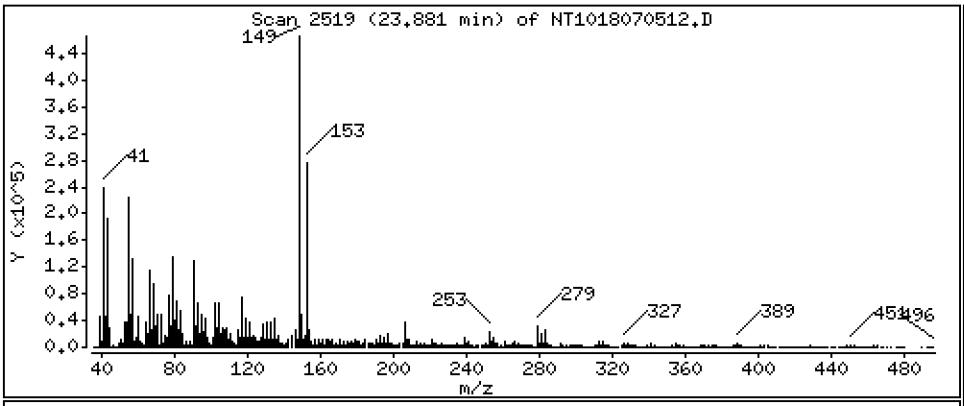
Operator: YZ

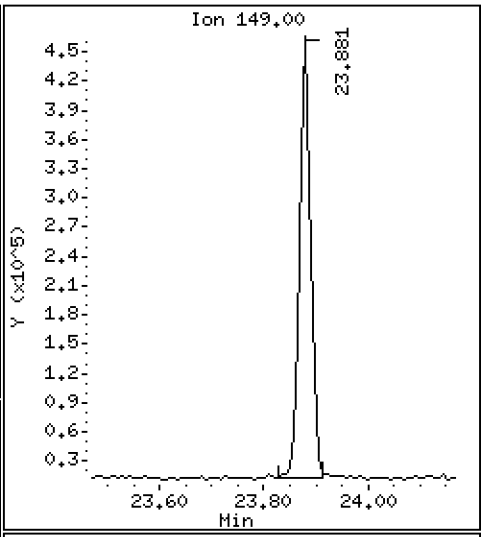
Column phase: ZB-5msi

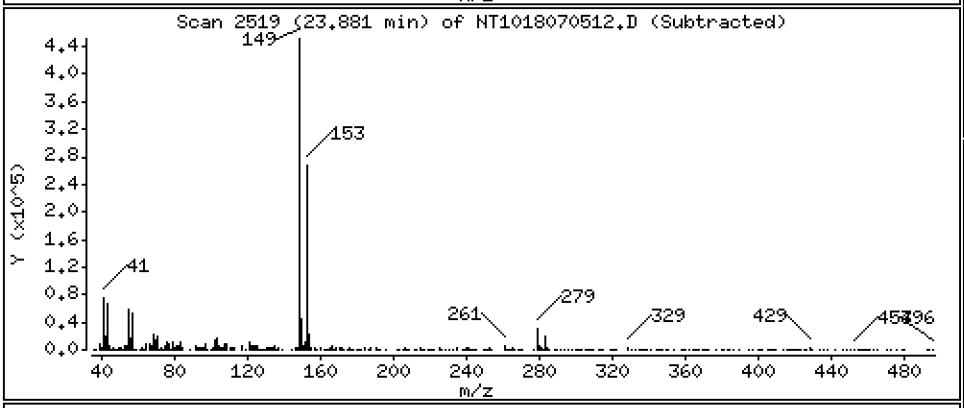
Column diameter: 0.25

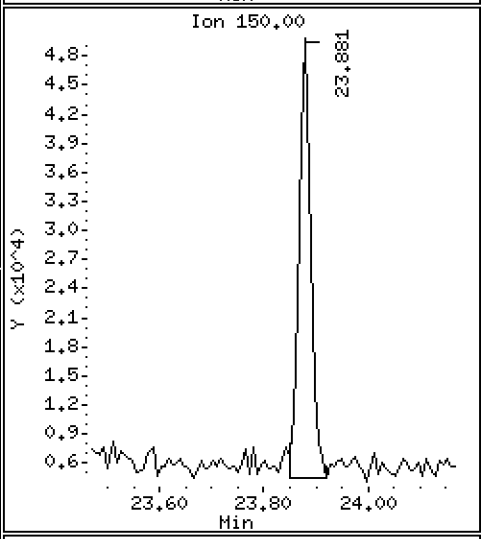
73 Di-n-octylphthalate

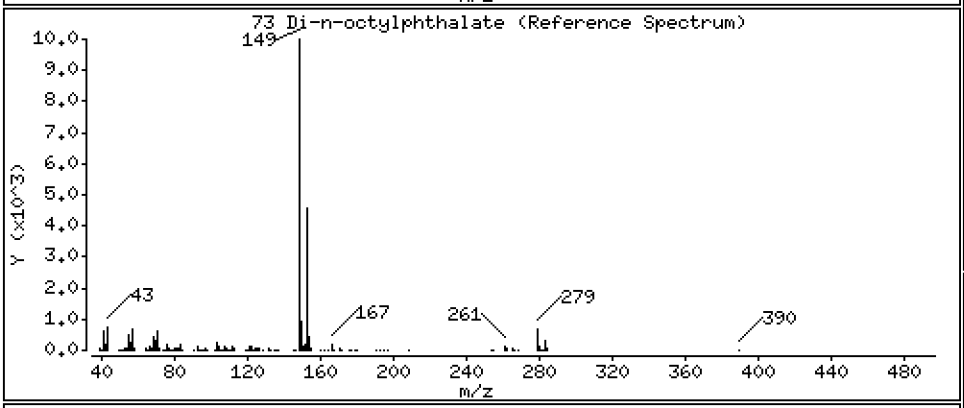
Concentration: 4.407 ug/mL

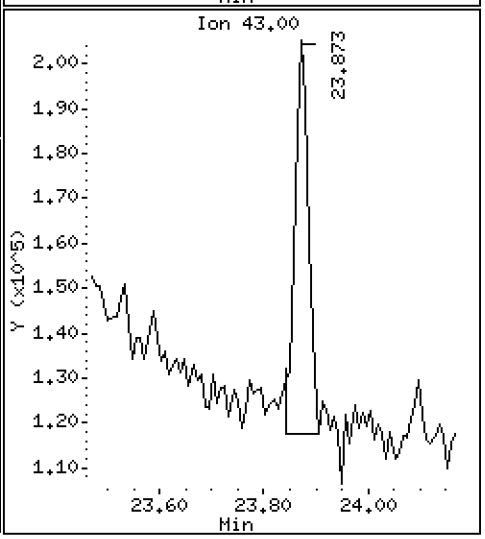


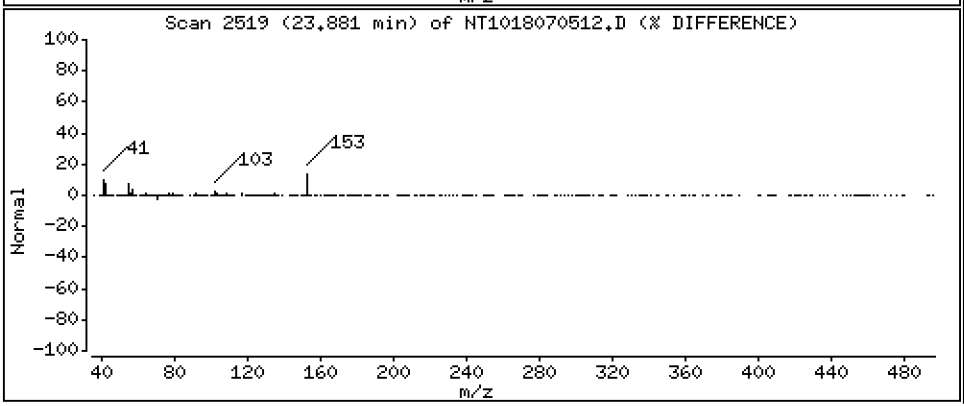












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

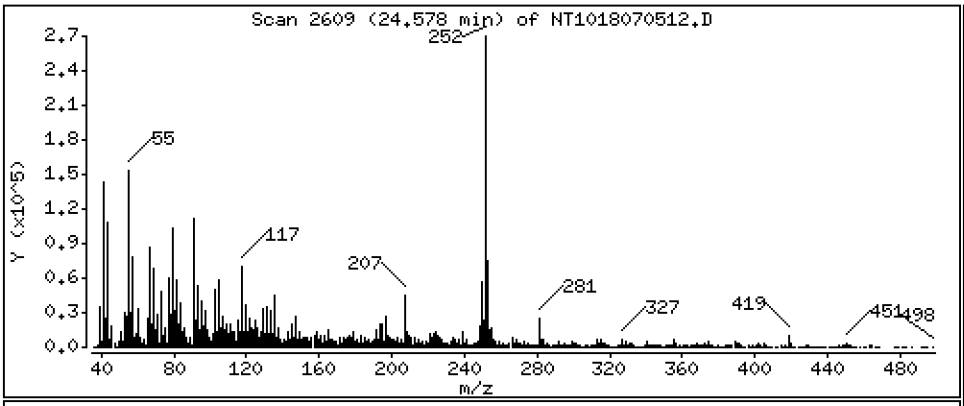
Operator: YZ

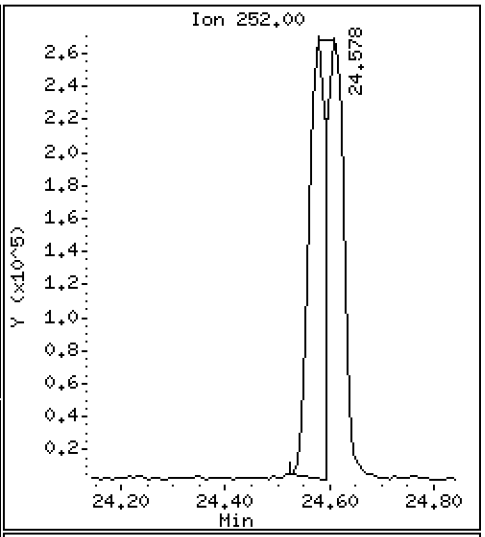
Column phase: ZB-5msi

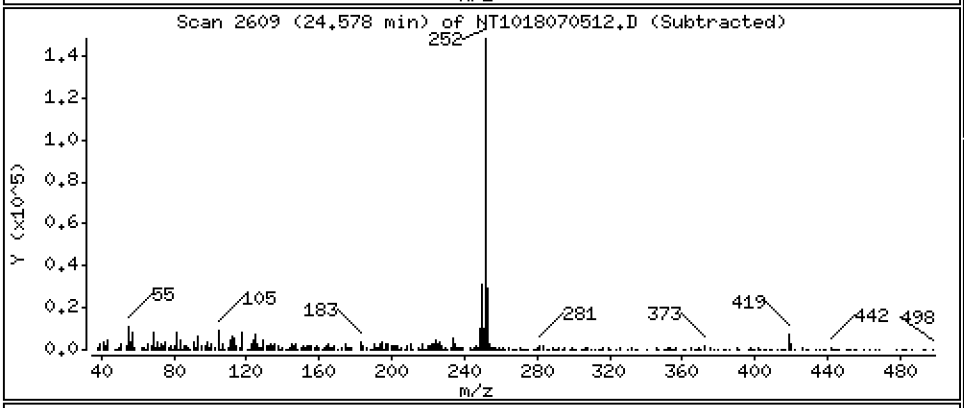
Column diameter: 0.25

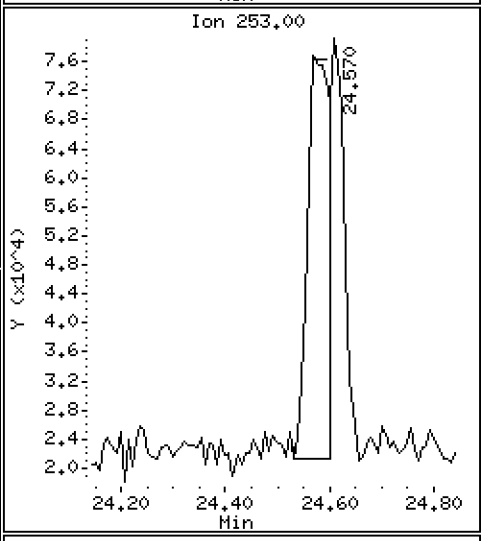
74 Benzo(b)fluoranthene

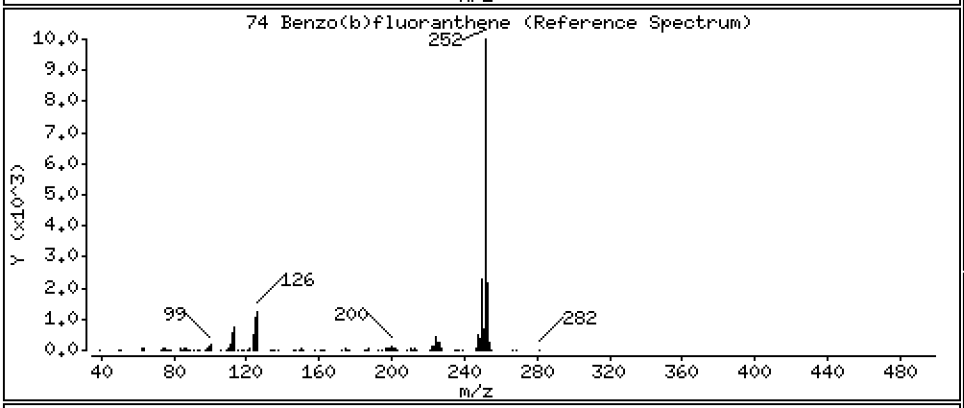
Concentration: 4.236 ug/mL

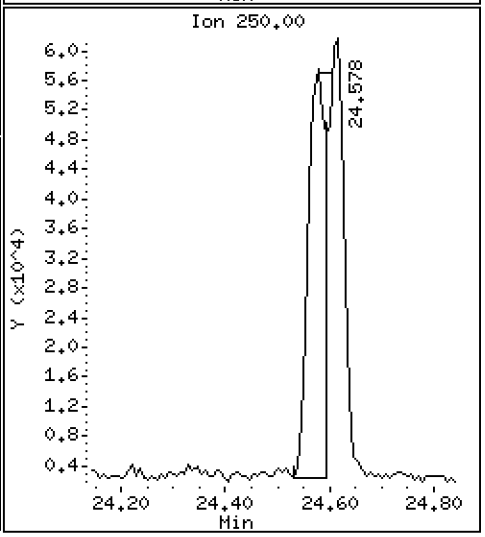


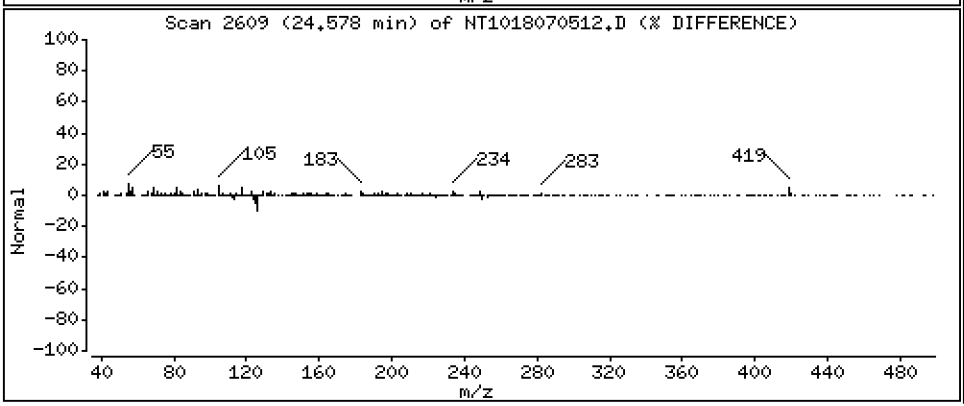












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

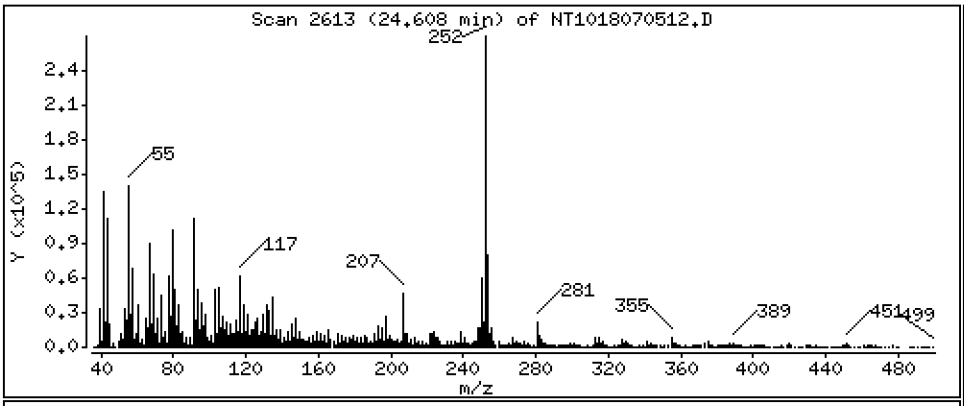
Operator: YZ

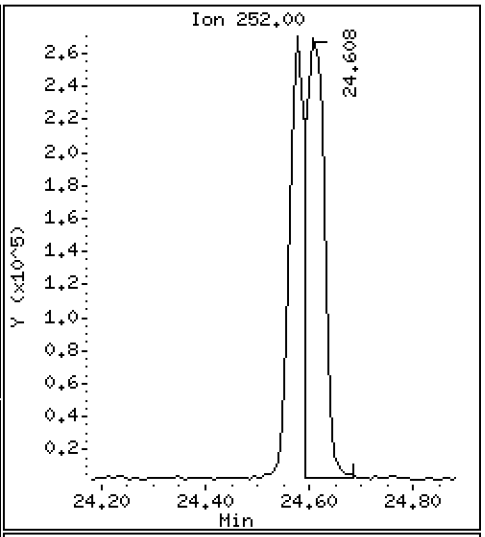
Column phase: ZB-5msi

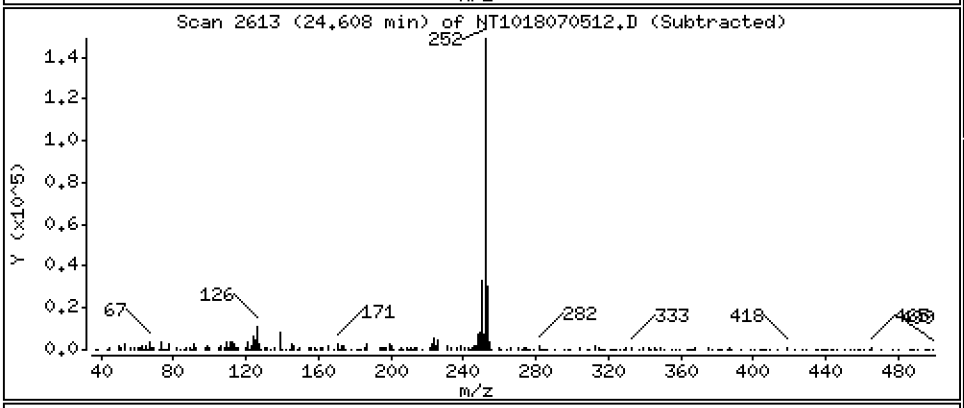
Column diameter: 0.25

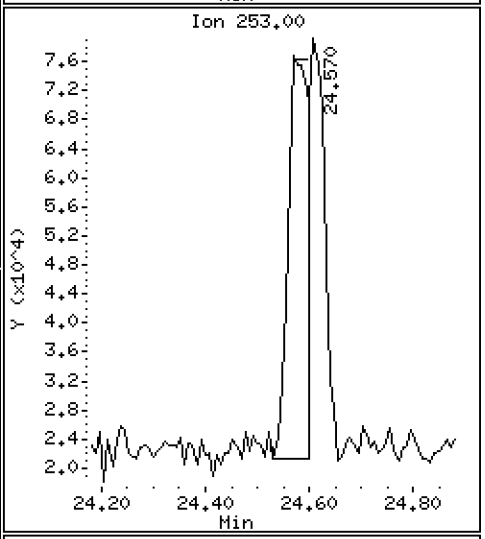
75 Benzo(k)fluoranthene

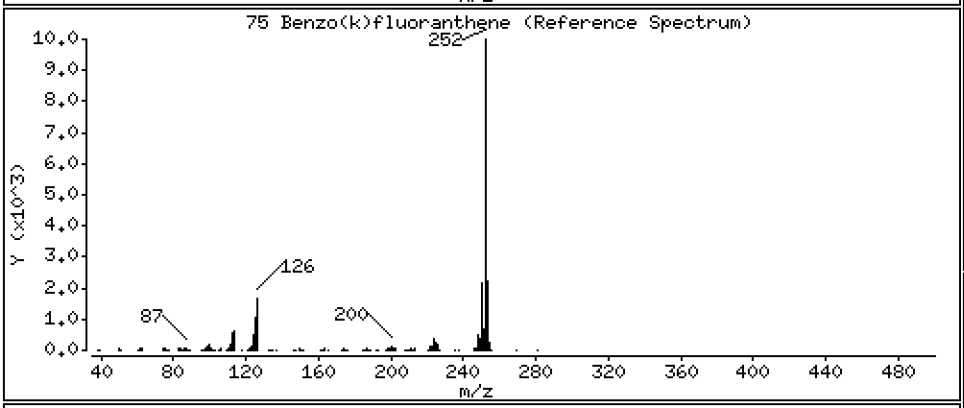
Concentration: 4.737 ug/mL

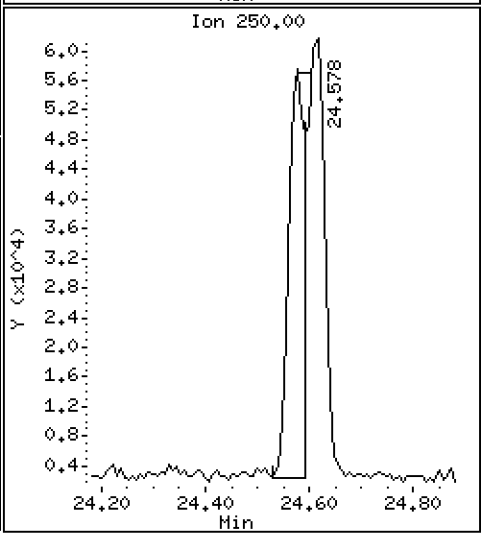


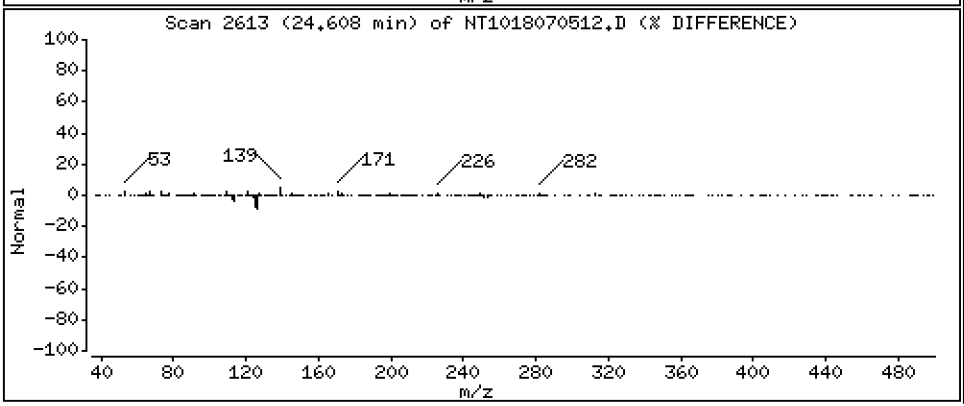












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

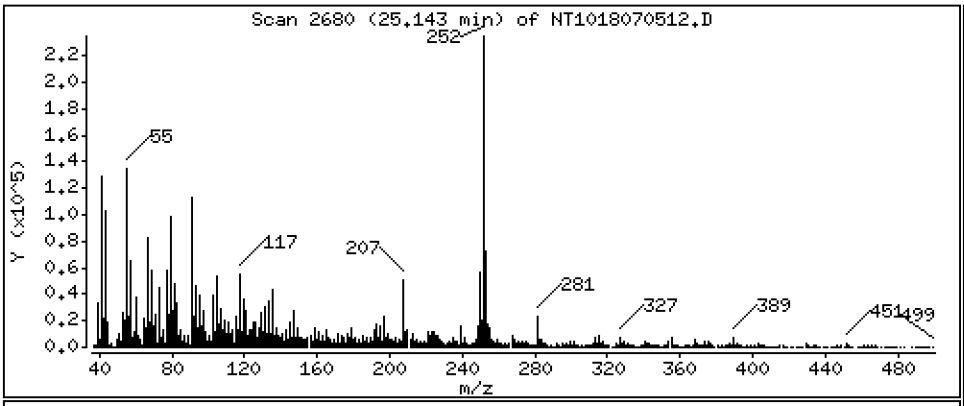
Operator: YZ

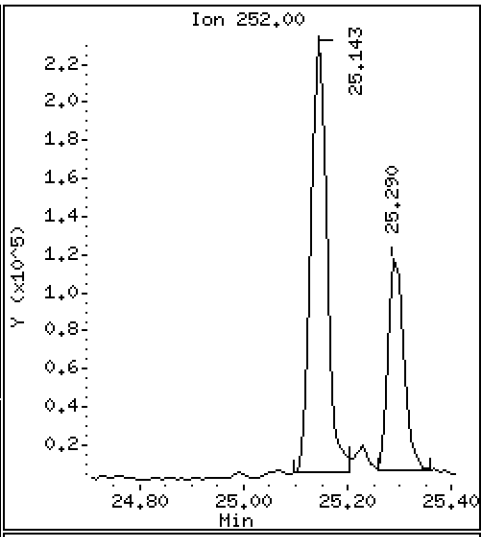
Column phase: ZB-5msi

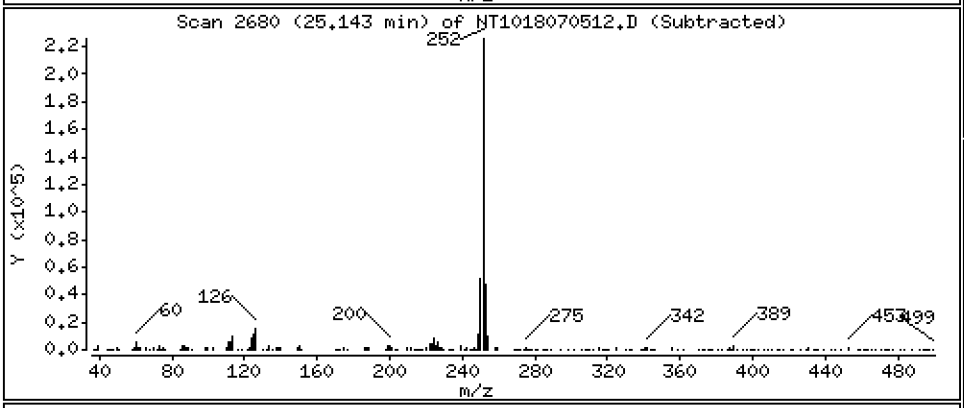
Column diameter: 0.25

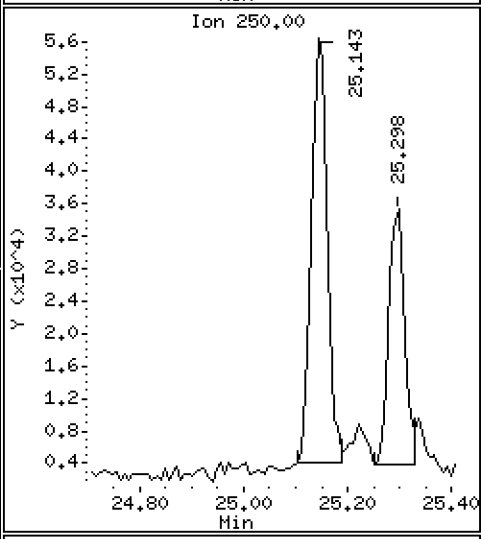
76 Benzo(a)pyrene

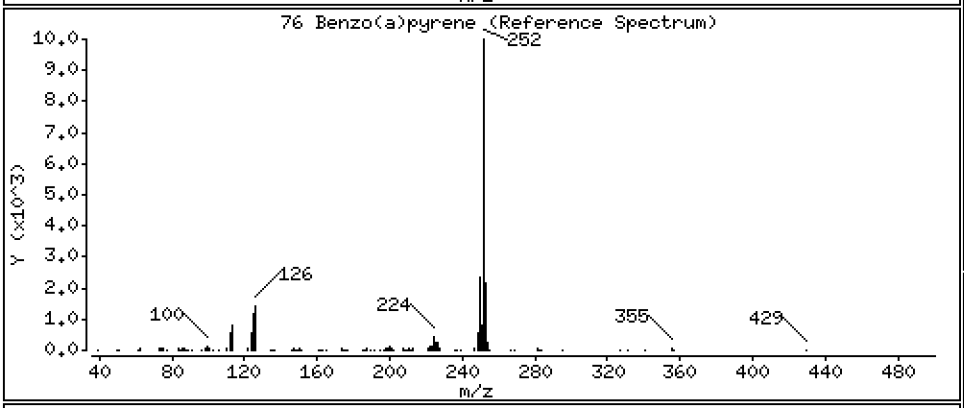
Concentration: 3.469 ug/mL

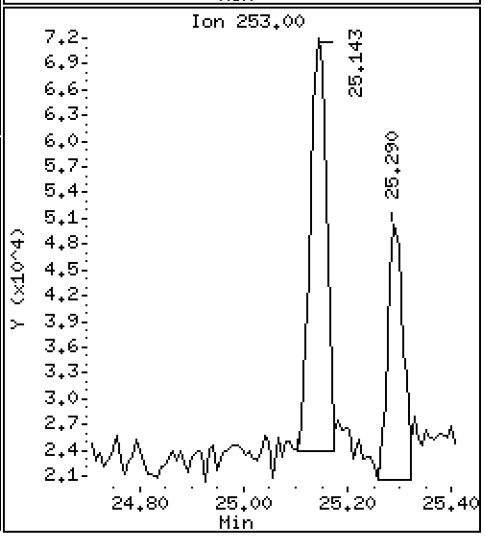


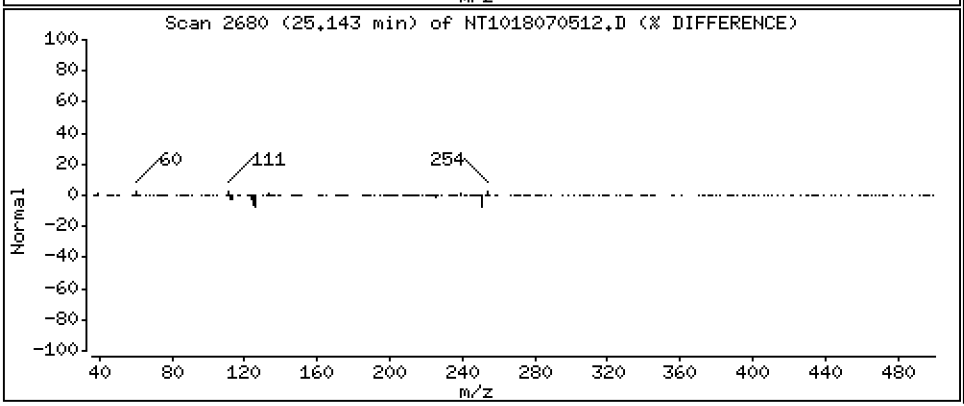












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

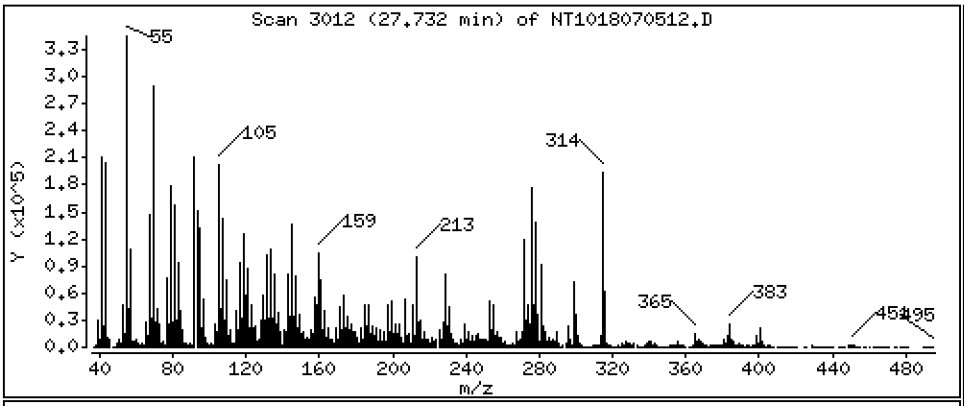
Operator: YZ

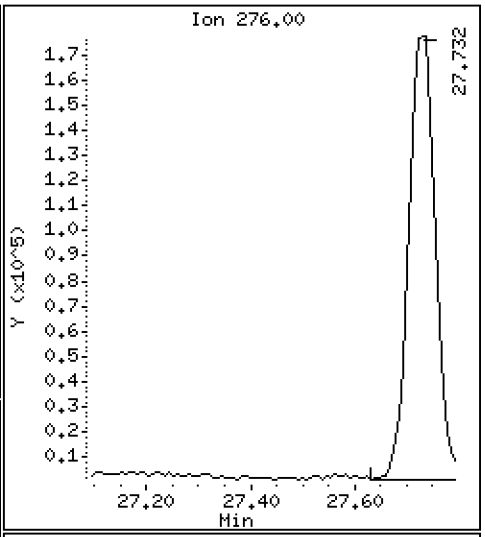
Column phase: ZB-5msi

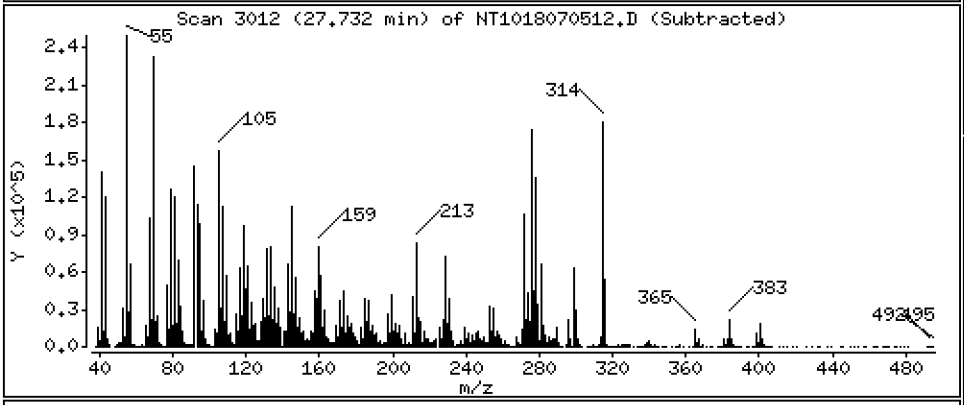
Column diameter: 0.25

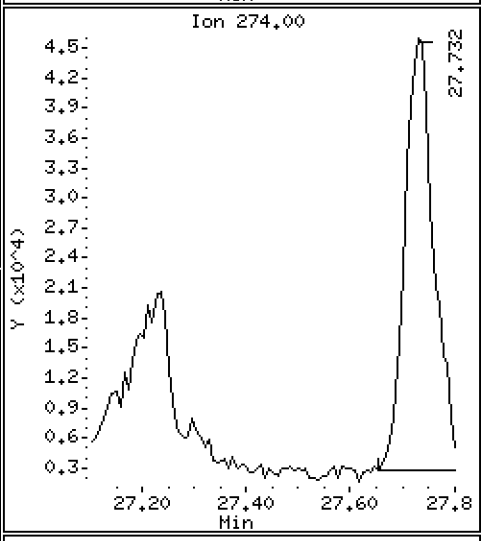
78 Indeno(1,2,3-cd)pyrene

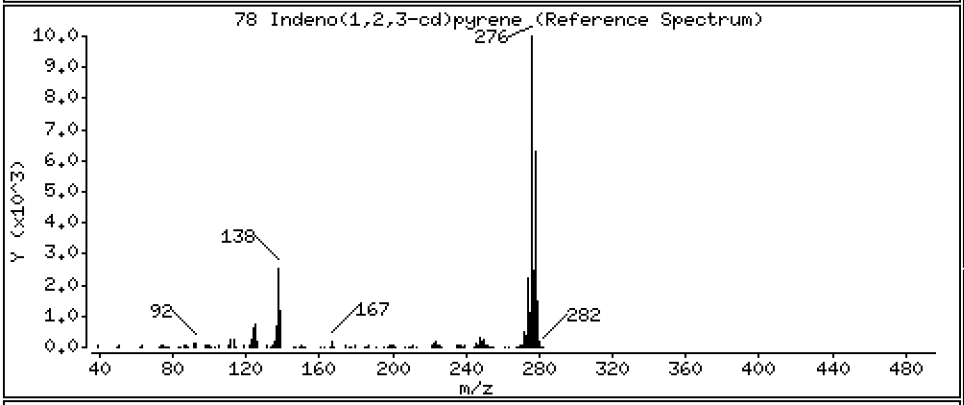
Concentration: 4.756 ug/mL

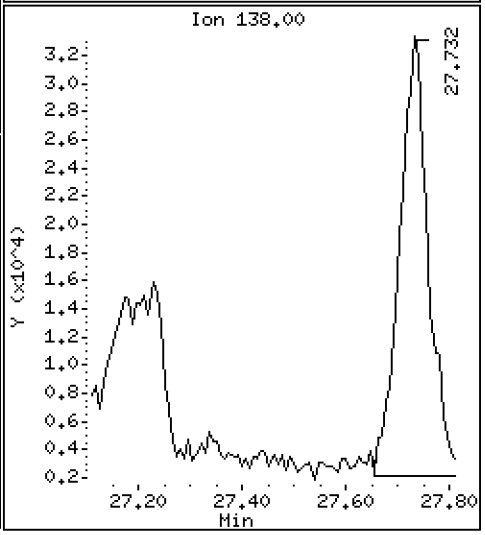


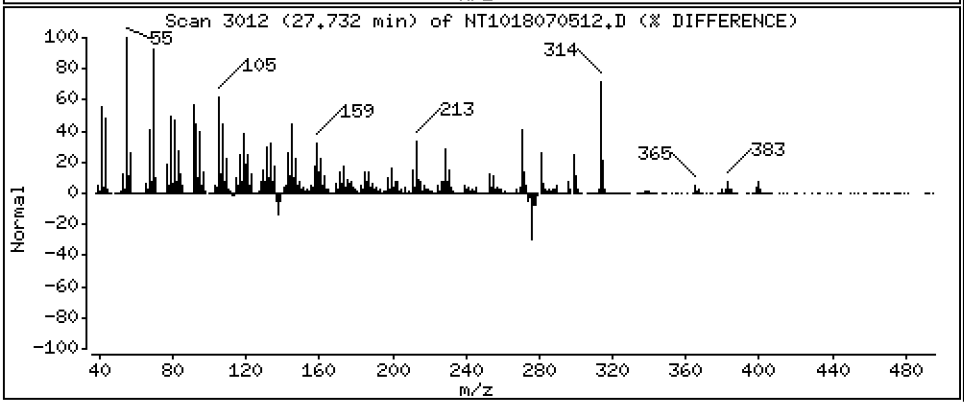












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

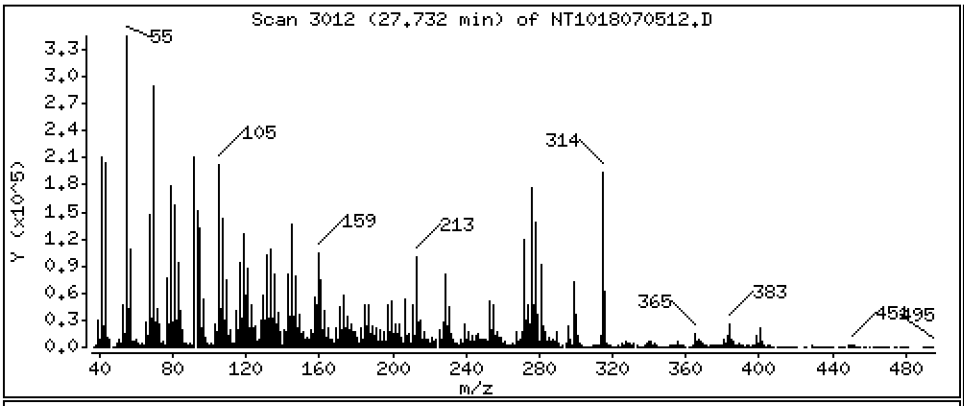
Operator: YZ

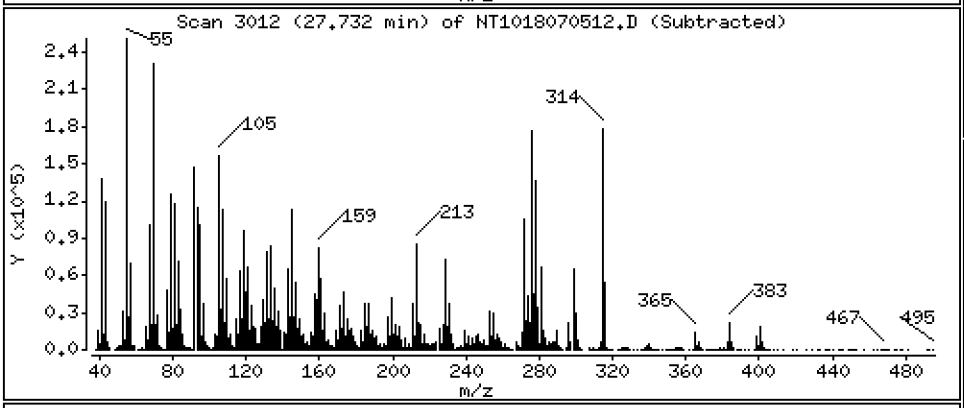
Column phase: ZB-5msi

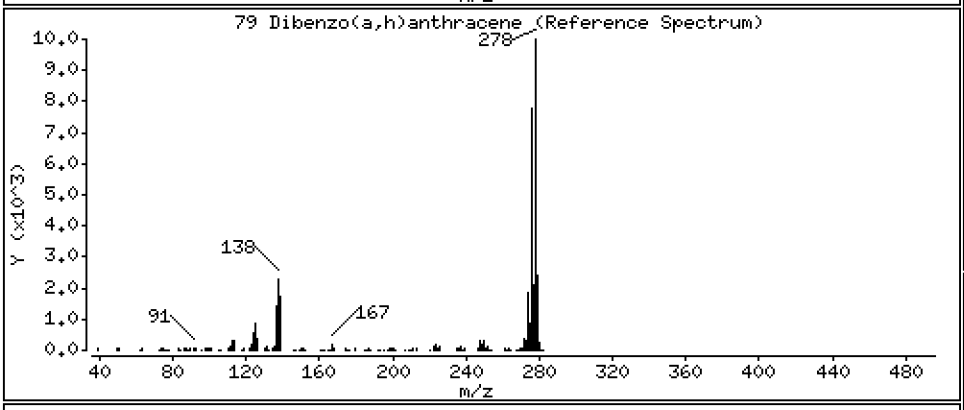
Column diameter: 0.25

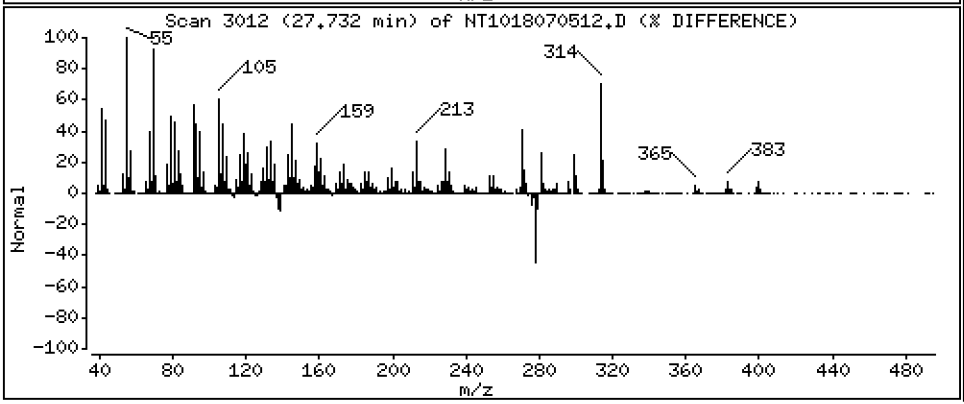
79 Dibenzo(a,h)anthracene

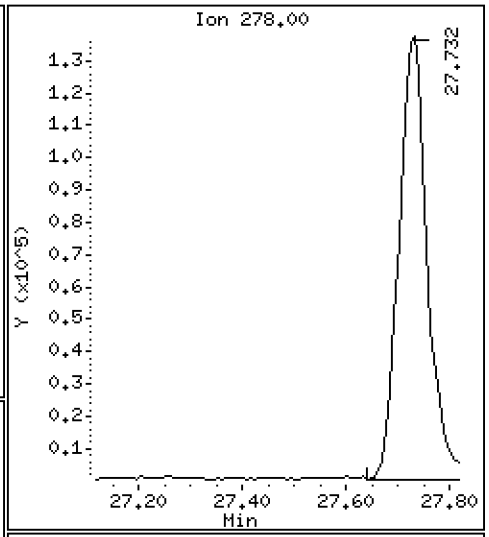
Concentration: 4.875 ug/mL

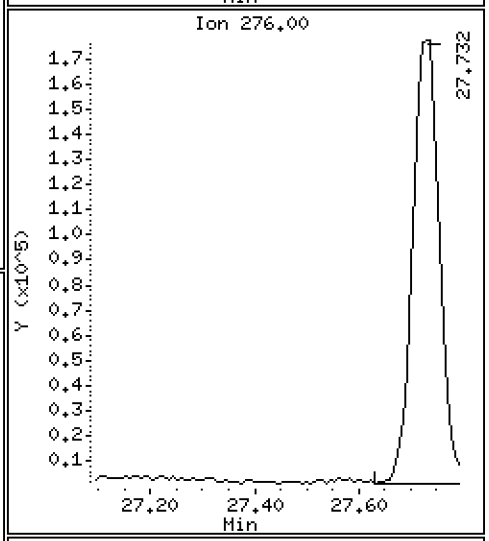


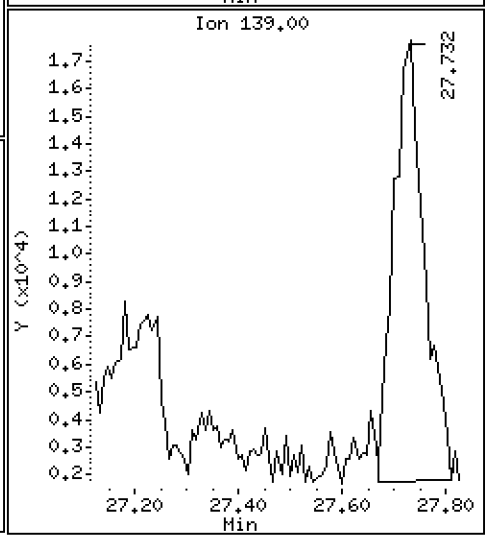












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

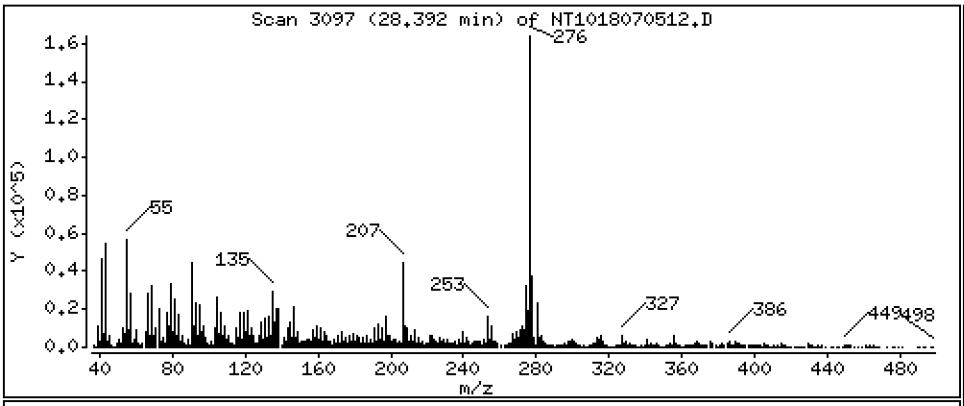
Operator: YZ

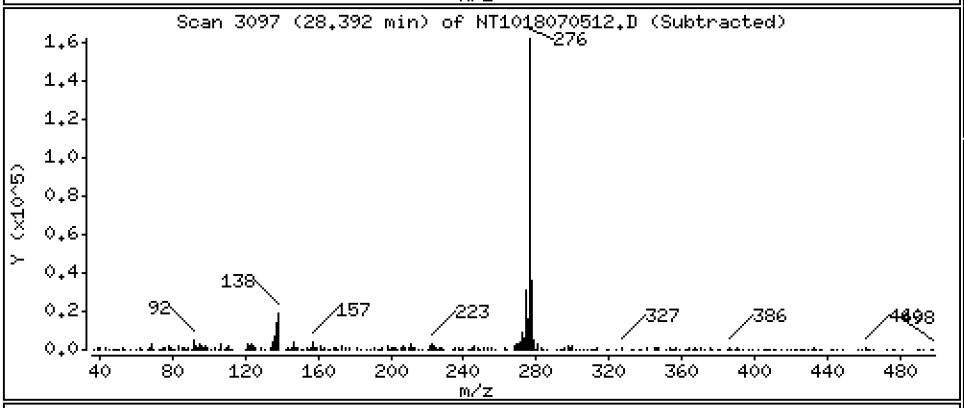
Column phase: ZB-5msi

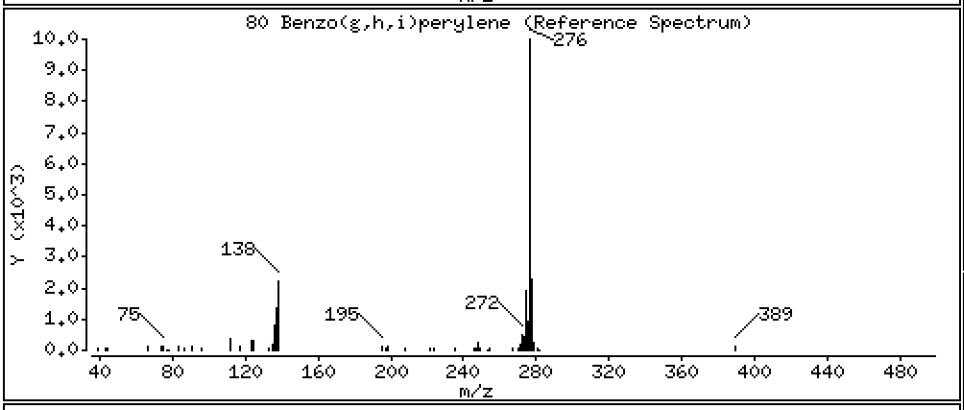
Column diameter: 0.25

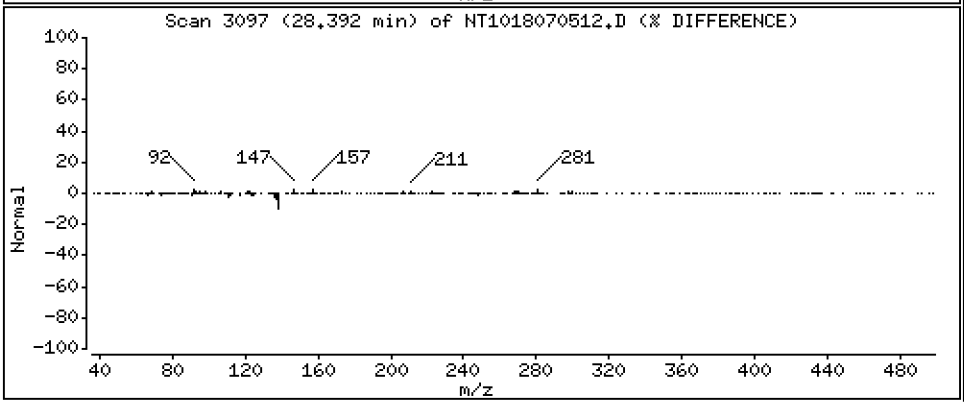
80 Benzo(g,h,i)perylene

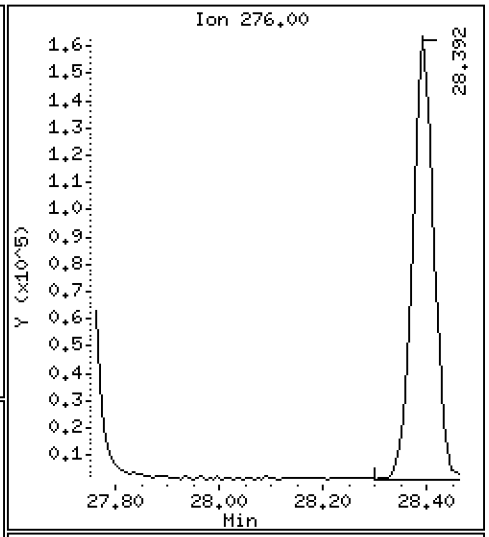
Concentration: 3.958 ug/mL

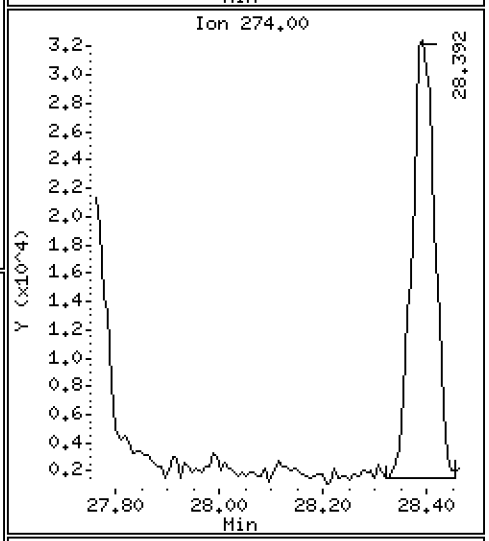


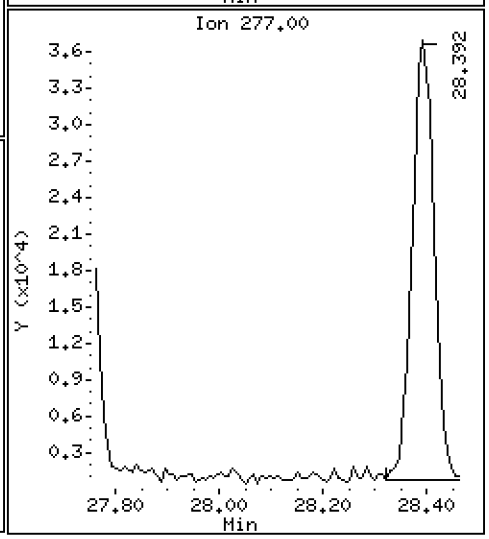












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

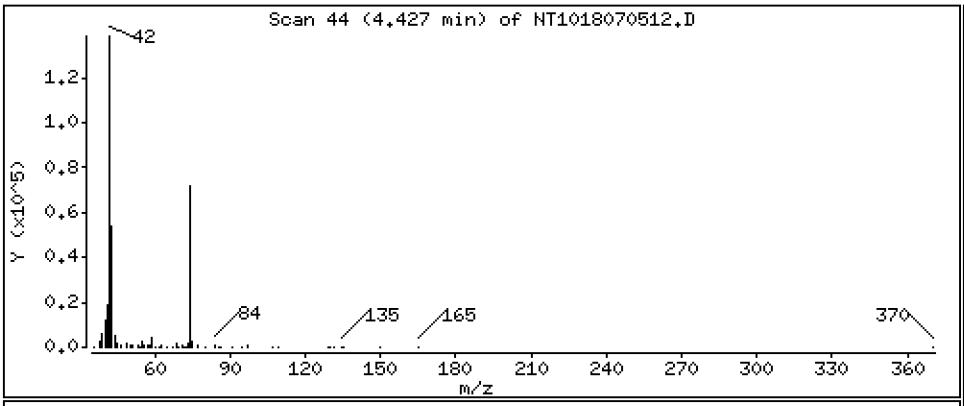
Operator: YZ

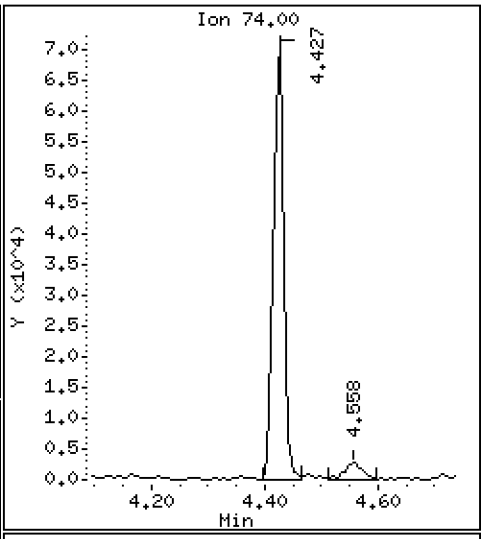
Column phase: ZB-5msi

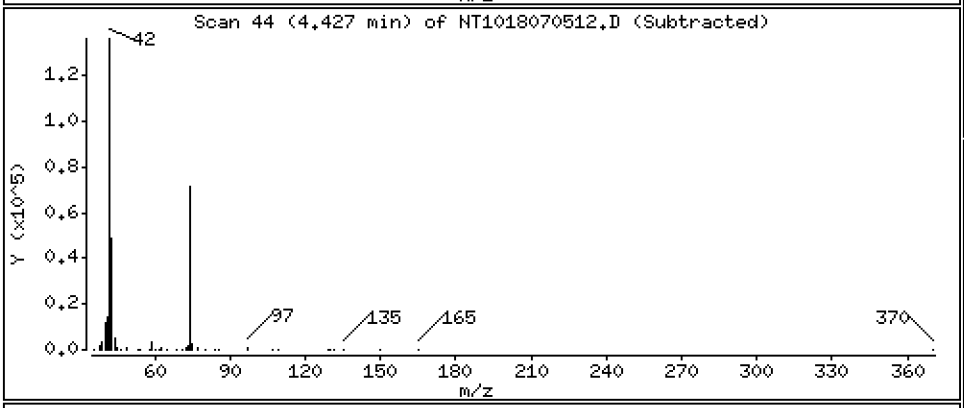
Column diameter: 0.25

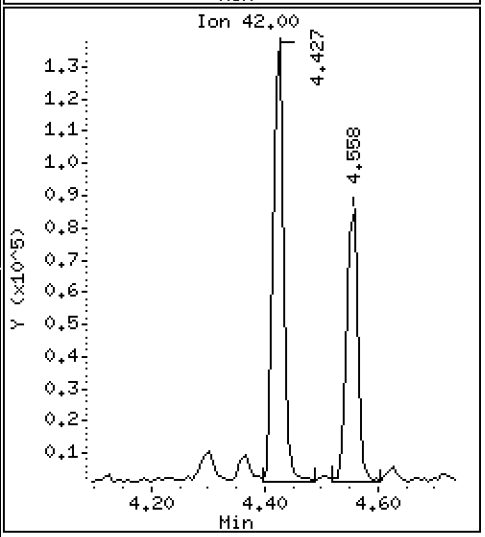
90 N-Nitrosodimethylamine

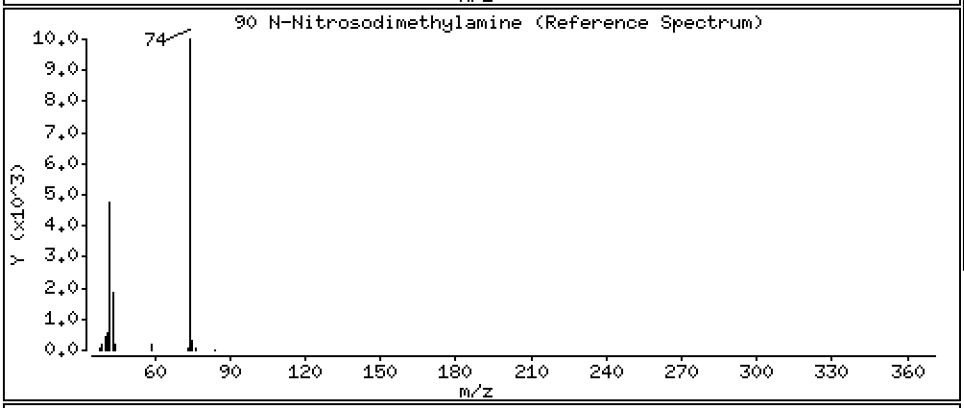
Concentration: 5.712 ug/mL

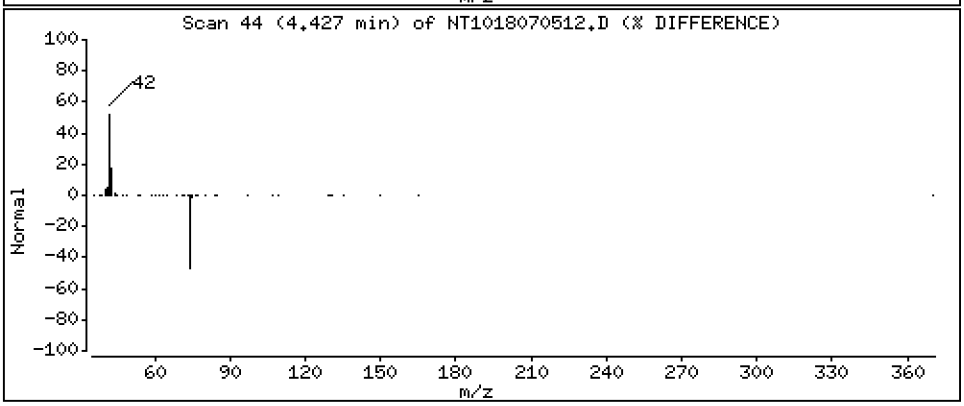












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

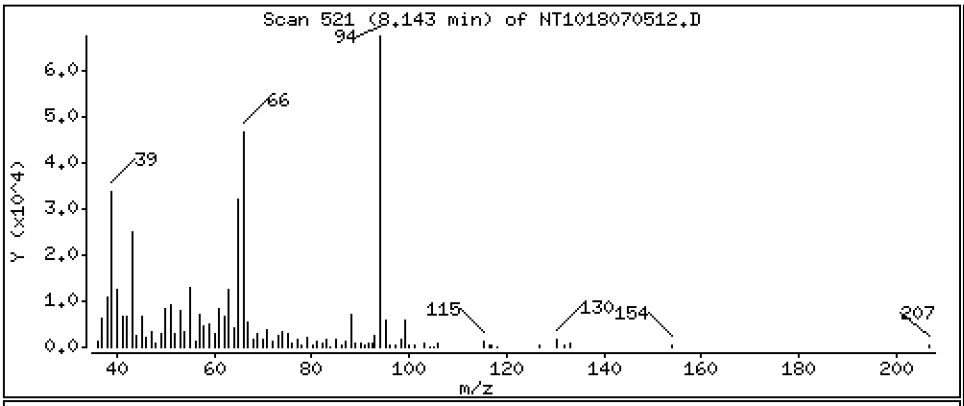
Operator: YZ

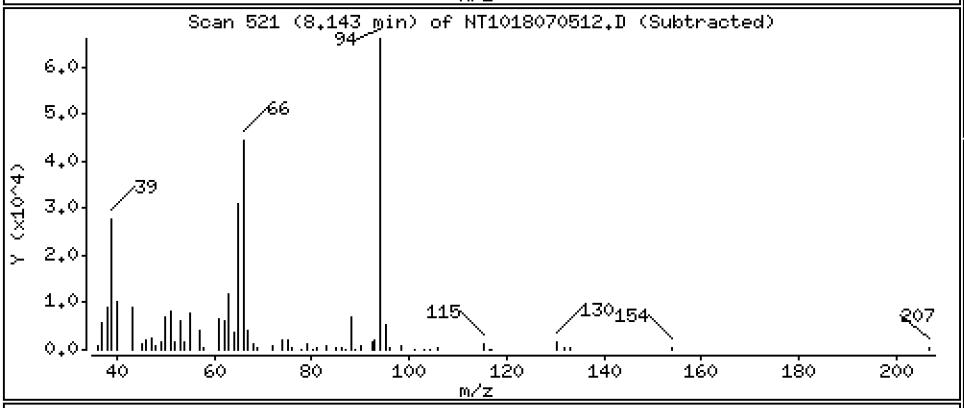
Column phase: ZB-5msi

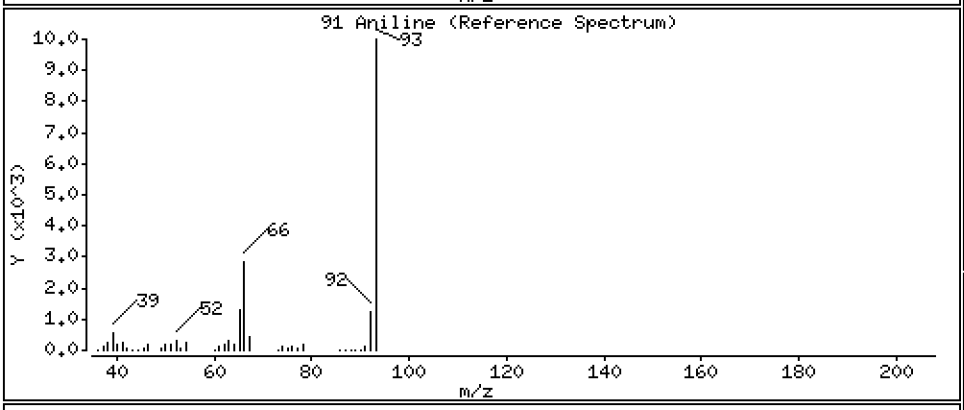
Column diameter: 0.25

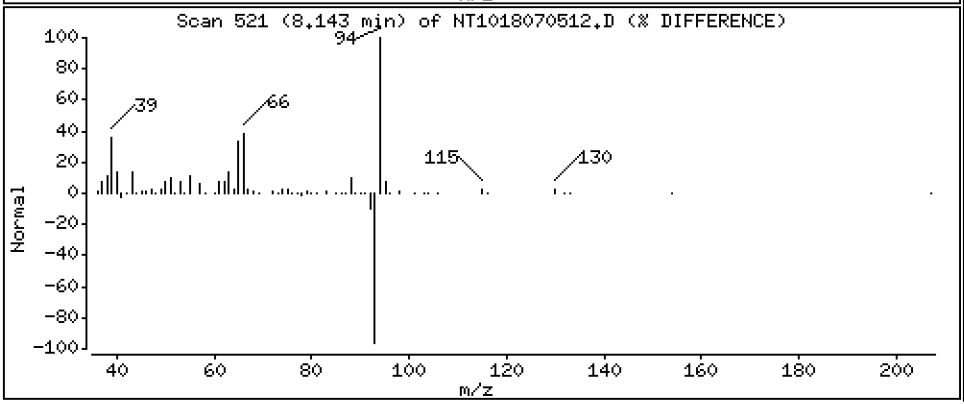
91 Aniline

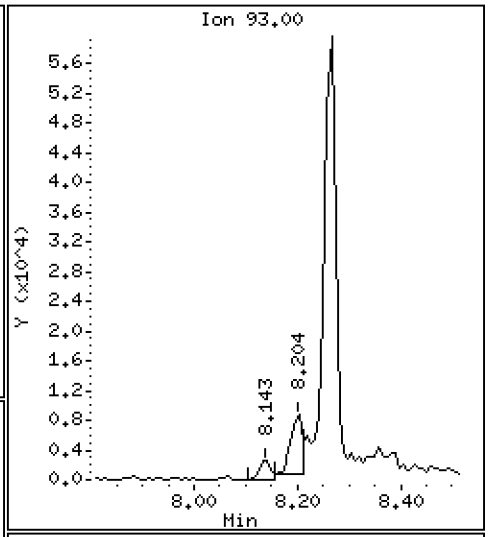
Concentration: 0.1081 ug/mL

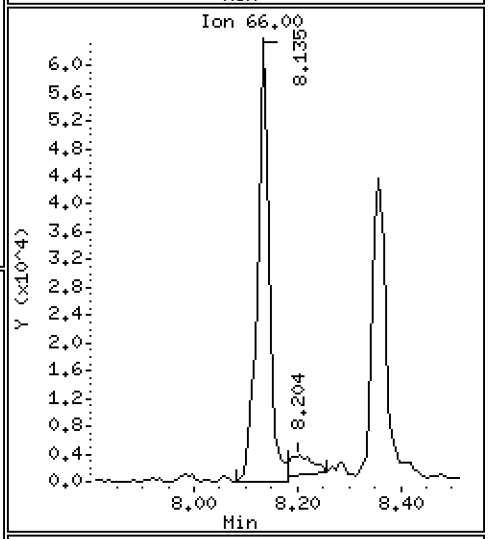


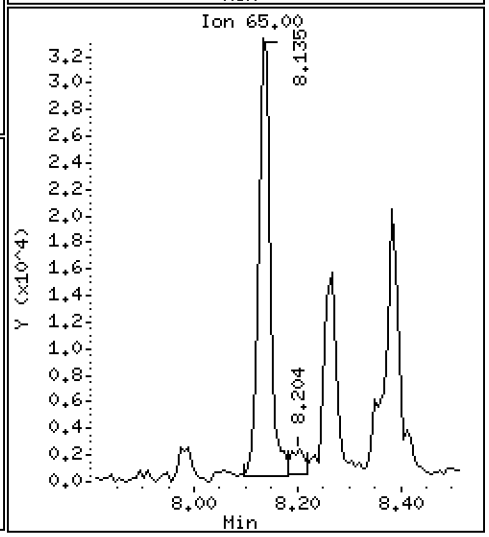












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

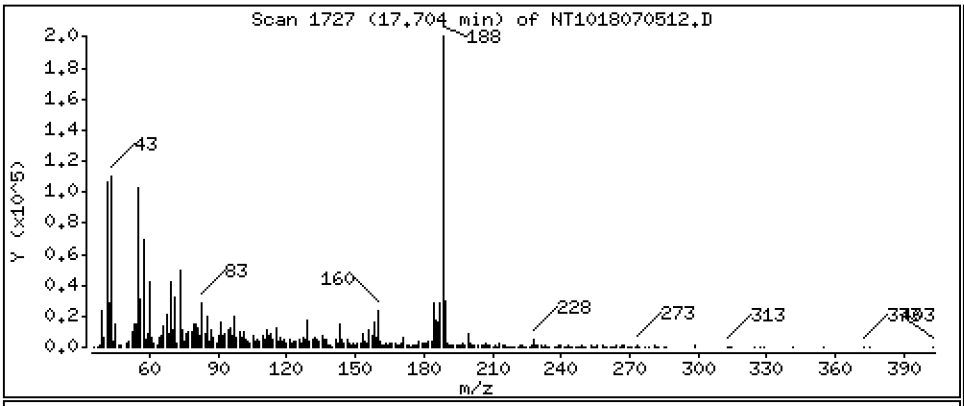
Operator: YZ

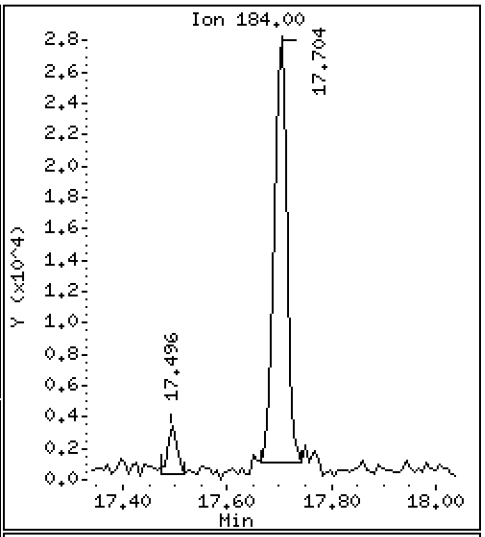
Column phase: ZB-5msi

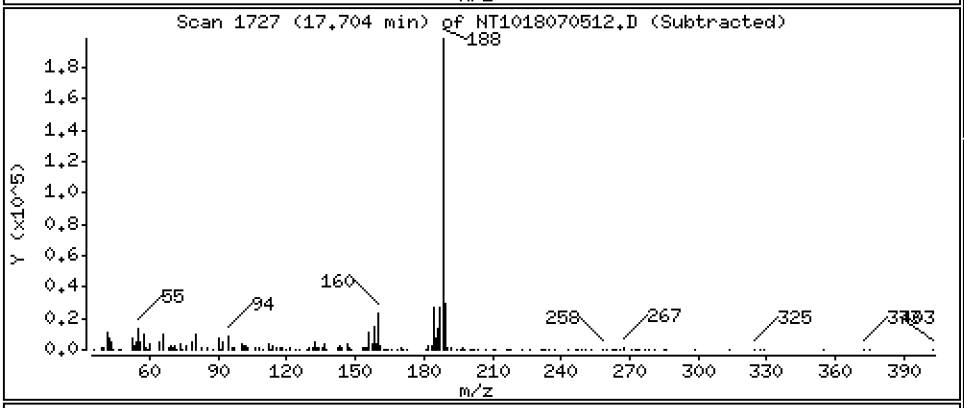
Column diameter: 0.25

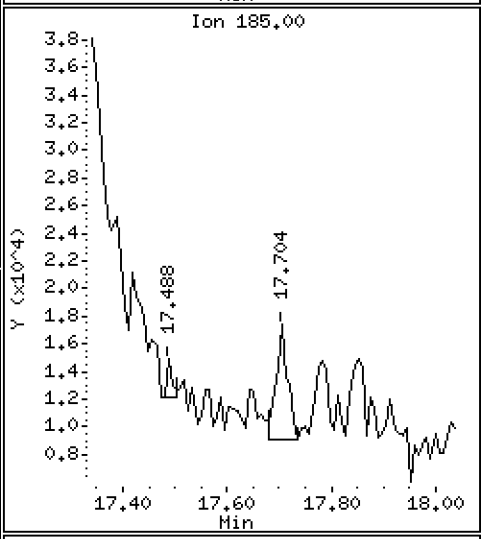
93 Benzidine

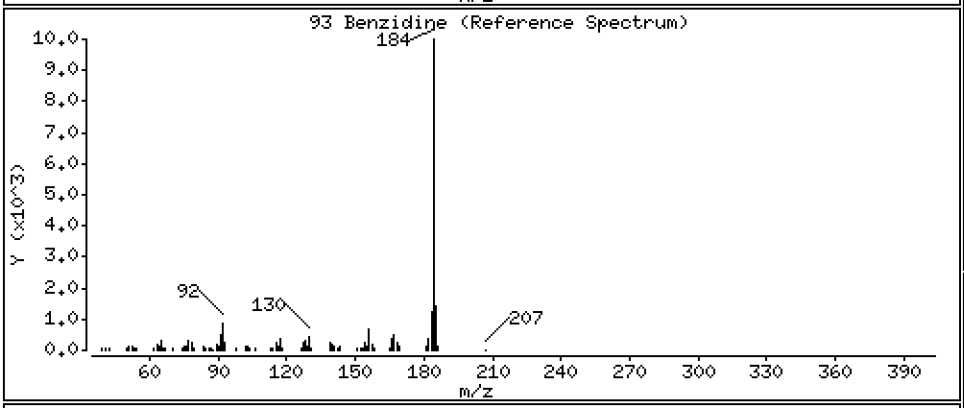
Concentration: 0.5976 ug/mL

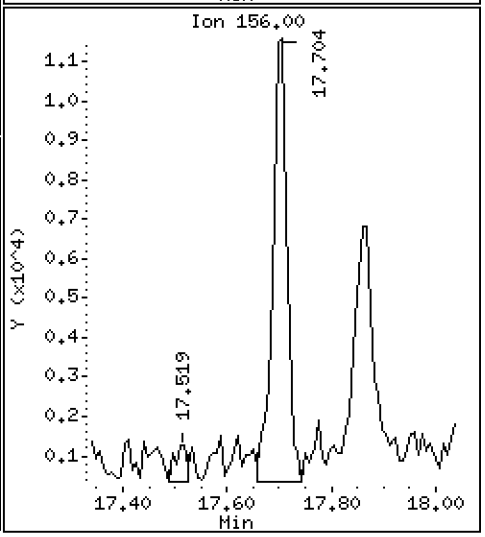


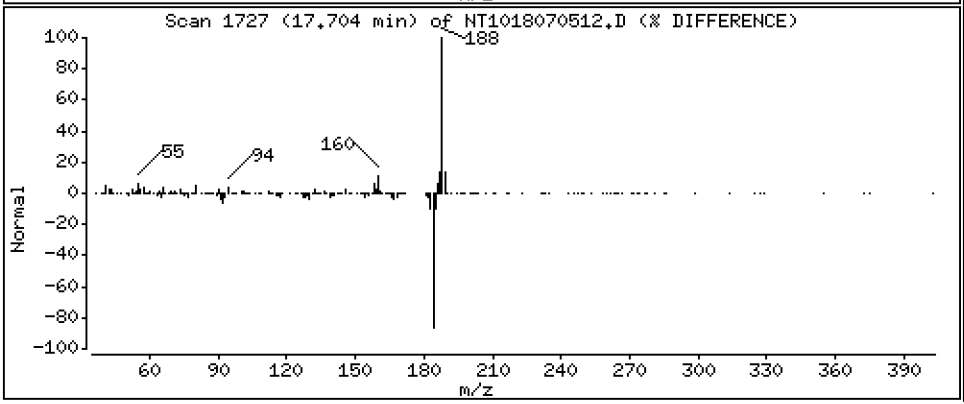












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

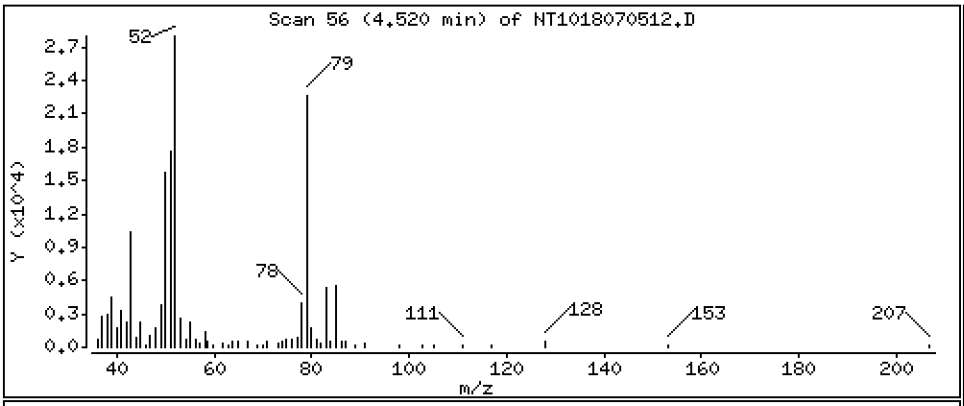
Operator: YZ

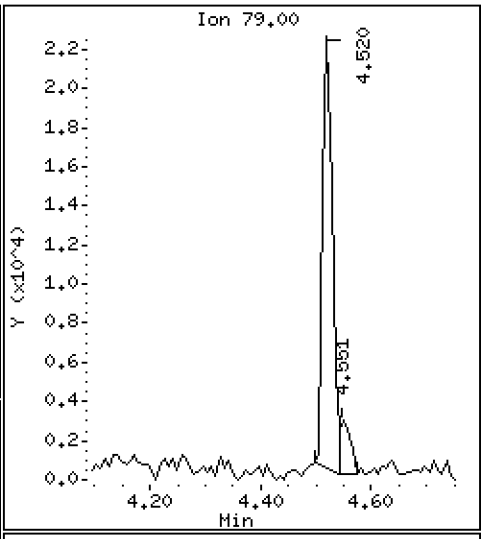
Column phase: ZB-5msi

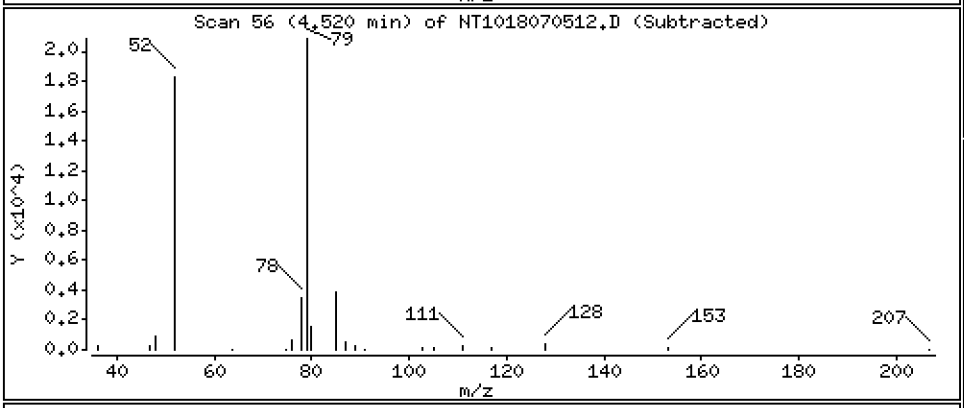
Column diameter: 0.25

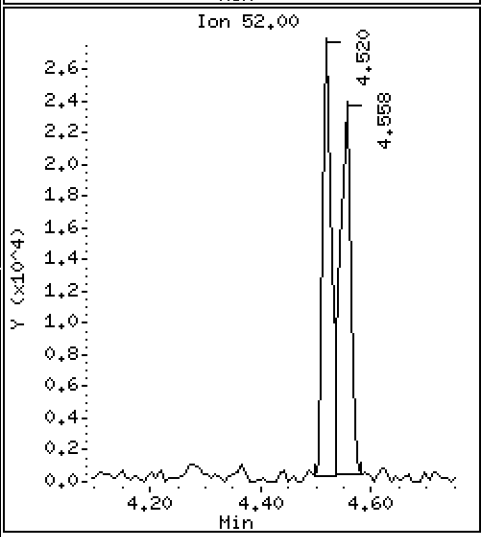
103 Pyridine

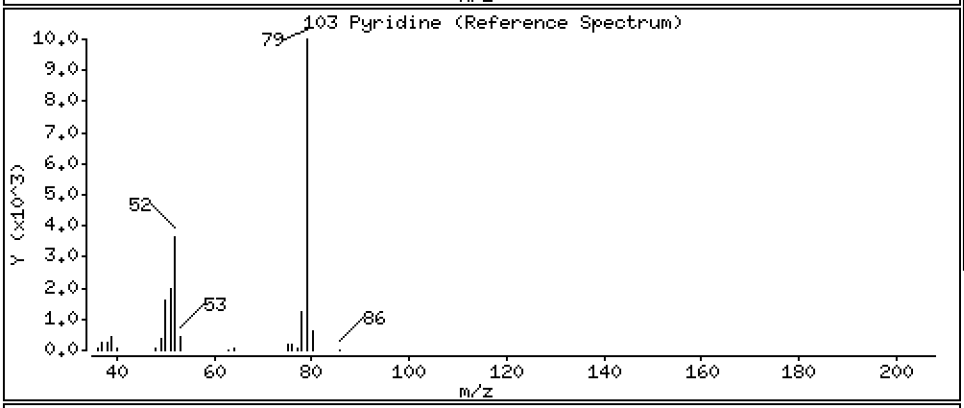
Concentration: 0.9257 ug/mL

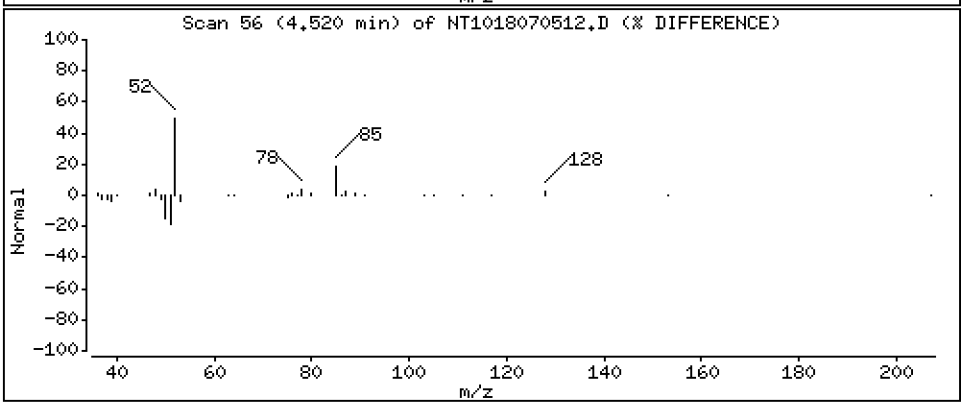












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

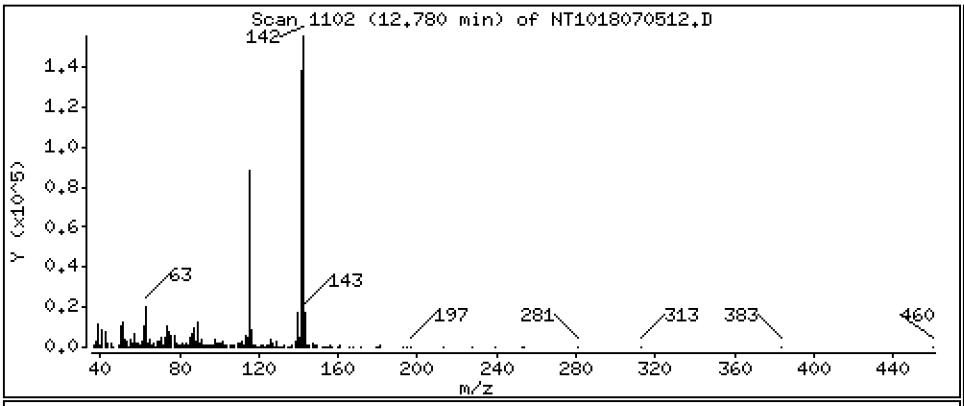
Operator: YZ

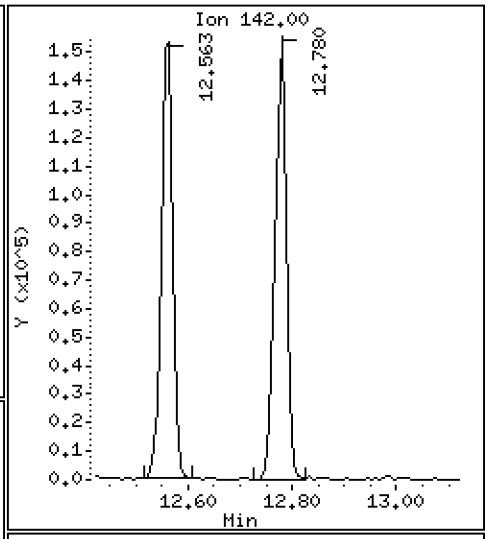
Column phase: ZB-5msi

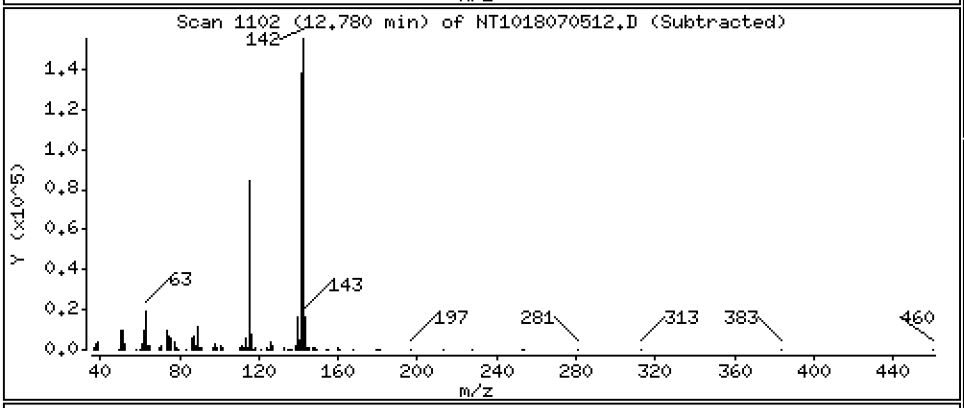
Column diameter: 0.25

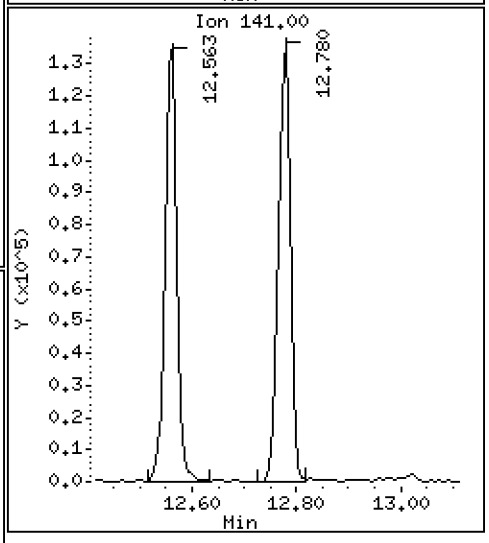
105 1-methylnaphthalene

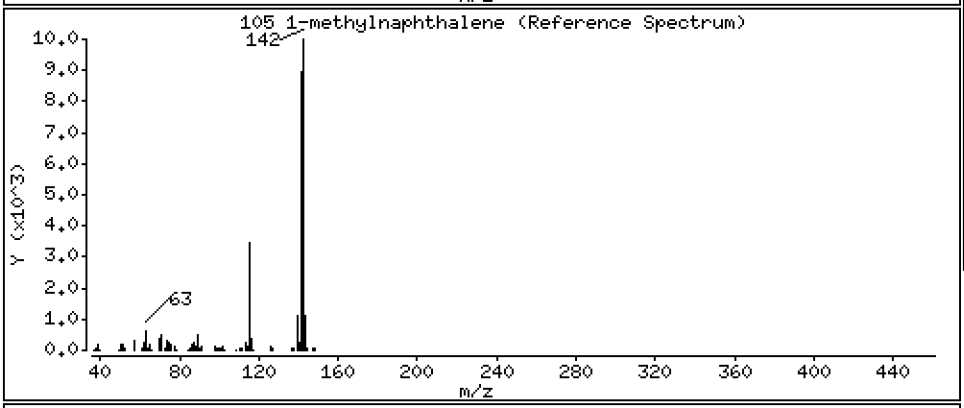
Concentration: 3.788 ug/mL

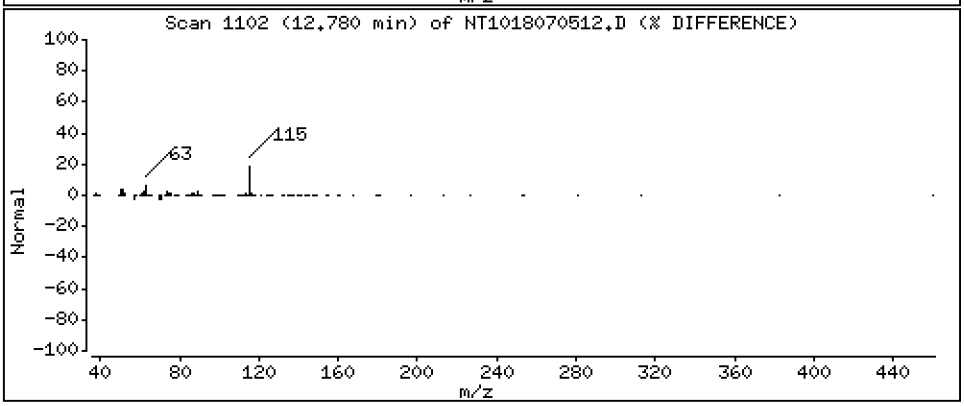












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

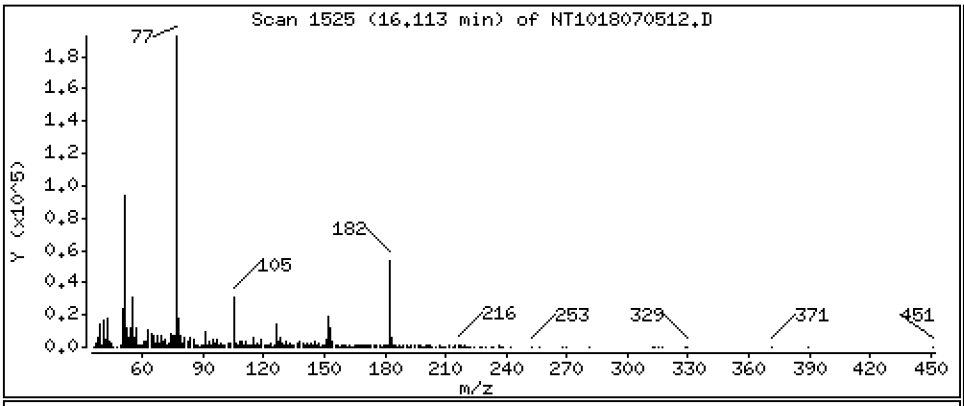
Operator: YZ

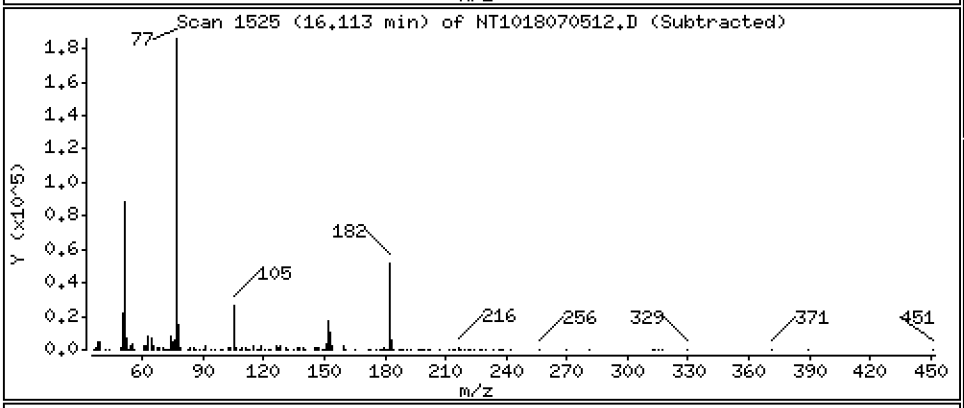
Column phase: ZB-5msi

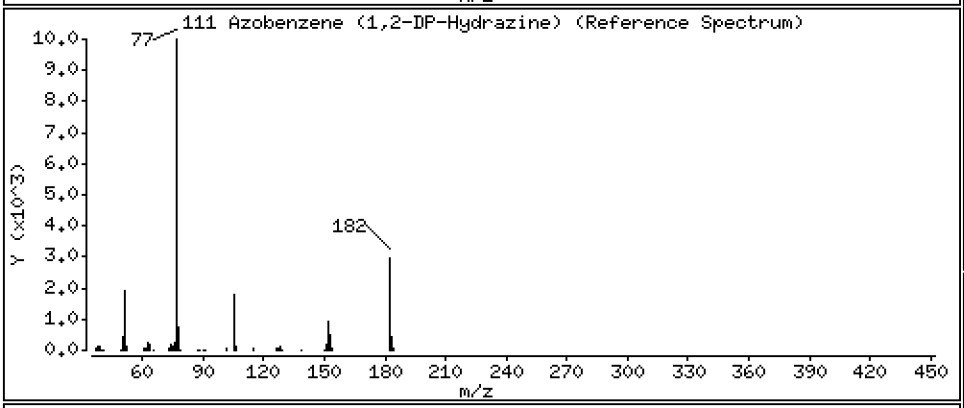
Column diameter: 0.25

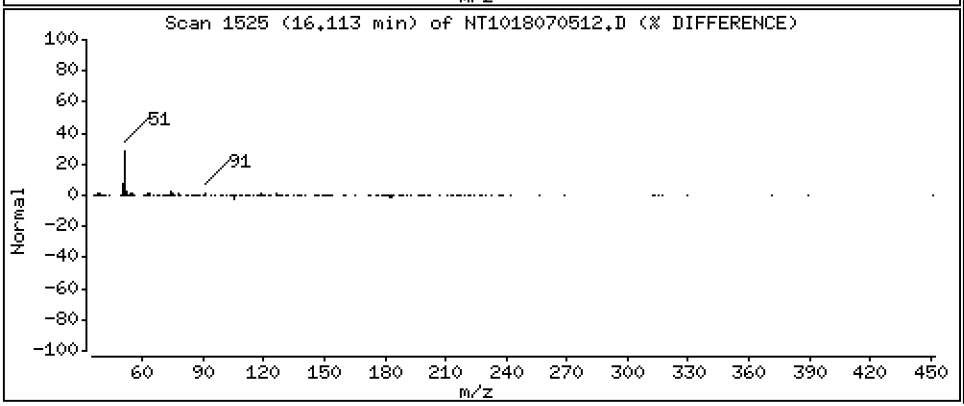
111 Azobenzene (1,2-DP-Hydrazine)

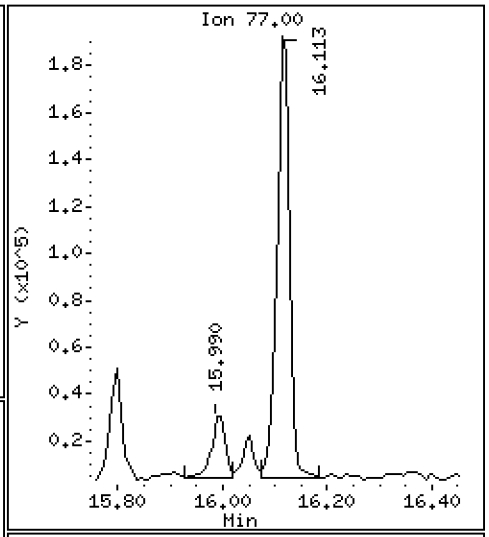
Concentration: 5.161 ug/mL

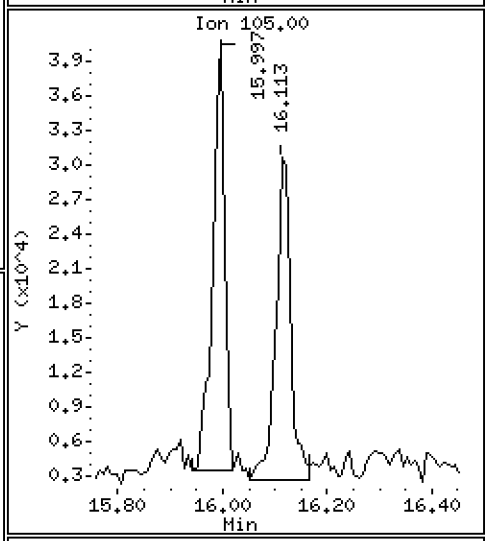


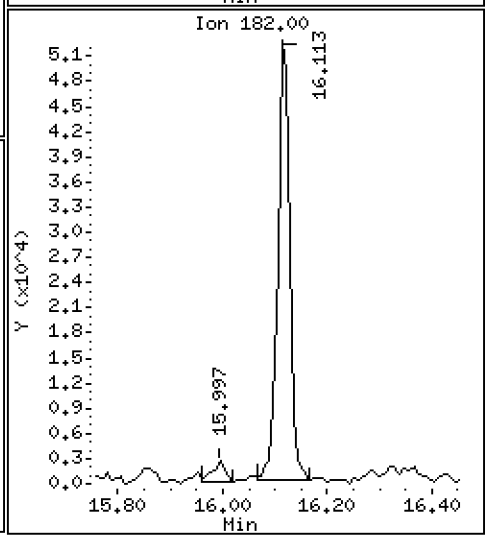












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

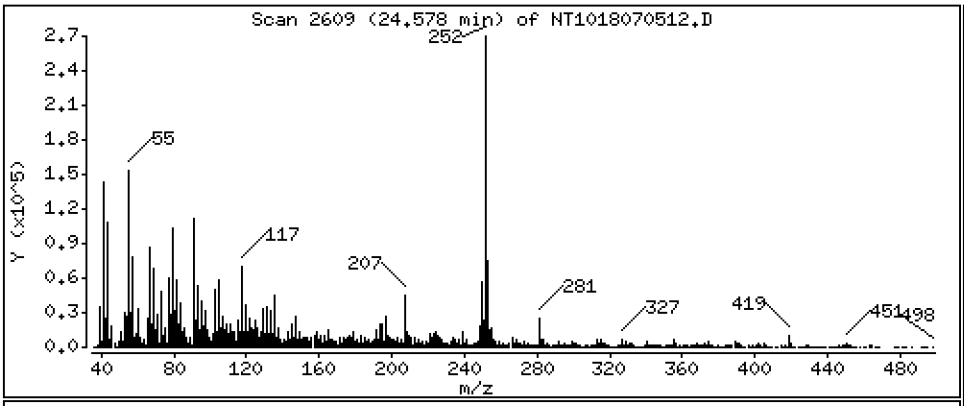
Operator: YZ

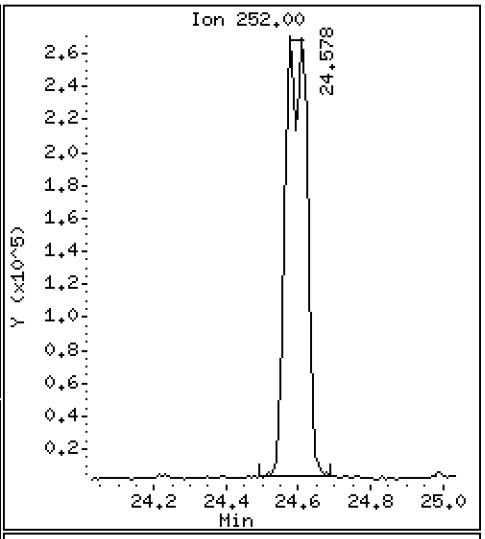
Column phase: ZB-5msi

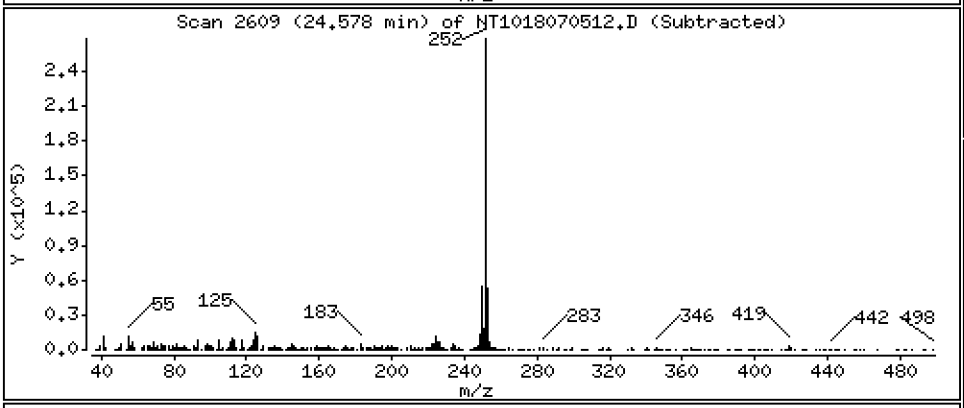
Column diameter: 0.25

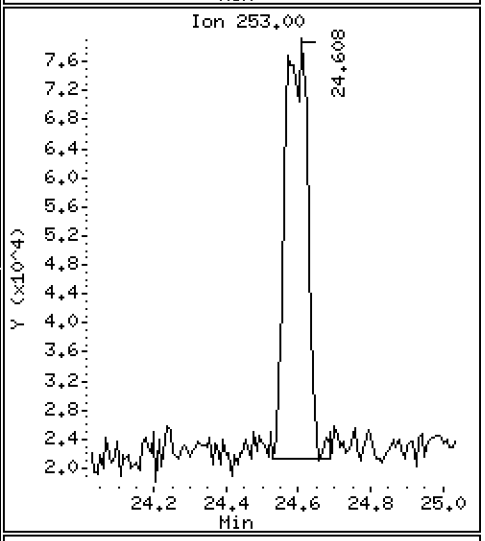
187 Total Benzofluoranthenes

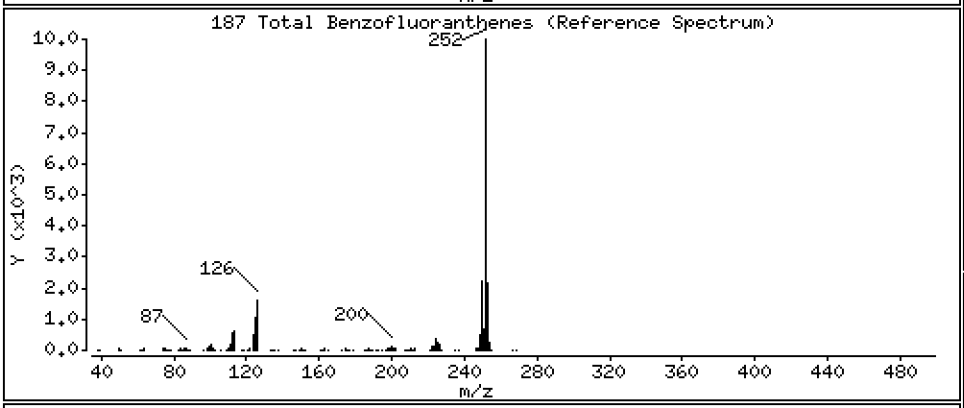
Concentration: 8.547 ug/mL

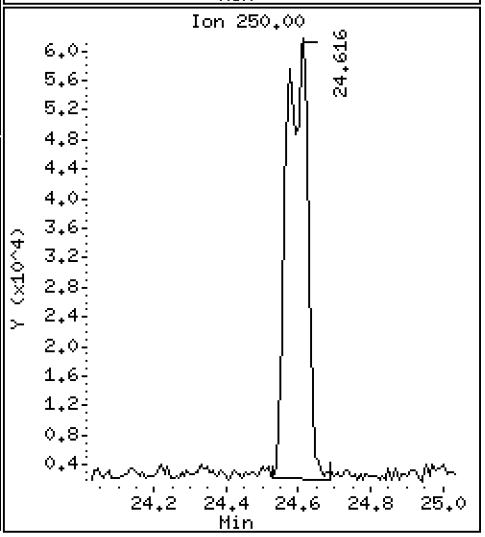


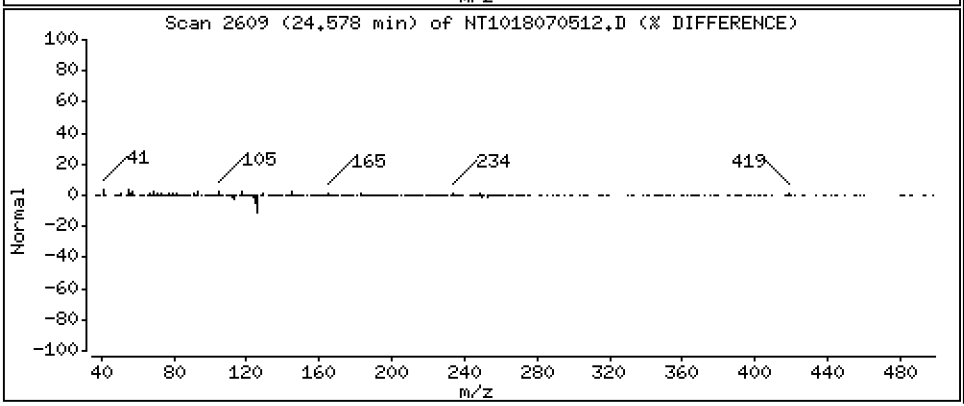












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

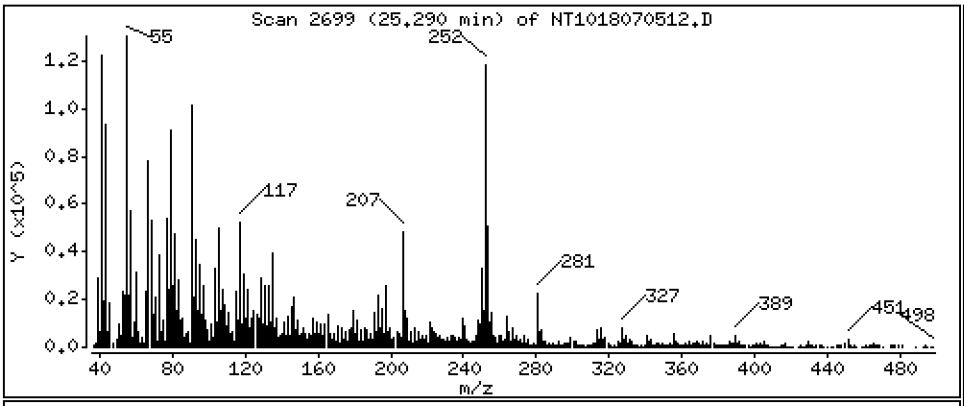
Operator: YZ

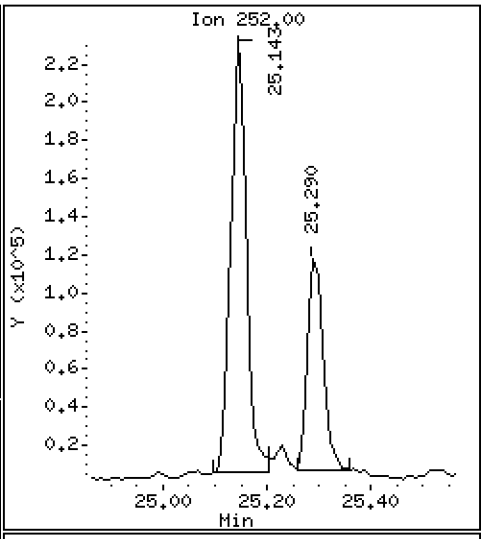
Column phase: ZB-5msi

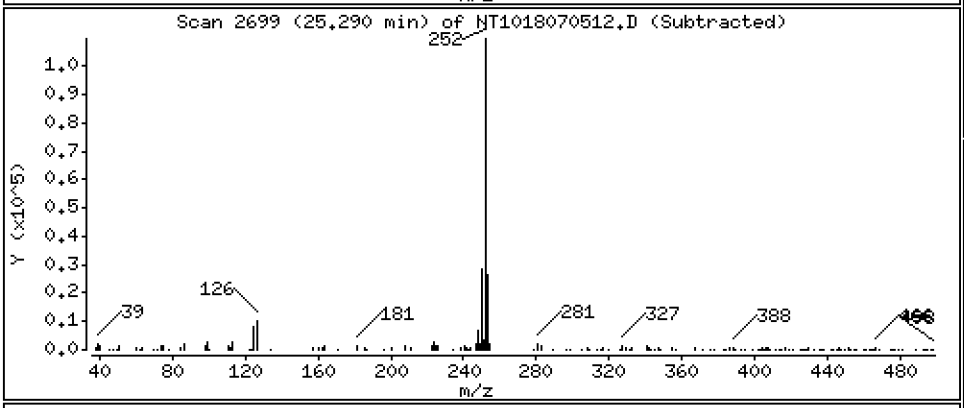
Column diameter: 0.25

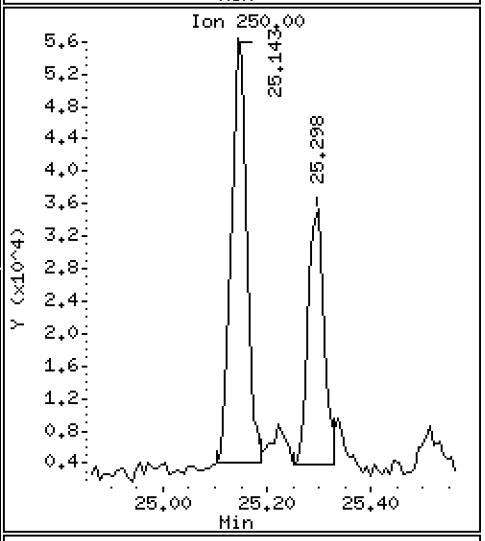
99 Perylene

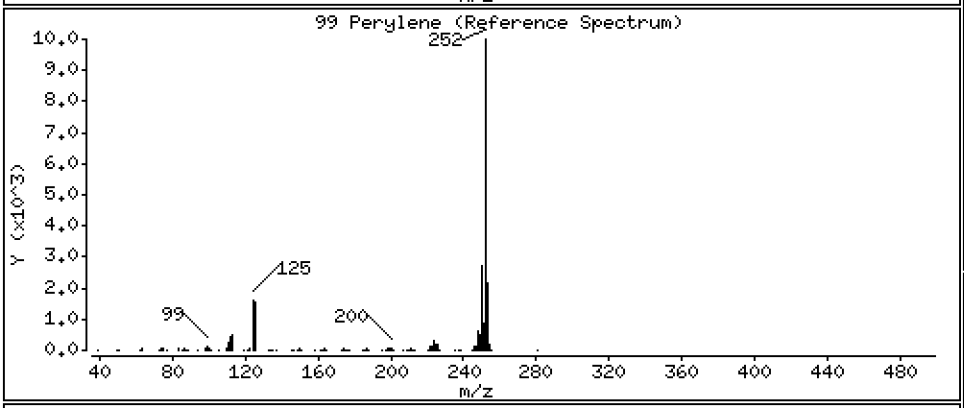
Concentration: 2.057 ug/mL

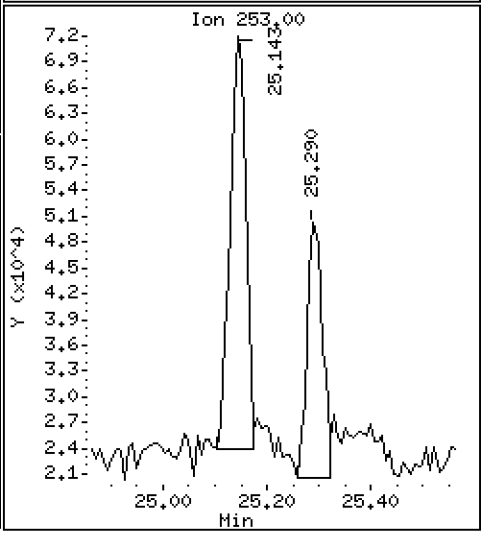


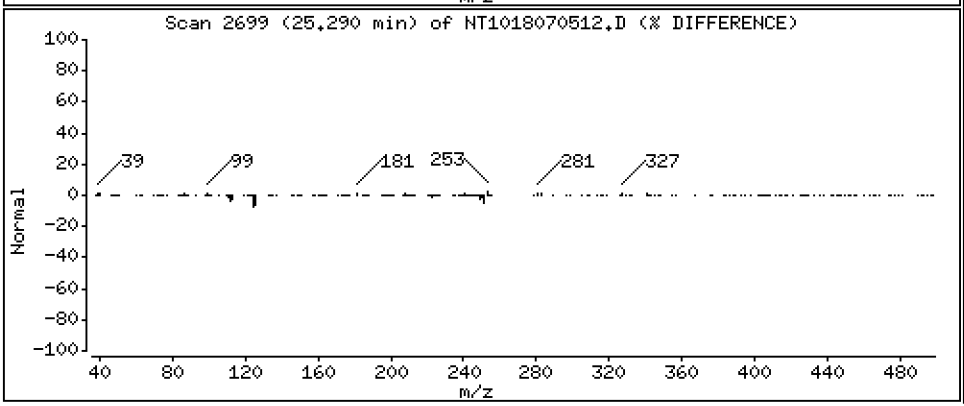












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt10.i

Sample Info: BGF0720-MSD1

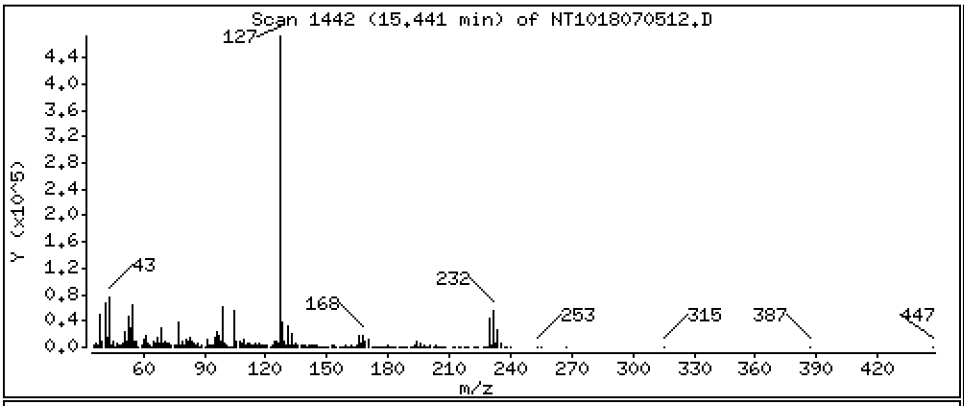
Operator: YZ

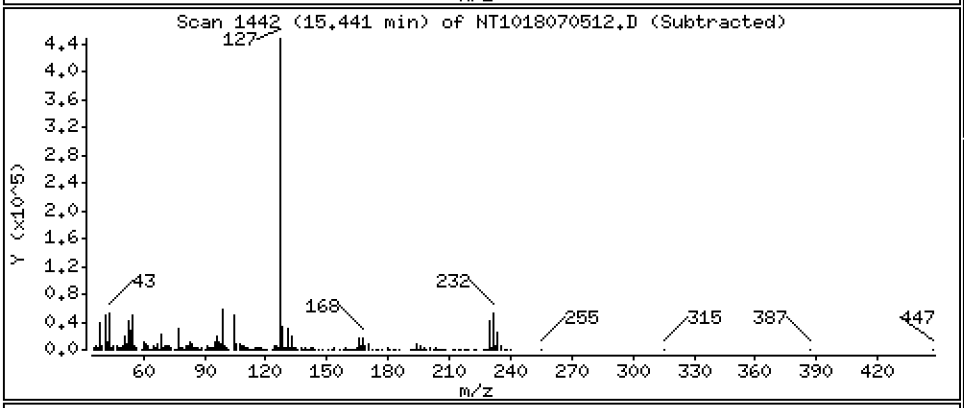
Column phase: ZB-5msi

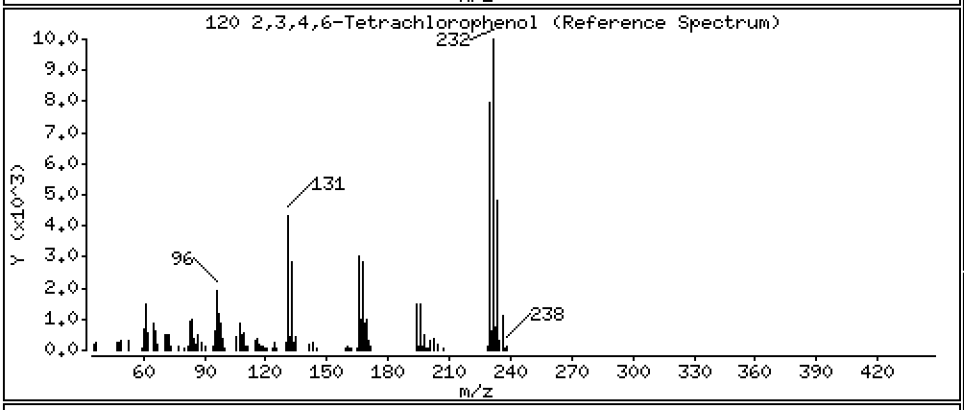
Column diameter: 0.25

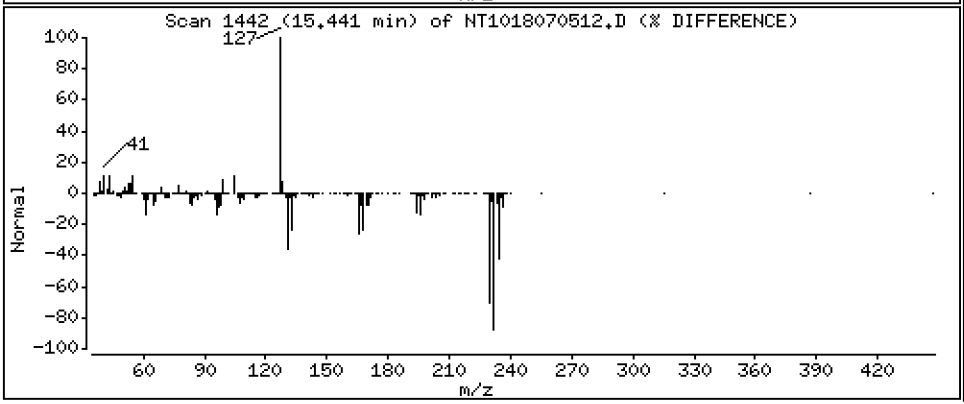
120 2,3,4,6-Tetrachlorophenol

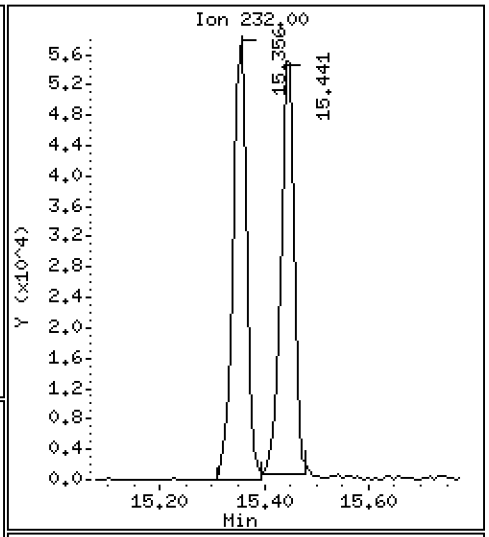
Concentration: 5.301 ug/mL

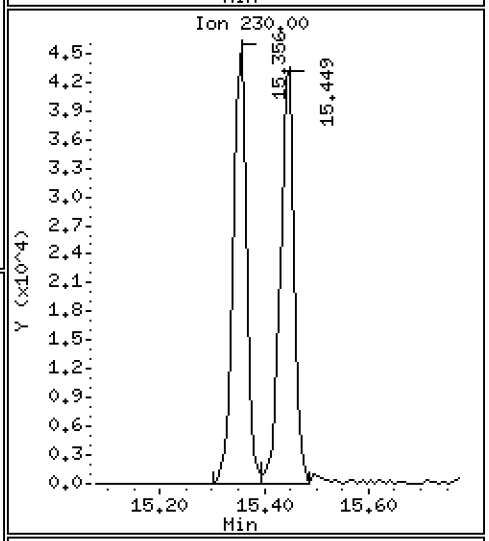


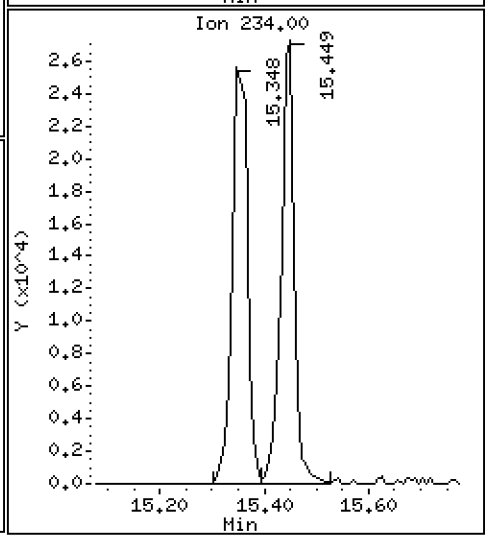












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070512.D
Lab Smp Id: BGF0720-MSD1
Inj Date : 05-JUL-2018 18:03
Operator : YZ Inst ID: nt10.i
Smp Info : BGF0720-MSD1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.566	6.512	(0.755)	135304	4.92500	4.925
$	2 Phenol-d5	99	8.119	8.088	(0.933)	173967	4.79160	4.792
	3 Phenol	94	8.134	8.104	(0.935)	110910	3.07612	3.076
$	5 2-Chlorophenol-d4	132	8.358	8.335	(0.961)	165405	5.84274	5.843
	4 Bis(2-Chloroethyl)ether	93	8.266	8.250	(0.950)	81425	2.93681	2.937
	6 2-Chlorophenol	128	8.389	8.366	(0.964)	106650	3.62484	3.625
	7 1,3-Dichlorobenzene	146	8.637	8.622	(0.993)	101299	3.42409	3.424
*	8 1,4-Dichlorobenzene-d4	152	8.699	8.691	(1.000)	80193	4.00000	
	9 1,4-Dichlorobenzene	146	8.730	8.715	(1.004)	97834	3.64784	3.648
$	10 1,2-Dichlorobenzene-d4	152	9.048	9.041	(1.040)	74637	3.73004	3.730
	12 1,2-Dichlorobenzene	146	9.072	9.064	(1.043)	102559	3.85425	3.854
	11 Benzyl alcohol	108	8.986	8.963	(1.033)	65821	3.68619	3.686
	14 2,2'-oxybis(1-Chloropropane)	121	9.266	9.266	(1.065)	34760	3.28155	3.282
	13 2-Methylphenol	108	9.219	9.196	(1.060)	89183	3.68800	3.688
	17 Hexachloroethane	117	9.654	9.646	(1.110)	31728	2.54410	2.544
	16 N-Nitroso-di-n-propylamine	70	9.530	9.514	(1.095)	61778	3.46246	3.462
	15 4-Methylphenol	108	9.491	9.468	(1.091)	103718	4.03917	4.039
$	18 Nitrobenzene-d5	82	9.778	9.770	(0.878)	125732	4.34145	4.341
	19 Nitrobenzene	77	9.809	9.801	(0.881)	116763	4.09854	4.099
	20 Isophorone	82	10.259	10.244	(0.921)	232673	3.97776	3.978
	21 2-Nitrophenol	139	10.430	10.422	(0.936)	61770	3.93333	3.933
	22 2,4-Dimethylphenol	107	10.513	10.488	(0.944)	378396	13.5758	13.58
	23 Bis(2-Chloroethoxy)methane	93	10.688	10.679	(0.959)	105927	3.45086	3.451
	24 Benzoic acid	105	10.829	10.729	(0.972)	613026	32.7544	32.75(M)
	25 2,4-Dichlorophenol	162	10.903	10.870	(0.979)	336554	14.9852	14.99
	26 1,2,4-Trichlorobenzene	180	11.062	11.054	(0.993)	108588	4.49622	4.496
*	27 Naphthalene-d8	136	11.139	11.131	(1.000)	290079	4.00000	
	28 Naphthalene	128	11.178	11.170	(1.003)	277794	3.75055	3.751
	29 4-Chloroaniline	127	11.371	11.309	(1.021)	87791	2.65721	2.657(M)
	30 Hexachlorobutadiene	225	11.541	11.541	(1.036)	83106	5.47916	5.479
	31 4-Chloro-3-methylphenol	107	12.315	12.276	(1.106)	366072	15.0558	15.06
	32 2-Methylnaphthalene	142	12.562	12.547	(1.128)	241695	4.13539	4.135
	33 Hexachlorocyclopentadiene	237	13.011	13.011	(0.885)	16905	0.94722	0.9472

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.189	13.174	(0.897)	312153	15.9073	15.91
	35 2,4,5-Trichlorophenol	196	13.282	13.244	(0.903)	322762	14.8809	14.88
$	36 2-Fluorobiphenyl	172	13.336	13.329	(0.907)	308800	4.34769	4.348
	37 2-Chloronaphthalene	162	13.537	13.530	(0.921)	252258	4.31985	4.320
	38 2-Nitroaniline	65	13.816	13.793	(0.939)	268096	16.4542	16.45
	39 Dimethylphthalate	163	14.242	14.234	(0.968)	283744	4.56566	4.566
	40 Acenaphthylene	152	14.397	14.381	(0.979)	322461	3.50057	3.501
	41 2,6-Dinitrotoluene	165	14.373	14.366	(0.977)	180279	13.5273	13.53
*	42 Acenaphthene-d10	164	14.706	14.698	(1.000)	160991	4.00000	
	43 3-Nitroaniline	138	14.660	14.637	(0.997)	85123	5.52073	5.521
	44 Acenaphthene	153	14.768	14.760	(1.004)	235941	4.30626	4.306
	45 2,4-Dinitrophenol	184	14.861	14.845	(1.011)	105861	12.5829	12.58
	46 Dibenzofuran	168	15.093	15.085	(1.026)	370154	4.35043	4.350
	47 4-Nitrophenol	109	15.046	14.984	(1.023)	267668	28.2143	28.21
	48 2,4-Dinitrotoluene	165	15.170	15.155	(1.032)	243175	14.1817	14.18
	50 Diethylphthalate	149	15.680	15.673	(1.066)	329608	5.19744	5.197
	49 Fluorene	166	15.796	15.789	(1.074)	338863	5.21847	5.218
	51 4-Chlorophenyl-phenylether	204	15.796	15.789	(1.074)	187758	5.91846	5.918
	52 4-Nitroaniline	138	15.912	15.897	(1.082)	118022	7.92338	7.923
	53 4,6-Dinitro-2-methylphenol	198	15.997	15.981	(0.904)	150903	10.6757	10.68
	54 N-Nitrosodiphenylamine	169	16.051	16.035	(0.907)	204189	4.59611	4.596
$	55 2,4,6-Tribromophenol	330	16.328	16.313	(1.110)	111005	12.7627	12.76
	56 4-Bromophenyl-phenylether	248	16.783	16.776	(0.948)	105023	5.23716	5.237
	57 Hexachlorobenzene	284	17.085	17.077	(0.965)	114982	6.00589	6.006
	58 Pentachlorophenol	266	17.464	17.433	(0.986)	193108	17.1529	17.15
*	59 Phenanthrene-d10	188	17.704	17.689	(1.000)	330210	4.00000	
	60 Phenanthrene	178	17.750	17.735	(1.003)	404268	4.61828	4.618
	61 Anthracene	178	17.843	17.828	(1.008)	351614	3.78859	3.789
	62 Carbazole	167	18.184	18.161	(1.027)	368825	4.45121	4.451
	63 Di-n-butylphthalate	149	19.019	18.988	(1.074)	904887	7.16716	7.167
	64 Fluoranthene	202	20.164	20.118	(1.000)	556618	3.16300	3.163
	65 Pyrene	202	20.590	20.544	(1.000)	895613	4.88339	4.883
$	66 Terphenyl-d14	244	20.899	20.853	(1.000)	450863	3.88907	3.889
	67 Butylbenzylphthalate	149	21.875	21.798	(0.000)	925779	12.7473	12.75(M)
	68 Benzo(a)anthracene	228	22.789	22.711	(1.000)	626280	3.89255	3.893
*	69 Chrysene-d12	240	22.812	22.735	(1.000)	441942	4.00000	(M)
	70 3,3'-Dichlorobenzidine	252	22.820	22.688	(0.000)	53560	0.94881	0.9488(M)
	71 Chrysene	228	22.858	22.781	(1.000)	583560	4.51593	4.516(H)
	72 bis(2-Ethylhexyl)phthalate	149	22.920	22.835	(0.960)	460281	6.43853	6.439
*	134 Di-n-octylphthalate-d4	153	23.873	23.811	(1.000)	686243	4.00000	
	73 Di-n-octylphthalate	149	23.880	23.818	(1.000)	658496	4.40662	4.407
	74 Benzo(b)fluoranthene	252	24.577	24.492	(0.974)	571235	4.23614	4.236
	75 Benzo(k)fluoranthene	252	24.608	24.531	(0.975)	642765	4.73677	4.737(M)
	76 Benzo(a)pyrene	252	25.142	25.057	(0.996)	471969	3.46934	3.469
*	77 Perylene-d12	264	25.243	25.166	(1.000)	385634	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.731	27.444	(1.099)	635836	4.75607	4.756
	79 Dibenzo(a,h)anthracene	278	27.731	27.467	(1.099)	526161	4.87544	4.875
	80 Benzo(g,h,i)perylene	276	28.391	28.112	(1.125)	470991	3.95831	3.958
	90 N-Nitrosodimethylamine	74	4.427	4.388	(0.509)	92677	5.71181	5.712
	91 Aniline	93	8.142	8.158	(0.936)	4332	0.10811	0.1081
	93 Benzidine	184	17.704	17.689	(1.000)	44670	0.59764	0.5976
	103 Pyridine	79	4.519	4.404	(0.520)	27145	0.92568	0.9257
	105 1-methylnaphthalene	142	12.779	12.771	(1.147)	227963	3.78763	3.788
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.112	16.105	(1.096)	313292	5.16127	5.161

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.577	24.531	(0.974)	1111960	8.54749	8.547
99	Perylene	252	25.289	25.212	(1.002)	224396	2.05724	2.057
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.440	15.425	(1.050)	96702	5.30114	5.301

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070512.D
Lab Smp Id: BGF0720-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	80193	-27.56
27 Naphthalene-d8	393946	196973	787892	290079	-26.37
42 Acenaphthene-d10	203210	101605	406420	160991	-20.78
59 Phenanthrene-d10	403506	201753	807012	330210	-18.16
69 Chrysene-d12	354618	177309	709236	441942	24.62
134 Di-n-octylphthala	800232	400116	1600464	686243	-14.24
77 Perylene-d12	378948	189474	757896	385634	1.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.70	0.09
27 Naphthalene-d8	11.13	10.63	11.63	11.14	0.07
42 Acenaphthene-d10	14.70	14.20	15.20	14.71	0.05
59 Phenanthrene-d10	17.69	17.19	18.19	17.70	0.09
69 Chrysene-d12	22.74	22.24	23.24	22.81	0.34
134 Di-n-octylphthala	23.81	23.31	24.31	23.87	0.26
77 Perylene-d12	25.17	24.67	25.67	25.24	0.31

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070512.D

Lab ID: BGF0720-MSD1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 18:03

RT	CO-ELUTION COMPOUNDS
27.732	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
27.732	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

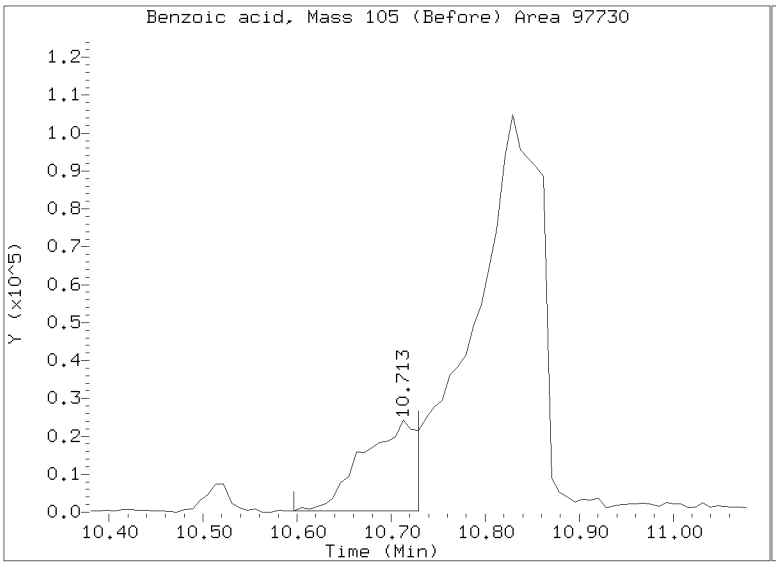
RRT	CCV RRT	DELTA	COMPOUND
NONE			

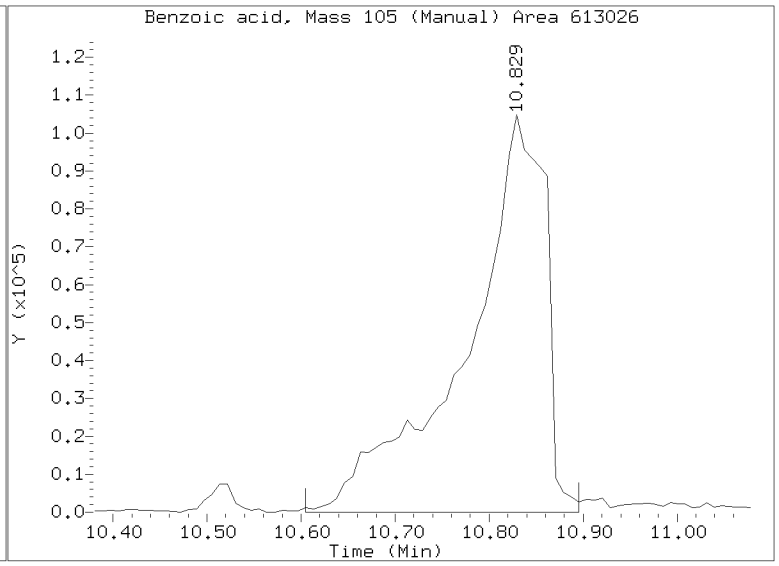
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

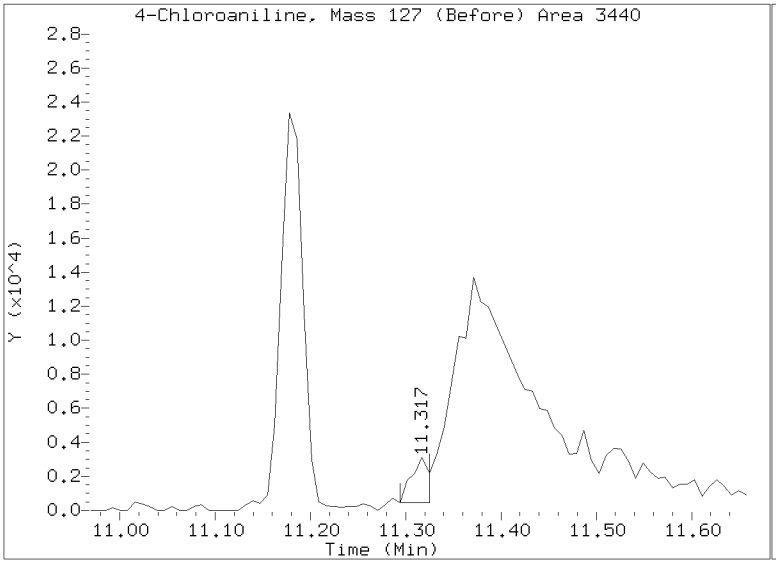
* Only compounds listed in the work order have been verified by the analyst *

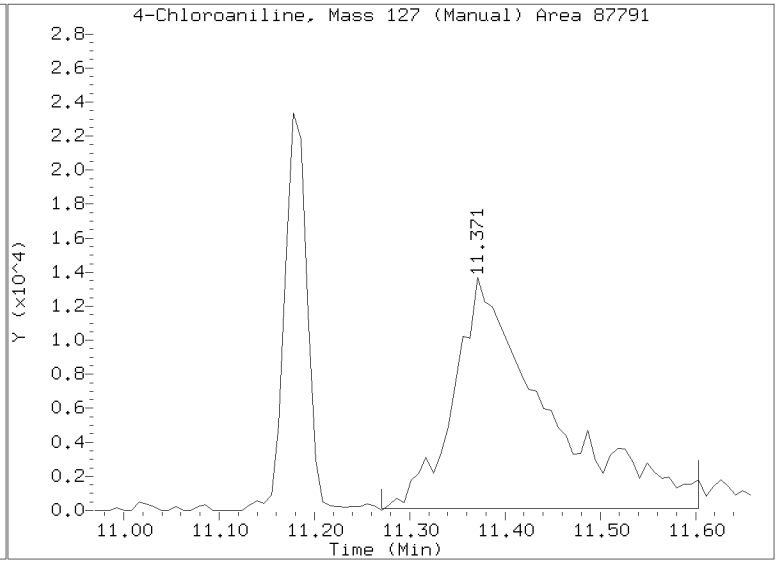
Quant Ion Manual Peak Adjustment Report

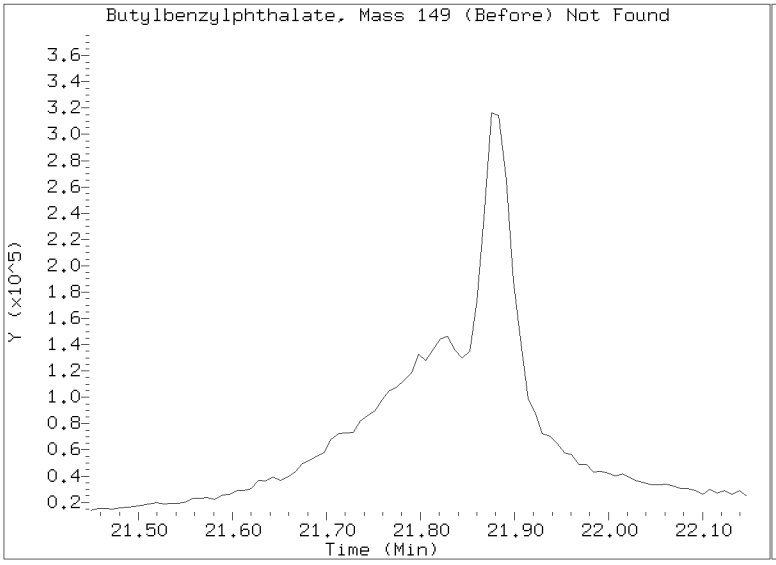
Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070512.D
Injection Date: 05-JUL-2018 18:03
Lab ID:BGF0720-MSD1 Client ID:
Report Date: 07/09/2018 09:41

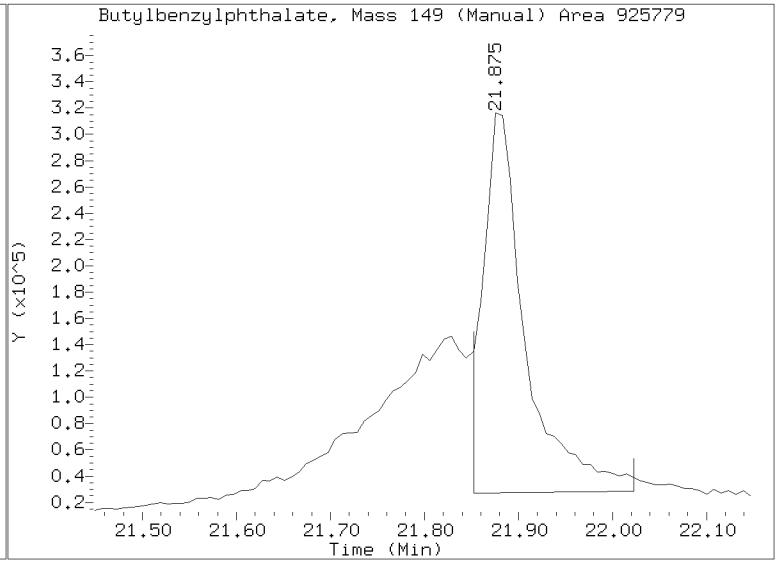






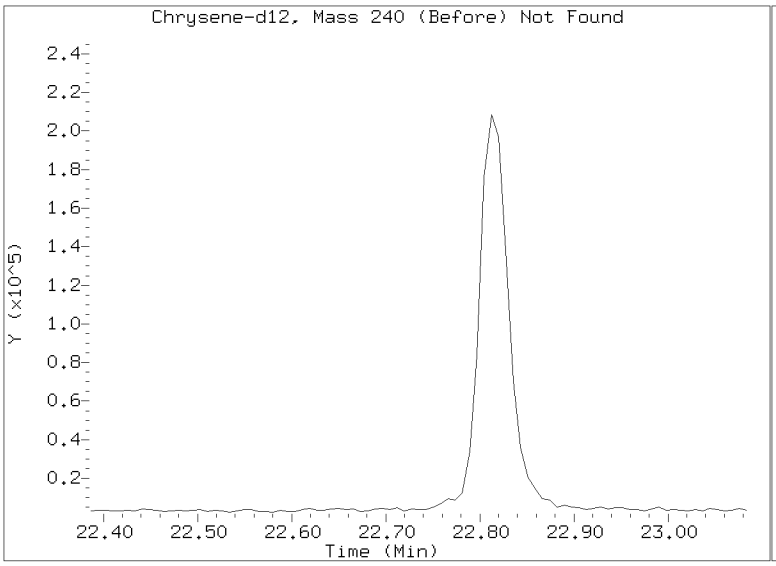


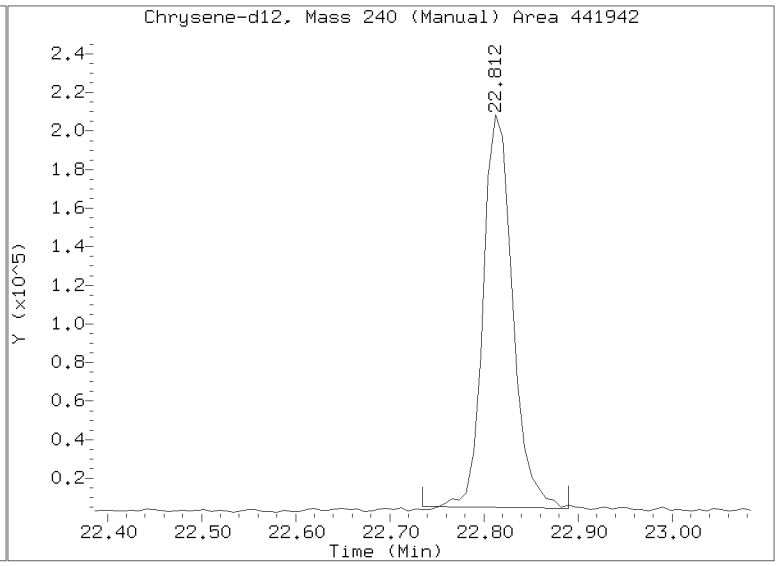


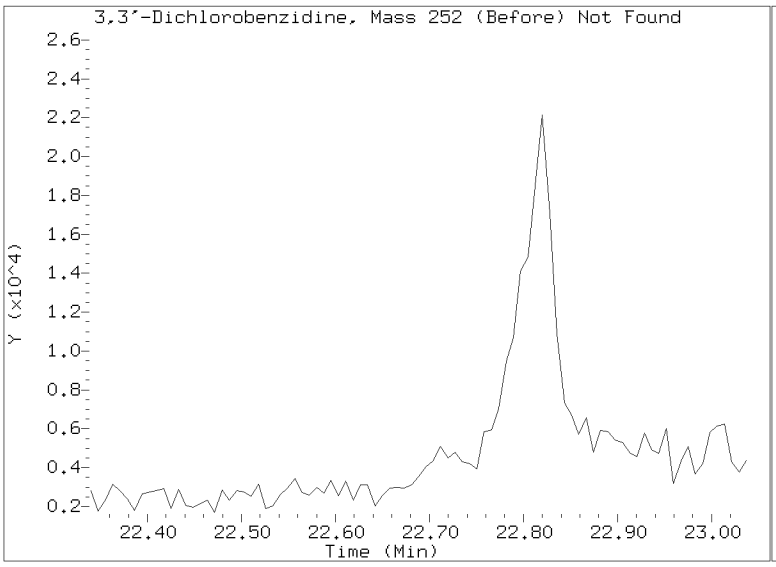


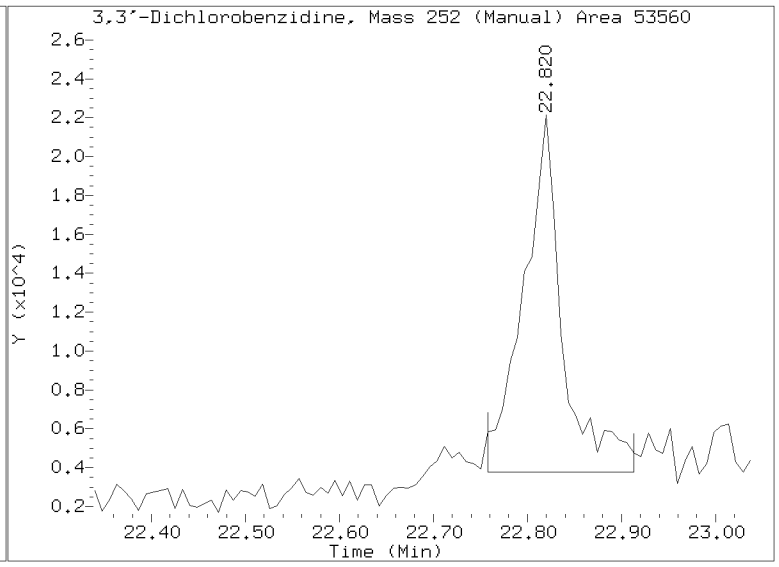
Quant Ion Manual Peak Adjustment Report

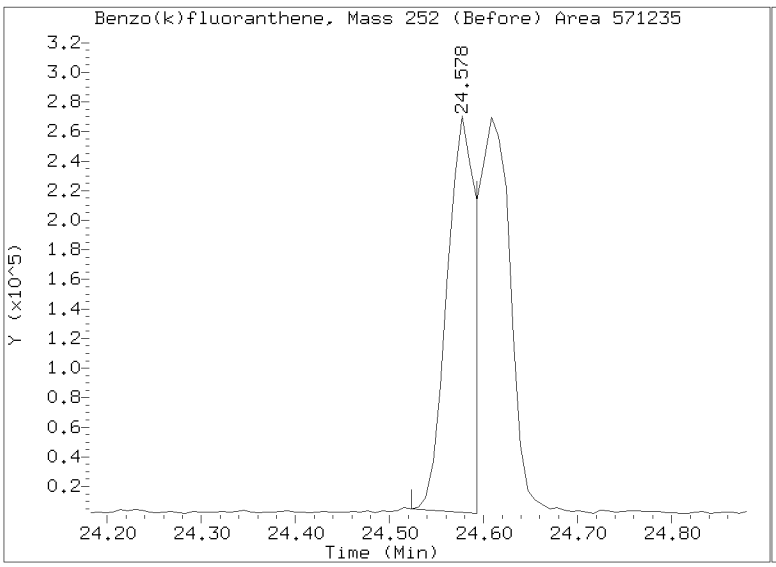
Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070512.D
Injection Date: 05-JUL-2018 18:03
Lab ID:BGF0720-MSD1 Client ID:
Report Date: 07/09/2018 09:41

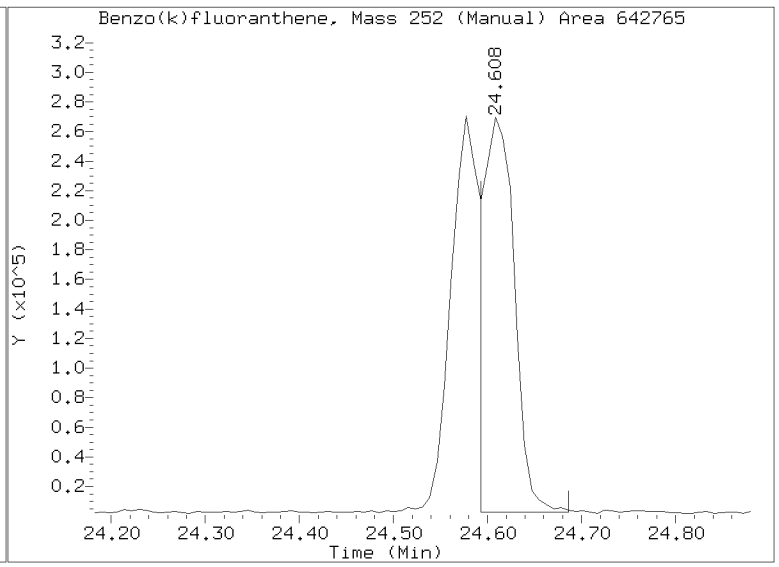












Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1018051901.D	Injection Date:	05/19/18
Instrument ID:	NT10	Injection Time:	08:54
Sequence:	SGE0328	Lab Sample ID:	SGE0328-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	34	PASS
68	Less than 2% of 69	1.5	PASS
69	Less than 100% of 198	41.1	PASS
70	Less than 2% of 69	0.547	PASS
127	10 - 80% of 198	53.8	PASS
197	Less than 2% of 198	0.78	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.86	PASS
275	10 - 60% of 198	27.1	PASS
365	1 - 100% of 198	4.83	PASS
441	0.1 - 24% of 442	15.4	PASS
442	50 - 200% of 198	84.8	PASS
443	15 - 24% of 442	19.8	PASS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1018051901.D	Injection Date:	05/19/18
Instrument ID:	NT10	Injection Time:	08:54
Sequence:	SGE0328	Lab Sample ID:	SGE0328-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	34	PASS
68	Less than 2% of 69	1.5	PASS
69	Less than 100% of 198	41.1	PASS
70	Less than 2% of 69	0.547	PASS
127	10 - 80% of 198	53.8	PASS
197	Less than 2% of 198	0.78	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.86	PASS
275	10 - 60% of 198	27.1	PASS
365	1 - 100% of 198	4.83	PASS
441	0.1 - 24% of 442	15.4	PASS
442	50 - 200% of 198	84.8	PASS
443	15 - 24% of 442	19.8	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGE0328-TUN1	NT1018051901.D	05/19/2018	8:54
Cal Standard	SGE0328-CAL5	NT1018051902.D	05/19/2018	9:09
Cal Standard	SGE0328-CAL7	NT1018051903.D	05/19/2018	9:49
Cal Standard	SGE0328-CAL1	NT1018051904.D	05/19/2018	10:25
Cal Standard	SGE0328-CAL6	NT1018051905.D	05/19/2018	11:02
Cal Standard	SGE0328-CAL2	NT1018051906.D	05/19/2018	11:38
Cal Standard	SGE0328-CAL3	NT1018051907.D	05/19/2018	12:14
Cal Standard	SGE0328-CAL4	NT1018051908.D	05/19/2018	12:51
Secondary Cal Check	SGE0328-SCV1	NT1018051911.D	05/19/2018	14:41
MS Tune	SGE0328-TUN2	NT1018051912.D	05/19/2018	15:12
Initial Cal Check	SGE0328-ICV1	NT1018051913.D	05/19/2018	15:28
Blank	BGE0396-BLK1	NT1018051915.D	05/19/2018	16:42
LCS	BGE0396-BS1	NT1018051916.D	05/19/2018	17:19
Reference	BGE0396-SRM1	NT1018051917.D	05/19/2018	17:55
ZZZZZ	18B0338-03RE1	NT1018051920.D	05/19/2018	19:45
ZZZZZ	18B0338-04RE1	NT1018051923.D	05/19/2018	21:34
ZZZZZ	18B0338-05RE1	NT1018051924.D	05/19/2018	22:10
ZZZZZ	18B0338-06RE1	NT1018051925.D	05/19/2018	22:46
ZZZZZ	18B0338-07RE1	NT1018051926.D	05/19/2018	23:22
ZZZZZ	18B0338-08RE1	NT1018051927.D	05/19/2018	23:58
ZZZZZ	18B0359-01RE1	NT1018051928.D	05/20/2018	0:34
ZZZZZ	18B0359-02RE1	NT1018051929.D	05/20/2018	1:10
ZZZZZ	18B0359-03RE1	NT1018051930.D	05/20/2018	1:46
ZZZZZ	18B0360-01RE1	NT1018051931.D	05/20/2018	2:22
ZZZZZ	18B0362-01RE1	NT1018051932.D	05/20/2018	2:58
Calibration Check	SGE0328-CCV1	NT1018051936.D	05/20/2018	5:22

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D

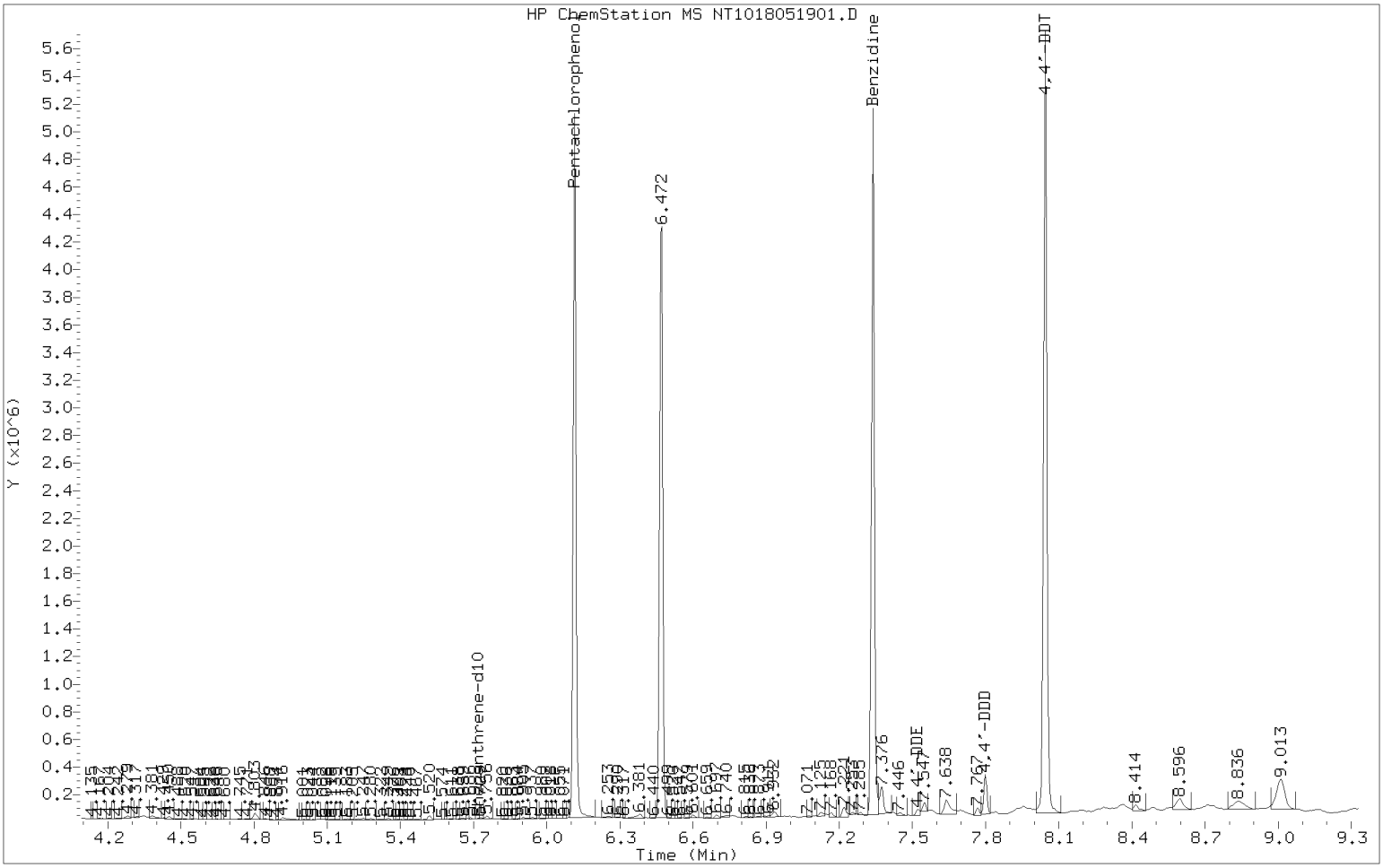
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1018051912.D	Injection Date:	05/19/18
Instrument ID:	NT10	Injection Time:	15:12
Sequence:	SGE0328	Lab Sample ID:	SGE0328-TUN2

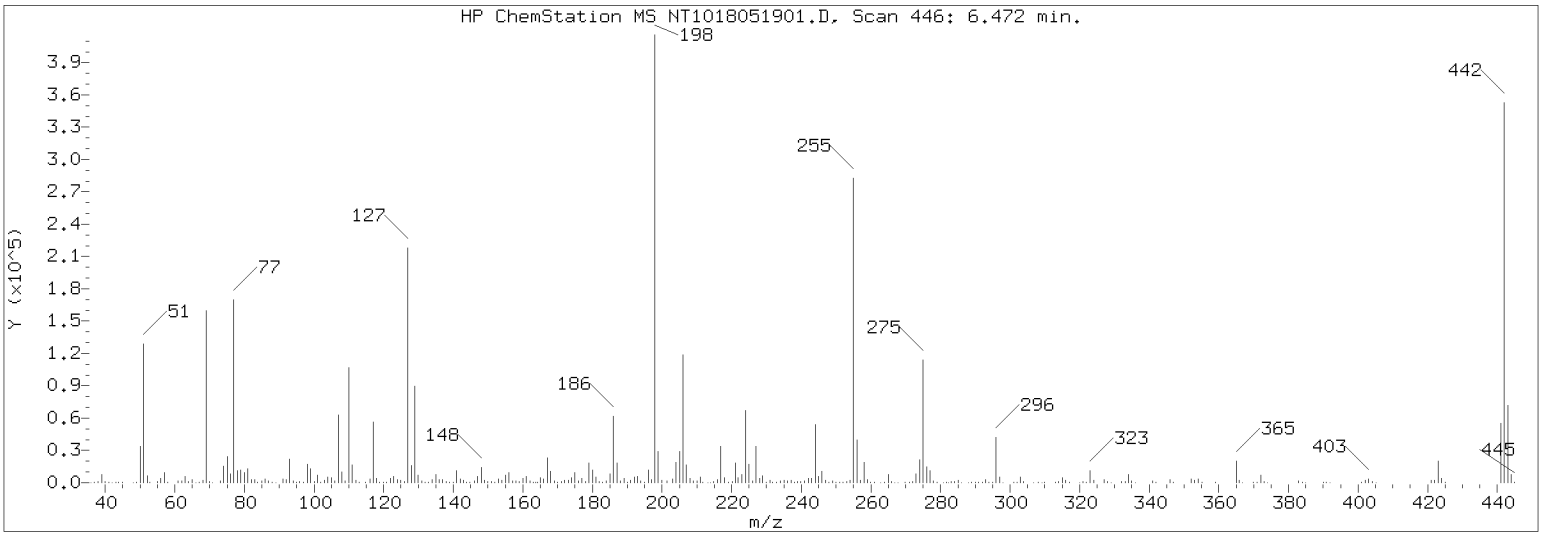
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	37.2	PASS
68	Less than 2% of 69	1.39	PASS
69	Less than 100% of 198	43.9	PASS
70	Less than 2% of 69	0.453	PASS
127	10 - 80% of 198	55.1	PASS
197	Less than 2% of 198	0.787	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.62	PASS
275	10 - 60% of 198	25.2	PASS
365	1 - 100% of 198	4.38	PASS
441	0.1 - 24% of 442	15.5	PASS
442	50 - 200% of 198	71.7	PASS
443	15 - 24% of 442	19.6	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGE0328-TUN1	NT1018051901.D	05/19/2018	8:54
Cal Standard	SGE0328-CAL5	NT1018051902.D	05/19/2018	9:09
Cal Standard	SGE0328-CAL7	NT1018051903.D	05/19/2018	9:49
Cal Standard	SGE0328-CAL1	NT1018051904.D	05/19/2018	10:25
Cal Standard	SGE0328-CAL6	NT1018051905.D	05/19/2018	11:02
Cal Standard	SGE0328-CAL2	NT1018051906.D	05/19/2018	11:38
Cal Standard	SGE0328-CAL3	NT1018051907.D	05/19/2018	12:14
Cal Standard	SGE0328-CAL4	NT1018051908.D	05/19/2018	12:51
Secondary Cal Check	SGE0328-SCV1	NT1018051911.D	05/19/2018	14:41
MS Tune	SGE0328-TUN2	NT1018051912.D	05/19/2018	15:12
Initial Cal Check	SGE0328-ICV1	NT1018051913.D	05/19/2018	15:28
Blank	BGE0396-BLK1	NT1018051915.D	05/19/2018	16:42
LCS	BGE0396-BS1	NT1018051916.D	05/19/2018	17:19
Reference	BGE0396-SRM1	NT1018051917.D	05/19/2018	17:55
ZZZZZ	18B0338-03RE1	NT1018051920.D	05/19/2018	19:45
ZZZZZ	18B0338-04RE1	NT1018051923.D	05/19/2018	21:34
ZZZZZ	18B0338-05RE1	NT1018051924.D	05/19/2018	22:10
ZZZZZ	18B0338-06RE1	NT1018051925.D	05/19/2018	22:46
ZZZZZ	18B0338-07RE1	NT1018051926.D	05/19/2018	23:22
ZZZZZ	18B0338-08RE1	NT1018051927.D	05/19/2018	23:58
ZZZZZ	18B0359-01RE1	NT1018051928.D	05/20/2018	0:34
ZZZZZ	18B0359-02RE1	NT1018051929.D	05/20/2018	1:10
ZZZZZ	18B0359-03RE1	NT1018051930.D	05/20/2018	1:46
ZZZZZ	18B0360-01RE1	NT1018051931.D	05/20/2018	2:22
ZZZZZ	18B0362-01RE1	NT1018051932.D	05/20/2018	2:58
Calibration Check	SGE0328-CCV1	NT1018051936.D	05/20/2018	5:22

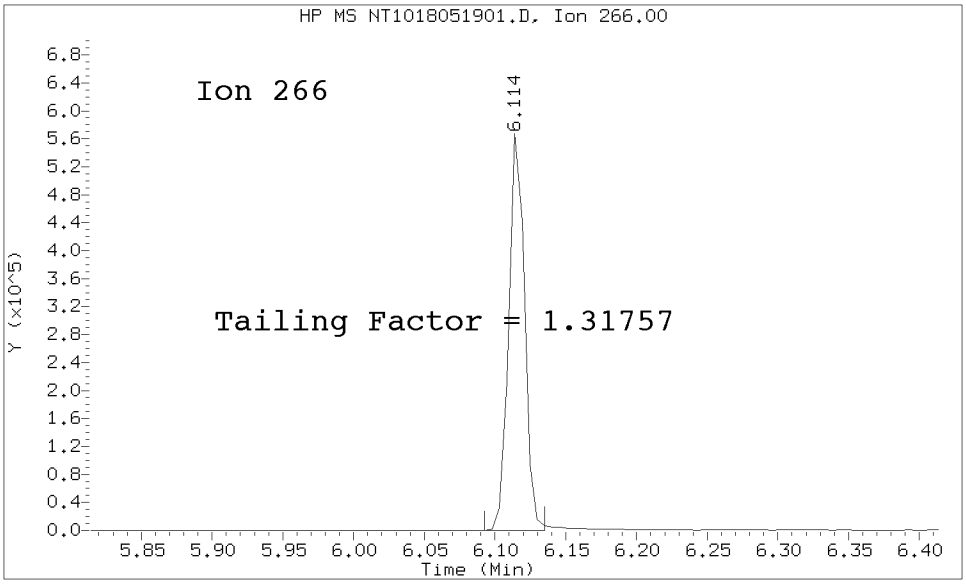
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180519.b/NT1018051901.D/NT1018051901.D
Method Used: \20180519.b\df8270.m Inst: nt10
Injection Date: 19-MAY-2018 08:54 Operator: YZ
Sample Info: SGE0328-TUN1 SGE0328-TUN1
Report Date: 05/23/2018 10:13



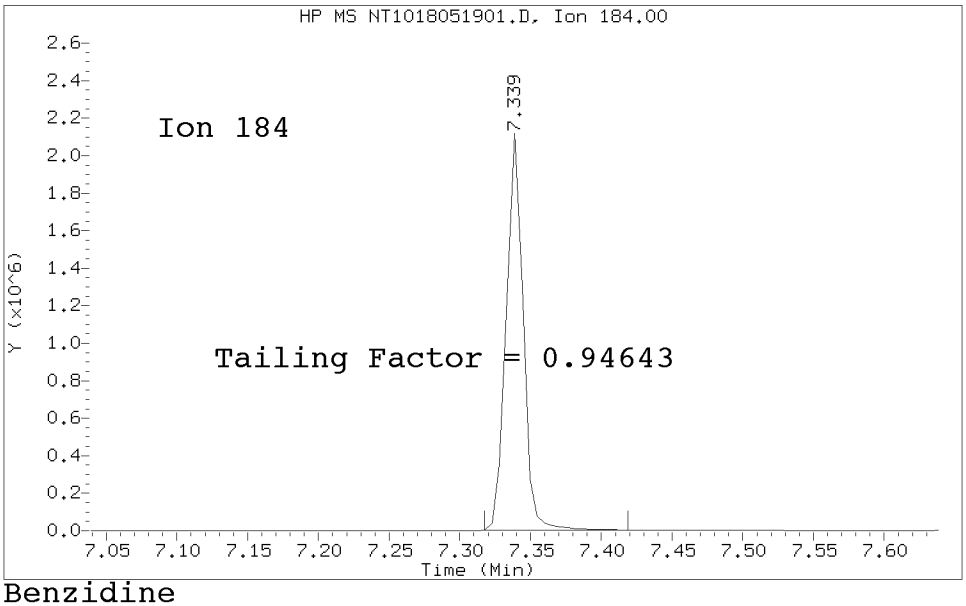


Datafile Analyzed: /20180519.b/NT1018051901.D/NT1018051901.D
Method Used: \20180519.b\df8270.m\sw846ddt.m Inst: nt10
Injection Date: 19-MAY-2018 07:55 Operator: YZ
Sample Info: SGE0000-TUN1
Report Date: 05/23/2018 10:13



Pentachlorophenol
==========
Exp. RT = 6.114
Found RT = 6.114

Tail Factor = 1.318 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.339
Found RT = 7.339

Tail Factor = 0.946 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.3175676	2.000	PASS
Benzidine	0.9464286	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	899790			N/A
4,4-DDE	2869	0.3	20.0	PASS
4,4-DDD	45061	4.8	20.0	PASS
4,4-DDD + DDE	47930	5.1	20.0	PASS

Tuning Sample, nt10.i/20180519.b/NT1018051901.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	33.96
68	Less than 2.00% of mass 69	0.62 (1.50)
69	Mass 69 relative abundance	41.14
70	Less than 2.00% of mass 69	0.22 (0.55)
127	10.00 - 80.00% of mass 198	53.77
197	Less than 2.00% of mass 198	0.78
199	5.00 - 9.00% of mass 198	6.86
275	10.00 - 60.00% of mass 198	27.05
365	Greater than 1.00% of mass 198	4.83
441	0.01 - 24.00% of mass 442	13.03 (15.37)
442	50.00 - 200.00% of mass 198	84.80
443	15.00 - 24.00% of mass 442	16.80 (19.82)

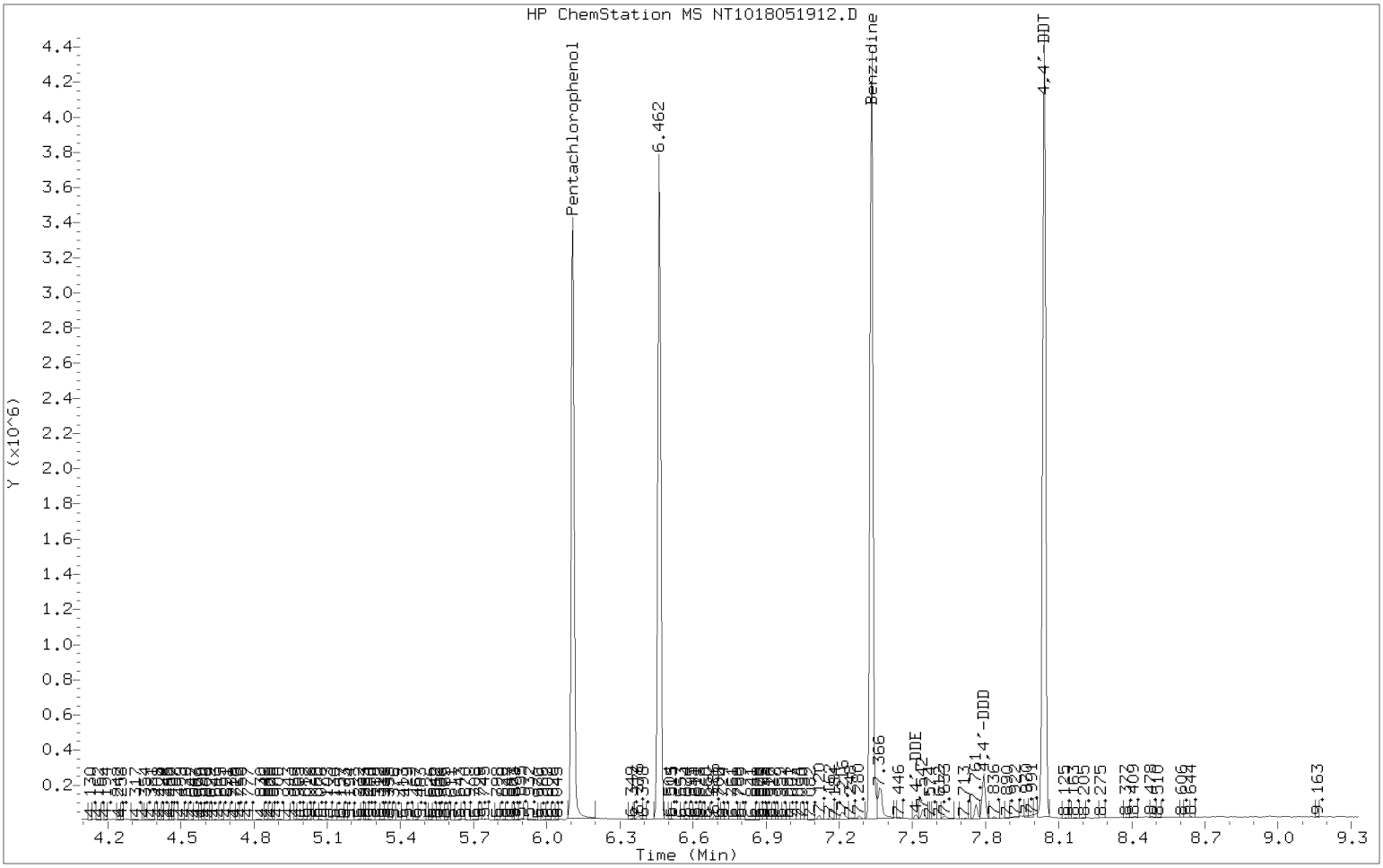
Data File: NT1018051901.D
Spectrum: Avg. Scans 445-447 (6.47), Background Scan 440
Location of Maximum: 198.00
Number of points: 319

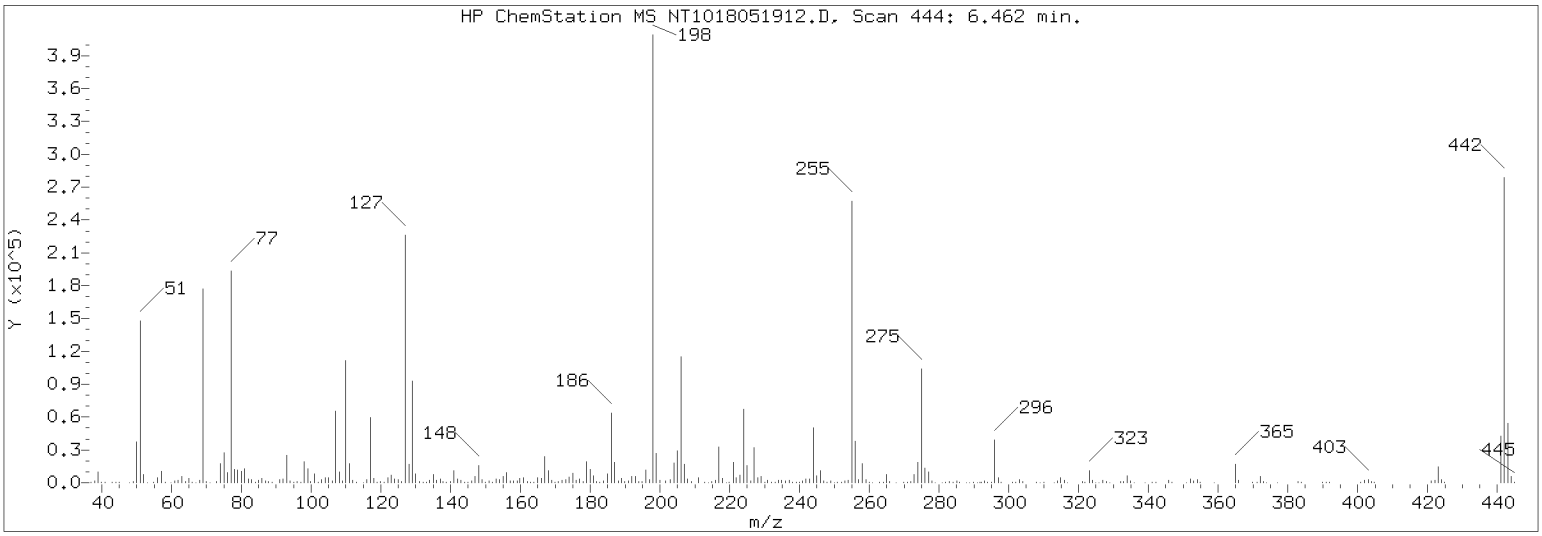
m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	73	124.00	1982	205.00	21800	289.00	396
37.00	335	125.00	2136	206.00	86680	290.00	213
38.00	1078	126.00	714	207.00	11220	291.00	122
39.00	5928	127.00	162112	208.00	2707	292.00	363
40.00	331	128.00	12436	209.00	1085	293.00	1920
41.00	210	129.00	67016	210.00	1439	294.00	498
42.00	178	130.00	5481	211.00	3786	295.00	489
45.00	239	131.00	1291	212.00	349	296.00	29512
48.00	55	132.00	481	213.00	294	297.00	3904
49.00	755	133.00	446	214.00	53	298.00	175
50.00	26600	134.00	1800	215.00	868	301.00	419
51.00	102400	135.00	5399	216.00	2344	302.00	575
52.00	5118	136.00	2092	217.00	24976	303.00	3468
53.00	273	137.00	2305	218.00	3352	304.00	678
55.00	387	138.00	647	219.00	260	307.00	54
56.00	3085	139.00	347	220.00	647	308.00	424
57.00	7288	140.00	676	221.00	12684	309.00	256
58.00	404	141.00	8357	222.00	3544	310.00	303
59.00	73	142.00	2472	223.00	5687	312.00	60
60.00	54	143.00	1858	224.00	48744	313.00	290
61.00	1401	144.00	568	225.00	12348	314.00	1136
62.00	1575	145.00	437	226.00	1465	315.00	3310
63.00	4571	146.00	1462	227.00	23984	316.00	1527
64.00	860	147.00	4434	228.00	3243	317.00	183
65.00	2311	148.00	10634	229.00	4596	320.00	52
66.00	45	149.00	1925	230.00	640	321.00	906
67.00	386	150.00	572	231.00	1825	322.00	404
68.00	1865	151.00	988	232.00	439	323.00	8537
69.00	124048	152.00	493	233.00	427	324.00	1693
70.00	678	153.00	2672	234.00	1450	327.00	1816
73.00	785	154.00	1894	235.00	1644	328.00	906
74.00	12473	155.00	5010	236.00	1103	329.00	113
75.00	19216	156.00	6739	237.00	1603	332.00	743
76.00	6338	157.00	1214	238.00	245	333.00	1037
77.00	133056	158.00	1616	239.00	1020	334.00	6112
78.00	9062	159.00	1110	240.00	685	335.00	1471
79.00	8778	160.00	2859	241.00	1446	336.00	167
80.00	7376	161.00	4093	242.00	2926	340.00	57
81.00	9485	162.00	1084	243.00	2798	341.00	1047
82.00	2439	163.00	360	244.00	37784	342.00	267
83.00	1970	164.00	429	245.00	4403	346.00	2064
84.00	8	165.00	3138	246.00	8175	347.00	381
85.00	1329	166.00	2520	247.00	1459	351.00	118
86.00	2683	167.00	17672	248.00	414	352.00	2722
87.00	1325	168.00	8122	249.00	1188	353.00	1604
88.00	535	169.00	1359	250.00	313	354.00	2564
89.00	216	170.00	487	251.00	413	355.00	448
91.00	2499	171.00	903	252.00	466	359.00	302
92.00	2358	172.00	1446	253.00	1152	365.00	14572

93.00	17304	173.00	2012	254.00	1541	366.00	1924
94.00	1224	174.00	3697	255.00	202880	367.00	58
95.00	270	175.00	6604	256.00	28968	370.00	277
96.00	552	176.00	1454	257.00	2185	371.00	653
97.00	326	177.00	3030	258.00	13579	372.00	5139
98.00	13059	178.00	1027	259.00	2056	373.00	1163
99.00	9879	179.00	12907	260.00	365	374.00	150
100.00	718	180.00	8439	261.00	248	377.00	50
101.00	5716	181.00	4098	263.00	61	383.00	1244
102.00	371	182.00	638	264.00	533	384.00	385
103.00	1726	183.00	209	265.00	5562	385.00	66
104.00	3782	184.00	1152	266.00	685	390.00	566
105.00	3282	185.00	5879	267.00	85	391.00	364
106.00	1283	186.00	45816	268.00	1	392.00	88
107.00	47264	187.00	13352	270.00	160	401.00	158
108.00	7625	188.00	1210	271.00	414	402.00	1798
109.00	1516	189.00	3099	272.00	626	403.00	2169
110.00	80408	190.00	573	273.00	5984	404.00	852
111.00	12304	191.00	1465	274.00	15844	405.00	123
112.00	1790	192.00	4414	275.00	81568	421.00	2032
113.00	603	193.00	4638	276.00	10657	422.00	1774
114.00	110	194.00	1055	277.00	7949	423.00	14020
115.00	360	195.00	575	278.00	1354	424.00	2791
116.00	2522	196.00	8555	279.00	339	425.00	312
117.00	42560	197.00	2353	281.00	241	434.00	56
118.00	3144	198.00	301504	282.00	230	441.00	39288
119.00	311	199.00	20688	283.00	970	442.00	255680
120.00	649	200.00	1618	284.00	711	443.00	50664
121.00	317	201.00	1323	285.00	1582	444.00	5192
122.00	3170	203.00	2537	286.00	209	445.00	291
123.00	4683	204.00	13481	288.00	133		

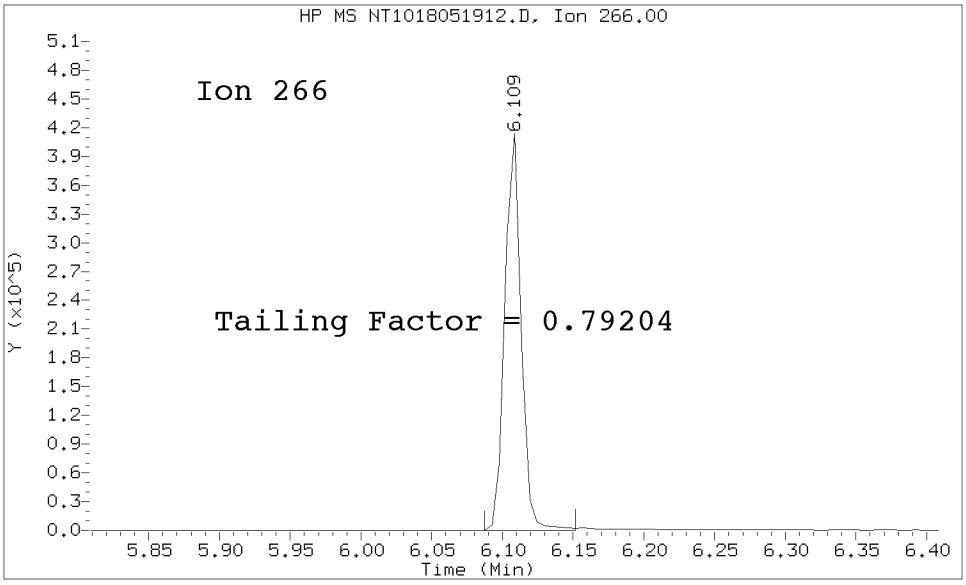
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180519.b/NT1018051912.D/NT1018051912.D
Method Used: \20180519.b\df8270.m Inst: nt10
Injection Date: 19-MAY-2018 15:12 Operator: YZ
Sample Info: SGE0328-TUN2 SGE0328-TUN2
Report Date: 05/23/2018 10:16



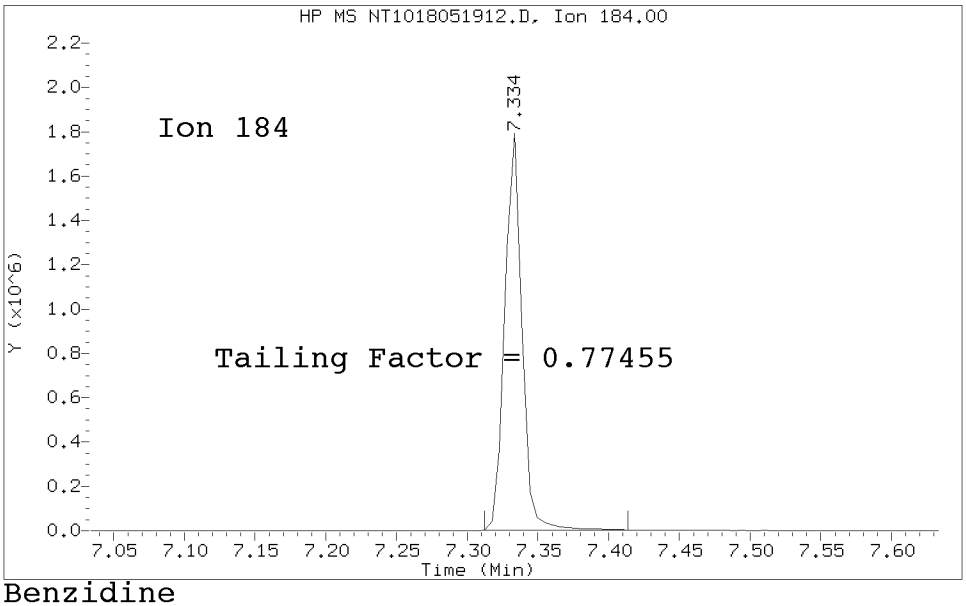


Datafile Analyzed: /20180519.b/NT1018051912.D/NT1018051912.D
Method Used: \20180519.b\df8270.m\sw846ddt.m Inst: nt10
Injection Date: 19-MAY-2018 15:12 Operator: YZ
Sample Info: SGE0328-TUN2
Report Date: 05/23/2018 10:16



Pentachlorophenol
==========
Exp. RT = 6.109
Found RT = 6.109

Tail Factor = 0.792 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.334
Found RT = 7.334

Tail Factor = 0.775 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.7920411	2.000	PASS
Benzidine	0.7745455	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	713687			N/A
4,4-DDE	2338	0.3	20.0	PASS
4,4-DDD	41081	5.4	20.0	PASS
4,4-DDD + DDE	43419	5.7	20.0	PASS

Tuning Sample, nt10.i/20180519.b/NT1018051912.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	37.18
68	Less than 2.00% of mass 69	0.61 (1.39)
69	Mass 69 relative abundance	43.93
70	Less than 2.00% of mass 69	0.20 (0.45)
127	10.00 - 80.00% of mass 198	55.06
197	Less than 2.00% of mass 198	0.79
199	5.00 - 9.00% of mass 198	6.62
275	10.00 - 60.00% of mass 198	25.18
365	Greater than 1.00% of mass 198	4.38
441	0.01 - 24.00% of mass 442	11.13 (15.53)
442	50.00 - 200.00% of mass 198	71.66
443	15.00 - 24.00% of mass 442	14.03 (19.58)

Data File: NT1018051912.D
Spectrum: Avg. Scans 443-445 (6.46), Background Scan 438
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	333	125.00	2291	204.00	13382	289.00	273
38.00	1299	126.00	605	205.00	21752	290.00	351
39.00	7582	127.00	169728	206.00	86944	291.00	192
40.00	219	128.00	12819	207.00	11465	292.00	492
41.00	155	129.00	70552	208.00	2671	293.00	1462
45.00	244	130.00	5938	209.00	1131	294.00	451
48.00	57	131.00	1019	210.00	1327	295.00	568
49.00	479	132.00	751	211.00	3783	296.00	29064
50.00	28864	133.00	74	212.00	132	297.00	3628
51.00	114616	134.00	1822	213.00	313	298.00	390
52.00	6102	135.00	5309	214.00	68	301.00	315
53.00	272	136.00	2148	215.00	1120	302.00	514
55.00	506	137.00	2685	216.00	1908	303.00	2678
56.00	3381	138.00	617	217.00	25248	304.00	863
57.00	7946	139.00	359	218.00	3003	308.00	360
58.00	454	140.00	828	219.00	319	309.00	159
59.00	57	141.00	8316	220.00	455	310.00	262
60.00	73	142.00	2861	221.00	13234	313.00	254
61.00	1383	143.00	1982	222.00	3692	314.00	1345
62.00	1704	144.00	527	223.00	5481	315.00	3207
63.00	5010	145.00	429	224.00	50504	316.00	1605
64.00	595	146.00	1614	225.00	12296	317.00	262
65.00	2548	147.00	4269	226.00	1332	321.00	929
66.00	78	148.00	11156	227.00	24024	322.00	449
67.00	150	149.00	2097	228.00	3386	323.00	8545
68.00	1878	150.00	508	229.00	4365	324.00	1618
69.00	135424	151.00	1137	230.00	696	325.00	144
70.00	614	152.00	391	231.00	1794	326.00	136
71.00	136	153.00	2767	232.00	389	327.00	1632
73.00	793	154.00	2027	233.00	386	328.00	842
74.00	13631	155.00	4540	234.00	1520	329.00	120
75.00	20568	156.00	7223	235.00	1710	332.00	687
76.00	7075	157.00	1280	236.00	1294	333.00	864
77.00	146944	158.00	1304	237.00	1559	334.00	5230
78.00	9516	159.00	1186	238.00	326	335.00	1271
79.00	9160	160.00	2835	239.00	876	336.00	125
80.00	7530	161.00	3834	240.00	682	339.00	72
81.00	10089	162.00	981	241.00	1080	341.00	801
82.00	2671	163.00	354	242.00	2636	342.00	181
83.00	2299	164.00	450	243.00	2802	346.00	1827
84.00	154	165.00	3405	244.00	36368	347.00	368
85.00	1738	166.00	2878	245.00	4880	351.00	127
86.00	3209	167.00	18328	246.00	8430	352.00	2530
87.00	1272	168.00	8121	247.00	1567	353.00	1449
88.00	535	169.00	1722	248.00	408	354.00	2208
89.00	260	170.00	612	249.00	1537	355.00	333
91.00	2445	171.00	786	250.00	172	359.00	144
92.00	2743	172.00	1717	251.00	338	361.00	59
93.00	18728	173.00	2080	252.00	539	365.00	13510

94.00	1326	174.00	3847	253.00	982	366.00	1883
95.00	425	175.00	6967	254.00	1378	370.00	309
96.00	714	176.00	1720	255.00	190848	371.00	643
97.00	180	177.00	2998	256.00	28256	372.00	4214
98.00	14086	178.00	1032	257.00	2095	373.00	949
99.00	10690	179.00	13744	258.00	13453	374.00	55
100.00	929	180.00	8693	259.00	2086	377.00	58
101.00	6213	181.00	4433	260.00	358	383.00	1111
102.00	433	182.00	724	261.00	282	384.00	349
103.00	1988	183.00	314	263.00	160	385.00	62
104.00	3990	184.00	1141	264.00	248	390.00	471
105.00	3654	185.00	6442	265.00	5333	391.00	366
106.00	1215	186.00	47272	266.00	959	392.00	168
107.00	50464	187.00	13924	270.00	294	401.00	224
108.00	7524	188.00	1329	271.00	428	402.00	1590
109.00	1419	189.00	2989	272.00	659	403.00	2248
110.00	84696	190.00	555	273.00	5881	404.00	797
111.00	13026	191.00	1619	274.00	14367	405.00	109
112.00	1545	192.00	4494	275.00	77616	415.00	56
113.00	642	193.00	4722	276.00	10044	421.00	1712
115.00	272	194.00	958	277.00	7702	422.00	1572
116.00	2670	195.00	657	278.00	1306	423.00	12317
117.00	45416	196.00	8960	279.00	252	424.00	2586
118.00	3286	197.00	2426	281.00	207	425.00	183
119.00	380	198.00	308288	282.00	260	441.00	34320
120.00	647	199.00	20424	283.00	931	442.00	220928
121.00	309	200.00	1699	284.00	583	443.00	43264
122.00	3473	201.00	1611	285.00	1320	444.00	4415
123.00	5308	202.00	131	286.00	175	445.00	203
124.00	2339	203.00	2394	288.00	51		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D

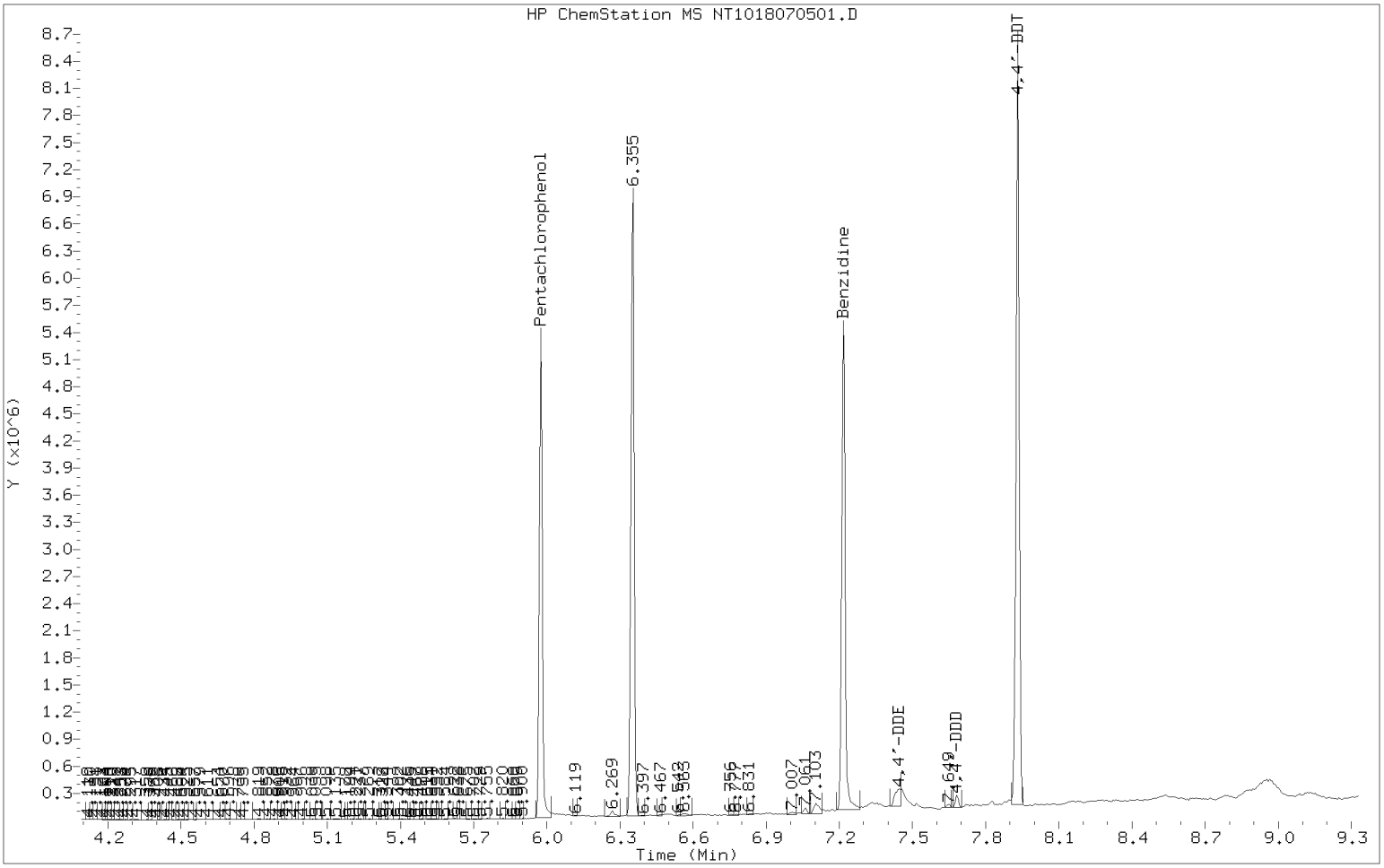
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1018070501.D	Injection Date:	07/05/18
Instrument ID:	NT10	Injection Time:	11:40
Sequence:	SGG0051	Lab Sample ID:	SGG0051-TUN1

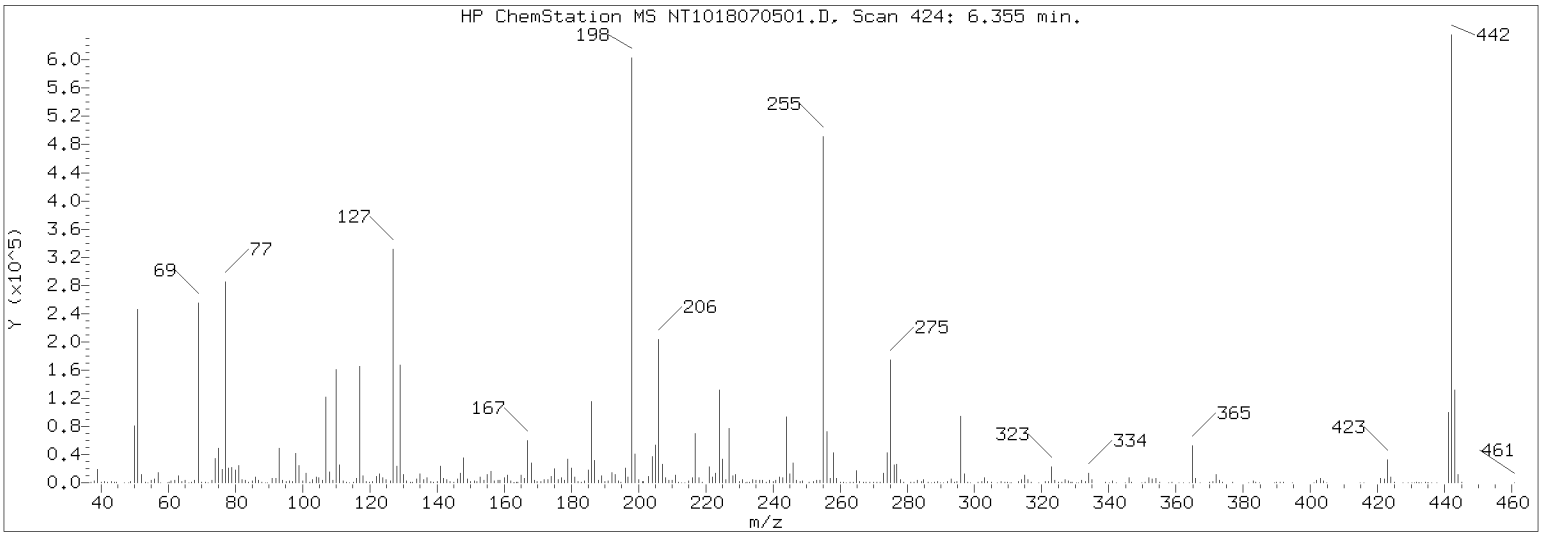
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	45.3	PASS
68	Less than 2% of 69	1.38	PASS
69	Less than 100% of 198	44.9	PASS
70	Less than 2% of 69	0.116	PASS
127	10 - 80% of 198	56.3	PASS
197	Less than 2% of 198	1.06	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.46	PASS
275	10 - 60% of 198	29.3	PASS
365	1 - 100% of 198	8.4	PASS
441	0.1 - 24% of 442	15.5	PASS
442	50 - 200% of 198	104	PASS
443	15 - 24% of 442	20.7	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGG0051-TUN1	NT1018070501.D	07/05/2018	11:40
Initial Cal Check	SGG0051-ICV1	NT1018070502.D	07/05/2018	11:56
Low Cal Check	SGG0051-LCV1	NT1018070504.D	07/05/2018	13:09
Blank	BGF0634-BLK1	NT1018070505.D	07/05/2018	13:46
LCS	BGF0634-BS1	NT1018070506.D	07/05/2018	14:22
ZZZZZ	18F0307-01	NT1018070507.D	07/05/2018	14:59
ZZZZZ	18F0256-02	NT1018070508.D	07/05/2018	15:36
Blank	BGF0720-BLK1	NT1018070509.D	07/05/2018	16:13
LCS	BGF0720-BS1	NT1018070510.D	07/05/2018	16:50
Matrix Spike	BGF0720-MS1	NT1018070511.D	07/05/2018	17:26
Matrix Spike Dup	BGF0720-MSD1	NT1018070512.D	07/05/2018	18:03
LDW18-S1-CLWB-Comp1	18F0364-10	NT1018070513.D	07/05/2018	18:40
LDW18-S2-CLWB-Comp1	18F0364-11	NT1018070514.D	07/05/2018	19:16
LDW18-S3-CLWB-Comp1	18F0364-12	NT1018070515.D	07/05/2018	19:52
Calibration Check	SGG0051-CCV1	NT1018070516.D	07/05/2018	20:29

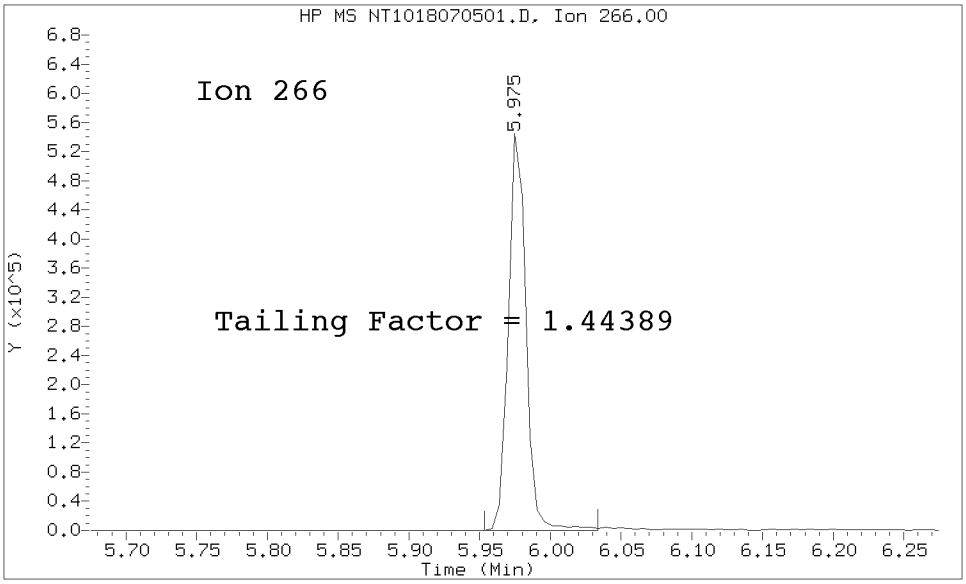
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180705.b/NT1018070501.D/NT1018070501.D
Method Used: \20180705.b\df8270.m Inst: nt10
Injection Date: 05-JUL-2018 11:40 Operator: YZ
Sample Info: SGG0051-TUN1 SGG0051-TUN1
Report Date: 07/05/2018 15:41



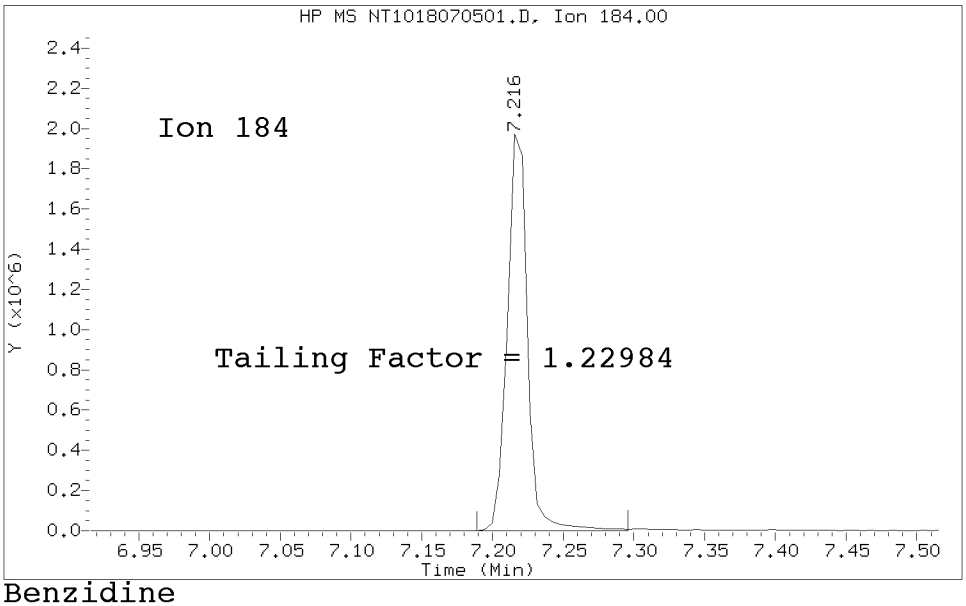


Datafile Analyzed: /20180705.b/NT1018070501.D/NT1018070501.D
Method Used: \20180705.b\df8270.m\sw846ddt.m Inst: nt10
Injection Date: 05-JUL-2018 11:40 Operator: YZ
Sample Info: SGG0051-TUN1
Report Date: 07/05/2018 15:41



Pentachlorophenol
==========
Exp. RT = 5.986
Found RT = 5.975

Tail Factor = 1.444 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.221
Found RT = 7.216

Tail Factor = 1.230 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4438944	2.000	PASS
Benzidine	1.2298387	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1248411			N/A
4,4-DDE	2593	0.2	20.0	PASS
4,4-DDD	22618	1.8	20.0	PASS
4,4-DDD + DDE	25211	2.0	20.0	PASS

Tuning Sample, nt10.i/20180705.b/NT1018070501.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	45.29
68	Less than 2.00% of mass 69	0.62 (1.38)
69	Mass 69 relative abundance	44.91
70	Less than 2.00% of mass 69	0.05 (0.12)
127	10.00 - 80.00% of mass 198	56.32
197	Less than 2.00% of mass 198	1.06
199	5.00 - 9.00% of mass 198	6.46
275	10.00 - 60.00% of mass 198	29.34
365	Greater than 1.00% of mass 198	8.40
441	0.01 - 24.00% of mass 442	16.14 (15.45)
442	50.00 - 200.00% of mass 198	104.49
443	15.00 - 24.00% of mass 442	21.58 (20.65)

Data File: NT1018070501.D
Spectrum: Avg. Scans 423-425 (6.35), Background Scan 418
Location of Maximum: 442.00
Number of points: 367

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	97	134.00	3972	226.00	2832	318.00	100
37.00	741	135.00	9406	227.00	59800	319.00	127
38.00	2223	136.00	3750	228.00	7137	320.00	120
39.00	14313	137.00	5561	229.00	9244	321.00	1949
40.00	227	138.00	1436	230.00	1208	322.00	1151
41.00	303	139.00	478	231.00	3353	323.00	17536
43.00	70	140.00	2203	232.00	557	324.00	3176
44.00	304	141.00	16896	233.00	833	325.00	714
45.00	463	142.00	4939	234.00	3230	326.00	469
48.00	177	143.00	3419	235.00	2478	327.00	4276
49.00	1314	144.00	1363	236.00	3038	328.00	2033
50.00	65032	145.00	900	237.00	2786	329.00	799
51.00	209344	146.00	4086	238.00	631	330.00	308
52.00	9964	147.00	9795	239.00	2476	331.00	171
53.00	541	148.00	28264	240.00	1472	332.00	1971
54.00	95	149.00	4008	241.00	2926	333.00	1492
55.00	1139	150.00	1049	242.00	6330	334.00	11838
56.00	4683	151.00	2316	243.00	5376	335.00	3596
57.00	11918	152.00	1006	244.00	72248	339.00	588
58.00	594	153.00	6007	245.00	9086	340.00	303
59.00	2	154.00	3511	246.00	21400	341.00	1827
61.00	1809	155.00	8680	247.00	3945	342.00	359
62.00	2943	156.00	12682	248.00	1172	345.00	85
63.00	8062	157.00	2181	249.00	2084	346.00	5262
64.00	1259	158.00	2339	250.00	426	347.00	1103
65.00	2779	159.00	2759	251.00	265	350.00	311
66.00	158	160.00	5536	252.00	795	351.00	269
68.00	2874	161.00	8313	253.00	2211	352.00	5925
69.00	207616	162.00	2046	254.00	2484	353.00	3724
70.00	240	163.00	333	255.00	371392	354.00	5170
72.00	247	164.00	1068	256.00	55656	355.00	942
73.00	2079	165.00	7204	257.00	3933	356.00	351
74.00	27600	166.00	5161	258.00	31520	358.00	233
75.00	38032	167.00	46872	259.00	4810	359.00	541
76.00	14756	168.00	20160	260.00	857	361.00	313
77.00	240000	169.00	3604	261.00	679	362.00	75
78.00	15734	170.00	1483	262.00	168	364.00	242
79.00	17264	171.00	1415	263.00	578	365.00	38808
80.00	14694	172.00	3654	264.00	366	366.00	5157
81.00	19776	173.00	3661	265.00	11243	367.00	307
82.00	4135	174.00	7064	266.00	1503	370.00	569
83.00	2846	175.00	13932	267.00	441	371.00	1502
84.00	562	176.00	3128	268.00	547	372.00	8934
85.00	1975	177.00	5881	269.00	461	373.00	2284
86.00	5492	178.00	2996	270.00	686	374.00	395
87.00	2575	179.00	28064	271.00	1046	377.00	386
88.00	1089	180.00	16632	272.00	1502	381.00	56
89.00	674	181.00	7599	273.00	11769	383.00	2248
90.00	58	182.00	1695	274.00	31464	384.00	748

91.00	4130	183.00	829	275.00	135616	385.00	133
92.00	4296	184.00	2061	276.00	17776	389.00	132
93.00	41920	185.00	12740	277.00	20080	390.00	1142
94.00	2618	186.00	89648	278.00	3363	391.00	897
95.00	667	187.00	25216	279.00	646	392.00	856
96.00	1269	188.00	2677	280.00	68	394.00	107
97.00	1198	189.00	6767	281.00	21	401.00	714
98.00	34112	190.00	1243	282.00	666	402.00	3001
99.00	21016	191.00	2600	283.00	1800	403.00	5066
100.00	1714	192.00	10386	284.00	1344	404.00	1451
101.00	11239	193.00	9010	285.00	3458	405.00	454
102.00	545	194.00	2230	286.00	502	411.00	52
103.00	3099	195.00	1000	287.00	193	414.00	86
104.00	6998	196.00	15836	288.00	399	415.00	259
105.00	5734	197.00	4896	289.00	1092	416.00	78
106.00	2181	198.00	462272	290.00	560	419.00	95
107.00	95664	199.00	29880	291.00	332	420.00	53
108.00	13101	200.00	3114	292.00	1266	421.00	4517
109.00	2439	201.00	2465	293.00	4280	422.00	3783
110.00	128400	202.00	342	294.00	1083	423.00	25560
111.00	20224	203.00	6618	295.00	1047	424.00	5641
112.00	2844	204.00	27792	296.00	71536	425.00	609
113.00	979	205.00	42312	297.00	9432	427.00	183
114.00	190	206.00	154368	298.00	748	429.00	254
115.00	316	207.00	19880	299.00	58	430.00	409
116.00	4731	208.00	6942	300.00	100	431.00	440
117.00	135488	209.00	2694	301.00	869	432.00	510
118.00	8073	210.00	3252	302.00	1017	433.00	631
119.00	704	211.00	7948	303.00	6448	434.00	447
120.00	889	212.00	1080	304.00	1346	435.00	596
121.00	465	213.00	224	305.00	191	436.00	238
122.00	7051	214.00	236	306.00	78	437.00	151
123.00	9211	215.00	2728	307.00	313	438.00	122
124.00	5234	216.00	4895	308.00	881	439.00	105
125.00	3902	217.00	53208	309.00	634	441.00	74632
126.00	1593	218.00	5852	310.00	518	442.00	483008
127.00	260352	219.00	851	311.00	77	443.00	99752
128.00	19744	220.00	477	312.00	166	444.00	9040
129.00	124304	221.00	14951	313.00	859	445.00	590
130.00	9095	222.00	6647	314.00	3031	451.00	90
131.00	590	223.00	10584	315.00	8131	461.00	58
132.00	1186	224.00	100704	316.00	3632	468.00	73
133.00	744	225.00	24136	317.00	820		

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Phenol	20	1.646697	10	1.809588	5	1.863434	2.5	1.665383	1	1.939976	0.5	1.82692
bis(2-chloroethyl) ether	20	1.264867	10	1.366538	5	1.453143	2.5	1.258217	1	1.407118	0.5	1.381829
2-Chlorophenol	20	1.415897	10	1.477169	5	1.530687	2.5	1.313865	1	1.528133	0.5	1.550872
1,3-Dichlorobenzene	20	1.332966	10	1.430407	5	1.539562	2.5	1.316496	1	1.501653	0.5	1.533313
1,4-Dichlorobenzene	20	1.265826	10	1.333082	5	1.414204	2.5	1.218868	1	1.351352	0.5	1.343836
1,2-Dichlorobenzene	20	1.229926	10	1.302919	5	1.396159	2.5	1.224617	1	1.318002	0.5	1.392414
Benzyl Alcohol	20	0.8722888	10	0.9268199	5	0.9581022	2.5	0.8234499	1	0.8997404	0.5	0.9000306
2,2'-Oxybis(1-chloropropane)	20	0.5348094	10	0.5576126	5	0.5127247	2.5	0.5277773	1	0.4984438	0.5	0.49948
2-Methylphenol	20	1.143461	10	1.214522	5	1.265439	2.5	1.080221	1	1.255269	0.5	1.202264
Hexachloroethane	20	0.6288058	10	0.6391685	5	0.6737755	2.5	0.5424984	1	0.6306181	0.5	0.6213521
N-Nitroso-di-n-Propylamine	20	0.8001132	10	0.8640025	5	0.9197565	2.5	0.8198058	1	0.8763889	0.5	0.9107372
4-Methylphenol	20	1.219107	10	1.304601	5	1.33778	2.5	1.13045	1	1.305036	0.5	1.323769
Nitrobenzene	20	0.3667969	10	0.3948522	5	0.4092662	2.5	0.3571982	1	0.4011774	0.5	0.4003035
Isophorone	20	0.8652496	10	0.9337917	5	0.8356353	2.5	0.6987958	1	0.7616358	0.5	0.7470426
2-Nitrophenol	20	0.2334132	10	0.2409631	5	0.2367817	2.5	0.1949959	1	0.2064849	0.5	0.2073589
2,4-Dimethylphenol	40	0.3413077	20	0.3731509	10	0.3947627	5	0.3482949	2	0.4182229	1	0.4070166
Bis(2-Chloroethoxy)methane	20	0.3813814	10	0.4007471	5	0.4123469	2.5	0.3705174	1	0.4356785	0.5	0.4663767
2,4-Dichlorophenol	40	0.300007	20	0.3239189	10	0.3349281	5	0.2796772	2	0.3128223	1	0.3045016
1,2,4-Trichlorobenzene	20	0.2949414	10	0.31983	5	0.3448899	2.5	0.2965238	1	0.3321005	0.5	0.3557018
Naphthalene	20	1.015005	10	1.052456	5	1.06598	2.5	0.9028268	1	1.009996	0.5	1.00352
Benzoic acid	80	0.2597473	40	0.2654301	20	0.2571099	10	0.1925235	4	0.1777239	2	0.143544
4-Chloroaniline	40	0.4678474	20	0.4908008	10	0.4891686	5	0.4091725	2	0.4429265	1	0.4335871
Hexachlorobutadiene	20	0.1989401	10	0.2127908	5	0.2232631	2.5	0.1834837	1	0.2052171	0.5	0.213287
4-Chloro-3-Methylphenol	40	0.3754575	20	0.3913603	10	0.3793505	5	0.3068747	2	0.3251835	1	0.3005408
2-Methylnaphthalene	20	0.840591	10	0.8785469	5	0.863365	2.5	0.751011	1	0.7761969	0.5	0.7712842
Hexachlorocyclopentadiene	40	0.4757862	20	0.4885872	10	0.5087565	5	0.3979301	2	0.4002516	1	0.3892429
2,4,6-Trichlorophenol	40	0.5158147	20	0.5394167	10	0.53994	5	0.4519162	2	0.4779335	1	0.462443
2,4,5-Trichlorophenol	40	0.52859	20	0.542997	10	0.550278	5	0.4570146	2	0.4747933	1	0.469551

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
2-Chloronaphthalene	20	1.388995	10	1.45213	5	1.510028	2.5	1.299906	1	1.420767	0.5	1.442622
2-Nitroaniline	40	0.4307406	20	0.4705549	10	0.4621229	5	0.3983196	2	0.4119138	1	0.3658174
Acenaphthylene	20	1.957565	10	2.150482	5	2.343145	2.5	2.070897	1	2.369143	0.5	2.392651
Dimethylphthalate	20	1.270681	10	1.421663	5	1.585985	2.5	1.425439	1	1.616026	0.5	1.669677
2,6-Dinitrotoluene	40	0.3144949	20	0.3378031	10	0.3572009	5	0.3083465	2	0.3305526	1	0.3327623
Acenaphthene	20	1.315432	10	1.37754	5	1.452787	2.5	1.212572	1	1.339708	0.5	1.351917
3-Nitroaniline	40	0.3915954	20	0.4152594	10	0.4106963	5	0.3560885	2	0.379793	1	0.3451511
2,4-Dinitrophenol	80	0.2536444	40	0.2338905	20	0.2015452	10	0.1323875	4	9.499555E-02	2	5.972399E-02
Dibenzofuran	20	2.092738	10	2.242789	5	2.235488	2.5	1.980347	1	2.100032	0.5	2.124811
4-Nitrophenol	40	0.2340285	20	0.2432334	10	0.2335633	5	0.1885123	2	0.1672909	1	0.1806977
2,4-Dinitrotoluene	40	0.4609856	20	0.4855004	10	0.5015777	5	0.3990911	2	0.4046308	1	0.374771
Fluorene	20	1.531669	10	1.600485	5	1.688744	2.5	1.434062	1	1.610143	0.5	1.619208
4-Chlorophenylphenyl ether	20	0.7432178	10	0.7792288	5	0.8249397	2.5	0.7049667	1	0.7810945	0.5	0.8265428
Diethyl phthalate	20	1.335488	10	1.484681	5	1.61694	2.5	1.451874	1	1.570834	0.5	1.628491
4-Nitroaniline			20	0.4211955	10	0.4145662	5	0.2893429	2	0.3771541	1	0.356334
4,6-Dinitro-2-methylphenol	80	0.1557198	40	0.1782289	20	0.1460697	10	0.1154593	4	0.1095171	2	0.0898593
N-Nitrosodiphenylamine	20	0.4624684	10	0.5070832	5	0.5428816	2.5	0.4966814	1	0.5649789	0.5	0.5691373
4-Bromophenyl phenyl ether	20	0.2415329	10	0.2451211	5	0.2579907	2.5	0.2191117	1	0.2339033	0.5	0.2322759
Hexachlorobenzene	20	0.2026274	10	0.2213659	5	0.2418601	2.5	0.2068987	1	0.236559	0.5	0.2447634
Pentachlorophenol	40	0.1551022	20	0.1563246	10	0.1513385	5	0.1186789	2	0.1256026	1	0.1111977
Phenanthrene	20	1.043318	10	1.082091	5	1.081596	2.5	0.9464442	1	1.039742	0.5	1.068658
Anthracene	20	1.127469	10	1.166499	5	1.182085	2.5	0.9884189	1	1.070412	0.5	1.100434
Carbazole	20	1.013348	10	0.9973918	5	1.02222	2.5	0.9112473	1	0.9950007	0.5	0.9758987
Di-n-Butylphthalate	20	1.632087	10	1.669331	5	1.680116	2.5	1.368481	1	1.435675	0.5	1.404235
Fluoranthene	20	1.697135	10	1.724137	5	1.719155	2.5	1.408732	1	1.50989	0.5	1.453817
Pyrene	20	1.750295	10	1.760992	5	1.792902	2.5	1.461091	1	1.582986	0.5	1.531162
Butylbenzylphthalate	20	0.6151512	10	0.6684682	5	0.7032965	2.5	0.605052	1	0.6601357	0.5	0.6571852
Benzo(a)anthracene	20	1.370765	10	1.43557	5	1.518105	2.5	1.285466	1	1.415804	0.5	1.4814

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
3,3'-Dichlorobenzidine	60	0.5516379	30	0.4950293	15	0.4869706	7.5	0.4618459	3	0.5350034	1.5	0.5108848
Chrysene	20	1.212098	10	1.223273	5	1.23277	2.5	1.038098	1	1.125567	0.5	1.09739
bis(2-Ethylhexyl)phthalate	20	0.4009165	10	0.4168565	5	0.4437813	2.5	0.3766734	1	0.4057409	0.5	0.4159074
Di-n-Octylphthalate	20	0.8064204	10	0.8572455	5	0.9025063	2.5	0.7707541	1	0.8804099	0.5	0.8560524
Benzofluoranthenes, Total	40	1.312897	20	1.358169	10	1.405796	5	1.186992	2	1.322892	1	1.313581
Benzo(a)pyrene	20	1.078983	10	1.373589	5	1.544993	2.5	1.276554	1	1.434009	0.5	1.437368
Indeno(1,2,3-cd)pyrene	20	1.295897	10	1.347435	5	1.461171	2.5	1.254046	1	1.394139	0.5	1.354677
Dibenzo(a,h)anthracene	20	1.020473	10	1.055554	5	1.157527	2.5	0.9937169	1	1.152013	0.5	1.158666
Benzo(g,h,i)perylene	20	1.193437	10	1.216739	5	1.312125	2.5	1.084984	1	1.231905	0.5	1.187863
1-Methylnaphthalene	20	0.8577187	10	0.9034665	5	0.8796312	2.5	0.7606786	1	0.8052726	0.5	0.8141744
2-Fluorophenol	30	1.246811	15	1.368578	7.5	1.426073	3.75	1.306581	1.5	1.462089	0.75	1.461854
Phenol-d5	30	1.838462	15	1.923345	7.5	1.909257	3.75	1.673992	1.5	1.804448	0.75	1.794147
2-Chlorophenol-d4	30	1.395418	15	1.427507	7.5	1.474705	3.75	1.291856	1.5	1.401323	0.75	1.499949
1,2-Dichlorobenzene-d4	20	0.957868	10	0.982167	5	1.002786	2.5	0.9123819	1	1.004145	0.5	1.05078
Nitrobenzene-d5	20	0.3842573	10	0.4127378	5	0.4096033	2.5	0.3746359	1	0.3902519	0.5	0.4221809
2-Fluorobiphenyl	20	1.672949	10	1.757277	5	1.796175	2.5	1.669896	1	1.750071	0.5	1.820243
2,4,6-Tribromophenol	30	0.2457815	15	0.2382395	7.5	0.230944	3.75	0.1948532	1.5	0.2015524	0.75	0.1852354
p-Terphenyl-d14	20	0.9572006	10	1.010501	5	1.059384	2.5	0.9864994	1	1.074084	0.5	1.106115

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Phenol	0.2	1.836924										
bis(2-chloroethyl) ether	0.2	1.548909										
2-Chlorophenol	0.2	1.456296										
1,3-Dichlorobenzene	0.2	1.675146										
1,4-Dichlorobenzene	0.2	1.437125										
1,2-Dichlorobenzene	0.2	1.426802										
Benzyl Alcohol	0.2	0.8541639										
2,2'-Oxybis(1-chloropropane)	0.2	0.5676238										
2-Methylphenol	0.2	1.282131										
Hexachloroethane	0.2	0.618207										
N-Nitroso-di-n-Propylamine	0.2	1.038948										
4-Methylphenol	0.2	1.344954										
Nitrobenzene	0.2	0.4203118										
Isophorone	0.2	0.8039639										
2-Nitrophenol	0.2	0.1958634										
2,4-Dimethylphenol	0.4	0.4076817										
Bis(2-Chloroethoxy)methane	0.2	0.4958763										
2,4-Dichlorophenol	0.4	0.3120169										
1,2,4-Trichlorobenzene	0.2	0.3871929										
Naphthalene	0.2	1.099616										
Hexachlorobutadiene	0.2	0.2270823										
4-Chloro-3-Methylphenol	0.4	0.2681895										
2-Methylnaphthalene	0.2	0.7604819										
2,4,6-Trichlorophenol	0.4	0.4254721										
2,4,5-Trichlorophenol	0.4	0.3328619										
2-Chloronaphthalene	0.2	1.64178										
2-Nitroaniline	0.4	0.294331										
Acenaphthylene	0.2	2.737328										

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Dimethylphthalate	0.2	1.819385										
2,6-Dinitrotoluene	0.4	0.336715										
Acenaphthene	0.2	1.479316										
Dibenzofuran	0.2	2.021922										
2,4-Dinitrotoluene	0.4	0.3557085										
Fluorene	0.2	1.809412										
4-Chlorophenylphenyl ether	0.2	0.8575625										
Diethyl phthalate	0.2	1.941415										
4-Nitroaniline	0.4	0.361964										
N-Nitrosodiphenylamine	0.2	0.6238953										
4-Bromophenyl phenyl ether	0.2	0.2704852										
Hexachlorobenzene	0.2	0.2693053										
Phenanthrene	0.2	1.16076										
Anthracene	0.2	1.234339										
Carbazole	0.2	1.11092										
Di-n-Butylphthalate	0.2	1.515774										
Fluoranthene	0.2	1.63651										
Pyrene	0.2	1.740181										
Butylbenzylphthalate	0.2	0.6920161										
Benzo(a)anthracene	0.2	1.68648										
3,3'-Dichlorobenzidine	0.6	0.535082										
Chrysene	0.2	1.257924										
bis(2-Ethylhexyl)phthalate	0.2	0.4569896										
Di-n-Octylphthalate	0.2	1.023774										
Benzofluoranthenes, Total	0.4	1.545355										
Benzo(a)pyrene	0.2	1.732066										
Indeno(1,2,3-cd)pyrene	0.2	1.599518										
Dibenzo(a,h)anthracene	0.2	1.297932										

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Benzo(g,h,i)perylene	0.2	1.412391										
1-Methylnaphthalene	0.2	0.7885487										
2-Fluorophenol	0.3	1.320375										
Phenol-d5	0.3	1.733103										
2-Chlorophenol-d4	0.3	1.393719										
1,2-Dichlorobenzene-d4	0.2	1.076406										
Nitrobenzene-d5	0.2	0.4017876										
2-Fluorobiphenyl	0.2	1.886474										
p-Terphenyl-d14	0.2	1.151206										

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Phenol	1.798417	5.9			RSD (15)	
bis(2-chloroethyl) ether	1.382946	7.4			RSD (15)	
2-Chlorophenol	1.46756	5.6			RSD (15)	
1,3-Dichlorobenzene	1.475649	8.6			RSD (15)	
1,4-Dichlorobenzene	1.337756	5.7			RSD (15)	
1,2-Dichlorobenzene	1.327263	6.1			RSD (15)	
Benzyl Alcohol	0.8906565	5.1			RSD (15)	
2,2'-Oxybis(1-chloropropane)	0.5283531	5.1			RSD (15)	
2-Methylphenol	1.206187	6.0			RSD (15)	
Hexachloroethane	0.6220608	6.4			RSD (15)	
N-Nitroso-di-n-Propylamine	0.8899646	8.9			RSD (15)	
4-Methylphenol	1.280814	6.1			RSD (15)	
Nitrobenzene	0.3928437	5.8			RSD (15)	
Isophorone	0.8065878	9.8			RSD (15)	
2-Nitrophenol	0.2165516	9.2			RSD (15)	
2,4-Dimethylphenol	0.3843482	7.9			RSD (15)	
Bis(2-Chloroethoxy)methane	0.4232749	10.8			RSD (15)	
2,4-Dichlorophenol	0.309696	5.7			RSD (15)	
1,2,4-Trichlorobenzene	0.3330258	9.9			RSD (15)	
Naphthalene	1.021343	6.1			RSD (15)	
Benzoic acid	0.2160131	23.9		0.9978	QCOD (0.99)	
4-Chloroaniline	0.4555838	7.2			RSD (15)	
Hexachlorobutadiene	0.209152	7.1			RSD (15)	
4-Chloro-3-Methylphenol	0.3352795	14.1			RSD (15)	
2-Methylnaphthalene	0.8059253	6.6			RSD (15)	
Hexachlorocyclopentadiene	0.4434257	12.0			RSD (15)	
2,4,6-Trichlorophenol	0.4875623	9.2			RSD (15)	
2,4,5-Trichlorophenol	0.4794408	15.6		0.9993	QCOD (0.99)	
2-Chloronaphthalene	1.45089	7.3			RSD (15)	
2-Nitroaniline	0.4048286	15.0			RSD (15)	
Acenaphthylene	2.288744	11.2			RSD (15)	

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Dimethylphthalate	1.544122	11.9			RSD (15)	
2,6-Dinitrotoluene	0.331125	4.9			RSD (15)	
Acenaphthene	1.361325	6.5			RSD (15)	
3-Nitroaniline	0.3830973	7.4			RSD (15)	
2,4-Dinitrophenol	0.1626979	48.4		0.9948	QCOD (0.99)	
Dibenzofuran	2.114018	4.7			RSD (15)	
4-Nitrophenol	0.2078877	15.7		0.9983	QCOD (0.99)	
2,4-Dinitrotoluene	0.4260379	13.3			RSD (15)	
Fluorene	1.613389	7.3			RSD (15)	
4-Chlorophenylphenyl ether	0.7882218	6.7			RSD (15)	
Diethyl phthalate	1.575675	12.1			RSD (15)	
4-Nitroaniline	0.3700928	12.9			RSD (15)	
4,6-Dinitro-2-methylphenol	0.1324757	24.9		0.9923	QCOD (0.99)	
N-Nitrosodiphenylamine	0.5381609	10.0			RSD (15)	
4-Bromophenyl phenyl ether	0.2429173	7.0			RSD (15)	
Hexachlorobenzene	0.2319114	10.1			RSD (15)	
Pentachlorophenol	0.1363741	14.8			RSD (15)	
Phenanthrene	1.060373	6.1			RSD (15)	
Anthracene	1.124237	7.2			RSD (15)	
Carbazole	1.003718	5.9			RSD (15)	
Di-n-Butylphthalate	1.529386	8.6			RSD (15)	
Fluoranthene	1.592768	8.3			RSD (15)	
Pyrene	1.659944	8.0			RSD (15)	
Butylbenzylphthalate	0.6573293	5.5			RSD (15)	
Benzo(a)anthracene	1.456227	8.7			RSD (15)	
3,3'-Dichlorobenzidine	0.510922	6.2			RSD (15)	
Chrysene	1.169589	7.1			RSD (15)	
bis(2-Ethylhexyl)phthalate	0.4166951	6.4			RSD (15)	
Di-n-Octylphthalate	0.8710232	9.3			RSD (15)	
Benzofluoranthenes, Total	1.349383	8.1			RSD (15)	
Benzo(a)pyrene	1.41108	14.5			RSD (15)	

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00068	Instrument:	NT10
Calibration Date:	05/19/2018 0:00	Column (1):	ZB-5MSi

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Indeno(1,2,3-cd)pyrene	1.386698	8.3			RSD (15)	
Dibenzo(a,h)anthracene	1.119412	9.3			RSD (15)	
Benzo(g,h,i)perylene	1.234206	8.4			RSD (15)	
1-Methylnaphthalene	0.8299272	6.2			RSD (15)	
2-Fluorophenol	1.370337	6.1			RSD (15)	
Phenol-d5	1.810965	4.9			RSD (15)	
2-Chlorophenol-d4	1.412068	4.8			RSD (15)	
1,2-Dichlorobenzene-d4	0.9980763	5.5			RSD (15)	
Nitrobenzene-d5	0.3993507	4.3			RSD (15)	
2-Fluorobiphenyl	1.764726	4.4			RSD (15)	
2,4,6-Tribromophenol	0.216101	11.7			RSD (15)	
p-Terphenyl-d14	1.049284	6.5			RSD (15)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 5/23/2018 11:34:25AM

ANALYSIS SEQUENCE

SGE0328

Instrument: NT10 Element Column ID: G002875
Calibration ID: BE00068 Tune File: 180519.U
EM Voltage: 1906

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGE0328-TUN1	MS Tune	QC		1	F010239		
SGE0328-CAL5	ABN 5.0	QC		2	G003850	G003857	
SGE0328-CAL7	ABN 20	QC		3	G003848	G003857	
SGE0328-CAL1	ABN 0.2	QC		4	G003854	G003857	
SGE0328-CAL6	ABN 10	QC		5	G003849	G003857	
SGE0328-CAL2	ABN 0.5	QC		6	G003853	G003857	
SGE0328-CAL3	ABN 1.0	QC		7	G003852	G003857	
SGE0328-CAL4	ABN 2.5	QC		8	G003851	G003857	
SGE0328-SCV1	SCV 5.0	QC		9	G004584	G003857	
SGE0328-TUN2	MS Tune	QC		10	F010239		
SGE0328-ICV1	ABN 5.0	QC		11	G003850	G003857	
BGE0396-BLK1	Blank	QC		12		G003857	
BGE0396-BS1	LCS	QC		13		G003857	
BGE0396-SRM1	Reference	QC		14		G003857	
18B0338-01RE2	LDW18-SSOT-T107 Park	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	15		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-02RE2	LDW18-SSOT-T107 Park-FD	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	16		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-03RE1	LDW18-SS-179	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	17		G003857	From BGC0127 by CCT on 15-May-2018
BGE0396-MS1	Matrix Spike	QC		18		G003857	
BGE0396-MSD1	Matrix Spike Dup	QC		19		G003857	
18B0338-04RE1	LDW18-SSOT-5thAveS	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	F 03	20		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-05RE1	LDW18-SS-184	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	D 03	21		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-06RE1	LDW18-SSOT-2109-1	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	22		G003857	From BGC0127 by CCT on 15-May-2018

Printed: 5/23/2018 11:34:25AM

ANALYSIS SEQUENCE

SGE0328

Instrument: NT10 Element Column ID: G002875
Calibration ID: BE00068 Tune File: 180519.U
EM Voltage: 1906

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
18B0338-07RE1	LDW18-SSOT-2109-2	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	23		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-08RE1	LDW18-SS-169	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	D 03	24		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-01RE1	LDW18SS-008	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	25		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-02RE1	LDW18SS-069	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	26		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-03RE1	LDW18SS-069-FD	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	27		G003857	From BGC0127 by CCT on 15-May-2018
18B0360-01RE1	LDW18-SS-040	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	28		G003857	From BGC0127 by CCT on 15-May-2018
18B0362-01RE1	LDW18-SSOT-SeattleDistCtr	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	29		G003857	From BGC0127 by CCT on 15-May-2018
SGE0328-CCV1	ABN 5.0	QC		30	G003850	G003857	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

	Time	Filename	LabID	ClientId	DF																				
1	0854	NT1018051901.D	SGE0000-TUN1		1	|NO ISTDS FOUND||																			
2	0909	NT1018051902.D	SGE0328-CAL5		1	| 8.98	110698	||11.42	393946	||14.98	203210	||17.98	403506	||22.99	354618	||25.48	378948	||24.02	800232						
3	0949	NT1018051903.D	SGE0328-CAL7		1	| 8.98	100674	||11.42	372122	||14.99	199580	||17.99	391420	||23.00	338243	||25.49	367539	||24.02	830098						
4	1025	NT1018051904.D	SGE0328-CAL1		1	| 8.98	135618	||11.42	463180	||14.98	220602	||17.98	423757	||22.99	380627	||25.48	384766	||24.02	736647						
5	1102	NT1018051905.D	SGE0328-CAL6		1	| 8.98	102271	||11.42	366217	||14.99	193730	||17.98	380026	||23.00	337646	||25.48	362338	||24.02	792551						
6	1138	NT1018051906.D	SGE0328-CAL2		1	| 8.98	130760	||11.42	453436	||14.98	218907	||17.98	423462	||22.99	380532	||25.48	385243	||24.02	761131						
7	1214	NT1018051907.D	SGE0328-CAL3		1	| 8.98	124018	||11.42	429087	||14.98	211452	||17.98	403654	||22.99	359417	||25.48	370204	||24.02	737929						
8	1251	NT1018051908.D	SGE0328-CAL4		1	| 8.98	121621	||11.42	425010	||14.98	209476	||17.98	403900	||22.99	359821	||25.48	382298	||24.02	767587						
9	1327	NT1018051909.D	SGE0329-CAL1		1	| 8.97	131330	||11.42	451072	||14.98	203261	||17.98	392432	||22.99	346988	||25.48	349664	||24.02	670319						
10	1404	NT1018051910.D	SGE0329-CAL2		1	| 8.98	135039	||11.42	466788	||14.98	214486	||17.98	403526	||22.99	365135	||25.48	365050	||24.02	689423						
11	1441	NT1018051911.D	SGE0329-SCV1		1	| 8.97	114558	||11.42	406906	||14.98	212151	||17.97	407216	||22.99	360730	||25.48	387545	||24.02	792512						
12	1512	NT1018051912.D	SGE0328-TUN2		1	|NO ISTDS FOUND||																			
13	1528	NT1018051913.D	SGE0328-ICV1		1	| 8.97	111512	||11.42	390606	||14.98	203299	||17.98	395184	||22.99	352267	||25.48	371298	||24.02	793654						
14	1605	NT1018051914.D	SGE0328-ICV2		1	| 8.98	124363	||11.42	435734	||14.98	216408	||17.97	409978	||22.99	367557	||25.48	375470	||24.02	737626						
15	1642	NT1018051915.D	BGE0396-BLK1		1	| 8.98	132374	||11.42	487646	||14.98	234193	||17.98	438919	||22.99	379699	||25.48	363698	||24.02	759079						
16	1719	NT1018051916.D	BGE0396-BS1		1	| 8.98	118935	||11.42	447395	||14.98	218868	||17.98	424086	||22.99	376530	||25.48	376745	||24.02	832516						
17	1755	NT1018051917.D	BGE0396-SRM1		1	| 8.98	125530	||11.42	451986	||14.98	222605	||17.98	416354	||22.99	370450	||25.48	360365	||24.02	742206						
18	1832	NT1018051918.D	18B0338-01RE1		1	| 8.98	130408	||11.42	472080	||14.98	224806	||17.98	437227	||23.01	386710	||25.52	420897	||24.03	756305						
19	1909	NT1018051919.D	18B0338-02RE1		1	| 8.98	132329	||11.42	479628	||14.99	220804	||17.99	423743	||23.01	382097	||25.52	411643	||24.03	726453						
20	1945	NT1018051920.D	18B0338-03RE1		1	| 8.98	132462	||11.42	485866	||14.99	235650	||17.99	447795	||23.00	384292	||25.50	411857	||24.03	755726						

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

	Time	Filename	LabID	ClientId	DF												
21	2022	NT1018051921.D	BGE0396-MS1		1	8.98	117982	11.42	434813	14.99	214243	17.99	410337	23.00	366103	25.51	400522	24.03	745105
22	2058	NT1018051922.D	BGE0396-MSD1		1	8.98	118083	11.42	445191	14.99	219081	17.99	413480	23.00	377973	25.51	401082	24.03	762054
23	2134	NT1018051923.D	18B0338-04RE1		1	8.98	119663	11.42	441090	14.99	210599	17.99	401754	23.00	363785	25.52	361123	24.03	687421
24	2210	NT1018051924.D	18B0338-05RE1		1	8.98	132442	11.42	478391	14.99	223548	18.00	440888	23.01	376268	25.51	391542	24.03	723564
25	2246	NT1018051925.D	18B0338-06RE1		1	8.98	126056	11.43	457714	14.99	224756	17.99	430960	23.00	374416	25.50	395588	24.03	730120
26	2322	NT1018051926.D	18B0338-07RE1		1	8.98	136893	11.42	489700	14.99	237869	17.99	463109	23.01	412309	25.53	399954	24.03	779339
27	2358	NT1018051927.D	18B0338-08RE1		1	8.99	127543	11.43	452700	15.00	216296	18.00	421824	23.01	381756	25.52	381635	24.03	713662
28	0034	NT1018051928.D	18B0359-01RE1		1	8.99	132844	11.43	465966	15.00	229105	18.00	444765	23.01	393257	25.51	393576	24.03	752758
29	0110	NT1018051929.D	18B0359-02RE1		1	8.98	129262	11.42	462012	14.99	229683	18.00	448263	23.01	395143	25.52	389261	24.03	758433
30	0146	NT1018051930.D	18B0359-03RE1		1	8.99	127277	11.43	459610	15.00	223047	18.00	435625	23.01	388282	25.51	382930	24.03	729341
31	0222	NT1018051931.D	18B0360-01RE1		1	8.98	127777	11.43	454384	14.99	219202	18.00	429826	23.01	385044	25.51	378231	24.03	730998
32	0258	NT1018051932.D	18B0362-01RE1		1	8.99	127652	11.43	451804	15.00	220710	18.00	417523	23.02	377896	25.53	361409	24.03	730309
33	0334	NT1018051933.D	18B0362-02RE1		1	8.99	115680	11.43	428605	15.00	206650	18.01	389410	23.02	347374	25.52	337638	24.03	670239
34	0410	NT1018051934.D	18C0047-03RE1		1	8.99	118161	11.43	409412	15.00	204048	18.00	404367	23.01	356237	25.51	345128	24.03	702640
35	0446	NT1018051935.D	18C0047-04RE1		1	8.99	119036	11.43	427445	15.00	214033	18.00	422924	23.01	376295	25.51	359926	24.03	737089
36	0522	NT1018051936.D	SGE0328-CCV1		1	8.99	108692	11.43	387852	15.00	207029	18.00	408608	23.01	387627	25.51	380750	24.03	803310
37	0558	NT1018051937.D	SGE0328-CCV2		1	8.98	123397	11.43	407619	15.00	216406	18.00	430374	23.00	407713	25.51	382314	24.03	826214

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

Instrument: nt10.i Date: 19-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0854	NT1018051901.D	SGE0000-TUN1	1	NO MANUAL INTEGRATION
0909	NT1018051902.D	SGE0328-CAL5	1	NO MANUAL INTEGRATION
0949	NT1018051903.D	SGE0328-CAL7	1	NO MANUAL INTEGRATION
1025	NT1018051904.D	SGE0328-CAL1	1	3-Nitroaniline, 2,4-Dinitrophenol, 4-Nitrophenol,
1102	NT1018051905.D	SGE0328-CAL6	1	NO MANUAL INTEGRATION
1138	NT1018051906.D	SGE0328-CAL2	1	4-Nitrophenol,
1214	NT1018051907.D	SGE0328-CAL3	1	NO MANUAL INTEGRATION
1251	NT1018051908.D	SGE0328-CAL4	1	NO MANUAL INTEGRATION
1327	NT1018051909.D	SGE0329-CAL1	1	NO MANUAL INTEGRATION
1404	NT1018051910.D	SGE0329-CAL2	1	NO MANUAL INTEGRATION
1441	NT1018051911.D	SGE0329-SCV1	1	NO MANUAL INTEGRATION
1512	NT1018051912.D	SGE0328-TUN2	1	NO MANUAL INTEGRATION
1528	NT1018051913.D	SGE0328-ICV1	1	NO MANUAL INTEGRATION
1605	NT1018051914.D	SGE0328-ICV2	1	NO MANUAL INTEGRATION
1642	NT1018051915.D	BGE0396-BLK1	1	NO MANUAL INTEGRATION
1719	NT1018051916.D	BGE0396-BS1	1	NO MANUAL INTEGRATION
1755	NT1018051917.D	BGE0396-SRM1	1	Benzo(k)fluoranthene,

Instrument: nt10.i Date: 19-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
1832	NT1018051918.D	18B0338-01RE1	1	NO MANUAL INTEGRATION
1909	NT1018051919.D	18B0338-02RE1	1	NO MANUAL INTEGRATION
1945	NT1018051920.D	18B0338-03RE1	1	Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
2022	NT1018051921.D	BGE0396-MS1	1	3,3'-Dichlorobenzidine,
2058	NT1018051922.D	BGE0396-MSD1	1	3,3'-Dichlorobenzidine,
2134	NT1018051923.D	18B0338-04RE1	1	Benzoic acid, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
2210	NT1018051924.D	18B0338-05RE1	1	Phenol, Benzoic acid,
2246	NT1018051925.D	18B0338-06RE1	1	Benzoic acid,
2322	NT1018051926.D	18B0338-07RE1	1	Phenol, Dibenzo(a,h)anthracene,
2358	NT1018051927.D	18B0338-08RE1	1	Benzoic acid, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Pyridine,
0034	NT1018051928.D	18B0359-01RE1	1	Phenol,
0110	NT1018051929.D	18B0359-02RE1	1	Benzoic acid, Benzo(k)fluoranthene,
0146	NT1018051930.D	18B0359-03RE1	1	Benzoic acid, bis(2-Ethylhexyl)phthalate, Benzo(k)fluoranthene, Pyridine,
0222	NT1018051931.D	18B0360-01RE1	1	Benzoic acid, Benzo(k)fluoranthene,
0258	NT1018051932.D	18B0362-01RE1	1	2,4-Dimethylphenol, Benzoic acid, Pyridine,
0334	NT1018051933.D	18B0362-02RE1	1	Phenol, Benzoic acid, Di-n-butylphthalate, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
0410	NT1018051934.D	18C0047-03RE1	1	Phenol,
0446	NT1018051935.D	18C0047-04RE1	1	Phenol, Benzoic acid, Benzo(k)fluoranthene,

Instrument: nt10.i Date: 20-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0522	NT1018051936.D	SGE0328-CCV1	1	NO MANUAL INTEGRATION
0558	NT1018051937.D	SGE0328-CCV2	1	NO MANUAL INTEGRATION

Security Status Report

Date: 23-May-2018 11:32

NT1018051901.D	Data Locked	van, 23-May-2018 11:32
NT1018051902.D	Data Locked	van, 23-May-2018 11:32
NT1018051903.D	Data Locked	van, 23-May-2018 11:32
NT1018051904.D	Data Locked	van, 23-May-2018 11:32
NT1018051905.D	Data Locked	van, 23-May-2018 11:32
NT1018051906.D	Data Locked	van, 23-May-2018 11:32
NT1018051907.D	Data Locked	van, 23-May-2018 11:32
NT1018051908.D	Data Locked	van, 23-May-2018 11:32
NT1018051909.D	Data Locked	van, 23-May-2018 11:32
NT1018051910.D	Data Locked	van, 23-May-2018 11:32
NT1018051911.D	Data Locked	van, 23-May-2018 11:32
NT1018051912.D	Data Locked	van, 23-May-2018 11:32
NT1018051913.D	Data Locked	van, 23-May-2018 11:32
NT1018051914.D	Data Locked	van, 23-May-2018 11:32
NT1018051915.D	Data Locked	van, 23-May-2018 11:32
NT1018051916.D	Data Locked	van, 23-May-2018 11:32
NT1018051917.D	Data Locked	van, 23-May-2018 11:32
NT1018051918.D	Data Locked	van, 23-May-2018 11:32
NT1018051919.D	Data Locked	van, 23-May-2018 11:32
NT1018051920.D	Data Locked	van, 23-May-2018 11:32
NT1018051921.D	Data Locked	van, 23-May-2018 11:32
NT1018051922.D	Data Locked	van, 23-May-2018 11:32
NT1018051923.D	Data Locked	van, 23-May-2018 11:32
NT1018051924.D	Data Locked	van, 23-May-2018 11:32
NT1018051925.D	Data Locked	van, 23-May-2018 11:32
NT1018051926.D	Data Locked	van, 23-May-2018 11:32
NT1018051927.D	Data Locked	van, 23-May-2018 11:32
NT1018051928.D	Data Locked	van, 23-May-2018 11:32
NT1018051929.D	Data Locked	van, 23-May-2018 11:32
NT1018051930.D	Data Locked	van, 23-May-2018 11:32
NT1018051931.D	Data Locked	van, 23-May-2018 11:32
NT1018051932.D	Data Locked	van, 23-May-2018 11:32
NT1018051933.D	Data Locked	van, 23-May-2018 11:32
NT1018051934.D	Data Locked	van, 23-May-2018 11:32
NT1018051935.D	Data Locked	van, 23-May-2018 11:32
NT1018051936.D	Data Locked	van, 23-May-2018 11:32
NT1018051937.D	Data Locked	van, 23-May-2018 11:32

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Calibration File Names:
Level 1: \\target\share\chem3\nt10.i\20180519.b\NT1018051904.D
Level 2: \\target\share\chem3\nt10.i\20180519.b\NT1018051906.D
Level 3: \\target\share\chem3\nt10.i\20180519.b\NT1018051907.D
Level 4: \\target\share\chem3\nt10.i\20180519.b\NT1018051908.D
Level 5: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D
Level 6: \\target\share\chem3\nt10.i\20180519.b\NT1018051905.D
Level 7: \\target\share\chem3\nt10.i\20180519.b\NT1018051903.D

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
186 Carbaryl	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
179 n-Decane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
180 n-Octadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
169 4-tert-Butylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
170 N,N-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
171 2,3-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
172 2,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
173 2,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
174 2,6-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
175 3,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
176 3,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
177 p-Benzoquinone	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
168 Pentachlorobenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
145 4,4'-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
146 4,4'-DDD	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
147 4,4'-DDT	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
148 Dieldrin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
149 TCMX	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	20.0000 Level 7											
150 DCBP	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
142 1,2-Dibromo-3-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
135 2,3,5,6-Tetrachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
136 2,3,4,5-tetrachlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
133 Butylatedhydroxytoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
132 3,6-Dimethylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
131 1-Methylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
130 Dibenzothiophene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
129 1-Methylfluorene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
128 N-Hexadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
127 2-Isopropylnaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
126 N-Tetradecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
144 alpha-Terpineol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
125 Safrole	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
124 3,4-Dimethylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
123 Acetophenone	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
122 Furfuraldehyde	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
120 2,3,4,6-Tetrachlorophenol	3094	8498	18228	43249	109555	234844						
	493524						QUAD	0.000e+000	2.26807	-0.10274	0.99850	
178 2-Benzyl-4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
119 7,12-Dimethylbenz(a)anthracen	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
117 Butyl Diphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
116 Dibutyl Phenyl Phosphate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
115 Tributyl Phosphate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
114 Beta-Pinene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
113 Diphenyl Oxide	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
112 Biphenyl	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
111 Azobenzene (1,2-DP-Hydrazine)	1.73706 / 1.32392	1.58051	1.54146	1.38448	1.54386	1.44593	AVRG		1.50817		9.10453	
110 Tetrachloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
109 3,4,5-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
181 3,4,6-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
108 4,5,6-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
184 3,4-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
107 4,5-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
182 4,6-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
185 4-Chloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
106 Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
105 1-methylnaphthalene	0.78855	0.81417	0.80527	0.76068	0.87963	0.90347						
	0.85772						AVRG		0.82993		6.22501	
151 1,2,4,5-Tetrachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	
155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
156 Methyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
157 Ethyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
158 Ethion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
159 4-Nonylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
160 Tetraethyl Tin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
161 1,2,3-Trichloronaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
162 1,2,3,4-Tetrachloronapthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
163 1,2,3,5,8-Pentachloronaphthal	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
164 1,2,3,4,6,7-Hexachloronaphtha	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
165 1,2,3,4,5,6,7-Heptachloronaph	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
166 Octachloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
167 2,2',4,4',5-Pentabromobipheny	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
3 Phenol	1.83692	1.82692	1.93998	1.66538	1.86343	1.80959					
	1.64670						AVRG		1.79842		5.89351
4 Bis(2-Chloroethyl)ether	1.54891	1.38183	1.40712	1.25822	1.45314	1.36654					
	1.26487						AVRG		1.38295		7.39929

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
6 2-Chlorophenol	1.45630	1.55087	1.52813	1.31387	1.53069	1.47717					
	1.41590						AVRG		1.46756		5.63998
7 1,3-Dichlorobenzene	1.67515	1.53331	1.50165	1.31650	1.53956	1.43041					
	1.33297						AVRG		1.47565		8.55492
9 1,4-Dichlorobenzene	1.43712	1.34384	1.35135	1.21887	1.41420	1.33308					
	1.26583						AVRG		1.33776		5.73129
11 Benzyl alcohol	0.85416	0.90003	0.89974	0.82345	0.95810	0.92682					
	0.87229						AVRG		0.89066		5.06552
12 1,2-Dichlorobenzene	1.42680	1.39241	1.31800	1.22462	1.39616	1.30292					
	1.22993						AVRG		1.32726		6.11998
13 2-Methylphenol	1.28213	1.20226	1.25527	1.08022	1.26544	1.21452					
	1.14346						AVRG		1.20619		6.01417
14 2,2'-oxybis(1-Chloropropane)	0.56762	0.49948	0.49844	0.52778	0.51272	0.55761					
	0.53481						AVRG		0.52835		5.13283

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
15 4-Methylphenol	1.34495	1.32377	1.30504	1.13045	1.33778	1.30460					
	1.21911						AVRG		1.28081		6.11235
16 N-Nitroso-di-n-propylamine	1.03895	0.91074	0.87639	0.81981	0.91976	0.86400					
	0.80011						AVRG		0.88996		8.86761
17 Hexachloroethane	0.61821	0.62135	0.63062	0.54250	0.67378	0.63917					
	0.62881						AVRG		0.62206		6.37350
19 Nitrobenzene	0.42031	0.40030	0.40118	0.35720	0.40927	0.39485					
	0.36680						AVRG		0.39284		5.78830
20 Isophorone	0.80396	0.74704	0.76164	0.69880	0.83564	0.93379					
	0.86525						AVRG		0.80659		9.82205
21 2-Nitrophenol	0.19586	0.20736	0.20648	0.19500	0.23678	0.24096					
	0.23341						AVRG		0.21655		9.17388
22 2,4-Dimethylphenol	0.40768	0.40702	0.41822	0.34829	0.39476	0.37315					
	0.34131						AVRG		0.38435		7.94296

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
23 Bis(2-Chloroethoxy)methane	0.49588	0.46638	0.43568	0.37052	0.41235	0.40075					
	0.38138						AVRG		0.42327		10.76095
24 Benzoic acid	+++++	32544	76259	204561	506437	972050					
	1933154						QUAD	0.000e+000	3.90025	-0.01205	0.99881
25 2,4-Dichlorophenol	0.31202	0.30450	0.31282	0.27968	0.33493	0.32392					
	0.30001						AVRG		0.30970		5.70974
26 1,2,4-Trichlorobenzene	0.38719	0.35570	0.33210	0.29652	0.34489	0.31983					
	0.29494						AVRG		0.33303		9.91886
28 Naphthalene	1.09962	1.00352	1.01000	0.90283	1.06598	1.05246					
	1.01501						AVRG		1.02134		6.14314
29 4-Chloroaniline	+++++	0.43359	0.44293	0.40917	0.48917	0.49080					
	0.46785						AVRG		0.45558		7.15757
30 Hexachlorobutadiene	0.22708	0.21329	0.20522	0.18348	0.22326	0.21279					
	0.19894						AVRG		0.20915		7.11739

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
31 4-Chloro-3-methylphenol	0.26819	0.30054	0.32518	0.30687	0.37935	0.39136					
	0.37546						AVRG		0.33528		14.05206
32 2-Methylnaphthalene	0.76048	0.77128	0.77620	0.75101	0.86337	0.87855					
	0.84059						AVRG		0.80593		6.59293
33 Hexachlorocyclopentadiene	+++++	0.38924	0.40025	0.39793	0.50876	0.48859					
	0.47579						AVRG		0.44343		12.02853
34 2,4,6-Trichlorophenol	0.42547	0.46244	0.47793	0.45192	0.53994	0.53942					
	0.51581						AVRG		0.48756		9.20297
35 2,4,5-Trichlorophenol	7343	25697	50198	119667	279555	525974					
	1054960						QUAD	0.000e+000	1.83530	0.01013	0.99953
37 2-Chloronaphthalene	1.64178	1.44262	1.42077	1.29991	1.51003	1.45213					
	1.38899						AVRG		1.45089		7.31262
38 2-Nitroaniline	0.29433	0.36582	0.41191	0.39832	0.46212	0.47055					
	0.43074						AVRG		0.40483		14.99103

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
39 Dimethylphthalate	1.81939	1.66968	1.61603	1.42544	1.58598	1.42166					
	1.27068						AVRG		1.54412		11.89185
40 Acenaphthylene	2.73733	2.39265	2.36914	2.07090	2.34314	2.15048					
	1.95756						AVRG		2.28874		11.24878
41 2,6-Dinitrotoluene	0.33671	0.33276	0.33055	0.30835	0.35720	0.33780					
	0.31449						AVRG		0.33113		4.86059
43 3-Nitroaniline	+++++	0.34515	0.37979	0.35609	0.41070	0.41526					
	0.39160						AVRG		0.38310		7.42779
44 Acenaphthene	1.47932	1.35192	1.33971	1.21257	1.45279	1.37754					
	1.31543						AVRG		1.36132		6.52489
45 2,4-Dinitrophenol	+++++	6537	20087	69330	204780	453116					
	1012447						QUAD	0.000e+000	4.91153	-0.19400	0.99776
46 Dibenzofuran	2.02192	2.12481	2.10003	1.98035	2.23549	2.24279					
	2.09274						AVRG		2.11402		4.66890

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
47 4-Nitrophenol	+++++	9889	17687	49361	118656	235608					
	467074						QUAD	0.000e+000	4.20360	0.02335	0.99901
48 2,4-Dinitrotoluene	0.35571	0.37477	0.40463	0.39909	0.50158	0.48550					
	0.46099						AVRG		0.42604		13.28553
49 Fluorene	1.80941	1.61921	1.61014	1.43406	1.68874	1.60049					
	1.53167						AVRG		1.61339		7.29656
50 Diethylphthalate	1.94141	1.62849	1.57083	1.45187	1.61694	1.48468					
	1.33549						AVRG		1.57567		12.14094
51 4-Chlorophenyl-phenylether	0.85756	0.82654	0.78109	0.70497	0.82494	0.77923					
	0.74322						AVRG		0.78822		6.69587
52 4-Nitroaniline	0.36196	0.35633	0.37715	0.28934	0.41457	0.42120					
	+++++						AVRG		0.37009		12.91056
53 4,6-Dinitro-2-methylphenol	+++++	19026	44207	116585	294700	677316					
	1219037						QUAD	0.000e+000	5.75321	0.19041	0.99472

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
54 N-Nitrosodiphenylamine	0.62390	0.56914	0.56498	0.49668	0.54288	0.50708					
	0.46247						AVRG		0.53816		10.02589
56 4-Bromophenyl-phenylether	0.27049	0.23228	0.23390	0.21911	0.25799	0.24512					
	0.24153						AVRG		0.24292		7.04086
57 Hexachlorobenzene	0.26931	0.24476	0.23656	0.20690	0.24186	0.22137					
	0.20263						AVRG		0.23191		10.07944
58 Pentachlorophenol	+++++	0.11120	0.12560	0.11868	0.15134	0.15632					
	0.15510						AVRG		0.13637		14.79583
60 Phenanthrene	1.16076	1.06866	1.03974	0.94644	1.08160	1.08209					
	1.04332						AVRG		1.06037		6.05871
61 Anthracene	1.23434	1.10043	1.07041	0.98842	1.18209	1.16650					
	1.12747						AVRG		1.12424		7.18746
62 Carbazole	1.11092	0.97590	0.99500	0.91125	1.02222	0.99739					
	1.01335						AVRG		1.00372		5.94559

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
63 Di-n-butylphthalate	1.51577	1.40423	1.43568	1.36848	1.68012	1.66933					
	1.63209						AVRG		1.52939		8.58239
64 Fluoranthene	1.63651	1.45382	1.50989	1.40873	1.71915	1.72414					
	1.69714						AVRG		1.59277		8.34823
65 Pyrene	1.74018	1.53116	1.58299	1.46109	1.79290	1.76099					
	1.75029						AVRG		1.65994		7.95192
67 Butylbenzylphthalate	0.69202	0.65719	0.66014	0.60505	0.70330	0.66847					
	0.61515						AVRG		0.65733		5.54114
68 Benzo(a)anthracene	1.68648	1.48140	1.41580	1.28547	1.51810	1.43557					
	1.37077						AVRG		1.45623		8.68636
70 3,3'-Dichlorobenzidine	0.53508	0.51088	0.53500	0.46185	0.48697	0.49503					
	0.55164						AVRG		0.51092		6.21823
71 Chrysene	1.25792	1.09739	1.12557	1.03810	1.23277	1.22327					
	1.21210						AVRG		1.16959		7.06126

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
72 bis(2-Ethylhexyl)phthalate	0.45699	0.41591	0.40574	0.37667	0.44378	0.41686					
	0.40092						AVRG		0.41670		6.44588
73 Di-n-octylphthalate	1.02377	0.85605	0.88041	0.77075	0.90251	0.85725					
	0.80642						AVRG		0.87102		9.26242
74 Benzo(b)fluoranthene	1.60014	1.37038	1.36051	1.20123	1.42344	1.44043					
	1.39487						AVRG		1.39871		8.46948
75 Benzo(k)fluoranthene	1.59027	1.31846	1.38331	1.29456	1.51726	1.39649					
	1.35230						AVRG		1.40752		7.66781
187 Total Benzofluoranthenes	1.54535	1.31358	1.32289	1.18699	1.40580	1.35817					
	1.31290						AVRG		1.34938		8.08139
76 Benzo(a)pyrene	1.73207	1.43737	1.43401	1.27655	1.54499	1.37359					
	1.07898						AVRG		1.41108		14.52276
78 Indeno(1,2,3-cd)pyrene	1.59952	1.35468	1.39414	1.25405	1.46117	1.34743					
	1.29590						AVRG		1.38670		8.29059

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
79 Dibenzo(a,h)anthracene	1.29793	1.15867	1.15201	0.99372	1.15753	1.05555					
	1.02047						AVRG		1.11941		9.34026
80 Benzo(g,h,i)perylene	1.41239	1.18786	1.23190	1.08498	1.31213	1.21674					
	1.19344						AVRG		1.23421		8.38172
90 N-Nitrosodimethylamine	0.87415	0.81285	0.82756	0.74579	0.85048	0.81317					
	0.74128						AVRG		0.80932		6.16220
91 Aniline	2.21527	2.12233	2.06010	1.81717	2.05122	1.94867					
	1.77648						AVRG		1.99875		8.00369
92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
93 Benzidine	+++++	0.68908	0.71500	0.55152	0.62777	0.72531					
	0.75038						AVRG		0.67651		10.95790
96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
97 Caffeine	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
98 Retene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
99 Perylene	1.30069 / 1.14639	1.04726	1.09501	0.94691	1.22362	1.15989	AVRG		1.13139		10.24675	
100 3-beta-Coprostanol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
101 Cholesterol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
102 beta-Sitosterol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	
103 Pyridine	1.52089 / 1.29248	1.60875	1.54526	1.36342	1.50745	1.40057	AVRG		1.46269		7.70584	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
188 2,6-Dichlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
189 N-Nitrosomethylethylamine	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
$ 1 2-Fluorophenol	1.32038 / 1.24681	1.46185	1.46209	1.30658	1.42607	1.36858	AVRG		1.37034		6.08533	
$ 137 d8-1,4-Dioxane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
$ 2 Phenol-d5	1.73310 / 1.83846	1.79415	1.80445	1.67399	1.90926	1.92334	AVRG		1.81096		4.94903	
$ 5 2-Chlorophenol-d4	1.39372 / 1.39542	1.49995	1.40132	1.29186	1.47471	1.42751	AVRG		1.41207		4.75636	
$ 10 1,2-Dichlorobenzene-d4	1.07641 / 0.95787	1.05078	1.00414	0.91238	1.00279	0.98217	AVRG		0.99808		5.51599	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 18 Nitrobenzene-d5	0.40179	0.42218	0.39025	0.37464	0.40960	0.41274					
	0.38426						AVRG		0.39935		4.25557
$ 36 2-Fluorobiphenyl	1.88647	1.82024	1.75007	1.66990	1.79618	1.75728					
	1.67295						AVRG		1.76473		4.42453
$ 55 2,4,6-Tribromophenol	+++++	0.18524	0.20155	0.19485	0.23094	0.23824					
	0.24578						AVRG		0.21610		11.71977
$ 66 Terphenyl-d14	1.15121	1.10611	1.07408	0.98650	1.05938	1.01050					
	0.95720						AVRG		1.04928		6.54062
$ 85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
$ 86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
$ 87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 88 Dibenz(a,h)anthracene-d14	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
$ 89 Diphenyl-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000
$ 95 D10-1-methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAY-2018 09:09
End Cal Date : 19-MAY-2018 12:51
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Last Edit : 23-May-2018 07:10 van

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	NT1018051902	NT1018051903	NT1018051904	NT1018051905	NT1018051906	NT1018051907	NT1018051908
INJ.DATE:	19-MAY-2018	19-MAY-2018	19-MAY-2018	19-MAY-2018	19-MAY-2018	19-MAY-2018	19-MAY-2018
INJ.TIME:	09:09	09:49	10:25	11:02	11:38	12:14	12:51

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
$ 1 2-Fluorophenol	6.774	6.782	6.782	6.782	6.782	6.774	6.775	6.774	3.774-9.774	6.779	0.004
186 Carbaryl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.785	15.785-21.785	+++++	+++++
179 n-Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.645	5.645-11.645	+++++	+++++
180 n-Octadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.455	14.455-20.455	+++++	+++++
169 4-tert-Butylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.696	17.696-23.696	+++++	+++++
170 N,N-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.219	16.219-22.219	+++++	+++++
171 2,3-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
172 2,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
173 2,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	22.949	19.949-25.949	+++++	+++++
174 2,6-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.196	16.196-22.196	+++++	+++++
175 3,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
176 3,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.503	17.503-23.503	+++++	+++++
177 p-Benzoquinone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.827	4.827-10.827	+++++	+++++
168 Pentachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.842	12.842-18.842	+++++	+++++
145 4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.212	44.212-50.212	+++++	+++++
146 4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.746	44.746-50.746	+++++	+++++
147 4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.216	45.216-51.216	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
148 Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.281	44.281-50.281	+++++	+++++
149 TCMX	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.387	40.387-46.387	+++++	+++++
150 DCBP	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.989	47.989-53.989	+++++	+++++
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	67.733	64.733-70.733	+++++	+++++
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.067	62.067-68.067	+++++	+++++
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
142 1,2-Dibromo-3-Chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.917	46.917-52.917	+++++	+++++
135 2,3,5,6-Tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.383	13.383-19.383	+++++	+++++
136 2,3,4,5-tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.317	36.317-42.317	+++++	+++++
$ 137 d8-1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.445	0.000-5.445	+++++	+++++
* 134 Di-n-octylphthalate-d4	24.019	24.019	24.019	24.019	24.019	24.019	24.019	24.019	21.019-27.019	24.019	0.000
133 Butylatedhydroxytoluen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.571	12.571-18.571	+++++	+++++
132 3,6-Dimethylphenanthre	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.450	62.450-68.450	+++++	+++++
131 1-Methylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	64.400	61.400-67.400	+++++	+++++
130 Dibenzothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	62.100	59.100-65.100	+++++	+++++
129 1-Methylfluorene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.912	51.912-57.912	+++++	+++++
128 N-Hexadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.212	51.212-57.212	+++++	+++++
127 2-Isopropylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	57.650	54.650-60.650	+++++	+++++
126 N-Tetradecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.750	53.750-59.750	+++++	+++++
144 alpha-Terpineol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.447	8.447-14.447	+++++	+++++
125 Safrole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.166	49.166-55.166	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
124 3,4-Dimethylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.617	47.617-53.617	+++++	+++++
123 Acetophenone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.252	7.252-13.252	+++++	+++++
122 Furfuraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.467	40.467-46.467	+++++	+++++
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.697	0.000-5.697	+++++	+++++
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.500	51.500-57.500	+++++	+++++
120 2,3,4,6-Tetrachlorophe	15.703	15.710	15.702	15.703	15.702	15.703	15.703	15.703	12.703-18.703	15.704	0.003
178 2-Benzyl-4-Chloropheno	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.963	15.963-21.963	+++++	+++++
119 7,12-Dimethylbenz(a)an	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.069	44.069-50.069	+++++	+++++
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.215	18.215-24.215	+++++	+++++
117 Butyl Diphenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.761	13.761-19.761	+++++	+++++
116 Dibutyl Phenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.747	15.747-21.747	+++++	+++++
115 Tributyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.923	13.923-19.923	+++++	+++++
114 Beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.950	45.950-51.950	+++++	+++++
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.341	11.341-17.341	+++++	+++++
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.085	11.085-17.085	+++++	+++++
111 Azobenzene (1,2-DP-Hyd	16.390	16.406	16.383	16.391	16.383	16.383	16.391	16.390	13.390-19.390	16.389	0.008
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.140	14.140-20.140	+++++	+++++
109 3,4,5-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.070	12.070-18.070	+++++	+++++
181 3,4,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.232	12.232-18.232	+++++	+++++
108 4,5,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.374	13.374-19.374	+++++	+++++
184 3,4-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.120	10.120-16.120	+++++	+++++
107 4,5-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.096	11.096-17.096	+++++	+++++
182 4,6-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.096	11.096-17.096	+++++	+++++
185 4-Chloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.735	8.735-14.735	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
		+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.243	6.243-12.243	+++++	+++++
	105 1-methylnaphthalene	13.057	13.064	13.057	13.057	13.057	13.057	13.057	13.057	10.057-16.057	13.058	0.003
	151 1,2,4,5-Tetrachloroben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.499	8.499-14.499	+++++	+++++
	152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	30.943	27.943-33.943	+++++	+++++
	153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.642	24.642-30.642	+++++	+++++
	154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.953	22.953-28.953	+++++	+++++
	155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.750	24.750-30.750	+++++	+++++
	156 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.464	23.464-29.464	+++++	+++++
	157 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.099	24.099-30.099	+++++	+++++
	158 Ethion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.513	21.513-27.513	+++++	+++++
	159 4-Nonylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.132	22.132-28.132	+++++	+++++
	160 Tetraethyl Tin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.528	16.528-22.528	+++++	+++++
	161 1,2,3-Trichloronaphtha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	36.246	33.246-39.246	+++++	+++++
	162 1,2,3,4-Tetrachloronap	+++++	+++++	+++++	+++++	+++++	+++++	+++++	37.506	34.506-40.506	+++++	+++++
	163 1,2,3,5,8-Pentachloron	+++++	+++++	+++++	+++++	+++++	+++++	+++++	38.893	35.893-41.893	+++++	+++++
	164 1,2,3,4,6,7-Hexachloro	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.681	36.681-42.681	+++++	+++++
	165 1,2,3,4,5,6,7-Heptachl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	41.123	38.123-44.123	+++++	+++++
	166 Octachloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.253	39.253-45.253	+++++	+++++
	167 2,2',4,4',5-Pentabromo	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.033	39.033-45.033	+++++	+++++
$	2 Phenol-d5	8.335	8.351	8.335	8.343	8.335	8.335	8.336	8.335	5.335-11.335	8.339	0.006
	3 Phenol	8.359	8.374	8.351	8.367	8.358	8.351	8.359	8.359	5.359-11.359	8.360	0.008
	4 Bis(2-Chloroethyl)ethe	8.529	8.536	8.528	8.536	8.528	8.529	8.529	8.529	5.529-11.529	8.531	0.004
$	5 2-Chlorophenol-d4	8.614	8.621	8.613	8.621	8.613	8.613	8.614	8.614	5.614-11.614	8.616	0.004

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	6 2-Chlorophenol	8.644	8.652	8.637	8.645	8.644	8.644	8.645	8.644	5.644-11.644	8.644	0.004
	7 1,3-Dichlorobenzene	8.915	8.915	8.915	8.915	8.915	8.915	8.915	8.915	5.915-11.915	8.915	0.000
*	8 1,4-Dichlorobenzene-d4	8.977	8.977	8.977	8.977	8.977	8.977	8.977	8.977	5.977-11.977	8.977	0.000
	9 1,4-Dichlorobenzene	9.008	9.008	9.008	9.008	9.008	9.008	9.001	9.008	6.008-12.008	9.007	0.003
$	10 1,2-Dichlorobenzene-d4	9.326	9.334	9.326	9.334	9.326	9.326	9.327	9.326	6.326-12.326	9.329	0.004
	11 Benzyl alcohol	9.233	9.249	9.233	9.241	9.233	9.233	9.233	9.233	6.233-12.233	9.237	0.006
	12 1,2-Dichlorobenzene	9.358	9.357	9.350	9.358	9.350	9.350	9.350	9.358	6.358-12.358	9.353	0.004
	13 2-Methylphenol	9.458	9.466	9.458	9.459	9.458	9.458	9.459	9.458	6.458-12.458	9.460	0.003
	14 2,2'-oxybis(1-Chloropr	9.536	9.544	9.544	9.544	9.536	9.536	9.536	9.536	6.536-12.536	9.539	0.004
	15 4-Methylphenol	9.722	9.738	9.714	9.730	9.722	9.722	9.723	9.722	6.722-12.722	9.725	0.007
	16 N-Nitroso-di-n-propyla	9.792	9.808	9.784	9.800	9.792	9.792	9.792	9.792	6.792-12.792	9.794	0.007
	17 Hexachloroethane	9.940	9.940	9.940	9.940	9.940	9.940	9.940	9.940	6.940-12.940	9.940	0.000
$	18 Nitrobenzene-d5	10.056	10.056	10.048	10.056	10.048	10.048	10.048	10.056	7.056-13.056	10.052	0.004
	19 Nitrobenzene	10.087	10.095	10.079	10.087	10.087	10.087	10.087	10.087	7.087-13.087	10.087	0.004
	20 Isophorone	10.529	10.545	10.522	10.537	10.522	10.522	10.522	10.529	7.529-13.529	10.528	0.009
	21 2-Nitrophenol	10.707	10.715	10.707	10.707	10.707	10.707	10.707	10.707	7.707-13.707	10.708	0.003
	22 2,4-Dimethylphenol	10.757	10.765	10.748	10.757	10.748	10.748	10.748	10.757	7.757-13.757	10.753	0.007
	23 Bis(2-Chloroethoxy)met	10.956	10.964	10.947	10.956	10.947	10.947	10.956	10.956	7.956-13.956	10.953	0.006
	24 Benzoic acid	10.956	11.105	10.823	11.022	10.839	10.864	10.906	10.956	7.956-13.956	10.931	0.104
	25 2,4-Dichlorophenol	11.147	11.163	11.147	11.155	11.147	11.147	11.147	11.147	8.147-14.147	11.150	0.007
	26 1,2,4-Trichlorobenzene	11.340	11.347	11.332	11.340	11.339	11.340	11.340	11.340	8.340-14.340	11.340	0.004
*	27 Naphthalene-d8	11.425	11.424	11.424	11.425	11.424	11.417	11.425	11.425	8.425-14.425	11.423	0.003
	28 Naphthalene	11.463	11.471	11.463	11.463	11.463	11.463	11.463	11.463	8.463-14.463	11.464	0.003
	29 4-Chloroaniline	11.587	11.602	11.586	11.595	11.586	11.587	11.587	11.587	8.587-14.587	11.590	0.006

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	30 Hexachlorobutadiene	11.819	11.826	11.826	11.826	11.818	11.818	11.819	11.819	8.819-14.819	11.822	0.004
	31 4-Chloro-3-methylpheno	12.530	12.538	12.530	12.538	12.530	12.530	12.531	12.530	9.530-15.530	12.533	0.004
	32 2-Methylnaphthalene	12.840	12.840	12.832	12.840	12.832	12.832	12.832	12.840	9.840-15.840	12.836	0.004
	33 Hexachlorocyclopentadi	13.297	13.304	13.296	13.305	13.296	13.297	13.297	13.297	10.297-16.297	13.299	0.004
	34 2,4,6-Trichlorophenol	13.451	13.459	13.444	13.452	13.443	13.444	13.444	13.451	10.451-16.451	13.448	0.006
	35 2,4,5-Trichlorophenol	13.521	13.529	13.521	13.521	13.513	13.521	13.513	13.521	10.521-16.521	13.520	0.005
$	36 2-Fluorobiphenyl	13.614	13.614	13.606	13.614	13.606	13.606	13.606	13.614	10.614-16.614	13.609	0.004
	37 2-Chloronaphthalene	13.815	13.823	13.815	13.815	13.815	13.815	13.815	13.815	10.815-16.815	13.816	0.003
	38 2-Nitroaniline	14.071	14.086	14.070	14.078	14.070	14.071	14.071	14.071	11.071-17.071	14.074	0.006
	39 Dimethylphthalate	14.504	14.512	14.496	14.504	14.496	14.496	14.496	14.504	11.504-17.504	14.501	0.006
	40 Acenaphthylene	14.674	14.682	14.674	14.674	14.674	14.674	14.674	14.674	11.674-17.674	14.675	0.003
	41 2,6-Dinitrotoluene	14.636	14.651	14.635	14.644	14.635	14.636	14.636	14.636	11.636-17.636	14.639	0.006
*	42 Acenaphthene-d10	14.984	14.991	14.984	14.992	14.984	14.984	14.984	14.984	11.984-17.984	14.986	0.004
	43 3-Nitroaniline	14.914	14.937	14.914	14.922	14.906	14.906	14.907	14.914	11.914-17.914	14.915	0.011
	44 Acenaphthene	15.053	15.061	15.045	15.053	15.045	15.053	15.053	15.053	12.053-18.053	15.052	0.005
	45 2,4-Dinitrophenol	15.123	15.146	15.123	15.131	15.123	15.115	15.115	15.123	12.123-18.123	15.125	0.011
	46 Dibenzofuran	15.378	15.386	15.370	15.378	15.370	15.370	15.370	15.378	12.378-18.378	15.375	0.006
	47 4-Nitrophenol	15.223	15.246	15.231	15.231	15.223	15.216	15.216	15.223	12.223-18.223	15.227	0.011
	48 2,4-Dinitrotoluene	15.432	15.455	15.424	15.440	15.424	15.432	15.432	15.432	12.432-18.432	15.434	0.011
	49 Fluorene	16.074	16.089	16.074	16.082	16.074	16.074	16.074	16.074	13.074-19.074	16.077	0.006
	50 Diethylphthalate	15.942	15.958	15.934	15.950	15.934	15.935	15.935	15.942	12.942-18.942	15.941	0.009
	51 4-Chlorophenyl-phenyle	16.074	16.074	16.066	16.074	16.066	16.066	16.066	16.074	13.074-19.074	16.069	0.004
	52 4-Nitroaniline	16.167	16.213	16.159	16.182	16.159	16.159	16.159	16.167	13.167-19.167	16.171	0.020
	53 4,6-Dinitro-2-methylph	16.259	16.290	16.251	16.275	16.251	16.252	16.252	16.259	13.259-19.259	16.261	0.015

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	54 N-Nitrosodiphenylamine	16.313	16.329	16.313	16.321	16.313	16.313	16.313	16.313	13.313-19.313	16.317	0.006
$	55 2,4,6-Tribromophenol	16.606	16.614	16.598	16.606	16.598	16.599	16.599	16.606	13.606-19.606	16.603	0.006
	56 4-Bromophenyl-phenylet	17.061	17.061	17.053	17.061	17.053	17.061	17.061	17.061	14.061-20.061	17.059	0.004
	57 Hexachlorobenzene	17.370	17.378	17.363	17.371	17.370	17.370	17.371	17.370	14.370-20.370	17.370	0.004
	58 Pentachlorophenol	17.719	17.727	17.719	17.719	17.719	17.719	17.719	17.719	14.719-20.719	17.720	0.003
*	59 Phenanthrene-d10	17.982	17.990	17.982	17.982	17.982	17.982	17.982	17.982	14.982-20.982	17.983	0.003
	60 Phenanthrene	18.028	18.036	18.028	18.029	18.028	18.028	18.029	18.028	15.028-21.028	18.030	0.003
	61 Anthracene	18.121	18.129	18.113	18.121	18.121	18.121	18.121	18.121	15.121-21.121	18.121	0.004
	62 Carbazole	18.446	18.454	18.446	18.446	18.438	18.446	18.446	18.446	15.446-21.446	18.446	0.004
	63 Di-n-butylphthalate	19.251	19.258	19.251	19.251	19.251	19.251	19.251	19.251	16.251-22.251	19.252	0.003
	64 Fluoranthene	20.396	20.404	20.396	20.404	20.396	20.396	20.396	20.396	17.396-23.396	20.398	0.004
	65 Pyrene	20.821	20.829	20.814	20.822	20.814	20.821	20.814	20.821	17.821-23.821	20.819	0.006
$	66 Terphenyl-d14	21.108	21.115	21.108	21.108	21.108	21.108	21.108	21.108	18.108-24.108	21.109	0.003
	67 Butylbenzylphthalate	22.029	22.037	22.029	22.029	22.029	22.029	22.029	22.029	19.029-25.029	22.030	0.003
	68 Benzo(a)anthracene	22.966	22.974	22.958	22.966	22.958	22.958	22.958	22.966	19.966-25.966	22.963	0.006
*	69 Chrysene-d12	22.989	22.997	22.989	22.997	22.989	22.989	22.989	22.989	19.989-25.989	22.991	0.004
	70 3,3'-Dichlorobenzidine	22.927	22.943	22.919	22.927	22.919	22.920	22.920	22.927	19.927-25.927	22.925	0.009
	71 Chrysene	23.036	23.043	23.028	23.036	23.036	23.036	23.036	23.036	20.036-26.036	23.036	0.004
	72 bis(2-Ethylhexyl)phtha	23.051	23.051	23.051	23.051	23.051	23.051	23.051	23.051	20.051-26.051	23.051	0.000
	73 Di-n-octylphthalate	24.027	24.034	24.026	24.027	24.026	24.027	24.027	24.027	21.027-27.027	24.028	0.003
	74 Benzo(b)fluoranthene	24.770	24.777	24.762	24.770	24.762	24.762	24.770	24.770	21.770-27.770	24.768	0.006
	75 Benzo(k)fluoranthene	24.809	24.824	24.808	24.816	24.808	24.808	24.809	24.809	21.809-27.809	24.812	0.006
	187 Total Benzofluoranthen	24.809	24.824	24.762	24.816	24.762	24.808	24.770	24.809	21.809-27.809	24.793	0.027
	76 Benzo(a)pyrene	25.374	25.389	25.374	25.382	25.373	25.374	25.374	25.374	22.374-28.374	25.377	0.006

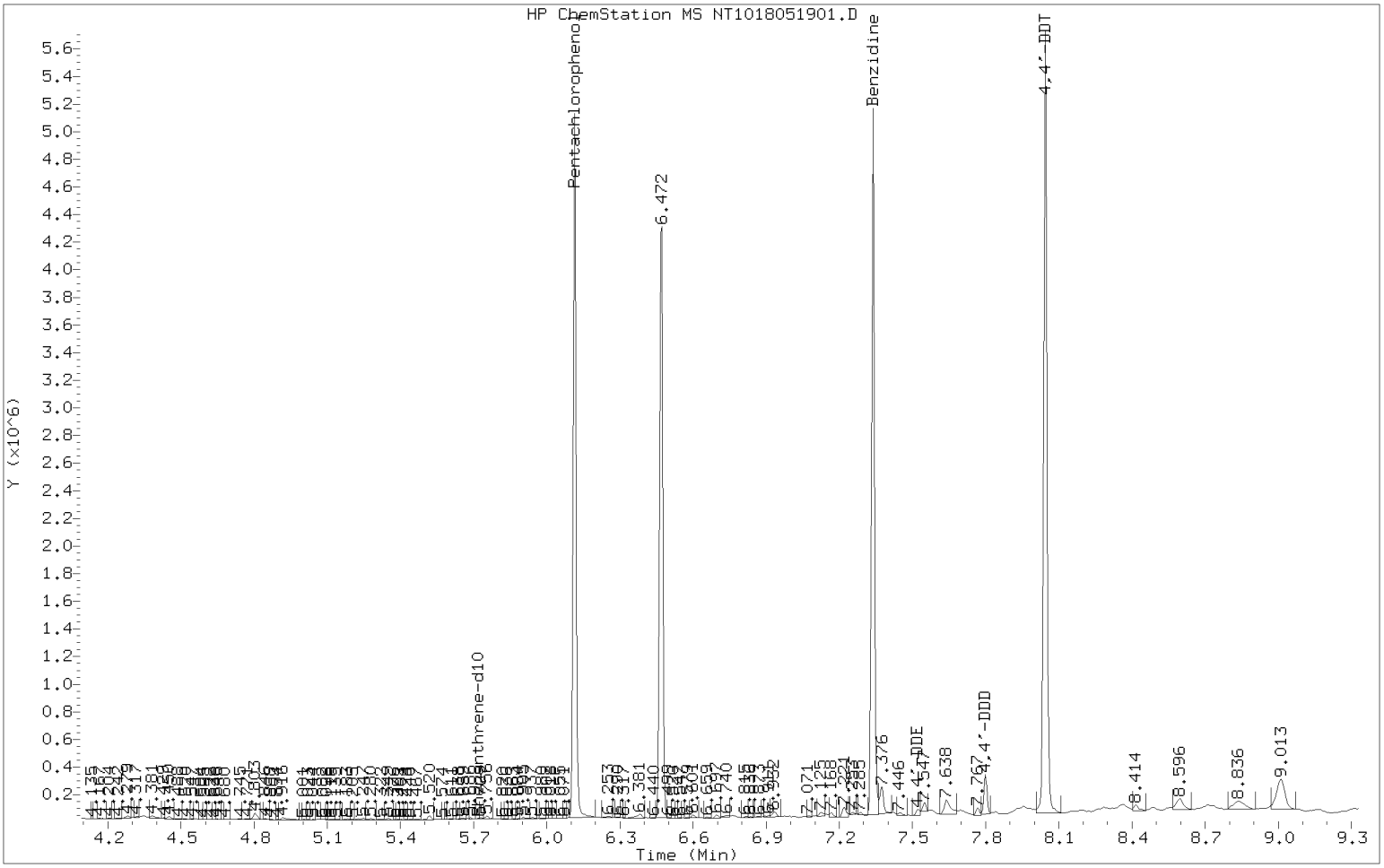
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

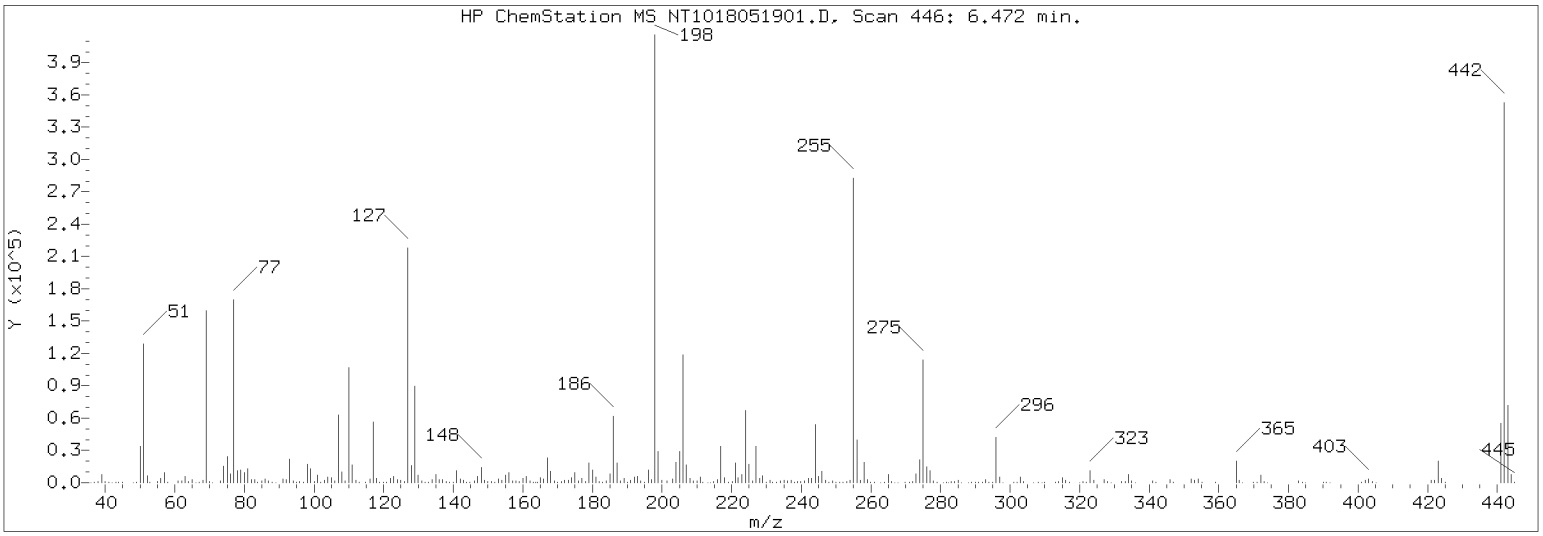
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20180519.b
Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
*	77 Perylene-d12	25.482	25.490	25.482	25.482	25.482	25.482	25.482	25.482	22.482-28.482	25.483	0.003
	78 Indeno(1,2,3-cd)pyrene	27.923	27.954	27.915	27.939	27.915	27.915	27.923	27.923	24.923-30.923	27.926	0.015
	79 Dibenzo(a,h)anthracene	27.939	27.969	27.938	27.954	27.938	27.931	27.939	27.939	24.939-30.939	27.944	0.013
	80 Benzo(g,h,i)perylene	28.645	28.684	28.630	28.661	28.645	28.638	28.638	28.645	25.645-31.645	28.649	0.018
$	85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	51.633	48.633-54.633	+++++	+++++
$	86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	63.533	60.533-66.533	+++++	+++++
$	87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	60.273	57.273-63.273	+++++	+++++
$	88 Dibenz(a,h)anthracene-	+++++	+++++	+++++	+++++	+++++	+++++	+++++	78.600	75.600-81.600	+++++	+++++
$	89 Diphenyl-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.841	47.841-53.841	+++++	+++++
	90 N-Nitrosodimethylamine	4.682	4.689	4.682	4.682	4.682	4.674	4.674	4.682	1.682-7.682	4.681	0.005
	91 Aniline	8.436	8.451	8.436	8.444	8.436	8.436	8.436	8.436	5.436-11.436	8.439	0.006
	92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.160	53.160-59.160	+++++	+++++
	93 Benzidine	20.636	20.643	20.636	20.636	20.636	20.636	20.636	20.636	17.636-23.636	20.637	0.003
$	95 D10-1-methylnaphthalen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.075	49.075-55.075	+++++	+++++
	96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.250	46.250-52.250	+++++	+++++
	97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	61.202	58.202-64.202	+++++	+++++
	98 Retene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.135	16.135-22.135	+++++	+++++
	99 Perylene	25.536	25.552	25.528	25.536	25.528	25.529	25.529	25.536	22.536-28.536	25.534	0.009
	100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.411	22.411-28.411	+++++	+++++
	101 Cholesterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.023	23.023-29.023	+++++	+++++
	102 beta-Sitosterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	79.550	76.550-82.550	+++++	+++++
	103 Pyridine	4.705	4.697	4.720	4.697	4.713	4.705	4.697	4.705	1.705-7.705	4.705	0.009
	188 2,6-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.874	8.874-14.874	+++++	+++++
	189 N-Nitrosomethylethylam	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.818	2.818-8.818	+++++	+++++

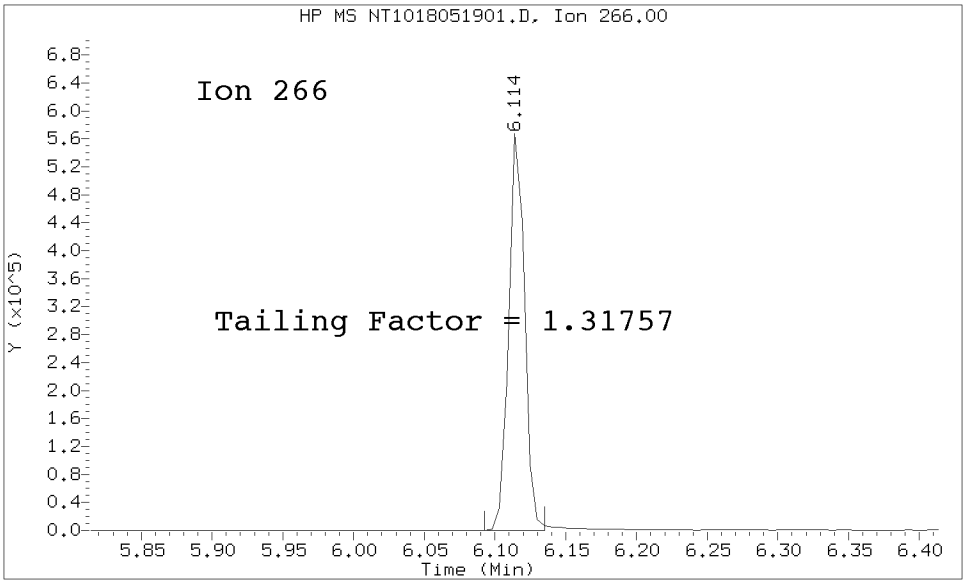
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180519.b/NT1018051901.D/NT1018051901.D
Method Used: \20180519.b\df8270.m Inst: nt10
Injection Date: 19-MAY-2018 08:54 Operator: YZ
Sample Info: SGE0328-TUN1 SGE0328-TUN1
Report Date: 05/23/2018 11:29



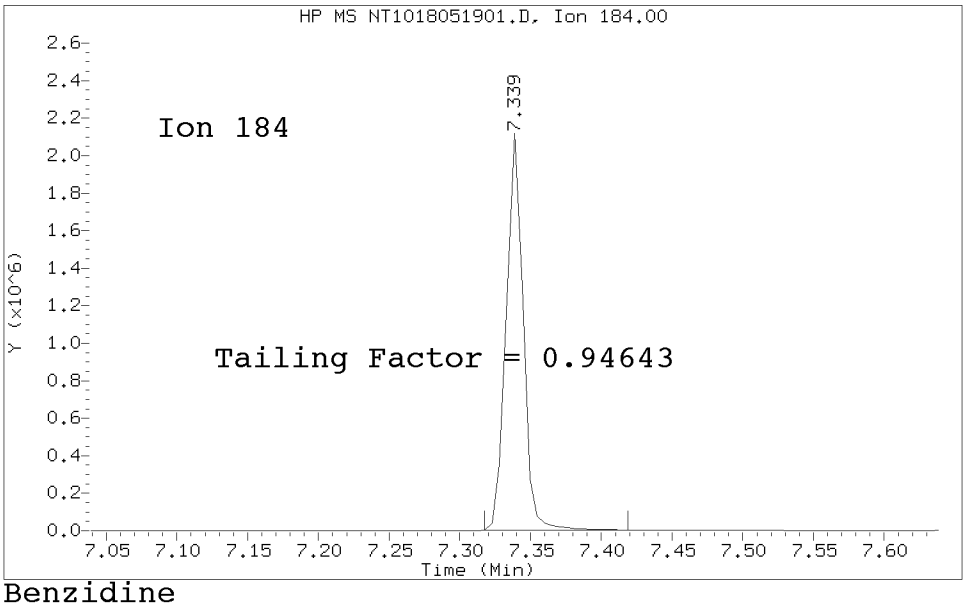


Datafile Analyzed: /20180519.b/NT1018051901.D/NT1018051901.D
Method Used: \20180519.b\df8270.m\sw846ddt.m Inst: nt10
Injection Date: 19-MAY-2018 07:55 Operator: YZ
Sample Info: SGE0000-TUN1
Report Date: 05/23/2018 11:29



Pentachlorophenol
==========
Exp. RT = 6.109
Found RT = 6.114

Tail Factor = 1.318 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.334
Found RT = 7.339

Tail Factor = 0.946 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.3175676	2.000	PASS
Benzidine	0.9464286	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	899790			N/A
4,4-DDE	2869	0.3	20.0	PASS
4,4-DDD	45061	4.8	20.0	PASS
4,4-DDD + DDE	47930	5.1	20.0	PASS

Tuning Sample, nt10.i/20180519.b/NT1018051901.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	33.96
68	Less than 2.00% of mass 69	0.62 (1.50)
69	Mass 69 relative abundance	41.14
70	Less than 2.00% of mass 69	0.22 (0.55)
127	10.00 - 80.00% of mass 198	53.77
197	Less than 2.00% of mass 198	0.78
199	5.00 - 9.00% of mass 198	6.86
275	10.00 - 60.00% of mass 198	27.05
365	Greater than 1.00% of mass 198	4.83
441	0.01 - 24.00% of mass 442	13.03 (15.37)
442	50.00 - 200.00% of mass 198	84.80
443	15.00 - 24.00% of mass 442	16.80 (19.82)

Data File: NT1018051901.D
Spectrum: Avg. Scans 445-447 (6.47), Background Scan 440
Location of Maximum: 198.00
Number of points: 319

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	73	124.00	1982	205.00	21800	289.00	396
37.00	335	125.00	2136	206.00	86680	290.00	213
38.00	1078	126.00	714	207.00	11220	291.00	122
39.00	5928	127.00	162112	208.00	2707	292.00	363
40.00	331	128.00	12436	209.00	1085	293.00	1920
41.00	210	129.00	67016	210.00	1439	294.00	498
42.00	178	130.00	5481	211.00	3786	295.00	489
45.00	239	131.00	1291	212.00	349	296.00	29512
48.00	55	132.00	481	213.00	294	297.00	3904
49.00	755	133.00	446	214.00	53	298.00	175
50.00	26600	134.00	1800	215.00	868	301.00	419
51.00	102400	135.00	5399	216.00	2344	302.00	575
52.00	5118	136.00	2092	217.00	24976	303.00	3468
53.00	273	137.00	2305	218.00	3352	304.00	678
55.00	387	138.00	647	219.00	260	307.00	54
56.00	3085	139.00	347	220.00	647	308.00	424
57.00	7288	140.00	676	221.00	12684	309.00	256
58.00	404	141.00	8357	222.00	3544	310.00	303
59.00	73	142.00	2472	223.00	5687	312.00	60
60.00	54	143.00	1858	224.00	48744	313.00	290
61.00	1401	144.00	568	225.00	12348	314.00	1136
62.00	1575	145.00	437	226.00	1465	315.00	3310
63.00	4571	146.00	1462	227.00	23984	316.00	1527
64.00	860	147.00	4434	228.00	3243	317.00	183
65.00	2311	148.00	10634	229.00	4596	320.00	52
66.00	45	149.00	1925	230.00	640	321.00	906
67.00	386	150.00	572	231.00	1825	322.00	404
68.00	1865	151.00	988	232.00	439	323.00	8537
69.00	124048	152.00	493	233.00	427	324.00	1693
70.00	678	153.00	2672	234.00	1450	327.00	1816
73.00	785	154.00	1894	235.00	1644	328.00	906
74.00	12473	155.00	5010	236.00	1103	329.00	113
75.00	19216	156.00	6739	237.00	1603	332.00	743
76.00	6338	157.00	1214	238.00	245	333.00	1037
77.00	133056	158.00	1616	239.00	1020	334.00	6112
78.00	9062	159.00	1110	240.00	685	335.00	1471
79.00	8778	160.00	2859	241.00	1446	336.00	167
80.00	7376	161.00	4093	242.00	2926	340.00	57
81.00	9485	162.00	1084	243.00	2798	341.00	1047
82.00	2439	163.00	360	244.00	37784	342.00	267
83.00	1970	164.00	429	245.00	4403	346.00	2064
84.00	8	165.00	3138	246.00	8175	347.00	381
85.00	1329	166.00	2520	247.00	1459	351.00	118
86.00	2683	167.00	17672	248.00	414	352.00	2722
87.00	1325	168.00	8122	249.00	1188	353.00	1604
88.00	535	169.00	1359	250.00	313	354.00	2564
89.00	216	170.00	487	251.00	413	355.00	448
91.00	2499	171.00	903	252.00	466	359.00	302
92.00	2358	172.00	1446	253.00	1152	365.00	14572

93.00	17304	173.00	2012	254.00	1541	366.00	1924
94.00	1224	174.00	3697	255.00	202880	367.00	58
95.00	270	175.00	6604	256.00	28968	370.00	277
96.00	552	176.00	1454	257.00	2185	371.00	653
97.00	326	177.00	3030	258.00	13579	372.00	5139
98.00	13059	178.00	1027	259.00	2056	373.00	1163
99.00	9879	179.00	12907	260.00	365	374.00	150
100.00	718	180.00	8439	261.00	248	377.00	50
101.00	5716	181.00	4098	263.00	61	383.00	1244
102.00	371	182.00	638	264.00	533	384.00	385
103.00	1726	183.00	209	265.00	5562	385.00	66
104.00	3782	184.00	1152	266.00	685	390.00	566
105.00	3282	185.00	5879	267.00	85	391.00	364
106.00	1283	186.00	45816	268.00	1	392.00	88
107.00	47264	187.00	13352	270.00	160	401.00	158
108.00	7625	188.00	1210	271.00	414	402.00	1798
109.00	1516	189.00	3099	272.00	626	403.00	2169
110.00	80408	190.00	573	273.00	5984	404.00	852
111.00	12304	191.00	1465	274.00	15844	405.00	123
112.00	1790	192.00	4414	275.00	81568	421.00	2032
113.00	603	193.00	4638	276.00	10657	422.00	1774
114.00	110	194.00	1055	277.00	7949	423.00	14020
115.00	360	195.00	575	278.00	1354	424.00	2791
116.00	2522	196.00	8555	279.00	339	425.00	312
117.00	42560	197.00	2353	281.00	241	434.00	56
118.00	3144	198.00	301504	282.00	230	441.00	39288
119.00	311	199.00	20688	283.00	970	442.00	255680
120.00	649	200.00	1618	284.00	711	443.00	50664
121.00	317	201.00	1323	285.00	1582	444.00	5192
122.00	3170	203.00	2537	286.00	209	445.00	291
123.00	4683	204.00	13481	288.00	133		

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

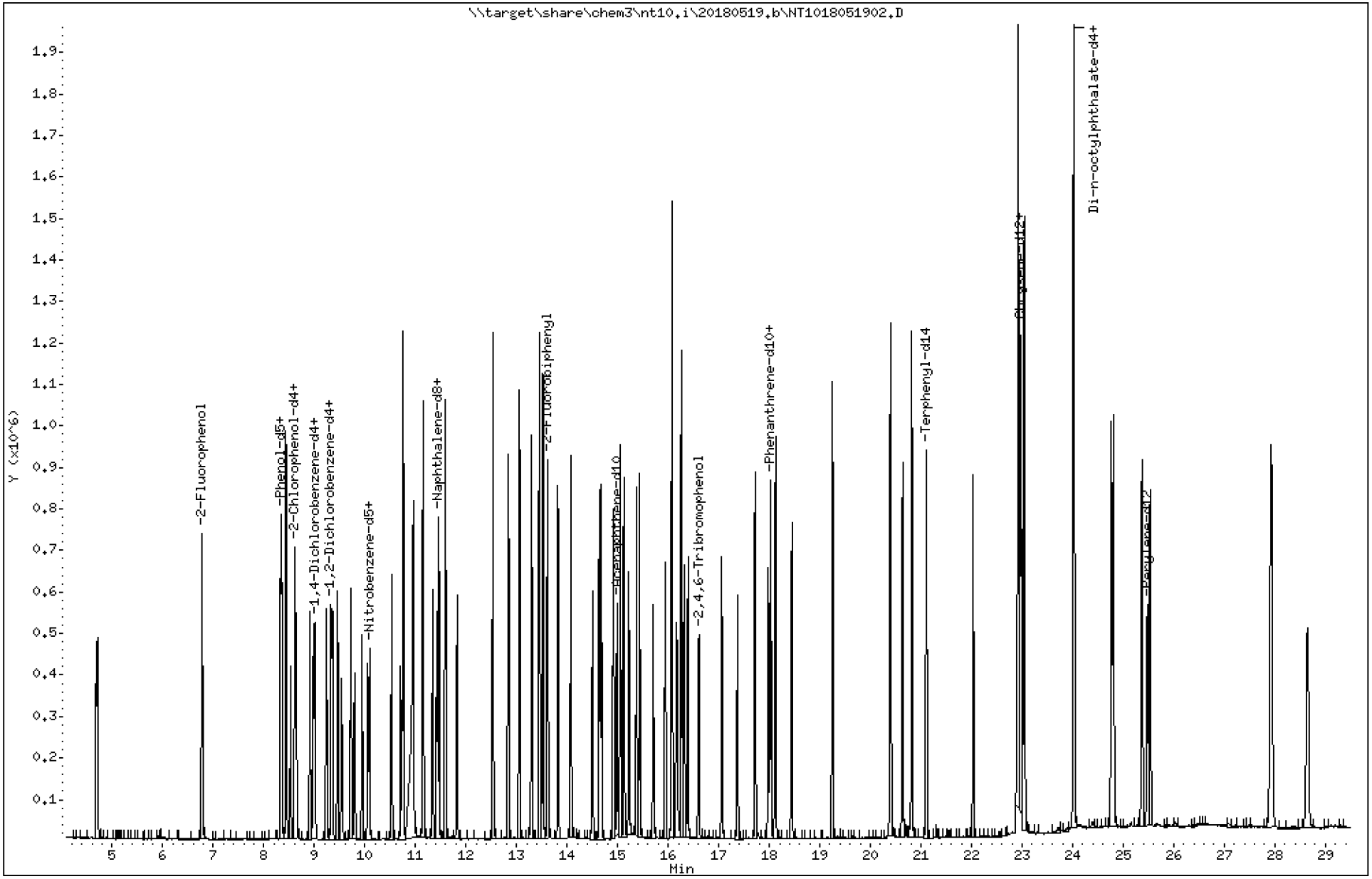
Instrument: nt10.i

Sample Info: SGE0328-CAL5

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

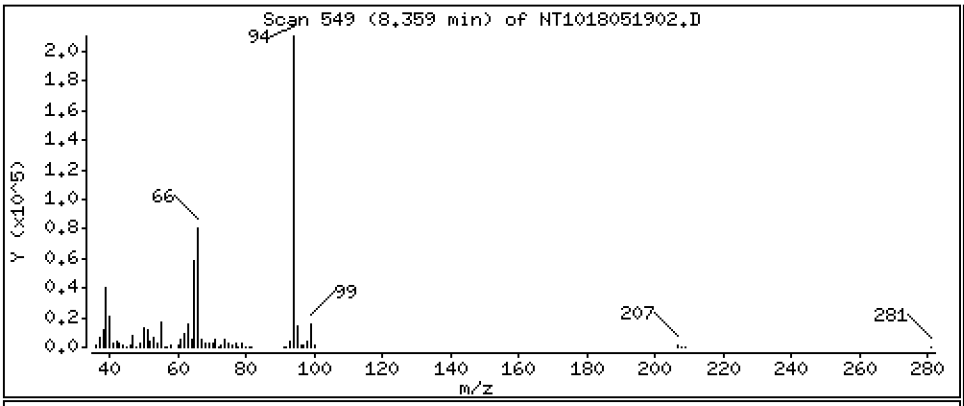
Operator: YZ

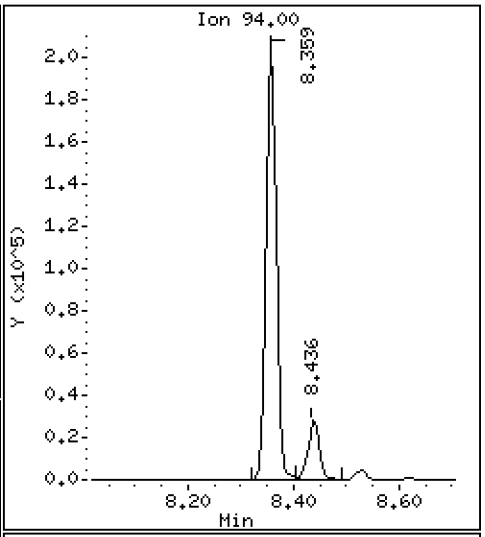
Column phase: ZB-5msi

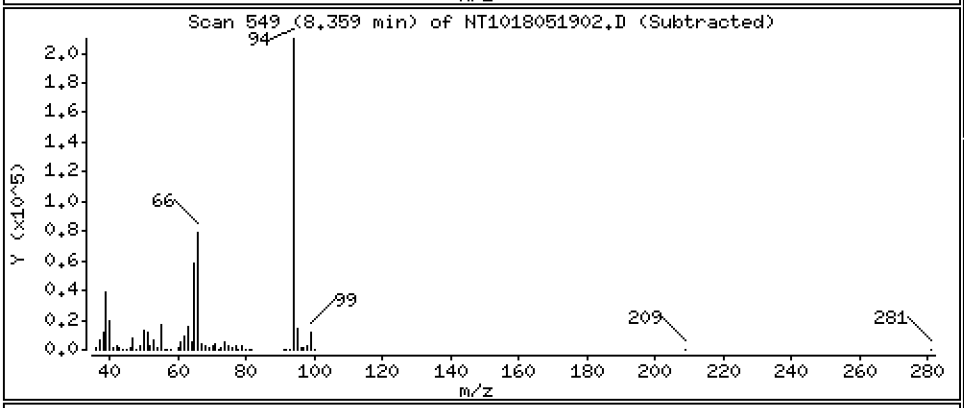
Column diameter: 0.25

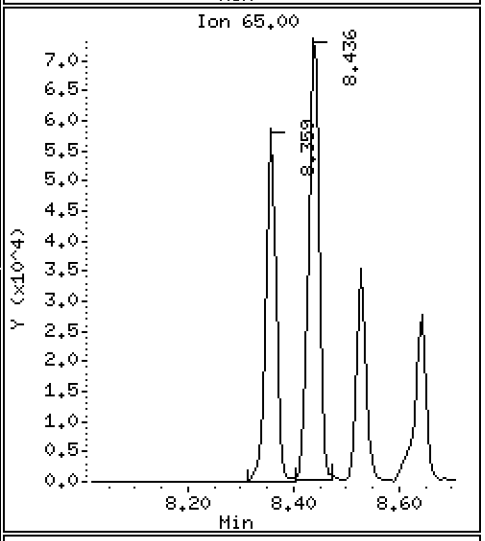
3 Phenol

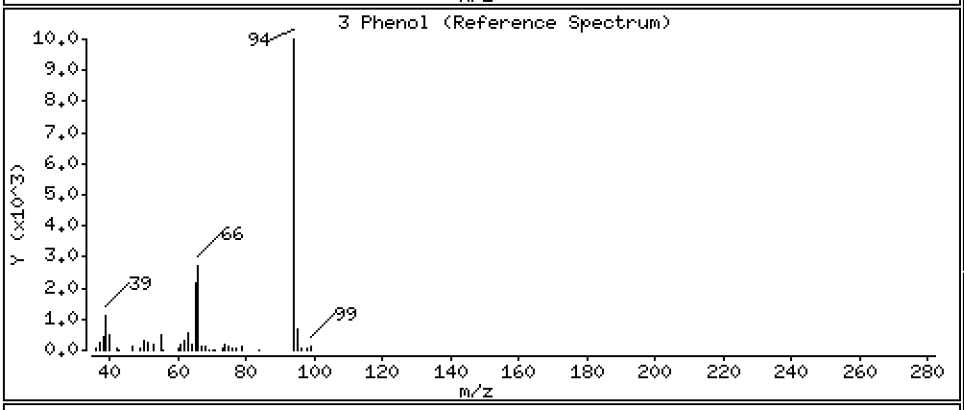
Concentration: 5.181 ug/mL

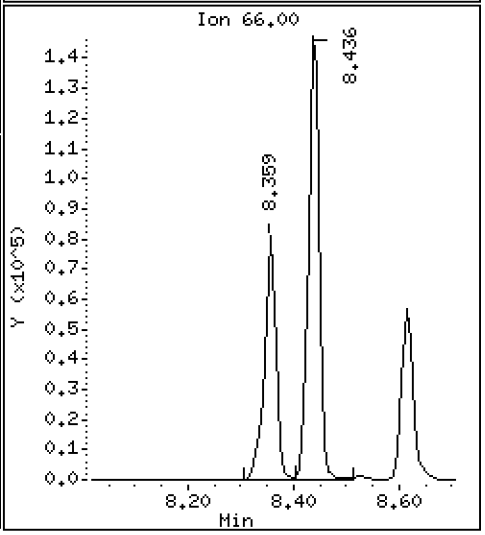


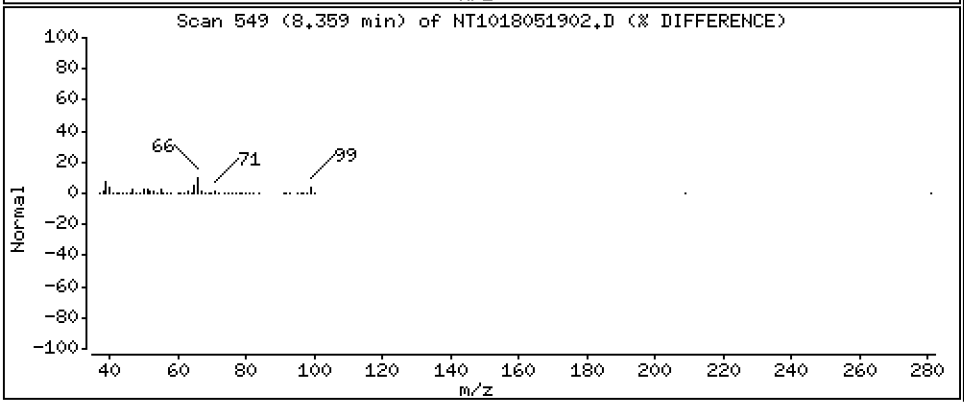












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

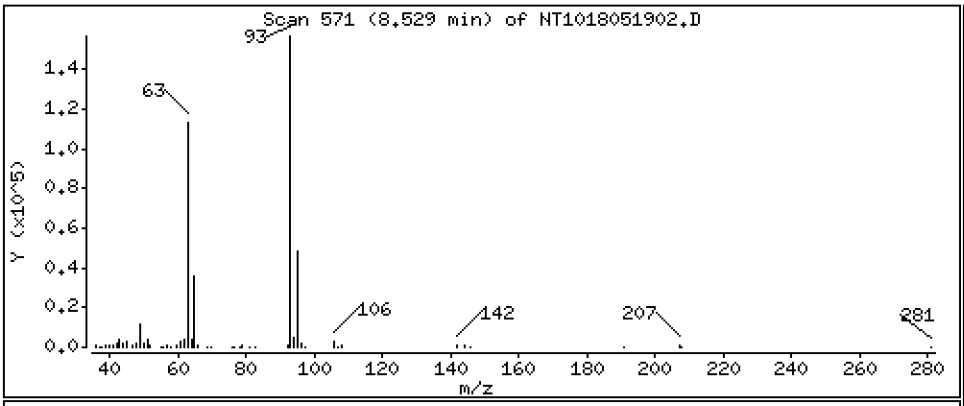
Operator: YZ

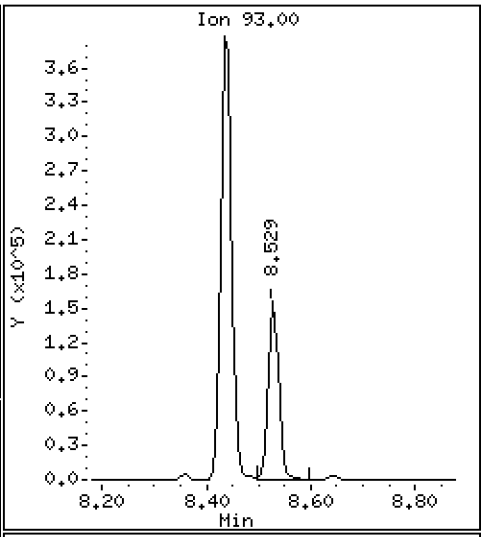
Column phase: ZB-5msi

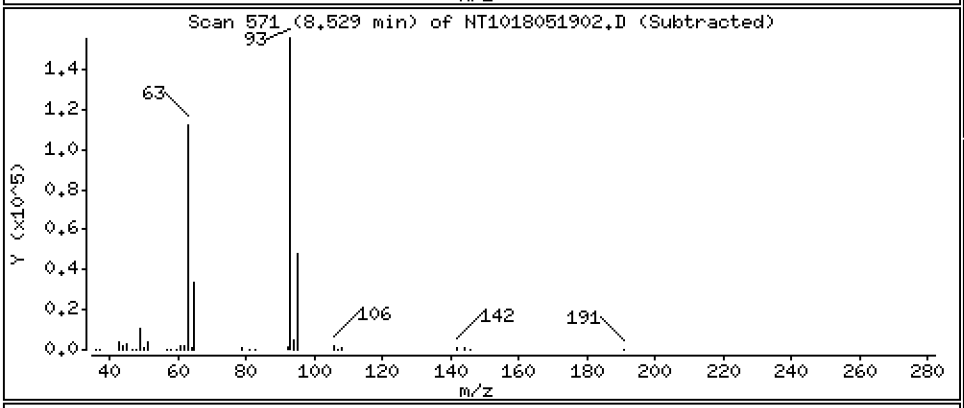
Column diameter: 0.25

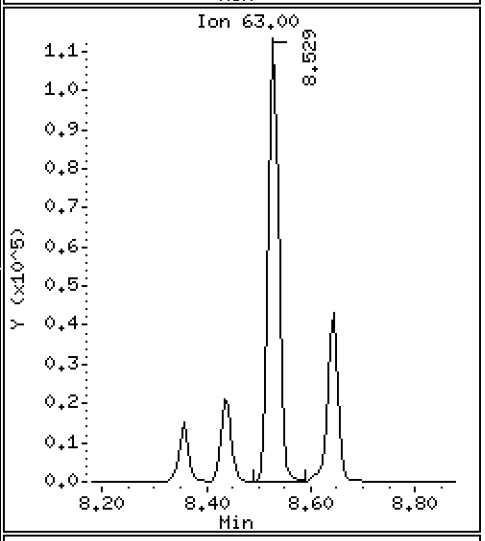
4 Bis(2-Chloroethyl)ether

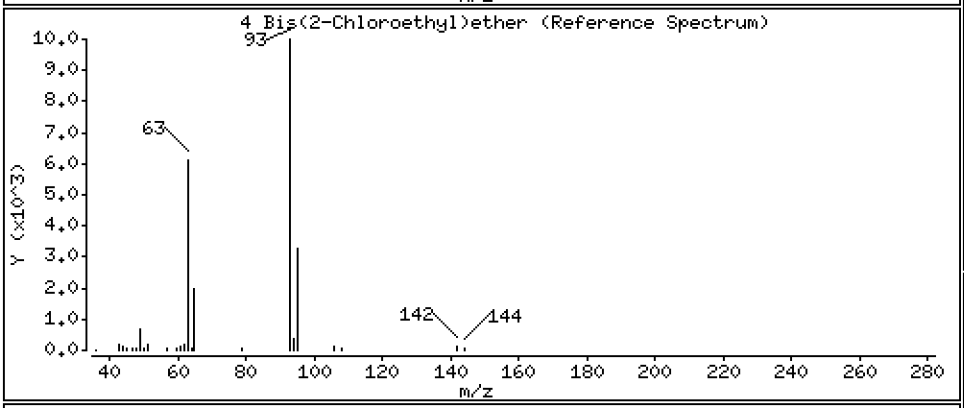
Concentration: 5.254 ug/mL

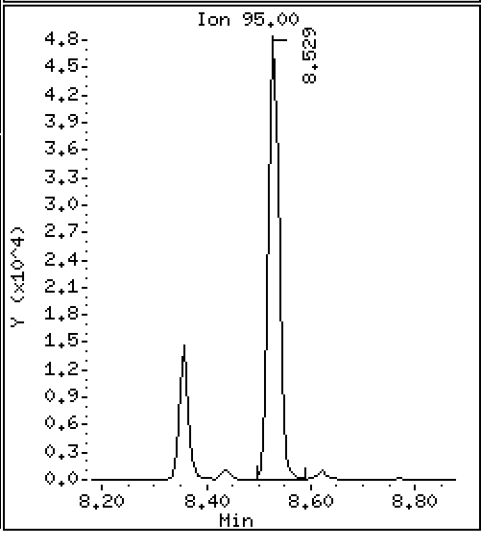


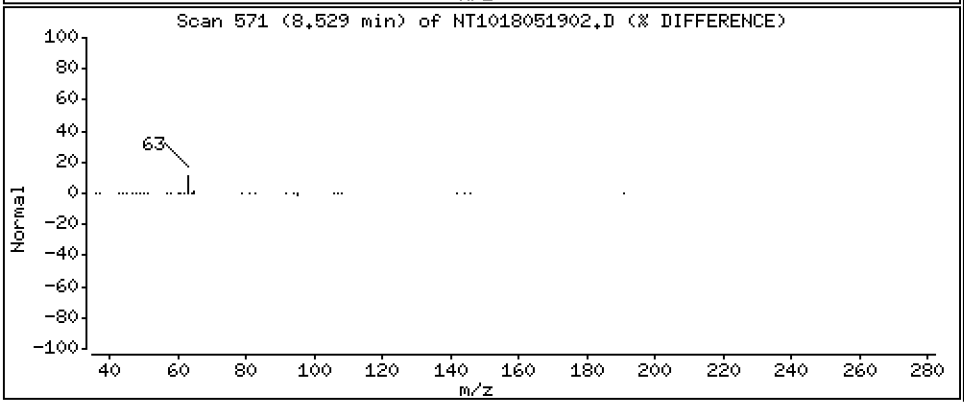












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

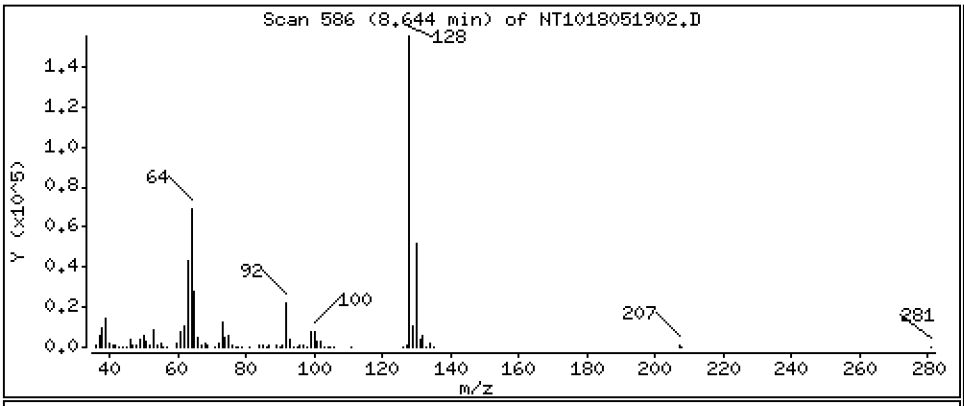
Operator: YZ

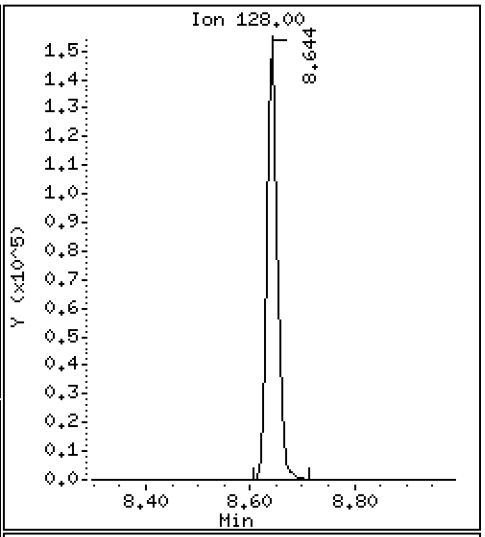
Column phase: ZB-5msi

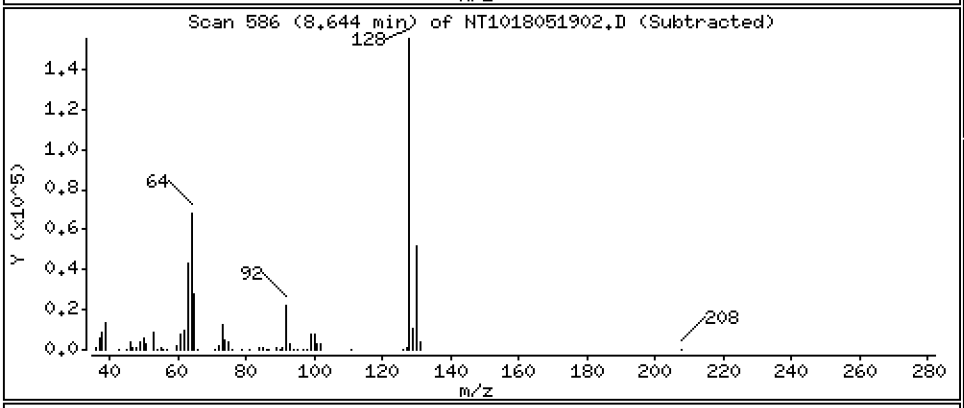
Column diameter: 0.25

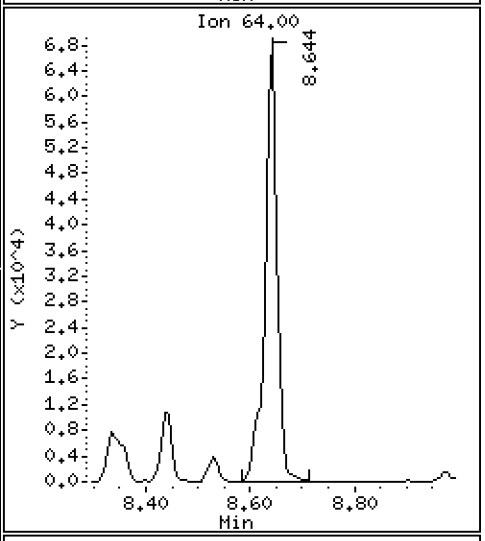
6 2-Chlorophenol

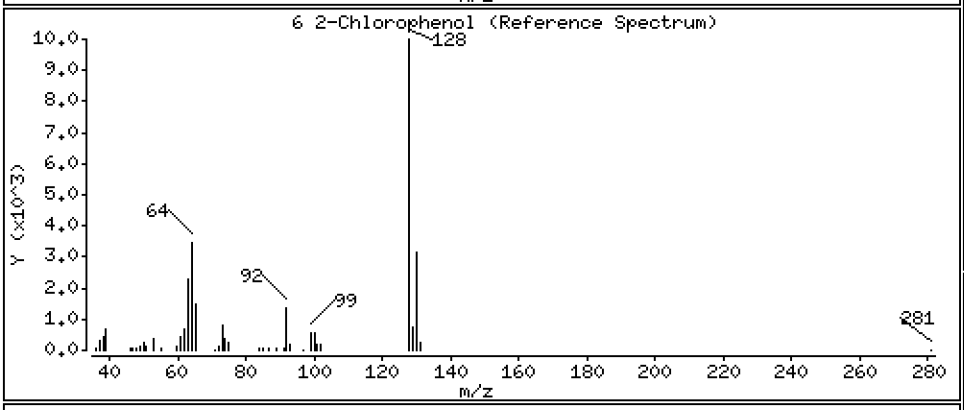
Concentration: 5.215 ug/mL

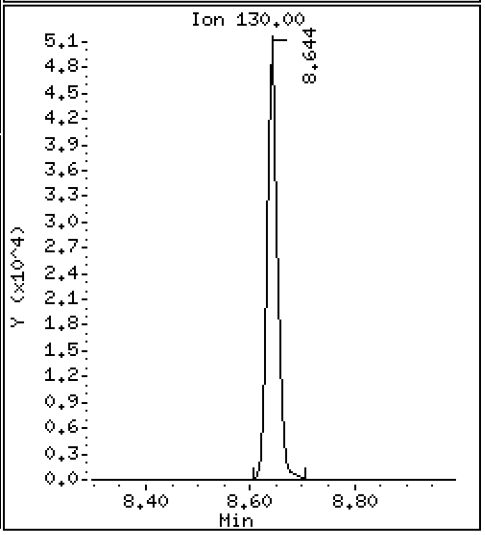


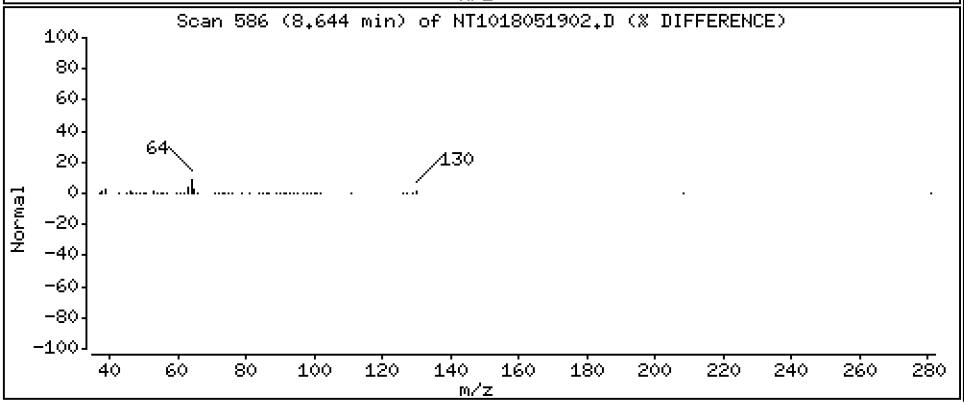












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

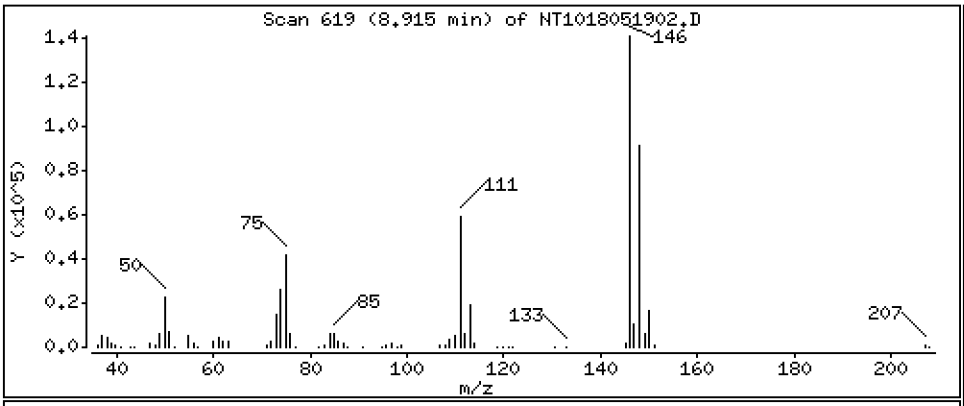
Operator: YZ

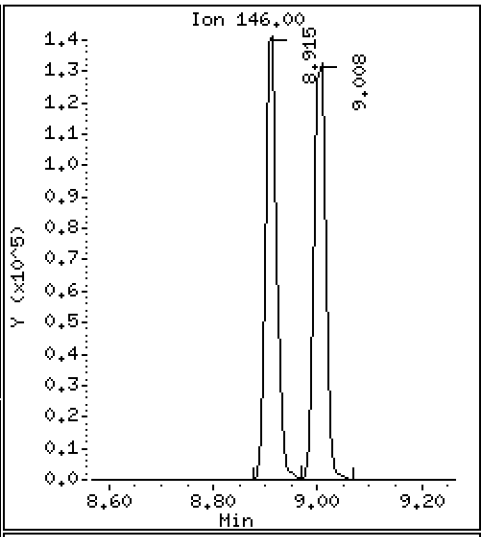
Column phase: ZB-5msi

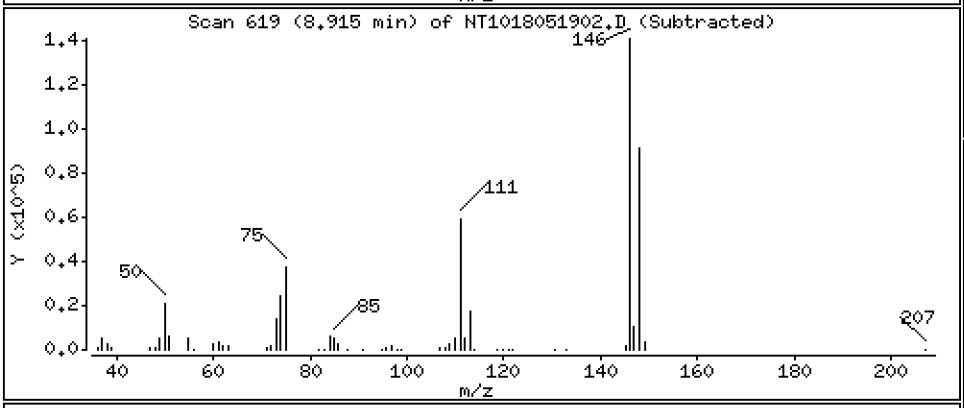
Column diameter: 0.25

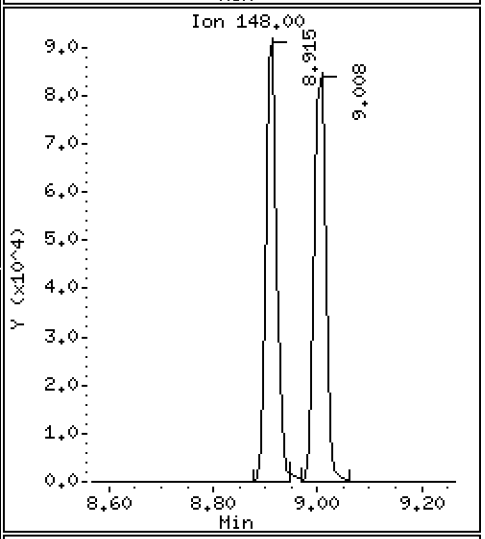
7 1,3-Dichlorobenzene

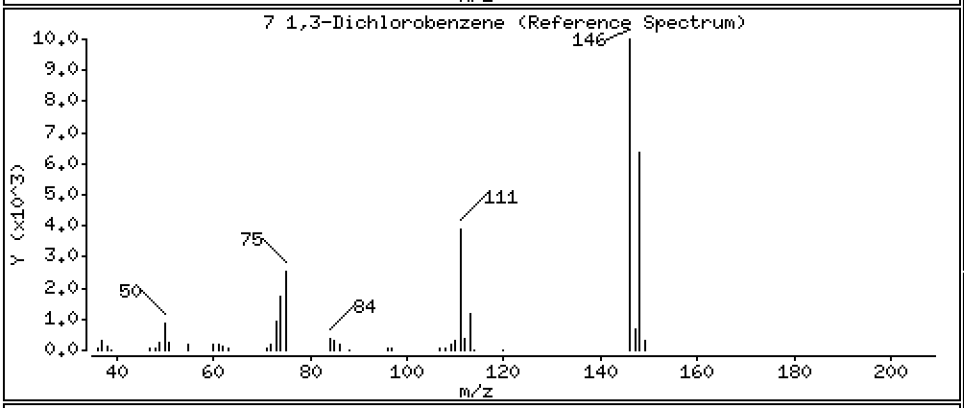
Concentration: 5.217 ug/mL

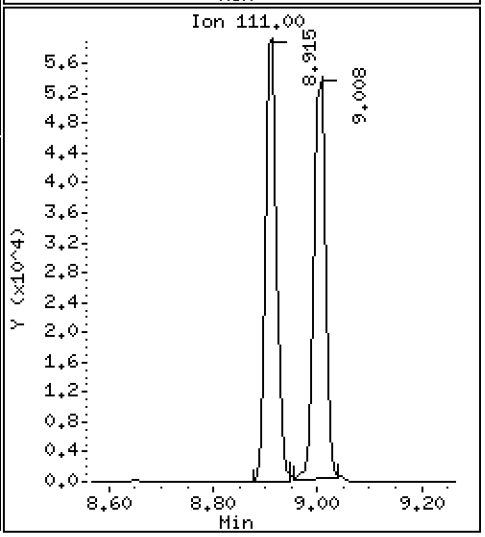


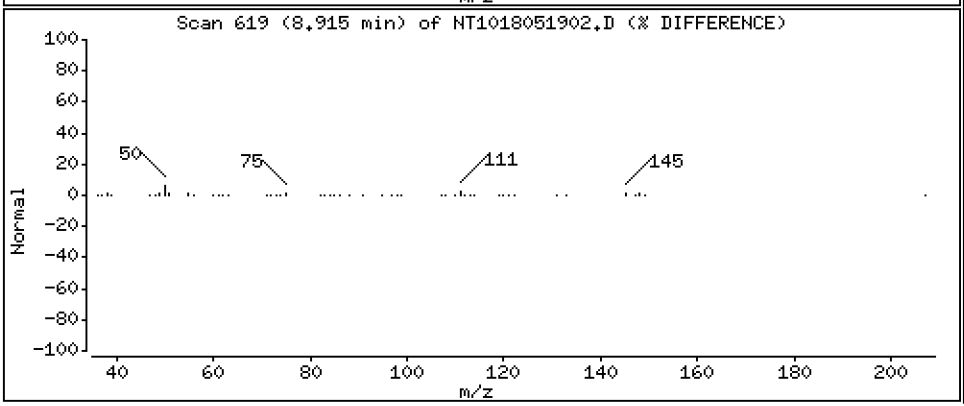












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

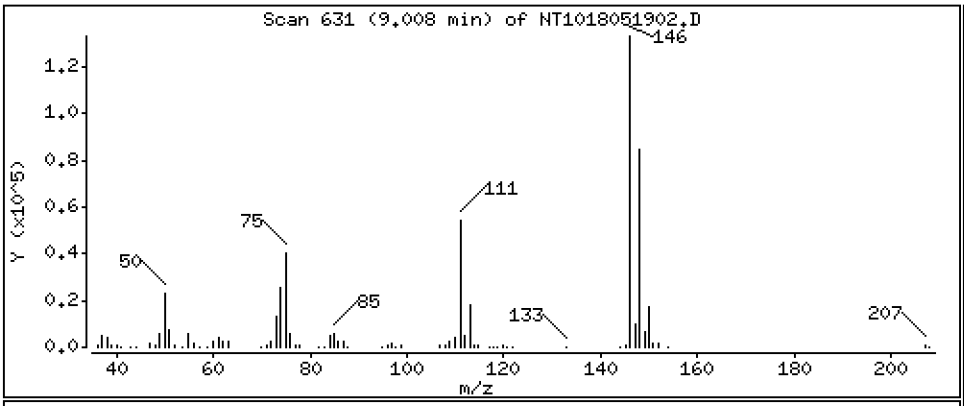
Operator: YZ

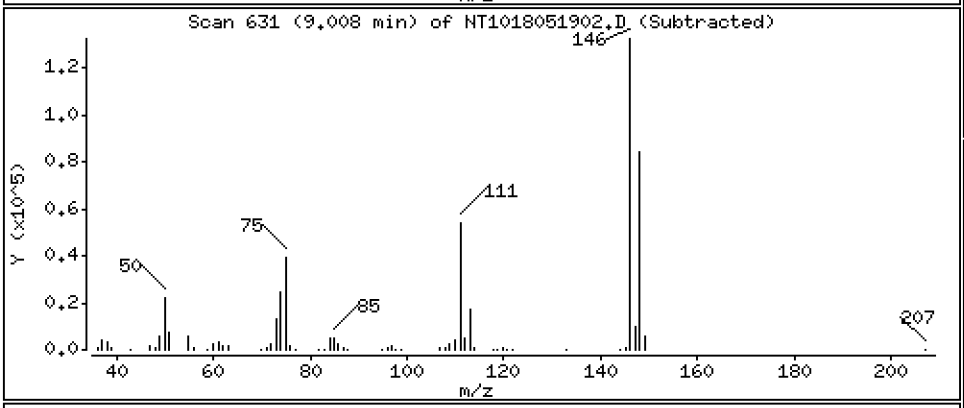
Column phase: ZB-5msi

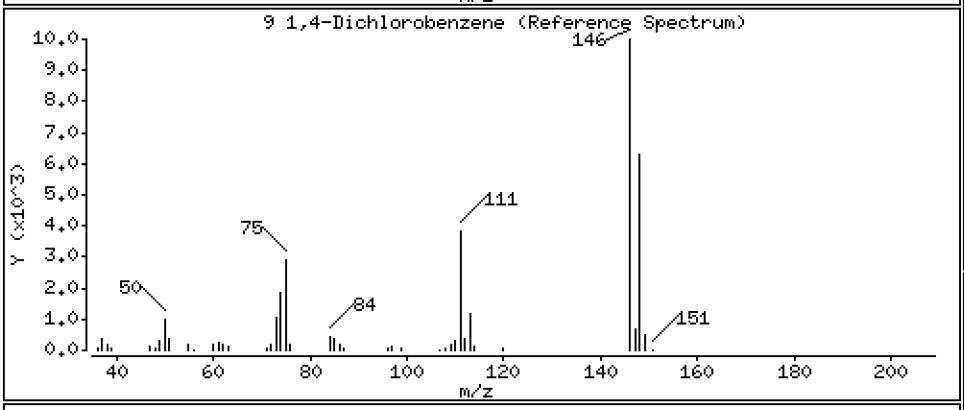
Column diameter: 0.25

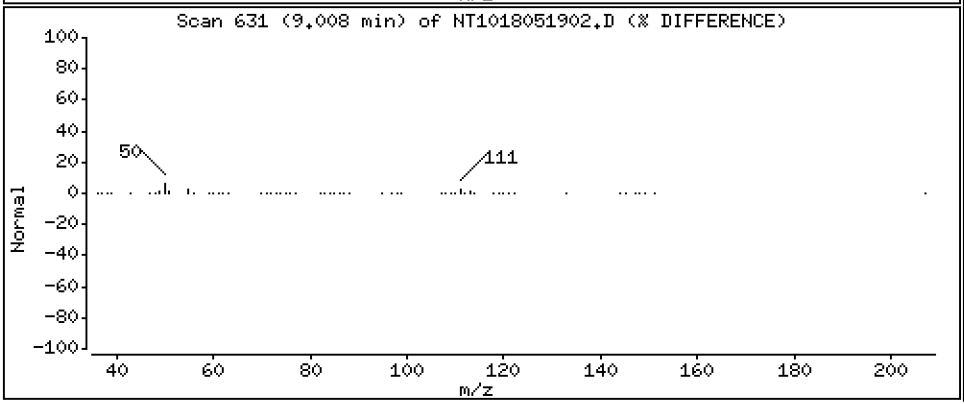
9 1,4-Dichlorobenzene

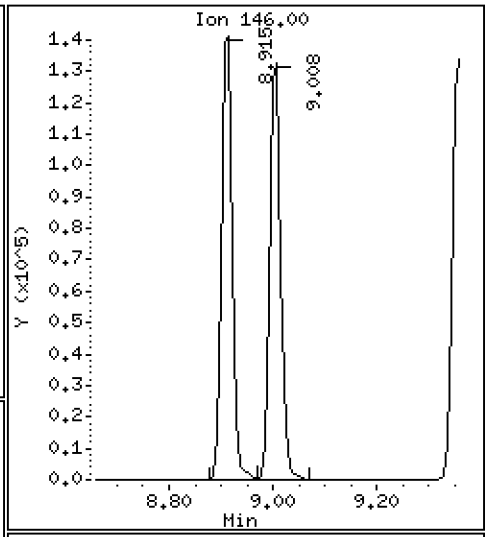
Concentration: 5.286 ug/mL

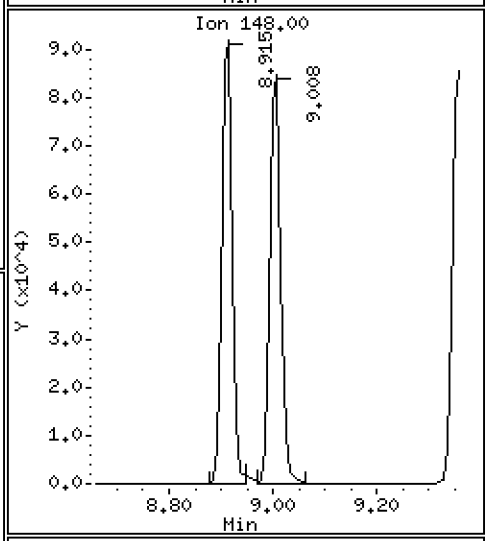


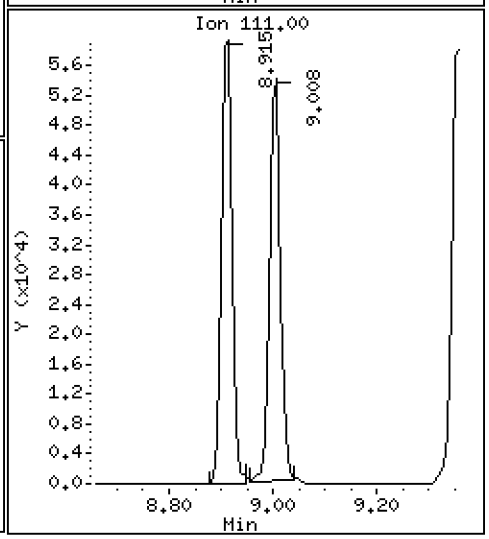












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

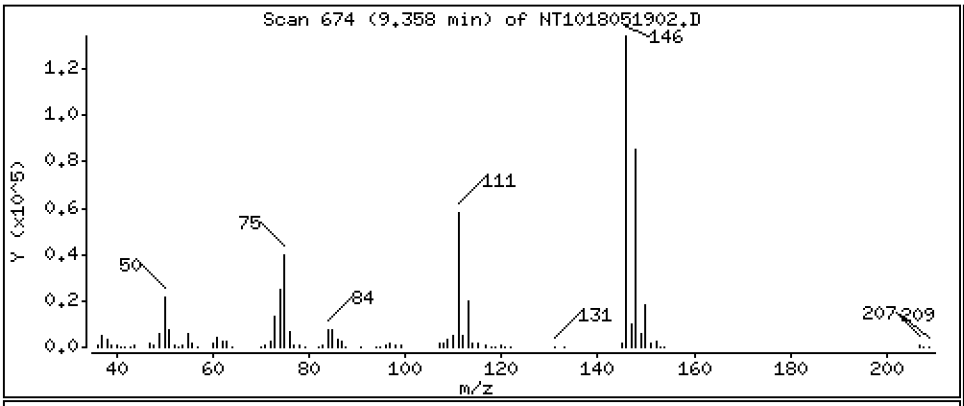
Operator: YZ

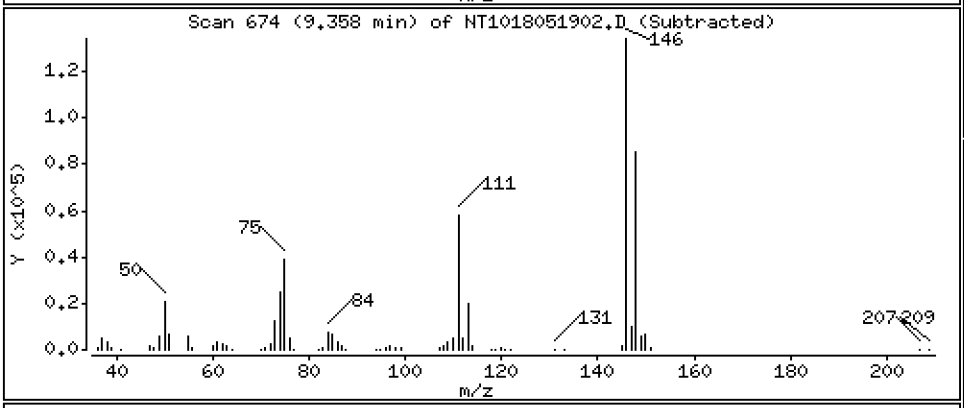
Column phase: ZB-5msi

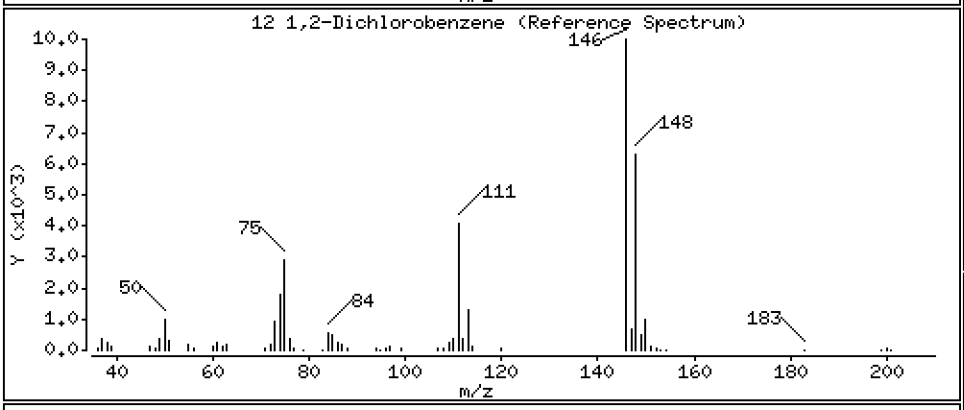
Column diameter: 0.25

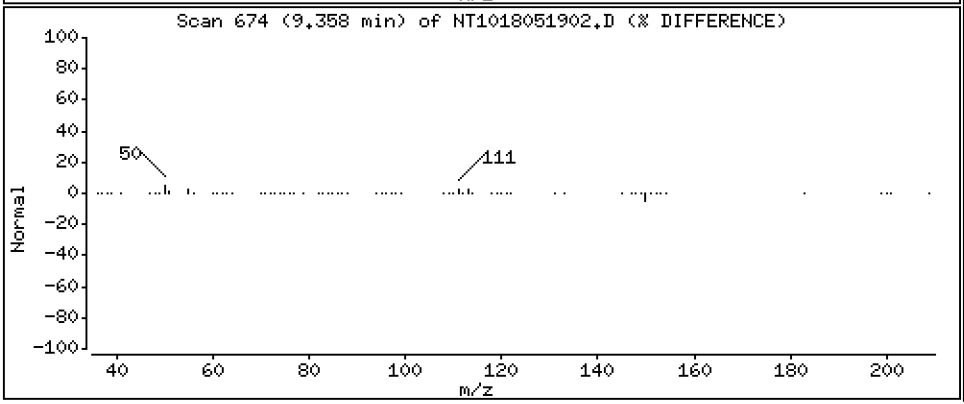
12 1,2-Dichlorobenzene

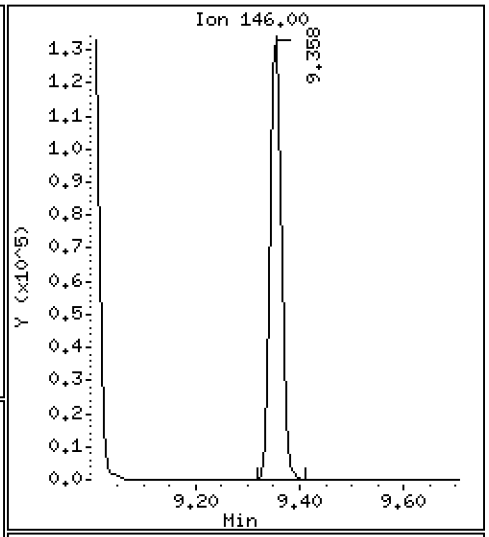
Concentration: 5.260 ug/mL

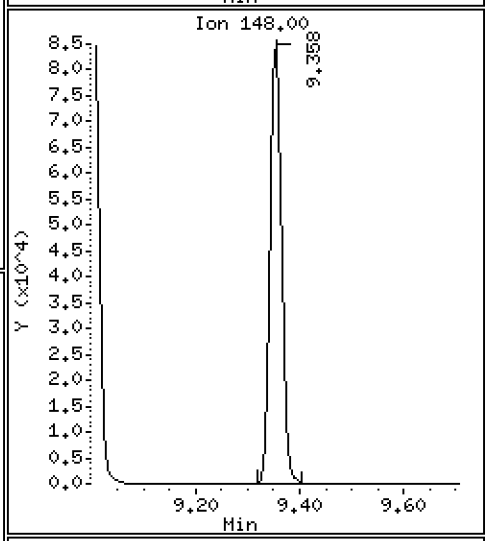


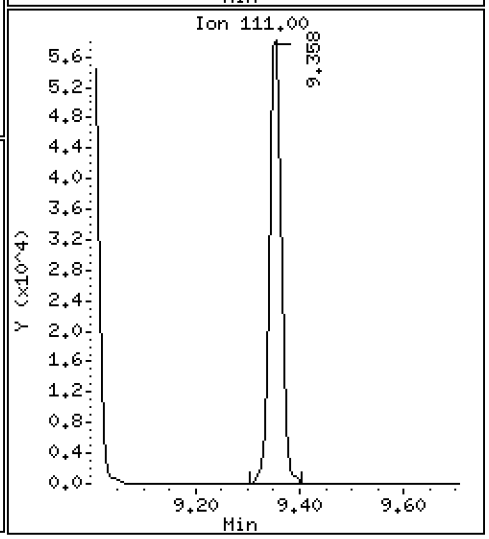












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

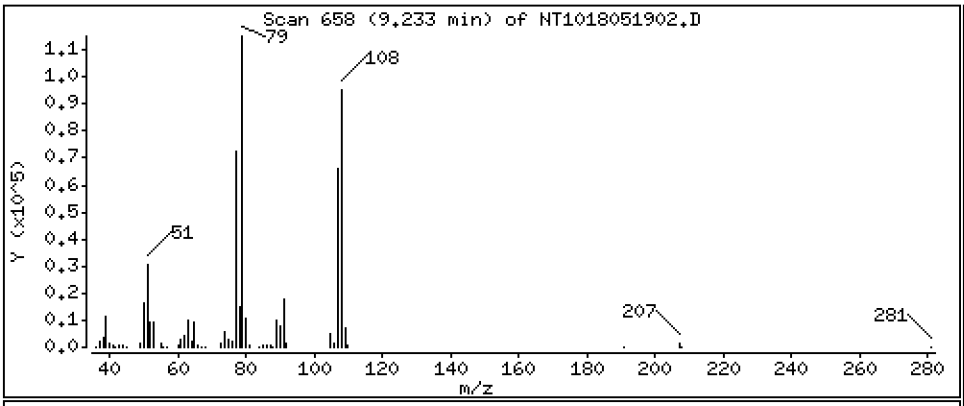
Operator: YZ

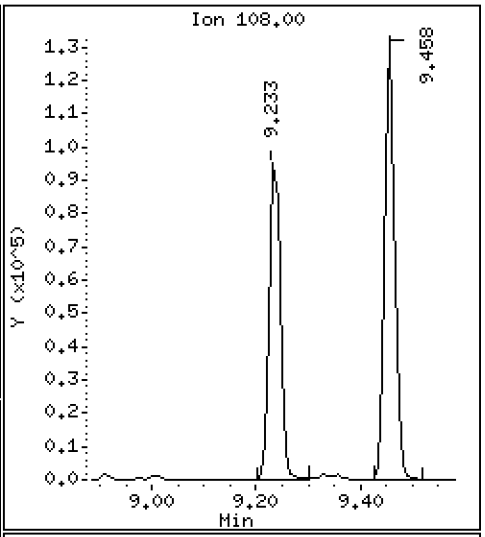
Column phase: ZB-5msi

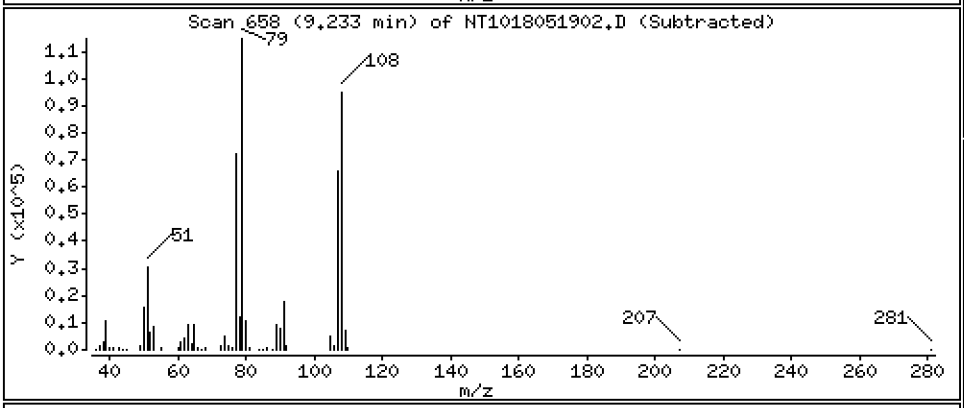
Column diameter: 0.25

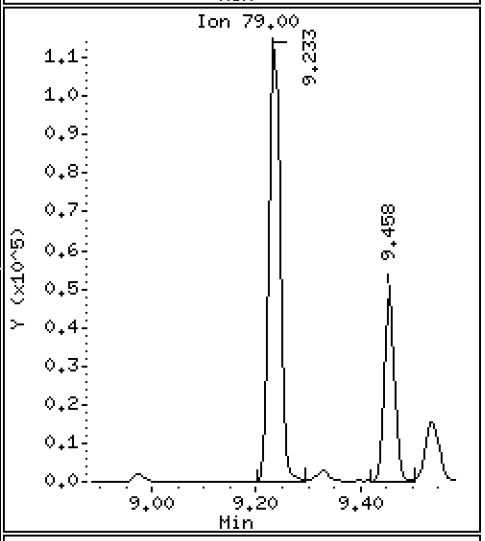
11 Benzyl alcohol

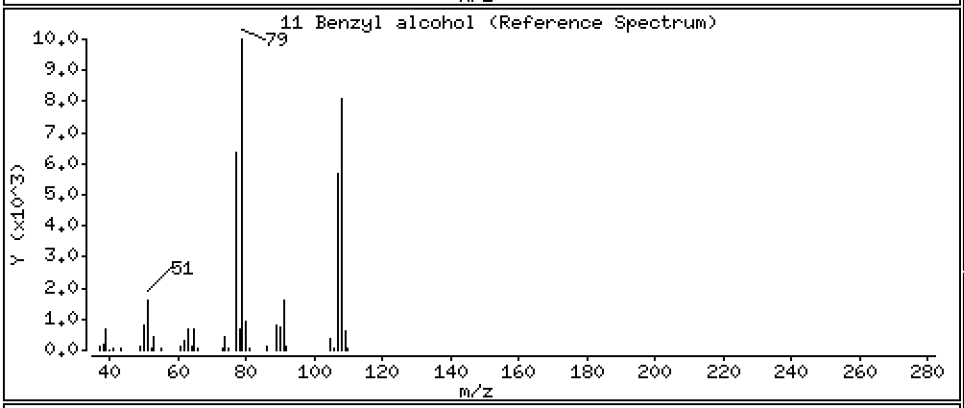
Concentration: 5.379 ug/mL

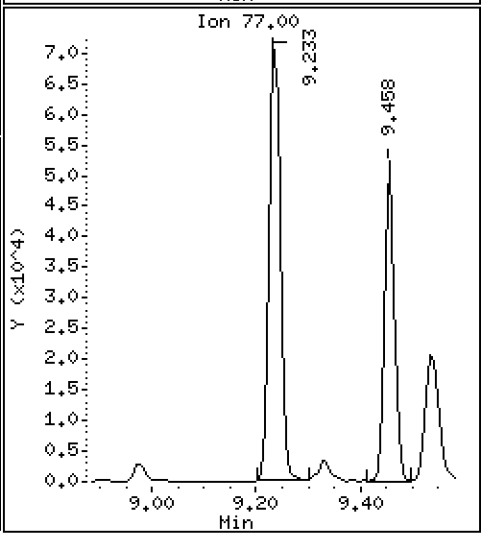


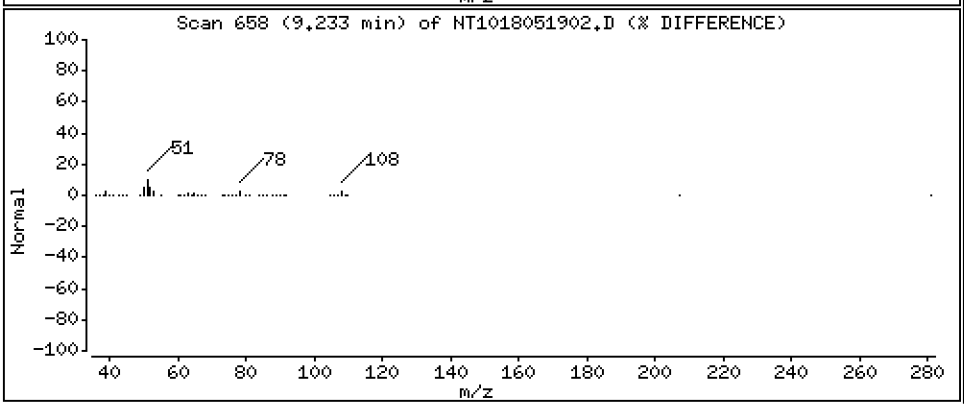












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

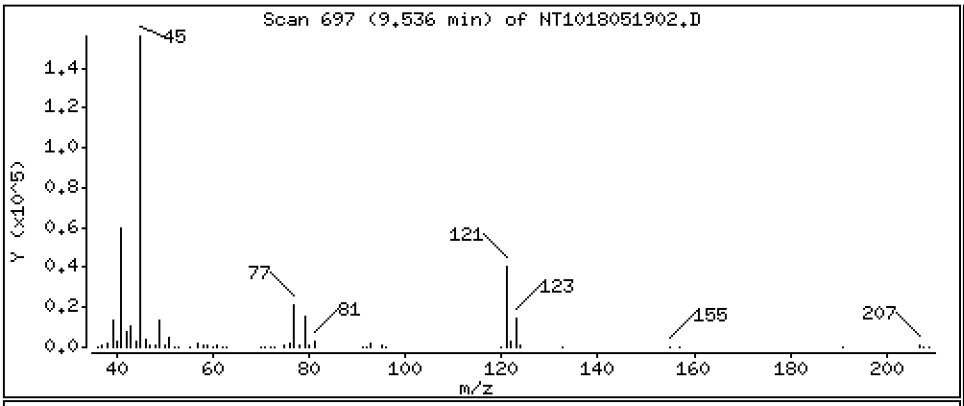
Operator: YZ

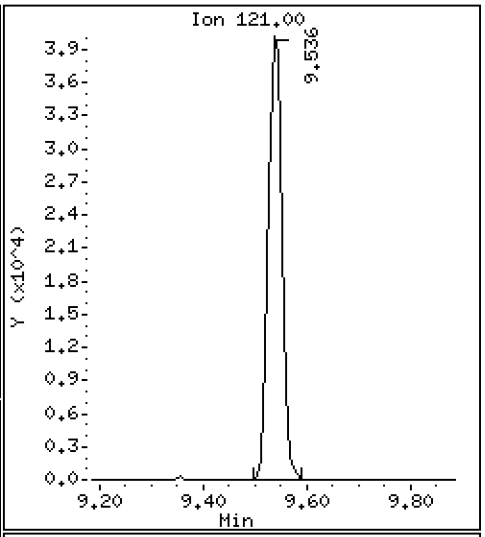
Column phase: ZB-5msi

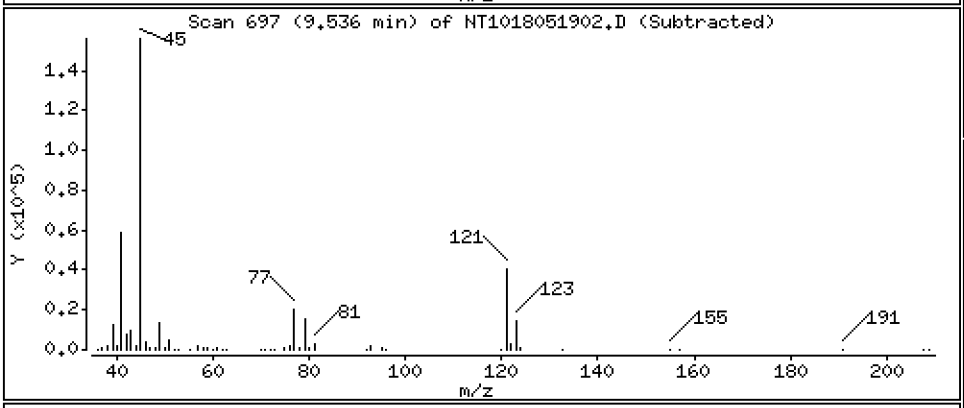
Column diameter: 0.25

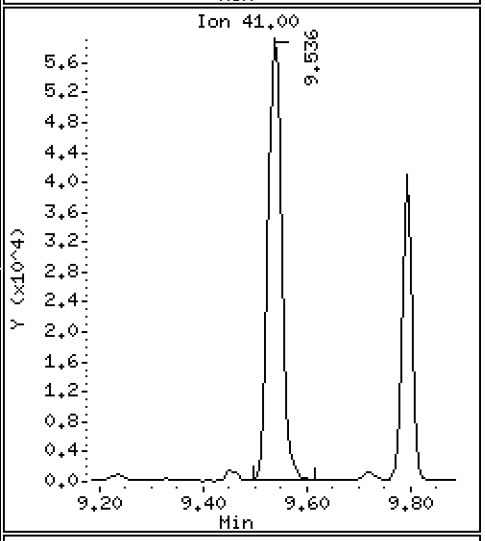
14 2,2'-oxybis(1-Chloropropane)

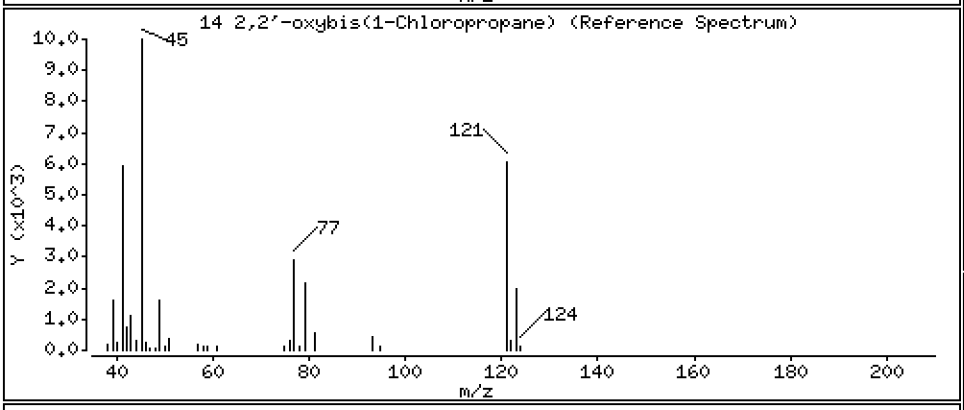
Concentration: 4.852 ug/mL

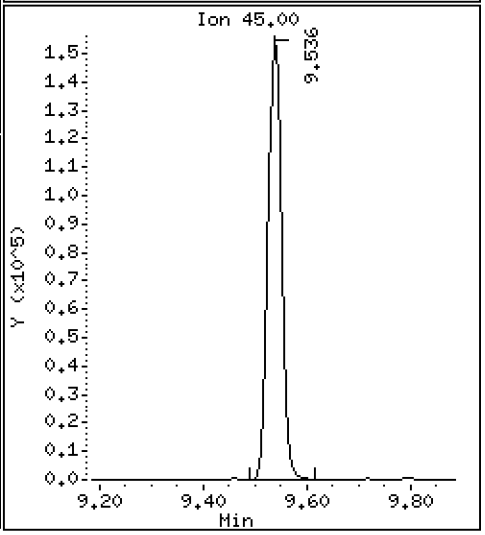


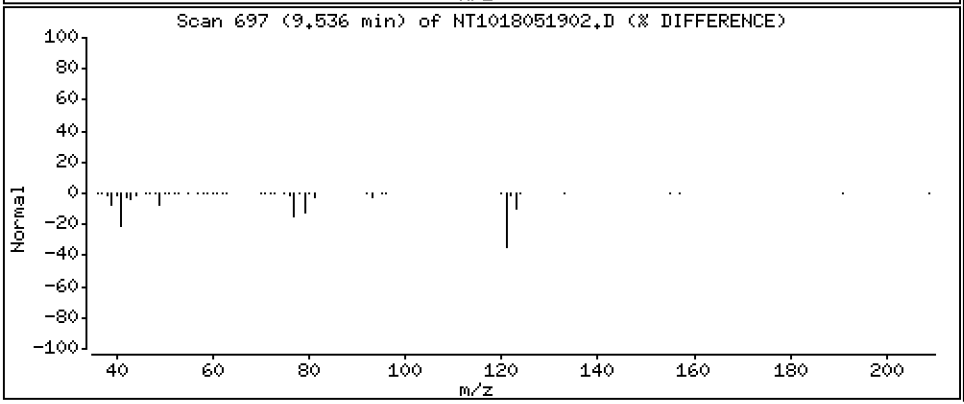












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

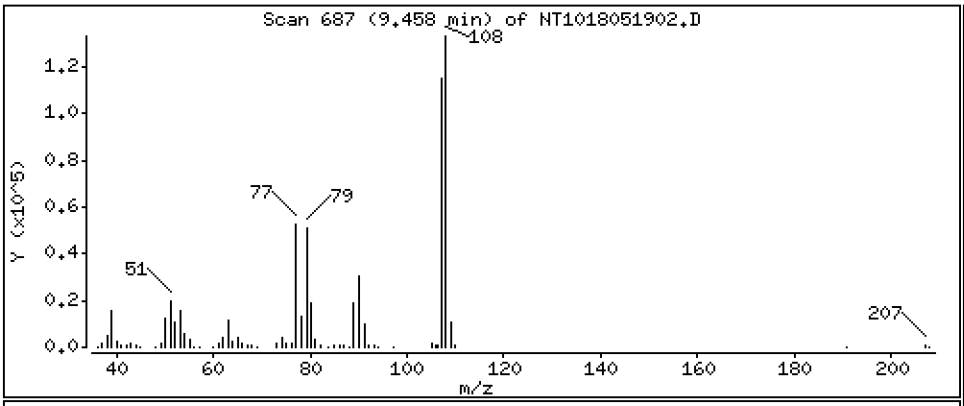
Operator: YZ

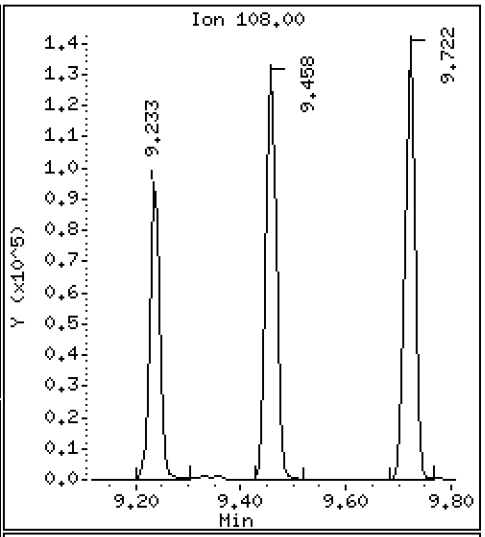
Column phase: ZB-5msi

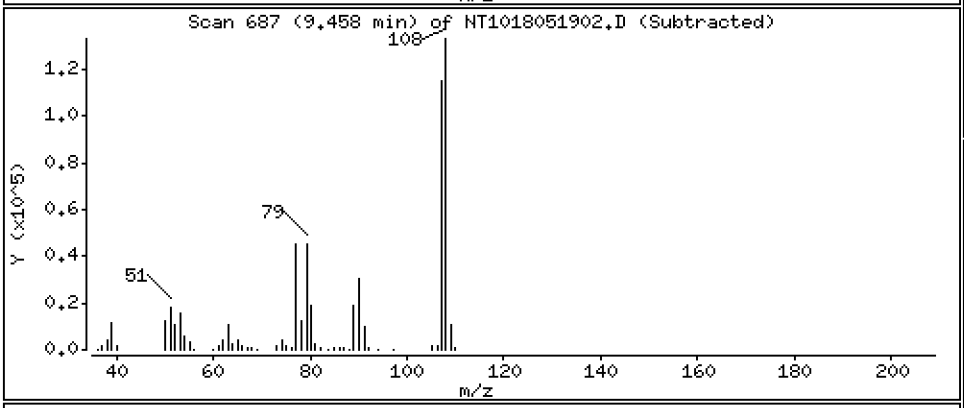
Column diameter: 0.25

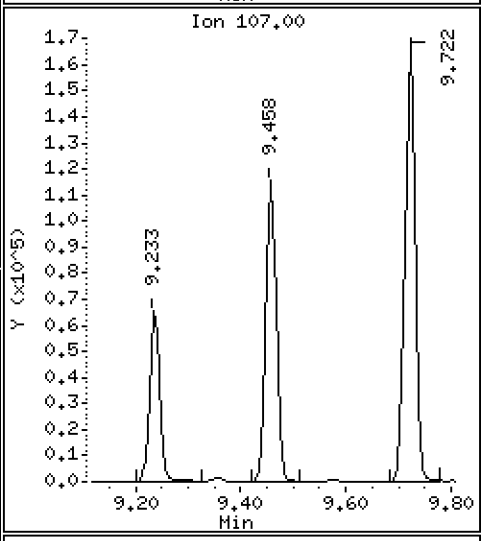
13 2-Methylphenol

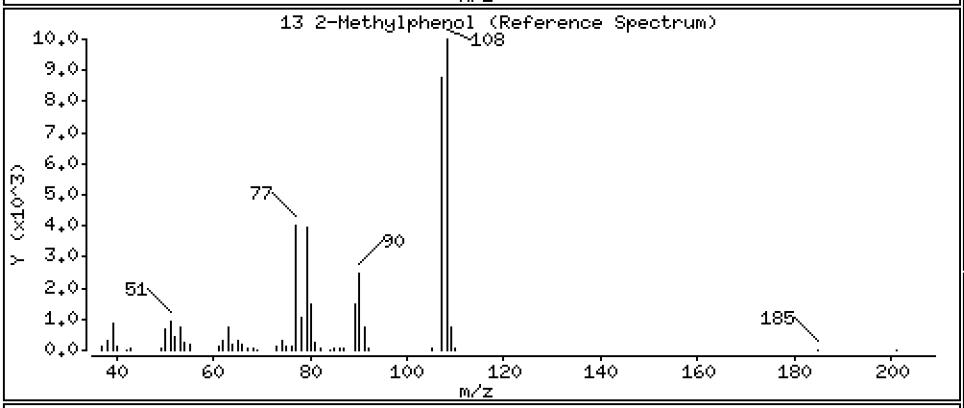
Concentration: 5.246 ug/mL

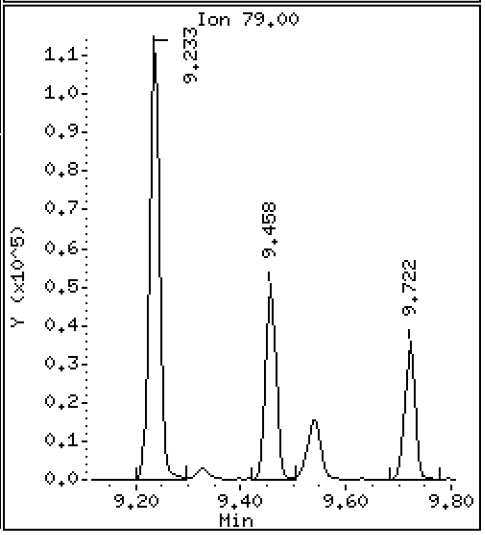


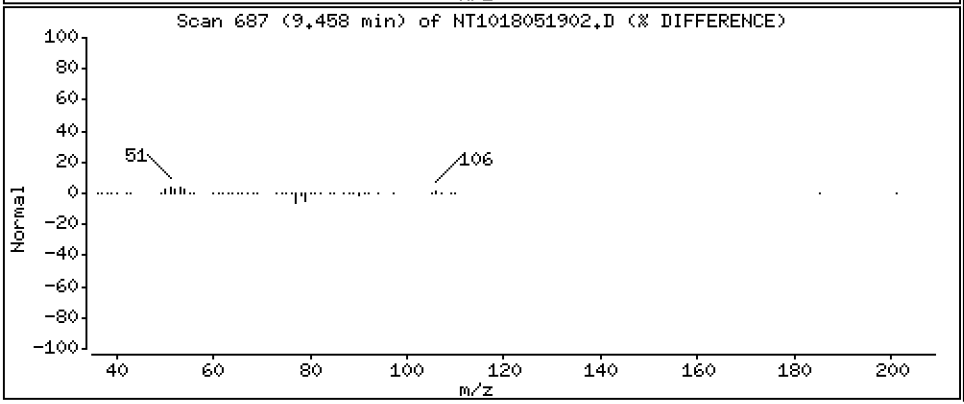












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

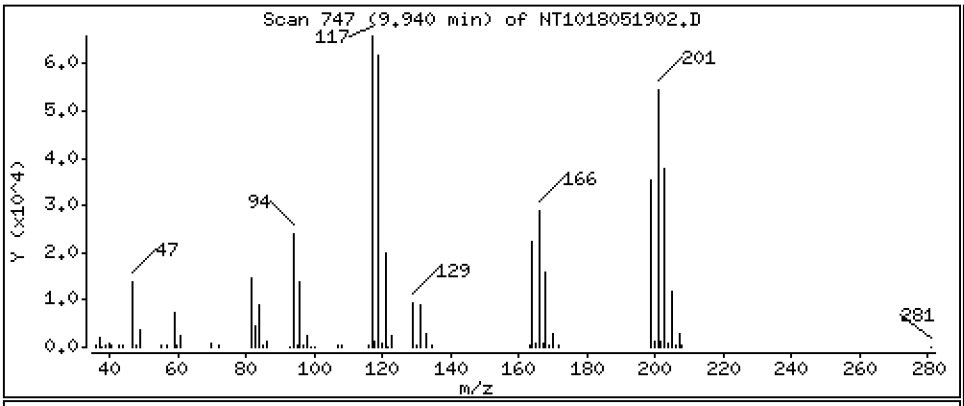
Operator: YZ

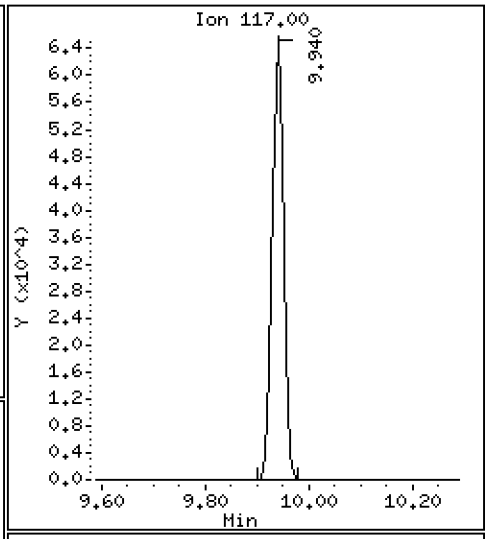
Column phase: ZB-5msi

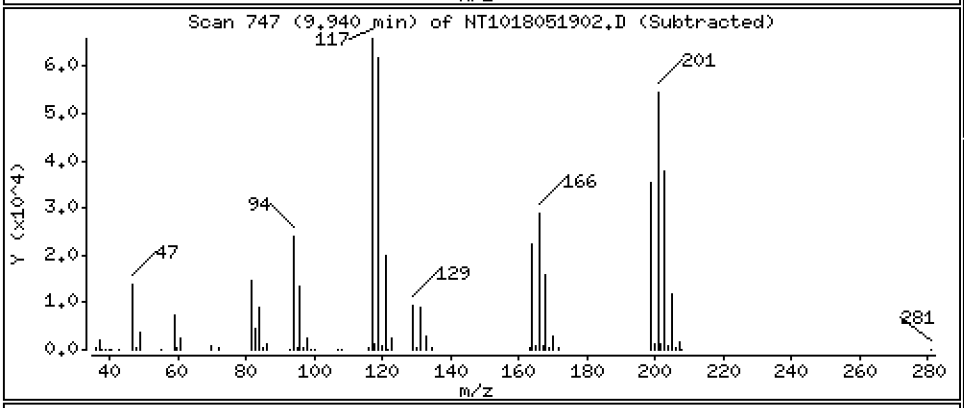
Column diameter: 0.25

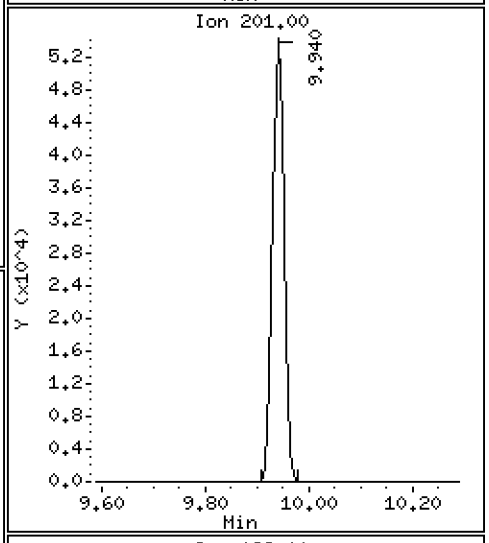
17 Hexachloroethane

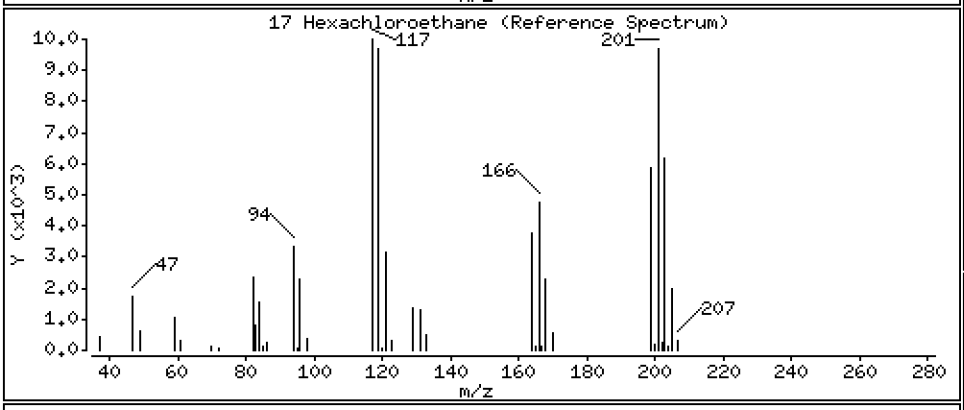
Concentration: 5.416 ug/mL

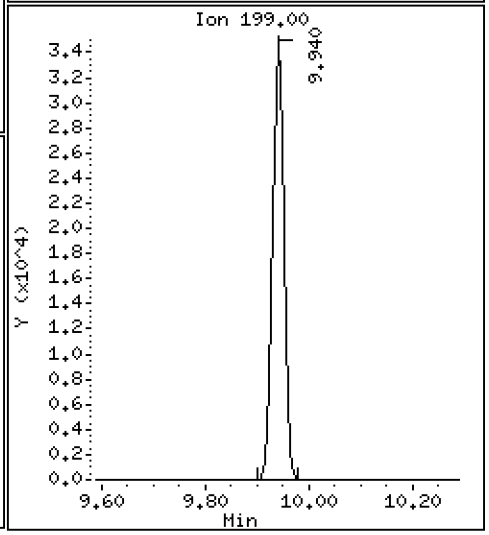


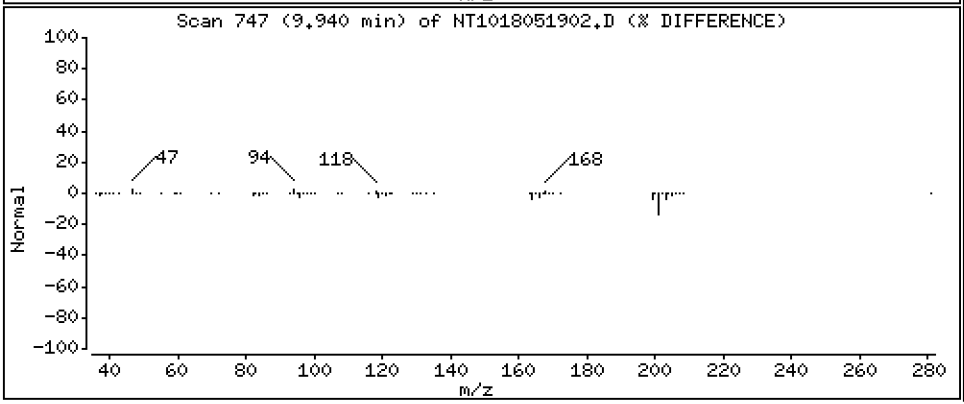












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

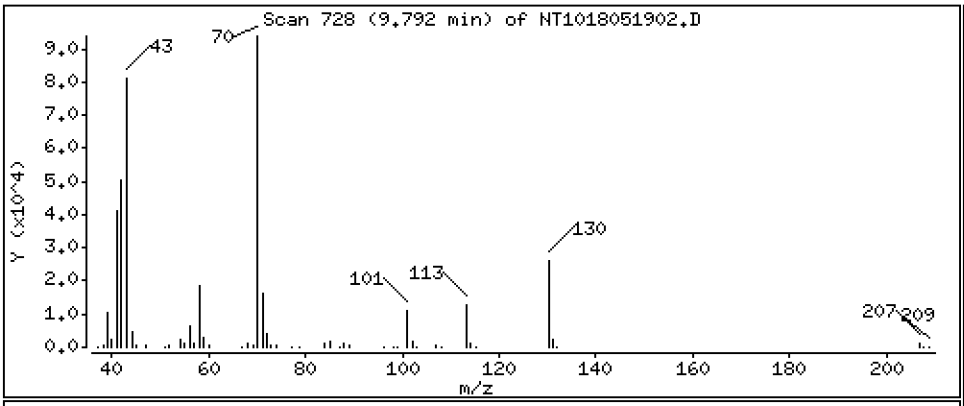
Operator: YZ

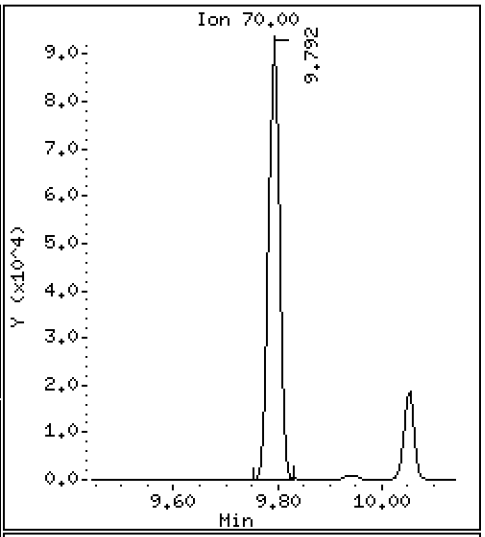
Column phase: ZB-5msi

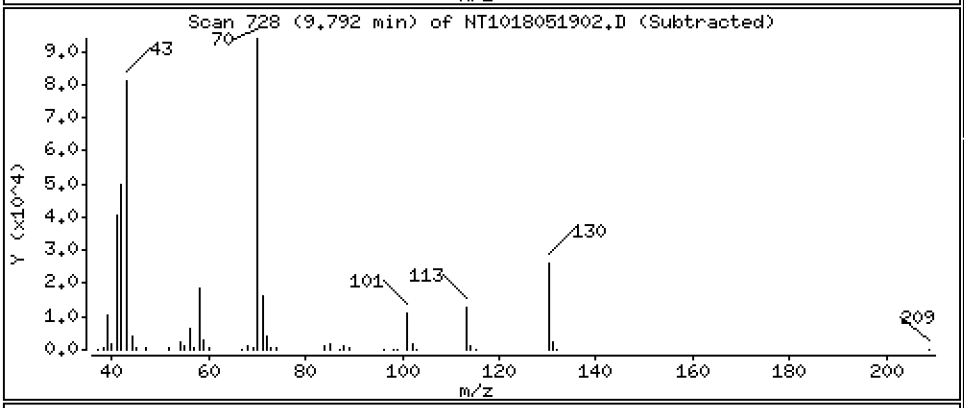
Column diameter: 0.25

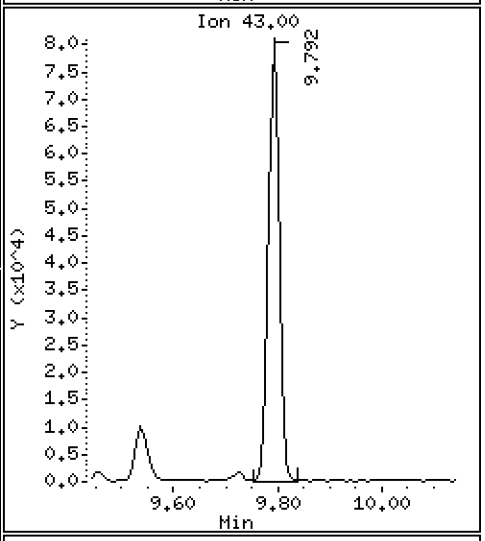
16 N-Nitroso-di-n-propylamine

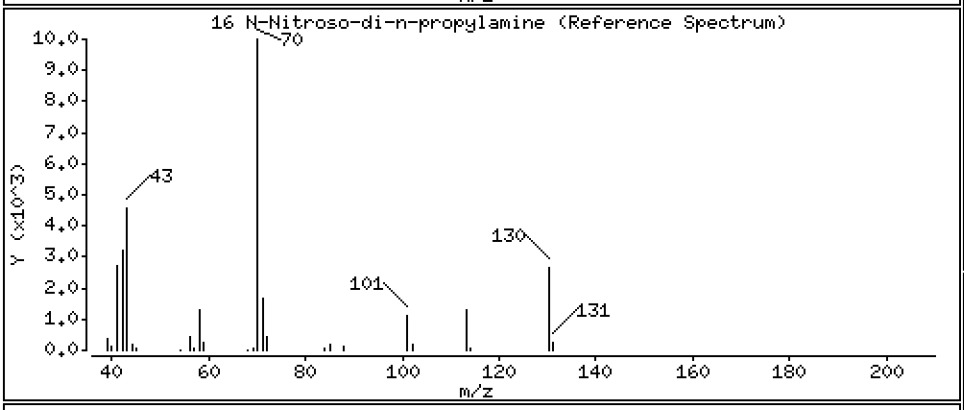
Concentration: 5.167 ug/mL

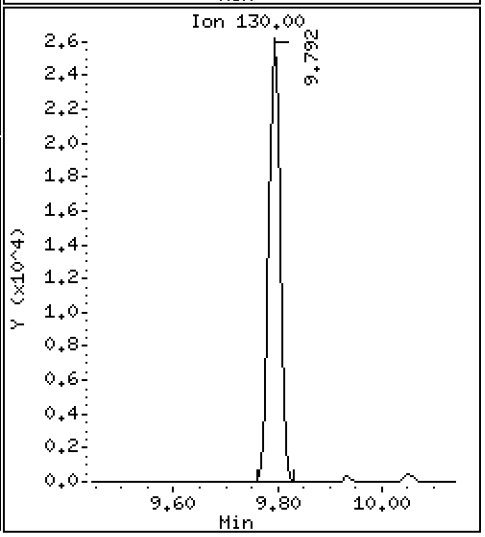


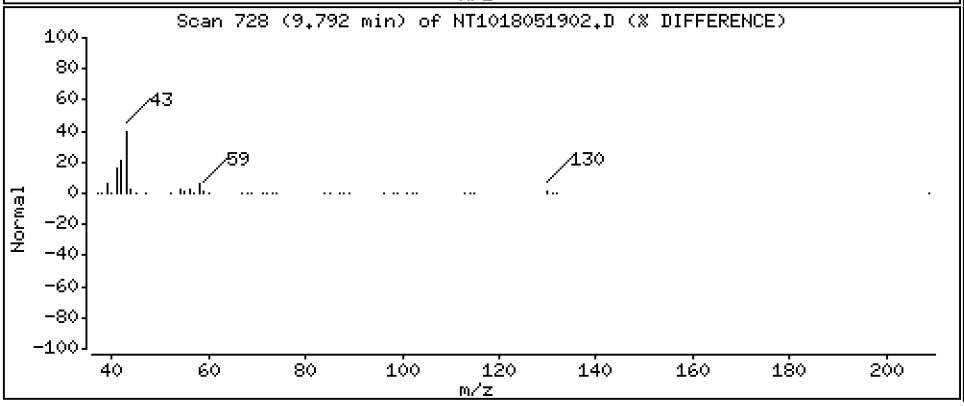












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

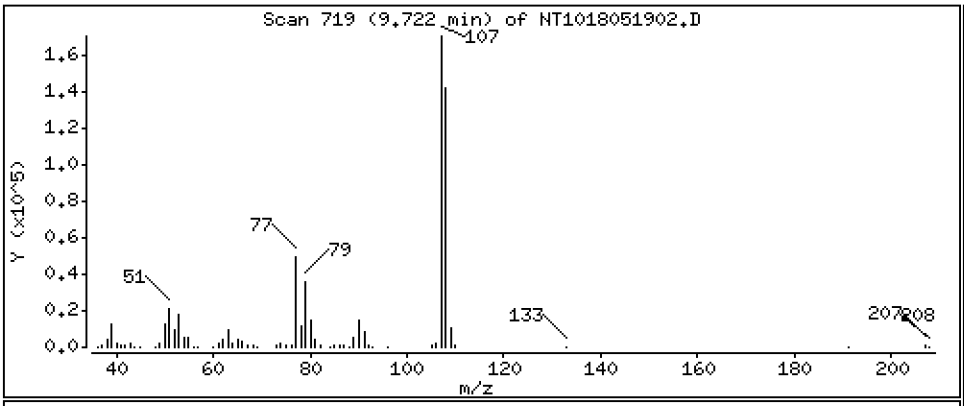
Operator: YZ

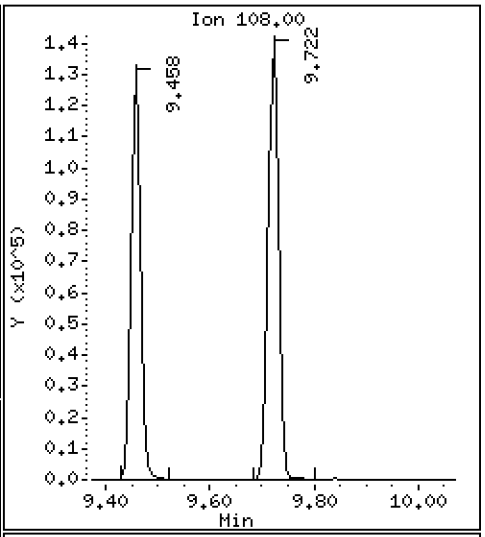
Column phase: ZB-5msi

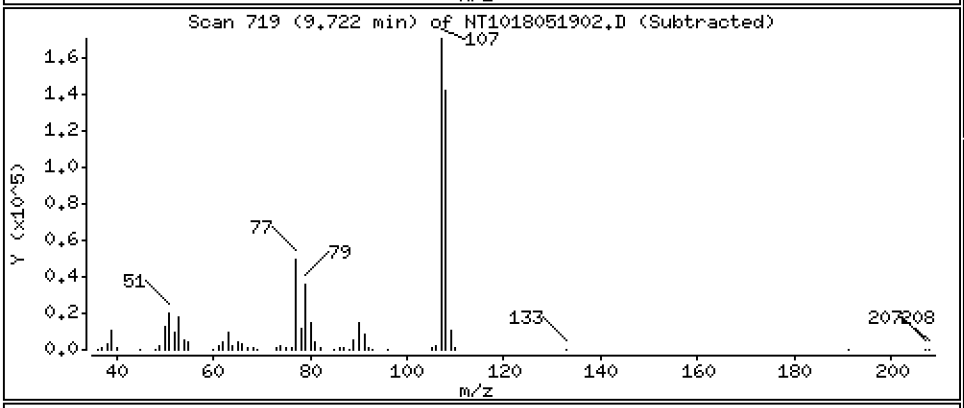
Column diameter: 0.25

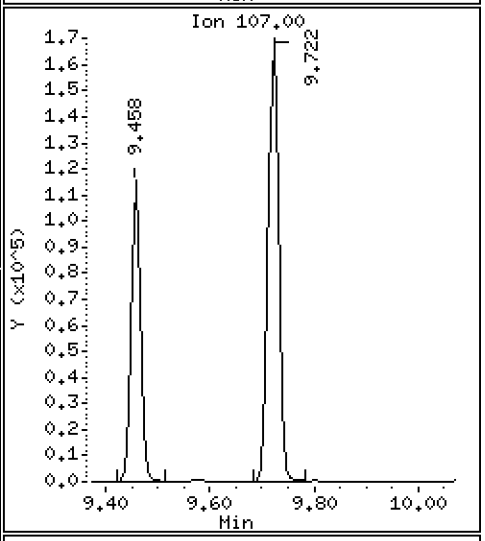
15 4-Methylphenol

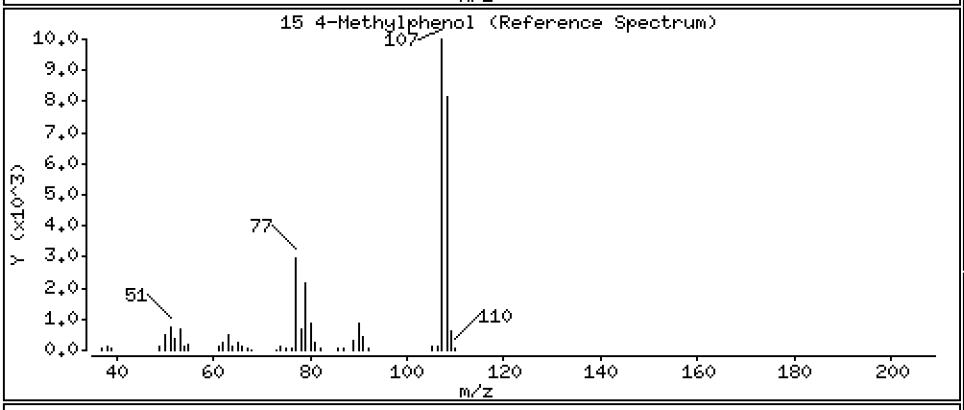
Concentration: 5.222 ug/mL

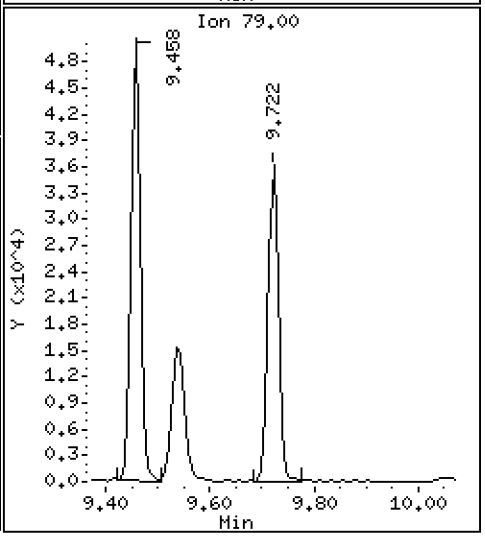


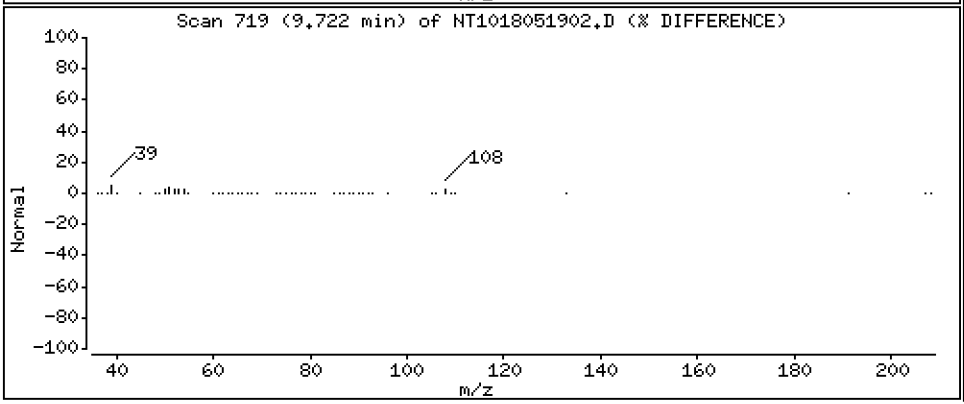












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

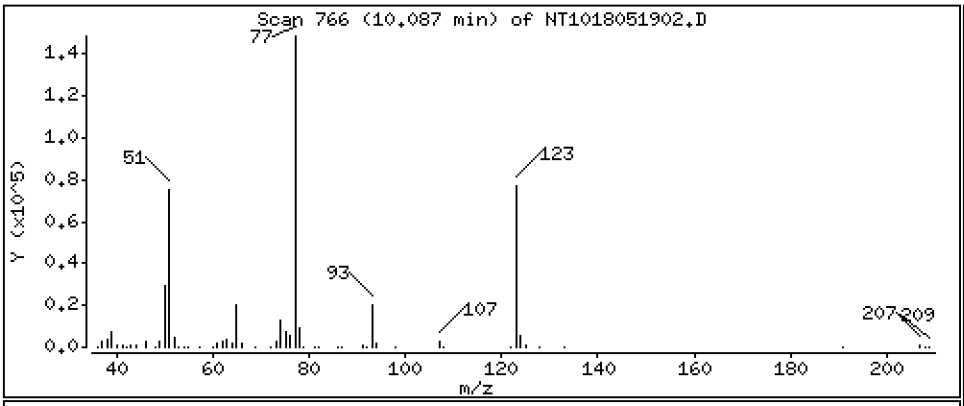
Operator: YZ

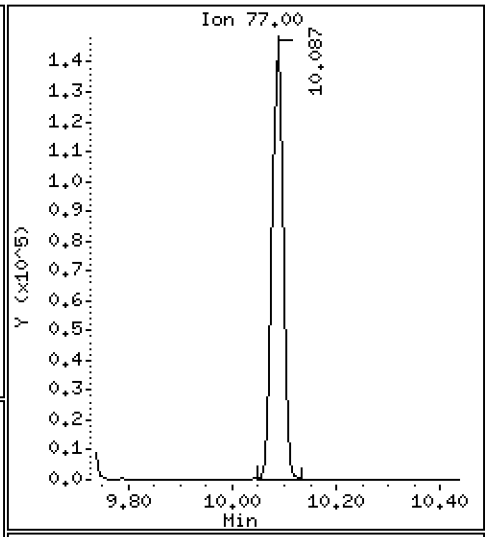
Column phase: ZB-5msi

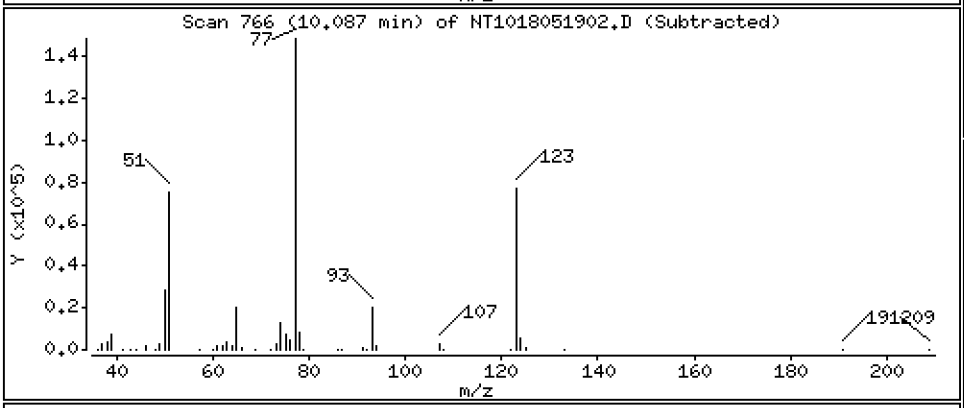
Column diameter: 0.25

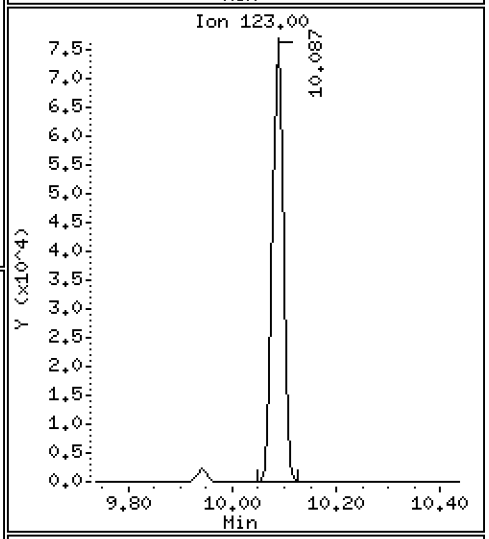
19 Nitrobenzene

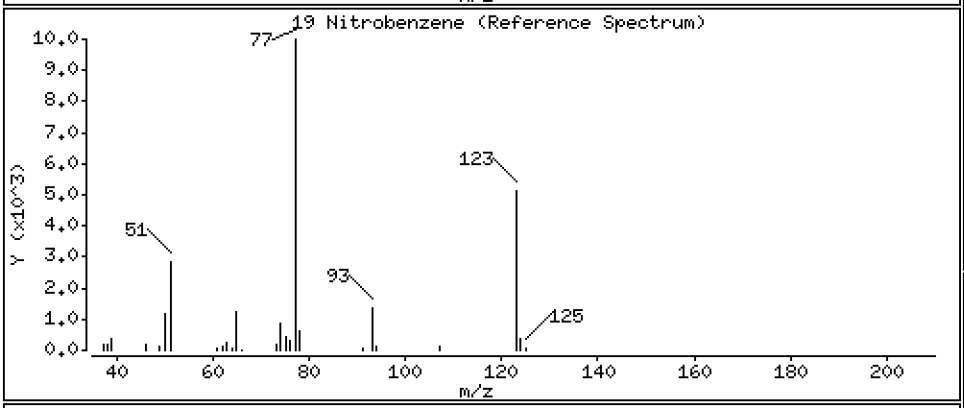
Concentration: 5.209 ug/mL

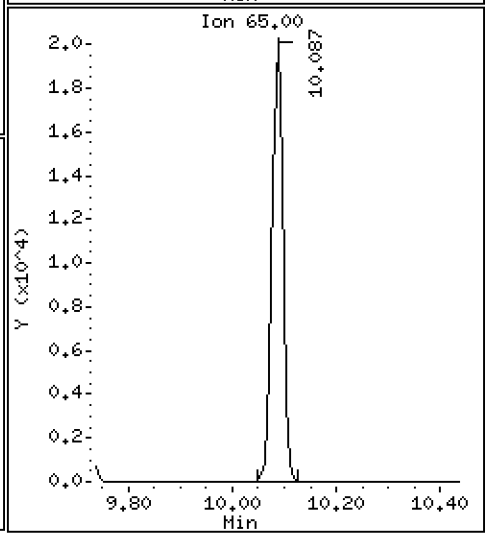


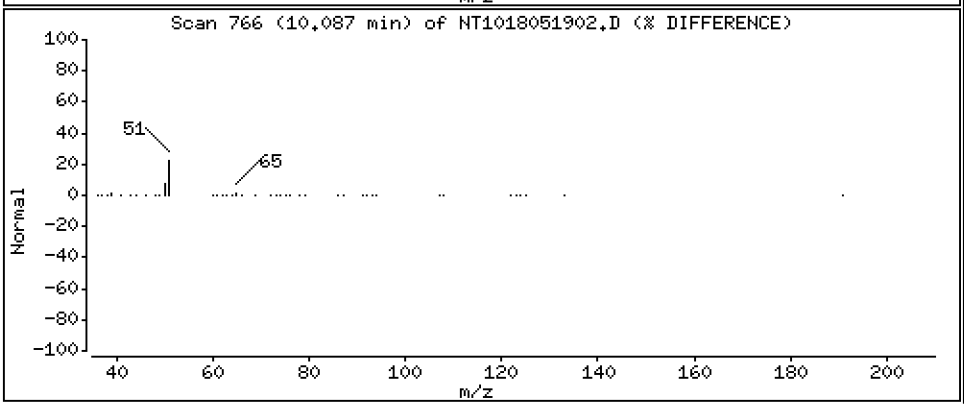












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

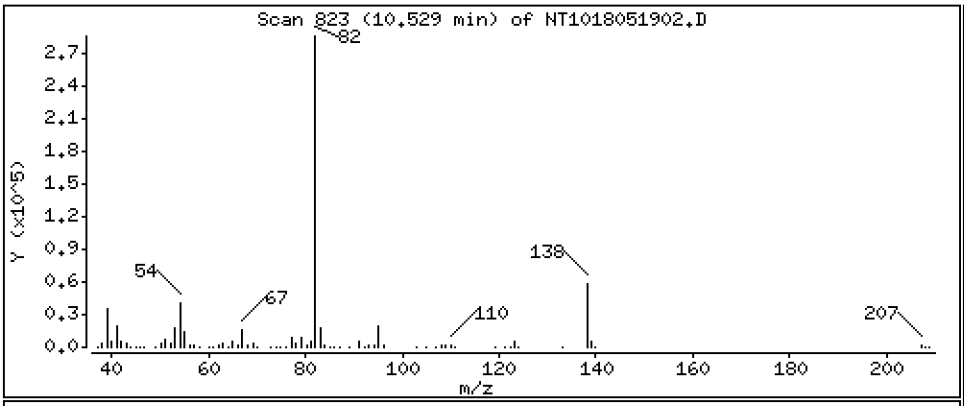
Operator: YZ

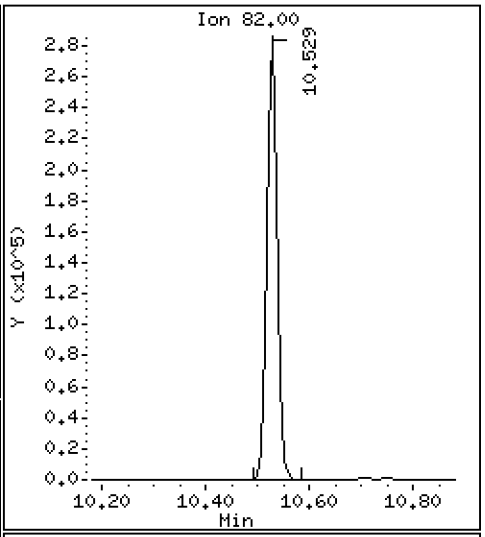
Column phase: ZB-5msi

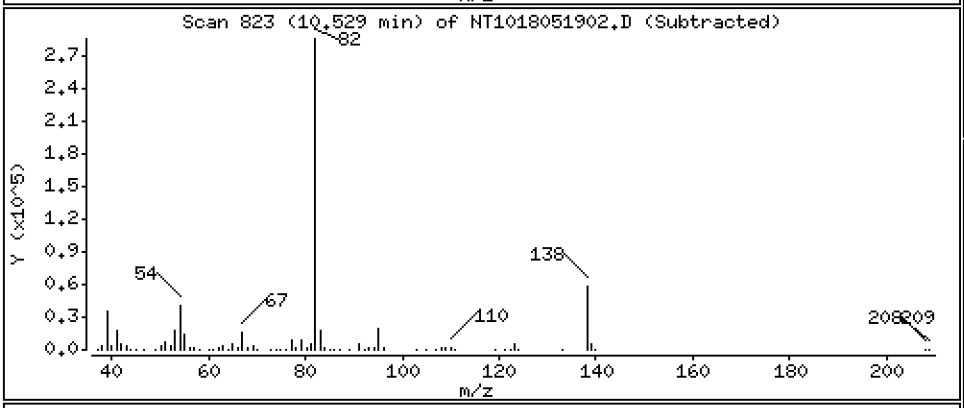
Column diameter: 0.25

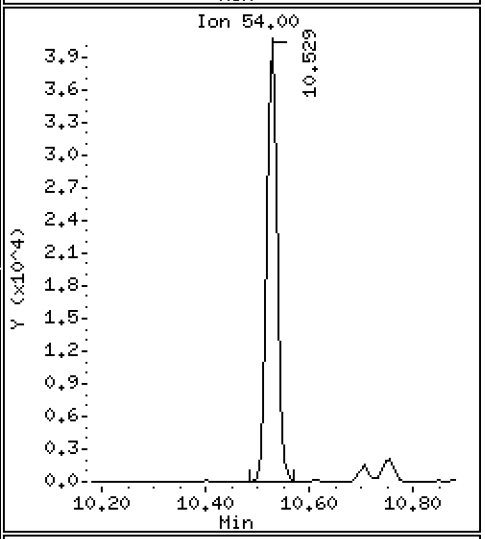
20 Isophorone

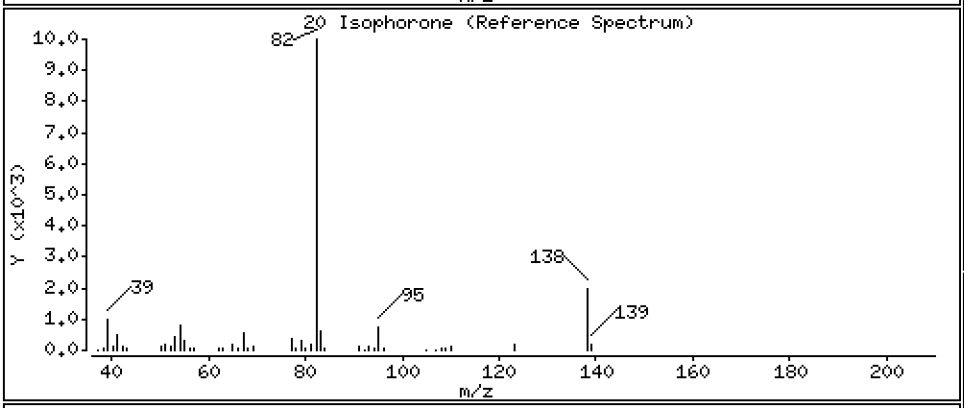
Concentration: 5.180 ug/mL

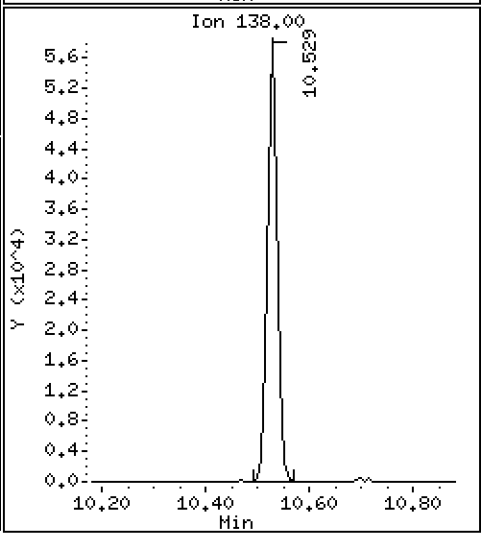


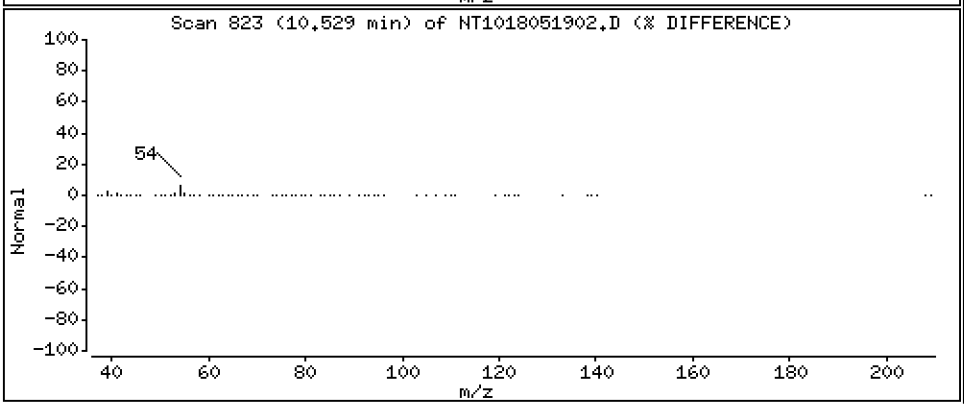












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

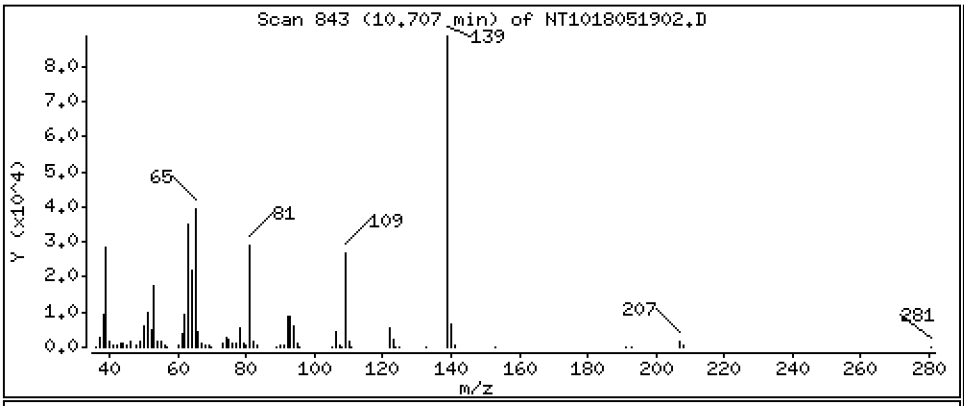
Operator: YZ

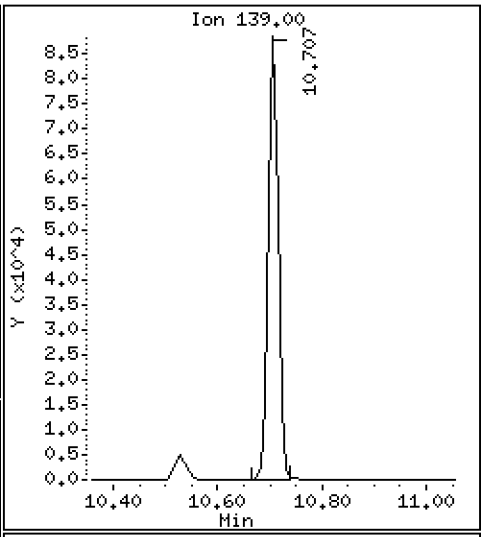
Column phase: ZB-5msi

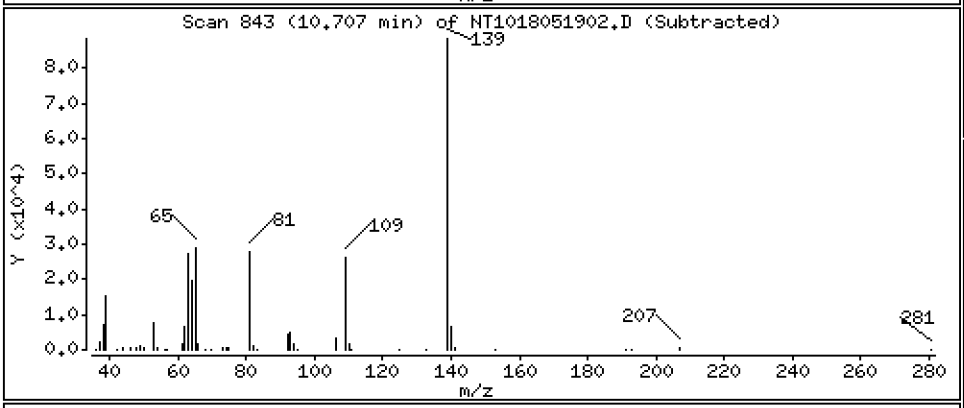
Column diameter: 0.25

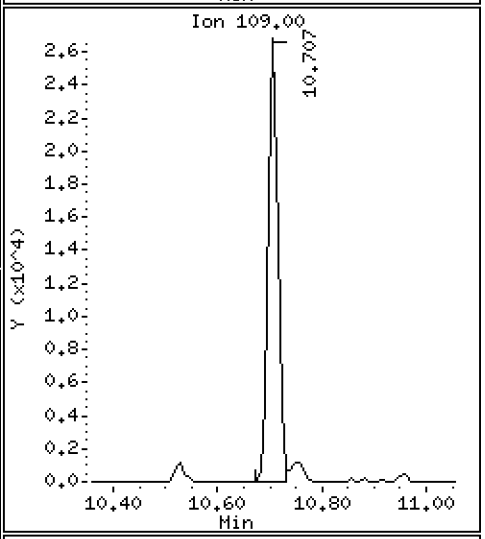
21 2-Nitrophenol

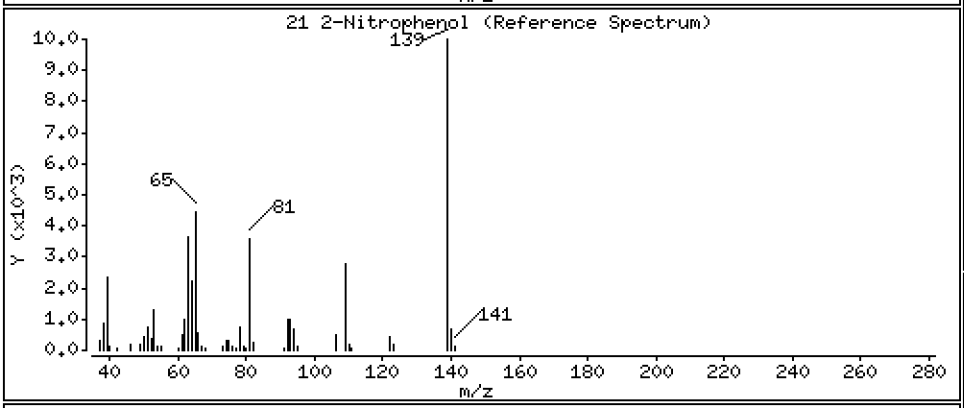
Concentration: 5.467 ug/mL

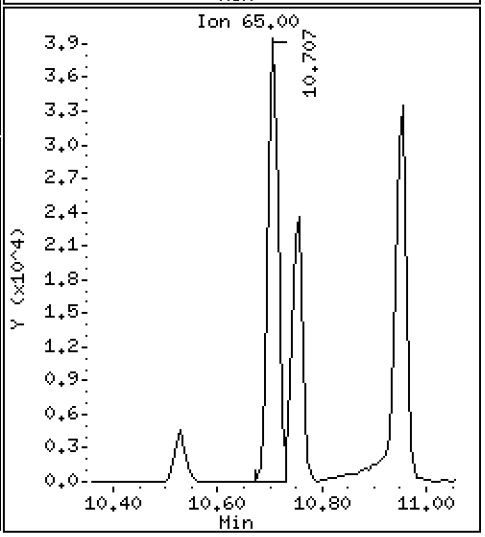


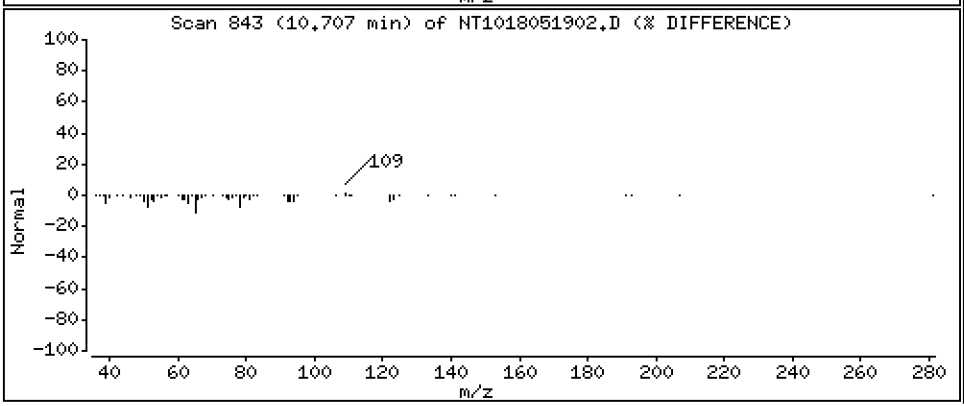












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

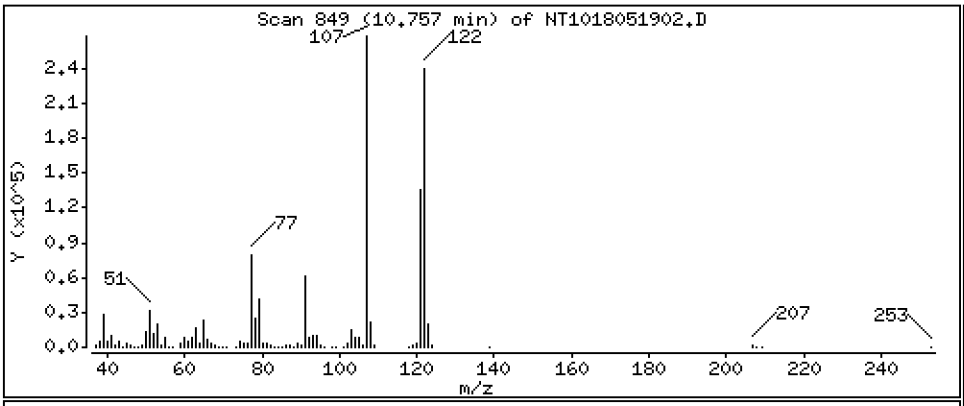
Operator: YZ

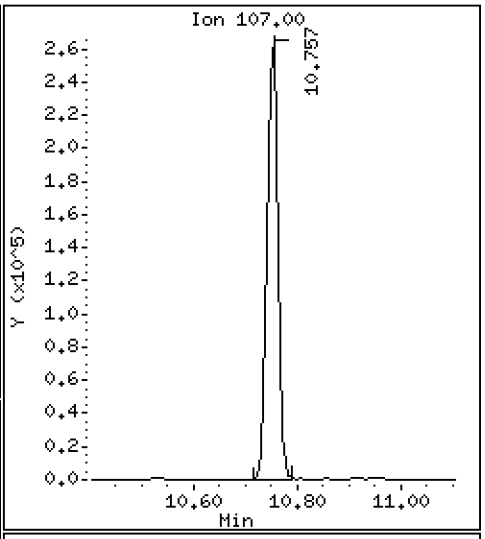
Column phase: ZB-5msi

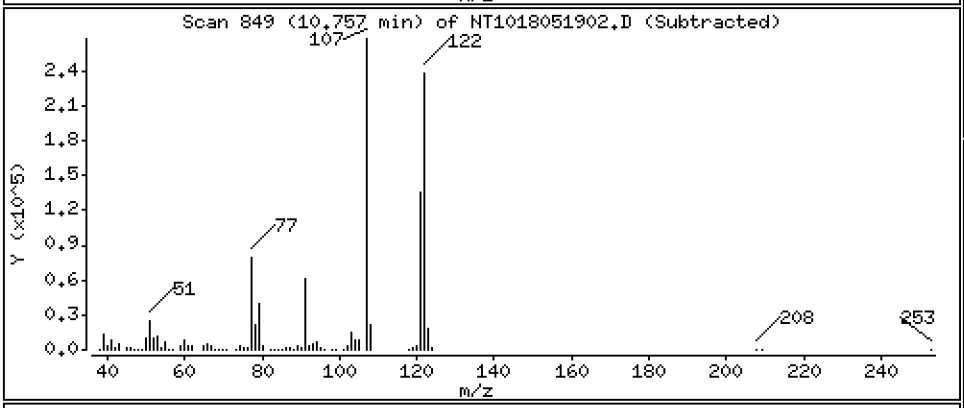
Column diameter: 0.25

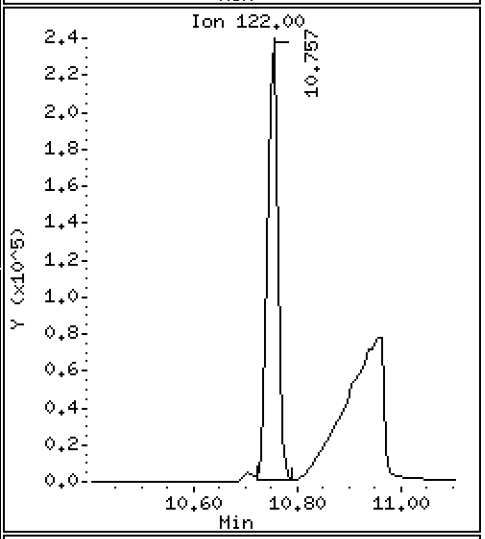
22 2,4-Dimethylphenol

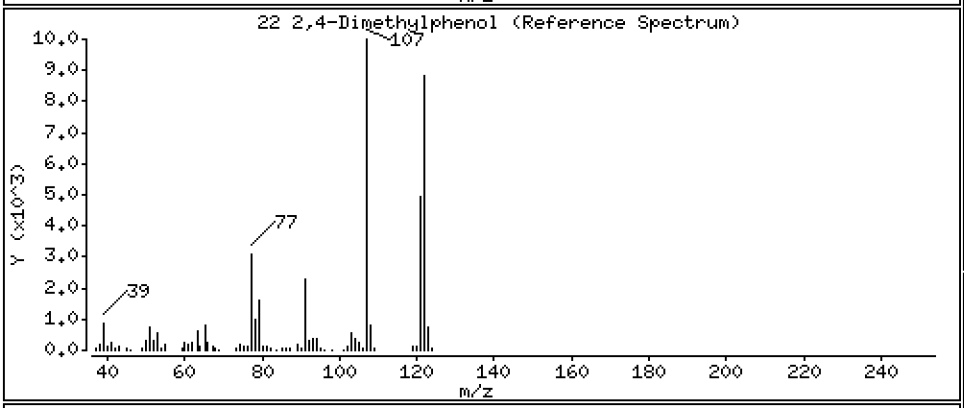
Concentration: 10.27 ug/mL

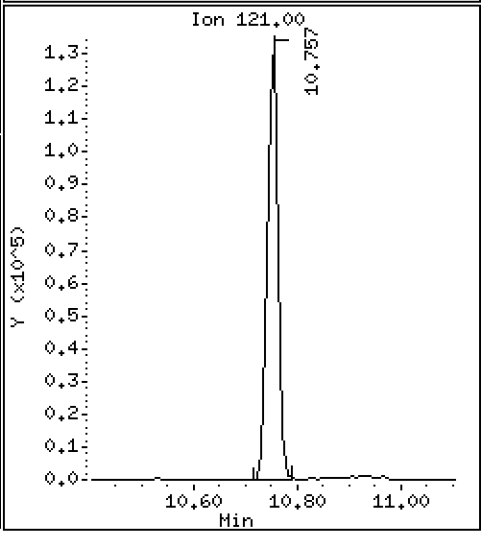


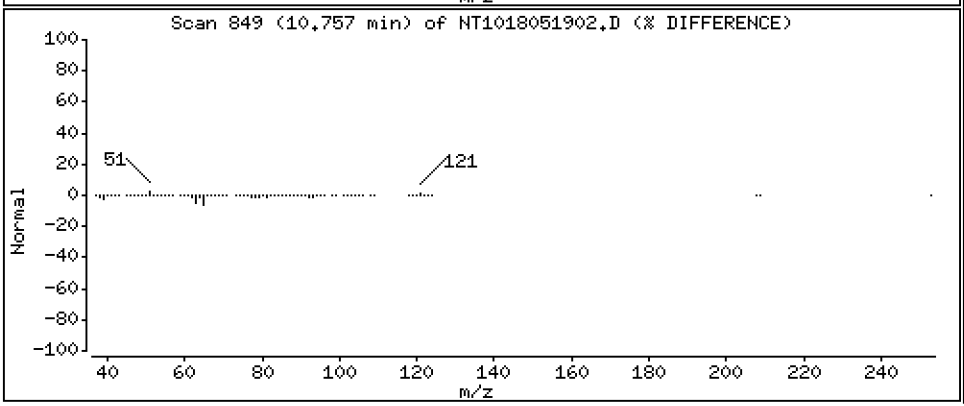












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

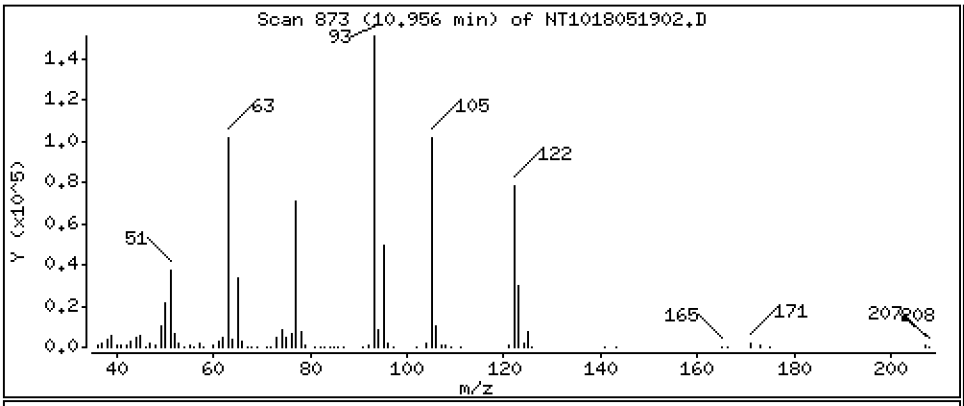
Operator: YZ

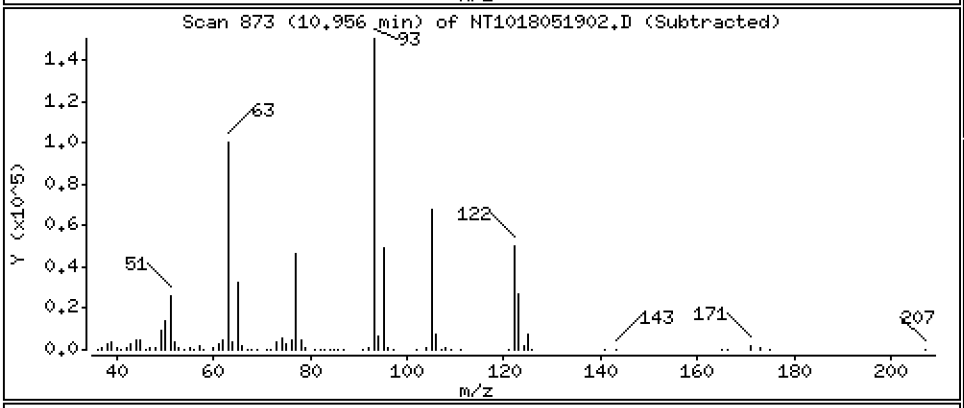
Column phase: ZB-5msi

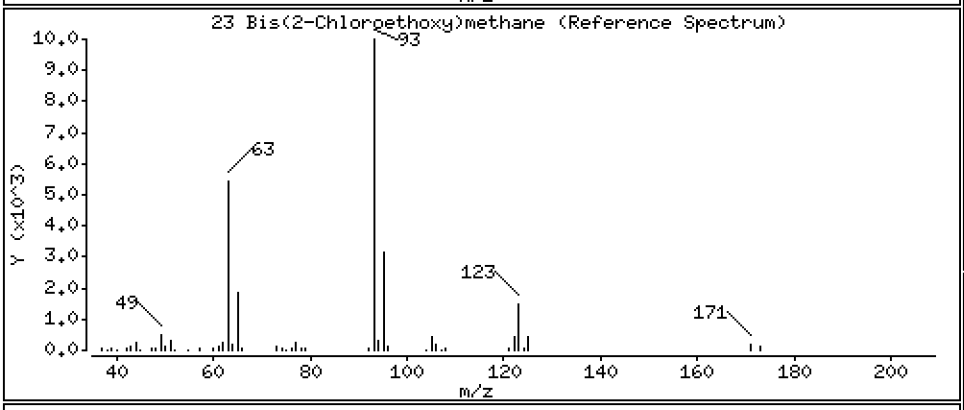
Column diameter: 0.25

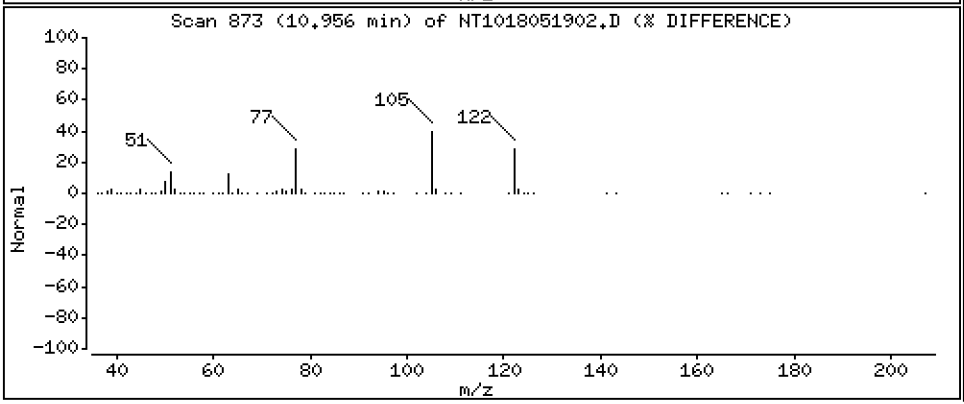
23 Bis(2-Chloroethoxy)methane

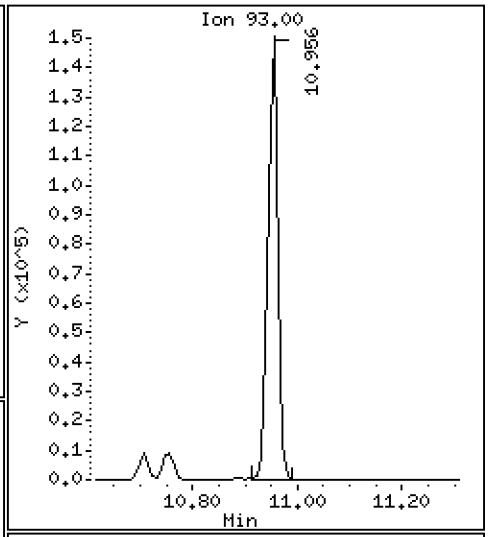
Concentration: 4.871 ug/mL

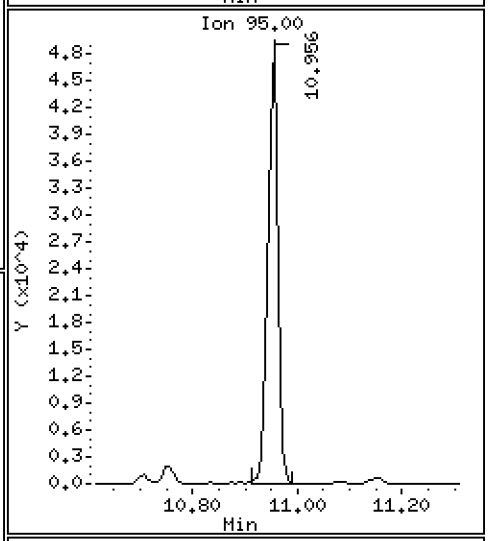


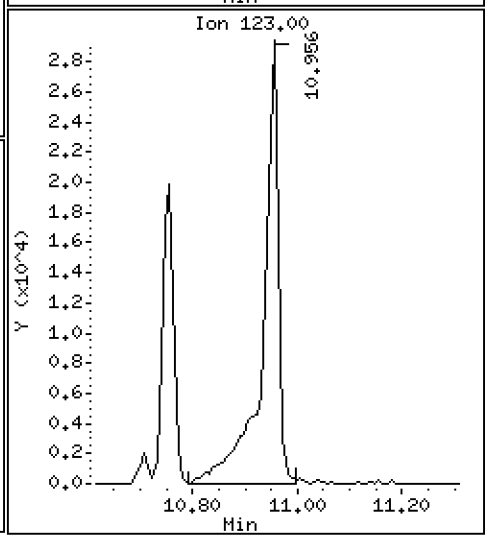












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

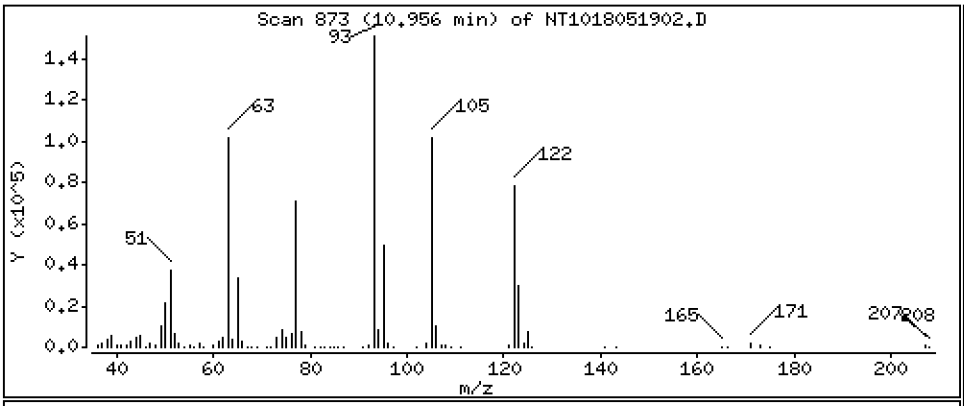
Operator: YZ

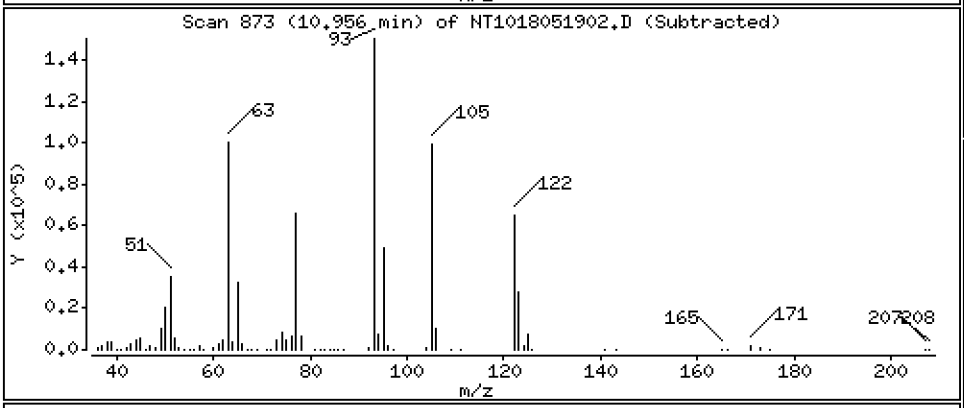
Column phase: ZB-5msi

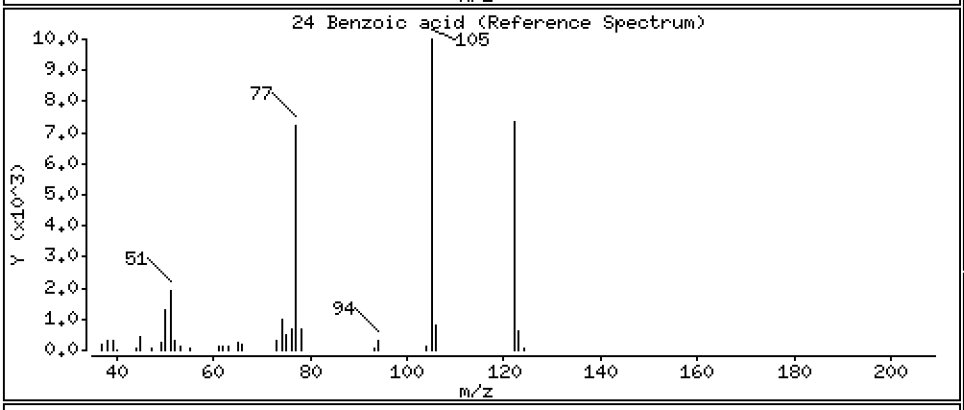
Column diameter: 0.25

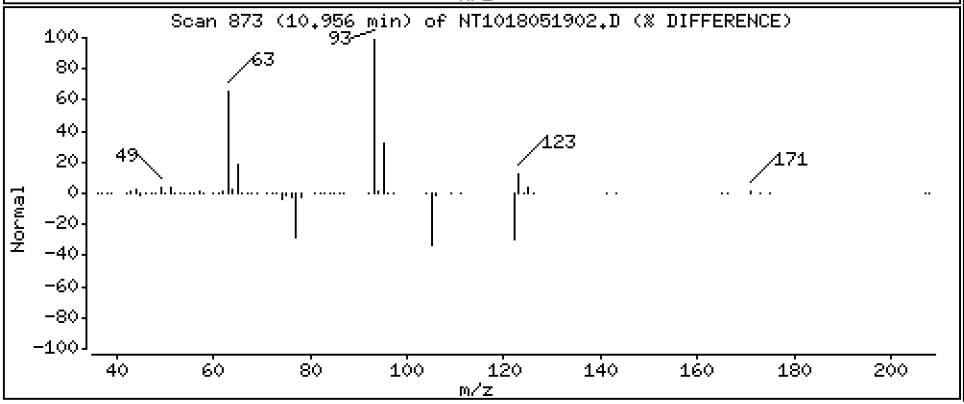
24 Benzoic acid

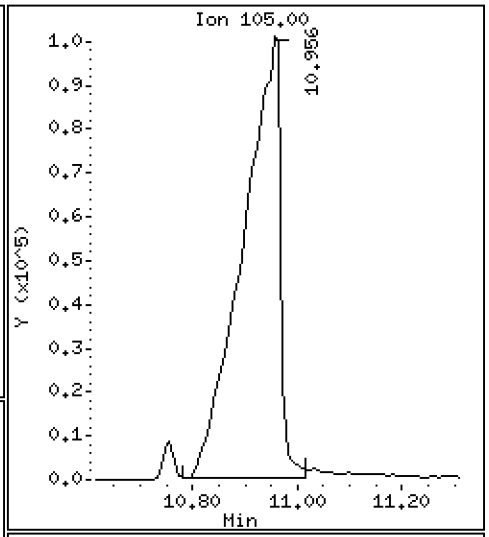
Concentration: 19.98 ug/mL

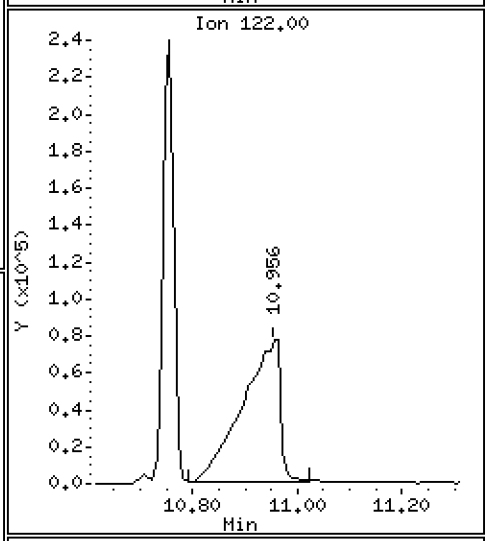


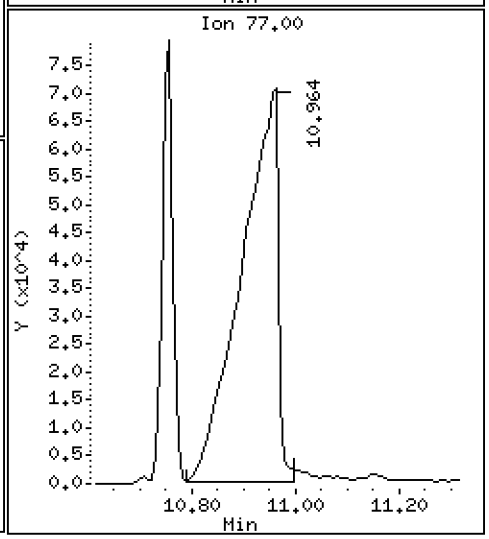












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

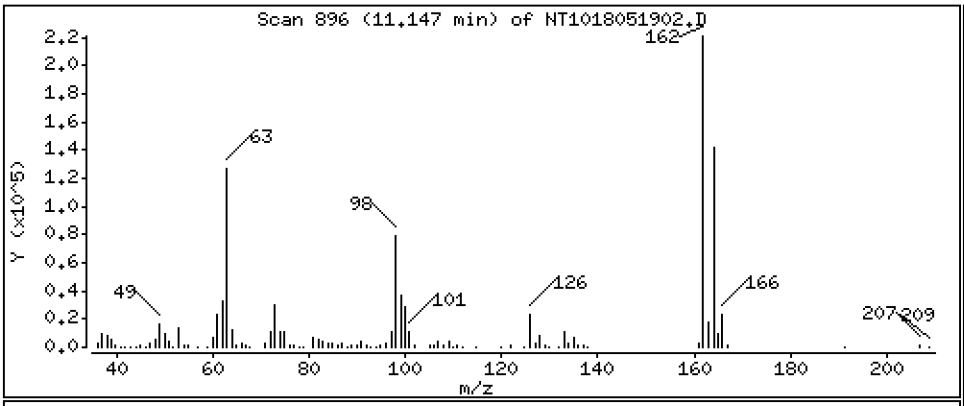
Operator: YZ

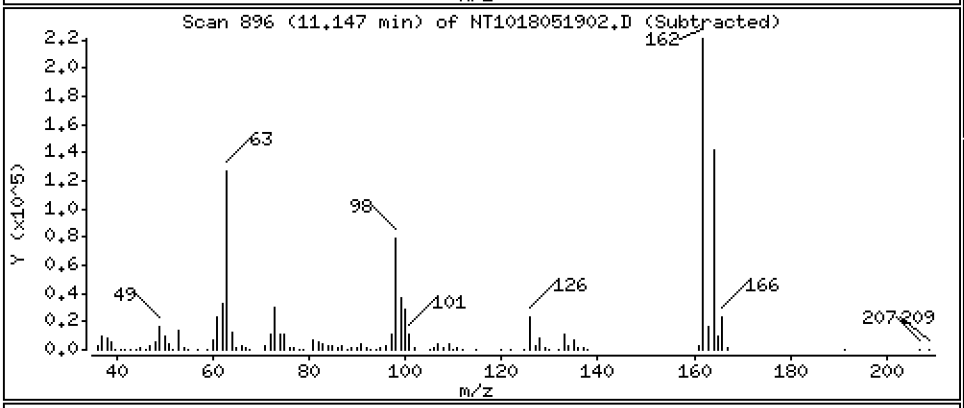
Column phase: ZB-5msi

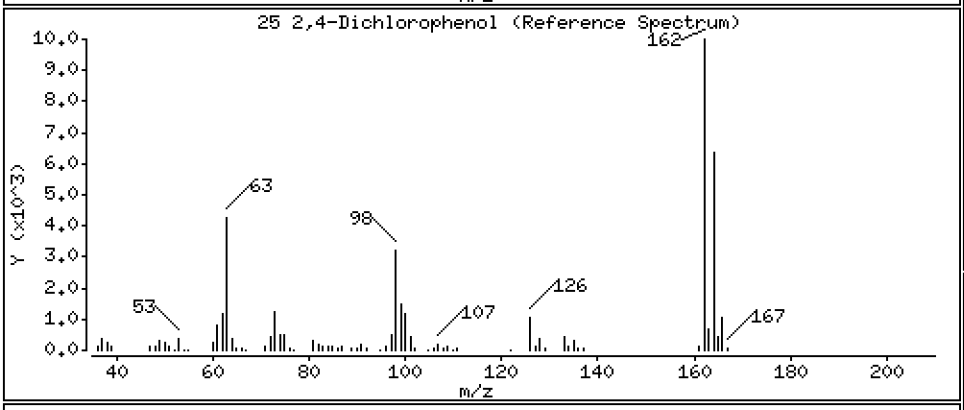
Column diameter: 0.25

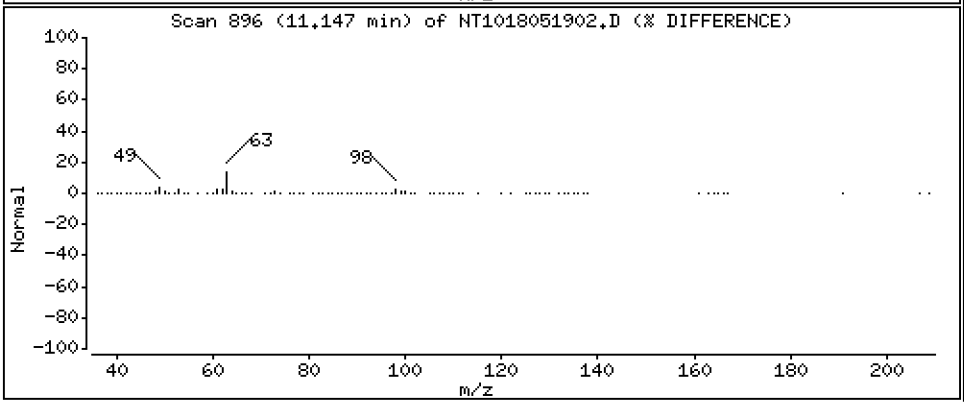
25 2,4-Dichlorophenol

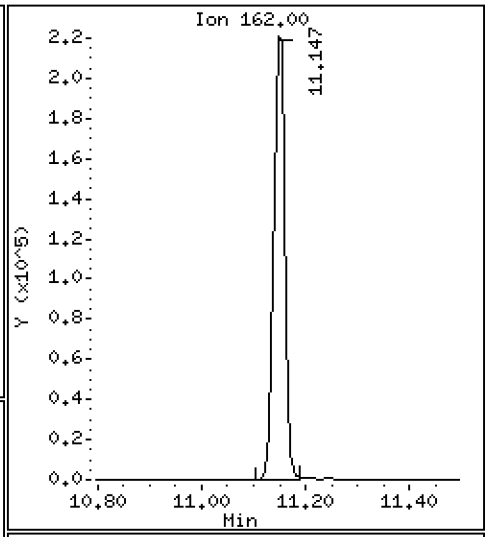
Concentration: 10.81 ug/mL

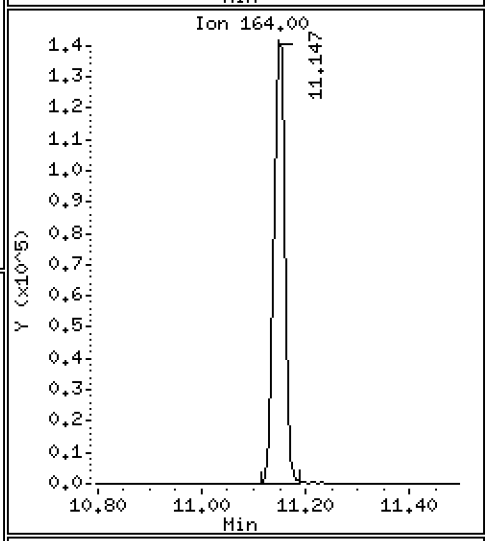


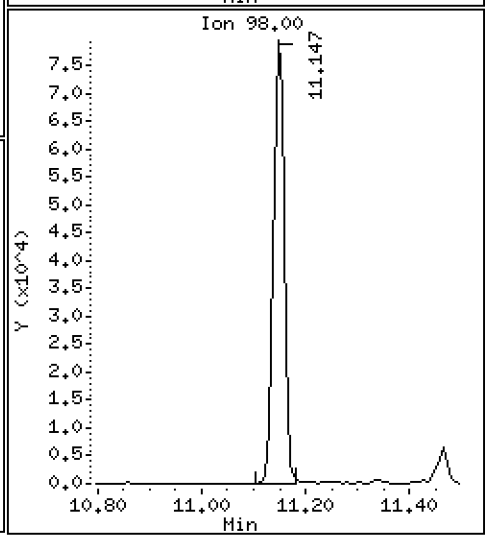












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

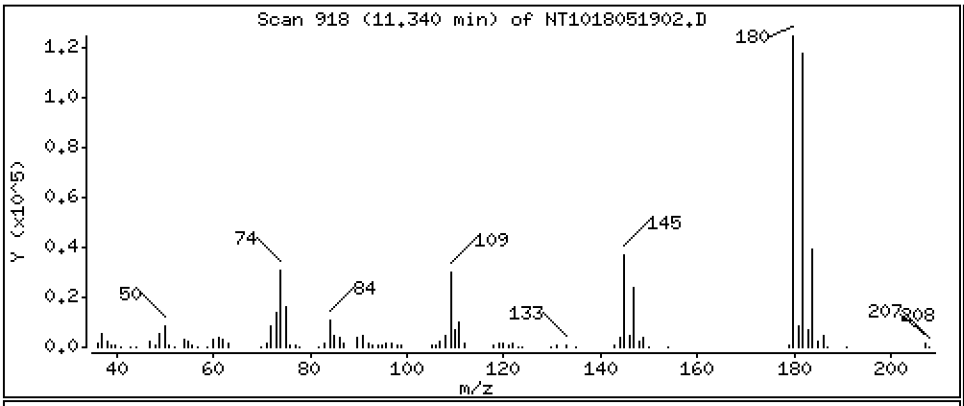
Operator: YZ

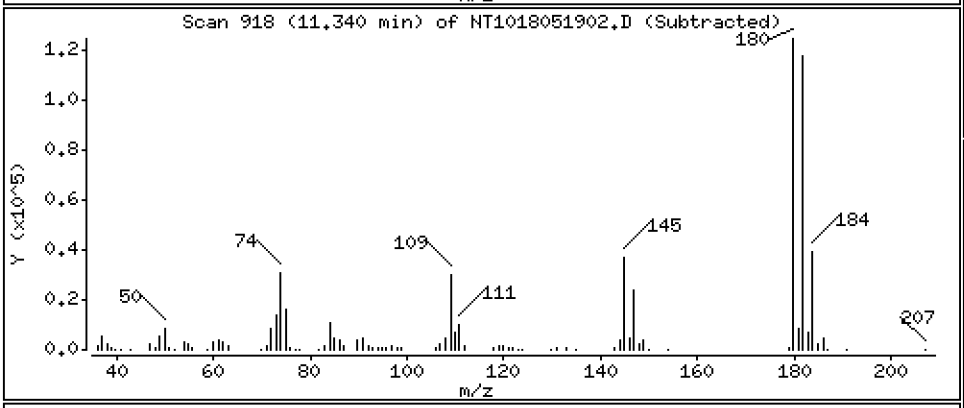
Column phase: ZB-5msi

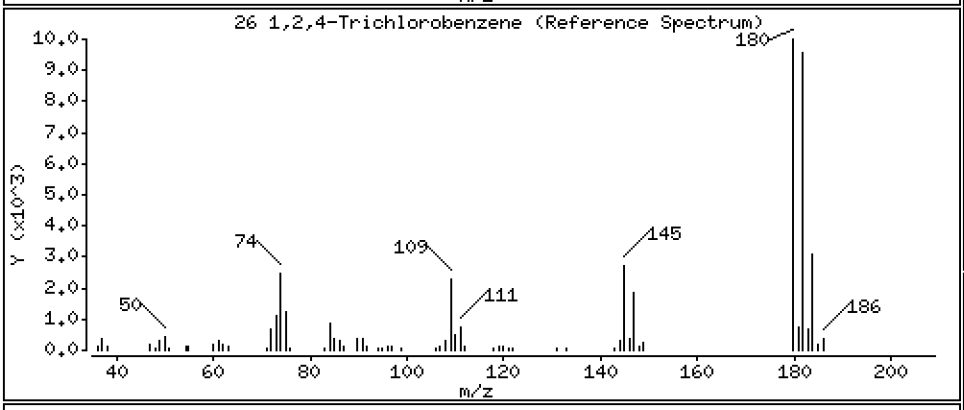
Column diameter: 0.25

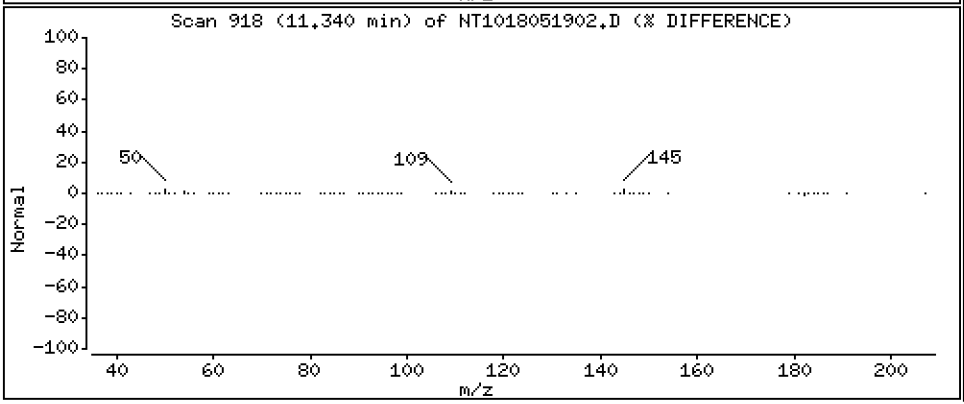
26 1,2,4-Trichlorobenzene

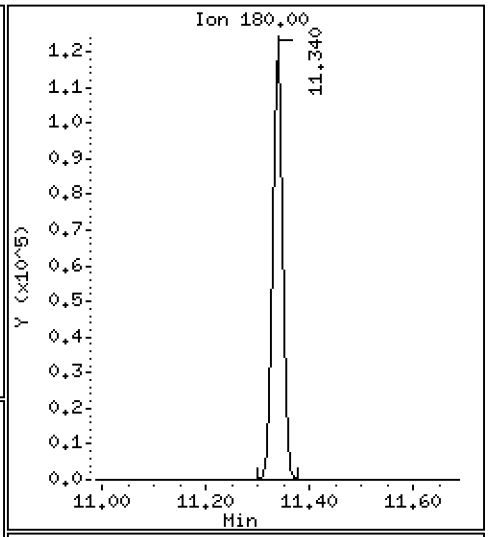
Concentration: 5.178 ug/mL

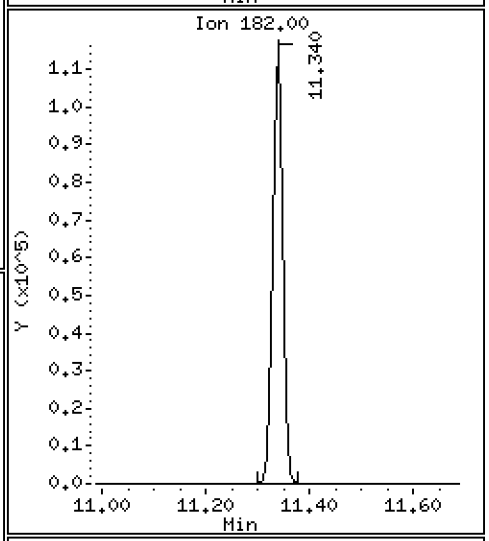


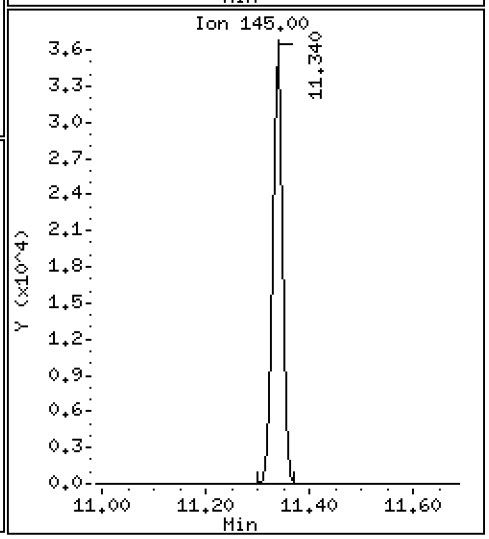












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

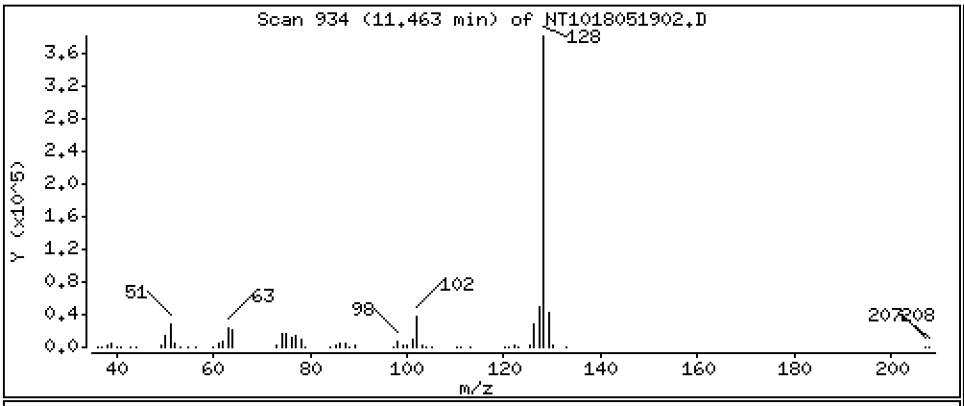
Operator: YZ

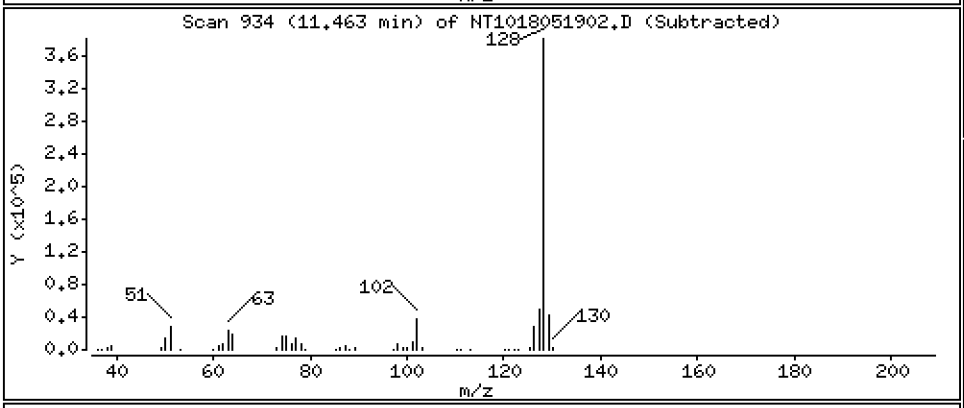
Column phase: ZB-5msi

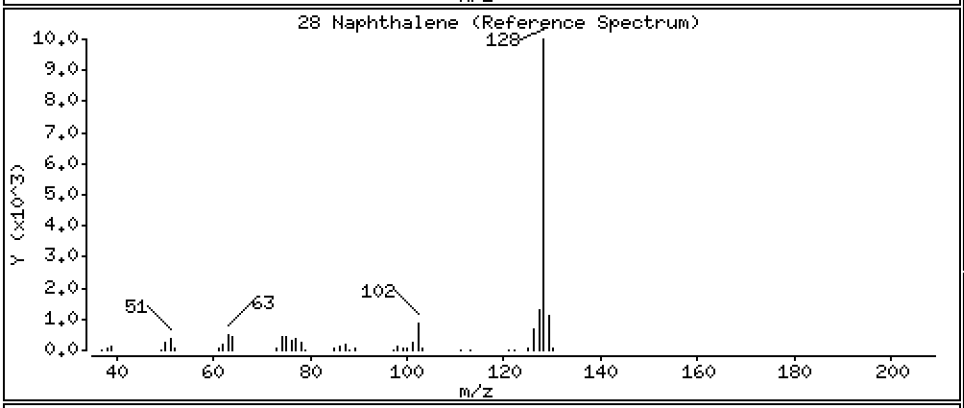
Column diameter: 0.25

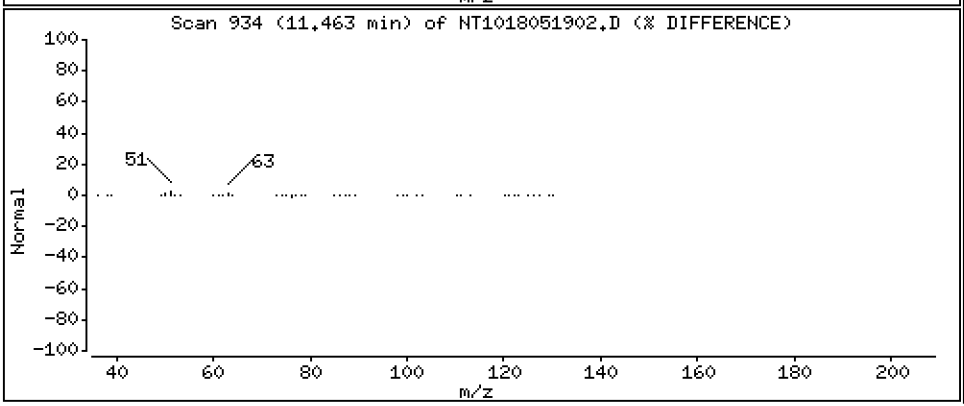
28 Naphthalene

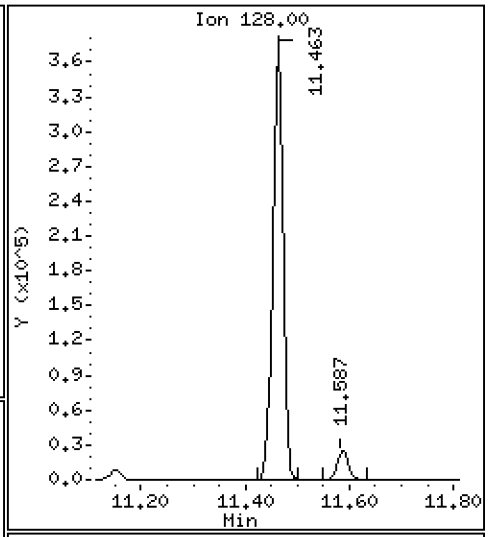
Concentration: 5.219 ug/mL

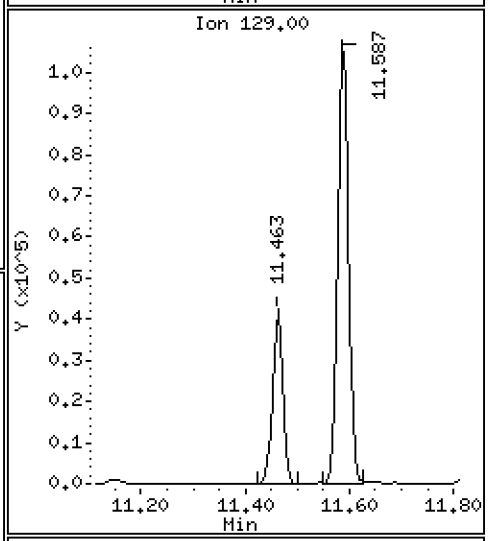


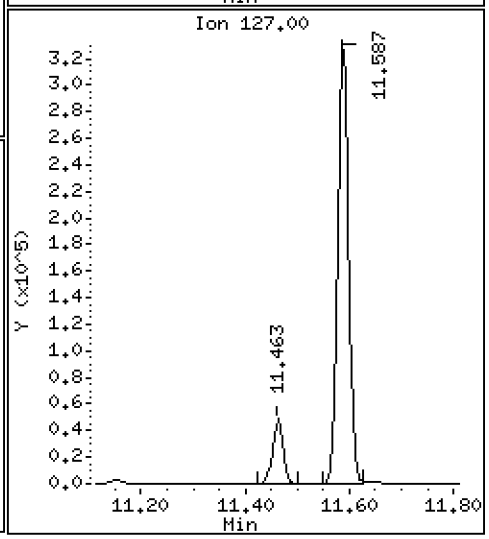












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

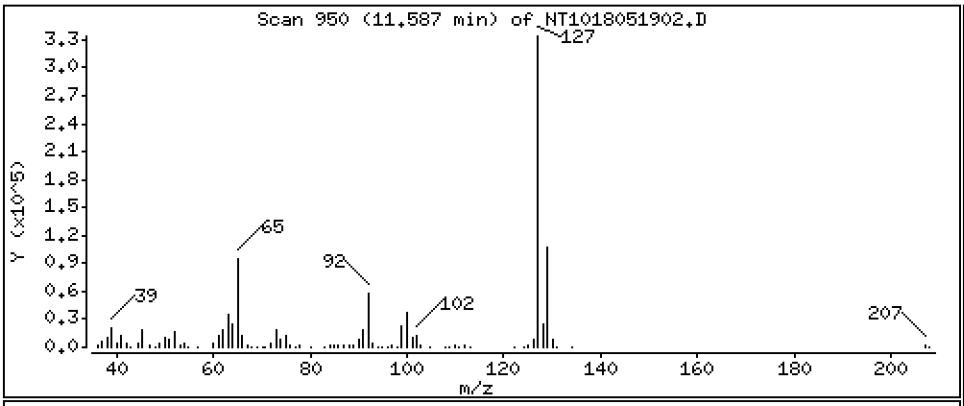
Operator: YZ

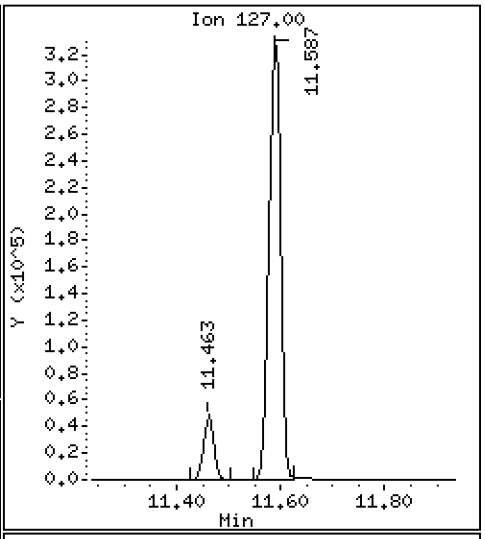
Column phase: ZB-5msi

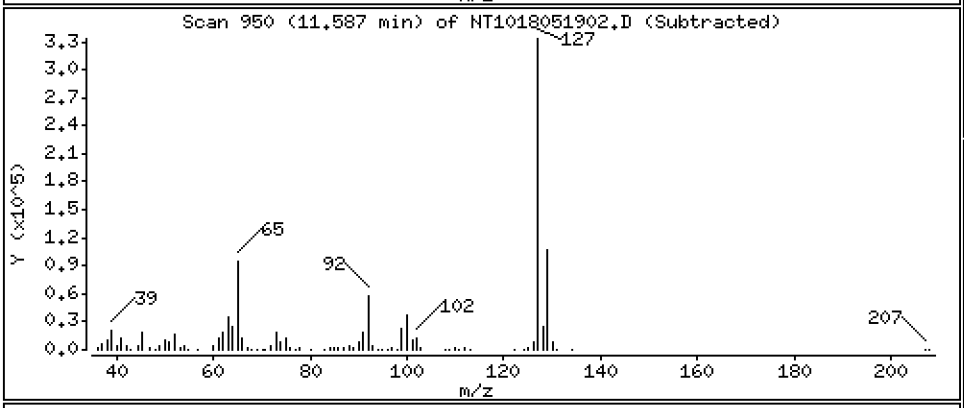
Column diameter: 0.25

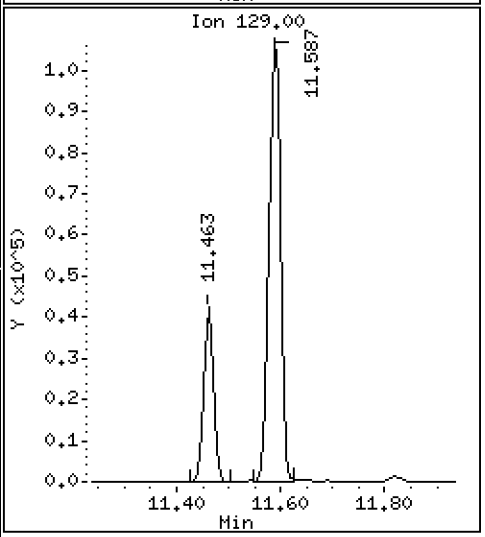
29 4-Chloroaniline

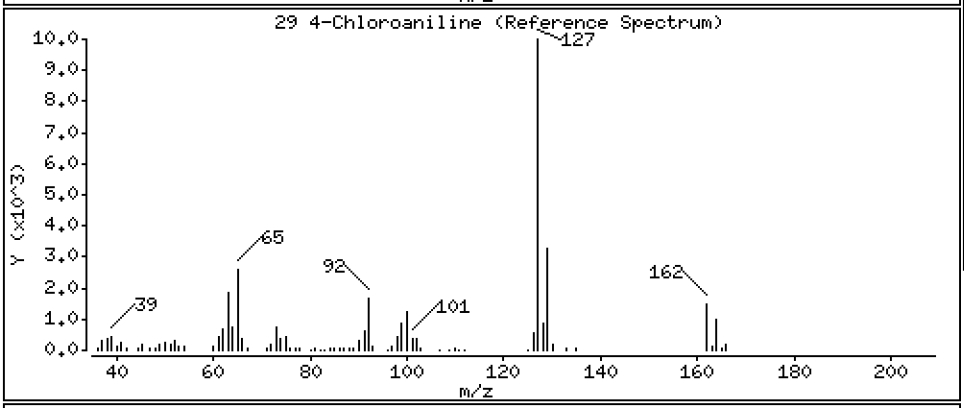
Concentration: 10.74 ug/mL

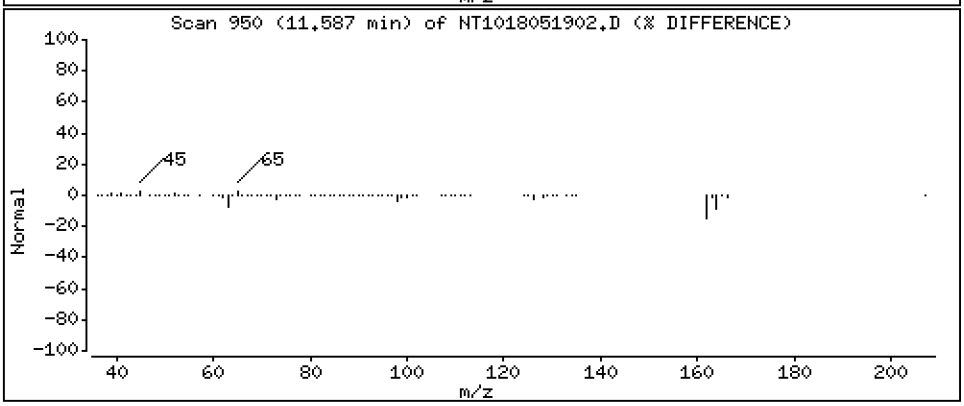












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

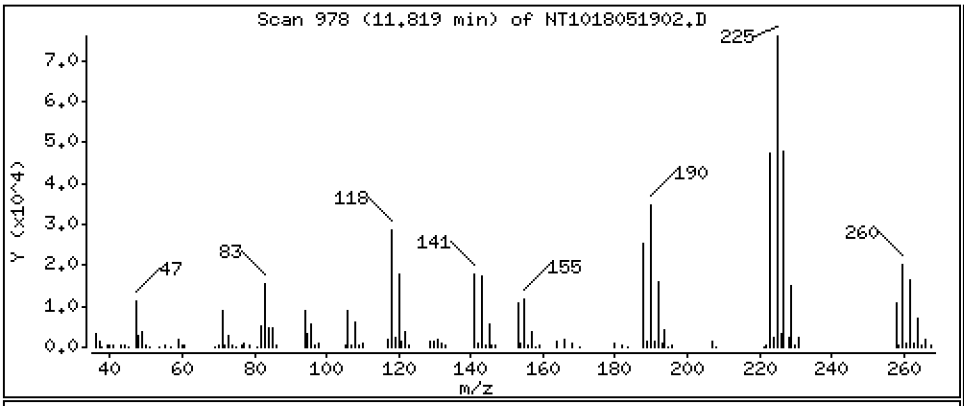
Operator: YZ

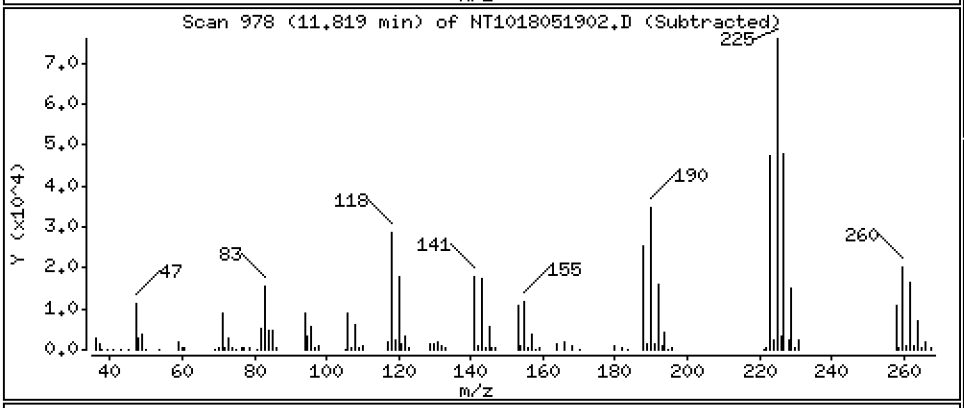
Column phase: ZB-5msi

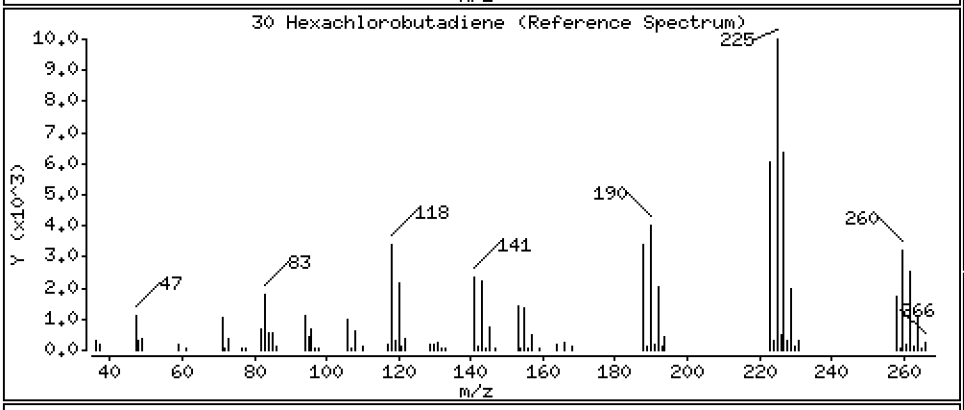
Column diameter: 0.25

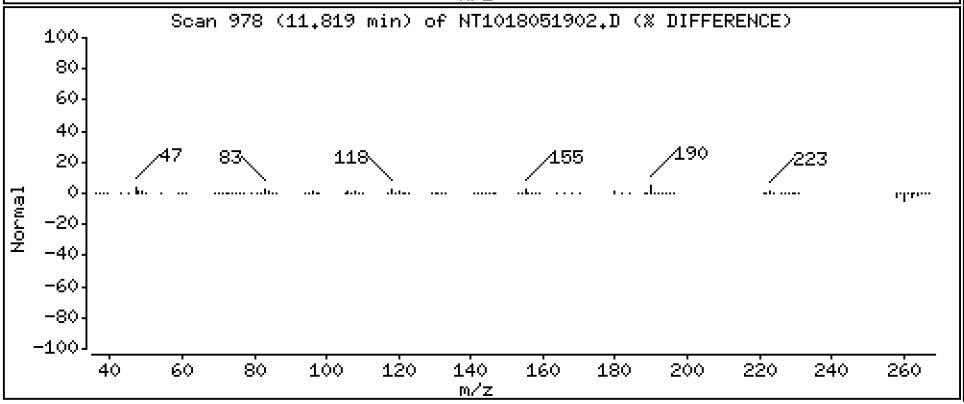
30 Hexachlorobutadiene

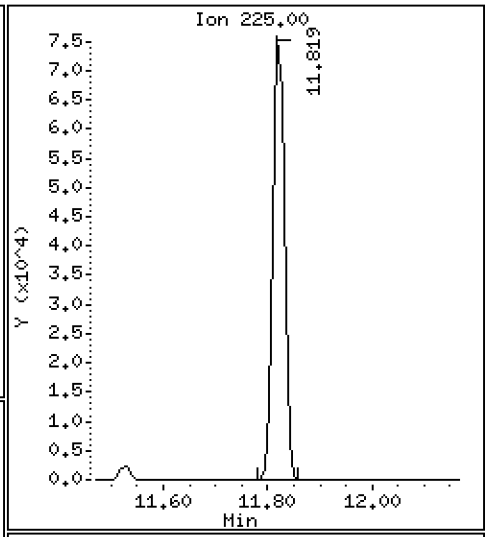
Concentration: 5.337 ug/mL

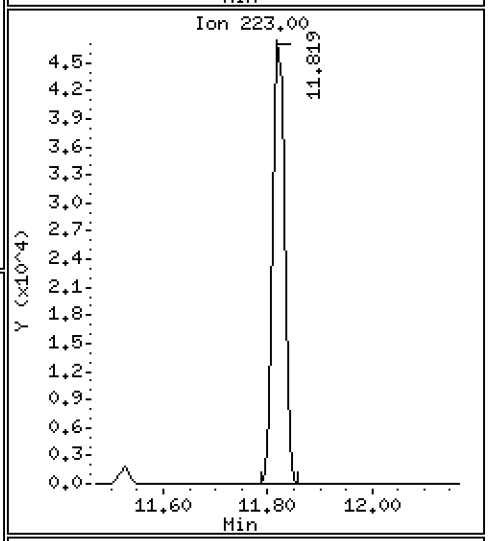


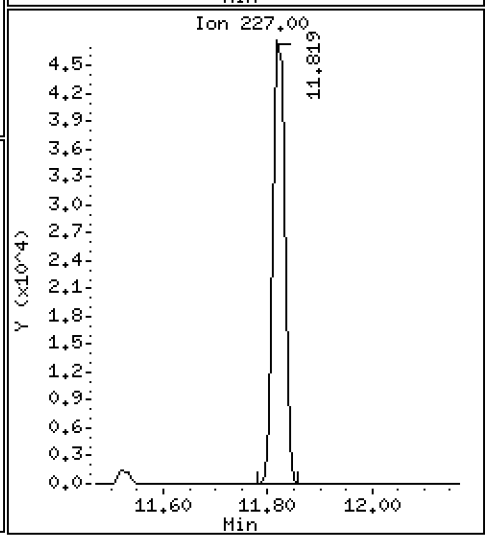












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

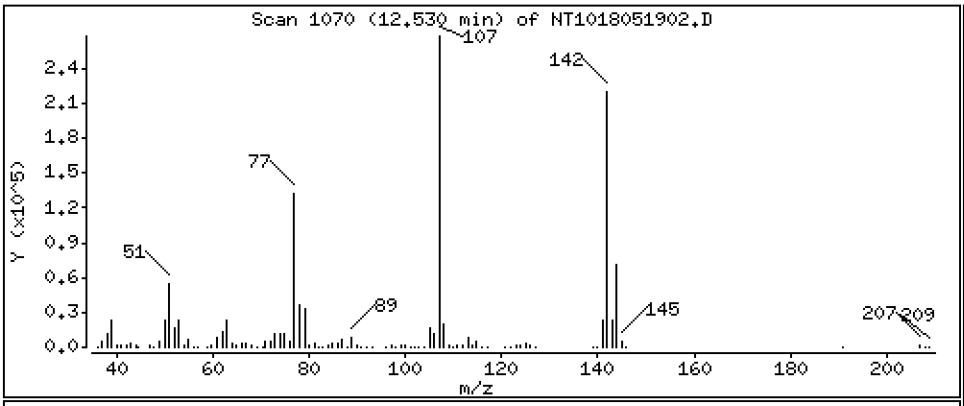
Operator: YZ

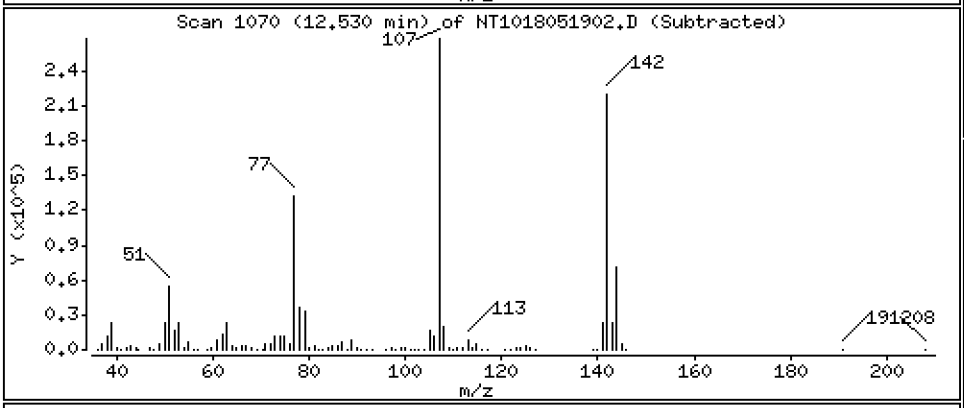
Column phase: ZB-5msi

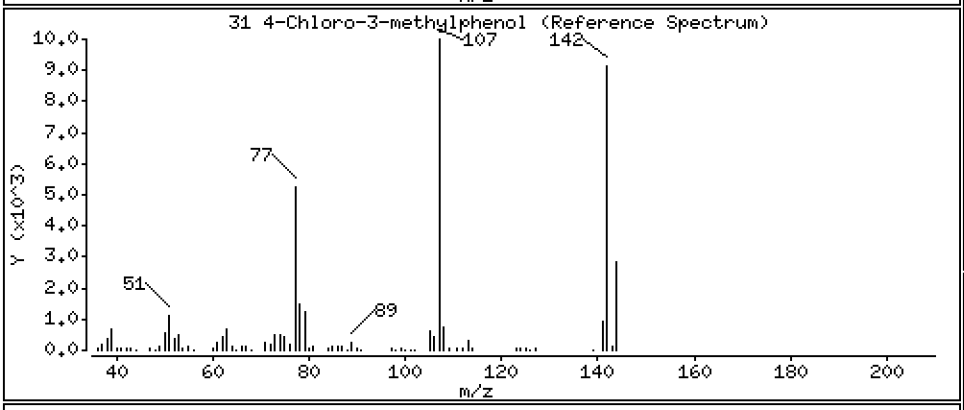
Column diameter: 0.25

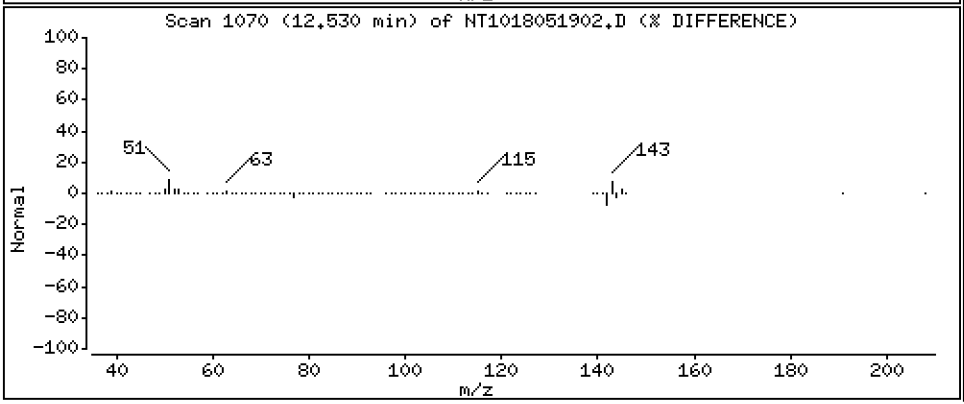
31 4-Chloro-3-methylphenol

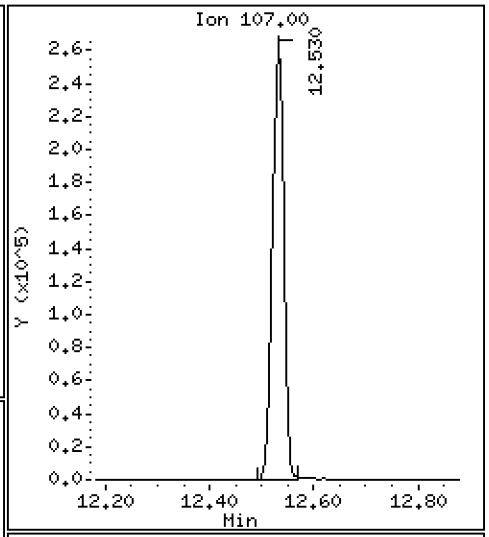
Concentration: 11.31 ug/mL

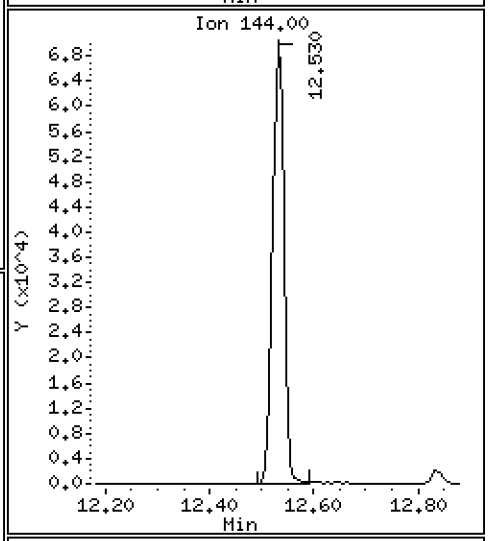


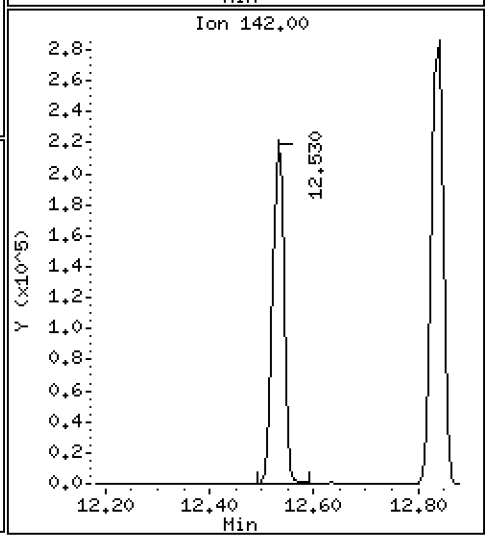












Date : 19-MAY-2018 09:09

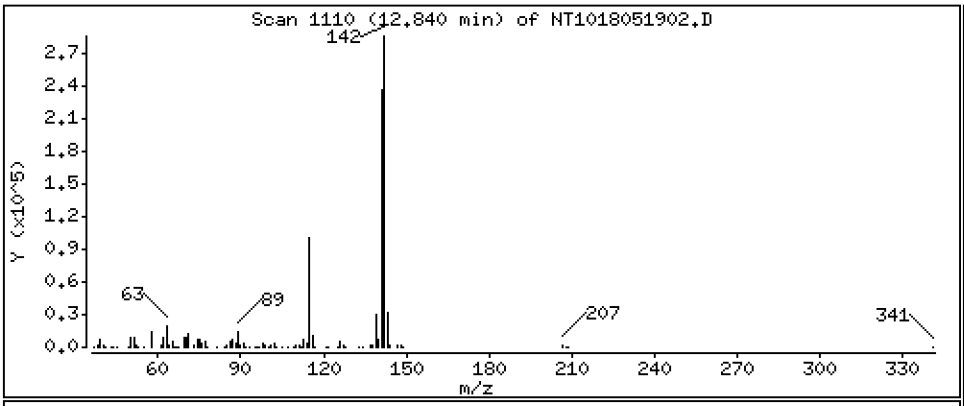
Client ID: Instrument: nt10.i

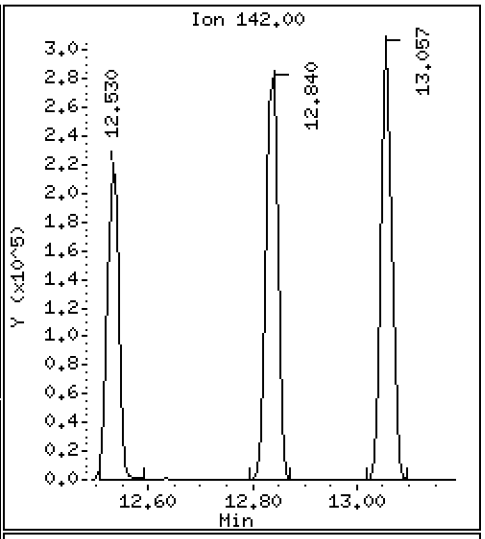
Sample Info: SGE0328-CAL5

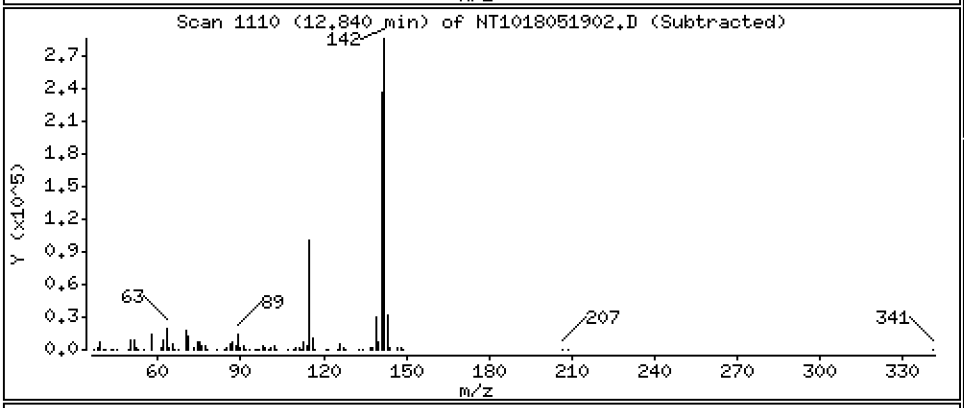
Operator: YZ

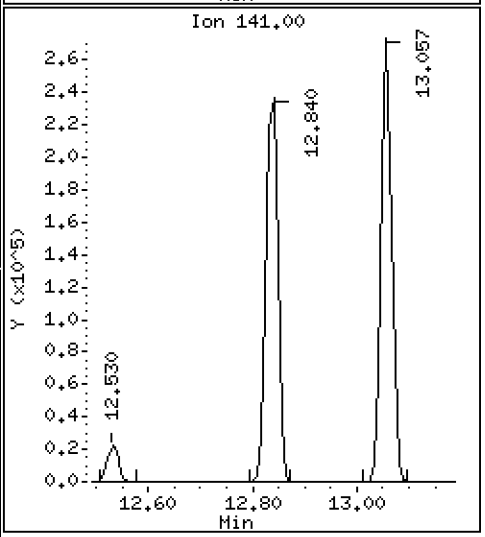
Column phase: ZB-5msi Column diameter: 0.25

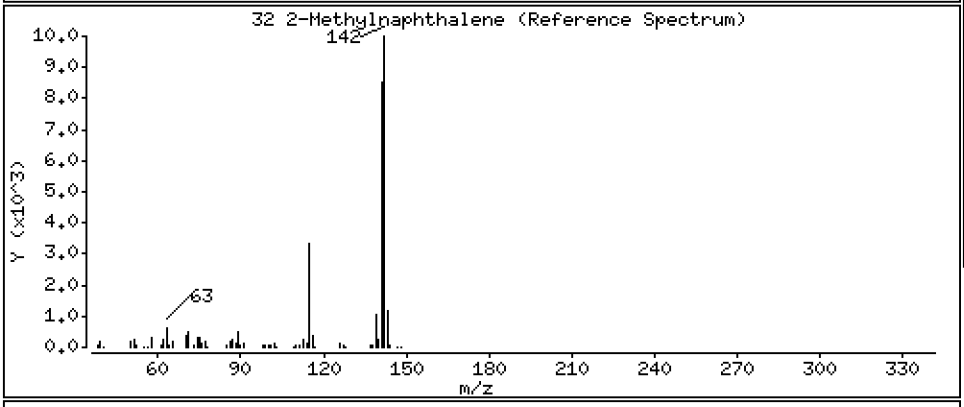
32 2-Methylnaphthalene Concentration: 5.356 ug/mL

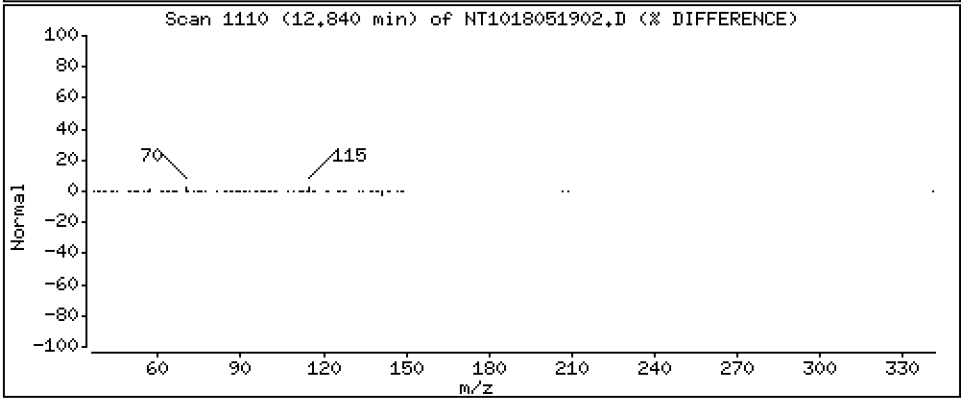












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

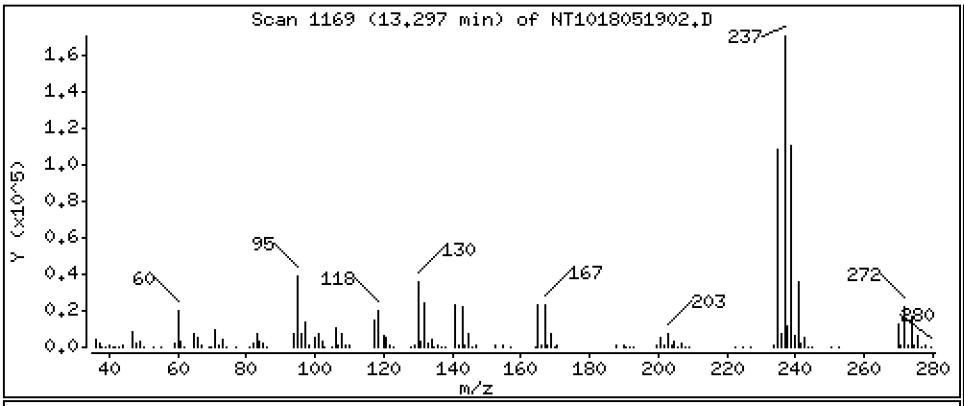
Operator: YZ

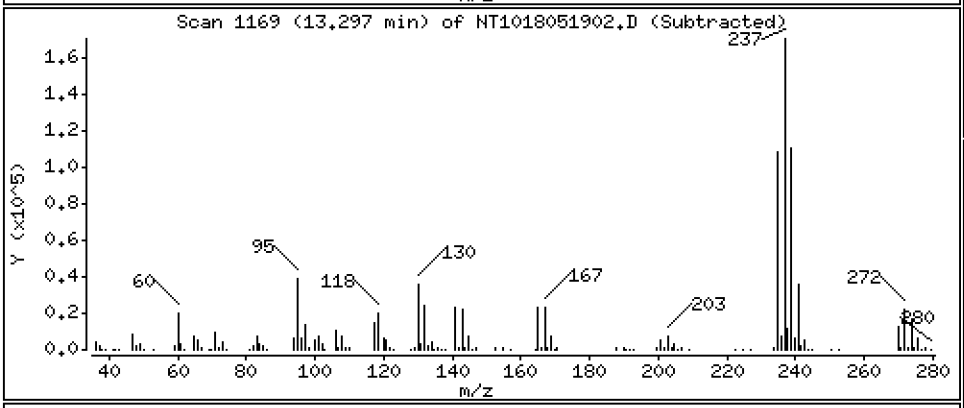
Column phase: ZB-5msi

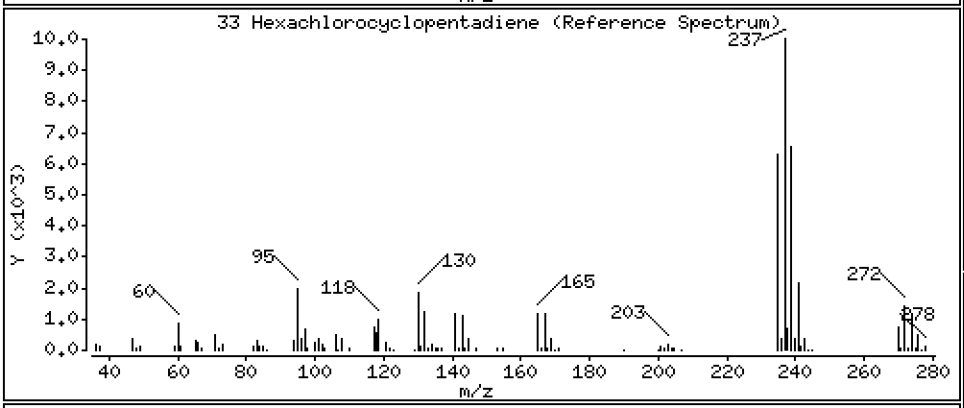
Column diameter: 0.25

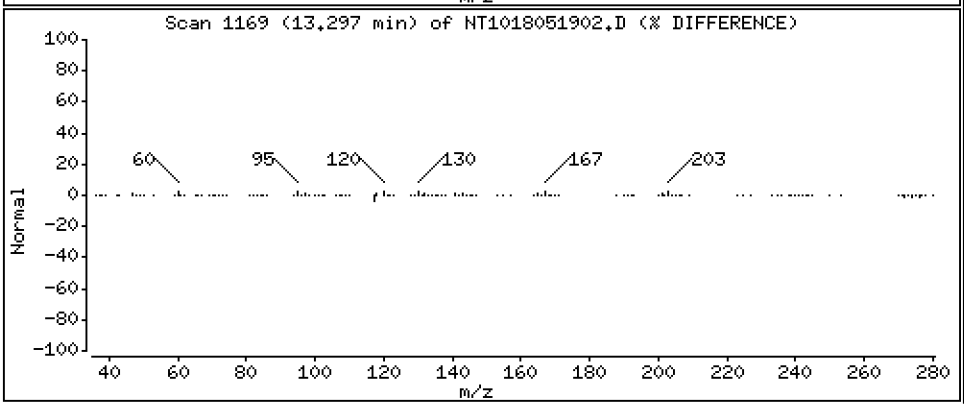
33 Hexachlorocyclopentadiene

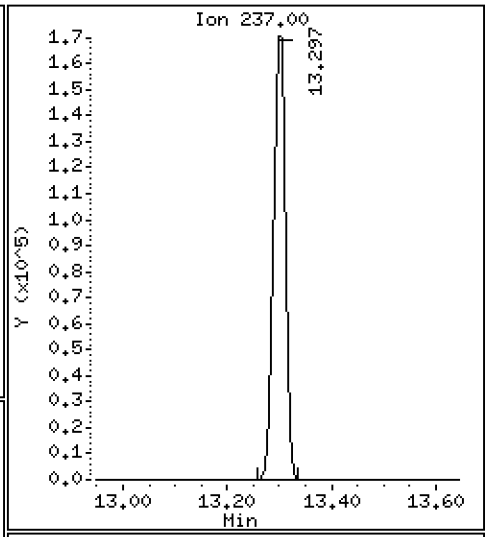
Concentration: 11.47 ug/mL

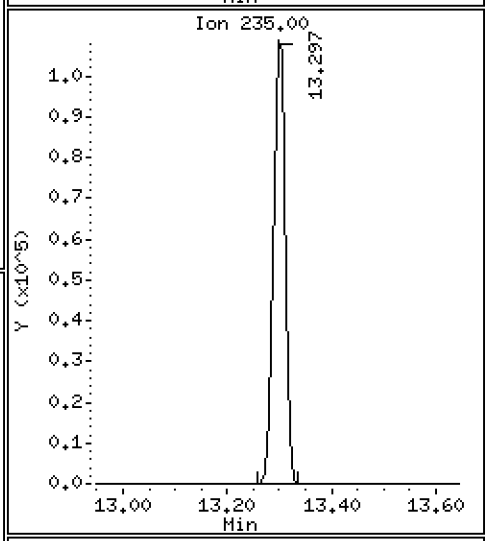


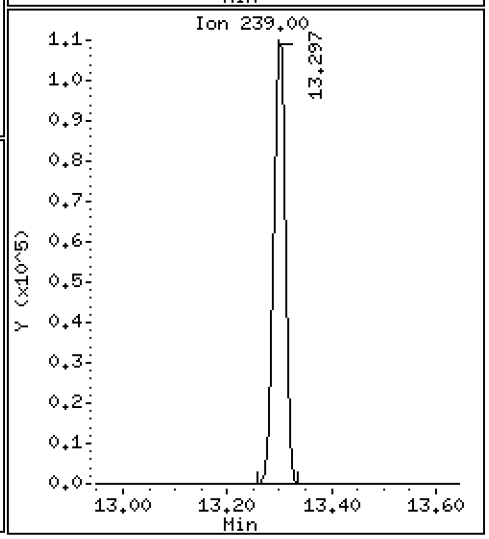












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

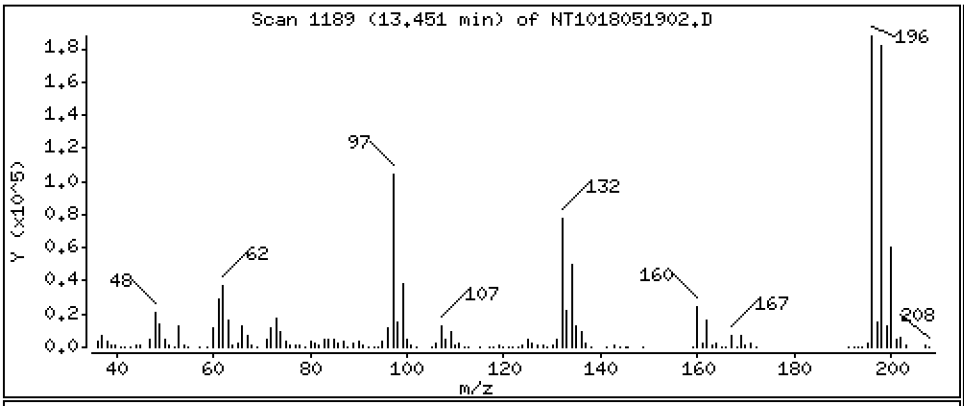
Operator: YZ

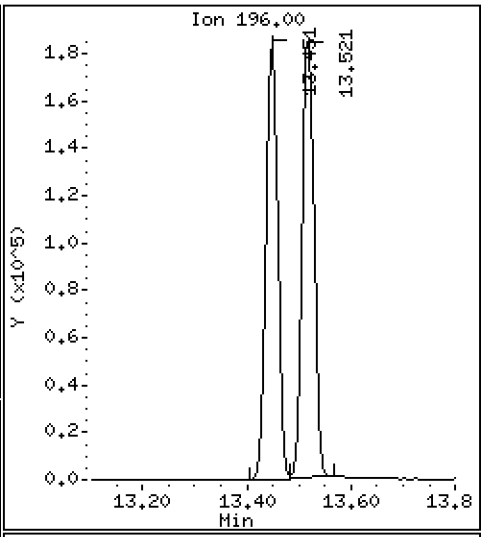
Column phase: ZB-5msi

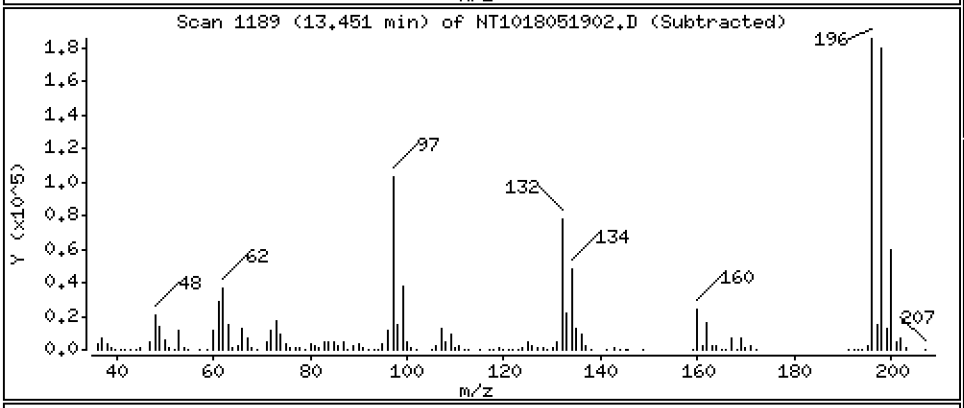
Column diameter: 0.25

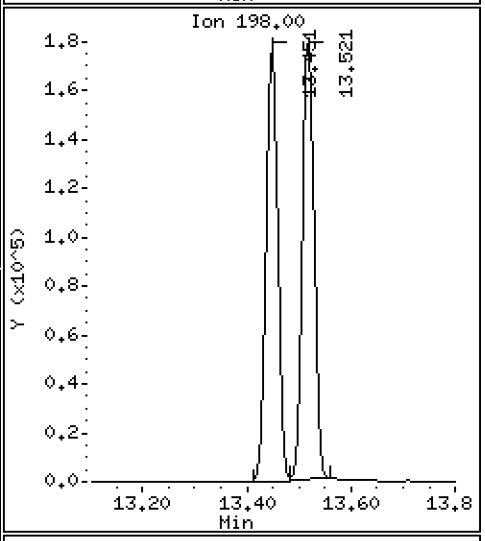
34 2,4,6-Trichlorophenol

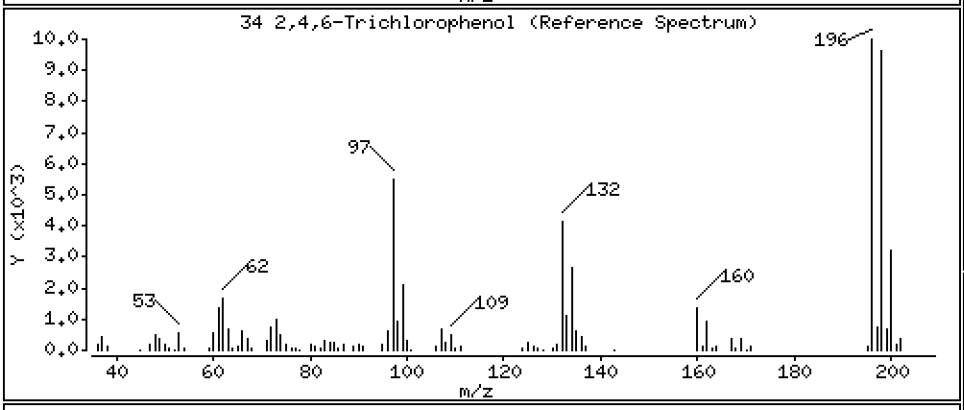
Concentration: 11.07 ug/mL

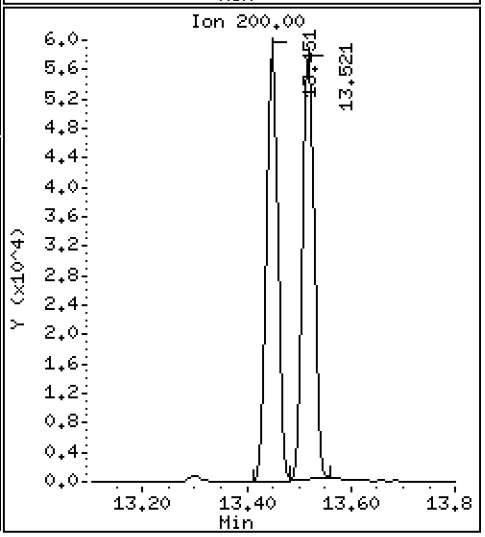


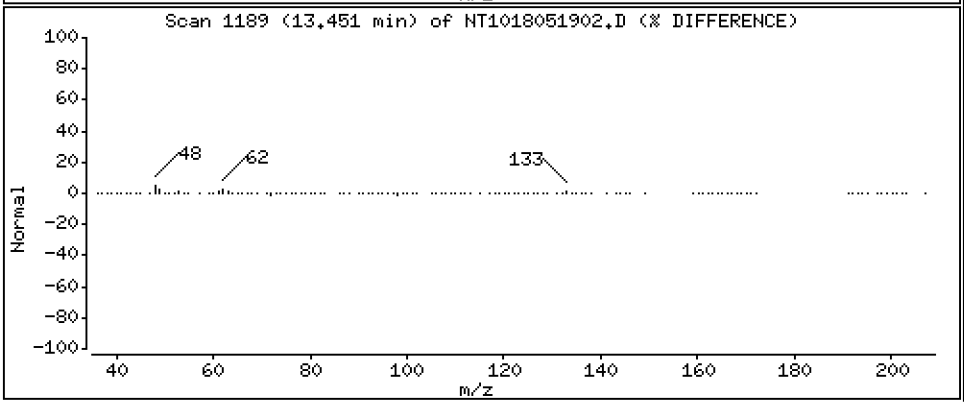












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

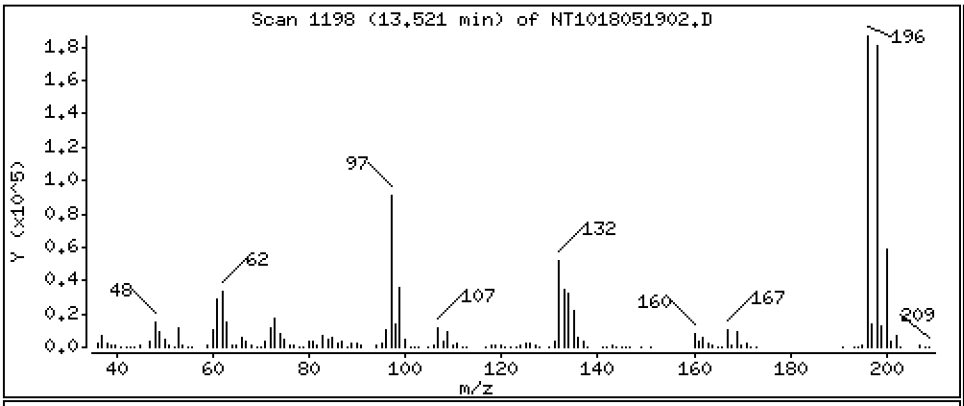
Operator: YZ

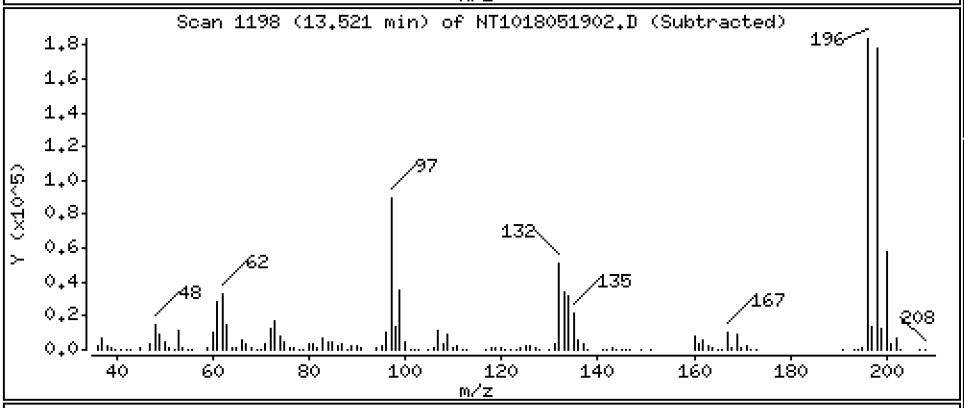
Column phase: ZB-5msi

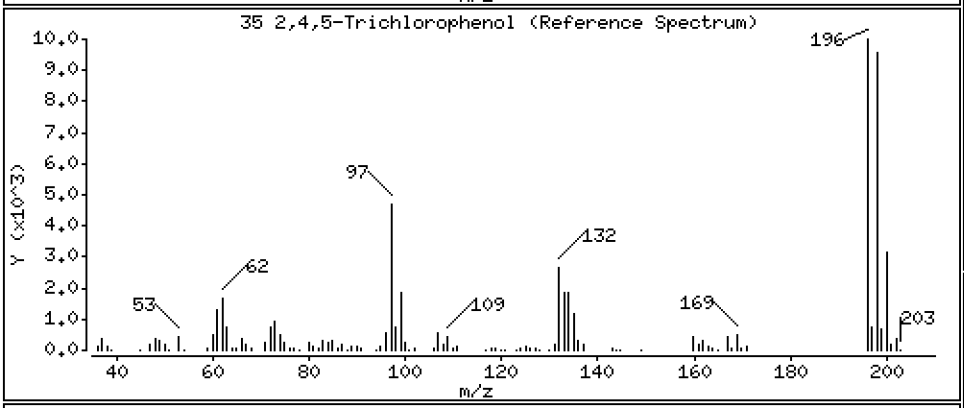
Column diameter: 0.25

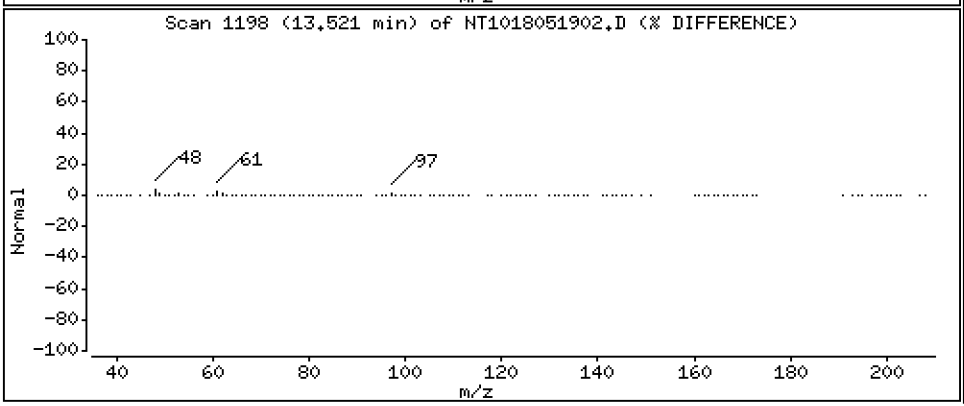
35 2,4,5-Trichlorophenol

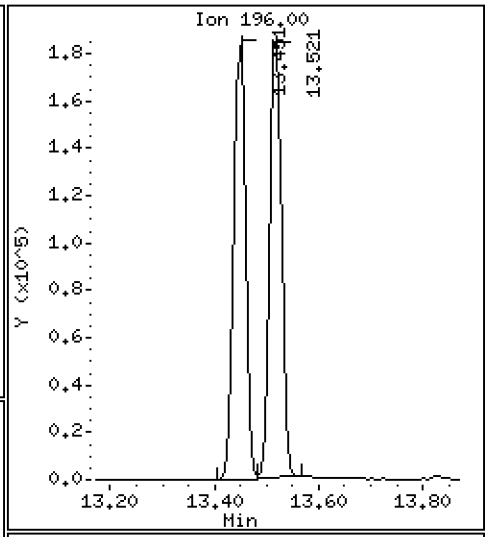
Concentration: 10.18 ug/mL

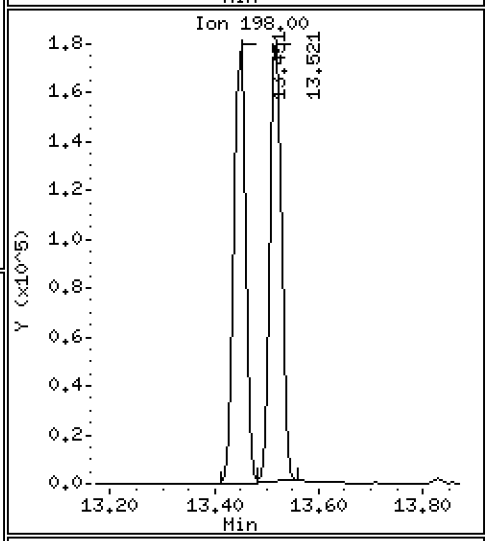


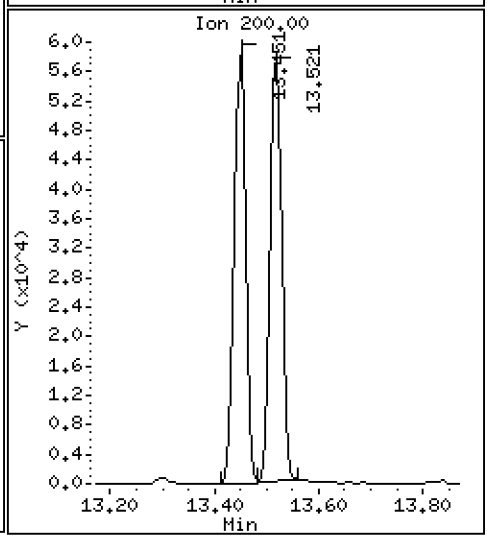












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

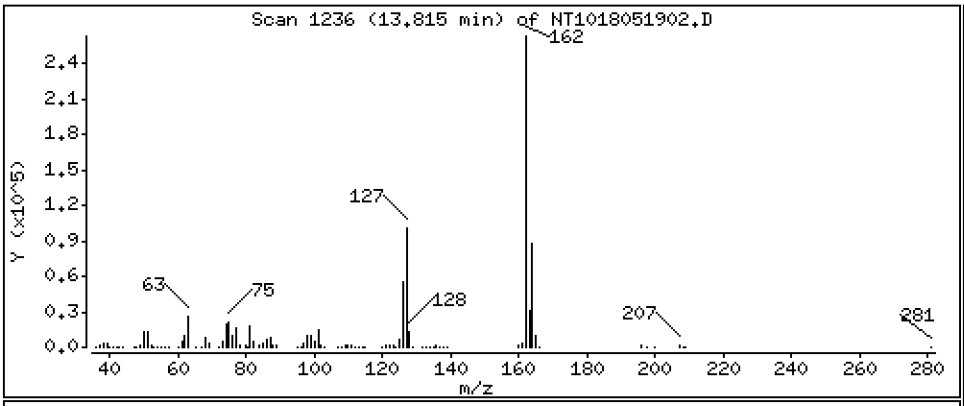
Operator: YZ

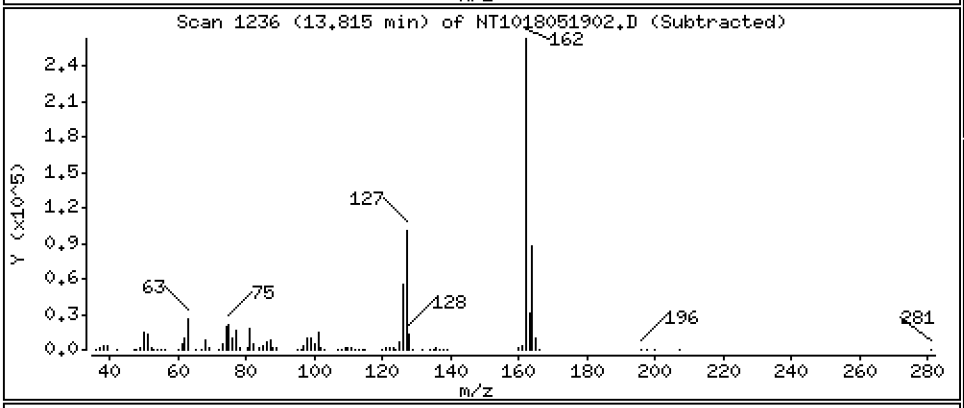
Column phase: ZB-5msi

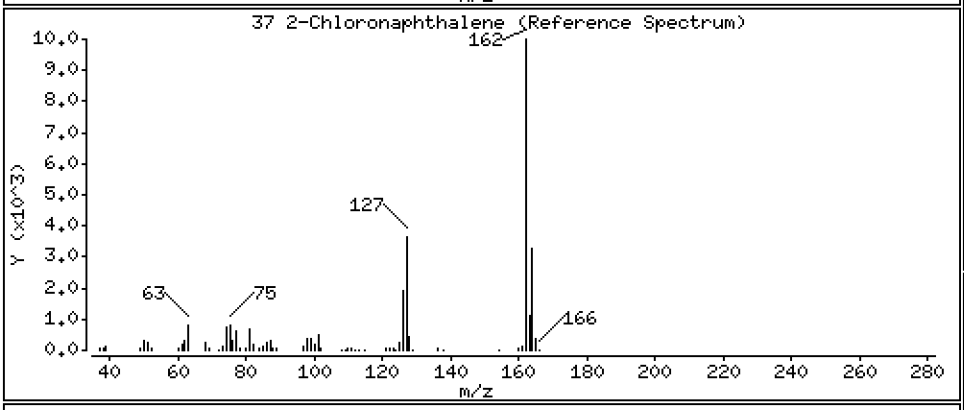
Column diameter: 0.25

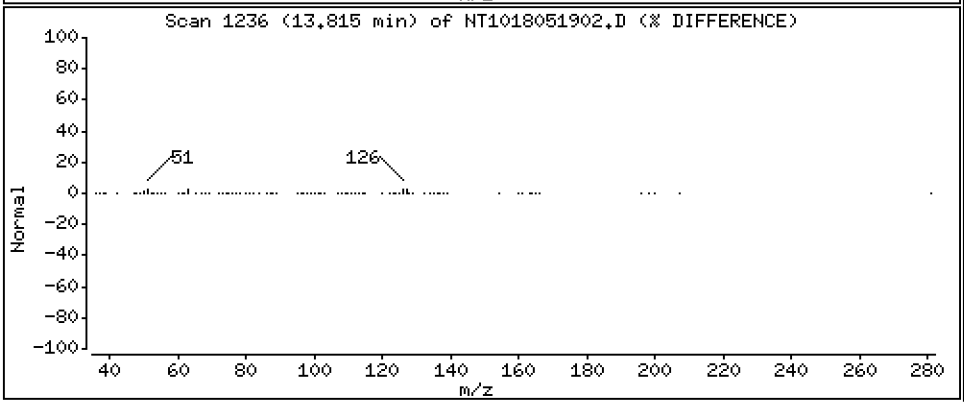
37 2-Chloronaphthalene

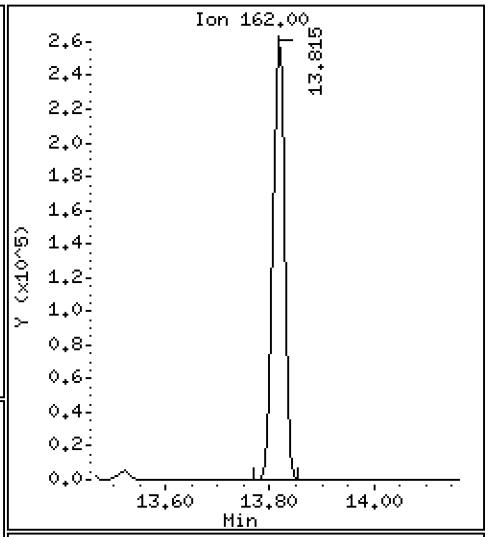
Concentration: 5.204 ug/mL

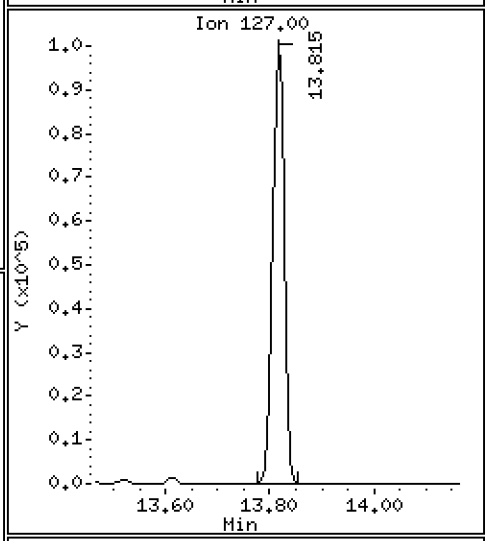


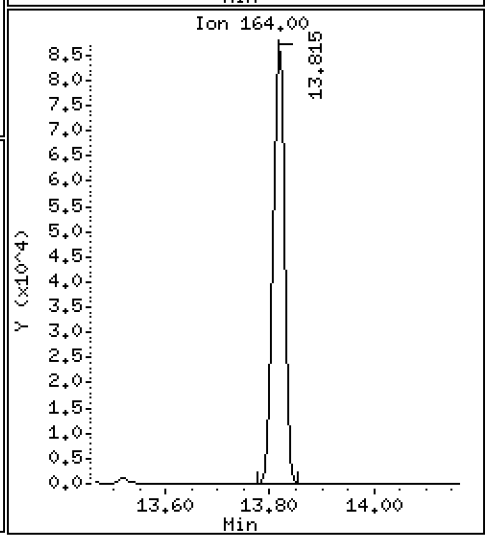












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

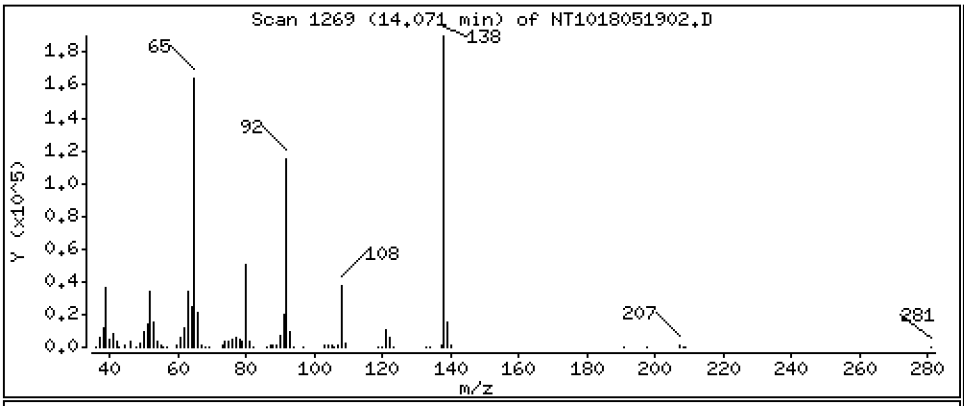
Operator: YZ

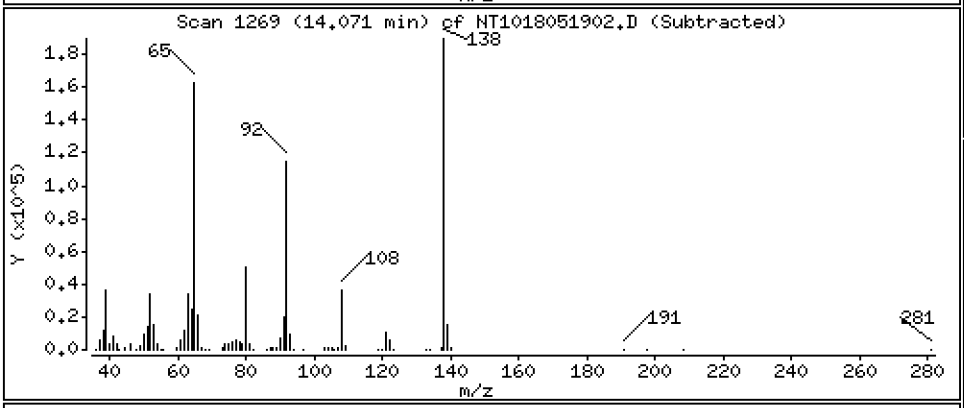
Column phase: ZB-5msi

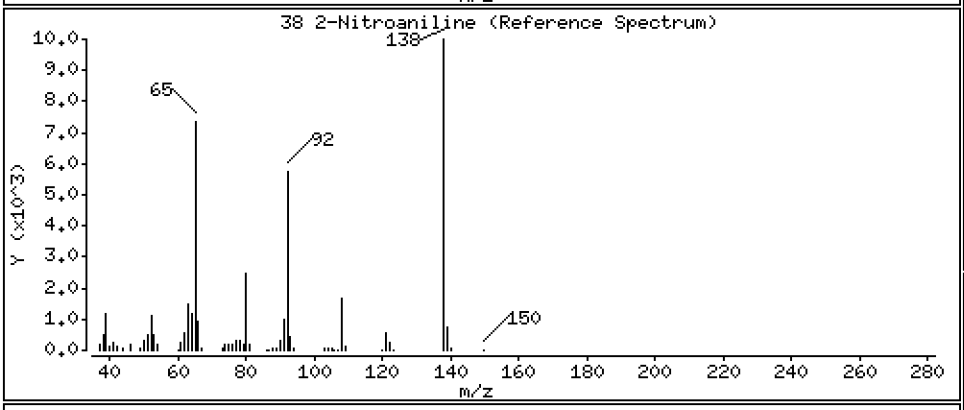
Column diameter: 0.25

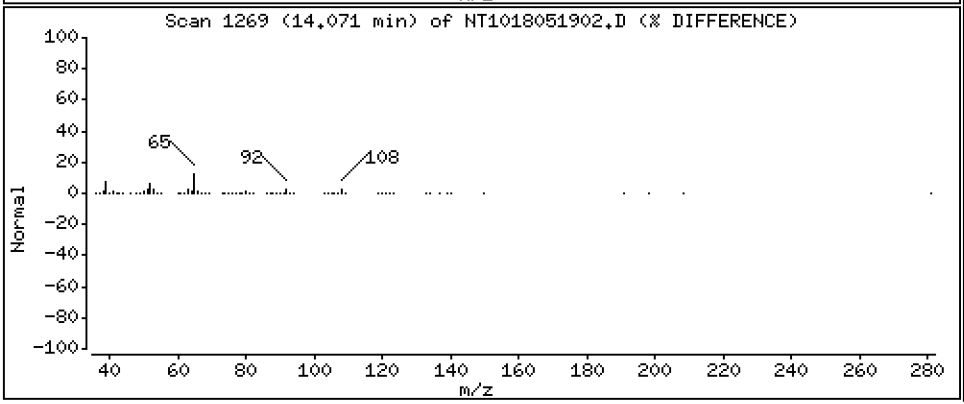
38 2-Nitroaniline

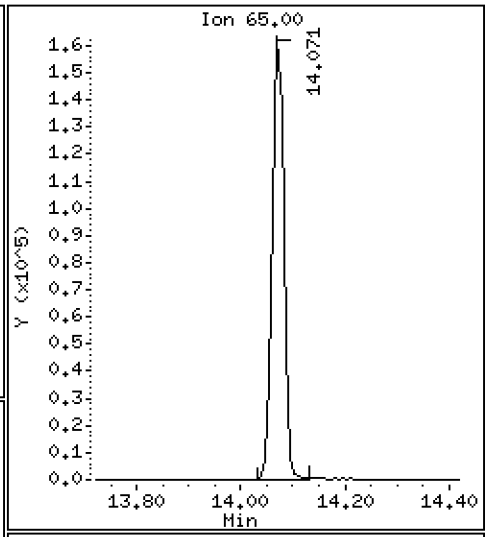
Concentration: 11.42 ug/mL

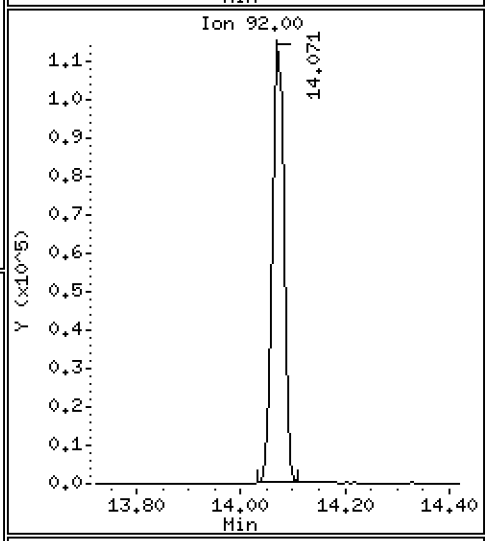


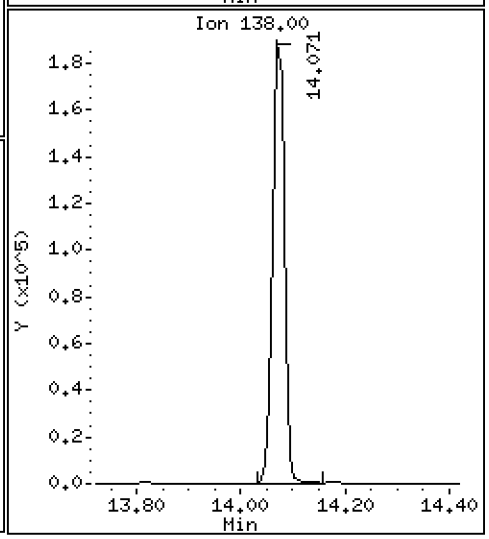












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

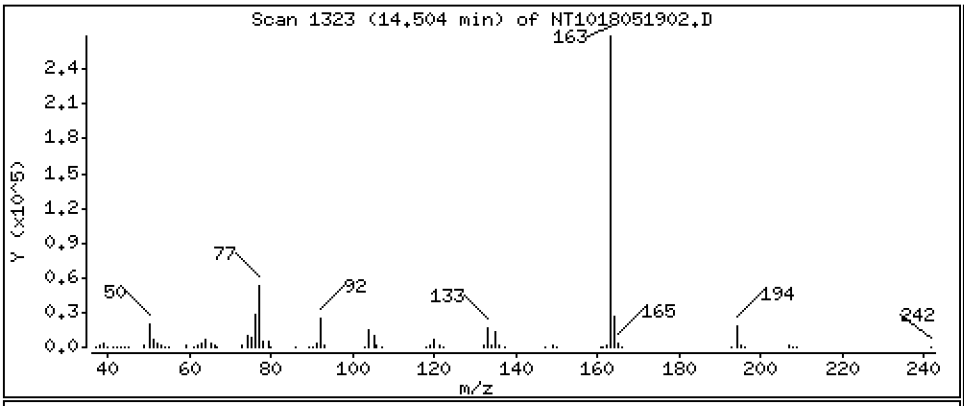
Operator: YZ

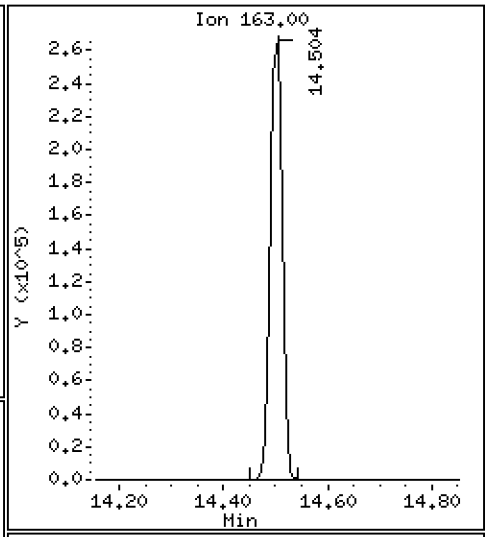
Column phase: ZB-5msi

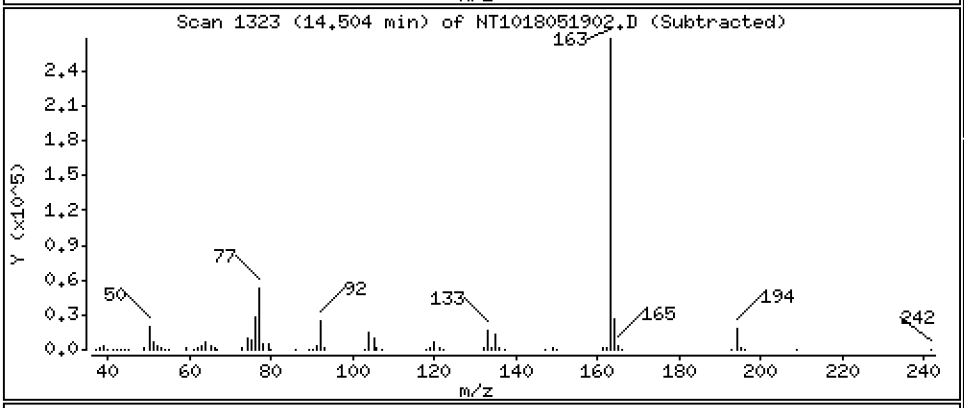
Column diameter: 0.25

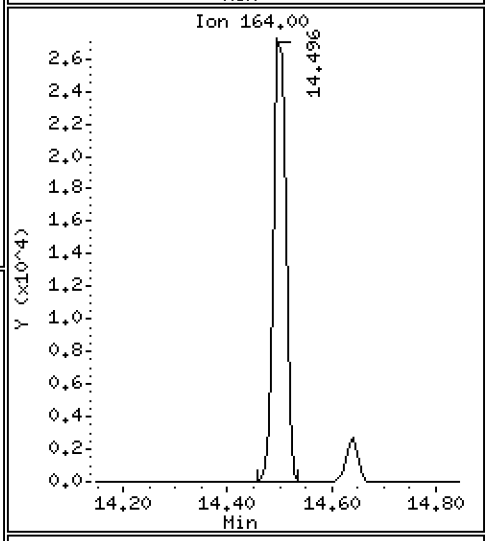
39 Dimethylphthalate

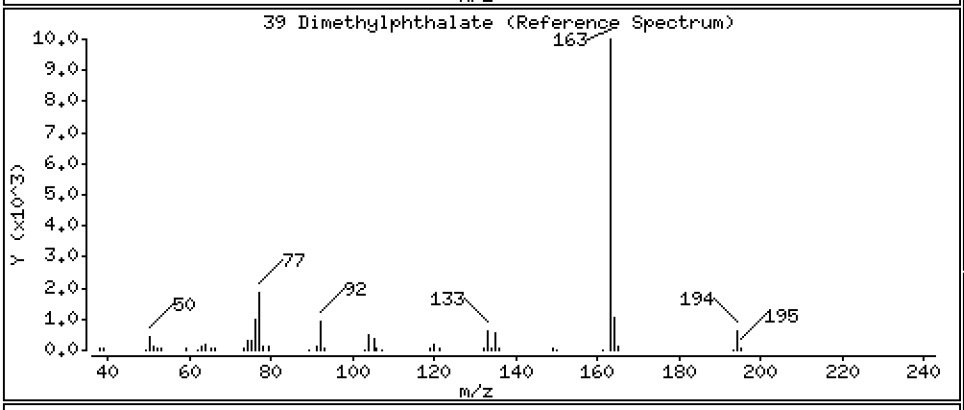
Concentration: 5.136 ug/mL

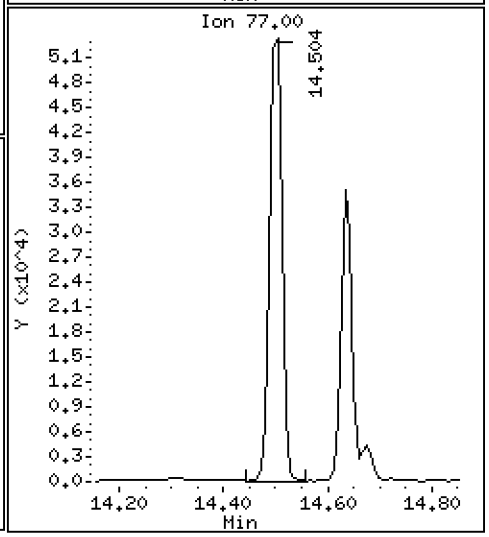


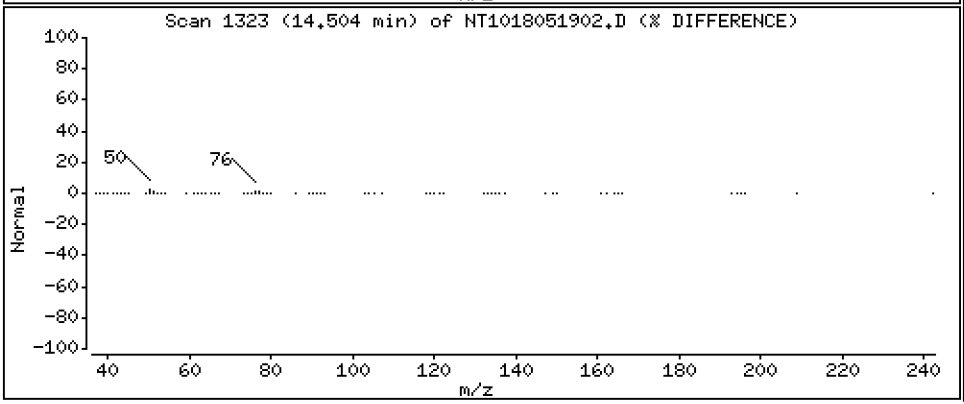












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

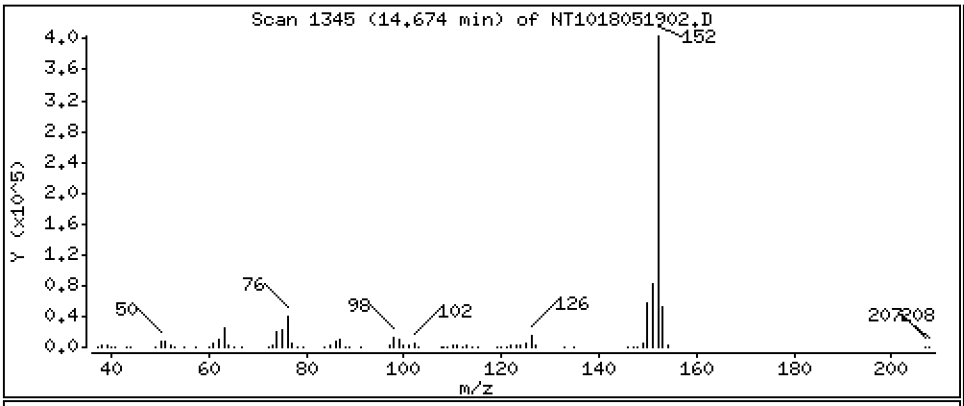
Operator: YZ

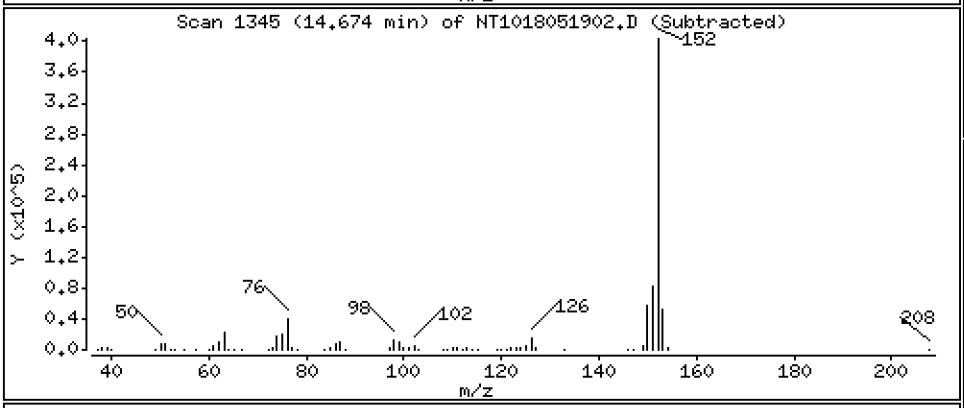
Column phase: ZB-5msi

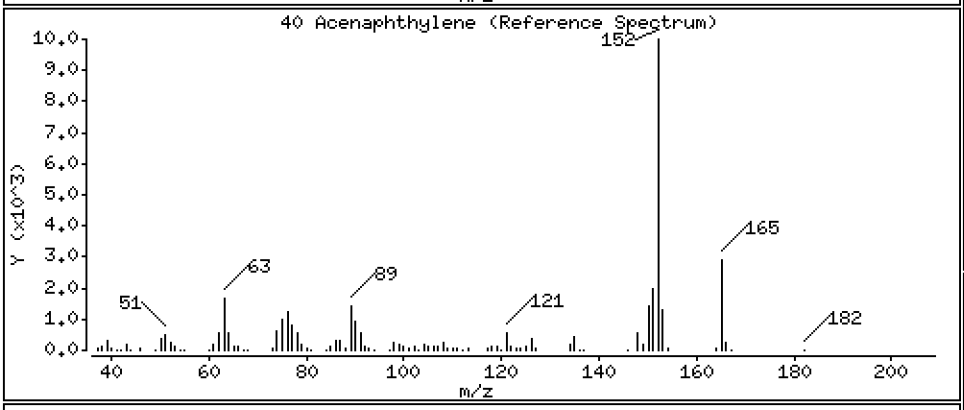
Column diameter: 0.25

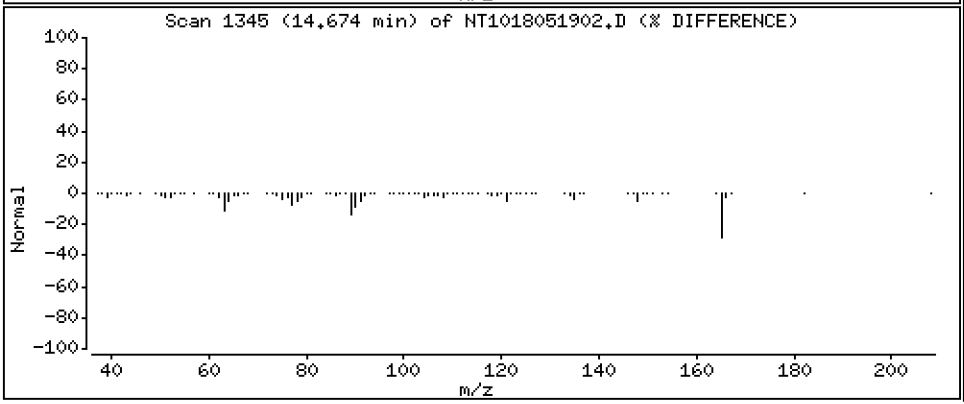
40 Acenaphthylene

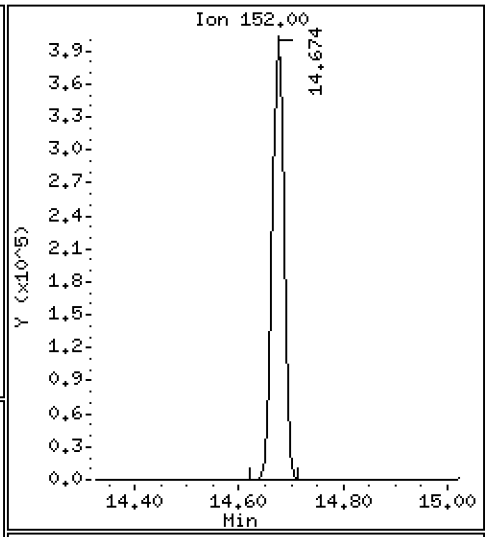
Concentration: 5.119 ug/mL

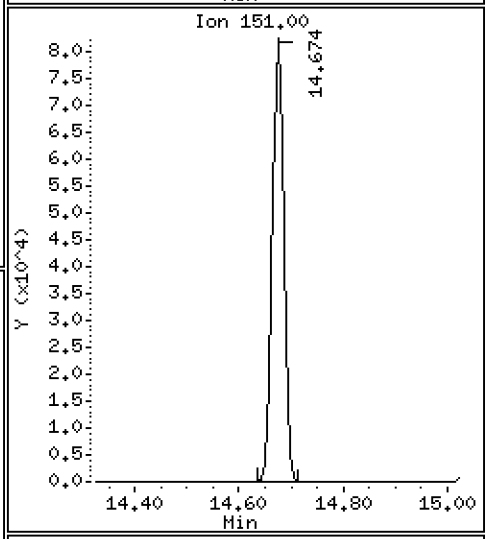


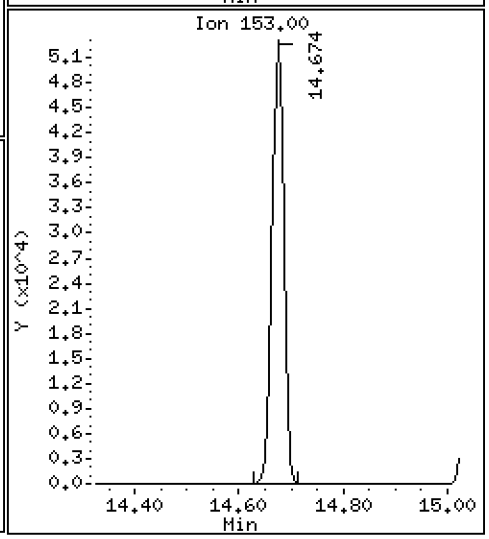












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

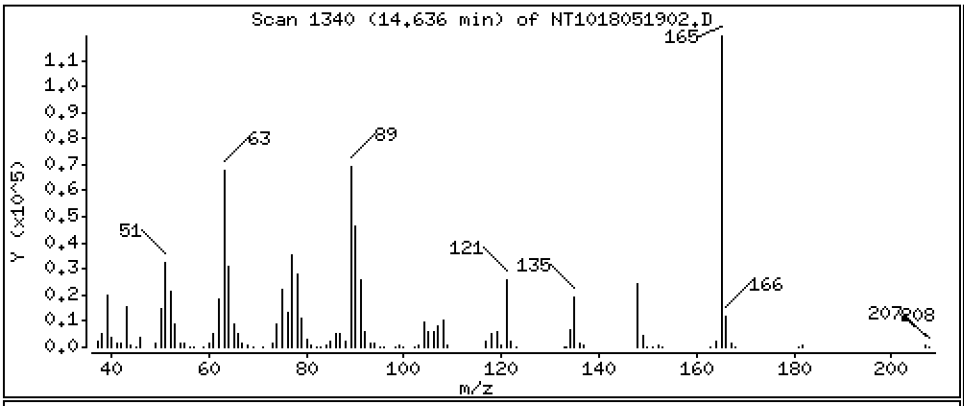
Operator: YZ

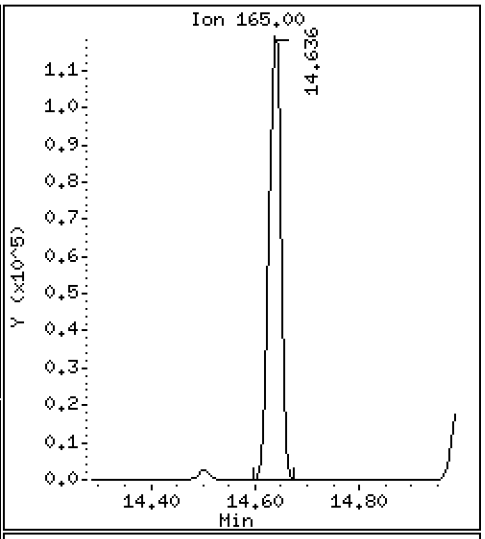
Column phase: ZB-5msi

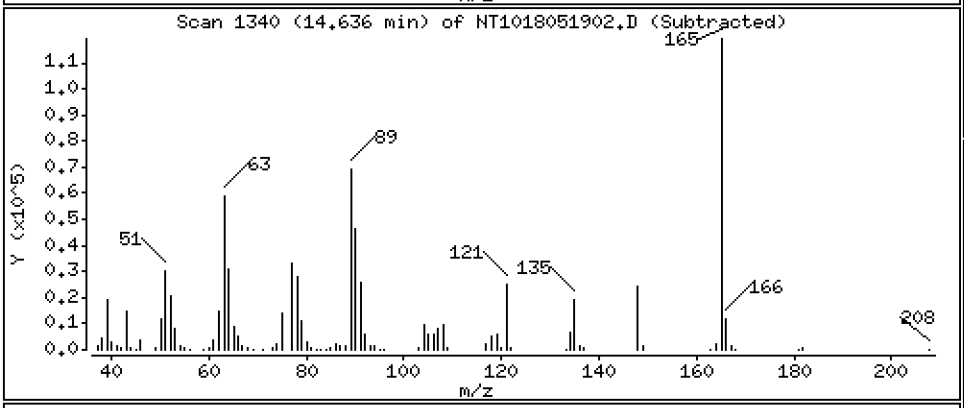
Column diameter: 0.25

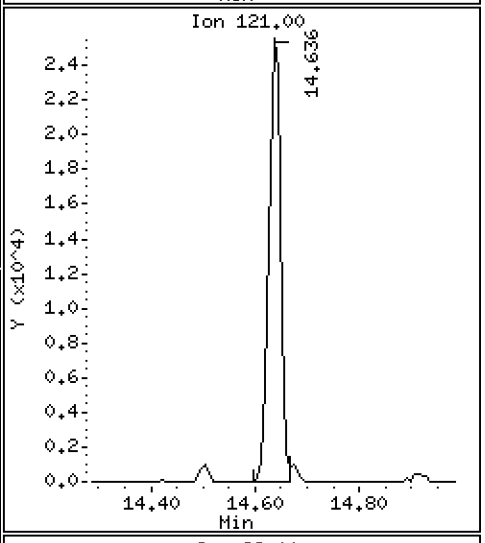
41 2,6-Dinitrotoluene

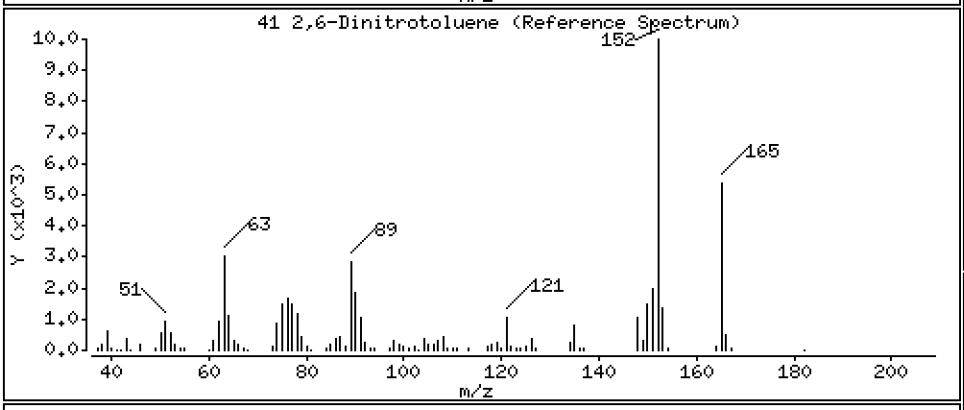
Concentration: 10.79 ug/mL

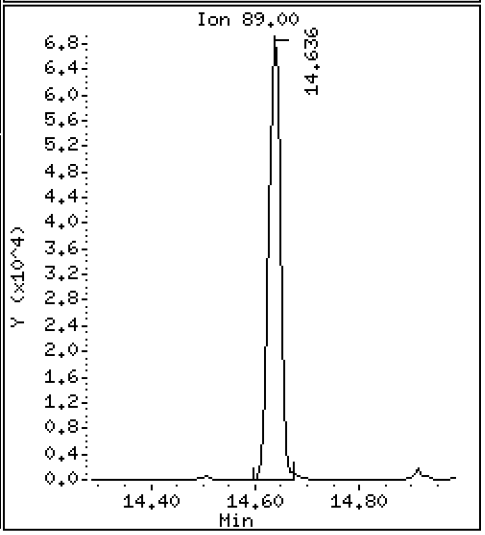


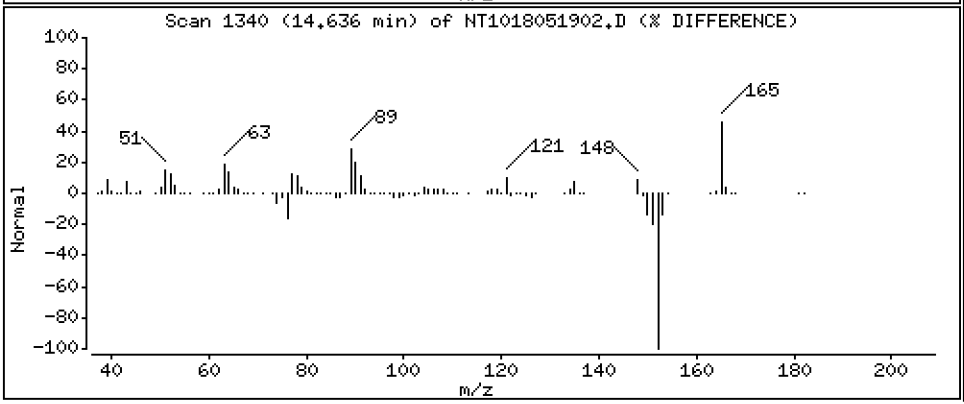












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

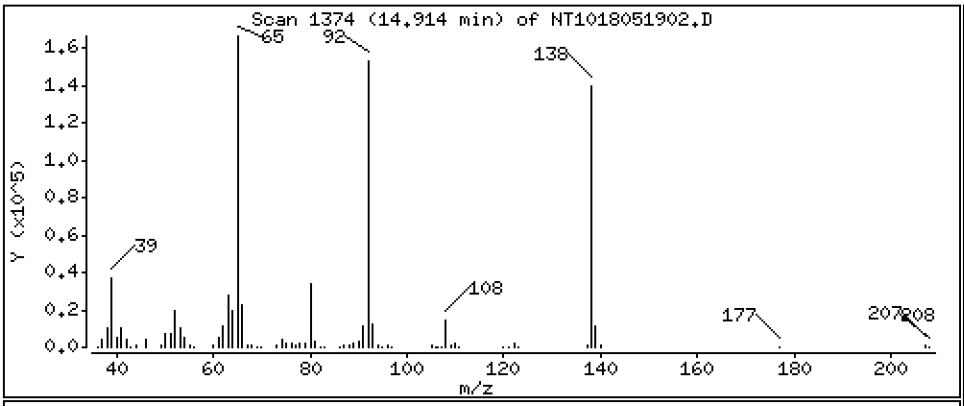
Operator: YZ

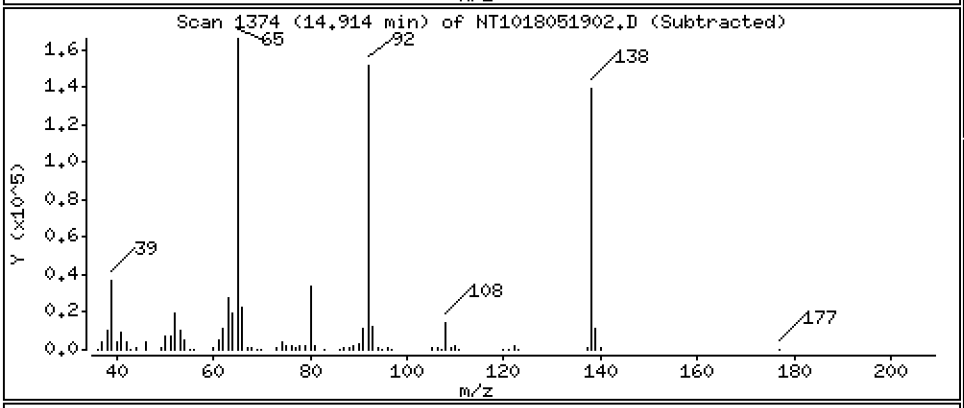
Column phase: ZB-5msi

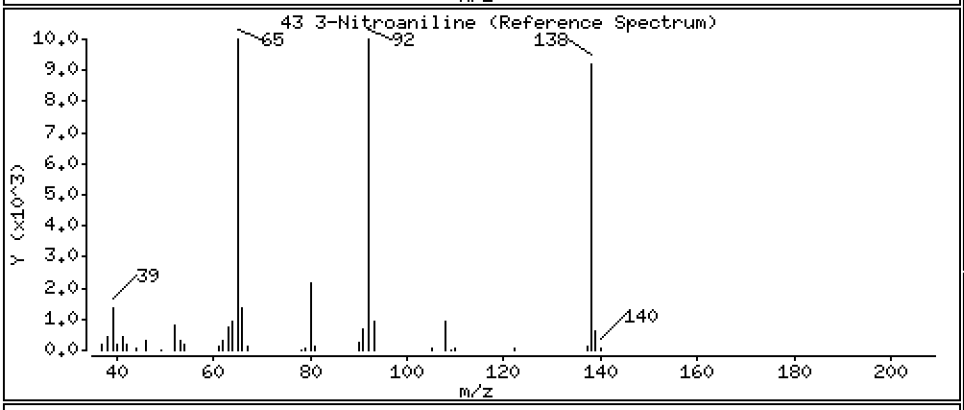
Column diameter: 0.25

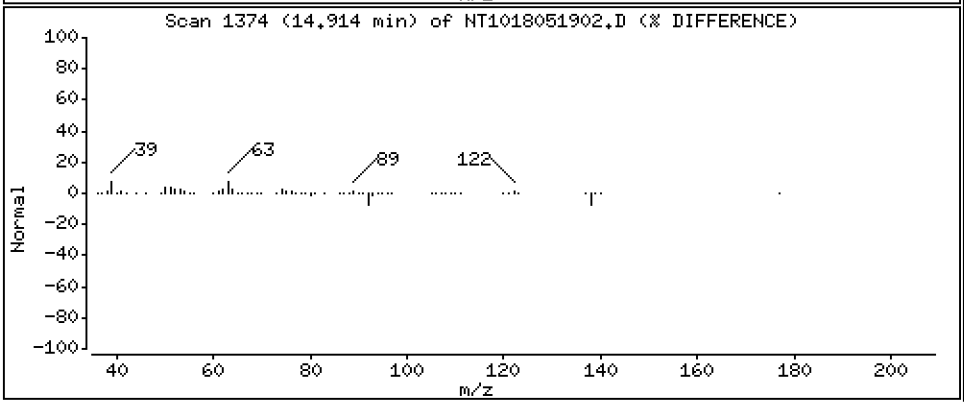
43 3-Nitroaniline

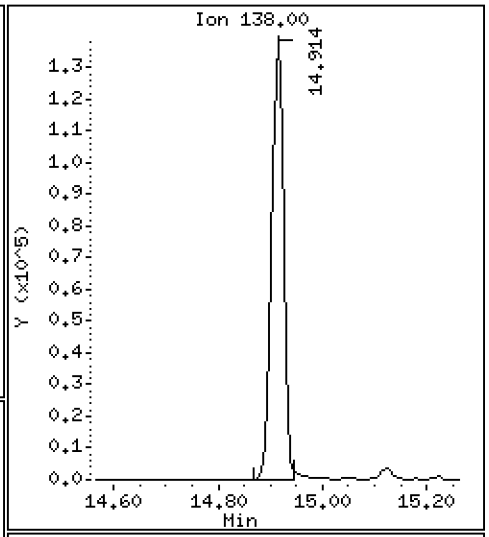
Concentration: 10.72 ug/mL

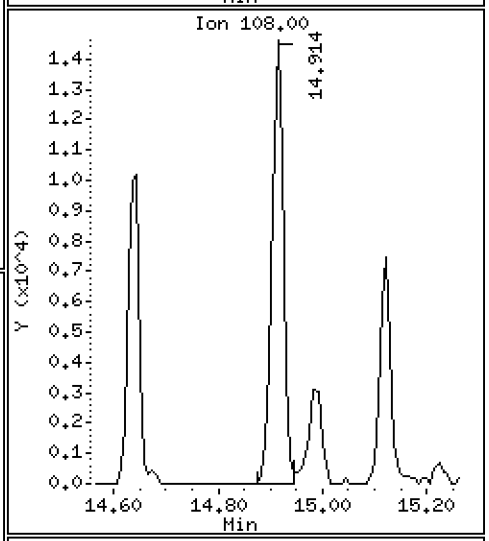


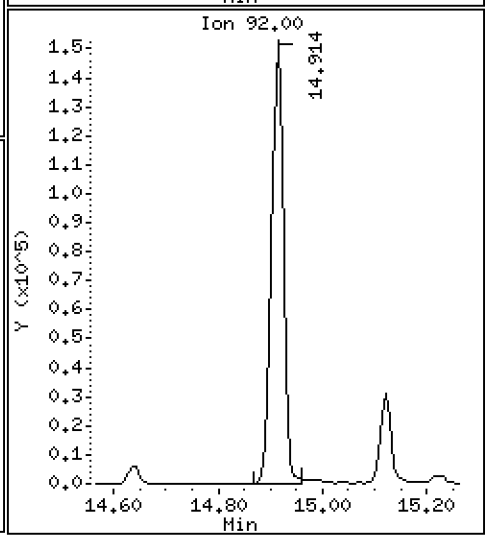












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

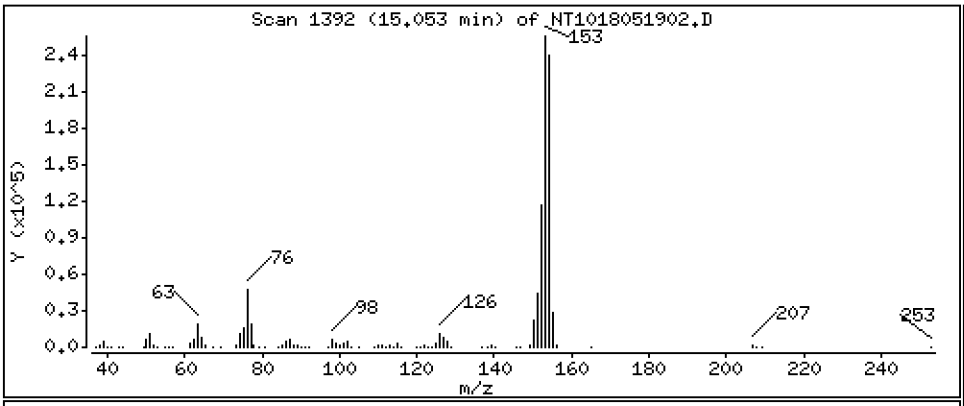
Operator: YZ

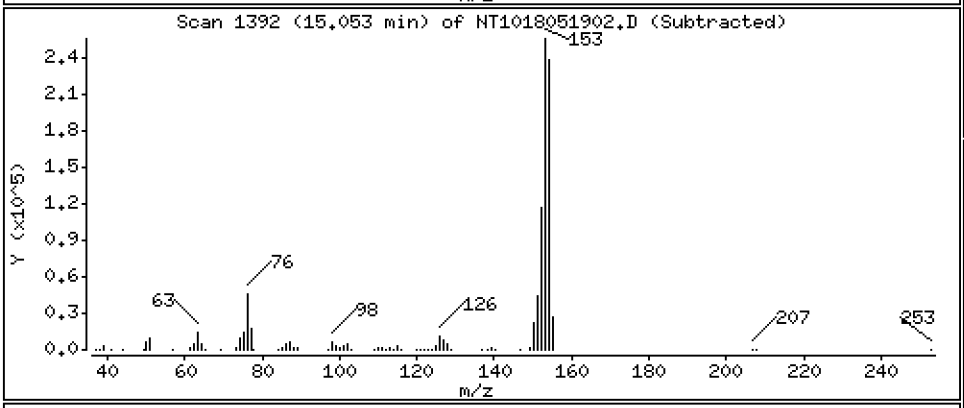
Column phase: ZB-5msi

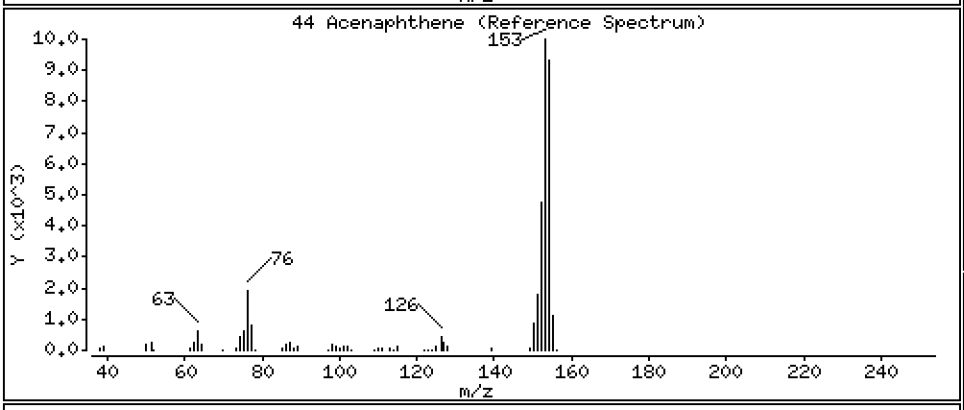
Column diameter: 0.25

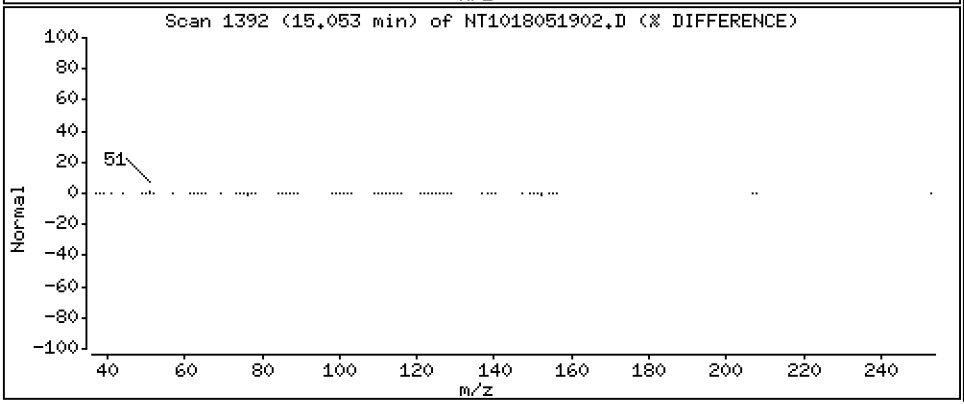
44 Acenaphthene

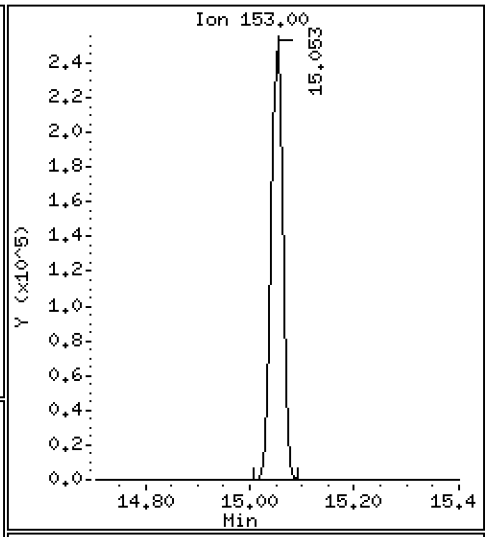
Concentration: 5.336 ug/mL

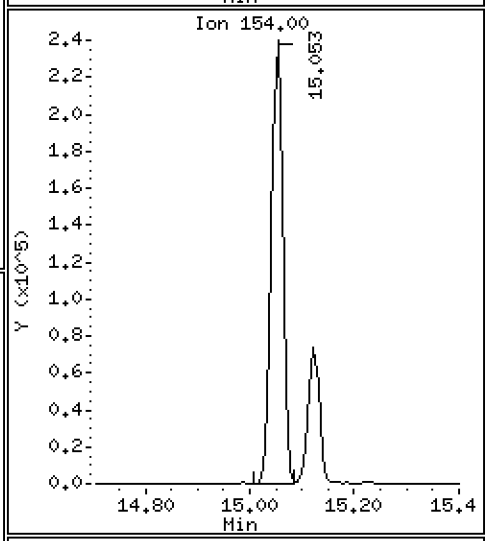


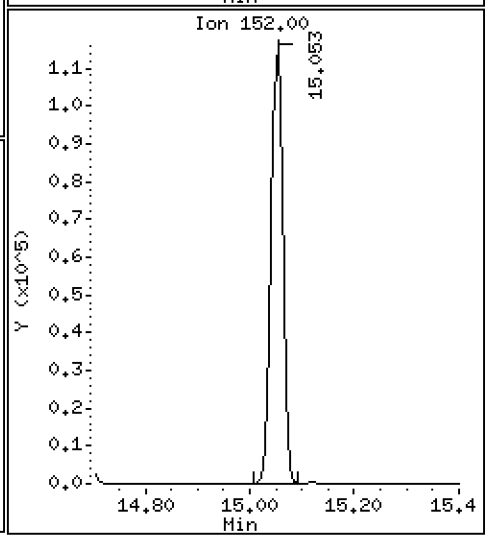












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

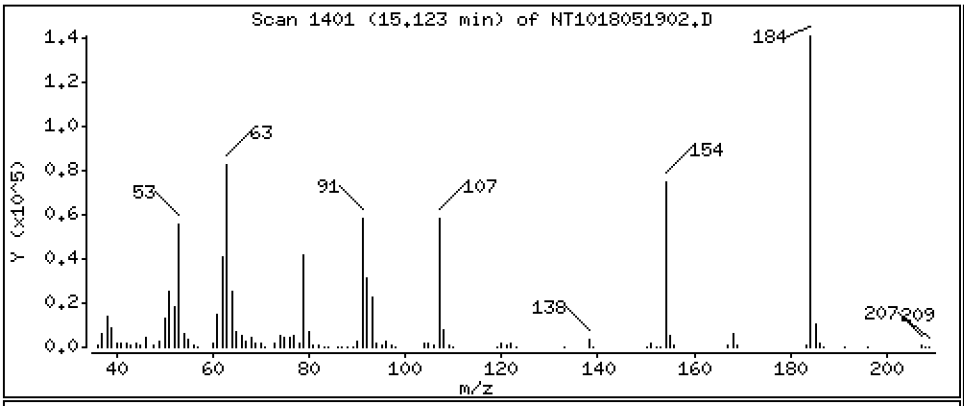
Operator: YZ

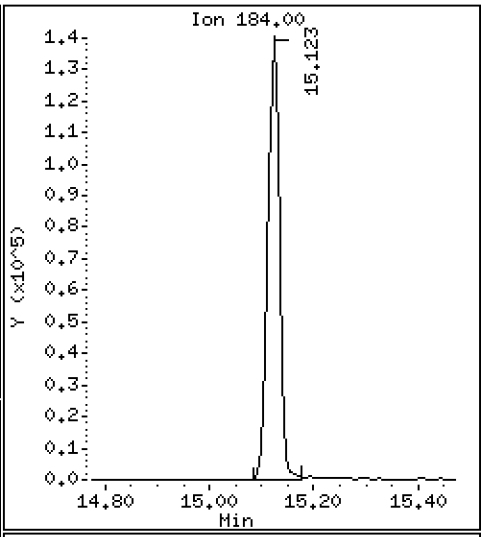
Column phase: ZB-5msi

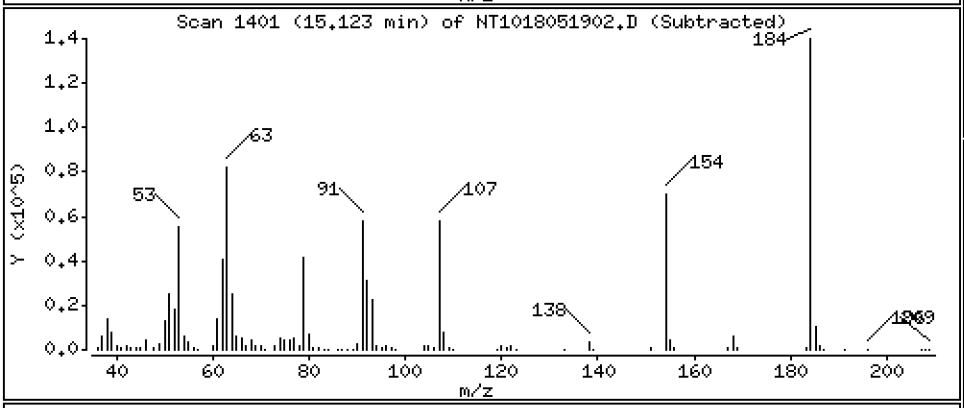
Column diameter: 0.25

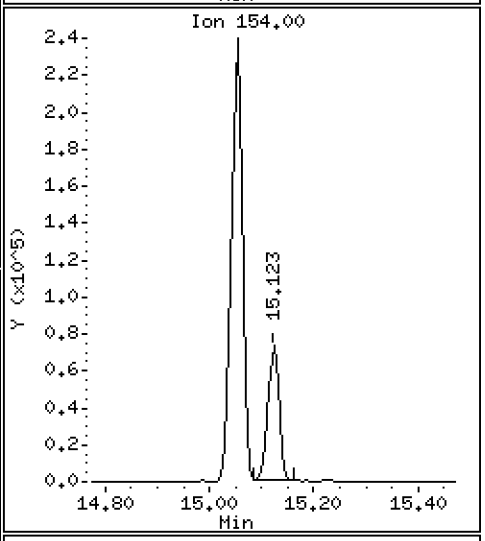
45 2,4-Dinitrophenol

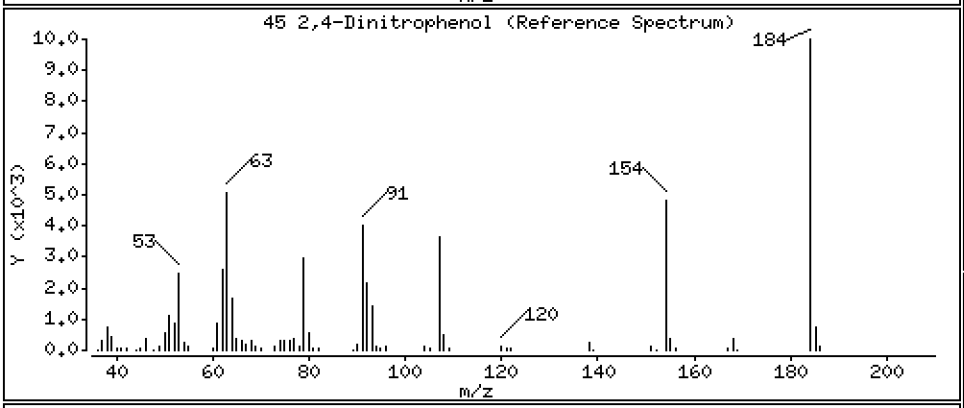
Concentration: 19.01 ug/mL

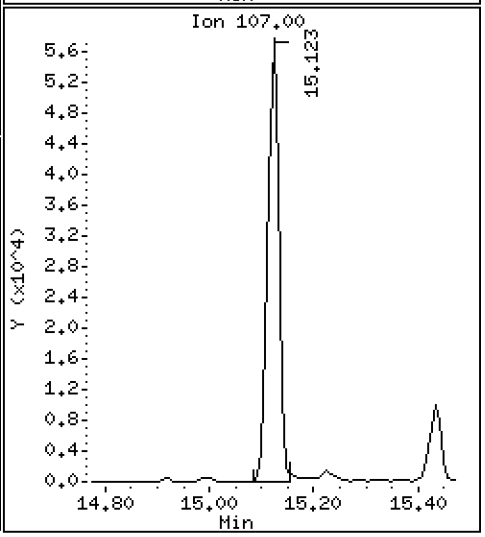


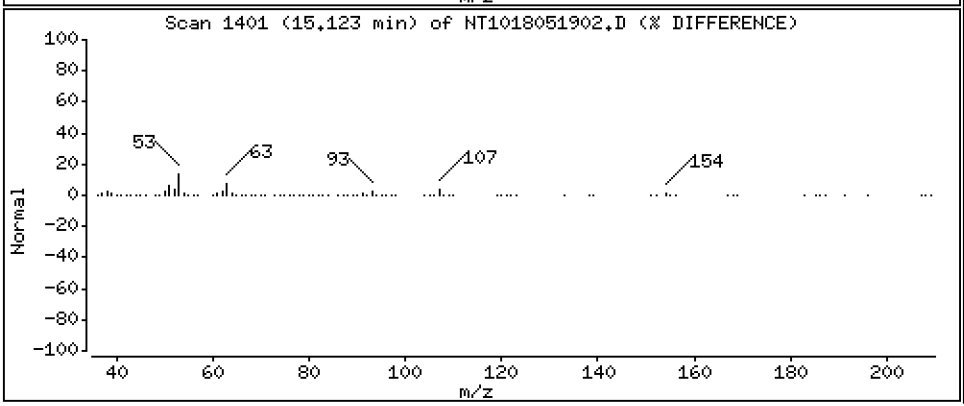












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

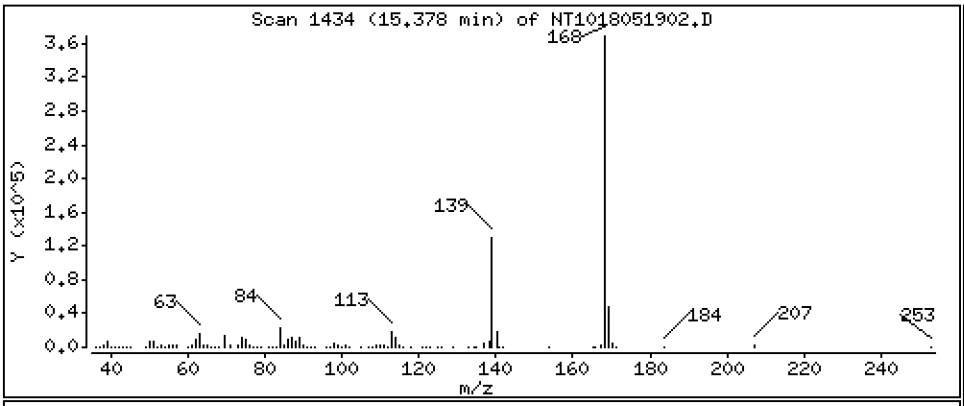
Operator: YZ

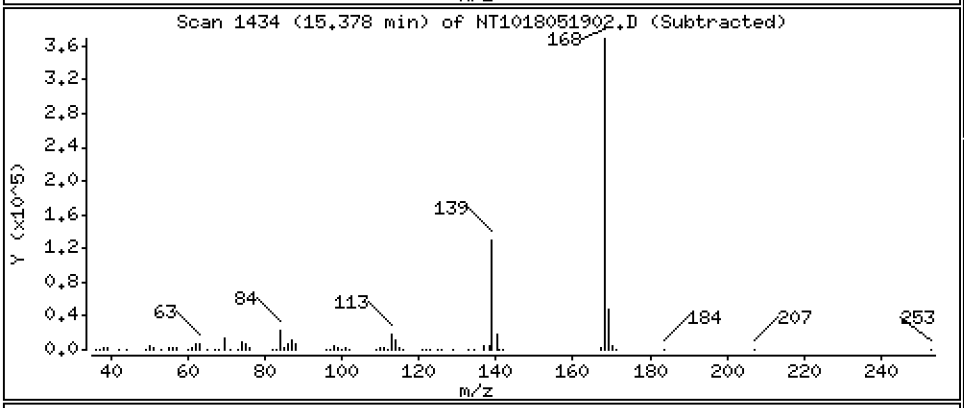
Column phase: ZB-5msi

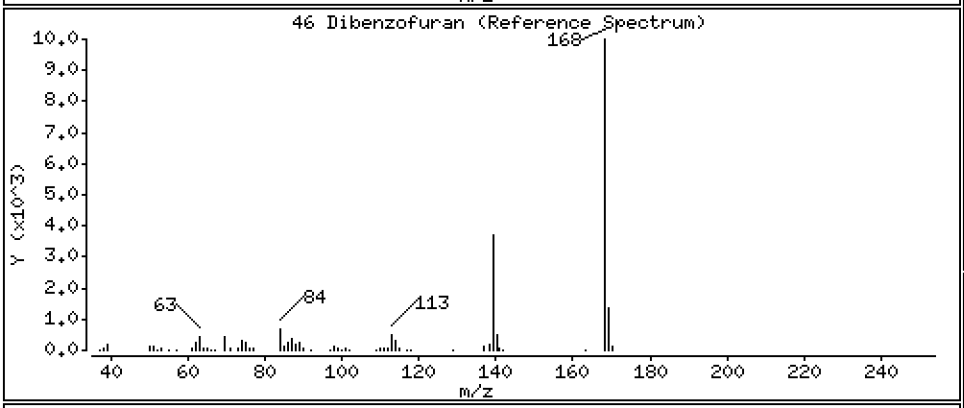
Column diameter: 0.25

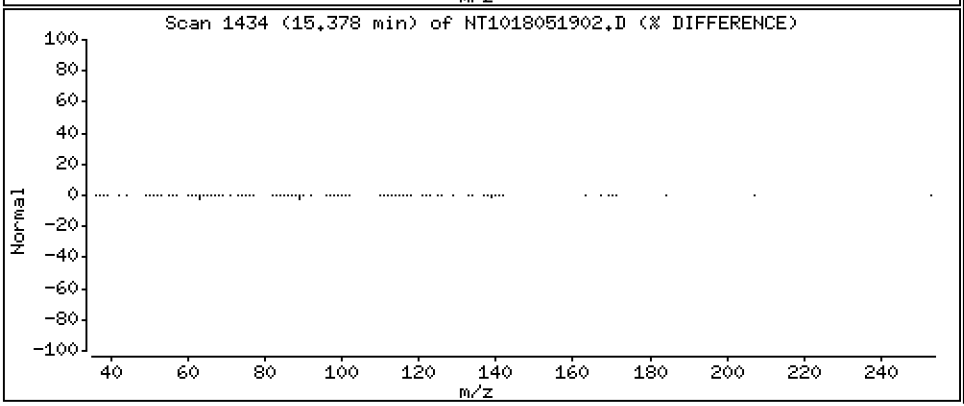
46 Dibenzofuran

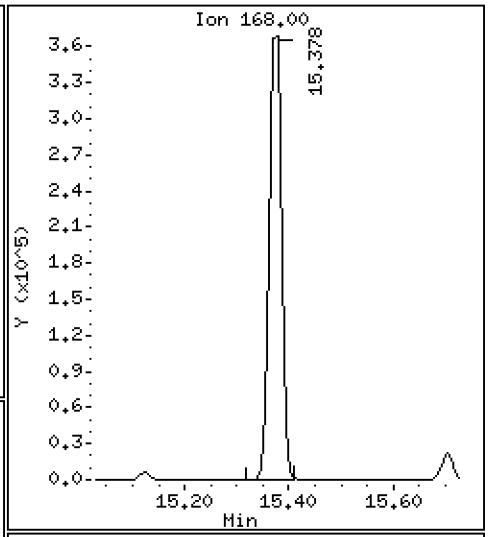
Concentration: 5.287 ug/mL

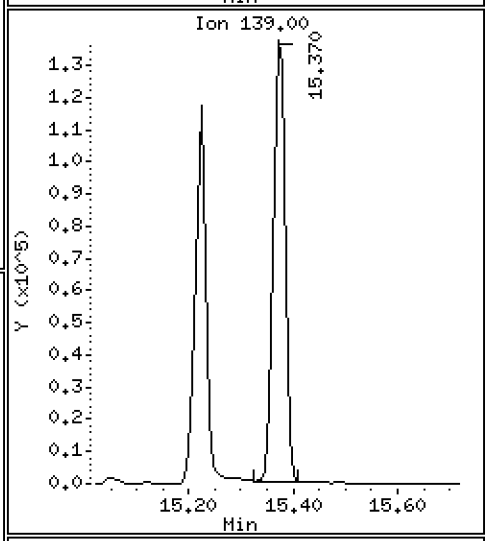


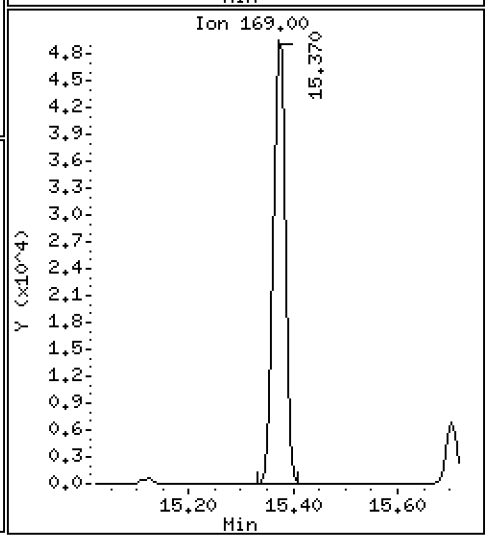












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

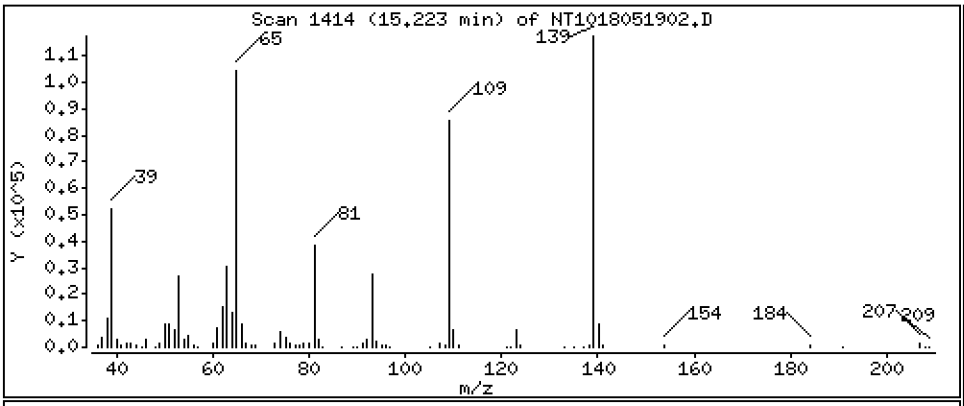
Operator: YZ

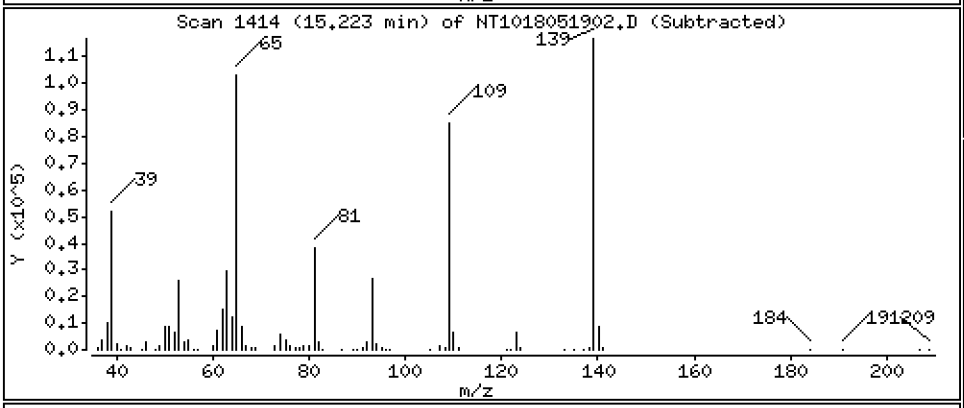
Column phase: ZB-5msi

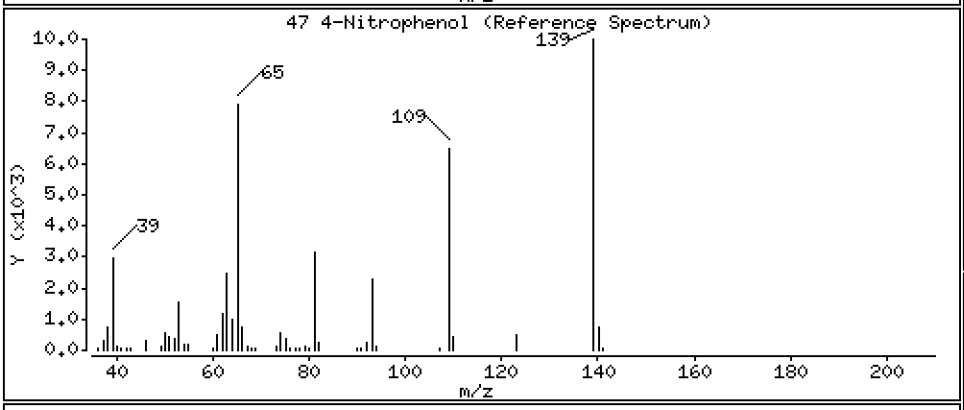
Column diameter: 0.25

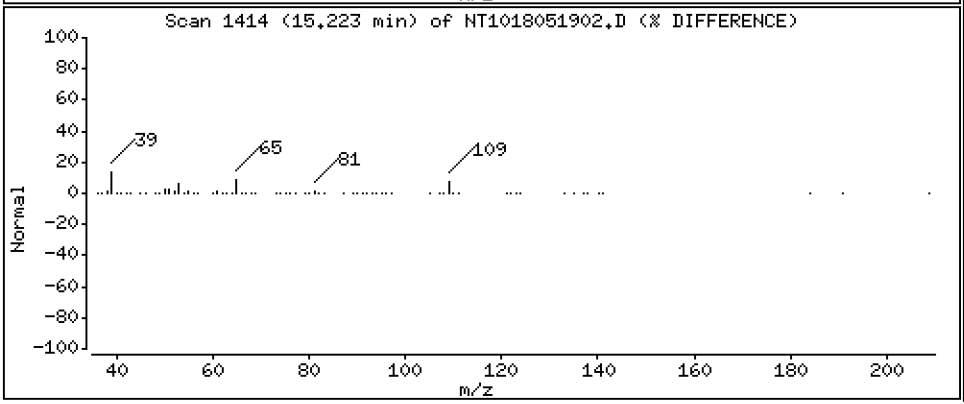
47 4-Nitrophenol

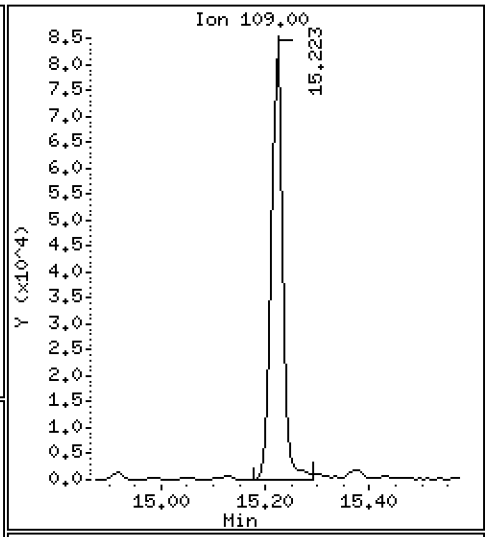
Concentration: 9.850 ug/mL

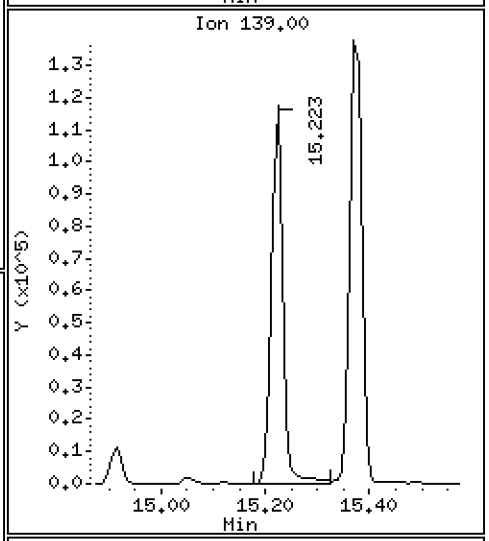


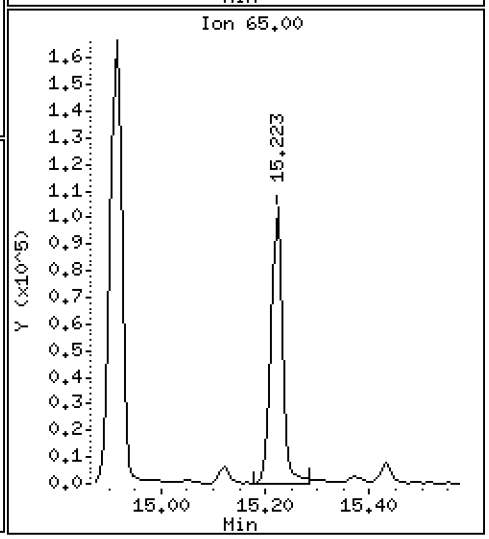












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

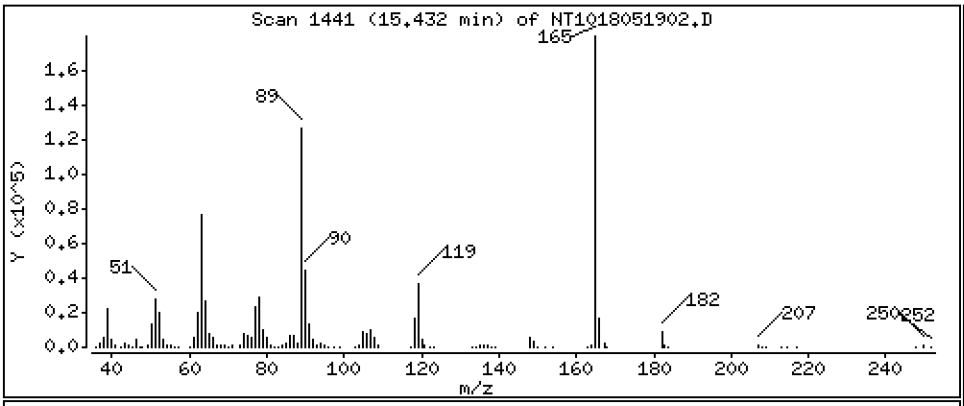
Operator: YZ

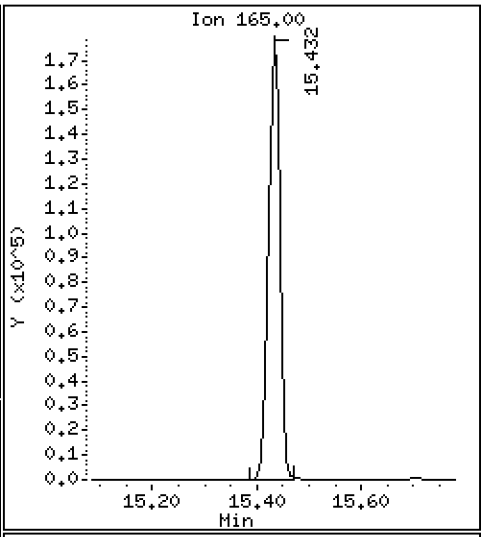
Column phase: ZB-5msi

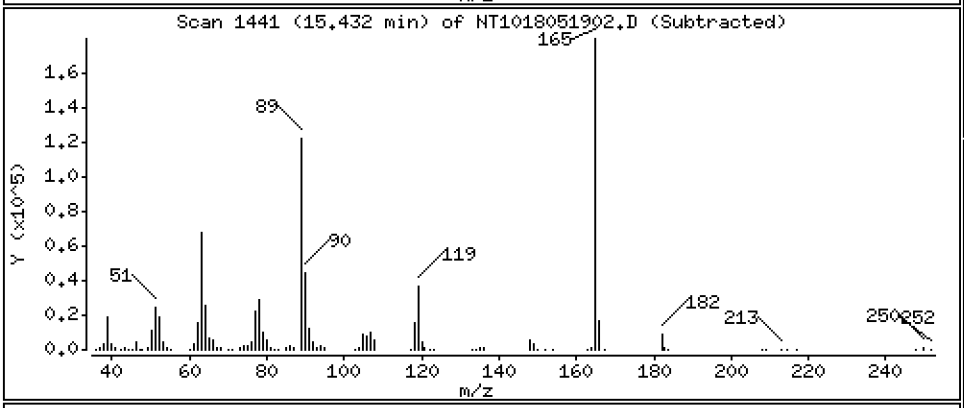
Column diameter: 0.25

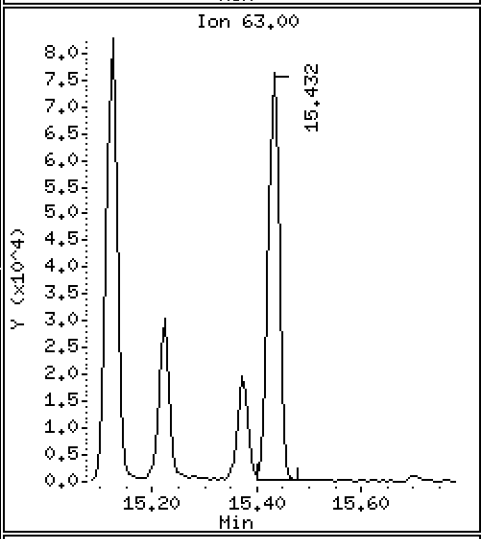
48 2,4-Dinitrotoluene

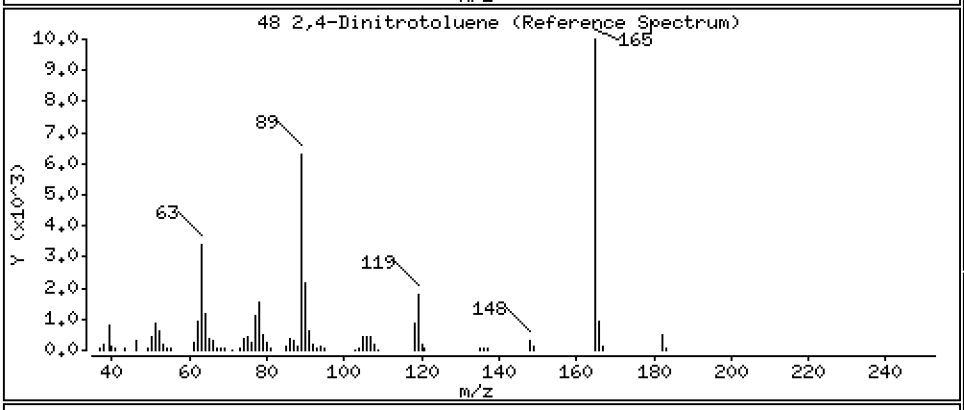
Concentration: 11.77 ug/mL

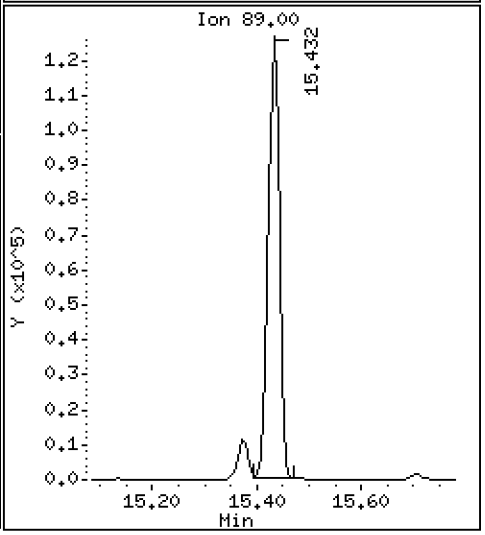


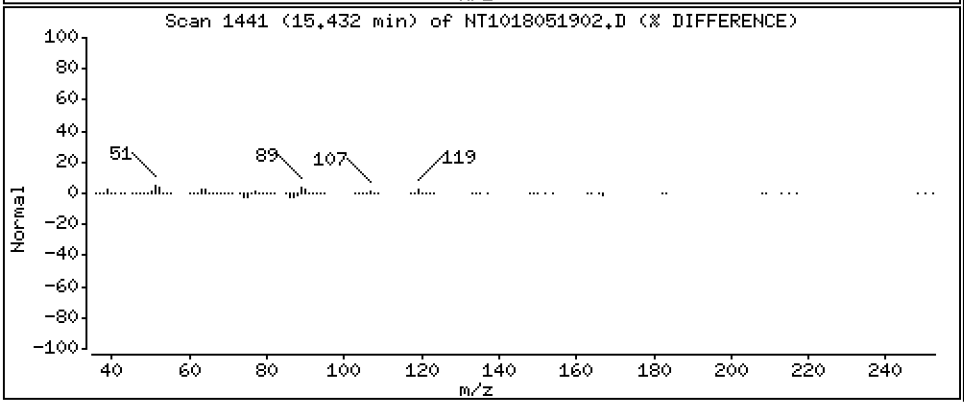












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

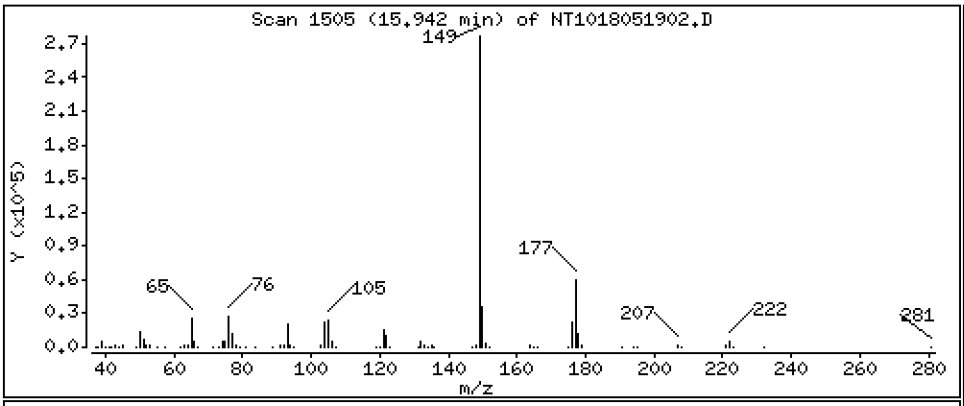
Operator: YZ

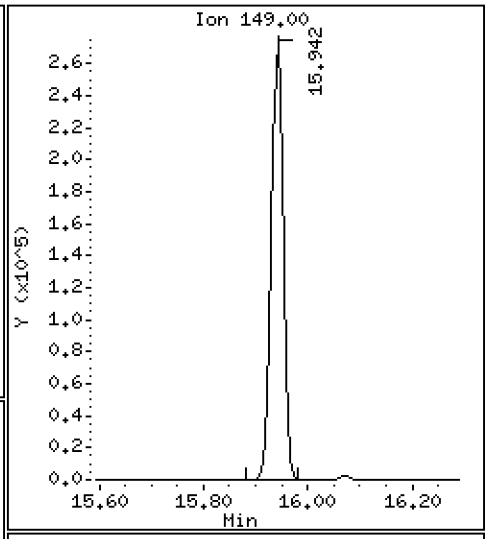
Column phase: ZB-5msi

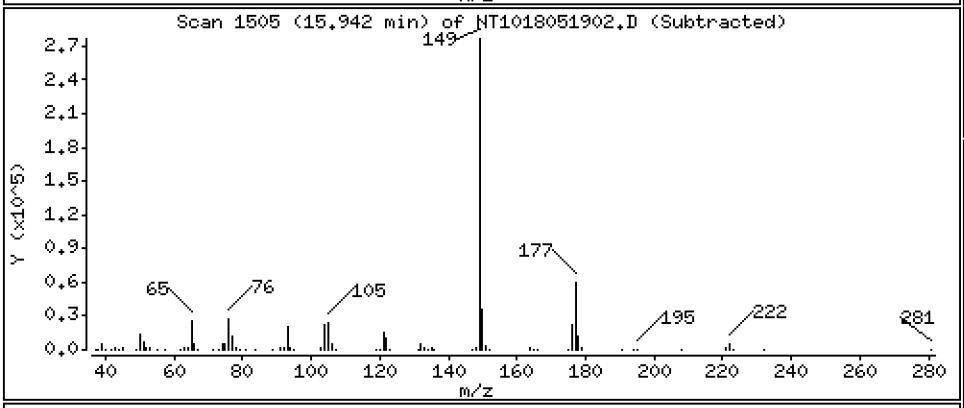
Column diameter: 0.25

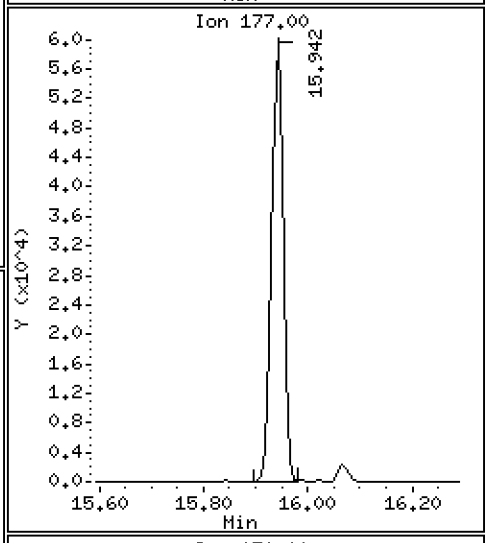
50 Diethylphthalate

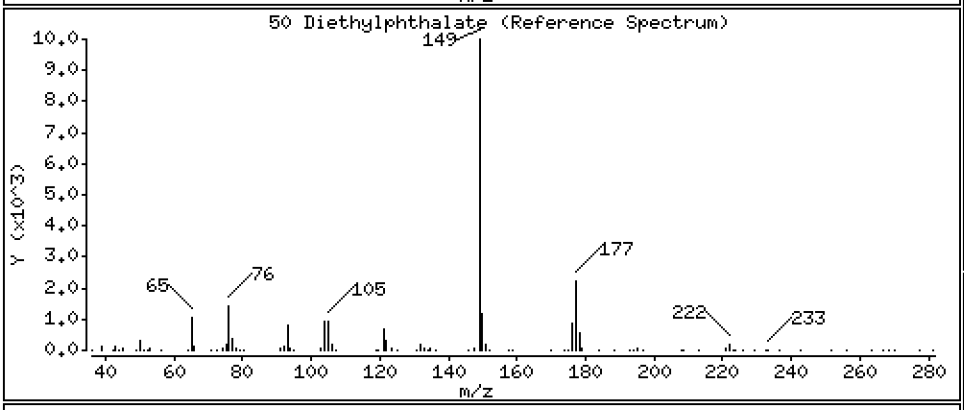
Concentration: 5.131 ug/mL

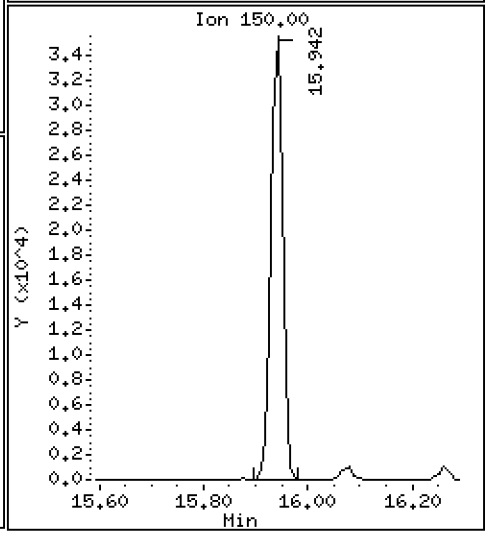


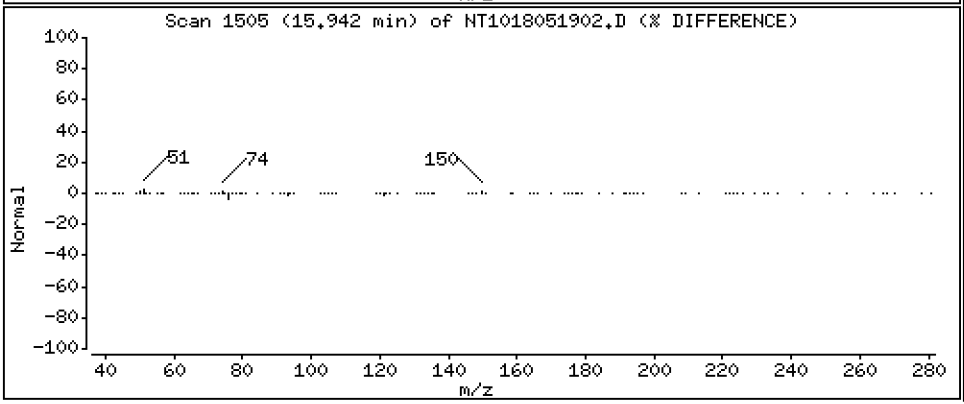












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

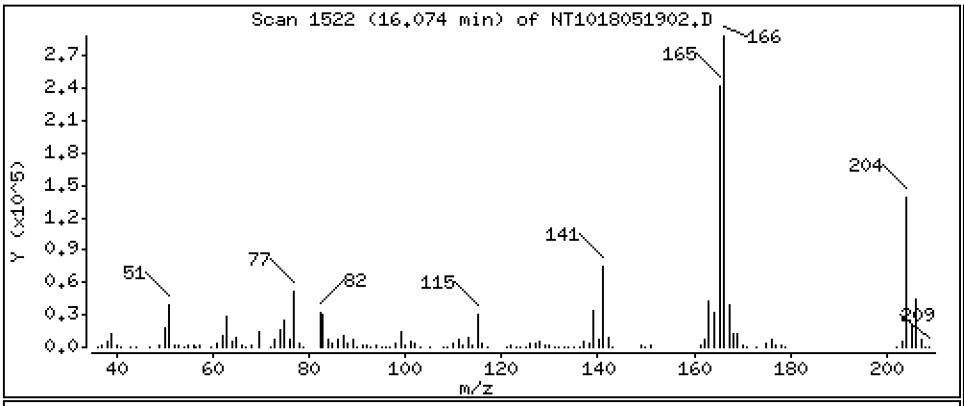
Operator: YZ

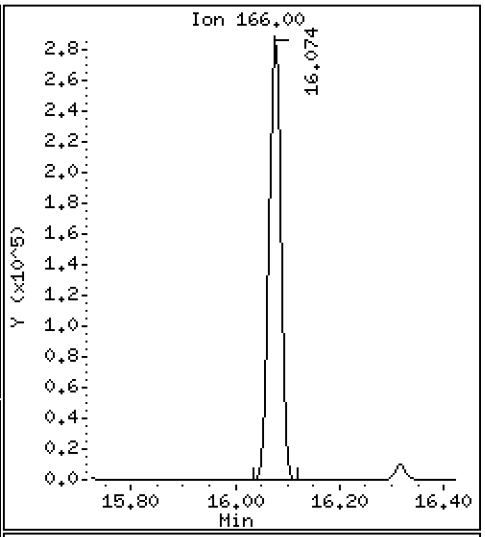
Column phase: ZB-5msi

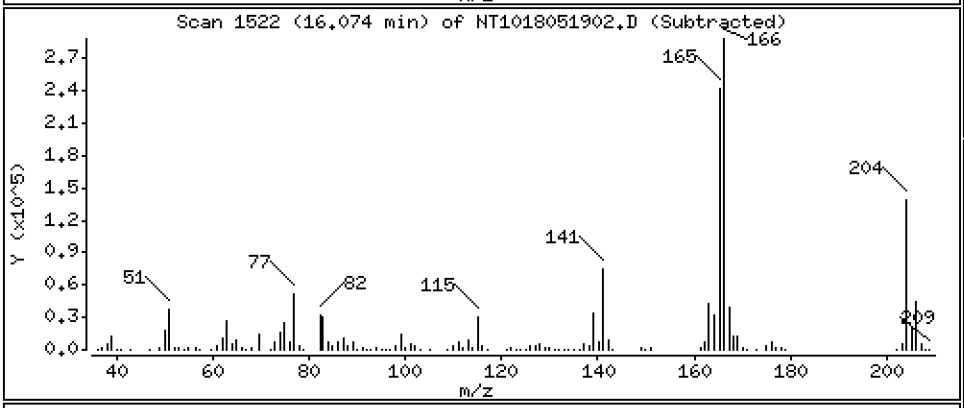
Column diameter: 0.25

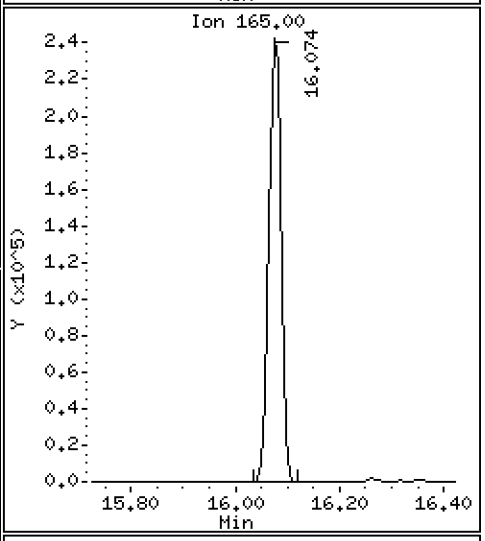
49 Fluorene

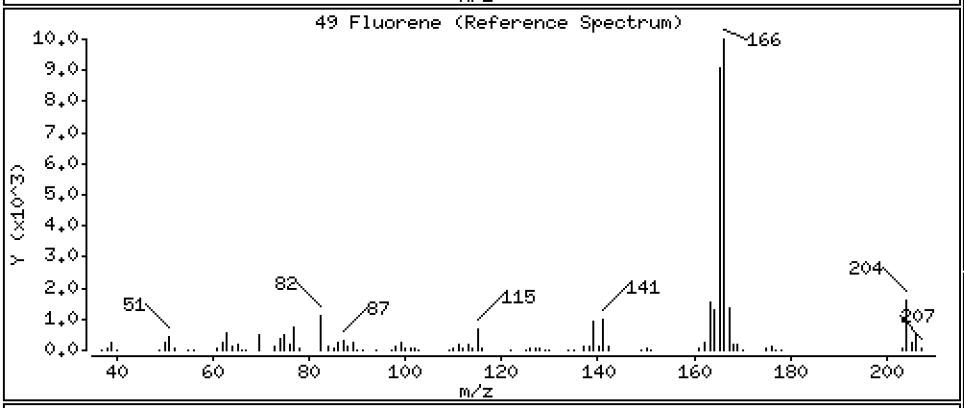
Concentration: 5.234 ug/mL

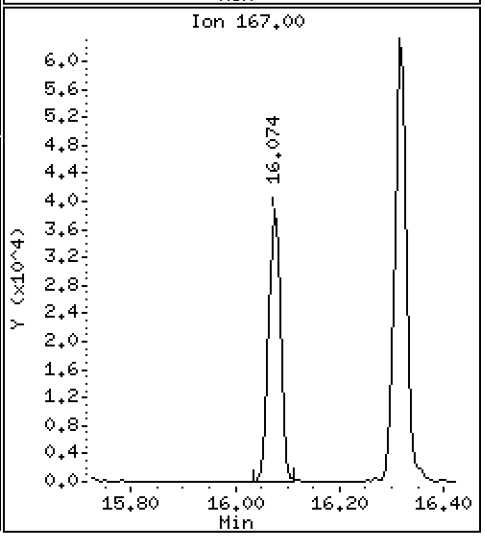


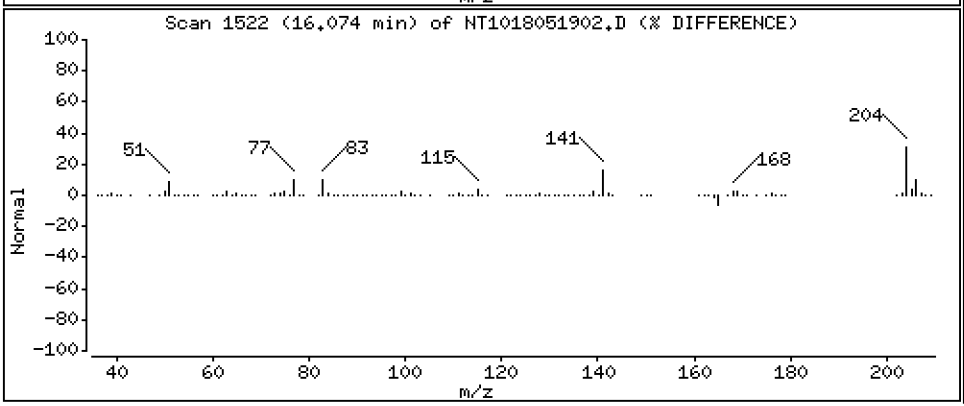












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

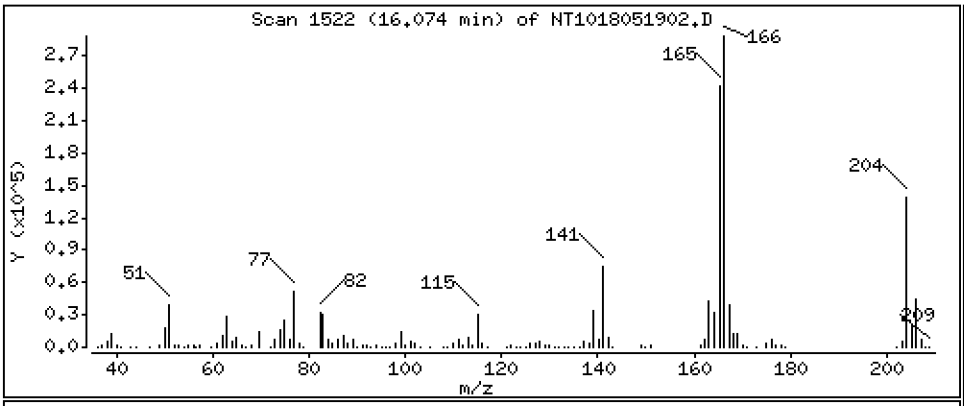
Operator: YZ

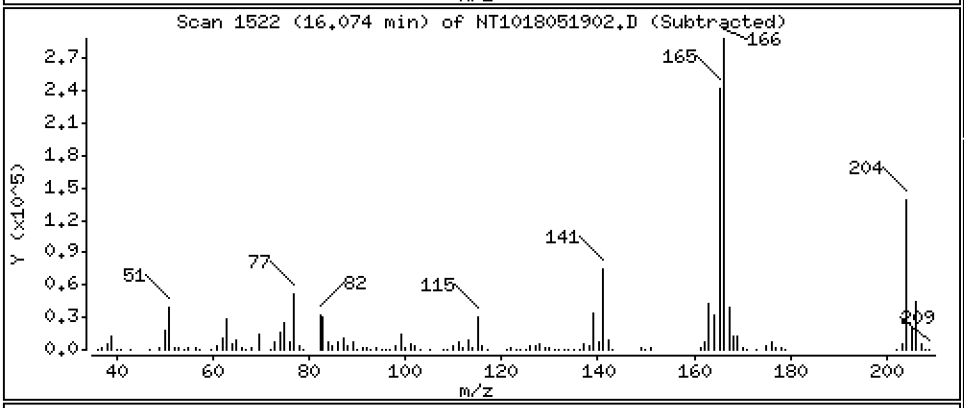
Column phase: ZB-5msi

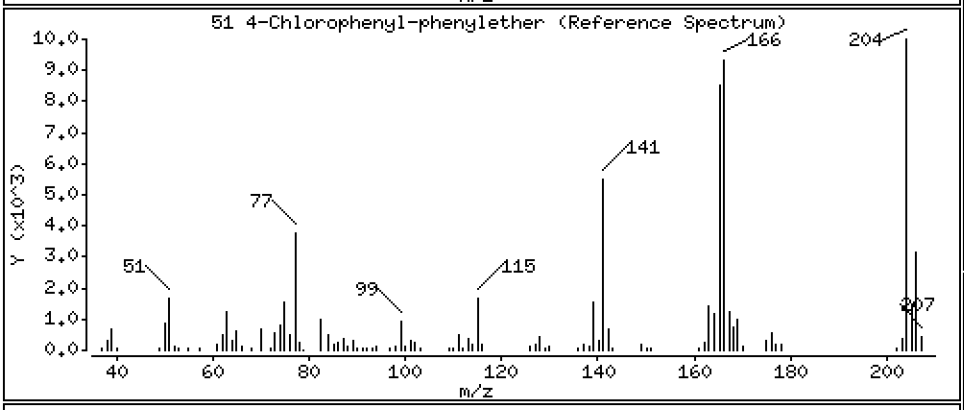
Column diameter: 0.25

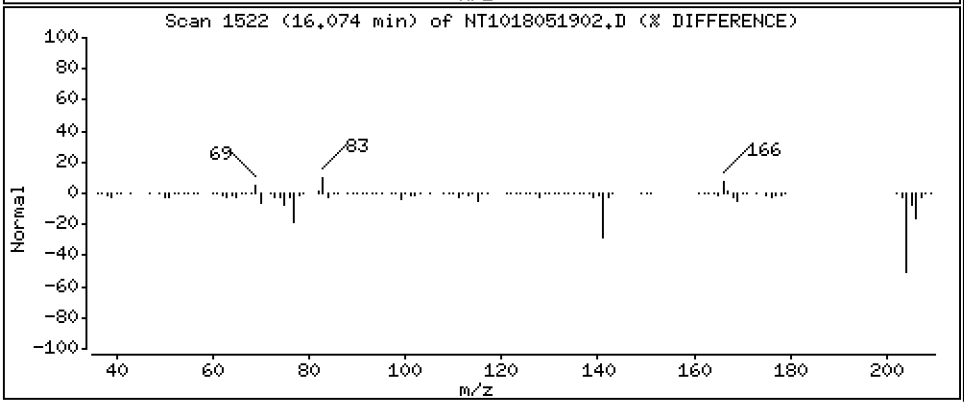
51 4-Chlorophenyl-phenylether

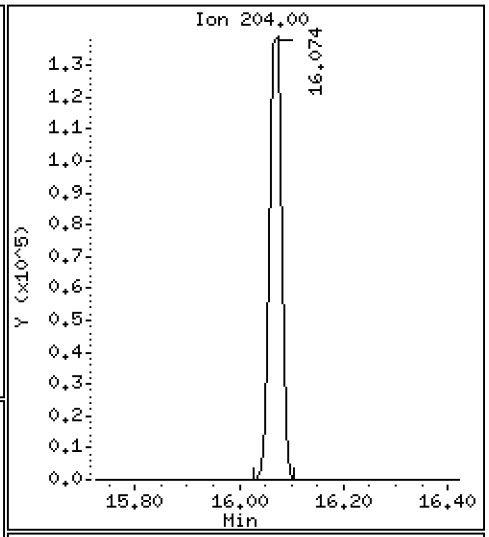
Concentration: 5.233 ug/mL

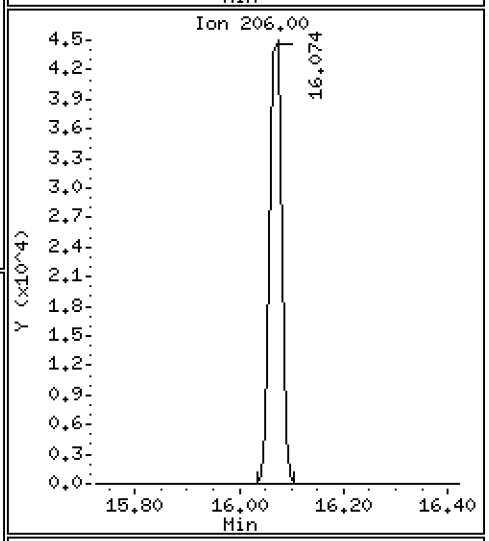


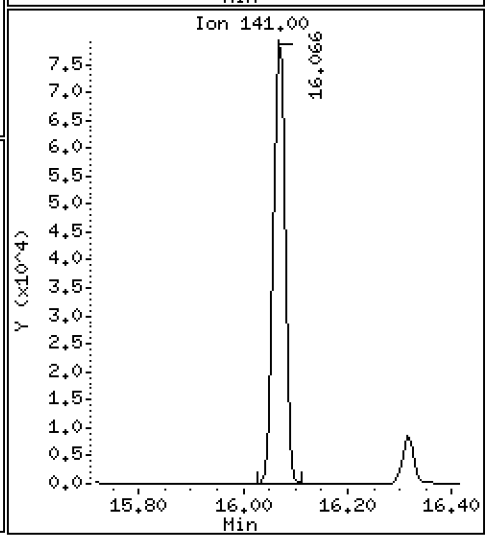












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

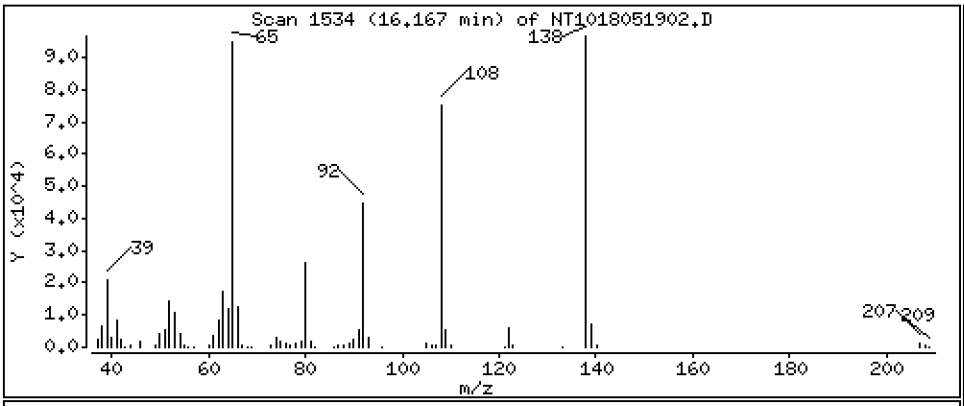
Operator: YZ

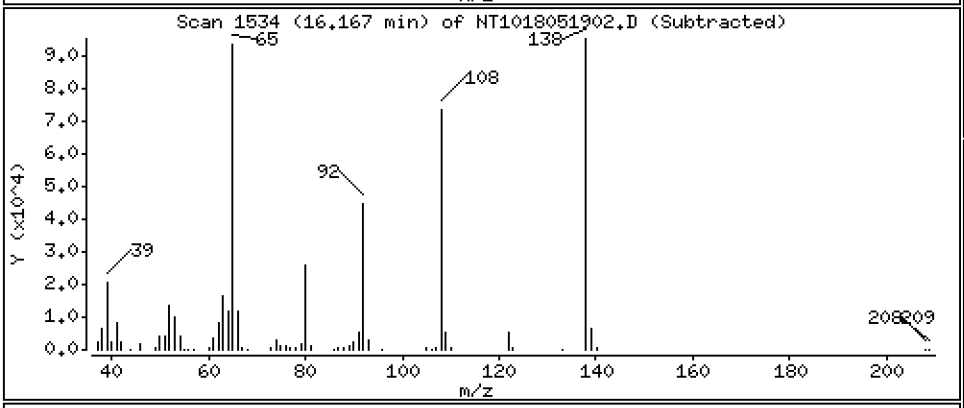
Column phase: ZB-5msi

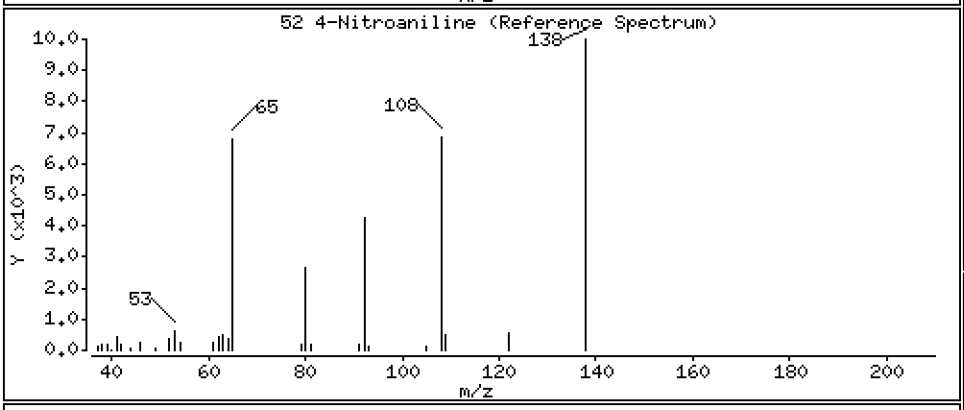
Column diameter: 0.25

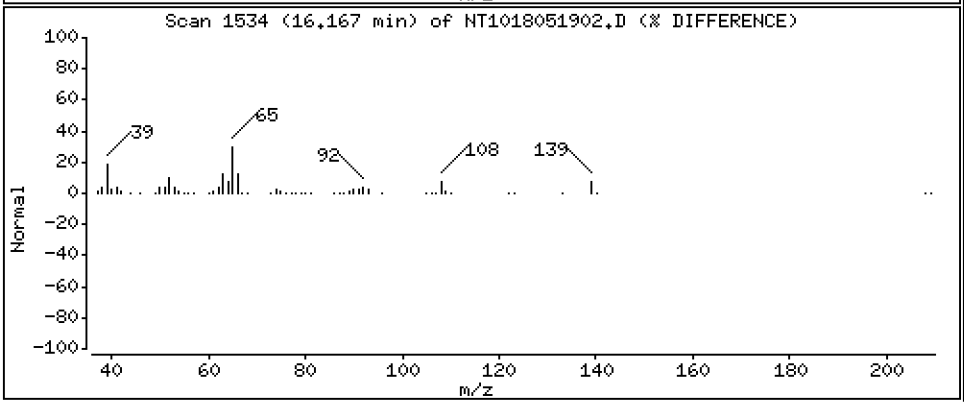
52 4-Nitroaniline

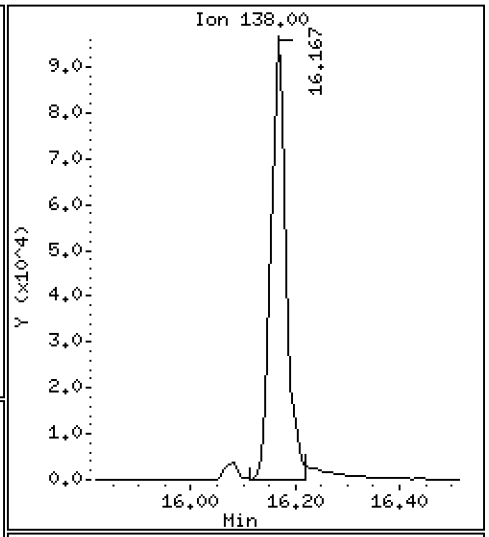
Concentration: 11.20 ug/mL

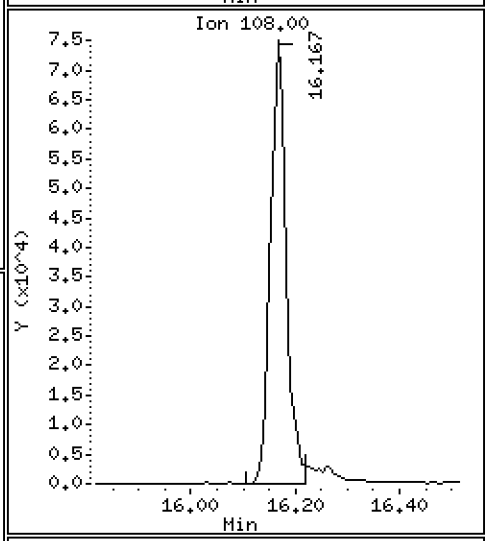


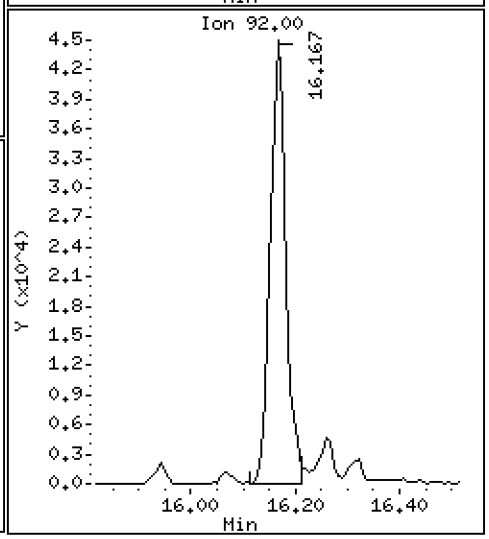












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

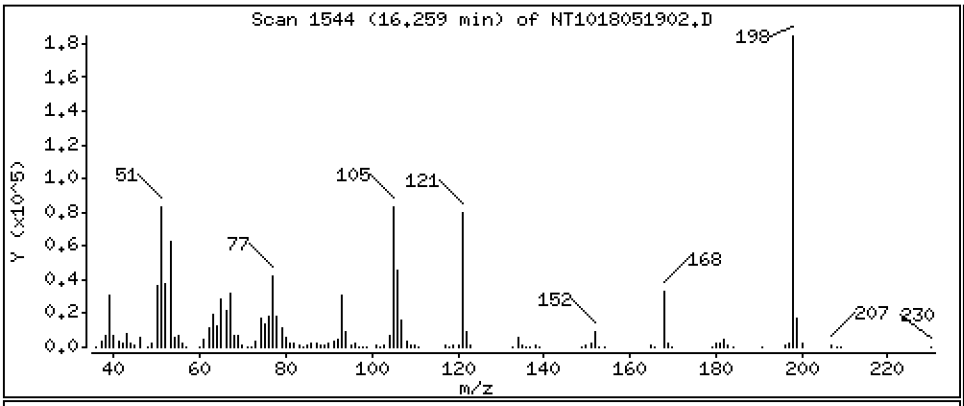
Operator: YZ

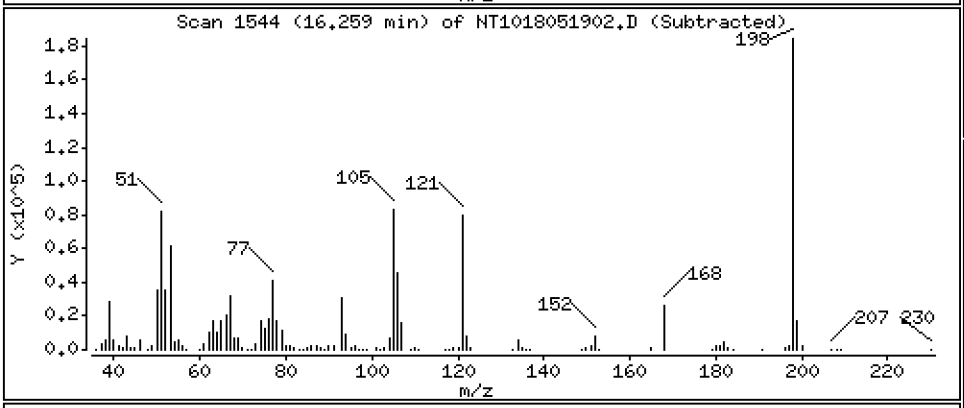
Column phase: ZB-5msi

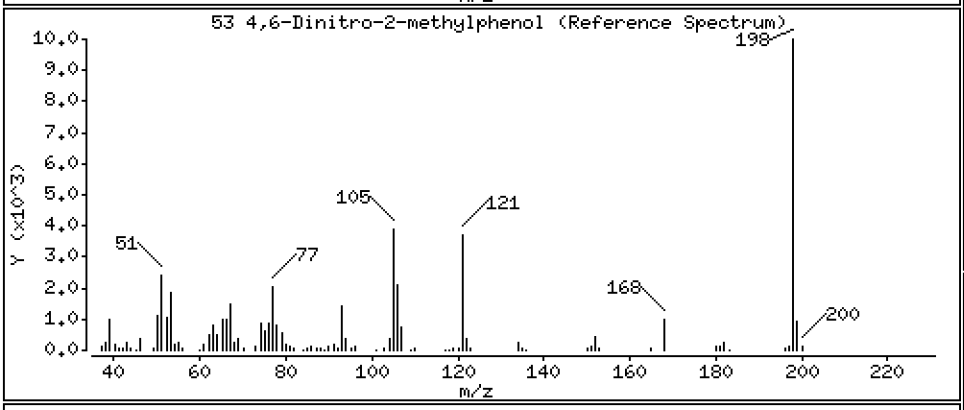
Column diameter: 0.25

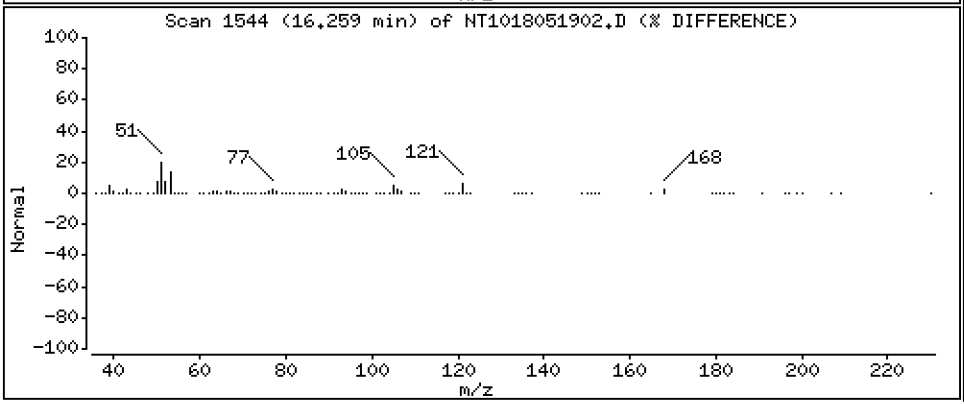
53 4,6-Dinitro-2-methylphenol

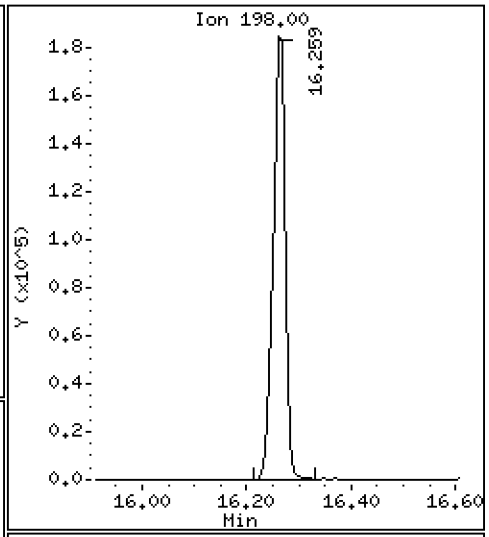
Concentration: 17.21 ug/mL

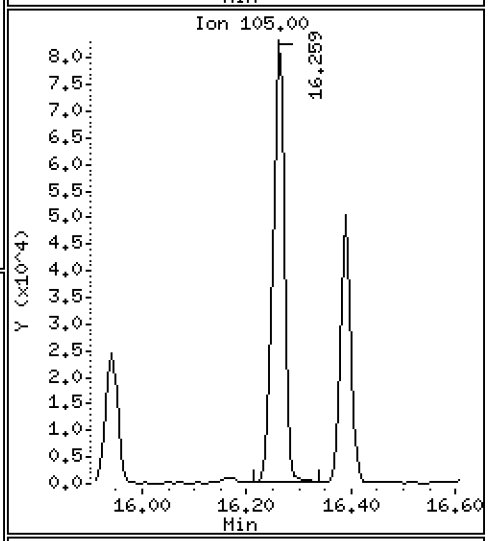


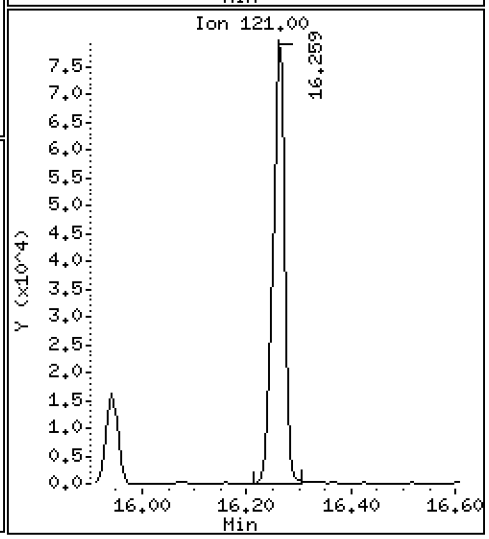












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

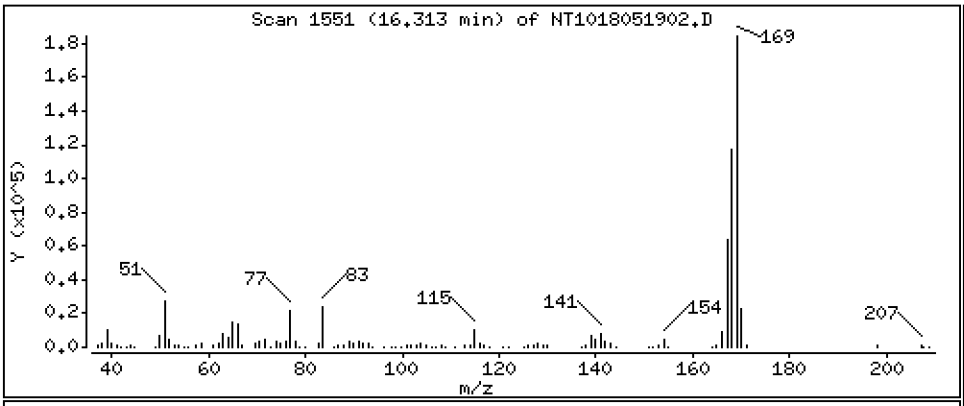
Operator: YZ

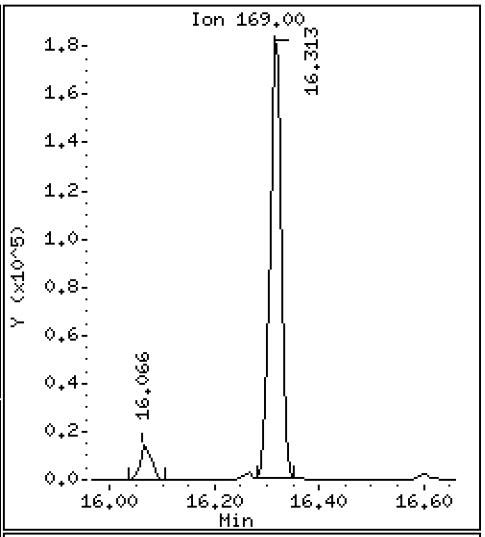
Column phase: ZB-5msi

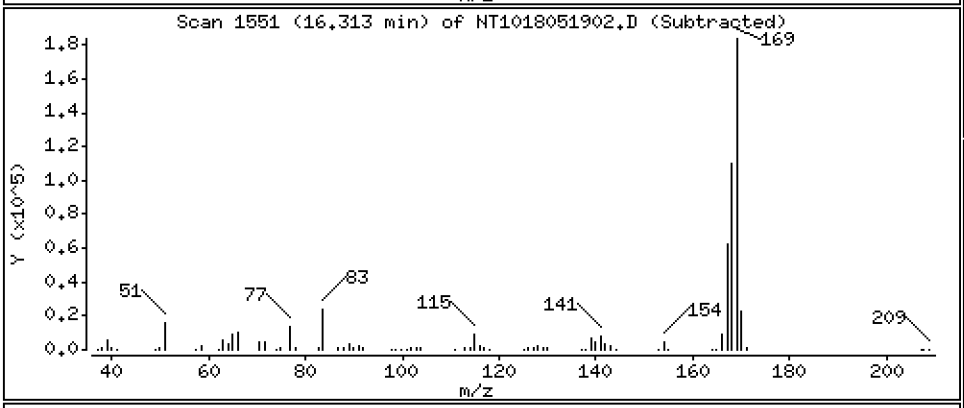
Column diameter: 0.25

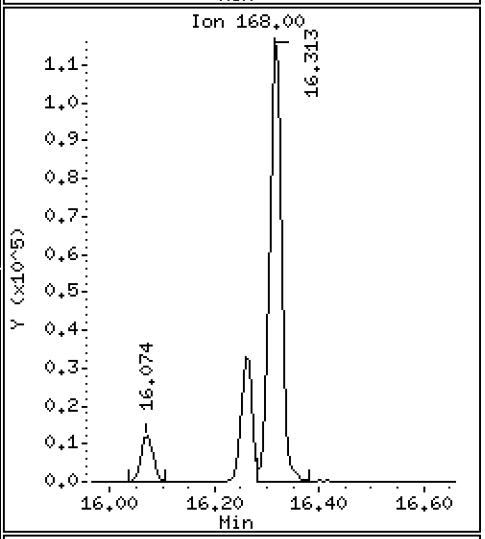
54 N-Nitrosodiphenylamine

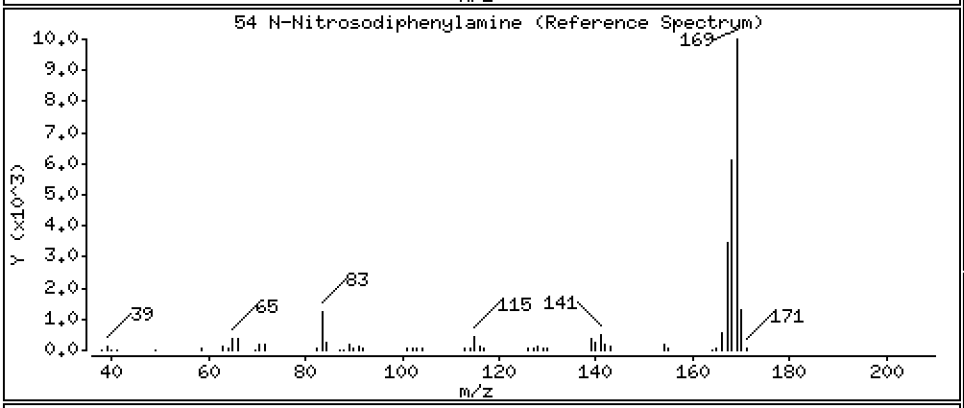
Concentration: 5.044 ug/mL

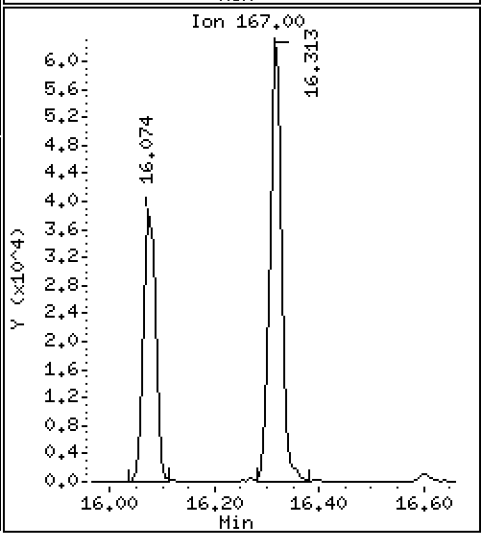


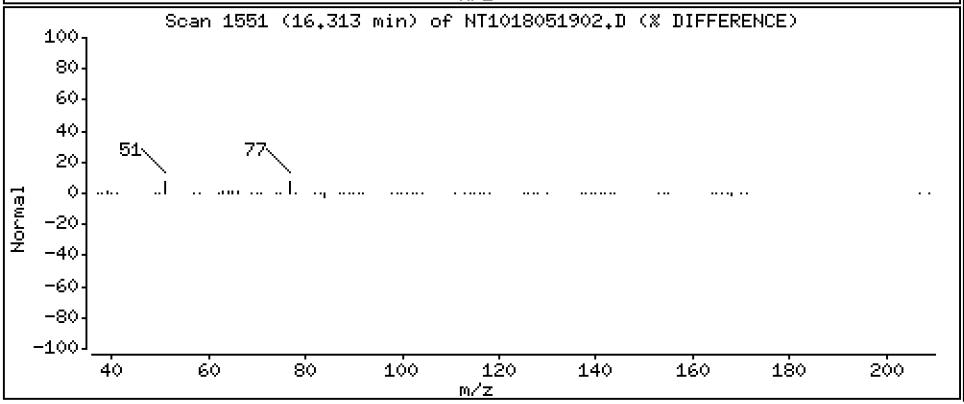












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

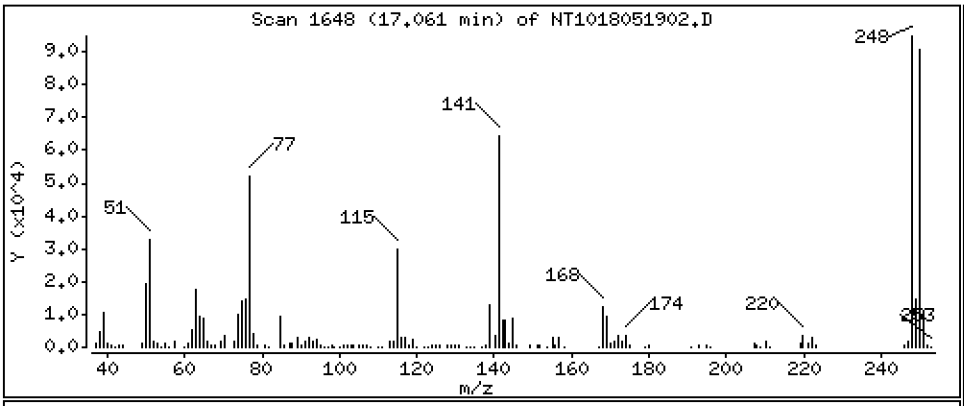
Operator: YZ

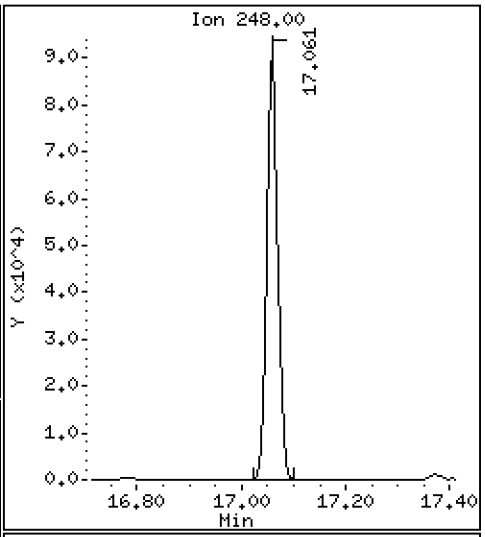
Column phase: ZB-5msi

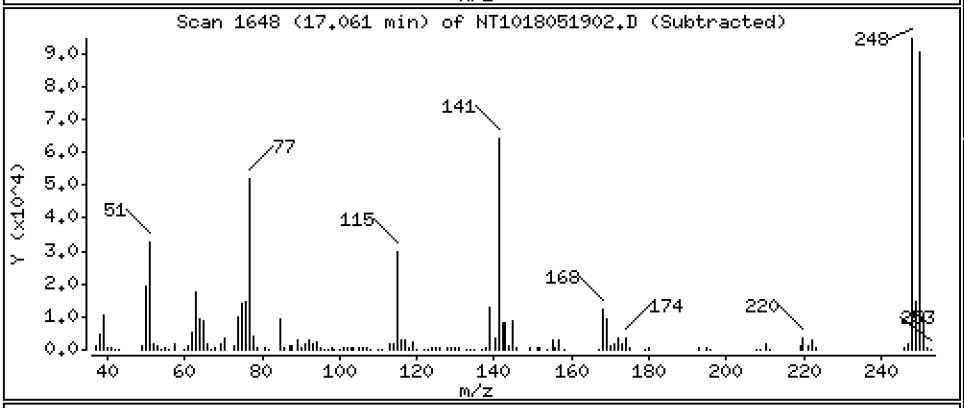
Column diameter: 0.25

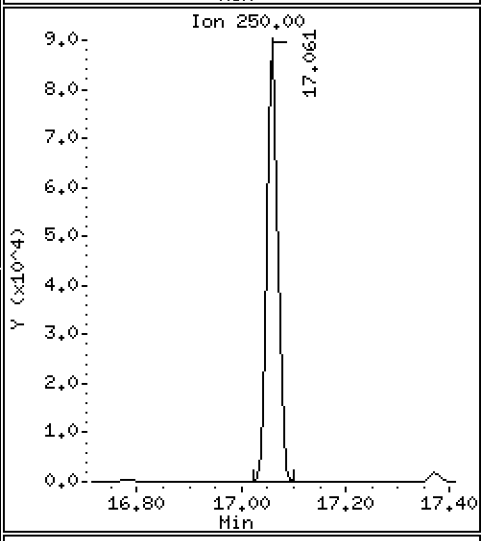
56 4-Bromophenyl-phenylether

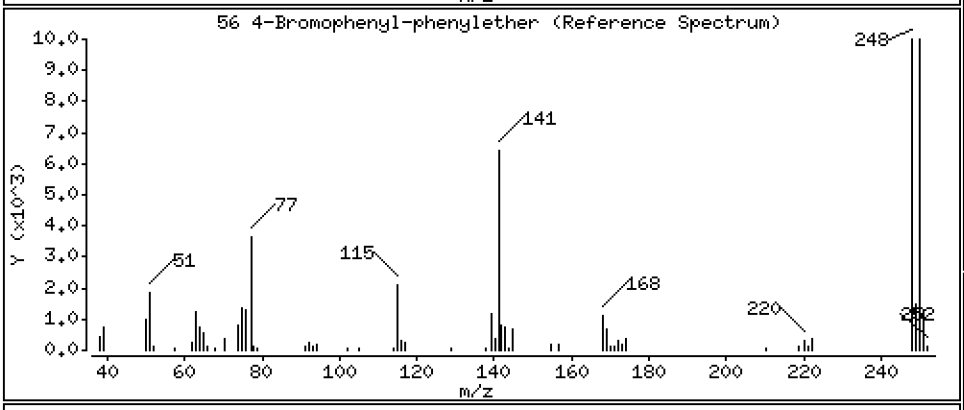
Concentration: 5.310 ug/mL

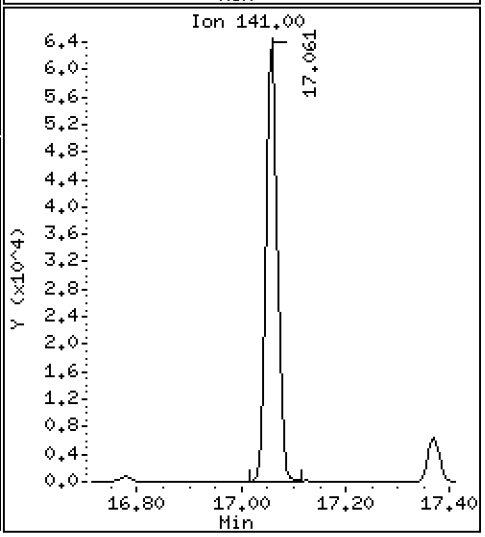


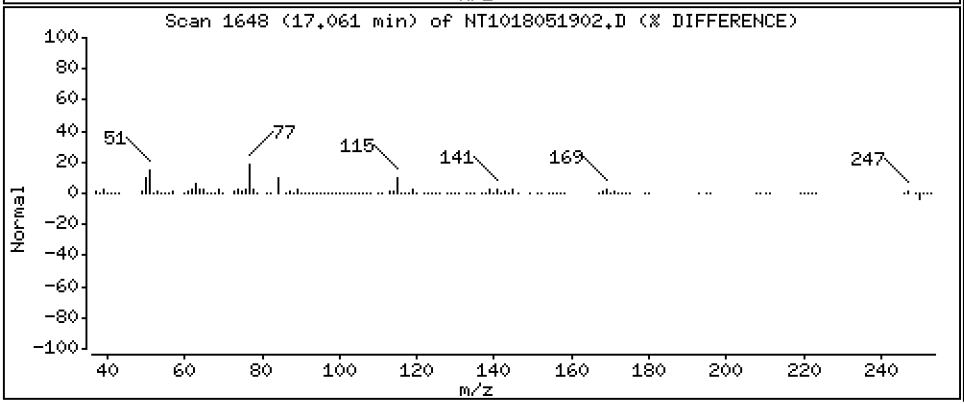












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

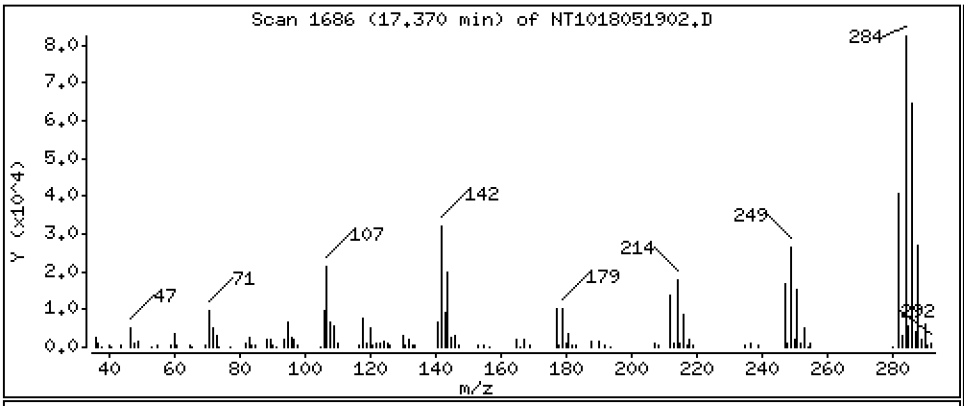
Operator: YZ

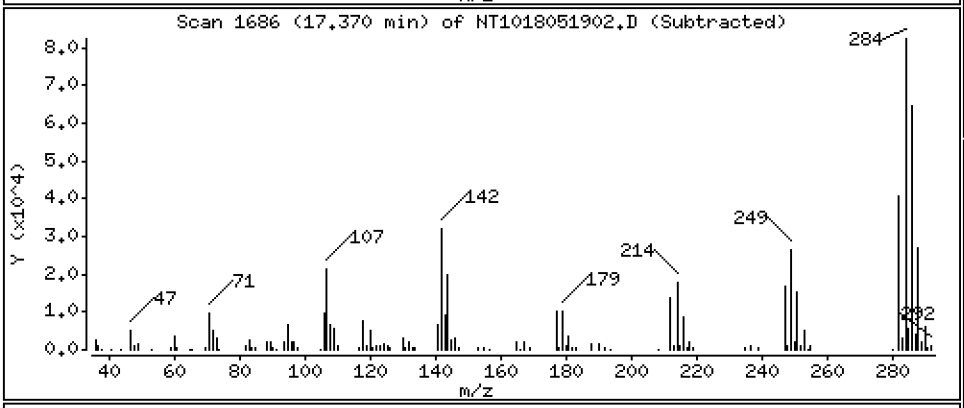
Column phase: ZB-5msi

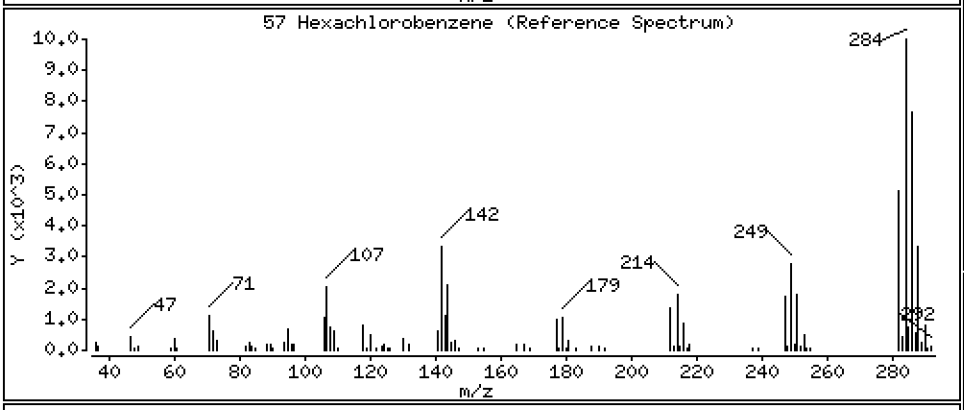
Column diameter: 0.25

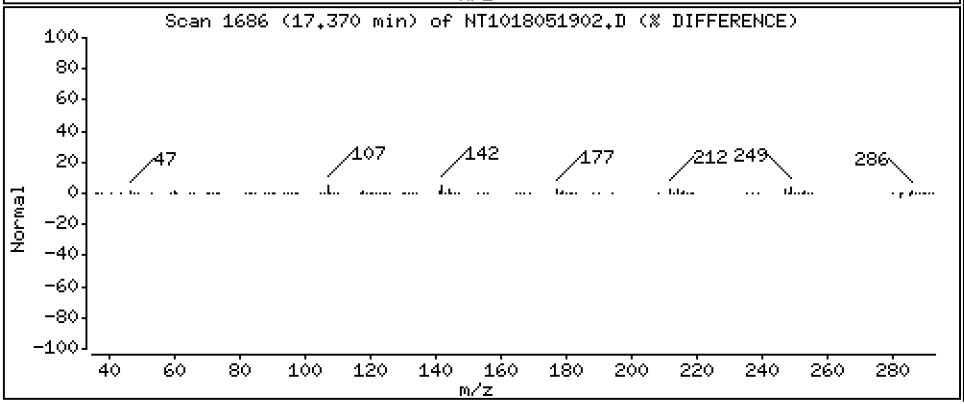
57 Hexachlorobenzene

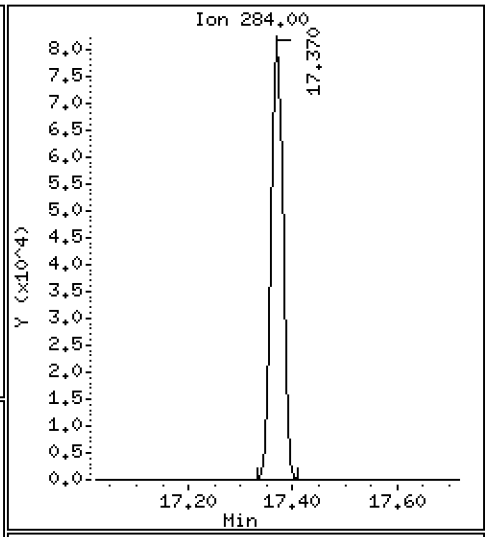
Concentration: 5.214 ug/mL

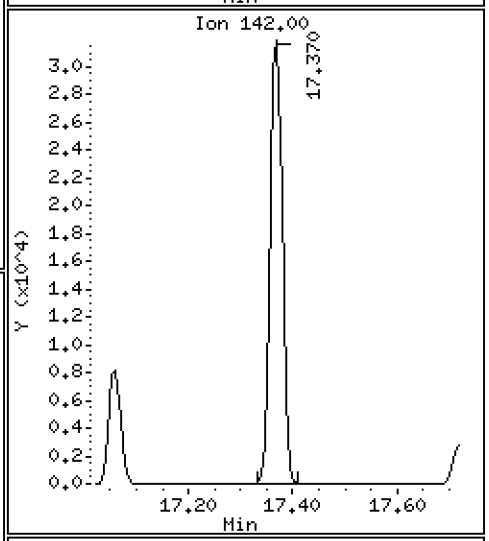


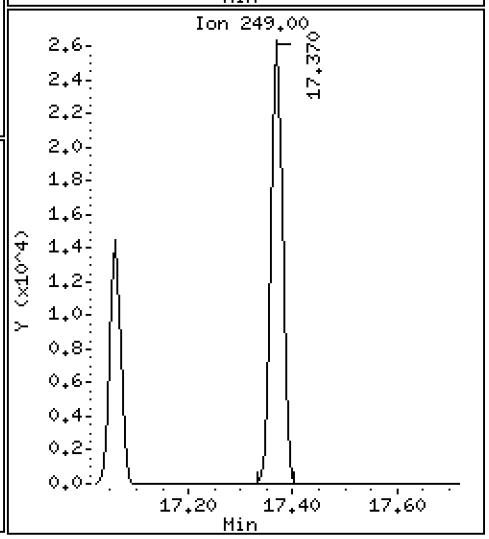












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

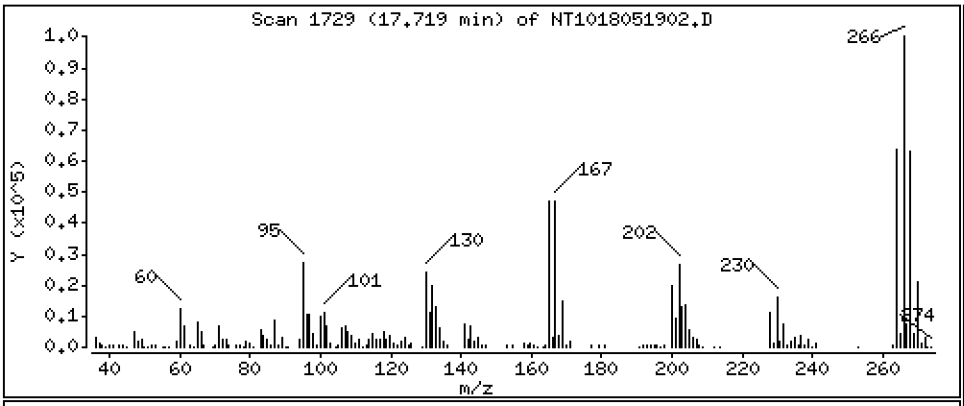
Operator: YZ

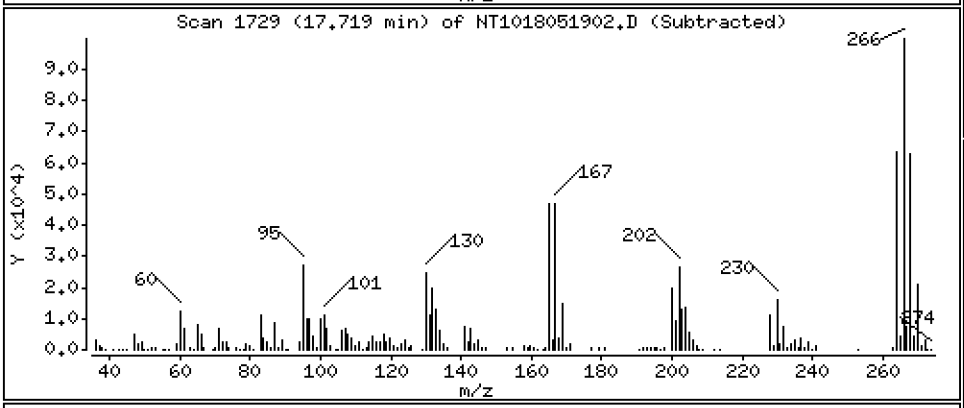
Column phase: ZB-5msi

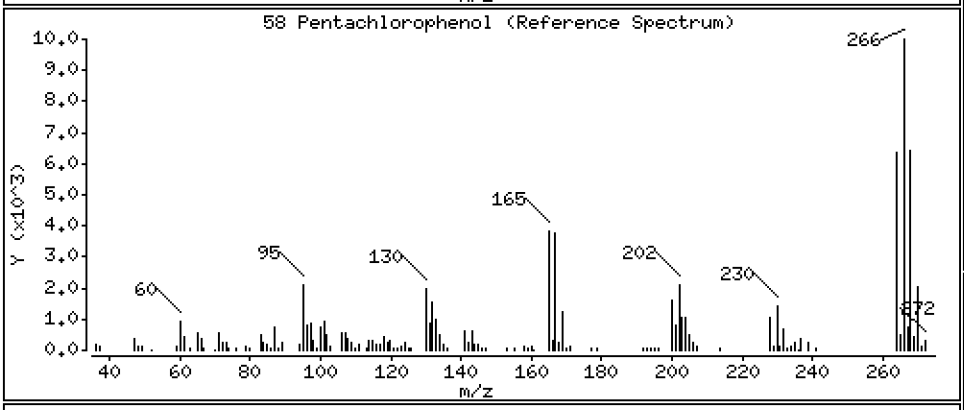
Column diameter: 0.25

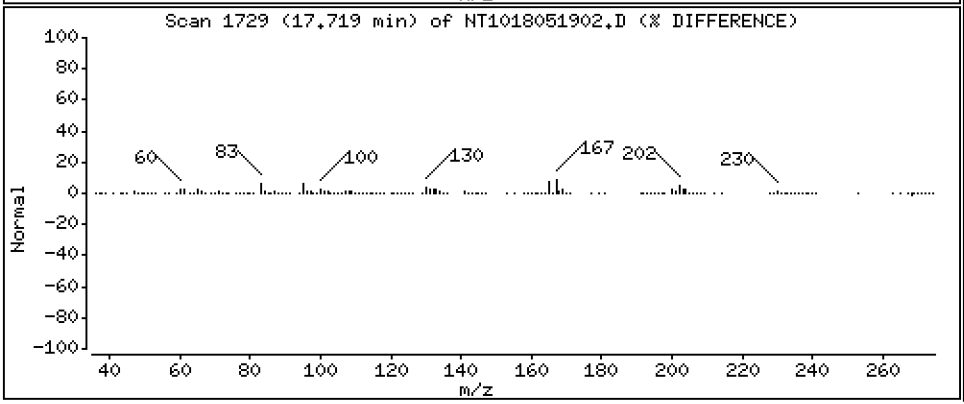
58 Pentachlorophenol

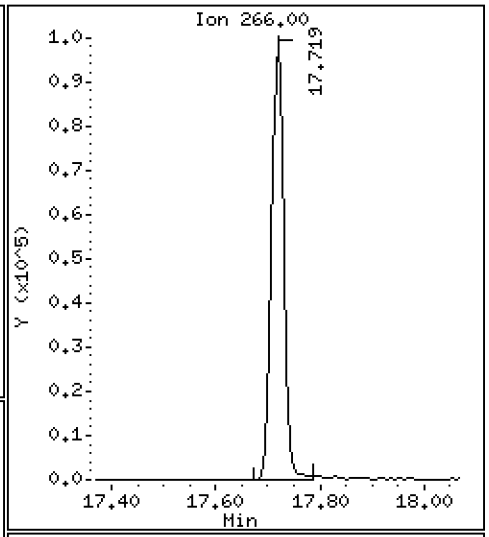
Concentration: 11.10 ug/mL

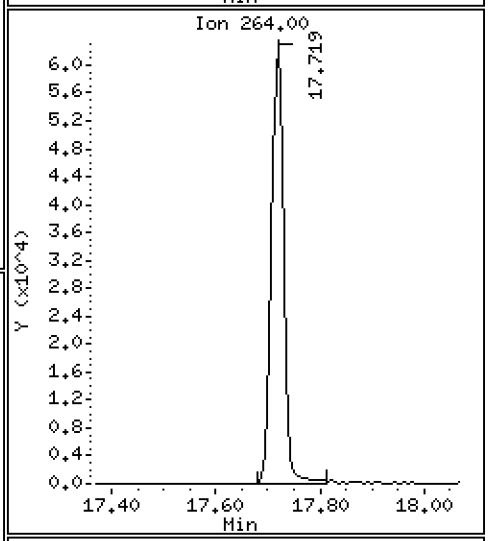


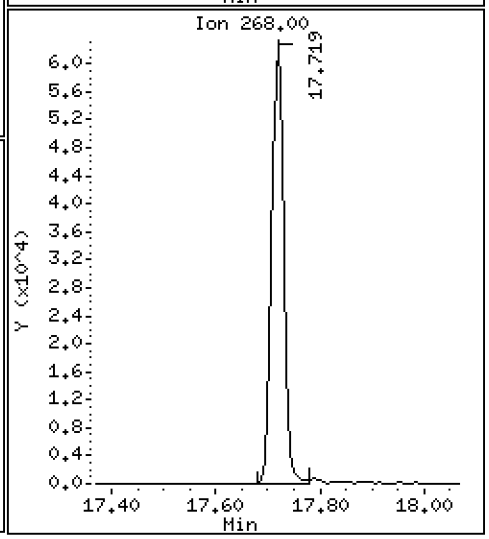












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

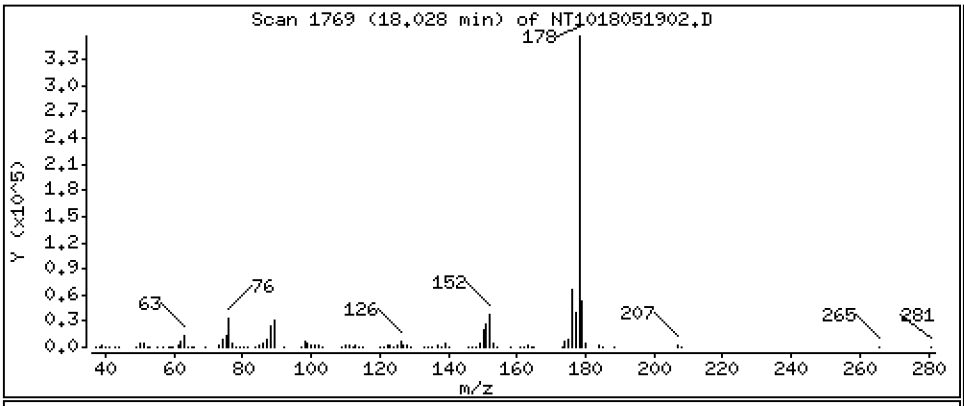
Operator: YZ

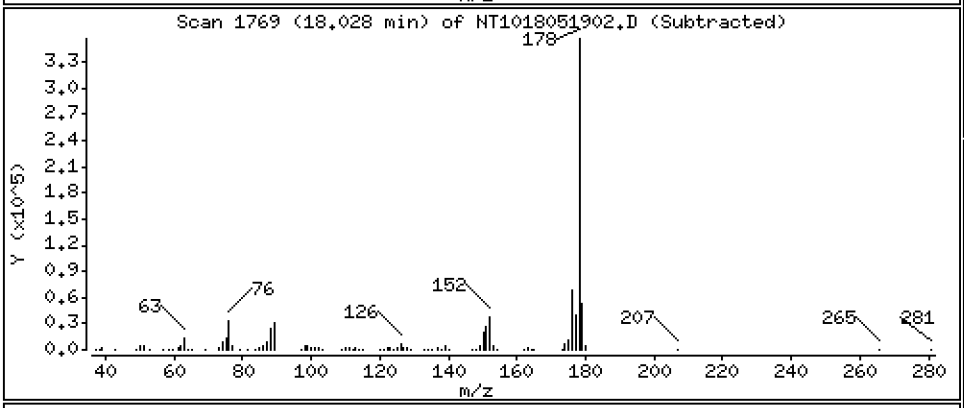
Column phase: ZB-5msi

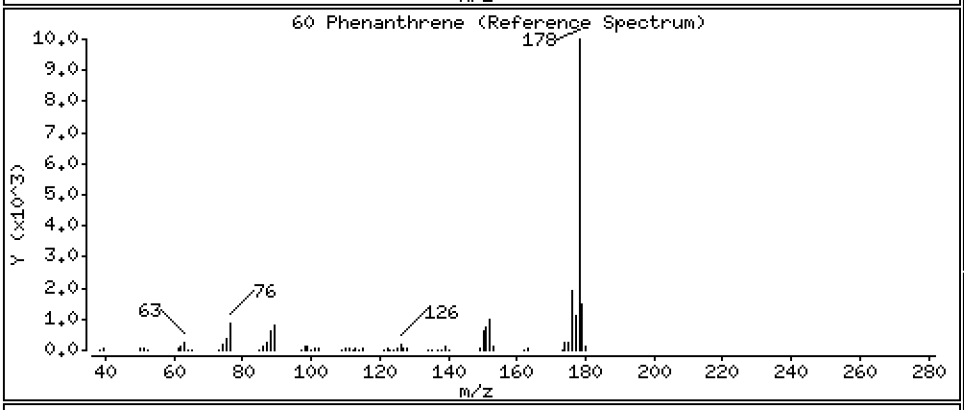
Column diameter: 0.25

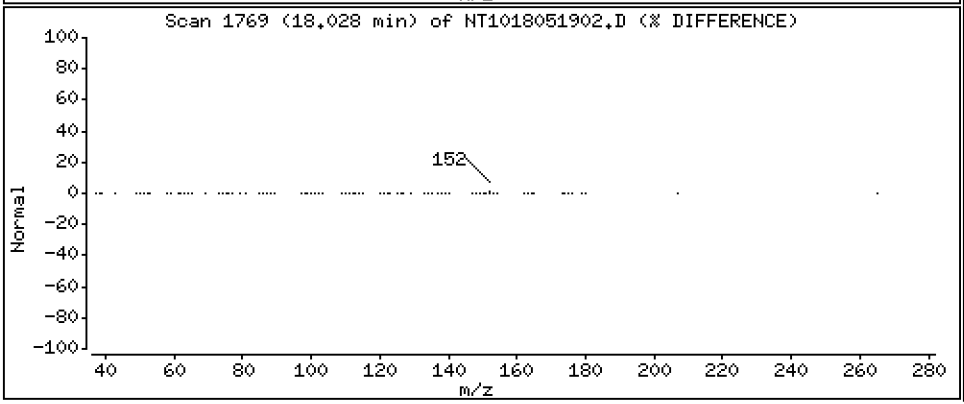
60 Phenanthrene

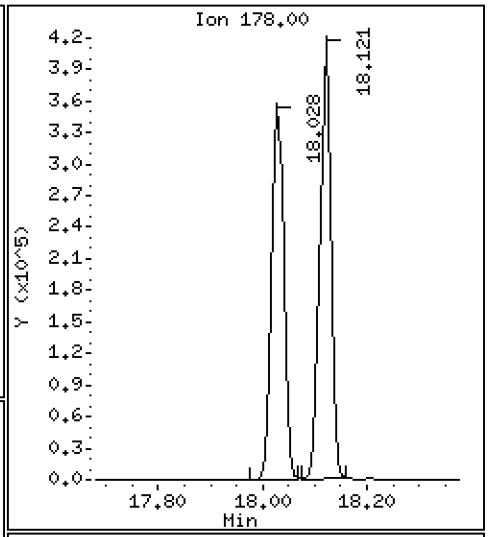
Concentration: 5.100 ug/mL

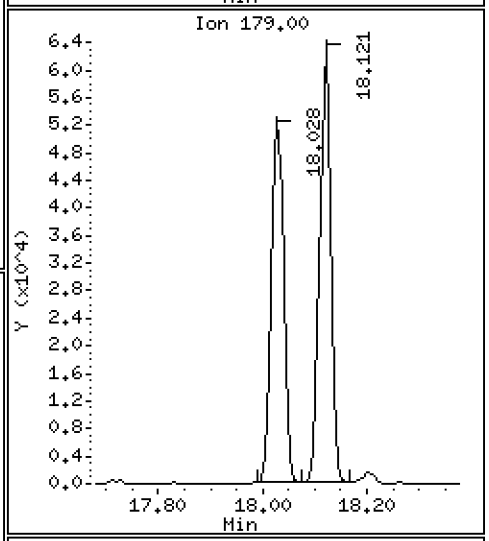


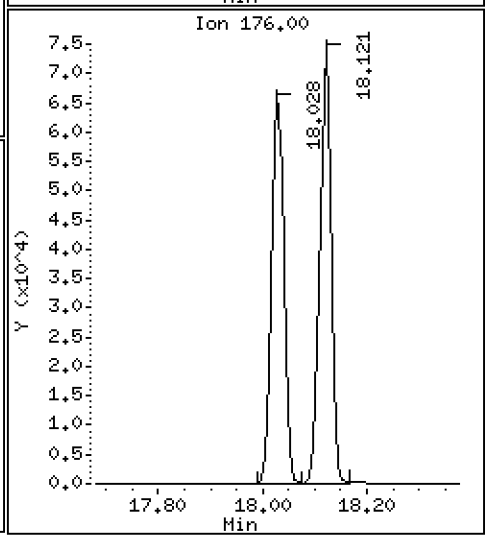












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

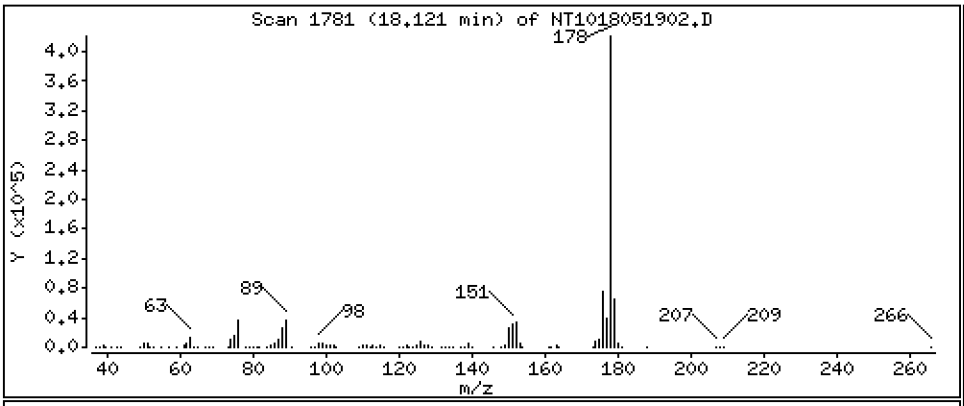
Operator: YZ

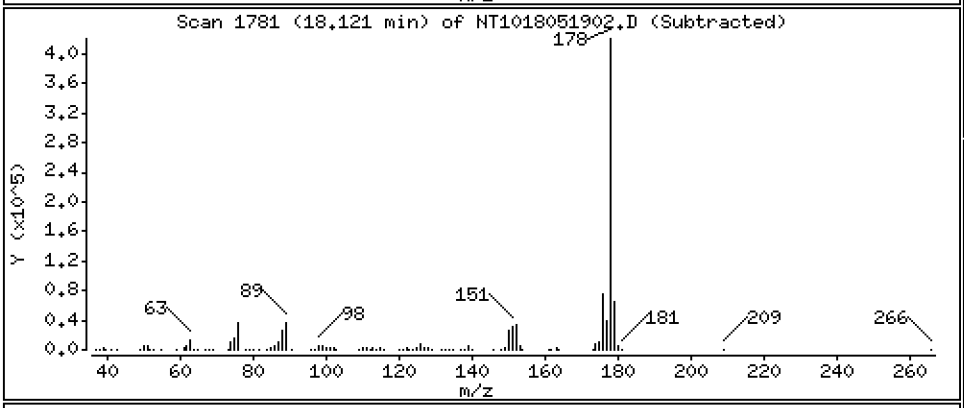
Column phase: ZB-5msi

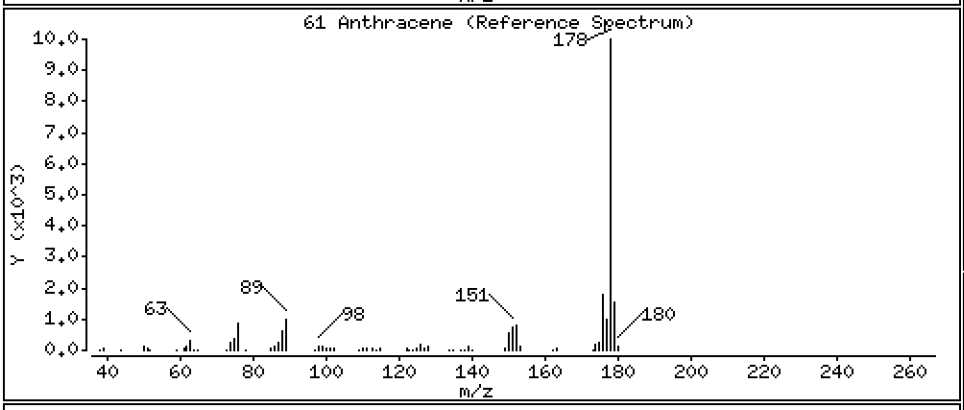
Column diameter: 0.25

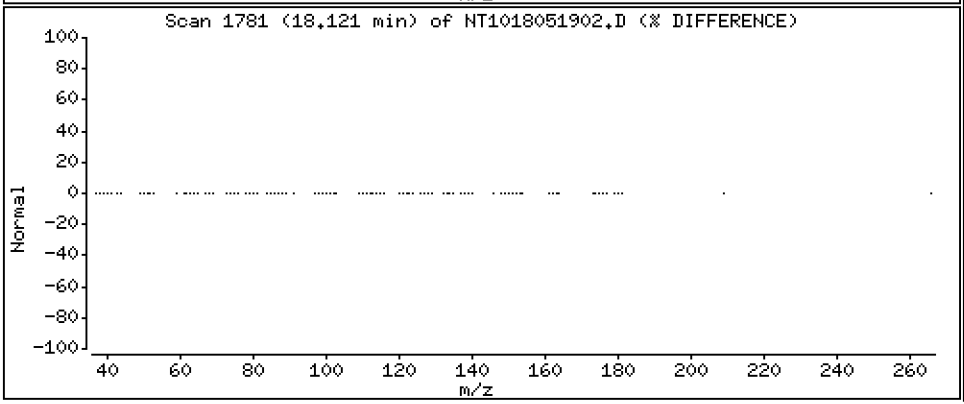
61 Anthracene

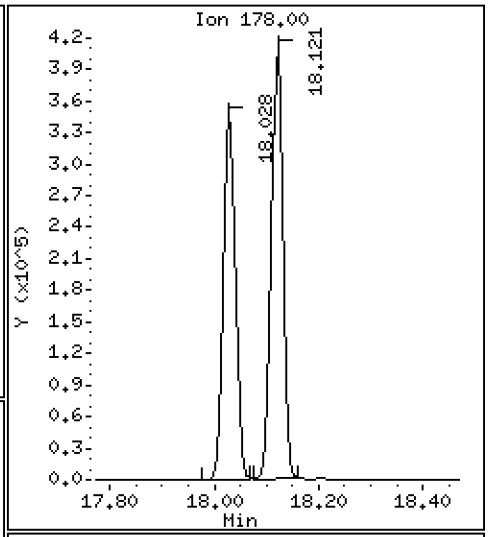
Concentration: 5.257 ug/mL

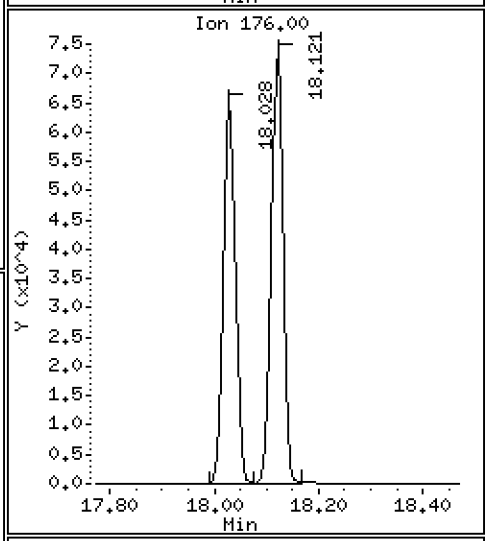


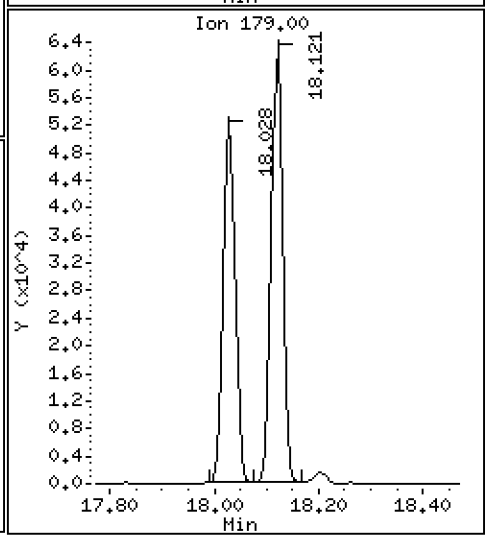












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

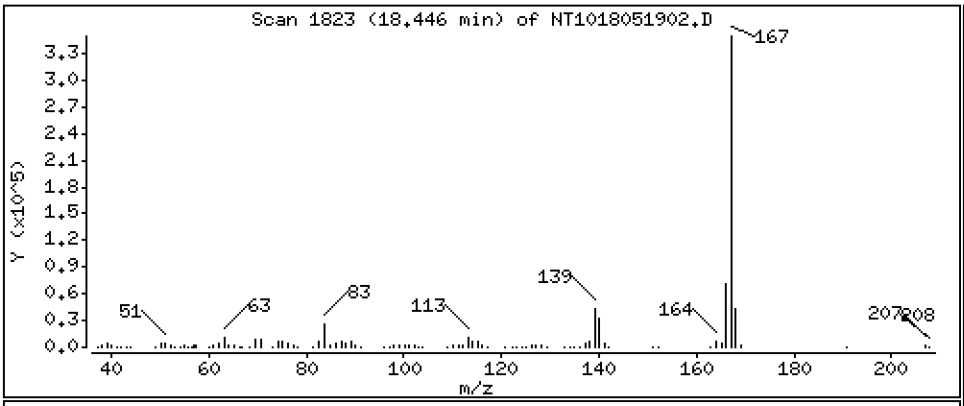
Operator: YZ

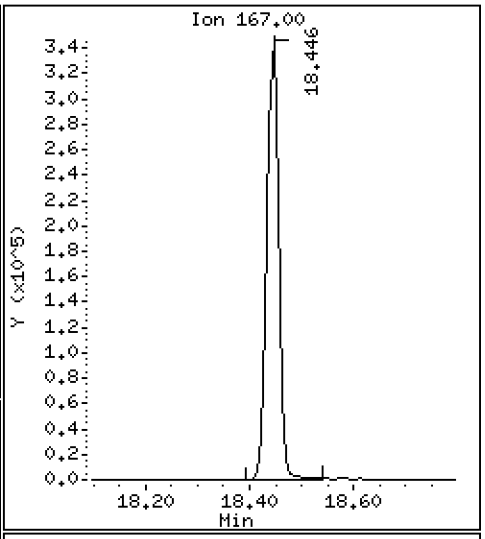
Column phase: ZB-5msi

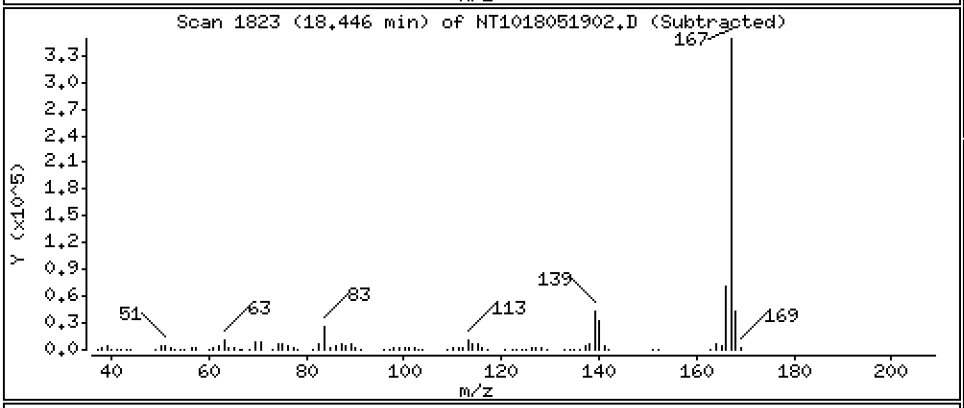
Column diameter: 0.25

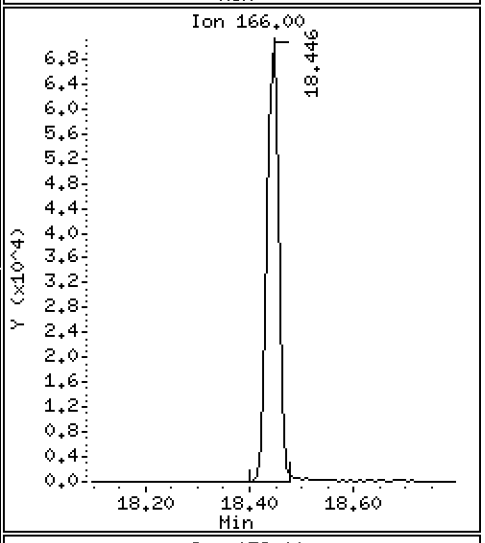
62 Carbazole

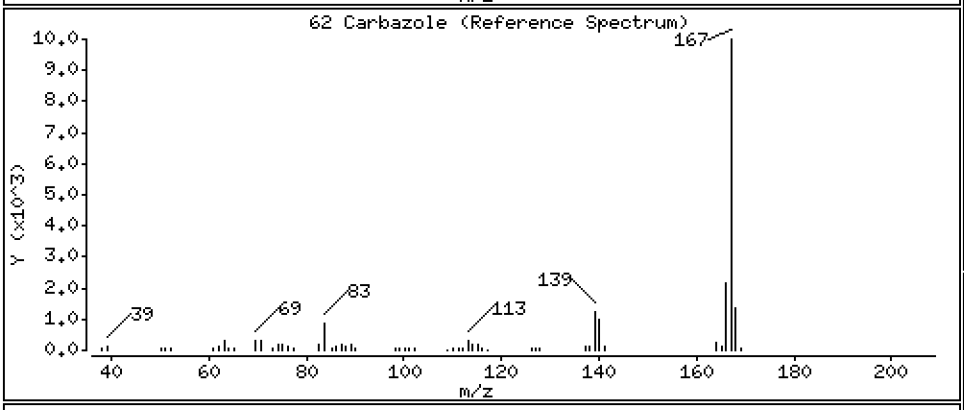
Concentration: 5.092 ug/mL

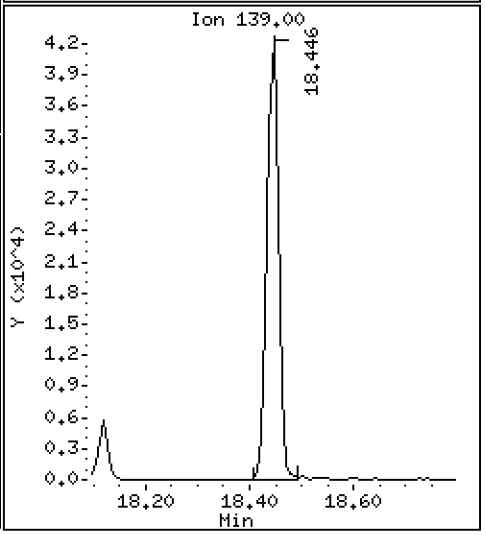


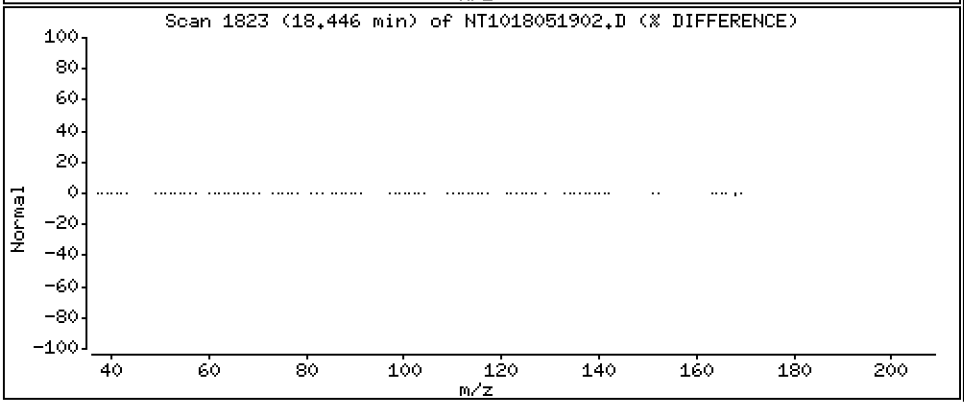












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

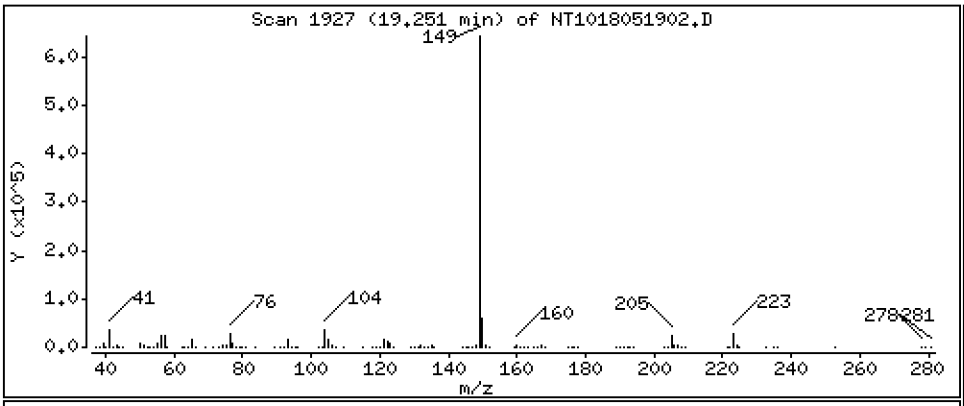
Operator: YZ

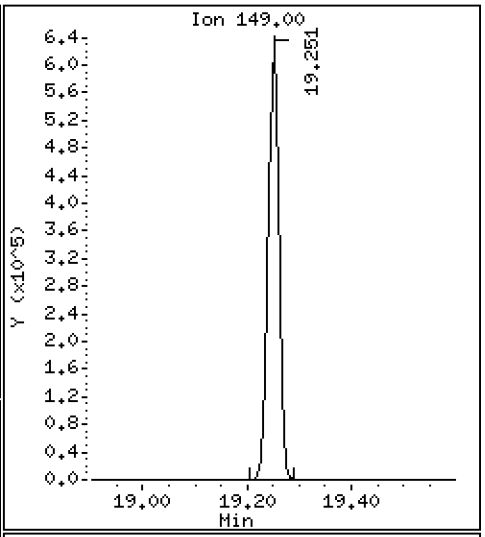
Column phase: ZB-5msi

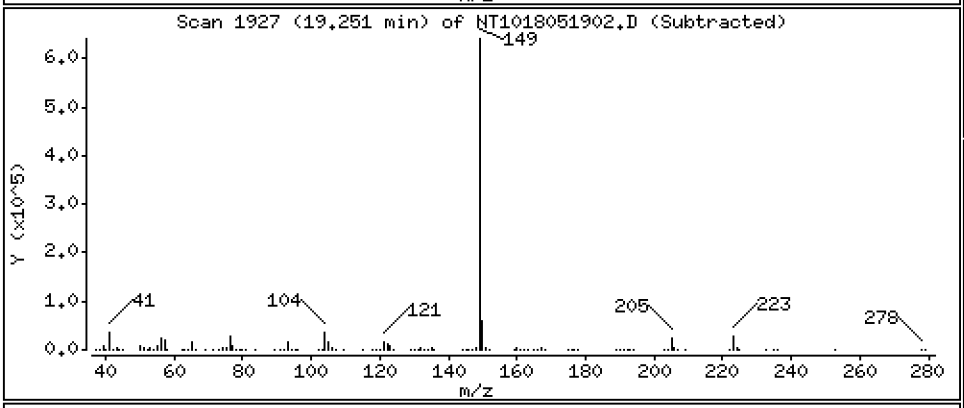
Column diameter: 0.25

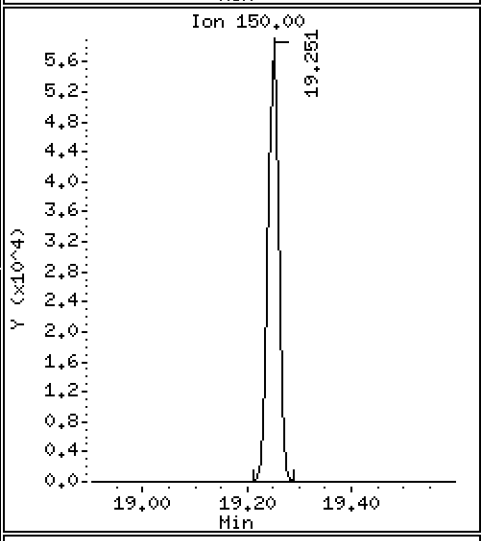
63 Di-n-butylphthalate

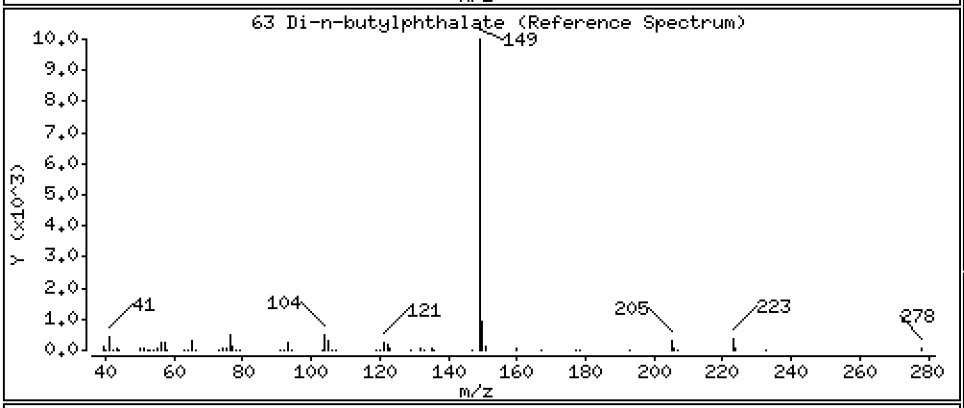
Concentration: 5.493 ug/mL

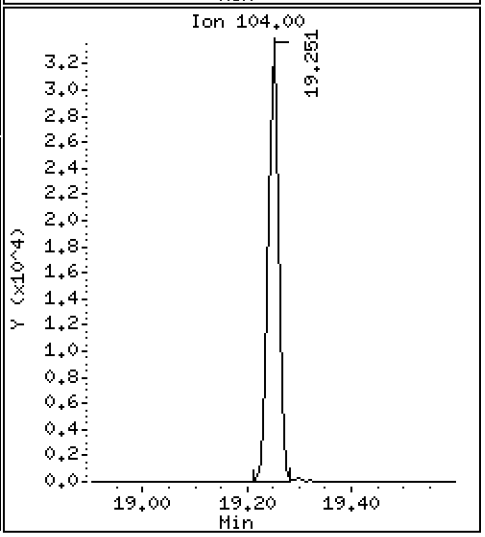


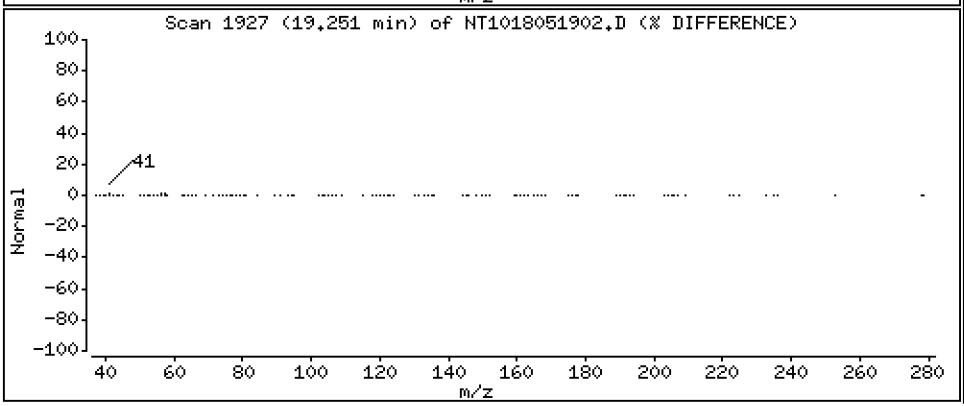












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

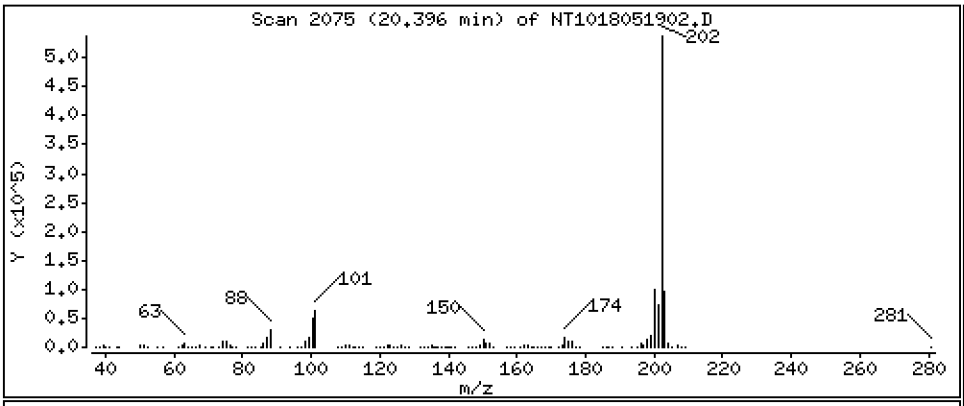
Operator: YZ

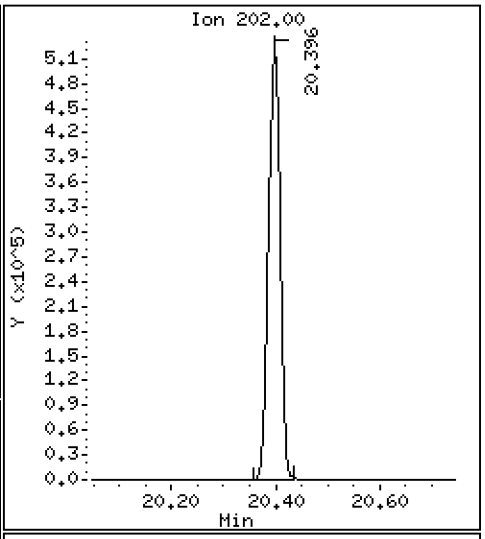
Column phase: ZB-5msi

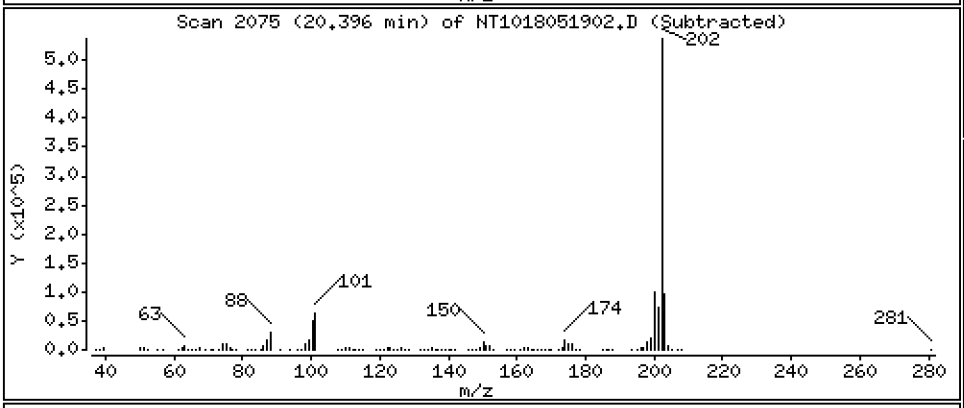
Column diameter: 0.25

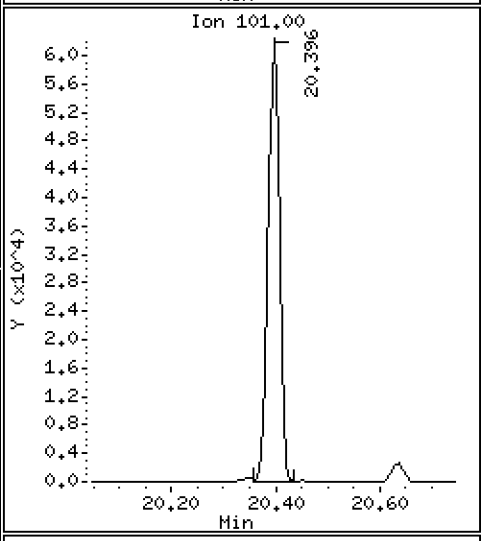
64 Fluoranthene

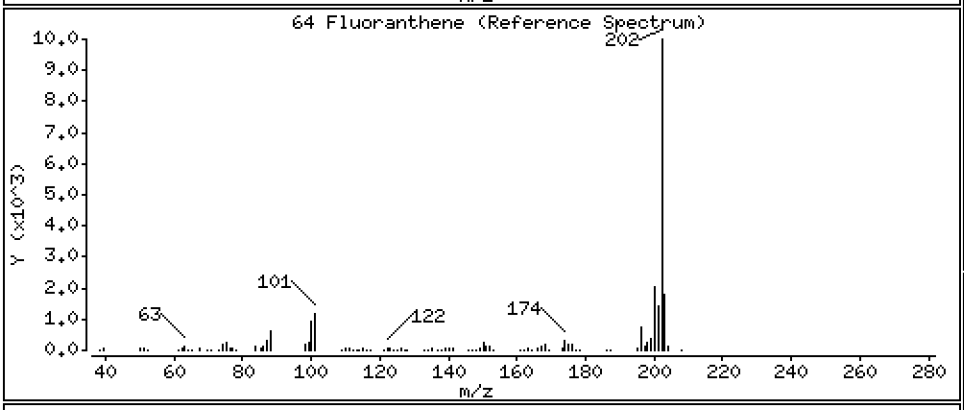
Concentration: 5.397 ug/mL

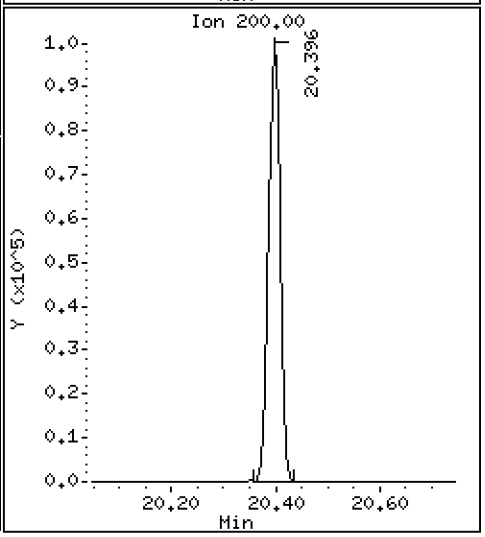


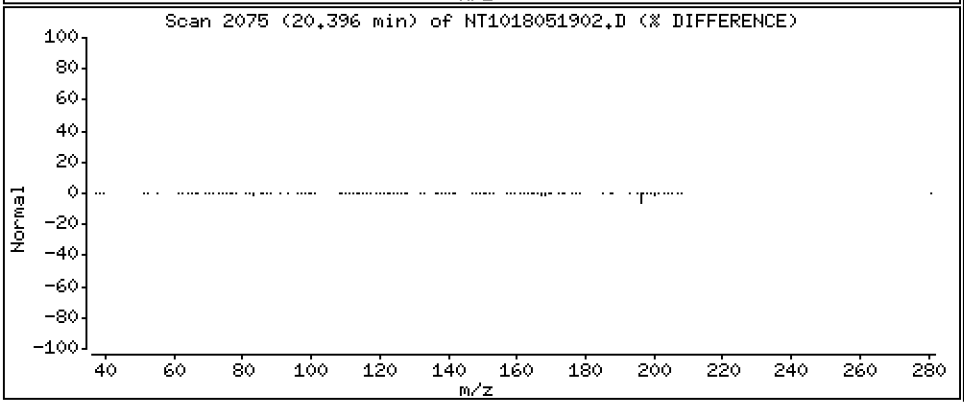












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

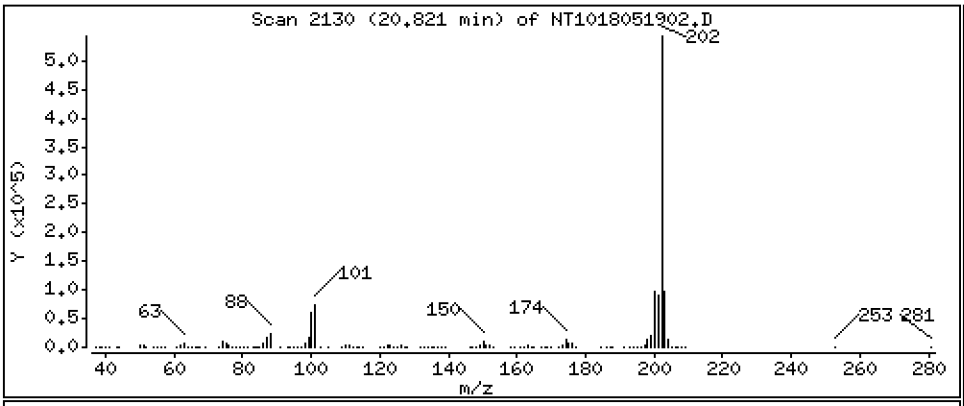
Operator: YZ

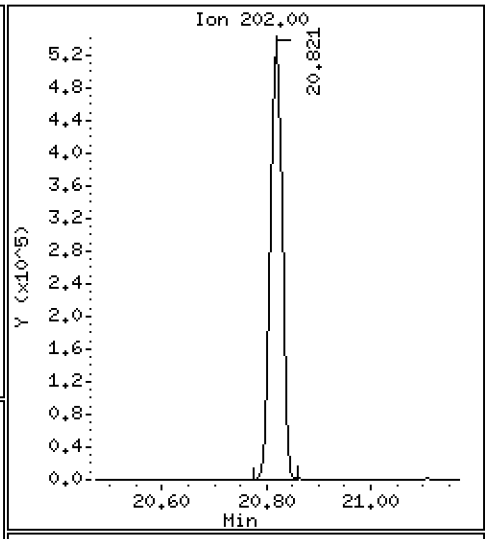
Column phase: ZB-5msi

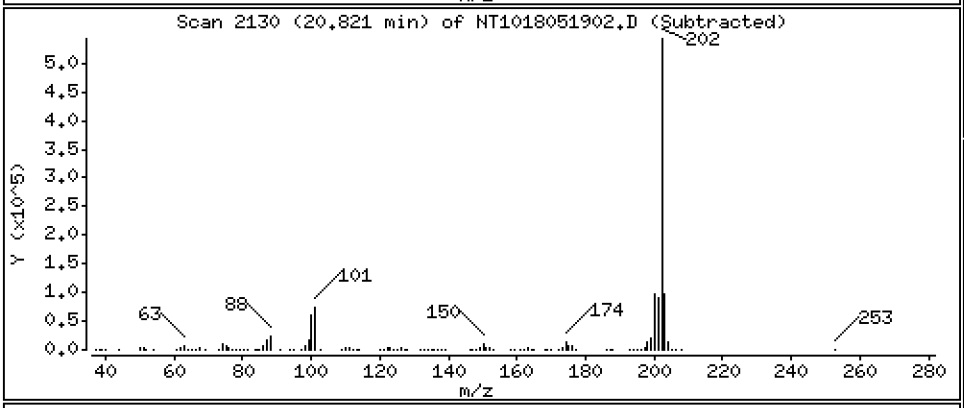
Column diameter: 0.25

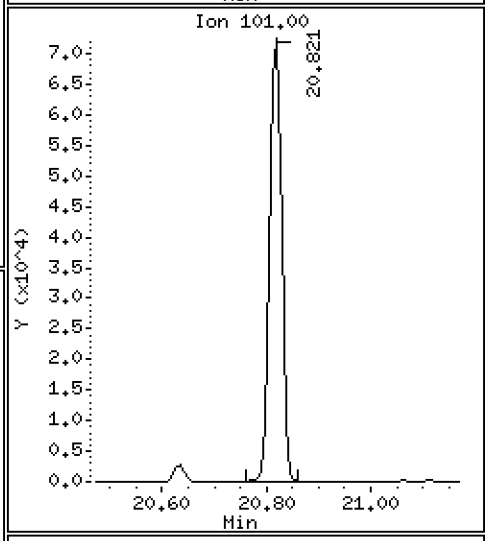
65 Pyrene

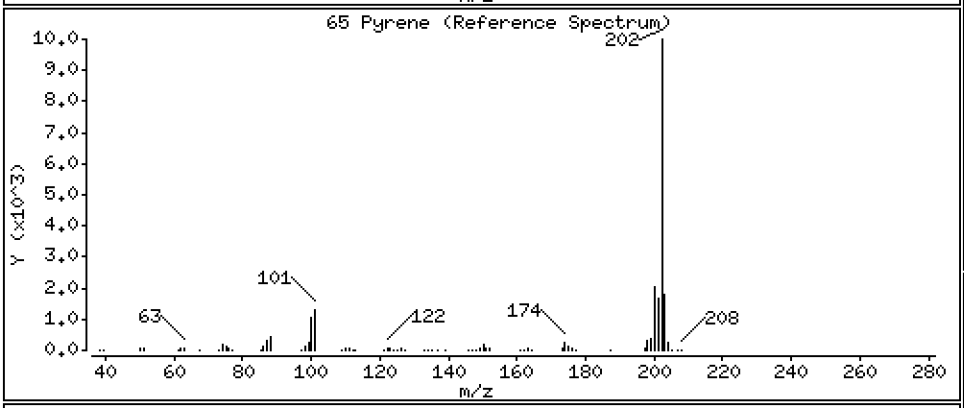
Concentration: 5.400 ug/mL

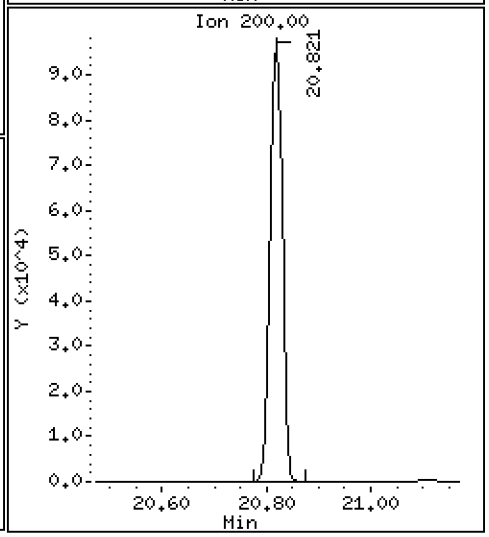


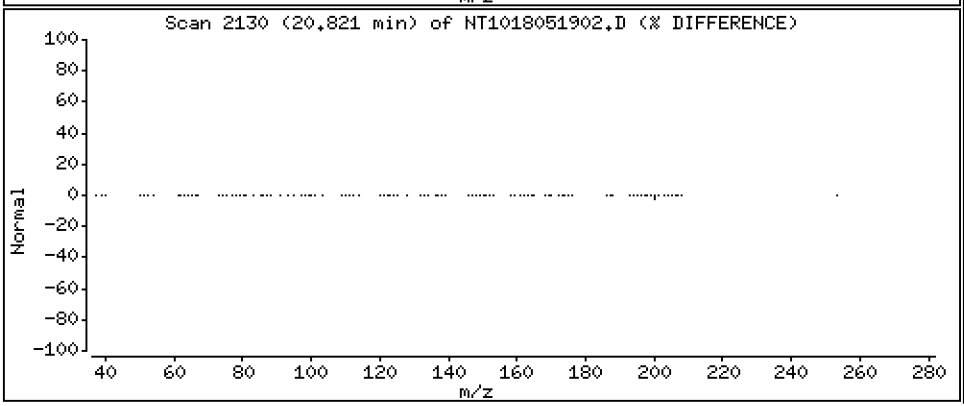












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

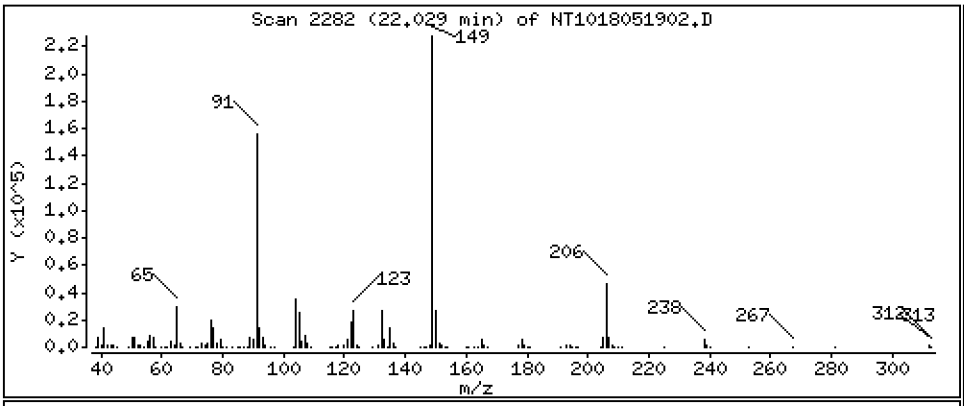
Operator: YZ

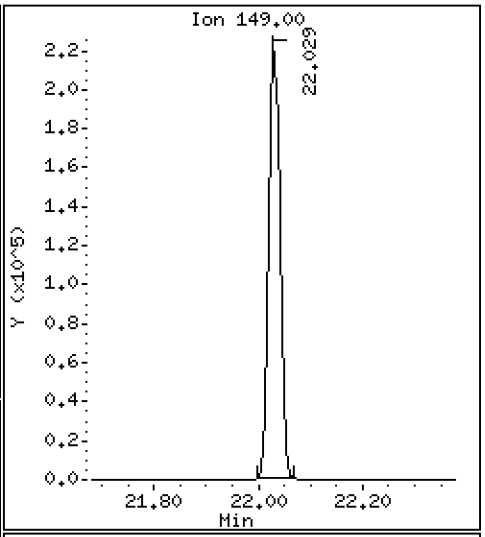
Column phase: ZB-5msi

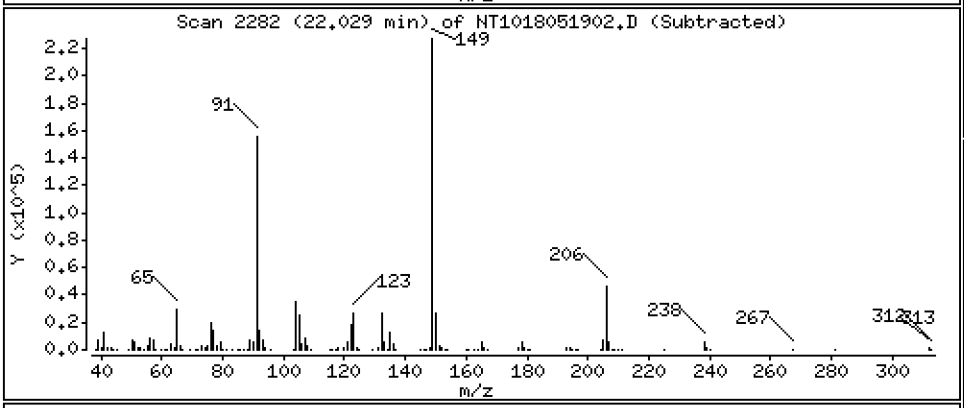
Column diameter: 0.25

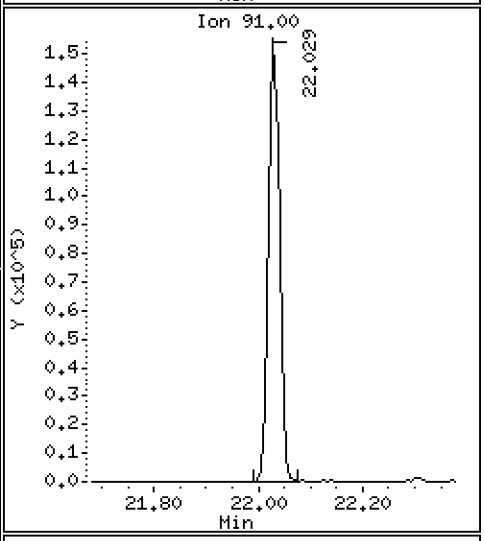
67 Butylbenzylphthalate

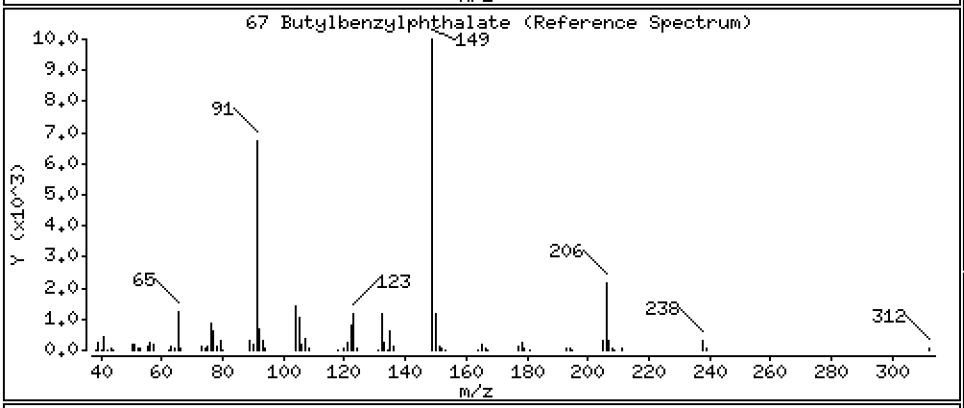
Concentration: 5.350 ug/mL

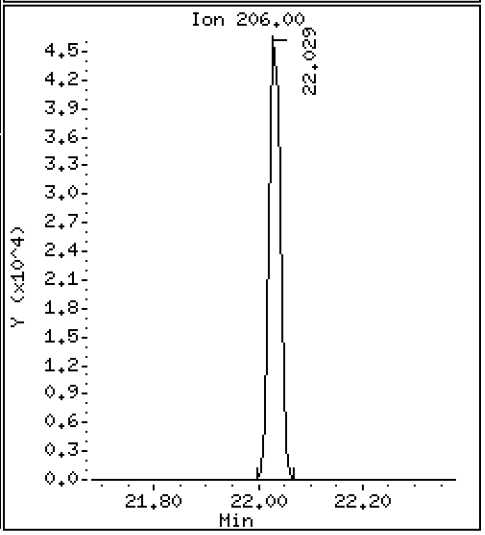


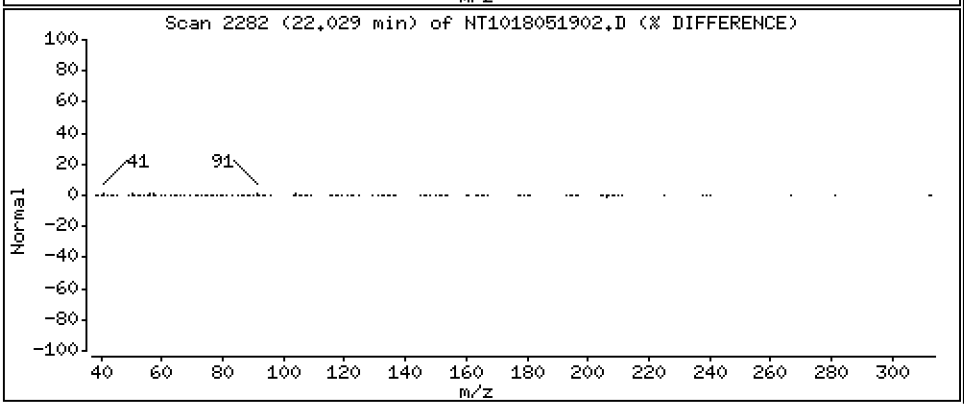












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

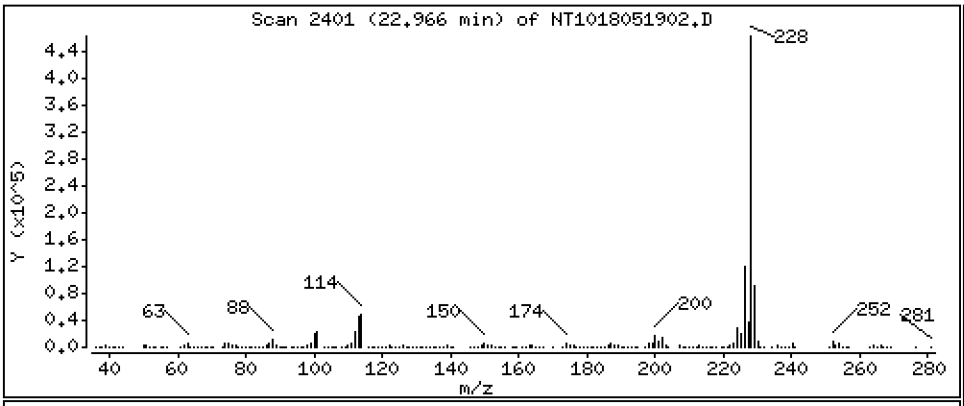
Operator: YZ

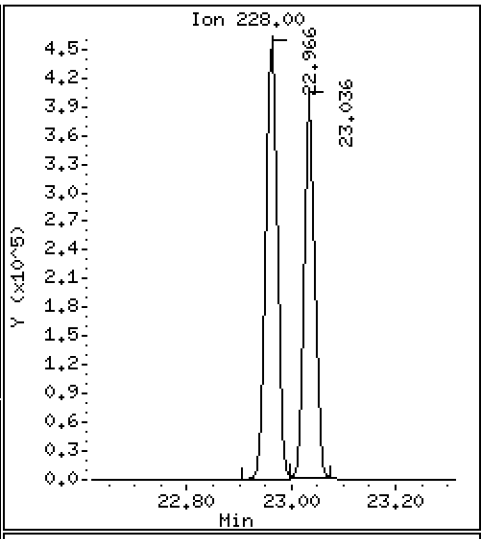
Column phase: ZB-5msi

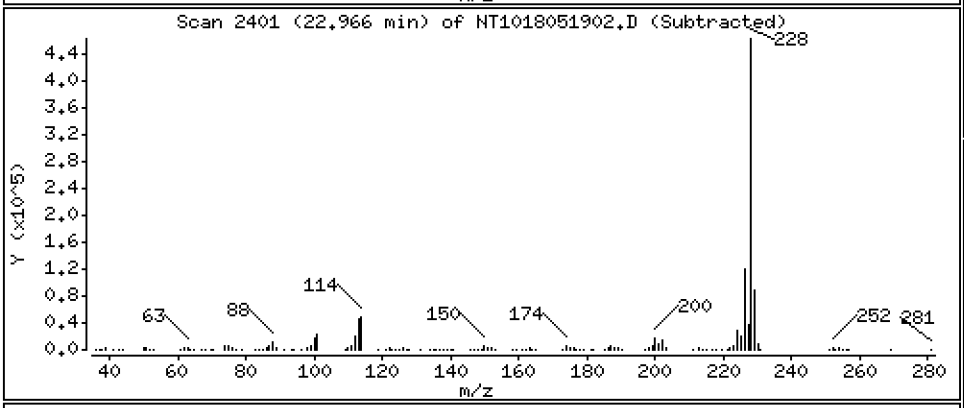
Column diameter: 0.25

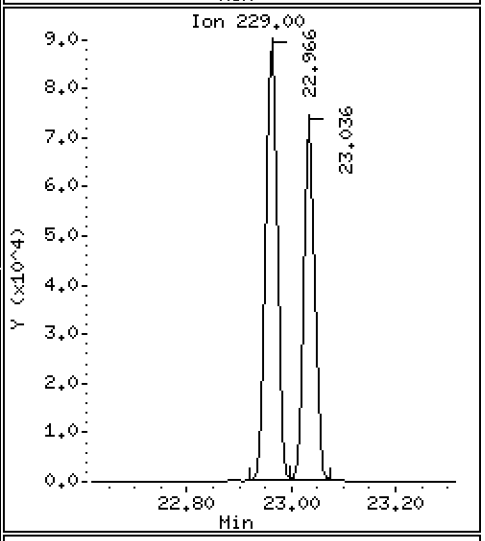
68 Benzo(a)anthracene

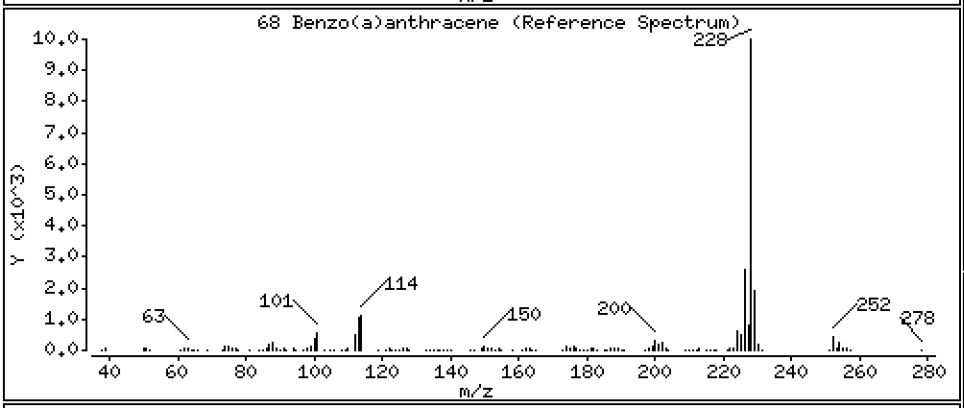
Concentration: 5.212 ug/mL

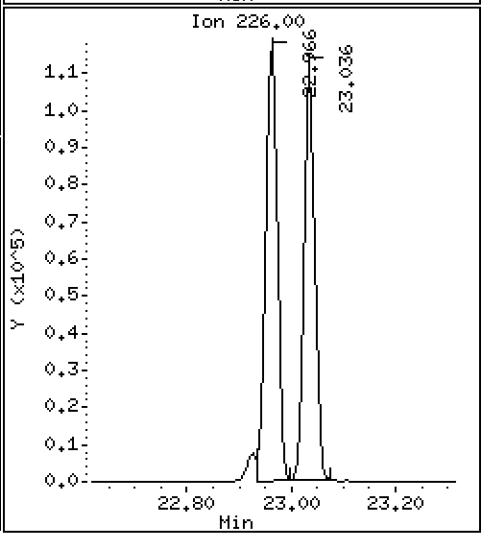


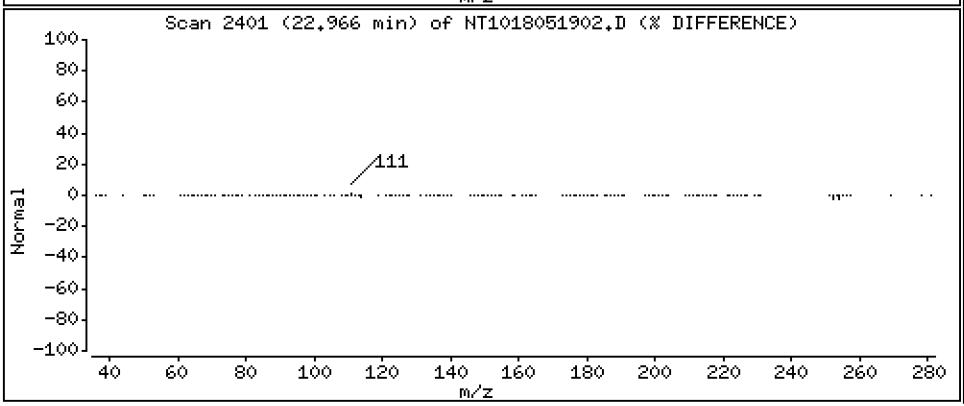












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

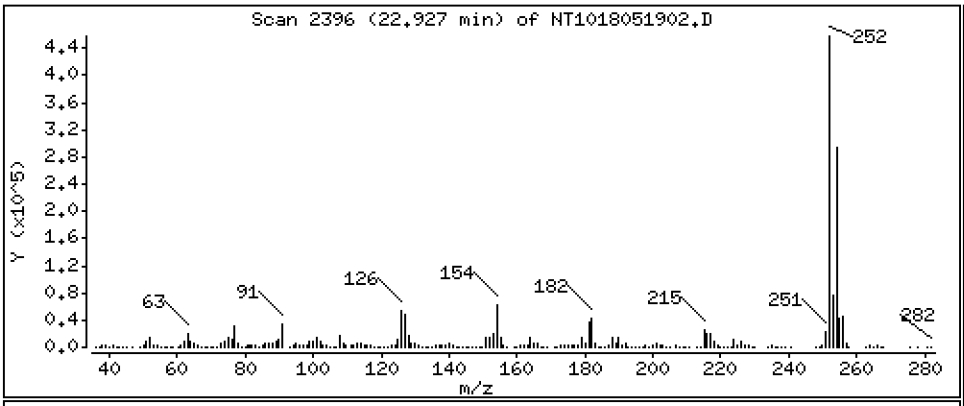
Operator: YZ

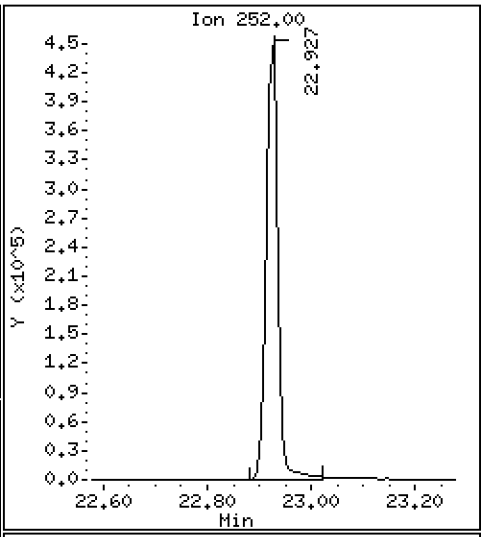
Column phase: ZB-5msi

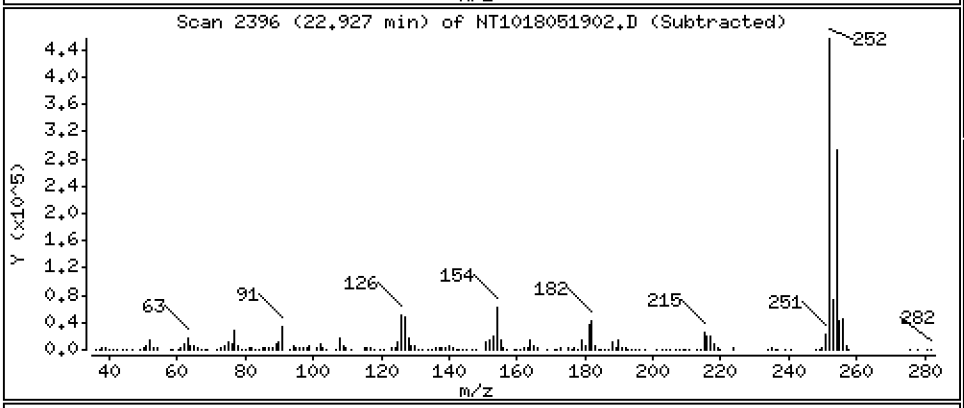
Column diameter: 0.25

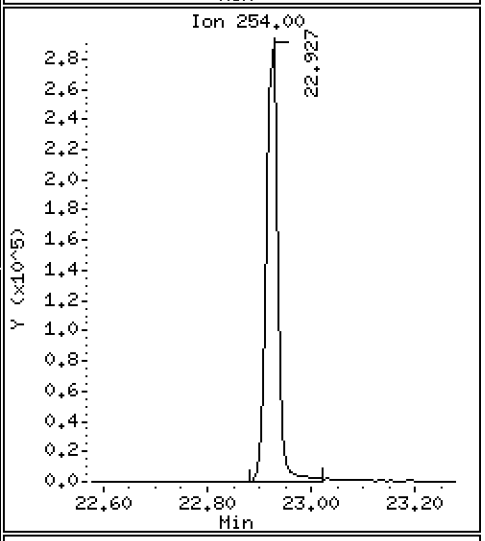
70 3,3'-Dichlorobenzidine

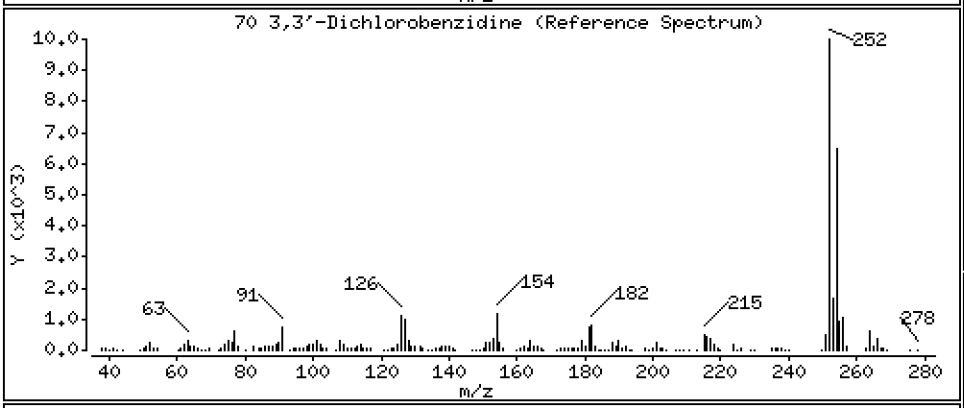
Concentration: 14.30 ug/mL

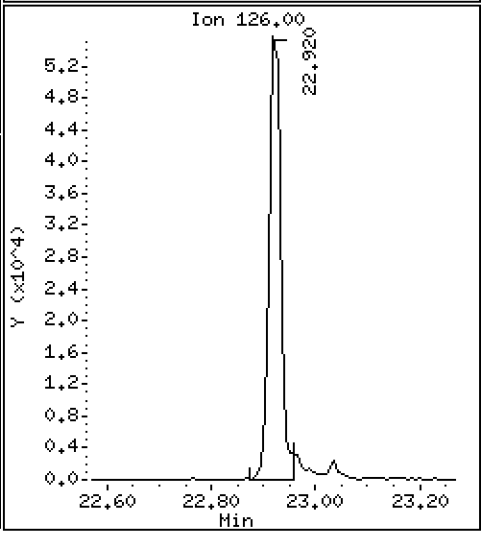


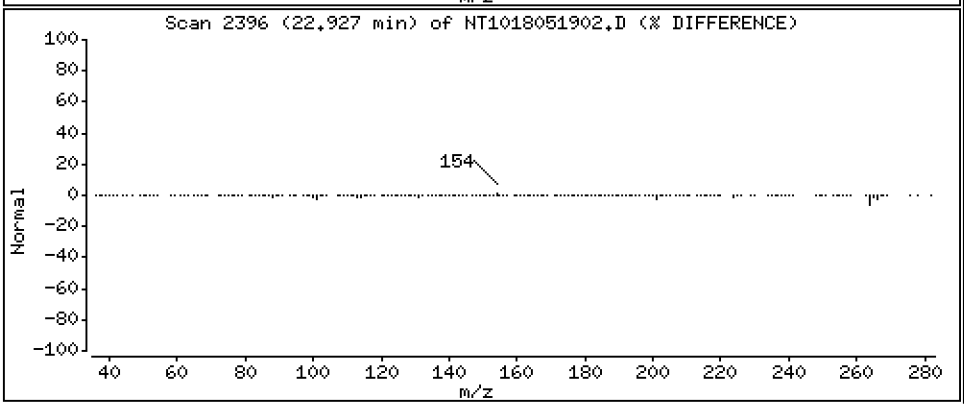












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

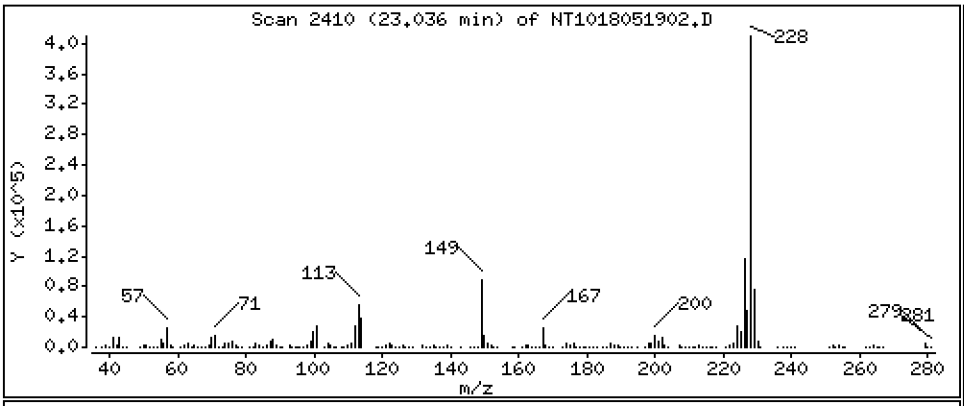
Operator: YZ

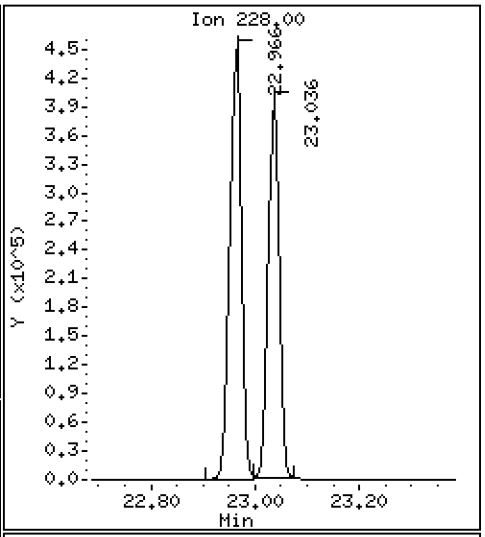
Column phase: ZB-5msi

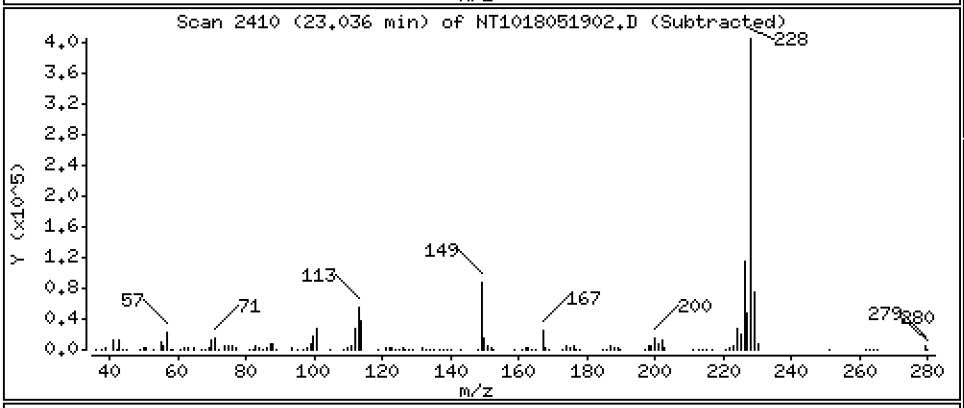
Column diameter: 0.25

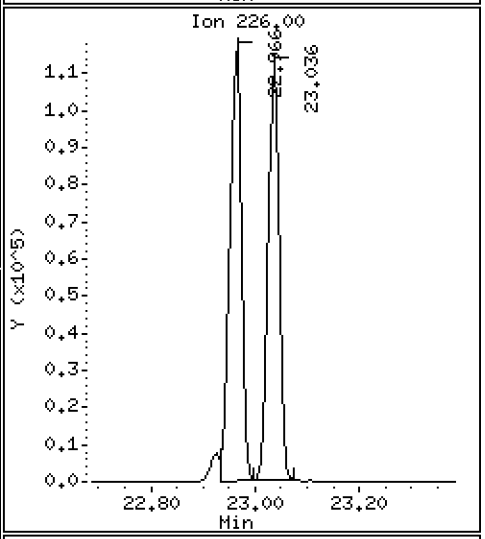
71 Chrysene

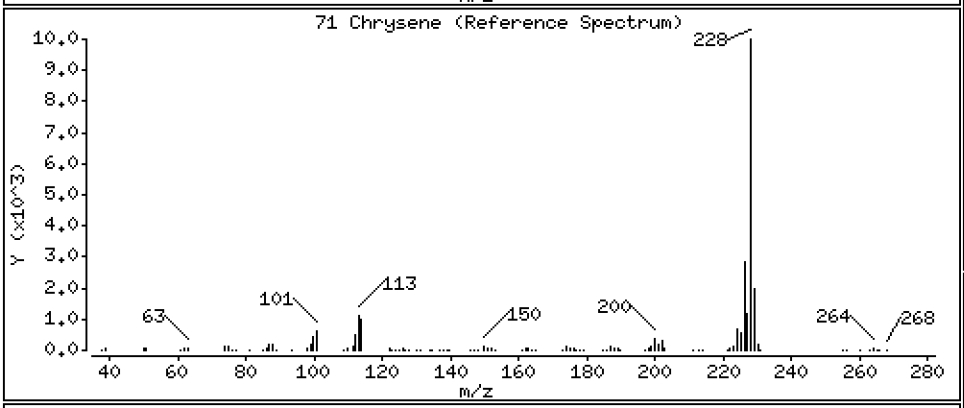
Concentration: 5.270 ug/mL

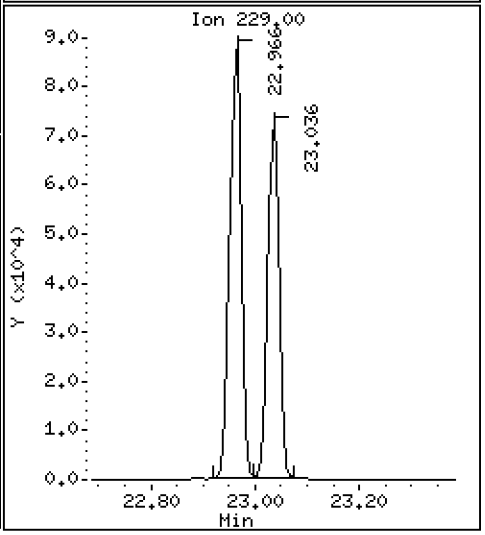


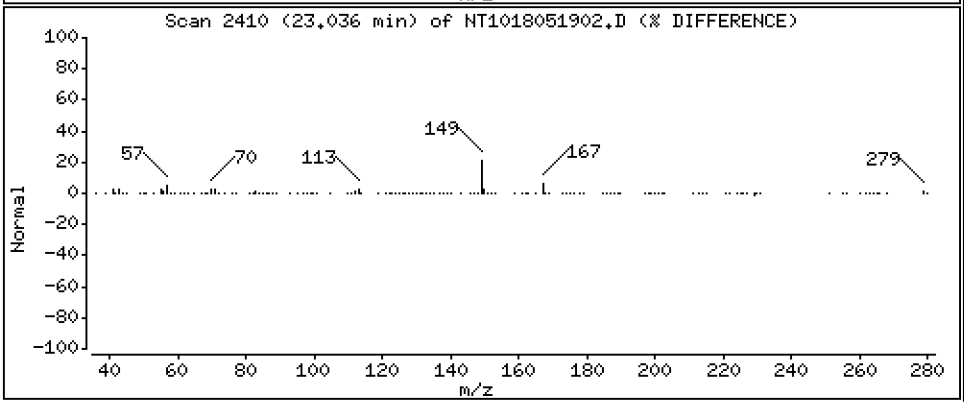












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

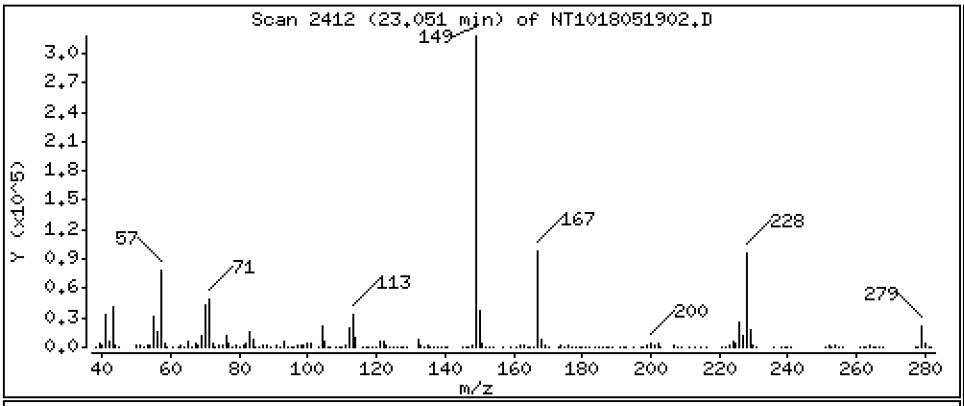
Operator: YZ

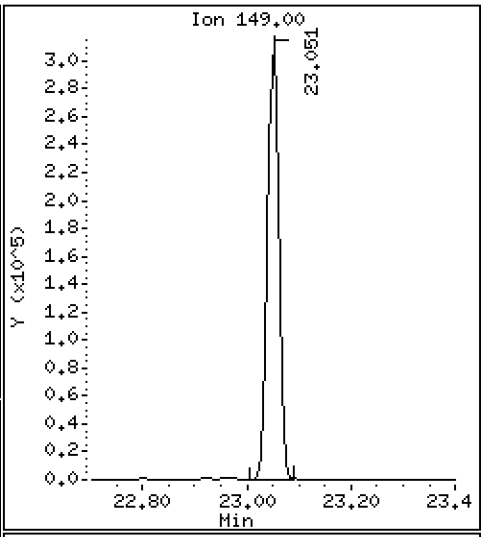
Column phase: ZB-5msi

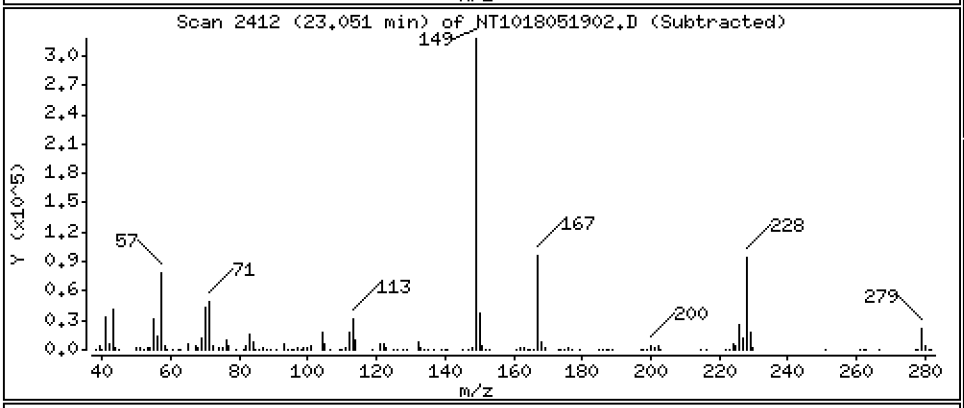
Column diameter: 0.25

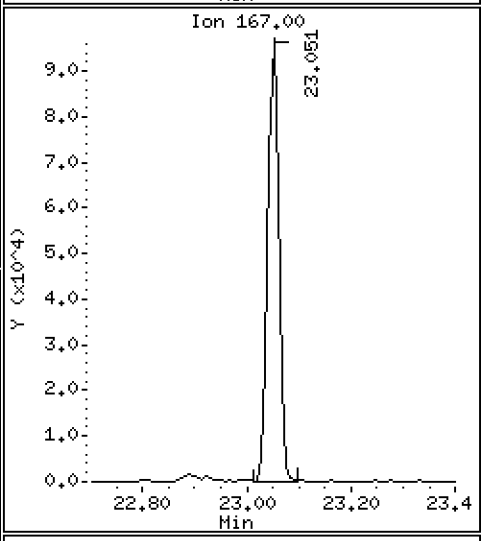
72 bis(2-Ethylhexyl)phthalate

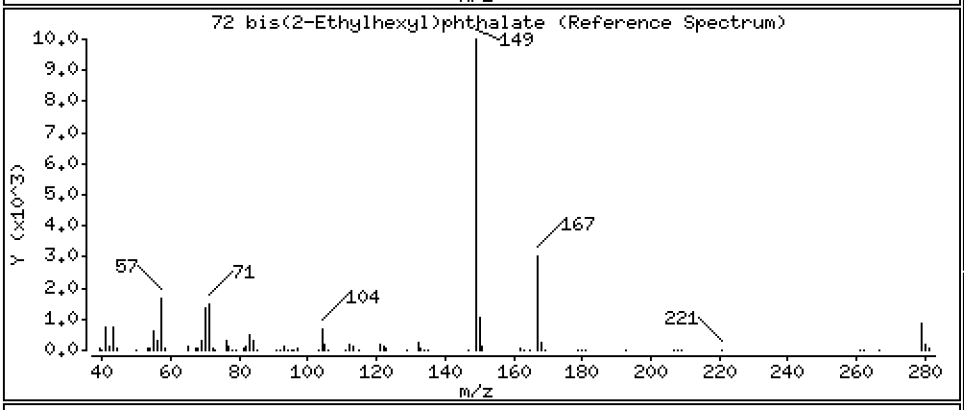
Concentration: 5.325 ug/mL

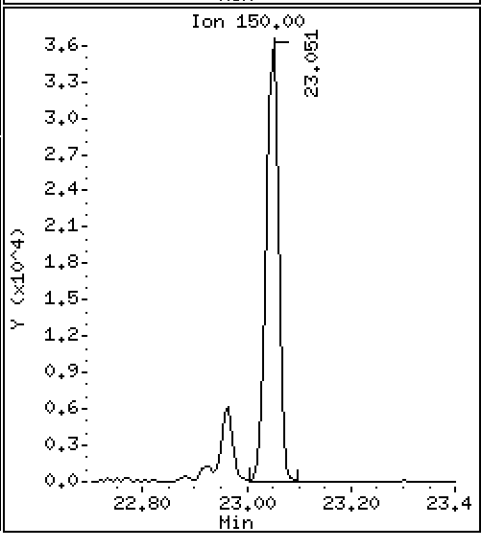


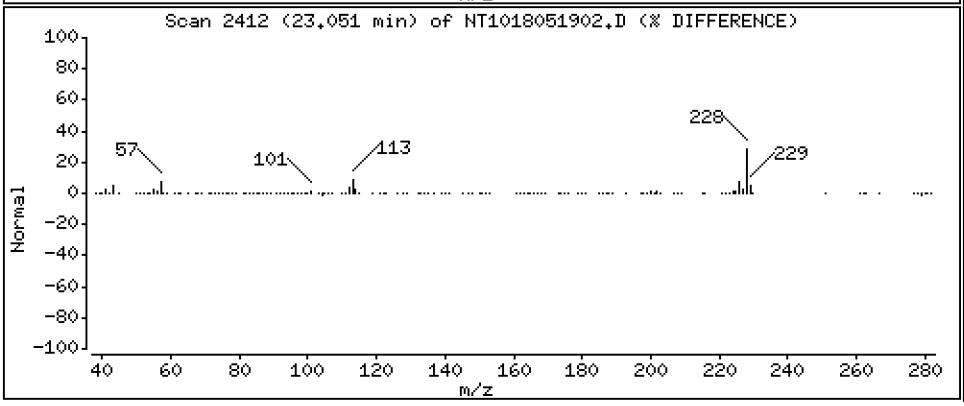












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

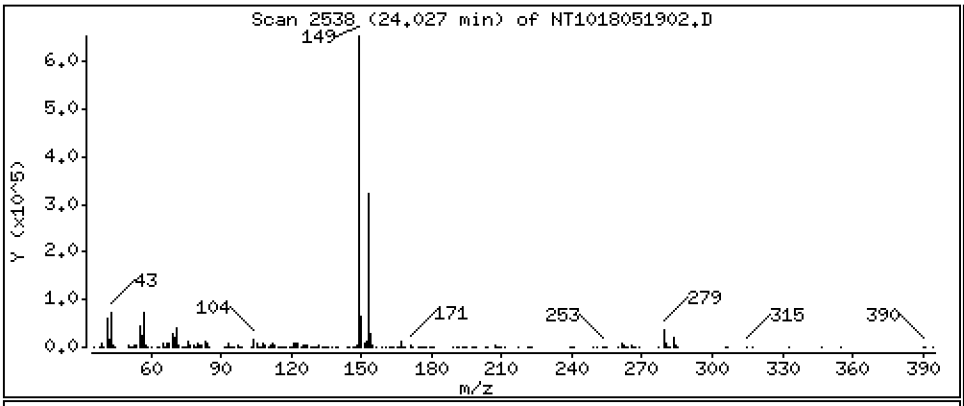
Operator: YZ

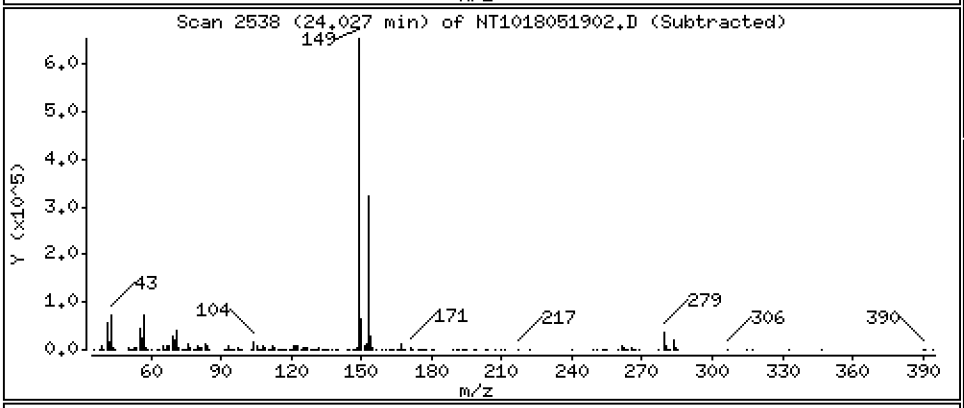
Column phase: ZB-5msi

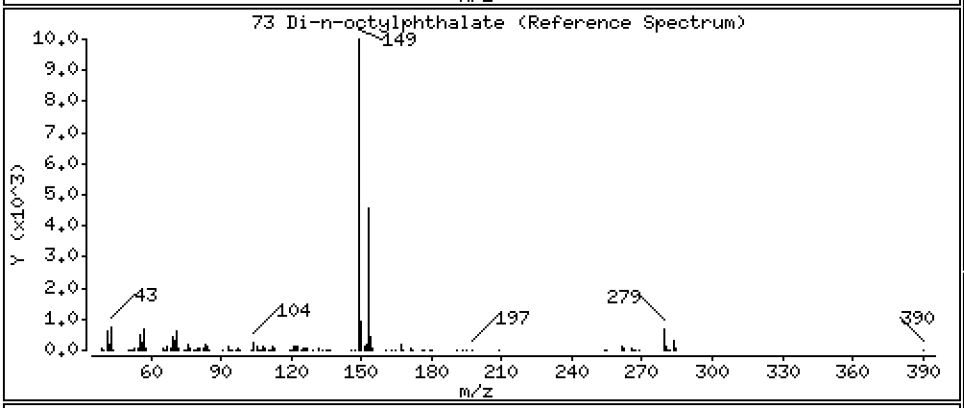
Column diameter: 0.25

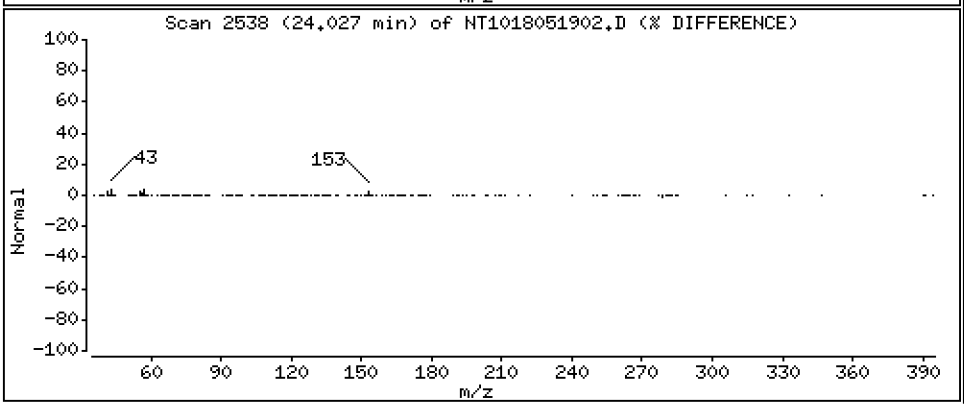
73 Di-n-octylphthalate

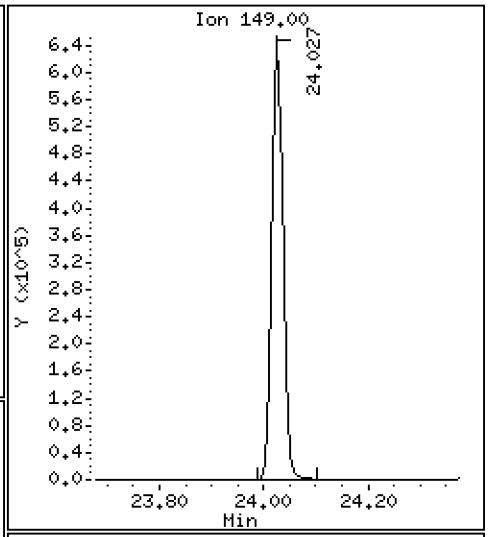
Concentration: 5.181 ug/mL

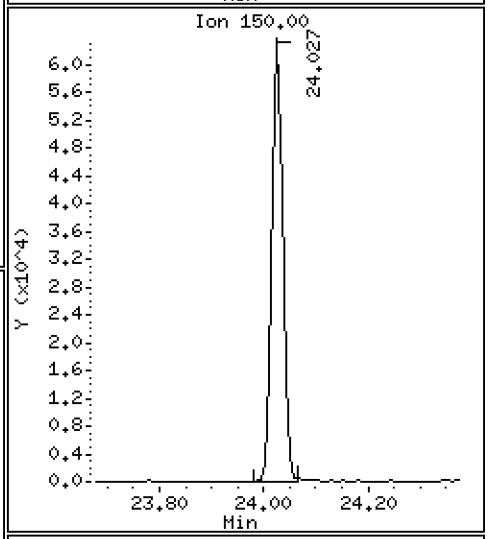


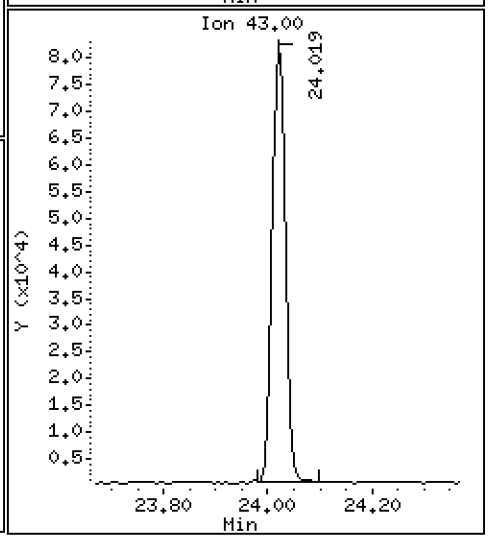












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

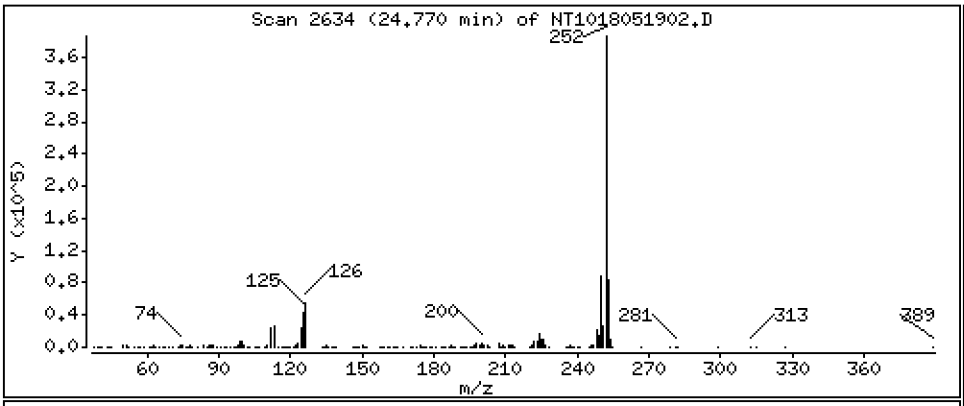
Operator: YZ

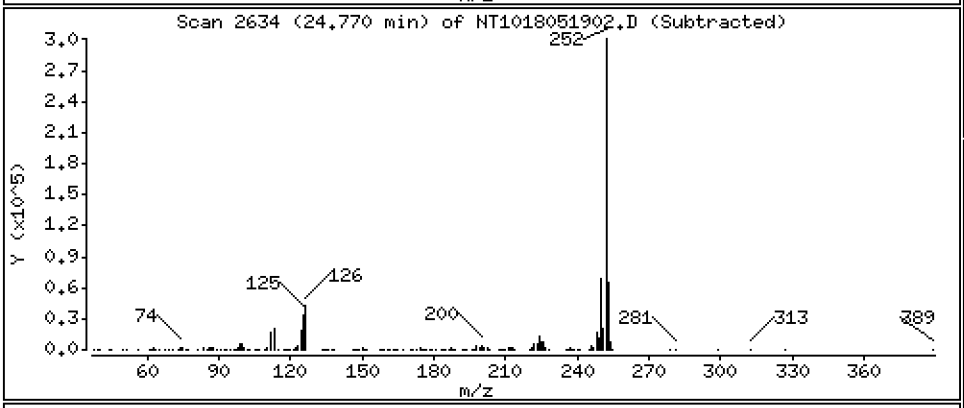
Column phase: ZB-5msi

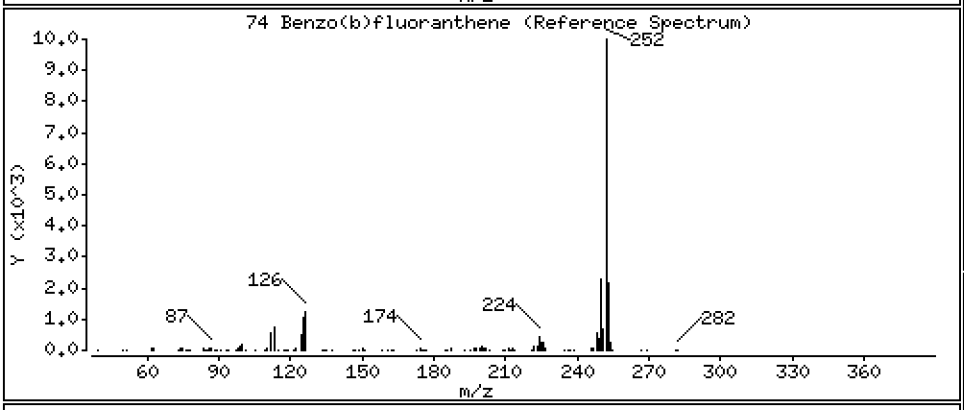
Column diameter: 0.25

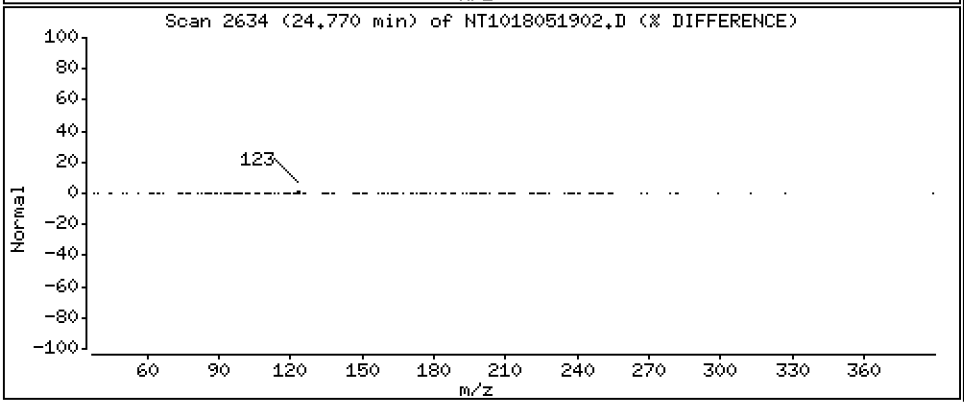
74 Benzo(b)fluoranthene

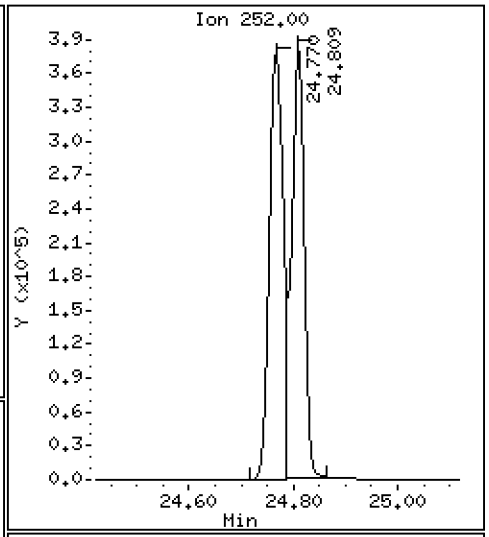
Concentration: 5.088 ug/mL

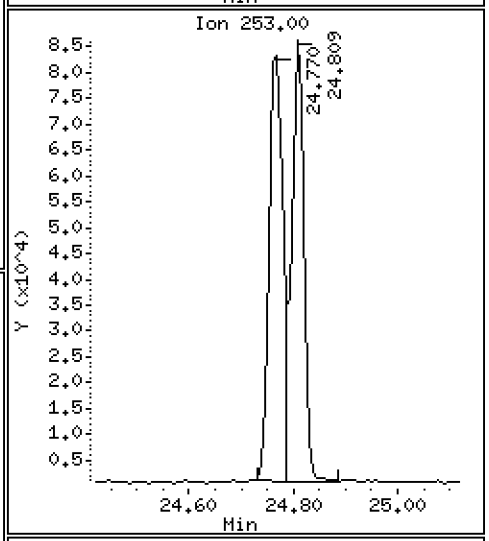


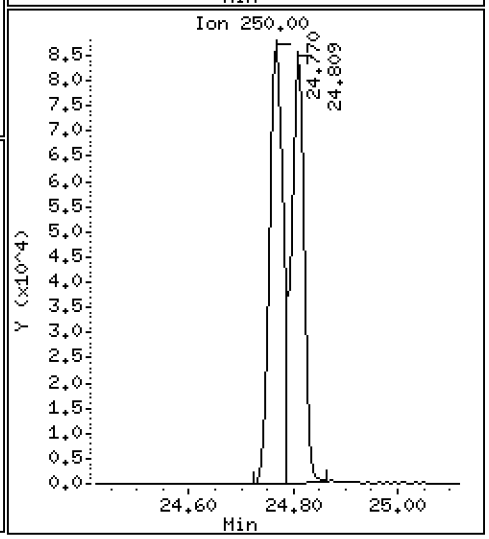












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

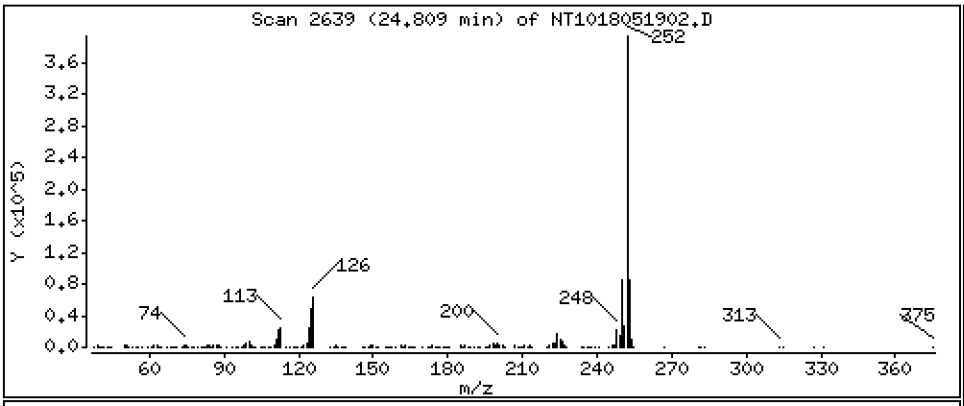
Operator: YZ

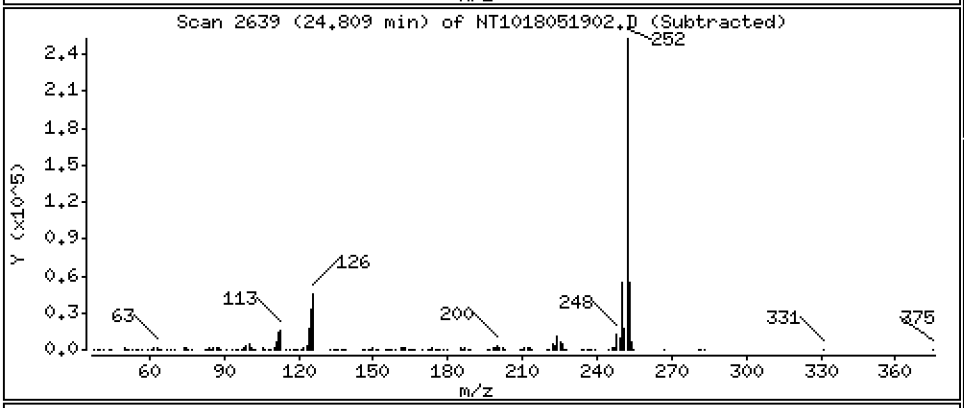
Column phase: ZB-5msi

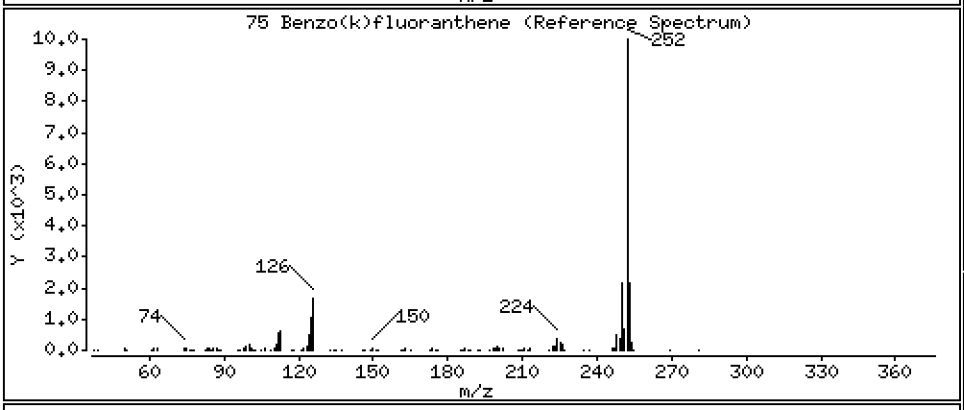
Column diameter: 0.25

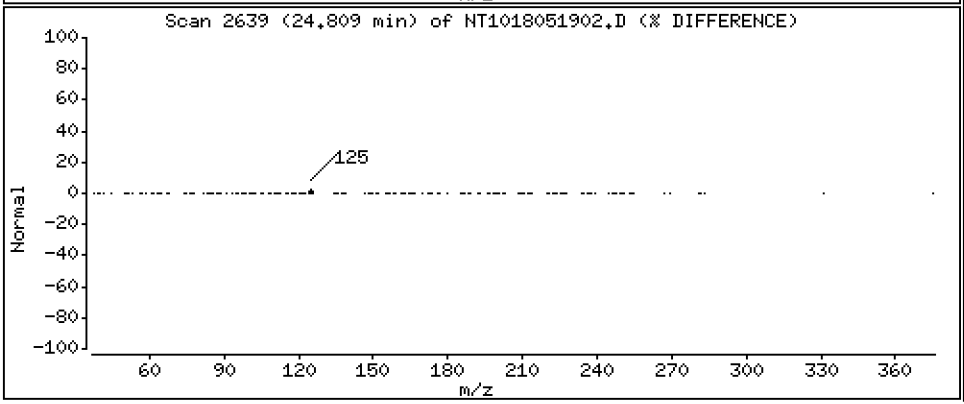
75 Benzo(k)fluoranthene

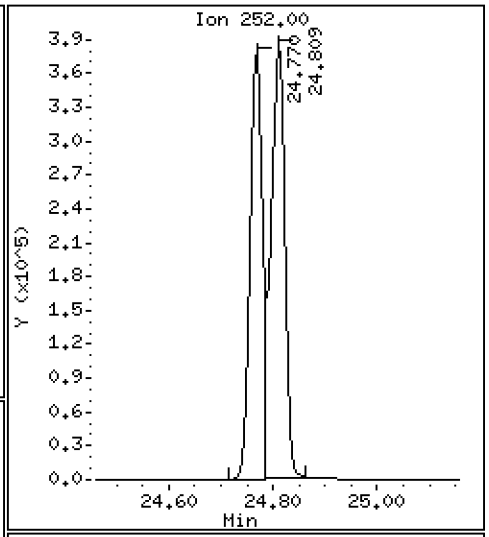
Concentration: 5.390 ug/mL

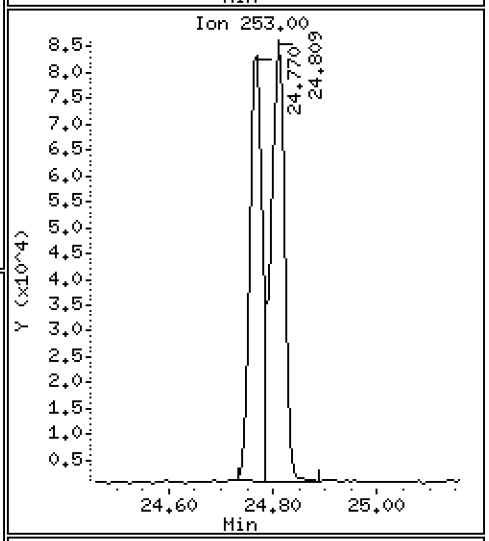


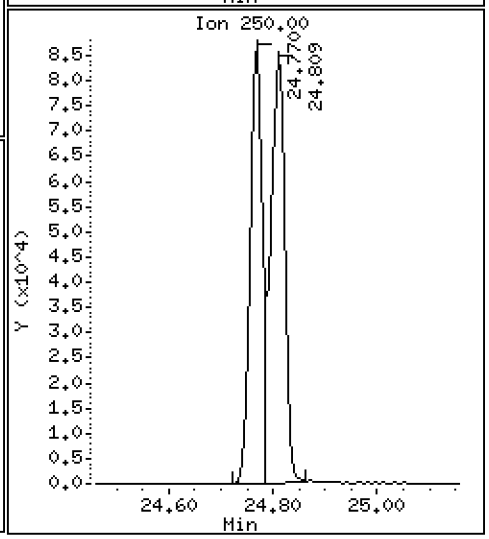












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

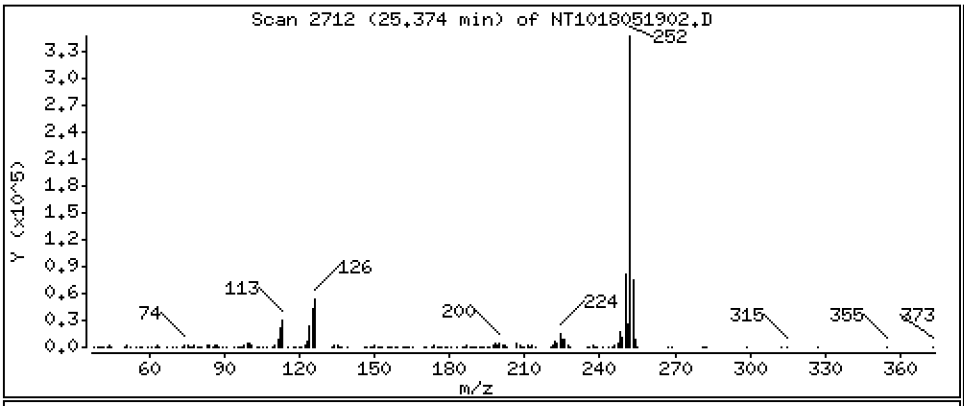
Operator: YZ

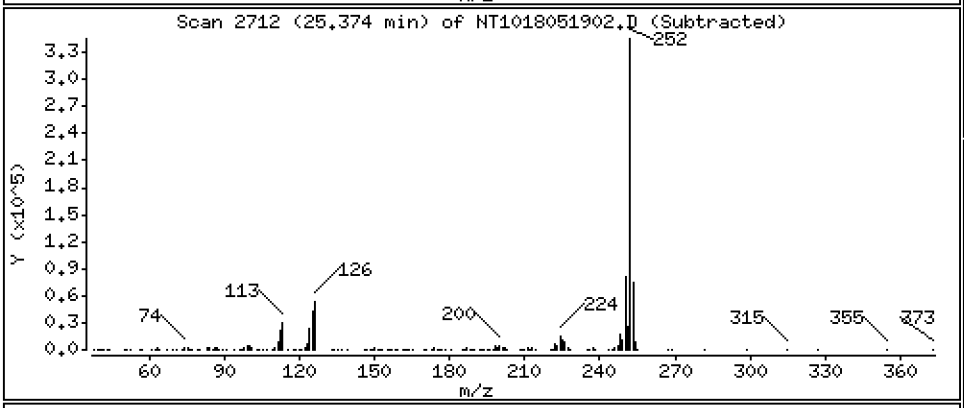
Column phase: ZB-5msi

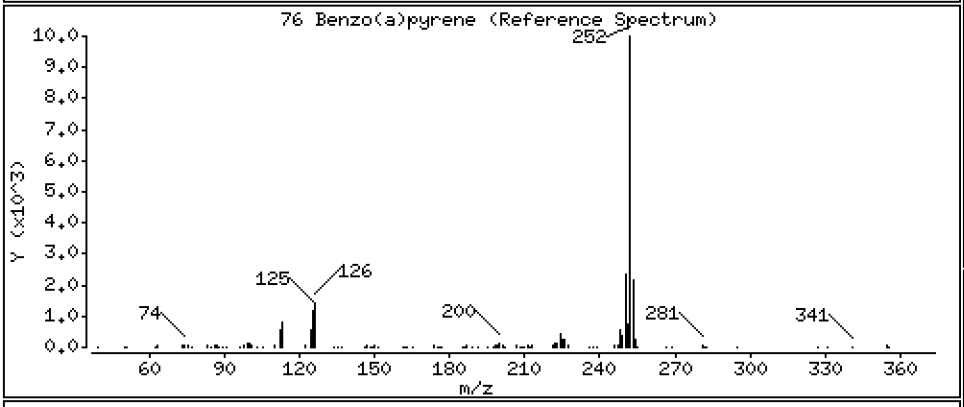
Column diameter: 0.25

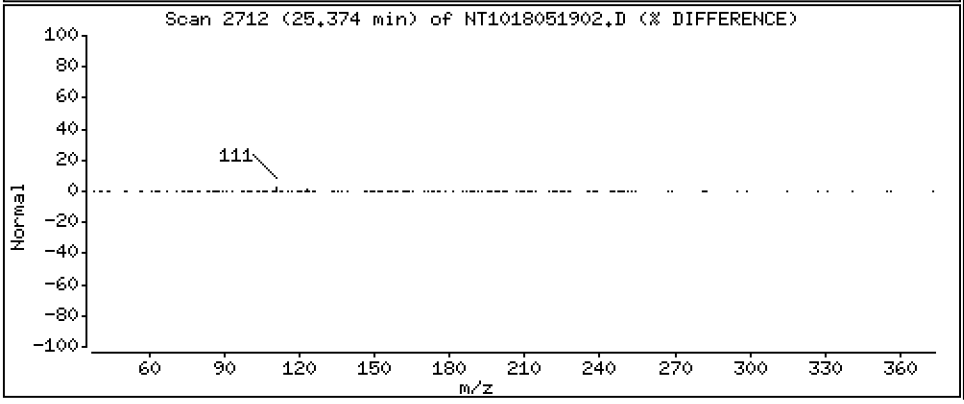
76 Benzo(a)pyrene

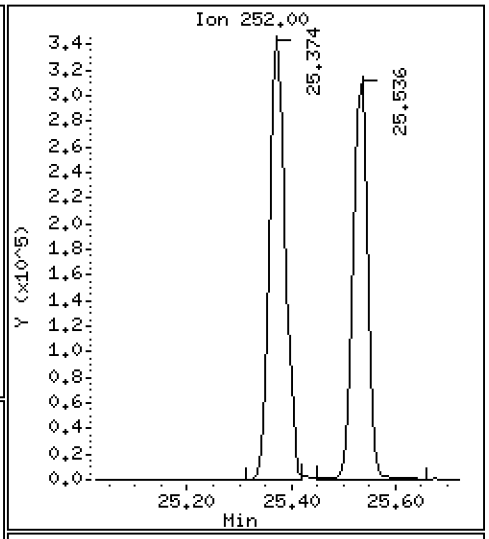
Concentration: 5.475 ug/mL

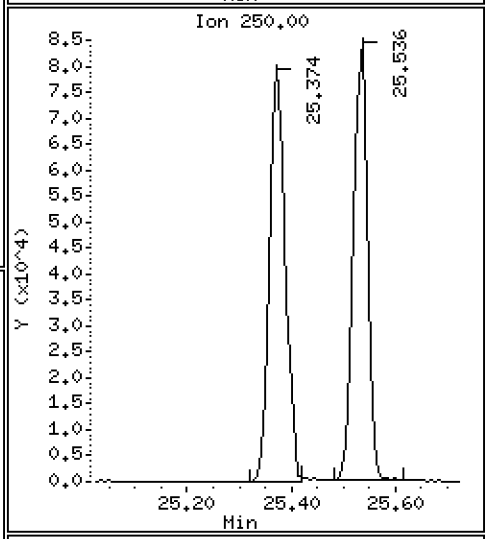


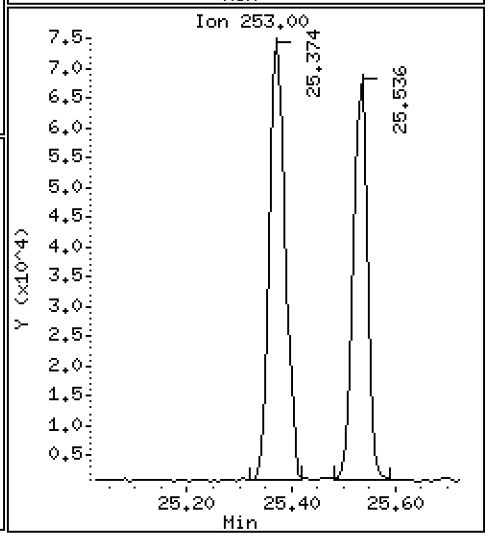












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

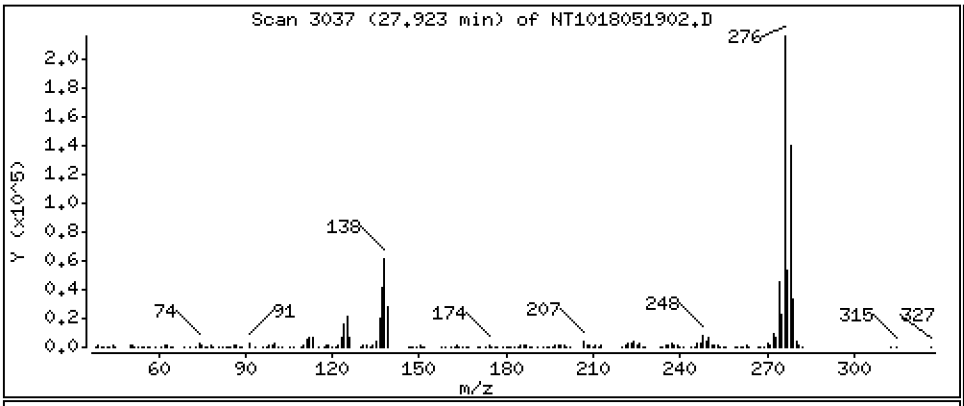
Operator: YZ

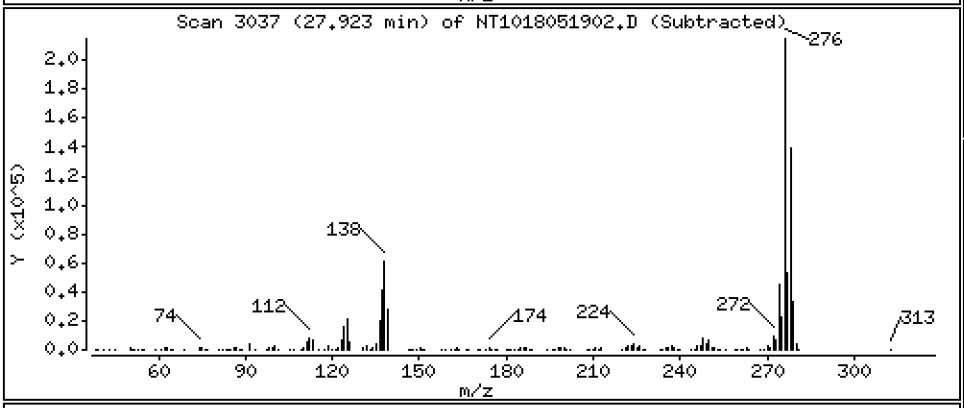
Column phase: ZB-5msi

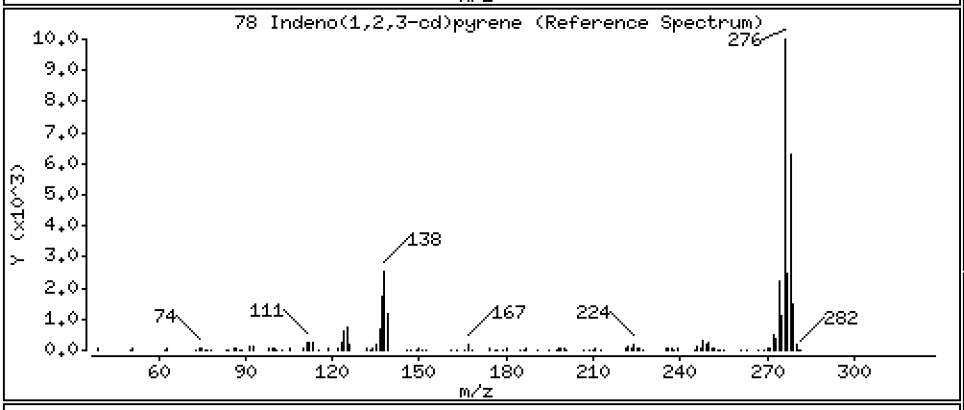
Column diameter: 0.25

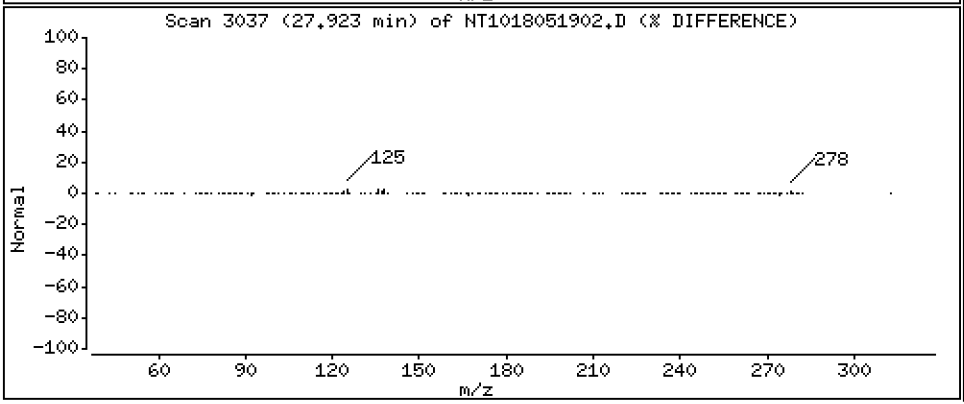
78 Indeno(1,2,3-cd)pyrene

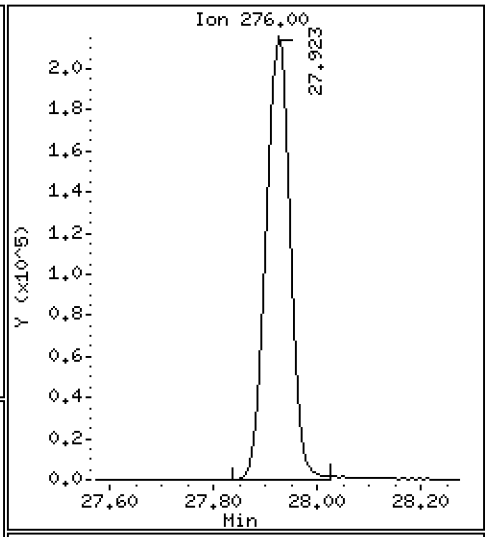
Concentration: 5.269 ug/mL

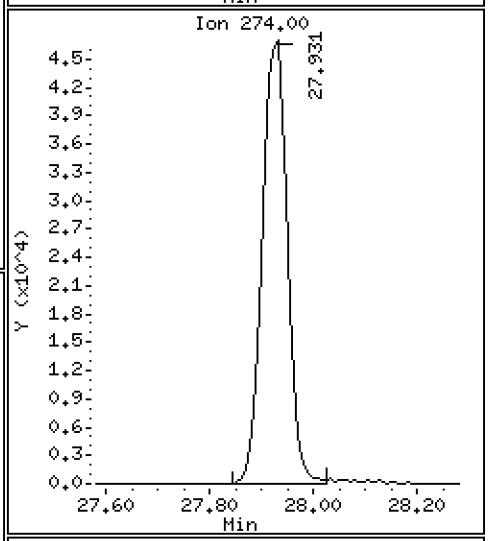


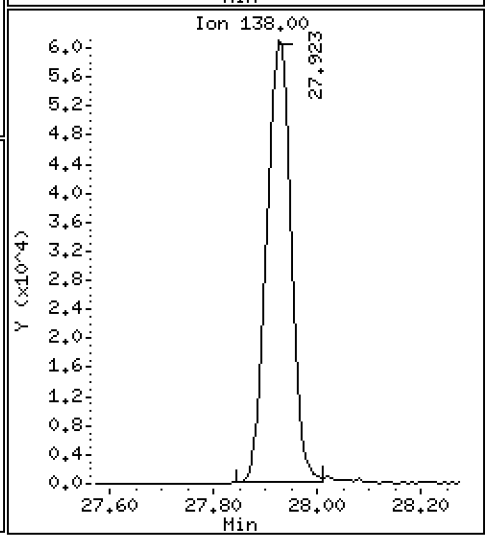












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

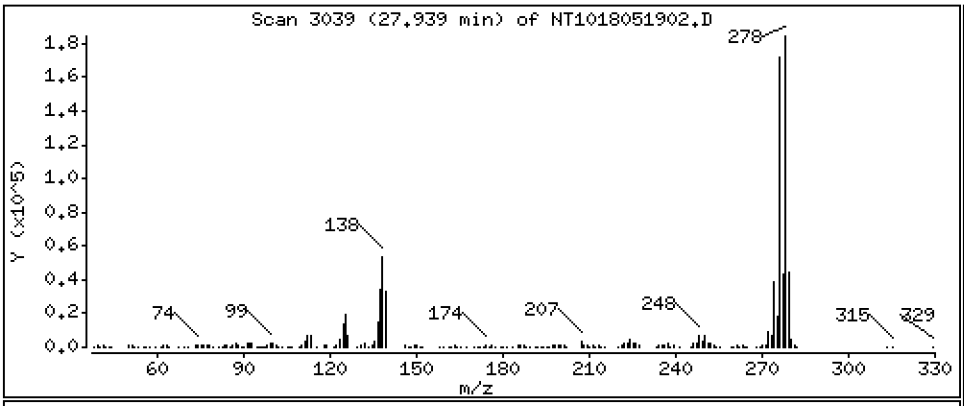
Operator: YZ

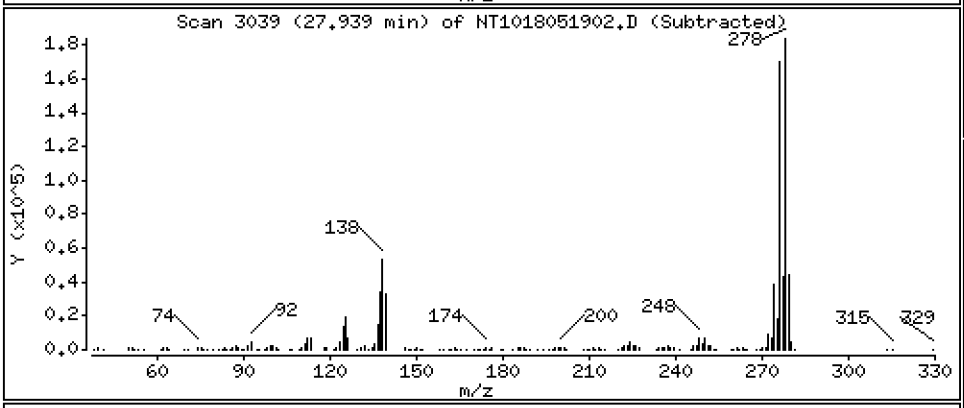
Column phase: ZB-5msi

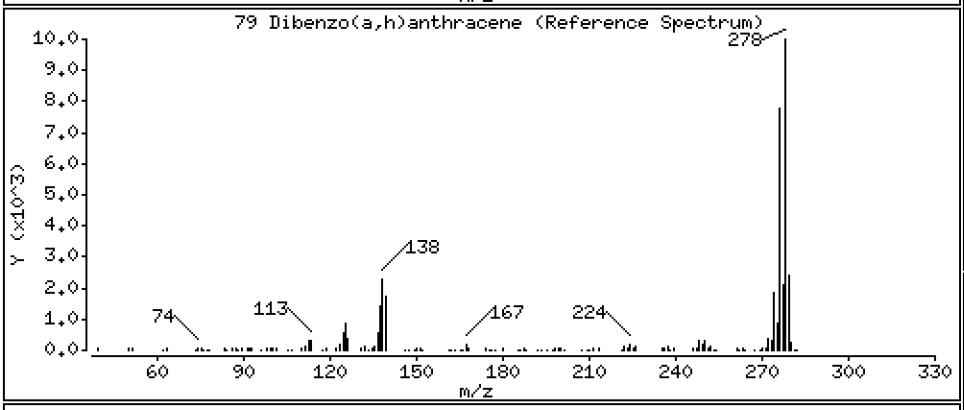
Column diameter: 0.25

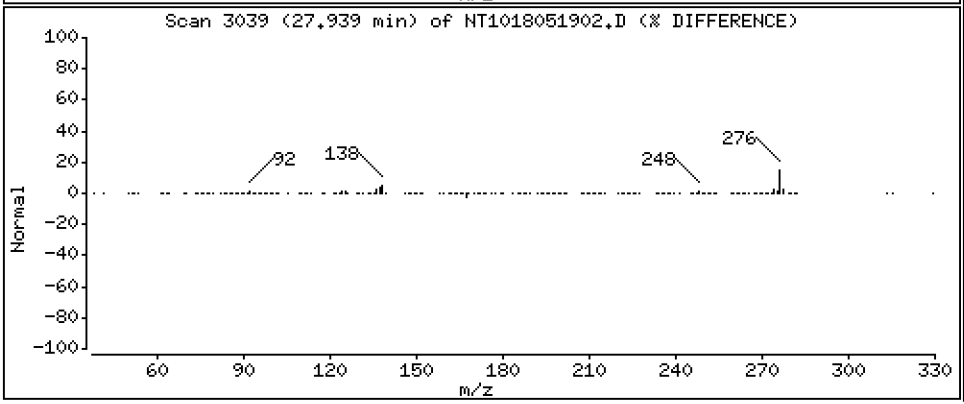
79 Dibenzo(a,h)anthracene

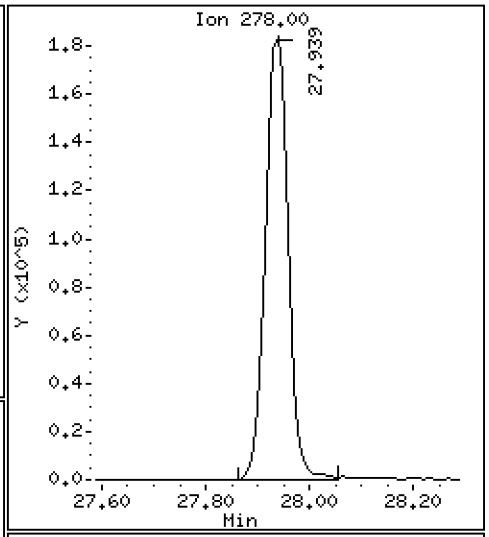
Concentration: 5.170 ug/mL

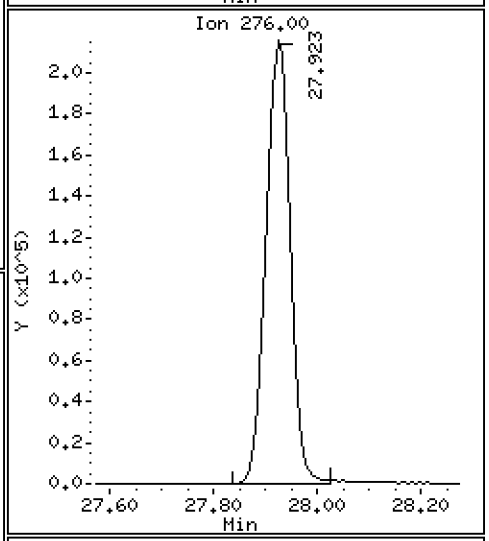


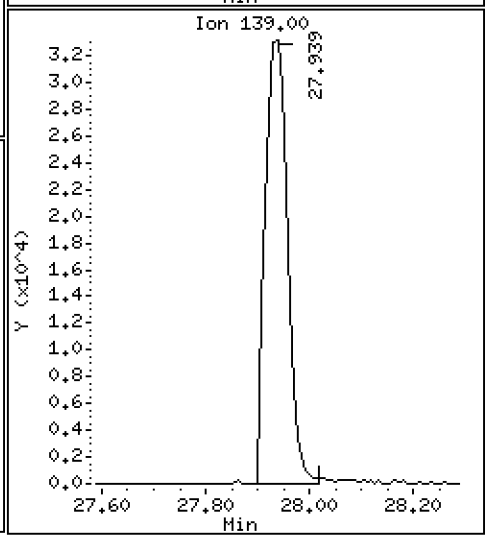












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

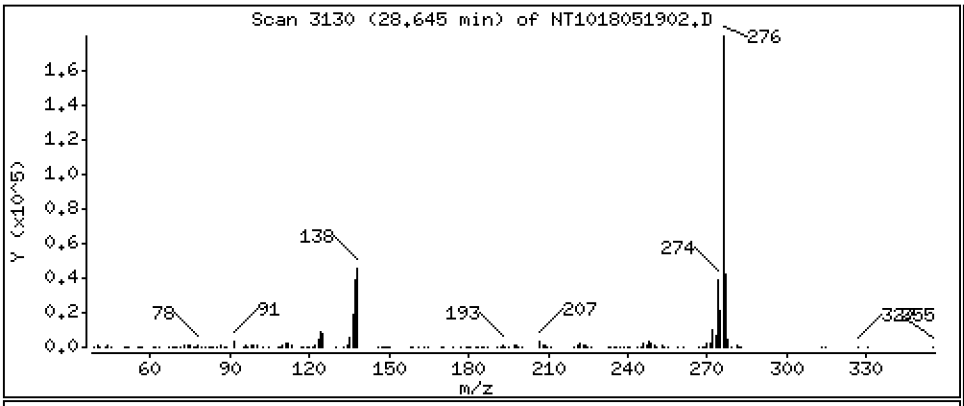
Operator: YZ

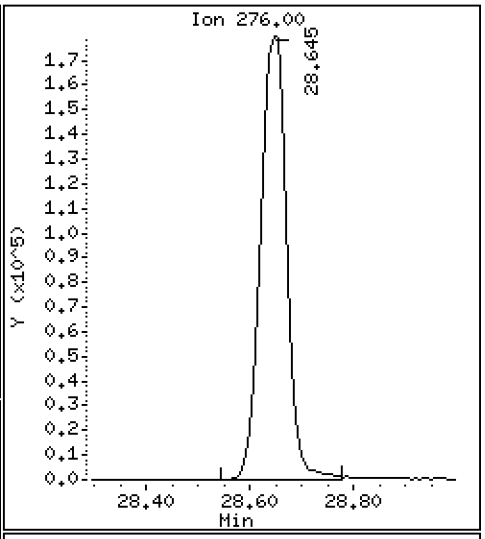
Column phase: ZB-5msi

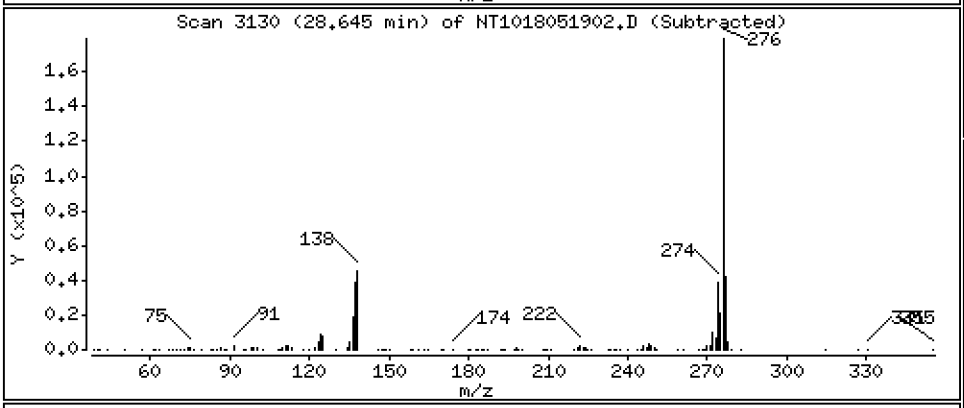
Column diameter: 0.25

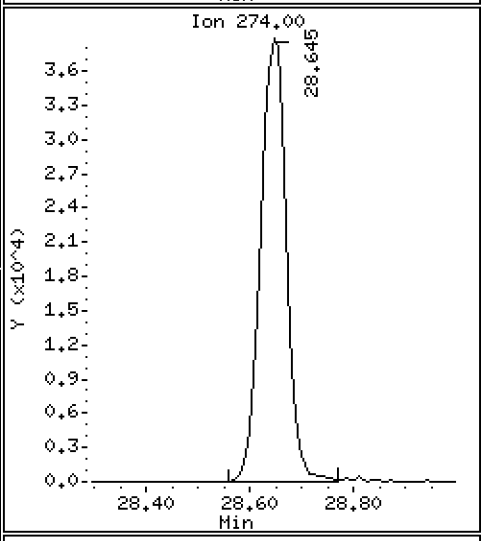
80 Benzo(g,h,i)perylene

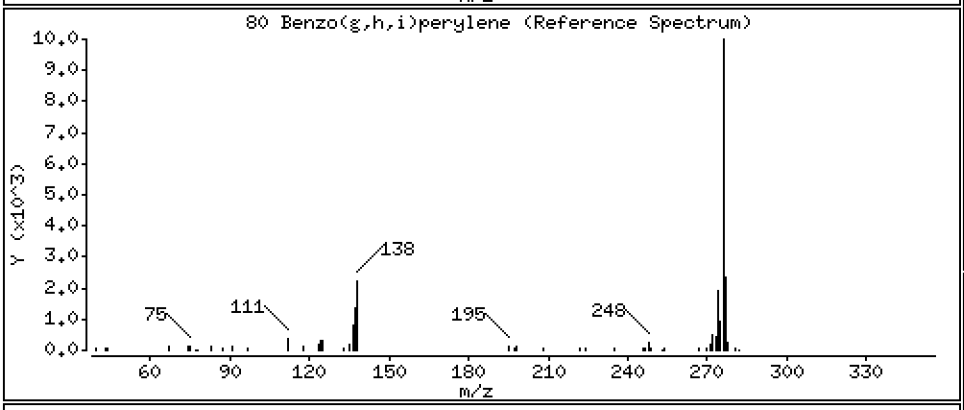
Concentration: 5.316 ug/mL

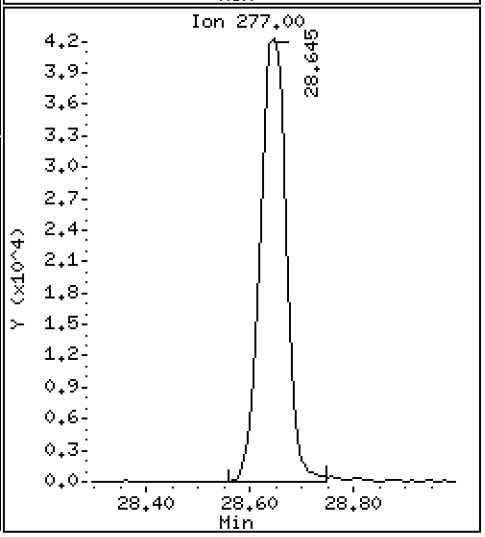


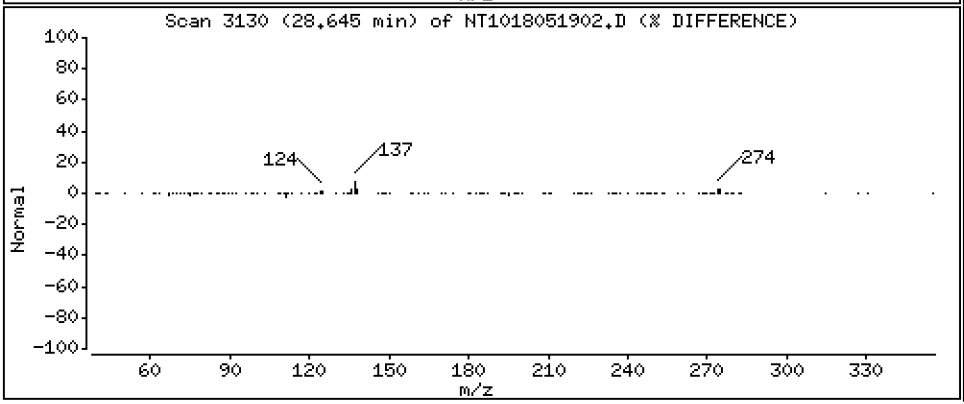












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

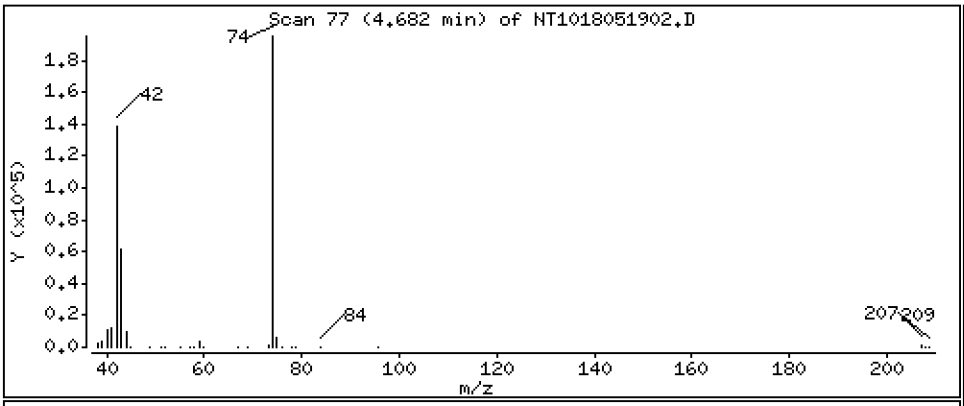
Operator: YZ

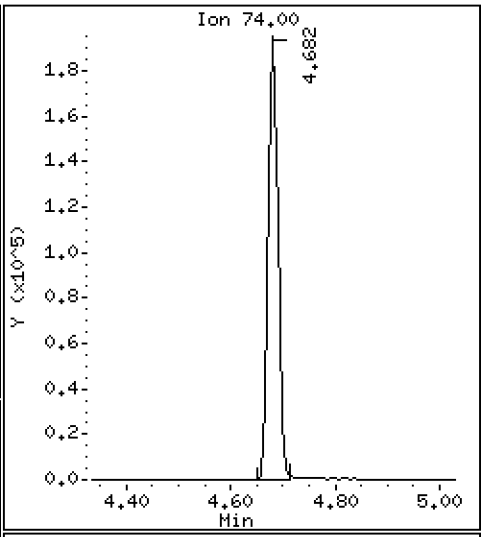
Column phase: ZB-5msi

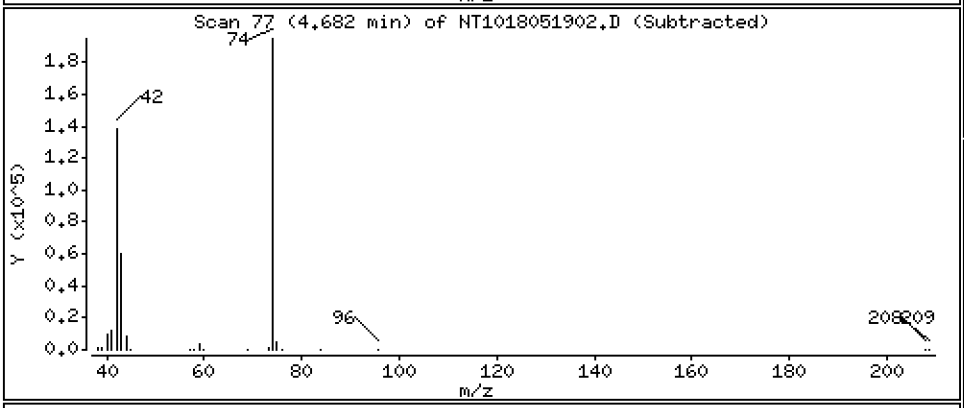
Column diameter: 0.25

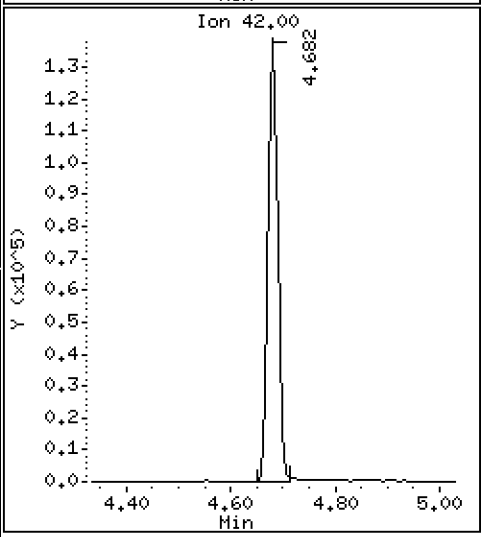
90 N-Nitrosodimethylamine

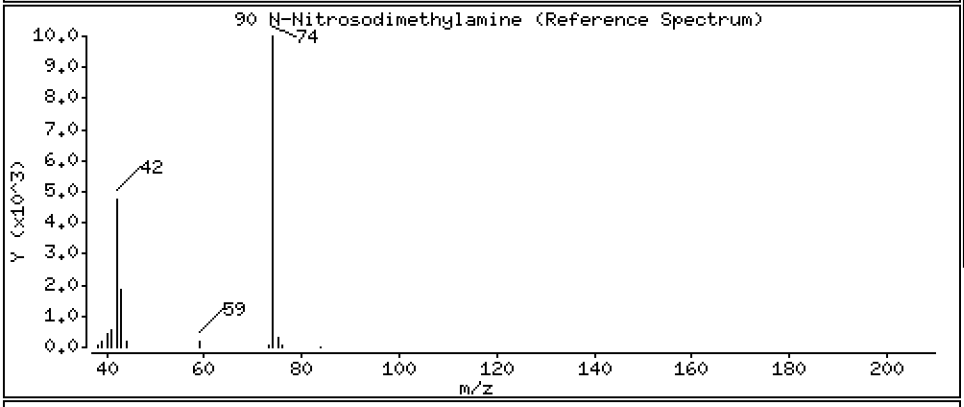
Concentration: 10.51 ug/mL

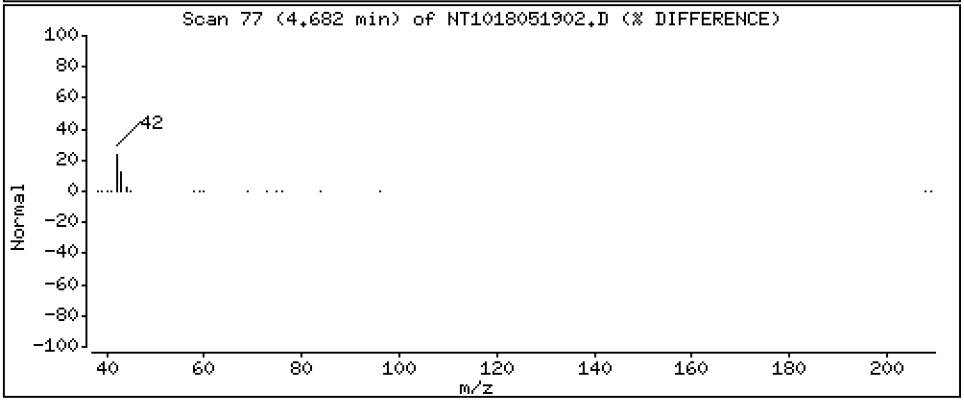












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

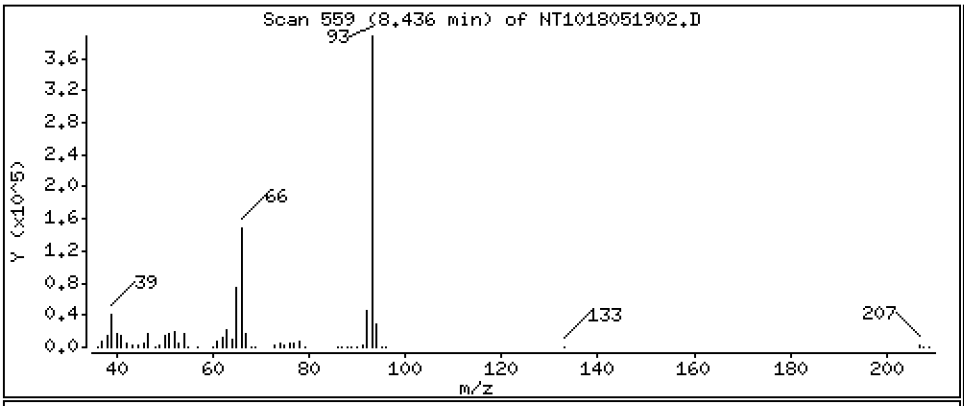
Operator: YZ

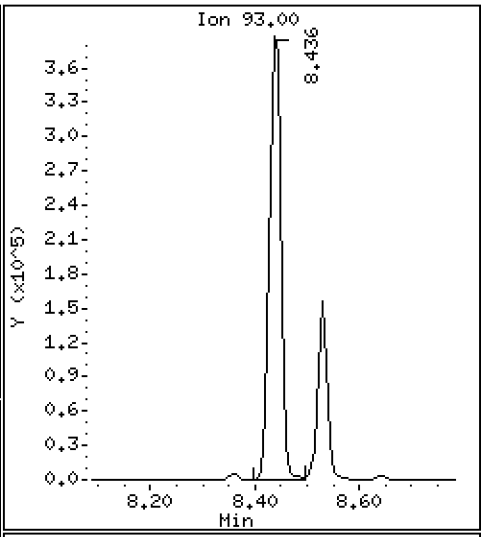
Column phase: ZB-5msi

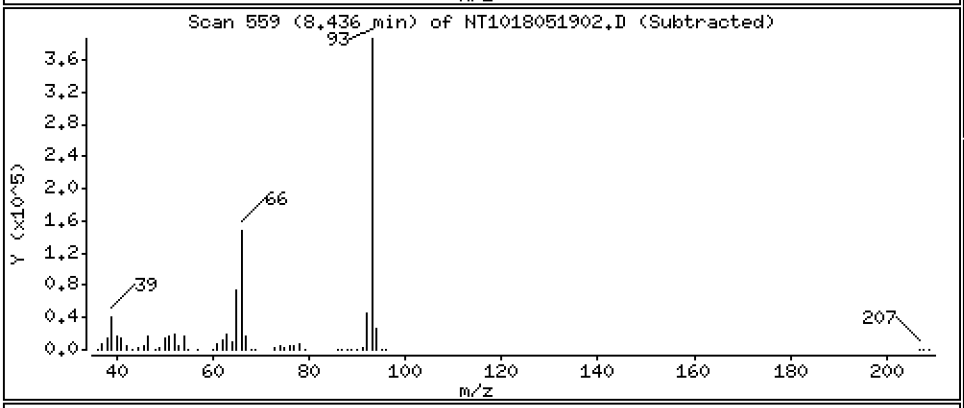
Column diameter: 0.25

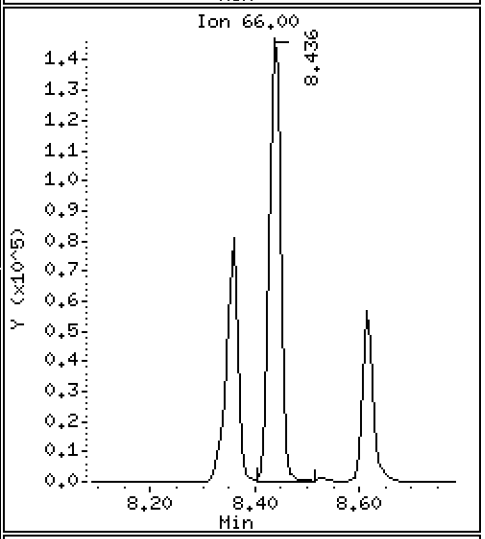
91 Aniline

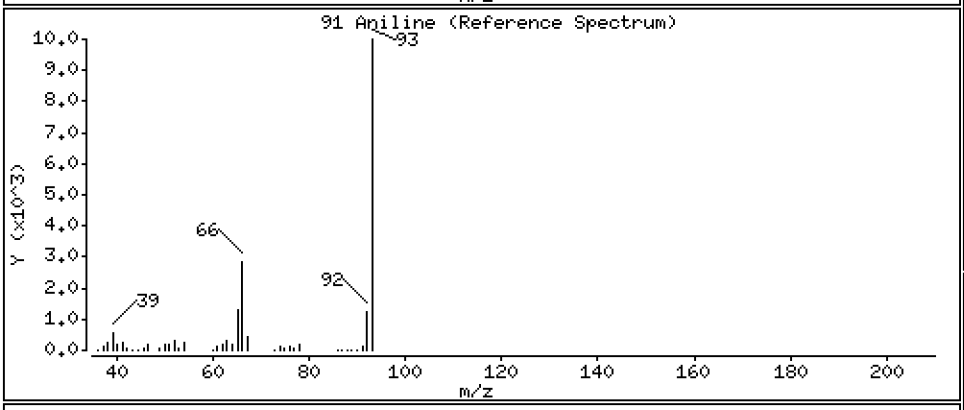
Concentration: 10.26 ug/mL

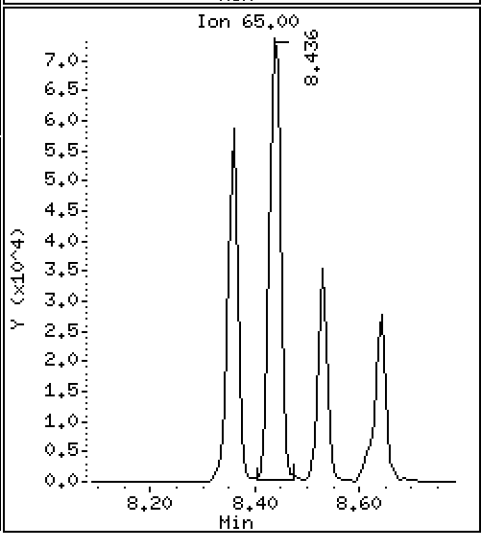


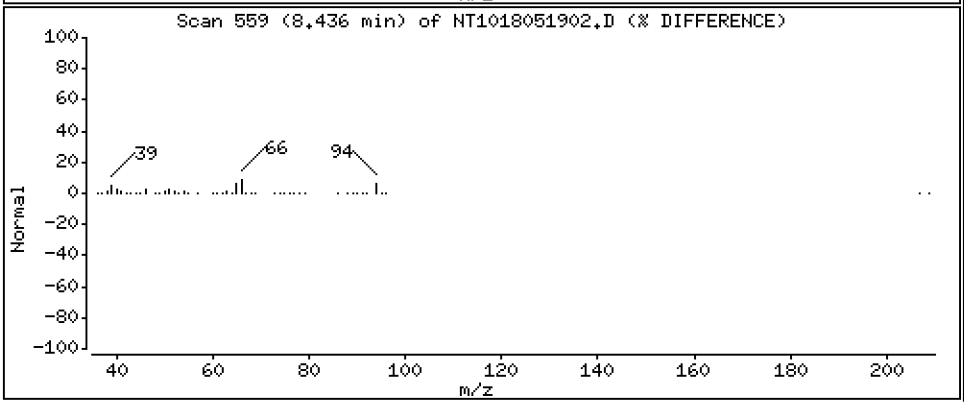












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

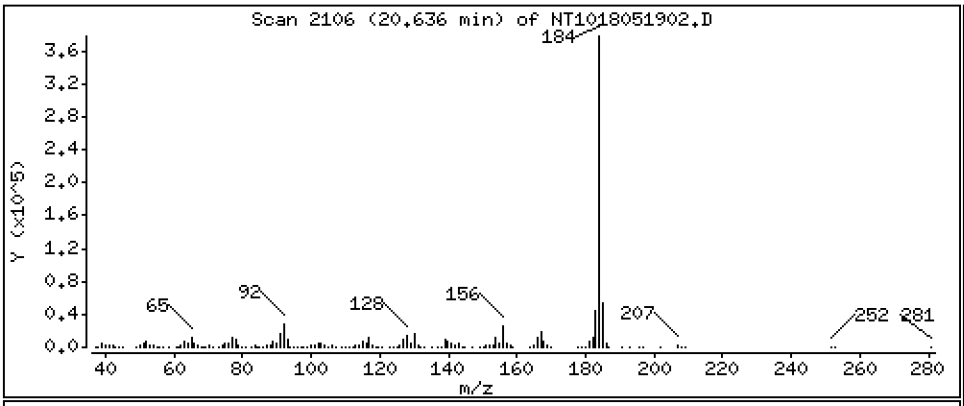
Operator: YZ

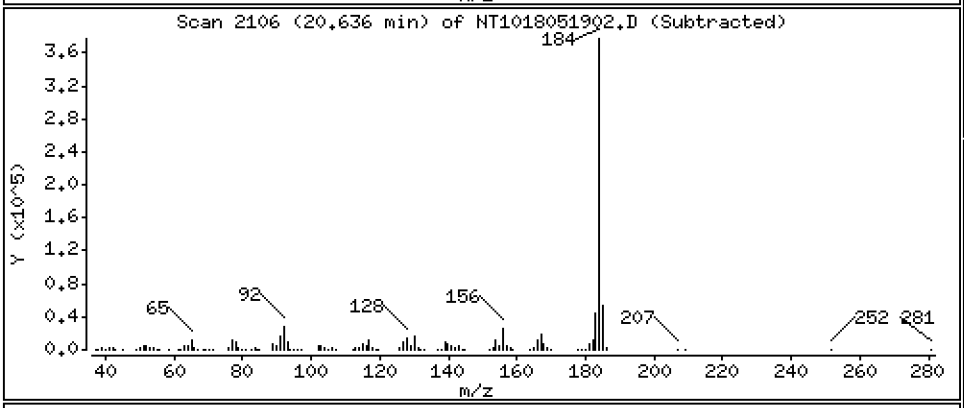
Column phase: ZB-5msi

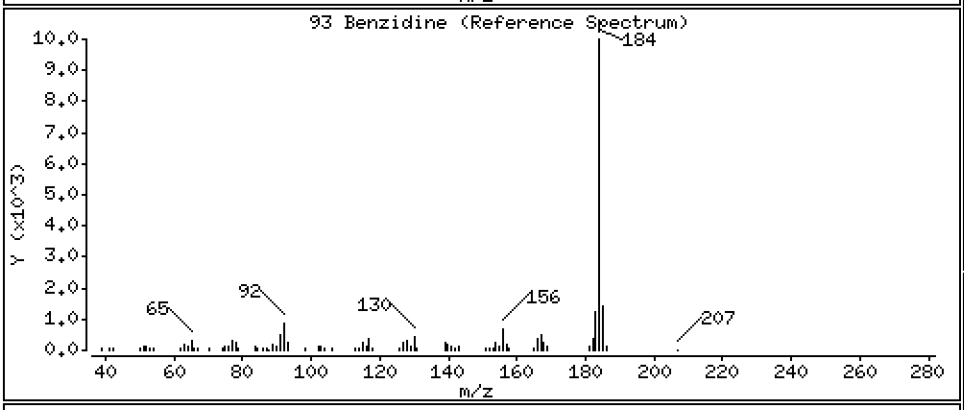
Column diameter: 0.25

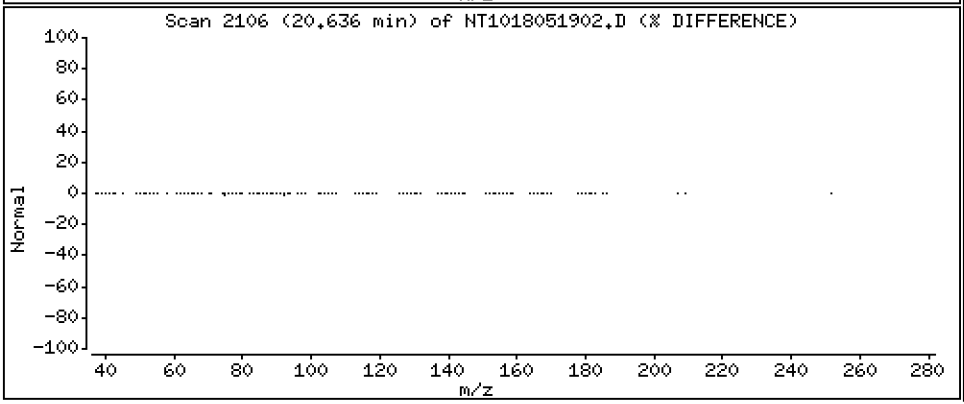
93 Benzidine

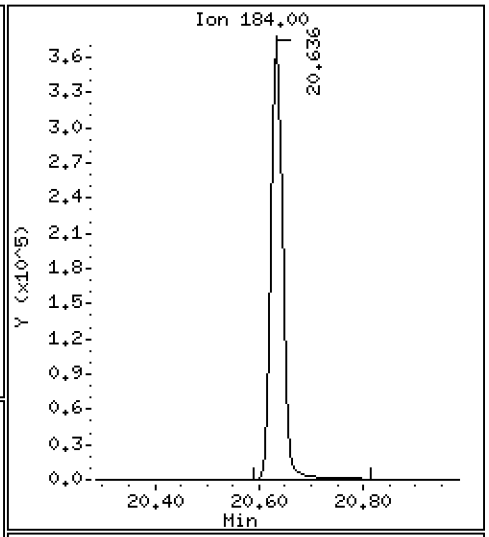
Concentration: 9.279 ug/mL

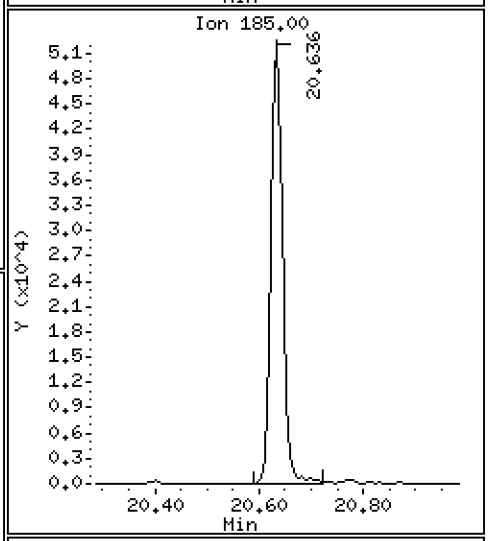


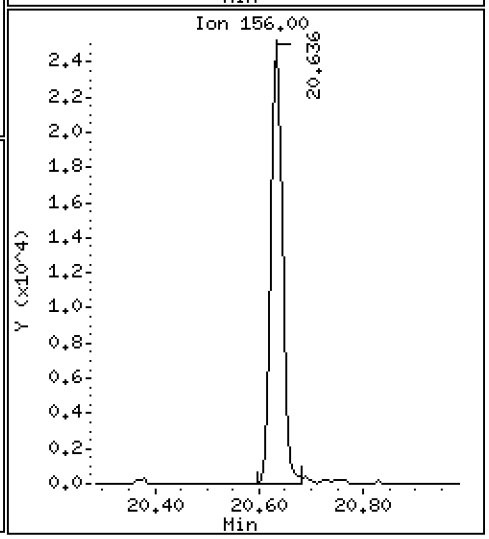












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

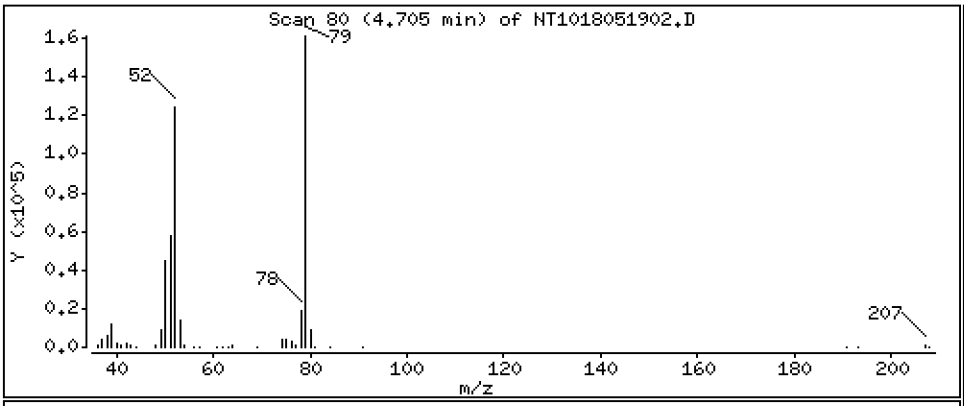
Operator: YZ

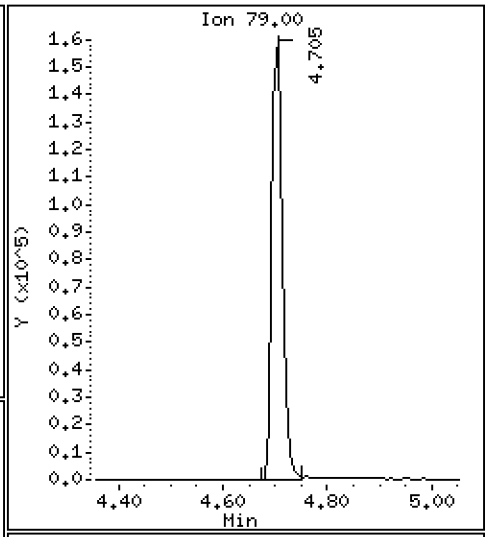
Column phase: ZB-5msi

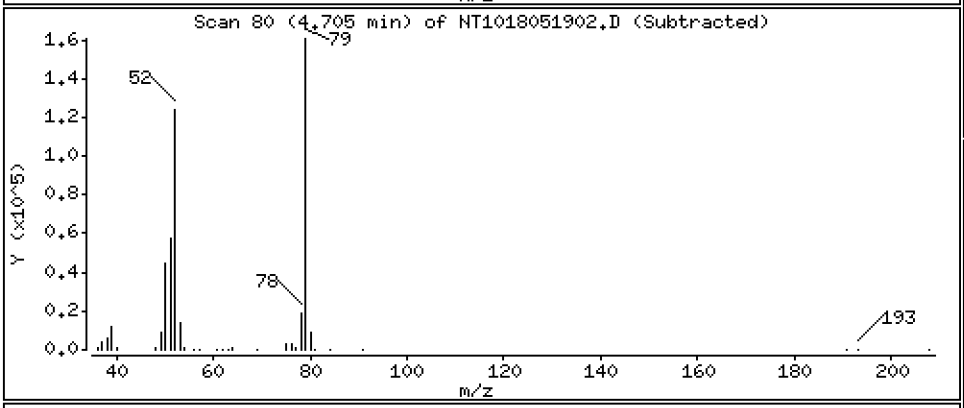
Column diameter: 0.25

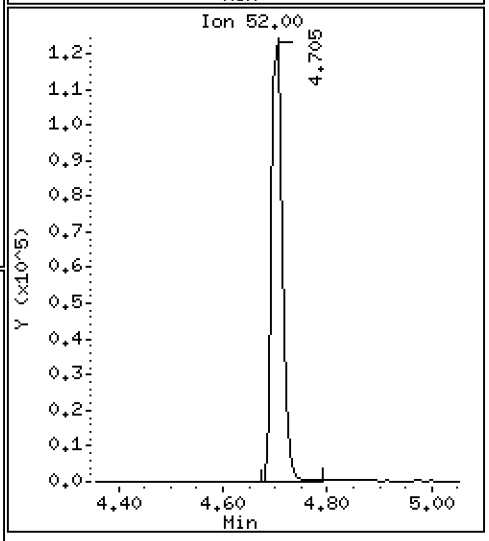
103 Pyridine

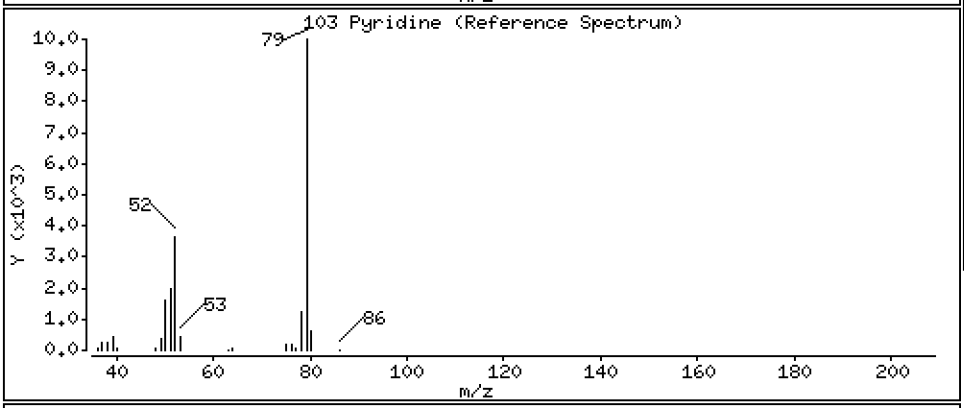
Concentration: 5.153 ug/mL

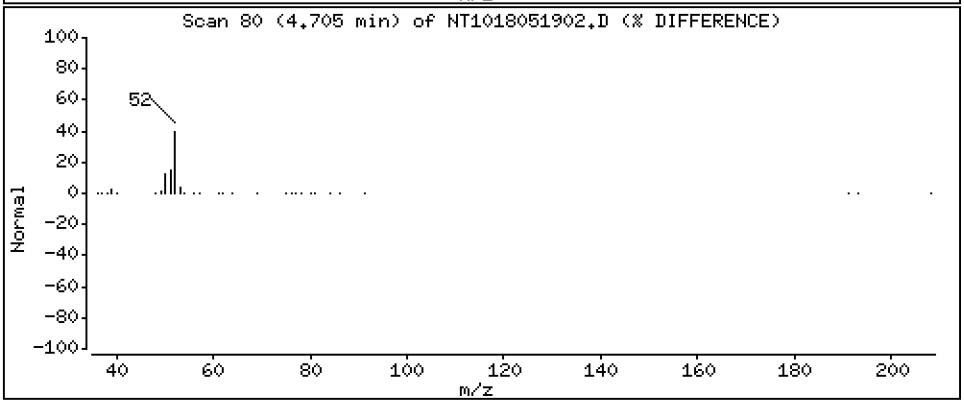












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

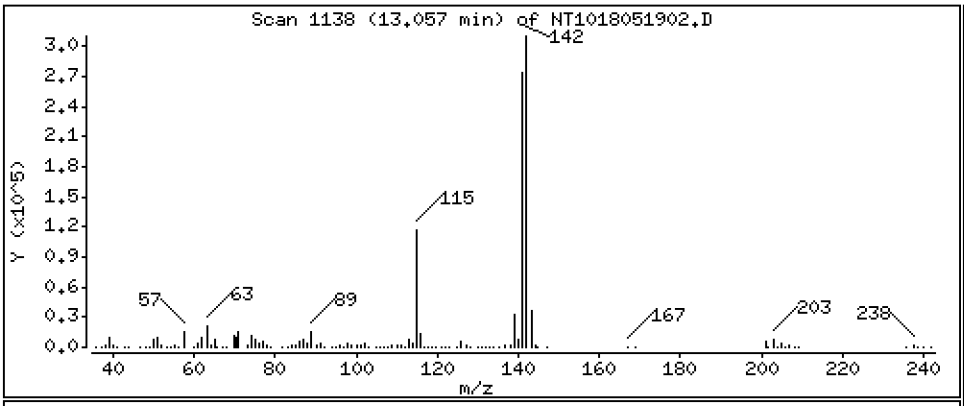
Operator: YZ

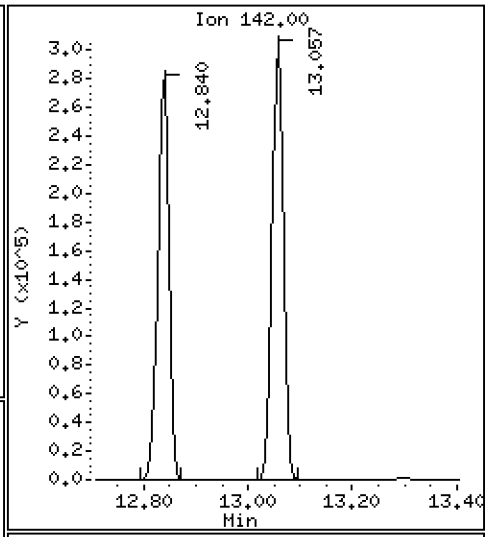
Column phase: ZB-5msi

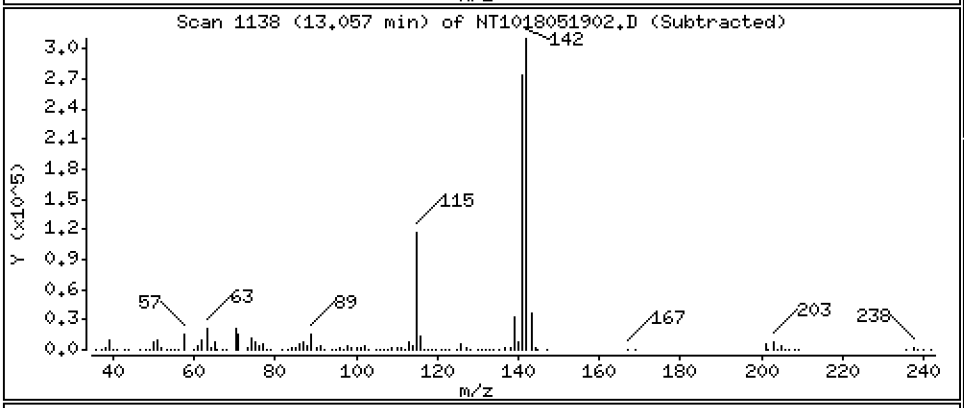
Column diameter: 0.25

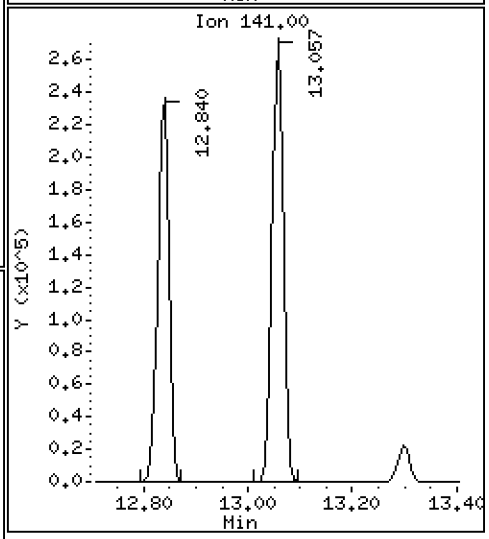
105 1-methylnaphthalene

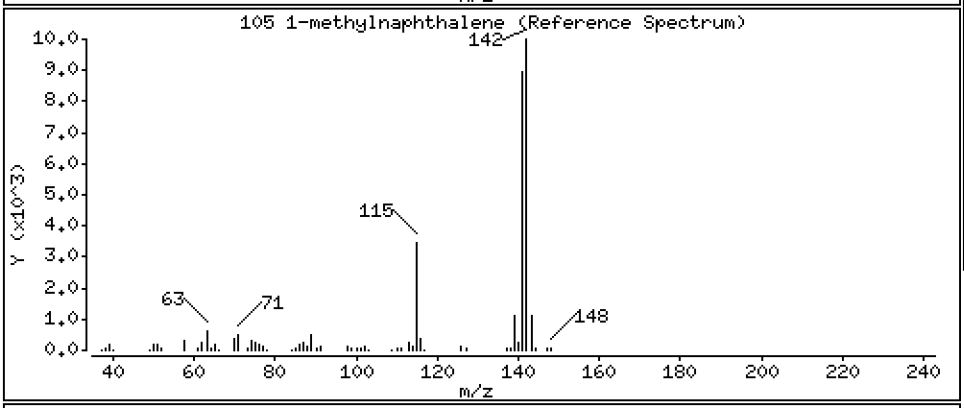
Concentration: 5.299 ug/mL

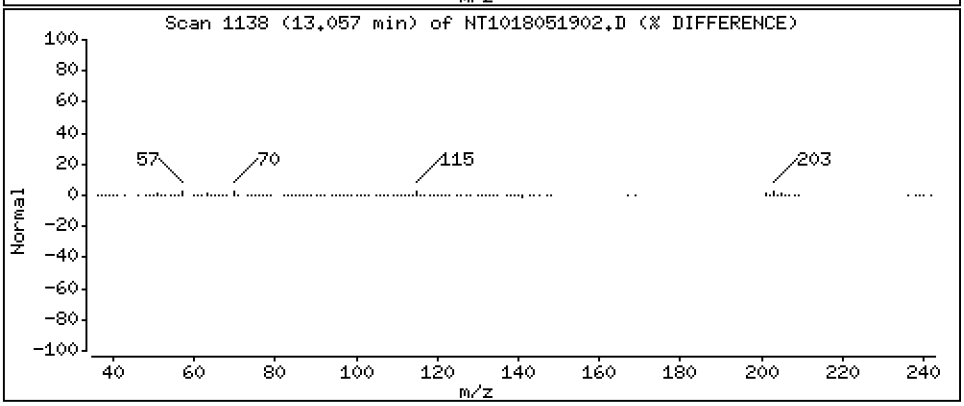












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

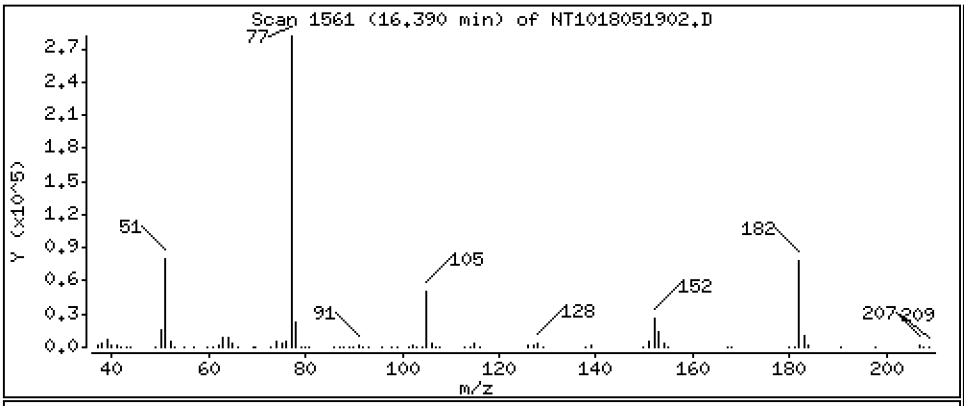
Operator: YZ

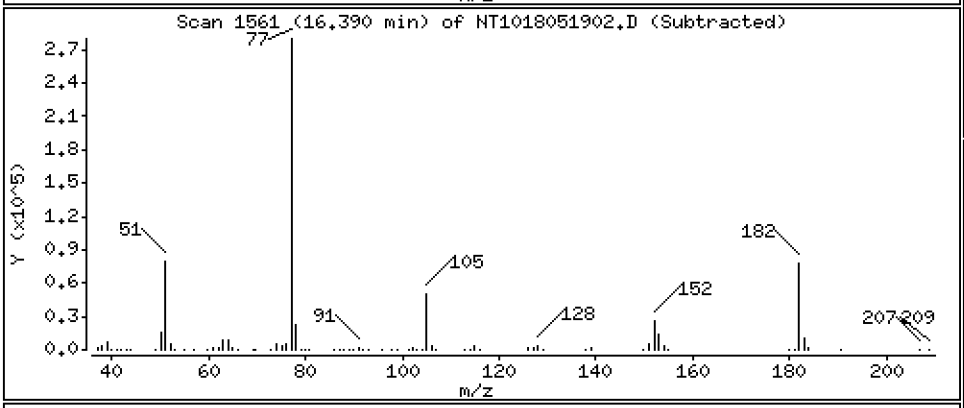
Column phase: ZB-5msi

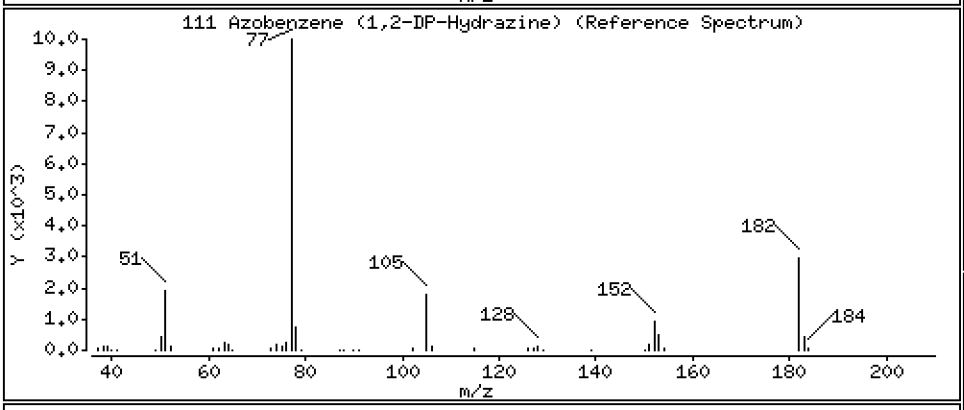
Column diameter: 0.25

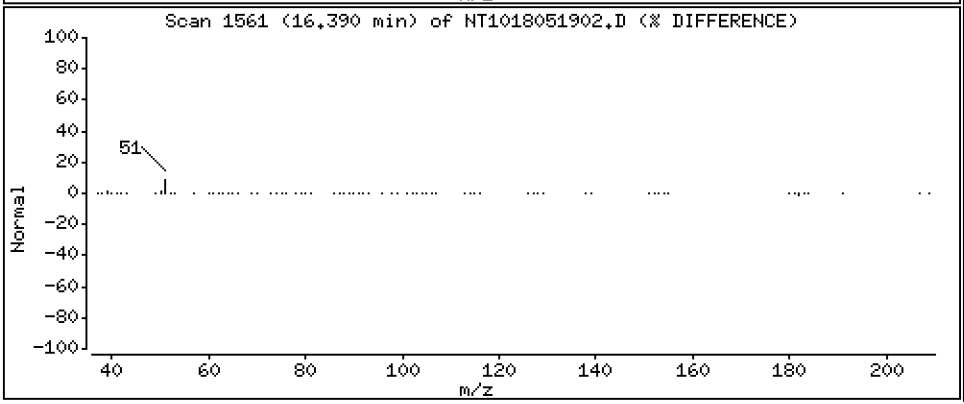
111 Azobenzene (1,2-DP-Hydrazine)

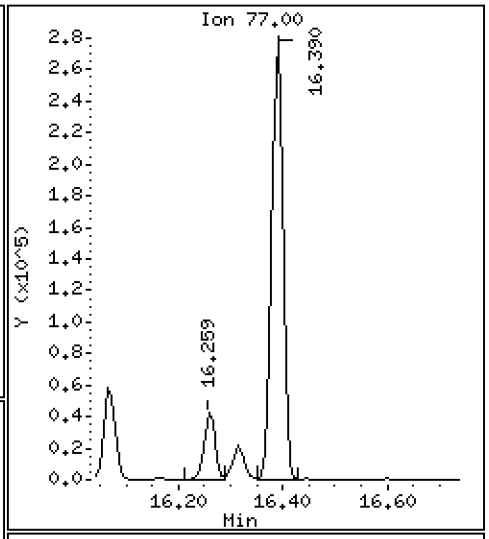
Concentration: 5.118 ug/mL

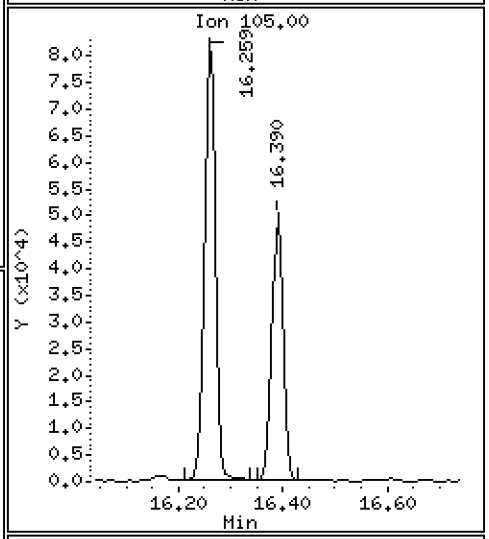


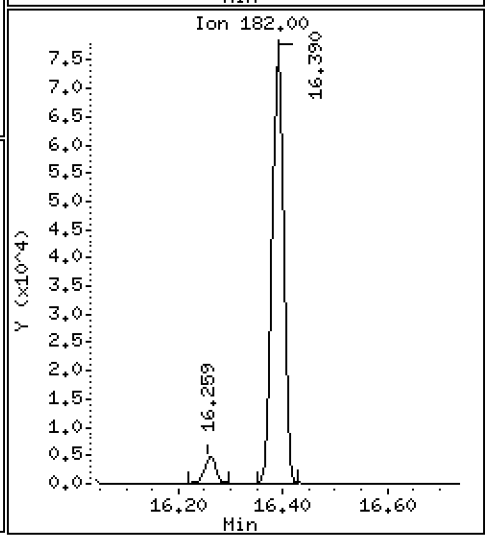












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

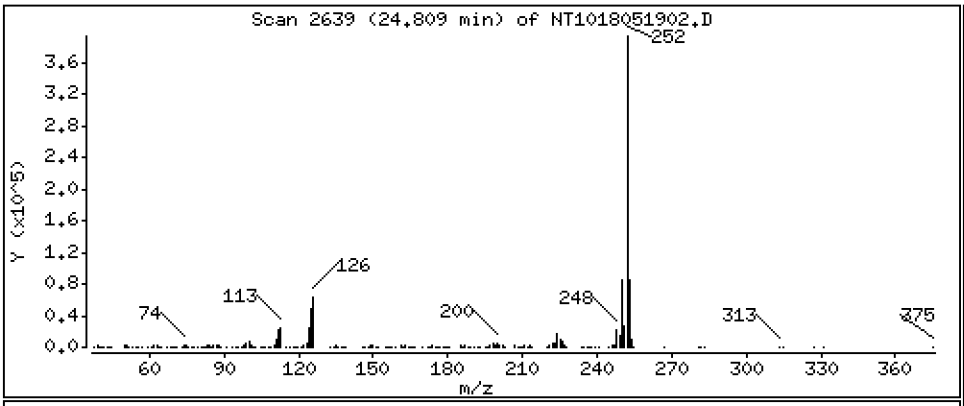
Operator: YZ

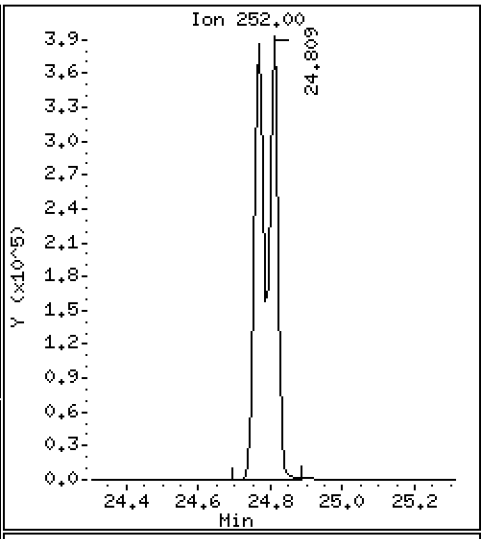
Column phase: ZB-5msi

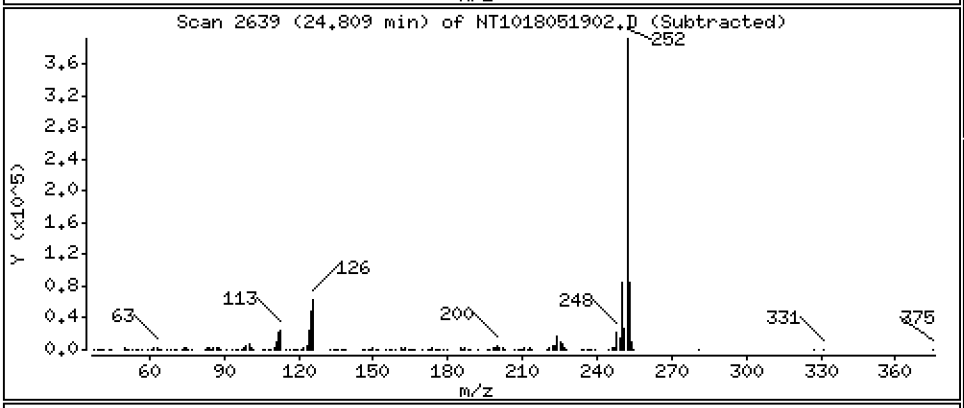
Column diameter: 0.25

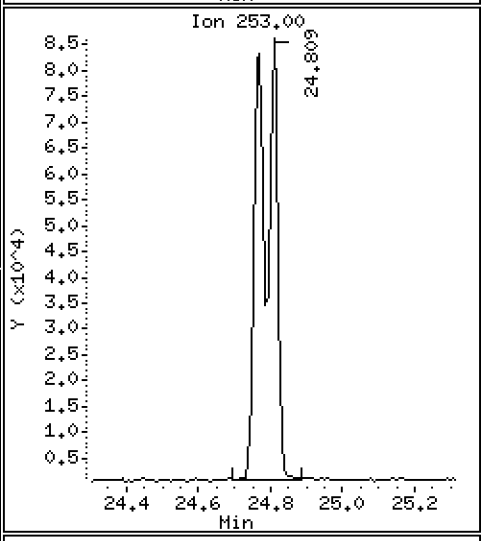
187 Total Benzofluoranthenes

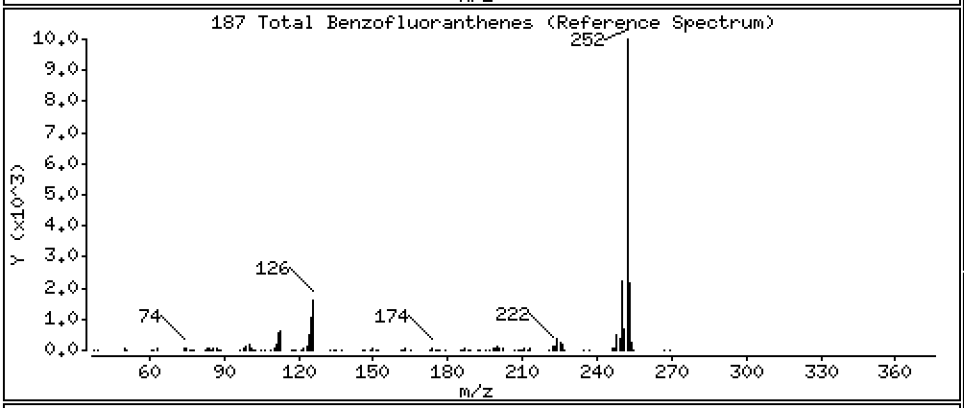
Concentration: 10.42 ug/mL

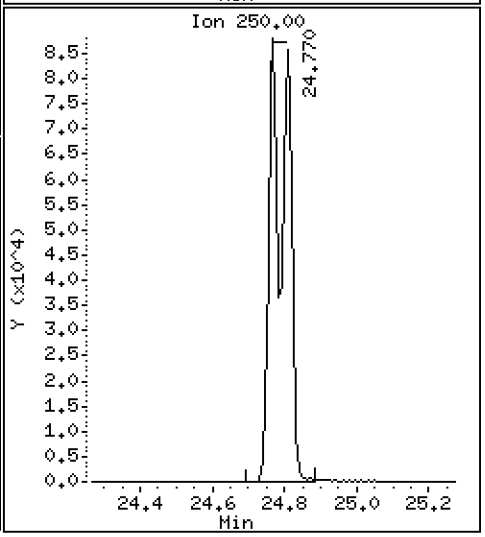


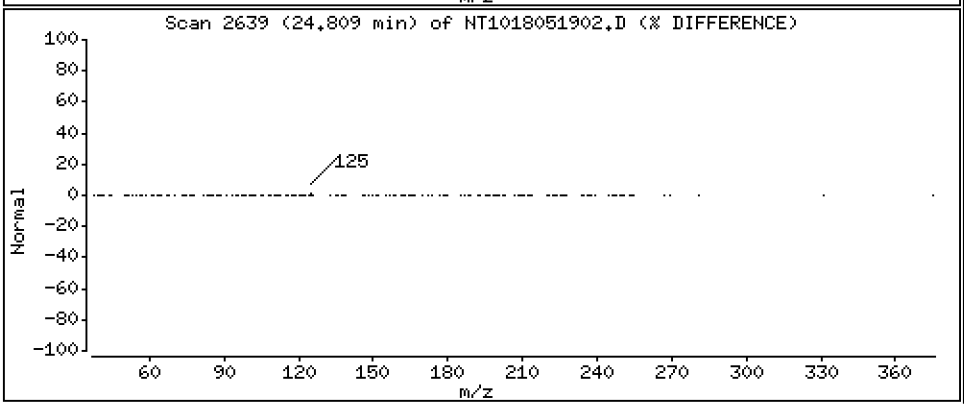












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

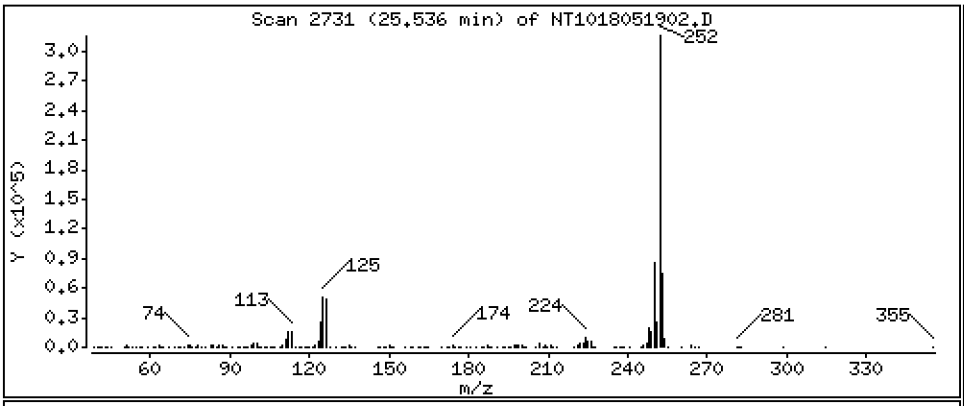
Operator: YZ

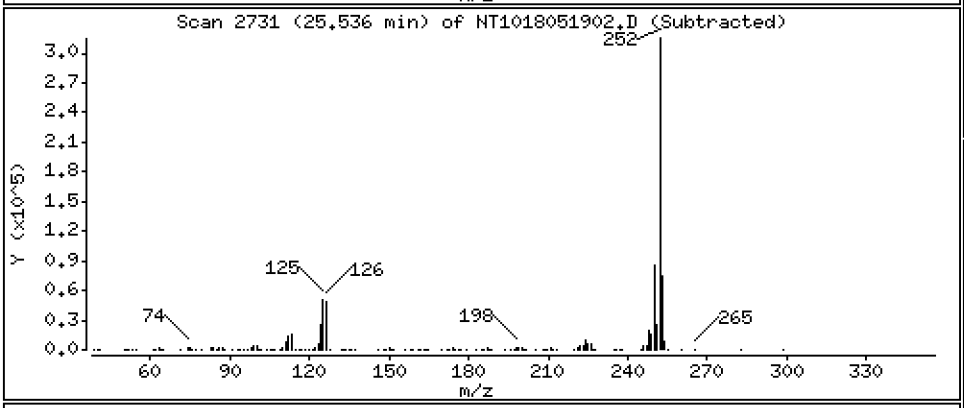
Column phase: ZB-5msi

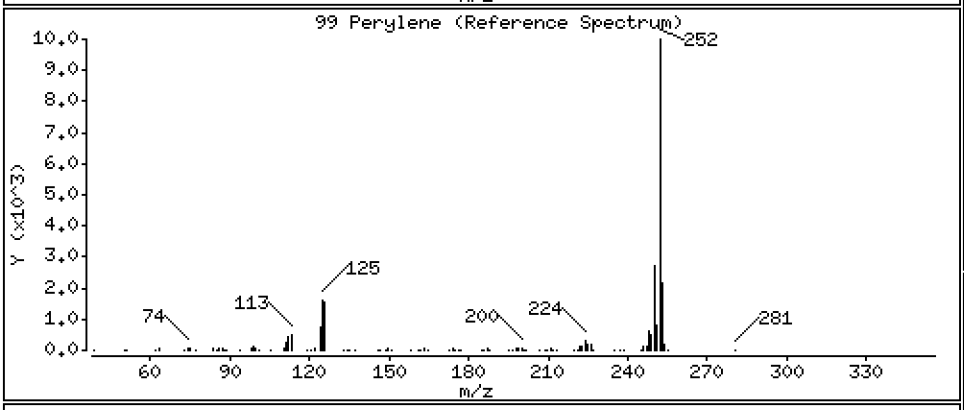
Column diameter: 0.25

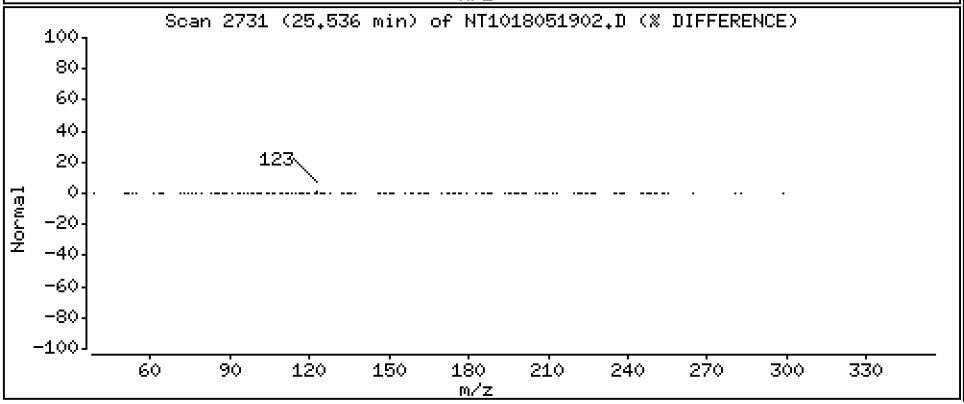
99 Perylene

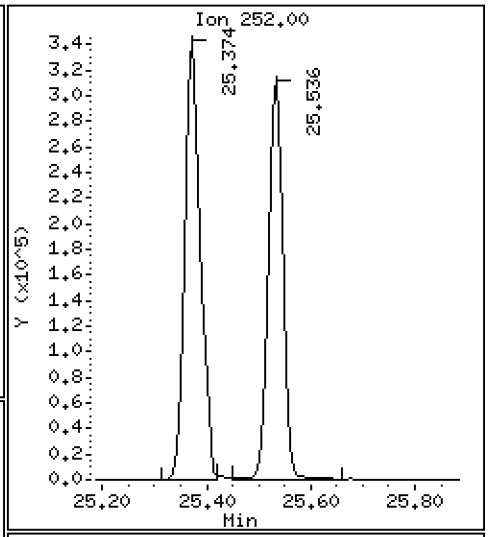
Concentration: 5.408 ug/mL

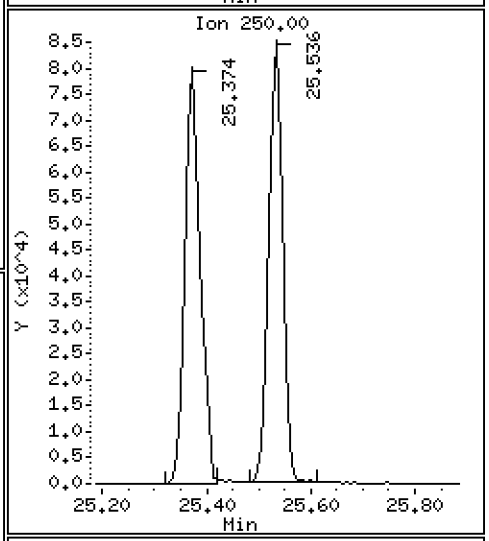


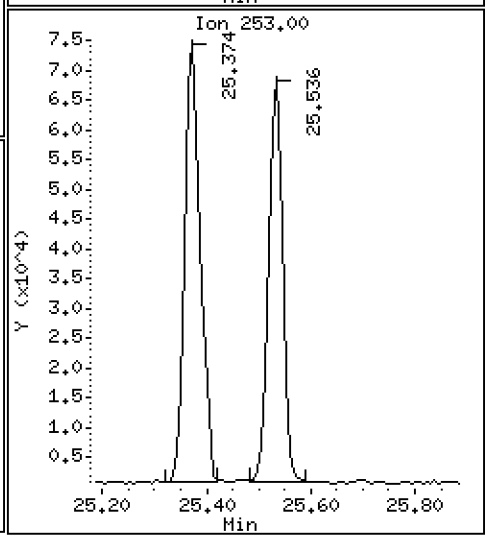












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D

Date : 19-MAY-2018 09:09

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CAL5

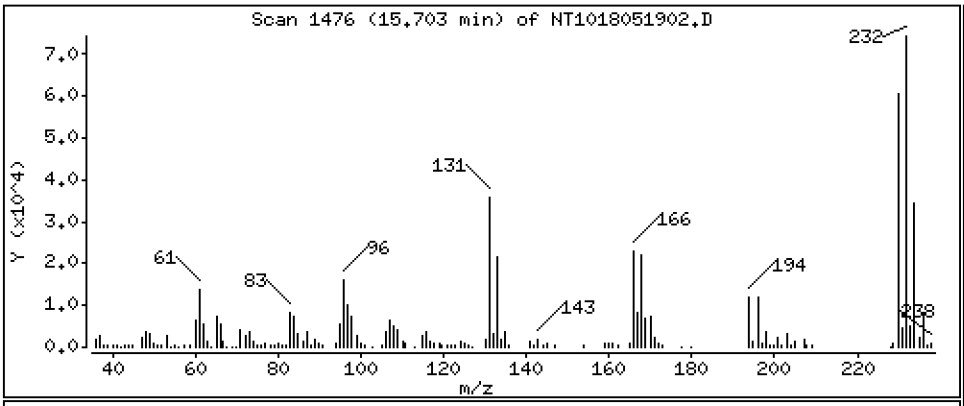
Operator: YZ

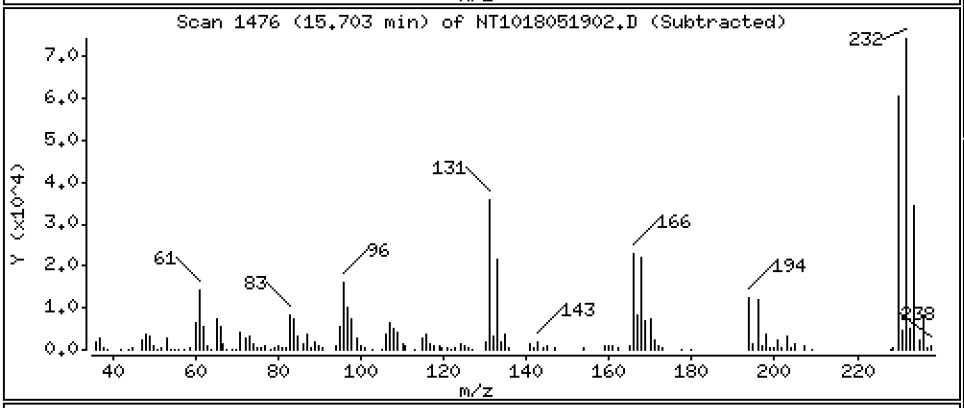
Column phase: ZB-5msi

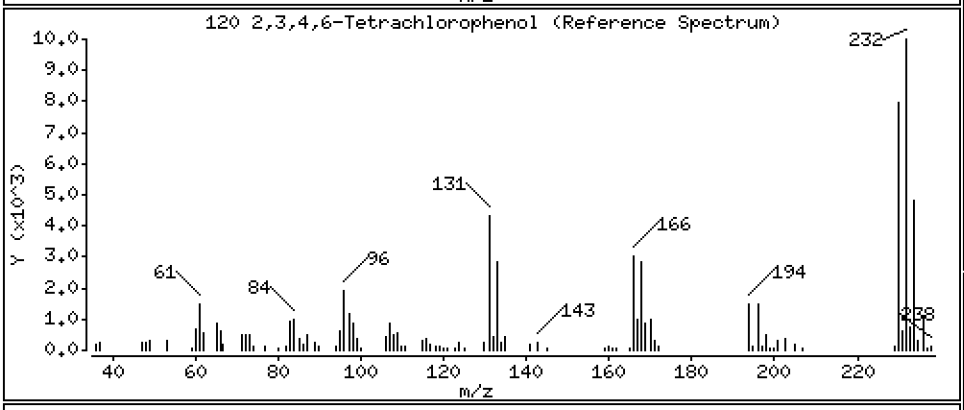
Column diameter: 0.25

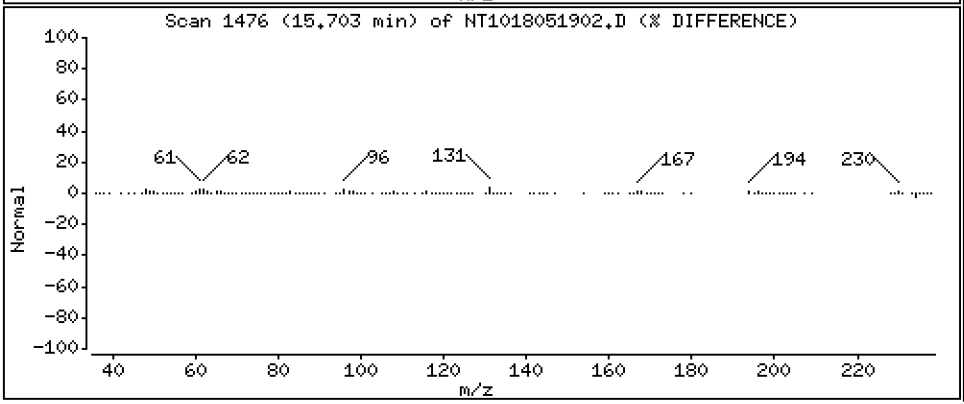
120 2,3,4,6-Tetrachlorophenol

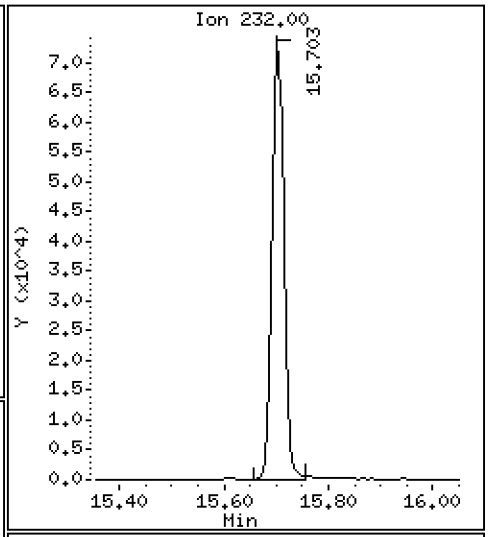
Concentration: 4.772 ug/mL

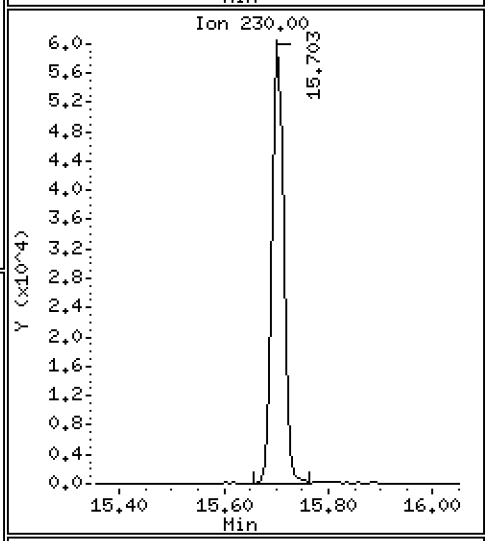


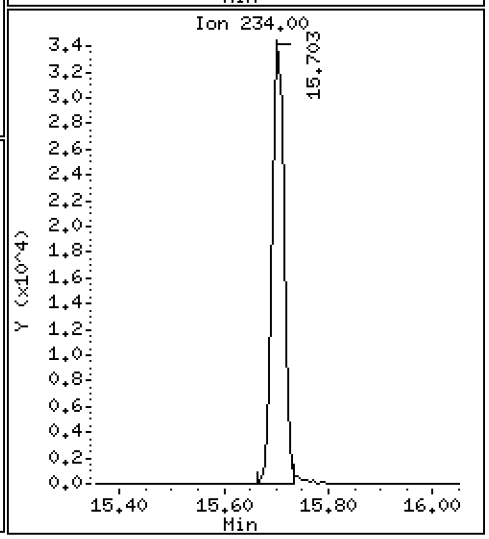












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051902.D
Lab Smp Id: SGE0328-CAL5
Inj Date : 19-MAY-2018 09:09
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL5
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.774	6.774	(0.755)	295994	7.80505	7.805
$	2 Phenol-d5	99	8.335	8.335	(0.928)	396283	7.90707	7.907
	3 Phenol	94	8.358	8.358	(0.931)	257848	5.18076	5.181
$	5 2-Chlorophenol-d4	132	8.613	8.613	(0.959)	306088	7.83269	7.833
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.950)	201075	5.25379	5.254
	6 2-Chlorophenol	128	8.644	8.644	(0.963)	211805	5.21508	5.215
	7 1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	213033	5.21656	5.217
*	8 1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	110698	4.00000	
	9 1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	195687	5.28573	5.286
$	10 1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.039)	138758	5.02359	5.024
	12 1,2-Dichlorobenzene	146	9.357	9.357	(1.042)	193190	5.25954	5.260
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	132575	5.37863	5.379
	14 2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.062)	70947	4.85210	4.852
	13 2-Methylphenol	108	9.458	9.458	(1.054)	175102	5.24562	5.246
	17 Hexachloroethane	117	9.939	9.939	(1.107)	93232	5.41567	5.416
	16 N-Nitroso-di-n-propylamine	70	9.792	9.792	(1.091)	127269	5.16738	5.167
	15 4-Methylphenol	108	9.722	9.722	(1.083)	185112	5.22238	5.222
$	18 Nitrobenzene-d5	82	10.056	10.056	(0.880)	201702	5.12837	5.128
	19 Nitrobenzene	77	10.087	10.087	(0.883)	201536	5.20902	5.209
	20 Isophorone	82	10.529	10.529	(0.922)	411494	5.18006	5.180
	21 2-Nitrophenol	139	10.706	10.706	(0.937)	116599	5.46710	5.467
	22 2,4-Dimethylphenol	107	10.756	10.756	(0.942)	388788	10.2710	10.27
	23 Bis(2-Chloroethoxy)methane	93	10.955	10.955	(0.959)	203053	4.87091	4.871
	24 Benzoic acid	105	10.955	10.955	(0.959)	506437	19.9762	19.98
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	329859	10.8147	10.81
	26 1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	169835	5.17813	5.178
*	27 Naphthalene-d8	136	11.424	11.424	(1.000)	393946	4.00000	
	28 Naphthalene	128	11.463	11.463	(1.003)	524923	5.21852	5.219
	29 4-Chloroaniline	127	11.586	11.586	(1.014)	481765	10.7372	10.74
	30 Hexachlorobutadiene	225	11.818	11.818	(1.034)	109942	5.33734	5.337
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.097)	373609	11.3145	11.31
	32 2-Methylnaphthalene	142	12.840	12.840	(1.124)	425149	5.35636	5.356
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	258461	11.4733	11.47

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.451	13.451	(0.898)	274303	11.0743	11.07
	35	2,4,5-Trichlorophenol	196	13.521	13.521	(0.902)	279555	10.1760	10.18
$	36	2-Fluorobiphenyl	172	13.613	13.613	(0.909)	456251	5.08910	5.089
	37	2-Chloronaphthalene	162	13.815	13.815	(0.922)	383566	5.20380	5.204
	38	2-Nitroaniline	65	14.070	14.070	(0.939)	234770	11.4153	11.42
	39	Dimethylphthalate	163	14.504	14.504	(0.968)	402860	5.13555	5.136
	40	Acenaphthylene	152	14.674	14.674	(0.979)	595188	5.11884	5.119
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	181467	10.7875	10.79
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	203210	4.00000	
	43	3-Nitroaniline	138	14.914	14.914	(0.995)	208644	10.7204	10.72
	44	Acenaphthene	153	15.053	15.053	(1.005)	369026	5.33593	5.336
	45	2,4-Dinitrophenol	184	15.122	15.122	(1.009)	204780	19.0099	19.01
	46	Dibenzofuran	168	15.377	15.377	(1.026)	567842	5.28730	5.287
	47	4-Nitrophenol	109	15.223	15.223	(1.016)	118656	9.84992	9.850
	48	2,4-Dinitrotoluene	165	15.432	15.432	(1.030)	254814	11.7731	11.77
	50	Diethylphthalate	149	15.942	15.942	(1.064)	410723	5.13095	5.131
	49	Fluorene	166	16.073	16.073	(1.073)	428962	5.23353	5.234
	51	4-Chlorophenyl-phenylether	204	16.073	16.073	(1.073)	209545	5.23292	5.233
	52	4-Nitroaniline	138	16.166	16.166	(1.079)	210610	11.2017	11.20
	53	4,6-Dinitro-2-methylphenol	198	16.259	16.259	(0.904)	294700	17.2137	17.21
	54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.907)	273820	5.04386	5.044
$	55	2,4,6-Tribromophenol	330	16.606	16.606	(1.108)	87994	8.01514	8.015
	56	4-Bromophenyl-phenylether	248	17.061	17.061	(0.949)	130126	5.31026	5.310
	57	Hexachlorobenzene	284	17.370	17.370	(0.966)	121990	5.21449	5.214
	58	Pentachlorophenol	266	17.718	17.718	(0.985)	152665	11.0973	11.10
*	59	Phenanthrene-d10	188	17.982	17.982	(1.000)	403506	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	545538	5.10007	5.100
	61	Anthracene	178	18.121	18.121	(1.008)	596223	5.25728	5.257
	62	Carbazole	167	18.446	18.446	(1.026)	515590	5.09217	5.092
	63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	847421	5.49278	5.493
	64	Fluoranthene	202	20.395	20.395	(0.887)	762054	5.39675	5.397
	65	Pyrene	202	20.821	20.821	(0.906)	794744	5.40049	5.400
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	469596	5.04813	5.048
	67	Butylbenzylphthalate	149	22.029	22.029	(0.958)	311752	5.34965	5.350
	68	Benzo(a)anthracene	228	22.966	22.966	(0.999)	672934	5.21246	5.212
*	69	Chrysene-d12	240	22.989	22.989	(1.000)	354618	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.927	22.927	(0.997)	647582	14.2968	14.30
	71	Chrysene	228	23.035	23.035	(1.002)	546453	5.27010	5.270
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	443910	5.32501	5.325
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	800232	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	902768	5.18072	5.181
	74	Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	674262	5.08839	5.088
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	718705	5.38984	5.390
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	731840	5.47450	5.475
*	77	Perylene-d12	264	25.482	25.482	(1.000)	378948	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.922	27.922	(1.096)	692135	5.26853	5.269
	79	Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	548303	5.17025	5.170
	80	Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	621534	5.31566	5.316
	90	N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	235367	10.5086	10.51
	91	Aniline	93	8.435	8.435	(0.940)	567664	10.2625	10.26
	93	Benzidine	184	20.635	20.635	(0.898)	556542	9.27949	9.279
	103	Pyridine	79	4.705	4.705	(0.524)	208589	5.15300	5.153
	105	1-methylnaphthalene	142	13.056	13.056	(1.143)	433159	5.29945	5.299
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.390	16.390	(1.094)	392160	5.11831	5.118

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1331809	10.4181	10.42
99	Perylene	252	25.536	25.536	(1.002)	579610	5.40757	5.408
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	109555	4.77161	4.772

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051902.D
Lab Smp Id: SGE0328-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	110698	0.00
27 Naphthalene-d8	393946	196973	787892	393946	0.00
42 Acenaphthene-d10	203210	101605	406420	203210	0.00
59 Phenanthrene-d10	403506	201753	807012	403506	0.00
69 Chrysene-d12	354618	177309	709236	354618	0.00
134 Di-n-octylphthala	800232	400116	1600464	800232	0.00
77 Perylene-d12	378948	189474	757896	378948	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051902.D

Lab ID: SGE0328-CAL5
nt10.i, ABN.m, 19-MAY-2018 09:09

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051903.D

Date : 19-MAY-2018 09:49

Client ID:

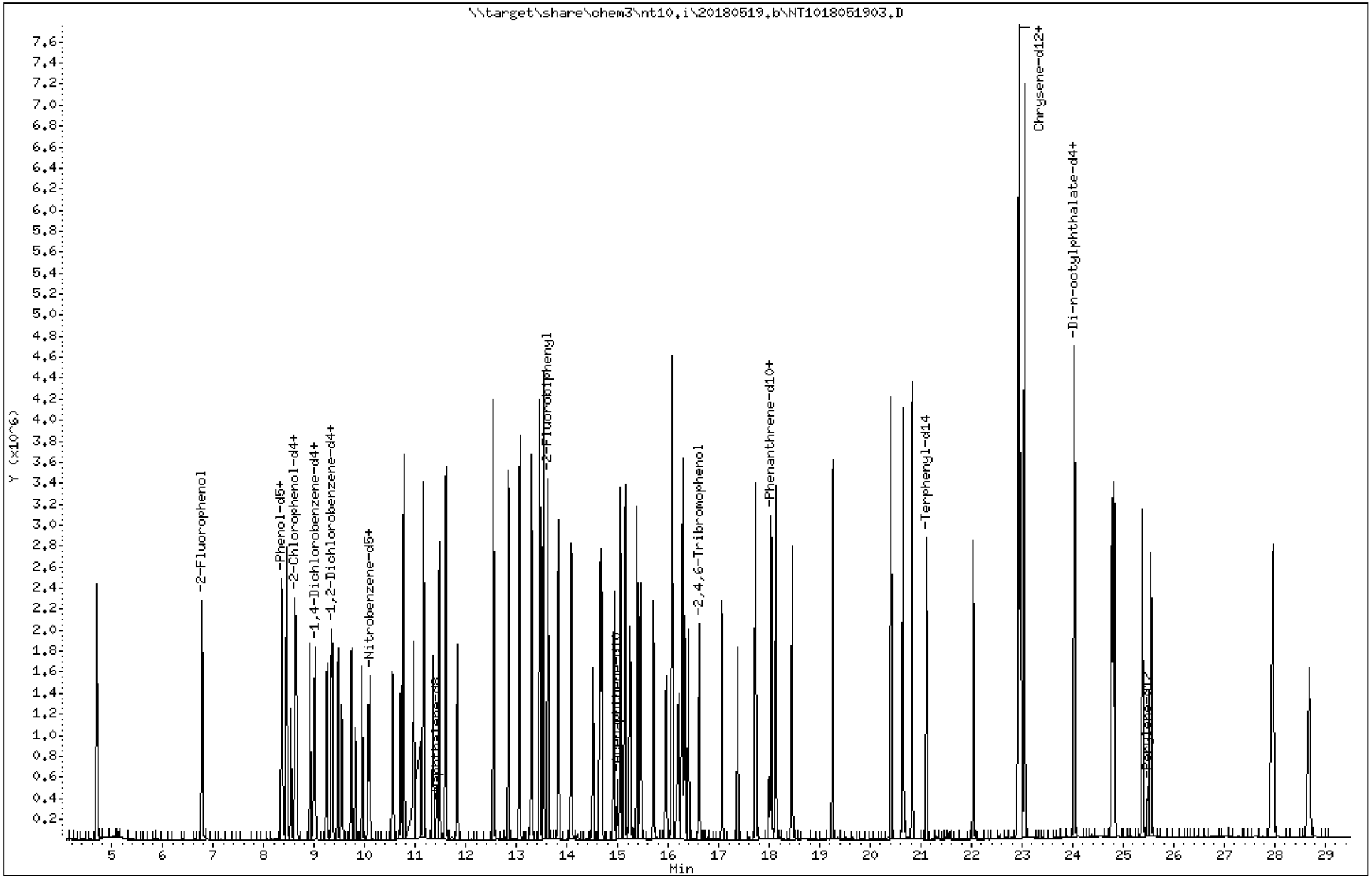
Instrument: nt10.i

Sample Info: SGE0328-CAL7

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051903.D
Lab Smp Id: SGE0328-CAL7
Inj Date : 19-MAY-2018 09:49
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL7
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 4 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.782	6.774	(0.755)	941411	30.0000	27.30
$	2	Phenol-d5	99	8.350	8.335	(0.930)	1388140	30.0000	30.46
	3	Phenol	94	8.373	8.358	(0.933)	828898	20.0000	18.31
$	5	2-Chlorophenol-d4	132	8.621	8.613	(0.960)	1053617	30.0000	29.65
	4	Bis(2-Chloroethyl)ether	93	8.536	8.528	(0.951)	636696	20.0000	18.29
	6	2-Chlorophenol	128	8.652	8.644	(0.964)	712720	20.0000	19.30
	7	1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	670975	20.0000	18.07
*	8	1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	100674	4.00000	
	9	1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	637179	20.0000	18.92
$	10	1,2-Dichlorobenzene-d4	152	9.334	9.326	(1.040)	482162	20.0000	19.19
	12	1,2-Dichlorobenzene	146	9.357	9.357	(1.042)	619108	20.0000	18.53
	11	Benzyl alcohol	108	9.248	9.233	(1.030)	439084	20.0000	19.59
	14	2,2'-oxybis(1-Chloropropane)	121	9.543	9.536	(1.063)	269207	20.0000	20.24
	13	2-Methylphenol	108	9.466	9.458	(1.054)	575584	20.0000	18.96
	17	Hexachloroethane	117	9.939	9.939	(1.107)	316522	20.0000	20.22
	16	N-Nitroso-di-n-propylamine	70	9.807	9.792	(1.093)	402753	20.0000	17.98
	15	4-Methylphenol	108	9.737	9.722	(1.085)	613662	20.0000	19.04
$	18	Nitrobenzene-d5	82	10.055	10.056	(0.880)	714953	20.0000	19.24
	19	Nitrobenzene	77	10.094	10.087	(0.884)	682466	20.0000	18.67
	20	Isophorone	82	10.544	10.529	(0.923)	1609892	20.0000	21.45
	21	2-Nitrophenol	139	10.714	10.706	(0.938)	434291	20.0000	21.56
	22	2,4-Dimethylphenol	107	10.764	10.756	(0.942)	1270081	40.0000	35.52
	23	Bis(2-Chloroethoxy)methane	93	10.963	10.955	(0.960)	709602	20.0000	18.02
	24	Benzoic acid	105	11.105	10.955	(0.972)	1933154	80.0000	79.75
	25	2,4-Dichlorophenol	162	11.163	11.146	(0.977)	1116392	40.0000	38.75
	26	1,2,4-Trichlorobenzene	180	11.347	11.339	(0.993)	548771	20.0000	17.71
*	27	Naphthalene-d8	136	11.424	11.424	(1.000)	372122	4.00000	
	28	Naphthalene	128	11.470	11.463	(1.004)	1888529	20.0000	19.88
	29	4-Chloroaniline	127	11.601	11.586	(1.016)	1740963	40.0000	41.08
	30	Hexachlorobutadiene	225	11.826	11.818	(1.035)	370150	20.0000	19.02
	31	4-Chloro-3-methylphenol	107	12.538	12.530	(1.097)	1397160	40.0000	44.79
	32	2-Methylnaphthalene	142	12.839	12.840	(1.124)	1564012	20.0000	20.86
	33	Hexachlorocyclopentadiene	237	13.304	13.296	(0.887)	949574	40.0000	42.92

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.459	13.451	(0.898)	1029463	40.0000	42.32
	35	2,4,5-Trichlorophenol	196	13.528	13.521	(0.902)	1054960	40.0000	39.94
$	36	2-Fluorobiphenyl	172	13.613	13.613	(0.908)	1669436	20.0000	18.96
	37	2-Chloronaphthalene	162	13.822	13.815	(0.922)	1386078	20.0000	19.15
	38	2-Nitroaniline	65	14.085	14.070	(0.940)	859672	40.0000	42.56
	39	Dimethylphthalate	163	14.511	14.504	(0.968)	1268013	20.0000	16.46
	40	Acenaphthylene	152	14.681	14.674	(0.979)	1953454	20.0000	17.11
	41	2,6-Dinitrotoluene	165	14.650	14.635	(0.977)	627669	40.0000	37.99
*	42	Acenaphthene-d10	164	14.991	14.983	(1.000)	199580	4.00000	
	43	3-Nitroaniline	138	14.937	14.914	(0.996)	781546	40.0000	40.89
	44	Acenaphthene	153	15.060	15.053	(1.005)	1312670	20.0000	19.33
	45	2,4-Dinitrophenol	184	15.145	15.122	(1.010)	1012447	80.0000	79.69
	46	Dibenzofuran	168	15.385	15.377	(1.026)	2088343	20.0000	19.80
	47	4-Nitrophenol	109	15.246	15.223	(1.017)	467074	40.0000	39.86
	48	2,4-Dinitrotoluene	165	15.455	15.432	(1.031)	920035	40.0000	43.28
	50	Diethylphthalate	149	15.957	15.942	(1.064)	1332683	20.0000	16.95
	49	Fluorene	166	16.089	16.073	(1.073)	1528452	20.0000	18.99
	51	4-Chlorophenyl-phenylether	204	16.073	16.073	(1.072)	741657	20.0000	18.86
	52	4-Nitroaniline	138	16.212	16.166	(1.081)	539343	40.0000	29.21
	53	4,6-Dinitro-2-methylphenol	198	16.290	16.259	(0.906)	1219037	80.0000	79.06
	54	N-Nitrosodiphenylamine	169	16.328	16.313	(0.908)	905097	20.0000	17.19
$	55	2,4,6-Tribromophenol	330	16.613	16.606	(1.108)	367898	30.0000	34.12
	56	4-Bromophenyl-phenylether	248	17.061	17.061	(0.948)	472704	20.0000	19.89
	57	Hexachlorobenzene	284	17.378	17.370	(0.966)	396562	20.0000	17.47
	58	Pentachlorophenol	266	17.726	17.718	(0.985)	607101	40.0000	45.49
*	59	Phenanthrene-d10	188	17.989	17.982	(1.000)	391420	4.00000	
	60	Phenanthrene	178	18.036	18.028	(1.003)	2041878	20.0000	19.68
	61	Anthracene	178	18.128	18.121	(1.008)	2206569	20.0000	20.06
	62	Carbazole	167	18.453	18.446	(1.026)	1983223	20.0000	20.19
	63	Di-n-butylphthalate	149	19.258	19.250	(1.071)	3194158	20.0000	21.34
	64	Fluoranthene	202	20.403	20.395	(0.887)	2870221	20.0000	21.31
	65	Pyrene	202	20.829	20.821	(0.906)	2960125	20.0000	21.09
$	66	Terphenyl-d14	244	21.115	21.107	(0.918)	1618832	20.0000	18.24
	67	Butylbenzylphthalate	149	22.036	22.029	(0.958)	1040353	20.0000	18.72
	68	Benzo(a)anthracene	228	22.973	22.966	(0.999)	2318259	20.0000	18.83
*	69	Chrysene-d12	240	22.996	22.989	(1.000)	338243	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.942	22.927	(0.998)	2798815	60.0000	64.78
	71	Chrysene	228	23.043	23.035	(1.002)	2049918	20.0000	20.73
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	1664000	20.0000	19.24
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	830098	4.00000	
	73	Di-n-octylphthalate	149	24.034	24.026	(1.001)	3347040	20.0000	18.52
	74	Benzo(b)fluoranthene	252	24.777	24.769	(0.972)	2563345	20.0000	19.95
	75	Benzo(k)fluoranthene	252	24.823	24.808	(0.974)	2485114	20.0000	19.22
	76	Benzo(a)pyrene	252	25.389	25.373	(0.996)	1982842	20.0000	15.29
*	77	Perylene-d12	264	25.489	25.482	(1.000)	367539	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.953	27.922	(1.097)	2381463	20.0000	18.69
	79	Dibenzo(a,h)anthracene	278	27.969	27.938	(1.097)	1875319	20.0000	18.23
	80	Benzo(g,h,i)perylene	276	28.684	28.645	(1.125)	2193173	20.0000	19.34
	90	N-Nitrosodimethylamine	74	4.689	4.681	(0.522)	746272	40.0000	36.64
	91	Aniline	93	8.451	8.435	(0.941)	1788457	40.0000	35.55
	93	Benzidine	184	20.643	20.635	(0.898)	2538112	40.0000	44.37
	103	Pyridine	79	4.697	4.705	(0.523)	650598	20.0000	17.67
	105	1-methylnaphthalene	142	13.064	13.056	(1.144)	1595880	20.0000	20.67
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.405	16.390	(1.094)	1321141	20.0000	17.56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.823	24.808	(0.974)	4825408	40.0000	38.92
99	Perylene	252	25.551	25.536	(1.002)	2106724	20.0000	20.27
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.710	15.702	(1.048)	493524	20.0000	19.92

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051903.D
Lab Smp Id: SGE0328-CAL7
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	100674	-9.06
27 Naphthalene-d8	393946	196973	787892	372122	-5.54
42 Acenaphthene-d10	203210	101605	406420	199580	-1.79
59 Phenanthrene-d10	403506	201753	807012	391420	-3.00
69 Chrysene-d12	354618	177309	709236	338243	-4.62
134 Di-n-octylphthala	800232	400116	1600464	830098	3.73
77 Perylene-d12	378948	189474	757896	367539	-3.01

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.99	0.05
59 Phenanthrene-d10	17.98	17.48	18.48	17.99	0.04
69 Chrysene-d12	22.99	22.49	23.49	23.00	0.03
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.49	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051903.D

Lab ID: SGE0328-CAL7
nt10.i, ABN.m, 19-MAY-2018 09:49

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051904.D

Date : 19-MAY-2018 10:25

Client ID:

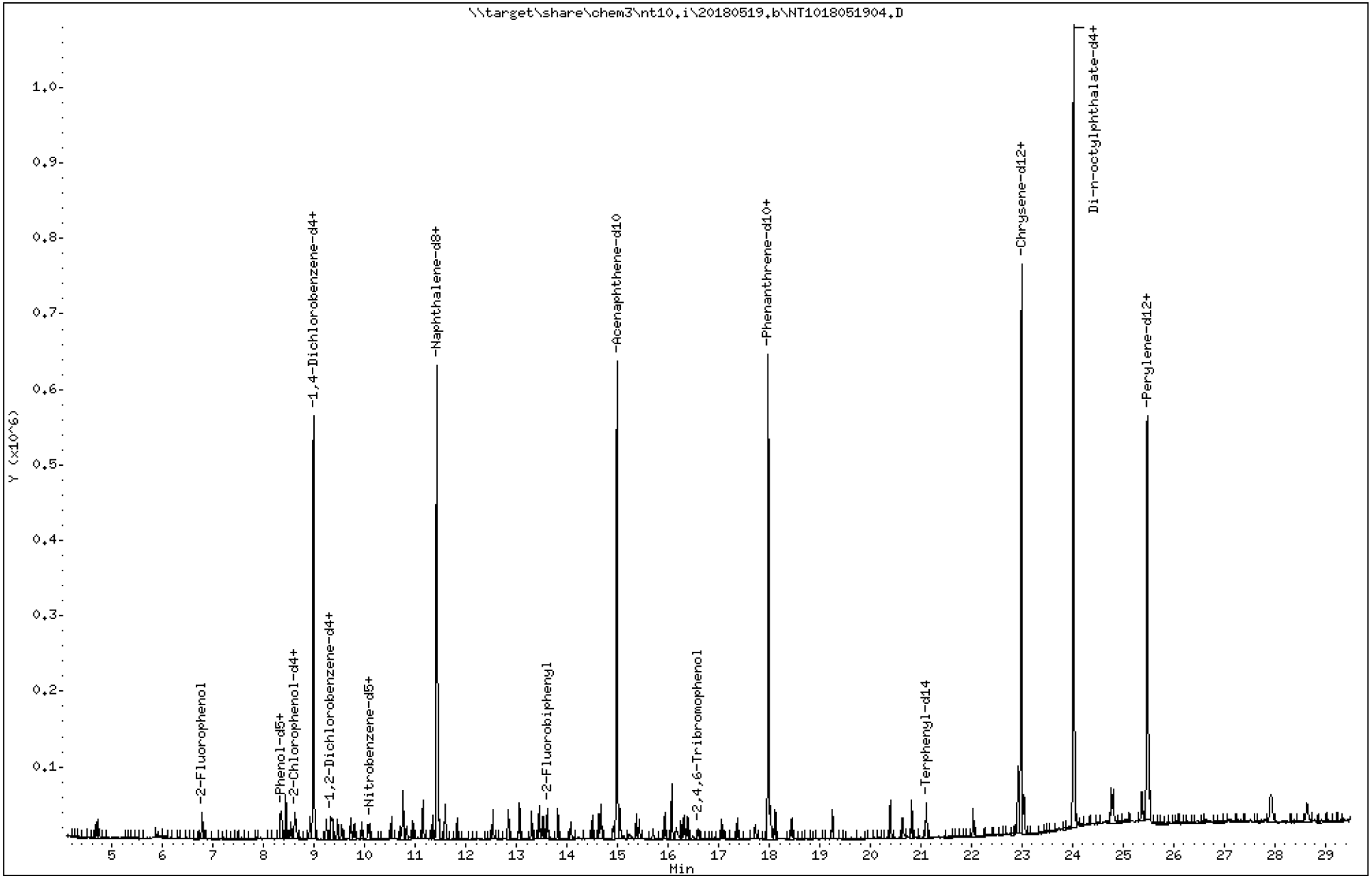
Instrument: nt10.i

Sample Info: SGE0328-CAL1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051904.D
Lab Smp Id: SGE0328-CAL1
Inj Date : 19-MAY-2018 10:25
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 5 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.782	6.774	(0.755)	13430	0.30000	0.2891
$	2 Phenol-d5	99	8.335	8.335	(0.928)	17628	0.30000	0.2871
	3 Phenol	94	8.350	8.358	(0.930)	12456	0.20000	0.2043
$	5 2-Chlorophenol-d4	132	8.613	8.613	(0.959)	14176	0.30000	0.2961
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.950)	10503	0.20000	0.2240
	6 2-Chlorophenol	128	8.636	8.644	(0.962)	9875	0.20000	0.1985
	7 1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	11359	0.20000	0.2270
*	8 1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	135618	4.00000	
	9 1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	9745	0.20000	0.2149
$	10 1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.039)	7299	0.20000	0.2157
	12 1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	9675	0.20000	0.2150
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	5792	0.20000	0.1918
	14 2,2'-oxybis(1-Chloropropane)	121	9.543	9.536	(1.063)	3849	0.20000	0.2149
	13 2-Methylphenol	108	9.458	9.458	(1.054)	8694	0.20000	0.2126
	17 Hexachloroethane	117	9.939	9.939	(1.107)	4192	0.20000	0.1988
	16 N-Nitroso-di-n-propylamine	70	9.784	9.792	(1.090)	7045	0.20000	0.2335
	15 4-Methylphenol	108	9.714	9.722	(1.082)	9120	0.20000	0.2100
$	18 Nitrobenzene-d5	82	10.048	10.056	(0.880)	9305	0.20000	0.2012
	19 Nitrobenzene	77	10.079	10.087	(0.882)	9734	0.20000	0.2140
	20 Isophorone	82	10.521	10.529	(0.921)	18619	0.20000	0.1993
	21 2-Nitrophenol	139	10.706	10.706	(0.937)	4536	0.20000	0.1809
	22 2,4-Dimethylphenol	107	10.748	10.756	(0.941)	18883	0.40000	0.4243
	23 Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.958)	11484	0.20000	0.2343
	24 Benzoic acid	105	10.822	10.955	(0.947)	8562	0.80000	0.2884(H)
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	14452	0.40000	0.4030
	26 1,2,4-Trichlorobenzene	180	11.331	11.339	(0.992)	8967	0.20000	0.2325
*	27 Naphthalene-d8	136	11.424	11.424	(1.000)	463180	4.00000	
	28 Naphthalene	128	11.462	11.463	(1.003)	25466	0.20000	0.2153
	29 4-Chloroaniline	127	11.586	11.586	(1.014)	20213	0.40000	0.3832
	30 Hexachlorobutadiene	225	11.826	11.818	(1.035)	5259	0.20000	0.2171
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.097)	12422	0.40000	0.3200
	32 2-Methylnaphthalene	142	12.832	12.840	(1.123)	17612	0.20000	0.1887
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	8454	0.40000	0.3457

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	9386	0.40000	0.3491
35	2,4,5-Trichlorophenol	196	13.520	13.521	(0.902)	7343	0.40000	0.2444
$ 36	2-Fluorobiphenyl	172	13.606	13.613	(0.908)	20808	0.20000	0.2138
37	2-Chloronaphthalene	162	13.814	13.815	(0.922)	18109	0.20000	0.2263
38	2-Nitroaniline	65	14.070	14.070	(0.939)	6493	0.40000	0.2908
39	Dimethylphthalate	163	14.496	14.504	(0.967)	20068	0.20000	0.2357
40	Acenaphthylene	152	14.674	14.674	(0.979)	30193	0.20000	0.2392
41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	7428	0.40000	0.4068
* 42	Acenaphthene-d10	164	14.983	14.983	(1.000)	220602	4.00000	
43	3-Nitroaniline	138	14.913	14.914	(0.995)	8055	0.40000	0.3812(M)
44	Acenaphthene	153	15.045	15.053	(1.004)	16317	0.20000	0.2173
45	2,4-Dinitrophenol	184	15.122	15.122	(1.009)	1362	0.80000	0.1213(M)
46	Dibenzofuran	168	15.370	15.377	(1.026)	22302	0.20000	0.1913
47	4-Nitrophenol	109	15.230	15.223	(1.017)	3391	0.40000	0.2585(M)
48	2,4-Dinitrotoluene	165	15.424	15.432	(1.029)	7847	0.40000	0.3340
50	Diethylphthalate	149	15.934	15.942	(1.063)	21414	0.20000	0.2464
49	Fluorene	166	16.073	16.073	(1.073)	19958	0.20000	0.2243
51	4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	9459	0.20000	0.2176
52	4-Nitroaniline	138	16.158	16.166	(1.078)	7985	0.40000	0.3912
53	4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	5302	0.80000	0.2881
54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.907)	13219	0.20000	0.2319
$ 55	2,4,6-Tribromophenol	330	16.598	16.606	(1.108)	3146	0.30000	0.2640
56	4-Bromophenyl-phenylether	248	17.053	17.061	(0.948)	5731	0.20000	0.2227
57	Hexachlorobenzene	284	17.362	17.370	(0.966)	5706	0.20000	0.2322
58	Pentachlorophenol	266	17.718	17.718	(0.985)	4179	0.40000	0.2893
* 59	Phenanthrene-d10	188	17.981	17.982	(1.000)	423757	4.00000	
60	Phenanthrene	178	18.028	18.028	(1.003)	24594	0.20000	0.2189
61	Anthracene	178	18.113	18.121	(1.007)	26153	0.20000	0.2196
62	Carbazole	167	18.446	18.446	(1.026)	23538	0.20000	0.2214
63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	32116	0.20000	0.1982
64	Fluoranthene	202	20.395	20.395	(0.887)	31145	0.20000	0.2055
65	Pyrene	202	20.813	20.821	(0.905)	33118	0.20000	0.2097
$ 66	Terphenyl-d14	244	21.107	21.107	(0.918)	21909	0.20000	0.2194
67	Butylbenzylphthalate	149	22.028	22.029	(0.958)	13170	0.20000	0.2106
68	Benzo(a)anthracene	228	22.958	22.966	(0.999)	32096	0.20000	0.2316
* 69	Chrysene-d12	240	22.989	22.989	(1.000)	380627	4.00000	
70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	30550	0.60000	0.6284
71	Chrysene	228	23.027	23.035	(1.002)	23940	0.20000	0.2151
72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	16832	0.20000	0.2193
* 134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	736647	4.00000	
73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	37708	0.20000	0.2351
74	Benzo(b)fluoranthene	252	24.761	24.769	(0.972)	30784	0.20000	0.2288
75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	30594	0.20000	0.2260
76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	33322	0.20000	0.2455
* 77	Perylene-d12	264	25.481	25.482	(1.000)	384766	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	27.915	27.922	(1.095)	30772	0.20000	0.2307
79	Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	24970	0.20000	0.2319
80	Benzo(g,h,i)perylene	276	28.629	28.645	(1.124)	27172	0.20000	0.2289
90	N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	11855	0.40000	0.4320
91	Aniline	93	8.435	8.435	(0.940)	30043	0.40000	0.4433
93	Benzidine	184	20.635	20.635	(0.898)	23494	0.40000	0.3650
103	Pyridine	79	4.720	4.705	(0.526)	10313	0.20000	0.2080
105	1-methylnaphthalene	142	13.056	13.056	(1.143)	18262	0.20000	0.1900
111	Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	19160	0.20000	0.2304

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.761	24.808	(0.972)	59460	0.40000	0.4581
99	Perylene	252	25.528	25.536	(1.002)	25023	0.20000	0.2299
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	3094	0.20000	0.1272

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051904.D
Lab Smp Id: SGE0328-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	135618	22.51
27 Naphthalene-d8	393946	196973	787892	463180	17.57
42 Acenaphthene-d10	203210	101605	406420	220602	8.56
59 Phenanthrene-d10	403506	201753	807012	423757	5.02
69 Chrysene-d12	354618	177309	709236	380627	7.33
134 Di-n-octylphthala	800232	400116	1600464	736647	-7.95
77 Perylene-d12	378948	189474	757896	384766	1.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	-0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051904.D

Lab ID: SGE0328-CAL1
nt10.i, ABN.m, 19-MAY-2018 10:25

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

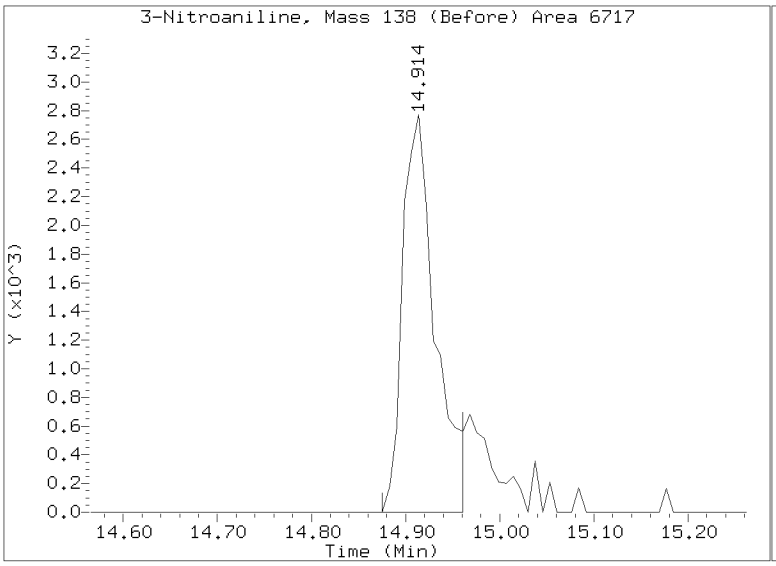
RRT	CCV RRT	DELTA	COMPOUND
NONE			

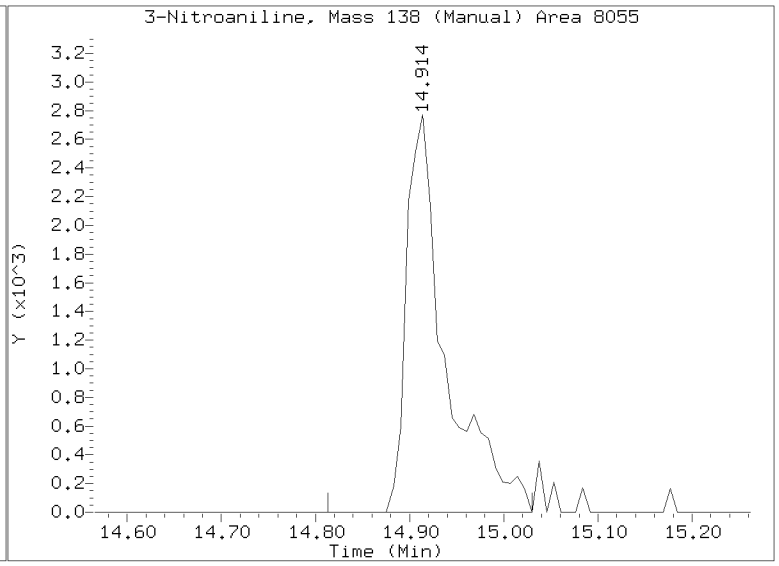
On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

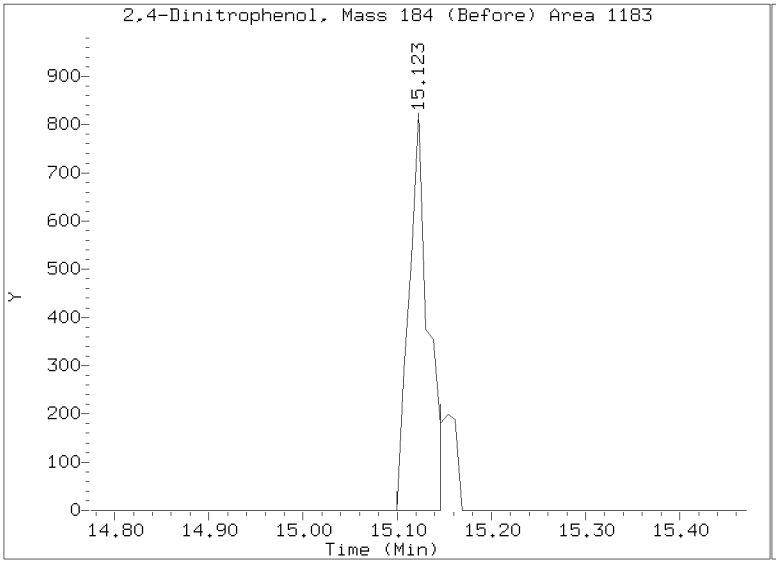
* Only compounds listed in the work order have been verified by the analyst *

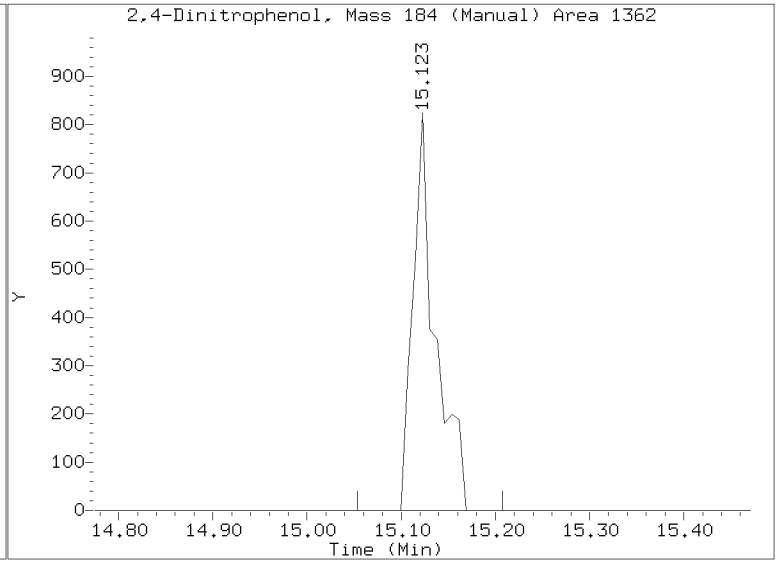
Quant Ion Manual Peak Adjustment Report

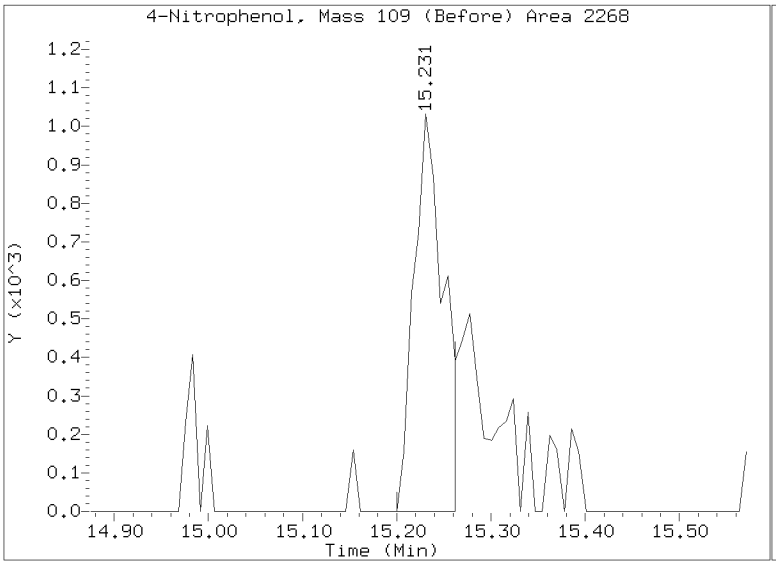
Datafile: //target/share/chem3/nt10.i/20180519.b/NT1018051904.D
Injection Date: 19-MAY-2018 10:25
Lab ID:SGE0328-CAL1 Client ID:
Report Date: 05/23/2018 10:38

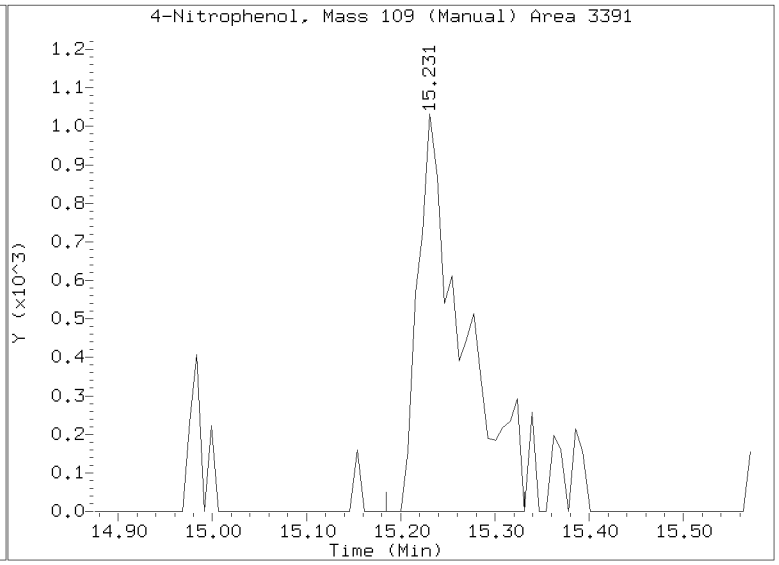












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051905.D

Date : 19-MAY-2018 11:02

Client ID:

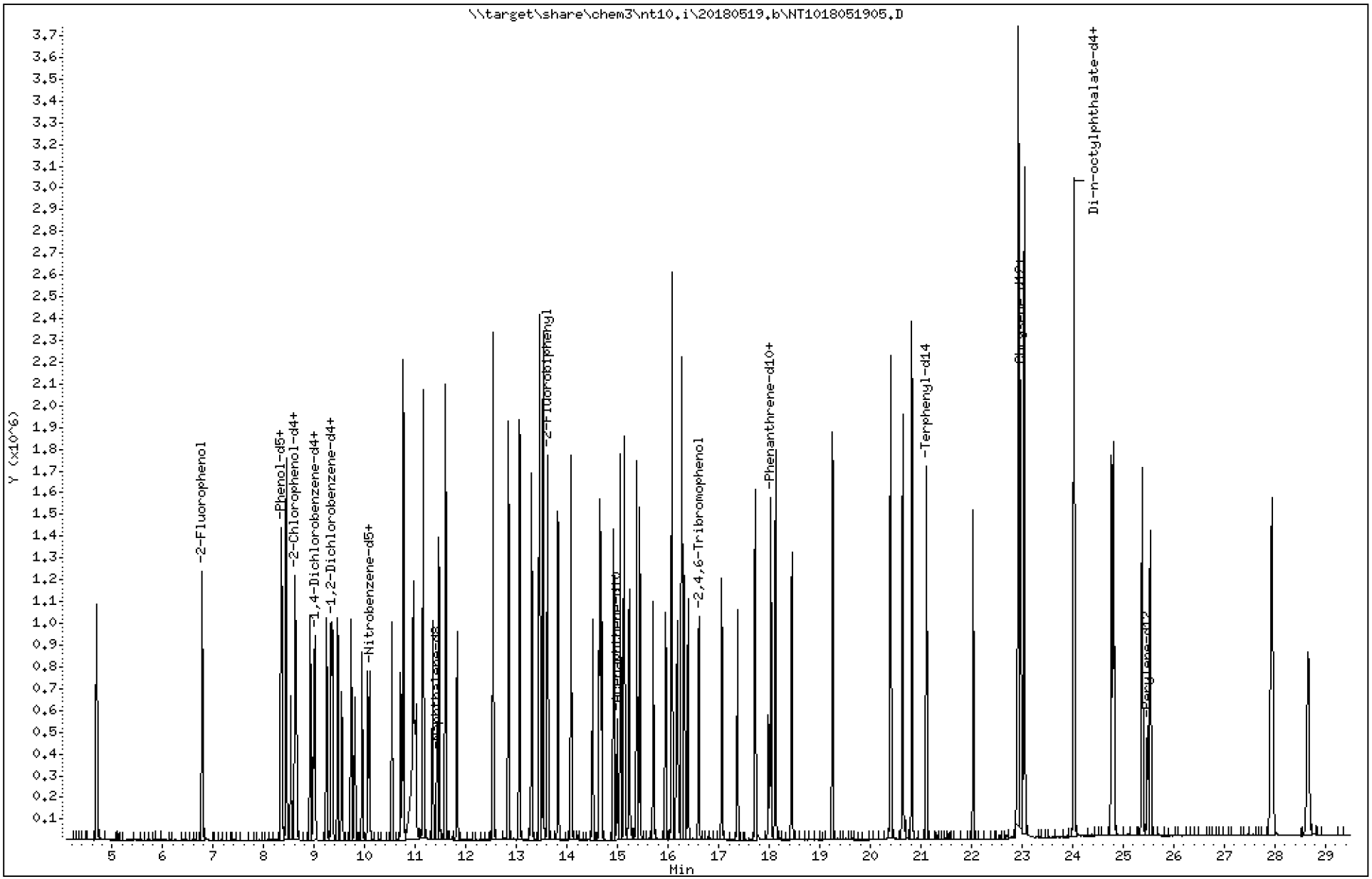
Instrument: nt10.i

Sample Info: SGE0328-CAL6

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051905.D
Lab Smp Id: SGE0328-CAL6
Inj Date : 19-MAY-2018 11:02
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL6
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.782	6.774	(0.755)	524872	15.0000	14.98
$	2	Phenol-d5	99	8.343	8.335	(0.929)	737634	15.0000	15.93
	3	Phenol	94	8.366	8.358	(0.932)	462671	10.0000	10.06
$	5	2-Chlorophenol-d4	132	8.621	8.613	(0.960)	547472	15.0000	15.16
	4	Bis(2-Chloroethyl)ether	93	8.536	8.528	(0.951)	349393	10.0000	9.881
	6	2-Chlorophenol	128	8.644	8.644	(0.963)	377679	10.0000	10.07
	7	1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	365723	10.0000	9.693
*	8	1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	102271	4.00000	
	9	1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	340839	10.0000	9.965
$	10	1,2-Dichlorobenzene-d4	152	9.334	9.326	(1.040)	251118	10.0000	9.841
	12	1,2-Dichlorobenzene	146	9.357	9.357	(1.042)	333127	10.0000	9.817
	11	Benzyl alcohol	108	9.241	9.233	(1.029)	236967	10.0000	10.41
	14	2,2'-oxybis(1-Chloropropane)	121	9.544	9.536	(1.063)	142569	10.0000	10.55
	13	2-Methylphenol	108	9.458	9.458	(1.054)	310526	10.0000	10.07
	17	Hexachloroethane	117	9.939	9.939	(1.107)	163421	10.0000	10.28
	16	N-Nitroso-di-n-propylamine	70	9.800	9.792	(1.092)	220906	10.0000	9.708
	15	4-Methylphenol	108	9.730	9.722	(1.084)	333557	10.0000	10.19
$	18	Nitrobenzene-d5	82	10.056	10.056	(0.880)	377879	10.0000	10.34
	19	Nitrobenzene	77	10.087	10.087	(0.883)	361504	10.0000	10.05
	20	Isophorone	82	10.537	10.529	(0.922)	854926	10.0000	11.58
	21	2-Nitrophenol	139	10.706	10.706	(0.937)	220612	10.0000	11.13
	22	2,4-Dimethylphenol	107	10.756	10.756	(0.942)	683271	20.0000	19.42
	23	Bis(2-Chloroethoxy)methane	93	10.955	10.955	(0.959)	366901	10.0000	9.468
	24	Benzoic acid	105	11.022	10.955	(0.965)	972050	40.0000	41.07
	25	2,4-Dichlorophenol	162	11.155	11.146	(0.976)	593123	20.0000	20.92
	26	1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	292818	10.0000	9.604
*	27	Naphthalene-d8	136	11.424	11.424	(1.000)	366217	4.00000	
	28	Naphthalene	128	11.463	11.463	(1.003)	963568	10.0000	10.30
	29	4-Chloroaniline	127	11.594	11.586	(1.015)	898698	20.0000	21.55
	30	Hexachlorobutadiene	225	11.826	11.818	(1.035)	194819	10.0000	10.17
	31	4-Chloro-3-methylphenol	107	12.538	12.530	(1.097)	716614	20.0000	23.35
	32	2-Methylnaphthalene	142	12.840	12.840	(1.124)	804347	10.0000	10.90
	33	Hexachlorocyclopentadiene	237	13.304	13.296	(0.887)	473270	20.0000	22.04

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.451	13.451	(0.897)	522506	20.0000	22.13
	35	2,4,5-Trichlorophenol	196	13.521	13.521	(0.902)	525974	20.0000	20.23
$	36	2-Fluorobiphenyl	172	13.614	13.613	(0.908)	851093	10.0000	9.958
	37	2-Chloronaphthalene	162	13.815	13.815	(0.922)	703303	10.0000	10.01
	38	2-Nitroaniline	65	14.078	14.070	(0.939)	455803	20.0000	23.25
	39	Dimethylphthalate	163	14.504	14.504	(0.967)	688547	10.0000	9.207
	40	Acenaphthylene	152	14.674	14.674	(0.979)	1041532	10.0000	9.396
	41	2,6-Dinitrotoluene	165	14.643	14.635	(0.977)	327213	20.0000	20.40
*	42	Acenaphthene-d10	164	14.991	14.983	(1.000)	193730	4.00000	
	43	3-Nitroaniline	138	14.922	14.914	(0.995)	402241	20.0000	21.68
	44	Acenaphthene	153	15.053	15.053	(1.004)	667177	10.0000	10.12
	45	2,4-Dinitrophenol	184	15.130	15.122	(1.009)	453116	40.0000	41.71
	46	Dibenzofuran	168	15.378	15.377	(1.026)	1086239	10.0000	10.61
	47	4-Nitrophenol	109	15.231	15.223	(1.016)	235608	20.0000	20.59
	48	2,4-Dinitrotoluene	165	15.439	15.432	(1.030)	470280	20.0000	22.79
	50	Diethylphthalate	149	15.950	15.942	(1.064)	719068	10.0000	9.423
	49	Fluorene	166	16.081	16.073	(1.073)	775155	10.0000	9.920
	51	4-Chlorophenyl-phenylether	204	16.074	16.073	(1.072)	377400	10.0000	9.886
	52	4-Nitroaniline	138	16.182	16.166	(1.079)	407991	20.0000	22.76
	53	4,6-Dinitro-2-methylphenol	198	16.274	16.259	(0.905)	677316	40.0000	43.43
	54	N-Nitrosodiphenylamine	169	16.321	16.313	(0.908)	481762	10.0000	9.423
$	55	2,4,6-Tribromophenol	330	16.606	16.606	(1.108)	173078	15.0000	16.54
	56	4-Bromophenyl-phenylether	248	17.061	17.061	(0.949)	232881	10.0000	10.09
	57	Hexachlorobenzene	284	17.370	17.370	(0.966)	210312	10.0000	9.545
	58	Pentachlorophenol	266	17.719	17.718	(0.985)	297037	20.0000	22.93
*	59	Phenanthrene-d10	188	17.982	17.982	(1.000)	380026	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	1028057	10.0000	10.20
	61	Anthracene	178	18.121	18.121	(1.008)	1108250	10.0000	10.38
	62	Carbazole	167	18.446	18.446	(1.026)	947587	10.0000	9.937
	63	Di-n-butylphthalate	149	19.251	19.250	(1.071)	1585973	10.0000	10.92
	64	Fluoranthene	202	20.403	20.395	(0.887)	1455370	10.0000	10.82
	65	Pyrene	202	20.821	20.821	(0.905)	1486480	10.0000	10.61
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	852979	10.0000	9.630
	67	Butylbenzylphthalate	149	22.029	22.029	(0.958)	564264	10.0000	10.17
	68	Benzo(a)anthracene	228	22.966	22.966	(0.999)	1211786	10.0000	9.858
*	69	Chrysene-d12	240	22.997	22.989	(1.000)	337646	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.927	22.927	(0.997)	1253585	30.0000	29.07
	71	Chrysene	228	23.035	23.035	(1.002)	1032583	10.0000	10.46
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	825950	10.0000	10.00
*	134	Di-n-octylphthalate-d4	153	24.019	24.018	(1.000)	792551	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	1698527	10.0000	9.842
	74	Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	1304806	10.0000	10.30
	75	Benzo(k)fluoranthene	252	24.816	24.808	(0.974)	1265001	10.0000	9.922
	76	Benzo(a)pyrene	252	25.381	25.373	(0.996)	1244259	10.0000	9.734
*	77	Perylene-d12	264	25.482	25.482	(1.000)	362338	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.938	27.922	(1.096)	1220567	10.0000	9.717
	79	Dibenzo(a,h)anthracene	278	27.954	27.938	(1.097)	956168	10.0000	9.430
	80	Benzo(g,h,i)perylene	276	28.661	28.645	(1.125)	1102177	10.0000	9.858
	90	N-Nitrosodimethylamine	74	4.682	4.681	(0.522)	415816	20.0000	20.09
	91	Aniline	93	8.443	8.435	(0.941)	996462	20.0000	19.50
	93	Benzidine	184	20.635	20.635	(0.897)	1224484	20.0000	21.44
	103	Pyridine	79	4.697	4.705	(0.523)	358093	10.0000	9.575
	105	1-methylnaphthalene	142	13.056	13.056	(1.143)	827162	10.0000	10.89
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.390	16.390	(1.093)	700298	10.0000	9.587

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.816	24.808	(0.974)	2460581	20.0000	20.13
99	Perylene	252	25.536	25.536	(1.002)	1050680	10.0000	10.25
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.047)	234844	10.0000	10.39

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051905.D
Lab Smp Id: SGE0328-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	102271	-7.61
27 Naphthalene-d8	393946	196973	787892	366217	-7.04
42 Acenaphthene-d10	203210	101605	406420	193730	-4.67
59 Phenanthrene-d10	403506	201753	807012	380026	-5.82
69 Chrysene-d12	354618	177309	709236	337646	-4.79
134 Di-n-octylphthala	800232	400116	1600464	792551	-0.96
77 Perylene-d12	378948	189474	757896	362338	-4.38

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.99	0.05
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	0.00
69 Chrysene-d12	22.99	22.49	23.49	23.00	0.03
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051905.D

Lab ID: SGE0328-CAL6
nt10.i, ABN.m, 19-MAY-2018 11:02

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051906.D

Date : 19-MAY-2018 11:38

Client ID:

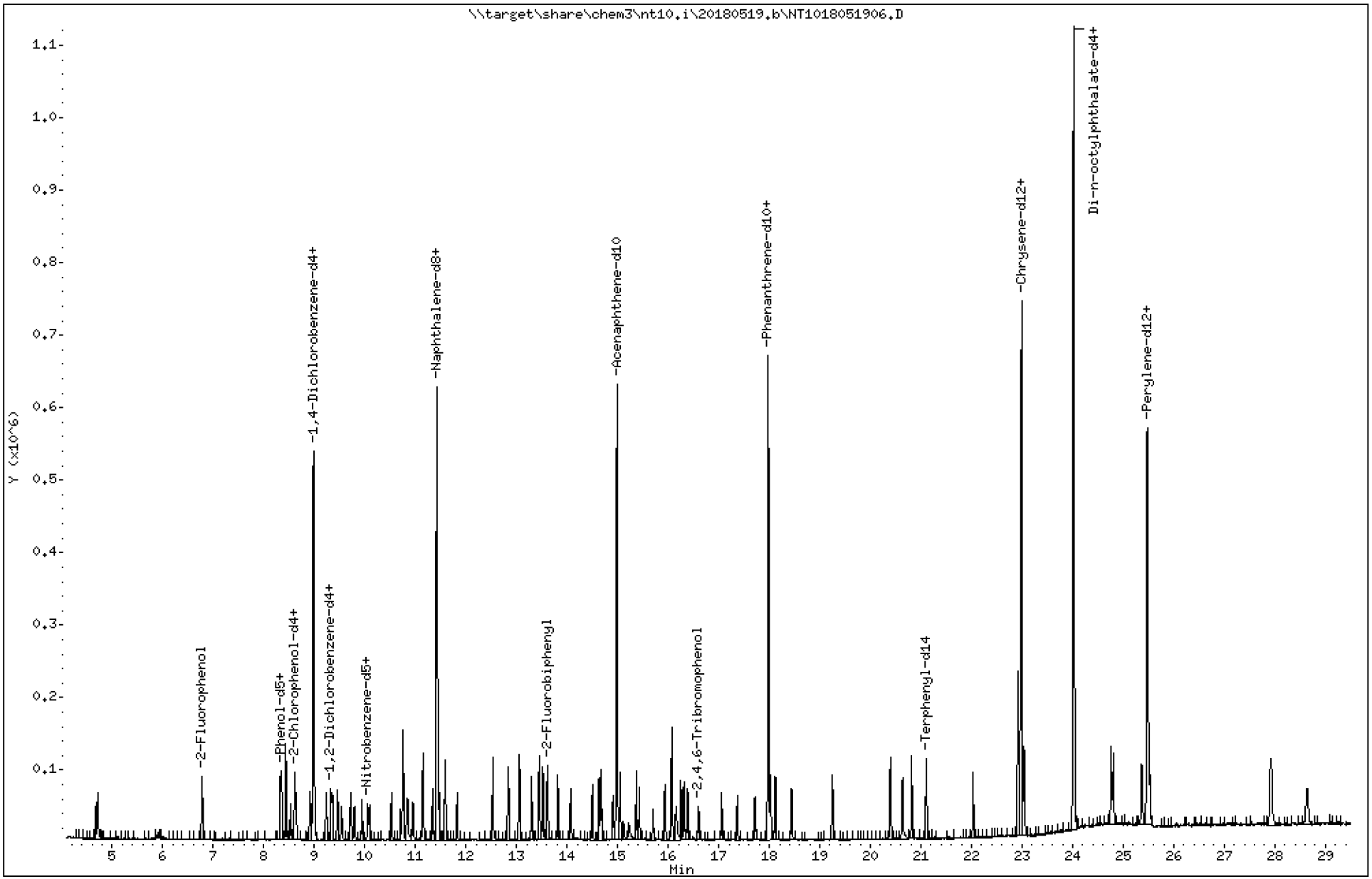
Instrument: nt10.i

Sample Info: SGE0328-CAL2

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051906.D
Lab Smp Id: SGE0328-CAL2
Inj Date : 19-MAY-2018 11:38
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL2
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 7 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.782	6.774	(0.755)	35841	0.75000	0.8001
$	2	Phenol-d5	99	8.335	8.335	(0.928)	43988	0.75000	0.7430
	3	Phenol	94	8.358	8.358	(0.931)	29861	0.50000	0.5079
$	5	2-Chlorophenol-d4	132	8.613	8.613	(0.959)	36775	0.75000	0.7967
	4	Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.950)	22586	0.50000	0.4996
	6	2-Chlorophenol	128	8.644	8.644	(0.963)	25349	0.50000	0.5284
	7	1,3-Dichlorobenzene	146	8.914	8.915	(0.993)	25062	0.50000	0.5195
*	8	1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	130760	4.00000	
	9	1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	21965	0.50000	0.5023
$	10	1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.039)	17175	0.50000	0.5264
	12	1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	22759	0.50000	0.5245
	11	Benzyl alcohol	108	9.233	9.233	(1.029)	14711	0.50000	0.5053
	14	2,2'-oxybis(1-Chloropropane)	121	9.535	9.536	(1.062)	8164	0.50000	0.4727
	13	2-Methylphenol	108	9.458	9.458	(1.054)	19651	0.50000	0.4984
	17	Hexachloroethane	117	9.939	9.939	(1.107)	10156	0.50000	0.4994
	16	N-Nitroso-di-n-propylamine	70	9.792	9.792	(1.091)	14886	0.50000	0.5117
	15	4-Methylphenol	108	9.722	9.722	(1.083)	21637	0.50000	0.5168
$	18	Nitrobenzene-d5	82	10.048	10.056	(0.880)	23929	0.50000	0.5286
	19	Nitrobenzene	77	10.086	10.087	(0.883)	22689	0.50000	0.5095
	20	Isophorone	82	10.521	10.529	(0.921)	42342	0.50000	0.4631
	21	2-Nitrophenol	139	10.706	10.706	(0.937)	11753	0.50000	0.4788
	22	2,4-Dimethylphenol	107	10.748	10.756	(0.941)	46139	1.00000	1.059
	23	Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.958)	26434	0.50000	0.5509
	24	Benzoic acid	105	10.839	10.955	(0.949)	32544	2.00000	1.119
	25	2,4-Dichlorophenol	162	11.146	11.146	(0.976)	34518	1.00000	0.9832
	26	1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	20161	0.50000	0.5340
*	27	Naphthalene-d8	136	11.424	11.424	(1.000)	453436	4.00000	
	28	Naphthalene	128	11.462	11.463	(1.003)	56879	0.50000	0.4913
	29	4-Chloroaniline	127	11.586	11.586	(1.014)	49151	1.00000	0.9517
	30	Hexachlorobutadiene	225	11.818	11.818	(1.034)	12089	0.50000	0.5099
	31	4-Chloro-3-methylphenol	107	12.530	12.530	(1.097)	34069	1.00000	0.8964
	32	2-Methylnaphthalene	142	12.832	12.840	(1.123)	43716	0.50000	0.4785
	33	Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	21302	1.00000	0.8778

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	25308	1.00000	0.9485
	35	2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	25697	1.00000	0.8623
$	36	2-Fluorobiphenyl	172	13.606	13.613	(0.908)	49808	0.50000	0.5157
	37	2-Chloronaphthalene	162	13.814	13.815	(0.922)	39475	0.50000	0.4972
	38	2-Nitroaniline	65	14.070	14.070	(0.939)	20020	1.00000	0.9036
	39	Dimethylphthalate	163	14.496	14.504	(0.967)	45688	0.50000	0.5407
	40	Acenaphthylene	152	14.674	14.674	(0.979)	65471	0.50000	0.5227
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	18211	1.00000	1.005
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	218907	4.00000	
	43	3-Nitroaniline	138	14.906	14.914	(0.995)	18889	1.00000	0.9009
	44	Acenaphthene	153	15.045	15.053	(1.004)	36993	0.50000	0.4965
	45	2,4-Dinitrophenol	184	15.122	15.122	(1.009)	6537	2.00000	0.5860
	46	Dibenzofuran	168	15.370	15.377	(1.026)	58142	0.50000	0.5026
	47	4-Nitrophenol	109	15.223	15.223	(1.016)	9889	1.00000	0.7598(M)
	48	2,4-Dinitrotoluene	165	15.424	15.432	(1.029)	20510	1.00000	0.8797
	50	Diethylphthalate	149	15.934	15.942	(1.063)	44561	0.50000	0.5168
	49	Fluorene	166	16.073	16.073	(1.073)	44307	0.50000	0.5018
	51	4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	22617	0.50000	0.5243
	52	4-Nitroaniline	138	16.158	16.166	(1.078)	19501	1.00000	0.9628
	53	4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	19026	2.00000	1.035
	54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.907)	30126	0.50000	0.5288
$	55	2,4,6-Tribromophenol	330	16.598	16.606	(1.108)	7603	0.75000	0.6429
	56	4-Bromophenyl-phenylether	248	17.053	17.061	(0.948)	12295	0.50000	0.4781
	57	Hexachlorobenzene	284	17.370	17.370	(0.966)	12956	0.50000	0.5277
	58	Pentachlorophenol	266	17.718	17.718	(0.985)	11772	1.00000	0.8154
*	59	Phenanthrene-d10	188	17.981	17.982	(1.000)	423462	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	56567	0.50000	0.5039
	61	Anthracene	178	18.121	18.121	(1.008)	58249	0.50000	0.4894
	62	Carbazole	167	18.438	18.446	(1.025)	51657	0.50000	0.4861
	63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	74330	0.50000	0.4591
	64	Fluoranthene	202	20.395	20.395	(0.887)	69153	0.50000	0.4564
	65	Pyrene	202	20.813	20.821	(0.905)	72832	0.50000	0.4612
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	52614	0.50000	0.5271
	67	Butylbenzylphthalate	149	22.028	22.029	(0.958)	31260	0.50000	0.4999
	68	Benzo(a)anthracene	228	22.958	22.966	(0.999)	70465	0.50000	0.5086
*	69	Chrysene-d12	240	22.989	22.989	(1.000)	380532	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	72903	1.50000	1.500
	71	Chrysene	228	23.035	23.035	(1.002)	52199	0.50000	0.4691
	72	bis(2-Ethylhexyl)phthalate	149	23.050	23.051	(0.960)	39570	0.50000	0.4991
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	761131	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	81446	0.50000	0.4914
	74	Benzo(b)fluoranthene	252	24.761	24.769	(0.972)	65991	0.50000	0.4899
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	63491	0.50000	0.4684
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	69217	0.50000	0.5093
*	77	Perylene-d12	264	25.481	25.482	(1.000)	385243	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.915	27.922	(1.095)	65235	0.50000	0.4885
	79	Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	55796	0.50000	0.5175
	80	Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	57202	0.50000	0.4812
	90	N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	26572	1.00000	1.004
	91	Aniline	93	8.435	8.435	(0.940)	69379	1.00000	1.062
	93	Benzidine	184	20.635	20.635	(0.898)	65554	1.00000	1.019
	103	Pyridine	79	4.712	4.705	(0.525)	26295	0.50000	0.5499
	105	1-methylnaphthalene	142	13.056	13.056	(1.143)	46147	0.50000	0.4905
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	43248	0.50000	0.5240

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
187	Total Benzofluoranthenes	252	24.761	24.808	(0.972)	126512	1.00000	0.9735
99	Perylene	252	25.528	25.536	(1.002)	50431	0.50000	0.4628
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	8498	0.50000	0.3516

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051906.D
Lab Smp Id: SGE0328-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	130760	18.12
27 Naphthalene-d8	393946	196973	787892	453436	15.10
42 Acenaphthene-d10	203210	101605	406420	218907	7.72
59 Phenanthrene-d10	403506	201753	807012	423462	4.95
69 Chrysene-d12	354618	177309	709236	380532	7.31
134 Di-n-octylphthala	800232	400116	1600464	761131	-4.89
77 Perylene-d12	378948	189474	757896	385243	1.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	-0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051906.D

Lab ID: SGE0328-CAL2
nt10.i, ABN.m, 19-MAY-2018 11:38

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

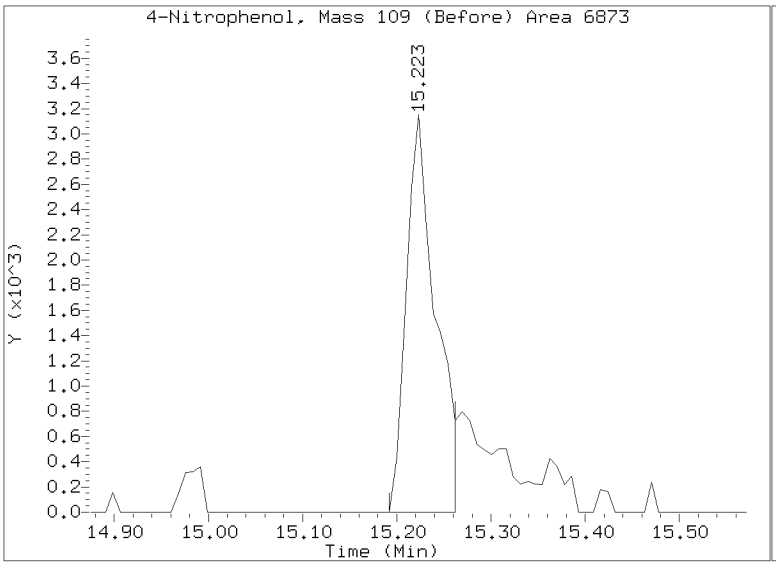
RRT	CCV RRT	DELTA	COMPOUND
NONE			

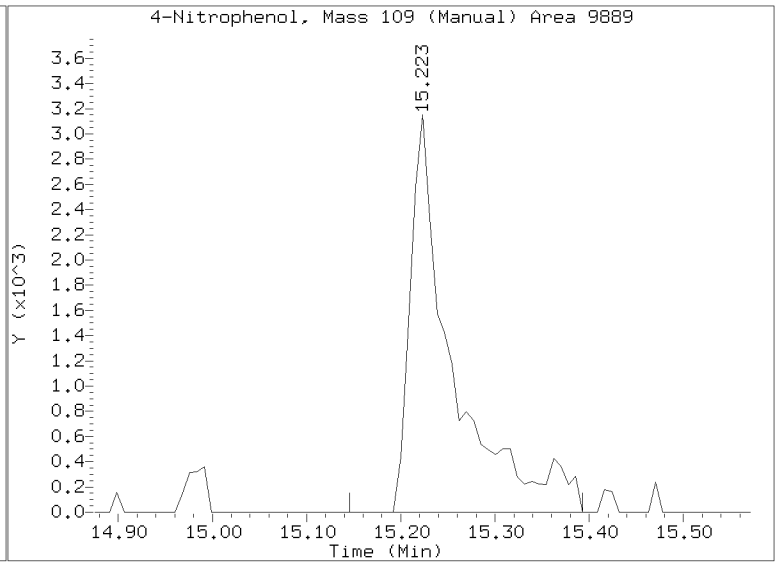
On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20180519.b/NT1018051906.D
Injection Date: 19-MAY-2018 11:38
Lab ID:SGE0328-CAL2 Client ID:
Report Date: 05/23/2018 10:38





Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051907.D

Date : 19-MAY-2018 12:14

Client ID:

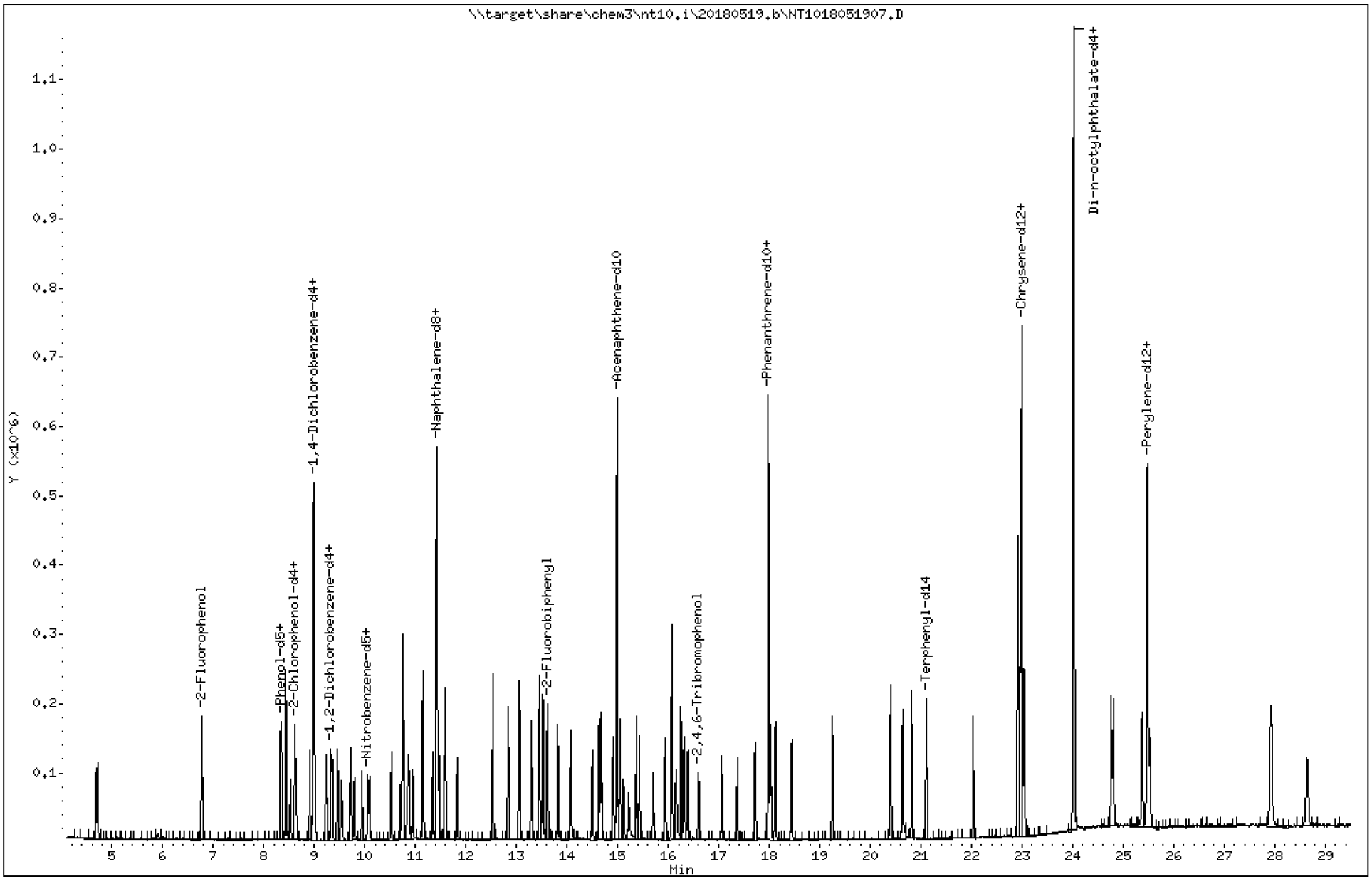
Instrument: nt10.i

Sample Info: SGE0328-CAL3

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051907.D
Lab Smp Id: SGE0328-CAL3
Inj Date : 19-MAY-2018 12:14
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL3
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.774	6.774	(0.755)	67997	1.50000	1.600
$	2	Phenol-d5	99	8.335	8.335	(0.928)	83919	1.50000	1.495
	3	Phenol	94	8.350	8.358	(0.930)	60148	1.00000	1.079
$	5	2-Chlorophenol-d4	132	8.613	8.613	(0.959)	65171	1.50000	1.489
	4	Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.950)	43627	1.00000	1.017
	6	2-Chlorophenol	128	8.644	8.644	(0.963)	47379	1.00000	1.041
	7	1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	46558	1.00000	1.018
*	8	1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	124018	4.00000	
	9	1,4-Dichlorobenzene	146	9.008	9.008	(1.003)	41898	1.00000	1.010
$	10	1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.039)	31133	1.00000	1.006
	12	1,2-Dichlorobenzene	146	9.349	9.357	(1.041)	40864	1.00000	0.9930
	11	Benzyl alcohol	108	9.233	9.233	(1.029)	27896	1.00000	1.010
	14	2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.062)	15454	1.00000	0.9434
	13	2-Methylphenol	108	9.458	9.458	(1.054)	38919	1.00000	1.041
	17	Hexachloroethane	117	9.939	9.939	(1.107)	19552	1.00000	1.014
	16	N-Nitroso-di-n-propylamine	70	9.792	9.792	(1.091)	27172	1.00000	0.9847
	15	4-Methylphenol	108	9.722	9.722	(1.083)	40462	1.00000	1.019
$	18	Nitrobenzene-d5	82	10.048	10.056	(0.880)	41863	1.00000	0.9772
	19	Nitrobenzene	77	10.087	10.087	(0.884)	43035	1.00000	1.021
	20	Isophorone	82	10.521	10.529	(0.922)	81702	1.00000	0.9443
	21	2-Nitrophenol	139	10.706	10.706	(0.938)	22150	1.00000	0.9535
	22	2,4-Dimethylphenol	107	10.748	10.756	(0.941)	89727	2.00000	2.176
	23	Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	46736	1.00000	1.029
	24	Benzoic acid	105	10.864	10.955	(0.952)	76259	4.00000	2.771
	25	2,4-Dichlorophenol	162	11.146	11.146	(0.976)	67114	2.00000	2.020
	26	1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	35625	1.00000	0.9972
*	27	Naphthalene-d8	136	11.416	11.424	(1.000)	429087	4.00000	
	28	Naphthalene	128	11.463	11.463	(1.004)	108344	1.00000	0.9889
	29	4-Chloroaniline	127	11.586	11.586	(1.015)	95027	2.00000	1.944
	30	Hexachlorobutadiene	225	11.818	11.818	(1.035)	22014	1.00000	0.9812
	31	4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	69766	2.00000	1.940
	32	2-Methylnaphthalene	142	12.832	12.840	(1.124)	83264	1.00000	0.9631
	33	Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	42317	2.00000	1.805

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	50530	2.00000	1.961
	35	2,4,5-Trichlorophenol	196	13.521	13.521	(0.902)	50198	2.00000	1.745
$	36	2-Fluorobiphenyl	172	13.606	13.613	(0.908)	92514	1.00000	0.9917
	37	2-Chloronaphthalene	162	13.815	13.815	(0.922)	75106	1.00000	0.9792
	38	2-Nitroaniline	65	14.070	14.070	(0.939)	43550	2.00000	2.035
	39	Dimethylphthalate	163	14.496	14.504	(0.967)	85428	1.00000	1.047
	40	Acenaphthylene	152	14.674	14.674	(0.979)	125240	1.00000	1.035
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	34948	2.00000	1.997
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	211452	4.00000	
	43	3-Nitroaniline	138	14.906	14.914	(0.995)	40154	2.00000	1.983
	44	Acenaphthene	153	15.053	15.053	(1.005)	70821	1.00000	0.9841
	45	2,4-Dinitrophenol	184	15.115	15.122	(1.009)	20087	4.00000	1.859
	46	Dibenzofuran	168	15.370	15.377	(1.026)	111014	1.00000	0.9934
	47	4-Nitrophenol	109	15.215	15.223	(1.015)	17687	2.00000	1.407
	48	2,4-Dinitrotoluene	165	15.432	15.432	(1.030)	42780	2.00000	1.900
	50	Diethylphthalate	149	15.934	15.942	(1.063)	83039	1.00000	0.9969
	49	Fluorene	166	16.073	16.073	(1.073)	85117	1.00000	0.9980
	51	4-Chlorophenyl-phenylether	204	16.066	16.073	(1.072)	41291	1.00000	0.9910
	52	4-Nitroaniline	138	16.158	16.166	(1.078)	39875	2.00000	2.038
	53	4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	44207	4.00000	2.529
	54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.907)	57014	1.00000	1.050
$	55	2,4,6-Tribromophenol	330	16.598	16.606	(1.108)	15982	1.50000	1.399
	56	4-Bromophenyl-phenylether	248	17.061	17.061	(0.949)	23604	1.00000	0.9629
	57	Hexachlorobenzene	284	17.370	17.370	(0.966)	23872	1.00000	1.020
	58	Pentachlorophenol	266	17.718	17.718	(0.985)	25350	2.00000	1.842
*	59	Phenanthrene-d10	188	17.981	17.982	(1.000)	403654	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	104924	1.00000	0.9805
	61	Anthracene	178	18.121	18.121	(1.008)	108019	1.00000	0.9521
	62	Carbazole	167	18.446	18.446	(1.026)	100409	1.00000	0.9913
	63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	144879	1.00000	0.9387
	64	Fluoranthene	202	20.395	20.395	(0.887)	135670	1.00000	0.9480
	65	Pyrene	202	20.821	20.821	(0.906)	142238	1.00000	0.9536
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	96511	1.00000	1.024
	67	Butylbenzylphthalate	149	22.029	22.029	(0.958)	59316	1.00000	1.004
	68	Benzo(a)anthracene	228	22.958	22.966	(0.999)	127216	1.00000	0.9722
*	69	Chrysene-d12	240	22.989	22.989	(1.000)	359417	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	144217	3.00000	3.141
	71	Chrysene	228	23.035	23.035	(1.002)	101137	1.00000	0.9624
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	74852	1.00000	0.9737
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	737929	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	162420	1.00000	1.011
	74	Benzo(b)fluoranthene	252	24.762	24.769	(0.972)	125917	1.00000	0.9727
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	128027	1.00000	0.9828
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	132719	1.00000	1.016
*	77	Perylene-d12	264	25.482	25.482	(1.000)	370204	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.915	27.922	(1.095)	129029	1.00000	1.005
	79	Dibenzo(a,h)anthracene	278	27.930	27.938	(1.096)	106620	1.00000	1.029
	80	Benzo(g,h,i)perylene	276	28.637	28.645	(1.124)	114014	1.00000	0.9981
	90	N-Nitrosodimethylamine	74	4.674	4.681	(0.521)	51316	2.00000	2.045
	91	Aniline	93	8.435	8.435	(0.940)	127745	2.00000	2.061
	93	Benzidine	184	20.635	20.635	(0.898)	128492	2.00000	2.114
	103	Pyridine	79	4.704	4.705	(0.524)	47910	1.00000	1.056
	105	1-methylnaphthalene	142	13.056	13.056	(1.144)	86383	1.00000	0.9703
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	81486	1.00000	1.022

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	244870	2.00000	1.961
99	Perylene	252	25.528	25.536	(1.002)	101344	1.00000	0.9678
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	18228	1.00000	0.7790

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051907.D
Lab Smp Id: SGE0328-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	124018	12.03
27 Naphthalene-d8	393946	196973	787892	429087	8.92
42 Acenaphthene-d10	203210	101605	406420	211452	4.06
59 Phenanthrene-d10	403506	201753	807012	403654	0.04
69 Chrysene-d12	354618	177309	709236	359417	1.35
134 Di-n-octylphthala	800232	400116	1600464	737929	-7.79
77 Perylene-d12	378948	189474	757896	370204	-2.31

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	-0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051907.D

Lab ID: SGE0328-CAL3
nt10.i, ABN.m, 19-MAY-2018 12:14

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051908.D

Date : 19-MAY-2018 12:51

Client ID:

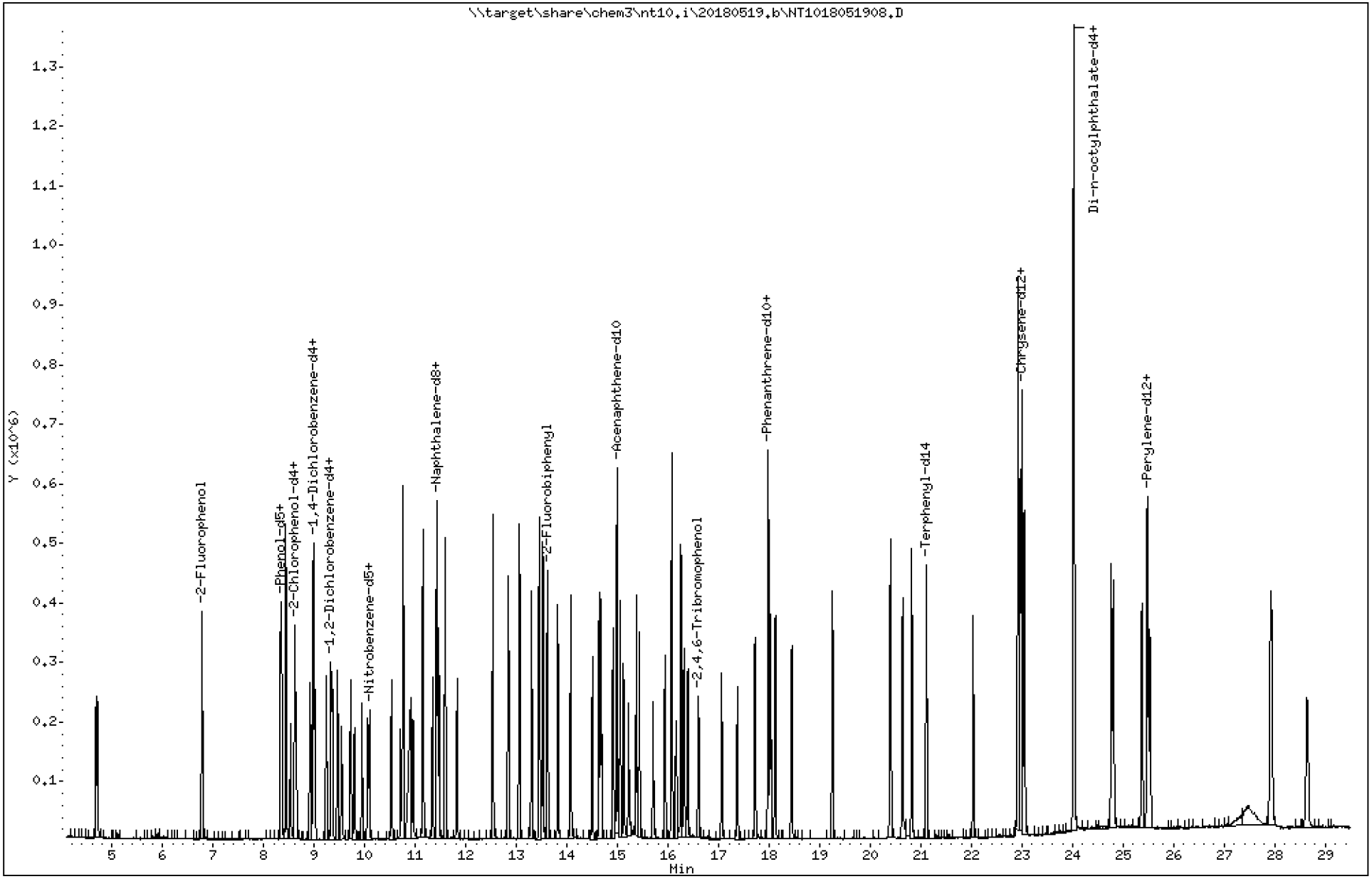
Instrument: nt10.i

Sample Info: SGE0328-CAL4

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051908.D
Lab Smp Id: SGE0328-CAL4
Inj Date : 19-MAY-2018 12:51
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CAL4
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 9 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.774	6.774	(0.755)	148976	3.75000	3.576
$	2 Phenol-d5	99	8.335	8.335	(0.928)	190868	3.75000	3.466
	3 Phenol	94	8.358	8.358	(0.931)	126591	2.50000	2.315
$	5 2-Chlorophenol-d4	132	8.613	8.613	(0.959)	147297	3.75000	3.431
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.950)	95641	2.50000	2.275
	6 2-Chlorophenol	128	8.644	8.644	(0.963)	99871	2.50000	2.238
	7 1,3-Dichlorobenzene	146	8.915	8.915	(0.993)	100071	2.50000	2.230
*	8 1,4-Dichlorobenzene-d4	152	8.977	8.977	(1.000)	121621	4.00000	
	9 1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	92650	2.50000	2.278
$	10 1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.039)	69353	2.50000	2.285
	12 1,2-Dichlorobenzene	146	9.349	9.357	(1.041)	93087	2.50000	2.307
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	62593	2.50000	2.311
	14 2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.062)	40118	2.50000	2.497
	13 2-Methylphenol	108	9.458	9.458	(1.054)	82111	2.50000	2.239
	17 Hexachloroethane	117	9.939	9.939	(1.107)	41237	2.50000	2.180
	16 N-Nitroso-di-n-propylamine	70	9.792	9.792	(1.091)	62316	2.50000	2.303
	15 4-Methylphenol	108	9.722	9.722	(1.083)	85929	2.50000	2.207
$	18 Nitrobenzene-d5	82	10.048	10.056	(0.880)	99515	2.50000	2.345
	19 Nitrobenzene	77	10.087	10.087	(0.883)	94883	2.50000	2.273
	20 Isophorone	82	10.521	10.529	(0.921)	185622	2.50000	2.166
	21 2-Nitrophenol	139	10.706	10.706	(0.937)	51797	2.50000	2.251
	22 2,4-Dimethylphenol	107	10.748	10.756	(0.941)	185036	5.00000	4.531
	23 Bis(2-Chloroethoxy)methane	93	10.955	10.955	(0.959)	98421	2.50000	2.188
	24 Benzoic acid	105	10.906	10.955	(0.955)	204561	10.0000	7.498
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	148582	5.00000	4.515
	26 1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	78766	2.50000	2.226
*	27 Naphthalene-d8	136	11.424	11.424	(1.000)	425010	4.00000	
	28 Naphthalene	128	11.463	11.463	(1.003)	239819	2.50000	2.210
	29 4-Chloroaniline	127	11.586	11.586	(1.014)	217378	5.00000	4.491
	30 Hexachlorobutadiene	225	11.818	11.818	(1.034)	48739	2.50000	2.193
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.097)	163031	5.00000	4.576
	32 2-Methylnaphthalene	142	12.832	12.840	(1.123)	199492	2.50000	2.330
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	104196	5.00000	4.487

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	118332	5.00000	4.634
	35	2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	119667	5.00000	4.207
$	36	2-Fluorobiphenyl	172	13.606	13.613	(0.908)	218627	2.50000	2.366
	37	2-Chloronaphthalene	162	13.815	13.815	(0.922)	170187	2.50000	2.240
	38	2-Nitroaniline	65	14.070	14.070	(0.939)	104298	5.00000	4.920
	39	Dimethylphthalate	163	14.496	14.504	(0.967)	186622	2.50000	2.308
	40	Acenaphthylene	152	14.674	14.674	(0.979)	271127	2.50000	2.262
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	80739	5.00000	4.656
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	209476	4.00000	
	43	3-Nitroaniline	138	14.906	14.914	(0.995)	93240	5.00000	4.647
	44	Acenaphthene	153	15.053	15.053	(1.005)	158753	2.50000	2.227
	45	2,4-Dinitrophenol	184	15.115	15.122	(1.009)	69330	10.0000	6.417
	46	Dibenzofuran	168	15.370	15.377	(1.026)	259272	2.50000	2.342
	47	4-Nitrophenol	109	15.215	15.223	(1.015)	49361	5.00000	3.967
	48	2,4-Dinitrotoluene	165	15.432	15.432	(1.030)	104500	5.00000	4.684
	50	Diethylphthalate	149	15.934	15.942	(1.063)	190083	2.50000	2.304
	49	Fluorene	166	16.073	16.073	(1.073)	187751	2.50000	2.222
	51	4-Chlorophenyl-phenylether	204	16.066	16.073	(1.072)	92296	2.50000	2.236
	52	4-Nitroaniline	138	16.159	16.166	(1.078)	75763	5.00000	3.909
	53	4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	116585	10.0000	6.706
	54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.907)	125381	2.50000	2.307
$	55	2,4,6-Tribromophenol	330	16.598	16.606	(1.108)	38266	3.75000	3.381
	56	4-Bromophenyl-phenylether	248	17.061	17.061	(0.949)	55312	2.50000	2.255
	57	Hexachlorobenzene	284	17.370	17.370	(0.966)	52229	2.50000	2.230
	58	Pentachlorophenol	266	17.719	17.718	(0.985)	59918	5.00000	4.351
*	59	Phenanthrene-d10	188	17.982	17.982	(1.000)	403900	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	238918	2.50000	2.231
	61	Anthracene	178	18.121	18.121	(1.008)	249514	2.50000	2.198
	62	Carbazole	167	18.446	18.446	(1.026)	230033	2.50000	2.270
	63	Di-n-butylphthalate	149	19.251	19.250	(1.071)	345456	2.50000	2.237
	64	Fluoranthene	202	20.396	20.395	(0.887)	316807	2.50000	2.211
	65	Pyrene	202	20.813	20.821	(0.905)	328582	2.50000	2.201
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	221852	2.50000	2.350
	67	Butylbenzylphthalate	149	22.029	22.029	(0.958)	136069	2.50000	2.301
	68	Benzo(a)anthracene	228	22.958	22.966	(0.999)	289086	2.50000	2.207
*	69	Chrysene-d12	240	22.989	22.989	(1.000)	359821	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	311591	7.50000	6.780
	71	Chrysene	228	23.035	23.035	(1.002)	233456	2.50000	2.219
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	180706	2.50000	2.260
*	134	Di-n-octylphthalate-d4	153	24.019	24.018	(1.000)	767587	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	369763	2.50000	2.212
	74	Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	287017	2.50000	2.147
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	309317	2.50000	2.299
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	305015	2.50000	2.262
*	77	Perylene-d12	264	25.482	25.482	(1.000)	382298	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.923	27.922	(1.096)	299637	2.50000	2.261
	79	Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	237435	2.50000	2.219
	80	Benzo(g,h,i)perylene	276	28.637	28.645	(1.124)	259242	2.50000	2.198
	90	N-Nitrosodimethylamine	74	4.674	4.681	(0.521)	113379	5.00000	4.607
	91	Aniline	93	8.436	8.435	(0.940)	276258	5.00000	4.546
	93	Benzidine	184	20.635	20.635	(0.898)	248059	5.00000	4.076
	103	Pyridine	79	4.697	4.705	(0.523)	103638	2.50000	2.330
	105	1-methylnaphthalene	142	13.056	13.056	(1.143)	202060	2.50000	2.291
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.390	16.390	(1.094)	181260	2.50000	2.295

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.769	24.808	(0.972)	567231	5.00000	4.398
99	Perylene	252	25.528	25.536	(1.002)	226251	2.50000	2.092
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	43249	2.50000	1.856

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051908.D
Lab Smp Id: SGE0328-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	121621	9.87
27 Naphthalene-d8	393946	196973	787892	425010	7.89
42 Acenaphthene-d10	203210	101605	406420	209476	3.08
59 Phenanthrene-d10	403506	201753	807012	403900	0.10
69 Chrysene-d12	354618	177309	709236	359821	1.47
134 Di-n-octylphthala	800232	400116	1600464	767587	-4.08
77 Perylene-d12	378948	189474	757896	382298	0.88

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.42	10.92	11.92	11.42	0.00
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051908.D

Lab ID: SGE0328-CAL4
nt10.i, ABN.m, 19-MAY-2018 12:51

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

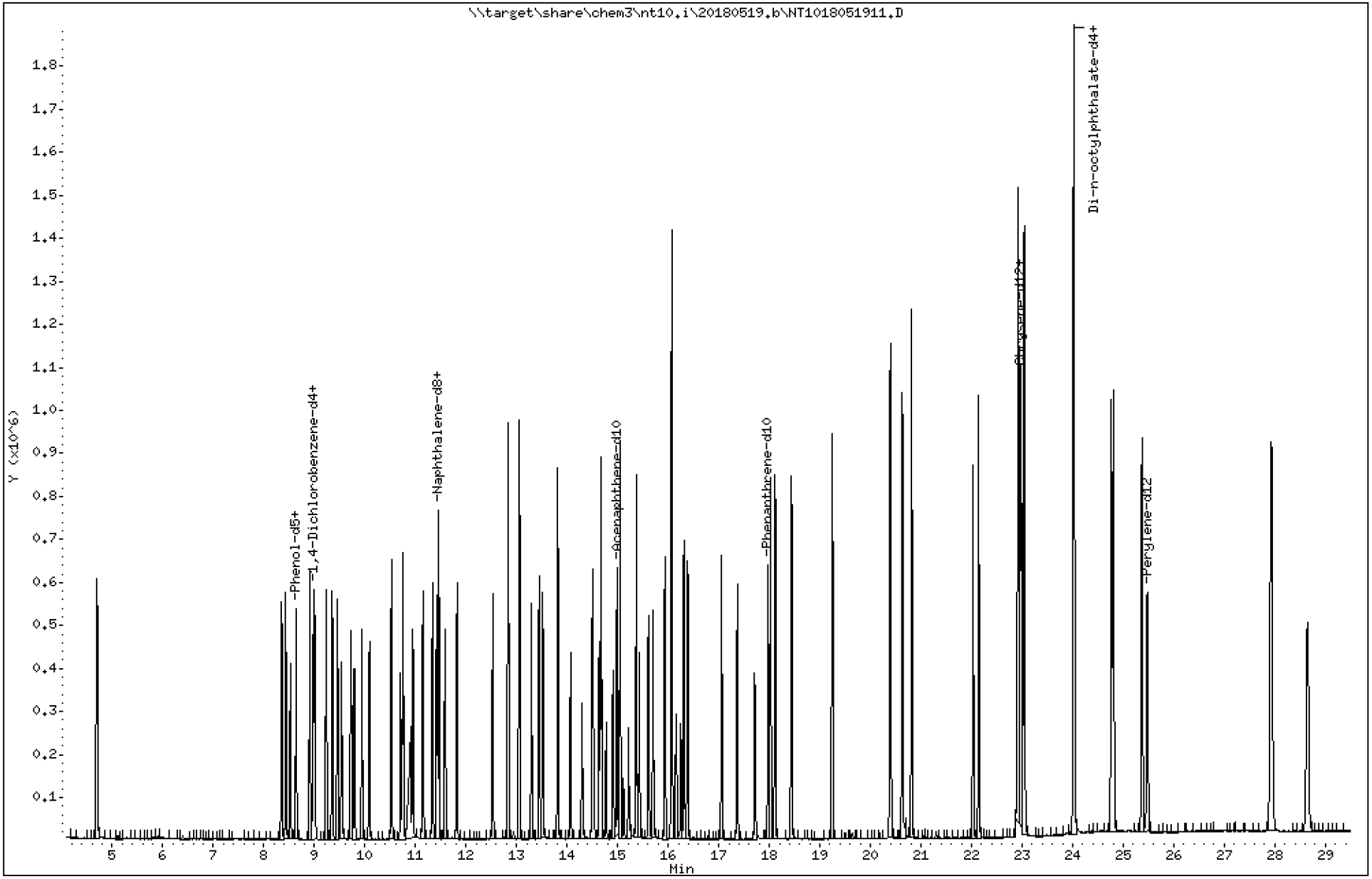
Instrument: nt10.i

Sample Info: SGE0328-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

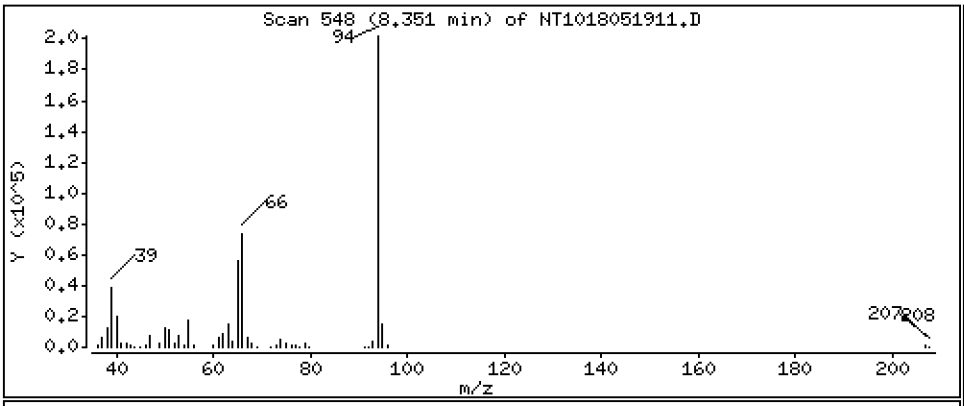
Operator: YZ

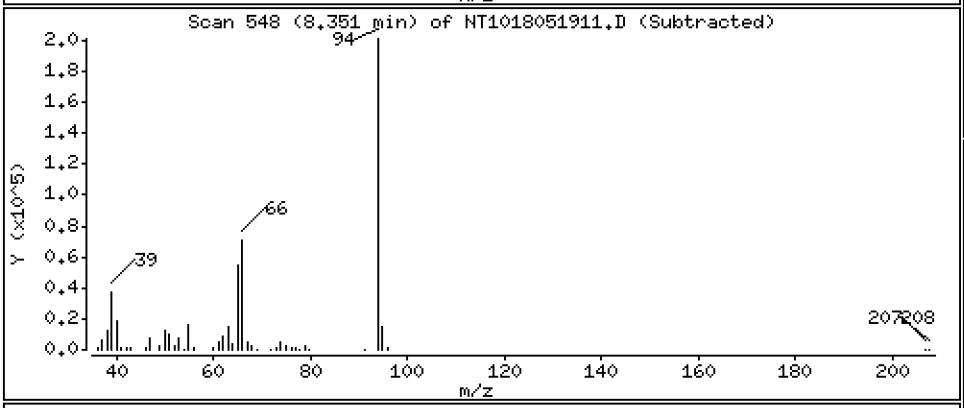
Column phase: ZB-5msi

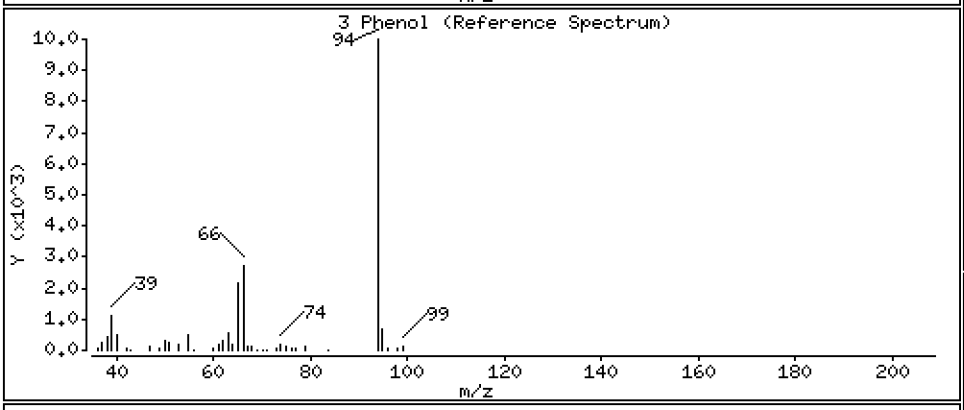
Column diameter: 0.25

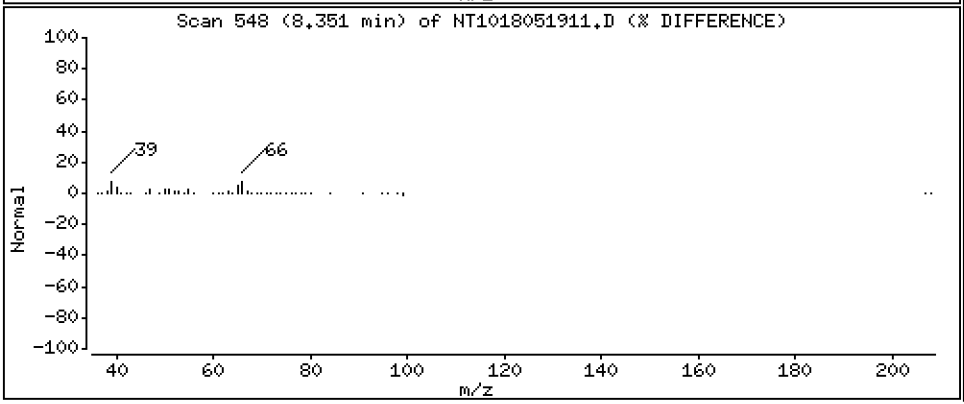
3 Phenol

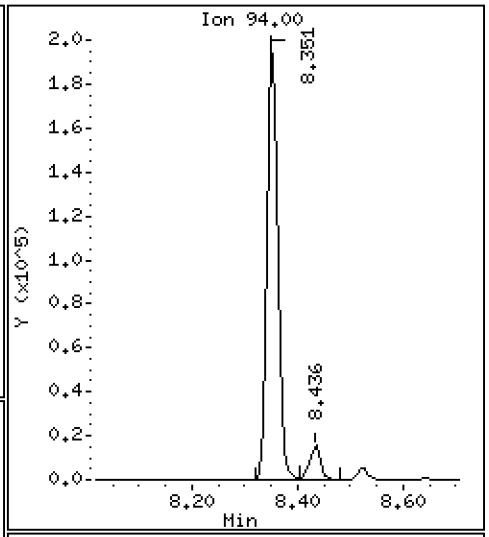
Concentration: 5.307 ug/mL

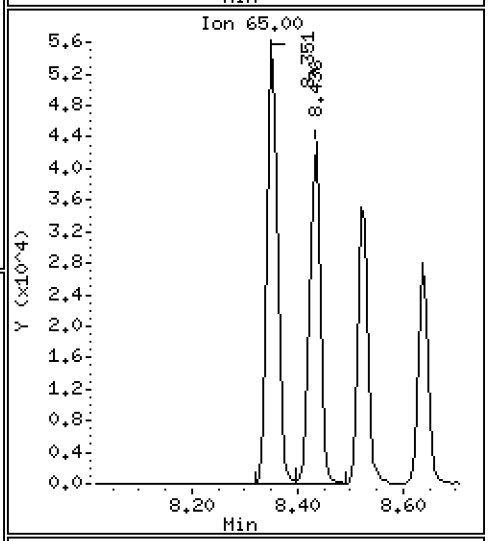


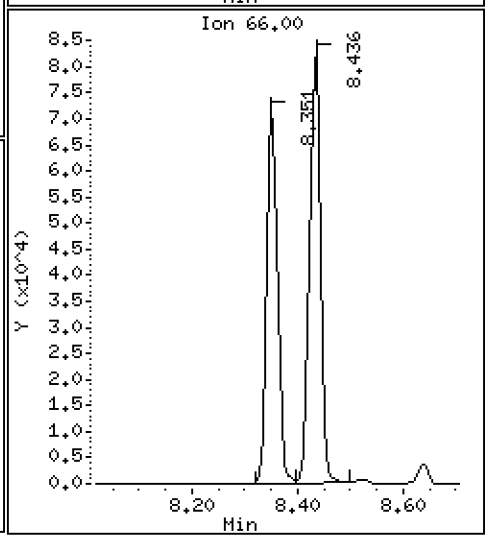












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

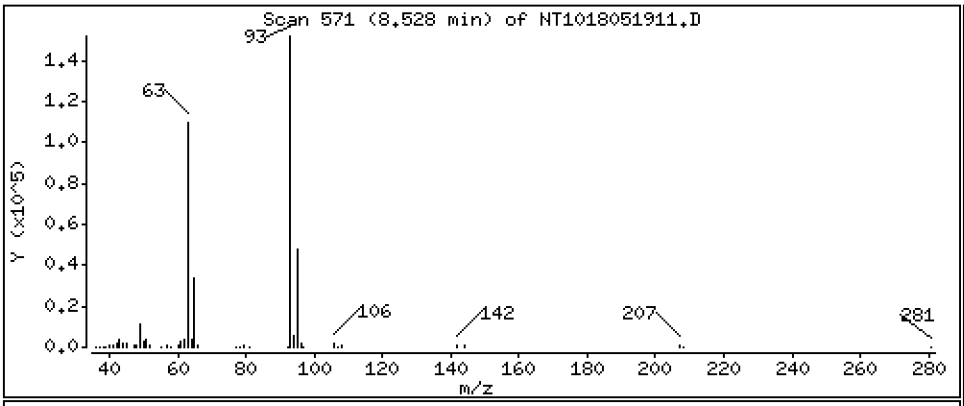
Operator: YZ

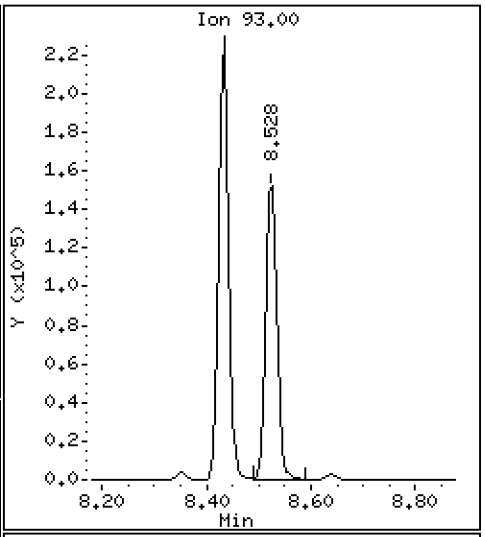
Column phase: ZB-5msi

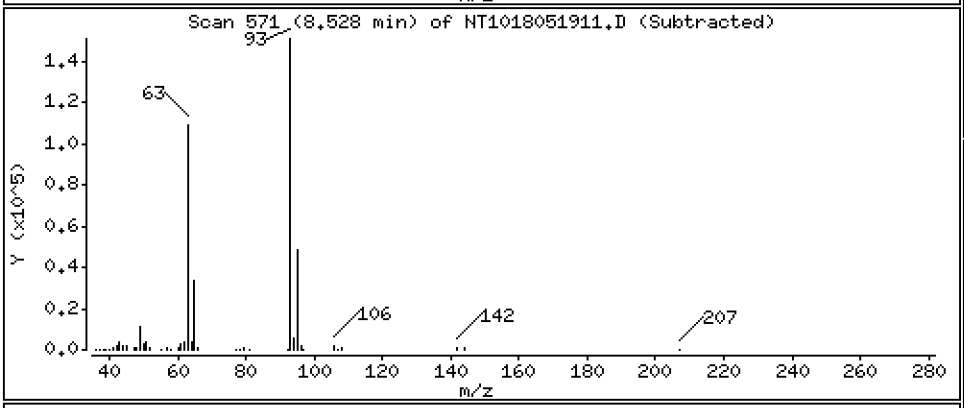
Column diameter: 0.25

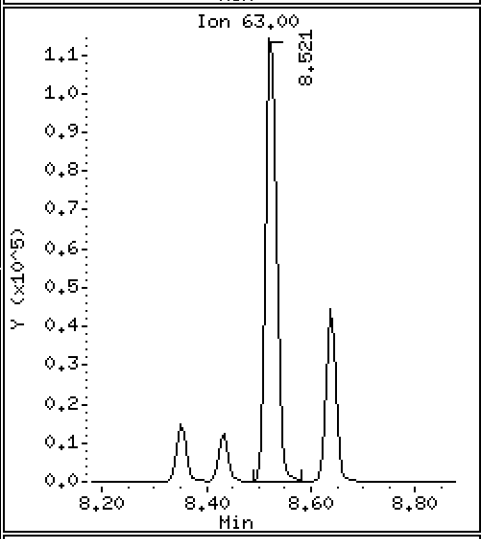
4 Bis(2-Chloroethyl)ether

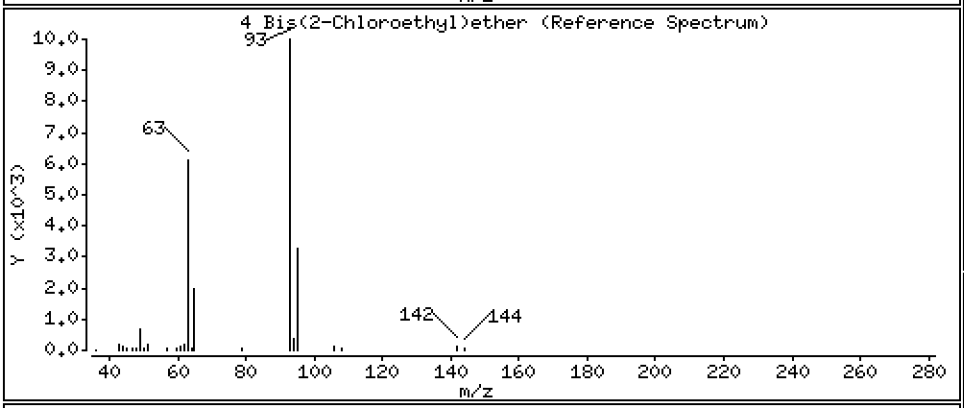
Concentration: 5.539 ug/mL

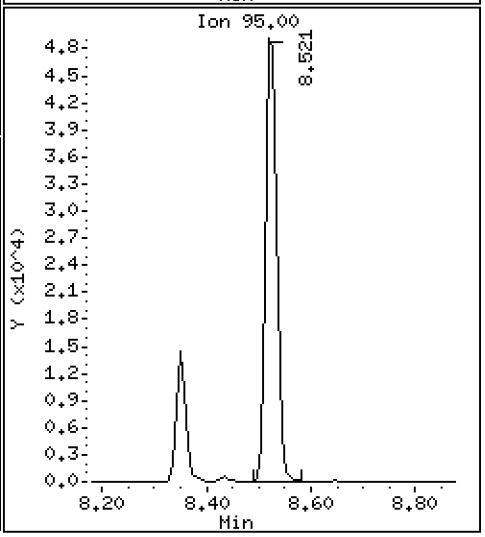


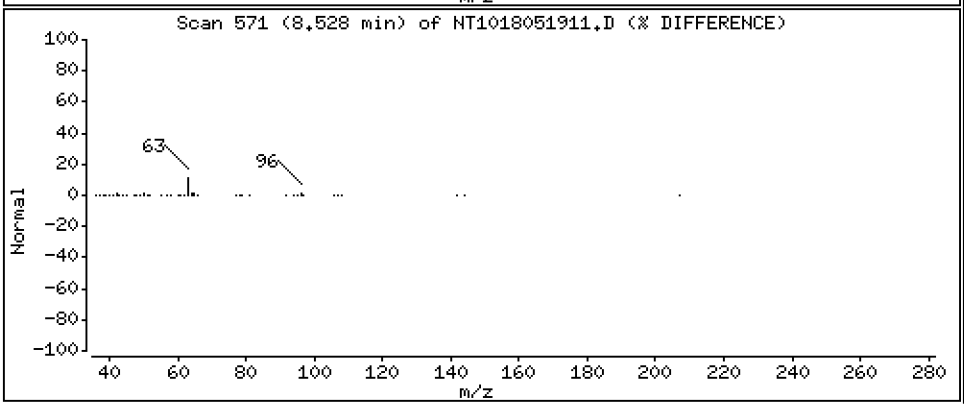












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

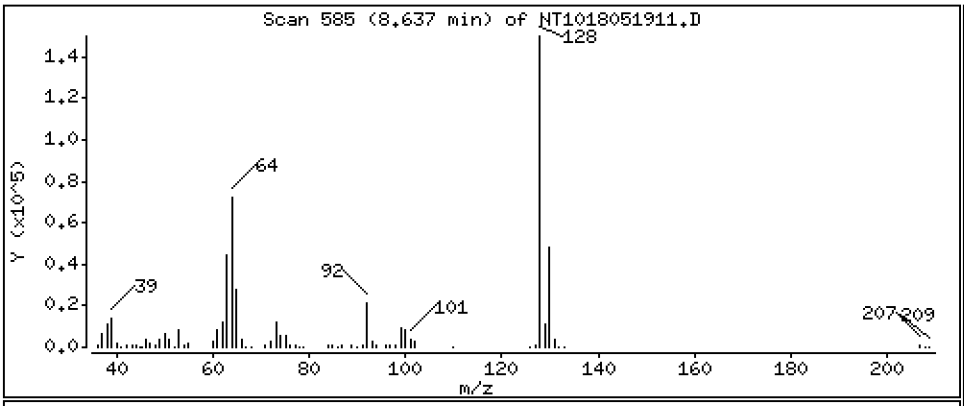
Operator: YZ

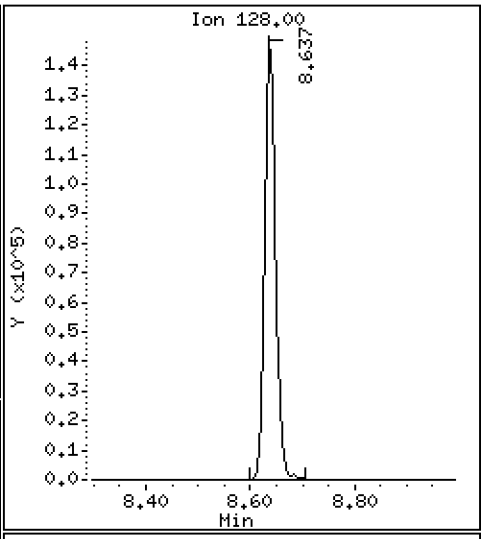
Column phase: ZB-5msi

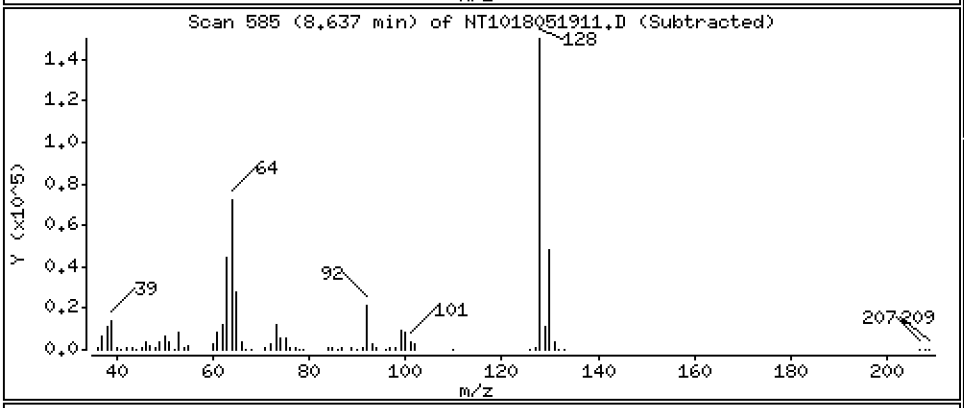
Column diameter: 0.25

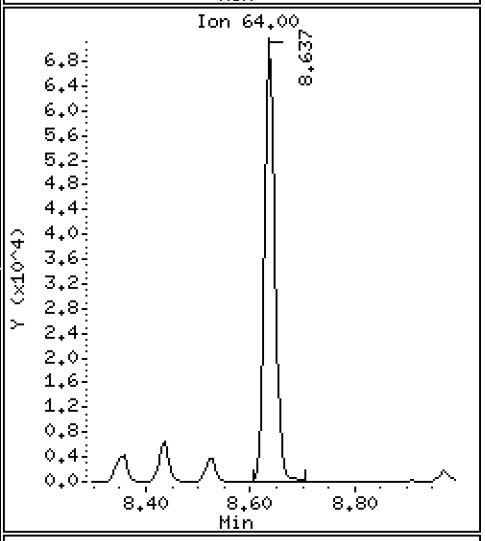
6 2-Chlorophenol

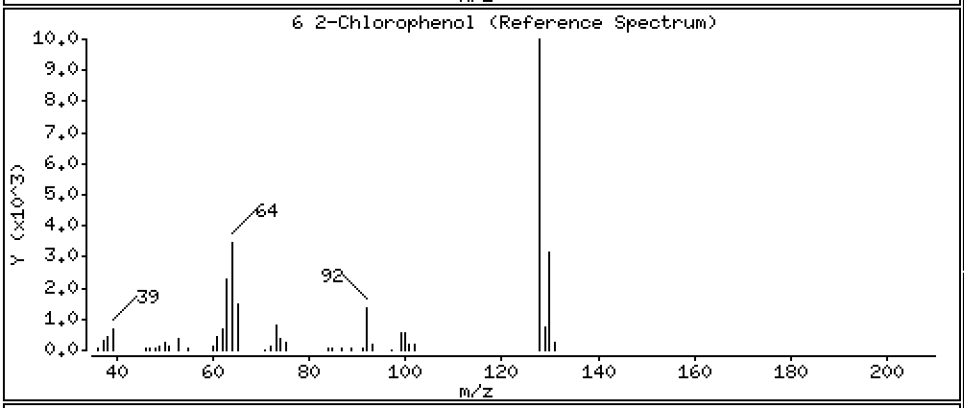
Concentration: 5.166 ug/mL

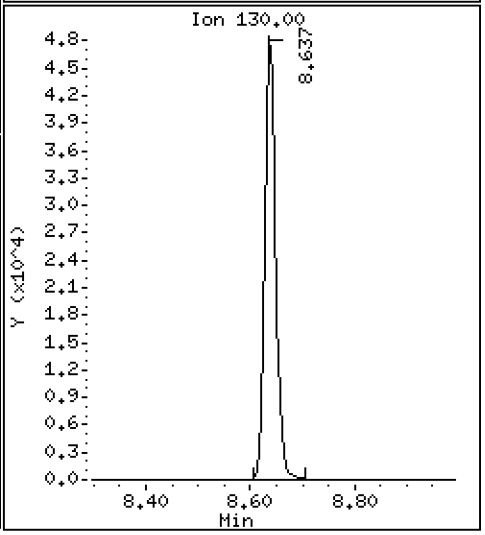


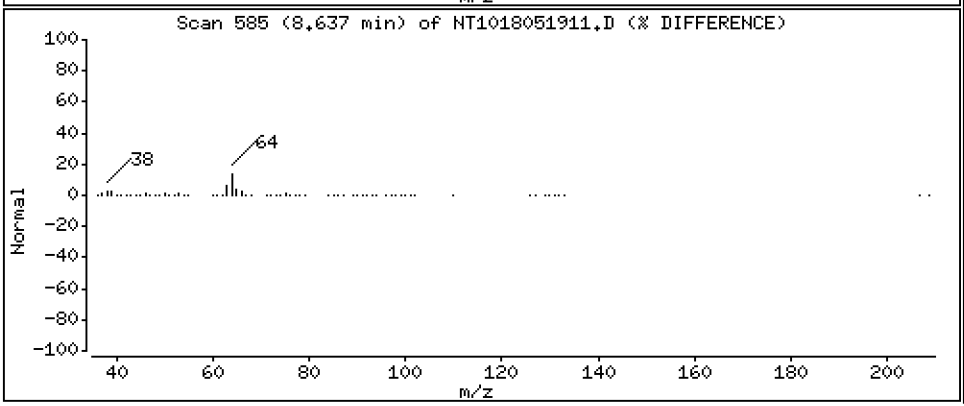












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

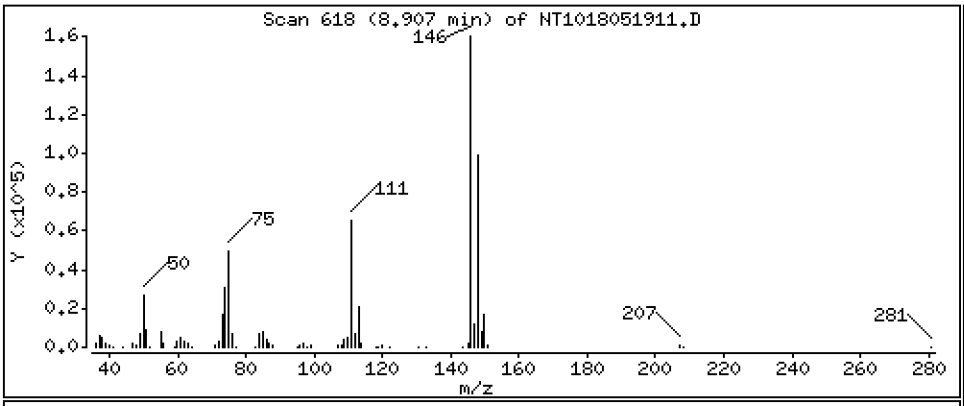
Operator: YZ

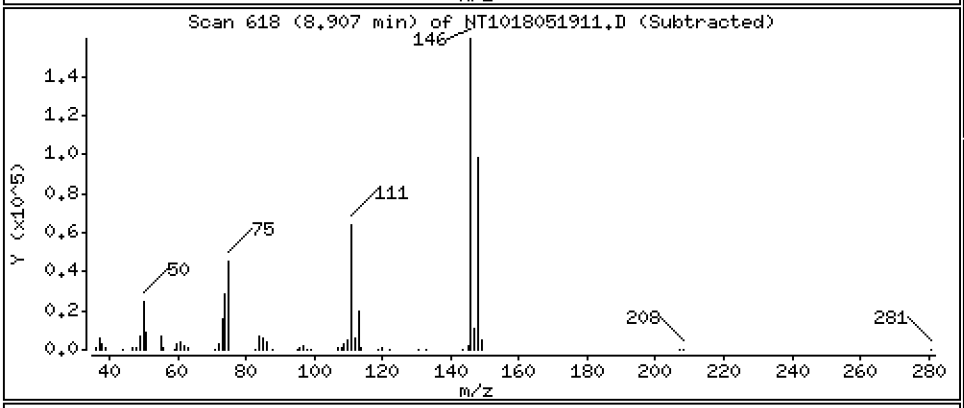
Column phase: ZB-5msi

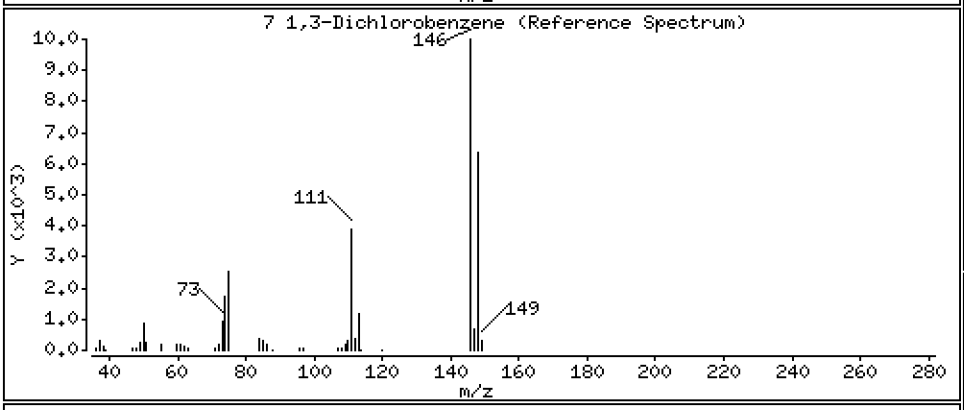
Column diameter: 0.25

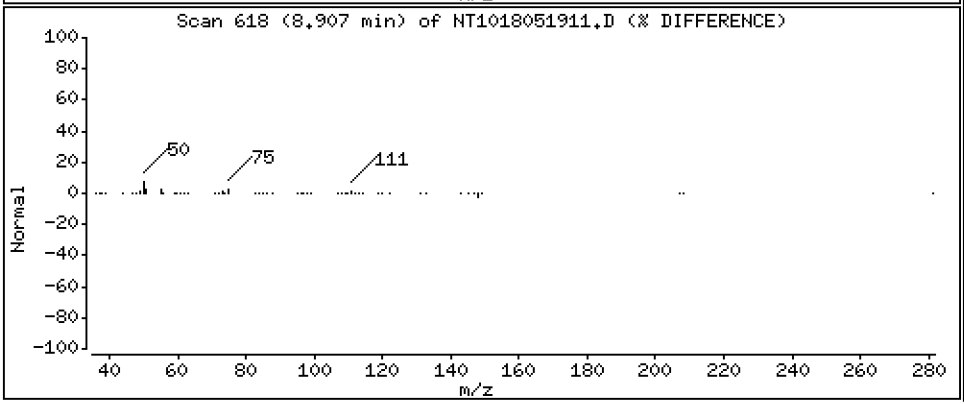
7 1,3-Dichlorobenzene

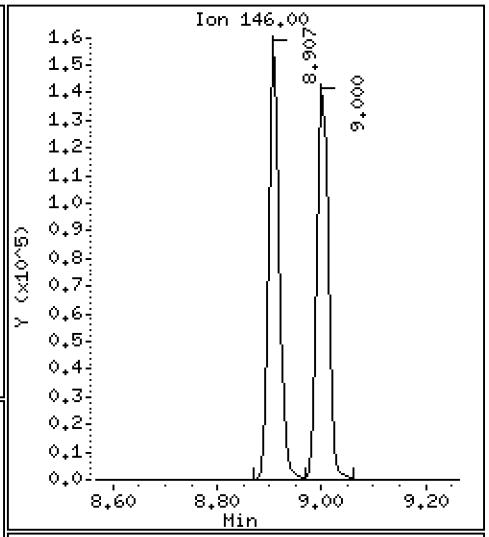
Concentration: 5.372 ug/mL

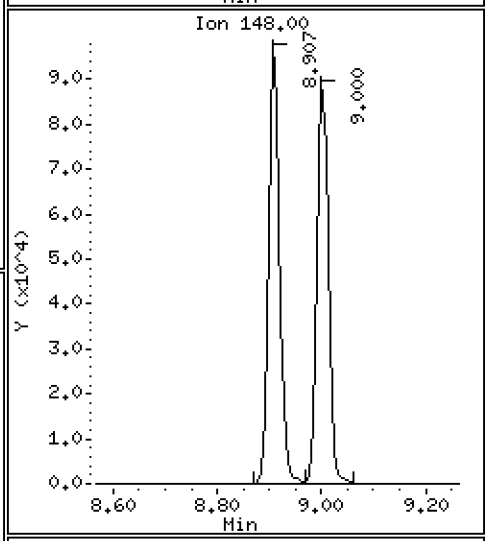


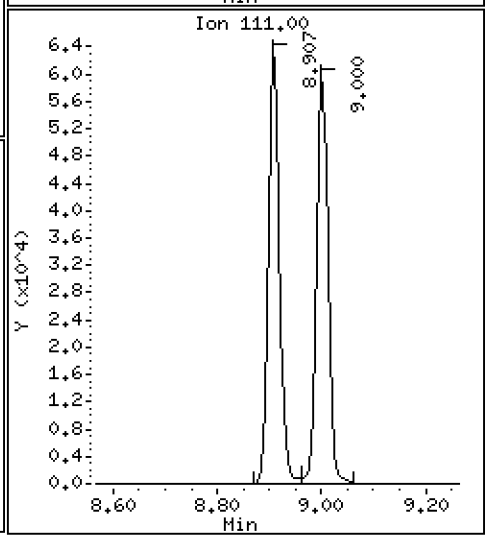












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

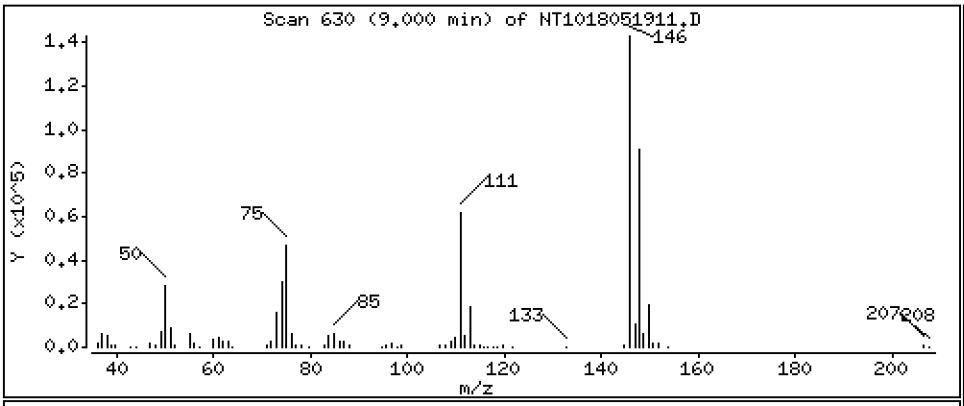
Operator: YZ

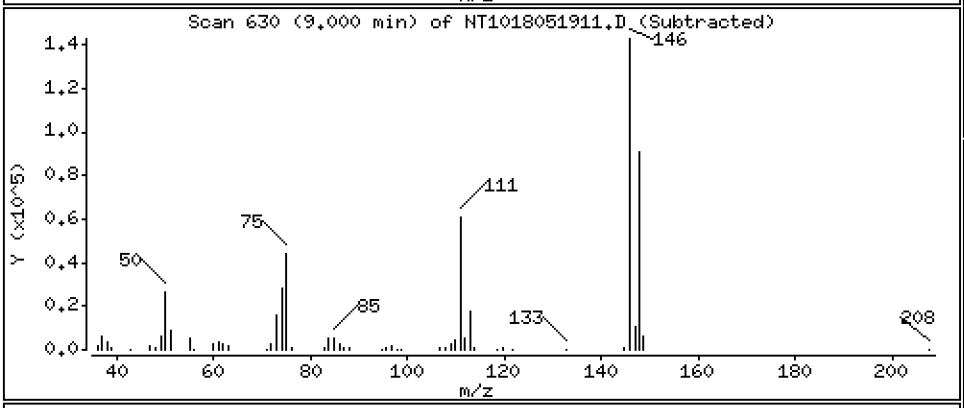
Column phase: ZB-5msi

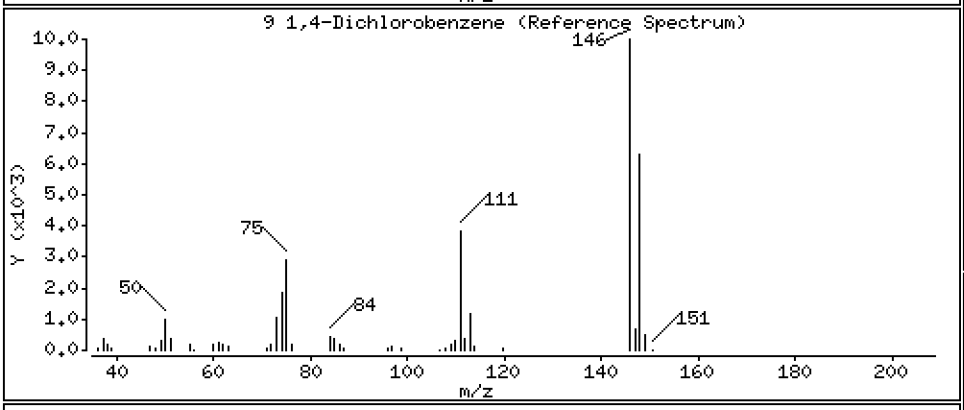
Column diameter: 0.25

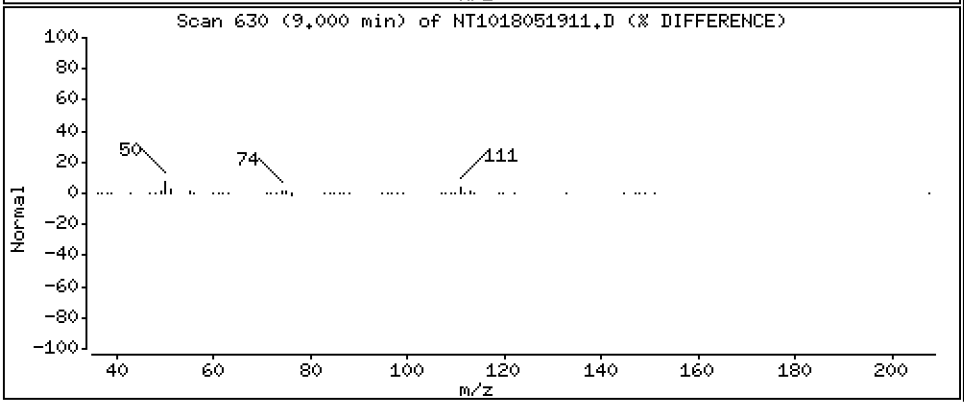
9 1,4-Dichlorobenzene

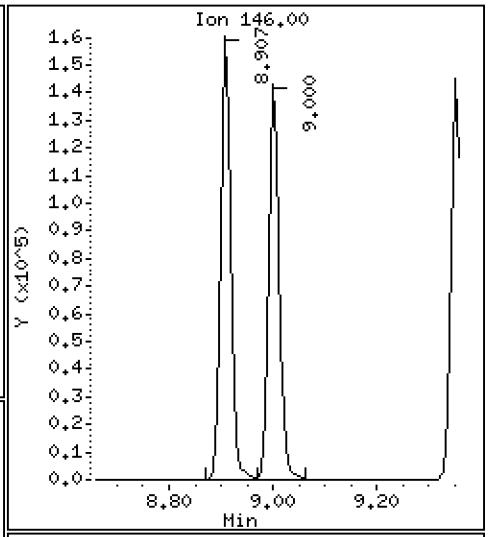
Concentration: 5.322 ug/mL

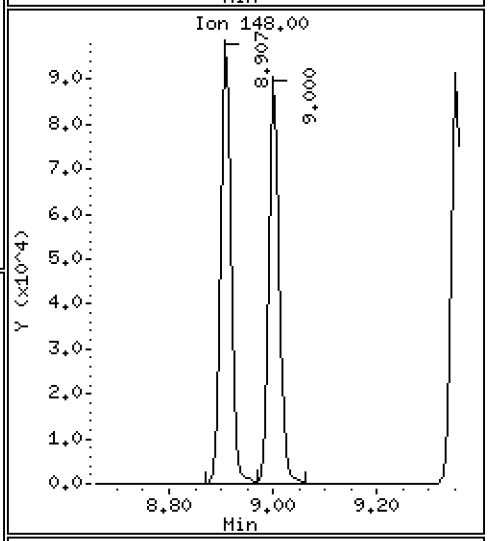


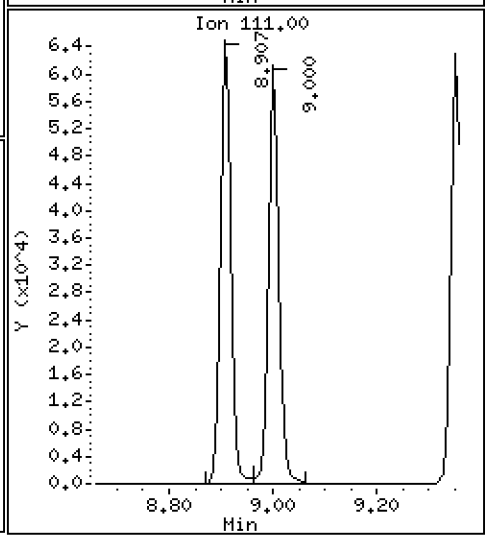












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

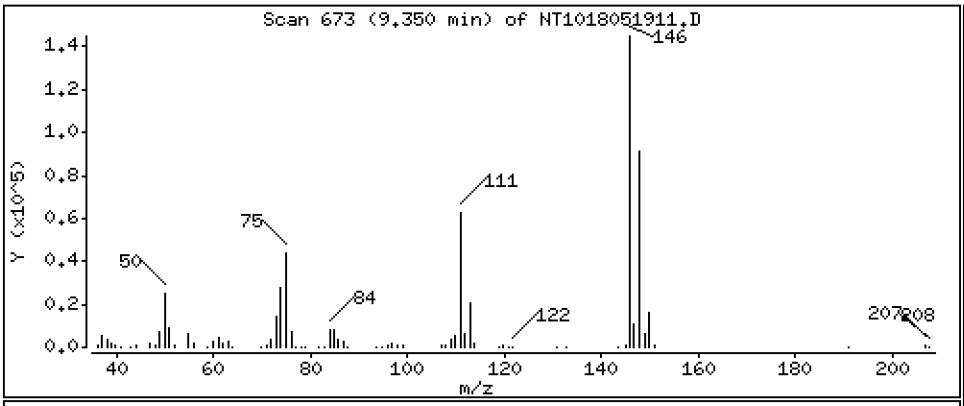
Operator: YZ

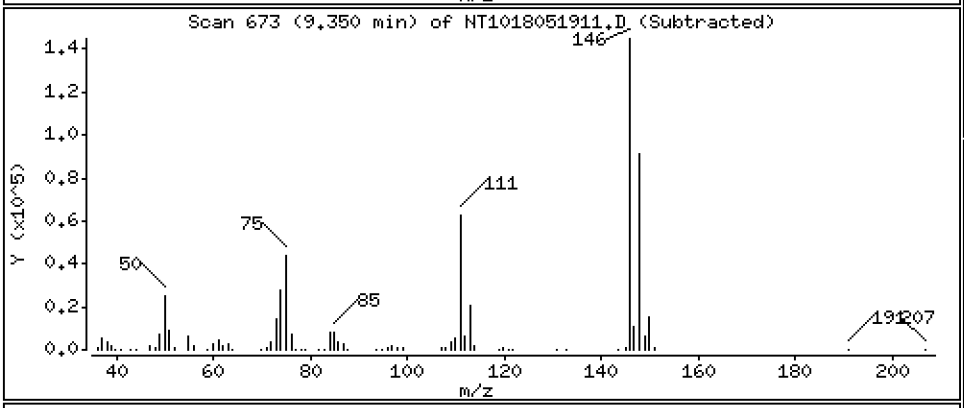
Column phase: ZB-5msi

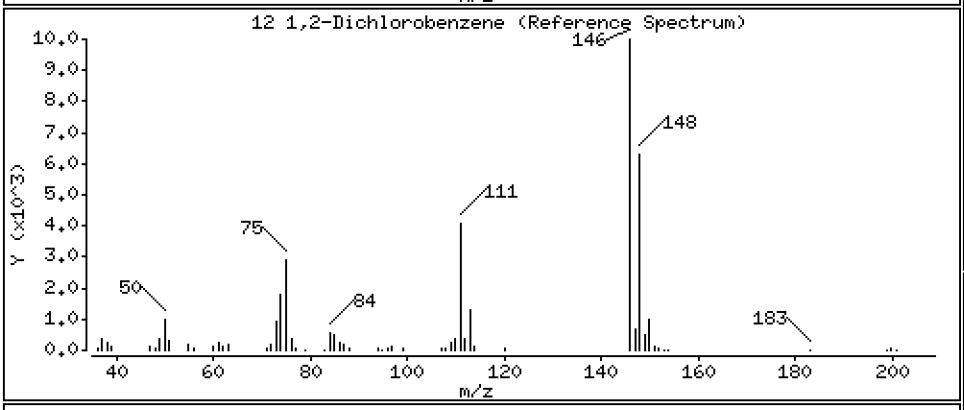
Column diameter: 0.25

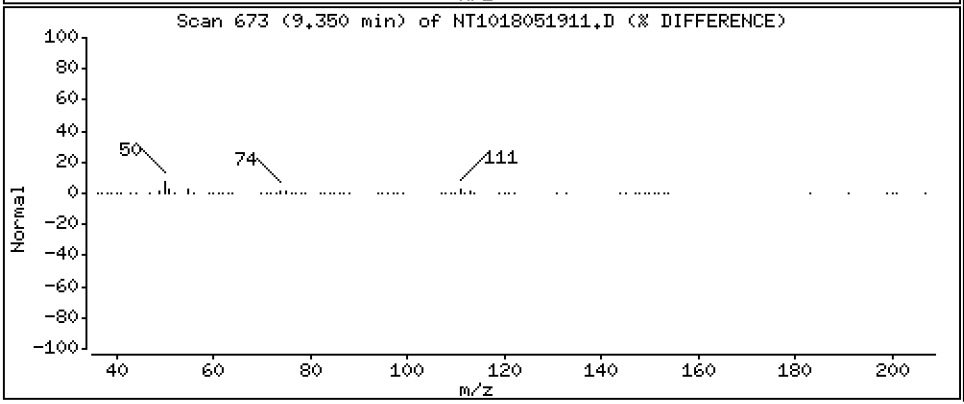
12 1,2-Dichlorobenzene

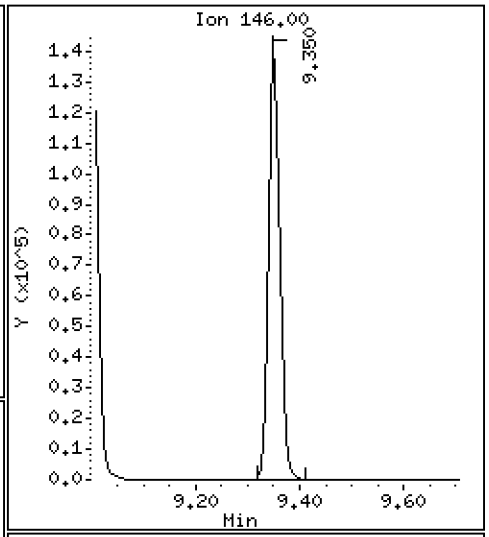
Concentration: 5.375 ug/mL

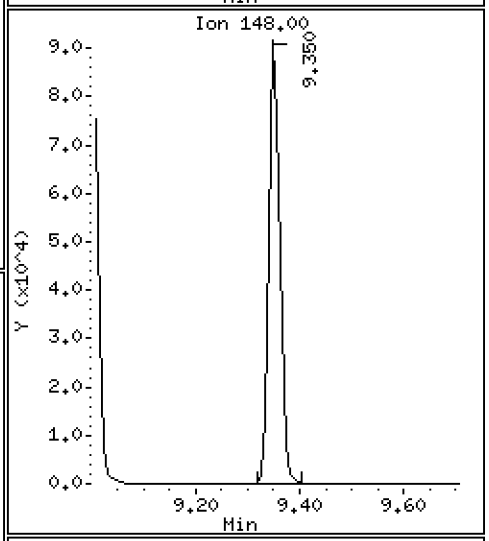


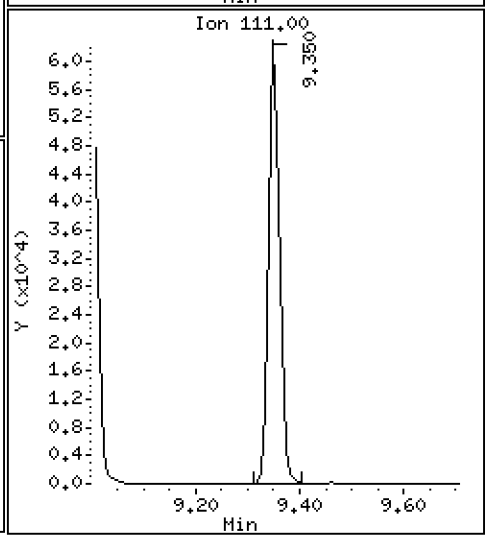












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

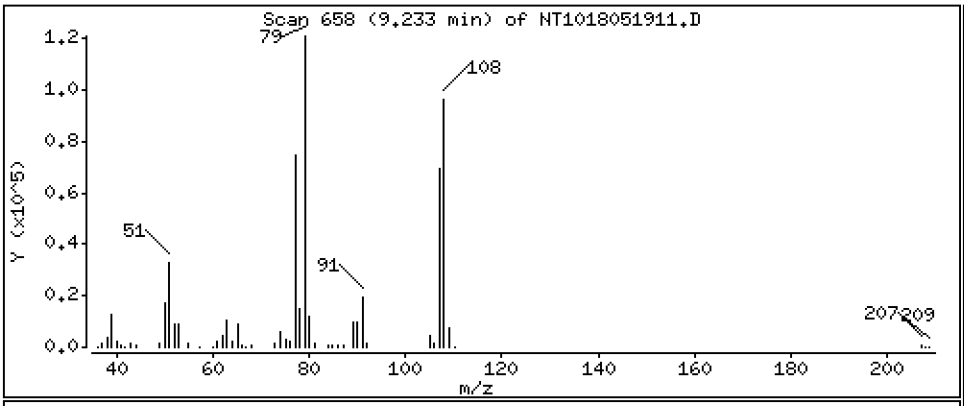
Operator: YZ

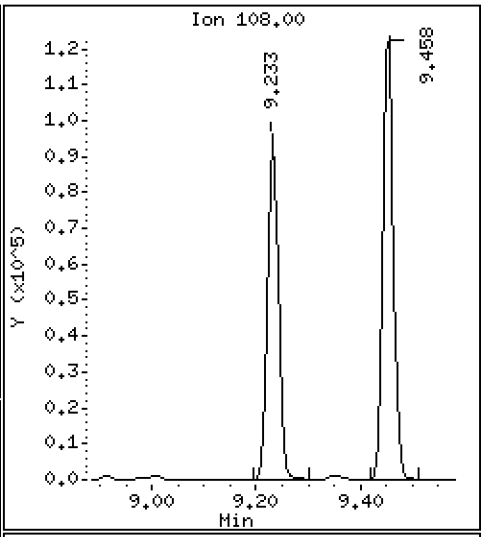
Column phase: ZB-5msi

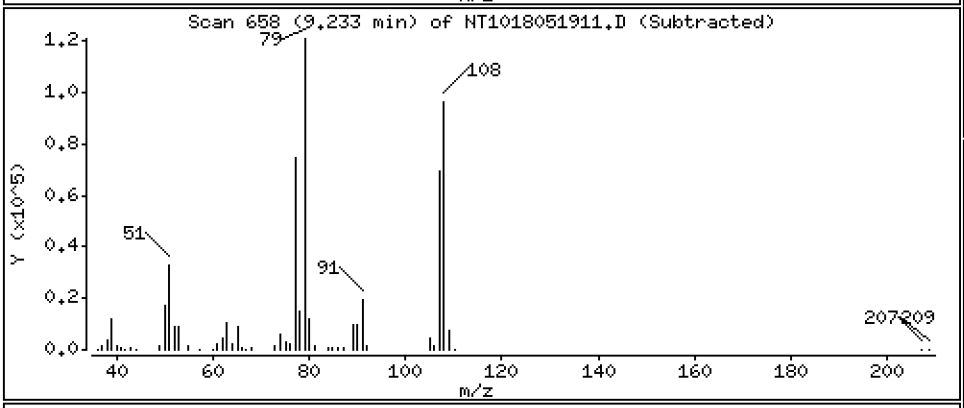
Column diameter: 0.25

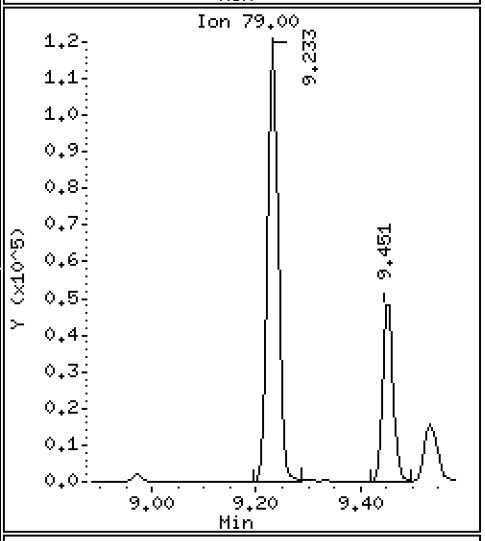
11 Benzyl alcohol

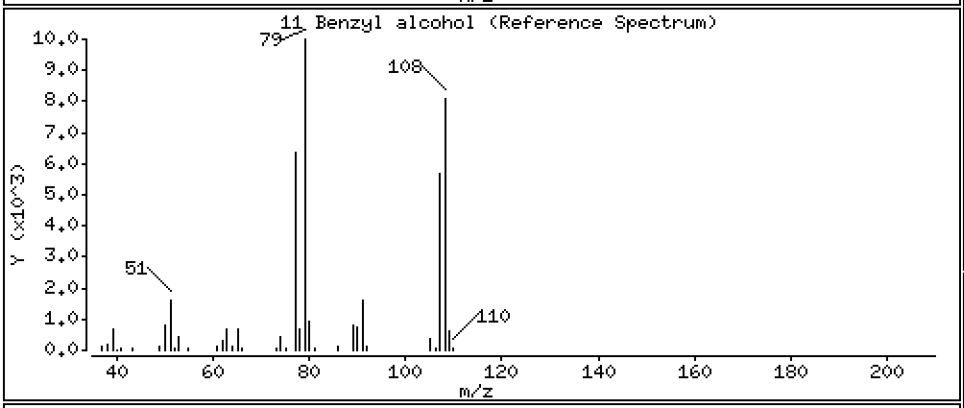
Concentration: 5.065 ug/mL

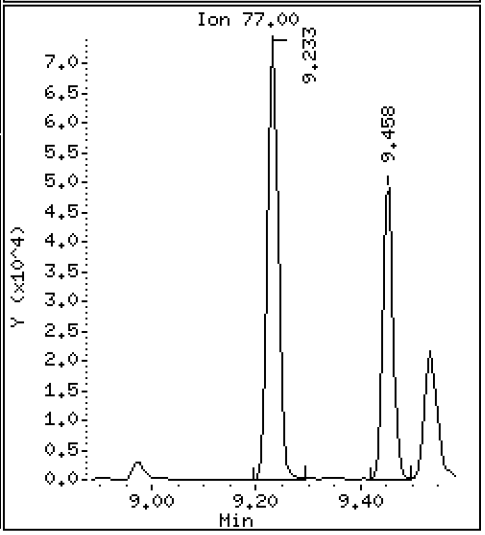


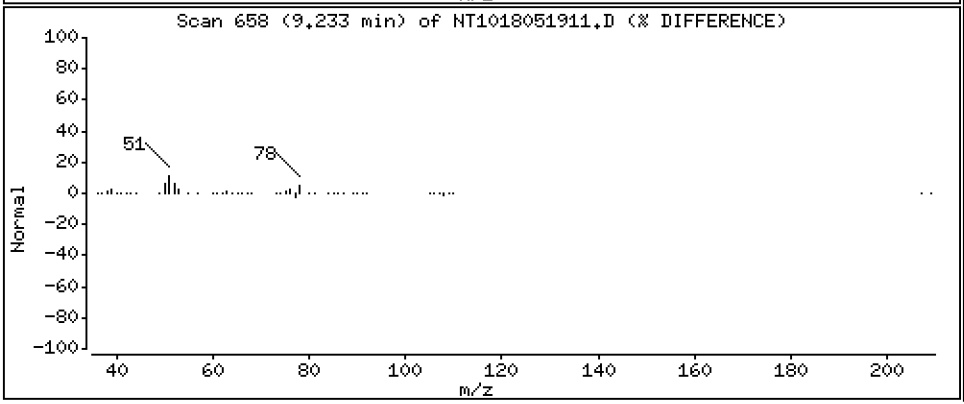












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

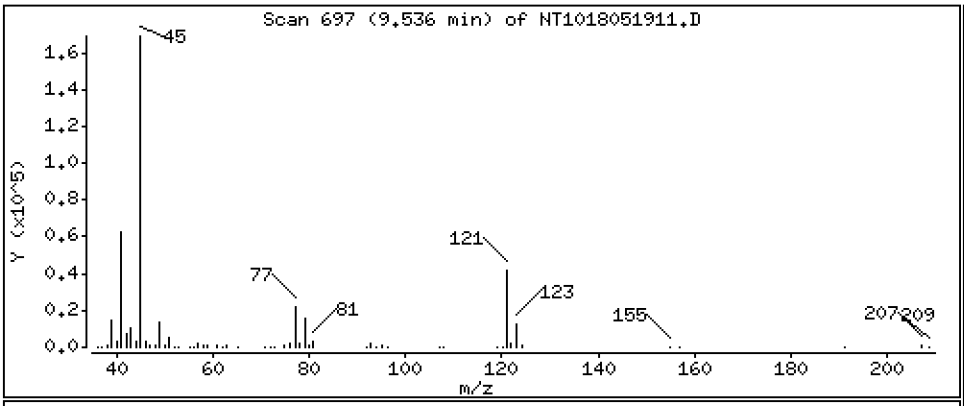
Operator: YZ

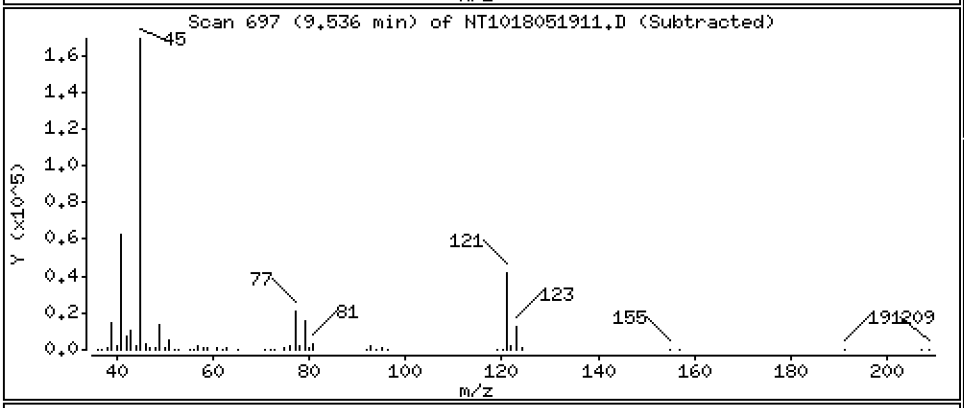
Column phase: ZB-5msi

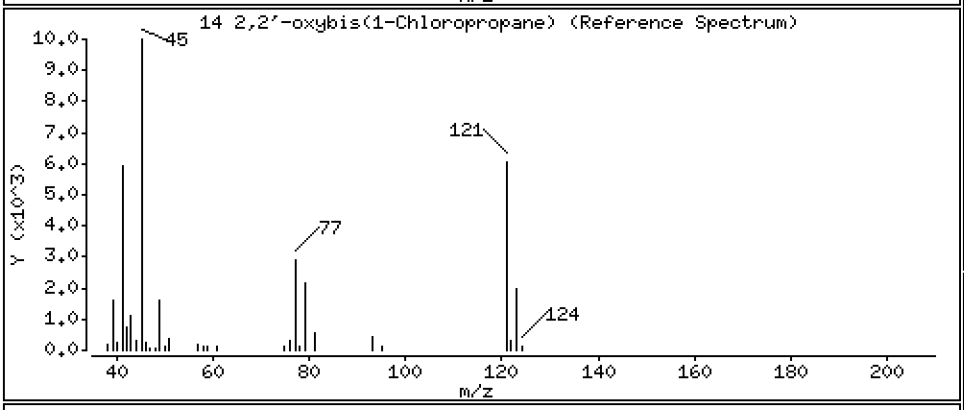
Column diameter: 0.25

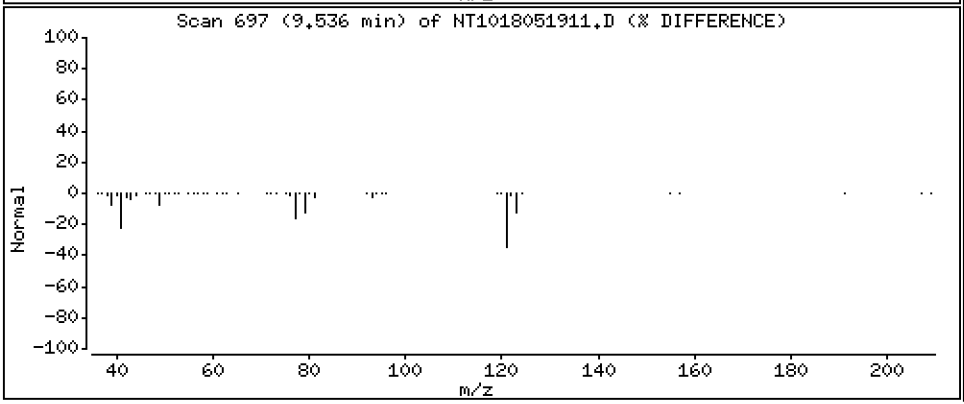
14 2,2'-oxybis(1-Chloropropane)

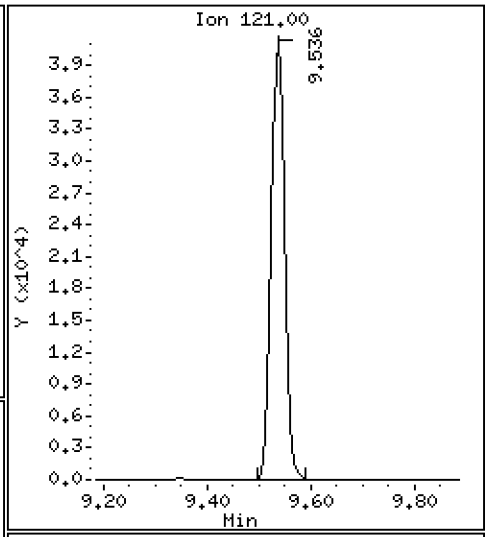
Concentration: 4.689 ug/mL

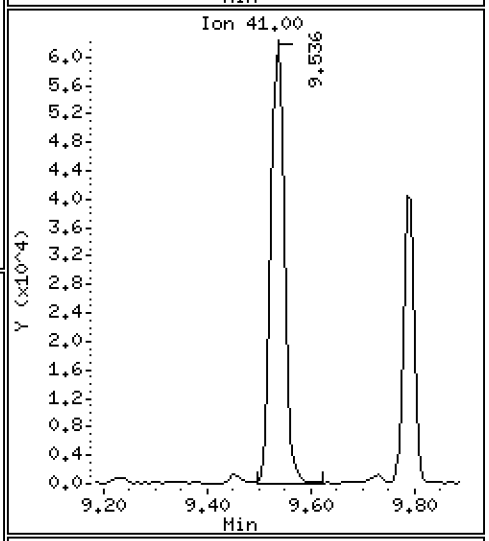


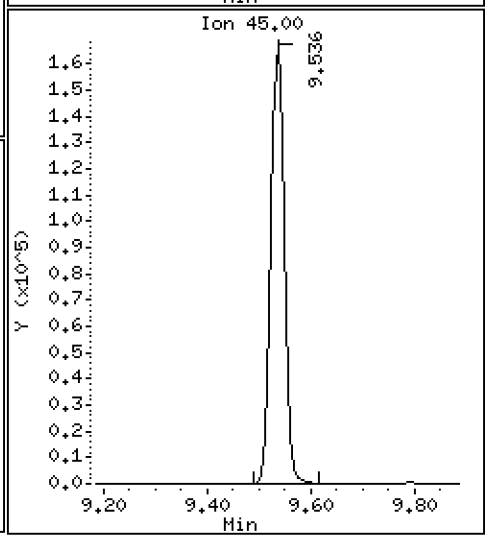












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

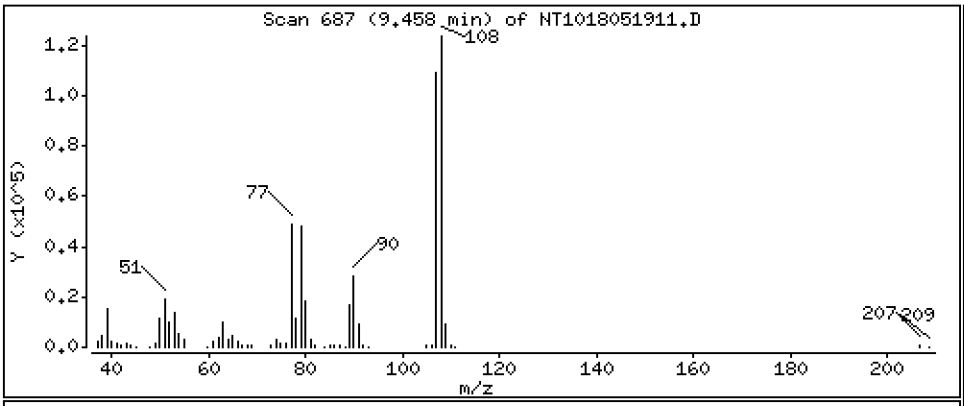
Operator: YZ

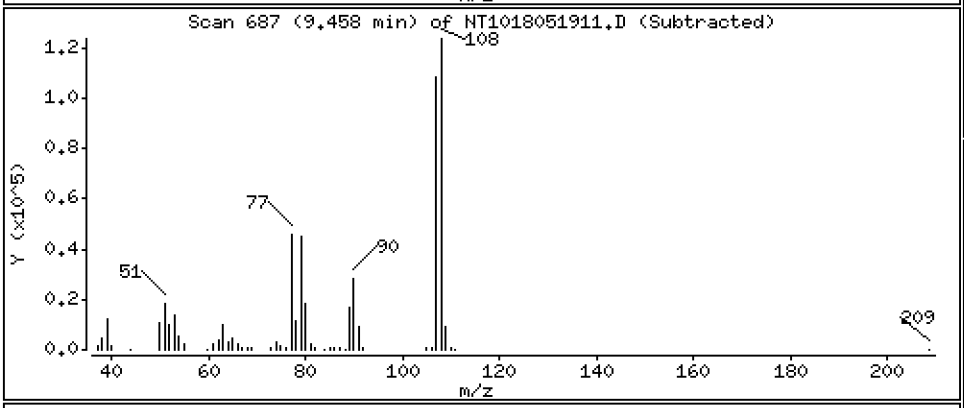
Column phase: ZB-5msi

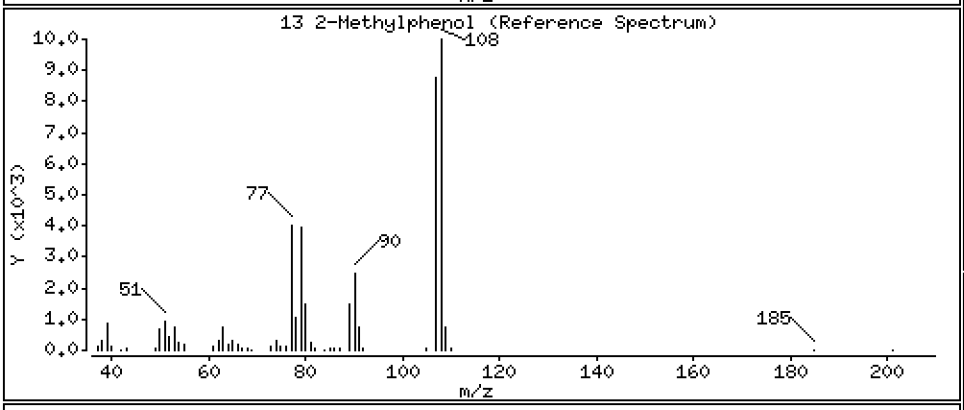
Column diameter: 0.25

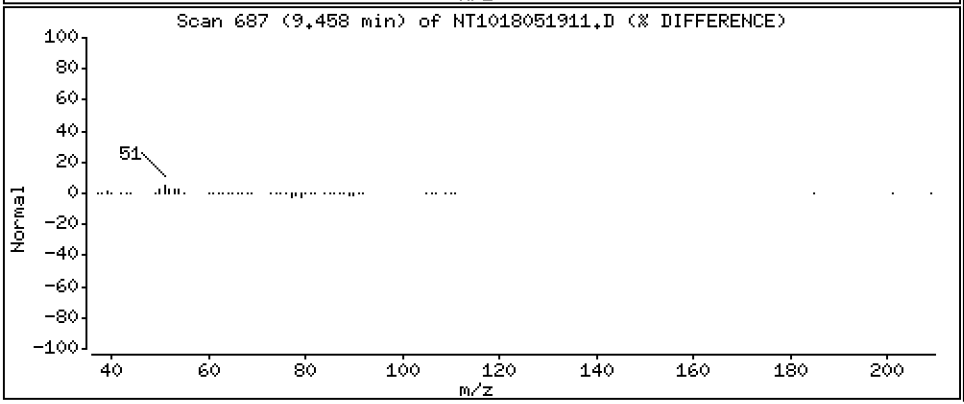
13 2-Methylphenol

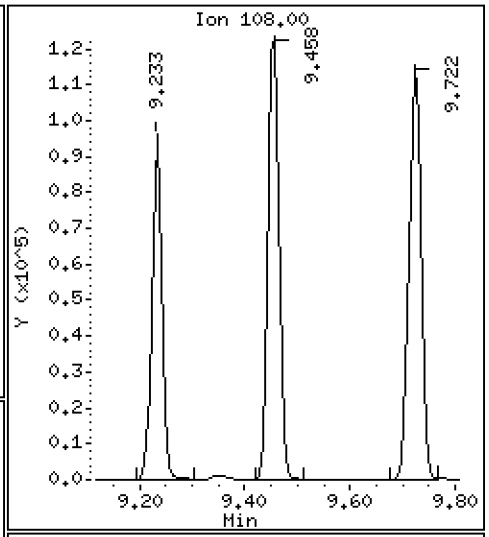
Concentration: 5.055 ug/mL

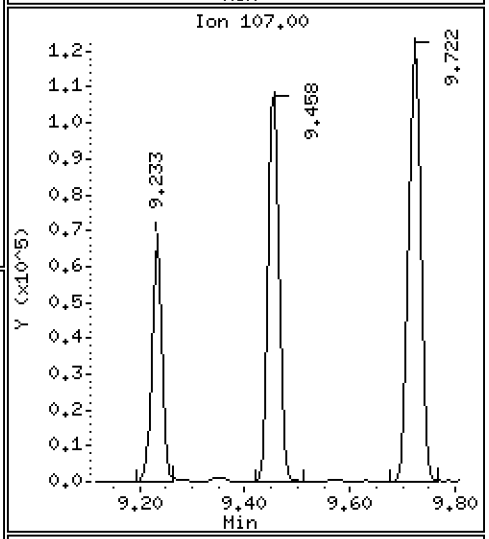


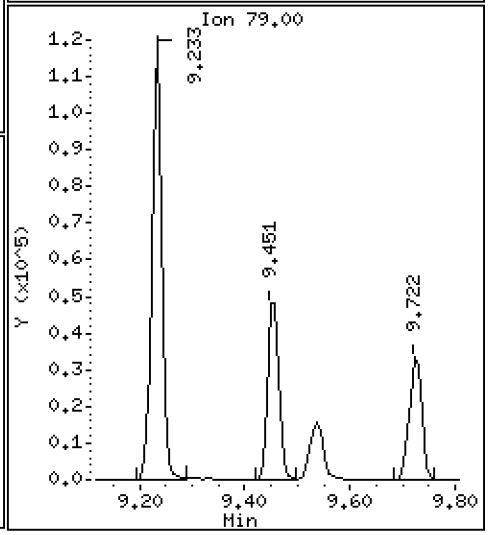












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

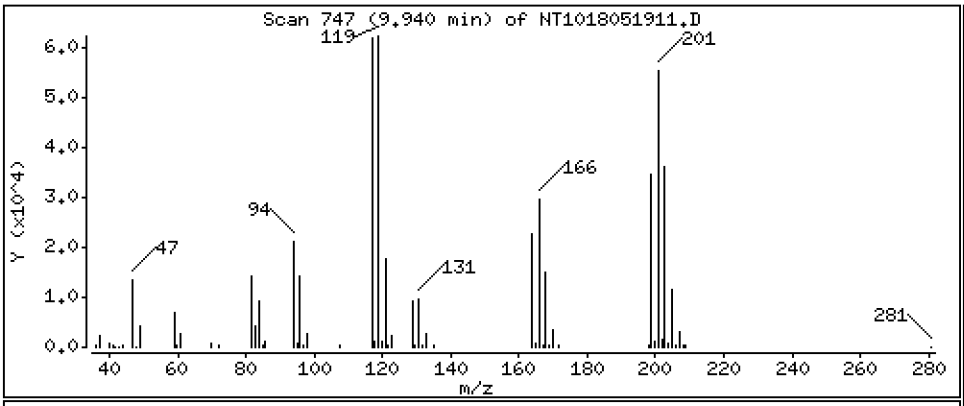
Operator: YZ

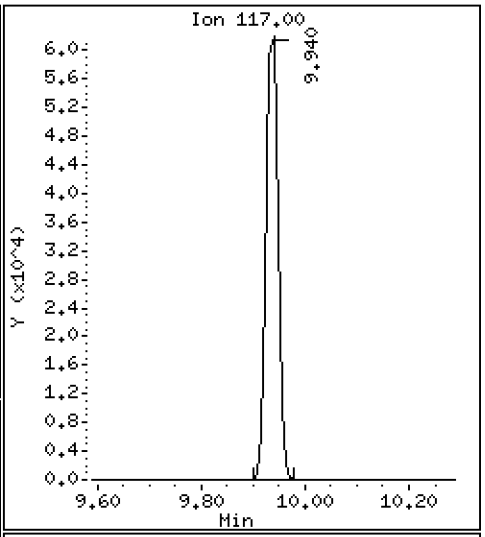
Column phase: ZB-5msi

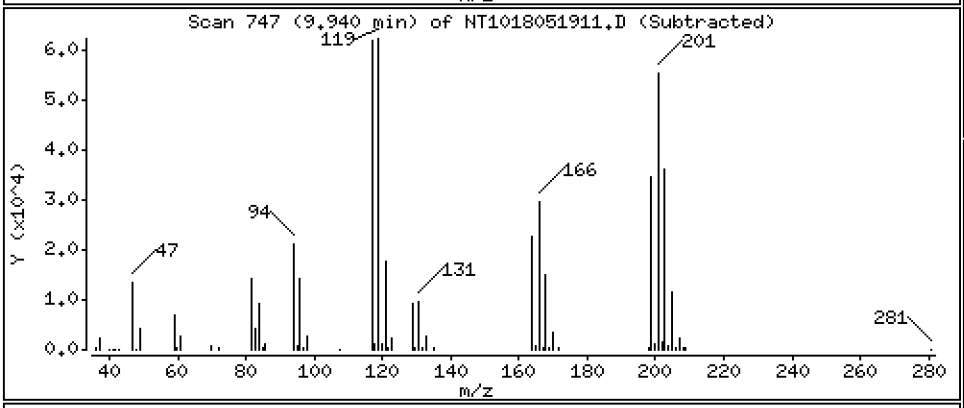
Column diameter: 0.25

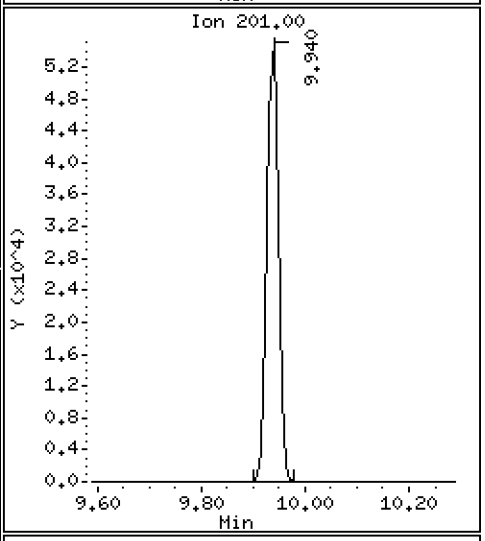
17 Hexachloroethane

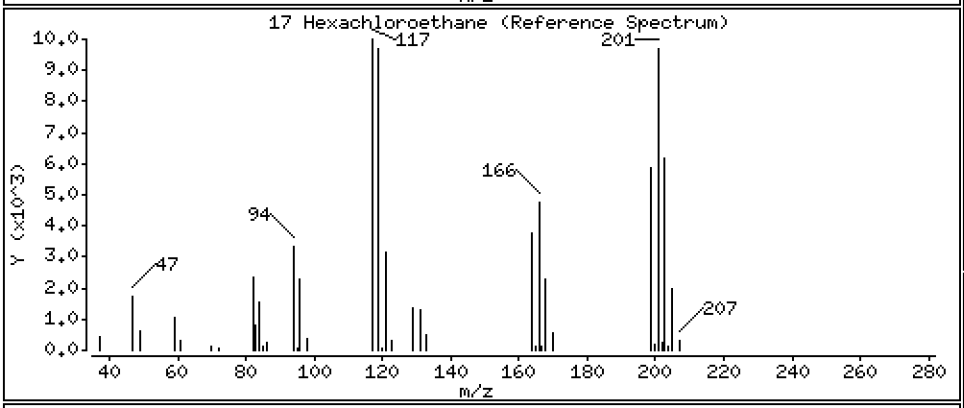
Concentration: 5.301 ug/mL

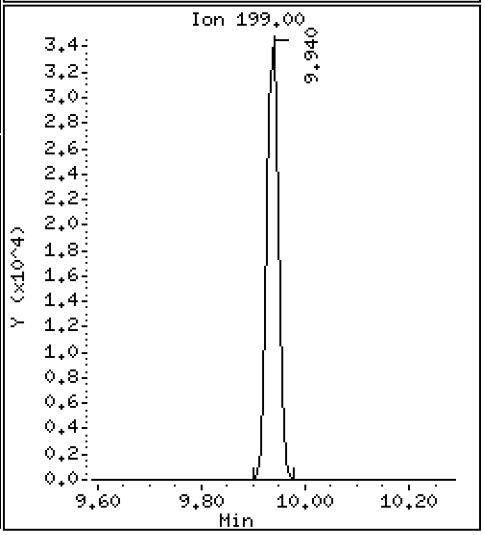


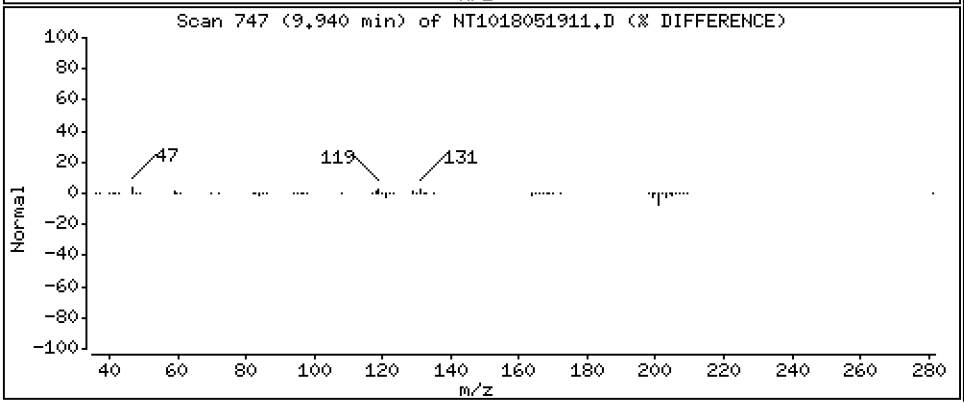












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

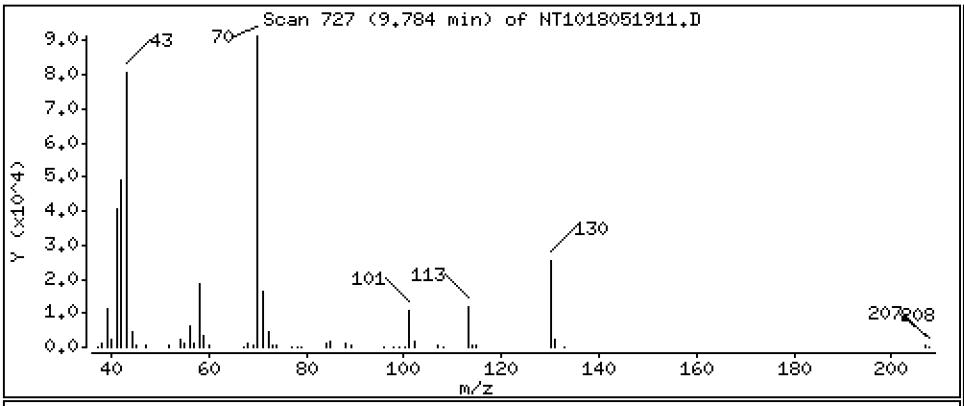
Operator: YZ

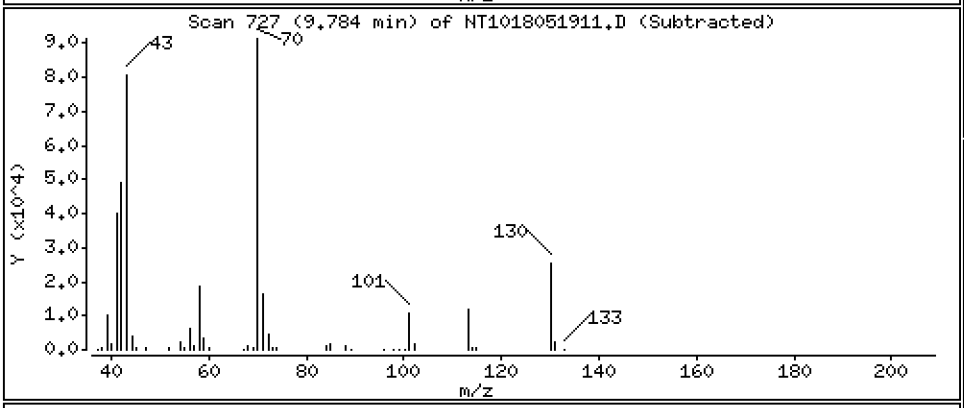
Column phase: ZB-5msi

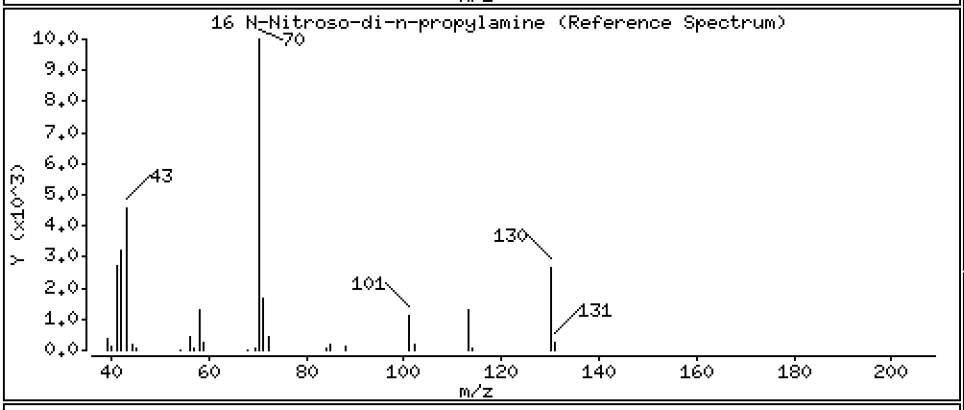
Column diameter: 0.25

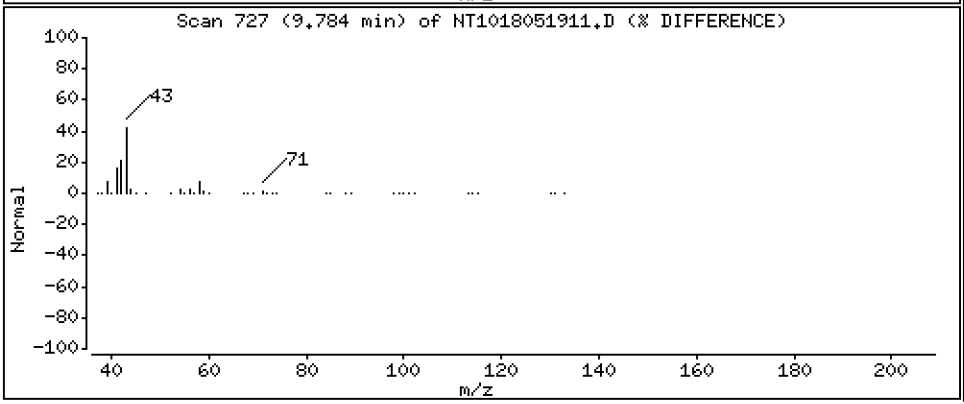
16 N-Nitroso-di-n-propylamine

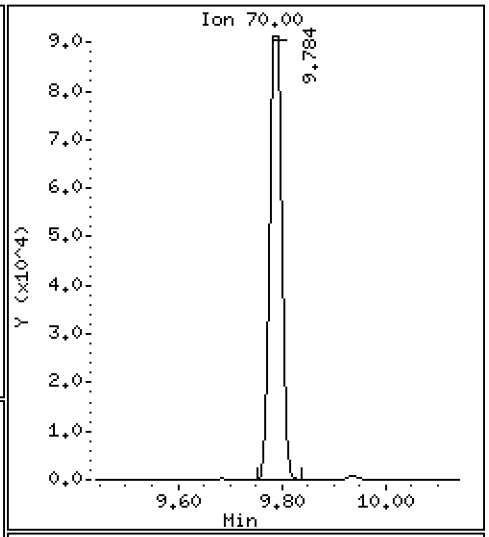
Concentration: 5.350 ug/mL

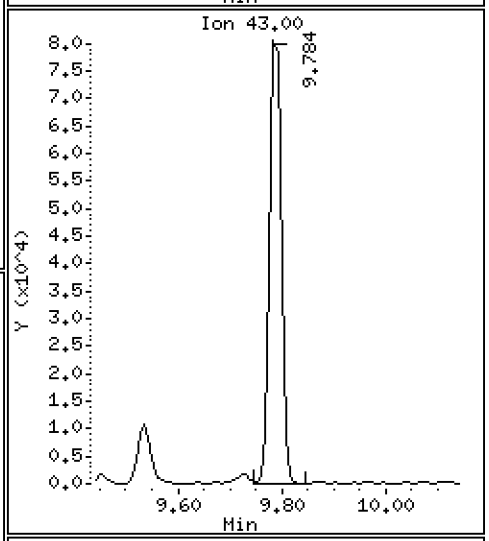


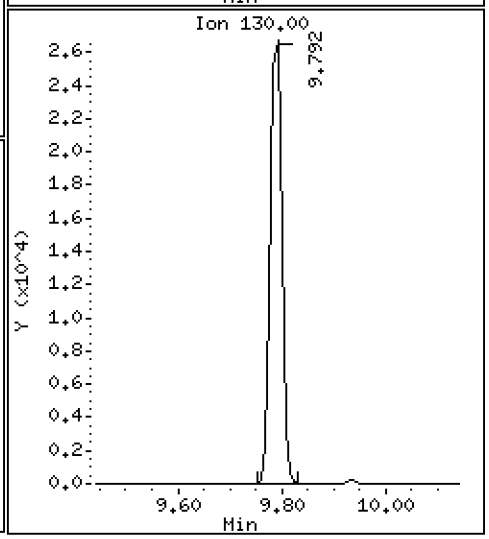












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

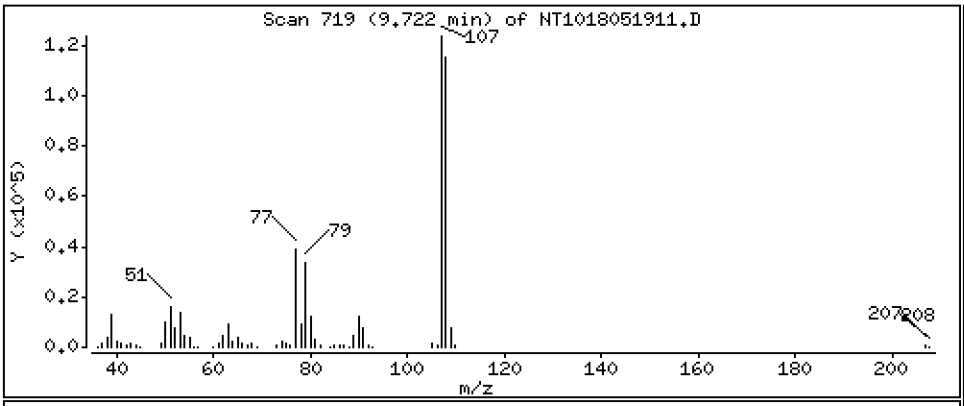
Operator: YZ

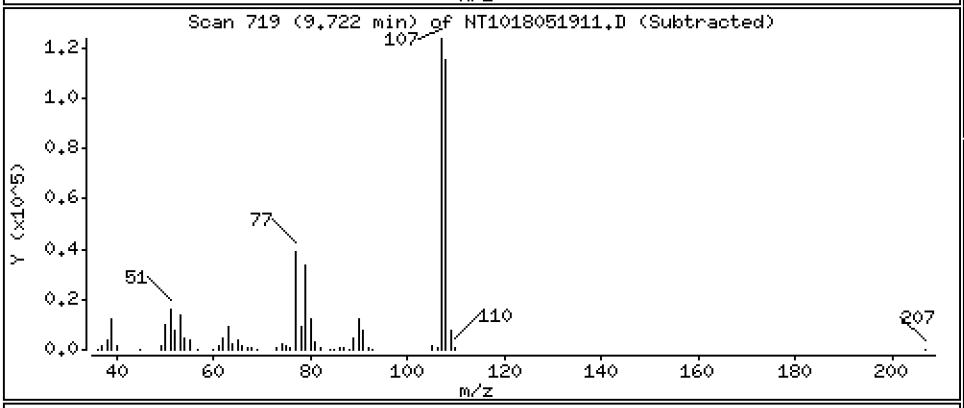
Column phase: ZB-5msi

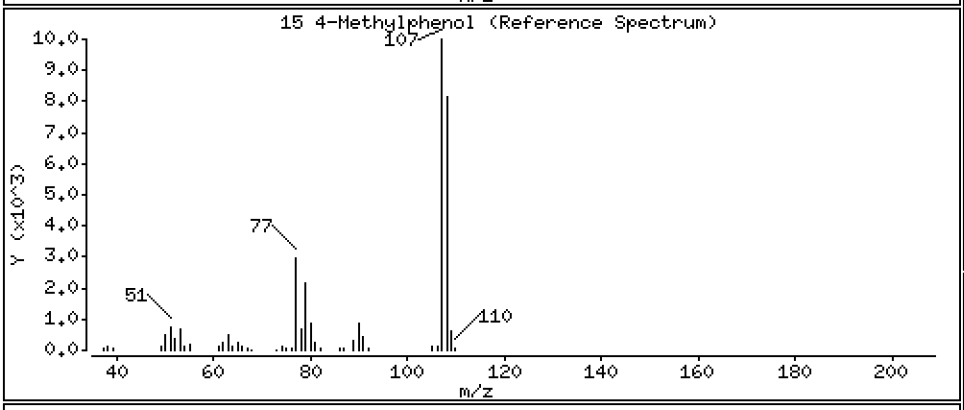
Column diameter: 0.25

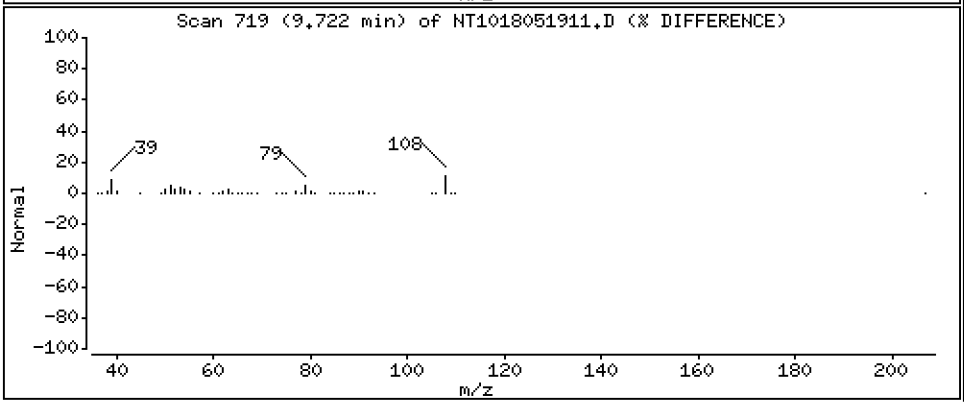
15 4-Methylphenol

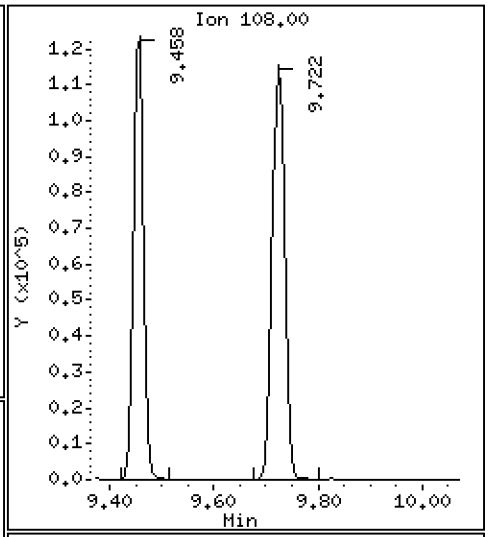
Concentration: 5.047 ug/mL

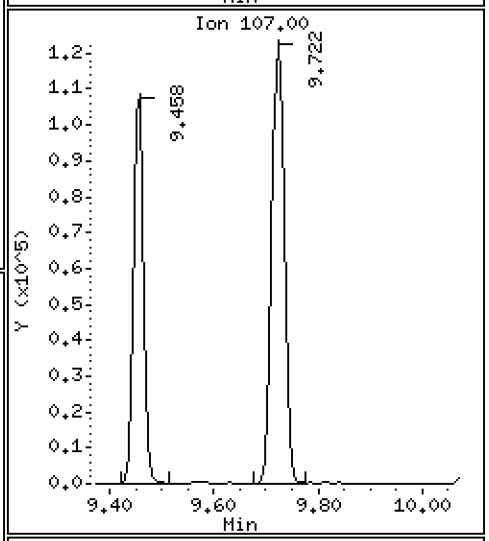


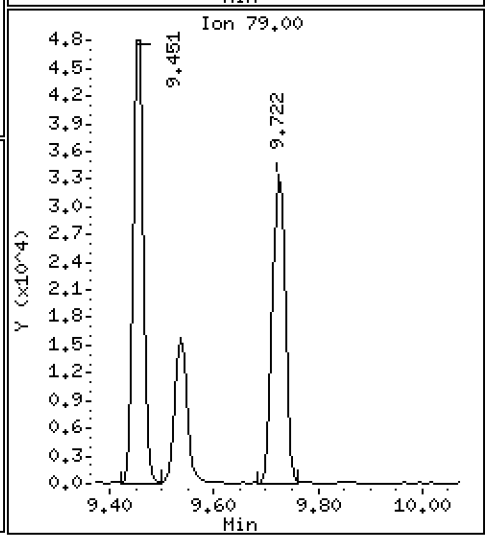












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

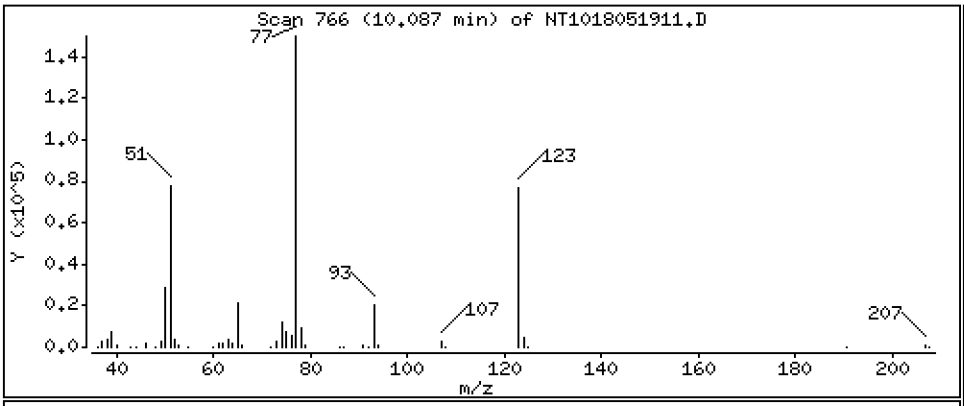
Operator: YZ

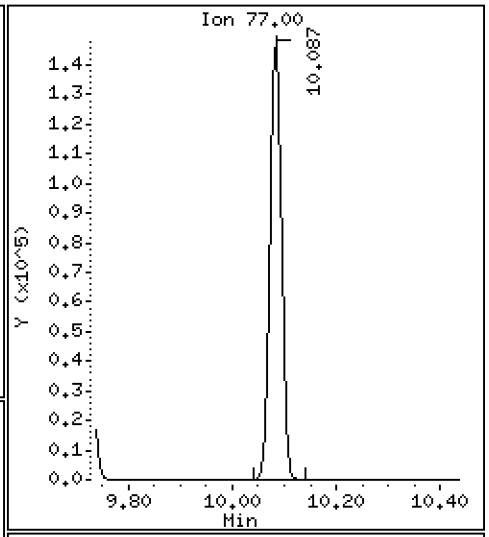
Column phase: ZB-5msi

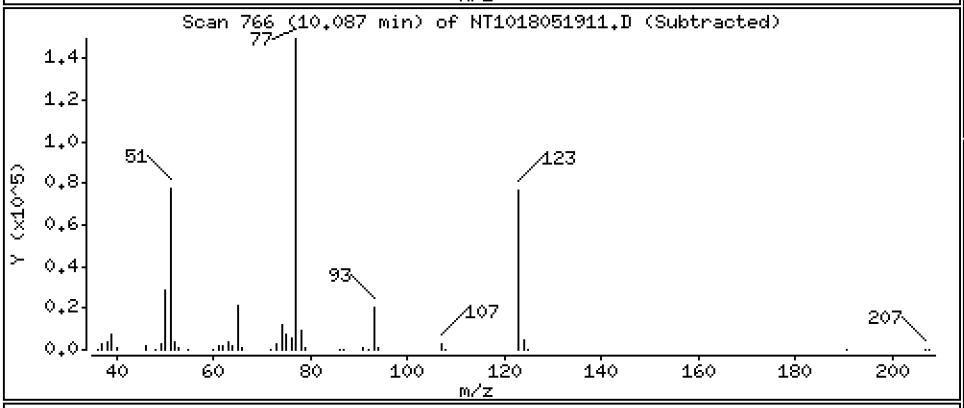
Column diameter: 0.25

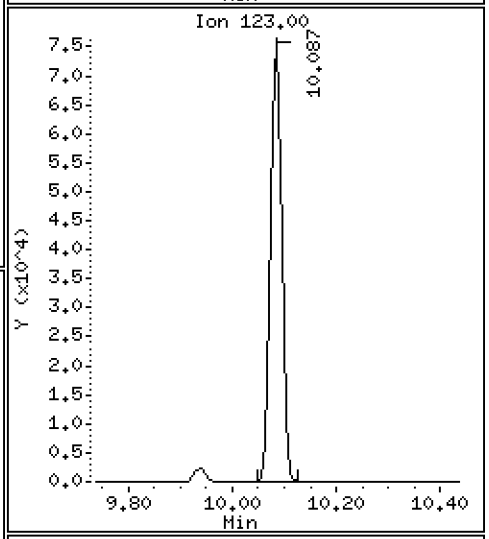
19 Nitrobenzene

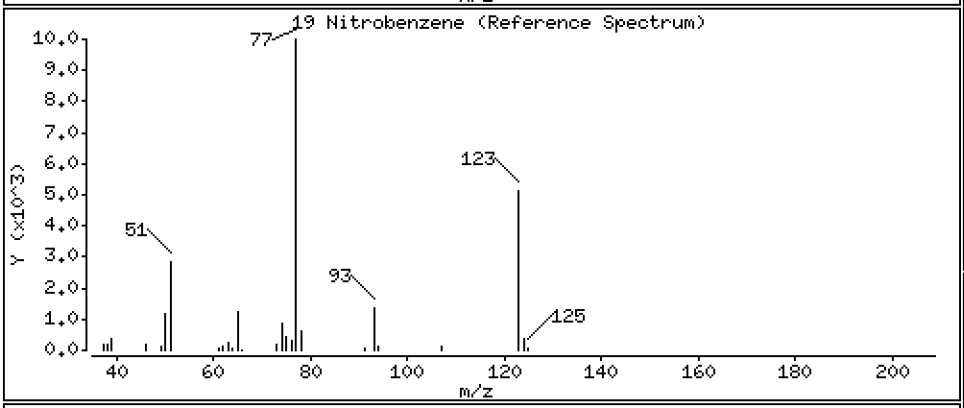
Concentration: 5.416 ug/mL

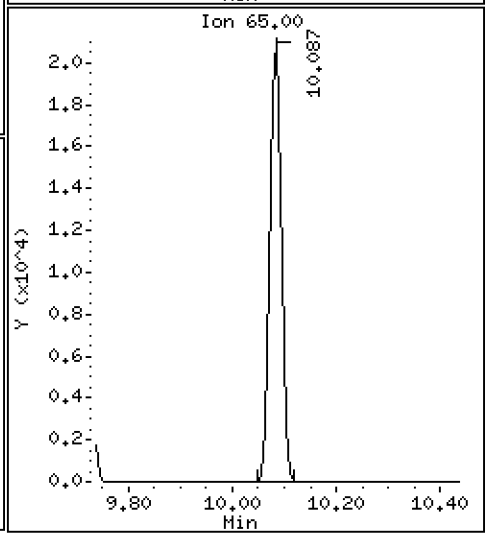


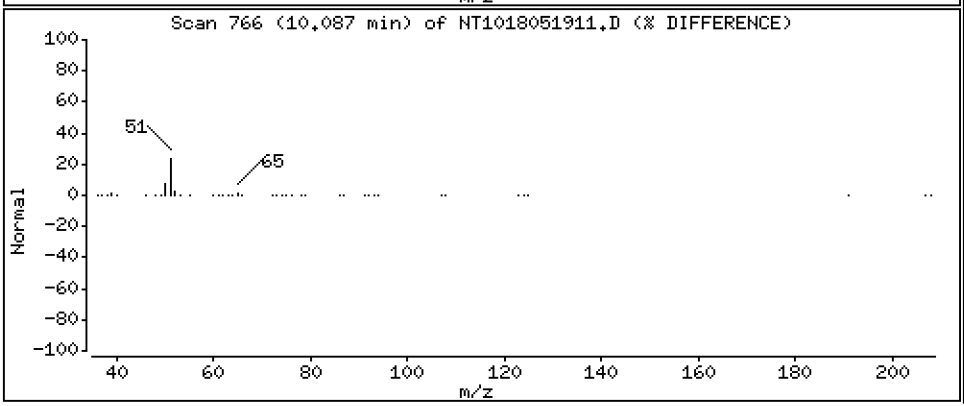












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

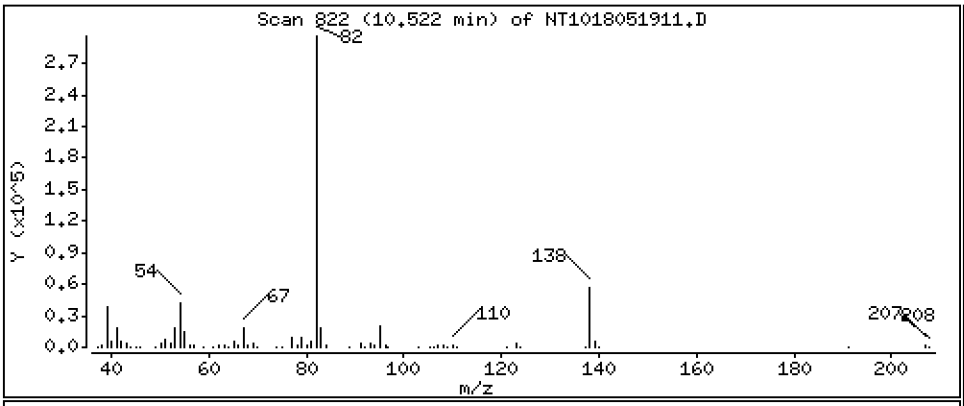
Operator: YZ

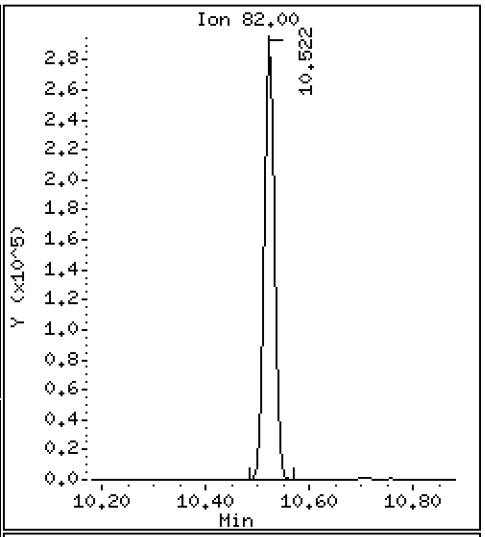
Column phase: ZB-5msi

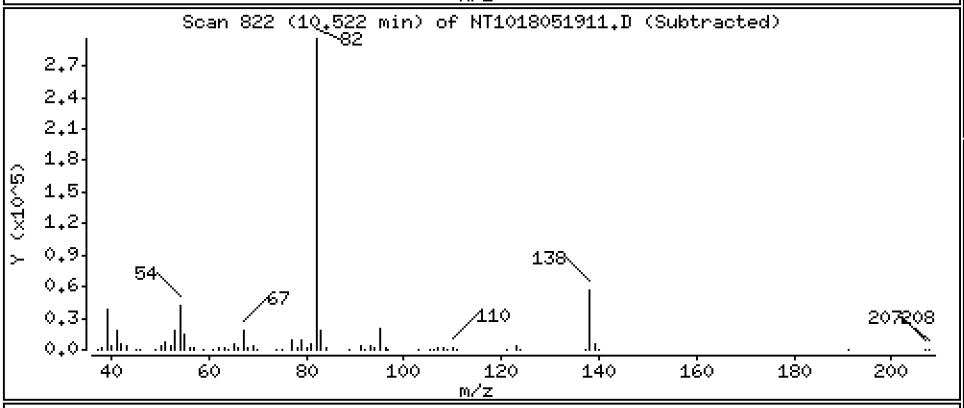
Column diameter: 0.25

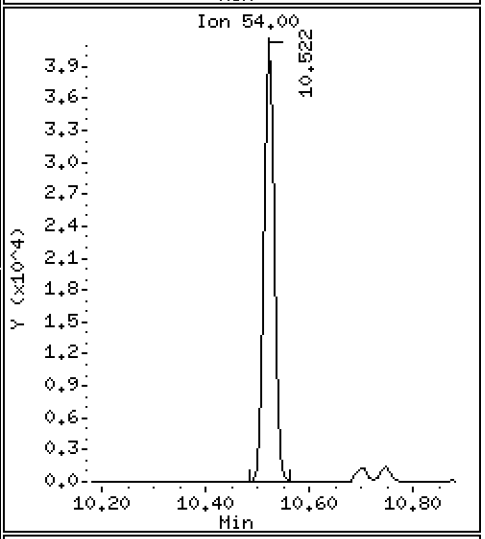
20 Isophorone

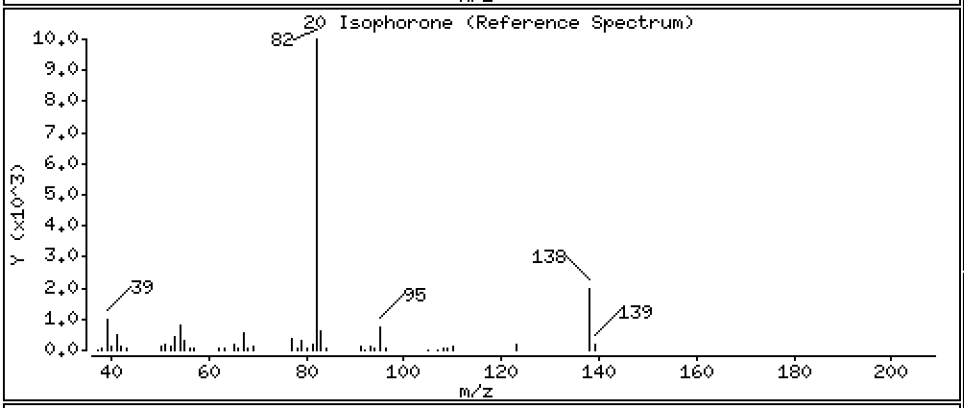
Concentration: 5.135 ug/mL

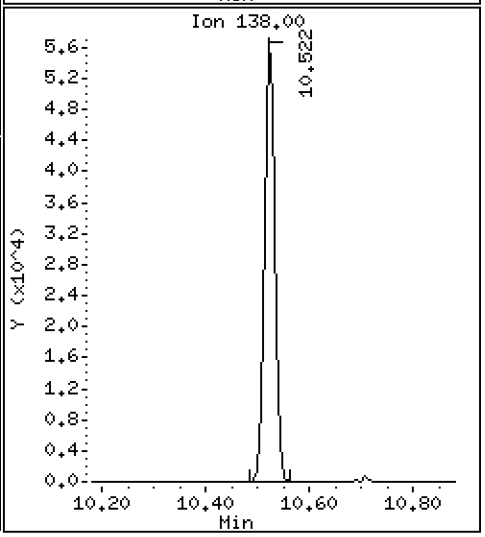


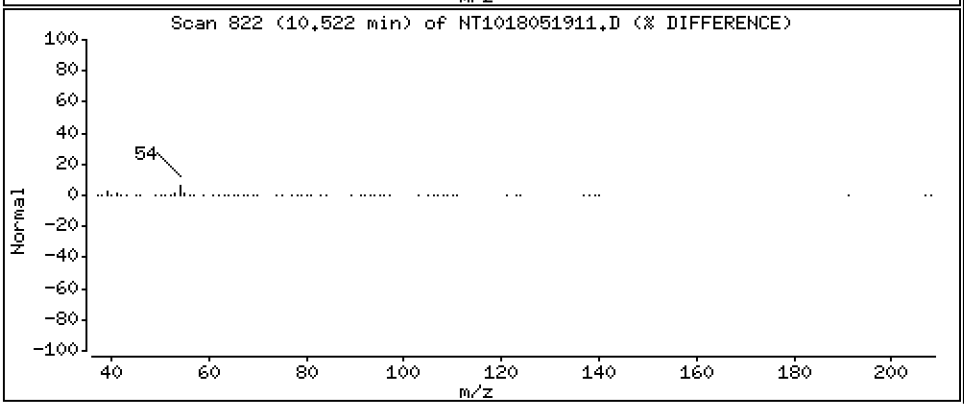












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

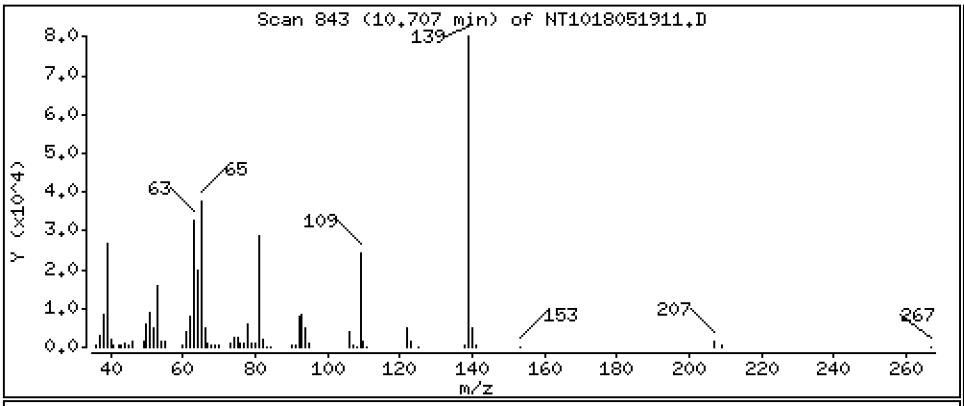
Operator: YZ

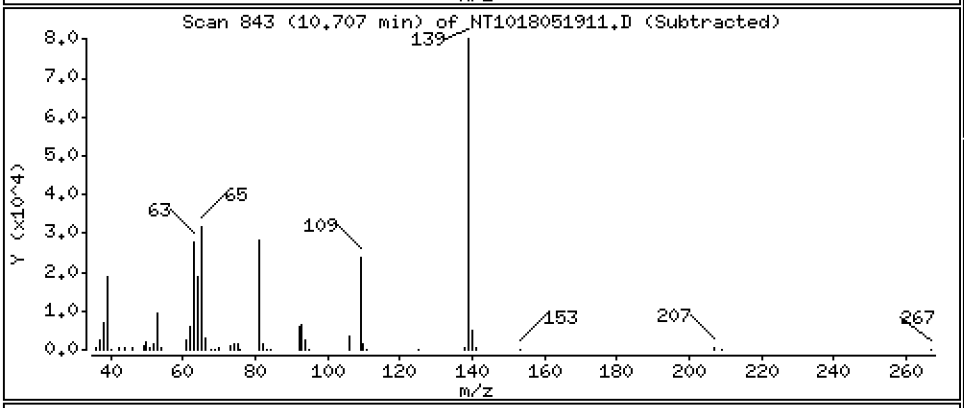
Column phase: ZB-5msi

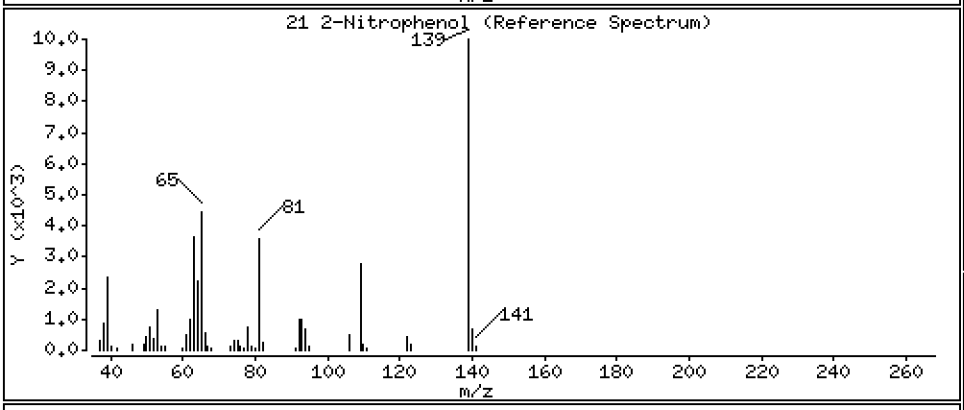
Column diameter: 0.25

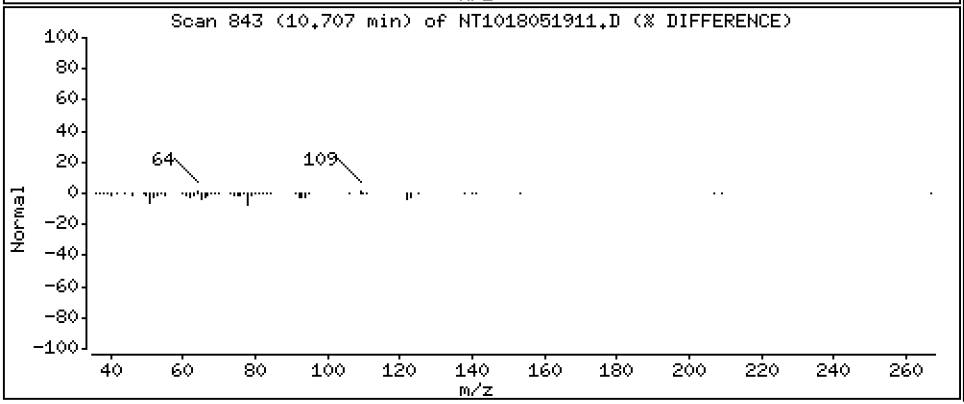
21 2-Nitrophenol

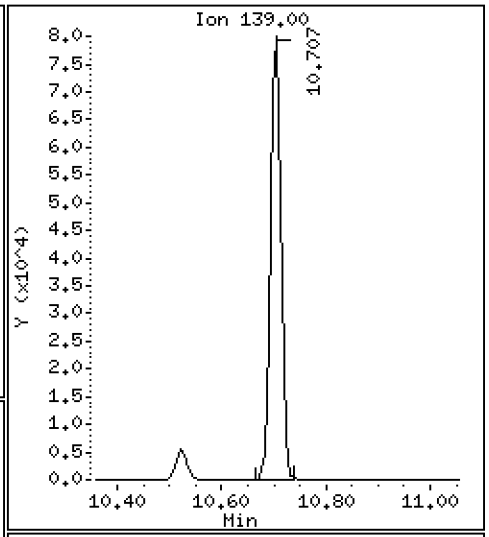
Concentration: 5.048 ug/mL

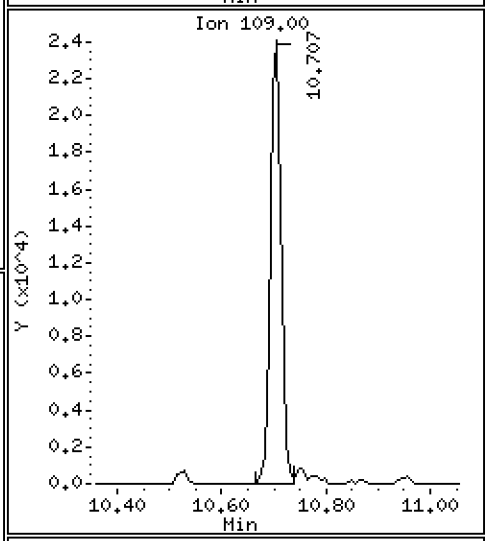


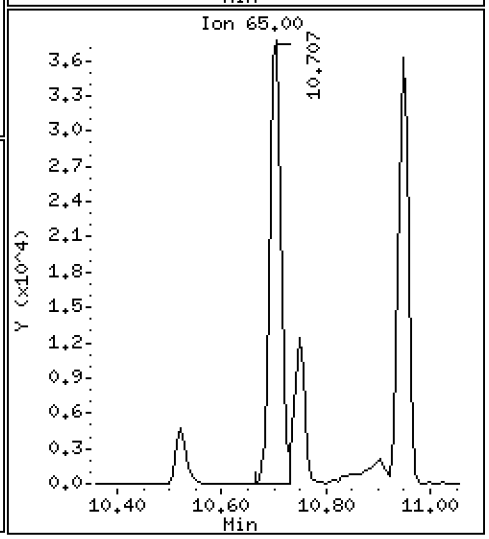












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

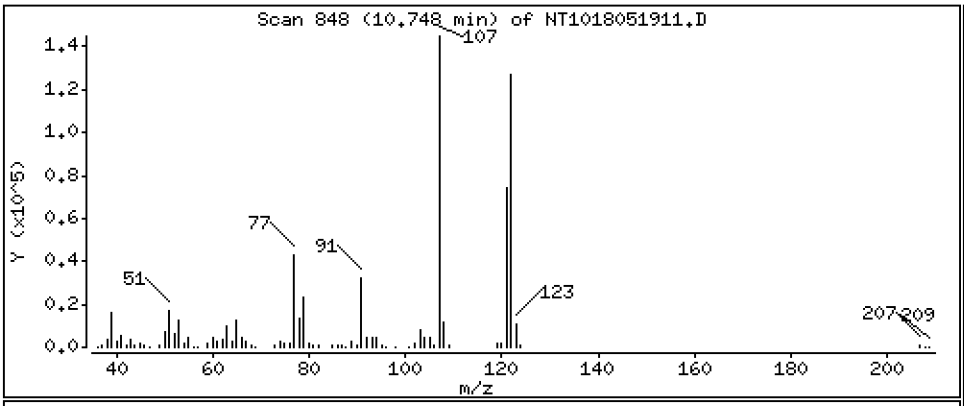
Operator: YZ

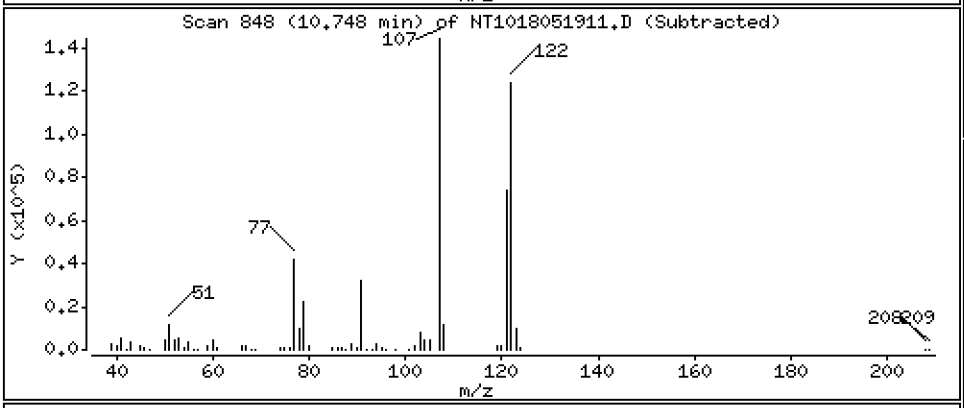
Column phase: ZB-5msi

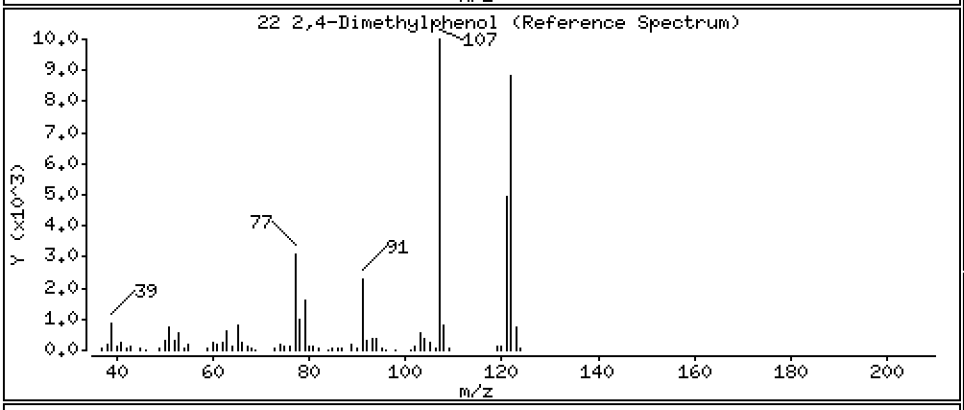
Column diameter: 0.25

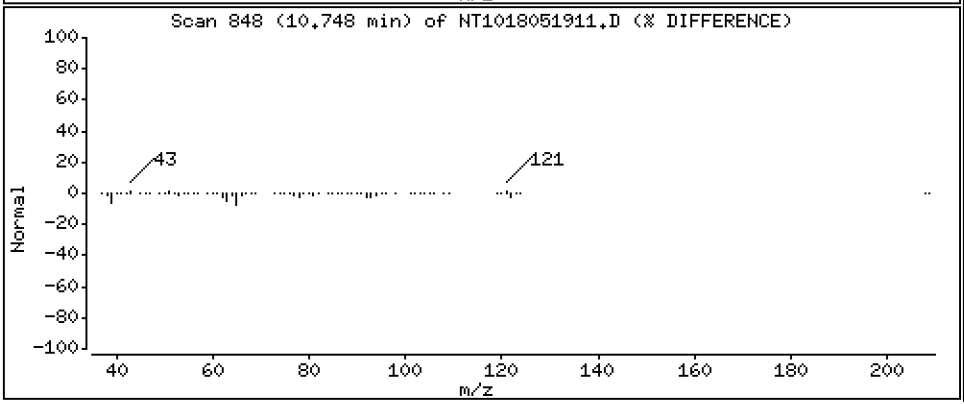
22 2,4-Dimethylphenol

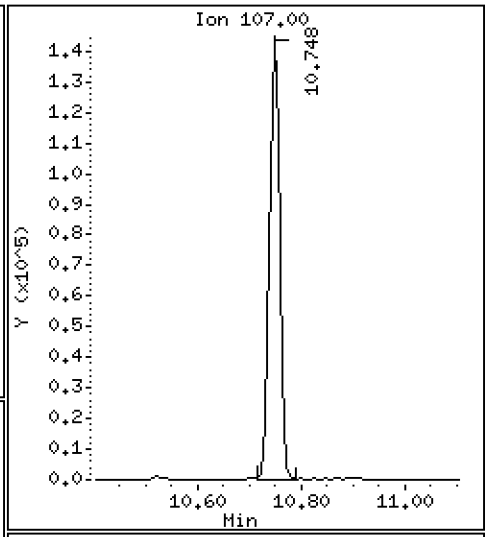
Concentration: 4.995 ug/mL

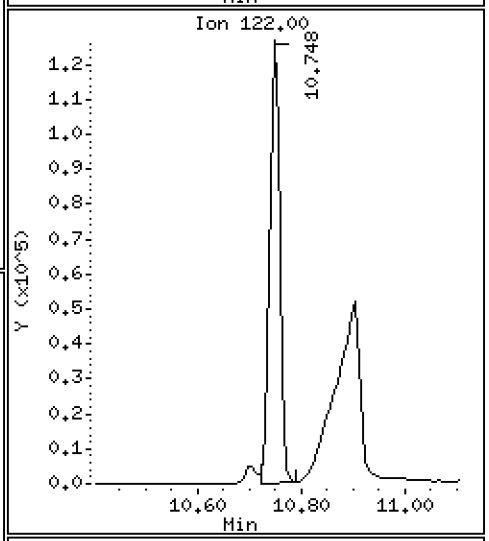


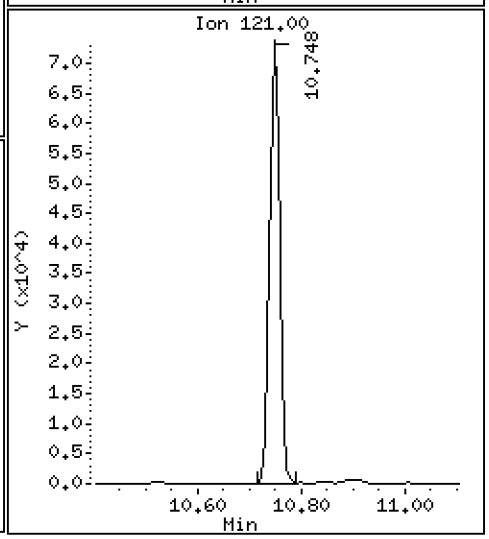












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

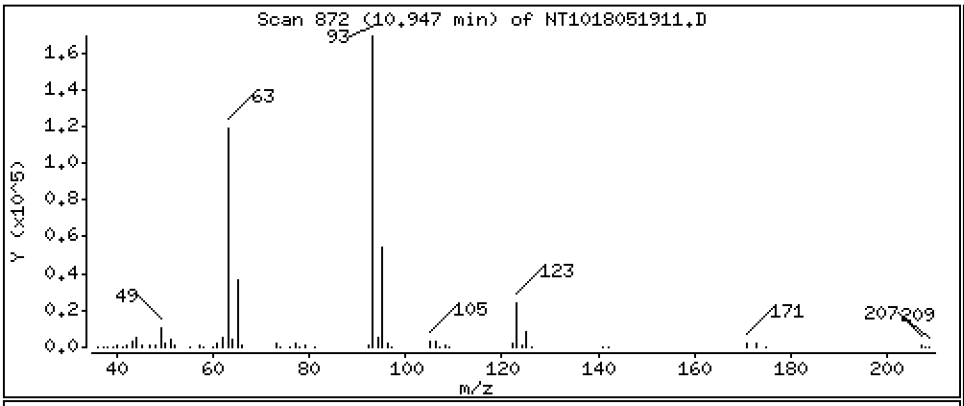
Operator: YZ

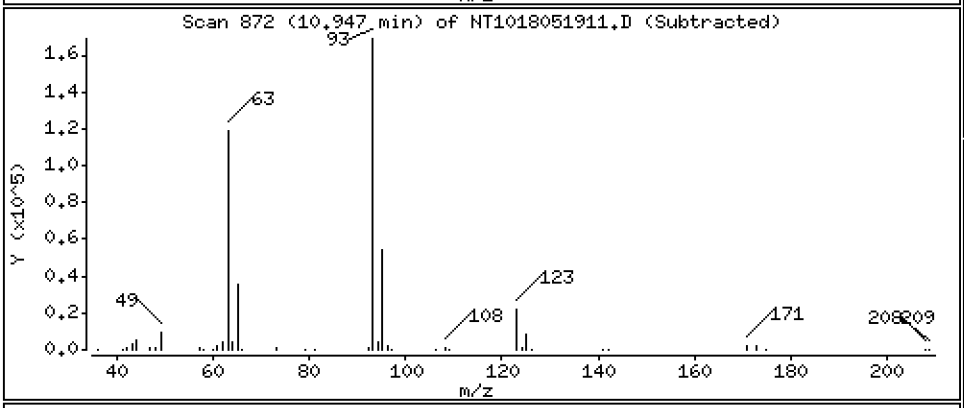
Column phase: ZB-5msi

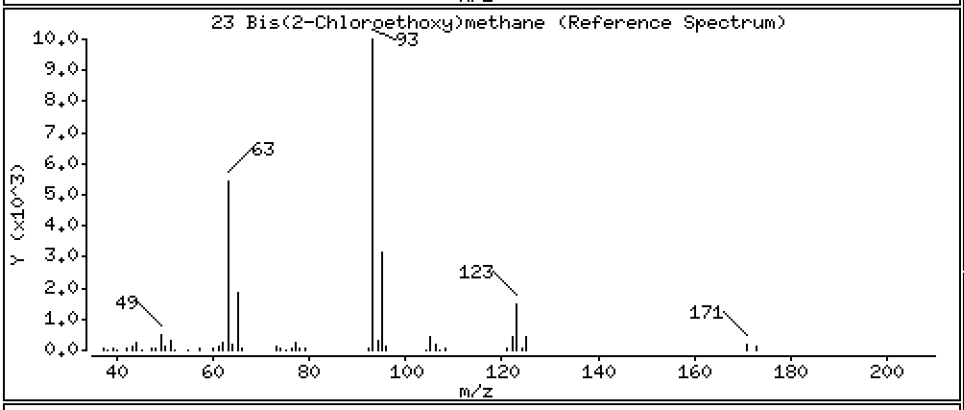
Column diameter: 0.25

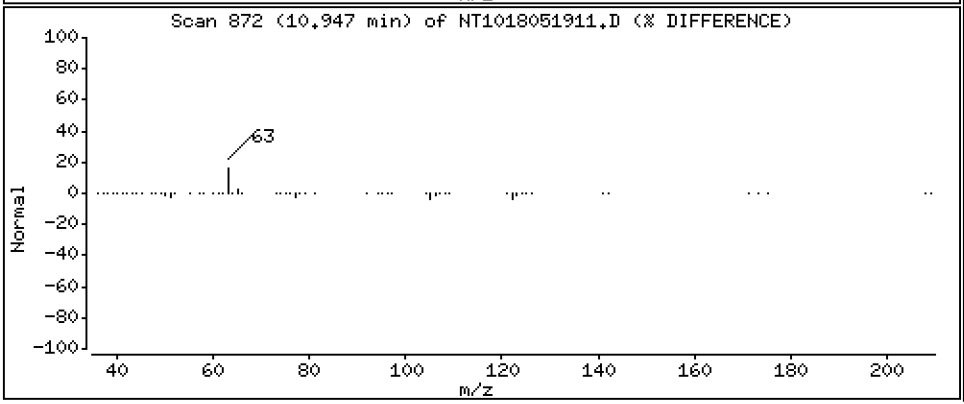
23 Bis(2-Chloroethoxy)methane

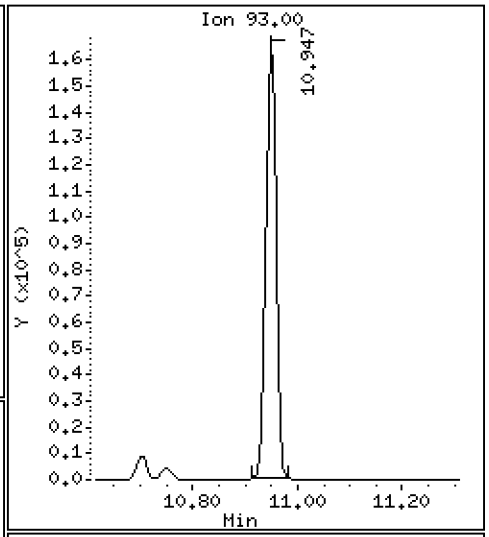
Concentration: 5.251 ug/mL

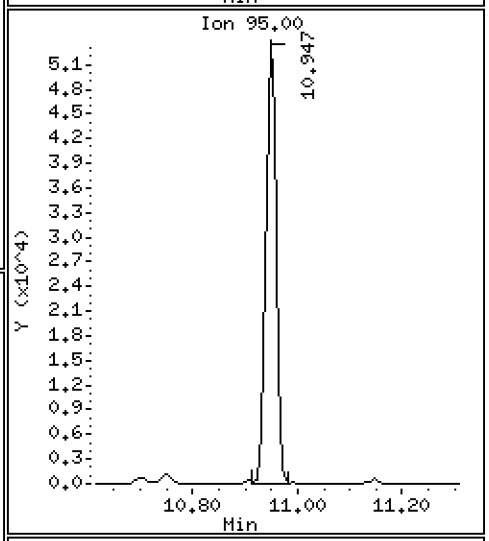


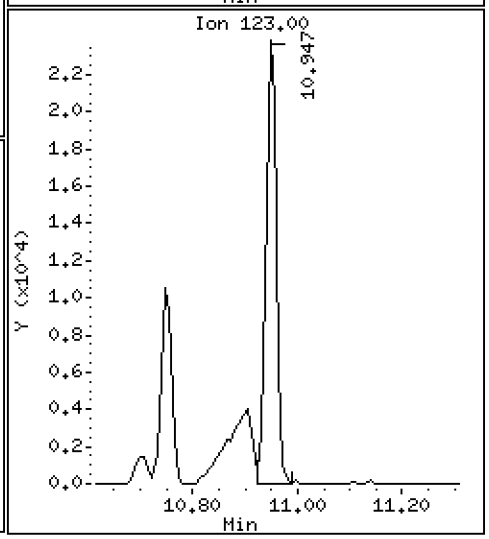












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

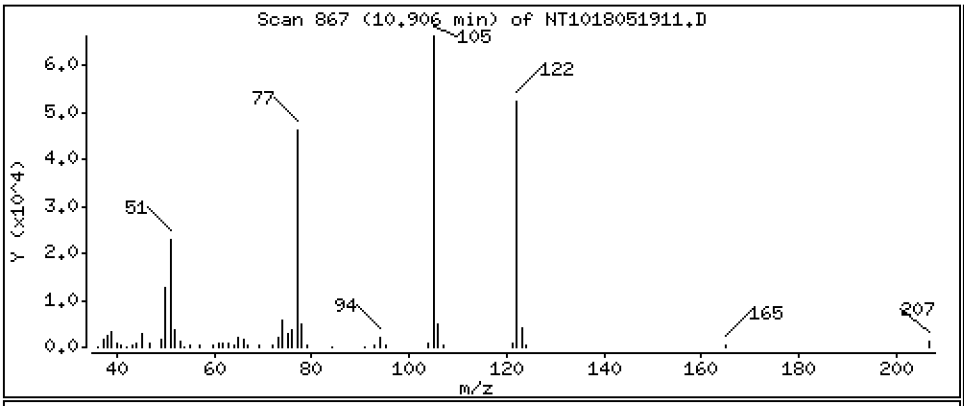
Operator: YZ

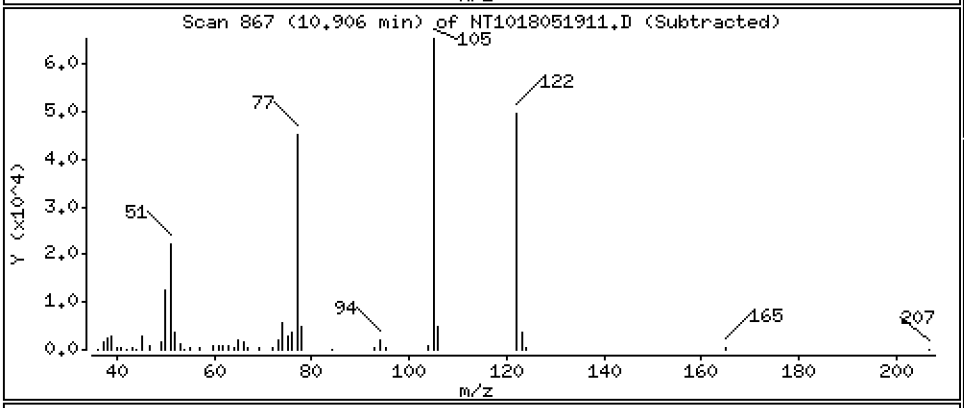
Column phase: ZB-5msi

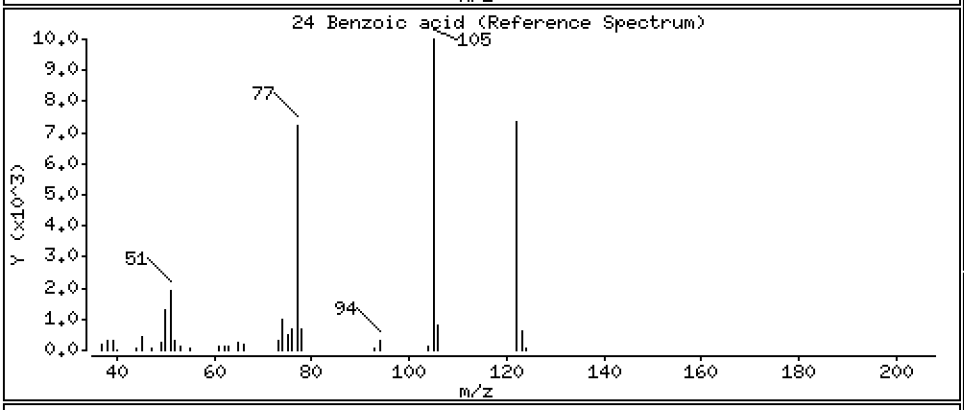
Column diameter: 0.25

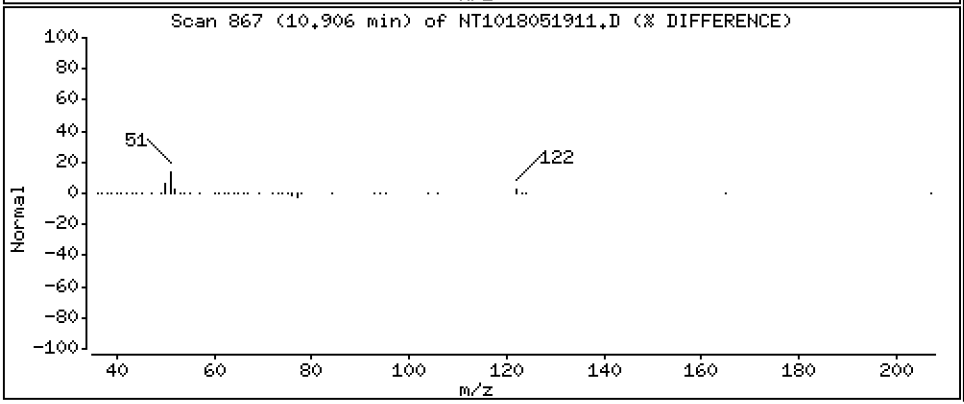
24 Benzoic acid

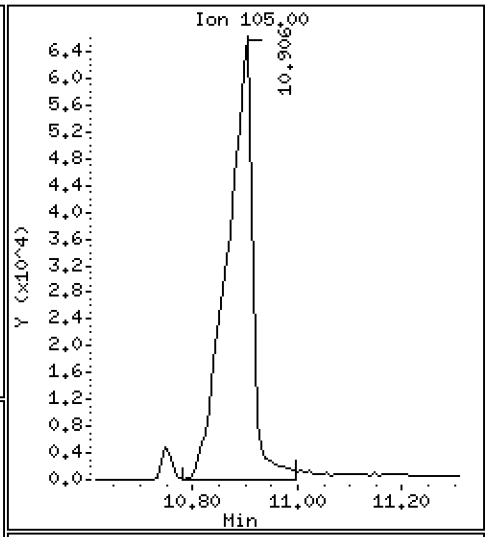
Concentration: 8.772 ug/mL

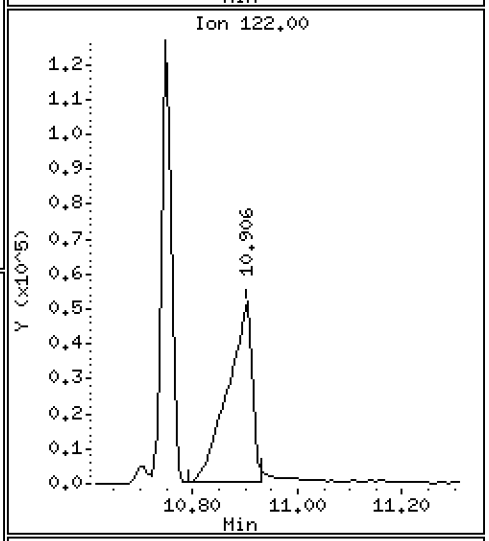


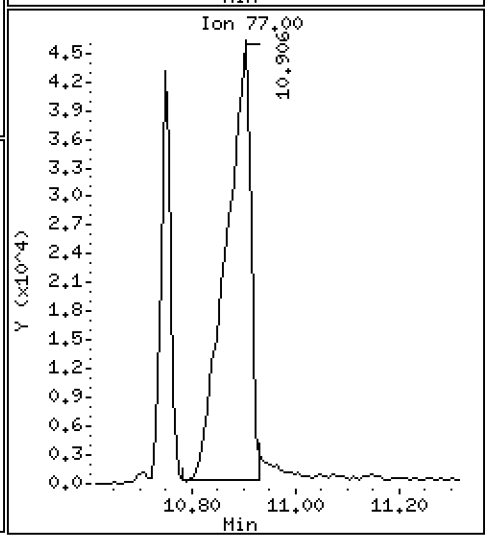












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

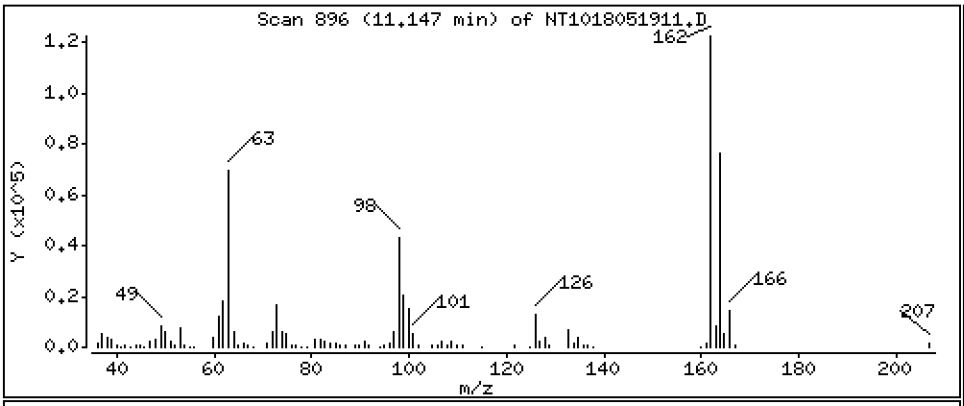
Operator: YZ

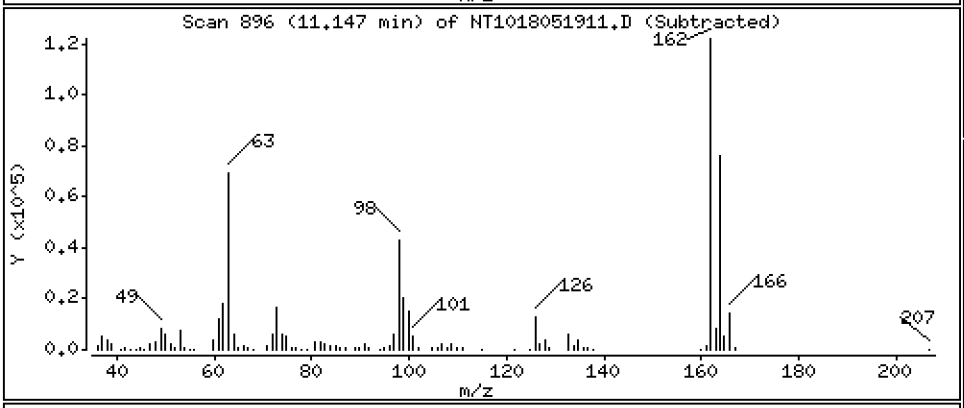
Column phase: ZB-5msi

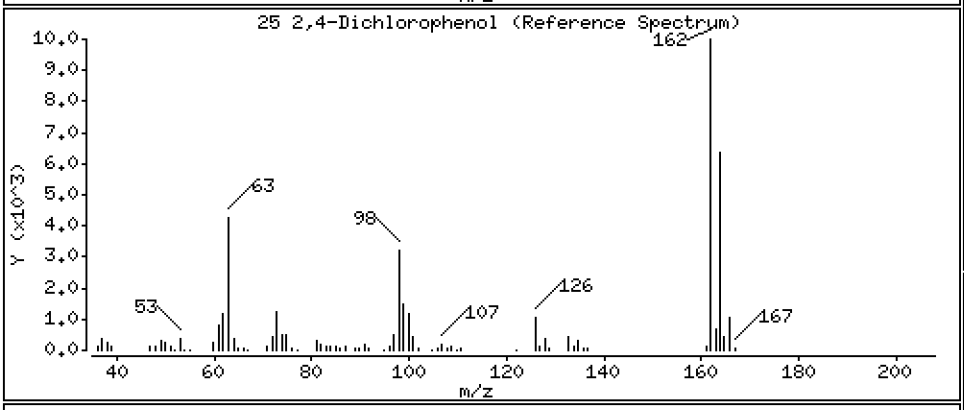
Column diameter: 0.25

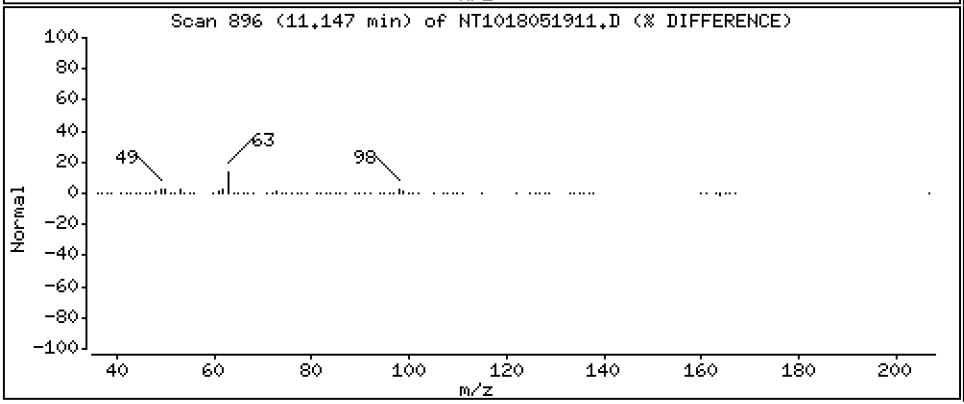
25 2,4-Dichlorophenol

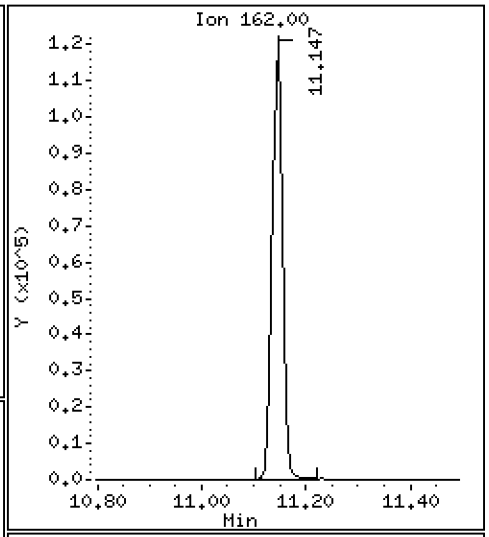
Concentration: 5.222 ug/mL

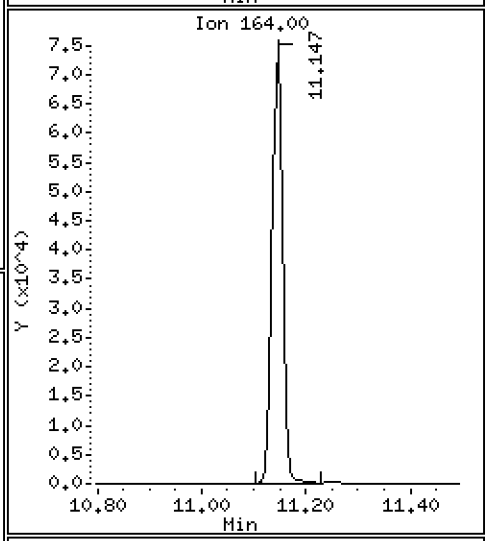


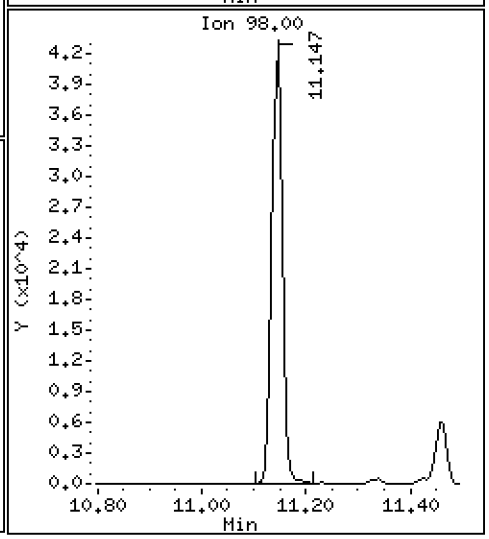












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

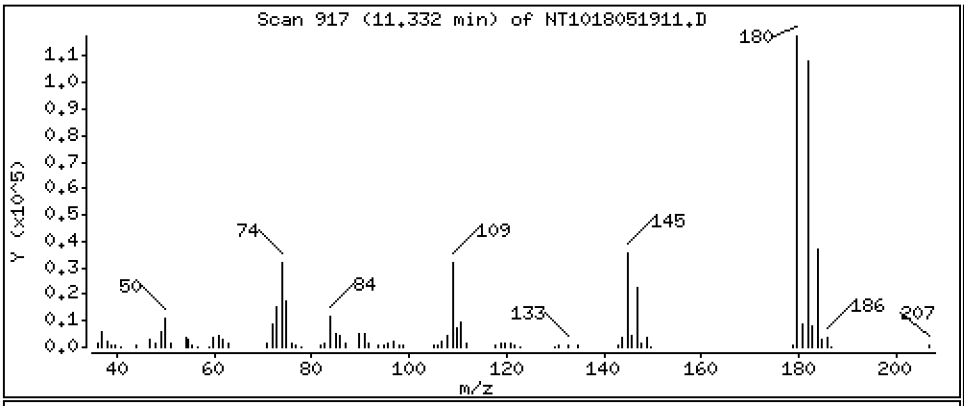
Operator: YZ

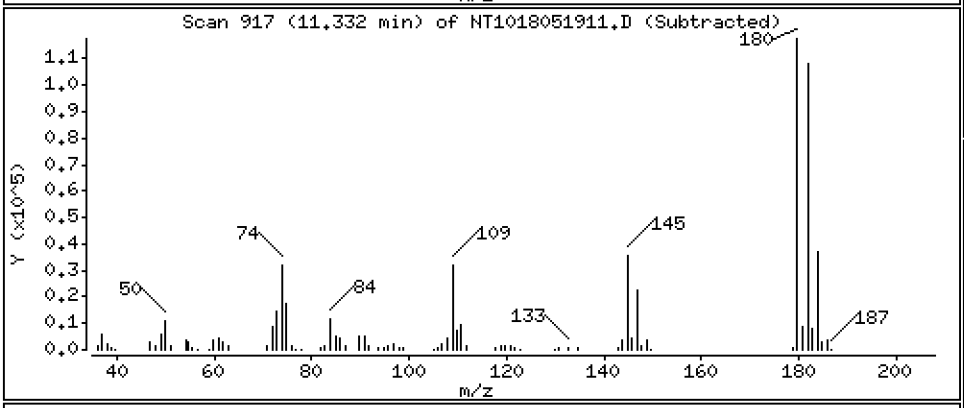
Column phase: ZB-5msi

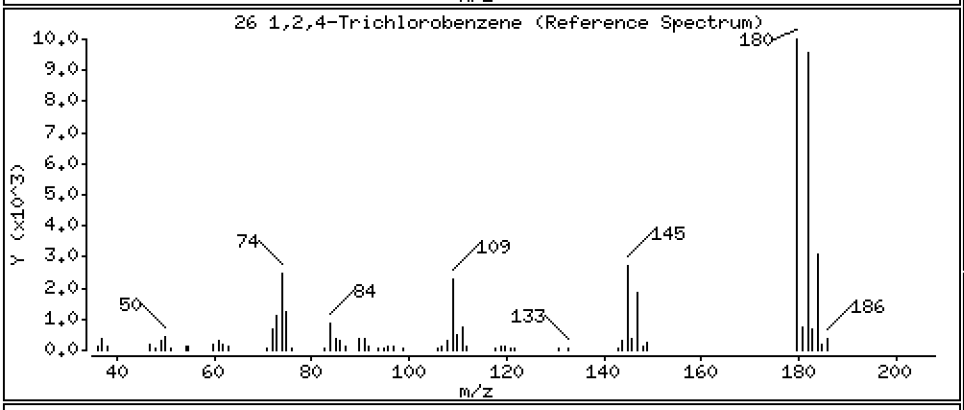
Column diameter: 0.25

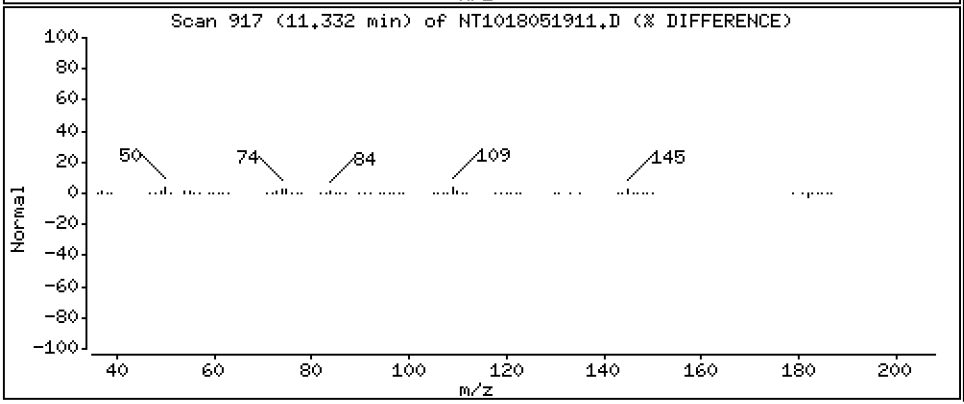
26 1,2,4-Trichlorobenzene

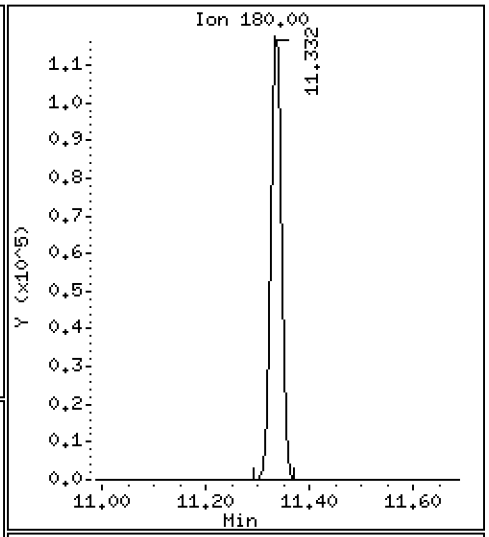
Concentration: 5.246 ug/mL

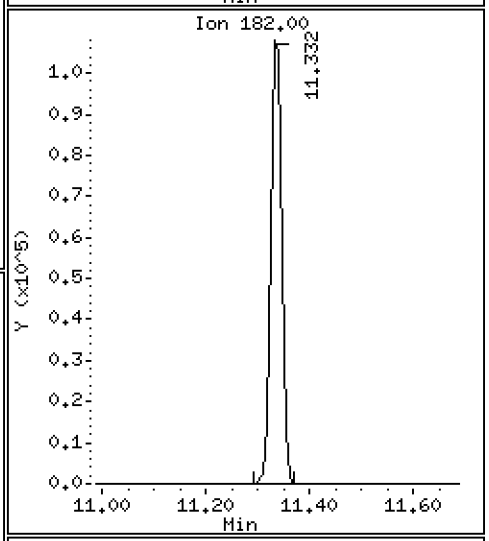


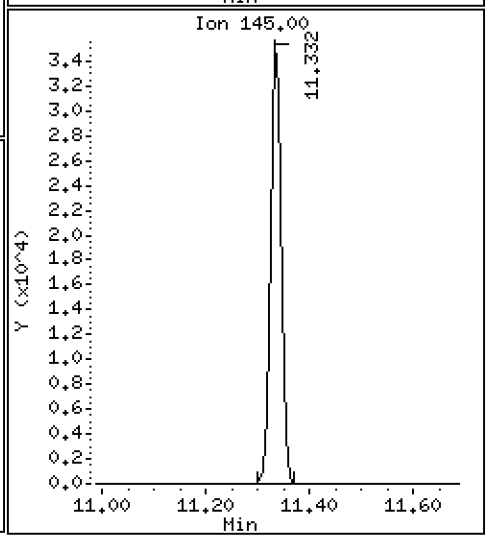












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

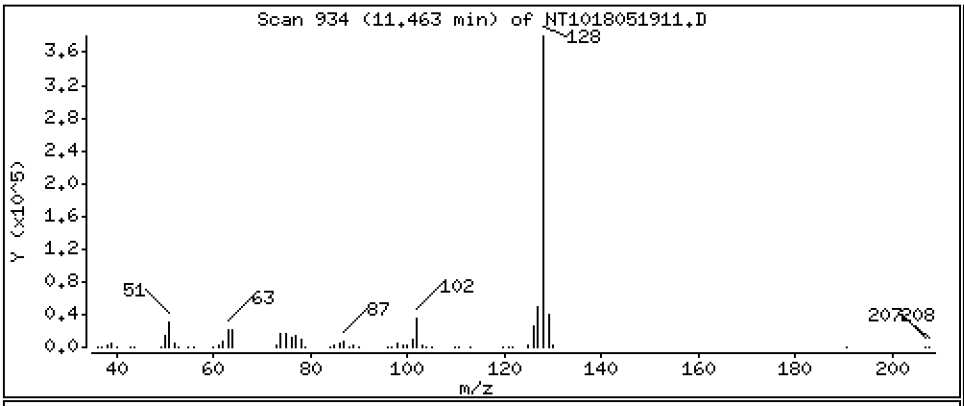
Operator: YZ

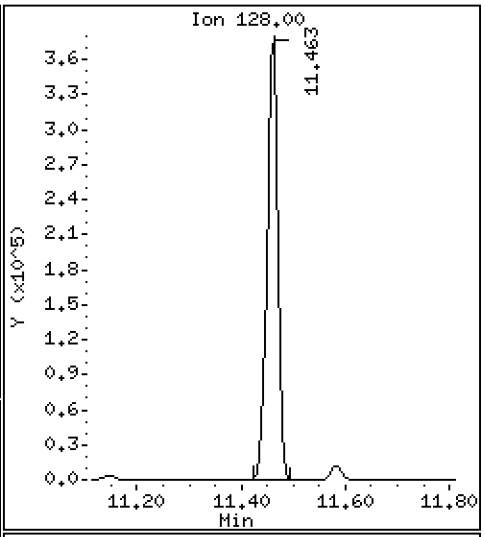
Column phase: ZB-5msi

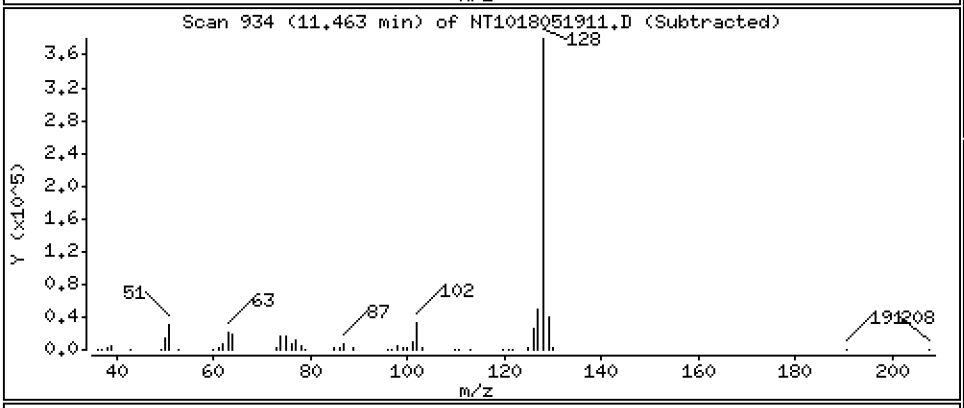
Column diameter: 0.25

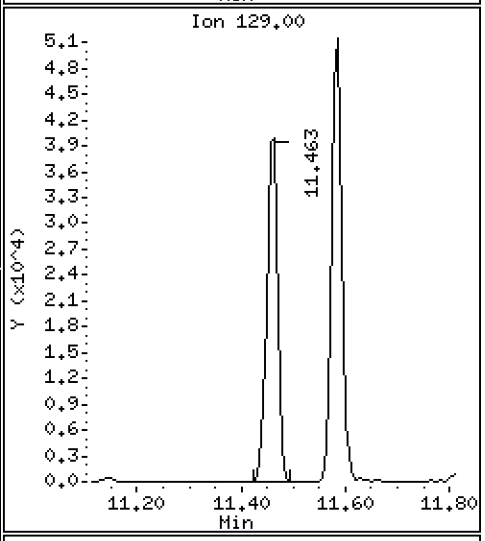
28 Naphthalene

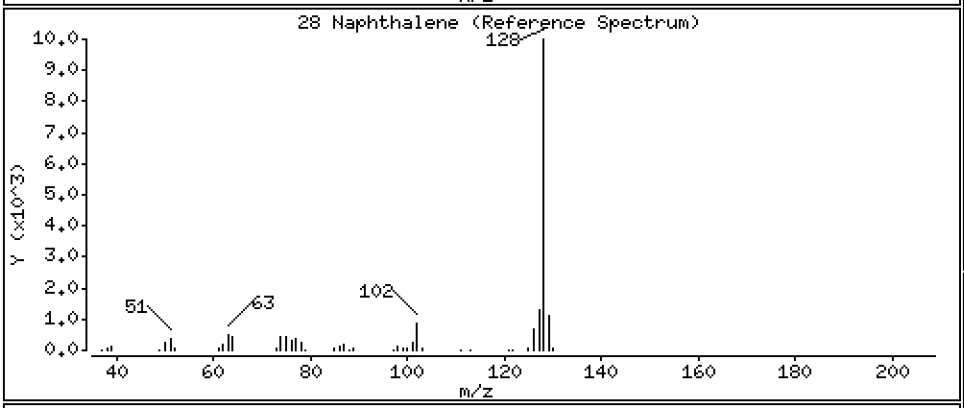
Concentration: 5.255 ug/mL

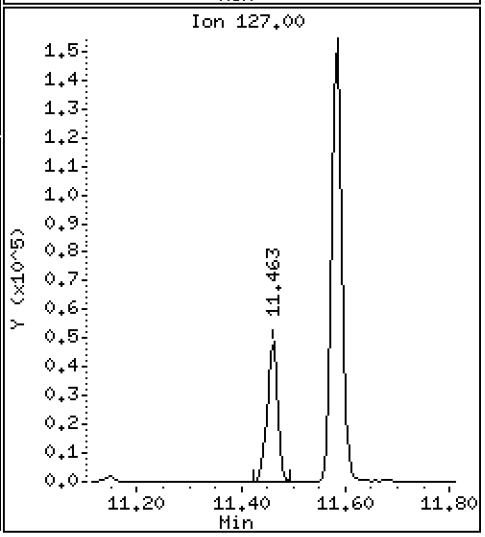


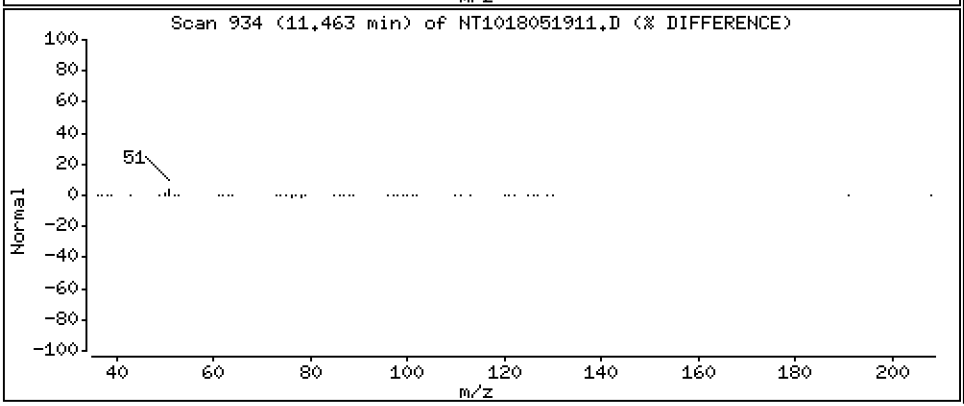












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

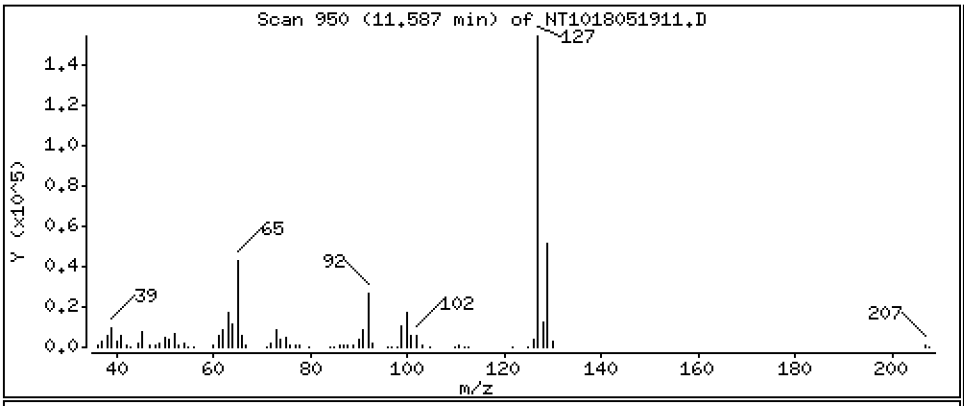
Operator: YZ

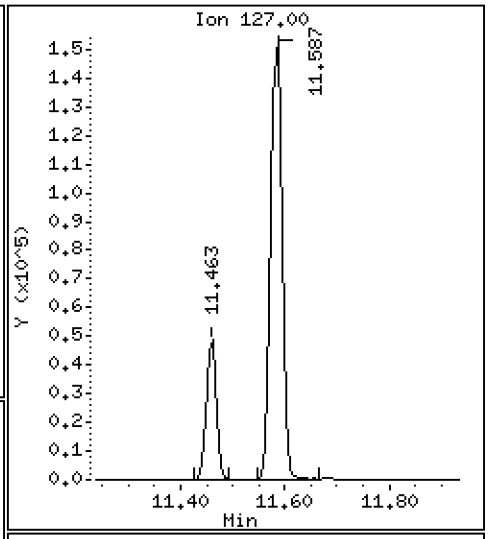
Column phase: ZB-5msi

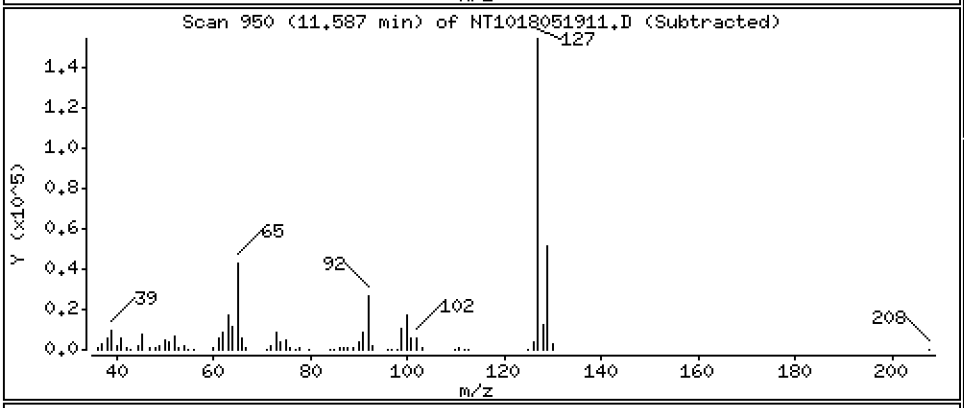
Column diameter: 0.25

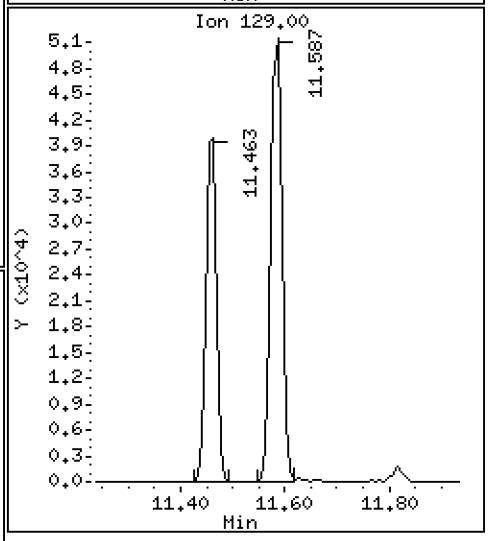
29 4-Chloroaniline

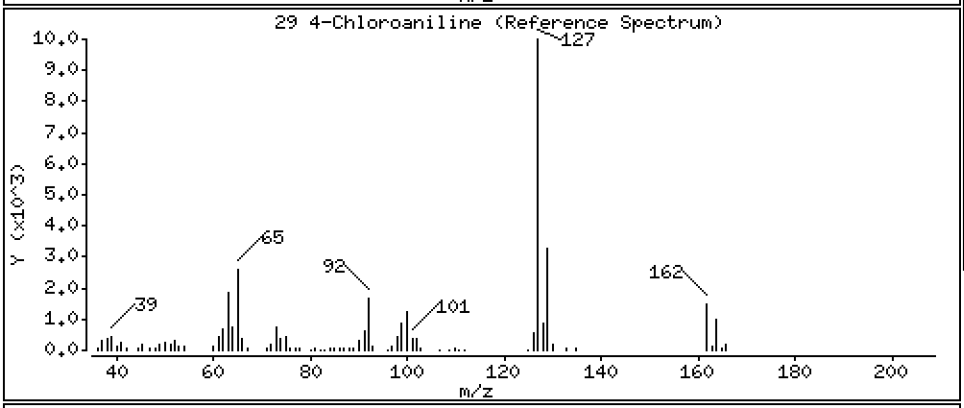
Concentration: 4.713 ug/mL

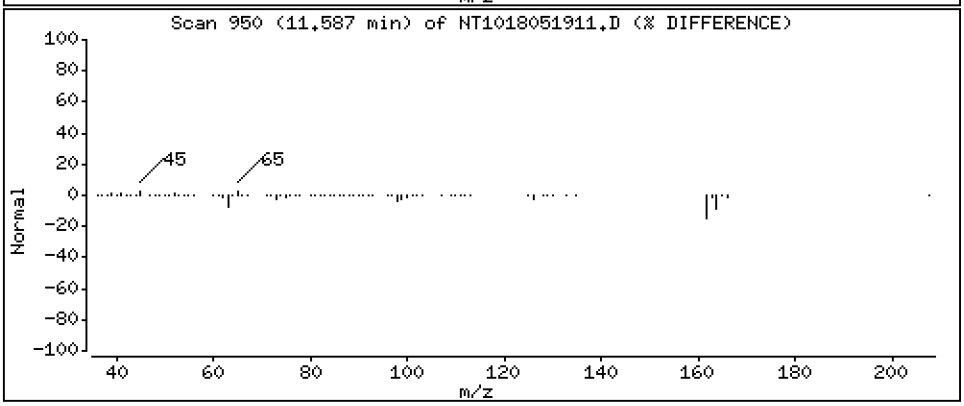












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

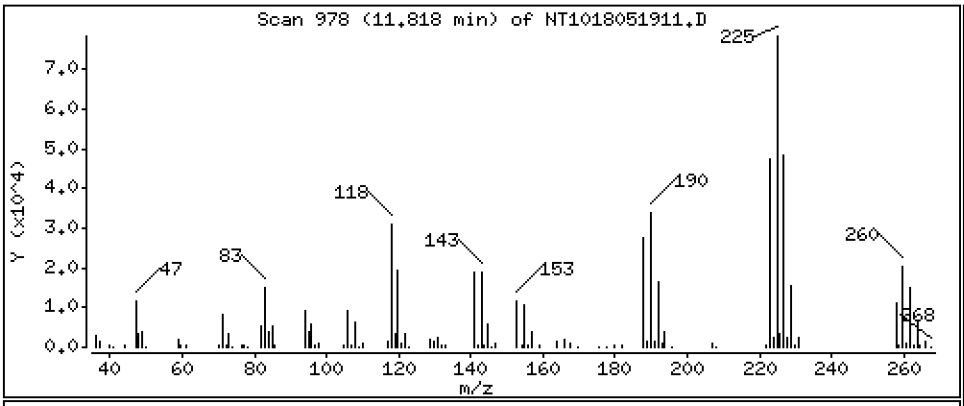
Operator: YZ

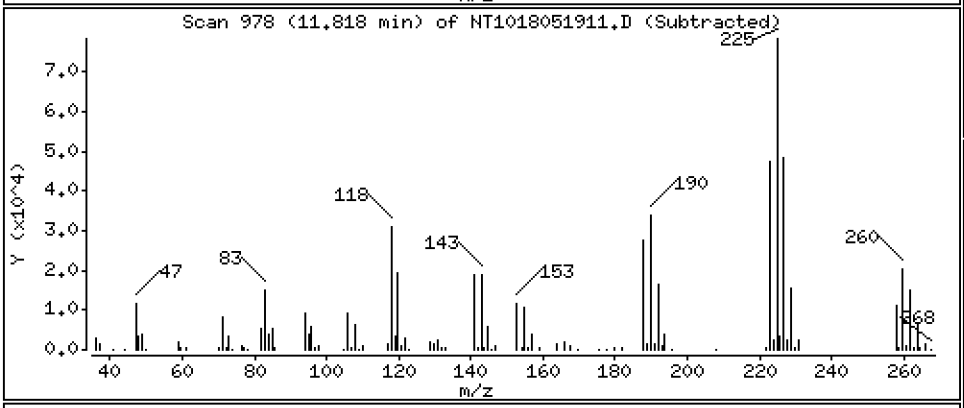
Column phase: ZB-5msi

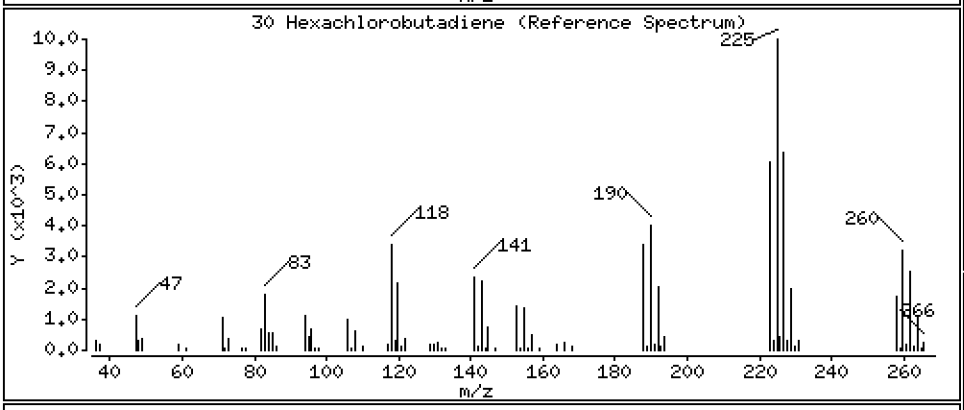
Column diameter: 0.25

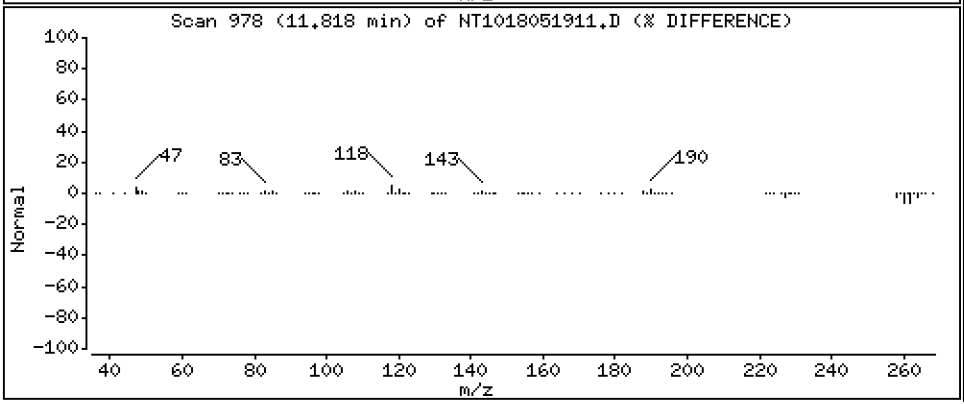
30 Hexachlorobutadiene

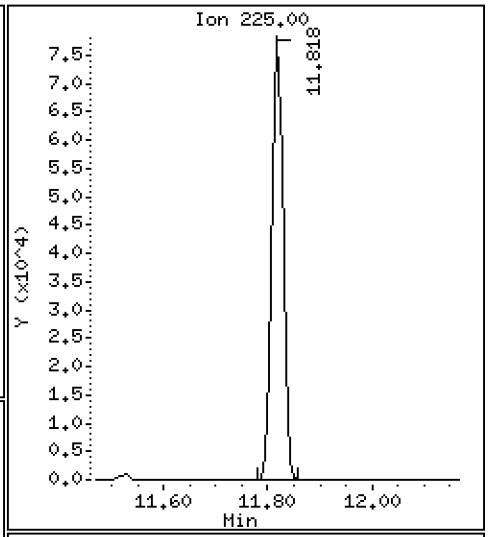
Concentration: 5.174 ug/mL

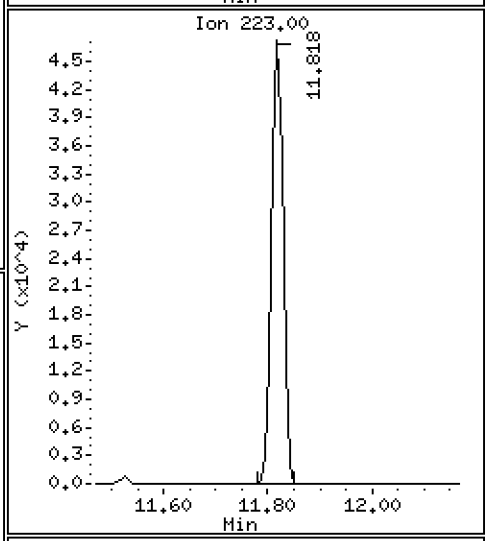


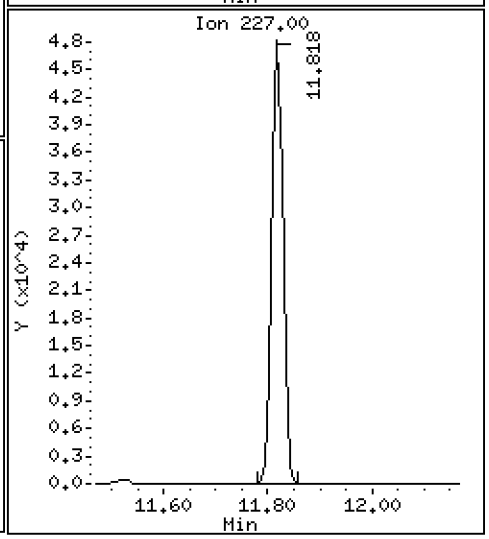












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

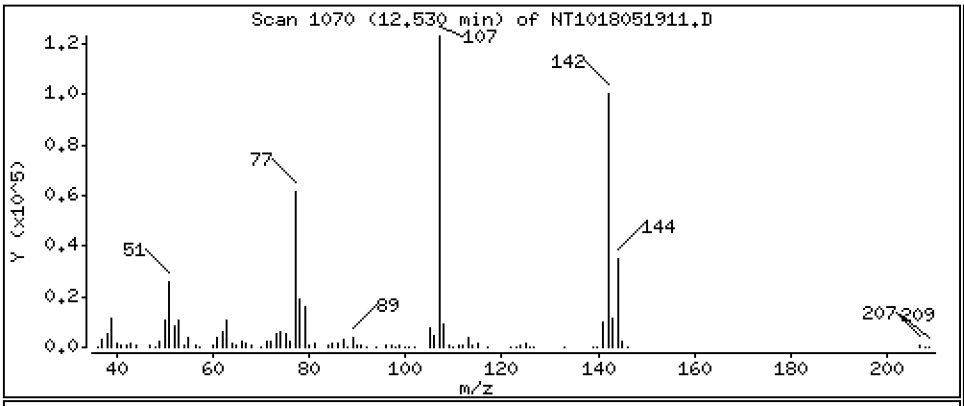
Operator: YZ

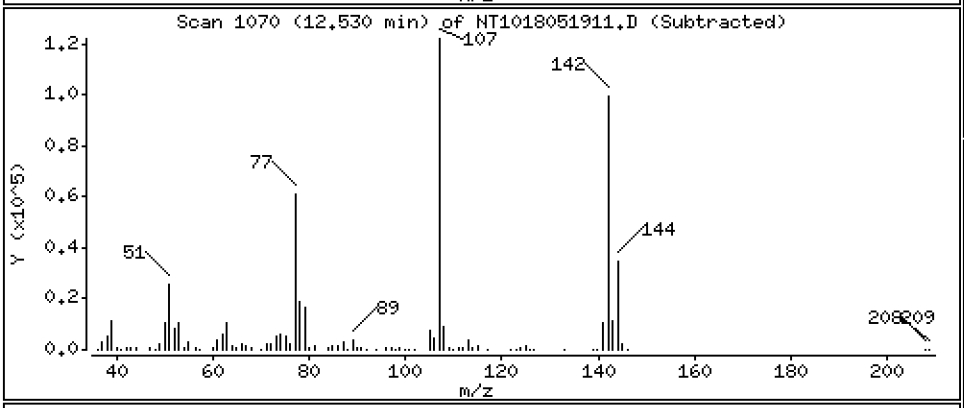
Column phase: ZB-5msi

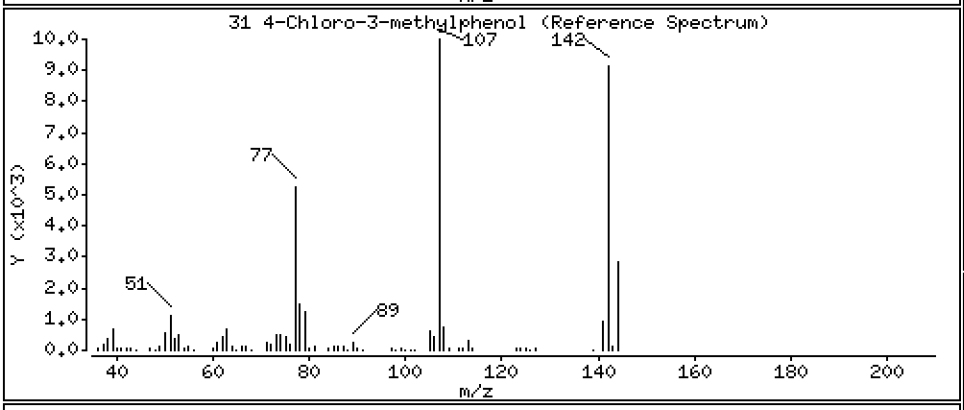
Column diameter: 0.25

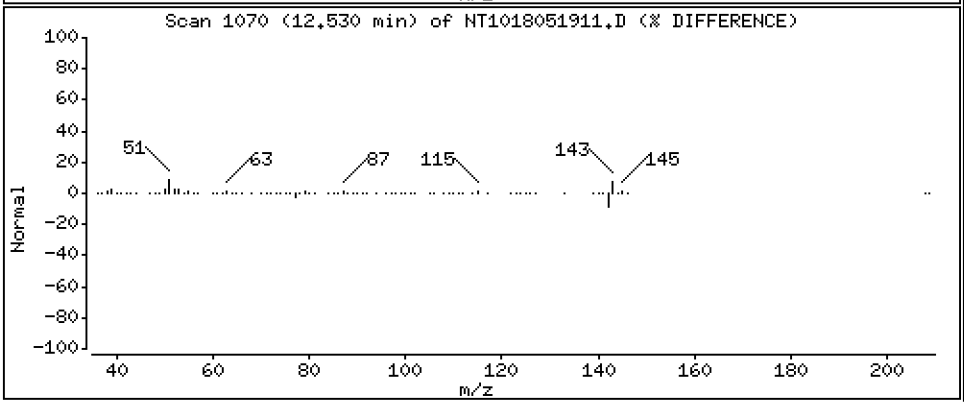
31 4-Chloro-3-methylphenol

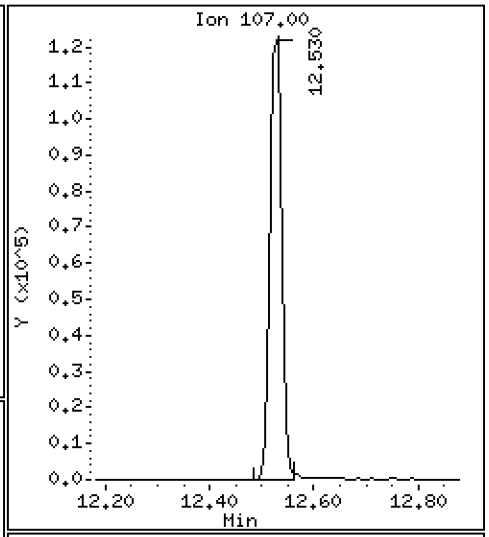
Concentration: 5.243 ug/mL

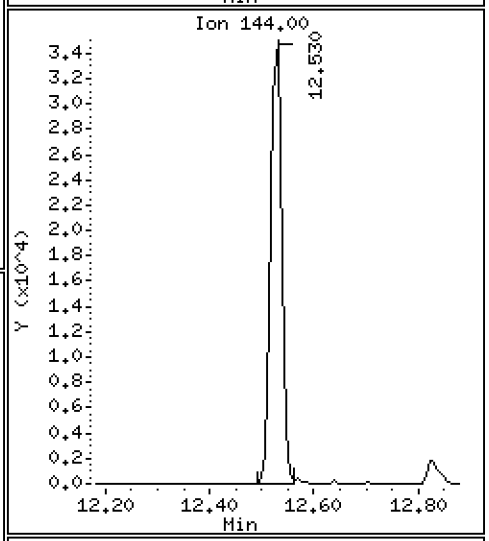


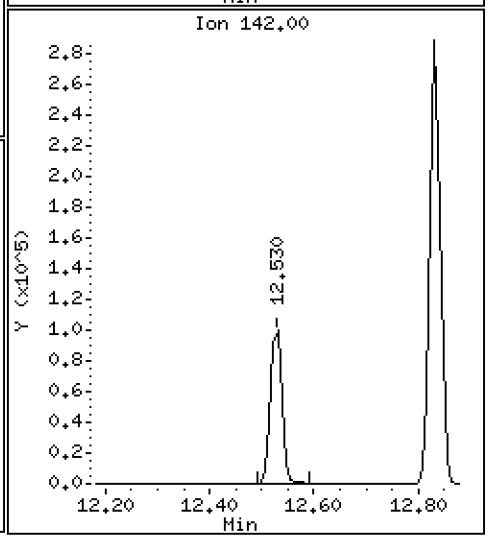












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

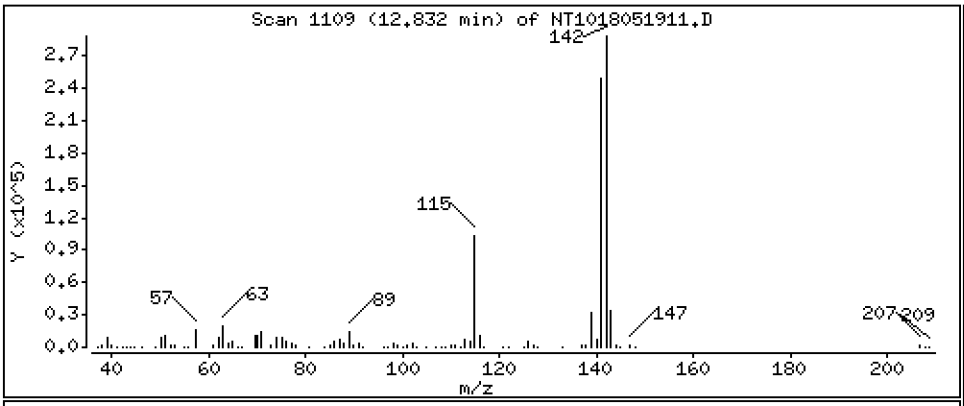
Operator: YZ

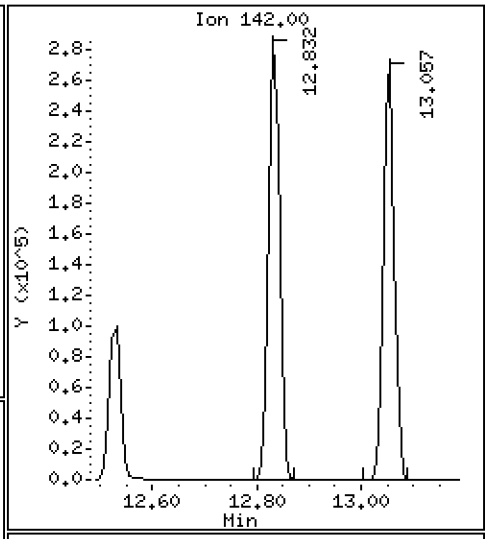
Column phase: ZB-5msi

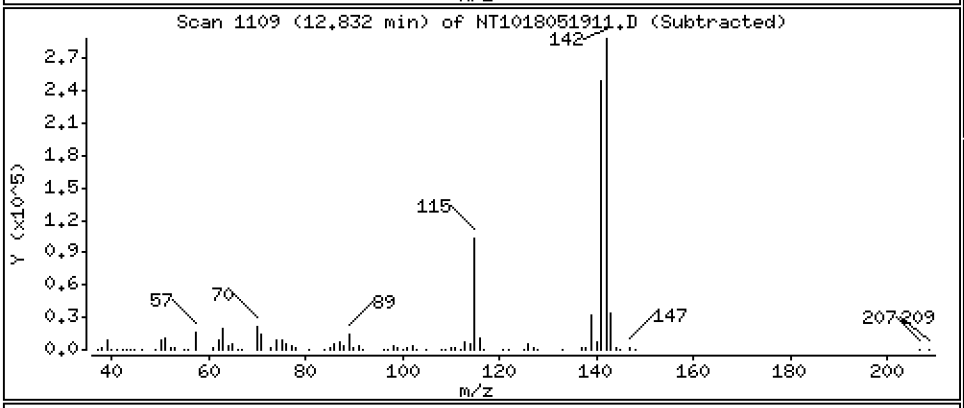
Column diameter: 0.25

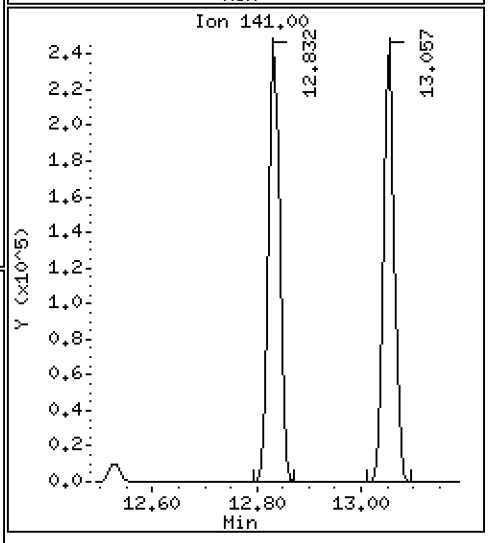
32 2-Methylnaphthalene

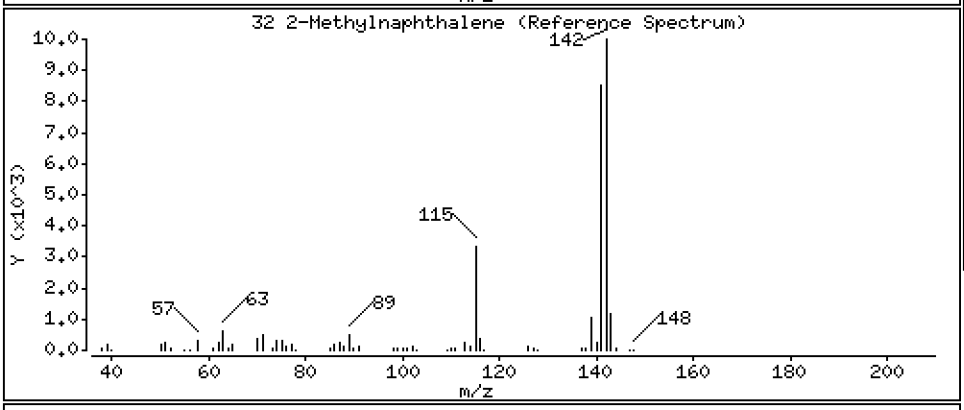
Concentration: 4.831 ug/mL

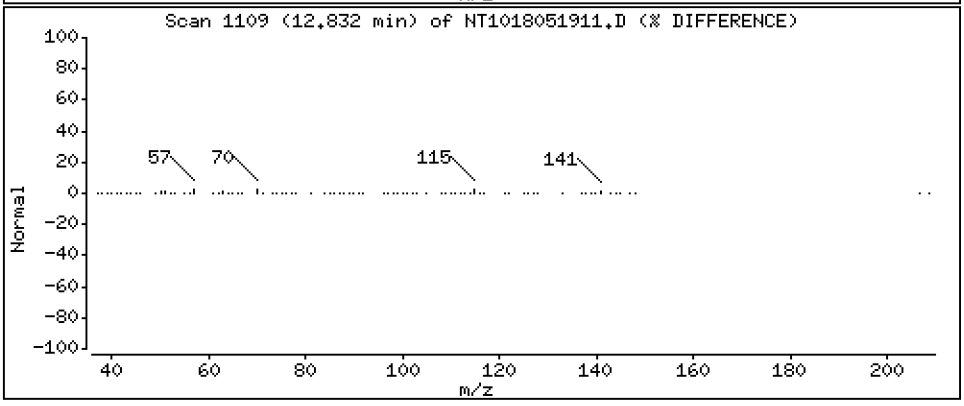












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

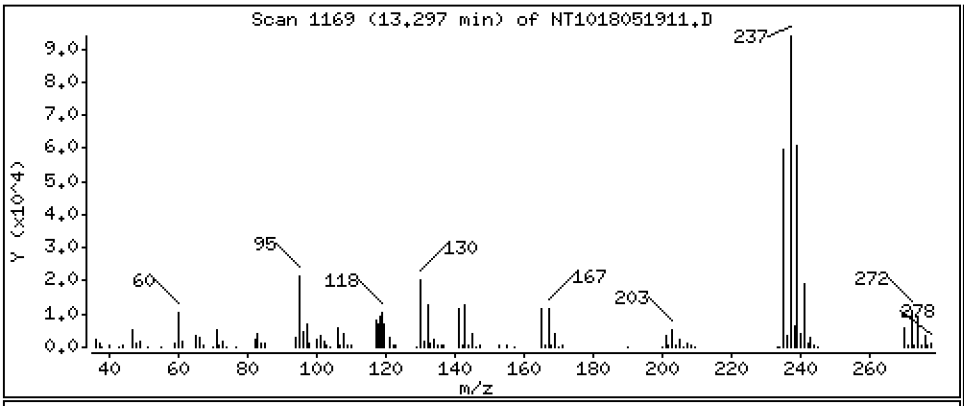
Operator: YZ

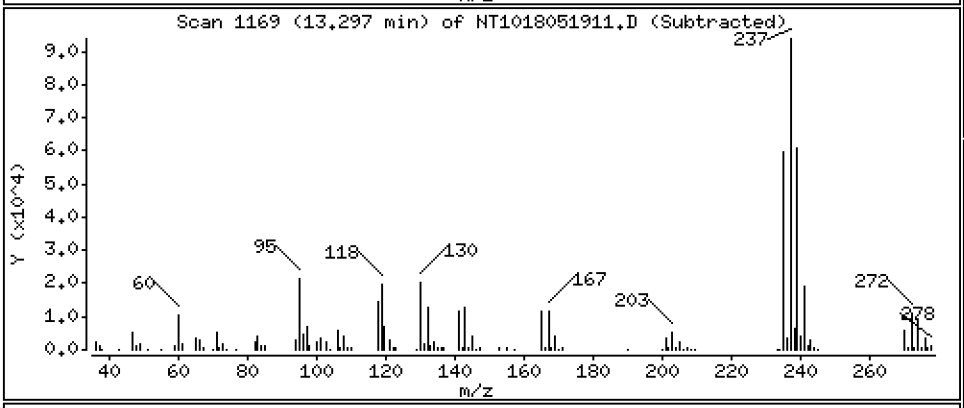
Column phase: ZB-5msi

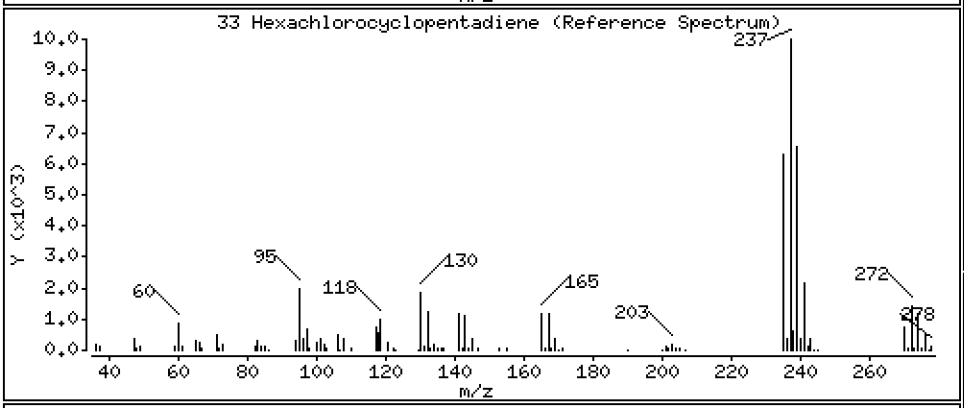
Column diameter: 0.25

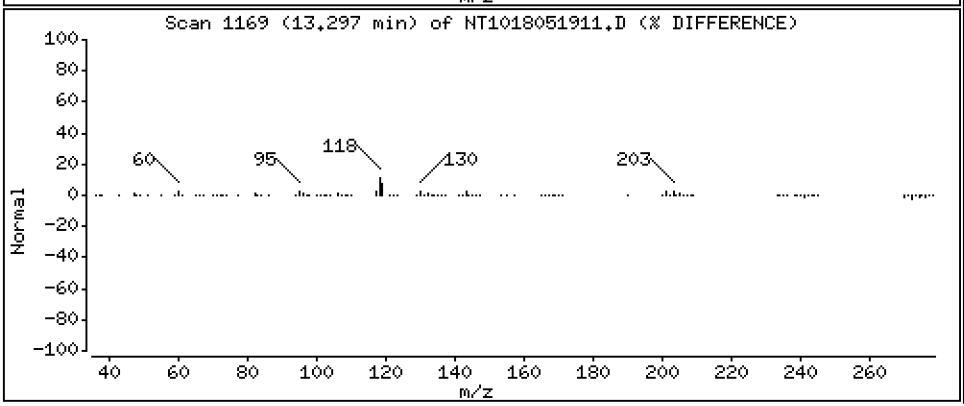
33 Hexachlorocyclopentadiene

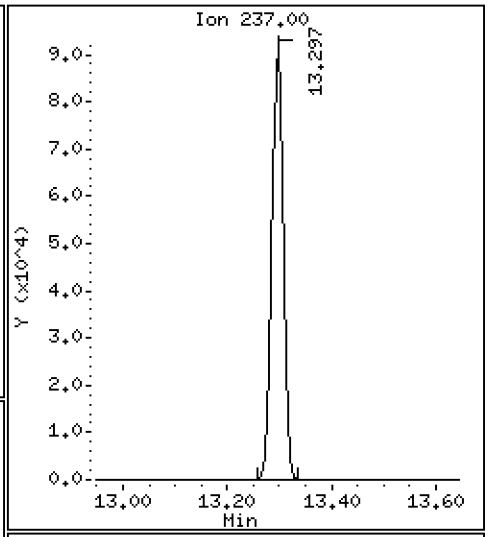
Concentration: 5.567 ug/mL

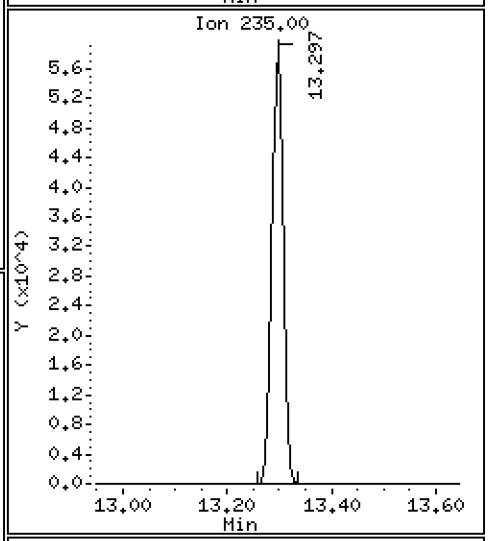


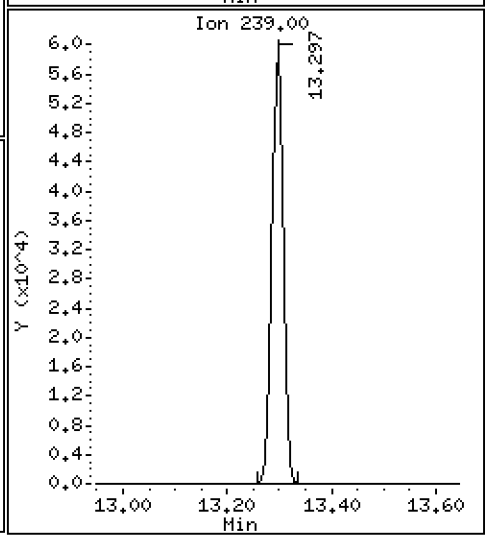












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

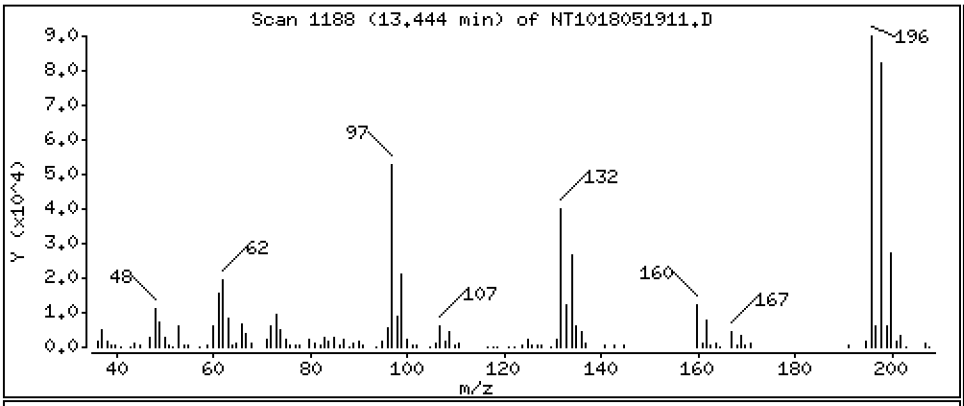
Operator: YZ

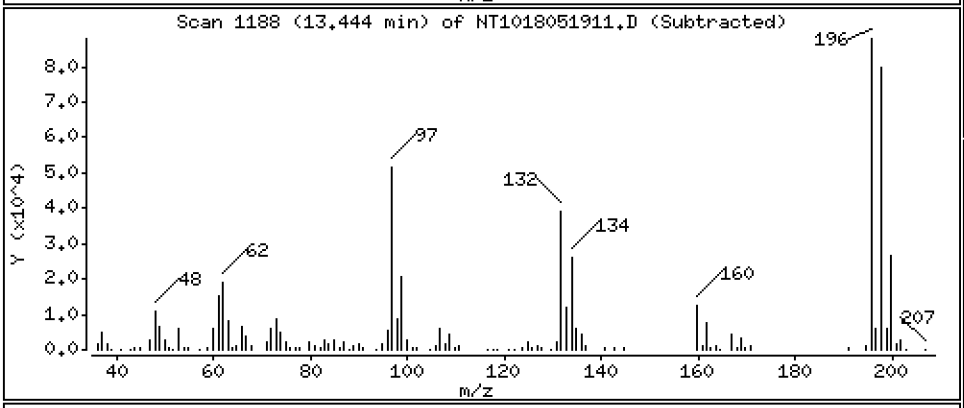
Column phase: ZB-5msi

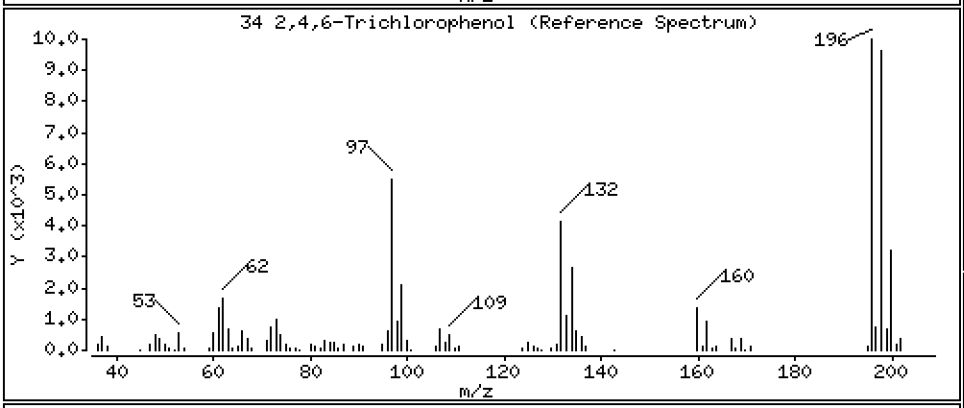
Column diameter: 0.25

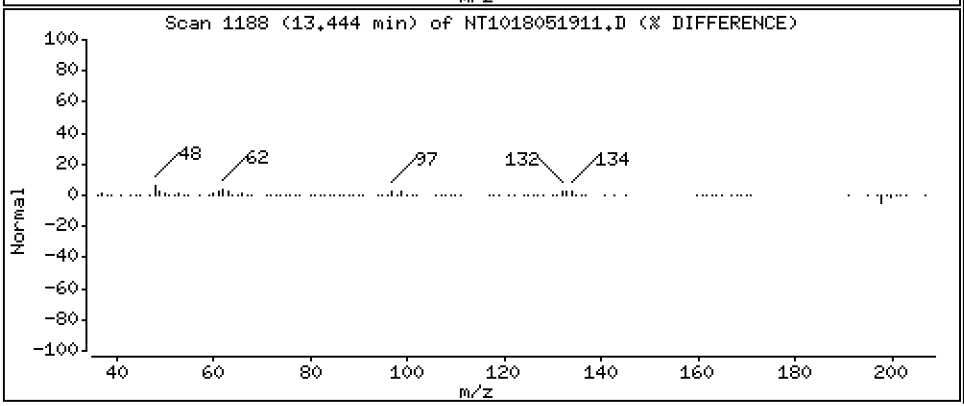
34 2,4,6-Trichlorophenol

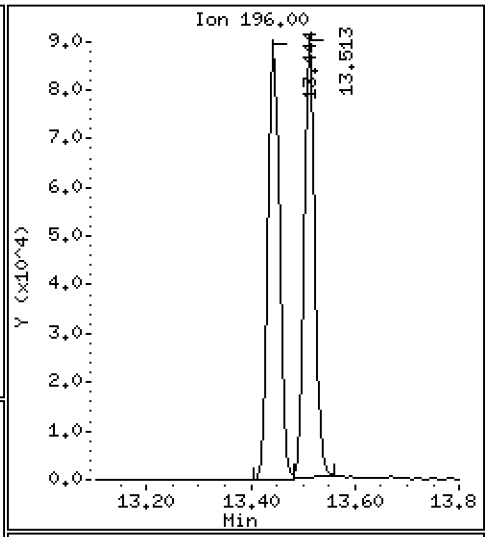
Concentration: 5.028 ug/mL

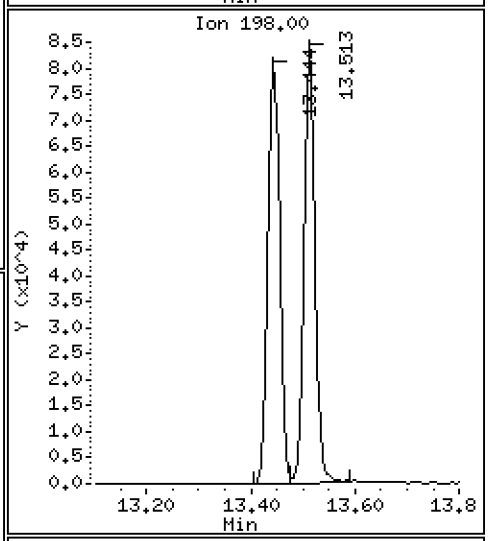


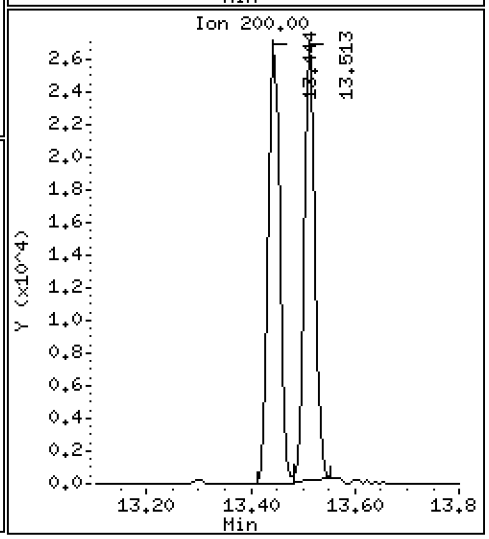












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

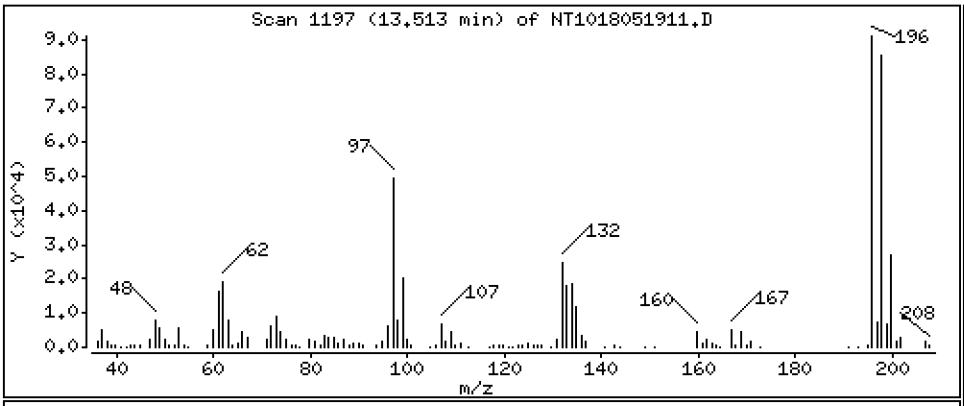
Operator: YZ

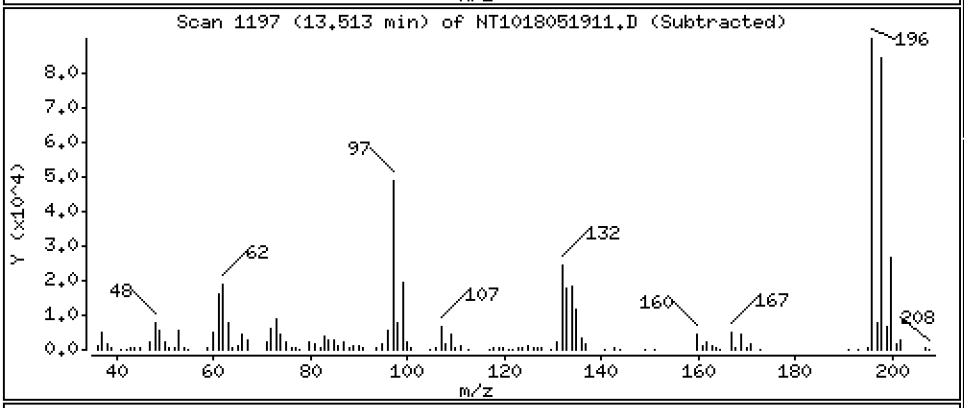
Column phase: ZB-5msi

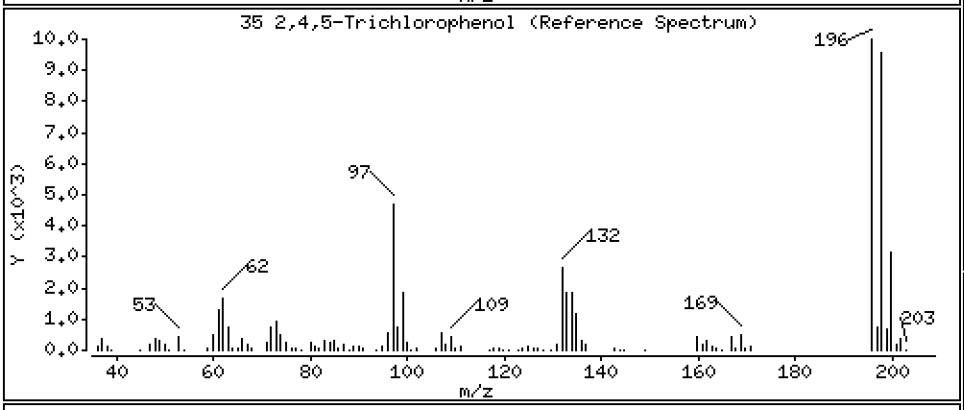
Column diameter: 0.25

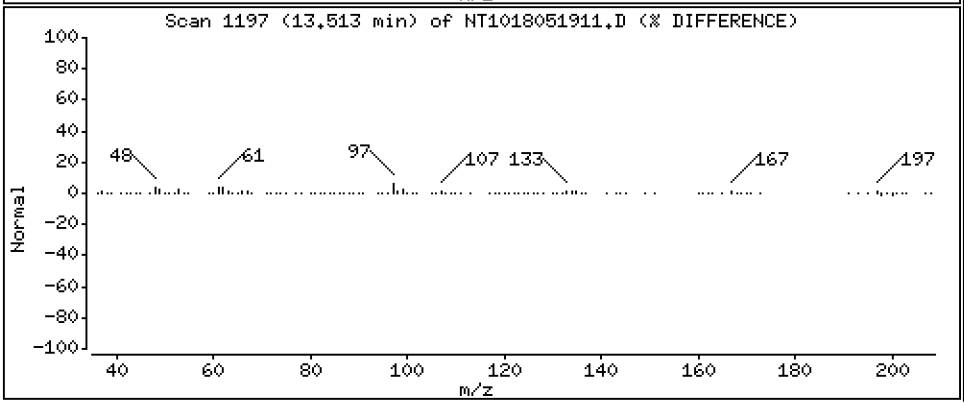
35 2,4,5-Trichlorophenol

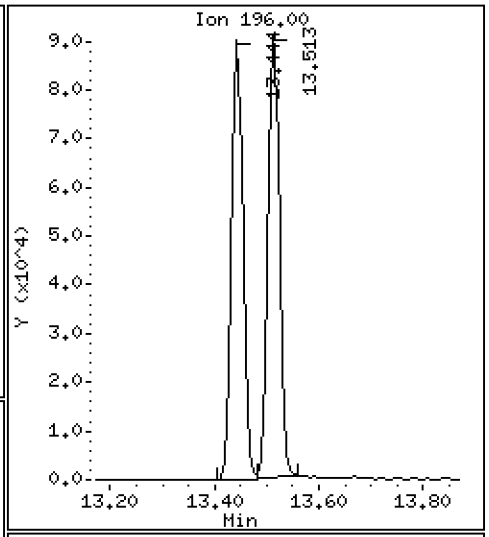
Concentration: 4.519 ug/mL

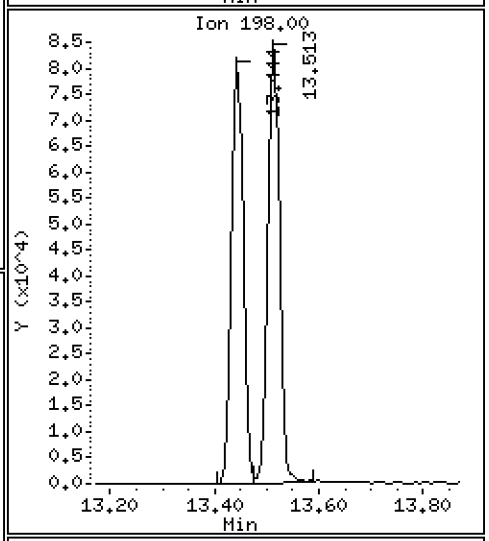


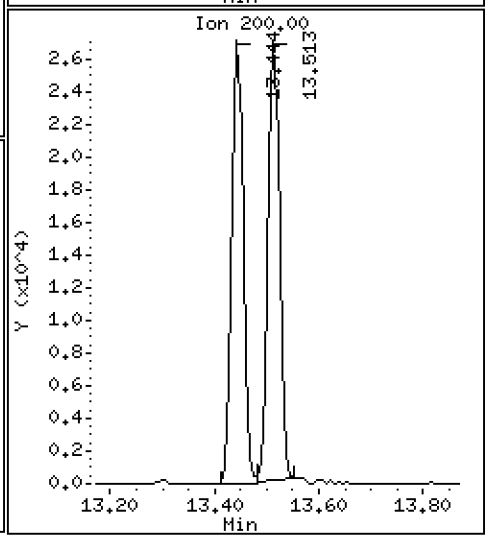












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

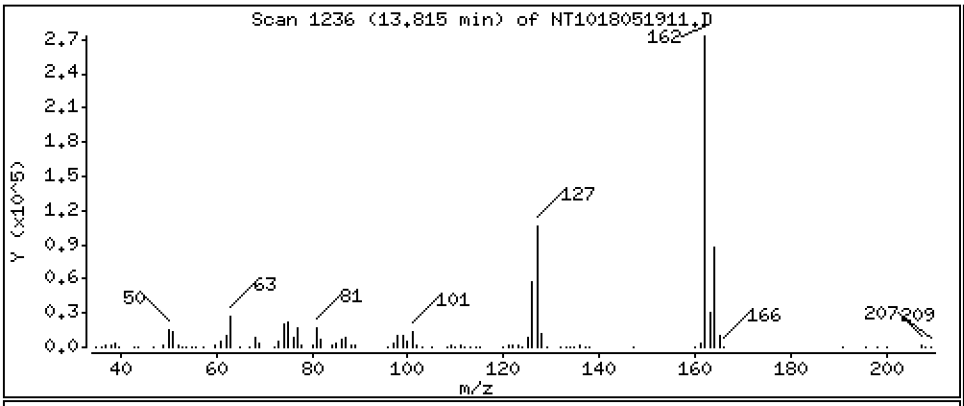
Operator: YZ

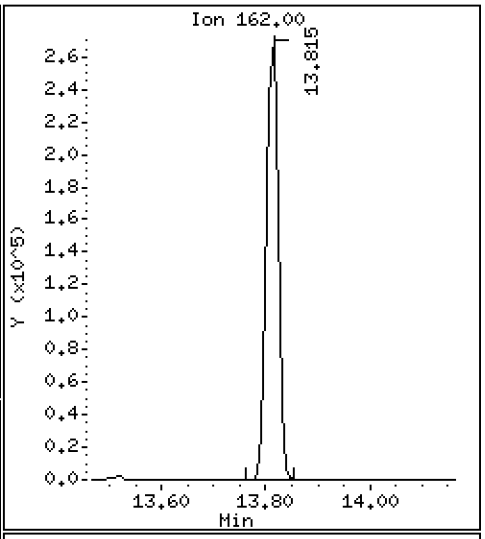
Column phase: ZB-5msi

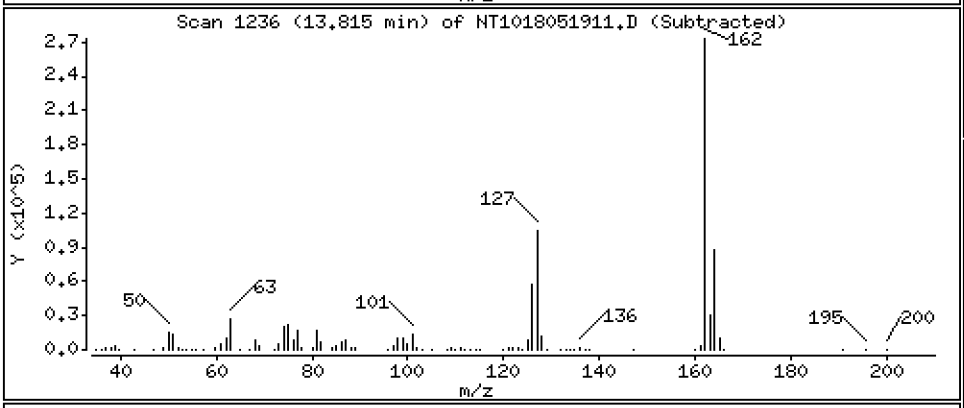
Column diameter: 0.25

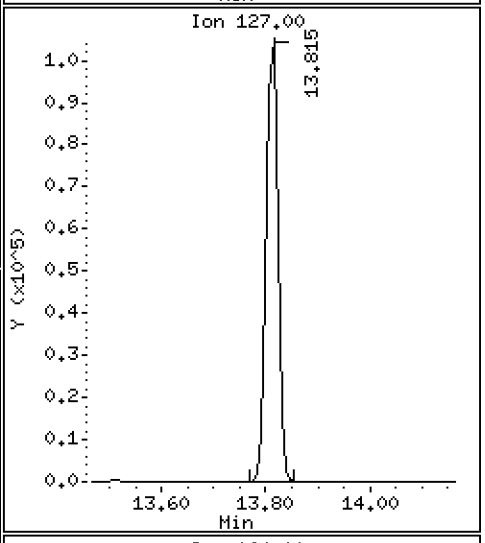
37 2-Chloronaphthalene

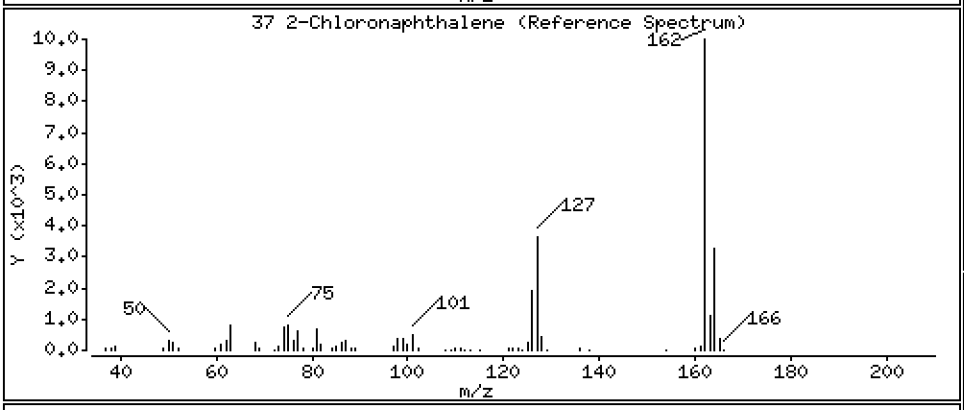
Concentration: 5.246 ug/mL

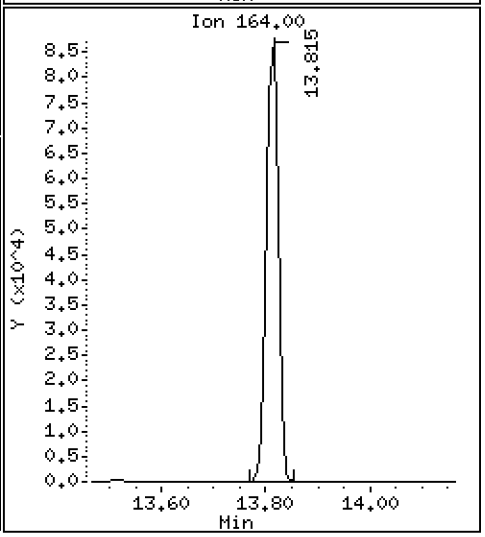


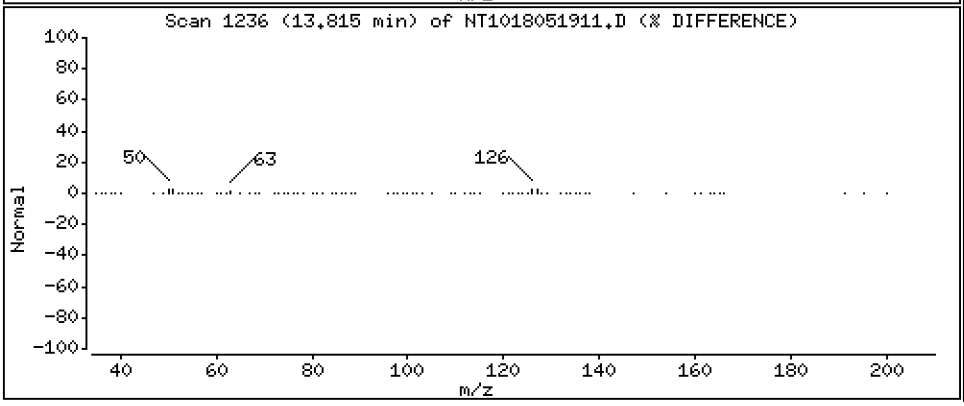












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

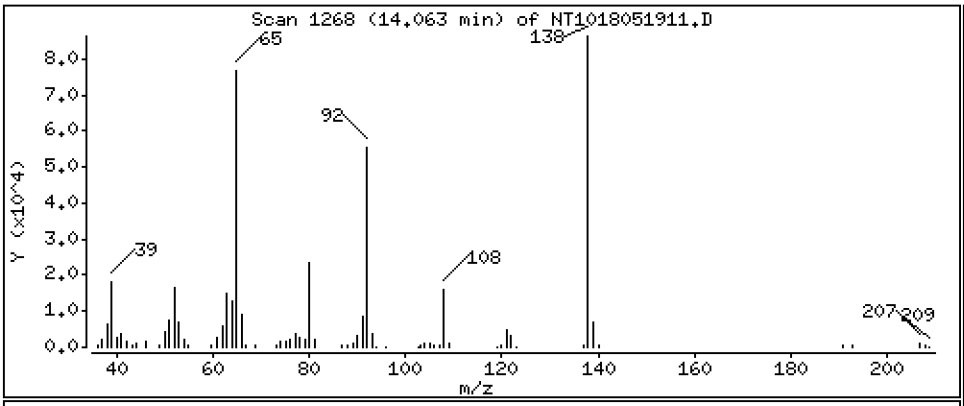
Operator: YZ

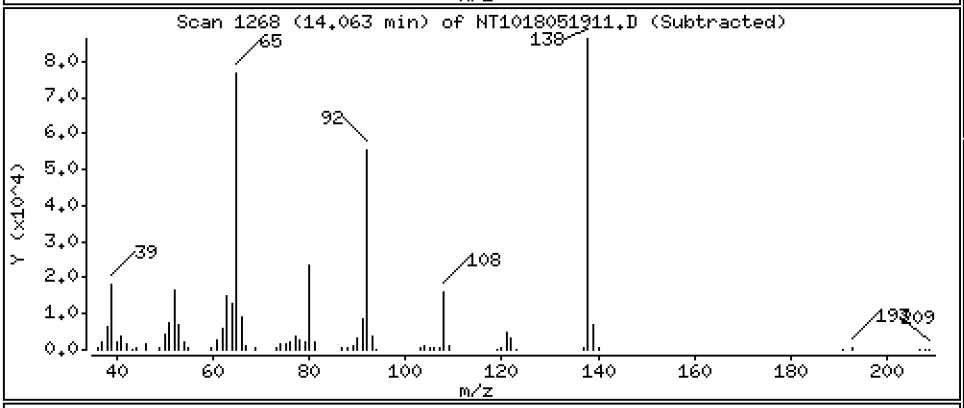
Column phase: ZB-5msi

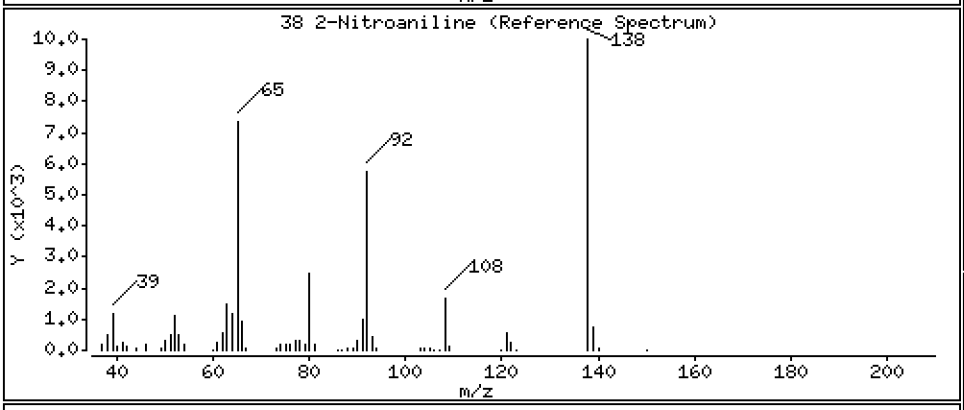
Column diameter: 0.25

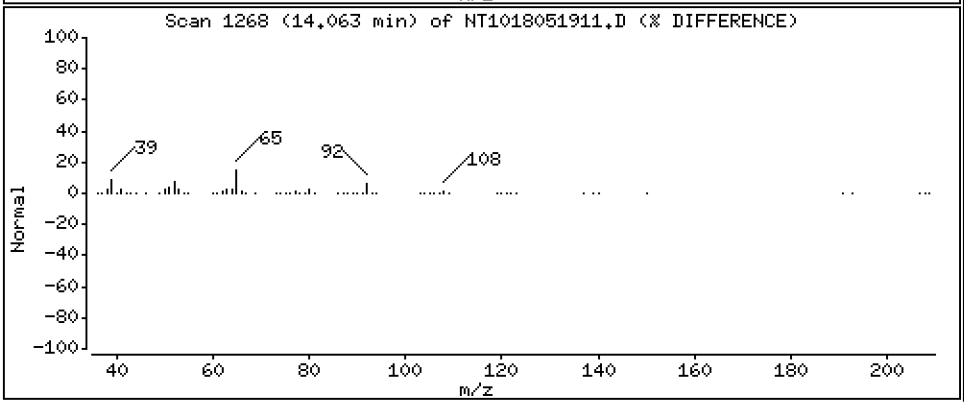
38 2-Nitroaniline

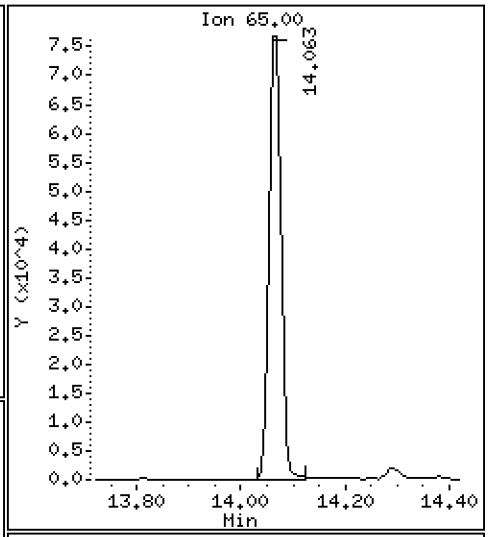
Concentration: 5.504 ug/mL

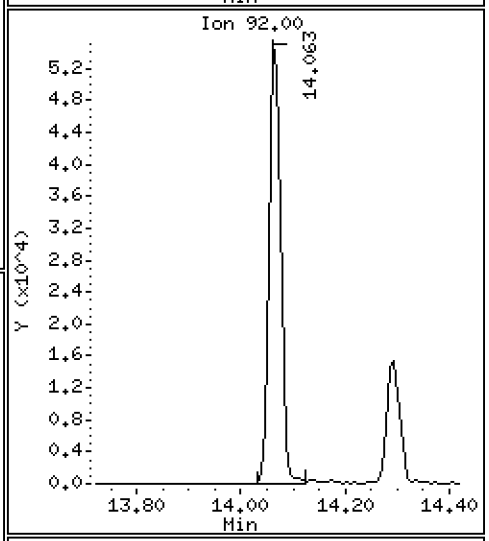


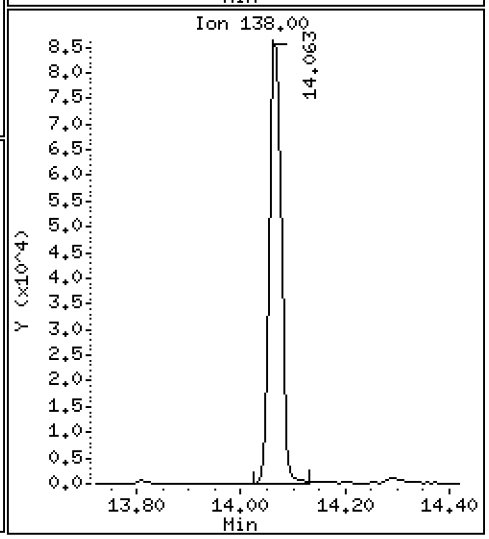












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

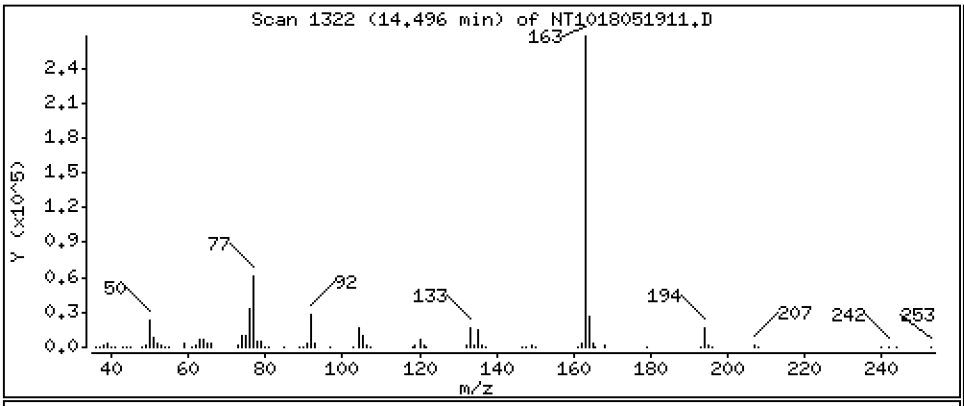
Operator: YZ

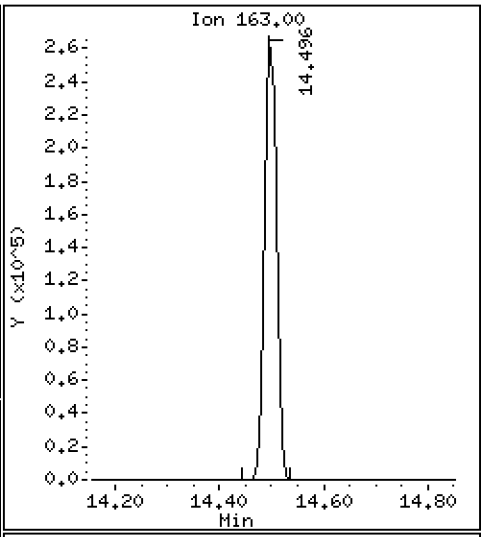
Column phase: ZB-5msi

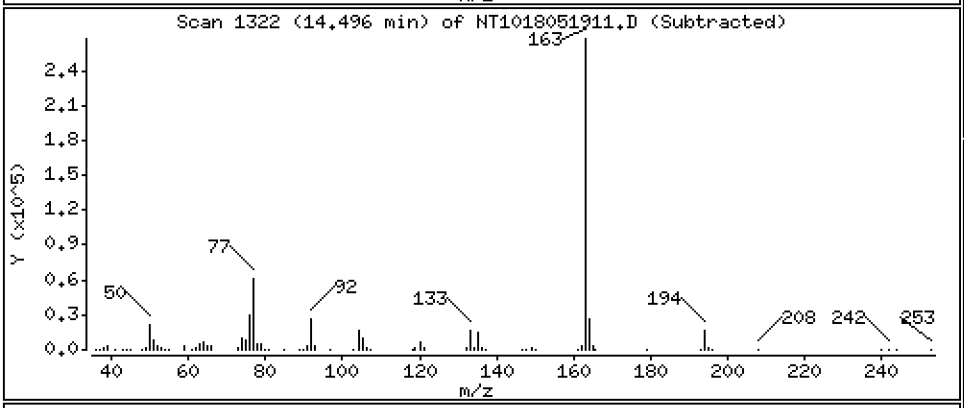
Column diameter: 0.25

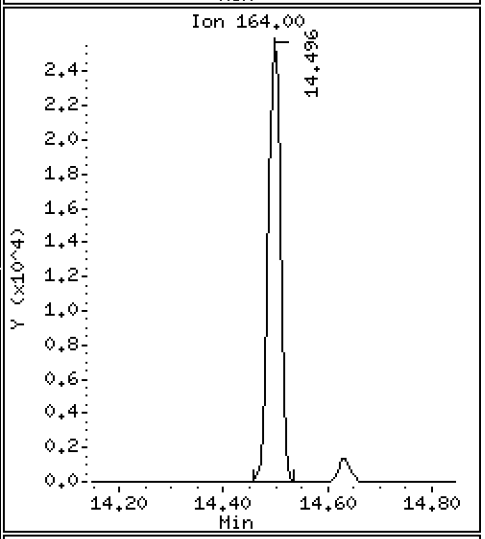
39 Dimethylphthalate

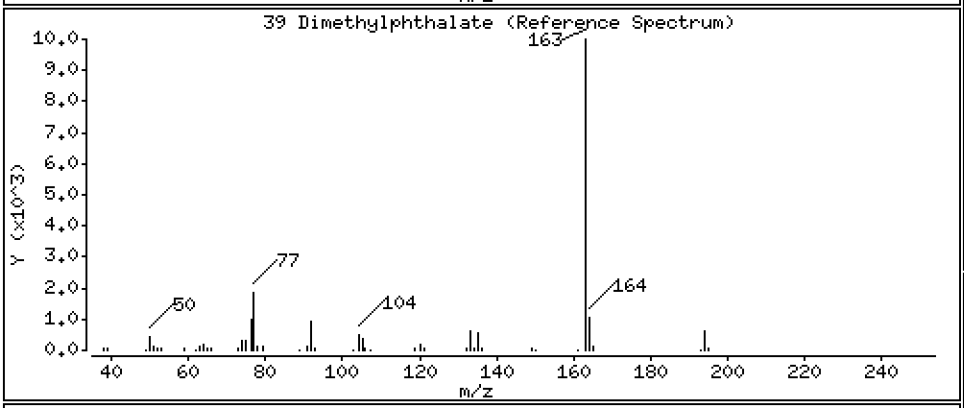
Concentration: 4.876 ug/mL

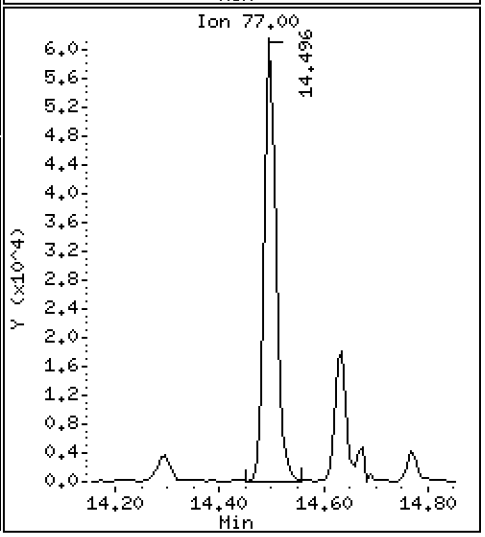


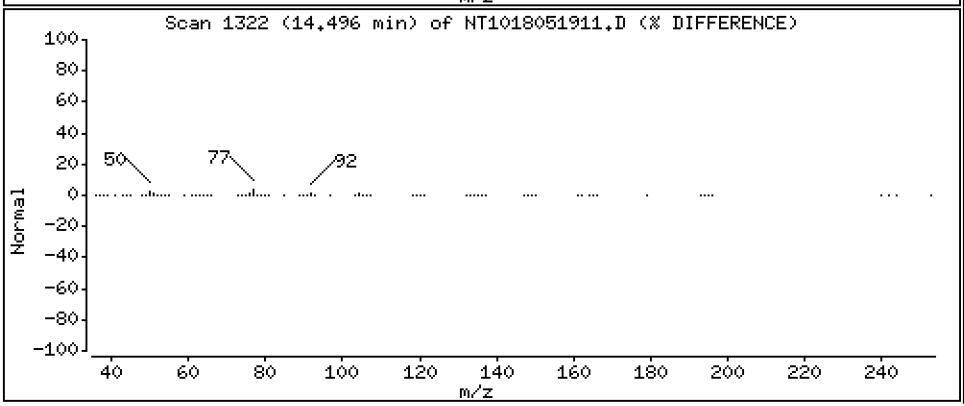












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

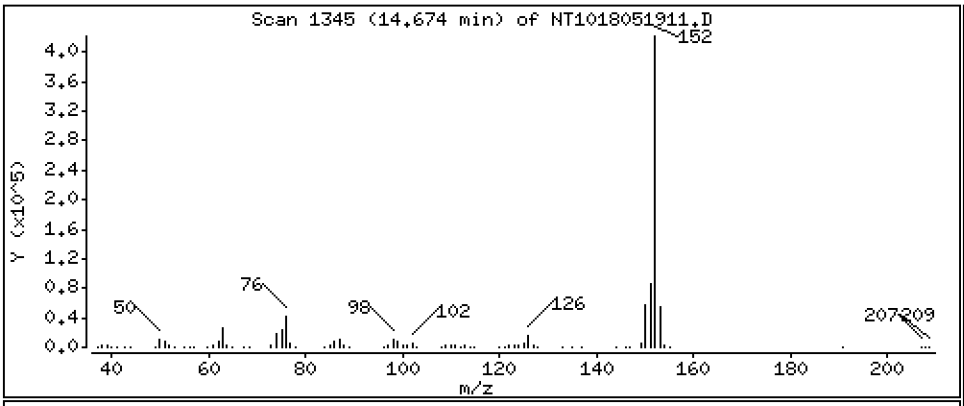
Operator: YZ

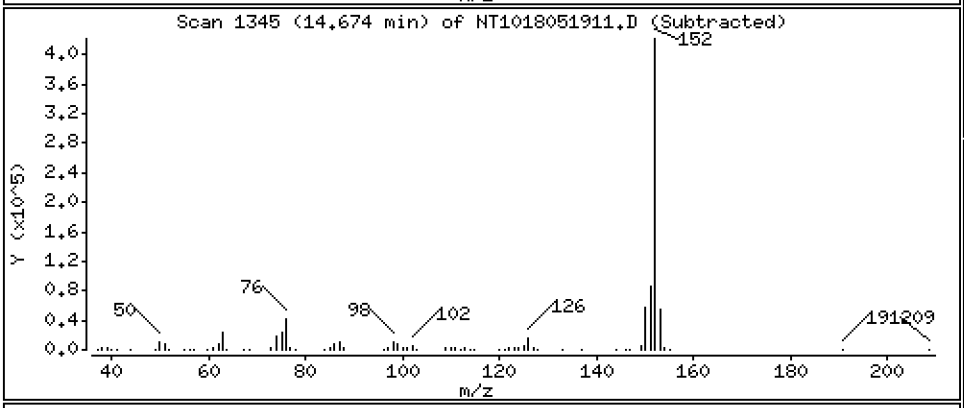
Column phase: ZB-5msi

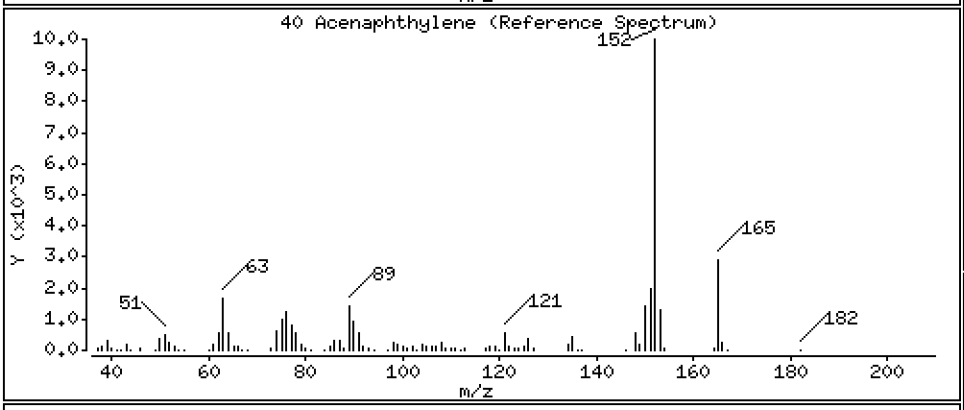
Column diameter: 0.25

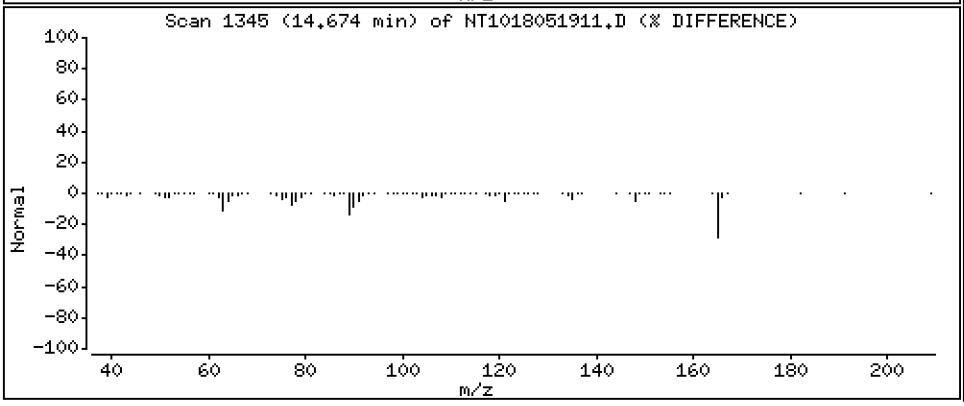
40 Acenaphthylene

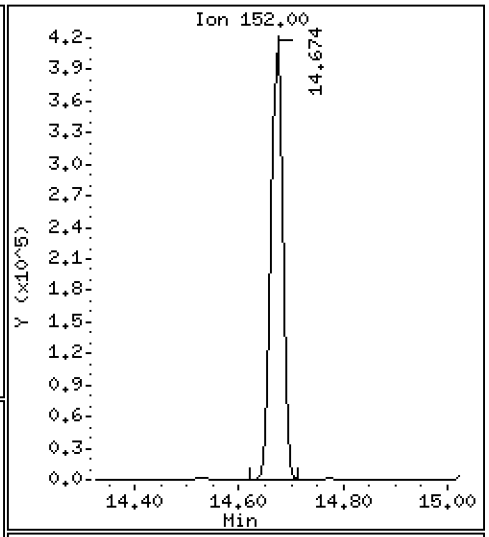
Concentration: 5.087 ug/mL

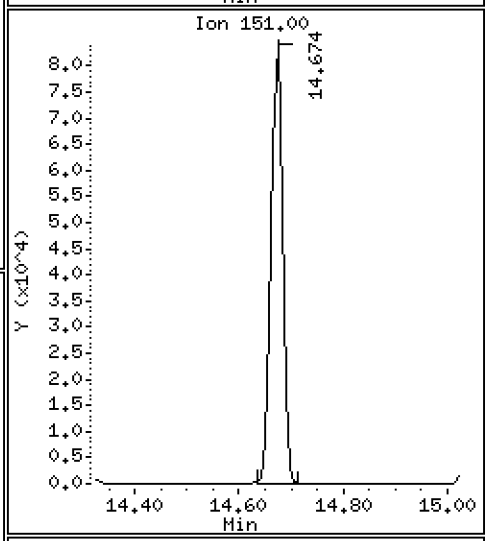


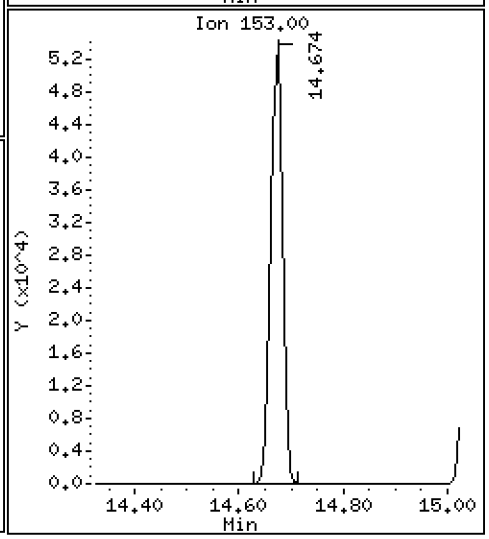












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

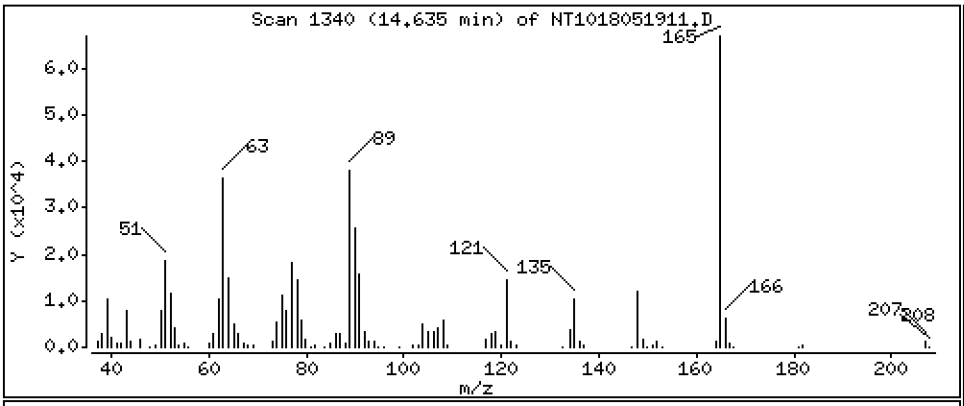
Operator: YZ

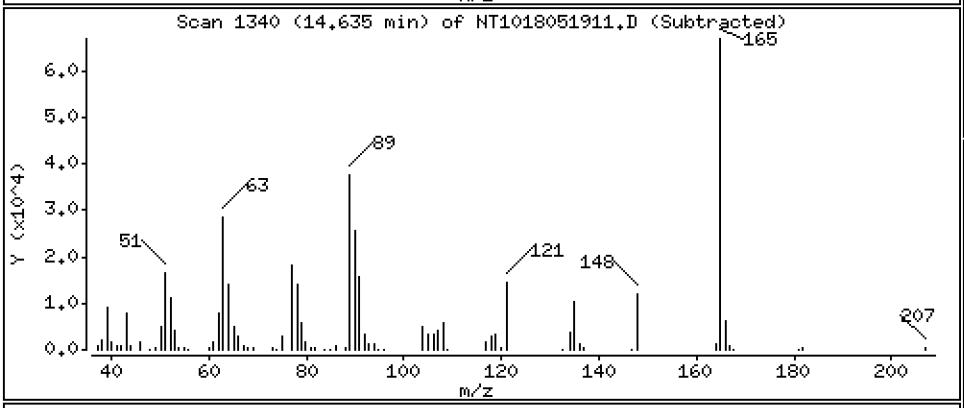
Column phase: ZB-5msi

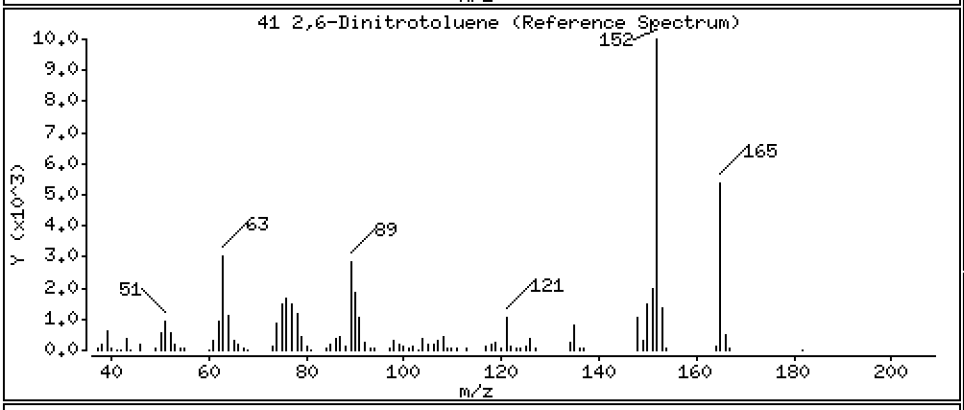
Column diameter: 0.25

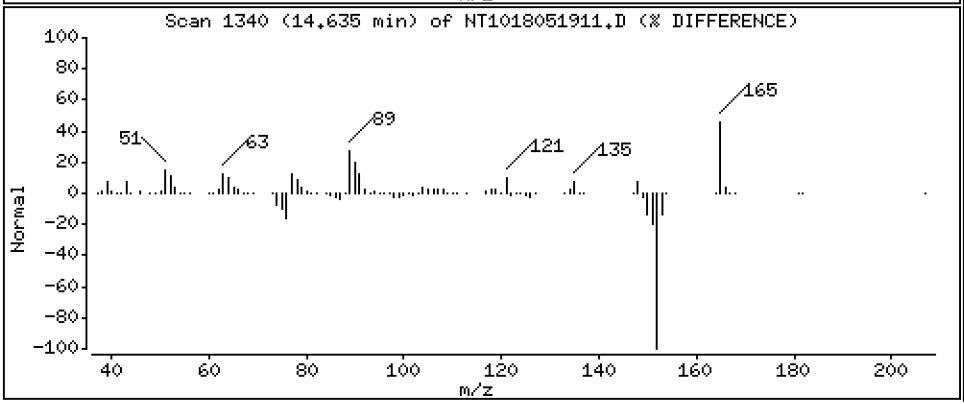
41 2,6-Dinitrotoluene

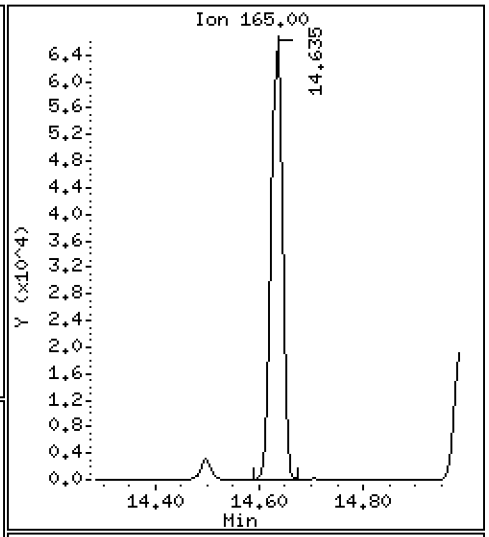
Concentration: 5.391 ug/mL

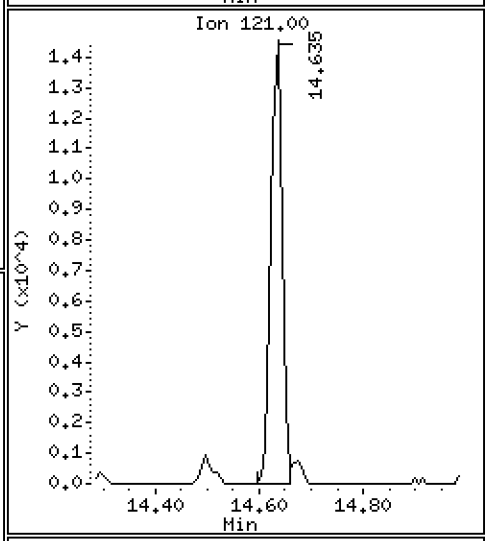


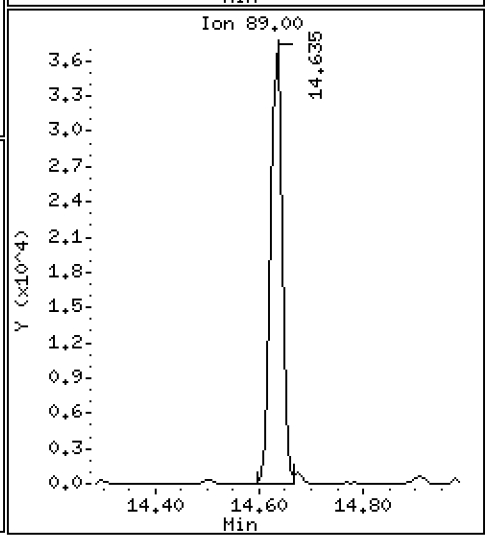












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

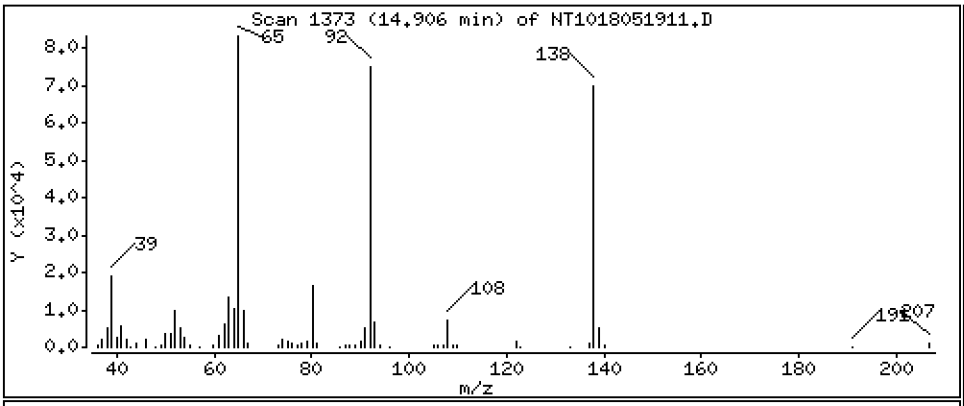
Operator: YZ

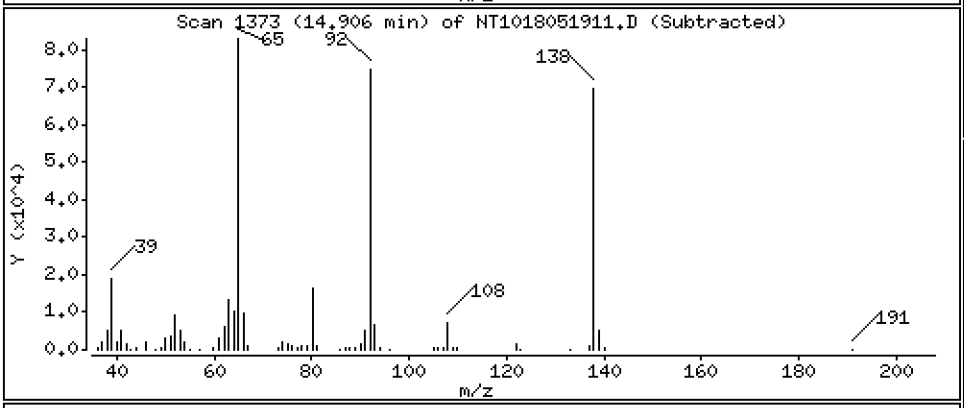
Column phase: ZB-5msi

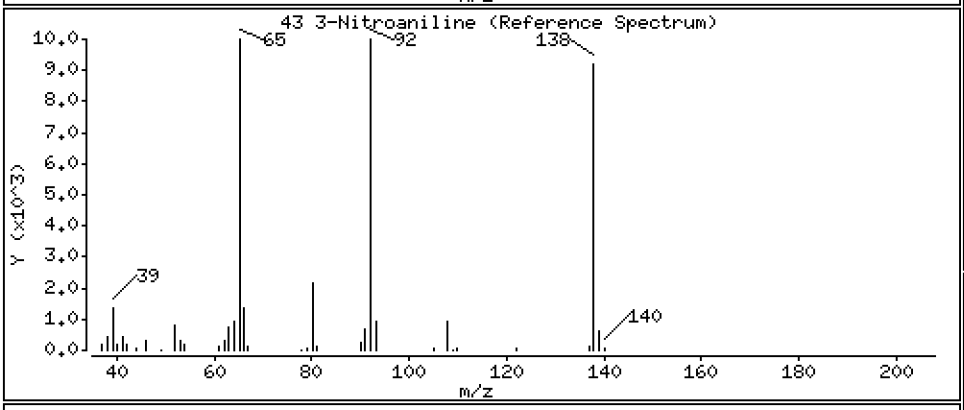
Column diameter: 0.25

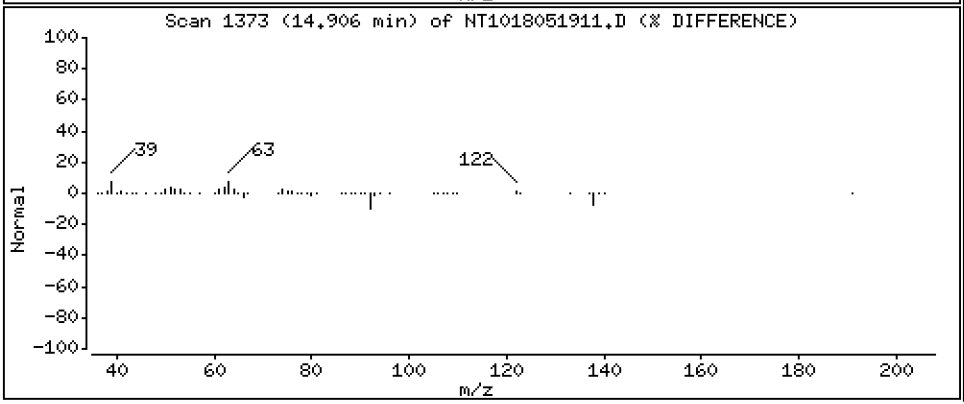
43 3-Nitroaniline

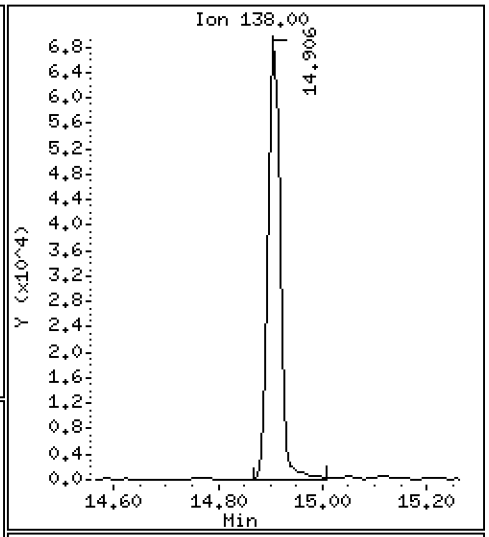
Concentration: 5.234 ug/mL

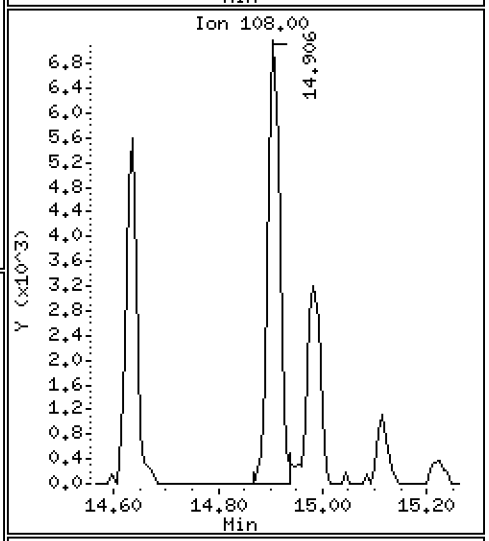


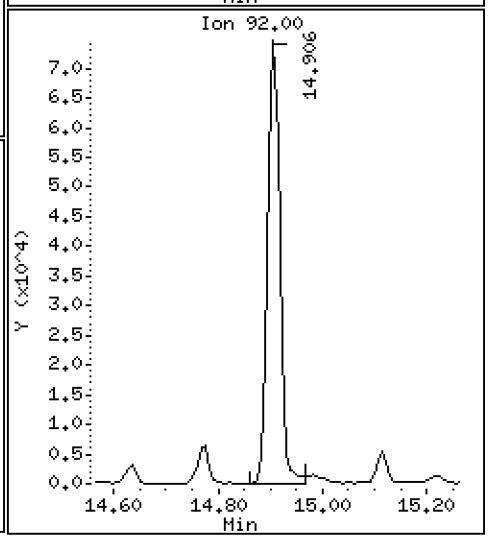












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

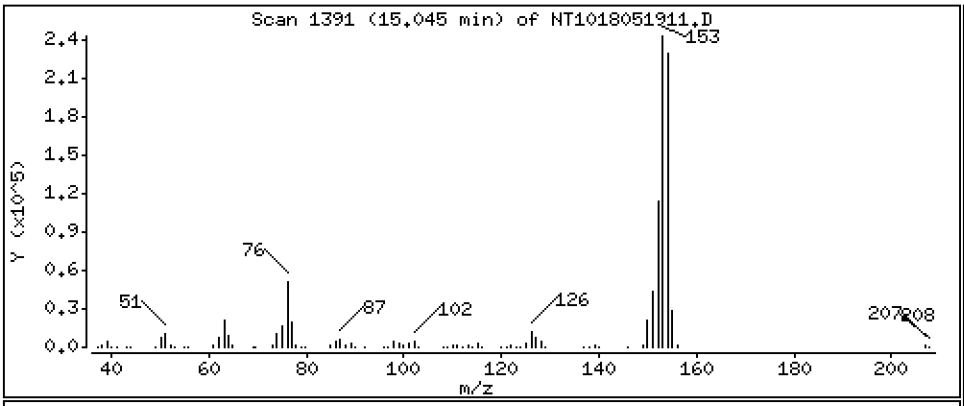
Operator: YZ

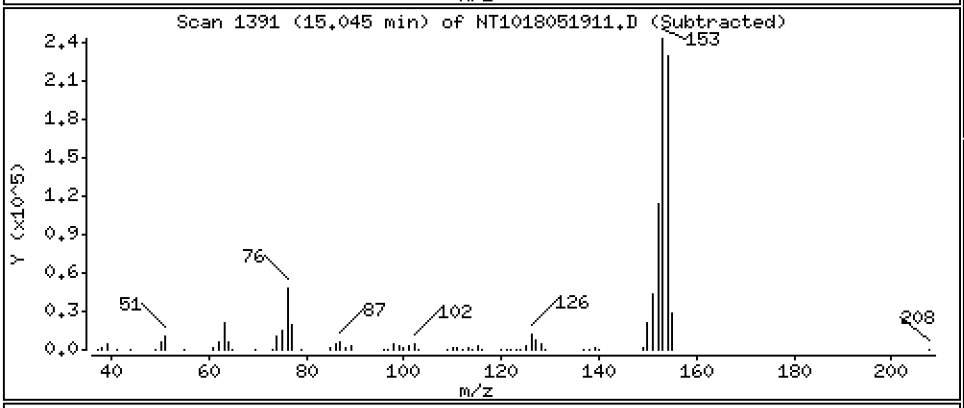
Column phase: ZB-5msi

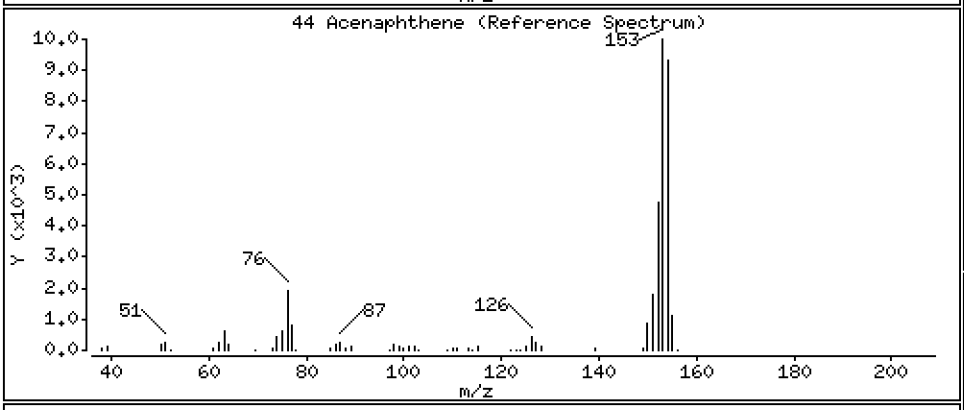
Column diameter: 0.25

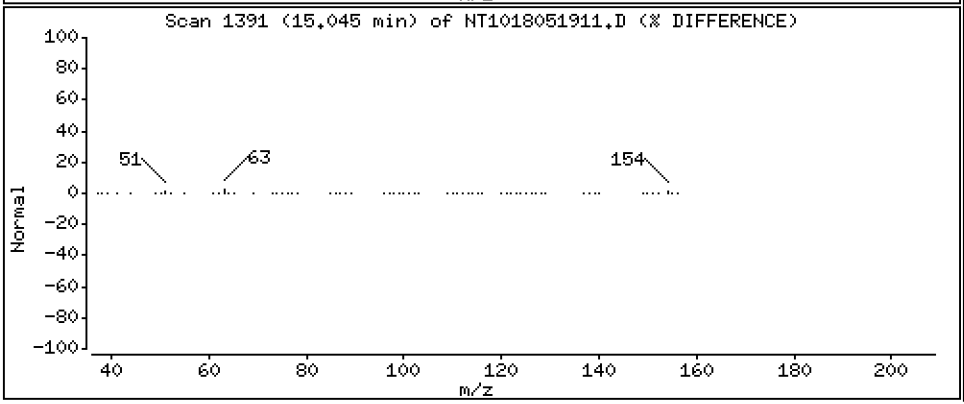
44 Acenaphthene

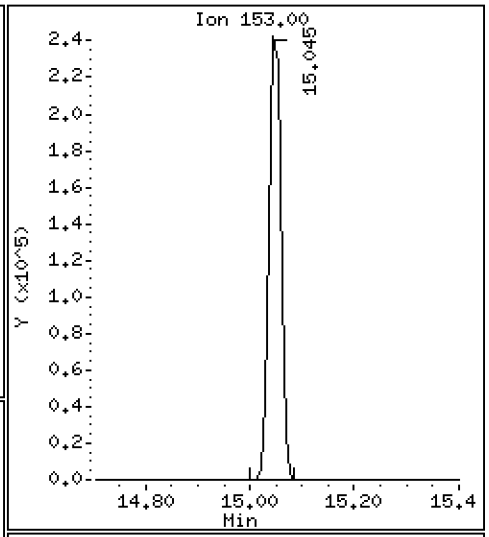
Concentration: 5.071 ug/mL

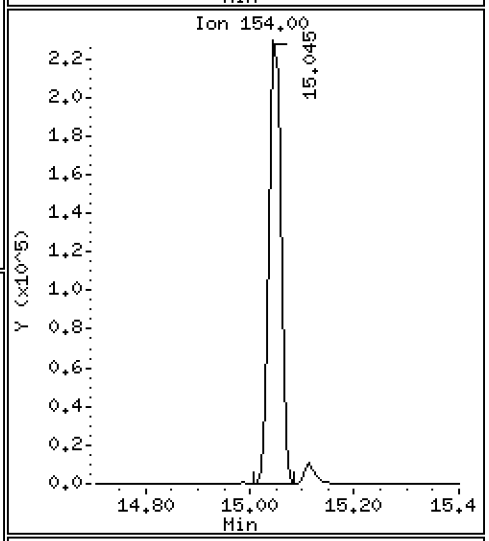


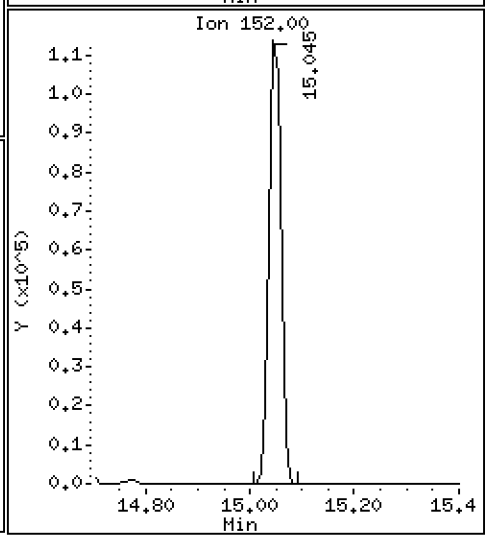












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

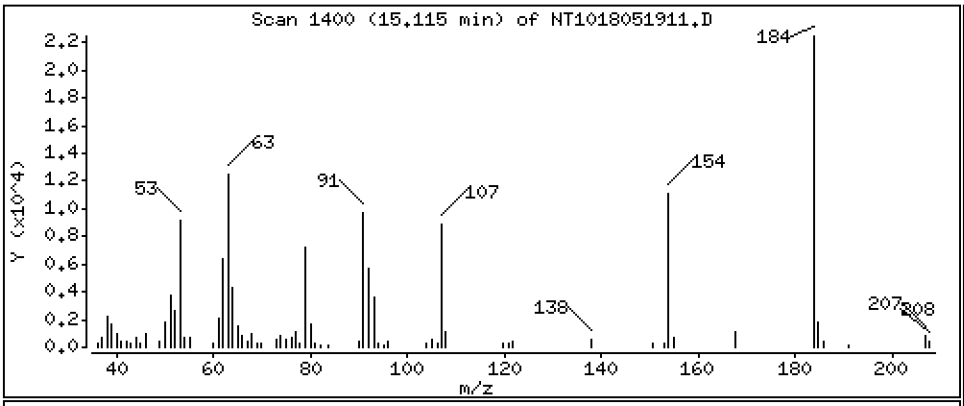
Operator: YZ

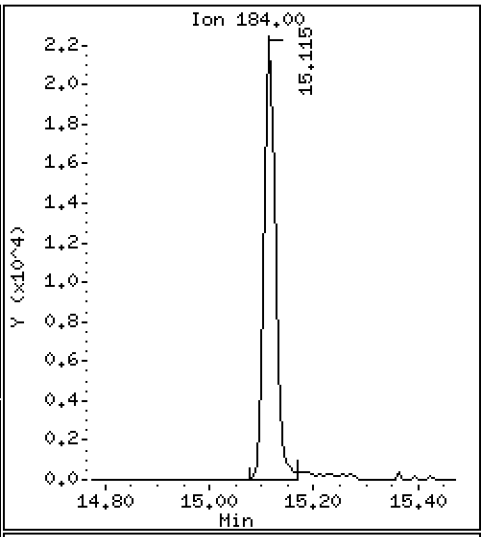
Column phase: ZB-5msi

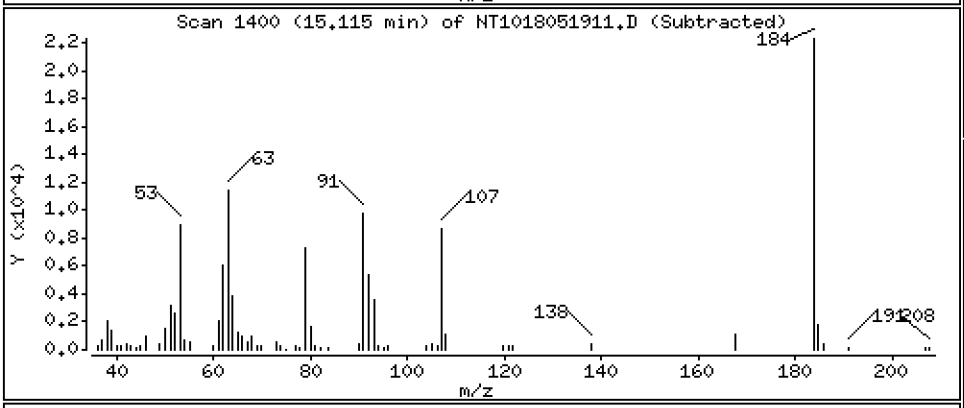
Column diameter: 0.25

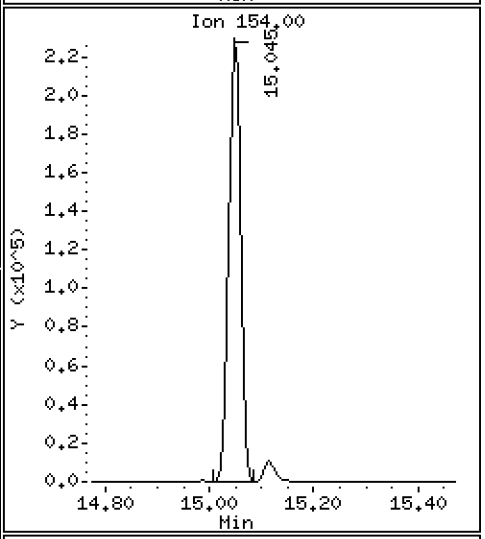
45 2,4-Dinitrophenol

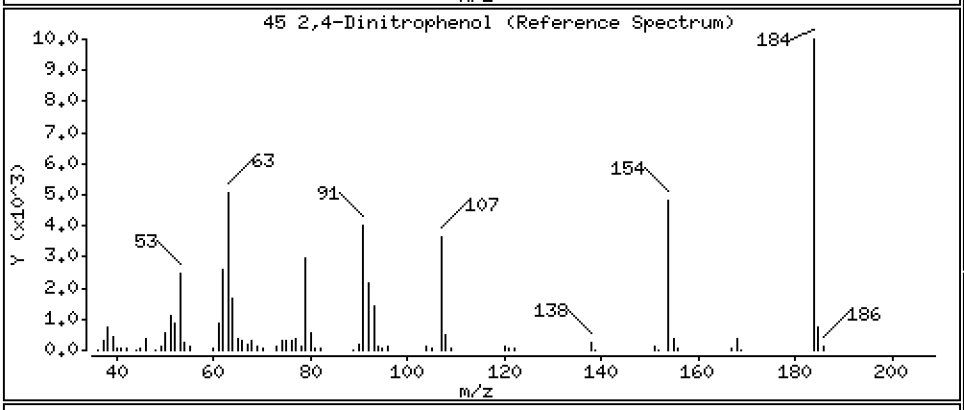
Concentration: 2.947 ug/mL

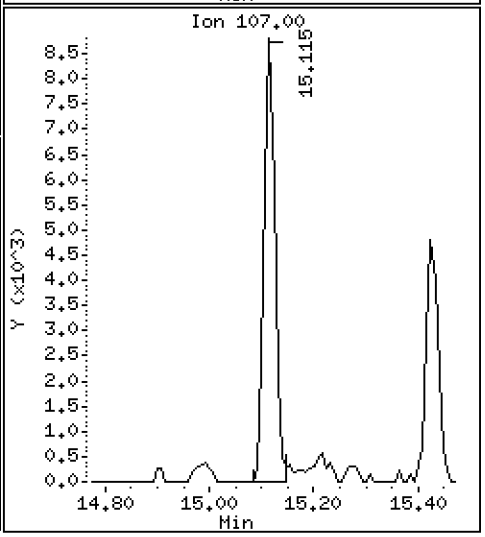


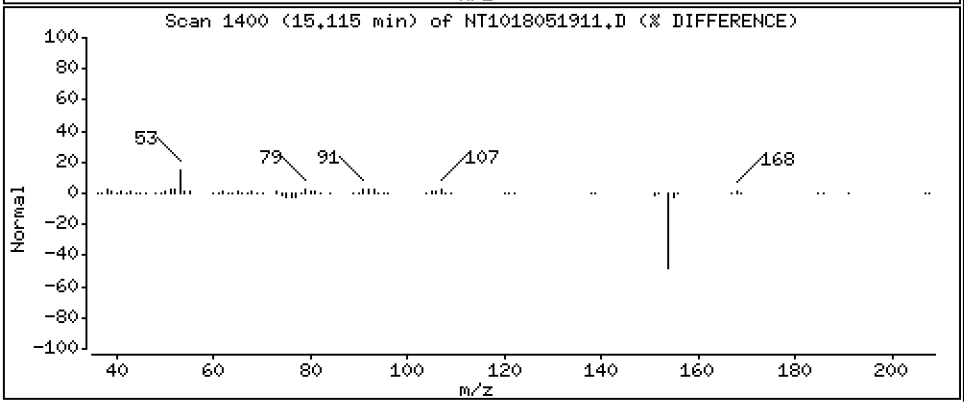












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

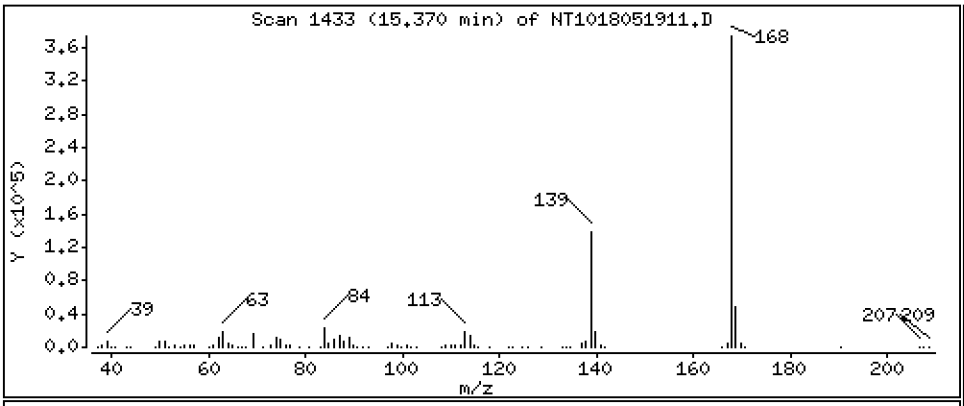
Operator: YZ

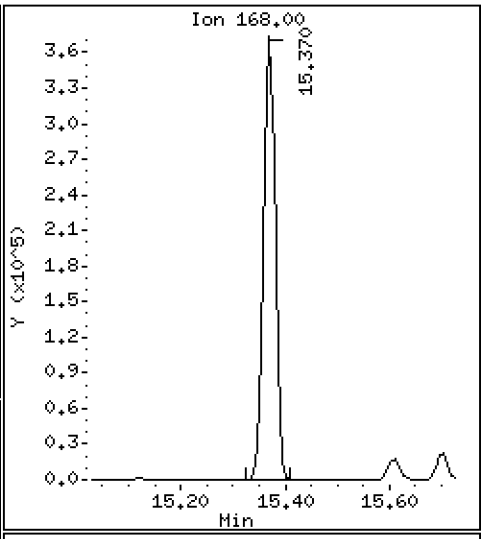
Column phase: ZB-5msi

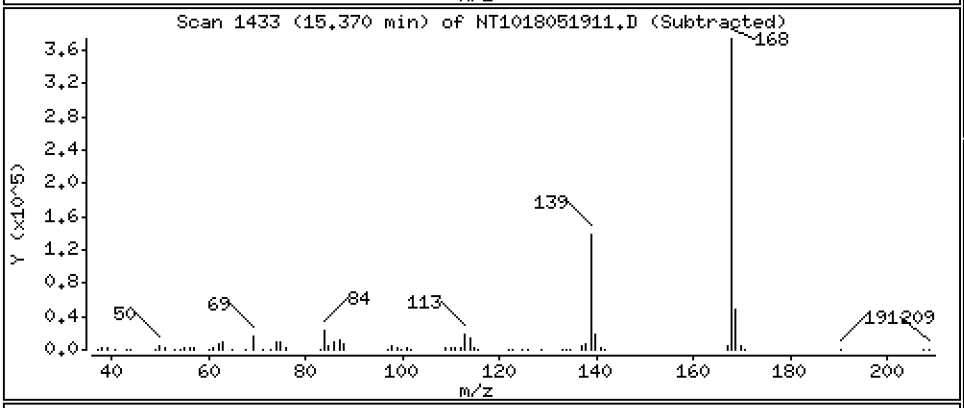
Column diameter: 0.25

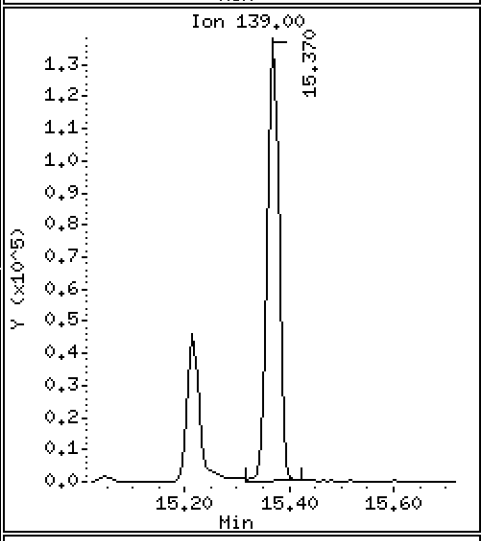
46 Dibenzofuran

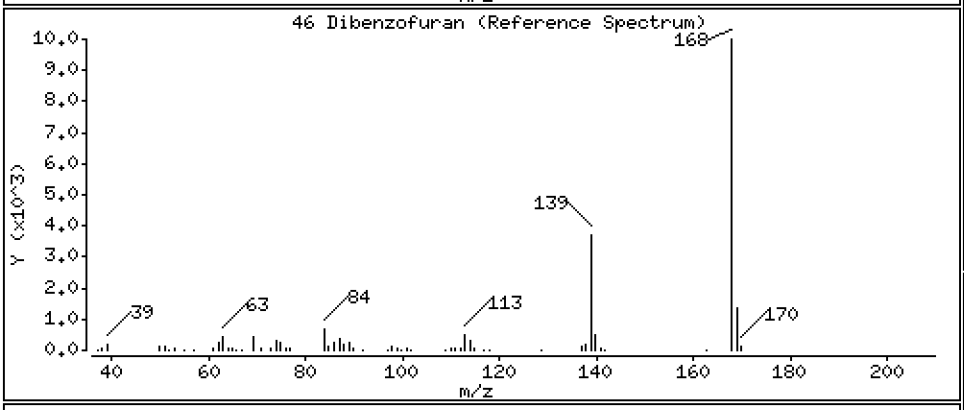
Concentration: 4.886 ug/mL

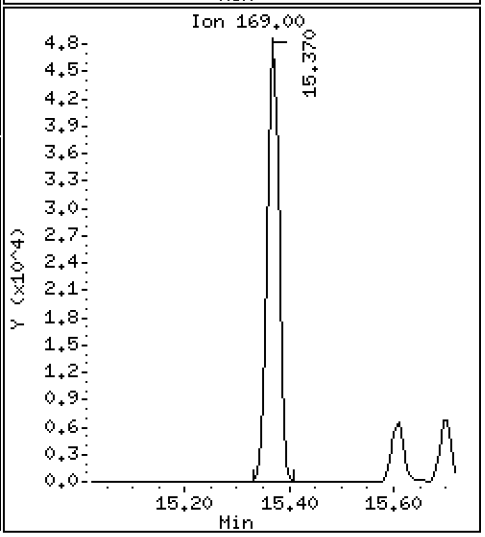


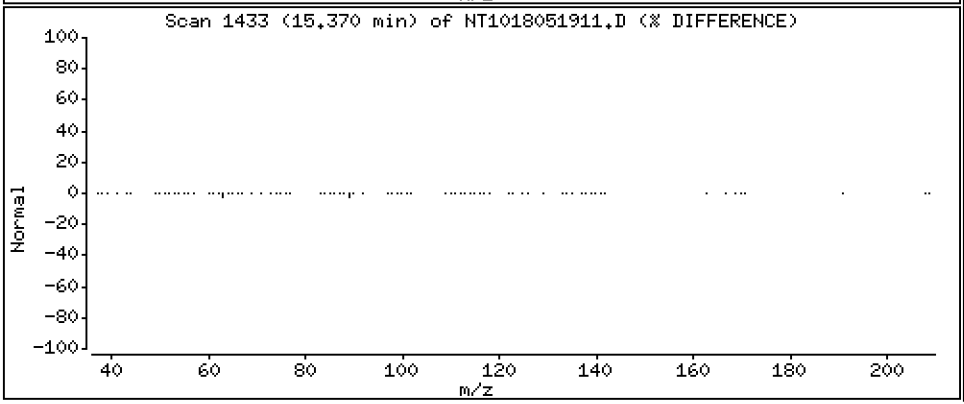












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

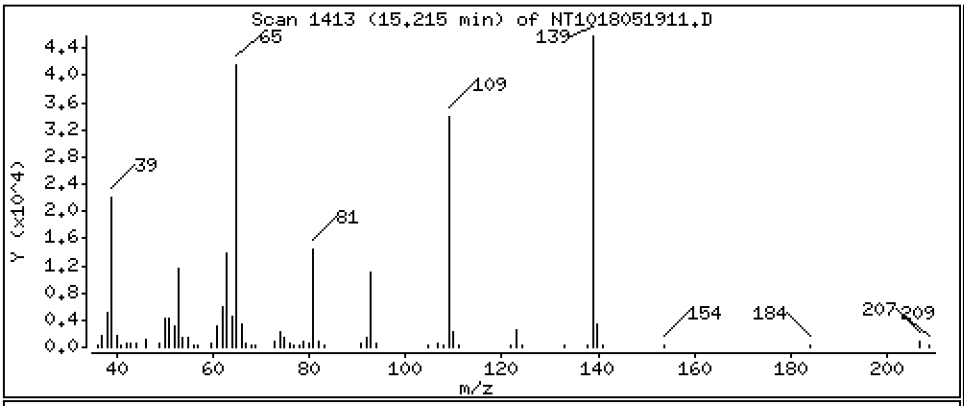
Operator: YZ

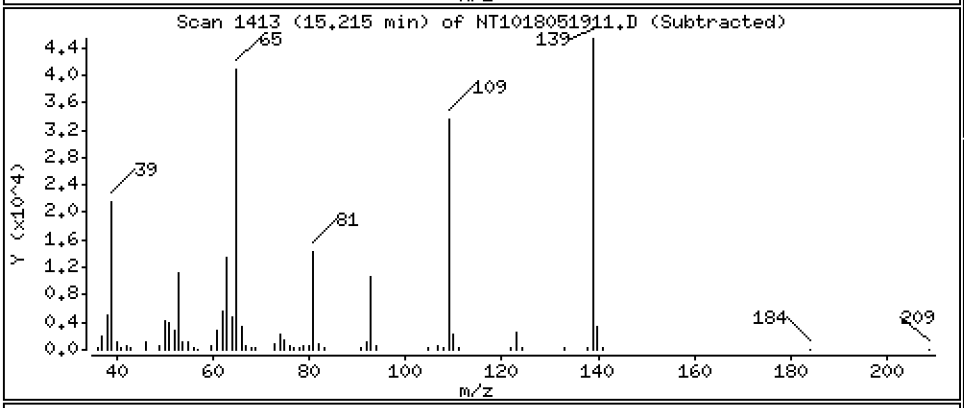
Column phase: ZB-5msi

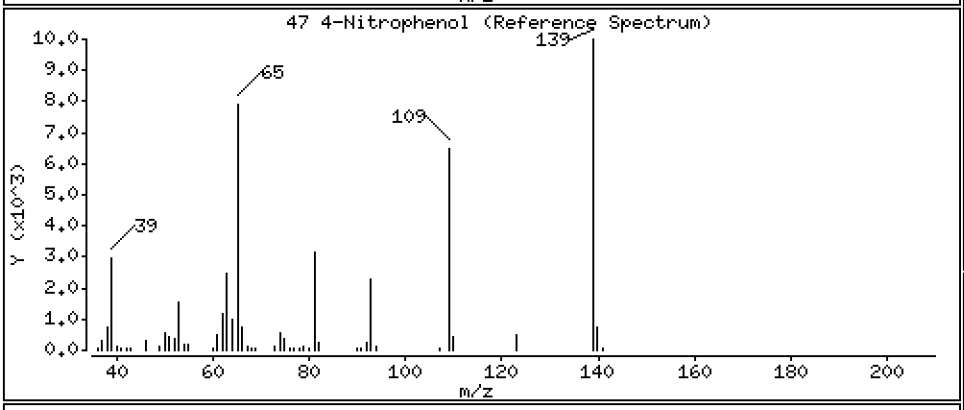
Column diameter: 0.25

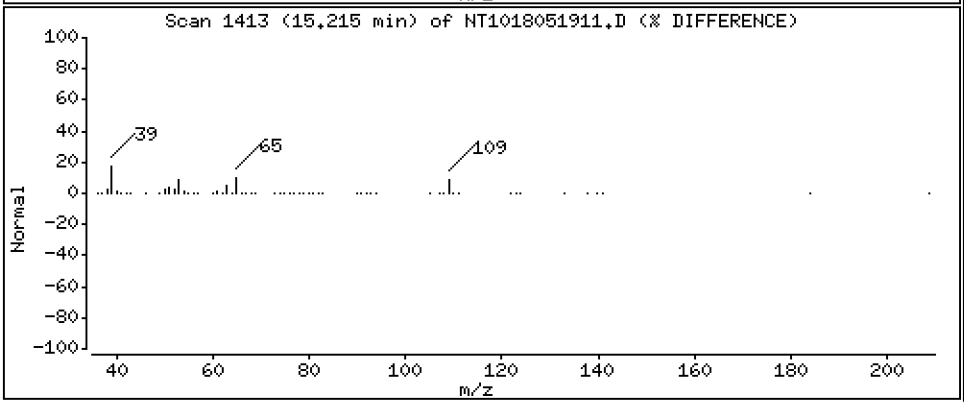
47 4-Nitrophenol

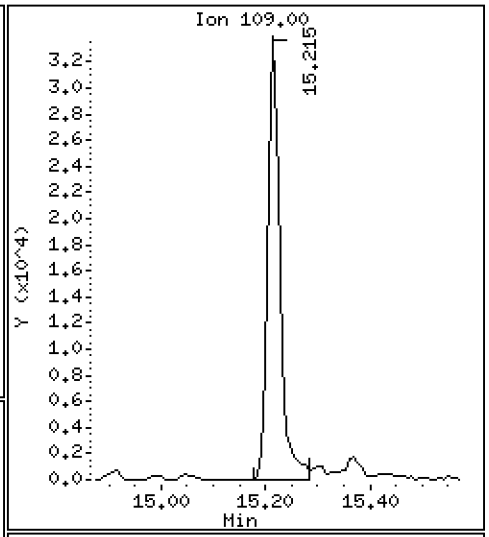
Concentration: 4.151 ug/mL

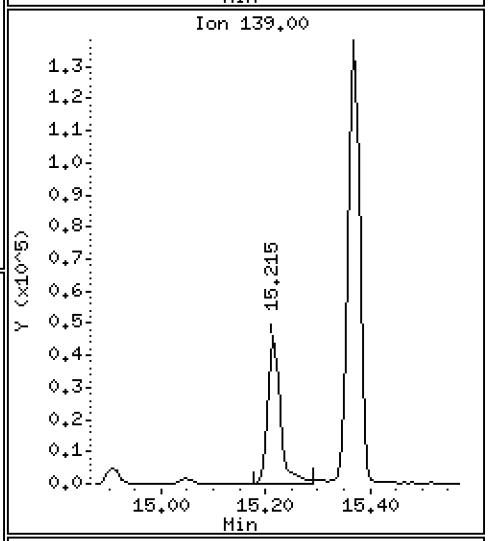


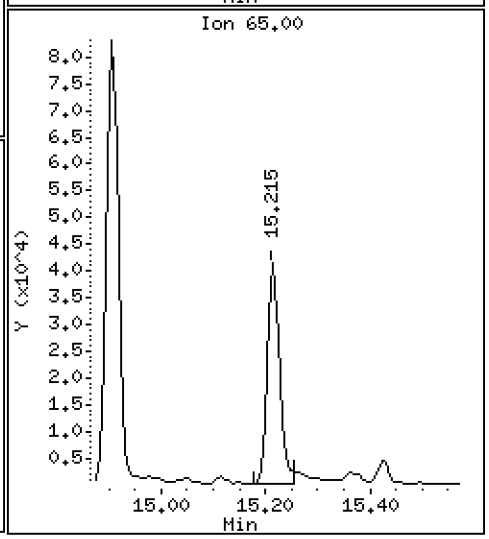












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

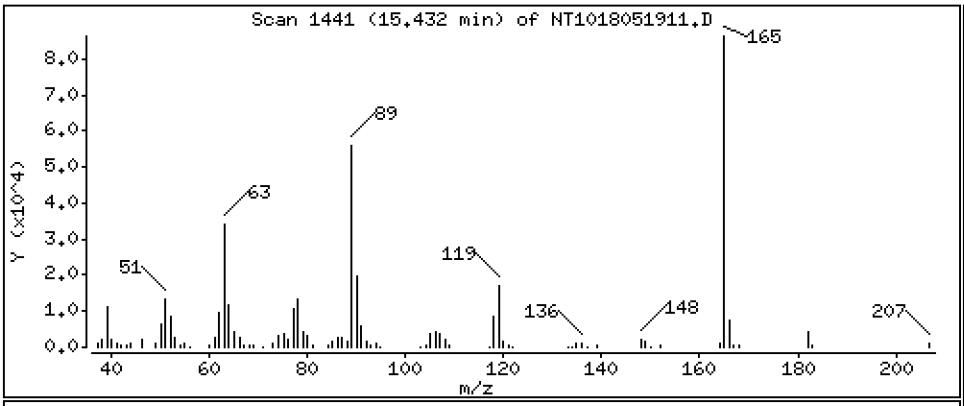
Operator: YZ

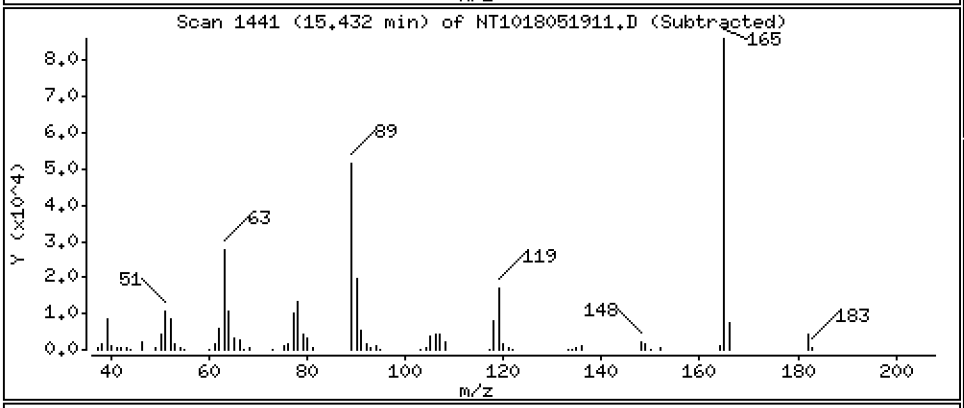
Column phase: ZB-5msi

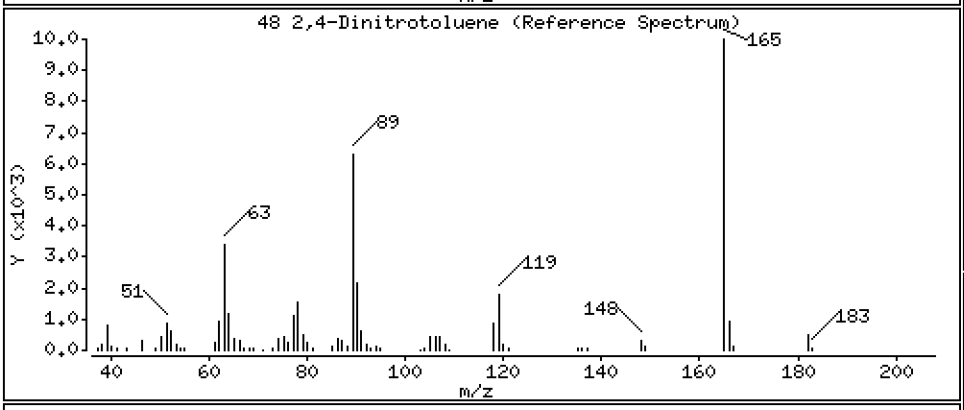
Column diameter: 0.25

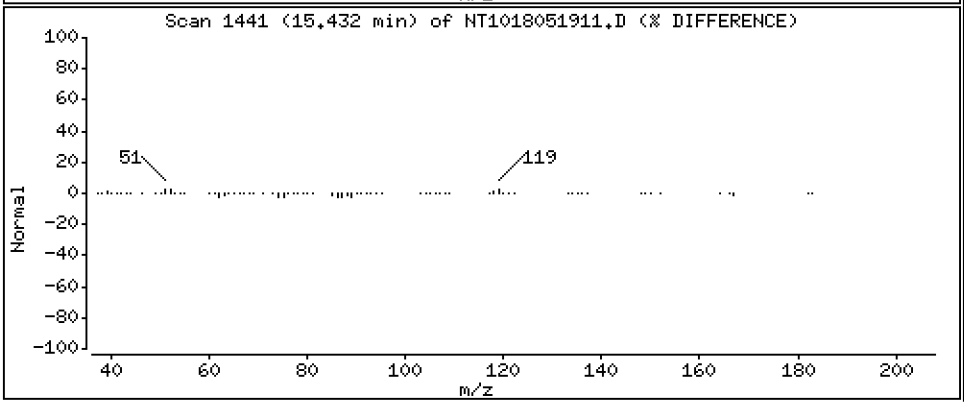
48 2,4-Dinitrotoluene

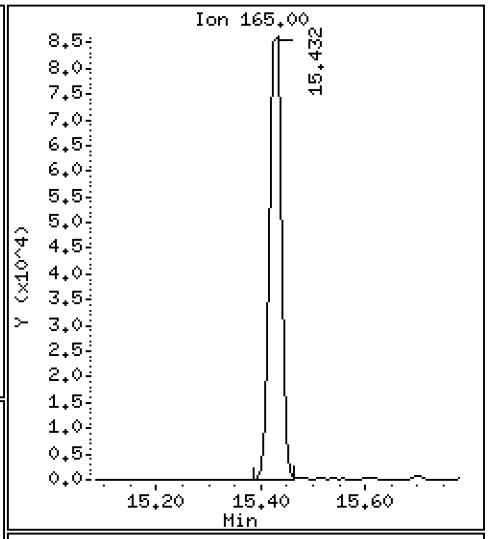
Concentration: 5.686 ug/mL

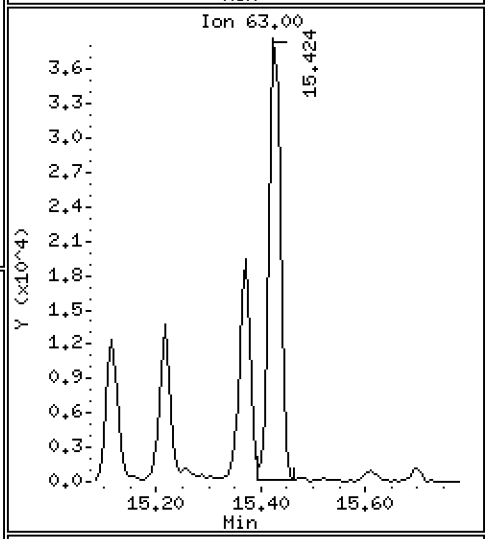


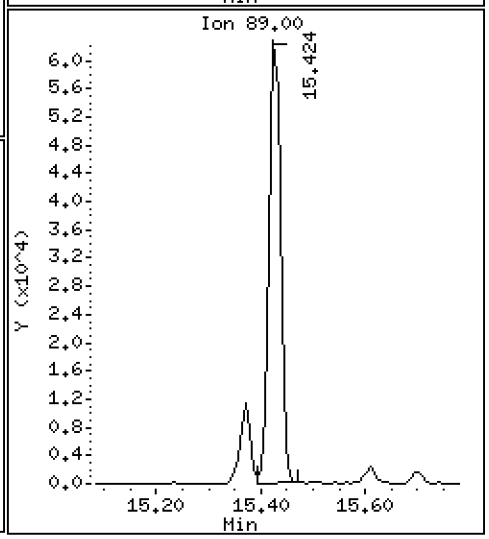












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

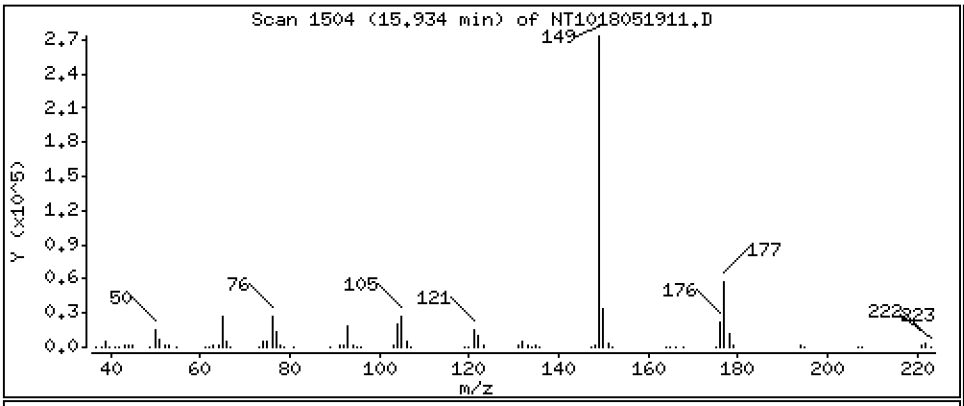
Operator: YZ

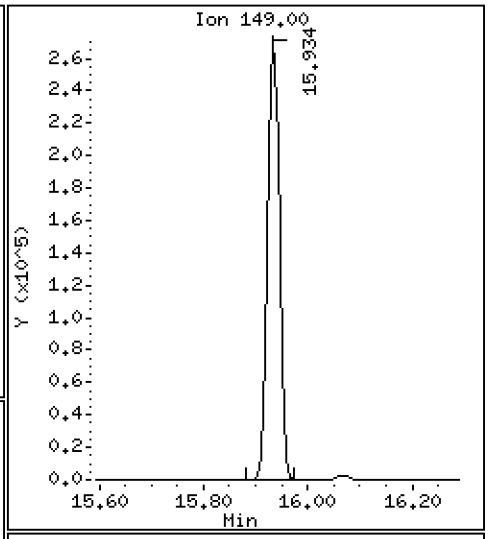
Column phase: ZB-5msi

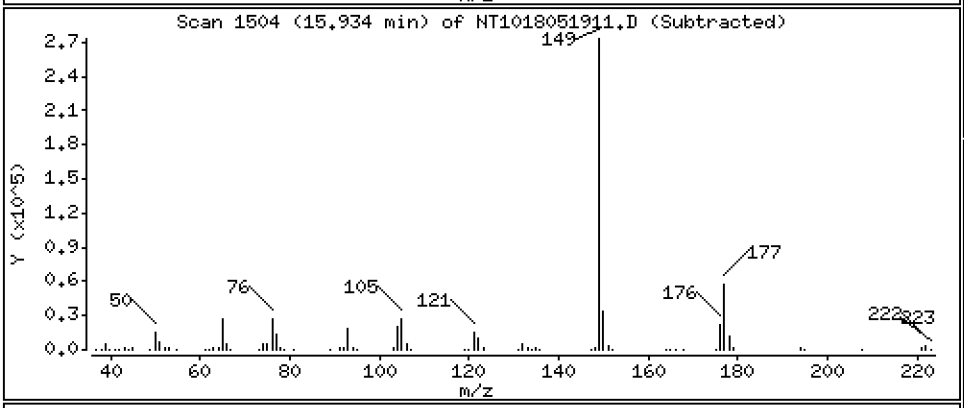
Column diameter: 0.25

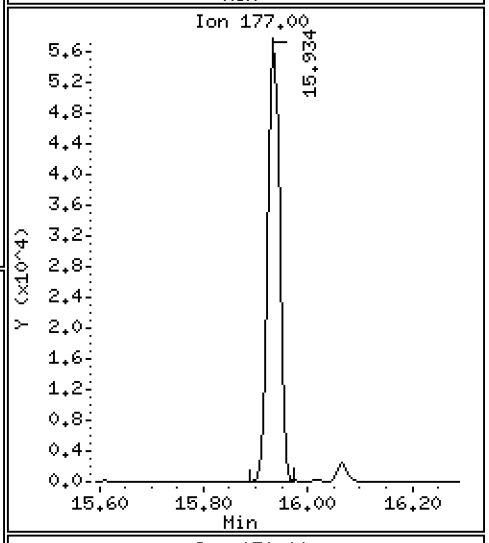
50 Diethylphthalate

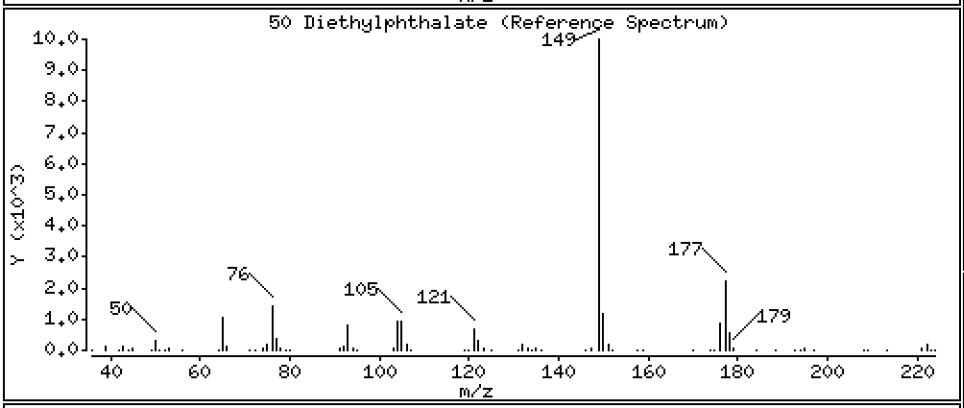
Concentration: 4.831 ug/mL

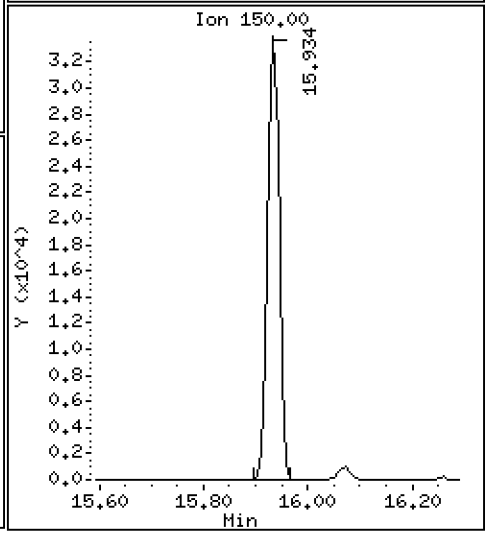


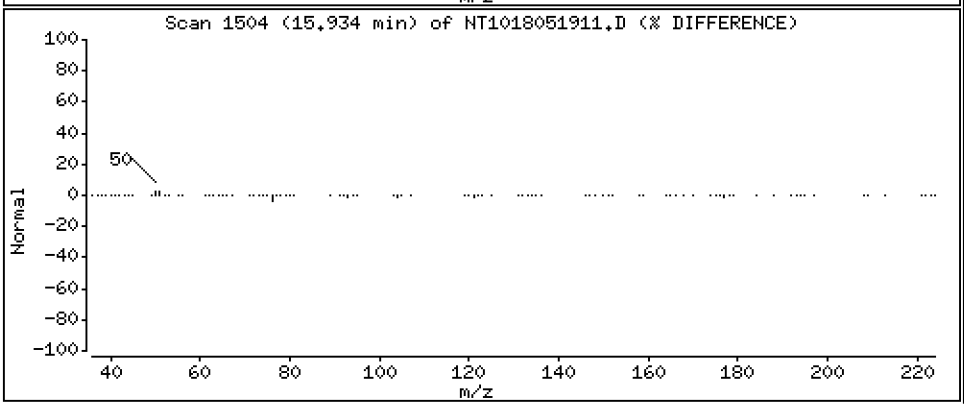












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

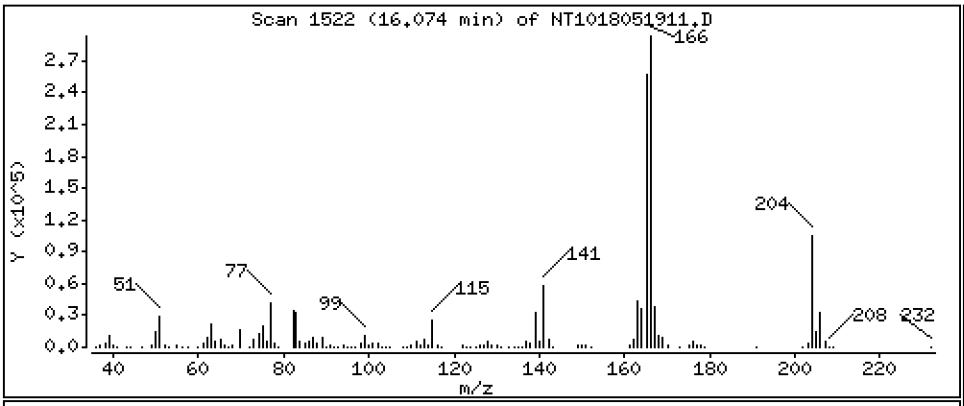
Operator: YZ

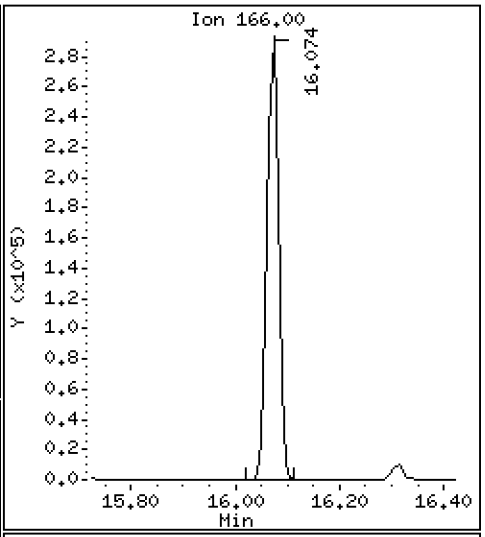
Column phase: ZB-5msi

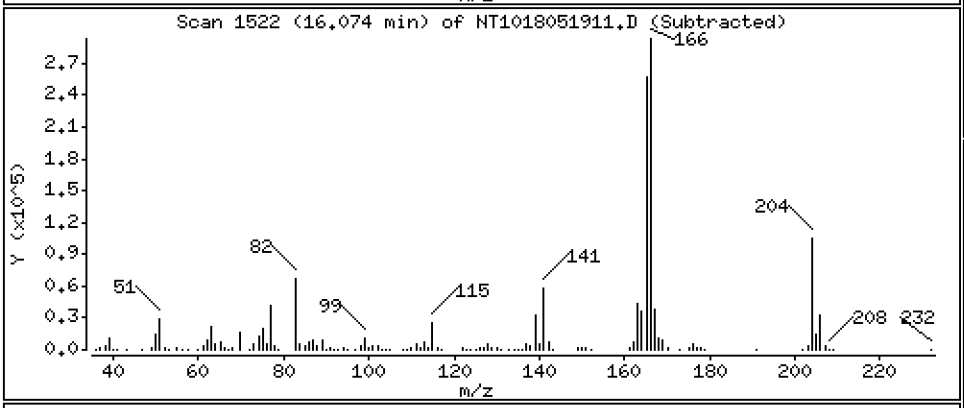
Column diameter: 0.25

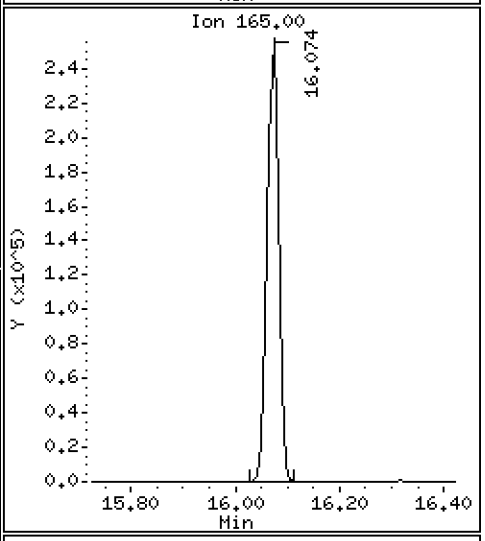
49 Fluorene

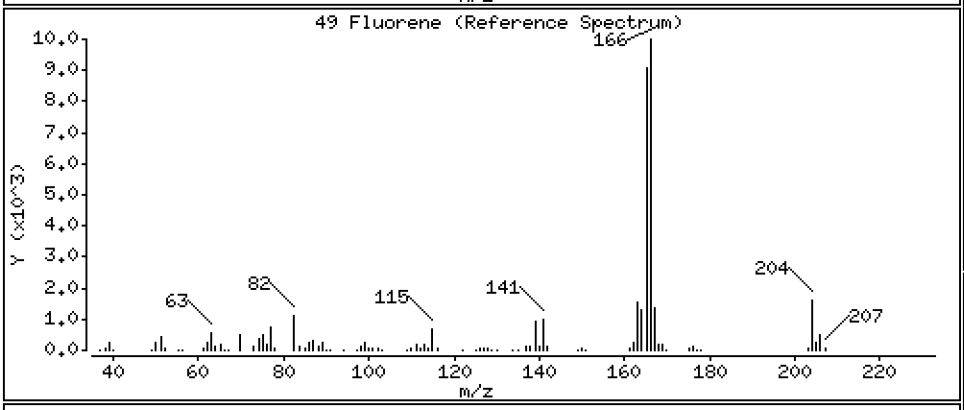
Concentration: 5.002 ug/mL

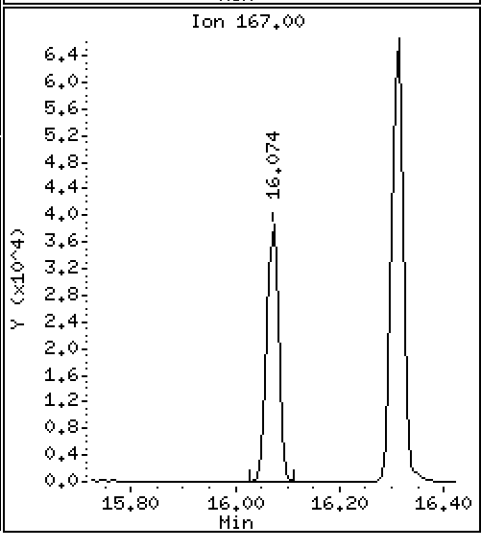


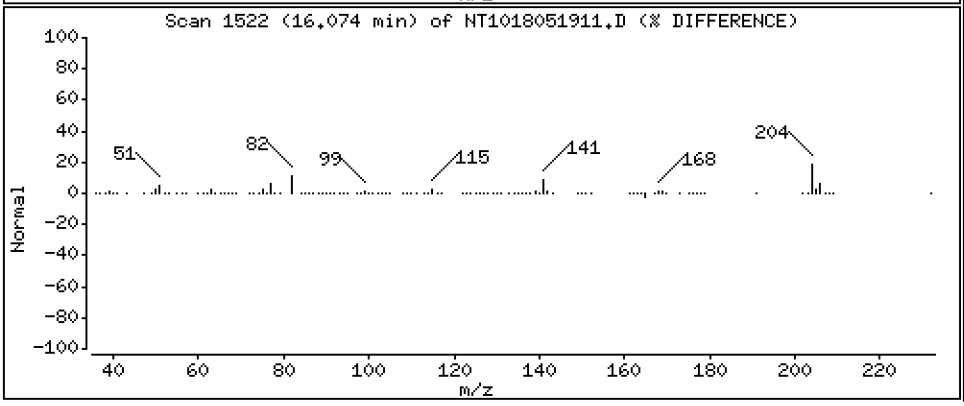












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

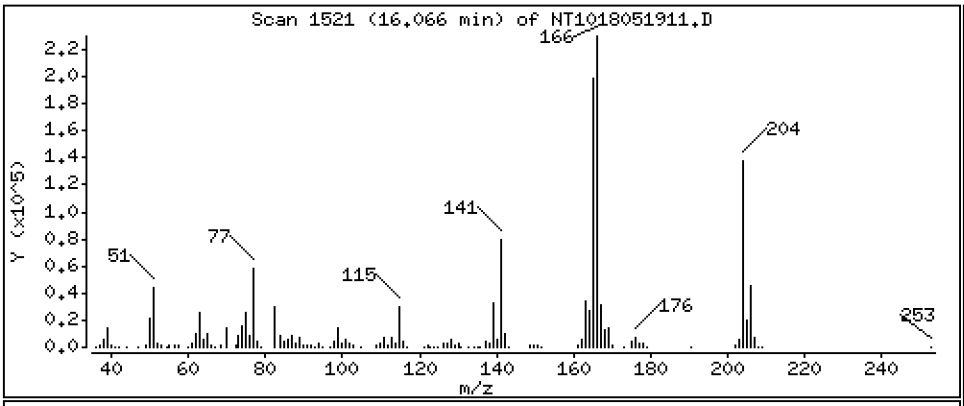
Operator: YZ

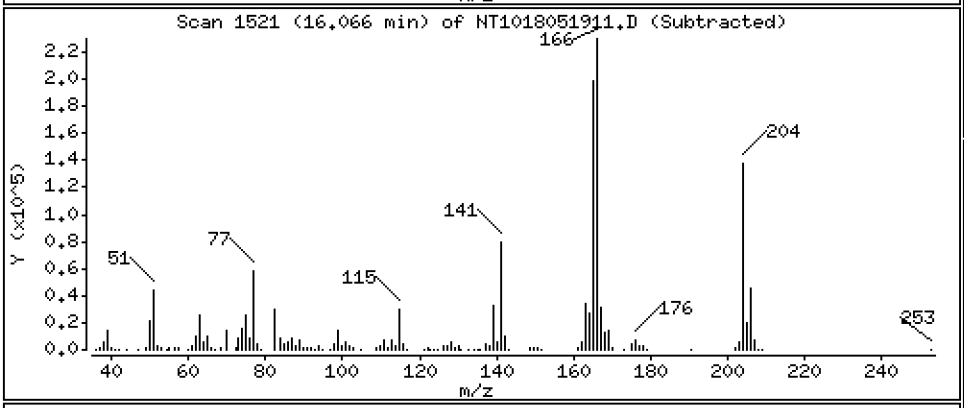
Column phase: ZB-5msi

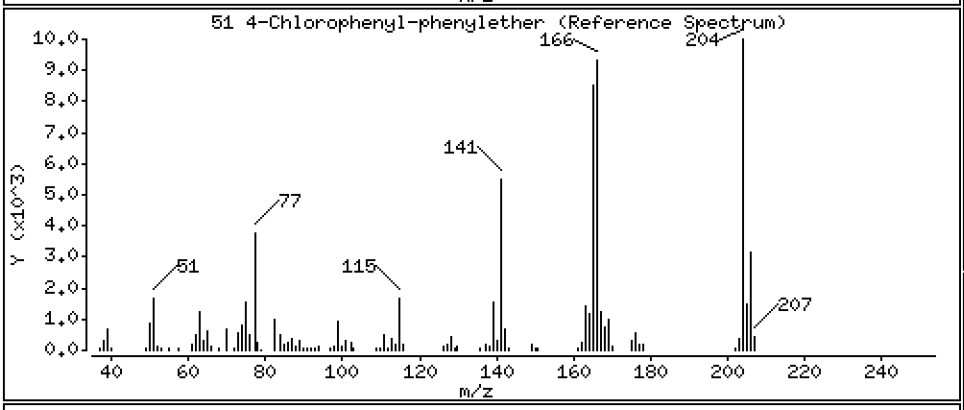
Column diameter: 0.25

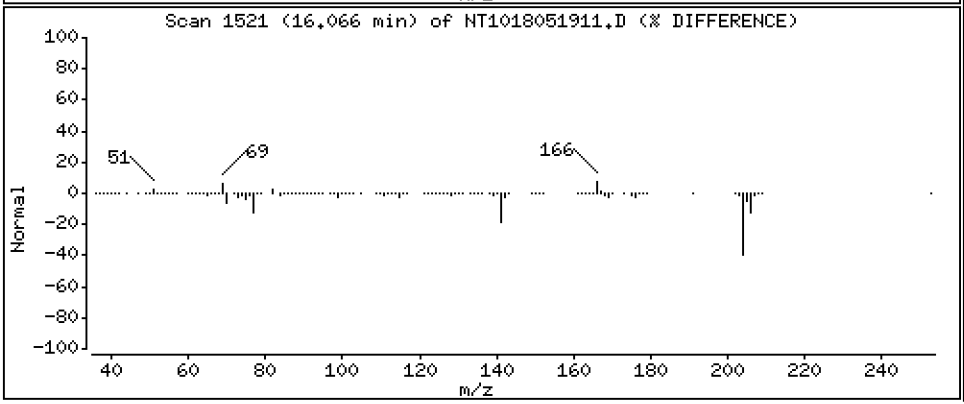
51 4-Chlorophenyl-phenylether

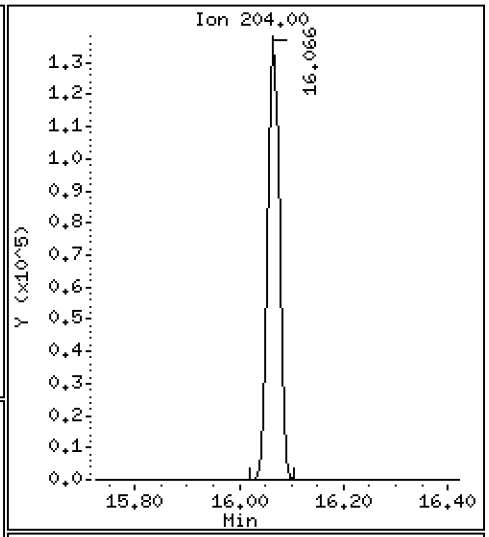
Concentration: 4.817 ug/mL

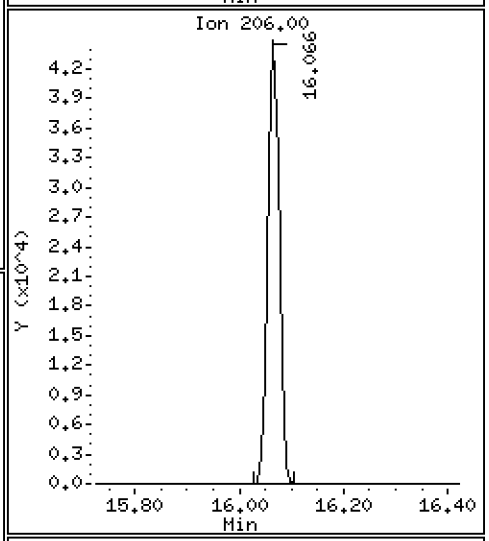


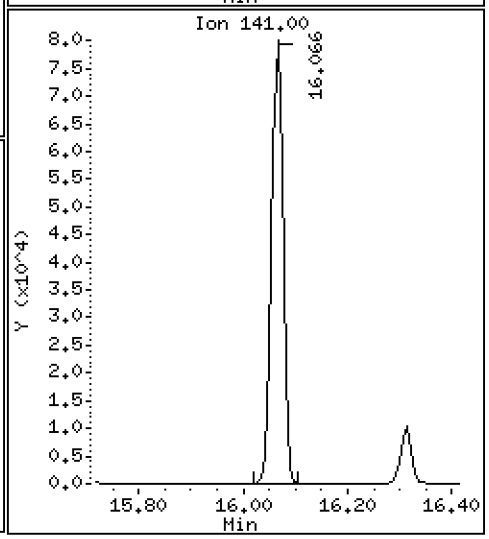












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

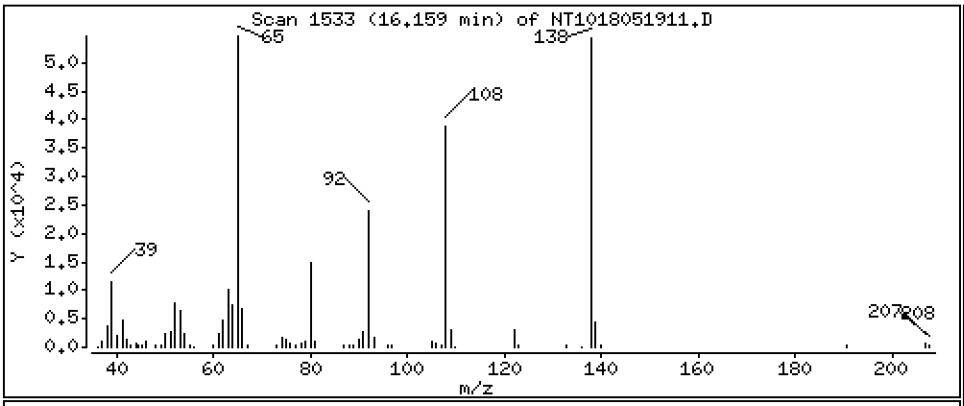
Operator: YZ

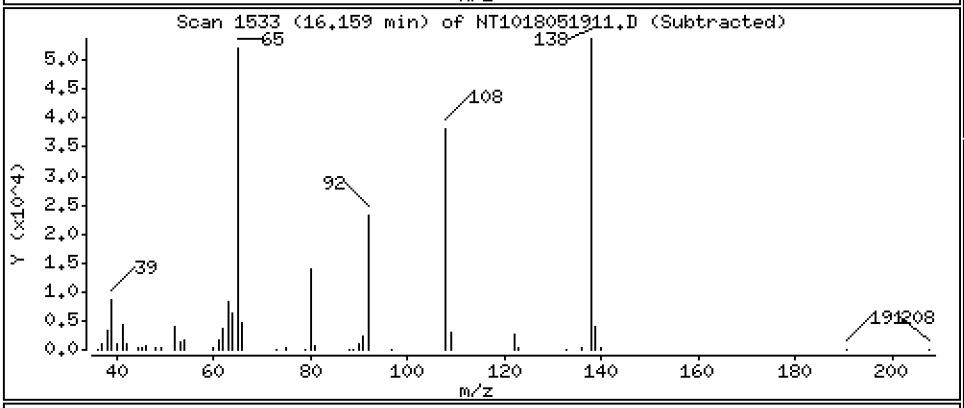
Column phase: ZB-5msi

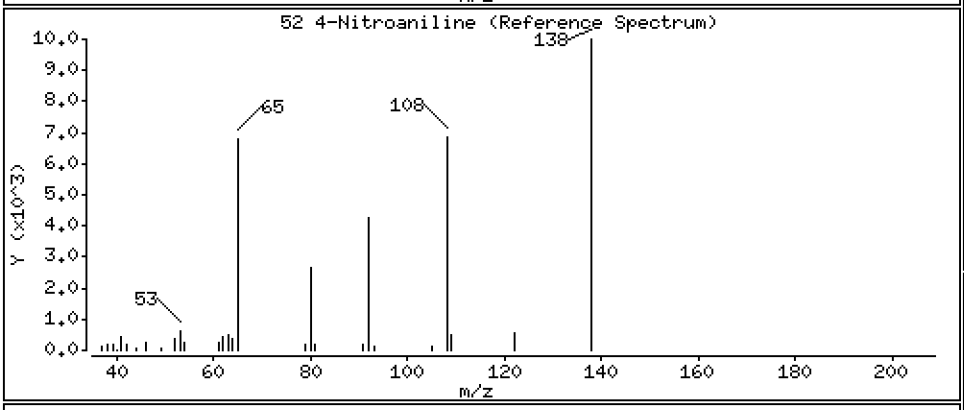
Column diameter: 0.25

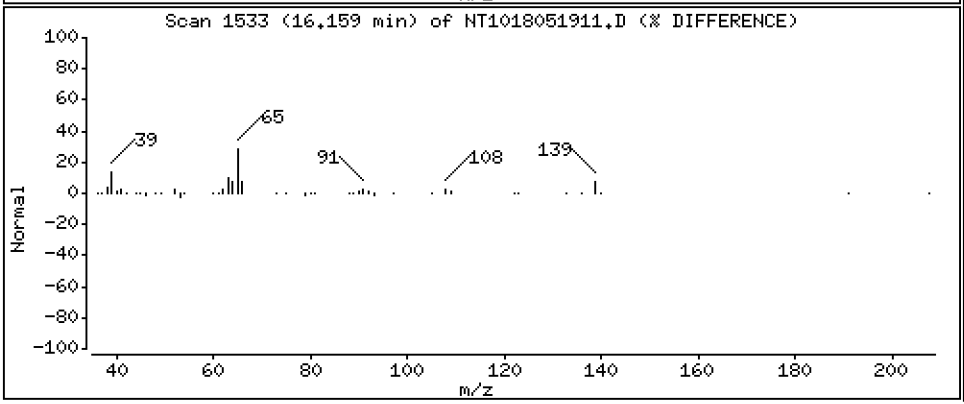
52 4-Nitroaniline

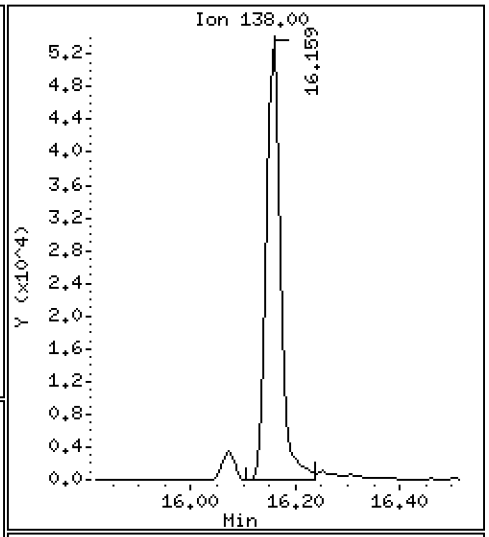
Concentration: 5.464 ug/mL

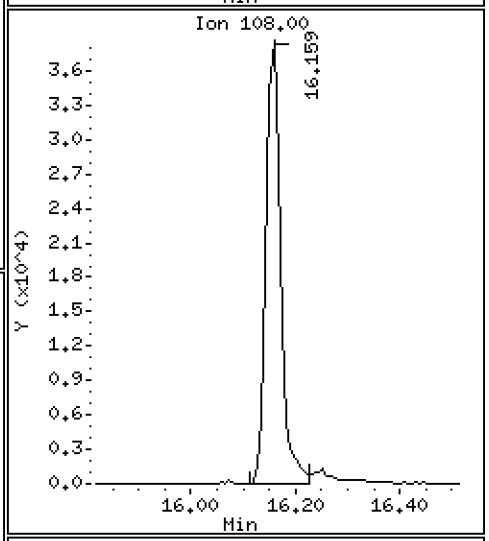


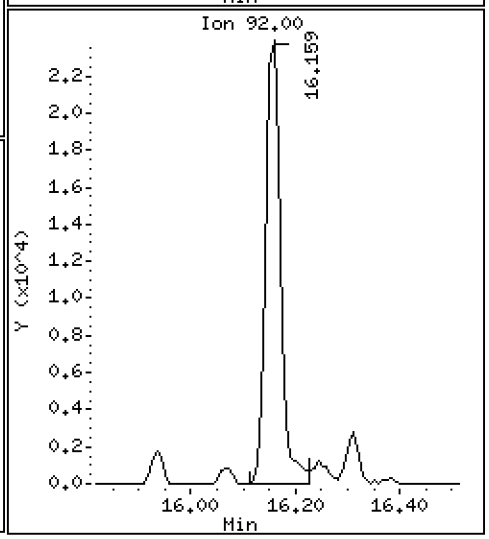












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

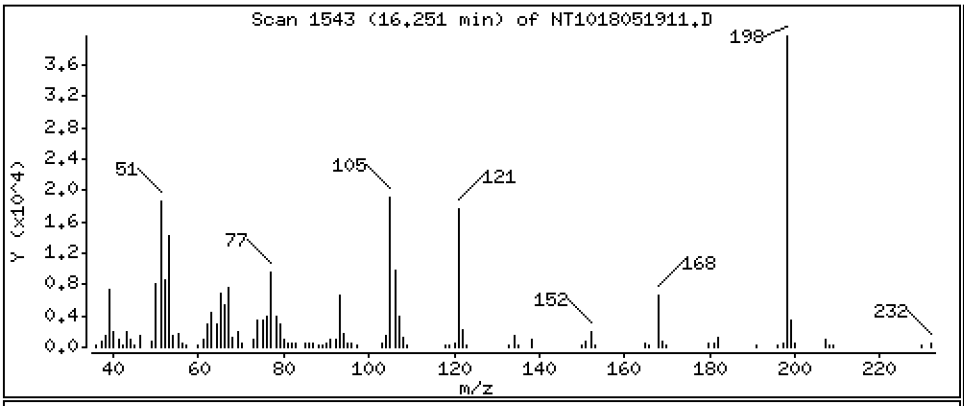
Operator: YZ

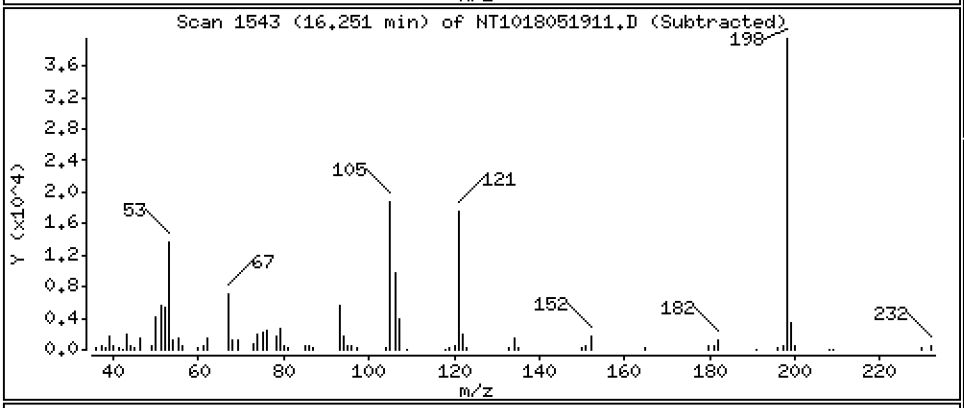
Column phase: ZB-5msi

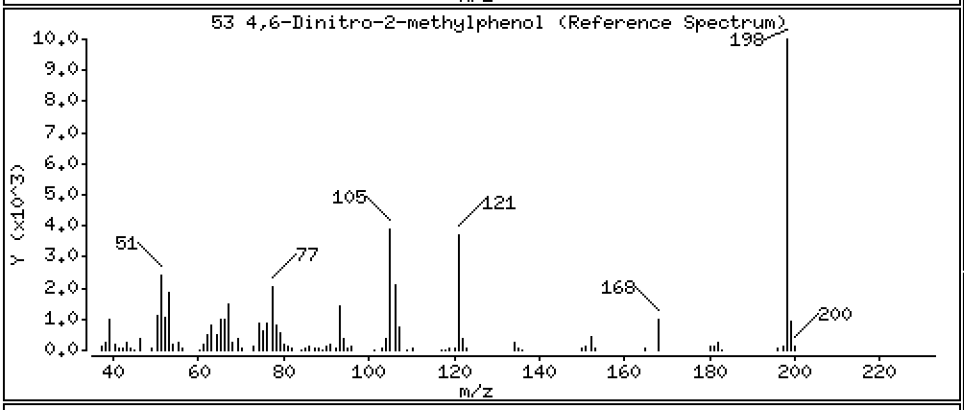
Column diameter: 0.25

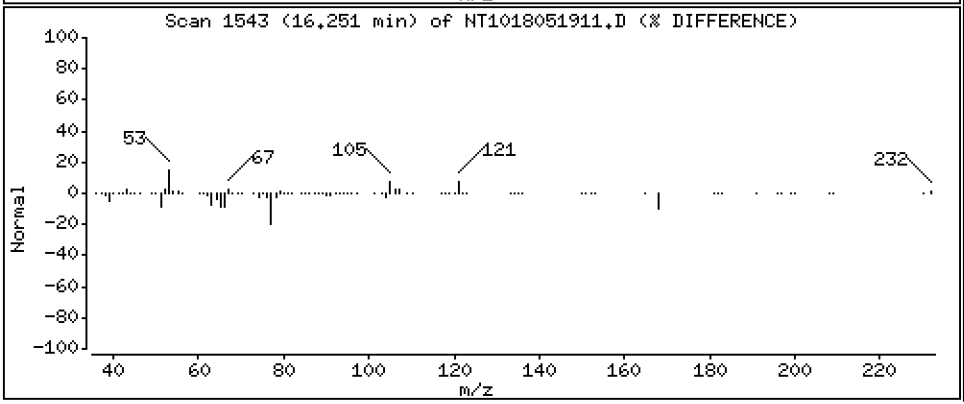
53 4,6-Dinitro-2-methylphenol

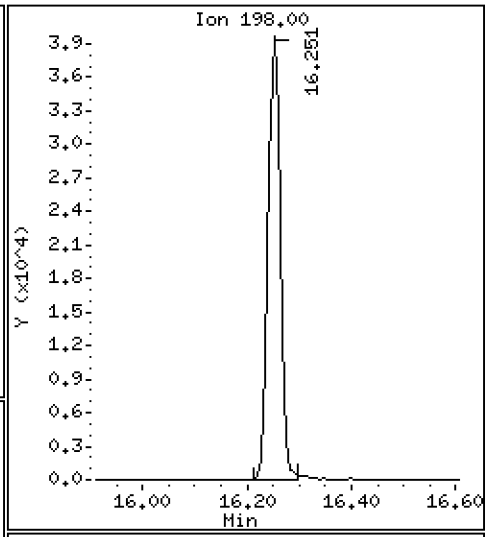
Concentration: 3.462 ug/mL

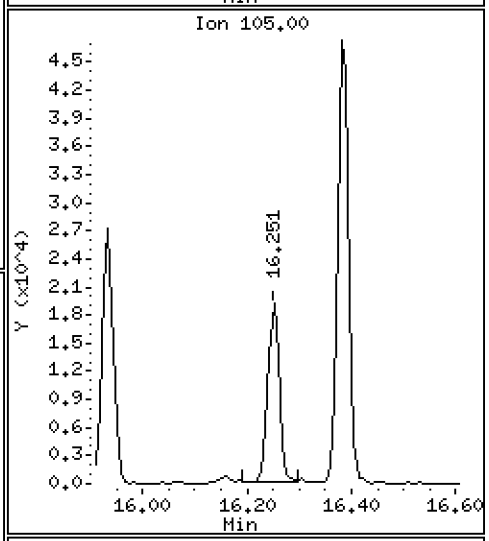


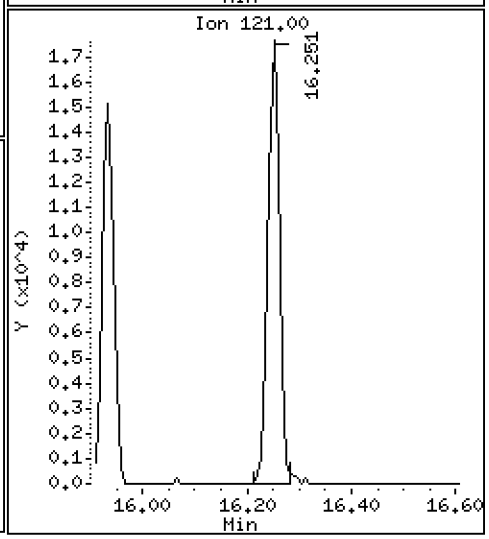












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

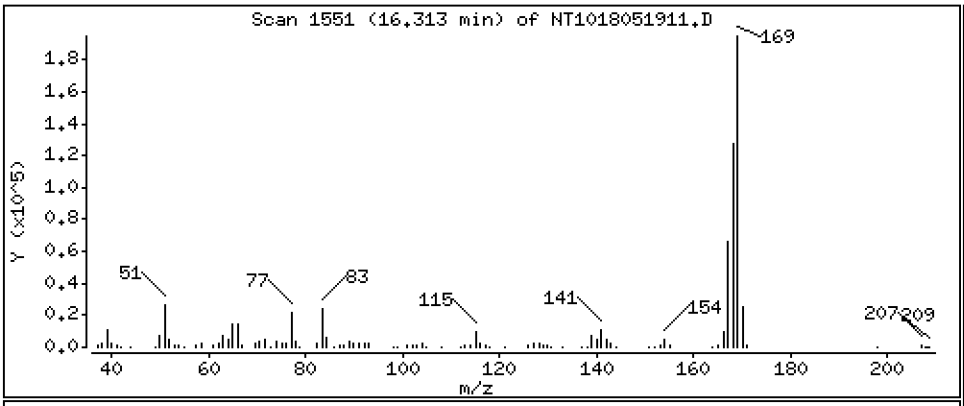
Operator: YZ

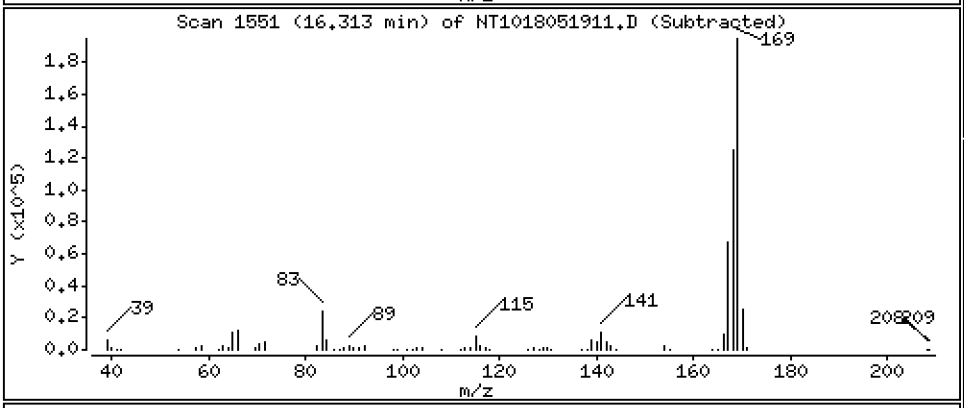
Column phase: ZB-5msi

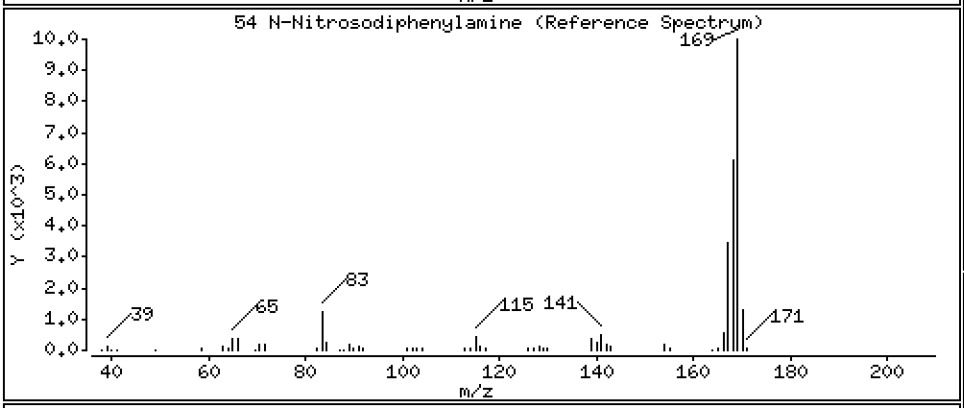
Column diameter: 0.25

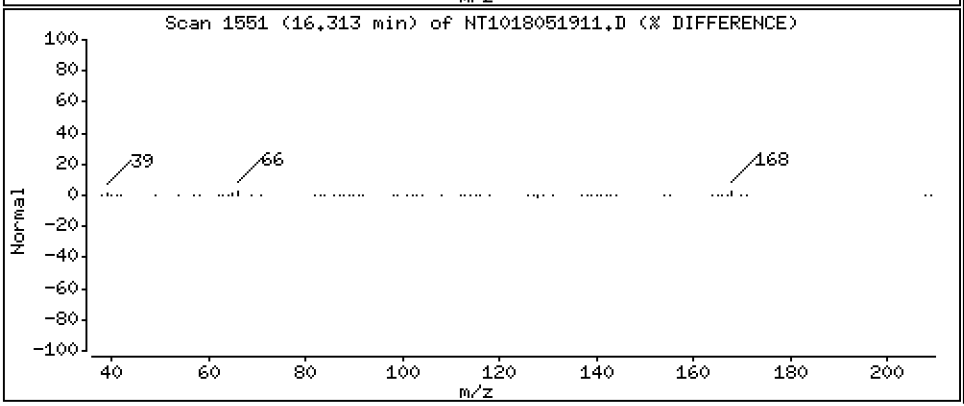
54 N-Nitrosodiphenylamine

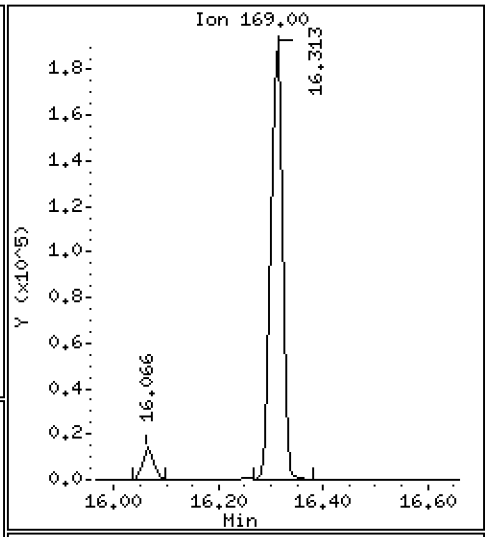
Concentration: 5.227 ug/mL

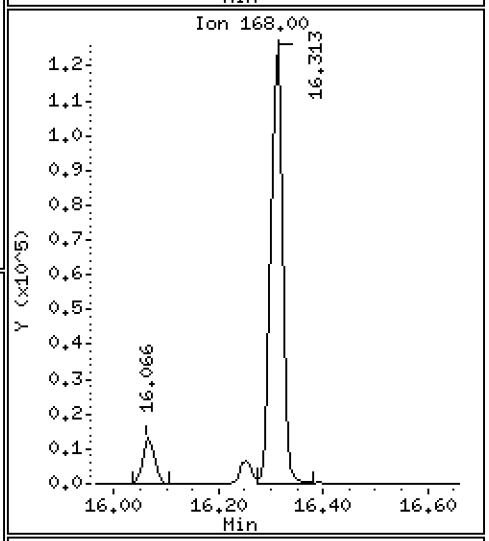


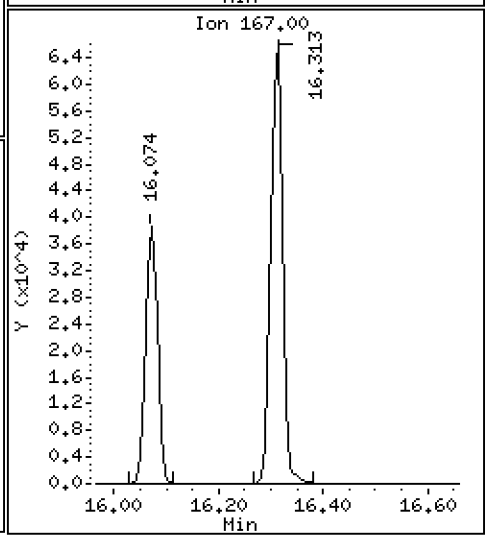












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

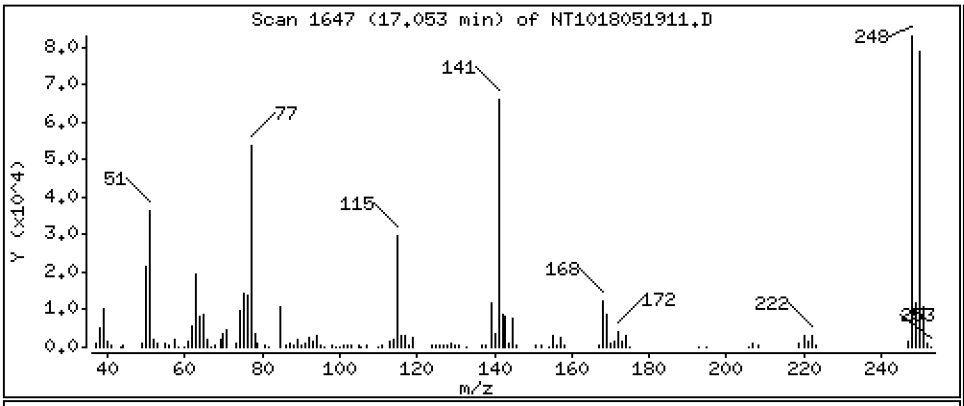
Operator: YZ

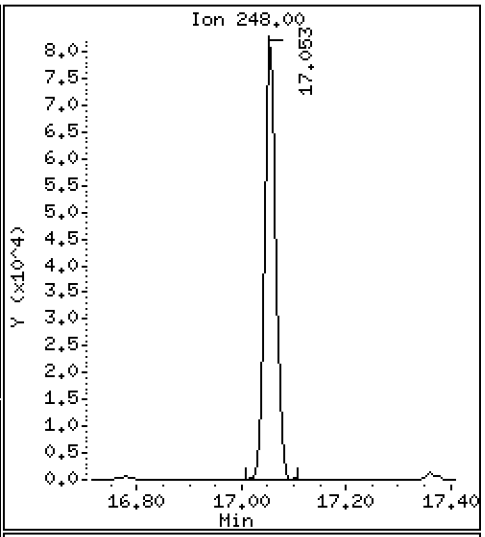
Column phase: ZB-5msi

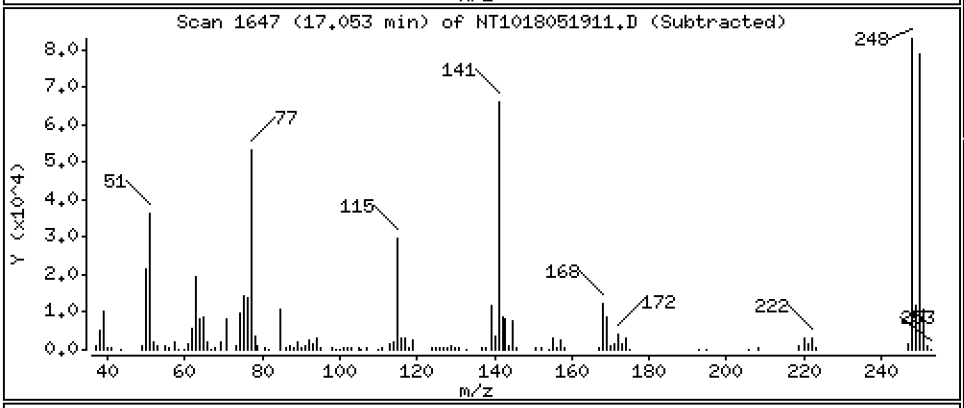
Column diameter: 0.25

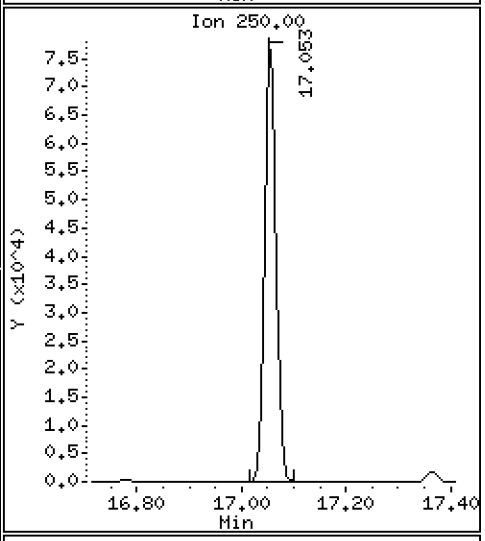
56 4-Bromophenyl-phenylether

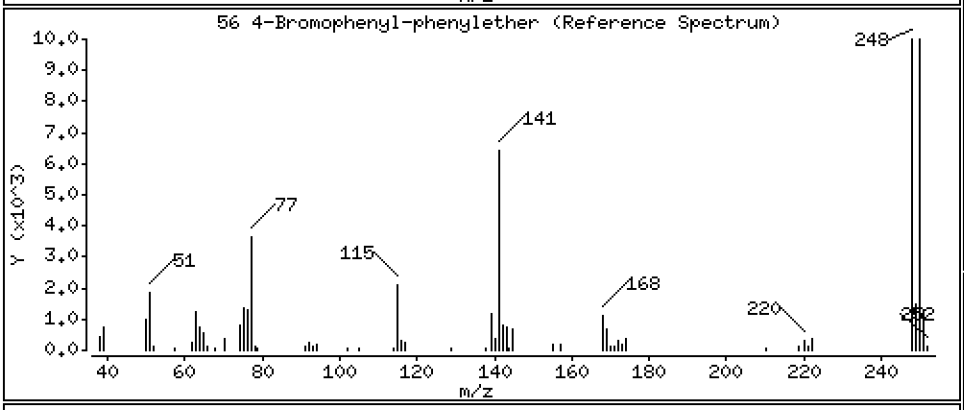
Concentration: 4.988 ug/mL

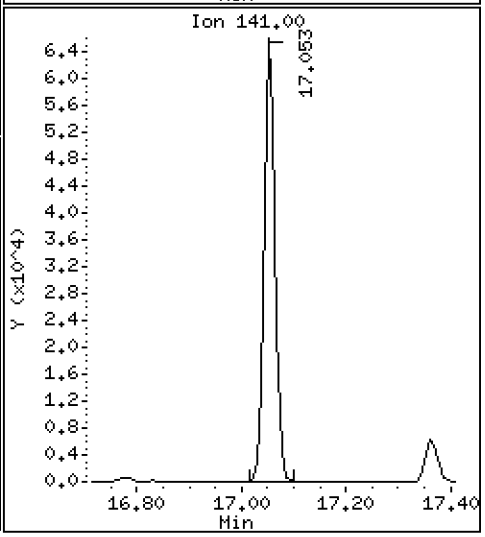


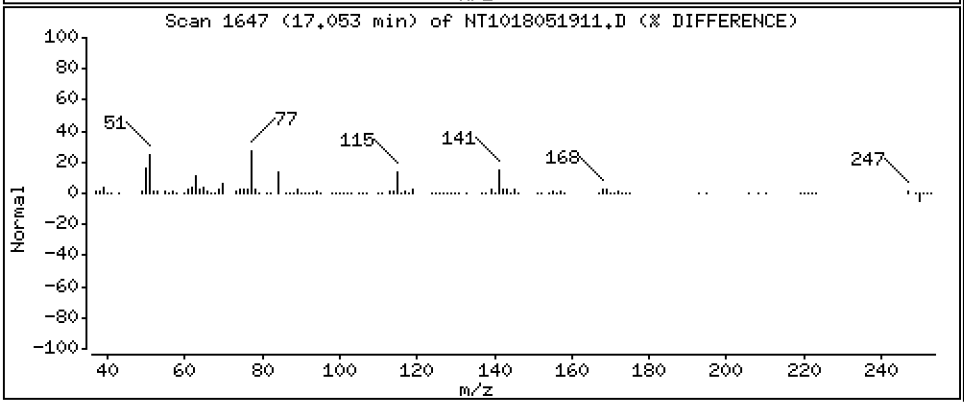












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

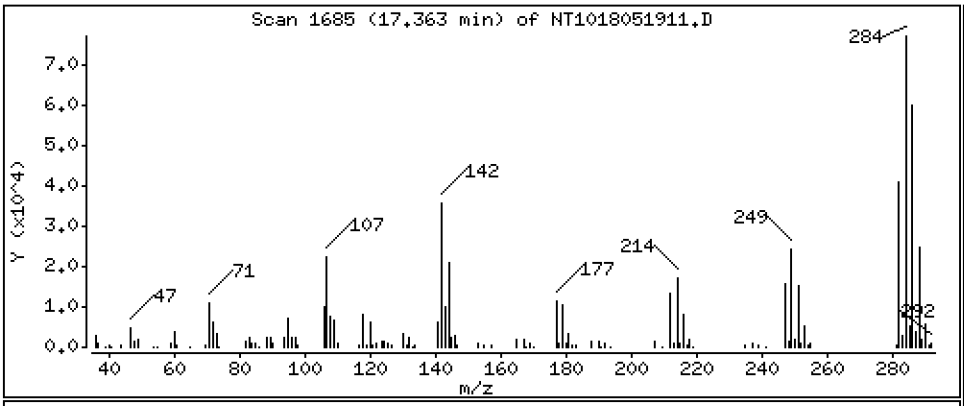
Operator: YZ

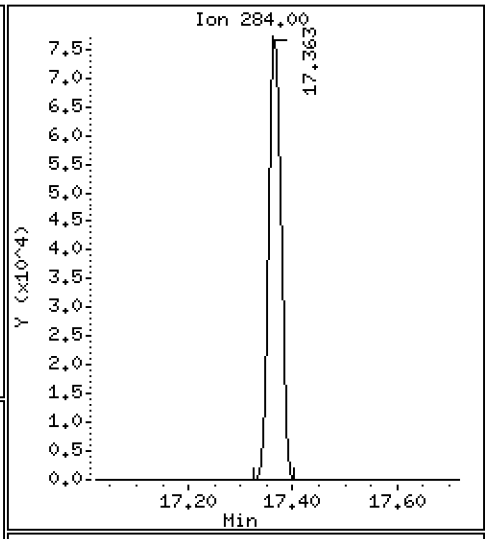
Column phase: ZB-5msi

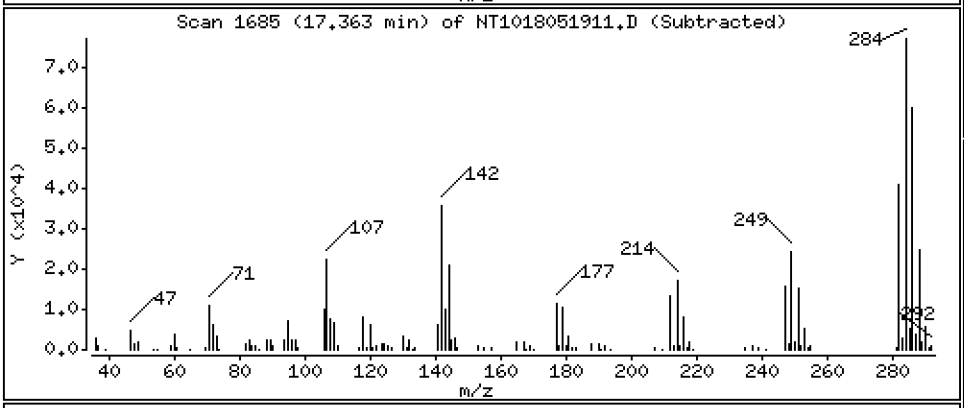
Column diameter: 0.25

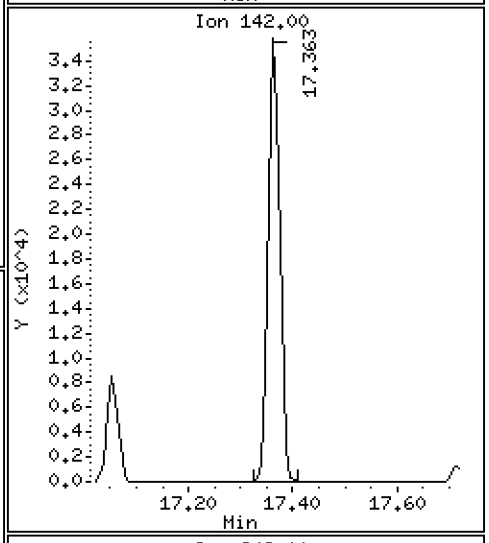
57 Hexachlorobenzene

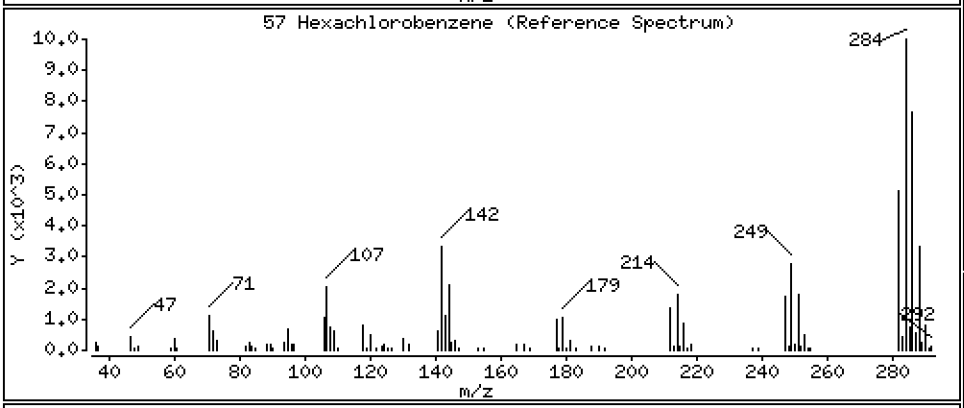
Concentration: 5.196 ug/mL

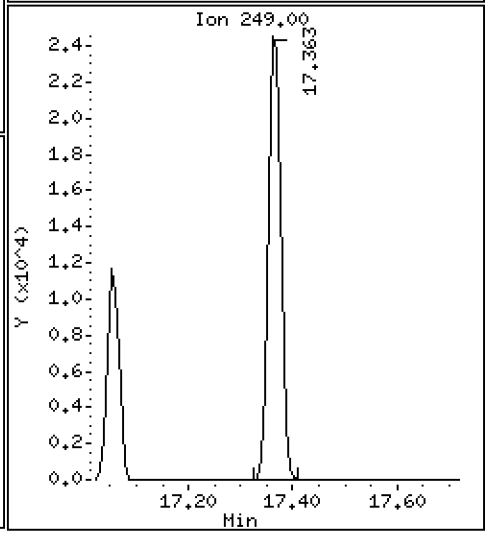


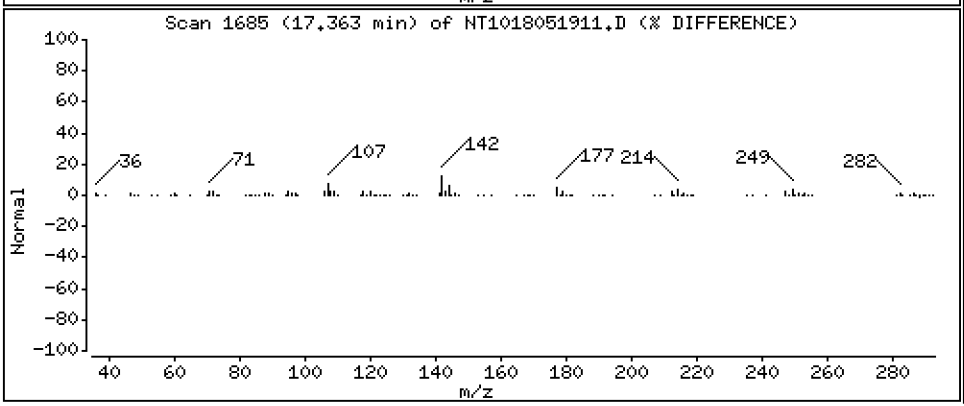












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

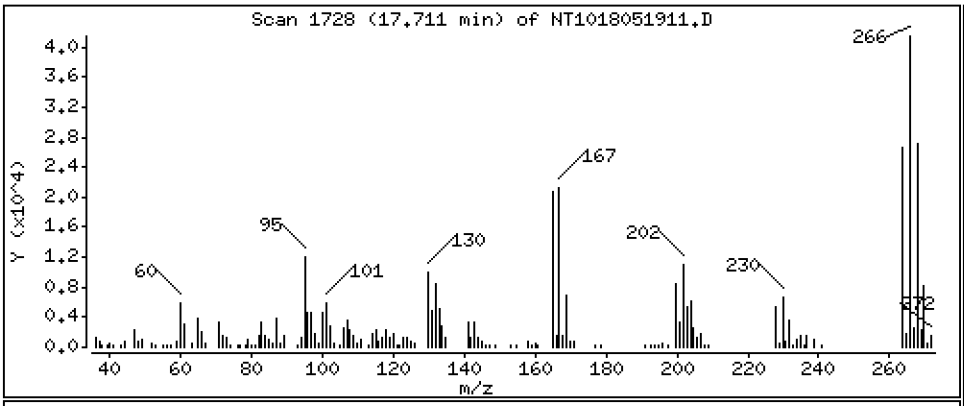
Operator: YZ

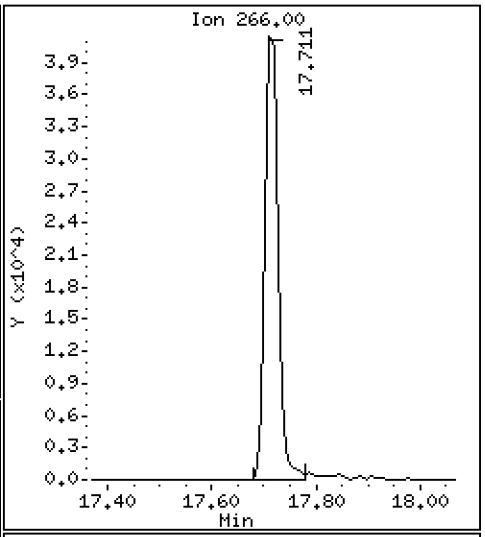
Column phase: ZB-5msi

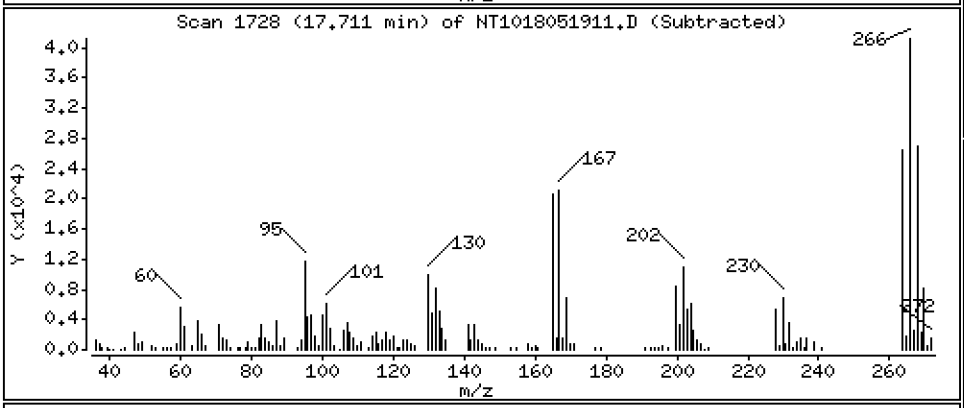
Column diameter: 0.25

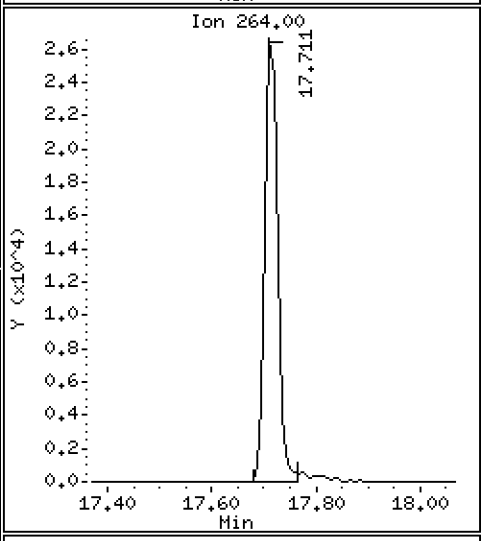
58 Pentachlorophenol

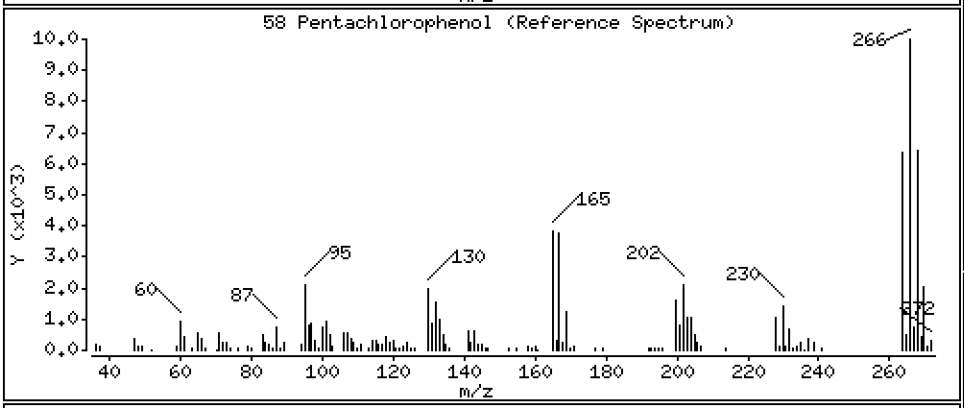
Concentration: 4.992 ug/mL

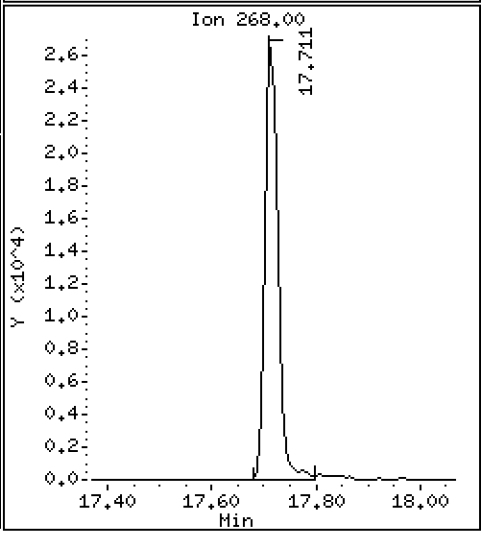


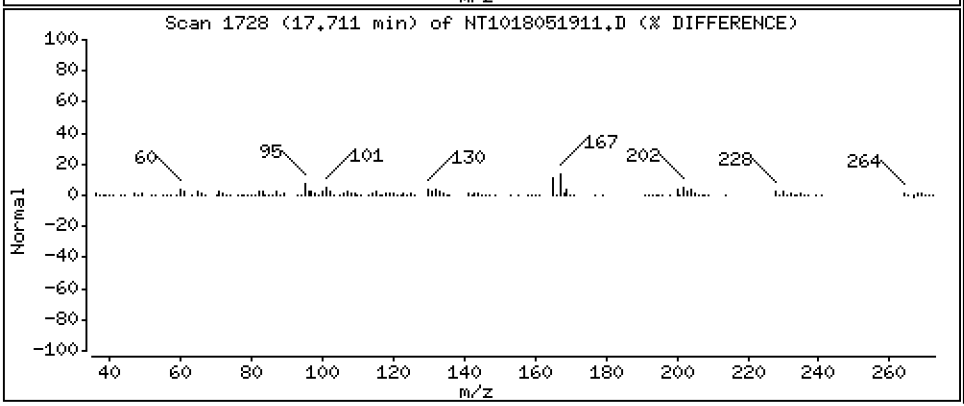












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

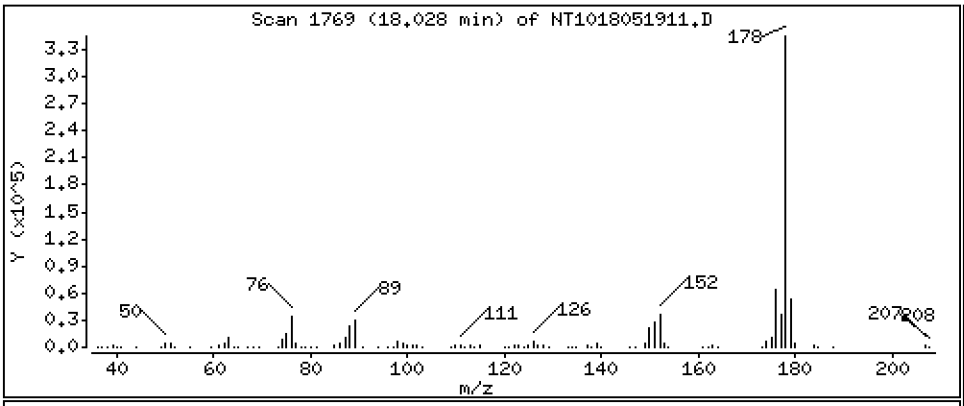
Operator: YZ

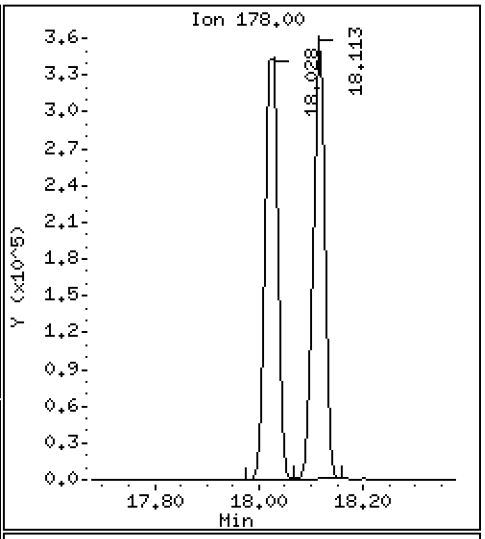
Column phase: ZB-5msi

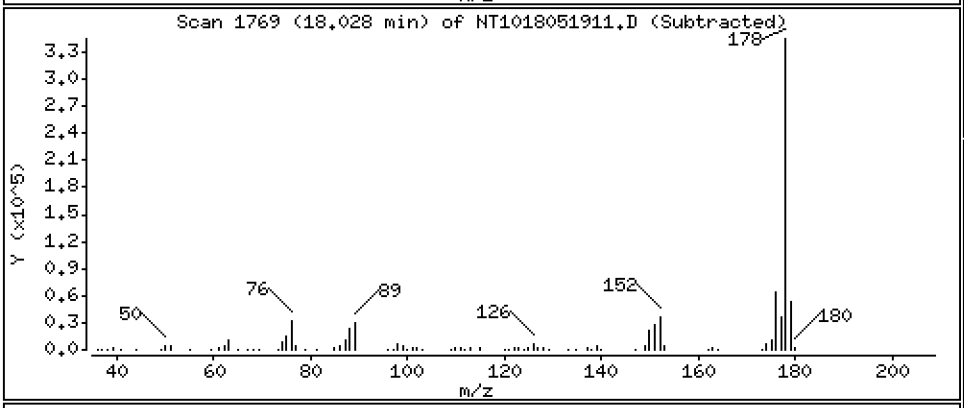
Column diameter: 0.25

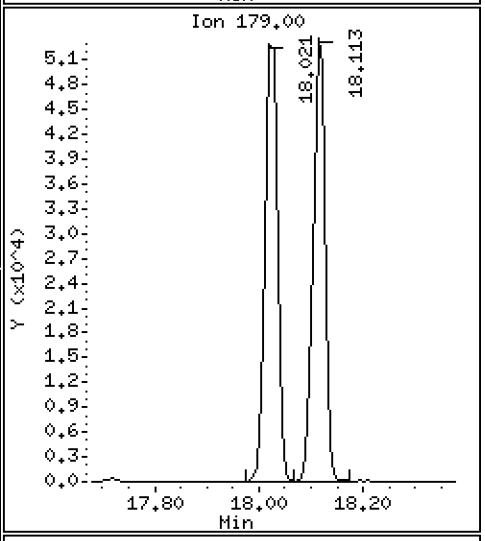
60 Phenanthrene

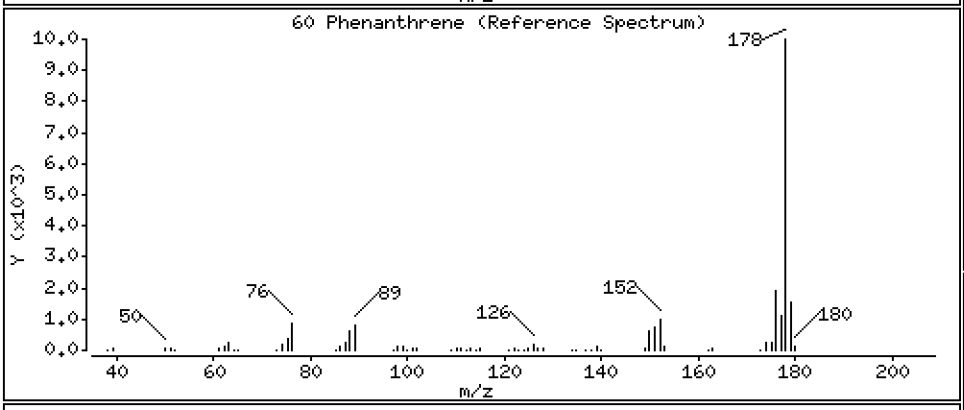
Concentration: 5.088 ug/mL

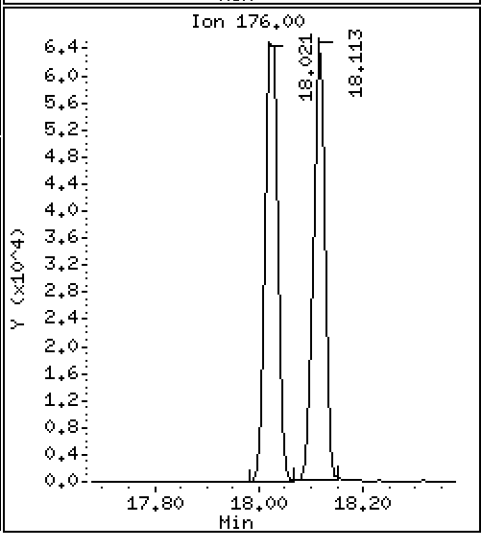


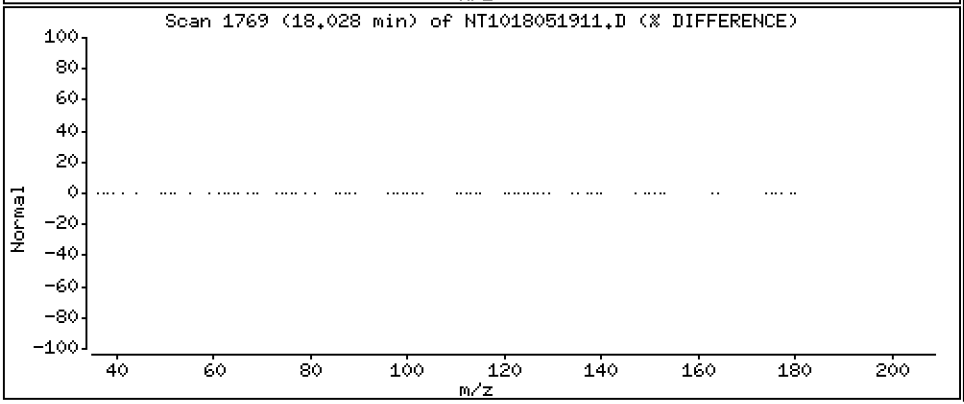












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

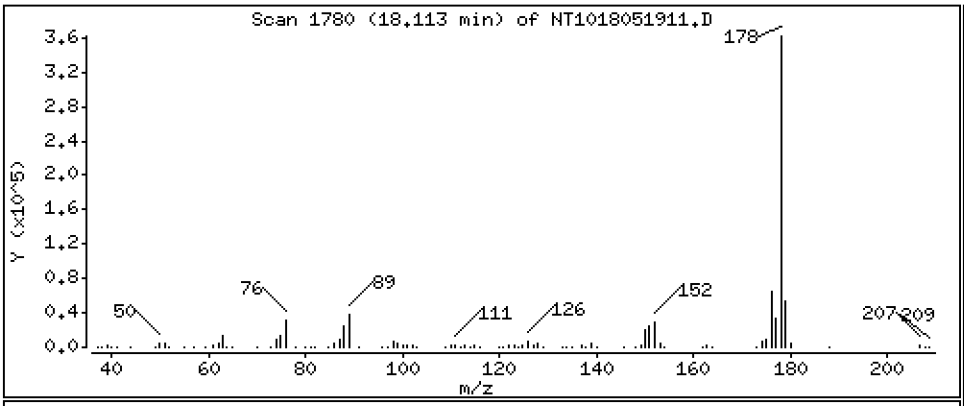
Operator: YZ

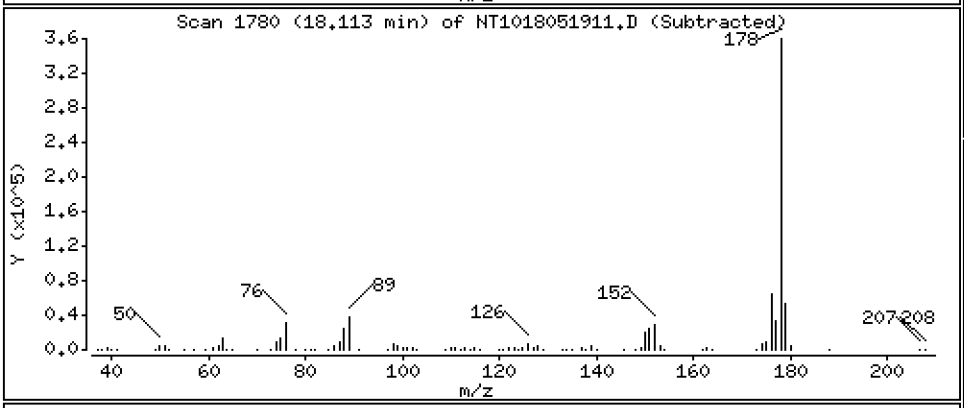
Column phase: ZB-5msi

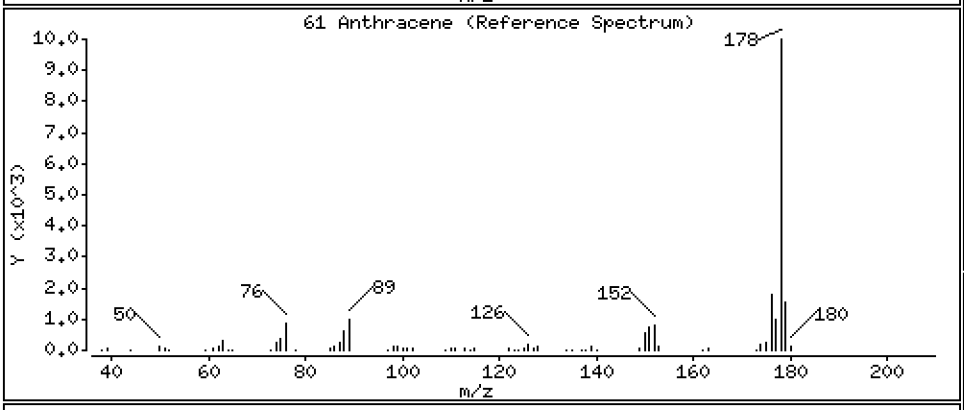
Column diameter: 0.25

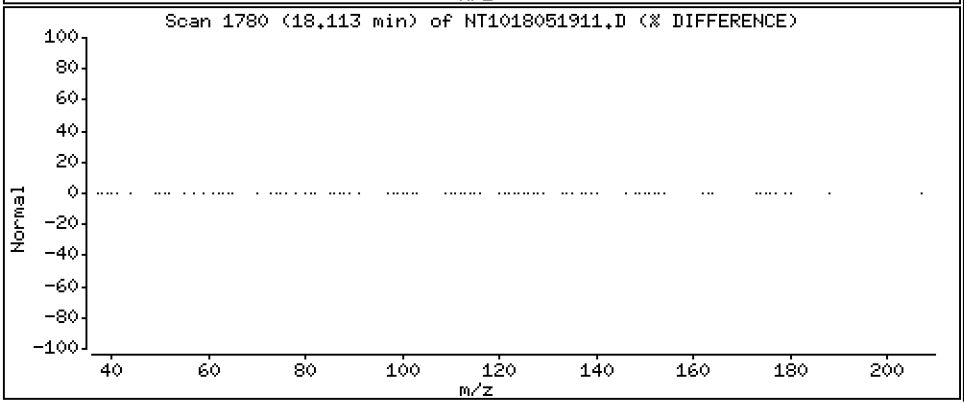
61 Anthracene

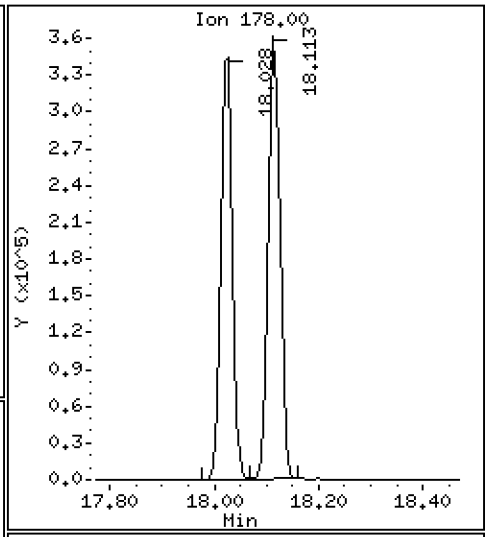
Concentration: 4.805 ug/mL

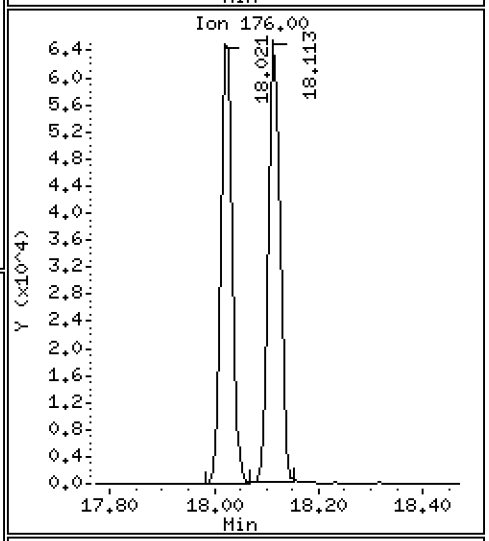


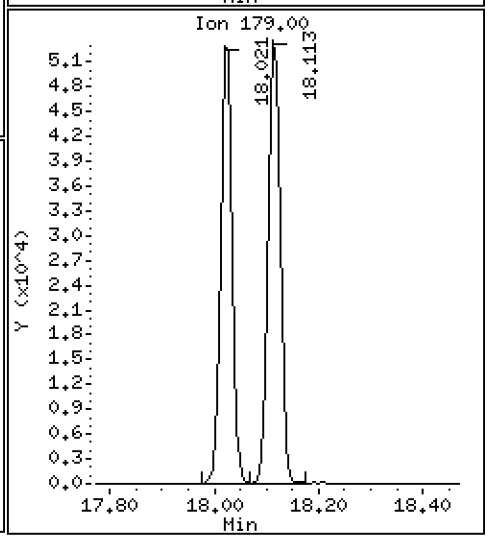












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

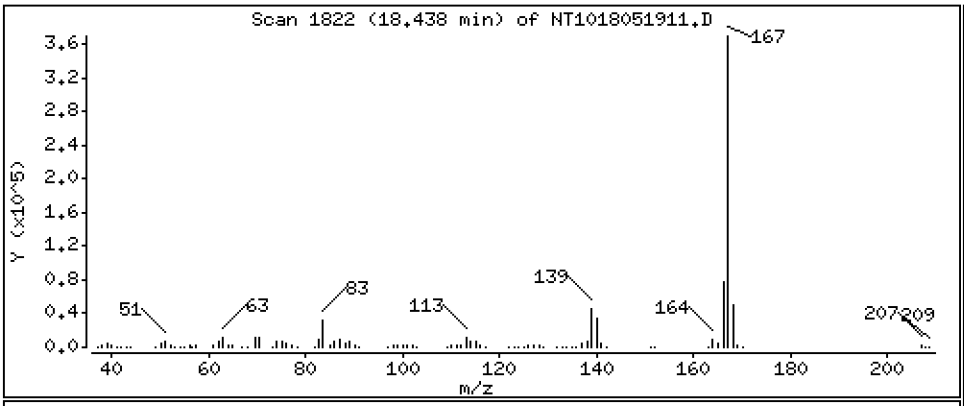
Operator: YZ

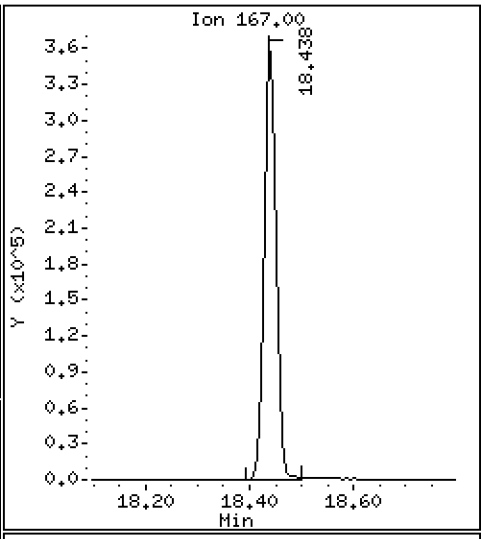
Column phase: ZB-5msi

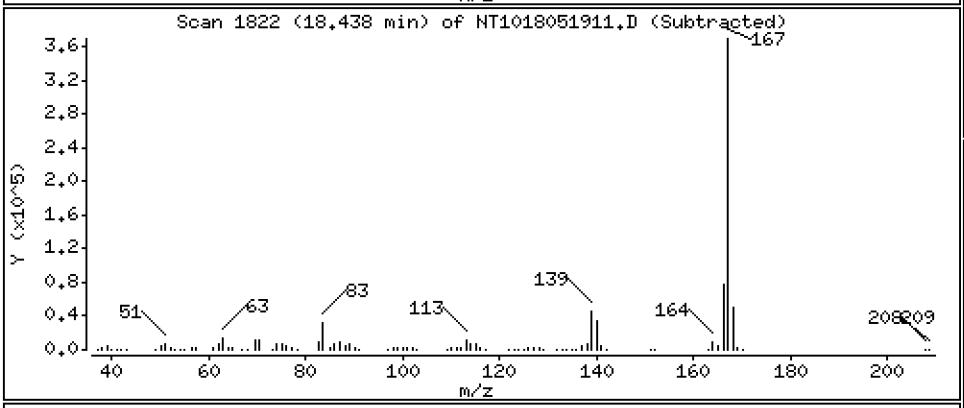
Column diameter: 0.25

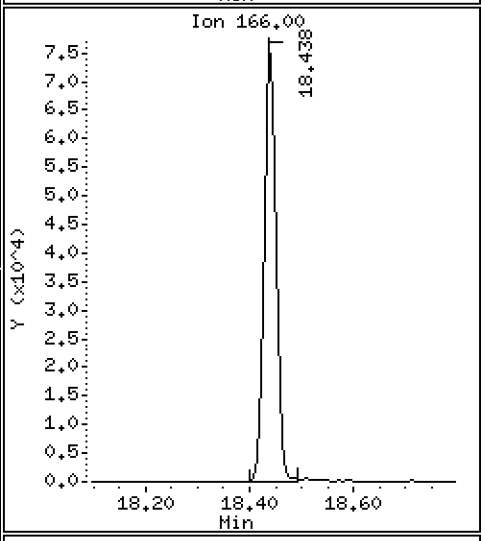
62 Carbazole

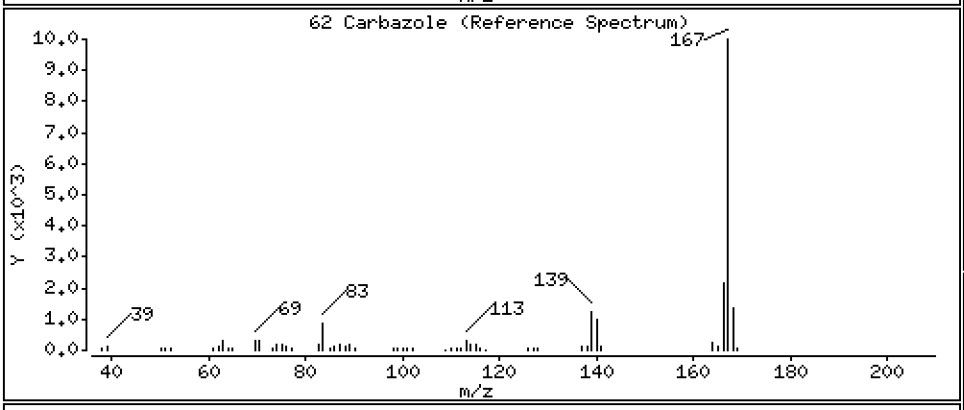
Concentration: 5.432 ug/mL

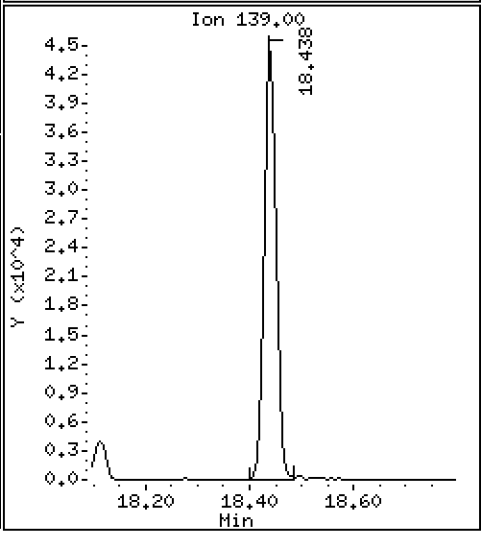


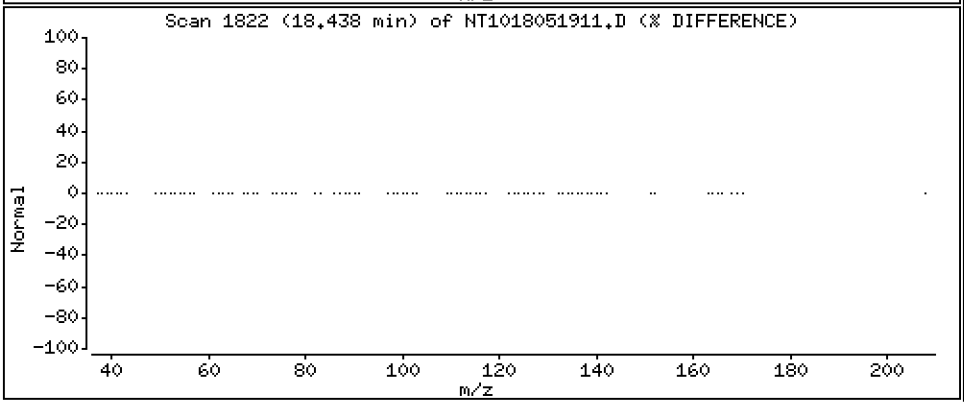












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

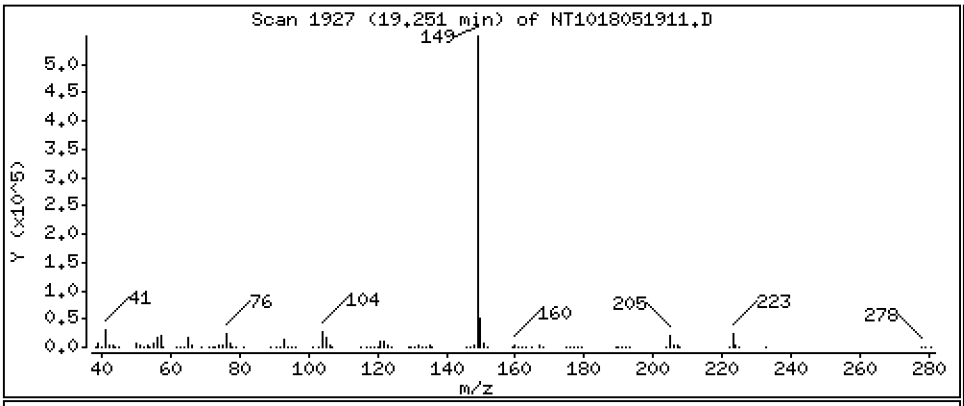
Operator: YZ

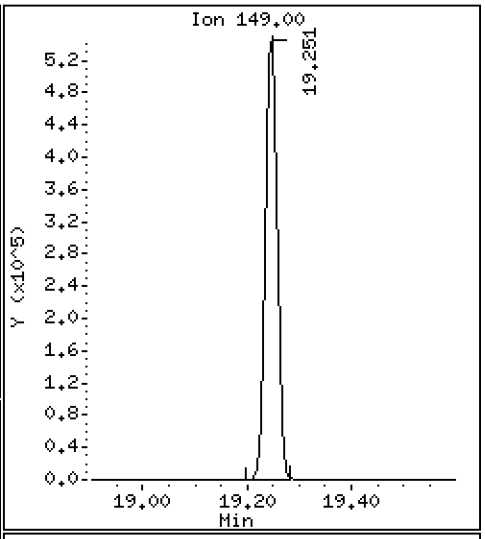
Column phase: ZB-5msi

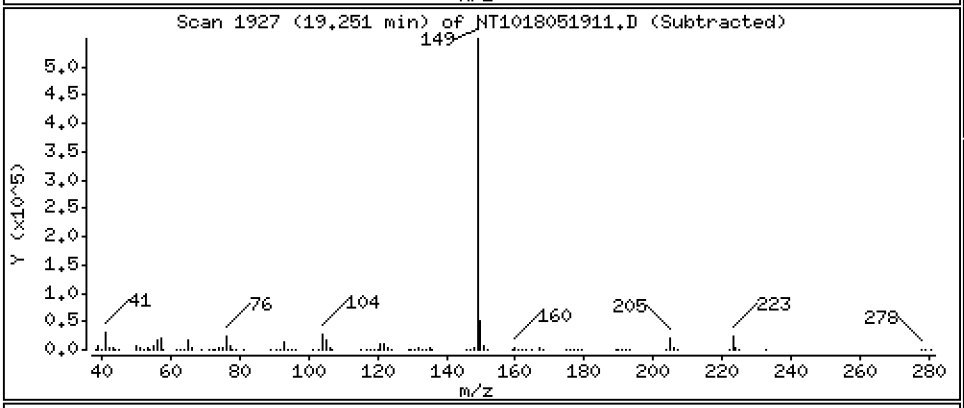
Column diameter: 0.25

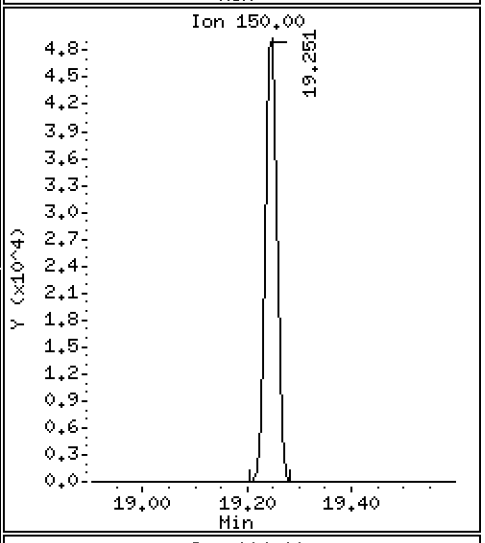
63 Di-n-butylphthalate

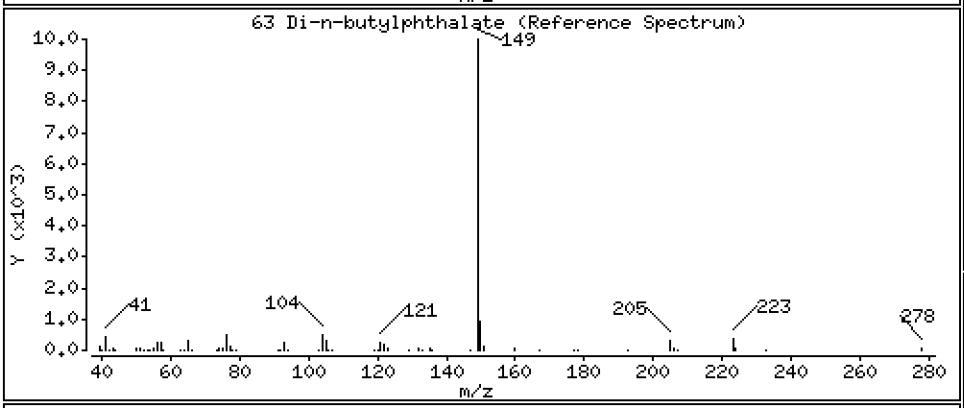
Concentration: 5.294 ug/mL

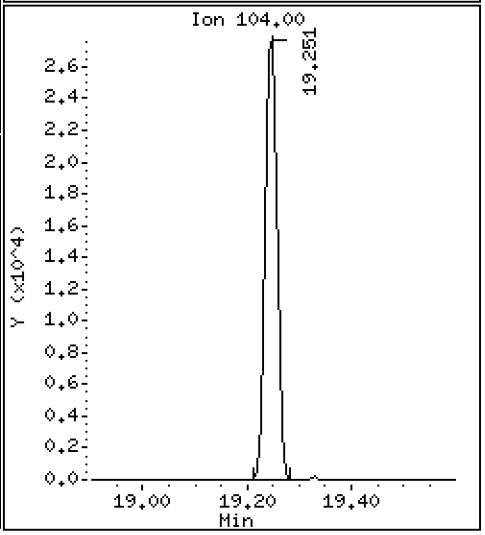


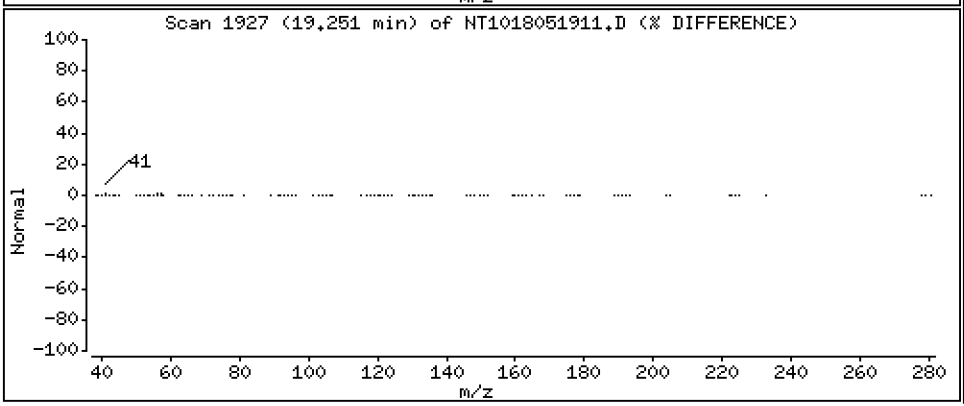












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

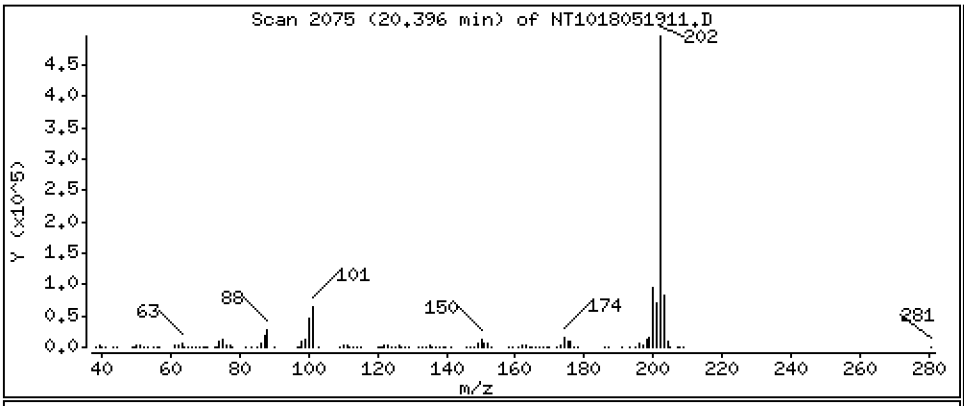
Operator: YZ

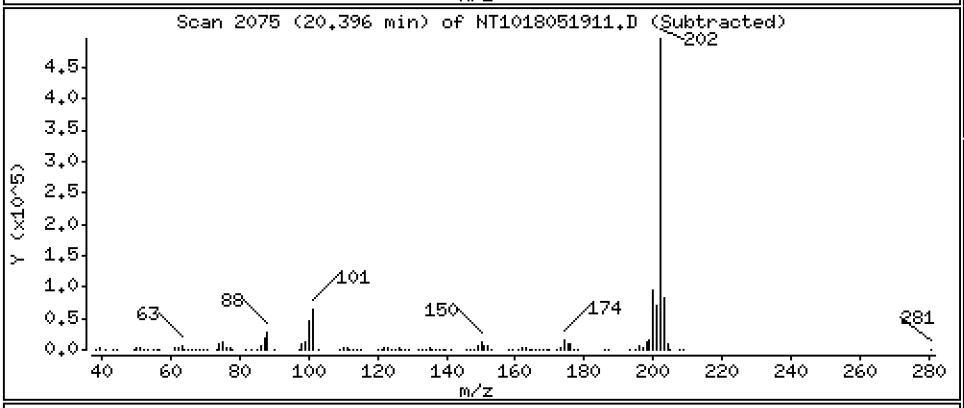
Column phase: ZB-5msi

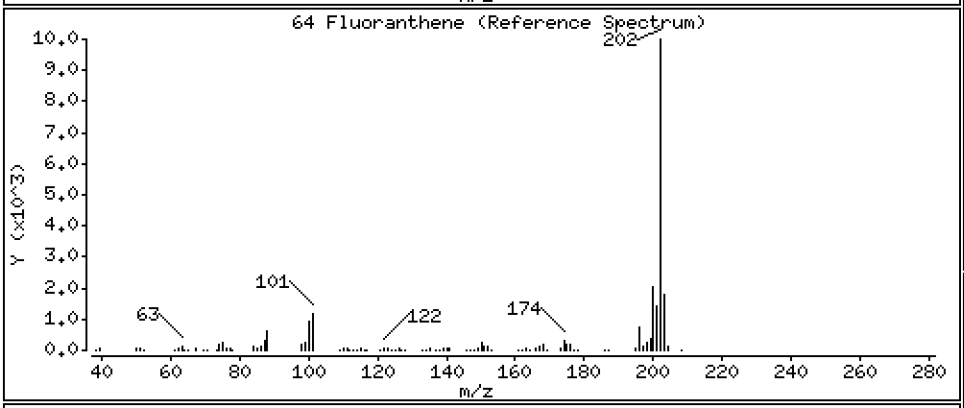
Column diameter: 0.25

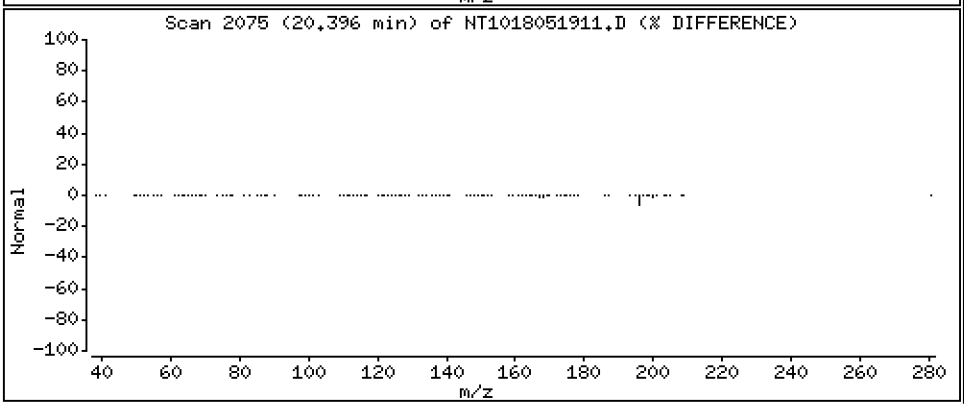
64 Fluoranthene

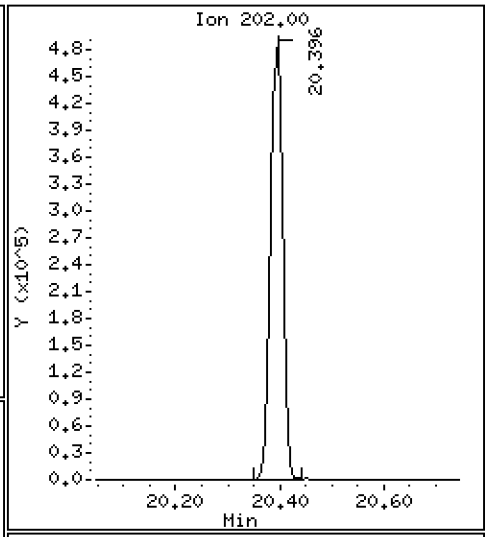
Concentration: 5.214 ug/mL

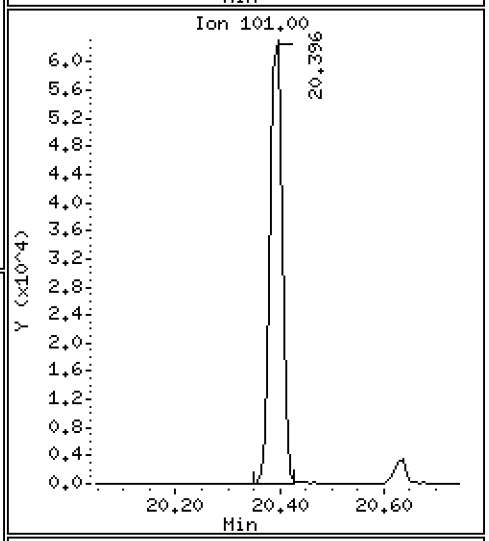


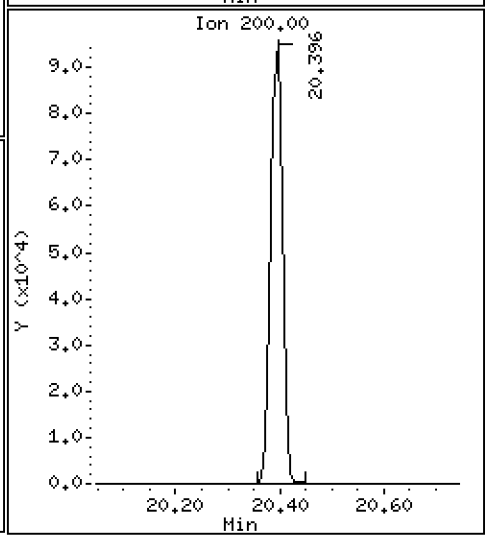












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

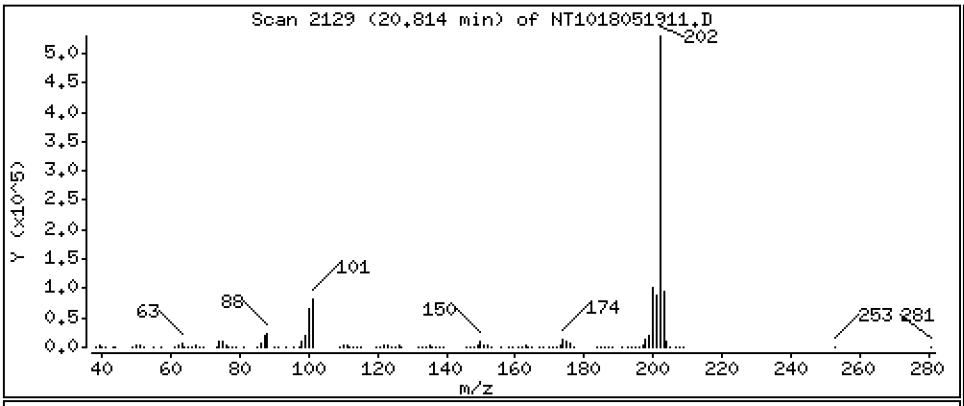
Operator: YZ

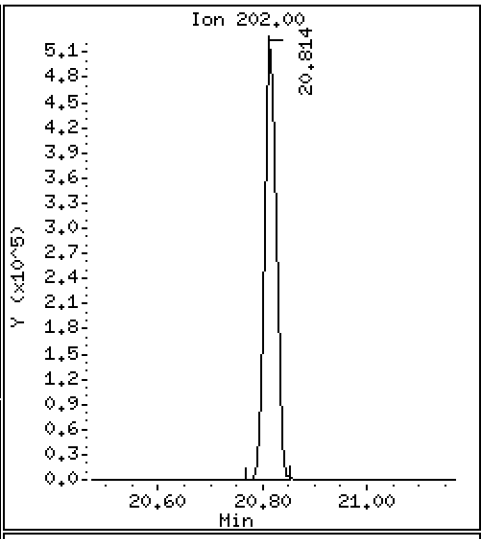
Column phase: ZB-5msi

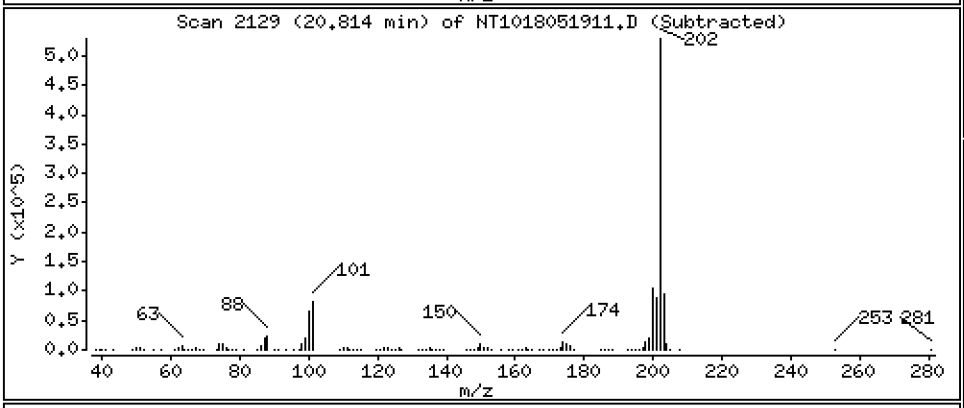
Column diameter: 0.25

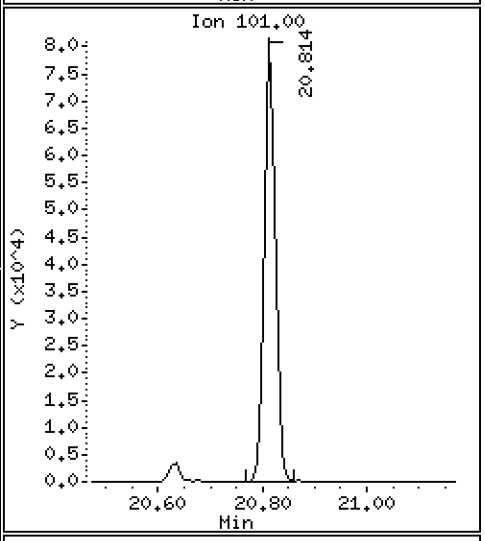
65 Pyrene

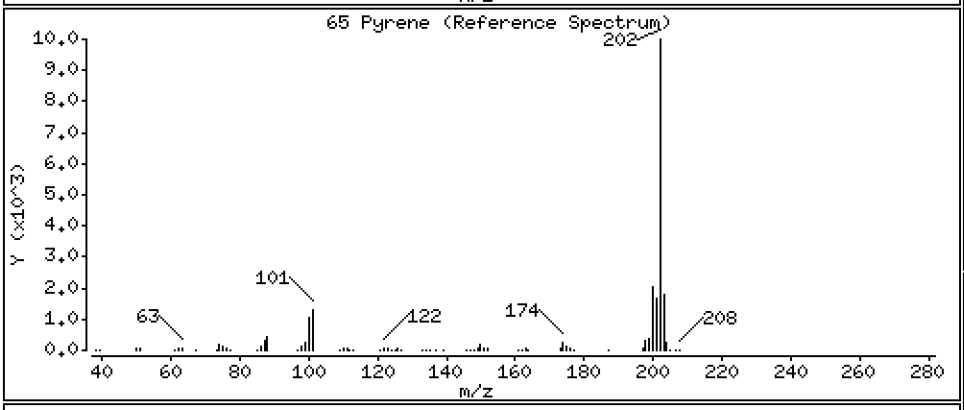
Concentration: 5.251 ug/mL

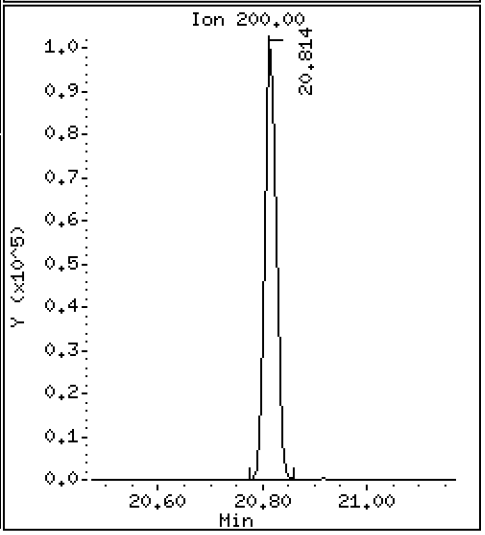


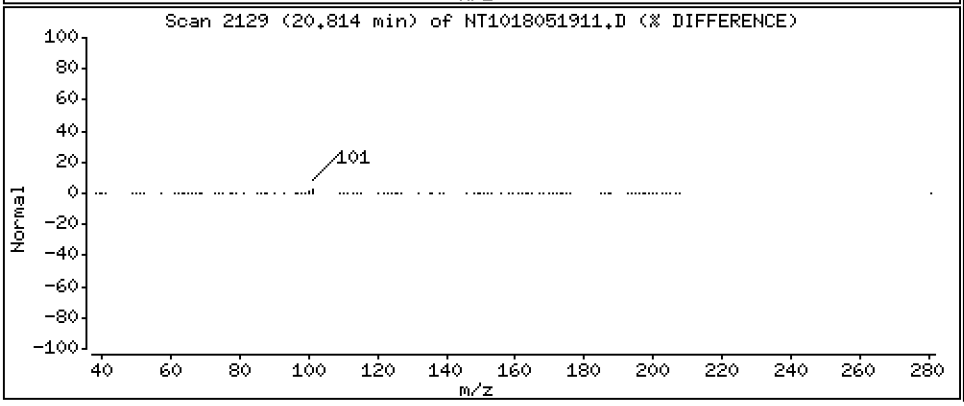












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

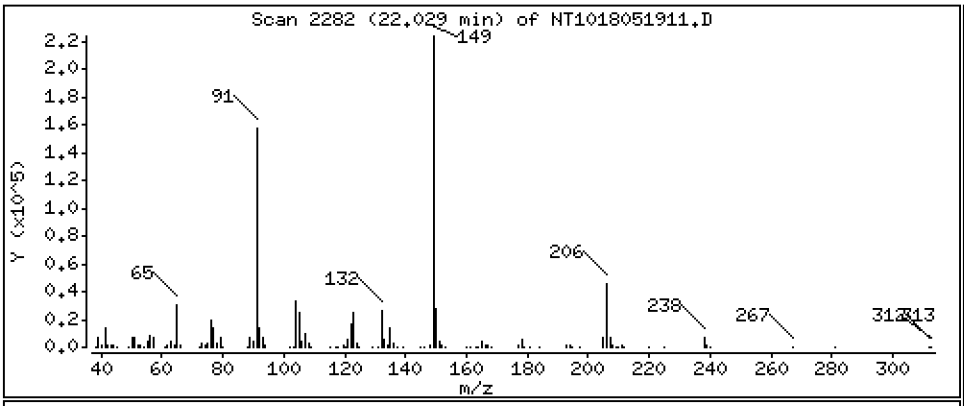
Operator: YZ

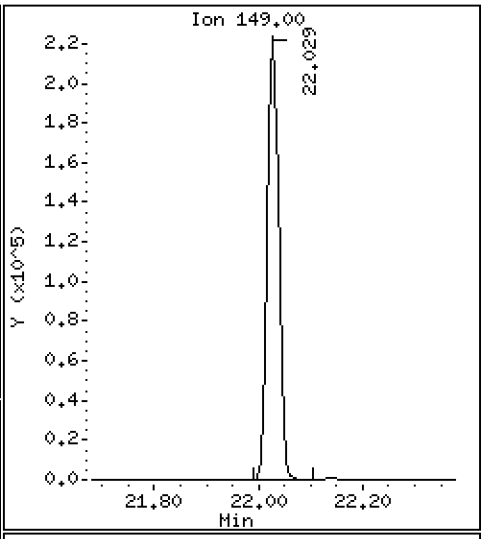
Column phase: ZB-5msi

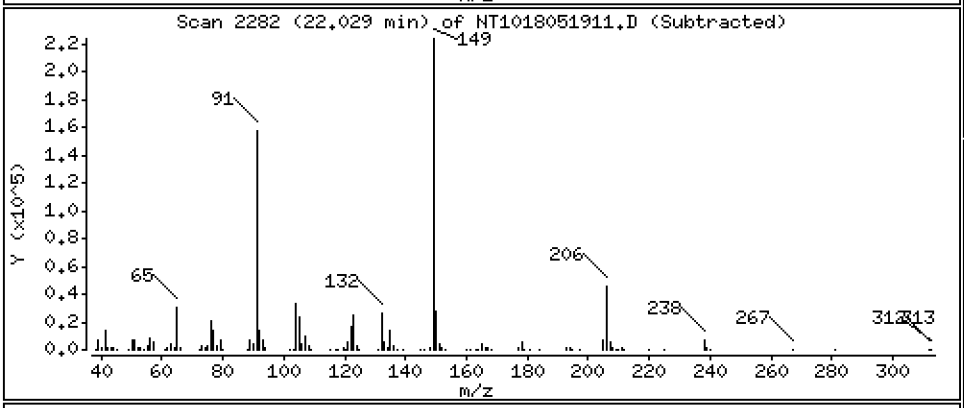
Column diameter: 0.25

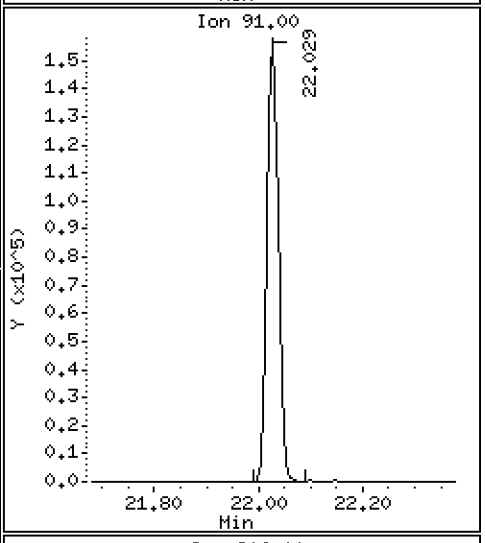
67 Butylbenzylphthalate

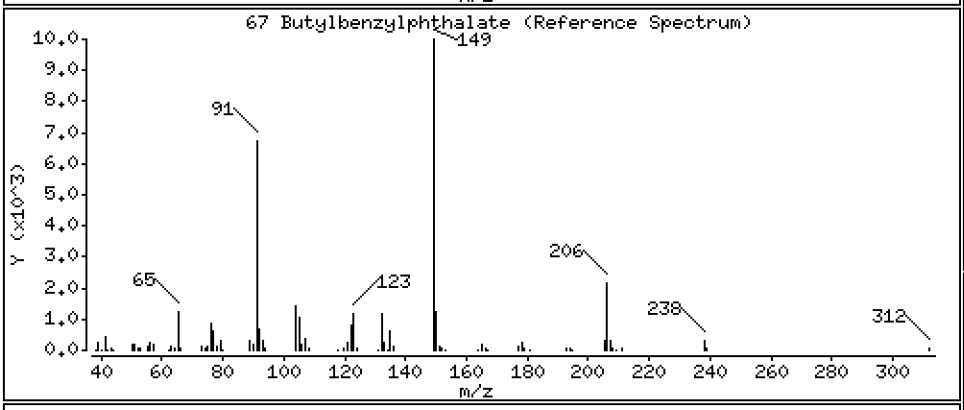
Concentration: 5.390 ug/mL

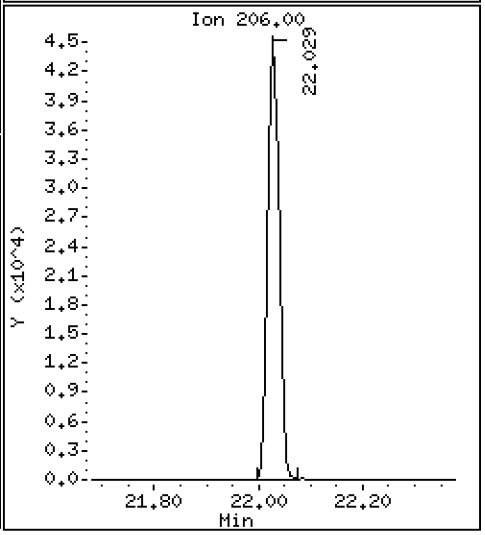


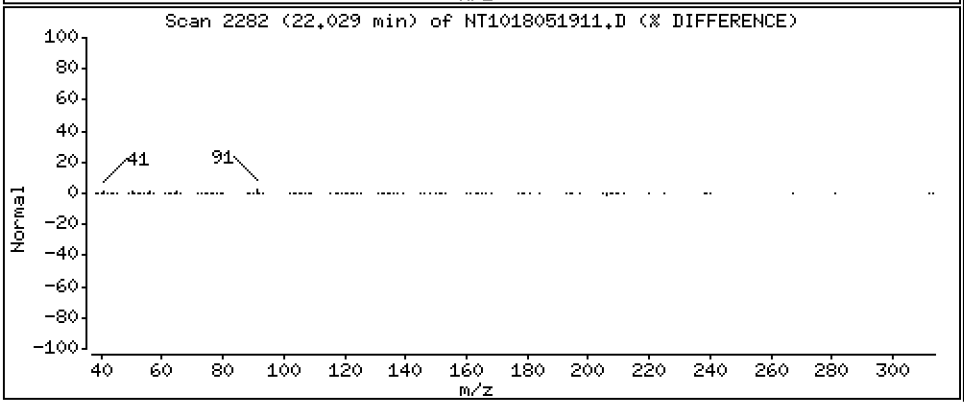












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

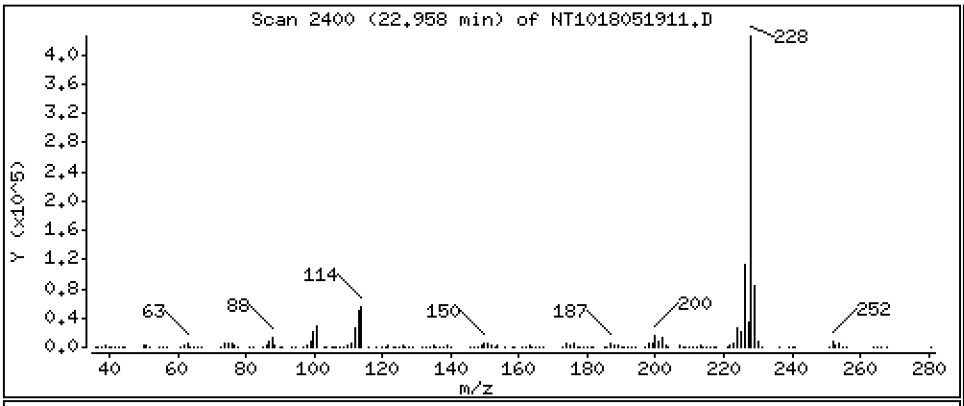
Operator: YZ

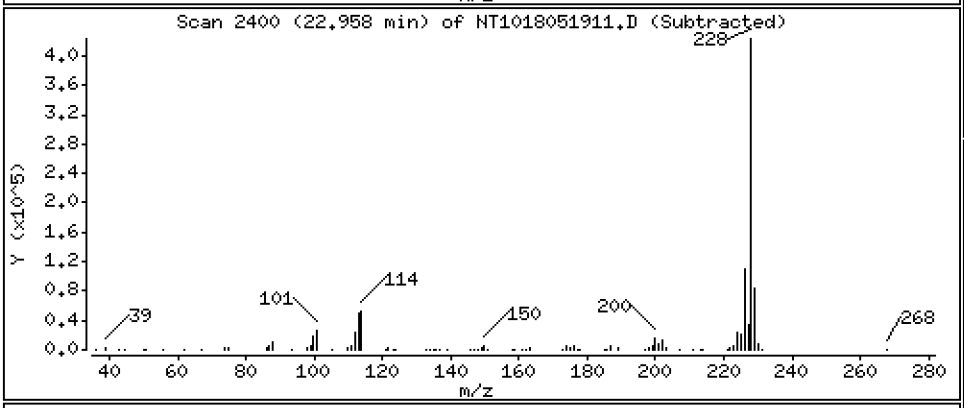
Column phase: ZB-5msi

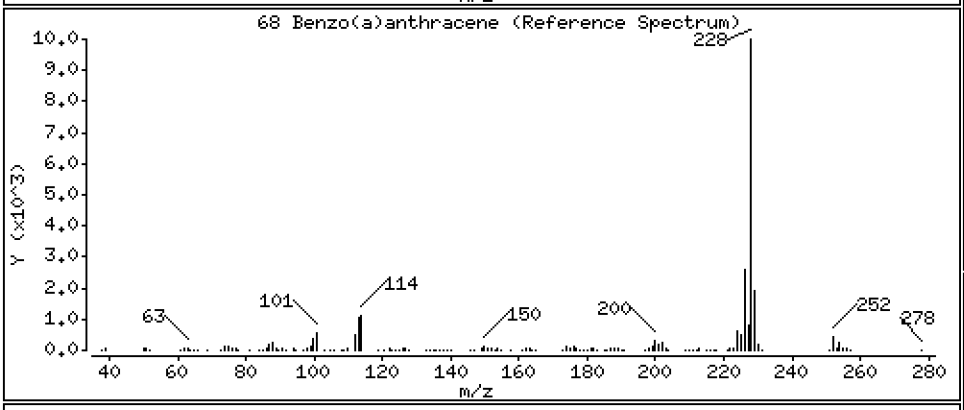
Column diameter: 0.25

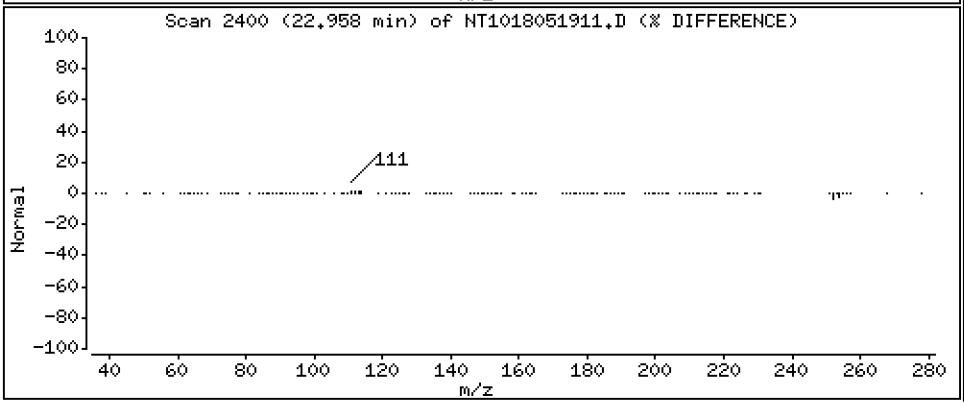
68 Benzo(a)anthracene

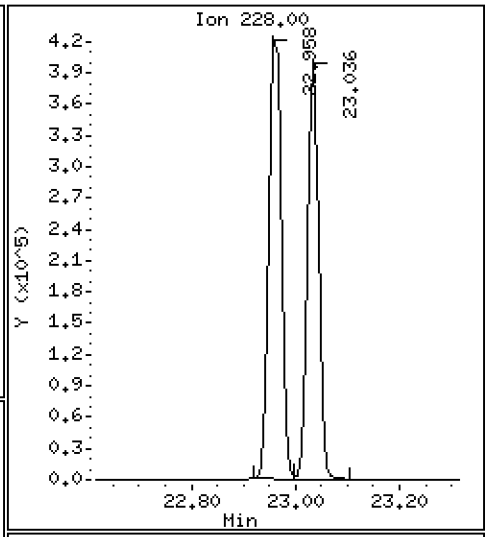
Concentration: 5.030 ug/mL

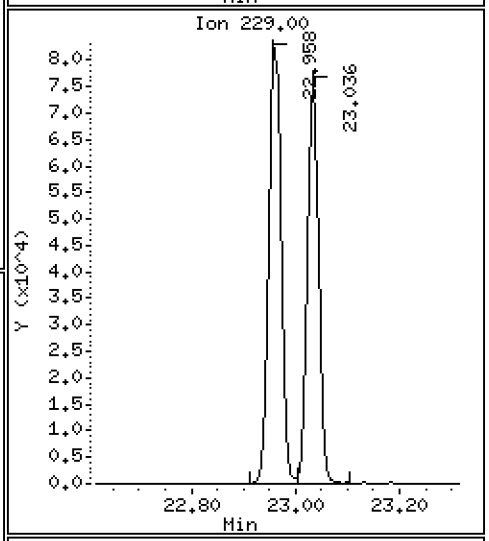


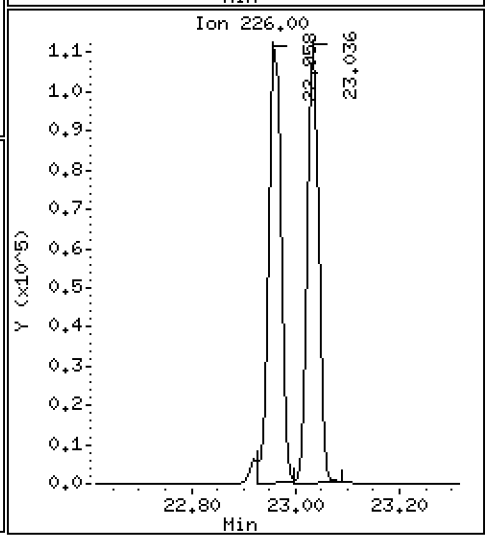












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

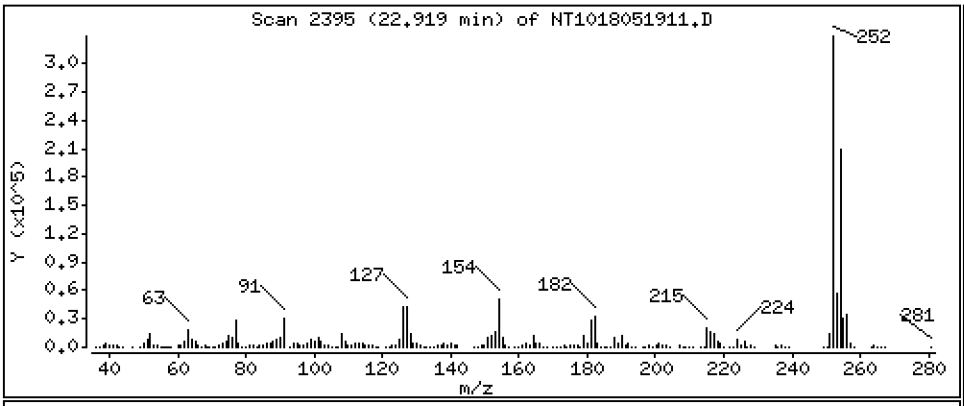
Operator: YZ

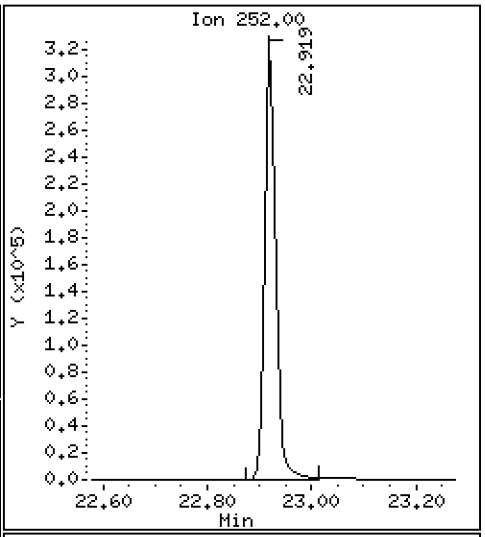
Column phase: ZB-5msi

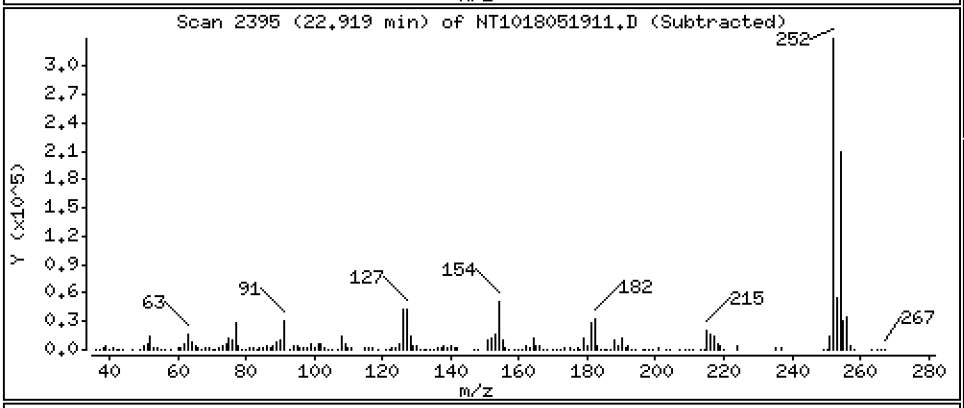
Column diameter: 0.25

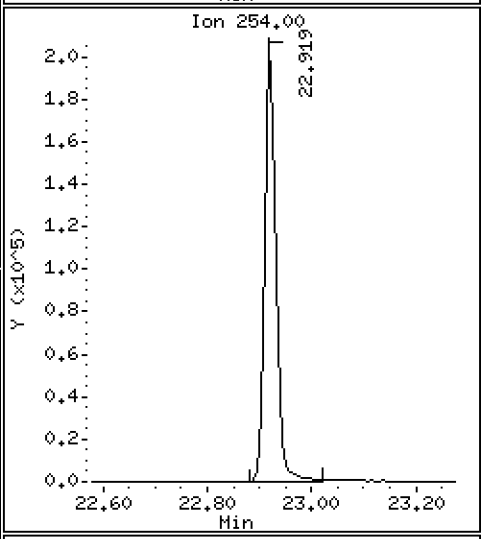
70 3,3'-Dichlorobenzidine

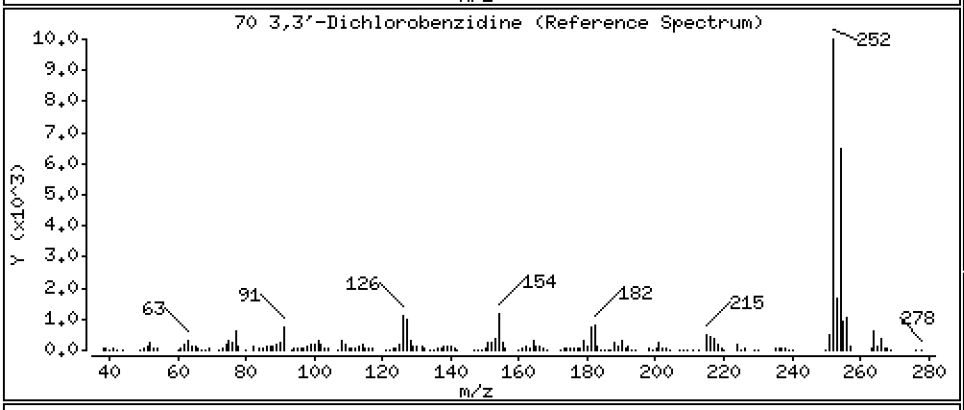
Concentration: 9.992 ug/mL

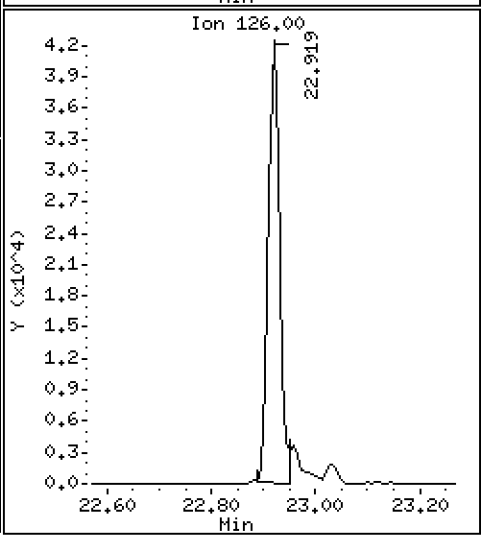


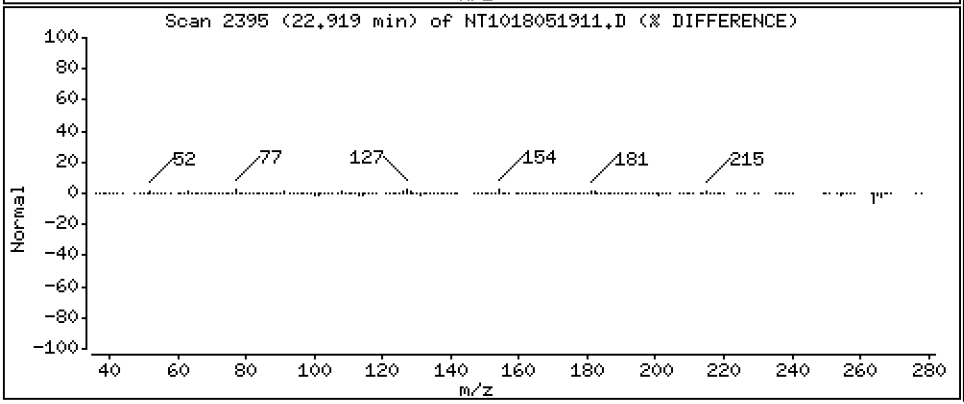












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

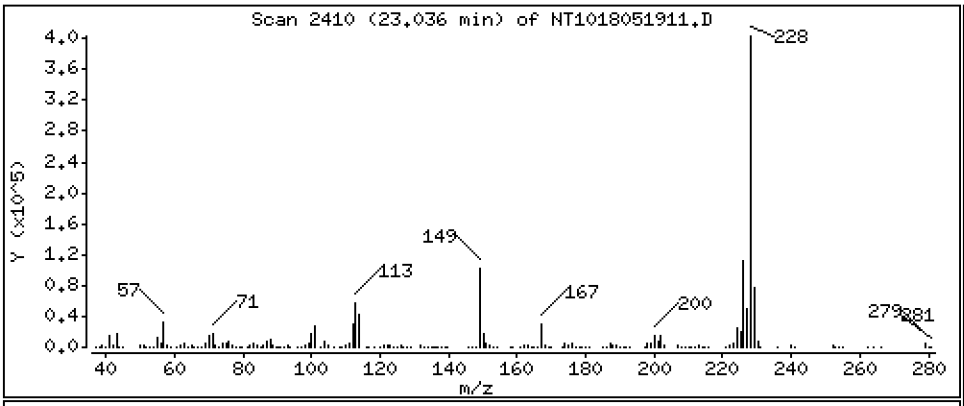
Operator: YZ

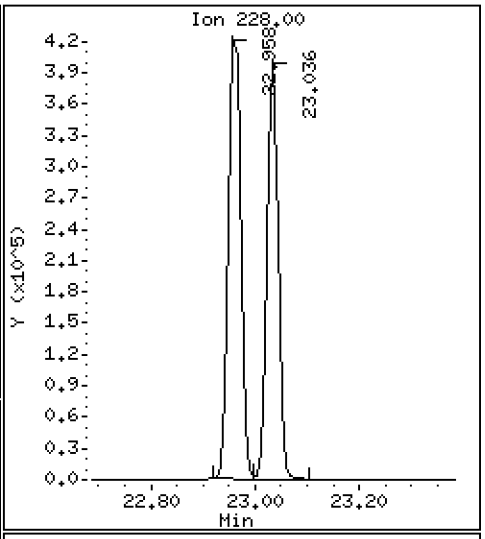
Column phase: ZB-5msi

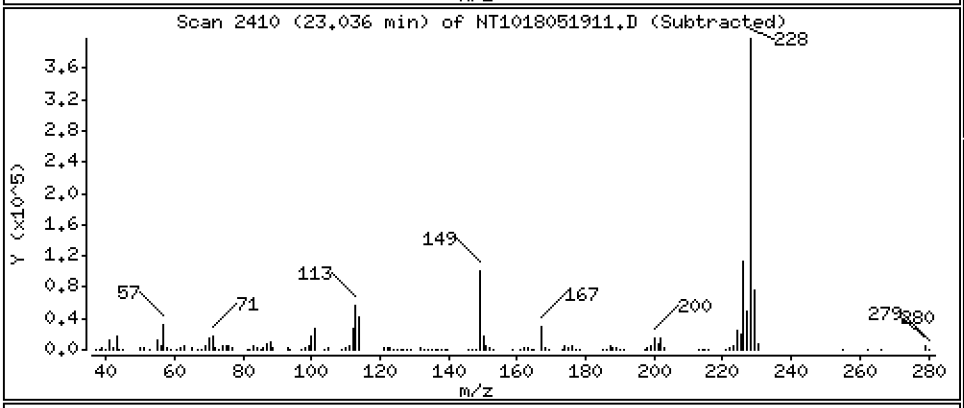
Column diameter: 0.25

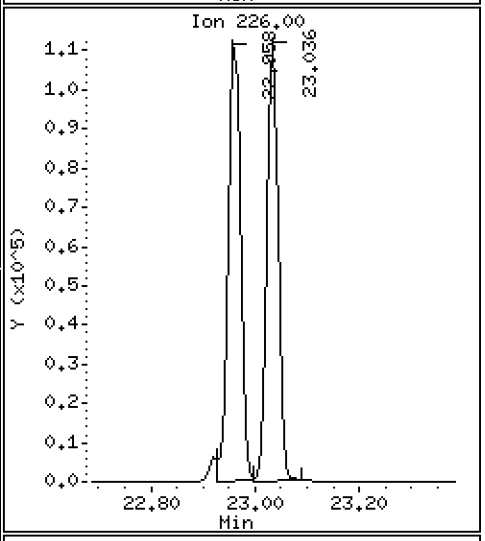
71 Chrysene

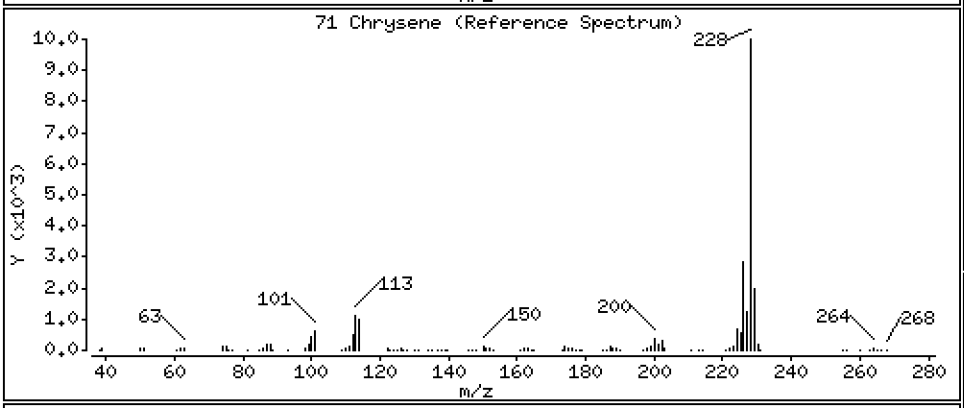
Concentration: 5.260 ug/mL

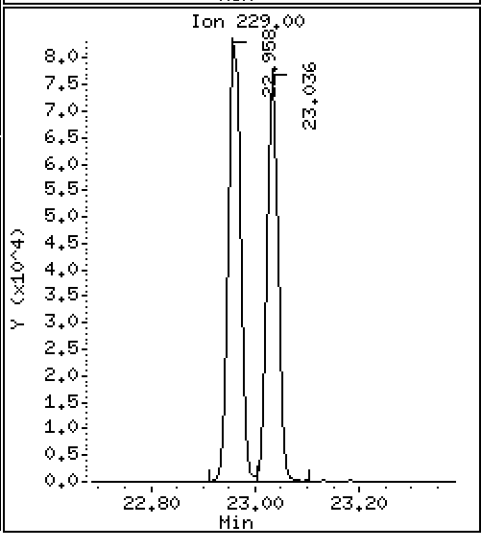


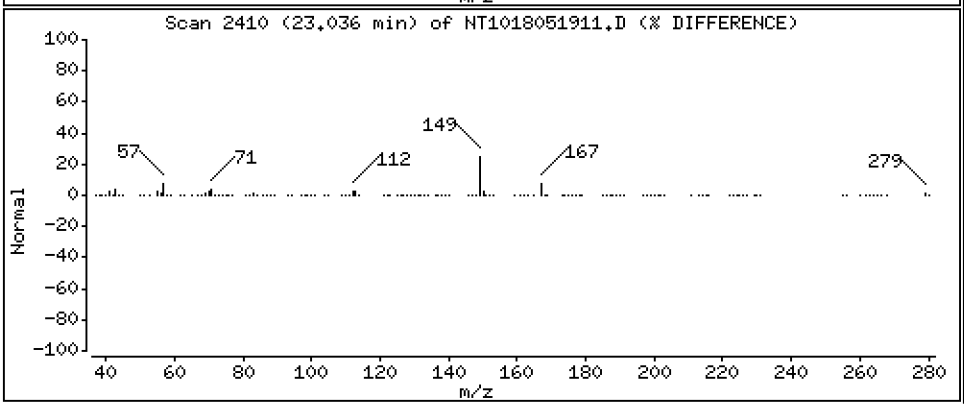












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

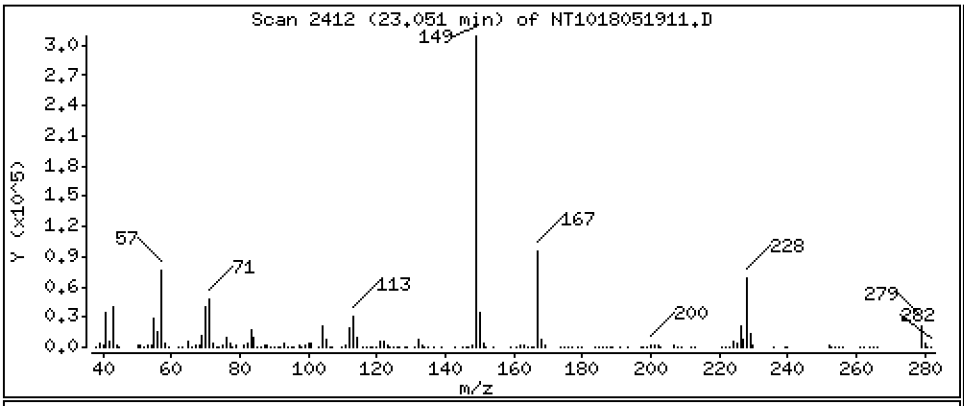
Operator: YZ

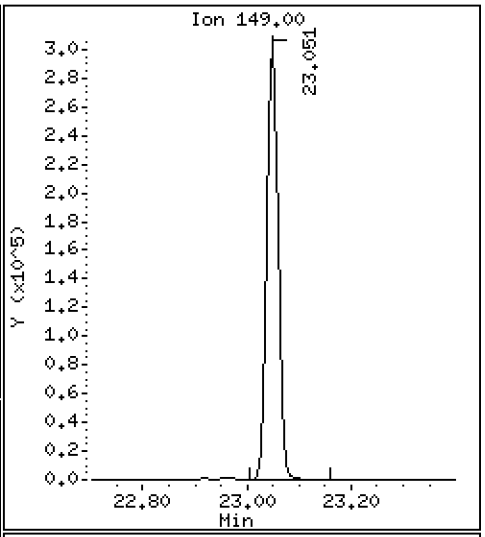
Column phase: ZB-5msi

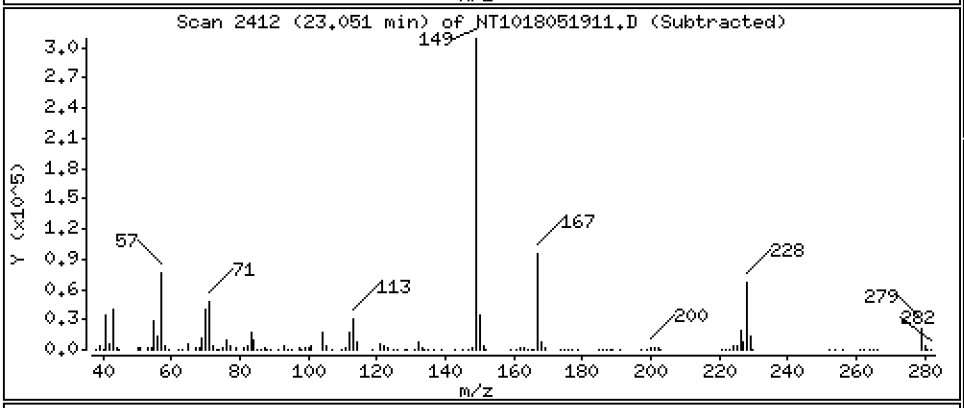
Column diameter: 0.25

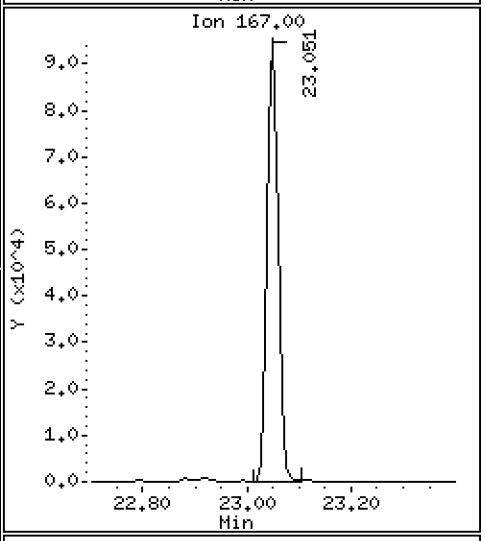
72 bis(2-Ethylhexyl)phthalate

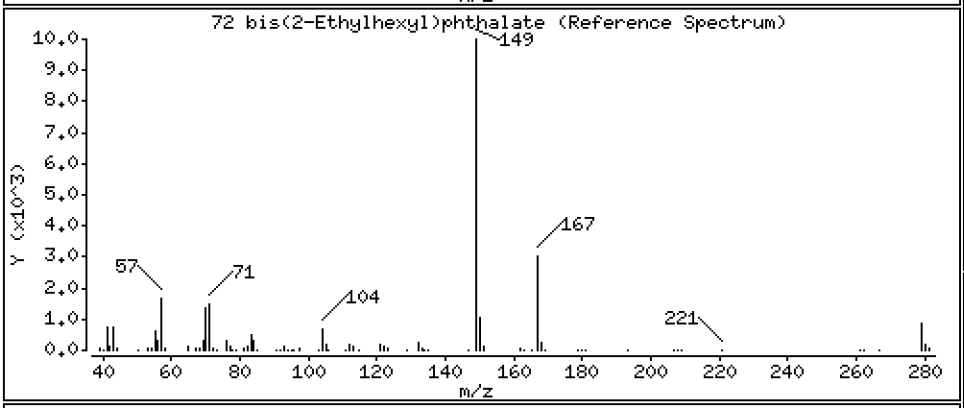
Concentration: 5.231 ug/mL

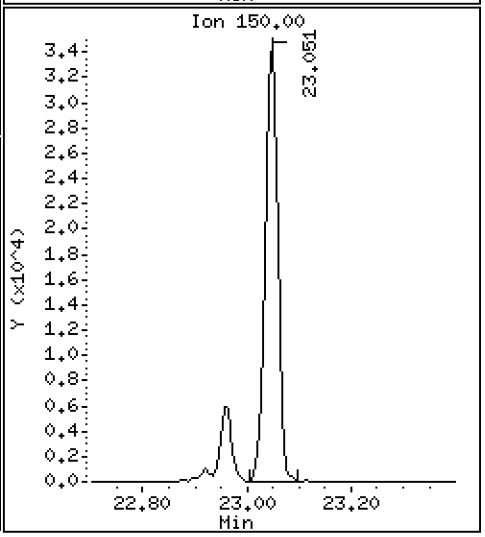


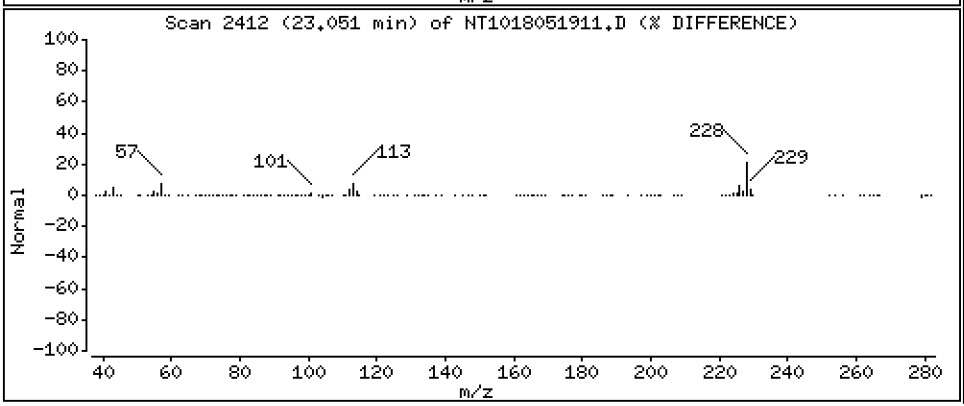












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

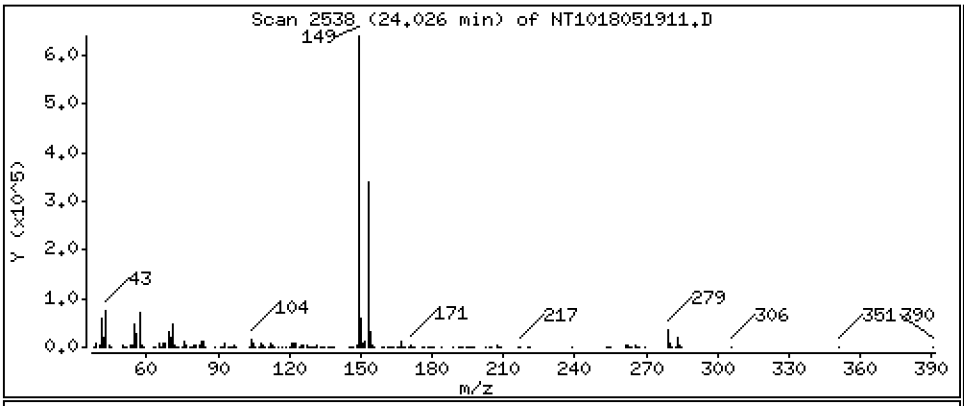
Operator: YZ

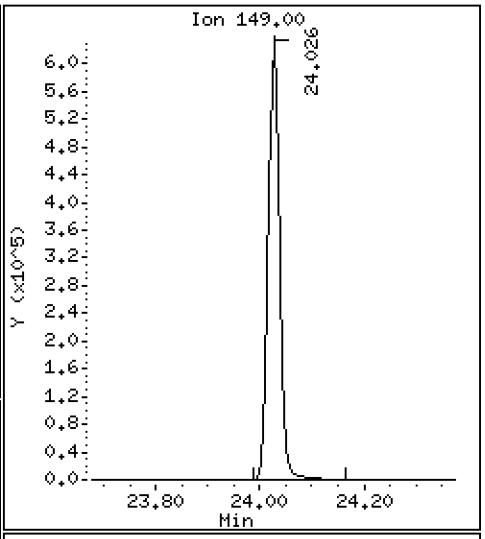
Column phase: ZB-5msi

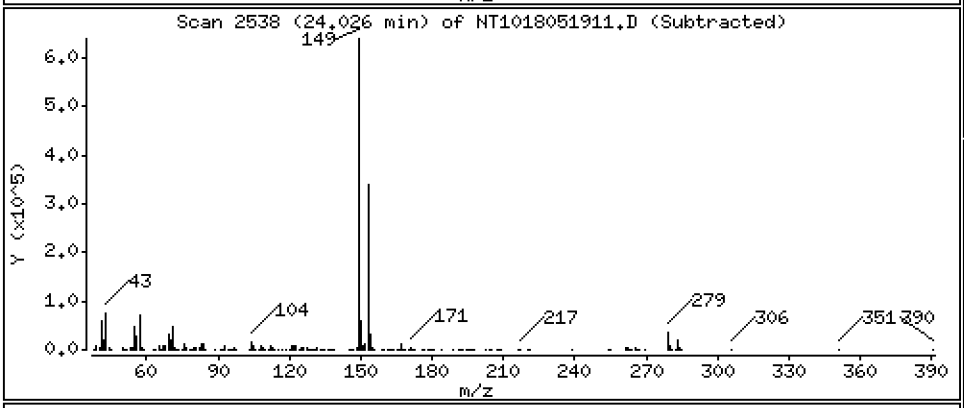
Column diameter: 0.25

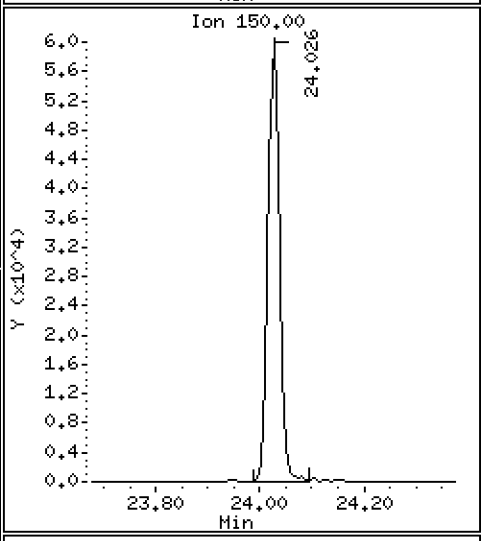
73 Di-n-octylphthalate

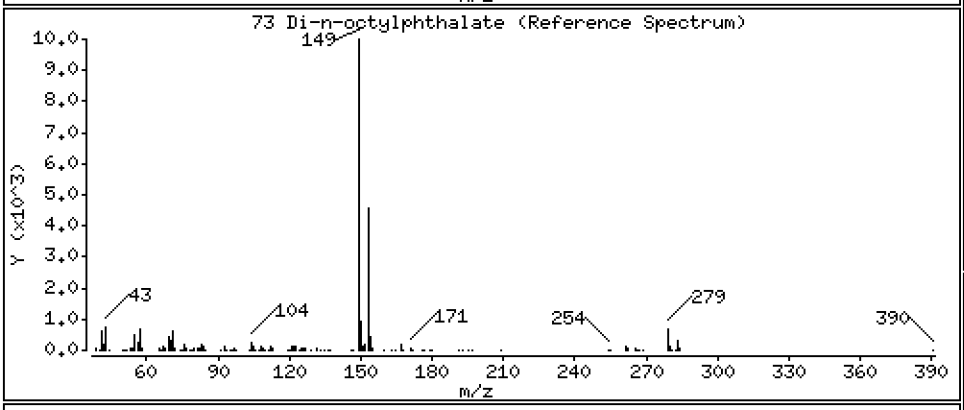
Concentration: 5.193 ug/mL

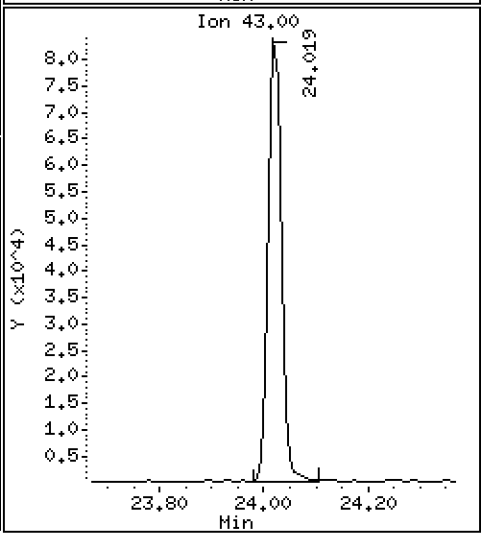


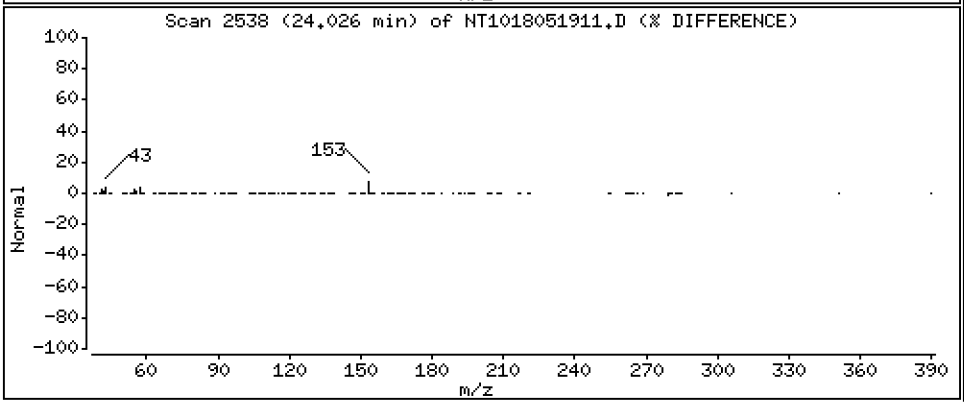












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

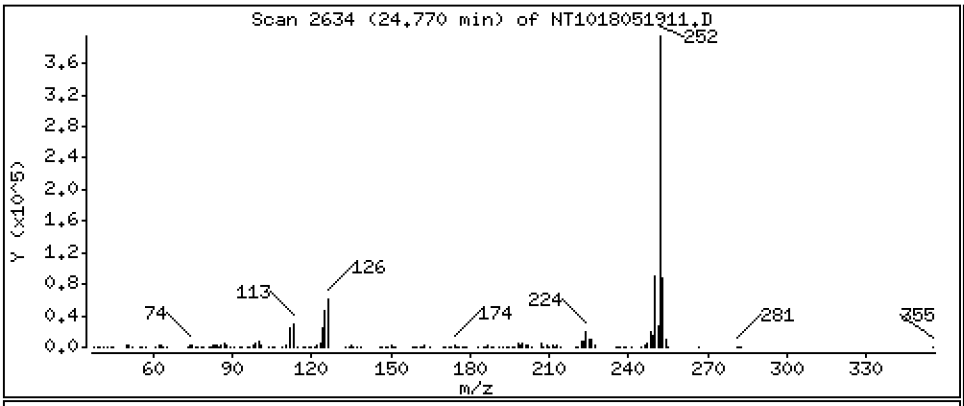
Operator: YZ

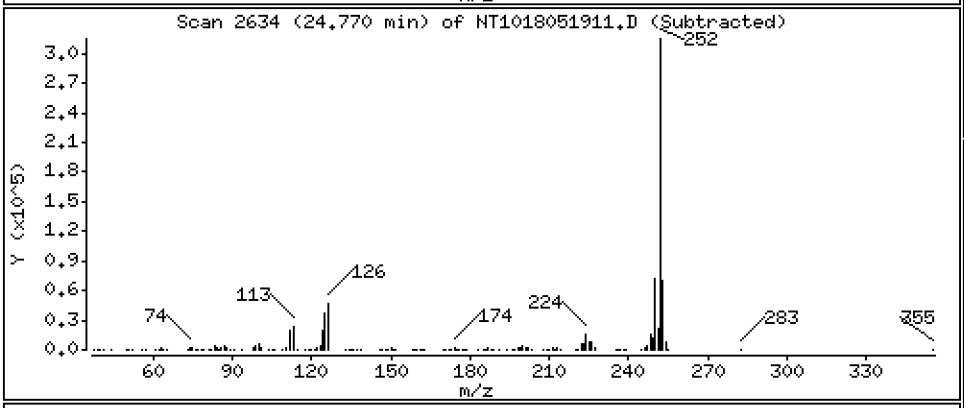
Column phase: ZB-5msi

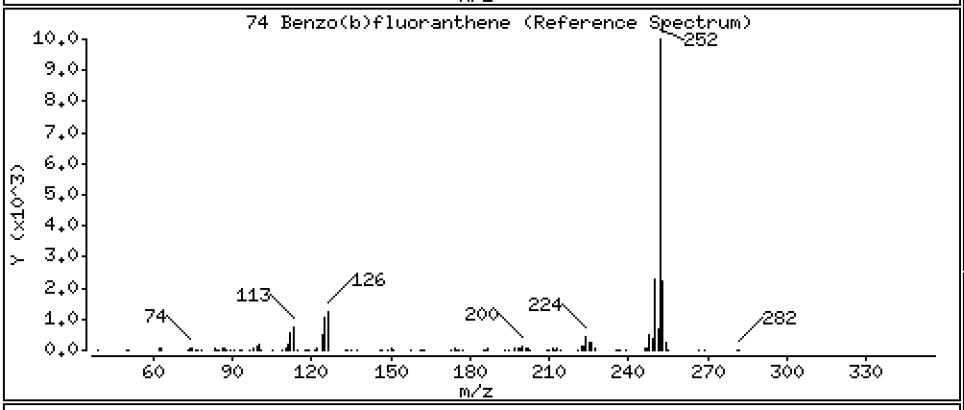
Column diameter: 0.25

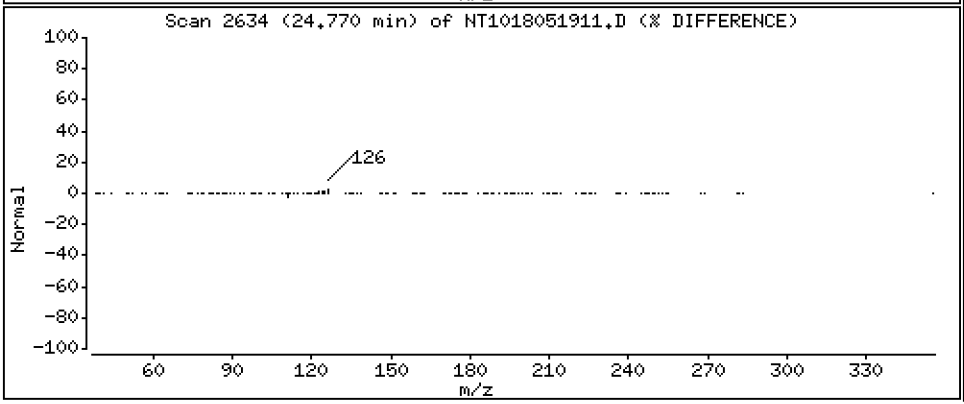
74 Benzo(b)fluoranthene

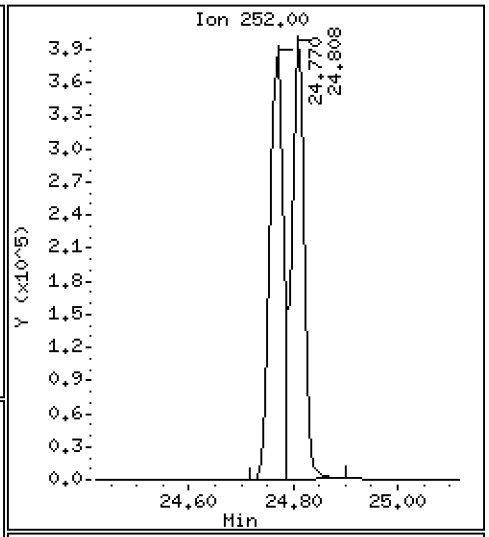
Concentration: 4.906 ug/mL

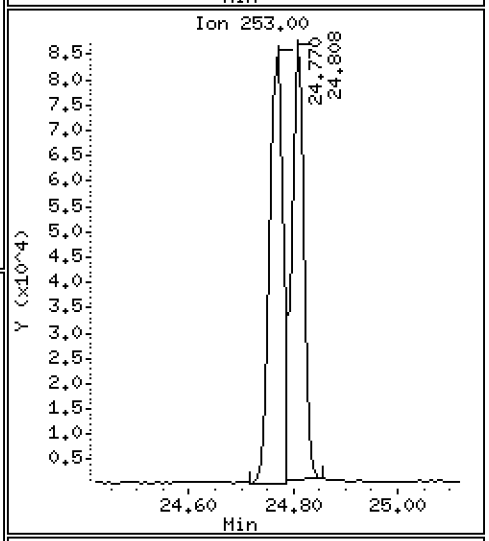


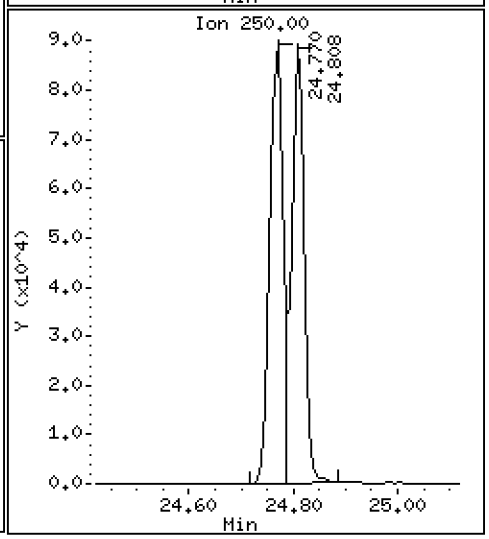












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

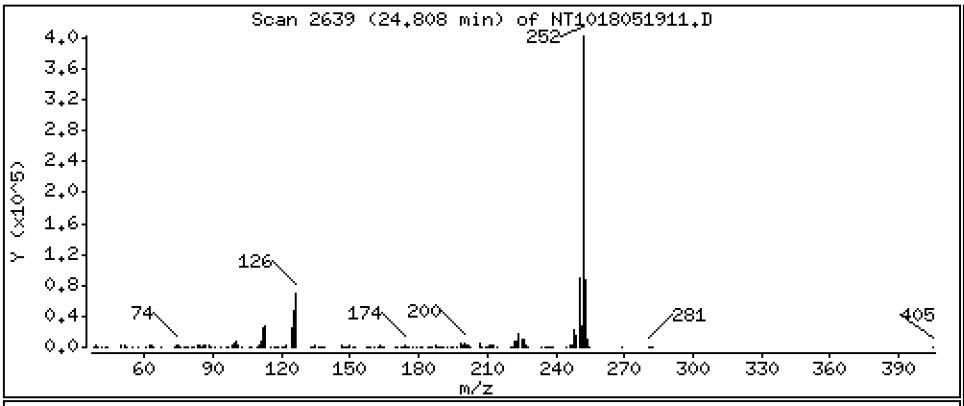
Operator: YZ

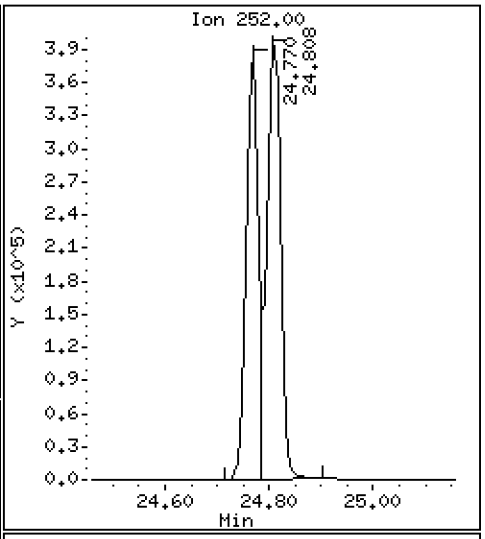
Column phase: ZB-5msi

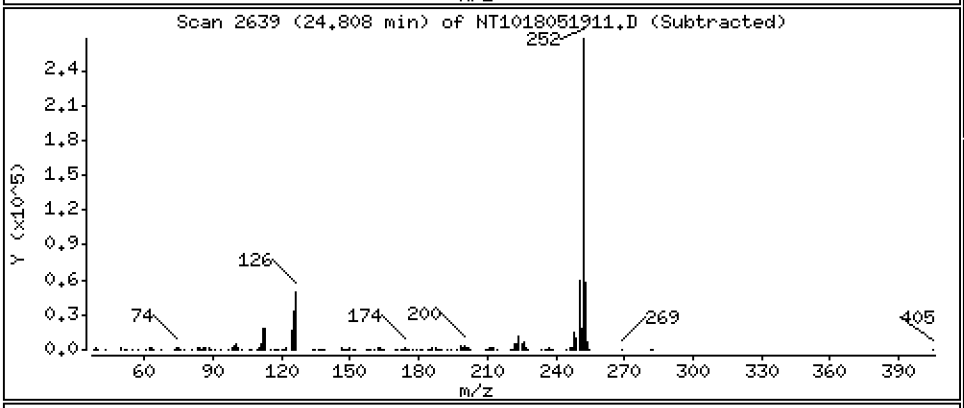
Column diameter: 0.25

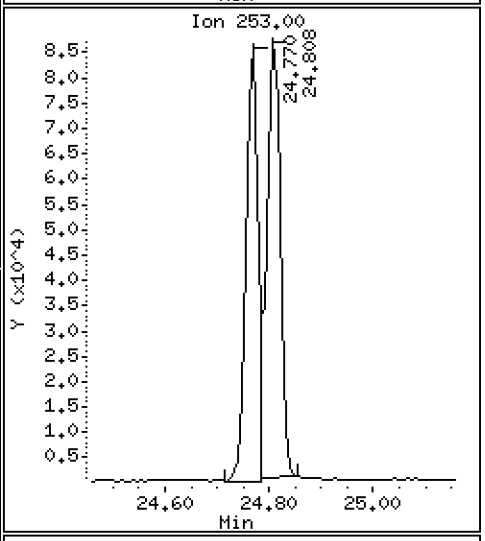
75 Benzo(k)fluoranthene

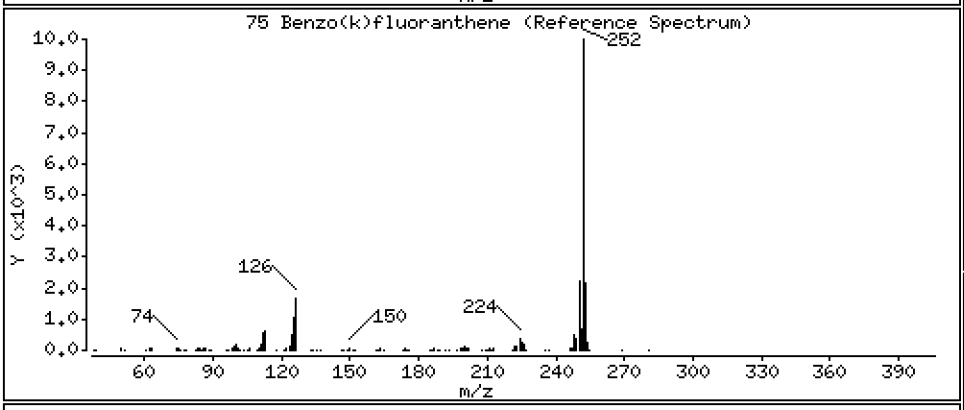
Concentration: 5.423 ug/mL

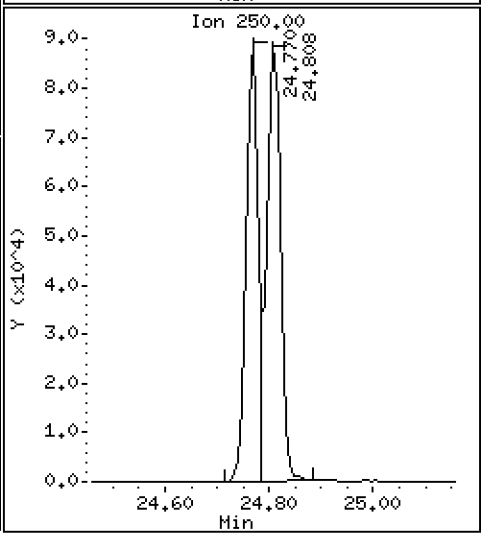


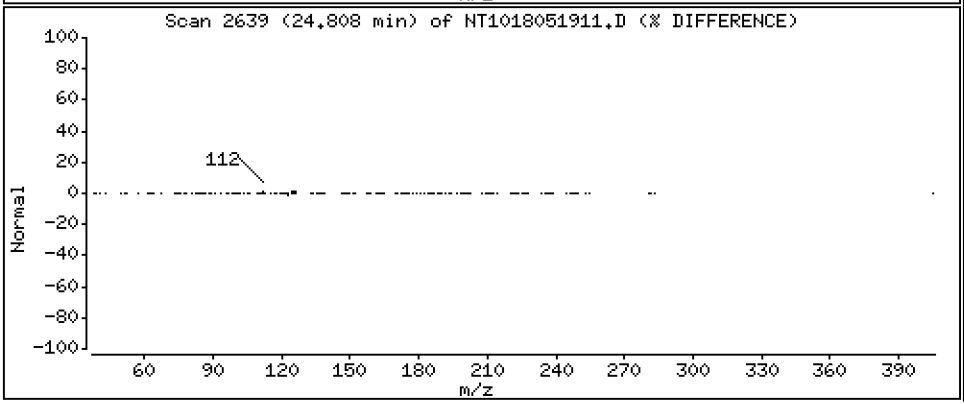












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

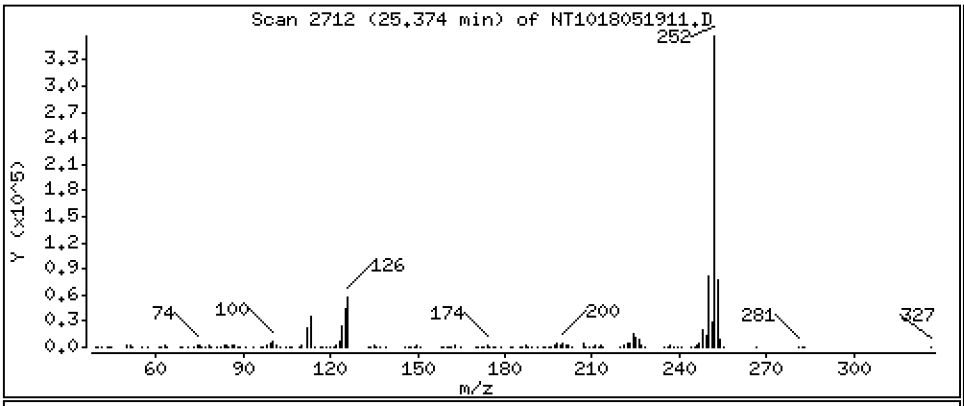
Operator: YZ

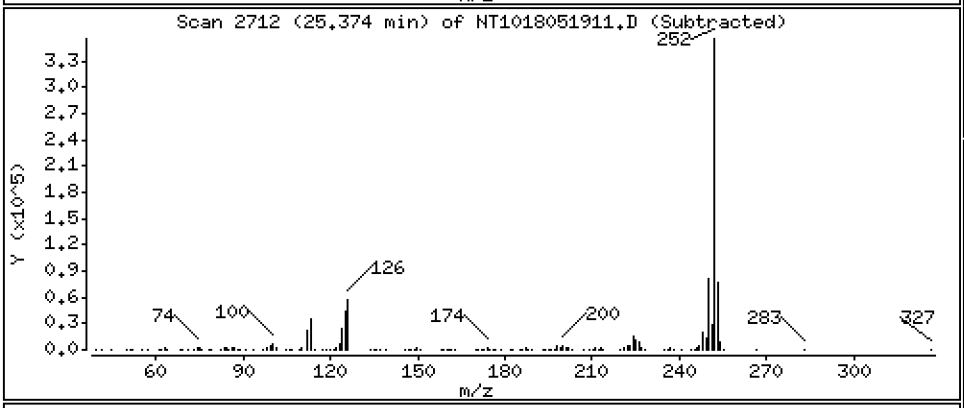
Column phase: ZB-5msi

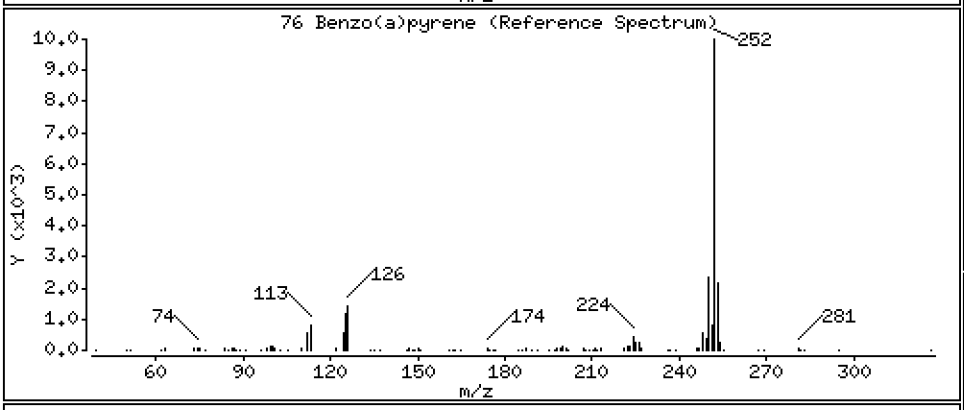
Column diameter: 0.25

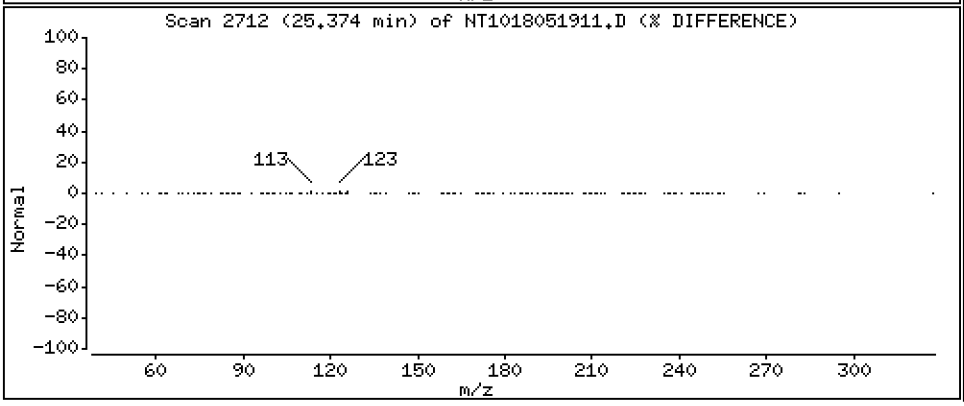
76 Benzo(a)pyrene

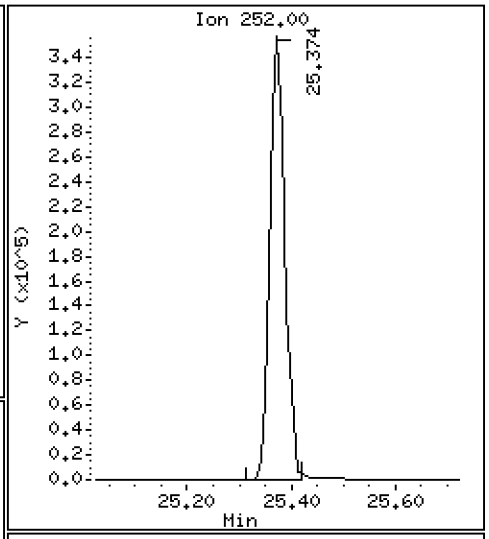
Concentration: 5.278 ug/mL

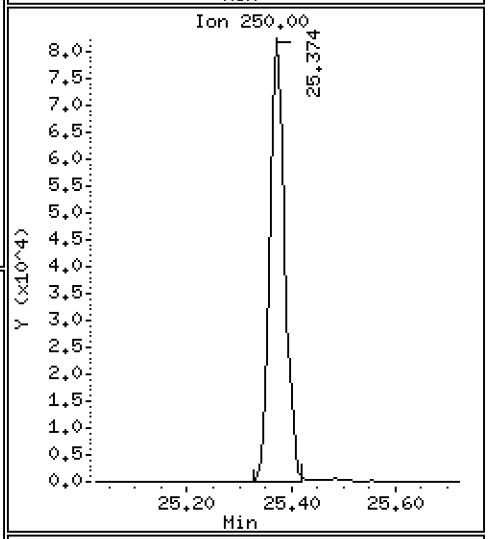


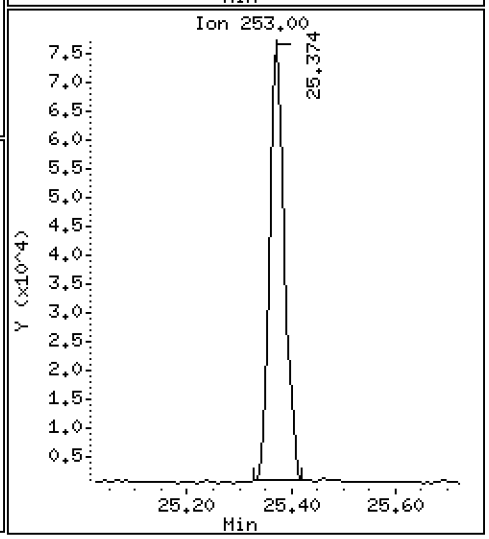












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

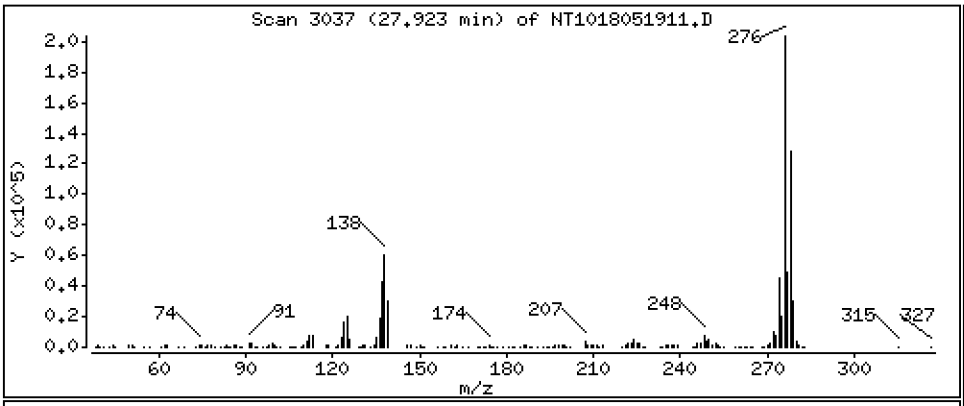
Operator: YZ

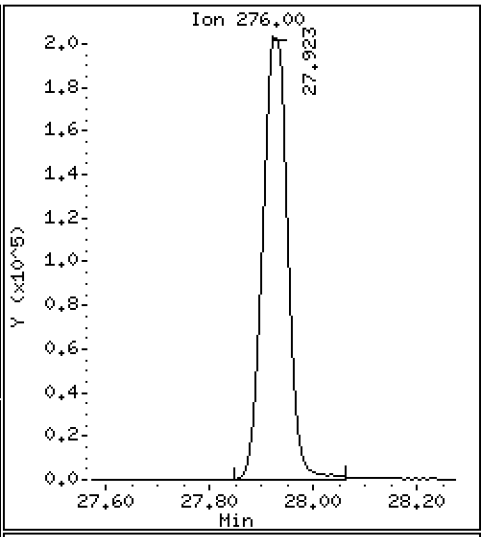
Column phase: ZB-5msi

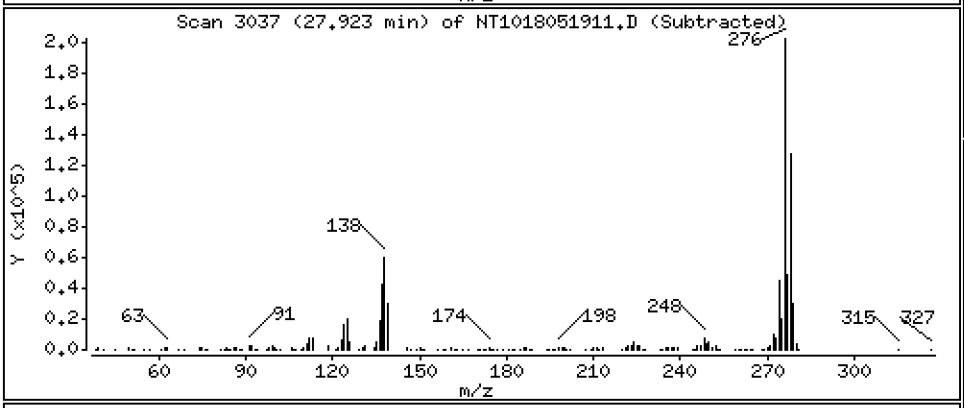
Column diameter: 0.25

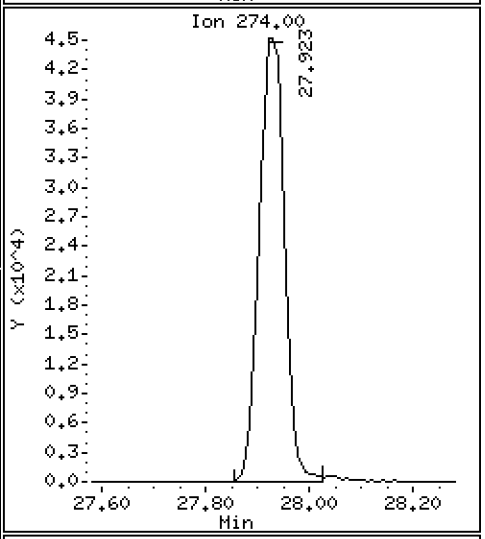
78 Indeno(1,2,3-cd)pyrene

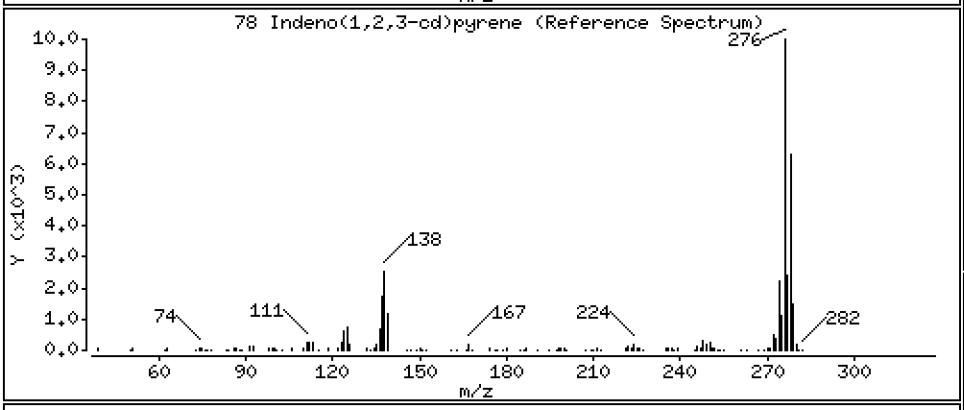
Concentration: 4.982 ug/mL

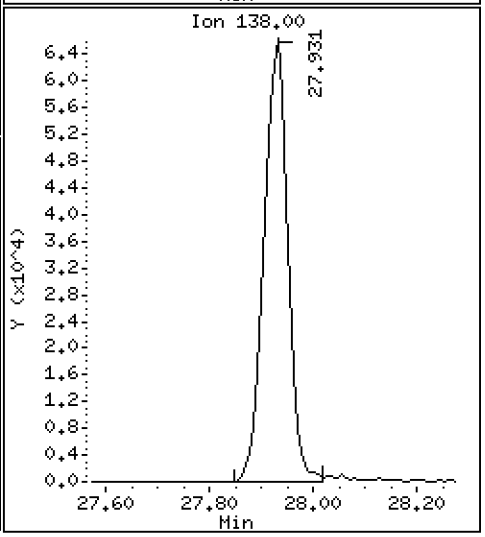


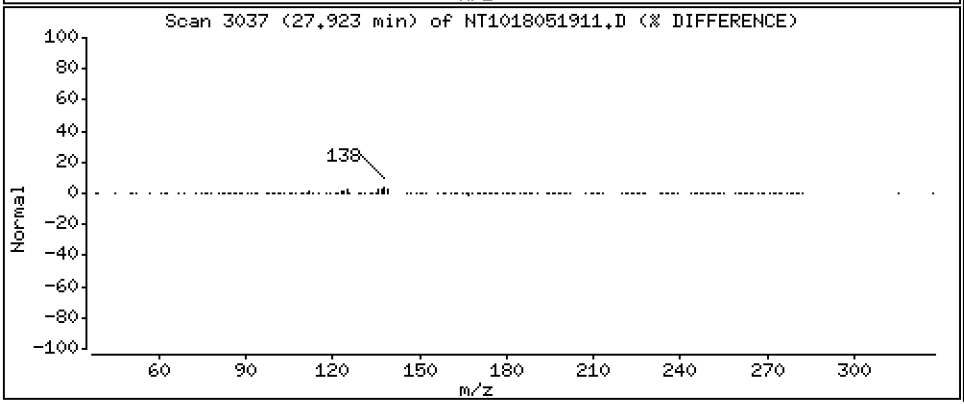












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

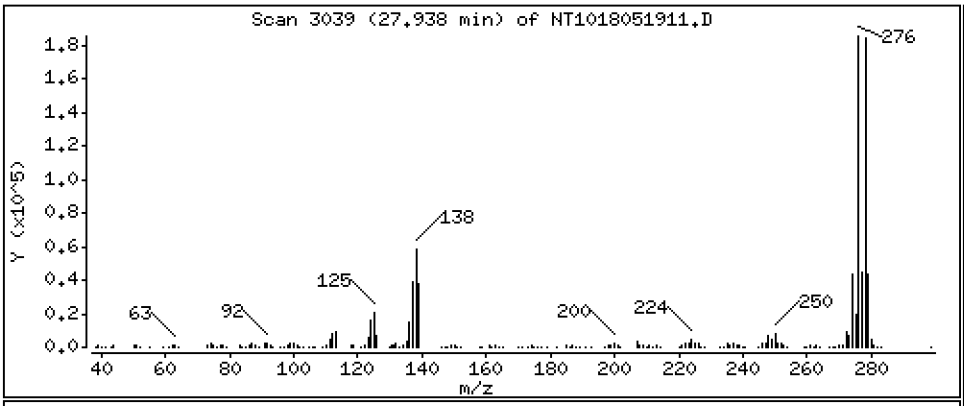
Operator: YZ

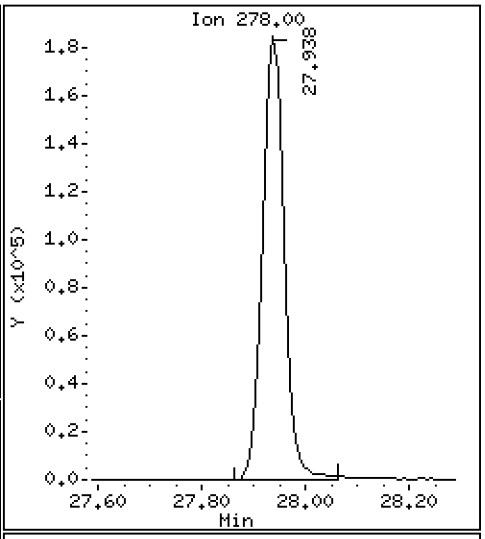
Column phase: ZB-5msi

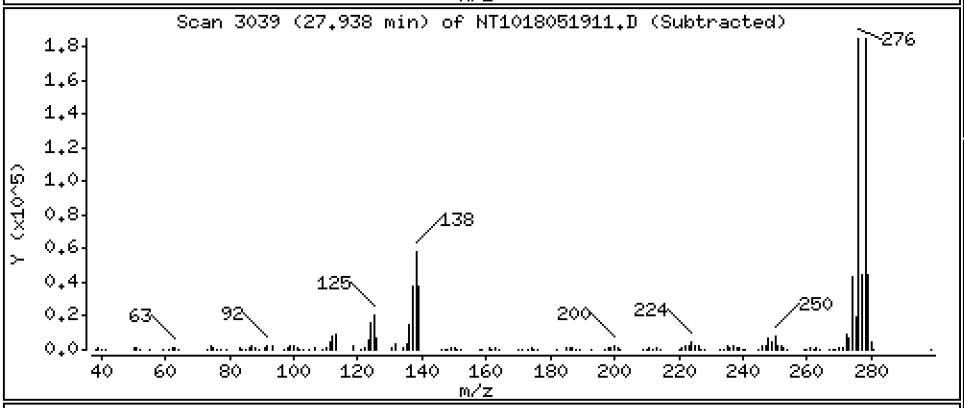
Column diameter: 0.25

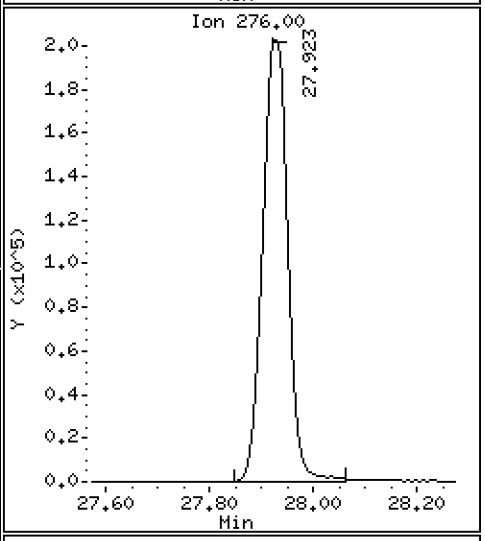
79 Dibenzo(a,h)anthracene

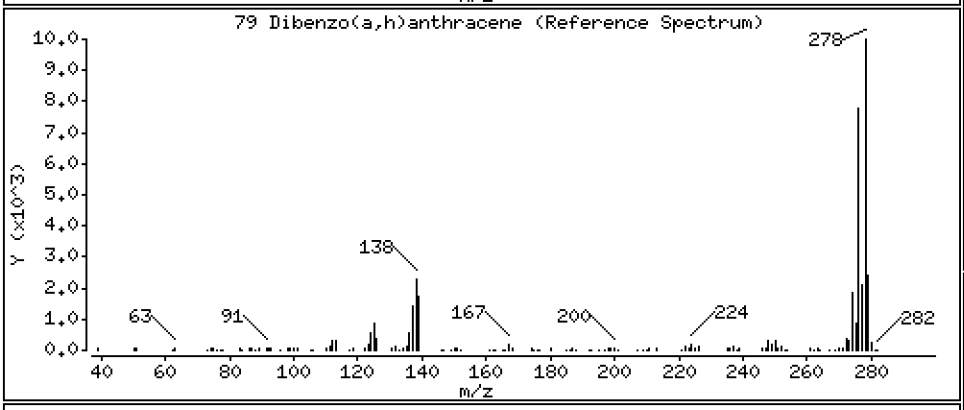
Concentration: 4.862 ug/mL

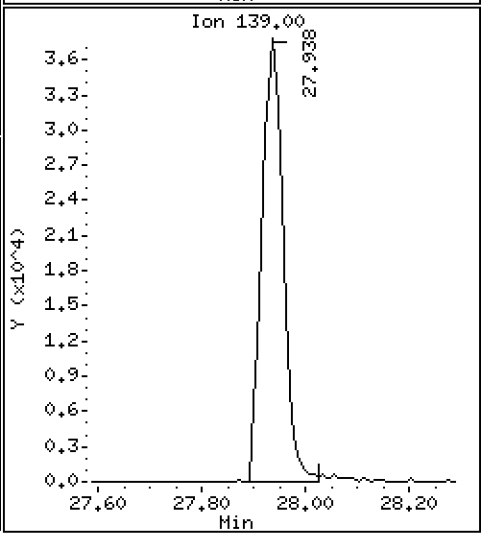


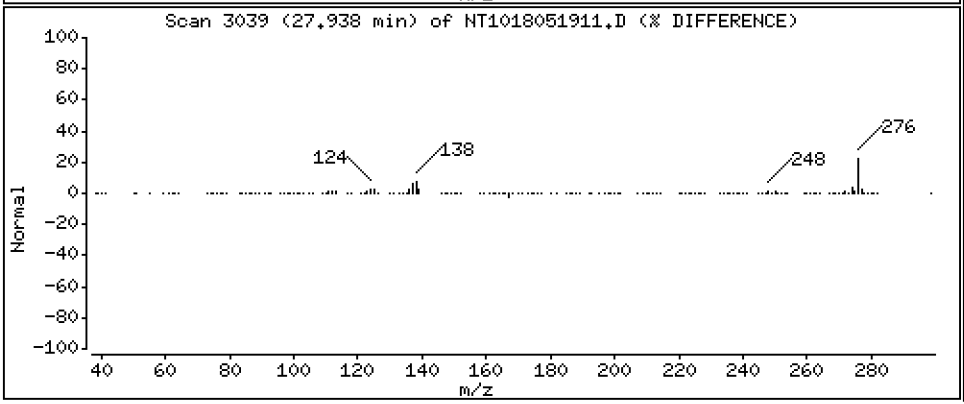












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

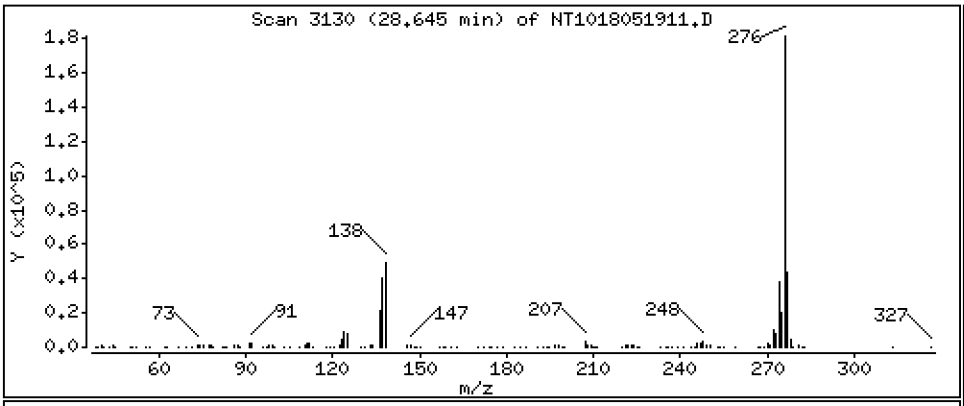
Operator: YZ

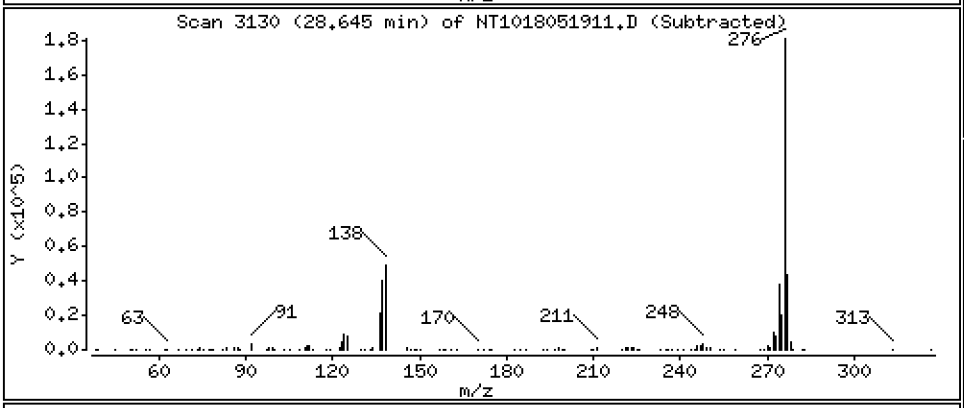
Column phase: ZB-5msi

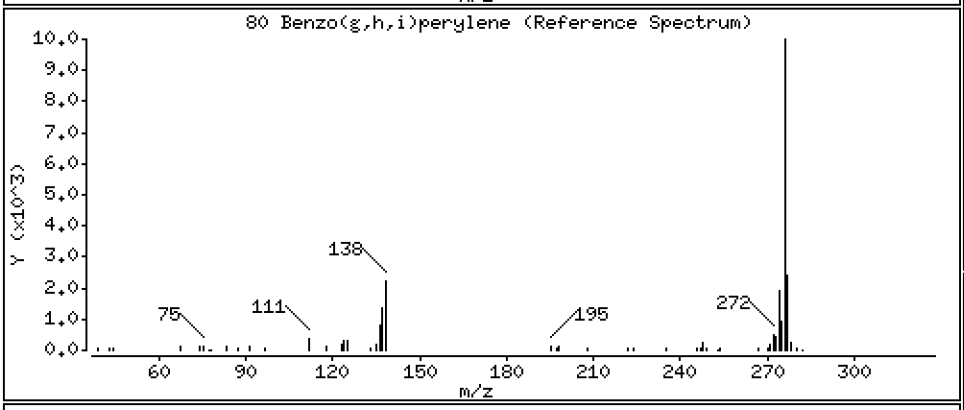
Column diameter: 0.25

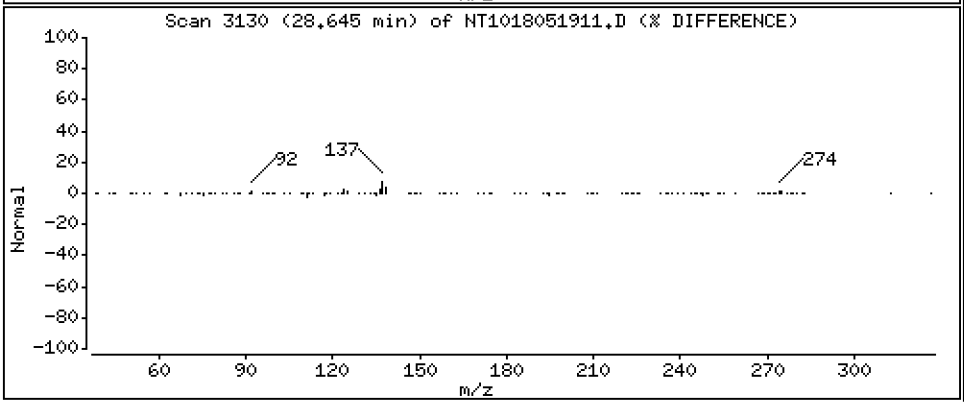
80 Benzo(g,h,i)perylene

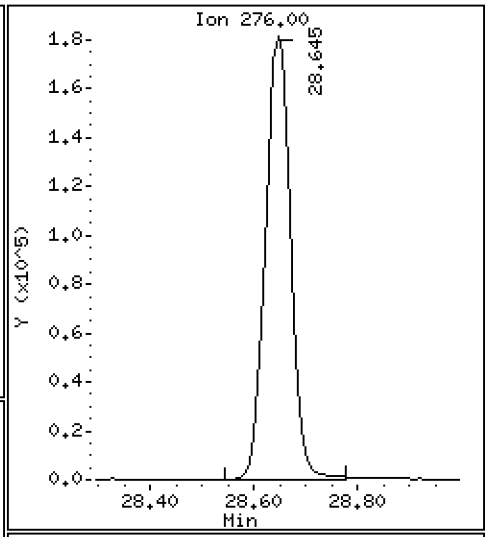
Concentration: 5.067 ug/mL

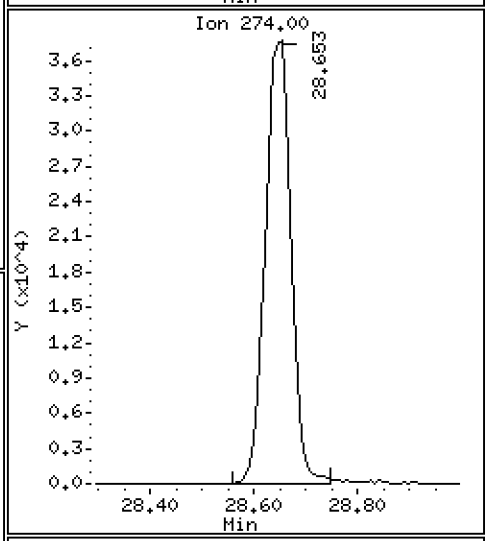


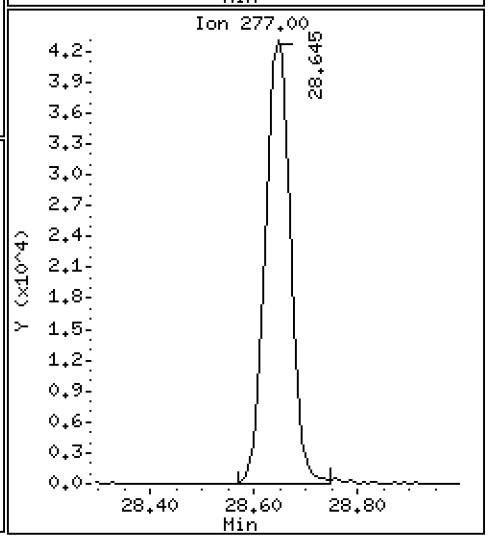












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

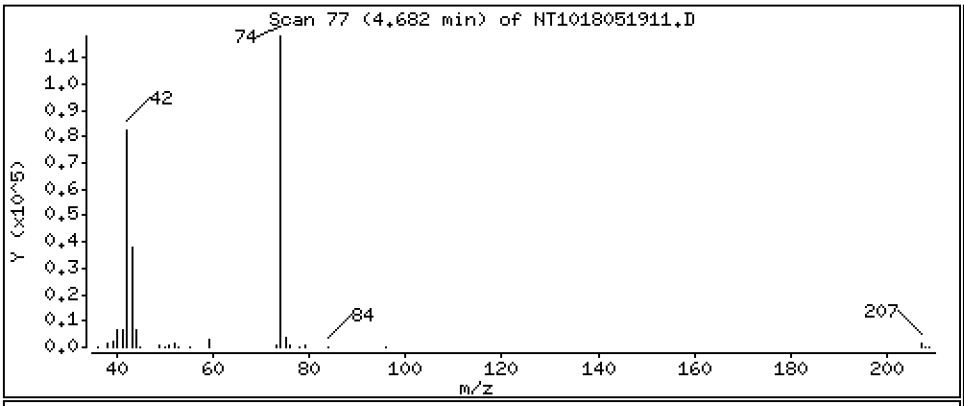
Operator: YZ

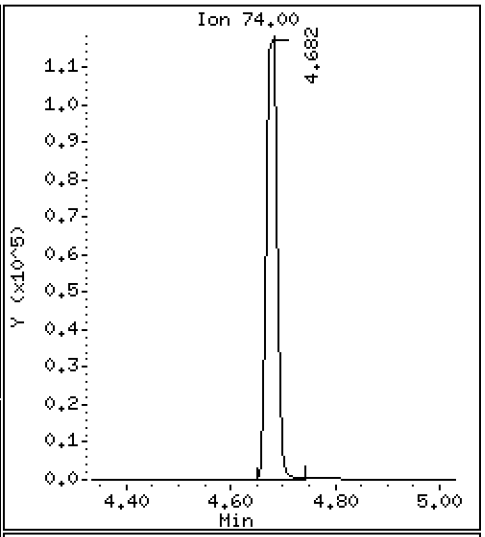
Column phase: ZB-5msi

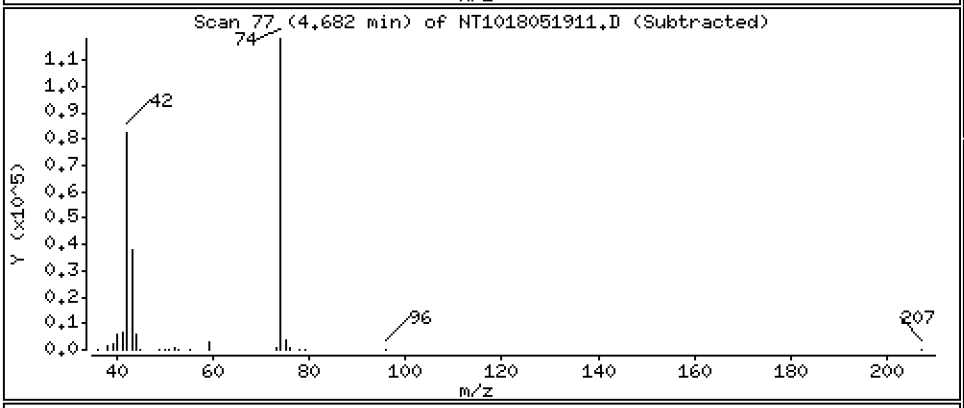
Column diameter: 0.25

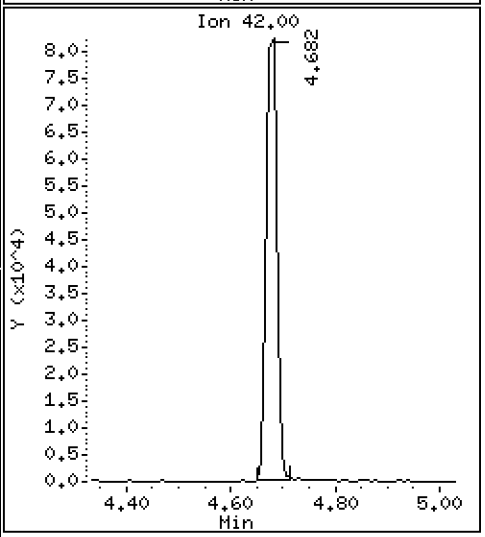
90 N-Nitrosodimethylamine

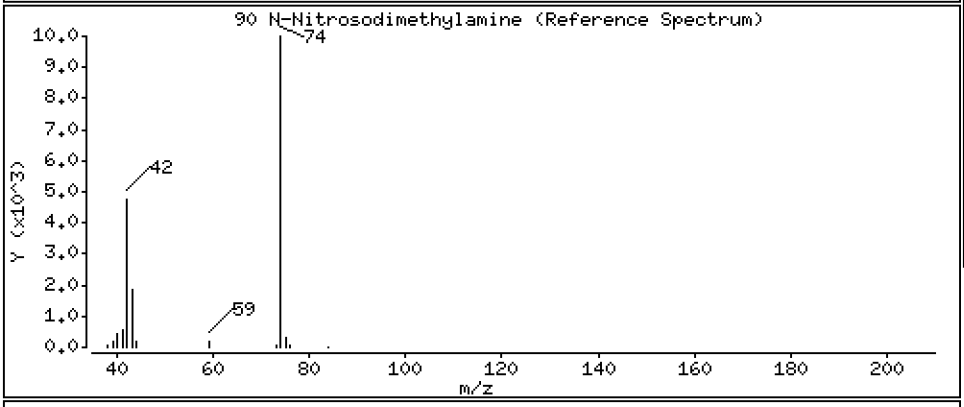
Concentration: 6.676 ug/mL

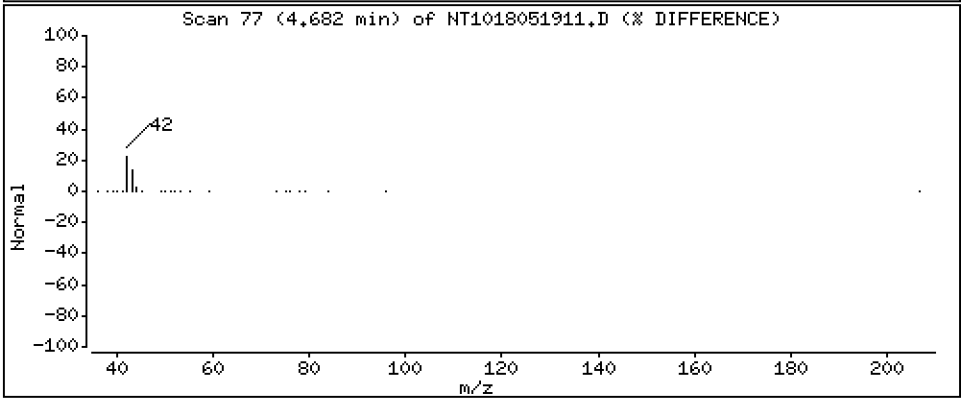












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

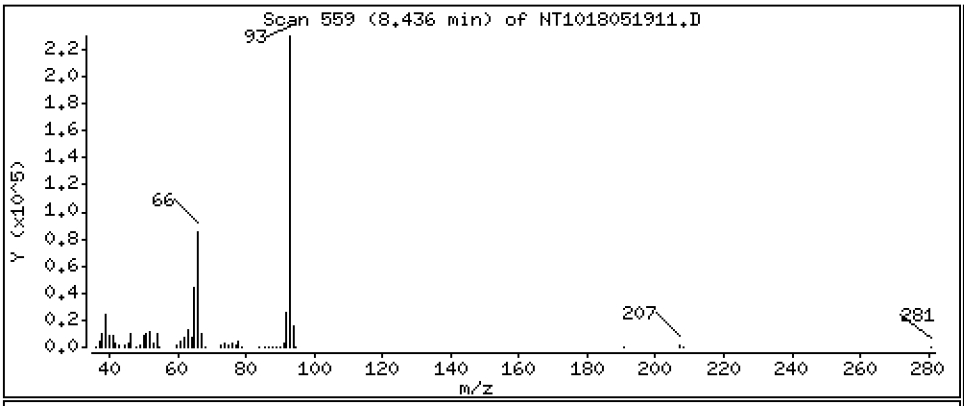
Operator: YZ

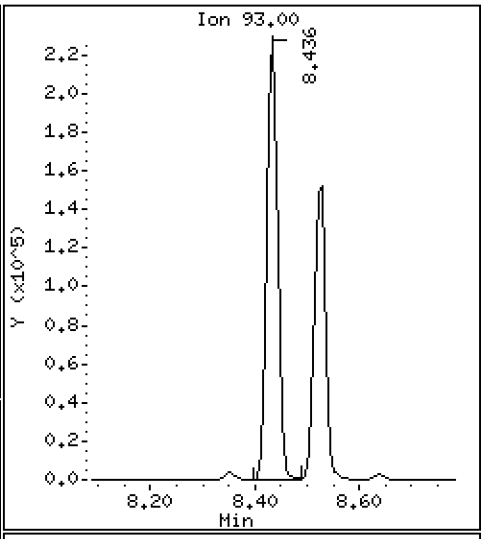
Column phase: ZB-5msi

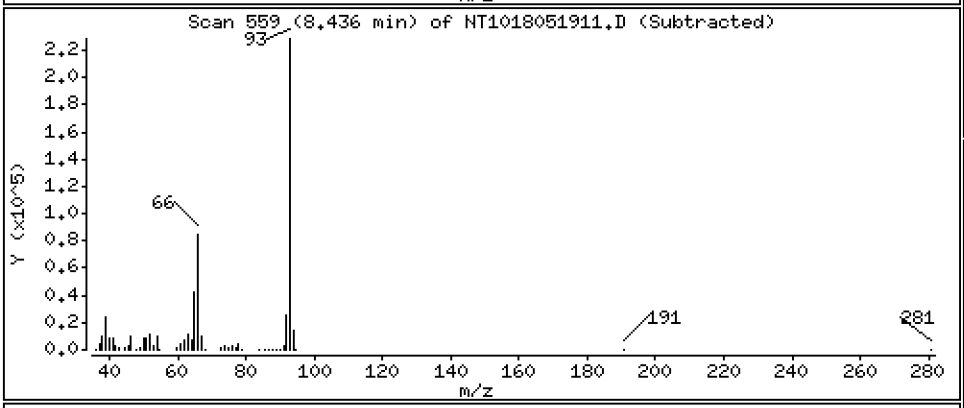
Column diameter: 0.25

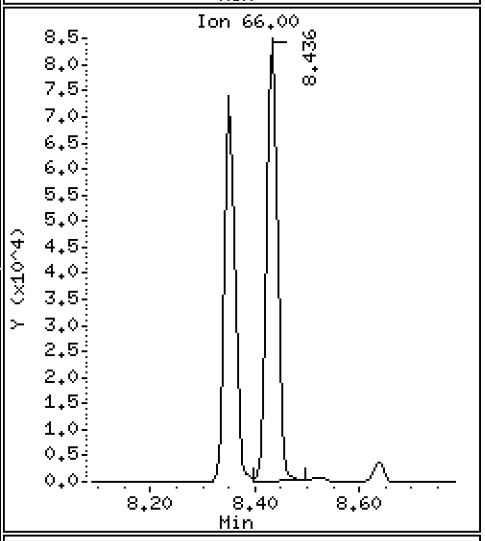
91 Aniline

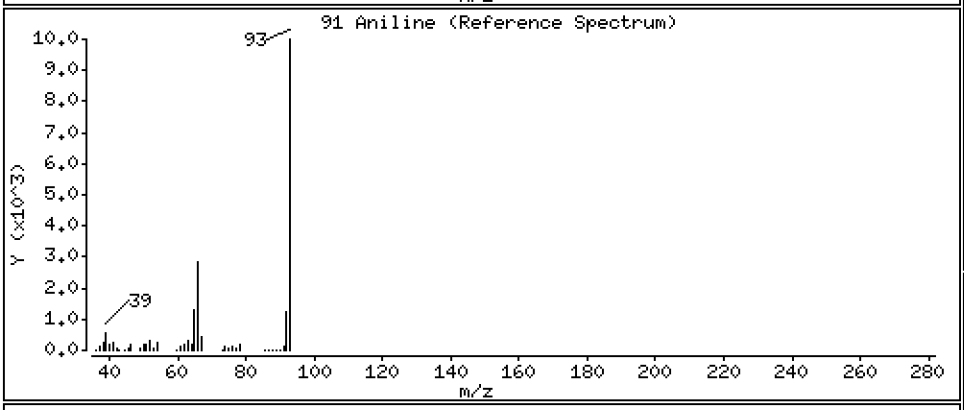
Concentration: 5.424 ug/mL

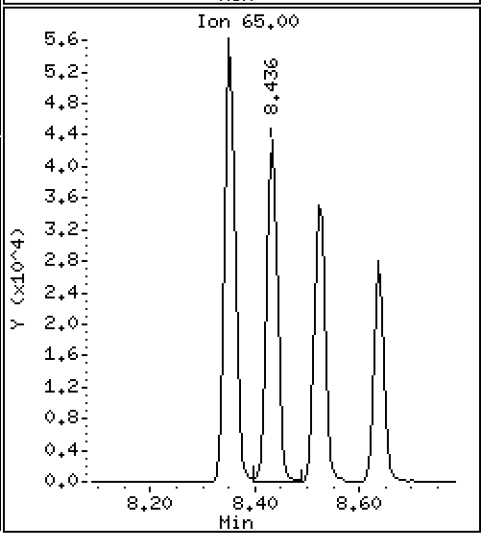


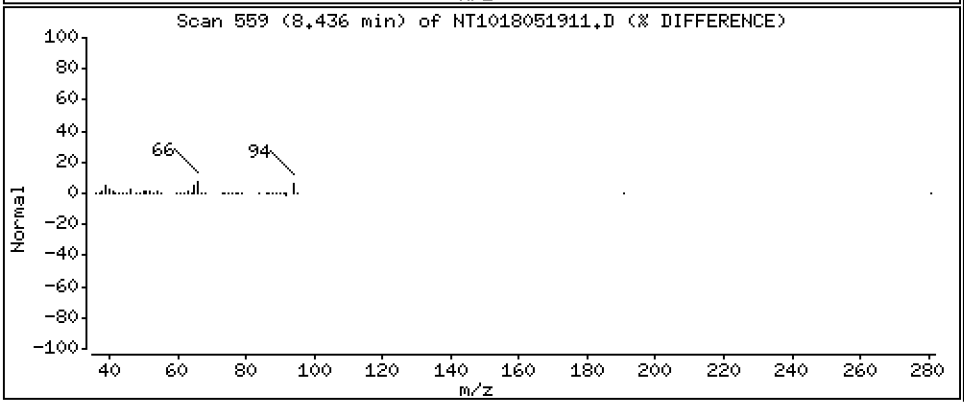












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

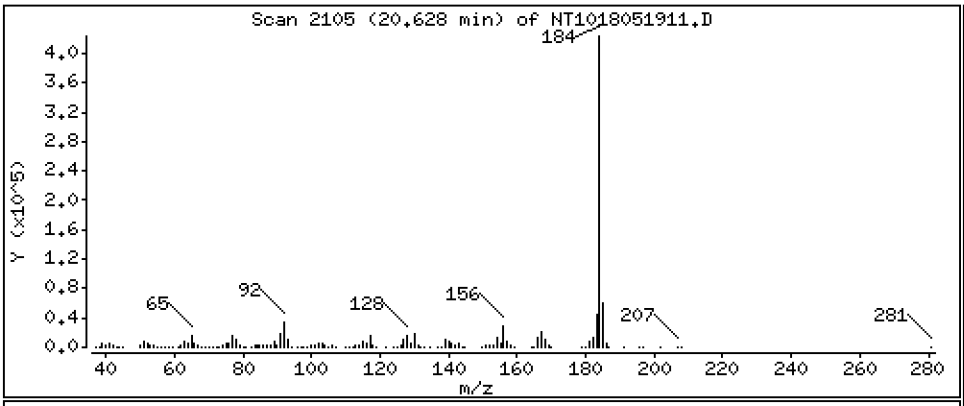
Operator: YZ

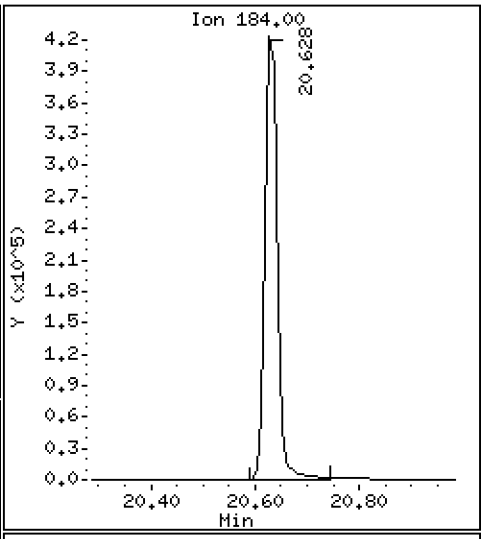
Column phase: ZB-5msi

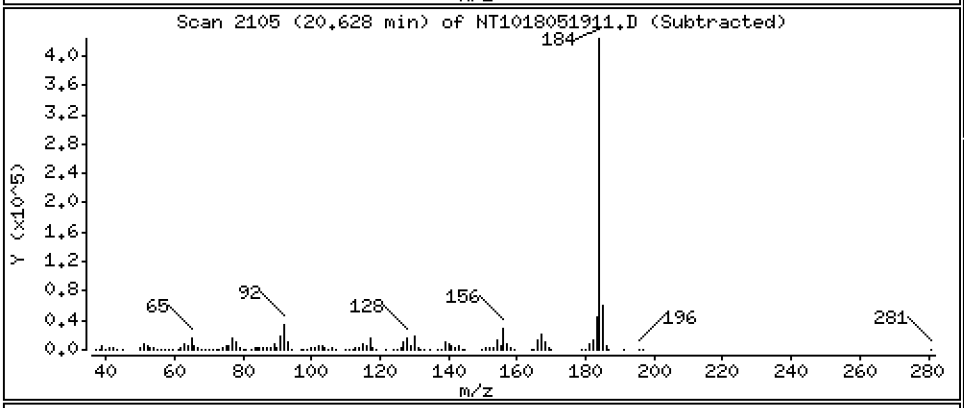
Column diameter: 0.25

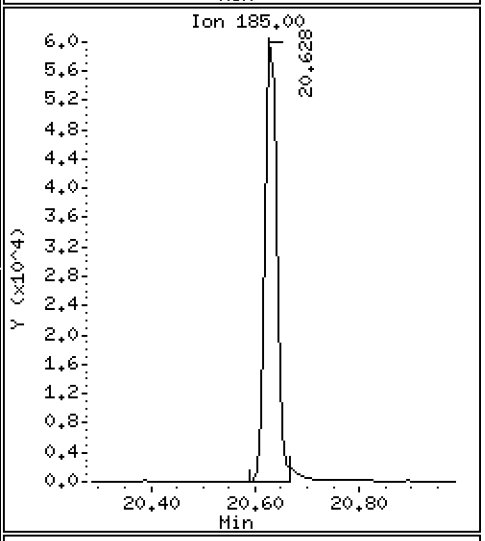
93 Benzidine

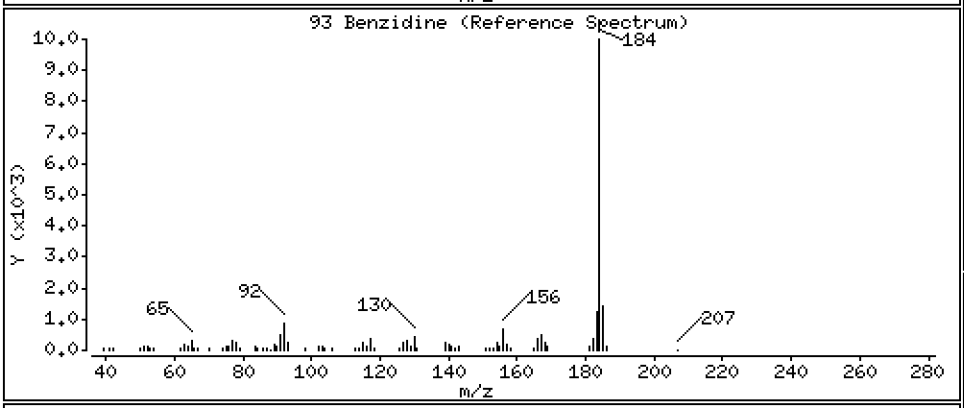
Concentration: 10.70 ug/mL

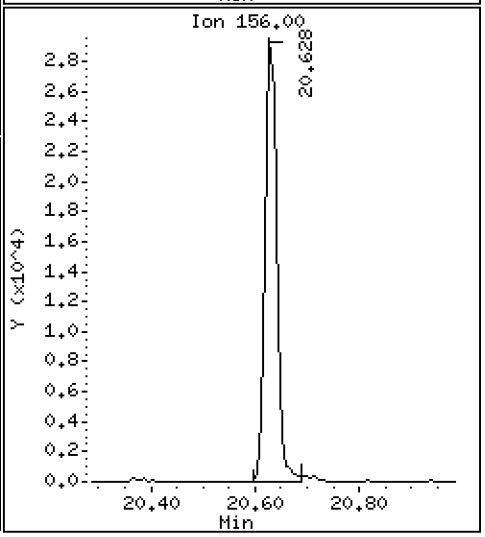


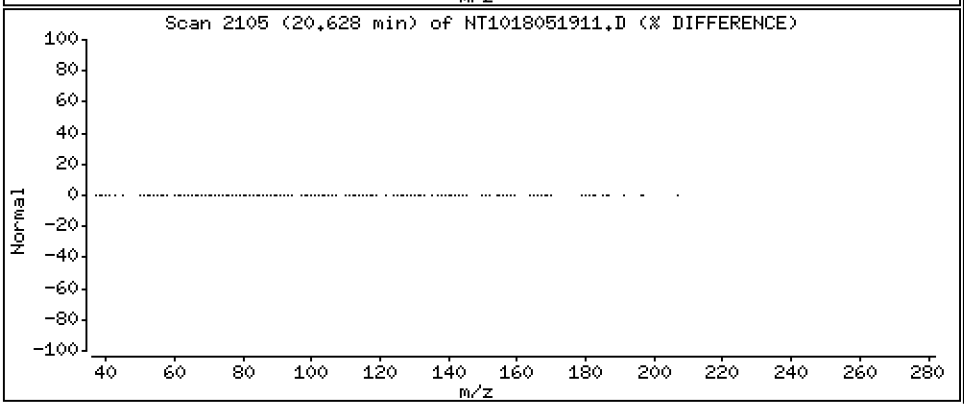












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

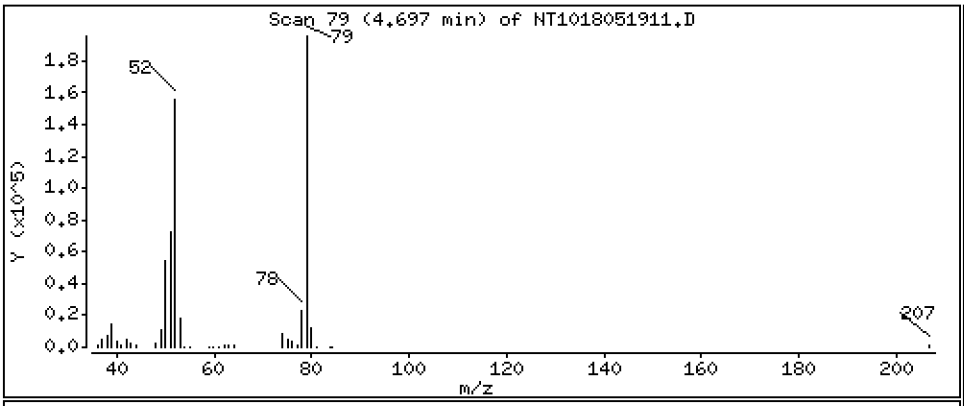
Operator: YZ

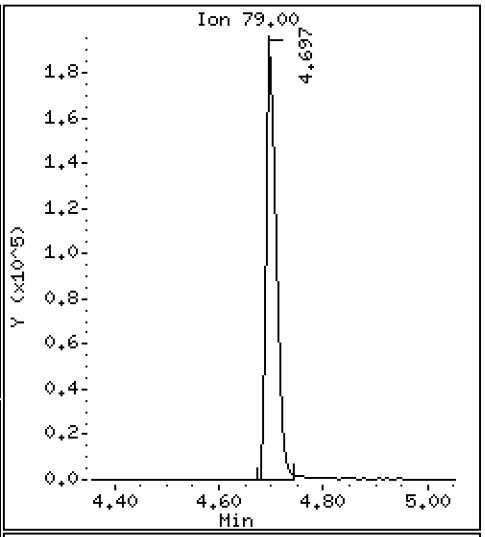
Column phase: ZB-5msi

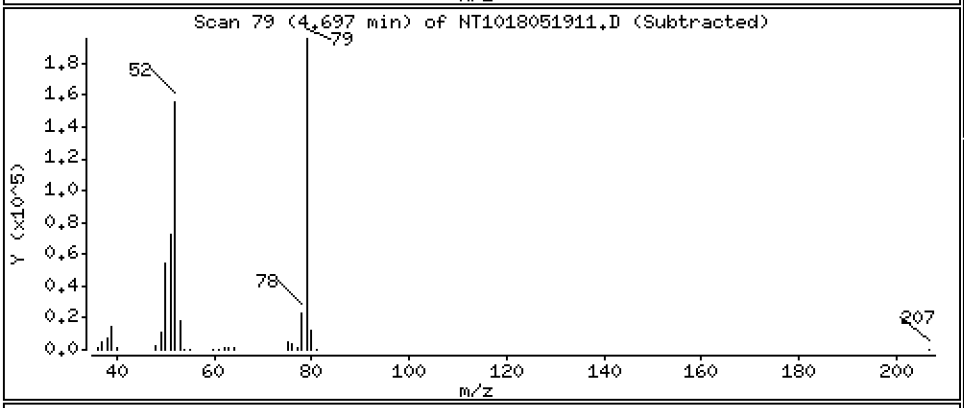
Column diameter: 0.25

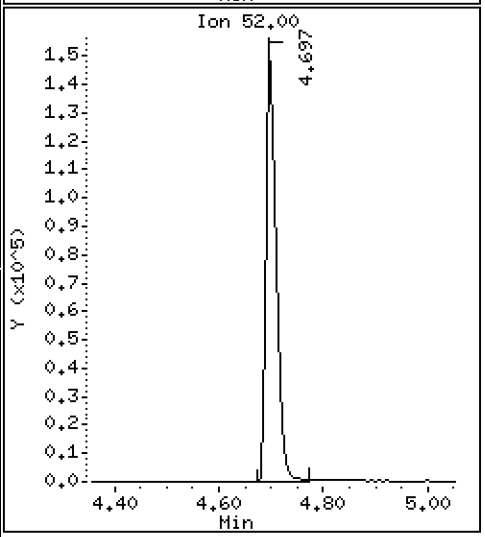
103 Pyridine

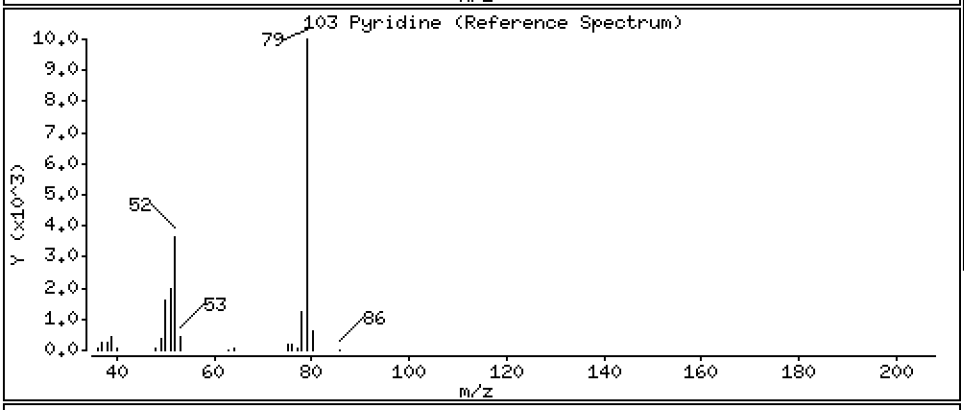
Concentration: 5.898 ug/mL

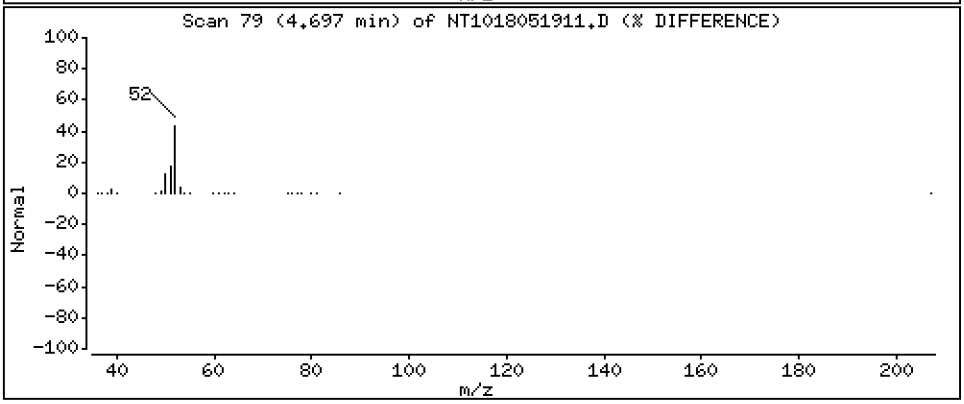












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

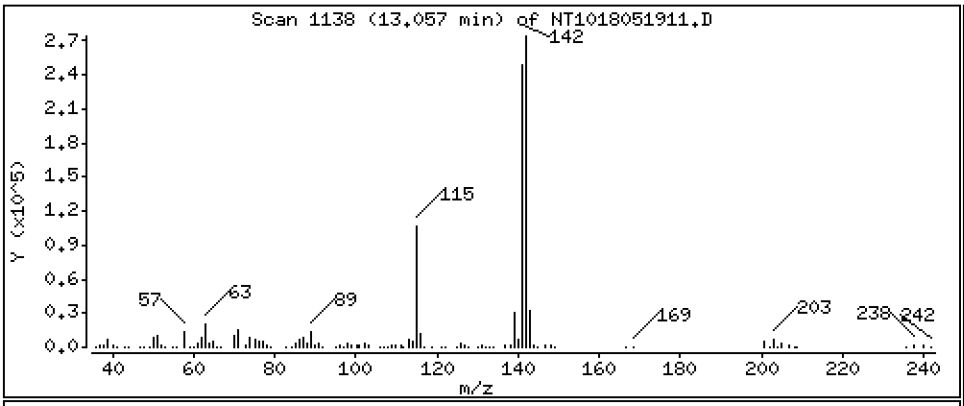
Operator: YZ

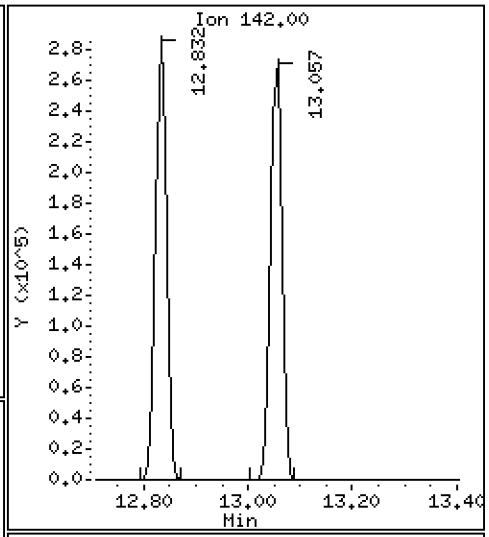
Column phase: ZB-5msi

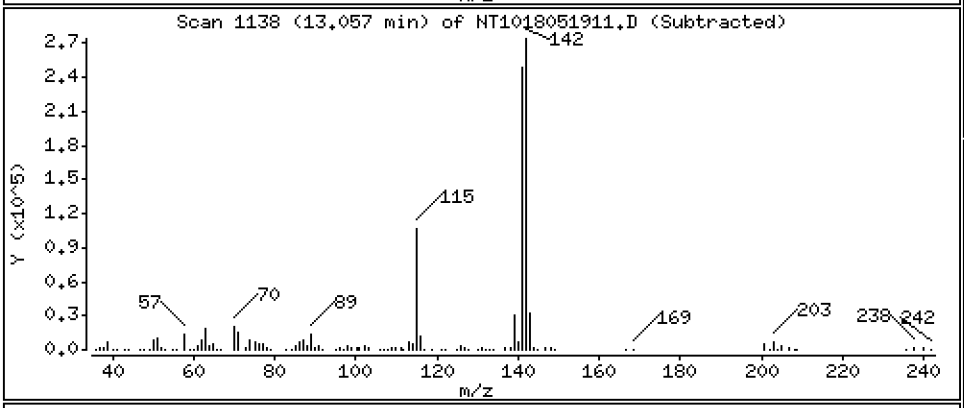
Column diameter: 0.25

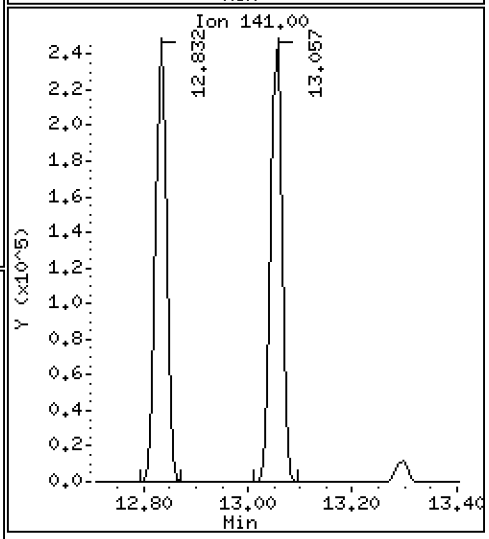
105 1-methylnaphthalene

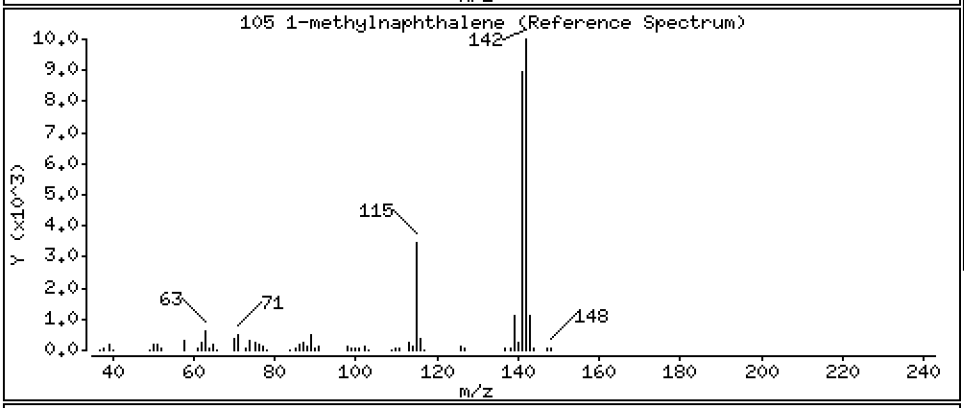
Concentration: 4.646 ug/mL

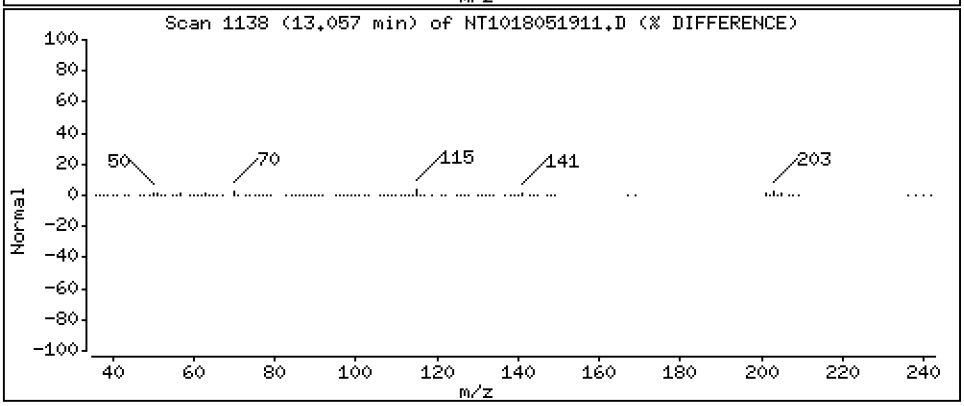












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

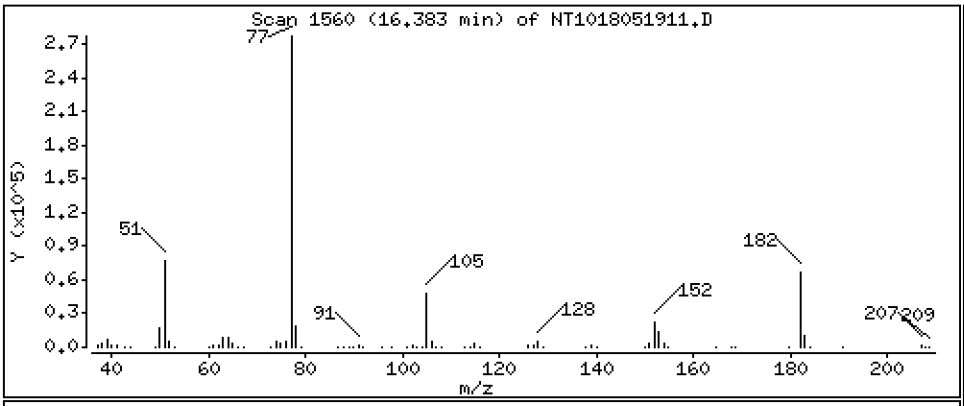
Operator: YZ

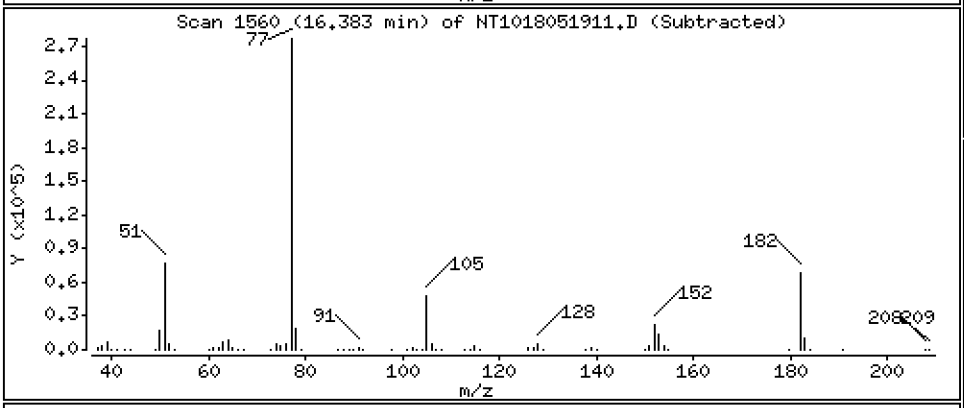
Column phase: ZB-5msi

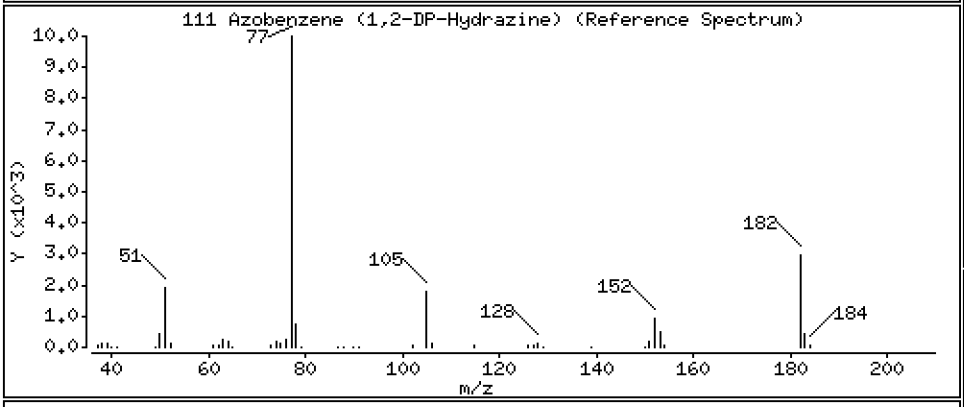
Column diameter: 0.25

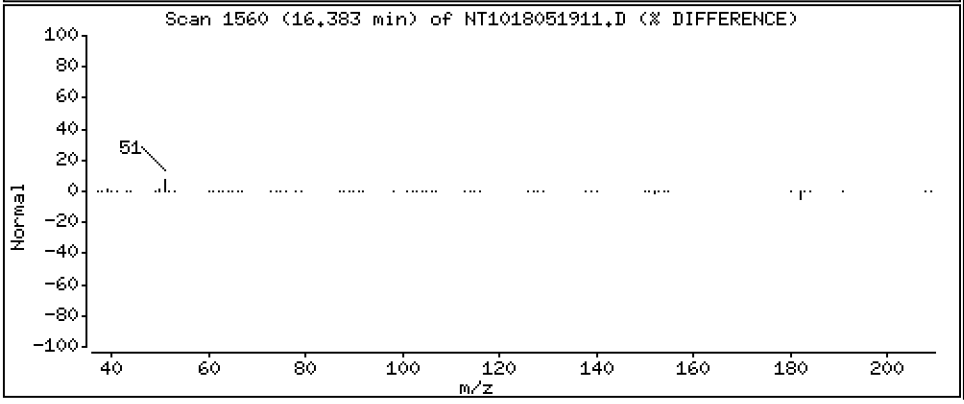
111 Azobenzene (1,2-DP-Hydrazine)

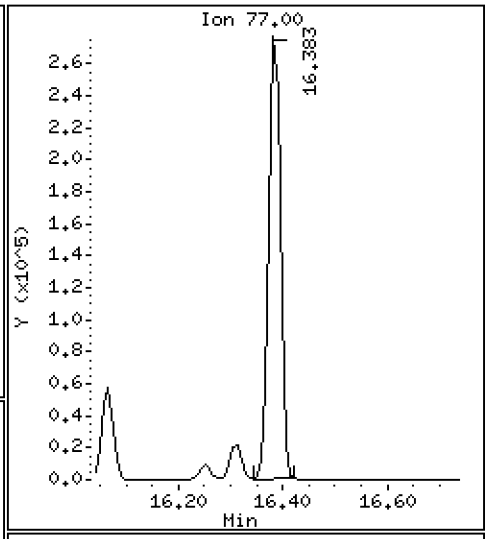
Concentration: 5.092 ug/mL

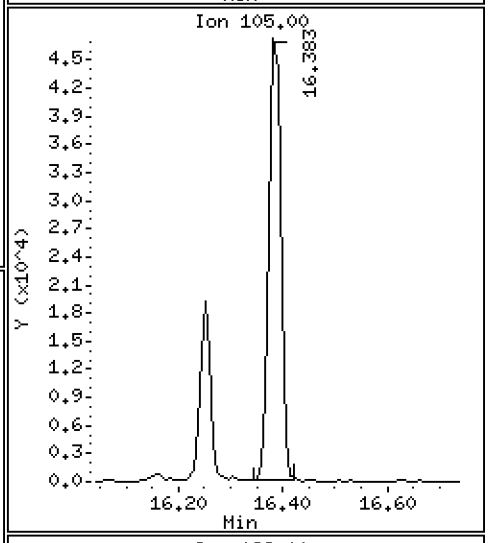


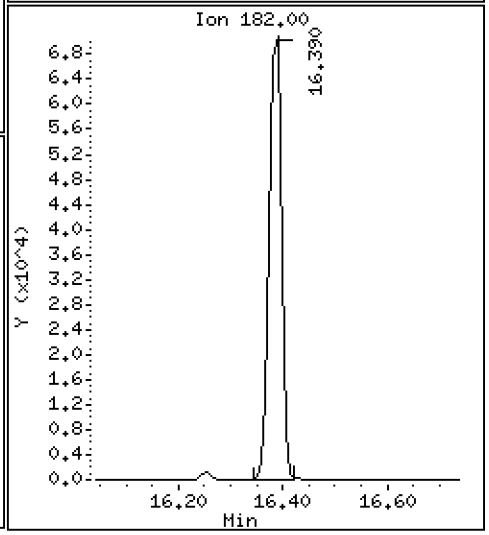












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

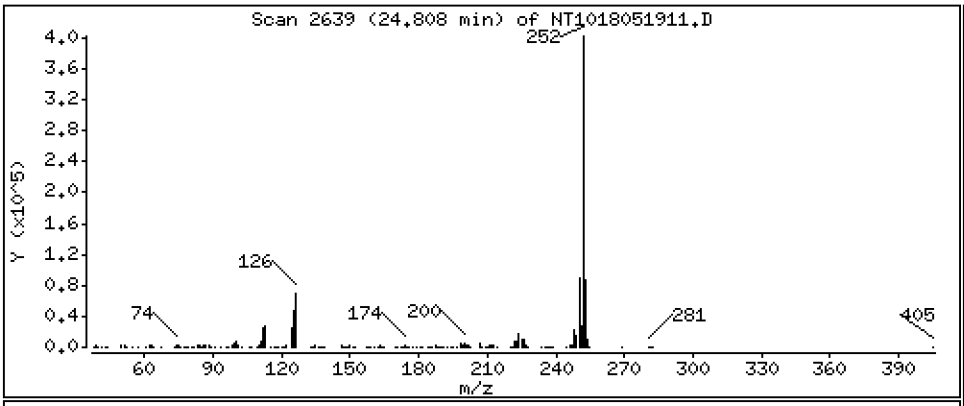
Operator: YZ

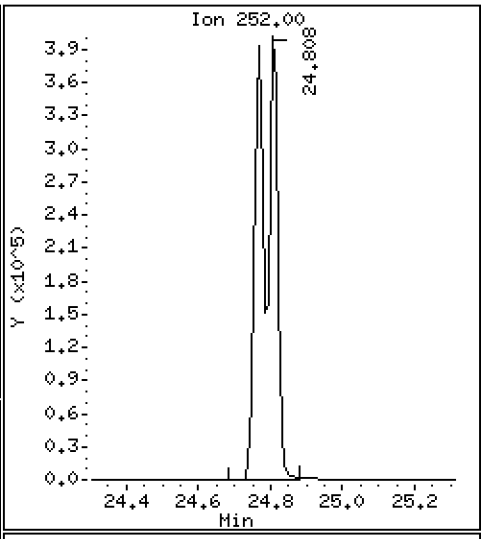
Column phase: ZB-5msi

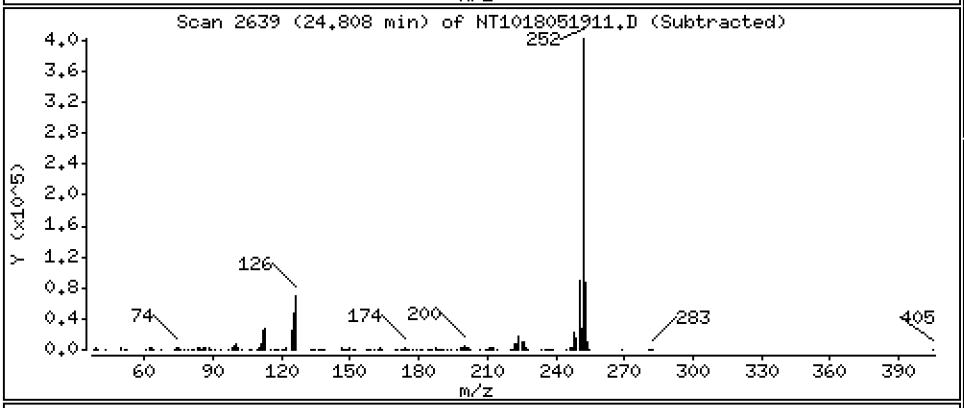
Column diameter: 0.25

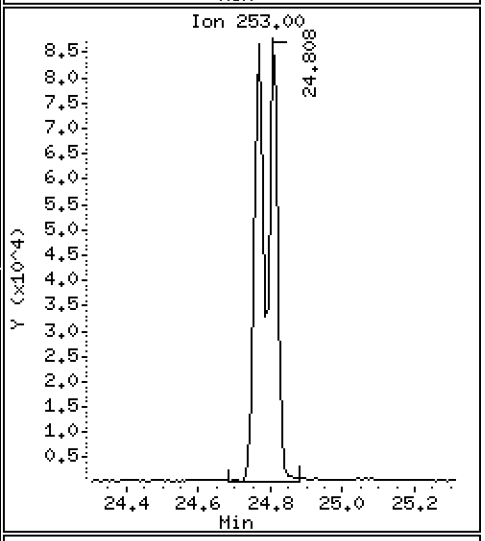
187 Total Benzofluoranthenes

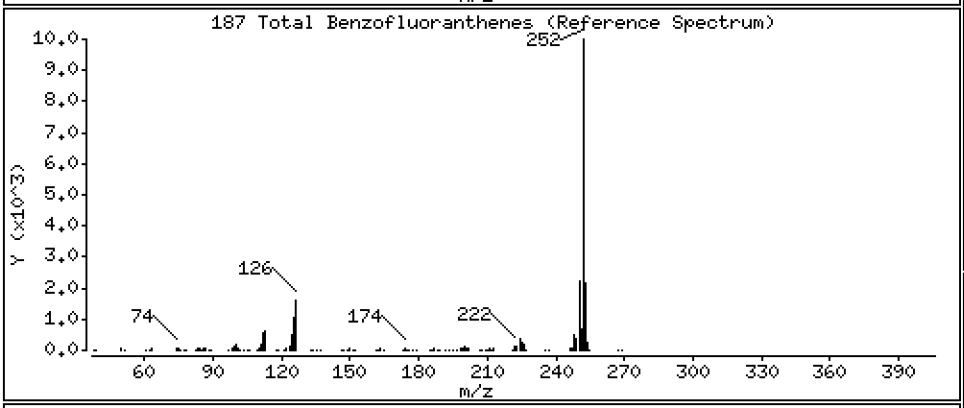
Concentration: 10.24 ug/mL

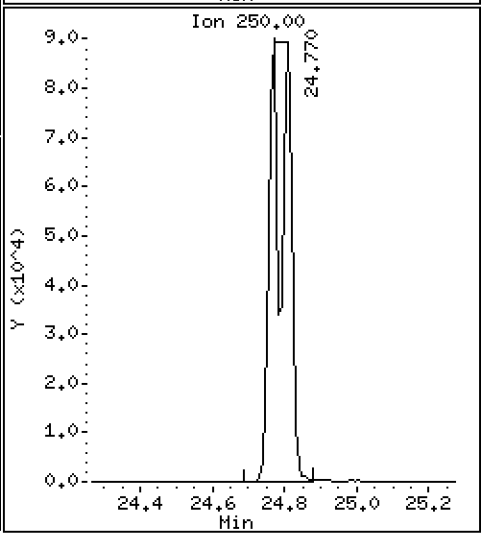


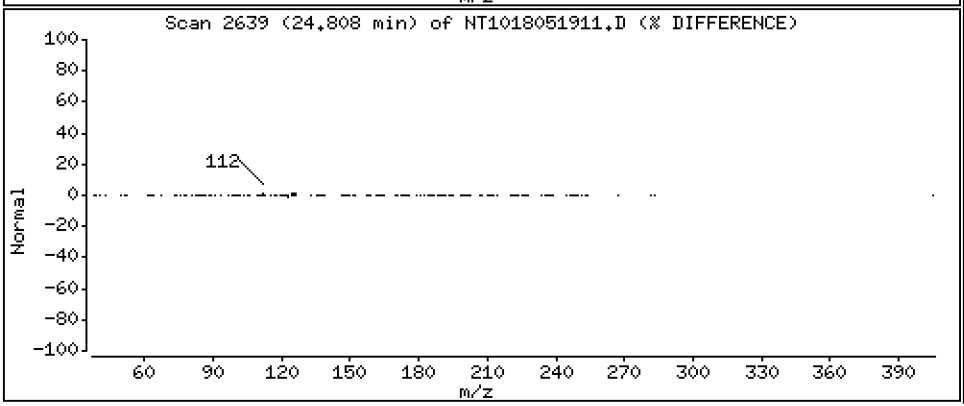












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

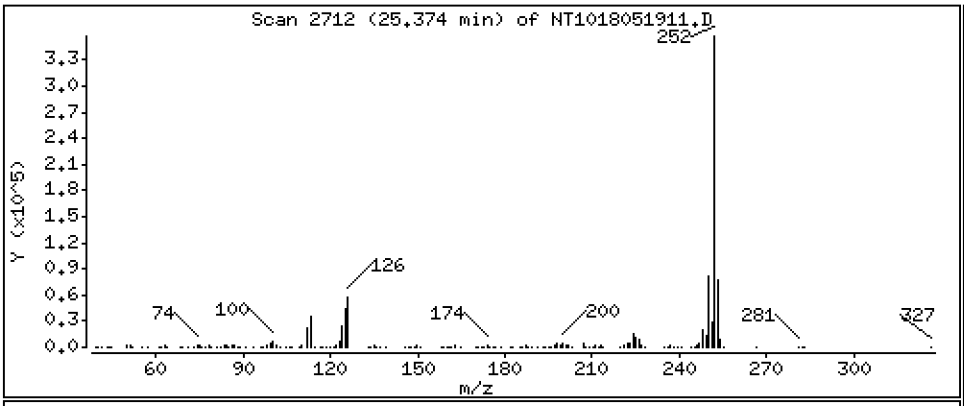
Operator: YZ

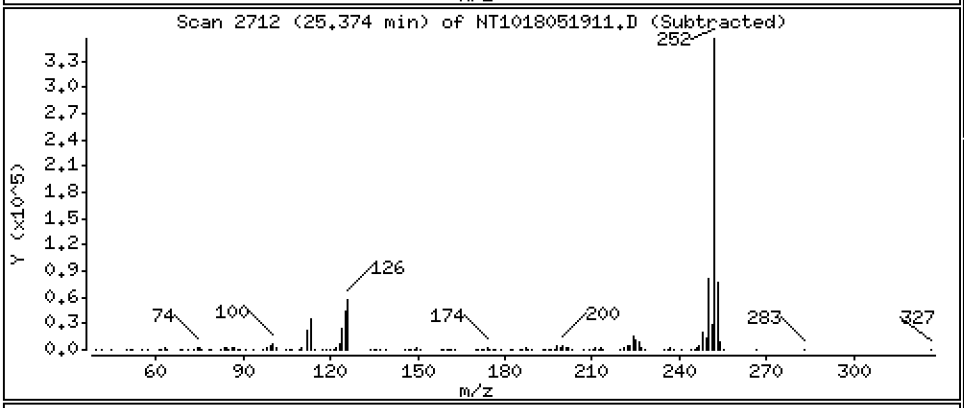
Column phase: ZB-5msi

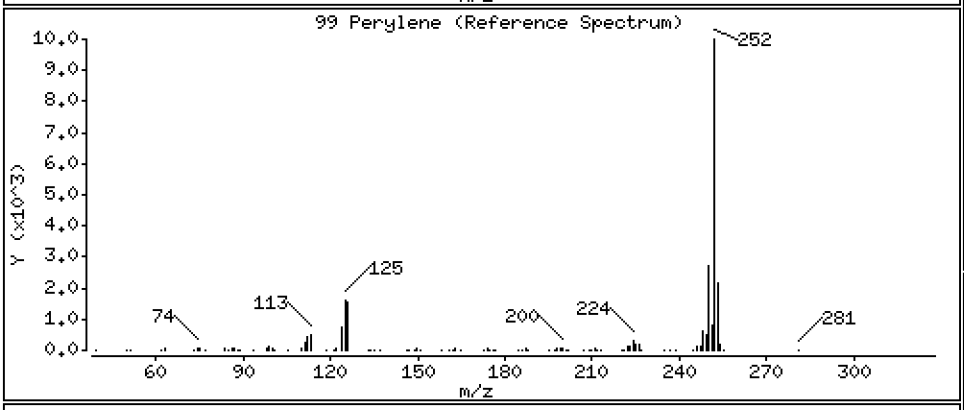
Column diameter: 0.25

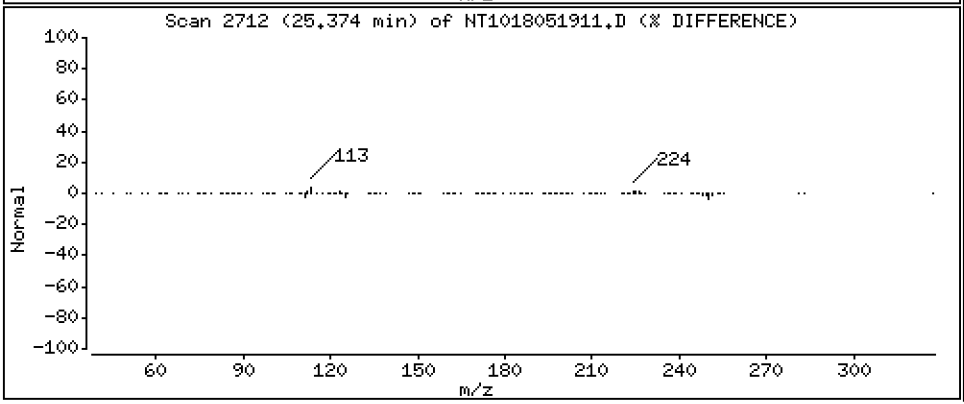
99 Perylene

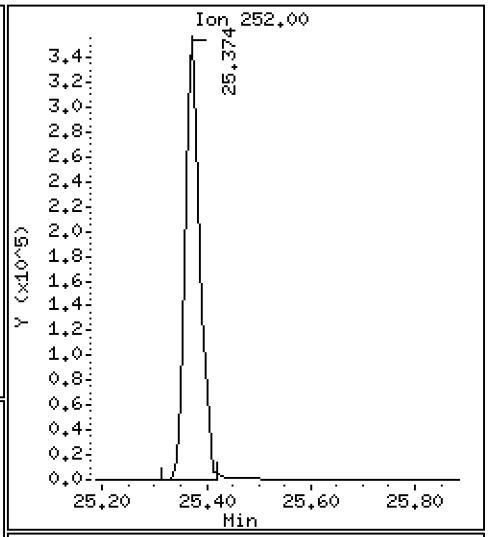
Concentration: 6.582 ug/mL

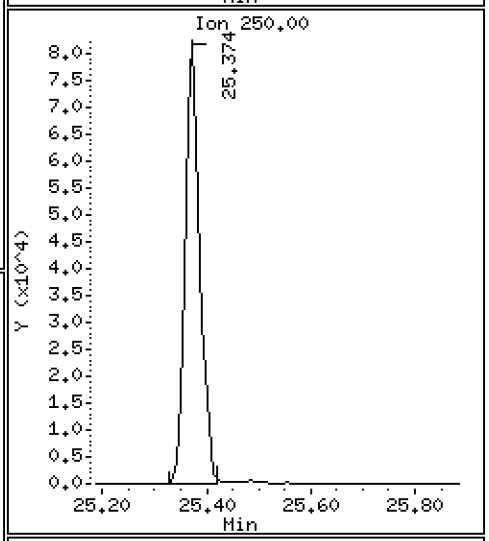


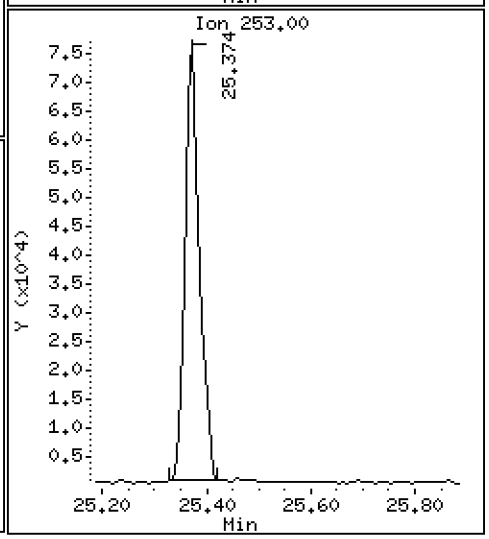












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

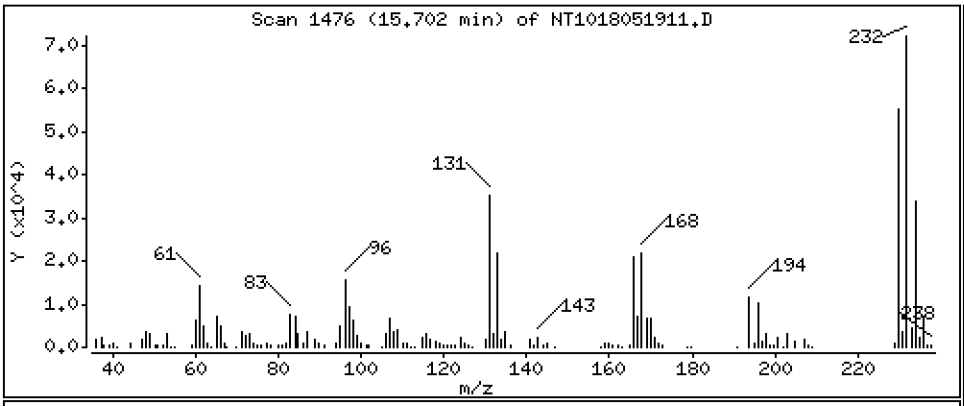
Operator: YZ

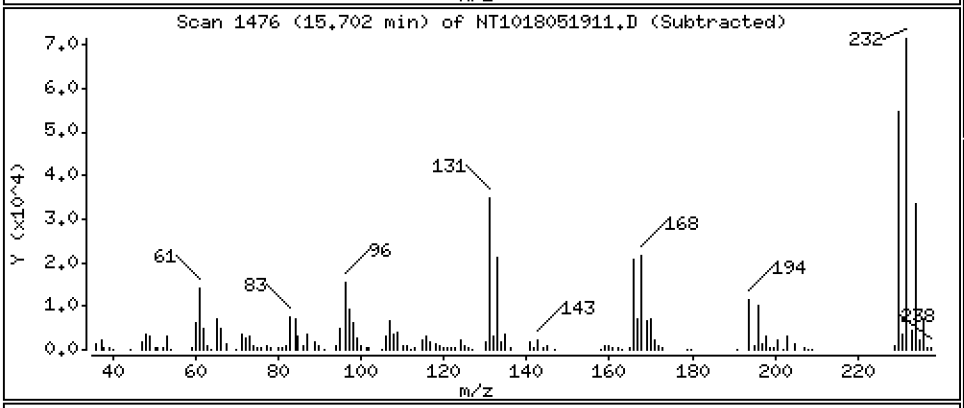
Column phase: ZB-5msi

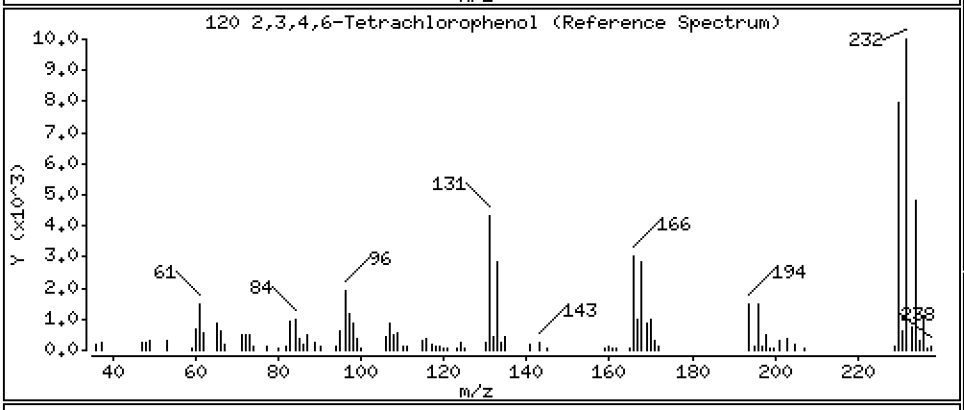
Column diameter: 0.25

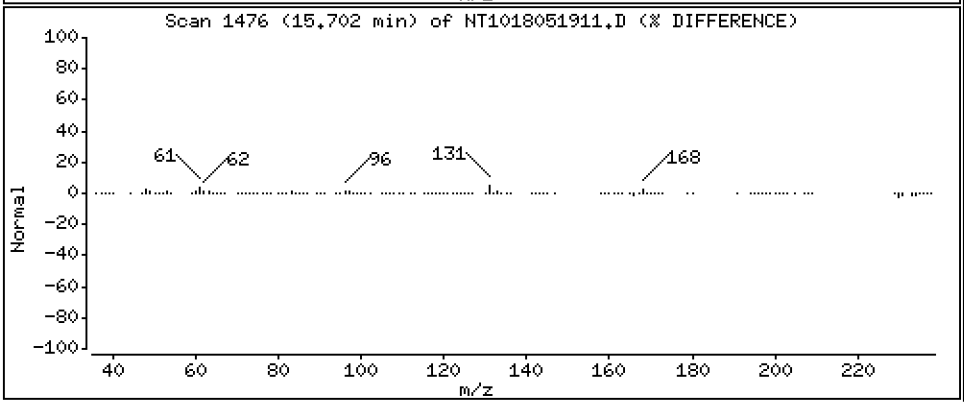
120 2,3,4,6-Tetrachlorophenol

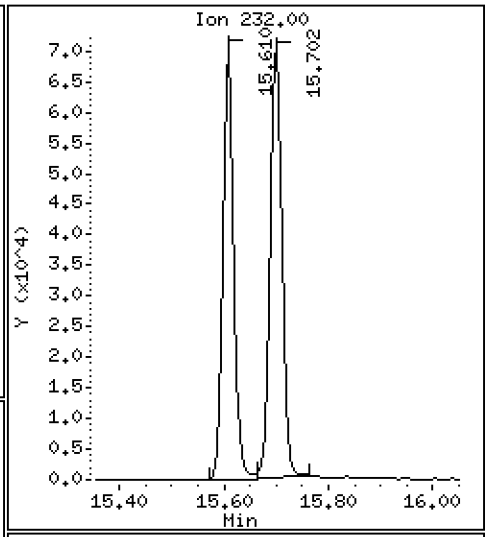
Concentration: 4.385 ug/mL

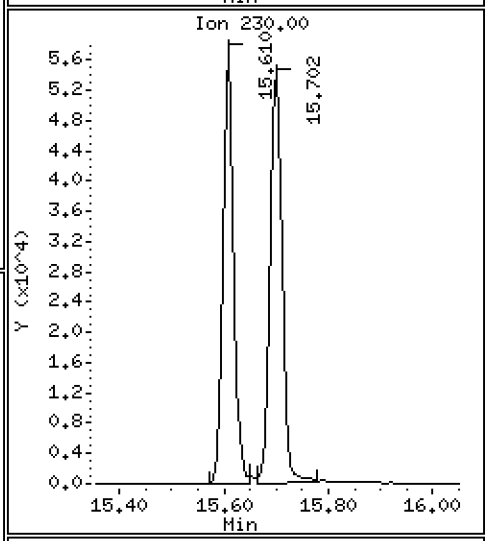


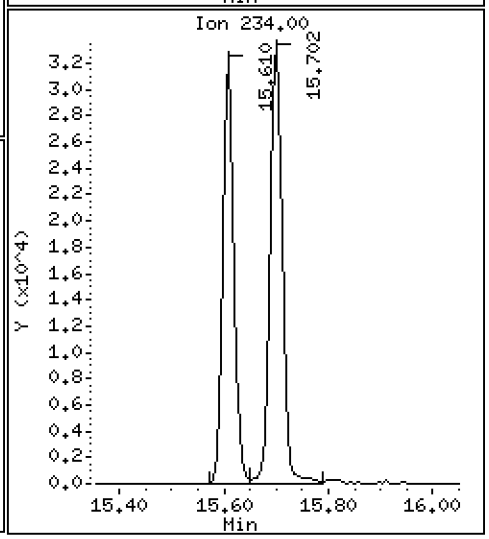












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Inj Date : 19-MAY-2018 14:41
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	Compound Not Detected.					
$	2 Phenol-d5	99	8.636	8.335	(0.963)	10865	0.20949	0.2095
	3 Phenol	94	8.350	8.358	(0.931)	273341	5.30700	5.307
$	5 2-Chlorophenol-d4	132	Compound Not Detected.					
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.951)	219383	5.53901	5.539
	6 2-Chlorophenol	128	8.636	8.644	(0.963)	217132	5.16610	5.166
	7 1,3-Dichlorobenzene	146	8.907	8.915	(0.993)	227049	5.37243	5.372
*	8 1,4-Dichlorobenzene-d4	152	8.969	8.977	(1.000)	114558	4.00000	
	9 1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	203912	5.32231	5.322
$	10 1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	204317	5.37505	5.375
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	129203	5.06520	5.065
	14 2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.063)	70953	4.68901	4.689
	13 2-Methylphenol	108	9.458	9.458	(1.055)	174621	5.05495	5.055
	17 Hexachloroethane	117	9.939	9.939	(1.108)	94441	5.30106	5.301
	16 N-Nitroso-di-n-propylamine	70	9.784	9.792	(1.091)	136354	5.34970	5.350
	15 4-Methylphenol	108	9.722	9.722	(1.084)	185128	5.04685	5.047
$	18 Nitrobenzene-d5	82	Compound Not Detected.					
	19 Nitrobenzene	77	10.087	10.087	(0.884)	216451	5.41634	5.416
	20 Isophorone	82	10.521	10.529	(0.922)	421367	5.13541	5.135
	21 2-Nitrophenol	139	10.706	10.706	(0.938)	111210	5.04834	5.048
	22 2,4-Dimethylphenol	107	10.748	10.756	(0.941)	195289	4.99481	4.995
	23 Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	226106	5.25116	5.251
	24 Benzoic acid	105	10.905	10.955	(0.955)	229184	8.77175	8.772
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	164515	5.22199	5.222
	26 1,2,4-Trichlorobenzene	180	11.331	11.339	(0.993)	177707	5.24557	5.246
*	27 Naphthalene-d8	136	11.416	11.424	(1.000)	406906	4.00000	
	28 Naphthalene	128	11.462	11.463	(1.004)	546010	5.25527	5.255
	29 4-Chloroaniline	127	11.586	11.586	(1.015)	218431	4.71316	4.713
	30 Hexachlorobutadiene	225	11.818	11.818	(1.035)	110085	5.17407	5.174
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	178828	5.24318	5.243
	32 2-Methylnaphthalene	142	12.832	12.840	(1.124)	396080	4.83119	4.831
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	130932	5.56724	5.567

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	130011	5.02765	5.028
	35 2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	130161	4.51931	4.519
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.815	13.815	(0.922)	403667	5.24570	5.246
	38 2-Nitroaniline	65	14.062	14.070	(0.939)	118178	5.50402	5.504
	39 Dimethylphthalate	163	14.496	14.504	(0.967)	399369	4.87649	4.876
	40 Acenaphthylene	152	14.674	14.674	(0.979)	617457	5.08656	5.087
	41 2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	94679	5.39109	5.391
*	42 Acenaphthene-d10	164	14.983	14.983	(1.000)	212151	4.00000	
	43 3-Nitroaniline	138	14.906	14.914	(0.995)	106352	5.23421	5.234
	44 Acenaphthene	153	15.045	15.053	(1.004)	366140	5.07108	5.071
	45 2,4-Dinitrophenol	184	15.115	15.122	(1.009)	32016	2.94715	2.947
	46 Dibenzofuran	168	15.370	15.377	(1.026)	547789	4.88562	4.886
	47 4-Nitrophenol	109	15.215	15.223	(1.015)	52298	4.15065	4.151
	48 2,4-Dinitrotoluene	165	15.431	15.432	(1.030)	128491	5.68643	5.686
	50 Diethylphthalate	149	15.934	15.942	(1.063)	403756	4.83134	4.831
	49 Fluorene	166	16.073	16.073	(1.073)	428039	5.00218	5.002
	51 4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	201379	4.81704	4.817
	52 4-Nitroaniline	138	16.158	16.166	(1.078)	107243	5.46353	5.464
	53 4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	60956	3.46185	3.462
	54 N-Nitrosodiphenylamine	169	16.313	16.313	(0.908)	286378	5.22712	5.227
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.053	17.061	(0.949)	123362	4.98836	4.988
	57 Hexachlorobenzene	284	17.362	17.370	(0.966)	122673	5.19592	5.196
	58 Pentachlorophenol	266	17.711	17.718	(0.985)	69303	4.99178	4.992
*	59 Phenanthrene-d10	188	17.974	17.982	(1.000)	407216	4.00000	
	60 Phenanthrene	178	18.028	18.028	(1.003)	549283	5.08830	5.088
	61 Anthracene	178	18.113	18.121	(1.008)	549903	4.80467	4.805
	62 Carbazole	167	18.438	18.446	(1.026)	555100	5.43244	5.432
	63 Di-n-butylphthalate	149	19.250	19.250	(1.071)	824291	5.29418	5.294
	64 Fluoranthene	202	20.395	20.395	(0.887)	748878	5.21358	5.214
	65 Pyrene	202	20.813	20.821	(0.905)	786056	5.25095	5.251
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.028	22.029	(0.958)	319521	5.39007	5.390
	68 Benzo(a)anthracene	228	22.958	22.966	(0.999)	660563	5.02994	5.030
*	69 Chrysene-d12	240	22.989	22.989	(1.000)	360730	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	460373	9.99155	9.992
	71 Chrysene	228	23.035	23.035	(1.002)	554854	5.26045	5.260
	72 bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	431855	5.23087	5.231
*	134 Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	792512	4.00000	
	73 Di-n-octylphthalate	149	24.026	24.026	(1.000)	896166	5.19293	5.193
	74 Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	664828	4.90589	4.906
	75 Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	739570	5.42328	5.423
	76 Benzo(a)pyrene	252	25.373	25.373	(0.996)	721514	5.27753	5.278
*	77 Perylene-d12	264	25.481	25.482	(1.000)	387545	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.922	27.922	(1.096)	669280	4.98154	4.982
	79 Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	527262	4.86155	4.862
	80 Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	605896	5.06697	5.067
	90 N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	154746	6.67624	6.676
	91 Aniline	93	8.435	8.435	(0.941)	310490	5.42405	5.424
	93 Benzidine	184	20.627	20.635	(0.897)	653077	10.7046	10.70
	103 Pyridine	79	4.697	4.705	(0.524)	247064	5.89783	5.898
	105 1-methylnaphthalene	142	13.056	13.056	(1.144)	392256	4.64617	4.646
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	407279	5.09161	5.092

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1338371	10.2371	10.24
99	Perylene	252	25.373	25.536	(0.996)	721514	6.58216	6.582
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	104899	4.38535	4.385

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	114558	3.49
27 Naphthalene-d8	393946	196973	787892	406906	3.29
42 Acenaphthene-d10	203210	101605	406420	212151	4.40
59 Phenanthrene-d10	403506	201753	807012	407216	0.92
69 Chrysene-d12	354618	177309	709236	360730	1.72
134 Di-n-octylphthala	800232	400116	1600464	792512	-0.96
77 Perylene-d12	378948	189474	757896	387545	2.27

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.97	-0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.97	-0.04
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051911.D

Lab ID: SGE0328-SCV1
nt10.i, ABN.m, 19-MAY-2018 14:41

RT	CO-ELUTION COMPOUNDS
25.374	Perylene and Benzo(a)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BE00068
Laboratory ID: SGE0328-SCV1
Sequence: SGE0328
Sequence Name: SCV 5.0
Standard ID: G004584

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	5.3	6.1	20.00
bis(2-chloroethyl) ether	5.0000	5.5	10.8	20.00
2-Chlorophenol	5.0000	5.2	3.3	20.00
1,3-Dichlorobenzene	5.0000	5.4	7.4	20.00
1,4-Dichlorobenzene	5.0000	5.3	6.4	20.00
1,2-Dichlorobenzene	5.0000	5.4	7.5	20.00
Benzyl Alcohol	5.0000	5.1	1.3	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	4.7	-6.2	20.00
2-Methylphenol	5.0000	5.1	1.1	20.00
Hexachloroethane	5.0000	5.3	6.0	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.3	7.0	20.00
4-Methylphenol	5.0000	5.0	0.9	20.00
Nitrobenzene	5.0000	5.4	8.3	20.00
Isophorone	5.0000	5.1	2.7	20.00
2-Nitrophenol	5.0000	5.0	1.0	20.00
2,4-Dimethylphenol	5.0000	5.0	-0.1	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.3	5.0	20.00
2,4-Dichlorophenol	5.0000	5.2	4.4	20.00
1,2,4-Trichlorobenzene	5.0000	5.2	4.9	20.00
Naphthalene	5.0000	5.3	5.1	20.00
Benzoic acid	10.000	8.8	-12.3	20.00
4-Chloroaniline	5.0000	4.7	-5.7	20.00
Hexachlorobutadiene	5.0000	5.2	3.5	20.00
4-Chloro-3-Methylphenol	5.0000	5.2	4.9	20.00
2-Methylnaphthalene	5.0000	4.8	-3.4	20.00
Hexachlorocyclopentadiene	5.0000	5.6	11.3	20.00
2,4,6-Trichlorophenol	5.0000	5.0	0.6	20.00
2,4,5-Trichlorophenol	5.0000	4.5	-9.6	20.00
2-Chloronaphthalene	5.0000	5.2	4.9	20.00
2-Nitroaniline	5.0000	5.5	10.1	20.00
Acenaphthylene	5.0000	5.1	1.7	20.00
Dimethylphthalate	5.0000	4.9	-2.5	20.00
2,6-Dinitrotoluene	5.0000	5.4	7.8	20.00
Acenaphthene	5.0000	5.1	1.4	20.00
3-Nitroaniline	5.0000	5.2	4.7	20.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BE00068
Laboratory ID: SGE0328-SCV1
Sequence: SGE0328
Sequence Name: SCV 5.0
Standard ID: G004584

2,4-Dinitrophenol	5.0000	2.9	-41.1 *	20.00
Dibenzofuran	5.0000	4.9	-2.3	20.00
4-Nitrophenol	5.0000	4.2	-17.0	20.00
2,4-Dinitrotoluene	5.0000	5.7	13.7	20.00
Fluorene	5.0000	5.0	0.04	20.00
4-Chlorophenylphenyl ether	5.0000	4.8	-3.7	20.00
Diethyl phthalate	5.0000	4.8	-3.4	20.00
4-Nitroaniline	5.0000	5.5	9.3	20.00
4,6-Dinitro-2-methylphenol	5.0000	3.5	-30.8 *	20.00
N-Nitrosodiphenylamine	5.0000	5.2	4.5	20.00
4-Bromophenyl phenyl ether	5.0000	5.0	-0.2	20.00
Hexachlorobenzene	5.0000	5.2	3.9	20.00
Pentachlorophenol	5.0000	5.0	-0.2	20.00
Phenanthrene	5.0000	5.1	1.8	20.00
Anthracene	5.0000	4.8	-3.9	20.00
Carbazole	5.0000	5.4	8.6	20.00
Di-n-Butylphthalate	5.0000	5.3	5.9	20.00
Fluoranthene	5.0000	5.2	4.3	20.00
Pyrene	5.0000	5.3	5.0	20.00
Butylbenzylphthalate	5.0000	5.4	7.8	20.00
Benzo(a)anthracene	5.0000	5.0	0.6	20.00
3,3'-Dichlorobenzidine	10.000	10.0	-0.08	20.00
Chrysene	5.0000	5.3	5.2	20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.2	4.6	20.00
Di-n-Octylphthalate	5.0000	5.2	3.9	20.00
Benzofluoranthenes, Total	10.000	10.2	2.4	20.00
Benzo(a)pyrene	5.0000	5.3	5.6	20.00
Indeno(1,2,3-cd)pyrene	5.0000	5.0	-0.4	20.00
Dibenzo(a,h)anthracene	5.0000	4.9	-2.8	20.00
Benzo(g,h,i)perylene	5.0000	5.1	1.3	20.00
1-Methylnaphthalene	5.0000	4.6	-7.1	20.00

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

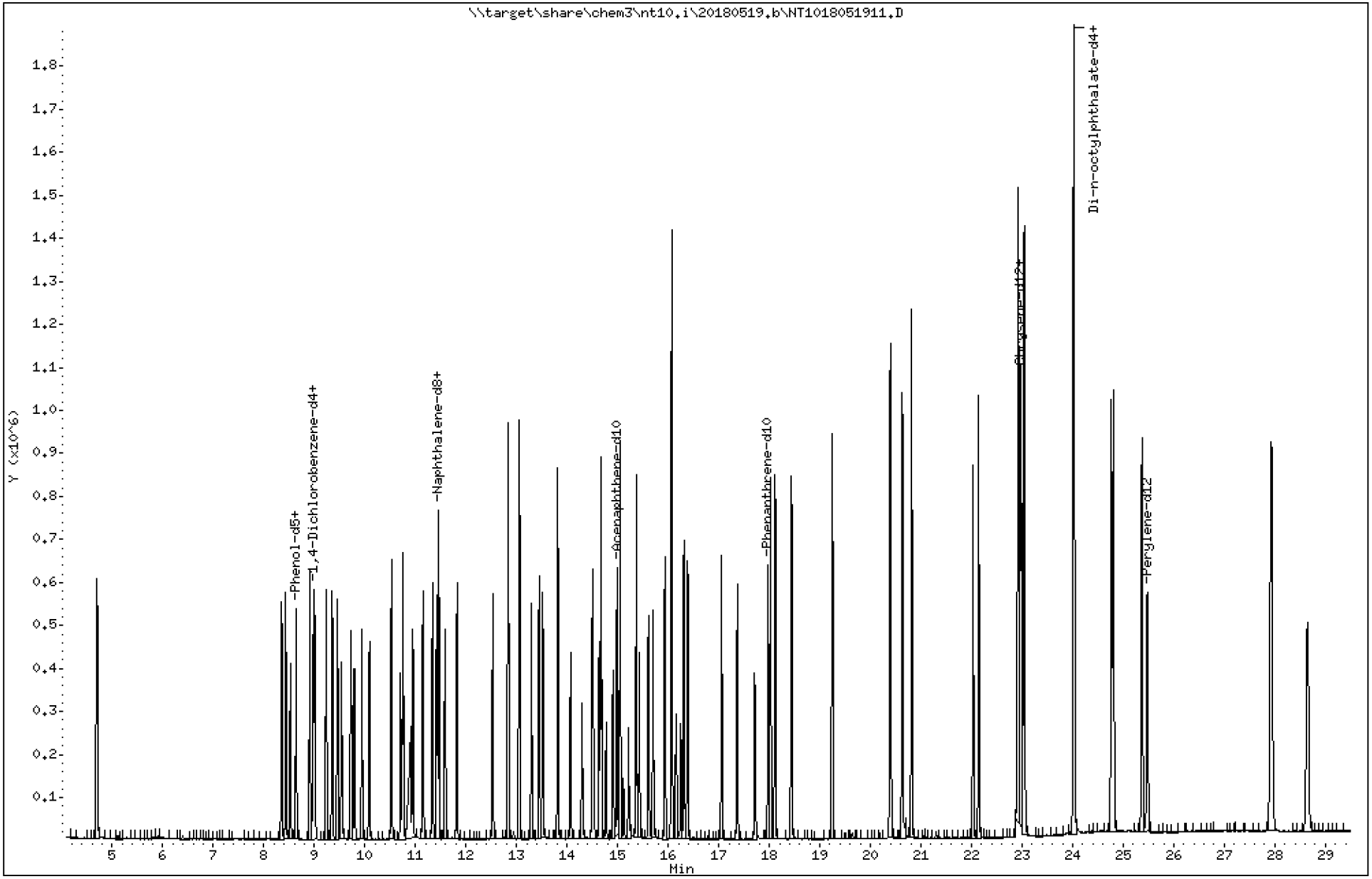
Instrument: nt10.i

Sample Info: SGE0328-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

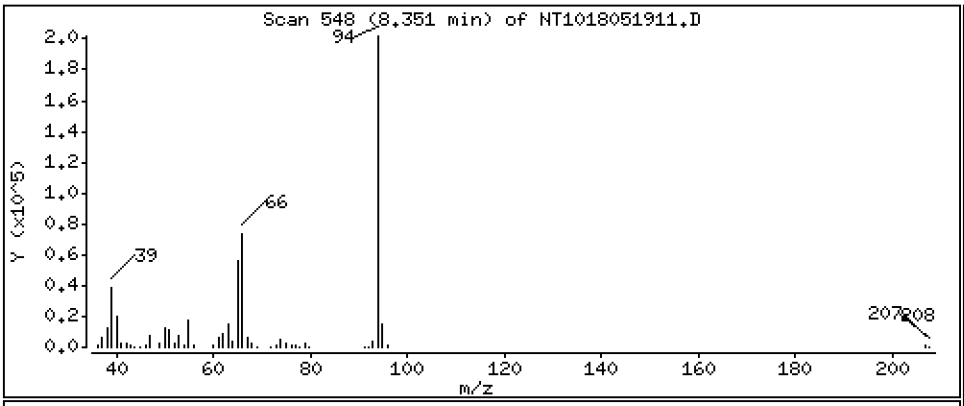
Operator: YZ

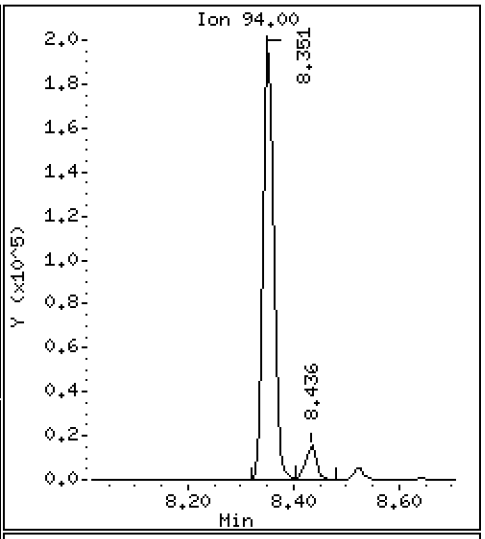
Column phase: ZB-5msi

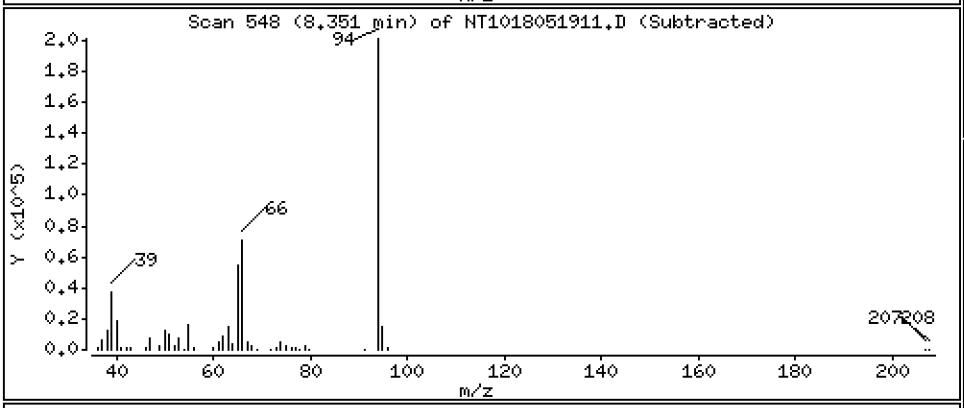
Column diameter: 0.25

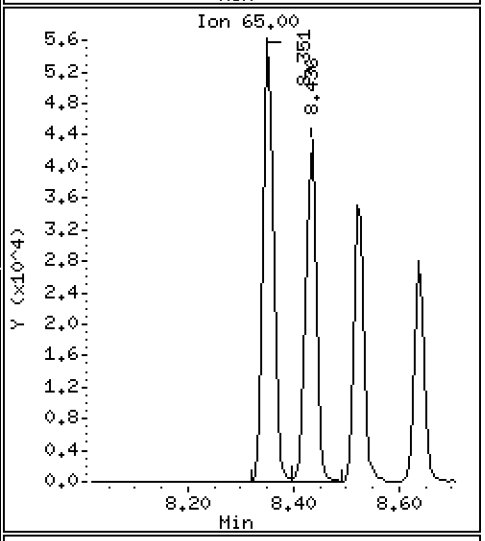
3 Phenol

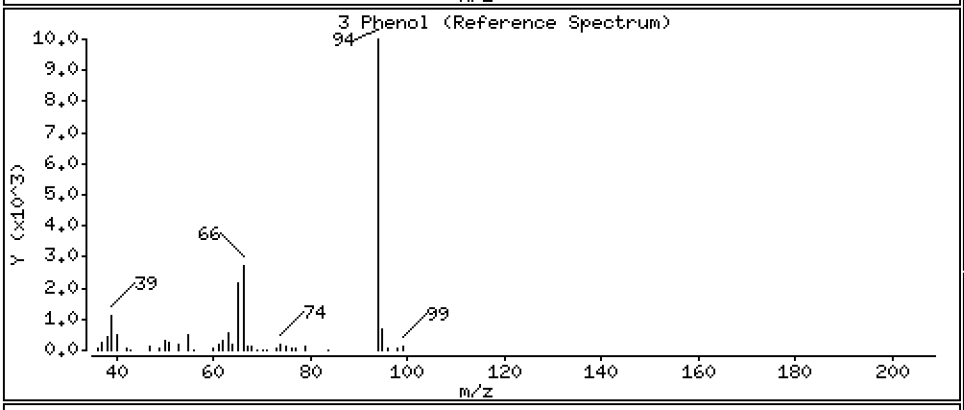
Concentration: 5.307 ug/mL

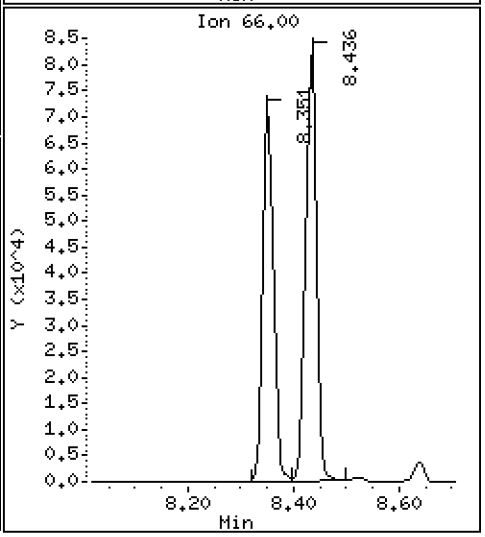


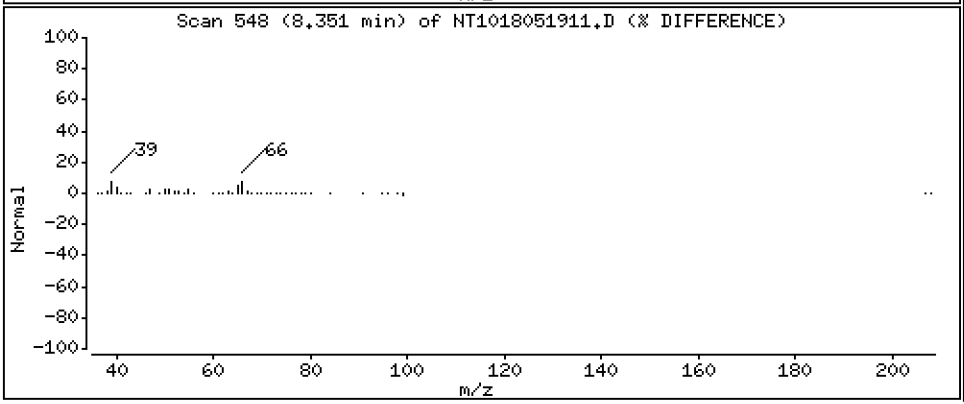












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

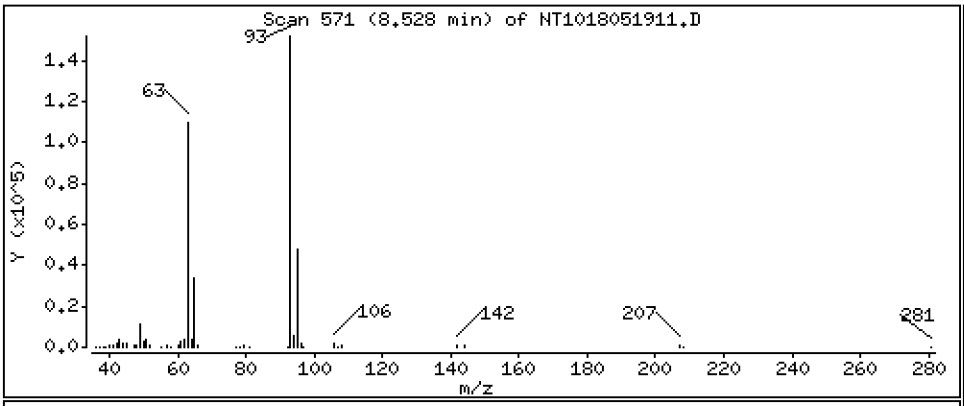
Operator: YZ

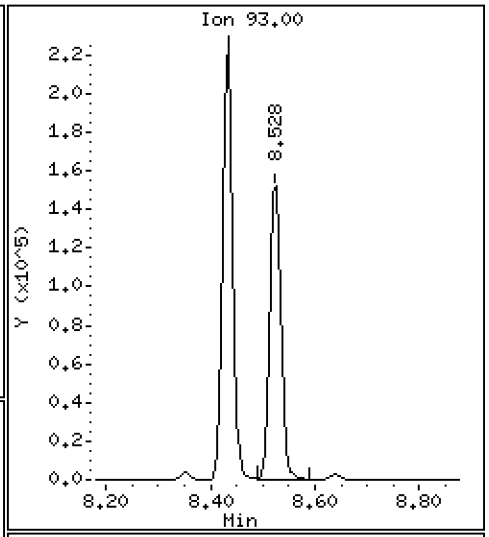
Column phase: ZB-5msi

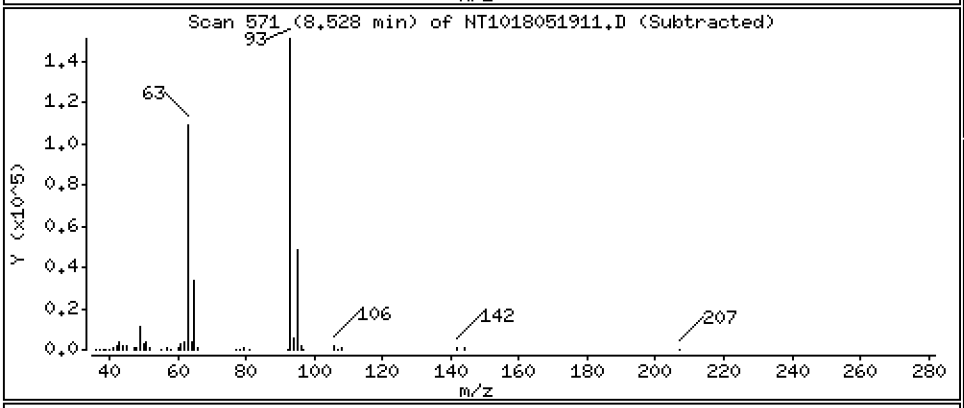
Column diameter: 0.25

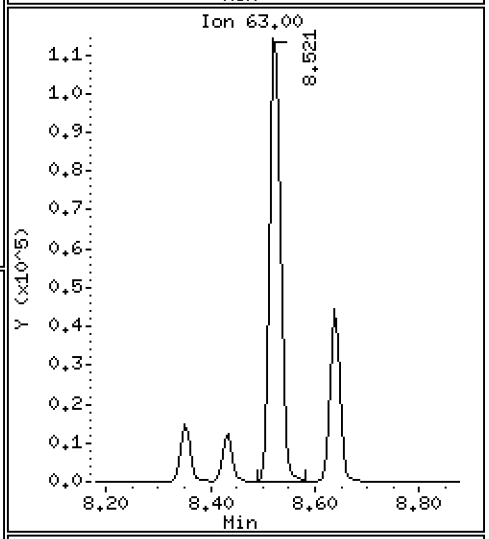
4 Bis(2-Chloroethyl)ether

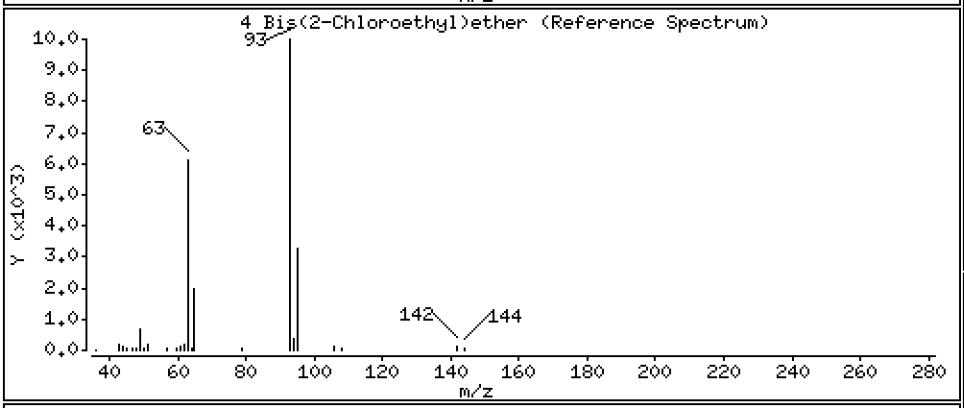
Concentration: 5.539 ug/mL

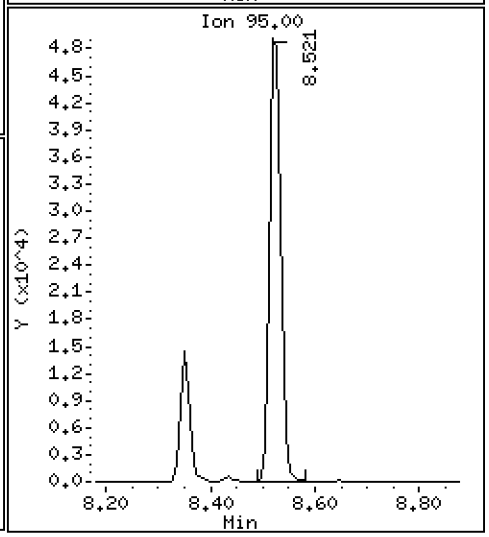


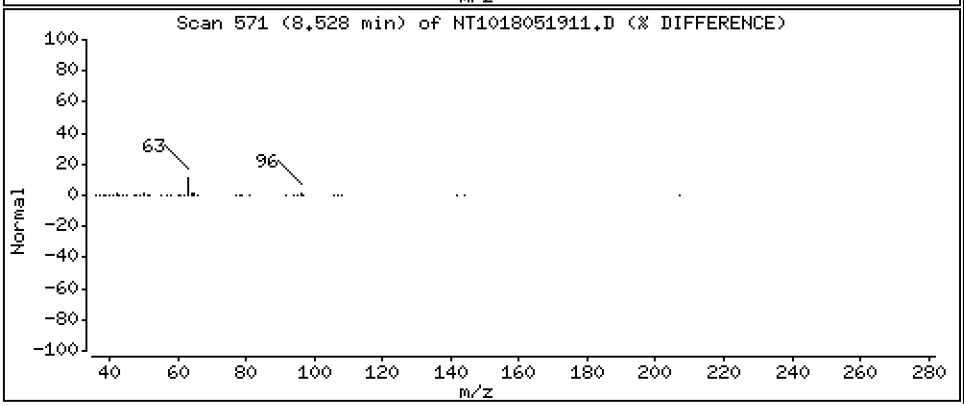












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

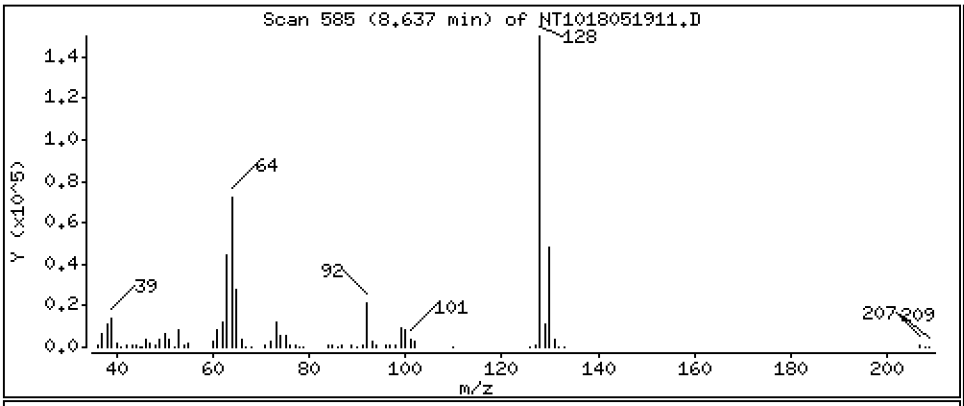
Operator: YZ

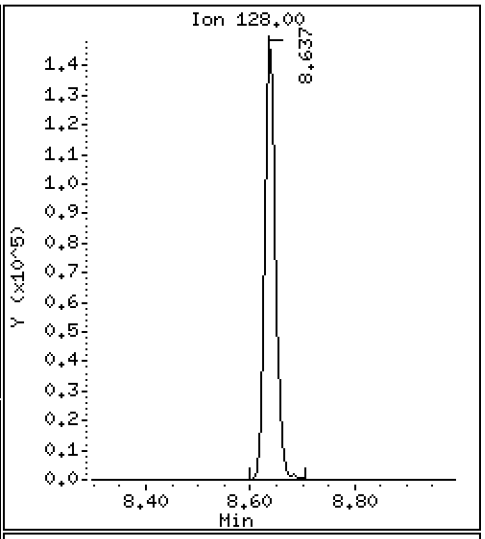
Column phase: ZB-5msi

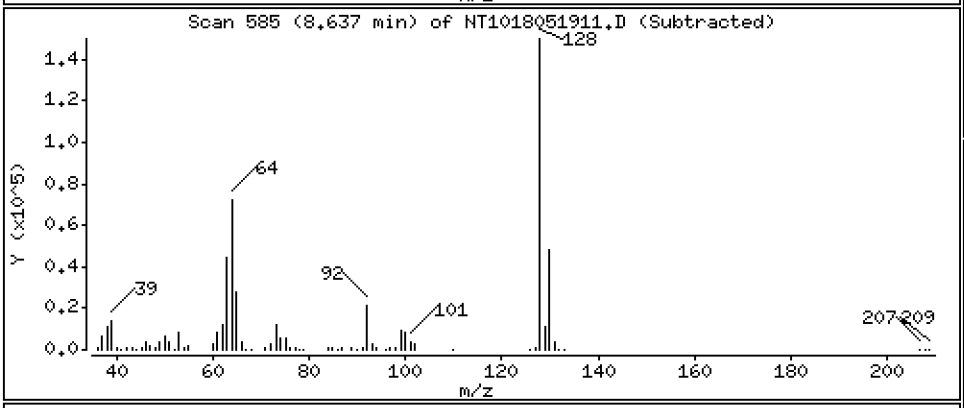
Column diameter: 0.25

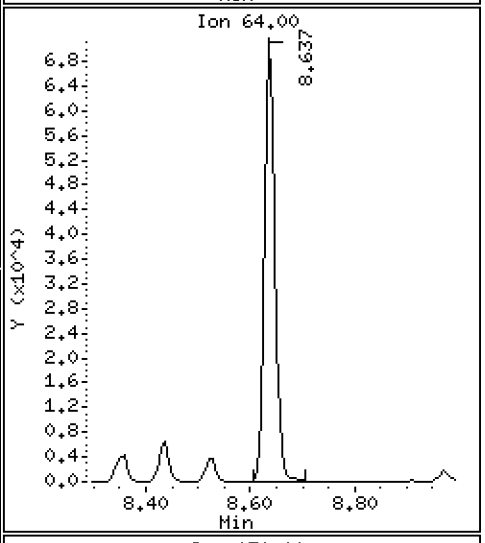
6 2-Chlorophenol

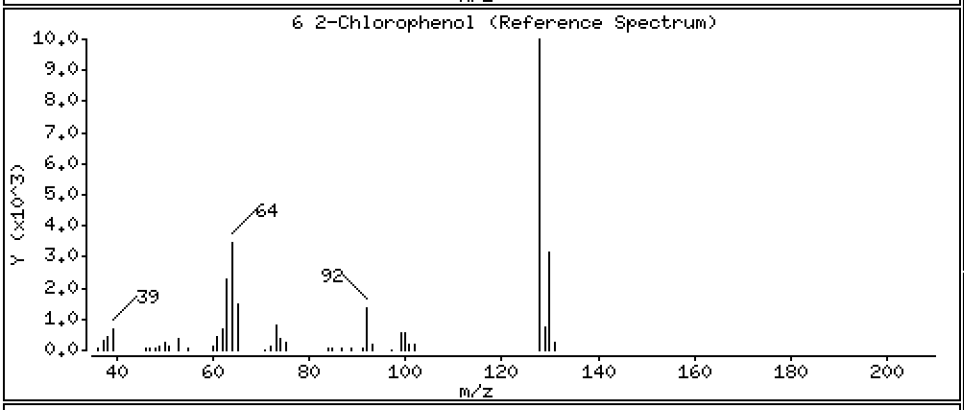
Concentration: 5.166 ug/mL

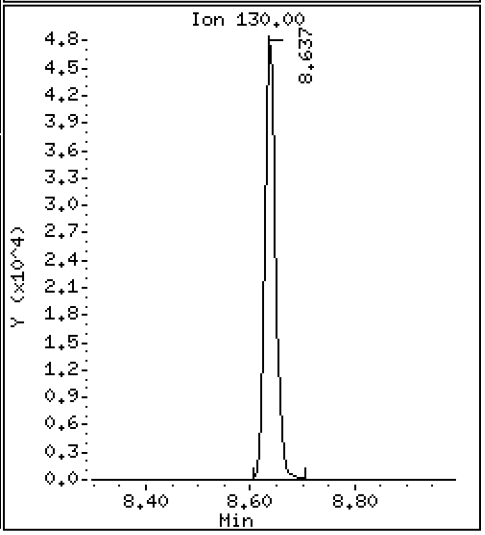


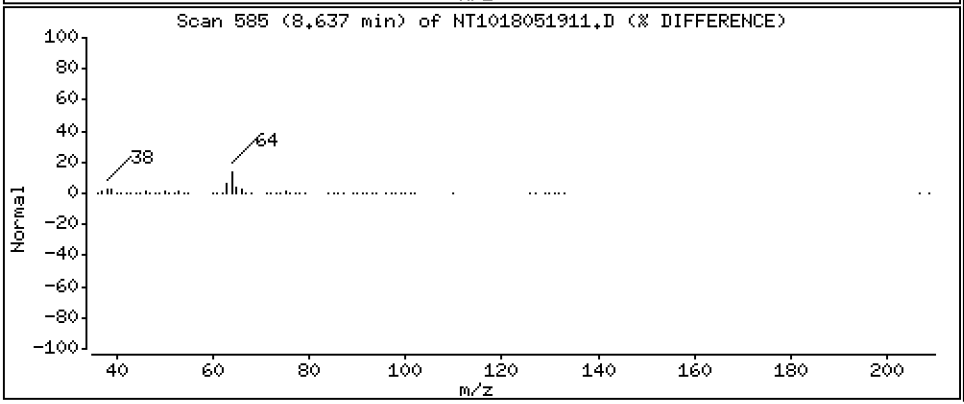












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

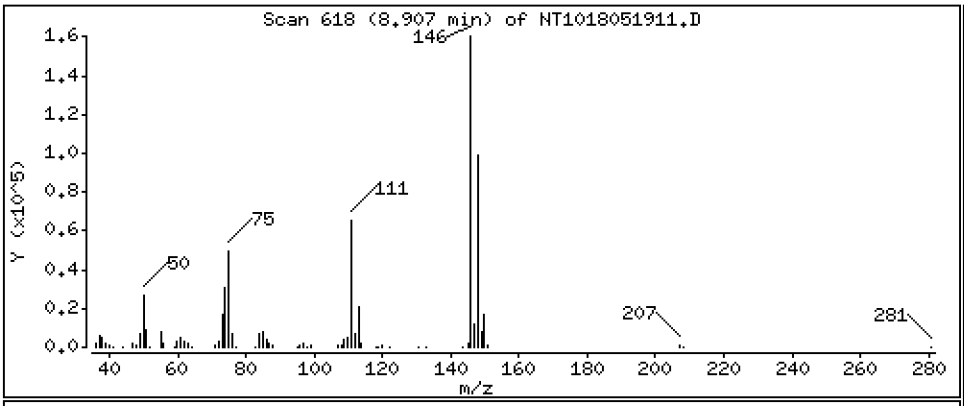
Operator: YZ

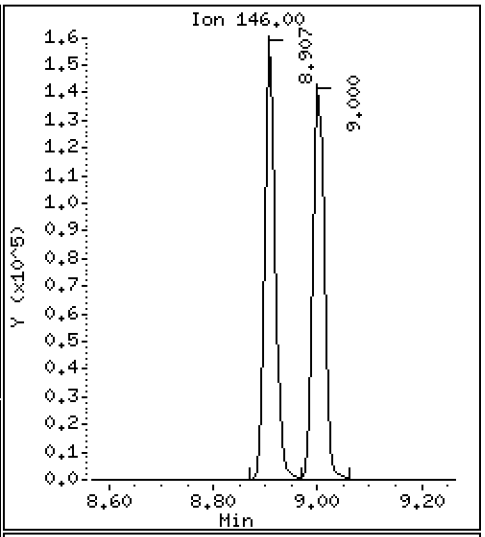
Column phase: ZB-5msi

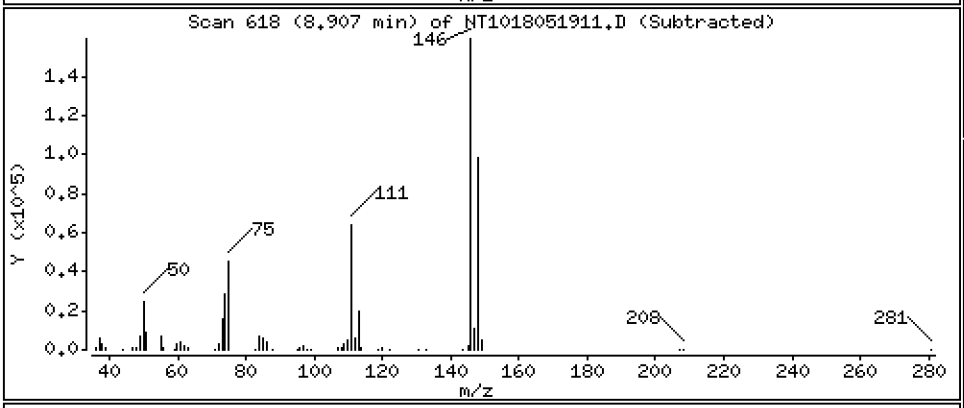
Column diameter: 0.25

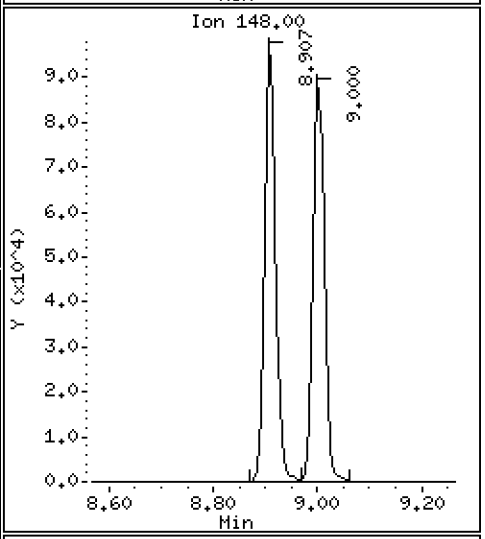
7 1,3-Dichlorobenzene

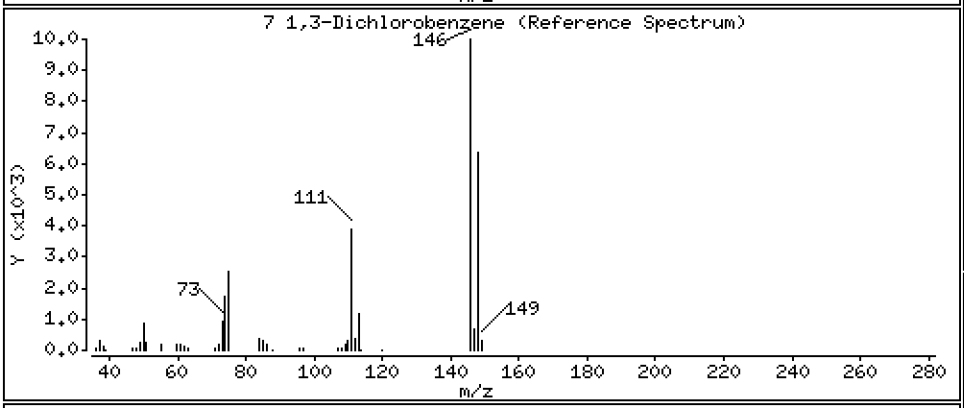
Concentration: 5.372 ug/mL

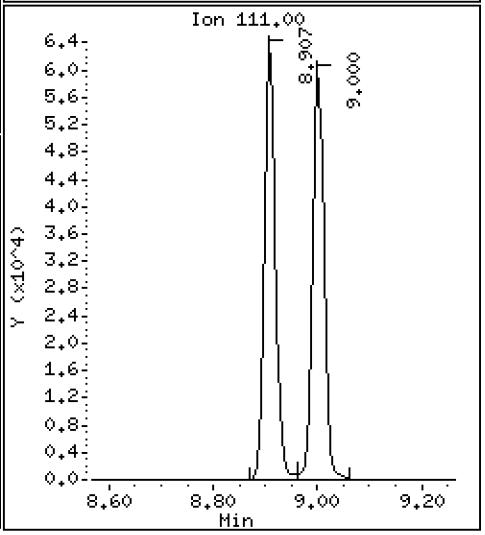


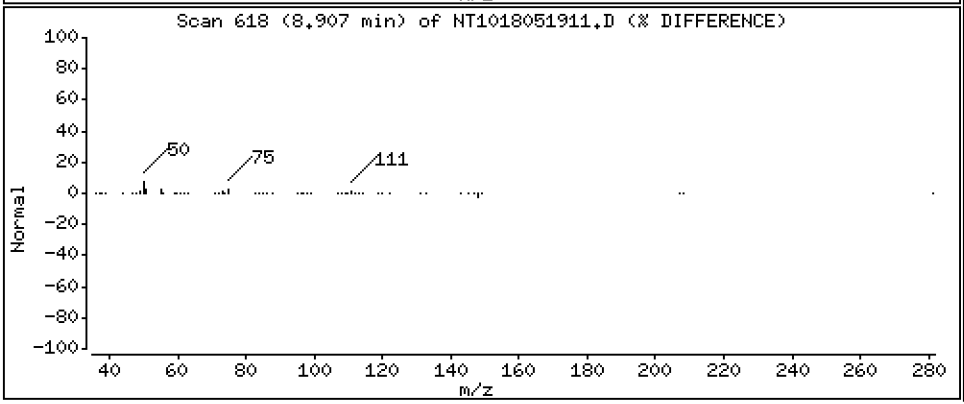












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

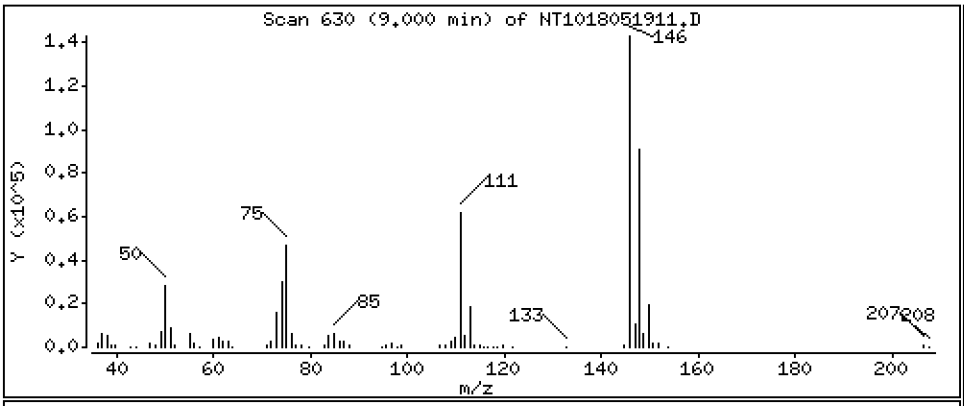
Operator: YZ

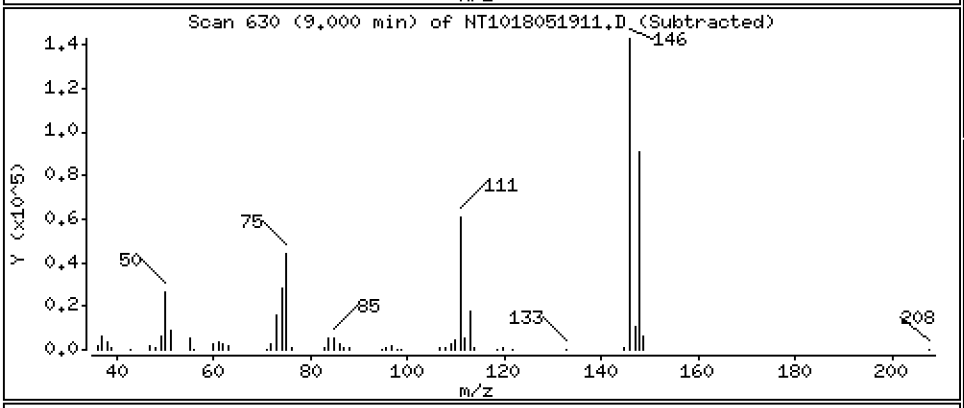
Column phase: ZB-5msi

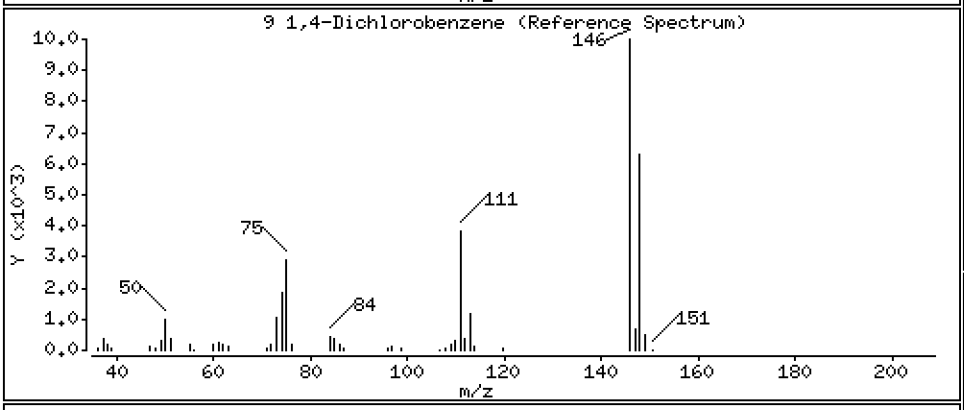
Column diameter: 0.25

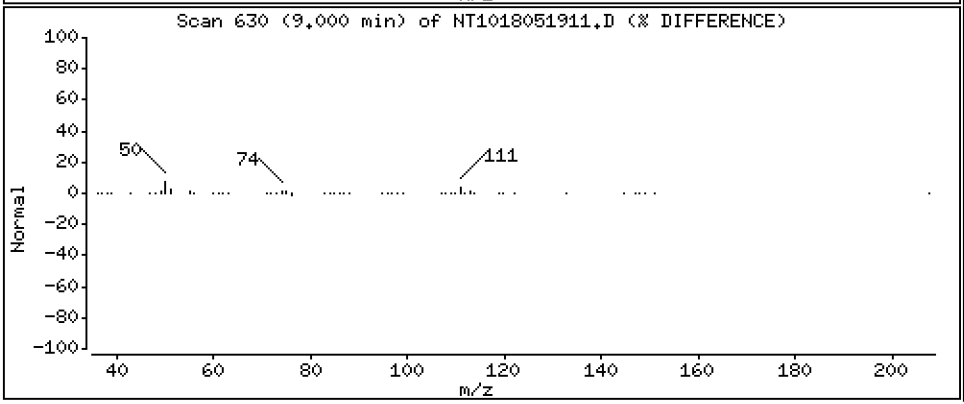
9 1,4-Dichlorobenzene

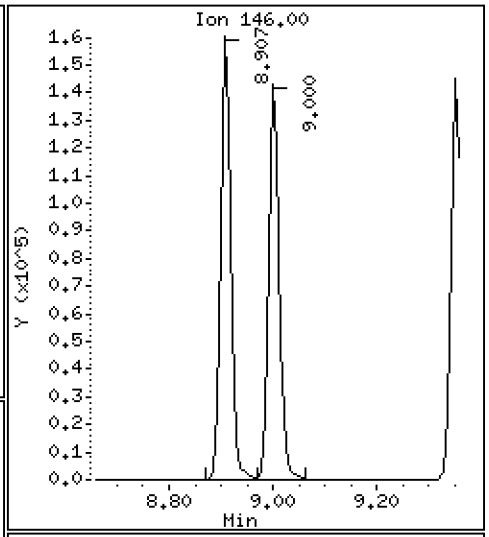
Concentration: 5.322 ug/mL

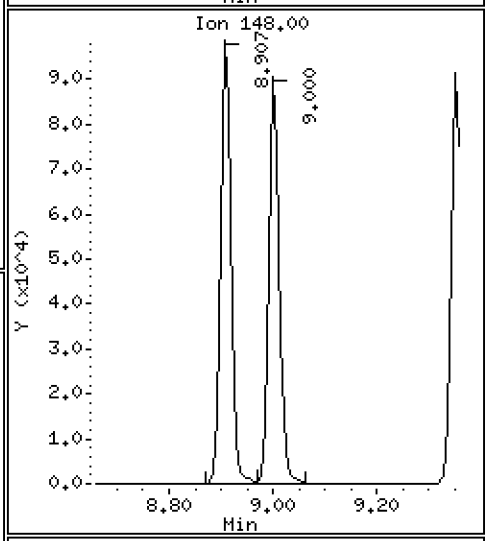


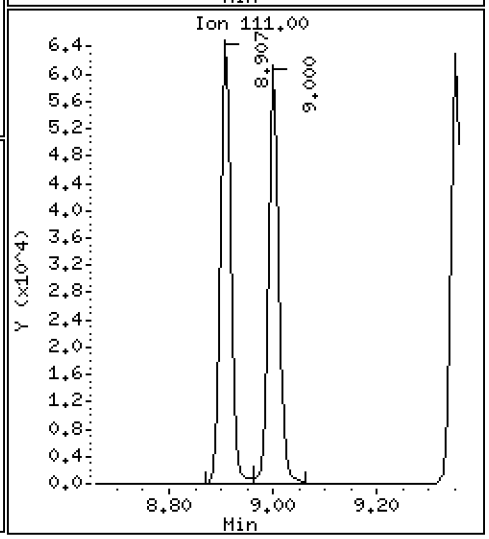












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

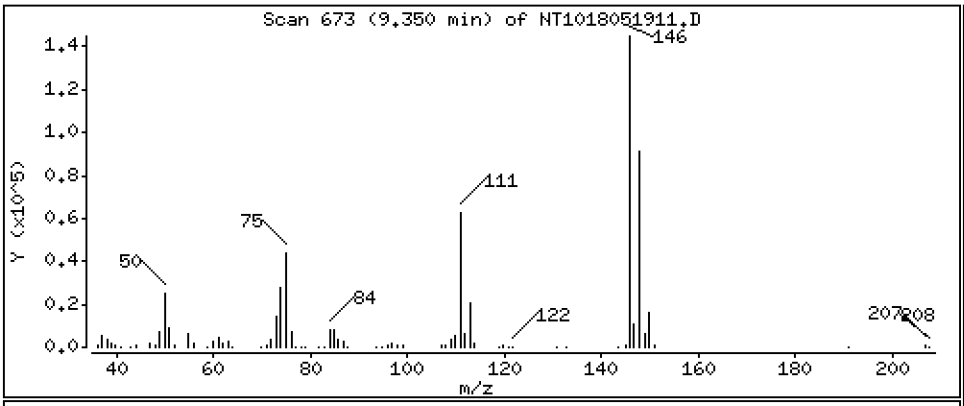
Operator: YZ

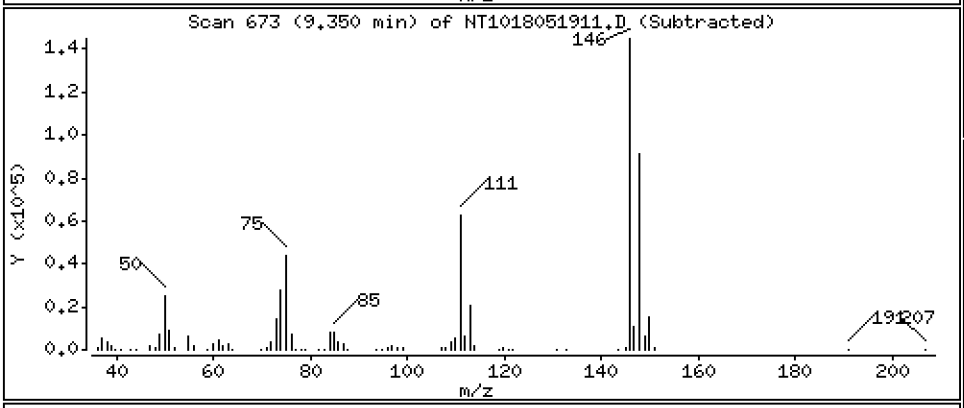
Column phase: ZB-5msi

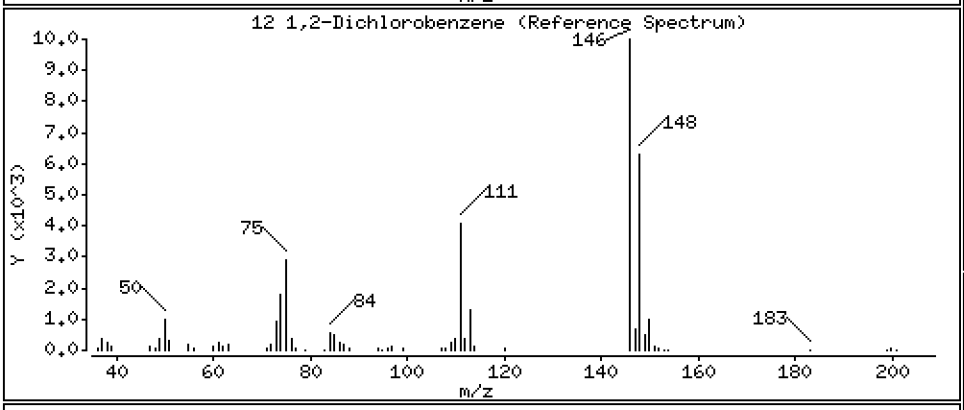
Column diameter: 0.25

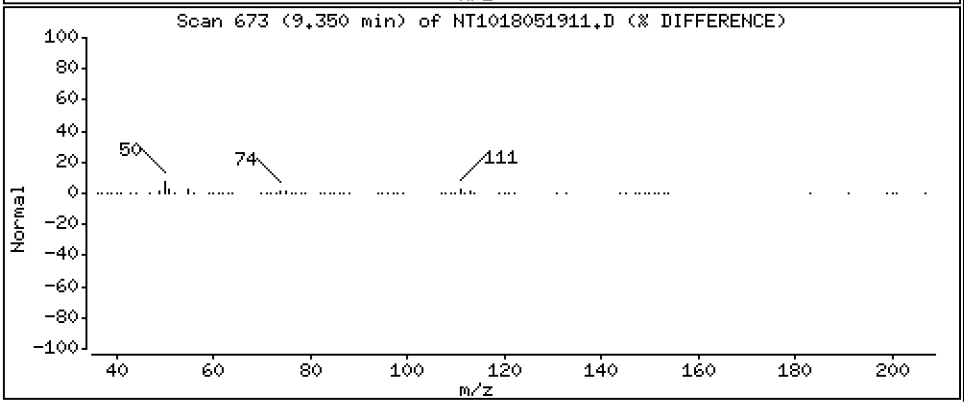
12 1,2-Dichlorobenzene

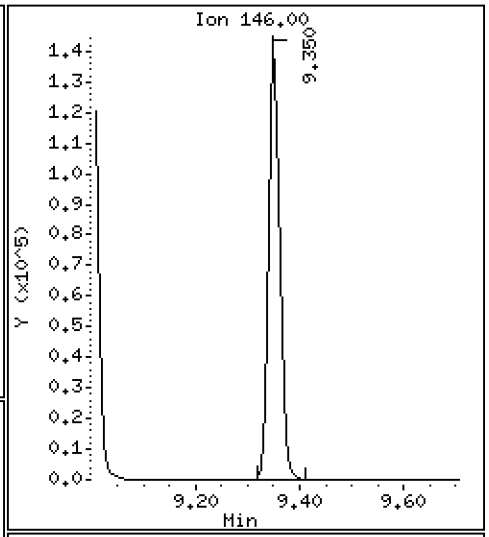
Concentration: 5.375 ug/mL

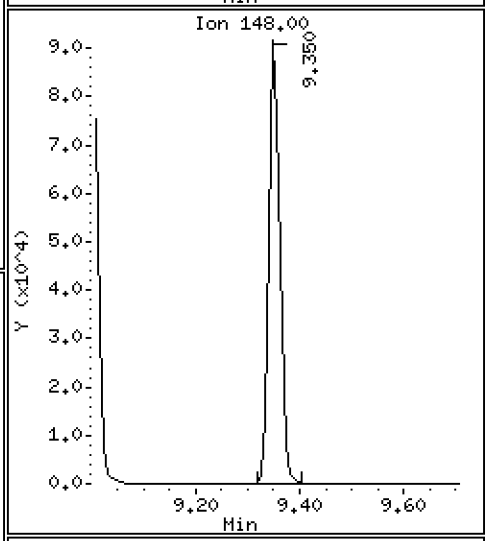


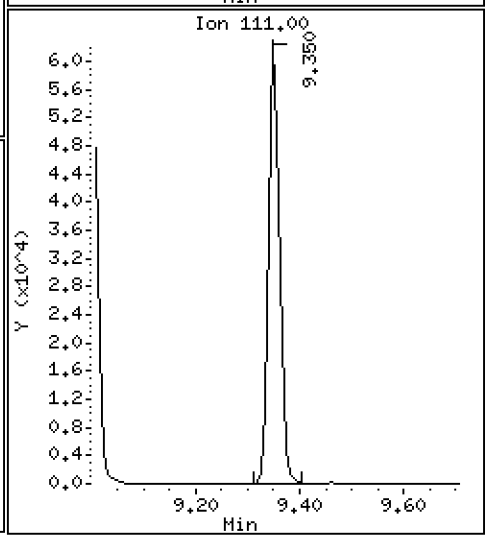












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

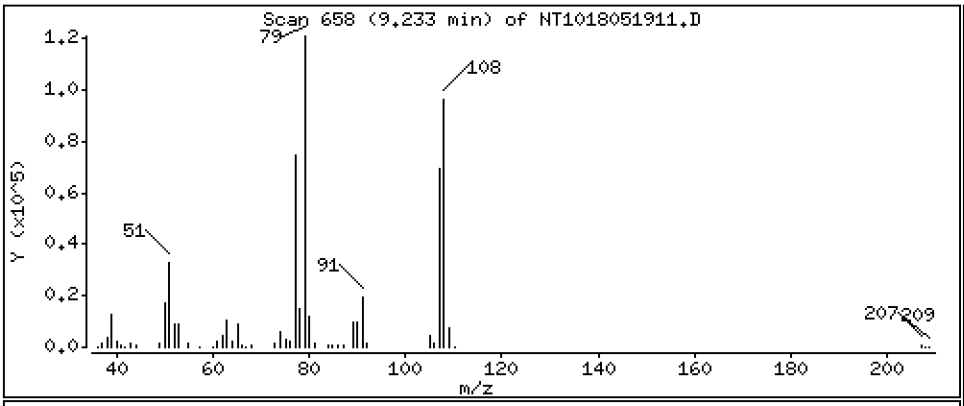
Operator: YZ

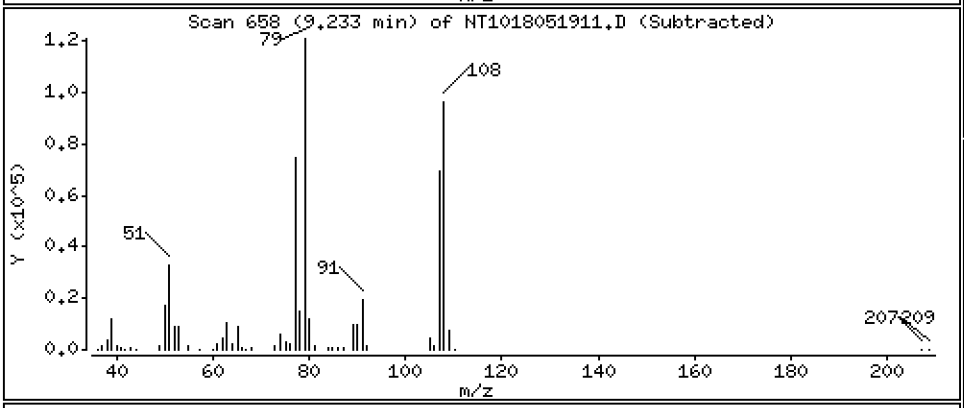
Column phase: ZB-5msi

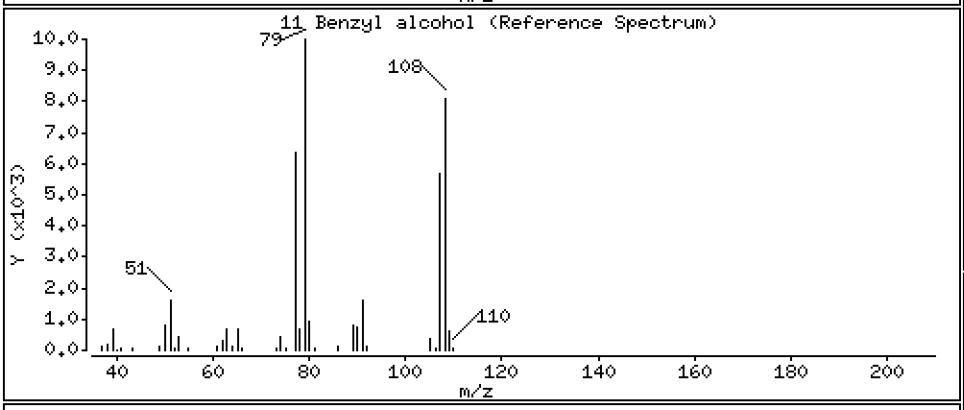
Column diameter: 0.25

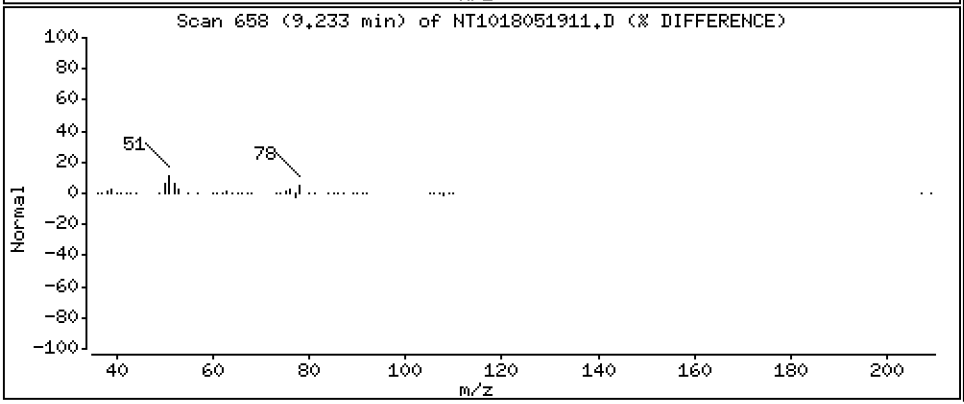
11 Benzyl alcohol

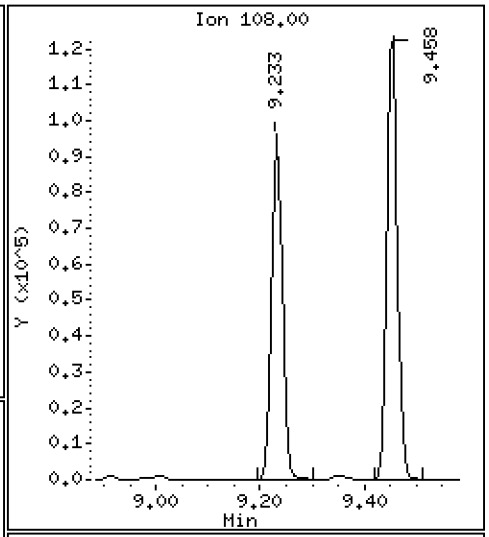
Concentration: 5.065 ug/mL

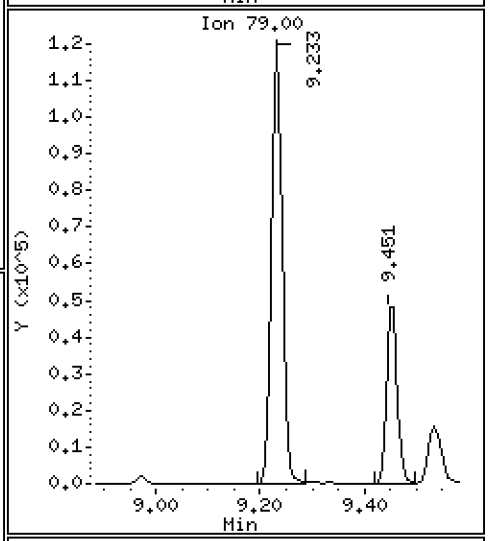


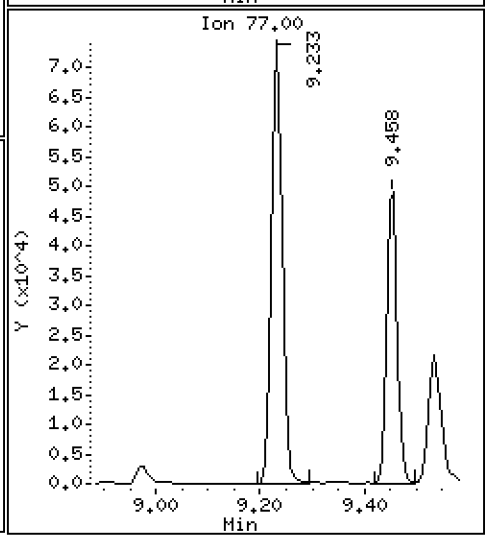












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

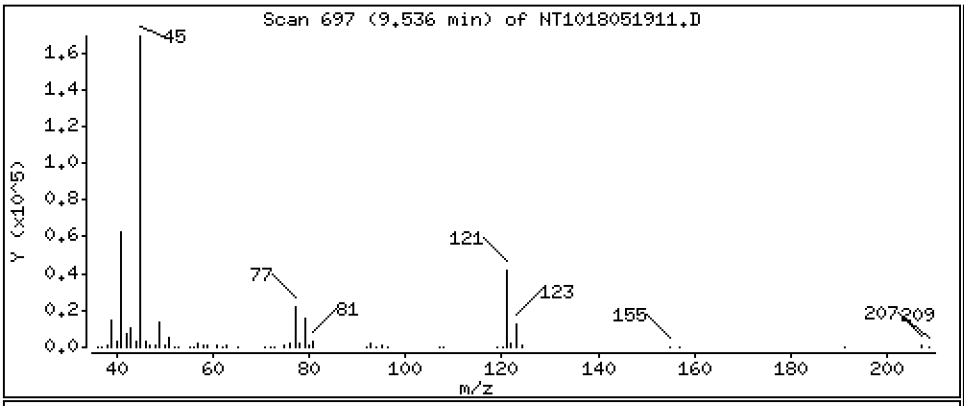
Operator: YZ

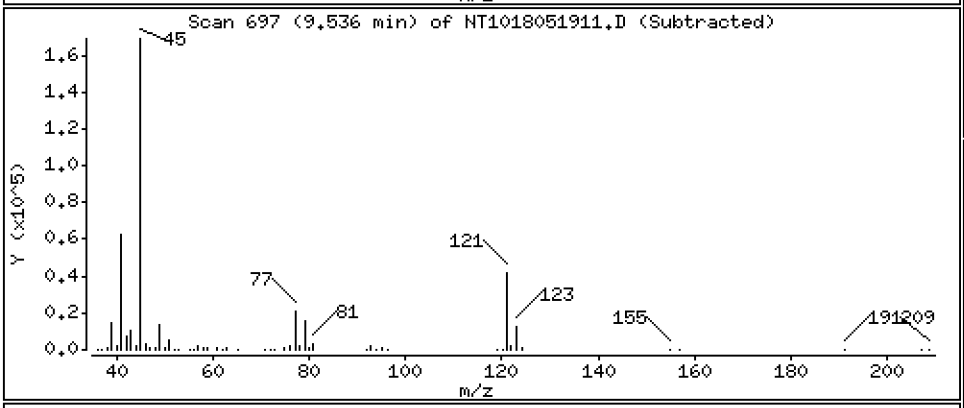
Column phase: ZB-5msi

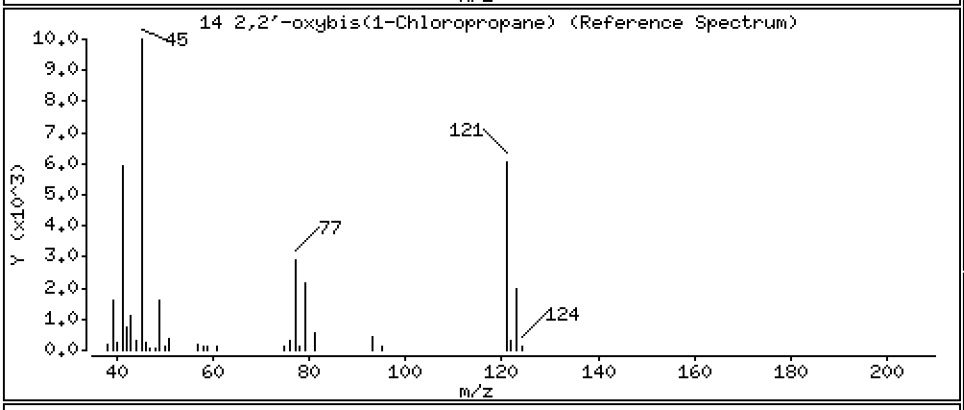
Column diameter: 0.25

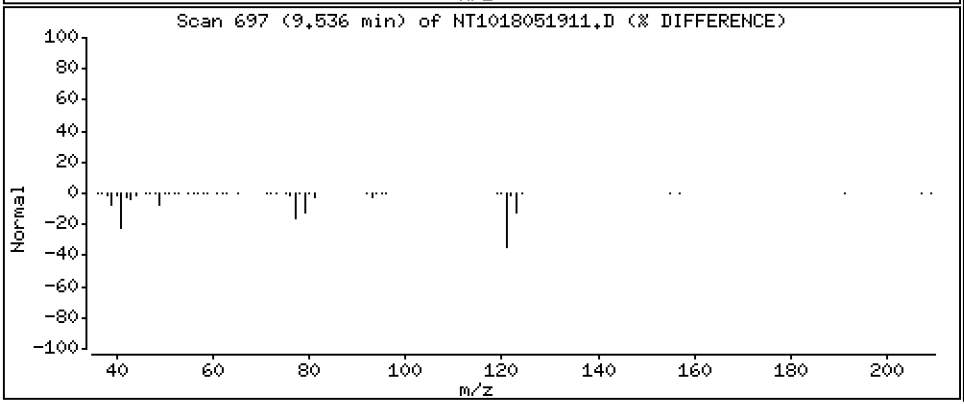
14 2,2'-oxybis(1-Chloropropane)

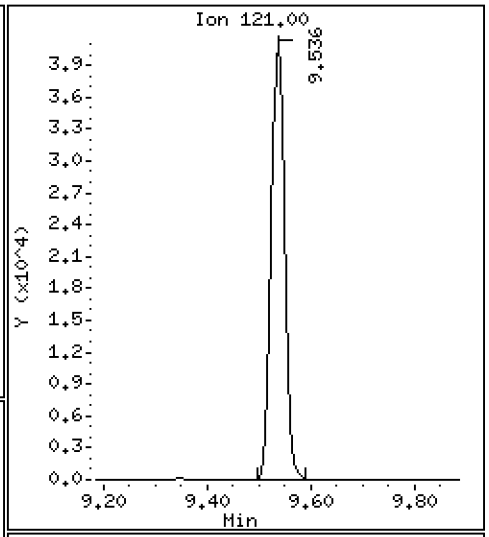
Concentration: 4.689 ug/mL

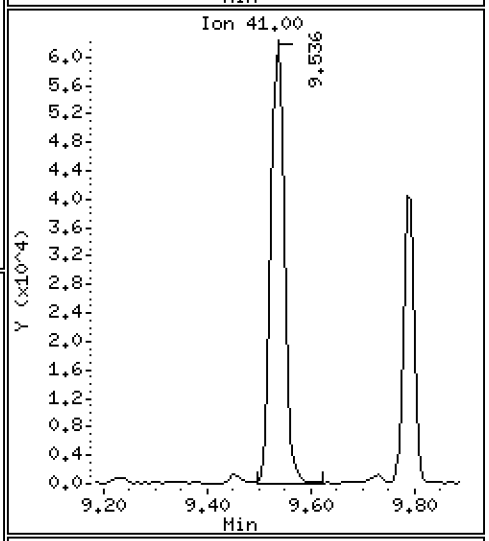


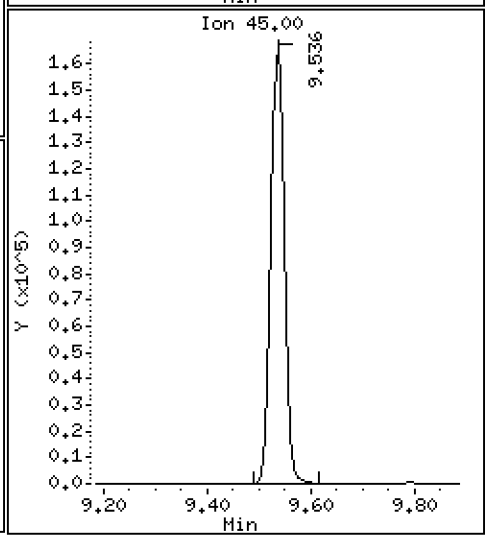












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

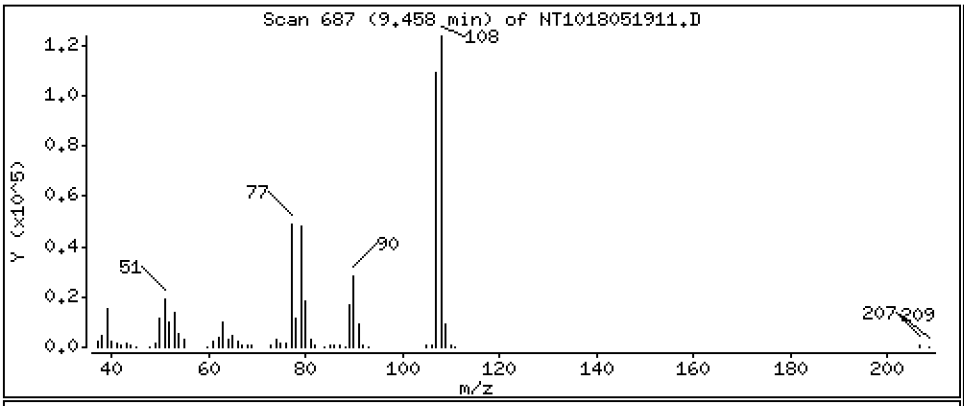
Operator: YZ

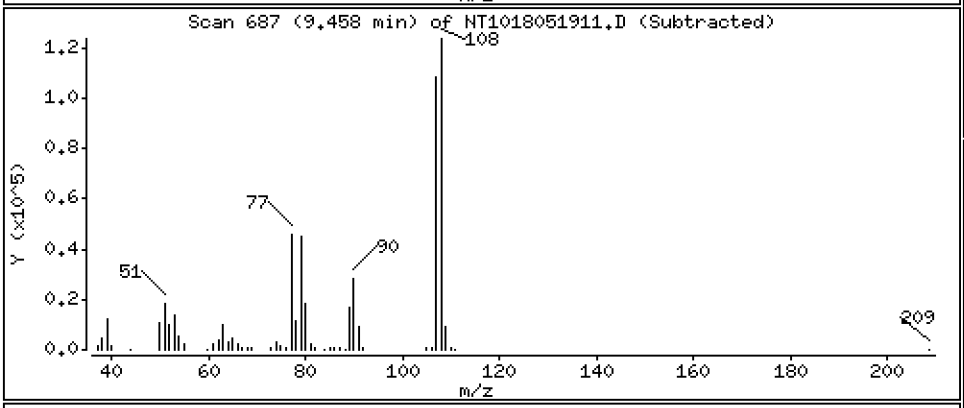
Column phase: ZB-5msi

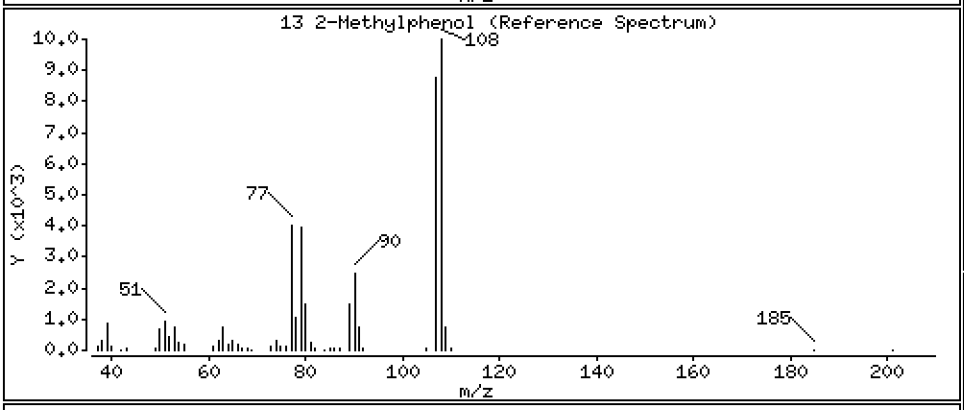
Column diameter: 0.25

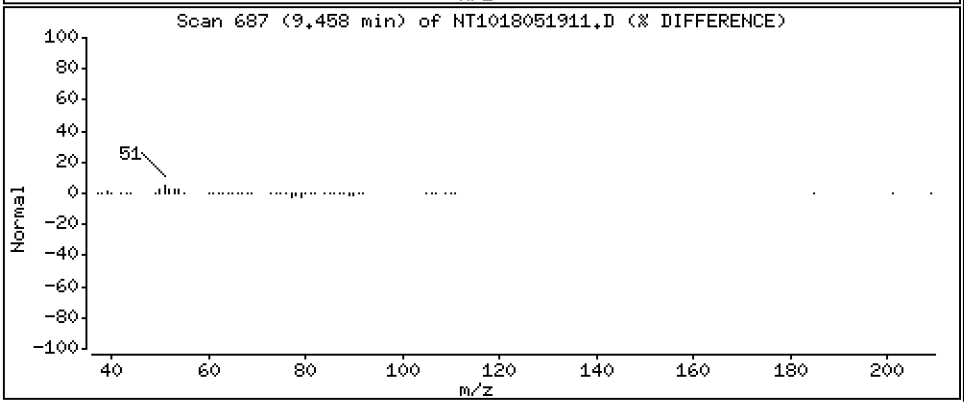
13 2-Methylphenol

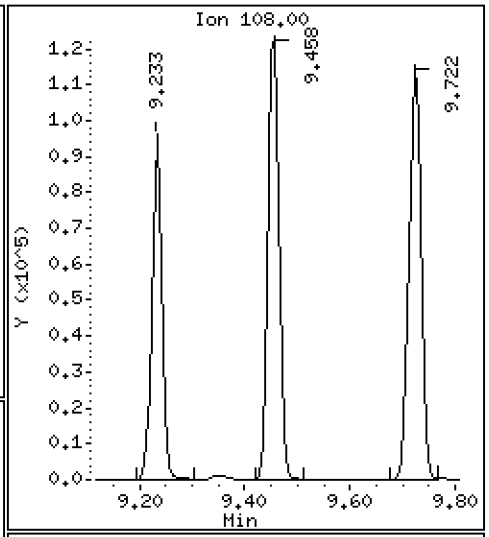
Concentration: 5.055 ug/mL

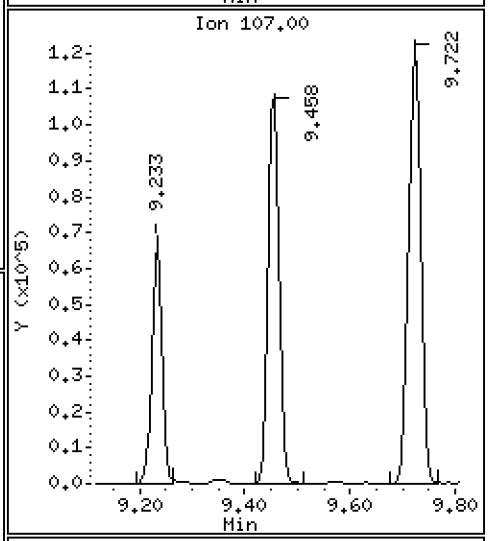


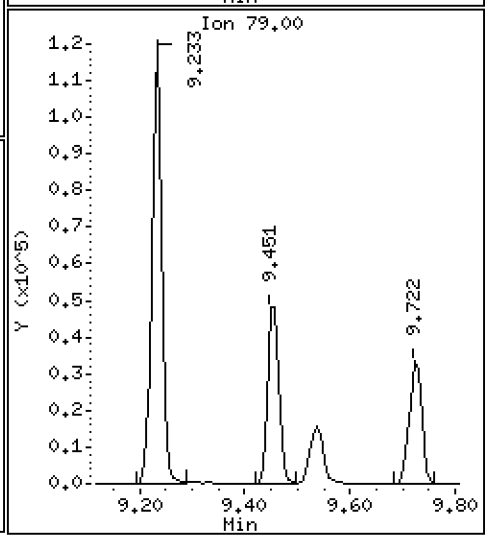












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

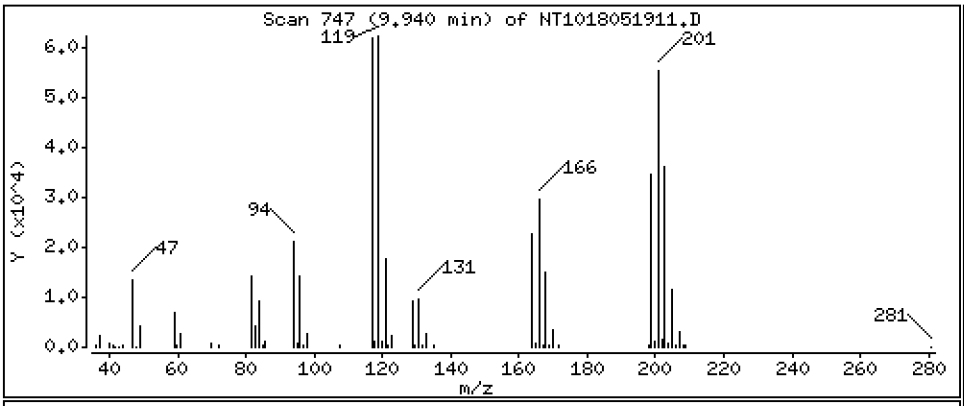
Operator: YZ

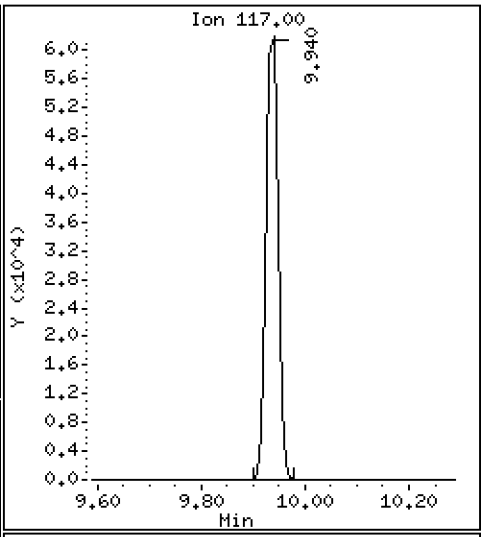
Column phase: ZB-5msi

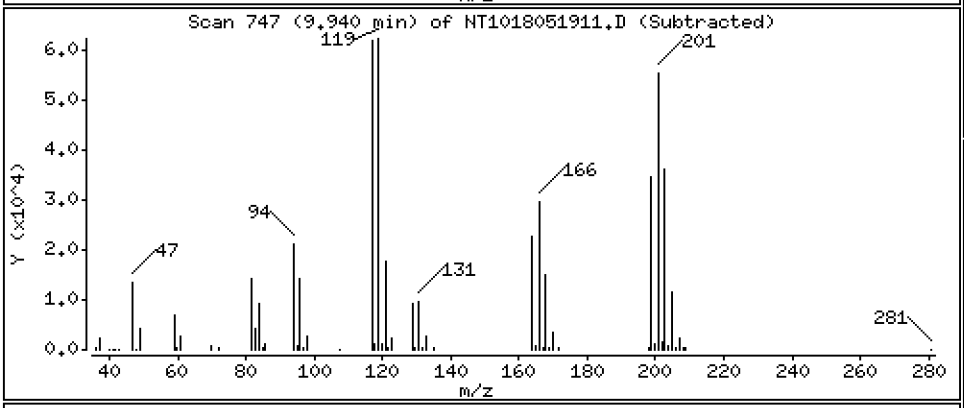
Column diameter: 0.25

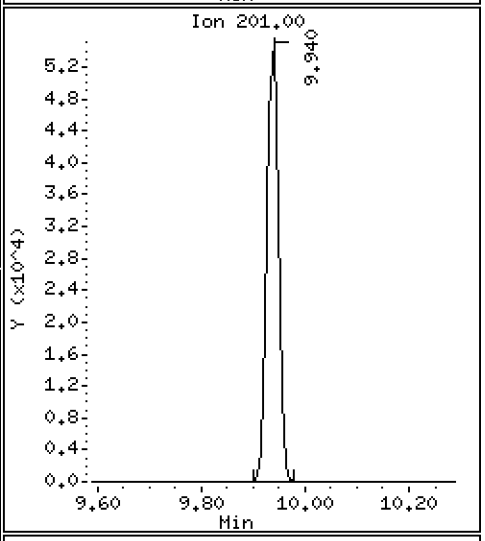
17 Hexachloroethane

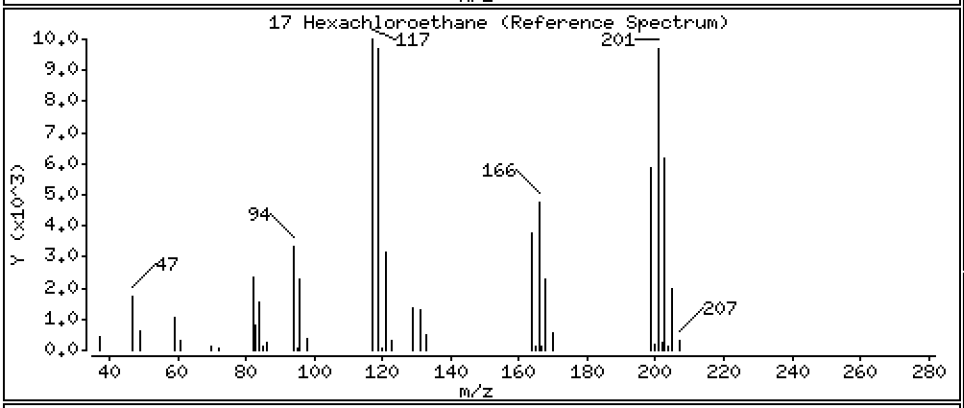
Concentration: 5.301 ug/mL

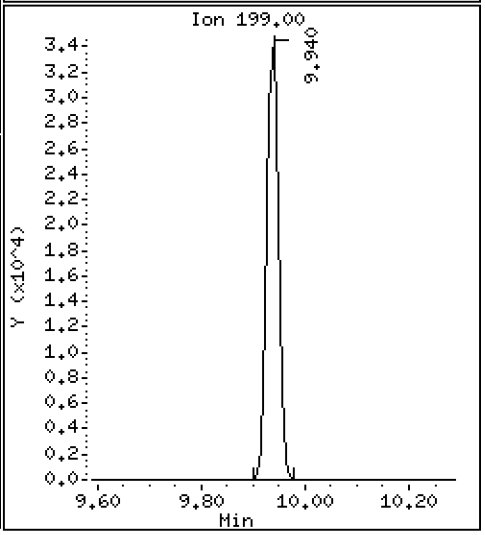


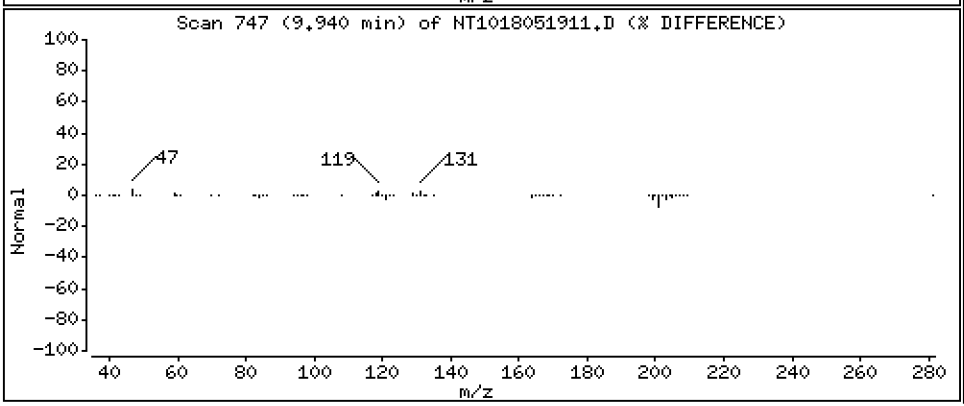












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

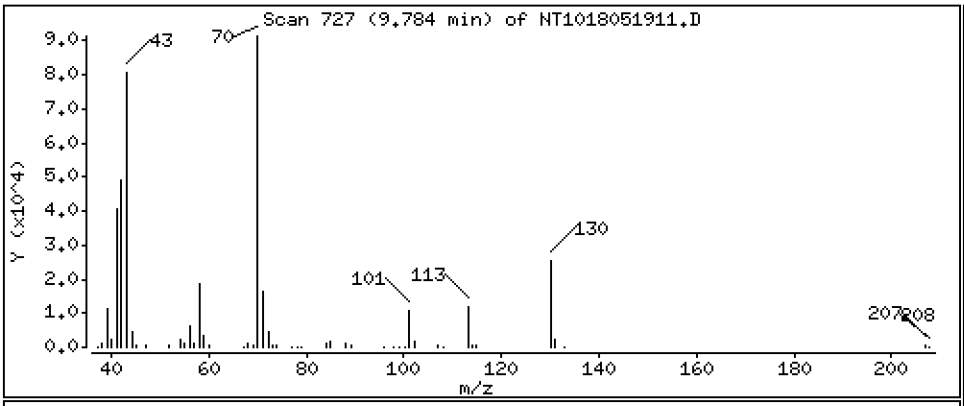
Operator: YZ

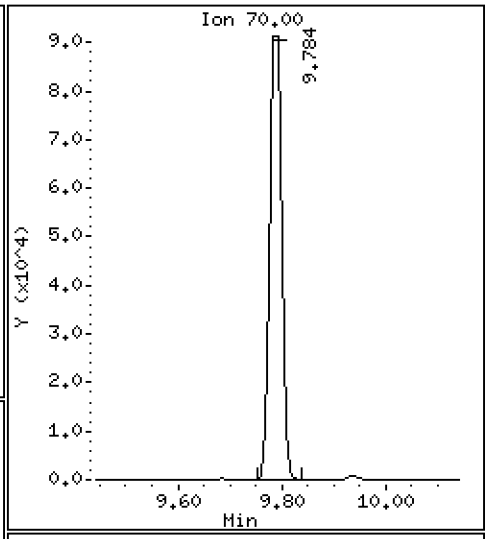
Column phase: ZB-5msi

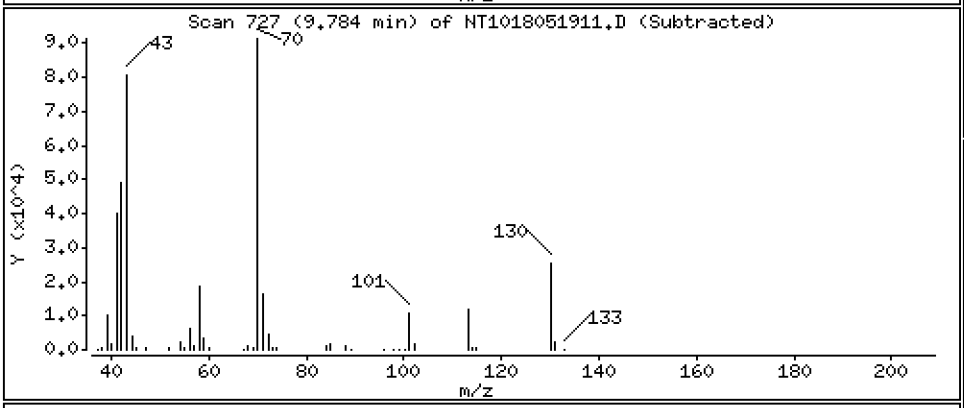
Column diameter: 0.25

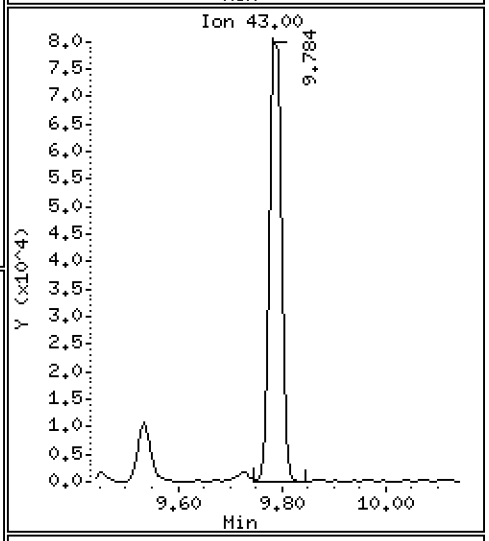
16 N-Nitroso-di-n-propylamine

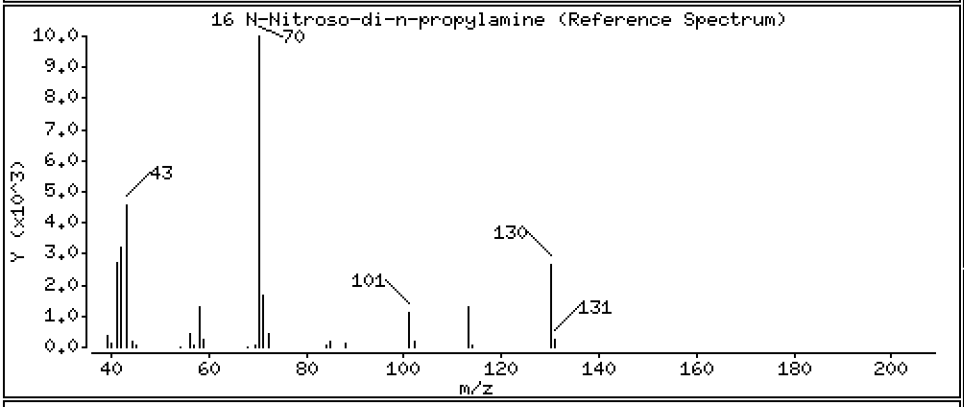
Concentration: 5.350 ug/mL

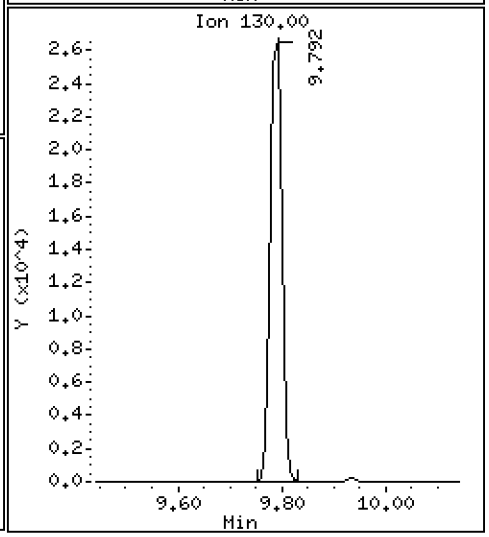


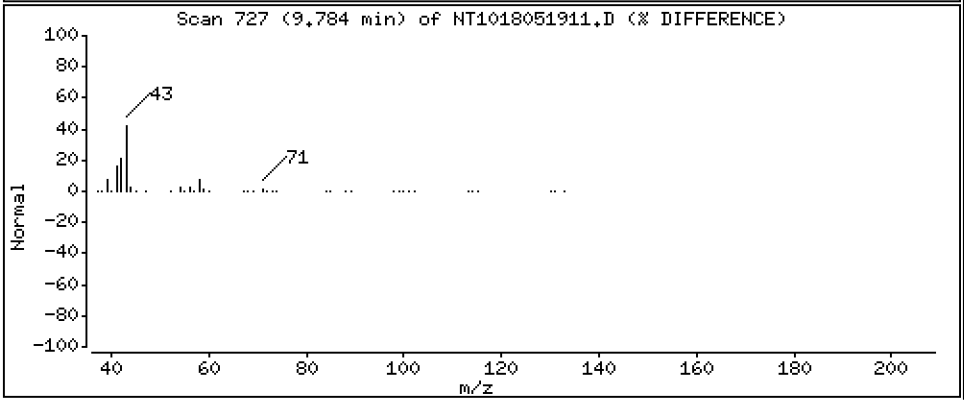












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

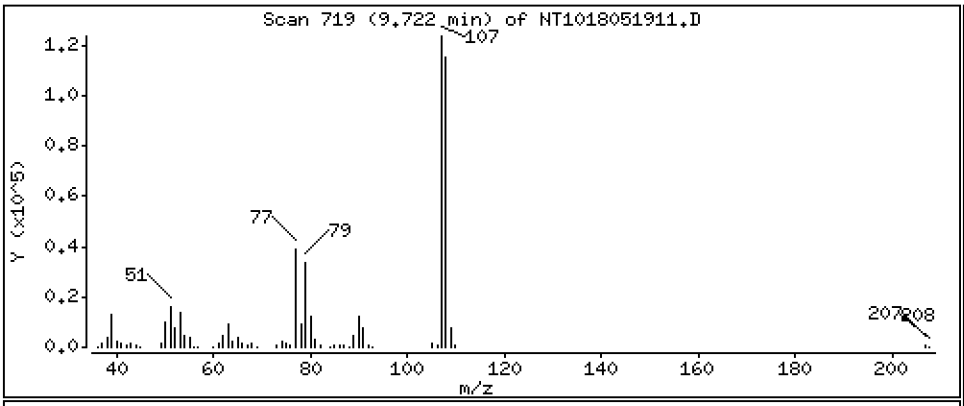
Operator: YZ

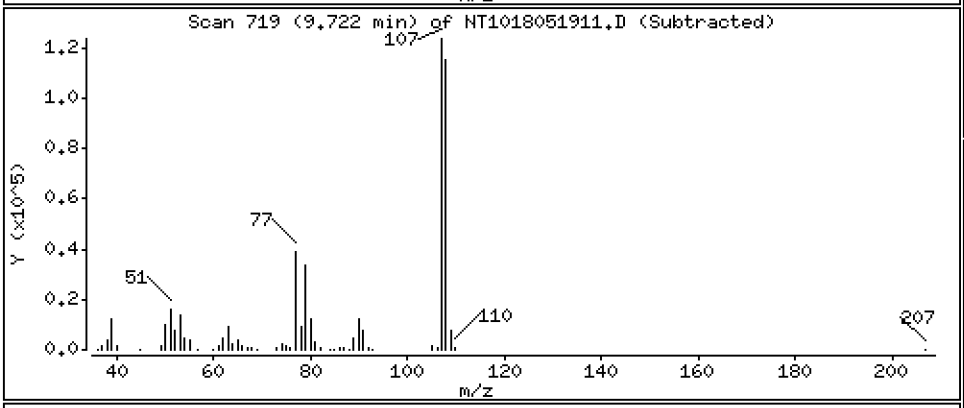
Column phase: ZB-5msi

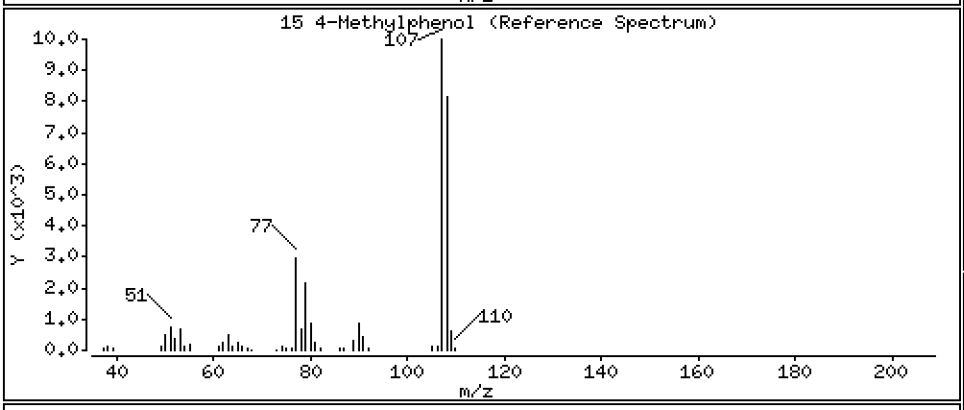
Column diameter: 0.25

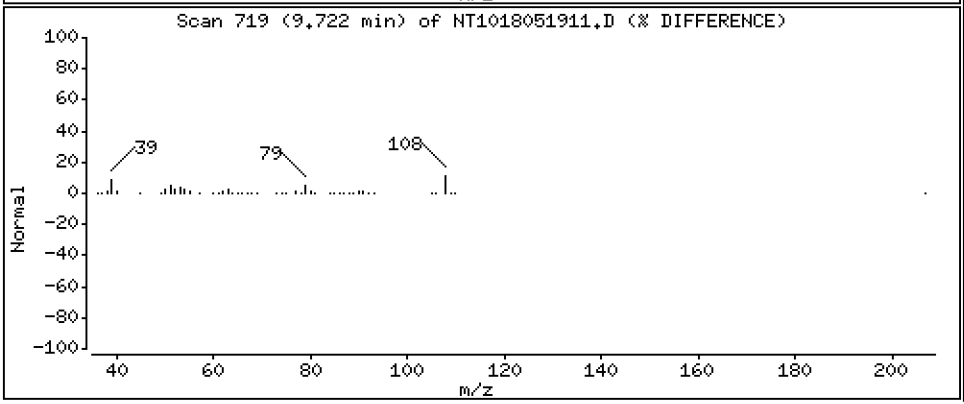
15 4-Methylphenol

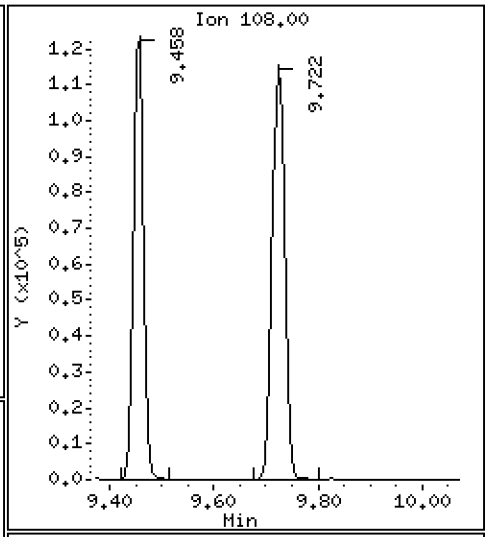
Concentration: 5.047 ug/mL

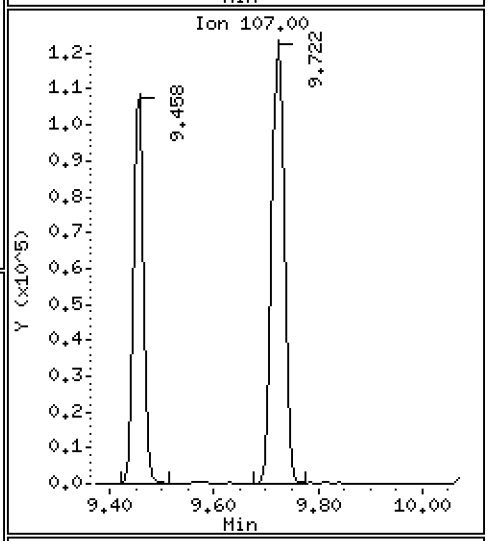


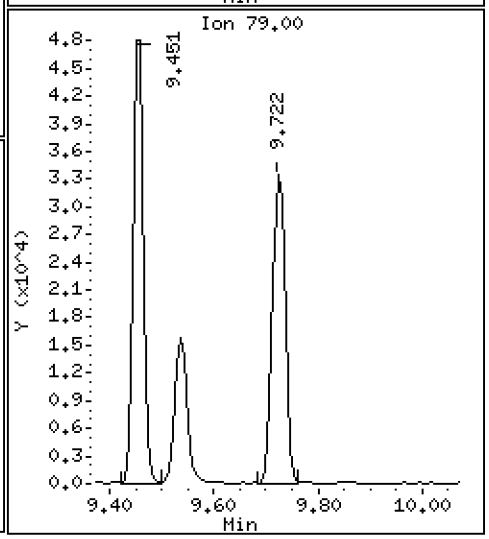












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

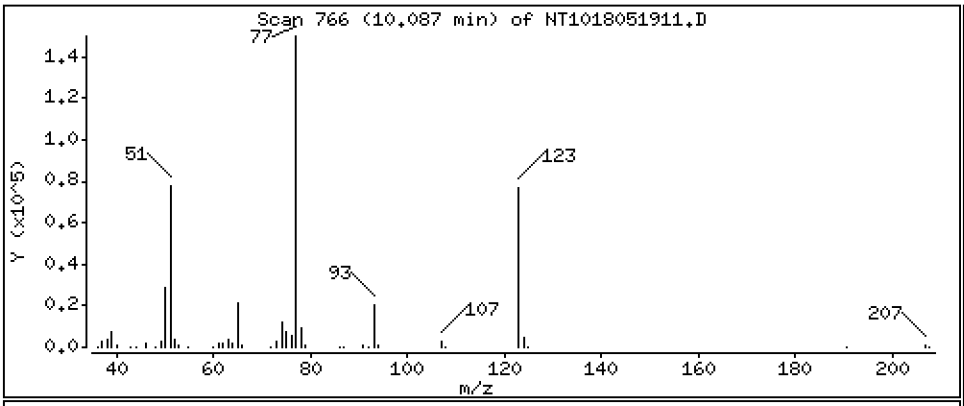
Operator: YZ

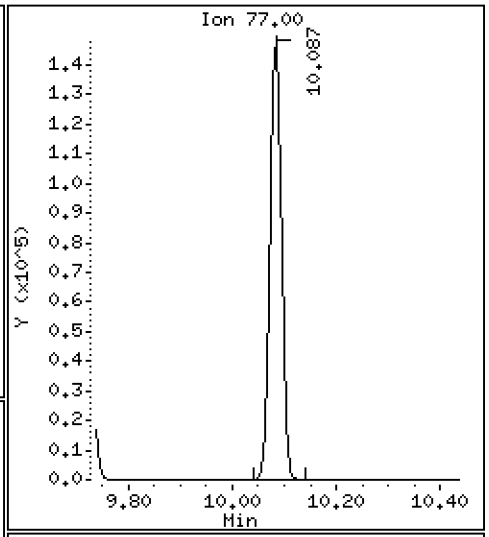
Column phase: ZB-5msi

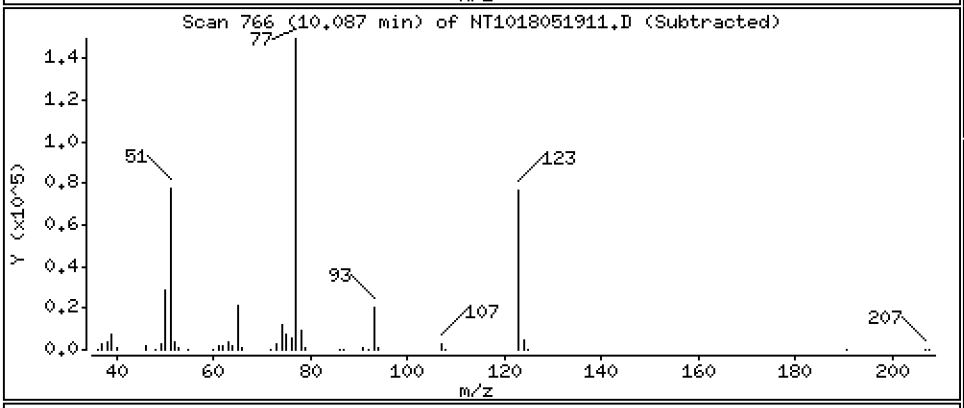
Column diameter: 0.25

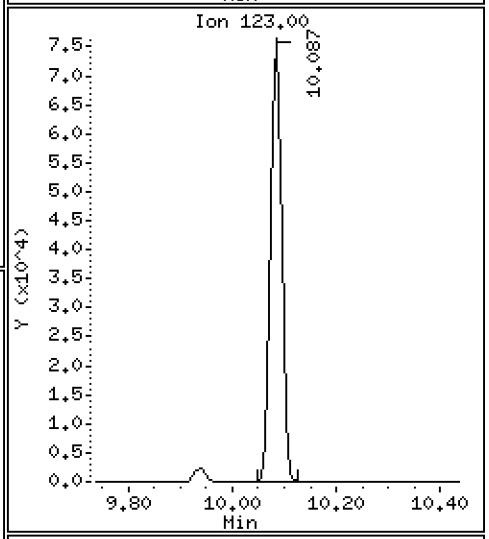
19 Nitrobenzene

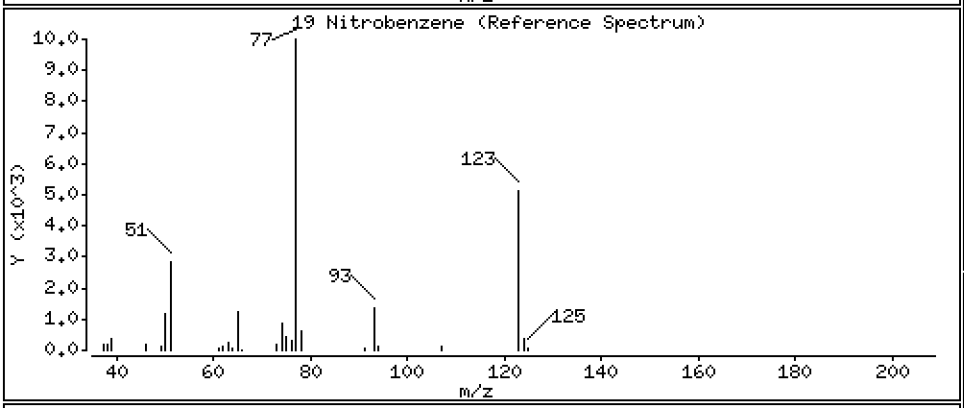
Concentration: 5.416 ug/mL

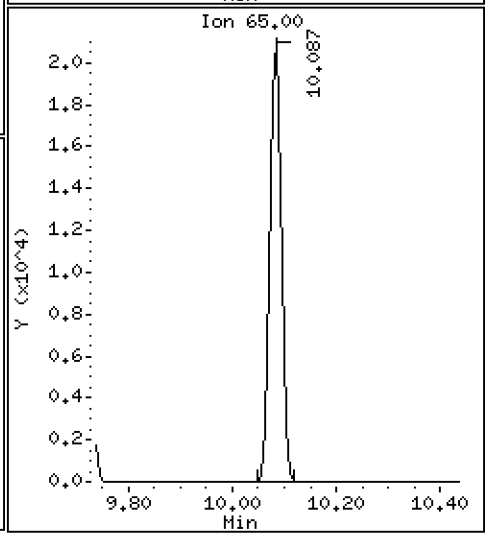


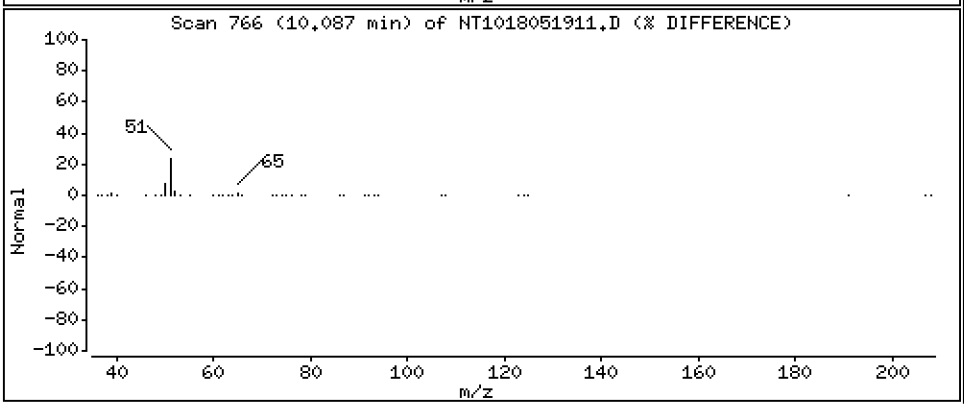












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

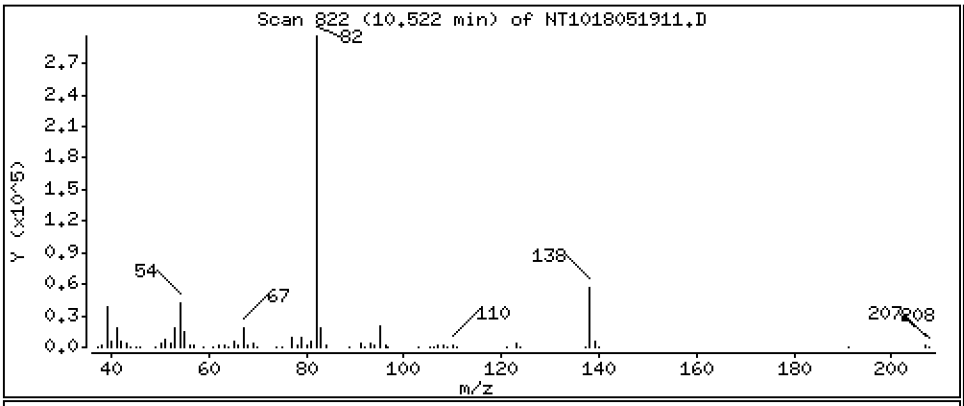
Operator: YZ

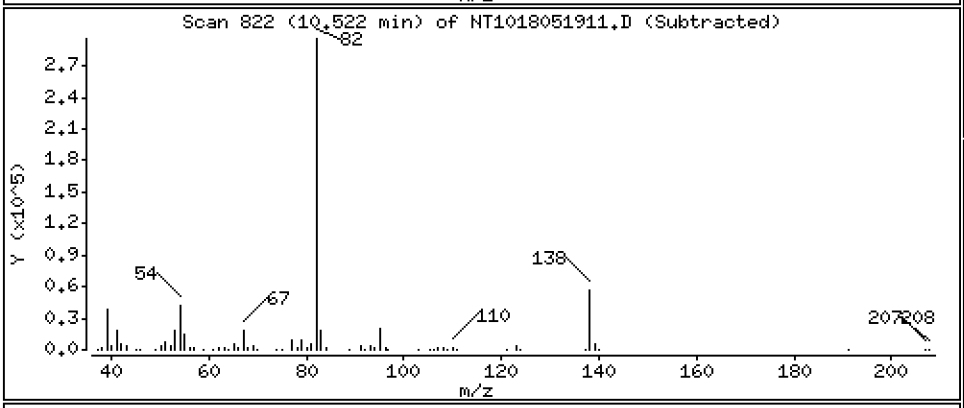
Column phase: ZB-5msi

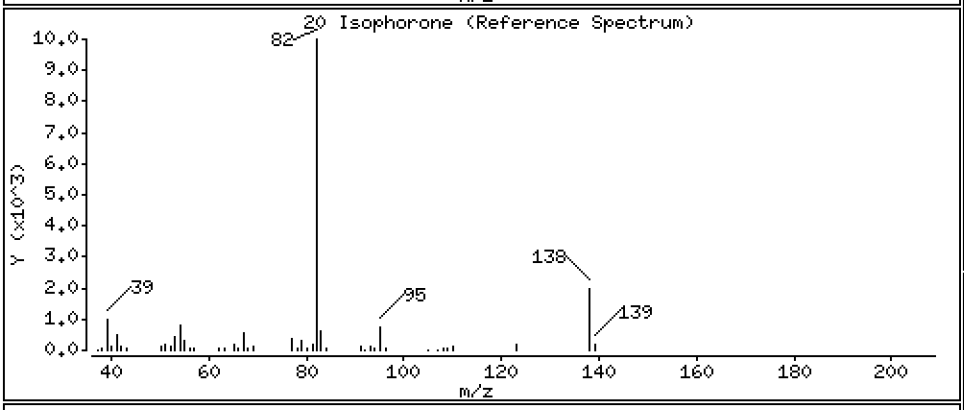
Column diameter: 0.25

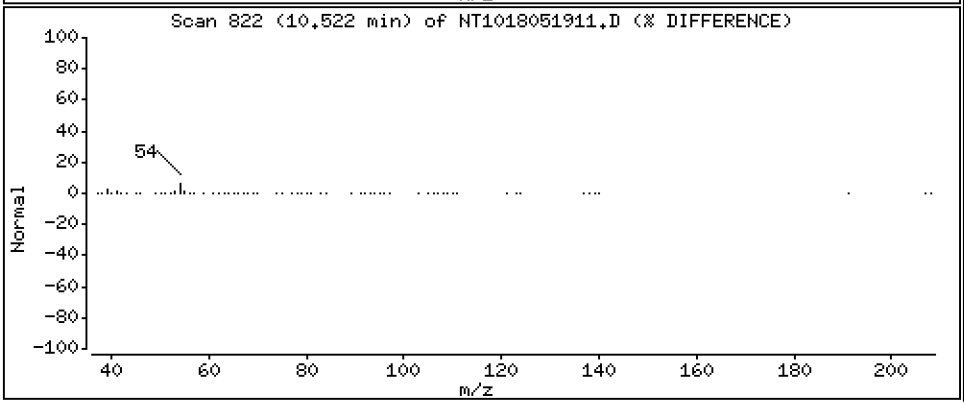
20 Isophorone

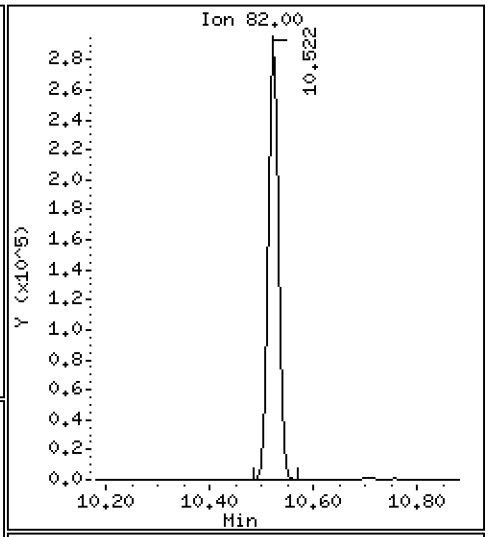
Concentration: 5.135 ug/mL

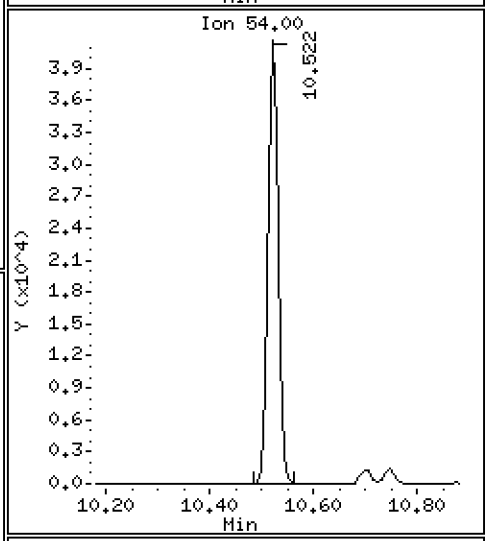


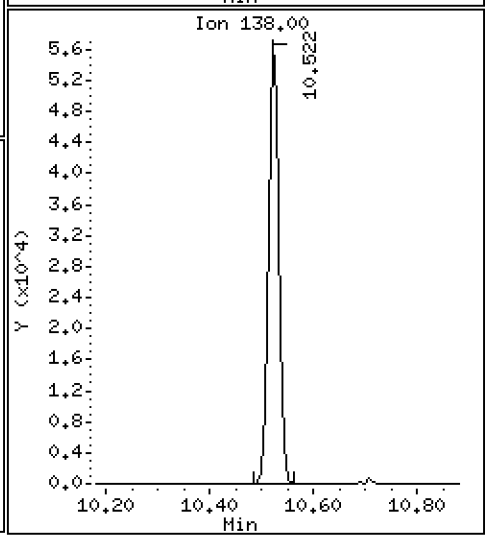












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

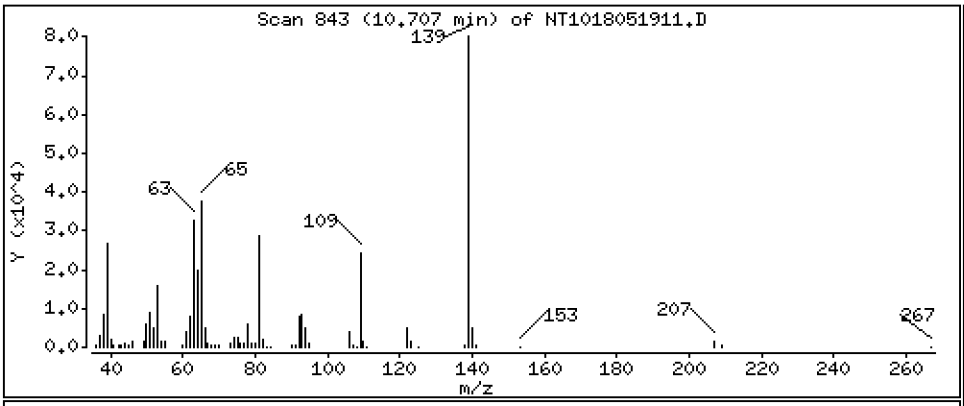
Operator: YZ

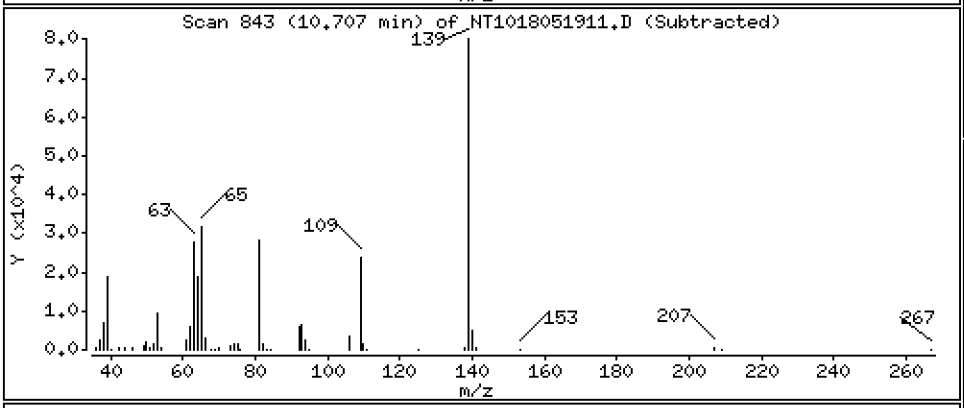
Column phase: ZB-5msi

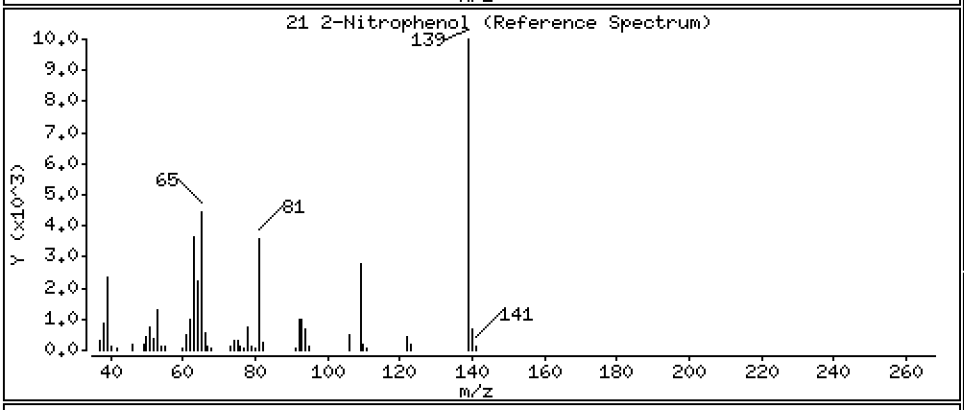
Column diameter: 0.25

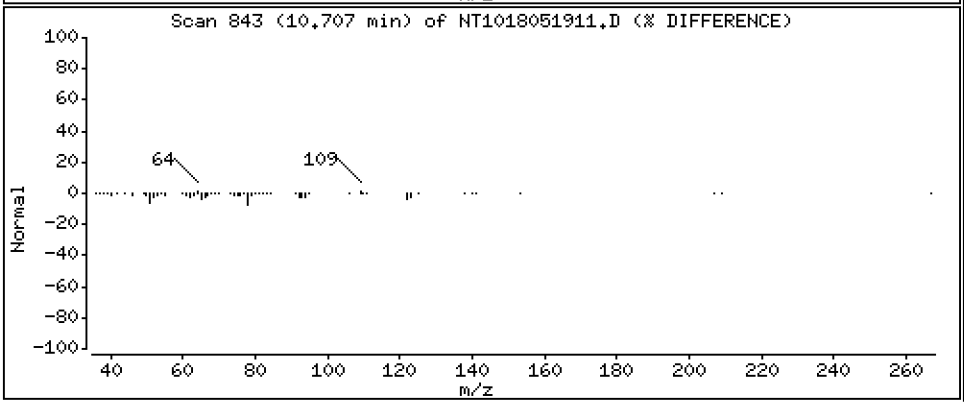
21 2-Nitrophenol

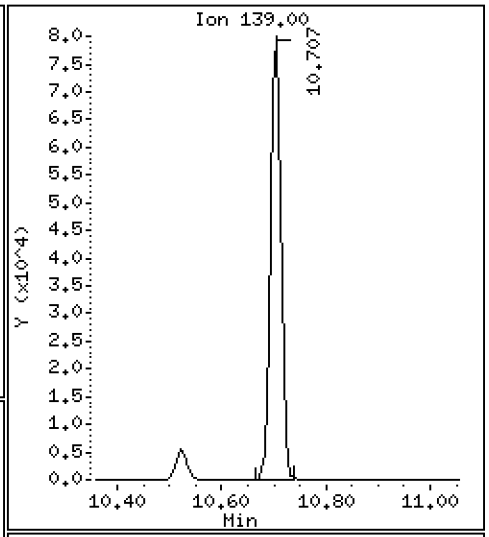
Concentration: 5.048 ug/mL

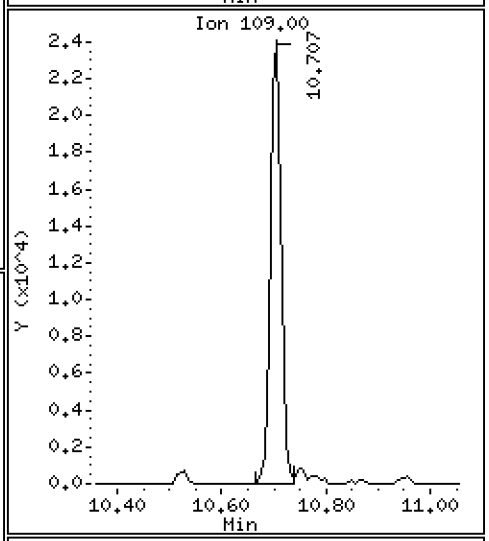


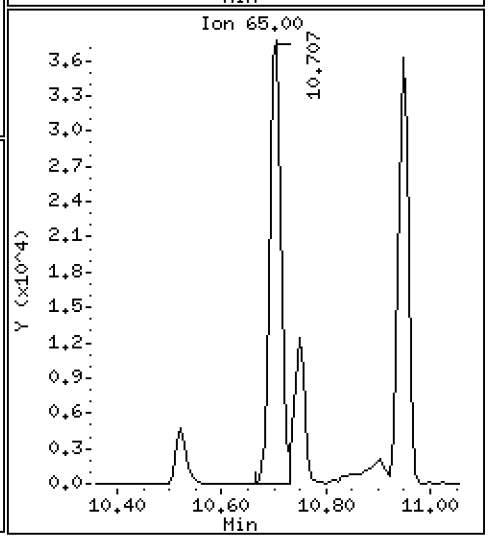












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

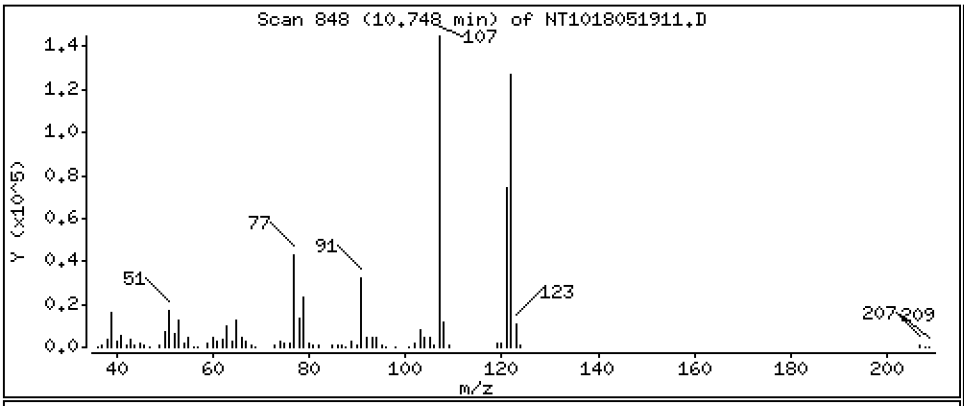
Operator: YZ

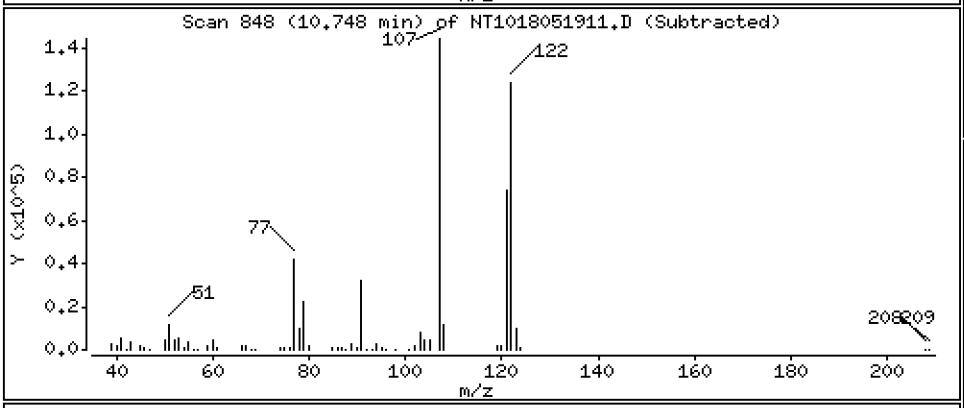
Column phase: ZB-5msi

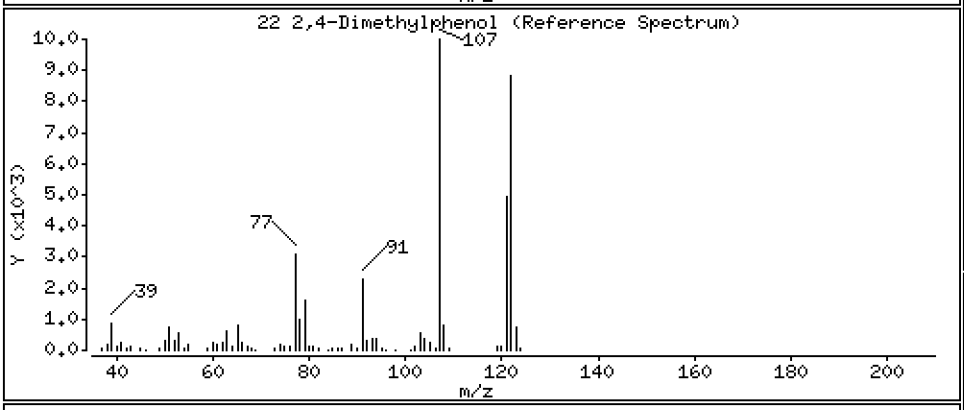
Column diameter: 0.25

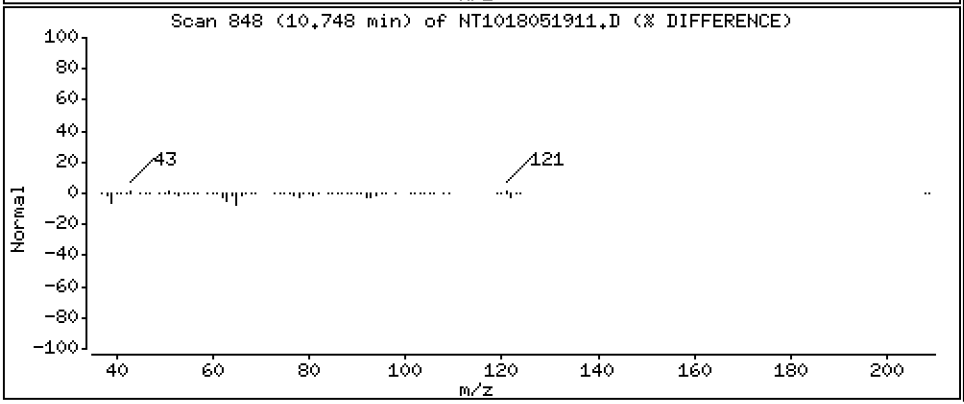
22 2,4-Dimethylphenol

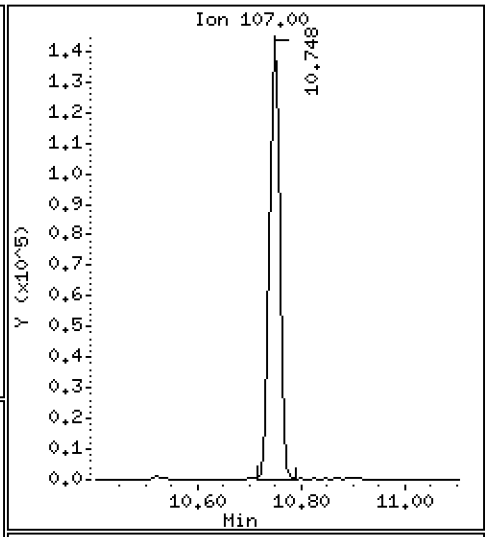
Concentration: 4.995 ug/mL

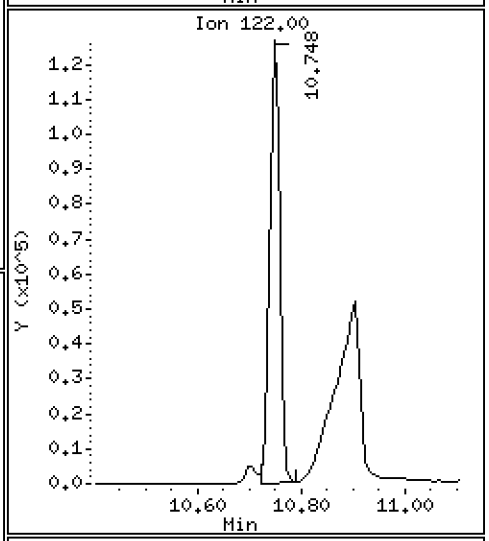


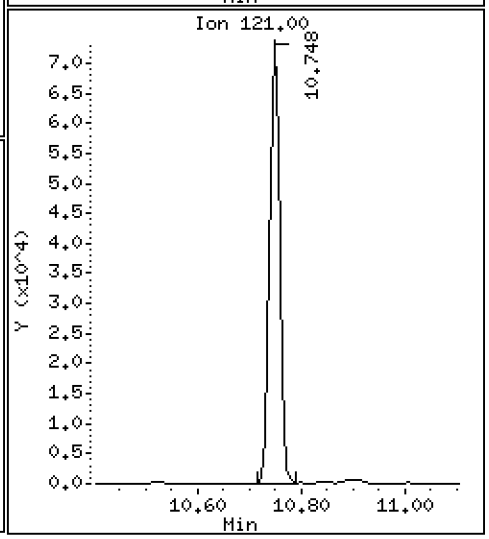












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

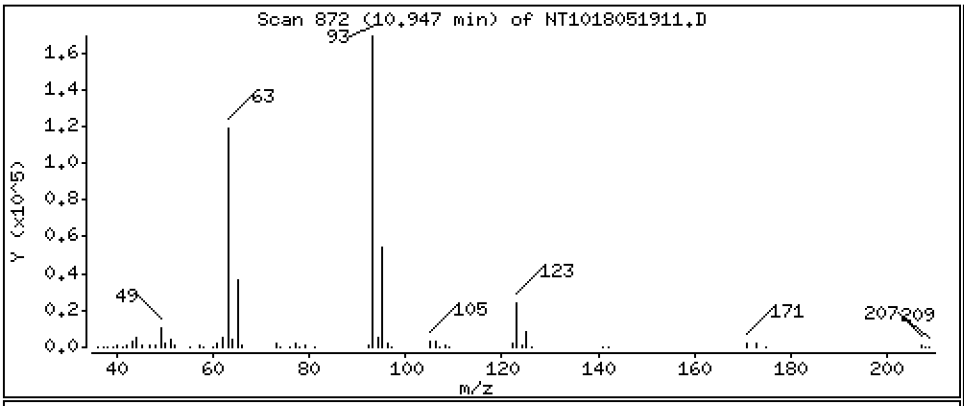
Operator: YZ

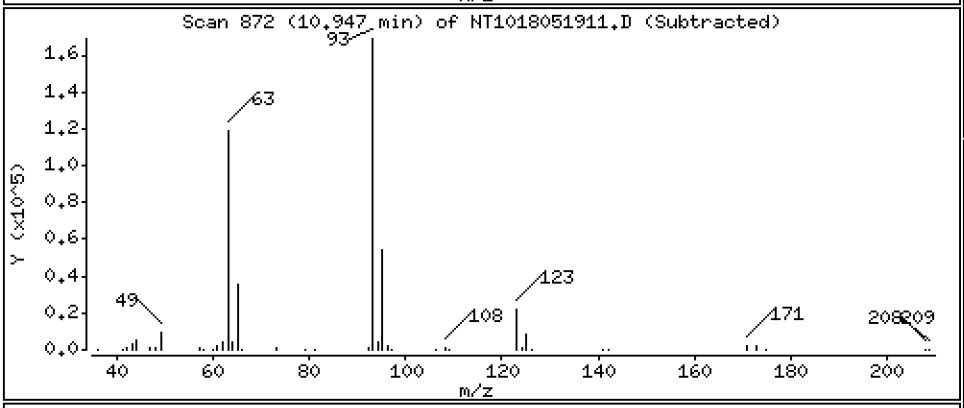
Column phase: ZB-5msi

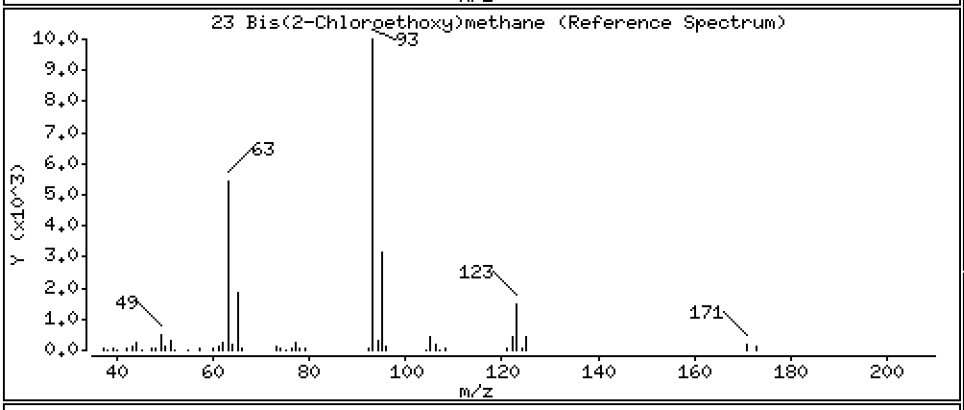
Column diameter: 0.25

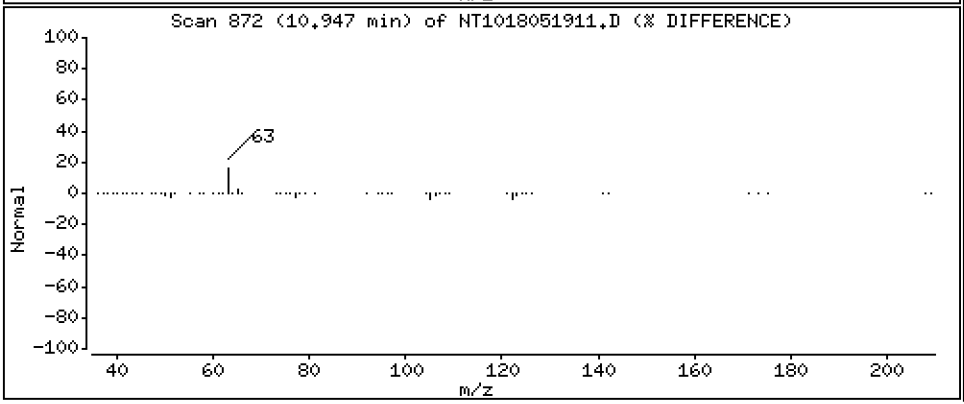
23 Bis(2-Chloroethoxy)methane

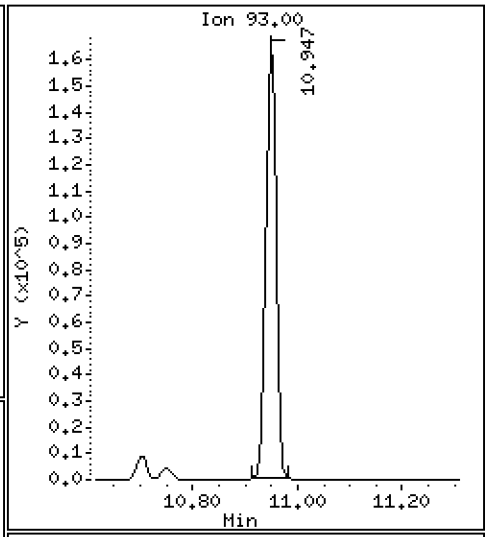
Concentration: 5.251 ug/mL

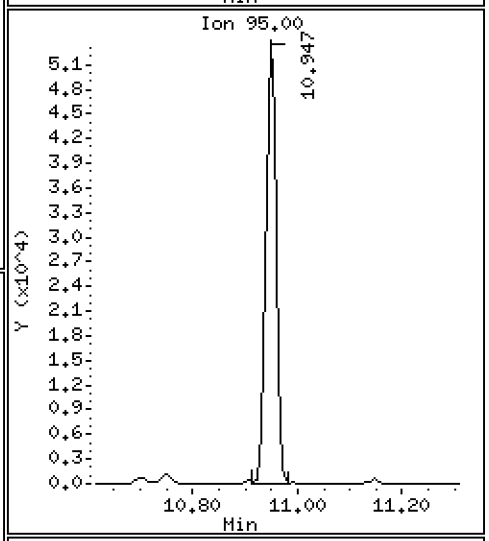


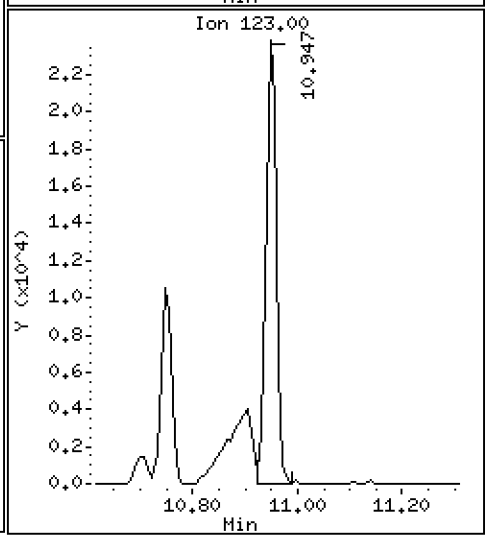












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

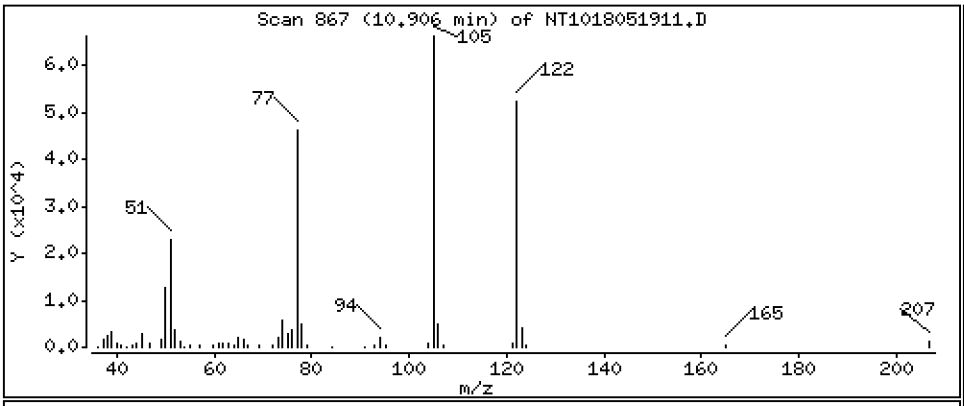
Operator: YZ

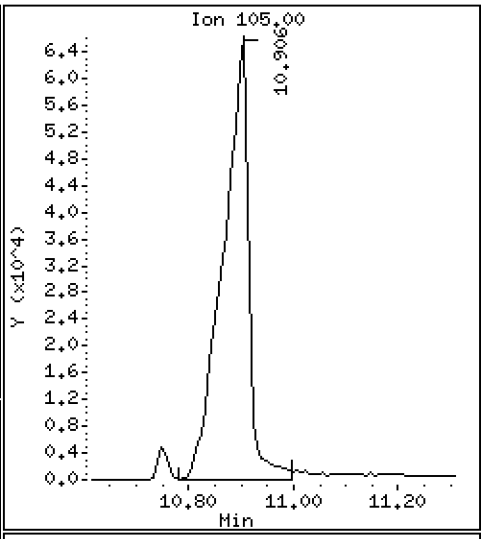
Column phase: ZB-5msi

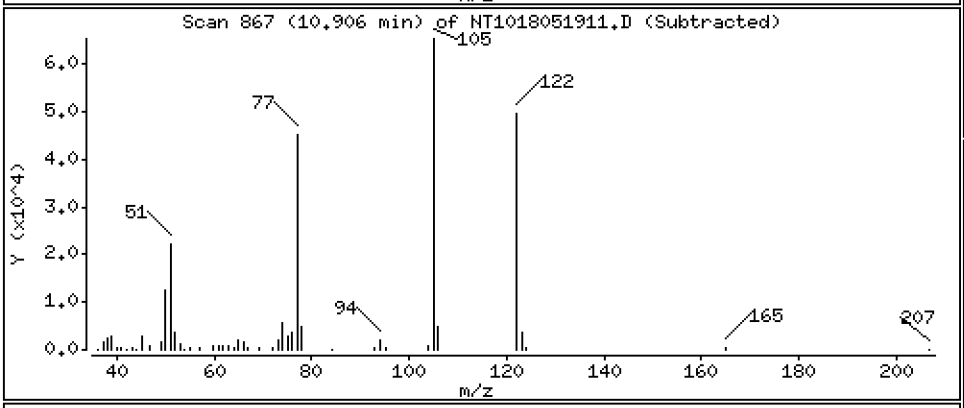
Column diameter: 0.25

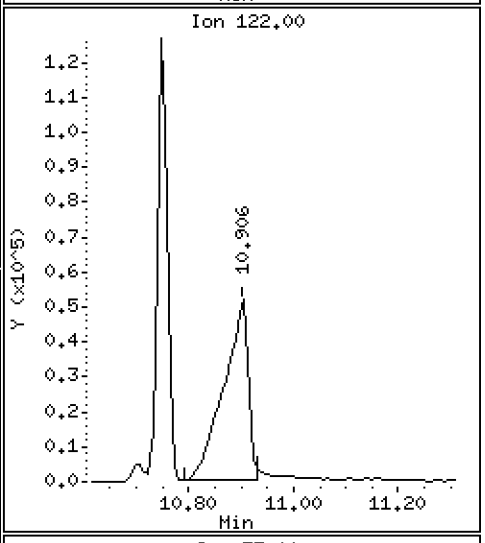
24 Benzoic acid

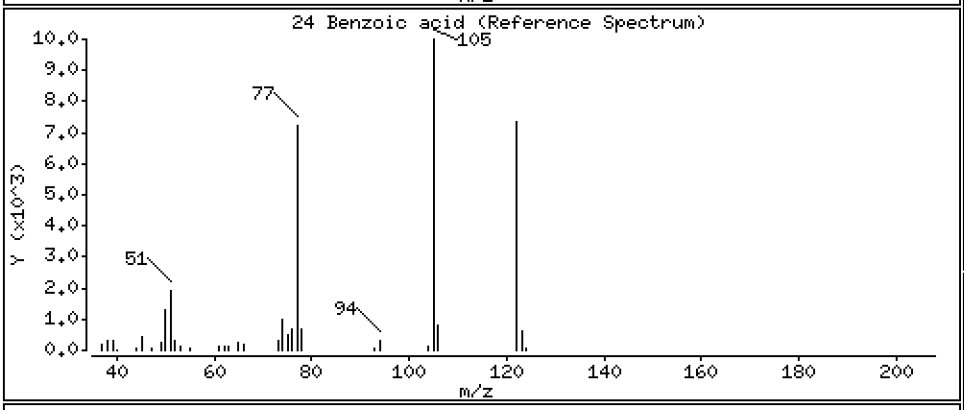
Concentration: 8.772 ug/mL

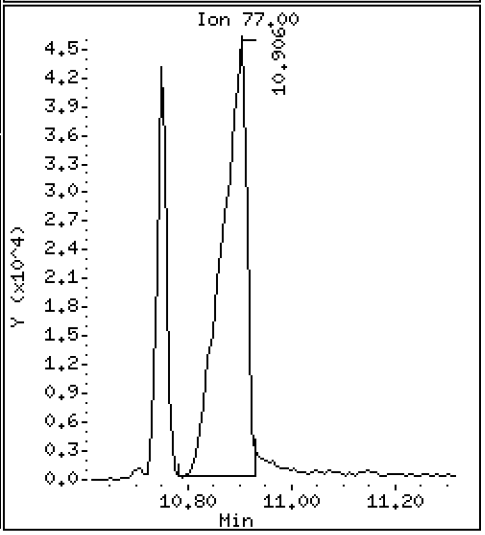


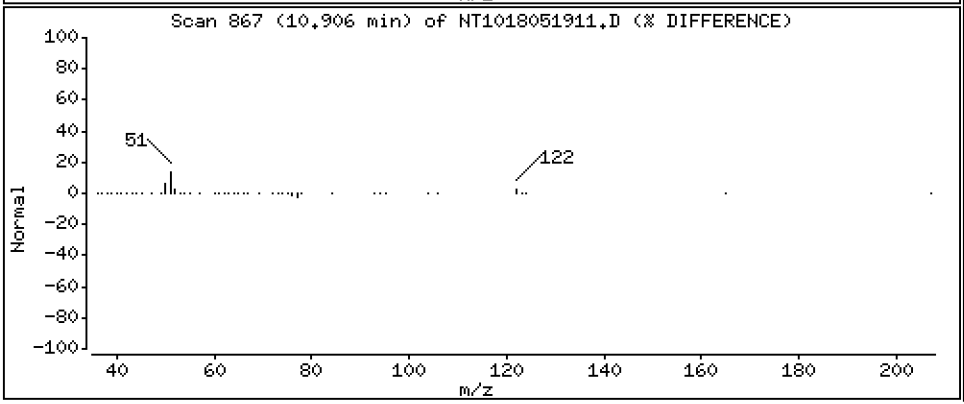












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

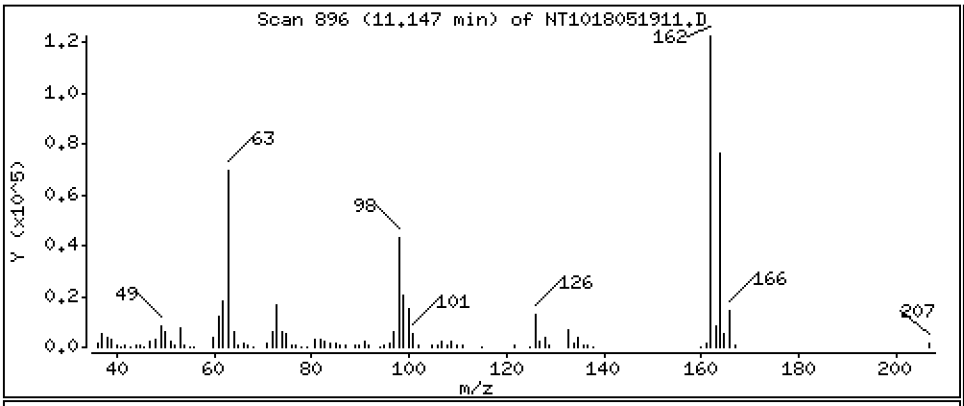
Operator: YZ

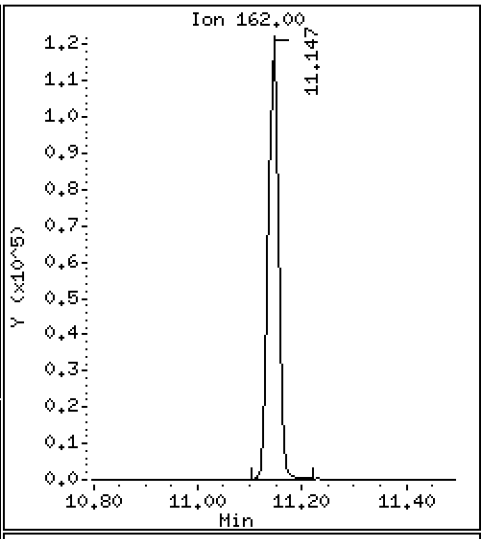
Column phase: ZB-5msi

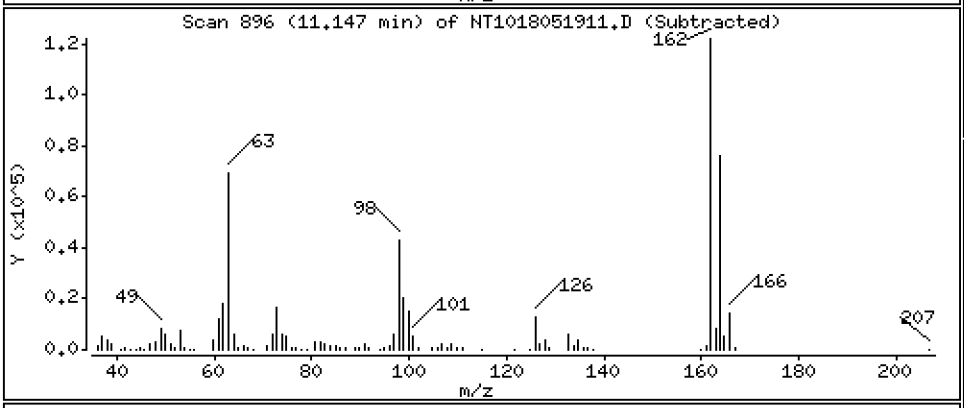
Column diameter: 0.25

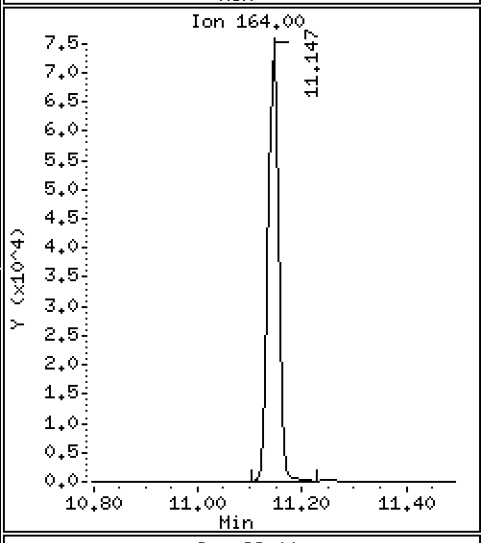
25 2,4-Dichlorophenol

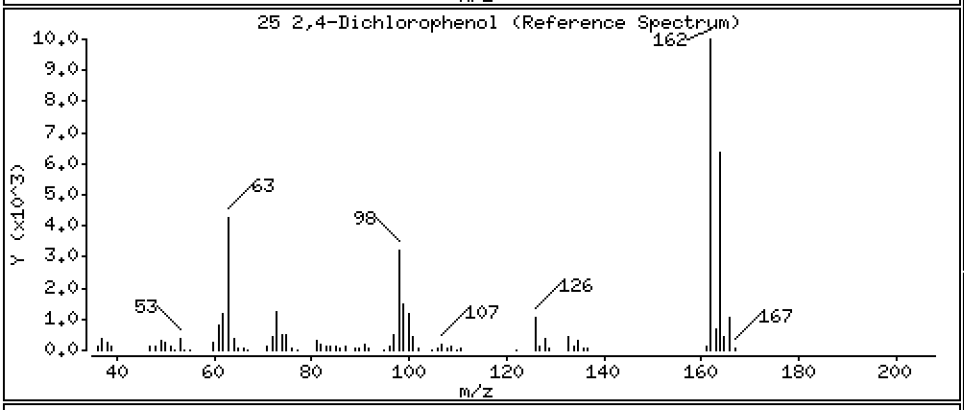
Concentration: 5.222 ug/mL

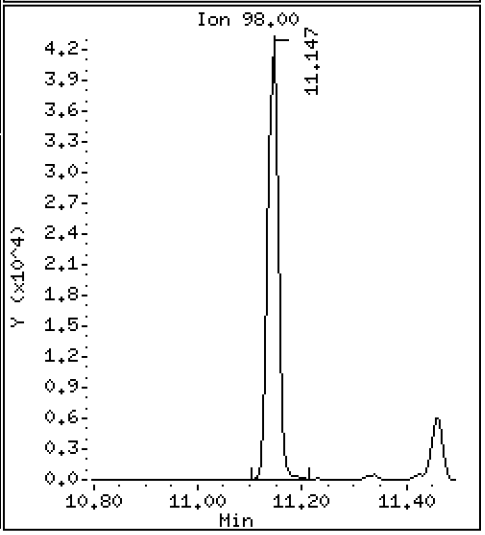


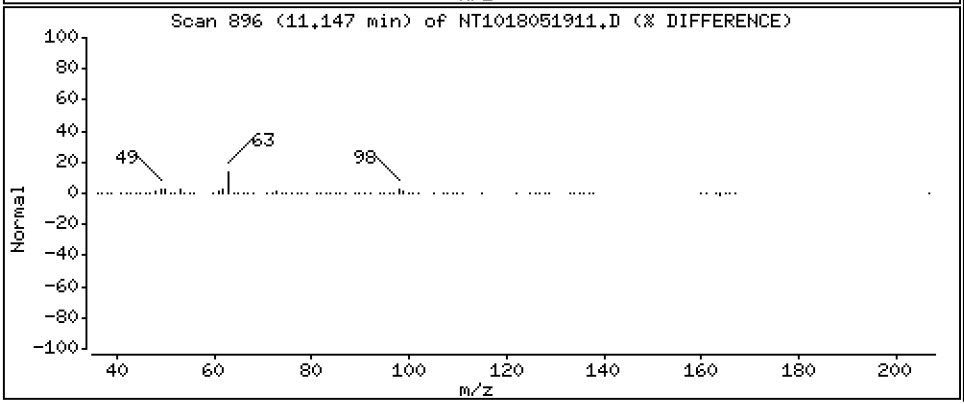












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

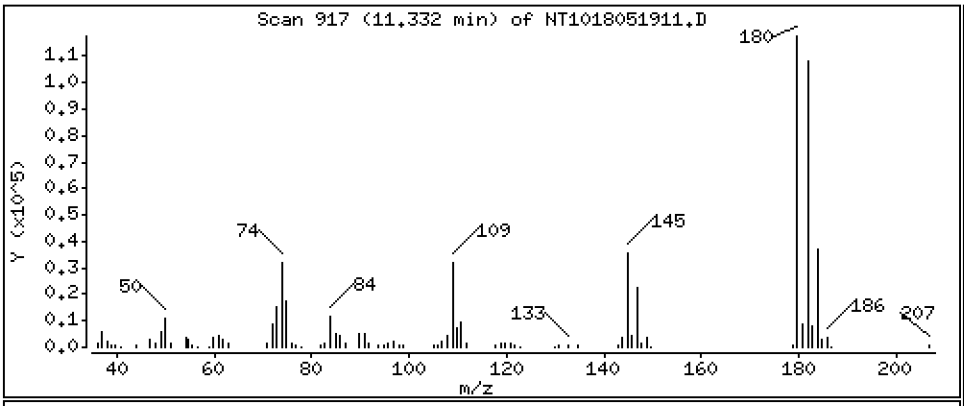
Operator: YZ

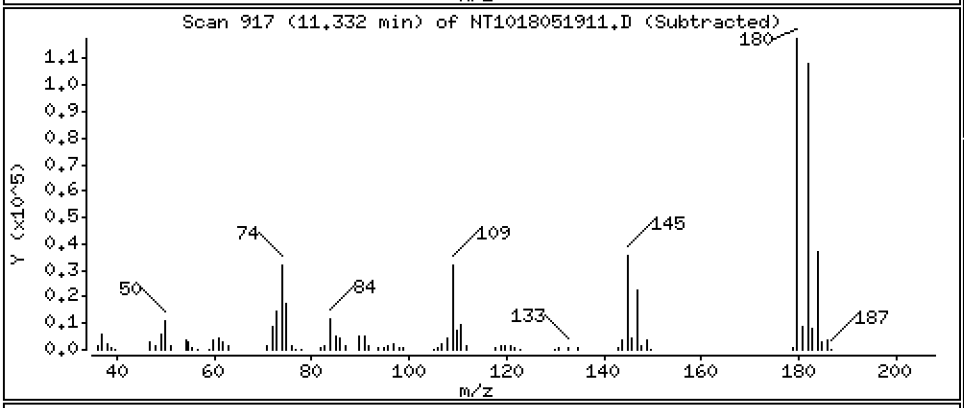
Column phase: ZB-5msi

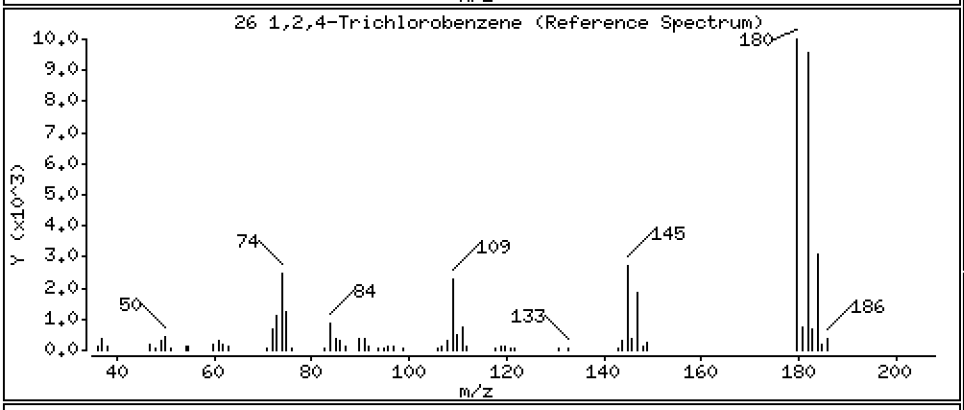
Column diameter: 0.25

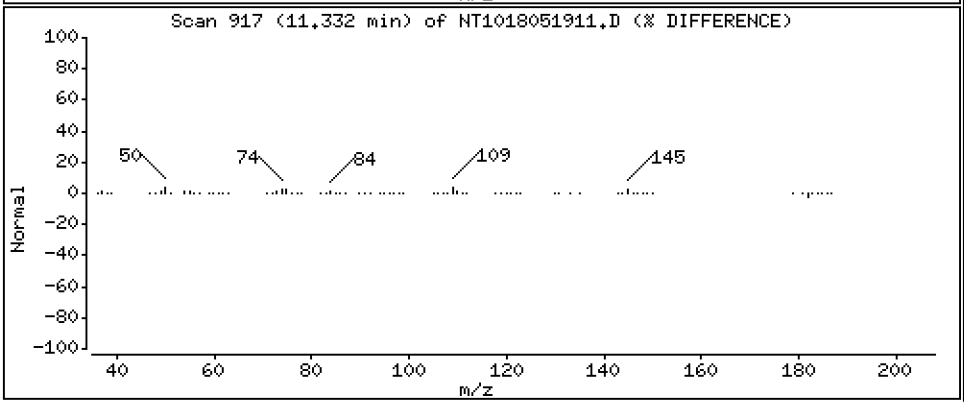
26 1,2,4-Trichlorobenzene

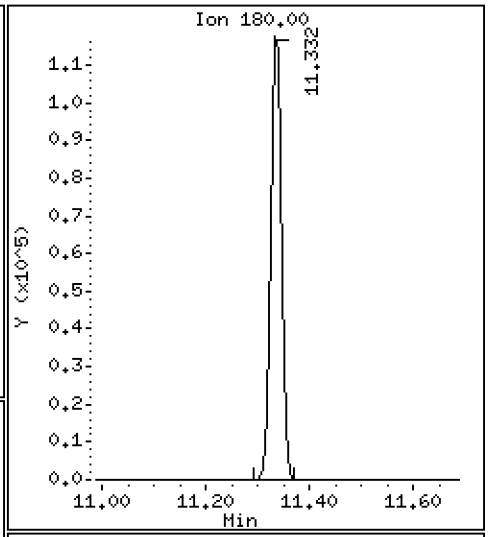
Concentration: 5.246 ug/mL

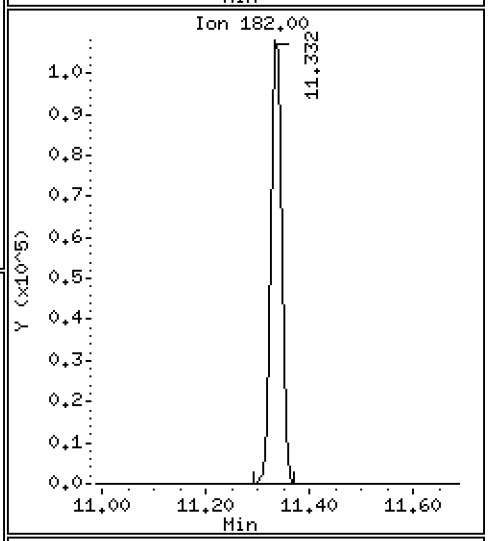


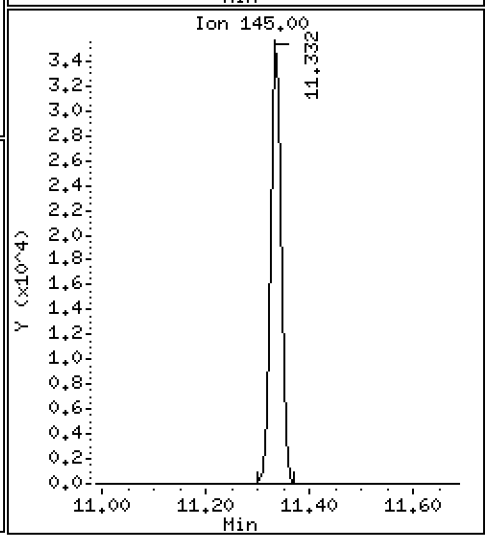












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

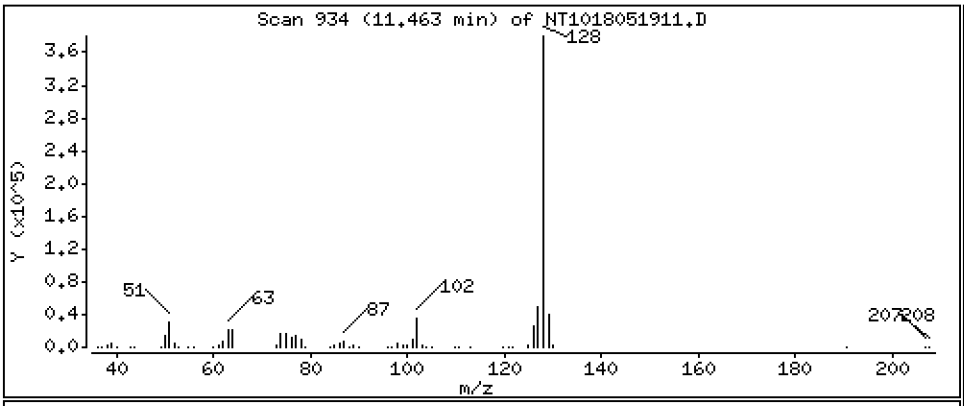
Operator: YZ

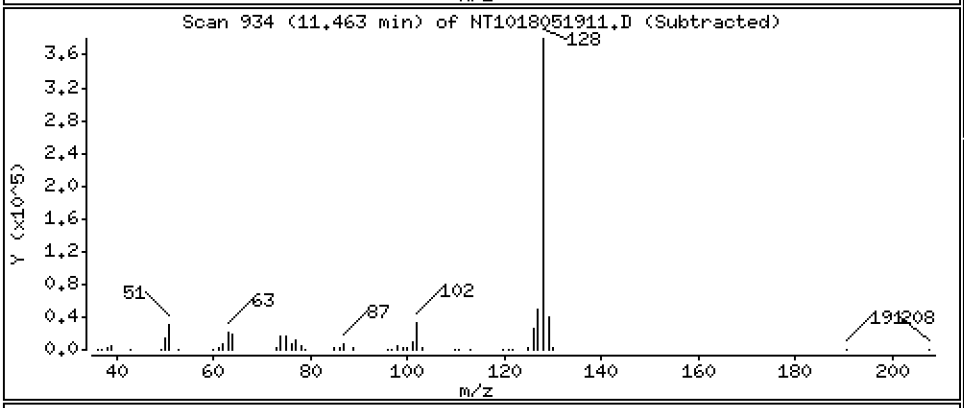
Column phase: ZB-5msi

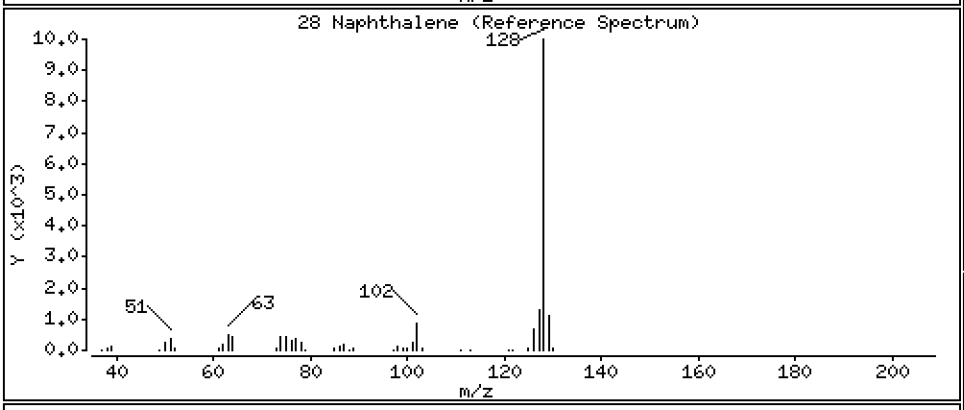
Column diameter: 0.25

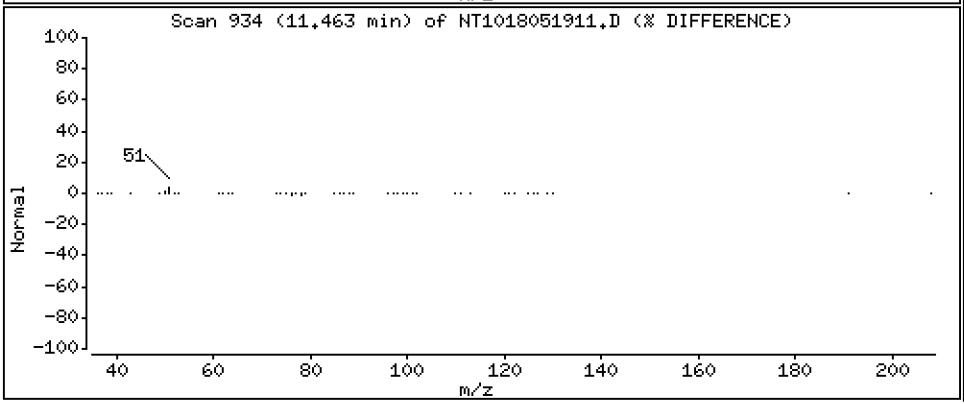
28 Naphthalene

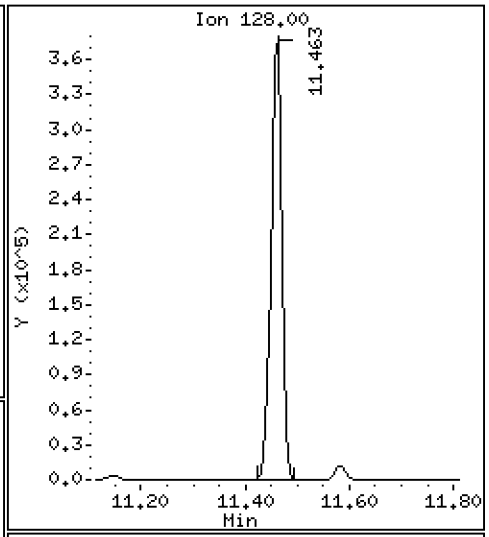
Concentration: 5.255 ug/mL

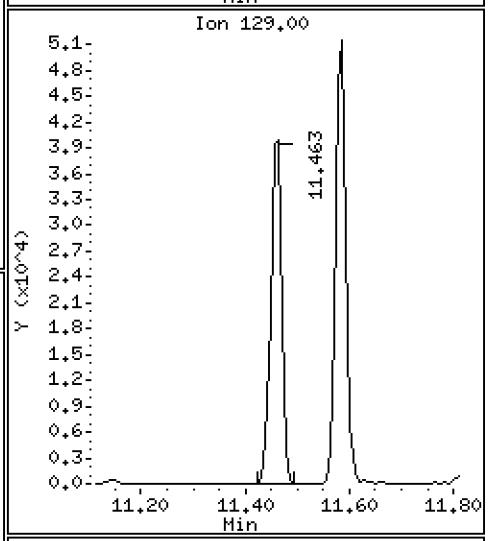


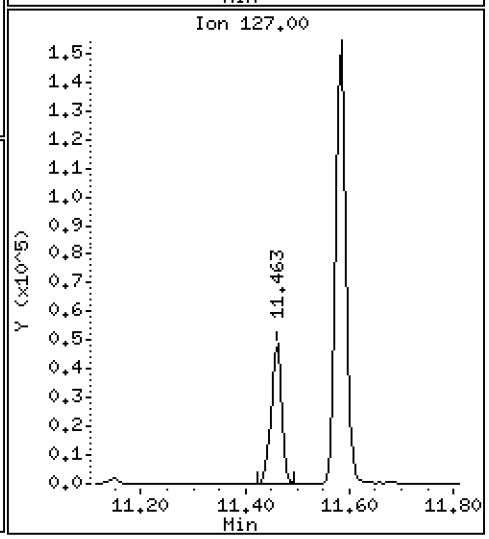












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

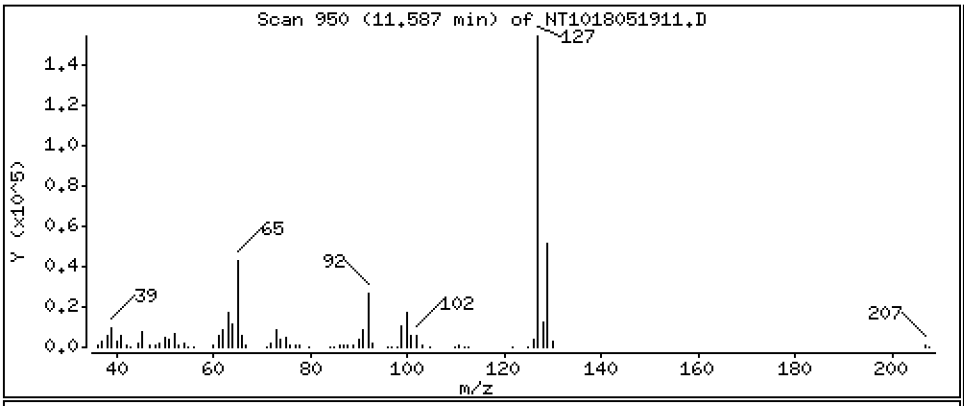
Operator: YZ

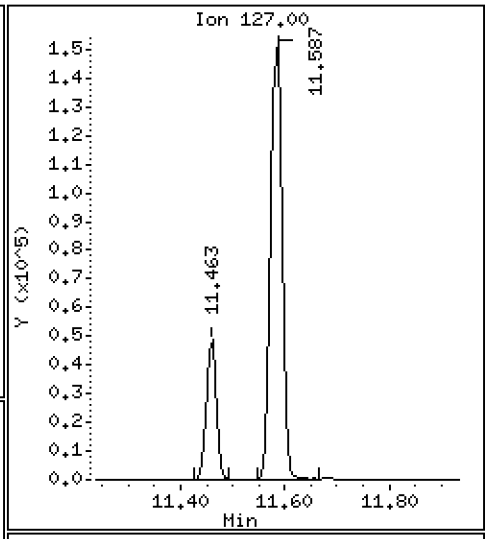
Column phase: ZB-5msi

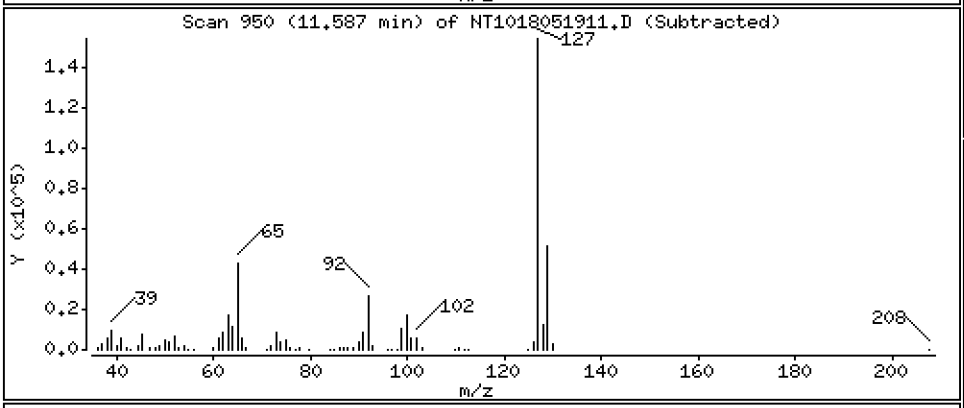
Column diameter: 0.25

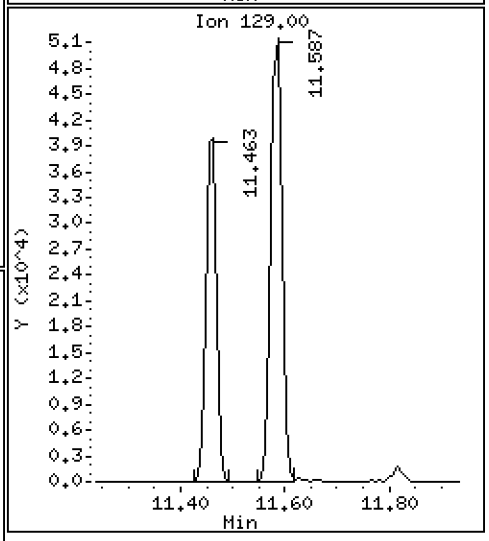
29 4-Chloroaniline

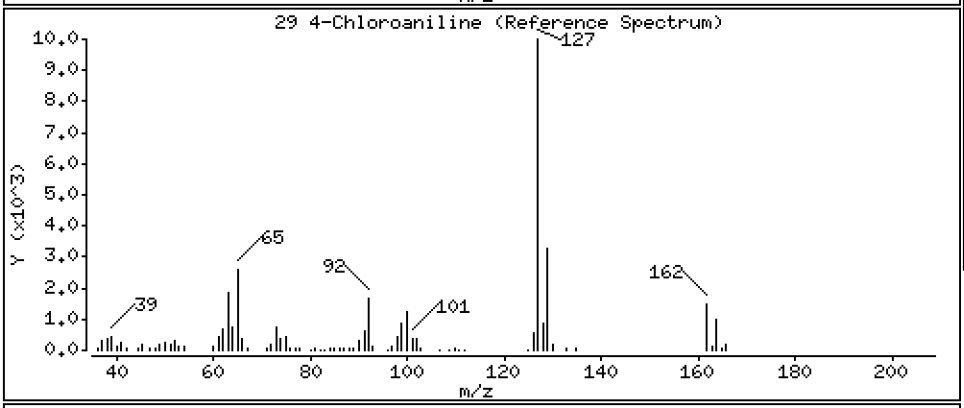
Concentration: 4.713 ug/mL

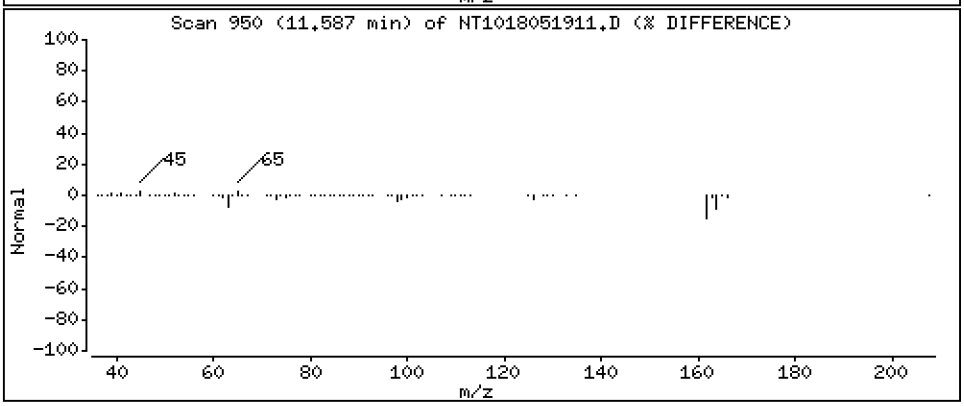












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

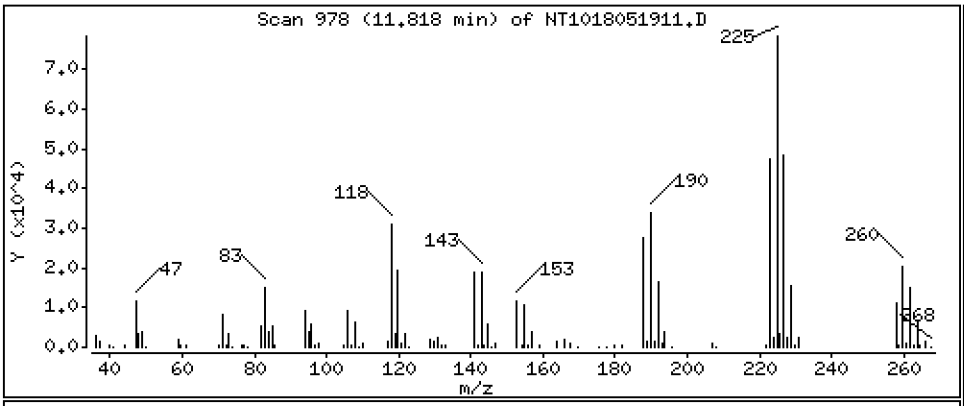
Operator: YZ

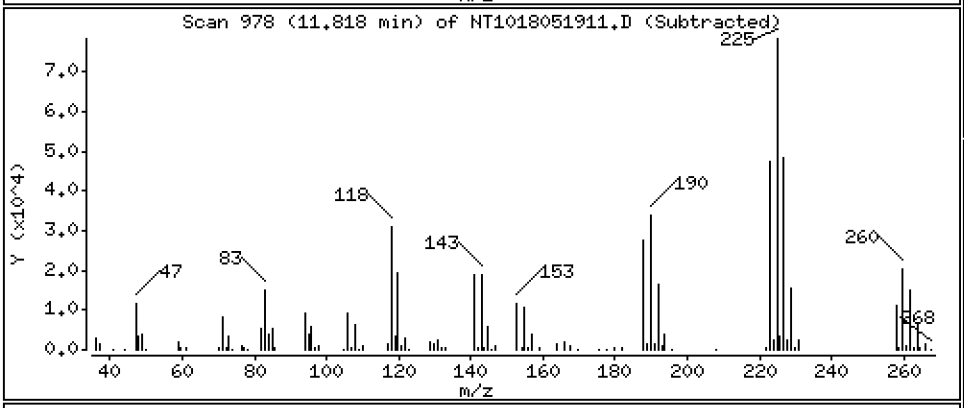
Column phase: ZB-5msi

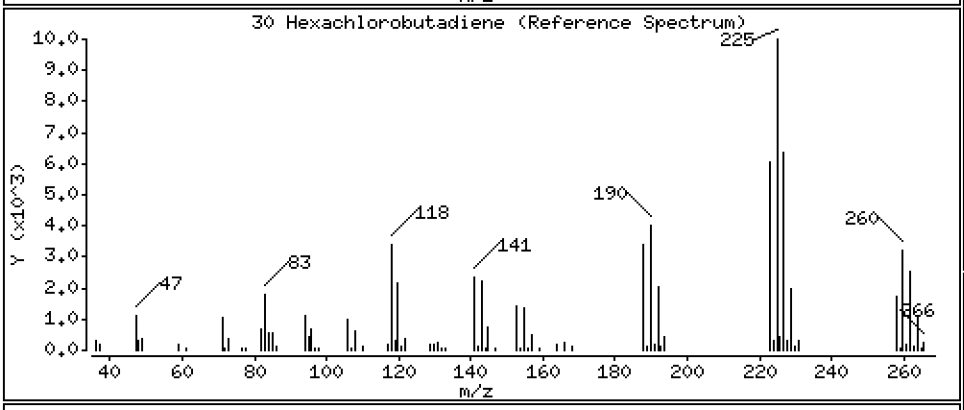
Column diameter: 0.25

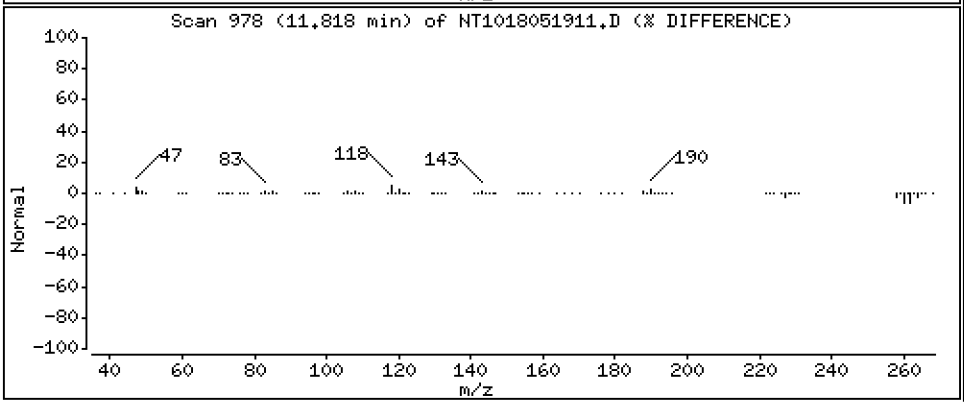
30 Hexachlorobutadiene

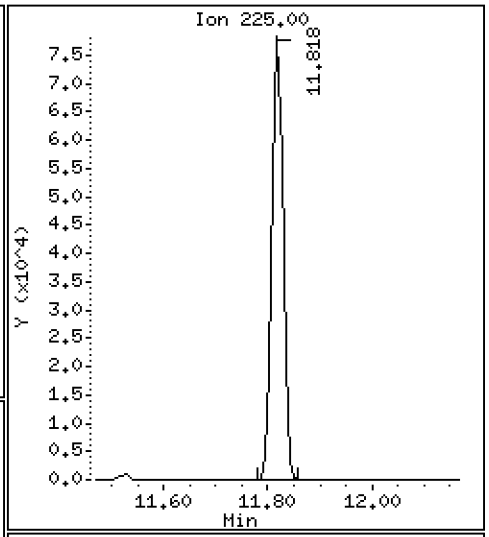
Concentration: 5.174 ug/mL

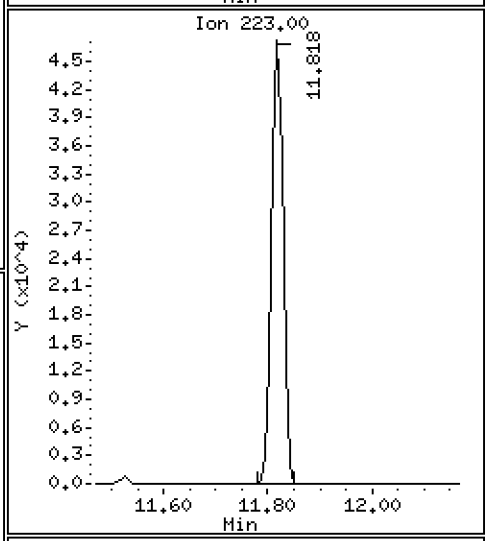


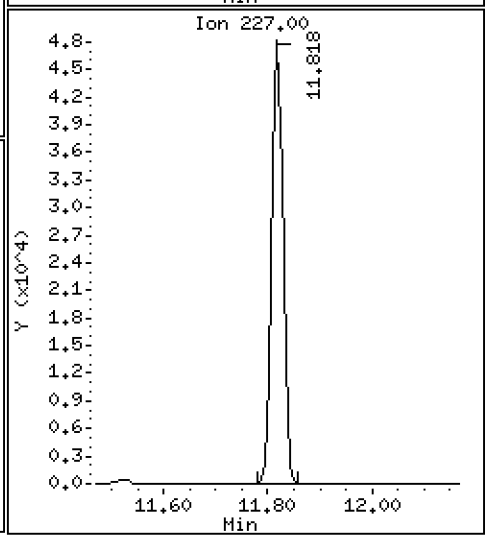












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

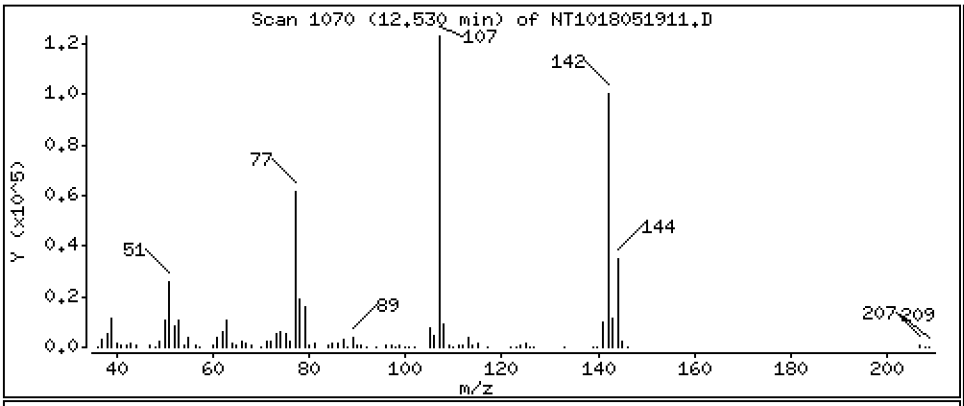
Operator: YZ

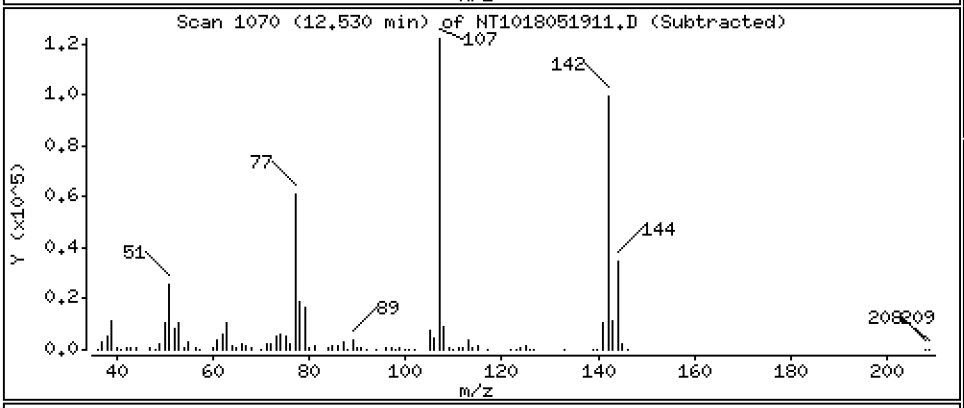
Column phase: ZB-5msi

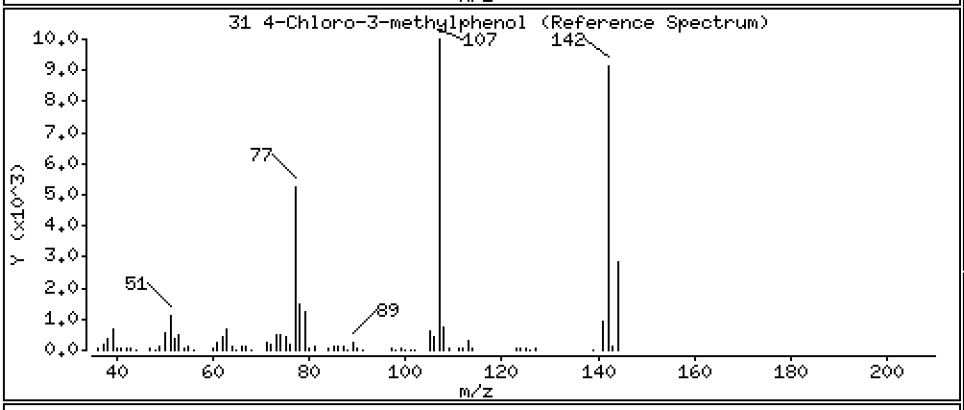
Column diameter: 0.25

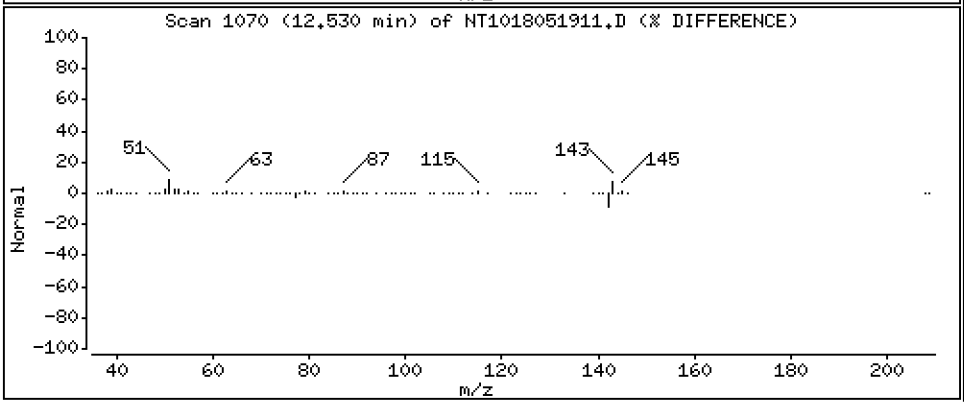
31 4-Chloro-3-methylphenol

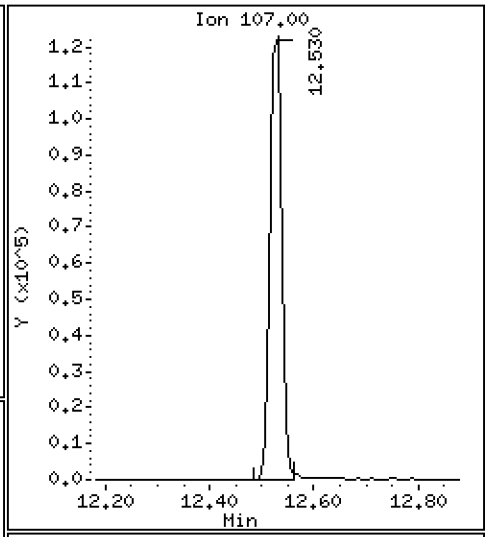
Concentration: 5.243 ug/mL

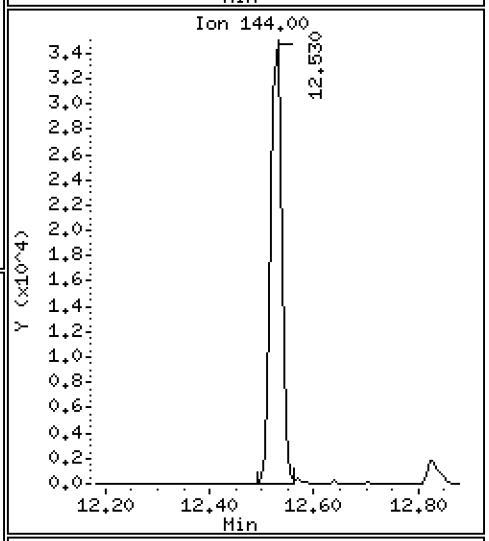


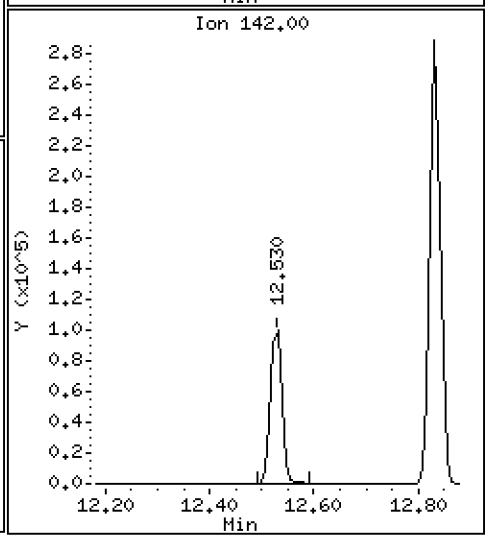












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

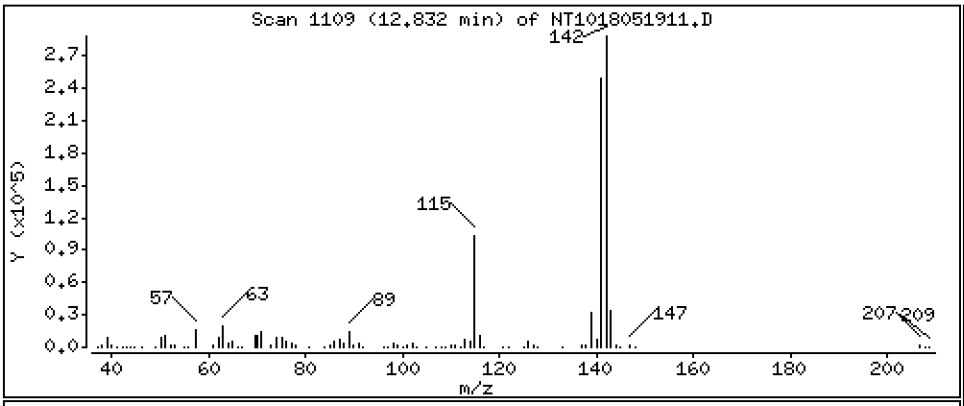
Operator: YZ

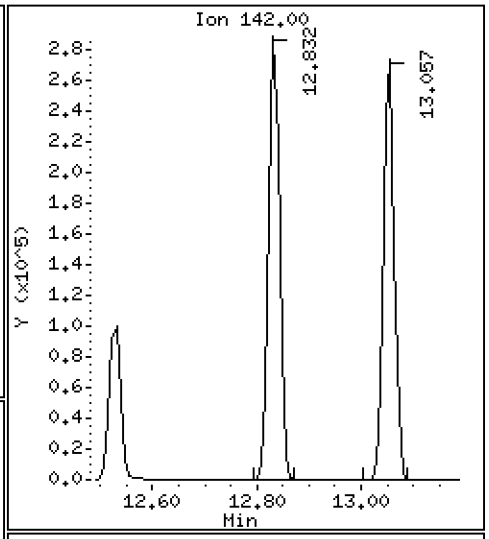
Column phase: ZB-5msi

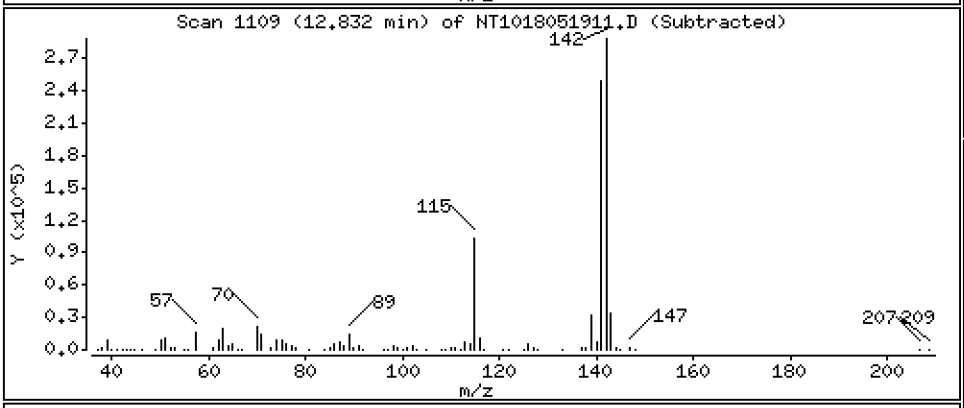
Column diameter: 0.25

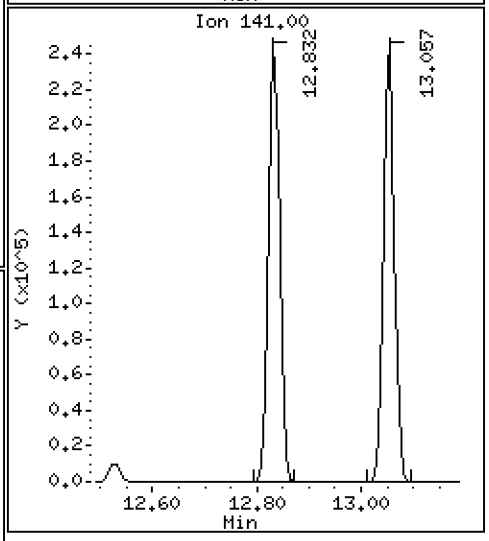
32 2-Methylnaphthalene

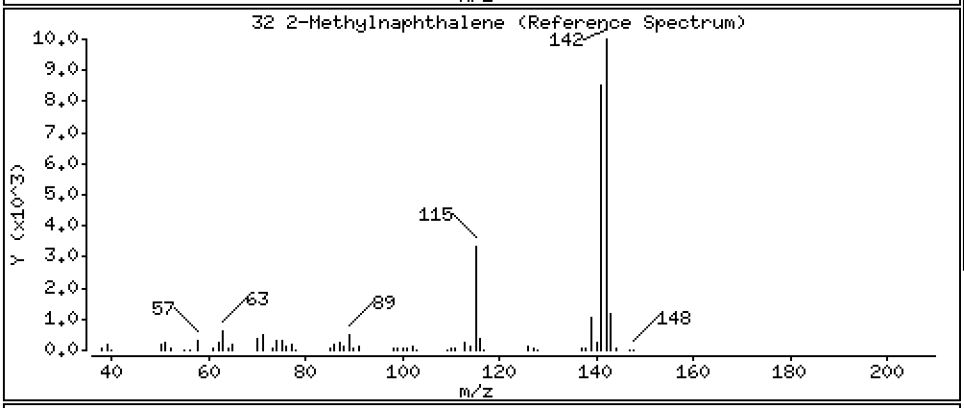
Concentration: 4.831 ug/mL

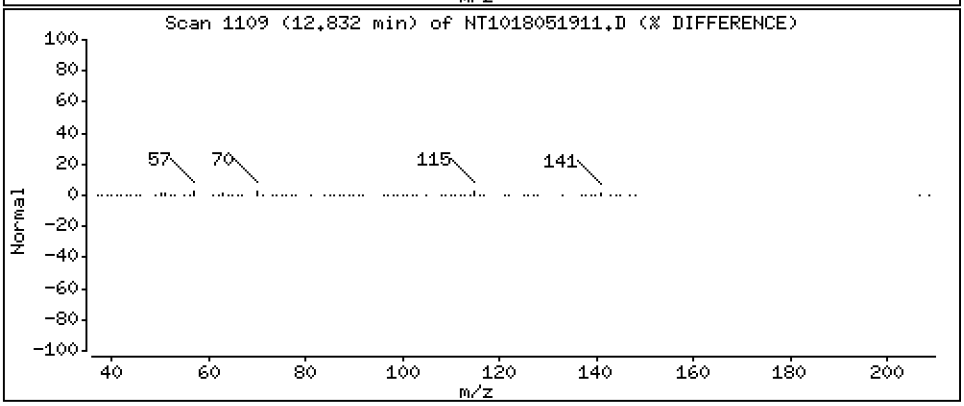












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

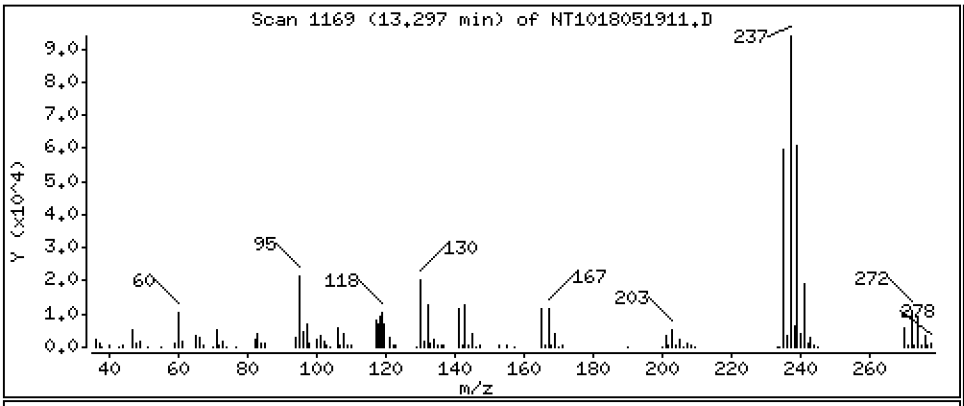
Operator: YZ

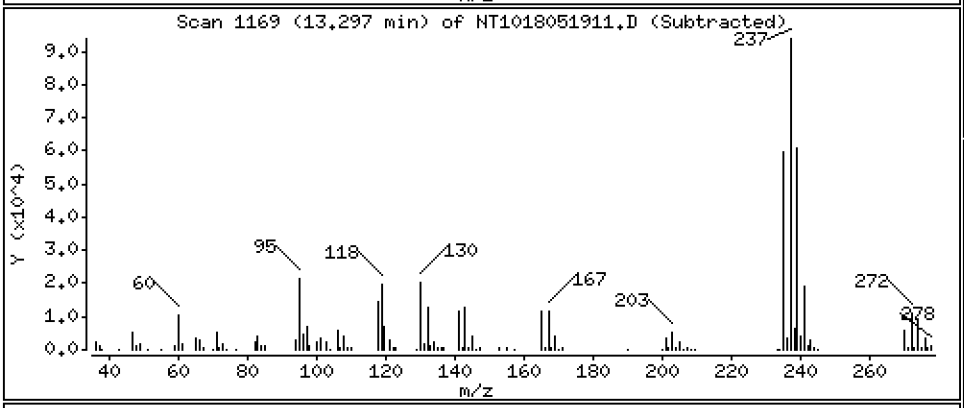
Column phase: ZB-5msi

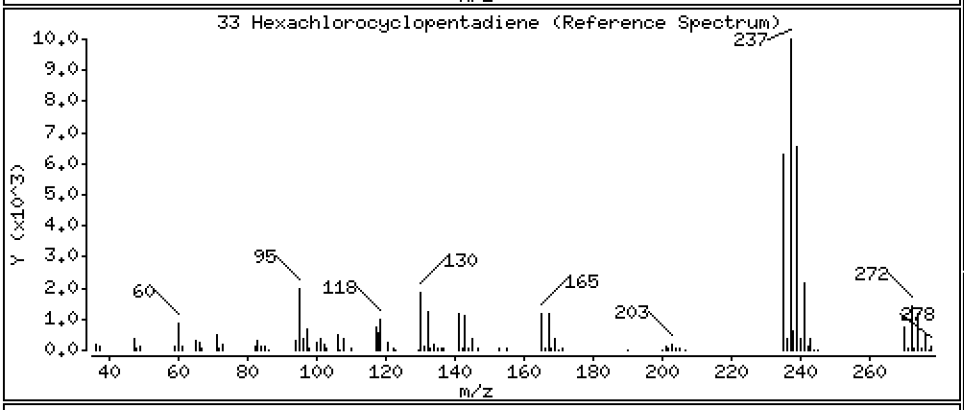
Column diameter: 0.25

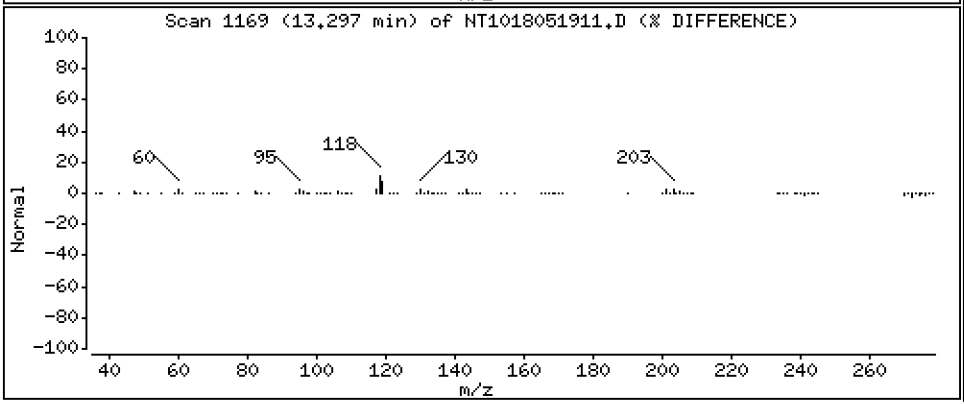
33 Hexachlorocyclopentadiene

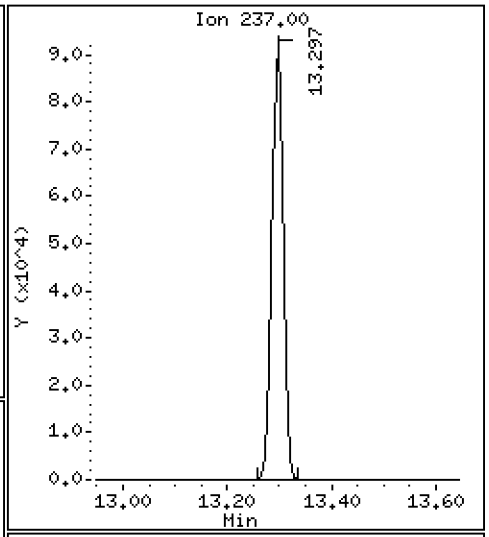
Concentration: 5.567 ug/mL

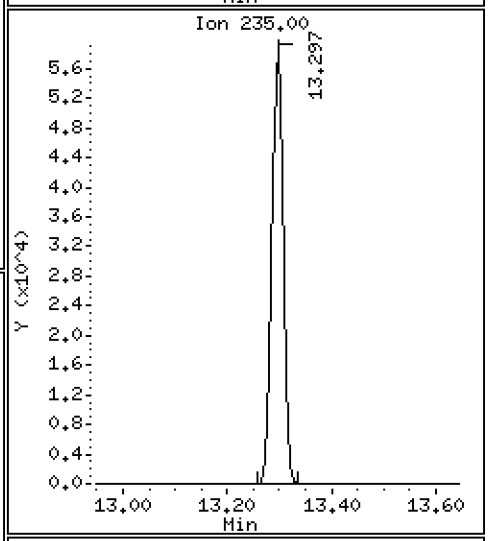


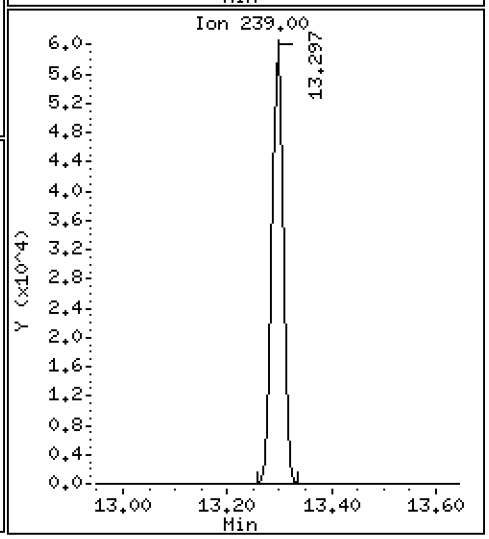












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

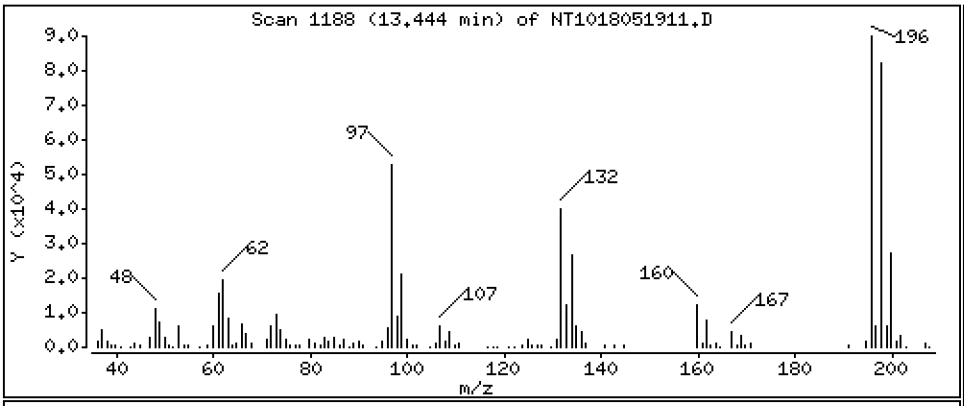
Operator: YZ

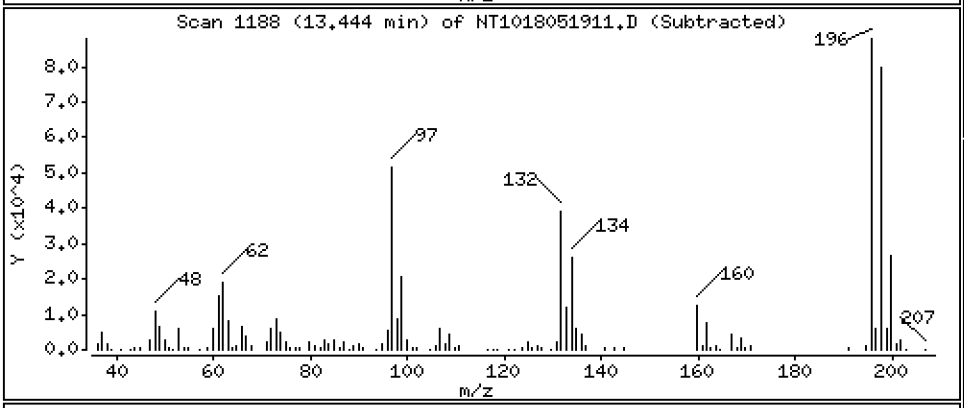
Column phase: ZB-5msi

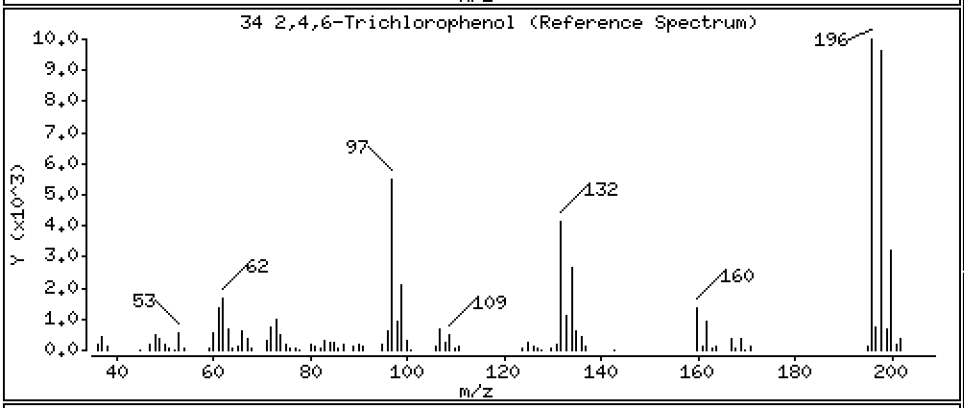
Column diameter: 0.25

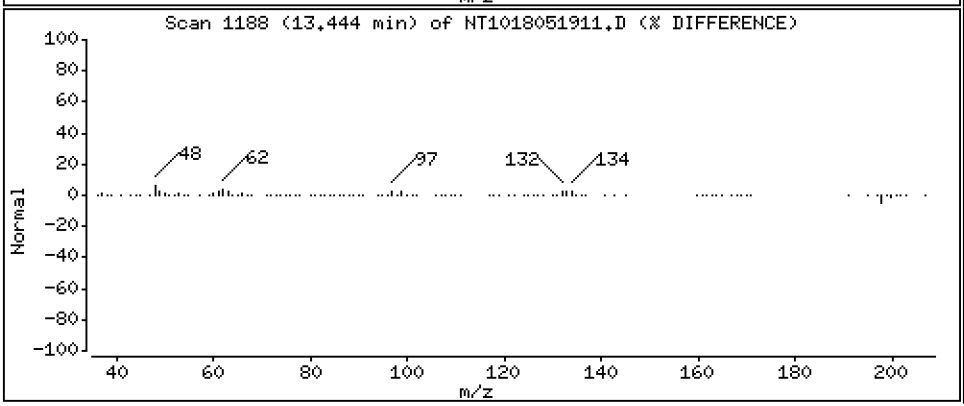
34 2,4,6-Trichlorophenol

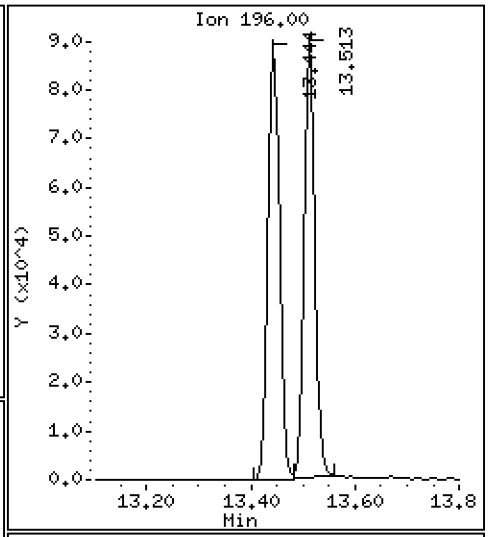
Concentration: 5.028 ug/mL

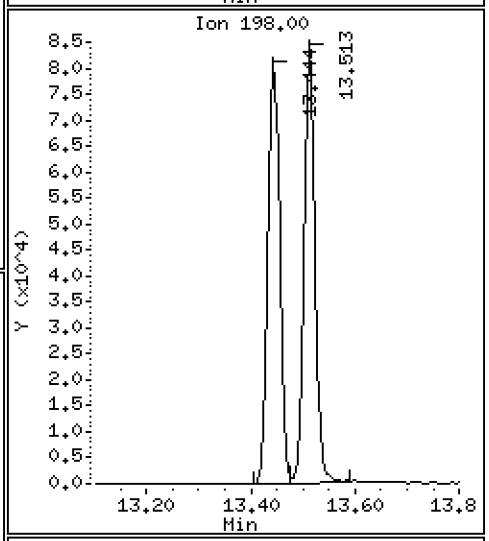


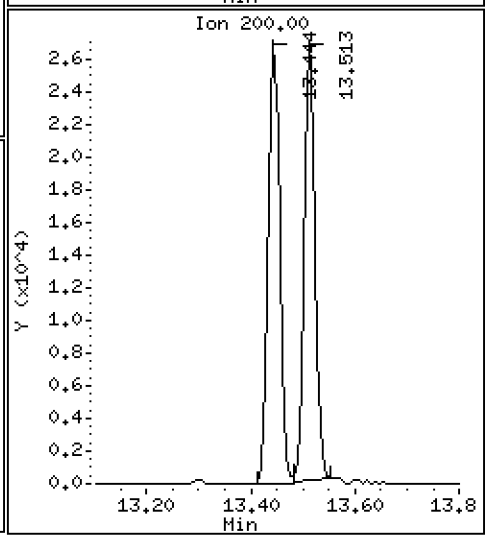












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

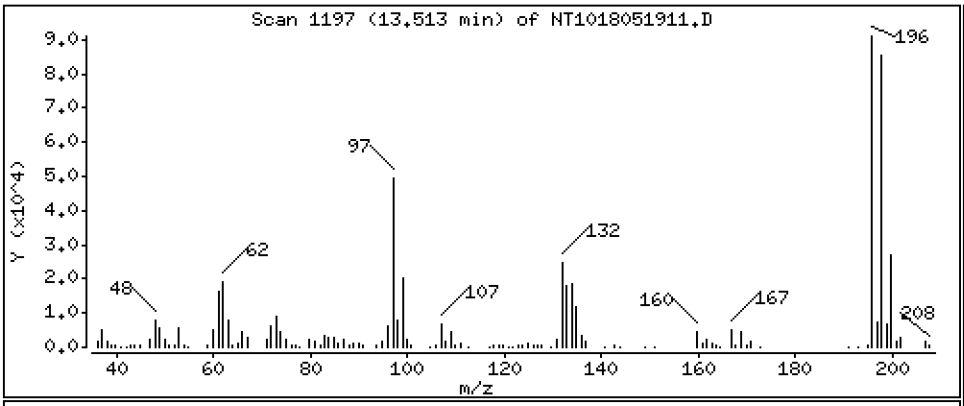
Operator: YZ

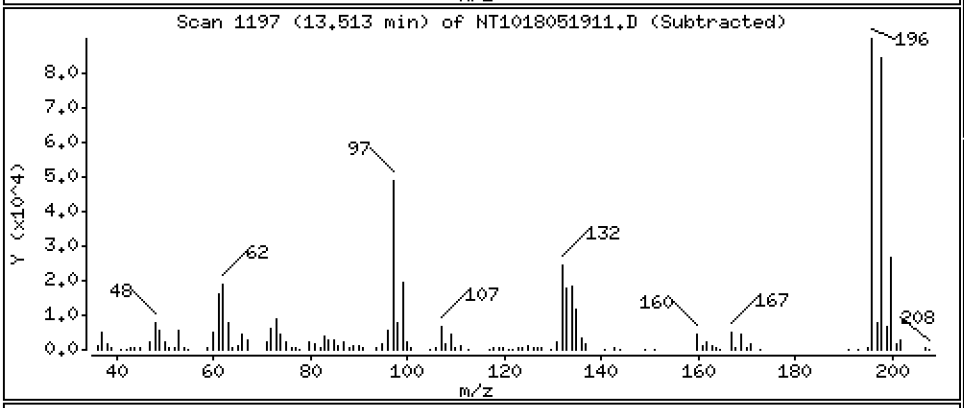
Column phase: ZB-5msi

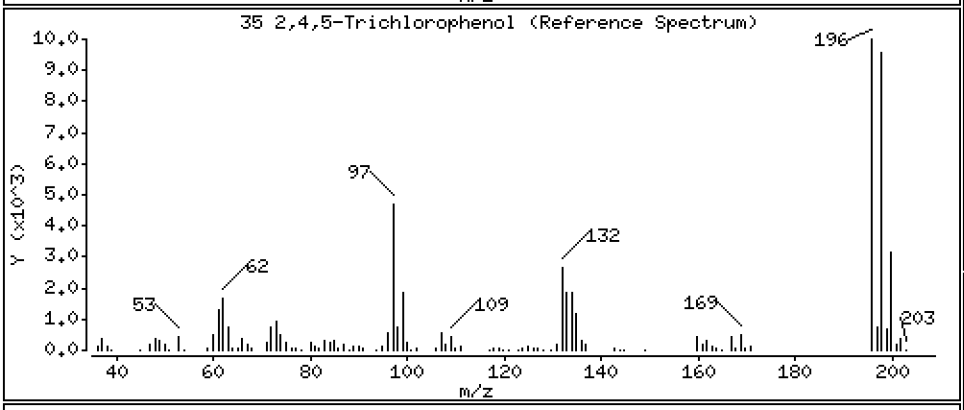
Column diameter: 0.25

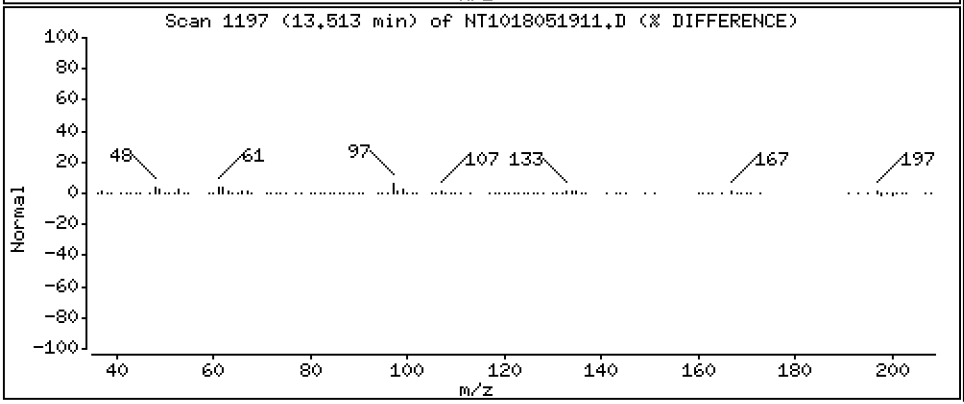
35 2,4,5-Trichlorophenol

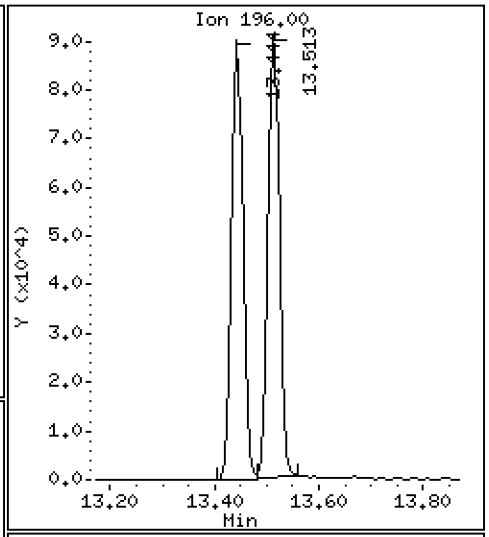
Concentration: 4.519 ug/mL

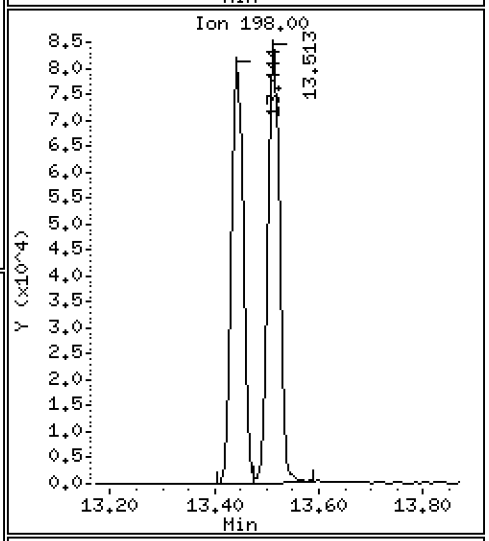


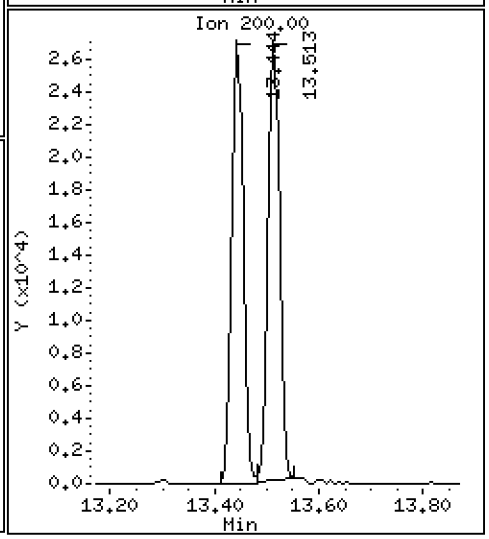












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

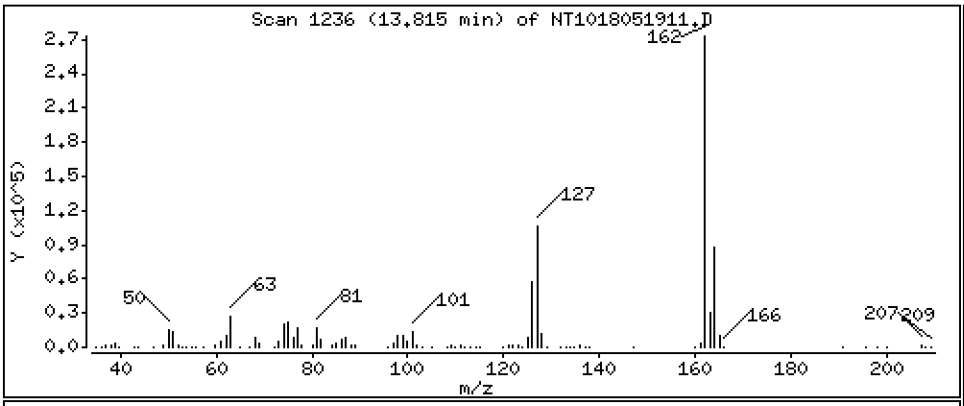
Operator: YZ

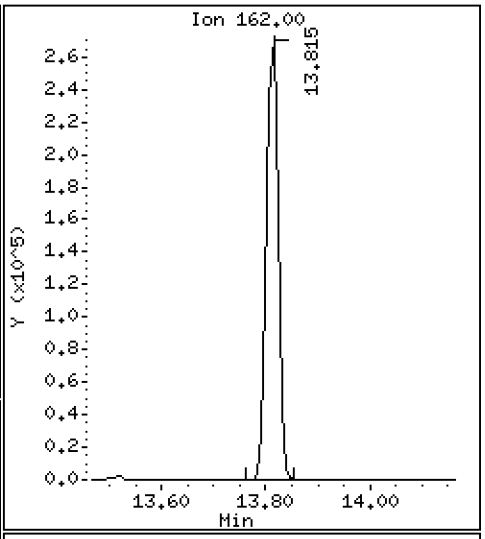
Column phase: ZB-5msi

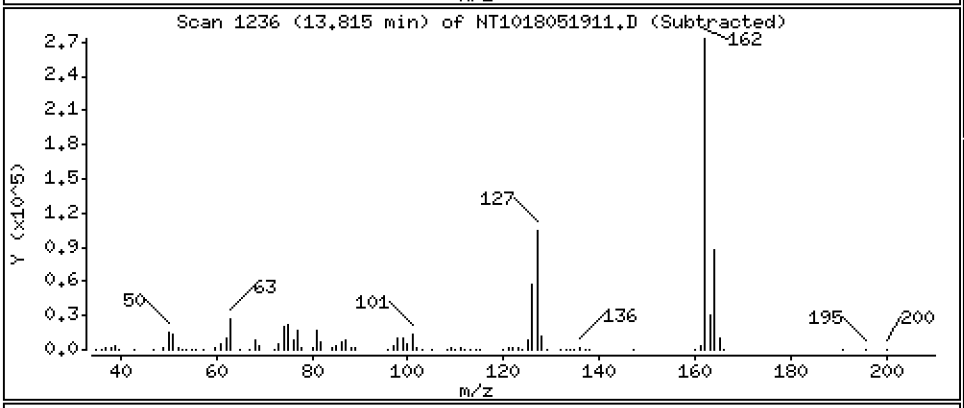
Column diameter: 0.25

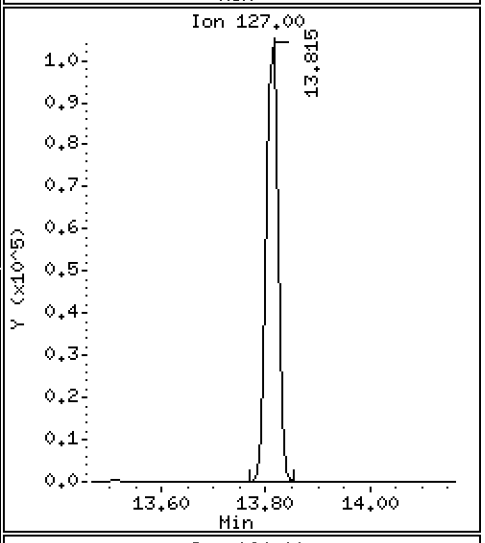
37 2-Chloronaphthalene

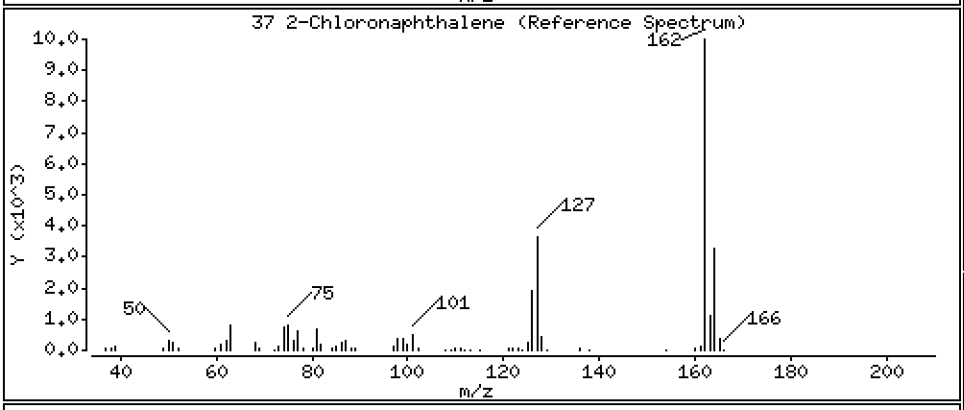
Concentration: 5.246 ug/mL

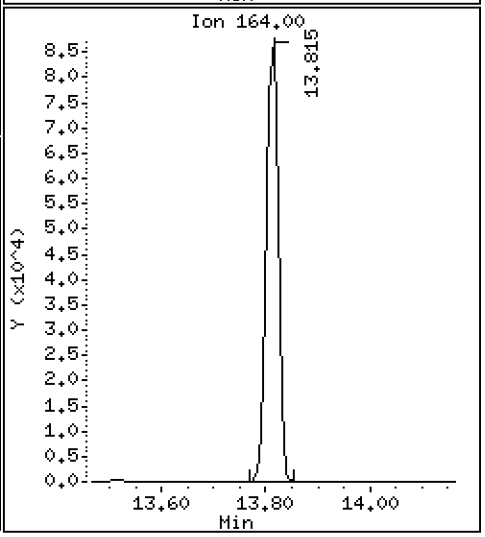


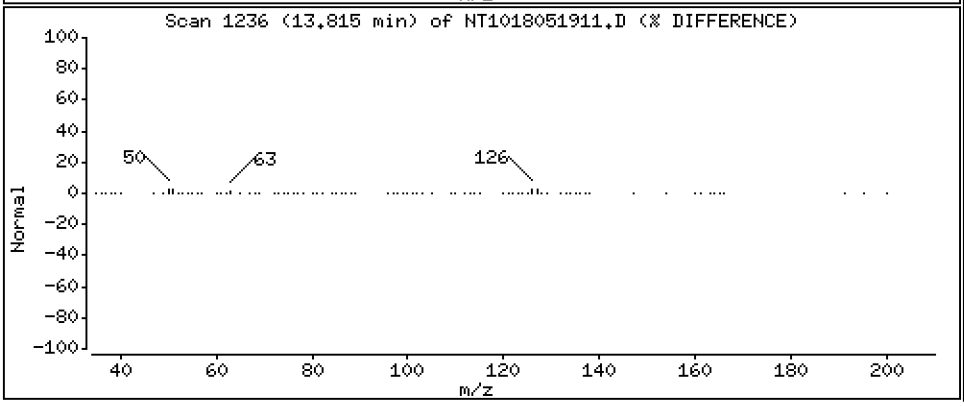












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

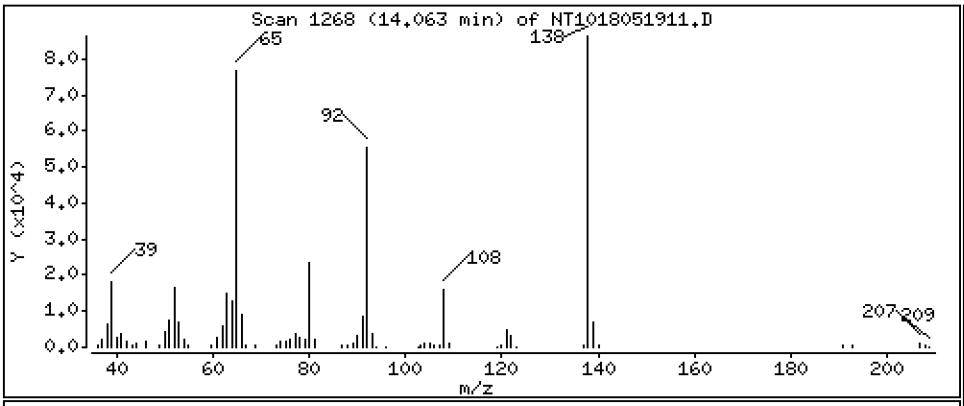
Operator: YZ

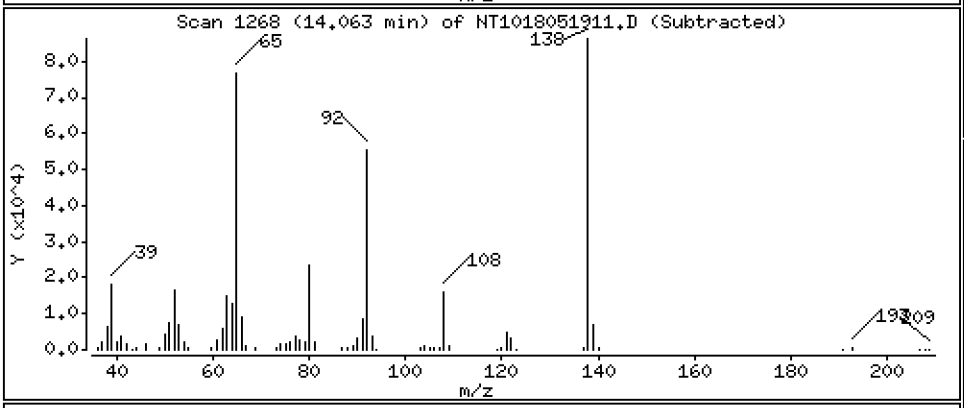
Column phase: ZB-5msi

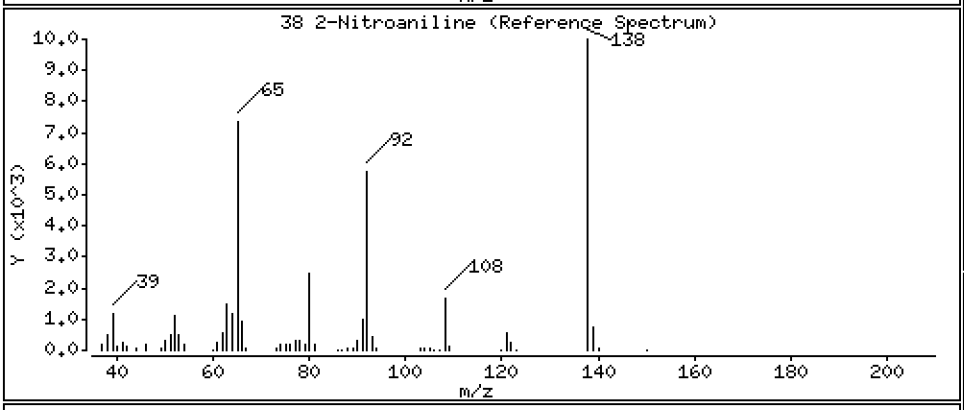
Column diameter: 0.25

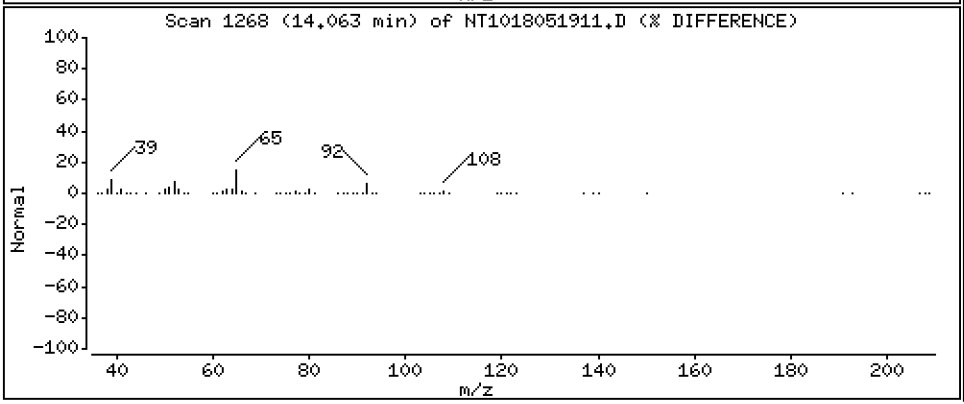
38 2-Nitroaniline

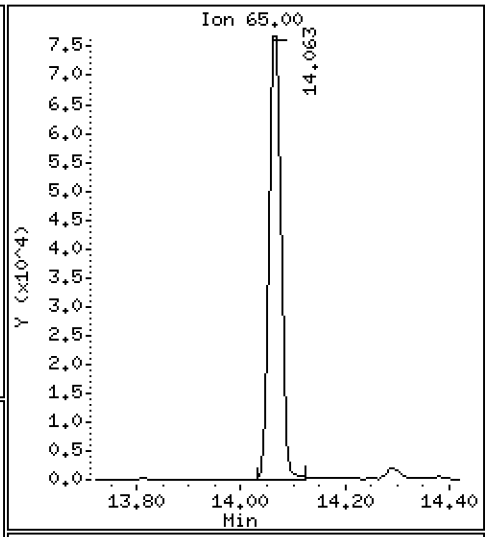
Concentration: 5.504 ug/mL

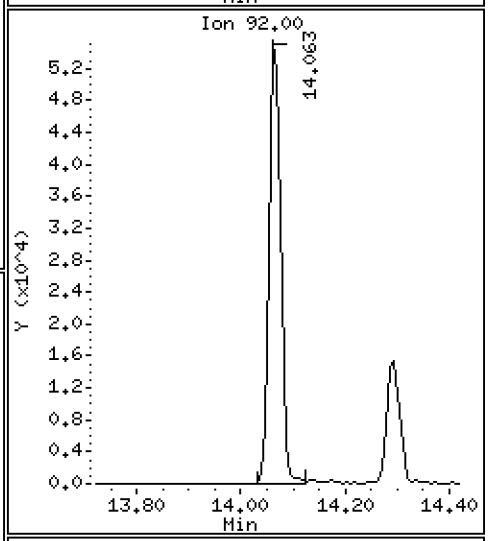


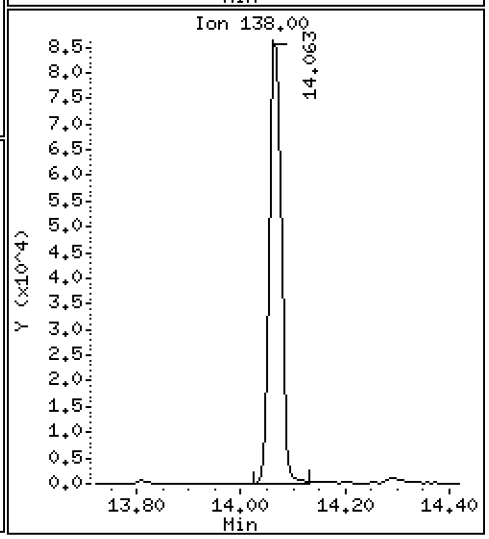












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

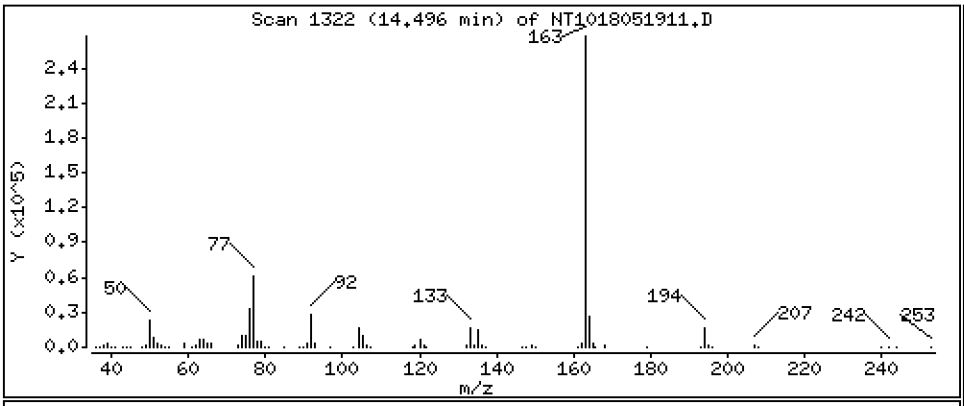
Operator: YZ

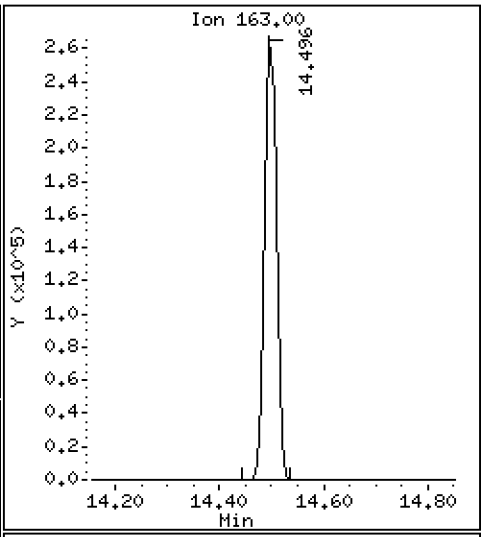
Column phase: ZB-5msi

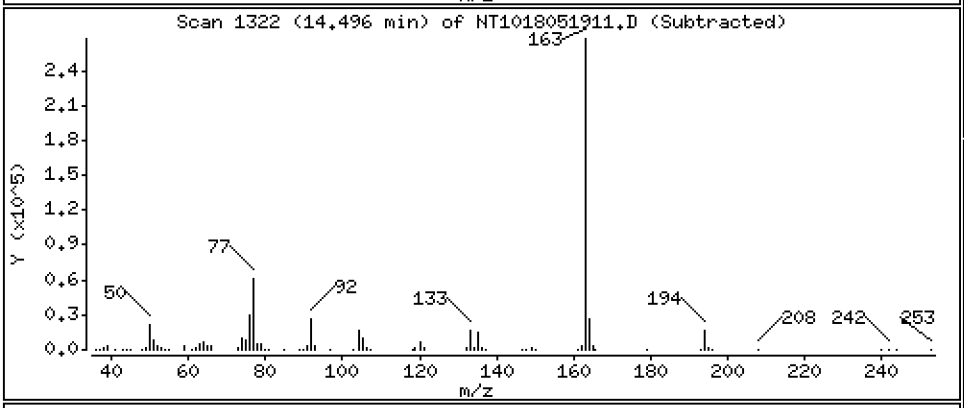
Column diameter: 0.25

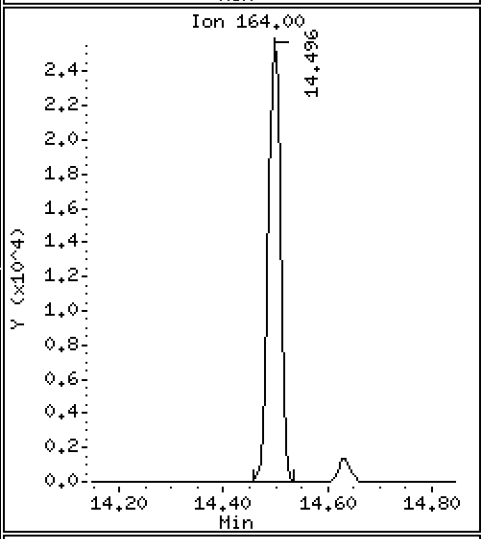
39 Dimethylphthalate

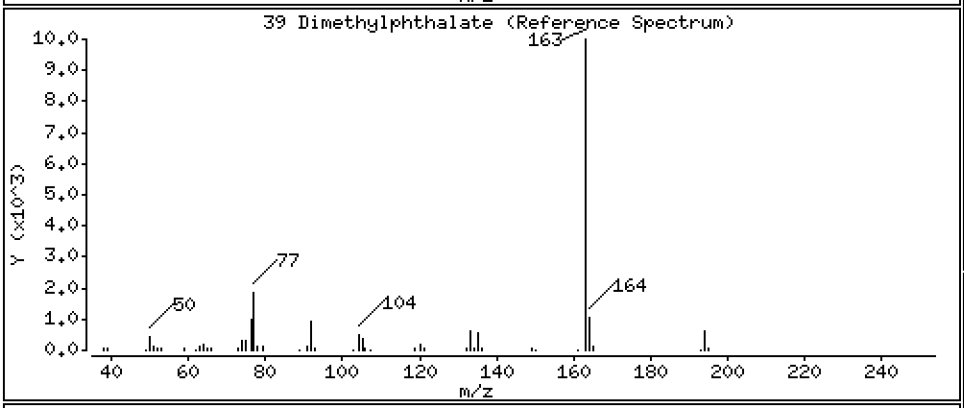
Concentration: 4.876 ug/mL

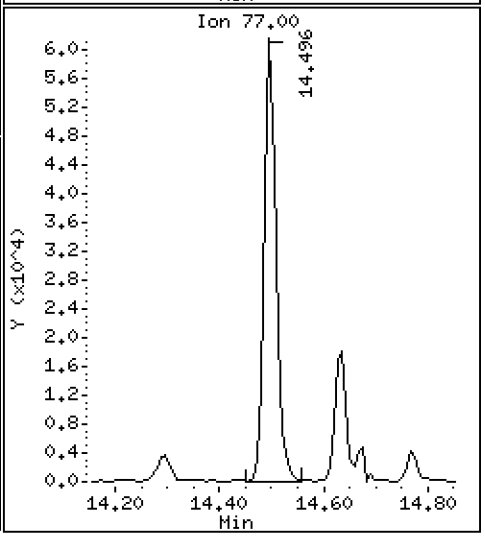


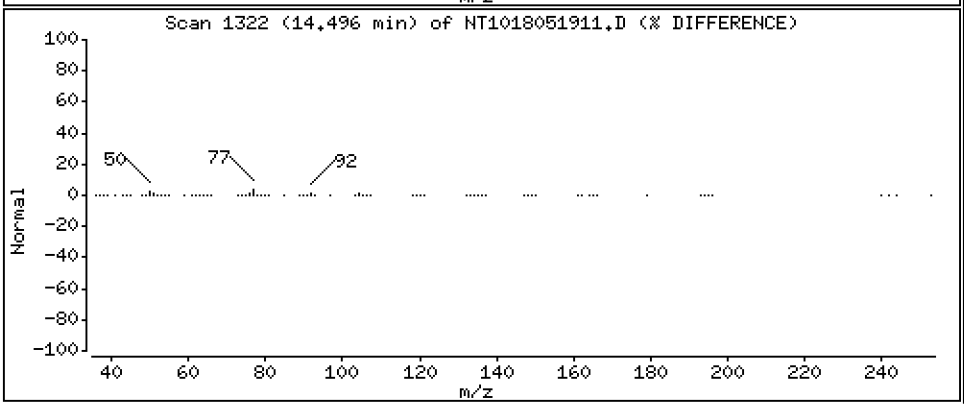












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

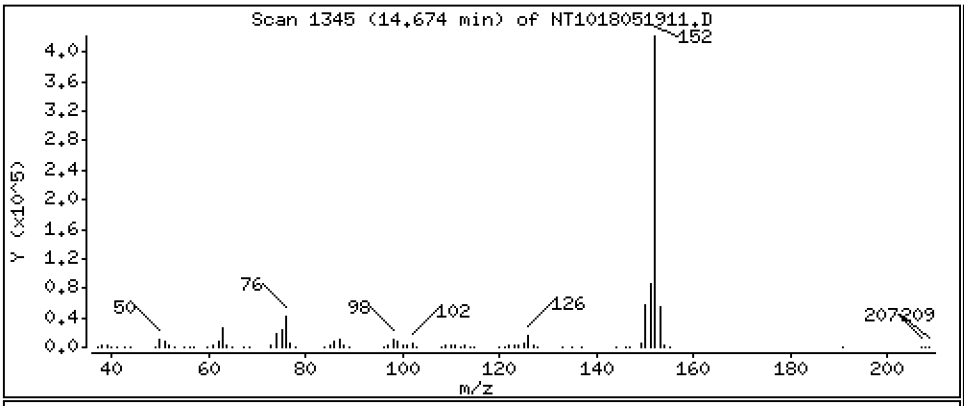
Operator: YZ

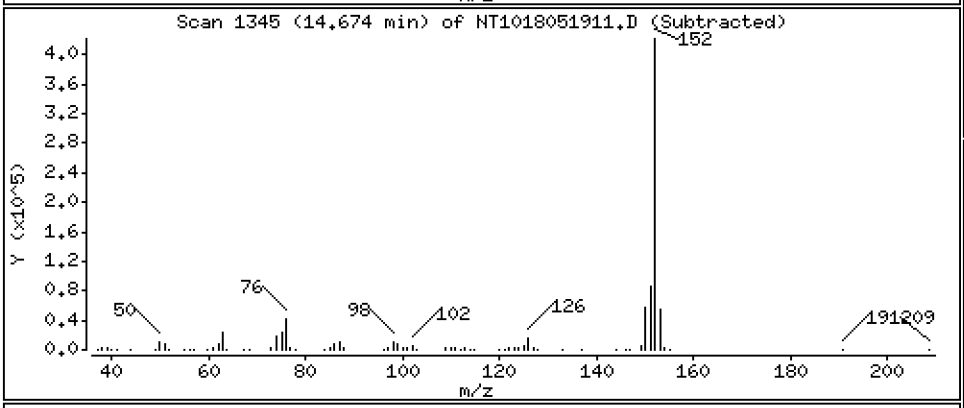
Column phase: ZB-5msi

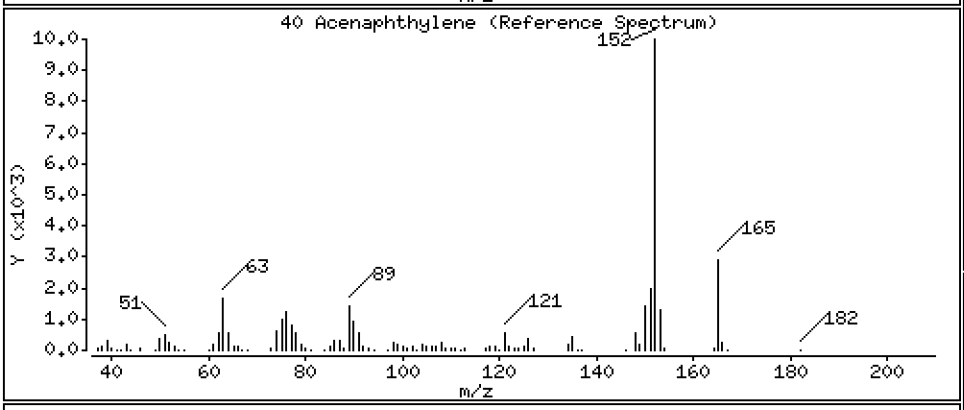
Column diameter: 0.25

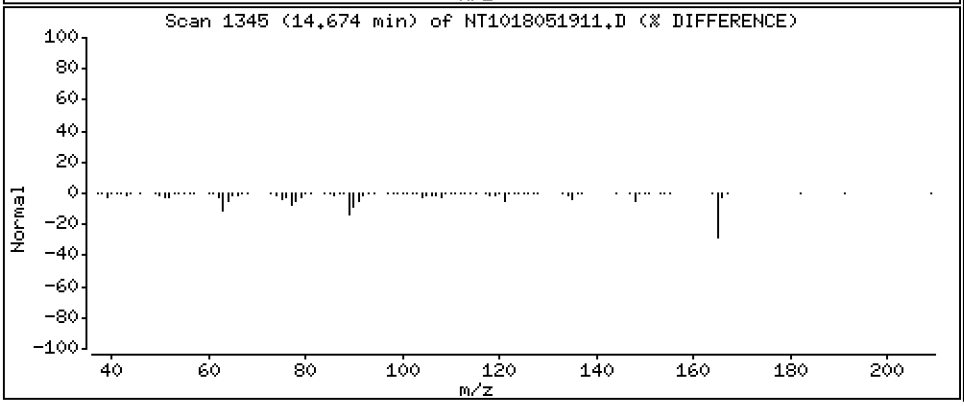
40 Acenaphthylene

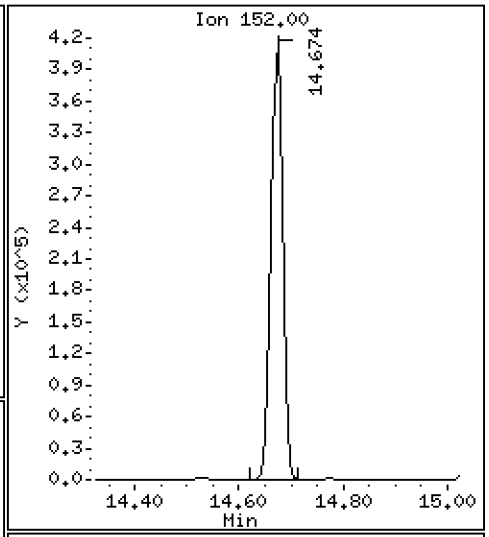
Concentration: 5.087 ug/mL

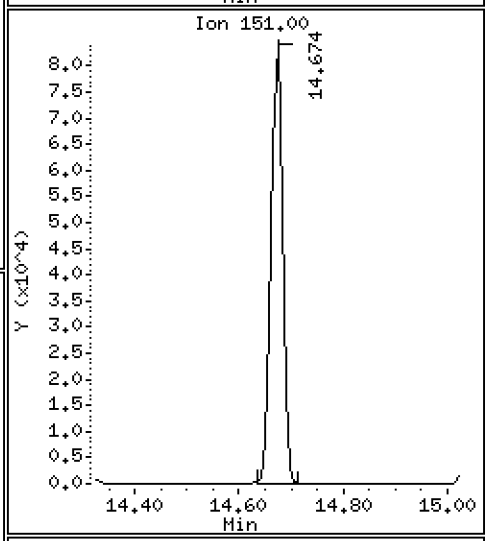


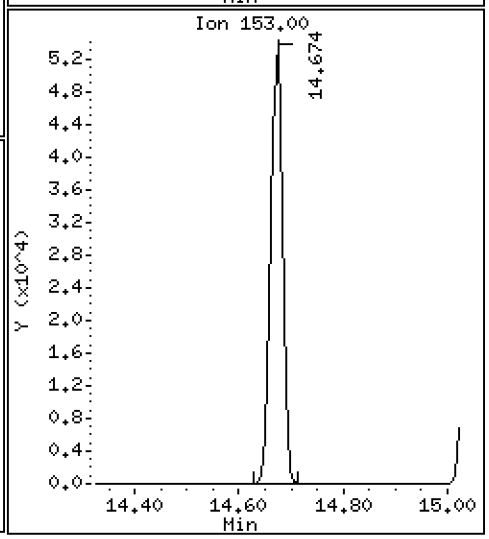












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

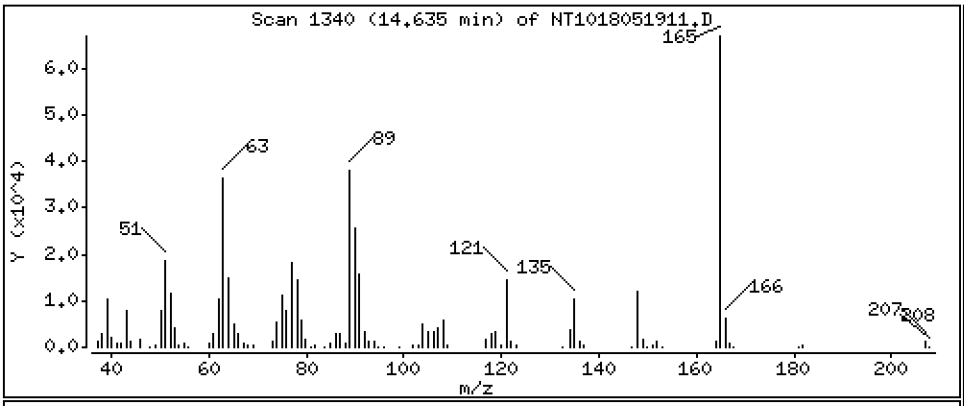
Operator: YZ

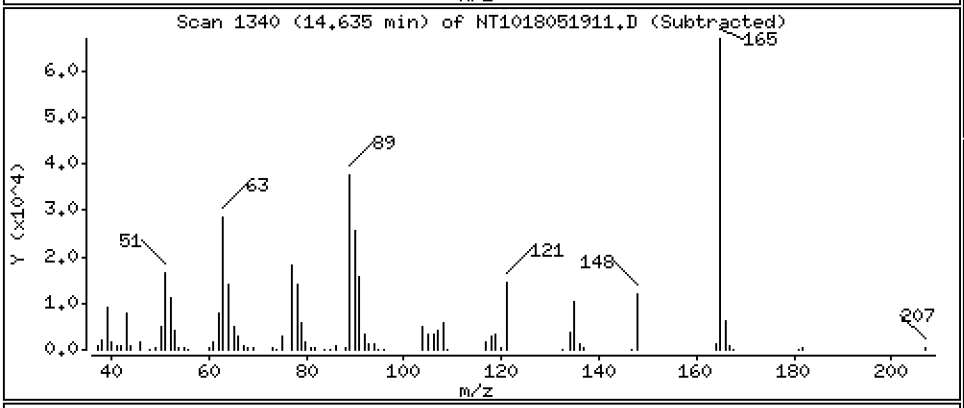
Column phase: ZB-5msi

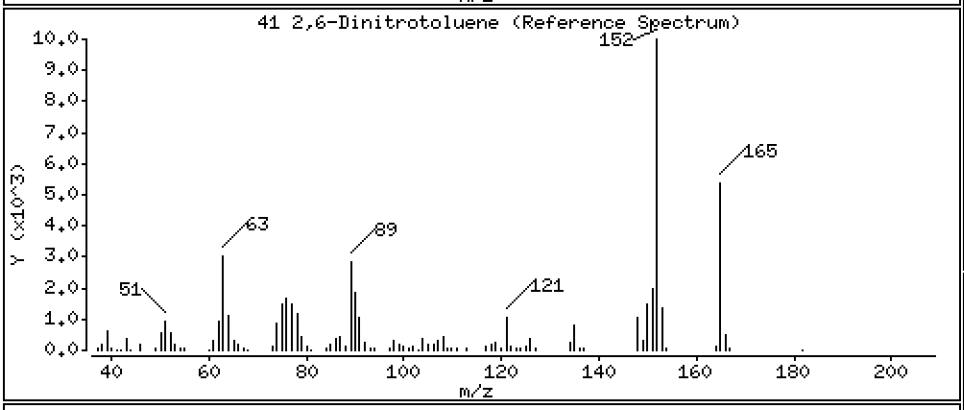
Column diameter: 0.25

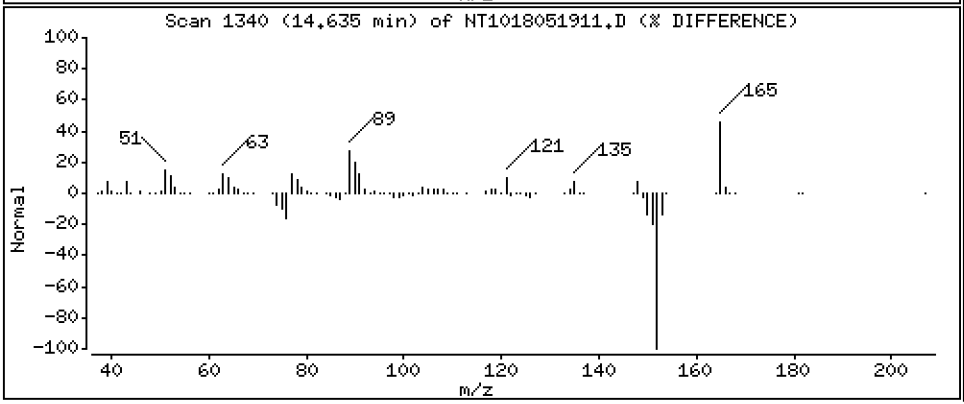
41 2,6-Dinitrotoluene

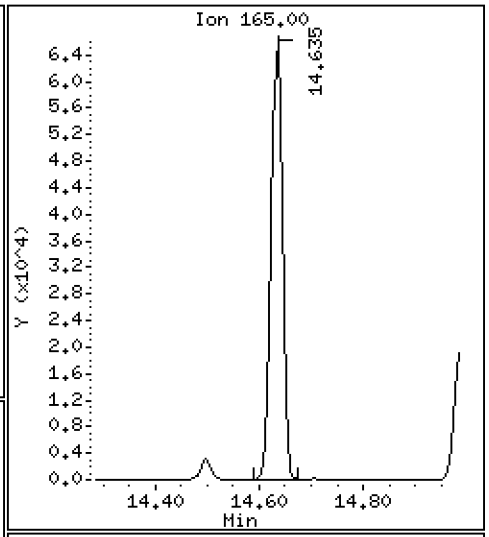
Concentration: 5.391 ug/mL

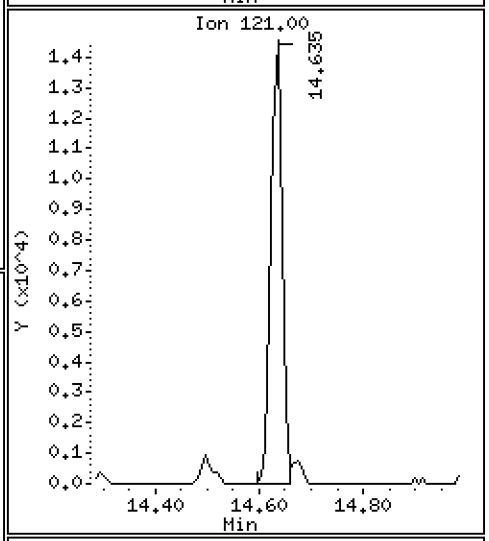


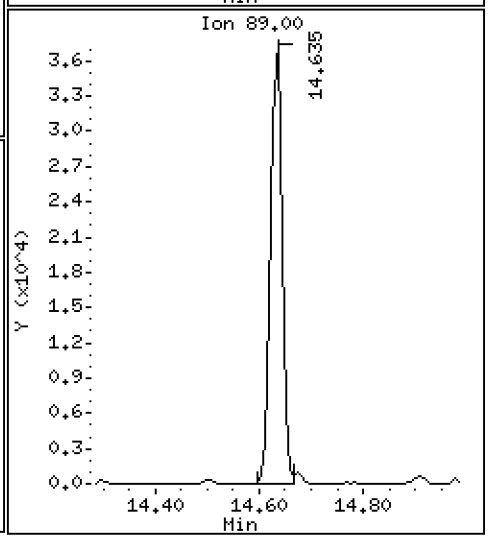












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

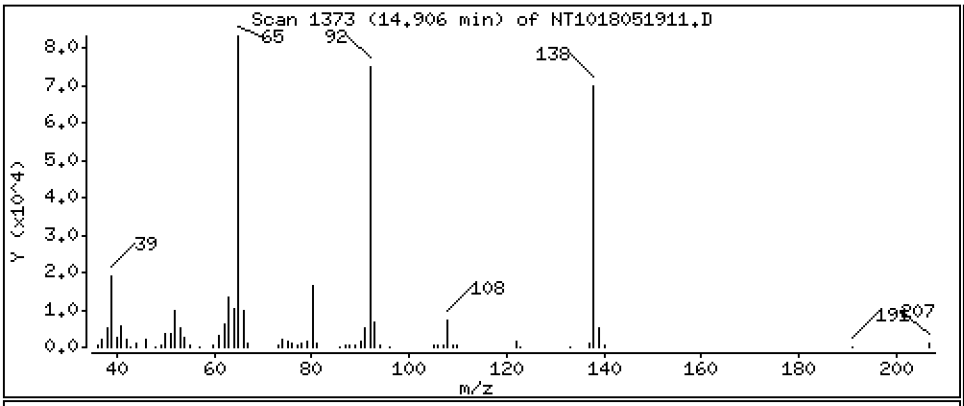
Operator: YZ

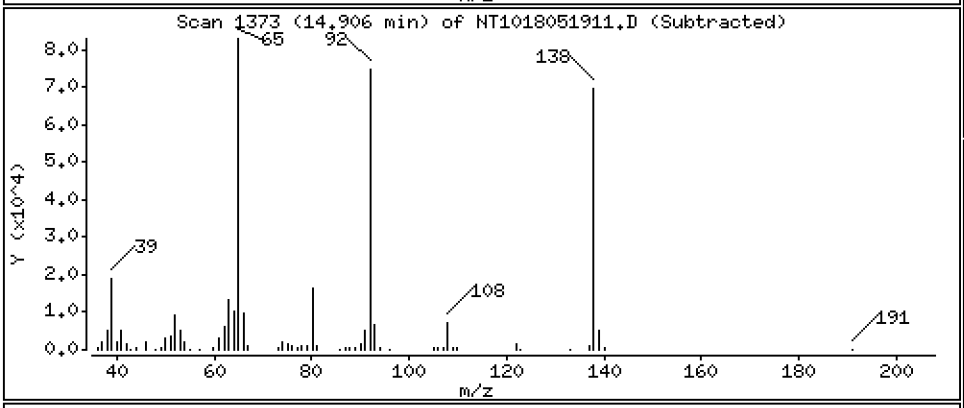
Column phase: ZB-5msi

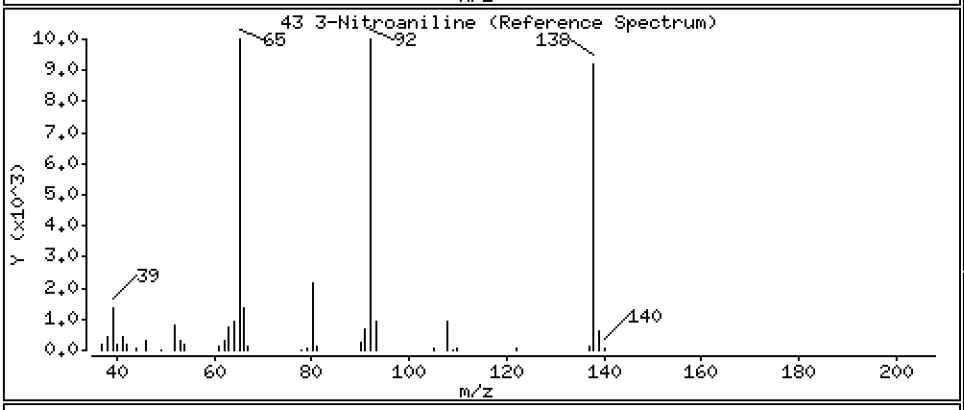
Column diameter: 0.25

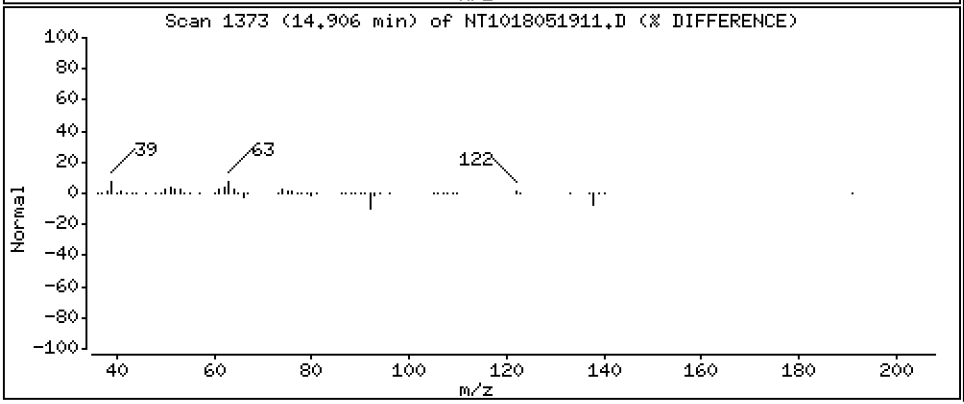
43 3-Nitroaniline

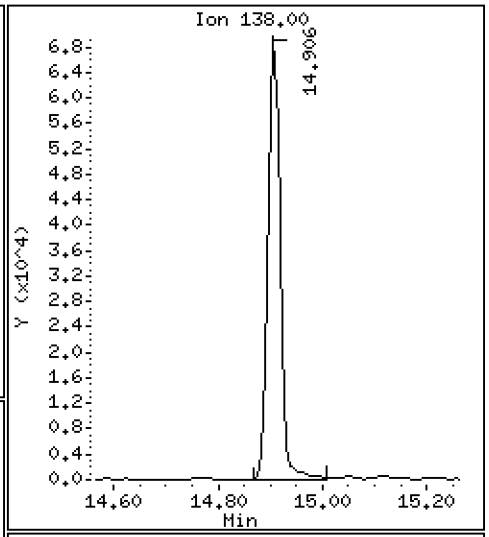
Concentration: 5.234 ug/mL

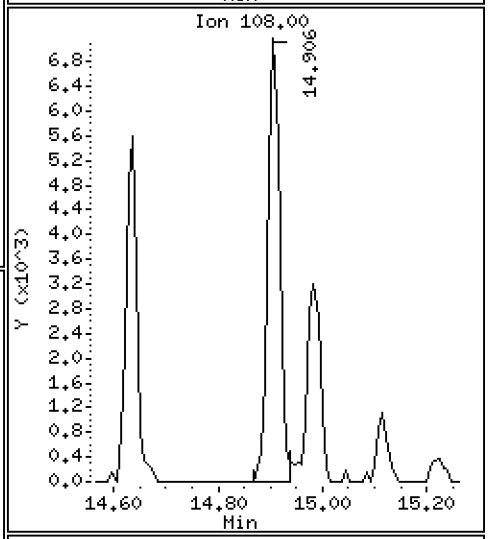


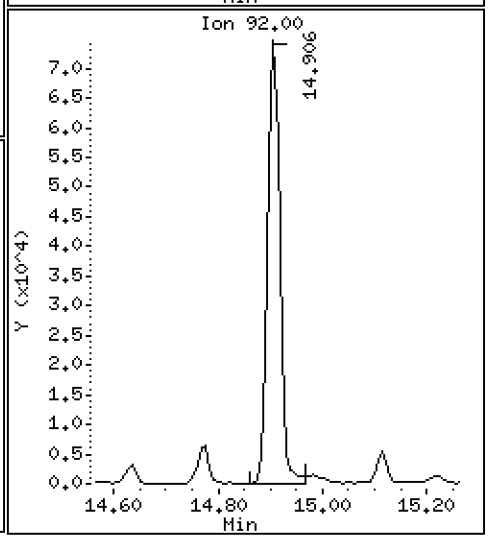












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

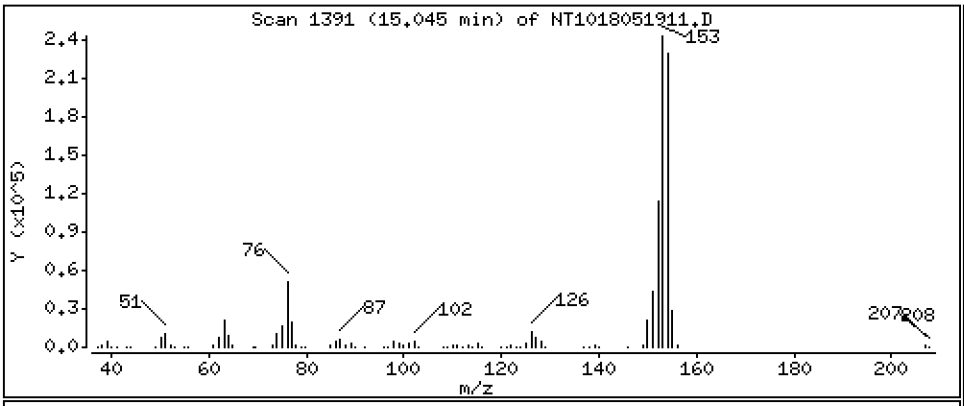
Operator: YZ

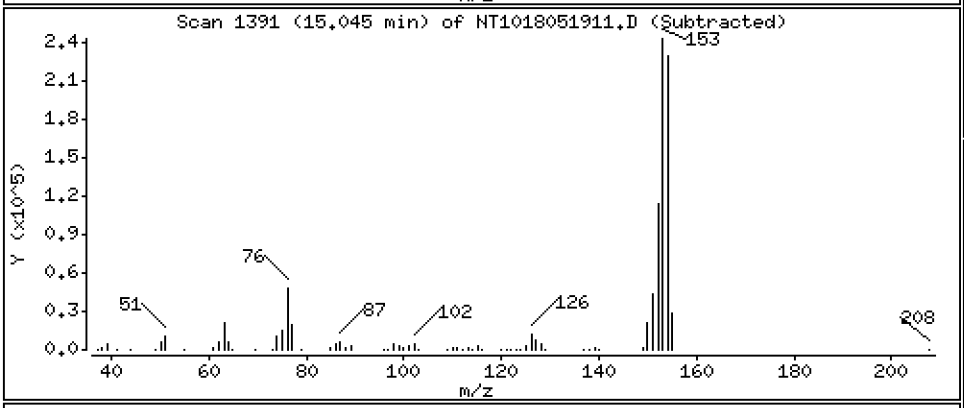
Column phase: ZB-5msi

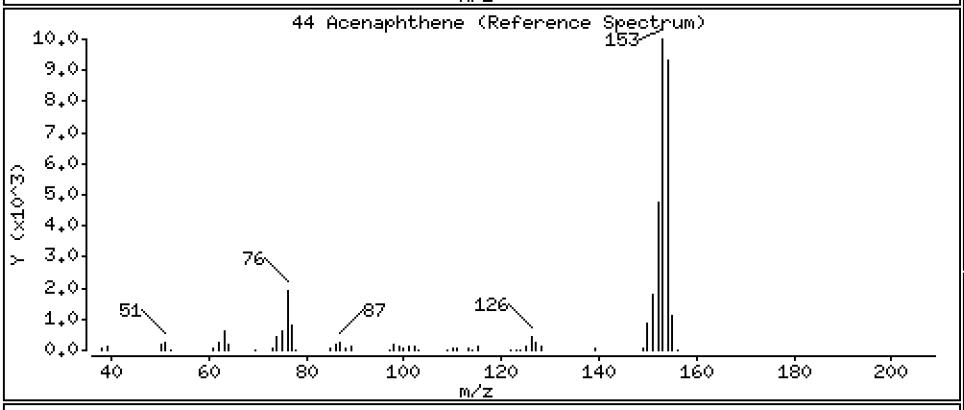
Column diameter: 0.25

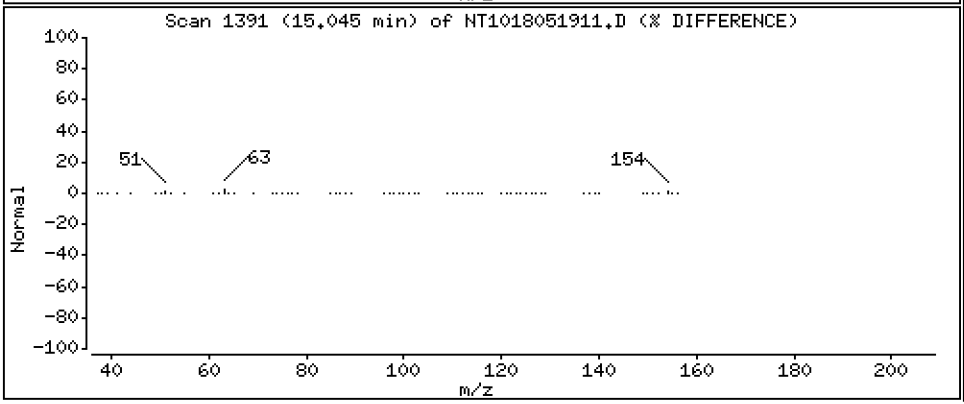
44 Acenaphthene

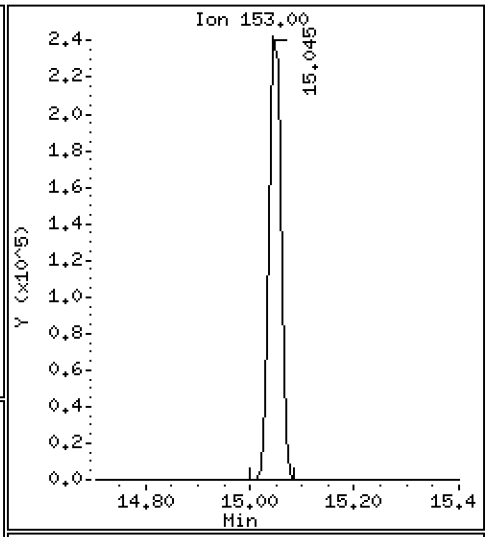
Concentration: 5.071 ug/mL

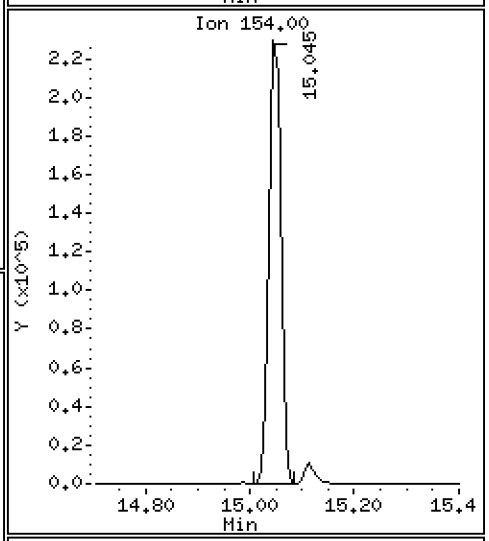


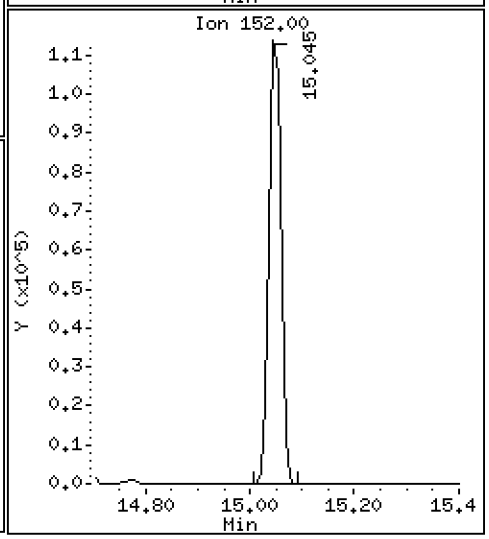












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

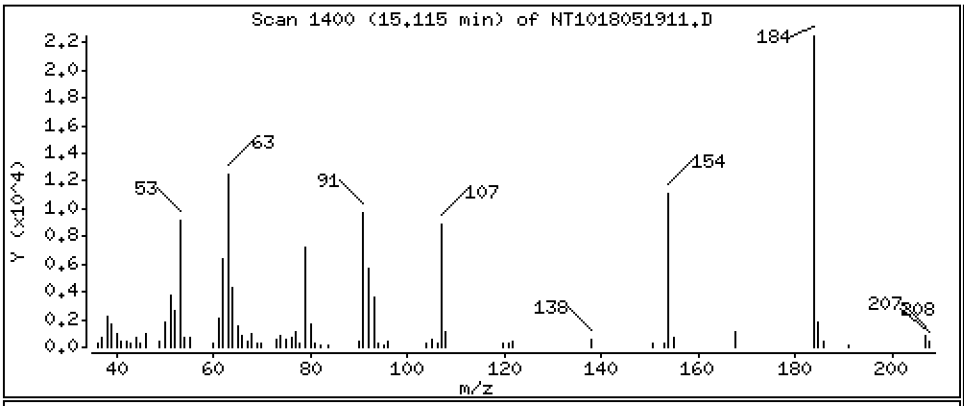
Operator: YZ

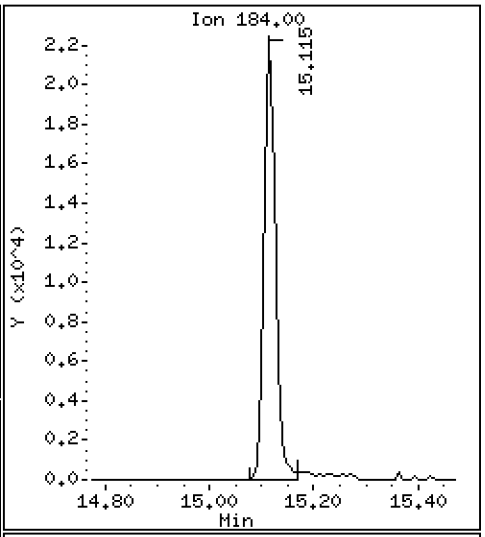
Column phase: ZB-5msi

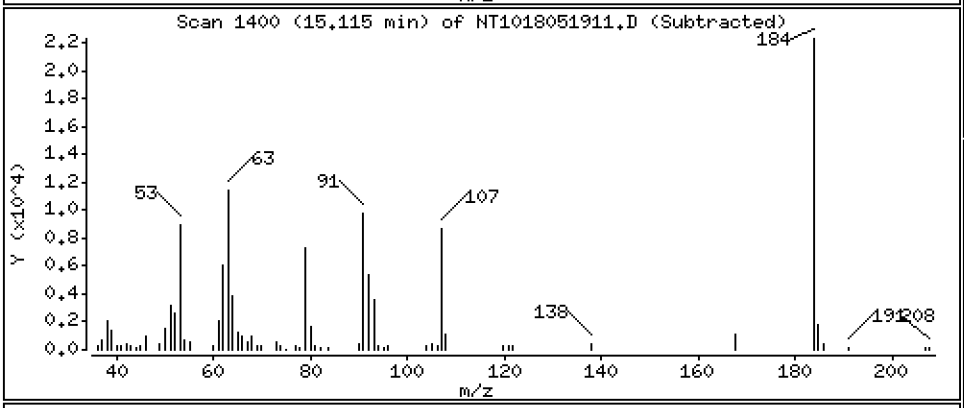
Column diameter: 0.25

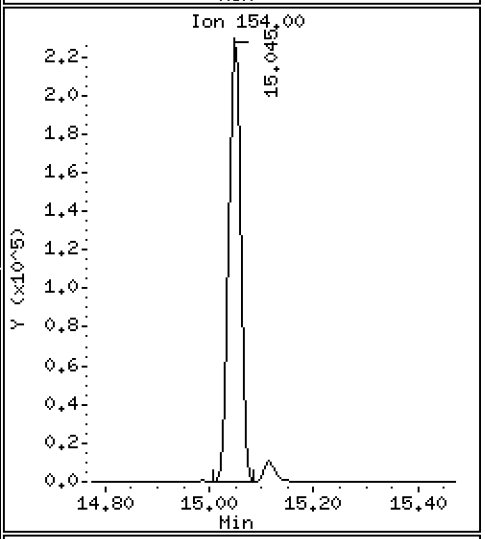
45 2,4-Dinitrophenol

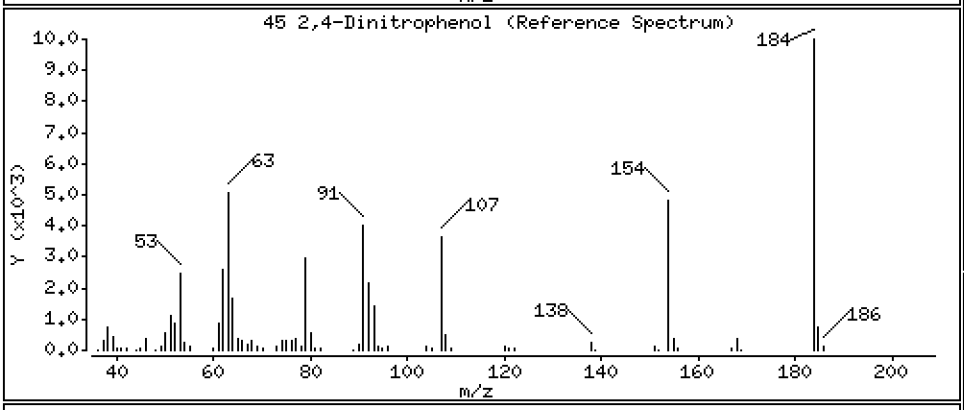
Concentration: 2.947 ug/mL

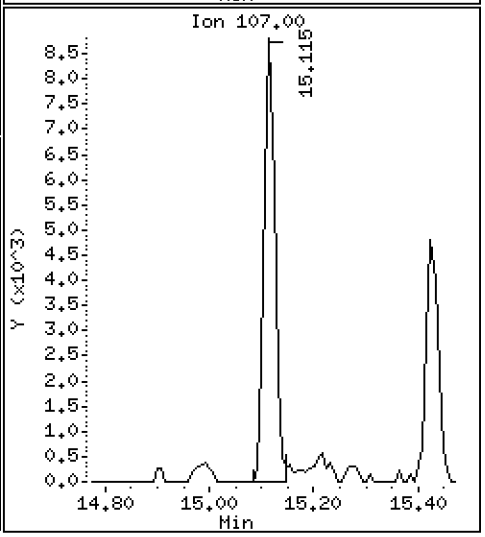


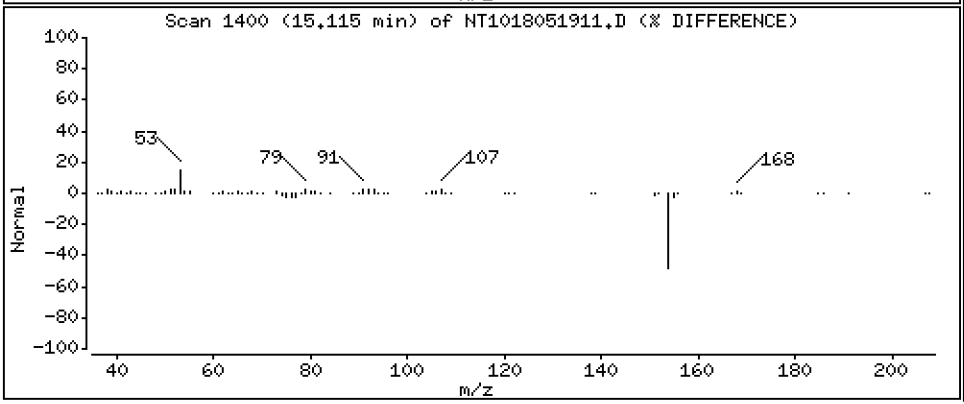












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

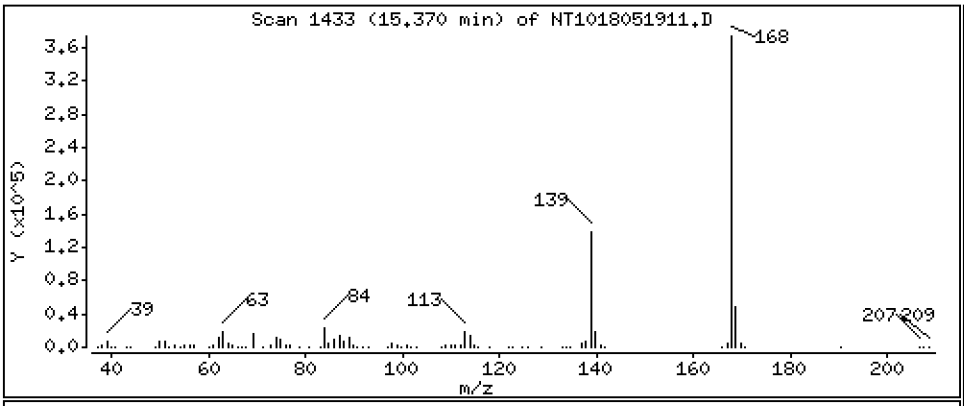
Operator: YZ

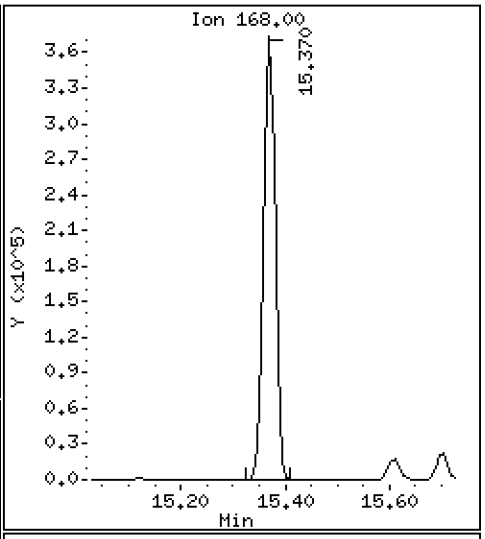
Column phase: ZB-5msi

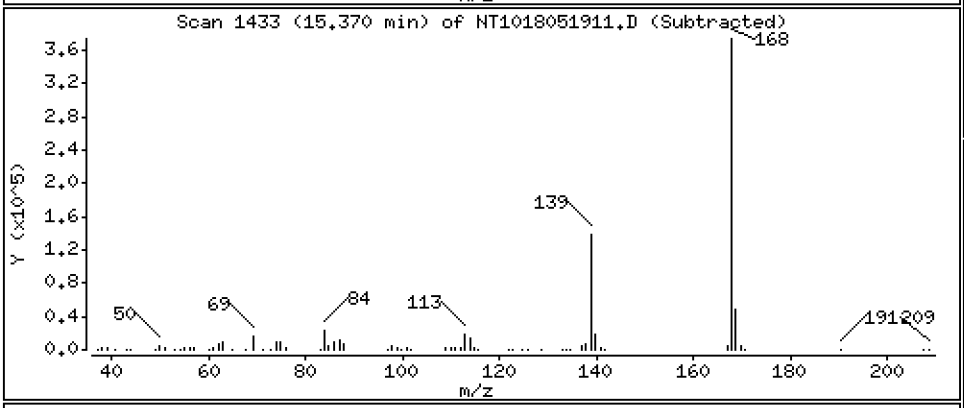
Column diameter: 0.25

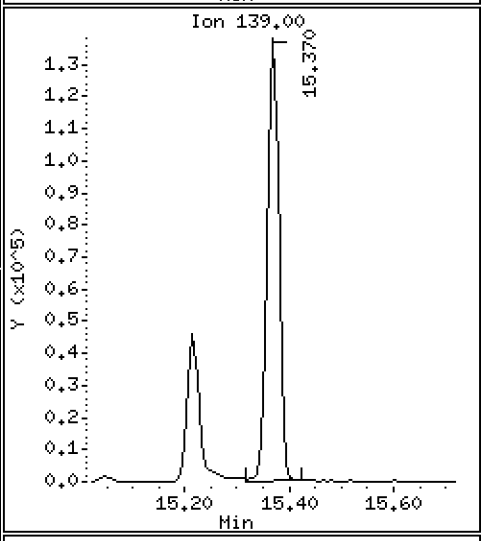
46 Dibenzofuran

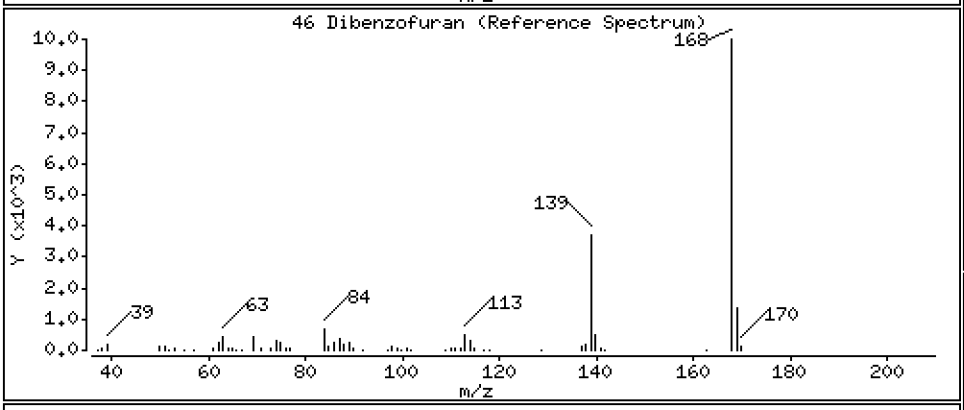
Concentration: 4.886 ug/mL

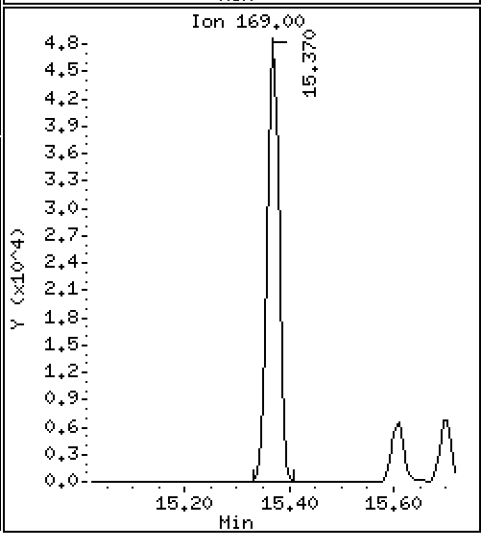


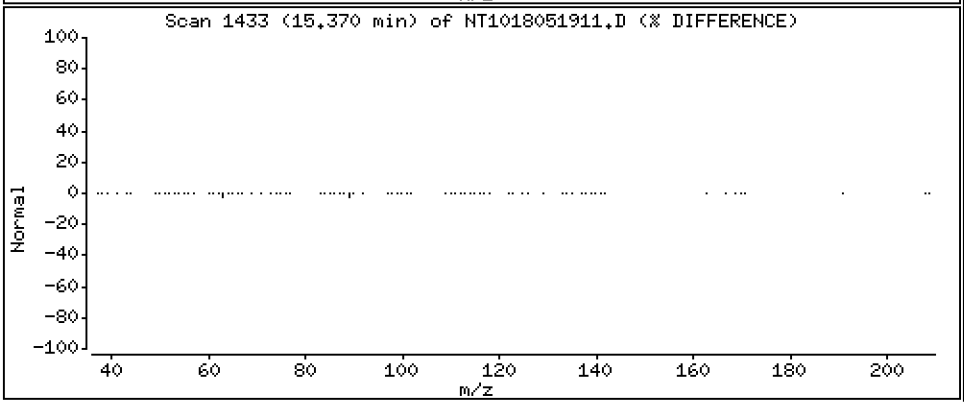












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

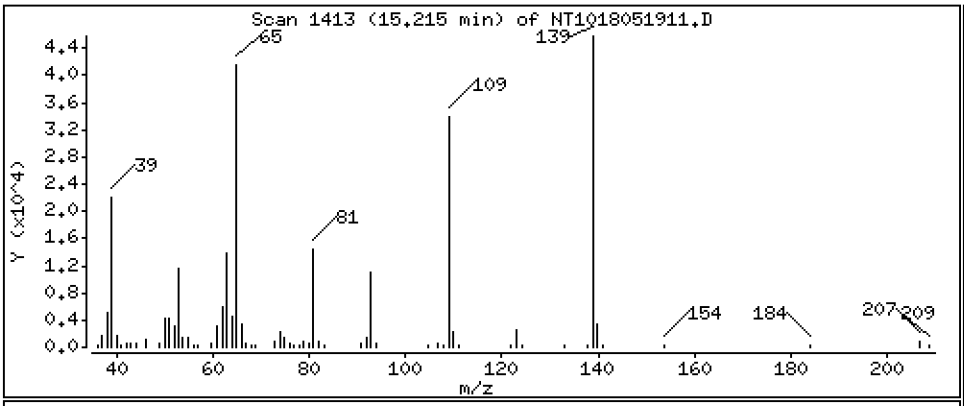
Operator: YZ

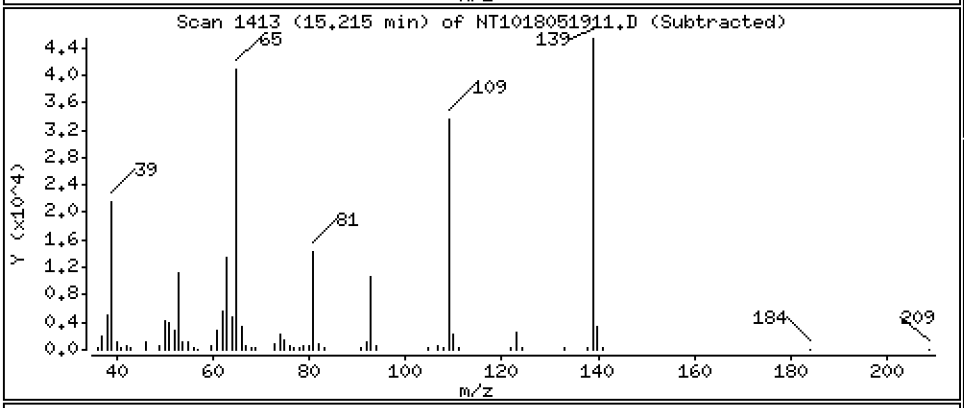
Column phase: ZB-5msi

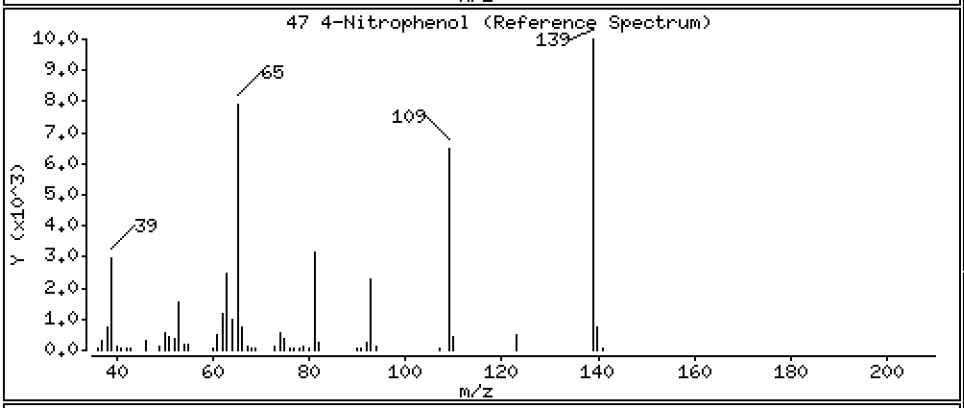
Column diameter: 0.25

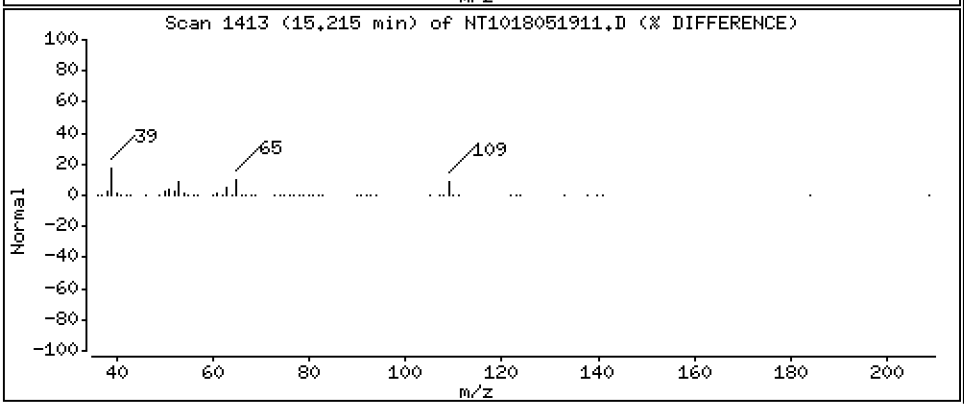
47 4-Nitrophenol

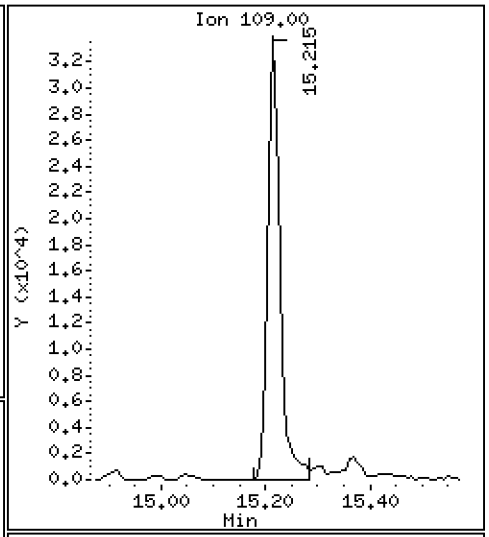
Concentration: 4.151 ug/mL

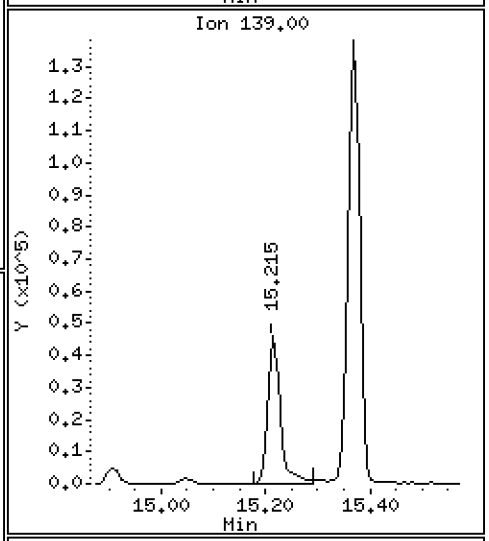


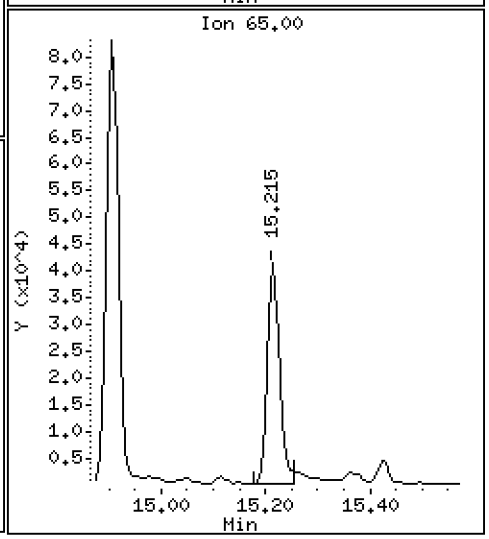












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

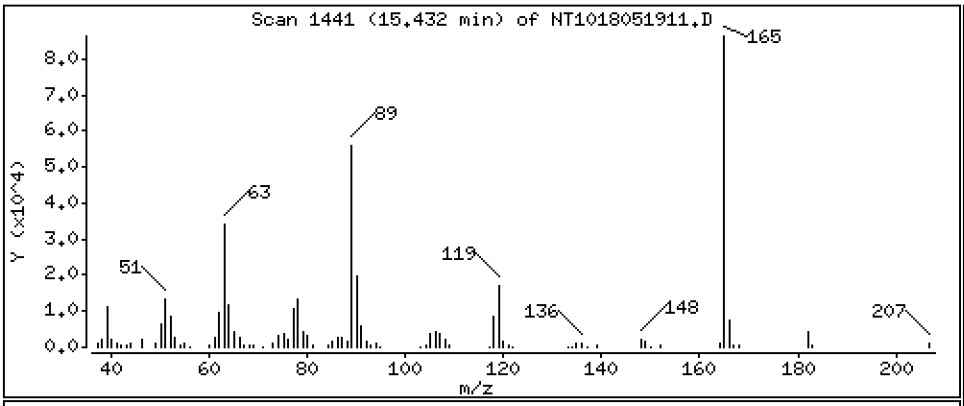
Operator: YZ

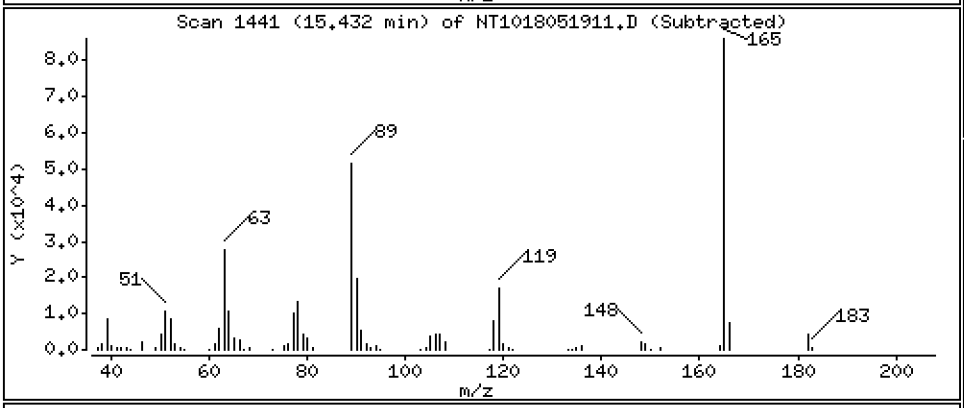
Column phase: ZB-5msi

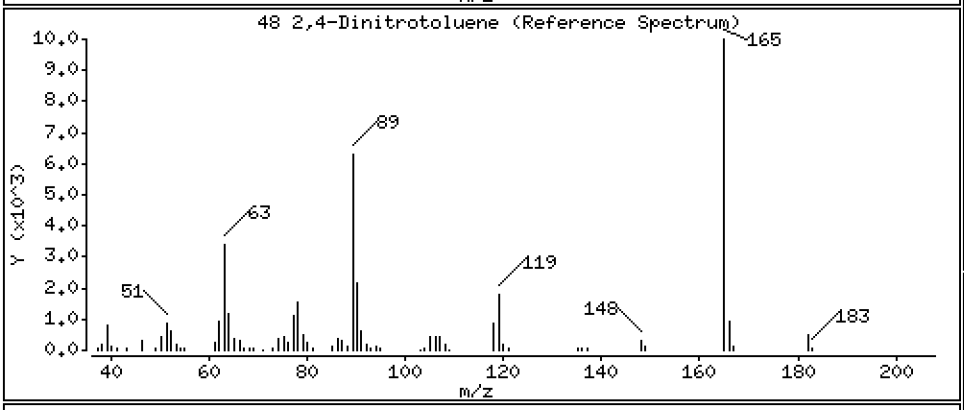
Column diameter: 0.25

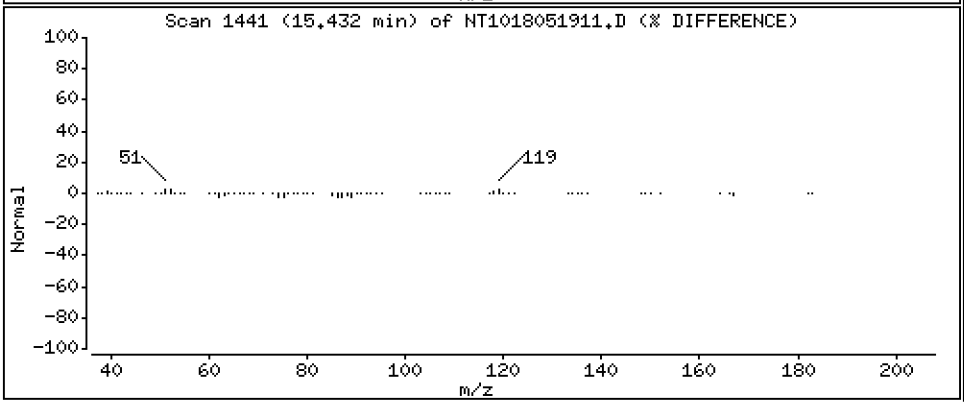
48 2,4-Dinitrotoluene

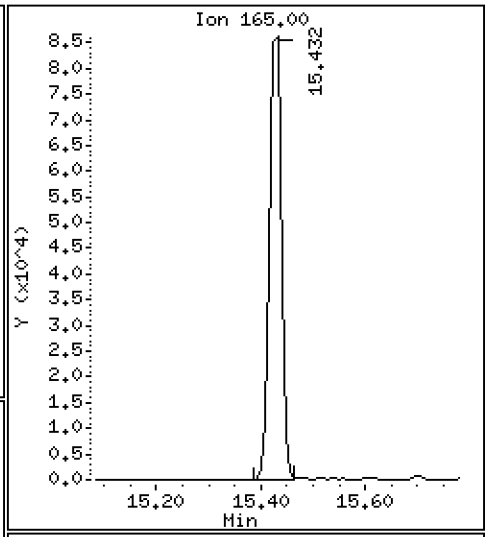
Concentration: 5.686 ug/mL

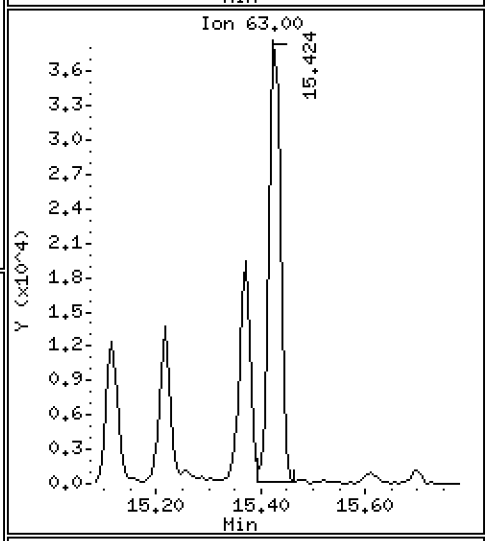


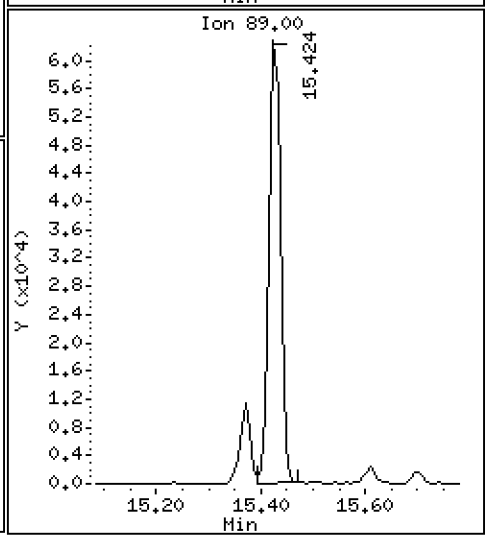












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

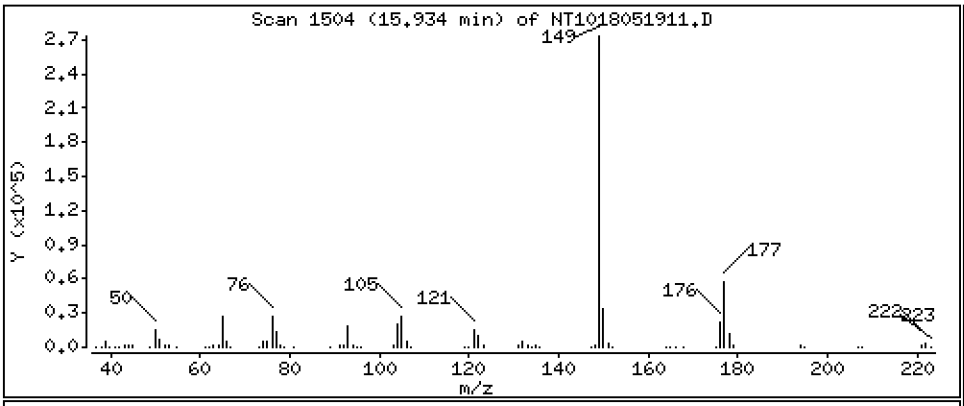
Operator: YZ

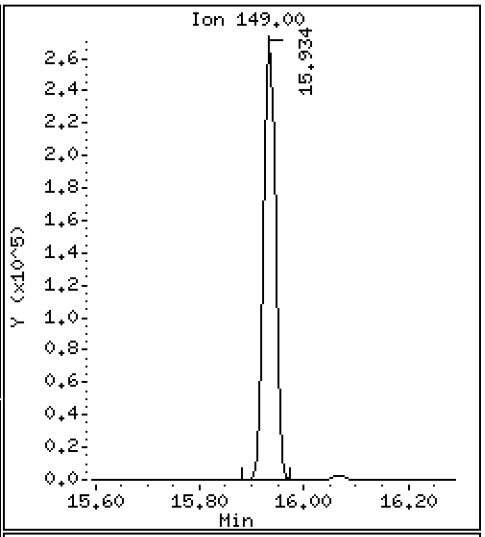
Column phase: ZB-5msi

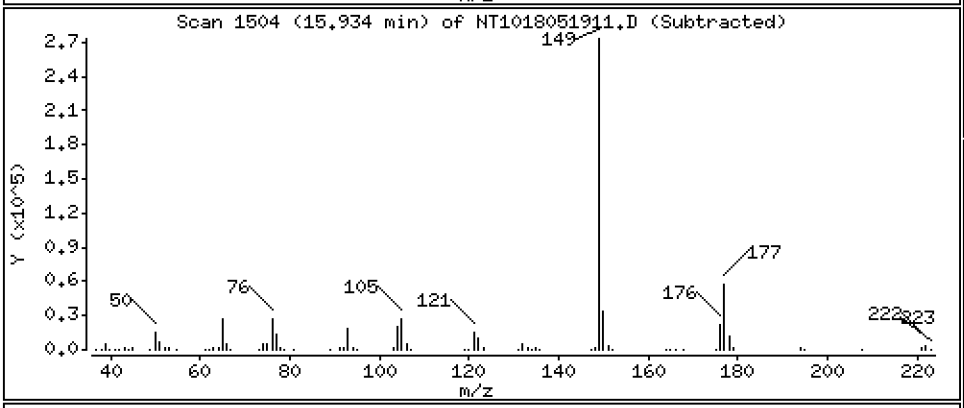
Column diameter: 0.25

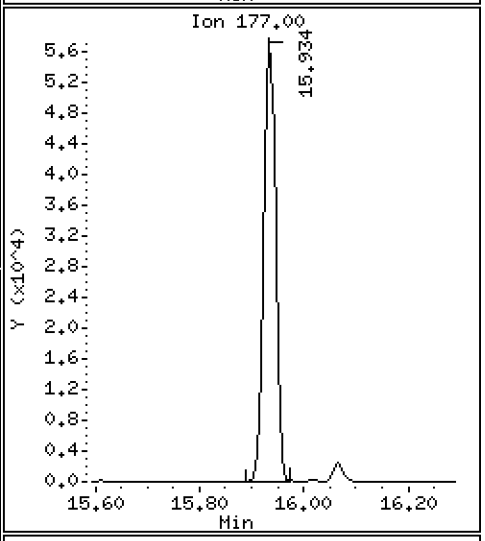
50 Diethylphthalate

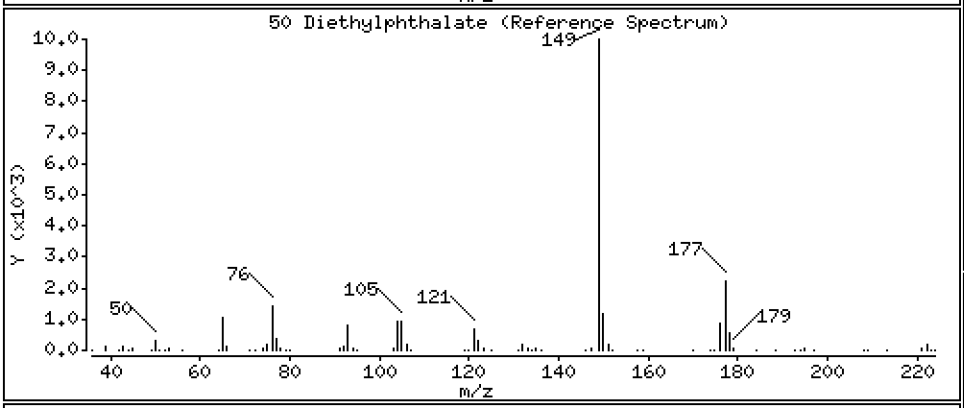
Concentration: 4.831 ug/mL

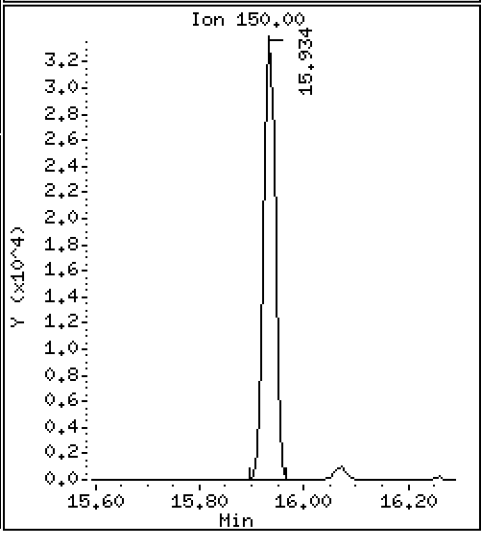


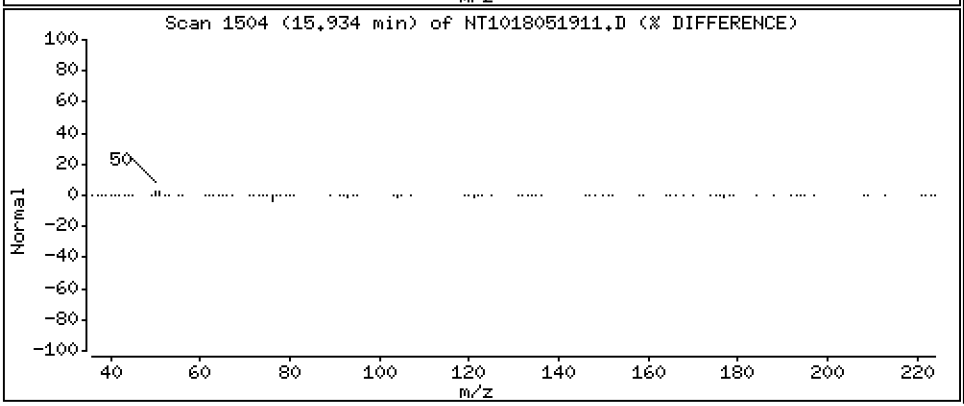












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

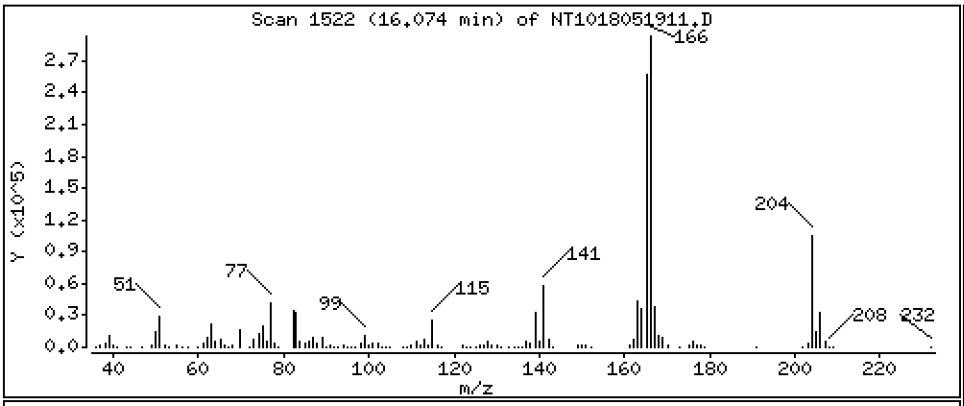
Operator: YZ

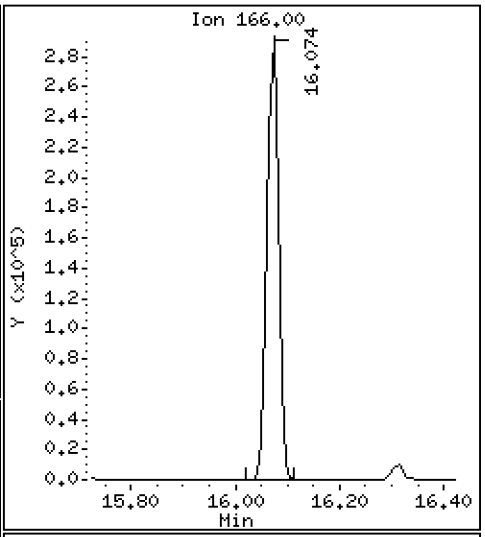
Column phase: ZB-5msi

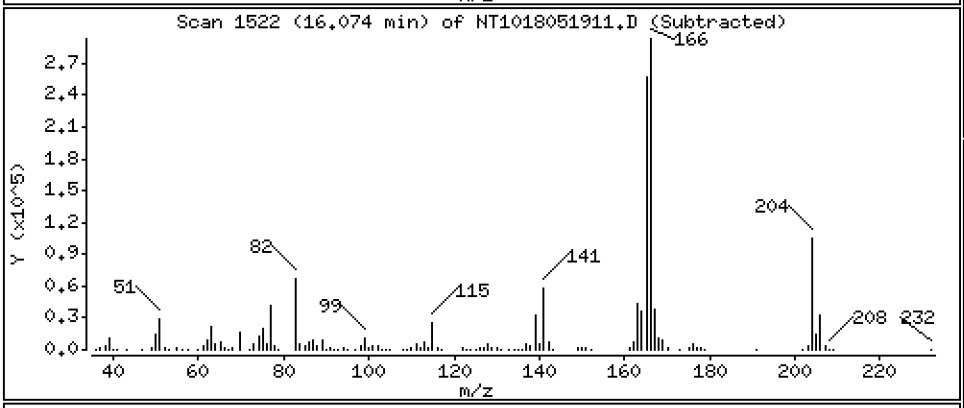
Column diameter: 0.25

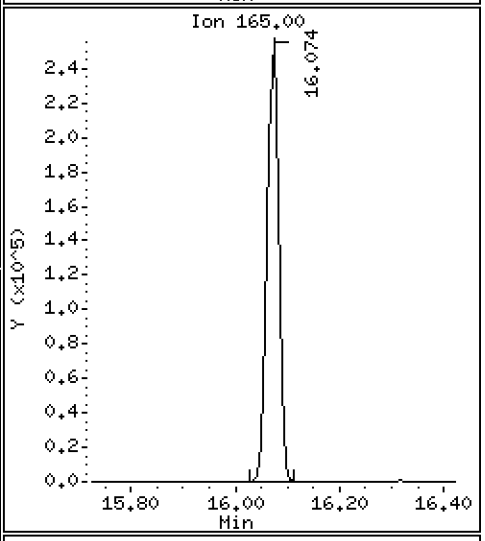
49 Fluorene

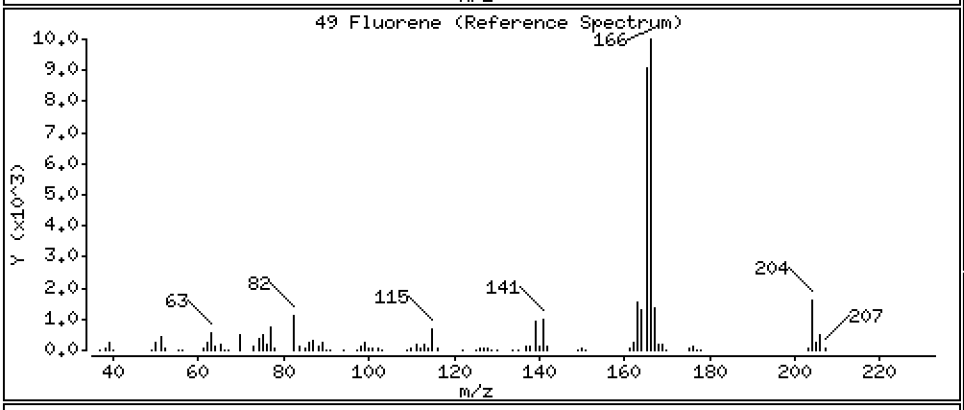
Concentration: 5.002 ug/mL

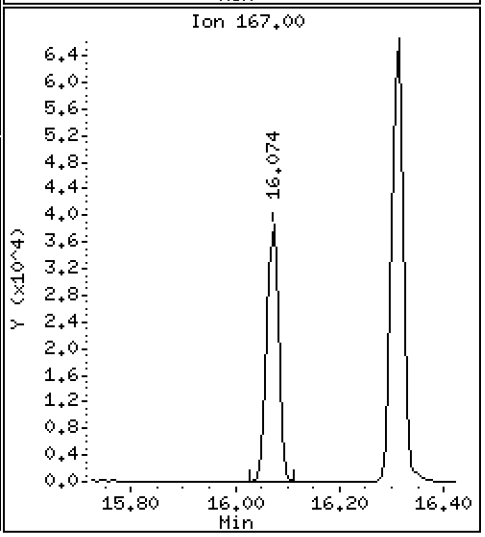


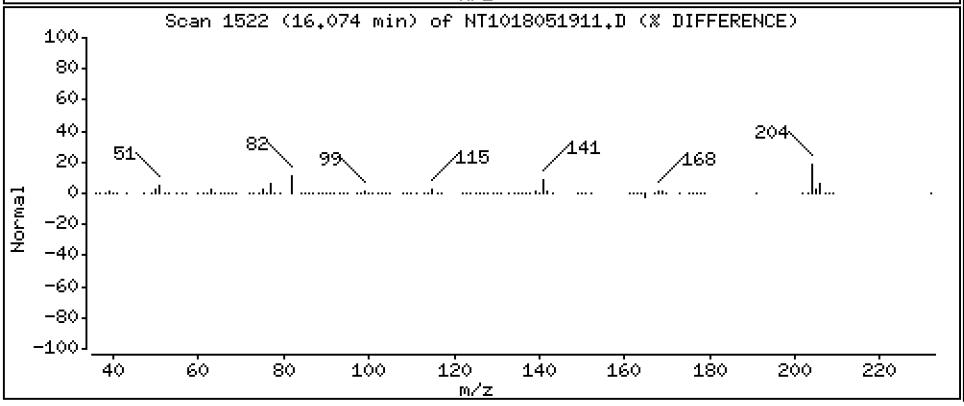












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

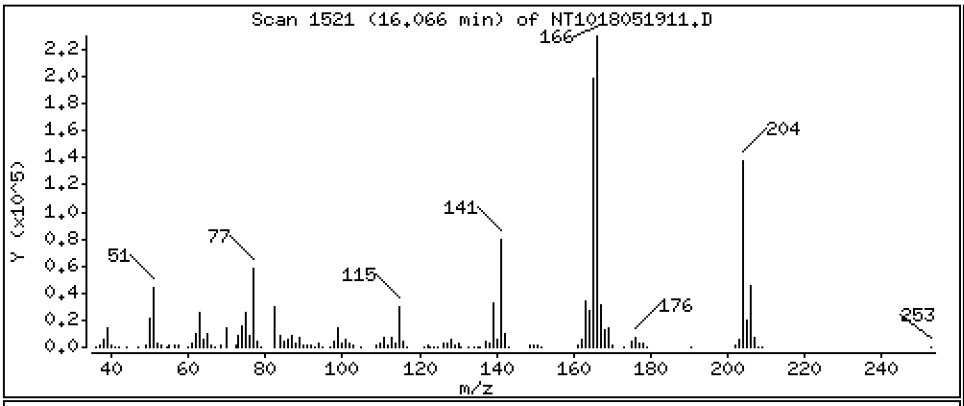
Operator: YZ

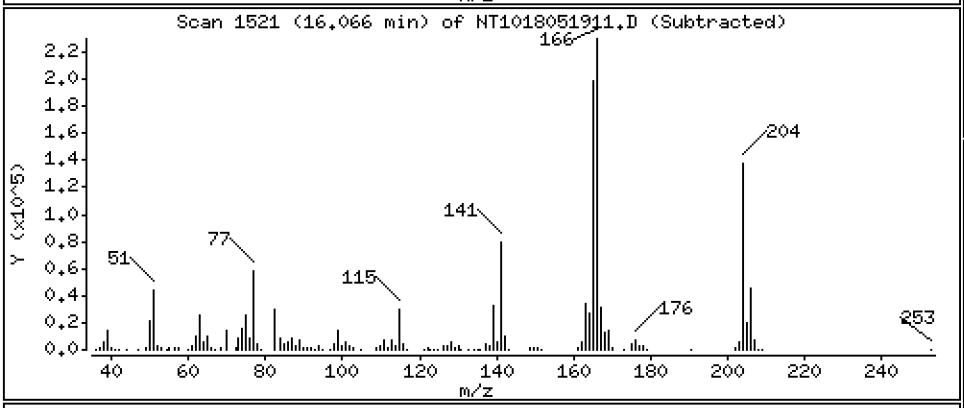
Column phase: ZB-5msi

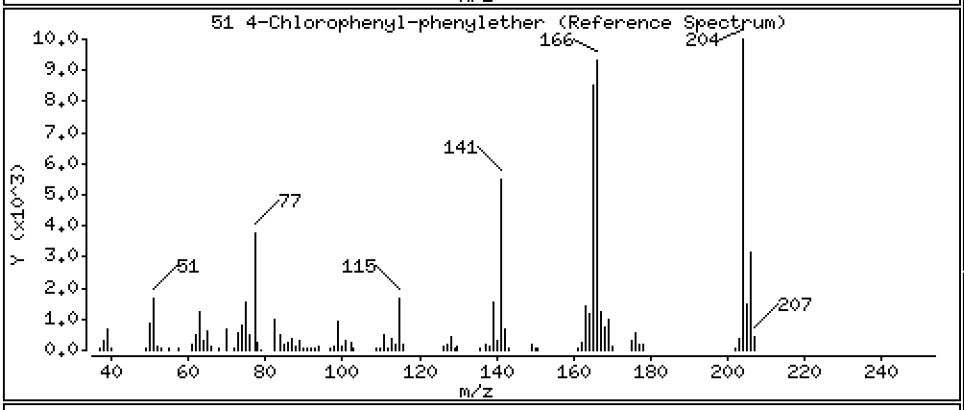
Column diameter: 0.25

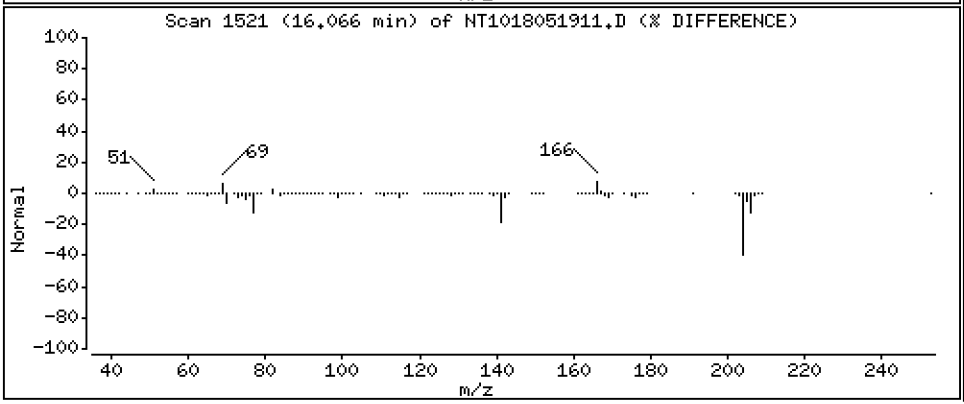
51 4-Chlorophenyl-phenylether

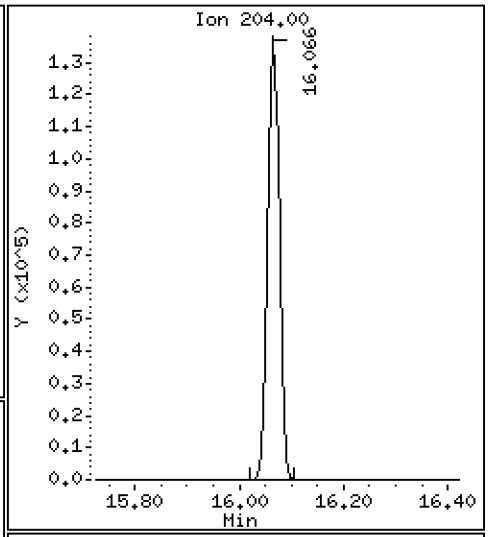
Concentration: 4.817 ug/mL

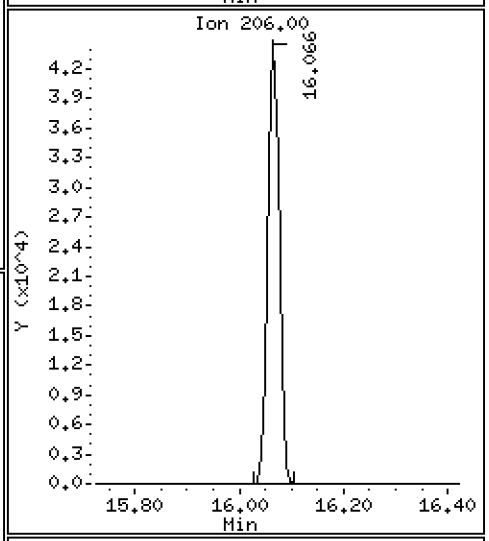


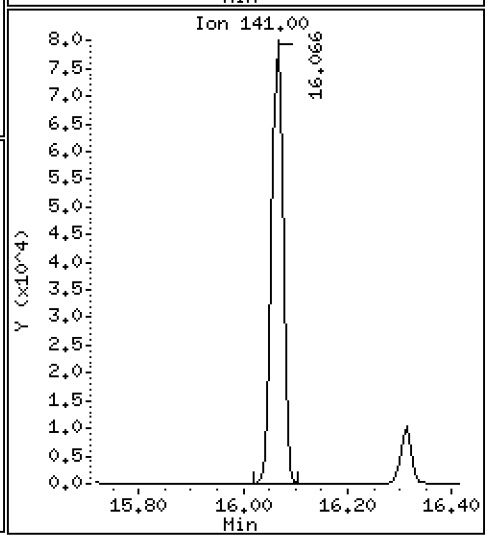












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

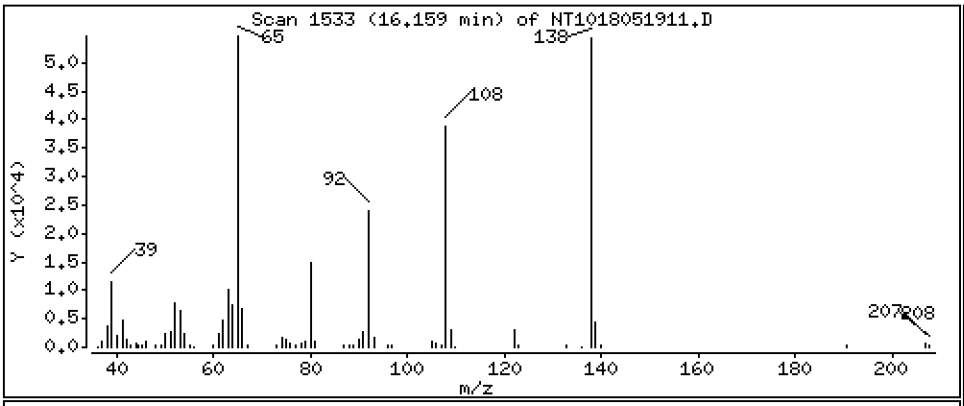
Operator: YZ

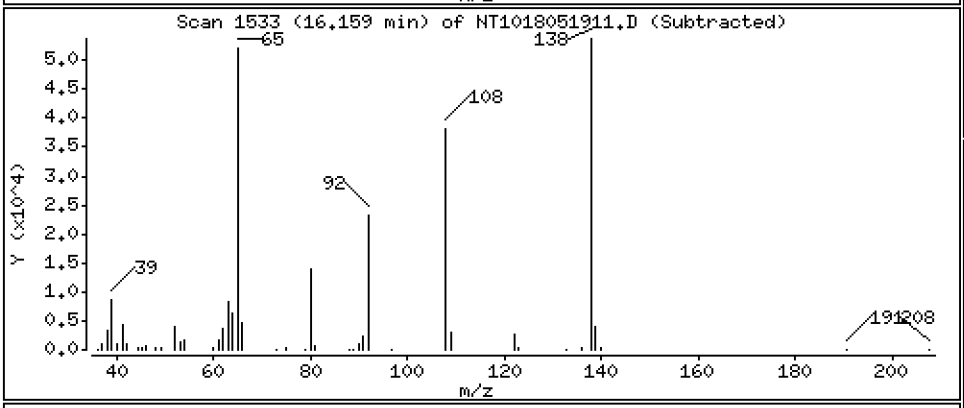
Column phase: ZB-5msi

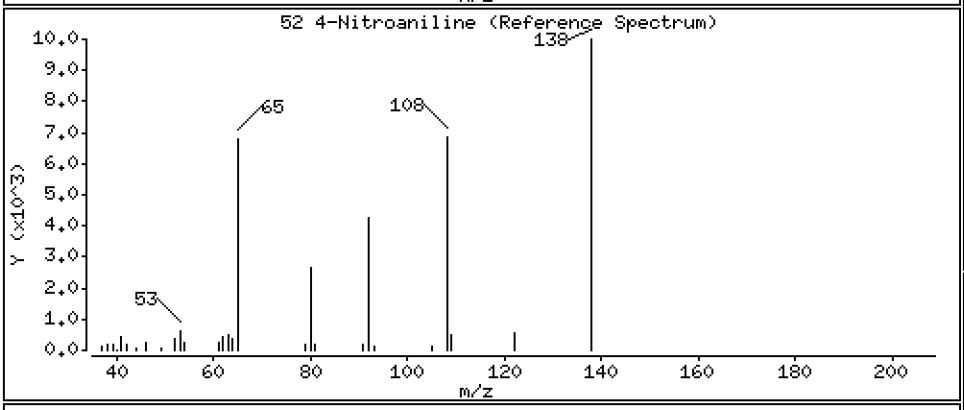
Column diameter: 0.25

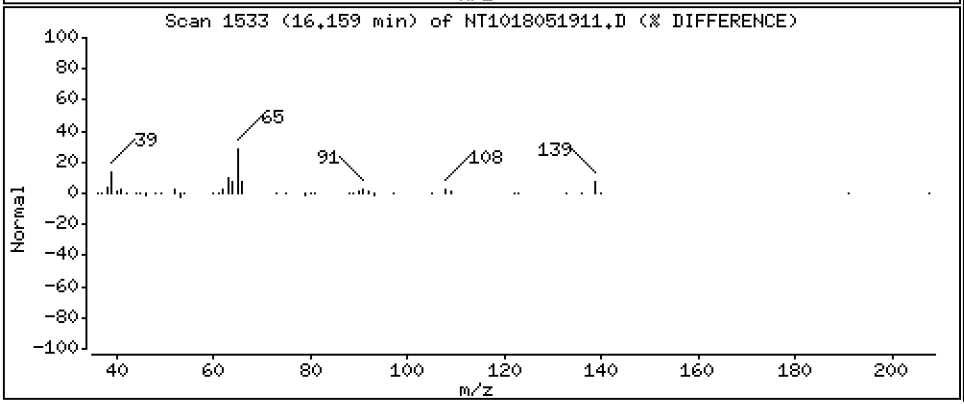
52 4-Nitroaniline

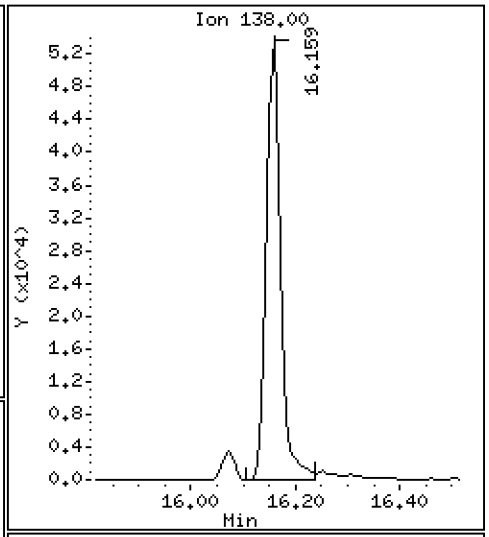
Concentration: 5.464 ug/mL

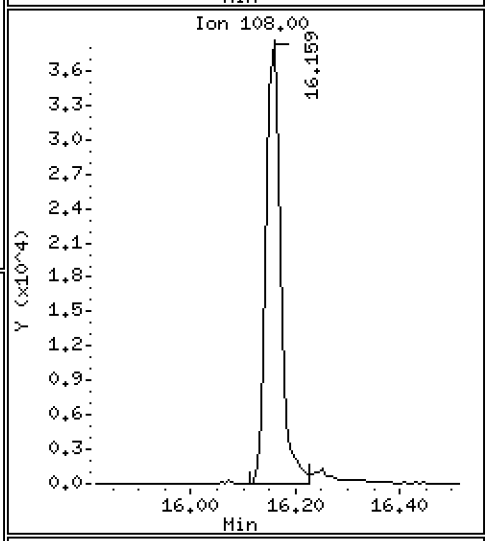


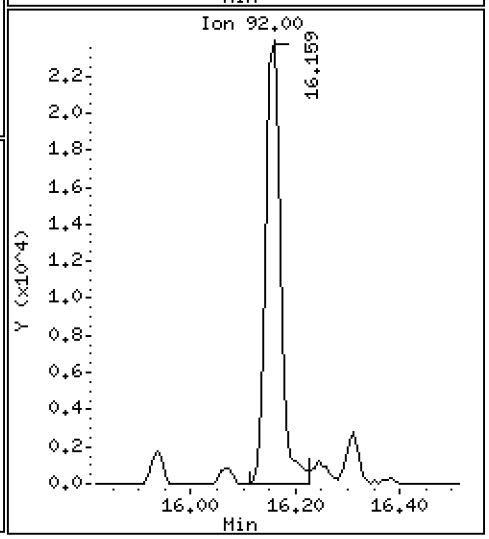












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

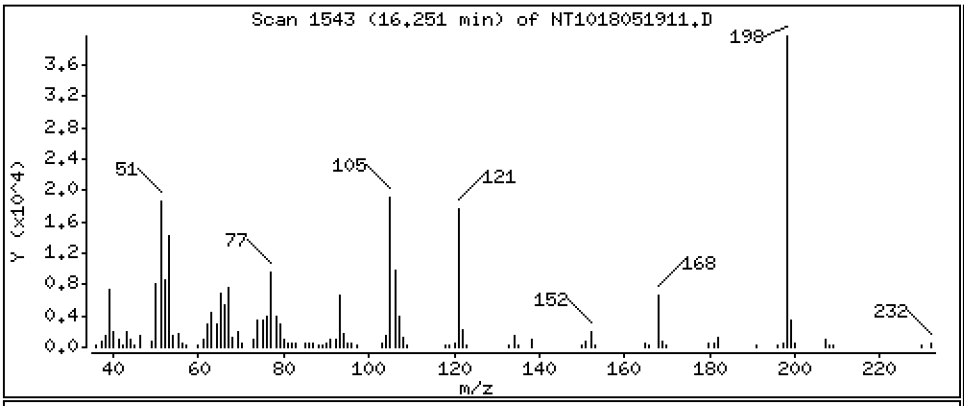
Operator: YZ

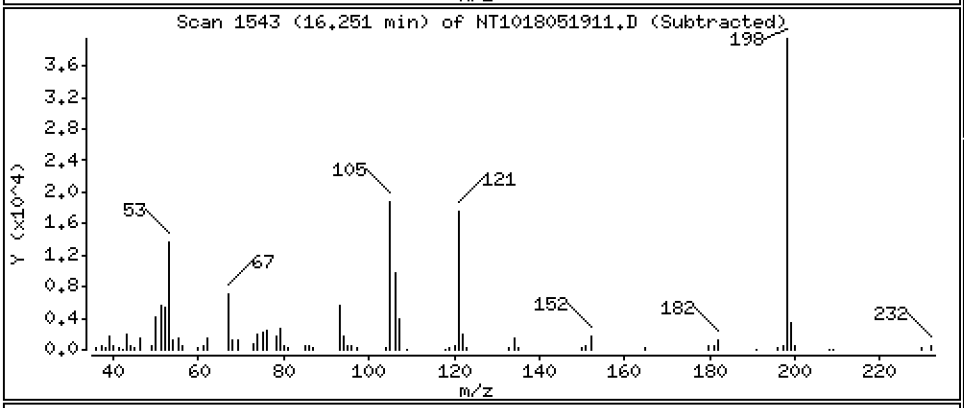
Column phase: ZB-5msi

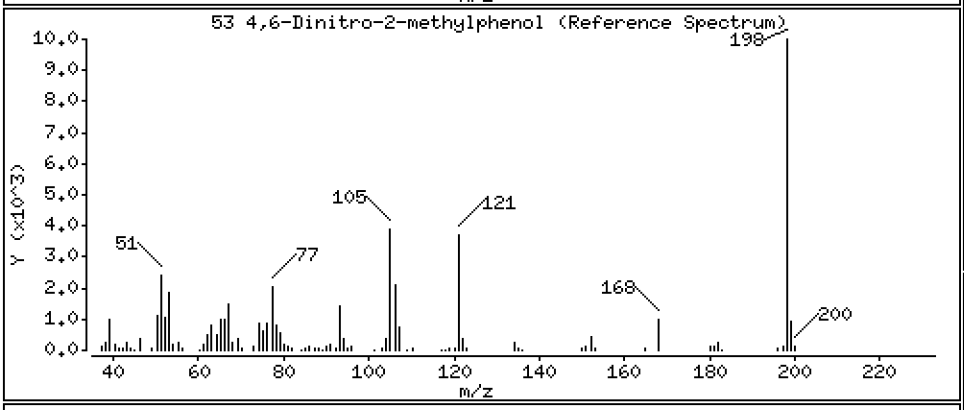
Column diameter: 0.25

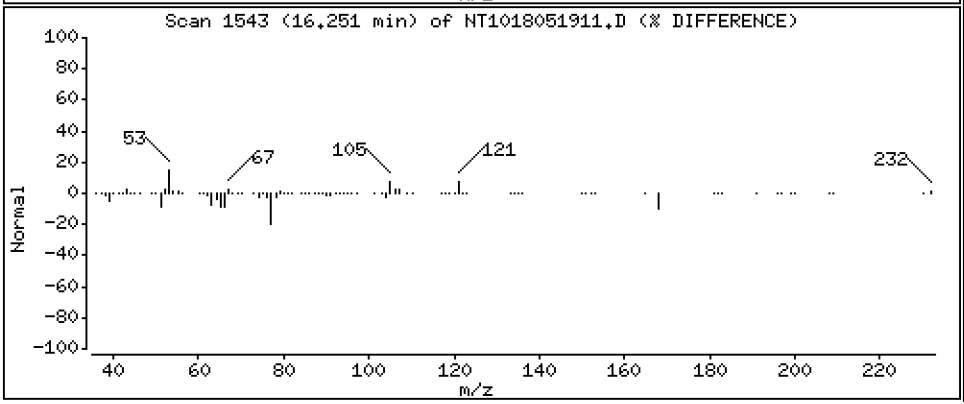
53 4,6-Dinitro-2-methylphenol

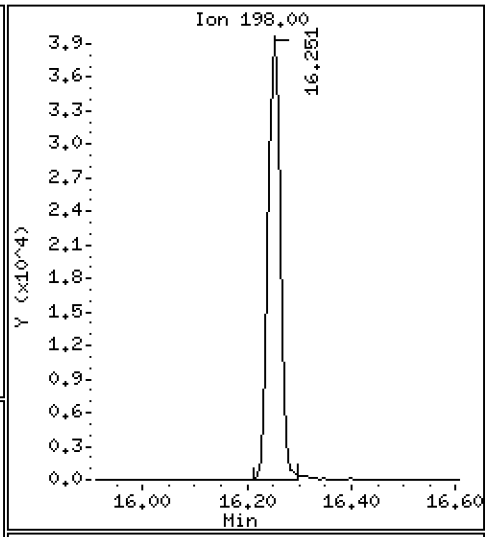
Concentration: 3.462 ug/mL

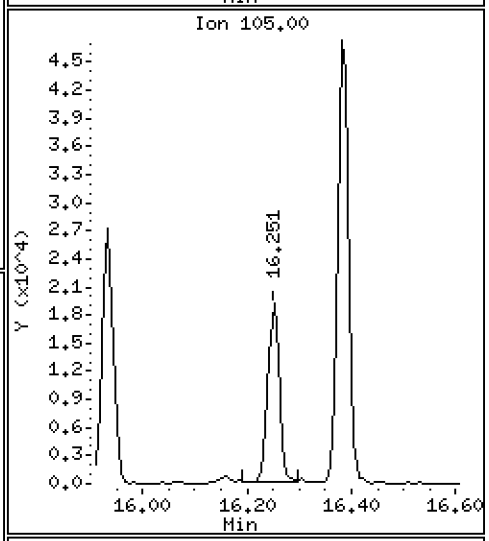


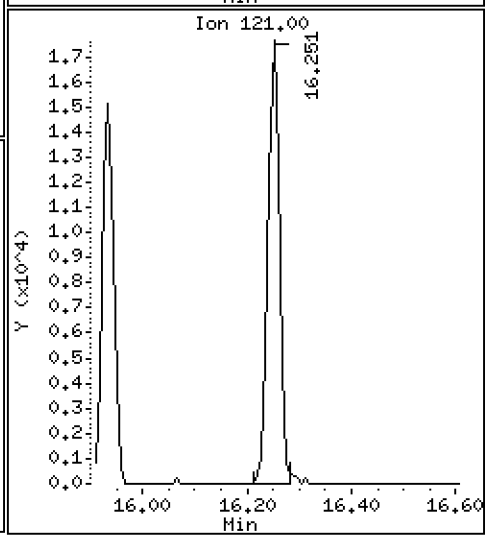












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

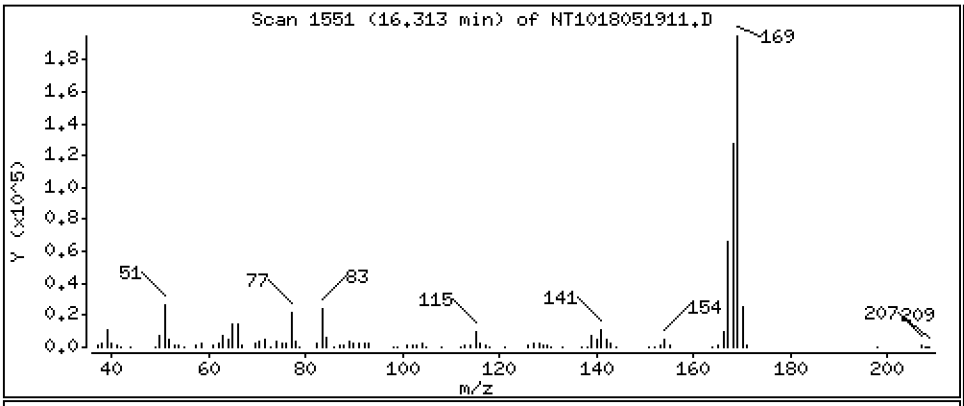
Operator: YZ

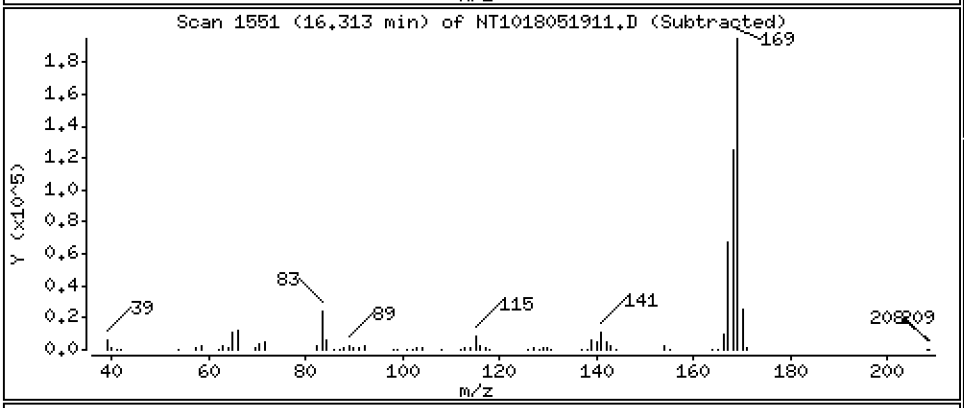
Column phase: ZB-5msi

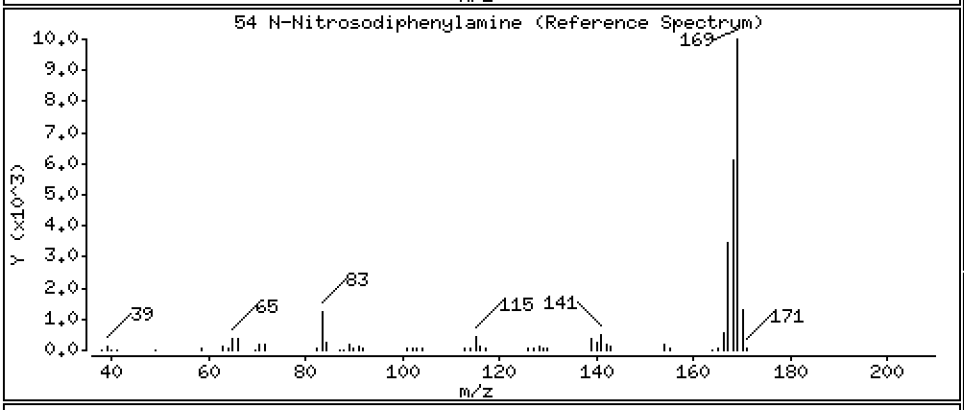
Column diameter: 0.25

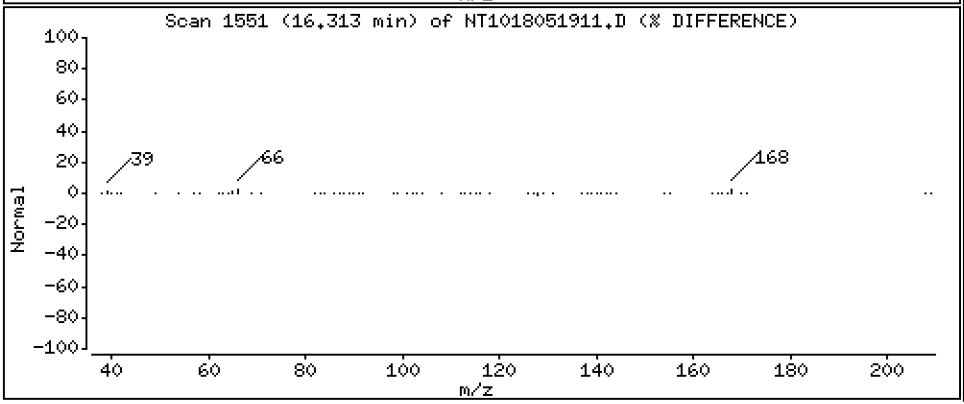
54 N-Nitrosodiphenylamine

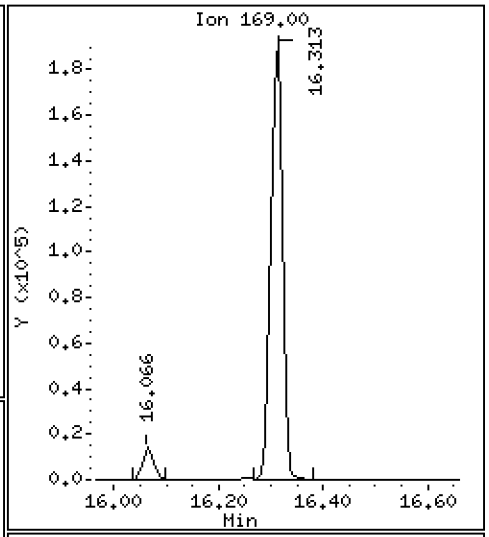
Concentration: 5.227 ug/mL

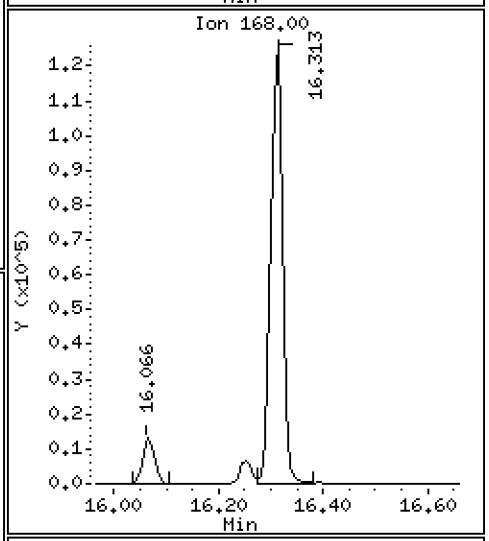


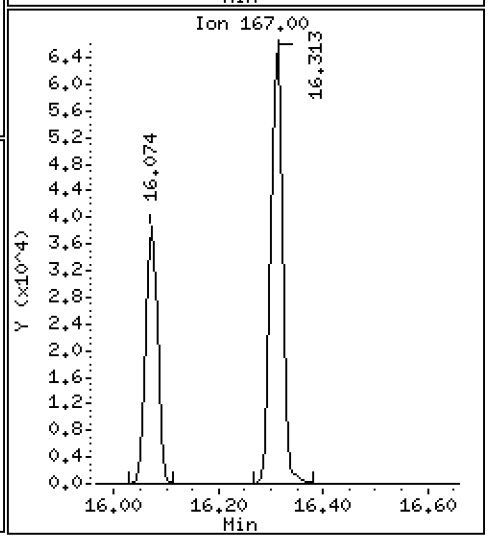












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

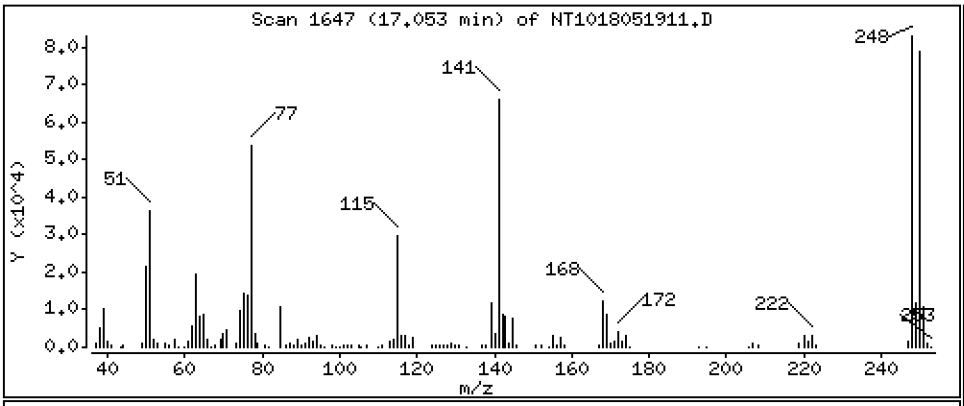
Operator: YZ

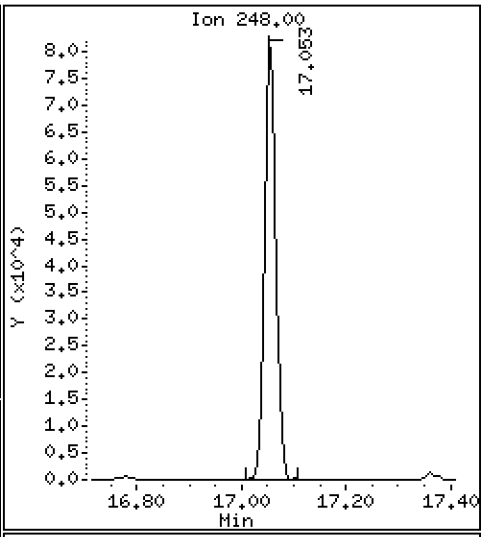
Column phase: ZB-5msi

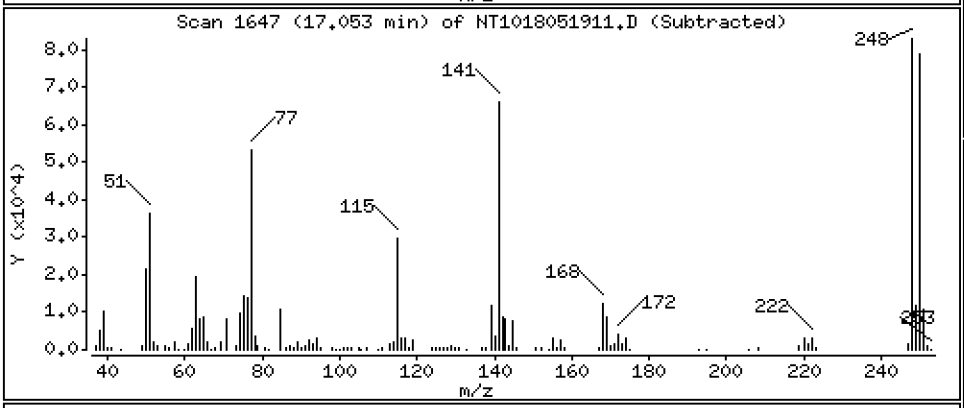
Column diameter: 0.25

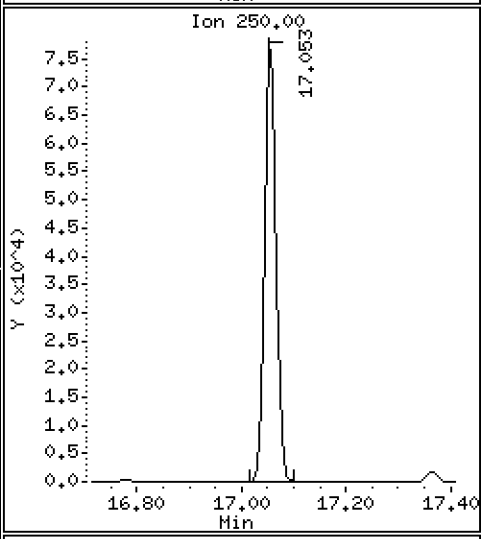
56 4-Bromophenyl-phenylether

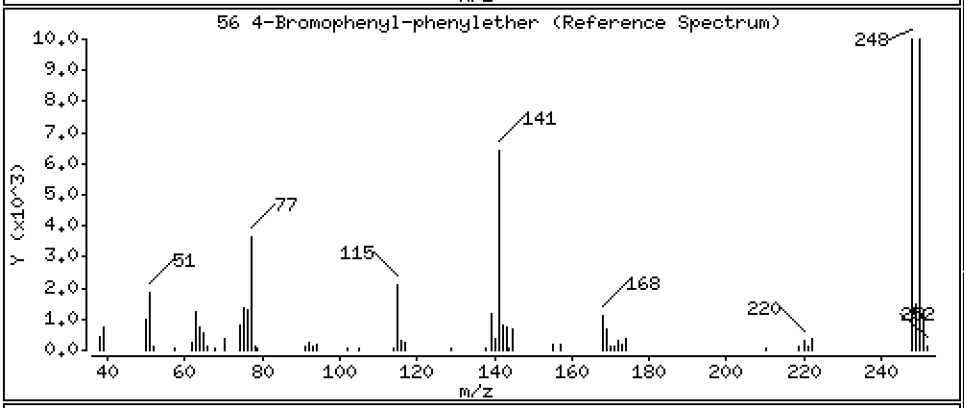
Concentration: 4.988 ug/mL

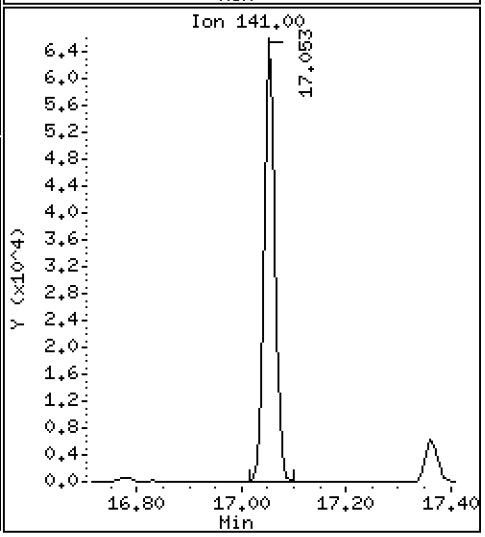


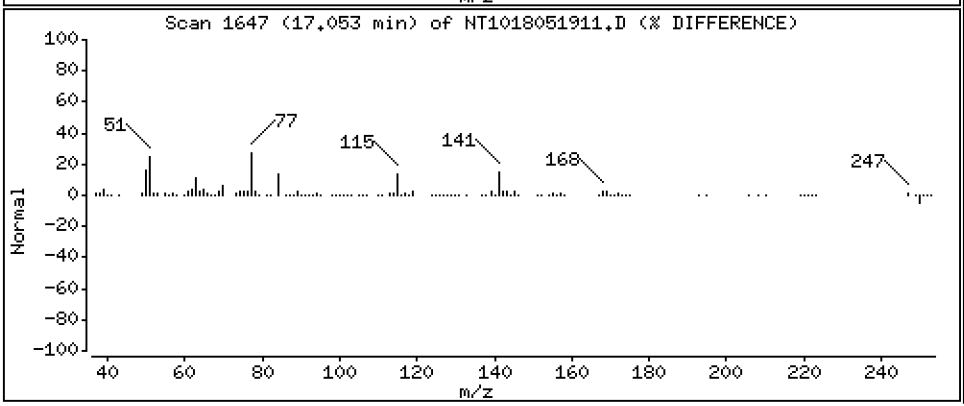












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

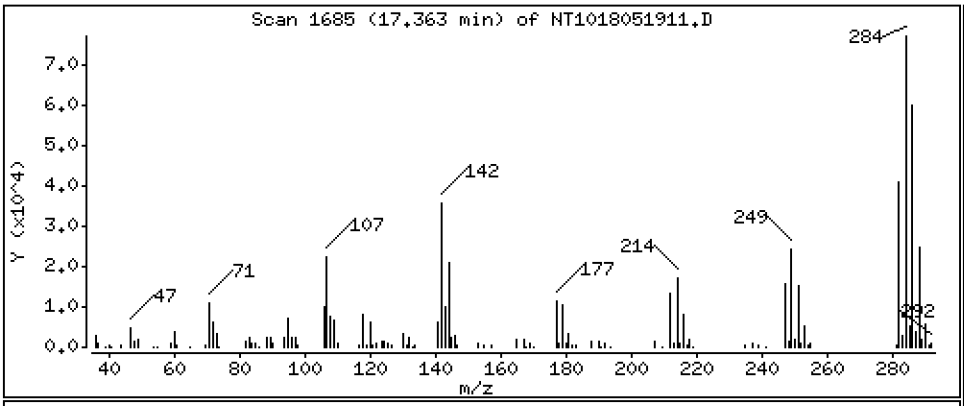
Operator: YZ

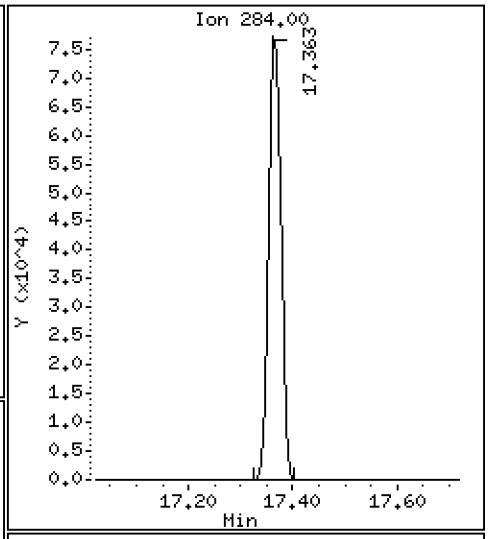
Column phase: ZB-5msi

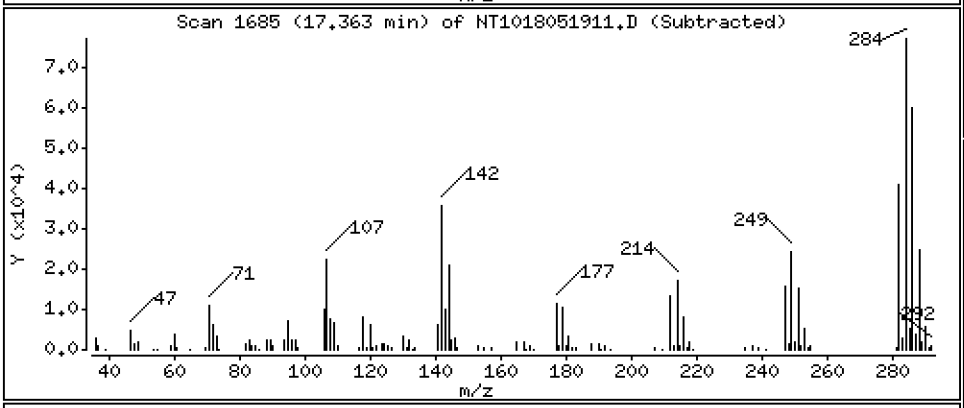
Column diameter: 0.25

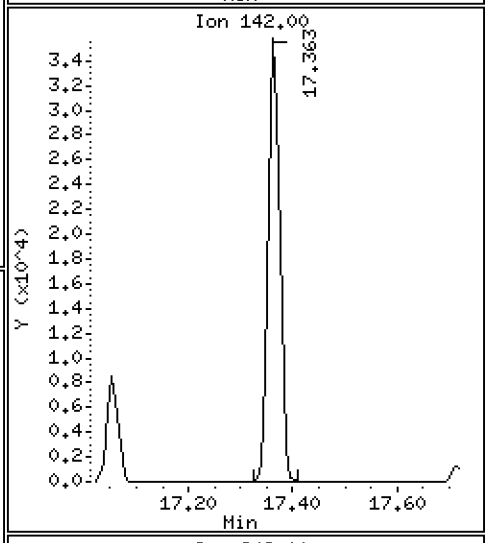
57 Hexachlorobenzene

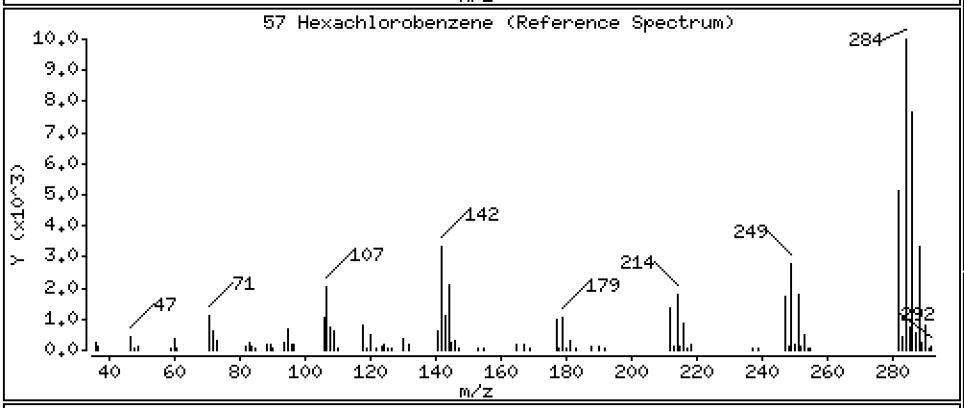
Concentration: 5.196 ug/mL

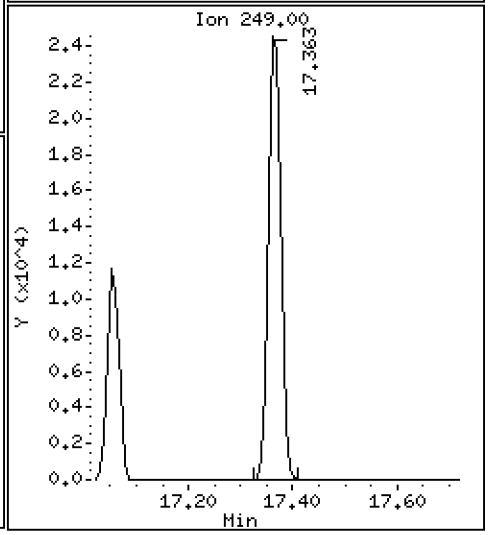


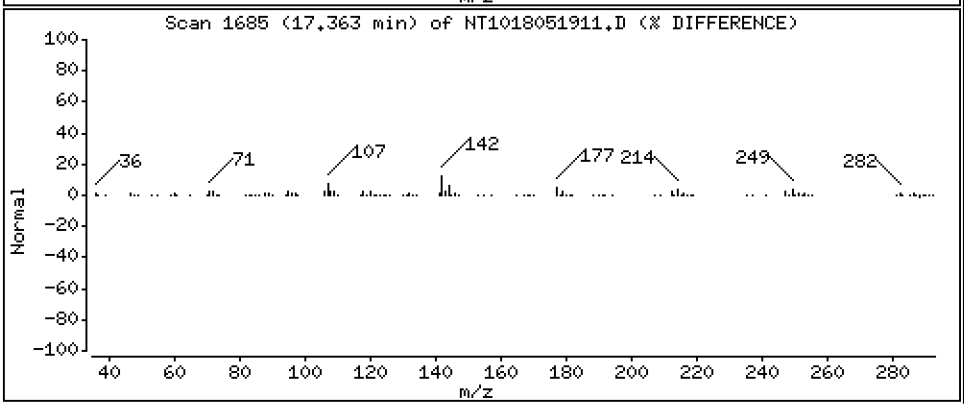












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

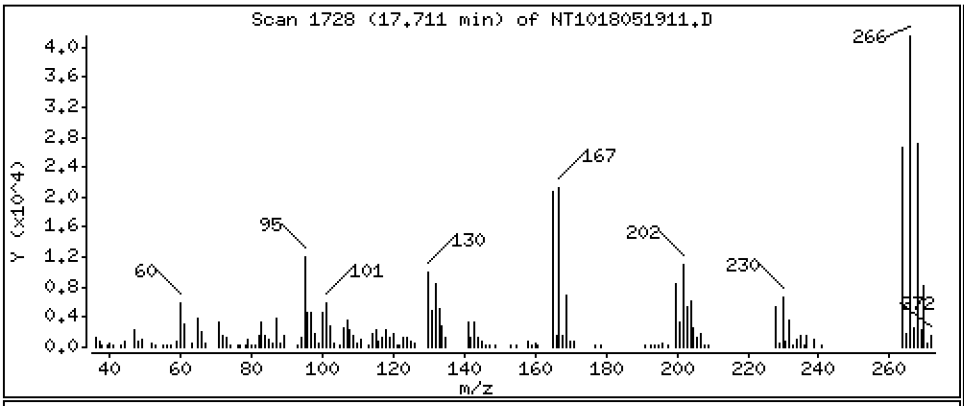
Operator: YZ

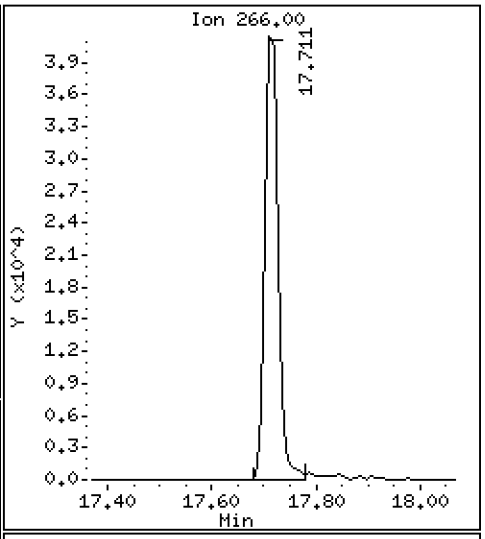
Column phase: ZB-5msi

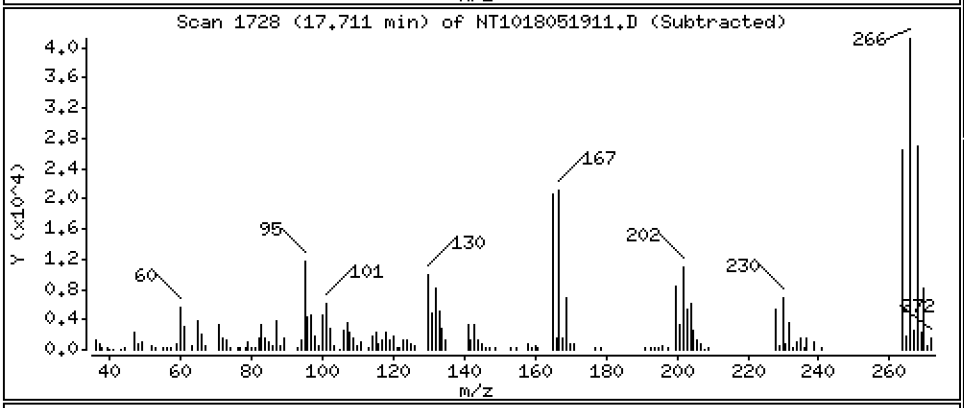
Column diameter: 0.25

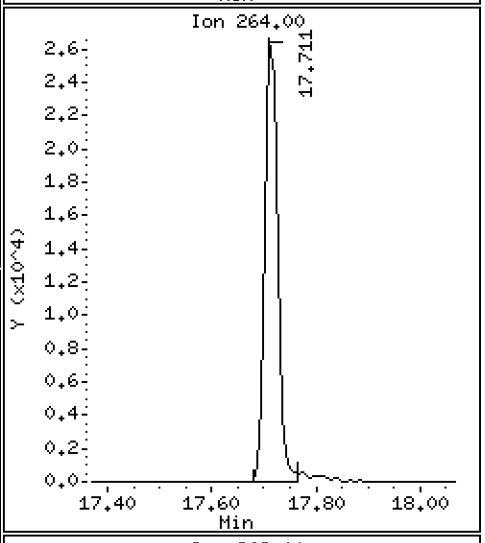
58 Pentachlorophenol

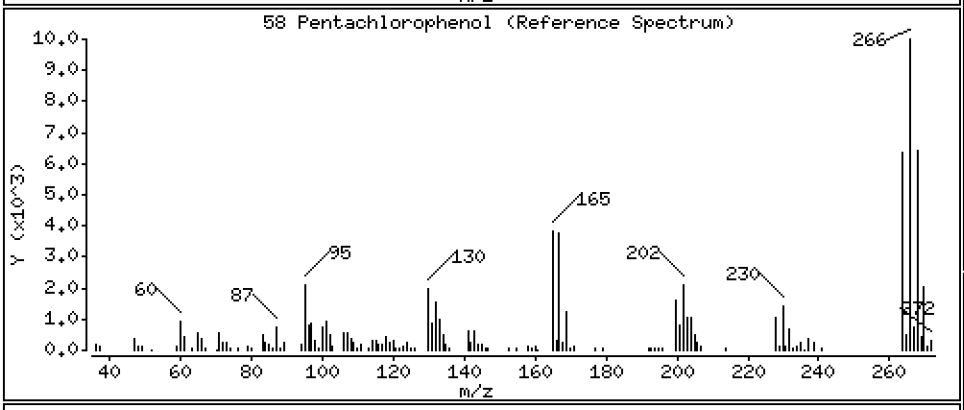
Concentration: 4.992 ug/mL

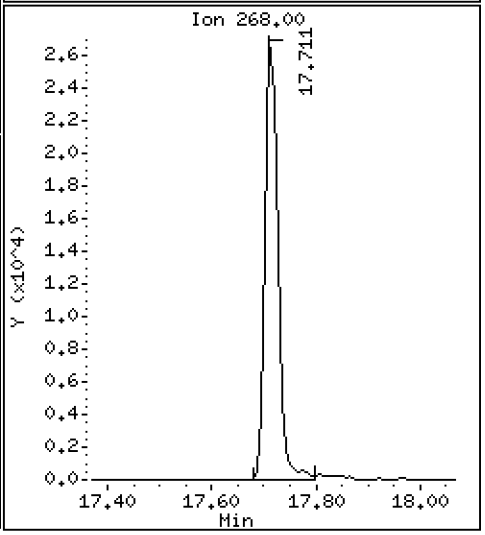


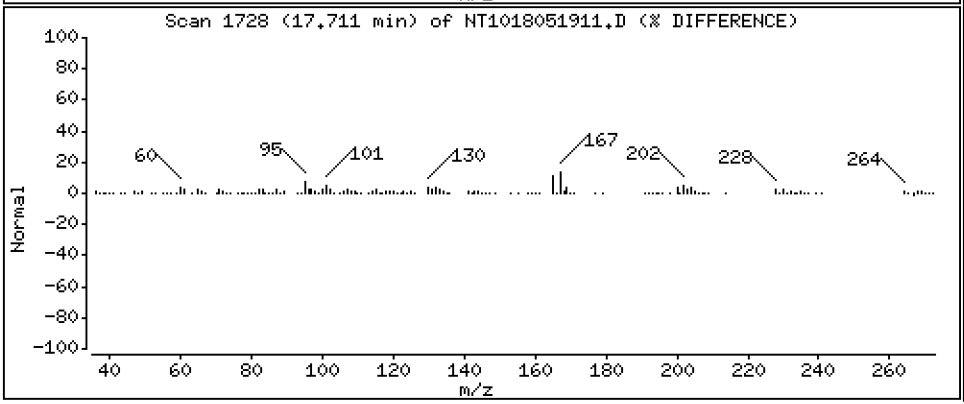












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

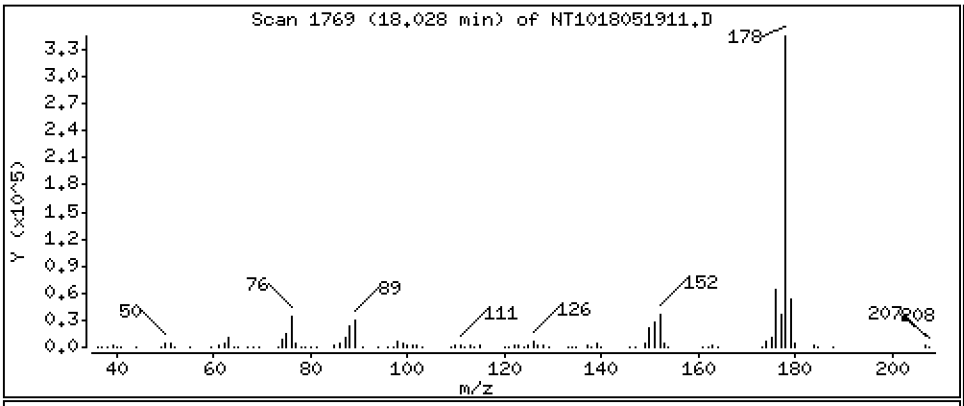
Operator: YZ

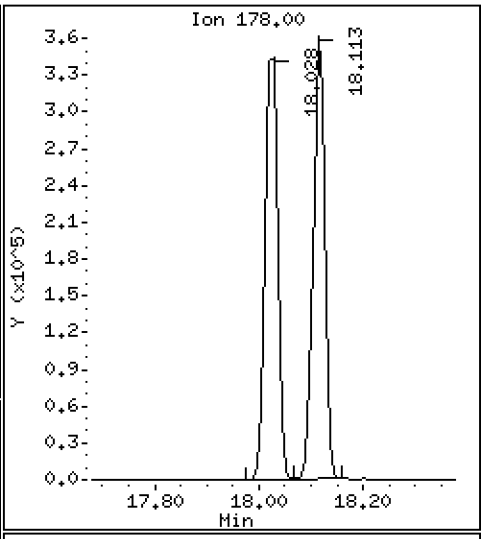
Column phase: ZB-5msi

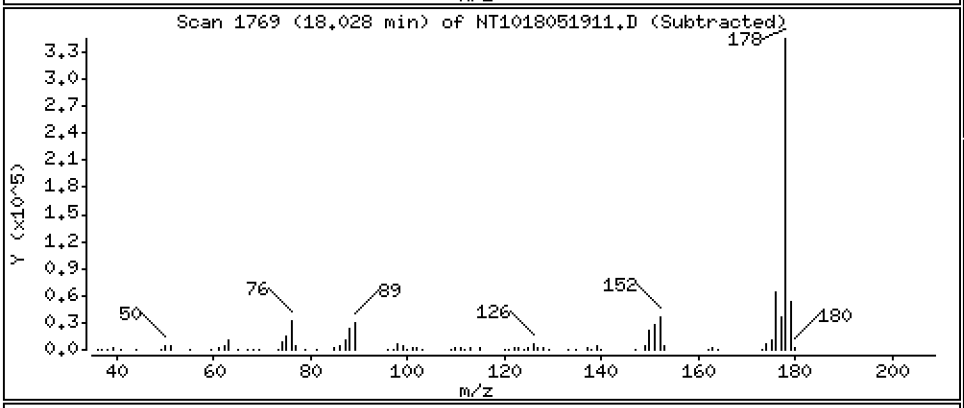
Column diameter: 0.25

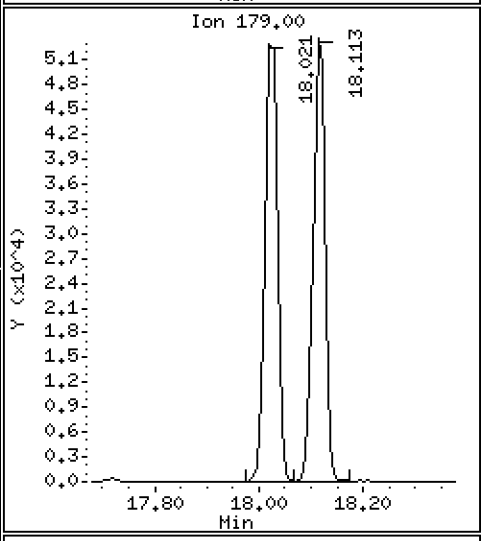
60 Phenanthrene

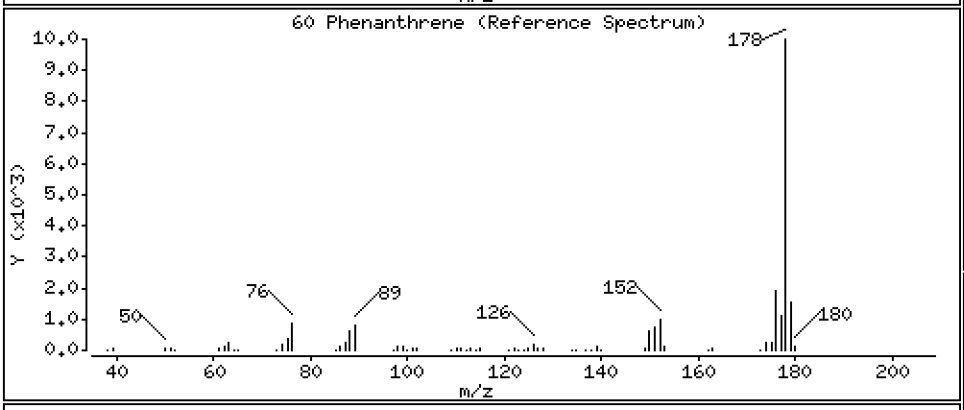
Concentration: 5.088 ug/mL

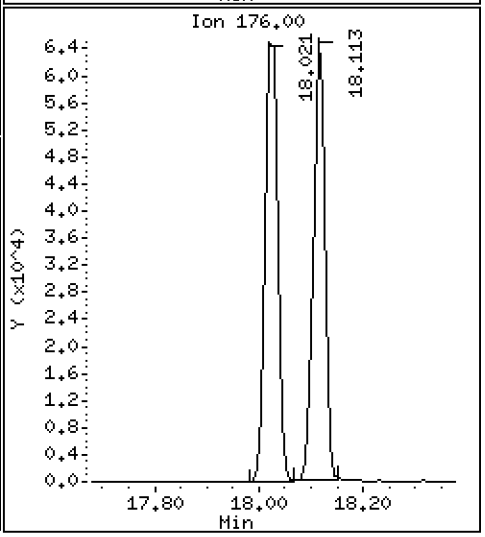


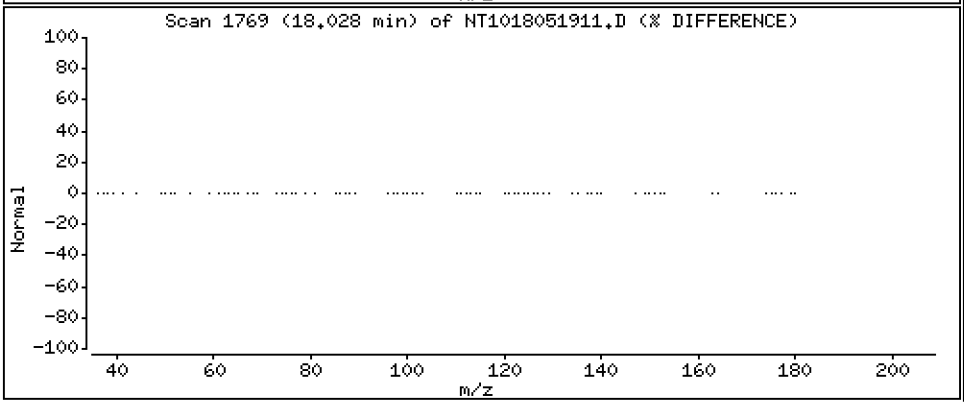












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

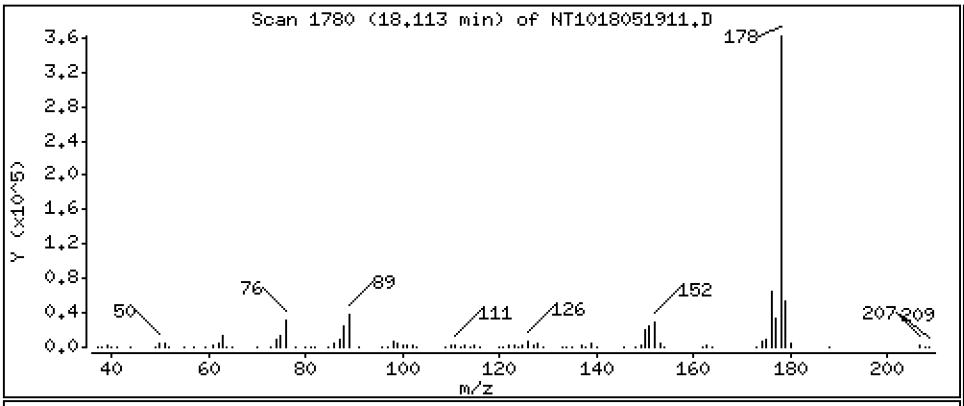
Operator: YZ

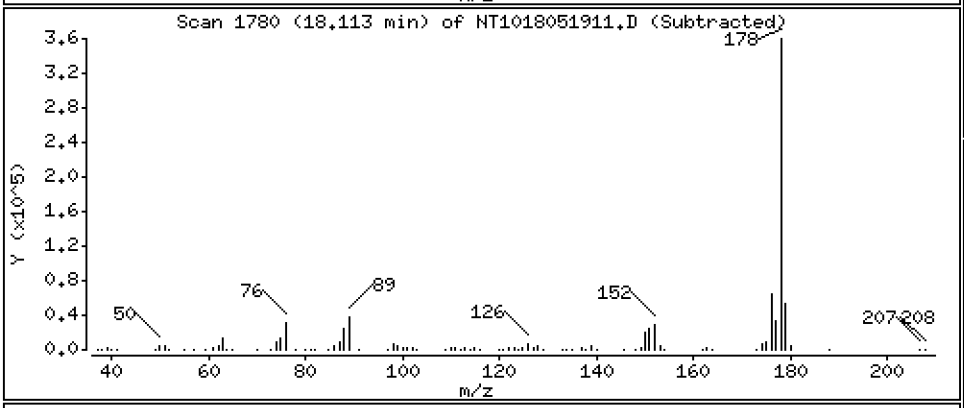
Column phase: ZB-5msi

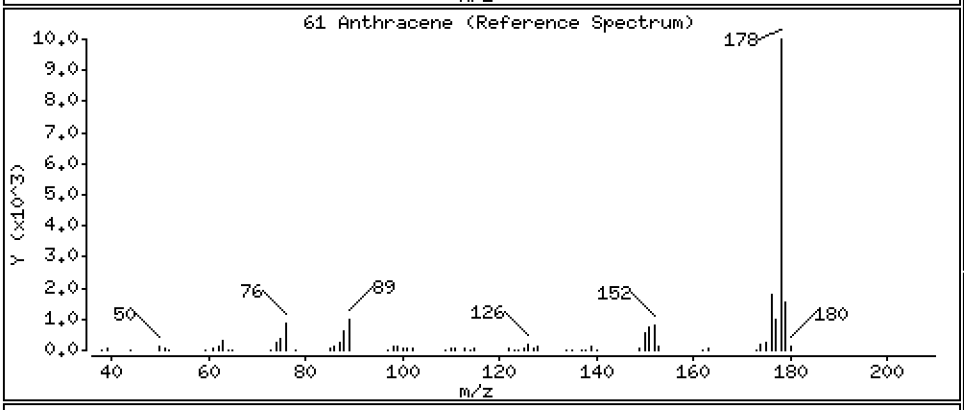
Column diameter: 0.25

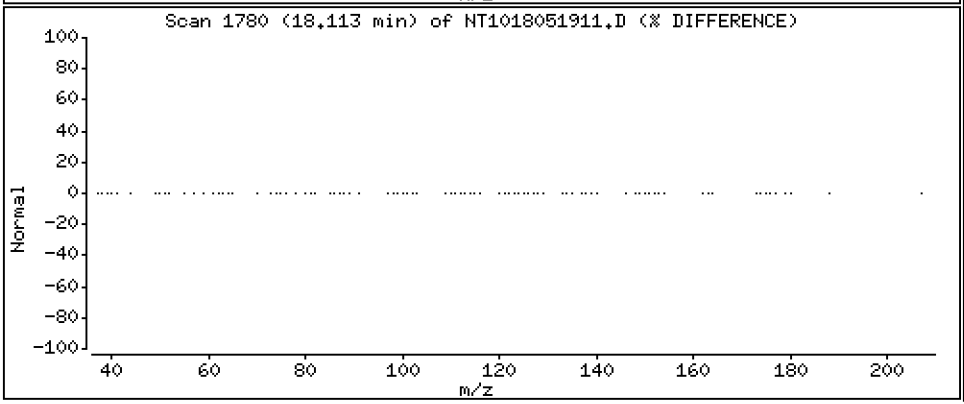
61 Anthracene

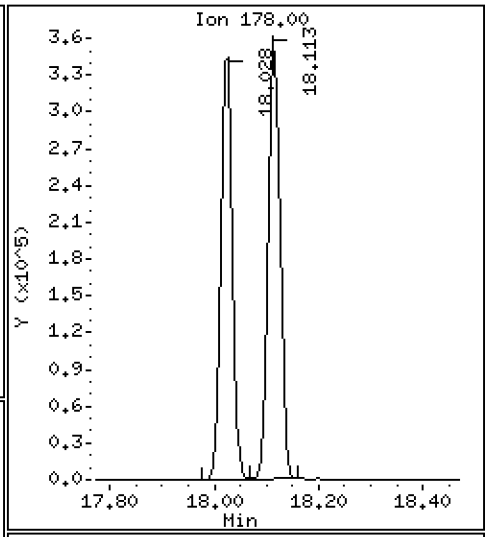
Concentration: 4.805 ug/mL

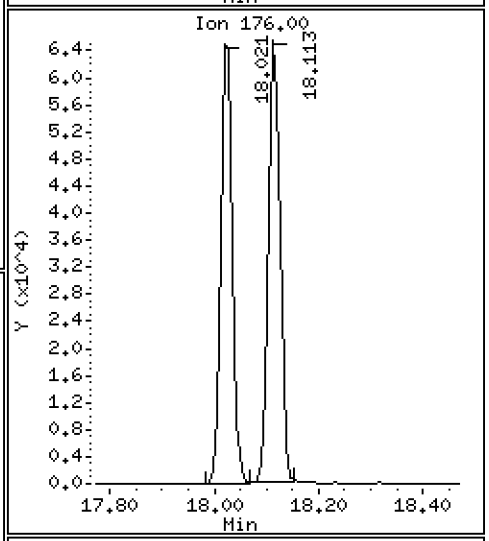


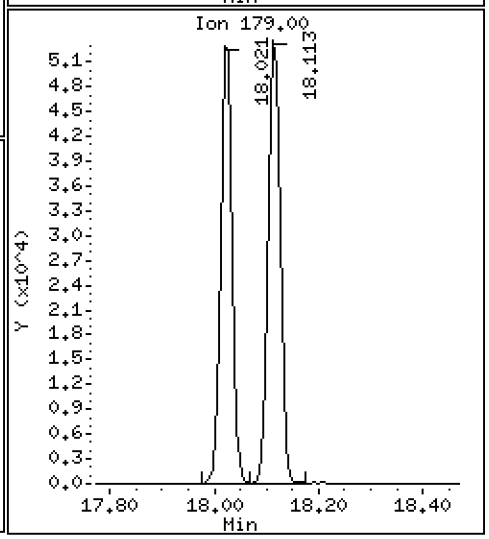












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

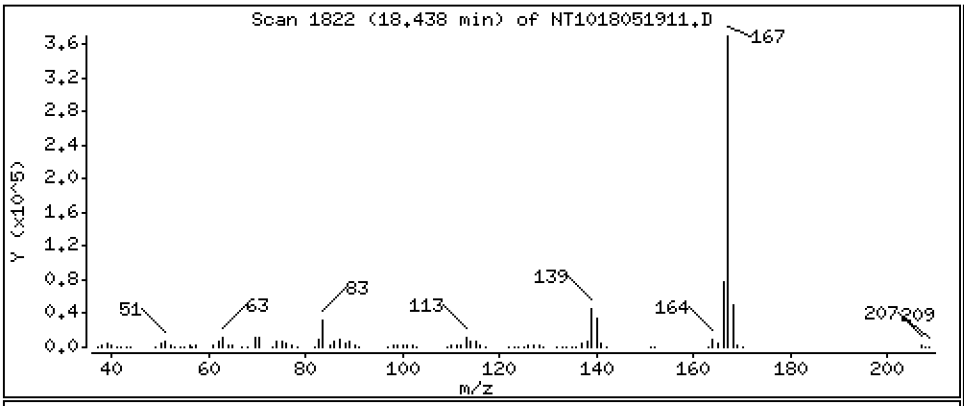
Operator: YZ

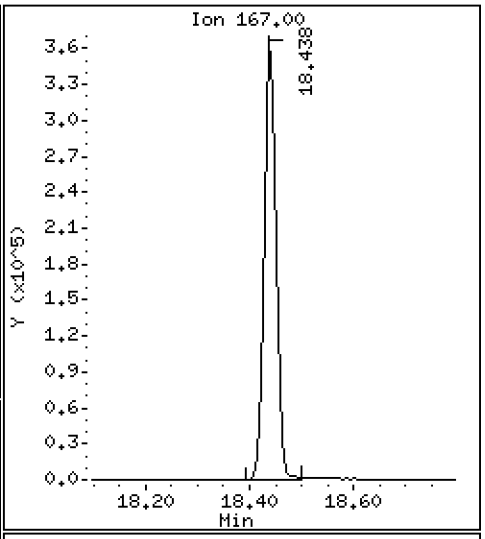
Column phase: ZB-5msi

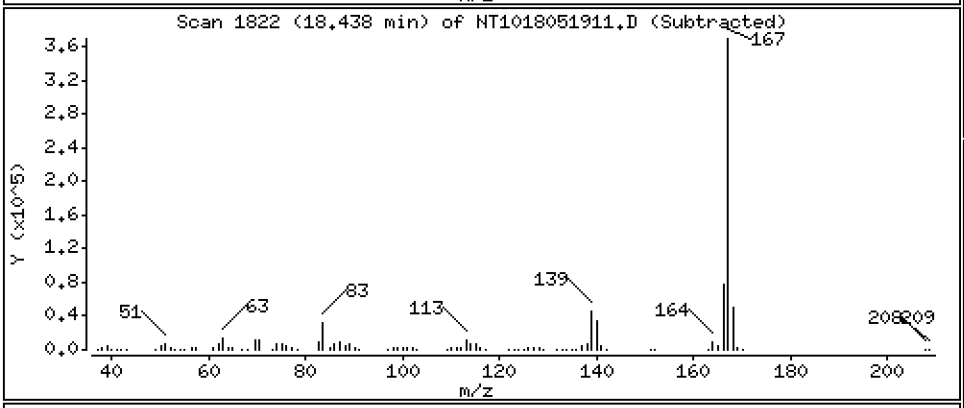
Column diameter: 0.25

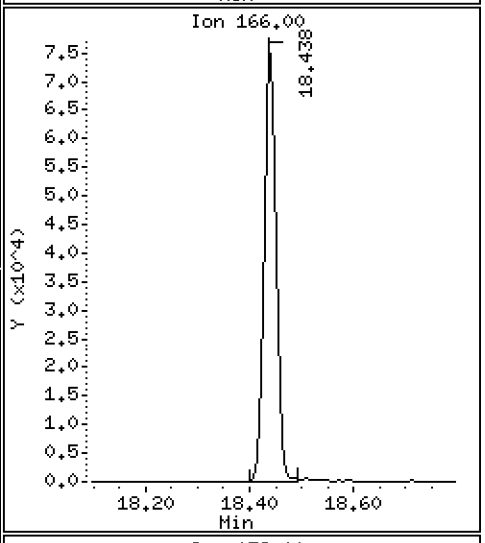
62 Carbazole

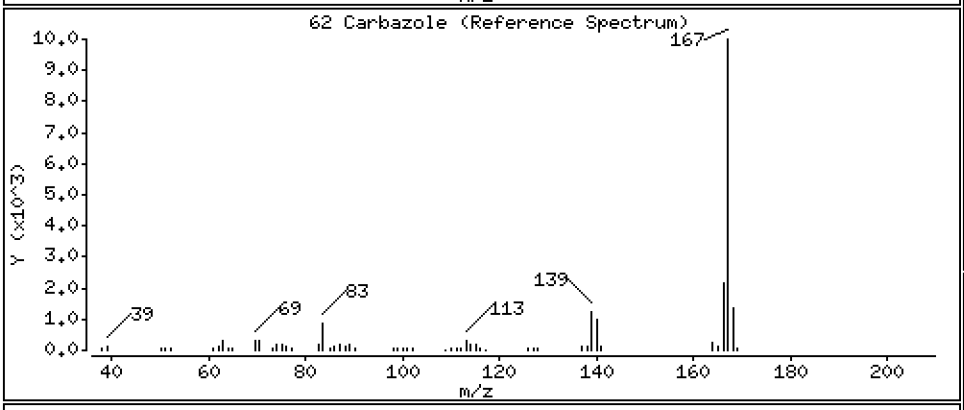
Concentration: 5.432 ug/mL

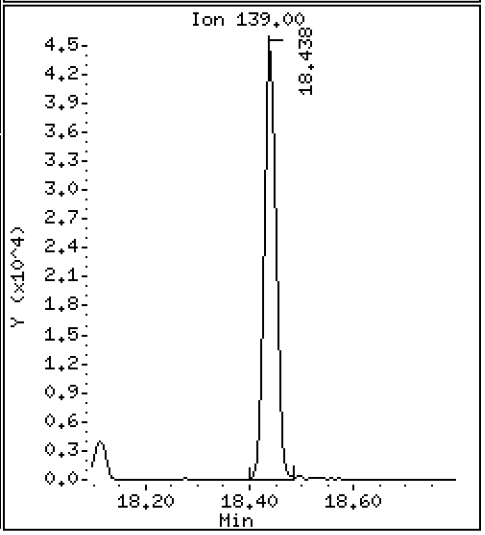


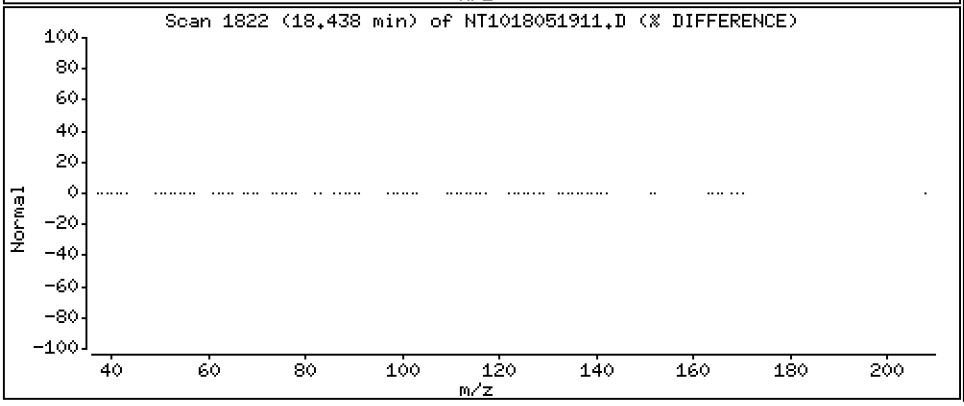












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

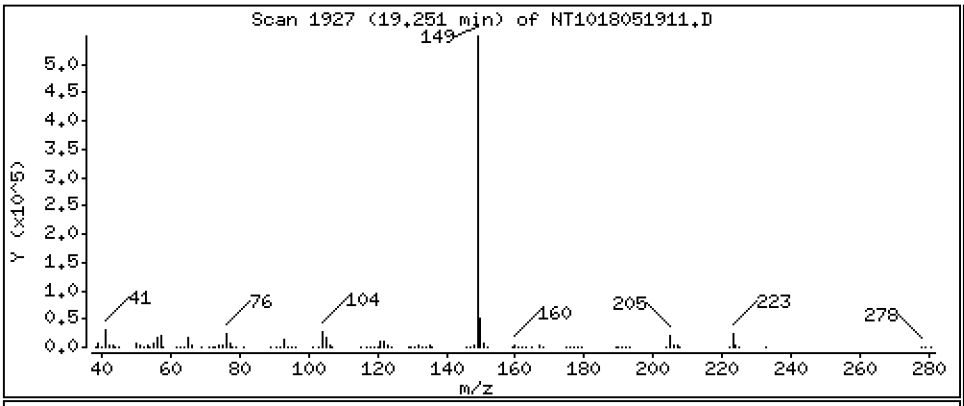
Operator: YZ

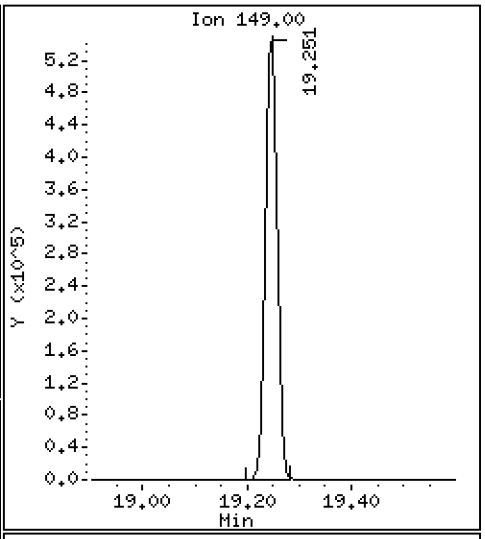
Column phase: ZB-5msi

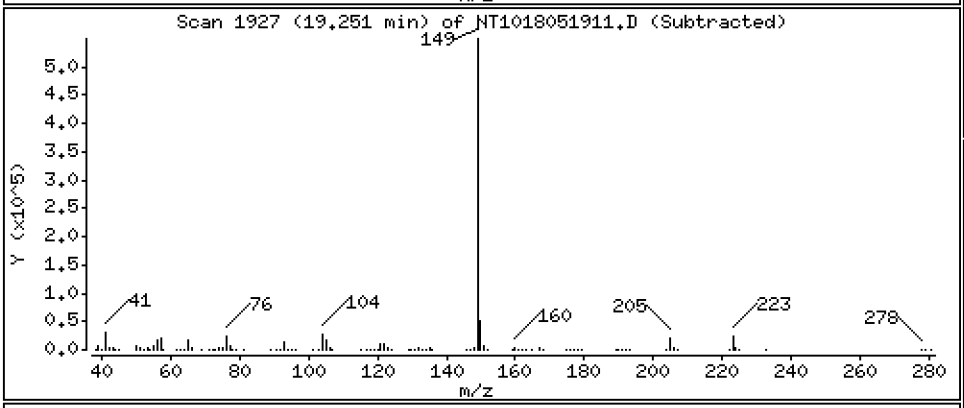
Column diameter: 0.25

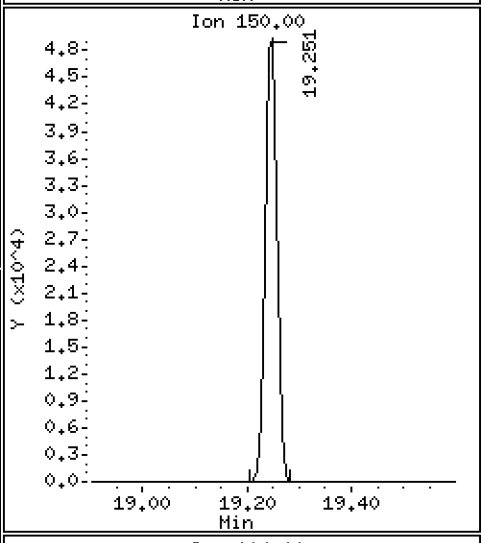
63 Di-n-butylphthalate

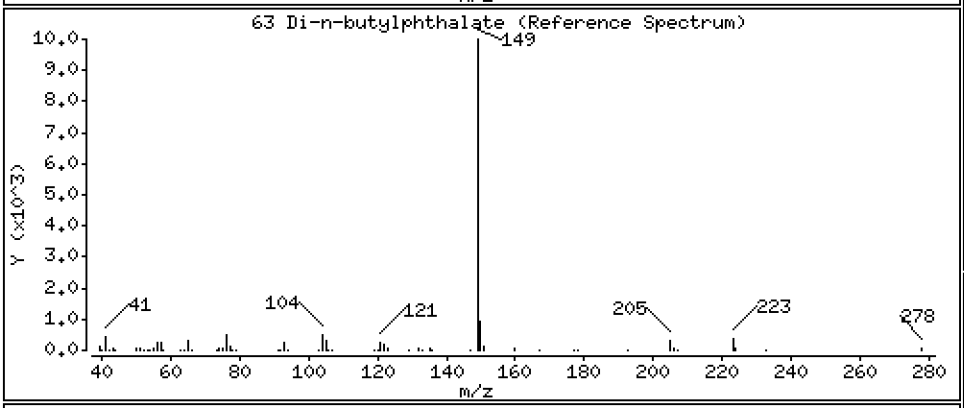
Concentration: 5.294 ug/mL

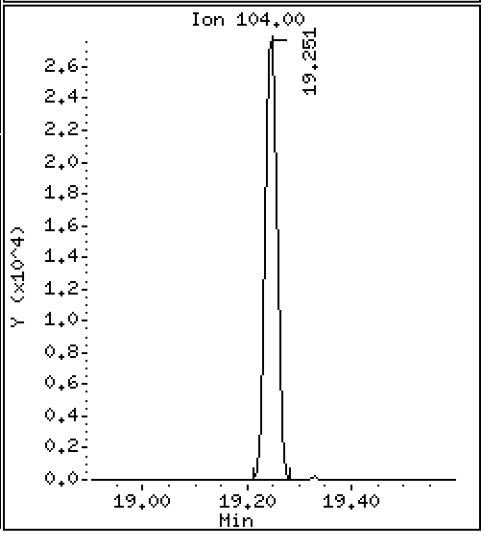


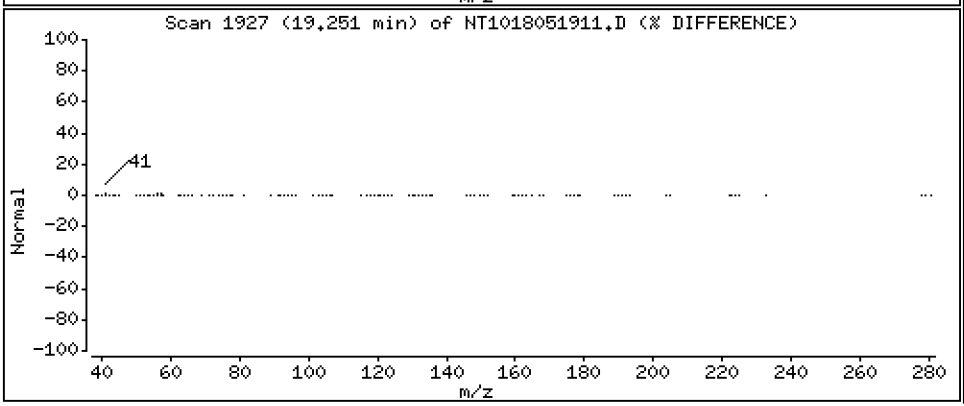












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

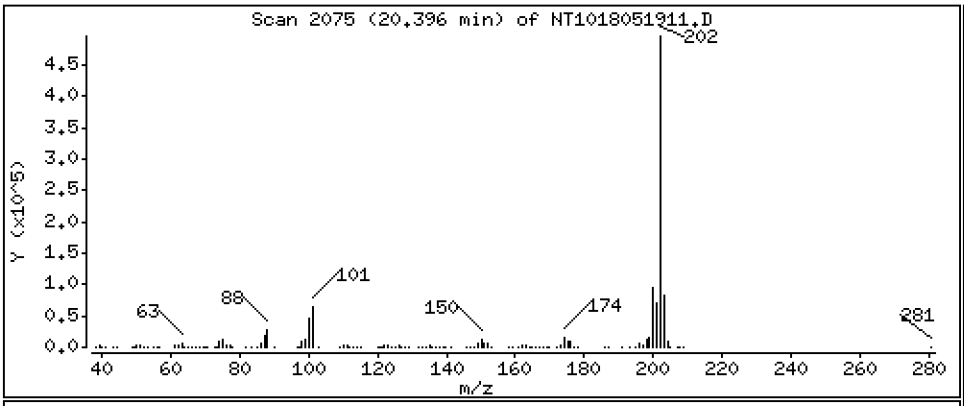
Operator: YZ

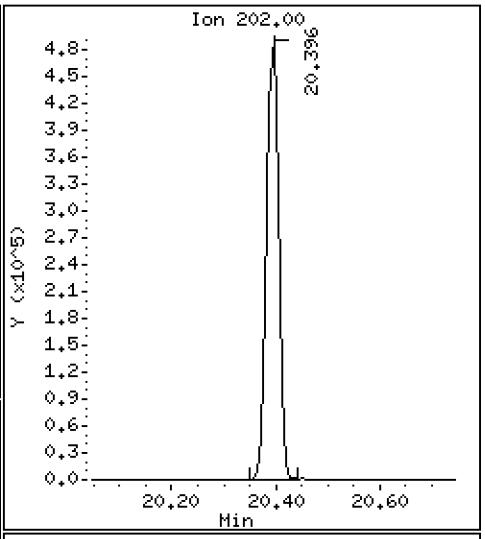
Column phase: ZB-5msi

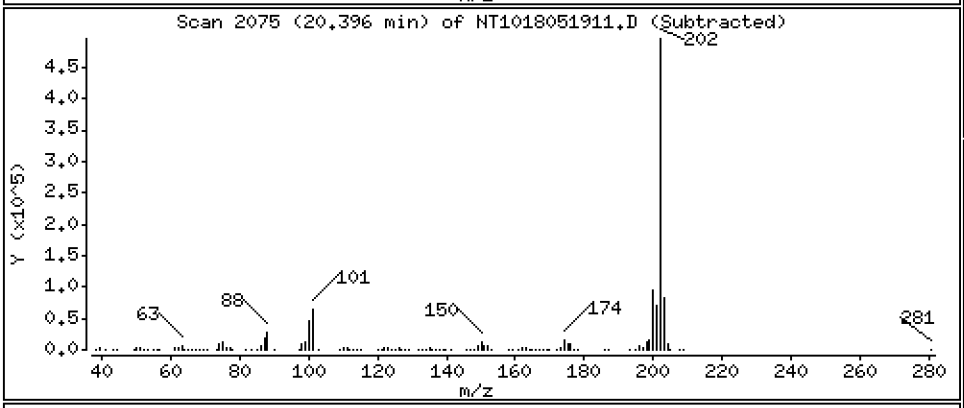
Column diameter: 0.25

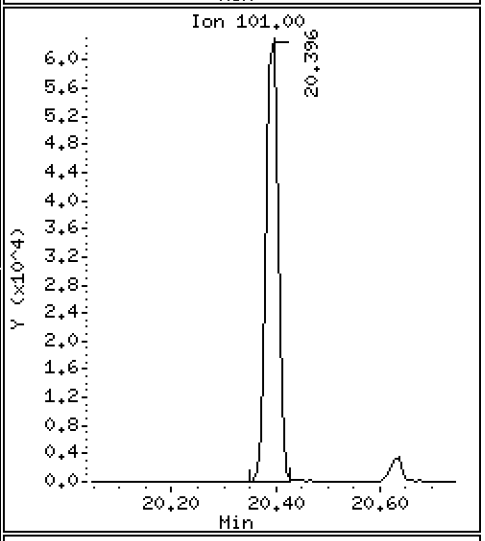
64 Fluoranthene

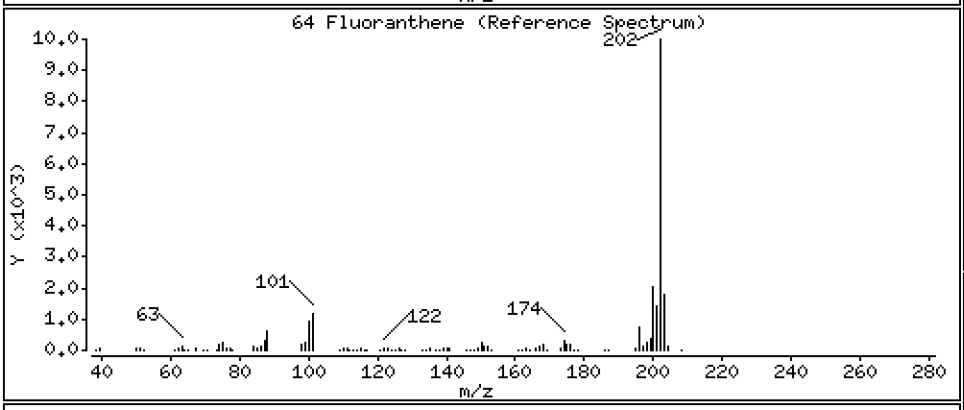
Concentration: 5.214 ug/mL

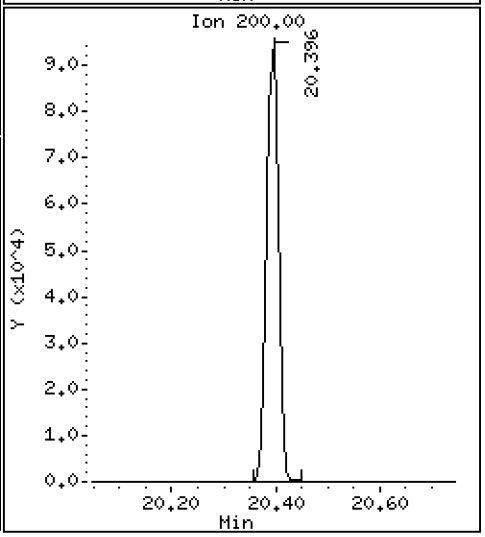


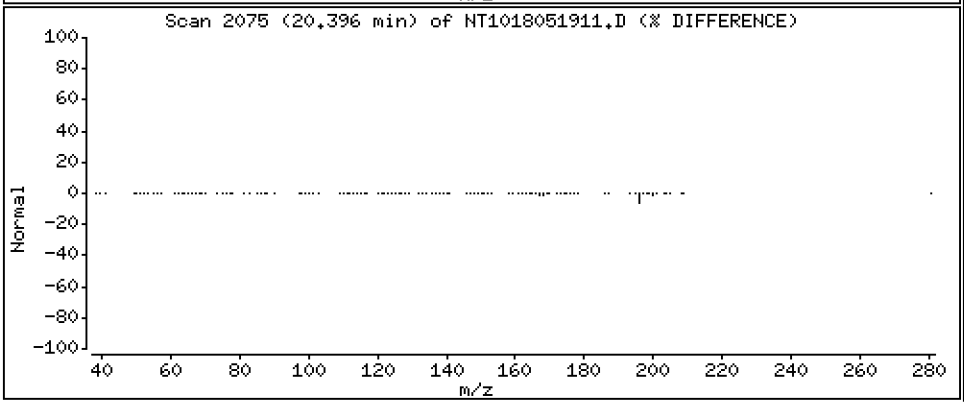












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

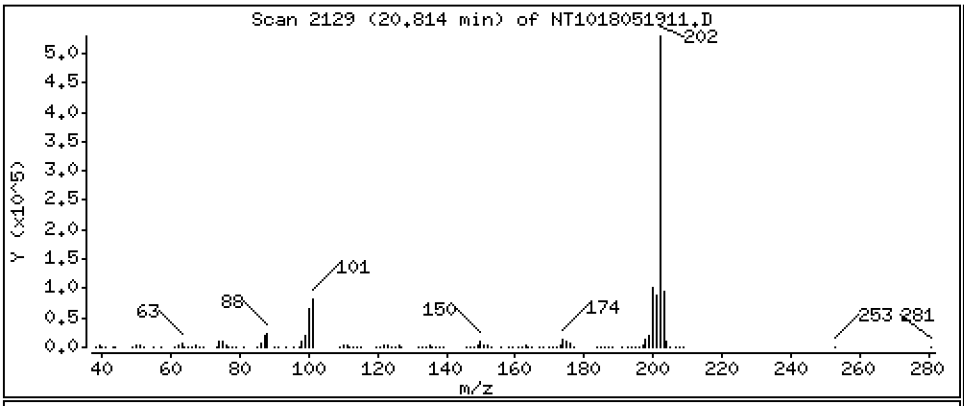
Operator: YZ

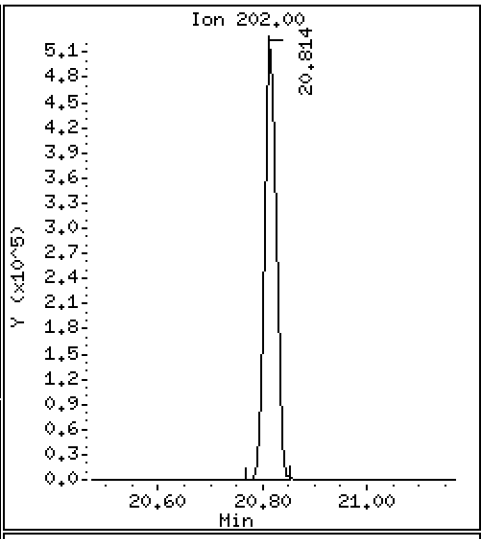
Column phase: ZB-5msi

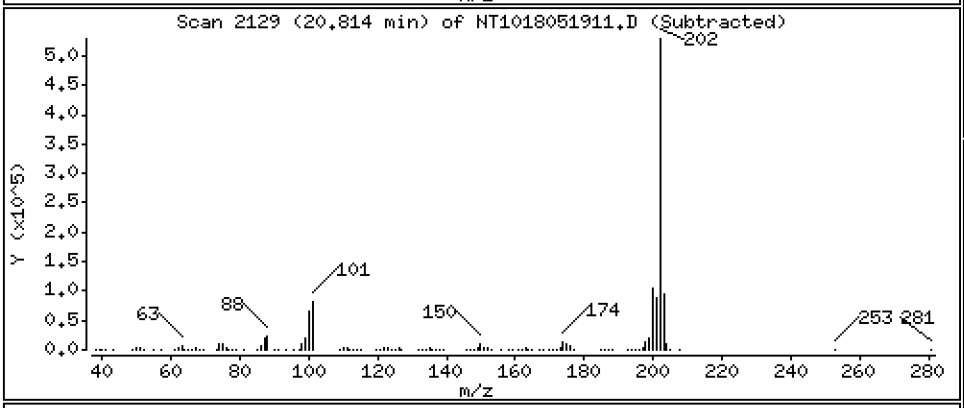
Column diameter: 0.25

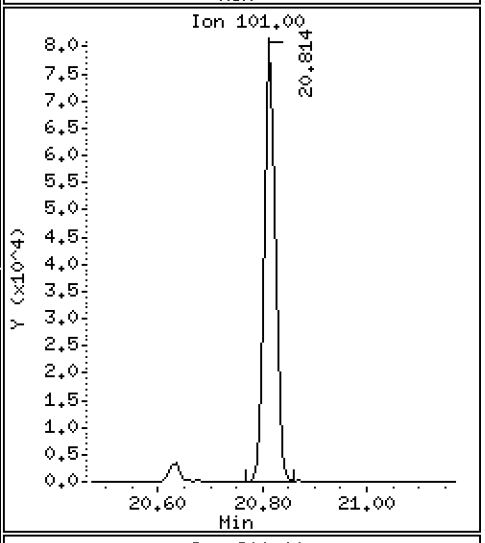
65 Pyrene

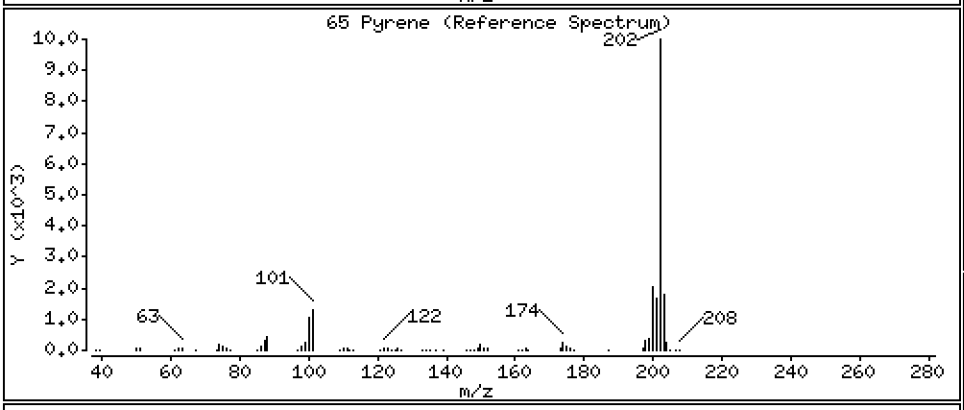
Concentration: 5.251 ug/mL

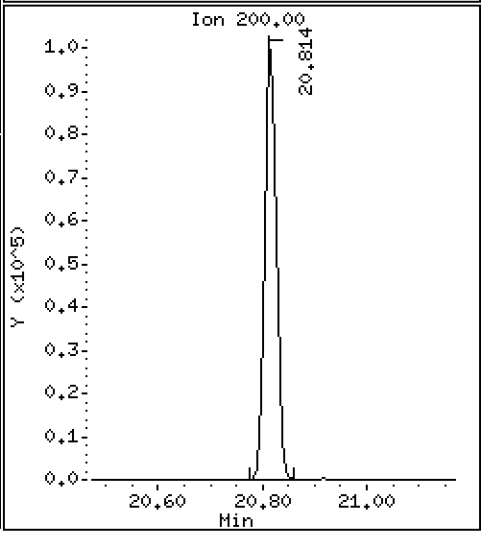


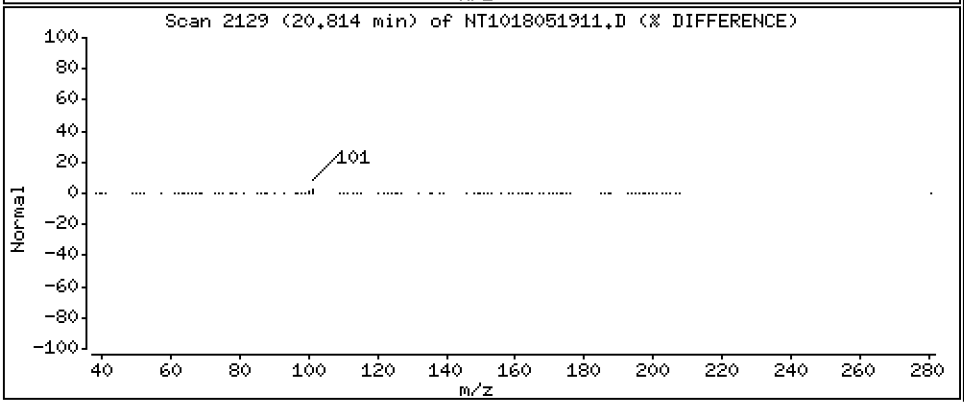












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

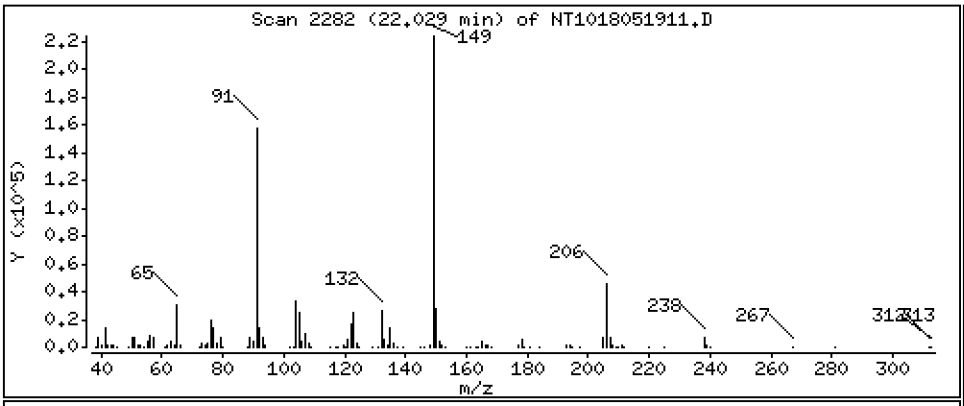
Operator: YZ

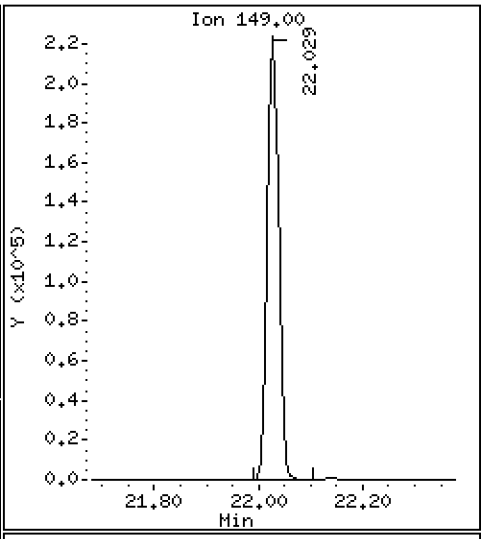
Column phase: ZB-5msi

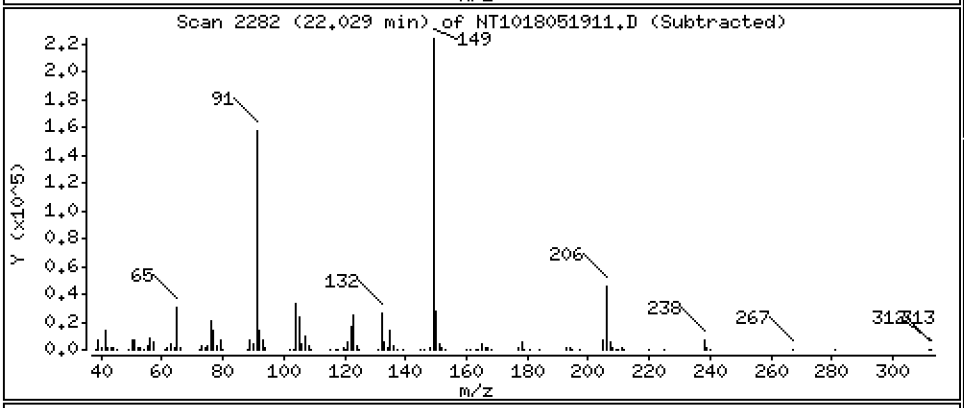
Column diameter: 0.25

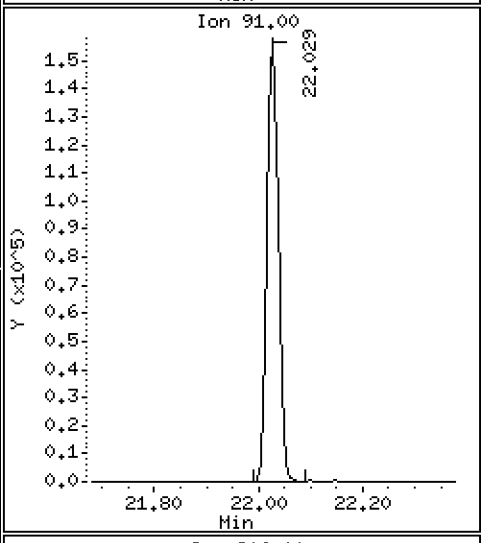
67 Butylbenzylphthalate

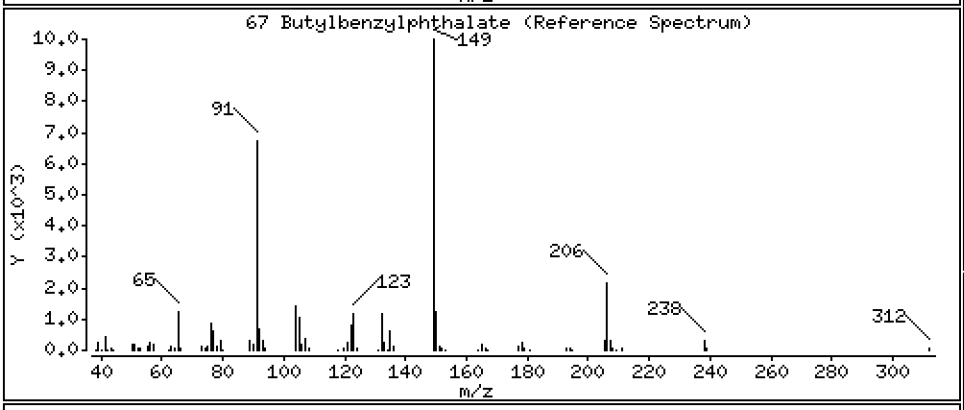
Concentration: 5.390 ug/mL

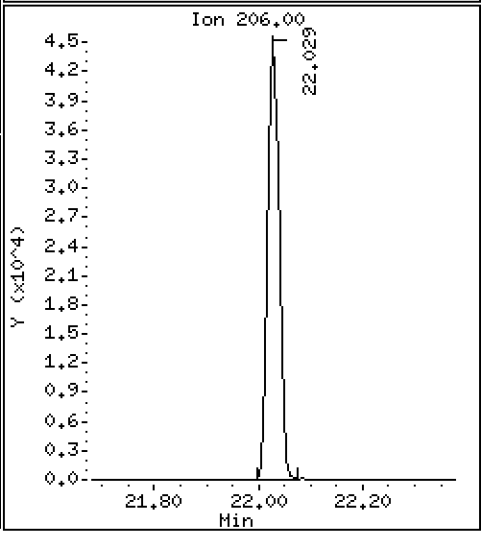


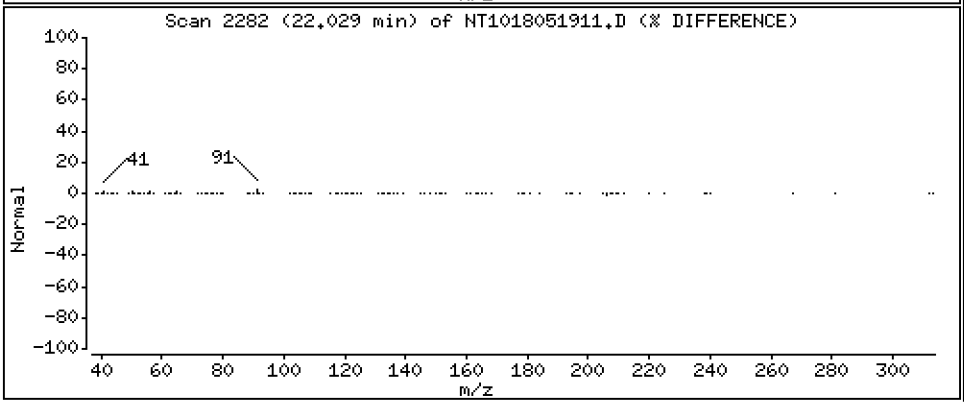












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

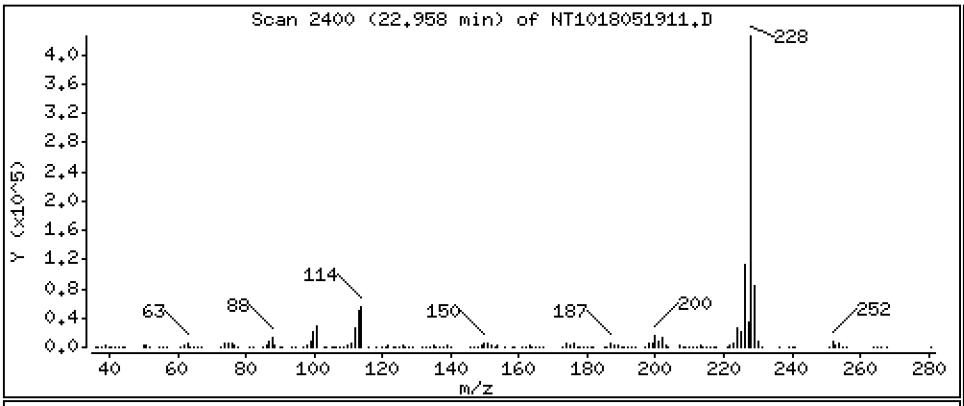
Operator: YZ

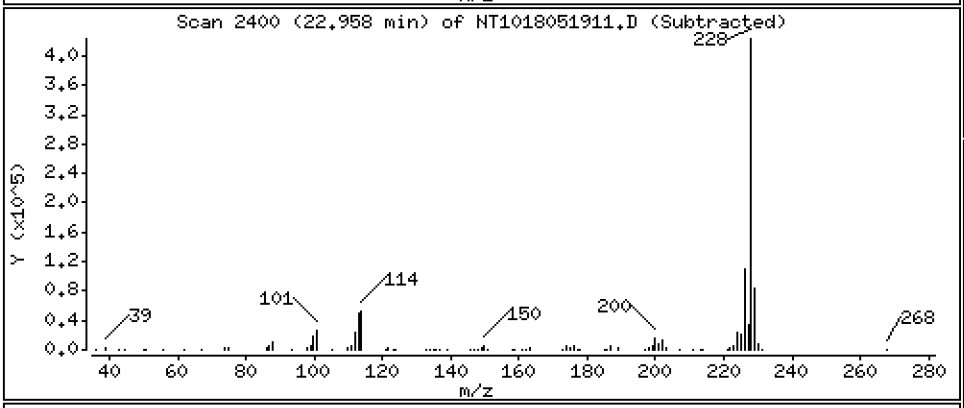
Column phase: ZB-5msi

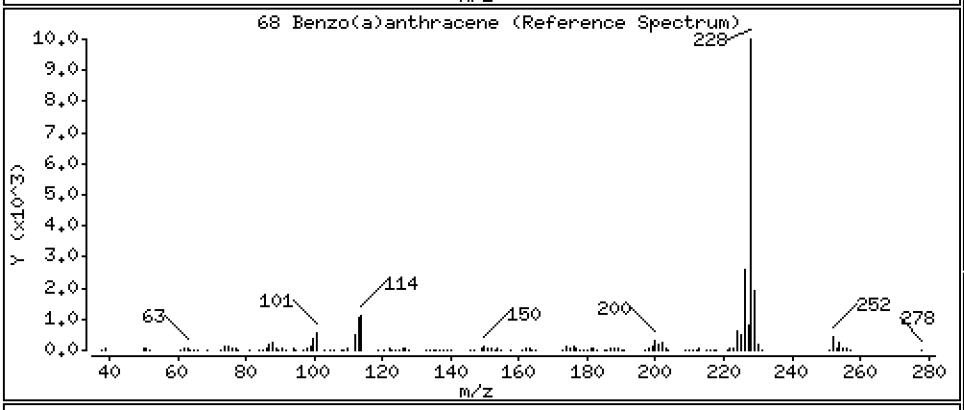
Column diameter: 0.25

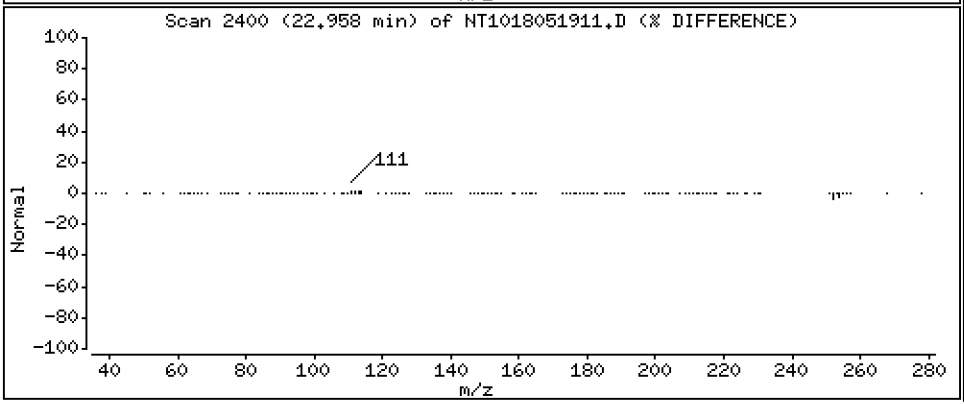
68 Benzo(a)anthracene

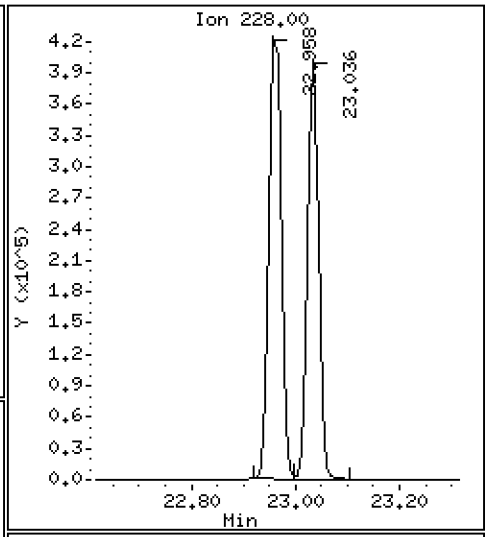
Concentration: 5.030 ug/mL

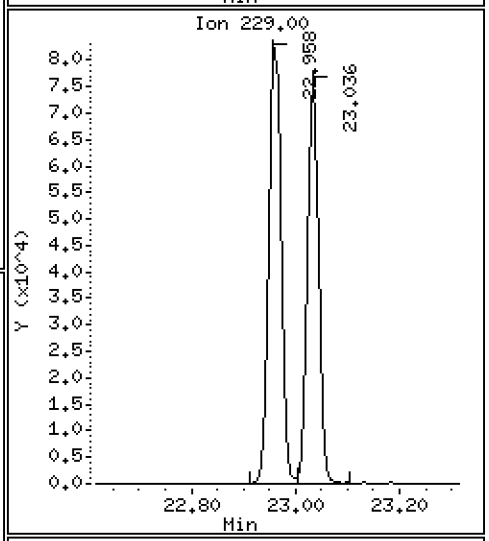


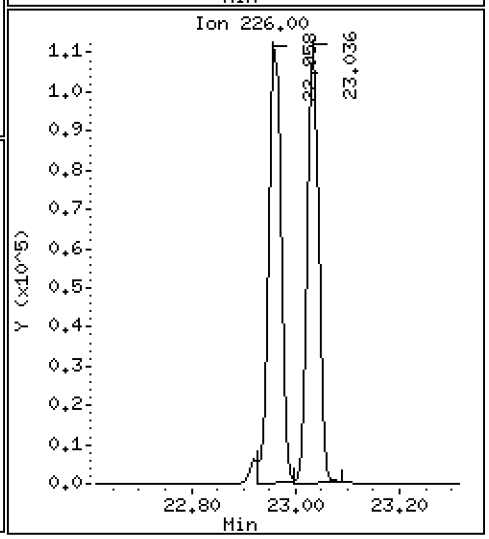












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

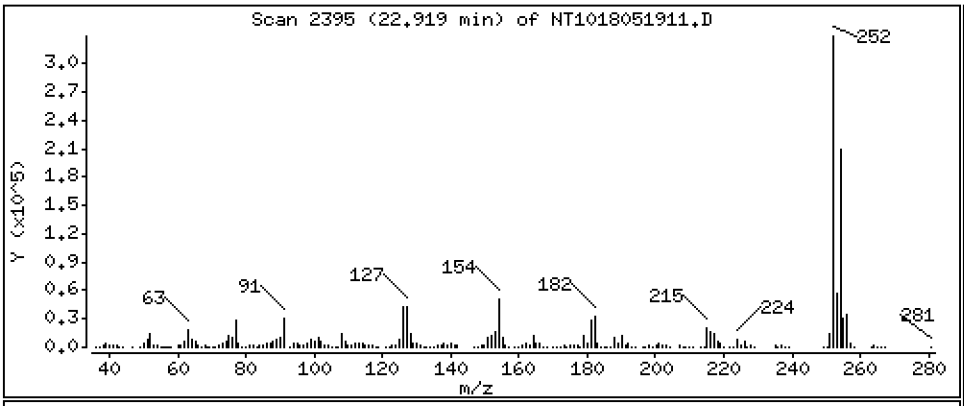
Operator: YZ

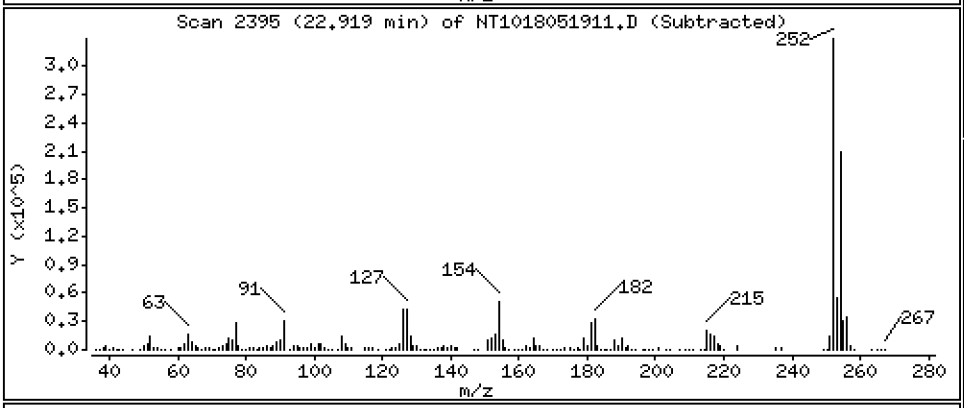
Column phase: ZB-5msi

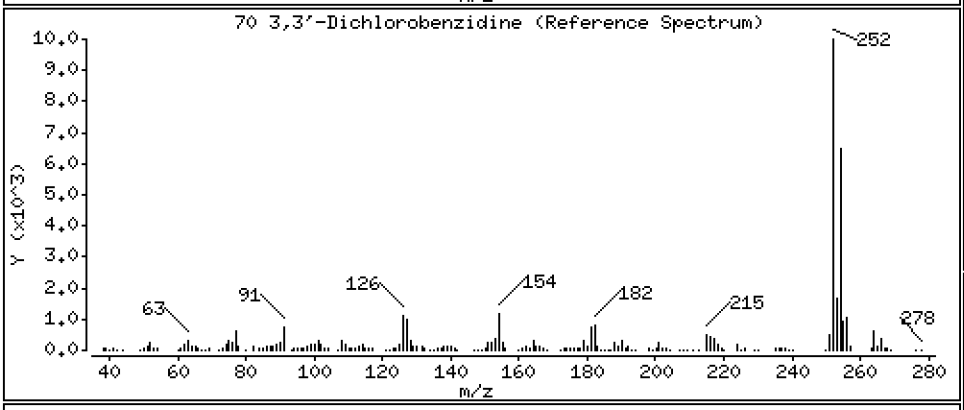
Column diameter: 0.25

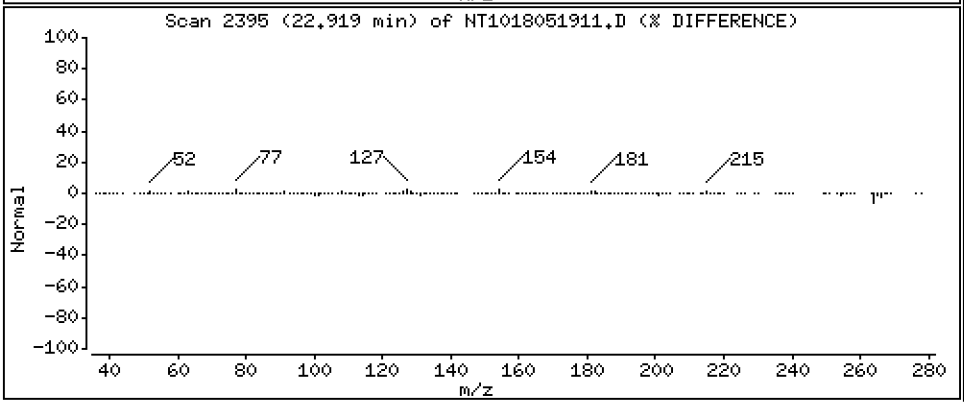
70 3,3'-Dichlorobenzidine

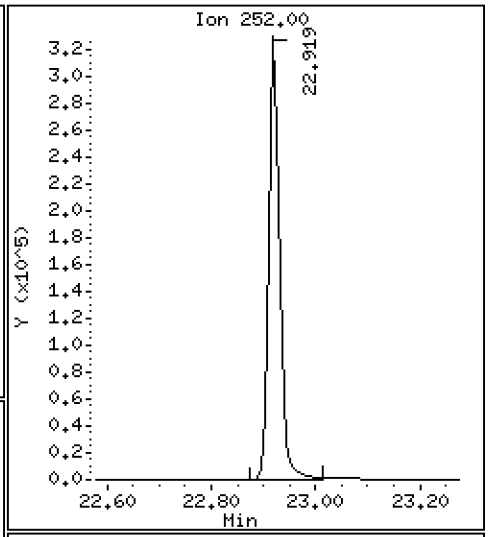
Concentration: 9.992 ug/mL

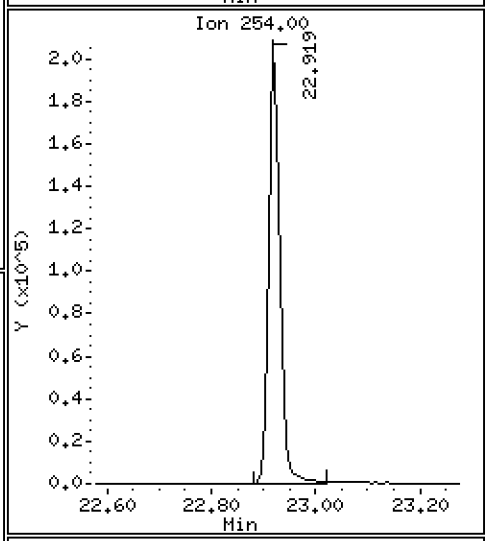


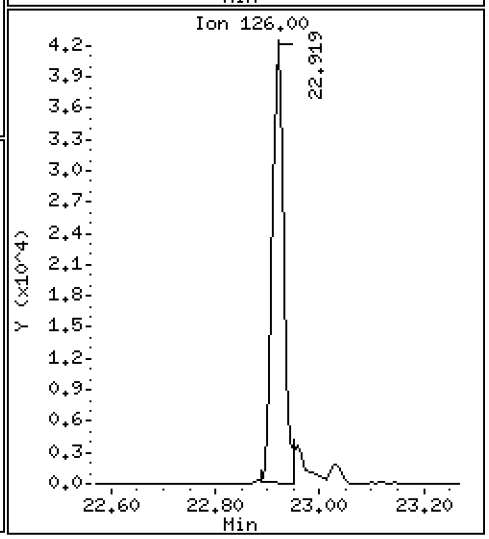












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

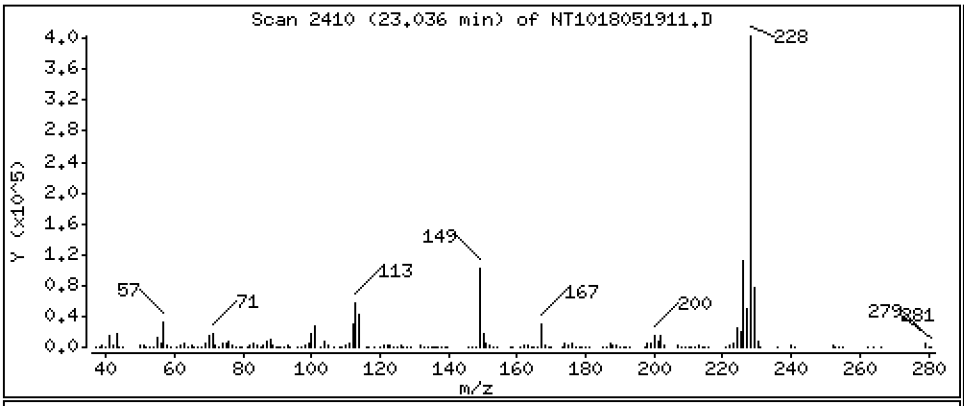
Operator: YZ

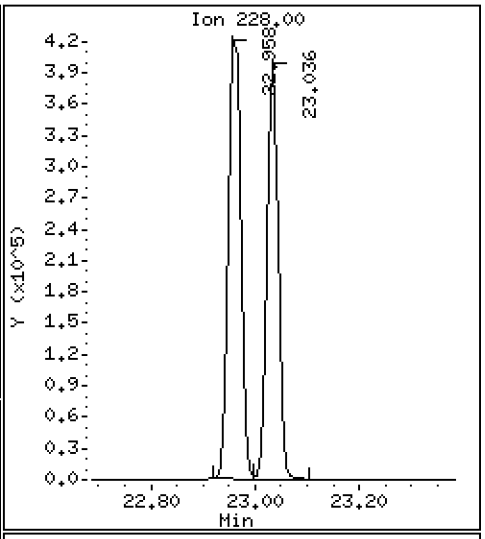
Column phase: ZB-5msi

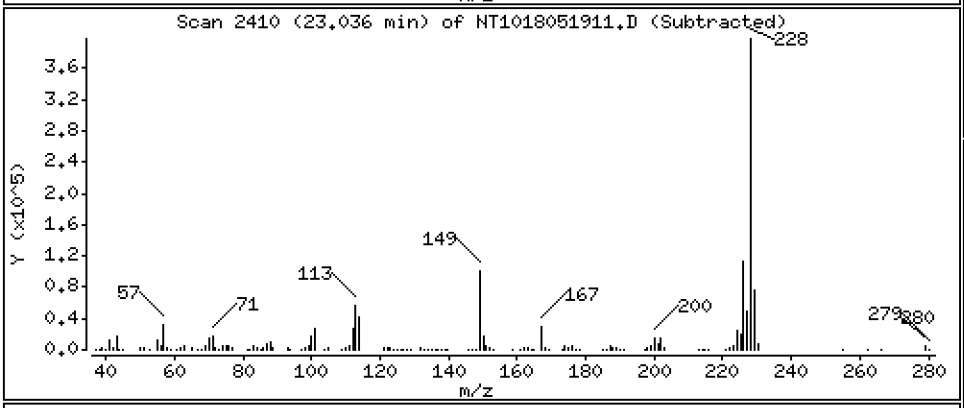
Column diameter: 0.25

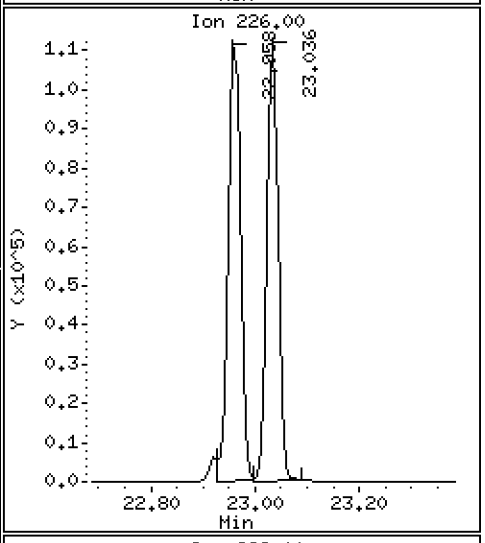
71 Chrysene

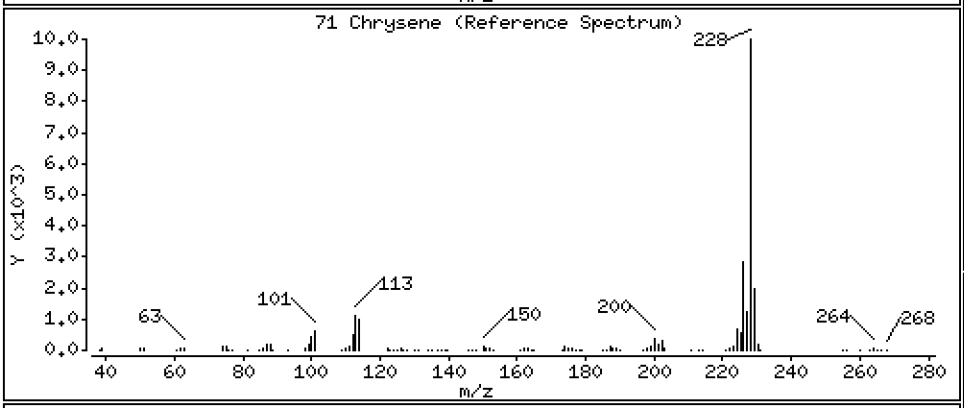
Concentration: 5.260 ug/mL

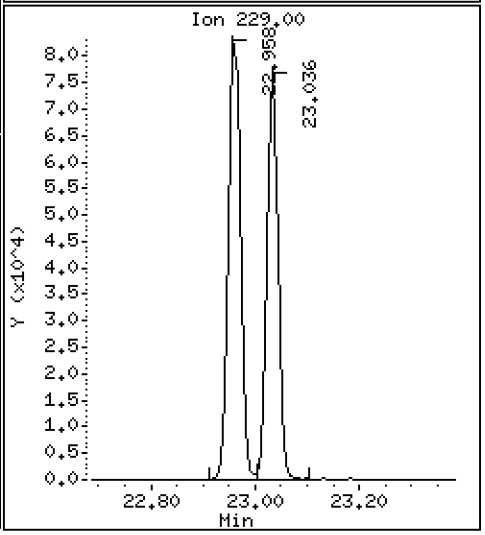


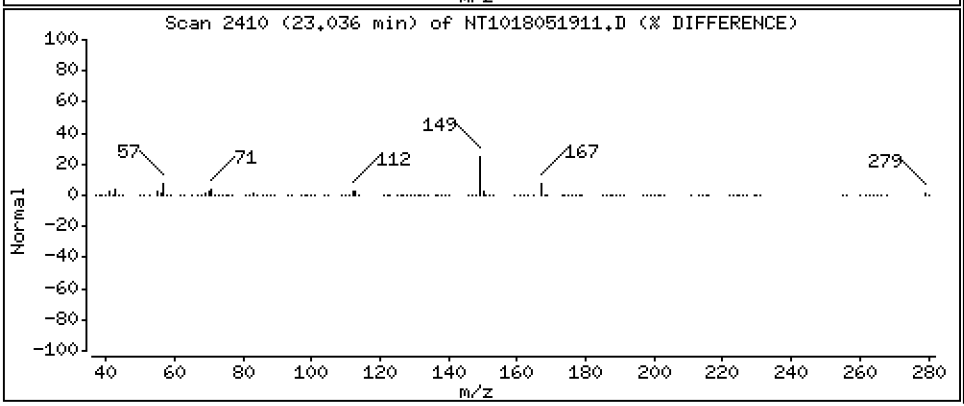












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

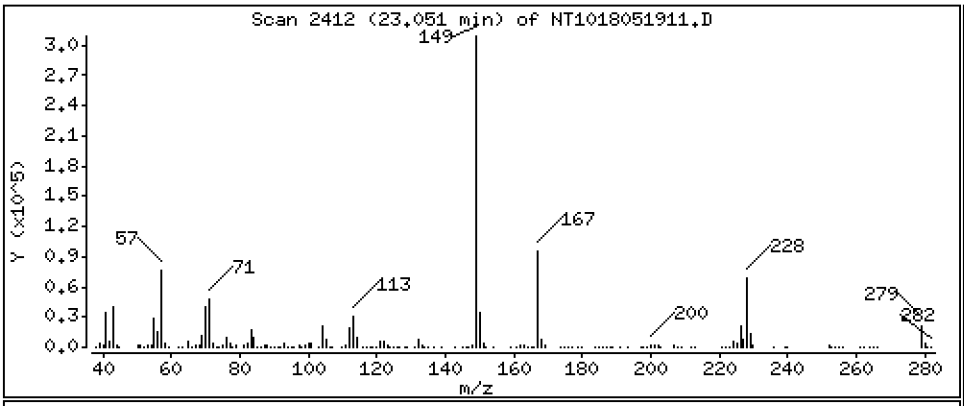
Operator: YZ

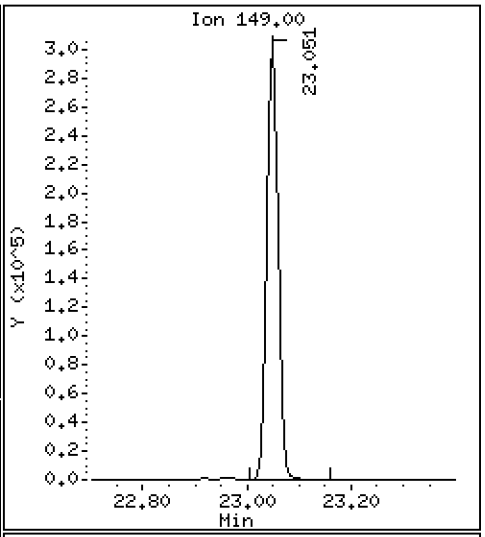
Column phase: ZB-5msi

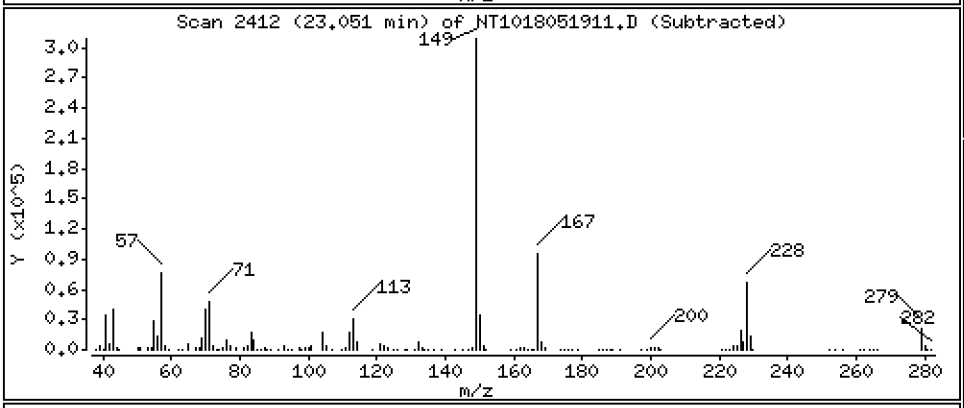
Column diameter: 0.25

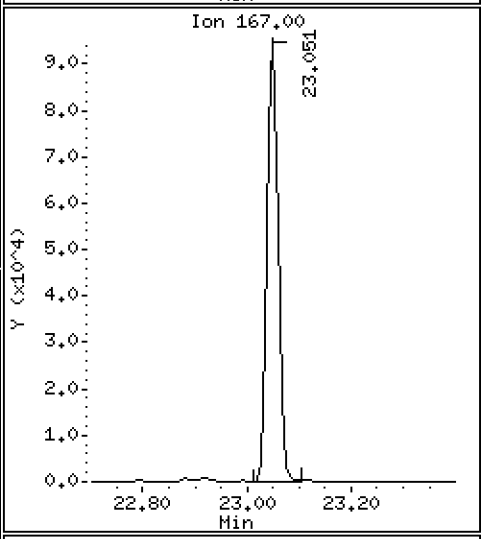
72 bis(2-Ethylhexyl)phthalate

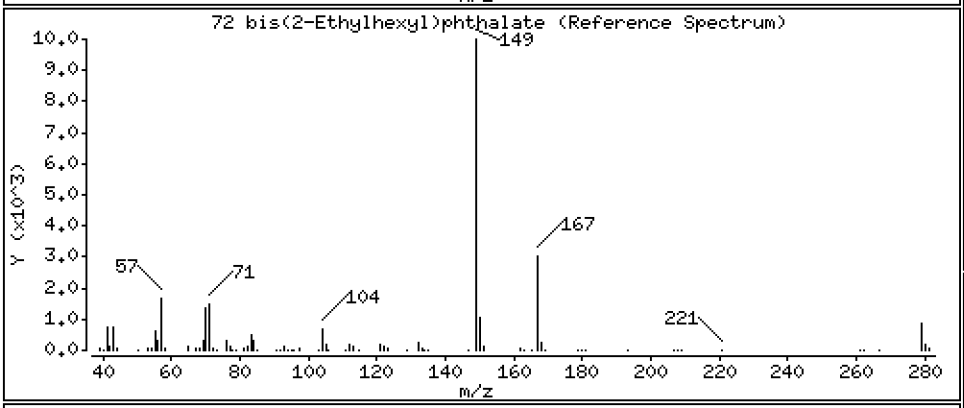
Concentration: 5.231 ug/mL

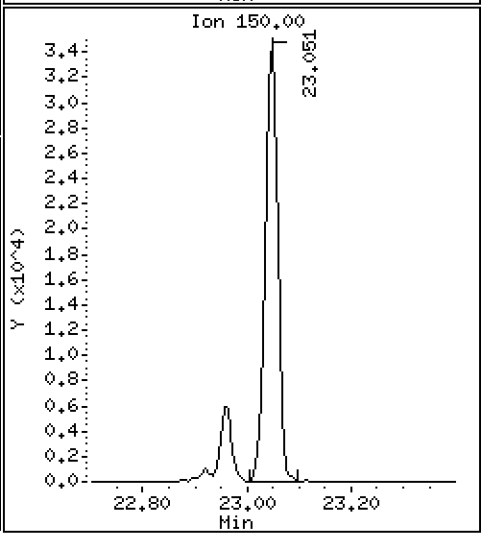


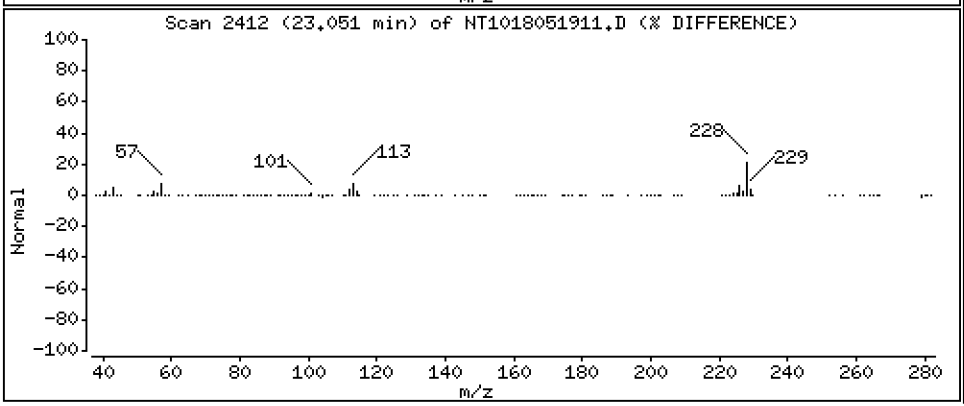












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

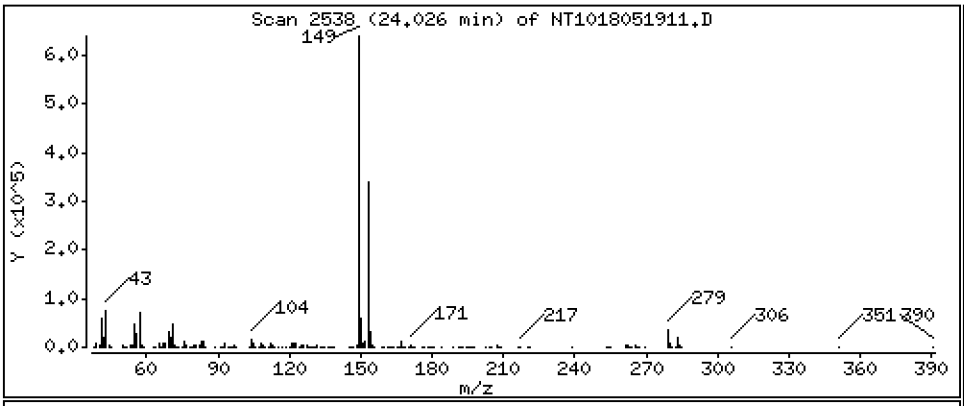
Operator: YZ

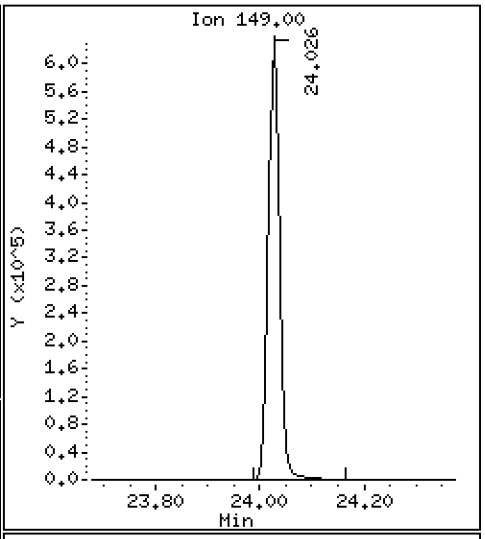
Column phase: ZB-5msi

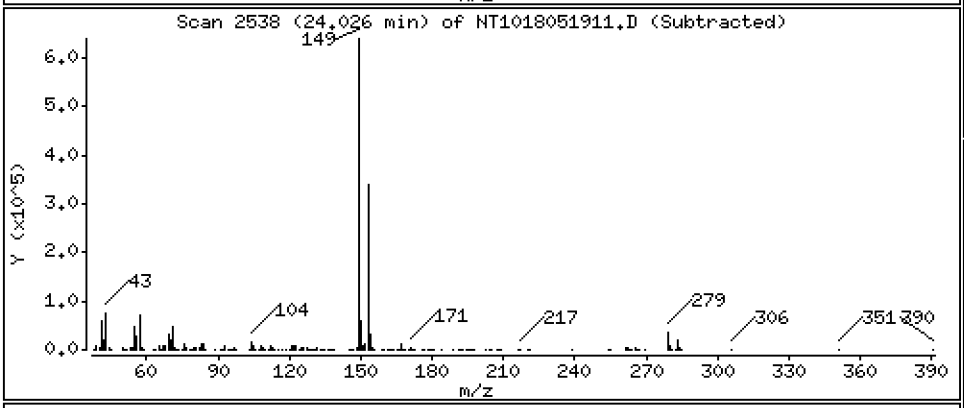
Column diameter: 0.25

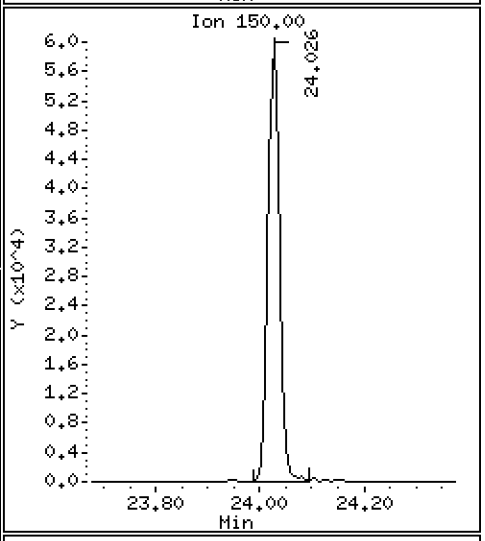
73 Di-n-octylphthalate

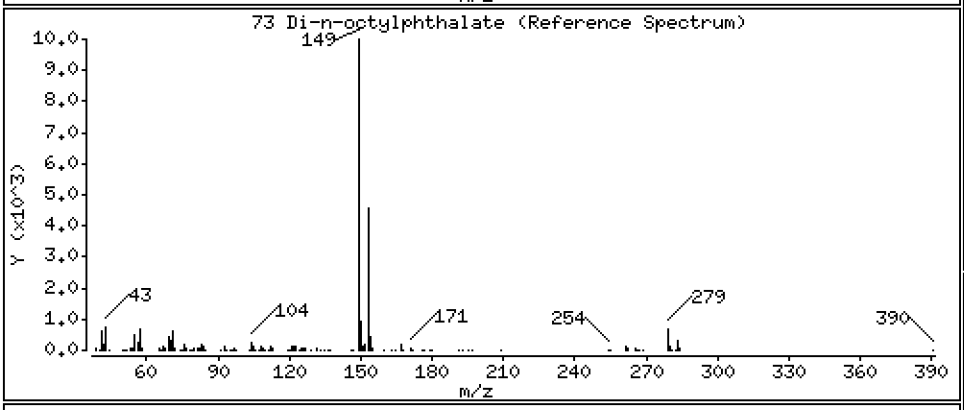
Concentration: 5.193 ug/mL

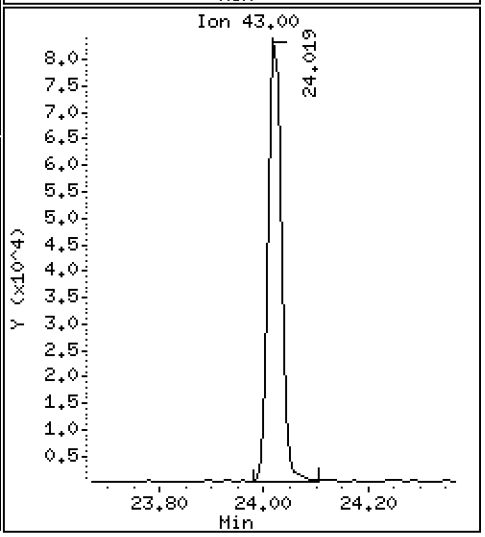


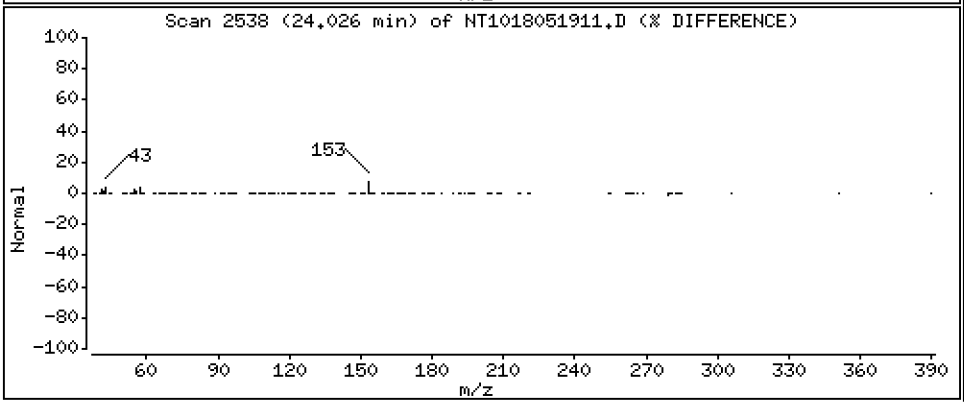












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

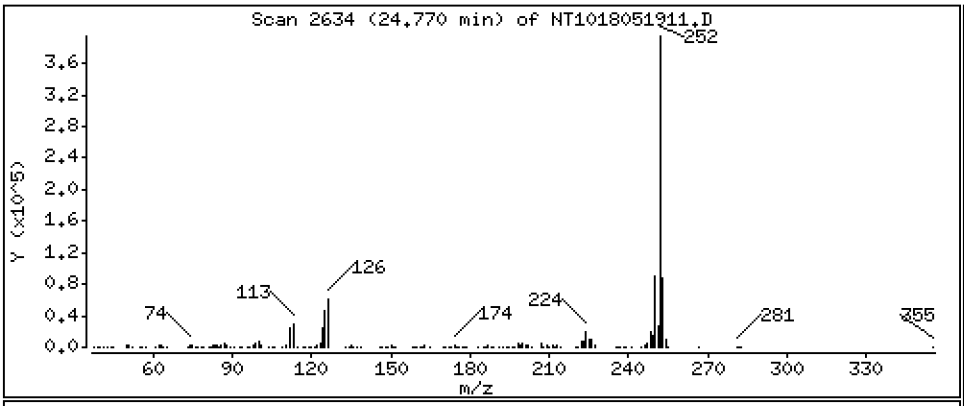
Operator: YZ

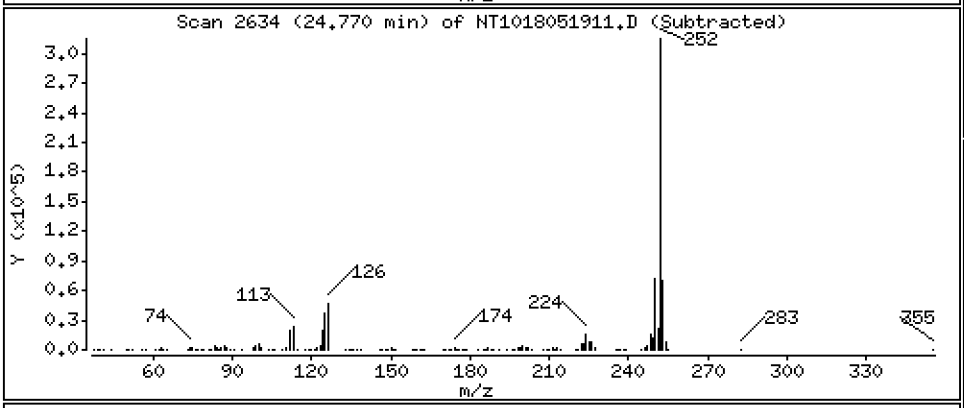
Column phase: ZB-5msi

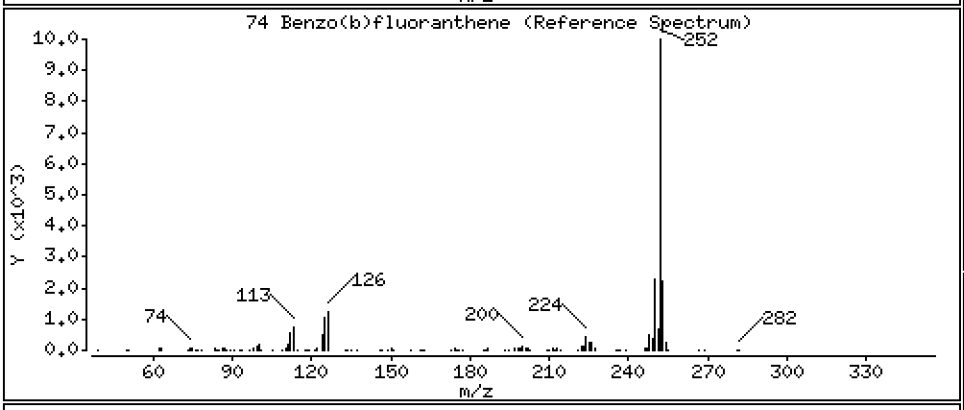
Column diameter: 0.25

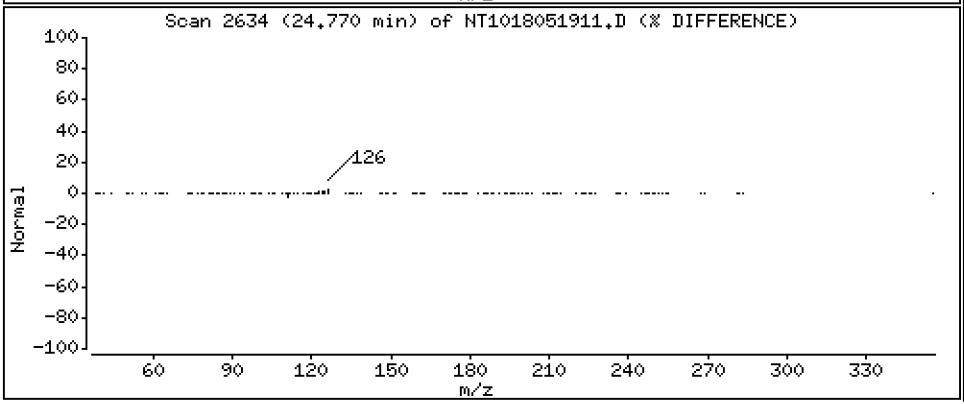
74 Benzo(b)fluoranthene

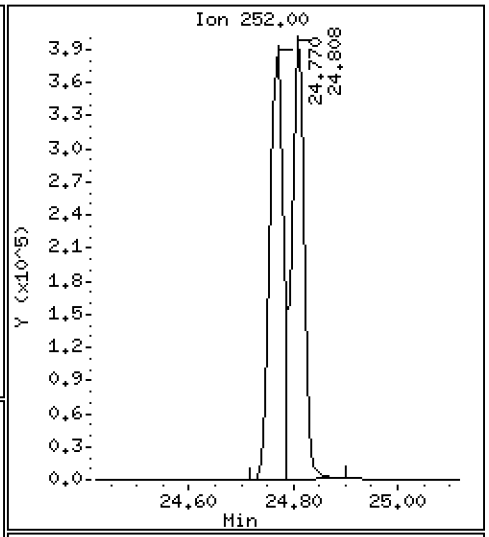
Concentration: 4.906 ug/mL

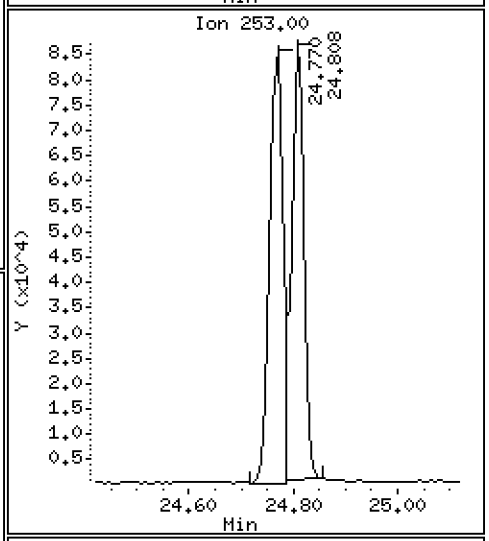


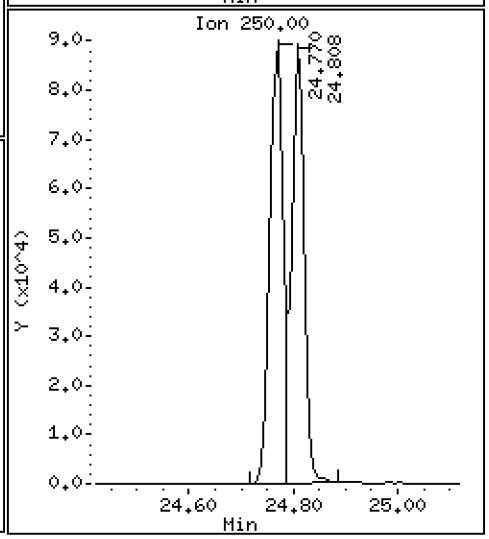












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

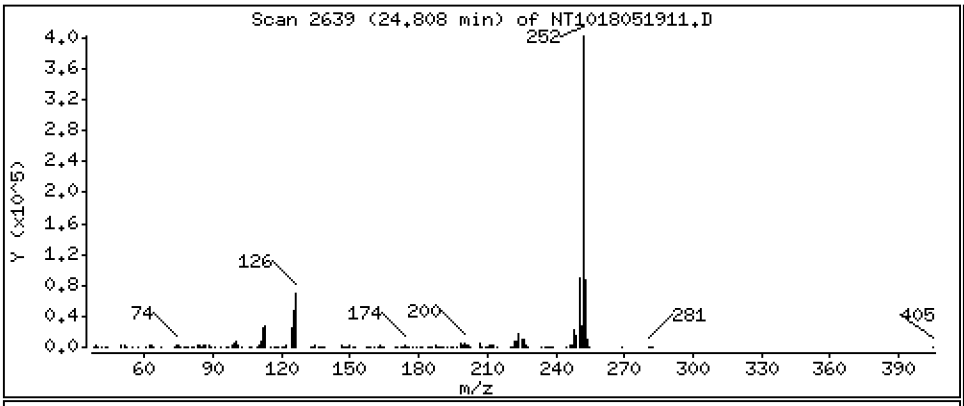
Operator: YZ

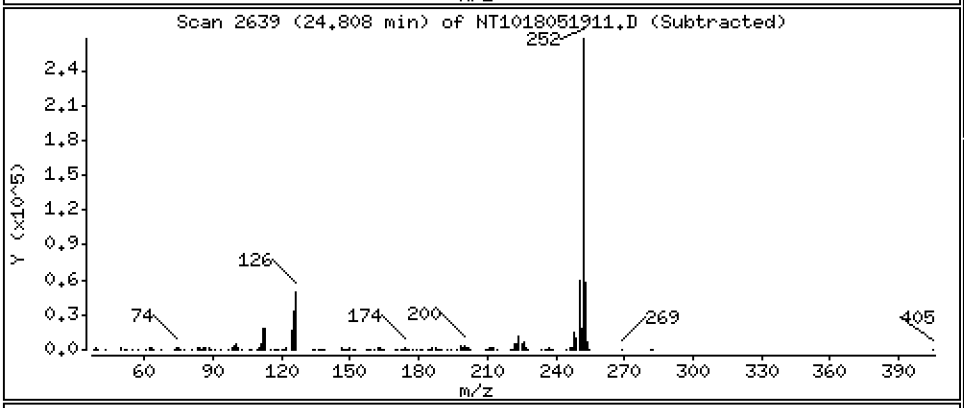
Column phase: ZB-5msi

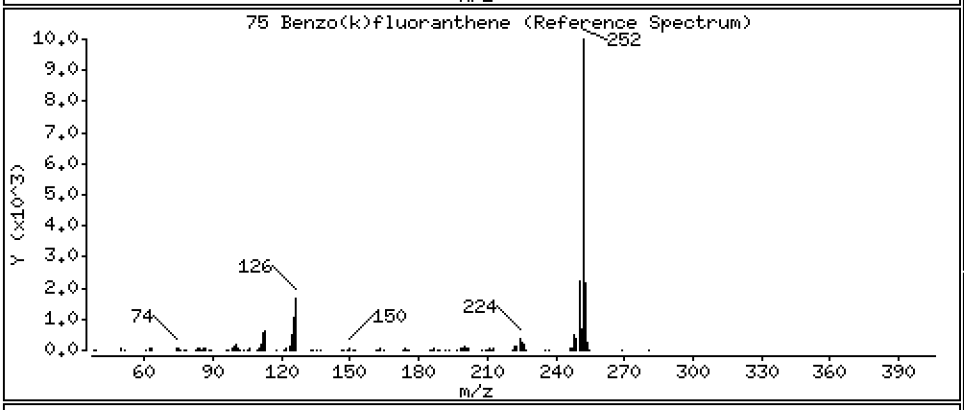
Column diameter: 0.25

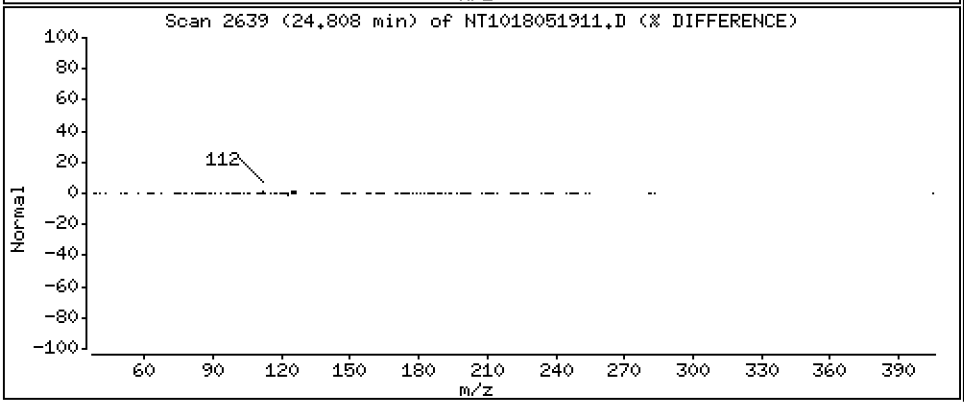
75 Benzo(k)fluoranthene

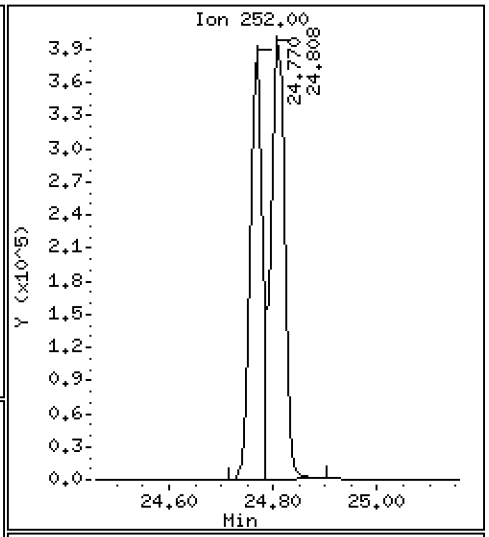
Concentration: 5.423 ug/mL

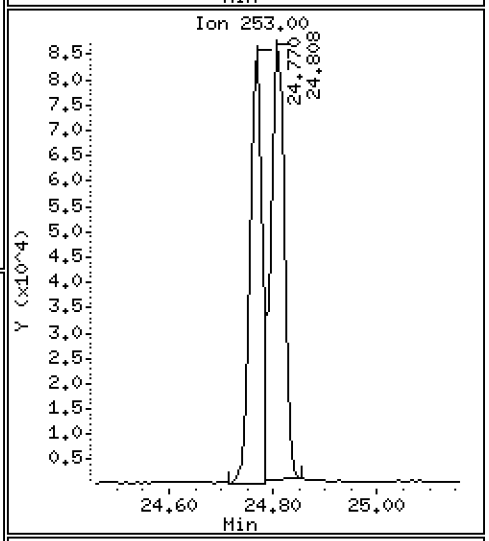


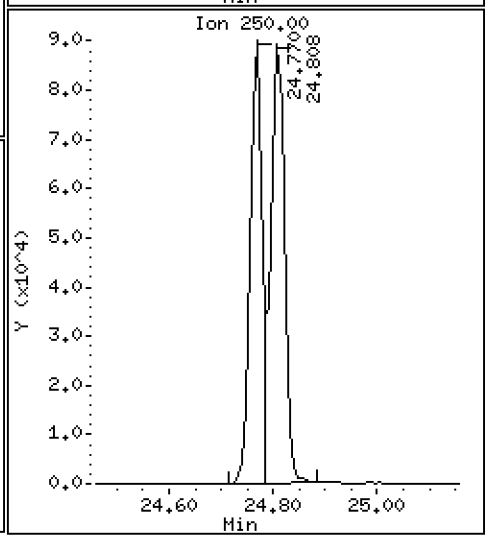












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

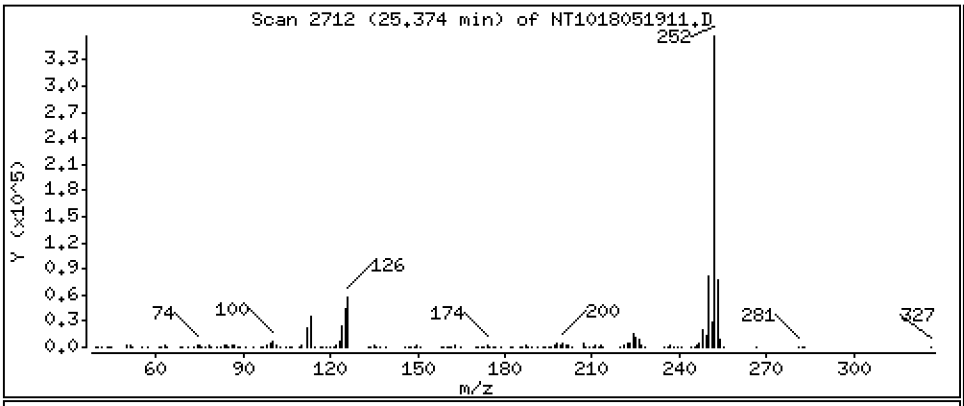
Operator: YZ

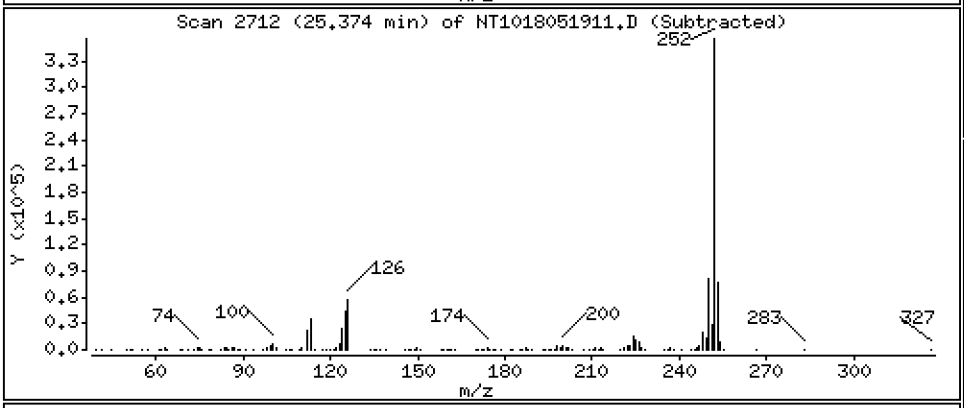
Column phase: ZB-5msi

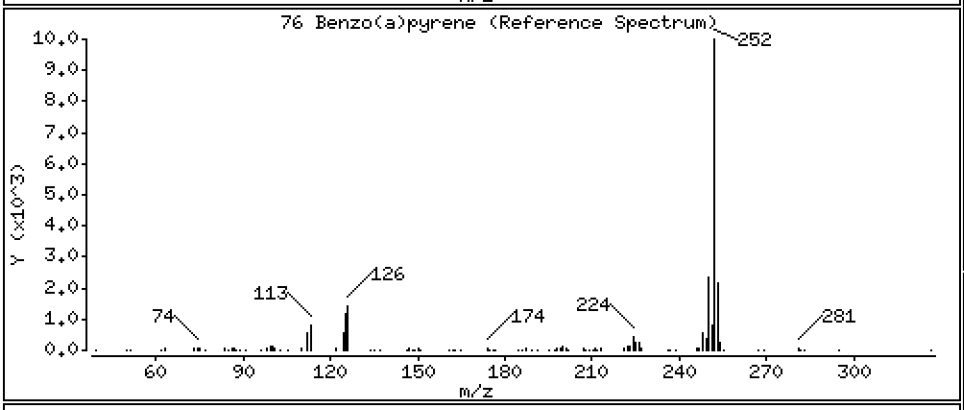
Column diameter: 0.25

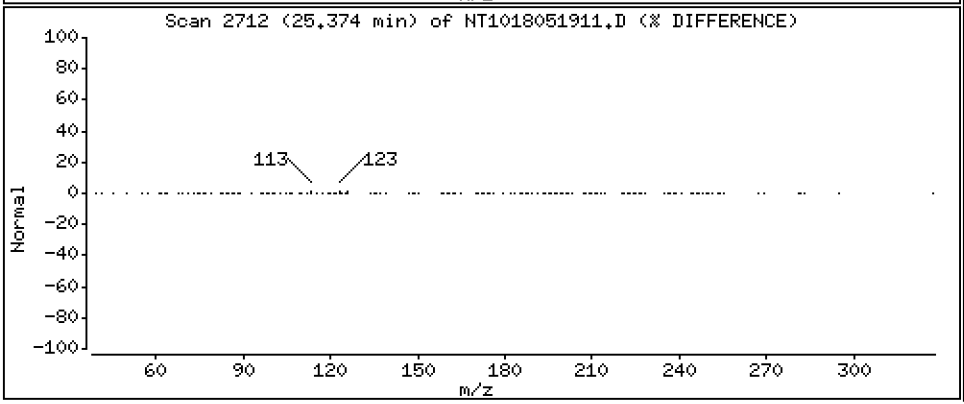
76 Benzo(a)pyrene

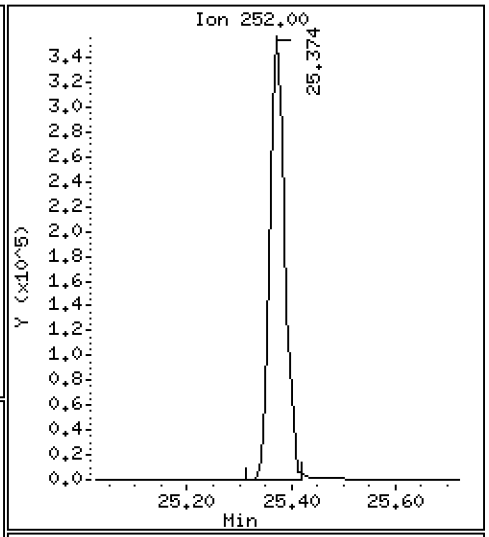
Concentration: 5.278 ug/mL

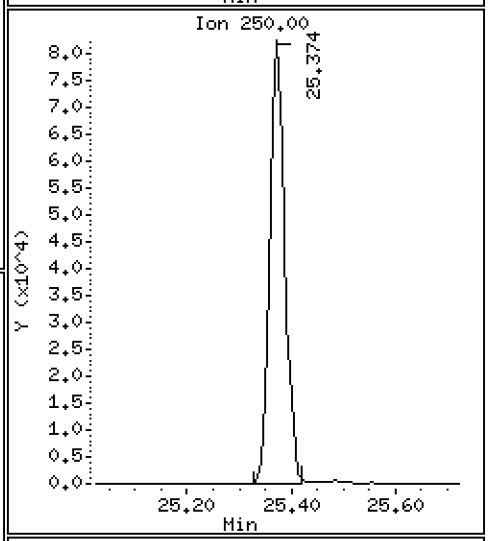


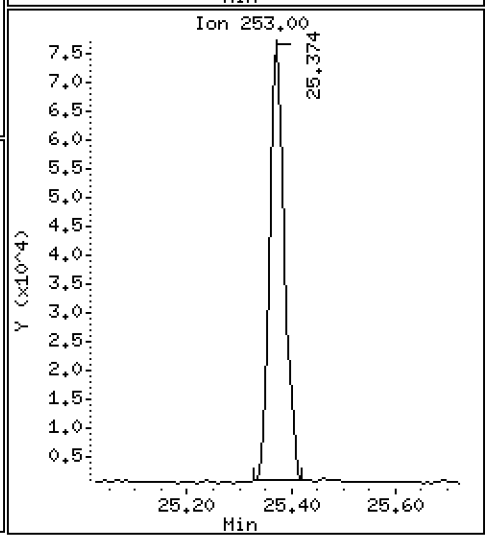












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

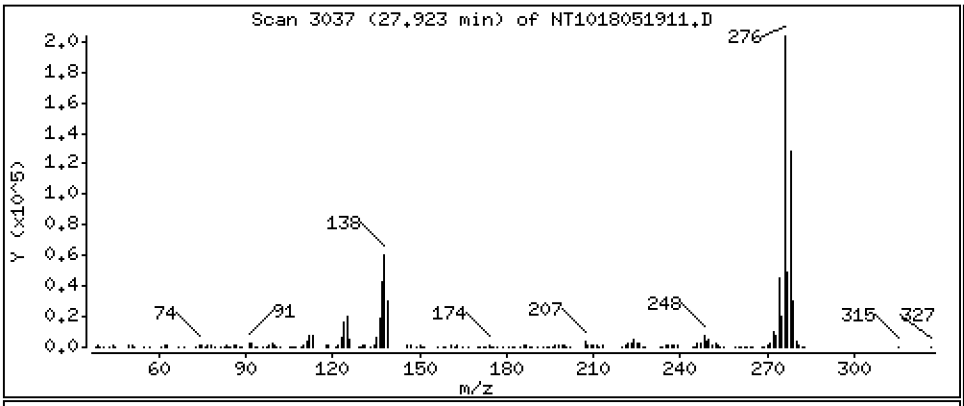
Operator: YZ

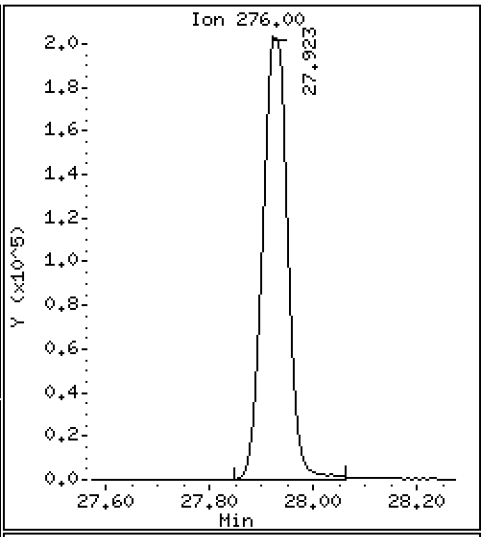
Column phase: ZB-5msi

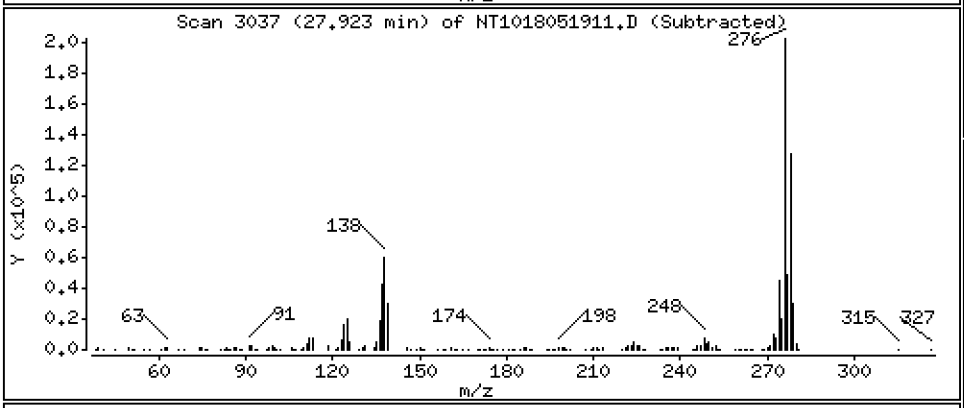
Column diameter: 0.25

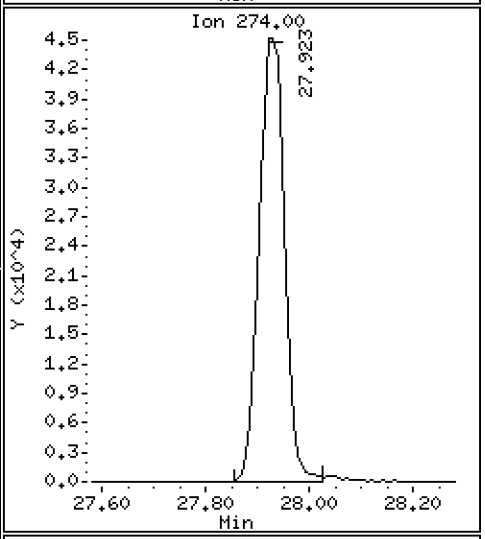
78 Indeno(1,2,3-cd)pyrene

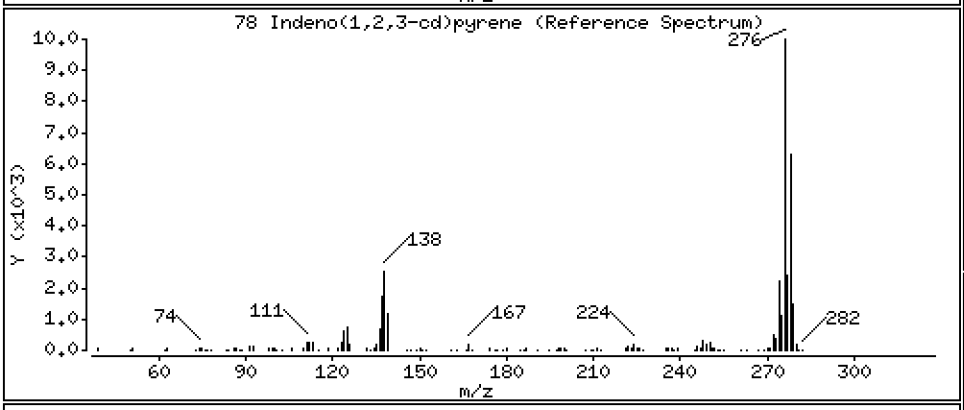
Concentration: 4.982 ug/mL

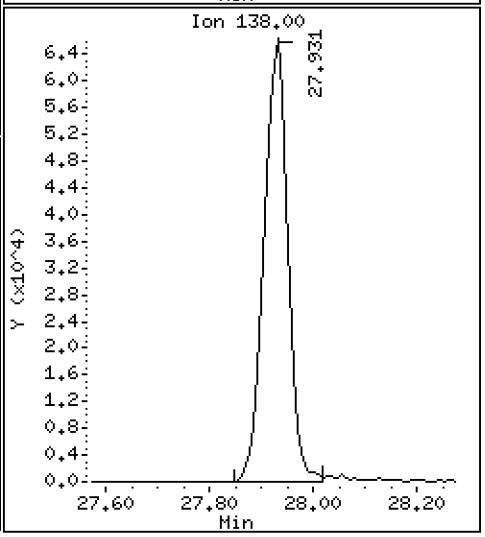


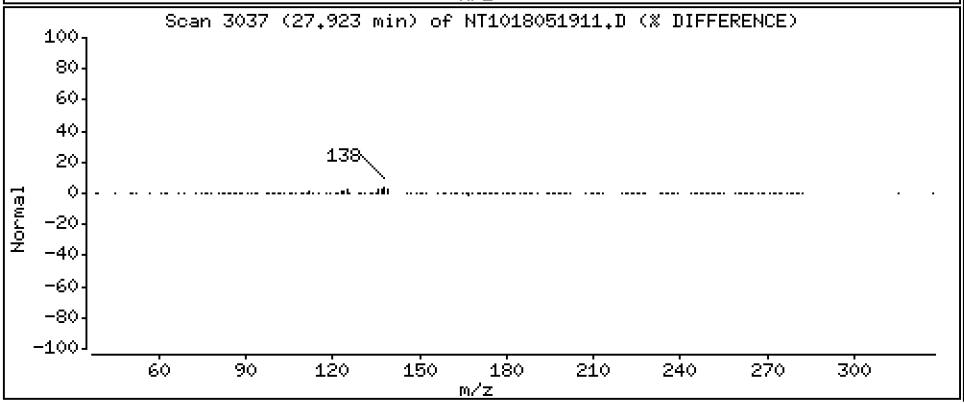












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

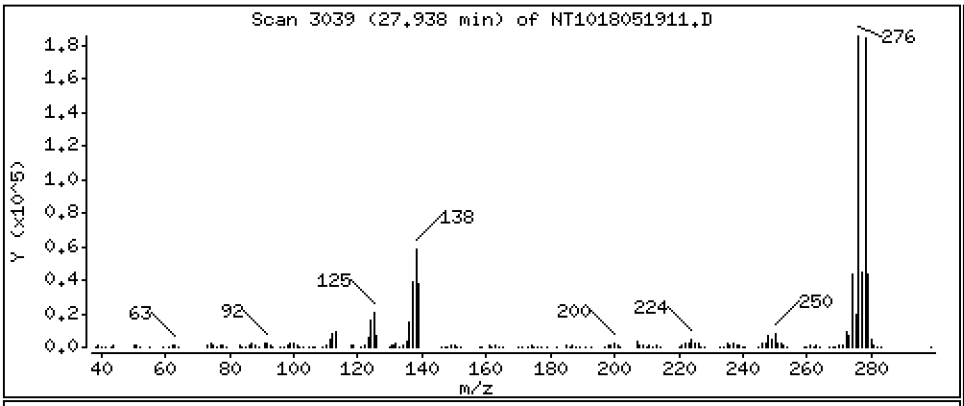
Operator: YZ

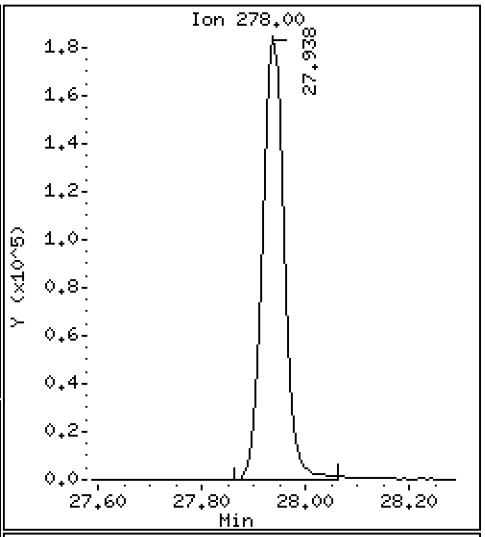
Column phase: ZB-5msi

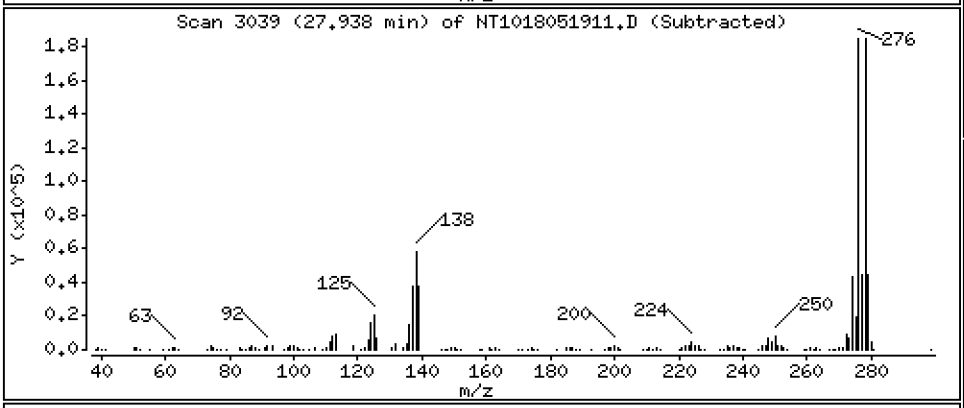
Column diameter: 0.25

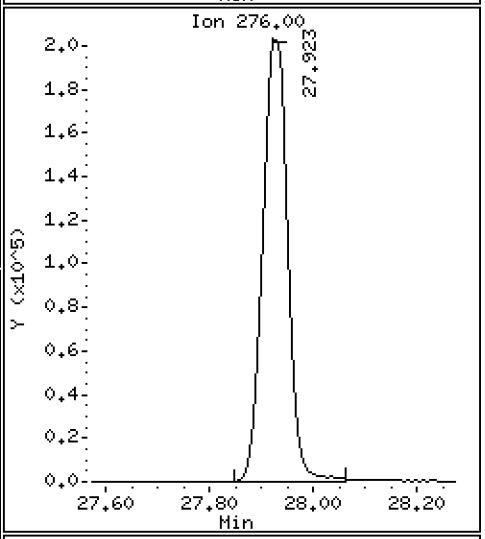
79 Dibenzo(a,h)anthracene

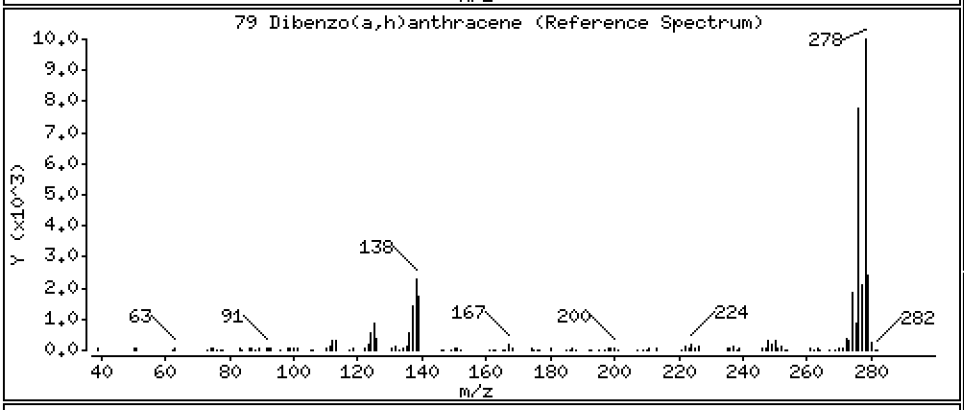
Concentration: 4.862 ug/mL

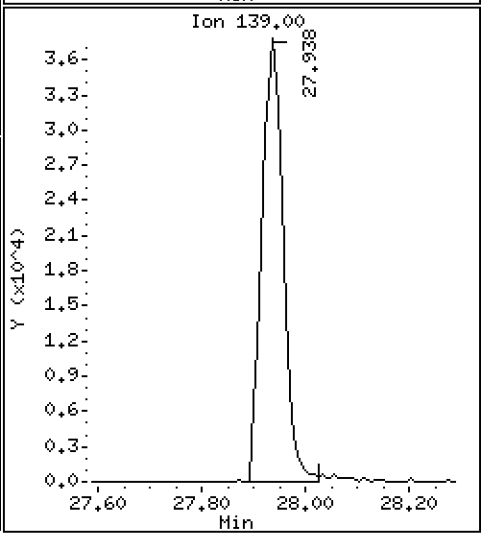


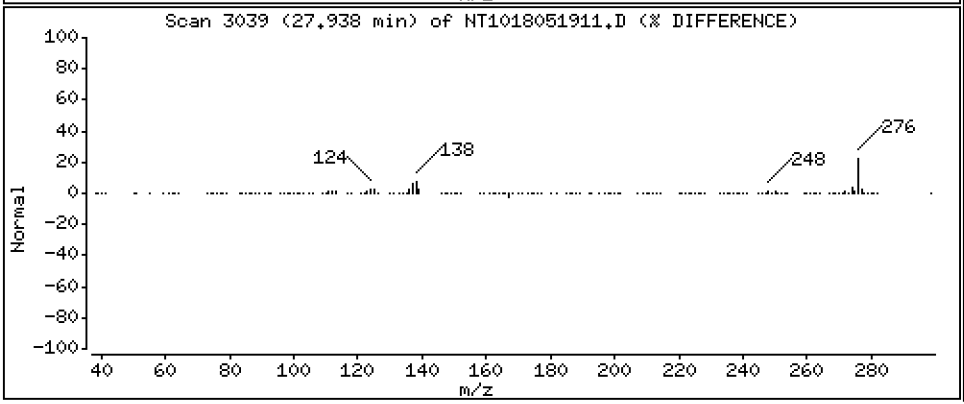












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

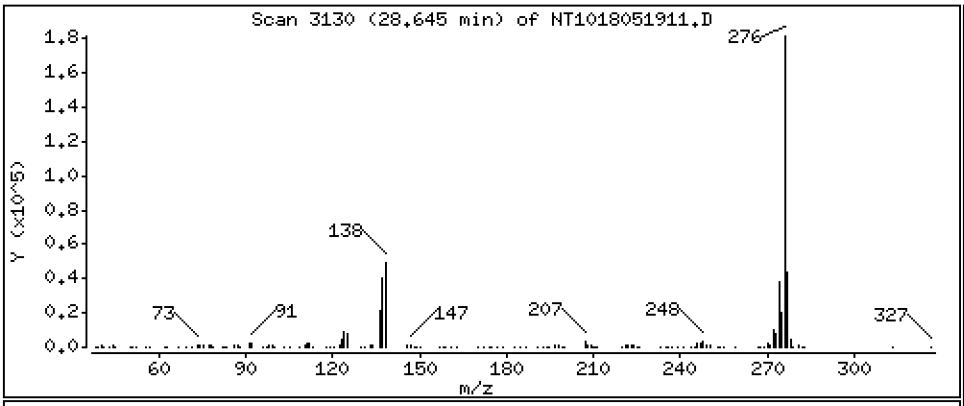
Operator: YZ

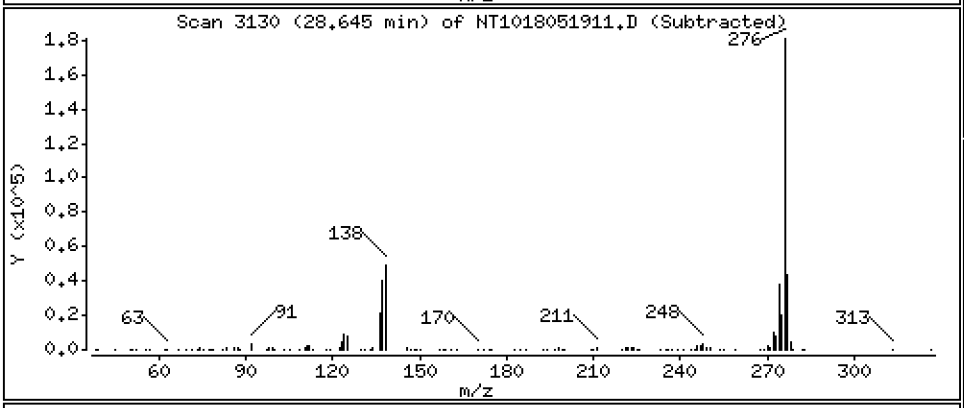
Column phase: ZB-5msi

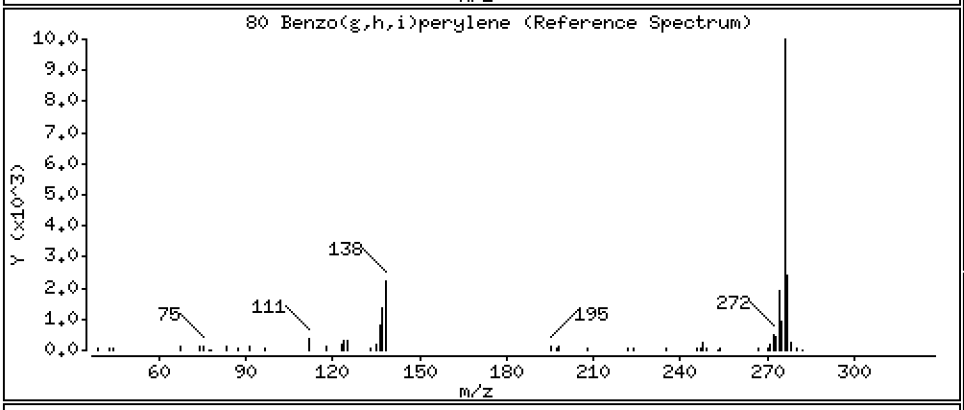
Column diameter: 0.25

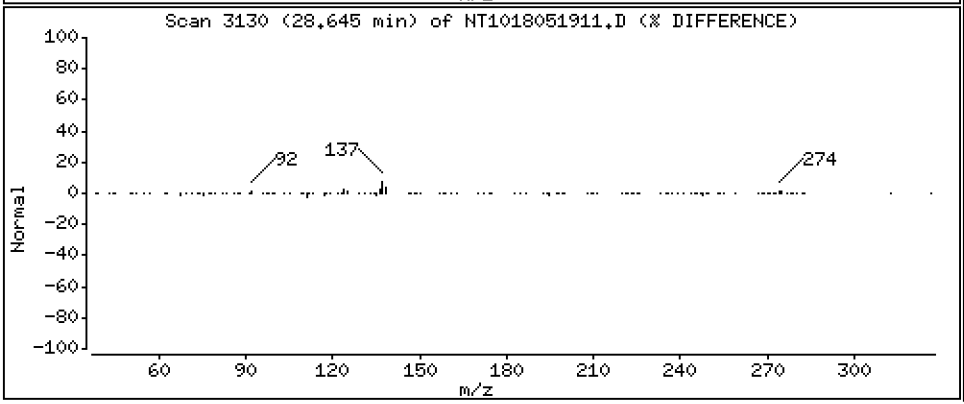
80 Benzo(g,h,i)perylene

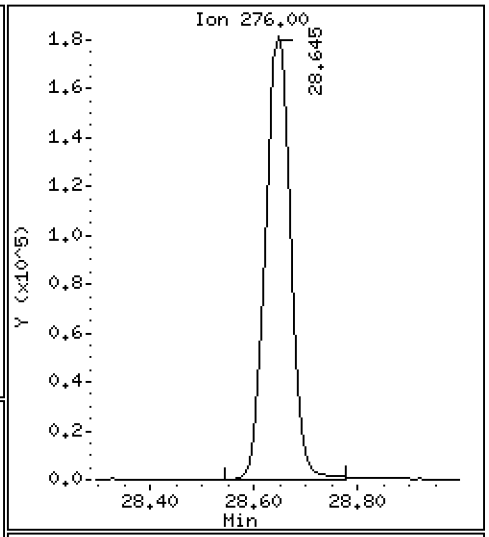
Concentration: 5.067 ug/mL

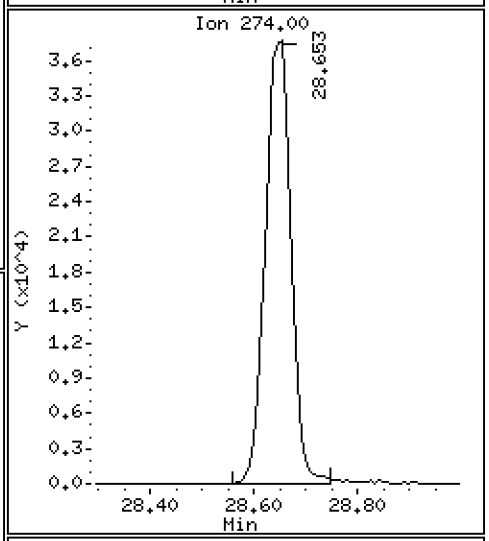


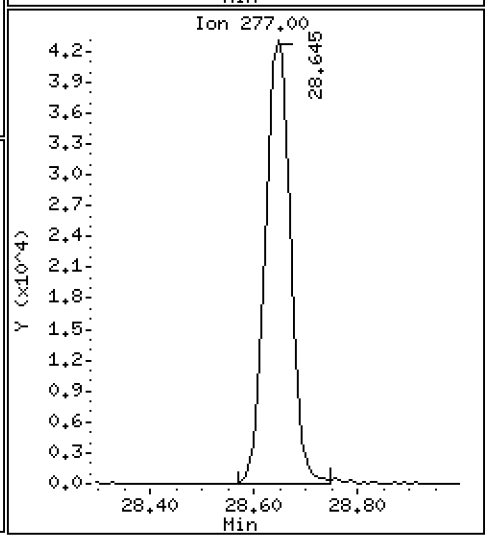












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

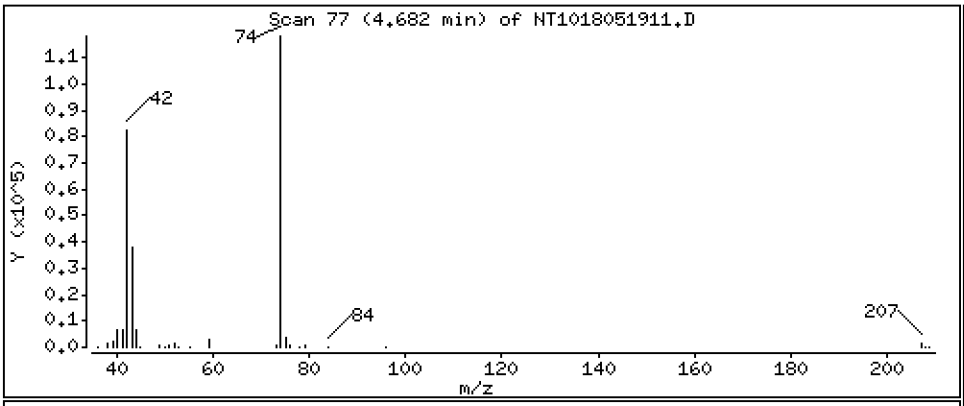
Operator: YZ

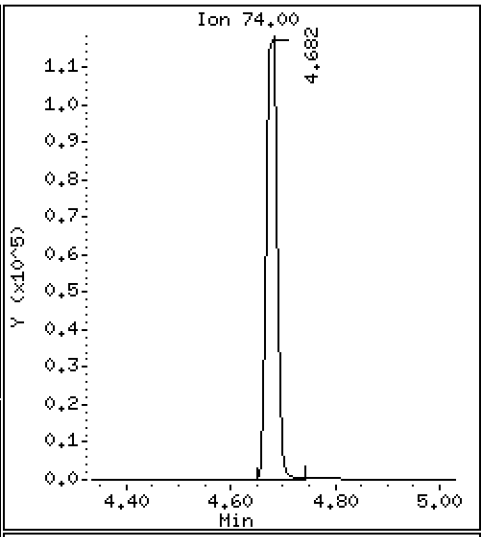
Column phase: ZB-5msi

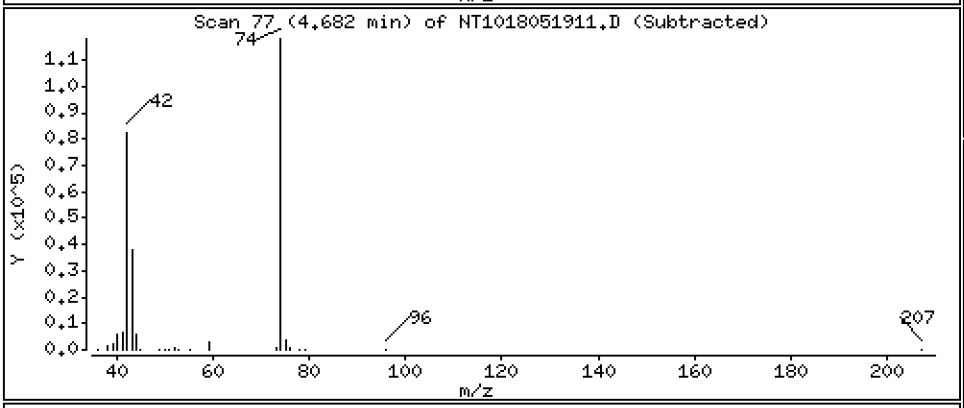
Column diameter: 0.25

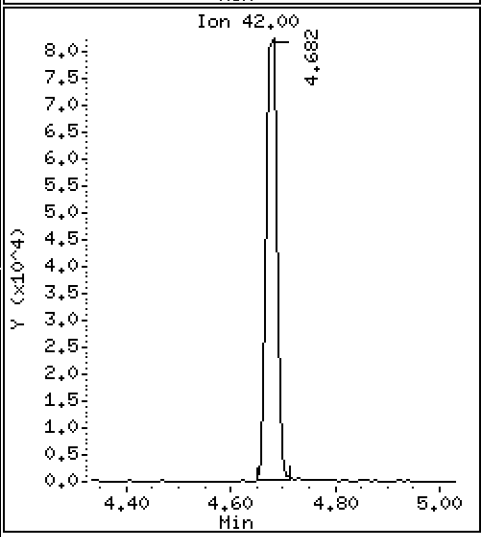
90 N-Nitrosodimethylamine

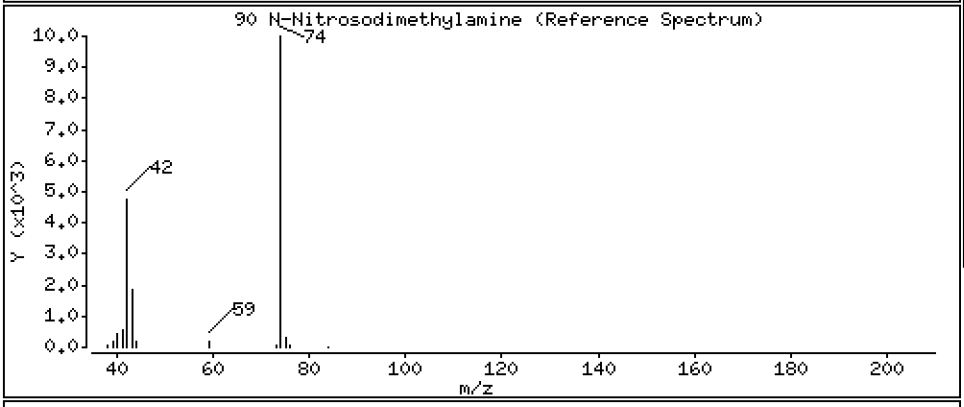
Concentration: 6.676 ug/mL

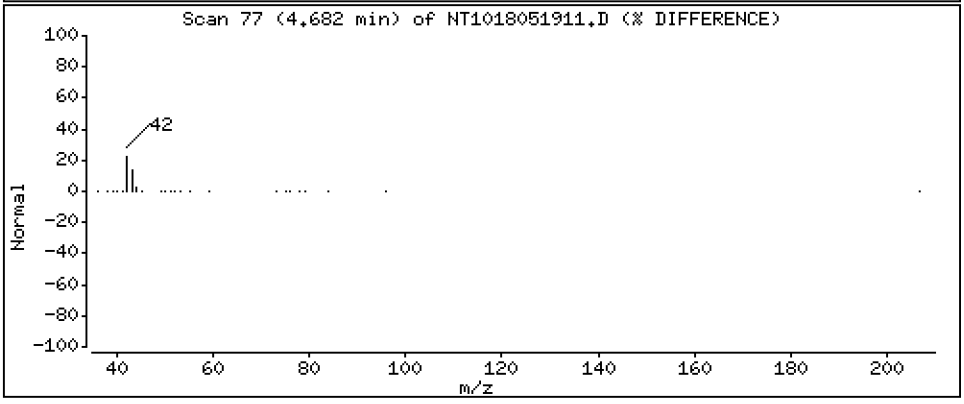












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

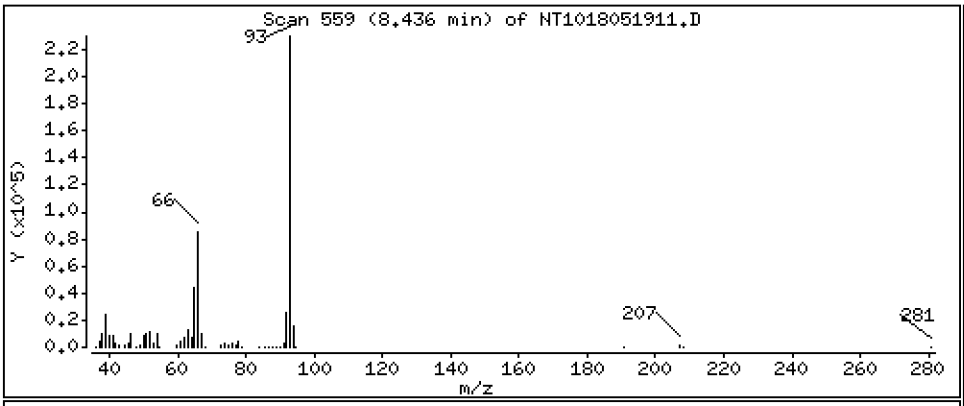
Operator: YZ

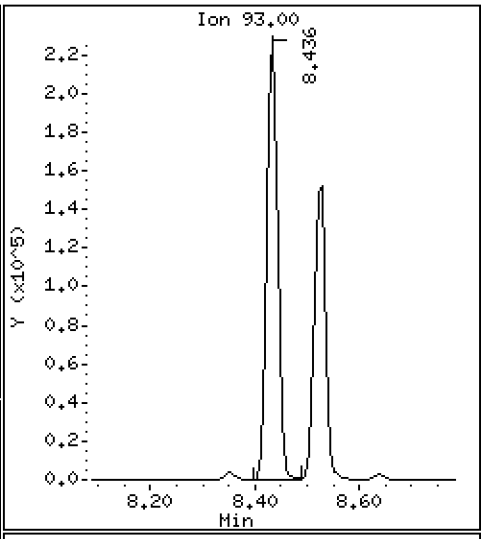
Column phase: ZB-5msi

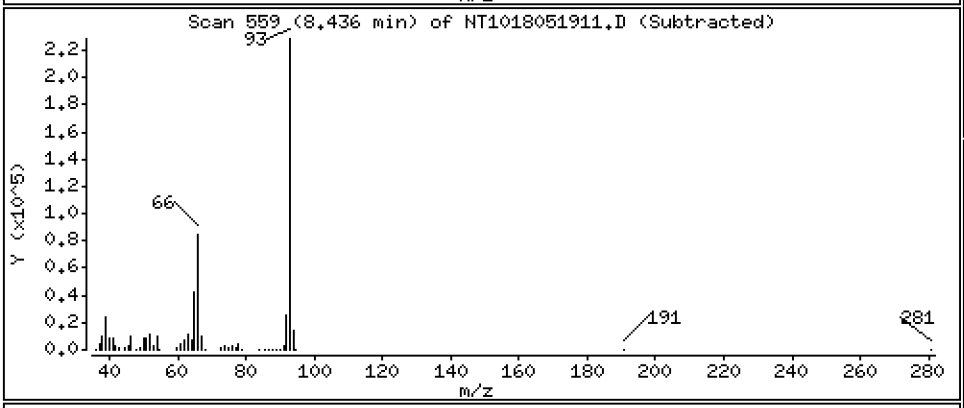
Column diameter: 0.25

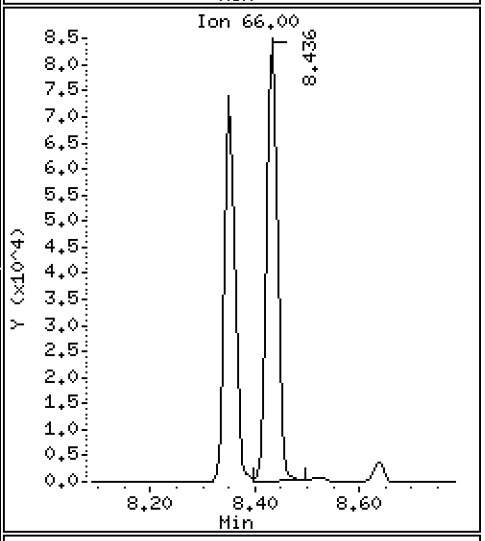
91 Aniline

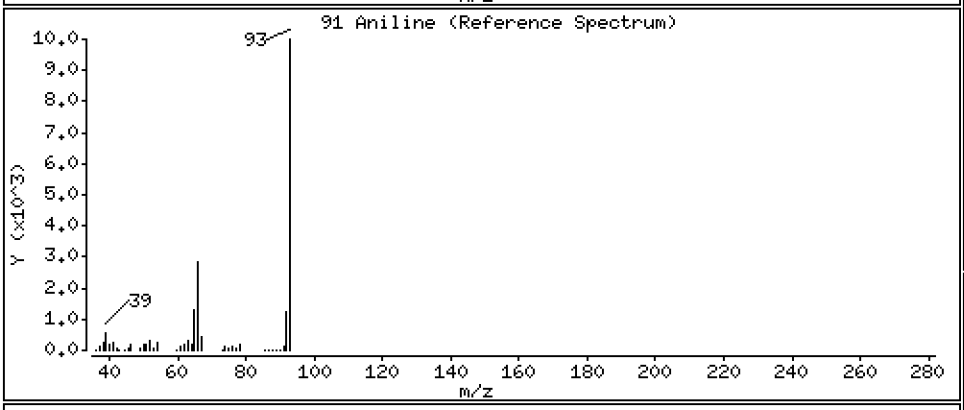
Concentration: 5.424 ug/mL

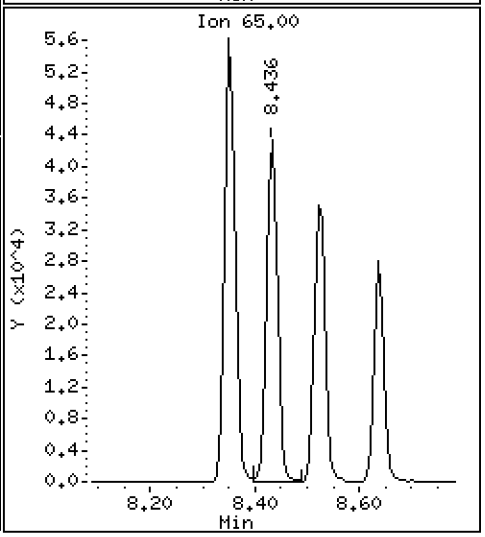


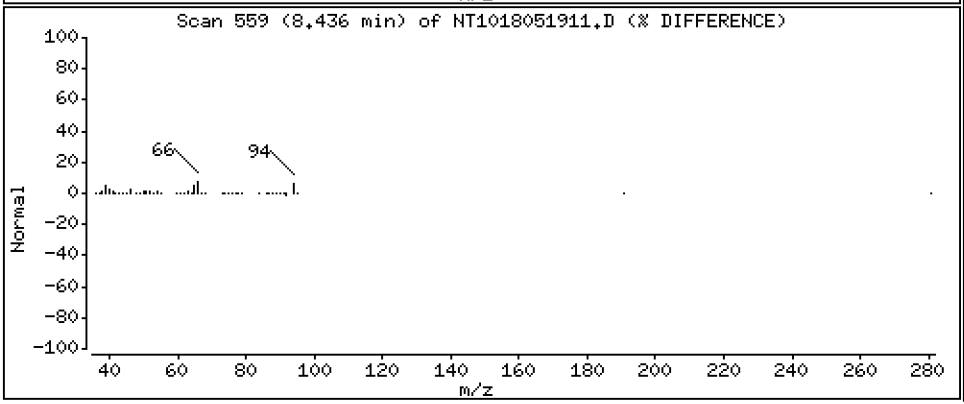












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

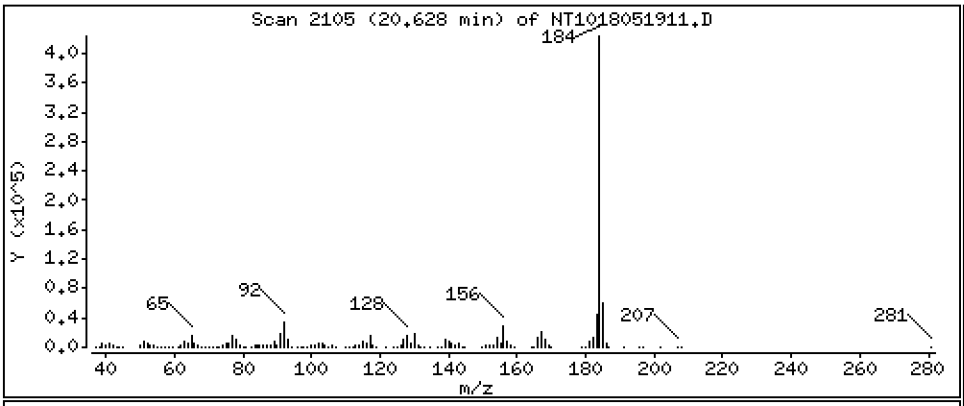
Operator: YZ

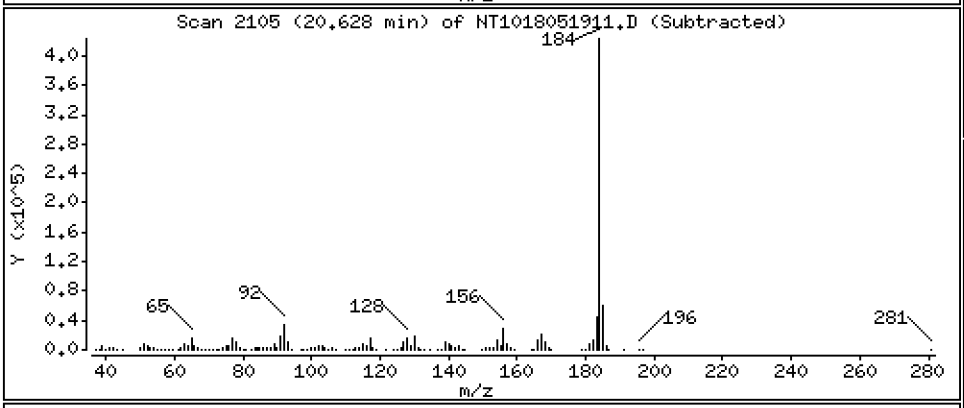
Column phase: ZB-5msi

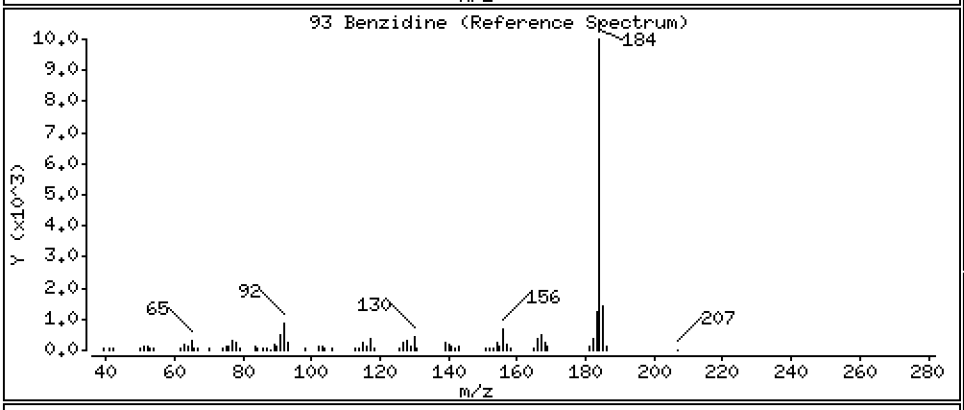
Column diameter: 0.25

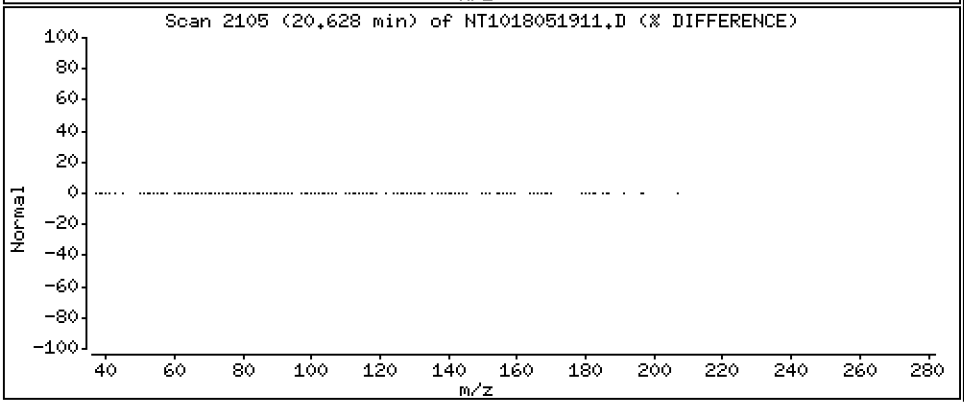
93 Benzidine

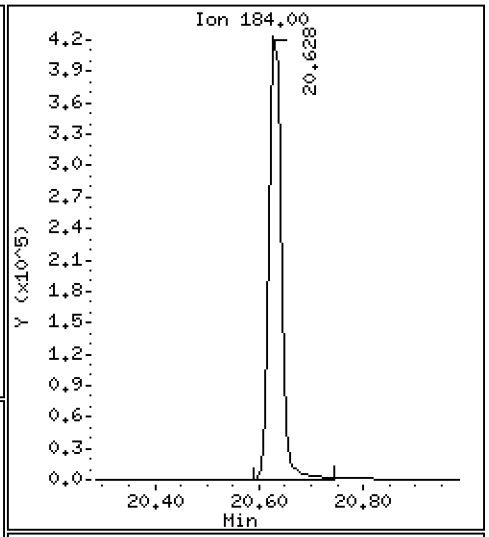
Concentration: 10.70 ug/mL

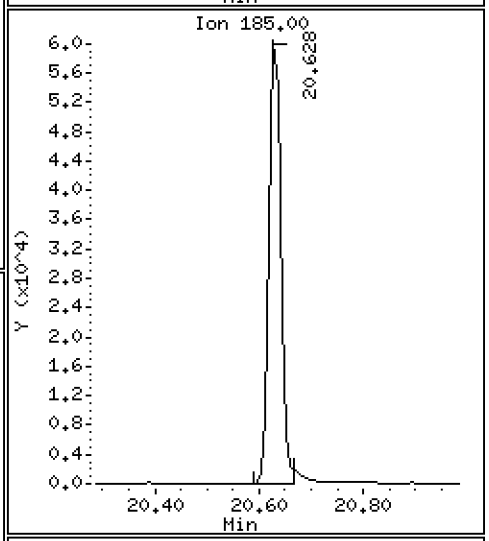


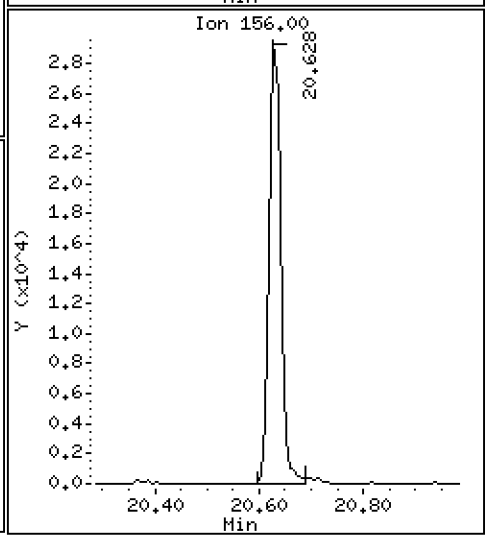












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

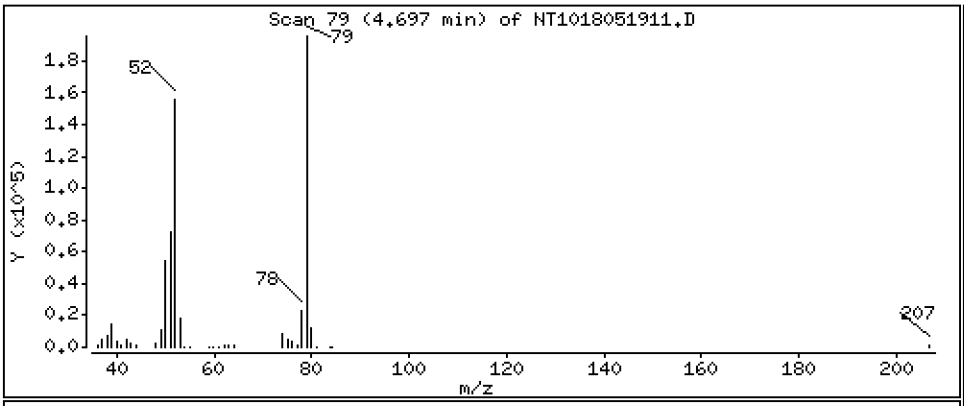
Operator: YZ

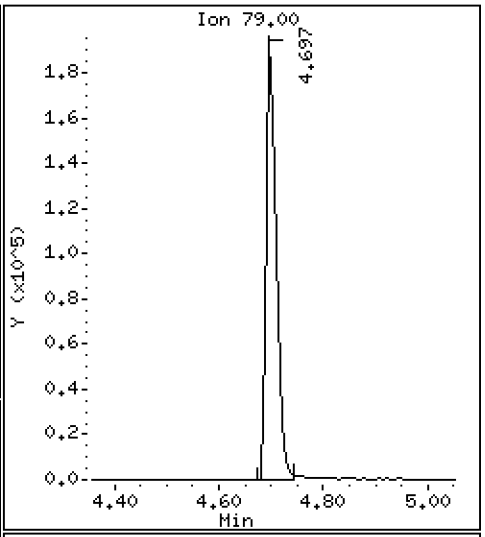
Column phase: ZB-5msi

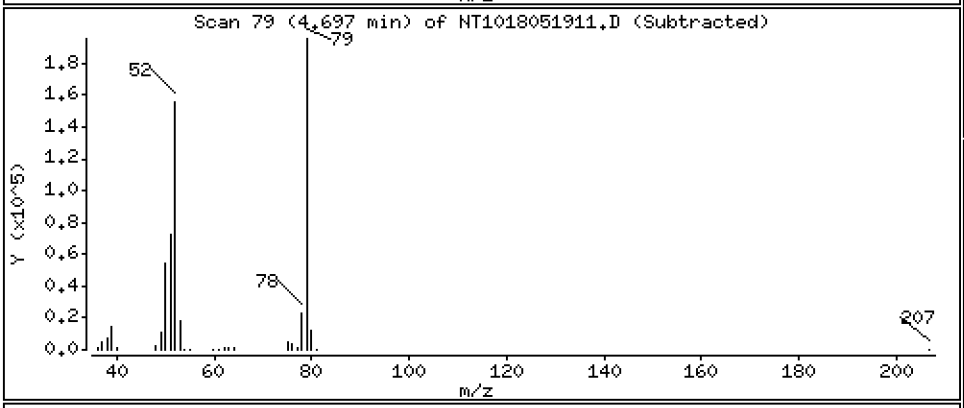
Column diameter: 0.25

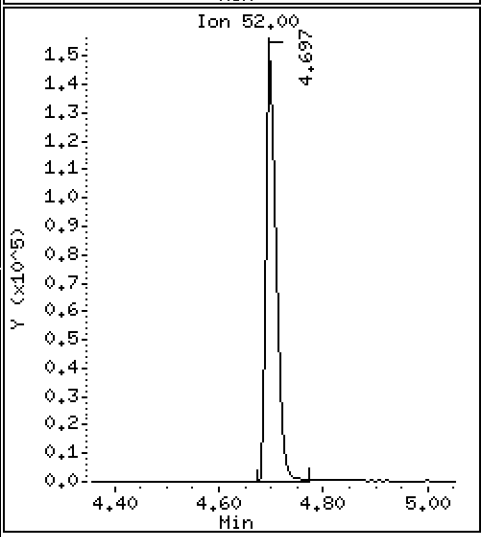
103 Pyridine

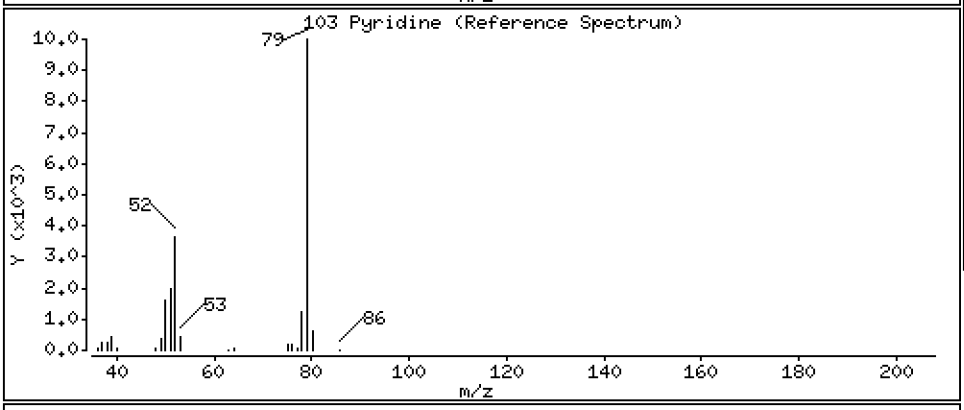
Concentration: 5.898 ug/mL

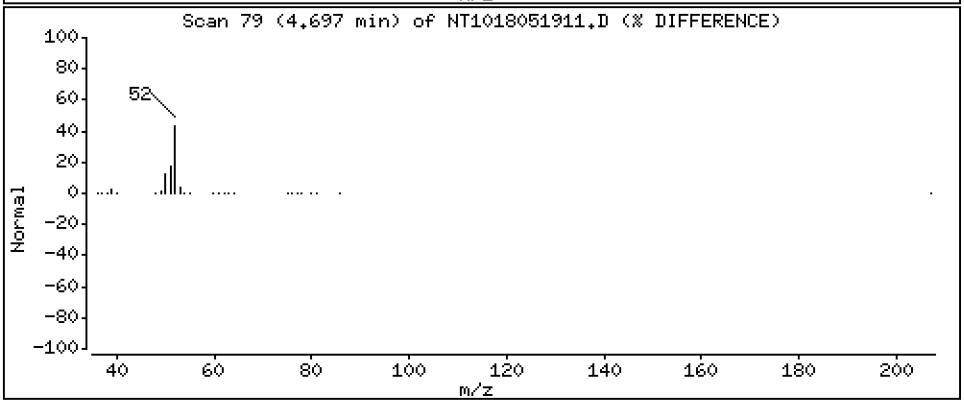












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

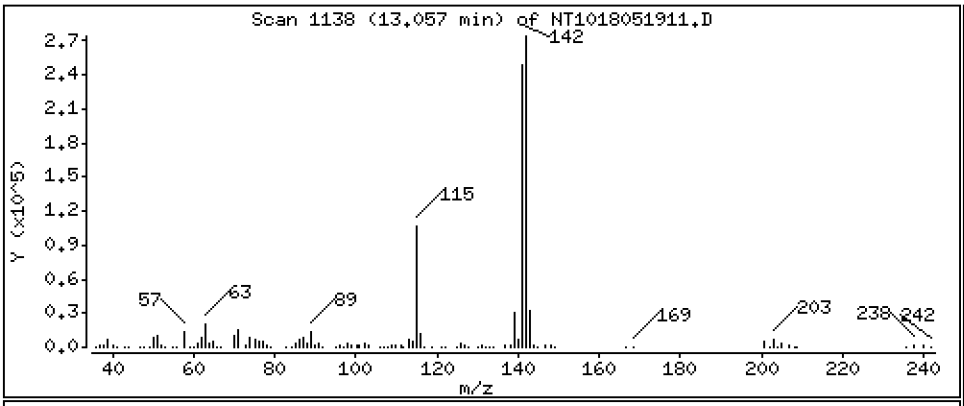
Operator: YZ

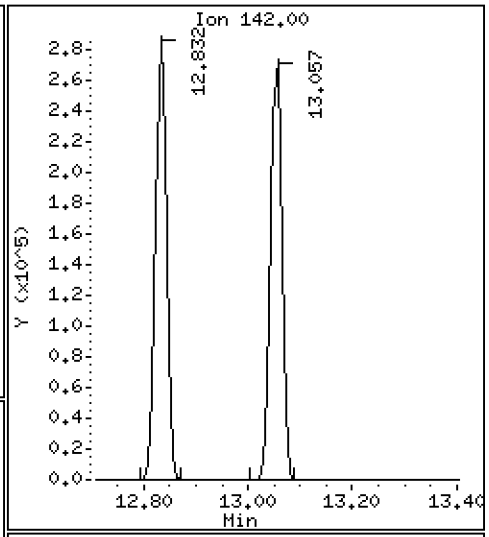
Column phase: ZB-5msi

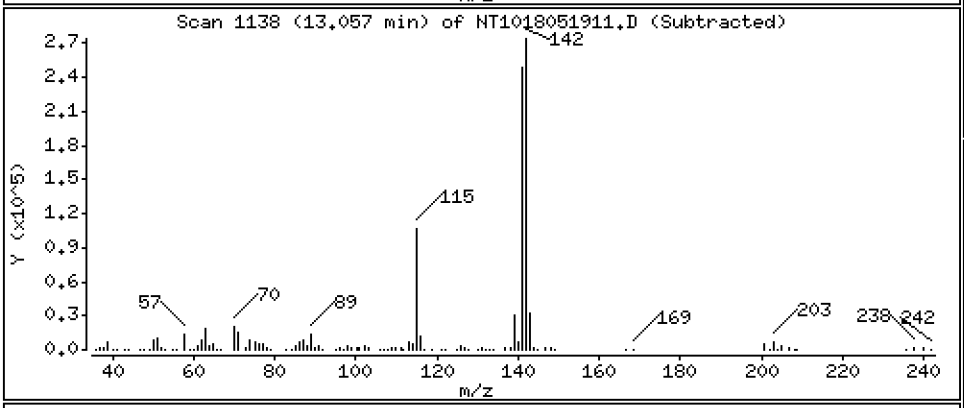
Column diameter: 0.25

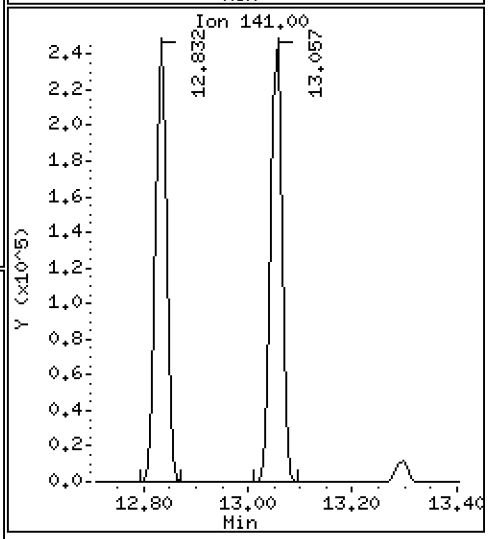
105 1-methylnaphthalene

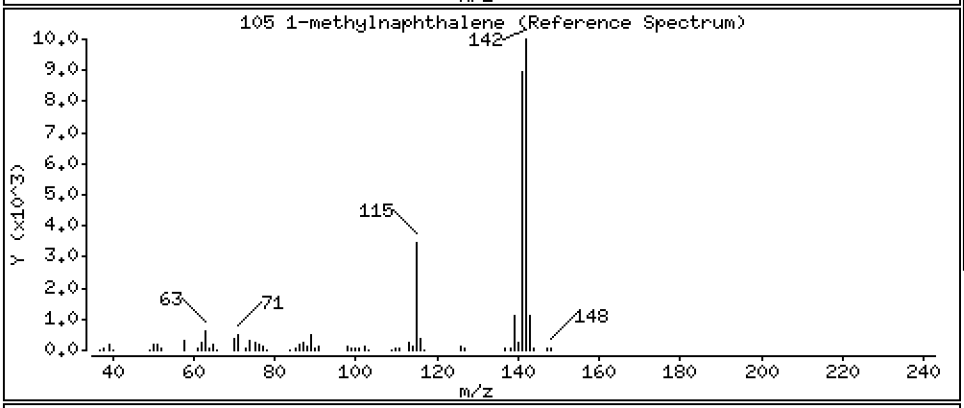
Concentration: 4.646 ug/mL

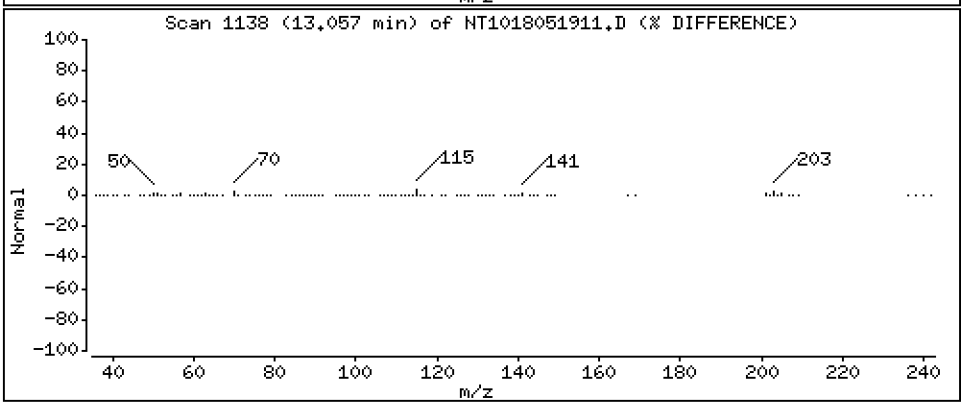












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

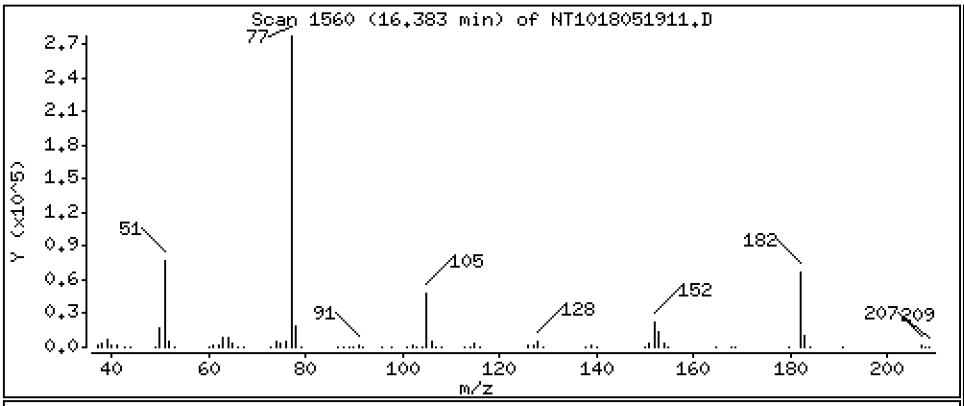
Operator: YZ

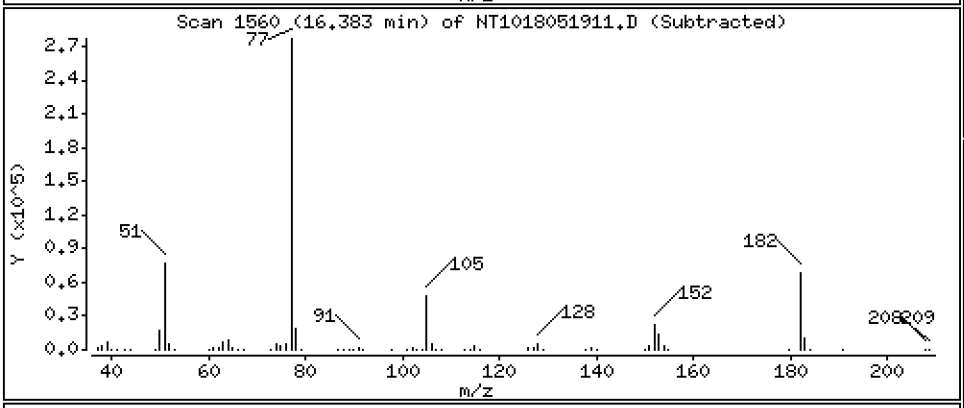
Column phase: ZB-5msi

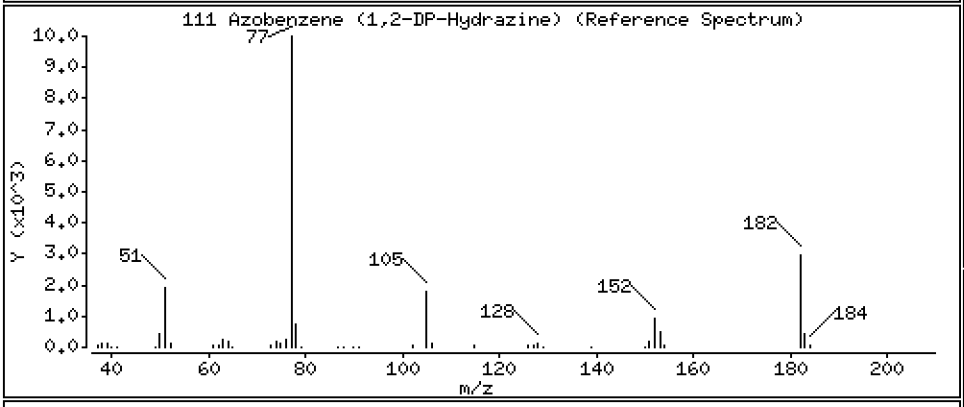
Column diameter: 0.25

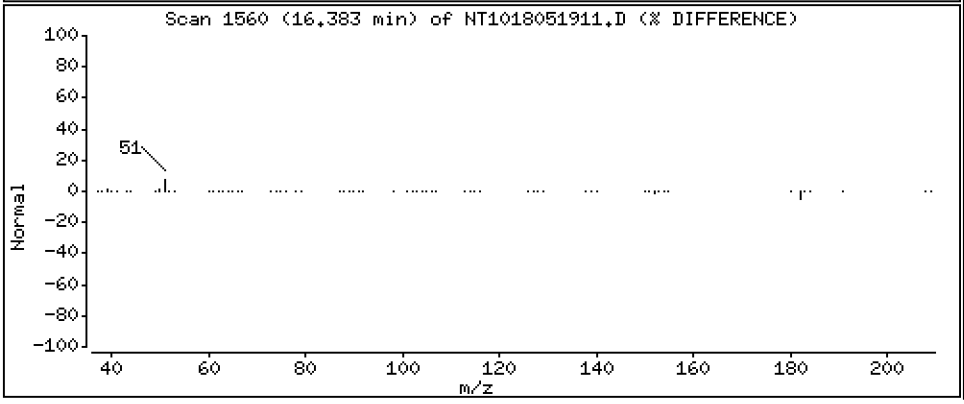
111 Azobenzene (1,2-DP-Hydrazine)

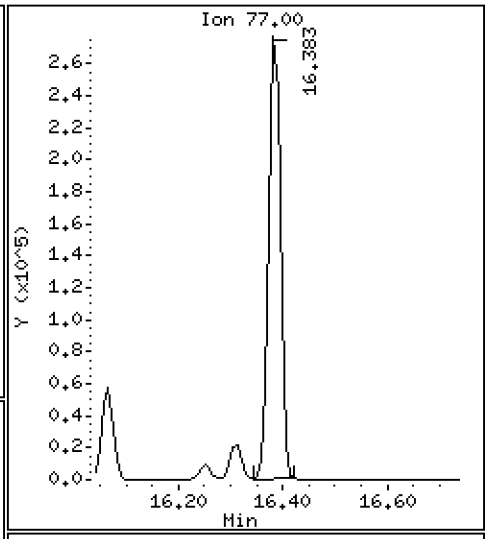
Concentration: 5.092 ug/mL

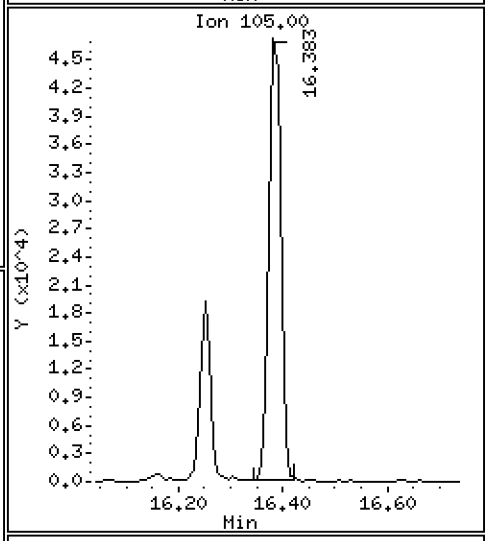


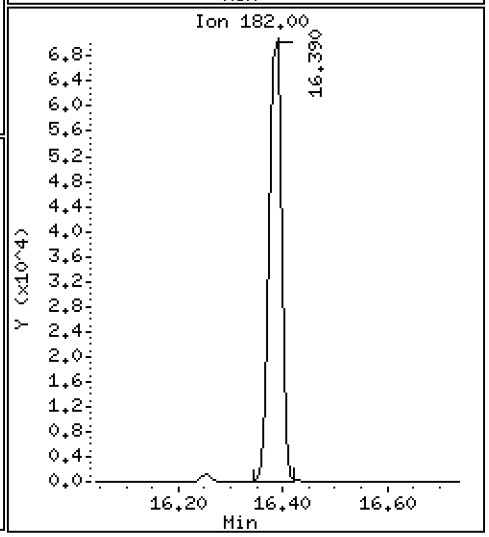












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

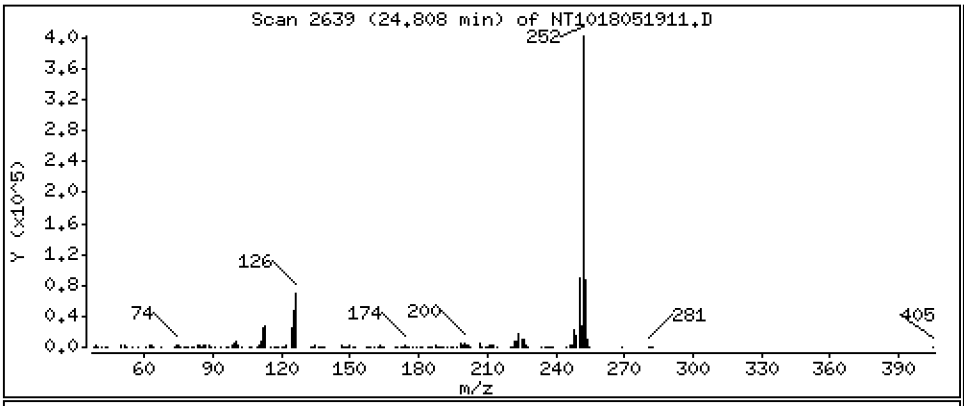
Operator: YZ

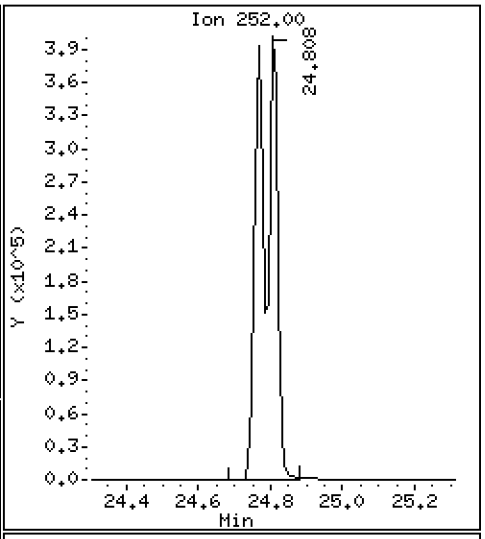
Column phase: ZB-5msi

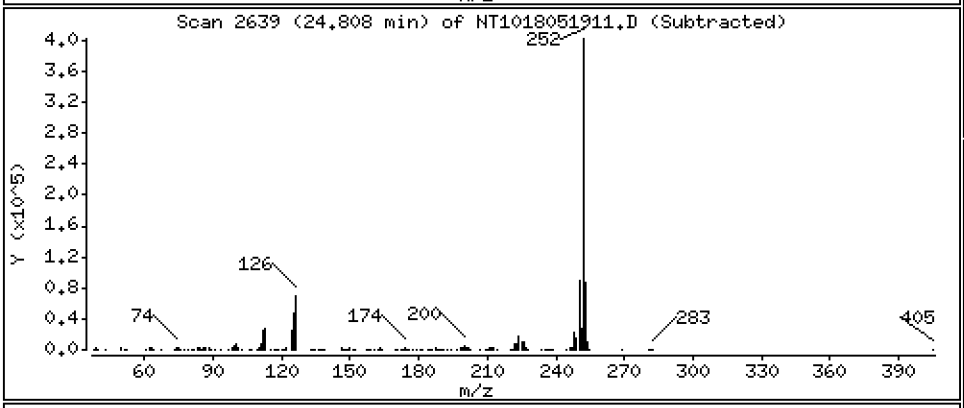
Column diameter: 0.25

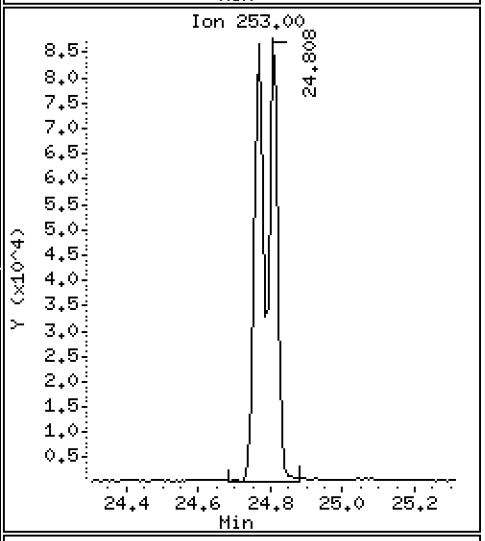
187 Total Benzofluoranthenes

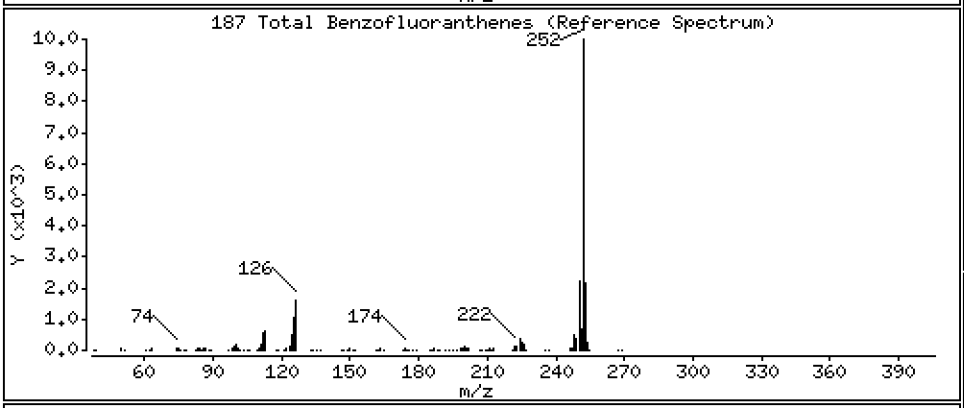
Concentration: 10.24 ug/mL

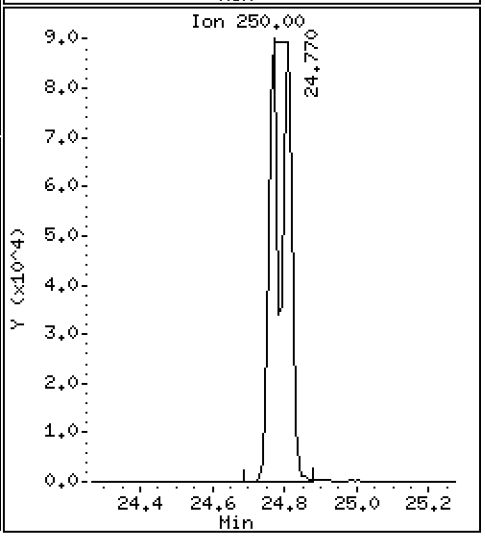


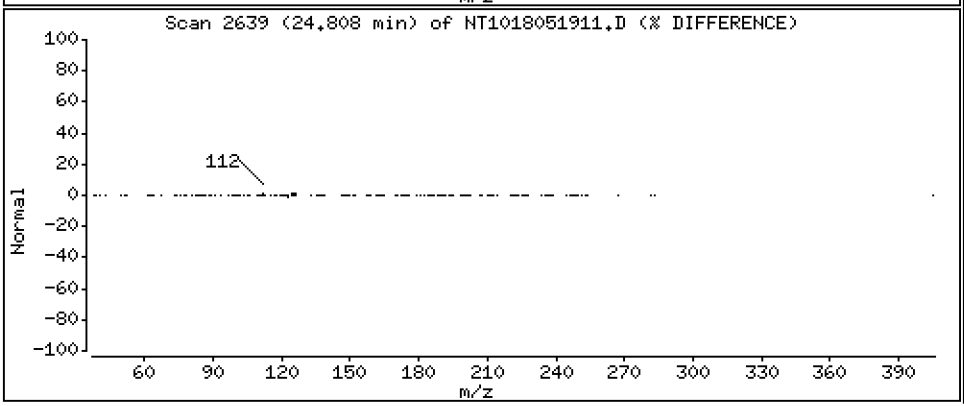












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

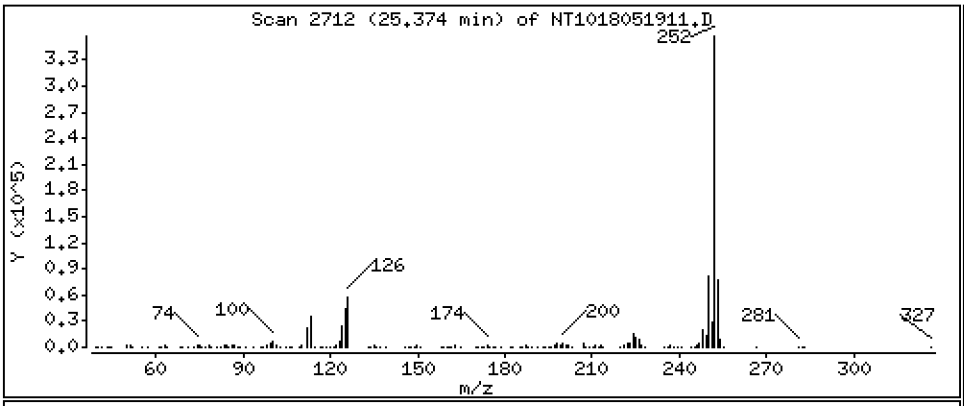
Operator: YZ

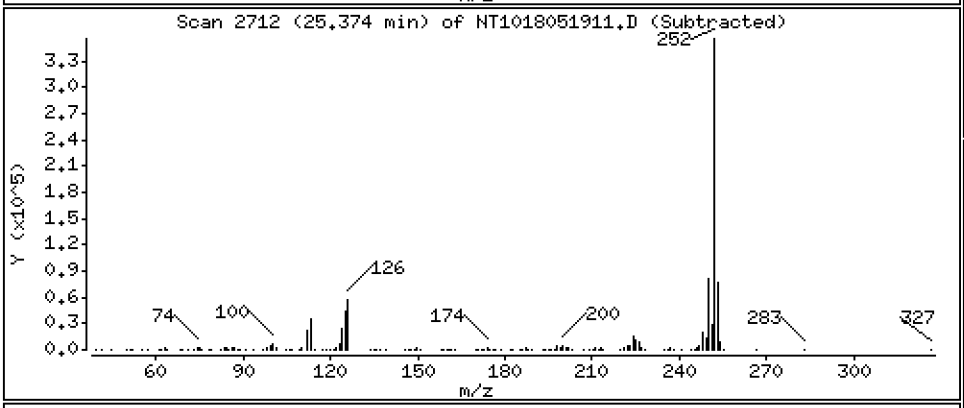
Column phase: ZB-5msi

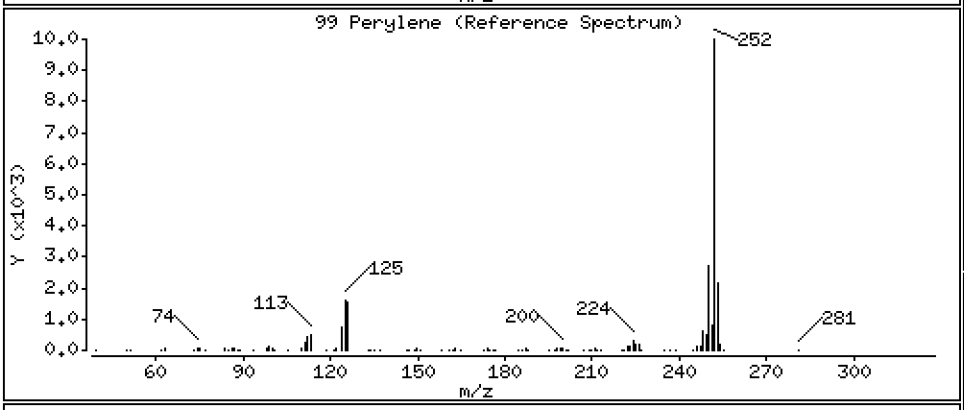
Column diameter: 0.25

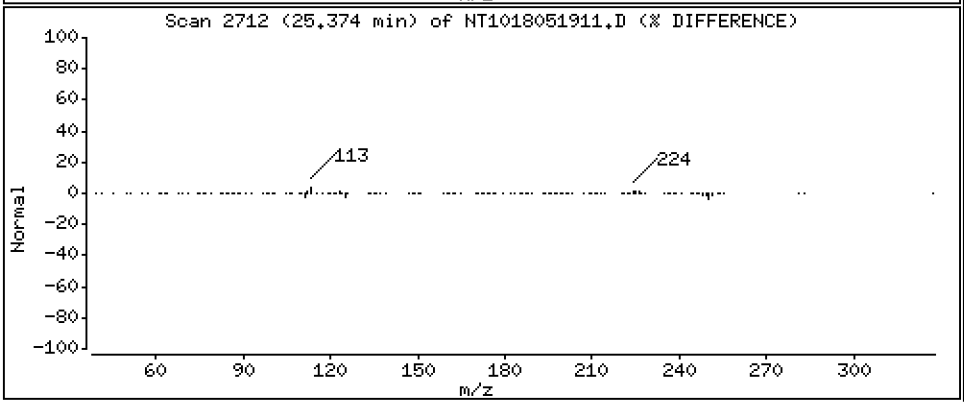
99 Perylene

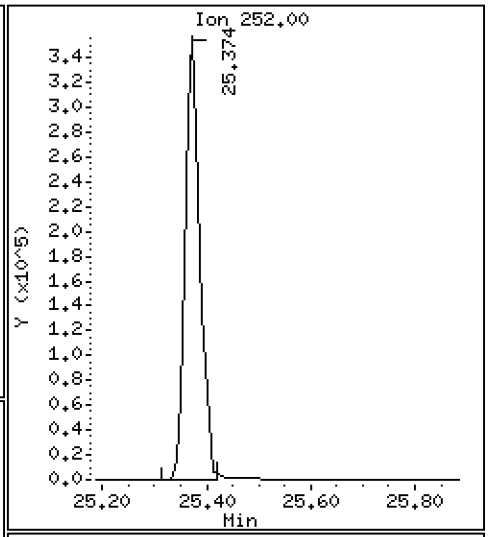
Concentration: 6.582 ug/mL

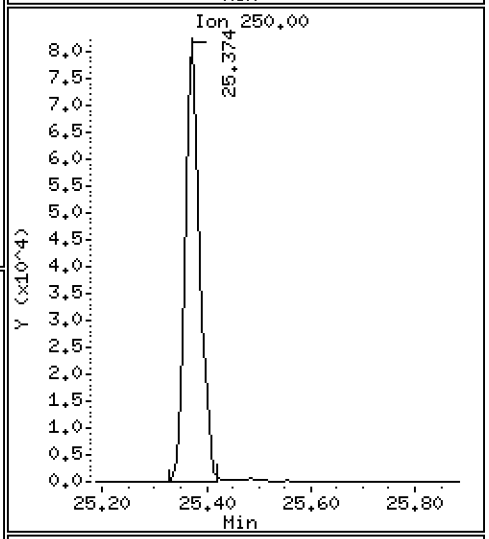


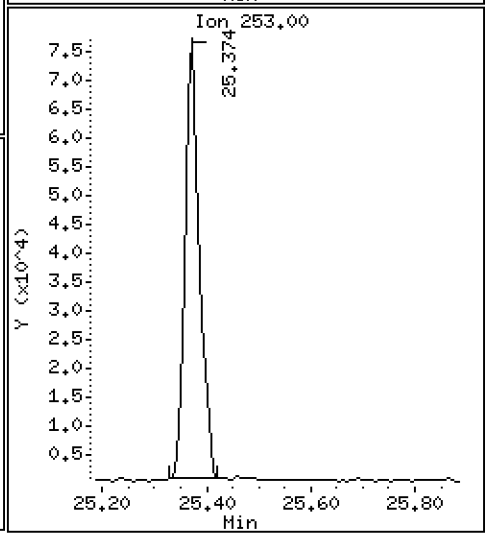












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

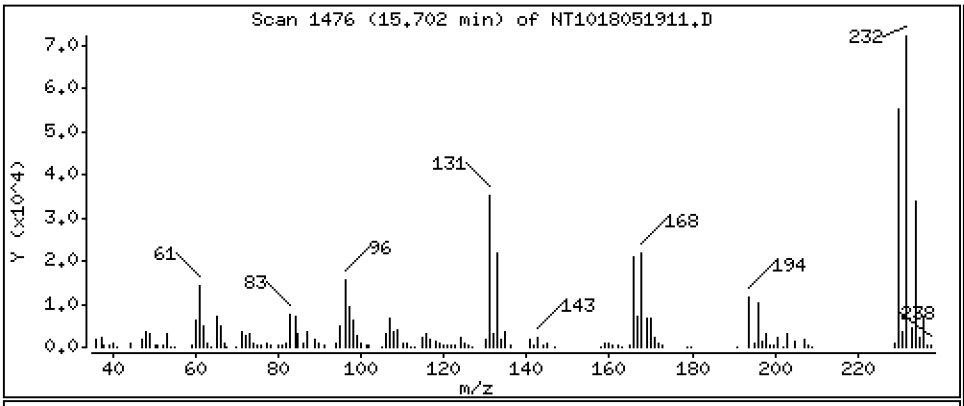
Operator: YZ

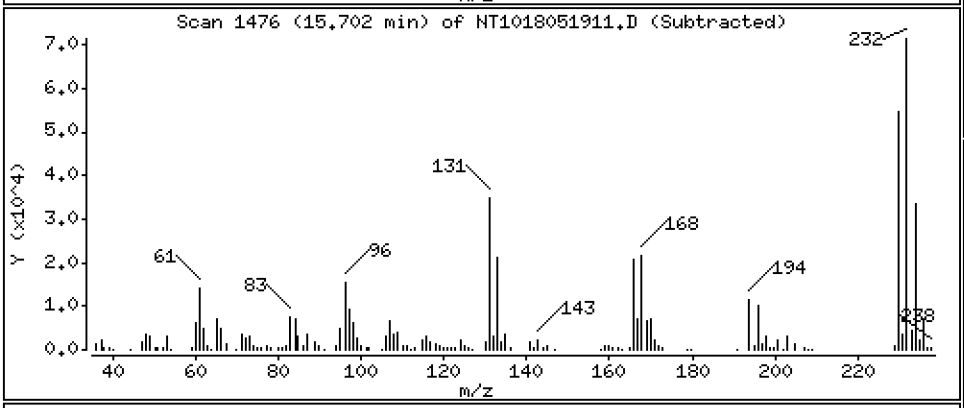
Column phase: ZB-5msi

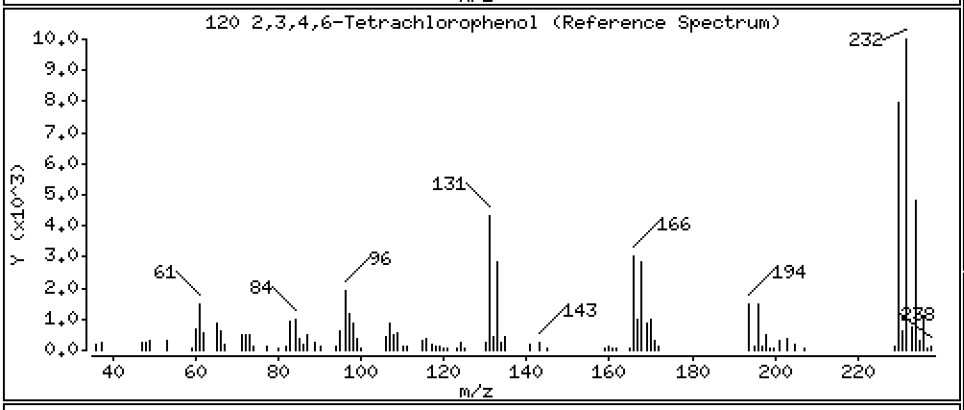
Column diameter: 0.25

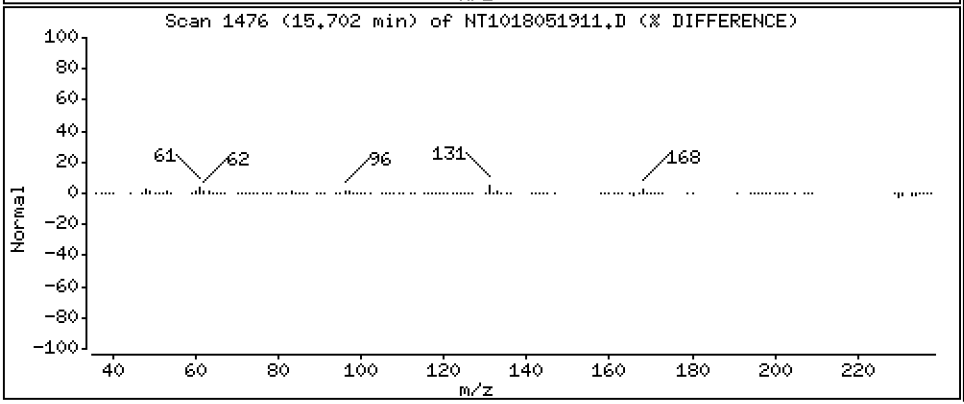
120 2,3,4,6-Tetrachlorophenol

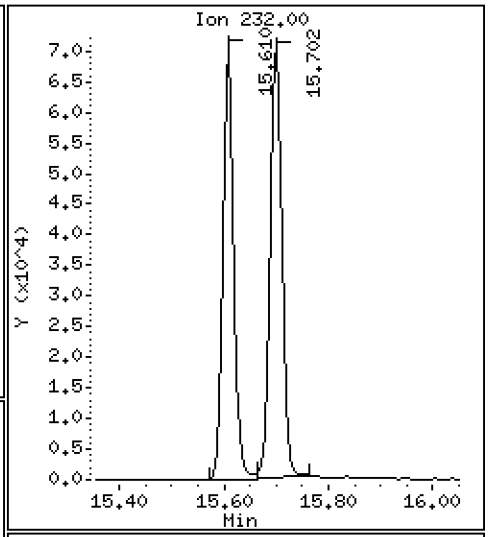
Concentration: 4.385 ug/mL

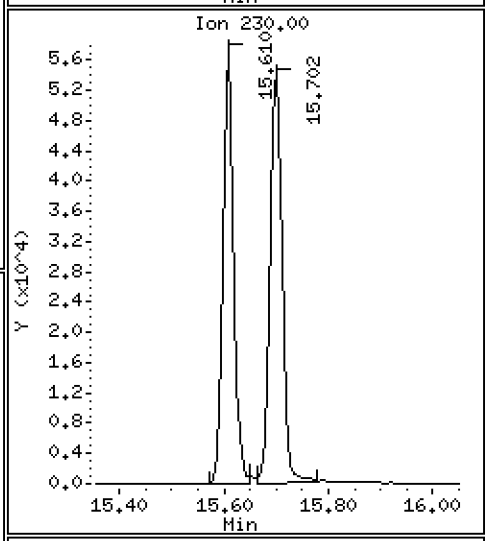


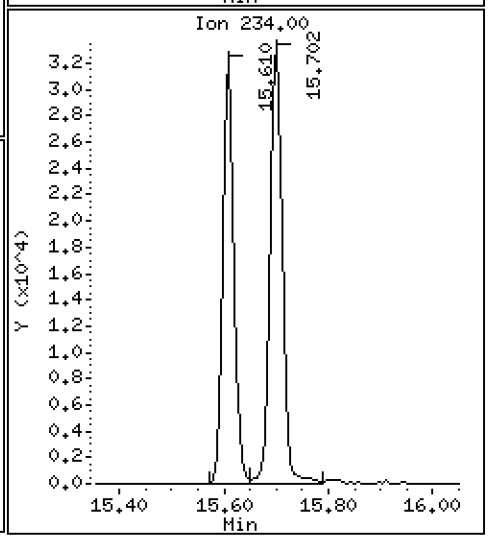












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Inj Date : 19-MAY-2018 14:41
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	Compound Not Detected.					
$	2 Phenol-d5	99	8.636	8.335	(0.963)	10865	0.20949	0.2095
	3 Phenol	94	8.350	8.358	(0.931)	273341	5.30700	5.307
$	5 2-Chlorophenol-d4	132	Compound Not Detected.					
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.951)	219383	5.53901	5.539
	6 2-Chlorophenol	128	8.636	8.644	(0.963)	217132	5.16610	5.166
	7 1,3-Dichlorobenzene	146	8.907	8.915	(0.993)	227049	5.37243	5.372
*	8 1,4-Dichlorobenzene-d4	152	8.969	8.977	(1.000)	114558	4.00000	
	9 1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	203912	5.32231	5.322
$	10 1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	204317	5.37505	5.375
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	129203	5.06520	5.065
	14 2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.063)	70953	4.68901	4.689
	13 2-Methylphenol	108	9.458	9.458	(1.055)	174621	5.05495	5.055
	17 Hexachloroethane	117	9.939	9.939	(1.108)	94441	5.30106	5.301
	16 N-Nitroso-di-n-propylamine	70	9.784	9.792	(1.091)	136354	5.34970	5.350
	15 4-Methylphenol	108	9.722	9.722	(1.084)	185128	5.04685	5.047
$	18 Nitrobenzene-d5	82	Compound Not Detected.					
	19 Nitrobenzene	77	10.087	10.087	(0.884)	216451	5.41634	5.416
	20 Isophorone	82	10.521	10.529	(0.922)	421367	5.13541	5.135
	21 2-Nitrophenol	139	10.706	10.706	(0.938)	111210	5.04834	5.048
	22 2,4-Dimethylphenol	107	10.748	10.756	(0.941)	195289	4.99481	4.995
	23 Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	226106	5.25116	5.251
	24 Benzoic acid	105	10.905	10.955	(0.955)	229184	8.77175	8.772
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	164515	5.22199	5.222
	26 1,2,4-Trichlorobenzene	180	11.331	11.339	(0.993)	177707	5.24557	5.246
*	27 Naphthalene-d8	136	11.416	11.424	(1.000)	406906	4.00000	
	28 Naphthalene	128	11.462	11.463	(1.004)	546010	5.25527	5.255
	29 4-Chloroaniline	127	11.586	11.586	(1.015)	218431	4.71316	4.713
	30 Hexachlorobutadiene	225	11.818	11.818	(1.035)	110085	5.17407	5.174
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	178828	5.24318	5.243
	32 2-Methylnaphthalene	142	12.832	12.840	(1.124)	396080	4.83119	4.831
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	130932	5.56724	5.567

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	130011	5.02765	5.028
	35 2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	130161	4.51931	4.519
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.815	13.815	(0.922)	403667	5.24570	5.246
	38 2-Nitroaniline	65	14.062	14.070	(0.939)	118178	5.50402	5.504
	39 Dimethylphthalate	163	14.496	14.504	(0.967)	399369	4.87649	4.876
	40 Acenaphthylene	152	14.674	14.674	(0.979)	617457	5.08656	5.087
	41 2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	94679	5.39109	5.391
*	42 Acenaphthene-d10	164	14.983	14.983	(1.000)	212151	4.00000	
	43 3-Nitroaniline	138	14.906	14.914	(0.995)	106352	5.23421	5.234
	44 Acenaphthene	153	15.045	15.053	(1.004)	366140	5.07108	5.071
	45 2,4-Dinitrophenol	184	15.115	15.122	(1.009)	32016	2.94715	2.947
	46 Dibenzofuran	168	15.370	15.377	(1.026)	547789	4.88562	4.886
	47 4-Nitrophenol	109	15.215	15.223	(1.015)	52298	4.15065	4.151
	48 2,4-Dinitrotoluene	165	15.431	15.432	(1.030)	128491	5.68643	5.686
	50 Diethylphthalate	149	15.934	15.942	(1.063)	403756	4.83134	4.831
	49 Fluorene	166	16.073	16.073	(1.073)	428039	5.00218	5.002
	51 4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	201379	4.81704	4.817
	52 4-Nitroaniline	138	16.158	16.166	(1.078)	107243	5.46353	5.464
	53 4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	60956	3.46185	3.462
	54 N-Nitrosodiphenylamine	169	16.313	16.313	(0.908)	286378	5.22712	5.227
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.053	17.061	(0.949)	123362	4.98836	4.988
	57 Hexachlorobenzene	284	17.362	17.370	(0.966)	122673	5.19592	5.196
	58 Pentachlorophenol	266	17.711	17.718	(0.985)	69303	4.99178	4.992
*	59 Phenanthrene-d10	188	17.974	17.982	(1.000)	407216	4.00000	
	60 Phenanthrene	178	18.028	18.028	(1.003)	549283	5.08830	5.088
	61 Anthracene	178	18.113	18.121	(1.008)	549903	4.80467	4.805
	62 Carbazole	167	18.438	18.446	(1.026)	555100	5.43244	5.432
	63 Di-n-butylphthalate	149	19.250	19.250	(1.071)	824291	5.29418	5.294
	64 Fluoranthene	202	20.395	20.395	(0.887)	748878	5.21358	5.214
	65 Pyrene	202	20.813	20.821	(0.905)	786056	5.25095	5.251
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.028	22.029	(0.958)	319521	5.39007	5.390
	68 Benzo(a)anthracene	228	22.958	22.966	(0.999)	660563	5.02994	5.030
*	69 Chrysene-d12	240	22.989	22.989	(1.000)	360730	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	460373	9.99155	9.992
	71 Chrysene	228	23.035	23.035	(1.002)	554854	5.26045	5.260
	72 bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	431855	5.23087	5.231
*	134 Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	792512	4.00000	
	73 Di-n-octylphthalate	149	24.026	24.026	(1.000)	896166	5.19293	5.193
	74 Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	664828	4.90589	4.906
	75 Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	739570	5.42328	5.423
	76 Benzo(a)pyrene	252	25.373	25.373	(0.996)	721514	5.27753	5.278
*	77 Perylene-d12	264	25.481	25.482	(1.000)	387545	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.922	27.922	(1.096)	669280	4.98154	4.982
	79 Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	527262	4.86155	4.862
	80 Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	605896	5.06697	5.067
	90 N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	154746	6.67624	6.676
	91 Aniline	93	8.435	8.435	(0.941)	310490	5.42405	5.424
	93 Benzidine	184	20.627	20.635	(0.897)	653077	10.7046	10.70
	103 Pyridine	79	4.697	4.705	(0.524)	247064	5.89783	5.898
	105 1-methylnaphthalene	142	13.056	13.056	(1.144)	392256	4.64617	4.646
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	407279	5.09161	5.092

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1338371	10.2371	10.24
99	Perylene	252	25.373	25.536	(0.996)	721514	6.58216	6.582
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	104899	4.38535	4.385

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	114558	3.49
27 Naphthalene-d8	393946	196973	787892	406906	3.29
42 Acenaphthene-d10	203210	101605	406420	212151	4.40
59 Phenanthrene-d10	403506	201753	807012	407216	0.92
69 Chrysene-d12	354618	177309	709236	360730	1.72
134 Di-n-octylphthala	800232	400116	1600464	792512	-0.96
77 Perylene-d12	378948	189474	757896	387545	2.27

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.97	-0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.97	-0.04
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051911.D

Lab ID: SGE0328-SCV1
nt10.i, ABN.m, 19-MAY-2018 14:41

RT	CO-ELUTION COMPOUNDS
25.374	Perylene and Benzo(a)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc. **SDG:** 18F0364

Client: Windward Environmental, LLC **Project:** AOC3 Clam Collection

Calibration: BE00068 **Laboratory ID:** SGE0328-SCV1

Sequence: SGE0328 **Standard ID:** G004584

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	5.3	6.1	20.00
bis(2-chloroethyl) ether	5.0000	5.5	10.8	20.00
2-Chlorophenol	5.0000	5.2	3.3	20.00
1,3-Dichlorobenzene	5.0000	5.4	7.4	20.00
1,4-Dichlorobenzene	5.0000	5.3	6.4	20.00
1,2-Dichlorobenzene	5.0000	5.4	7.5	20.00
Benzyl Alcohol	5.0000	5.1	1.3	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	4.7	-6.2	20.00
2-Methylphenol	5.0000	5.1	1.1	20.00
Hexachloroethane	5.0000	5.3	6.0	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.3	7.0	20.00
4-Methylphenol	5.0000	5.0	0.9	20.00
Nitrobenzene	5.0000	5.4	8.3	20.00
Isophorone	5.0000	5.1	2.7	20.00
2-Nitrophenol	5.0000	5.0	1.0	20.00
2,4-Dimethylphenol	5.0000	5.0	-0.1	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.3	5.0	20.00
2,4-Dichlorophenol	5.0000	5.2	4.4	20.00
1,2,4-Trichlorobenzene	5.0000	5.2	4.9	20.00
Naphthalene	5.0000	5.3	5.1	20.00
Benzoic acid	10.000	8.8	-12.3	20.00
4-Chloroaniline	5.0000	4.7	-5.7	20.00
Hexachlorobutadiene	5.0000	5.2	3.5	20.00
4-Chloro-3-Methylphenol	5.0000	5.2	4.9	20.00
2-Methylnaphthalene	5.0000	4.8	-3.4	20.00
Hexachlorocyclopentadiene	5.0000	5.6	11.3	20.00
2,4,6-Trichlorophenol	5.0000	5.0	0.6	20.00
2,4,5-Trichlorophenol	5.0000	4.5	-9.6	20.00
2-Chloronaphthalene	5.0000	5.2	4.9	20.00
2-Nitroaniline	5.0000	5.5	10.1	20.00
Acenaphthylene	5.0000	5.1	1.7	20.00
Dimethylphthalate	5.0000	4.9	-2.5	20.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc. **SDG:** 18F0364

Client: Windward Environmental, LLC **Project:** AOC3 Clam Collection

Calibration: BE00068 **Laboratory ID:** SGE0328-SCV1

Sequence: SGE0328 **Standard ID:** G004584

2,6-Dinitrotoluene	5.0000	5.4	7.8	20.00
Acenaphthene	5.0000	5.1	1.4	20.00
3-Nitroaniline	5.0000	5.2	4.7	20.00
2,4-Dinitrophenol	5.0000	2.9	-41.1 *	20.00
Dibenzofuran	5.0000	4.9	-2.3	20.00
4-Nitrophenol	5.0000	4.2	-17.0	20.00
2,4-Dinitrotoluene	5.0000	5.7	13.7	20.00
Fluorene	5.0000	5.0	0.04	20.00
4-Chlorophenylphenyl ether	5.0000	4.8	-3.7	20.00
Diethyl phthalate	5.0000	4.8	-3.4	20.00
4-Nitroaniline	5.0000	5.5	9.3	20.00
4,6-Dinitro-2-methylphenol	5.0000	3.5	-30.8 *	20.00
N-Nitrosodiphenylamine	5.0000	5.2	4.5	20.00
4-Bromophenyl phenyl ether	5.0000	5.0	-0.2	20.00
Hexachlorobenzene	5.0000	5.2	3.9	20.00
Pentachlorophenol	5.0000	5.0	-0.2	20.00
Phenanthrene	5.0000	5.1	1.8	20.00
Anthracene	5.0000	4.8	-3.9	20.00
Carbazole	5.0000	5.4	8.6	20.00
Di-n-Butylphthalate	5.0000	5.3	5.9	20.00
Fluoranthene	5.0000	5.2	4.3	20.00
Pyrene	5.0000	5.3	5.0	20.00
Butylbenzylphthalate	5.0000	5.4	7.8	20.00
Benzo(a)anthracene	5.0000	5.0	0.6	20.00
3,3'-Dichlorobenzidine	10.000	10.0	-0.08	20.00
Chrysene	5.0000	5.3	5.2	20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.2	4.6	20.00
Di-n-Octylphthalate	5.0000	5.2	3.9	20.00
Benzofluoranthenes, Total	10.000	10.2	2.4	20.00
Benzo(a)pyrene	5.0000	5.3	5.6	20.00
Indeno(1,2,3-cd)pyrene	5.0000	5.0	-0.4	20.00
Dibenzo(a,h)anthracene	5.0000	4.9	-2.8	20.00
Benzo(g,h,i)perylene	5.0000	5.1	1.3	20.00
1-Methylnaphthalene	5.0000	4.6	-7.1	20.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

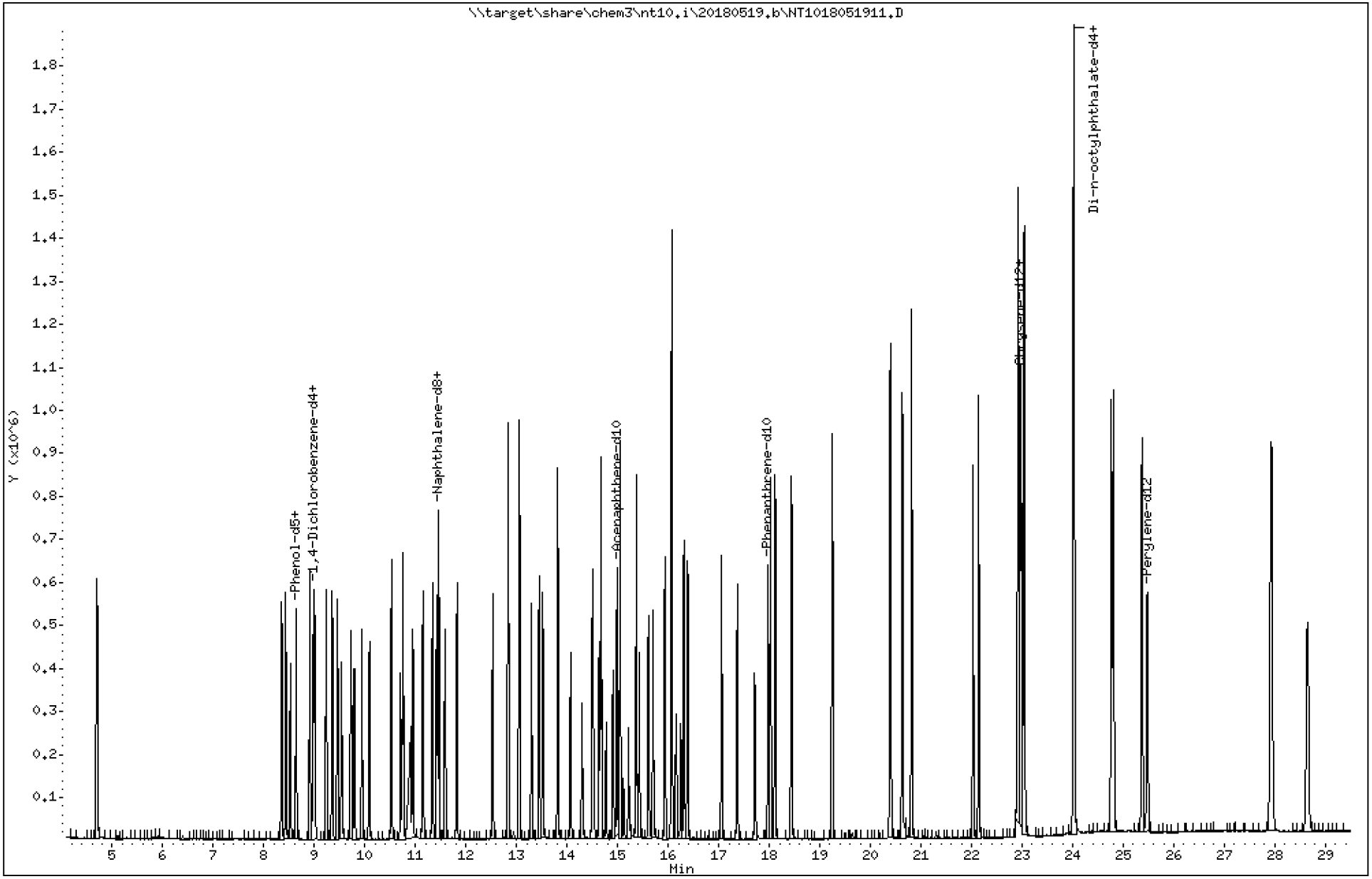
Instrument: nt10.i

Sample Info: SGE0328-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

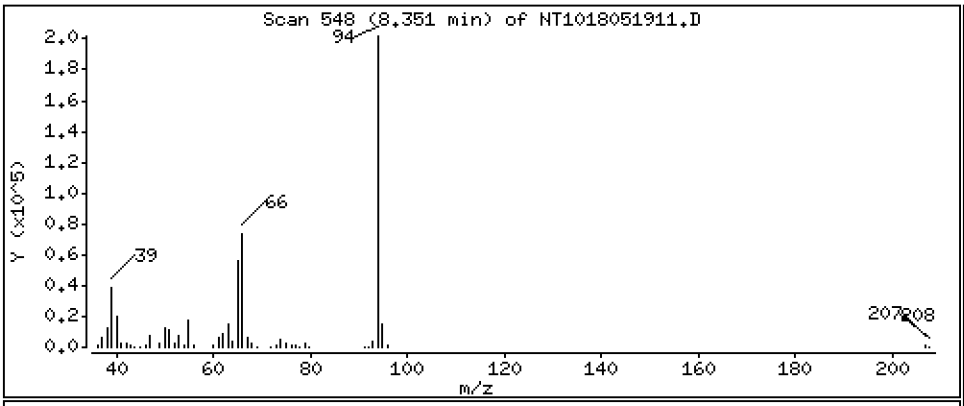
Operator: YZ

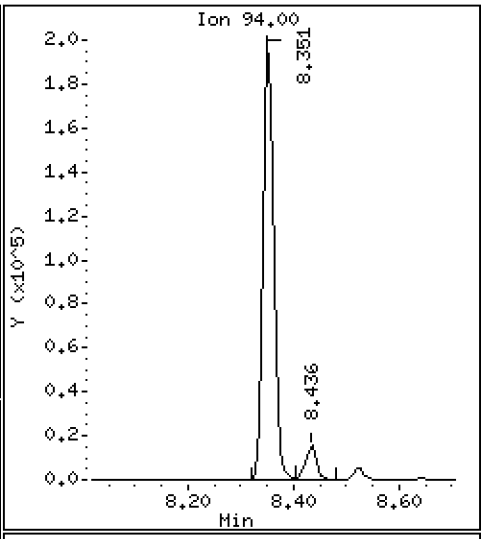
Column phase: ZB-5msi

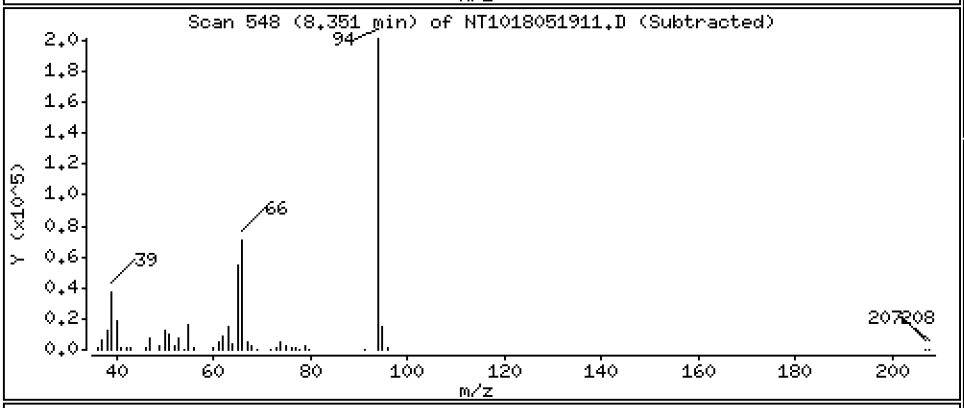
Column diameter: 0.25

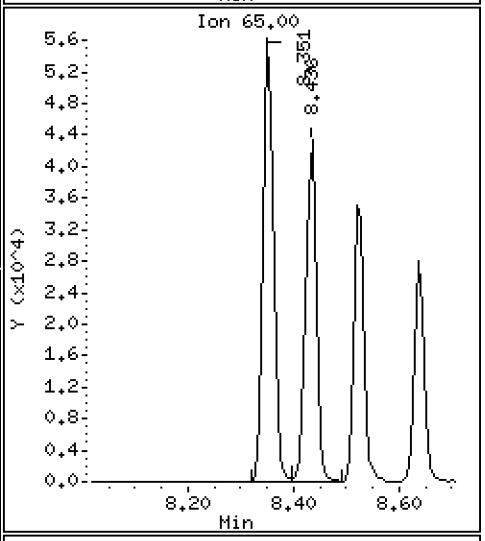
3 Phenol

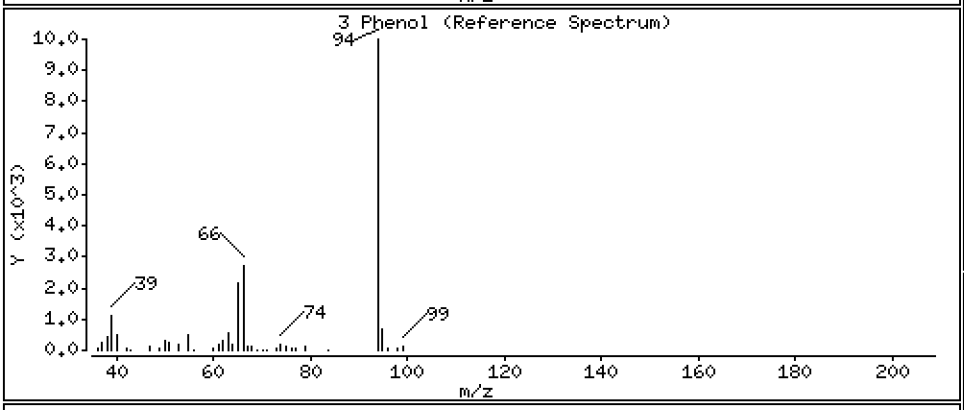
Concentration: 5.307 ug/mL

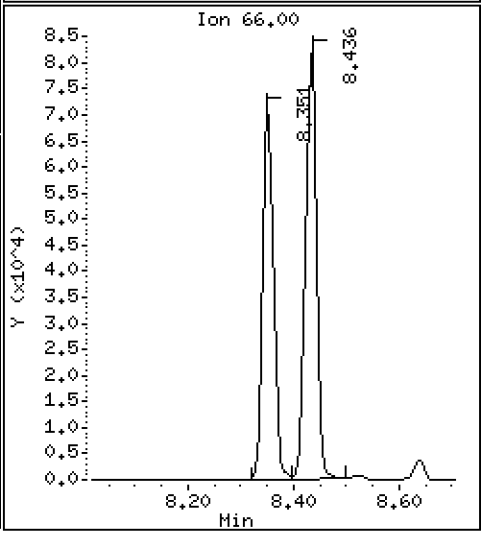


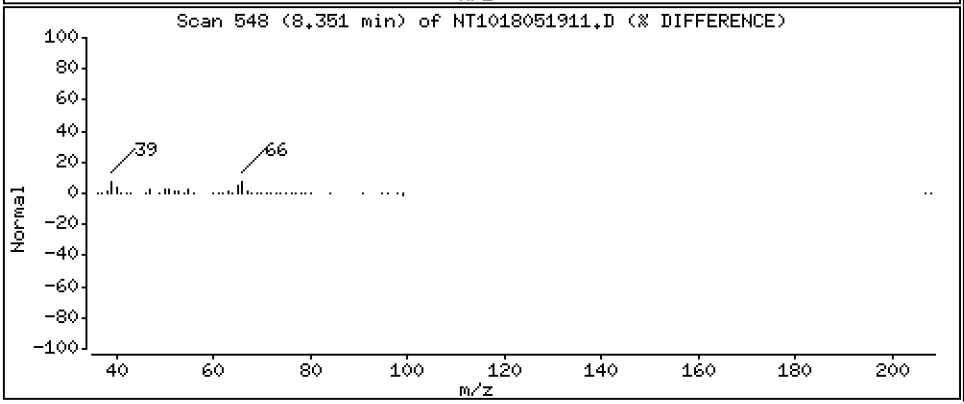












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

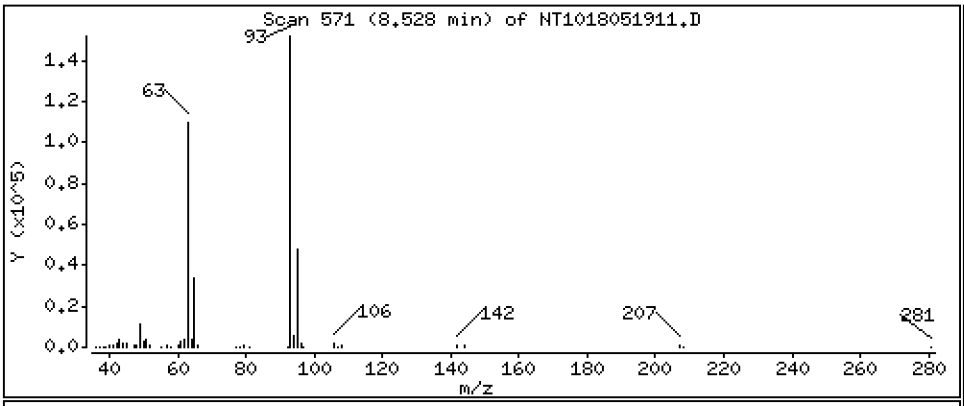
Operator: YZ

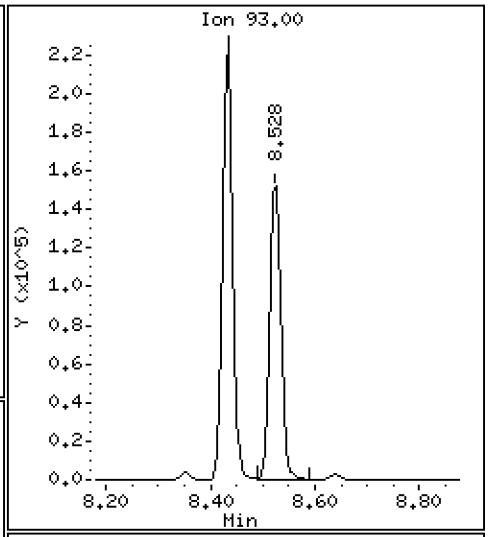
Column phase: ZB-5msi

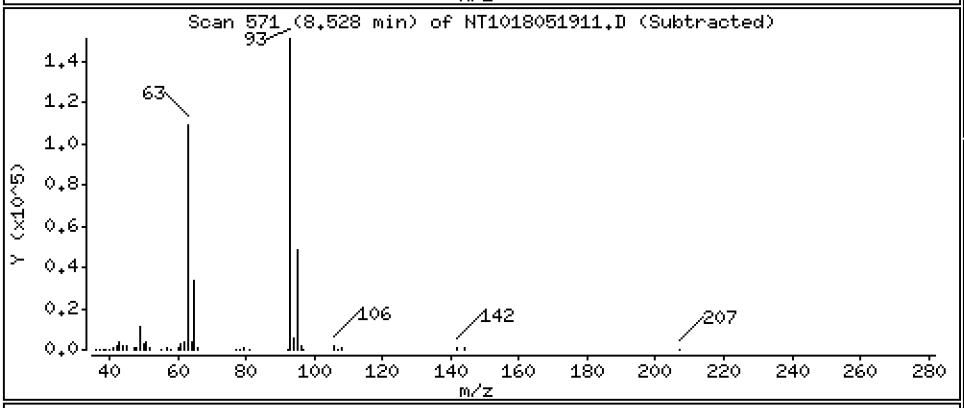
Column diameter: 0.25

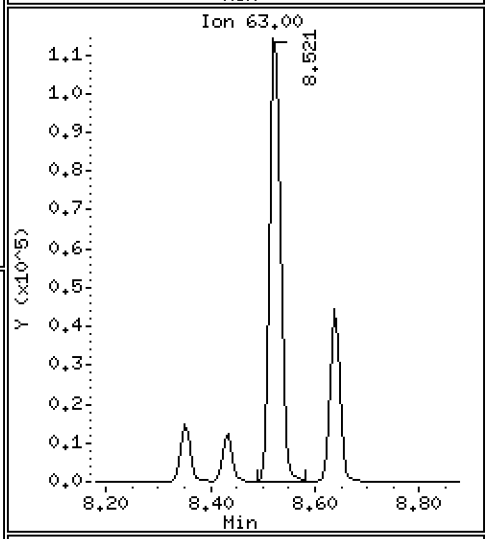
4 Bis(2-Chloroethyl)ether

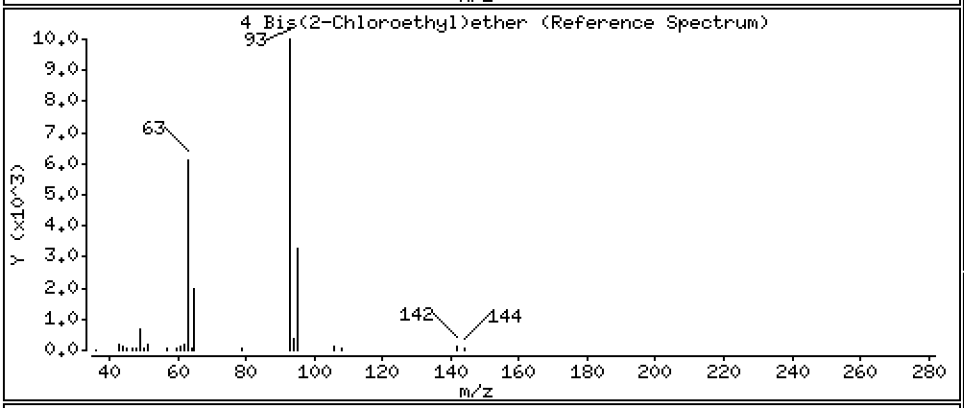
Concentration: 5.539 ug/mL

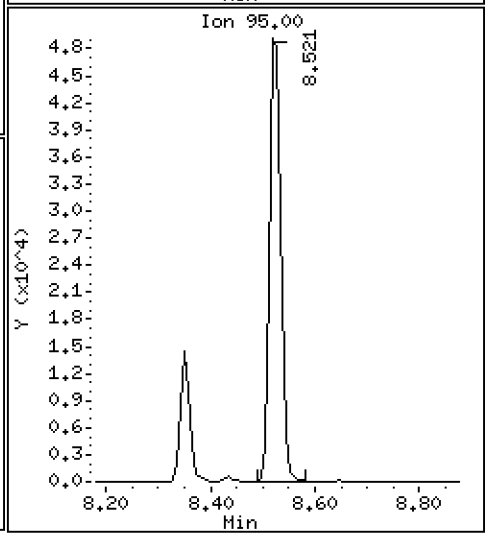


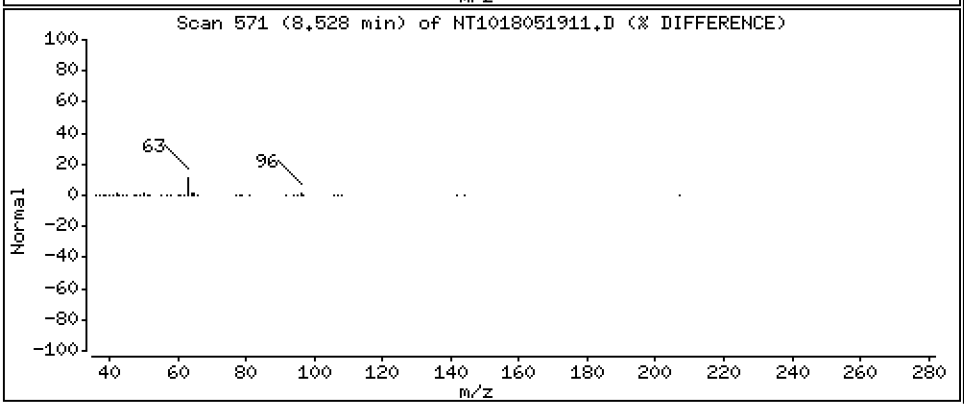












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

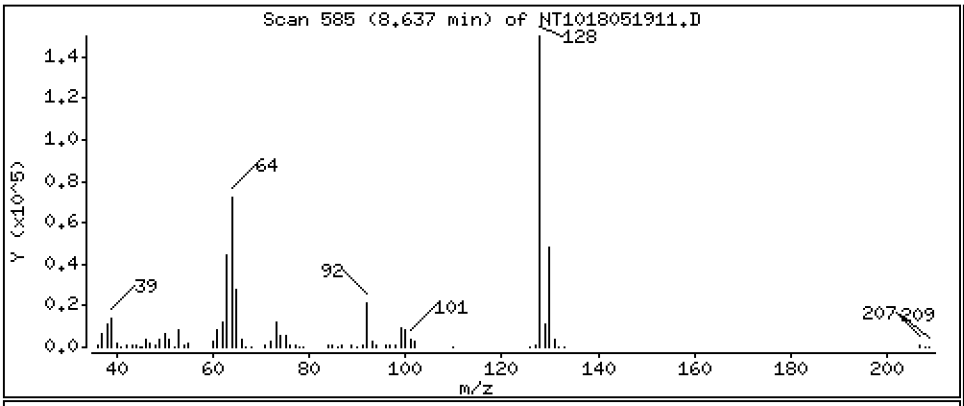
Operator: YZ

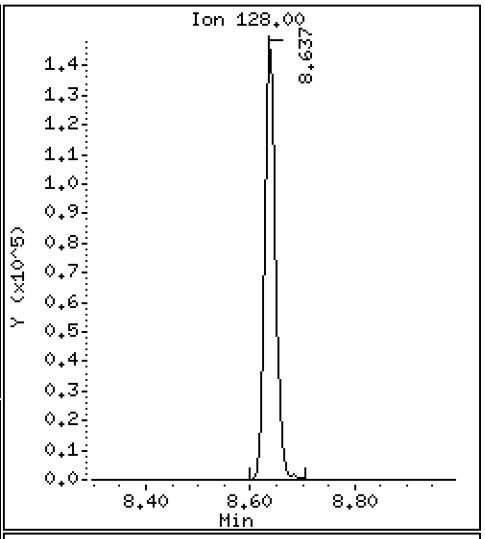
Column phase: ZB-5msi

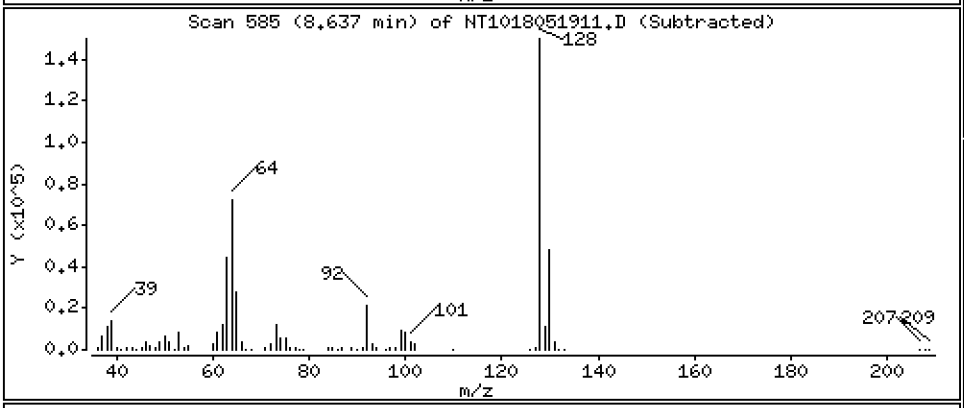
Column diameter: 0.25

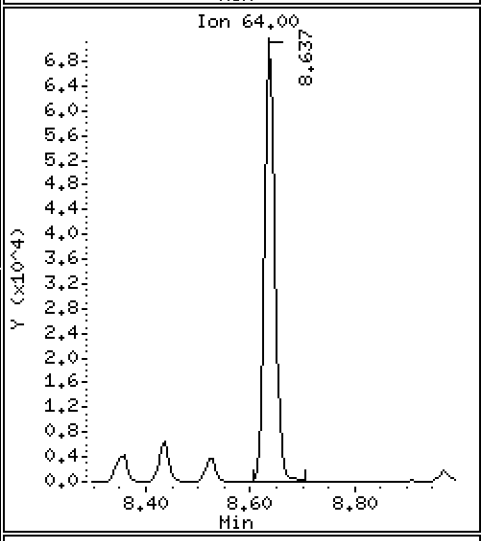
6 2-Chlorophenol

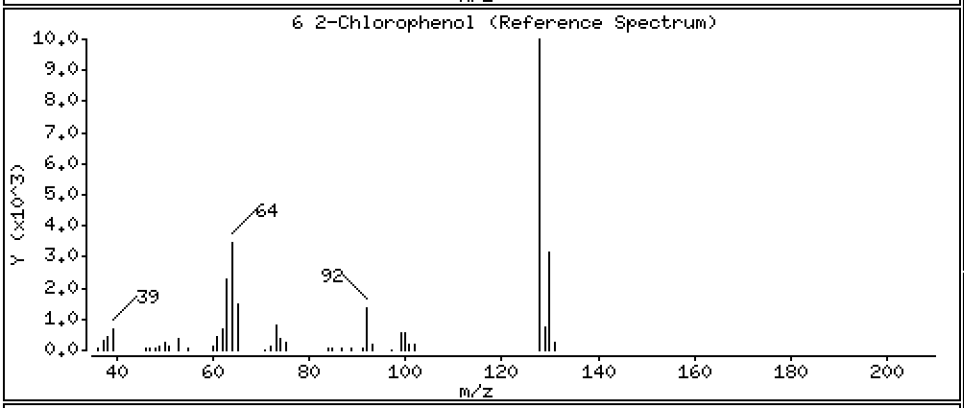
Concentration: 5.166 ug/mL

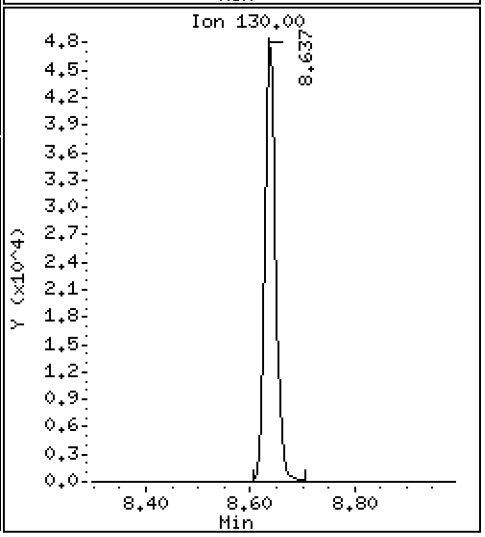


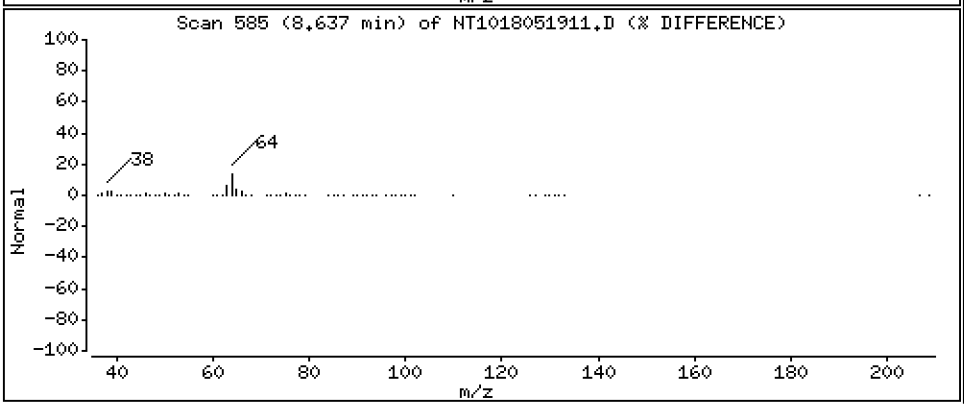












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

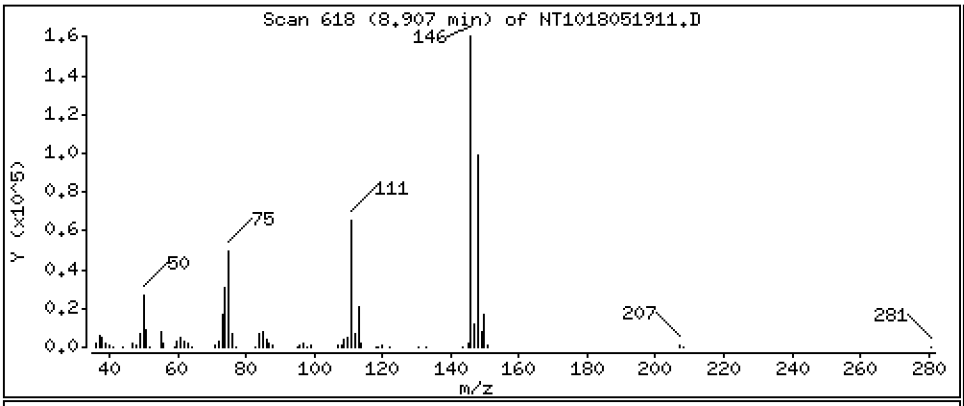
Operator: YZ

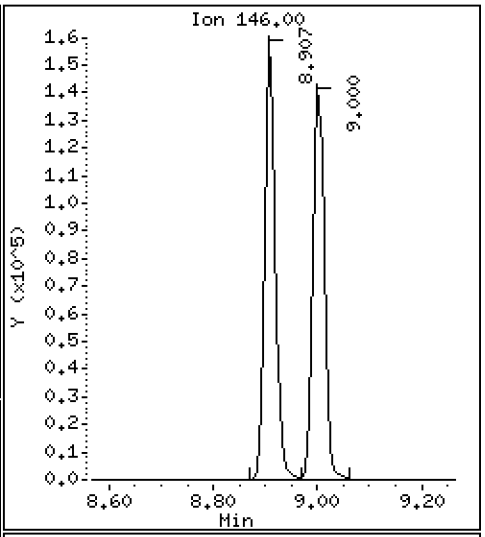
Column phase: ZB-5msi

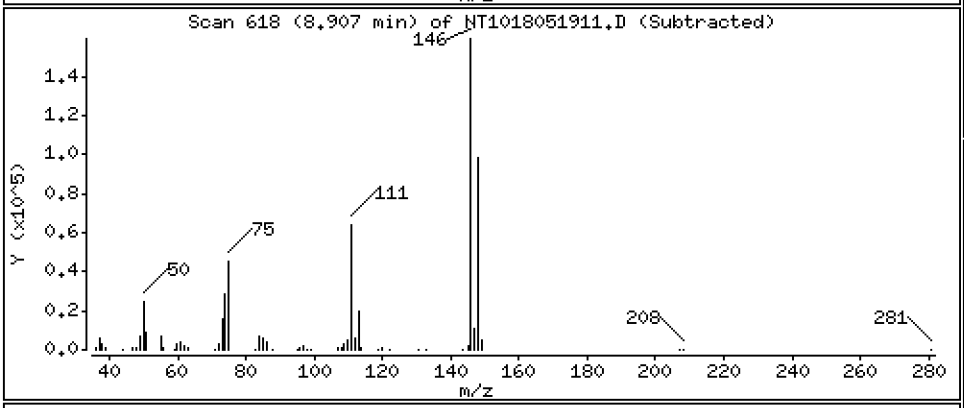
Column diameter: 0.25

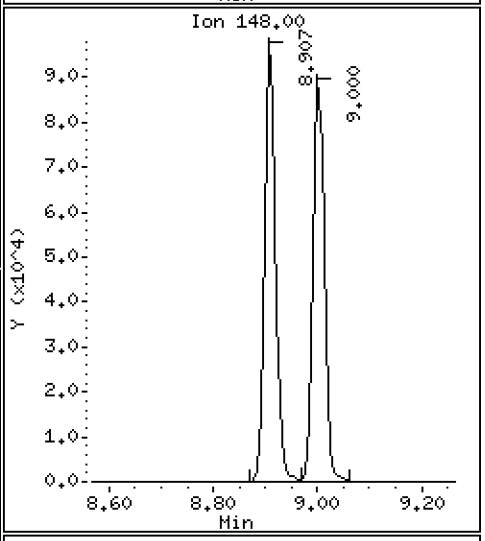
7 1,3-Dichlorobenzene

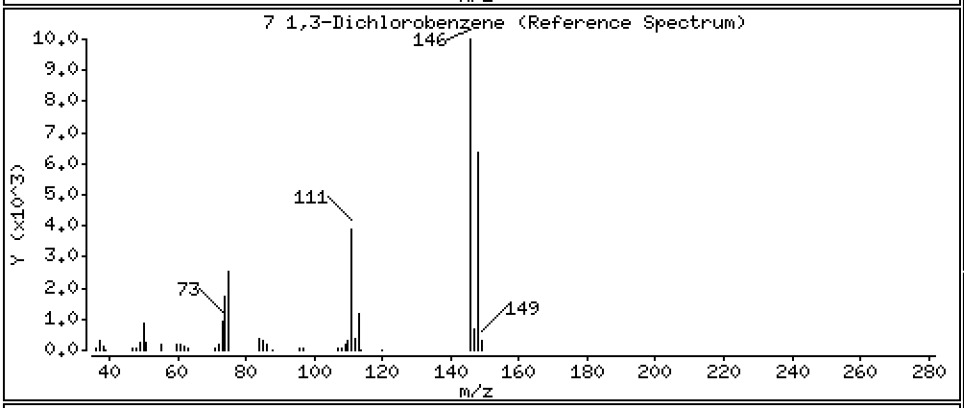
Concentration: 5.372 ug/mL

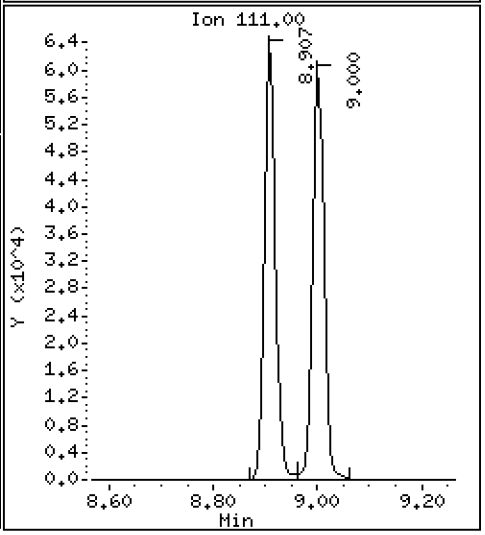


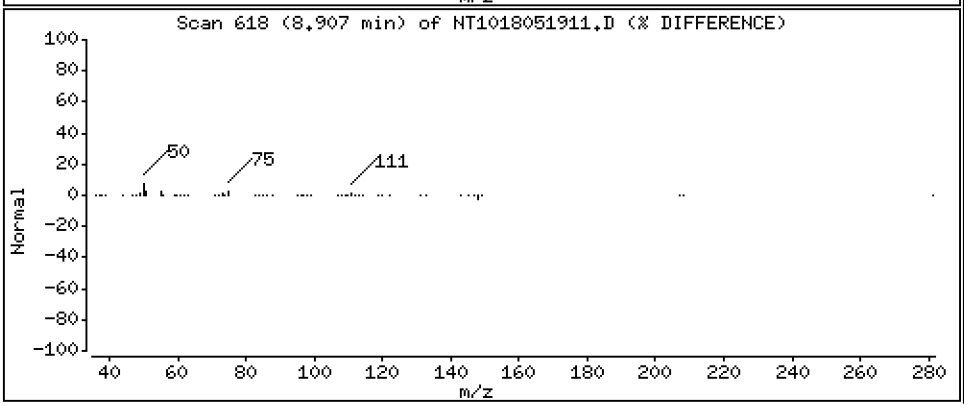












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

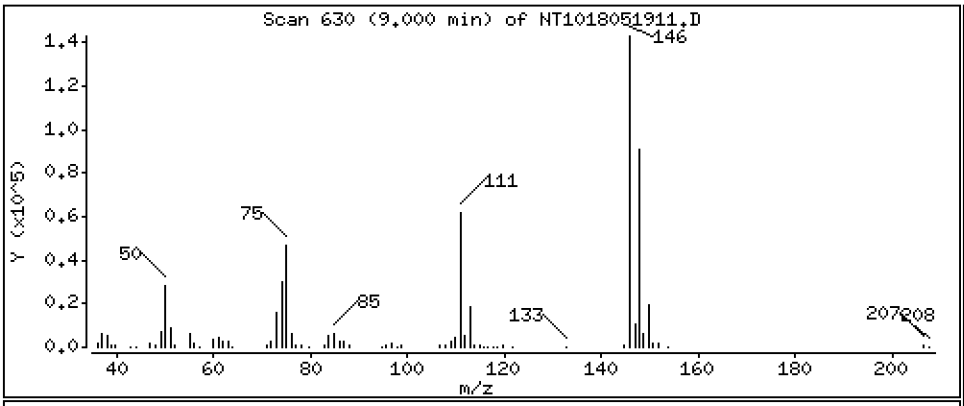
Operator: YZ

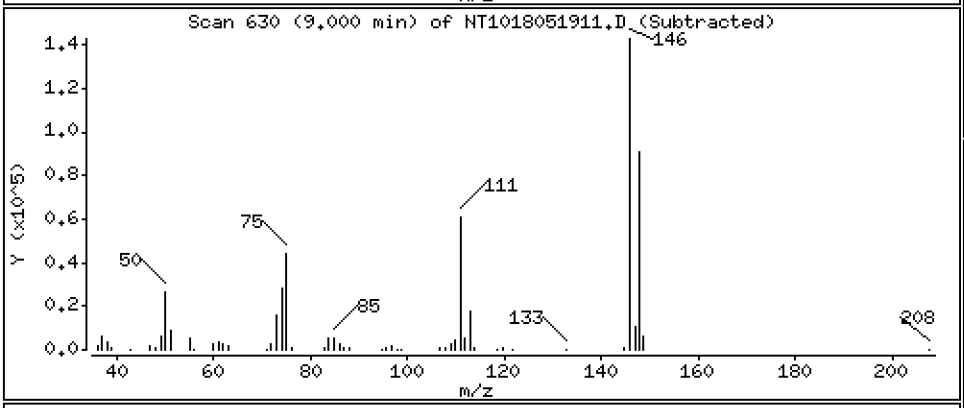
Column phase: ZB-5msi

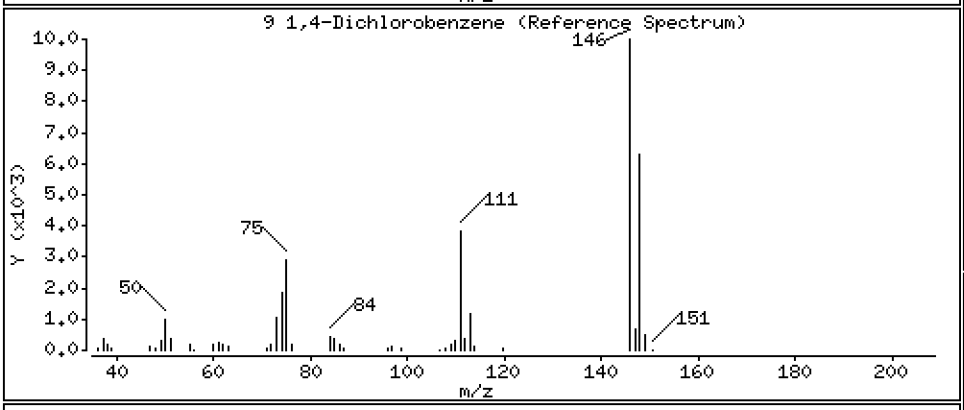
Column diameter: 0.25

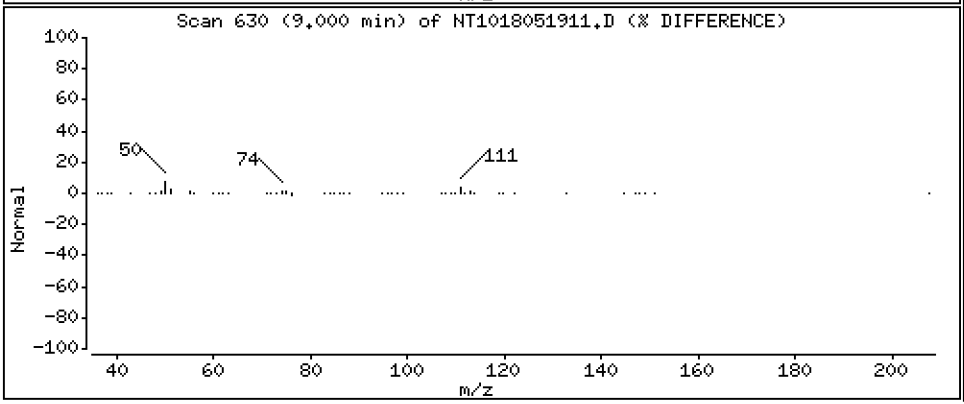
9 1,4-Dichlorobenzene

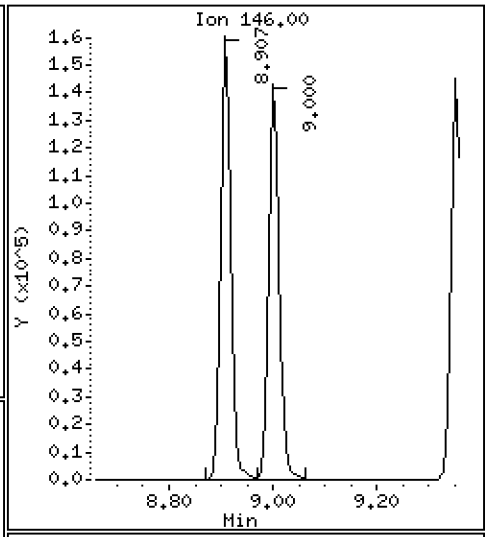
Concentration: 5.322 ug/mL

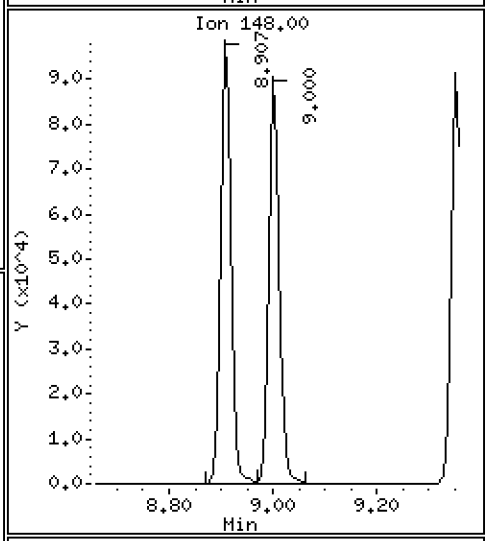


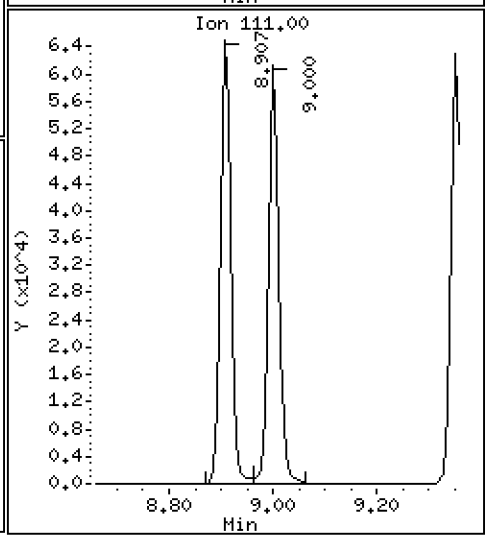












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

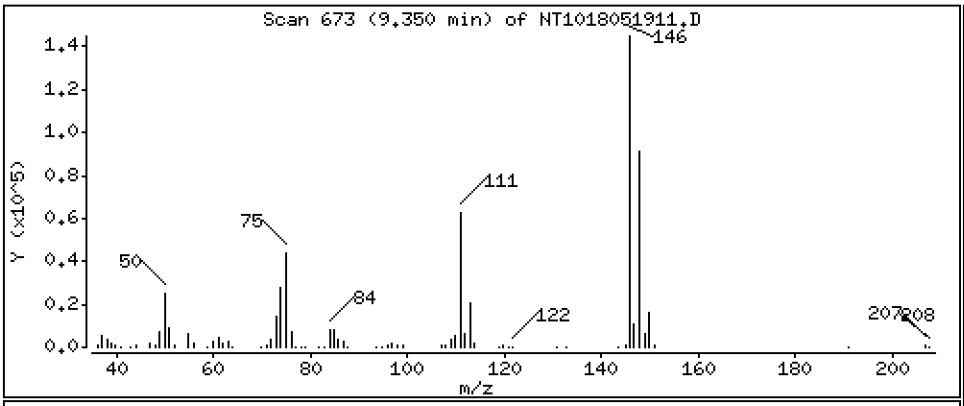
Operator: YZ

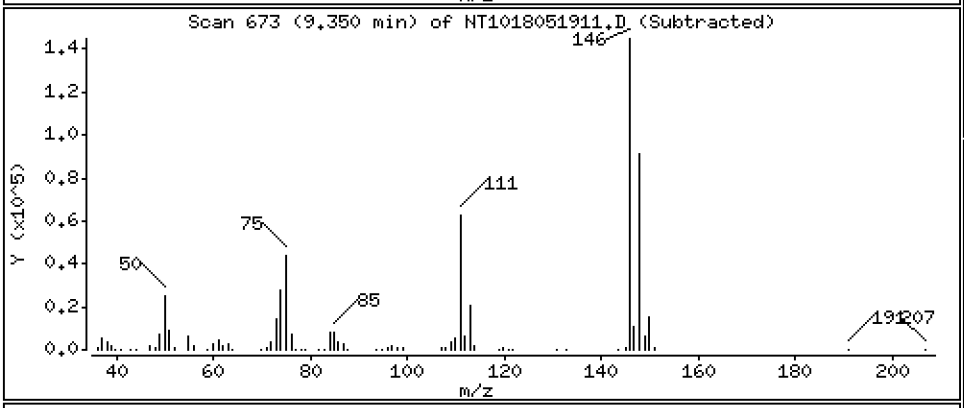
Column phase: ZB-5msi

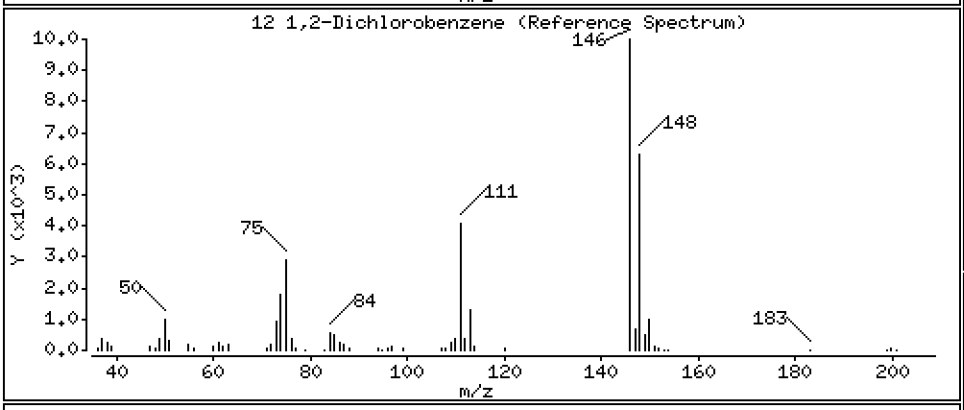
Column diameter: 0.25

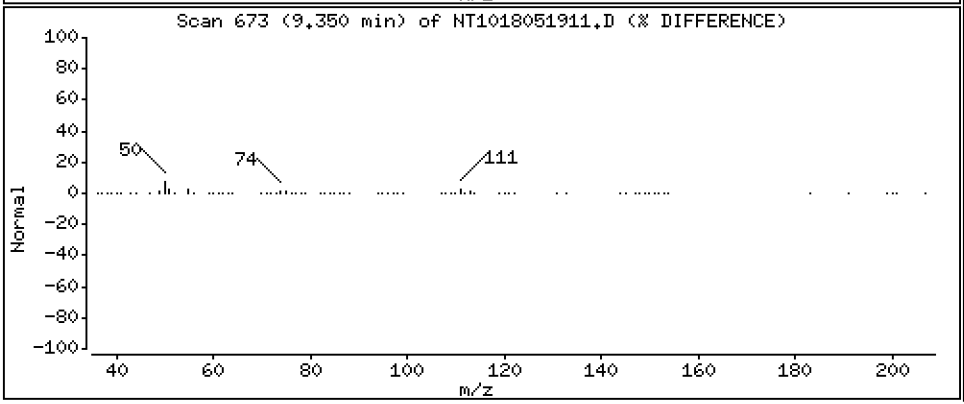
12 1,2-Dichlorobenzene

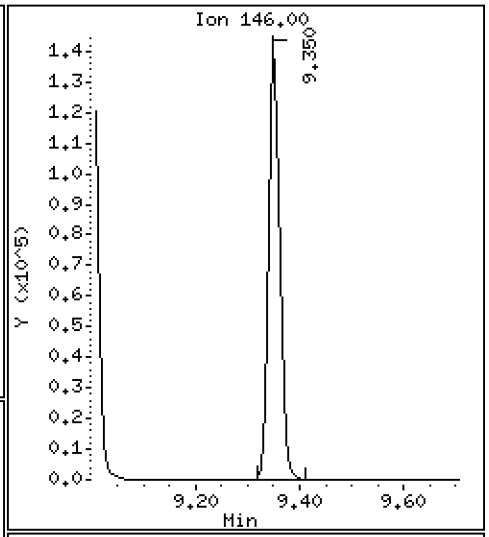
Concentration: 5.375 ug/mL

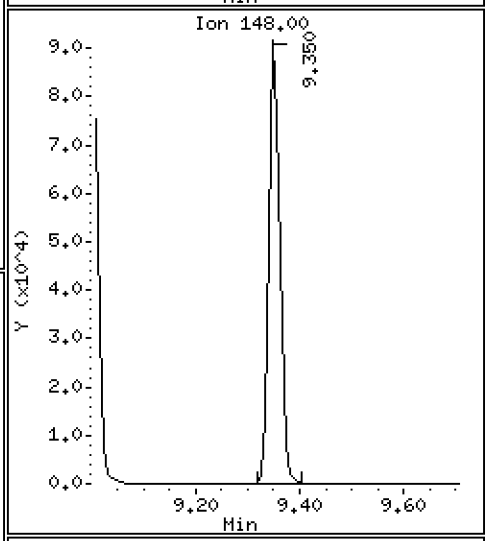


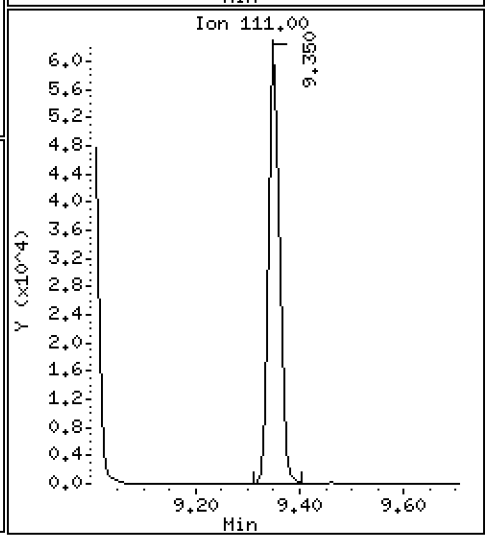












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

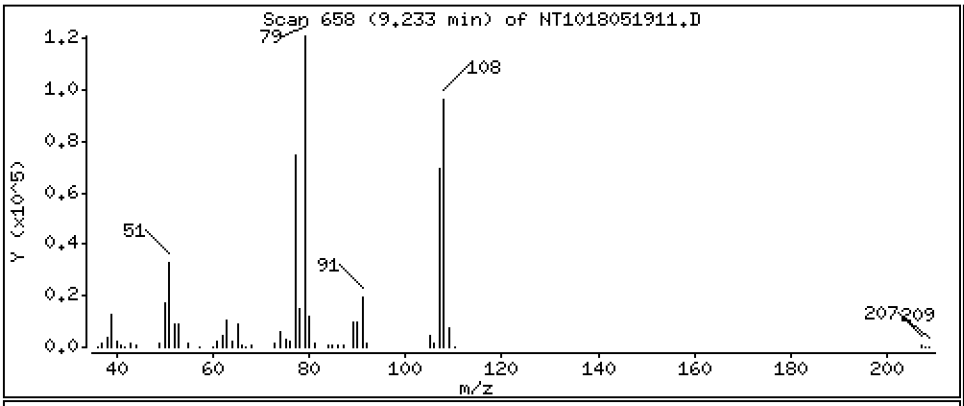
Operator: YZ

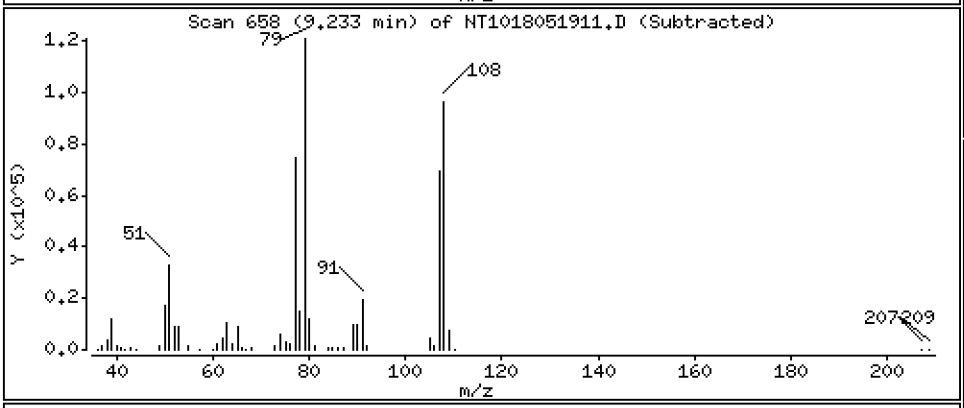
Column phase: ZB-5msi

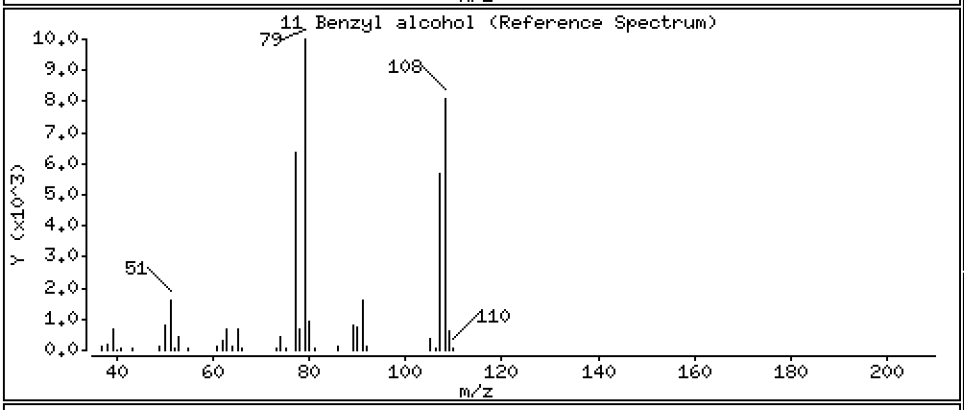
Column diameter: 0.25

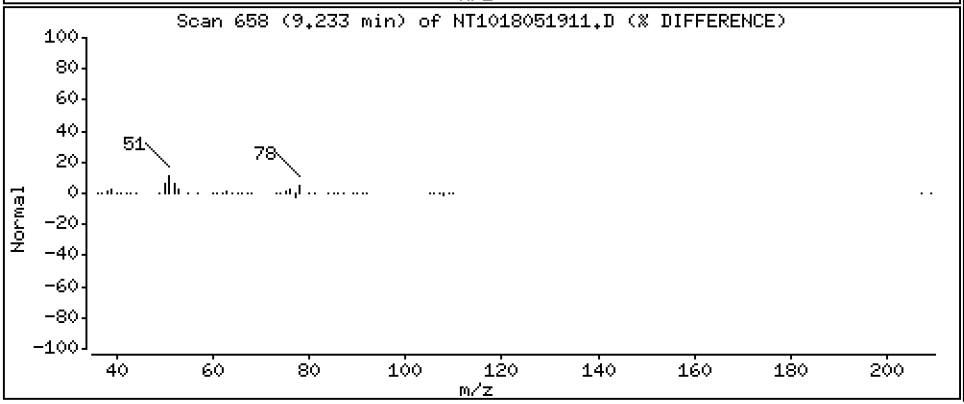
11 Benzyl alcohol

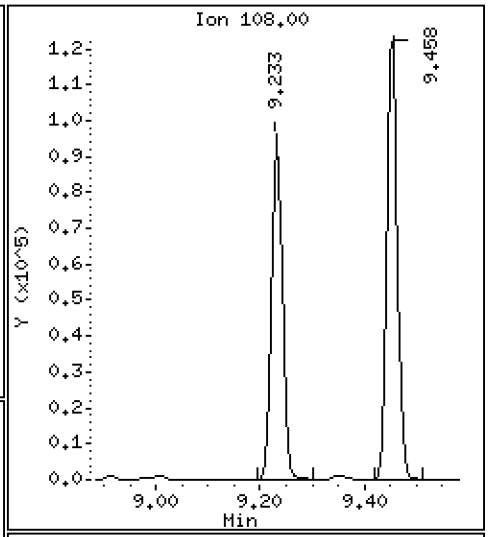
Concentration: 5.065 ug/mL

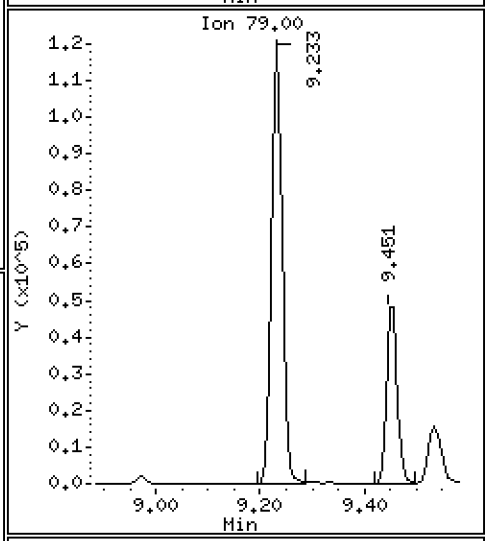


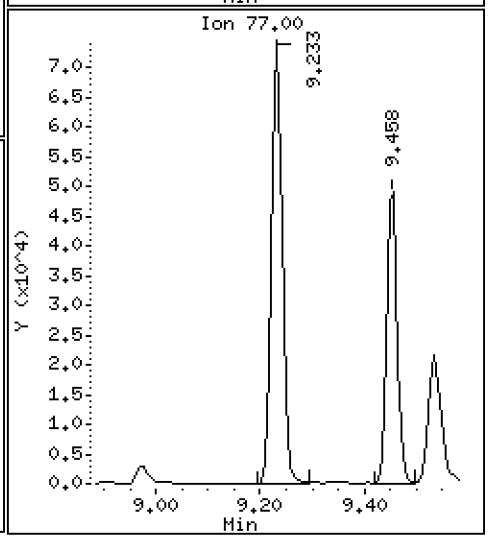












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

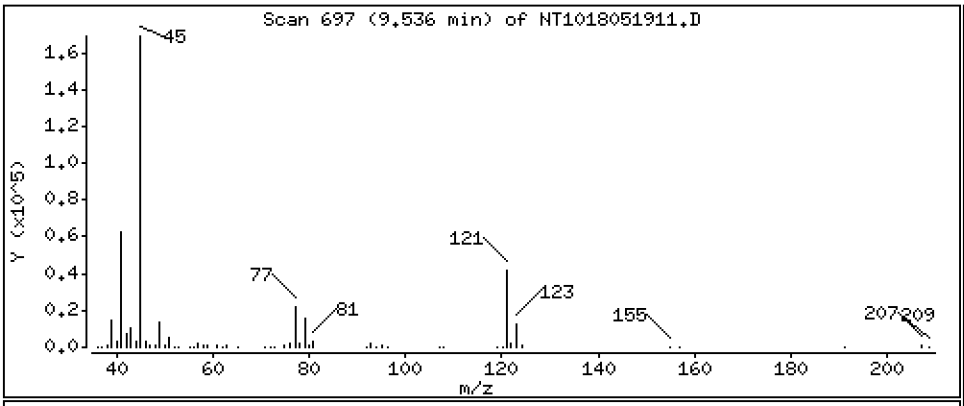
Operator: YZ

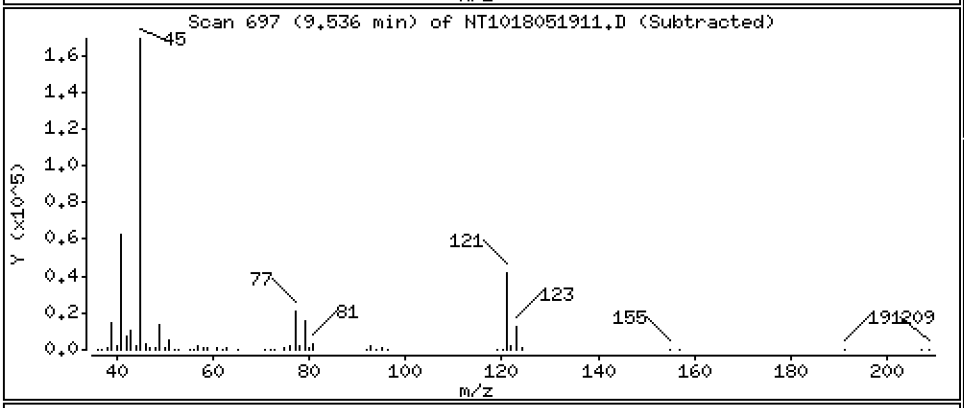
Column phase: ZB-5msi

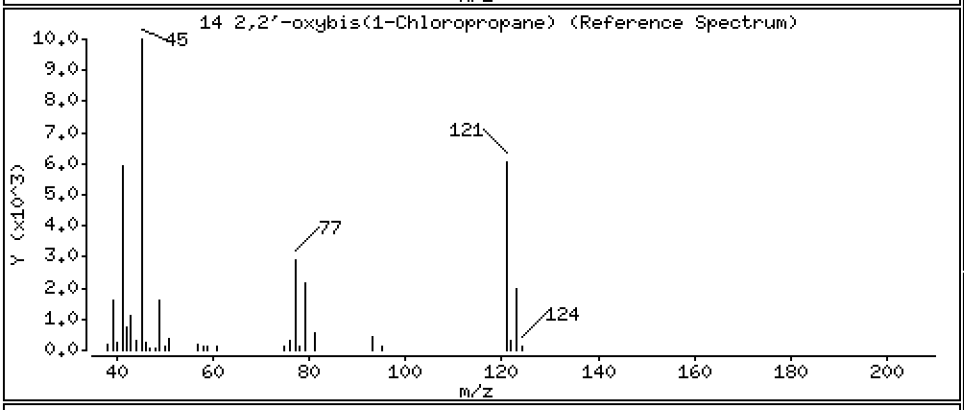
Column diameter: 0.25

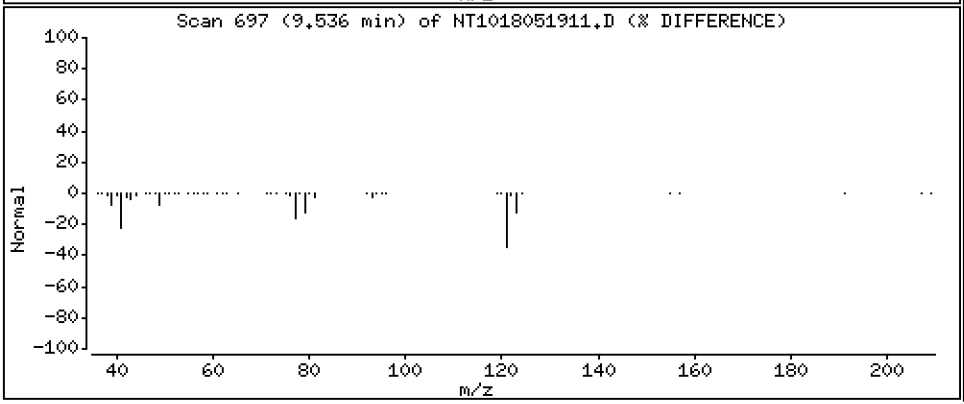
14 2,2'-oxybis(1-Chloropropane)

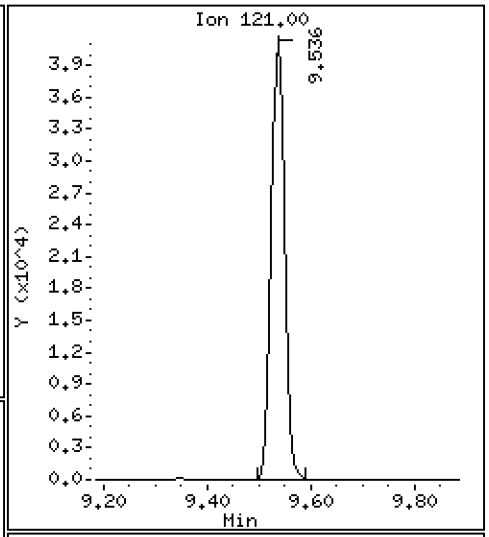
Concentration: 4.689 ug/mL

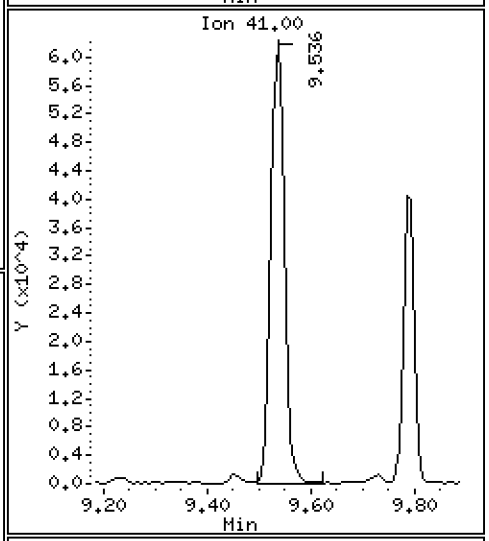


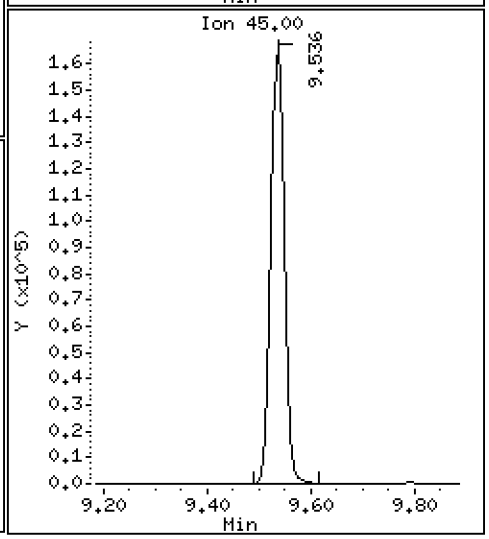












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

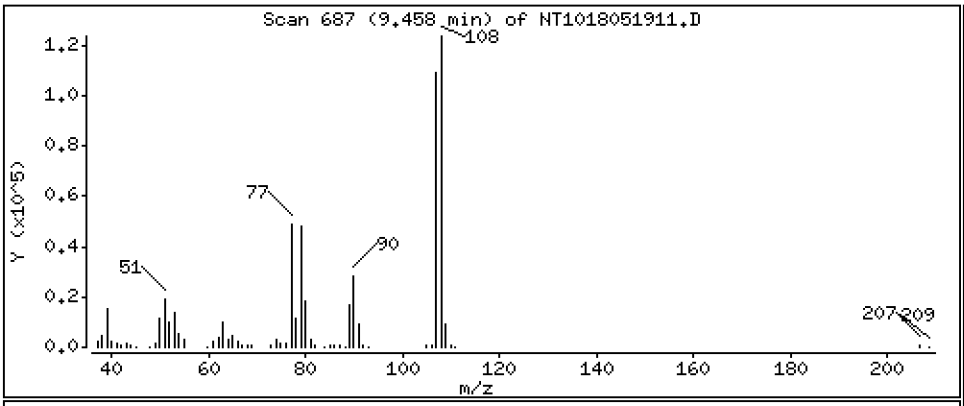
Operator: YZ

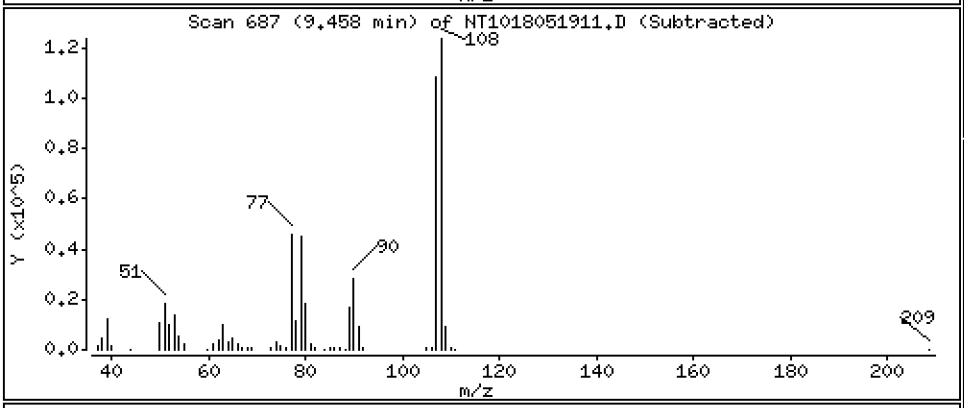
Column phase: ZB-5msi

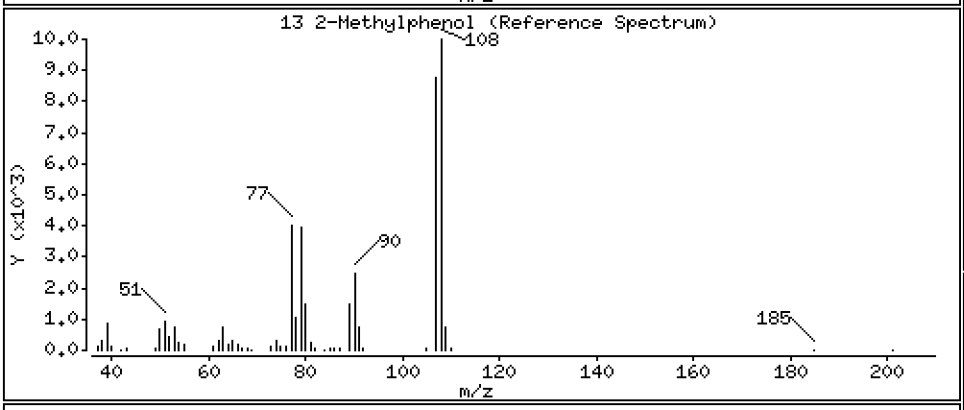
Column diameter: 0.25

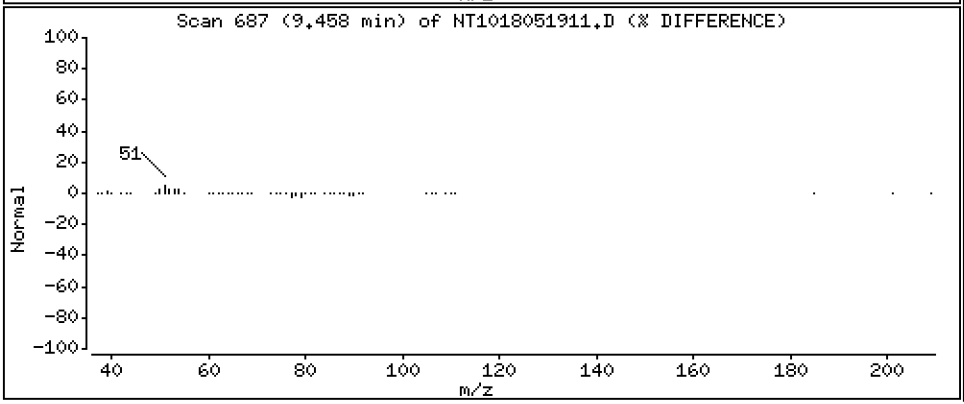
13 2-Methylphenol

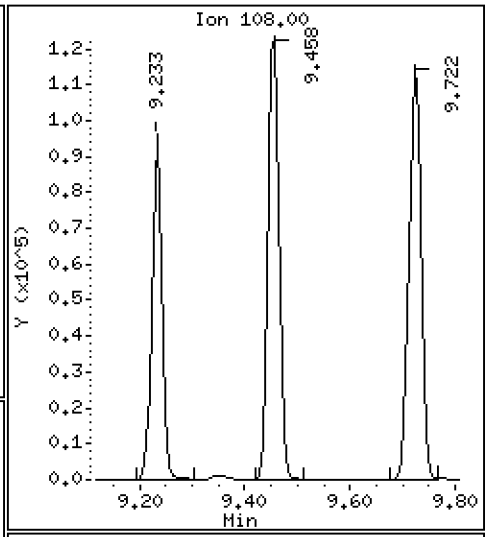
Concentration: 5.055 ug/mL

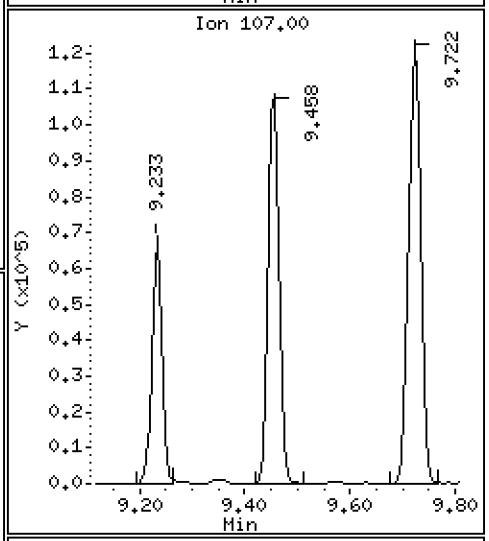


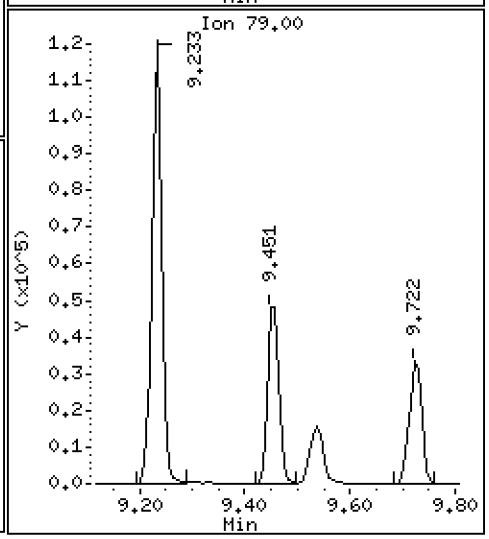












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

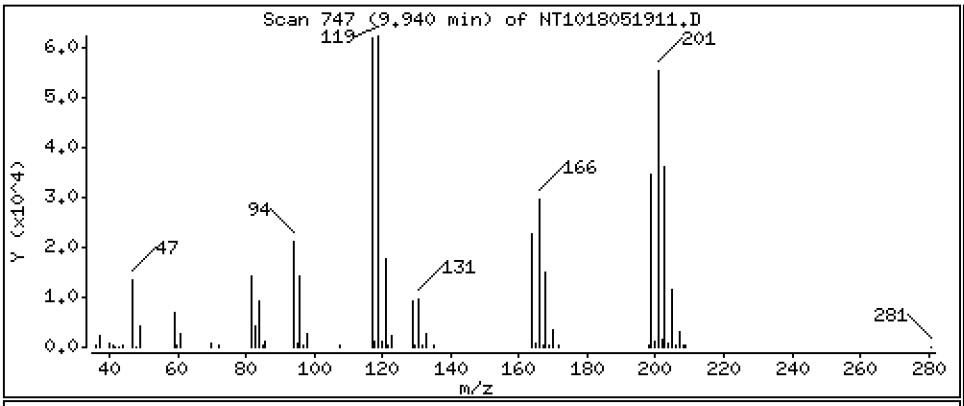
Operator: YZ

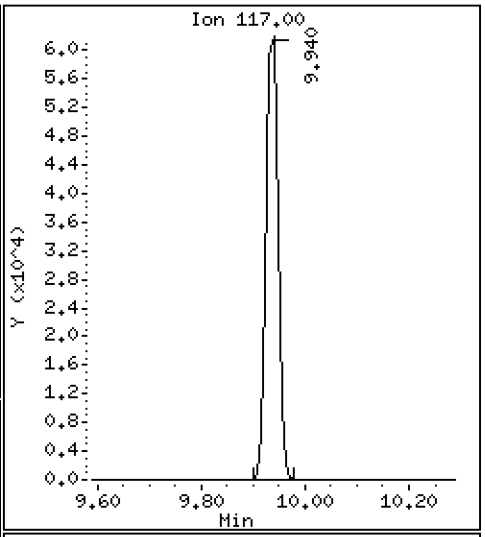
Column phase: ZB-5msi

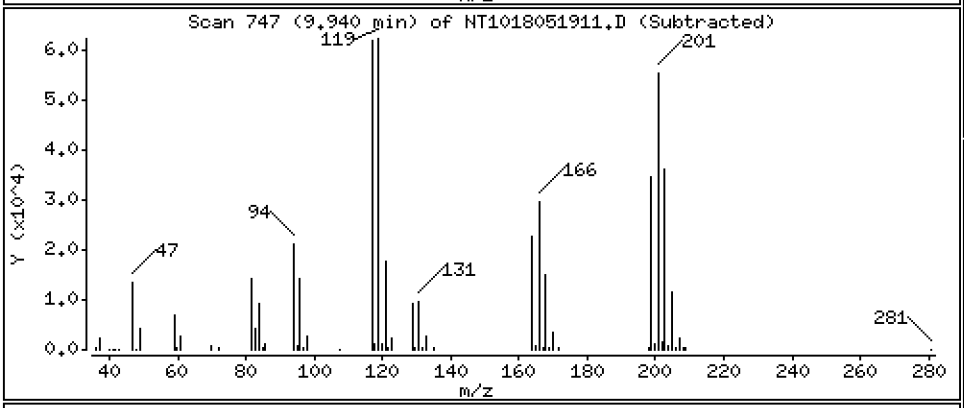
Column diameter: 0.25

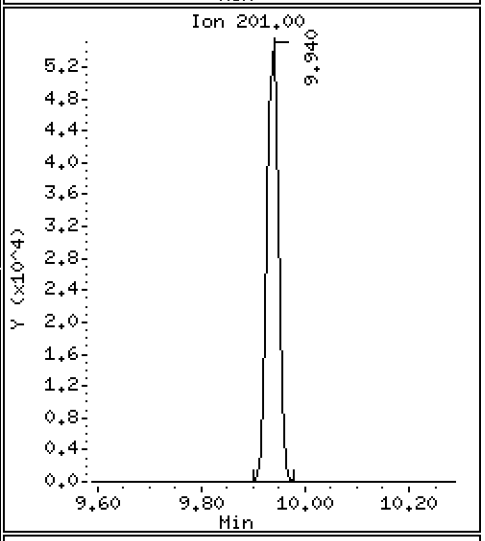
17 Hexachloroethane

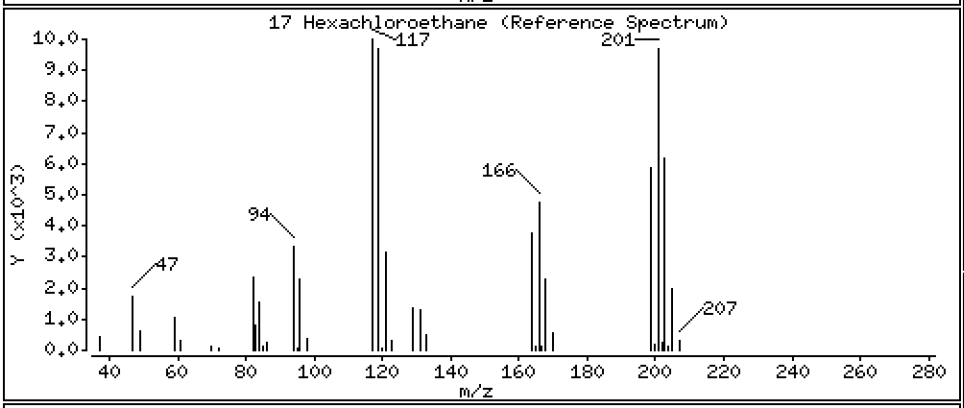
Concentration: 5.301 ug/mL

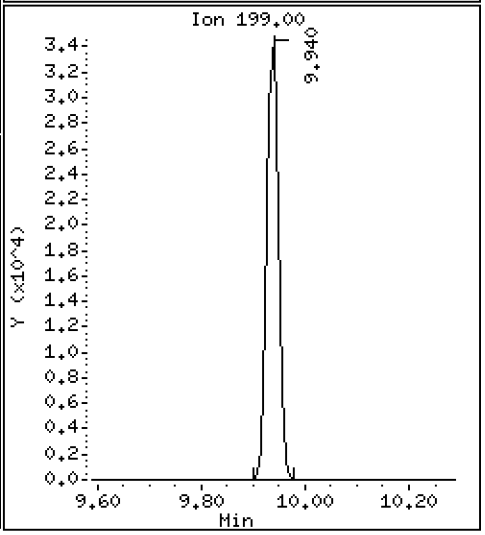


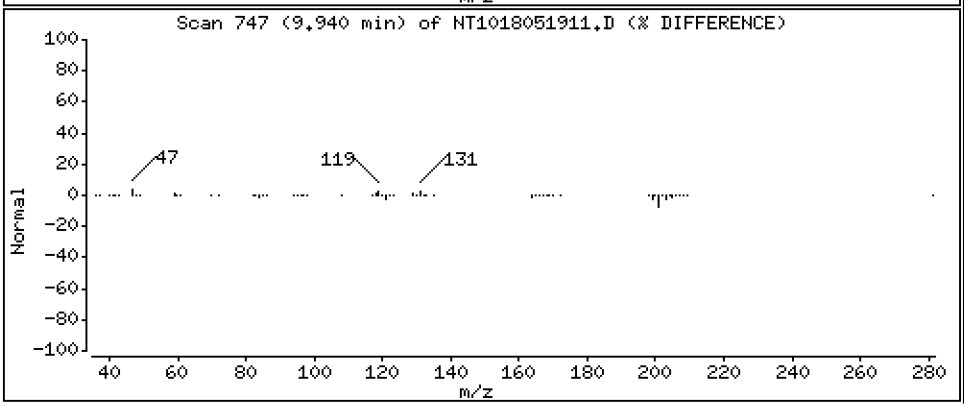












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

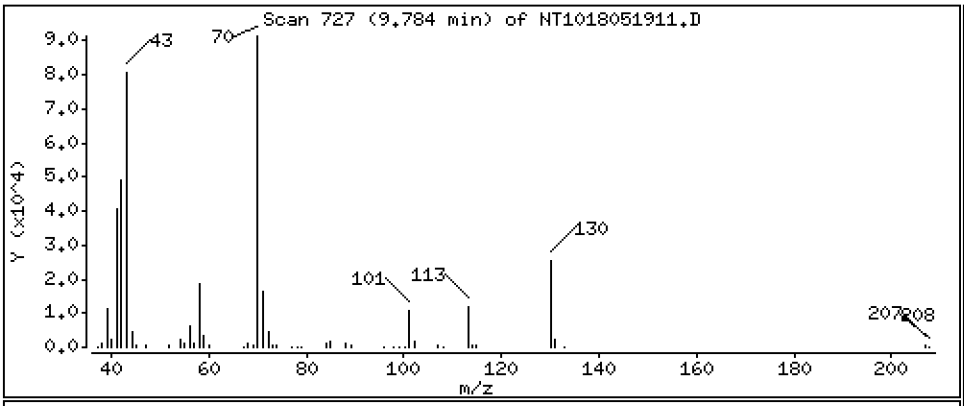
Operator: YZ

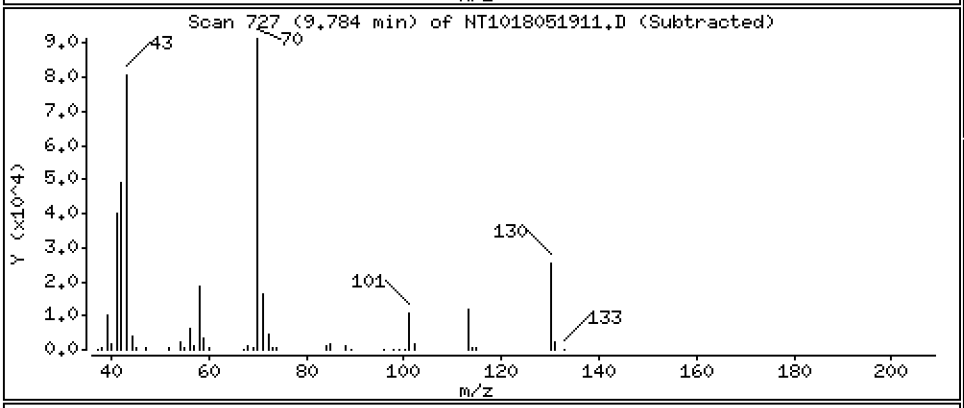
Column phase: ZB-5msi

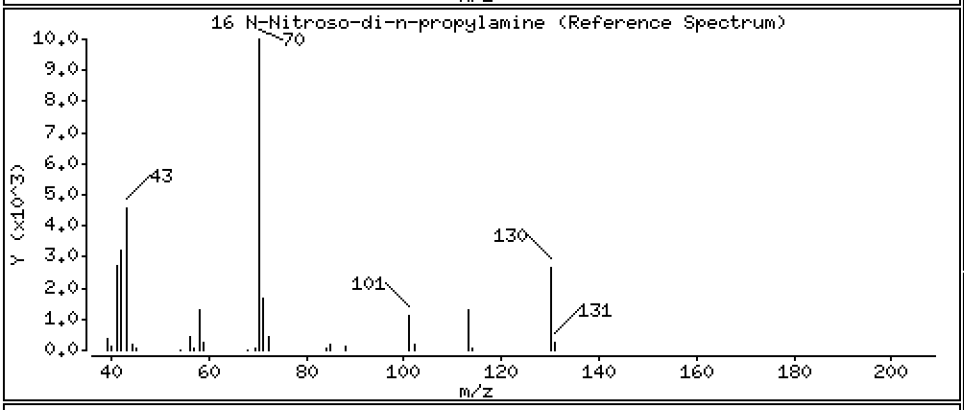
Column diameter: 0.25

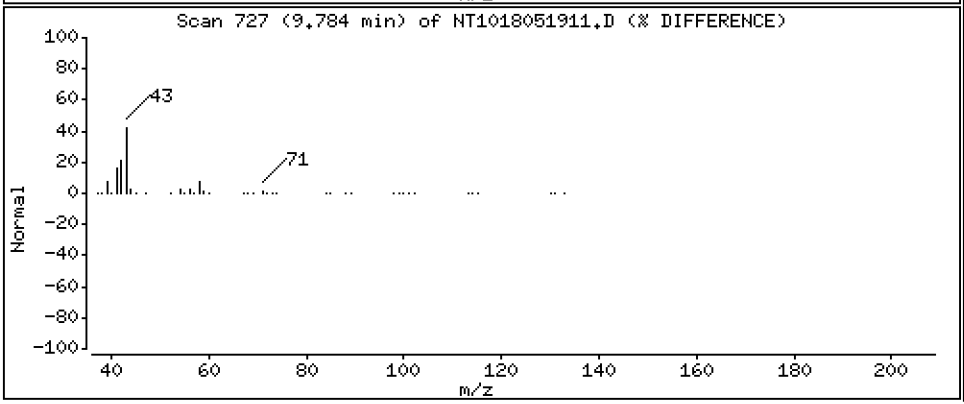
16 N-Nitroso-di-n-propylamine

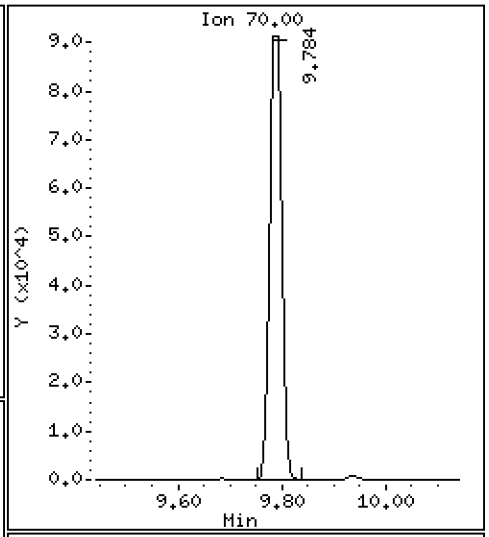
Concentration: 5.350 ug/mL

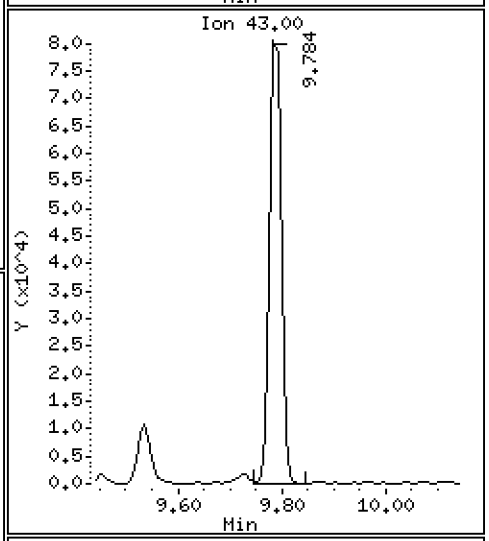


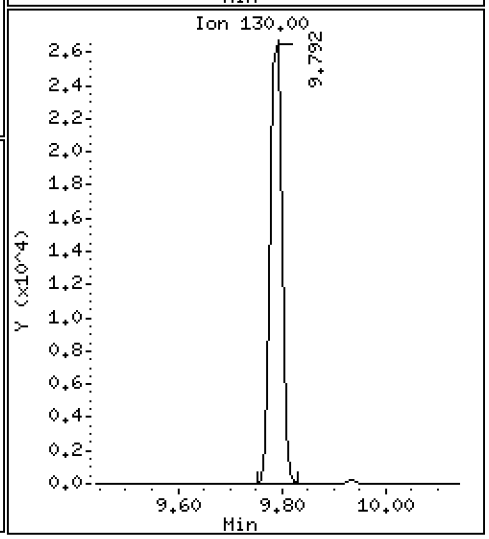












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

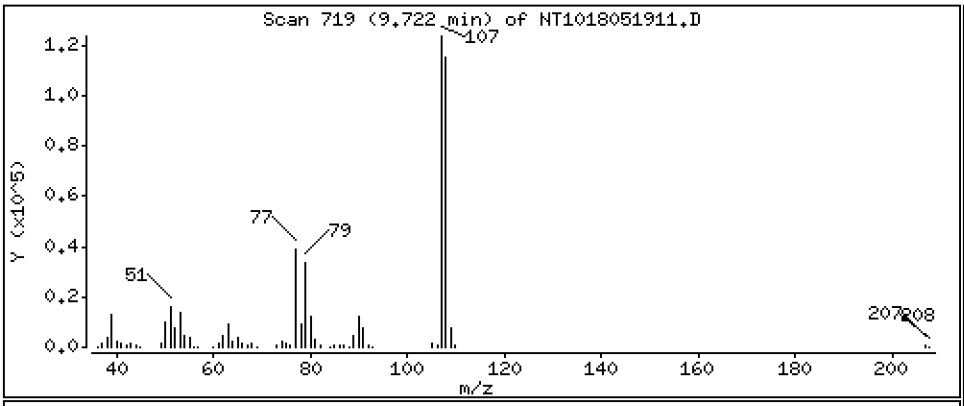
Operator: YZ

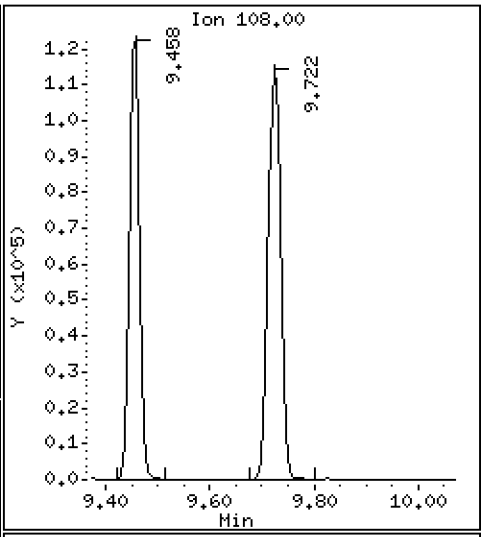
Column phase: ZB-5msi

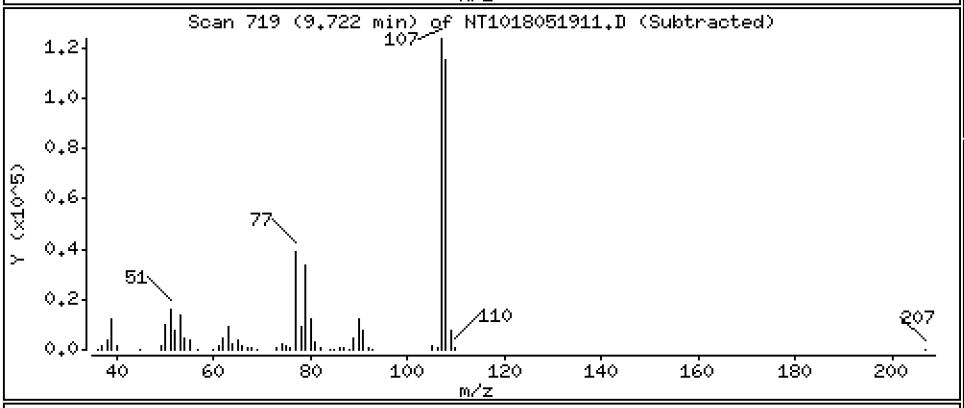
Column diameter: 0.25

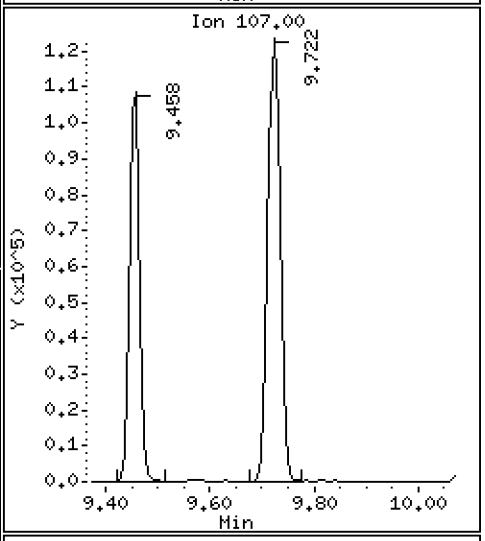
15 4-Methylphenol

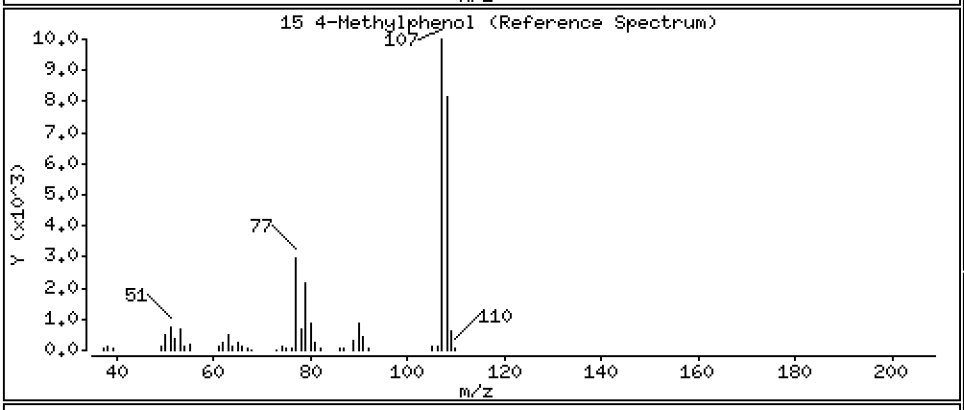
Concentration: 5.047 ug/mL

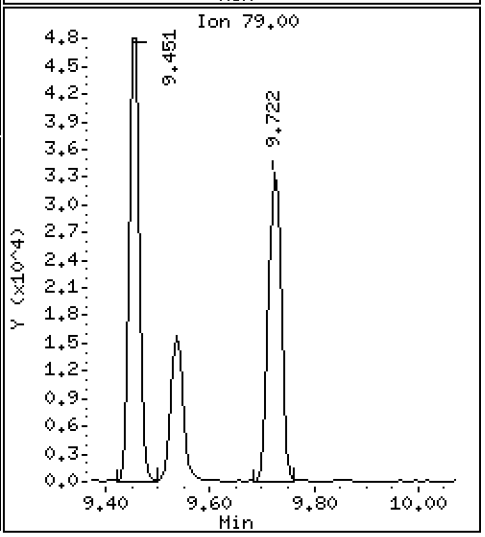


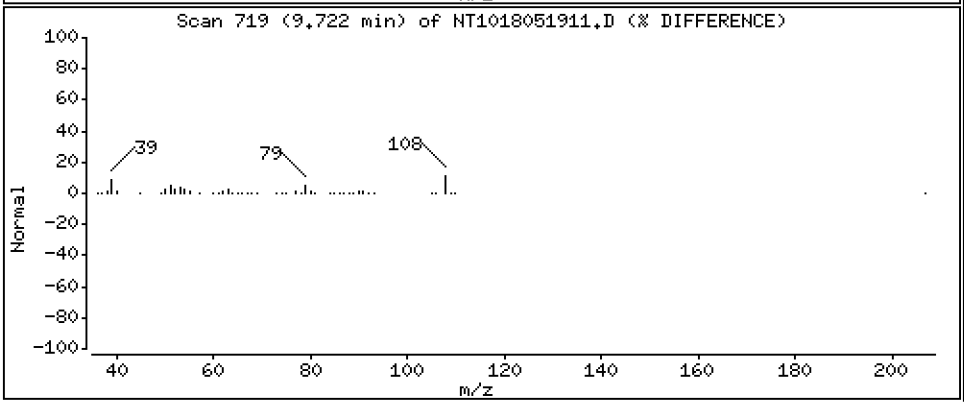












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

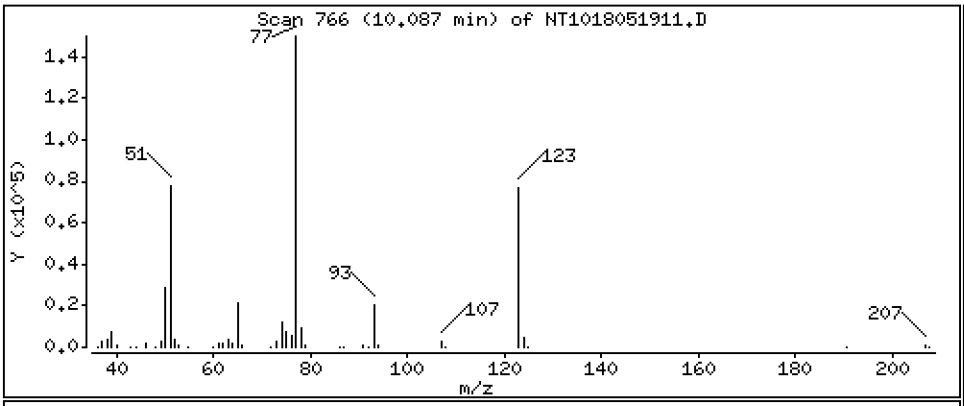
Operator: YZ

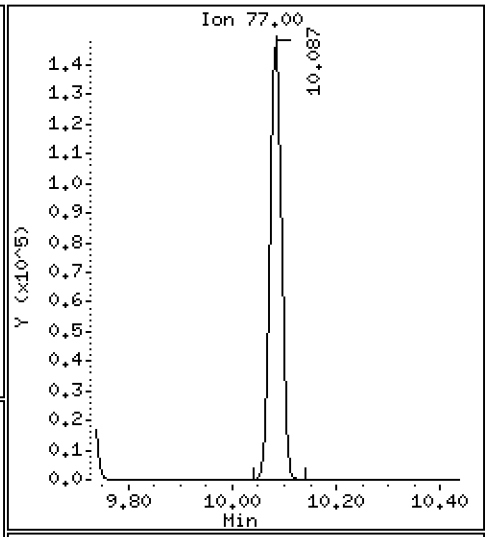
Column phase: ZB-5msi

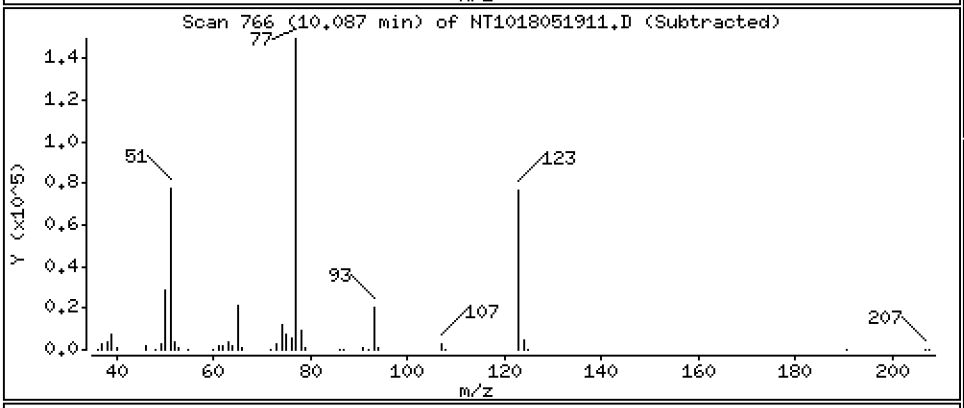
Column diameter: 0.25

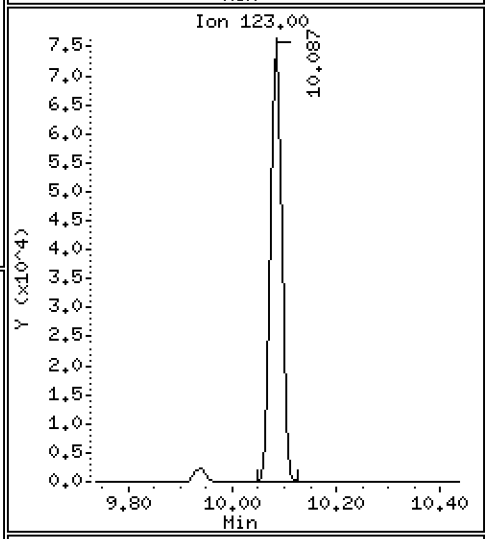
19 Nitrobenzene

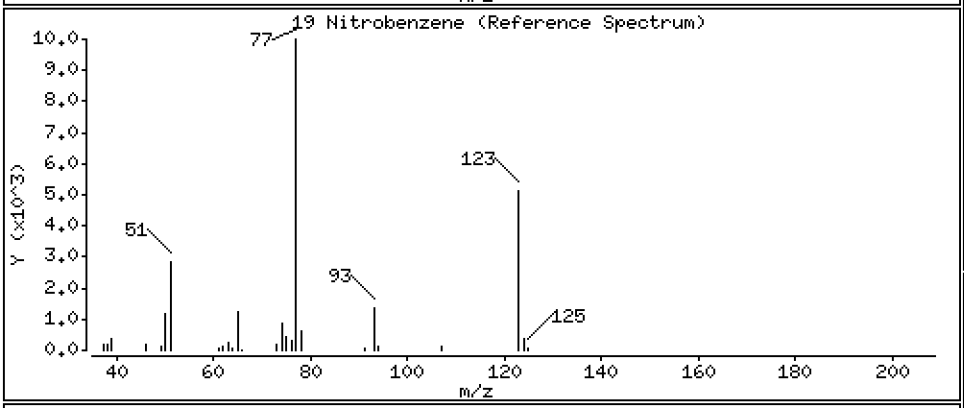
Concentration: 5.416 ug/mL

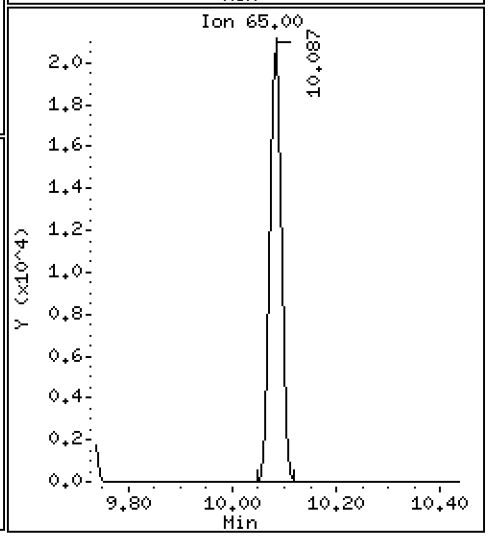


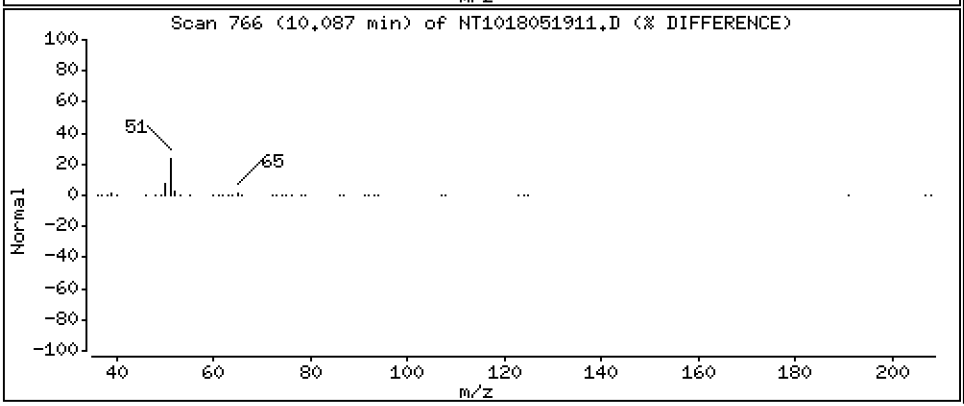












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

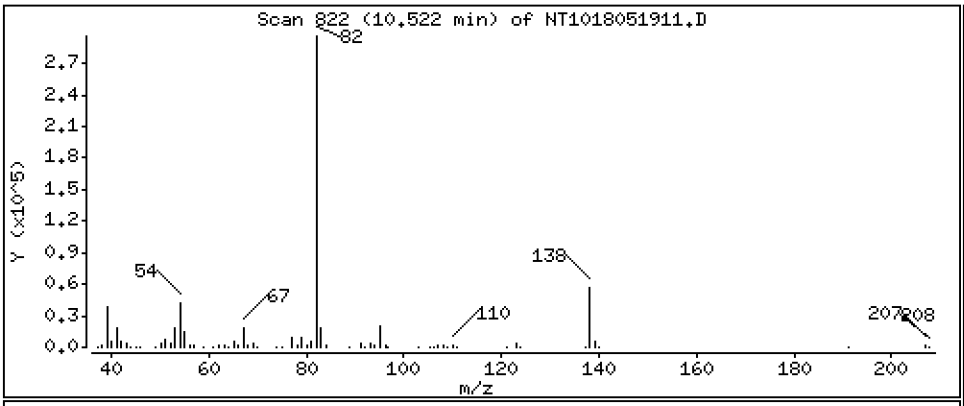
Operator: YZ

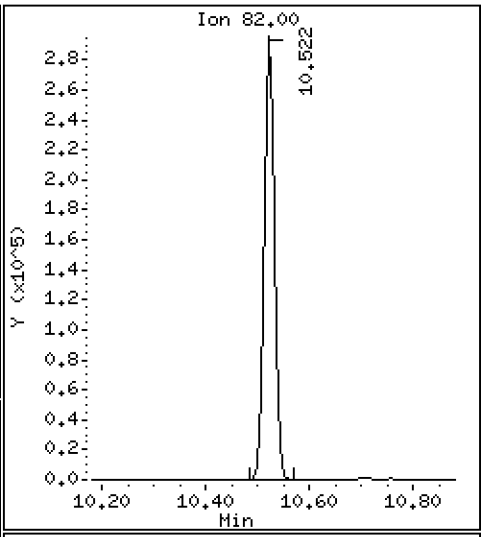
Column phase: ZB-5msi

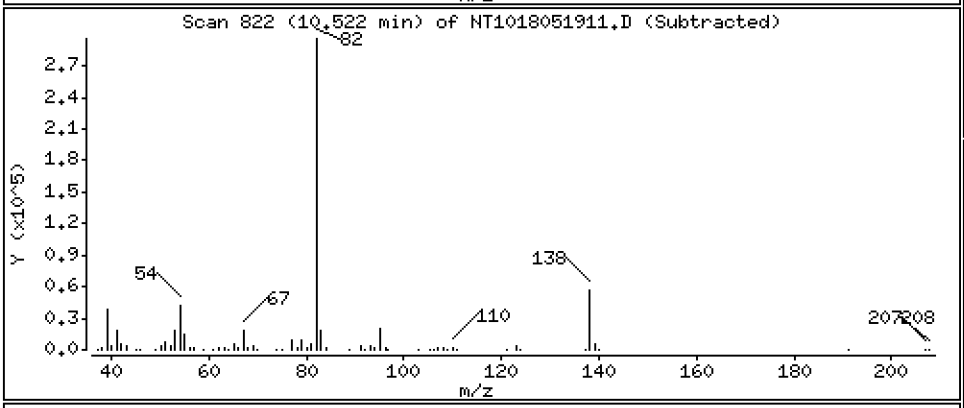
Column diameter: 0.25

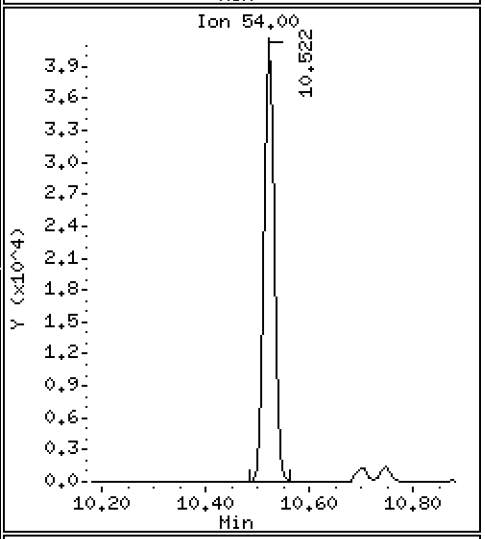
20 Isophorone

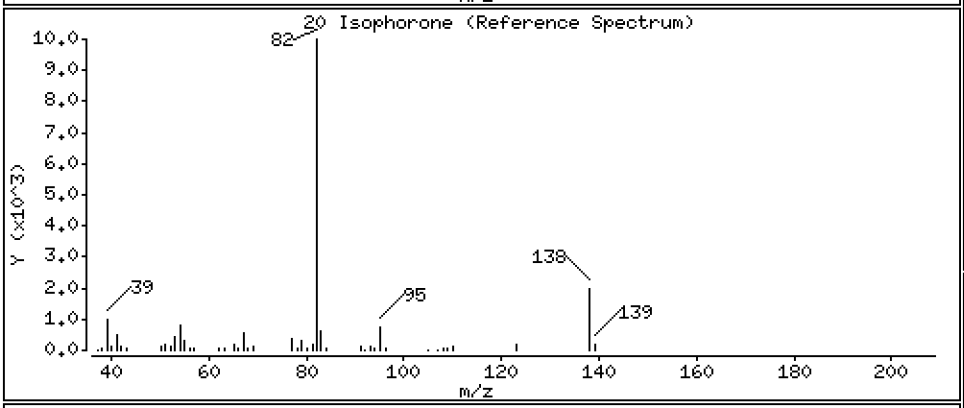
Concentration: 5.135 ug/mL

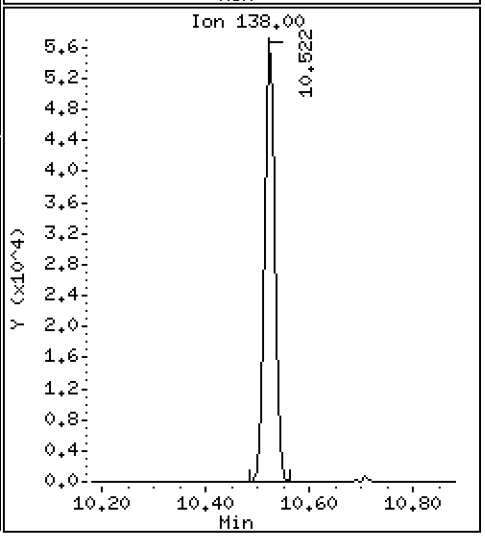


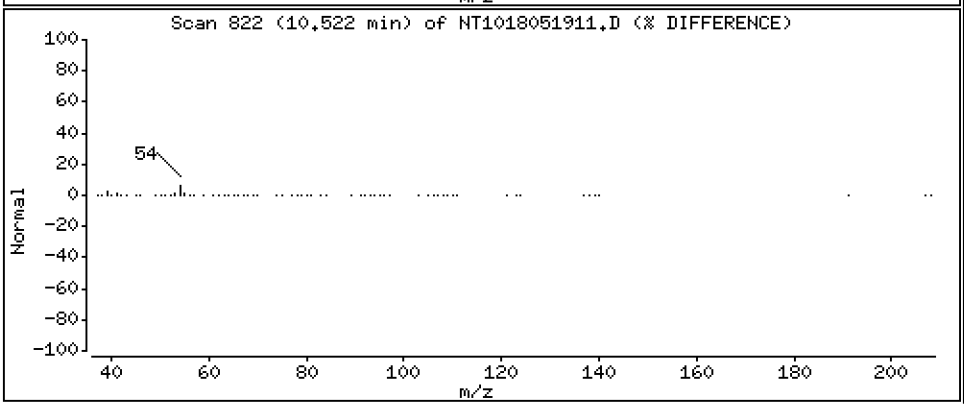












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

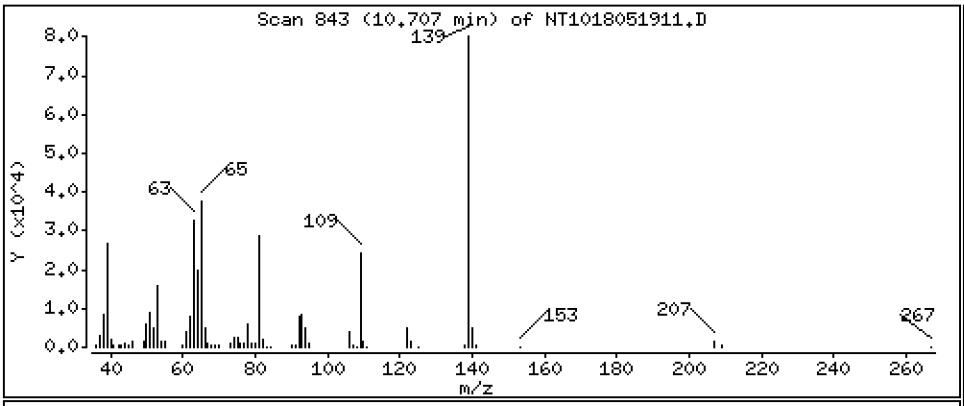
Operator: YZ

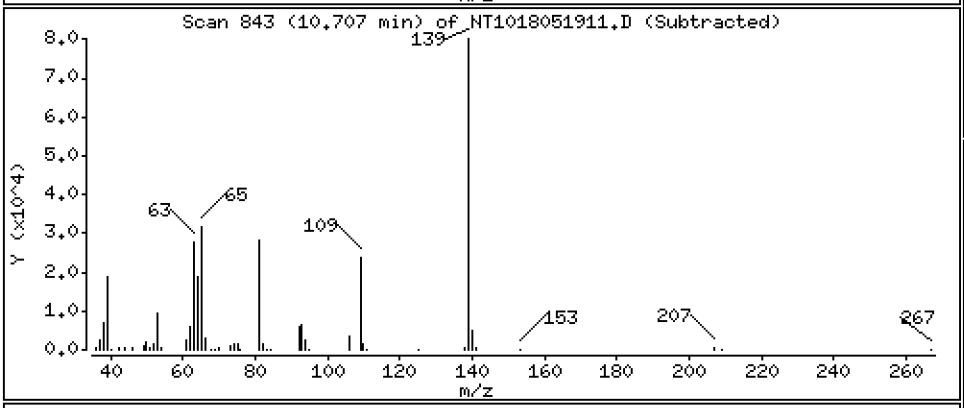
Column phase: ZB-5msi

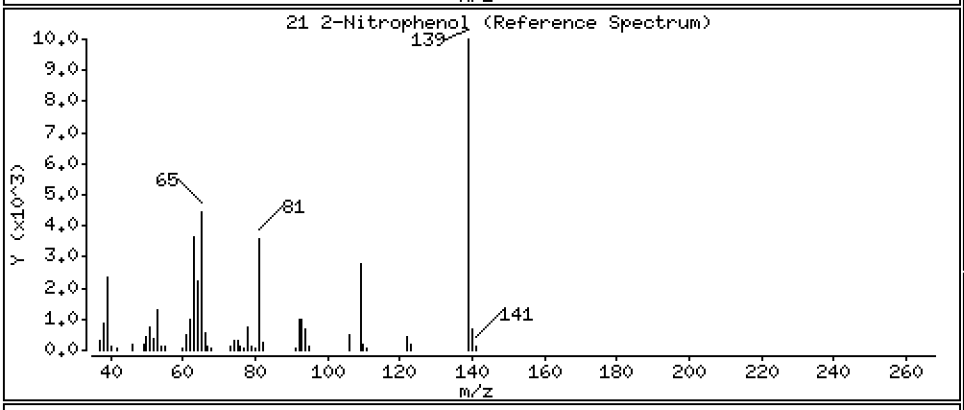
Column diameter: 0.25

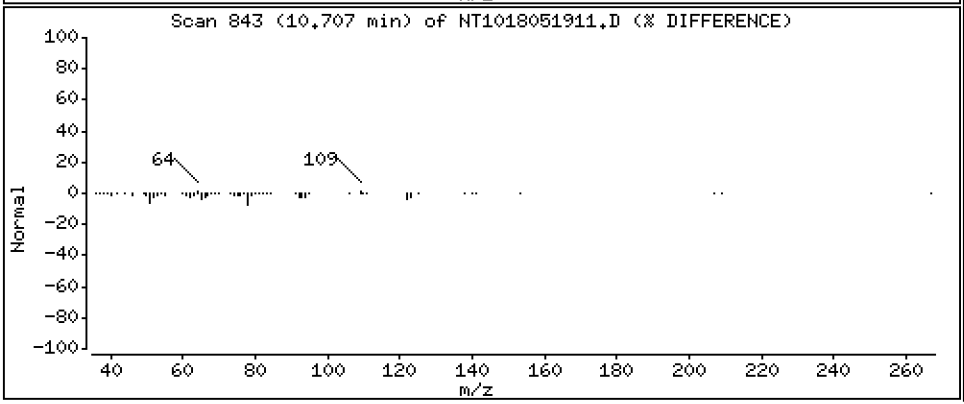
21 2-Nitrophenol

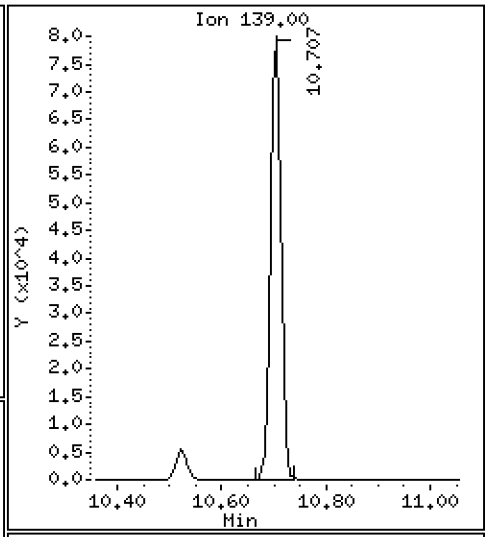
Concentration: 5.048 ug/mL

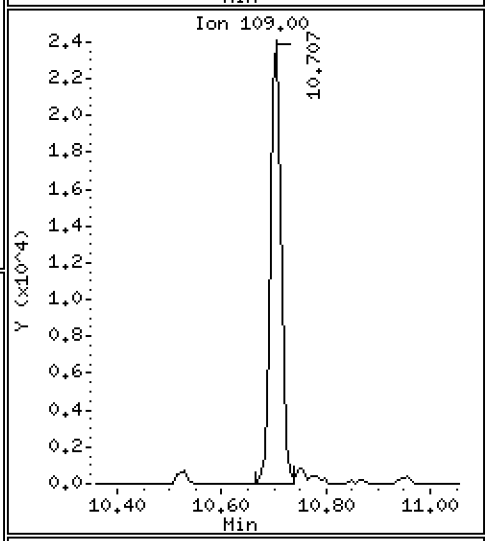


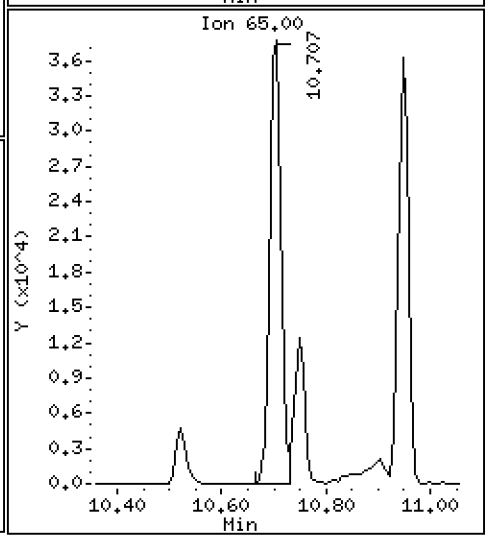












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

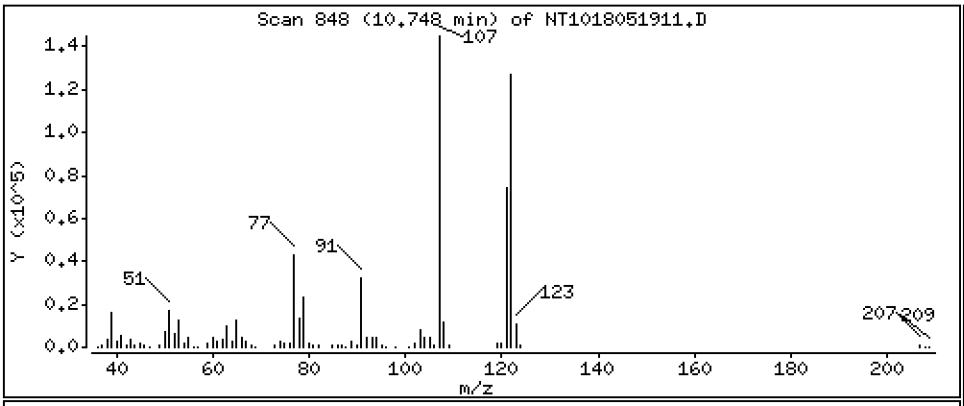
Operator: YZ

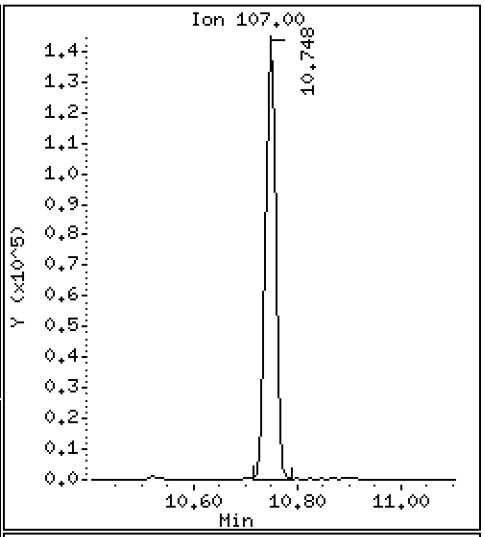
Column phase: ZB-5msi

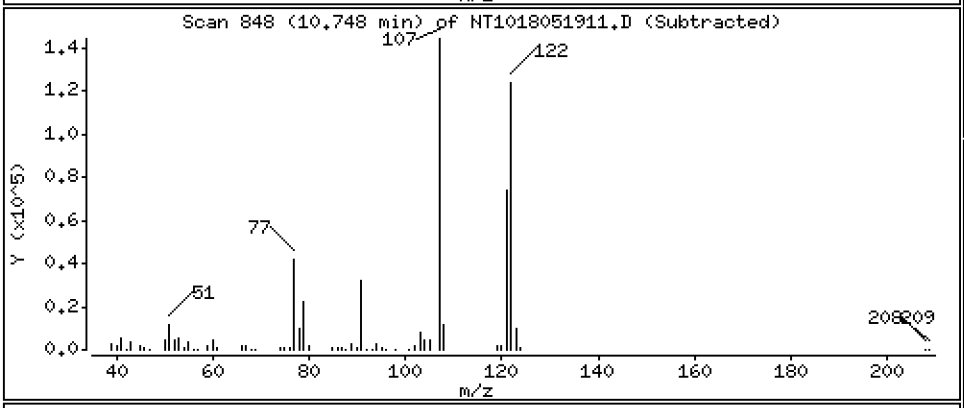
Column diameter: 0.25

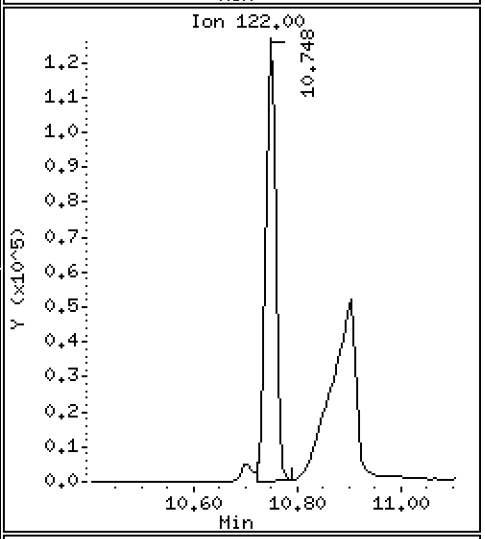
22 2,4-Dimethylphenol

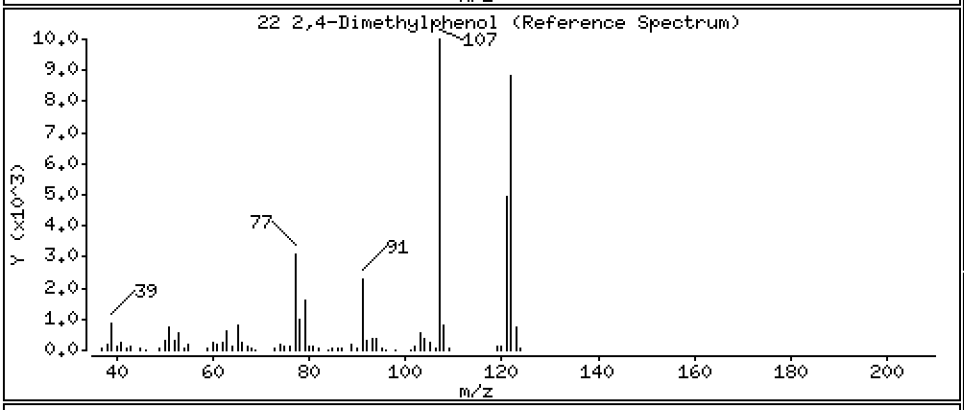
Concentration: 4.995 ug/mL

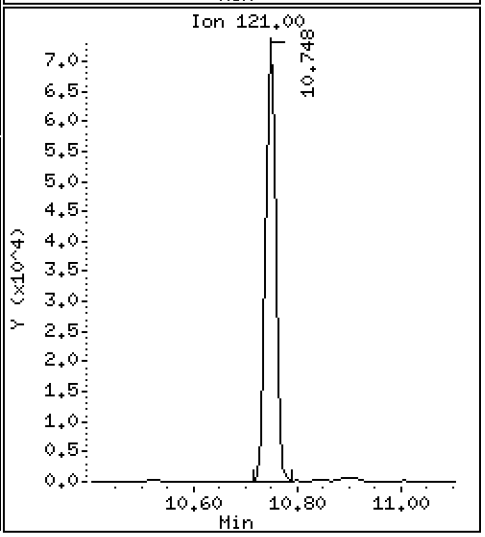


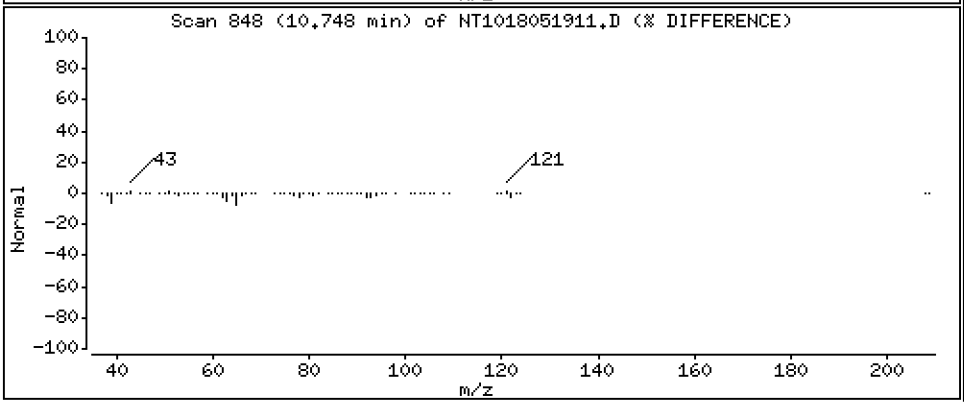












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

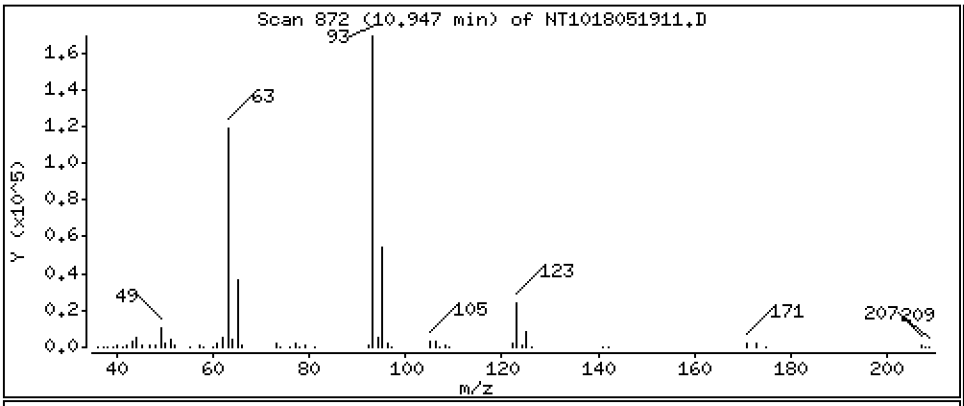
Operator: YZ

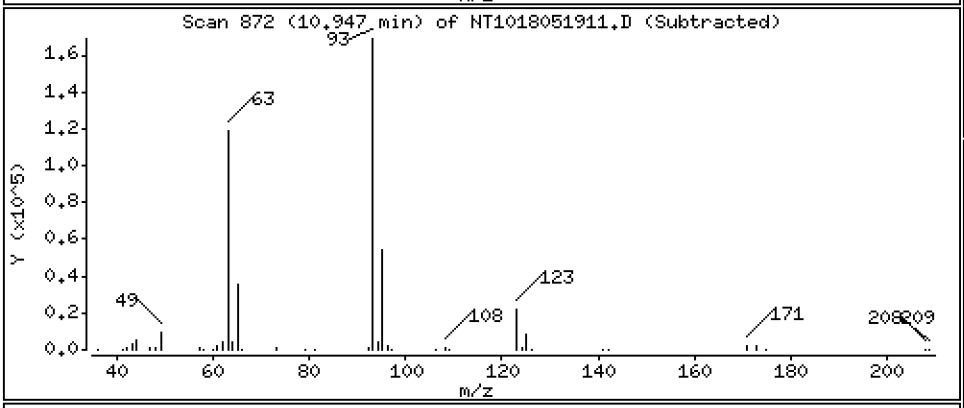
Column phase: ZB-5msi

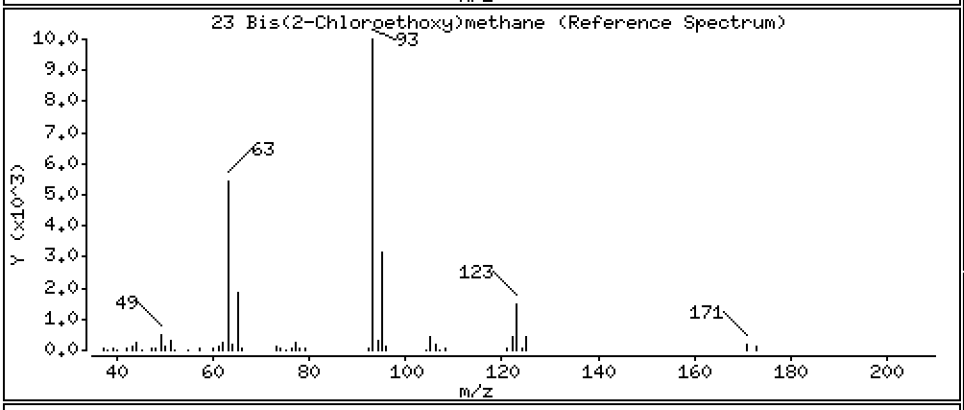
Column diameter: 0.25

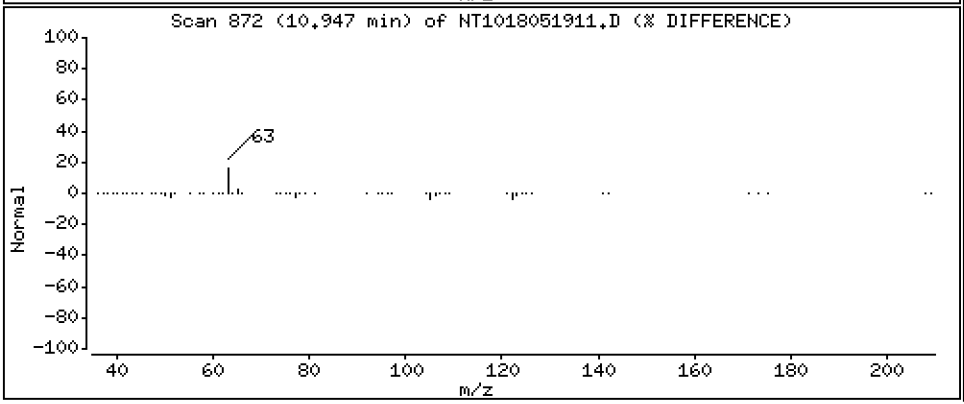
23 Bis(2-Chloroethoxy)methane

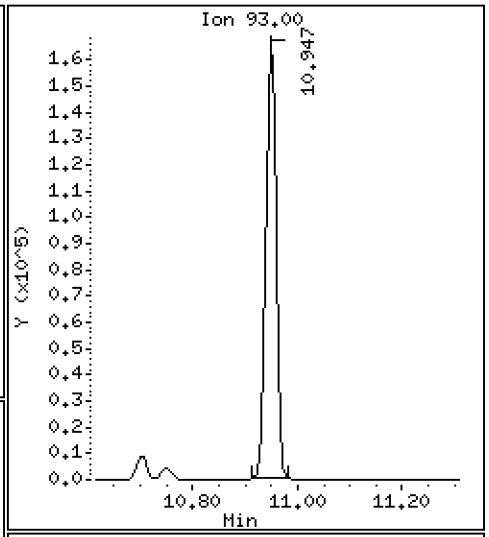
Concentration: 5.251 ug/mL

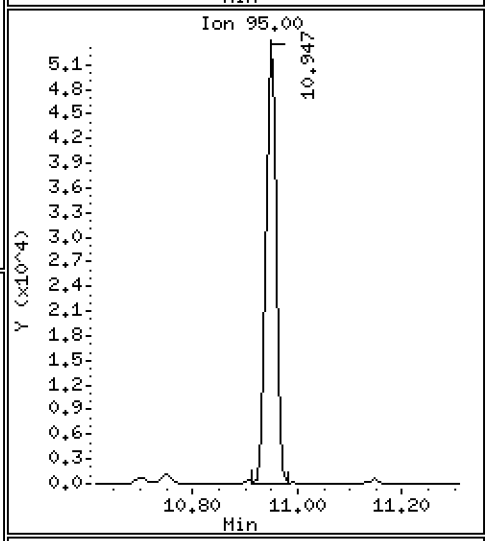


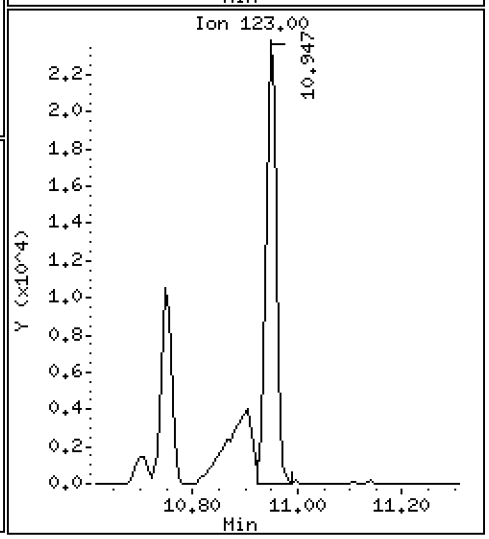












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

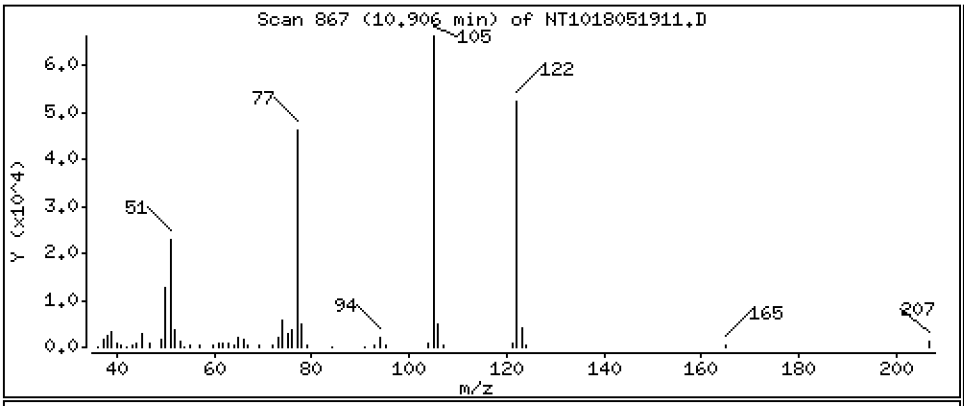
Operator: YZ

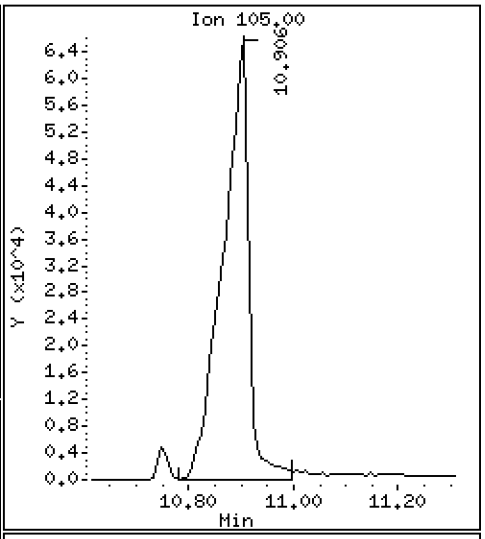
Column phase: ZB-5msi

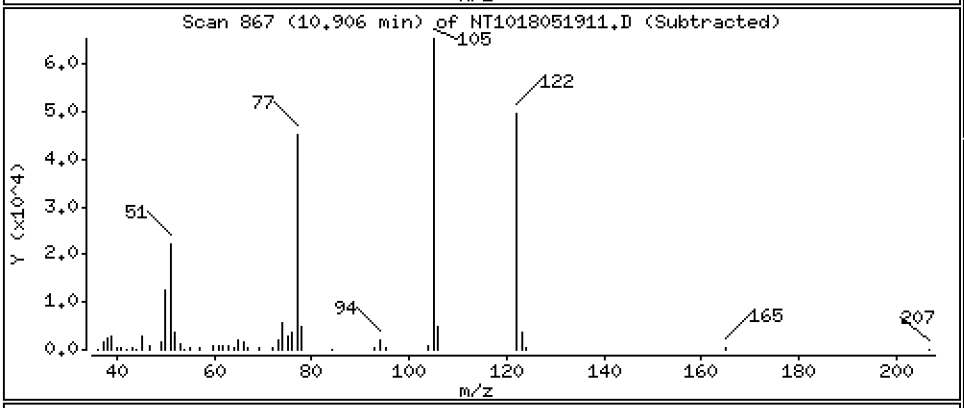
Column diameter: 0.25

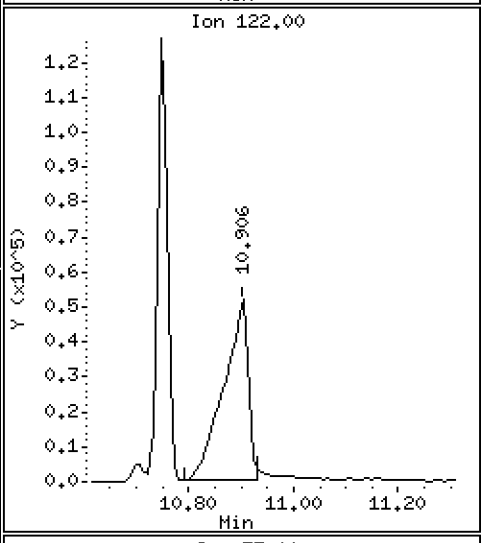
24 Benzoic acid

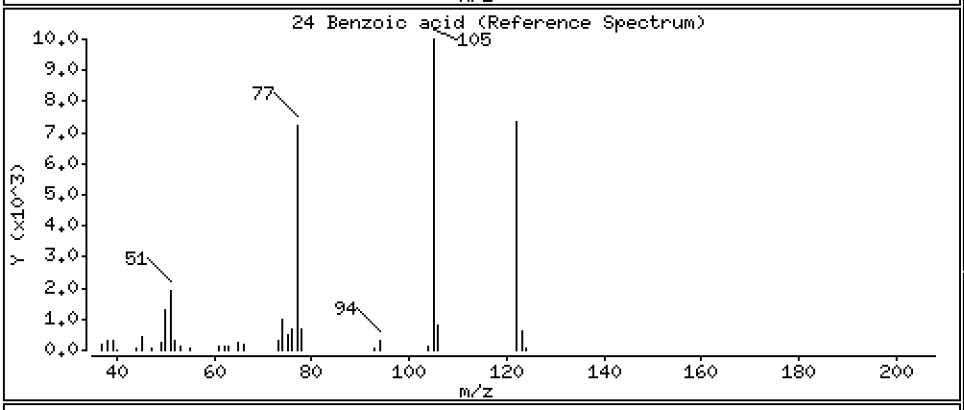
Concentration: 8.772 ug/mL

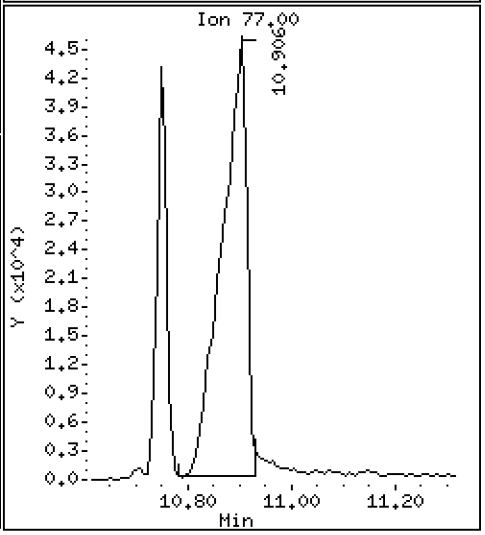


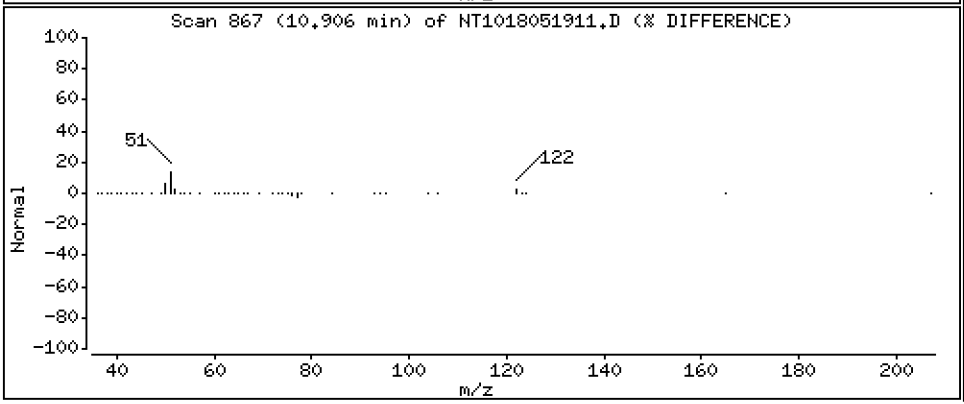












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

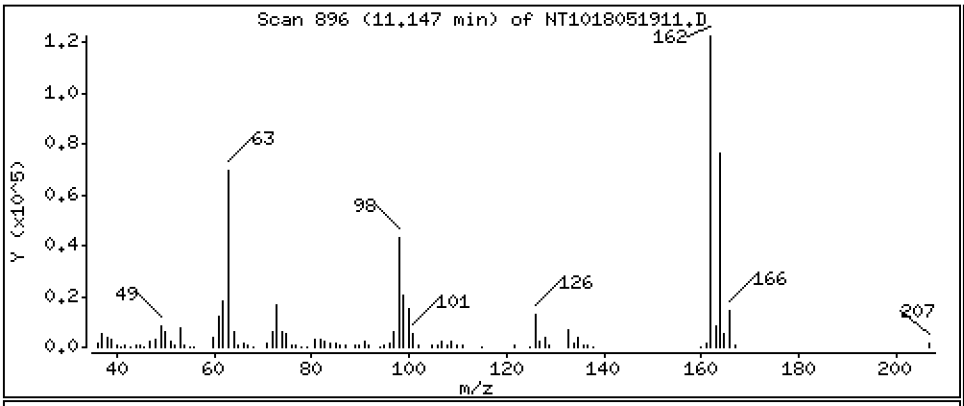
Operator: YZ

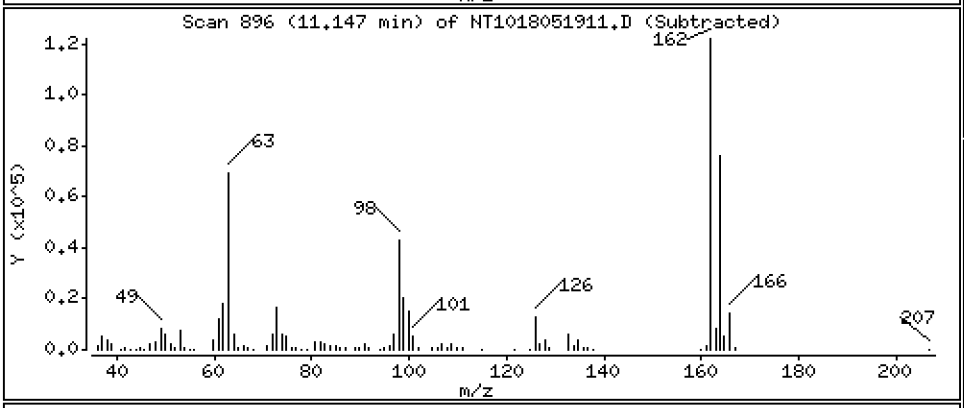
Column phase: ZB-5msi

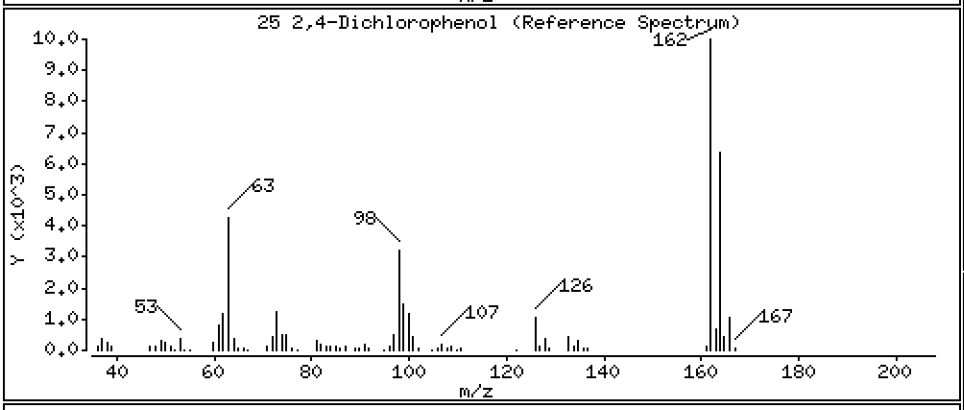
Column diameter: 0.25

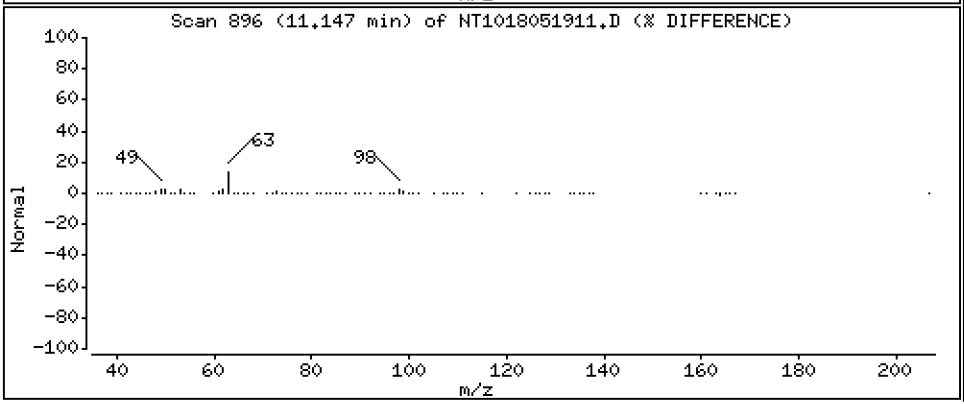
25 2,4-Dichlorophenol

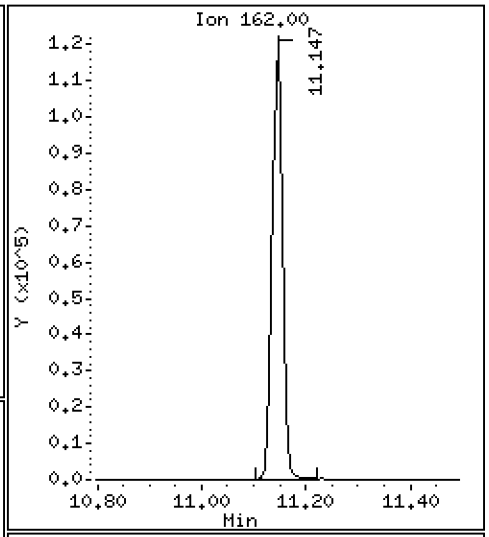
Concentration: 5.222 ug/mL

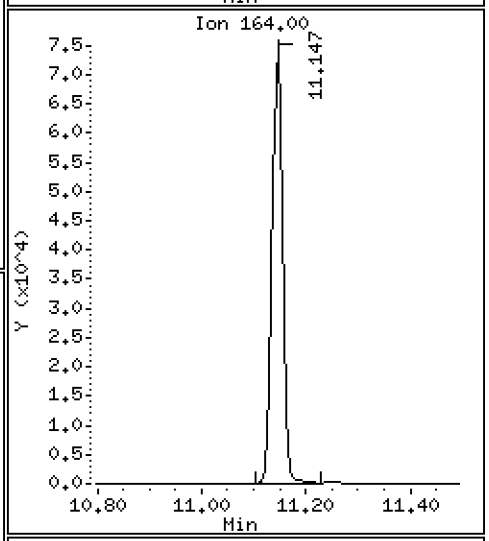


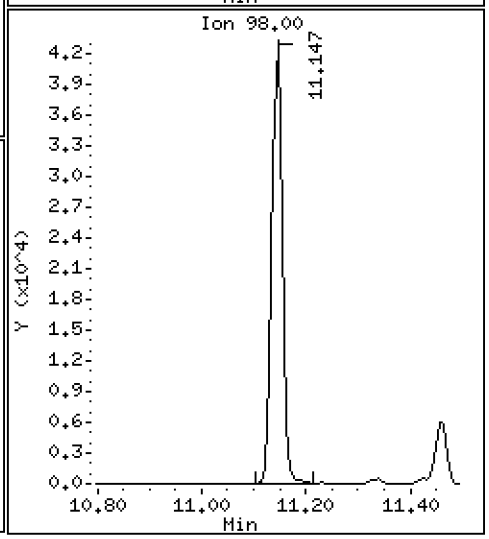












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

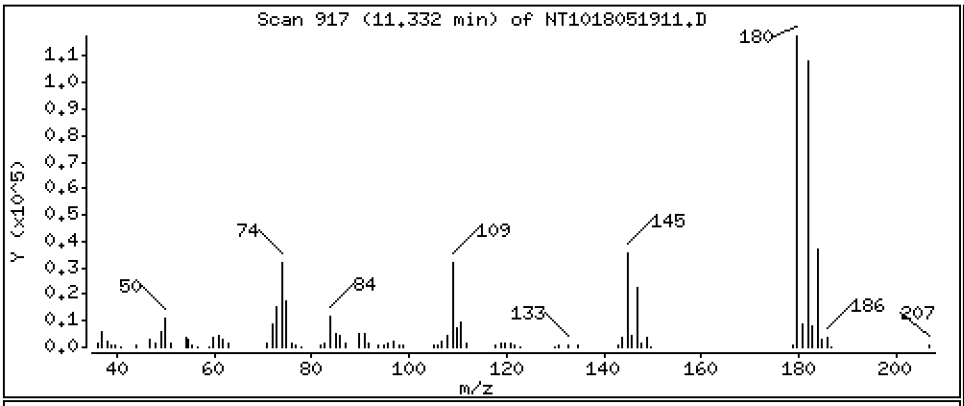
Operator: YZ

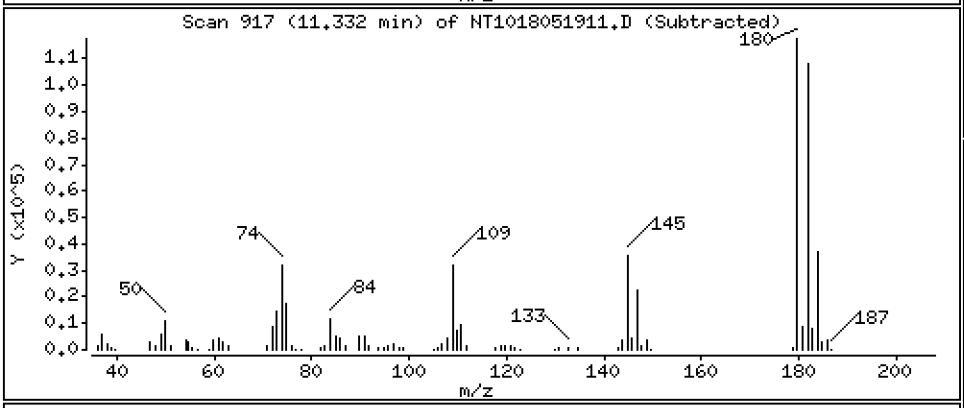
Column phase: ZB-5msi

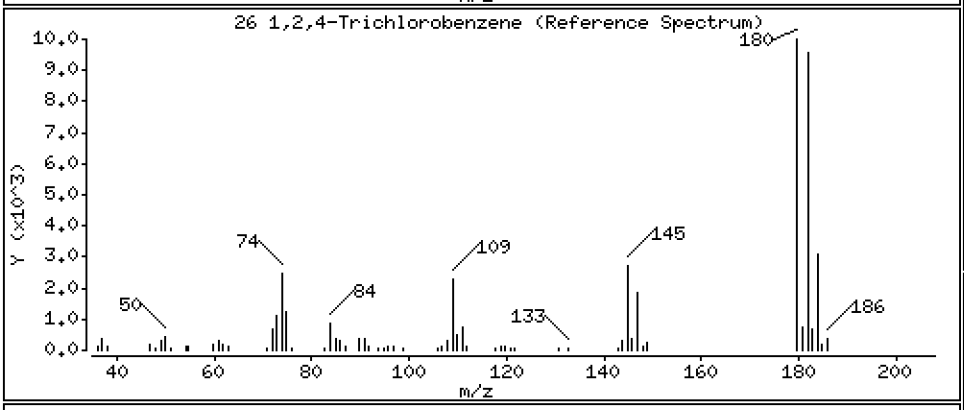
Column diameter: 0.25

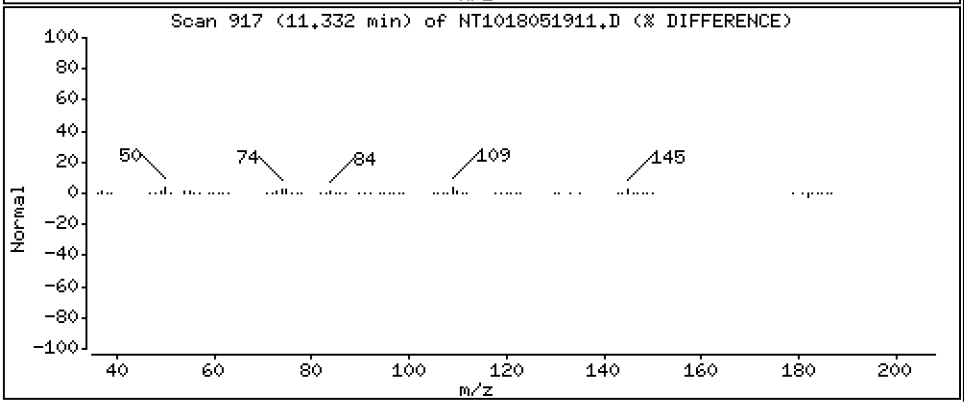
26 1,2,4-Trichlorobenzene

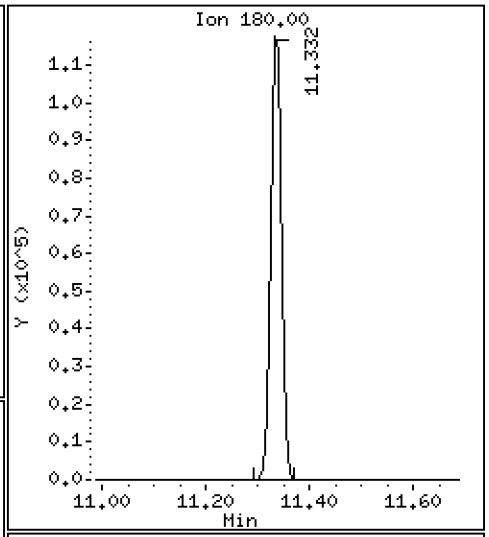
Concentration: 5.246 ug/mL

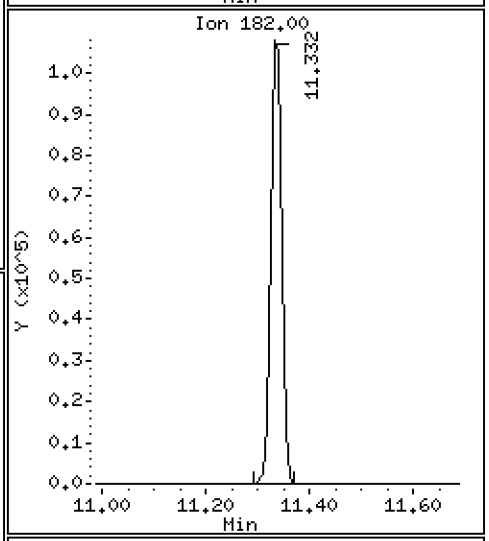


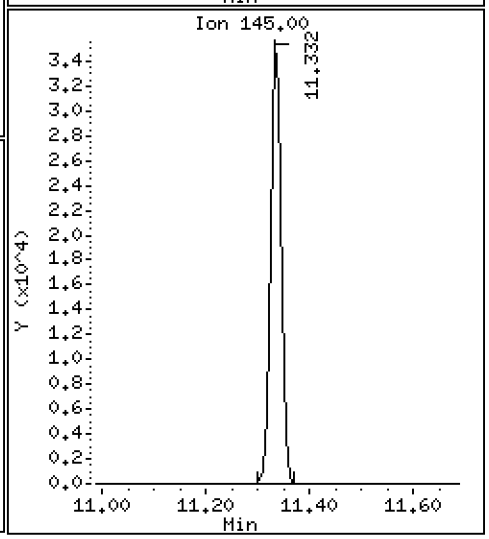












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

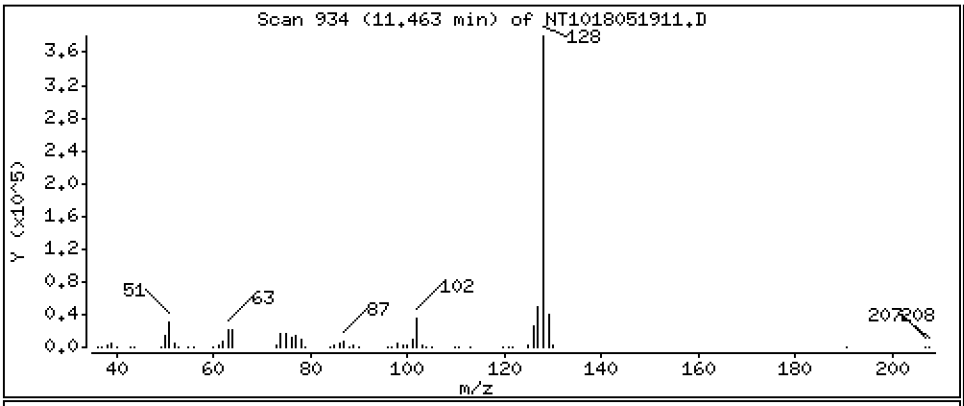
Operator: YZ

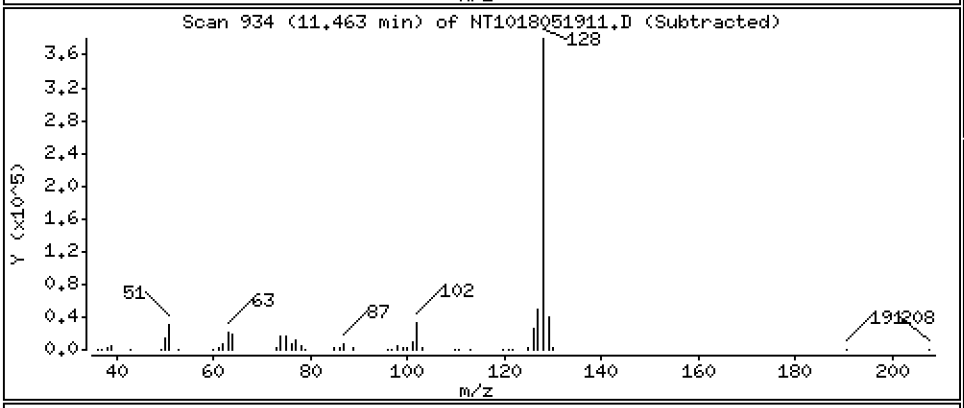
Column phase: ZB-5msi

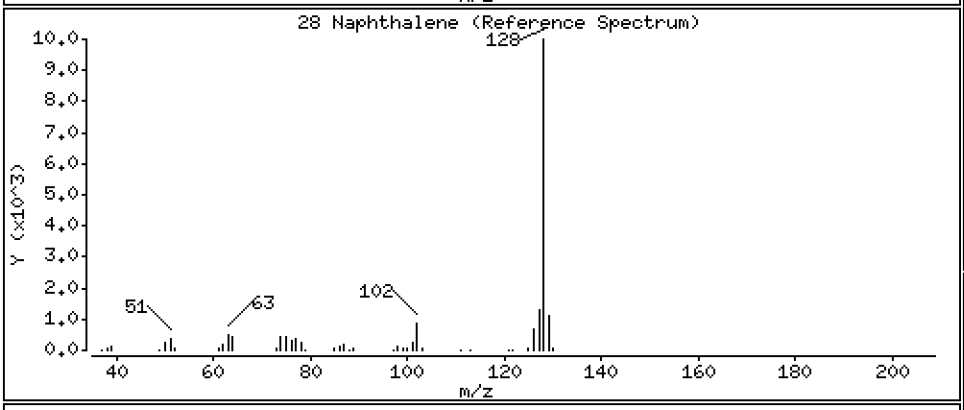
Column diameter: 0.25

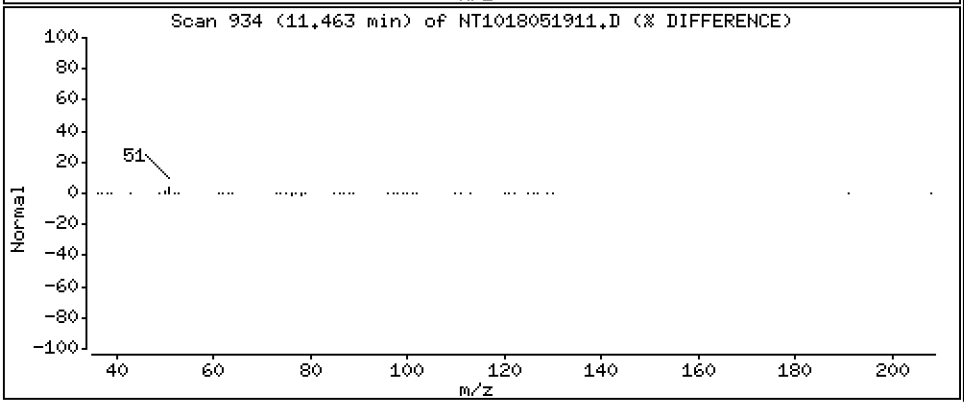
28 Naphthalene

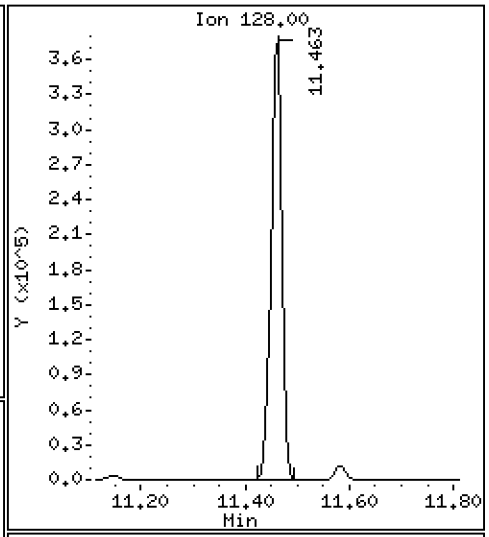
Concentration: 5.255 ug/mL

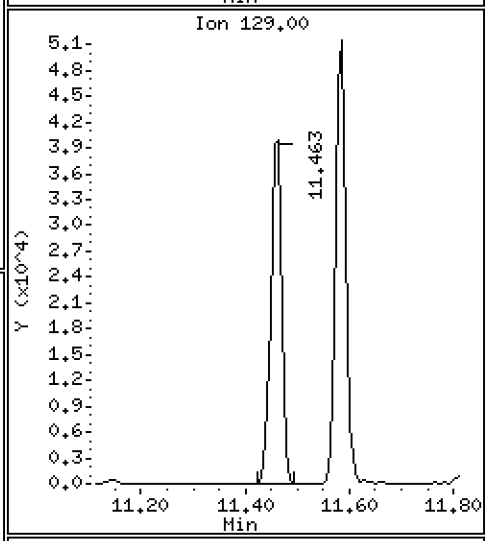


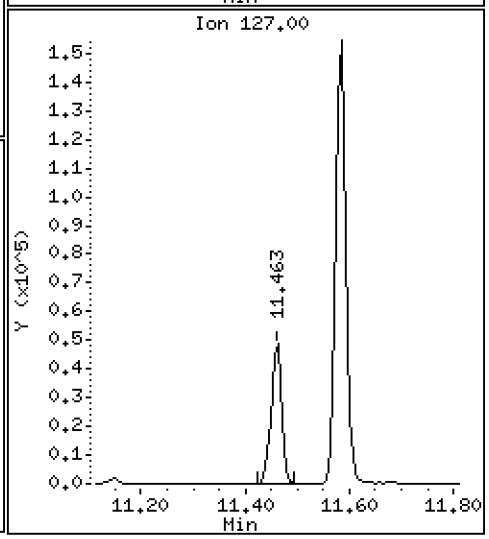












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

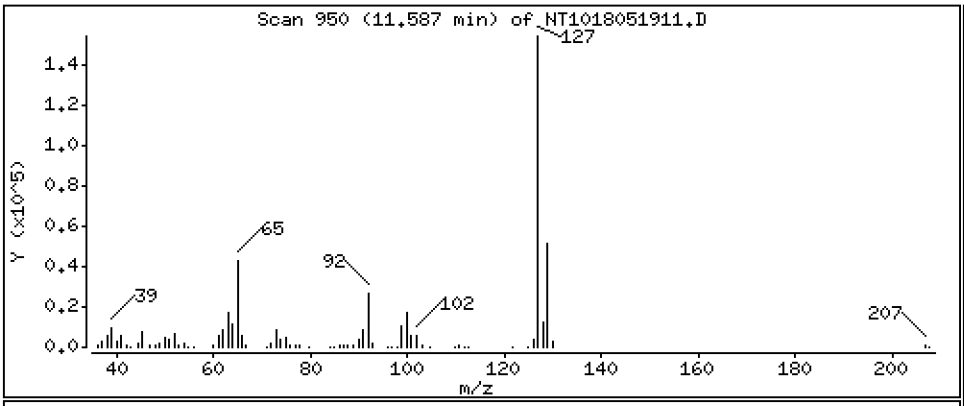
Operator: YZ

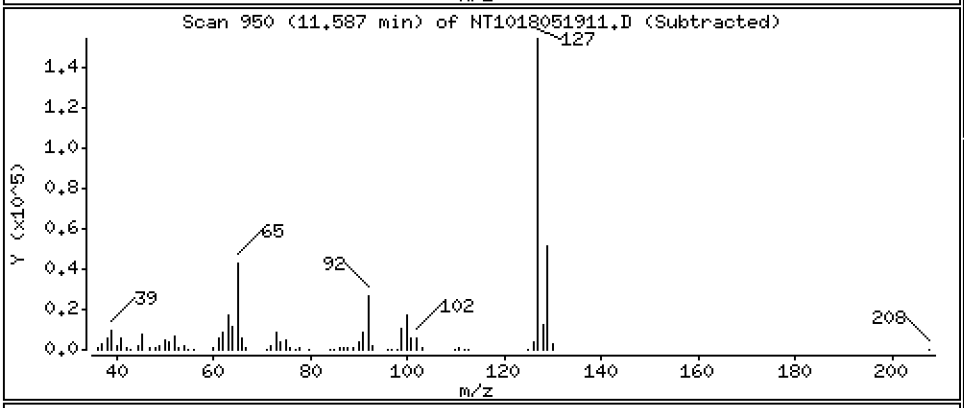
Column phase: ZB-5msi

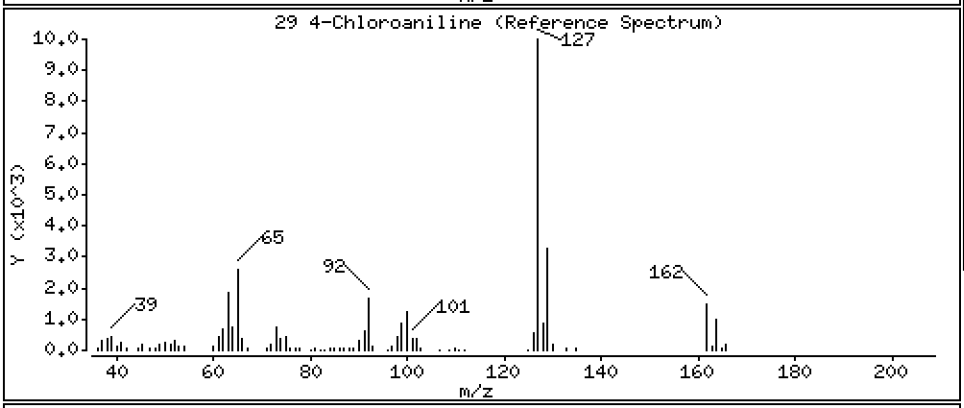
Column diameter: 0.25

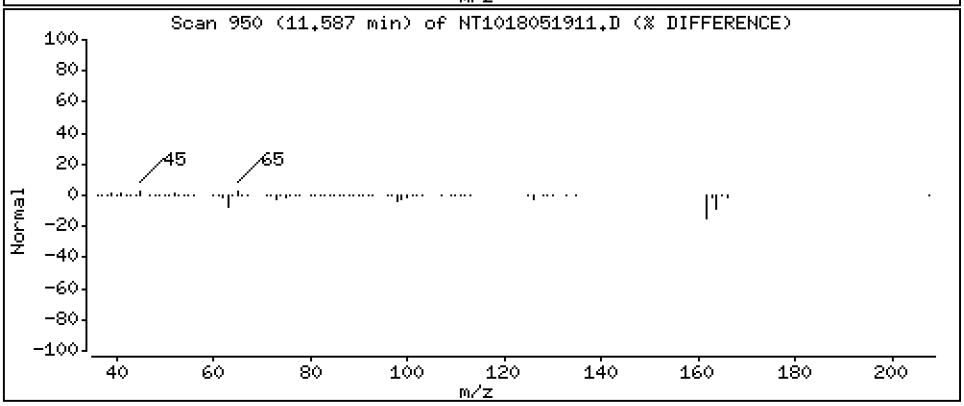
29 4-Chloroaniline

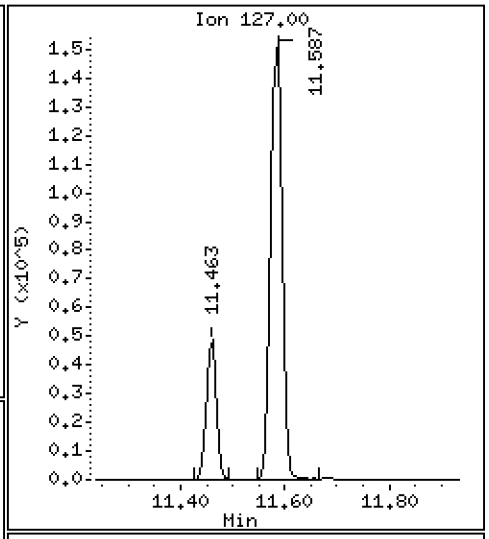
Concentration: 4.713 ug/mL

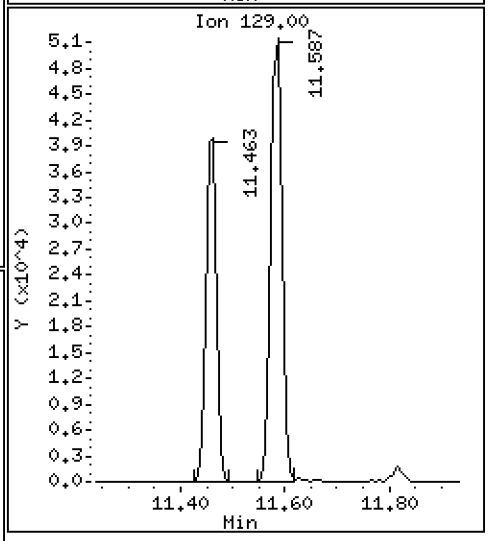












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

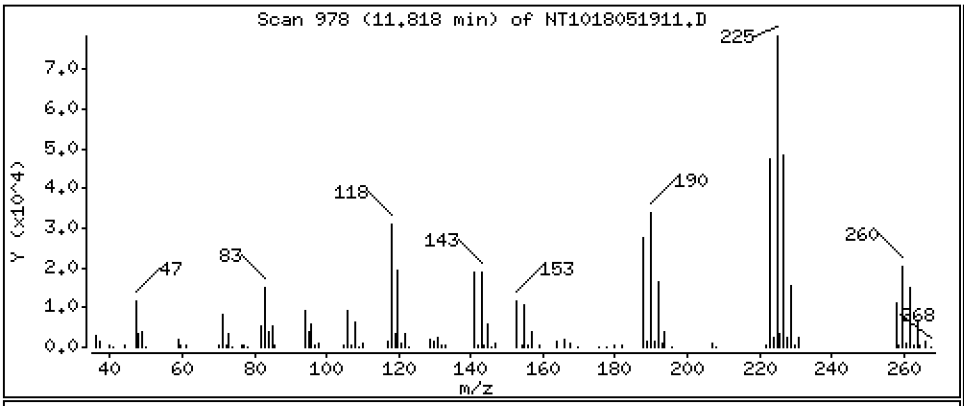
Operator: YZ

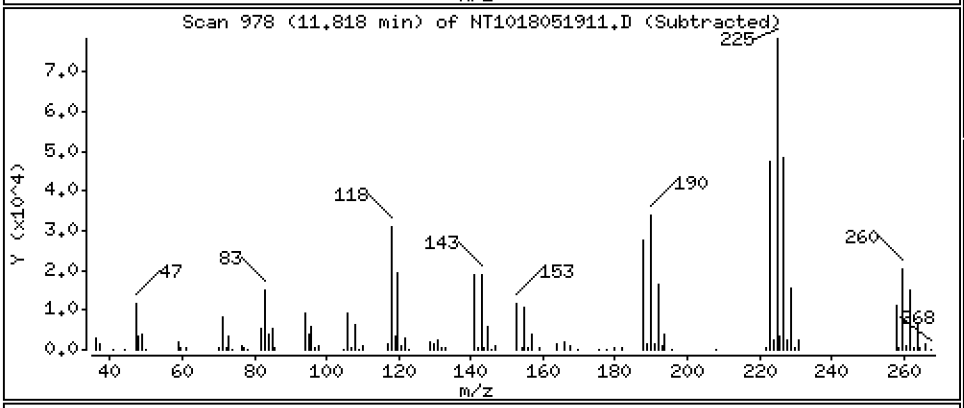
Column phase: ZB-5msi

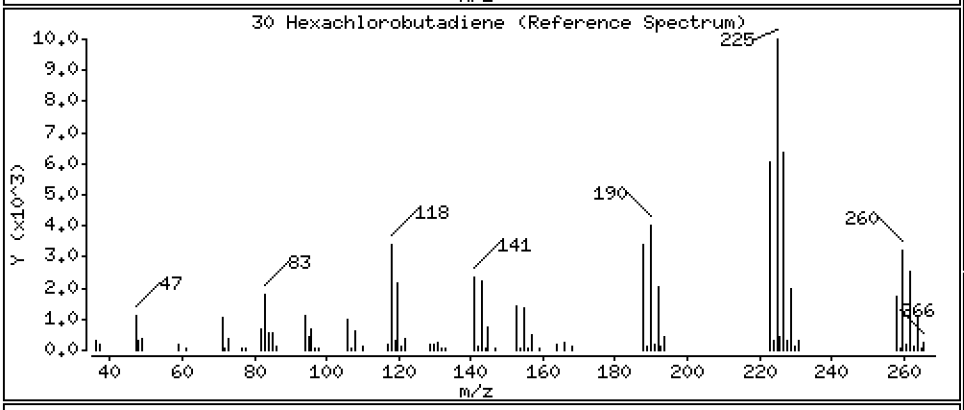
Column diameter: 0.25

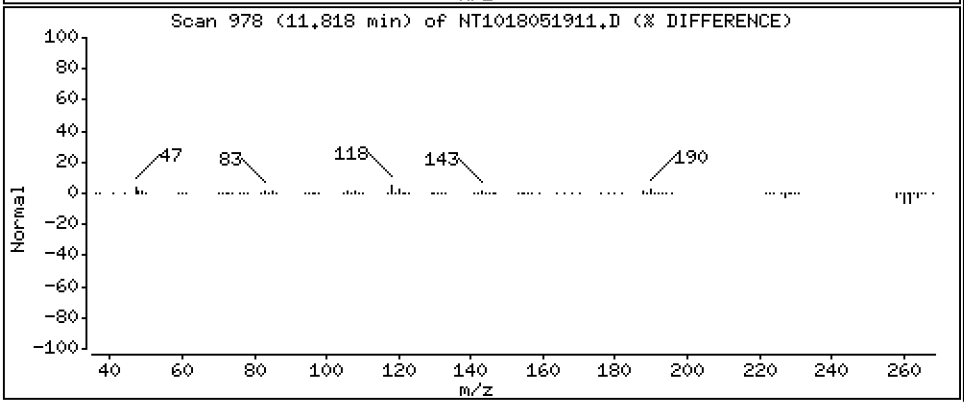
30 Hexachlorobutadiene

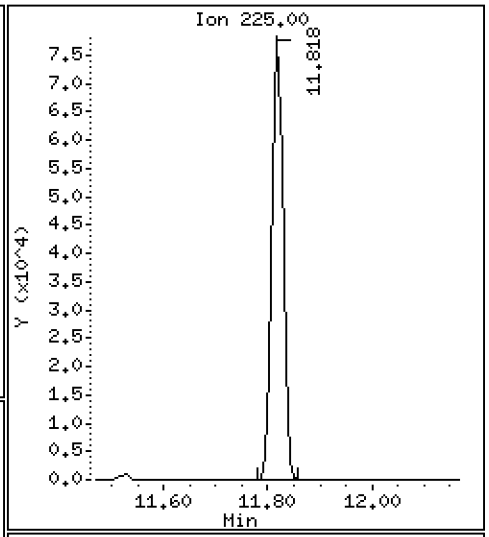
Concentration: 5.174 ug/mL

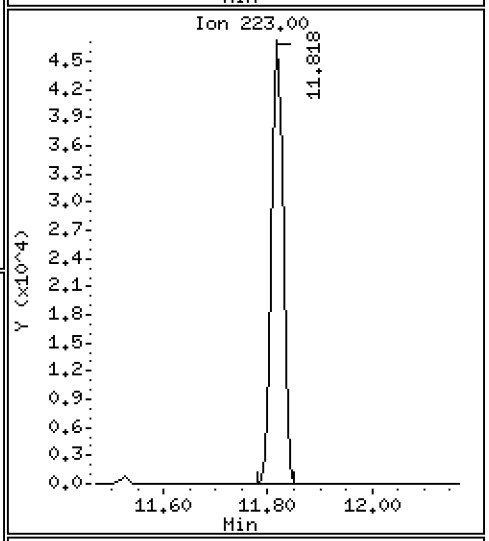


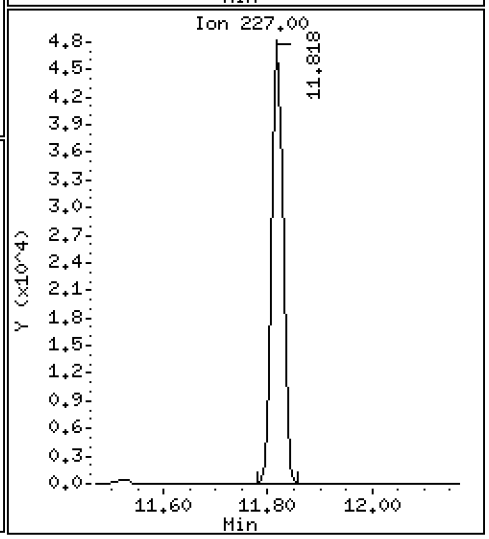












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

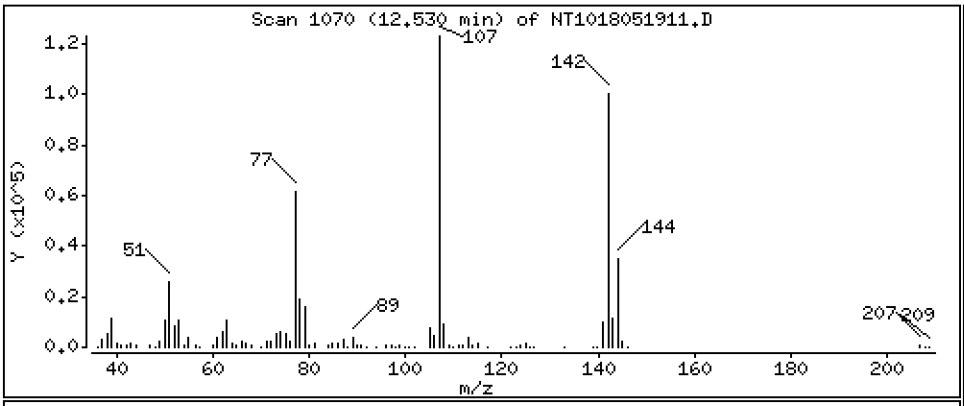
Operator: YZ

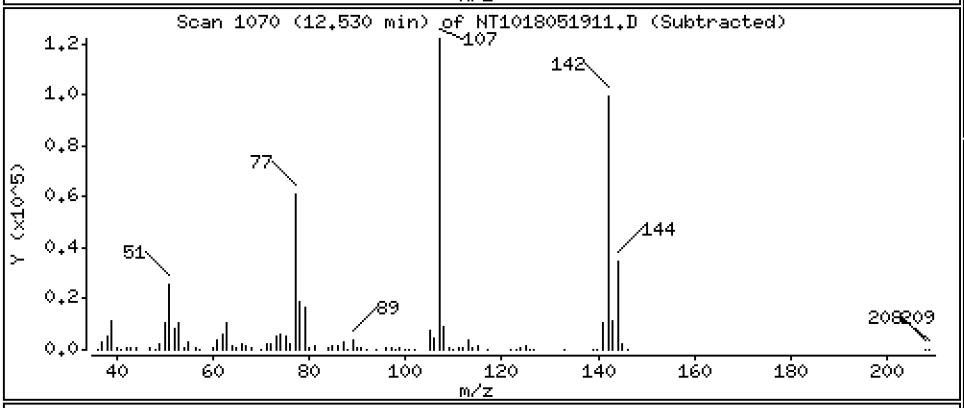
Column phase: ZB-5msi

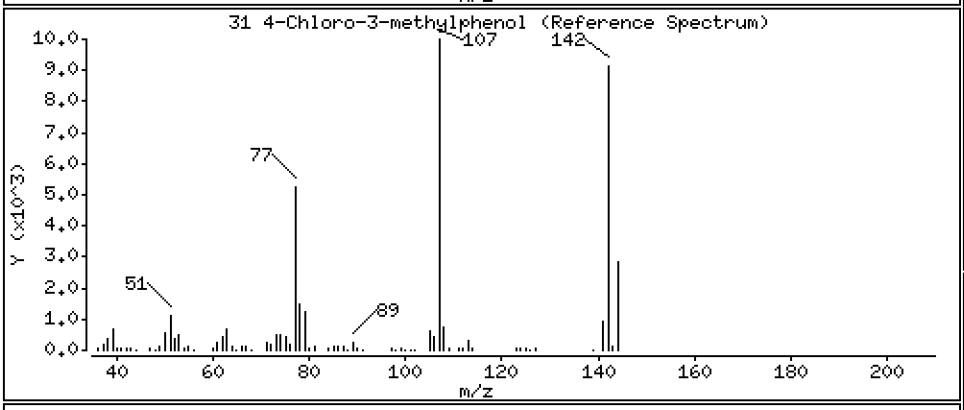
Column diameter: 0.25

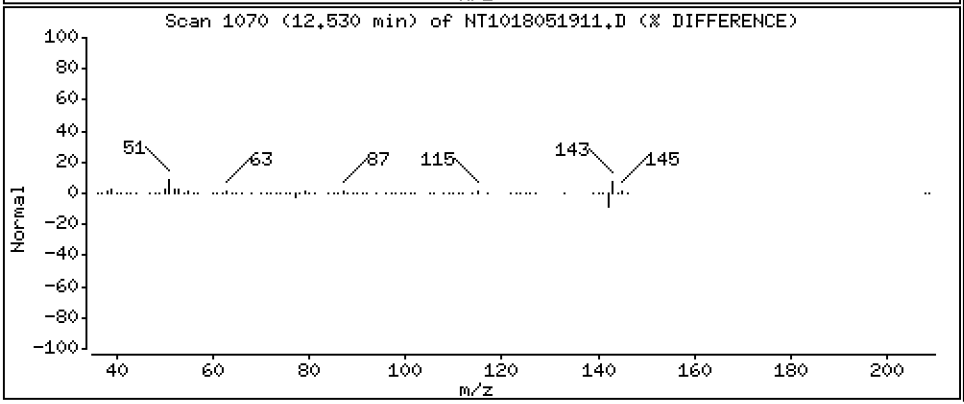
31 4-Chloro-3-methylphenol

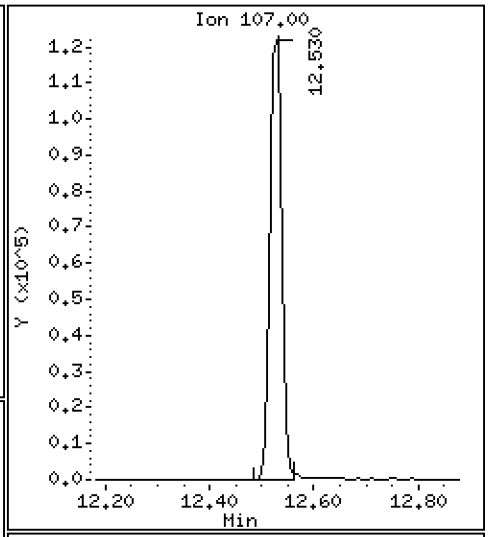
Concentration: 5.243 ug/mL

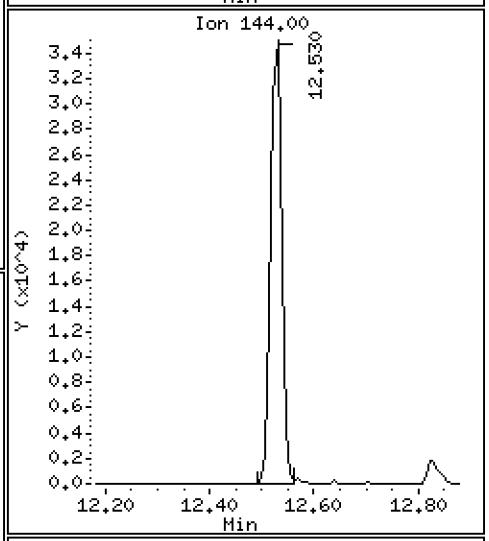


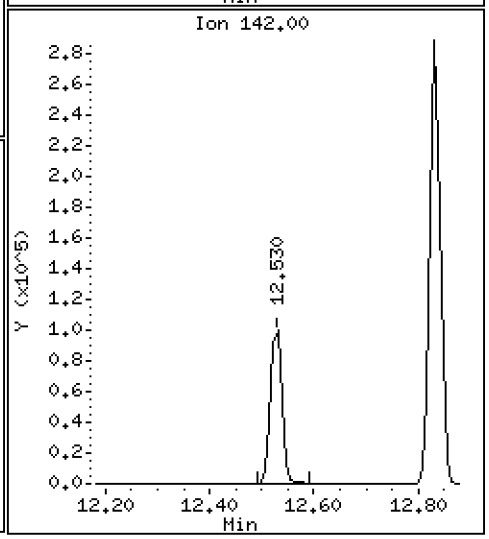












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

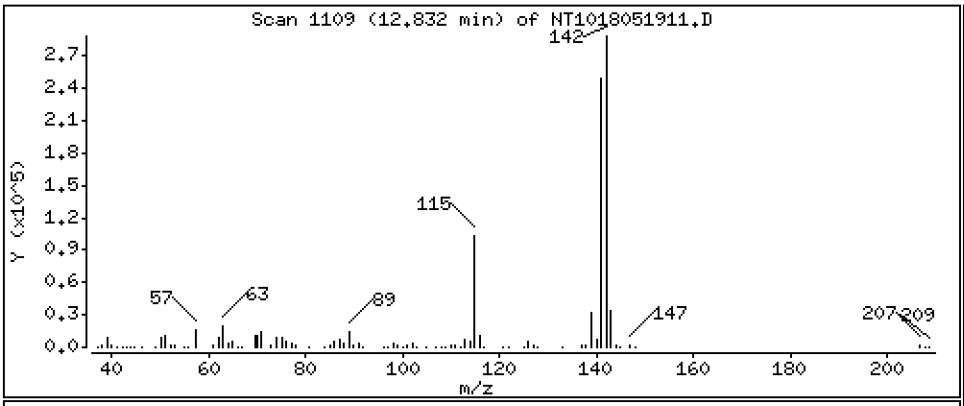
Operator: YZ

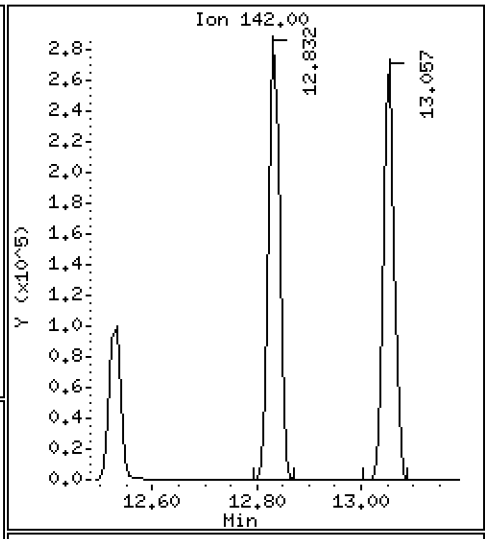
Column phase: ZB-5msi

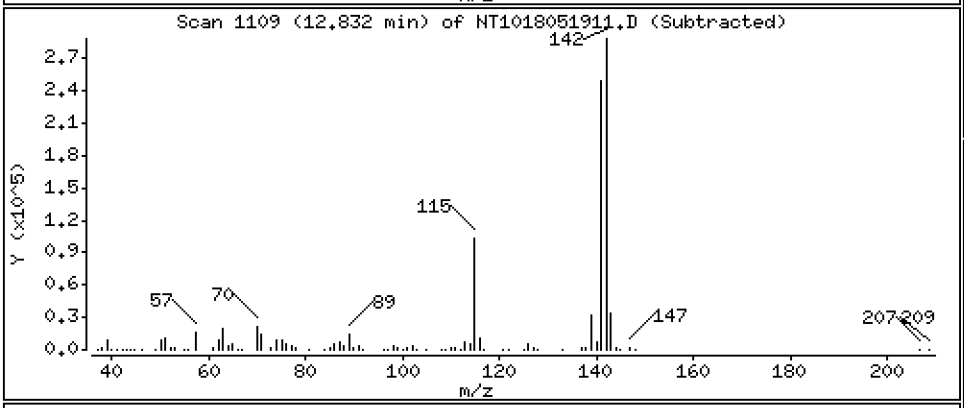
Column diameter: 0.25

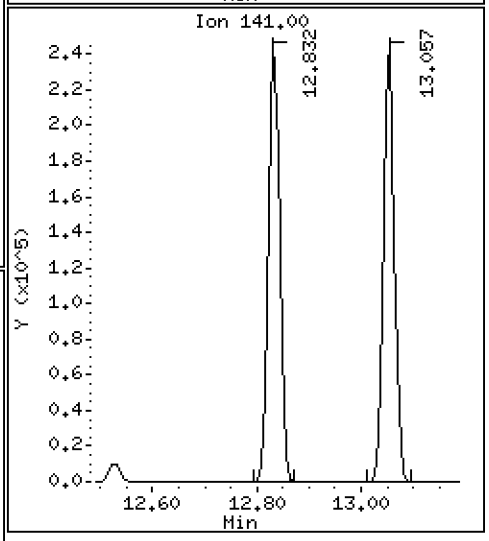
32 2-Methylnaphthalene

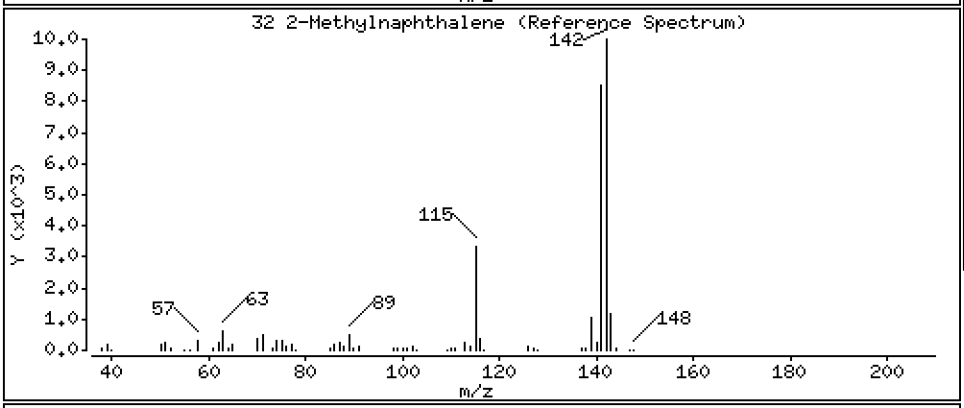
Concentration: 4.831 ug/mL

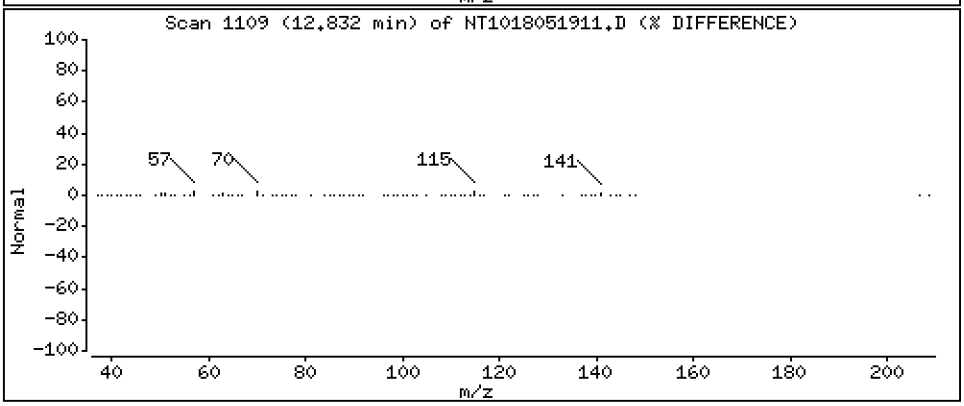












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

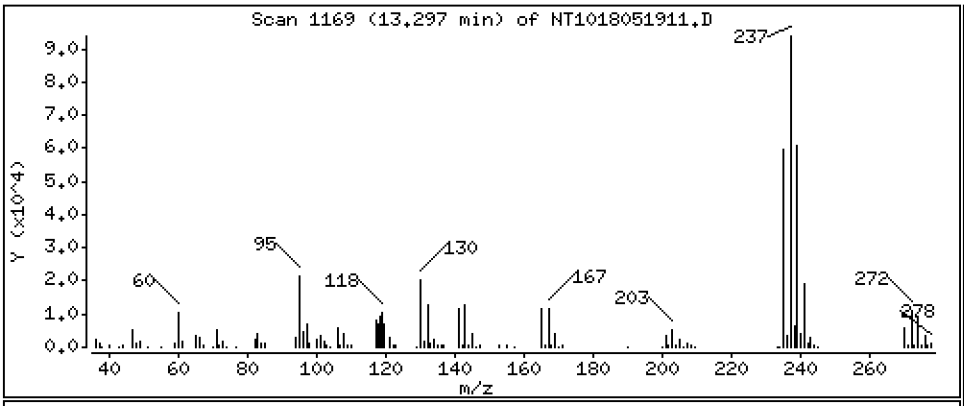
Operator: YZ

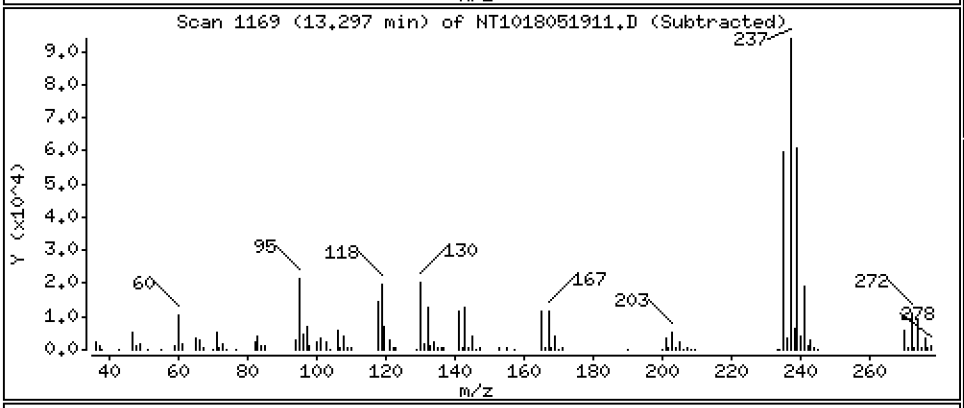
Column phase: ZB-5msi

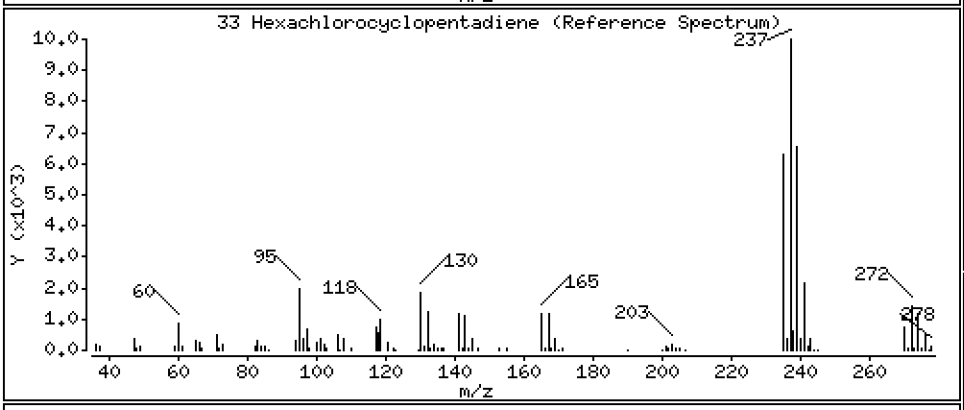
Column diameter: 0.25

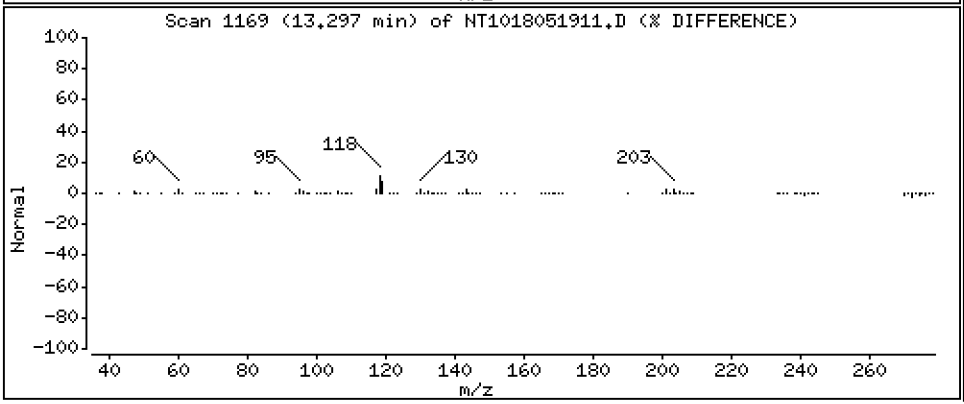
33 Hexachlorocyclopentadiene

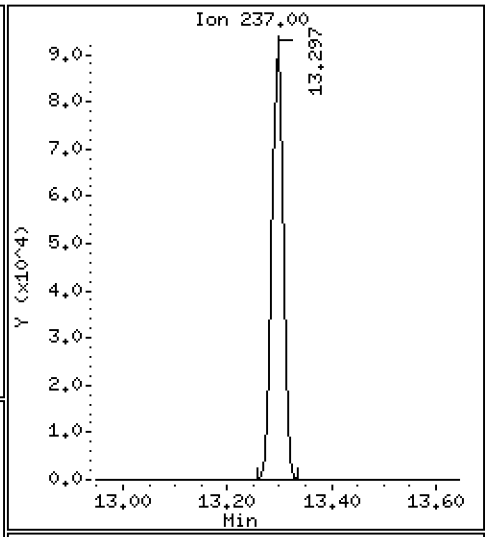
Concentration: 5.567 ug/mL

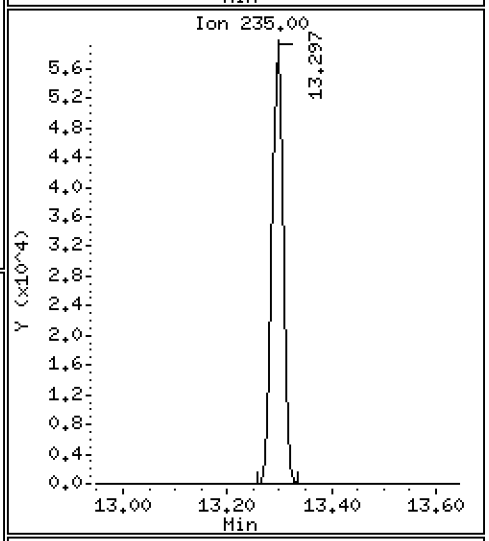


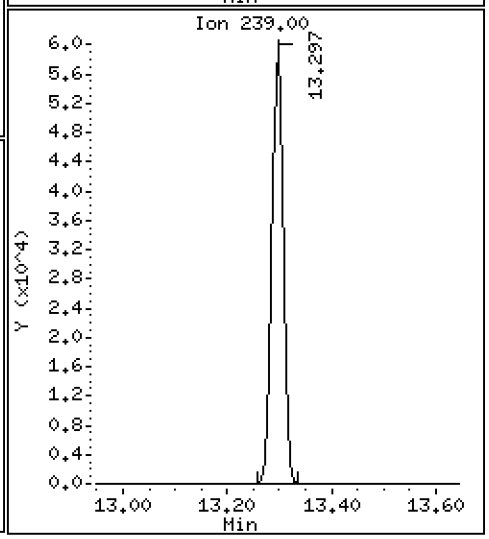












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

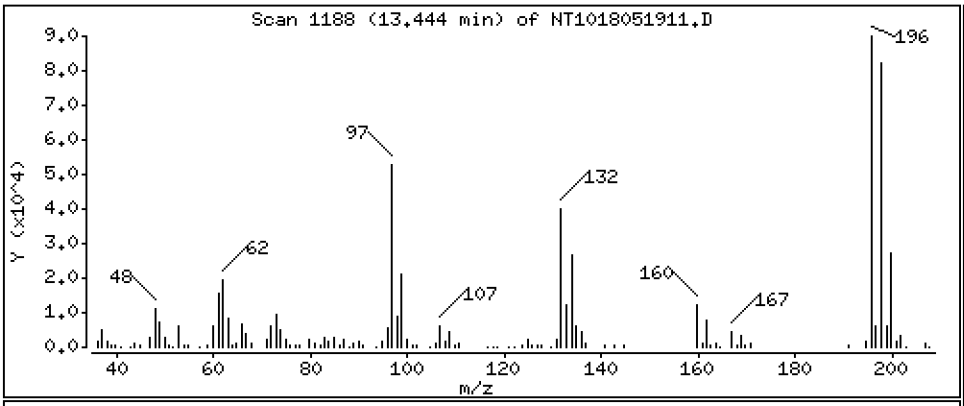
Operator: YZ

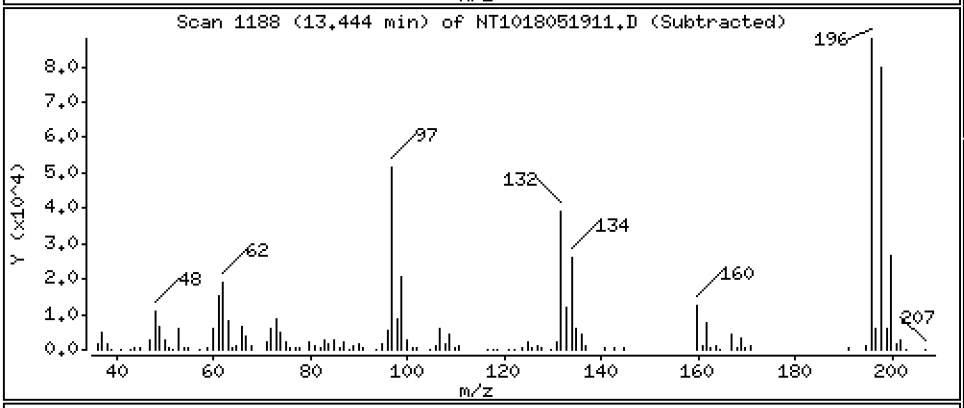
Column phase: ZB-5msi

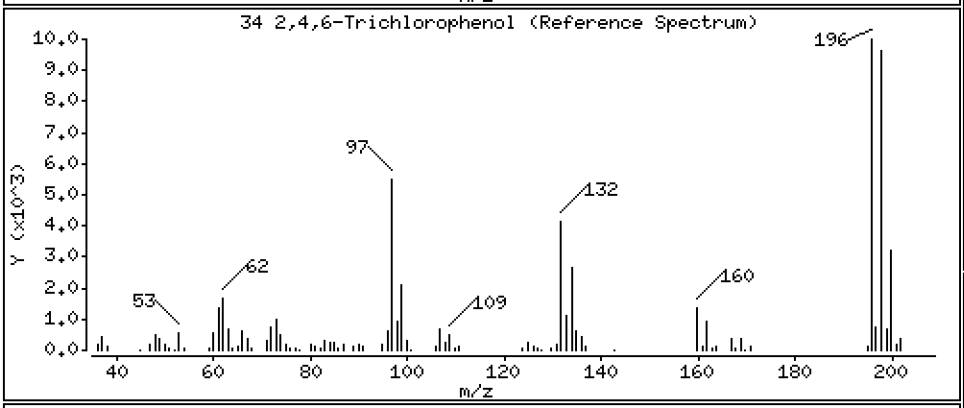
Column diameter: 0.25

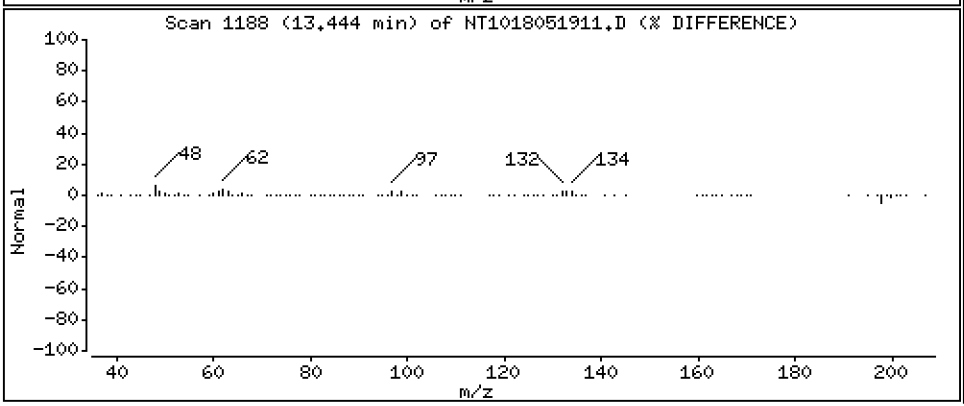
34 2,4,6-Trichlorophenol

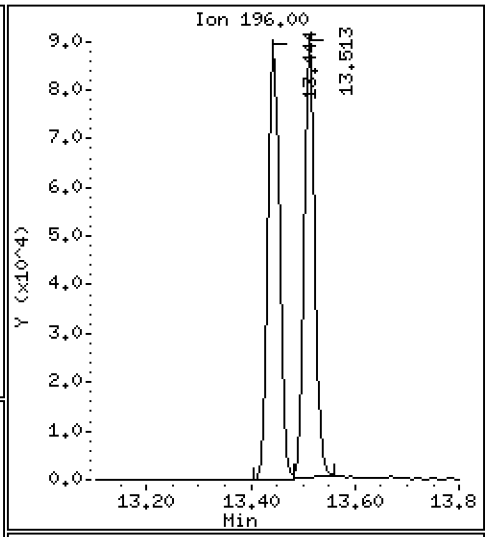
Concentration: 5.028 ug/mL

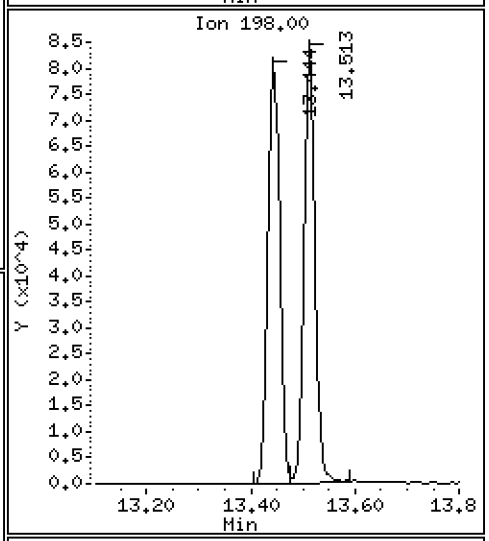


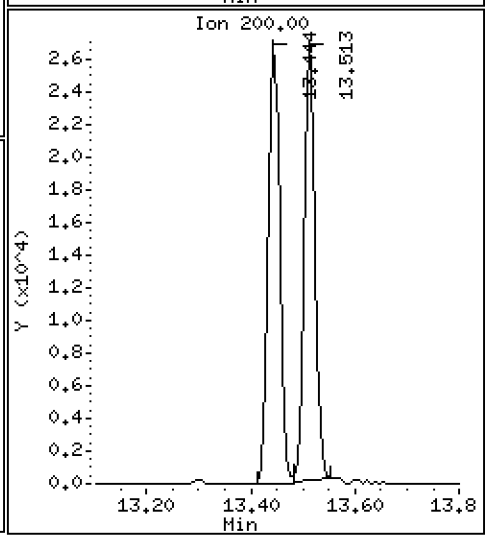












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

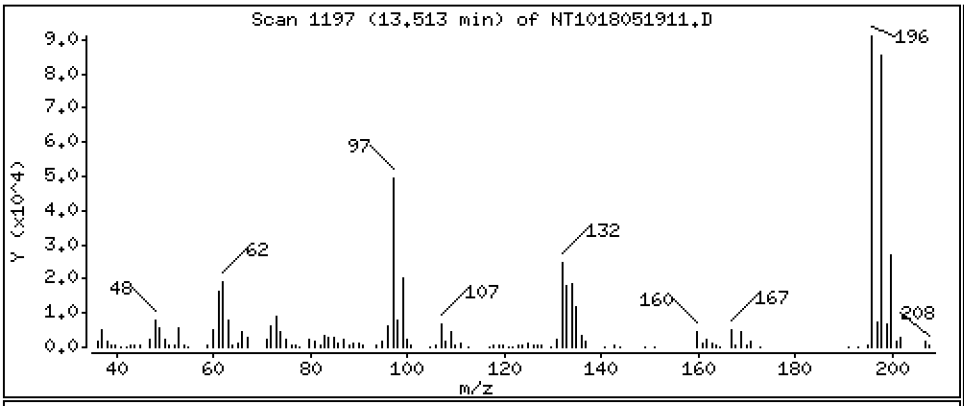
Operator: YZ

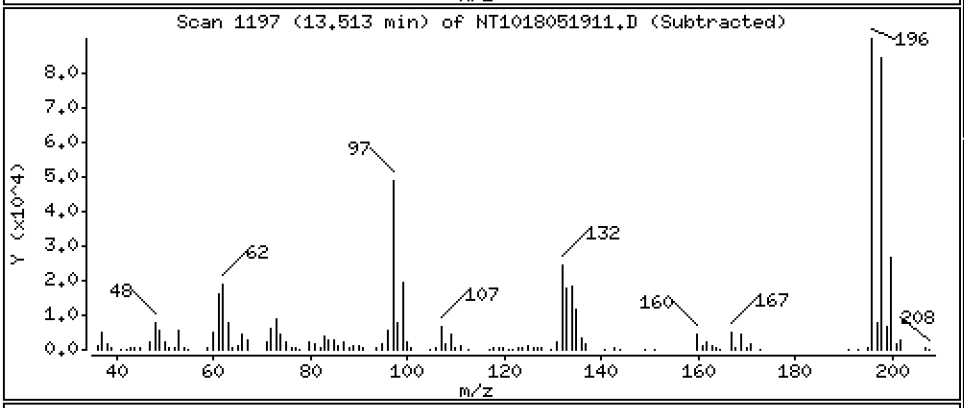
Column phase: ZB-5msi

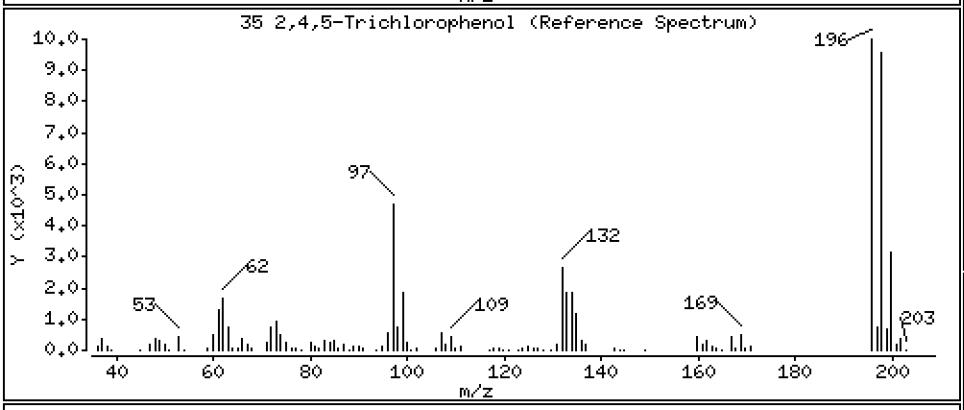
Column diameter: 0.25

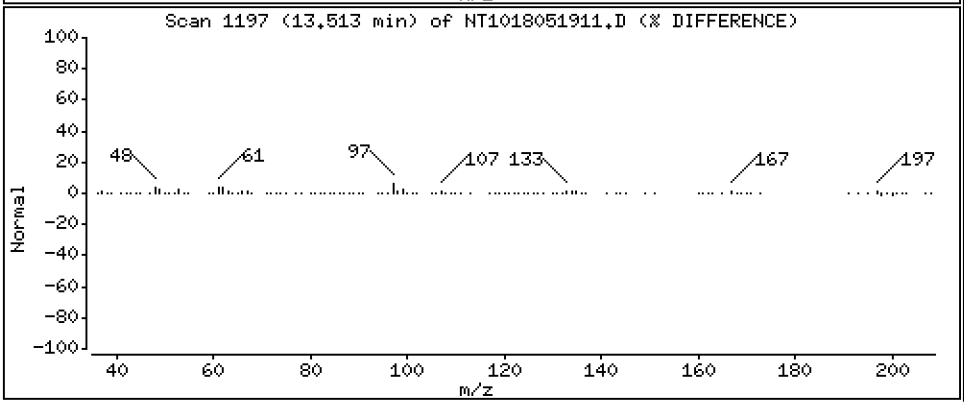
35 2,4,5-Trichlorophenol

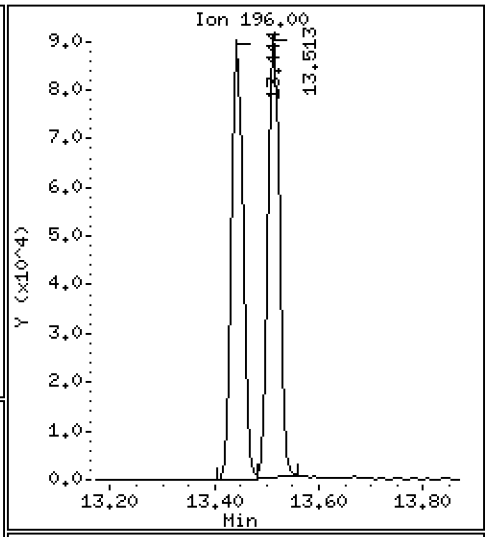
Concentration: 4.519 ug/mL

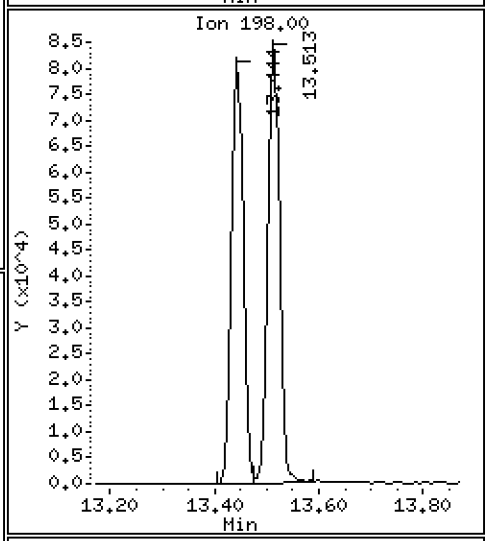


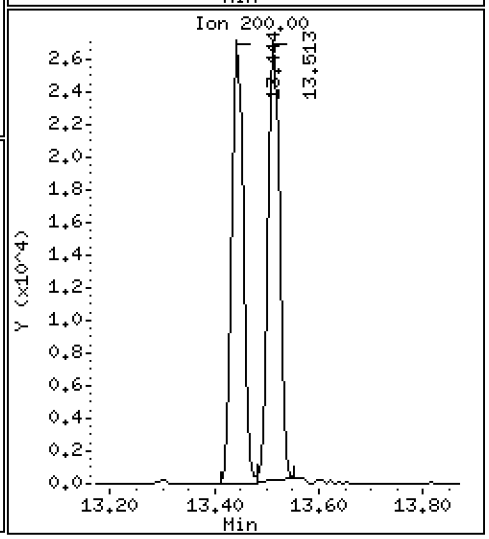












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

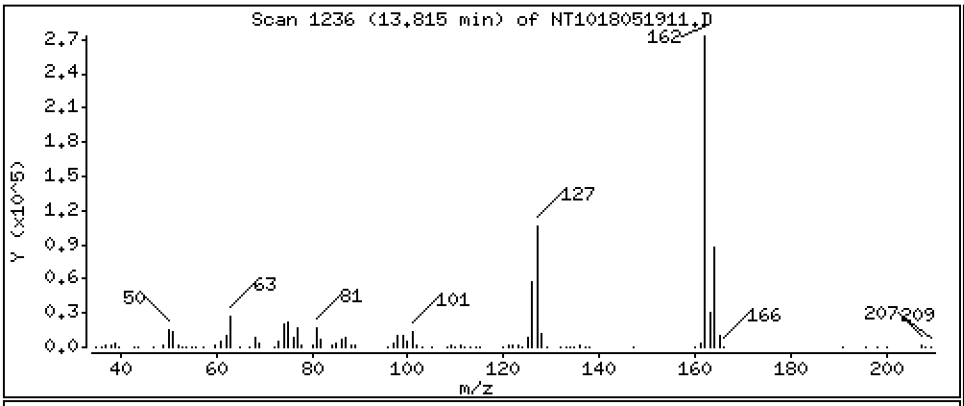
Operator: YZ

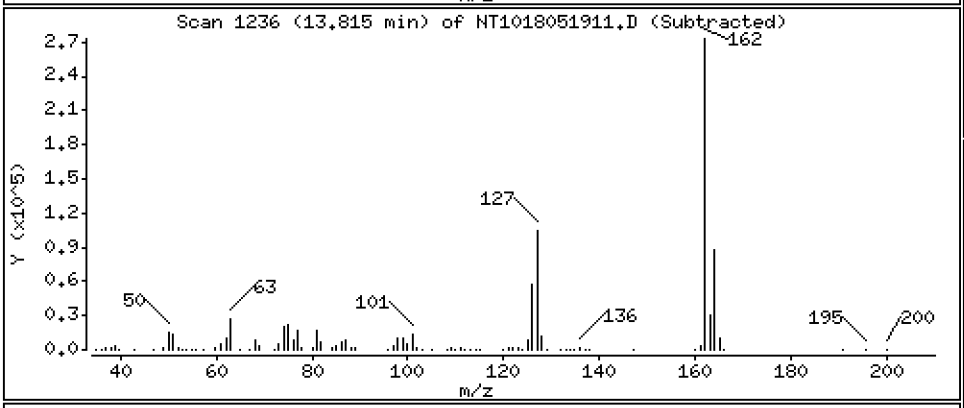
Column phase: ZB-5msi

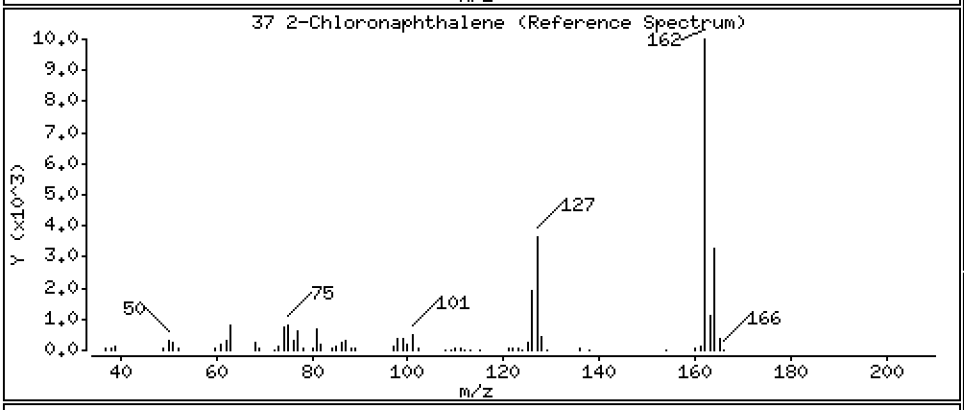
Column diameter: 0.25

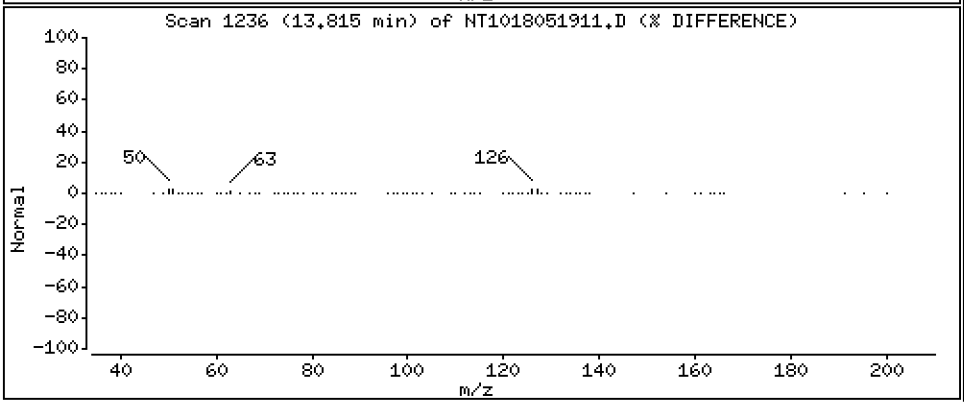
37 2-Chloronaphthalene

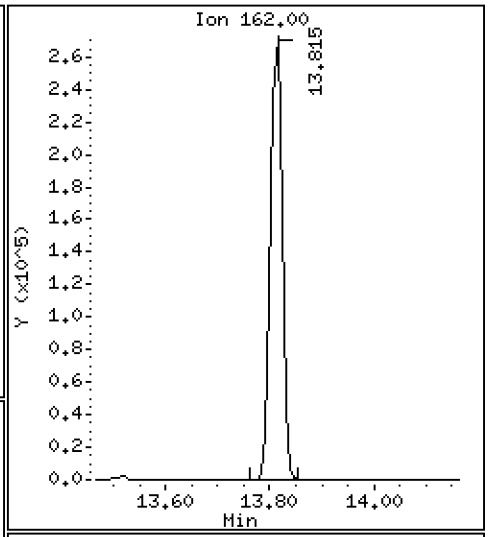
Concentration: 5.246 ug/mL

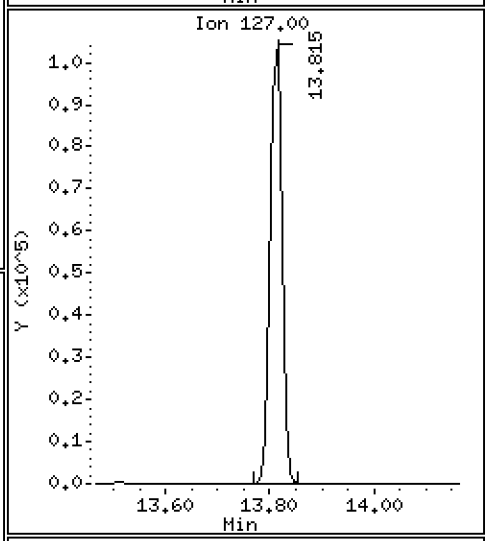


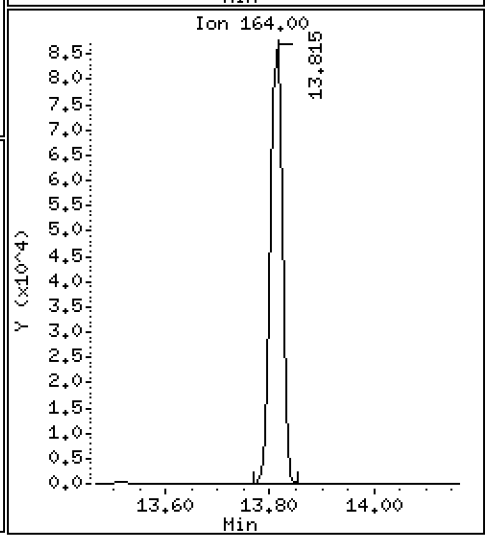












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

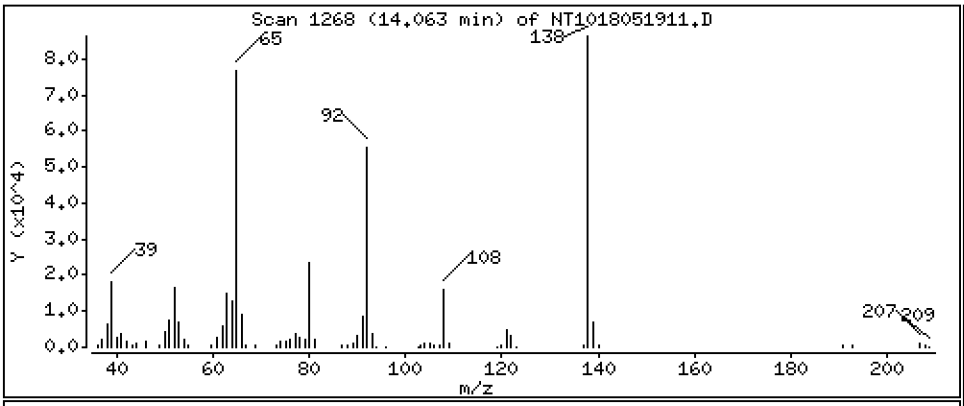
Operator: YZ

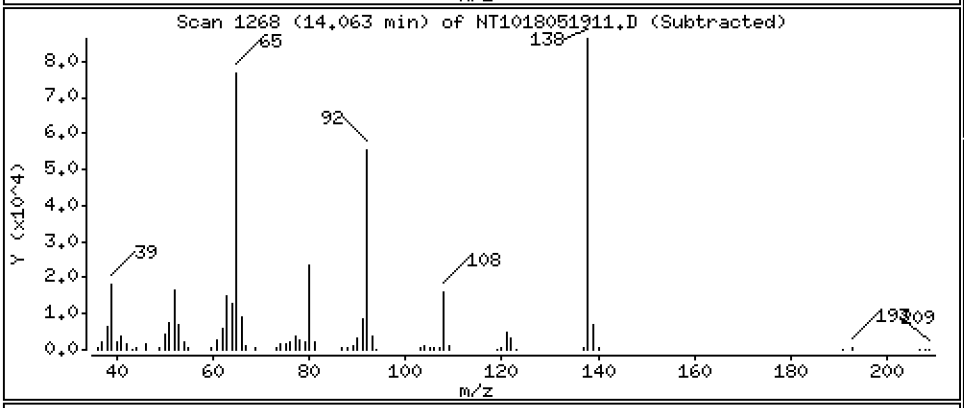
Column phase: ZB-5msi

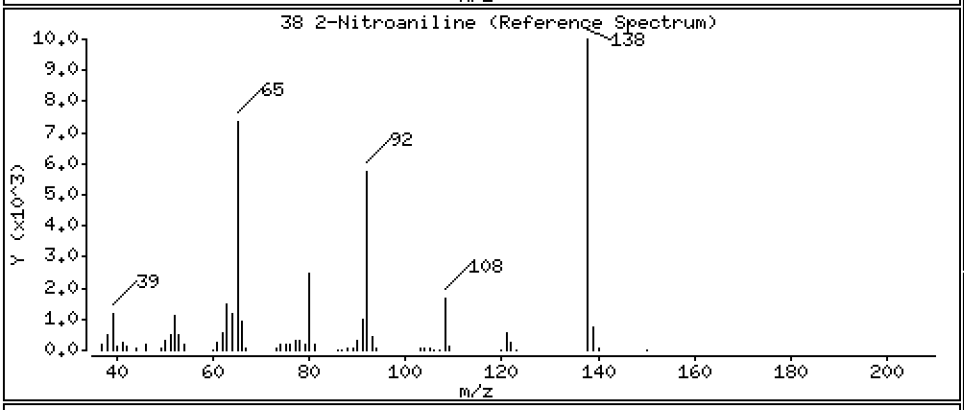
Column diameter: 0.25

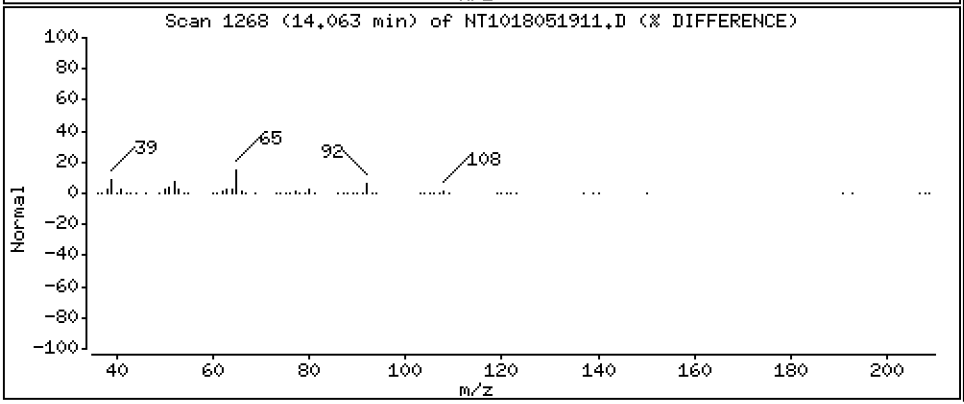
38 2-Nitroaniline

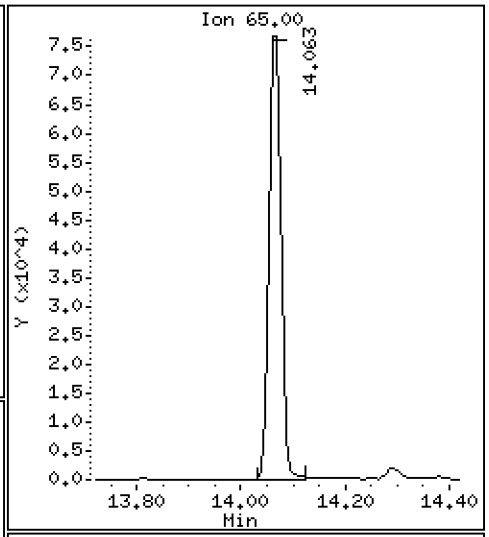
Concentration: 5.504 ug/mL

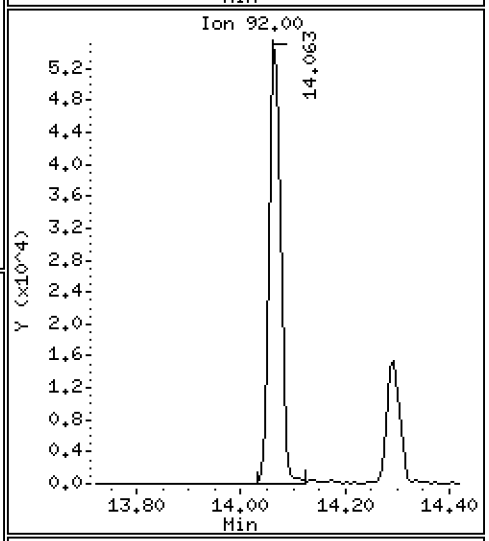


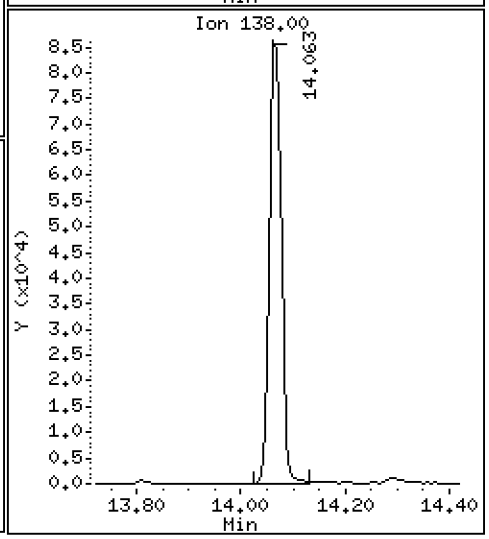












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

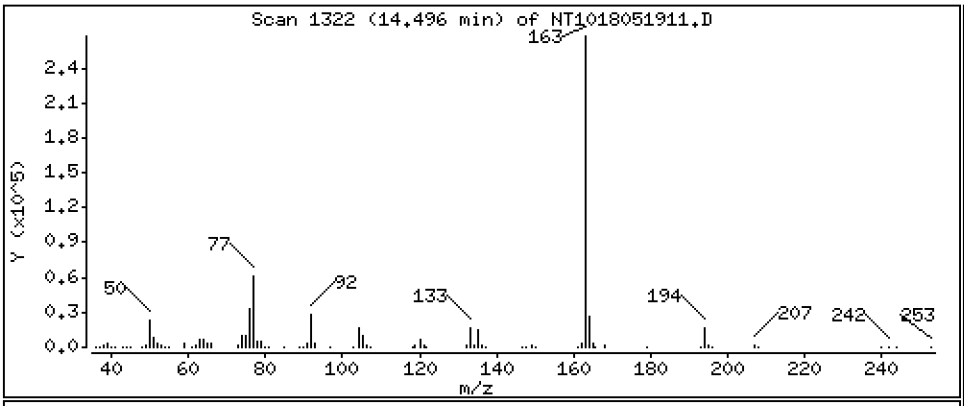
Operator: YZ

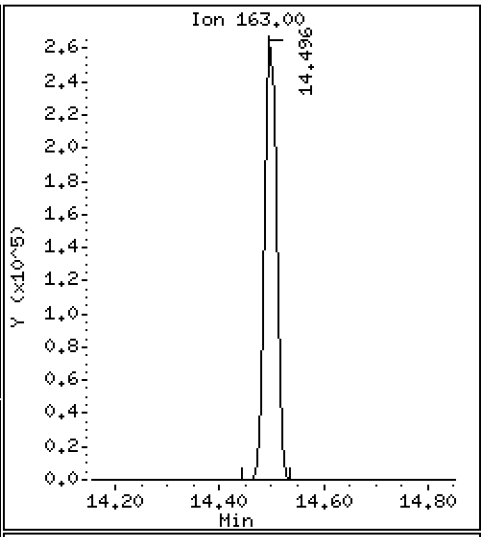
Column phase: ZB-5msi

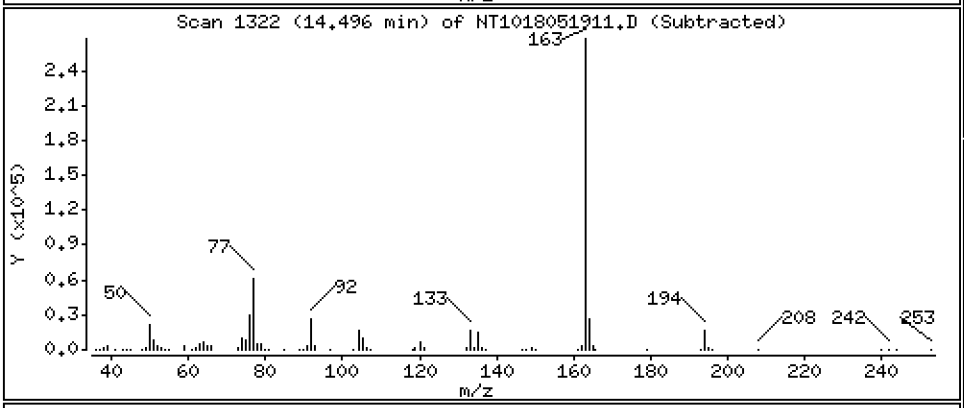
Column diameter: 0.25

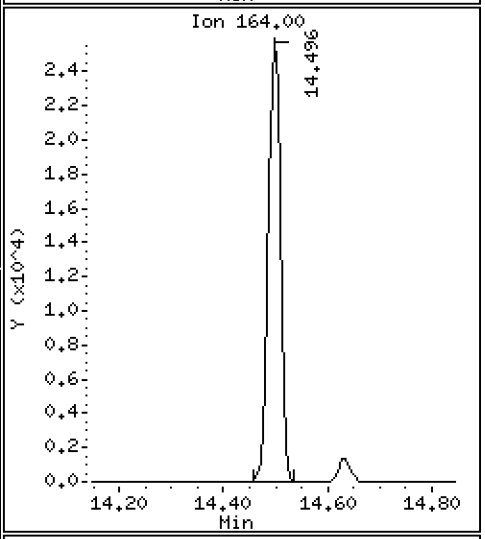
39 Dimethylphthalate

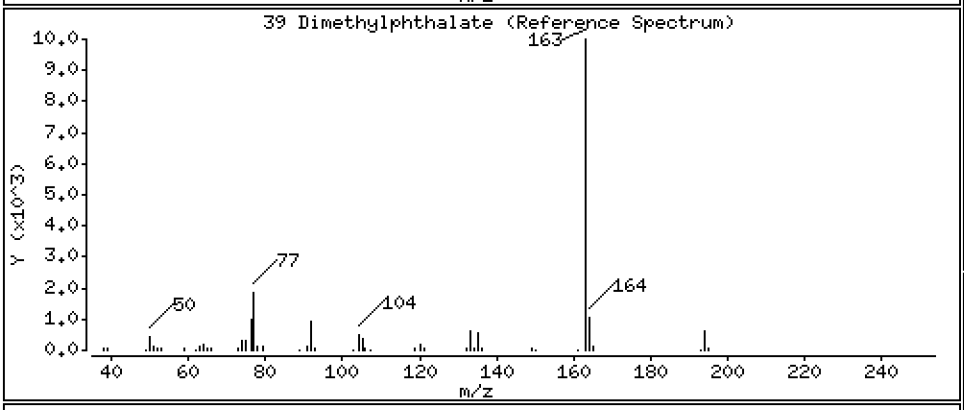
Concentration: 4.876 ug/mL

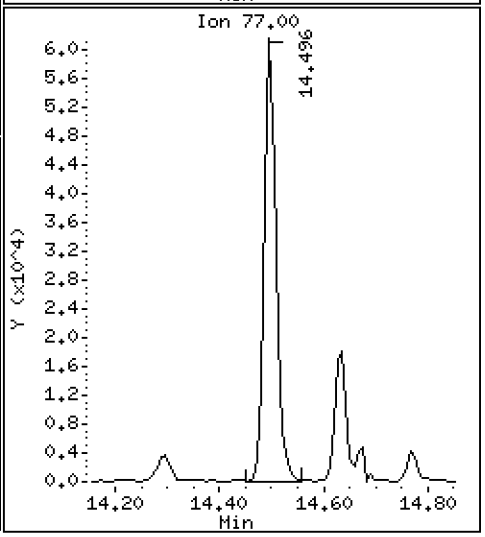


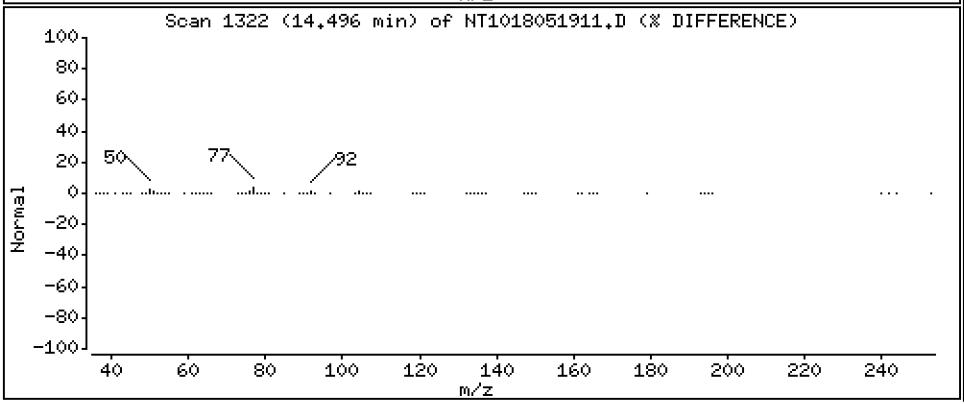












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

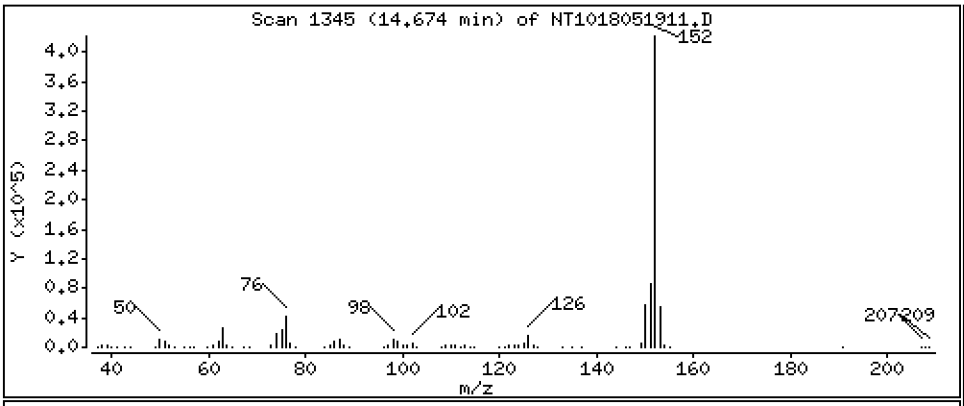
Operator: YZ

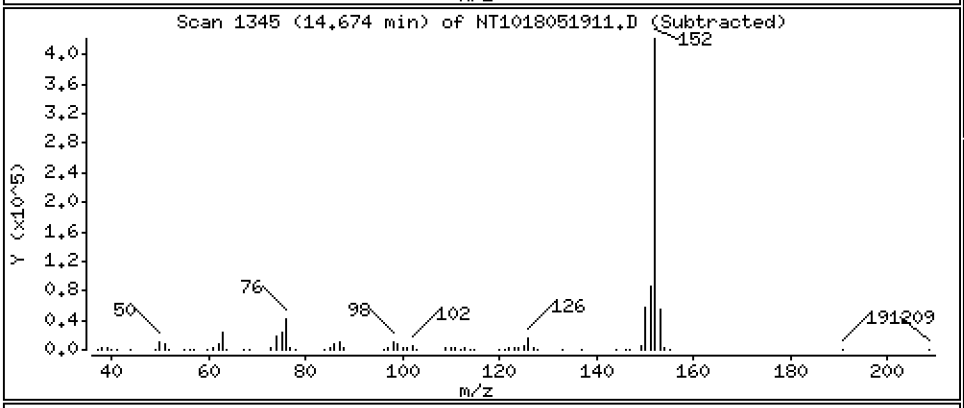
Column phase: ZB-5msi

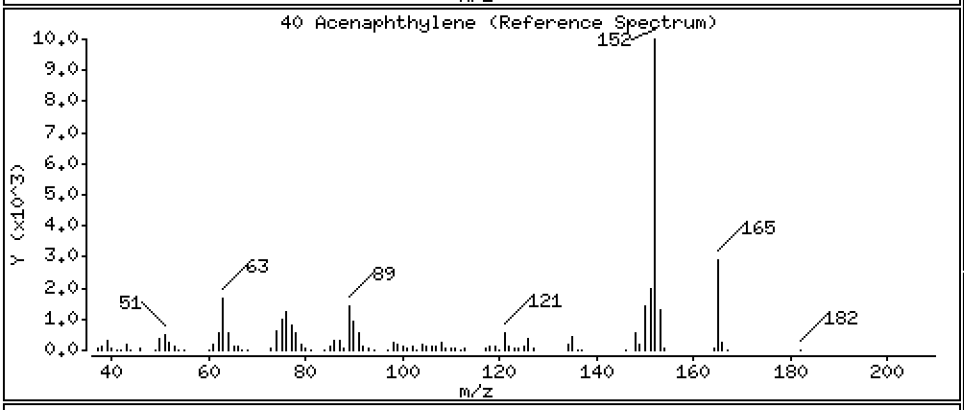
Column diameter: 0.25

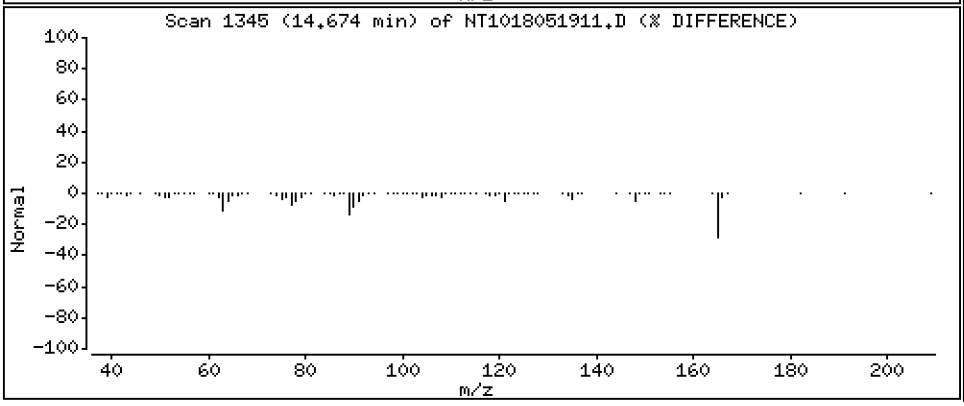
40 Acenaphthylene

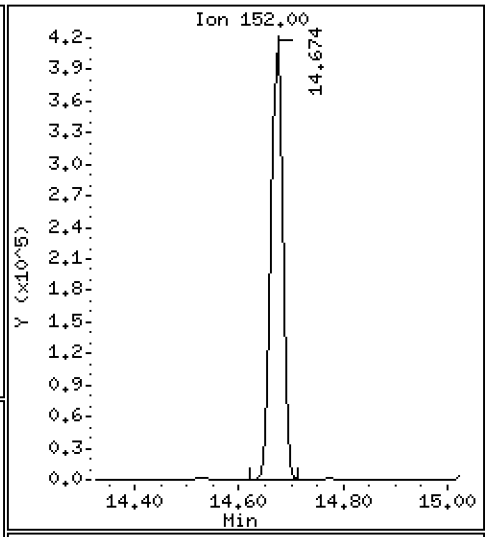
Concentration: 5.087 ug/mL

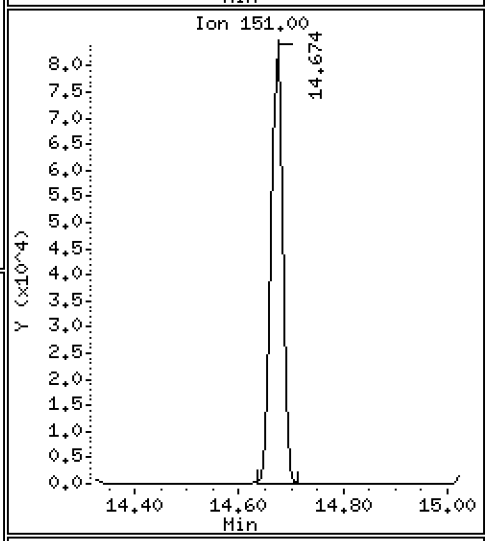


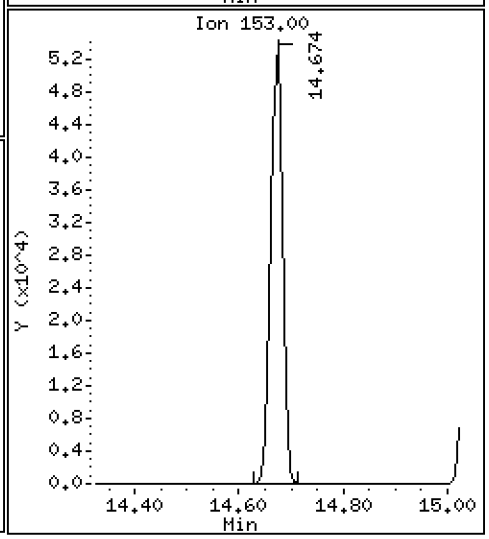












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

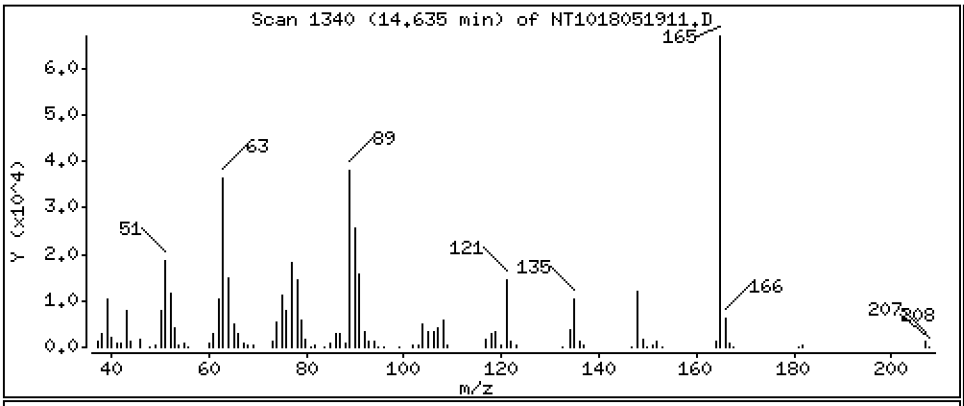
Operator: YZ

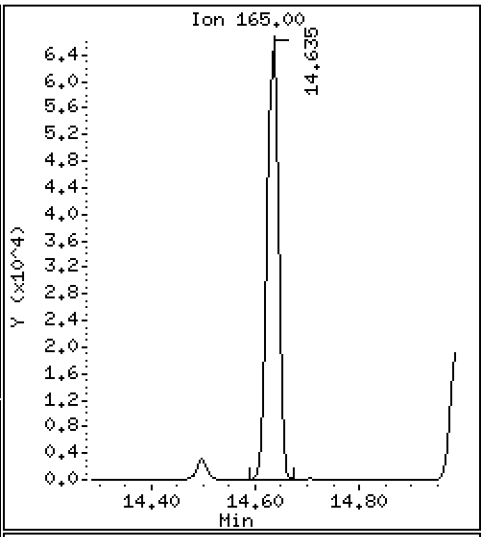
Column phase: ZB-5msi

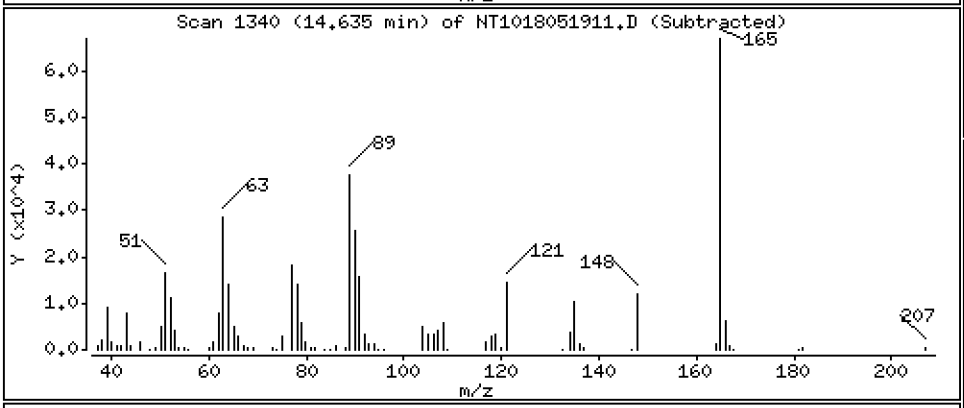
Column diameter: 0.25

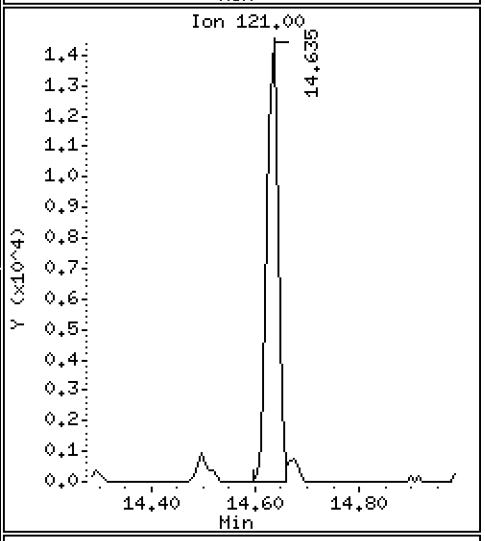
41 2,6-Dinitrotoluene

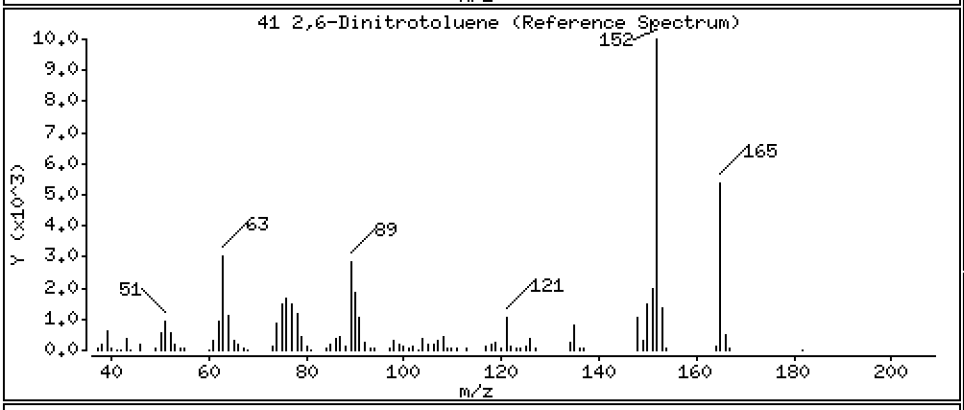
Concentration: 5.391 ug/mL

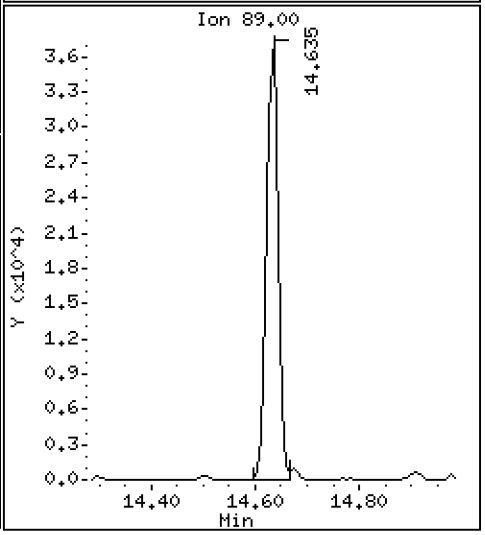


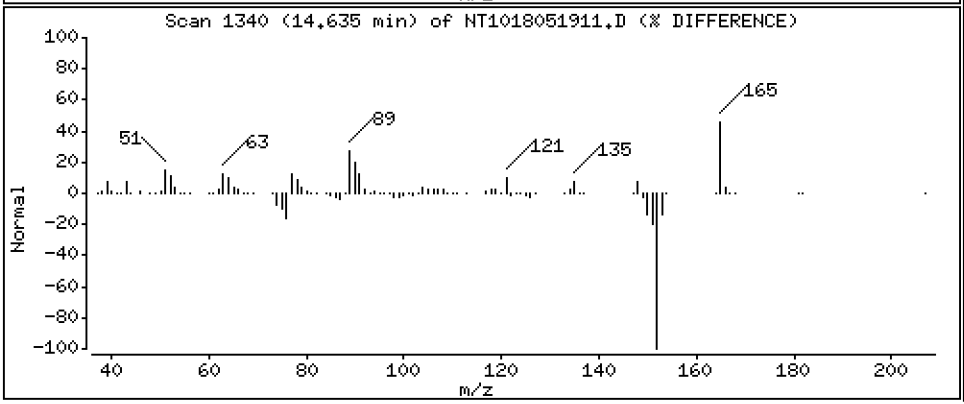












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

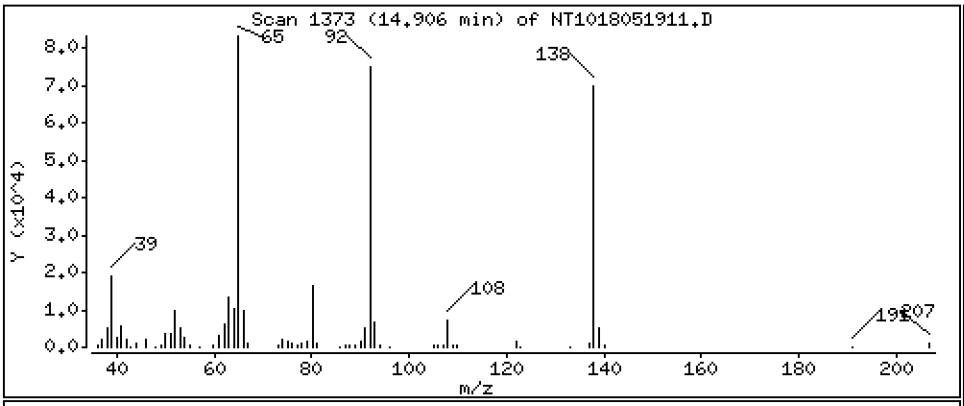
Operator: YZ

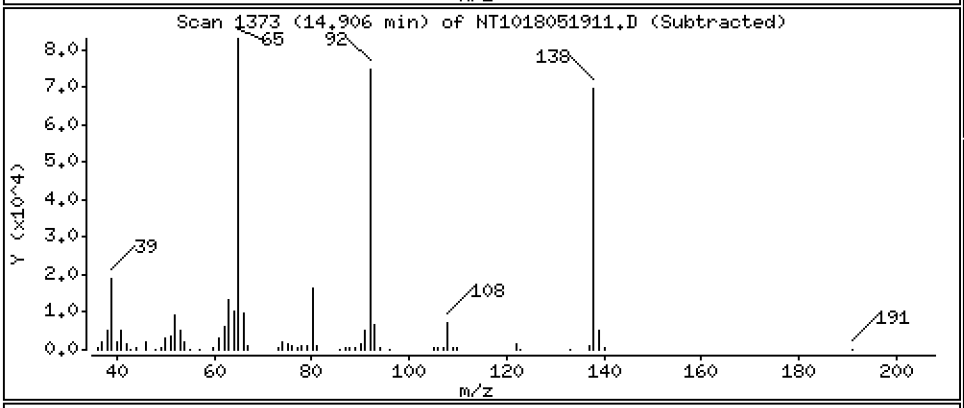
Column phase: ZB-5msi

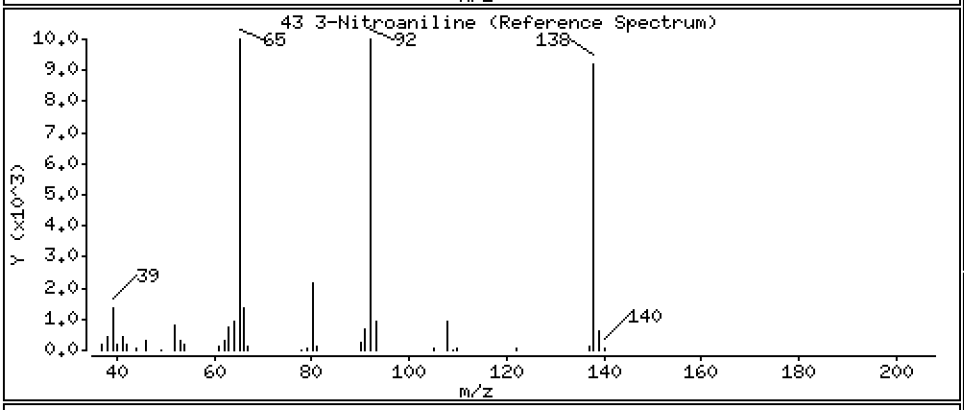
Column diameter: 0.25

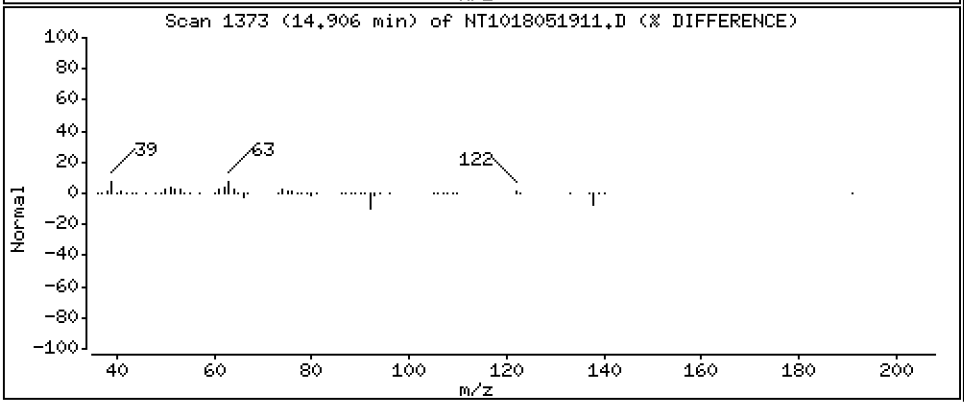
43 3-Nitroaniline

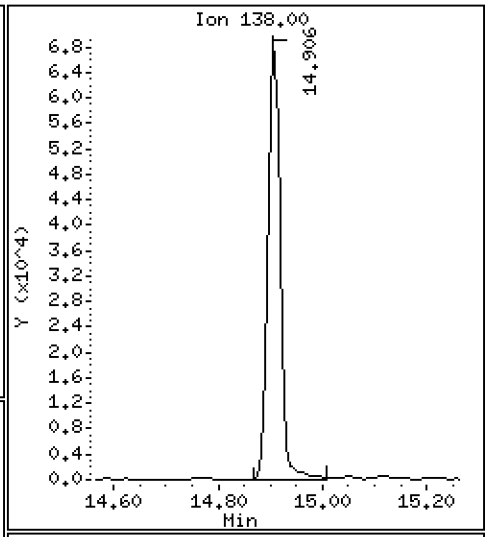
Concentration: 5.234 ug/mL

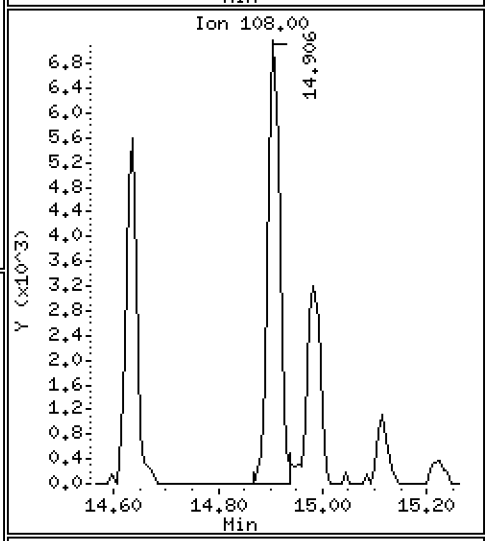


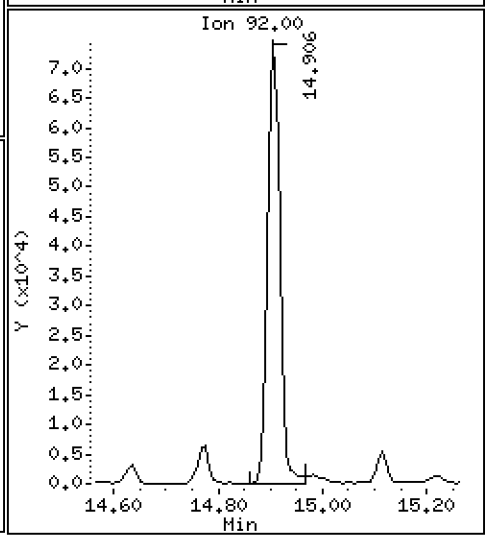












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

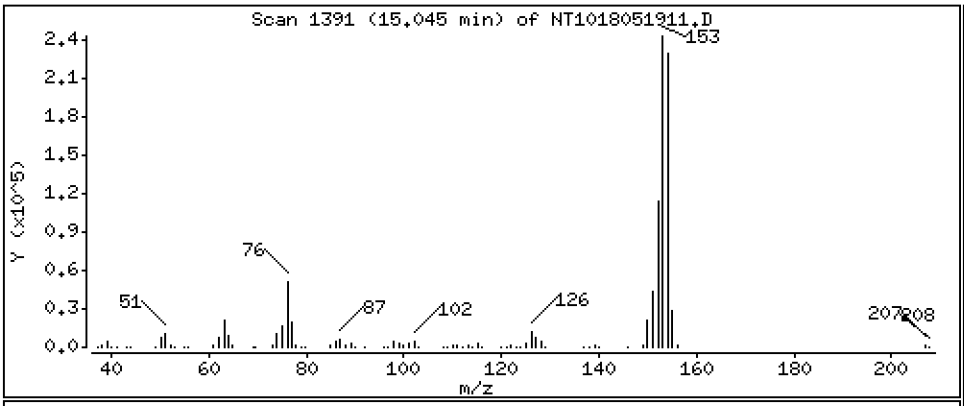
Operator: YZ

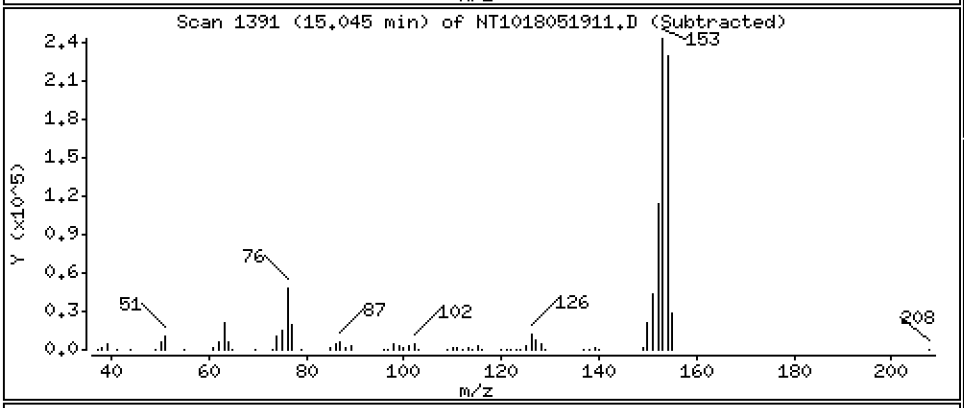
Column phase: ZB-5msi

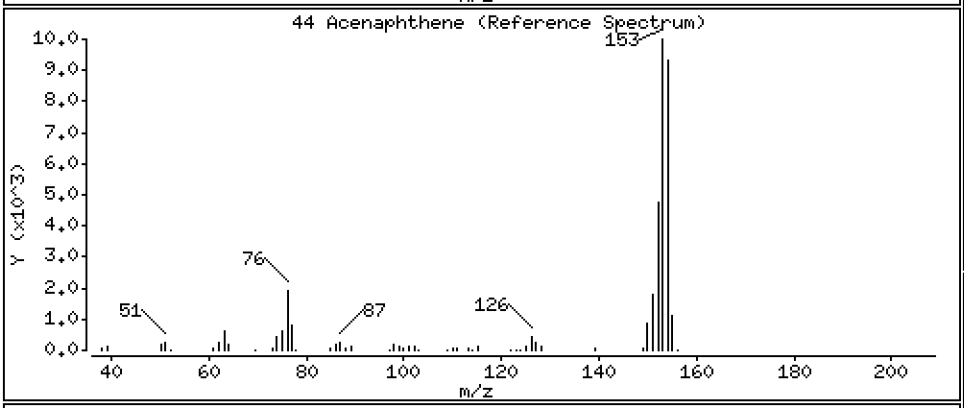
Column diameter: 0.25

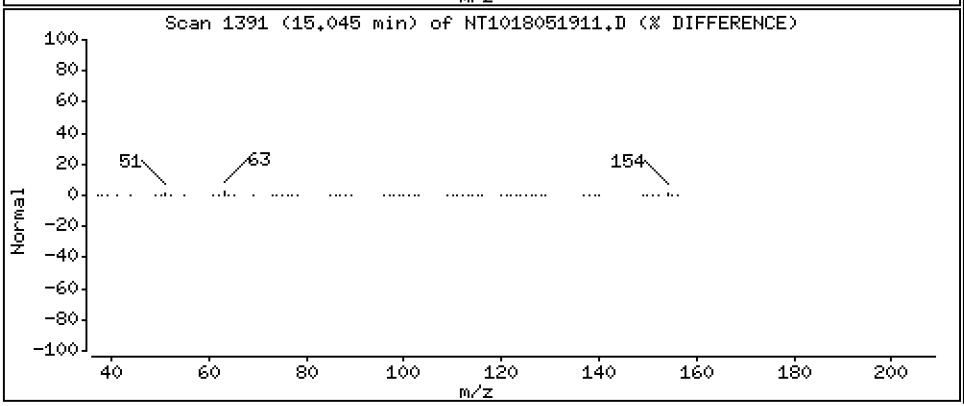
44 Acenaphthene

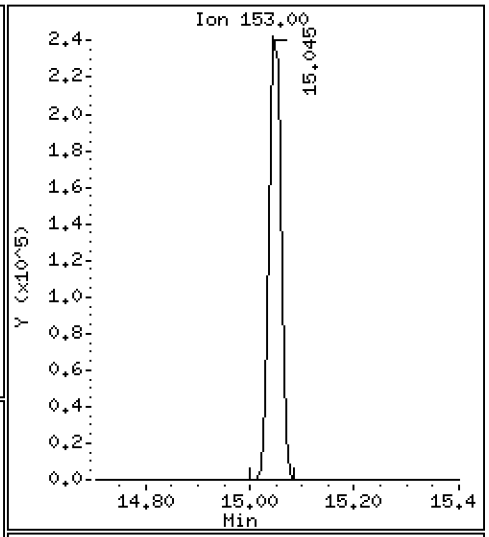
Concentration: 5.071 ug/mL

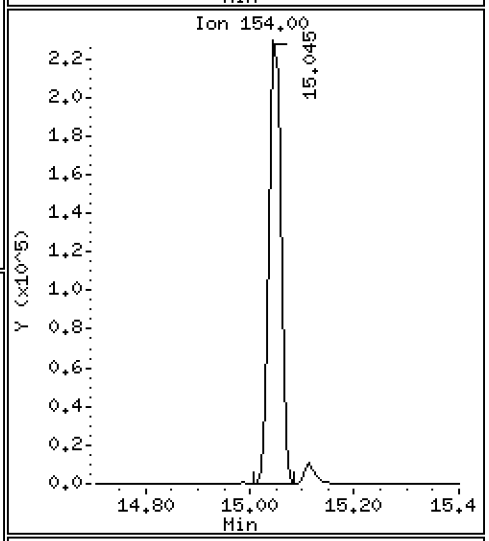


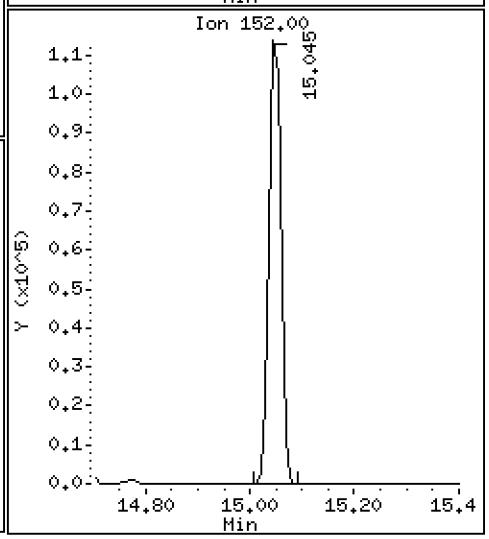












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

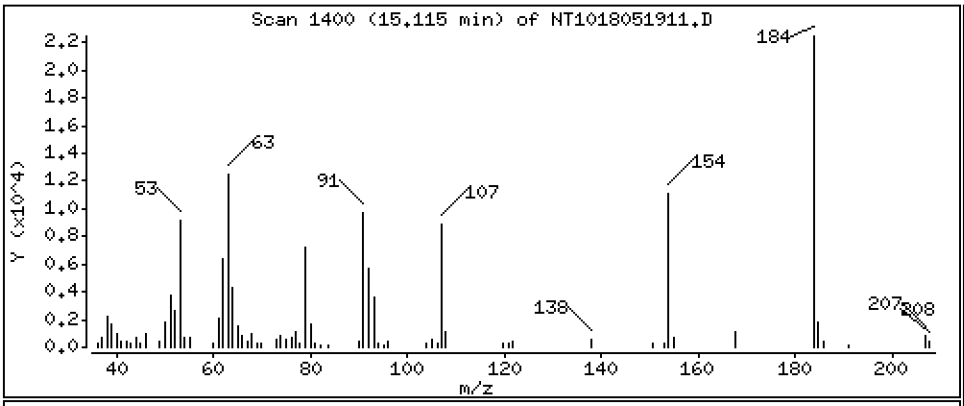
Operator: YZ

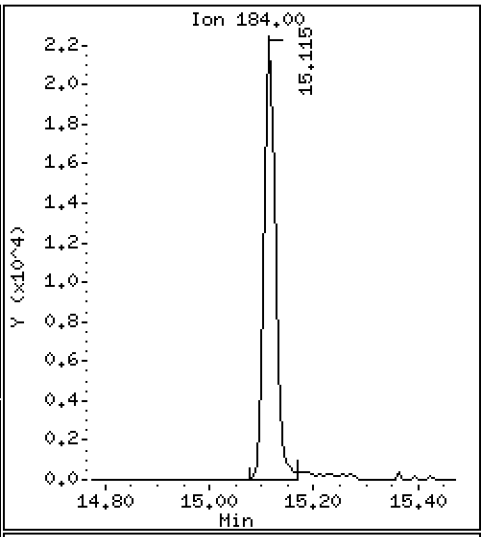
Column phase: ZB-5msi

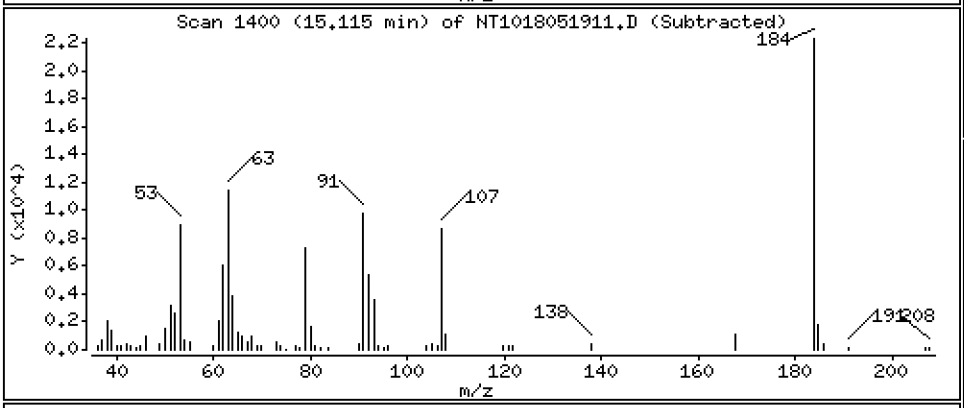
Column diameter: 0.25

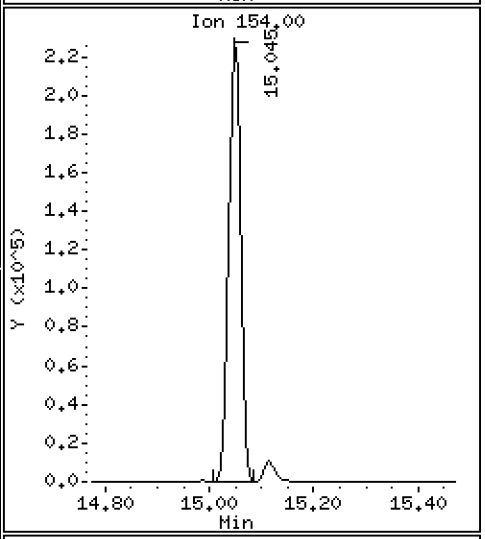
45 2,4-Dinitrophenol

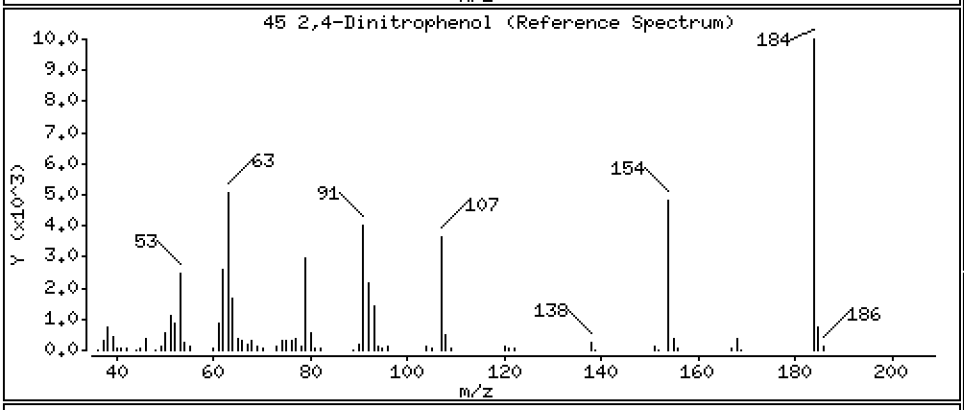
Concentration: 2.947 ug/mL

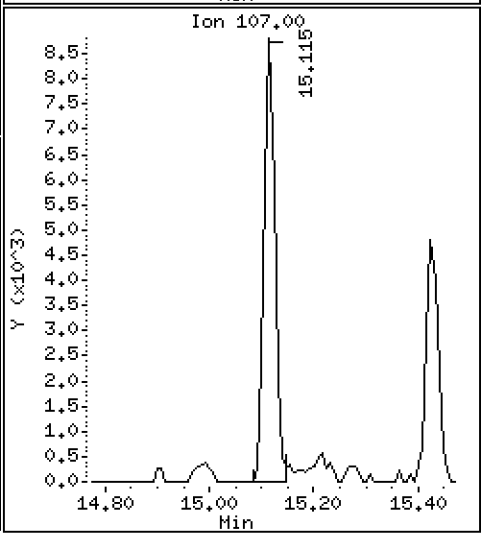


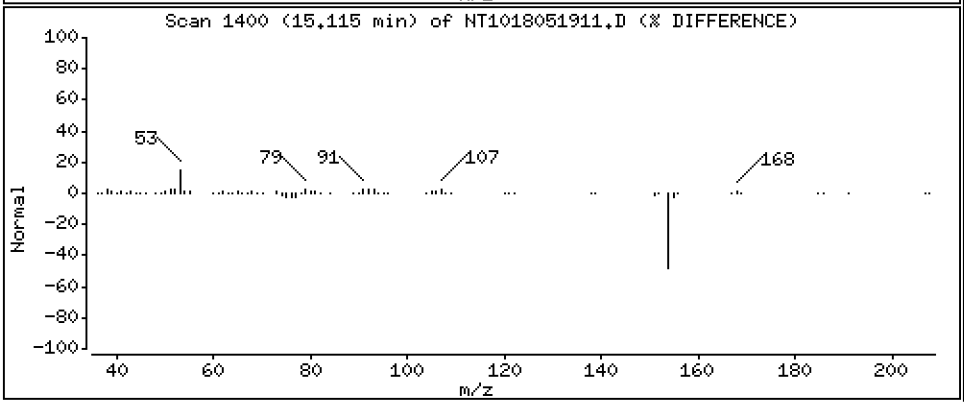












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

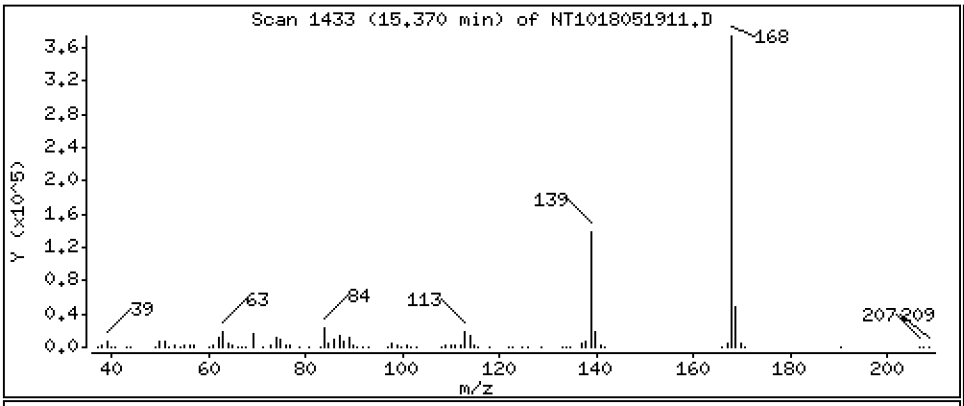
Operator: YZ

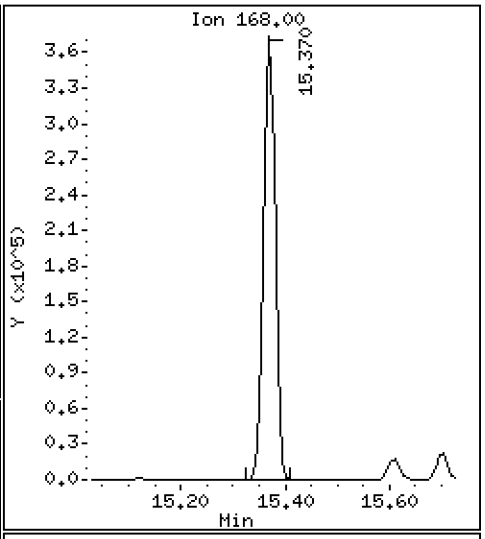
Column phase: ZB-5msi

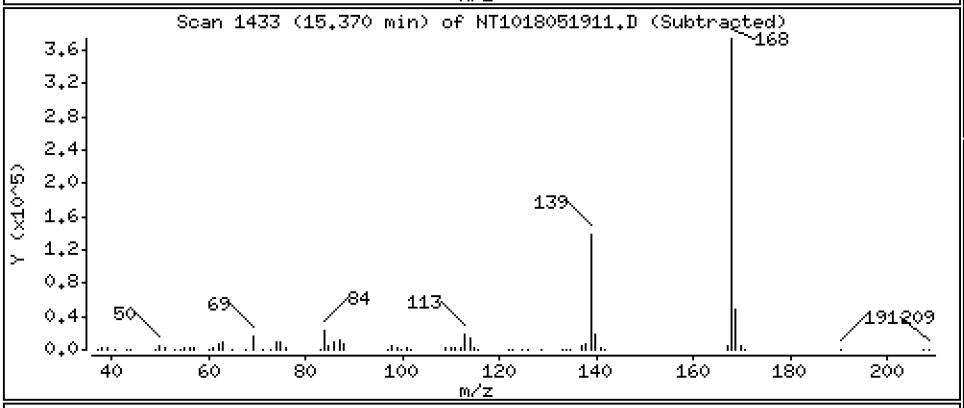
Column diameter: 0.25

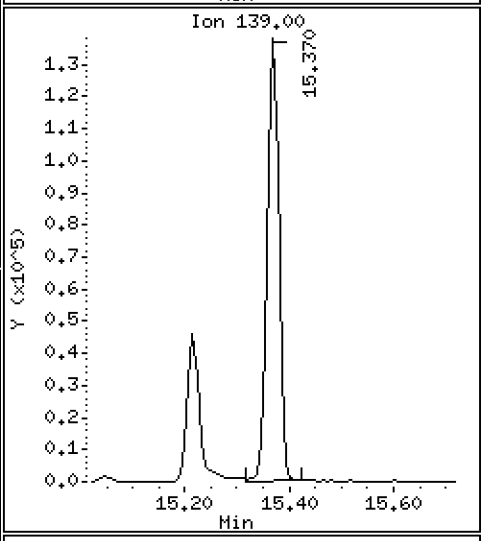
46 Dibenzofuran

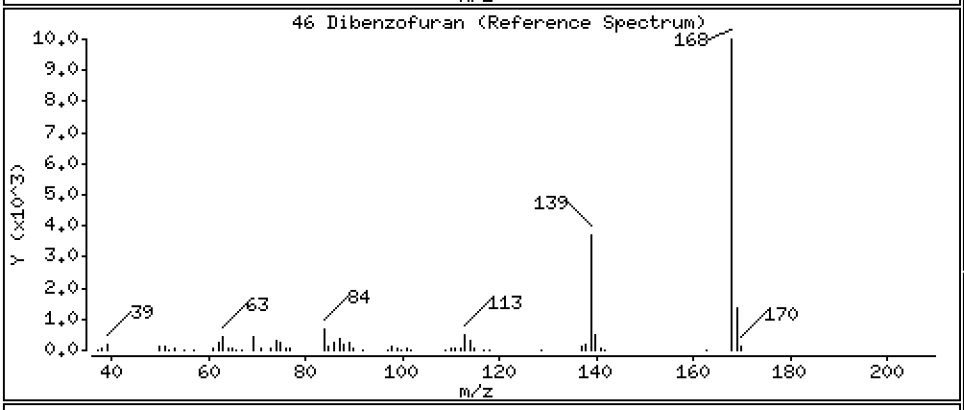
Concentration: 4.886 ug/mL

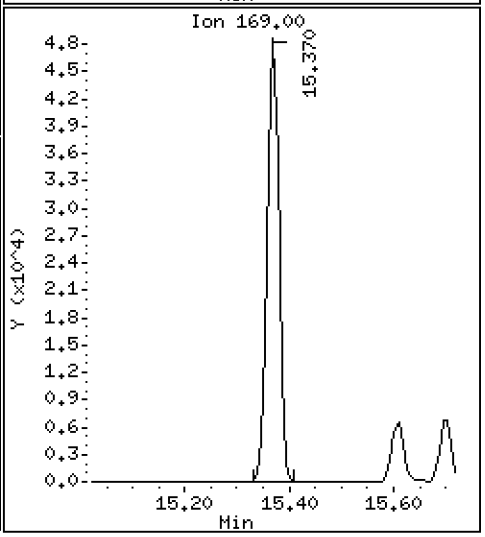


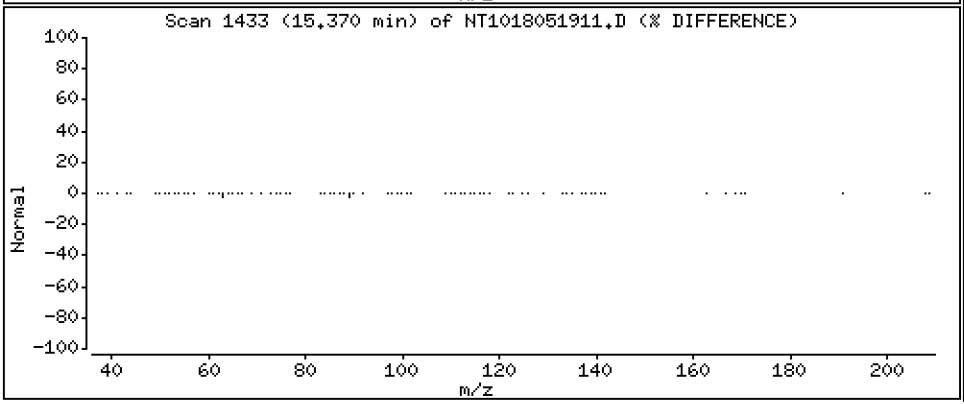












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

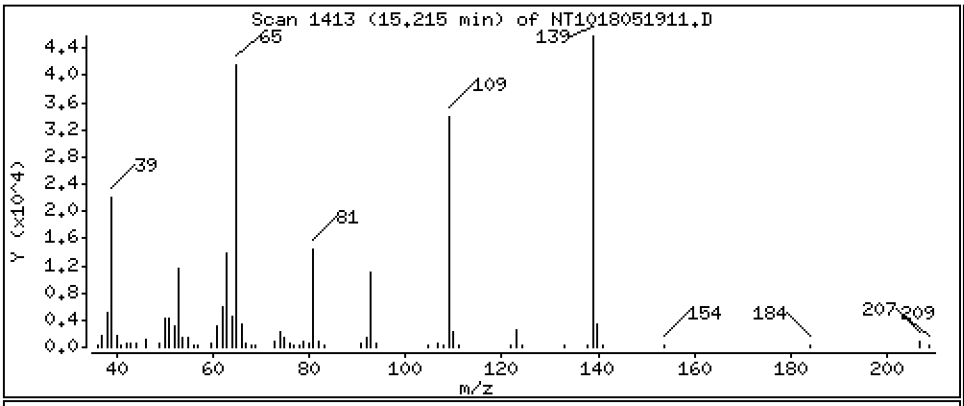
Operator: YZ

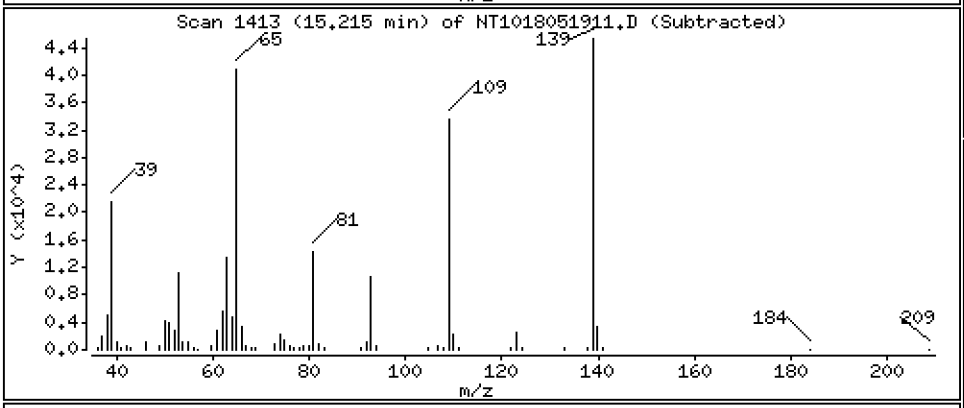
Column phase: ZB-5msi

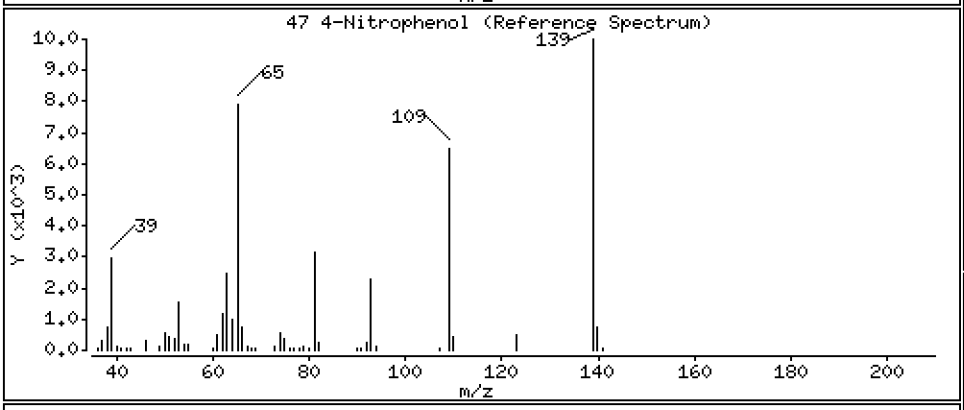
Column diameter: 0.25

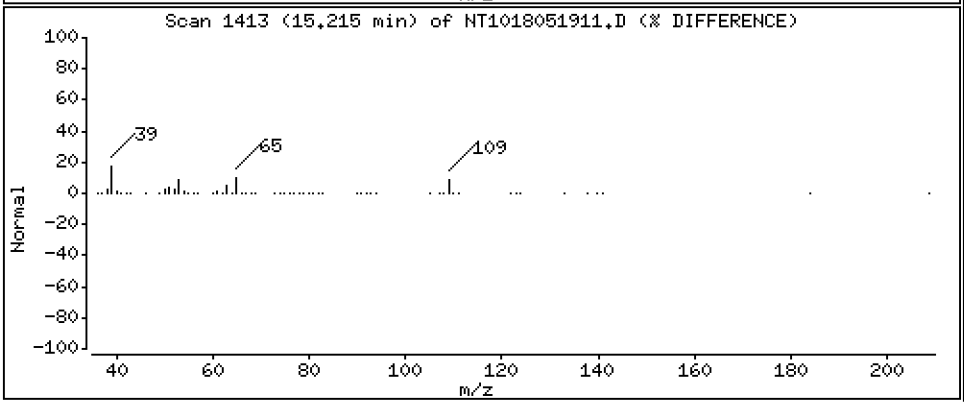
47 4-Nitrophenol

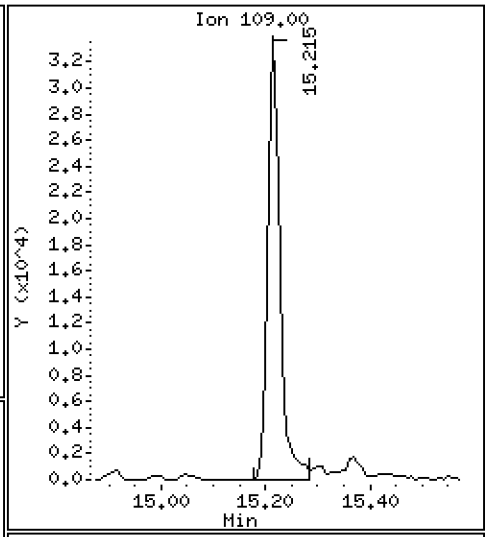
Concentration: 4.151 ug/mL

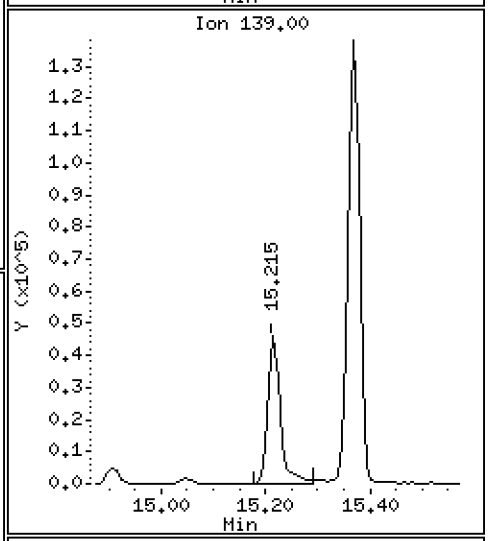


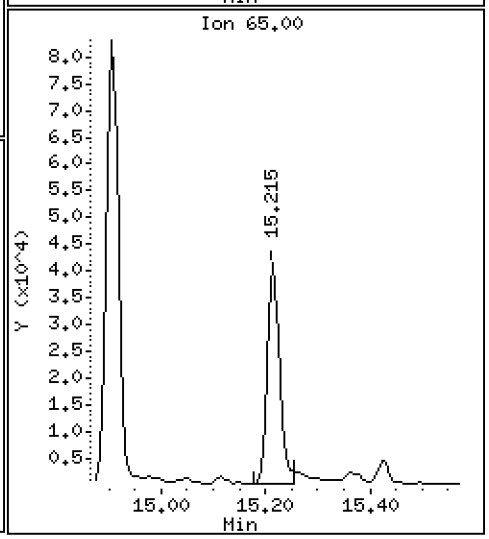












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

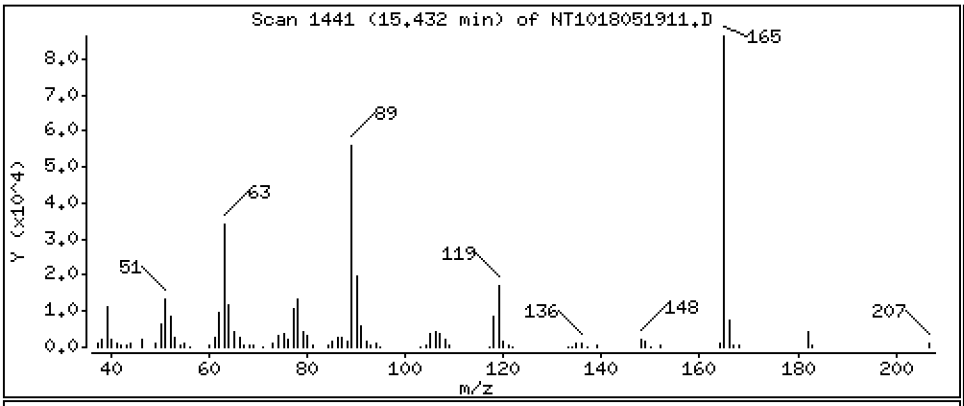
Operator: YZ

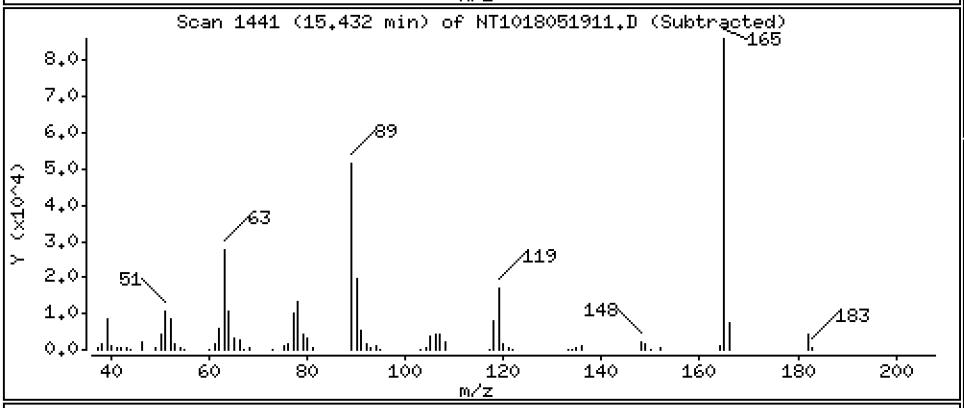
Column phase: ZB-5msi

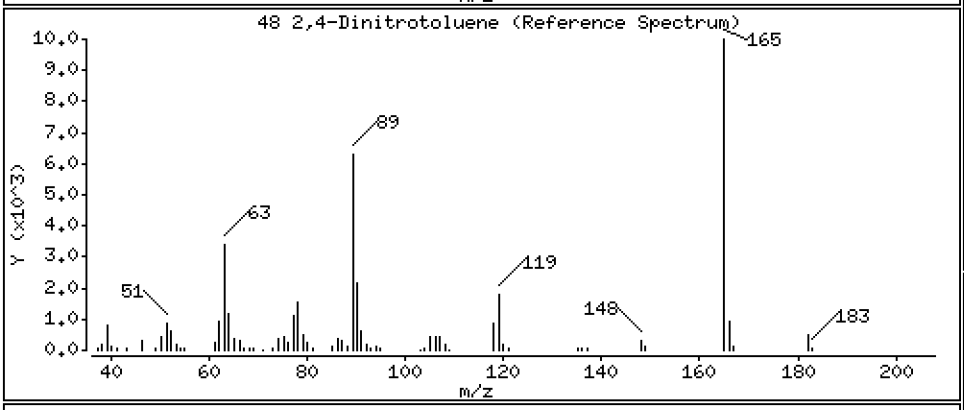
Column diameter: 0.25

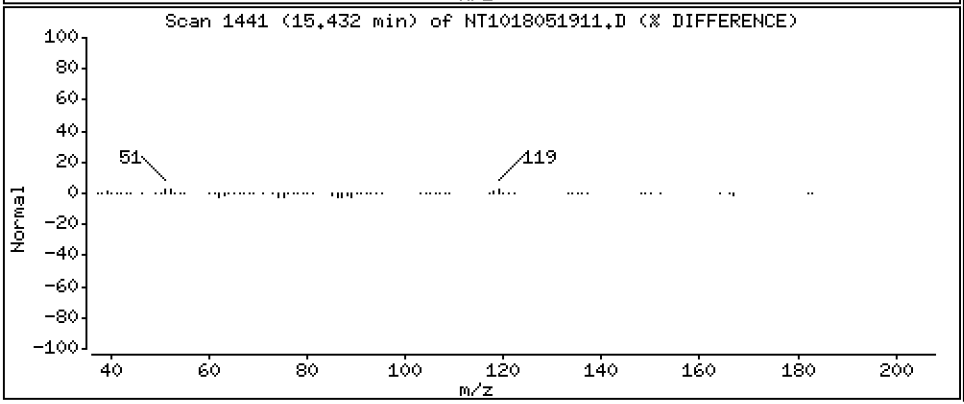
48 2,4-Dinitrotoluene

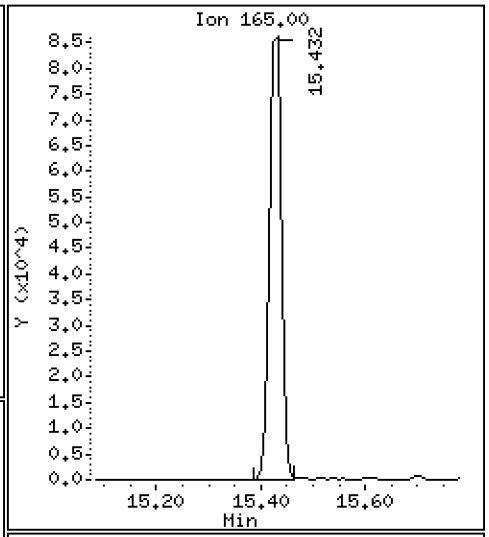
Concentration: 5.686 ug/mL

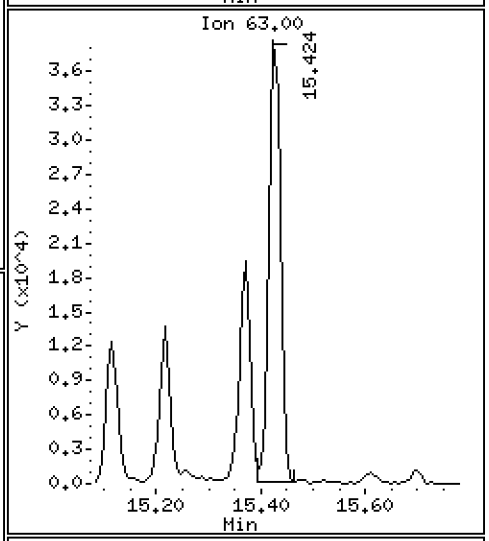


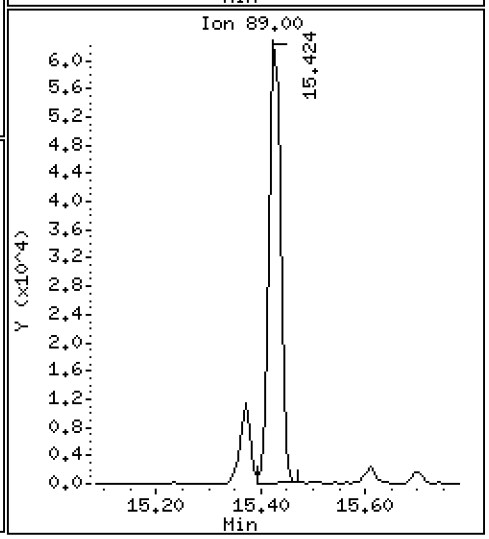












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

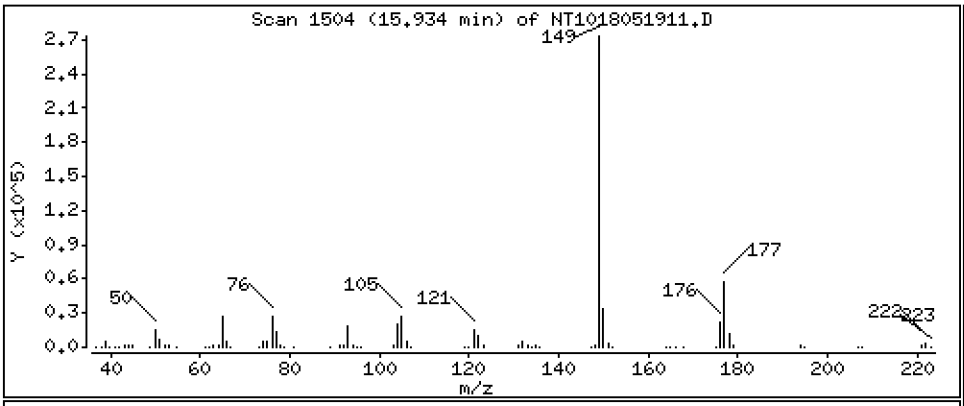
Operator: YZ

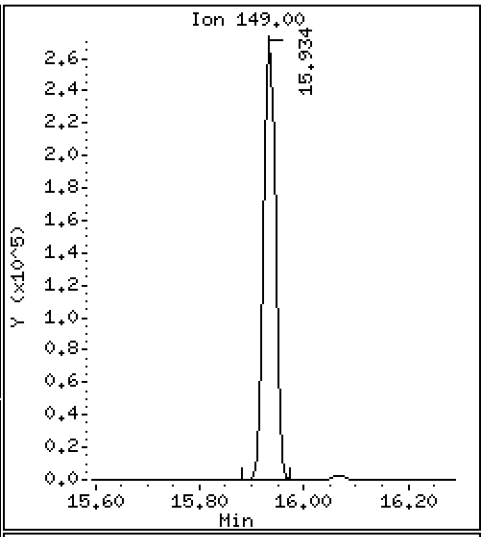
Column phase: ZB-5msi

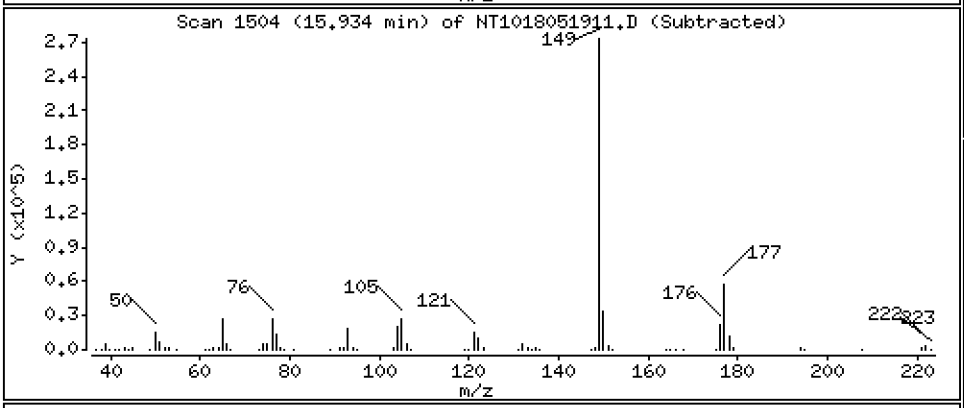
Column diameter: 0.25

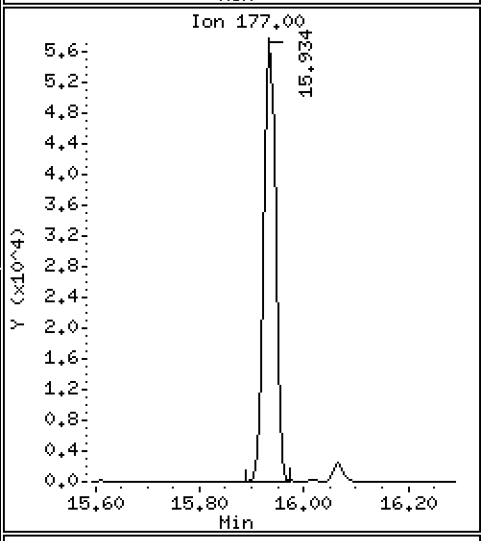
50 Diethylphthalate

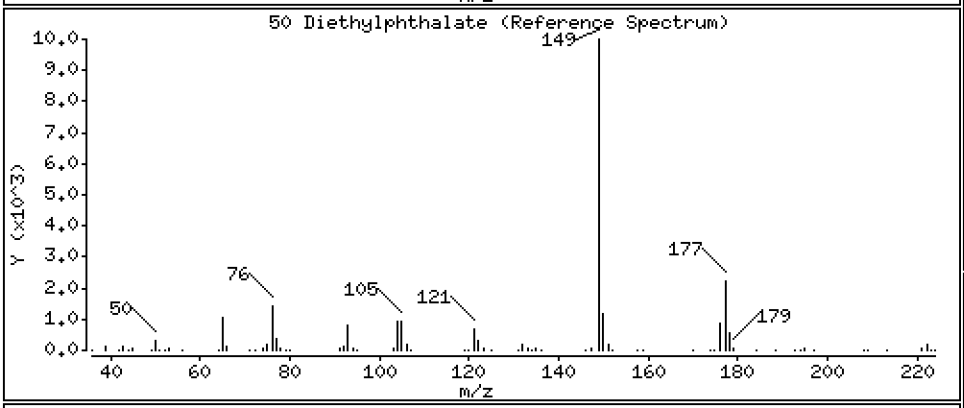
Concentration: 4.831 ug/mL

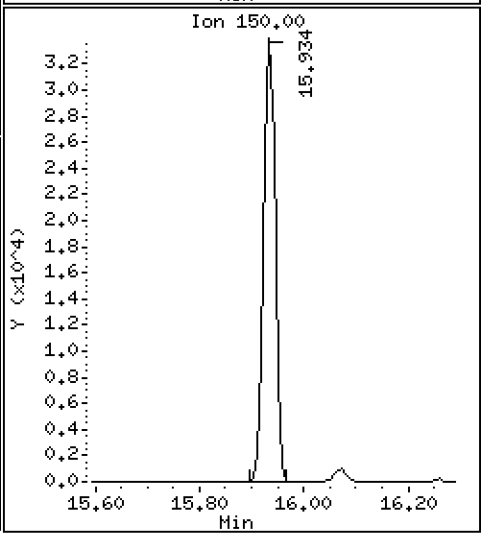


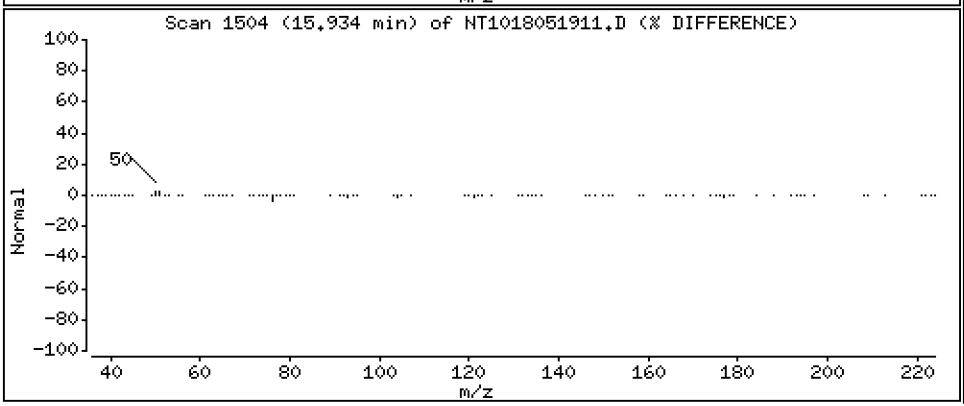












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

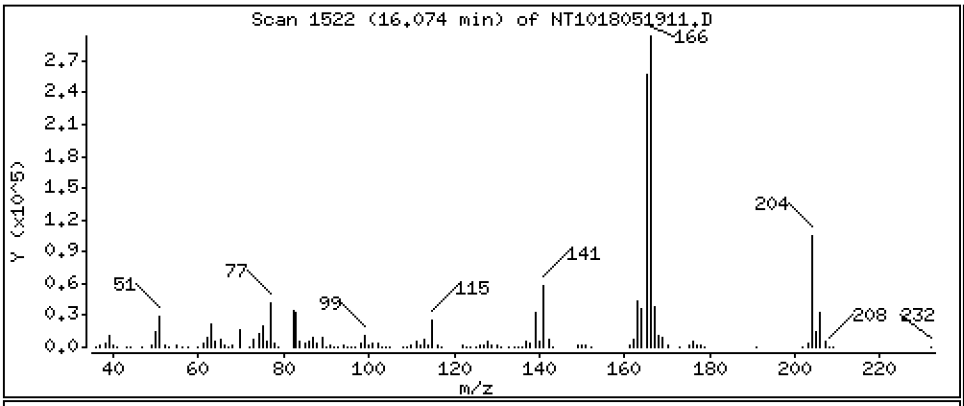
Operator: YZ

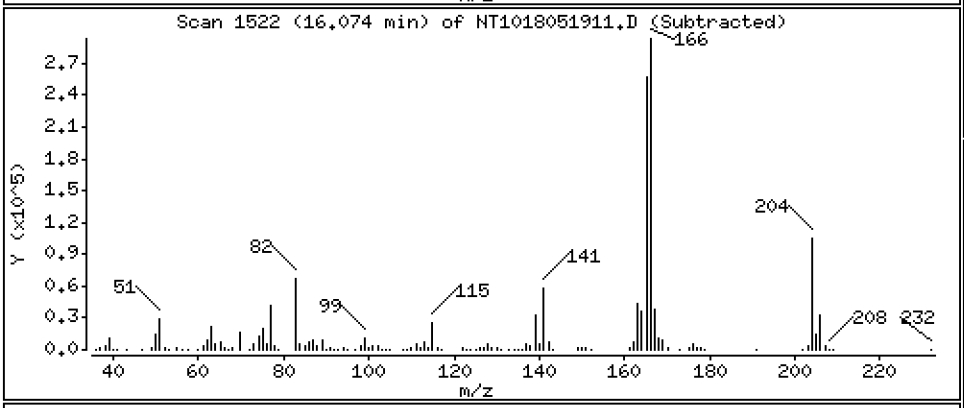
Column phase: ZB-5msi

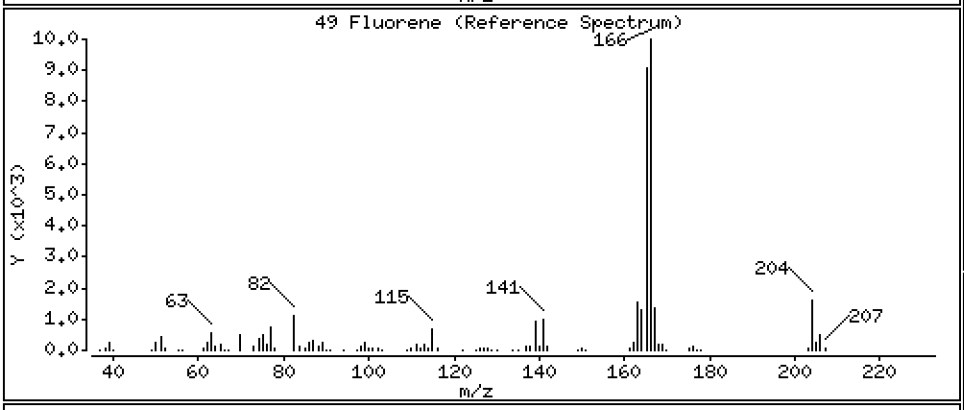
Column diameter: 0.25

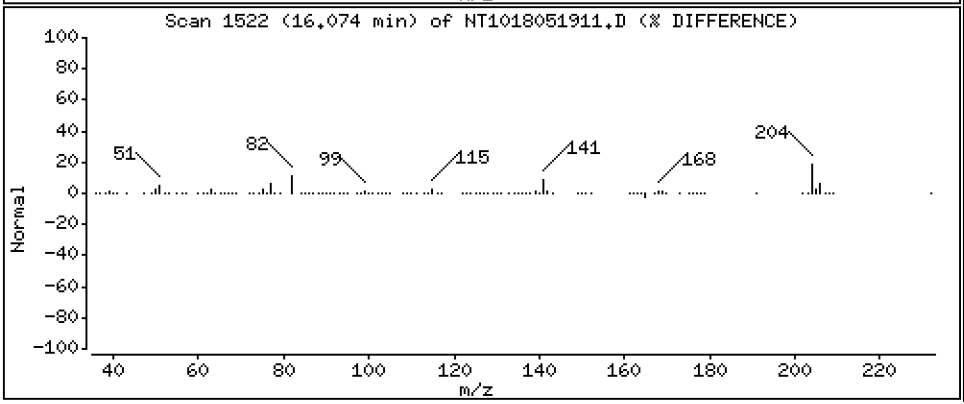
49 Fluorene

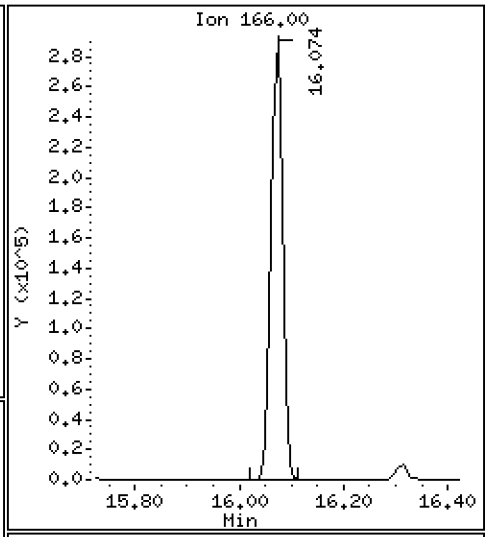
Concentration: 5.002 ug/mL

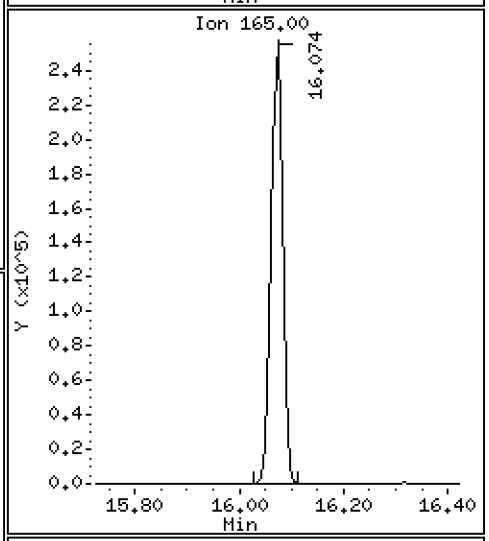


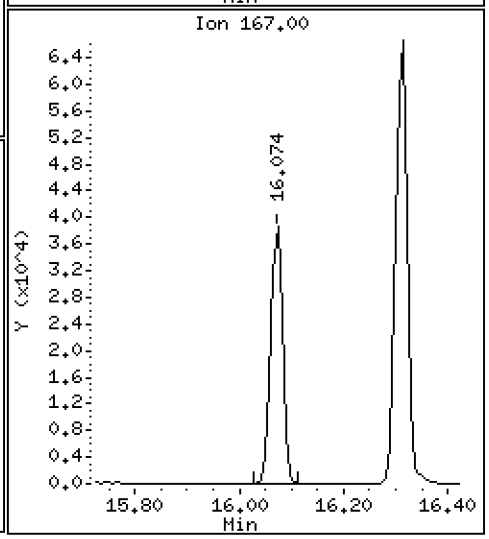












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

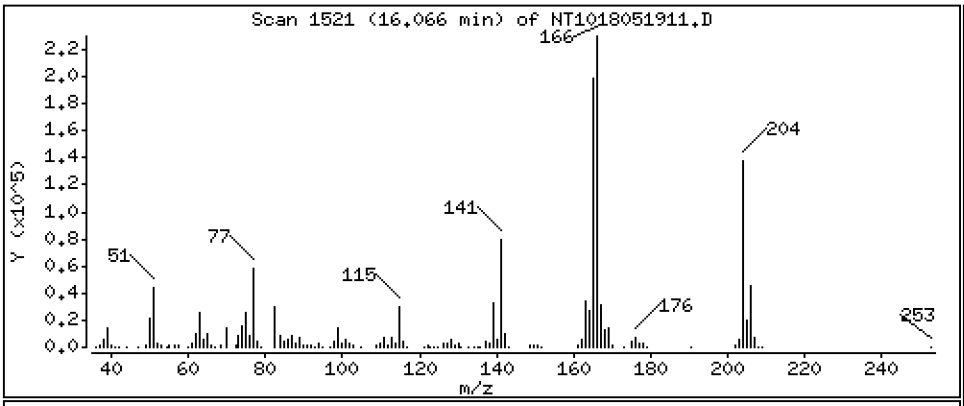
Operator: YZ

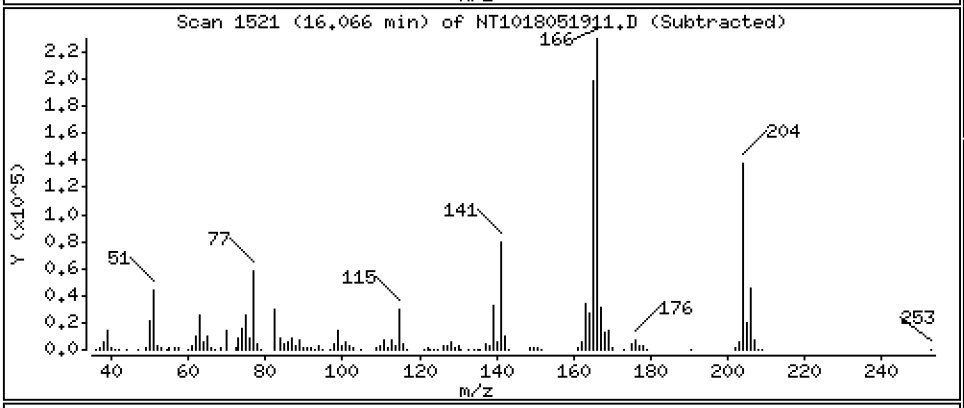
Column phase: ZB-5msi

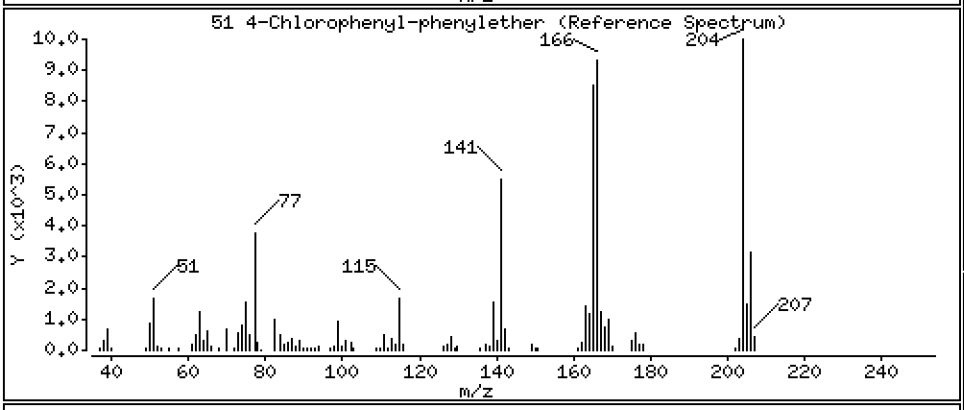
Column diameter: 0.25

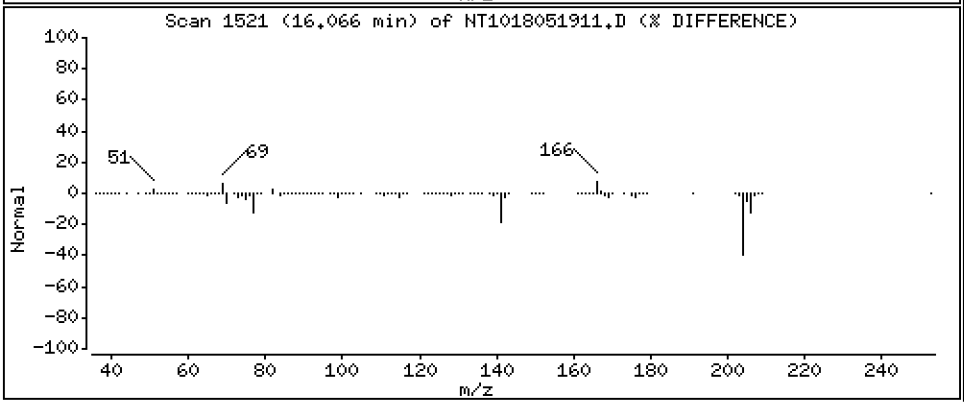
51 4-Chlorophenyl-phenylether

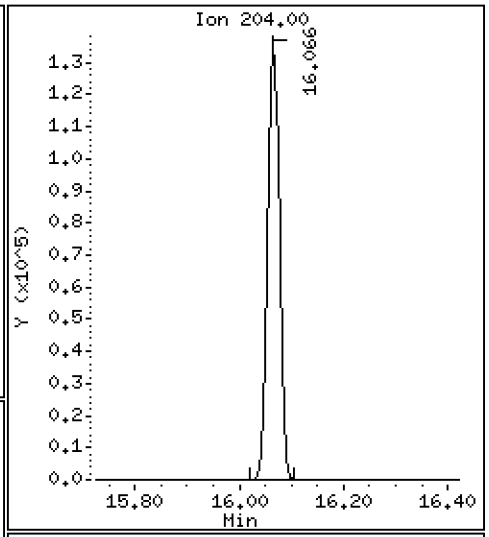
Concentration: 4.817 ug/mL

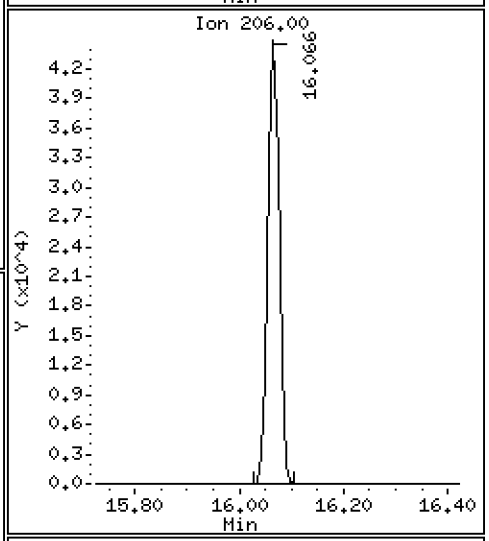


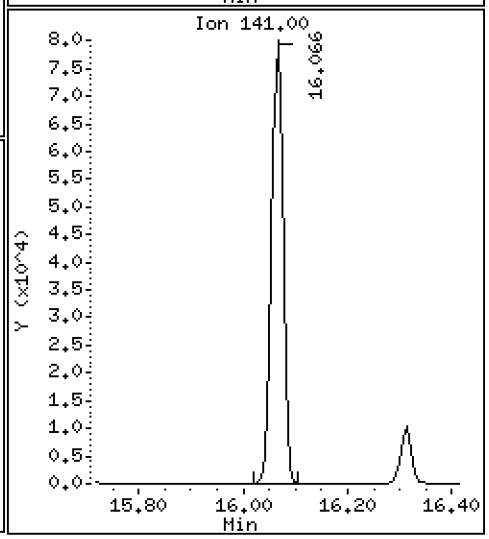












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

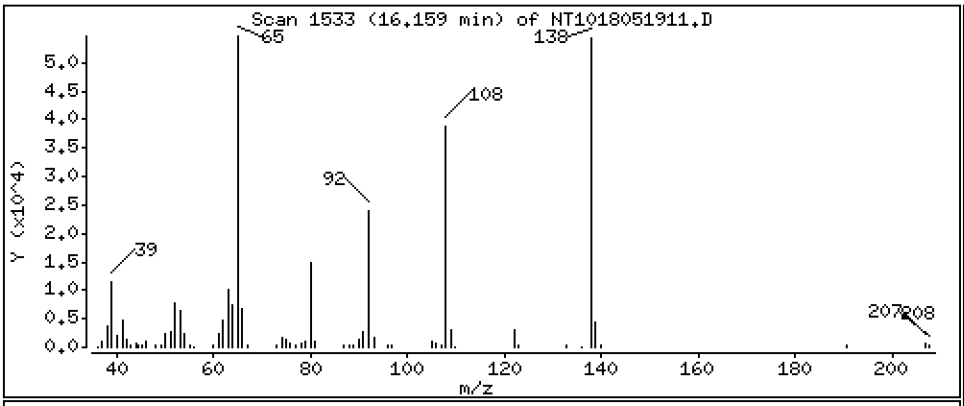
Operator: YZ

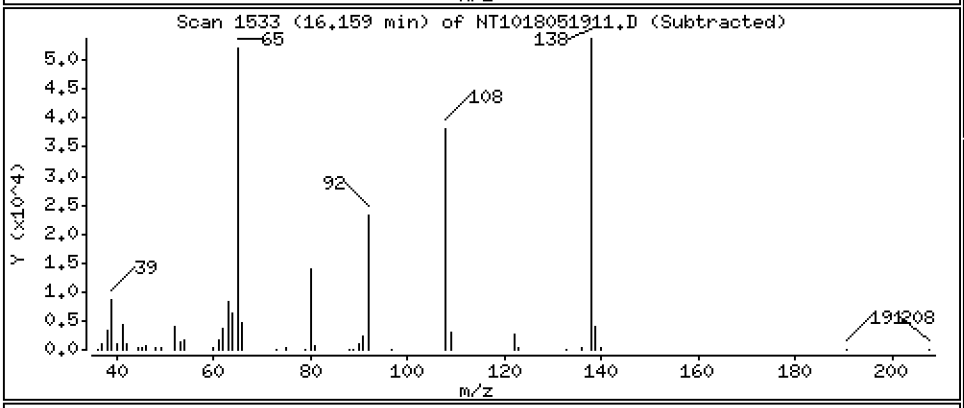
Column phase: ZB-5msi

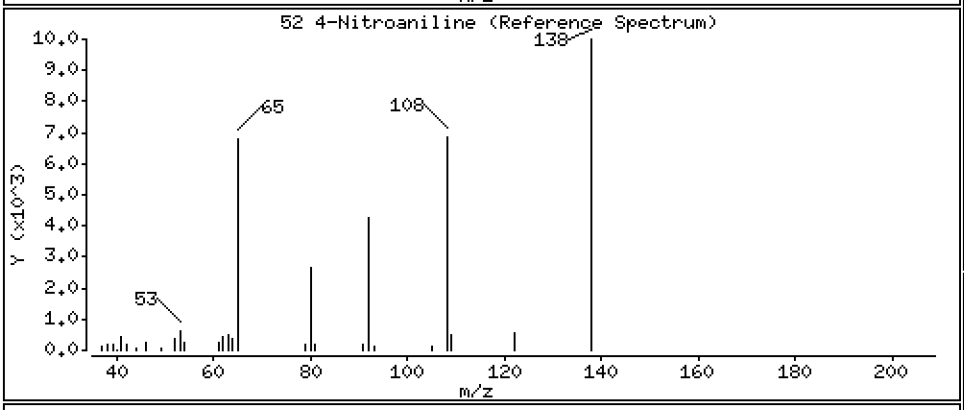
Column diameter: 0.25

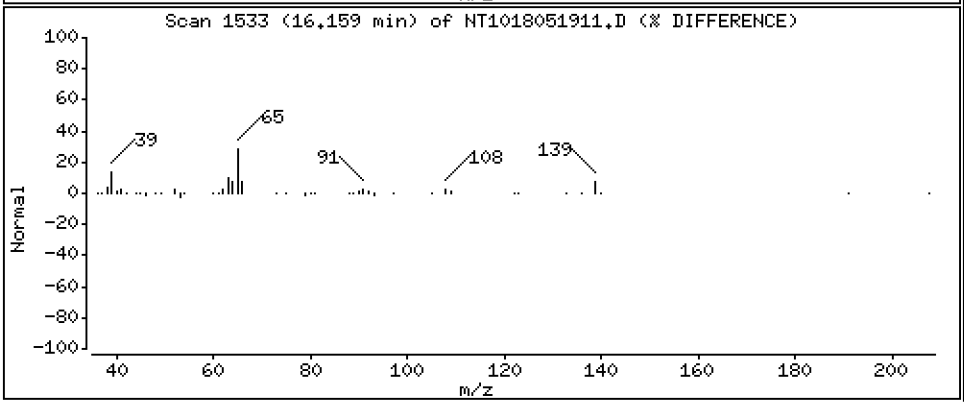
52 4-Nitroaniline

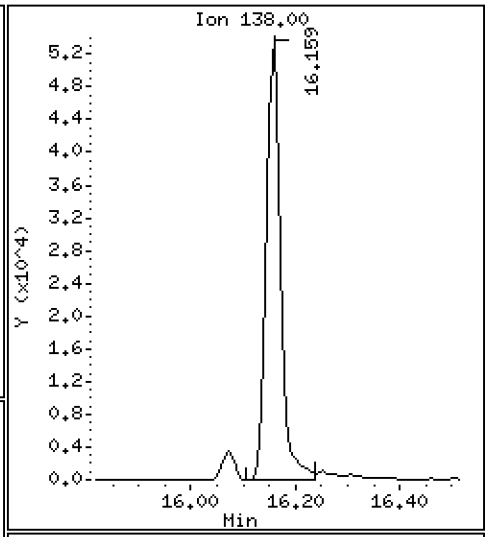
Concentration: 5.464 ug/mL

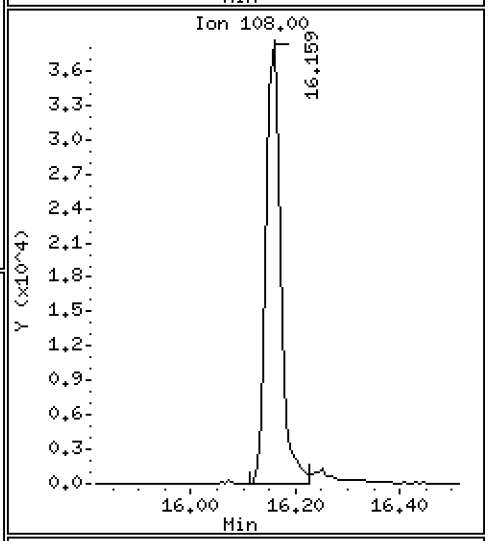


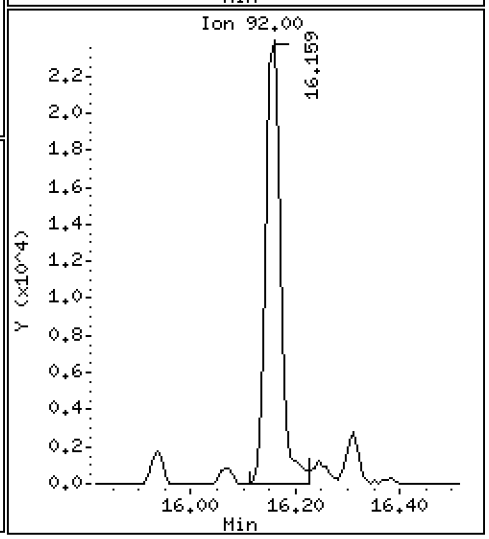












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

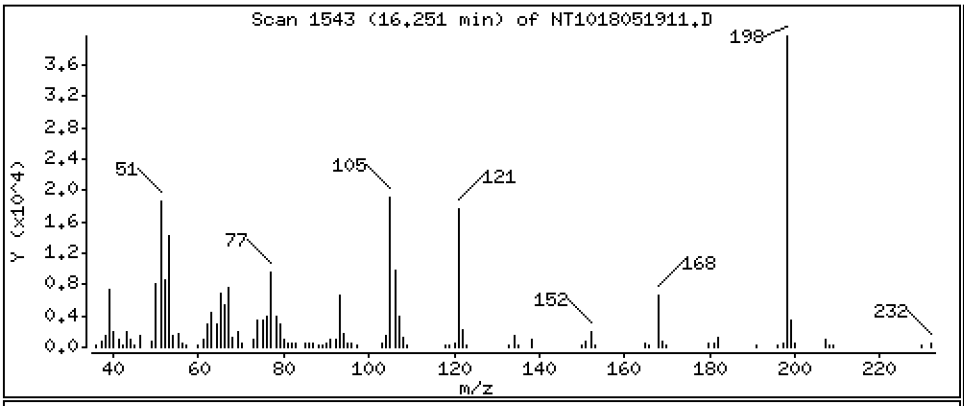
Operator: YZ

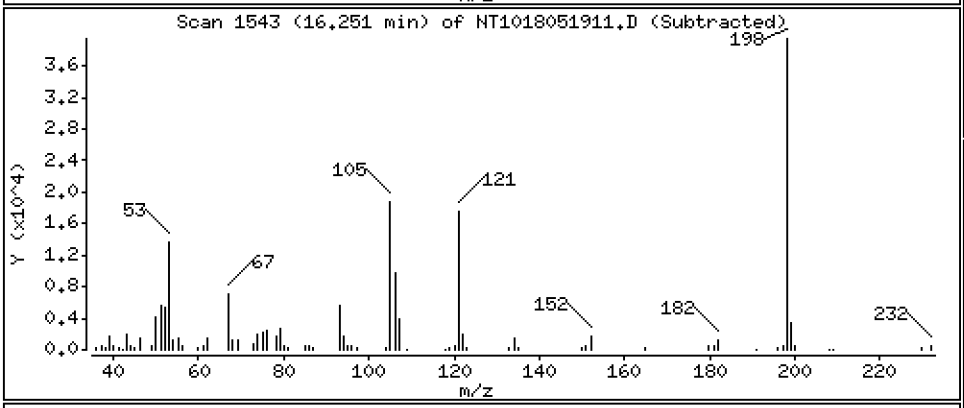
Column phase: ZB-5msi

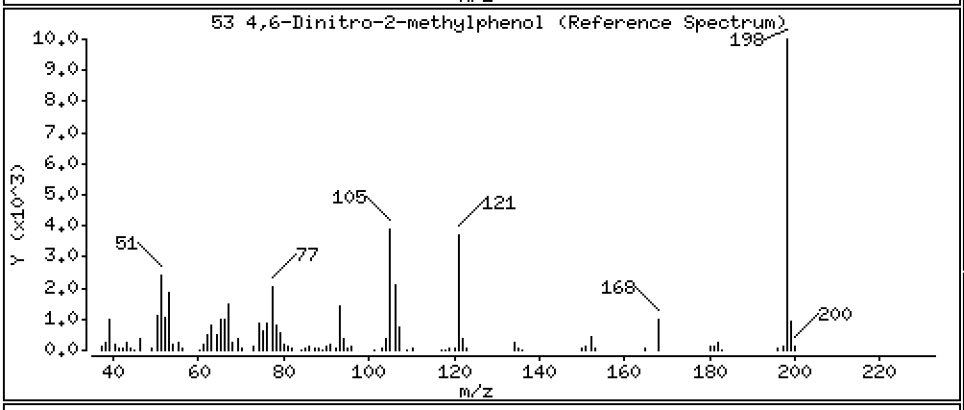
Column diameter: 0.25

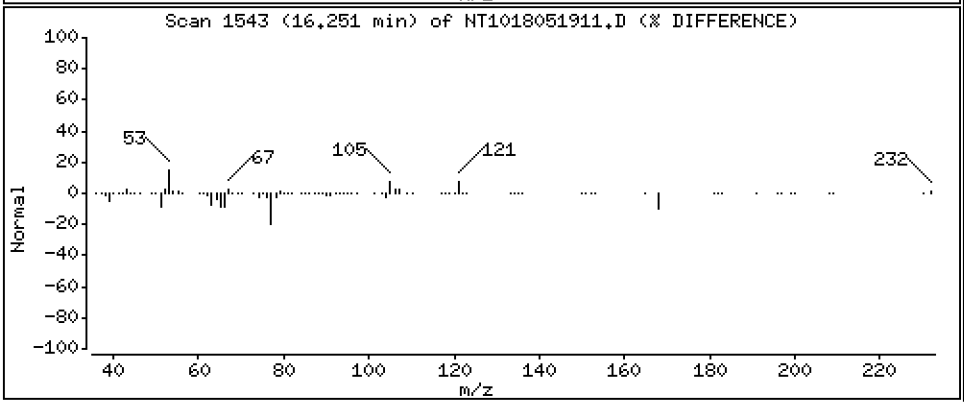
53 4,6-Dinitro-2-methylphenol

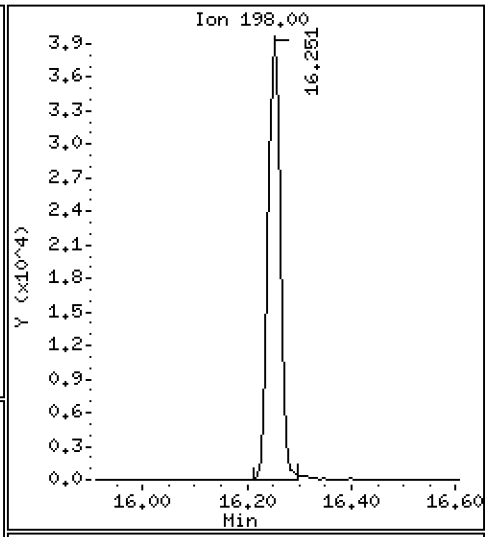
Concentration: 3.462 ug/mL

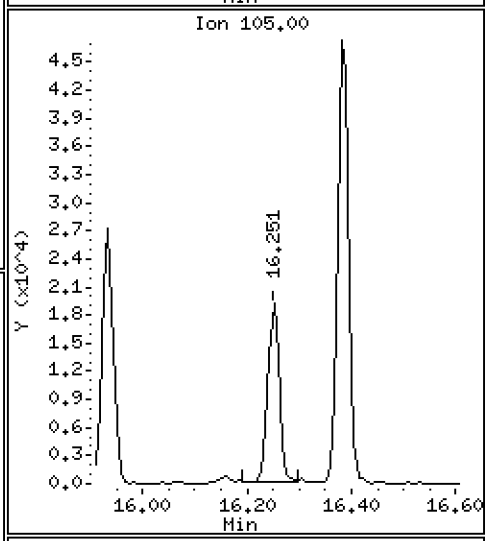


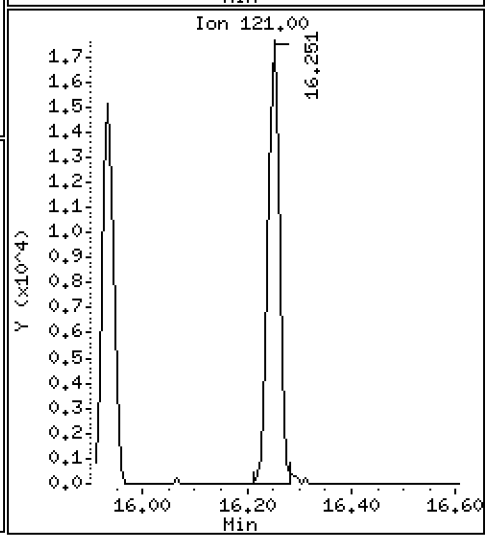












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

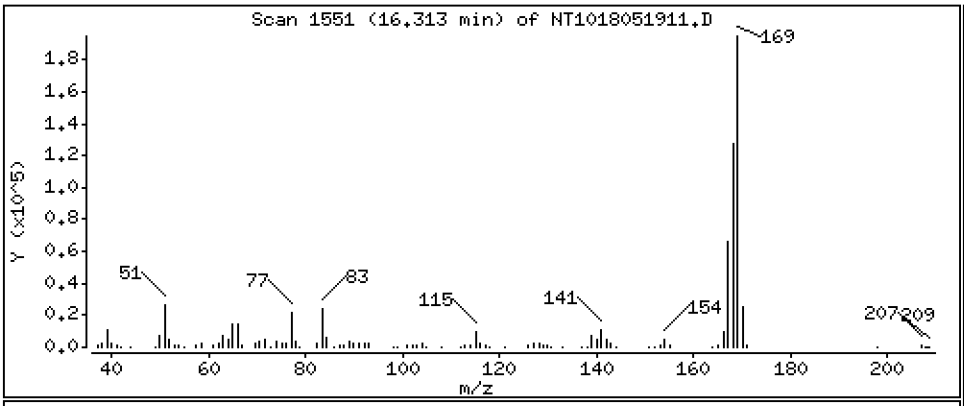
Operator: YZ

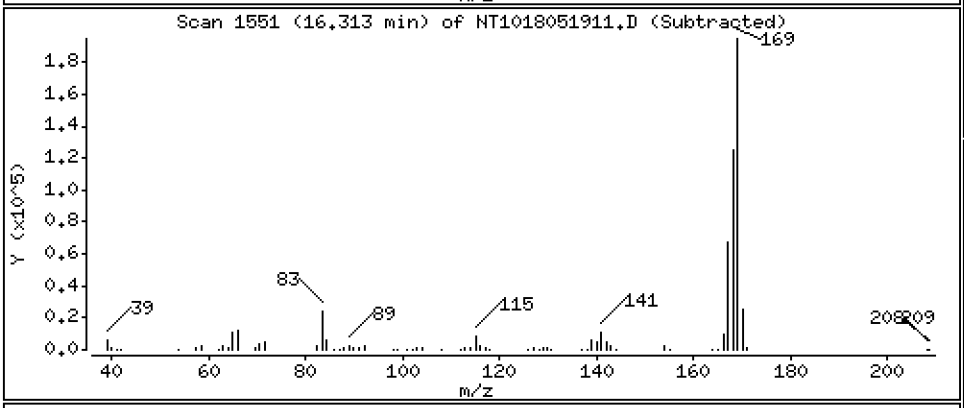
Column phase: ZB-5msi

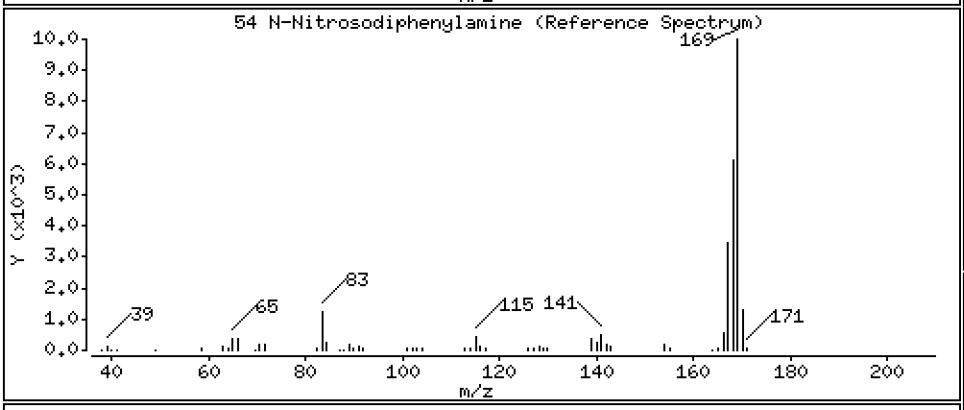
Column diameter: 0.25

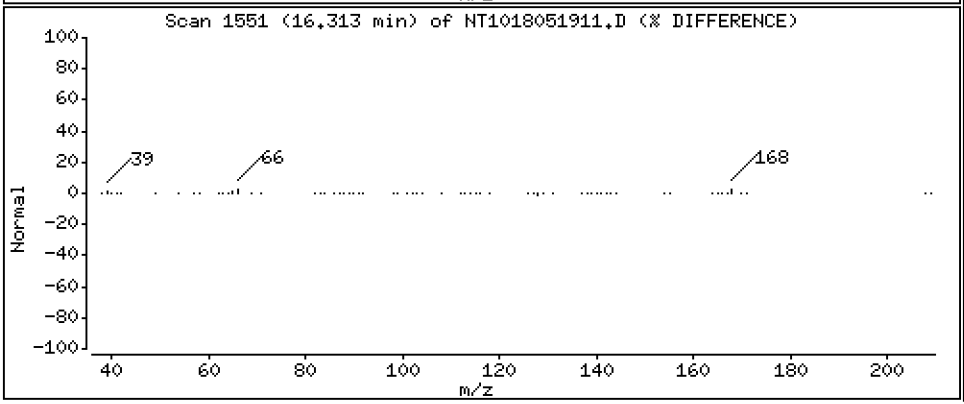
54 N-Nitrosodiphenylamine

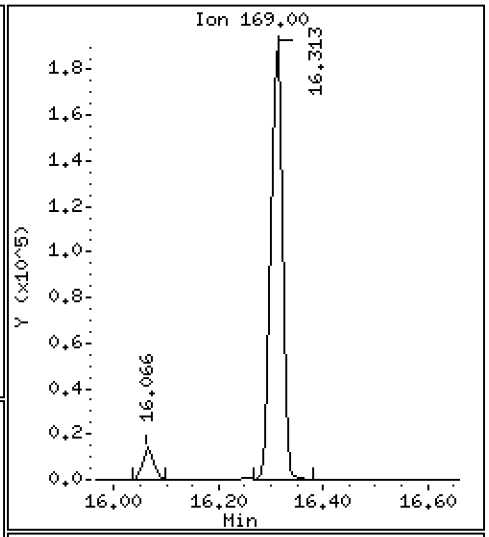
Concentration: 5.227 ug/mL

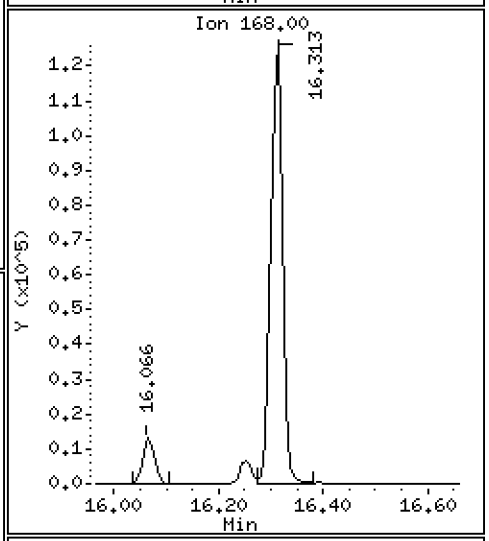


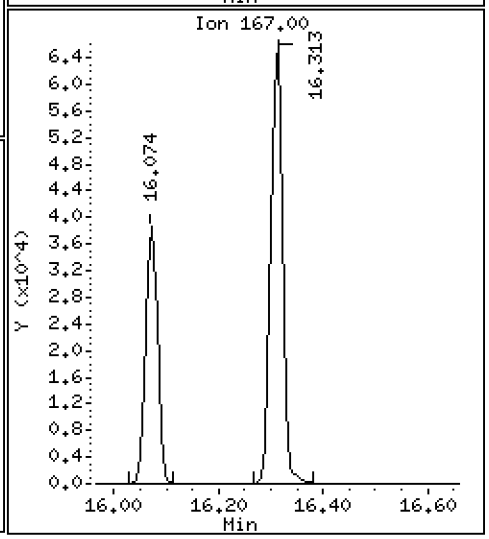












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

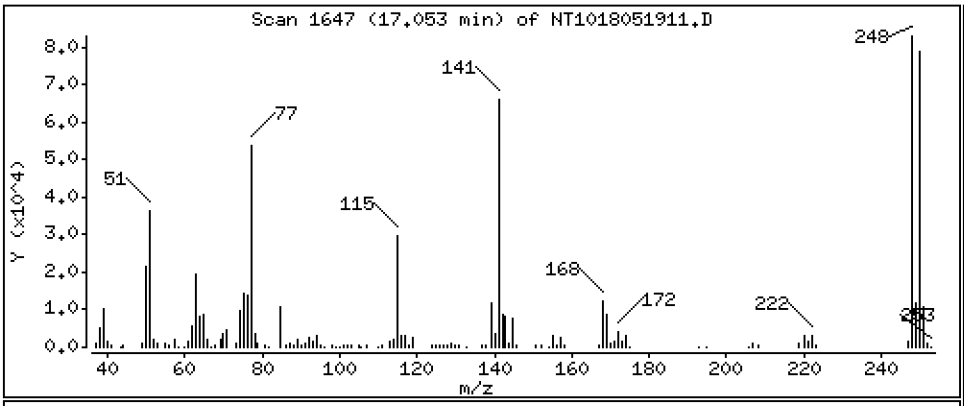
Operator: YZ

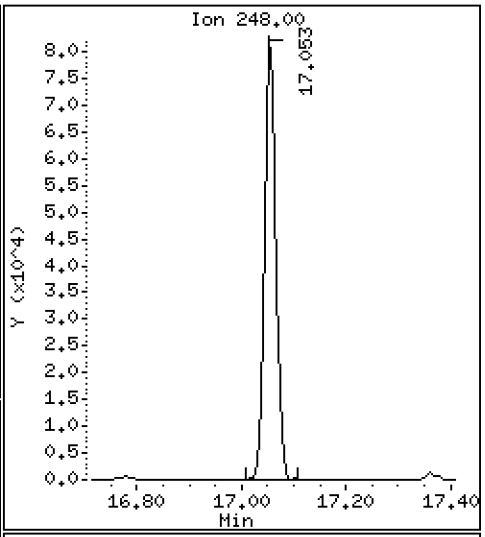
Column phase: ZB-5msi

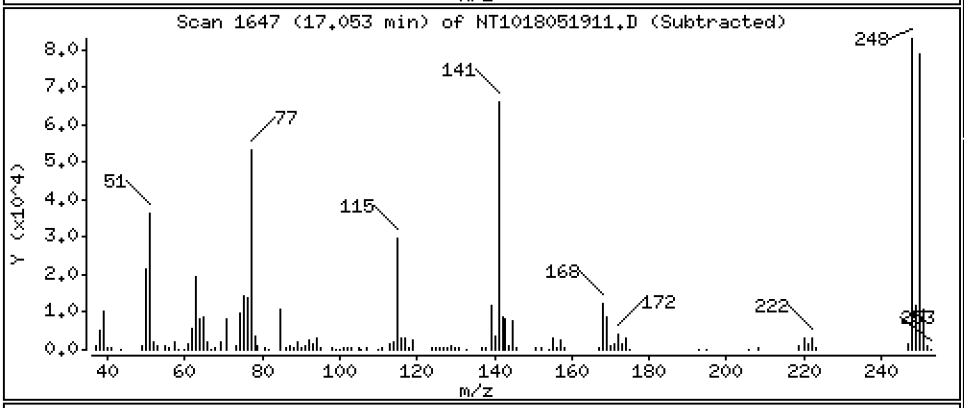
Column diameter: 0.25

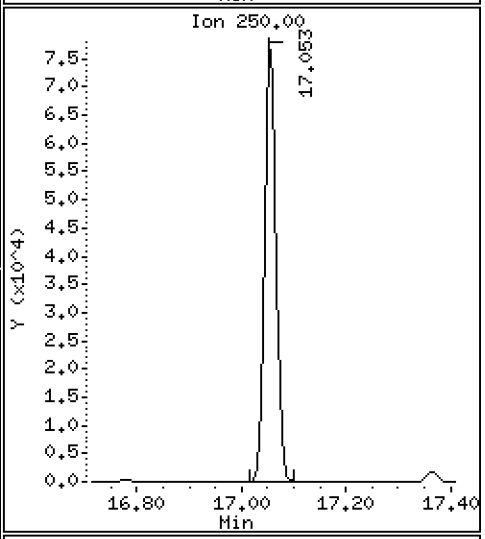
56 4-Bromophenyl-phenylether

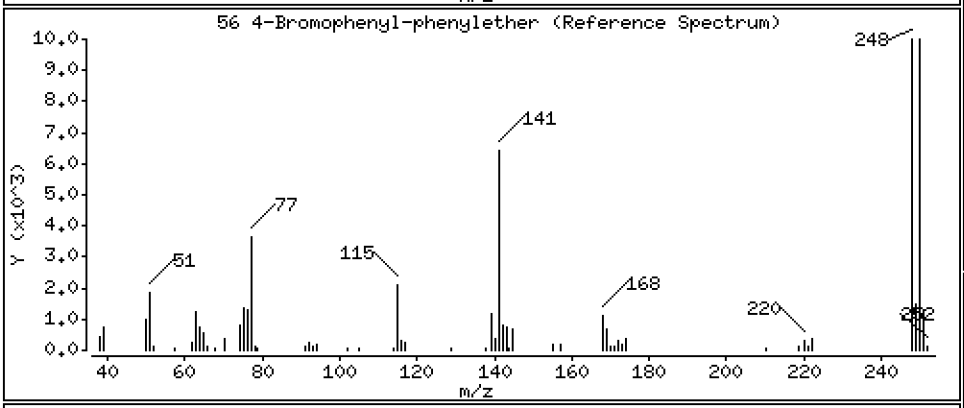
Concentration: 4.988 ug/mL

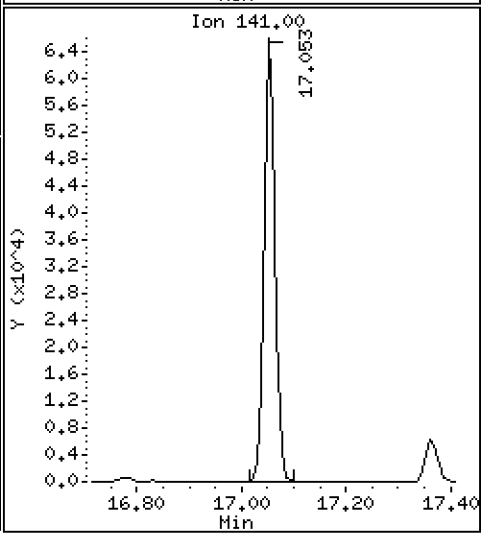


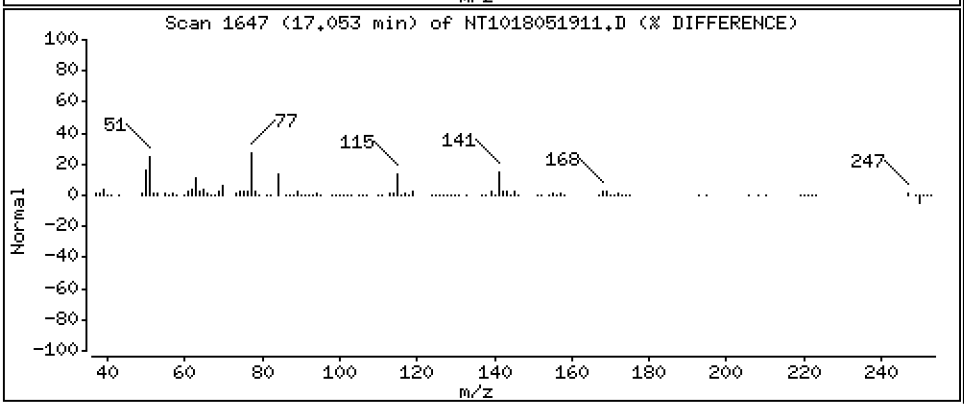












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

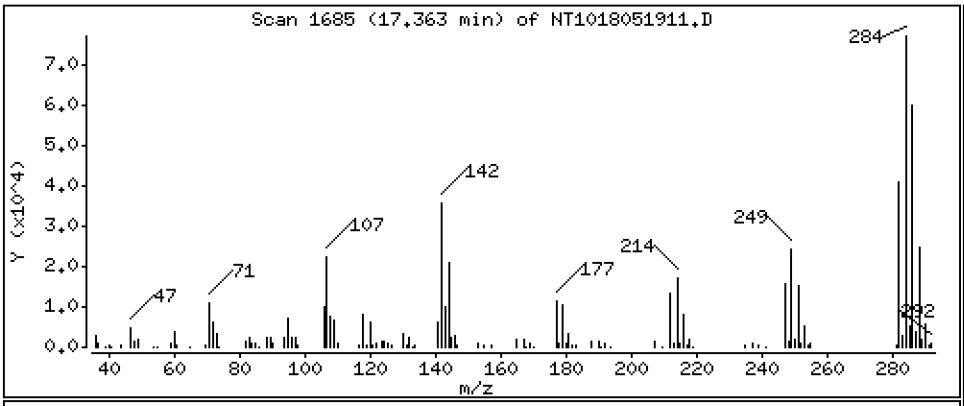
Operator: YZ

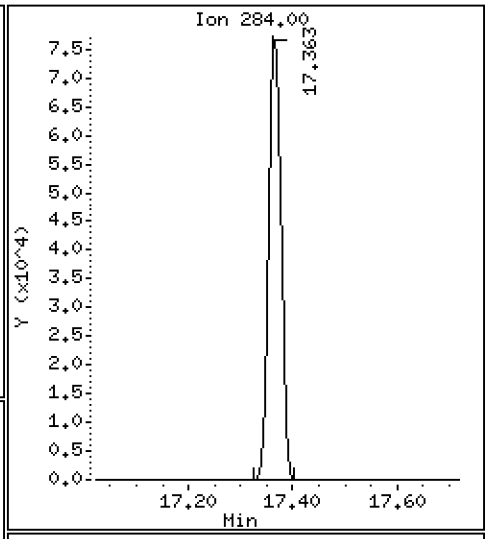
Column phase: ZB-5msi

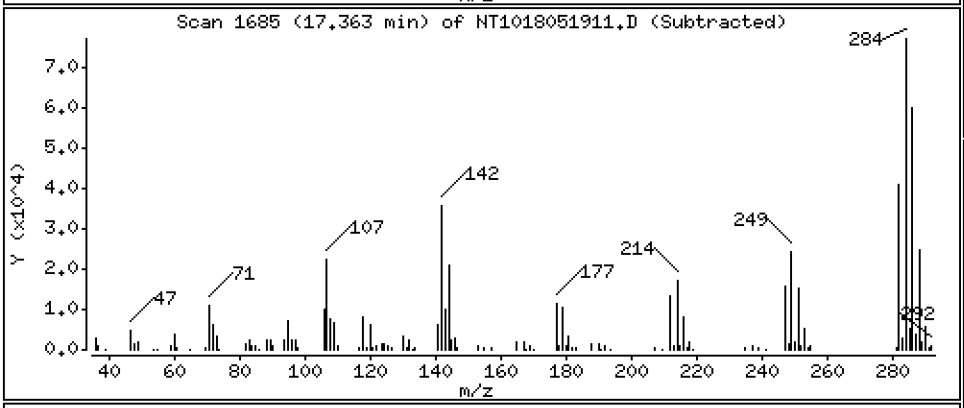
Column diameter: 0.25

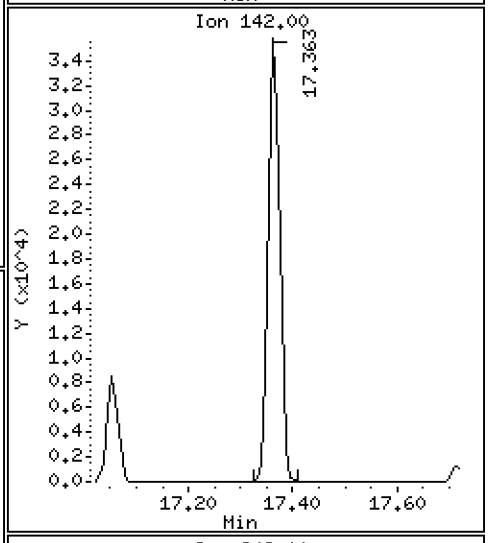
57 Hexachlorobenzene

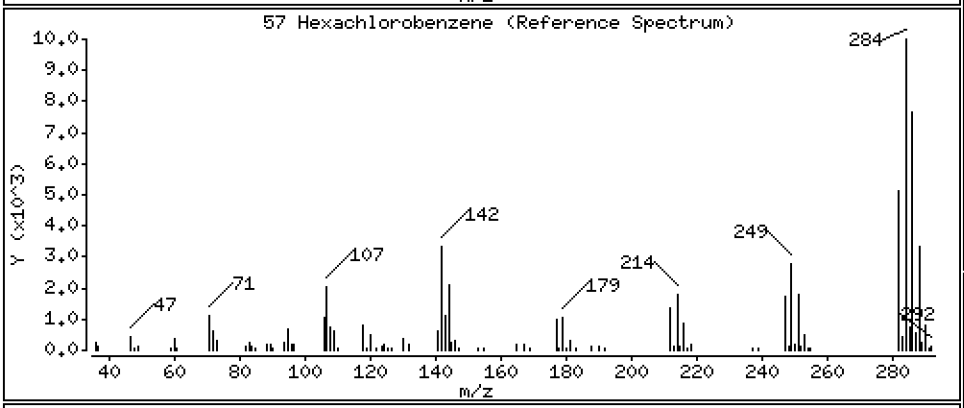
Concentration: 5.196 ug/mL

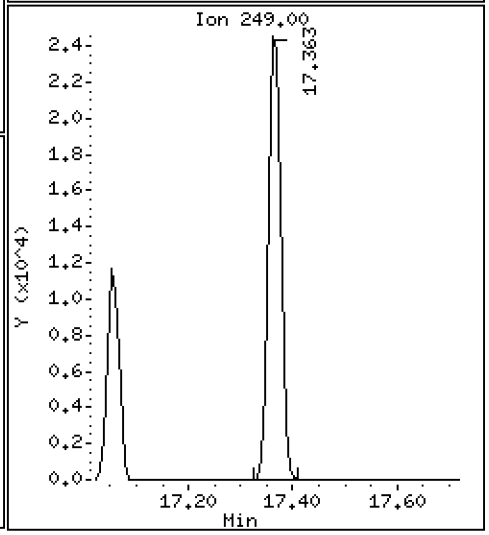


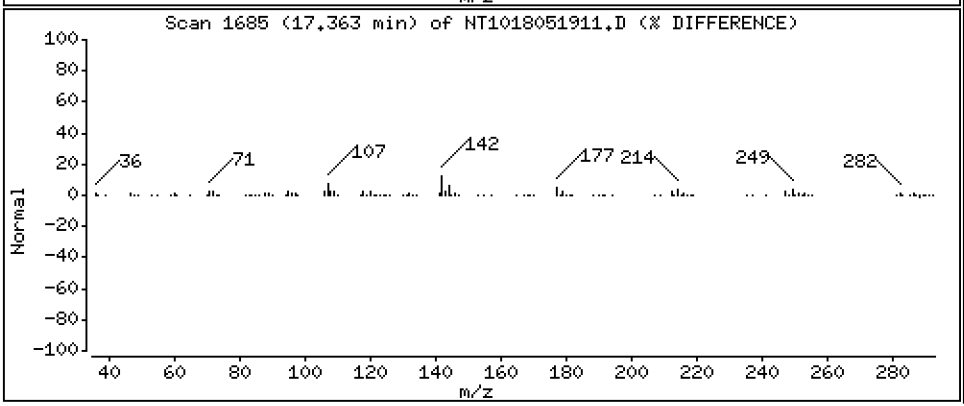












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

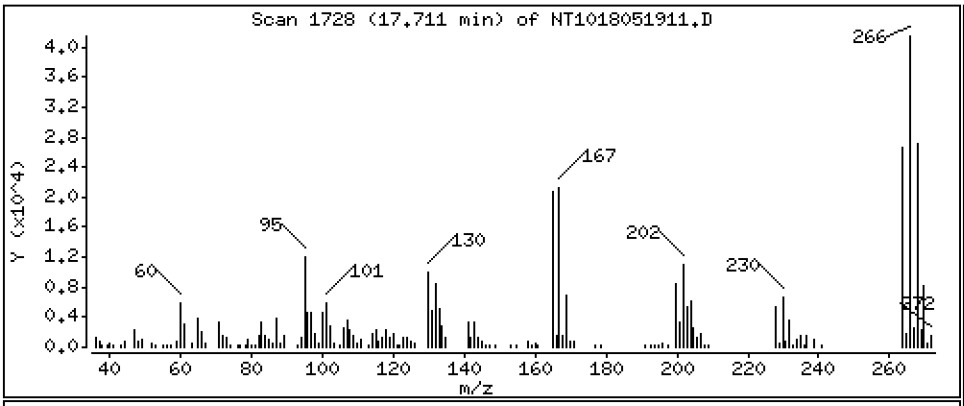
Operator: YZ

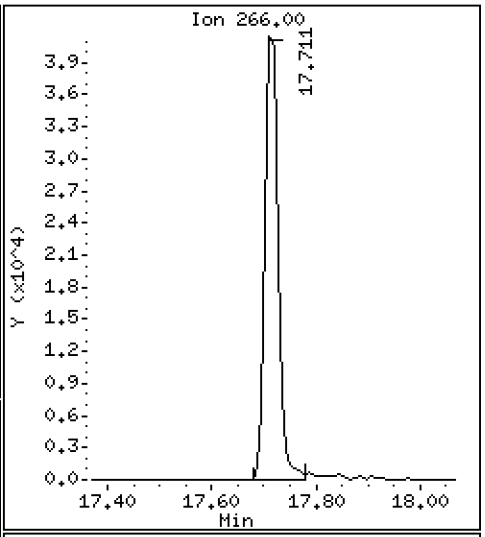
Column phase: ZB-5msi

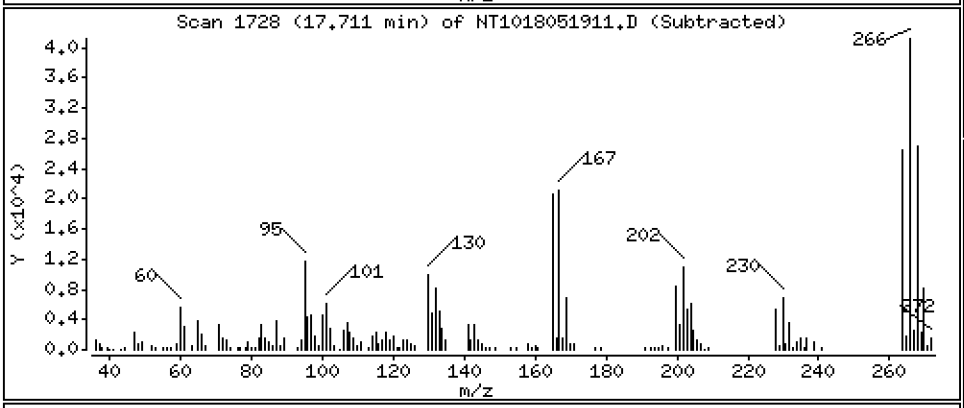
Column diameter: 0.25

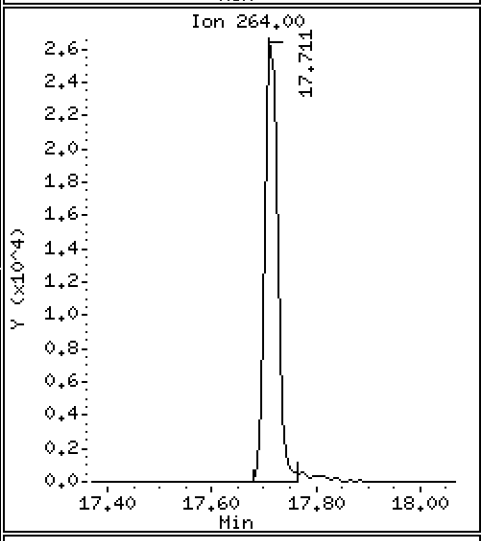
58 Pentachlorophenol

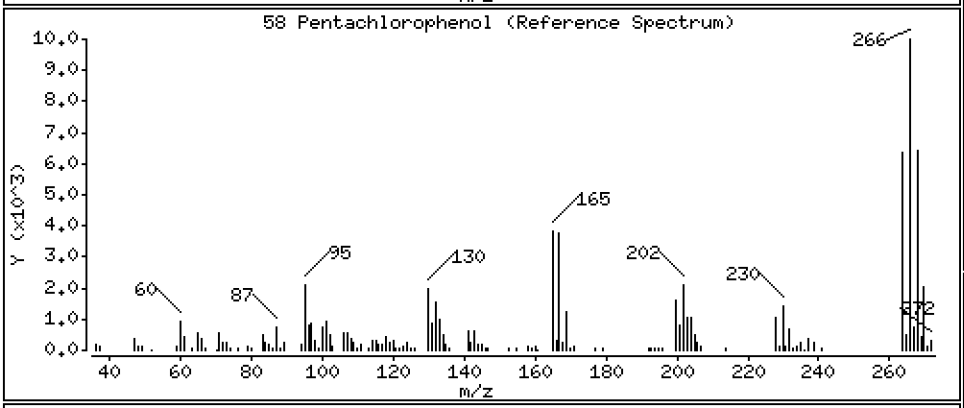
Concentration: 4.992 ug/mL

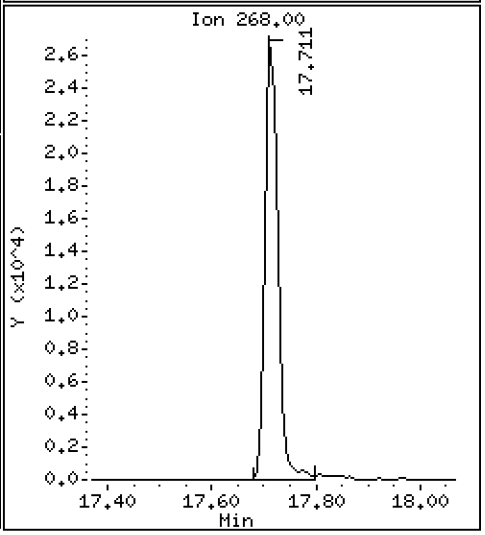


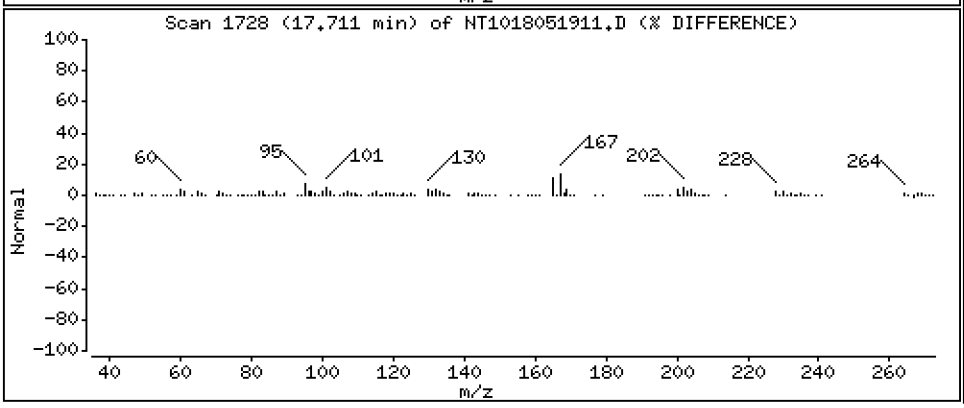












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

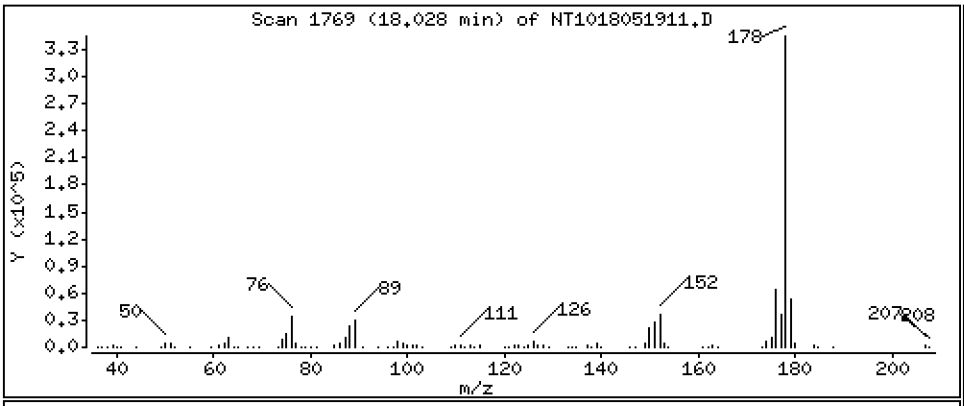
Operator: YZ

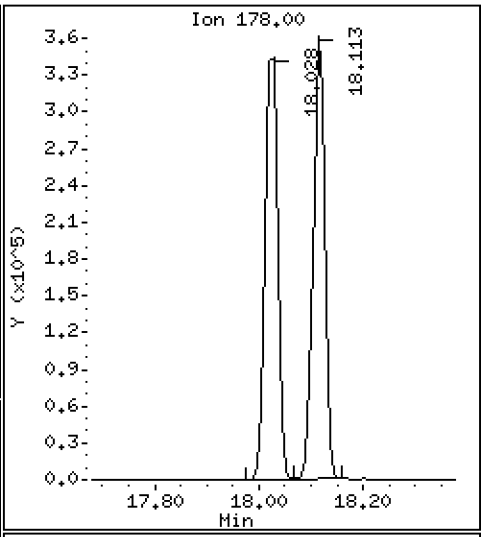
Column phase: ZB-5msi

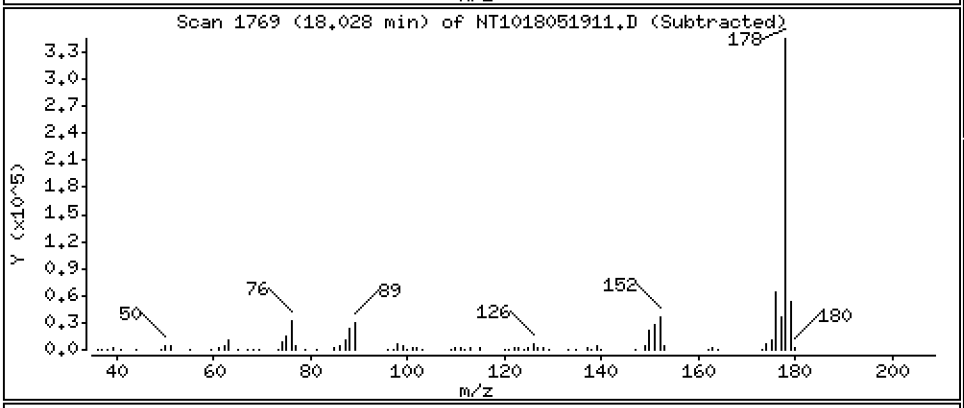
Column diameter: 0.25

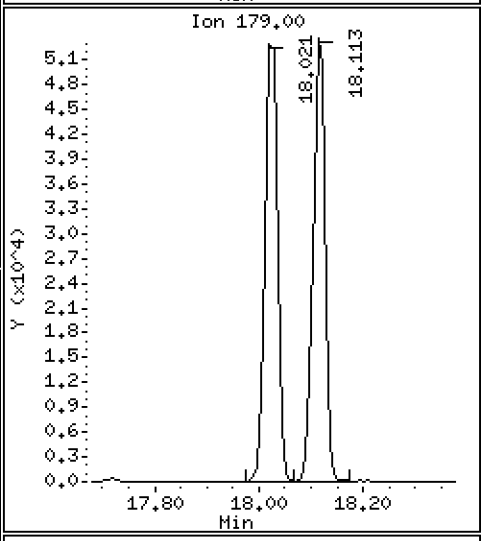
60 Phenanthrene

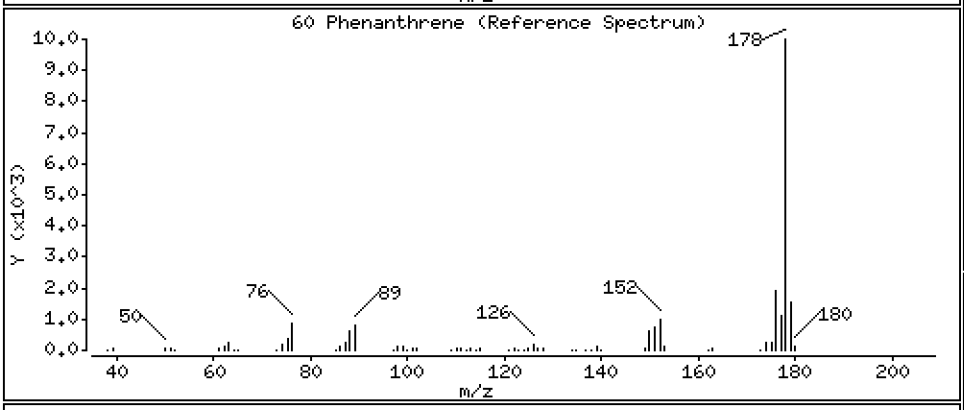
Concentration: 5.088 ug/mL

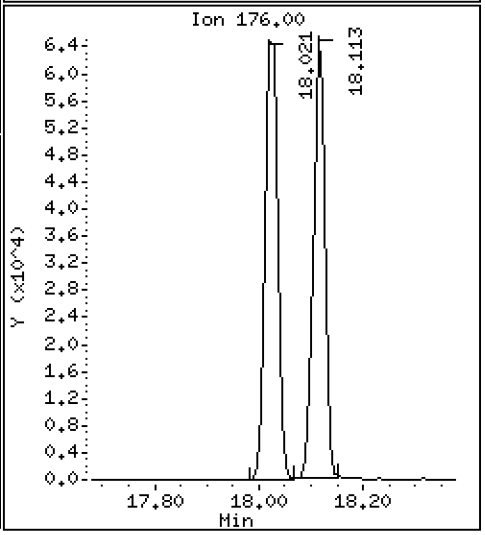


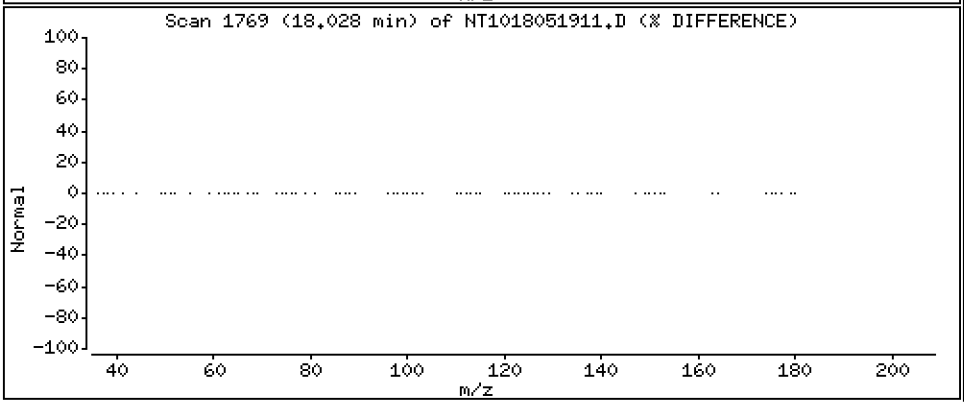












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

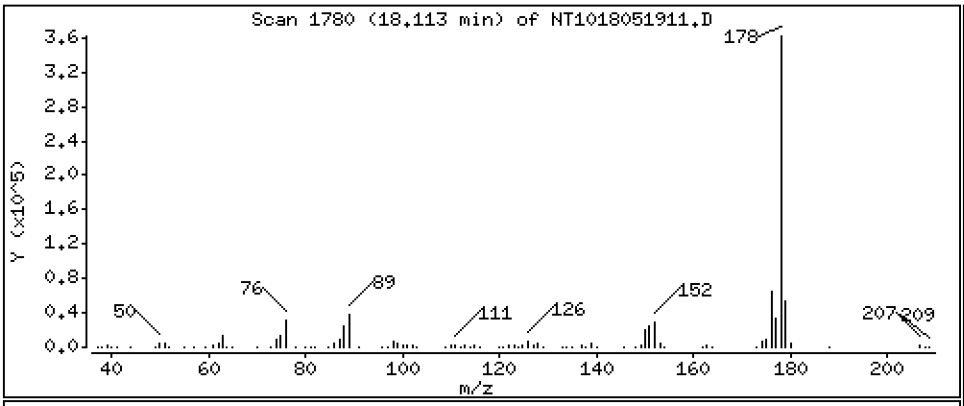
Operator: YZ

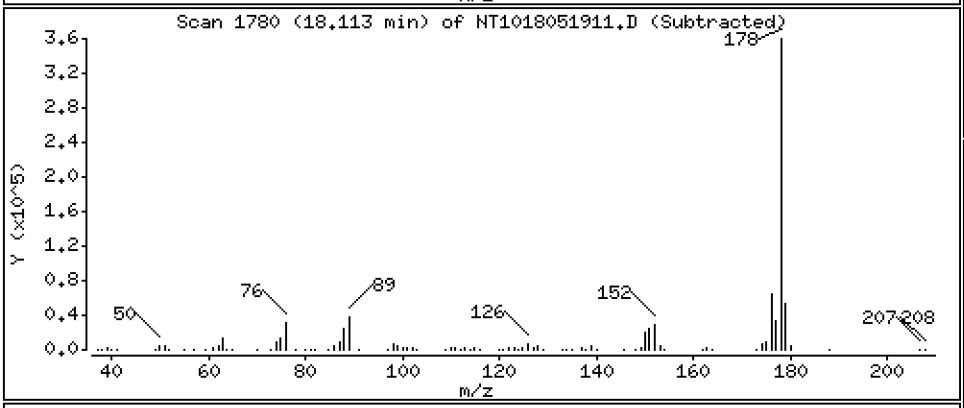
Column phase: ZB-5msi

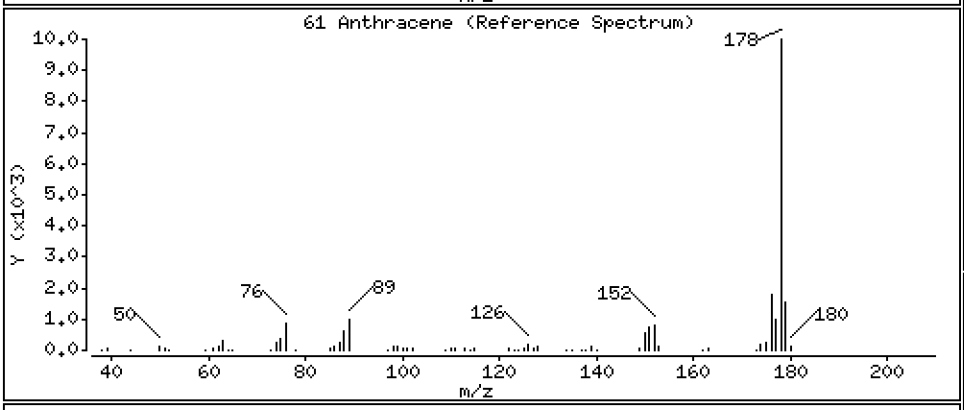
Column diameter: 0.25

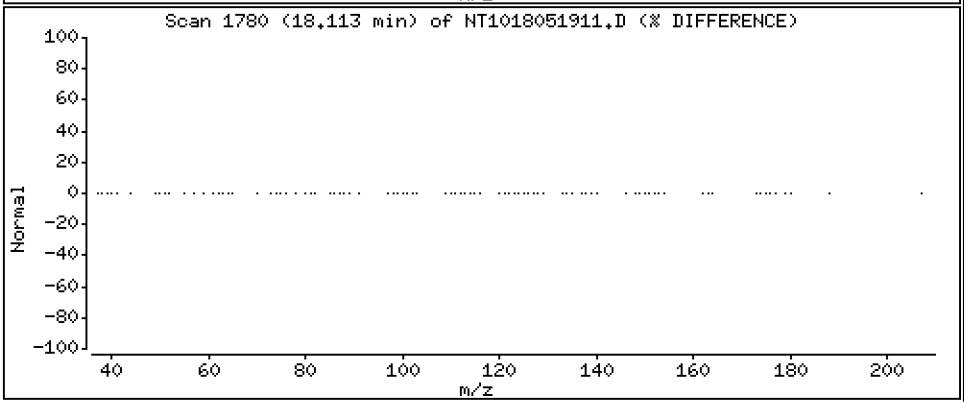
61 Anthracene

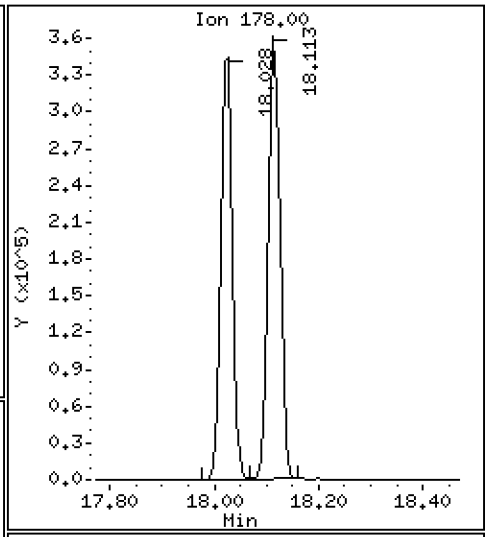
Concentration: 4.805 ug/mL

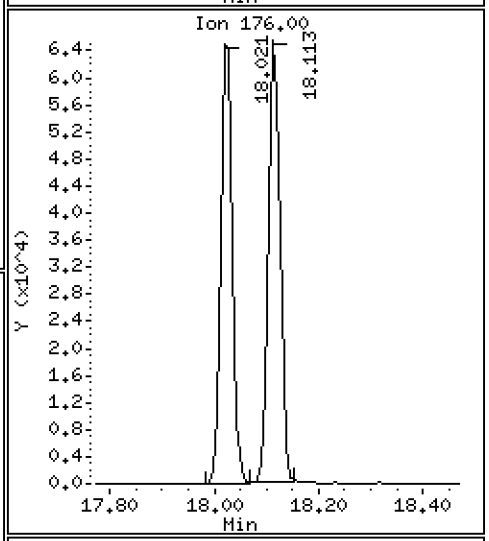


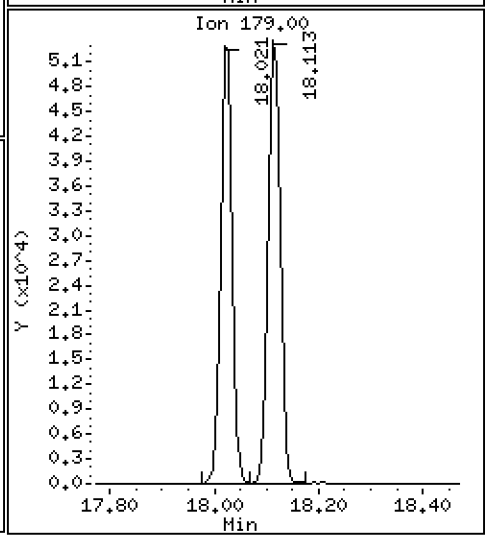












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

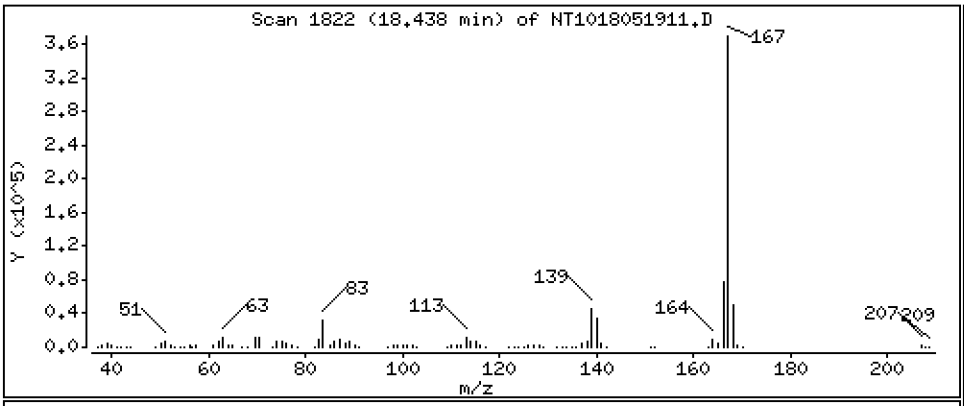
Operator: YZ

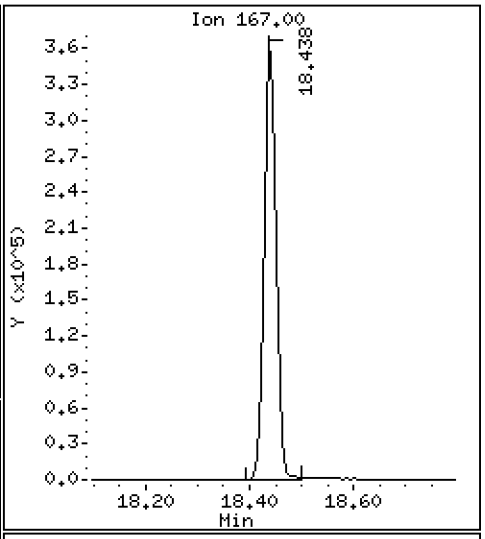
Column phase: ZB-5msi

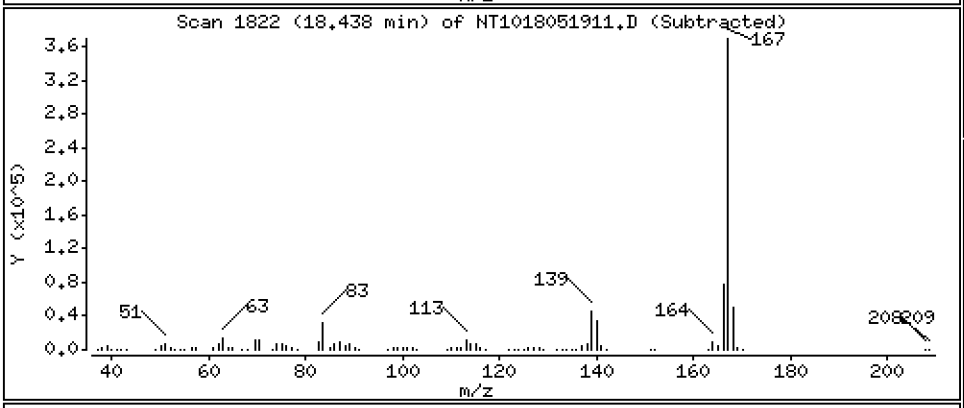
Column diameter: 0.25

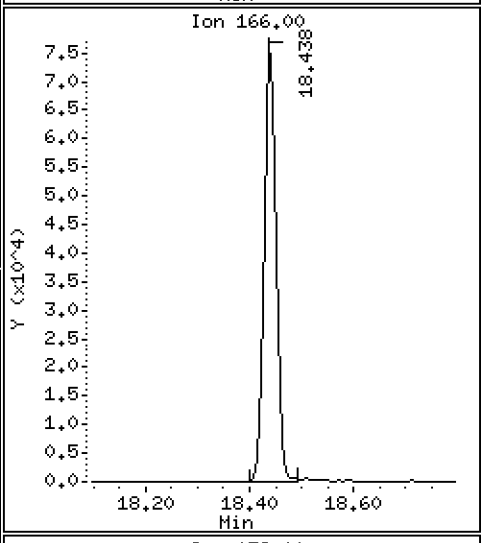
62 Carbazole

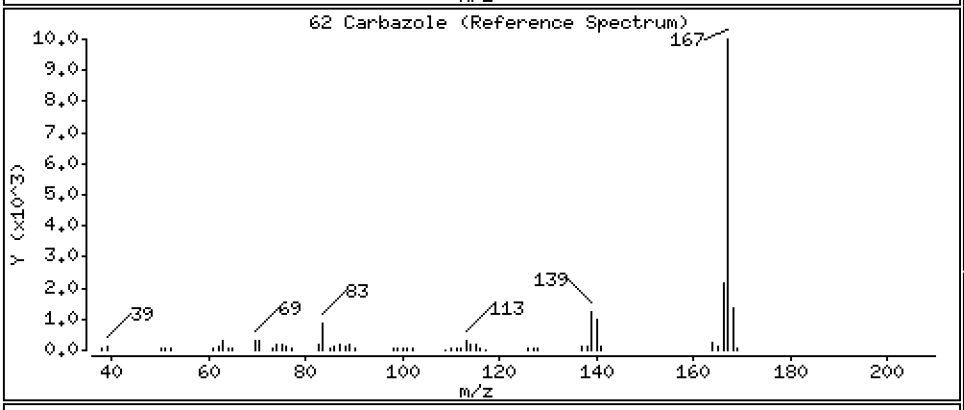
Concentration: 5.432 ug/mL

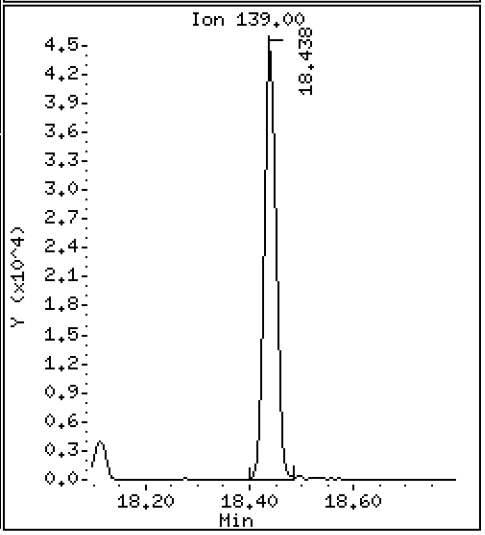


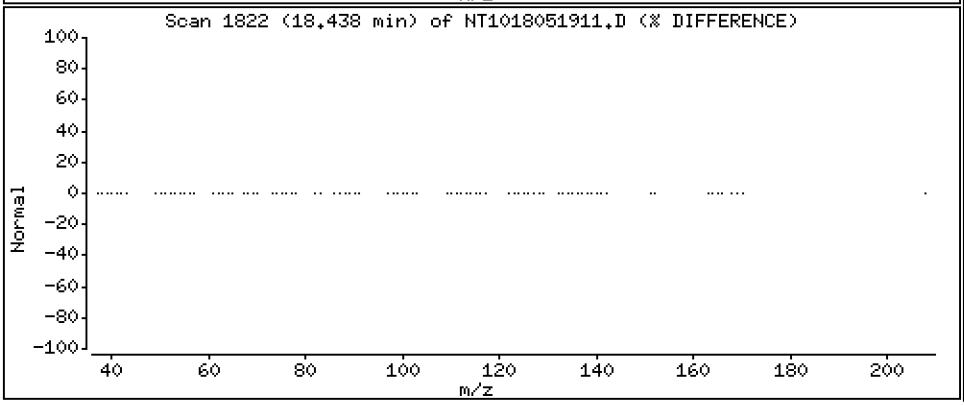












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

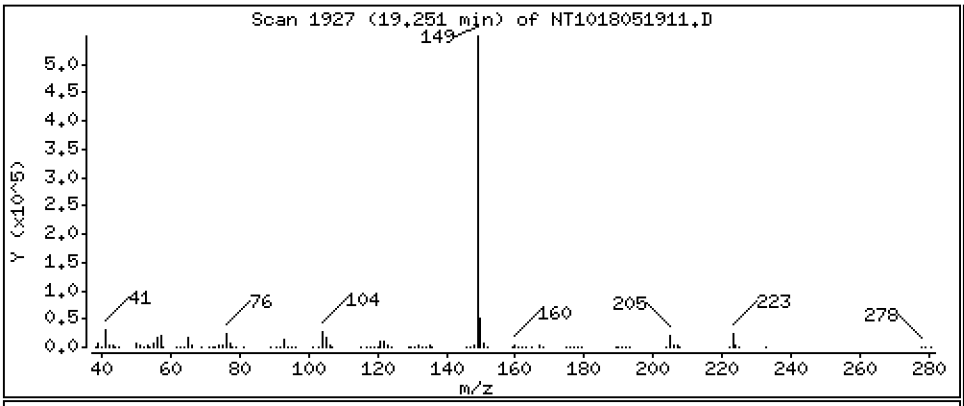
Operator: YZ

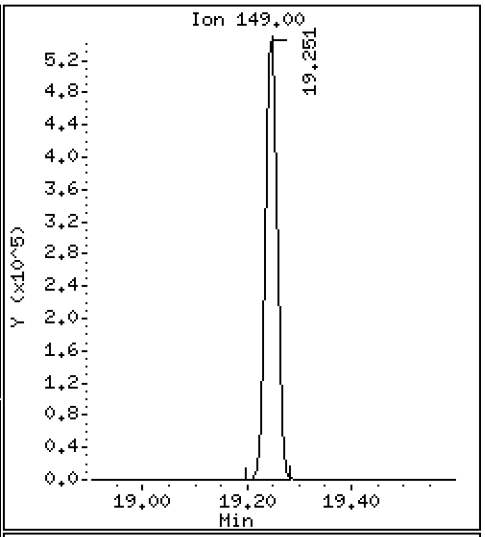
Column phase: ZB-5msi

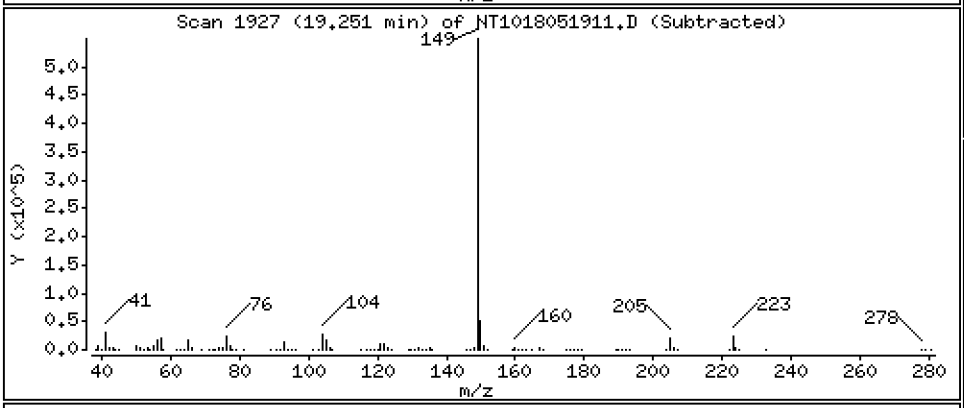
Column diameter: 0.25

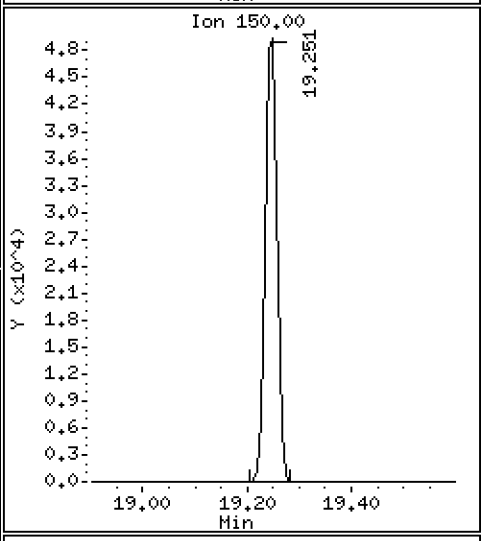
63 Di-n-butylphthalate

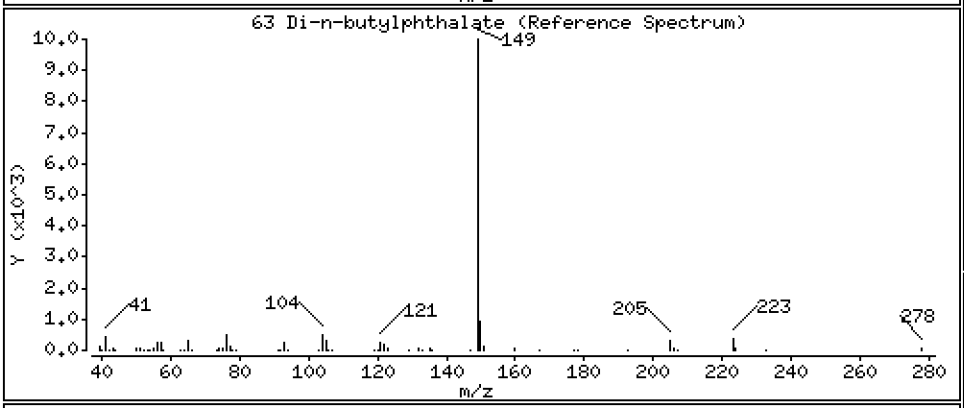
Concentration: 5.294 ug/mL

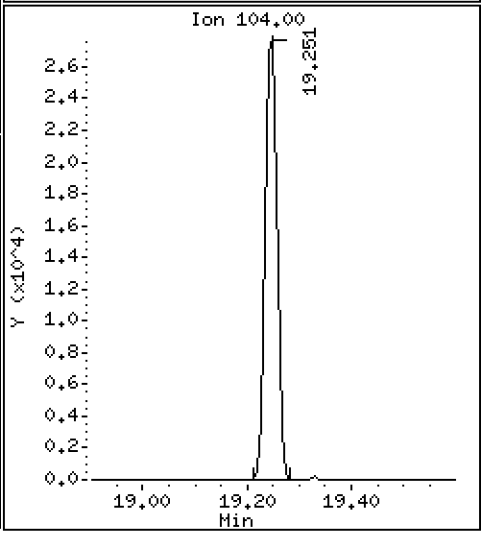


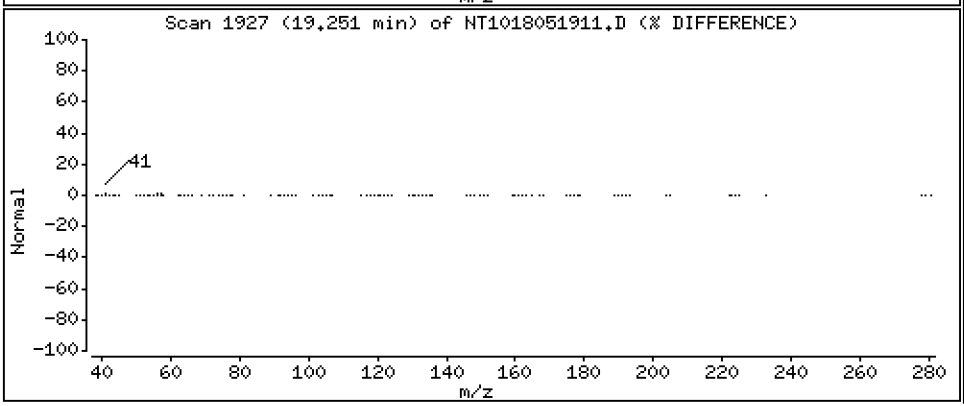












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

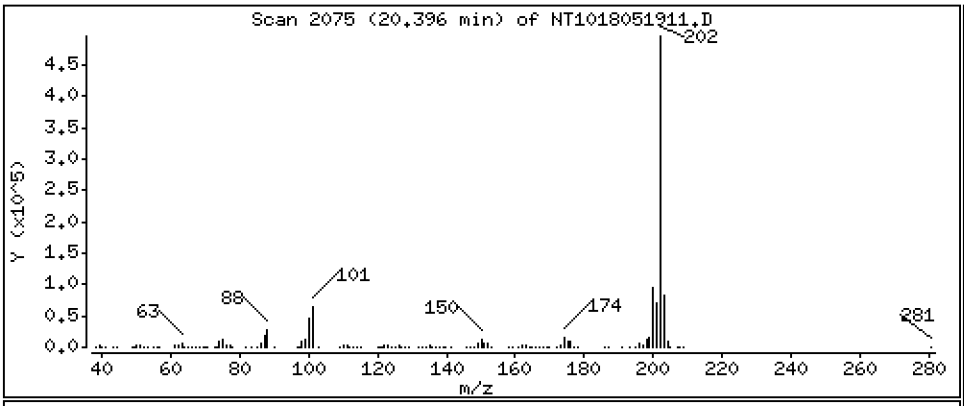
Operator: YZ

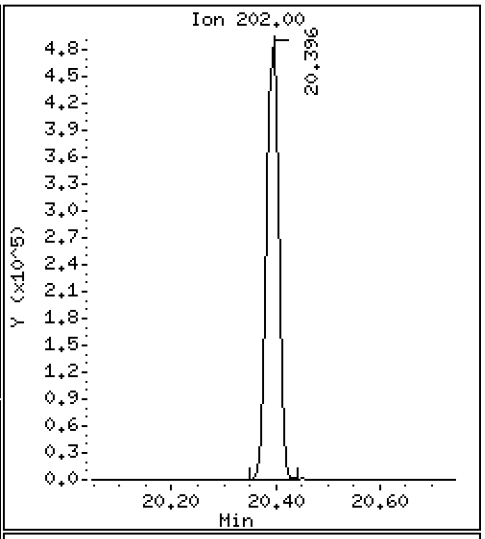
Column phase: ZB-5msi

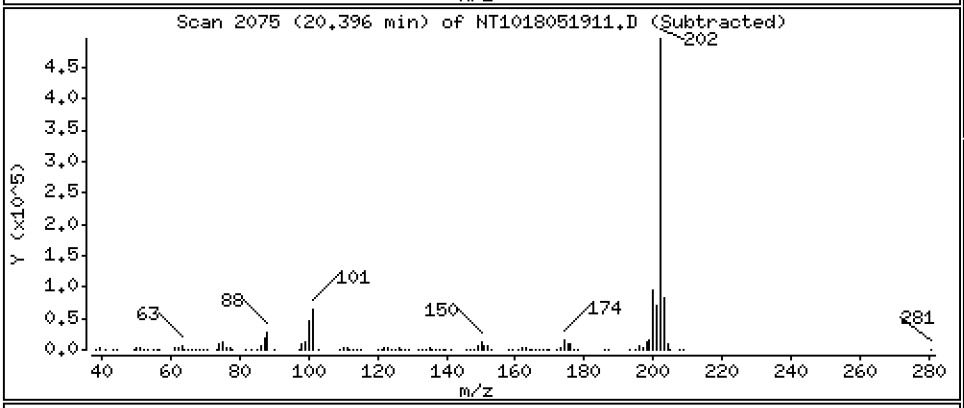
Column diameter: 0.25

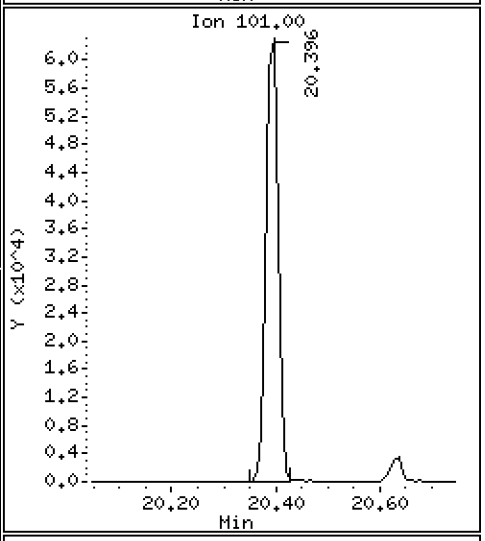
64 Fluoranthene

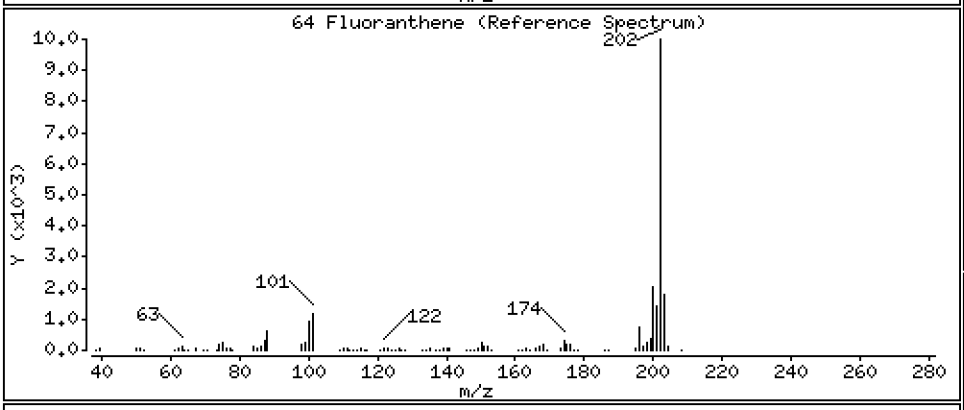
Concentration: 5.214 ug/mL

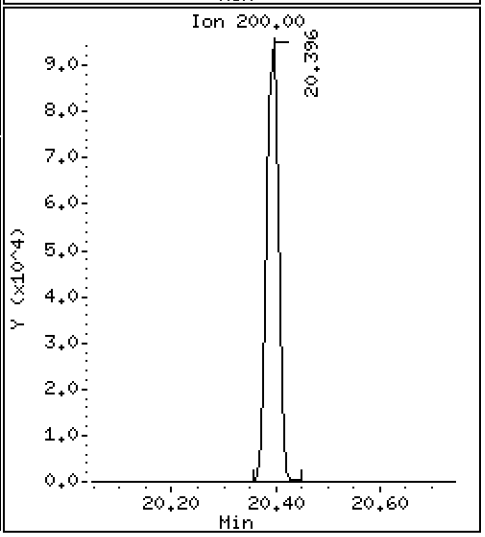


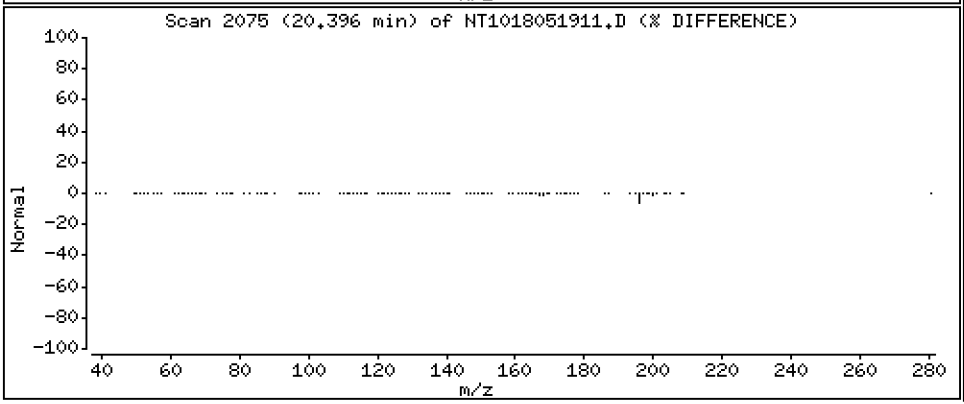












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

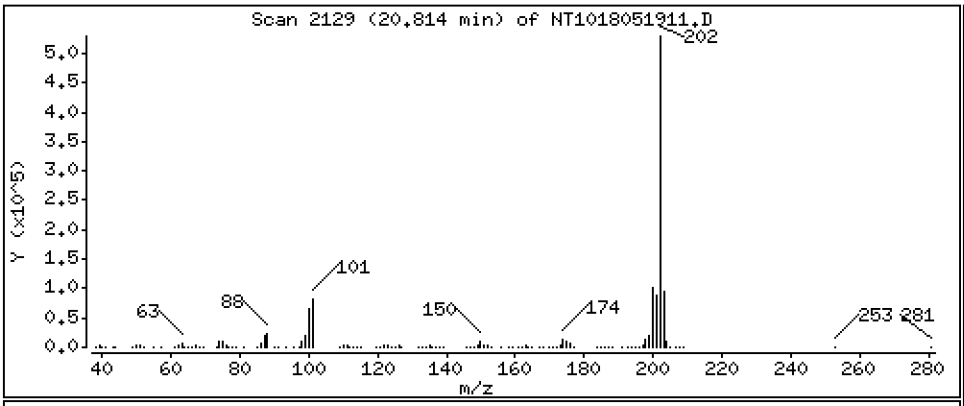
Operator: YZ

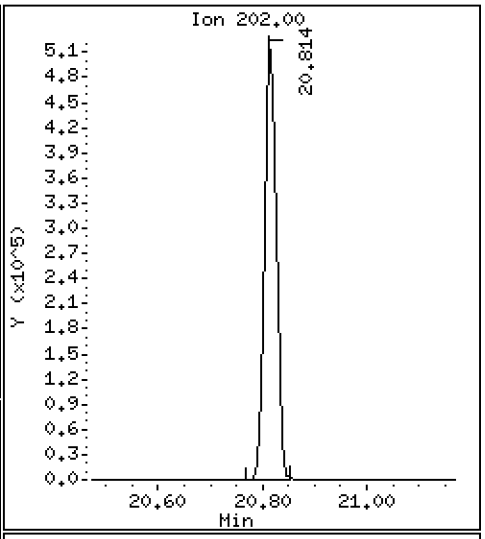
Column phase: ZB-5msi

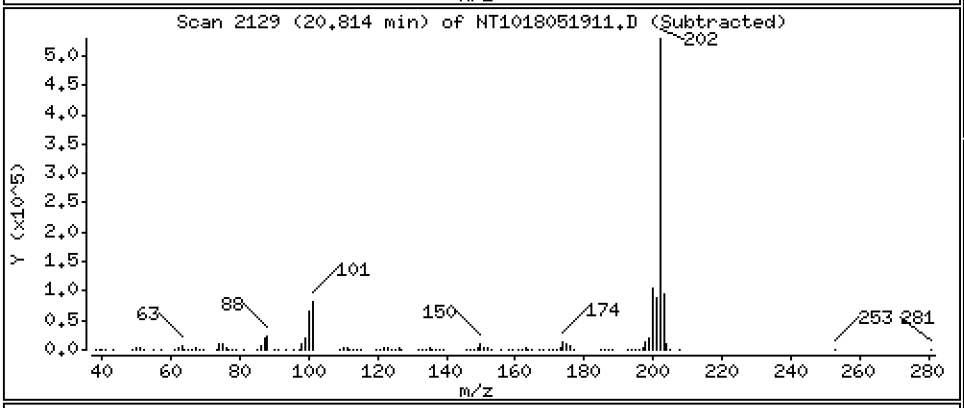
Column diameter: 0.25

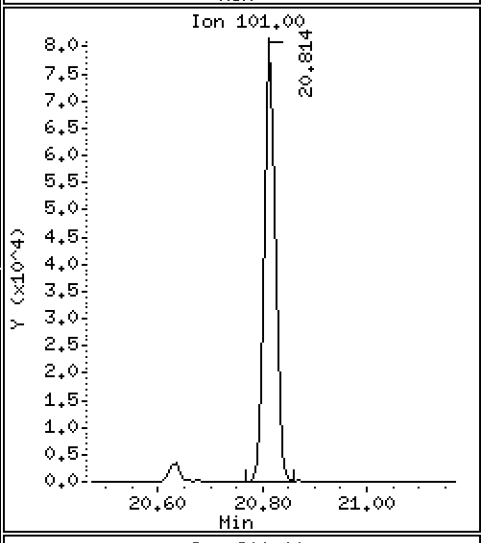
65 Pyrene

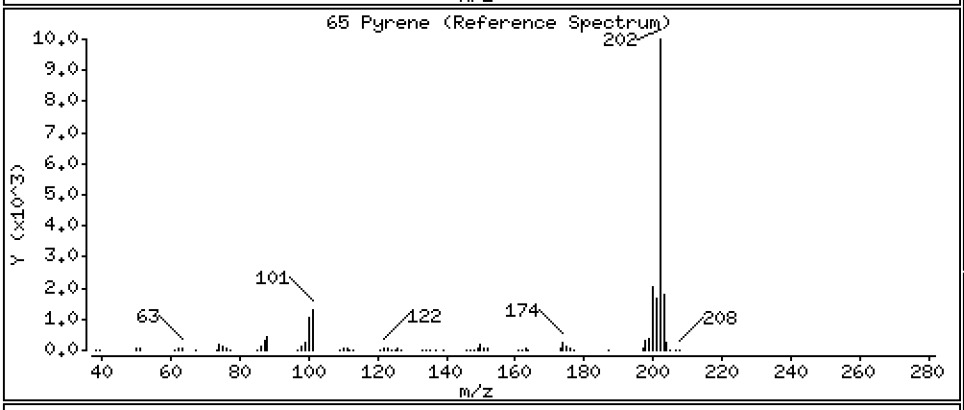
Concentration: 5.251 ug/mL

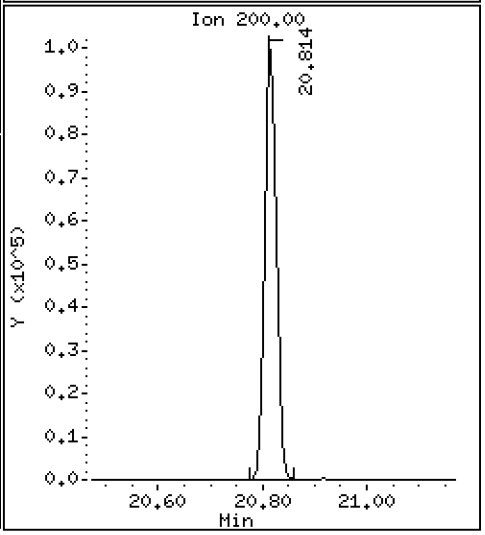


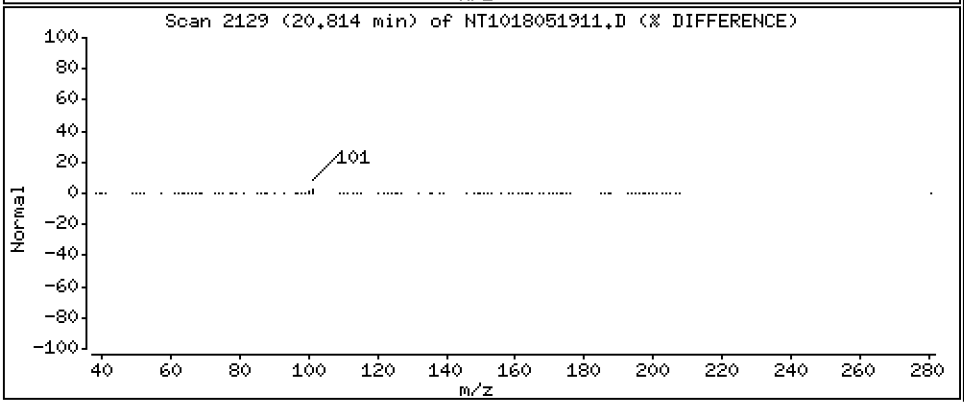












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

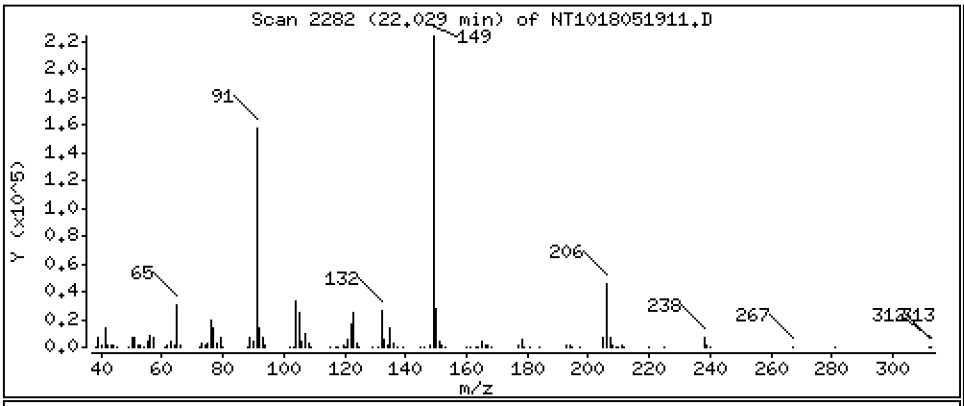
Operator: YZ

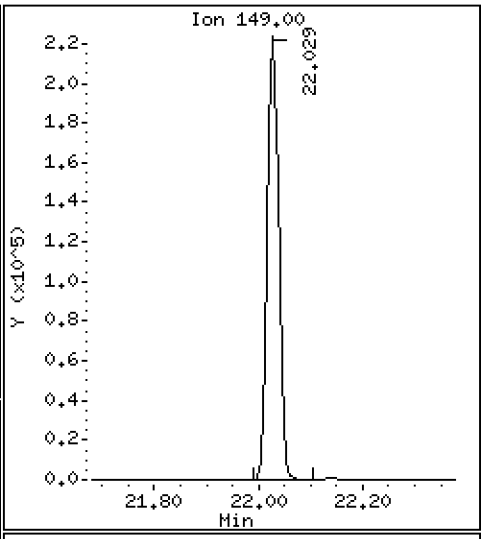
Column phase: ZB-5msi

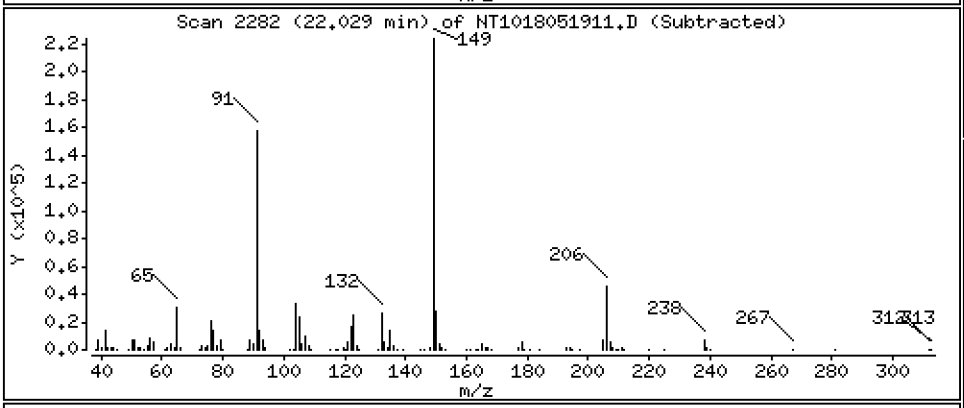
Column diameter: 0.25

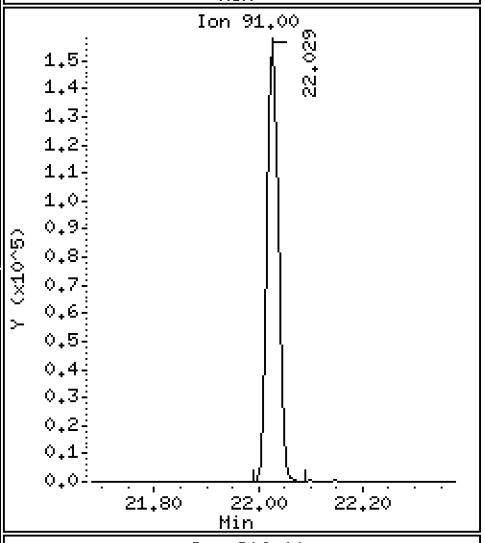
67 Butylbenzylphthalate

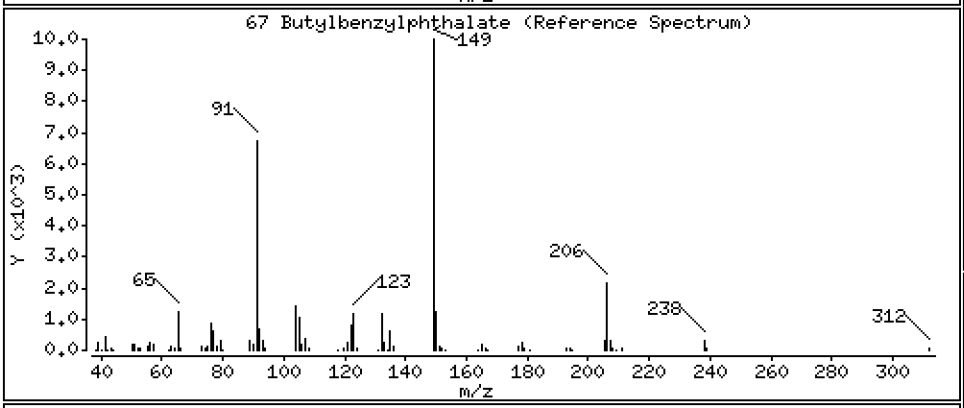
Concentration: 5.390 ug/mL

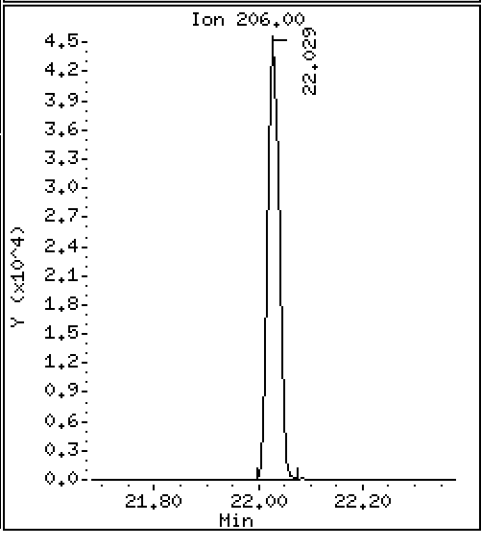


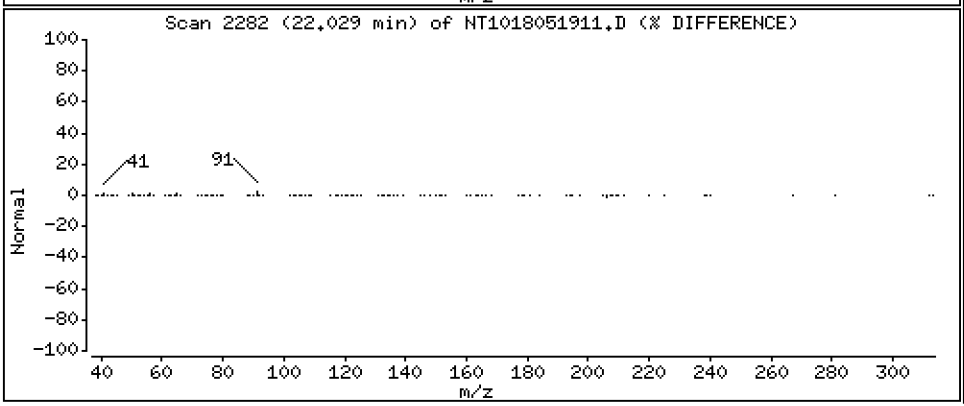












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

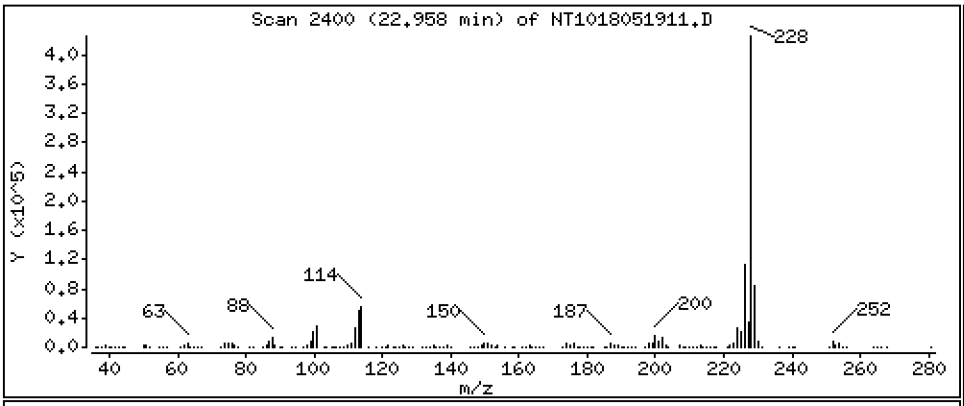
Operator: YZ

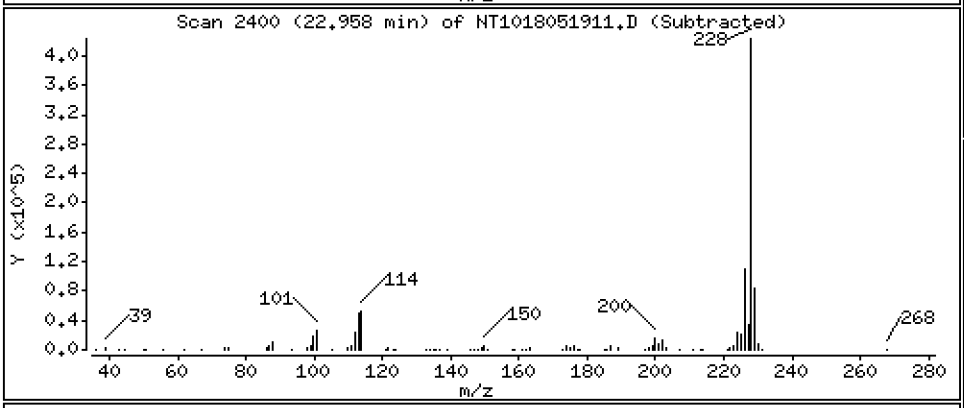
Column phase: ZB-5msi

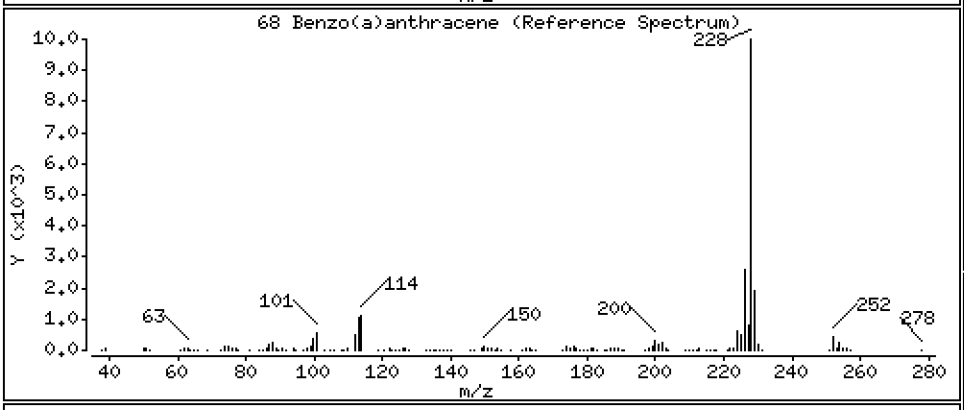
Column diameter: 0.25

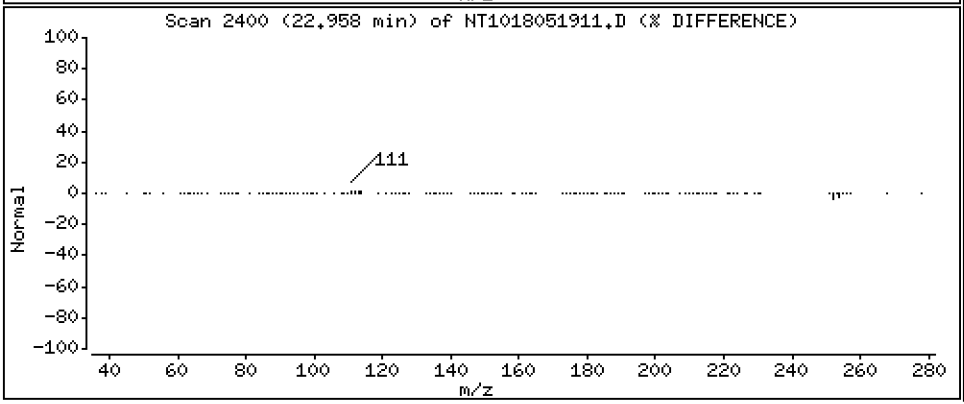
68 Benzo(a)anthracene

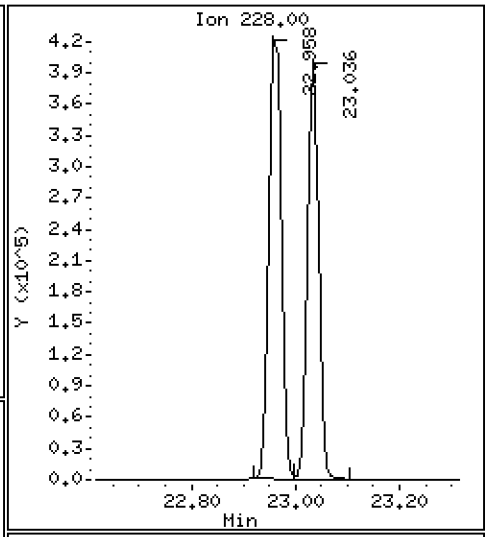
Concentration: 5.030 ug/mL

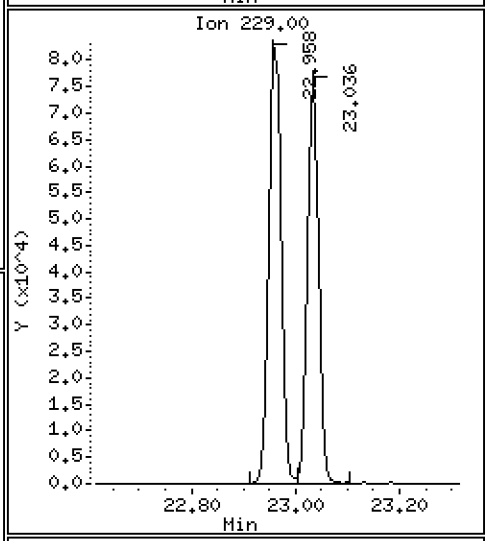


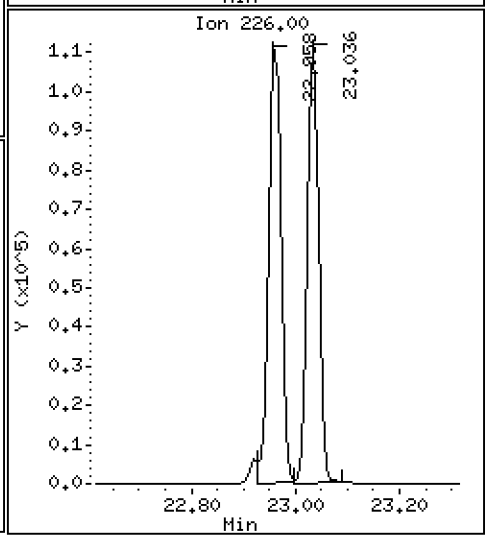












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

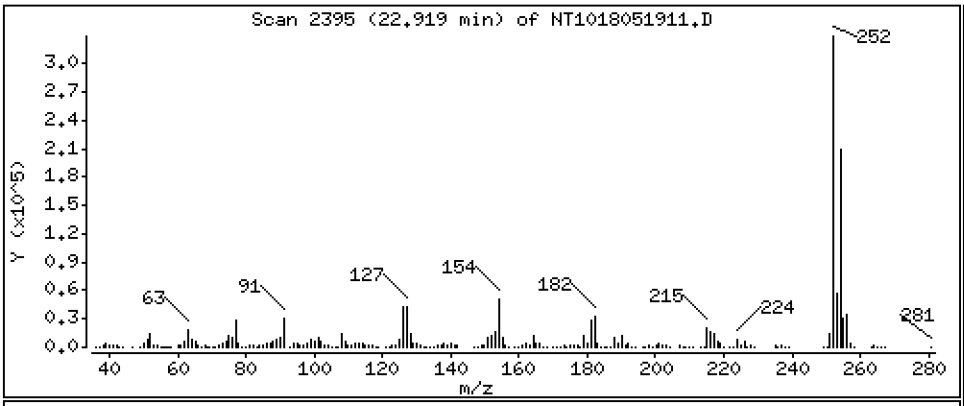
Operator: YZ

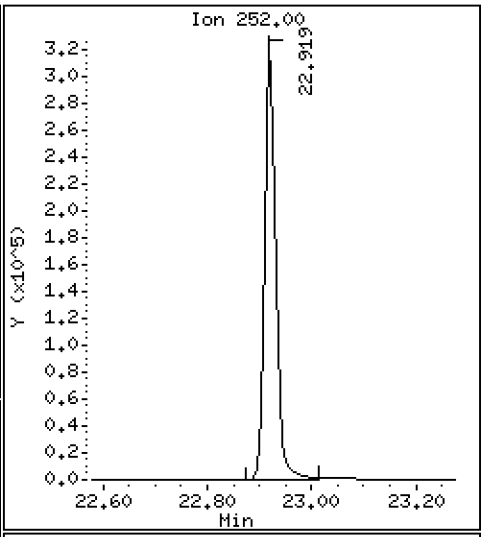
Column phase: ZB-5msi

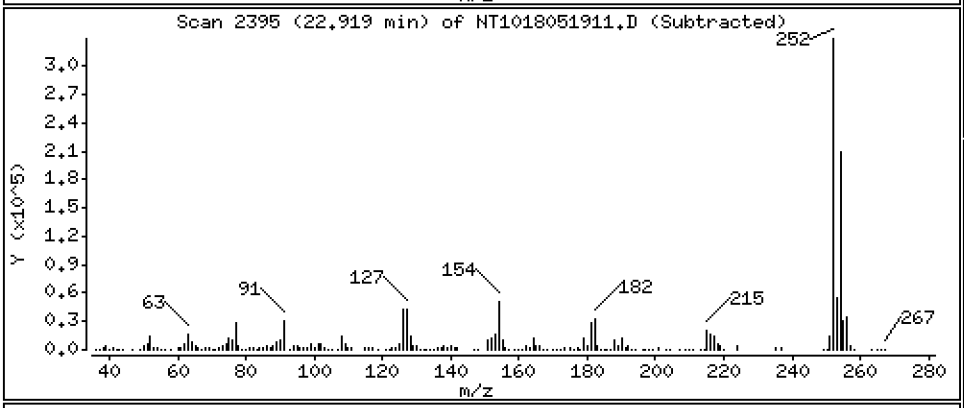
Column diameter: 0.25

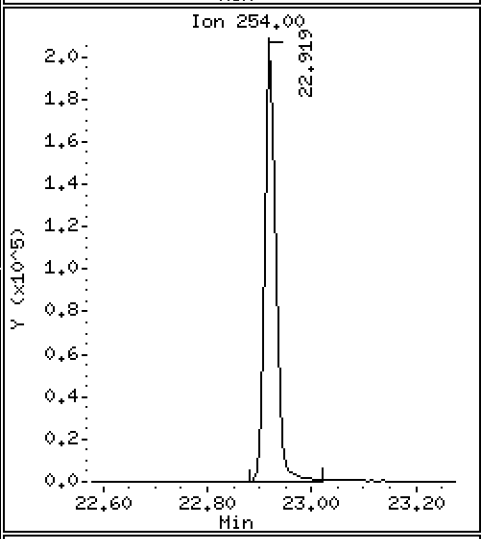
70 3,3'-Dichlorobenzidine

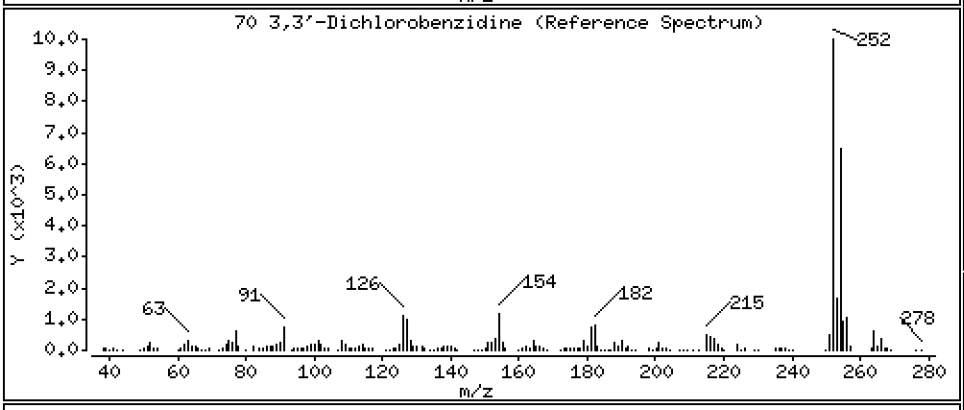
Concentration: 9.992 ug/mL

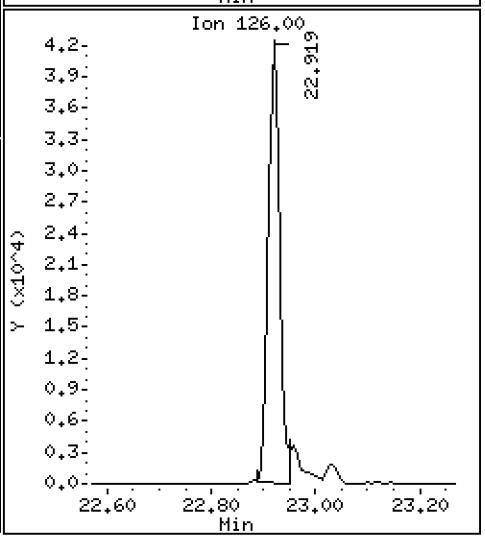


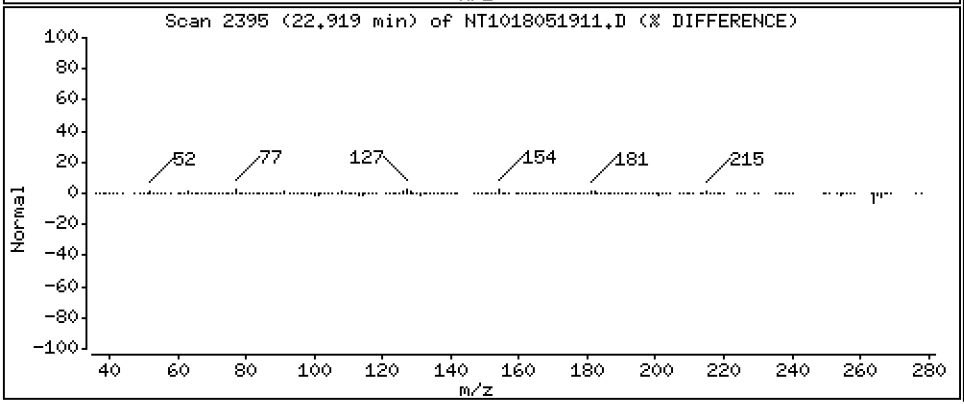












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

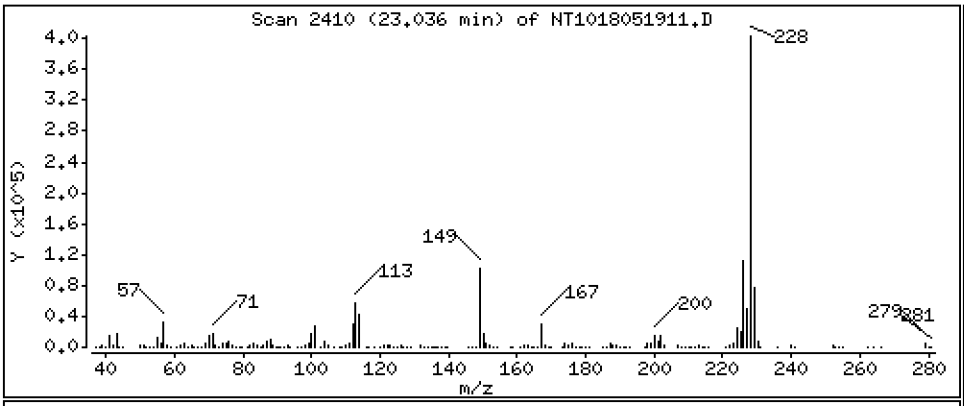
Operator: YZ

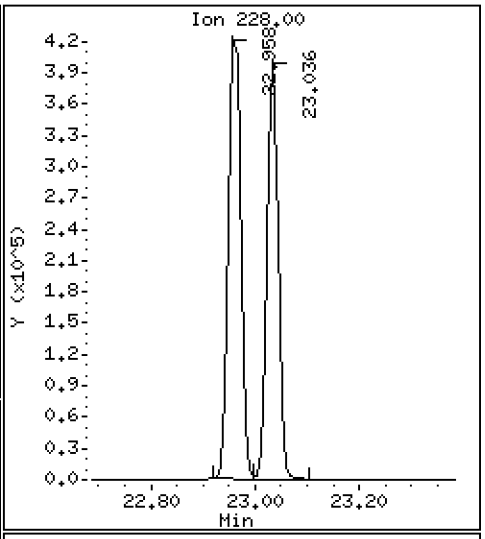
Column phase: ZB-5msi

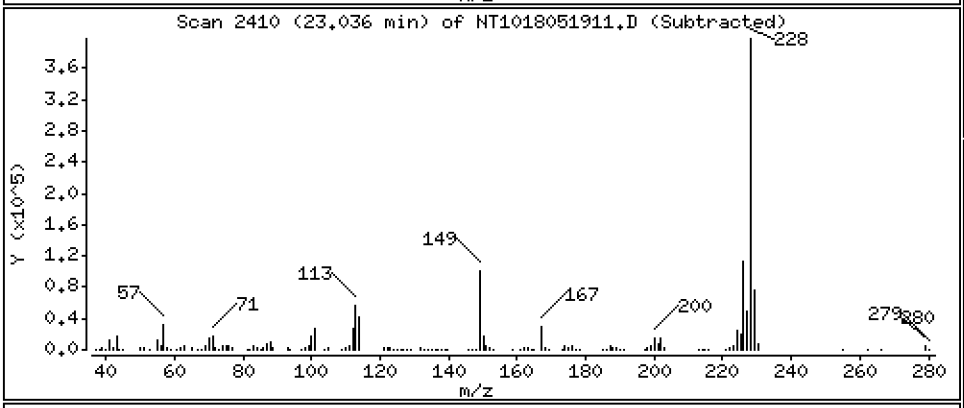
Column diameter: 0.25

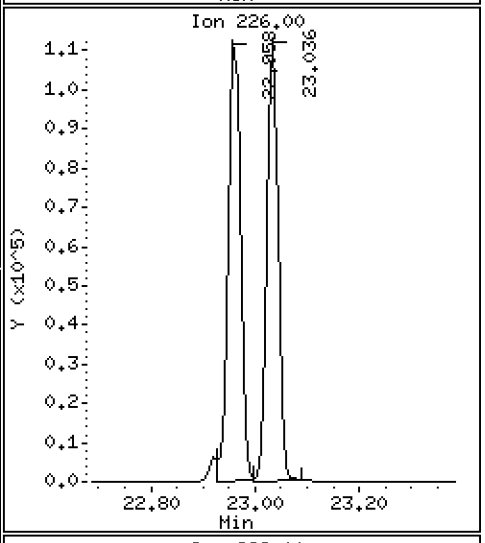
71 Chrysene

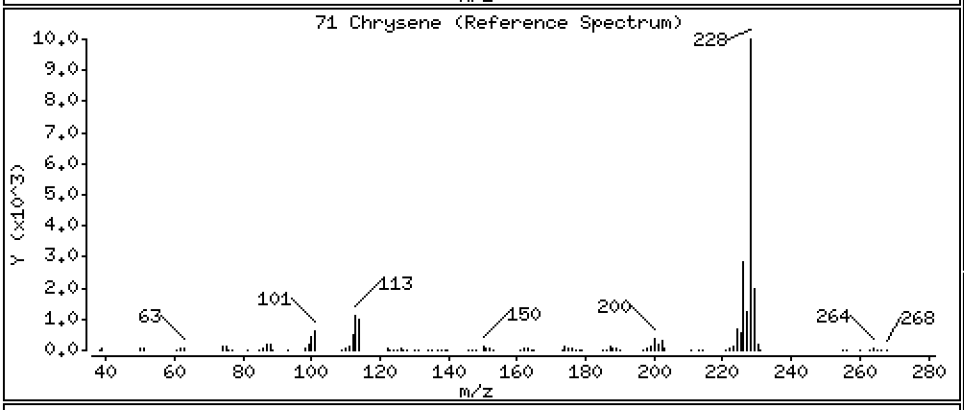
Concentration: 5.260 ug/mL

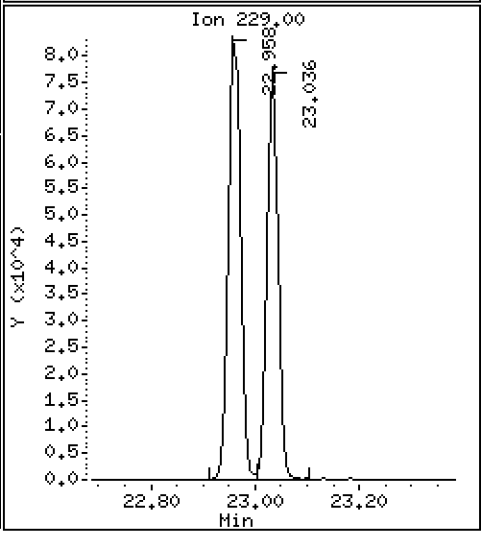


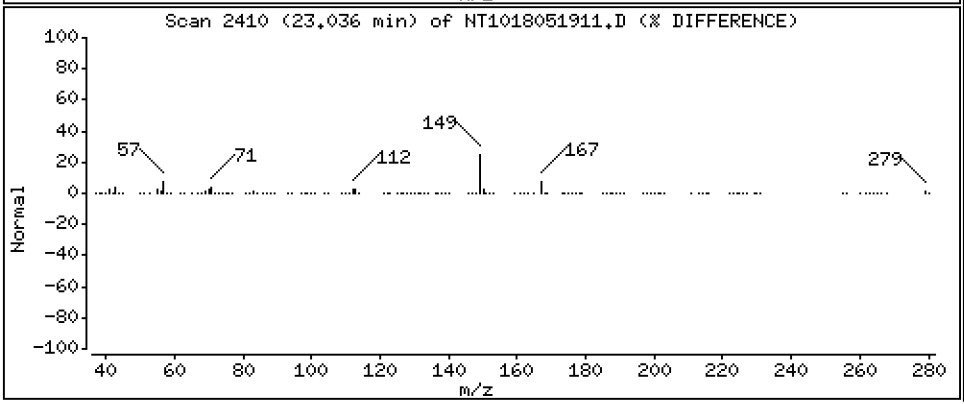












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

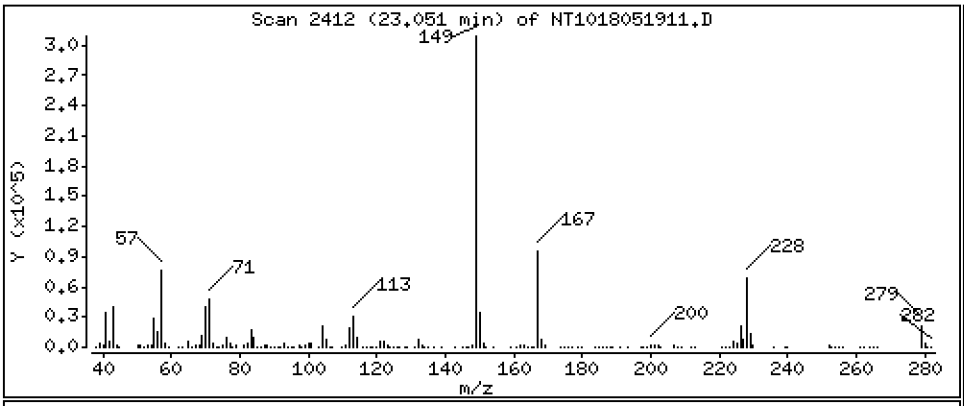
Operator: YZ

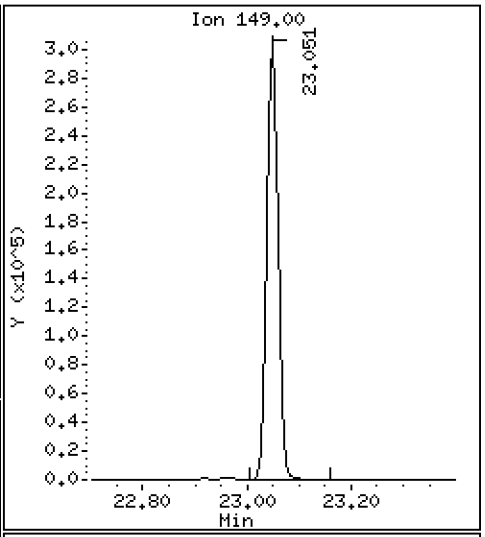
Column phase: ZB-5msi

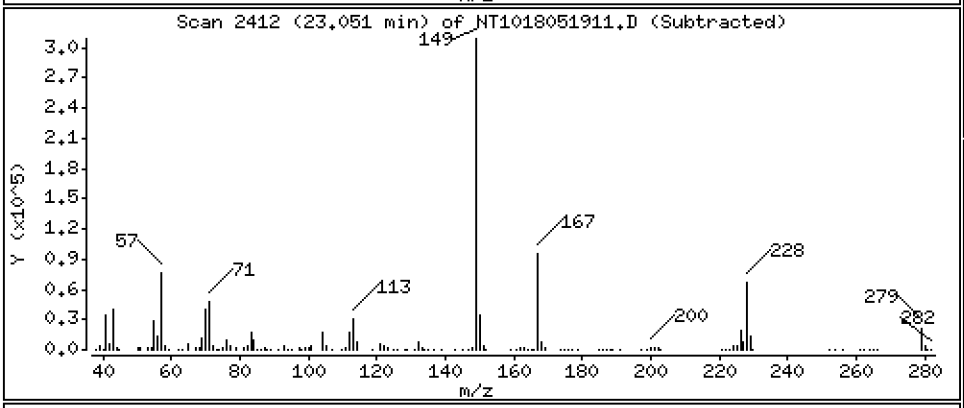
Column diameter: 0.25

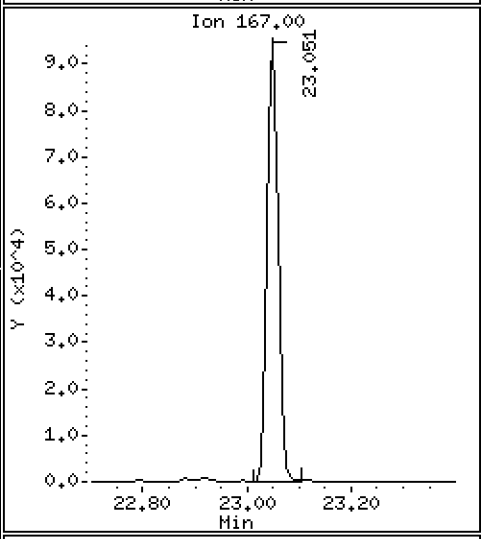
72 bis(2-Ethylhexyl)phthalate

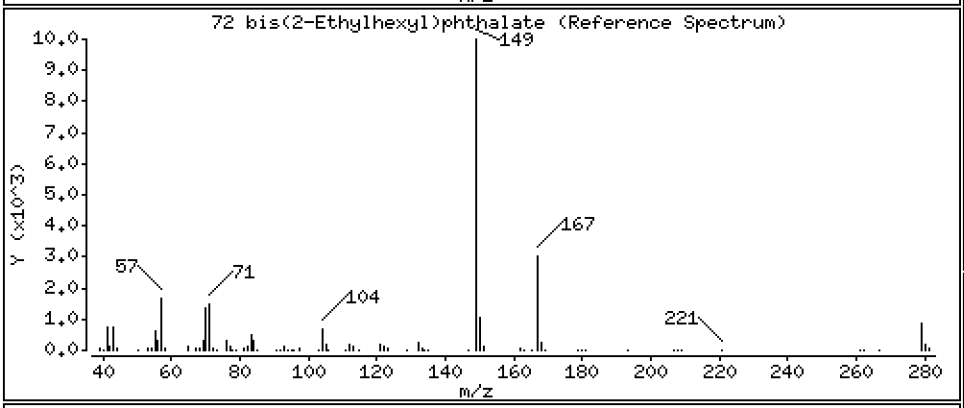
Concentration: 5.231 ug/mL

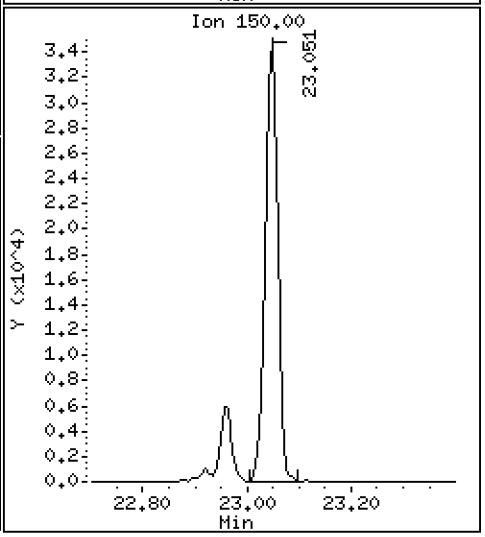


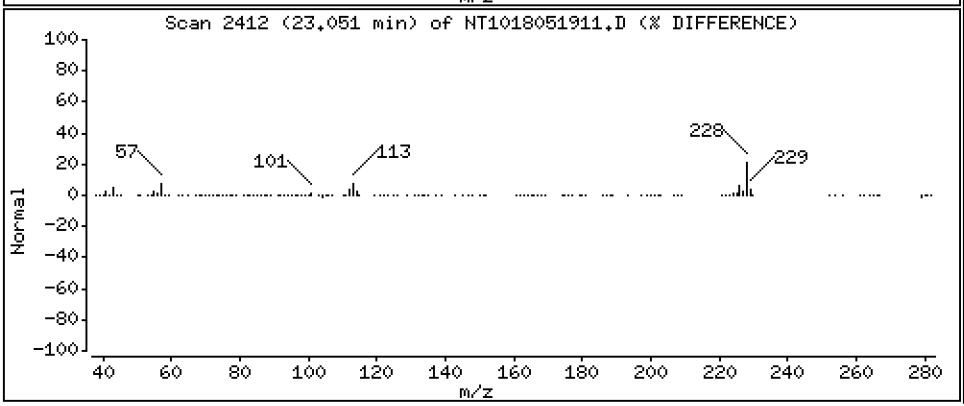












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

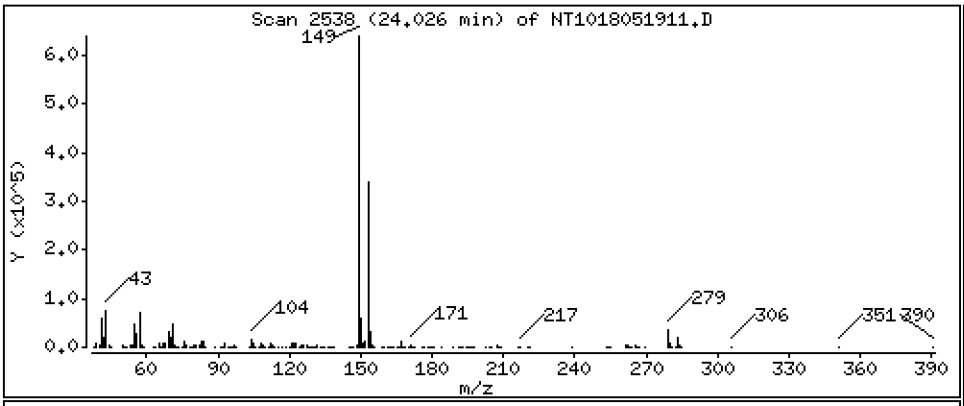
Operator: YZ

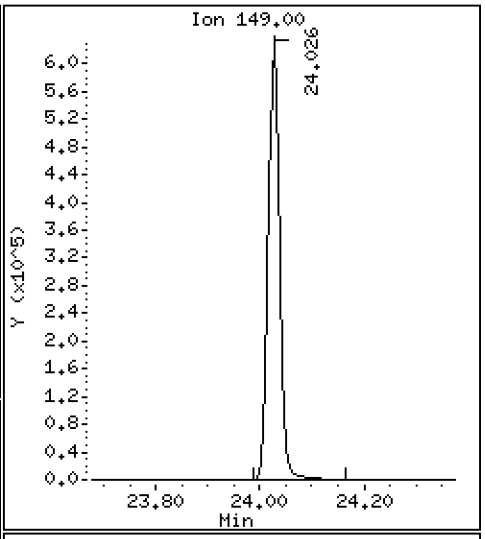
Column phase: ZB-5msi

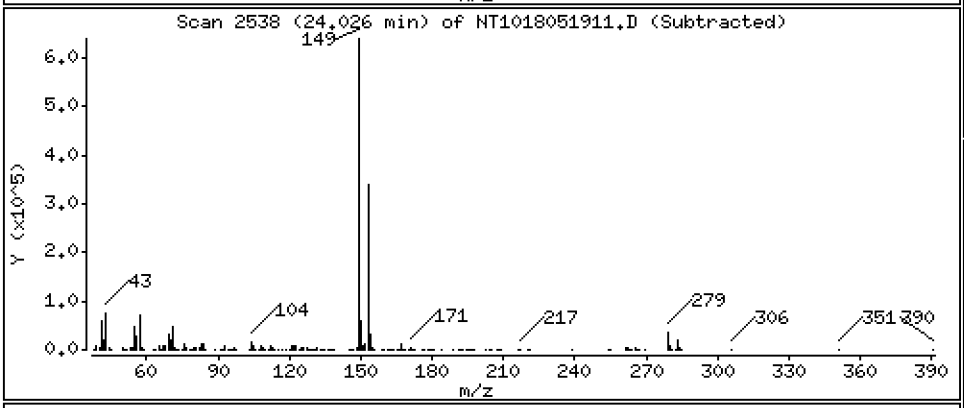
Column diameter: 0.25

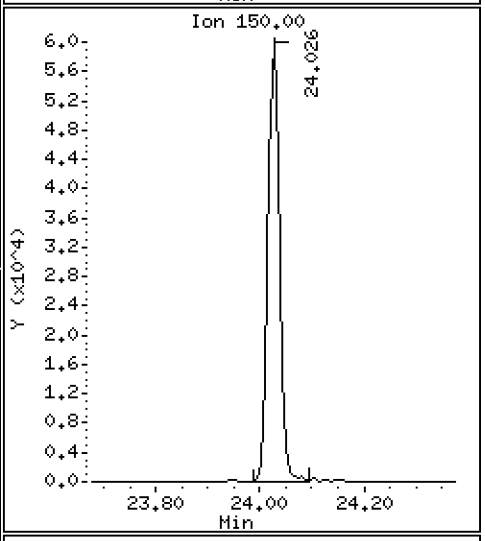
73 Di-n-octylphthalate

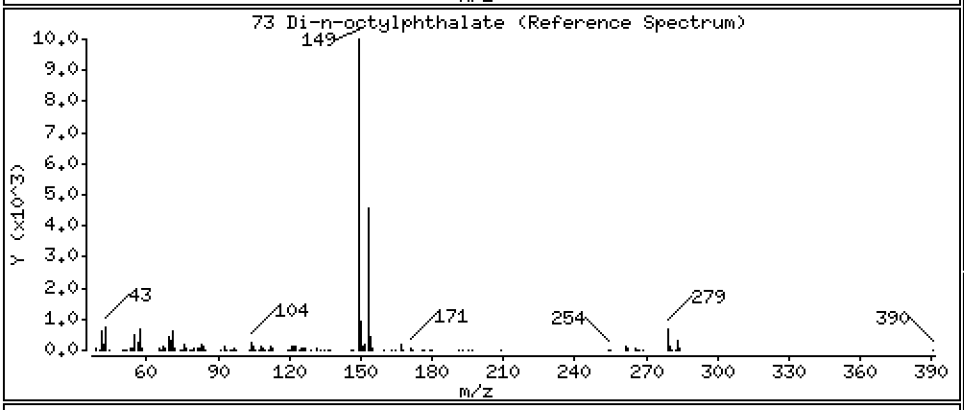
Concentration: 5.193 ug/mL

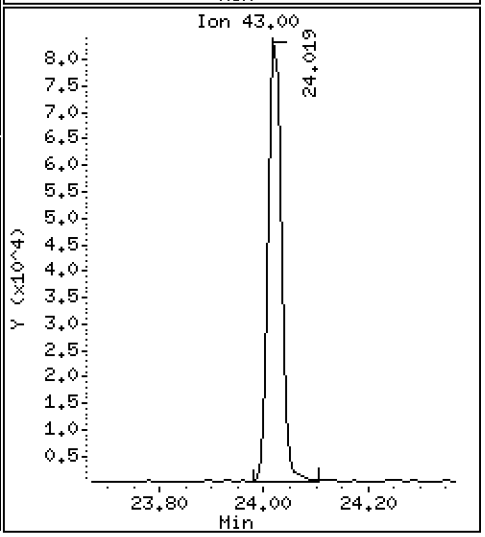


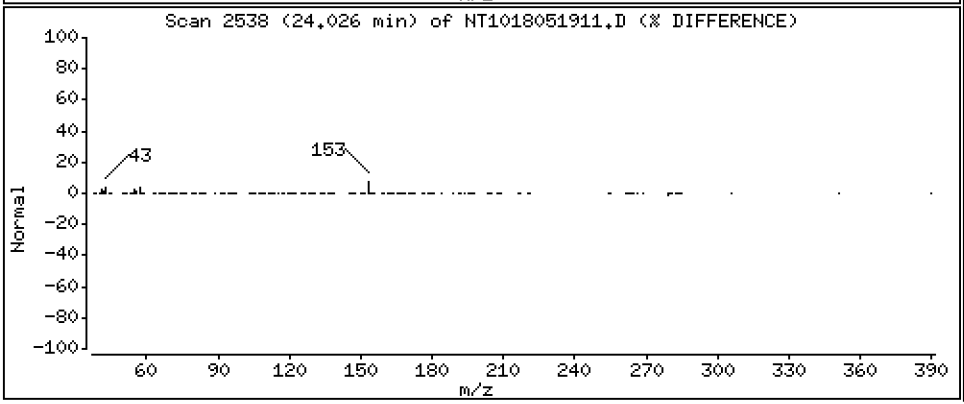












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

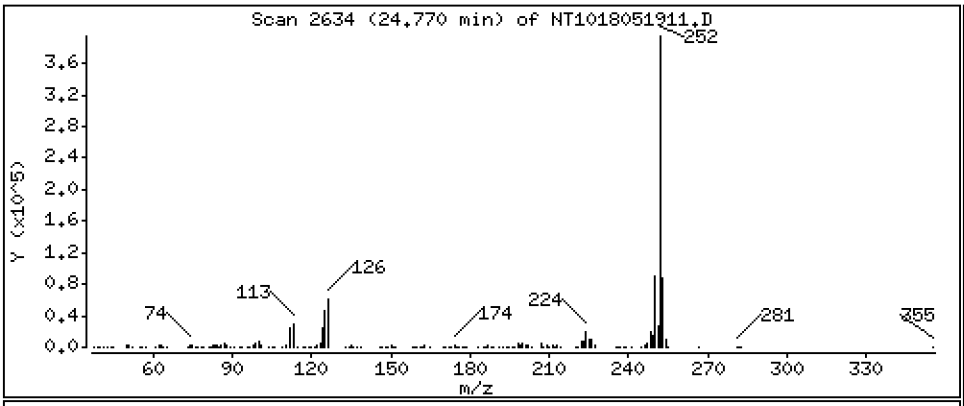
Operator: YZ

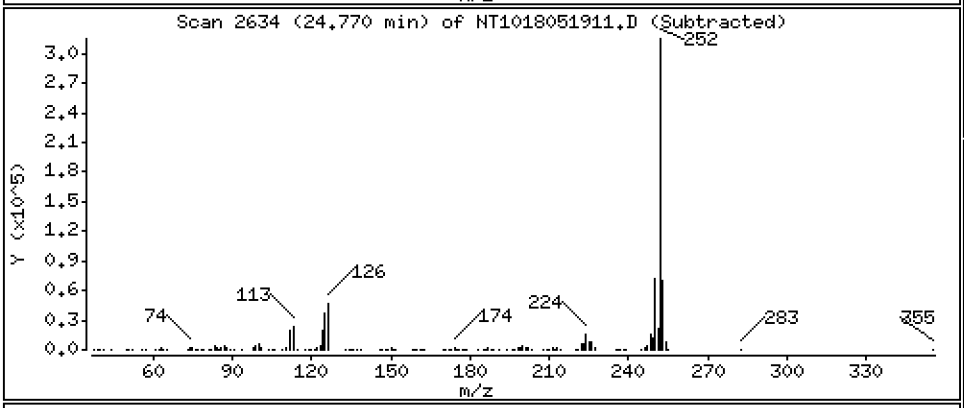
Column phase: ZB-5msi

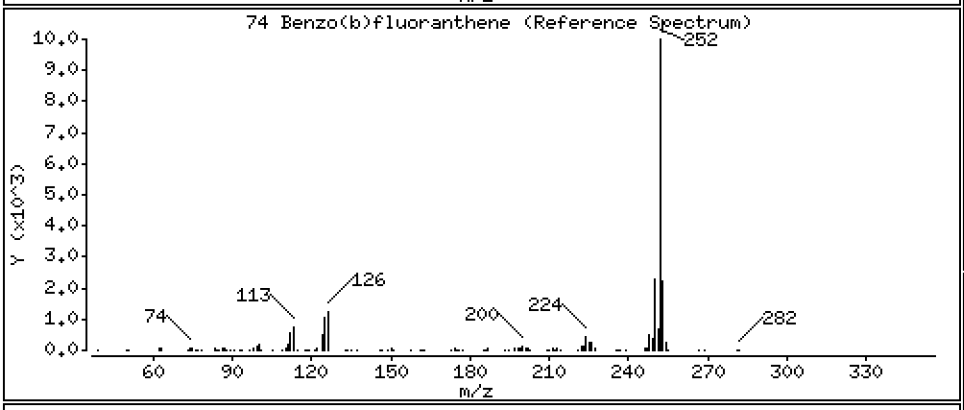
Column diameter: 0.25

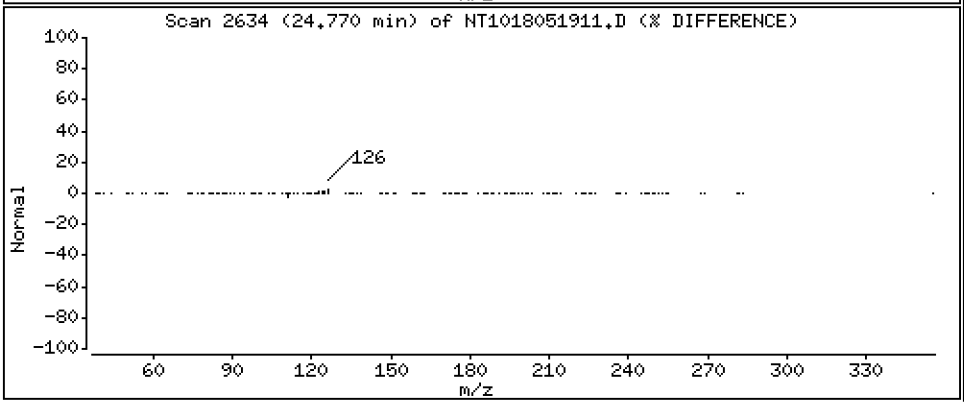
74 Benzo(b)fluoranthene

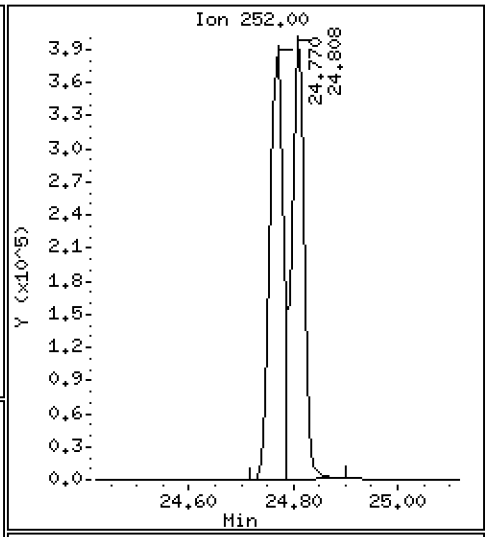
Concentration: 4.906 ug/mL

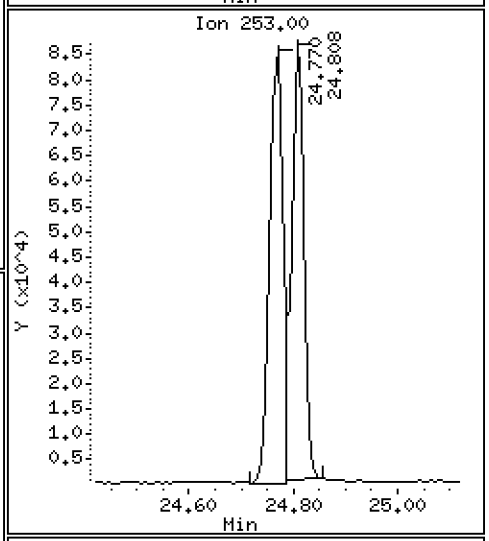


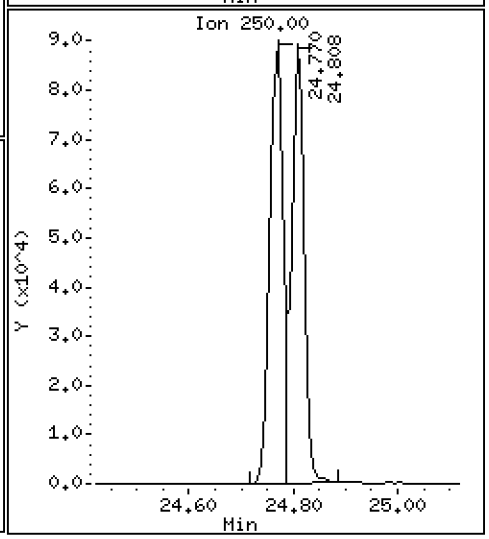












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

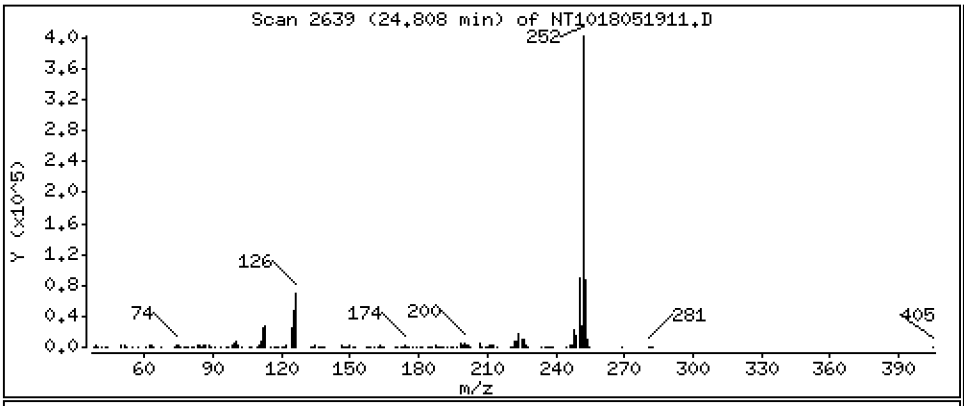
Operator: YZ

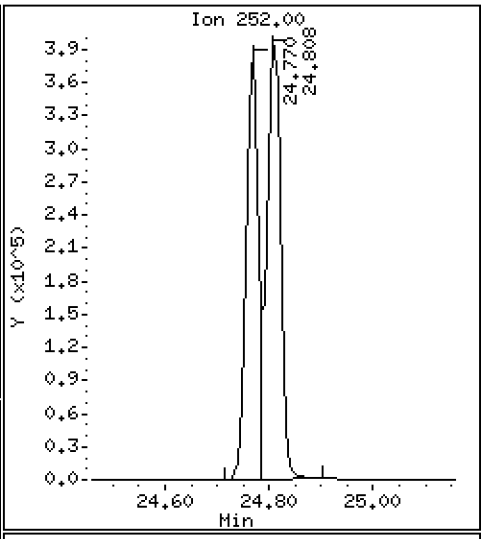
Column phase: ZB-5msi

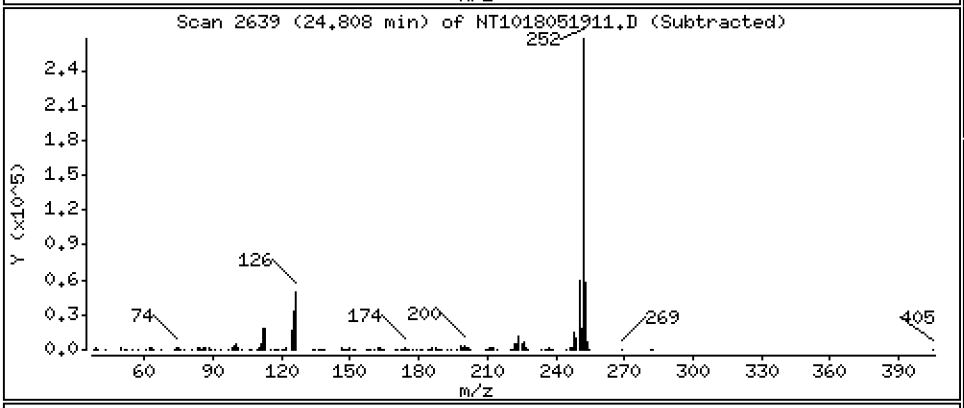
Column diameter: 0.25

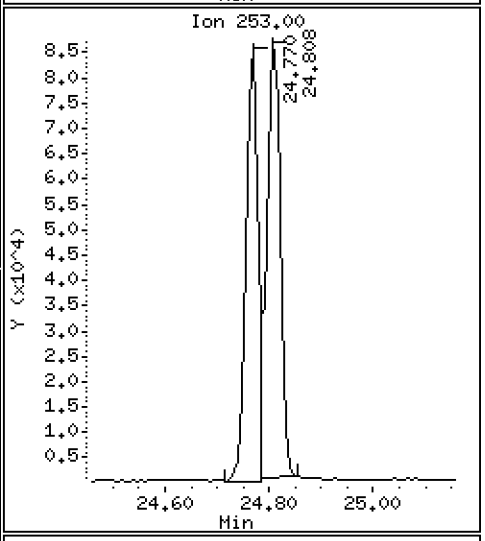
75 Benzo(k)fluoranthene

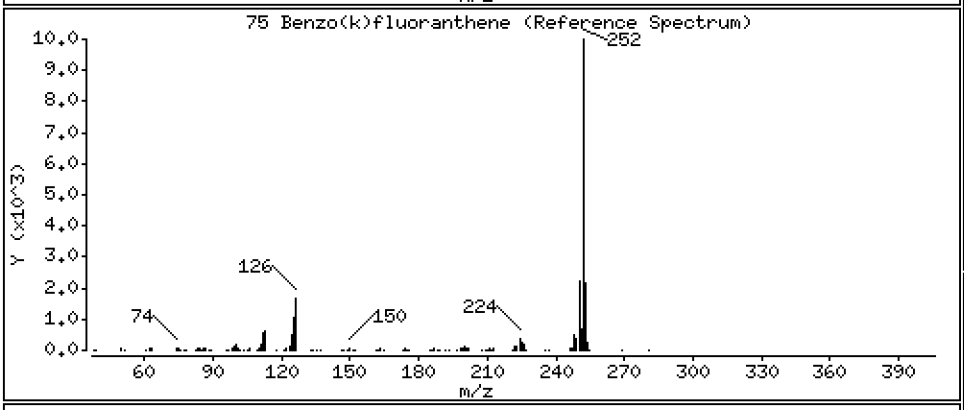
Concentration: 5.423 ug/mL

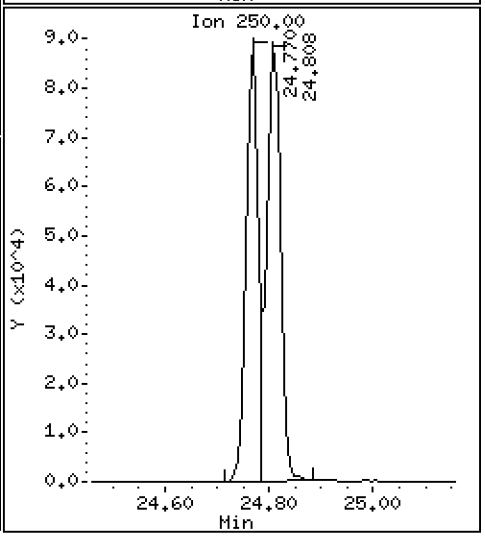


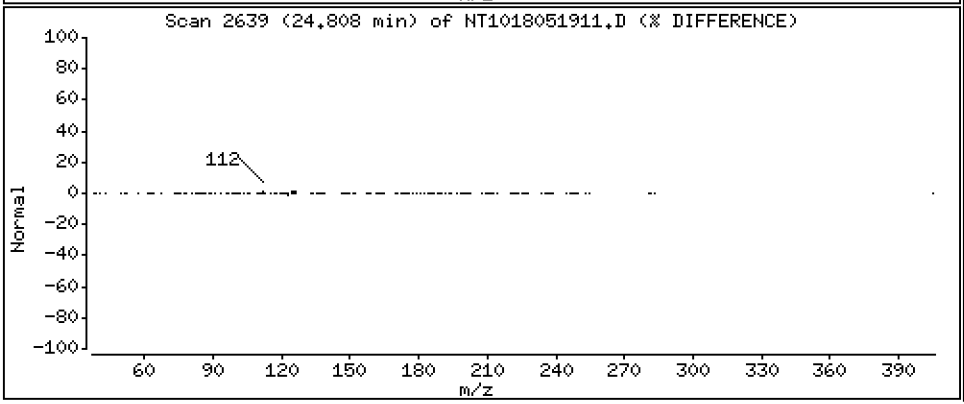












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

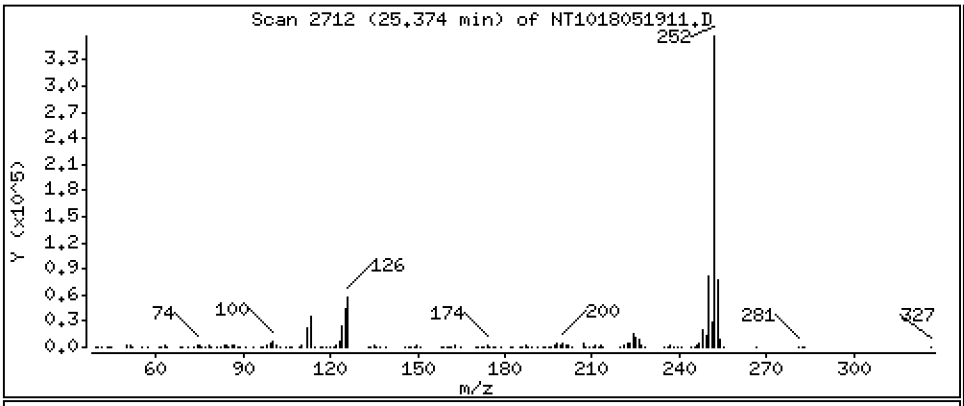
Operator: YZ

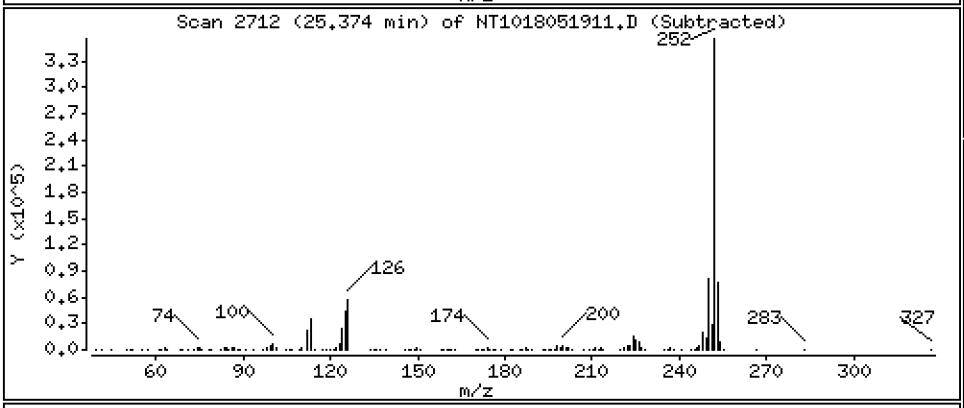
Column phase: ZB-5msi

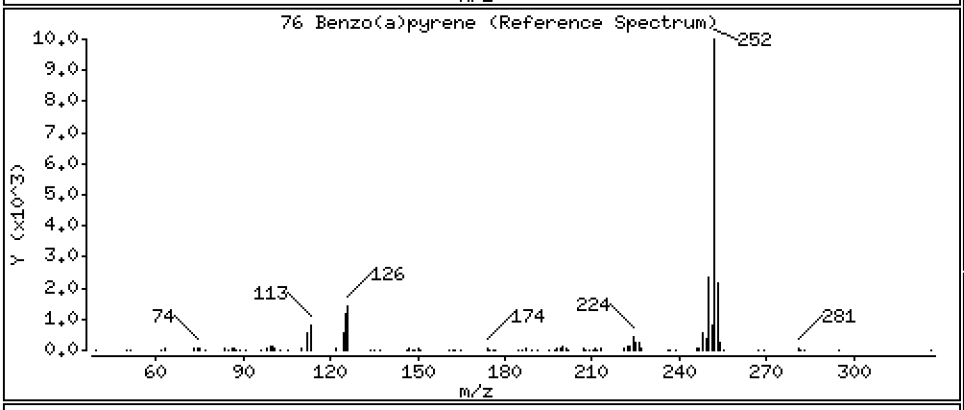
Column diameter: 0.25

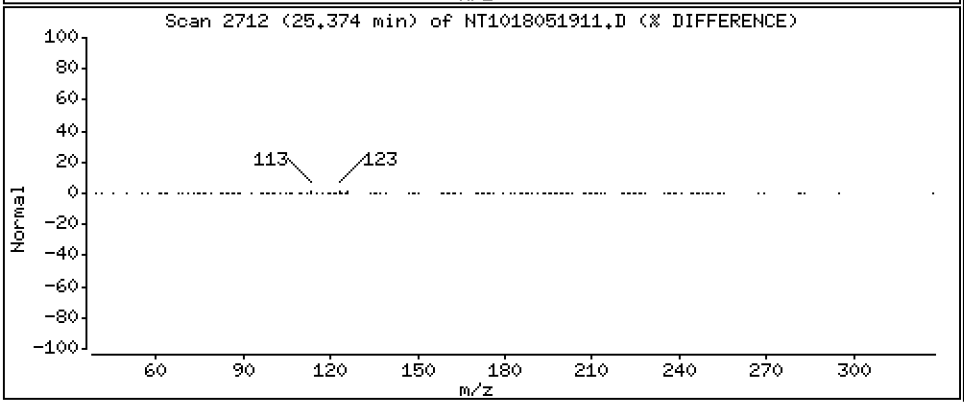
76 Benzo(a)pyrene

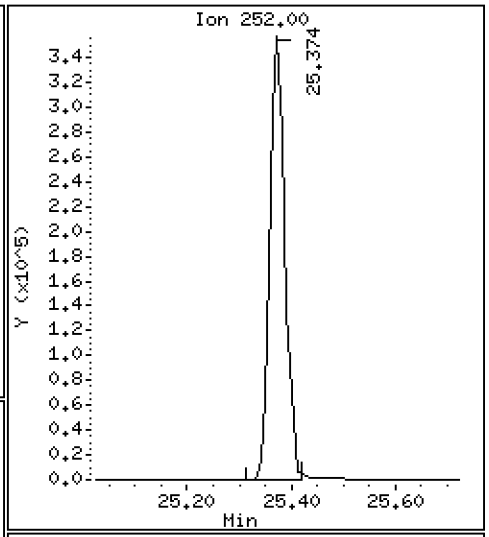
Concentration: 5.278 ug/mL

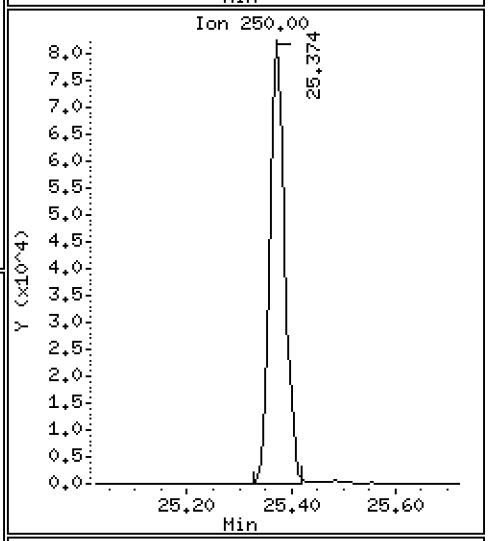


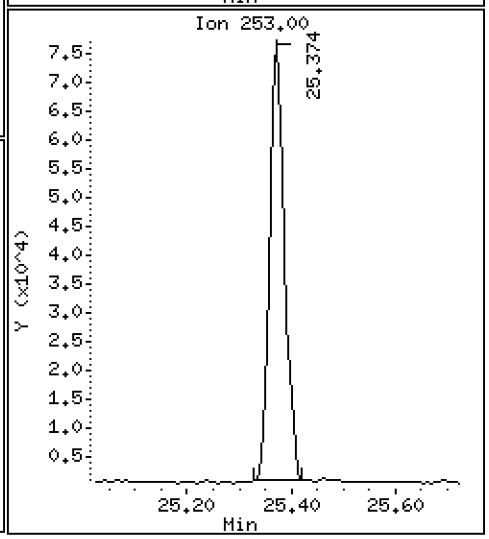












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

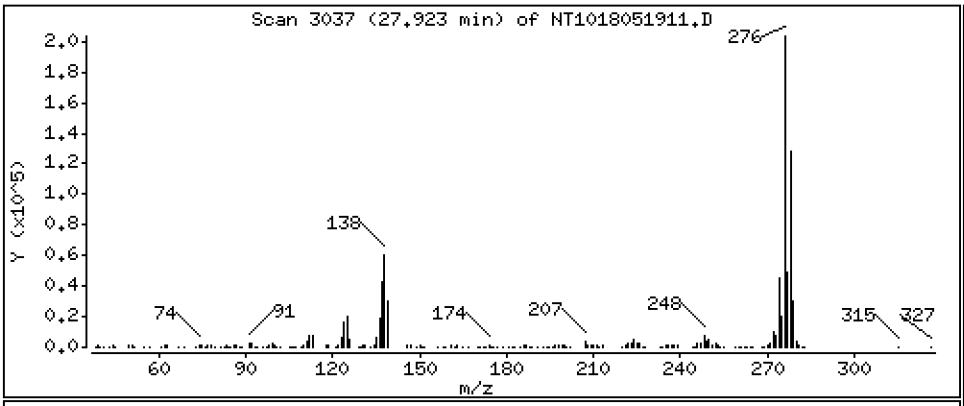
Operator: YZ

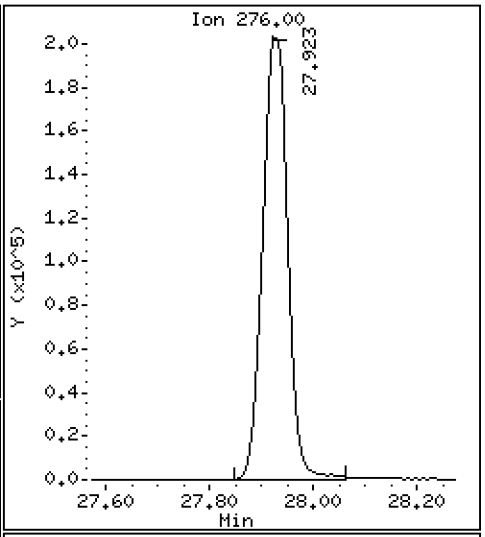
Column phase: ZB-5msi

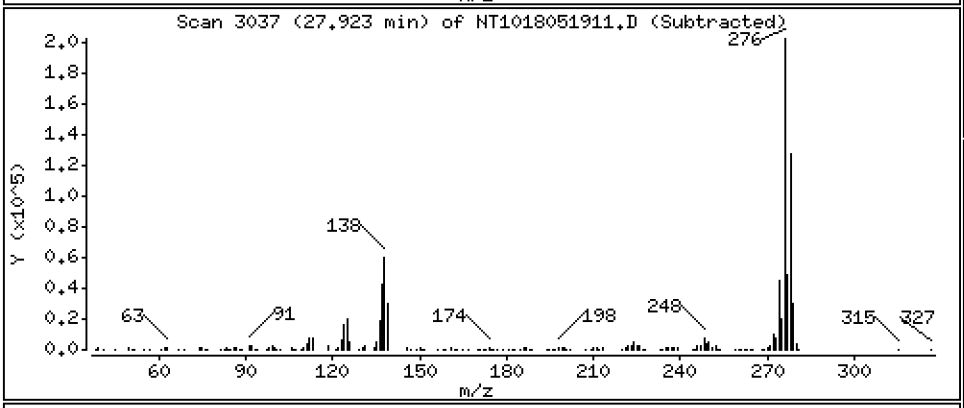
Column diameter: 0.25

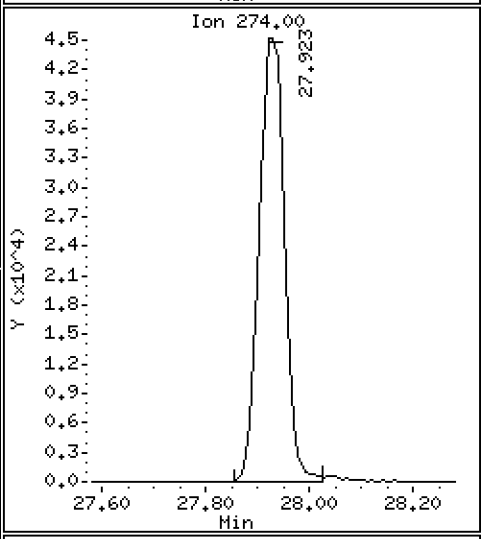
78 Indeno(1,2,3-cd)pyrene

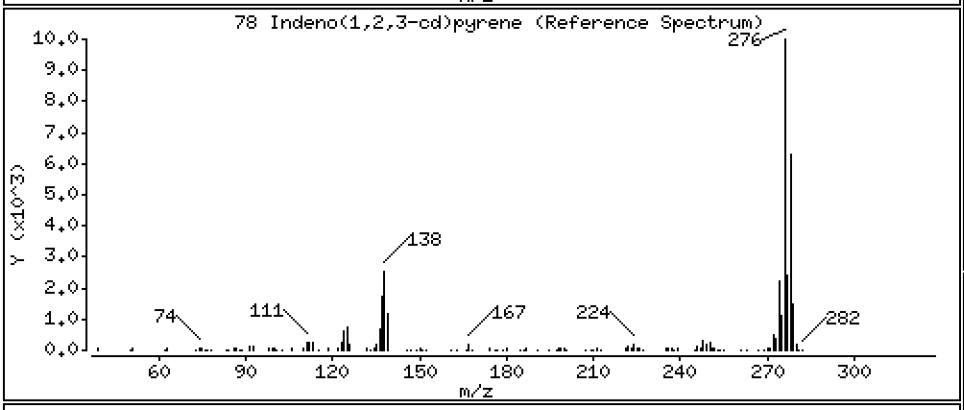
Concentration: 4.982 ug/mL

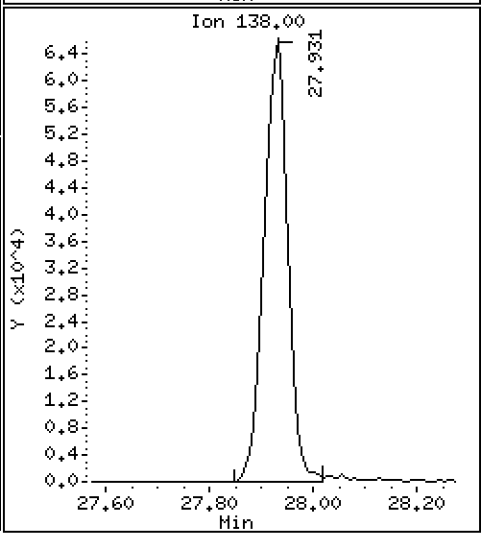


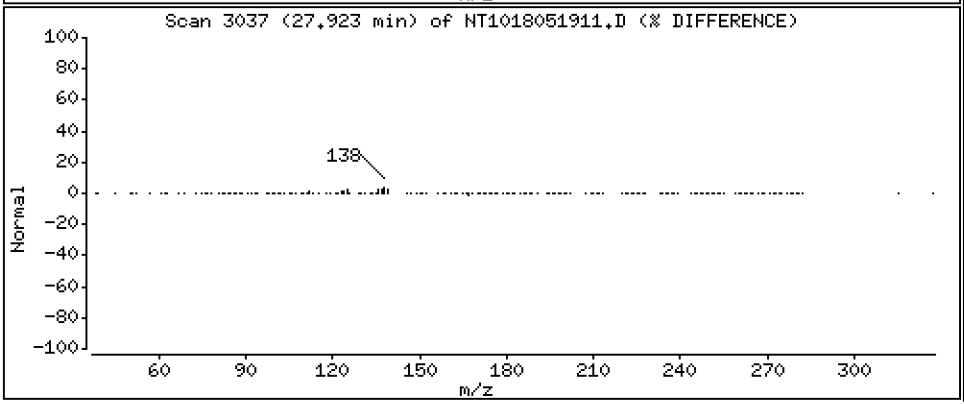












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

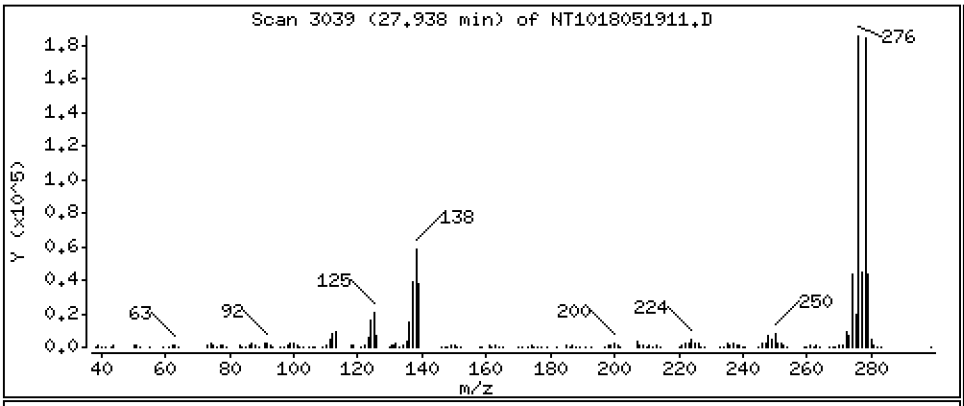
Operator: YZ

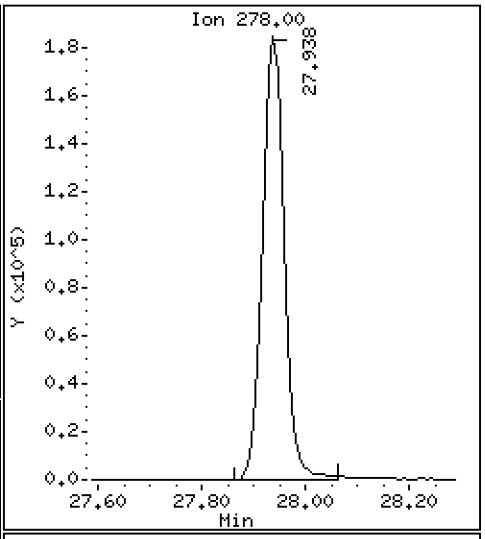
Column phase: ZB-5msi

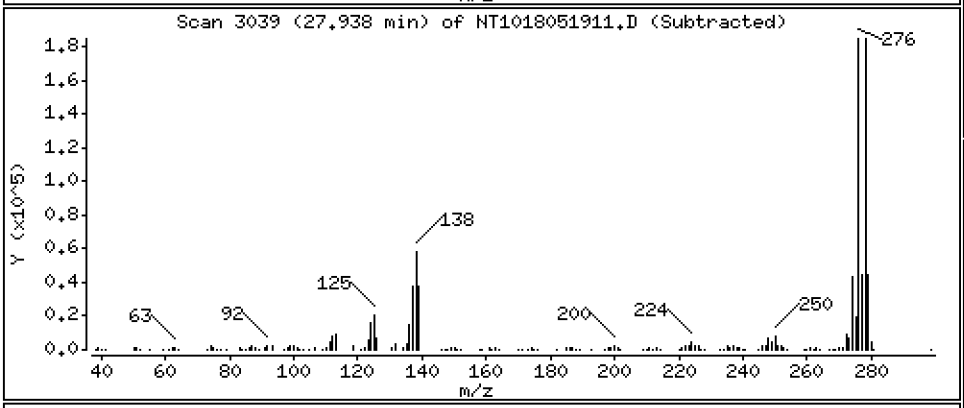
Column diameter: 0.25

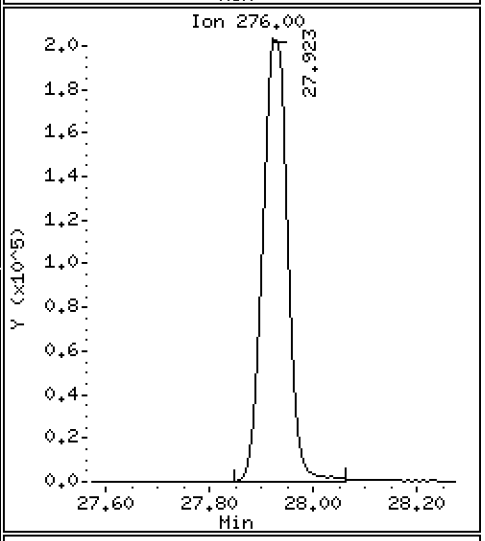
79 Dibenzo(a,h)anthracene

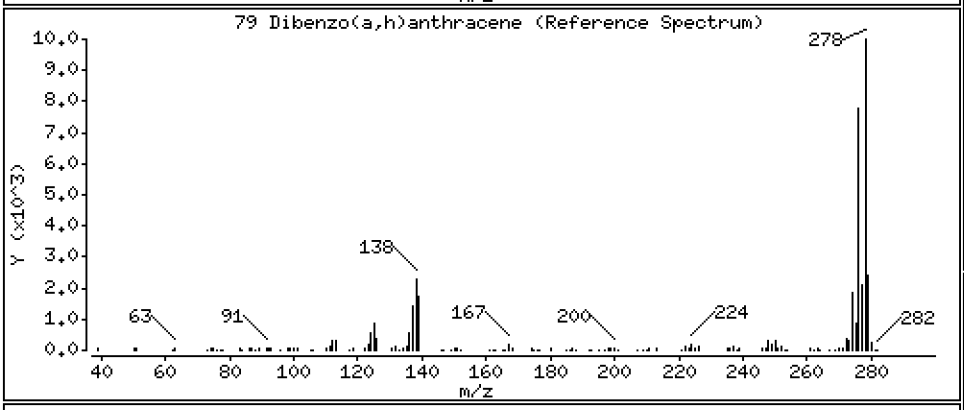
Concentration: 4.862 ug/mL

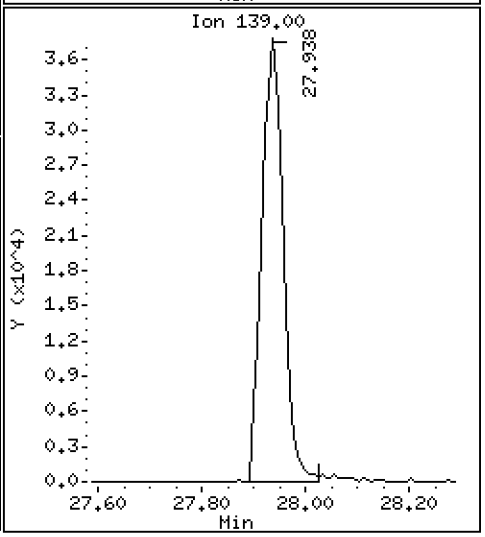


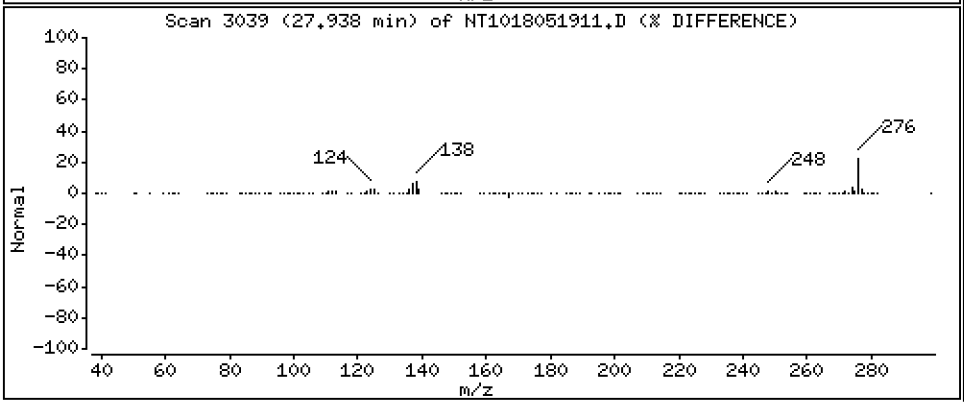












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

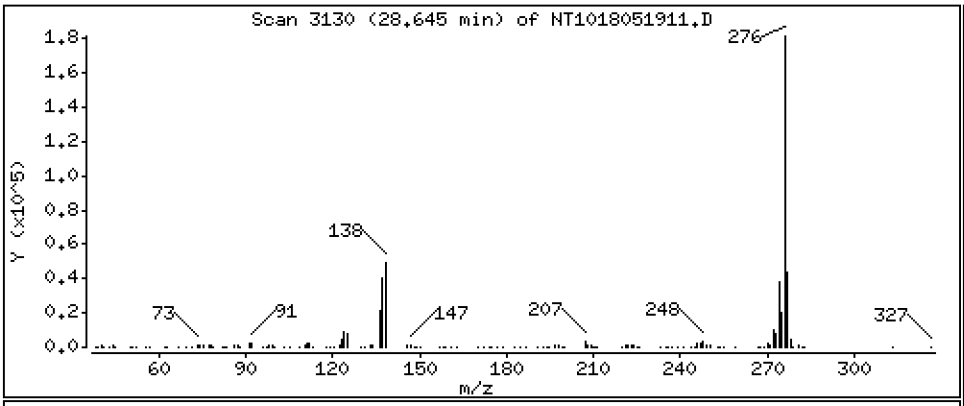
Operator: YZ

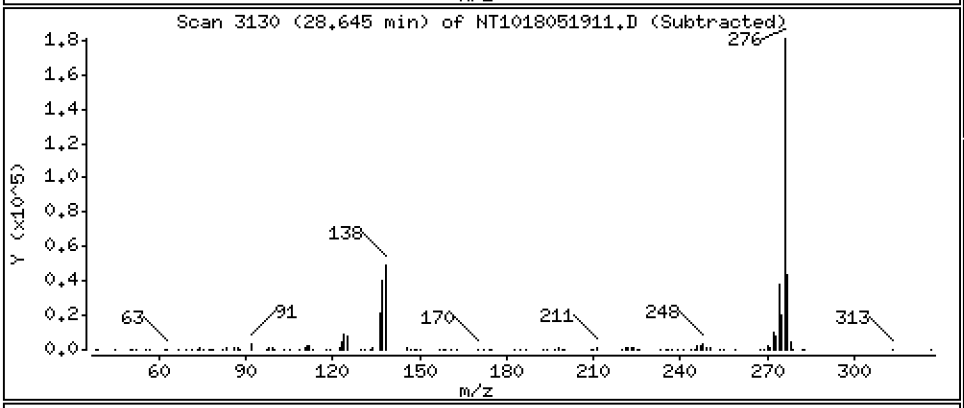
Column phase: ZB-5msi

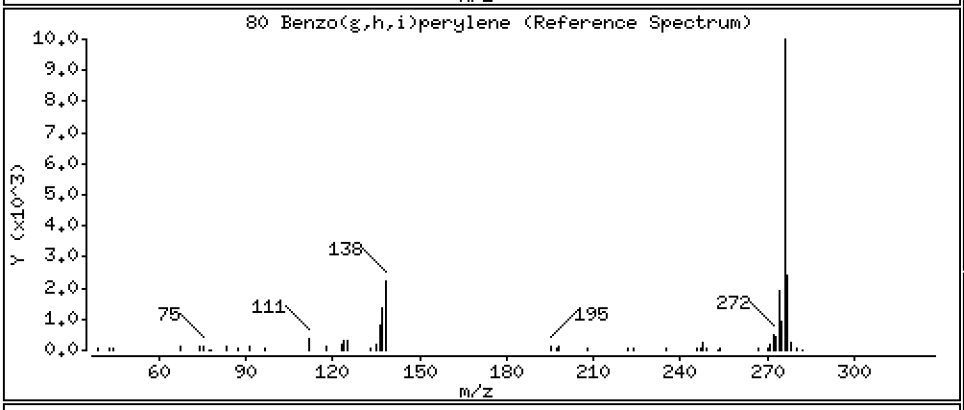
Column diameter: 0.25

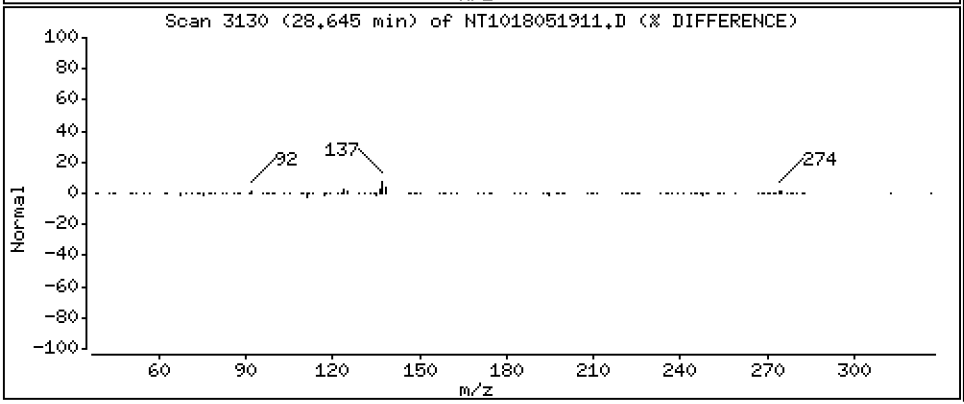
80 Benzo(g,h,i)perylene

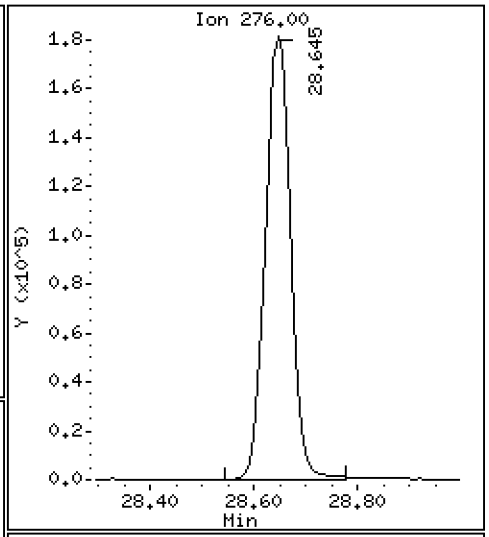
Concentration: 5.067 ug/mL

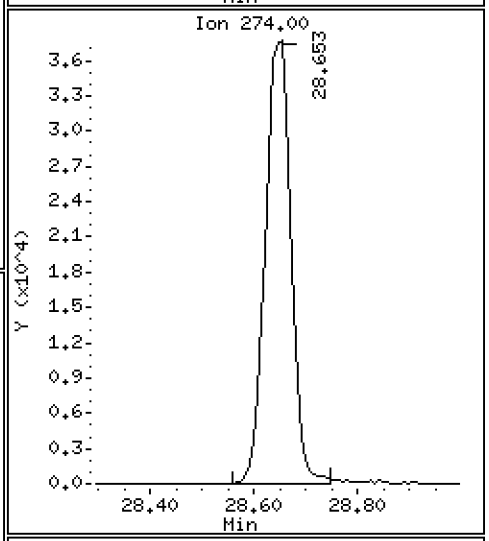


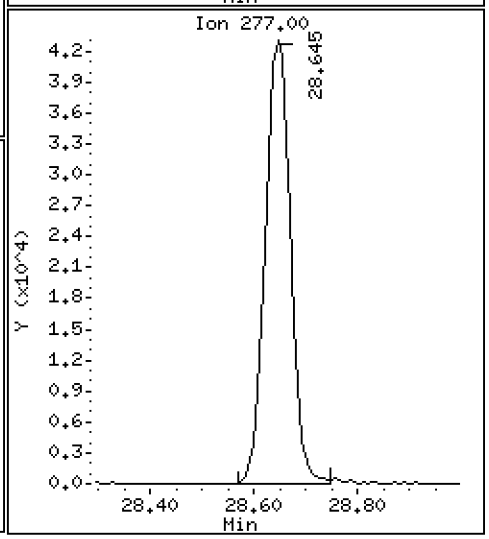












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

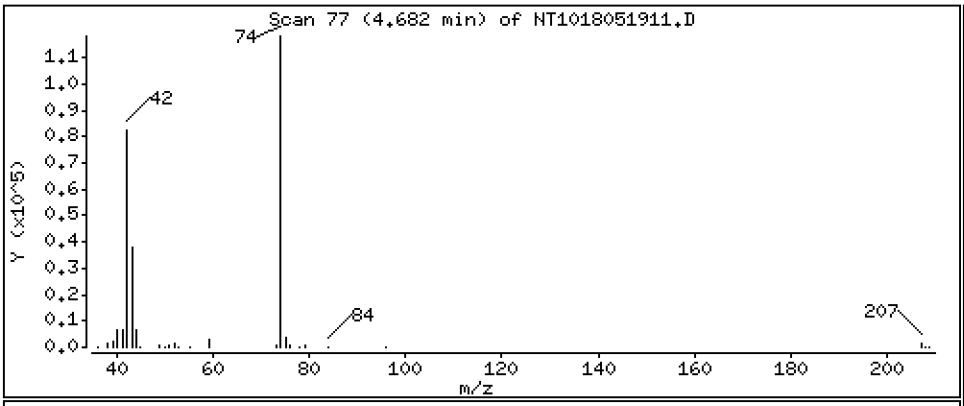
Operator: YZ

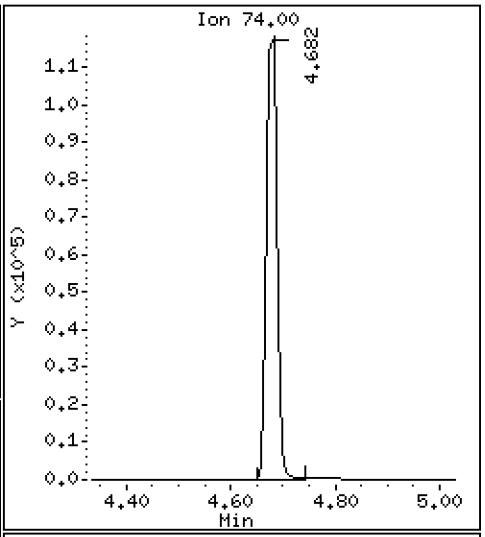
Column phase: ZB-5msi

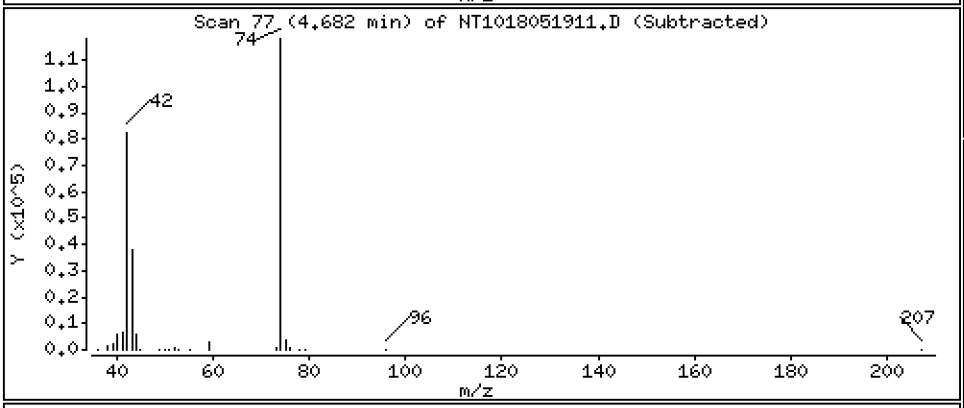
Column diameter: 0.25

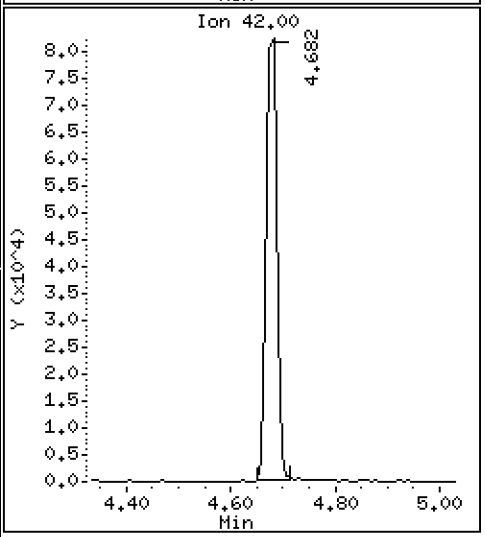
90 N-Nitrosodimethylamine

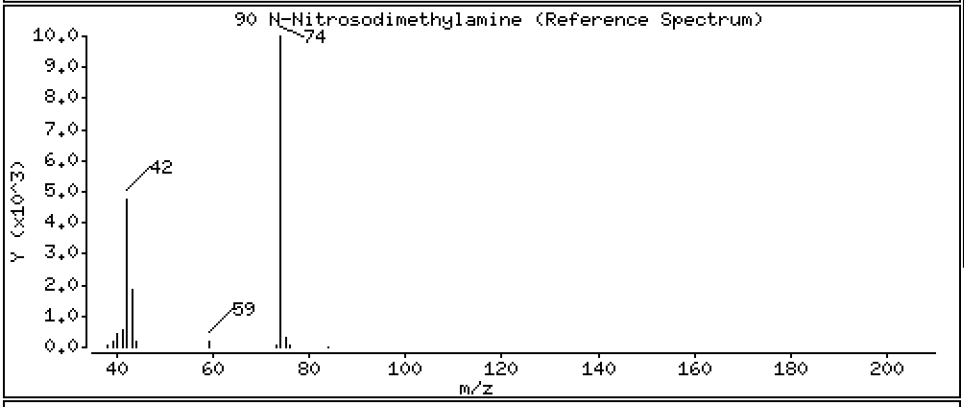
Concentration: 6.676 ug/mL

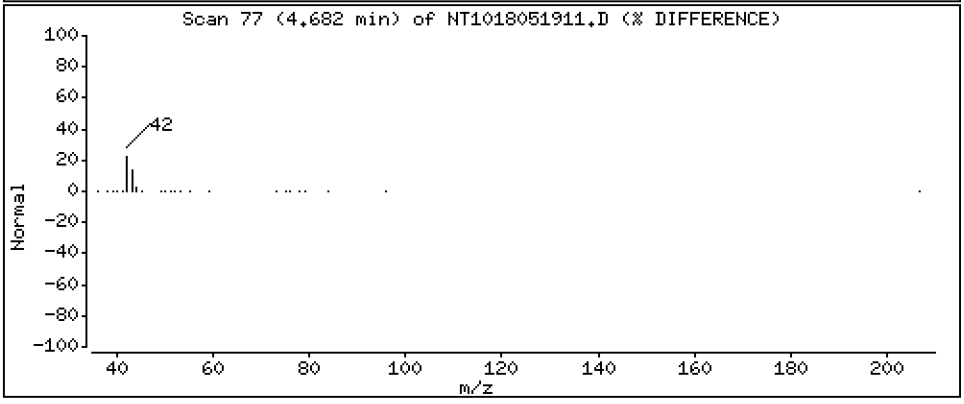












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

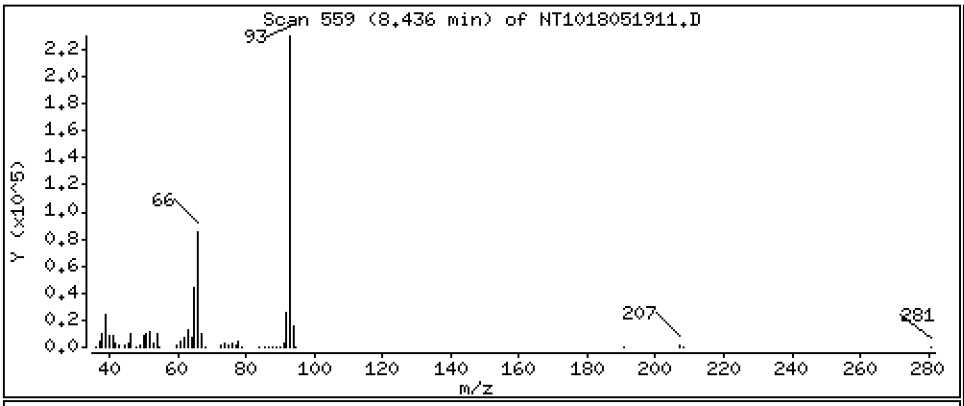
Operator: YZ

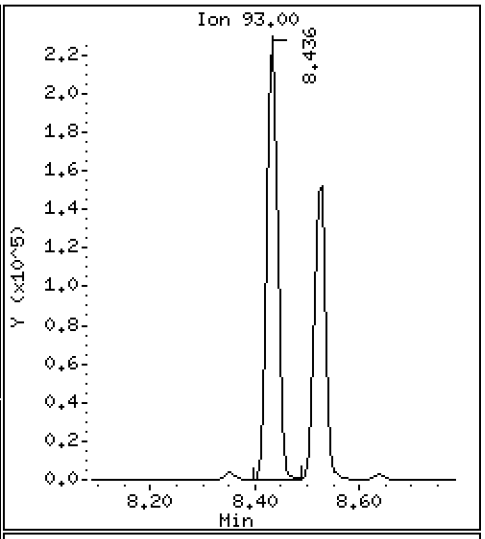
Column phase: ZB-5msi

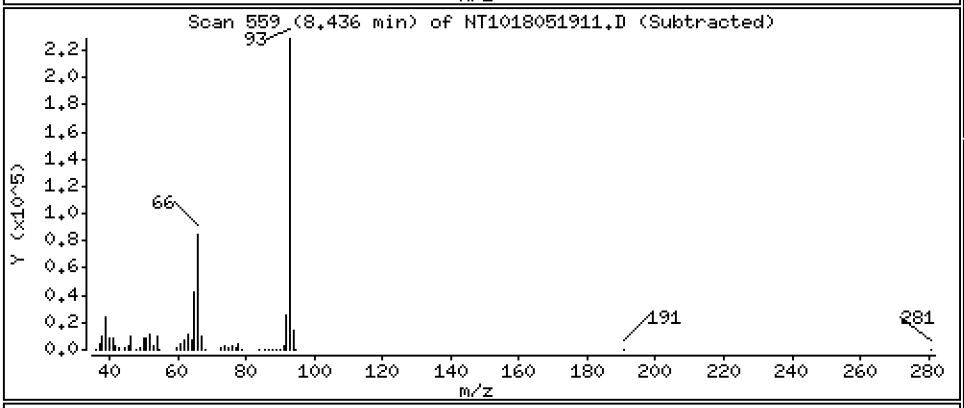
Column diameter: 0.25

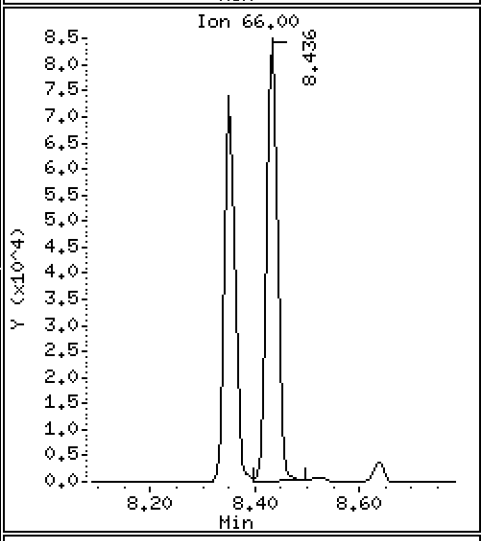
91 Aniline

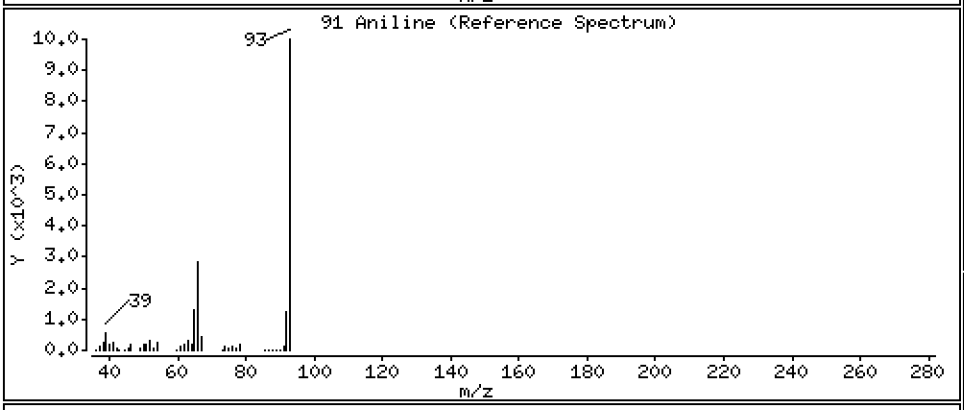
Concentration: 5.424 ug/mL

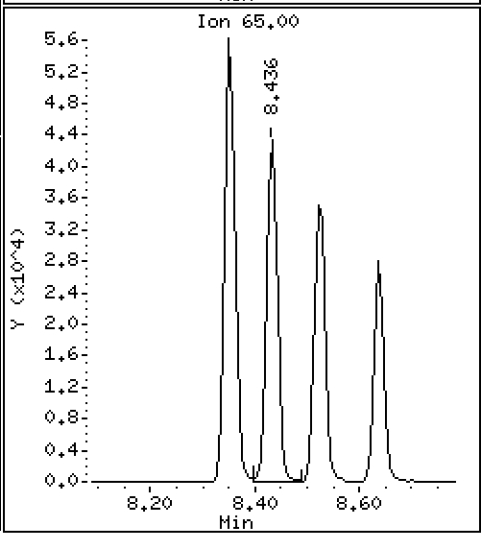


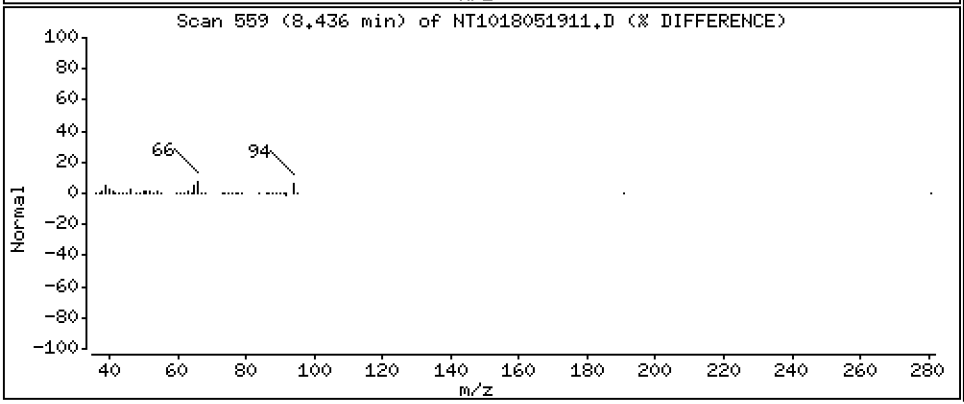












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

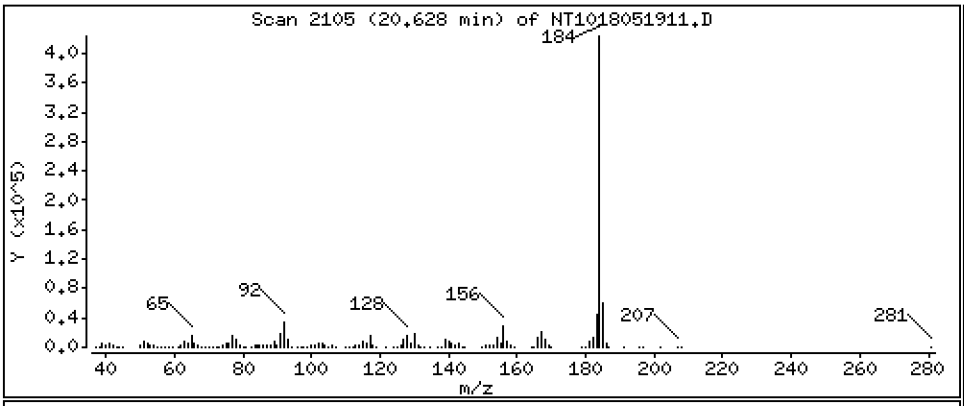
Operator: YZ

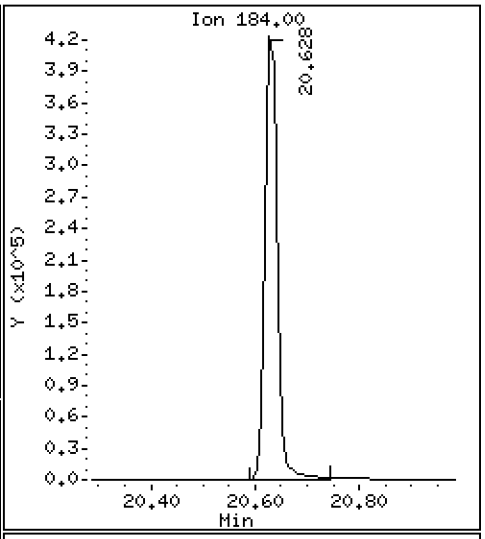
Column phase: ZB-5msi

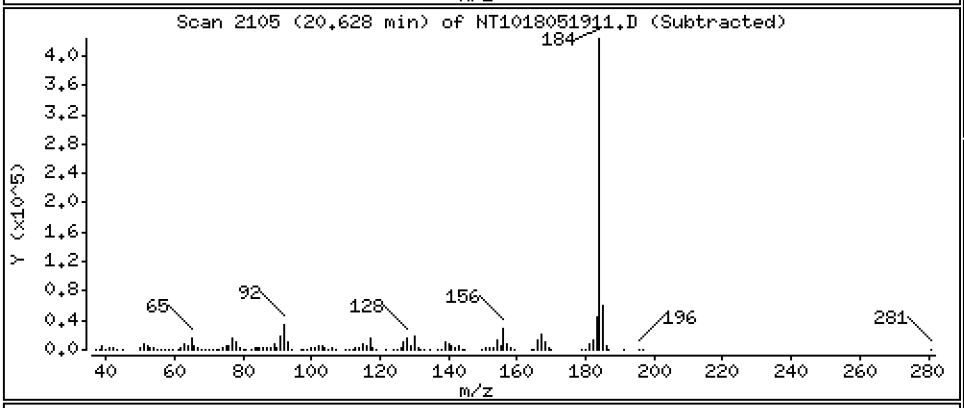
Column diameter: 0.25

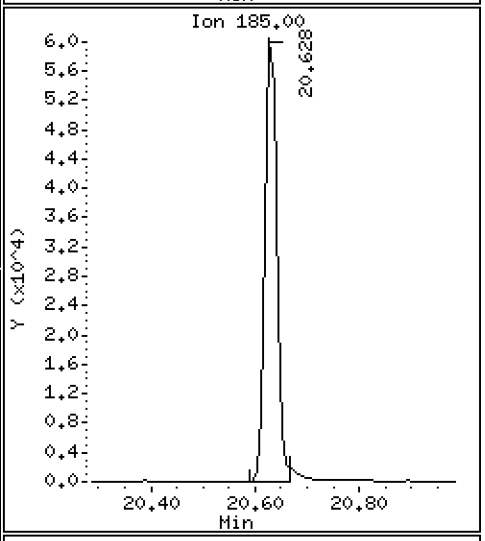
93 Benzidine

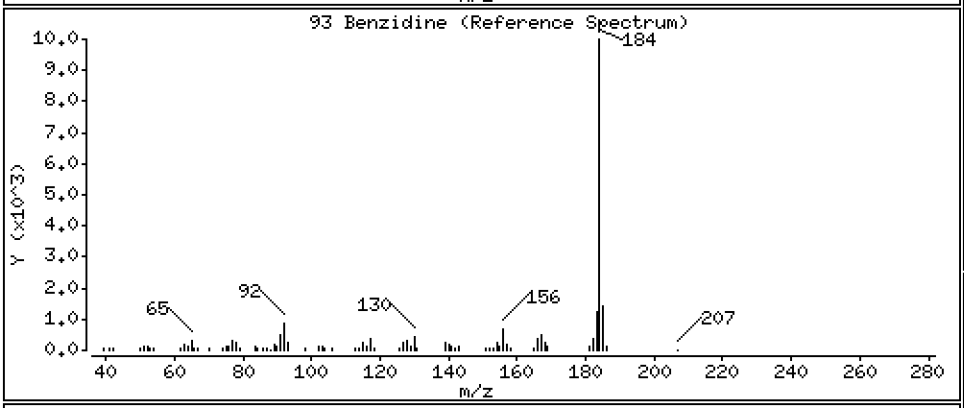
Concentration: 10.70 ug/mL

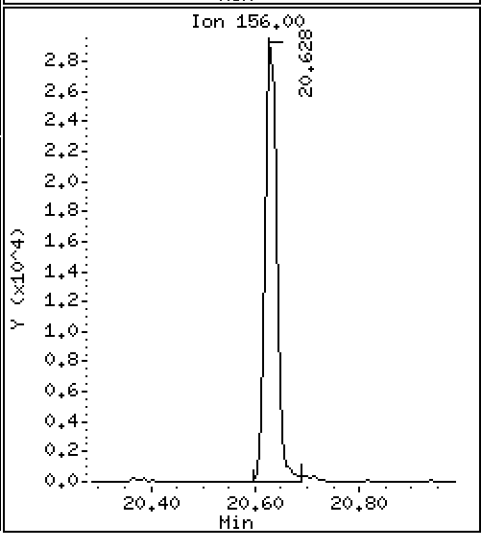


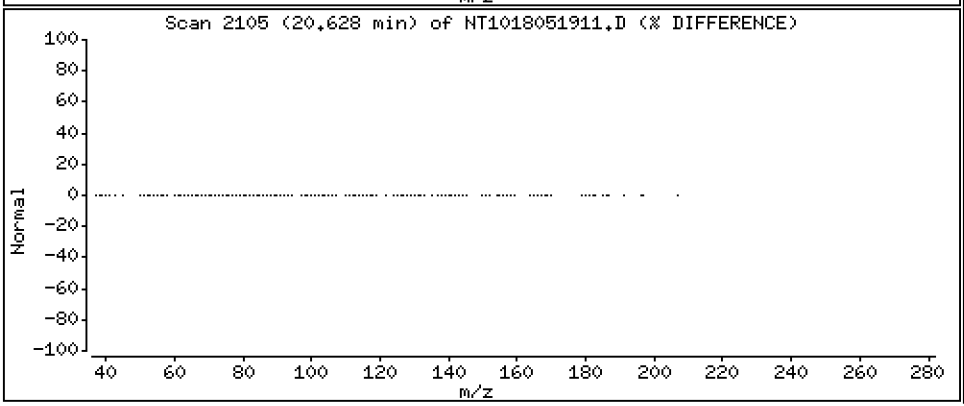












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

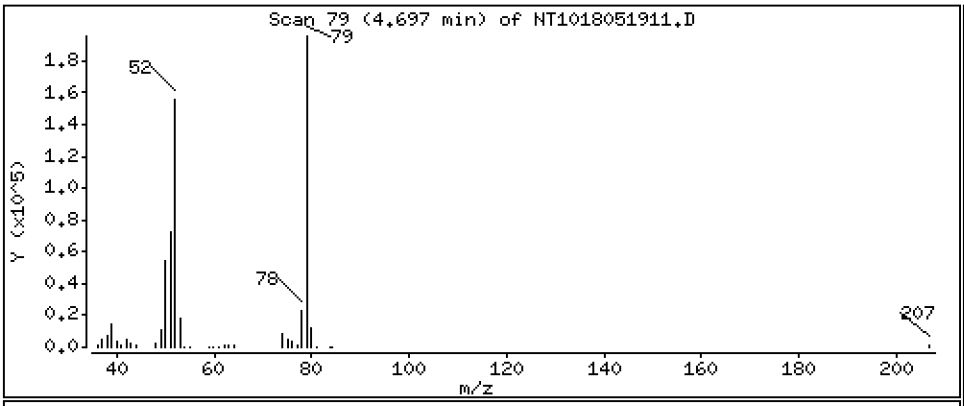
Operator: YZ

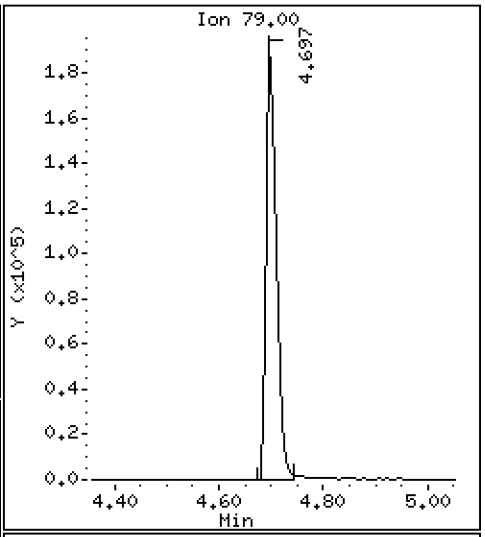
Column phase: ZB-5msi

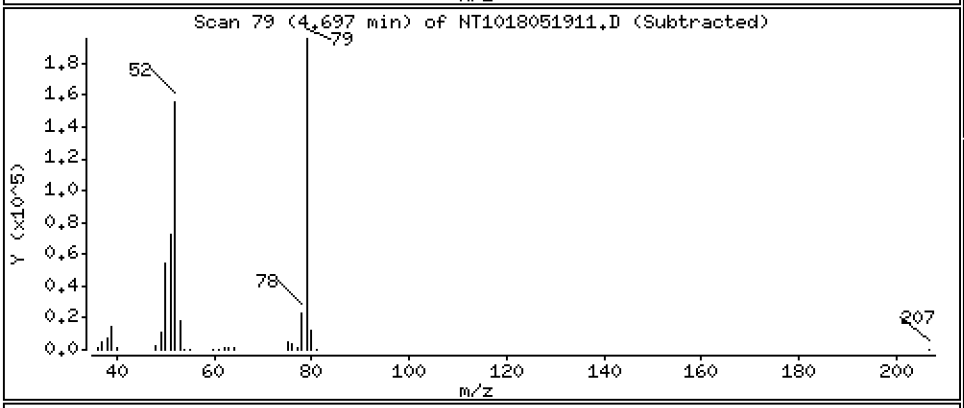
Column diameter: 0.25

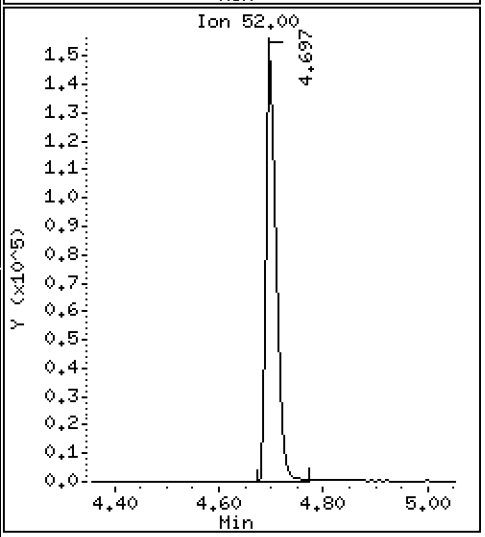
103 Pyridine

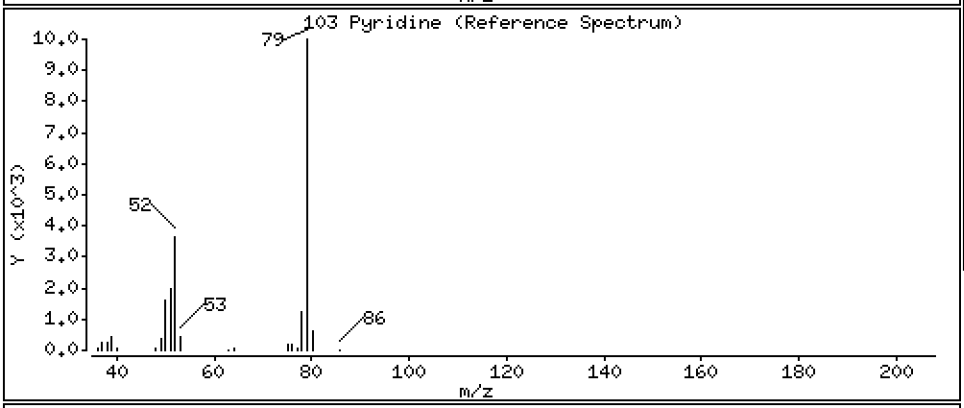
Concentration: 5.898 ug/mL

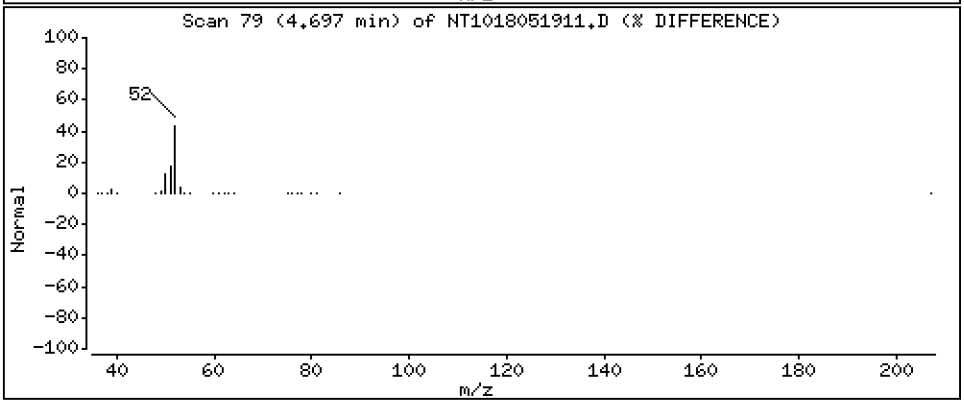












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

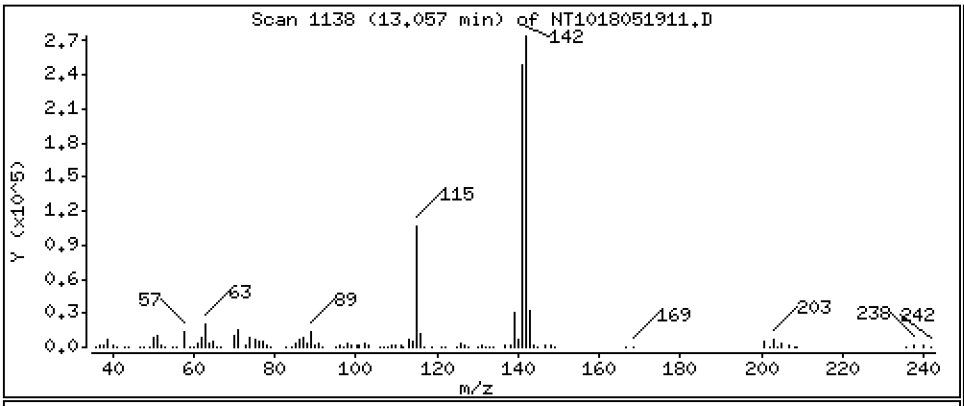
Operator: YZ

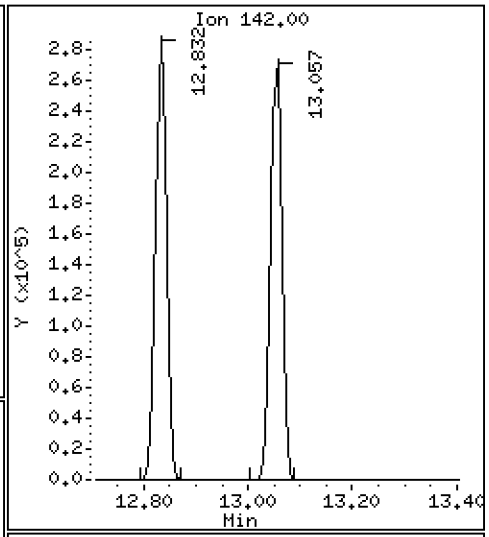
Column phase: ZB-5msi

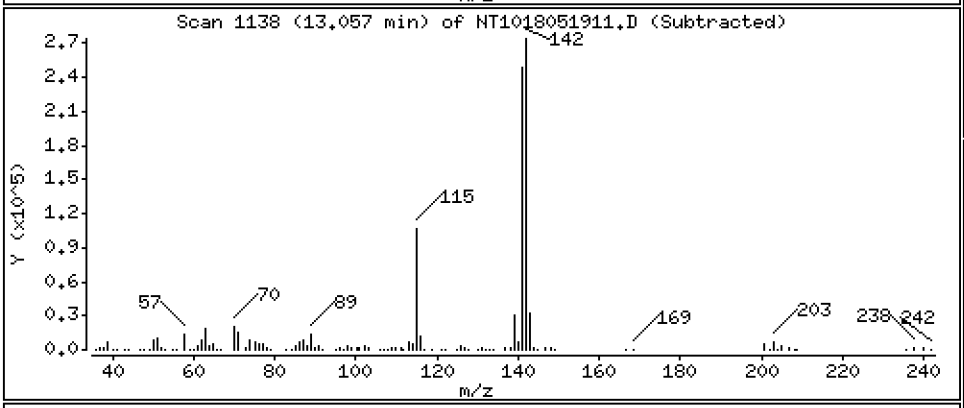
Column diameter: 0.25

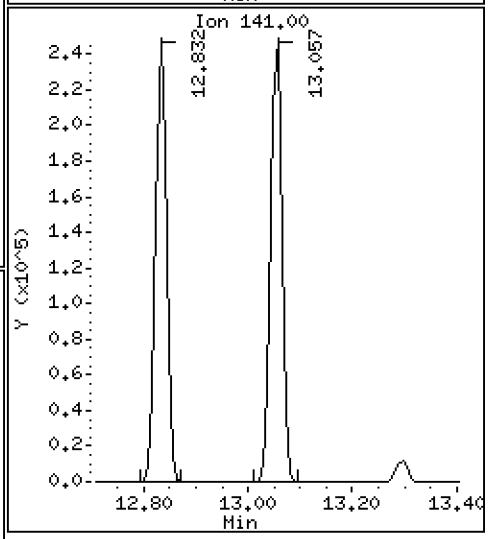
105 1-methylnaphthalene

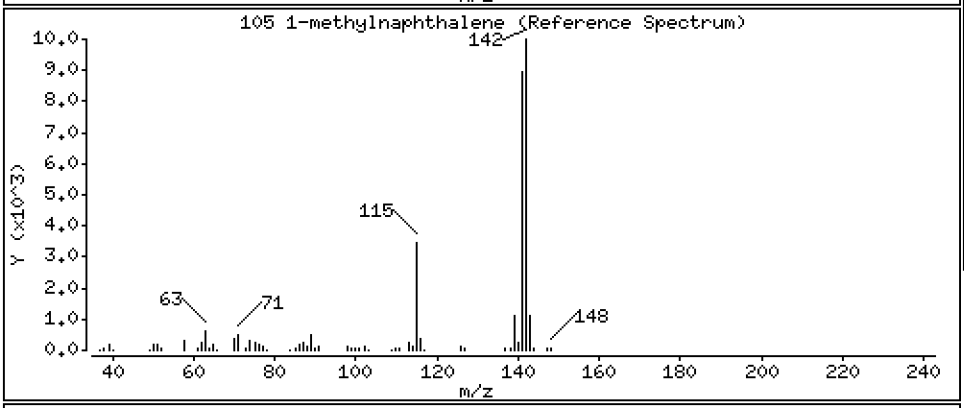
Concentration: 4.646 ug/mL

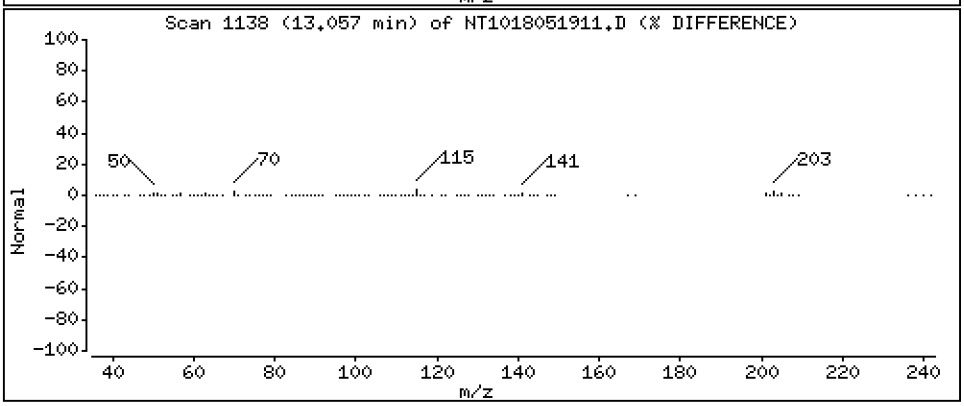












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

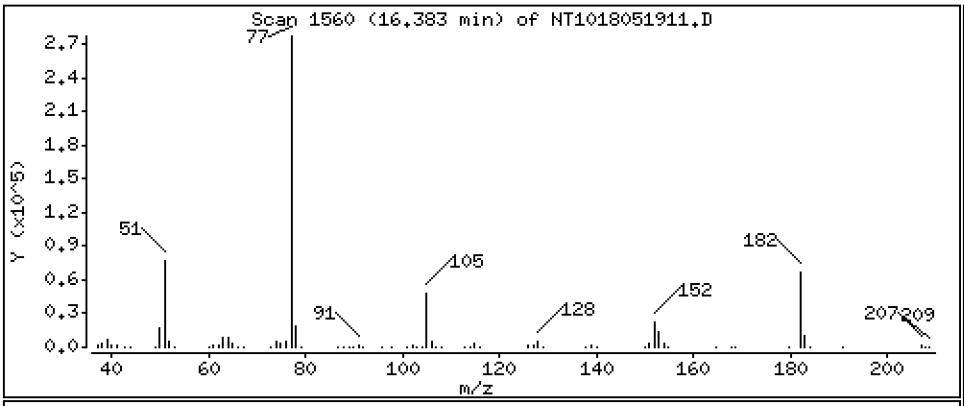
Operator: YZ

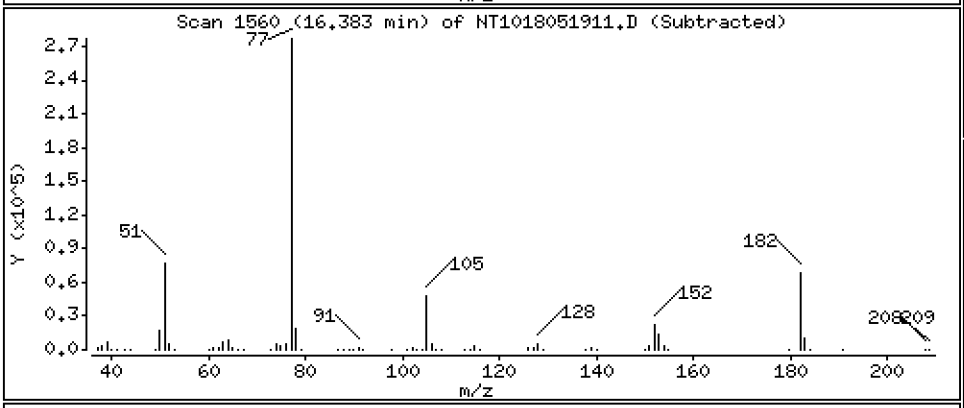
Column phase: ZB-5msi

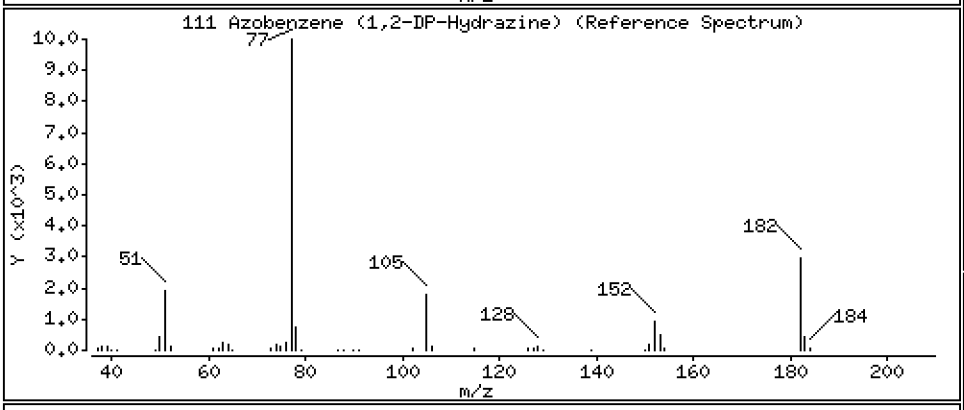
Column diameter: 0.25

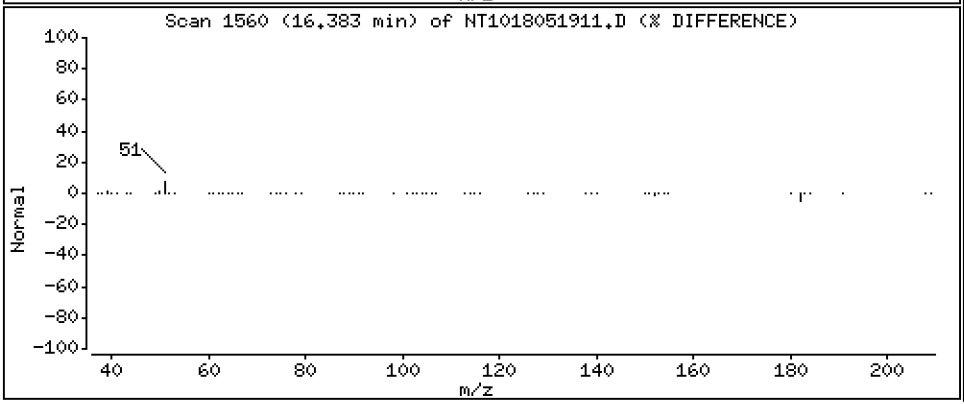
111 Azobenzene (1,2-DP-Hydrazine)

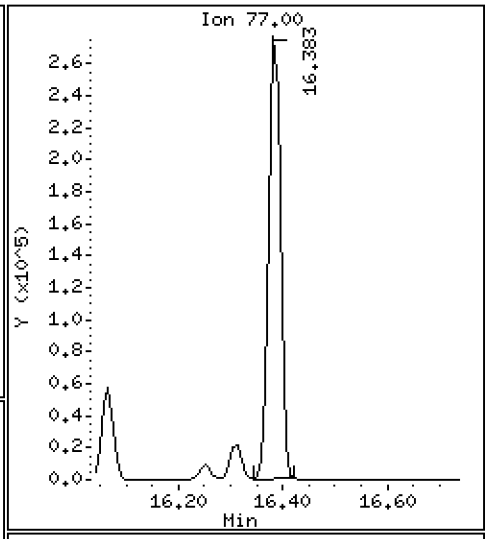
Concentration: 5.092 ug/mL

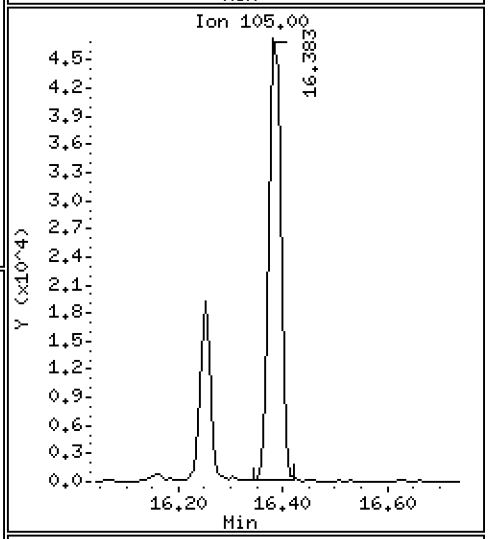


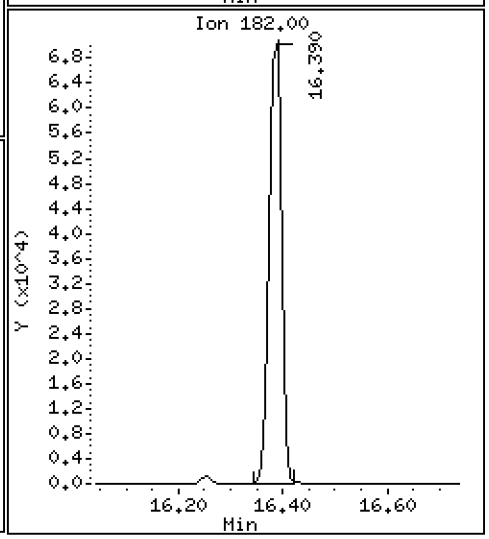












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

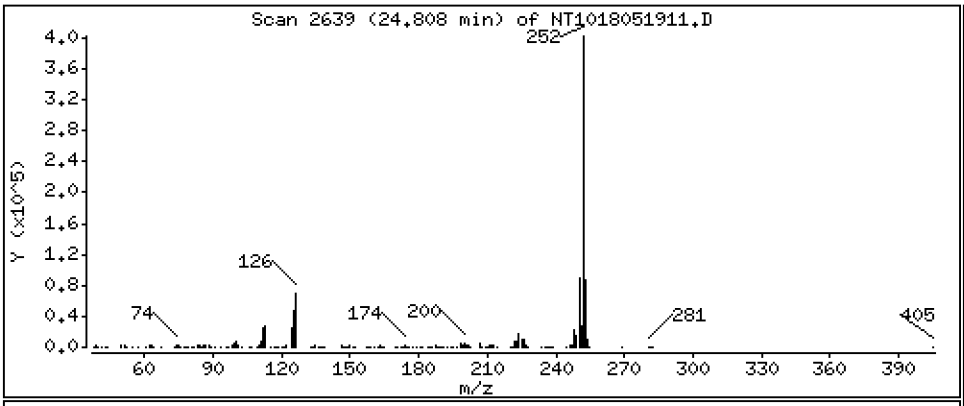
Operator: YZ

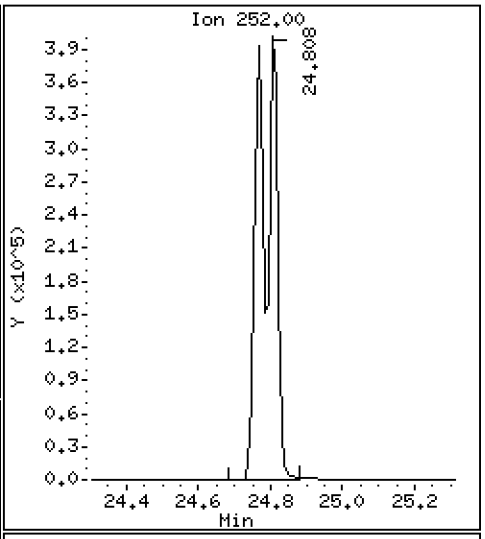
Column phase: ZB-5msi

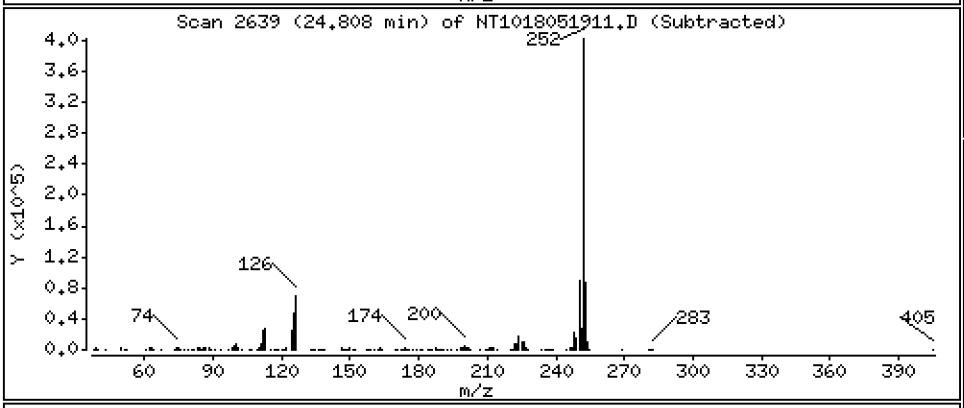
Column diameter: 0.25

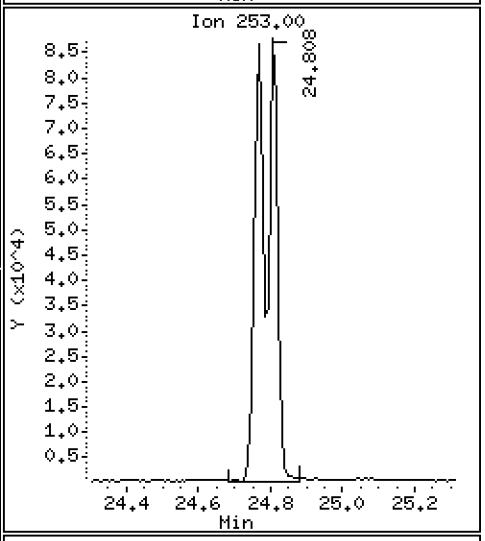
187 Total Benzofluoranthenes

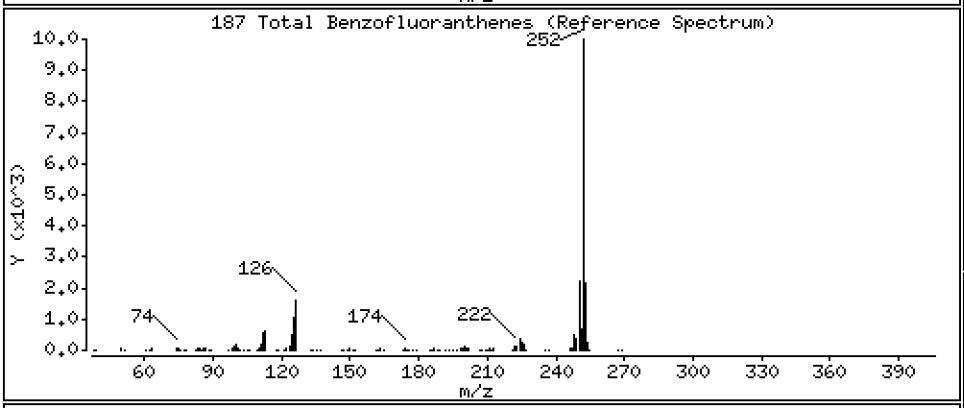
Concentration: 10.24 ug/mL

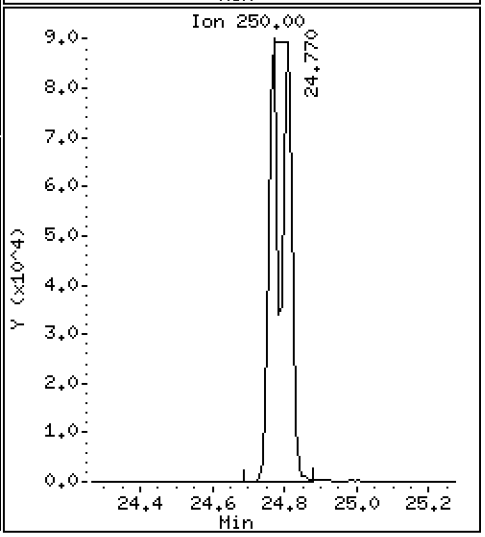


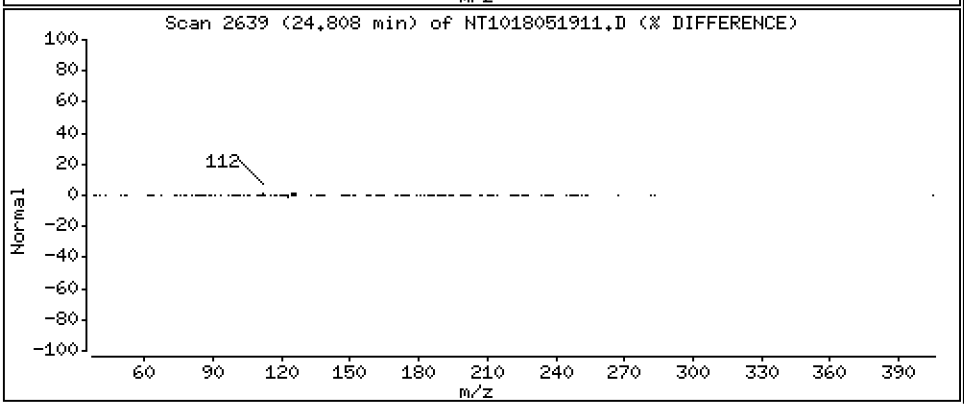












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

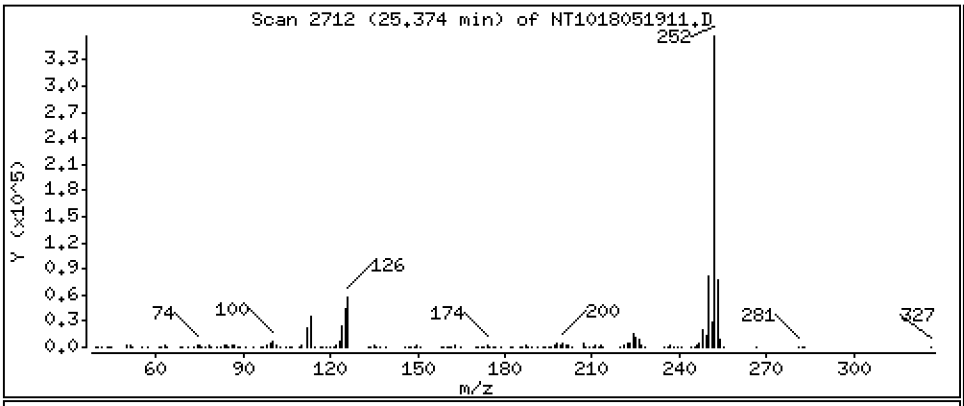
Operator: YZ

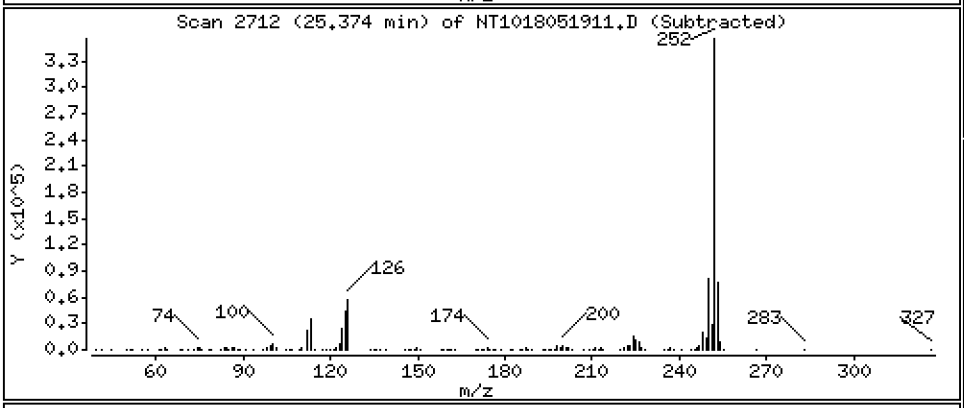
Column phase: ZB-5msi

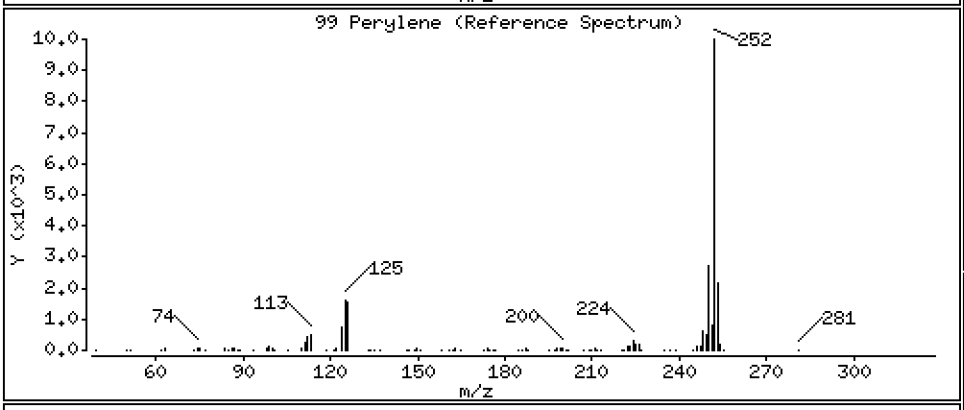
Column diameter: 0.25

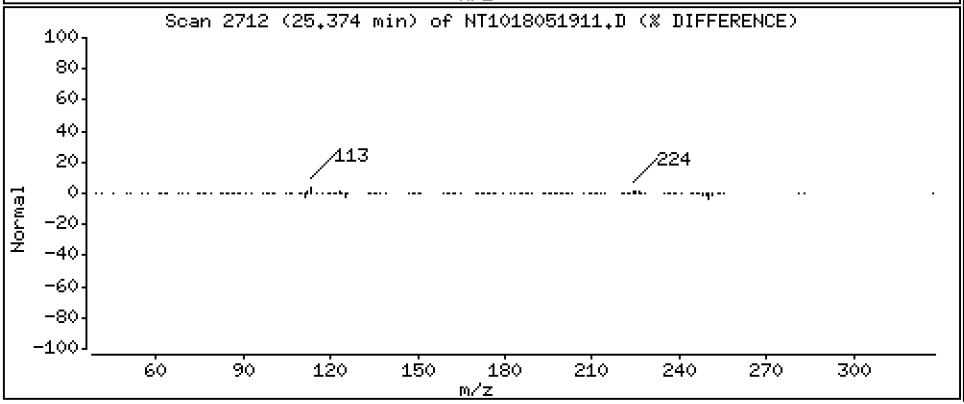
99 Perylene

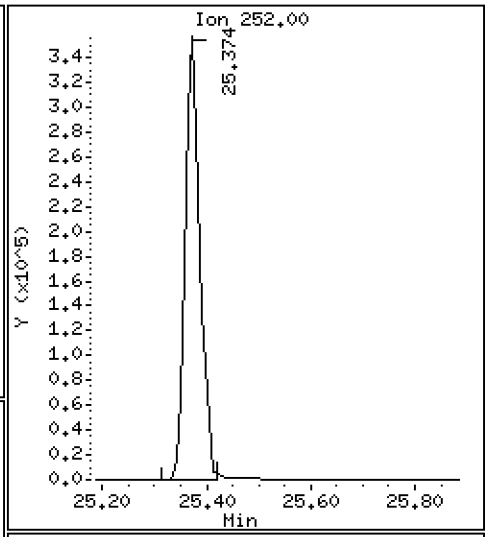
Concentration: 6.582 ug/mL

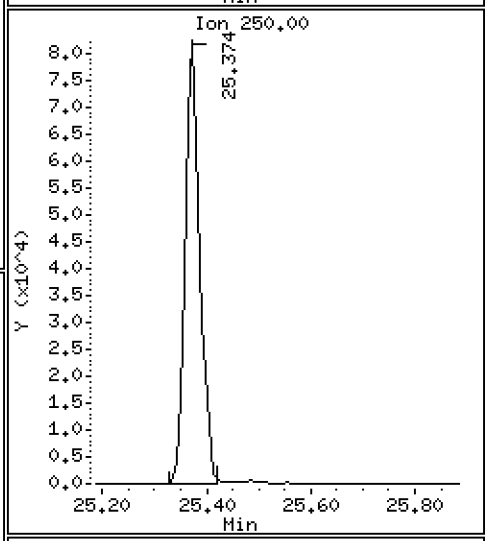


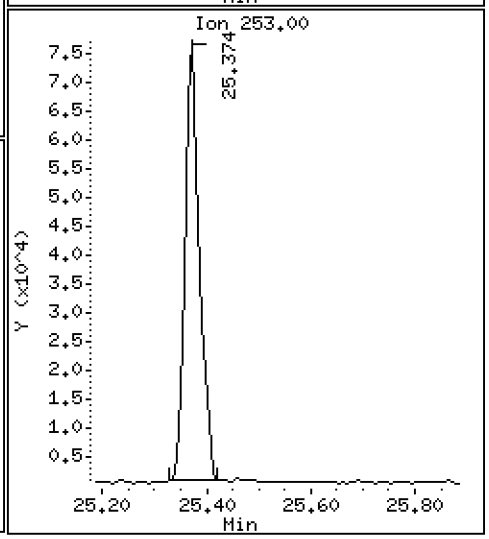












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

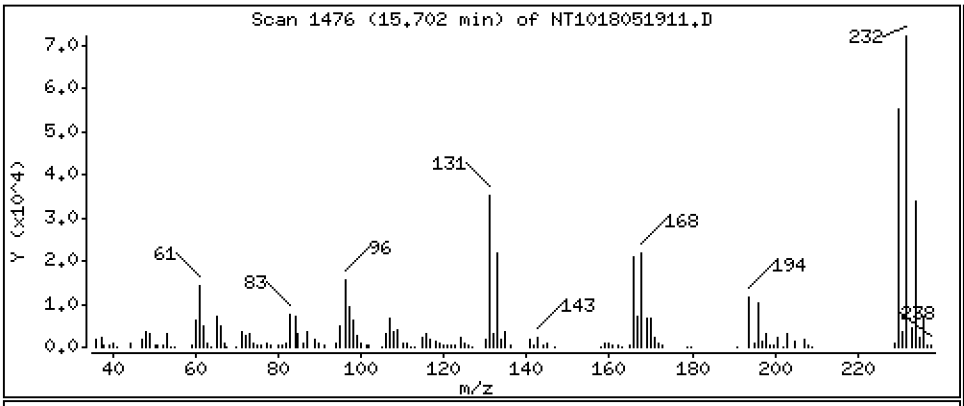
Operator: YZ

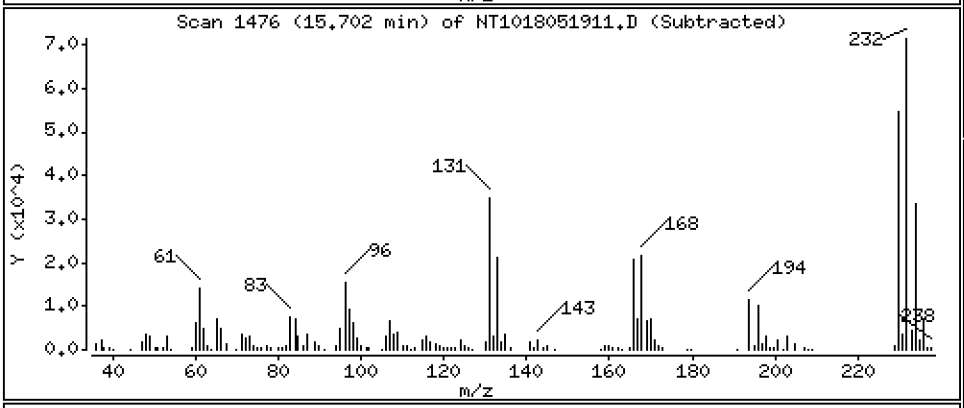
Column phase: ZB-5msi

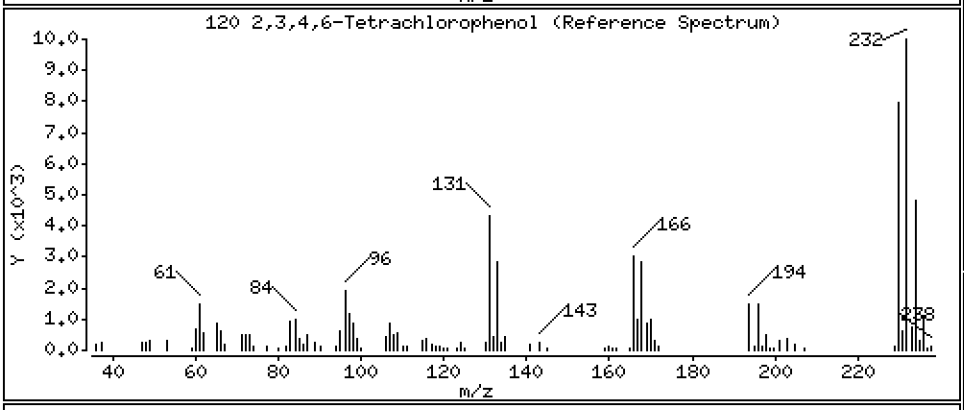
Column diameter: 0.25

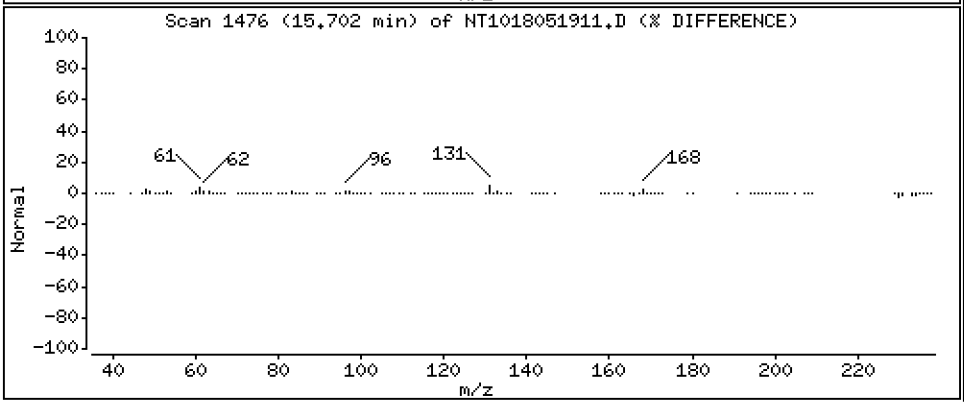
120 2,3,4,6-Tetrachlorophenol

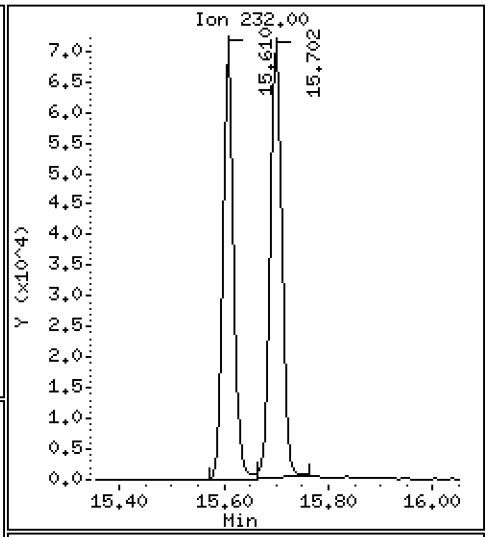
Concentration: 4.385 ug/mL

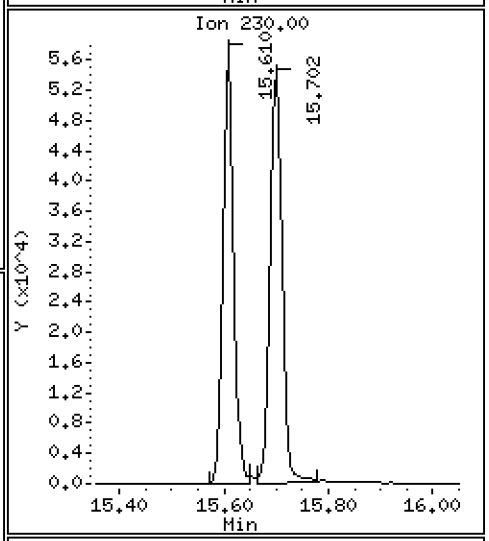


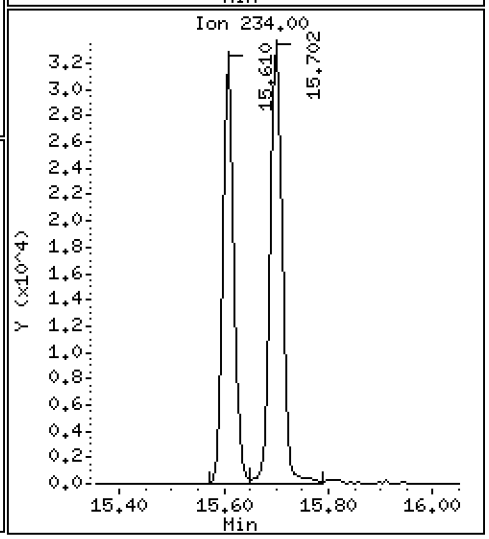












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Inj Date : 19-MAY-2018 14:41
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	Compound Not Detected.					
$	2 Phenol-d5	99	8.636	8.335	(0.963)	10865	0.20949	0.2095
	3 Phenol	94	8.350	8.358	(0.931)	273341	5.30700	5.307
$	5 2-Chlorophenol-d4	132	Compound Not Detected.					
	4 Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.951)	219383	5.53901	5.539
	6 2-Chlorophenol	128	8.636	8.644	(0.963)	217132	5.16610	5.166
	7 1,3-Dichlorobenzene	146	8.907	8.915	(0.993)	227049	5.37243	5.372
*	8 1,4-Dichlorobenzene-d4	152	8.969	8.977	(1.000)	114558	4.00000	
	9 1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	203912	5.32231	5.322
$	10 1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	204317	5.37505	5.375
	11 Benzyl alcohol	108	9.233	9.233	(1.029)	129203	5.06520	5.065
	14 2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.063)	70953	4.68901	4.689
	13 2-Methylphenol	108	9.458	9.458	(1.055)	174621	5.05495	5.055
	17 Hexachloroethane	117	9.939	9.939	(1.108)	94441	5.30106	5.301
	16 N-Nitroso-di-n-propylamine	70	9.784	9.792	(1.091)	136354	5.34970	5.350
	15 4-Methylphenol	108	9.722	9.722	(1.084)	185128	5.04685	5.047
$	18 Nitrobenzene-d5	82	Compound Not Detected.					
	19 Nitrobenzene	77	10.087	10.087	(0.884)	216451	5.41634	5.416
	20 Isophorone	82	10.521	10.529	(0.922)	421367	5.13541	5.135
	21 2-Nitrophenol	139	10.706	10.706	(0.938)	111210	5.04834	5.048
	22 2,4-Dimethylphenol	107	10.748	10.756	(0.941)	195289	4.99481	4.995
	23 Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	226106	5.25116	5.251
	24 Benzoic acid	105	10.905	10.955	(0.955)	229184	8.77175	8.772
	25 2,4-Dichlorophenol	162	11.146	11.146	(0.976)	164515	5.22199	5.222
	26 1,2,4-Trichlorobenzene	180	11.331	11.339	(0.993)	177707	5.24557	5.246
*	27 Naphthalene-d8	136	11.416	11.424	(1.000)	406906	4.00000	
	28 Naphthalene	128	11.462	11.463	(1.004)	546010	5.25527	5.255
	29 4-Chloroaniline	127	11.586	11.586	(1.015)	218431	4.71316	4.713
	30 Hexachlorobutadiene	225	11.818	11.818	(1.035)	110085	5.17407	5.174
	31 4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	178828	5.24318	5.243
	32 2-Methylnaphthalene	142	12.832	12.840	(1.124)	396080	4.83119	4.831
	33 Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	130932	5.56724	5.567

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	130011	5.02765	5.028
	35	2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	130161	4.51931	4.519
$	36	2-Fluorobiphenyl	172	Compound Not Detected.					
	37	2-Chloronaphthalene	162	13.815	13.815	(0.922)	403667	5.24570	5.246
	38	2-Nitroaniline	65	14.062	14.070	(0.939)	118178	5.50402	5.504
	39	Dimethylphthalate	163	14.496	14.504	(0.967)	399369	4.87649	4.876
	40	Acenaphthylene	152	14.674	14.674	(0.979)	617457	5.08656	5.087
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	94679	5.39109	5.391
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	212151	4.00000	
	43	3-Nitroaniline	138	14.906	14.914	(0.995)	106352	5.23421	5.234
	44	Acenaphthene	153	15.045	15.053	(1.004)	366140	5.07108	5.071
	45	2,4-Dinitrophenol	184	15.115	15.122	(1.009)	32016	2.94715	2.947
	46	Dibenzofuran	168	15.370	15.377	(1.026)	547789	4.88562	4.886
	47	4-Nitrophenol	109	15.215	15.223	(1.015)	52298	4.15065	4.151
	48	2,4-Dinitrotoluene	165	15.431	15.432	(1.030)	128491	5.68643	5.686
	50	Diethylphthalate	149	15.934	15.942	(1.063)	403756	4.83134	4.831
	49	Fluorene	166	16.073	16.073	(1.073)	428039	5.00218	5.002
	51	4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	201379	4.81704	4.817
	52	4-Nitroaniline	138	16.158	16.166	(1.078)	107243	5.46353	5.464
	53	4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	60956	3.46185	3.462
	54	N-Nitrosodiphenylamine	169	16.313	16.313	(0.908)	286378	5.22712	5.227
$	55	2,4,6-Tribromophenol	330	Compound Not Detected.					
	56	4-Bromophenyl-phenylether	248	17.053	17.061	(0.949)	123362	4.98836	4.988
	57	Hexachlorobenzene	284	17.362	17.370	(0.966)	122673	5.19592	5.196
	58	Pentachlorophenol	266	17.711	17.718	(0.985)	69303	4.99178	4.992
*	59	Phenanthrene-d10	188	17.974	17.982	(1.000)	407216	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	549283	5.08830	5.088
	61	Anthracene	178	18.113	18.121	(1.008)	549903	4.80467	4.805
	62	Carbazole	167	18.438	18.446	(1.026)	555100	5.43244	5.432
	63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	824291	5.29418	5.294
	64	Fluoranthene	202	20.395	20.395	(0.887)	748878	5.21358	5.214
	65	Pyrene	202	20.813	20.821	(0.905)	786056	5.25095	5.251
$	66	Terphenyl-d14	244	Compound Not Detected.					
	67	Butylbenzylphthalate	149	22.028	22.029	(0.958)	319521	5.39007	5.390
	68	Benzo(a)anthracene	228	22.958	22.966	(0.999)	660563	5.02994	5.030
*	69	Chrysene-d12	240	22.989	22.989	(1.000)	360730	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	460373	9.99155	9.992
	71	Chrysene	228	23.035	23.035	(1.002)	554854	5.26045	5.260
	72	bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	431855	5.23087	5.231
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	792512	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	896166	5.19293	5.193
	74	Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	664828	4.90589	4.906
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	739570	5.42328	5.423
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	721514	5.27753	5.278
*	77	Perylene-d12	264	25.481	25.482	(1.000)	387545	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.922	27.922	(1.096)	669280	4.98154	4.982
	79	Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	527262	4.86155	4.862
	80	Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	605896	5.06697	5.067
	90	N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	154746	6.67624	6.676
	91	Aniline	93	8.435	8.435	(0.941)	310490	5.42405	5.424
	93	Benzidine	184	20.627	20.635	(0.897)	653077	10.7046	10.70
	103	Pyridine	79	4.697	4.705	(0.524)	247064	5.89783	5.898
	105	1-methylnaphthalene	142	13.056	13.056	(1.144)	392256	4.64617	4.646
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	407279	5.09161	5.092

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1338371	10.2371	10.24
99	Perylene	252	25.373	25.536	(0.996)	721514	6.58216	6.582
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	104899	4.38535	4.385

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	114558	3.49
27 Naphthalene-d8	393946	196973	787892	406906	3.29
42 Acenaphthene-d10	203210	101605	406420	212151	4.40
59 Phenanthrene-d10	403506	201753	807012	407216	0.92
69 Chrysene-d12	354618	177309	709236	360730	1.72
134 Di-n-octylphthala	800232	400116	1600464	792512	-0.96
77 Perylene-d12	378948	189474	757896	387545	2.27

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.97	-0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.97	-0.04
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051911.D

Lab ID: SGE0328-SCV1
nt10.i, ABN.m, 19-MAY-2018 14:41

RT	CO-ELUTION COMPOUNDS
25.374	Perylene and Benzo(a)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BE00068
Laboratory ID: SGG0051-LCV1
Sequence: SGG0051
Standard ID: G003854

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	0.20000	0.1	-30.4	
bis(2-chloroethyl) ether	0.20000	0.2	-7.6	
2-Chlorophenol	0.20000	0.2	1.3	
1,3-Dichlorobenzene	0.20000	0.2	4.0	
1,4-Dichlorobenzene	0.20000	0.2	16.2	
1,2-Dichlorobenzene	0.20000	0.2	11.7	
Benzyl Alcohol	0.20000	0.07	-66.6	
2,2'-Oxybis(1-chloropropane)	0.20000	0.2	-7.7	
2-Methylphenol	0.20000	0.2	-23.2	
Hexachloroethane	0.20000	0.3	40.5	
N-Nitroso-di-n-Propylamine	0.20000	0.3	30.4	
4-Methylphenol	0.20000	0.1	-25.1	
Nitrobenzene	0.20000	0.3	25.1	
Isophorone	0.20000	0.2	-8.7	
2-Nitrophenol	0.20000	0.2	-21.5	
2,4-Dimethylphenol	0.40000	0.5	13.7	
Bis(2-Chloroethoxy)methane	0.20000	0.2	-14.1	
2,4-Dichlorophenol	0.40000	0.3	-16.9	
1,2,4-Trichlorobenzene	0.20000	0.2	17.6	
Naphthalene	0.20000	0.3	37.5	
Benzoic acid	0.80000	0.0		
4-Chloroaniline	0.40000	0.3	-22.1	
Hexachlorobutadiene	0.20000	0.3	46.1	
4-Chloro-3-Methylphenol	0.40000	0.3	-15.4	
2-Methylnaphthalene	0.20000	0.2	9.2	
Hexachlorocyclopentadiene	0.40000	0.3	-29.1	
2,4,6-Trichlorophenol	0.40000	0.4	-0.3	
2,4,5-Trichlorophenol	0.40000	0.4	-3.4	
2-Chloronaphthalene	0.20000	0.2	-2.3	

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc. **SDG:** 18F0364

Client: Windward Environmental, LLC **Project:** AOC3 Clam Collection

Calibration: BE00068 **Laboratory ID:** SGG0051-LCV1

Sequence: SGG0051 **Standard ID:** G003854

2-Nitroaniline	0.40000	0.5	13.0	
Acenaphthylene	0.20000	0.2	24.9	
Dimethylphthalate	0.20000	0.3	30.7	
2,6-Dinitrotoluene	0.40000	0.5	35.0	
Acenaphthene	0.20000	0.2	23.1	
3-Nitroaniline	0.40000	0.04	-89.9	
2,4-Dinitrophenol	0.80000	0.07	-91.4	
Dibenzofuran	0.20000	0.2	-0.5	
4-Nitrophenol	0.40000	0.1	-68.4	
2,4-Dinitrotoluene	0.40000	0.4	7.9	
Fluorene	0.20000	0.3	47.8	
4-Chlorophenylphenyl ether	0.20000	0.3	56.7	
Diethyl phthalate	0.20000	0.3	35.9	
4-Nitroaniline	0.40000	0.2	-39.3	
4,6-Dinitro-2-methylphenol	0.80000	0.3	-56.7	
N-Nitrosodiphenylamine	0.20000	0.3	35.0	
4-Bromophenyl phenyl ether	0.20000	0.2	14.9	
Hexachlorobenzene	0.20000	0.2	7.5	
Pentachlorophenol	0.40000	0.06	-86.1	
Phenanthrene	0.20000	0.2	19.9	
Anthracene	0.20000	0.2	14.8	
Carbazole	0.20000	0.2	7.5	
Di-n-Butylphthalate	0.20000	0.2	19.6	
Fluoranthene	0.20000	0.2	9.1	
Pyrene	0.20000	0.2	-0.5	
Butylbenzylphthalate	0.20000	0.3	45.0	
Benzo(a)anthracene	0.20000	0.3	47.8	
3,3'-Dichlorobenzidine	0.60000	0.7	20.8	
Chrysene	0.20000	0.3	61.0	
bis(2-Ethylhexyl)phthalate	0.20000	0.3	41.6	
Di-n-Octylphthalate	0.20000	0.2	20.2	

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270D

Laboratory: Analytical Resources, Inc. **SDG:** 18F0364

Client: Windward Environmental, LLC **Project:** AOC3 Clam Collection

Calibration: BE00068 **Laboratory ID:** SGG0051-LCV1

Sequence: SGG0051 **Standard ID:** G003854

Benzofluoranthenes, Total	0.40000	0.6	54.1	
Benzo(a)pyrene	0.20000	0.3	32.3	
Indeno(1,2,3-cd)pyrene	0.20000	0.3	56.9	
Dibenzo(a,h)anthracene	0.20000	0.4	79.5	
Benzo(g,h,i)perylene	0.20000	0.3	71.8	
1-Methylnaphthalene	0.20000	0.2	0.7	
2-Fluorophenol	0.30000	0.222	-26.1	
Phenol-d5	0.30000	0.204	-31.9	
2-Chlorophenol-d4	0.30000	0.283	-5.8	
1,2-Dichlorobenzene-d4	0.20000	0.215	7.5	
Nitrobenzene-d5	0.20000	0.225	12.7	
2-Fluorobiphenyl	0.20000	0.196	-2.2	
2,4,6-Tribromophenol	0.30000	0.198	-34.0	
p-Terphenyl-d14	0.20000	0.230	15.1	

* Values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

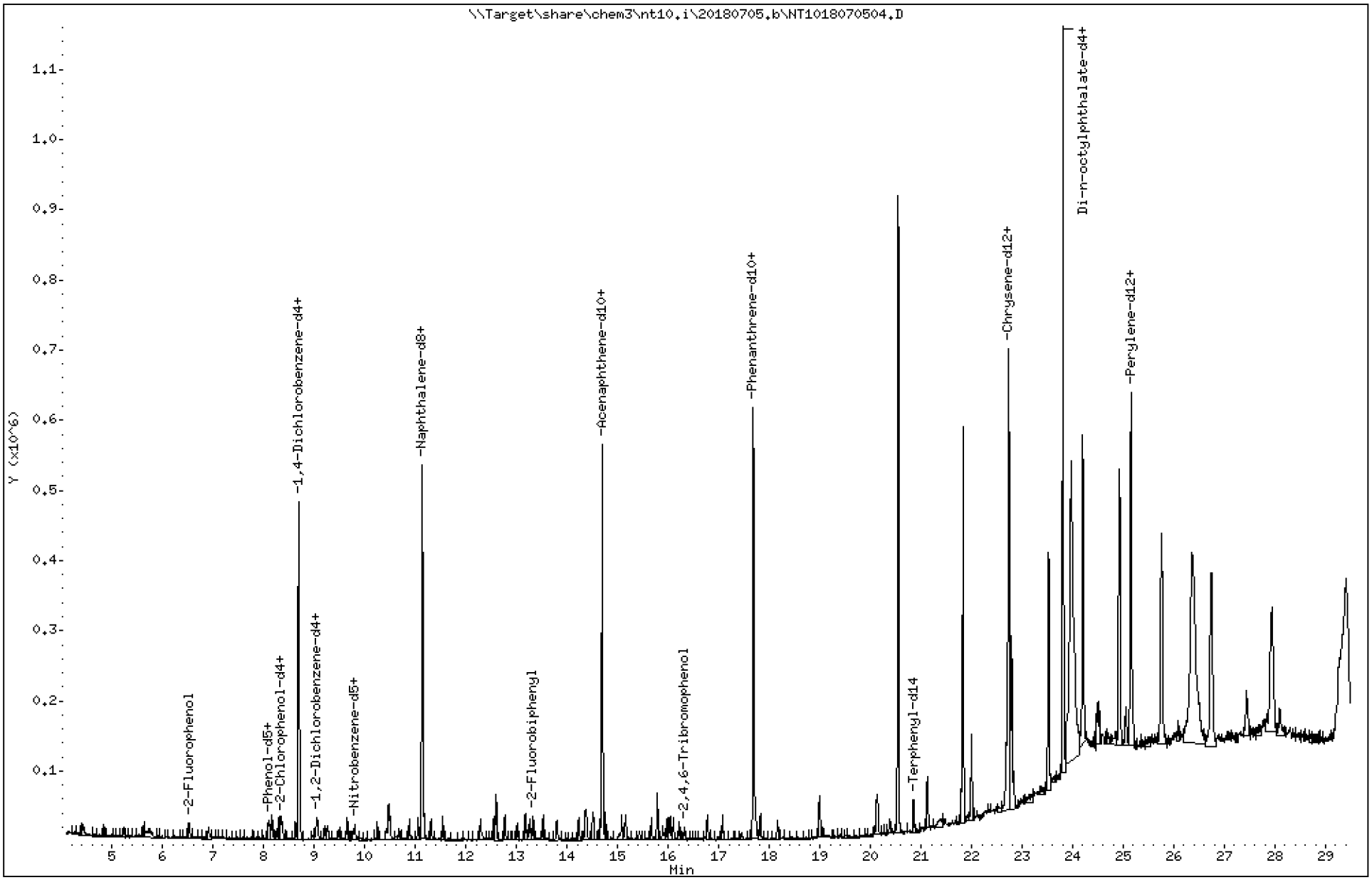
Instrument: nt10.i

Sample Info: SGG0051-LCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

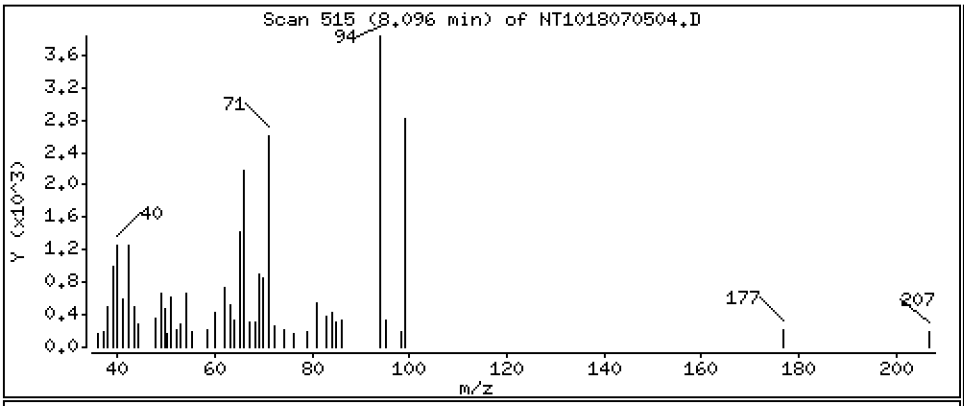
Operator: YZ

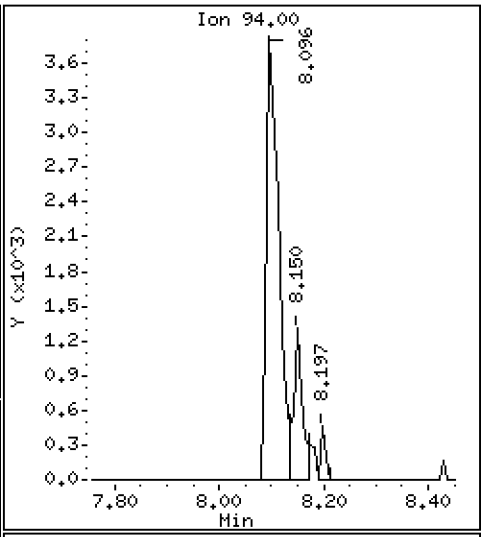
Column phase: ZB-5msi

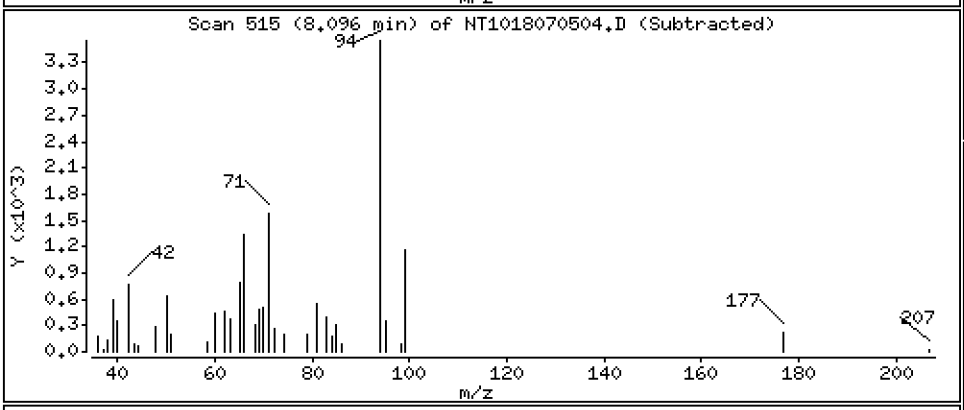
Column diameter: 0.25

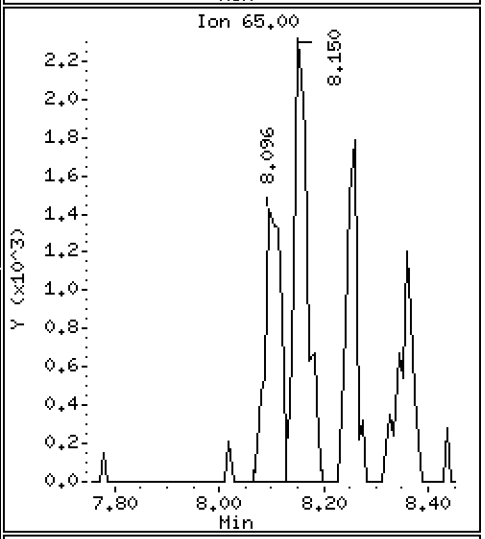
3 Phenol

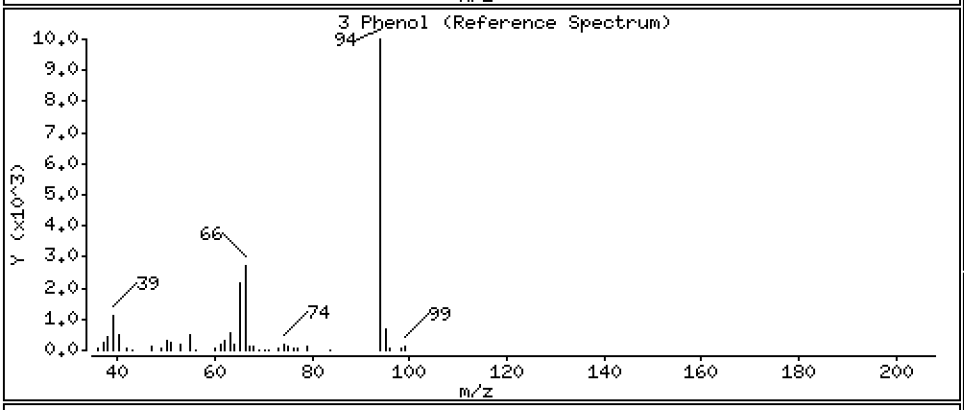
Concentration: 0.1392 ug/mL

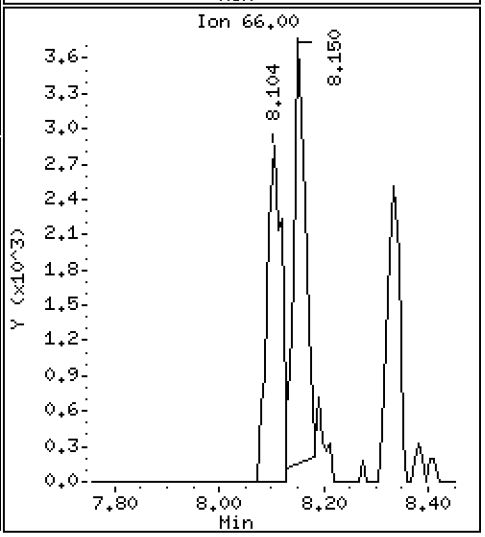


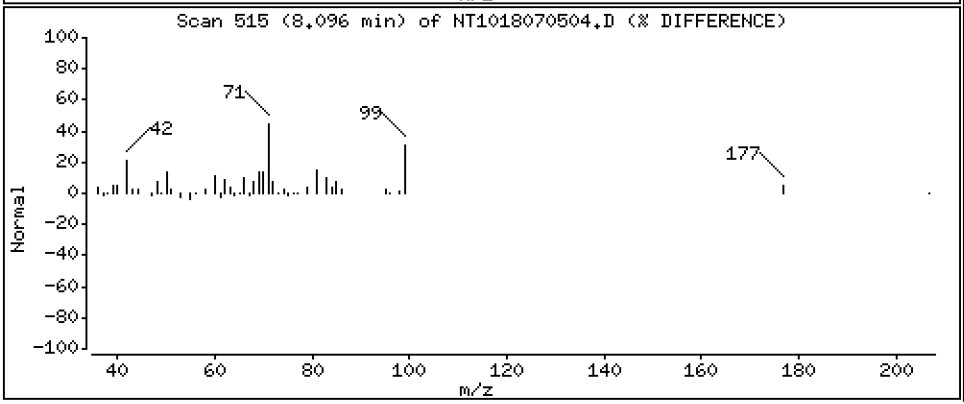












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

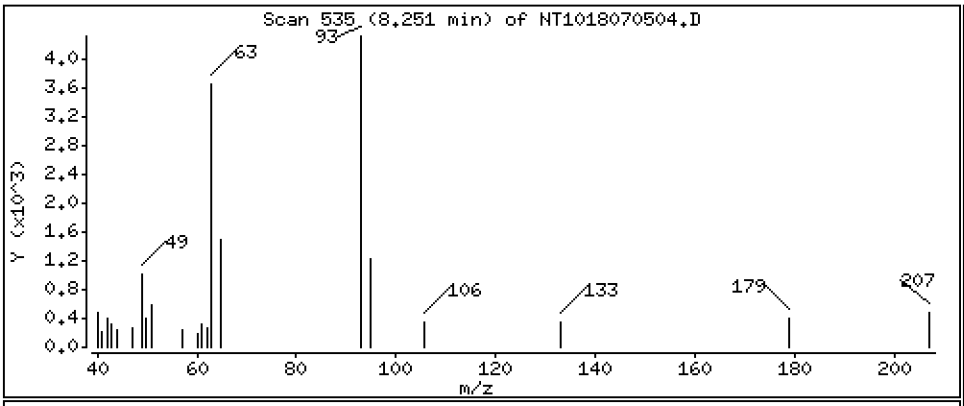
Operator: YZ

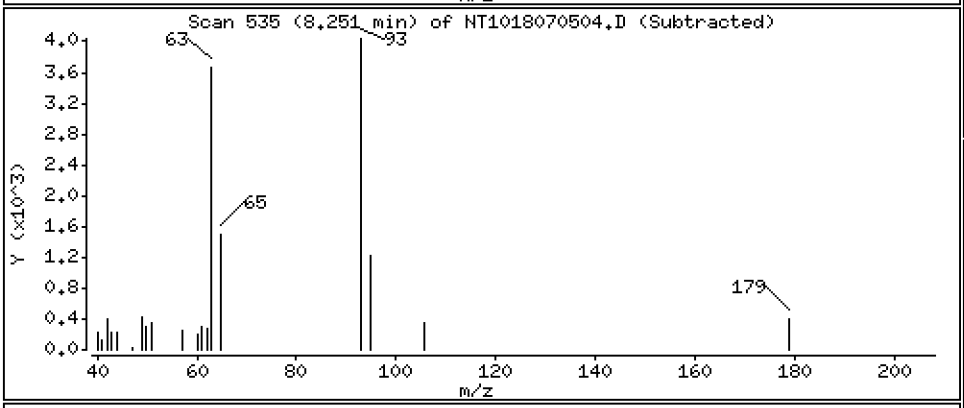
Column phase: ZB-5msi

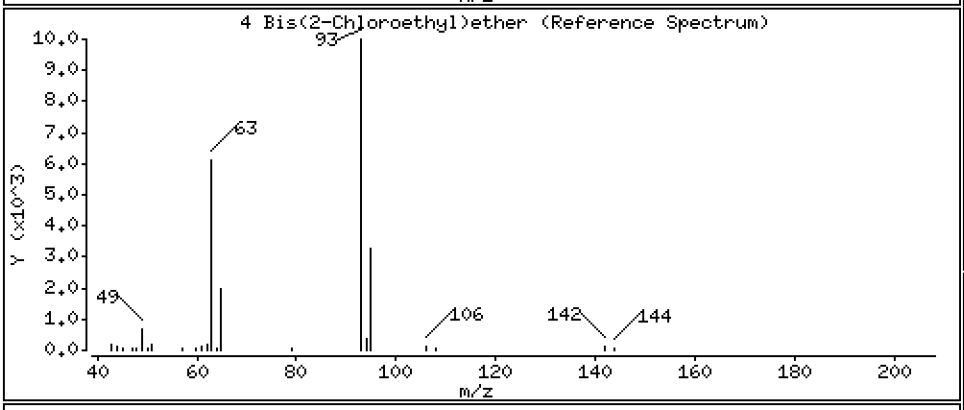
Column diameter: 0.25

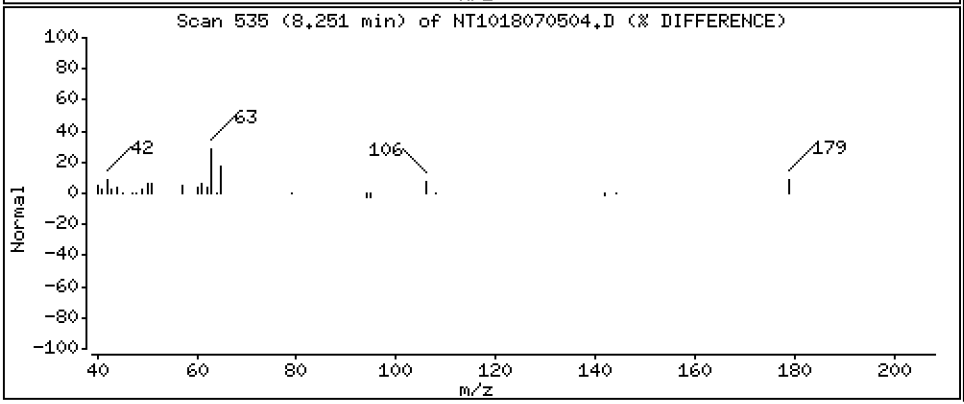
4 Bis(2-Chloroethyl)ether

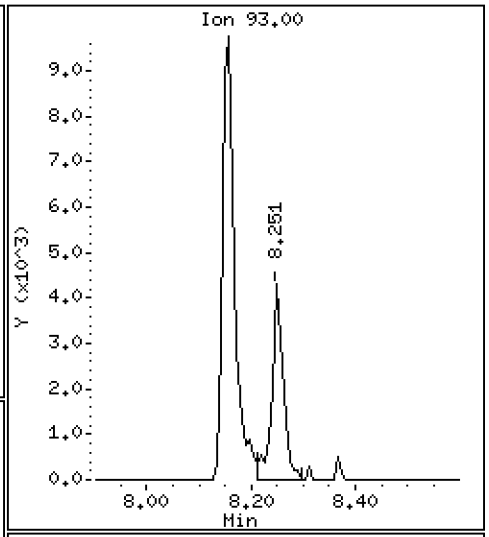
Concentration: 0.1847 ug/mL

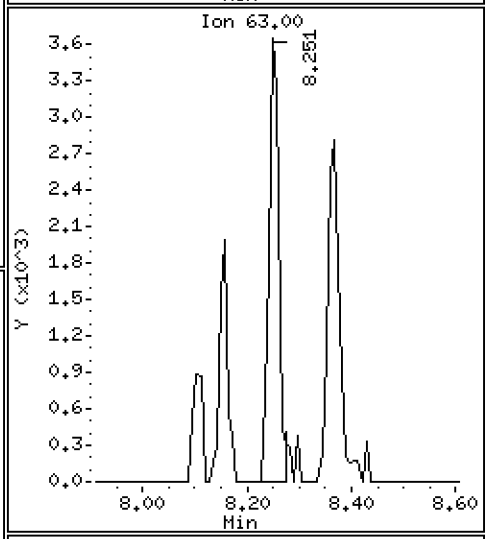


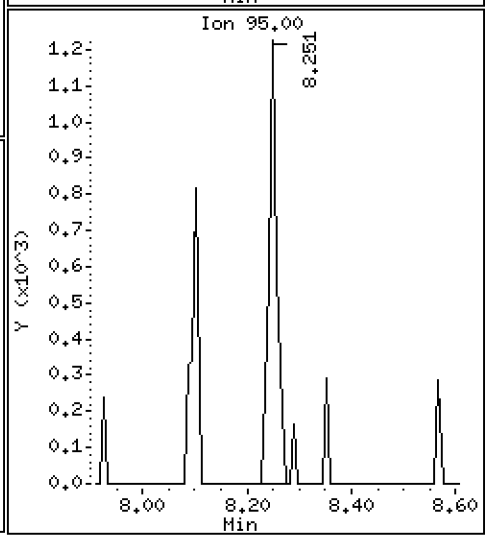












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

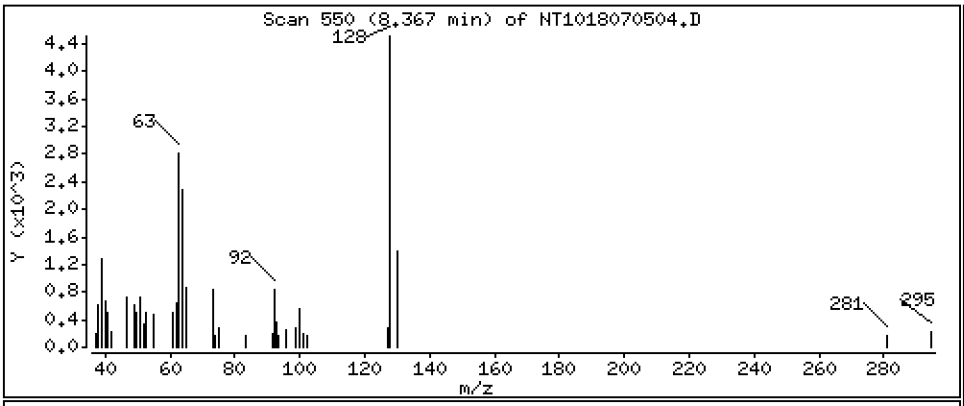
Operator: YZ

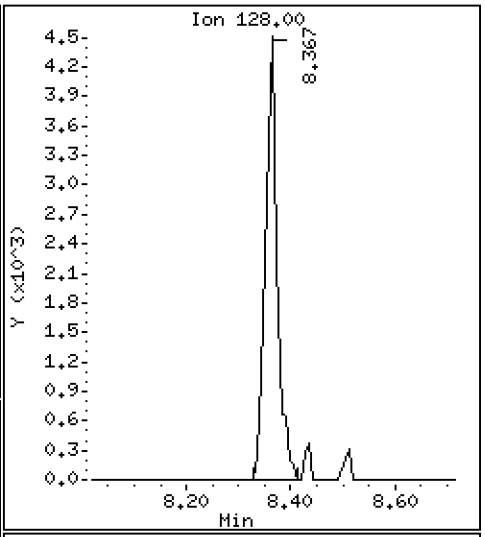
Column phase: ZB-5msi

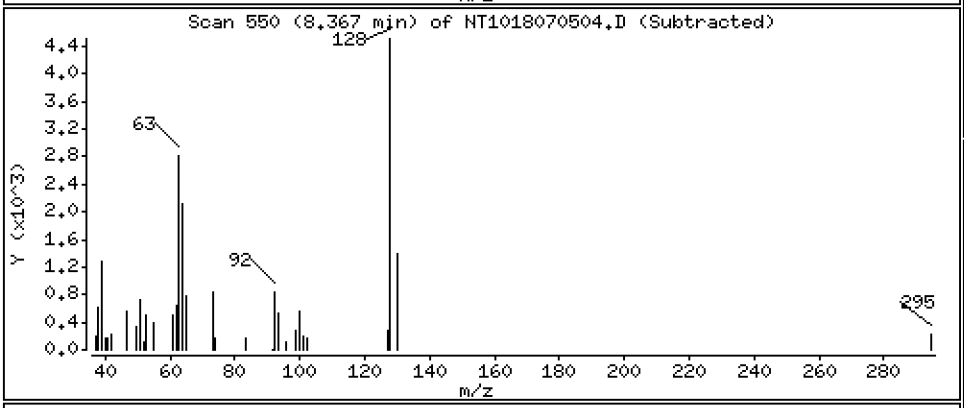
Column diameter: 0.25

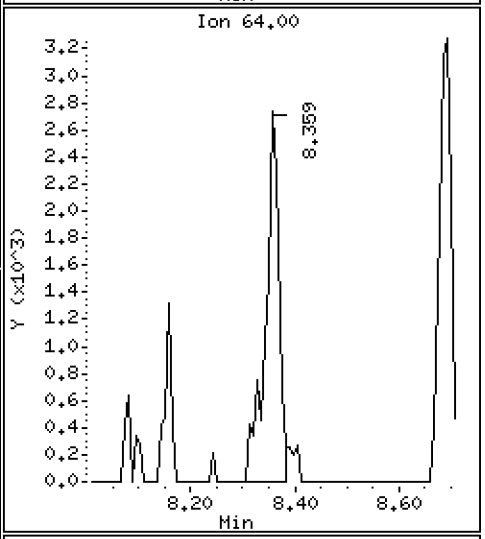
6 2-Chlorophenol

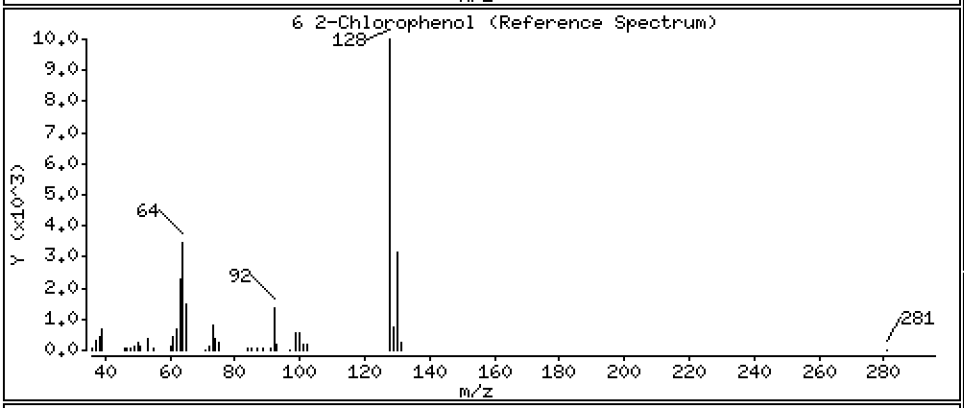
Concentration: 0.2026 ug/mL

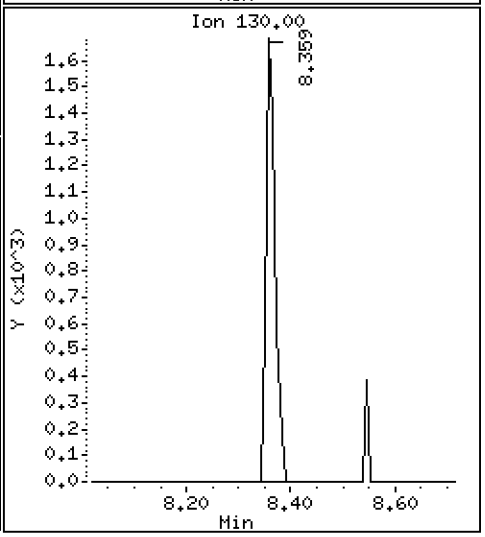


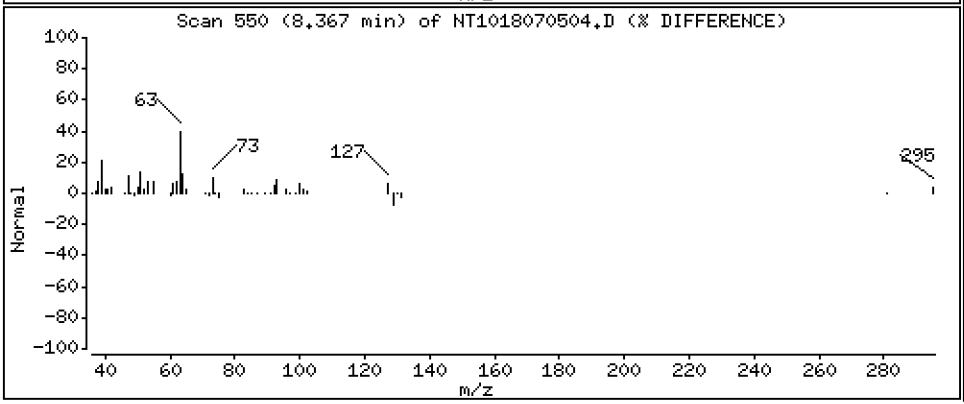












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

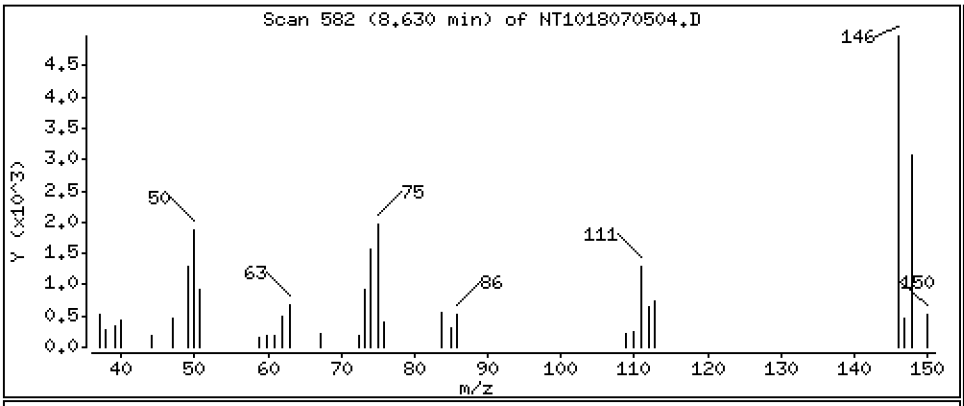
Operator: YZ

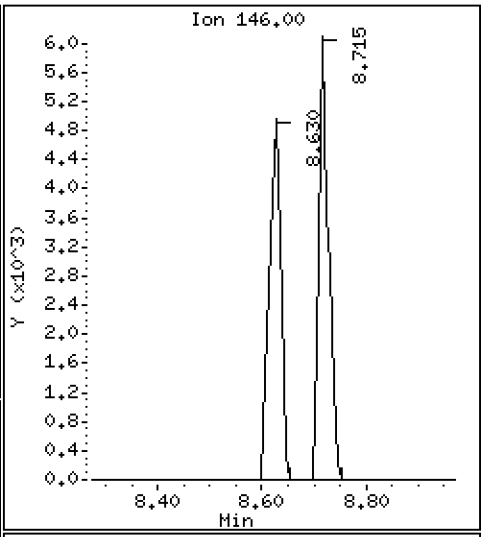
Column phase: ZB-5msi

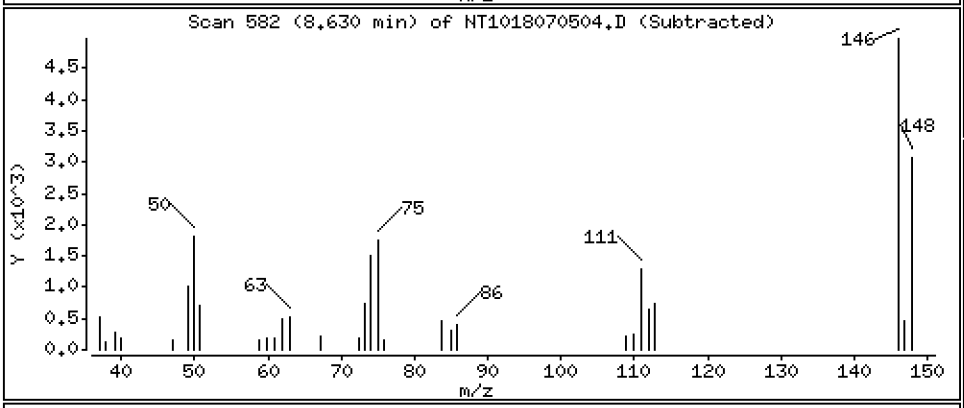
Column diameter: 0.25

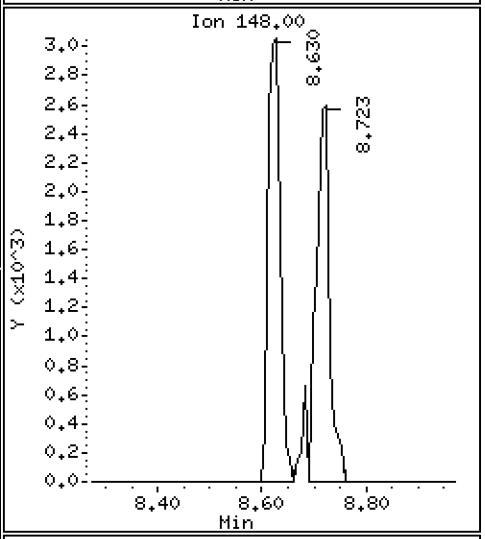
7 1,3-Dichlorobenzene

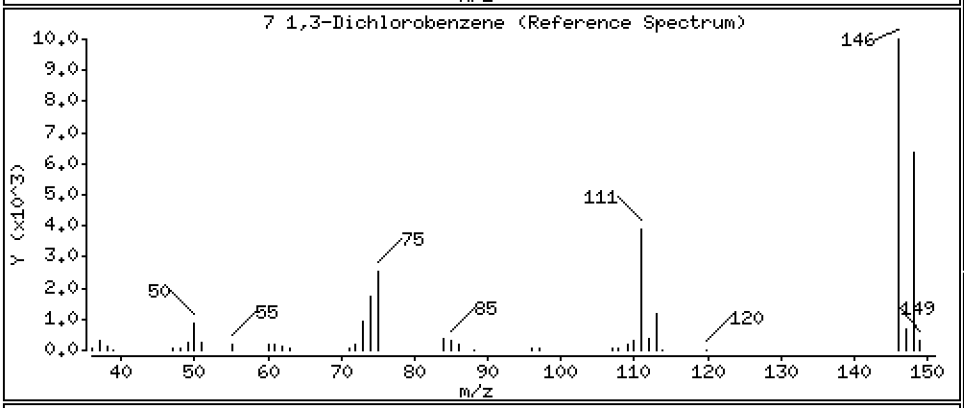
Concentration: 0.2079 ug/mL

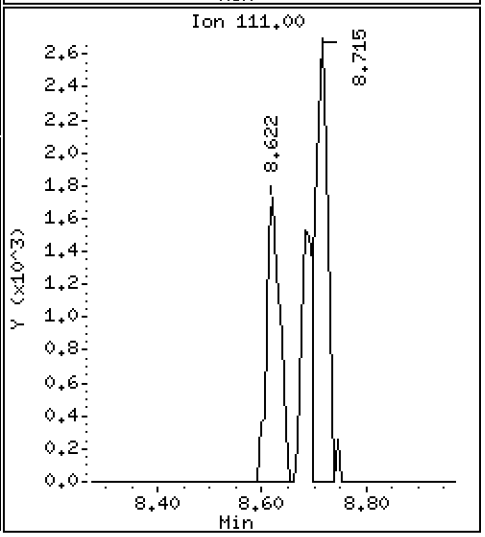


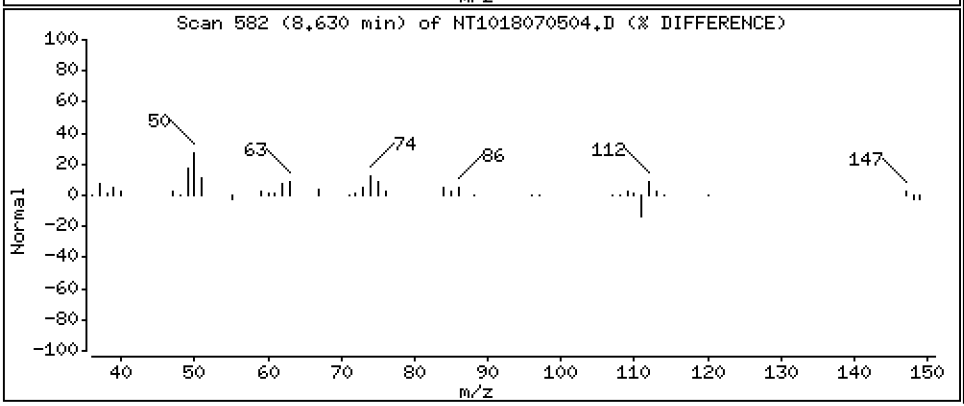












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

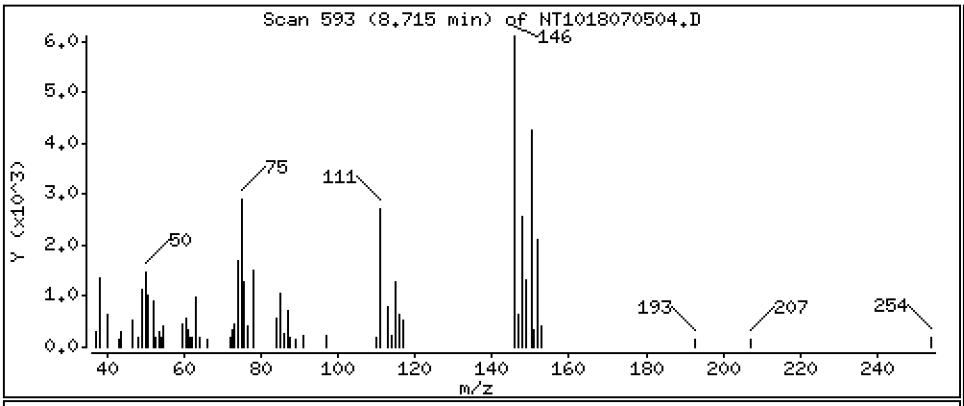
Operator: YZ

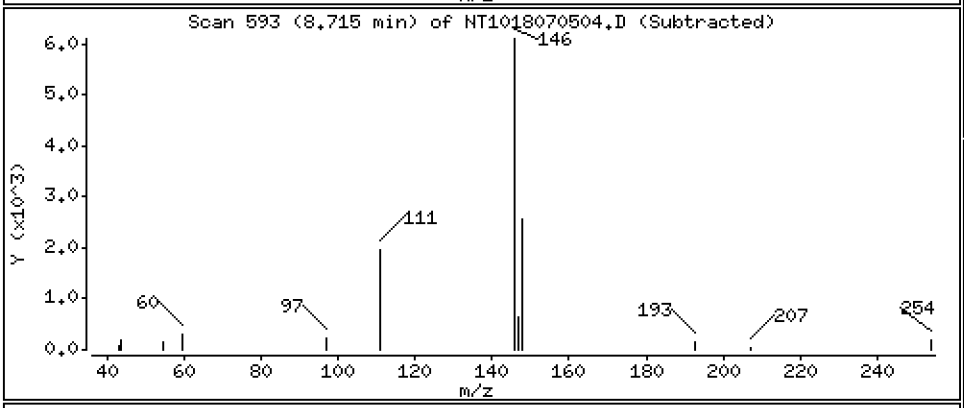
Column phase: ZB-5msi

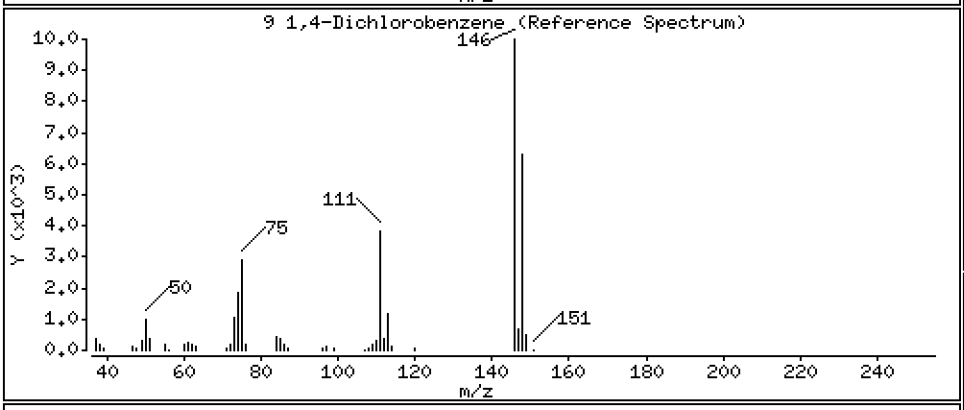
Column diameter: 0.25

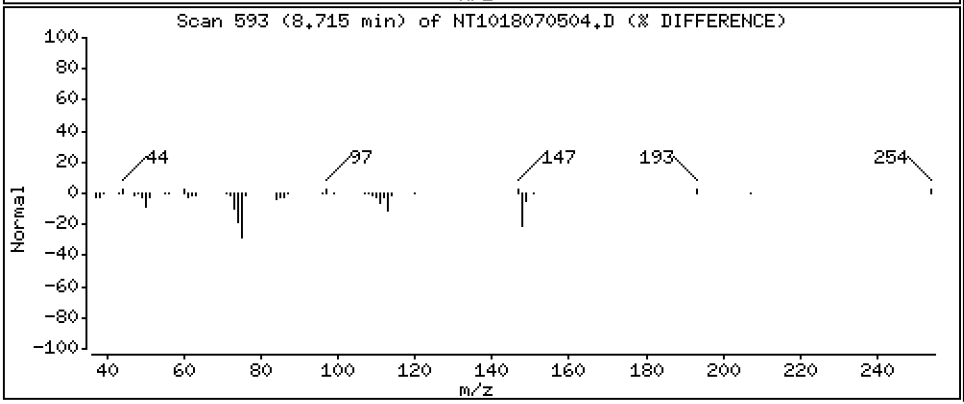
9 1,4-Dichlorobenzene

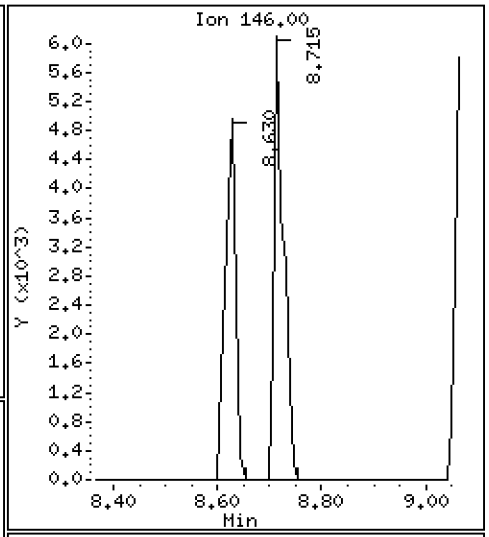
Concentration: 0.2324 ug/mL

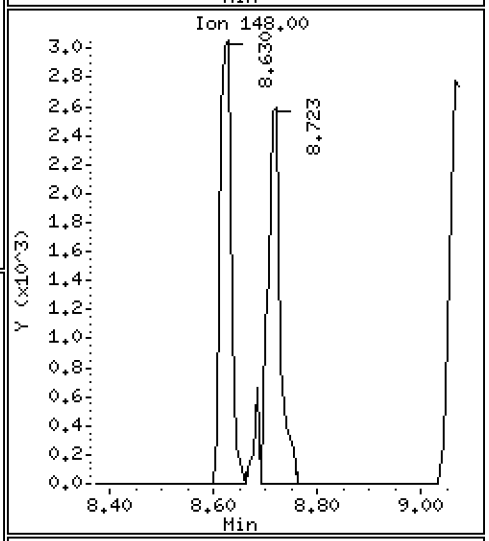


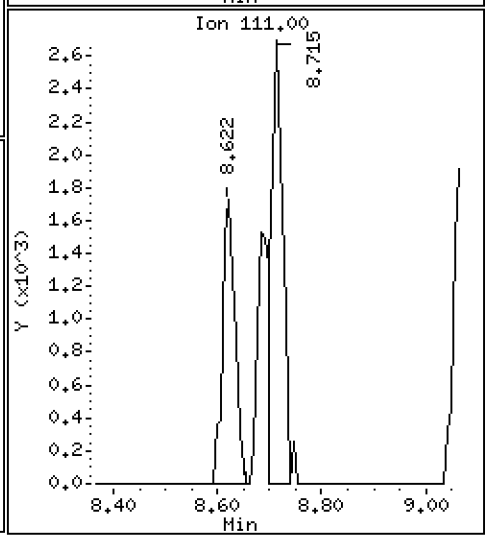












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

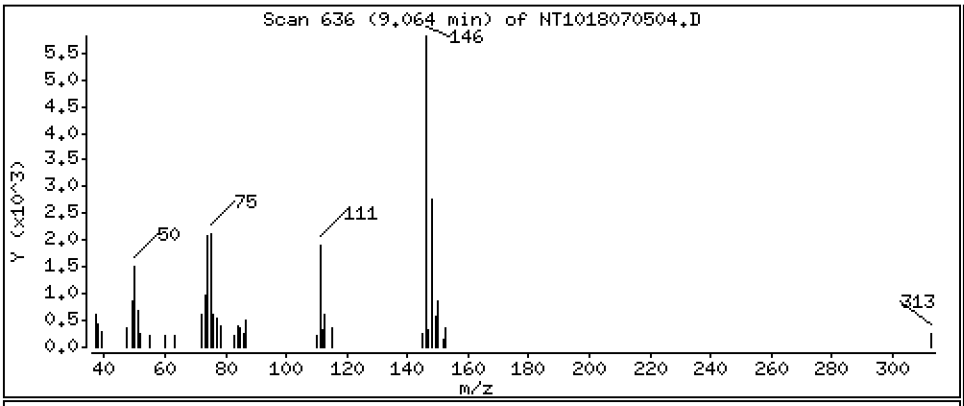
Operator: YZ

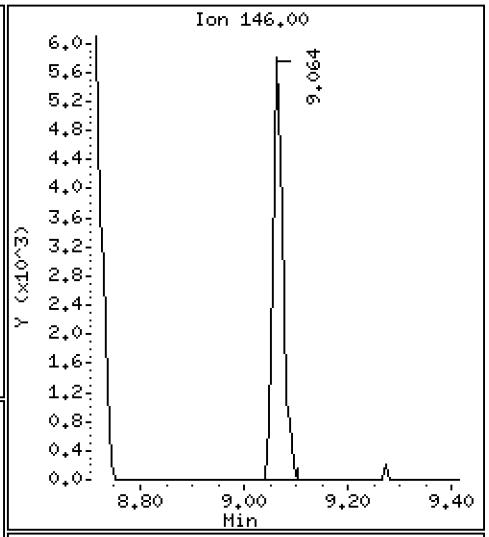
Column phase: ZB-5msi

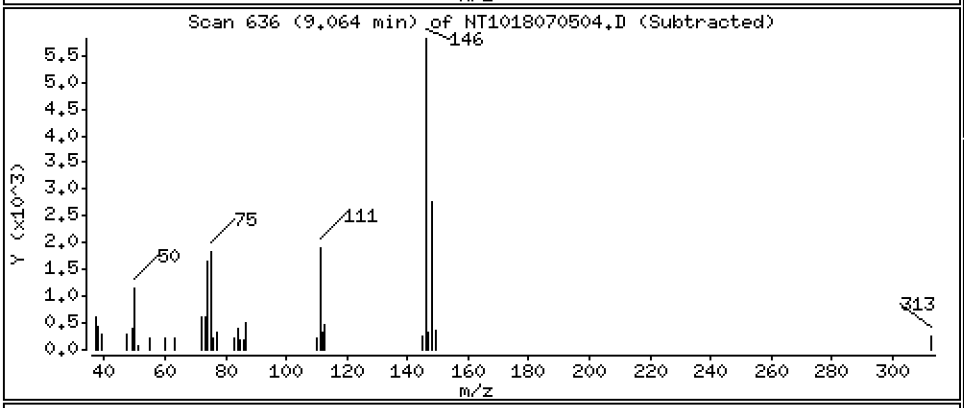
Column diameter: 0.25

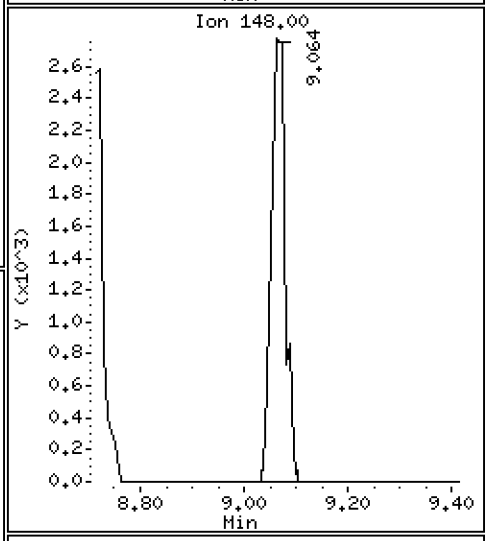
12 1,2-Dichlorobenzene

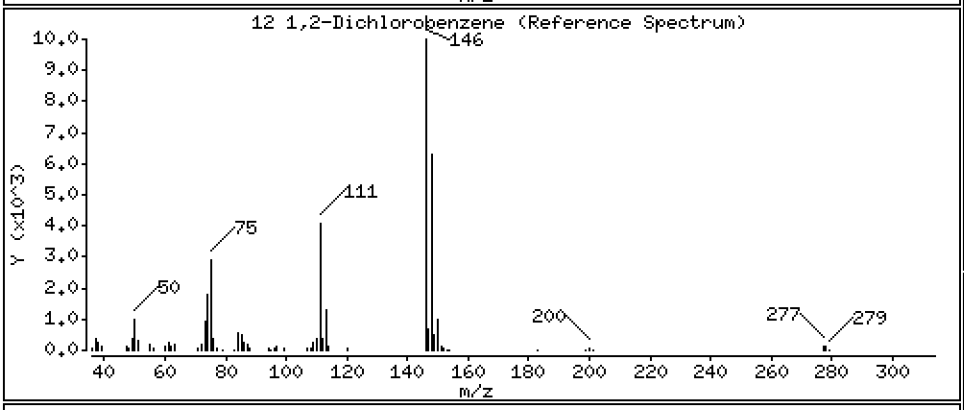
Concentration: 0.2234 ug/mL

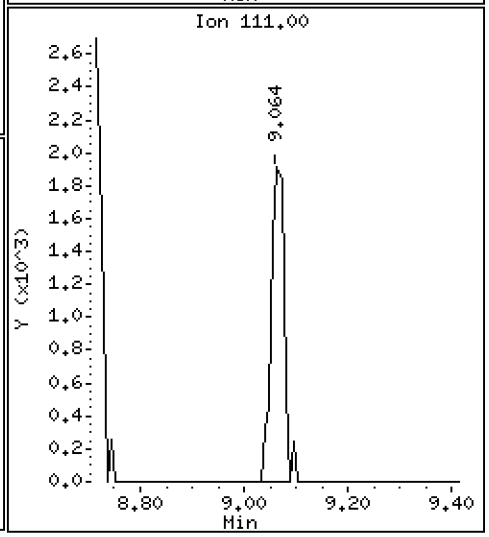


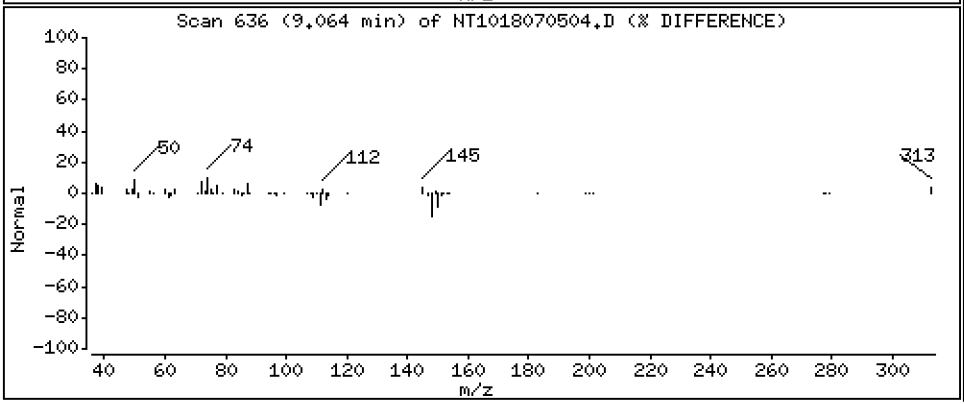












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

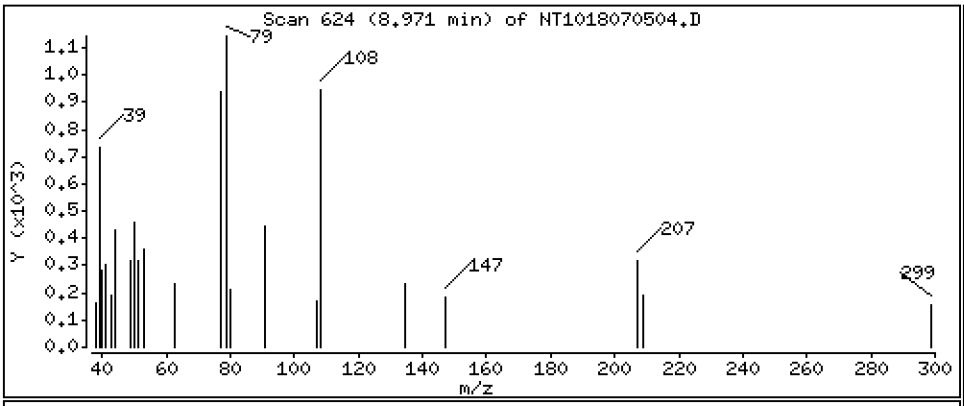
Operator: YZ

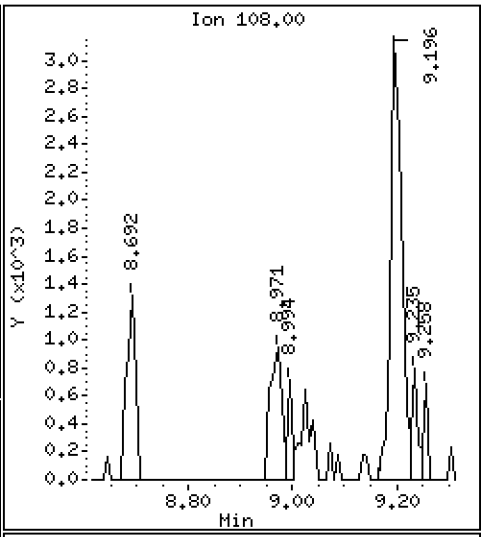
Column phase: ZB-5msi

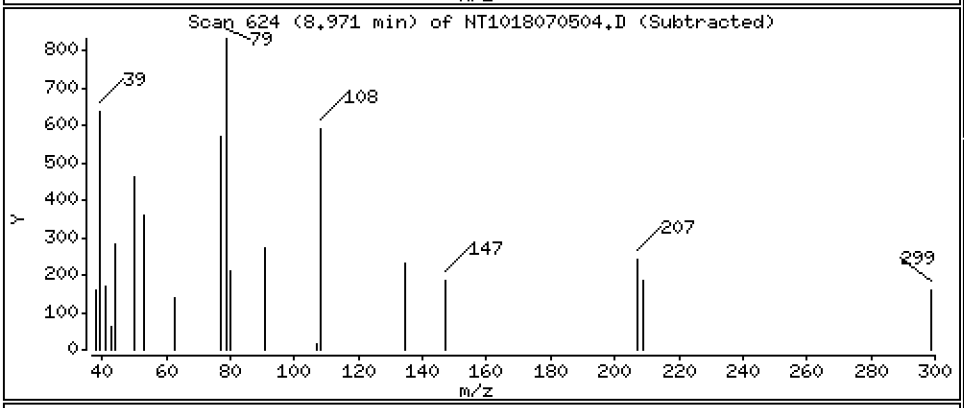
Column diameter: 0.25

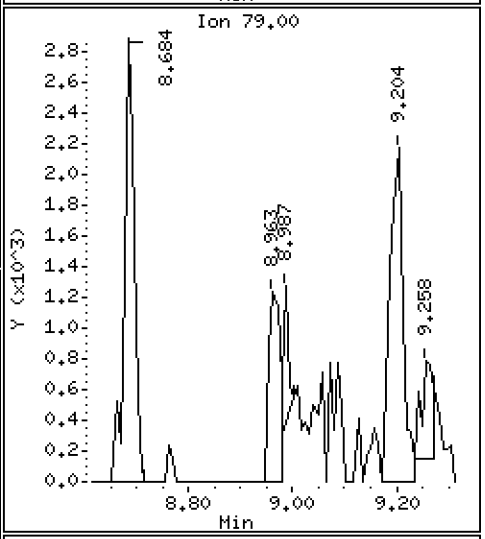
11 Benzyl alcohol

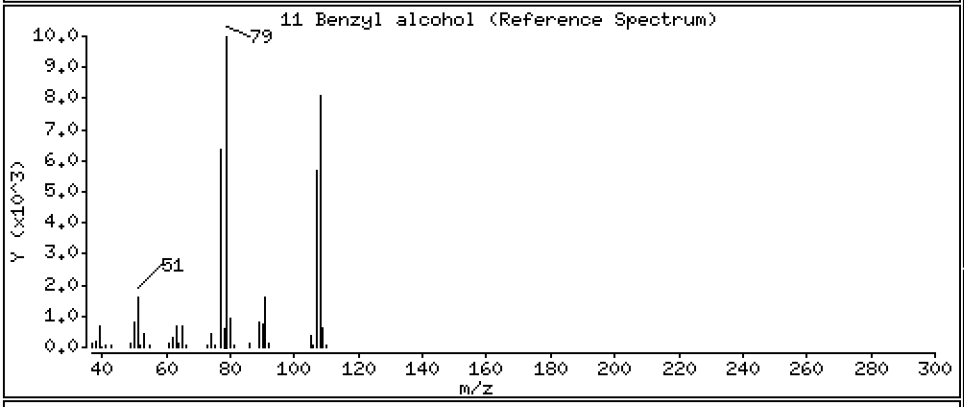
Concentration: 0.06673 ug/mL

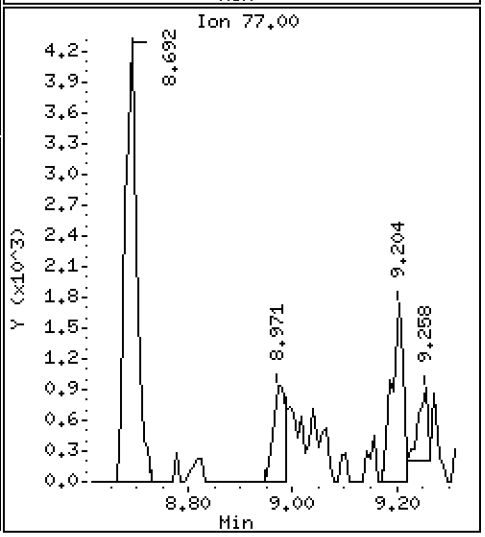


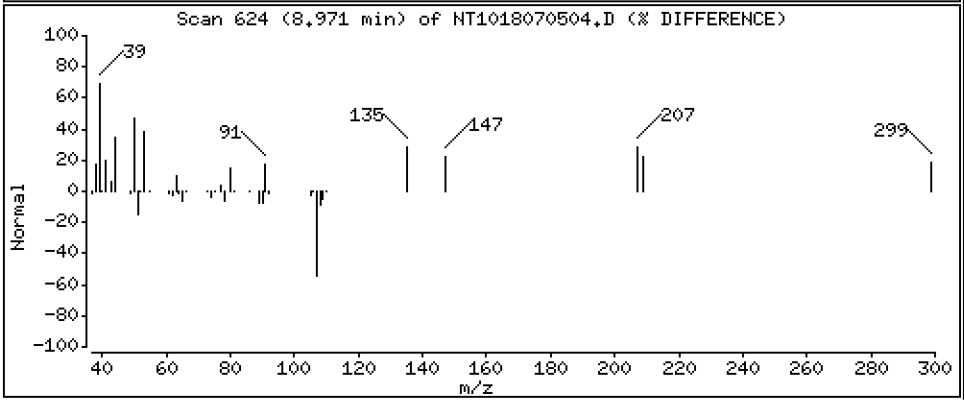












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

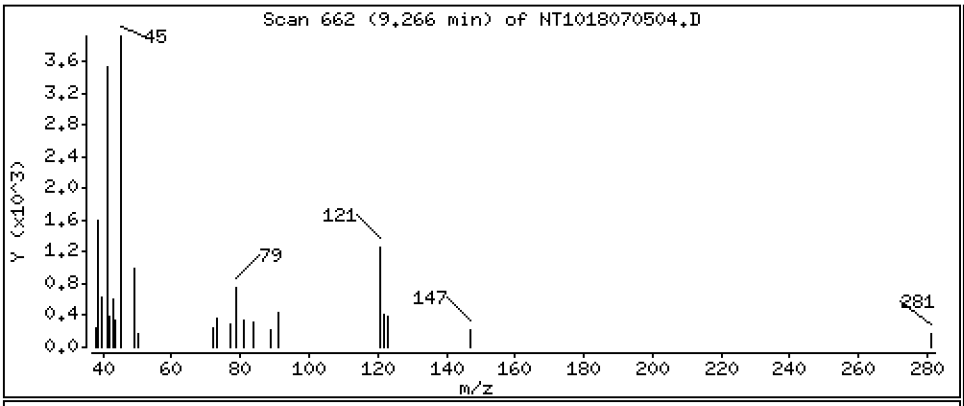
Operator: YZ

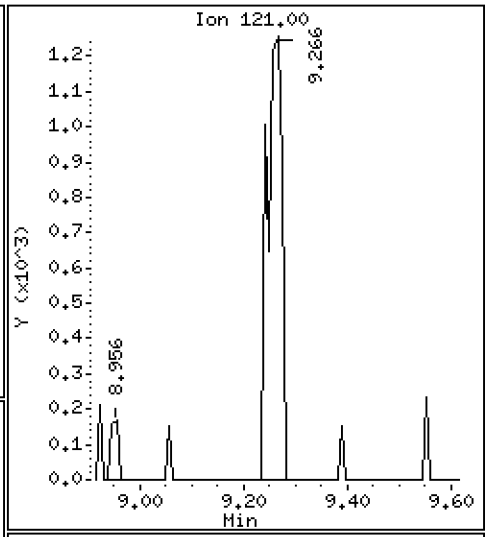
Column phase: ZB-5msi

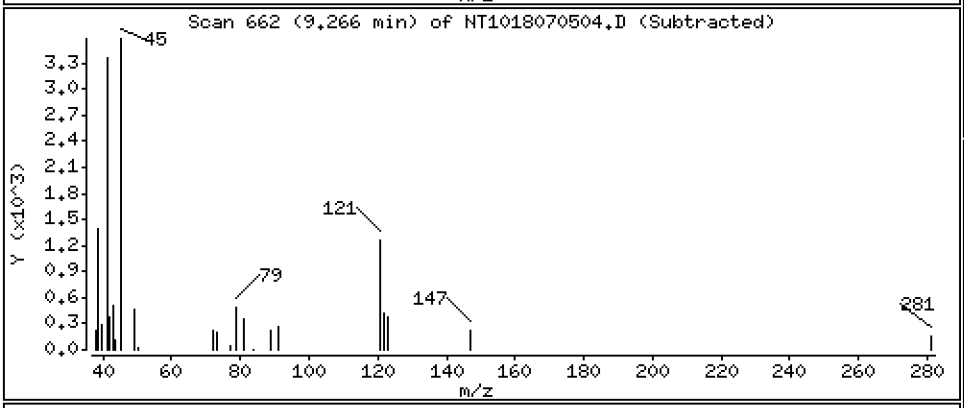
Column diameter: 0.25

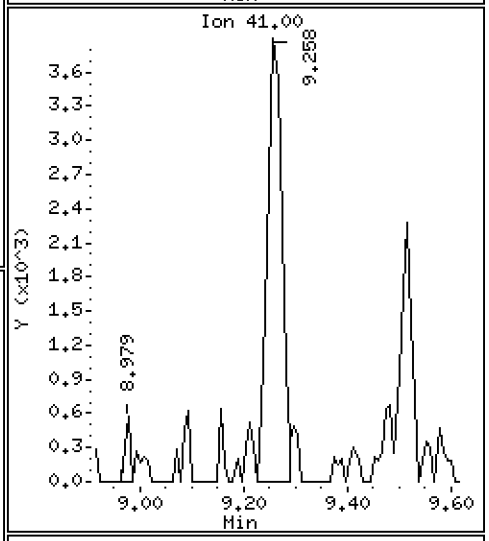
14 2,2'-oxybis(1-Chloropropane)

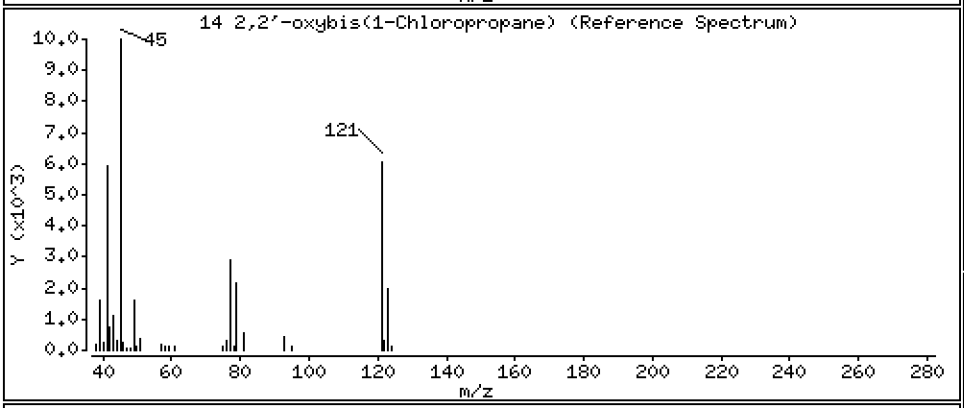
Concentration: 0.1845 ug/mL

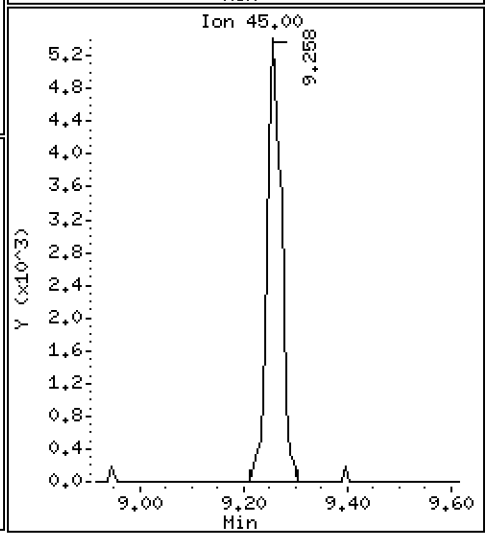


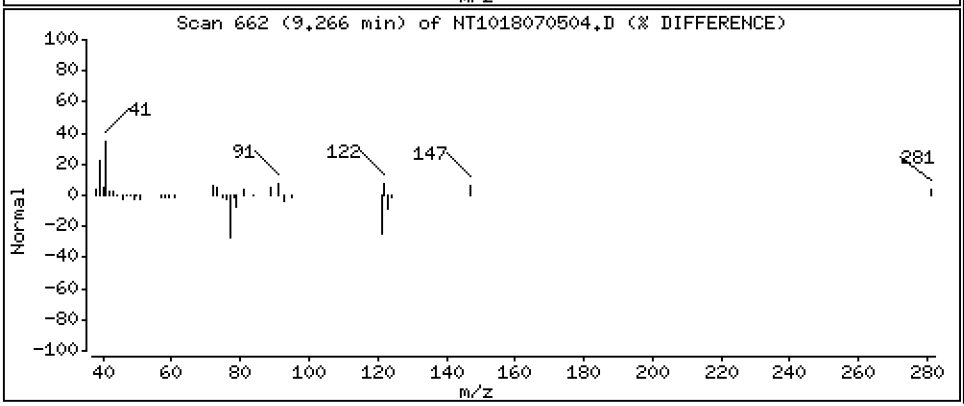












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

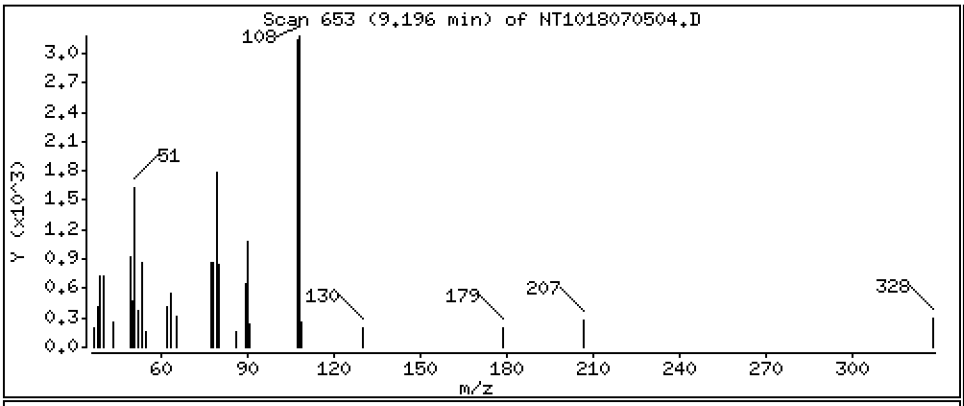
Operator: YZ

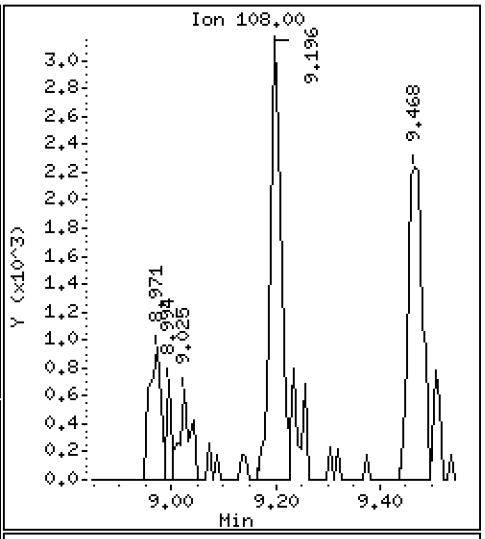
Column phase: ZB-5msi

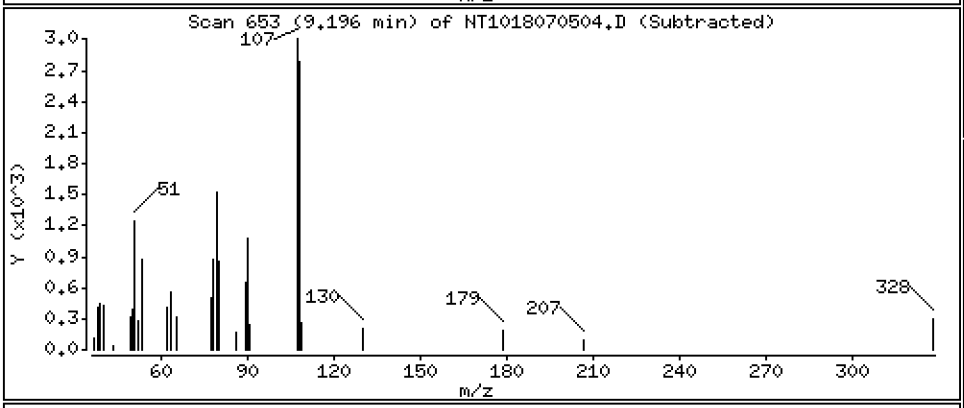
Column diameter: 0.25

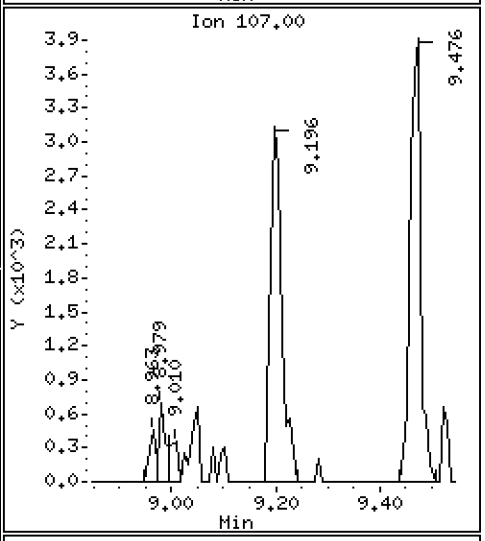
13 2-Methylphenol

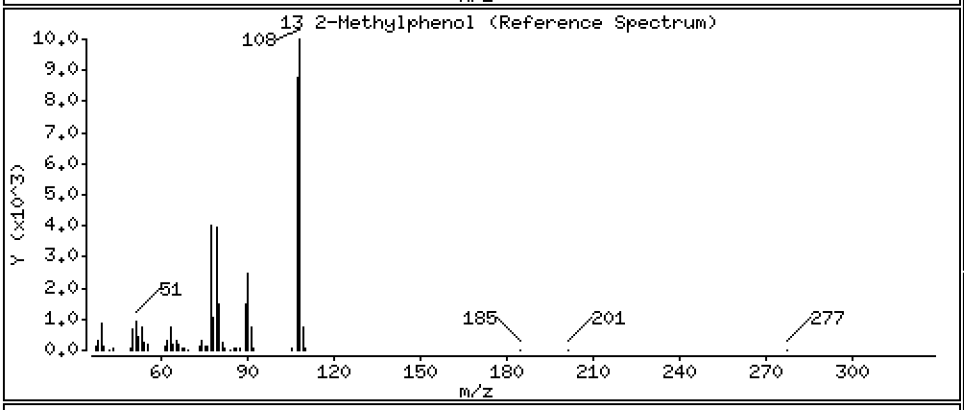
Concentration: 0.1536 ug/mL

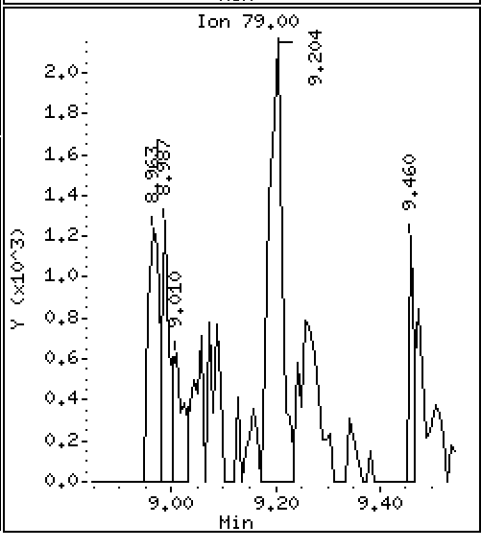


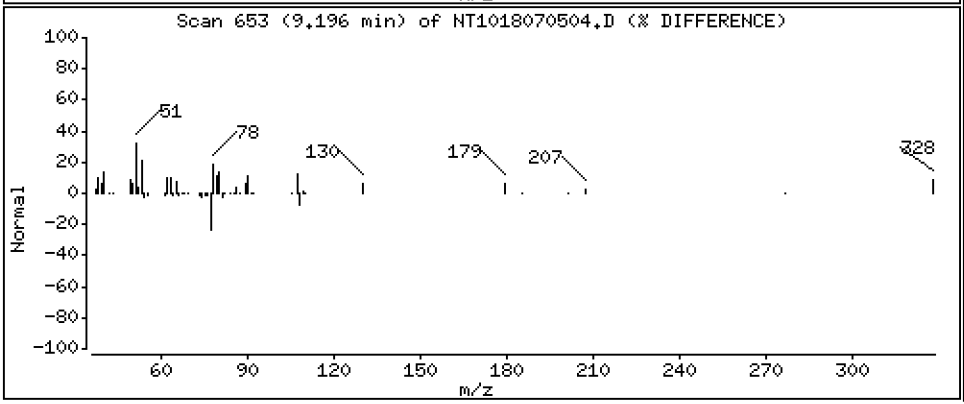












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

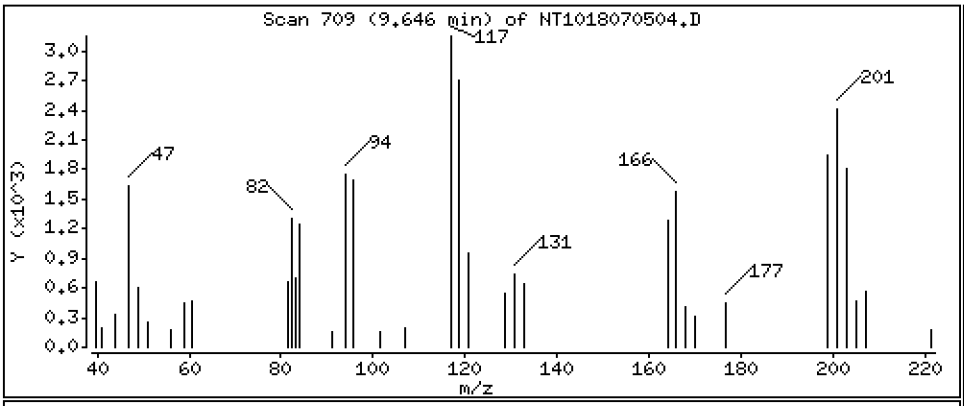
Operator: YZ

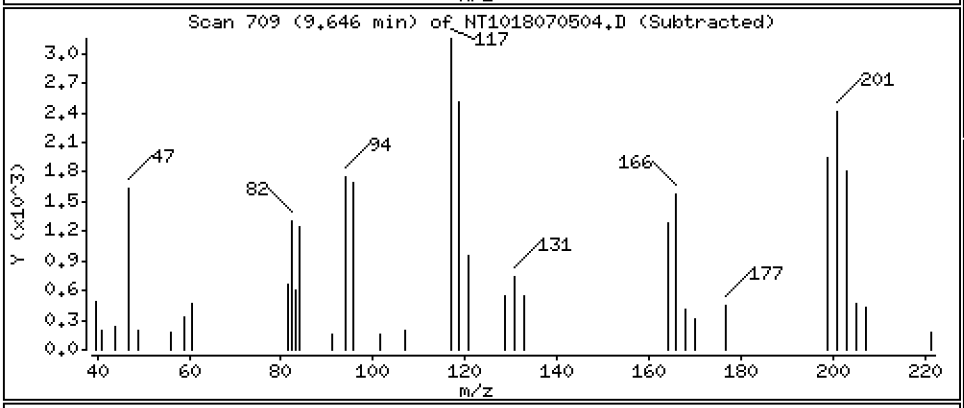
Column phase: ZB-5msi

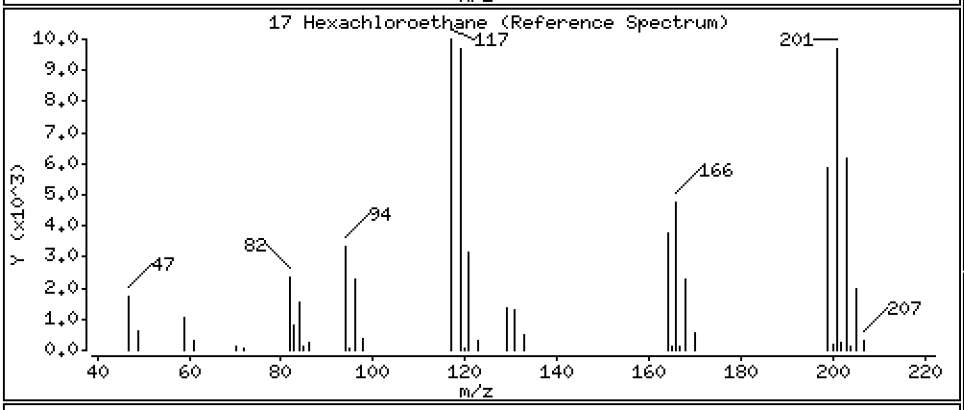
Column diameter: 0.25

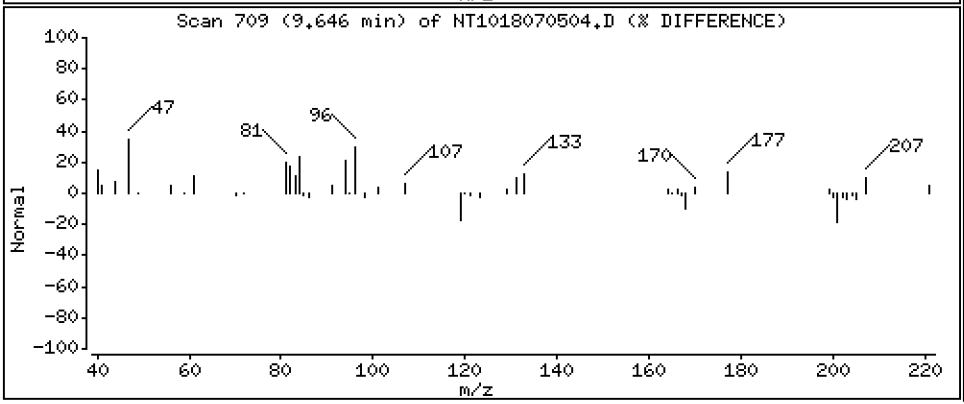
17 Hexachloroethane

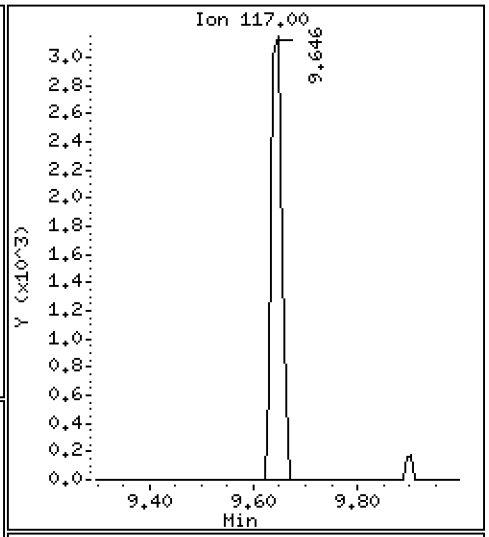
Concentration: 0.2811 ug/mL

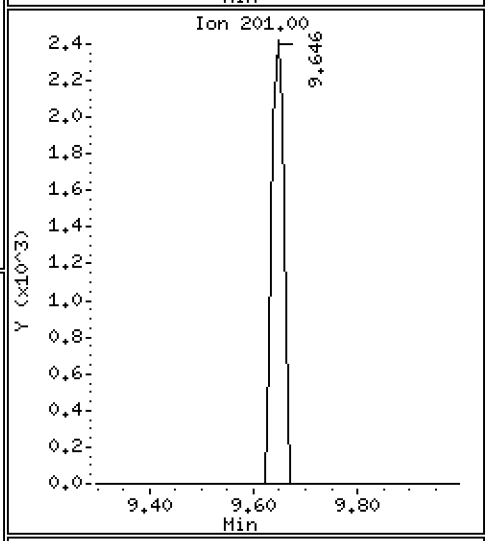


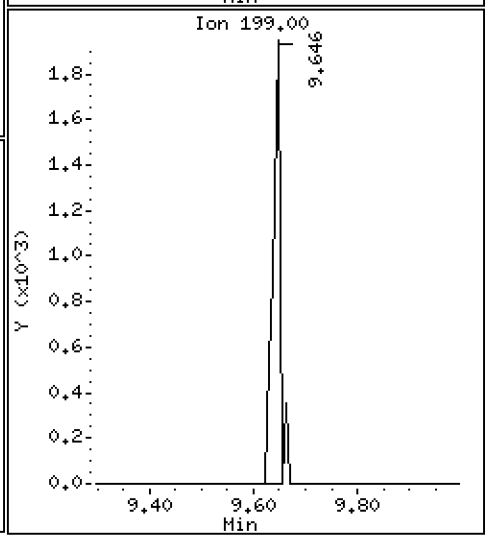












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

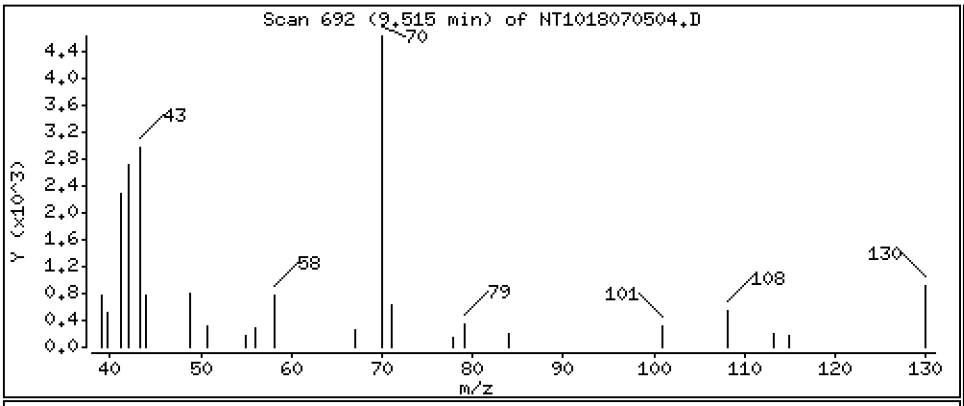
Operator: YZ

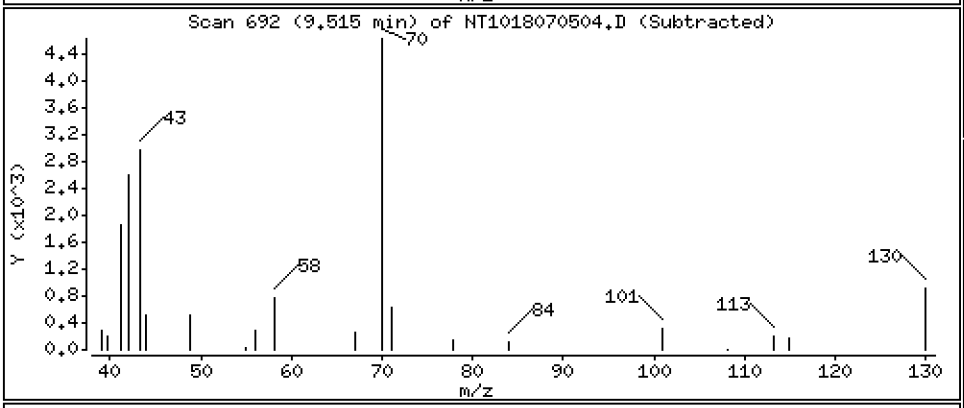
Column phase: ZB-5msi

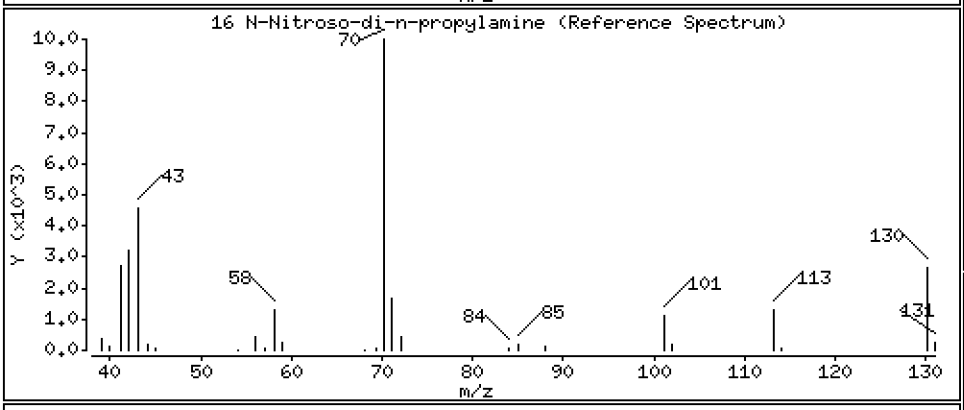
Column diameter: 0.25

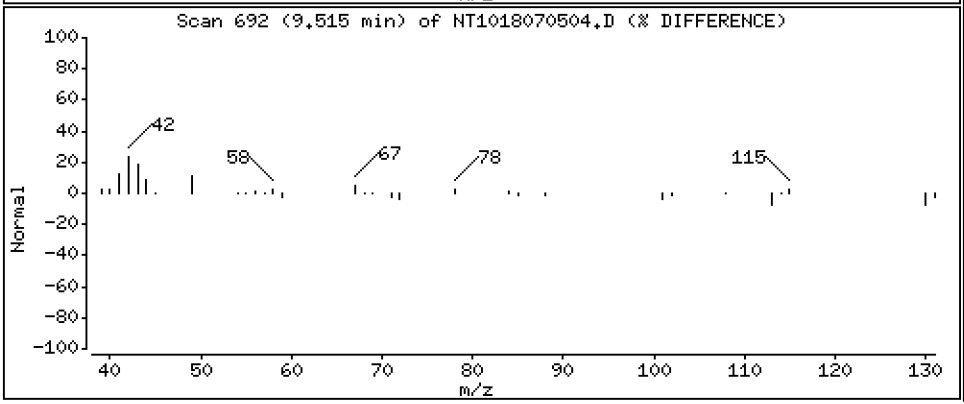
16 N-Nitroso-di-n-propylamine

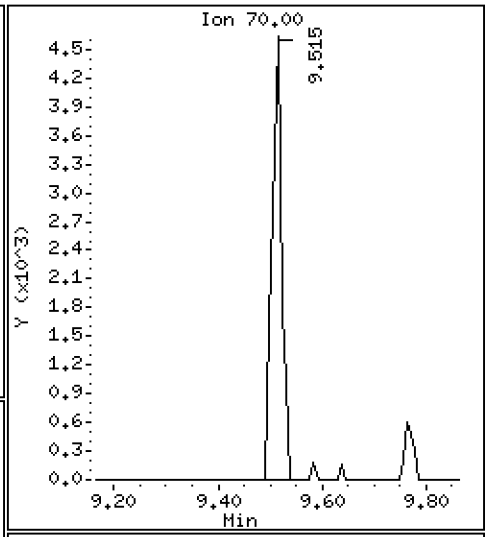
Concentration: 0.2607 ug/mL

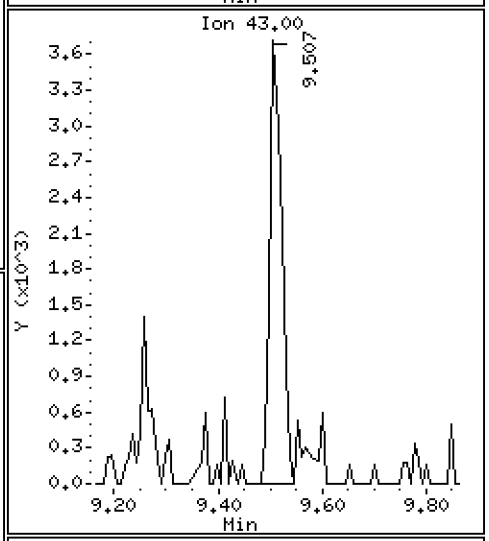


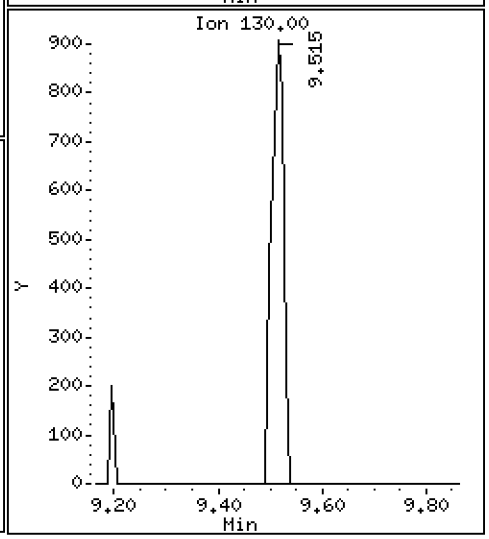












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

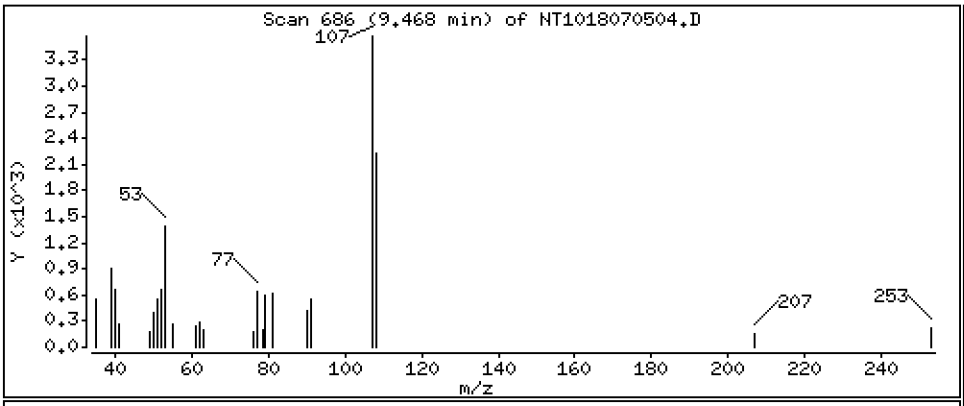
Operator: YZ

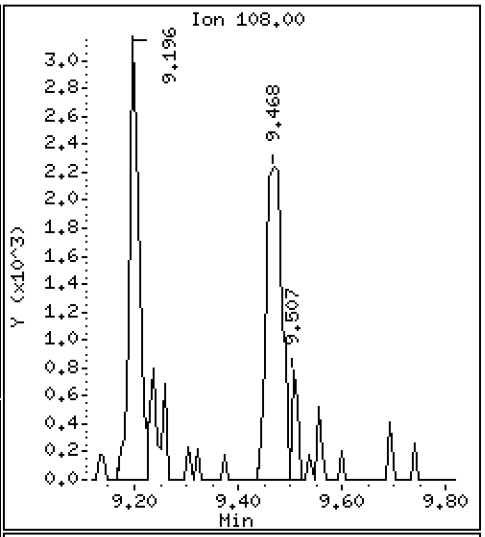
Column phase: ZB-5msi

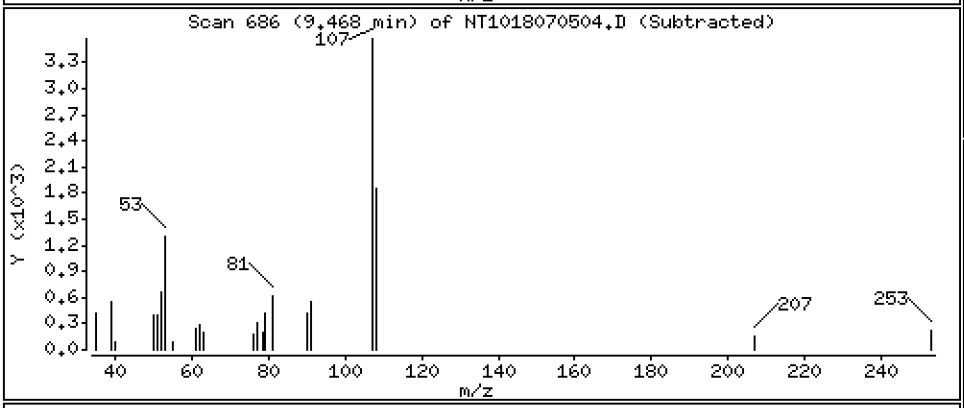
Column diameter: 0.25

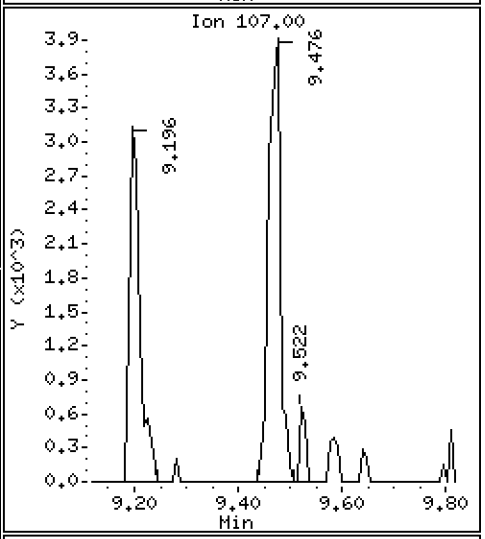
15 4-Methylphenol

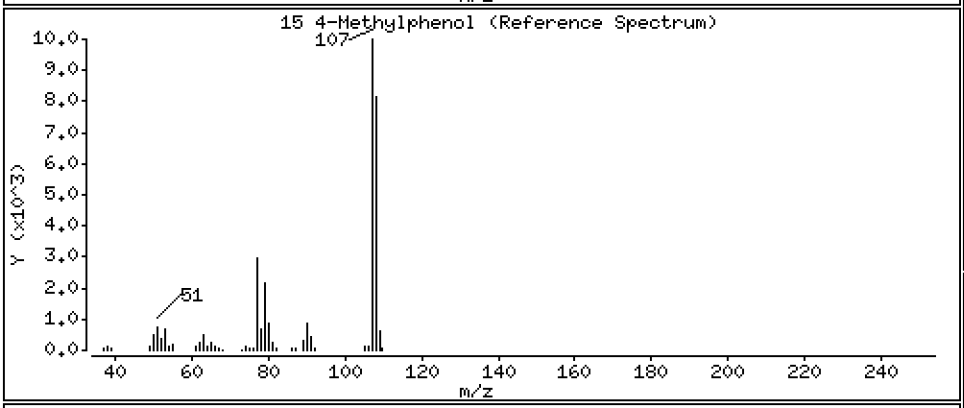
Concentration: 0.1497 ug/mL

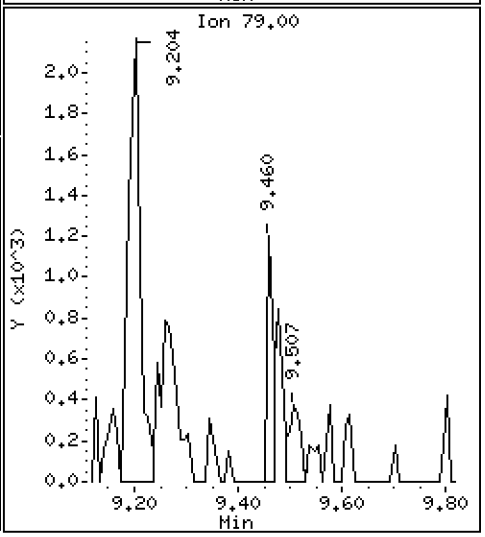


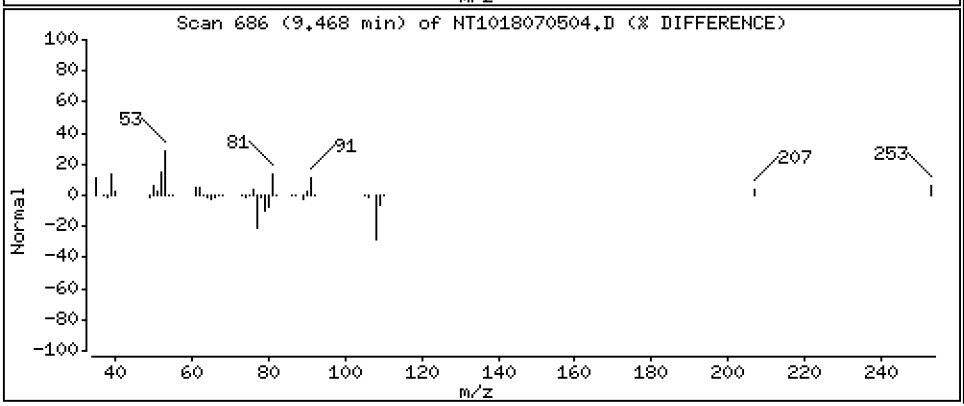












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

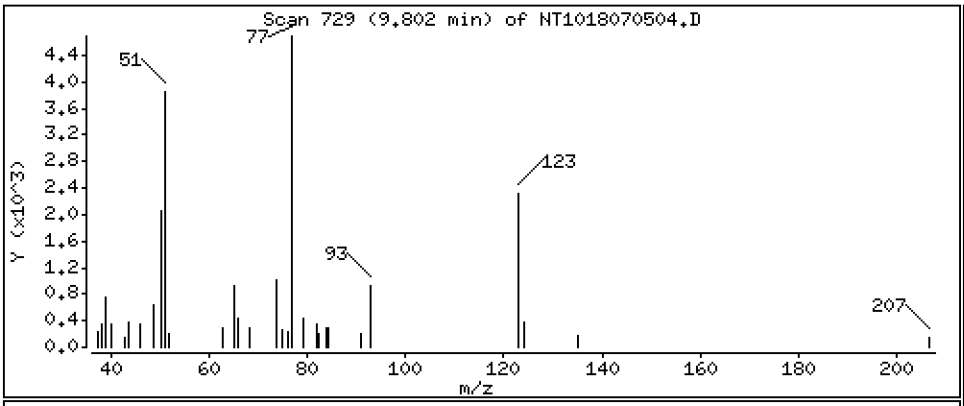
Operator: YZ

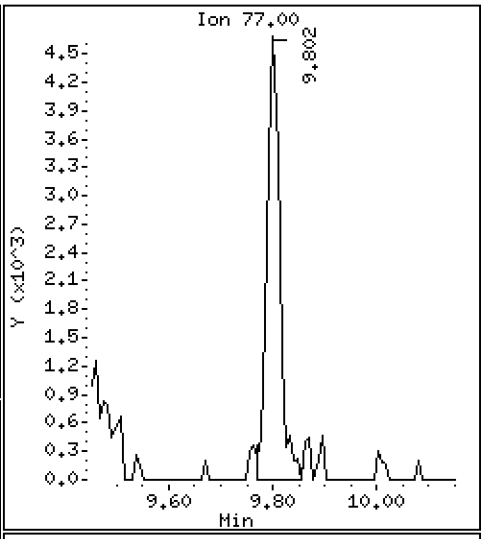
Column phase: ZB-5msi

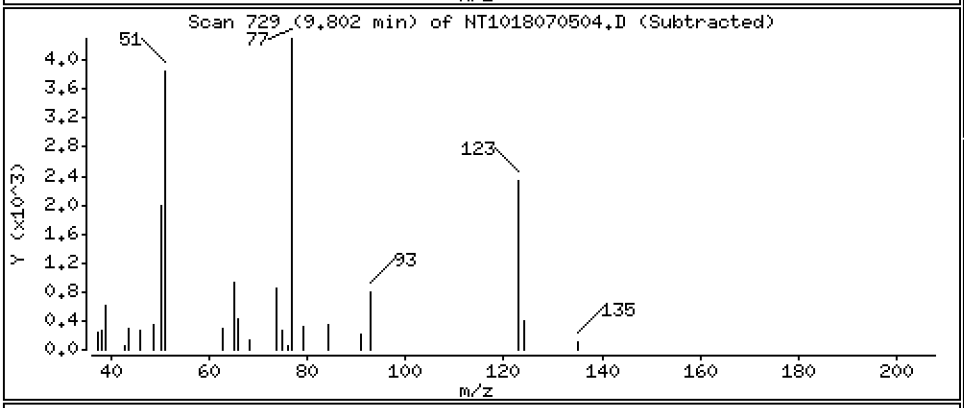
Column diameter: 0.25

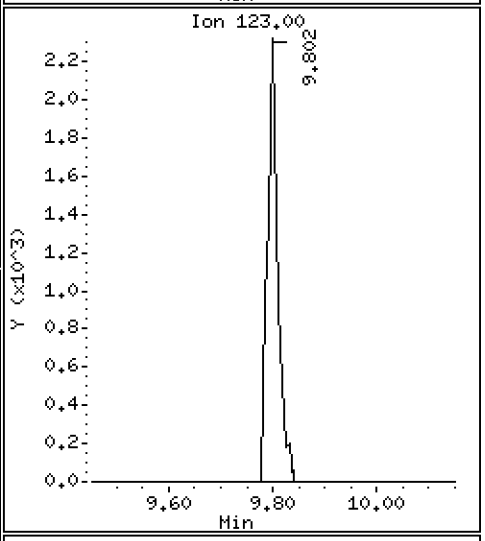
19 Nitrobenzene

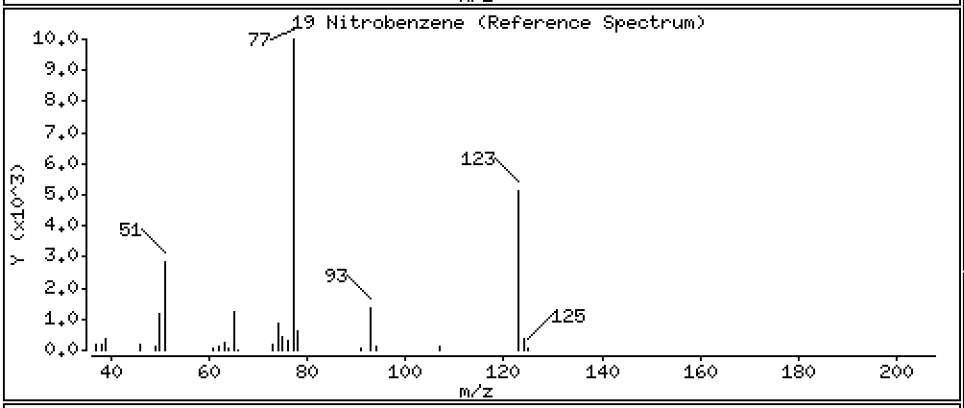
Concentration: 0.2502 ug/mL

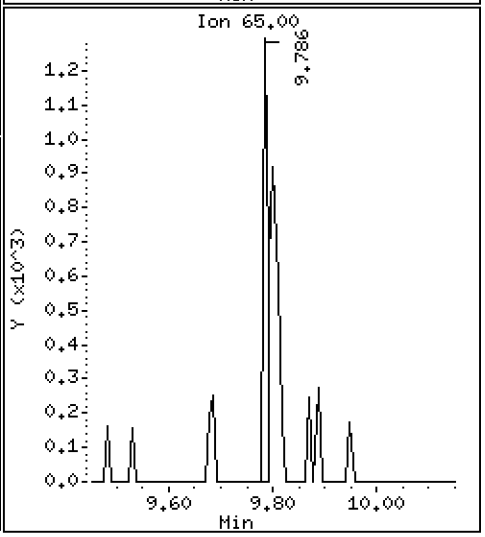


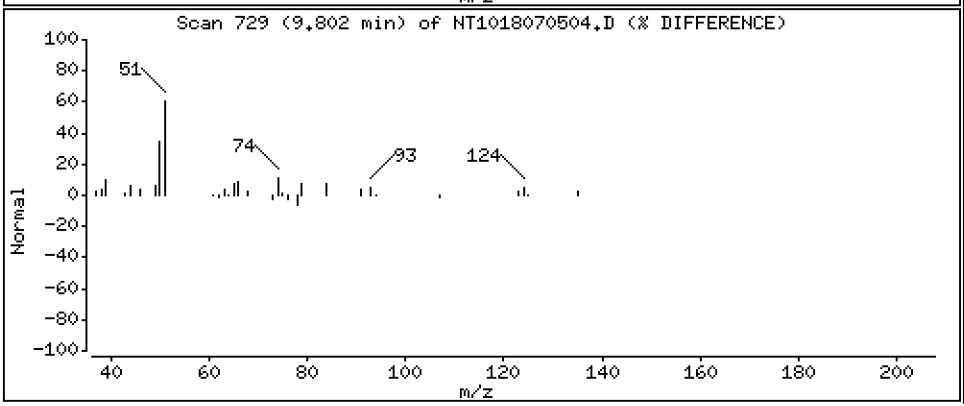












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

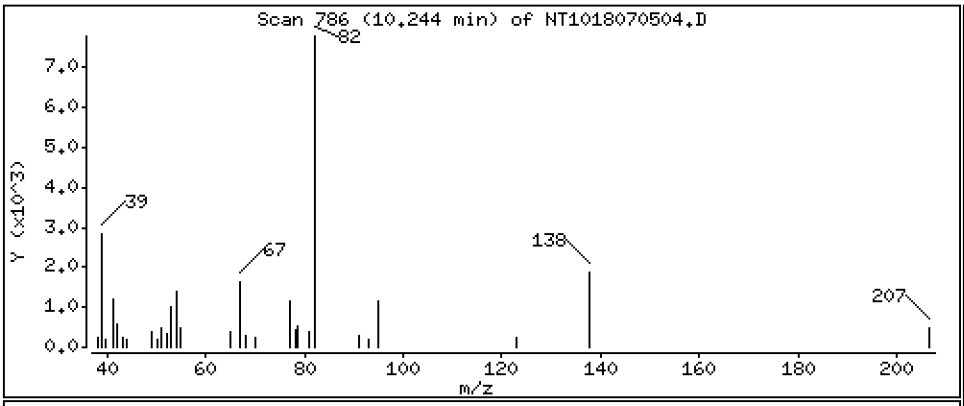
Operator: YZ

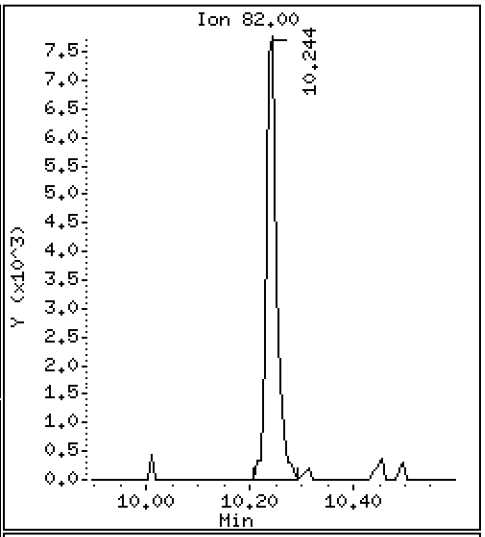
Column phase: ZB-5msi

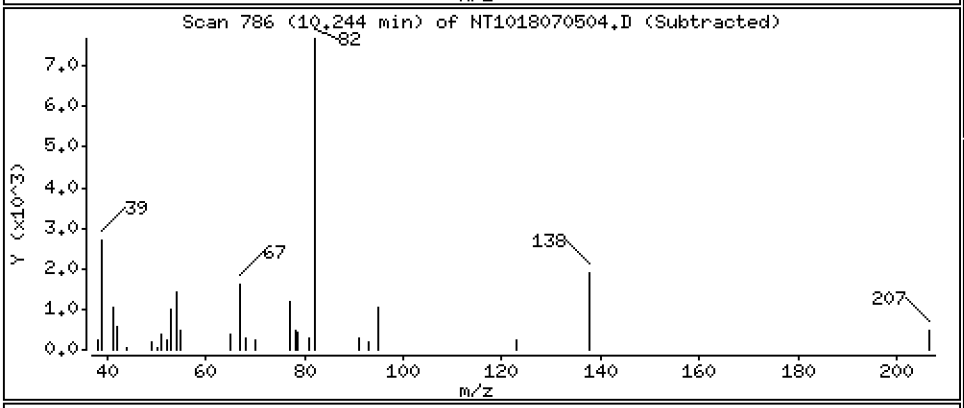
Column diameter: 0.25

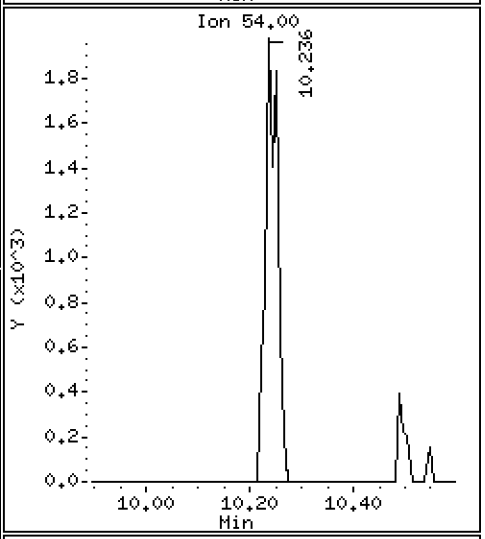
20 Isophorone

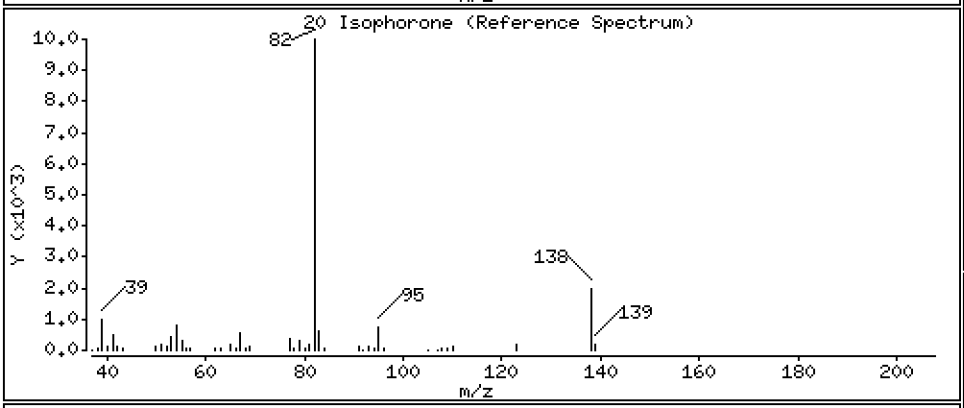
Concentration: 0.1827 ug/mL

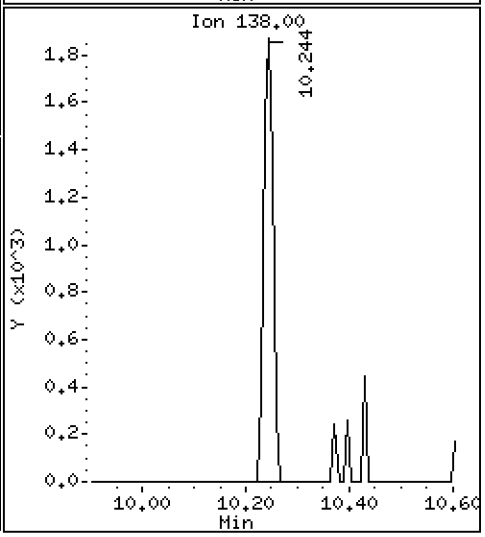


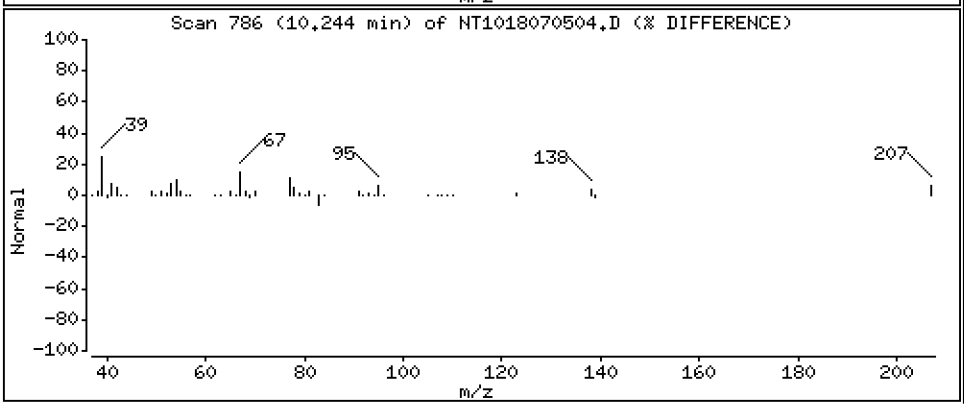












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

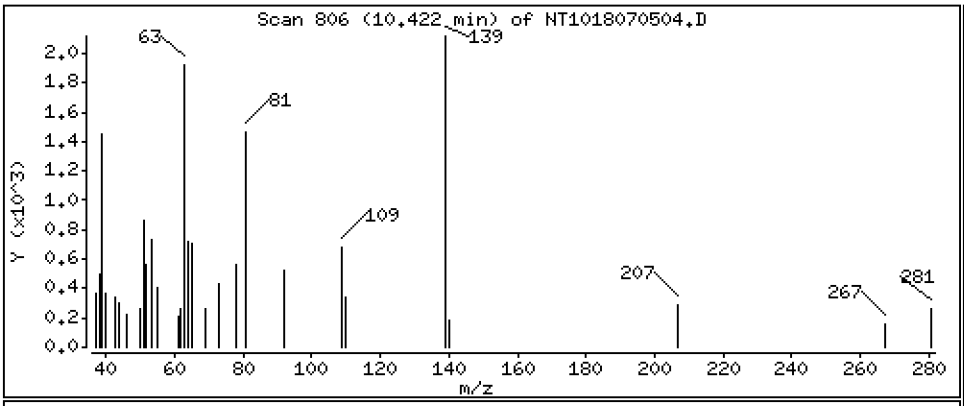
Operator: YZ

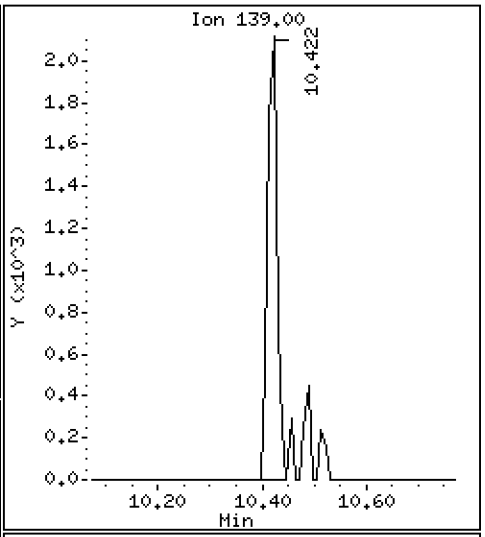
Column phase: ZB-5msi

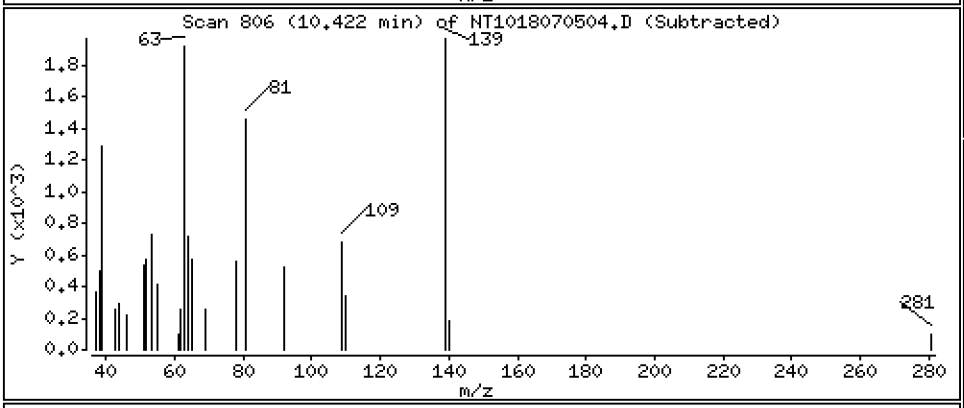
Column diameter: 0.25

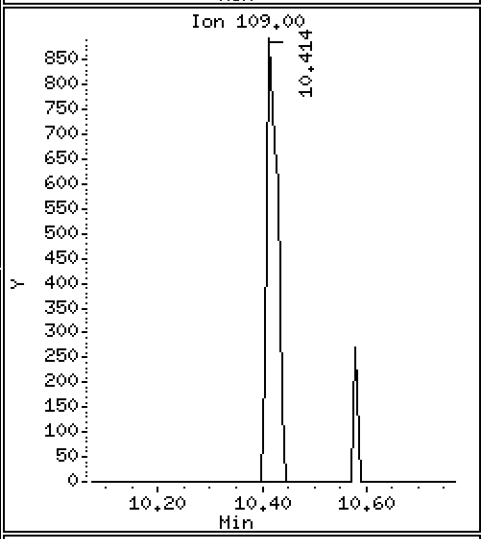
21 2-Nitrophenol

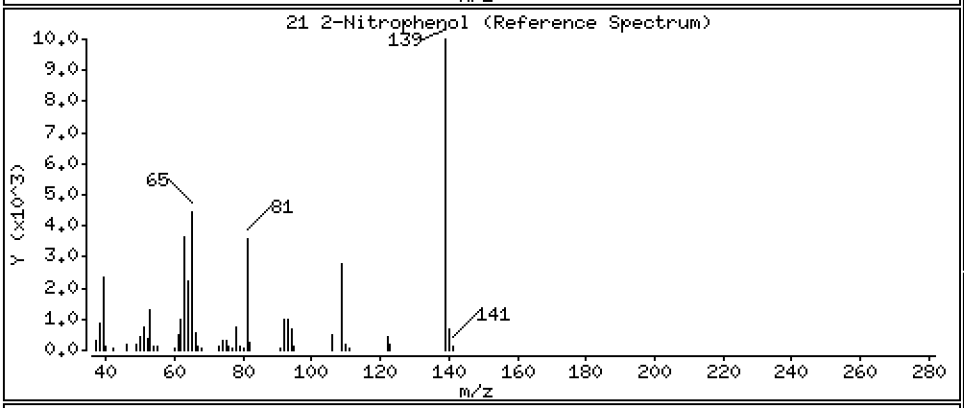
Concentration: 0.1570 ug/mL

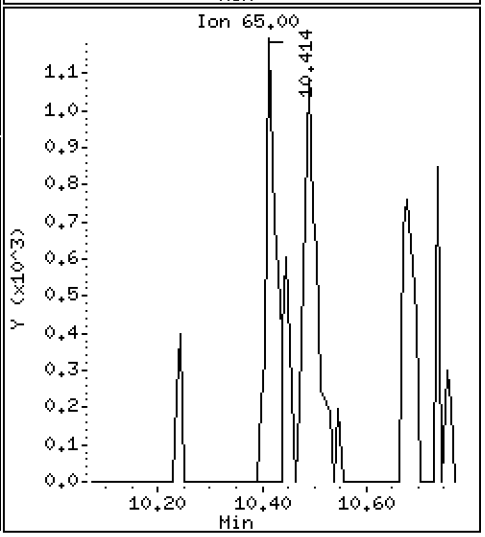


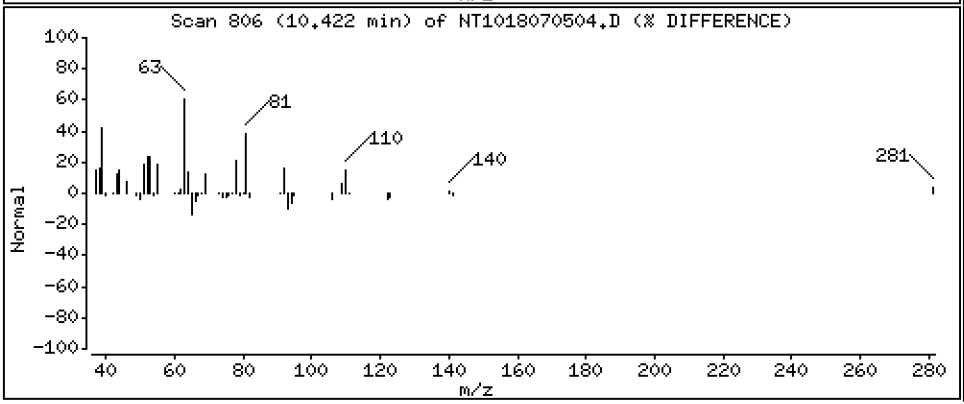












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

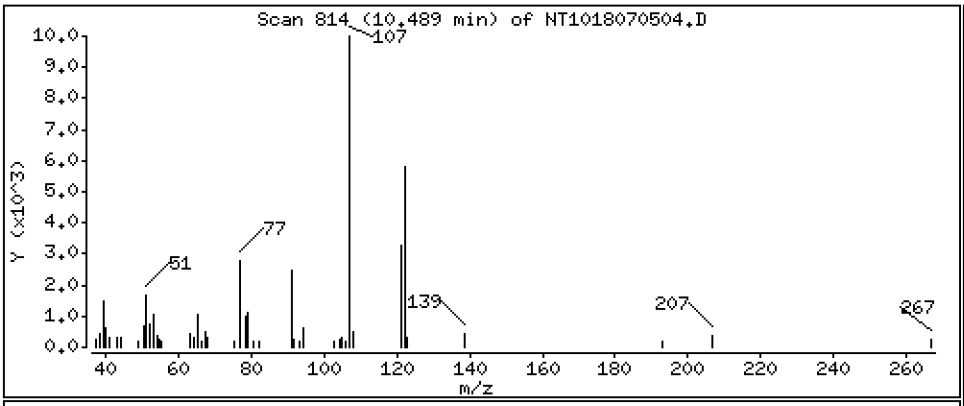
Operator: YZ

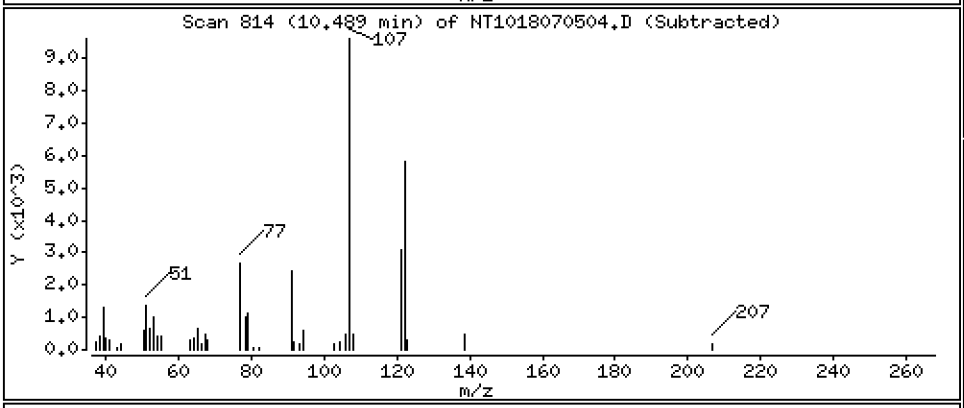
Column phase: ZB-5msi

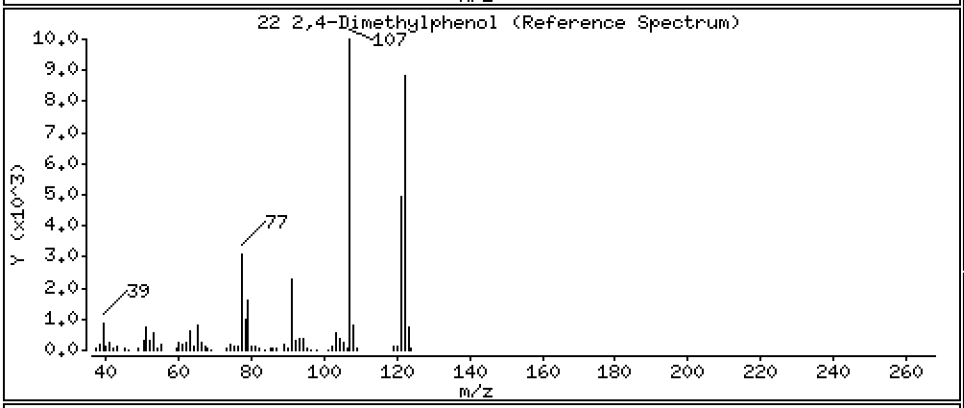
Column diameter: 0.25

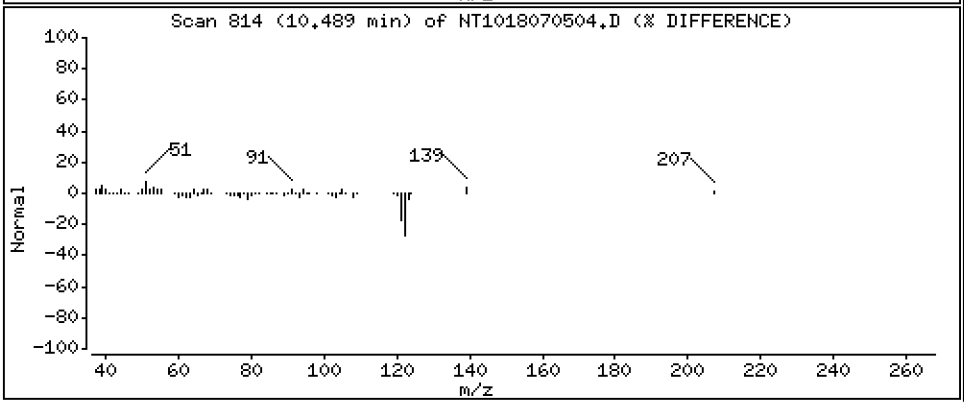
22 2,4-Dimethylphenol

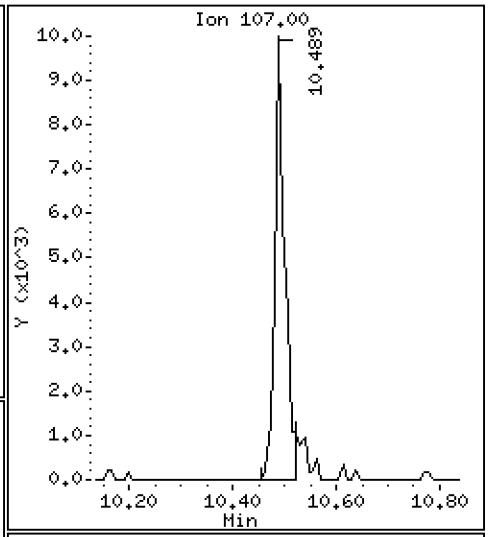
Concentration: 0.4546 ug/mL

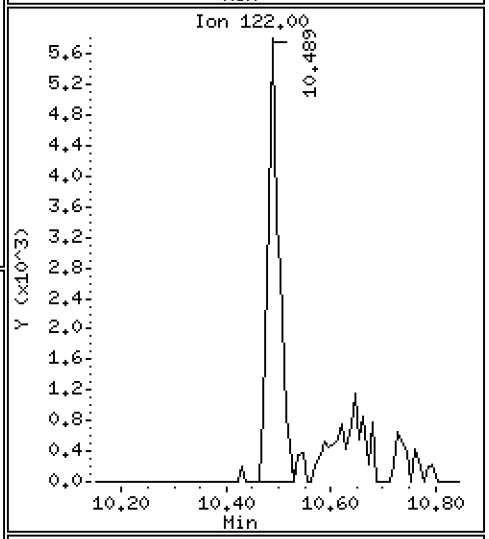


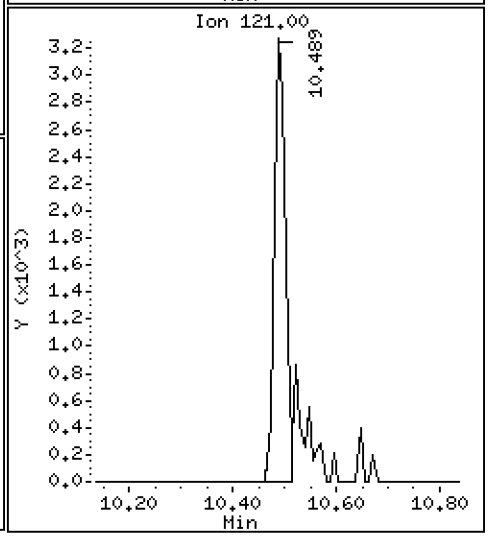












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

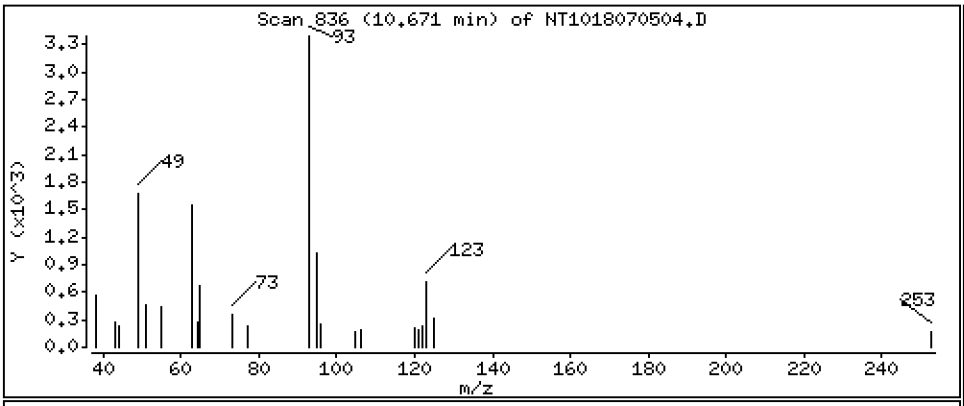
Operator: YZ

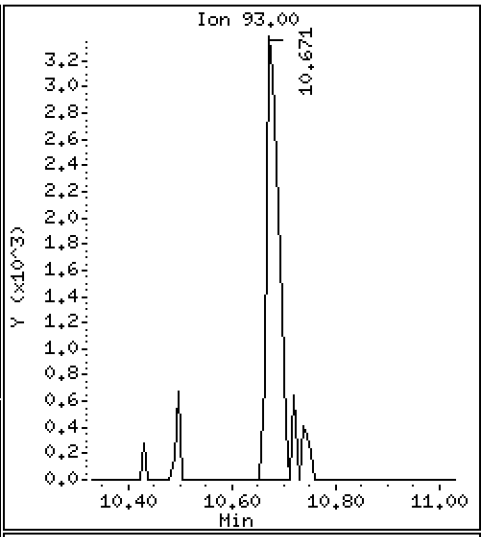
Column phase: ZB-5msi

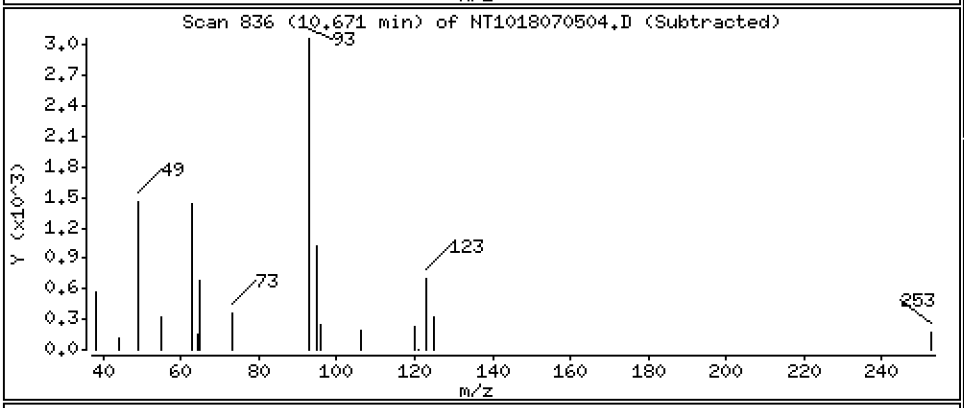
Column diameter: 0.25

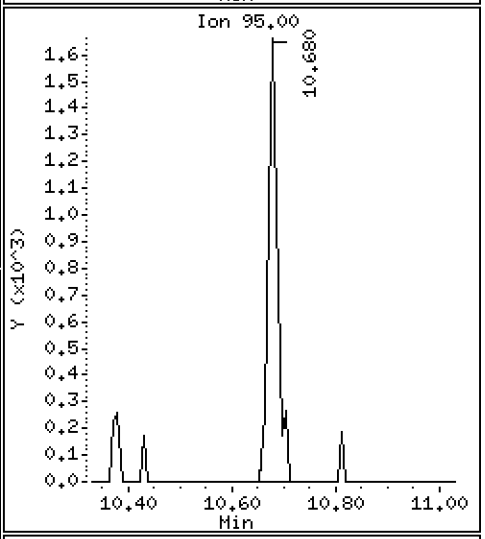
23 Bis(2-Chloroethoxy)methane

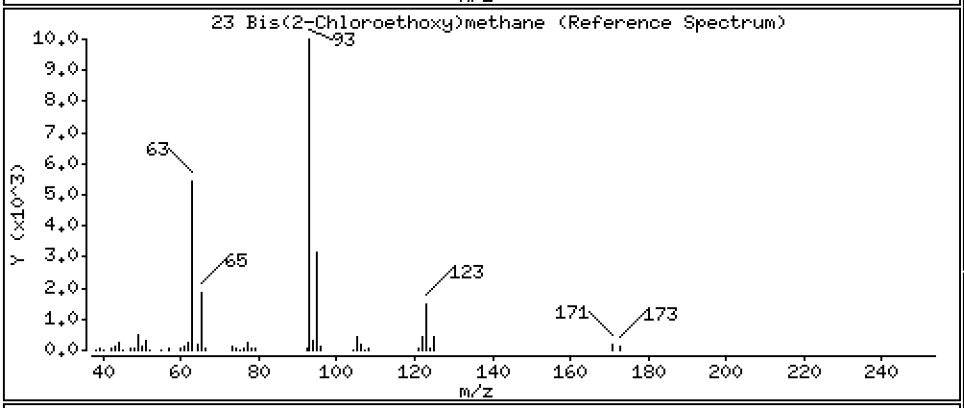
Concentration: 0.1717 ug/mL

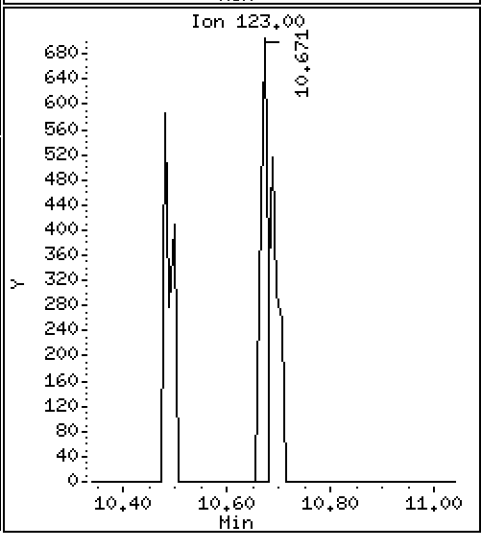


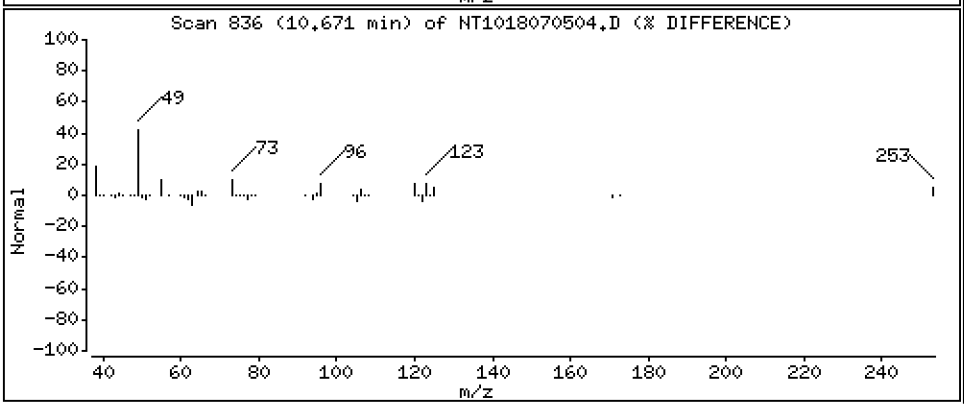












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

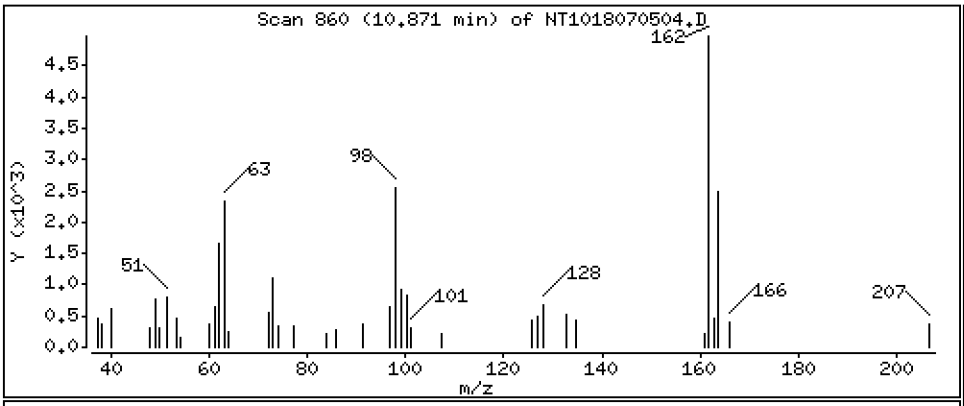
Operator: YZ

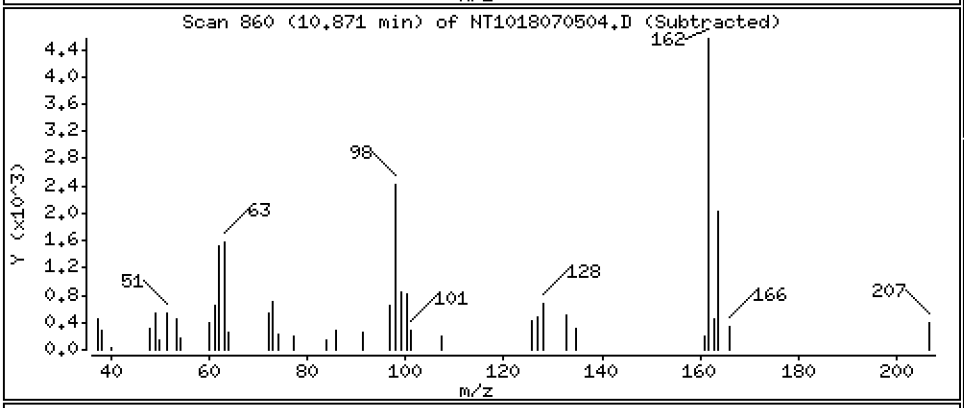
Column phase: ZB-5msi

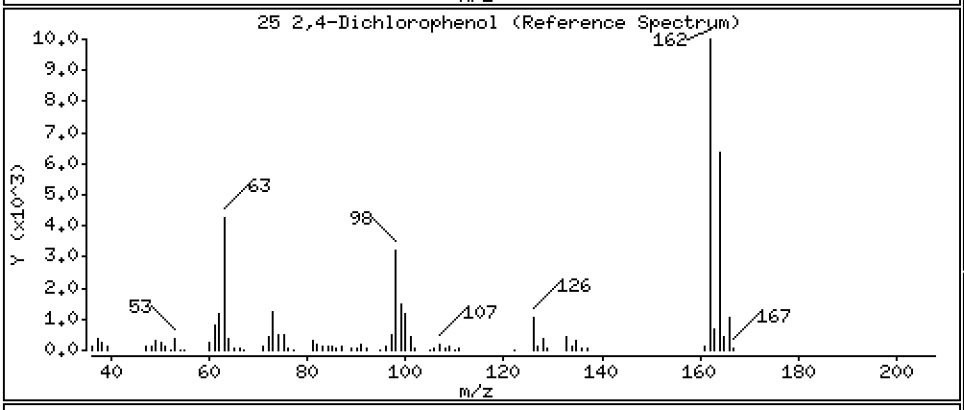
Column diameter: 0.25

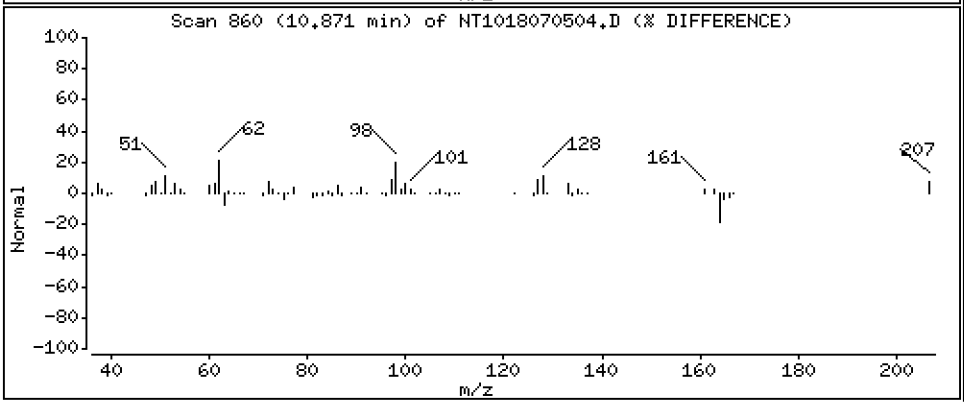
25 2,4-Dichlorophenol

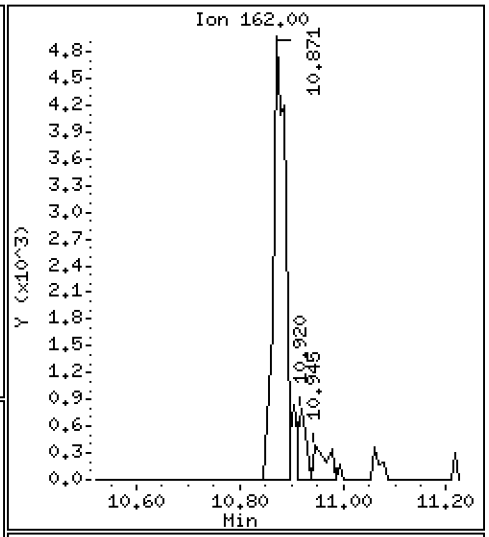
Concentration: 0.3323 ug/mL

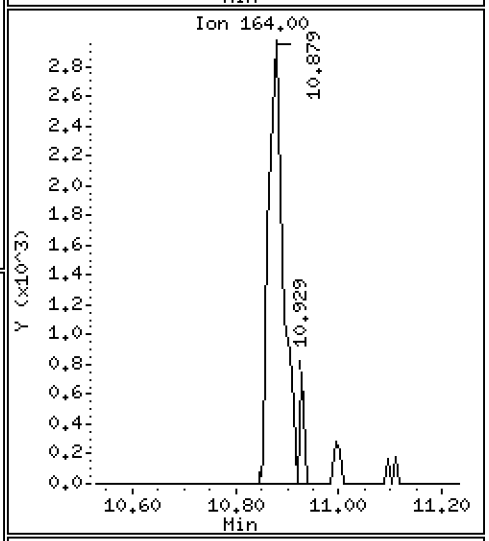


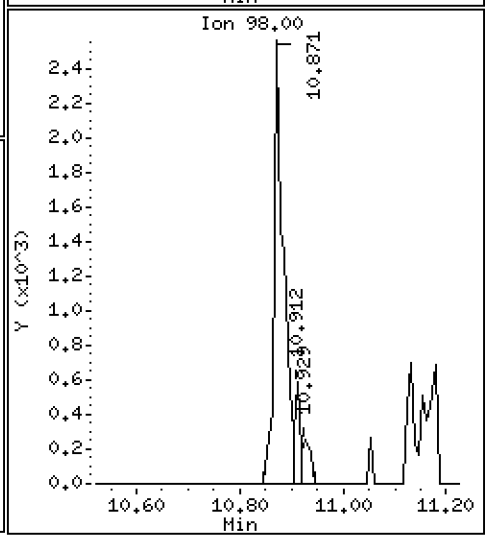












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

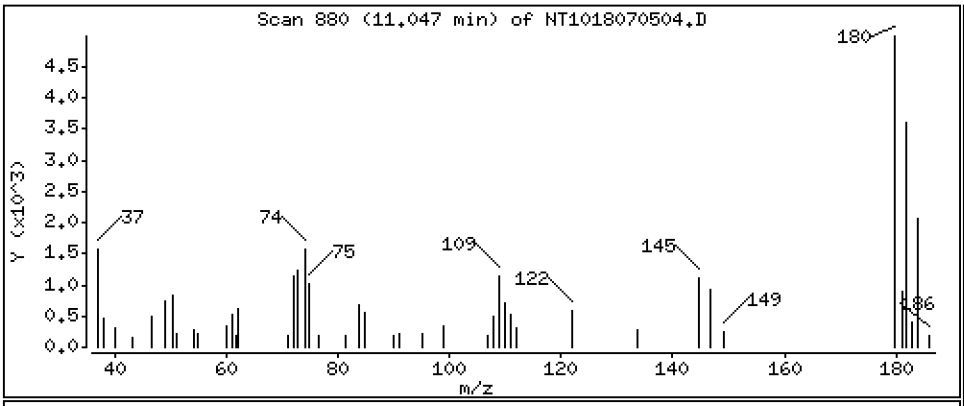
Operator: YZ

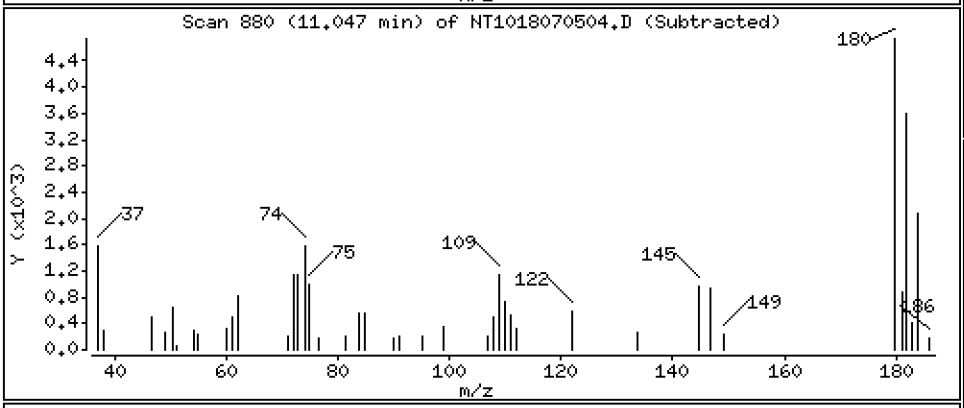
Column phase: ZB-5msi

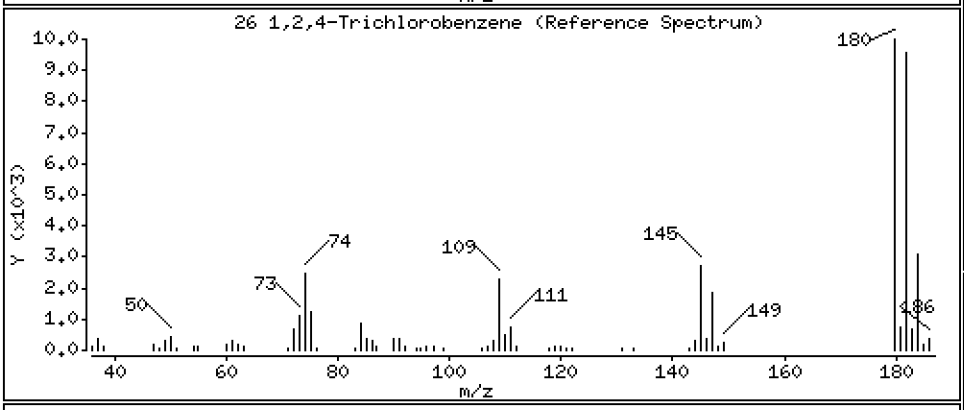
Column diameter: 0.25

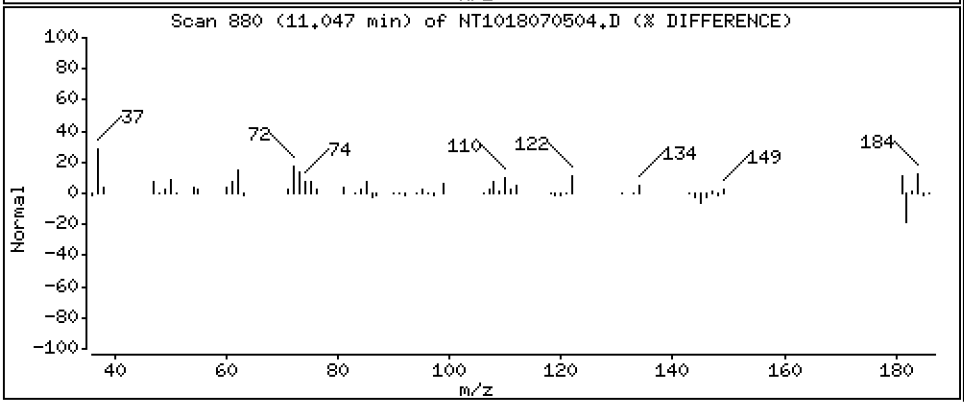
26 1,2,4-Trichlorobenzene

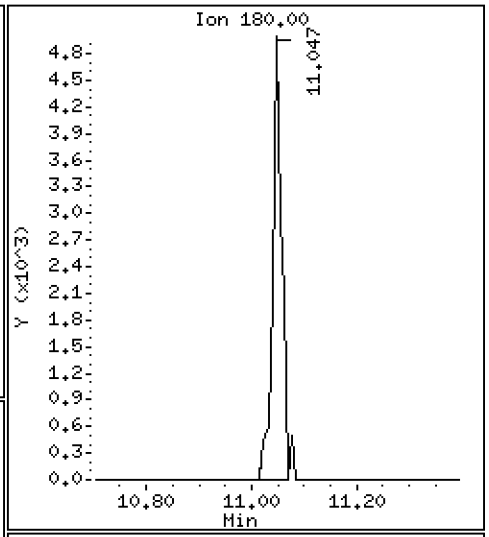
Concentration: 0.2351 ug/mL

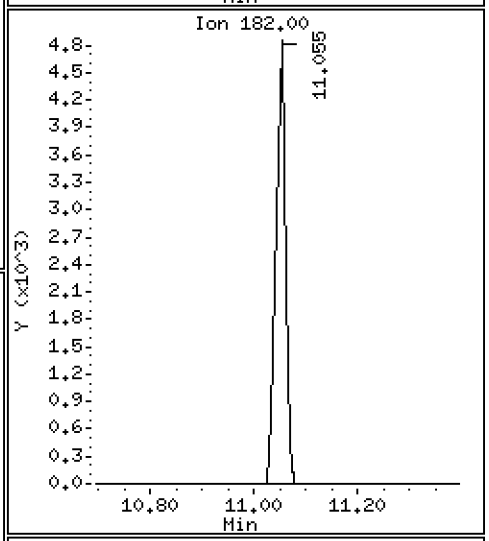


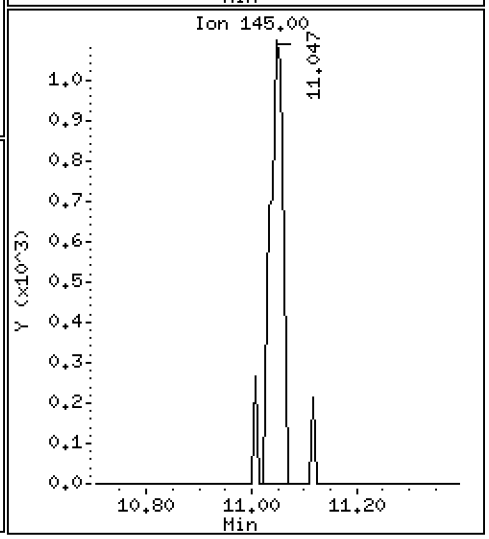












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

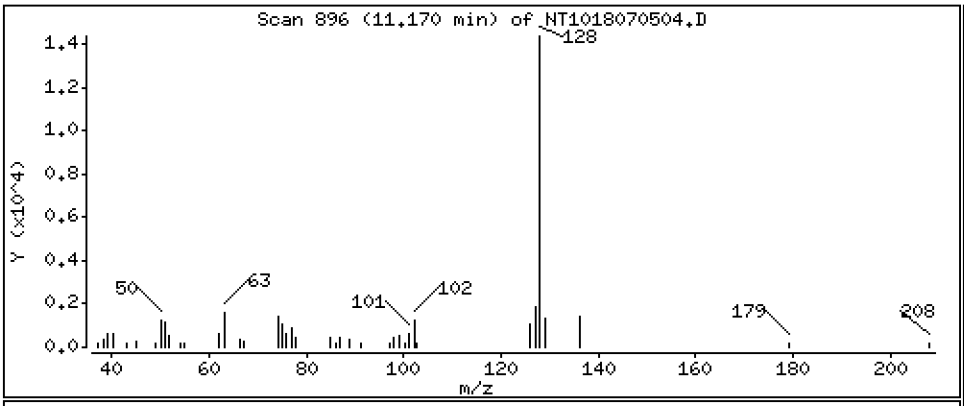
Operator: YZ

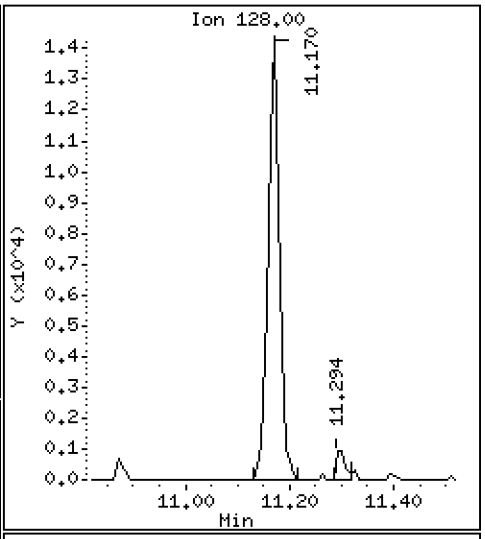
Column phase: ZB-5msi

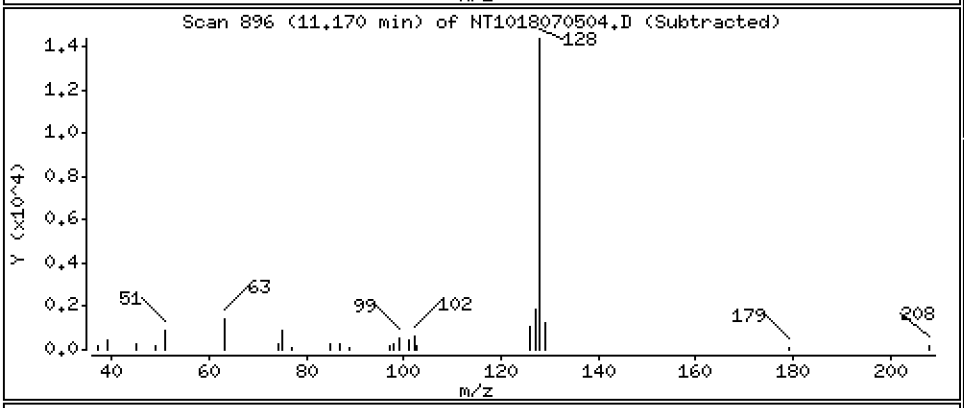
Column diameter: 0.25

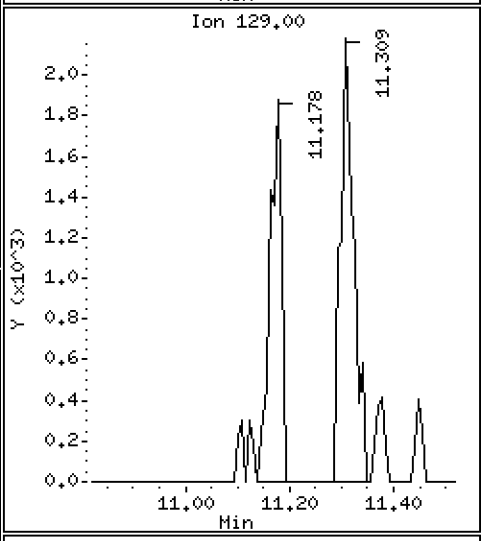
28 Naphthalene

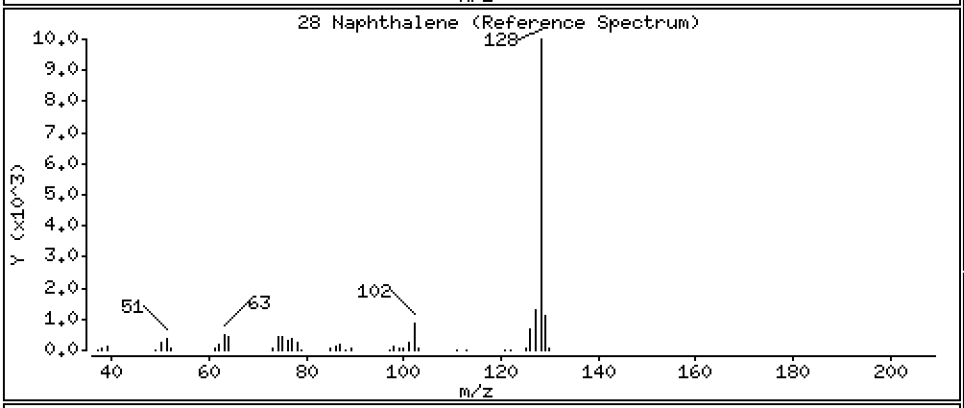
Concentration: 0.2750 ug/mL

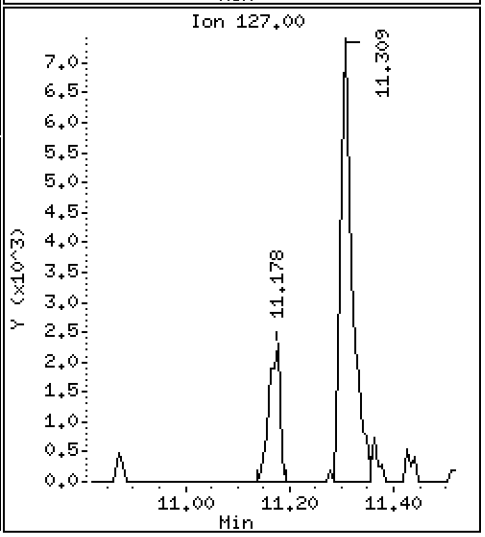


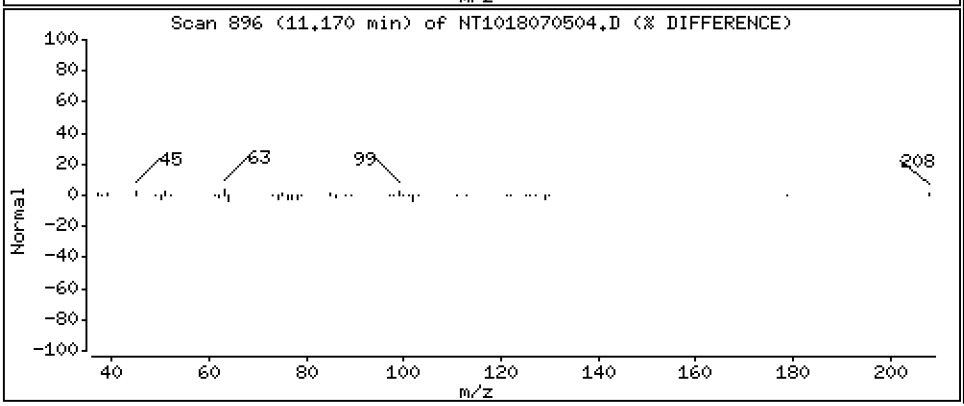












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

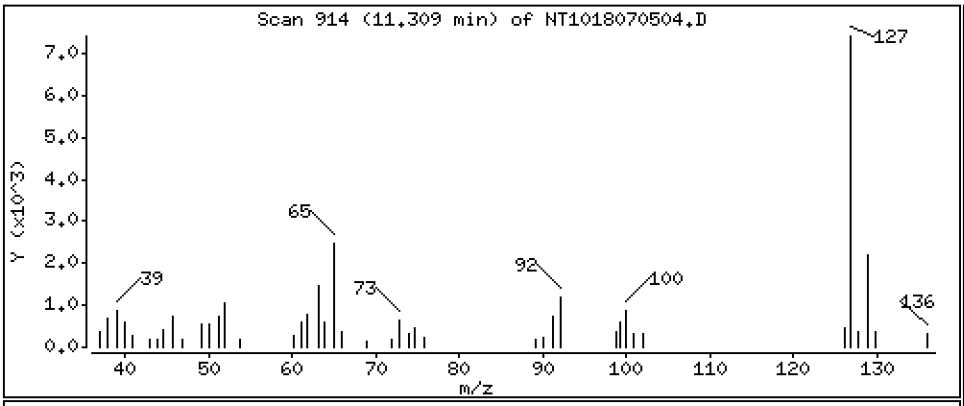
Operator: YZ

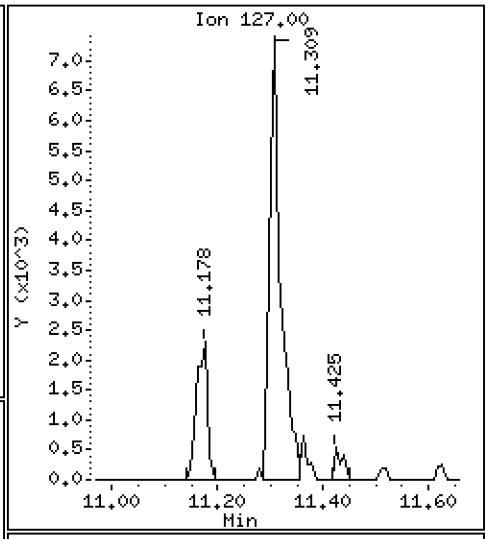
Column phase: ZB-5msi

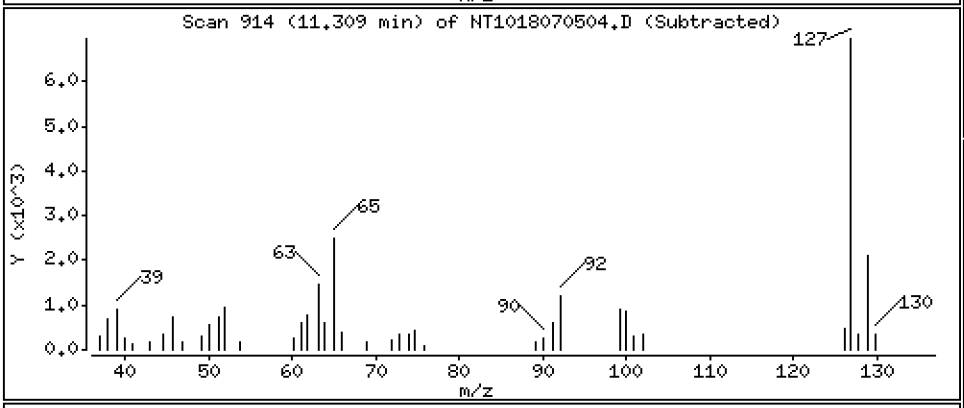
Column diameter: 0.25

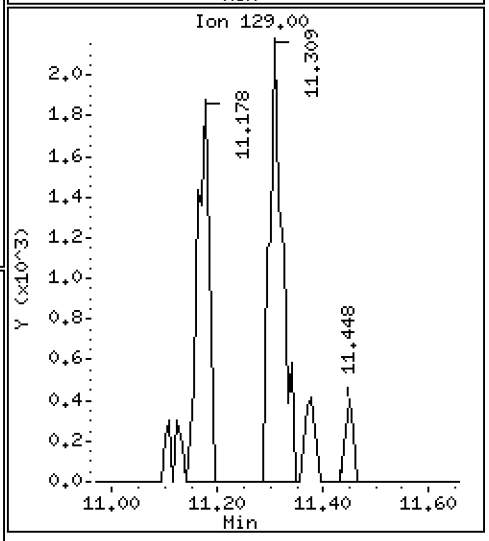
29 4-Chloroaniline

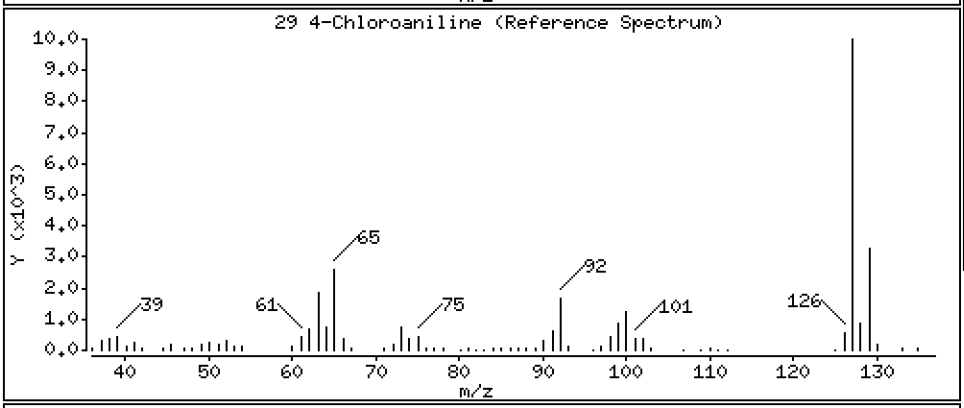
Concentration: 0.3116 ug/mL

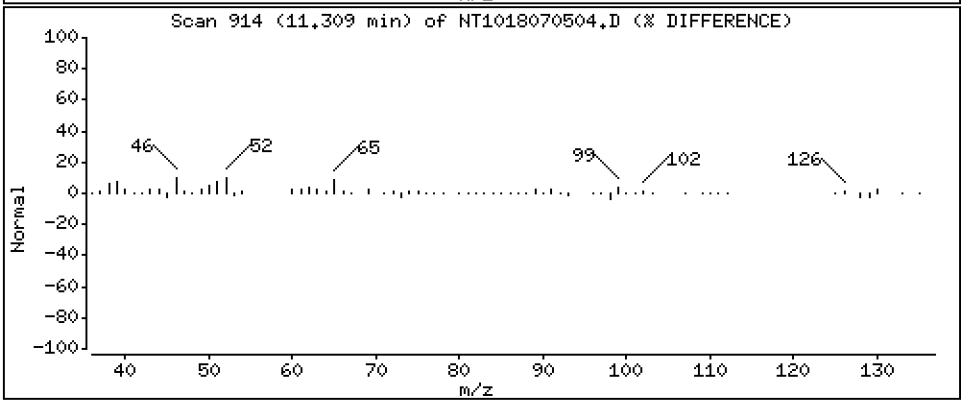












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

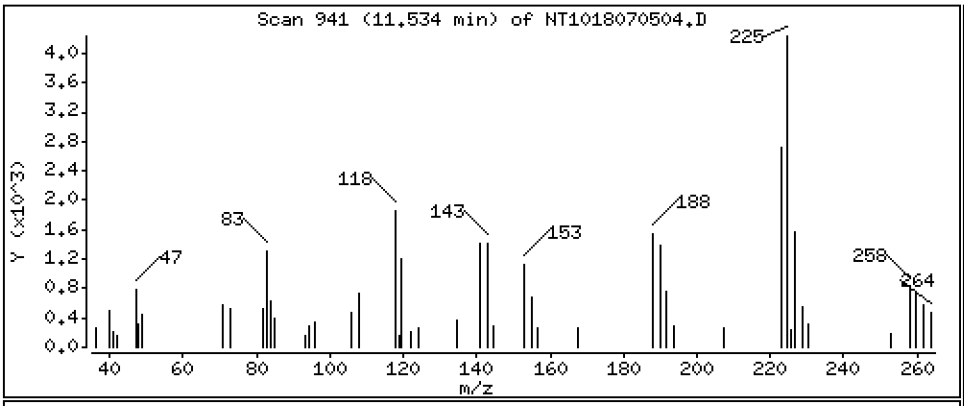
Operator: YZ

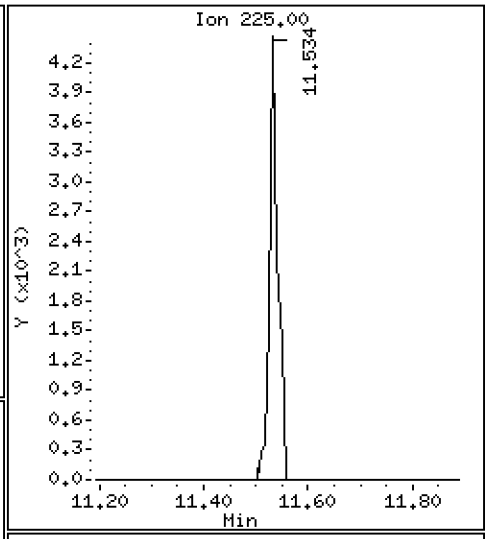
Column phase: ZB-5msi

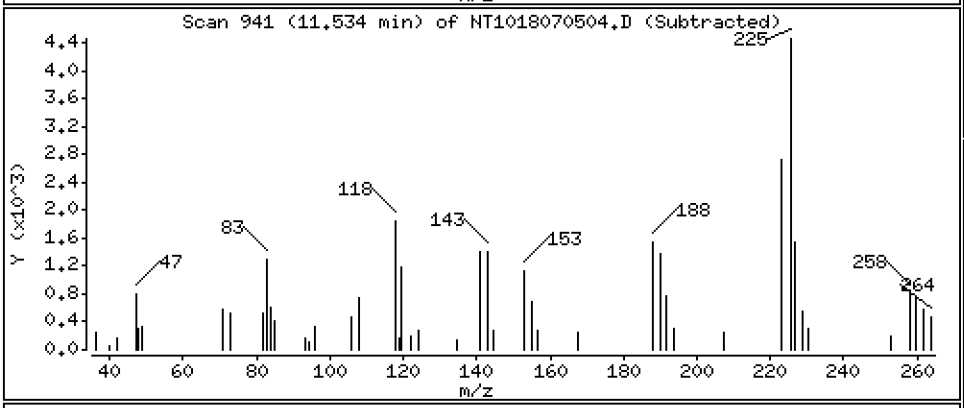
Column diameter: 0.25

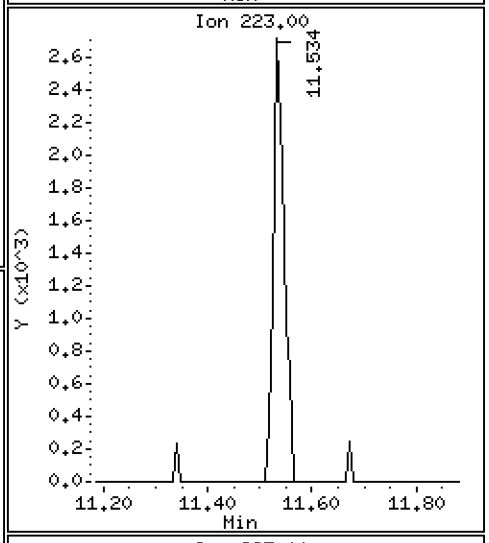
30 Hexachlorobutadiene

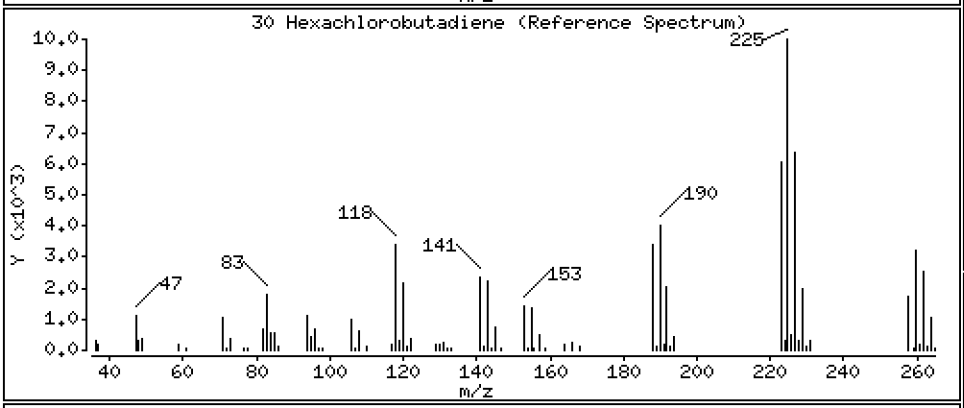
Concentration: 0.2923 ug/mL

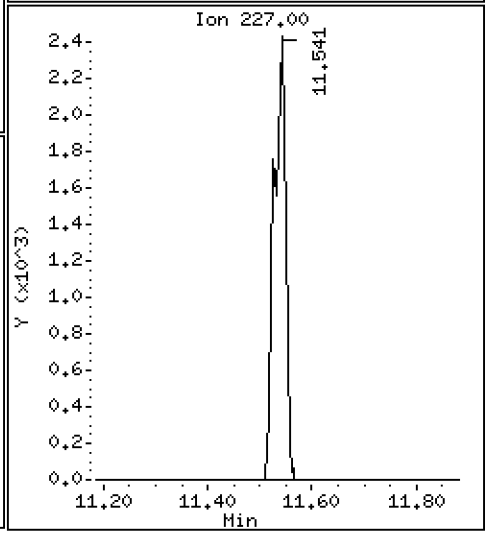


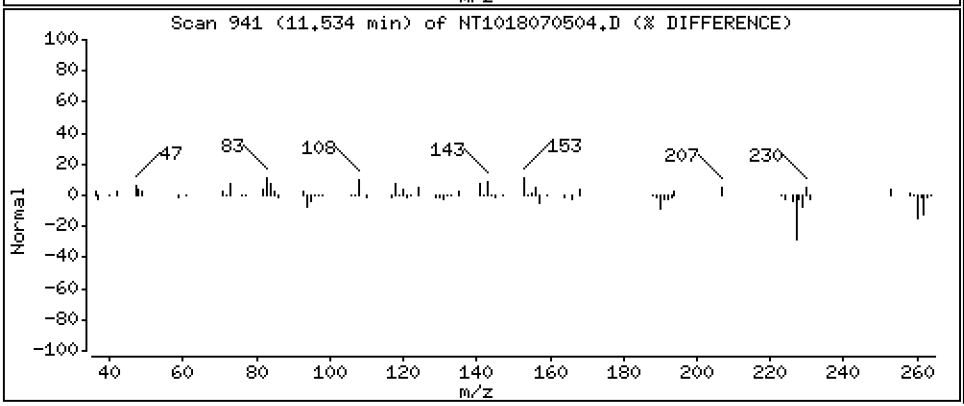












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

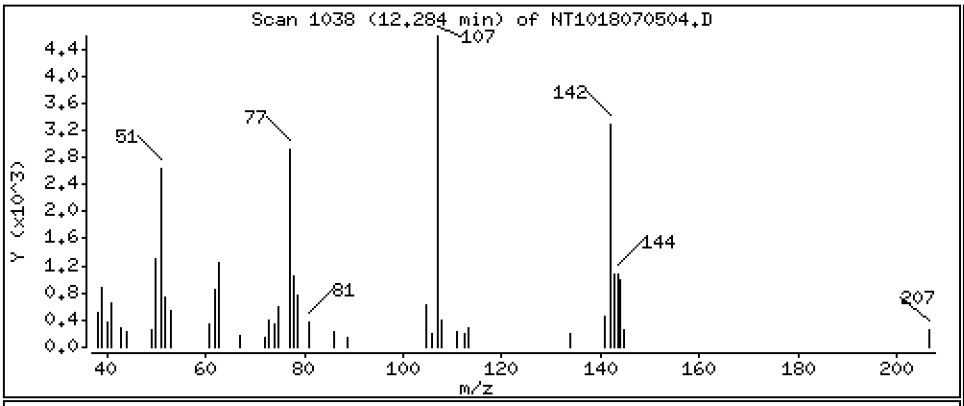
Operator: YZ

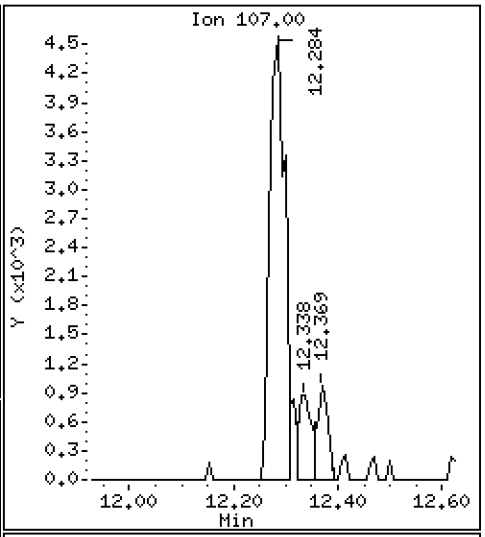
Column phase: ZB-5msi

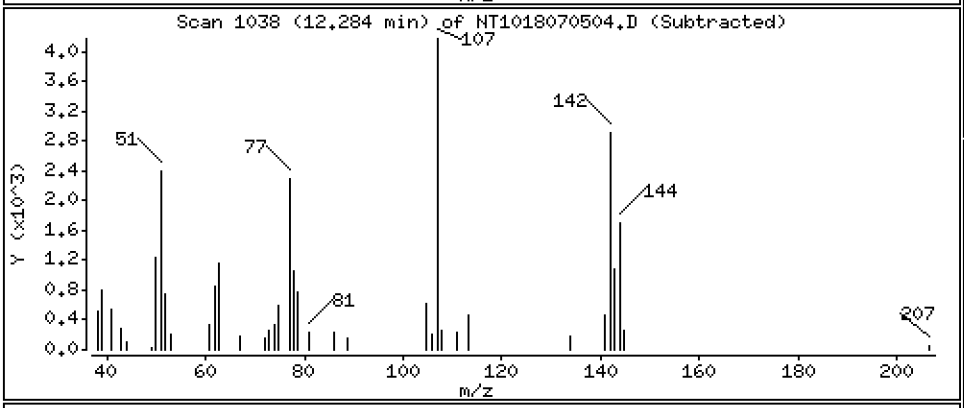
Column diameter: 0.25

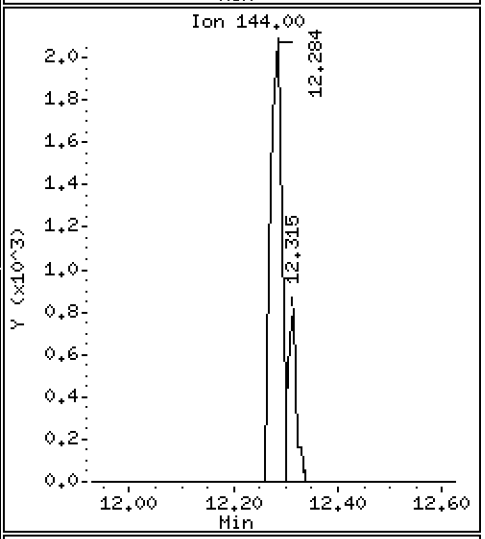
31 4-Chloro-3-methylphenol

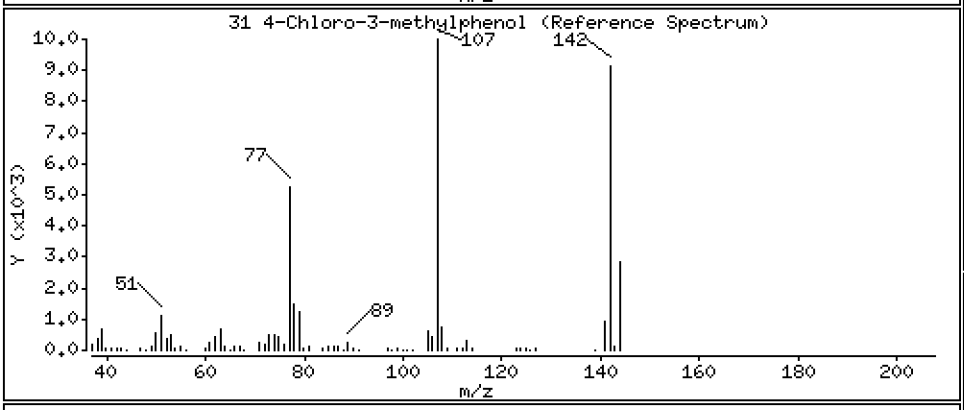
Concentration: 0.3386 ug/mL

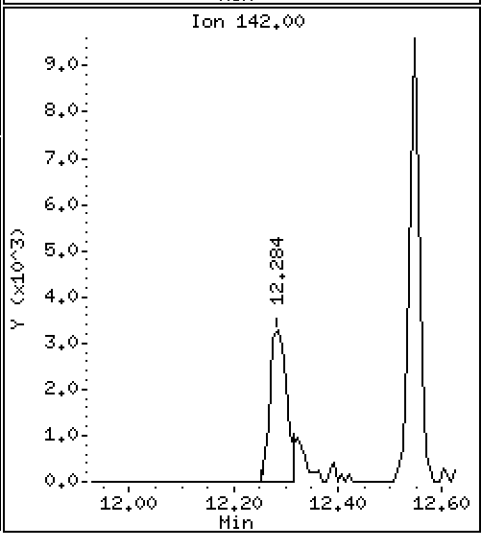


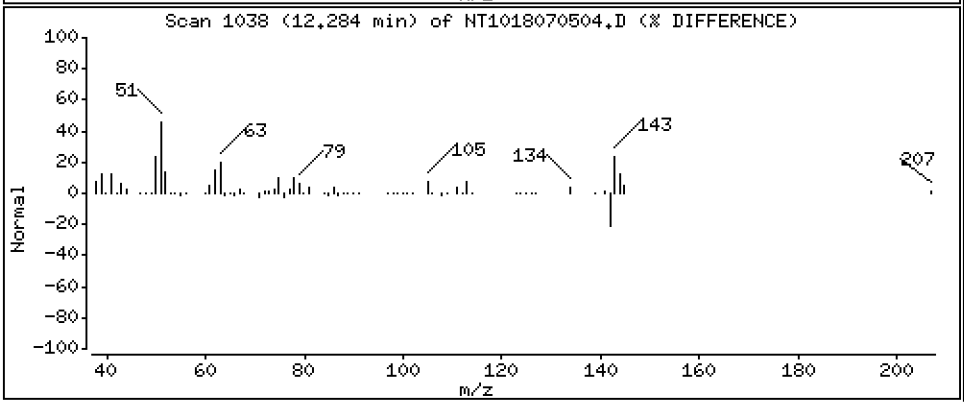












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

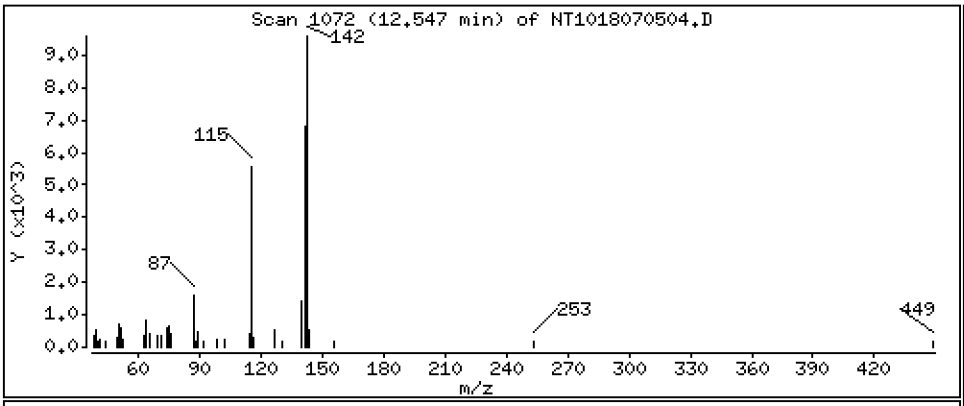
Operator: YZ

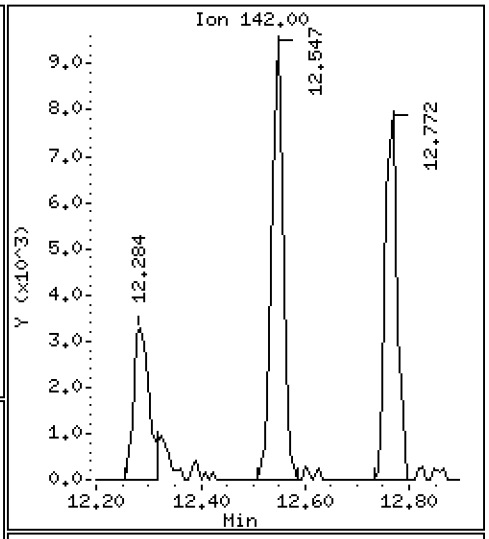
Column phase: ZB-5msi

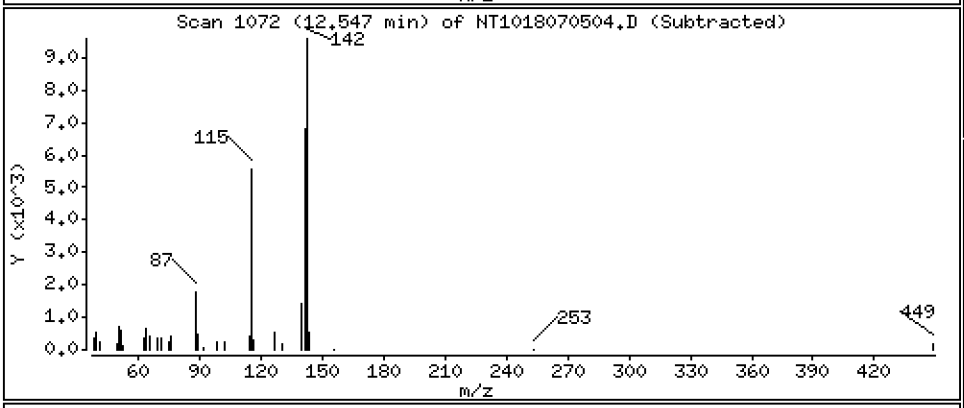
Column diameter: 0.25

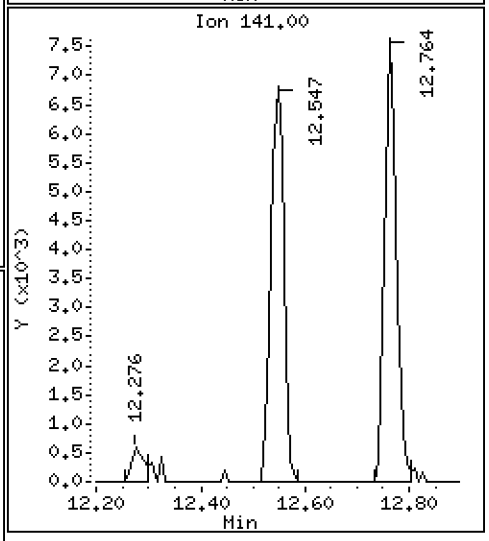
32 2-Methylnaphthalene

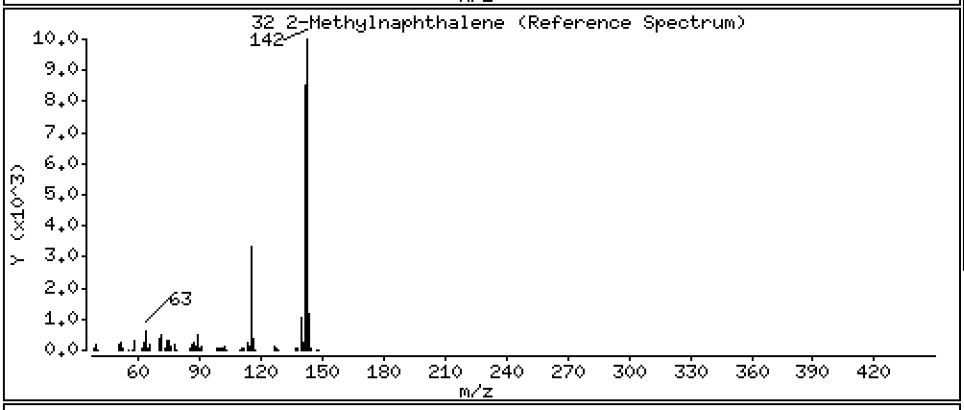
Concentration: 0.2184 ug/mL

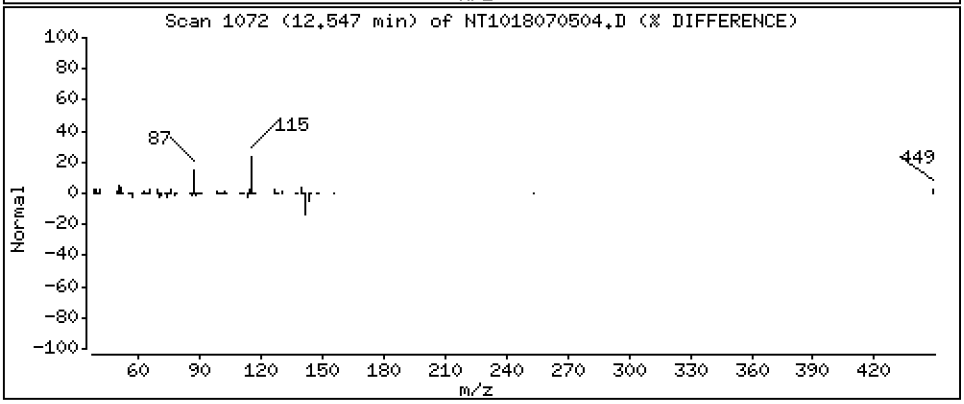












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

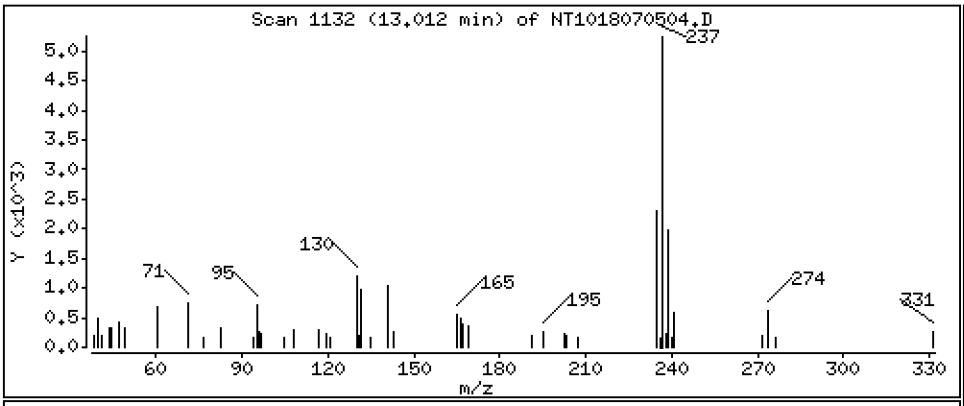
Operator: YZ

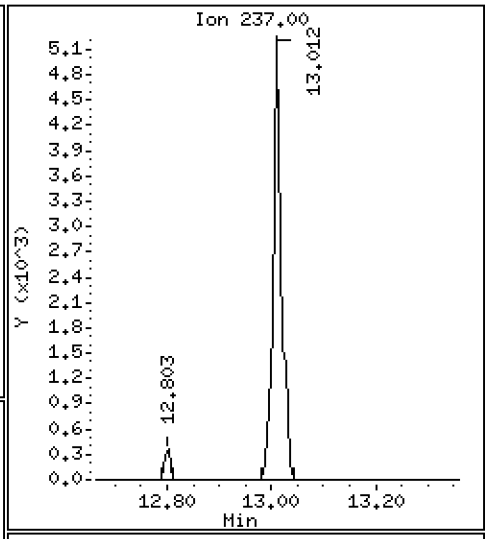
Column phase: ZB-5msi

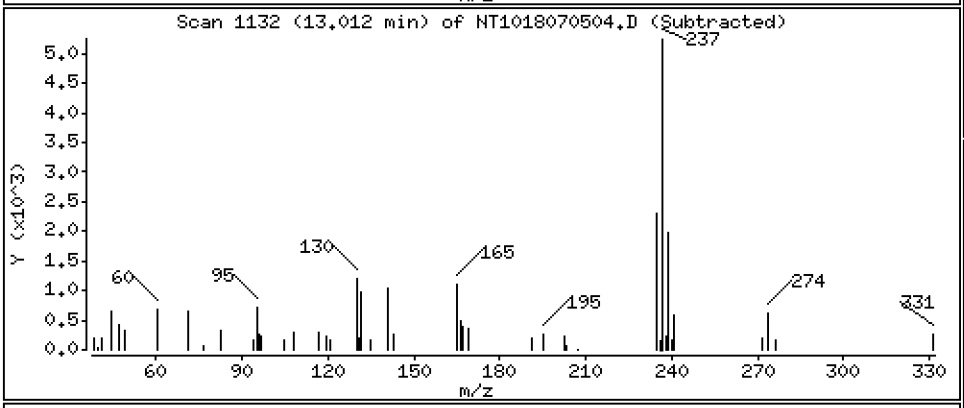
Column diameter: 0.25

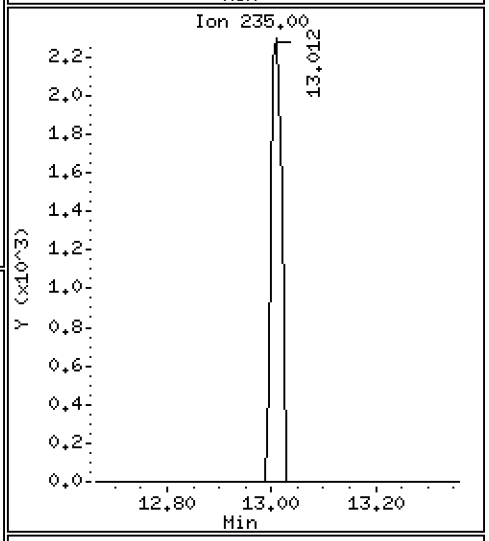
33 Hexachlorocyclopentadiene

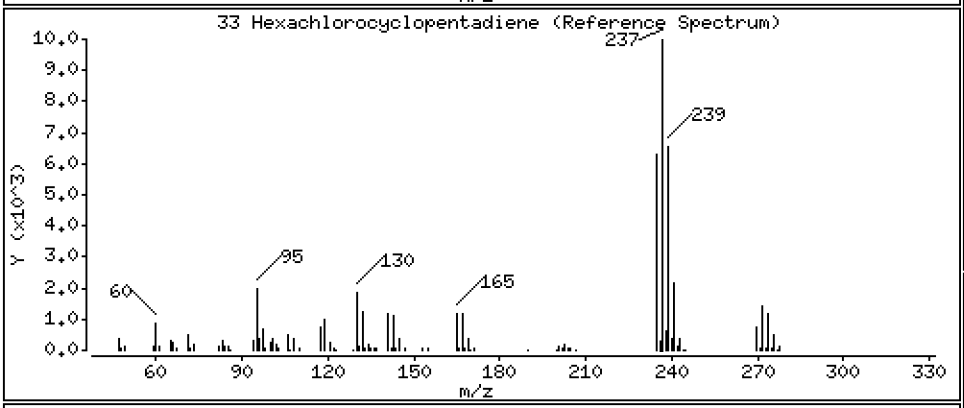
Concentration: 0.2836 ug/mL

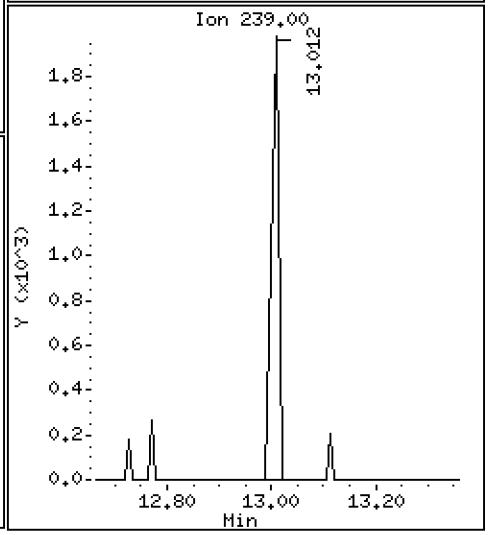


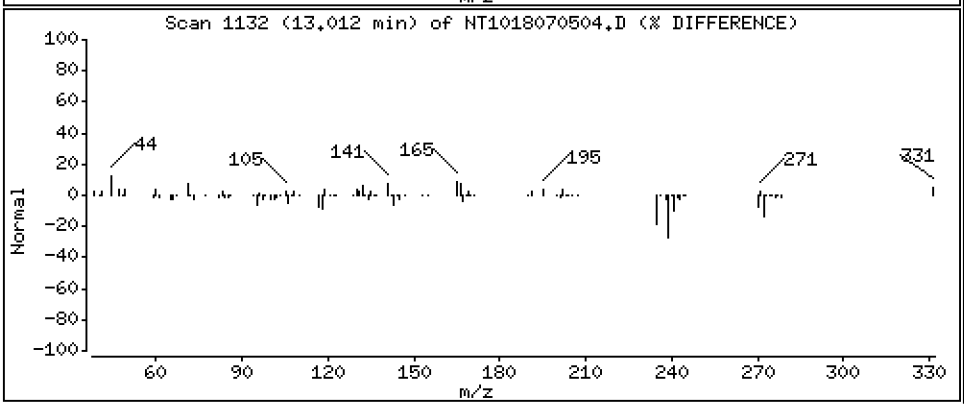












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

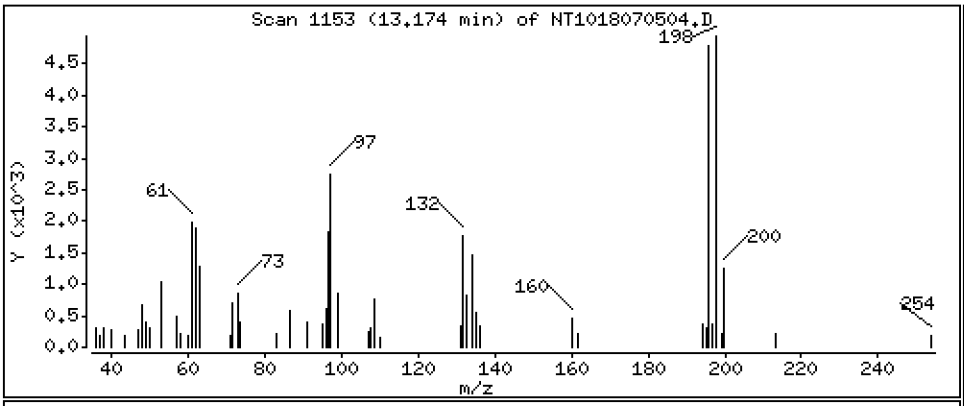
Operator: YZ

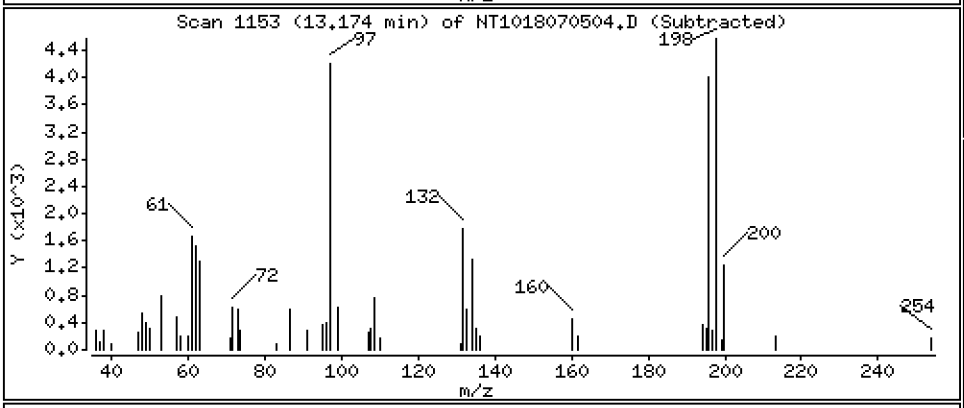
Column phase: ZB-5msi

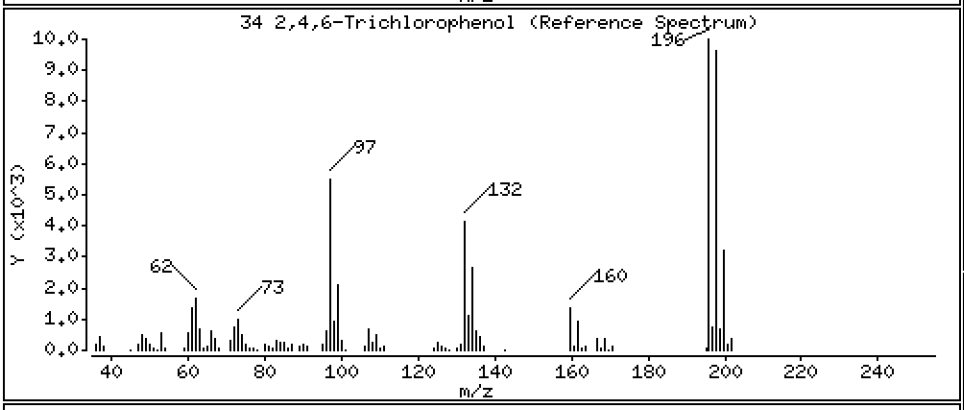
Column diameter: 0.25

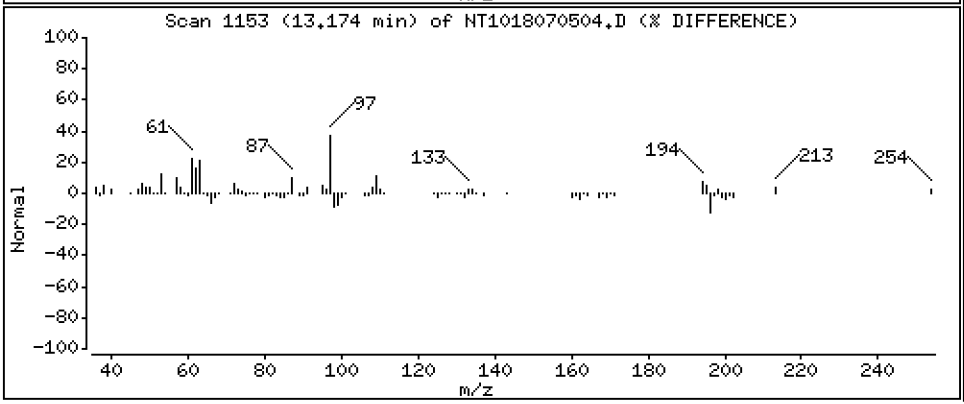
34 2,4,6-Trichlorophenol

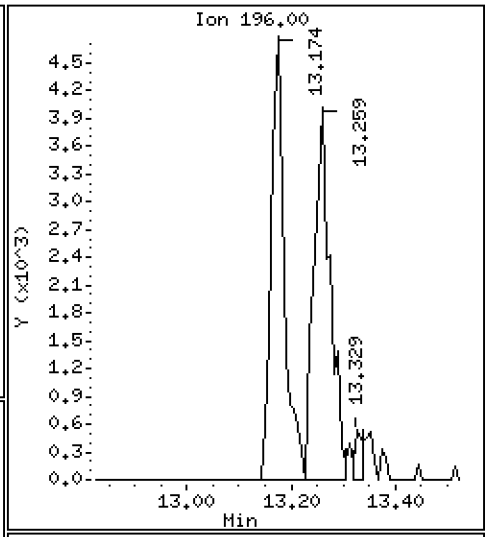
Concentration: 0.3990 ug/mL

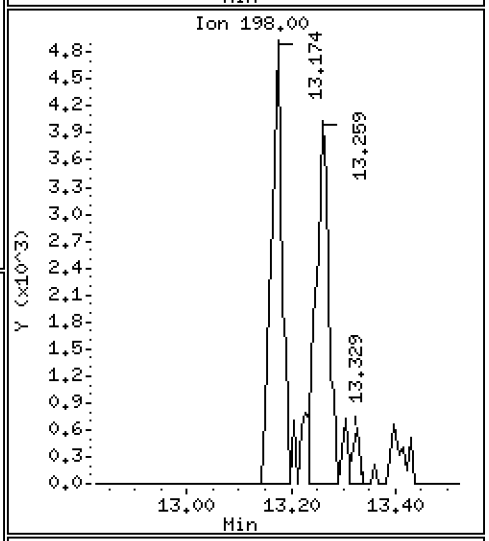


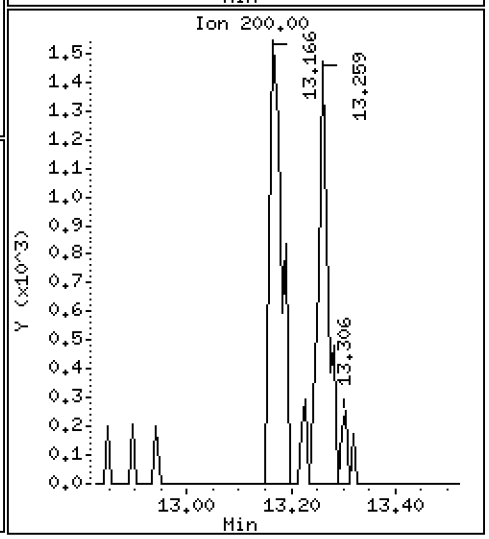












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

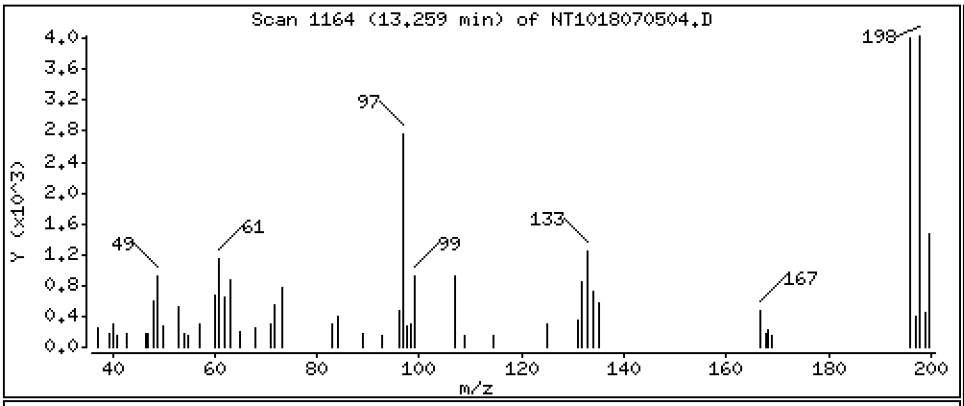
Operator: YZ

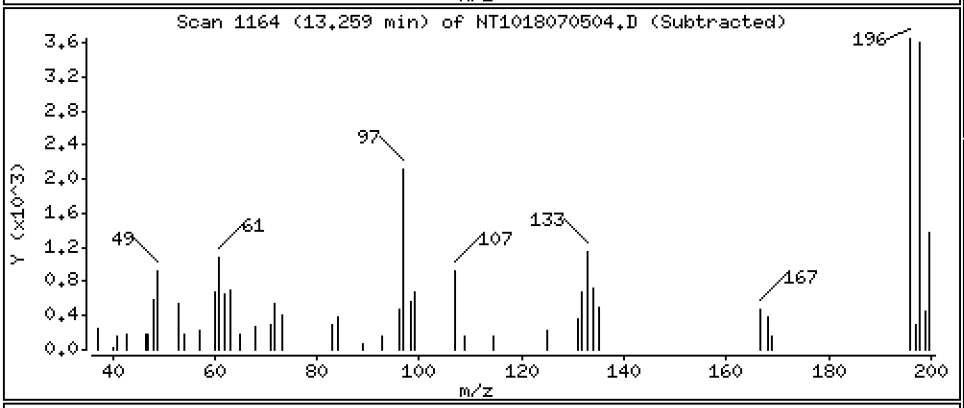
Column phase: ZB-5msi

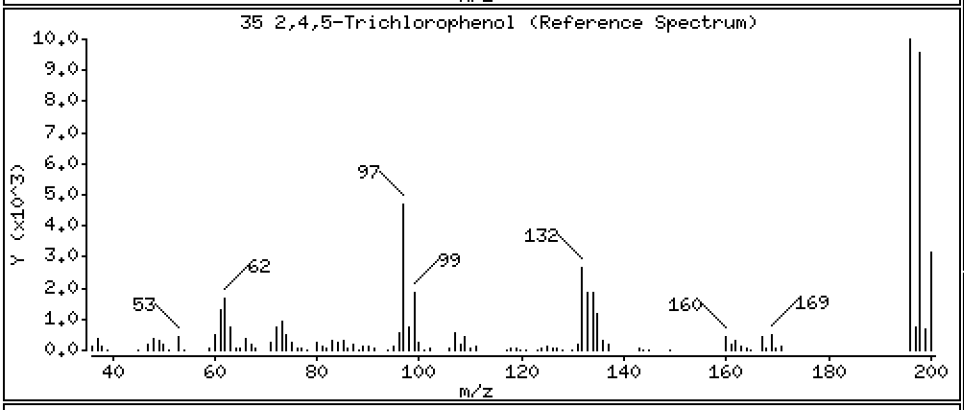
Column diameter: 0.25

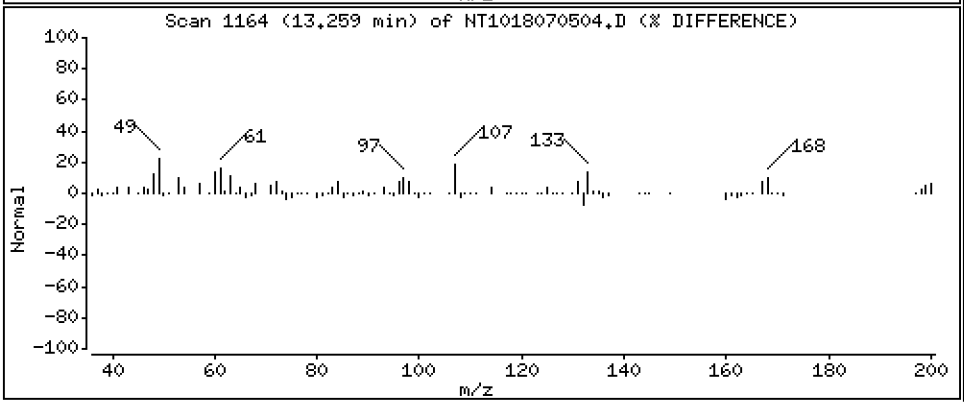
35 2,4,5-Trichlorophenol

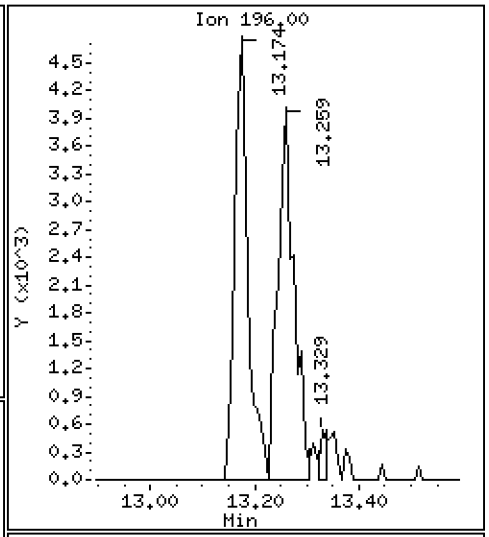
Concentration: 0.3864 ug/mL

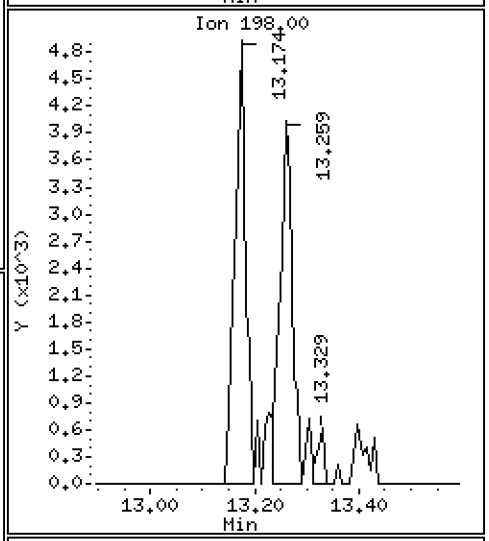


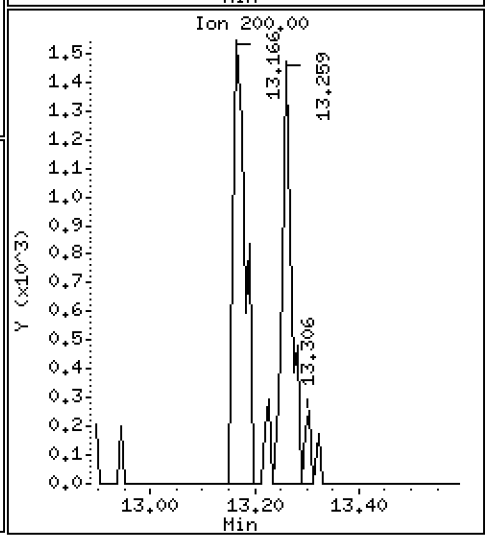












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

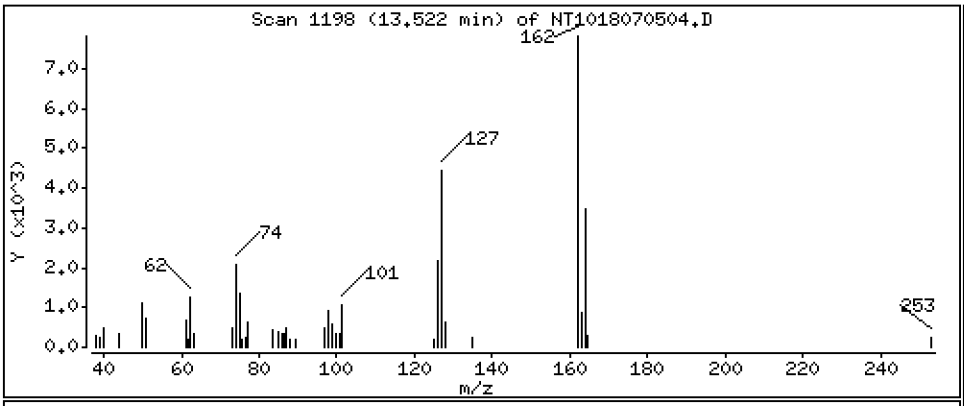
Operator: YZ

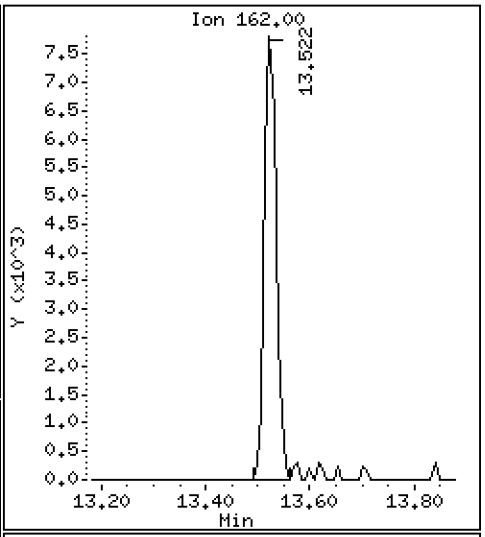
Column phase: ZB-5msi

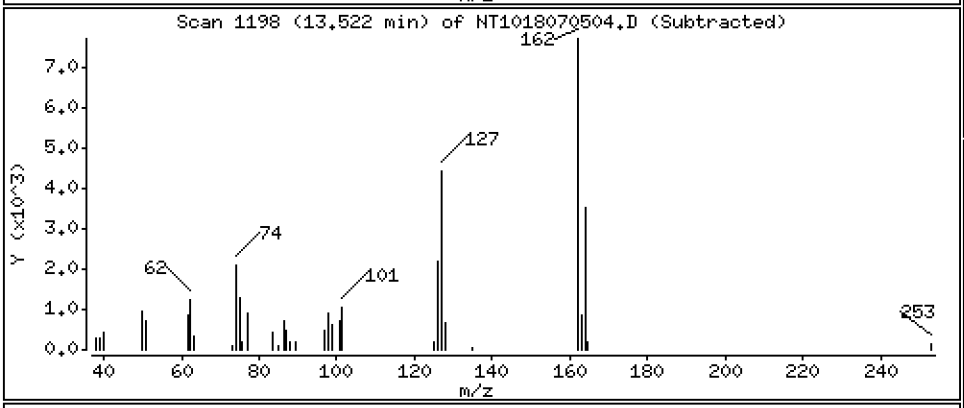
Column diameter: 0.25

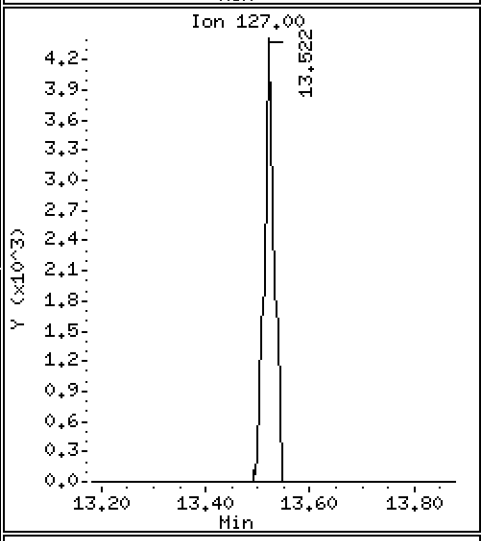
37 2-Chloronaphthalene

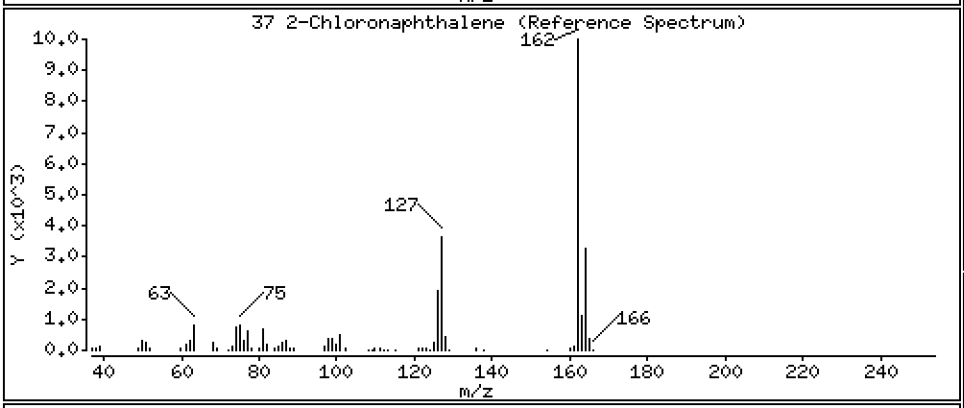
Concentration: 0.1954 ug/mL

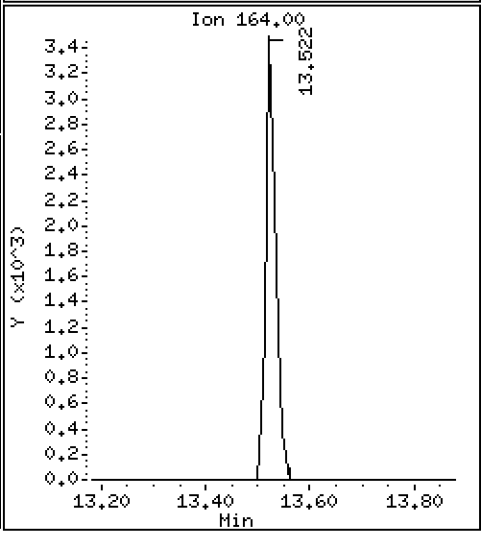


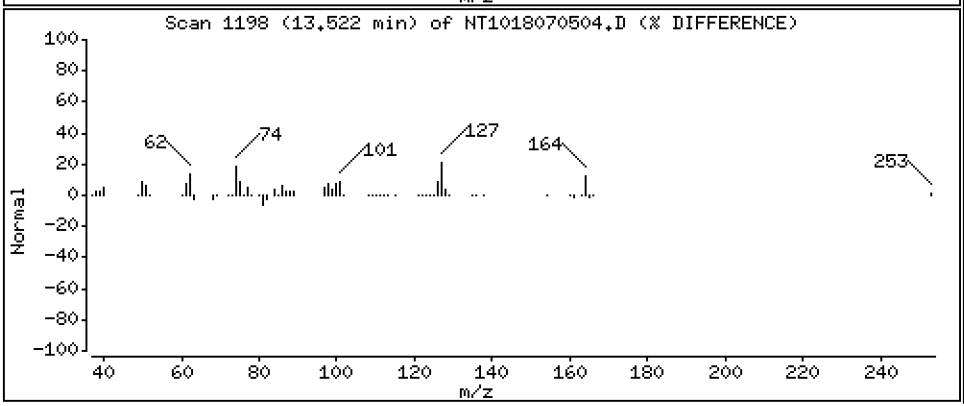












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

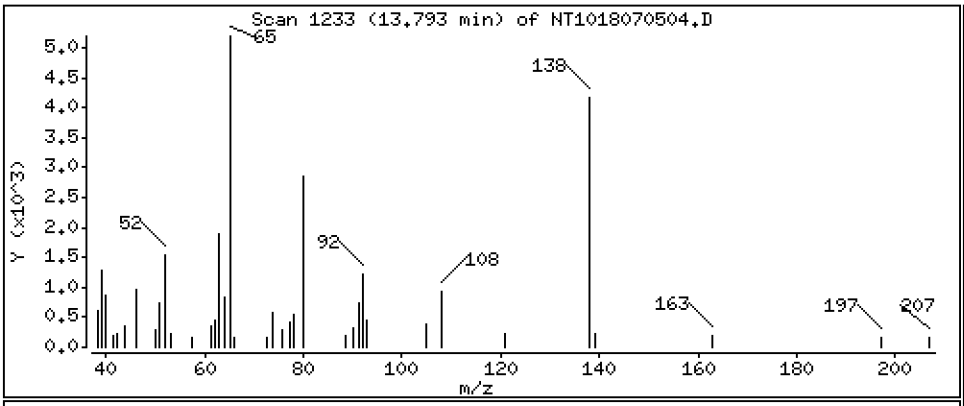
Operator: YZ

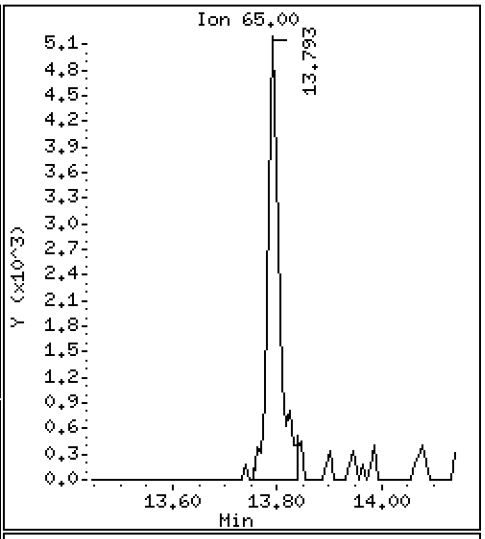
Column phase: ZB-5msi

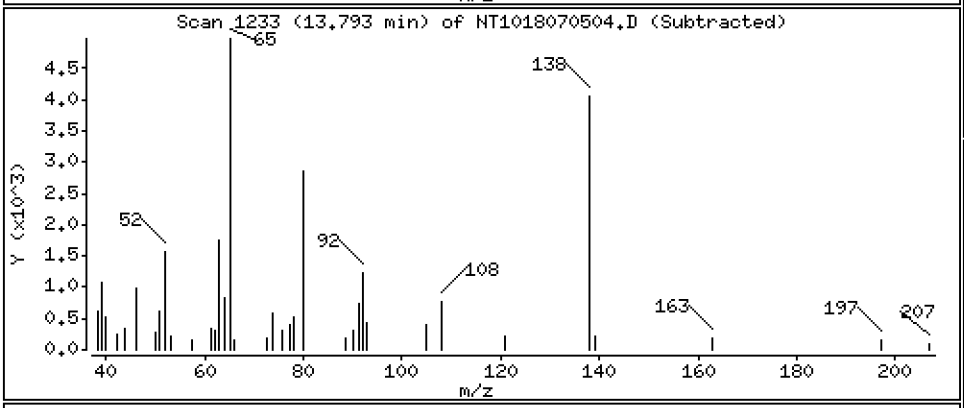
Column diameter: 0.25

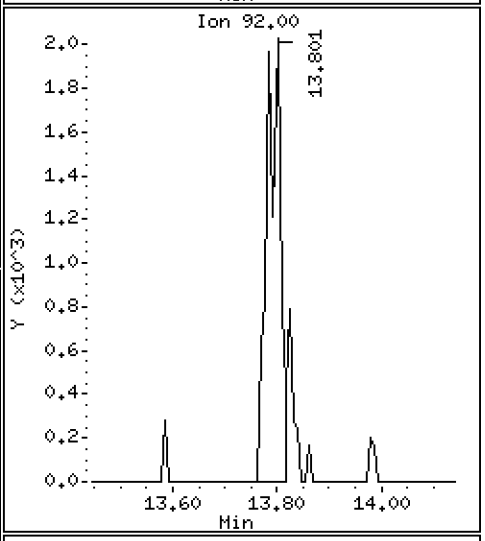
38 2-Nitroaniline

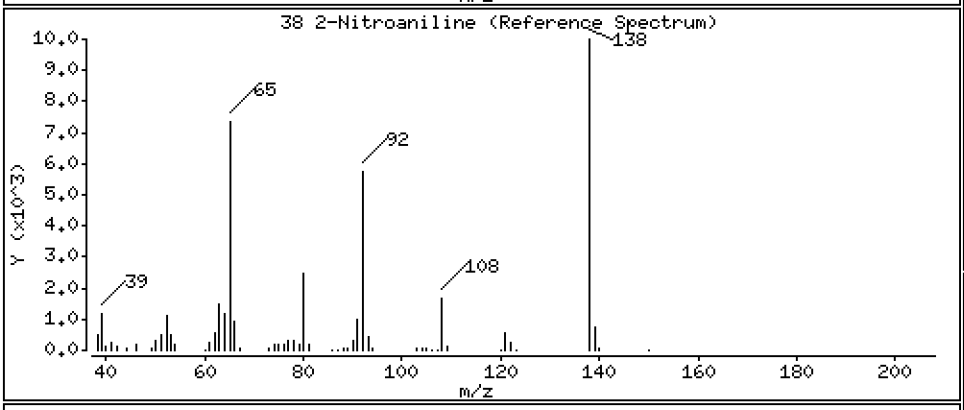
Concentration: 0.4520 ug/mL

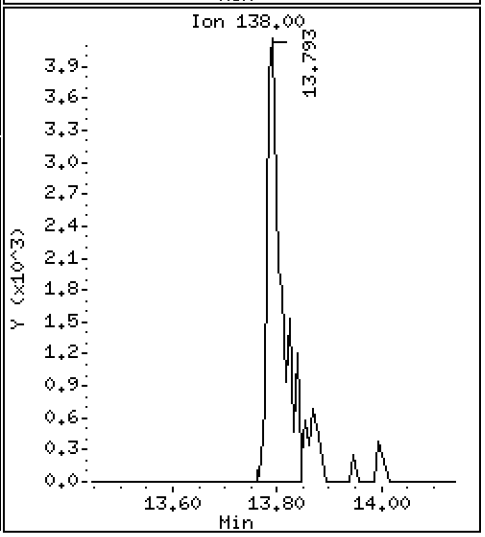


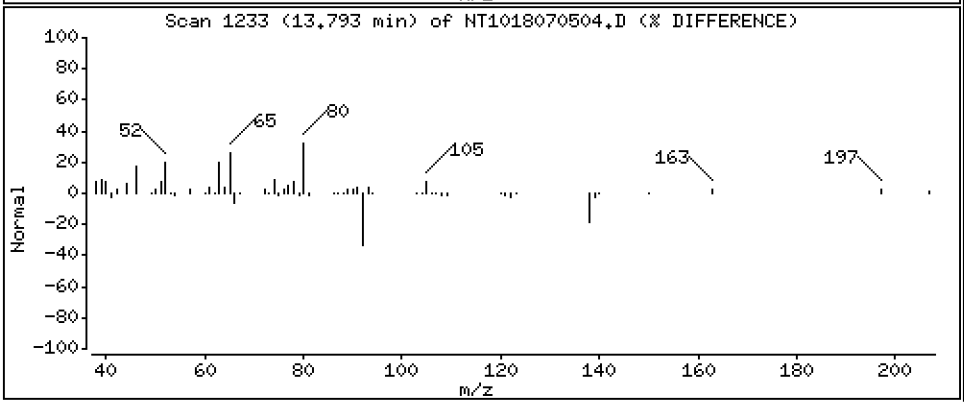












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

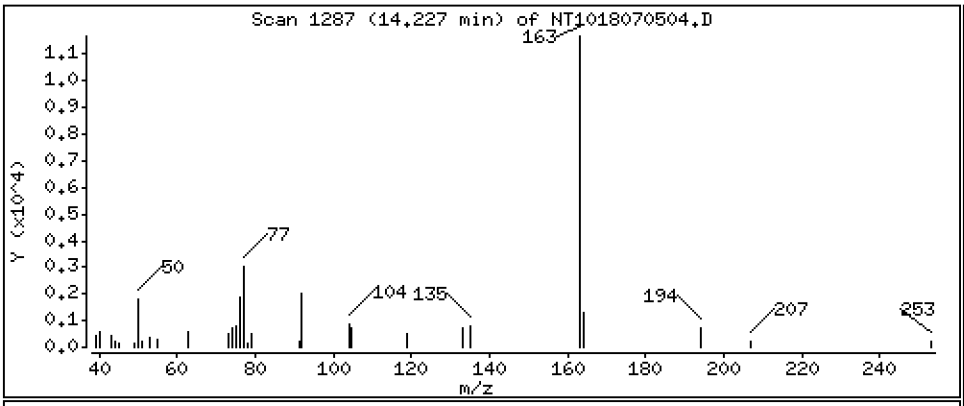
Operator: YZ

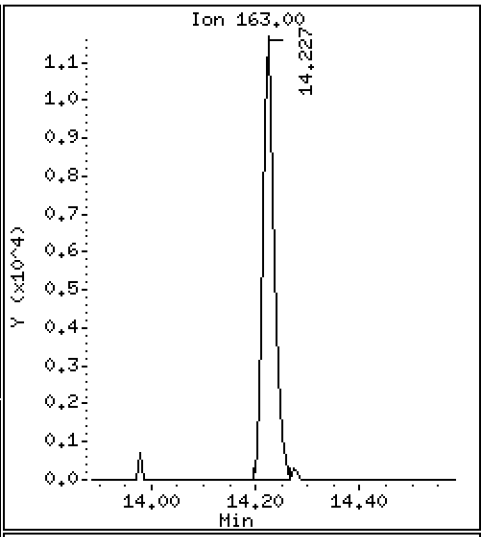
Column phase: ZB-5msi

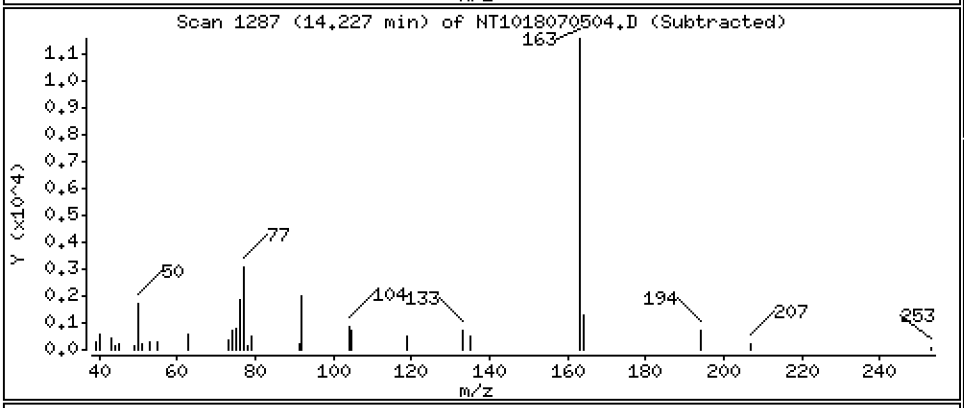
Column diameter: 0.25

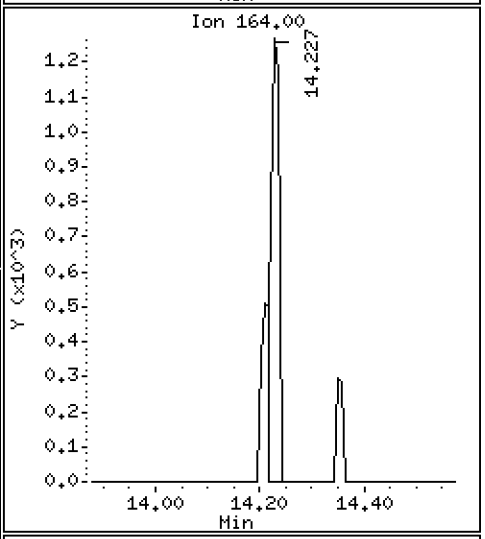
39 Dimethylphthalate

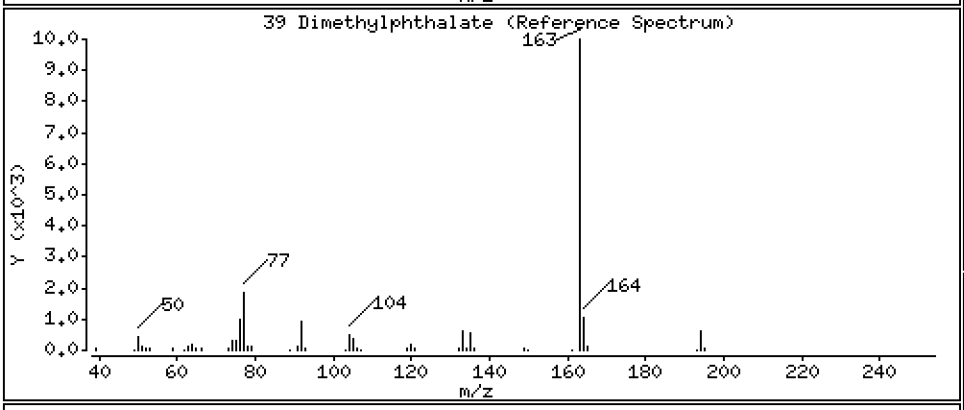
Concentration: 0.2613 ug/mL

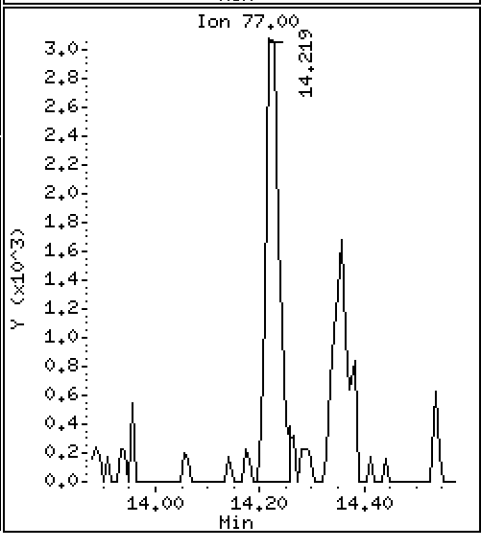


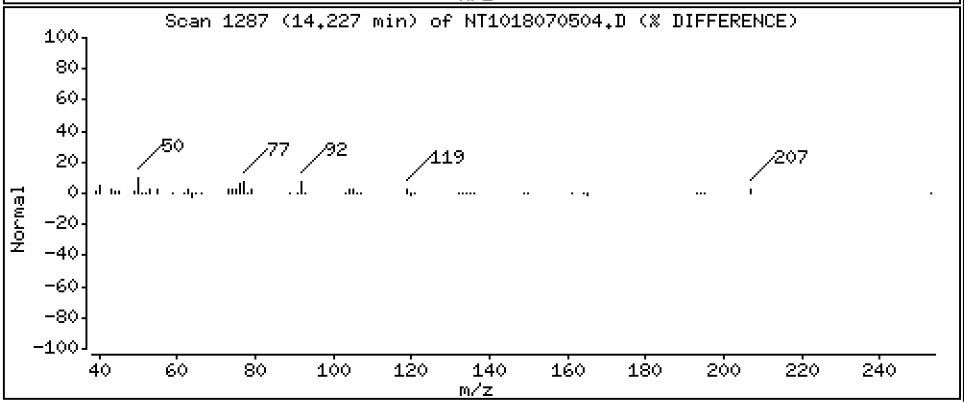












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

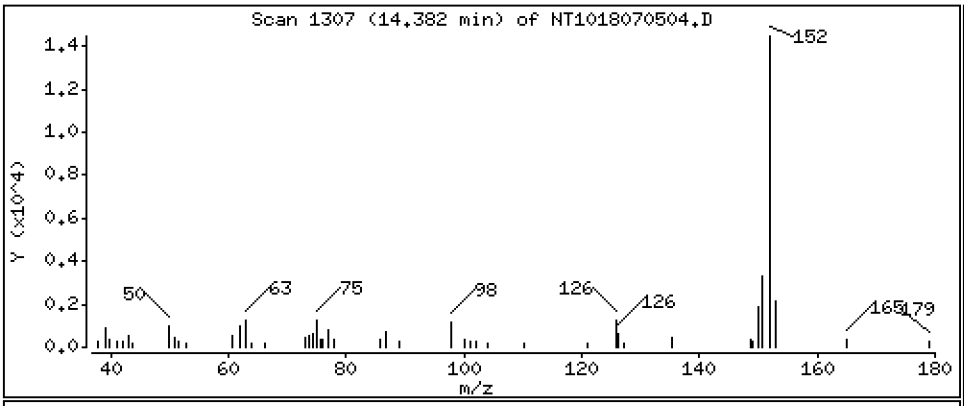
Operator: YZ

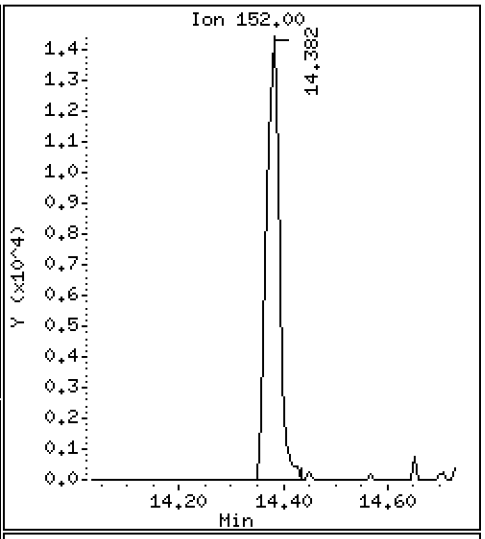
Column phase: ZB-5msi

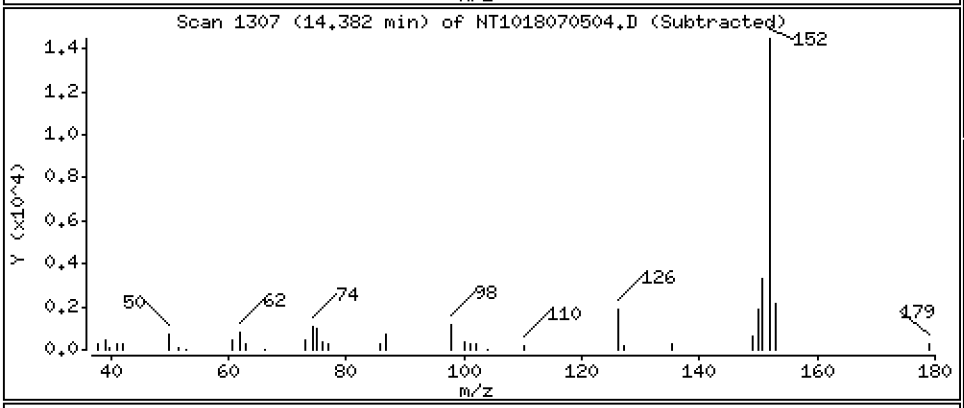
Column diameter: 0.25

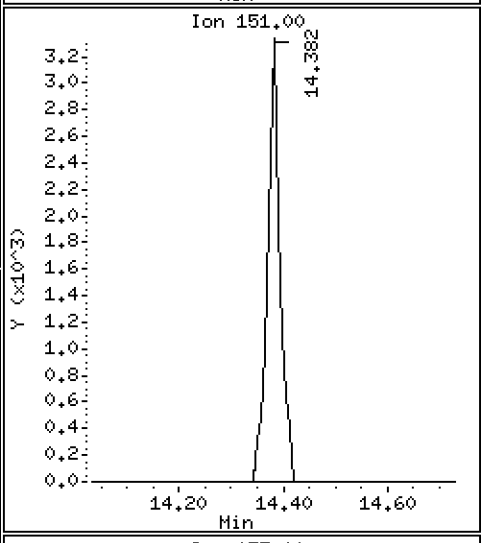
40 Acenaphthylene

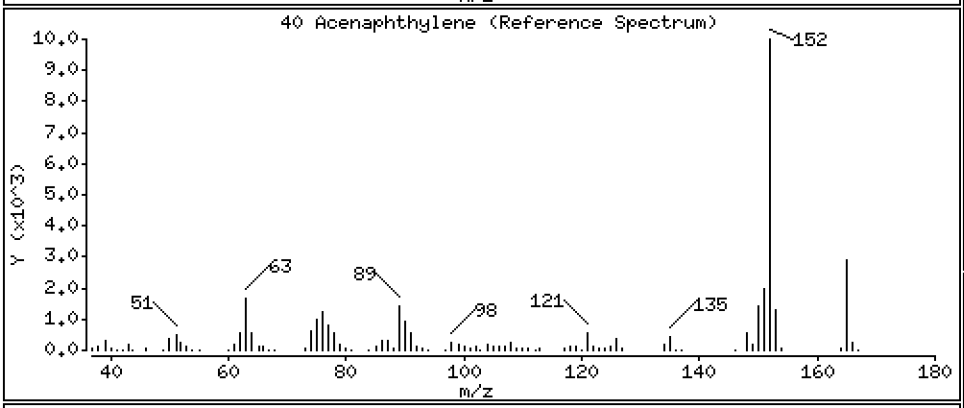
Concentration: 0.2497 ug/mL

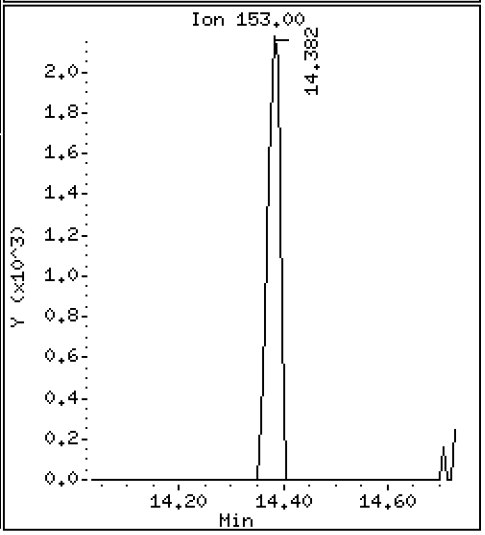


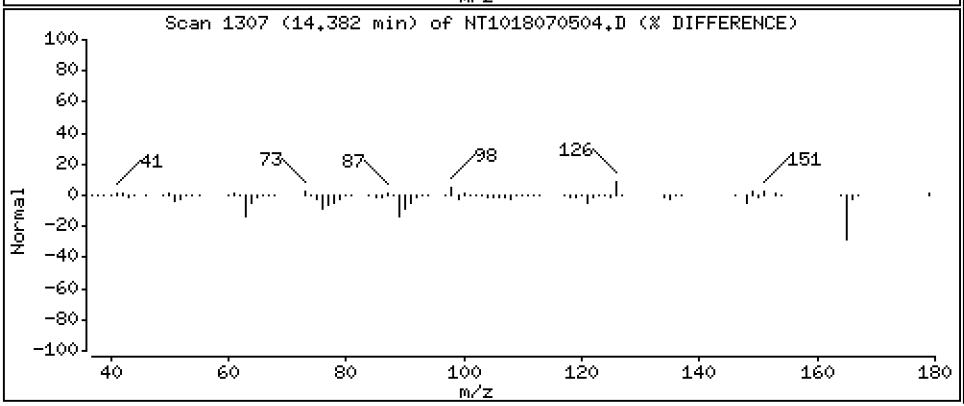












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

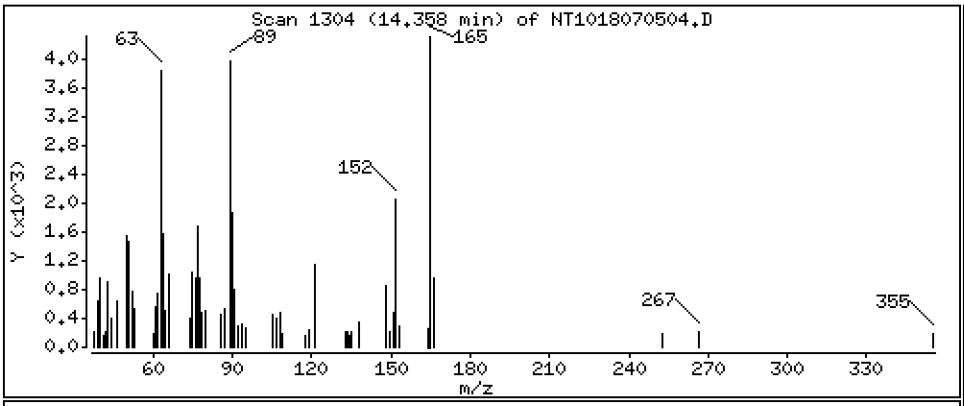
Operator: YZ

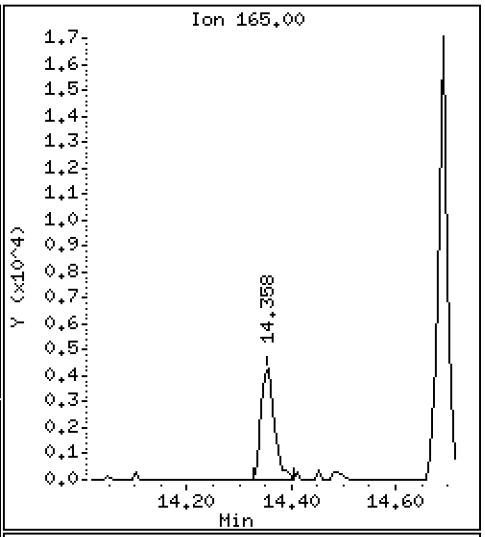
Column phase: ZB-5msi

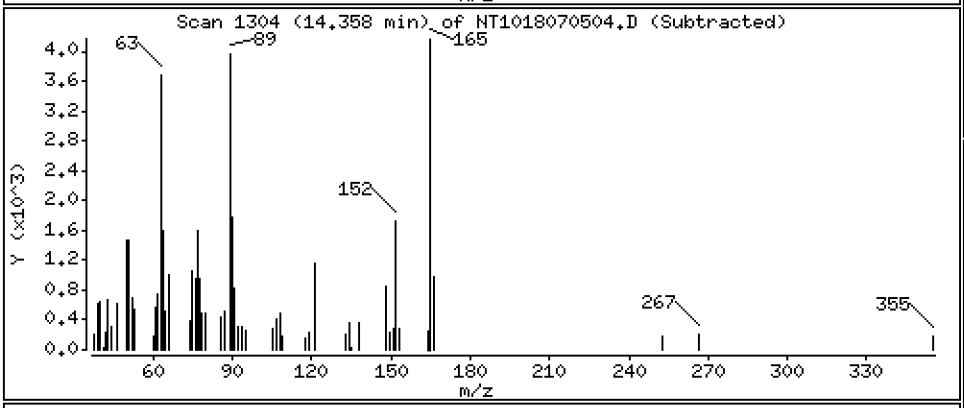
Column diameter: 0.25

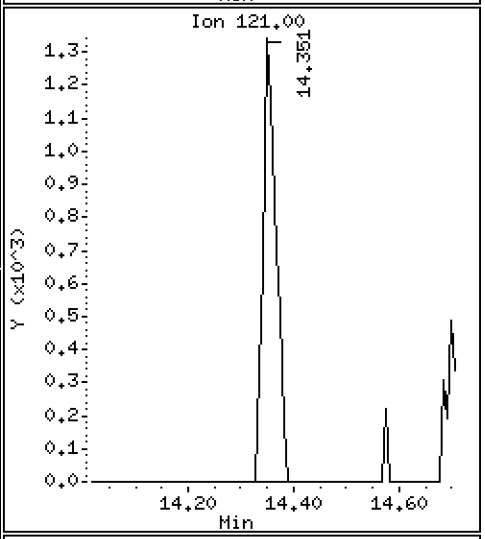
41 2,6-Dinitrotoluene

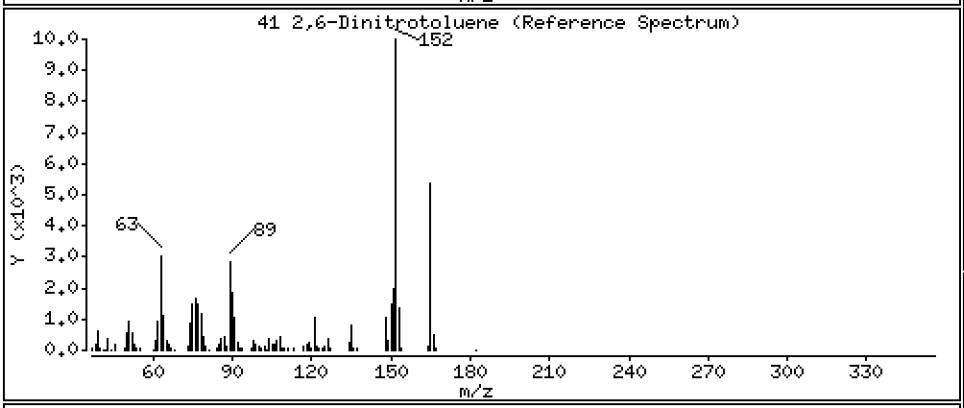
Concentration: 0.5400 ug/mL

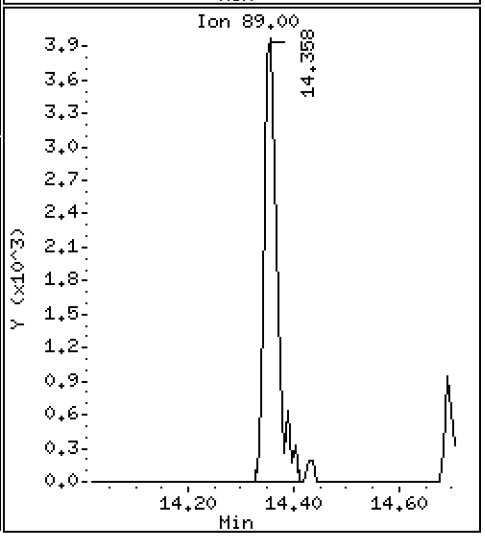


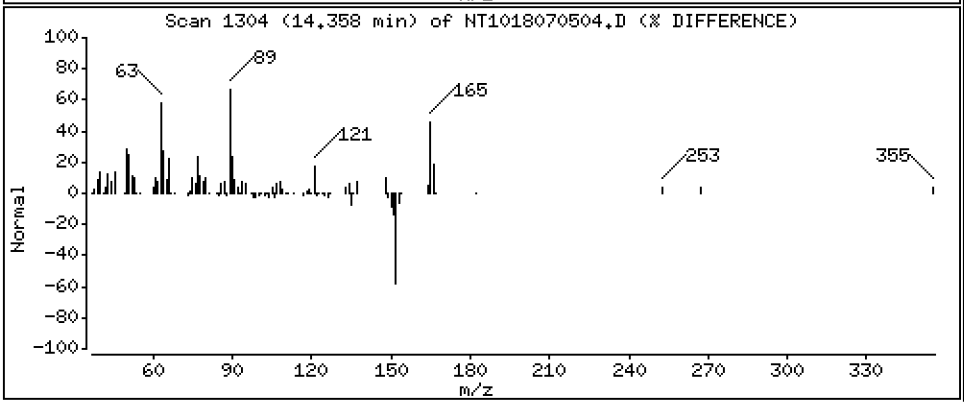












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

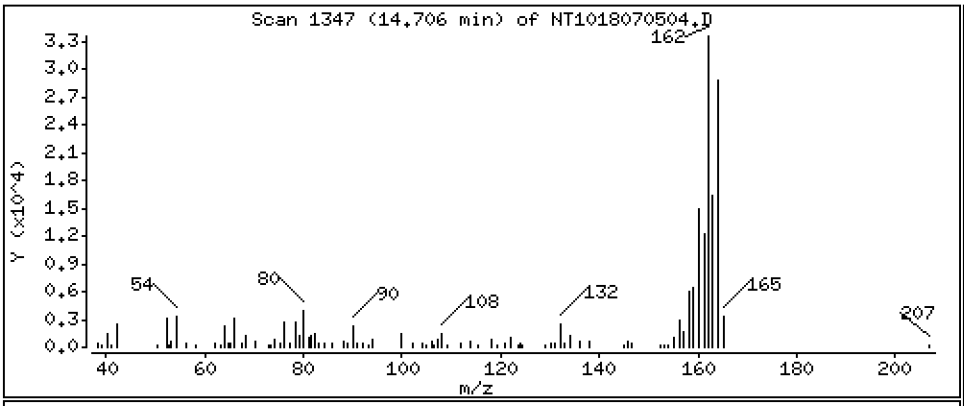
Operator: YZ

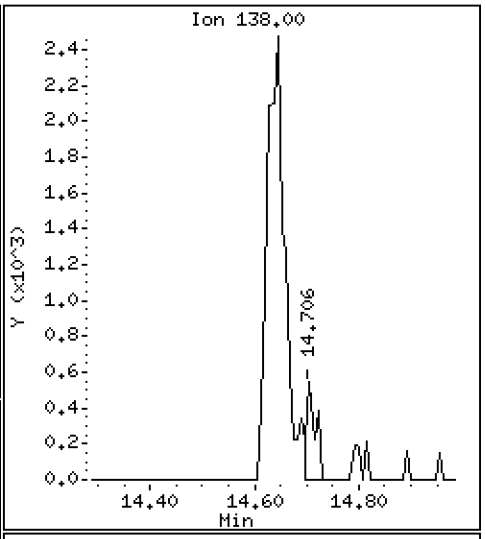
Column phase: ZB-5msi

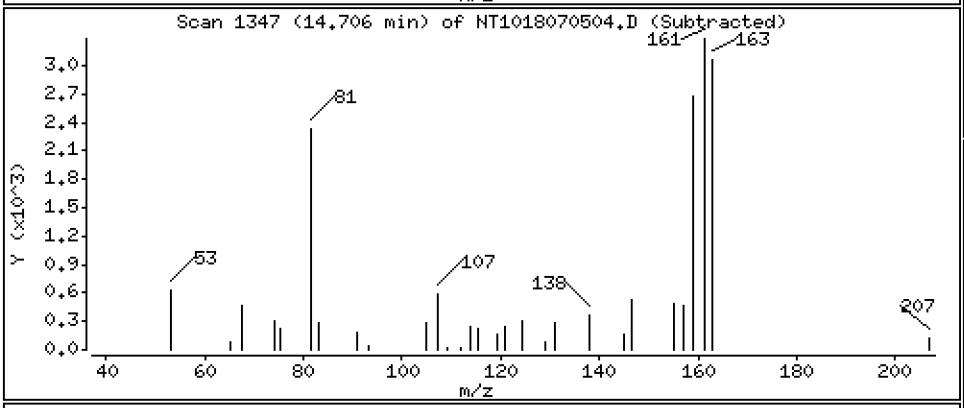
Column diameter: 0.25

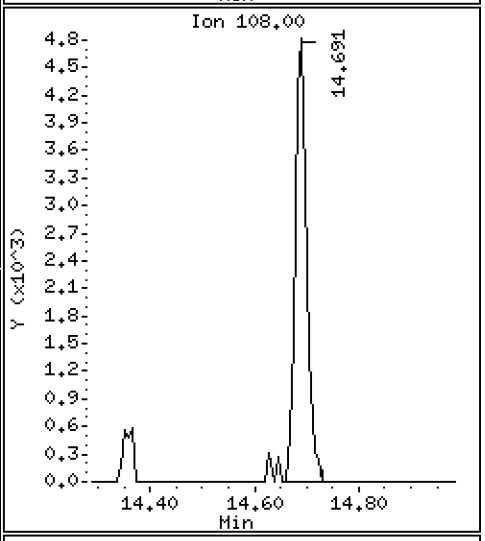
43 3-Nitroaniline

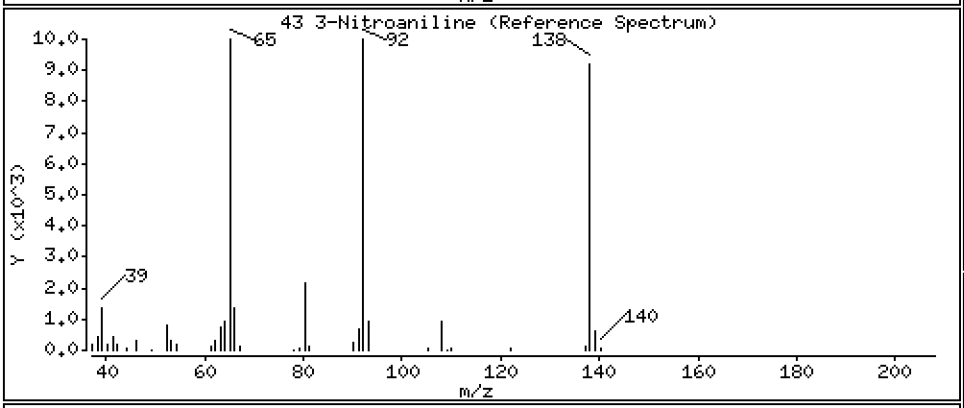
Concentration: 0.04035 ug/mL

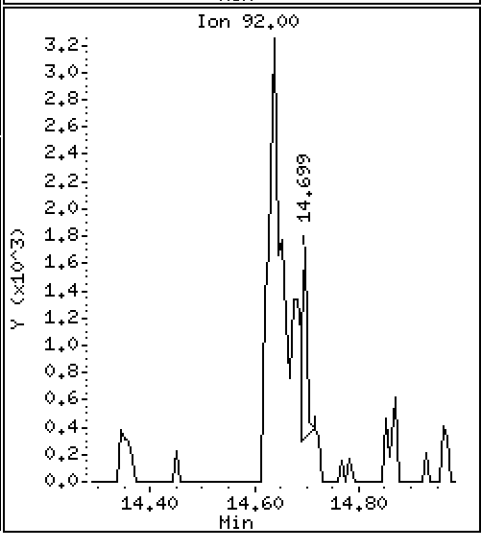


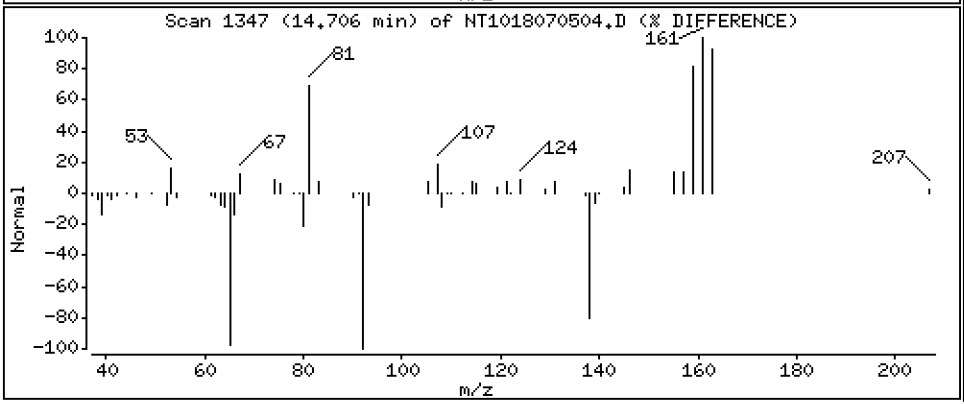












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

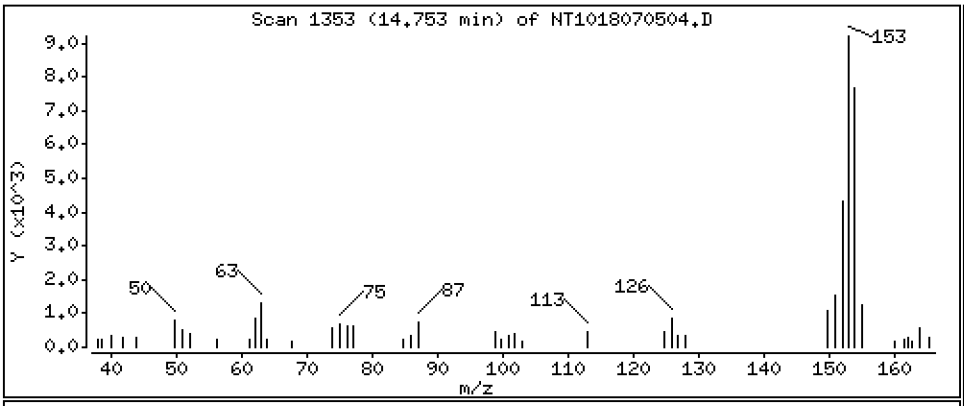
Operator: YZ

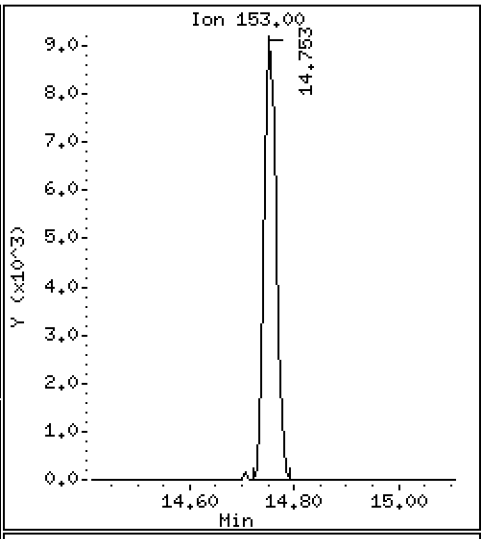
Column phase: ZB-5msi

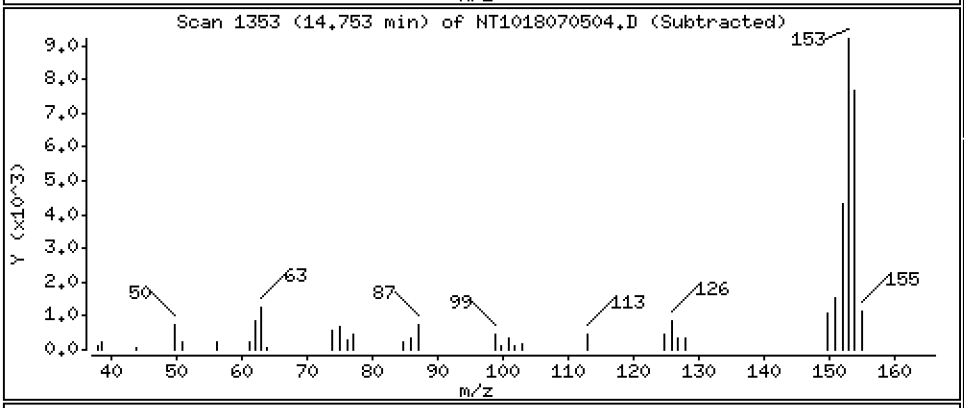
Column diameter: 0.25

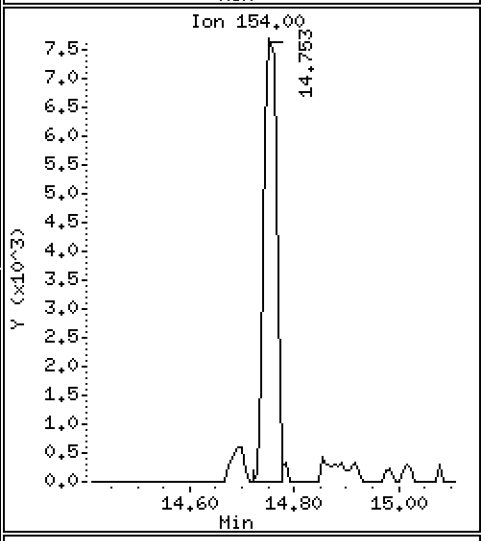
44 Acenaphthene

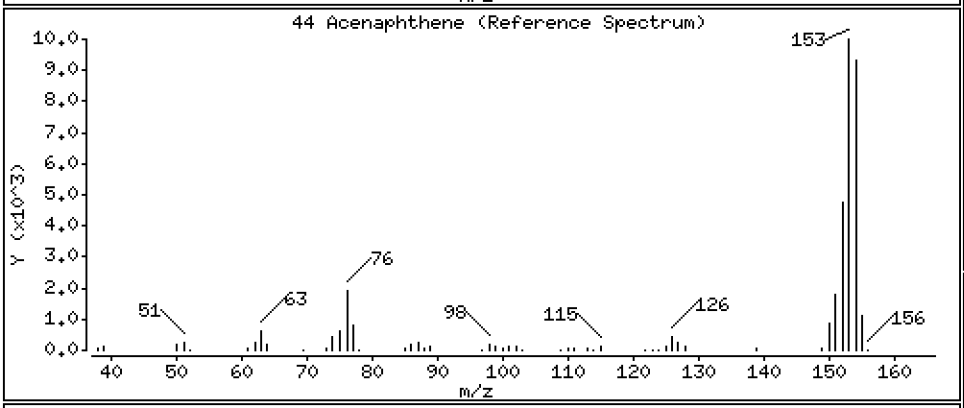
Concentration: 0.2462 ug/mL

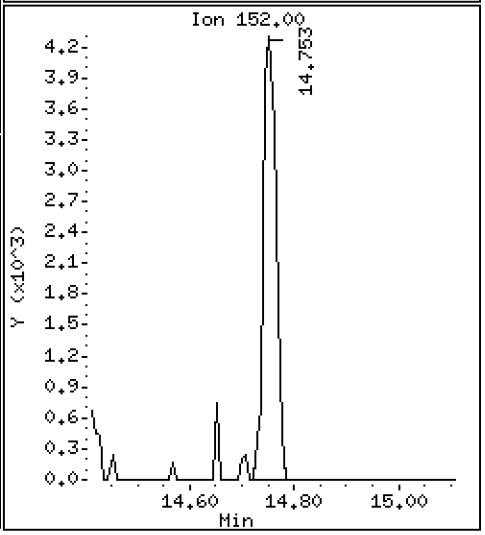


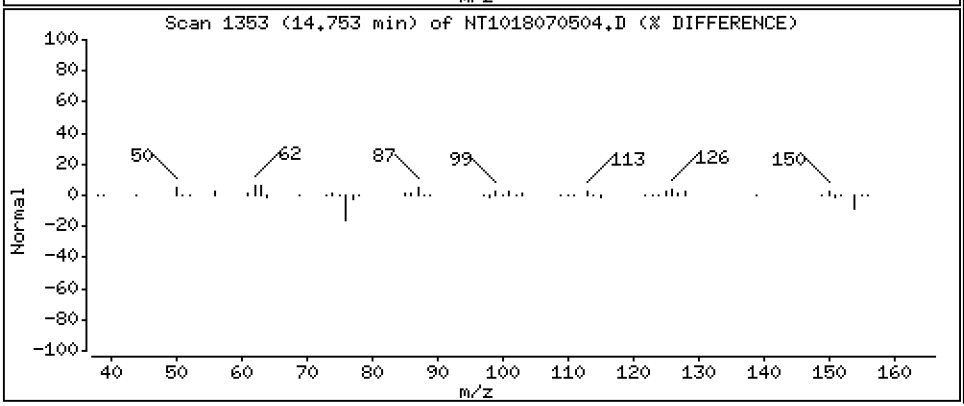












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

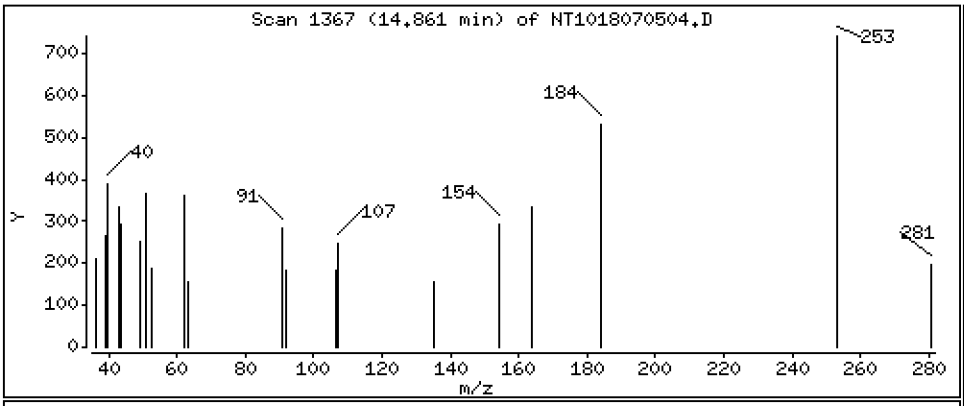
Operator: YZ

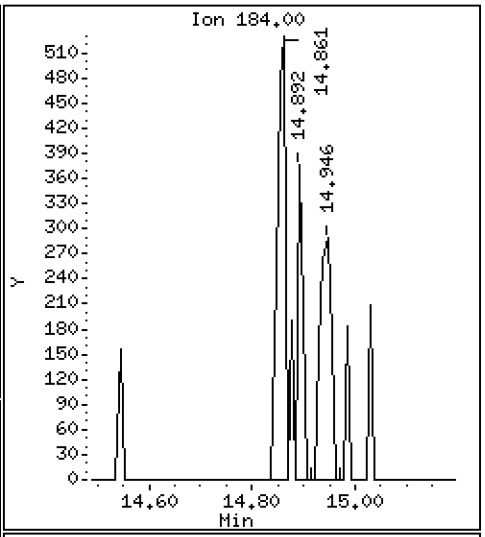
Column phase: ZB-5msi

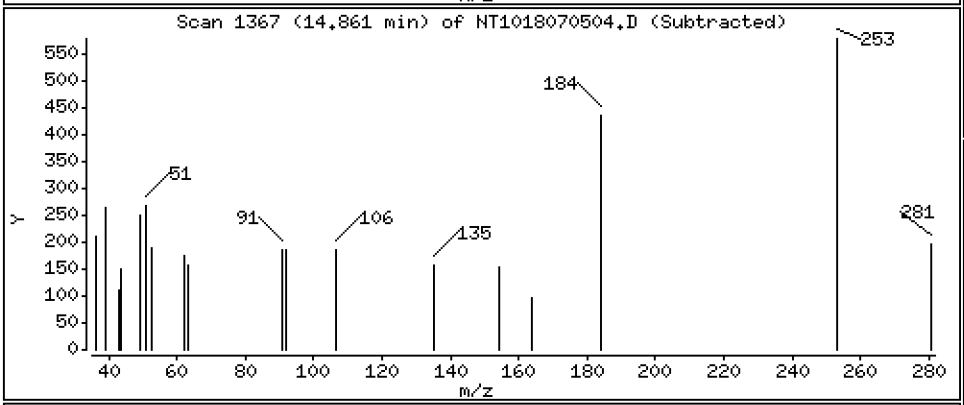
Column diameter: 0.25

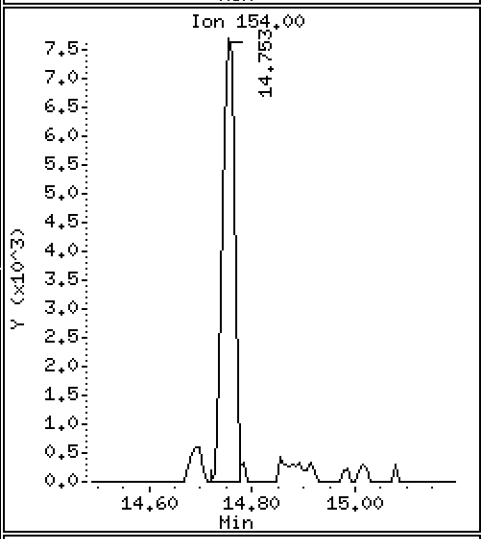
45 2,4-Dinitrophenol

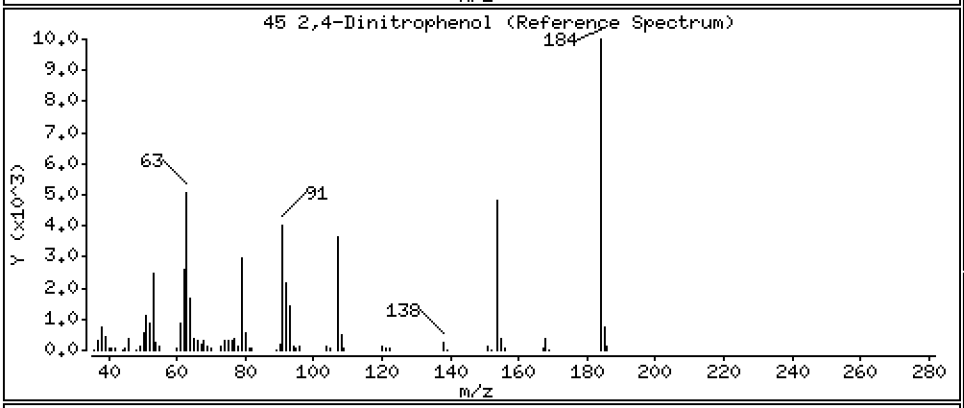
Concentration: 0.06845 ug/mL

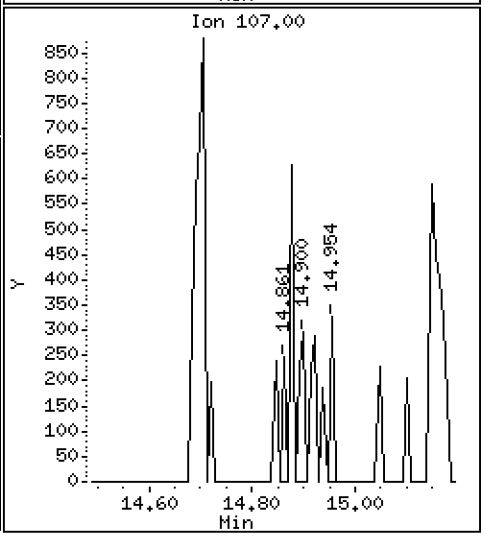


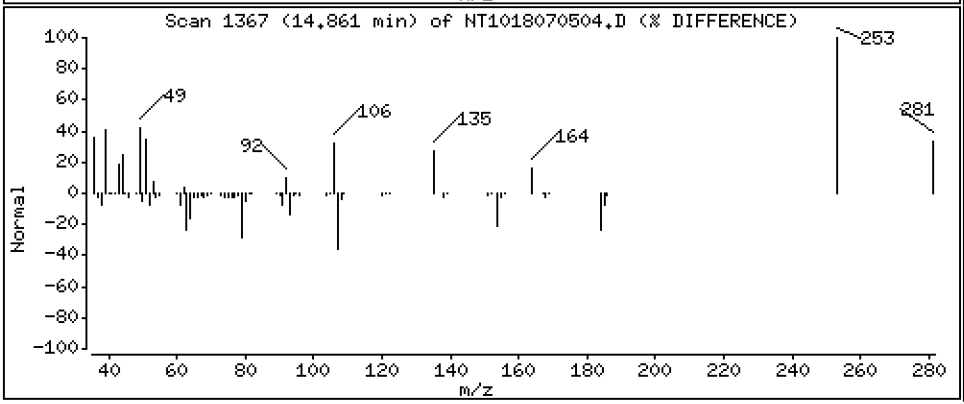












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

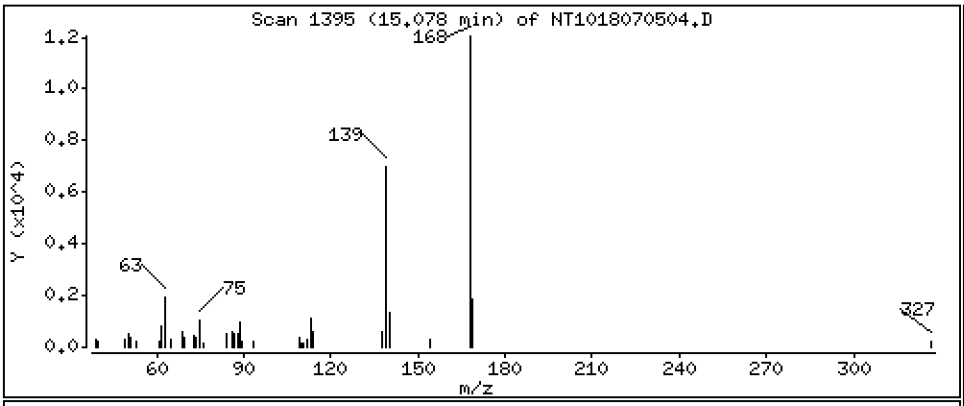
Operator: YZ

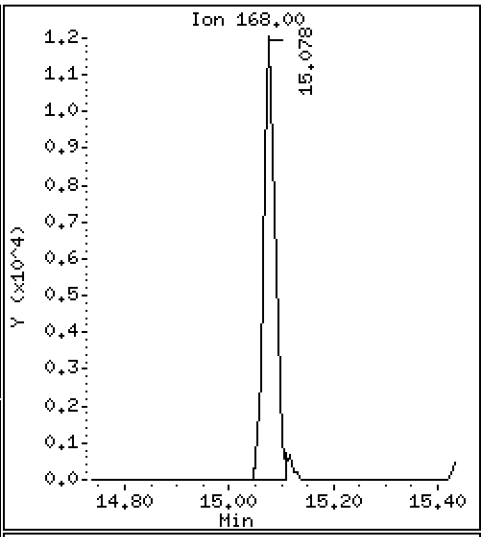
Column phase: ZB-5msi

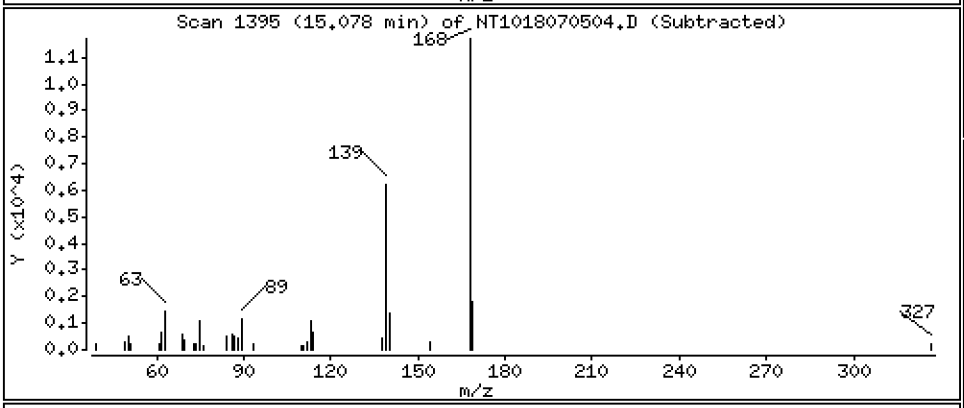
Column diameter: 0.25

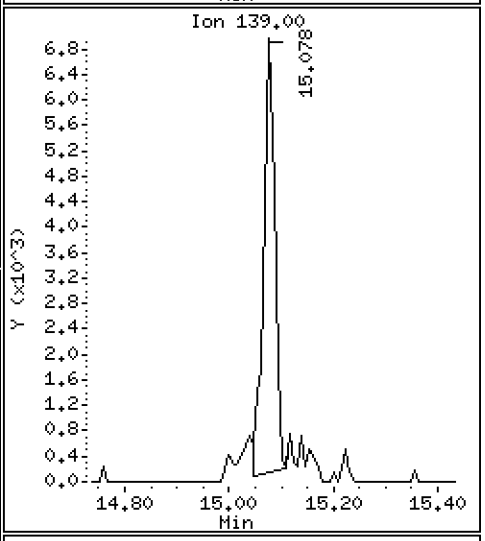
46 Dibenzofuran

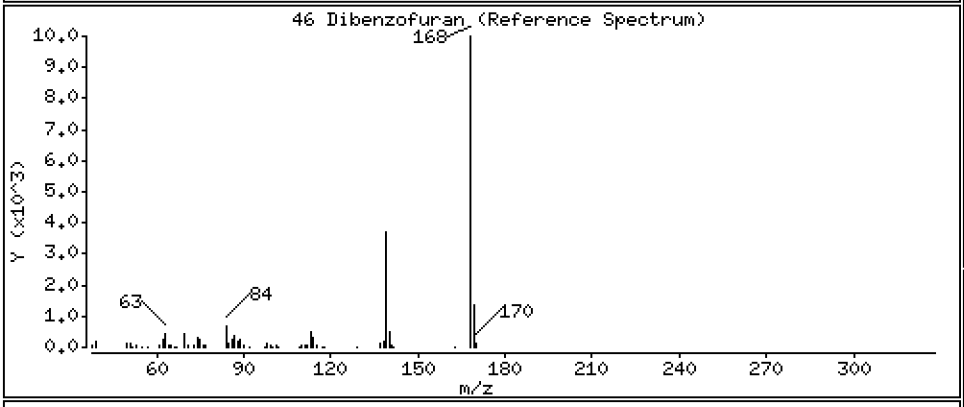
Concentration: 0.1990 ug/mL

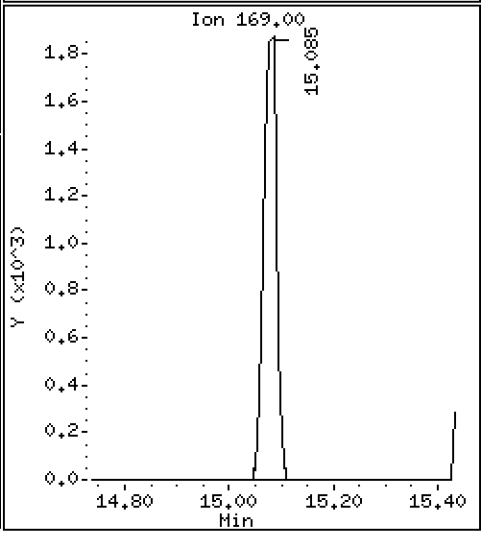


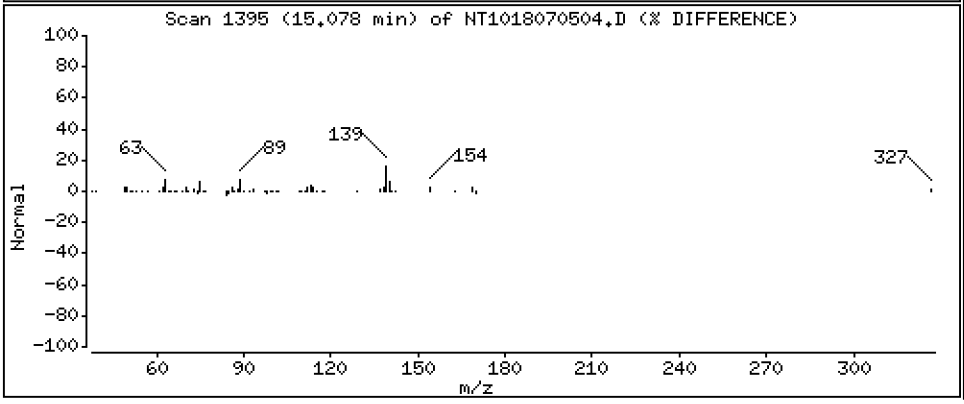












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

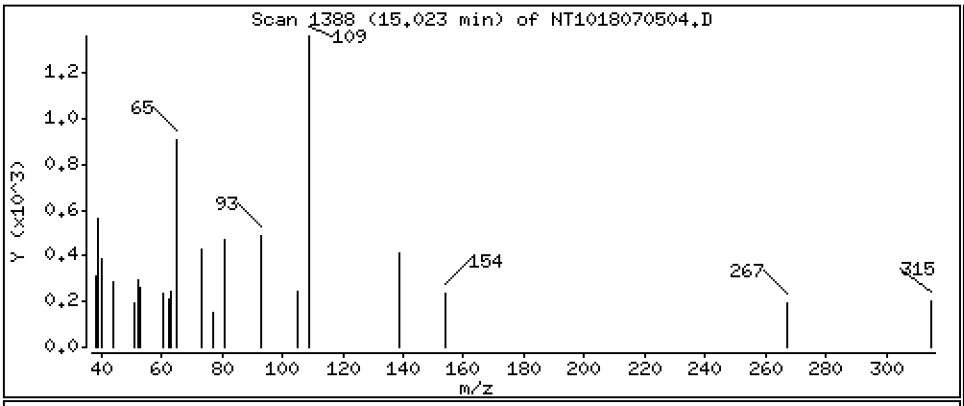
Operator: YZ

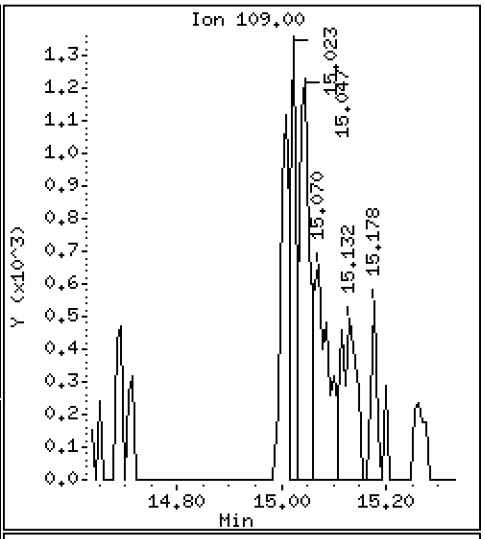
Column phase: ZB-5msi

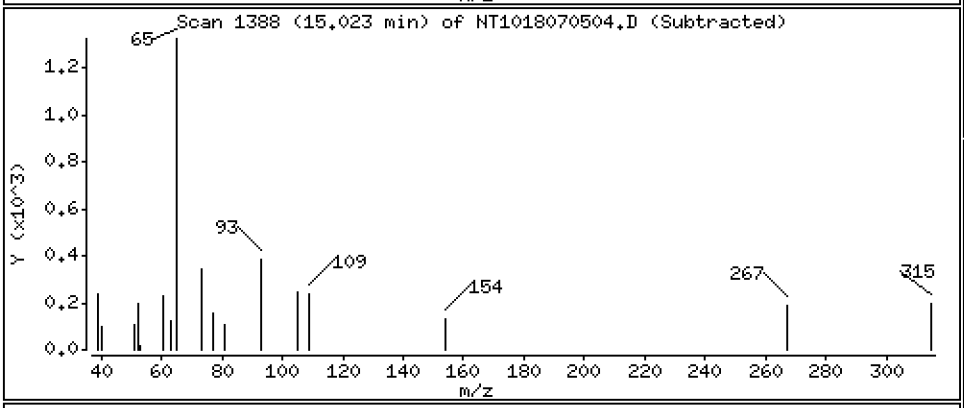
Column diameter: 0.25

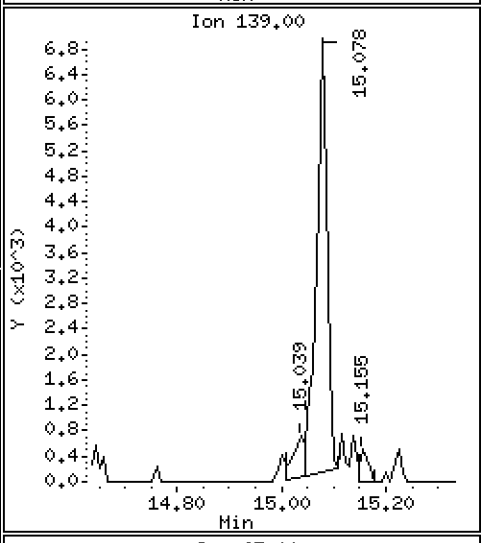
47 4-Nitrophenol

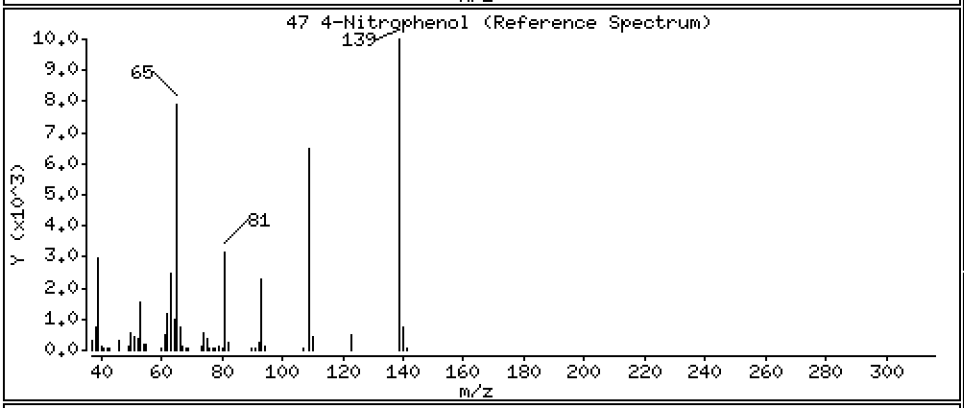
Concentration: 0.1264 ug/mL

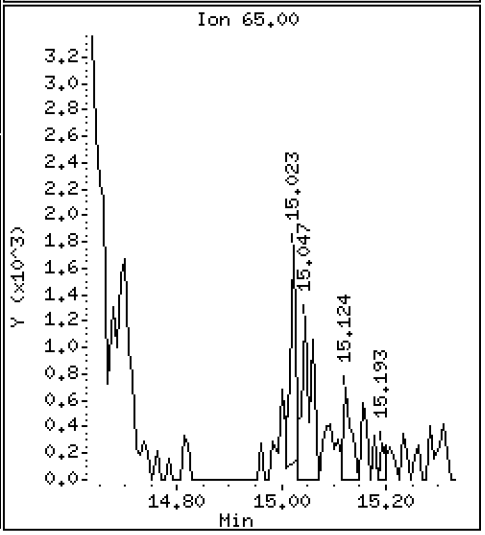


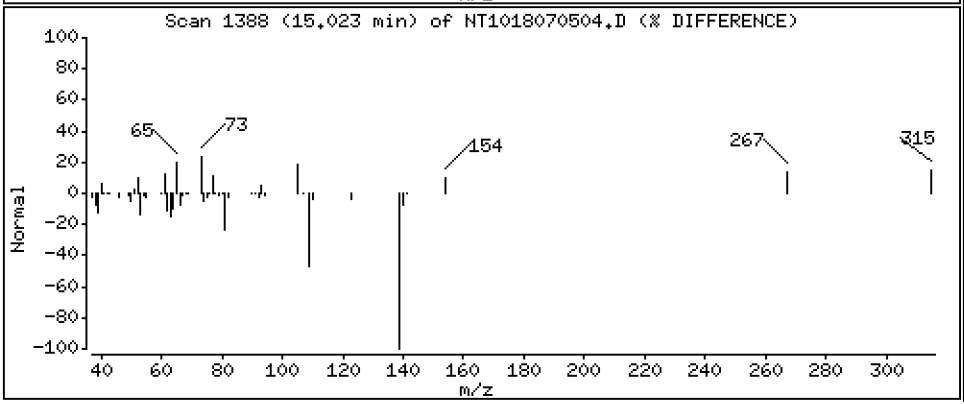












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

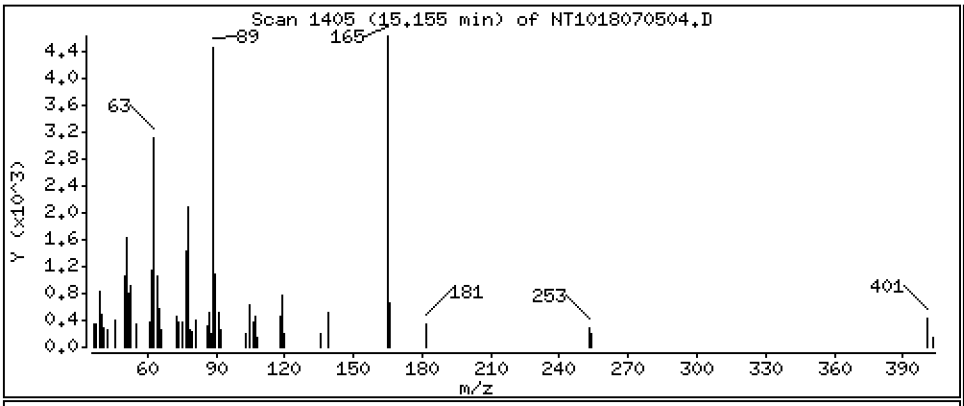
Operator: YZ

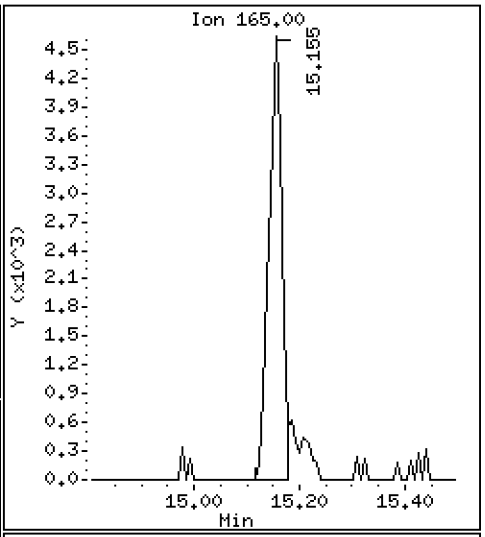
Column phase: ZB-5msi

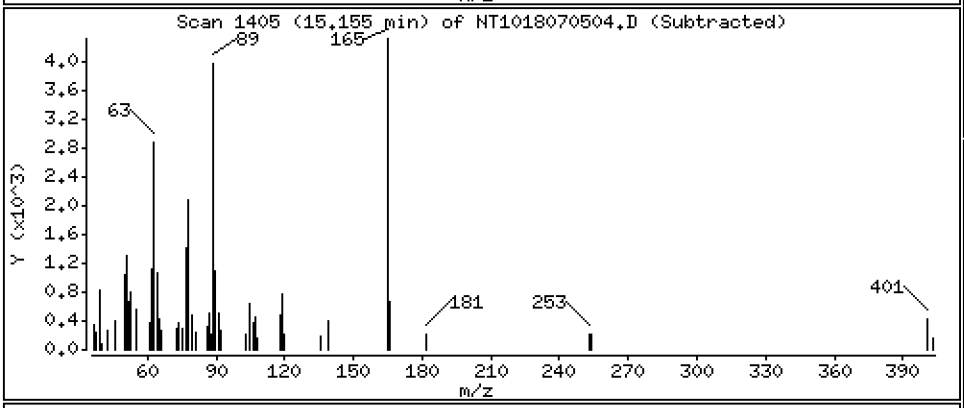
Column diameter: 0.25

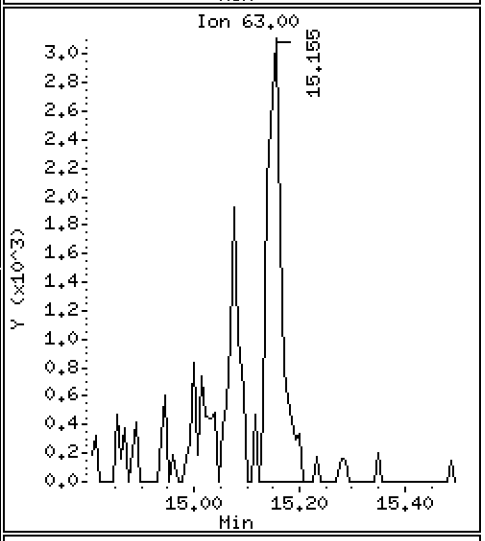
48 2,4-Dinitrotoluene

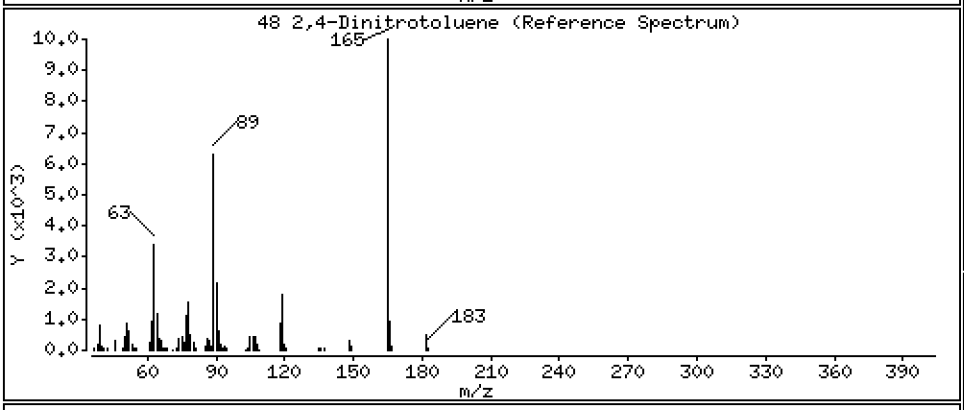
Concentration: 0.4316 ug/mL

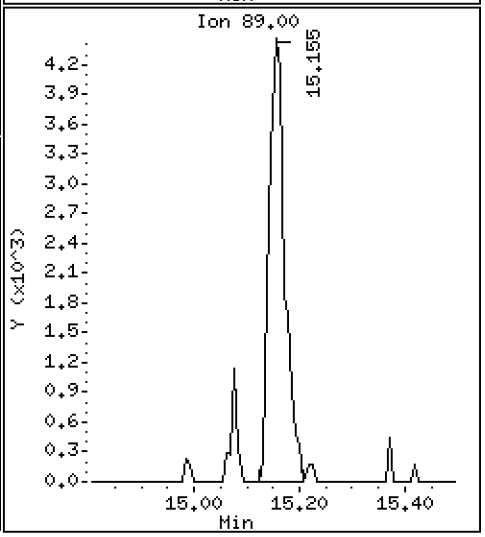


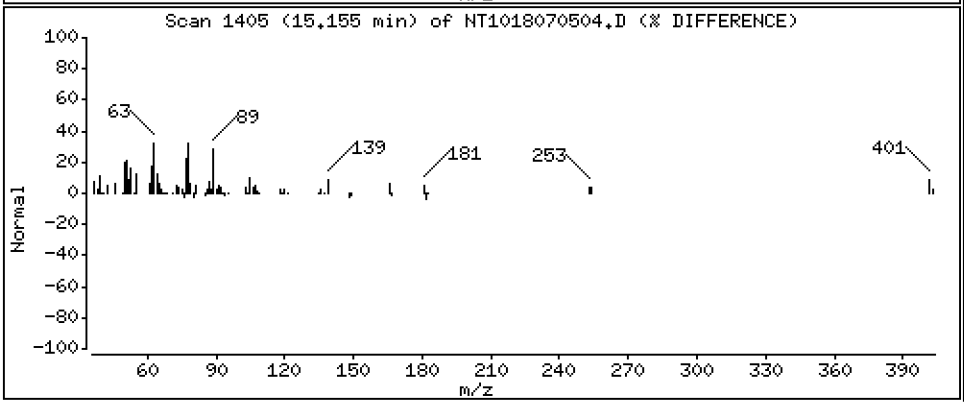












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

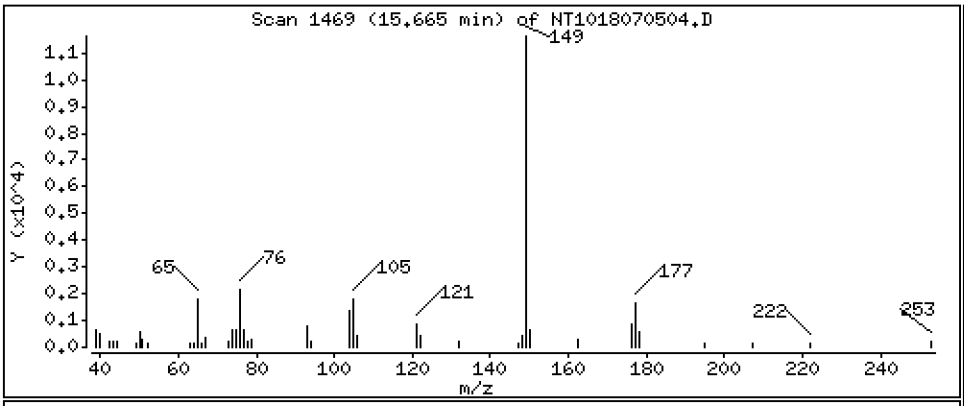
Operator: YZ

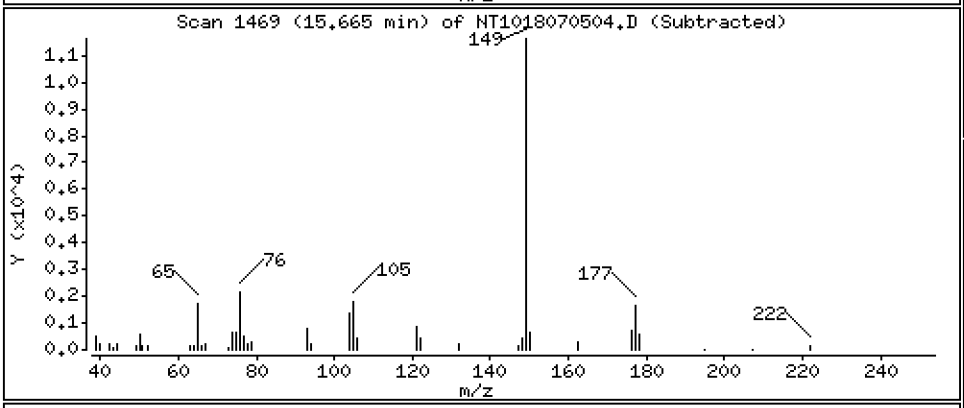
Column phase: ZB-5msi

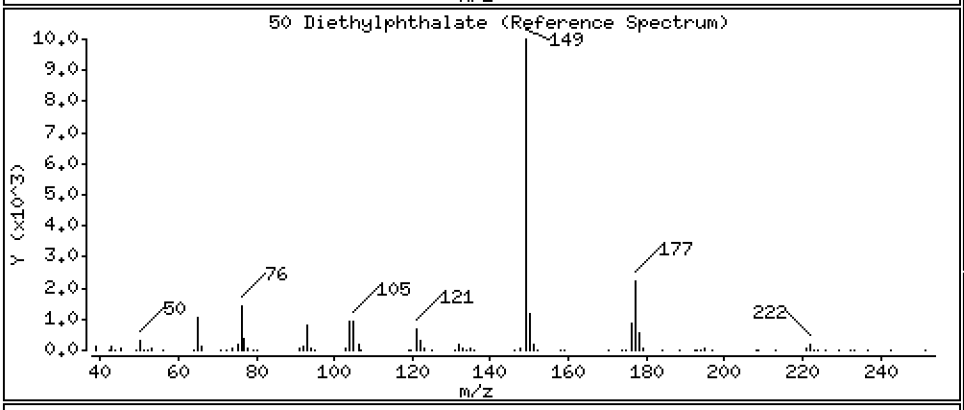
Column diameter: 0.25

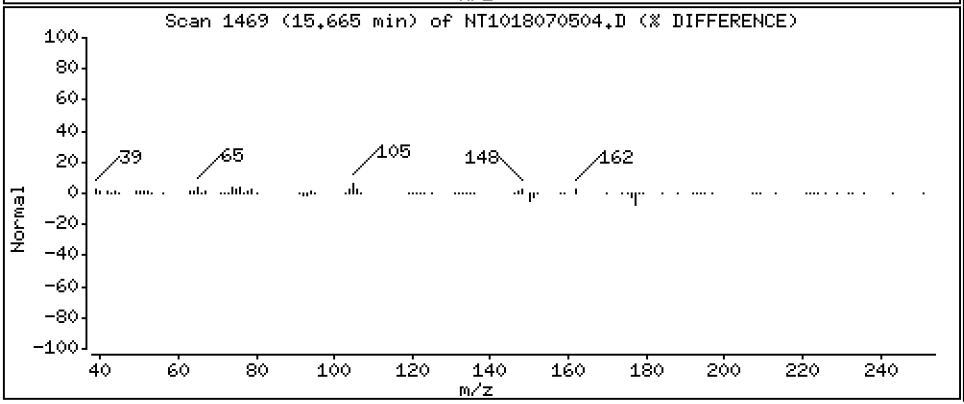
50 Diethylphthalate

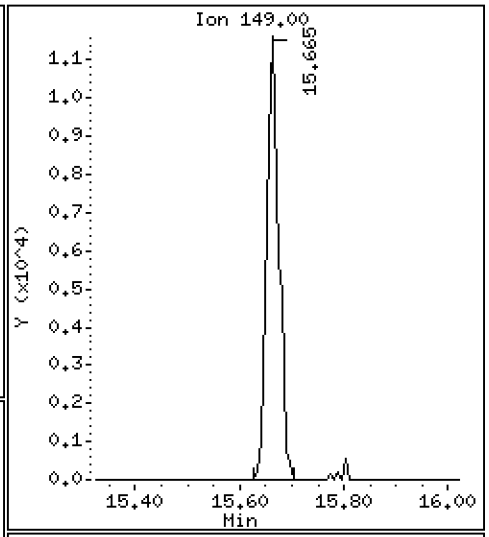
Concentration: 0.2717 ug/mL

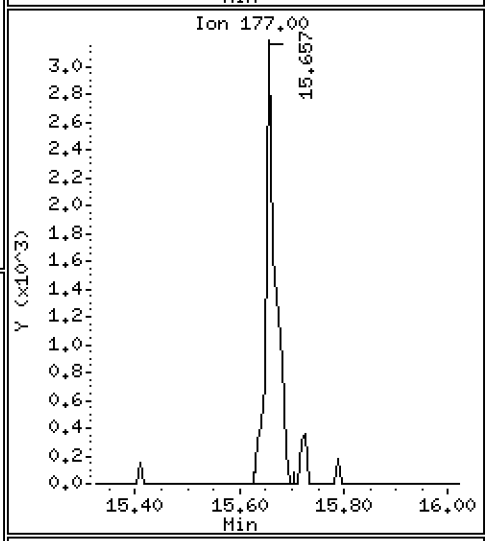


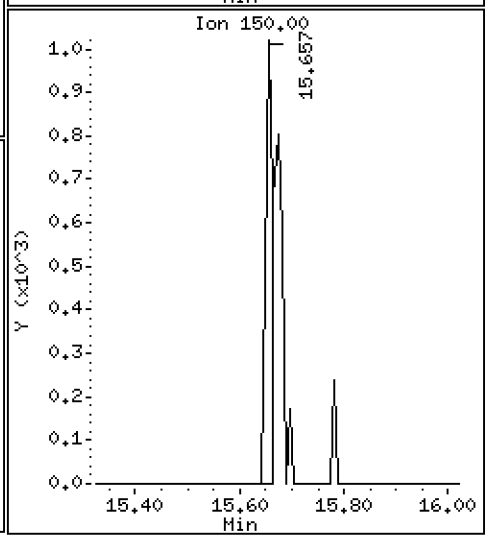












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

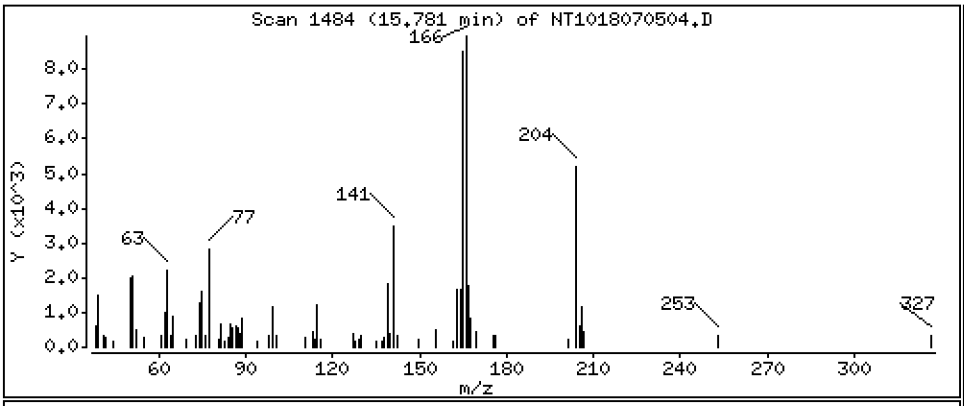
Operator: YZ

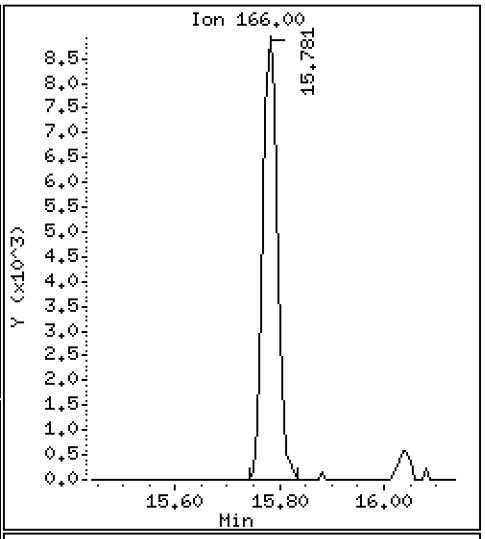
Column phase: ZB-5msi

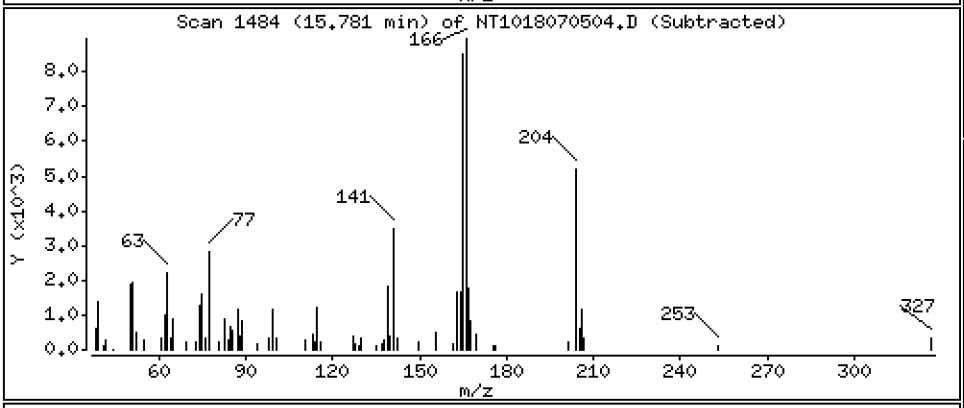
Column diameter: 0.25

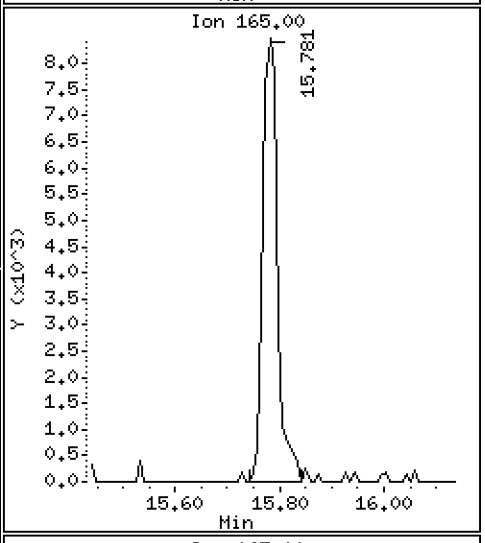
49 Fluorene

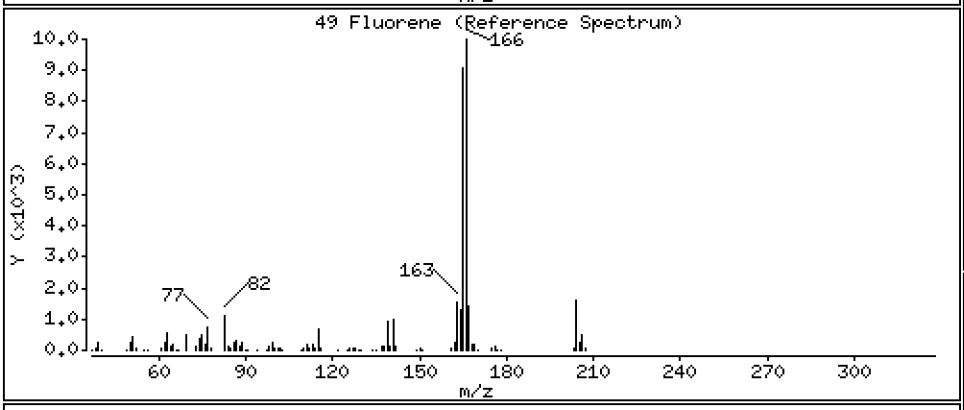
Concentration: 0.2955 ug/mL

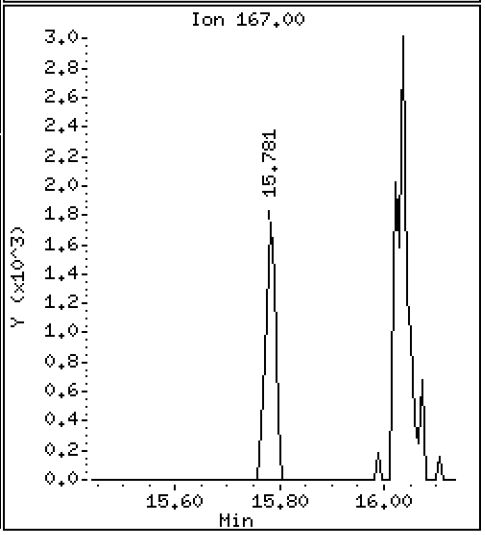


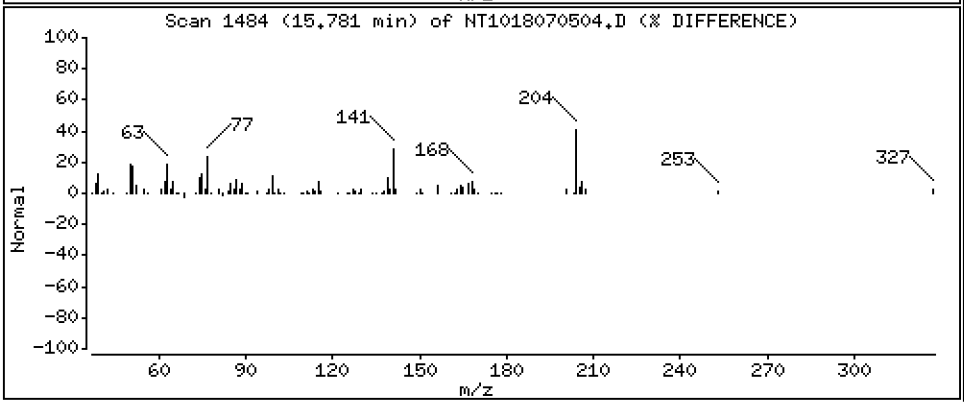












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

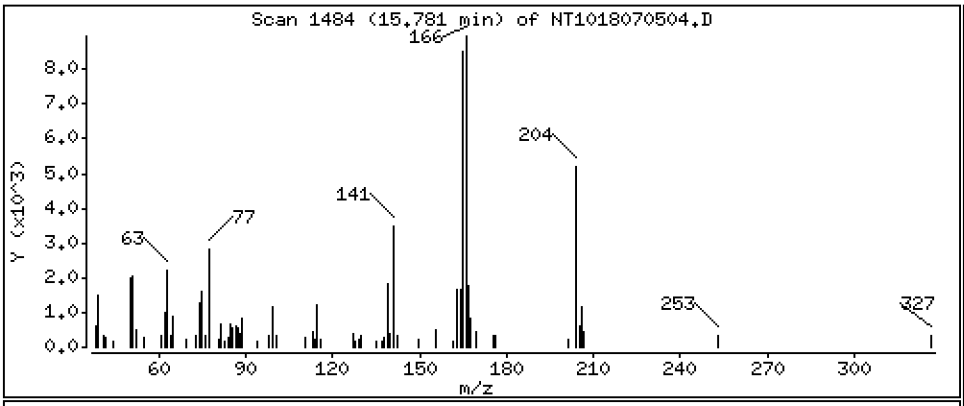
Operator: YZ

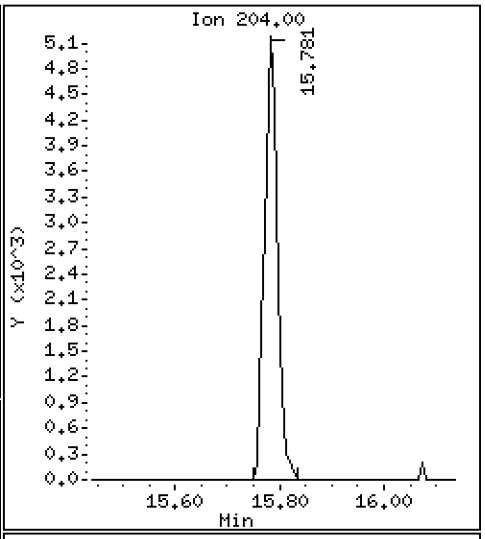
Column phase: ZB-5msi

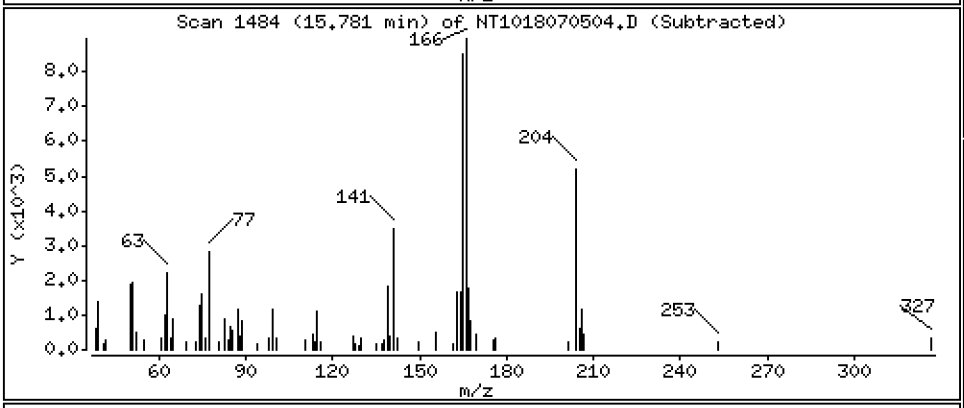
Column diameter: 0.25

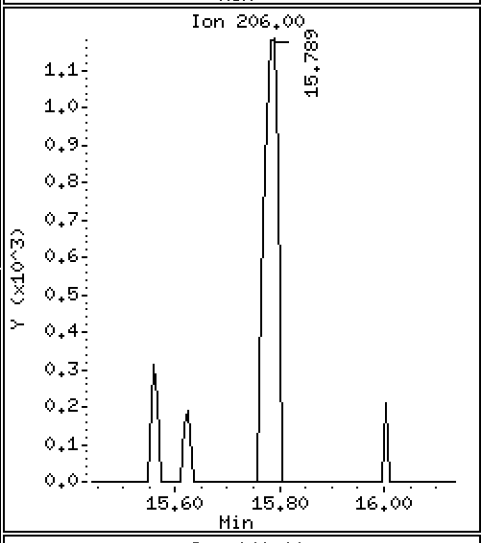
51 4-Chlorophenyl-phenylether

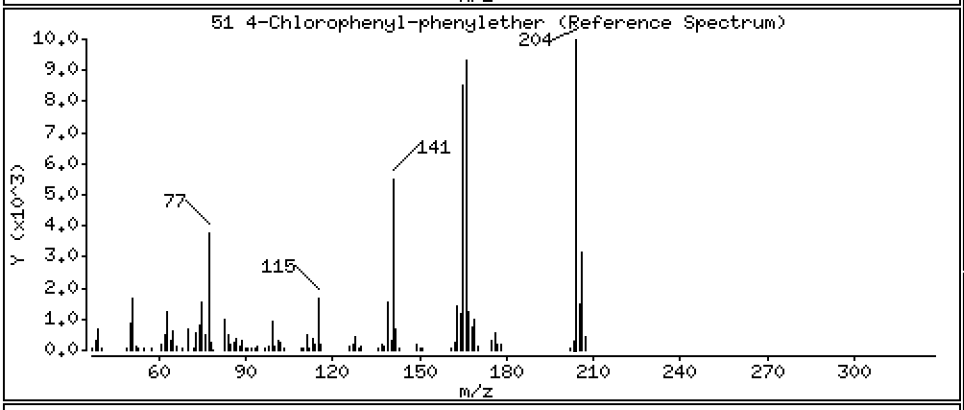
Concentration: 0.3134 ug/mL

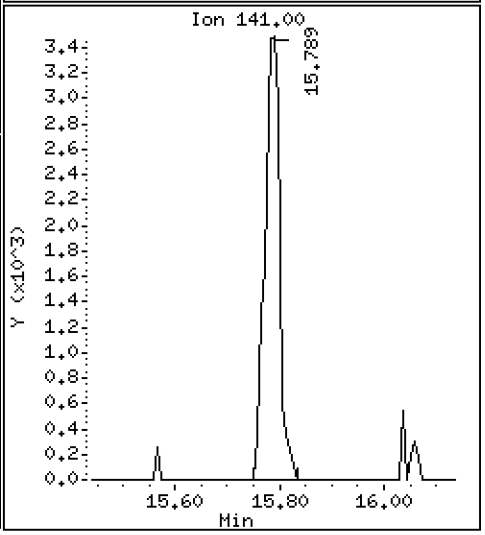


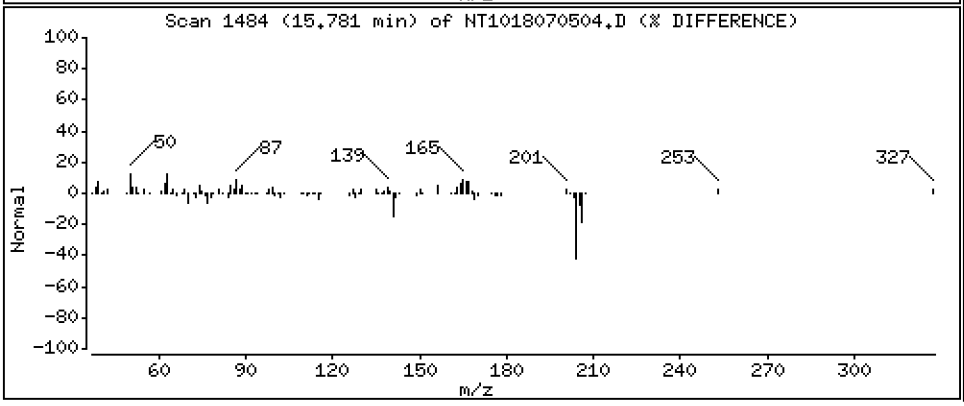












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

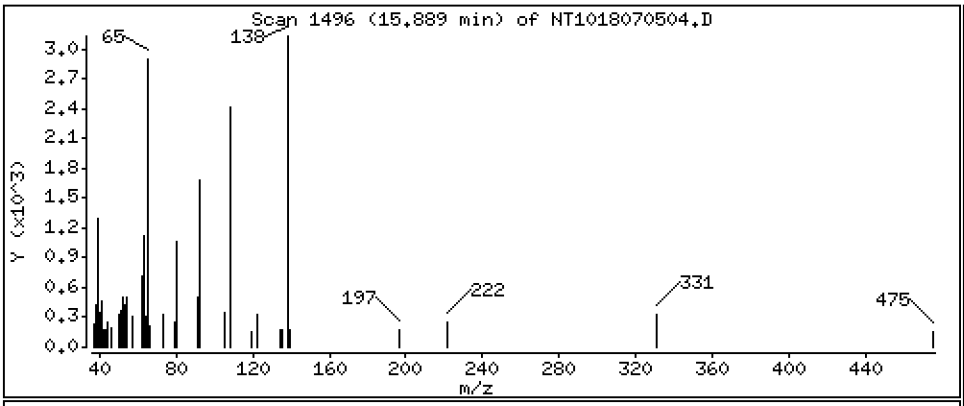
Operator: YZ

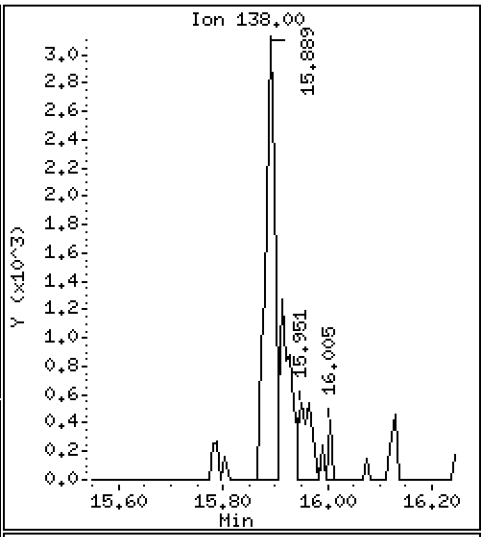
Column phase: ZB-5msi

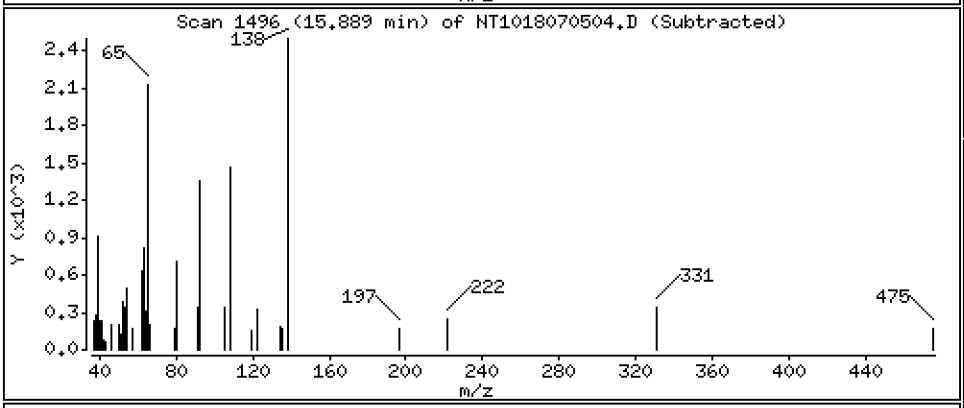
Column diameter: 0.25

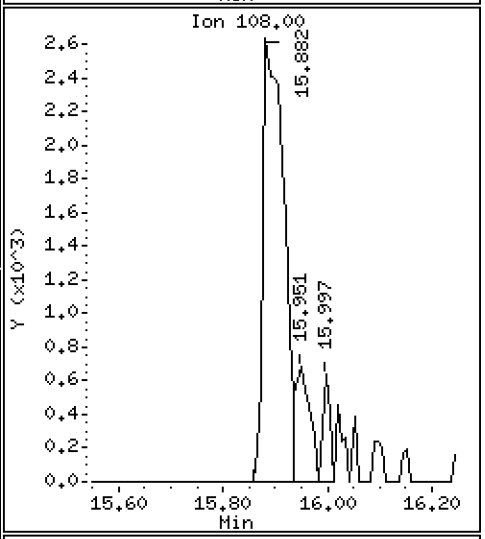
52 4-Nitroaniline

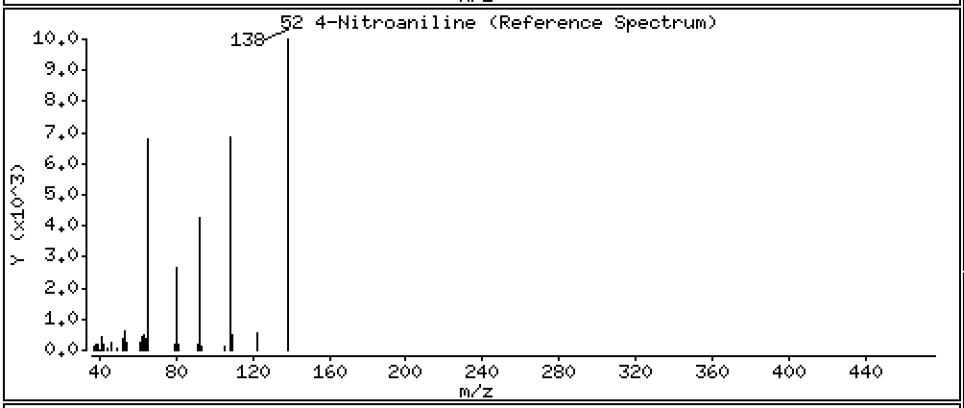
Concentration: 0.2427 ug/mL

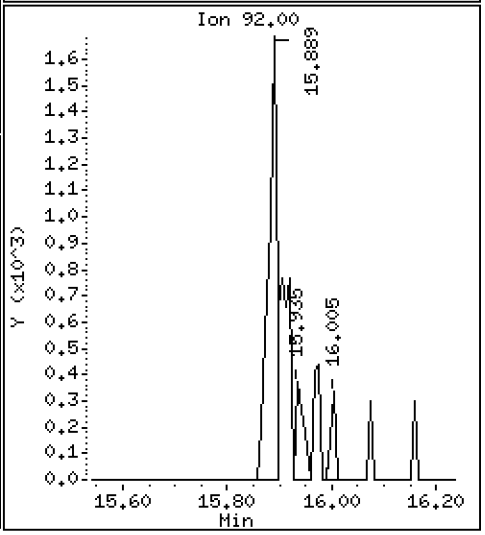


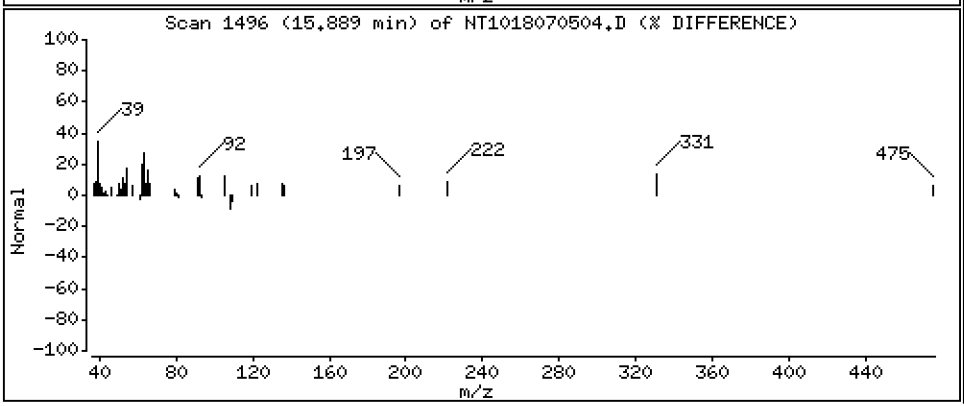












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

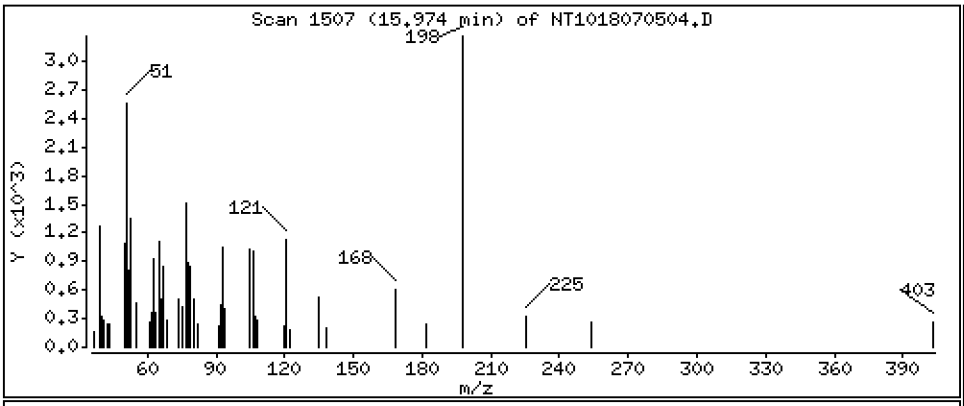
Operator: YZ

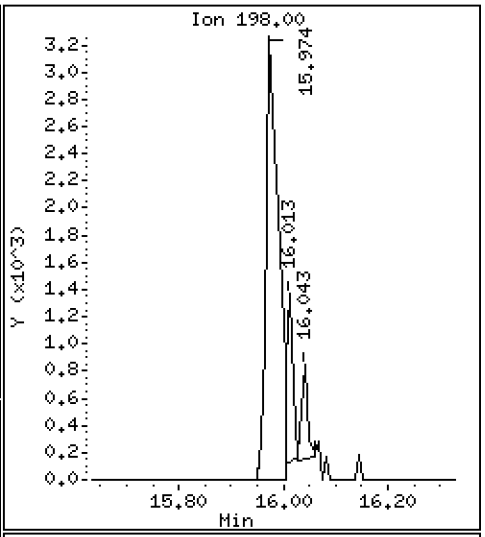
Column phase: ZB-5msi

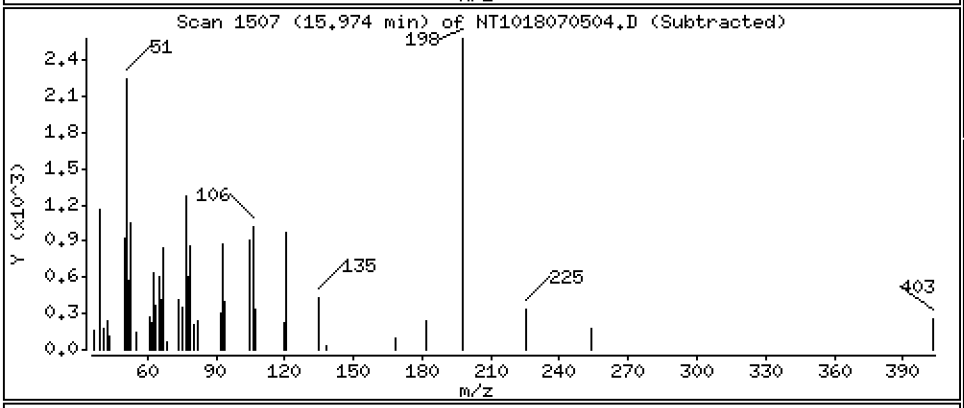
Column diameter: 0.25

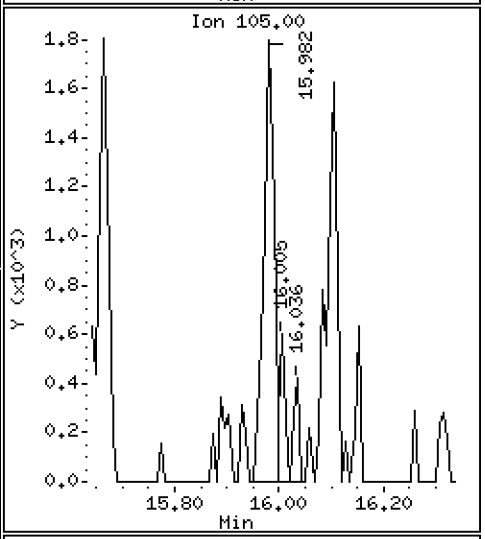
53 4,6-Dinitro-2-methylphenol

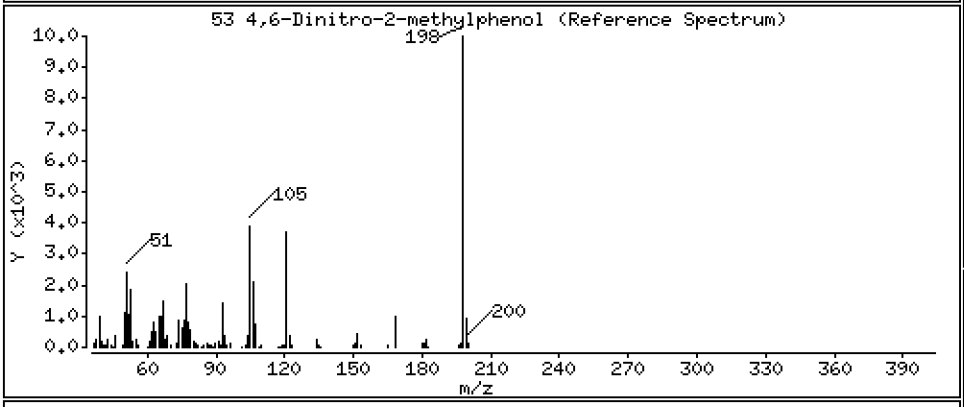
Concentration: 0.3467 ug/mL

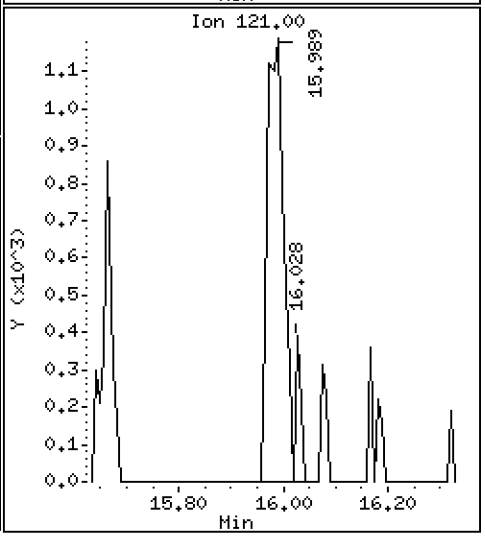


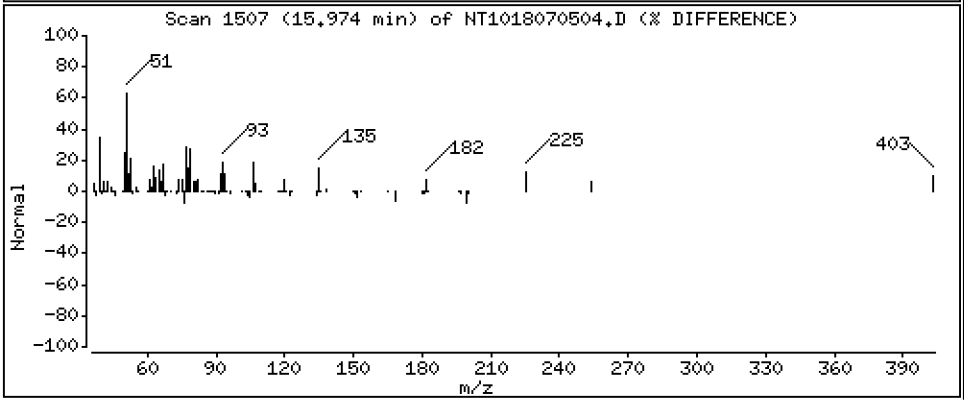












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

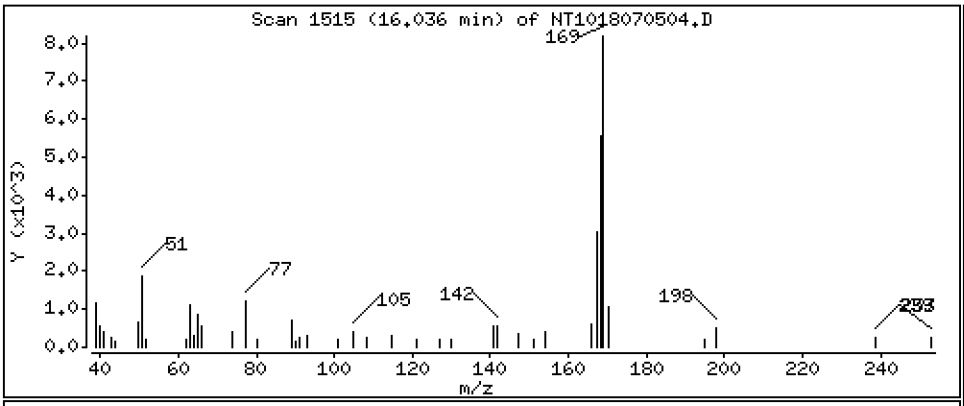
Operator: YZ

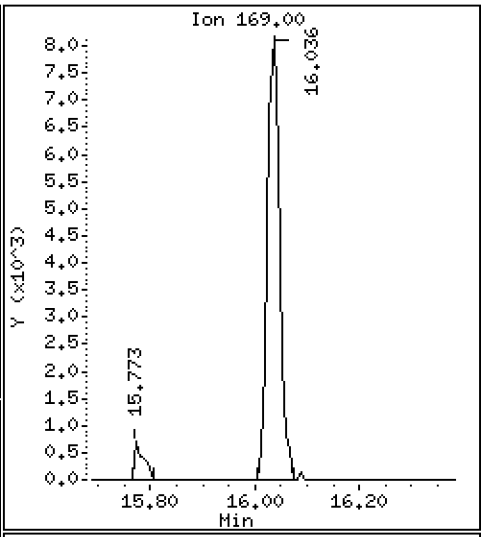
Column phase: ZB-5msi

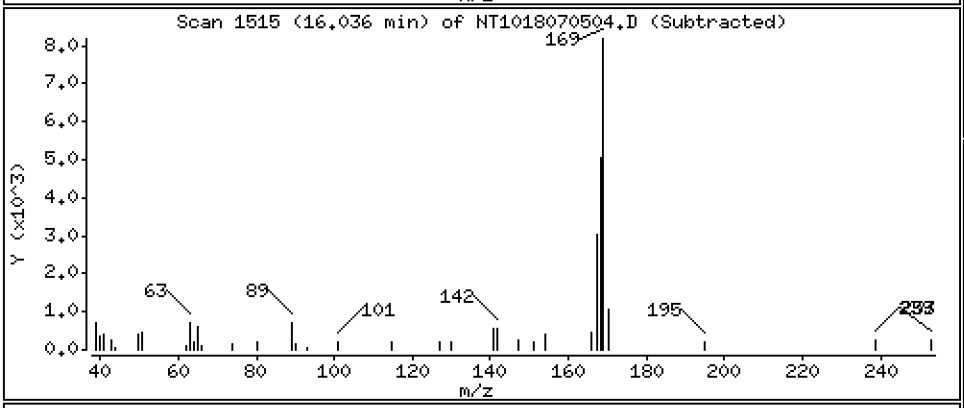
Column diameter: 0.25

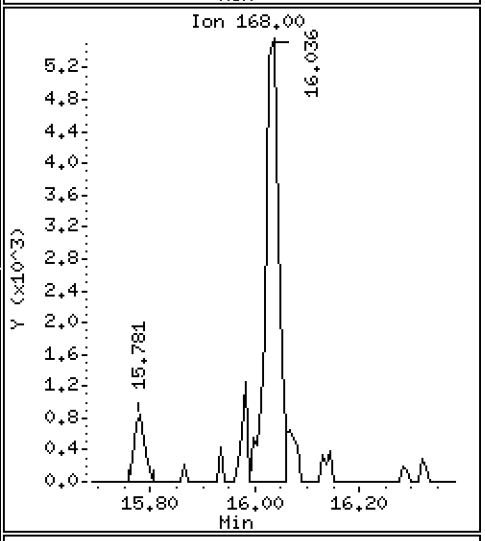
54 N-Nitrosodiphenylamine

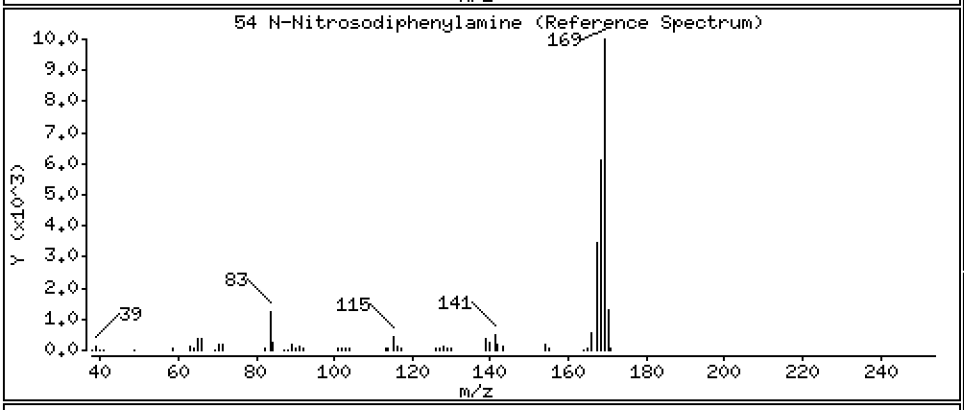
Concentration: 0.2699 ug/mL

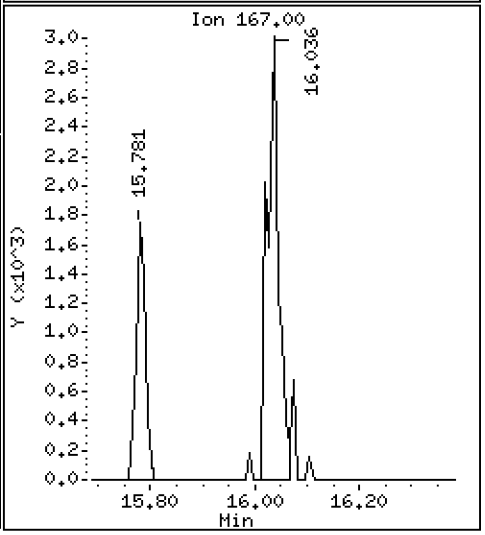


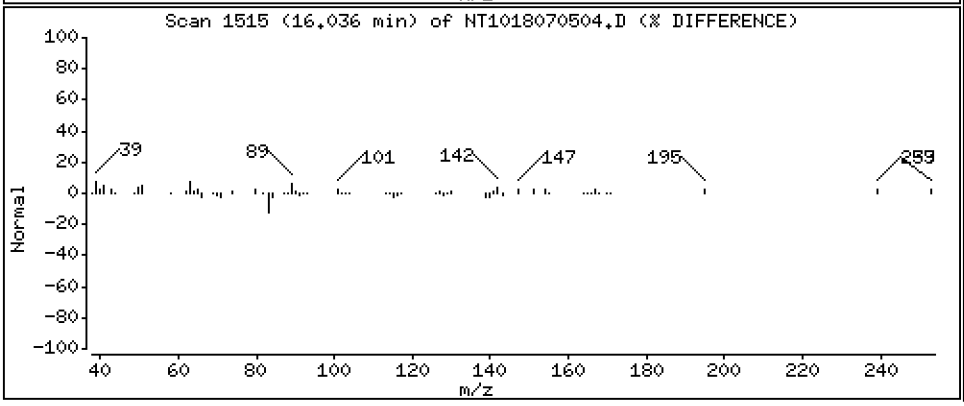












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

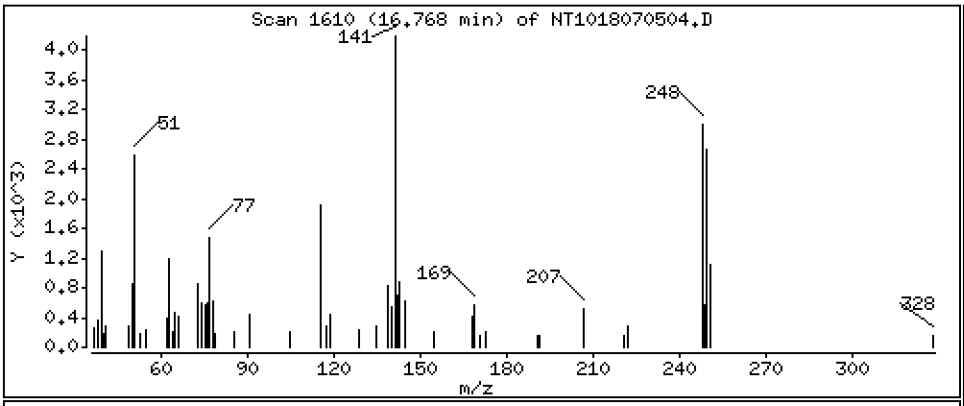
Operator: YZ

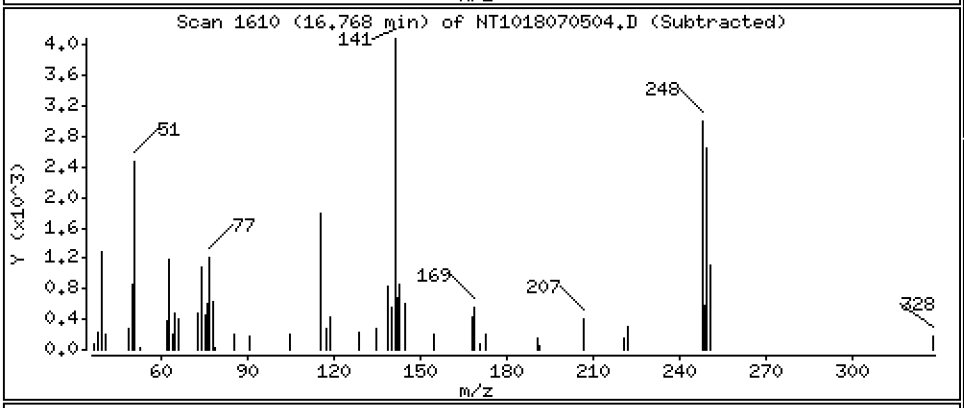
Column phase: ZB-5msi

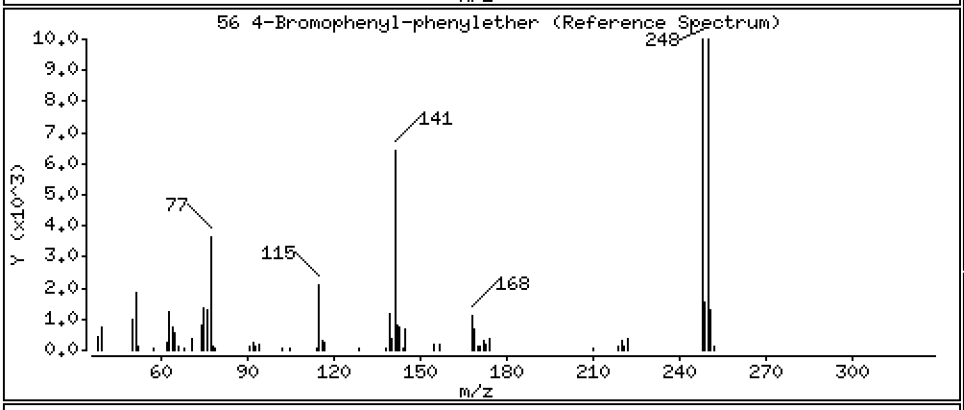
Column diameter: 0.25

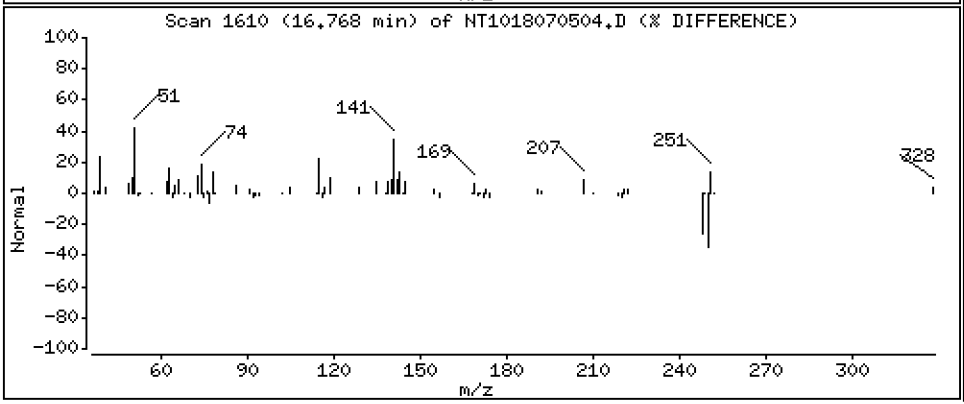
56 4-Bromophenyl-phenylether

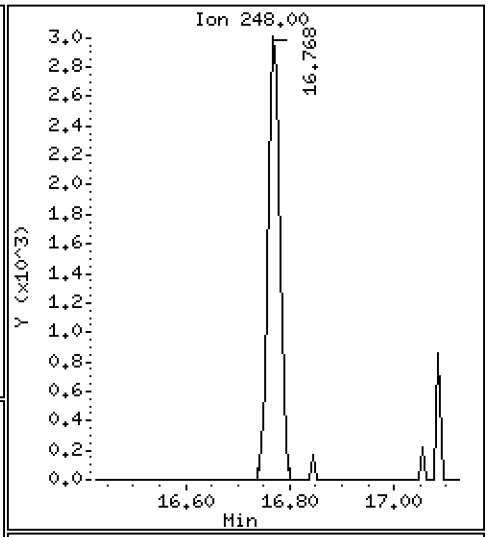
Concentration: 0.2298 ug/mL

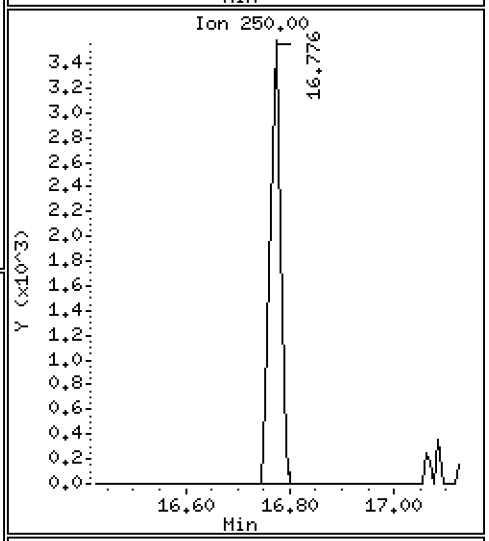


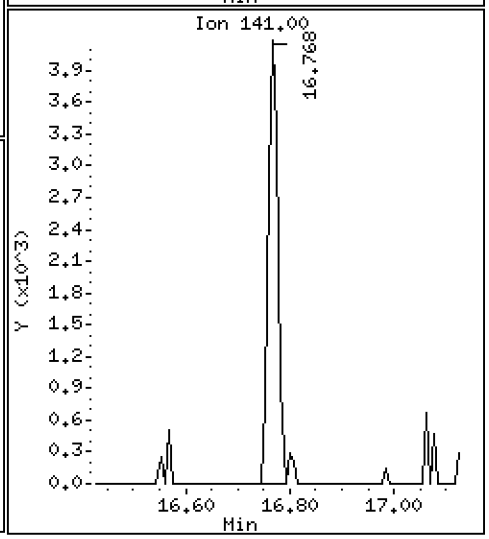












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

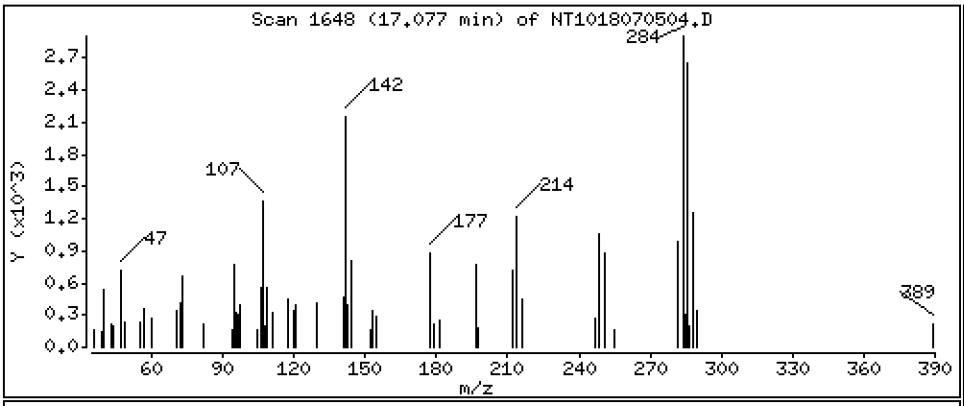
Operator: YZ

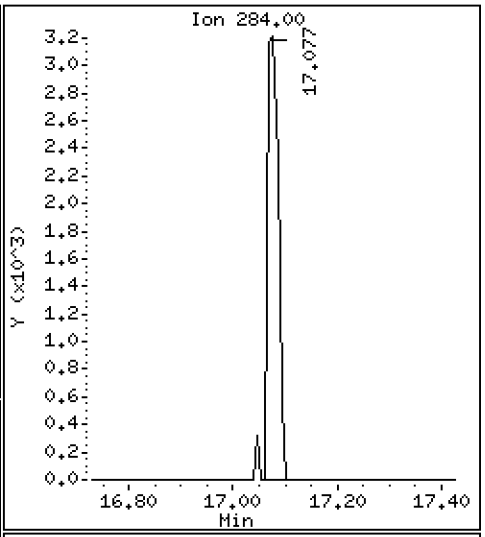
Column phase: ZB-5msi

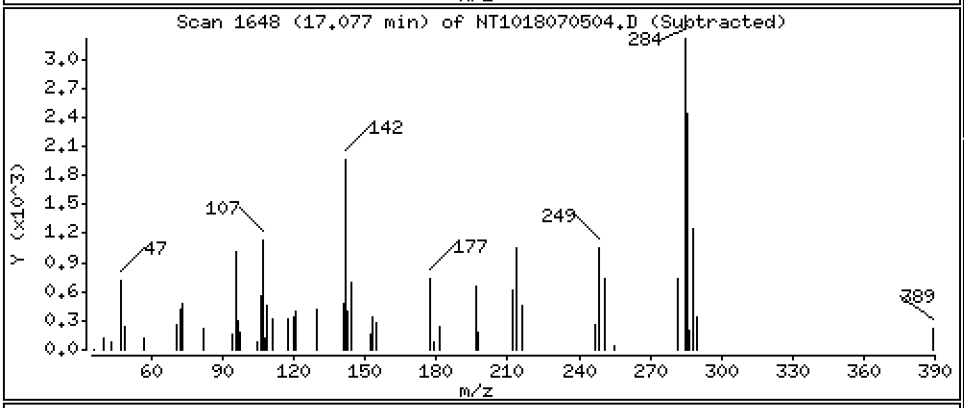
Column diameter: 0.25

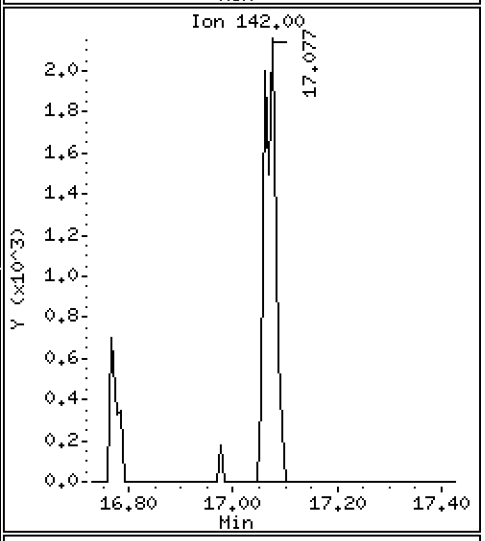
57 Hexachlorobenzene

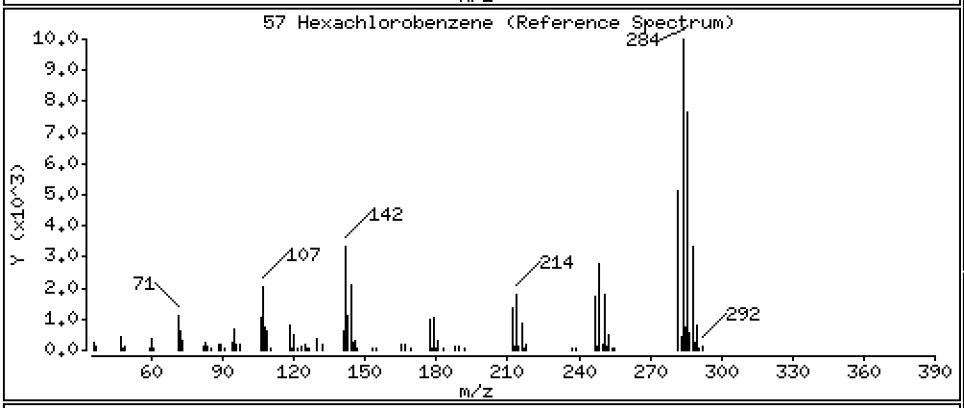
Concentration: 0.2150 ug/mL

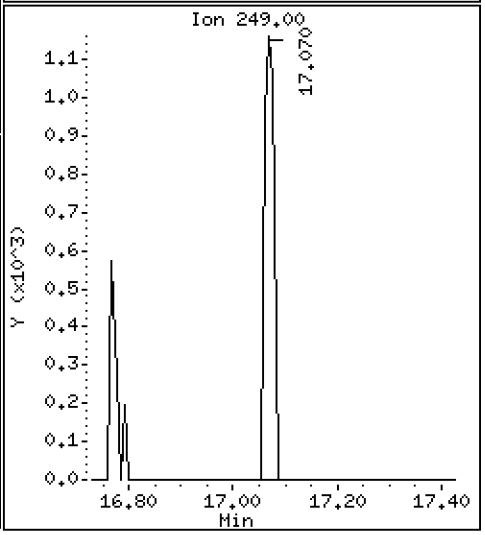


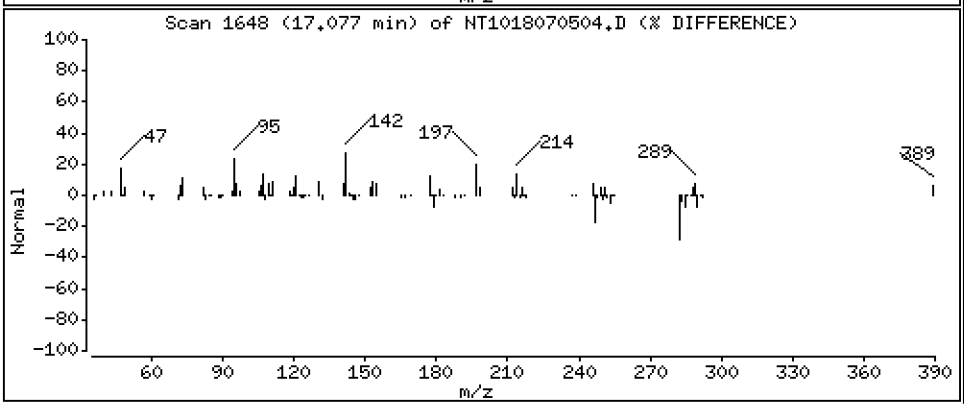












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

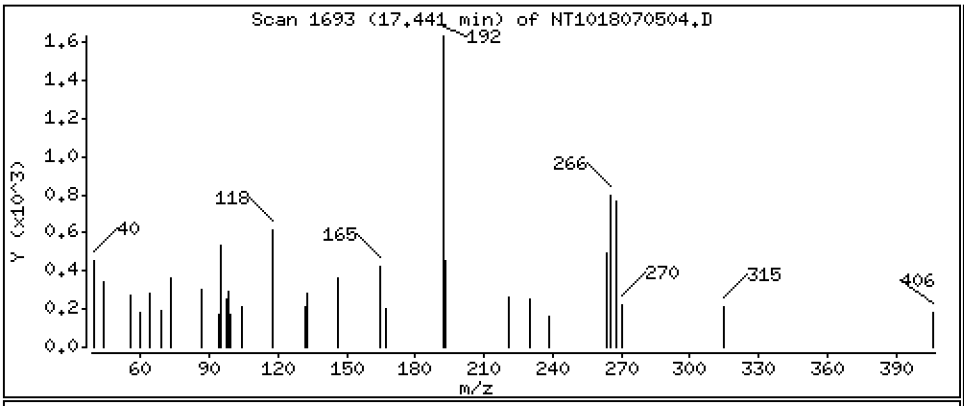
Operator: YZ

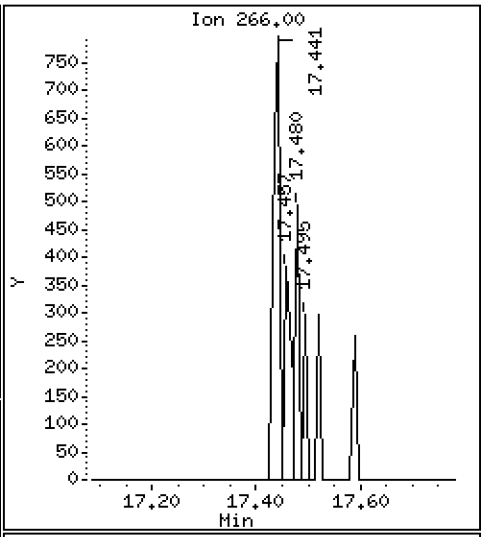
Column phase: ZB-5msi

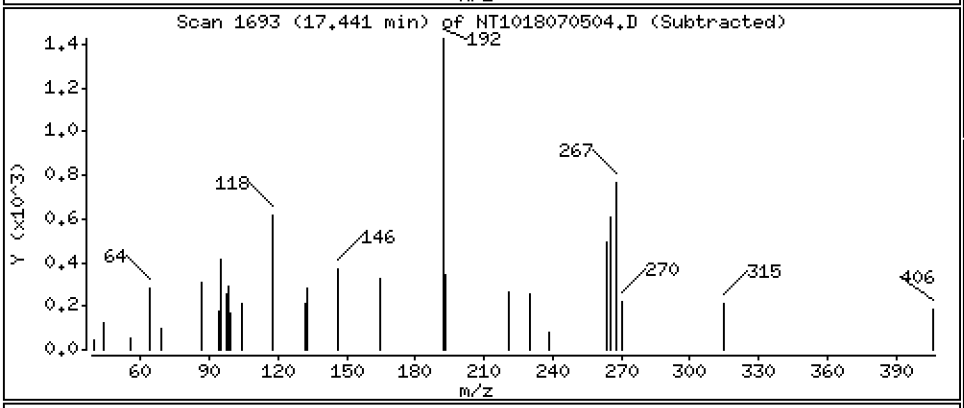
Column diameter: 0.25

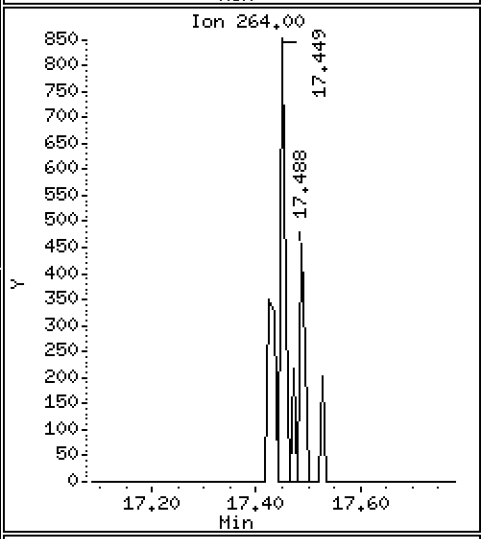
58 Pentachlorophenol

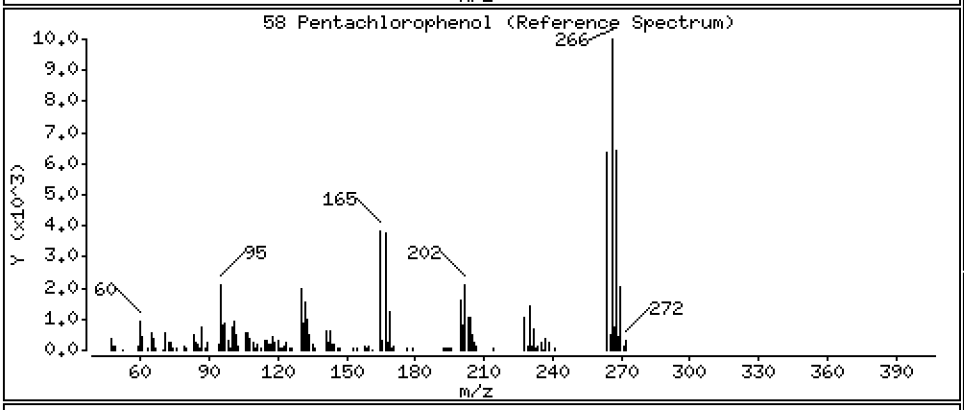
Concentration: 0.05568 ug/mL

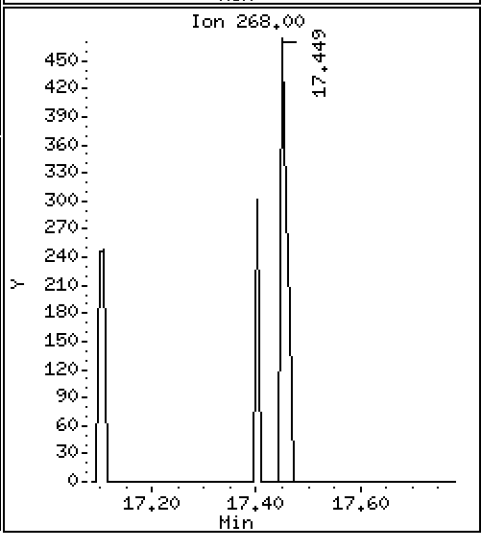


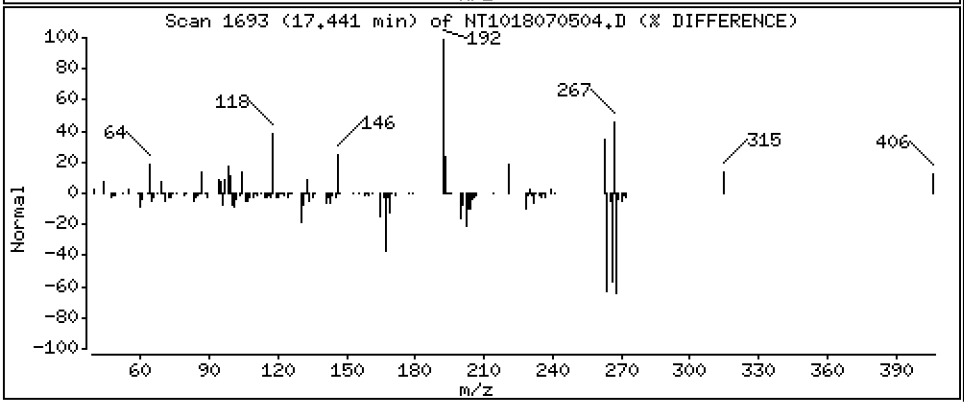












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

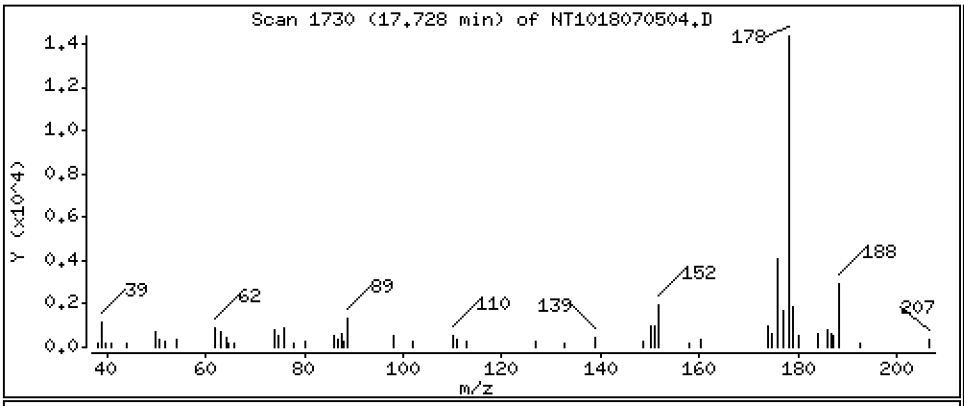
Operator: YZ

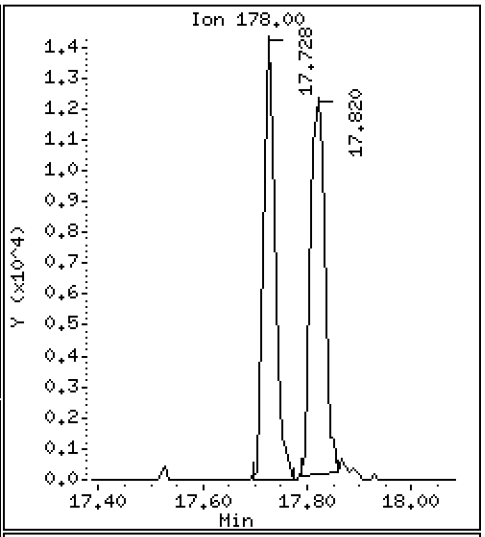
Column phase: ZB-5msi

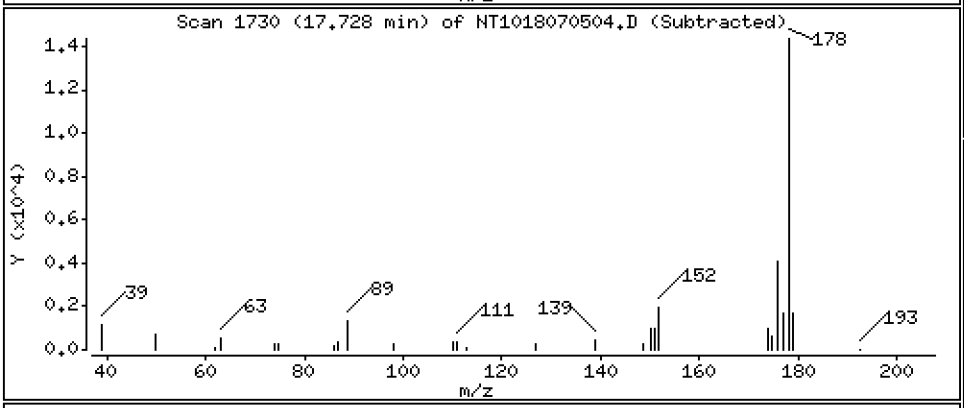
Column diameter: 0.25

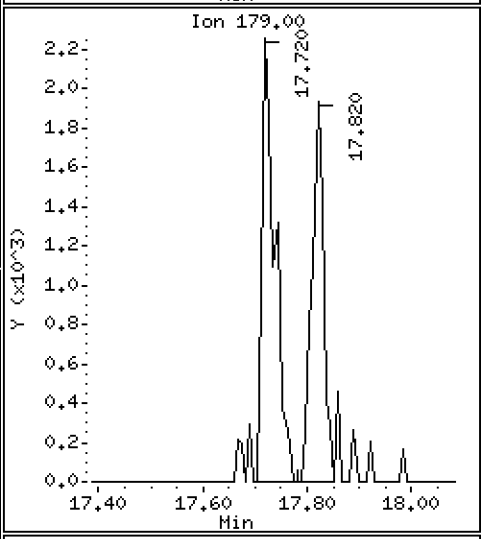
60 Phenanthrene

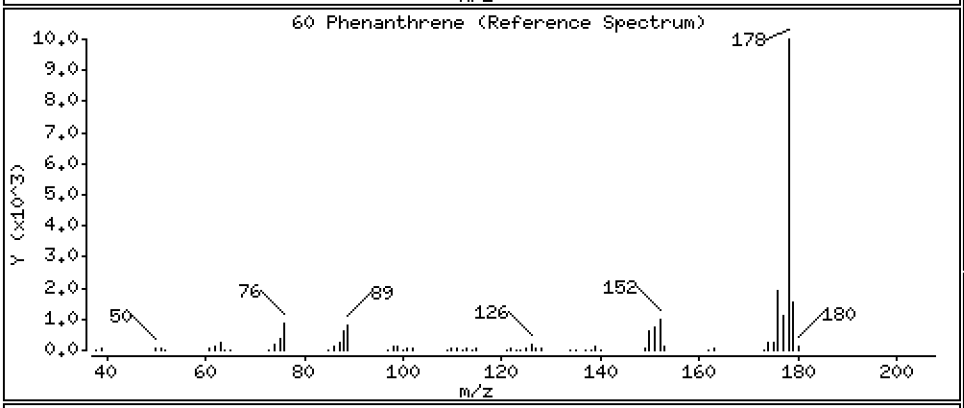
Concentration: 0.2397 ug/mL

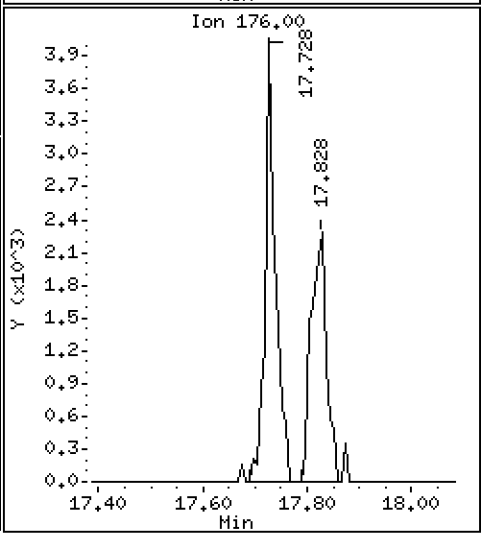


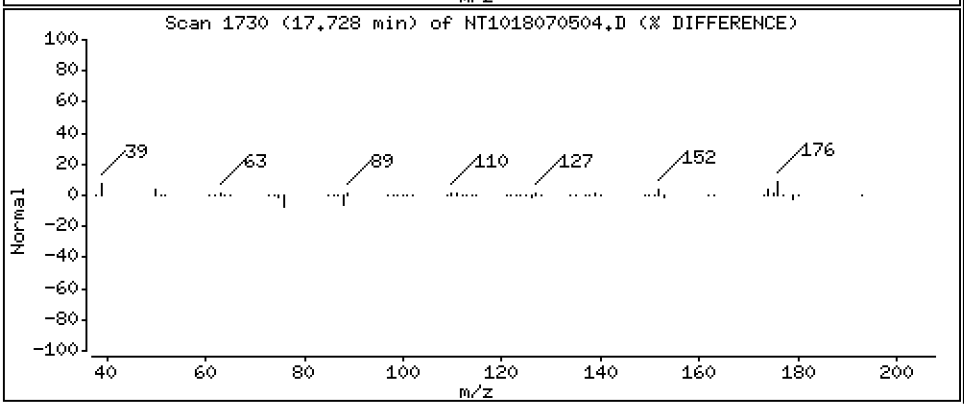












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

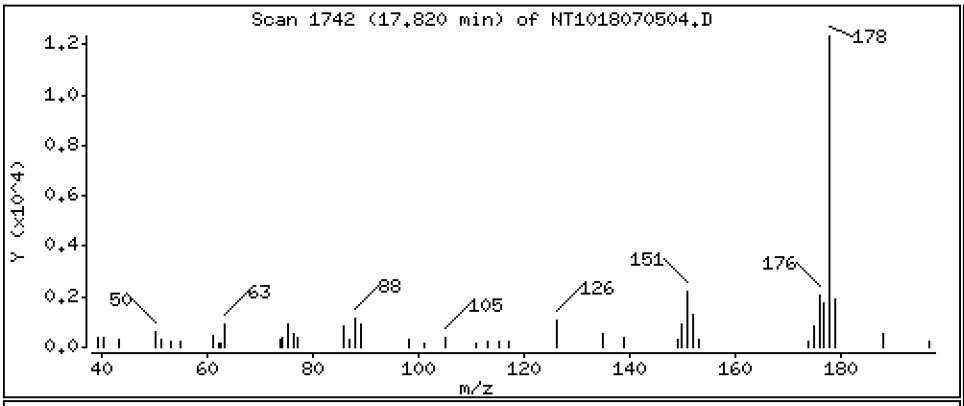
Operator: YZ

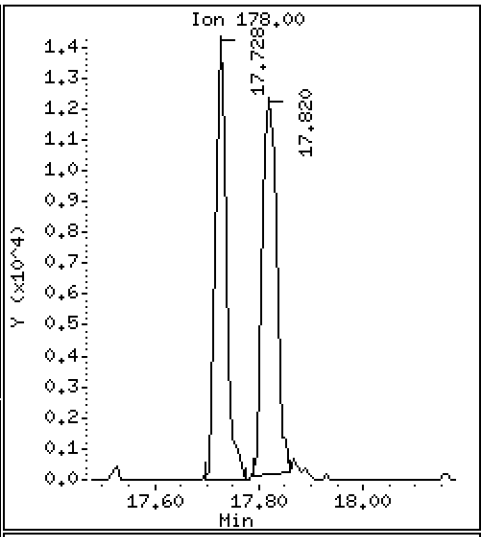
Column phase: ZB-5msi

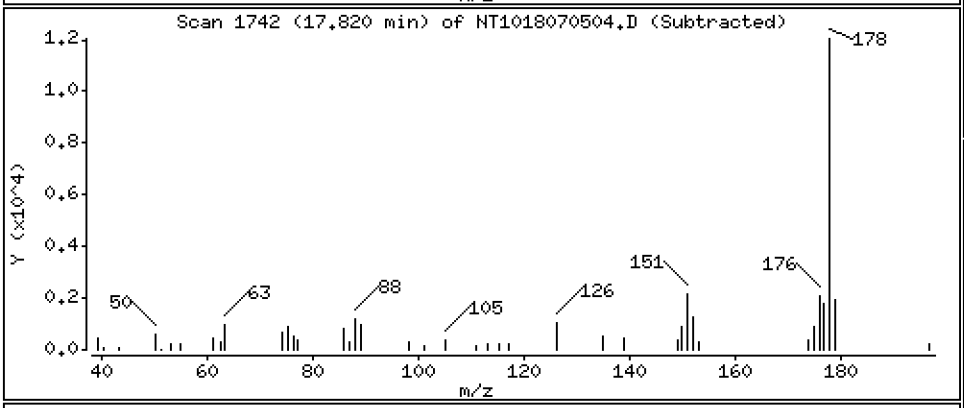
Column diameter: 0.25

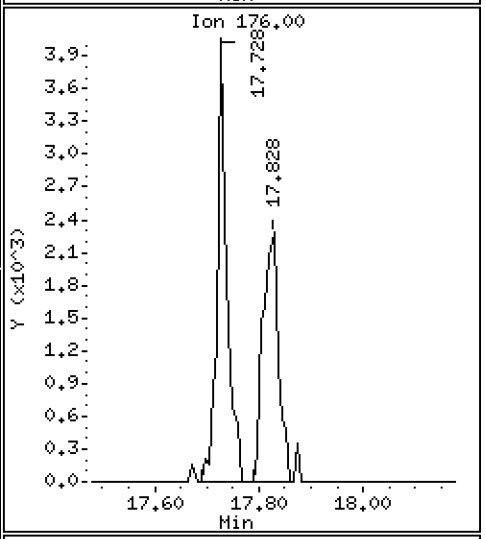
61 Anthracene

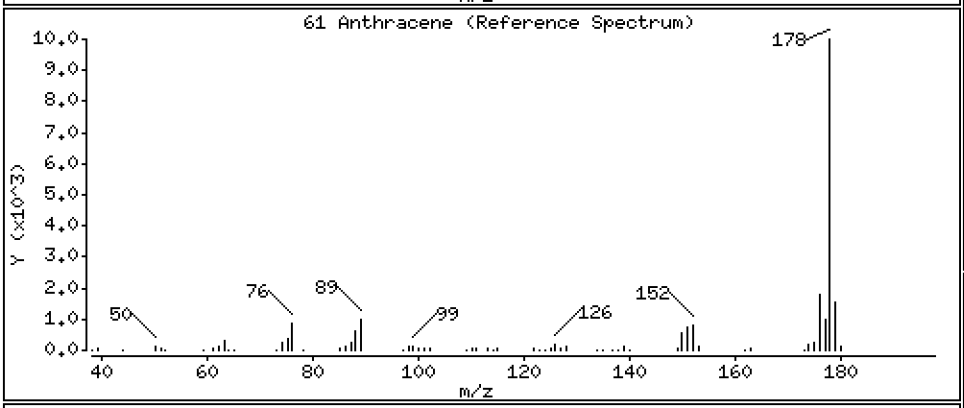
Concentration: 0.2295 ug/mL

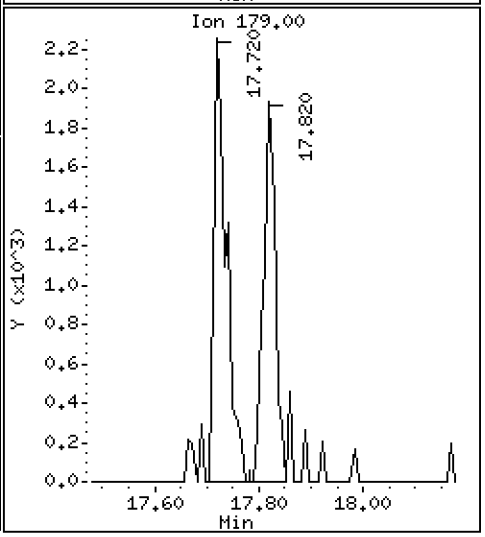


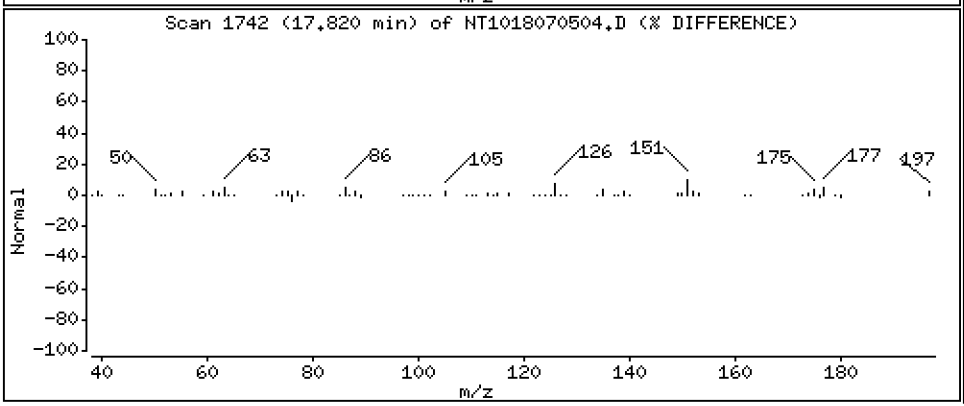












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

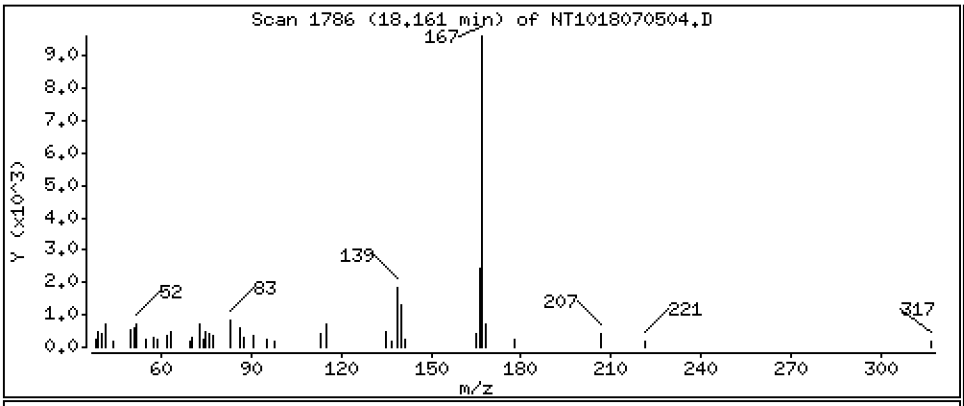
Operator: YZ

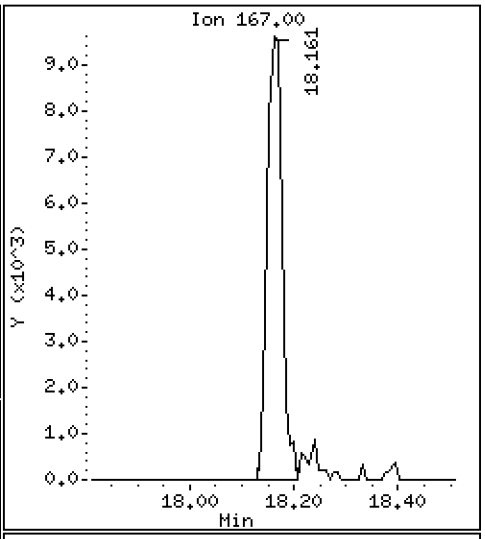
Column phase: ZB-5msi

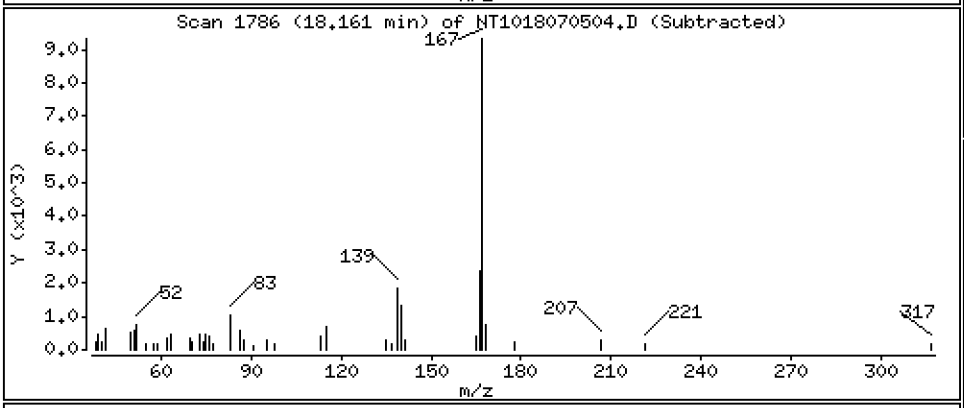
Column diameter: 0.25

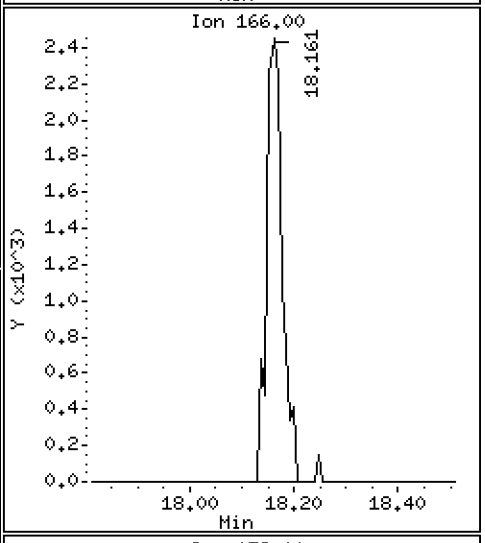
62 Carbazole

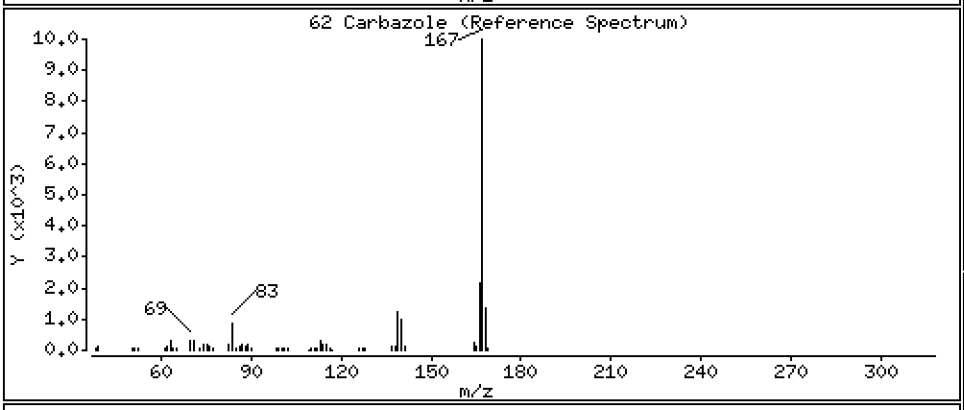
Concentration: 0.2150 ug/mL

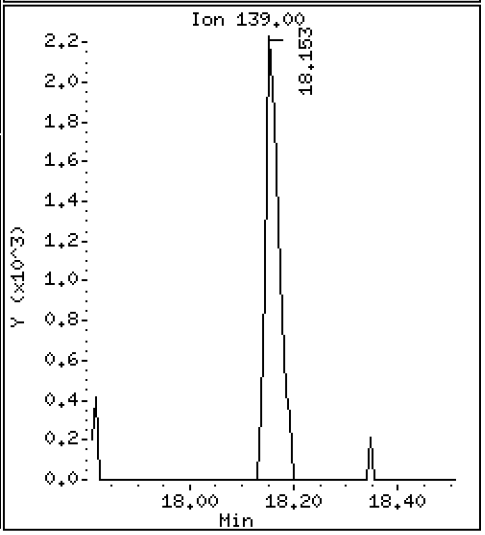


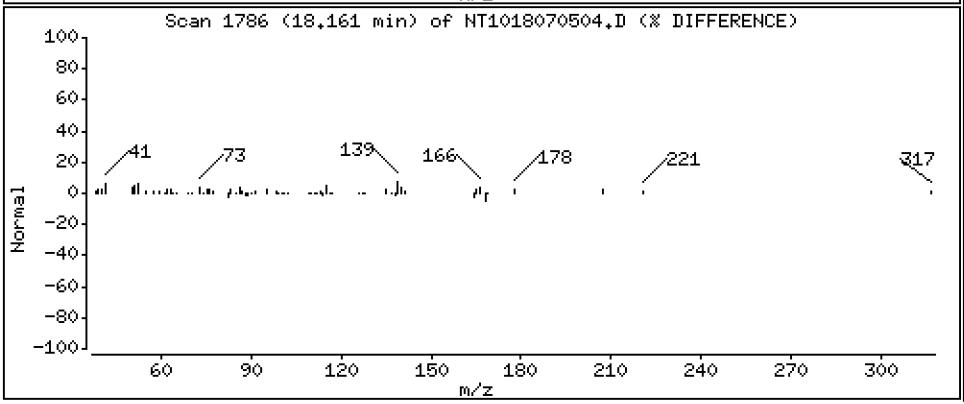












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

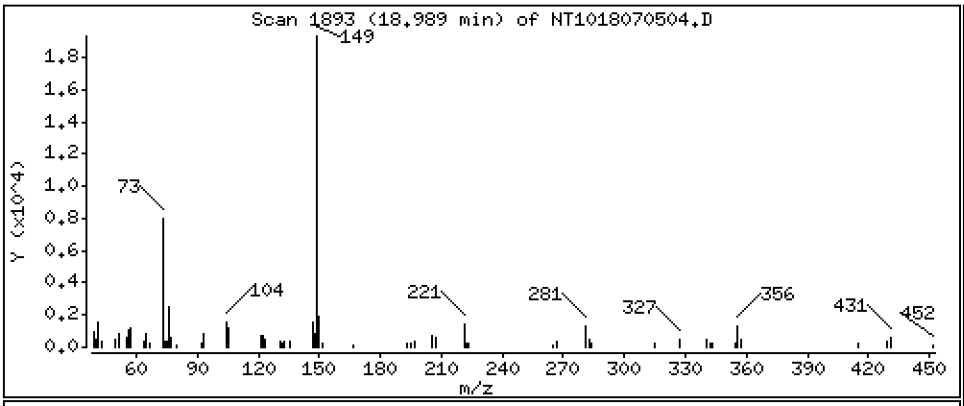
Operator: YZ

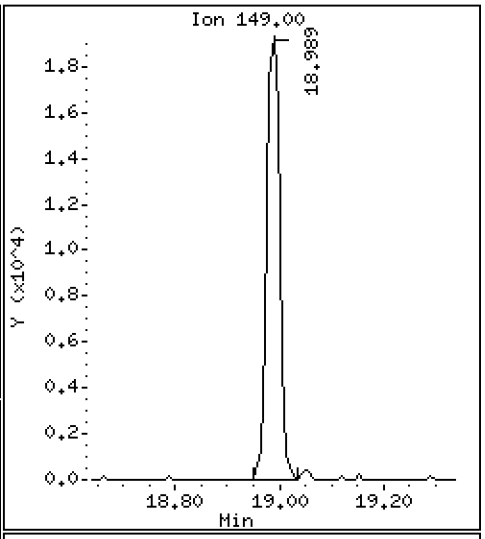
Column phase: ZB-5msi

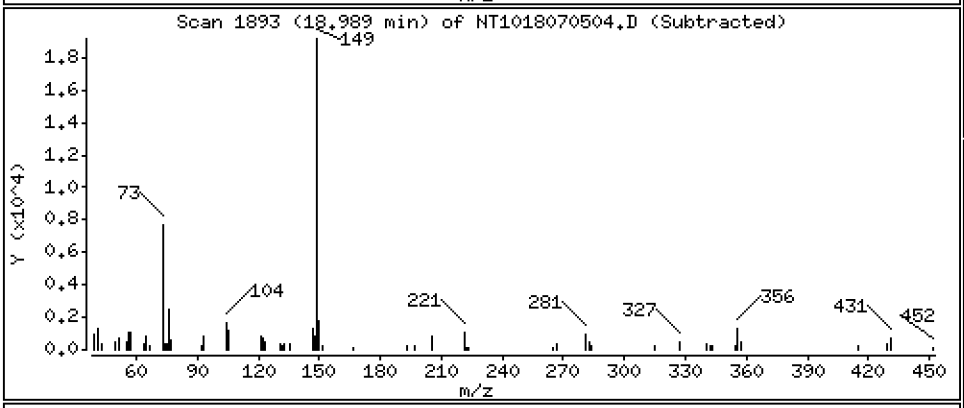
Column diameter: 0.25

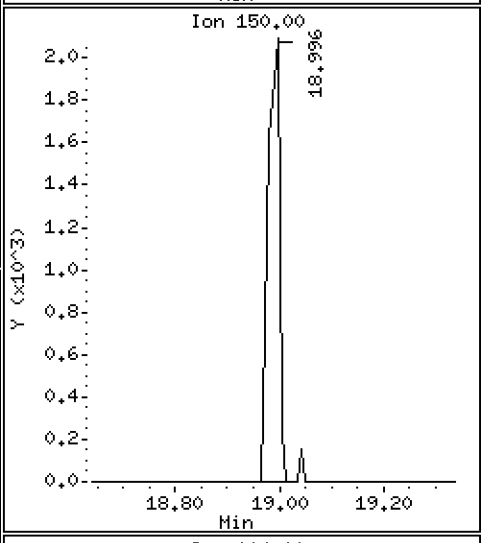
63 Di-n-butylphthalate

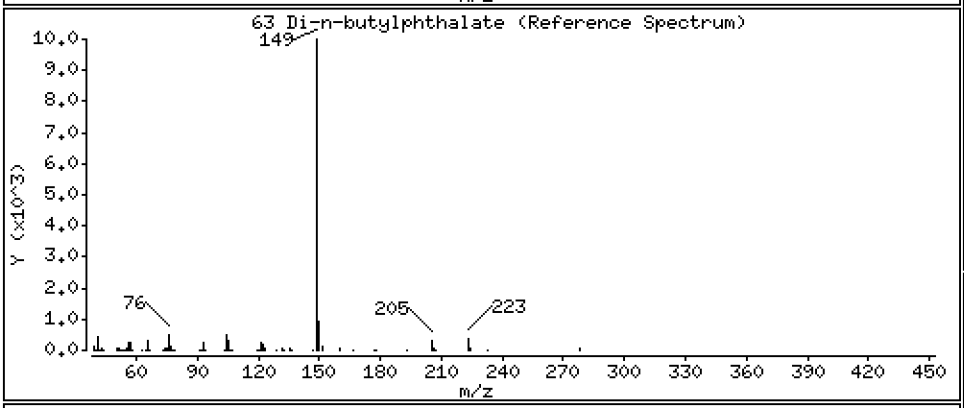
Concentration: 0.2393 ug/mL

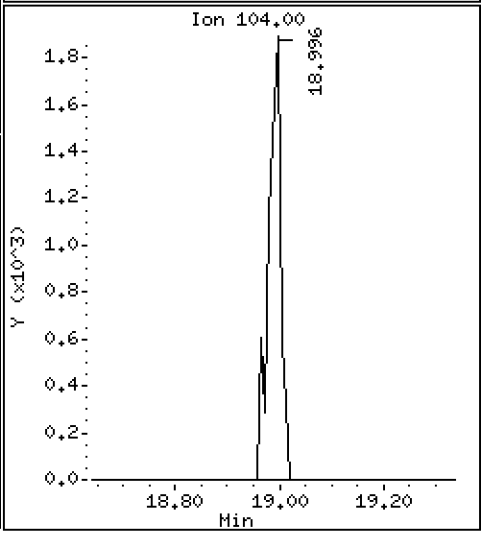


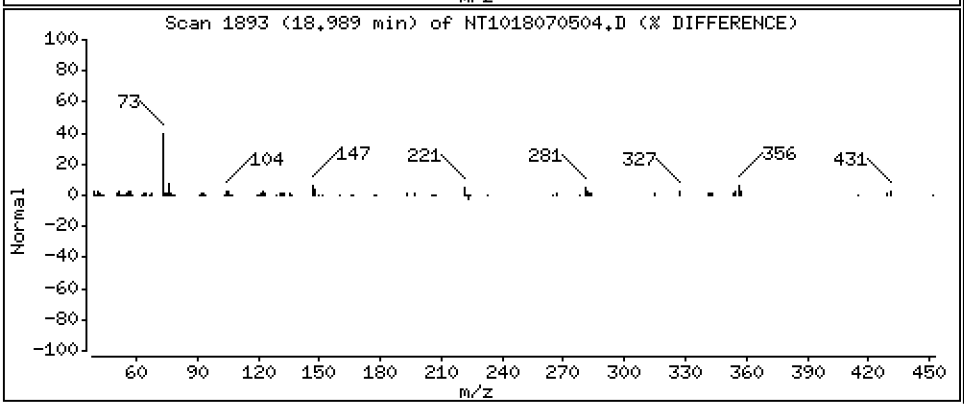












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

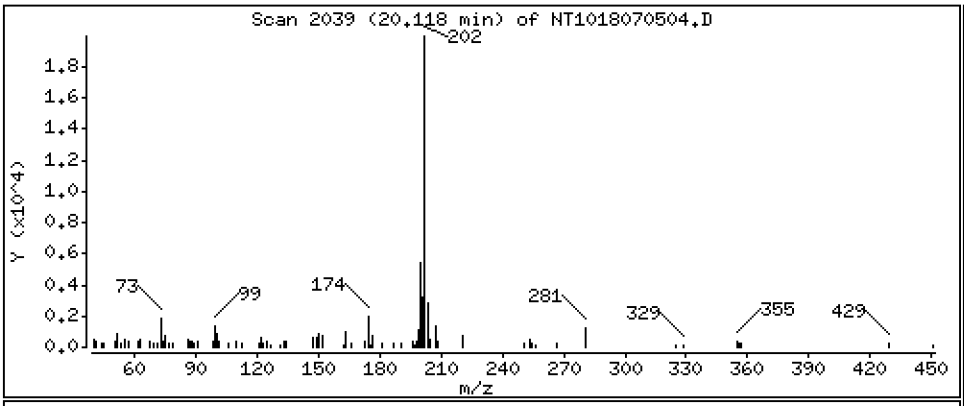
Operator: YZ

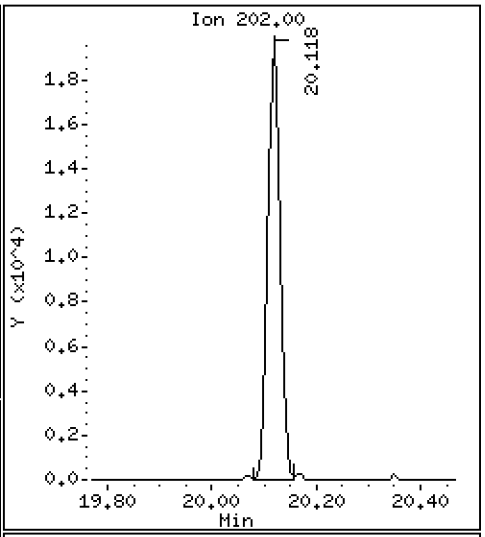
Column phase: ZB-5msi

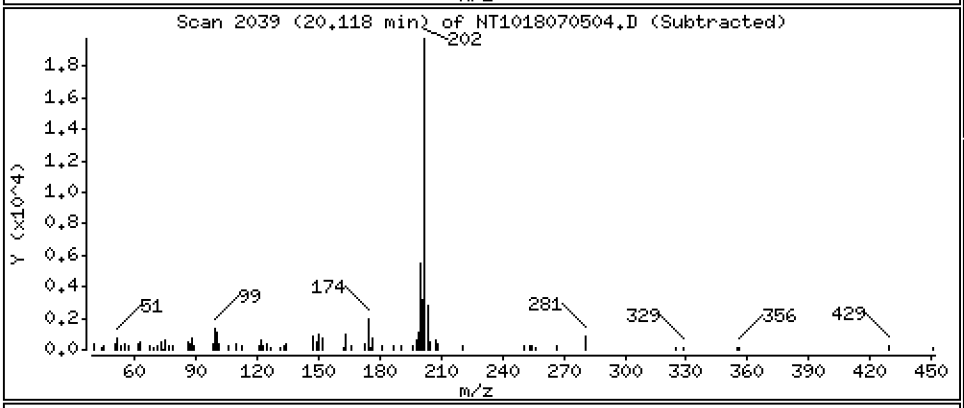
Column diameter: 0.25

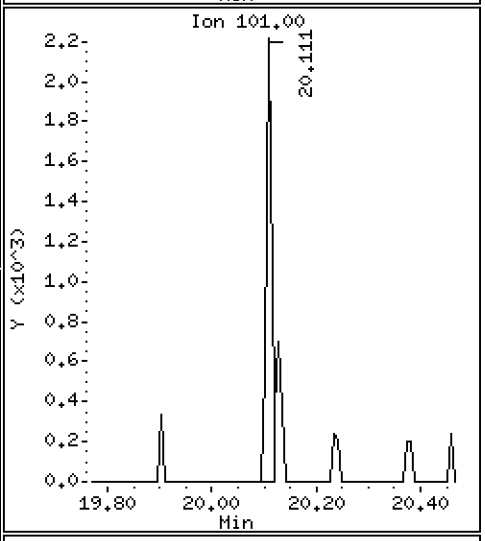
64 Fluoranthene

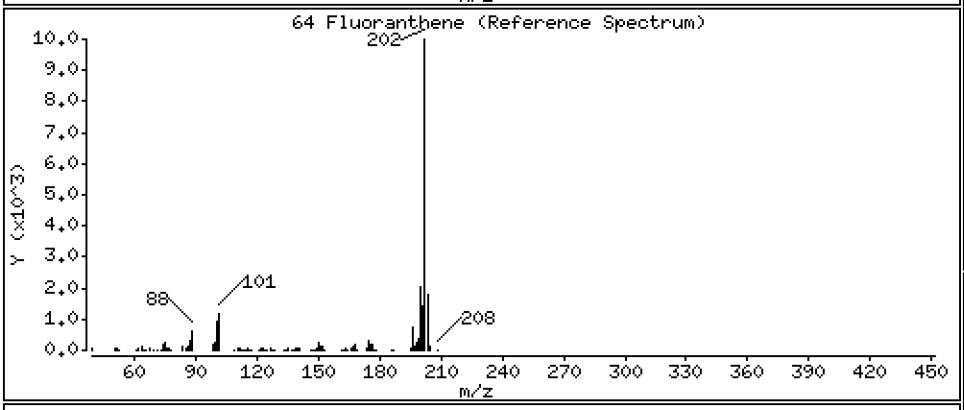
Concentration: 0.2182 ug/mL

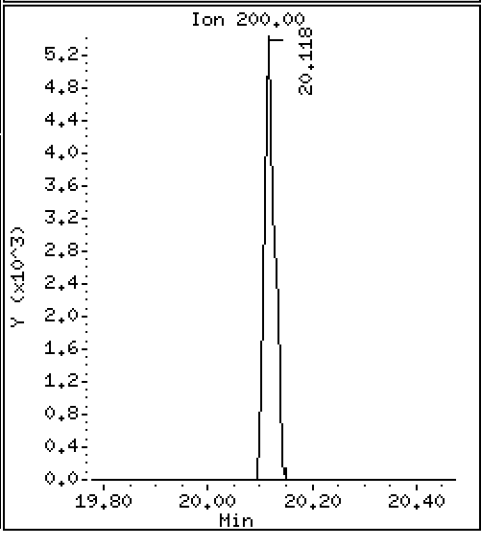


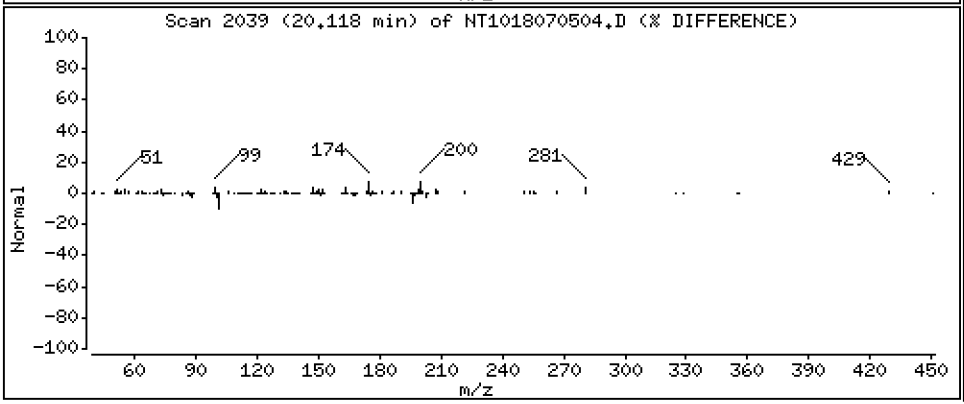












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

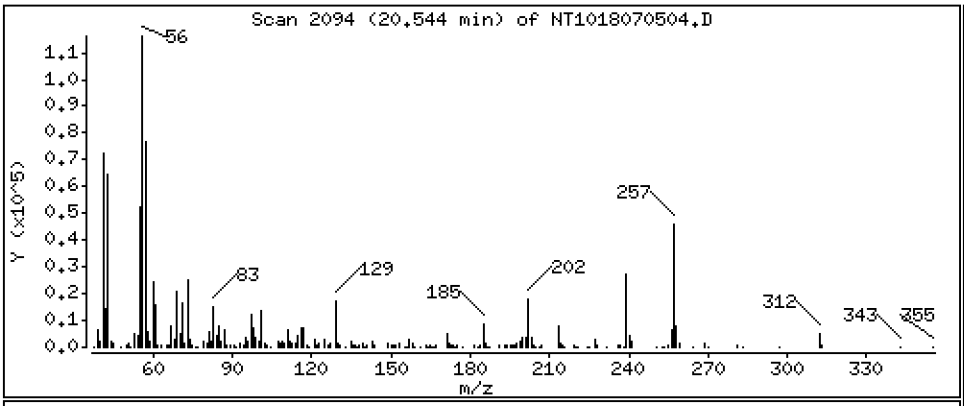
Operator: YZ

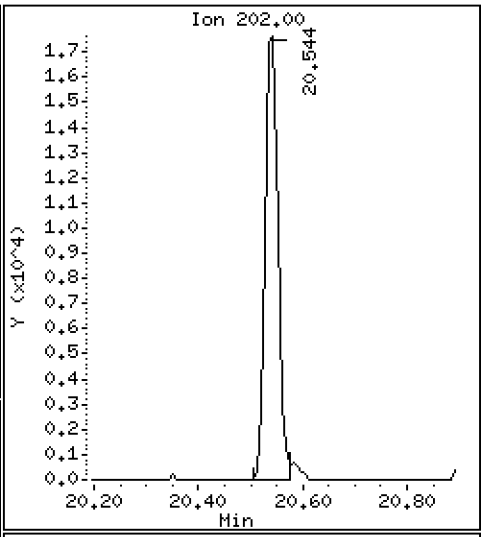
Column phase: ZB-5msi

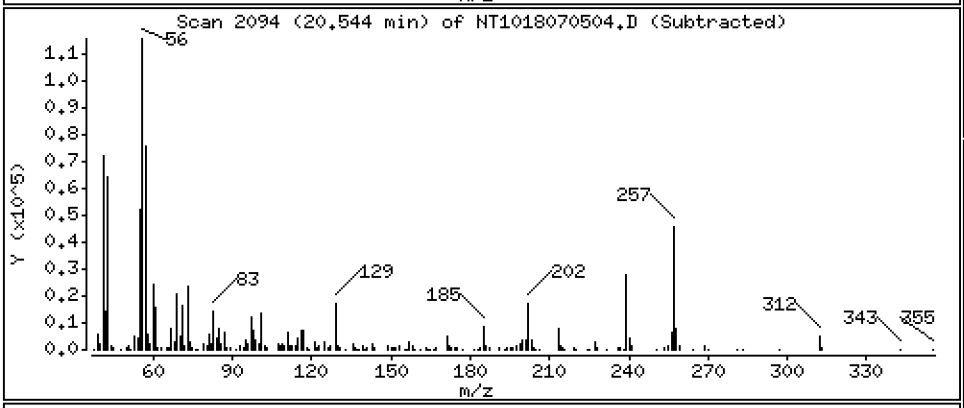
Column diameter: 0.25

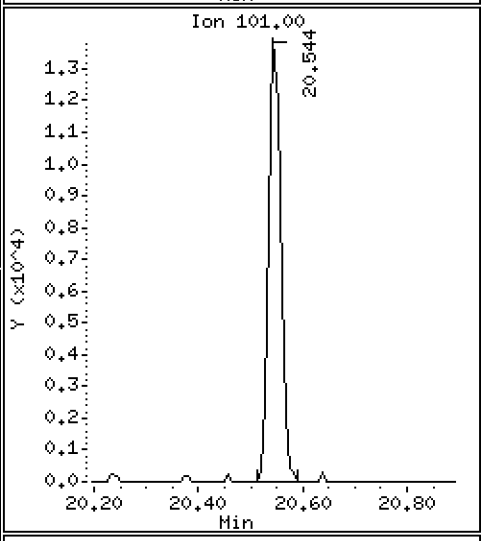
65 Pyrene

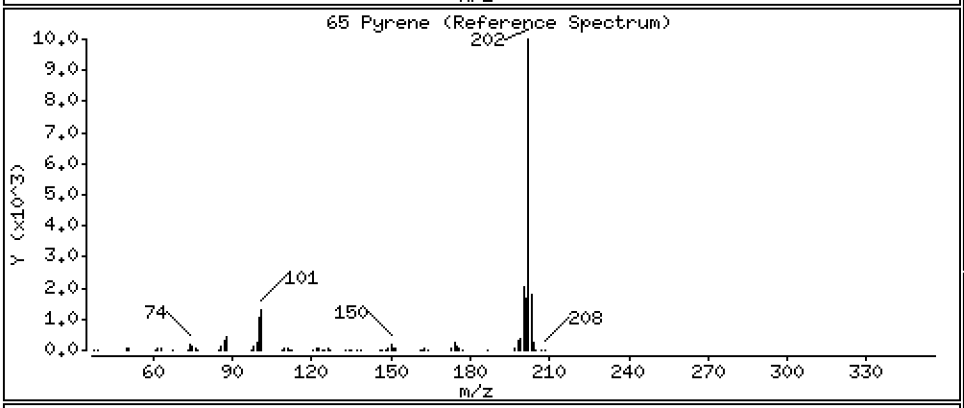
Concentration: 0.1991 ug/mL

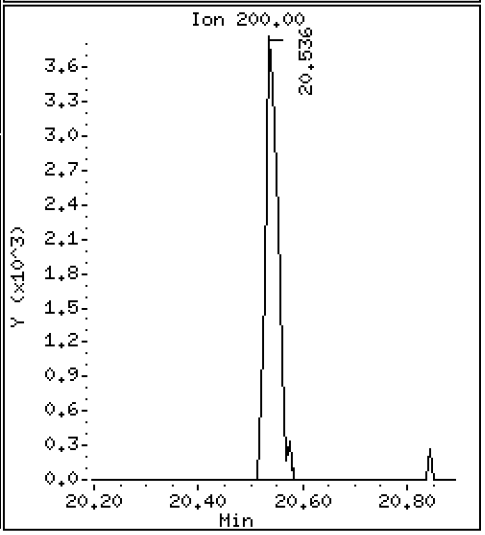


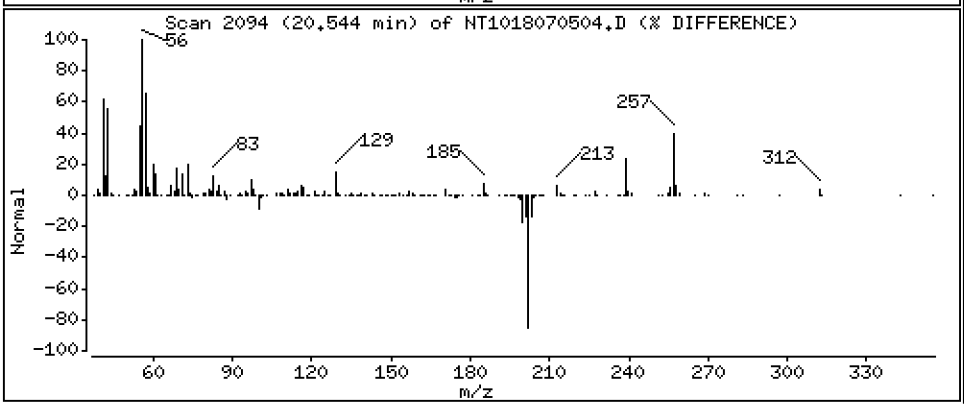












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

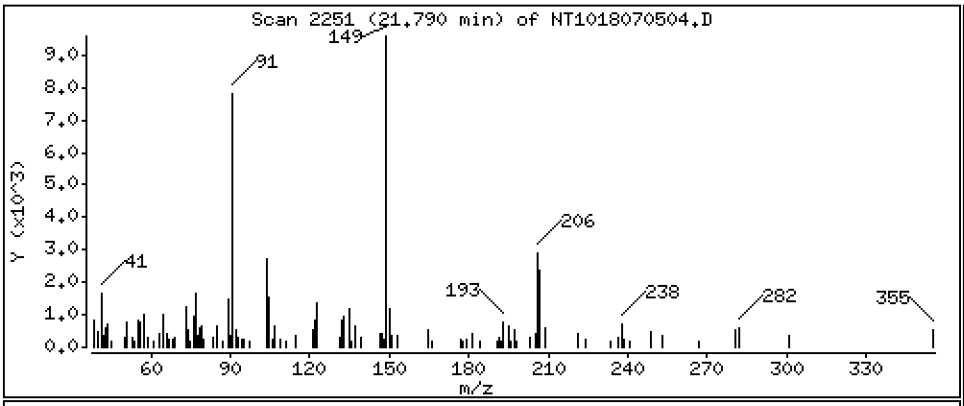
Operator: YZ

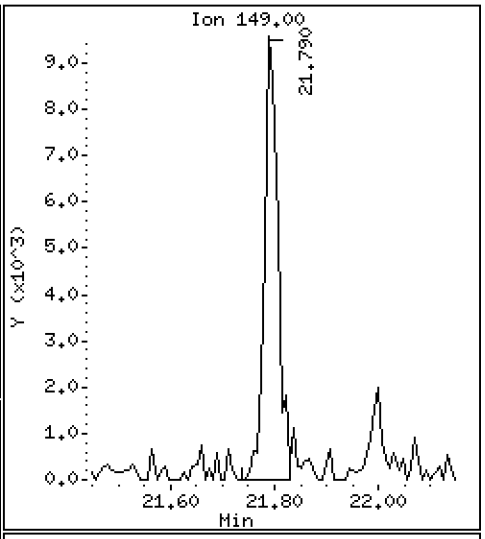
Column phase: ZB-5msi

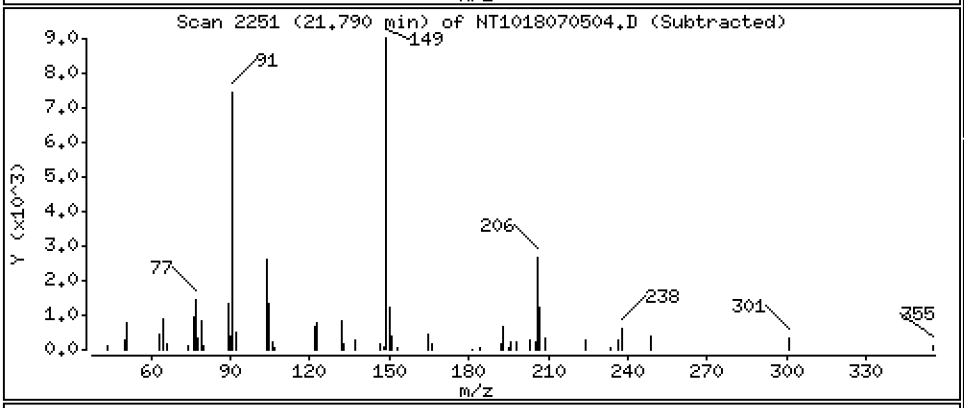
Column diameter: 0.25

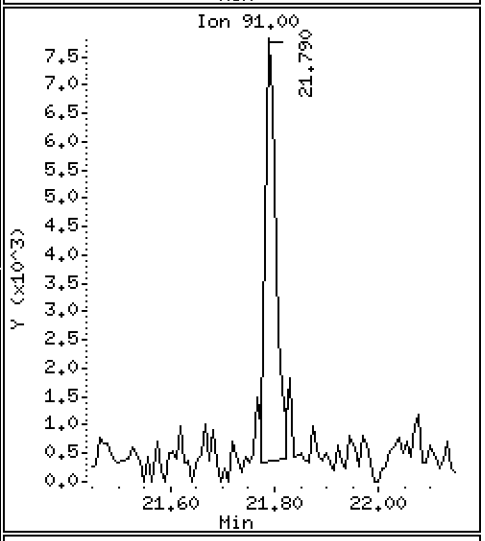
67 Butylbenzylphthalate

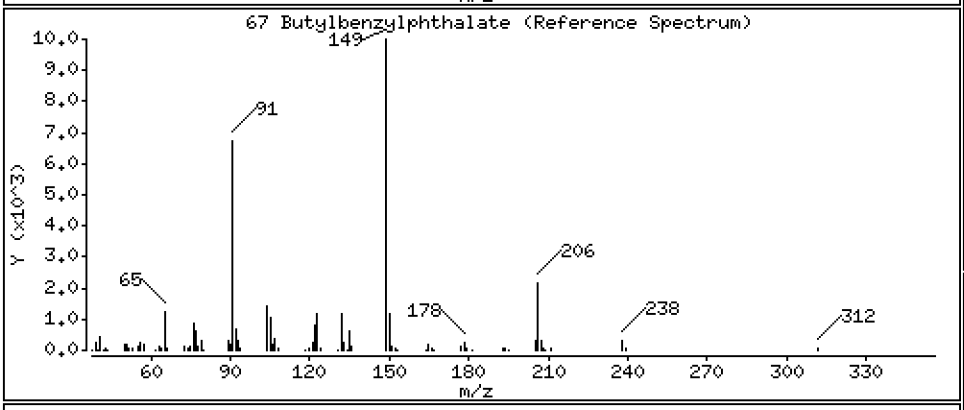
Concentration: 0.2900 ug/mL

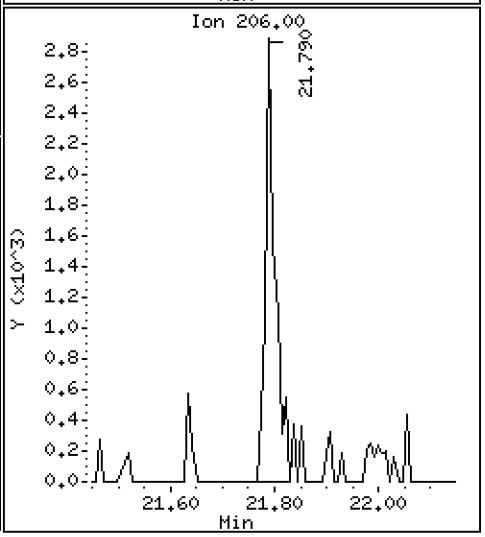


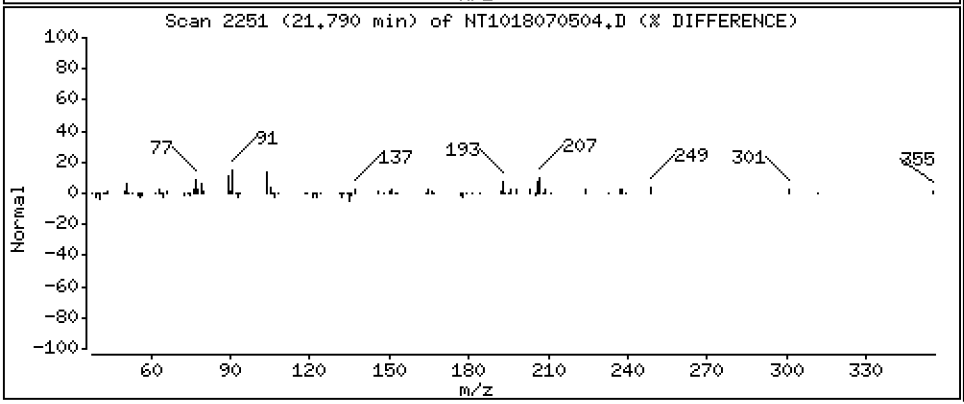












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

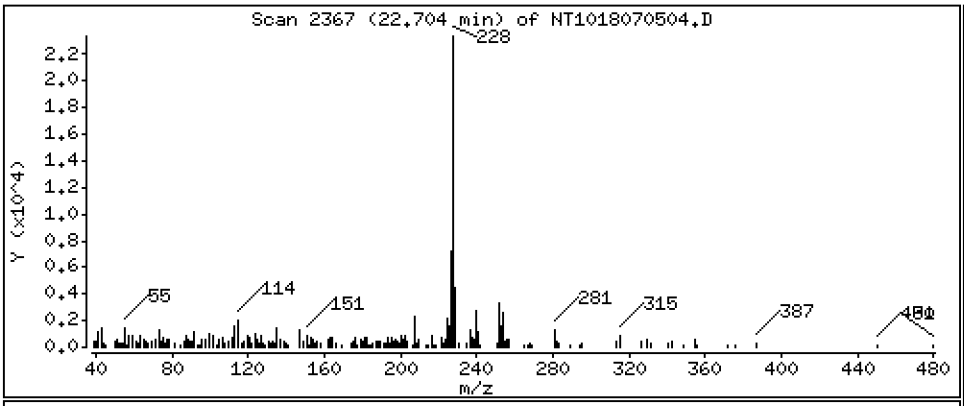
Operator: YZ

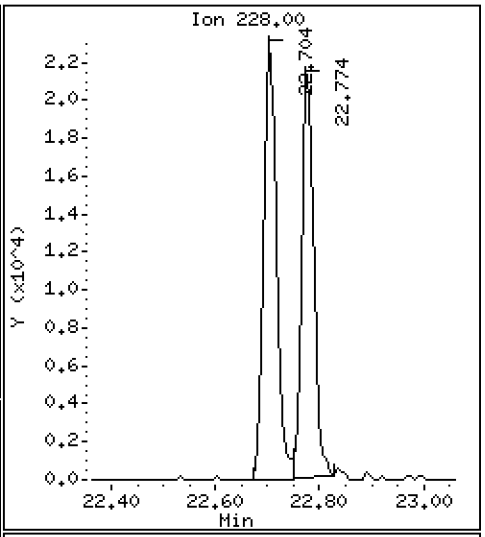
Column phase: ZB-5msi

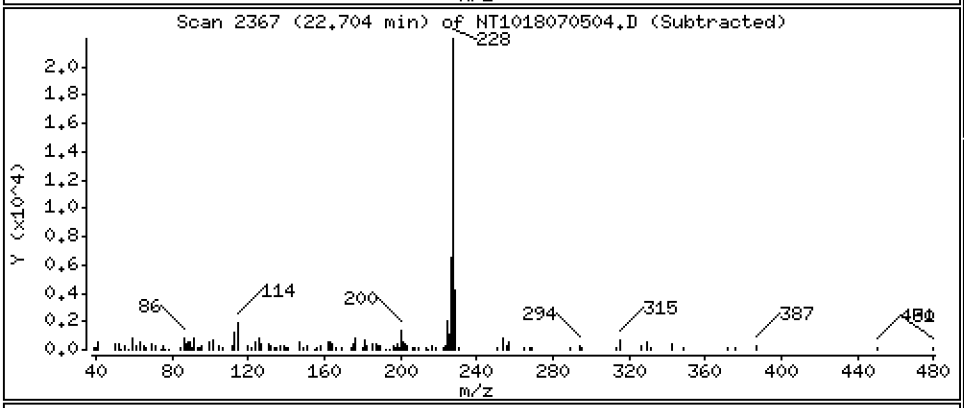
Column diameter: 0.25

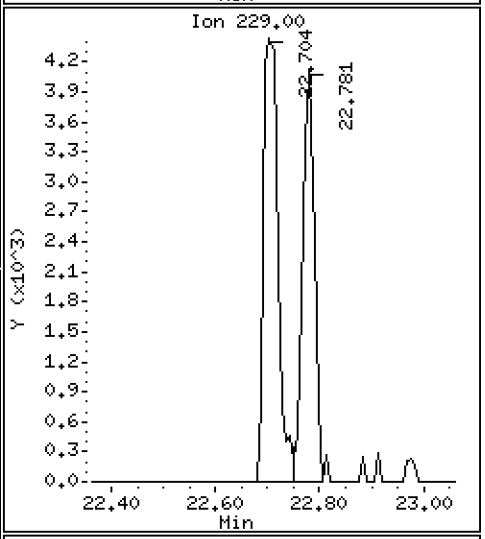
68 Benzo(a)anthracene

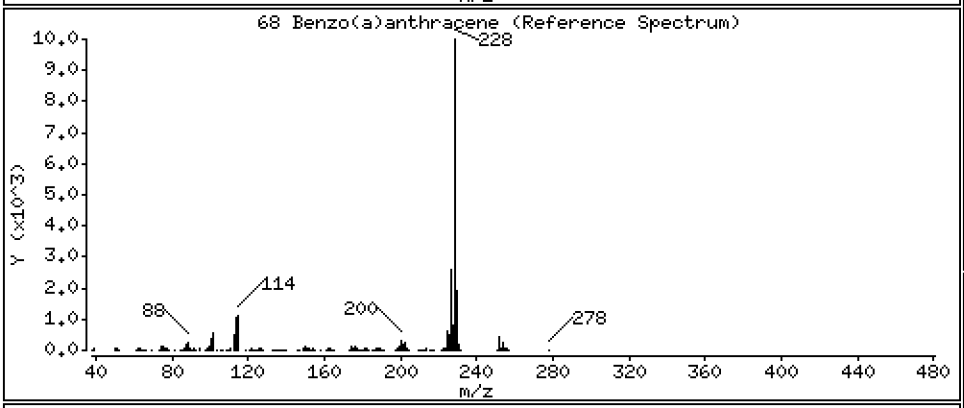
Concentration: 0.2957 ug/mL

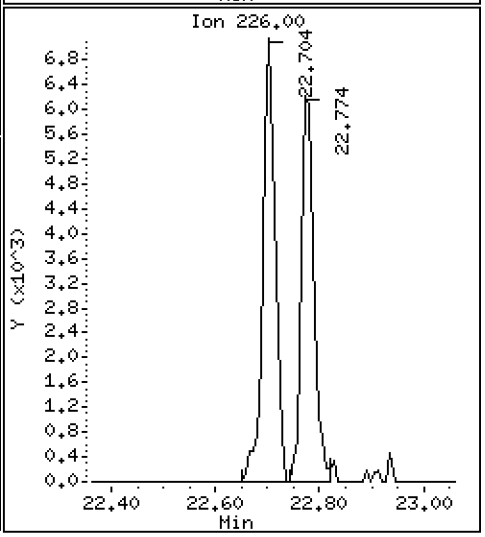


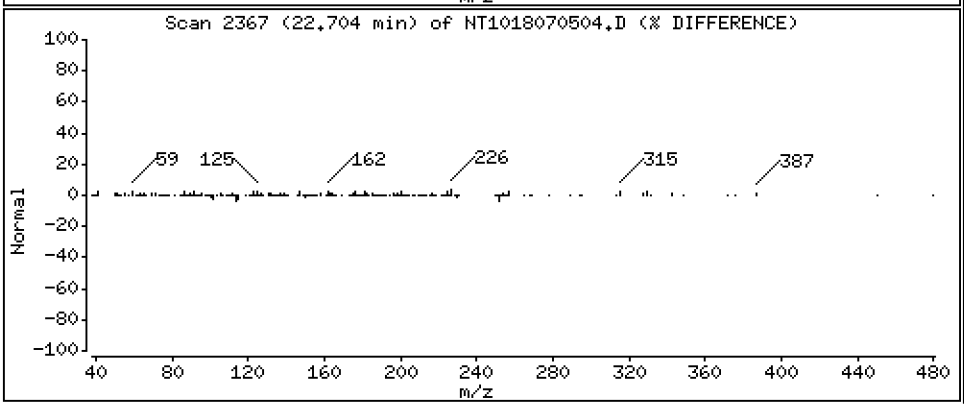












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

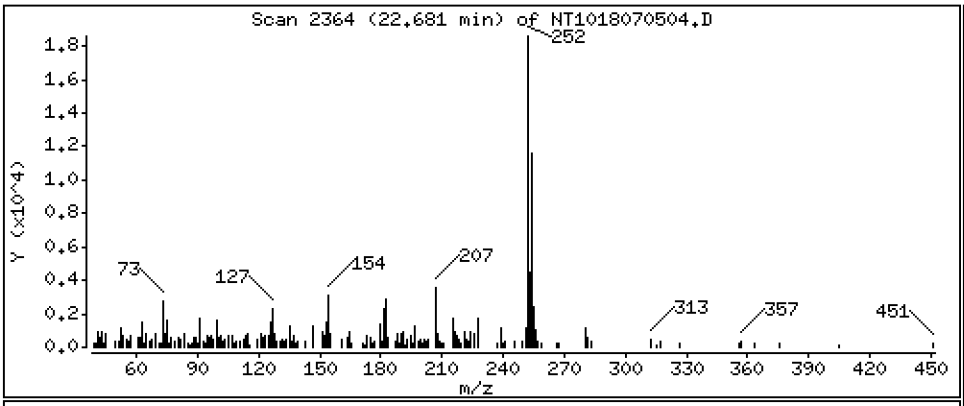
Operator: YZ

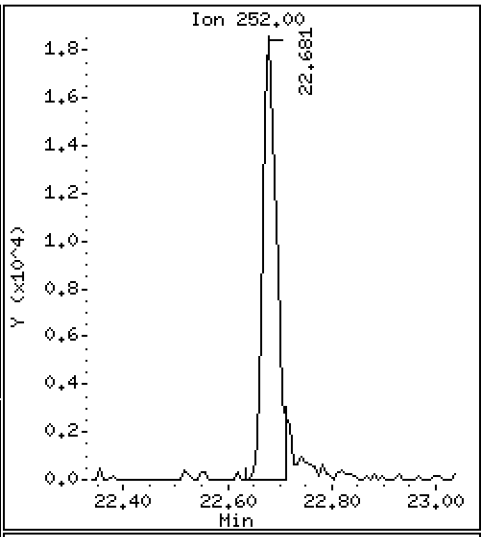
Column phase: ZB-5msi

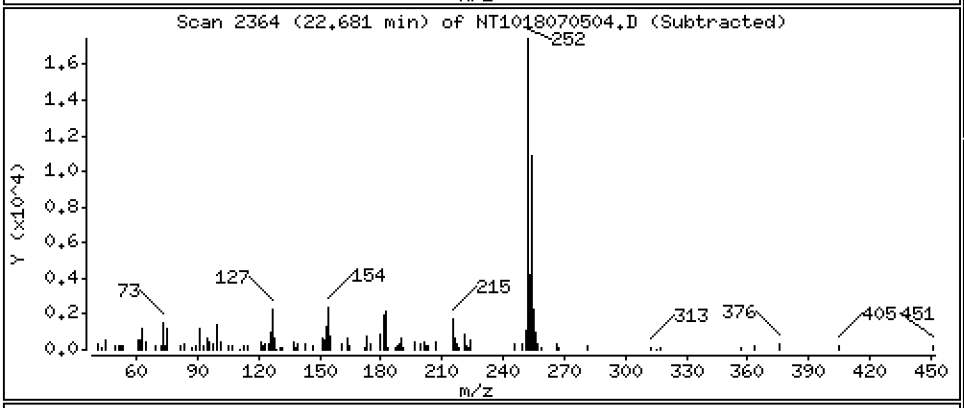
Column diameter: 0.25

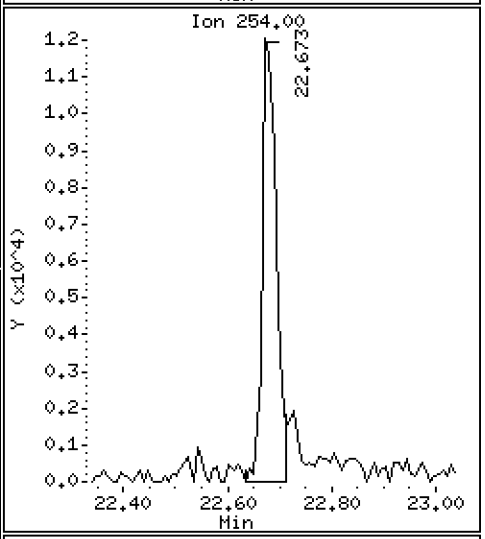
70 3,3'-Dichlorobenzidine

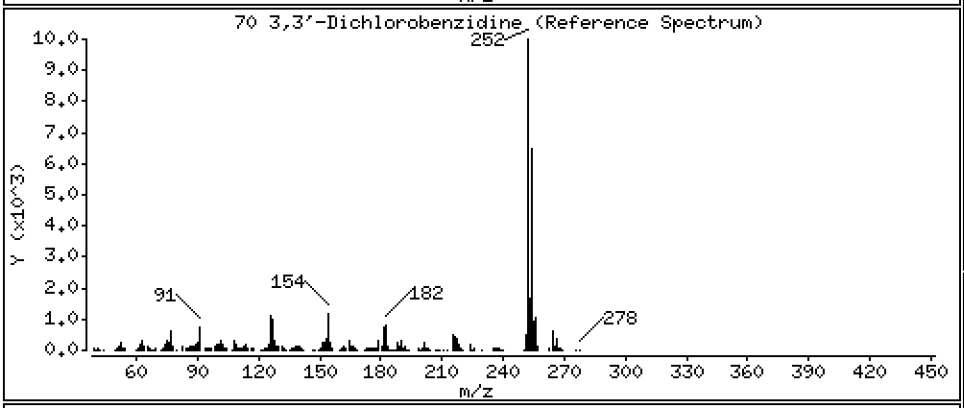
Concentration: 0.7250 ug/mL

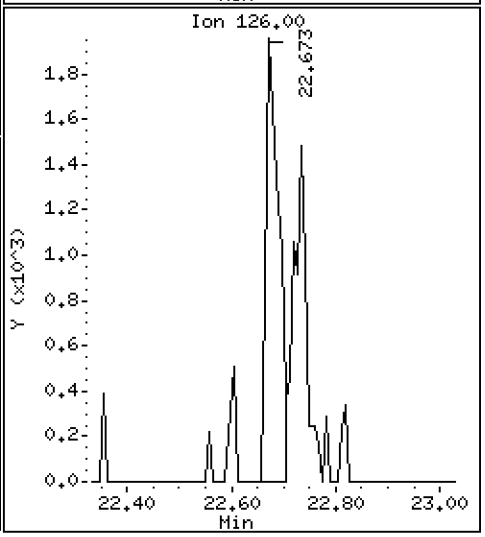


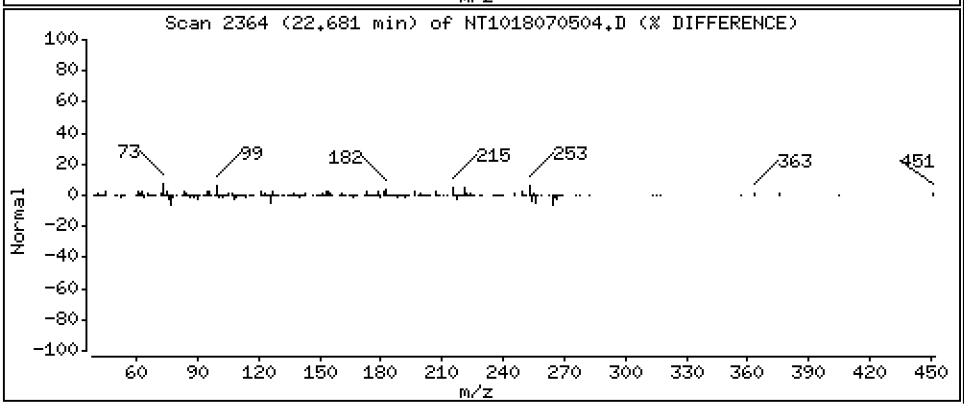












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

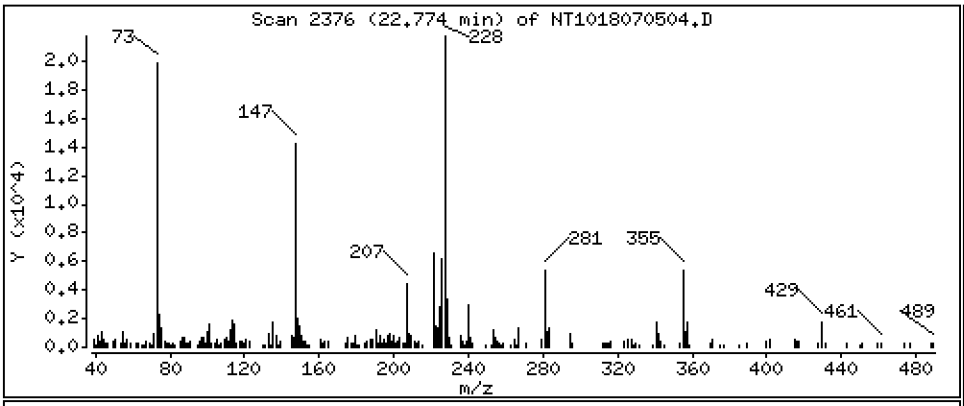
Operator: YZ

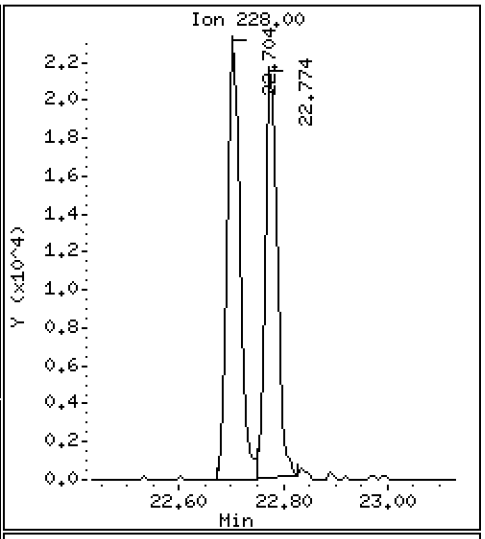
Column phase: ZB-5msi

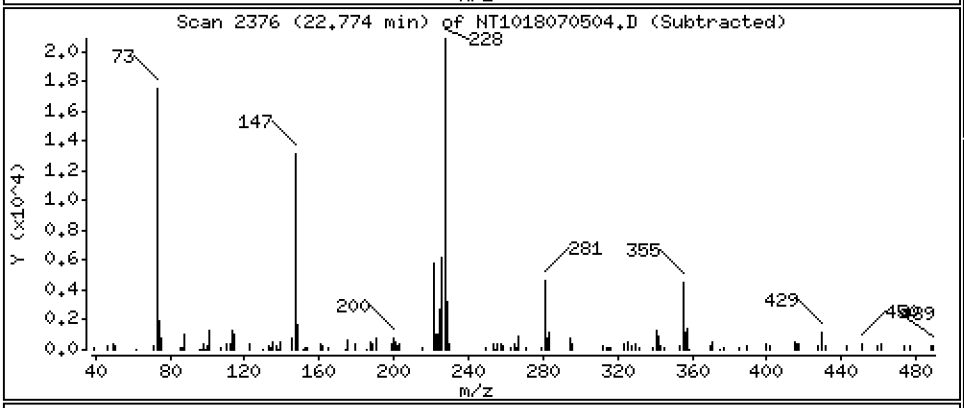
Column diameter: 0.25

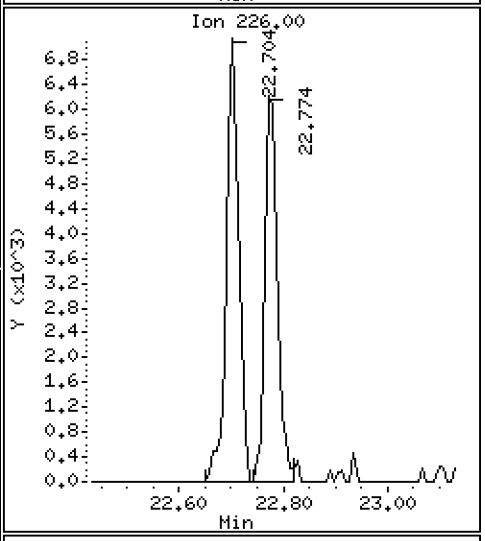
71 Chrysene

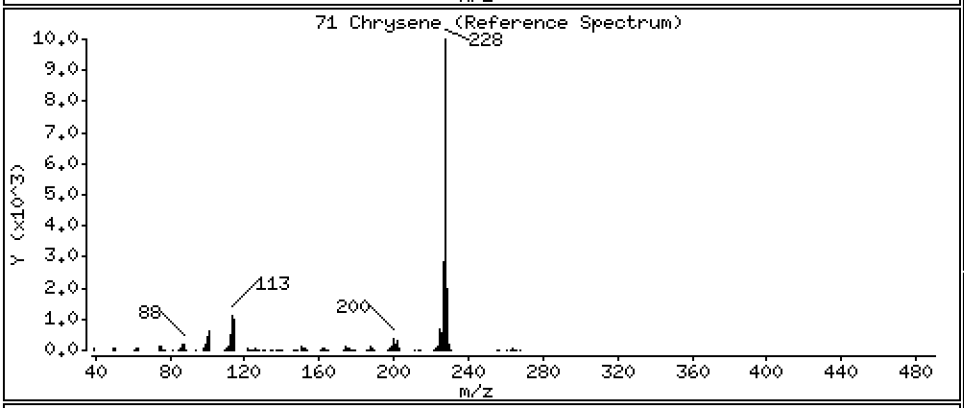
Concentration: 0.3219 ug/mL

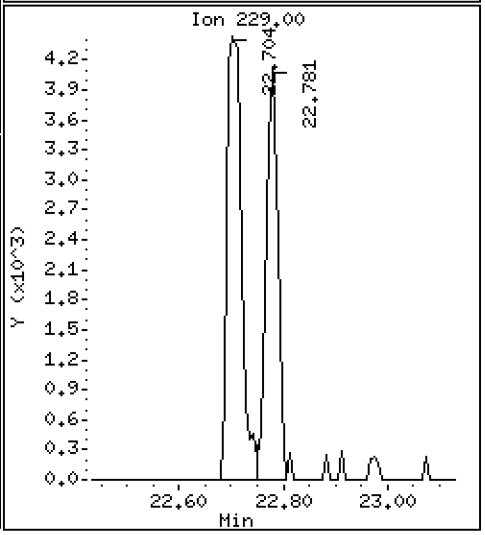


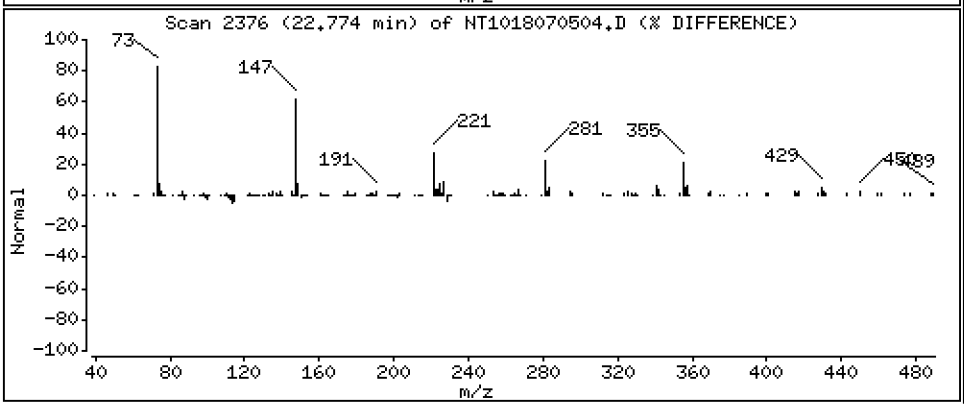












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

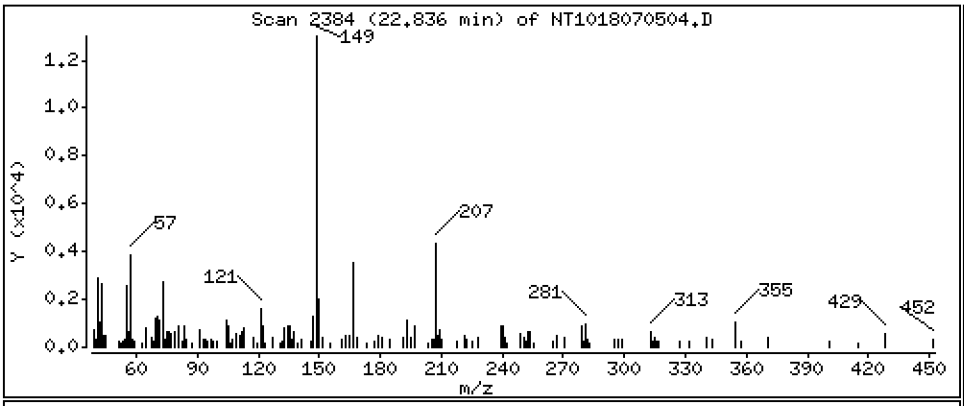
Operator: YZ

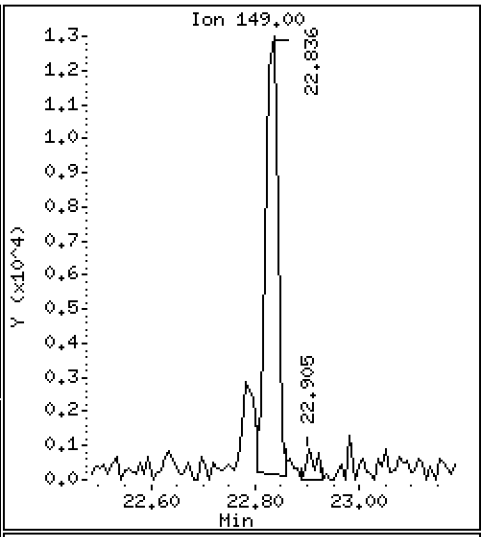
Column phase: ZB-5msi

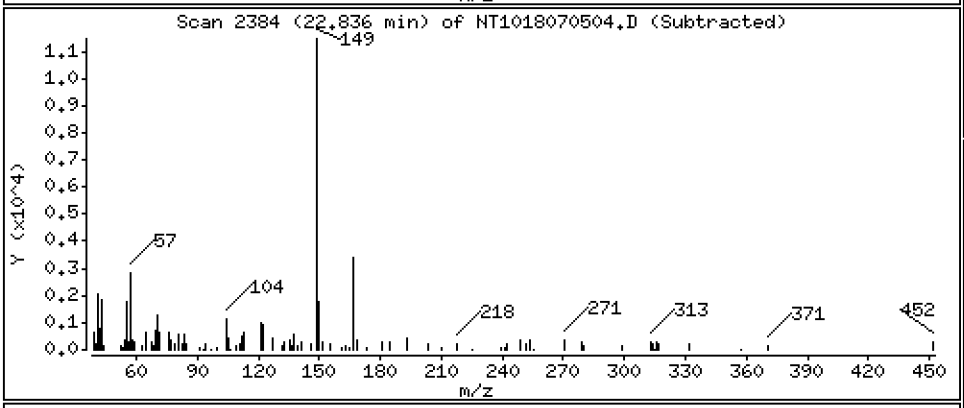
Column diameter: 0.25

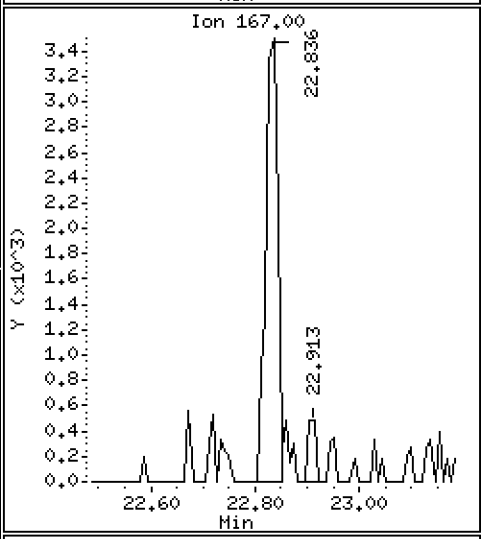
72 bis(2-Ethylhexyl)phthalate

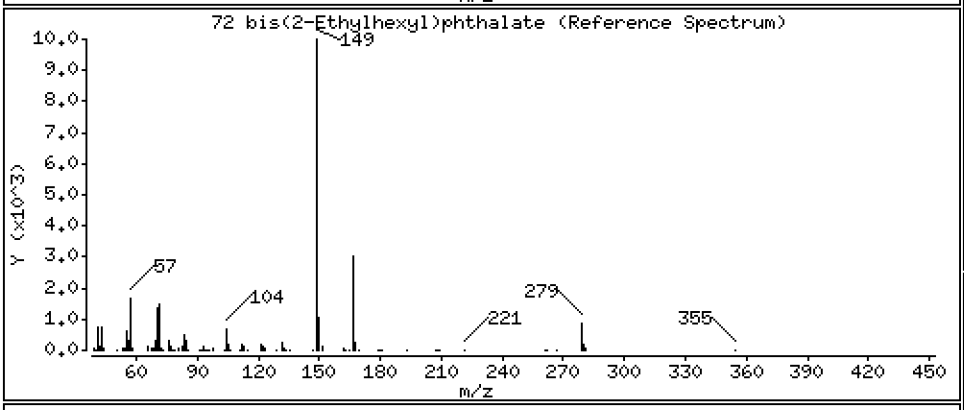
Concentration: 0.2831 ug/mL

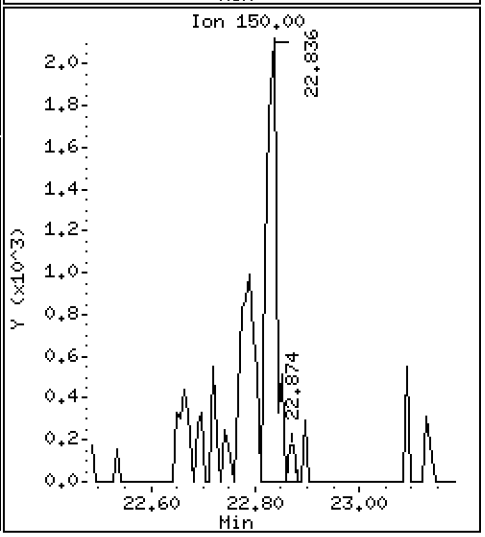


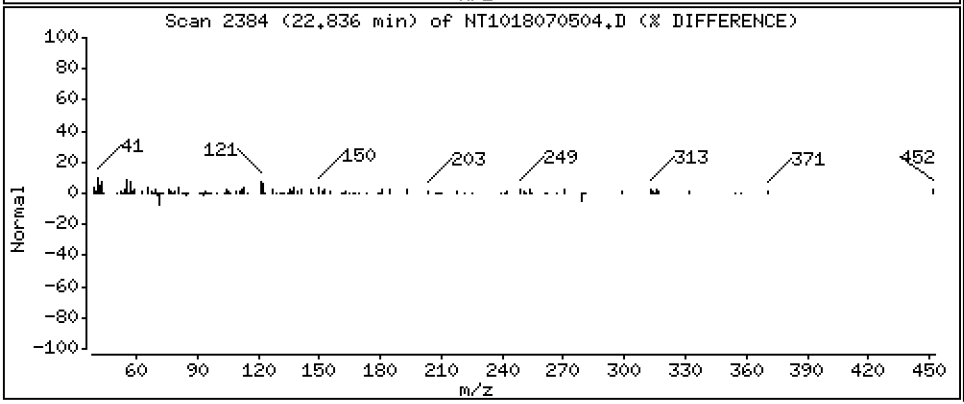












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

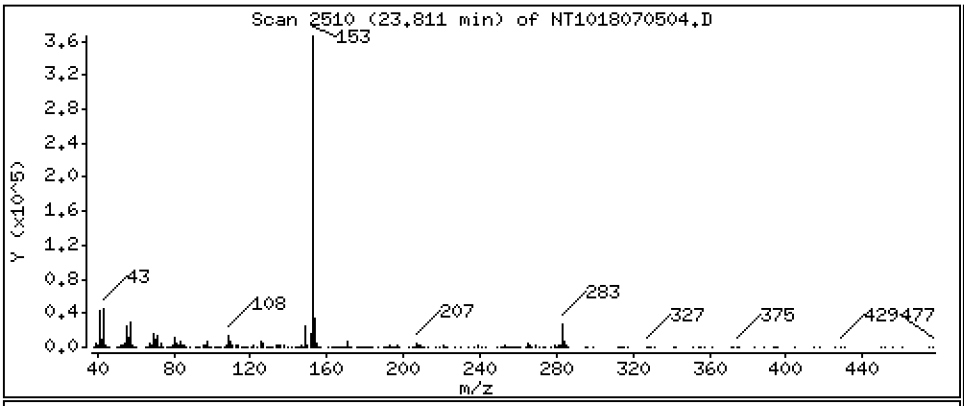
Operator: YZ

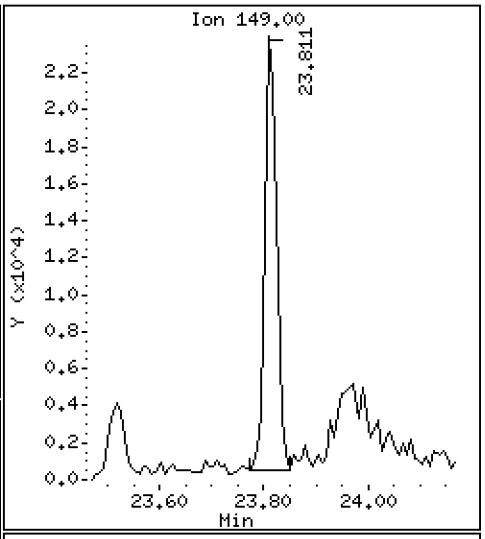
Column phase: ZB-5msi

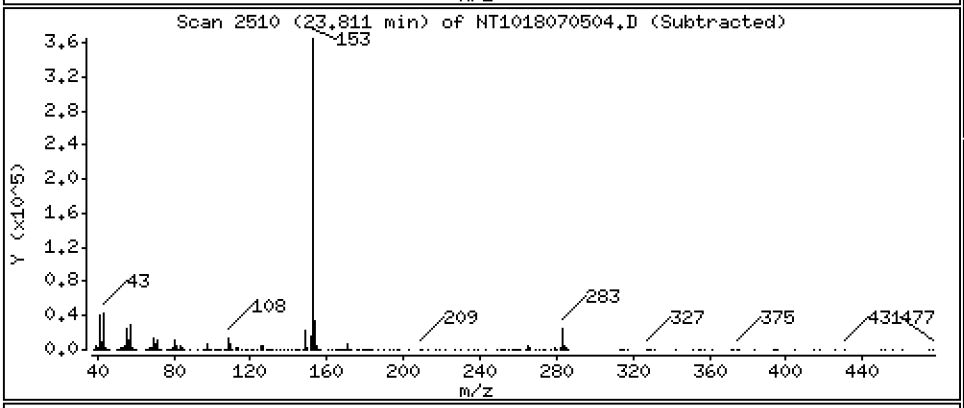
Column diameter: 0.25

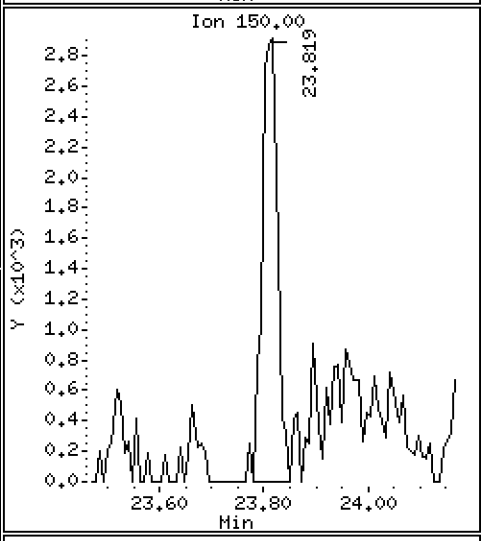
73 Di-n-octylphthalate

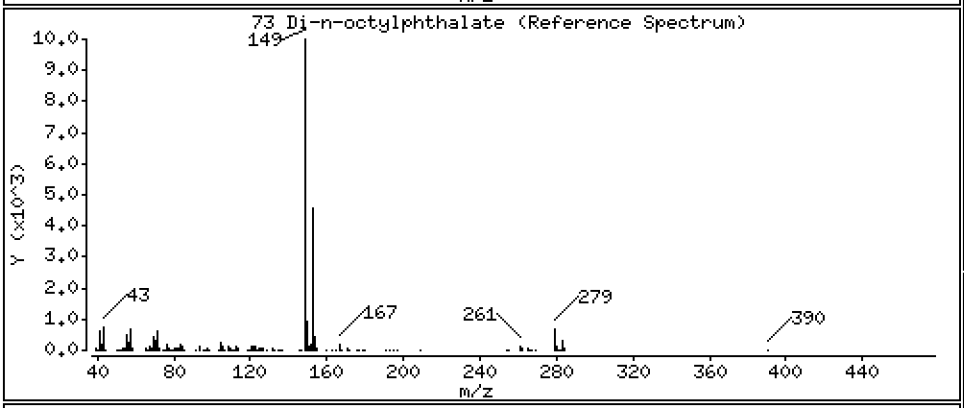
Concentration: 0.2404 ug/mL

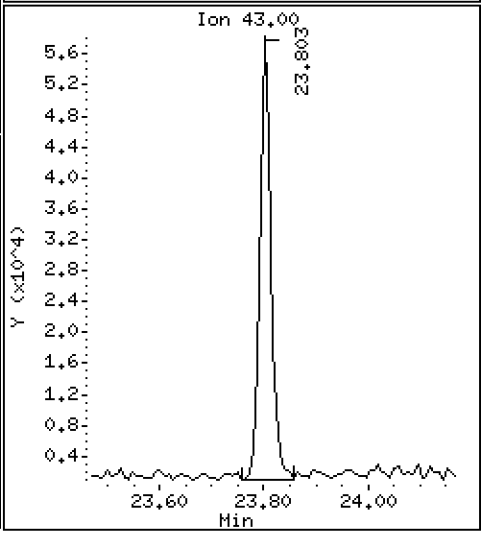


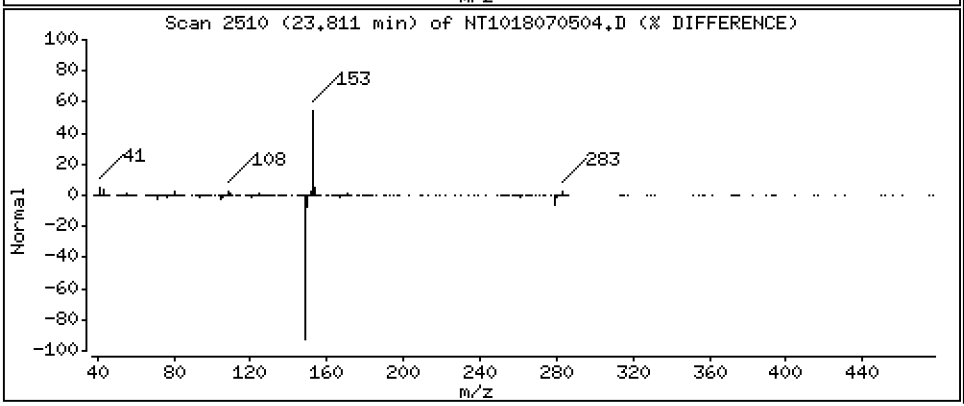












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

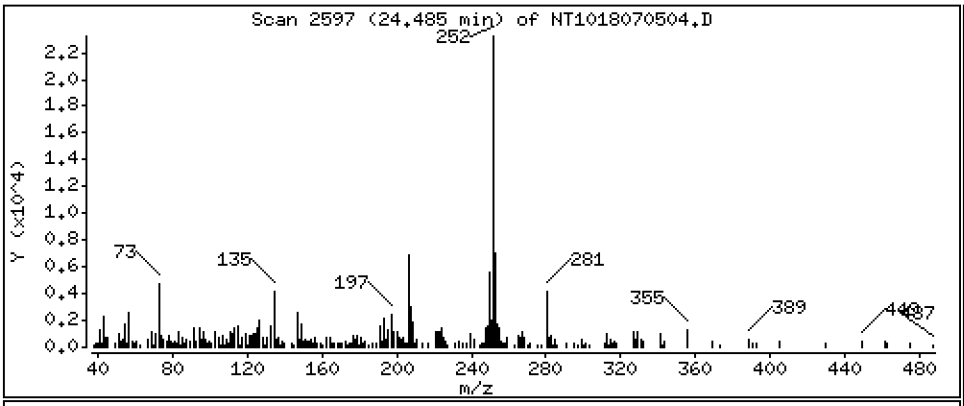
Operator: YZ

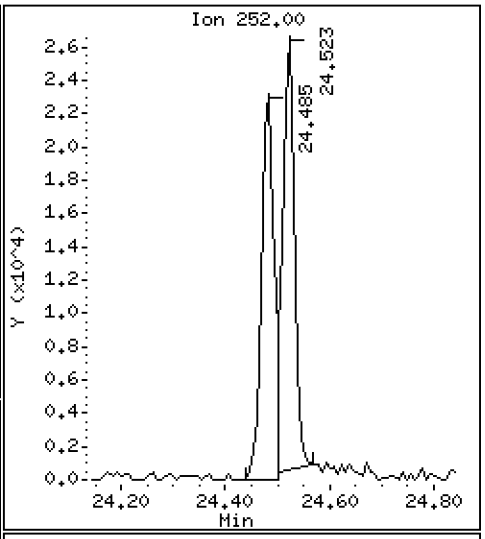
Column phase: ZB-5msi

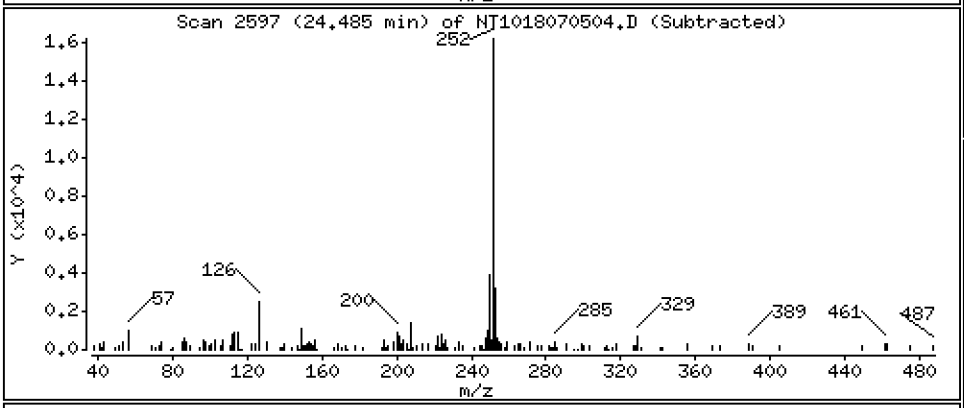
Column diameter: 0.25

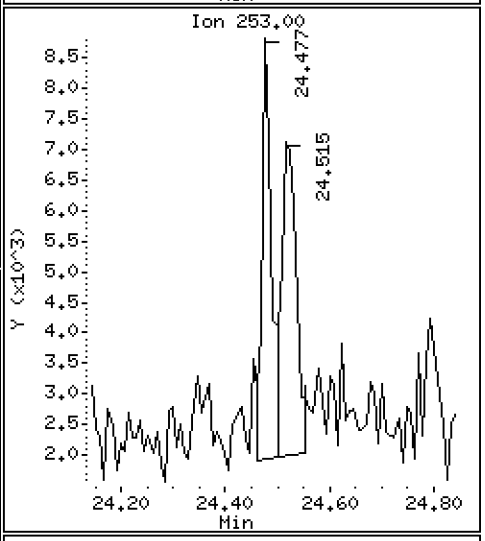
74 Benzo(b)fluoranthene

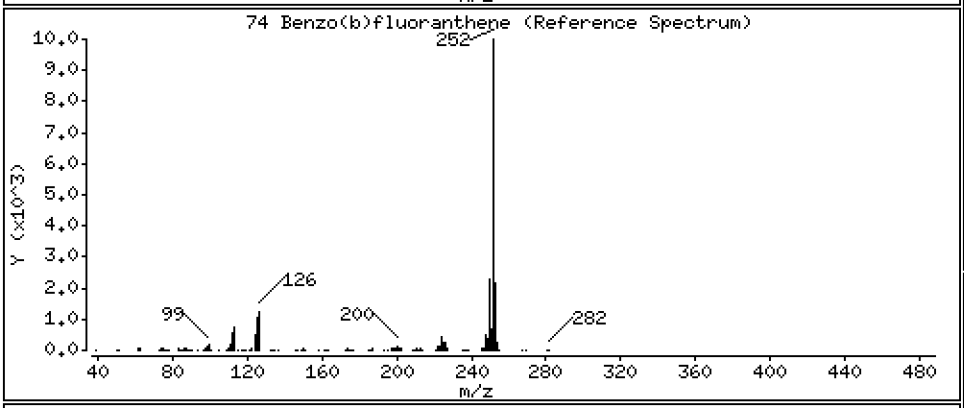
Concentration: 0.2811 ug/mL

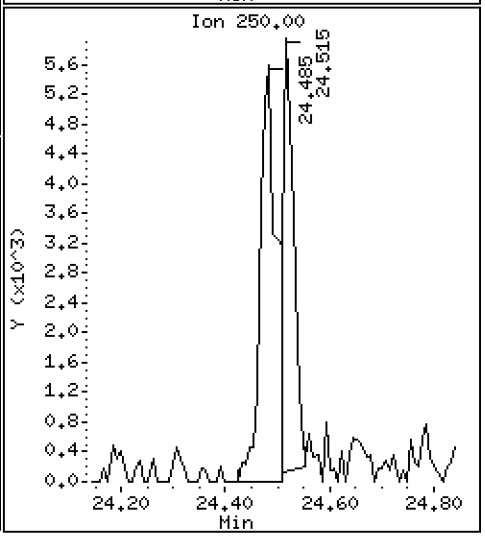


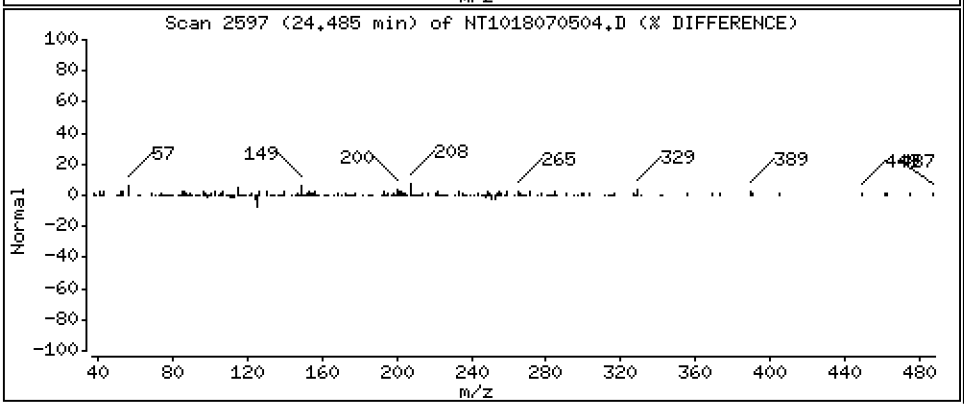












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

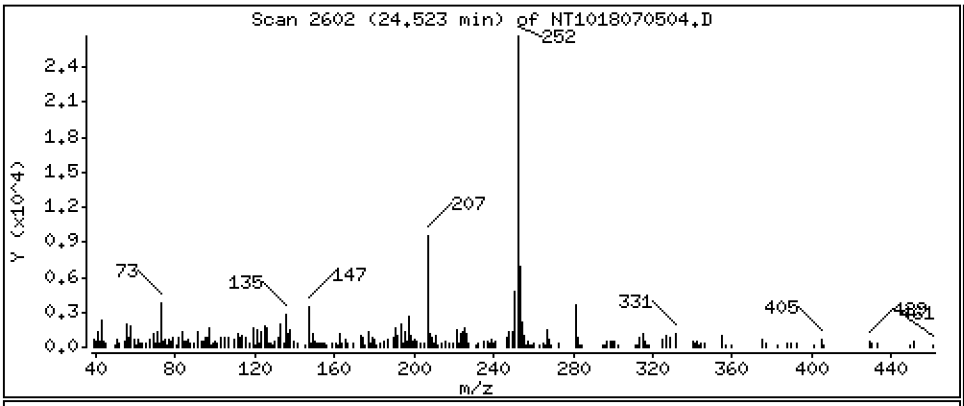
Operator: YZ

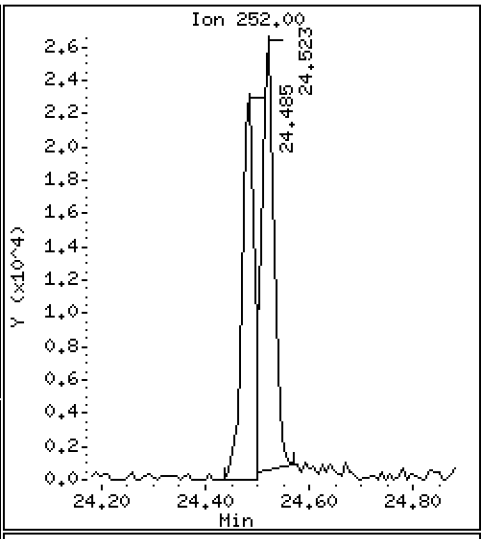
Column phase: ZB-5msi

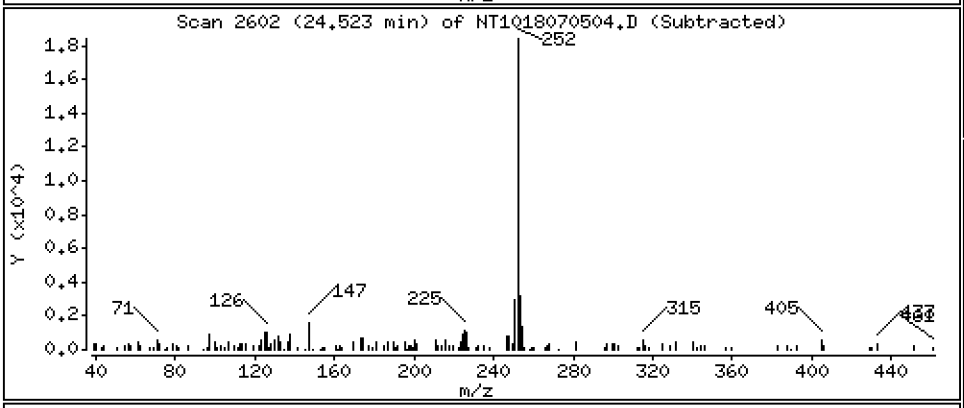
Column diameter: 0.25

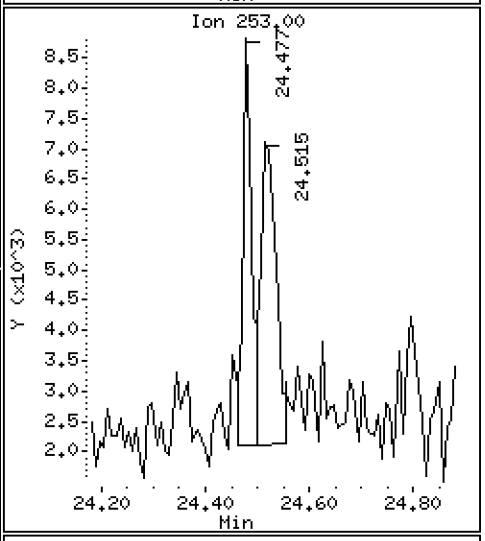
75 Benzo(k)fluoranthene

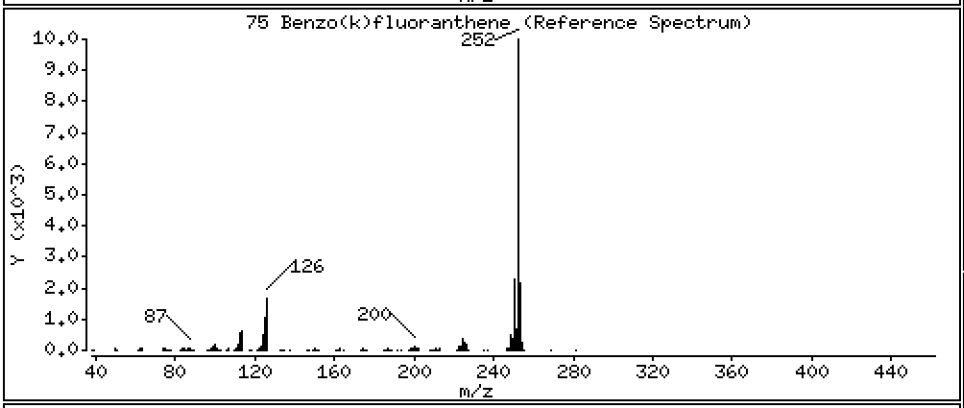
Concentration: 0.3120 ug/mL

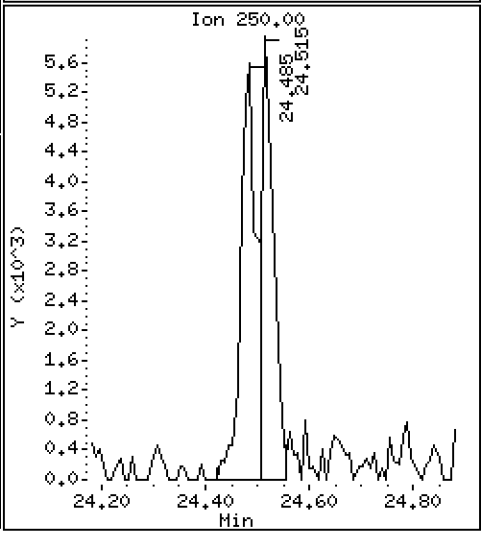


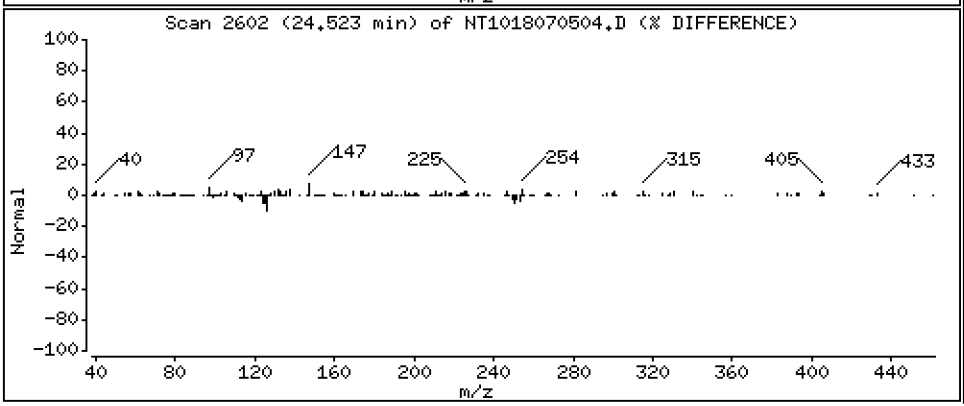












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

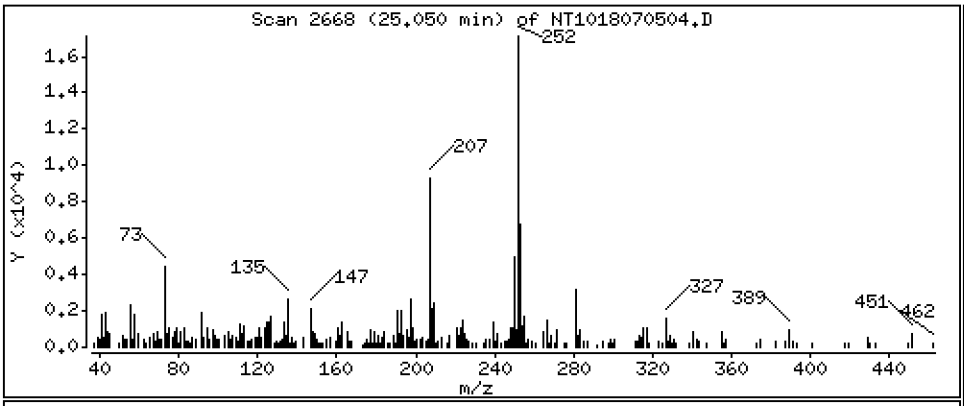
Operator: YZ

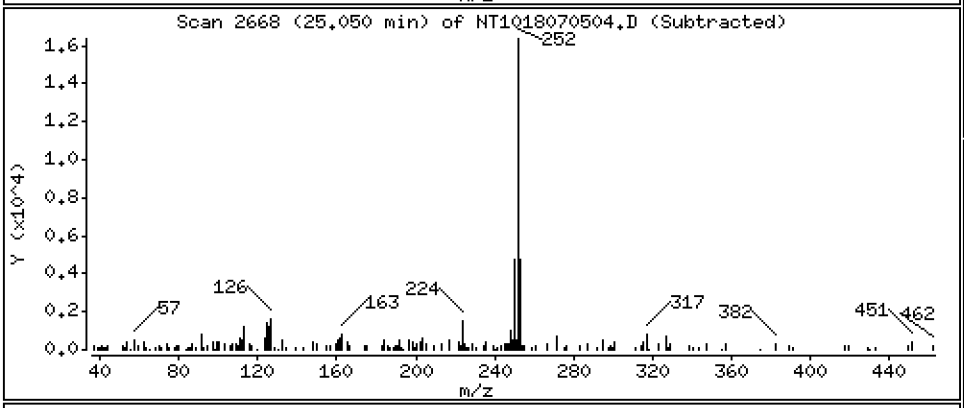
Column phase: ZB-5msi

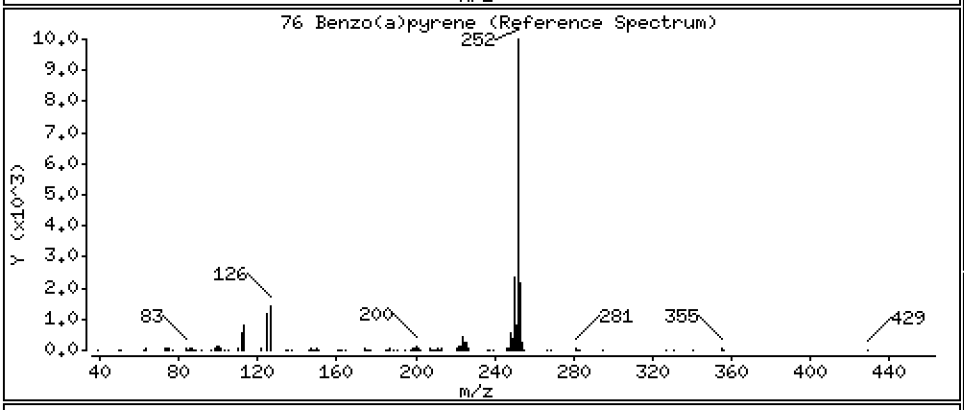
Column diameter: 0.25

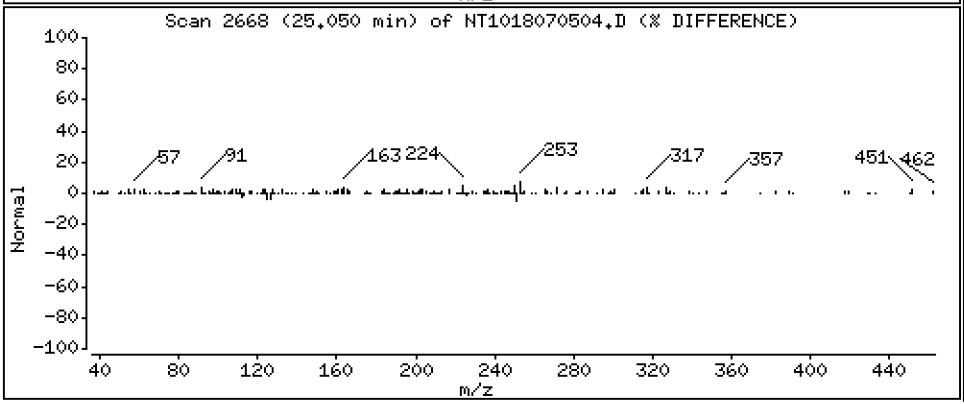
76 Benzo(a)pyrene

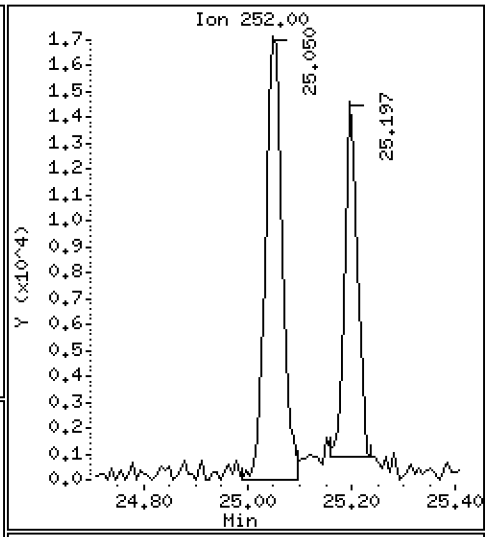
Concentration: 0.2645 ug/mL

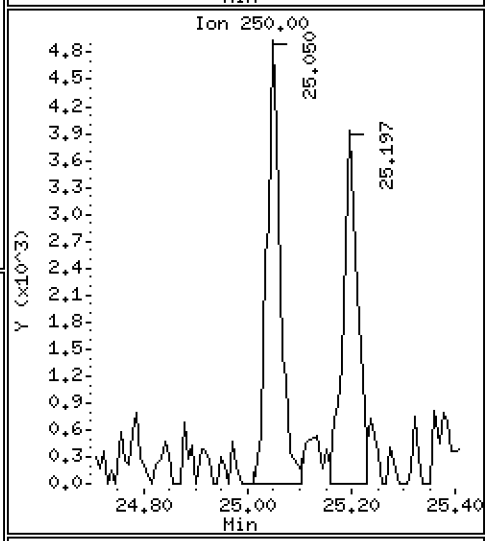


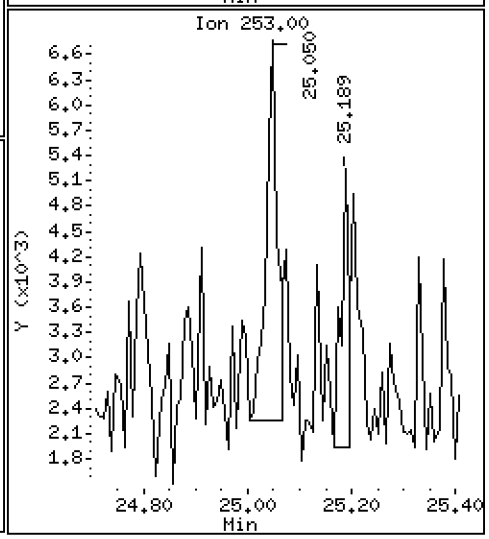












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

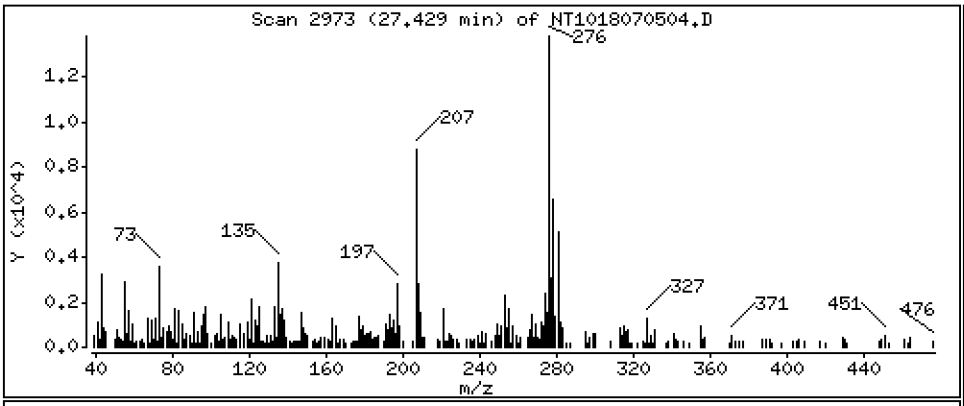
Operator: YZ

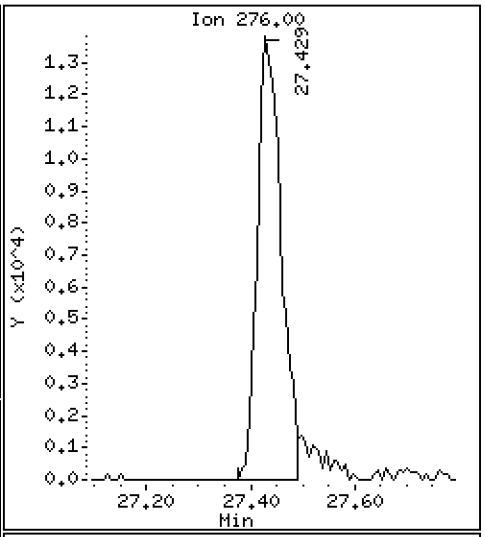
Column phase: ZB-5msi

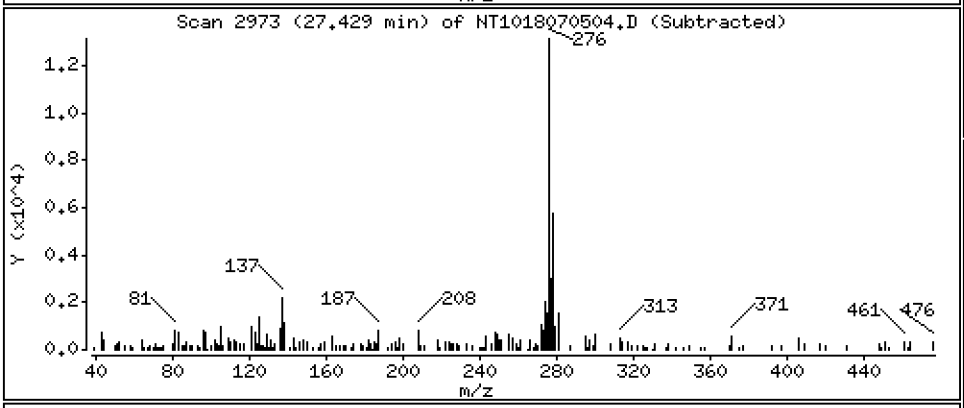
Column diameter: 0.25

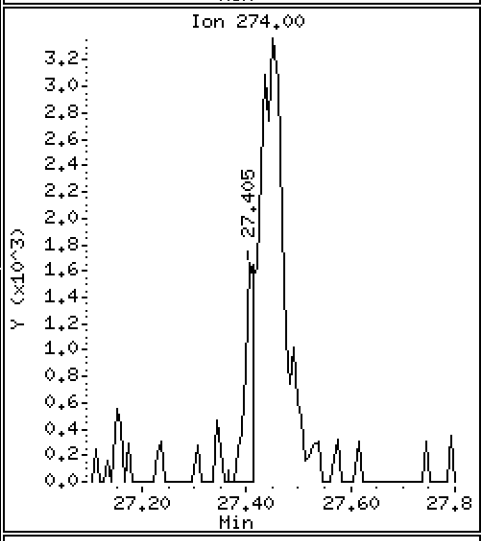
78 Indeno(1,2,3-cd)pyrene

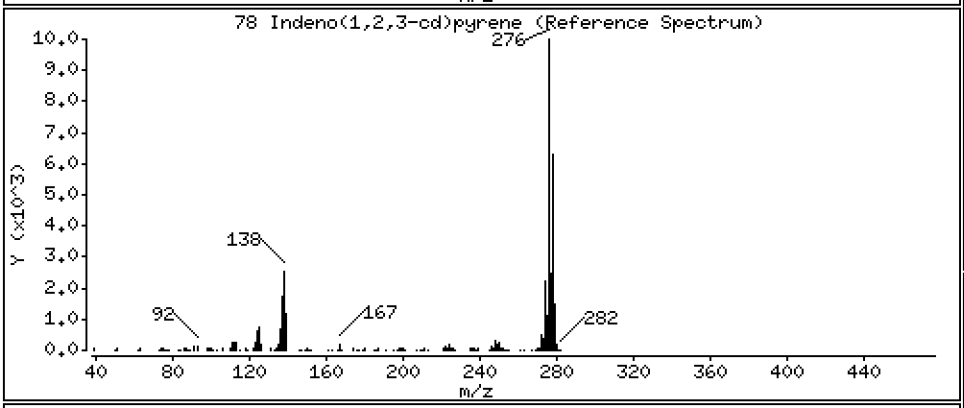
Concentration: 0.3137 ug/mL

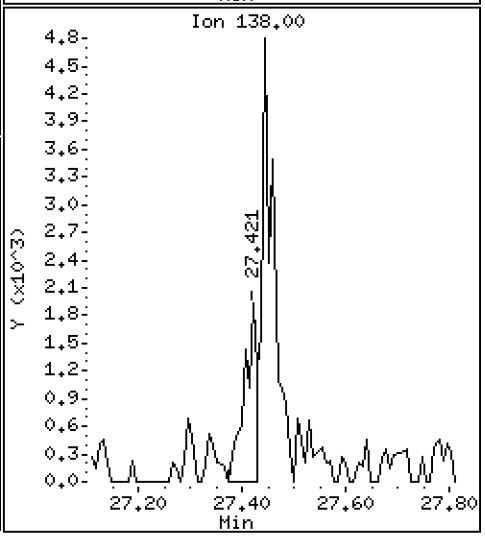


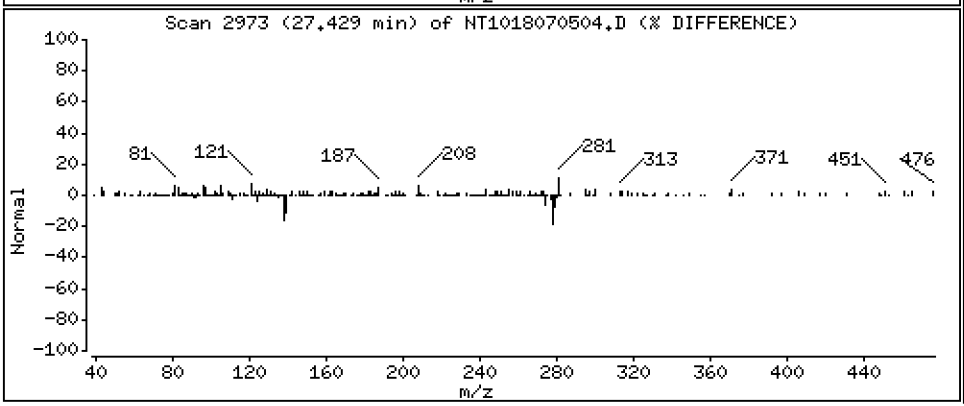












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

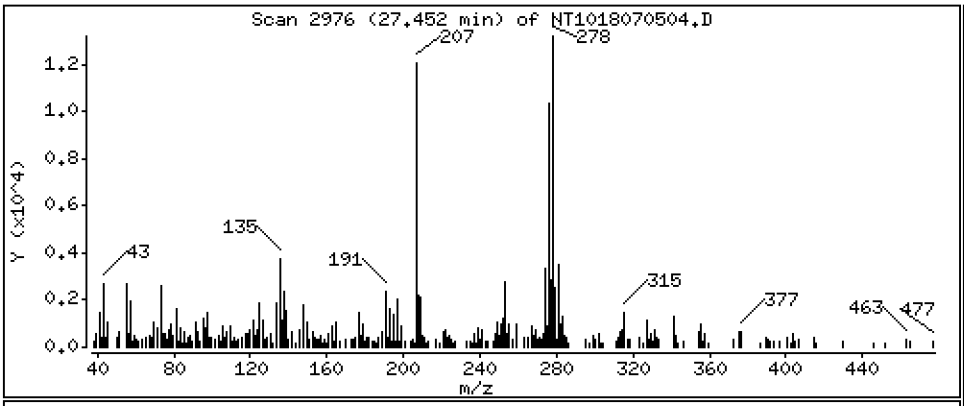
Operator: YZ

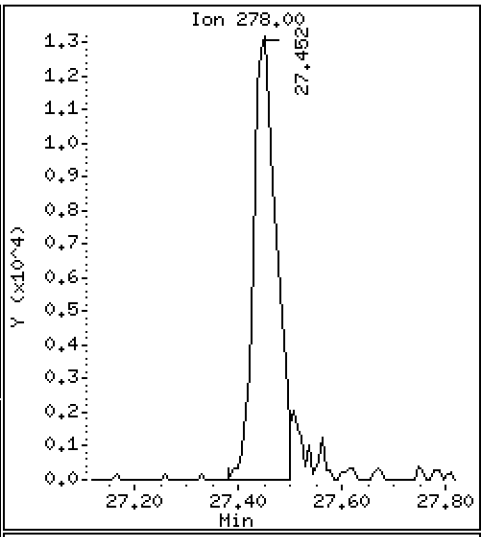
Column phase: ZB-5msi

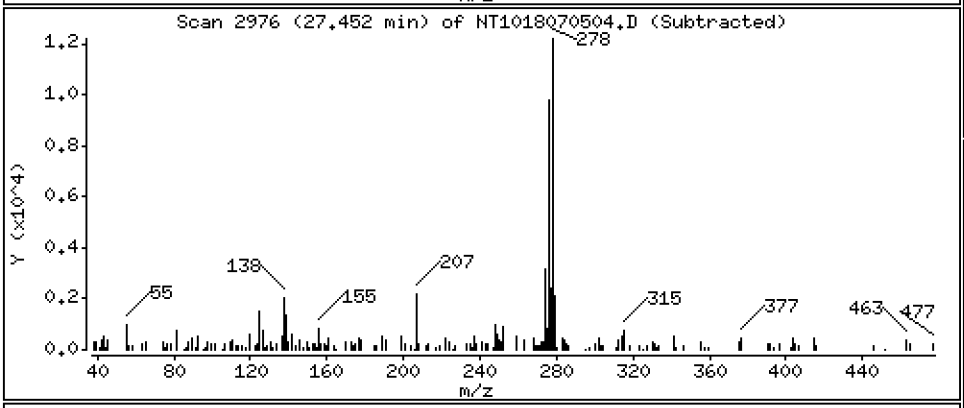
Column diameter: 0.25

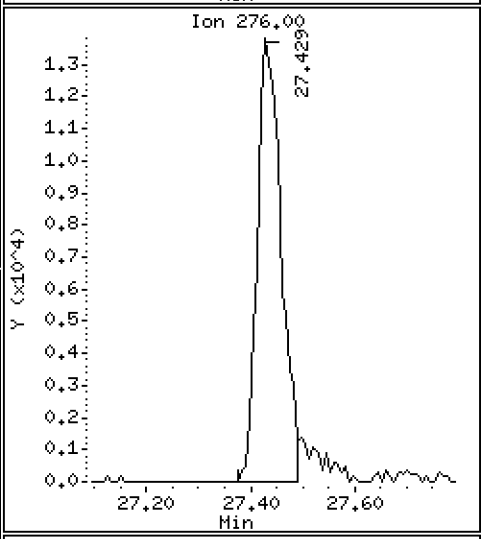
79 Dibenzo(a,h)anthracene

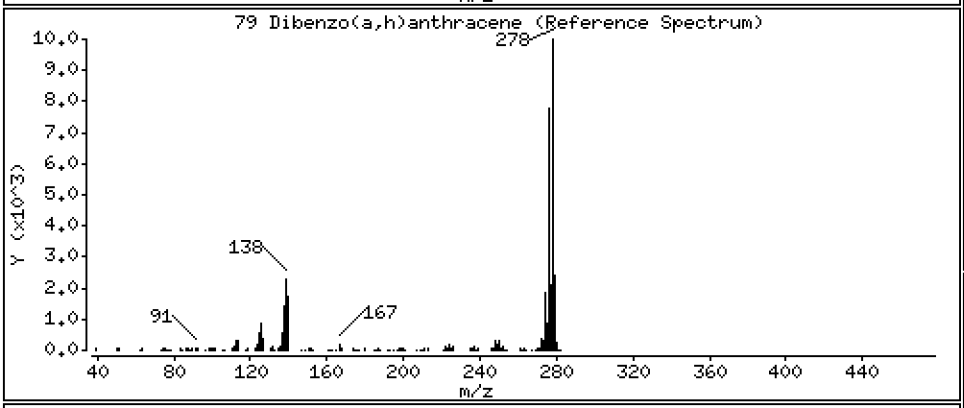
Concentration: 0.3590 ug/mL

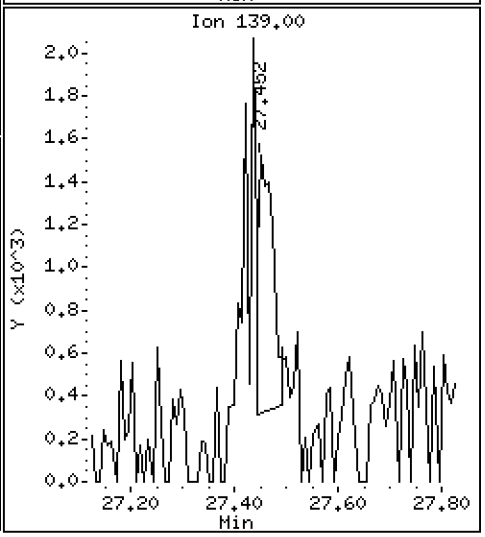


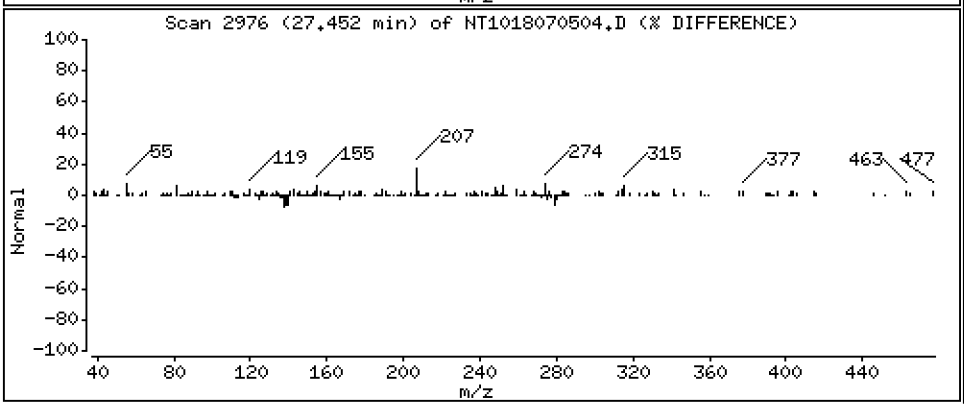












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

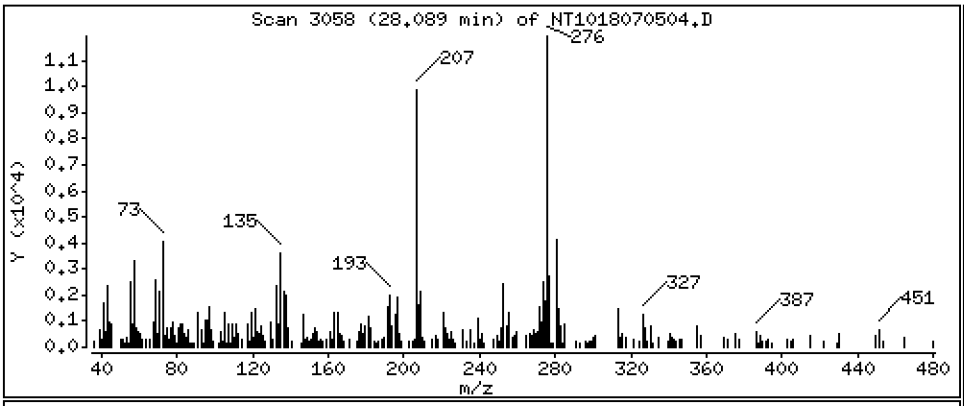
Operator: YZ

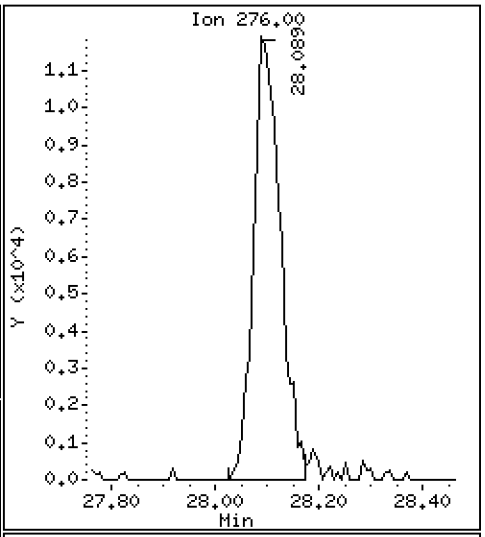
Column phase: ZB-5msi

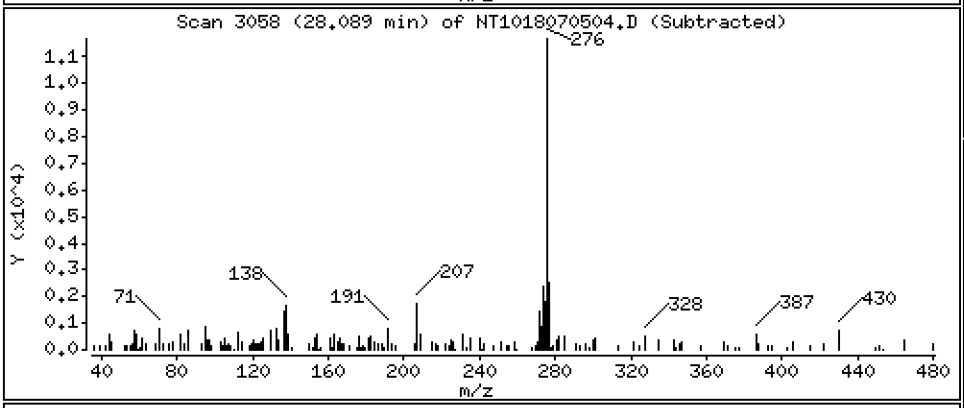
Column diameter: 0.25

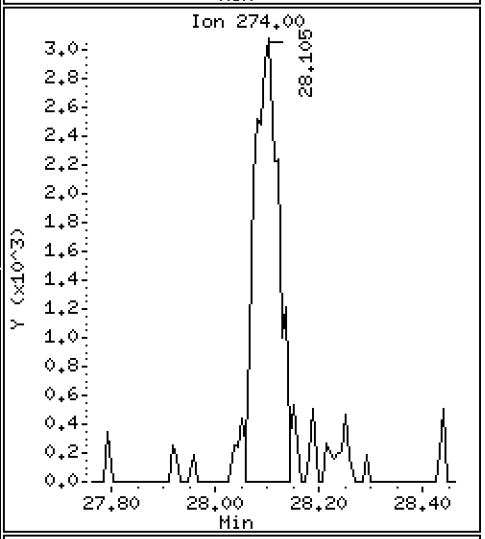
80 Benzo(g,h,i)perylene

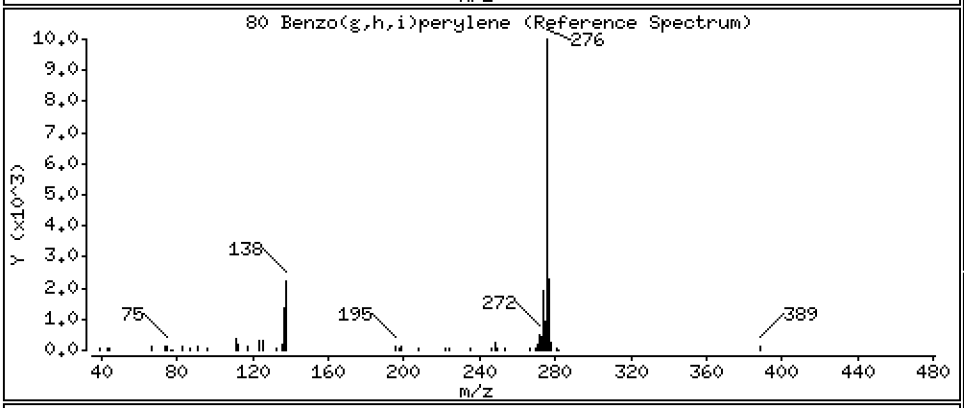
Concentration: 0.3435 ug/mL

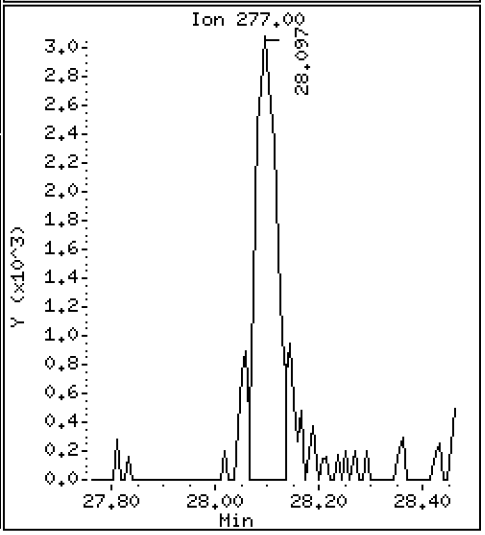


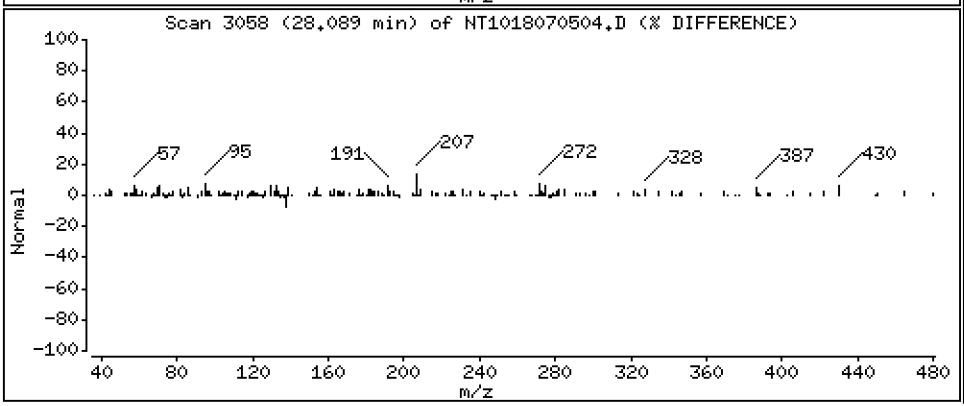












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

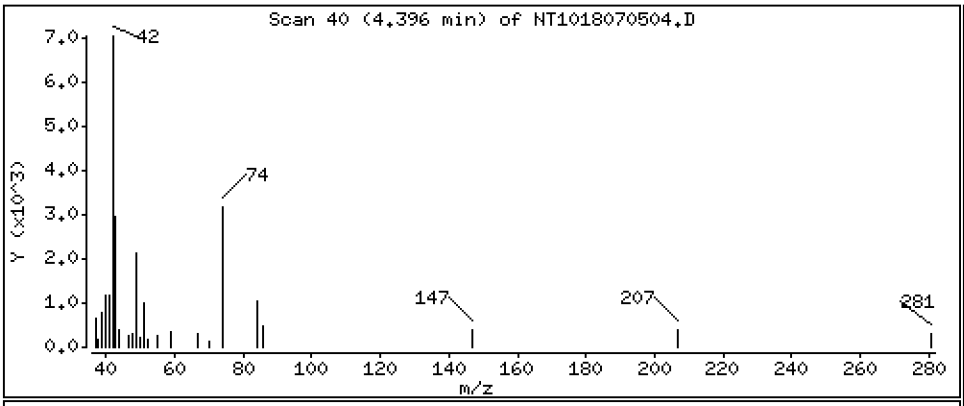
Operator: YZ

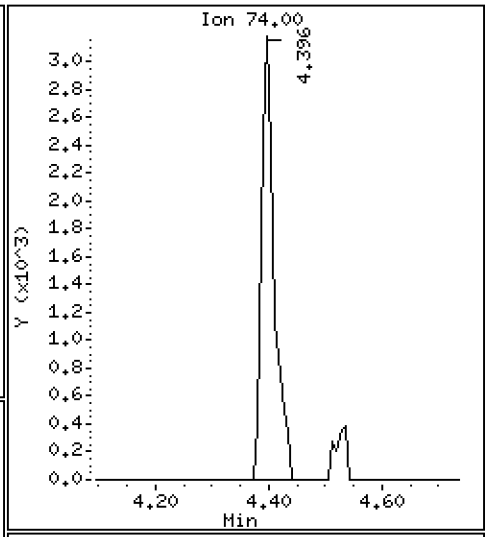
Column phase: ZB-5msi

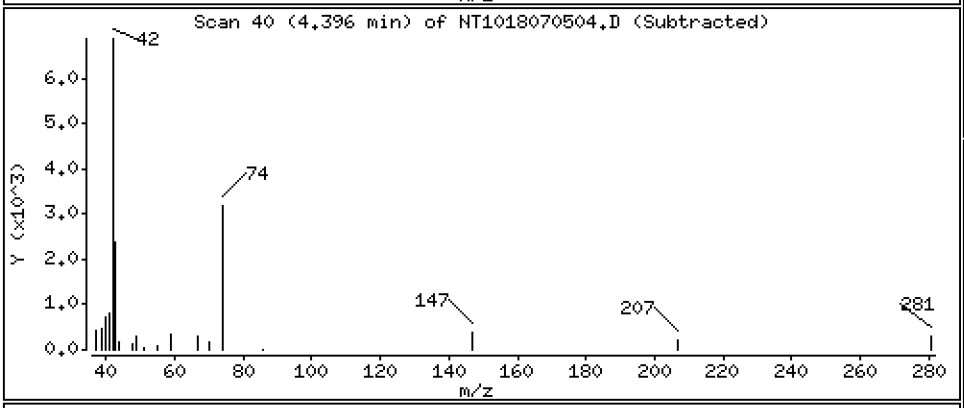
Column diameter: 0.25

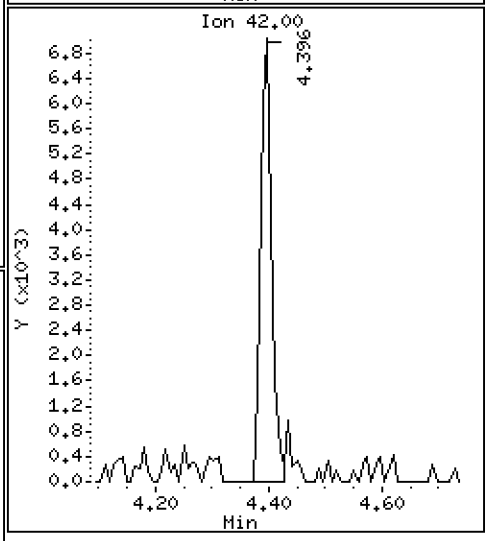
90 N-Nitrosodimethylamine

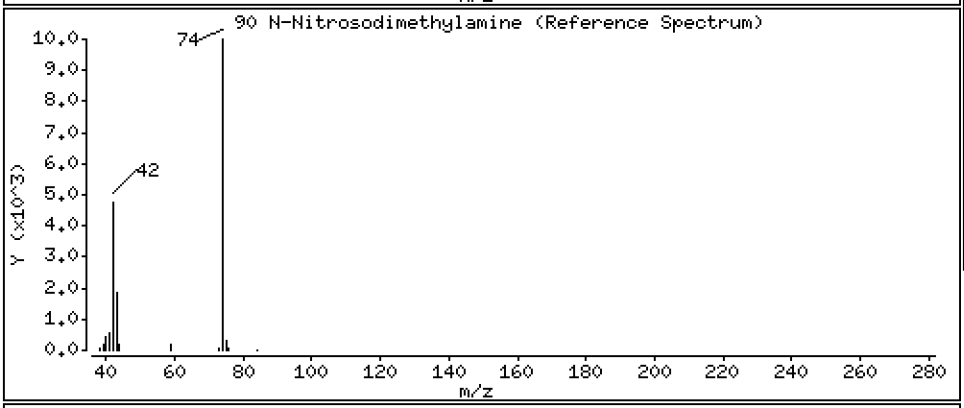
Concentration: 0.2657 ug/mL

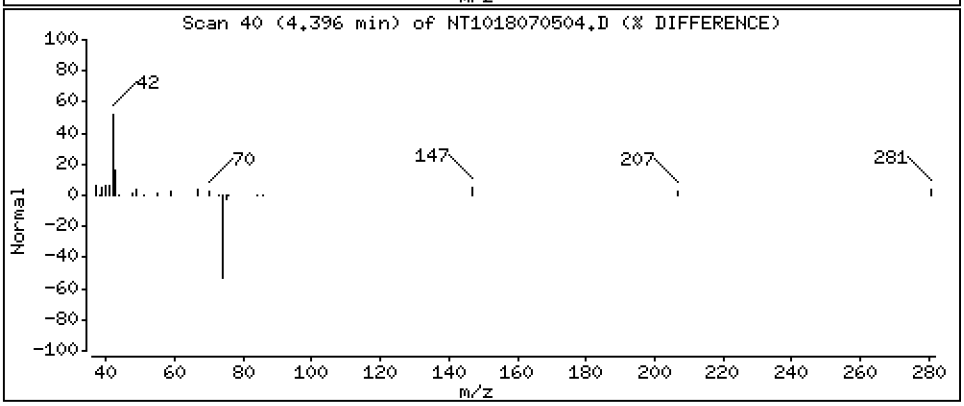












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

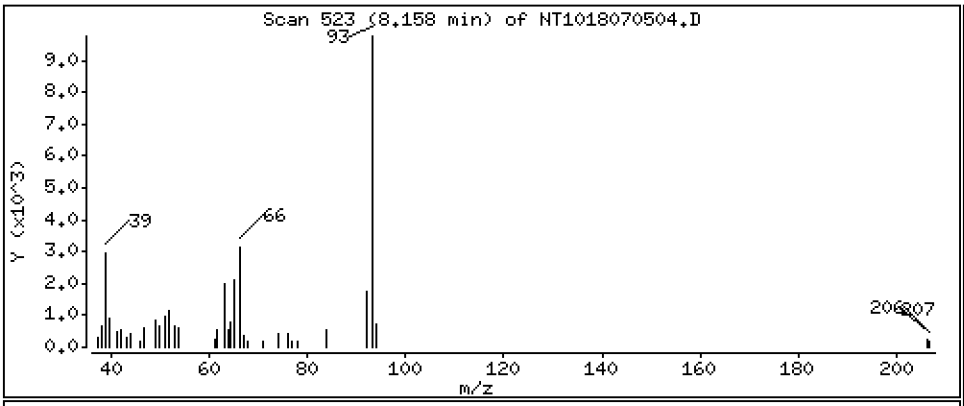
Operator: YZ

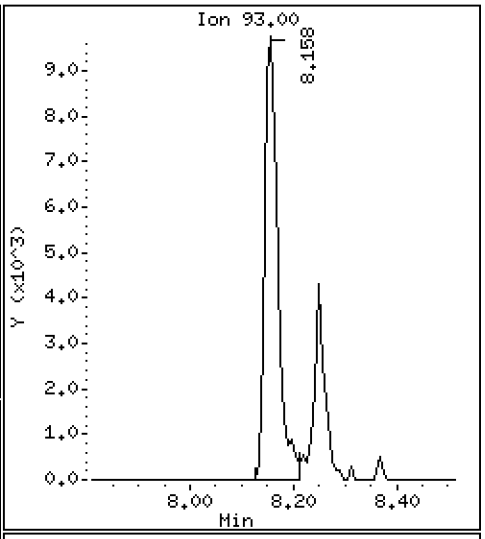
Column phase: ZB-5msi

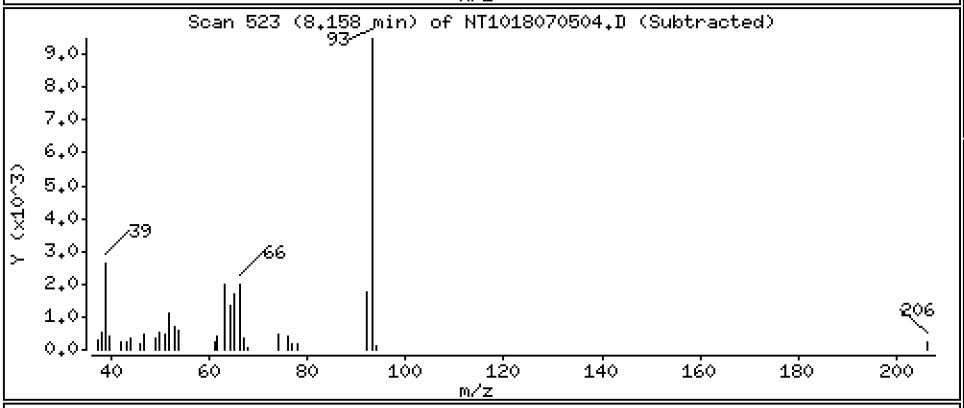
Column diameter: 0.25

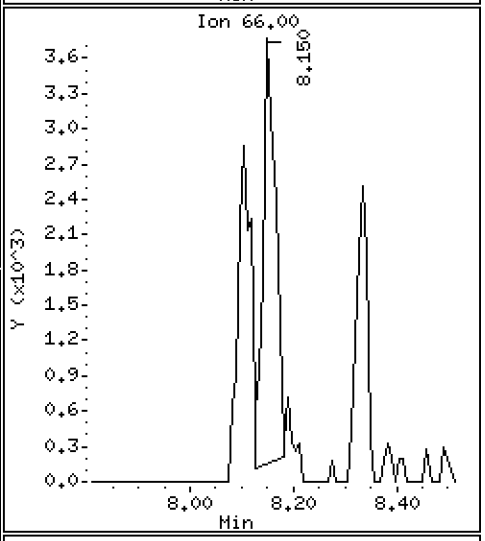
91 Aniline

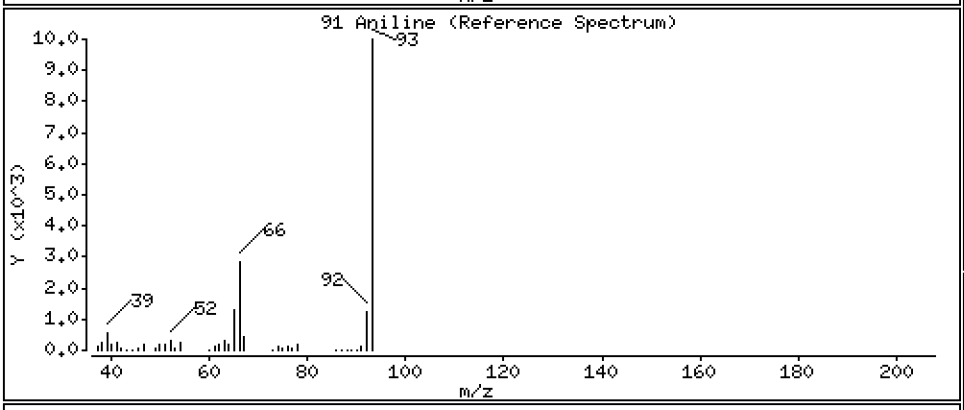
Concentration: 0.3411 ug/mL

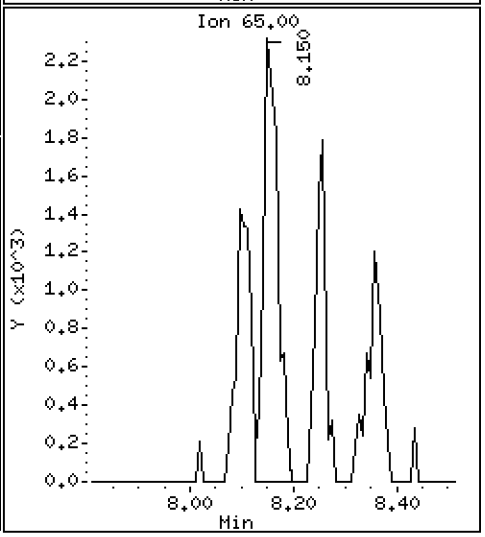


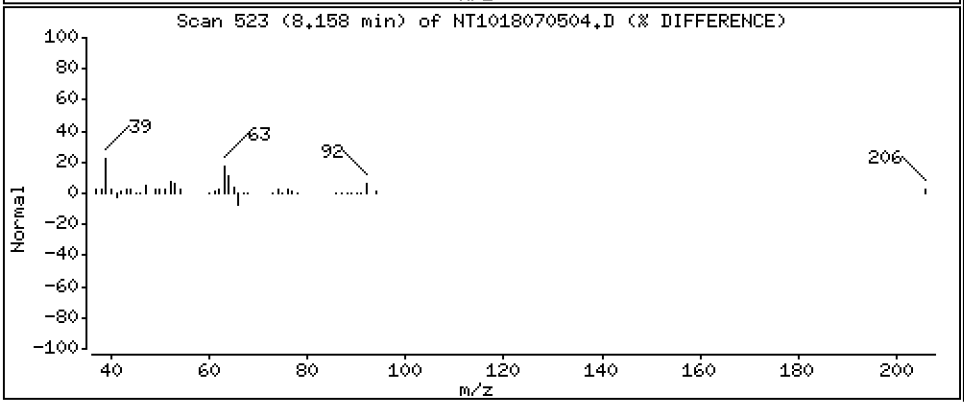












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

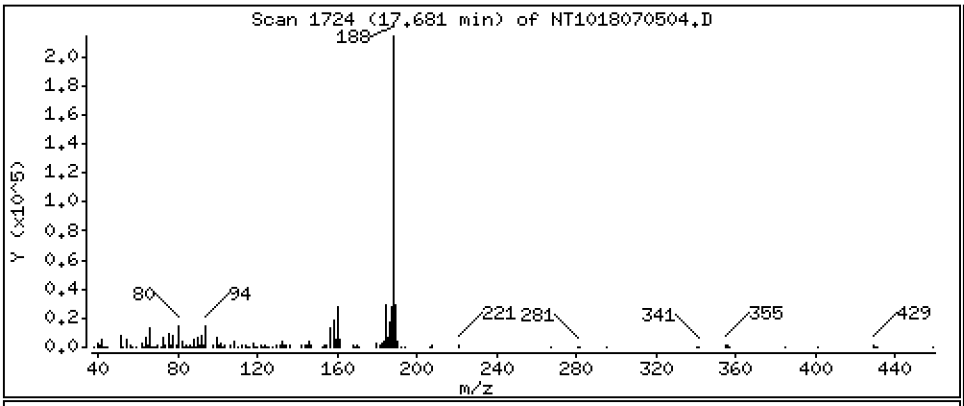
Operator: YZ

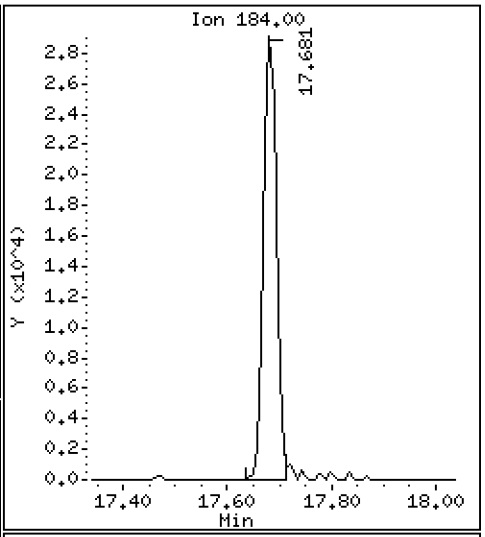
Column phase: ZB-5msi

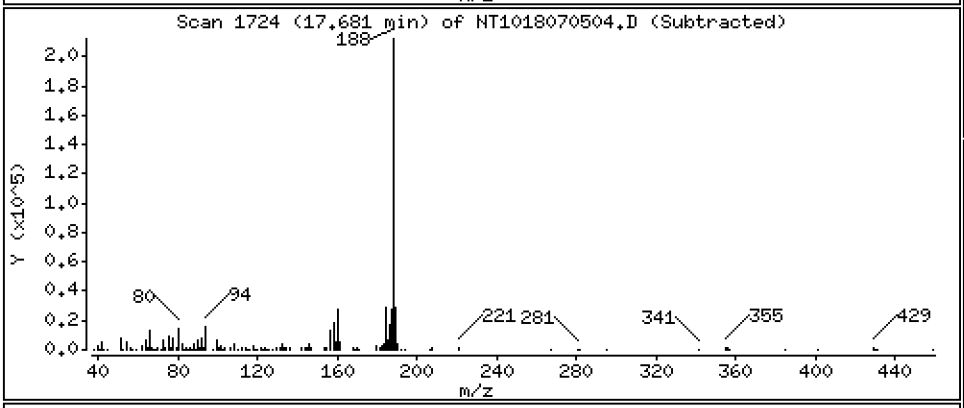
Column diameter: 0.25

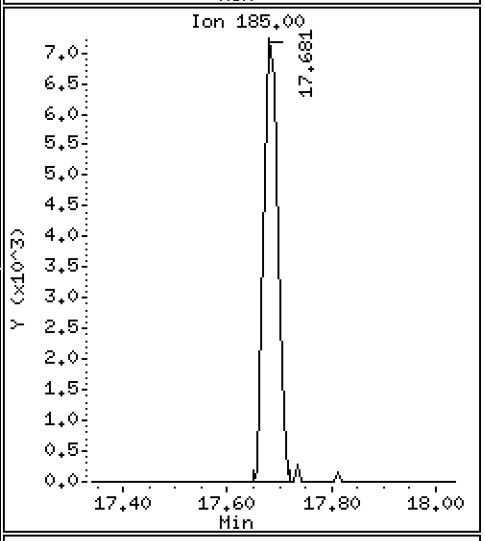
93 Benzidine

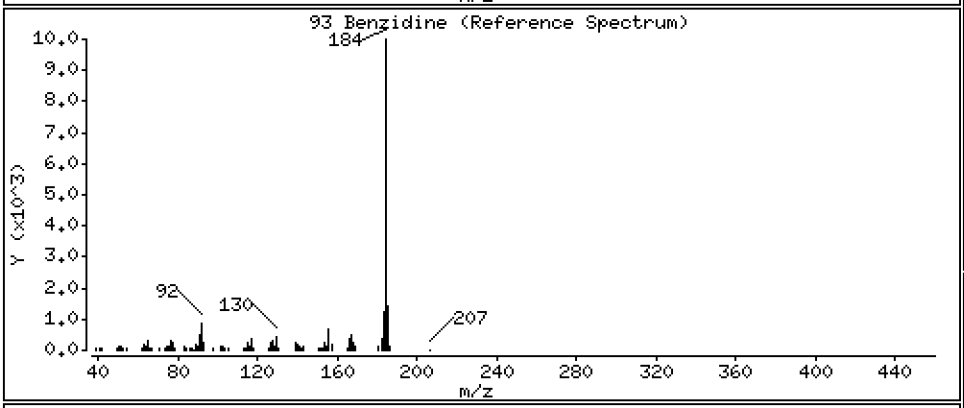
Concentration: 0.8129 ug/mL

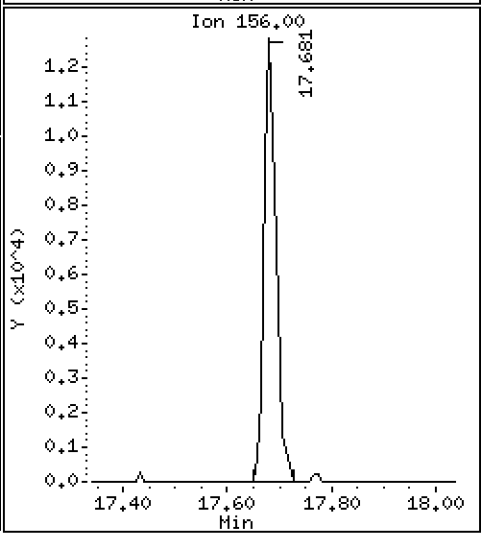


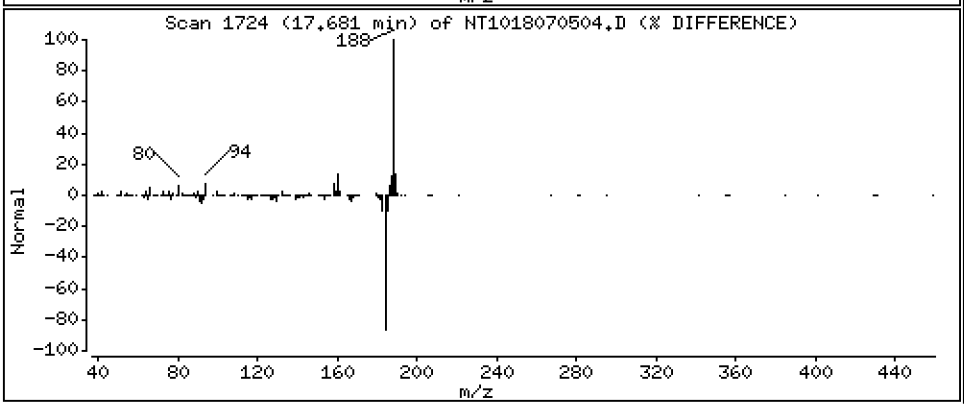












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

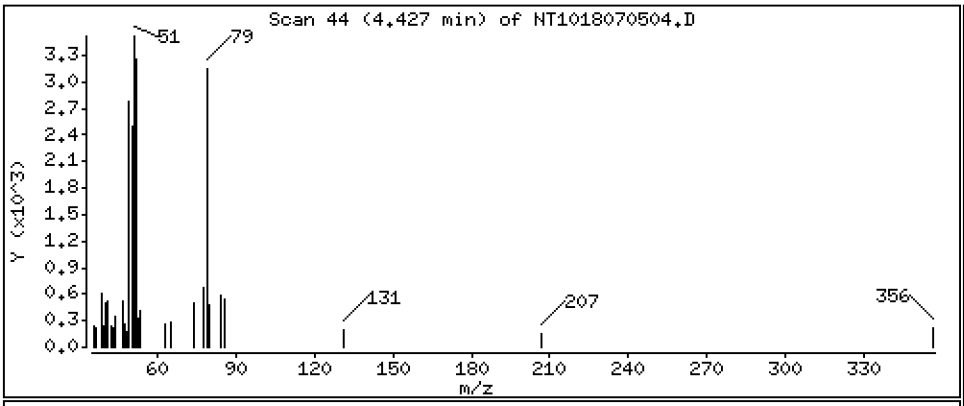
Operator: YZ

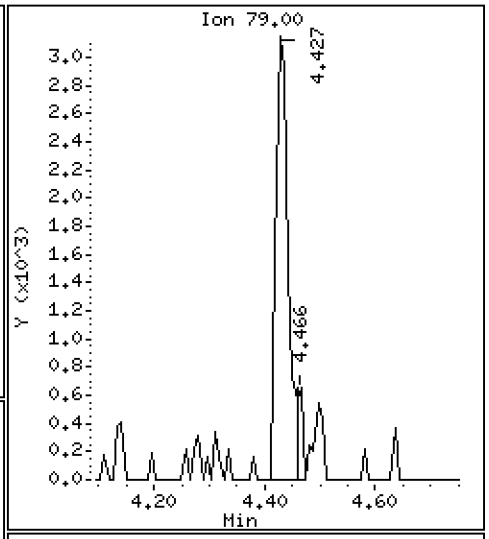
Column phase: ZB-5msi

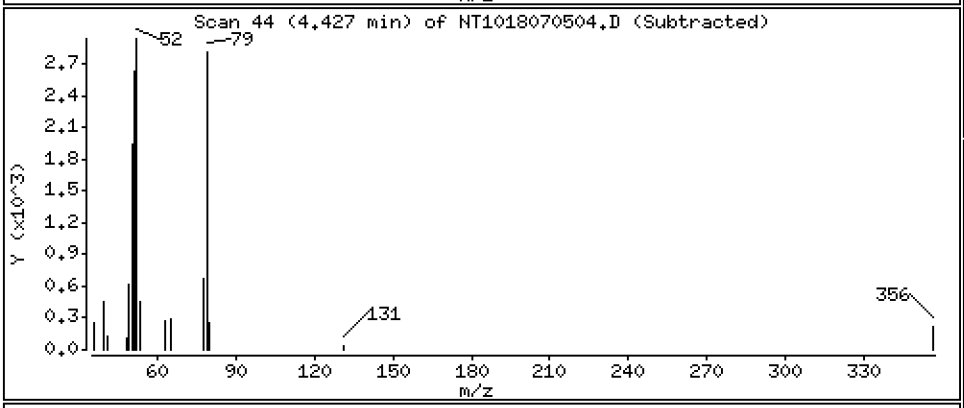
Column diameter: 0.25

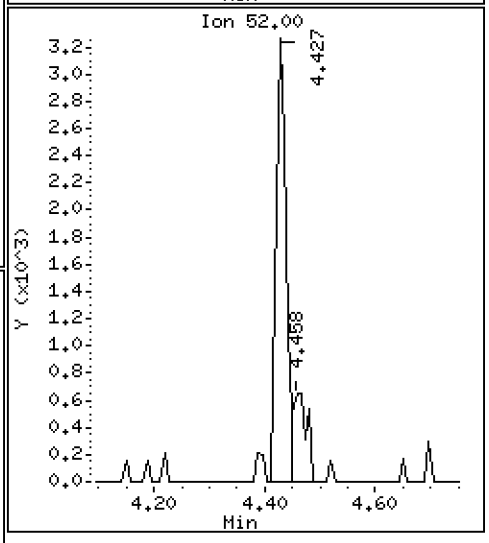
103 Pyridine

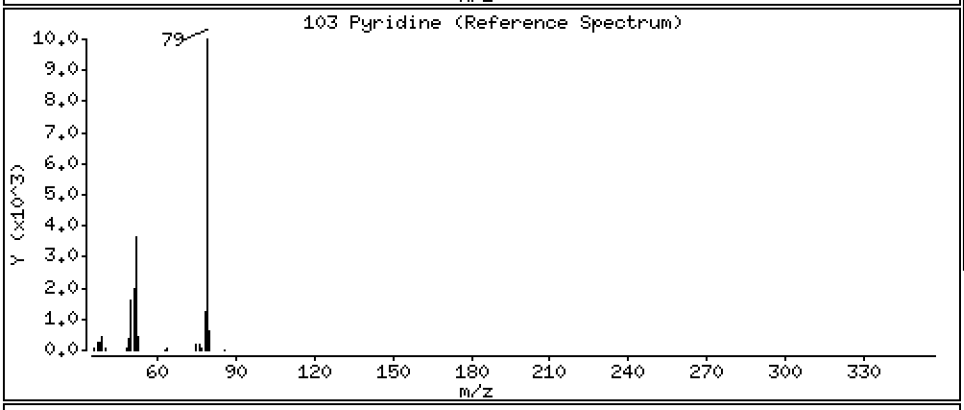
Concentration: 0.1383 ug/mL

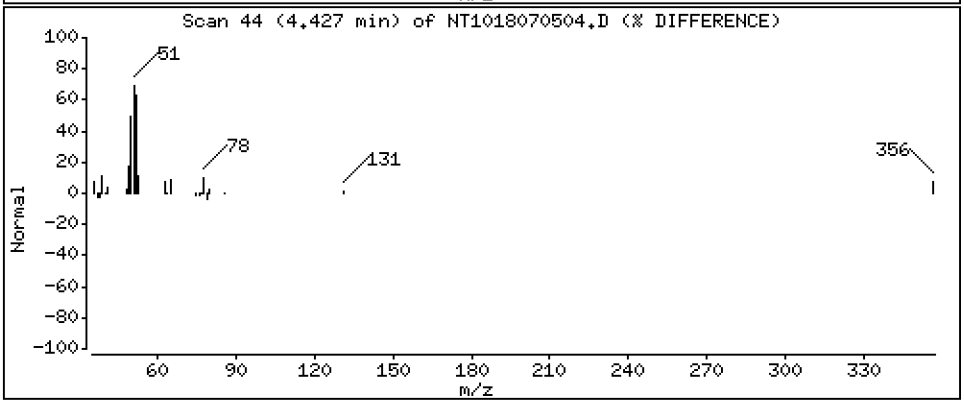












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

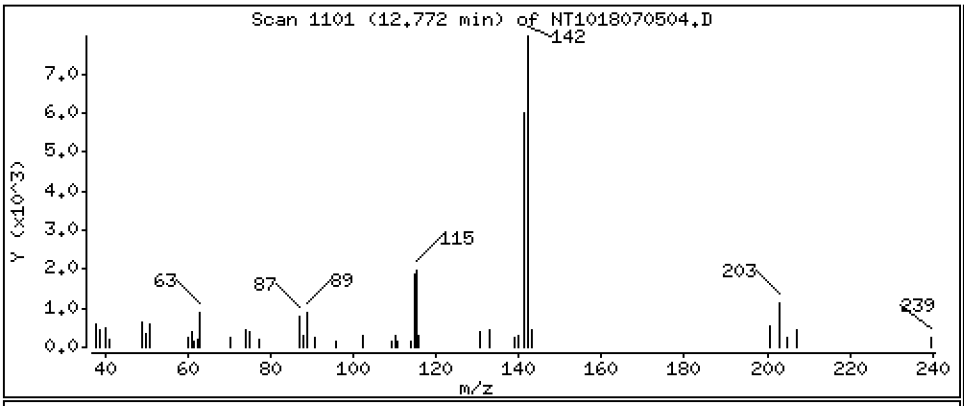
Operator: YZ

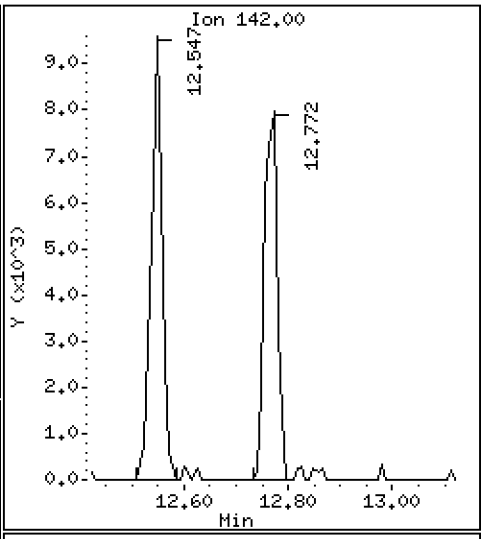
Column phase: ZB-5msi

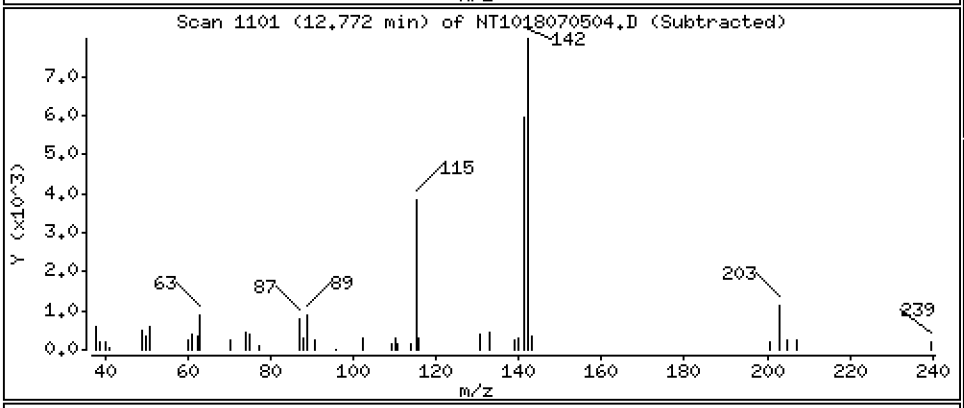
Column diameter: 0.25

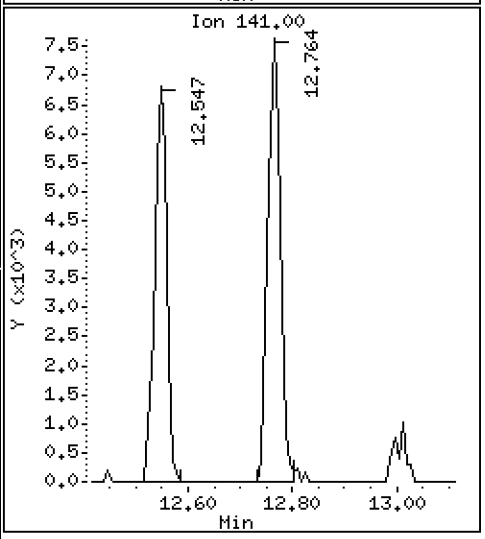
105 1-methylnaphthalene

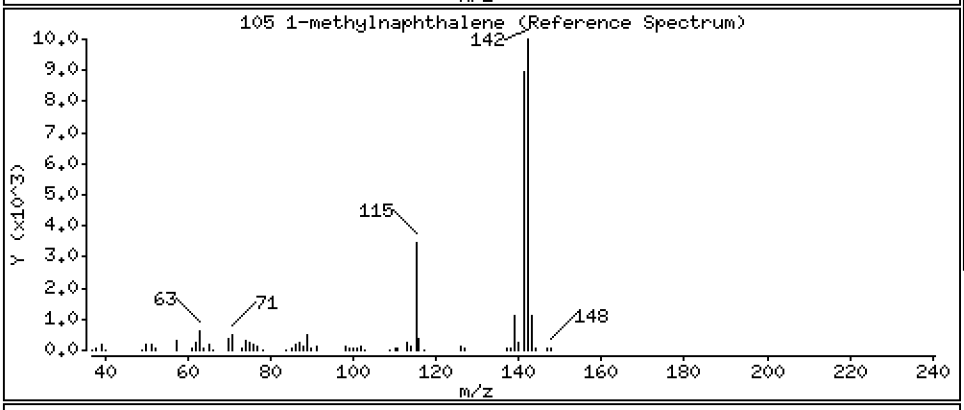
Concentration: 0.2014 ug/mL

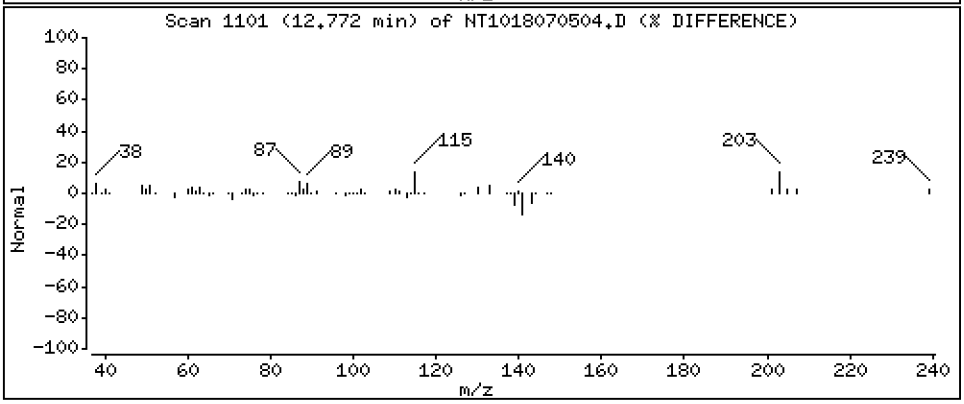












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

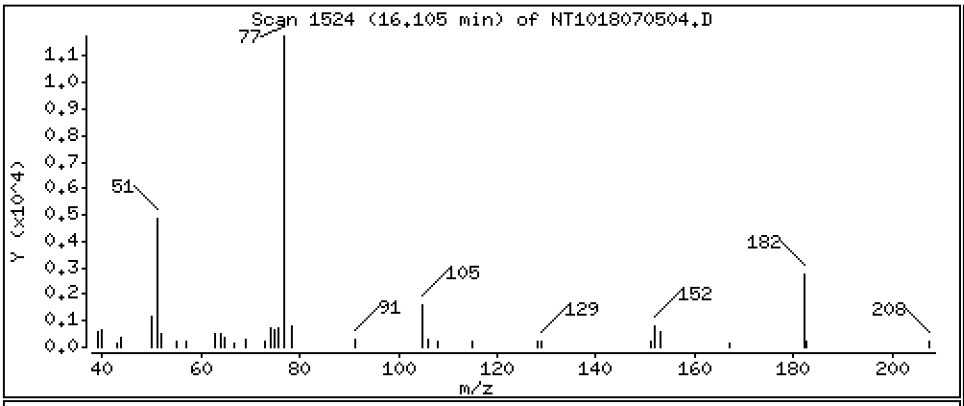
Operator: YZ

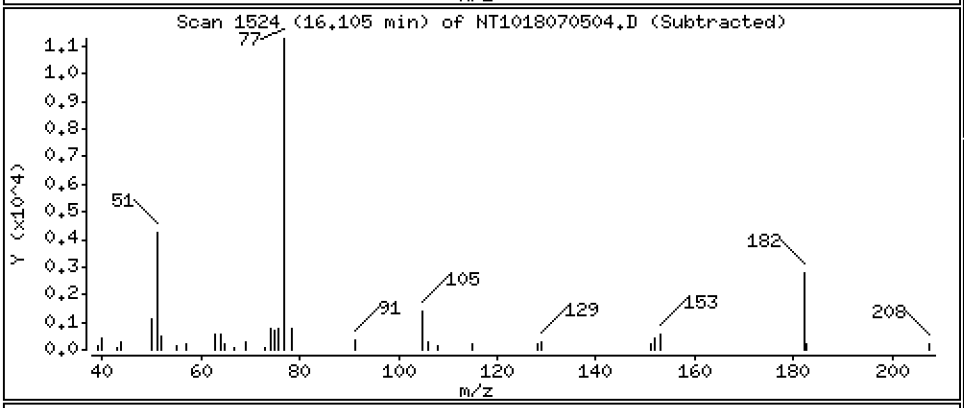
Column phase: ZB-5msi

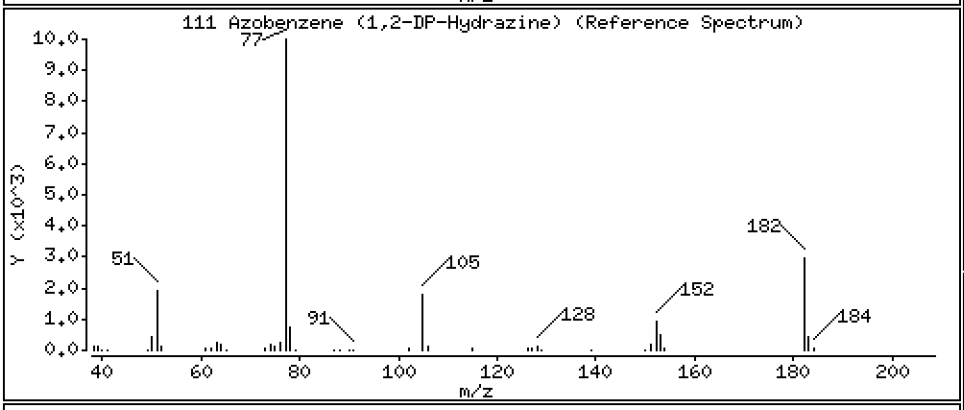
Column diameter: 0.25

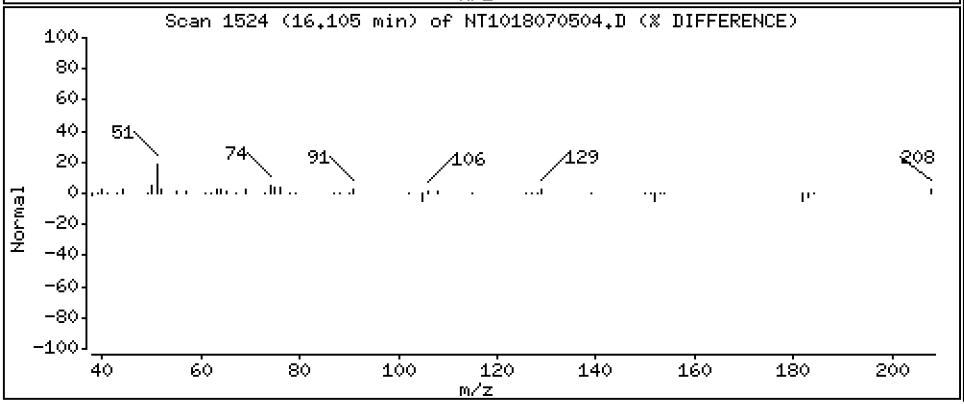
111 Azobenzene (1,2-DP-Hydrazine)

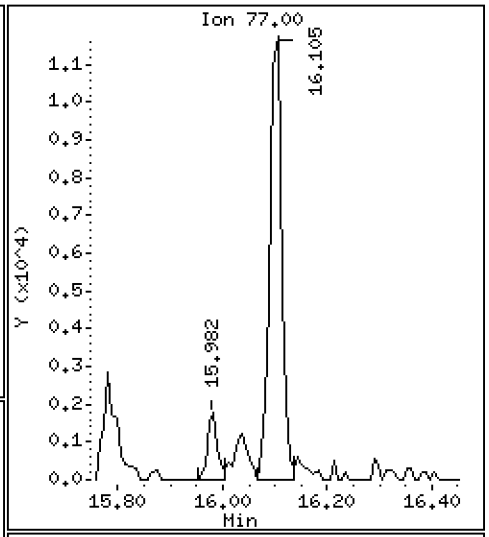
Concentration: 0.2815 ug/mL

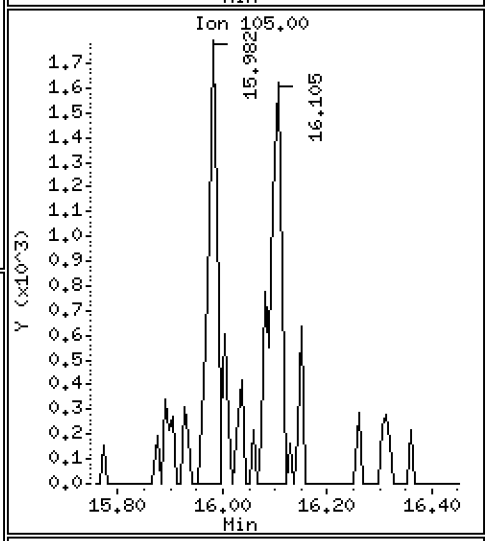


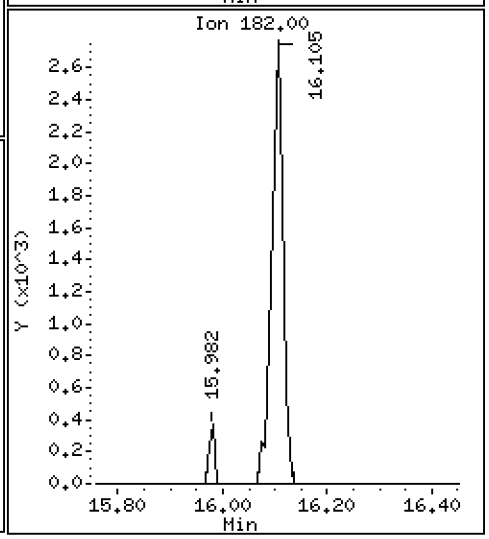












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

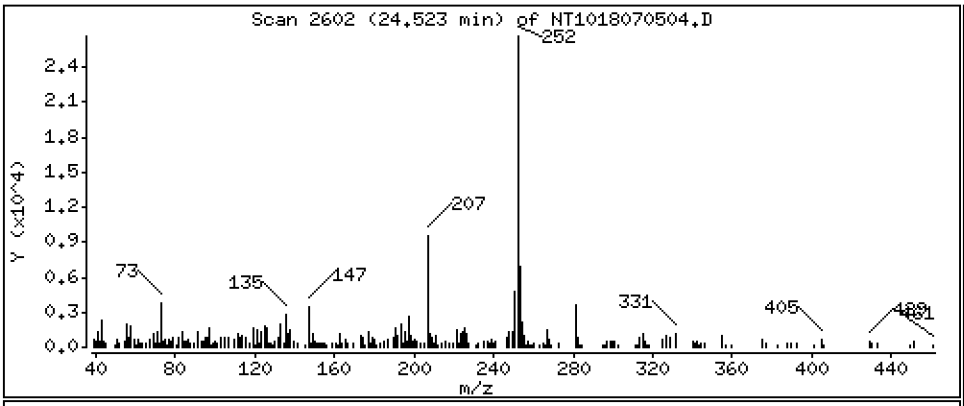
Operator: YZ

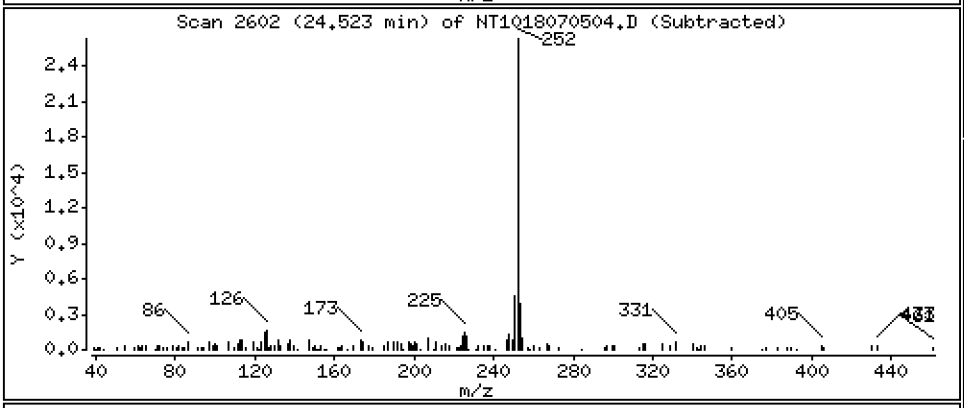
Column phase: ZB-5msi

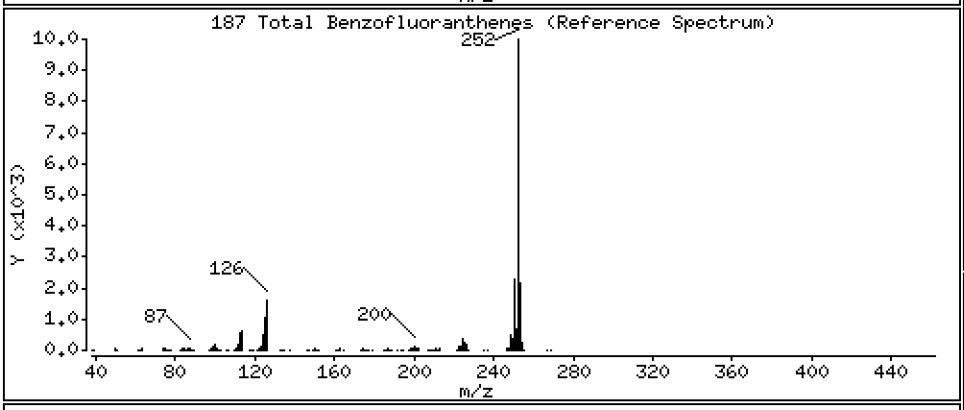
Column diameter: 0.25

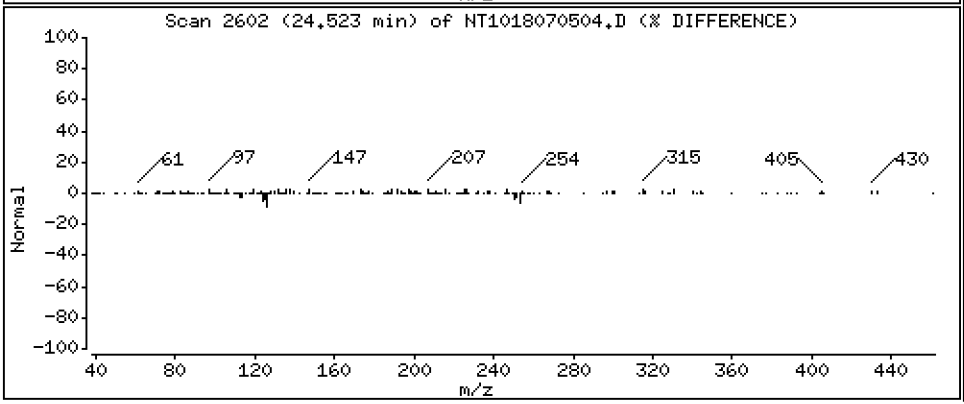
187 Total Benzofluoranthenes

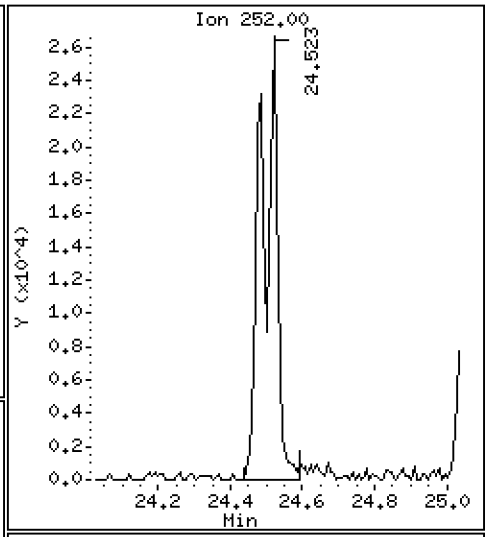
Concentration: 0.6164 ug/mL

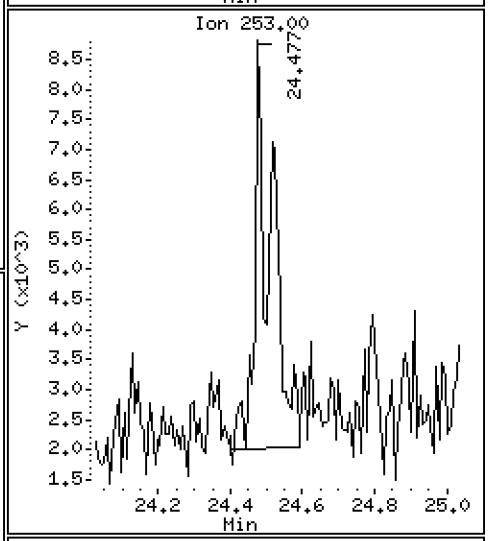


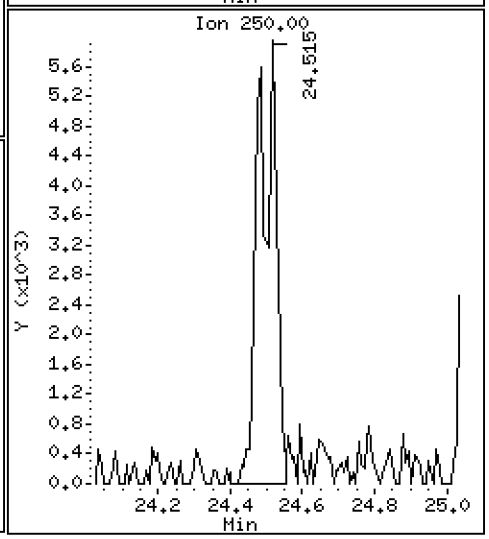












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

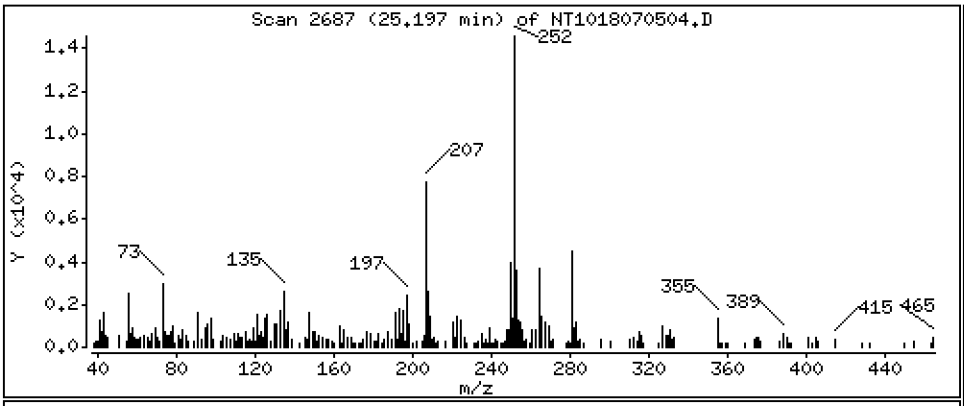
Operator: YZ

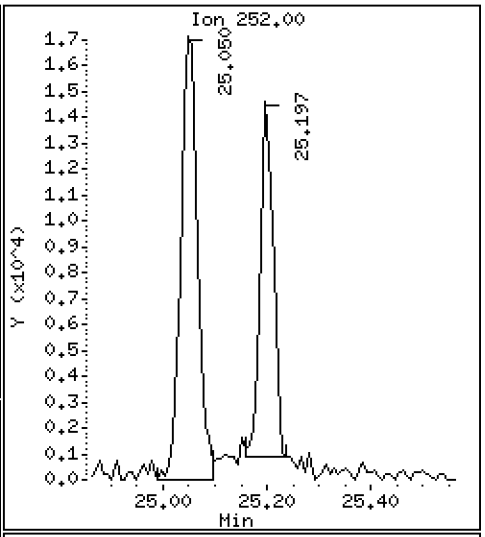
Column phase: ZB-5msi

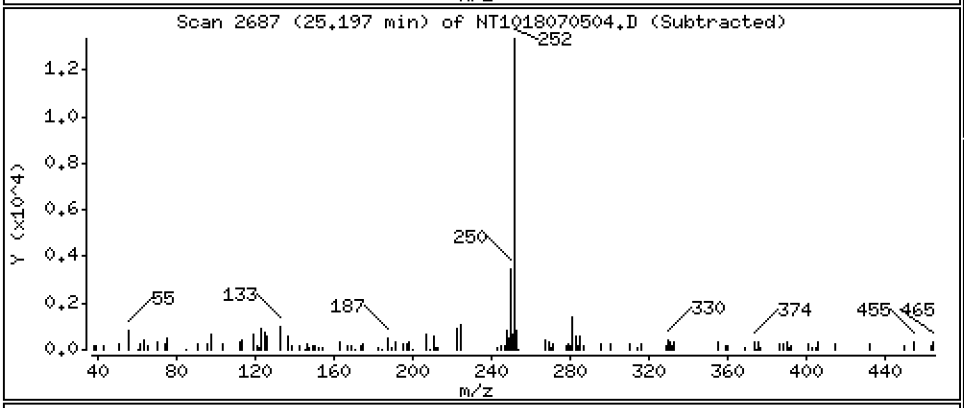
Column diameter: 0.25

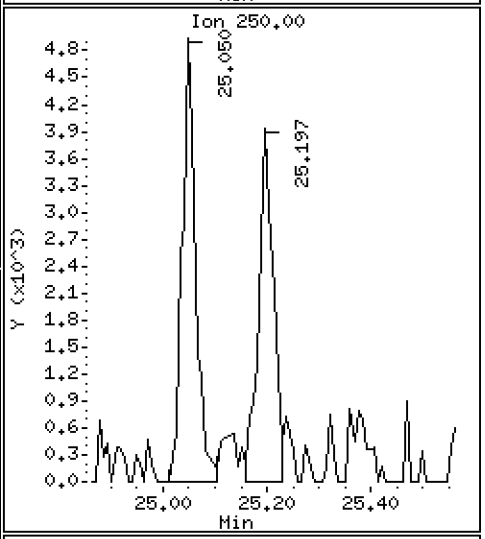
99 Perylene

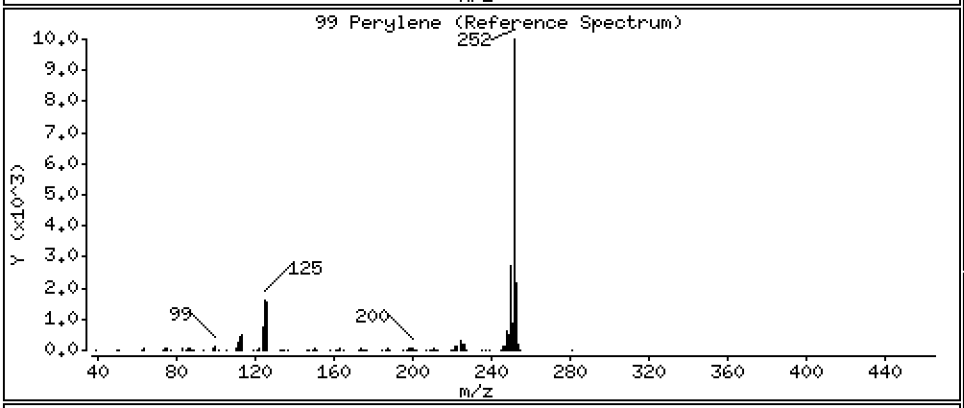
Concentration: 0.2024 ug/mL

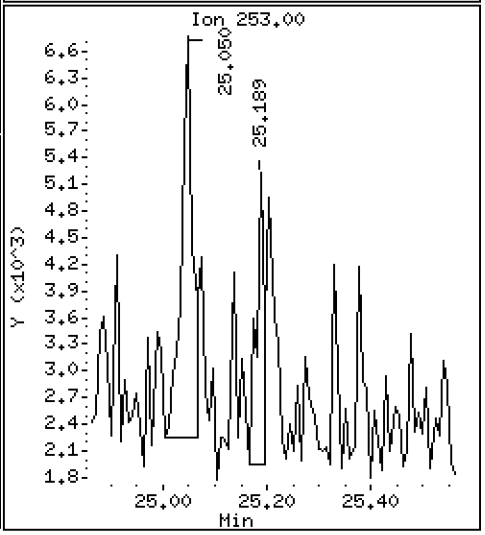


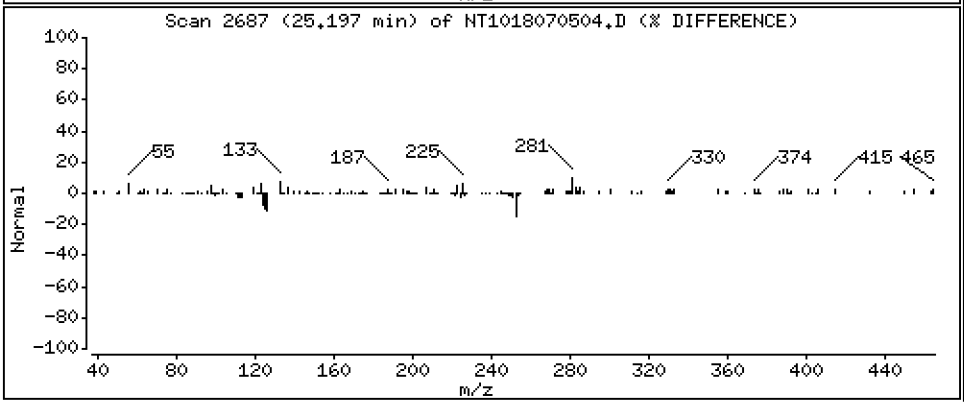












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

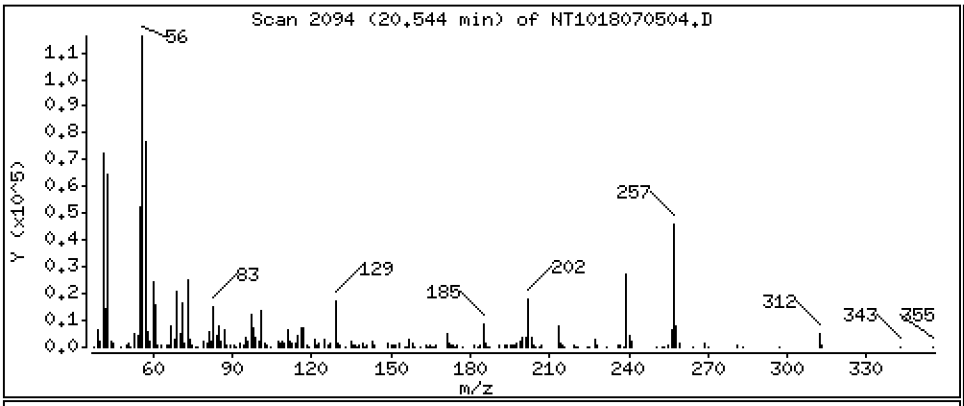
Sample Info: SGG0051-LCV1

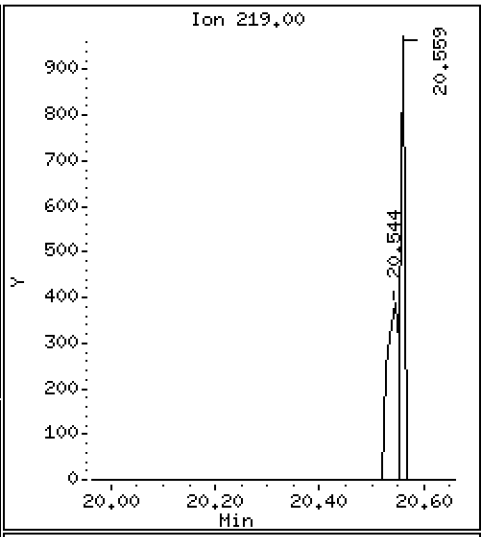
Operator: YZ

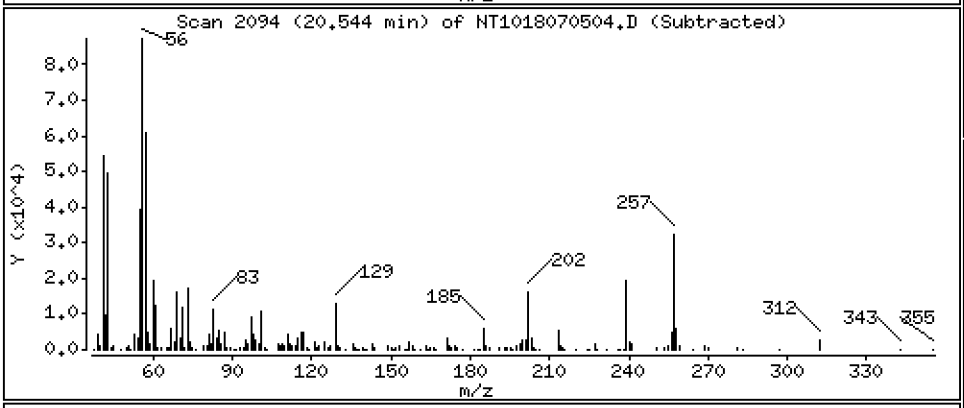
Column phase: ZB-5msi

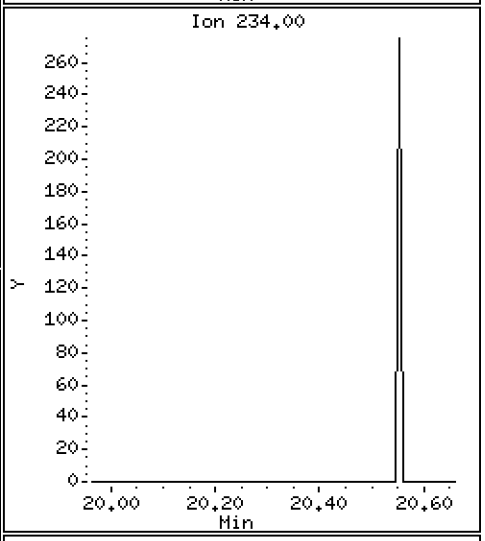
Column diameter: 0.25

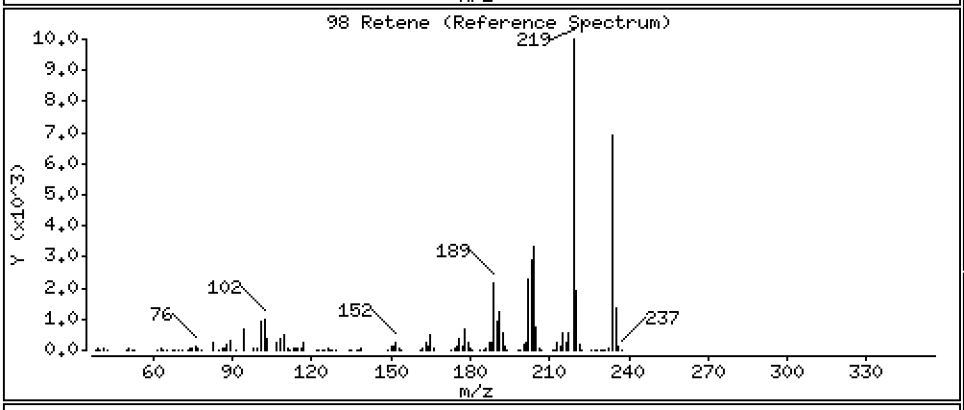
98 Retene

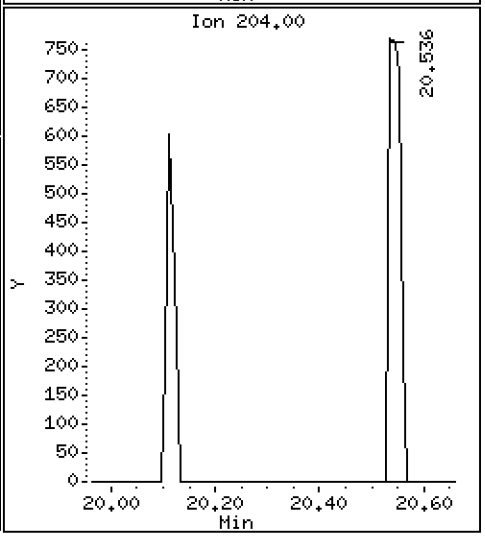


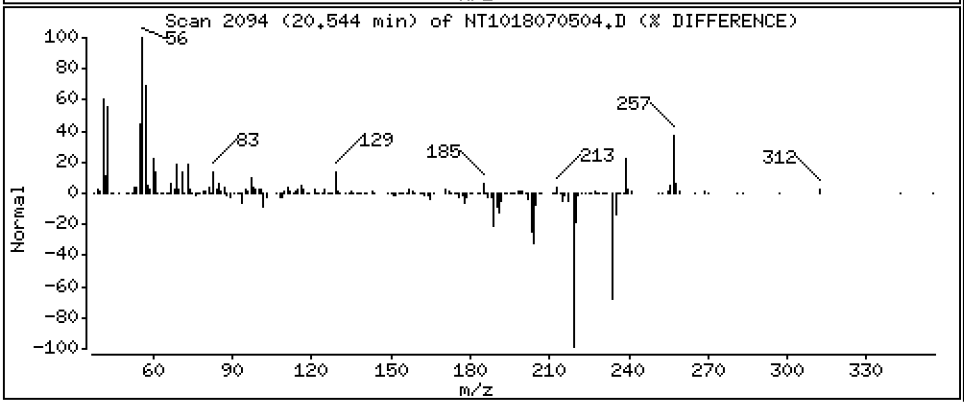












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

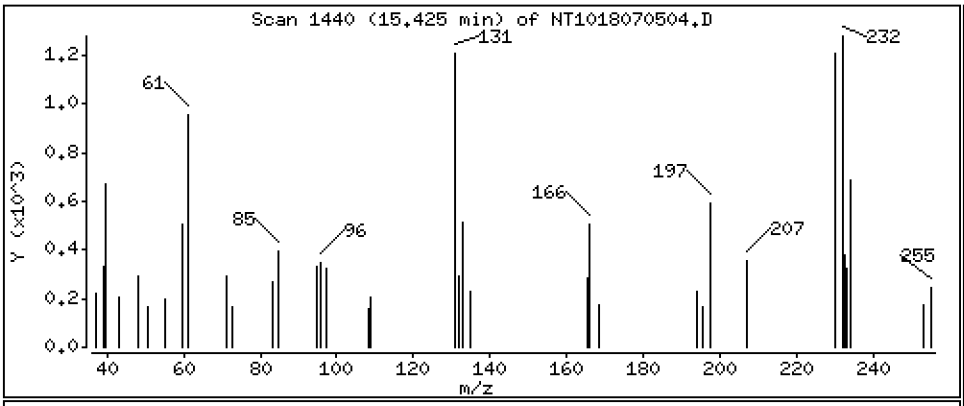
Operator: YZ

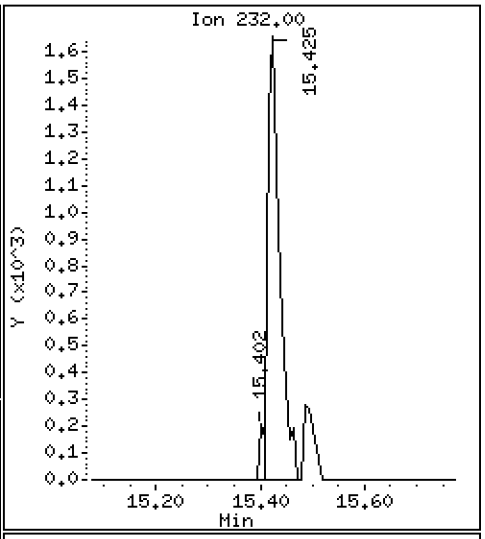
Column phase: ZB-5msi

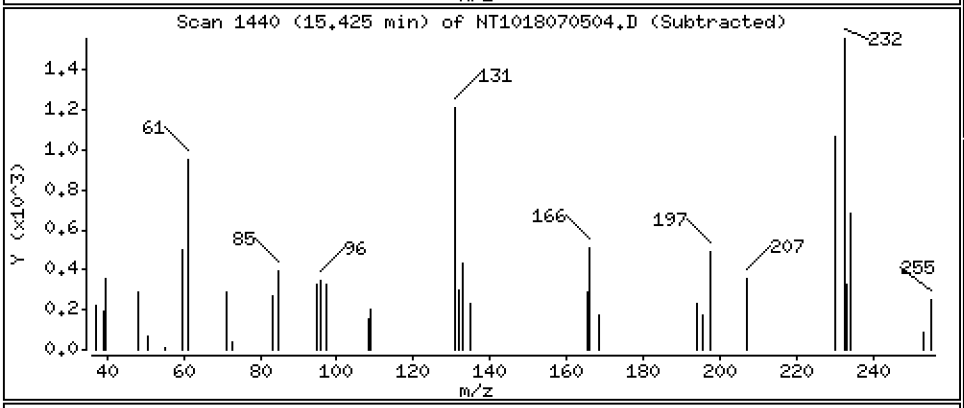
Column diameter: 0.25

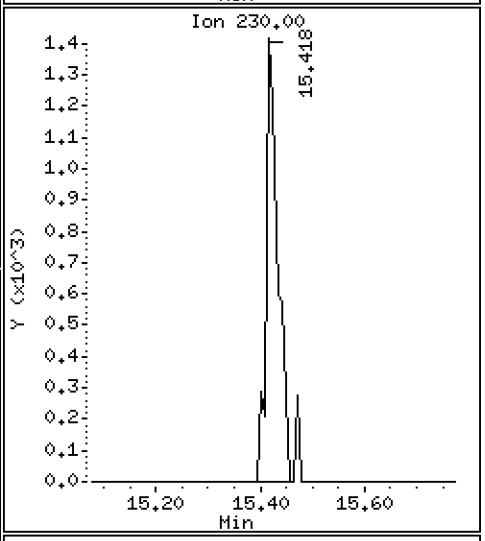
120 2,3,4,6-Tetrachlorophenol

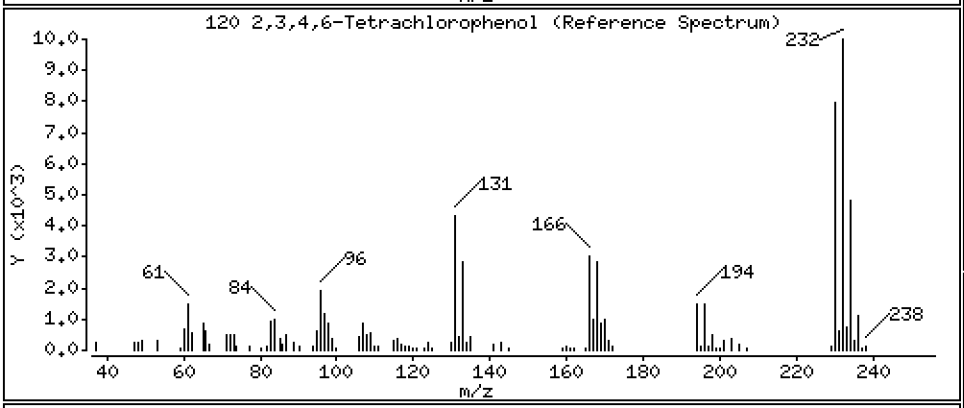
Concentration: 0.1374 ug/mL

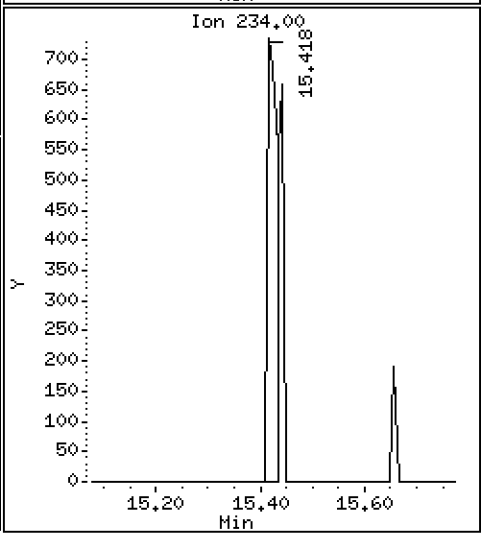


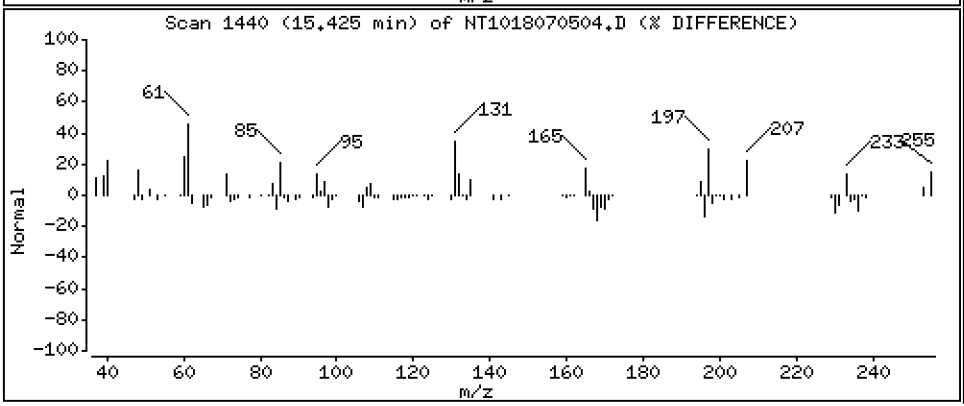












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D
Lab Smp Id: SGG0051-LCV1
Inj Date : 05-JUL-2018 13:09
Operator : YZ Inst ID: nt10.i
Smp Info : SGG0051-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$	1	2-Fluorophenol	112	6.519	6.512	(0.751)	7260	0.22160	0.2216
$	2	Phenol-d5	99	8.080	8.088	(0.931)	8846	0.20431	0.2043
	3	Phenol	94	8.096	8.104	(0.932)	5983	0.13915	0.1392
$	5	2-Chlorophenol-d4	132	8.335	8.335	(0.960)	9539	0.28256	0.2826
	4	Bis(2-Chloroethyl)ether	93	8.250	8.250	(0.950)	6107	0.18471	0.1847
	6	2-Chlorophenol	128	8.366	8.366	(0.963)	7107	0.20256	0.2026
	7	1,3-Dichlorobenzene	146	8.629	8.622	(0.994)	7336	0.20794	0.2079
*	8	1,4-Dichlorobenzene-d4	152	8.683	8.691	(1.000)	95632	4.00000	
	9	1,4-Dichlorobenzene	146	8.714	8.715	(1.004)	7433	0.23240	0.2324
$	10	1,2-Dichlorobenzene-d4	152	9.040	9.041	(1.041)	5132	0.21507	0.2151
	12	1,2-Dichlorobenzene	146	9.064	9.064	(1.044)	7088	0.22337	0.2234
	11	Benzyl alcohol	108	8.971	8.963	(1.033)	1421	0.06673	0.06673
	14	2,2'-oxybis(1-Chloropropane)	121	9.266	9.266	(1.067)	2331	0.18453	0.1845
	13	2-Methylphenol	108	9.196	9.196	(1.059)	4430	0.15362	0.1536
	17	Hexachloroethane	117	9.646	9.646	(1.111)	4180	0.28106	0.2811
	16	N-Nitroso-di-n-propylamine	70	9.514	9.514	(1.096)	5547	0.26070	0.2607
	15	4-Methylphenol	108	9.467	9.468	(1.090)	4585	0.14973	0.1497
$	18	Nitrobenzene-d5	82	9.762	9.770	(0.877)	7022	0.22540	0.2254
	19	Nitrobenzene	77	9.801	9.801	(0.881)	7669	0.25025	0.2502
	20	Isophorone	82	10.243	10.244	(0.920)	11493	0.18265	0.1827
	21	2-Nitrophenol	139	10.422	10.422	(0.936)	2652	0.15699	0.1570
	22	2,4-Dimethylphenol	107	10.488	10.488	(0.942)	13631	0.45462	0.4546
	23	Bis(2-Chloroethoxy)methane	93	10.671	10.679	(0.959)	5671	0.17175	0.1717
	24	Benzoic acid	105	Compound Not Detected.					
	25	2,4-Dichlorophenol	162	10.870	10.870	(0.977)	8029	0.33233	0.3323
	26	1,2,4-Trichlorobenzene	180	11.046	11.054	(0.992)	6109	0.23515	0.2351
*	27	Naphthalene-d8	136	11.131	11.131	(1.000)	312041	4.00000	
	28	Naphthalene	128	11.170	11.170	(1.003)	21909	0.27498	0.2750
	29	4-Chloroaniline	127	11.309	11.309	(1.016)	11075	0.31162	0.3116
	30	Hexachlorobutadiene	225	11.533	11.541	(1.036)	4769	0.29229	0.2923
	31	4-Chloro-3-methylphenol	107	12.284	12.276	(1.104)	8855	0.33856	0.3386
	32	2-Methylnaphthalene	142	12.547	12.547	(1.127)	13731	0.21840	0.2184
	33	Hexachlorocyclopentadiene	237	13.011	13.011	(0.886)	5215	0.28363	0.2836

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.174	13.174	(0.897)	8066	0.39898	0.3990
	35	2,4,5-Trichlorophenol	196	13.259	13.244	(0.903)	8728	0.38643	0.3864
$	36	2-Fluorobiphenyl	172	13.328	13.329	(0.907)	14313	0.19560	0.1956
	37	2-Chloronaphthalene	162	13.522	13.530	(0.920)	11755	0.19539	0.1954
	38	2-Nitroaniline	65	13.793	13.793	(0.939)	7587	0.45198	0.4520
	39	Dimethylphthalate	163	14.226	14.234	(0.968)	16730	0.26130	0.2613
	40	Acenaphthylene	152	14.381	14.381	(0.979)	23699	0.24972	0.2497
	41	2,6-Dinitrotoluene	165	14.358	14.366	(0.977)	7414	0.53998	0.5400
*	42	Acenaphthene-d10	164	14.691	14.698	(1.000)	165860	4.00000	
	43	3-Nitroaniline	138	14.706	14.637	(1.001)	641	0.04035	0.04035
	44	Acenaphthene	153	14.752	14.760	(1.004)	13898	0.24621	0.2462
	45	2,4-Dinitrophenol	184	14.861	14.845	(1.012)	578	0.06845	0.06845
	46	Dibenzofuran	168	15.077	15.085	(1.026)	17440	0.19896	0.1990
	47	4-Nitrophenol	109	15.023	14.984	(1.023)	1247	0.12642	0.1264
	48	2,4-Dinitrotoluene	165	15.154	15.155	(1.032)	7625	0.43163	0.4316
	50	Diethylphthalate	149	15.665	15.673	(1.066)	17754	0.27174	0.2717
	49	Fluorene	166	15.781	15.789	(1.074)	19772	0.29555	0.2955
	51	4-Chlorophenyl-phenylether	204	15.781	15.789	(1.074)	10244	0.31343	0.3134
	52	4-Nitroaniline	138	15.889	15.897	(1.082)	3724	0.24267	0.2427
	53	4,6-Dinitro-2-methylphenol	198	15.974	15.981	(0.903)	5188	0.34674	0.3467
	54	N-Nitrosodiphenylamine	169	16.035	16.035	(0.907)	12511	0.26993	0.2699
$	55	2,4,6-Tribromophenol	330	16.313	16.313	(1.110)	1773	0.19787	0.1979
	56	4-Bromophenyl-phenylether	248	16.768	16.776	(0.948)	4807	0.22977	0.2298
	57	Hexachlorobenzene	284	17.077	17.077	(0.966)	4294	0.21499	0.2150
	58	Pentachlorophenol	266	17.441	17.433	(0.986)	654	0.05568	0.05568
*	59	Phenanthrene-d10	188	17.681	17.689	(1.000)	344494	4.00000	
	60	Phenanthrene	178	17.727	17.735	(1.003)	21893	0.23973	0.2397
	61	Anthracene	178	17.820	17.828	(1.008)	22222	0.22951	0.2295
	62	Carbazole	167	18.160	18.161	(1.027)	18586	0.21501	0.2150
	63	Di-n-butylphthalate	149	18.988	18.988	(1.074)	31514	0.23926	0.2393
	64	Fluoranthene	202	20.118	20.118	(0.885)	30452	0.21819	0.2182
	65	Pyrene	202	20.543	20.544	(0.904)	28960	0.19910	0.1991
$	66	Terphenyl-d14	244	20.845	20.853	(0.917)	21165	0.23019	0.2302
	67	Butylbenzylphthalate	149	21.790	21.798	(0.958)	16705	0.29002	0.2900
	68	Benzo(a)anthracene	228	22.703	22.711	(0.999)	37729	0.29568	0.2957
*	69	Chrysene-d12	240	22.734	22.735	(1.000)	350502	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.680	22.688	(0.998)	32456	0.72495	0.7250
	71	Chrysene	228	22.773	22.781	(1.002)	32995	0.32195	0.3219
	72	bis(2-Ethylhexyl)phthalate	149	22.835	22.835	(0.959)	19999	0.28310	0.2831
*	134	Di-n-octylphthalate-d4	153	23.803	23.811	(1.000)	678119	4.00000	
	73	Di-n-octylphthalate	149	23.811	23.818	(1.000)	35499	0.24040	0.2404
	74	Benzo(b)fluoranthene	252	24.484	24.492	(0.974)	39786	0.28106	0.2811
	75	Benzo(k)fluoranthene	252	24.523	24.531	(0.975)	44439	0.31196	0.3120
	76	Benzo(a)pyrene	252	25.049	25.057	(0.996)	37774	0.26451	0.2645
*	77	Perylene-d12	264	25.150	25.166	(1.000)	404825	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.428	27.444	(1.091)	44025	0.31370	0.3137
	79	Dibenzo(a,h)anthracene	278	27.452	27.467	(1.092)	40666	0.35895	0.3590
	80	Benzo(g,h,i)perylene	276	28.088	28.112	(1.117)	42906	0.34350	0.3435
	90	N-Nitrosodimethylamine	74	4.396	4.388	(0.506)	5141	0.26569	0.2657
	91	Aniline	93	8.157	8.158	(0.939)	16301	0.34112	0.3411
	93	Benzidine	184	17.681	17.689	(0.778)	48186	0.81286	0.8129
	103	Pyridine	79	4.427	4.404	(0.510)	4835	0.13826	0.1383
	105	1-methylnaphthalene	142	12.771	12.771	(1.147)	13040	0.20141	0.2014
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.105	16.105	(1.096)	17601	0.28145	0.2815

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.523	24.531	(0.975)	84184	0.61643	0.6164
99	Perylene	252	25.196	25.212	(1.002)	23180	0.20244	0.2024
98	Retene	219	20.543	20.311	(0.904)	580		
120	2,3,4,6-Tetrachlorophenol	232	15.425	15.425	(1.050)	2513	0.13736	0.1374

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070504.D
Lab Smp Id: SGG0051-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	95632	-13.61
27 Naphthalene-d8	393946	196973	787892	312041	-20.79
42 Acenaphthene-d10	203210	101605	406420	165860	-18.38
59 Phenanthrene-d10	403506	201753	807012	344494	-14.62
69 Chrysene-d12	354618	177309	709236	350502	-1.16
134 Di-n-octylphthala	800232	400116	1600464	678119	-15.26
77 Perylene-d12	378948	189474	757896	404825	6.83

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.68	-0.09
27 Naphthalene-d8	11.13	10.63	11.63	11.13	-0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.69	-0.05
59 Phenanthrene-d10	17.69	17.19	18.19	17.68	-0.04
69 Chrysene-d12	22.74	22.24	23.24	22.73	-0.00
134 Di-n-octylphthala	23.81	23.31	24.31	23.80	-0.03
77 Perylene-d12	25.17	24.67	25.67	25.15	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070504.D

Lab ID: SGG0051-LCV1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 13:09

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051913.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/19/18
Lab Sample ID:	SGE0328-ICV1	Injection Time:	15:28
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Phenol	A	5.0000	5.3	1.7984170	1.9050580		5.9	20
bis(2-chloroethyl) ether	A	5.0000	5.3	1.3829460	1.4643300		5.9	20
2-Chlorophenol	A	5.0000	5.1	1.4675600	1.4989310		2.1	20
1,3-Dichlorobenzene	A	5.0000	5.2	1.4756490	1.5263430		3.4	20
1,4-Dichlorobenzene	A	5.0000	5.3	1.3377560	1.4152020		5.8	20
1,2-Dichlorobenzene	A	5.0000	5.2	1.3272630	1.3765330		3.7	20
Benzyl Alcohol	A	5.0000	5.3	0.8906565	0.9474855		6.4	20
2,2'-Oxybis(1-chloropropane)	A	5.0000	4.9	0.5283531	0.5212569		-1.3	20
2-Methylphenol	A	5.0000	5.2	1.2061870	1.2600040		4.5	20
Hexachloroethane	A	5.0000	5.2	0.6220608	0.6521128		4.8	20
N-Nitroso-di-n-Propylamine	A	5.0000	5.2	0.8899646	0.9282660		4.3	20
4-Methylphenol	A	5.0000	5.2	1.2808140	1.3297580		3.8	20
Nitrobenzene	A	5.0000	5.4	0.3928437	0.4229838		7.7	20
Isophorone	A	5.0000	5.3	0.8065878	0.8545429		5.9	20
2-Nitrophenol	A	5.0000	5.4	0.2165516	0.2345688		8.3	20
2,4-Dimethylphenol	A	10.000	10.3	0.3843482	0.3953570		2.9	20
Bis(2-Chloroethoxy)methane	A	5.0000	4.9	0.4232749	0.4174129		-1.4	20
2,4-Dichlorophenol	A	10.000	10.6	0.3096960	0.3269556		5.6	20
1,2,4-Trichlorobenzene	A	5.0000	5.1	0.3330258	0.3422067		2.8	20
Naphthalene	A	5.0000	5.3	1.0213430	1.0850460		6.2	20
Benzoic acid	A	20.000	20.0	0.2160131	0.2579750		0.2	20
4-Chloroaniline	A	10.000	10.9	0.4555838	0.4942146		8.5	20
Hexachlorobutadiene	A	5.0000	5.3	0.2091520	0.2225547		6.4	20
4-Chloro-3-Methylphenol	A	10.000	11.4	0.3352795	0.3832537		14.3	20
2-Methylnaphthalene	A	5.0000	5.3	0.8059253	0.8618137		6.9	20
Hexachlorocyclopentadiene	A	10.000	11.1	0.4434257	0.4926320		11.1	20
2,4,6-Trichlorophenol	A	10.000	10.9	0.4875623	0.5313415		9.0	20
2,4,5-Trichlorophenol	A	10.000	10.1	0.4794408	0.5477115		1.3	20
2-Chloronaphthalene	A	5.0000	5.3	1.4508900	1.5318400		5.6	20
2-Nitroaniline	A	10.000	11.7	0.4048286	0.4742512		17.1	20
Acenaphthylene	A	5.0000	5.1	2.2887440	2.3386720		2.2	20

* Values outside of QC limits

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051913.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/19/18
Lab Sample ID:	SGE0328-ICV1	Injection Time:	15:28
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Dimethylphthalate	A	5.0000	5.1	1.5441220	1.5713370		1.8	20
2,6-Dinitrotoluene	A	10.000	10.7	0.3311250	0.3554685		7.4	20
Acenaphthene	A	5.0000	5.3	1.3613250	1.4394090		5.7	20
3-Nitroaniline	A	10.000	10.8	0.3830973	0.4148628		8.3	20
2,4-Dinitrophenol	A	20.000	19.1	0.1626979	0.2028933		-4.4	20
Dibenzofuran	A	5.0000	5.2	2.1140180	2.2180890		4.9	20
4-Nitrophenol	A	10.000	9.8	0.2078877	0.2324793		-2.0	20
2,4-Dinitrotoluene	A	10.000	11.8	0.4260379	0.5038746		18.3	20
Fluorene	A	5.0000	5.2	1.6133890	1.6896650		4.7	20
4-Chlorophenylphenyl ether	A	5.0000	5.2	0.7882218	0.8156853		3.5	20
Diethyl phthalate	A	5.0000	5.1	1.5756750	1.6194510		2.8	20
4-Nitroaniline	A	10.000	11.6	0.3700928	0.4287006		15.8	20
4,6-Dinitro-2-methylphenol	A	20.000	20.4	0.1324757	0.1722717		2.0	20
N-Nitrosodiphenylamine	A	5.0000	5.1	0.5381609	0.5494494		2.1	20
4-Bromophenyl phenyl ether	A	5.0000	5.2	0.2429173	0.2512956		3.4	20
Hexachlorobenzene	A	5.0000	5.1	0.2319114	0.2370136		2.2	20
Pentachlorophenol	A	10.000	11.1	0.1363741	0.1508766		10.6	20
Phenanthrene	A	5.0000	5.3	1.0603730	1.1134380		5.0	20
Anthracene	A	5.0000	5.4	1.1242370	1.2114700		7.8	20
Carbazole	A	5.0000	5.2	1.0037180	1.0503340		4.6	20
Di-n-Butylphthalate	A	5.0000	5.6	1.5293860	1.7154930		12.2	20
Fluoranthene	A	5.0000	5.4	1.5927680	1.7155280		7.7	20
Pyrene	A	5.0000	5.4	1.6599440	1.7958540		8.2	20
Butylbenzylphthalate	A	5.0000	5.5	0.6573293	0.7229834		10.0	20
Benzo(a)anthracene	A	5.0000	5.0	1.4562270	1.4705410		1.0	20
3,3'-Dichlorobenzidine	A	15.000	13.5	0.5109220	0.4599534		-10.0	20
Chrysene	A	5.0000	5.3	1.1695890	1.2481580		6.7	20
bis(2-Ethylhexyl)phthalate	A	5.0000	5.3	0.4166951	0.4442319		6.6	20
Di-n-Octylphthalate	A	5.0000	5.2	0.8710232	0.9060472		4.0	20
Benzofluoranthenes, Total	A	10.000	10.5	1.3493830	1.4213180		5.3	20
Benzo(a)pyrene	A	5.0000	5.6	1.4110800	1.5722960		11.4	20

* Values outside of QC limits

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051913.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/19/18
Lab Sample ID:	SGE0328-ICV1	Injection Time:	15:28
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Indeno(1,2,3-cd)pyrene	A	5.0000	5.2	1.3866980	1.4407860		3.9	20
Dibenzo(a,h)anthracene	A	5.0000	5.1	1.1194120	1.1509610		2.8	20
Benzo(g,h,i)perylene	A	5.0000	5.3	1.2342060	1.2987050		5.2	20
1-Methylnaphthalene	A	5.0000	5.4	0.8299272	0.8921686		7.5	20
2-Fluorophenol	A	7.5000	7.73	1.3703370	1.4120620		3.0	20
Phenol-d5	A	7.5000	7.87	1.8109650	1.8998490		4.9	20
2-Chlorophenol-d4	A	7.5000	7.66	1.4120680	1.4425660		2.2	20
1,2-Dichlorobenzene-d4	A	5.0000	4.92	0.9980763	0.9824665		-1.6	20
Nitrobenzene-d5	A	5.0000	5.25	0.3993507	0.4194037		5.0	20
2-Fluorobiphenyl	A	5.0000	5.04	1.7647260	1.7784480		0.8	20
2,4,6-Tribromophenol	A	7.5000	7.74	0.2161010	0.2228888		3.1	20
p-Terphenyl-d14	A	5.0000	5.01	1.0492840	1.0503260		0.1	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051913.D

Date : 19-MAY-2018 15:28

Client ID:

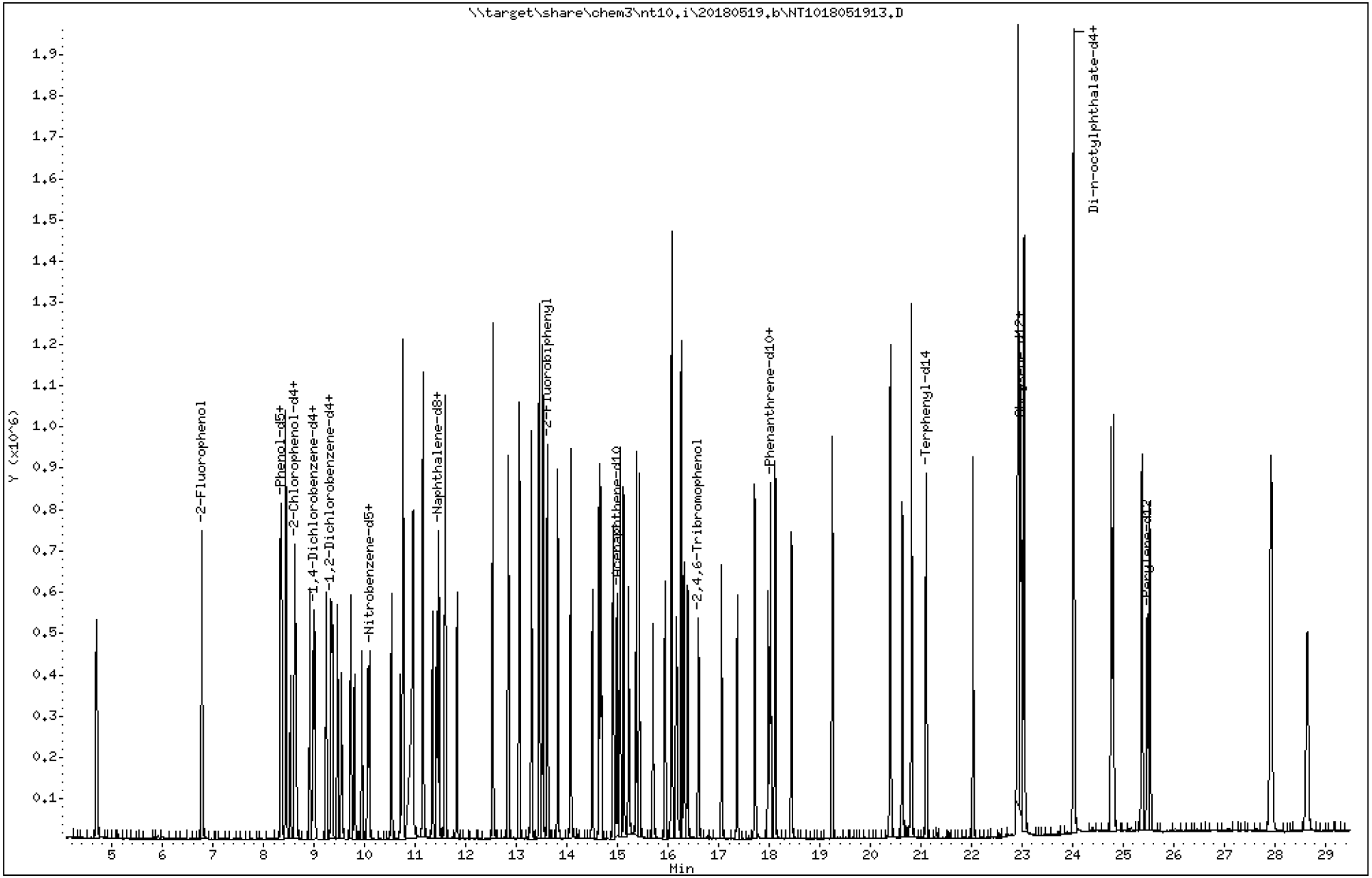
Instrument: nt10.i

Sample Info: SGE0328-ICV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051913.D
Lab Smp Id: SGE0328-ICV1
Inj Date : 19-MAY-2018 15:28
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-ICV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.774	6.774	(0.755)	295241	7.50000	7.728
$	2	Phenol-d5	99	8.335	8.335	(0.929)	397230	7.50000	7.868
	3	Phenol	94	8.358	8.358	(0.932)	265546	5.00000	5.296
$	5	2-Chlorophenol-d4	132	8.613	8.613	(0.960)	301619	7.50000	7.662
	4	Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.951)	204113	5.00000	5.294
	6	2-Chlorophenol	128	8.636	8.644	(0.963)	208936	5.00000	5.107
	7	1,3-Dichlorobenzene	146	8.907	8.915	(0.993)	212757	5.00000	5.172
*	8	1,4-Dichlorobenzene-d4	152	8.969	8.977	(1.000)	111512	4.00000	
	9	1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	197265	5.00000	5.289
$	10	1,2-Dichlorobenzene-d4	152	9.326	9.326	(1.040)	136946	5.00000	4.922
	12	1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	191875	5.00000	5.186
	11	Benzyl alcohol	108	9.232	9.233	(1.029)	132070	5.00000	5.319
	14	2,2'-oxybis(1-Chloropropane)	121	9.535	9.536	(1.063)	72658	5.00000	4.933
	13	2-Methylphenol	108	9.450	9.458	(1.054)	175632	5.00000	5.223
	17	Hexachloroethane	117	9.939	9.939	(1.108)	90898	5.00000	5.242
	16	N-Nitroso-di-n-propylamine	70	9.791	9.792	(1.092)	129391	5.00000	5.215
	15	4-Methylphenol	108	9.722	9.722	(1.084)	185355	5.00000	5.191
$	18	Nitrobenzene-d5	82	10.048	10.056	(0.880)	204777	5.00000	5.251
	19	Nitrobenzene	77	10.086	10.087	(0.884)	206525	5.00000	5.384
	20	Isophorone	82	10.521	10.529	(0.922)	417237	5.00000	5.297
	21	2-Nitrophenol	139	10.706	10.706	(0.938)	114530	5.00000	5.416
	22	2,4-Dimethylphenol	107	10.747	10.756	(0.941)	386072	10.0000	10.29
	23	Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	203805	5.00000	4.931
	24	Benzoic acid	105	10.955	10.955	(0.960)	503833	20.0000	20.04
	25	2,4-Dichlorophenol	162	11.146	11.146	(0.976)	319277	10.0000	10.56
	26	1,2,4-Trichlorobenzene	180	11.339	11.339	(0.993)	167085	5.00000	5.138
*	27	Naphthalene-d8	136	11.416	11.424	(1.000)	390606	4.00000	
	28	Naphthalene	128	11.462	11.463	(1.004)	529782	5.00000	5.312
	29	4-Chloroaniline	127	11.586	11.586	(1.015)	482608	10.0000	10.85
	30	Hexachlorobutadiene	225	11.818	11.818	(1.035)	108664	5.00000	5.320
	31	4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	374253	10.0000	11.43
	32	2-Methylnaphthalene	142	12.831	12.840	(1.124)	420787	5.00000	5.347
	33	Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	250379	10.0000	11.11

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	270053	10.0000	10.90
	35	2,4,5-Trichlorophenol	196	13.512	13.521	(0.902)	278373	10.0000	10.13
$	36	2-Fluorobiphenyl	172	13.605	13.613	(0.908)	451946	5.00000	5.039
	37	2-Chloronaphthalene	162	13.814	13.815	(0.922)	389277	5.00000	5.279
	38	2-Nitroaniline	65	14.070	14.070	(0.939)	241037	10.0000	11.71
	39	Dimethylphthalate	163	14.495	14.504	(0.967)	399314	5.00000	5.088
	40	Acenaphthylene	152	14.673	14.674	(0.979)	594312	5.00000	5.109
	41	2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	180666	10.0000	10.74
*	42	Acenaphthene-d10	164	14.983	14.983	(1.000)	203299	4.00000	
	43	3-Nitroaniline	138	14.913	14.914	(0.995)	210853	10.0000	10.83
	44	Acenaphthene	153	15.045	15.053	(1.004)	365788	5.00000	5.287
	45	2,4-Dinitrophenol	184	15.122	15.122	(1.009)	206240	20.0000	19.13
	46	Dibenzofuran	168	15.369	15.377	(1.026)	563669	5.00000	5.246
	47	4-Nitrophenol	109	15.215	15.223	(1.015)	118157	10.0000	9.804
	48	2,4-Dinitrotoluene	165	15.431	15.432	(1.030)	256093	10.0000	11.83
	50	Diethylphthalate	149	15.942	15.942	(1.064)	411541	5.00000	5.139
	49	Fluorene	166	16.073	16.073	(1.073)	429384	5.00000	5.236
	51	4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	207285	5.00000	5.174
	52	4-Nitroaniline	138	16.158	16.166	(1.078)	217886	10.0000	11.58
	53	4,6-Dinitro-2-methylphenol	198	16.258	16.259	(0.904)	340395	20.0000	20.39
	54	N-Nitrosodiphenylamine	169	16.312	16.313	(0.907)	271417	5.00000	5.105
$	55	2,4,6-Tribromophenol	330	16.598	16.606	(1.108)	84962	7.50000	7.736
	56	4-Bromophenyl-phenylether	248	17.053	17.061	(0.948)	124135	5.00000	5.172
	57	Hexachlorobenzene	284	17.362	17.370	(0.966)	117080	5.00000	5.110
	58	Pentachlorophenol	266	17.710	17.718	(0.985)	149060	10.0000	11.06
*	59	Phenanthrene-d10	188	17.981	17.982	(1.000)	395184	4.00000	
	60	Phenanthrene	178	18.028	18.028	(1.003)	550016	5.00000	5.250
	61	Anthracene	178	18.113	18.121	(1.007)	598442	5.00000	5.388
	62	Carbazole	167	18.438	18.446	(1.025)	518844	5.00000	5.232
	63	Di-n-butylphthalate	149	19.250	19.250	(1.071)	847419	5.00000	5.608
	64	Fluoranthene	202	20.395	20.395	(0.887)	755405	5.00000	5.385
	65	Pyrene	202	20.813	20.821	(0.905)	790775	5.00000	5.409
$	66	Terphenyl-d14	244	21.107	21.107	(0.918)	462494	5.00000	5.005
	67	Butylbenzylphthalate	149	22.028	22.029	(0.958)	318354	5.00000	5.499
	68	Benzo(a)anthracene	228	22.957	22.966	(0.999)	647529	5.00000	5.049
*	69	Chrysene-d12	240	22.988	22.989	(1.000)	352267	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	607599	15.0000	13.50
	71	Chrysene	228	23.035	23.035	(1.002)	549606	5.00000	5.336
	72	bis(2-Ethylhexyl)phthalate	149	23.050	23.051	(0.960)	440708	5.00000	5.330
*	134	Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	793654	4.00000	
	73	Di-n-octylphthalate	149	24.026	24.026	(1.000)	898860	5.00000	5.201
	74	Benzo(b)fluoranthene	252	24.761	24.769	(0.972)	688578	5.00000	5.303
	75	Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	693248	5.00000	5.306
	76	Benzo(a)pyrene	252	25.373	25.373	(0.996)	729738	5.00000	5.571
*	77	Perylene-d12	264	25.481	25.482	(1.000)	371298	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.914	27.922	(1.095)	668701	5.00000	5.195
	79	Dibenzo(a,h)anthracene	278	27.930	27.938	(1.096)	534187	5.00000	5.141
	80	Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	602758	5.00000	5.261
	90	N-Nitrosodimethylamine	74	4.673	4.681	(0.521)	248972	10.0000	11.03
	91	Aniline	93	8.435	8.435	(0.941)	561511	10.0000	10.08
	93	Benzidine	184	20.627	20.635	(0.897)	519157	10.0000	8.714
	103	Pyridine	79	4.689	4.705	(0.523)	219241	5.00000	5.377
	105	1-methylnaphthalene	142	13.056	13.056	(1.144)	435608	5.00000	5.375
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	393853	5.00000	5.138

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1319331	10.0000	10.53
99	Perylene	252	25.528	25.536	(1.002)	550162	5.00000	5.239
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	107917	5.00000	4.700

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051913.D
Lab Smp Id: SGE0328-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 15:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	111512	0.74
27 Naphthalene-d8	393946	196973	787892	390606	-0.85
42 Acenaphthene-d10	203210	101605	406420	203299	0.04
59 Phenanthrene-d10	403506	201753	807012	395184	-2.06
69 Chrysene-d12	354618	177309	709236	352267	-0.66
134 Di-n-octylphthala	800232	400116	1600464	793654	-0.82
77 Perylene-d12	378948	189474	757896	371298	-2.02

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.97	-0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.98	-0.00
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051913.D

Lab ID: SGE0328-ICV1
nt10.i, ABN.m, 19-MAY-2018 15:28

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

Instrument: nt10.i Date: 19-MAY-2018 Method: ABN.m

INITIAL CAL: 19-MAY-2018

Compound	%RSD or R^2
Retene	ND

ICV CAL: NT1018051913.D 19-MAY-2018 15:28

Compound	%D
NO Q-FLAGS	

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070502.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-ICV1	Injection Time:	11:56
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
Phenol	A	5.0000	3.8	1.7984170	1.3731130		-23.6	20	*
bis(2-chloroethyl) ether	A	5.0000	3.9	1.3829460	1.0673010		-22.8	20	*
2-Chlorophenol	A	5.0000	4.6	1.4675600	1.3573040		-7.5	20	
1,3-Dichlorobenzene	A	5.0000	4.8	1.4756490	1.4077920		-4.6	20	
1,4-Dichlorobenzene	A	5.0000	5.1	1.3377560	1.3650		2.0	20	
1,2-Dichlorobenzene	A	5.0000	4.7	1.3272630	1.2450980		-6.2	20	
Benzyl Alcohol	A	5.0000	4.5	0.8906565	0.7988111		-10.3	20	
2,2'-Oxybis(1-chloropropane)	A	5.0000	4.1	0.5283531	0.4383500		-17.0	20	
2-Methylphenol	A	5.0000	4.3	1.2061870	1.0342210		-14.3	20	
Hexachloroethane	A	5.0000	6.1	0.6220608	0.7545086		21.3	20	*
N-Nitroso-di-n-Propylamine	A	5.0000	4.5	0.8899646	0.8011166		-10.0	20	
4-Methylphenol	A	5.0000	4.1	1.2808140	1.0380290		-19.0	20	
Nitrobenzene	A	5.0000	5.2	0.3928437	0.4109469		4.6	20	
Isophorone	A	5.0000	4.8	0.8065878	0.7698912		-4.5	20	
2-Nitrophenol	A	5.0000	5.3	0.2165516	0.2284078		5.5	20	
2,4-Dimethylphenol	A	10.000	10.3	0.3843482	0.3962560		3.1	20	
Bis(2-Chloroethoxy)methane	A	5.0000	4.1	0.4232749	0.3503136		-17.2	20	
2,4-Dichlorophenol	A	10.000	10.7	0.3096960	0.3320592		7.2	20	
1,2,4-Trichlorobenzene	A	5.0000	5.4	0.3330258	0.3609659		8.4	20	
Naphthalene	A	5.0000	4.9	1.0213430	1.0039580		-1.7	20	
Benzoic acid	A	20.000	18.8	0.2160131	0.2418130		-6.1	20	
4-Chloroaniline	A	10.000	9.3	0.4555838	0.4256058		-6.6	20	
Hexachlorobutadiene	A	5.0000	7.0	0.2091520	0.2924407		39.8	20	*
4-Chloro-3-Methylphenol	A	10.000	11.3	0.3352795	0.3780527		12.8	20	
2-Methylnaphthalene	A	5.0000	5.3	0.8059253	0.8560104		6.2	20	
Hexachlorocyclopentadiene	A	10.000	13.4	0.4434257	0.5948060		34.1	20	*
2,4,6-Trichlorophenol	A	10.000	11.4	0.4875623	0.5555641		13.9	20	
2,4,5-Trichlorophenol	A	10.000	10.6	0.4794408	0.5715750		5.7	20	
2-Chloronaphthalene	A	5.0000	5.1	1.4508900	1.4680950		1.2	20	
2-Nitroaniline	A	10.000	14.0	0.4048286	0.5660189		39.8	20	*
Acenaphthylene	A	5.0000	4.8	2.2887440	2.1921910		-4.2	20	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070502.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-ICV1	Injection Time:	11:56
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
Dimethylphthalate	A	5.0000	5.3	1.5441220	1.6393690		6.2	20	
2,6-Dinitrotoluene	A	10.000	11.2	0.3311250	0.3719526		12.3	20	
Acenaphthene	A	5.0000	5.4	1.3613250	1.4622620		7.4	20	
3-Nitroaniline	A	10.000	9.8	0.3830973	0.3748754		-2.2	20	
2,4-Dinitrophenol	A	20.000	23.7	0.1626979	0.2543906		18.7	20	
Dibenzofuran	A	5.0000	5.3	2.1140180	2.2236200		5.2	20	
4-Nitrophenol	A	10.000	18.4	0.2078877	0.4350715		84.0	20	*
2,4-Dinitrotoluene	A	10.000	11.9	0.4260379	0.5082199		19.3	20	
Fluorene	A	5.0000	6.0	1.6133890	1.9269230		19.4	20	
4-Chlorophenylphenyl ether	A	5.0000	6.8	0.7882218	1.0680520		35.5	20	*
Diethyl phthalate	A	5.0000	5.7	1.5756750	1.8108790		14.9	20	
4-Nitroaniline	A	10.000	10.3	0.3700928	0.3810463		3.0	20	
4,6-Dinitro-2-methylphenol	A	20.000	18.5	0.1324757	0.1566215		-7.6	20	
N-Nitrosodiphenylamine	A	5.0000	4.6	0.5381609	0.4943081		-8.1	20	
4-Bromophenyl phenyl ether	A	5.0000	5.5	0.2429173	0.2648063		9.0	20	
Hexachlorobenzene	A	5.0000	5.7	0.2319114	0.2660171		14.7	20	
Pentachlorophenol	A	10.000	9.8	0.1363741	0.1339747		-1.8	20	
Phenanthrene	A	5.0000	4.9	1.0603730	1.0337820		-2.5	20	
Anthracene	A	5.0000	4.7	1.1242370	1.0605110		-5.7	20	
Carbazole	A	5.0000	4.8	1.0037180	0.9621378		-4.1	20	
Di-n-Butylphthalate	A	5.0000	5.4	1.5293860	1.6567420		8.3	20	
Fluoranthene	A	5.0000	4.5	1.5927680	1.4318400		-10.1	20	
Pyrene	A	5.0000	4.4	1.6599440	1.4443020		-13.0	20	
Butylbenzylphthalate	A	5.0000	4.9	0.6573293	0.6487207		-1.3	20	
Benzo(a)anthracene	A	5.0000	4.5	1.4562270	1.2985930		-10.8	20	
3,3'-Dichlorobenzidine	A	15.000	14.5	0.5109220	0.4927162		-3.5	20	
Chrysene	A	5.0000	4.8	1.1695890	1.1117		-4.9	20	
bis(2-Ethylhexyl)phthalate	A	5.0000	5.3	0.4166951	0.4450501		6.8	20	
Di-n-Octylphthalate	A	5.0000	4.7	0.8710232	0.8159003		-6.3	20	
Benzofluoranthenes, Total	A	10.000	8.9	1.3493830	1.2018640		-10.9	20	
Benzo(a)pyrene	A	5.0000	4.1	1.4110800	1.1547730		-18.2	20	

* Values outside of QC limits

INITIAL CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070502.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-ICV1	Injection Time:	11:56
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
Indeno(1,2,3-cd)pyrene	A	5.0000	4.8	1.3866980	1.3317890		-4.0	20	
Dibenzo(a,h)anthracene	A	5.0000	5.0	1.1194120	1.1098070		-0.9	20	
Benzo(g,h,i)perylene	A	5.0000	4.8	1.2342060	1.1930110		-3.3	20	
1-Methylnaphthalene	A	5.0000	5.1	0.8299272	0.8389272		1.1	20	
2-Fluorophenol	A	7.5000	6.24	1.3703370	1.1402930		-16.8	20	
Phenol-d5	A	7.5000	6.08	1.8109650	1.4670950		-19.0	20	
2-Chlorophenol-d4	A	7.5000	6.89	1.4120680	1.2966920		-8.2	20	
1,2-Dichlorobenzene-d4	A	5.0000	4.78	0.9980763	0.9530707		-4.5	20	
Nitrobenzene-d5	A	5.0000	5.50	0.3993507	0.4392122		10.0	20	
2-Fluorobiphenyl	A	5.0000	5.23	1.7647260	1.8440860		4.5	20	
2,4,6-Tribromophenol	A	7.5000	10.8	0.2161010	0.3105727		43.7	20	*
p-Terphenyl-d14	A	5.0000	4.65	1.0492840	0.9761541		-7.0	20	

* Values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070502.D

Date : 05-JUL-2018 11:56

Client ID:

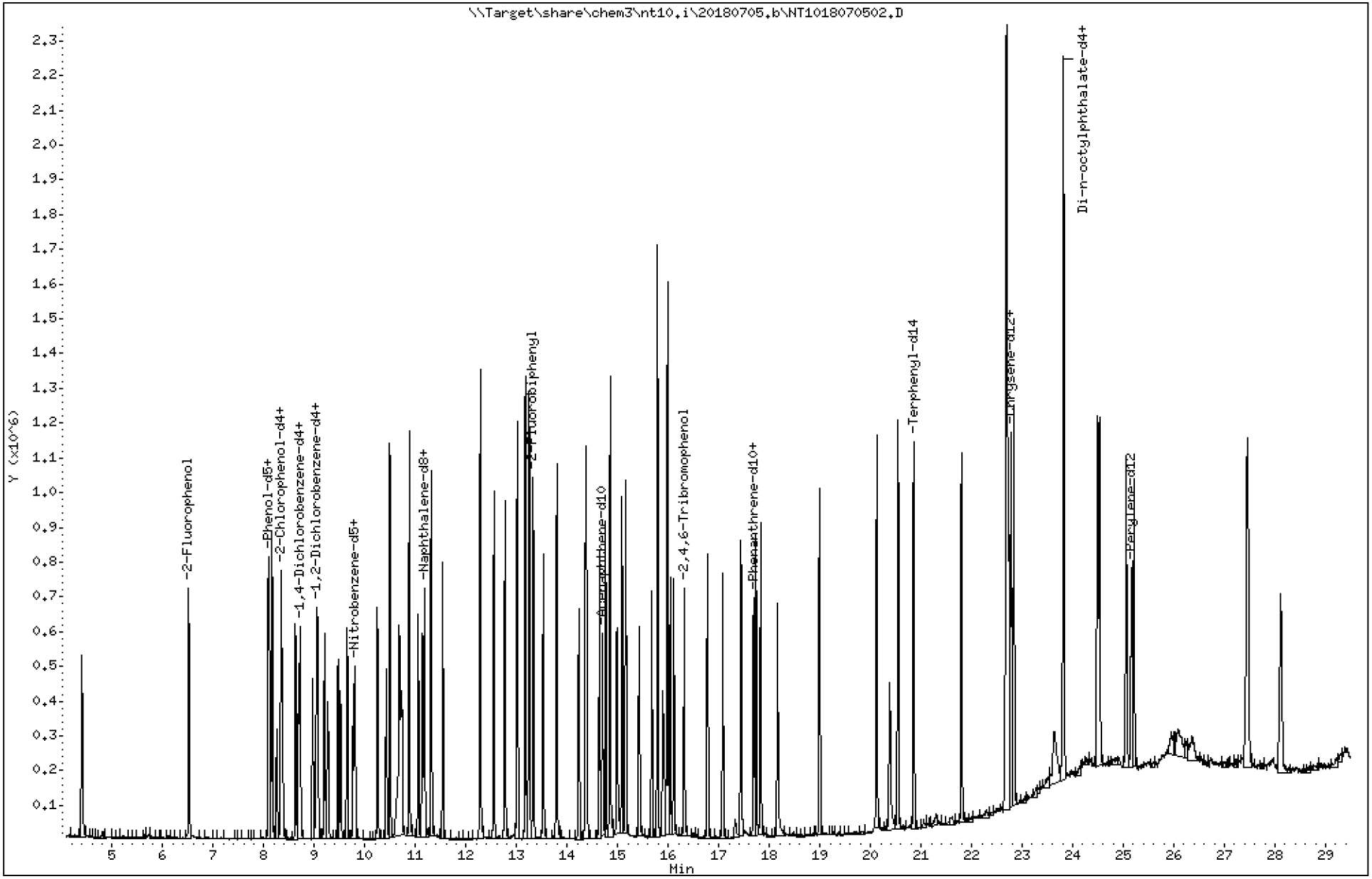
Instrument: nt10.i

Sample Info: SGG0051-ICV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070502.D
Lab Smp Id: SGG0051-ICV1
Inj Date : 05-JUL-2018 11:56
Operator : YZ Inst ID: nt10.i
Smp Info : SGG0051-ICV1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.512	6.512	(0.749)	212924	7.50000	6.241
$	2 Phenol-d5	99	8.088	8.088	(0.931)	273947	7.50000	6.076
	3 Phenol	94	8.104	8.104	(0.932)	170932	5.00000	3.818
$	5 2-Chlorophenol-d4	132	8.335	8.335	(0.959)	242128	7.50000	6.887
	4 Bis(2-Chloroethyl)ether	93	8.250	8.250	(0.949)	132863	5.00000	3.859
	6 2-Chlorophenol	128	8.366	8.366	(0.963)	168964	5.00000	4.624
	7 1,3-Dichlorobenzene	146	8.622	8.622	(0.992)	175249	5.00000	4.770
*	8 1,4-Dichlorobenzene-d4	152	8.691	8.691	(1.000)	99588	4.00000	
	9 1,4-Dichlorobenzene	146	8.715	8.715	(1.003)	169922	5.00000	5.102
$	10 1,2-Dichlorobenzene-d4	152	9.041	9.041	(1.040)	118643	5.00000	4.775
	12 1,2-Dichlorobenzene	146	9.064	9.064	(1.043)	154996	5.00000	4.690
	11 Benzyl alcohol	108	8.963	8.963	(1.031)	99440	5.00000	4.484(M)
	14 2,2'-oxybis(1-Chloropropane)	121	9.266	9.266	(1.066)	54568	5.00000	4.148
	13 2-Methylphenol	108	9.196	9.196	(1.058)	128745	5.00000	4.287
	17 Hexachloroethane	117	9.646	9.646	(1.110)	93925	5.00000	6.065
	16 N-Nitroso-di-n-propylamine	70	9.514	9.514	(1.095)	99727	5.00000	4.501
	15 4-Methylphenol	108	9.468	9.468	(1.089)	129219	5.00000	4.052
$	18 Nitrobenzene-d5	82	9.770	9.770	(0.878)	184882	5.00000	5.499
	19 Nitrobenzene	77	9.801	9.801	(0.881)	172984	5.00000	5.230
	20 Isophorone	82	10.244	10.244	(0.920)	324078	5.00000	4.773
	21 2-Nitrophenol	139	10.422	10.422	(0.936)	96146	5.00000	5.274
	22 2,4-Dimethylphenol	107	10.488	10.488	(0.942)	333600	10.0000	10.31
	23 Bis(2-Chloroethoxy)methane	93	10.679	10.679	(0.959)	147461	5.00000	4.138
	24 Benzoic acid	105	10.729	10.729	(0.964)	407155	20.0000	18.79(M)
	25 2,4-Dichlorophenol	162	10.870	10.870	(0.977)	279554	10.0000	10.72
	26 1,2,4-Trichlorobenzene	180	11.054	11.054	(0.993)	151945	5.00000	5.419
*	27 Naphthalene-d8	136	11.131	11.131	(1.000)	336752	4.00000	
	28 Naphthalene	128	11.170	11.170	(1.003)	422606	5.00000	4.915
	29 4-Chloroaniline	127	11.309	11.309	(1.016)	358309	10.0000	9.342
	30 Hexachlorobutadiene	225	11.541	11.541	(1.037)	123100	5.00000	6.991
	31 4-Chloro-3-methylphenol	107	12.276	12.276	(1.103)	318275	10.0000	11.28
	32 2-Methylnaphthalene	142	12.547	12.547	(1.127)	360329	5.00000	5.311
	33 Hexachlorocyclopentadiene	237	13.011	13.011	(0.885)	266998	10.0000	13.41

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.174	13.174	(0.896)	249383	10.0000	11.39
	35 2,4,5-Trichlorophenol	196	13.244	13.244	(0.901)	256570	10.0000	10.57
$	36 2-Fluorobiphenyl	172	13.329	13.329	(0.907)	413889	5.00000	5.225
	37 2-Chloronaphthalene	162	13.530	13.530	(0.920)	329501	5.00000	5.059
	38 2-Nitroaniline	65	13.793	13.793	(0.938)	254076	10.0000	13.98
	39 Dimethylphthalate	163	14.234	14.234	(0.968)	367942	5.00000	5.308
	40 Acenaphthylene	152	14.381	14.381	(0.978)	492018	5.00000	4.789
	41 2,6-Dinitrotoluene	165	14.366	14.366	(0.977)	166963	10.0000	11.23
*	42 Acenaphthene-d10	164	14.698	14.698	(1.000)	179553	4.00000	
	43 3-Nitroaniline	138	14.637	14.637	(0.996)	168275	10.0000	9.785
	44 Acenaphthene	153	14.760	14.760	(1.004)	328192	5.00000	5.371
	45 2,4-Dinitrophenol	184	14.845	14.845	(1.010)	228383	20.0000	23.73
	46 Dibenzofuran	168	15.085	15.085	(1.026)	499072	5.00000	5.259
	47 4-Nitrophenol	109	14.984	14.984	(1.019)	195296	10.0000	18.40
	48 2,4-Dinitrotoluene	165	15.155	15.155	(1.031)	228131	10.0000	11.93
	50 Diethylphthalate	149	15.673	15.673	(1.066)	406436	5.00000	5.746
	49 Fluorene	166	15.789	15.789	(1.074)	432481	5.00000	5.972
	51 4-Chlorophenyl-phenylether	204	15.789	15.789	(1.074)	239715	5.00000	6.775
	52 4-Nitroaniline	138	15.897	15.897	(1.082)	171045	10.0000	10.30
	53 4,6-Dinitro-2-methylphenol	198	15.981	15.981	(0.903)	307347	20.0000	18.49
	54 N-Nitrosodiphenylamine	169	16.035	16.035	(0.907)	242502	5.00000	4.593
$	55 2,4,6-Tribromophenol	330	16.313	16.313	(1.110)	104558	7.50000	10.78
	56 4-Bromophenyl-phenylether	248	16.776	16.776	(0.948)	129911	5.00000	5.451
	57 Hexachlorobenzene	284	17.077	17.077	(0.965)	130505	5.00000	5.735
	58 Pentachlorophenol	266	17.433	17.433	(0.986)	131453	10.0000	9.824
*	59 Phenanthrene-d10	188	17.689	17.689	(1.000)	392471	4.00000	
	60 Phenanthrene	178	17.735	17.735	(1.003)	507162	5.00000	4.875
	61 Anthracene	178	17.828	17.828	(1.008)	520275	5.00000	4.717
	62 Carbazole	167	18.161	18.161	(1.027)	472014	5.00000	4.793
	63 Di-n-butylphthalate	149	18.988	18.988	(1.073)	812779	5.00000	5.416
	64 Fluoranthene	202	20.118	20.118	(0.885)	736159	5.00000	4.495
	65 Pyrene	202	20.544	20.544	(0.904)	742566	5.00000	4.350
$	66 Terphenyl-d14	244	20.853	20.853	(0.917)	501875	5.00000	4.652
	67 Butylbenzylphthalate	149	21.798	21.798	(0.959)	333530	5.00000	4.935
	68 Benzo(a)anthracene	228	22.711	22.711	(0.999)	667652	5.00000	4.459
*	69 Chrysene-d12	240	22.735	22.735	(1.000)	411308	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.688	22.688	(0.998)	759968	15.0000	14.47
	71 Chrysene	228	22.781	22.781	(1.002)	571564	5.00000	4.753
	72 bis(2-Ethylhexyl)phthalate	149	22.835	22.835	(0.959)	464916	5.00000	5.340
*	134 Di-n-octylphthalate-d4	153	23.811	23.811	(1.000)	835710	4.00000	
	73 Di-n-octylphthalate	149	23.818	23.818	(1.000)	852320	5.00000	4.684
	74 Benzo(b)fluoranthene	252	24.492	24.492	(0.973)	740338	5.00000	4.501
	75 Benzo(k)fluoranthene	252	24.531	24.531	(0.975)	742008	5.00000	4.483
	76 Benzo(a)pyrene	252	25.057	25.057	(0.996)	678959	5.00000	4.092
*	77 Perylene-d12	264	25.166	25.166	(1.000)	470367	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.444	27.444	(1.091)	783037	5.00000	4.802
	79 Dibenzo(a,h)anthracene	278	27.467	27.467	(1.091)	652521	5.00000	4.957
	80 Benzo(g,h,i)perylene	276	28.112	28.112	(1.117)	701441	5.00000	4.833
	90 N-Nitrosodimethylamine	74	4.388	4.388	(0.505)	135102	10.0000	6.705
	91 Aniline	93	8.158	8.158	(0.939)	377135	10.0000	7.579
	93 Benzidine	184	17.689	17.689	(0.778)	58875	10.0000	0.8464
	103 Pyridine	79	4.404	4.404	(0.507)	124103	5.00000	3.408
	105 1-methylnaphthalene	142	12.771	12.771	(1.147)	353138	5.00000	5.054
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.105	16.105	(1.096)	383247	5.00000	5.661

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.531	24.531	(0.975)	1413293	10.0000	8.907
99 Perylene	252	25.212	25.212	(1.002)	604047	5.00000	4.540
98 Retene	219	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	15.425	15.425	(1.049)	98812	5.00000	4.868

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070502.D
Lab Smp Id: SGG0051-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 30-JUN-2018
Calibration Time: 14:17
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	99588	-10.04
27 Naphthalene-d8	393946	196973	787892	336752	-14.52
42 Acenaphthene-d10	203210	101605	406420	179553	-11.64
59 Phenanthrene-d10	403506	201753	807012	392471	-2.73
69 Chrysene-d12	354618	177309	709236	411308	15.99
134 Di-n-octylphthala	800232	400116	1600464	835710	4.43
77 Perylene-d12	378948	189474	757896	470367	24.12

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.69	0.00
27 Naphthalene-d8	11.13	10.63	11.63	11.13	0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.70	0.00
59 Phenanthrene-d10	17.69	17.19	18.19	17.69	0.00
69 Chrysene-d12	22.74	22.24	23.24	22.74	0.00
134 Di-n-octylphthala	23.81	23.31	24.31	23.81	0.00
77 Perylene-d12	25.17	24.67	25.67	25.17	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070502.D

Lab ID: SGG0051-ICV1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 11:56

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

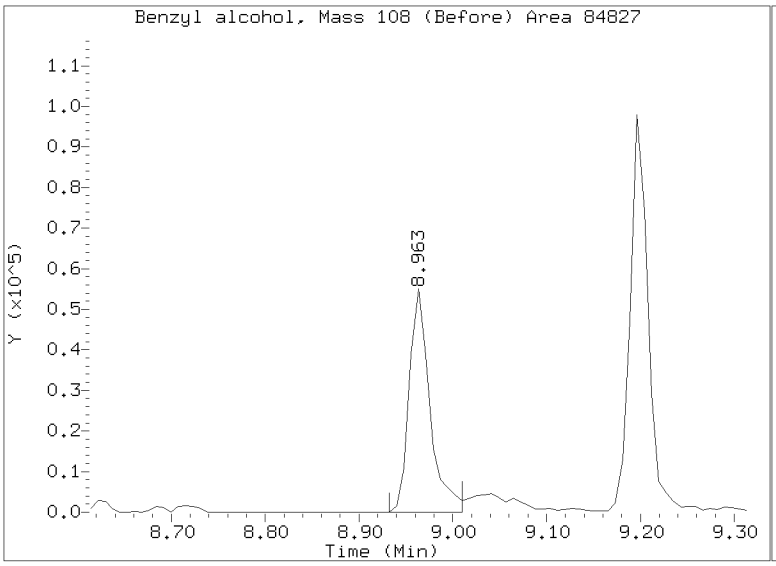
RRT	CCV RRT	DELTA	COMPOUND
NONE			

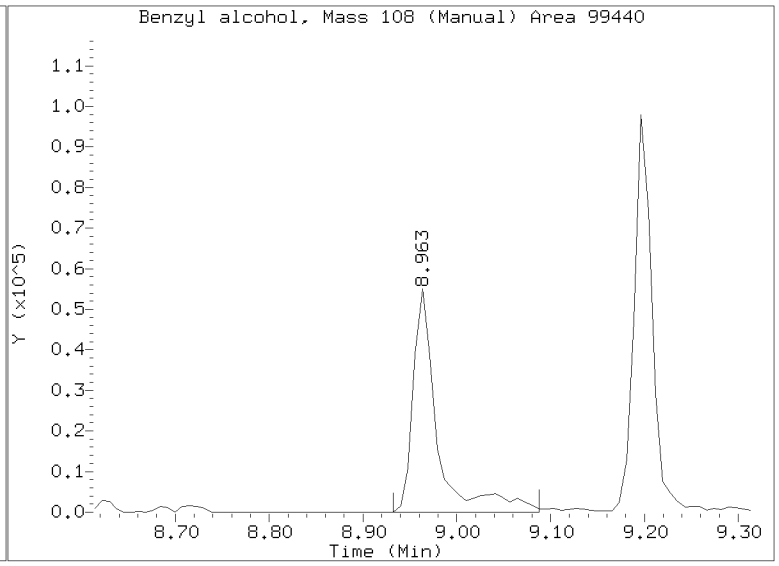
On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

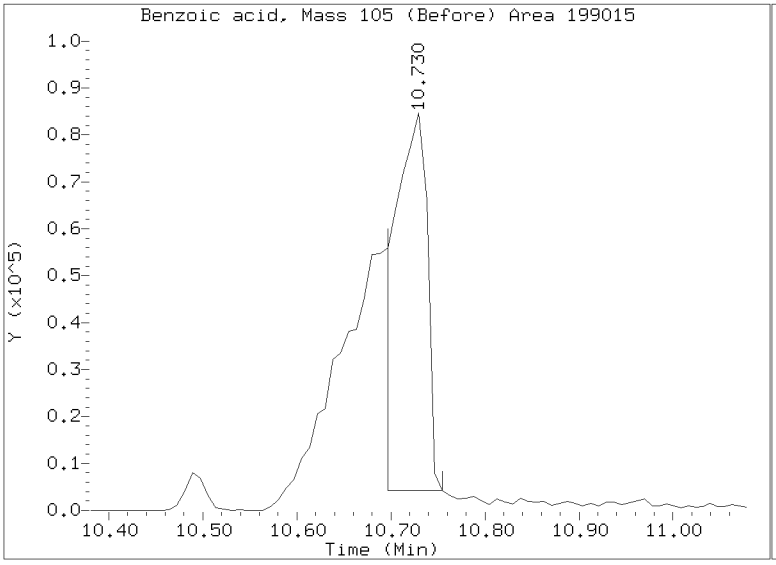
* Only compounds listed in the work order have been verified by the analyst *

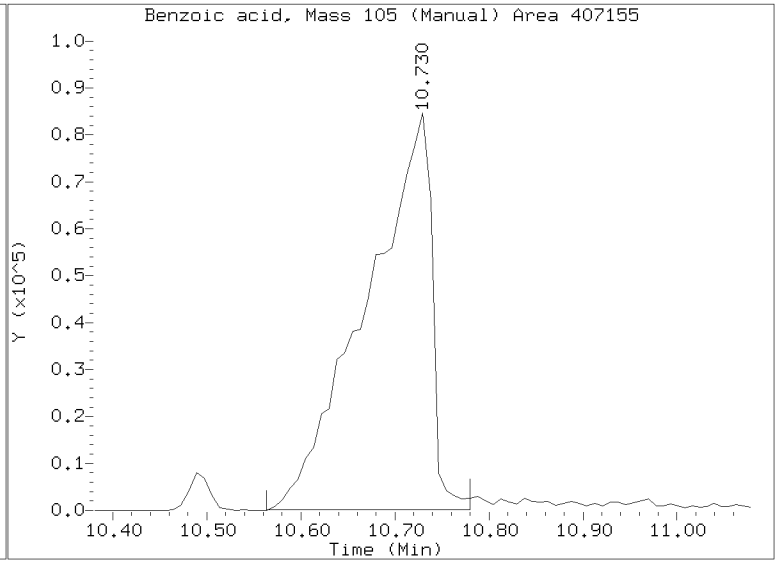
Quant Ion Manual Peak Adjustment Report

Datafile: //Target/share/chem3/nt10.i/20180705.b/NT1018070502.D
Injection Date: 05-JUL-2018 11:56
Lab ID:SGG0051-ICV1 Client ID:
Report Date: 07/05/2018 15:42









Q-FLAG SUMMARY FOR DATABATCH - \\Target\share\chem3\nt10.i\20180705.b

Instrument: nt10.i Date: 05-JUL-2018 Method: 20180705.b\ABN.m

INITIAL CAL: 19-MAY-2018

Compound	%RSD or R^2
Retene	ND

ICV CAL: NT1018070502.D 05-JUL-2018 11:56

Compound	%D
Phenol	-23.6
Bis(2-Chloroethyl)ether	-22.8
Hexachloroethane	21.3
Hexachlorobutadiene	39.8
Hexachlorocyclopentadiene	34.1
2-Nitroaniline	39.8
4-Nitrophenol	84.0
4-Chlorophenyl-phenylether	35.5
N-Nitrosodimethylamine	-33.0
Aniline	-24.2
Benzidine	-91.5
Pyridine	-31.8
2,4,6-Tribromophenol	43.7

CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051936.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/20/18
Lab Sample ID:	SGE0328-CCV1	Injection Time:	05:22
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	5.1	1.7984170	1.8421230		2.4	50	
bis(2-chloroethyl) ether	A	5.0000	5.2	1.3829460	1.4297430		3.4	50	
2-Chlorophenol	A	5.0000	5.2	1.4675600	1.5399180		4.9	50	
1,3-Dichlorobenzene	A	5.0000	5.3	1.4756490	1.5658040		6.1	50	
1,4-Dichlorobenzene	A	5.0000	5.3	1.3377560	1.4292860		6.8	50	
1,2-Dichlorobenzene	A	5.0000	5.3	1.3272630	1.4136020		6.5	50	
Benzyl Alcohol	A	5.0000	5.0	0.8906565	0.8928790		0.2	50	
2,2'-Oxybis(1-chloropropane)	A	5.0000	5.7	0.5283531	0.6044898		14.4	50	
2-Methylphenol	A	5.0000	5.1	1.2061870	1.2275710		1.8	50	
Hexachloroethane	A	5.0000	3.2	0.6220608	0.4042837		-35.0	50	
N-Nitroso-di-n-Propylamine	A	5.0000	5.0	0.8899646	0.8954109		0.6	50	
4-Methylphenol	A	5.0000	5.2	1.2808140	1.3279510		3.7	50	
Nitrobenzene	A	5.0000	5.2	0.3928437	0.4112249		4.7	50	
Isophorone	A	5.0000	5.9	0.8065878	0.9546714		18.4	50	
2-Nitrophenol	A	5.0000	5.8	0.2165516	0.2495261		15.2	50	
2,4-Dimethylphenol	A	10.000	10.1	0.3843482	0.3891845		1.3	50	
Bis(2-Chloroethoxy)methane	A	5.0000	4.9	0.4232749	0.4170746		-1.5	50	
2,4-Dichlorophenol	A	10.000	12.1	0.3096960	0.3732176		20.5	50	
1,2,4-Trichlorobenzene	A	5.0000	5.2	0.3330258	0.3495663		5.0	50	
Naphthalene	A	5.0000	5.2	1.0213430	1.0705510		4.8	50	
Benzoic acid	A	20.000	19.7	0.2160131	0.2540825		-1.3	50	
4-Chloroaniline	A	10.000	11.4	0.4555838	0.5171168		13.5	50	
Hexachlorobutadiene	A	5.0000	5.5	0.2091520	0.2299042		9.9	50	
4-Chloro-3-Methylphenol	A	10.000	11.8	0.3352795	0.3952776		17.9	50	
2-Methylnaphthalene	A	5.0000	5.5	0.8059253	0.8847622		9.8	50	
Hexachlorocyclopentadiene	A	10.000	1.5	0.4434257	0.0649204		-85.4	50	*
2,4,6-Trichlorophenol	A	10.000	11.8	0.4875623	0.5738037		17.7	50	
2,4,5-Trichlorophenol	A	10.000	10.8	0.4794408	0.5815804		7.6	50	
2-Chloronaphthalene	A	5.0000	5.4	1.4508900	1.5573970		7.3	50	
2-Nitroaniline	A	10.000	11.5	0.4048286	0.4668505		15.3	50	
Acenaphthylene	A	5.0000	5.0	2.2887440	2.3034180		0.6	50	
Dimethylphthalate	A	5.0000	5.2	1.5441220	1.5983500		3.5	50	
2,6-Dinitrotoluene	A	10.000	10.9	0.3311250	0.3615455		9.2	50	
Acenaphthene	A	5.0000	5.3	1.3613250	1.4446750		6.1	50	

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051936.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/20/18
Lab Sample ID:	SGE0328-CCV1	Injection Time:	05:22
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
3-Nitroaniline	A	10.000	10.8	0.3830973	0.4137024		8.0	50
2,4-Dinitrophenol	A	20.000	16.9	0.1626979	0.1780765		-15.6	50
Dibenzofuran	A	5.0000	5.2	2.1140180	2.2086990		4.5	50
4-Nitrophenol	A	10.000	9.2	0.2078877	0.2183250		-7.9	50
2,4-Dinitrotoluene	A	10.000	11.5	0.4260379	0.4909496		15.2	50
Fluorene	A	5.0000	5.1	1.6133890	1.6564250		2.7	50
4-Chlorophenylphenyl ether	A	5.0000	5.2	0.7882218	0.8203295		4.1	50
Diethyl phthalate	A	5.0000	5.1	1.5756750	1.5926160		1.1	50
4-Nitroaniline	A	10.000	9.1	0.3700928	0.3379295		-8.7	50
4,6-Dinitro-2-methylphenol	A	20.000	14.9	0.1324757	0.1265364		-25.7	50
N-Nitrosodiphenylamine	A	5.0000	5.1	0.5381609	0.5502173		2.2	50
4-Bromophenyl phenyl ether	A	5.0000	5.4	0.2429173	0.2610404		7.5	50
Hexachlorobenzene	A	5.0000	5.2	0.2319114	0.2422703		4.5	50
Pentachlorophenol	A	10.000	10.3	0.1363741	0.1407138		3.2	50
Phenanthrene	A	5.0000	5.1	1.0603730	1.0751800		1.4	50
Anthracene	A	5.0000	5.2	1.1242370	1.1768660		4.7	50
Carbazole	A	5.0000	5.5	1.0037180	1.0976740		9.4	50
Di-n-Butylphthalate	A	5.0000	5.5	1.5293860	1.6971260		11.0	50
Fluoranthene	A	5.0000	5.1	1.5927680	1.6232020		1.9	50
Pyrene	A	5.0000	5.1	1.6599440	1.6798020		1.2	50
Butylbenzylphthalate	A	5.0000	5.1	0.6573293	0.6758394		2.8	50
Benzo(a)anthracene	A	5.0000	5.1	1.4562270	1.4770280		1.4	50
3,3'-Dichlorobenzidine	A	15.000	16.2	0.5109220	0.5526282		8.2	50
Chrysene	A	5.0000	5.2	1.1695890	1.2047770		3.0	50
bis(2-Ethylhexyl)phthalate	A	5.0000	5.4	0.4166951	0.4476279		7.4	50
Di-n-Octylphthalate	A	5.0000	5.1	0.8710232	0.8961153		2.9	50
Benzofluoranthenes, Total	A	10.000	10.7	1.3493830	1.4469390		7.2	50
Benzo(a)pyrene	A	5.0000	2.9	1.4110800	0.8122306		-42.4	50
Indeno(1,2,3-cd)pyrene	A	5.0000	3.6	1.3866980	1.0028860		-27.7	50
Dibenzo(a,h)anthracene	A	5.0000	3.9	1.1194120	0.8838555		-21.0	50
Benzo(g,h,i)perylene	A	5.0000	3.1	1.2342060	0.7687102		-37.7	50
1-Methylnaphthalene	A	5.0000	5.4	0.8299272	0.8995163		8.4	50
2-Fluorophenol	A	7.5000	7.85	1.3703370	1.4340070		4.6	50
Phenol-d5	A	7.5000	7.74	1.8109650	1.8700870		3.3	50

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051936.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/20/18
Lab Sample ID:	SGE0328-CCV1	Injection Time:	05:22
Sequence Name:	ABN 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2-Chlorophenol-d4	A	7.5000	7.90	1.4120680	1.4873640		5.3	50
1,2-Dichlorobenzene-d4	A	5.0000	5.03	0.9980763	1.0044900		0.6	50
Nitrobenzene-d5	A	5.0000	5.11	0.3993507	0.4080134		2.2	50
2-Fluorobiphenyl	A	5.0000	5.12	1.7647260	1.8078700		2.4	50
2,4,6-Tribromophenol	A	7.5000	8.31	0.2161010	0.2395542		10.9	50
p-Terphenyl-d14	A	5.0000	4.73	1.0492840	0.9916358		-5.5	50

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

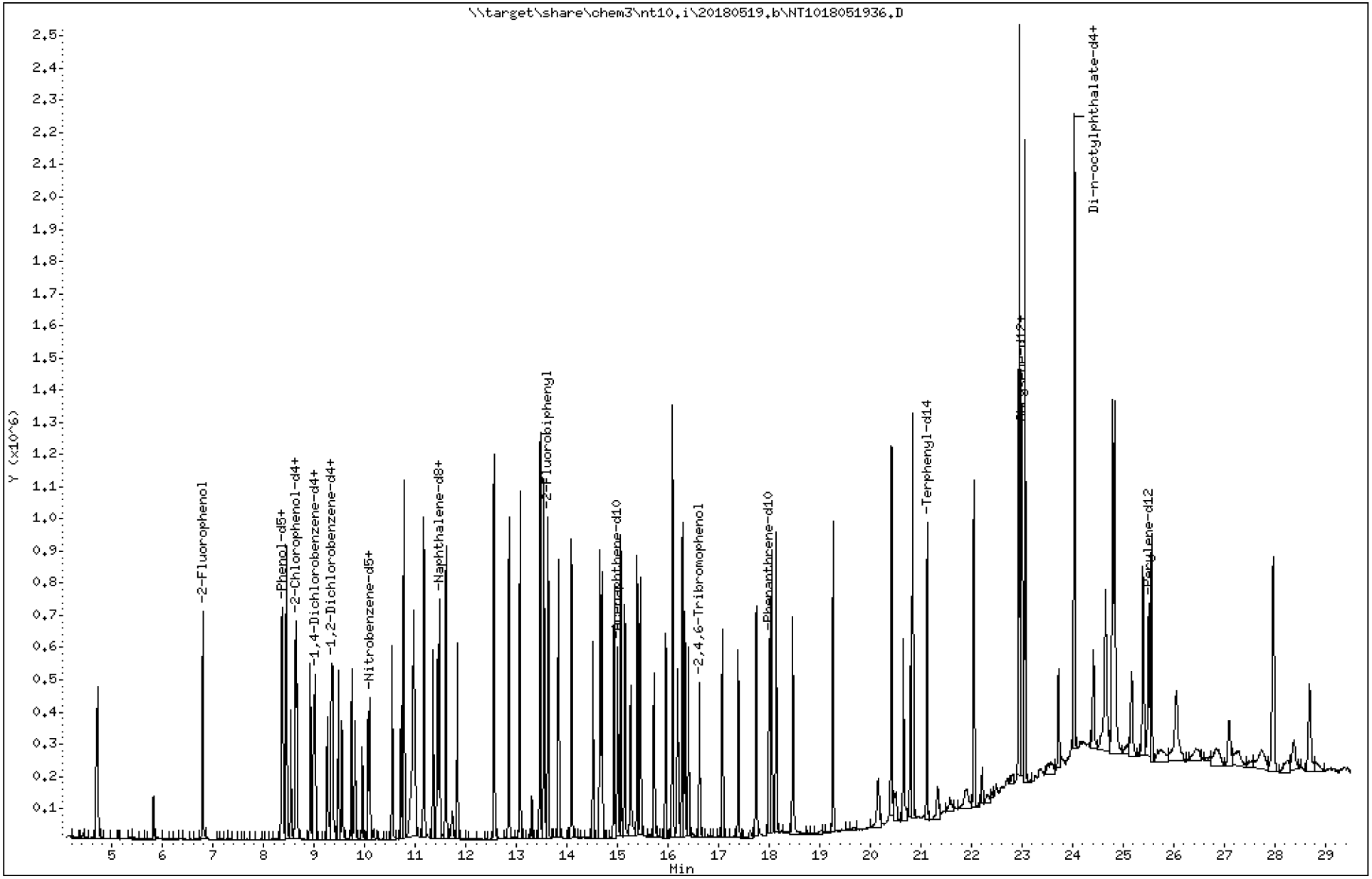
Instrument: nt10.i

Sample Info: SGE0328-CCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

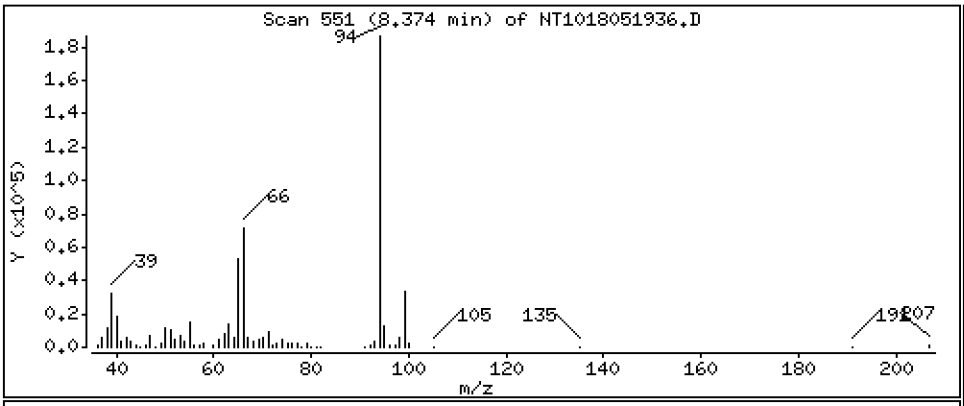
Operator: YZ

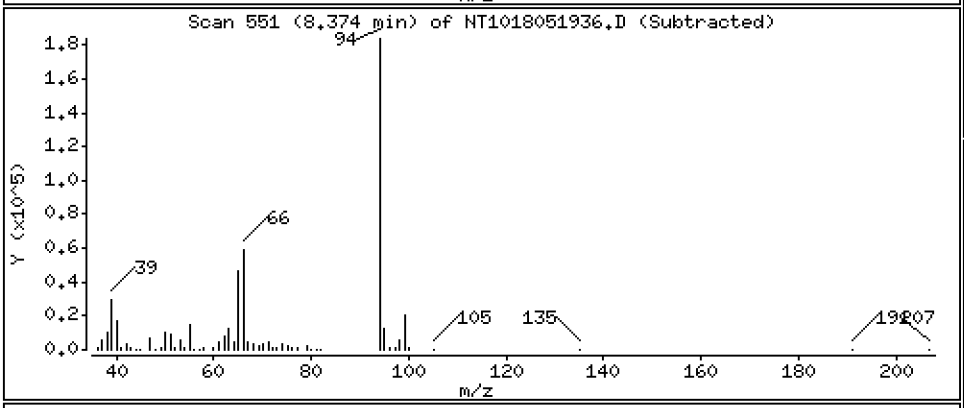
Column phase: ZB-5msi

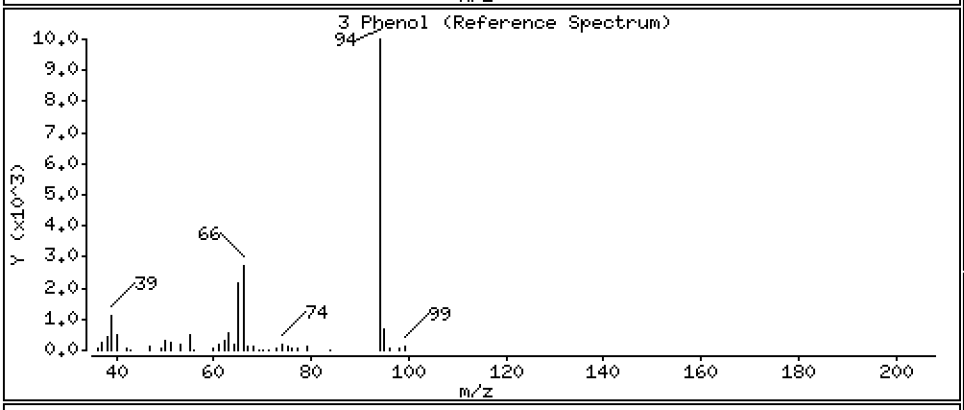
Column diameter: 0.25

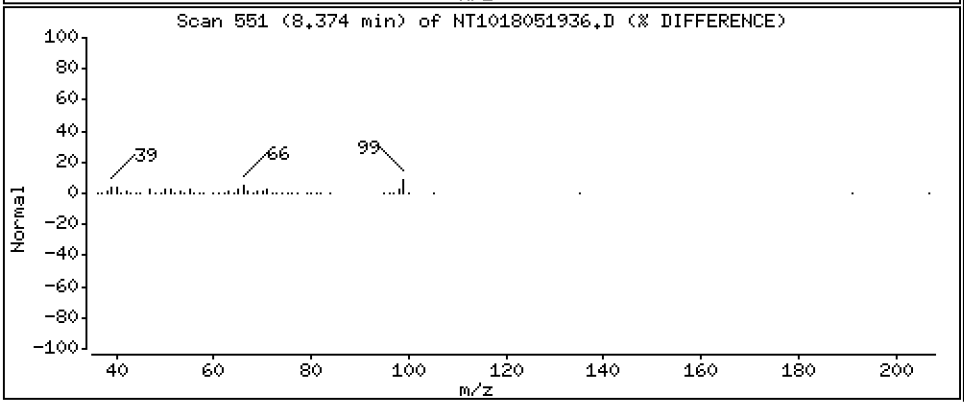
3 Phenol

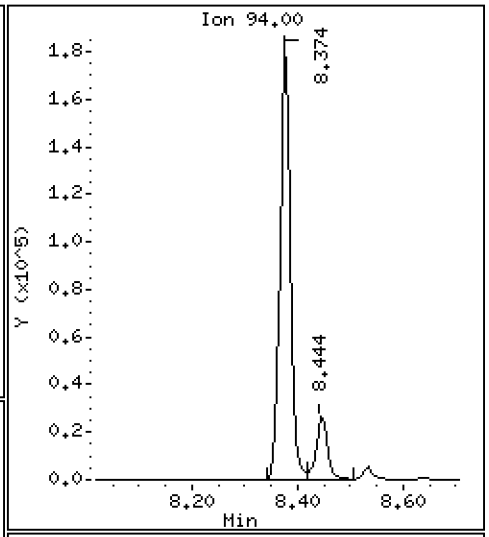
Concentration: 5.122 ug/mL

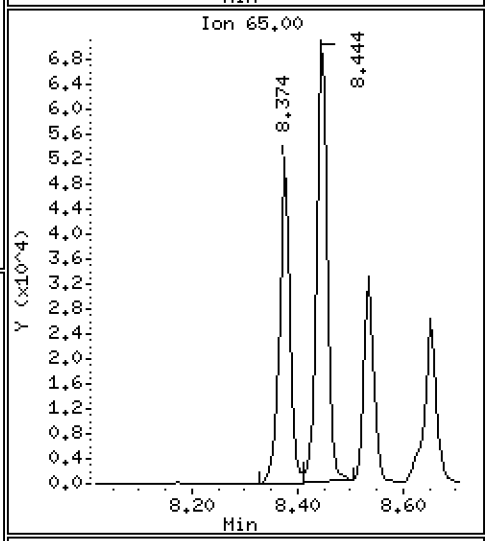


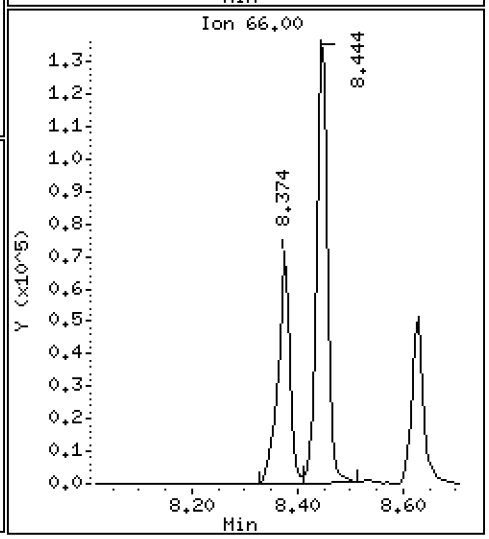












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

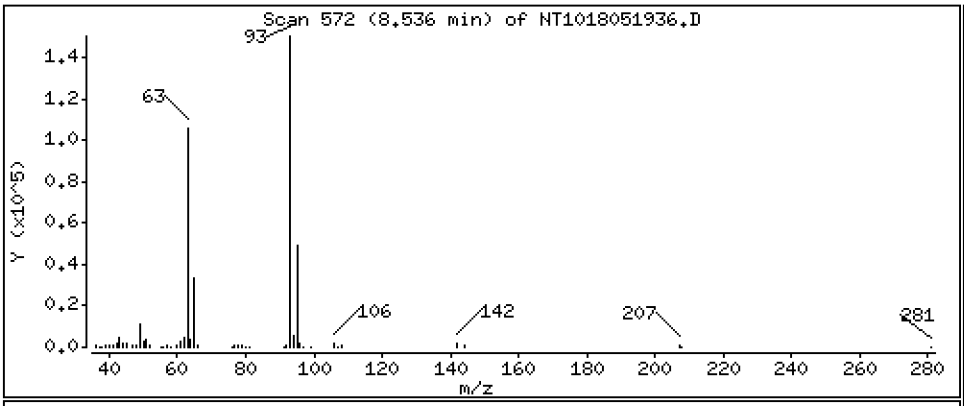
Operator: YZ

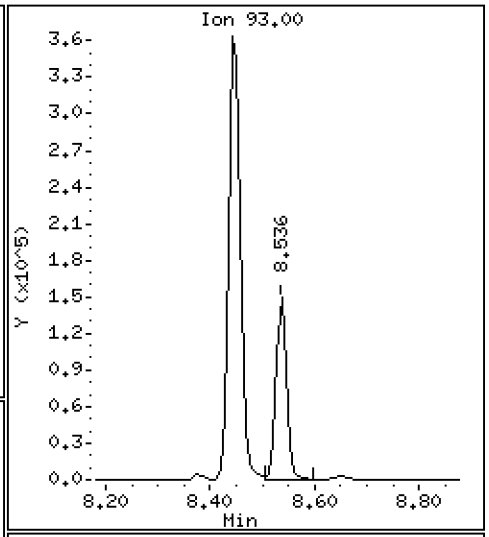
Column phase: ZB-5msi

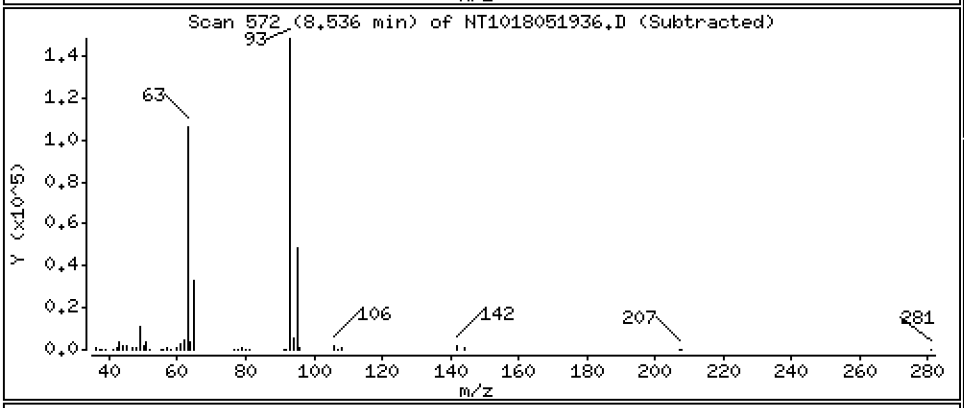
Column diameter: 0.25

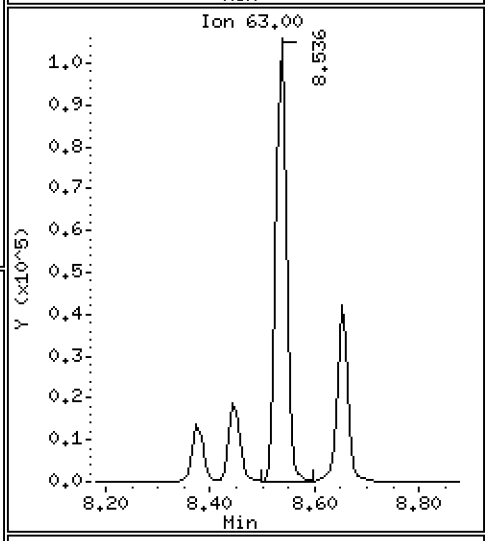
4 Bis(2-Chloroethyl)ether

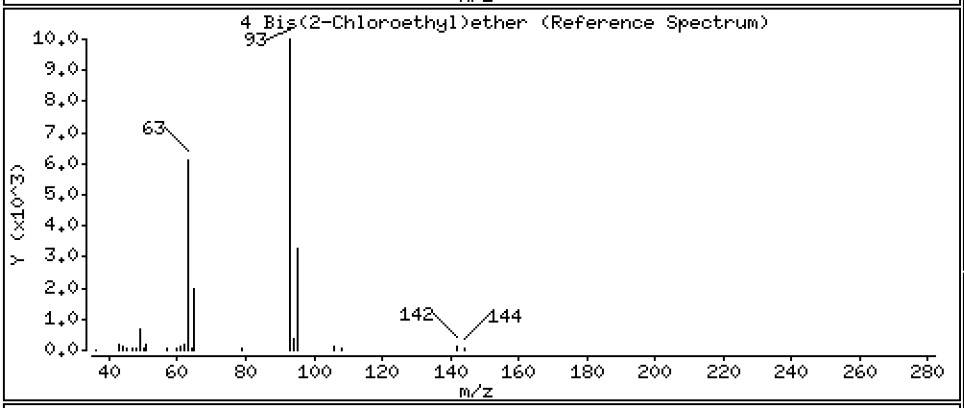
Concentration: 5.169 ug/mL

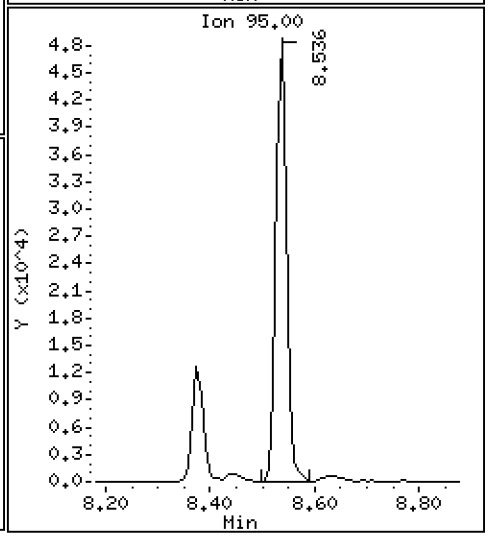


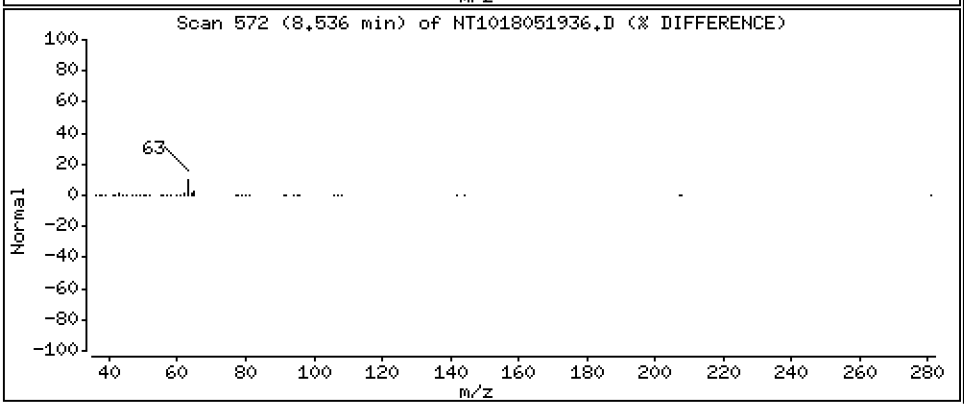












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

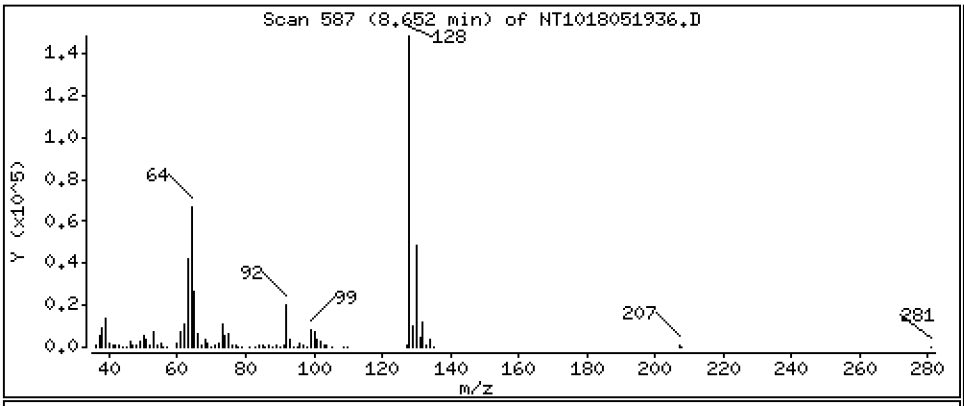
Operator: YZ

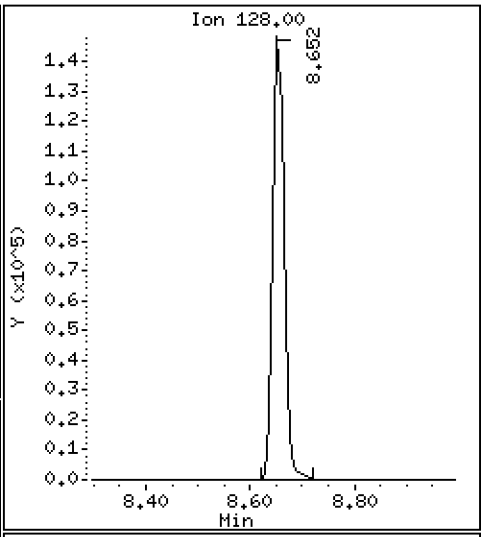
Column phase: ZB-5msi

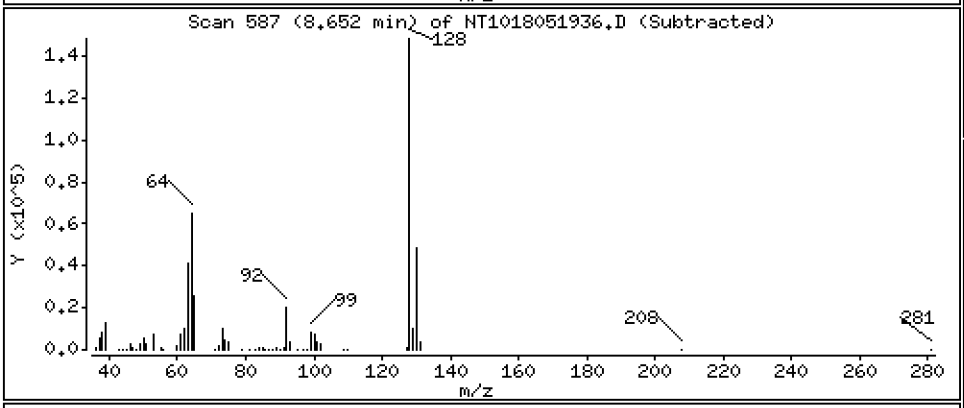
Column diameter: 0.25

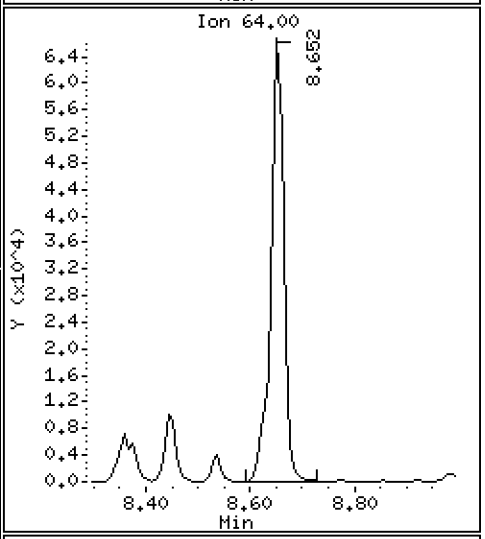
6 2-Chlorophenol

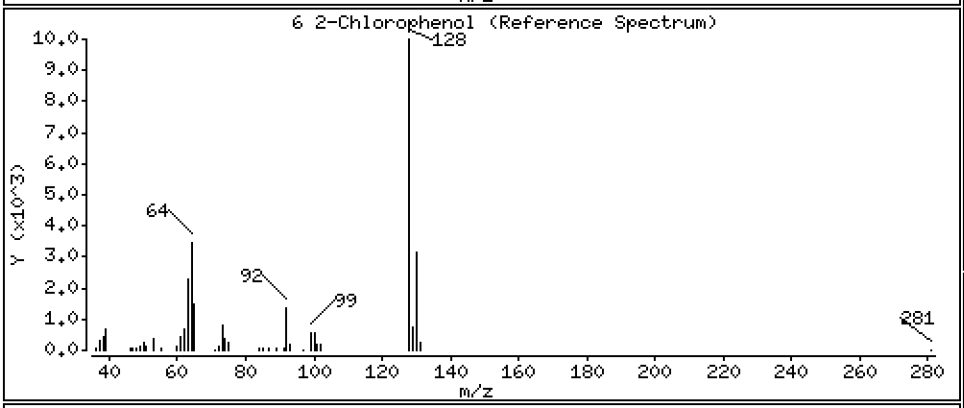
Concentration: 5.247 ug/mL

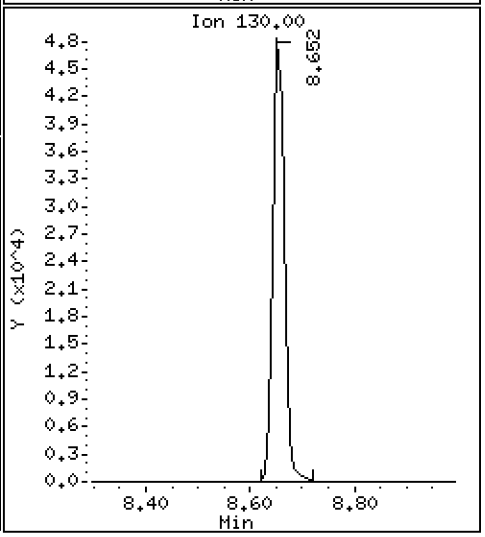


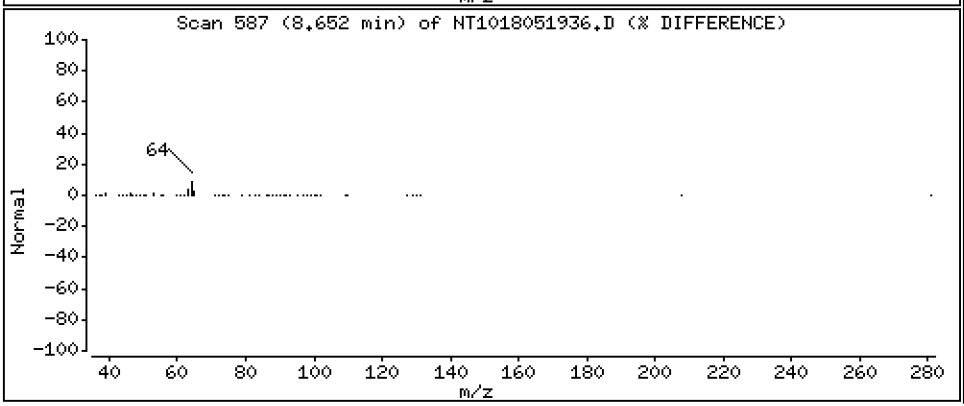












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

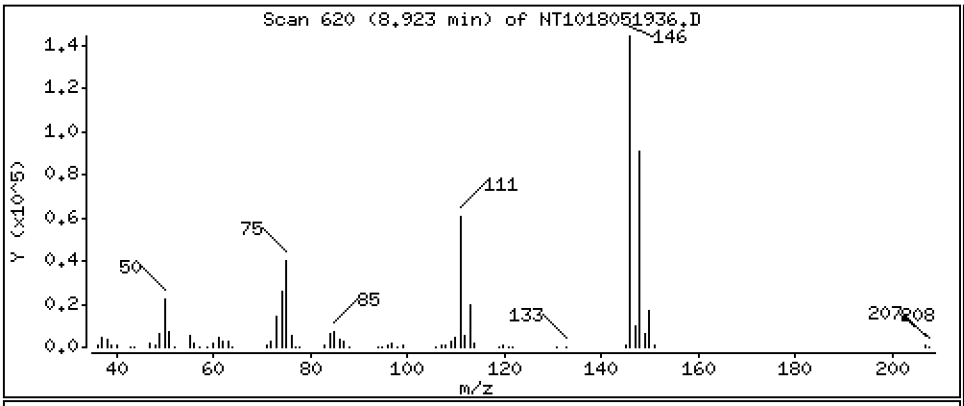
Operator: YZ

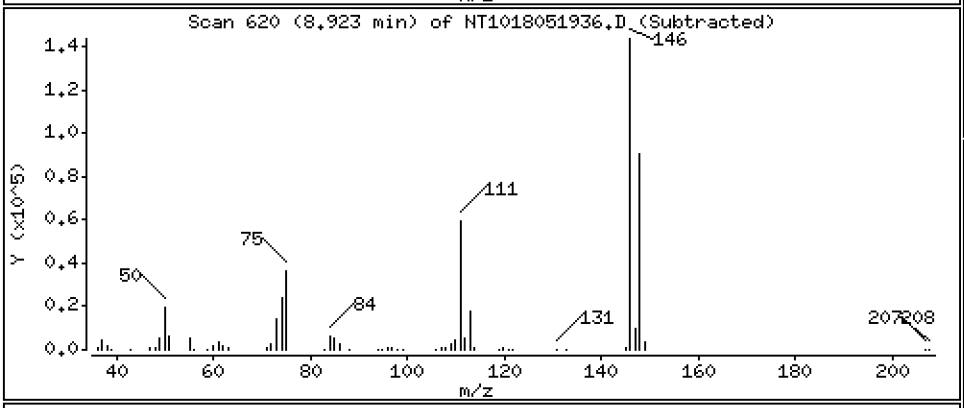
Column phase: ZB-5msi

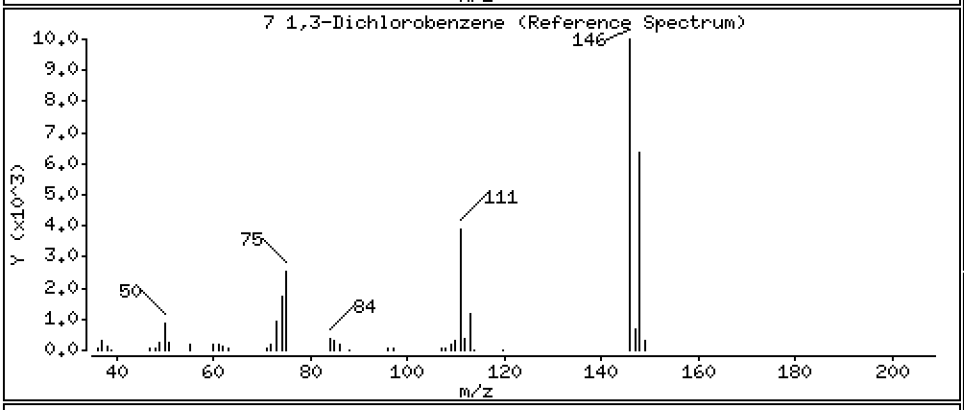
Column diameter: 0.25

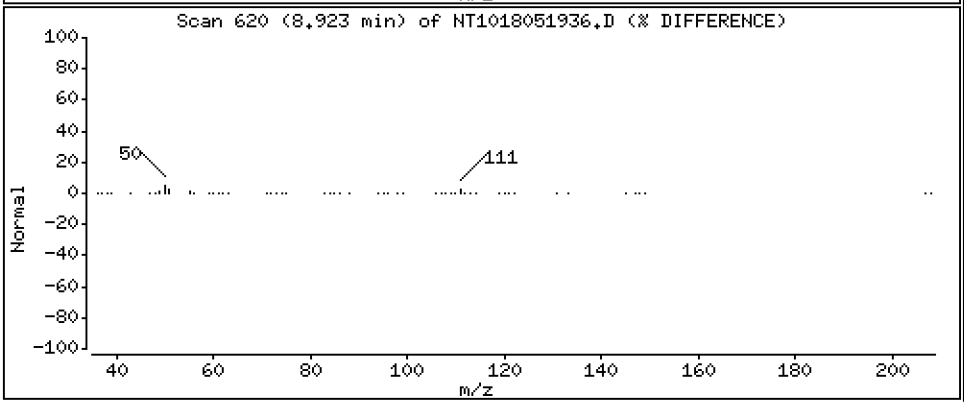
7 1,3-Dichlorobenzene

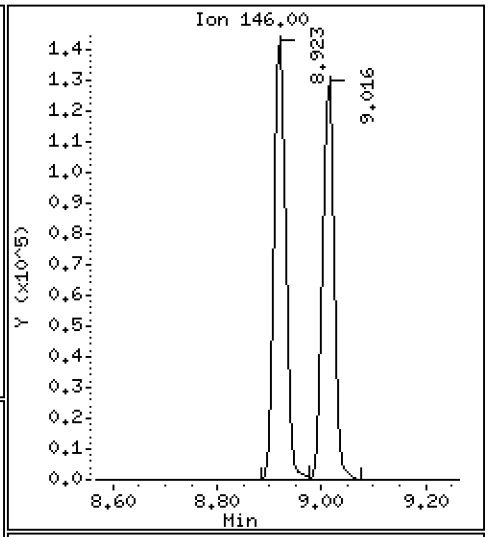
Concentration: 5.305 ug/mL

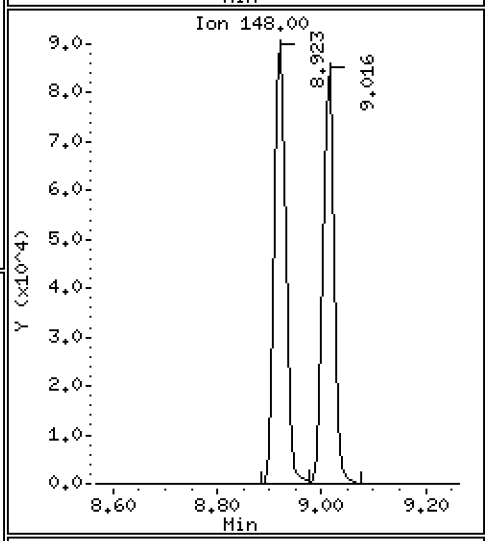


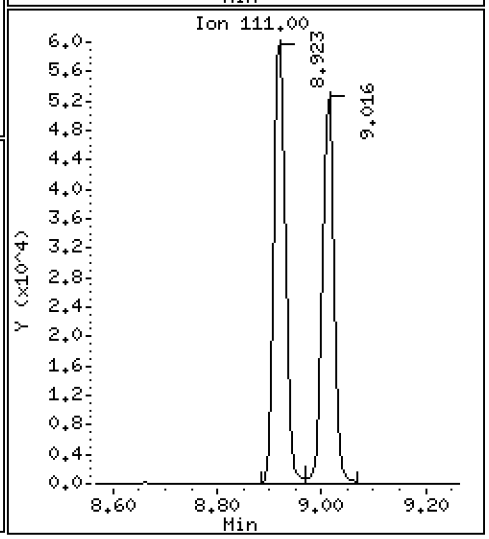












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

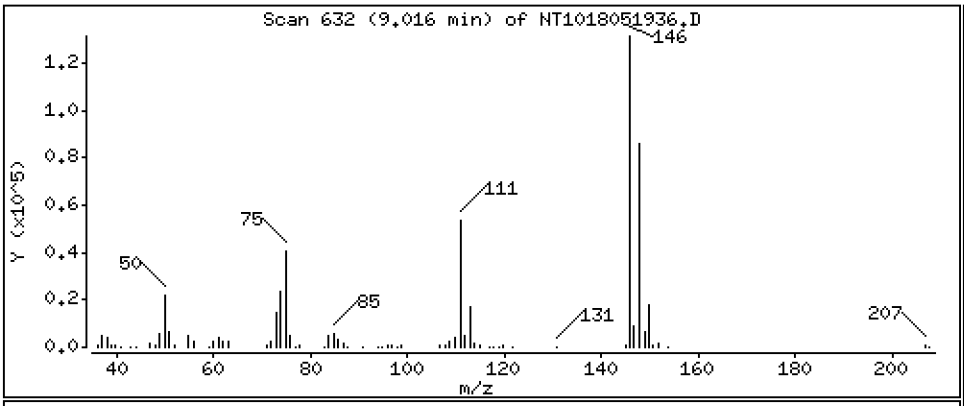
Operator: YZ

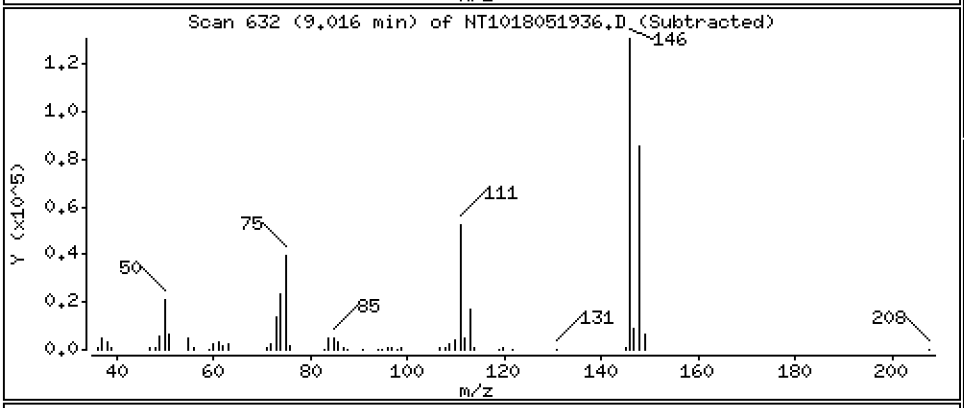
Column phase: ZB-5msi

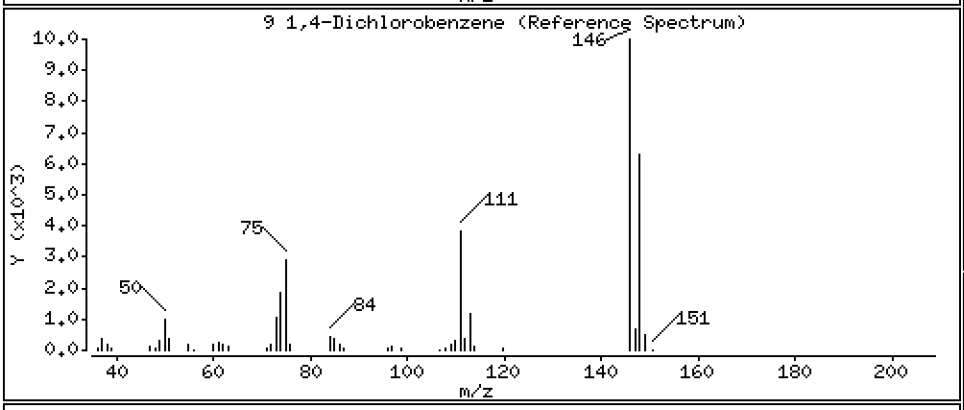
Column diameter: 0.25

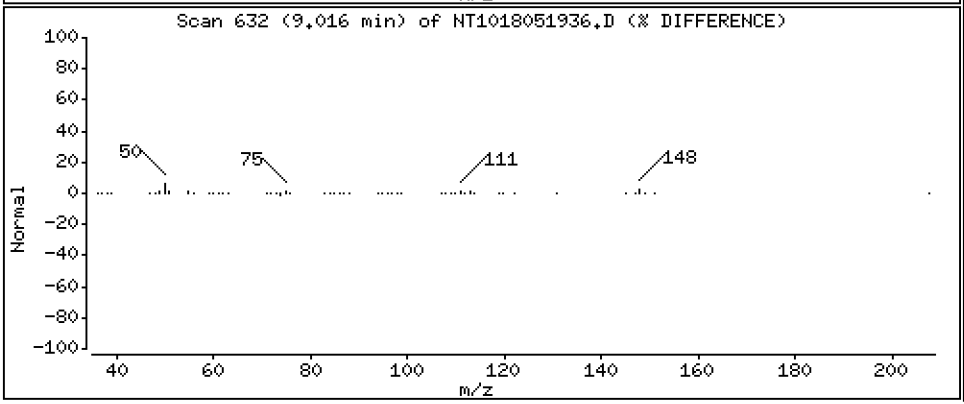
9 1,4-Dichlorobenzene

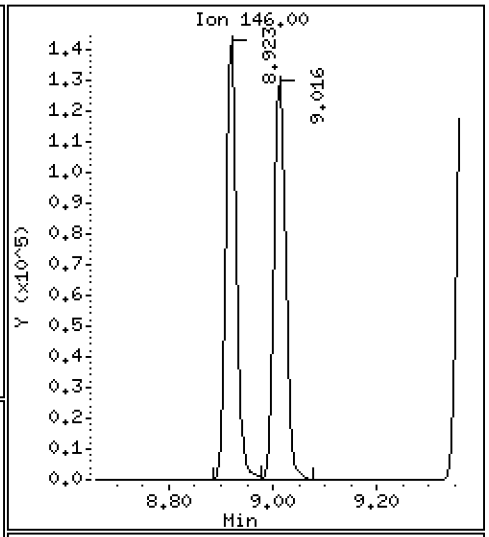
Concentration: 5.342 ug/mL

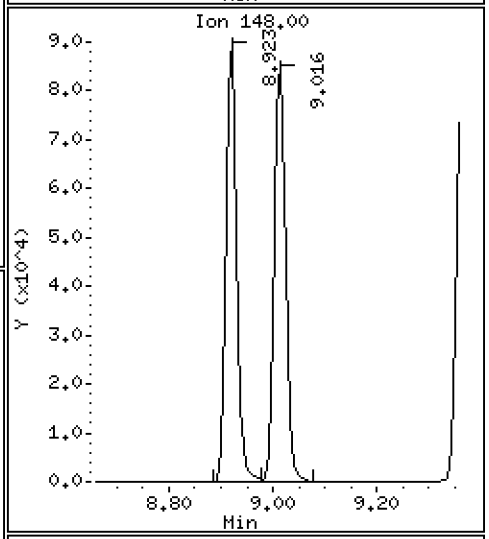


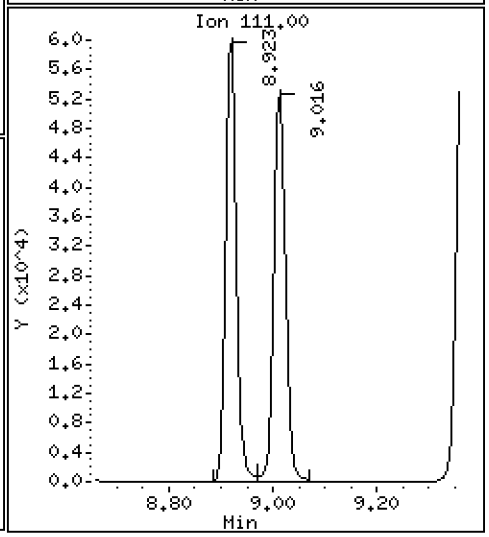












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

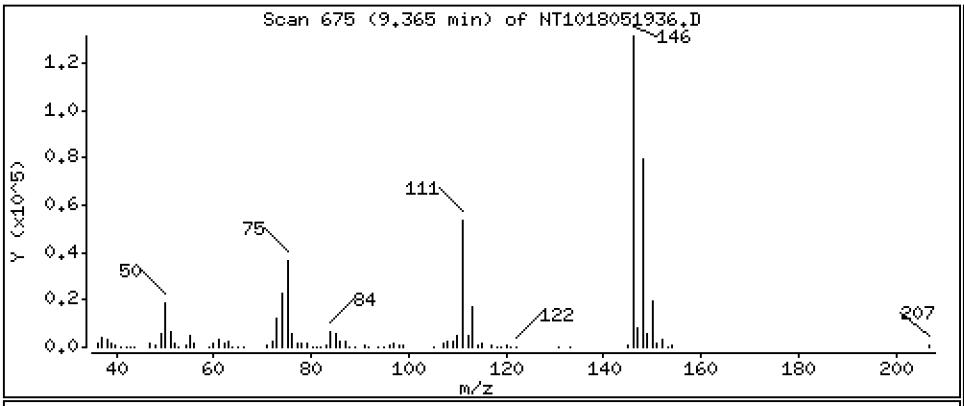
Operator: YZ

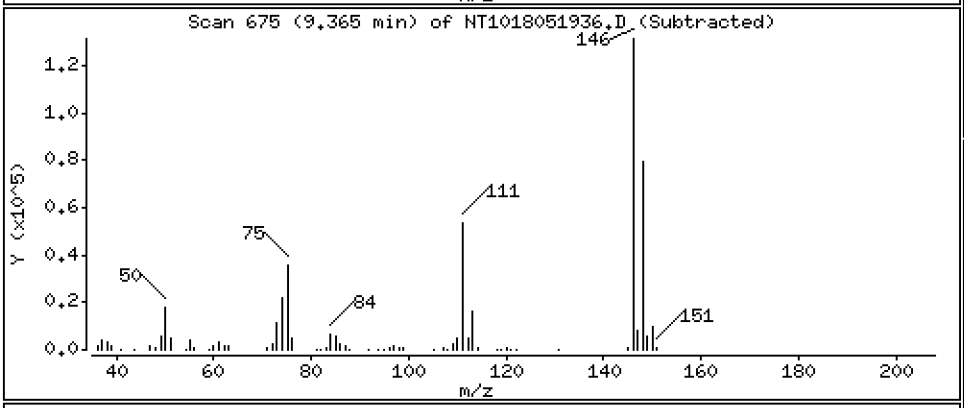
Column phase: ZB-5msi

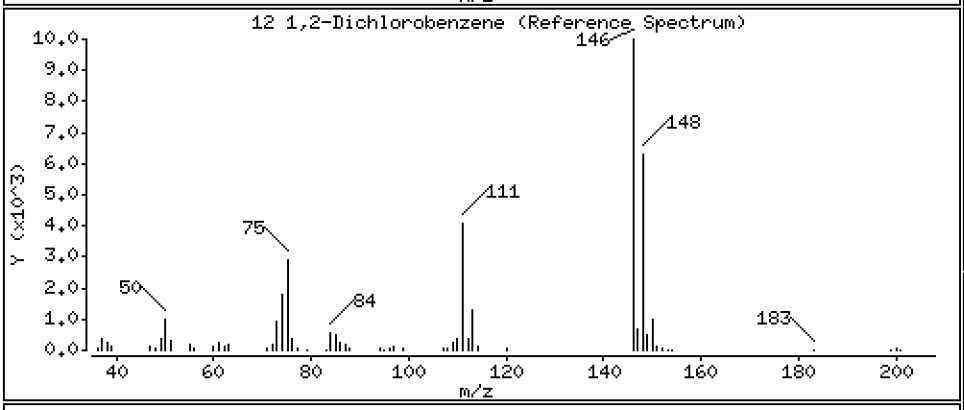
Column diameter: 0.25

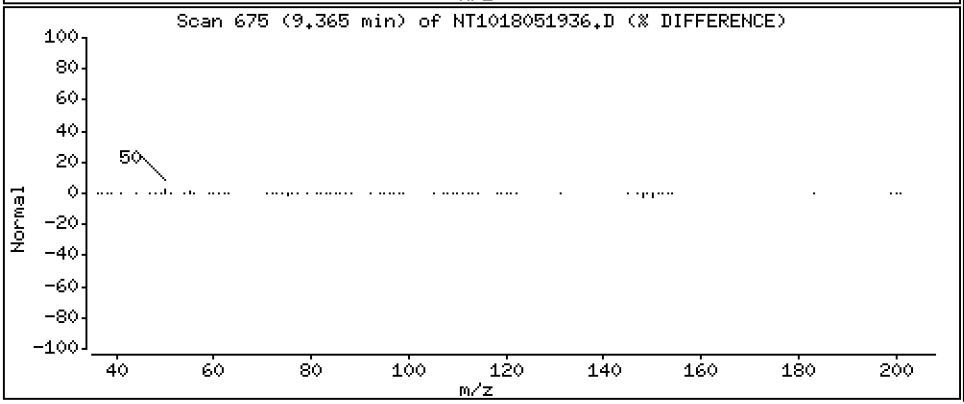
12 1,2-Dichlorobenzene

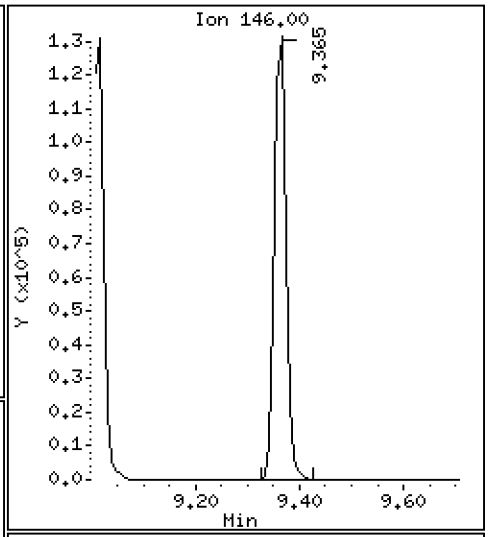
Concentration: 5.325 ug/mL

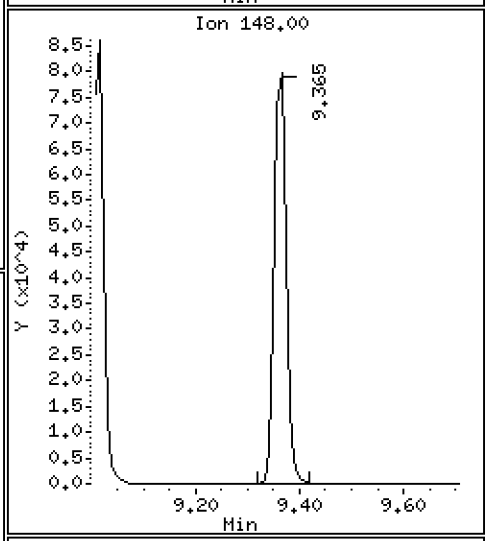


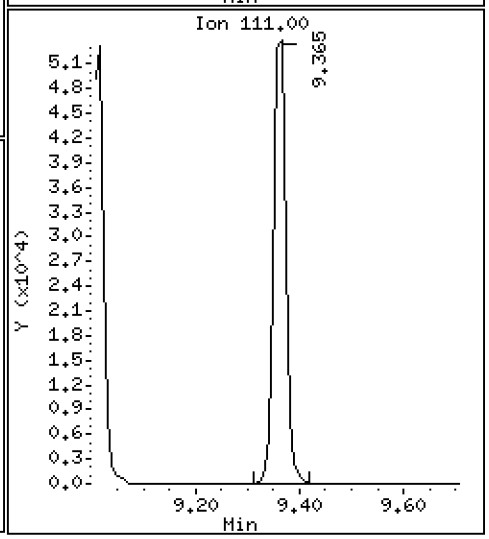












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

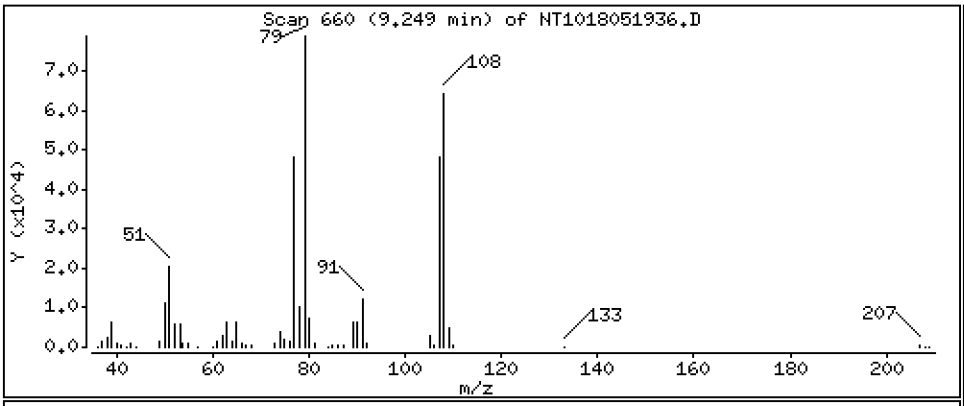
Operator: YZ

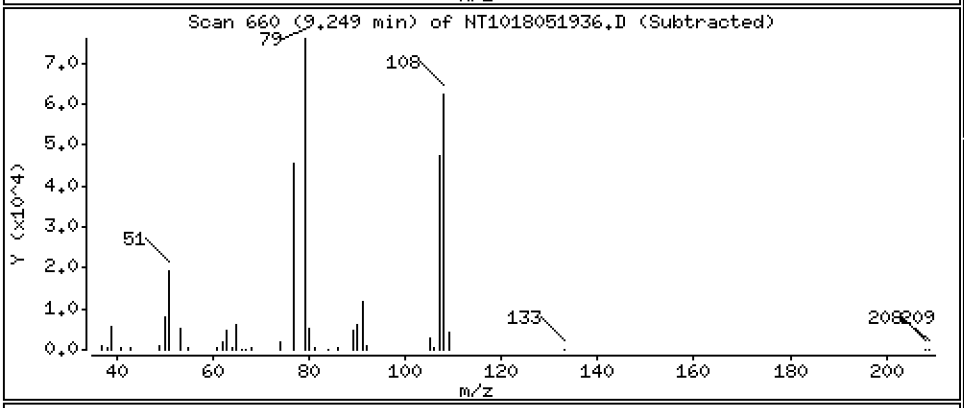
Column phase: ZB-5msi

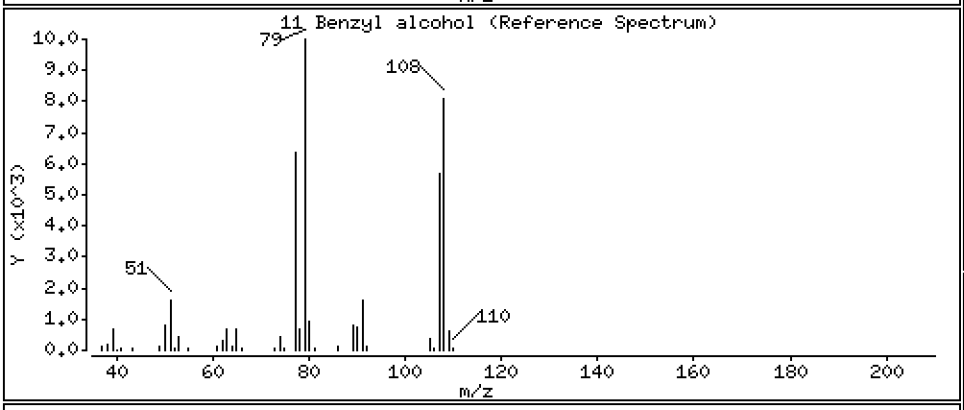
Column diameter: 0.25

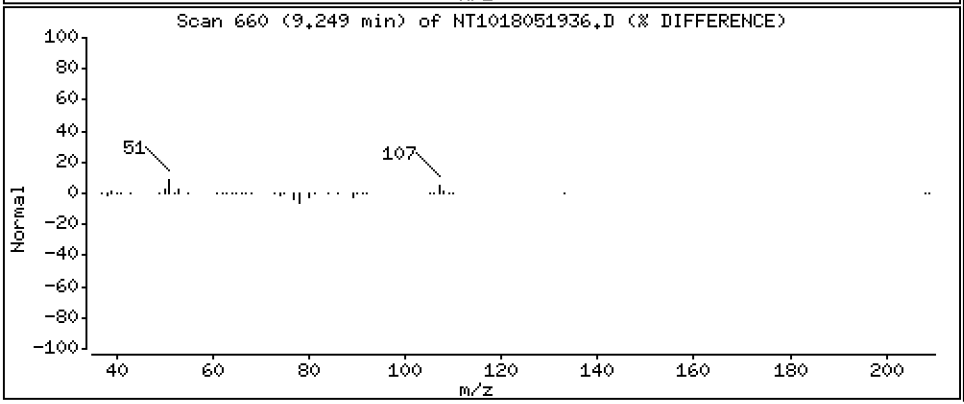
11 Benzyl alcohol

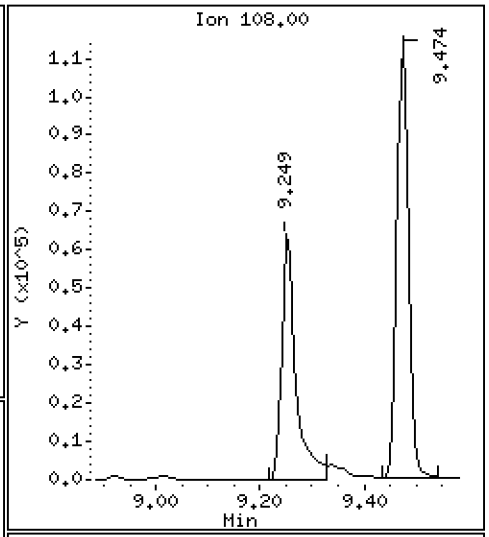
Concentration: 5.012 ug/mL

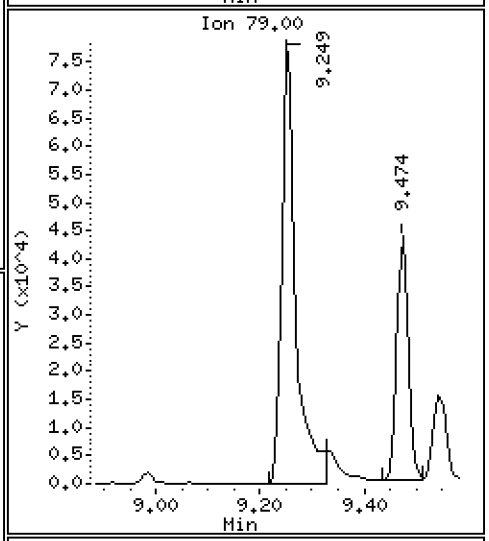


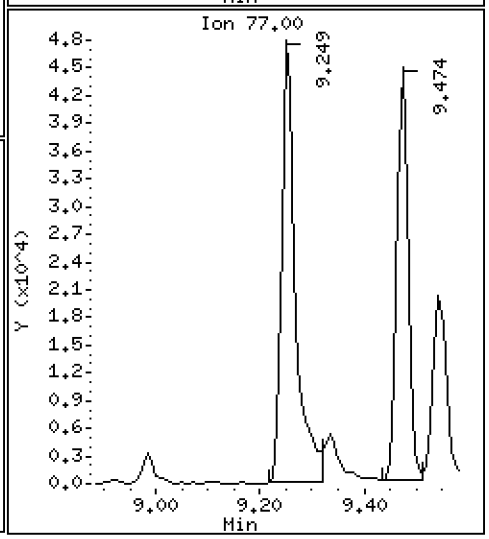












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

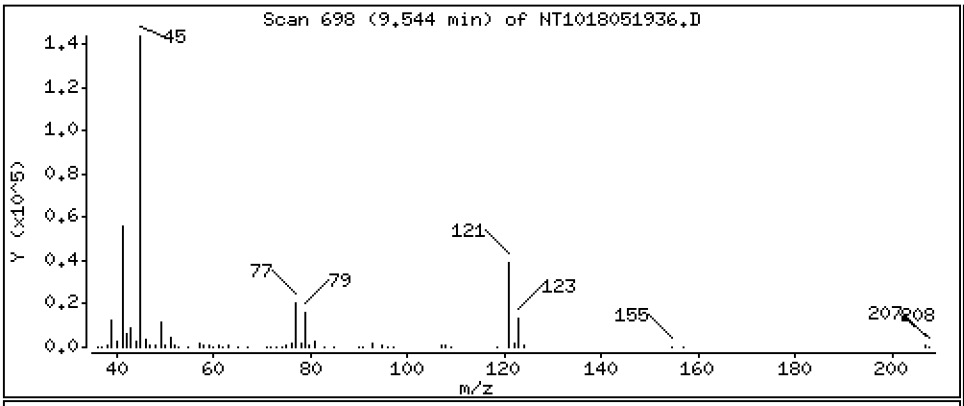
Operator: YZ

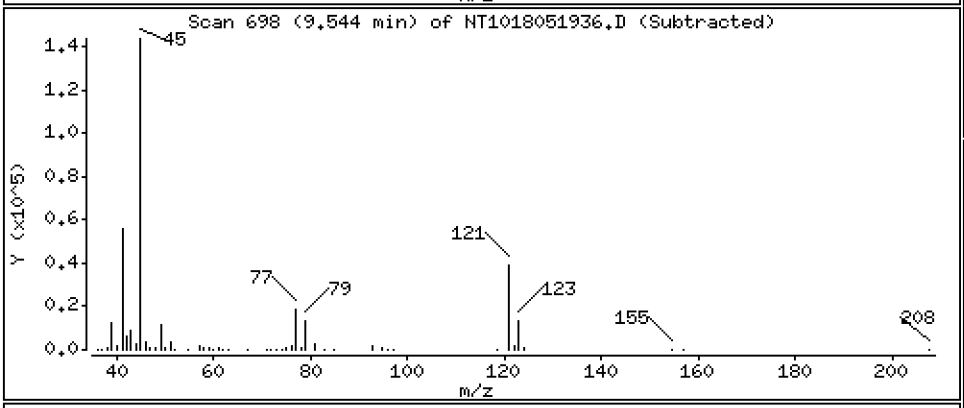
Column phase: ZB-5msi

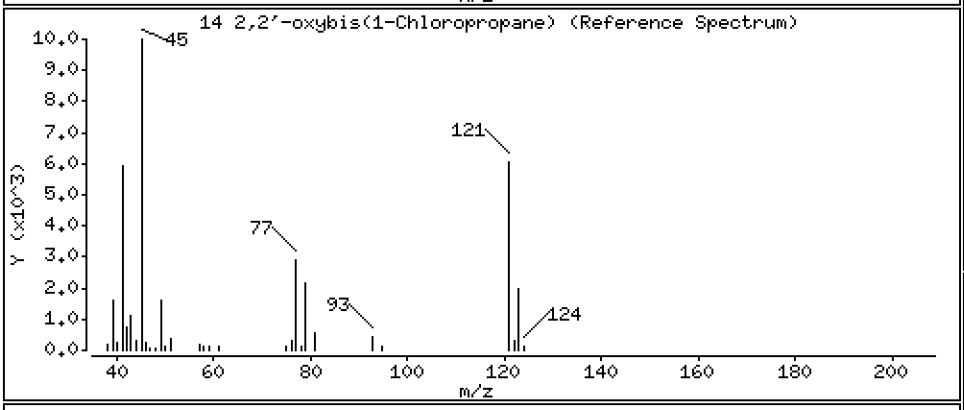
Column diameter: 0.25

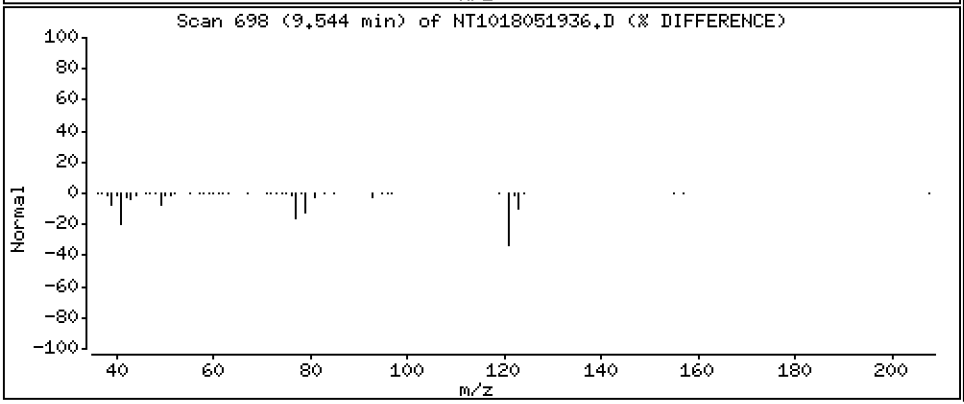
14 2,2'-oxybis(1-Chloropropane)

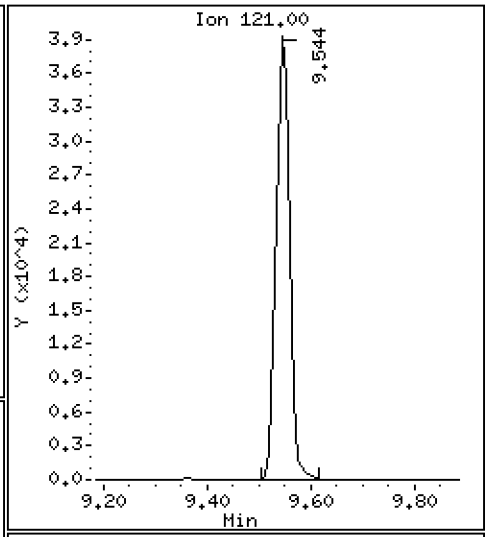
Concentration: 5.721 ug/mL

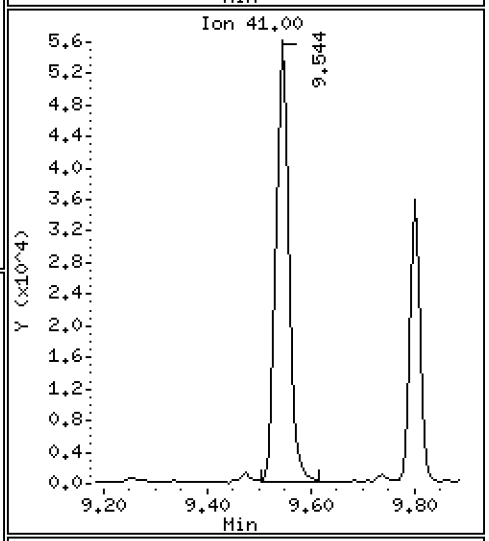


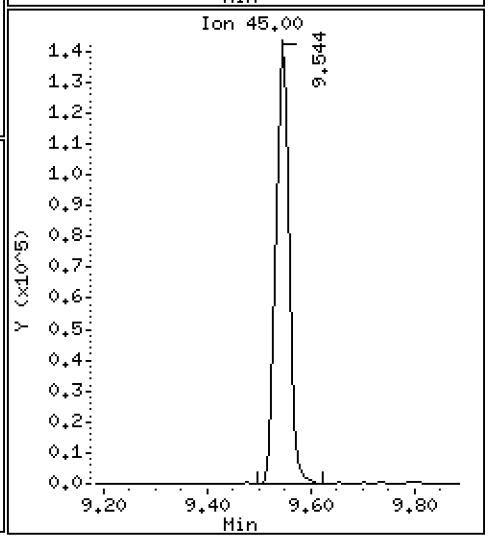












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

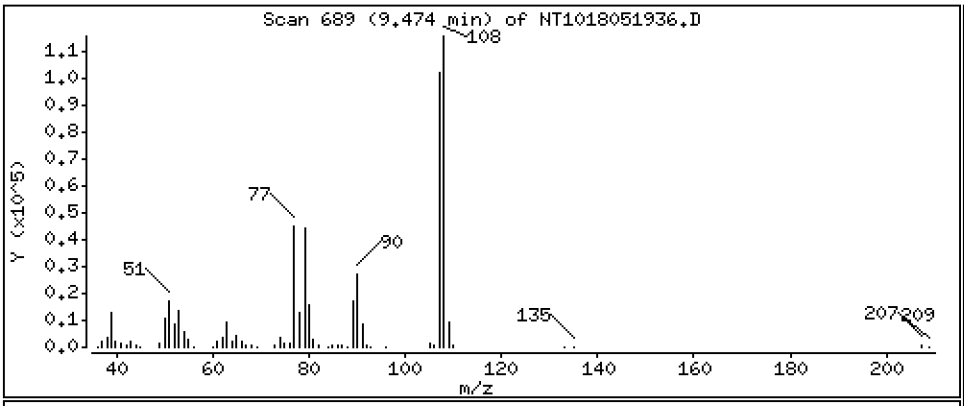
Operator: YZ

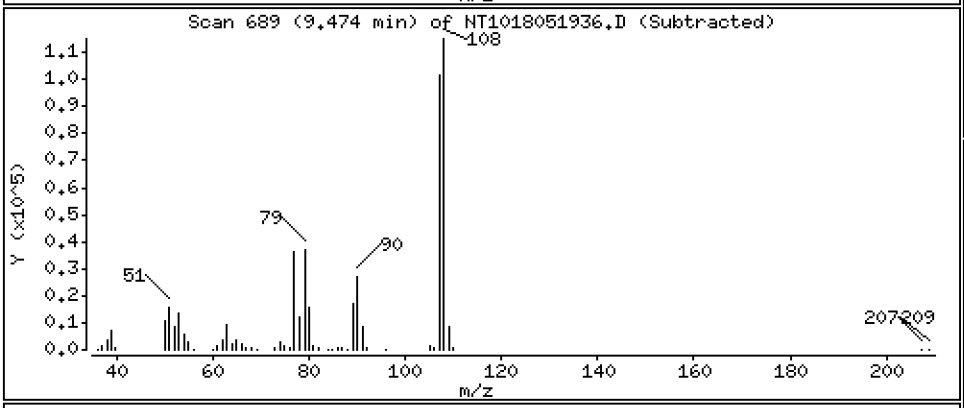
Column phase: ZB-5msi

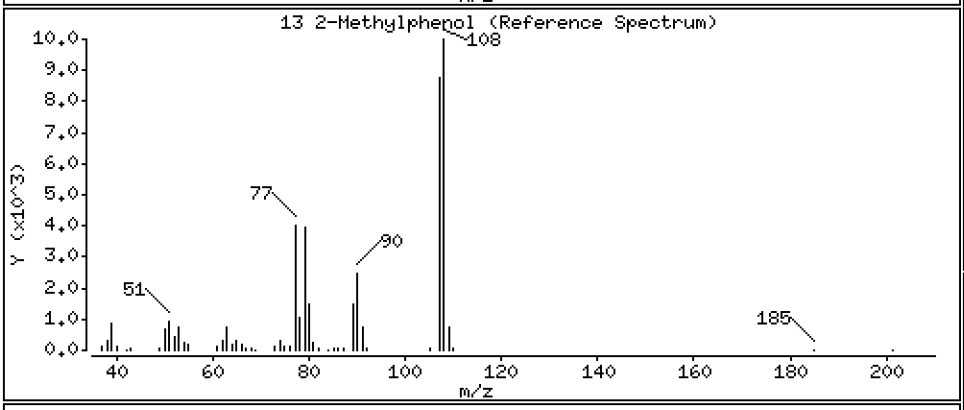
Column diameter: 0.25

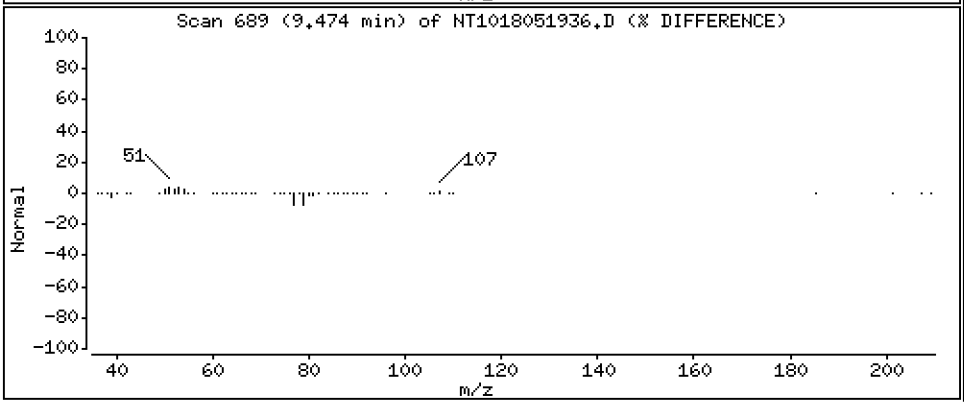
13 2-Methylphenol

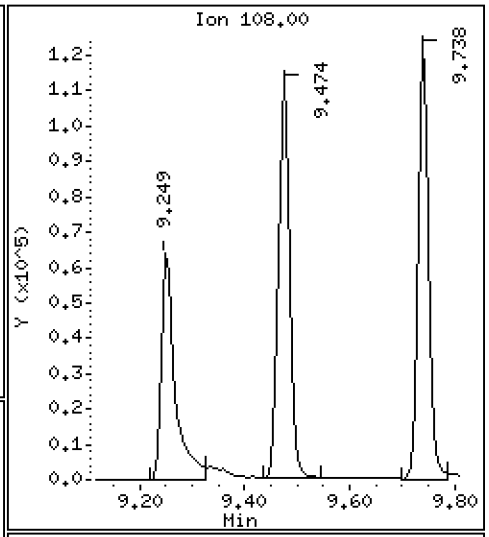
Concentration: 5.089 ug/mL

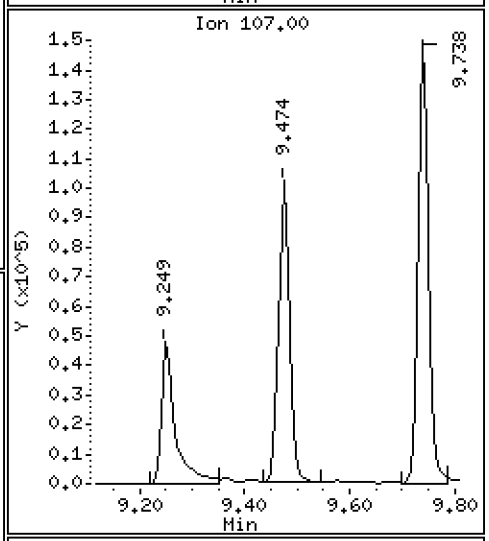


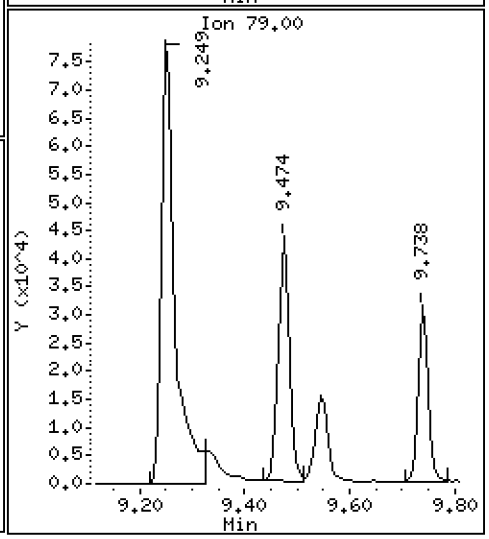












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

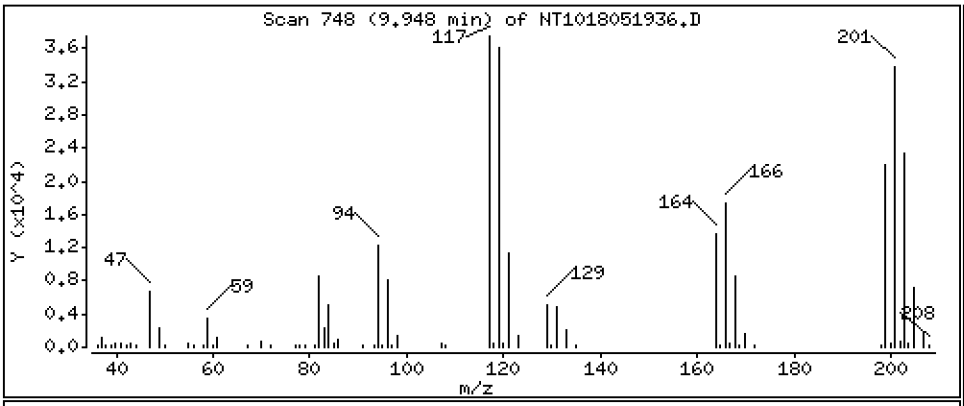
Operator: YZ

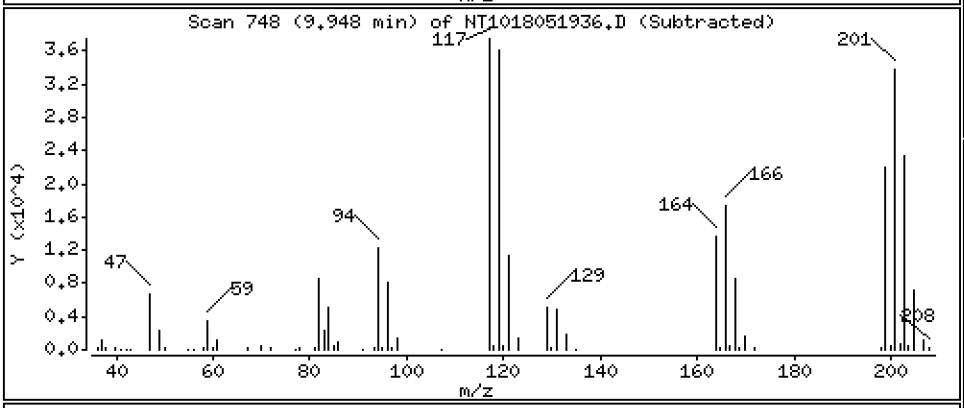
Column phase: ZB-5msi

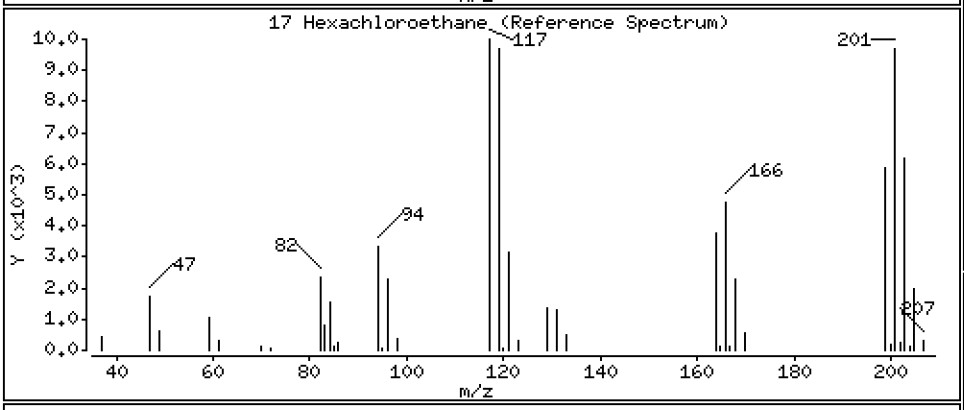
Column diameter: 0.25

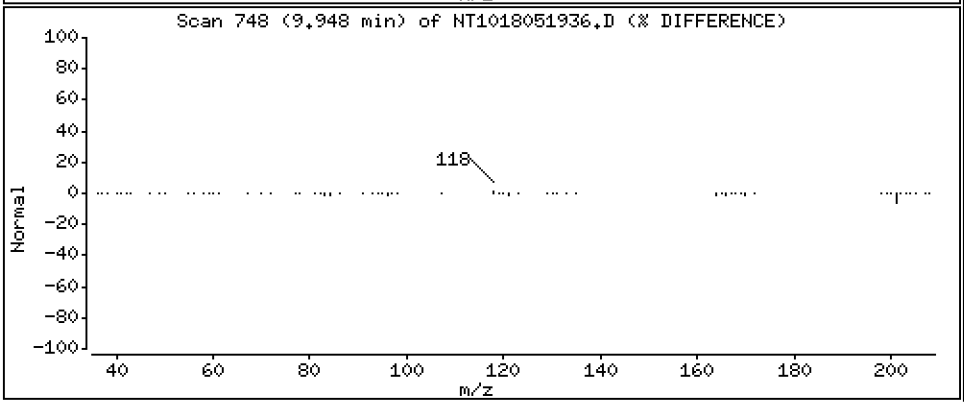
17 Hexachloroethane

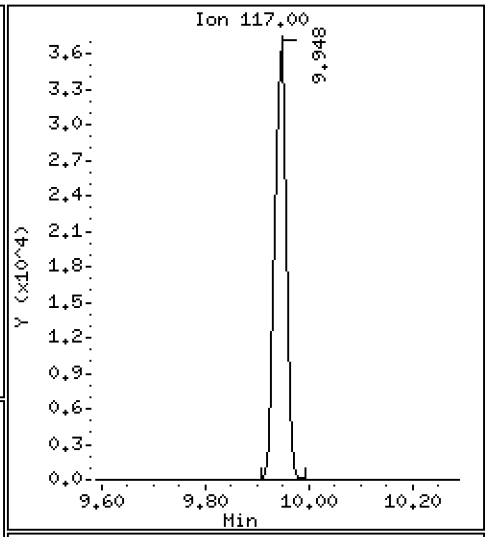
Concentration: 3.250 ug/mL

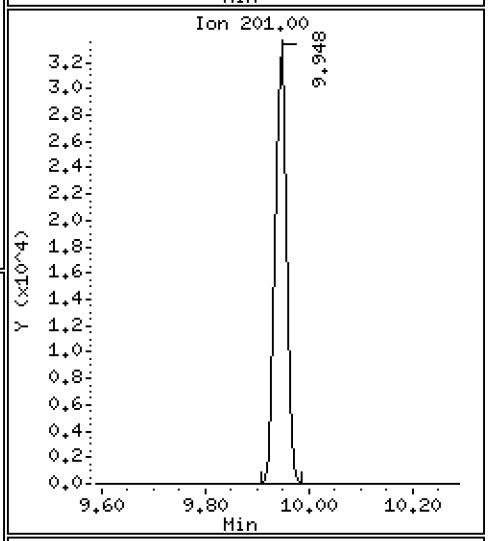


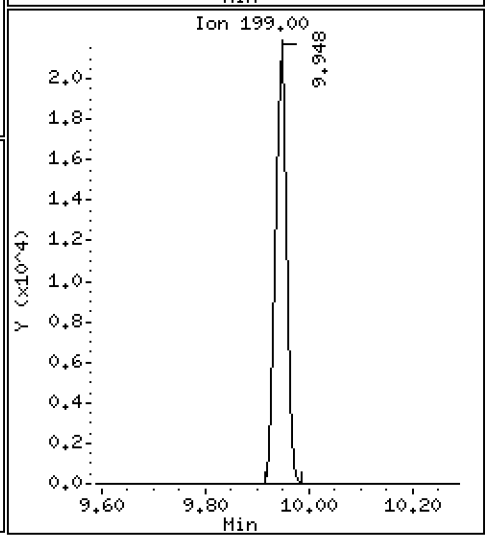












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

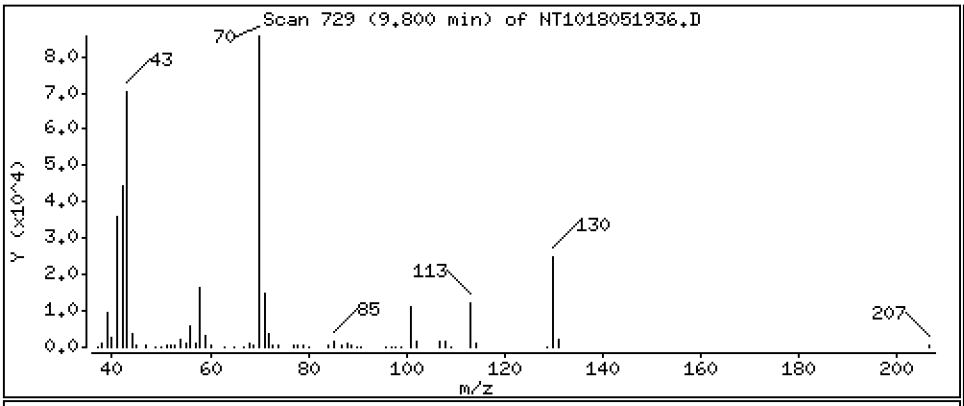
Operator: YZ

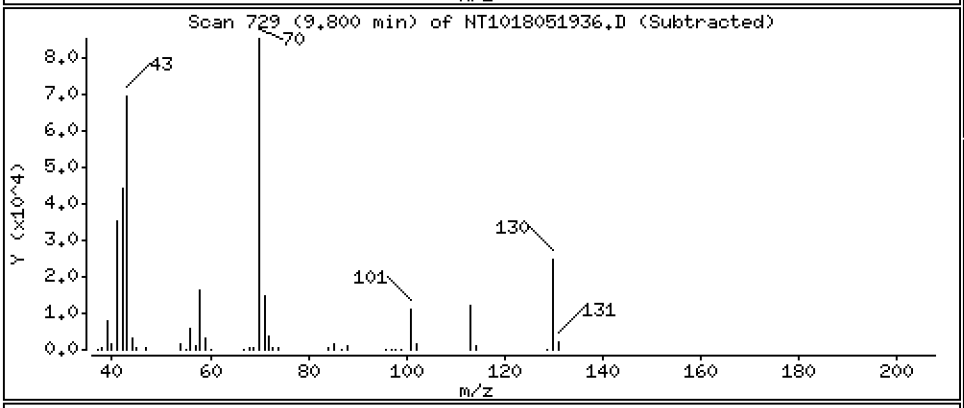
Column phase: ZB-5msi

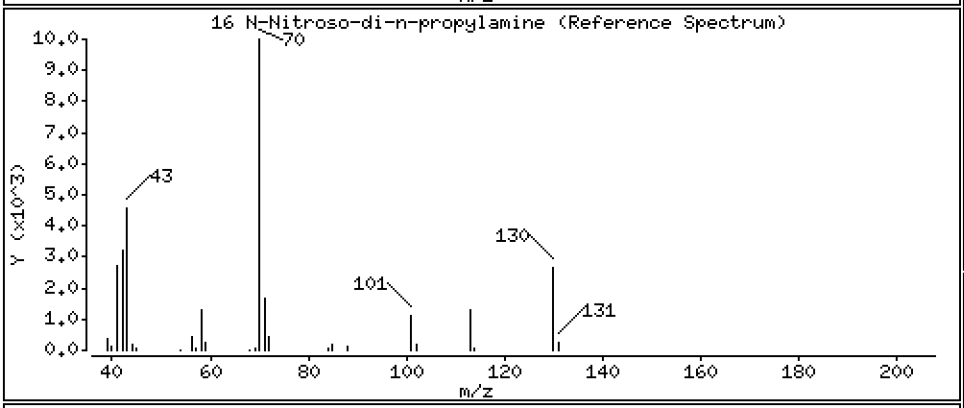
Column diameter: 0.25

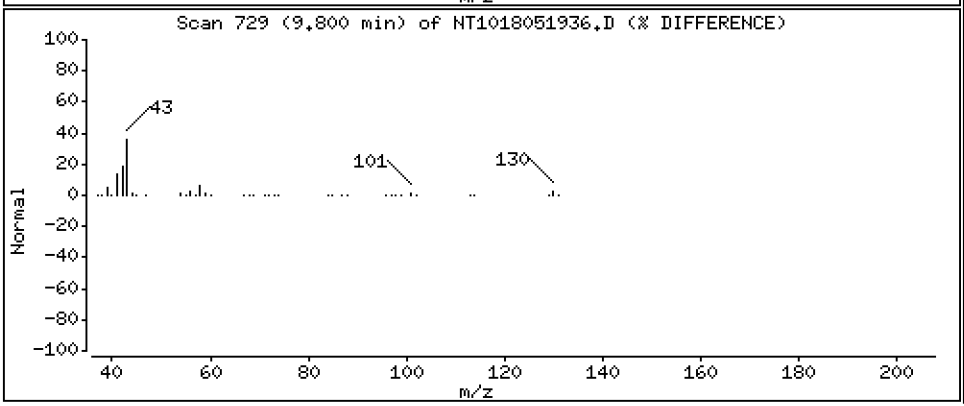
16 N-Nitroso-di-n-propylamine

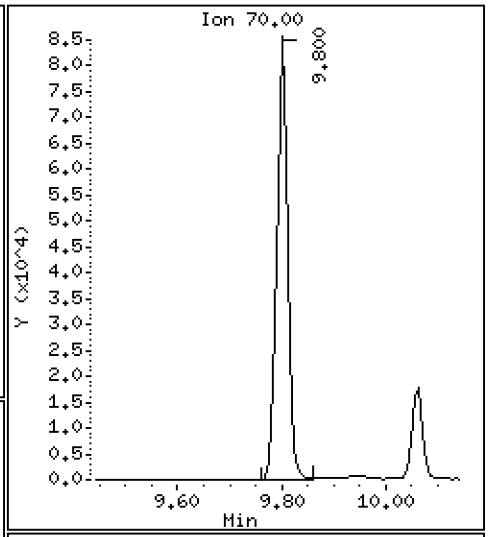
Concentration: 5.031 ug/mL

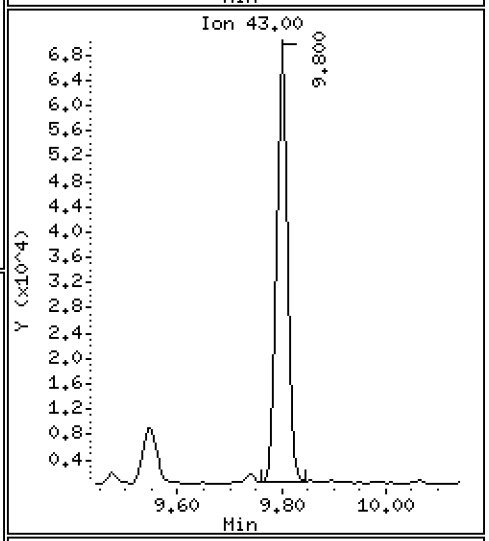


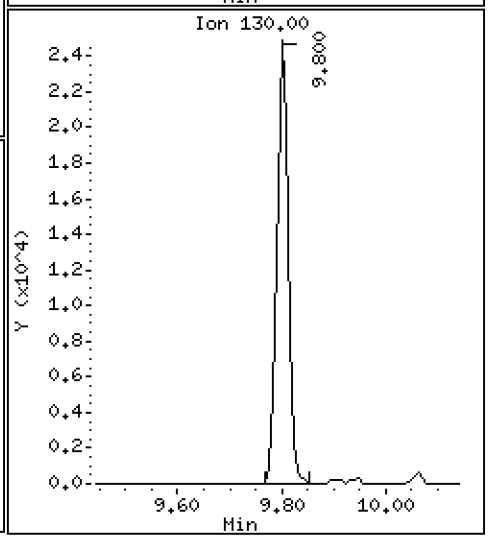












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

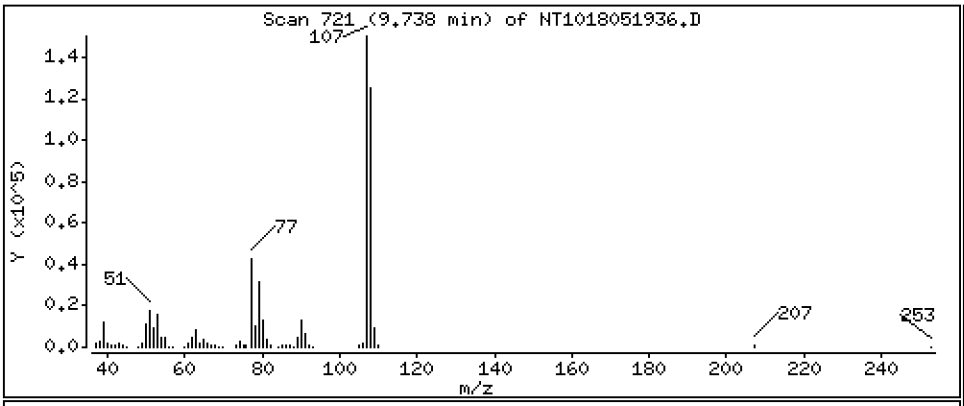
Operator: YZ

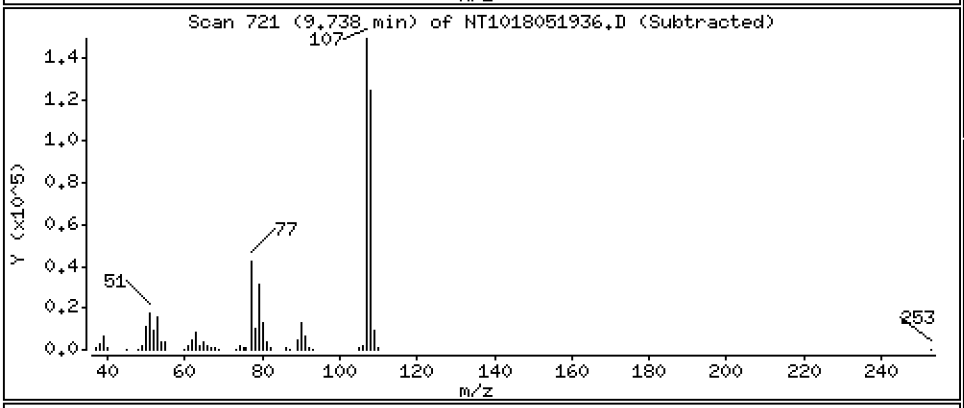
Column phase: ZB-5msi

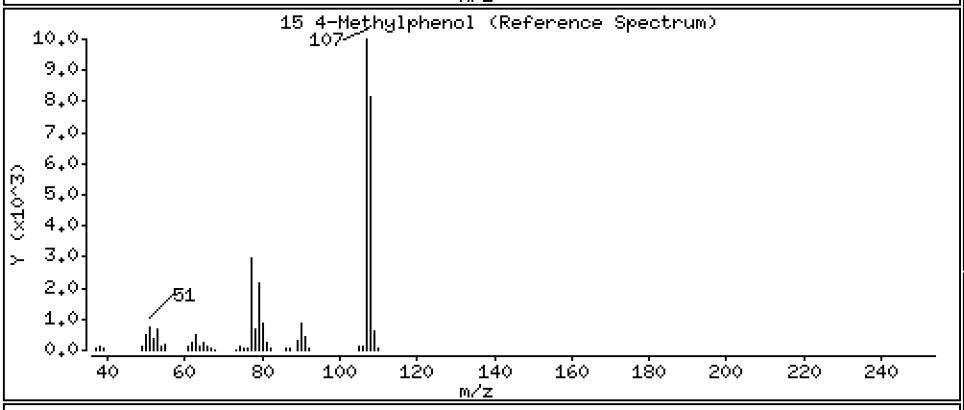
Column diameter: 0.25

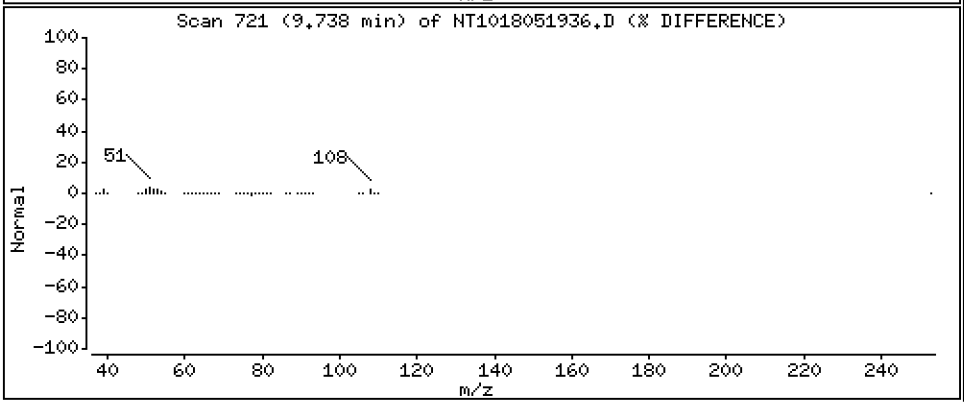
15 4-Methylphenol

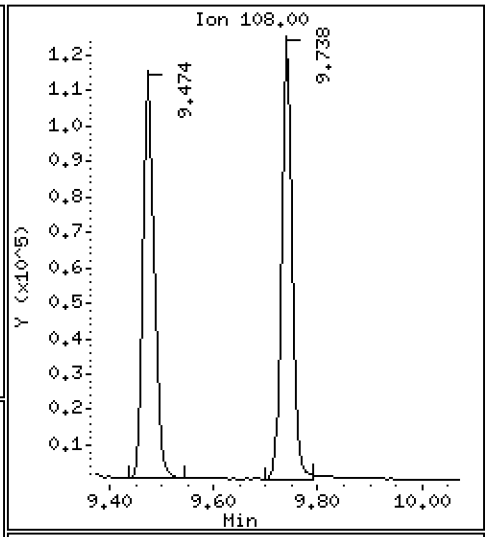
Concentration: 5.184 ug/mL

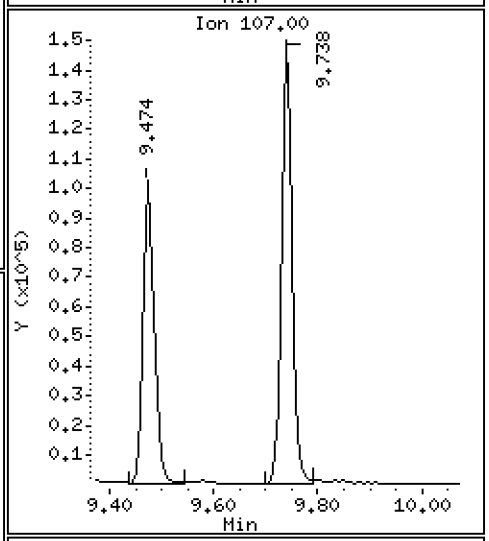


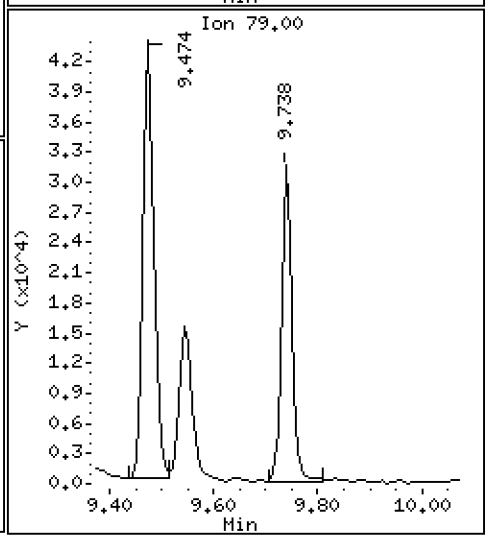












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

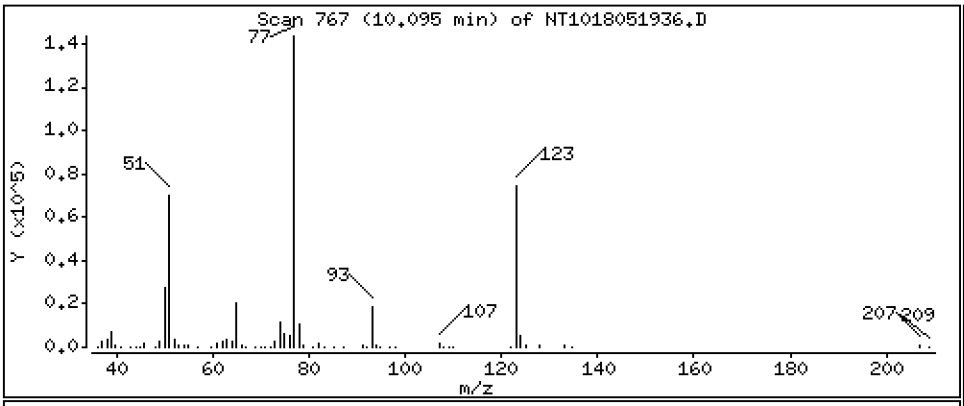
Operator: YZ

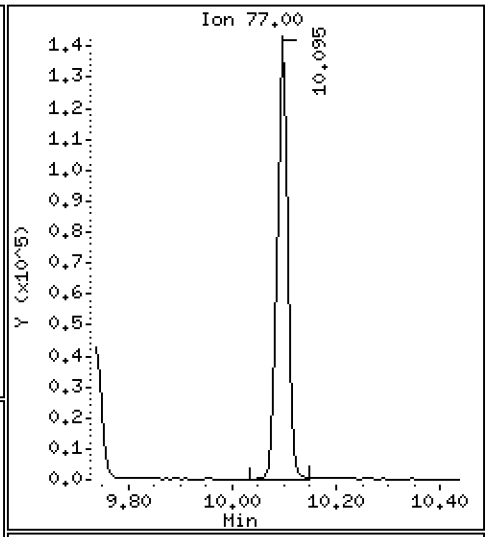
Column phase: ZB-5msi

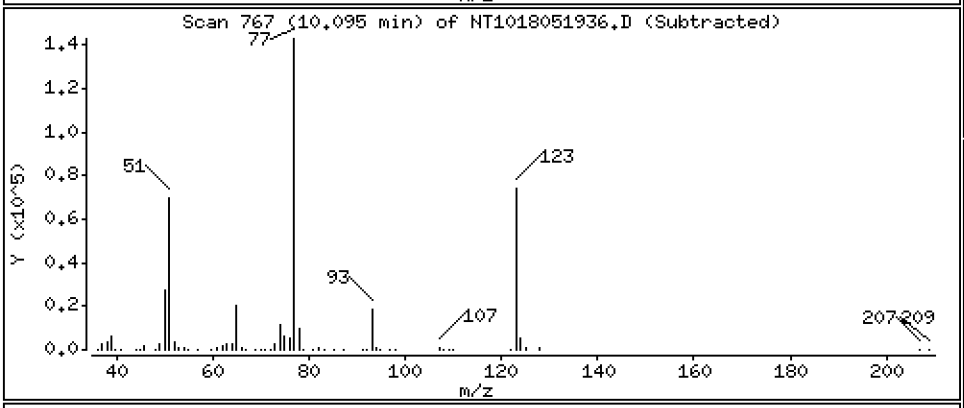
Column diameter: 0.25

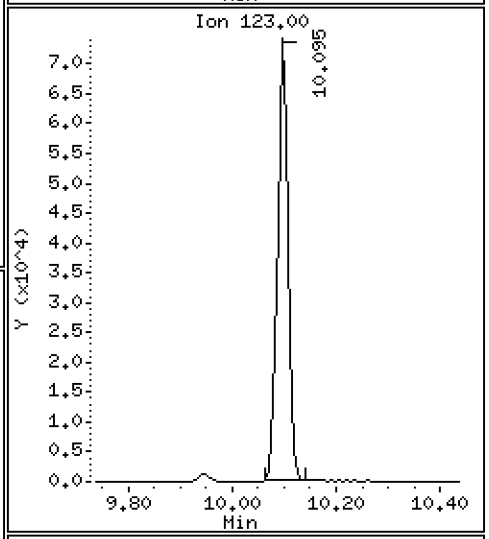
19 Nitrobenzene

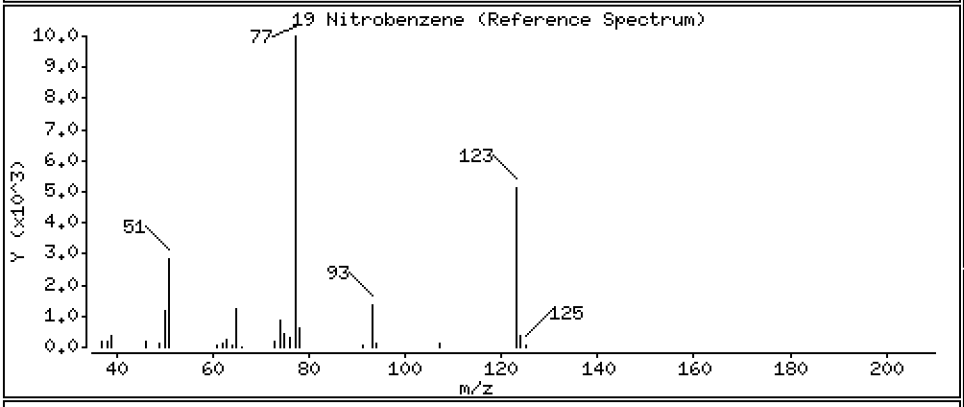
Concentration: 5.234 ug/mL

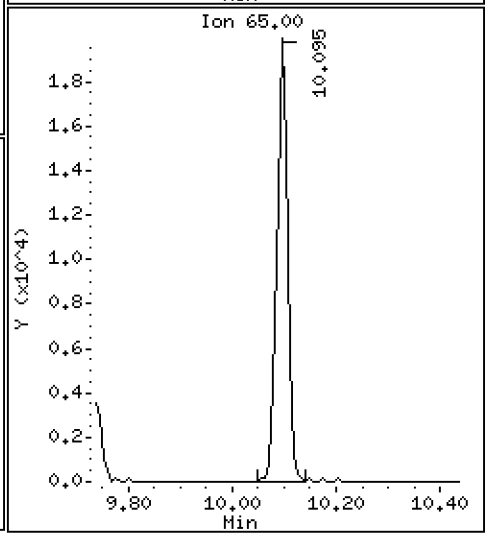


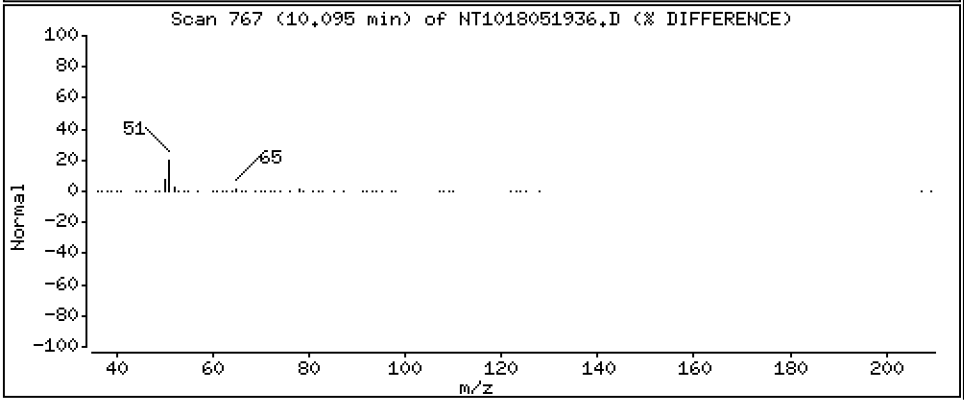












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

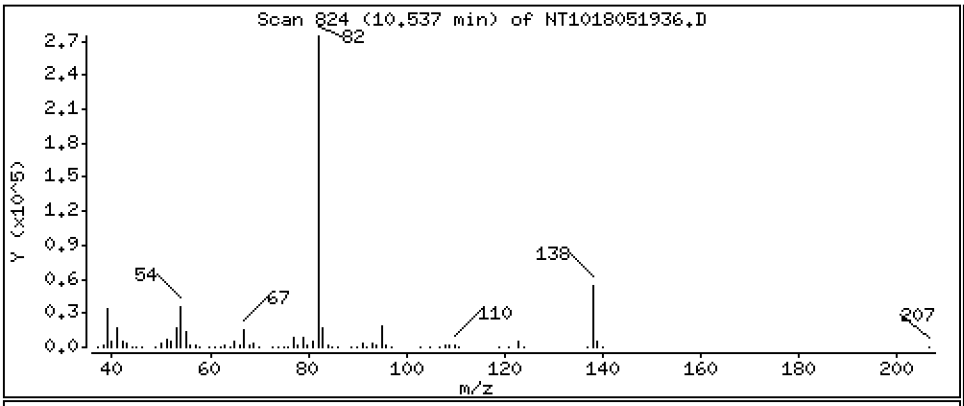
Operator: YZ

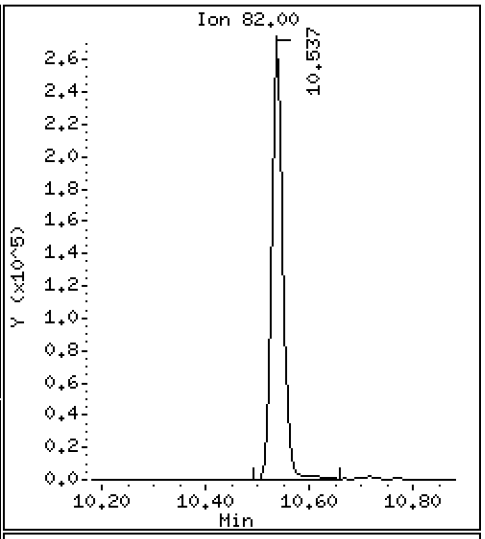
Column phase: ZB-5msi

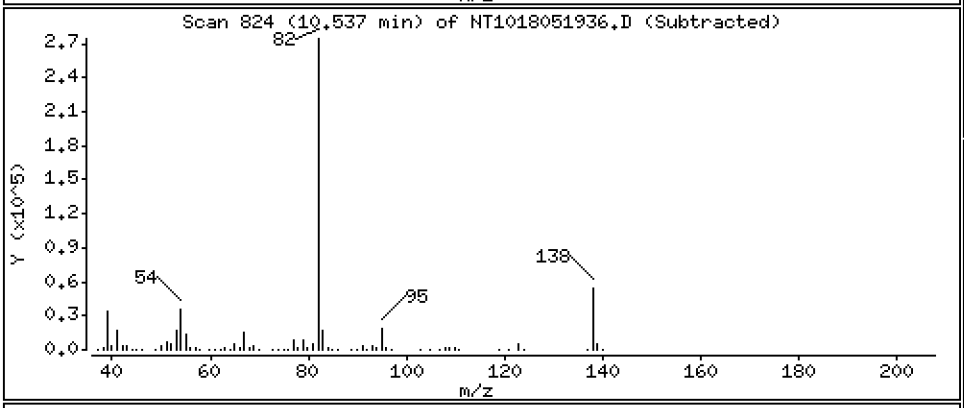
Column diameter: 0.25

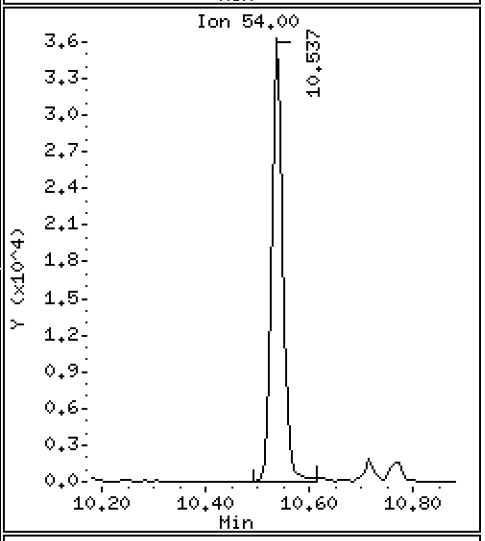
20 Isophorone

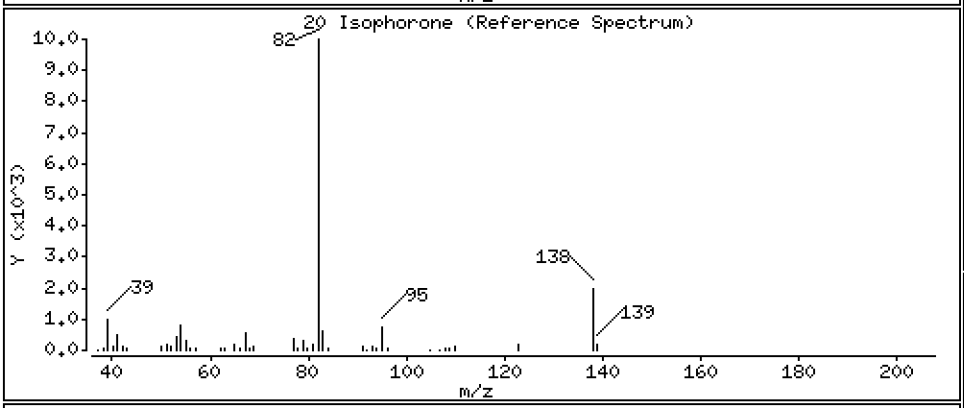
Concentration: 5.918 ug/mL

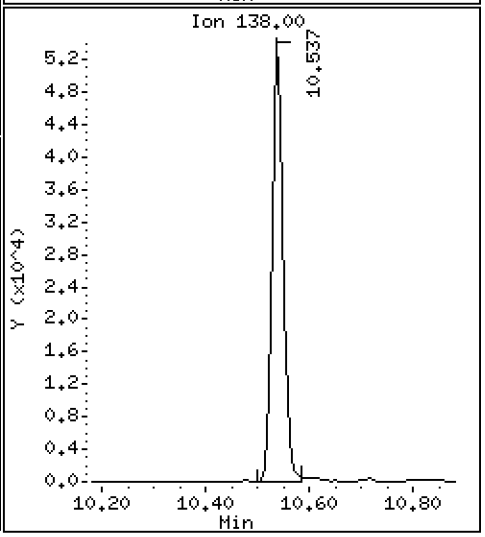


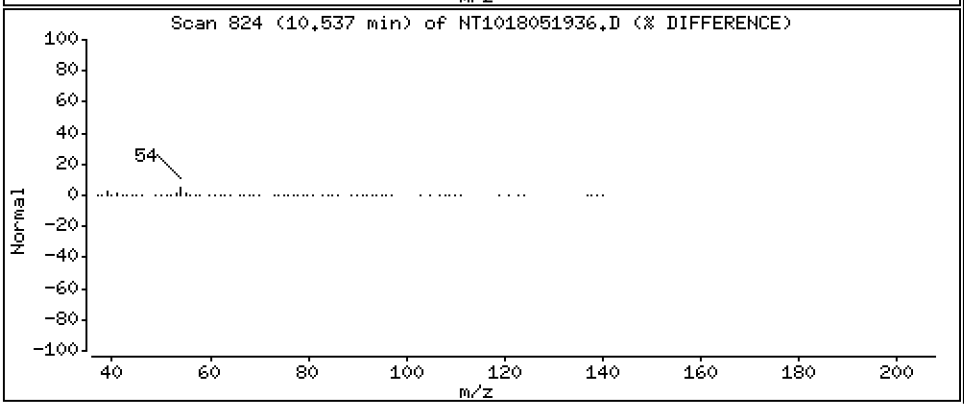












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

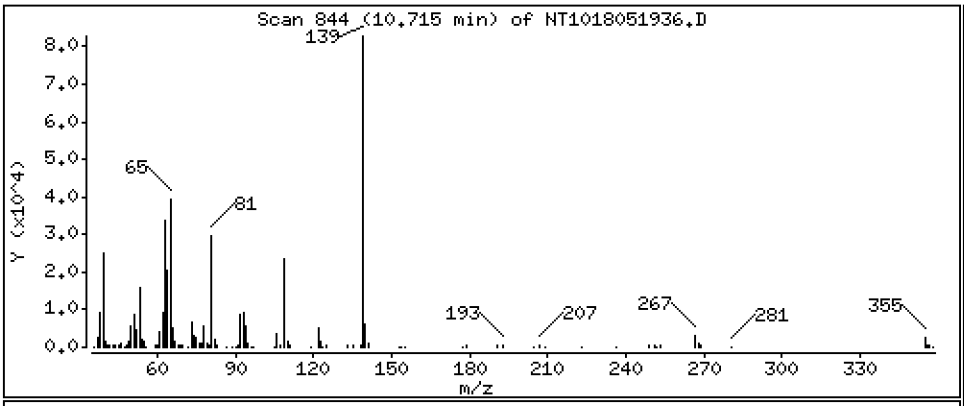
Operator: YZ

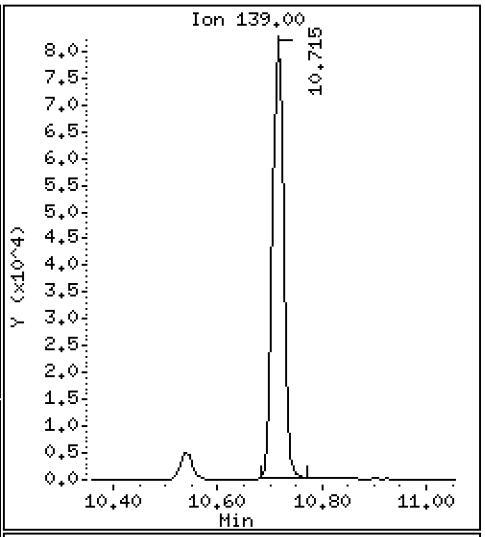
Column phase: ZB-5msi

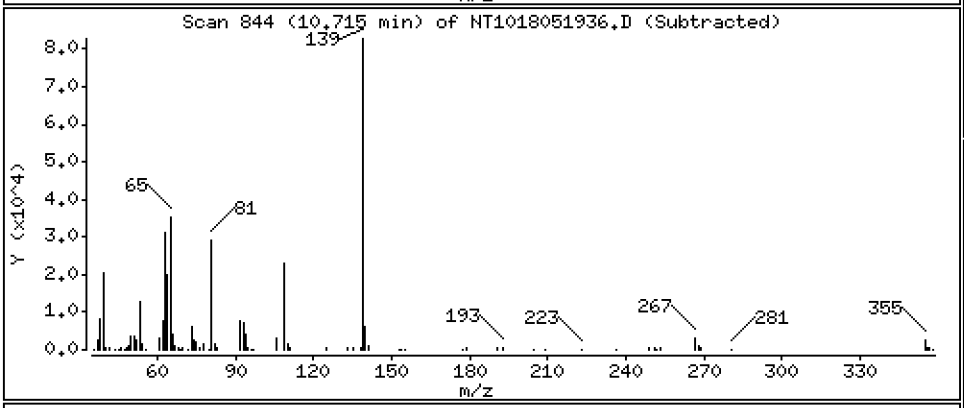
Column diameter: 0.25

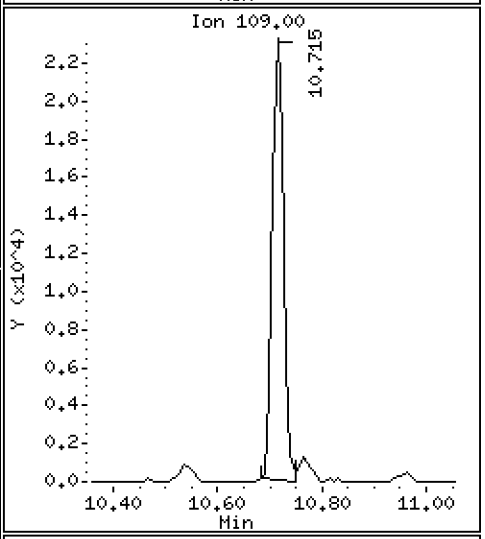
21 2-Nitrophenol

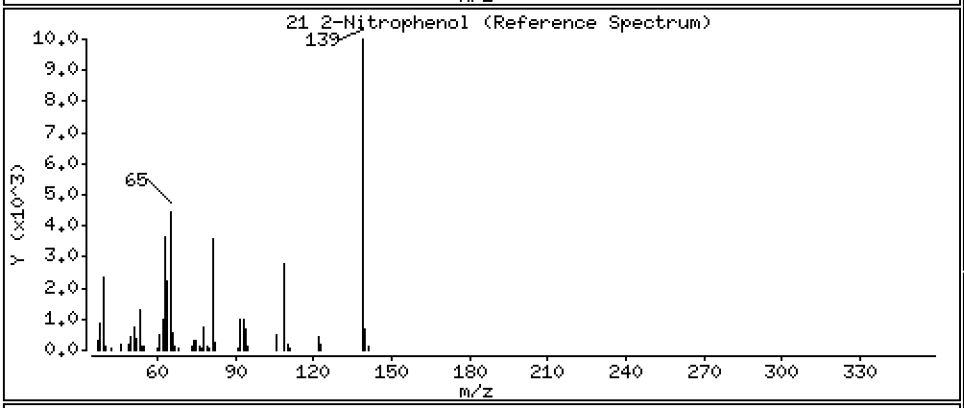
Concentration: 5.761 ug/mL

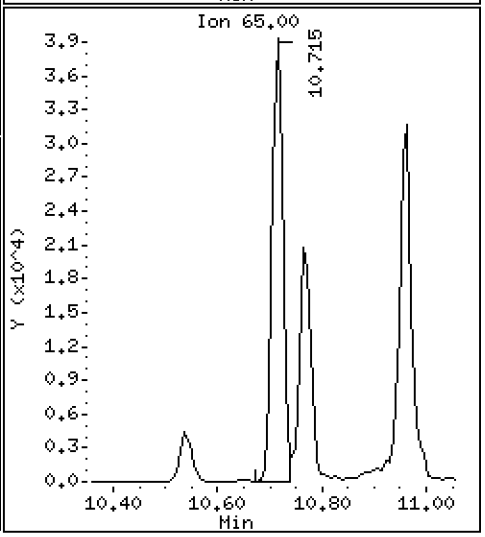


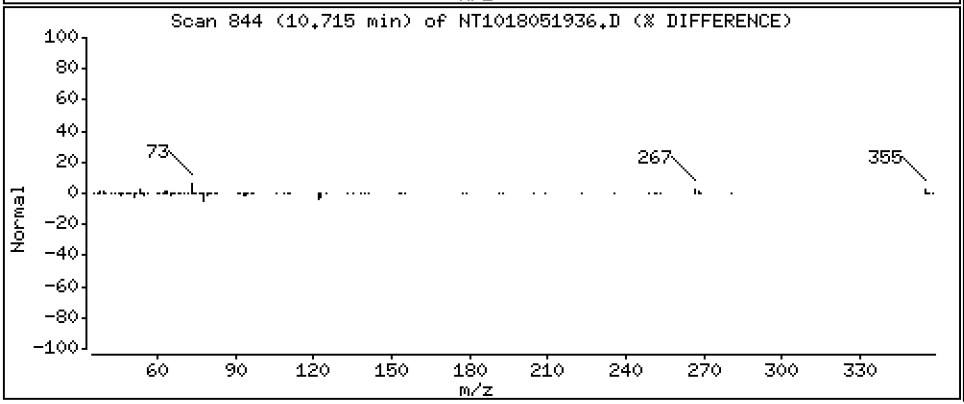












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

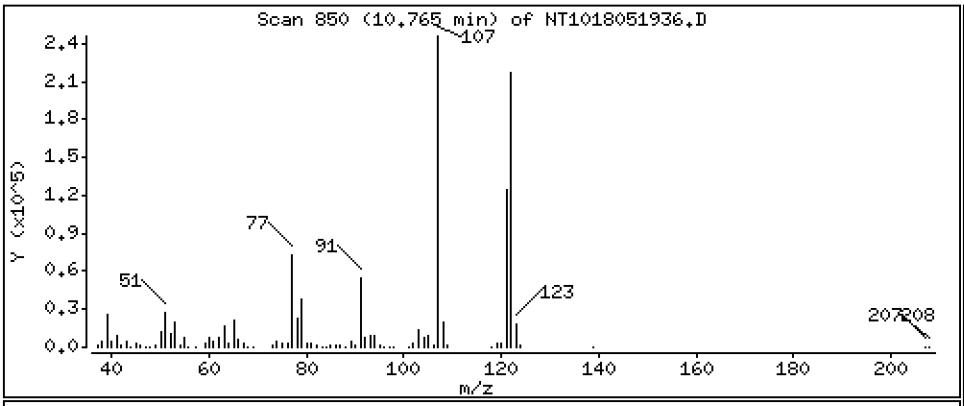
Operator: YZ

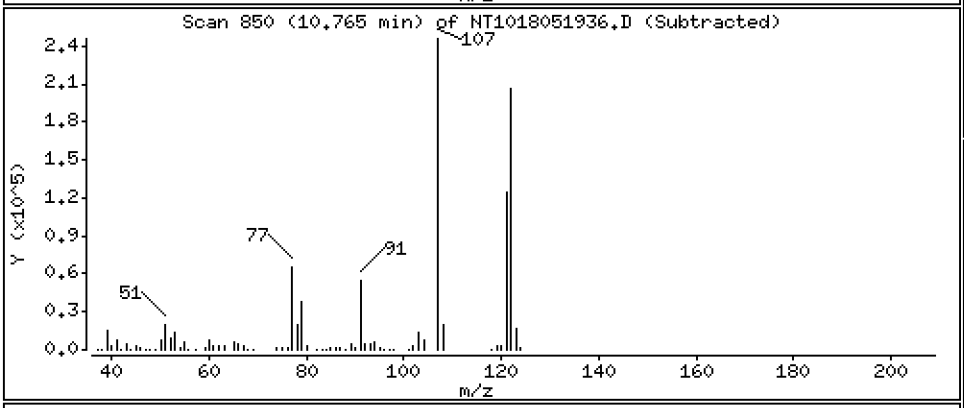
Column phase: ZB-5msi

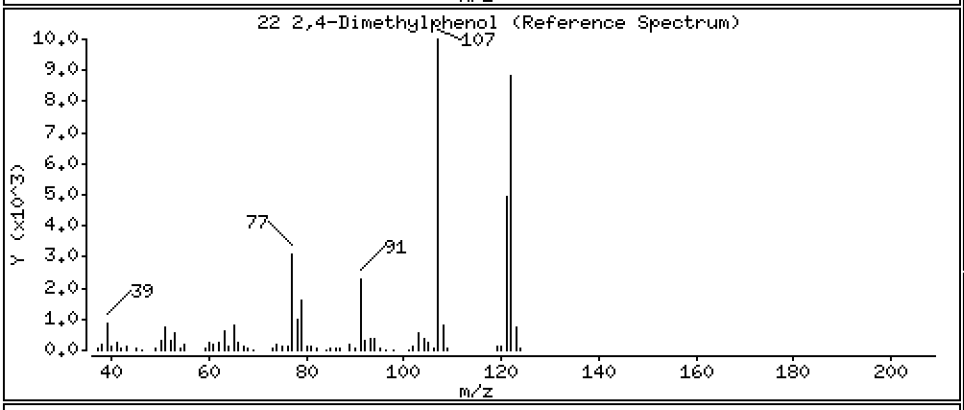
Column diameter: 0.25

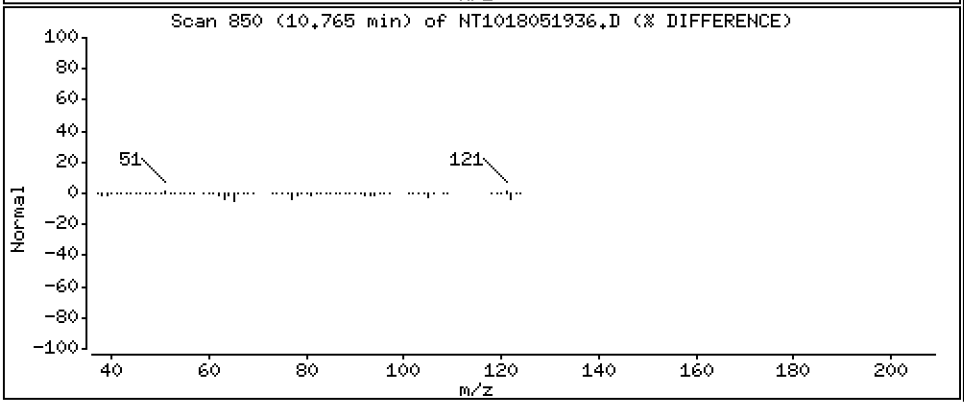
22 2,4-Dimethylphenol

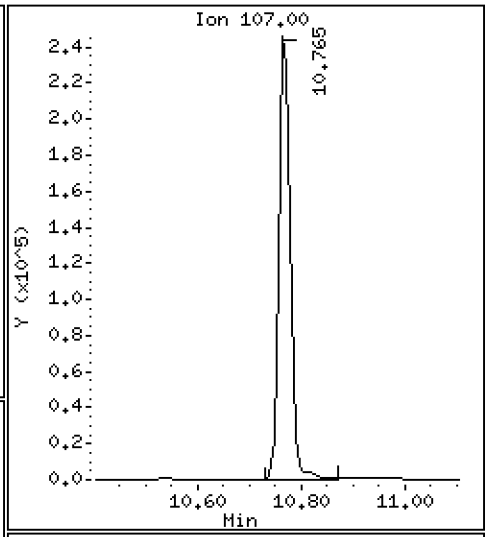
Concentration: 10.13 ug/mL

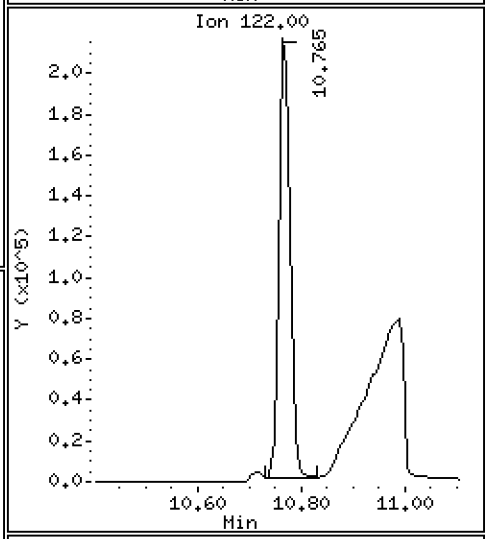


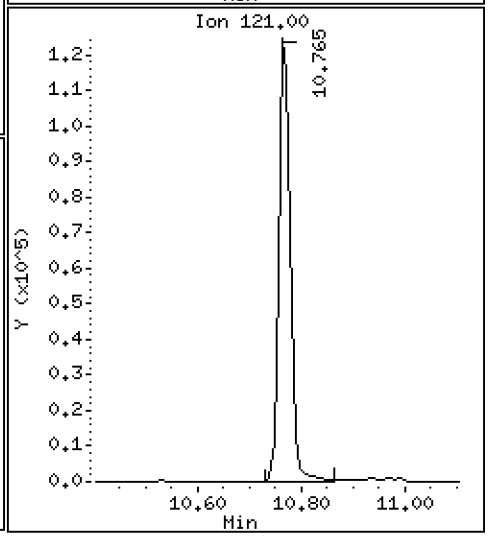












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

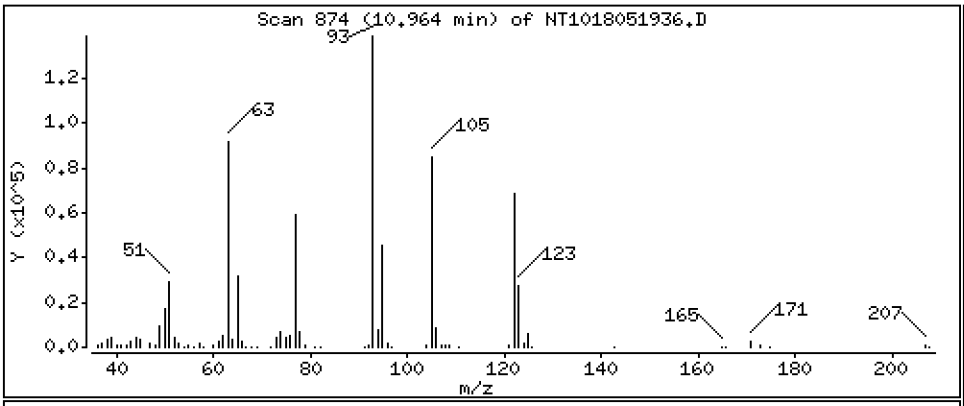
Operator: YZ

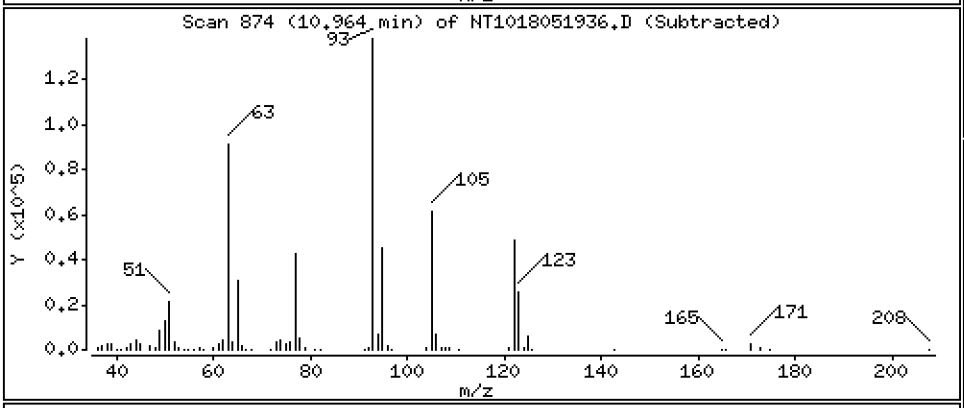
Column phase: ZB-5msi

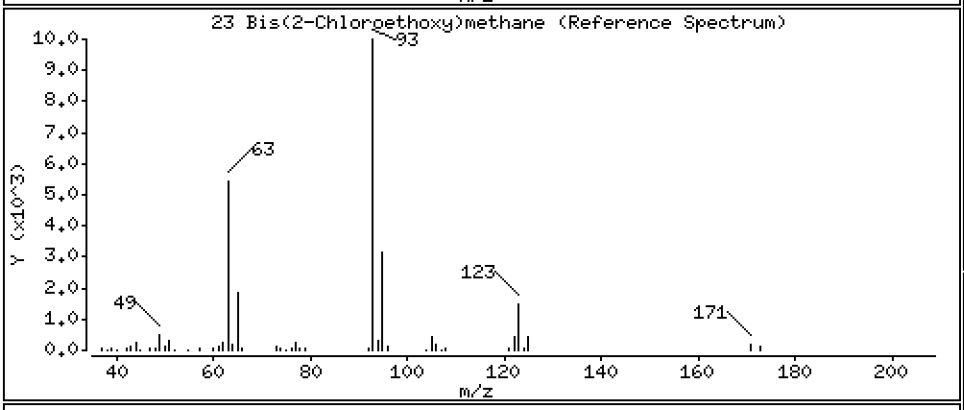
Column diameter: 0.25

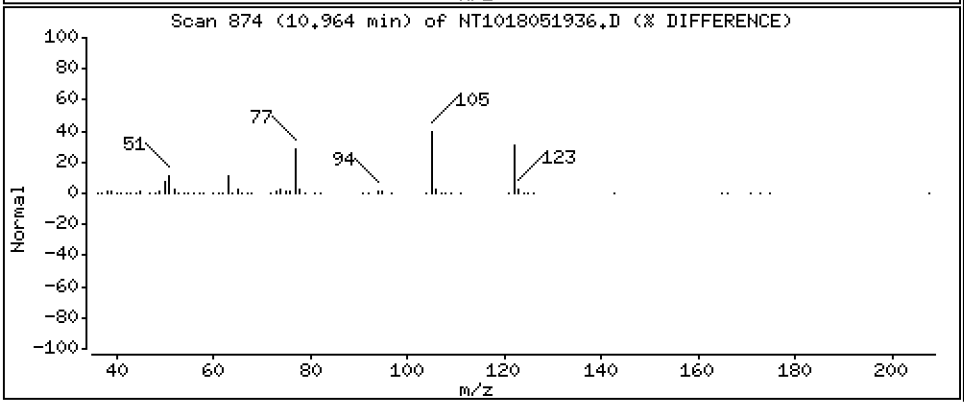
23 Bis(2-Chloroethoxy)methane

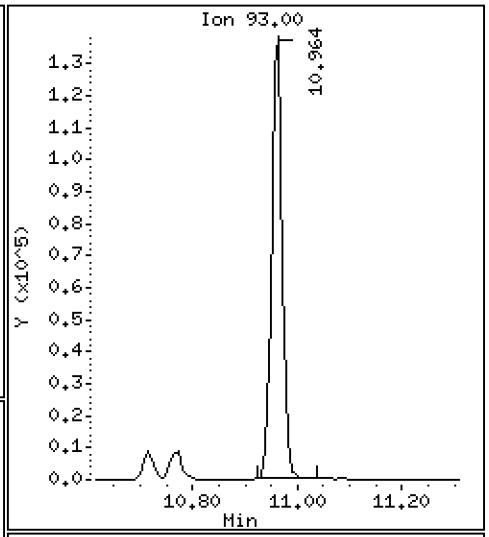
Concentration: 4.927 ug/mL

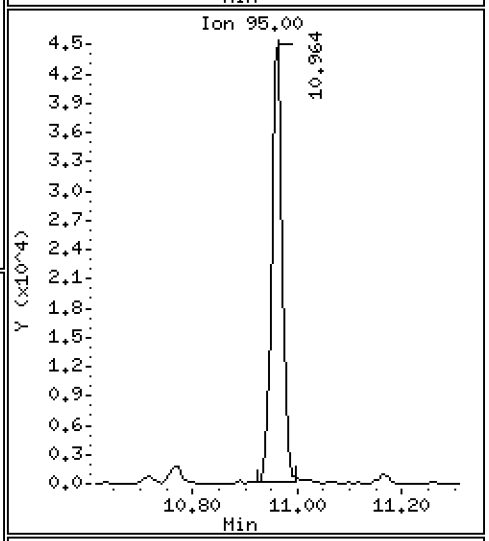


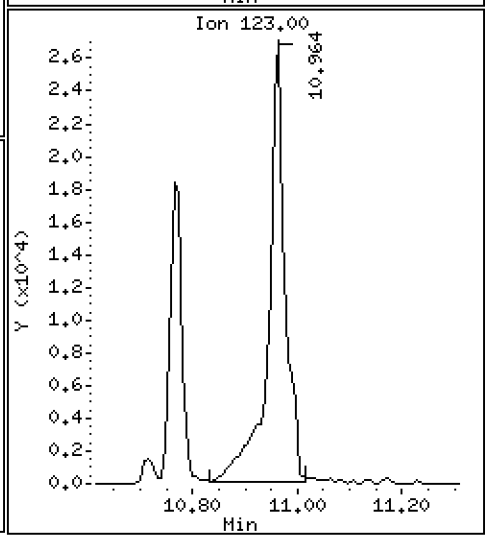












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

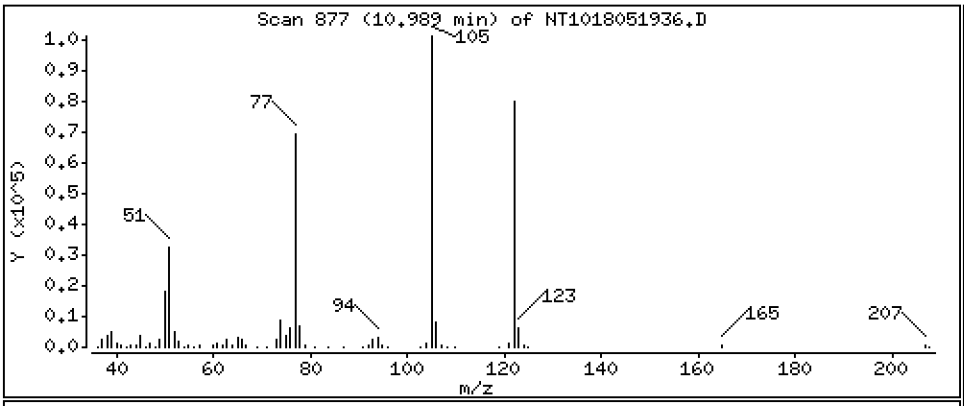
Operator: YZ

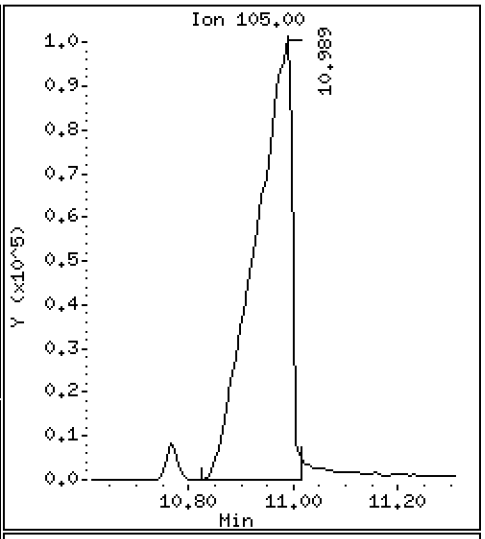
Column phase: ZB-5msi

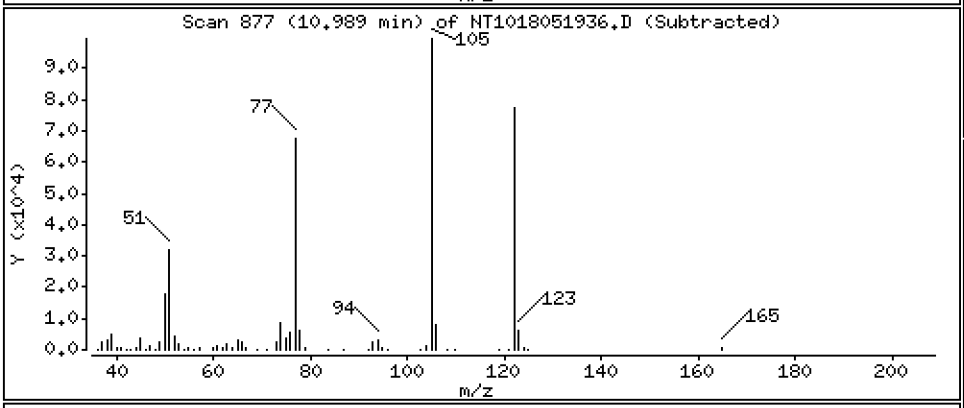
Column diameter: 0.25

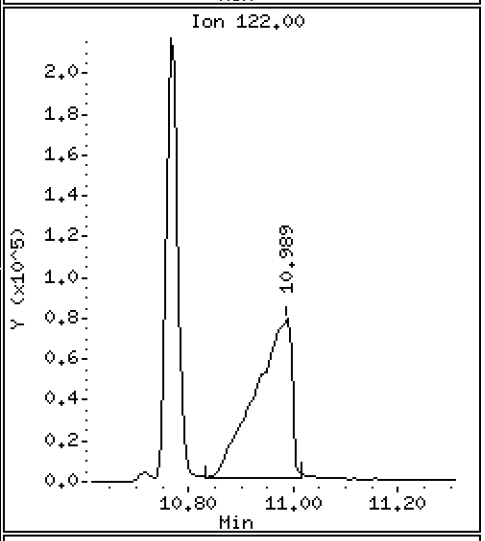
24 Benzoic acid

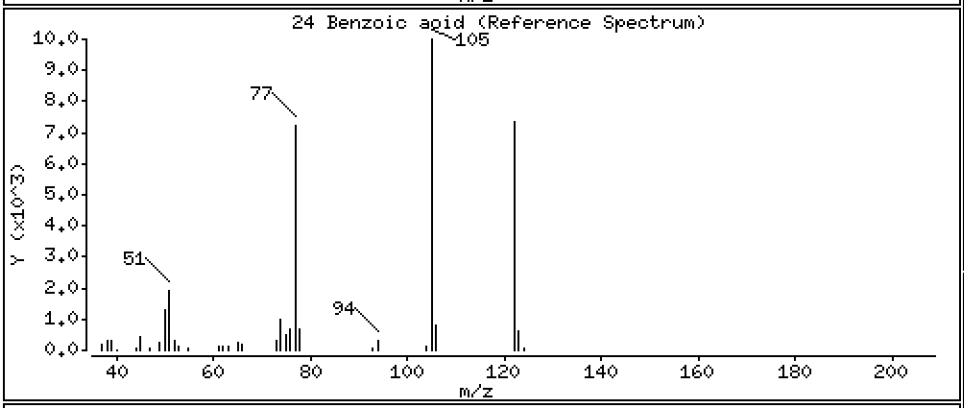
Concentration: 19.74 ug/mL

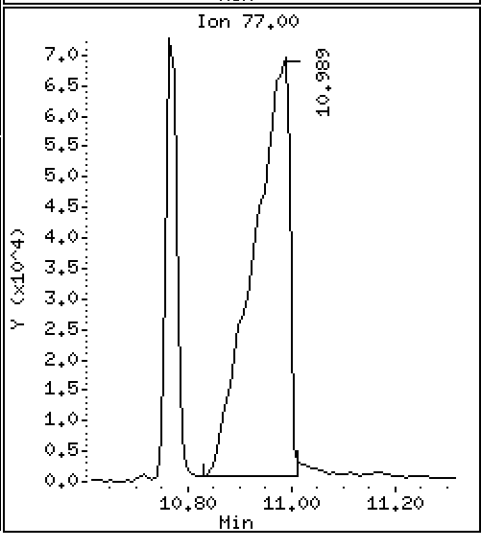


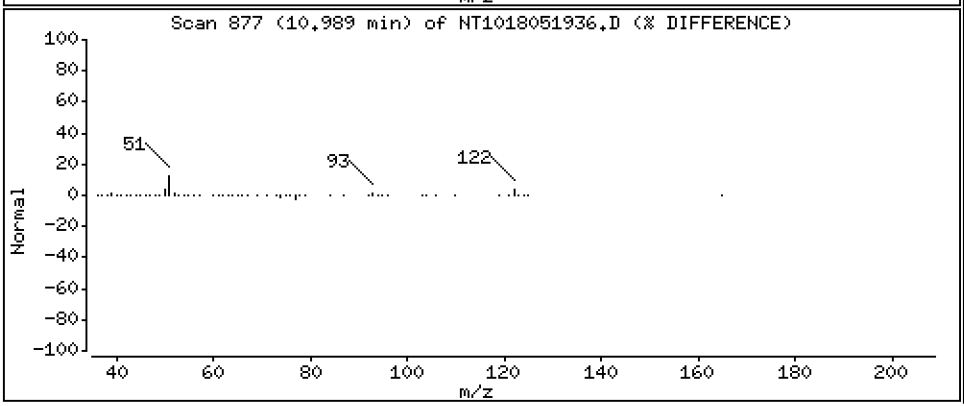












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

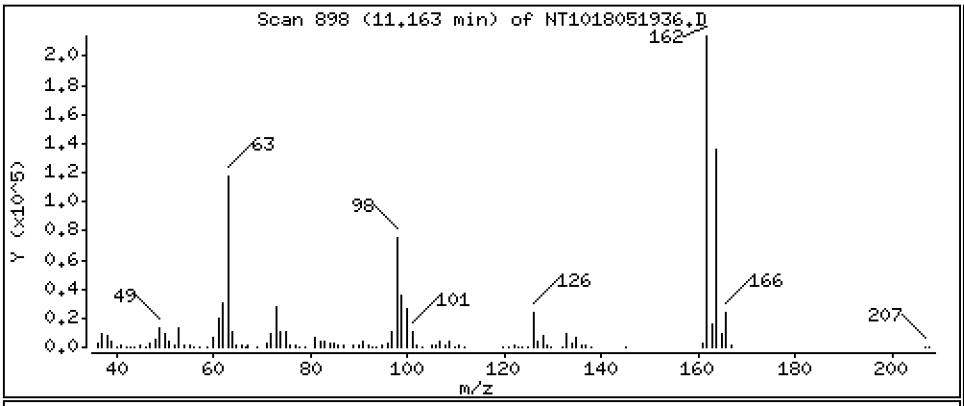
Operator: YZ

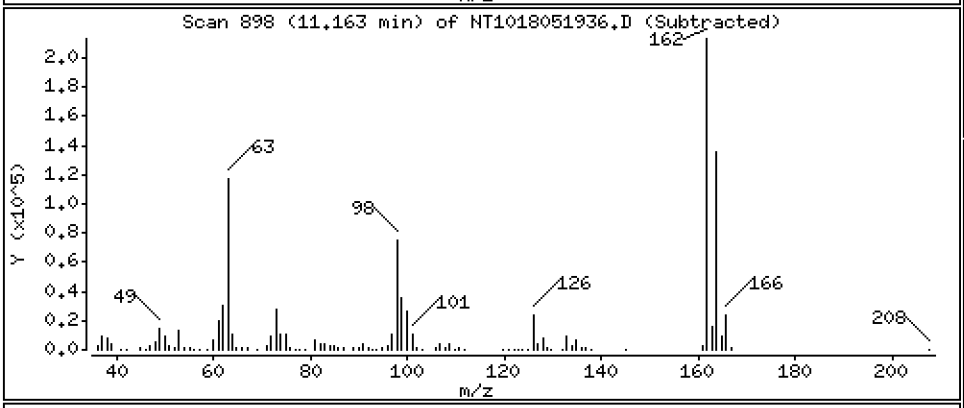
Column phase: ZB-5msi

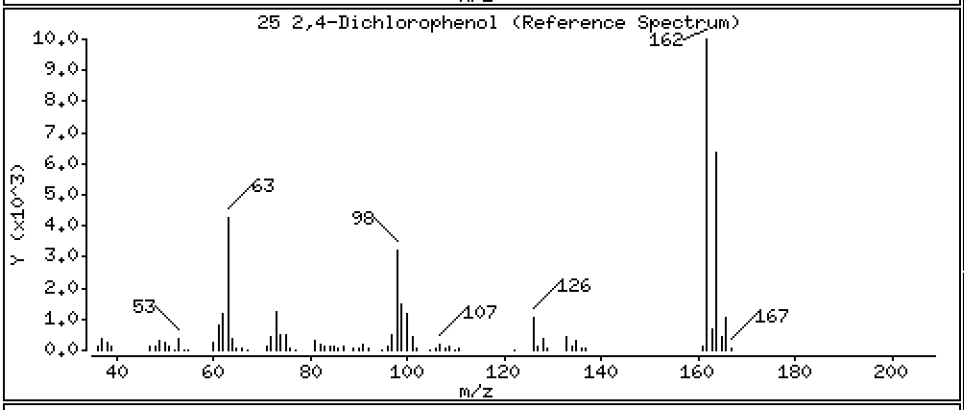
Column diameter: 0.25

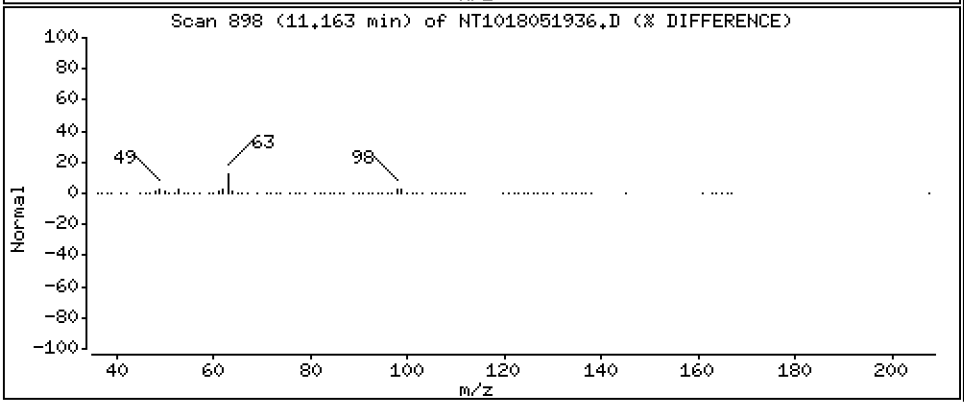
25 2,4-Dichlorophenol

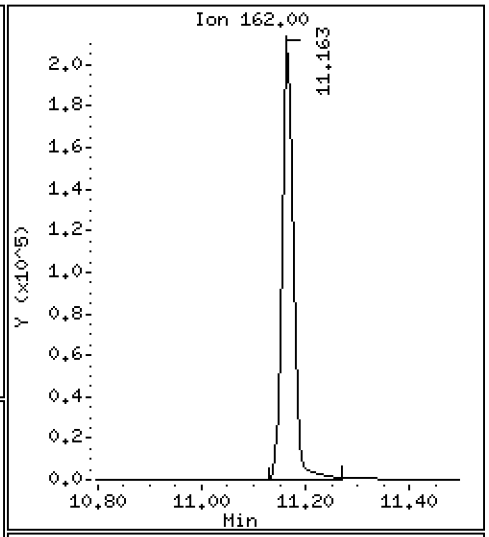
Concentration: 12.05 ug/mL

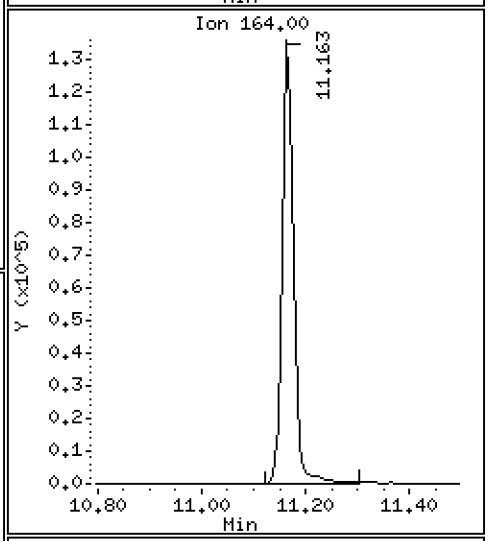


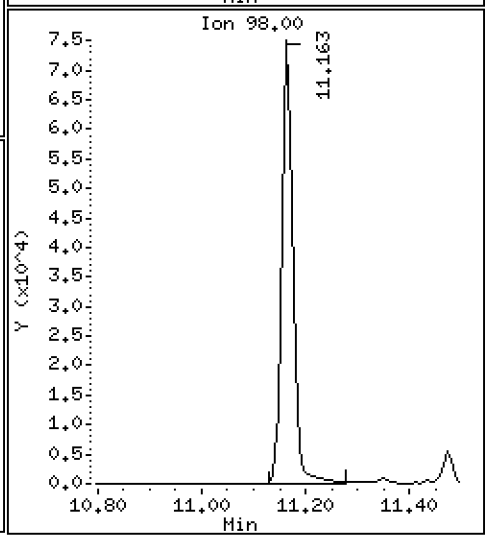












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

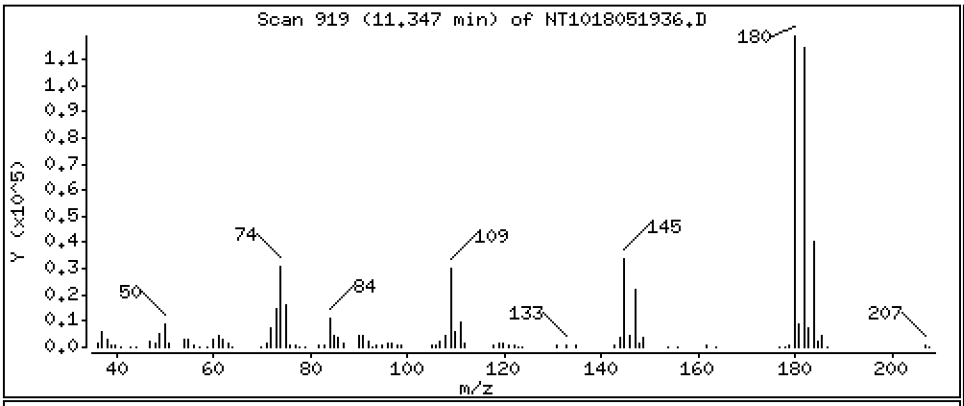
Operator: YZ

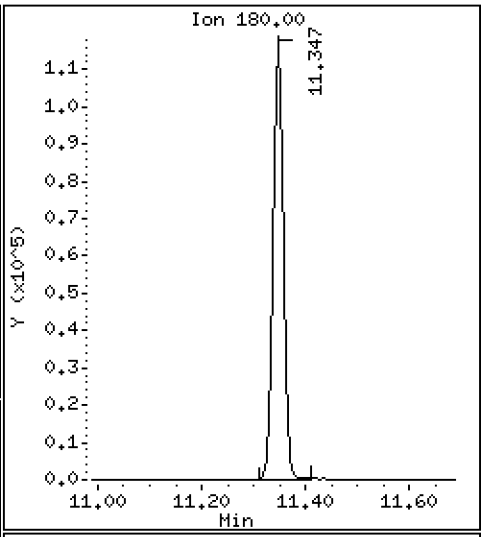
Column phase: ZB-5msi

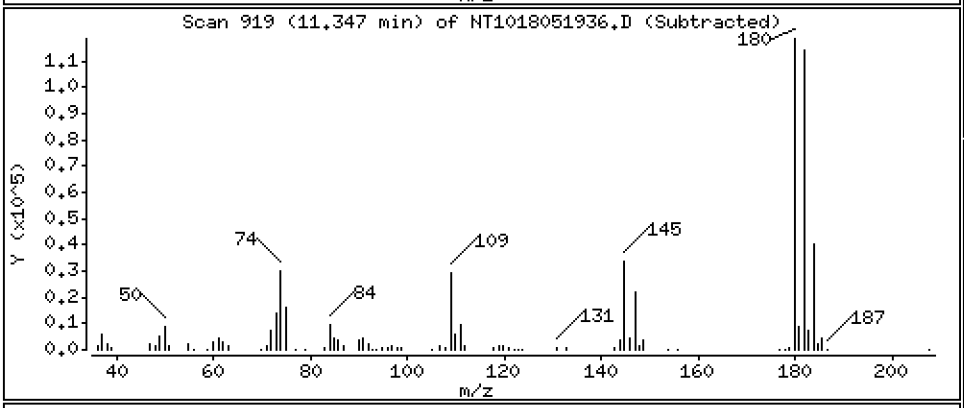
Column diameter: 0.25

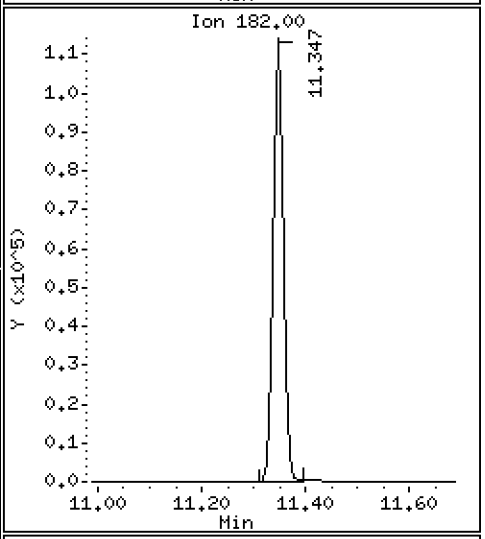
26 1,2,4-Trichlorobenzene

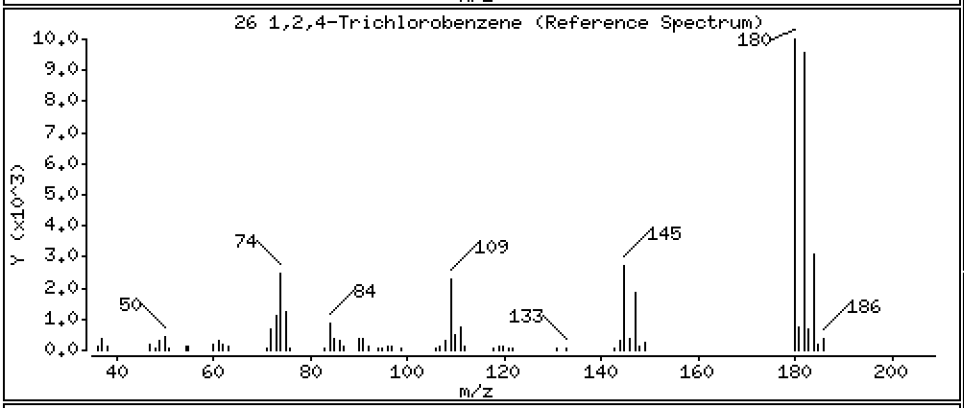
Concentration: 5.248 ug/mL

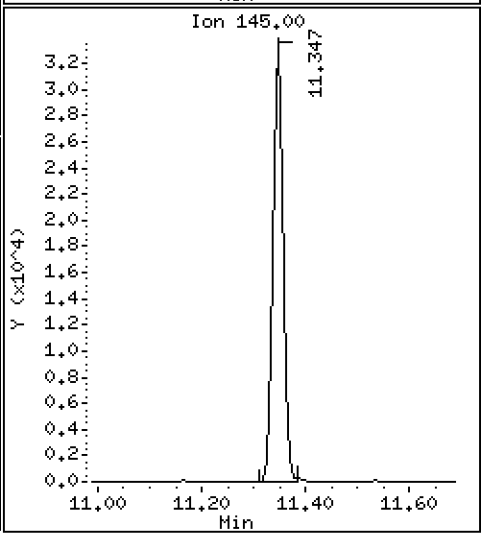


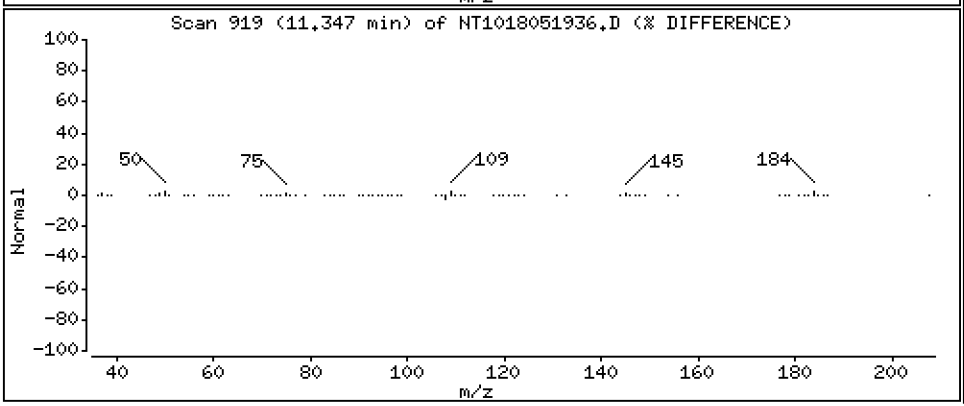












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

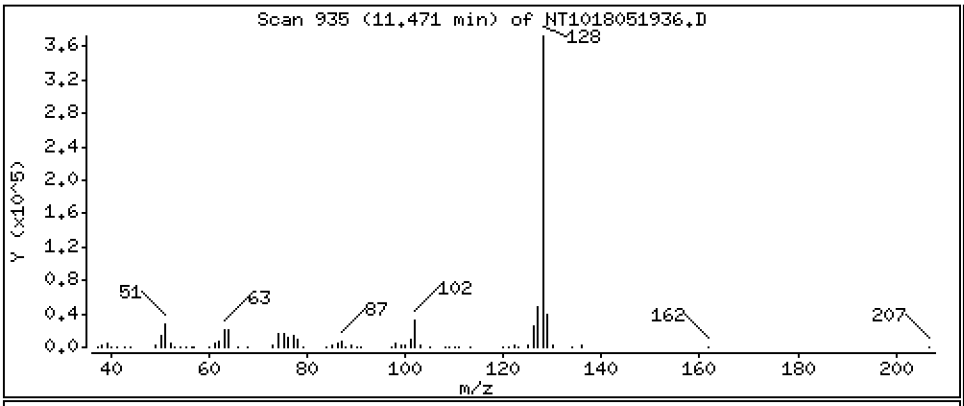
Operator: YZ

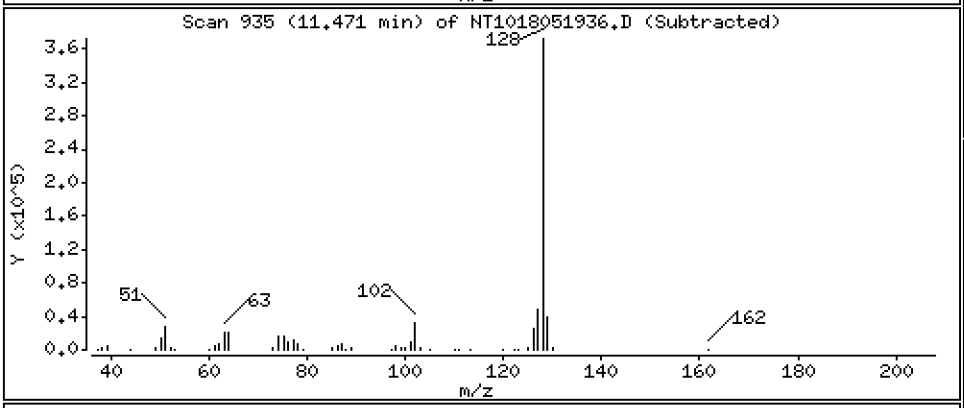
Column phase: ZB-5msi

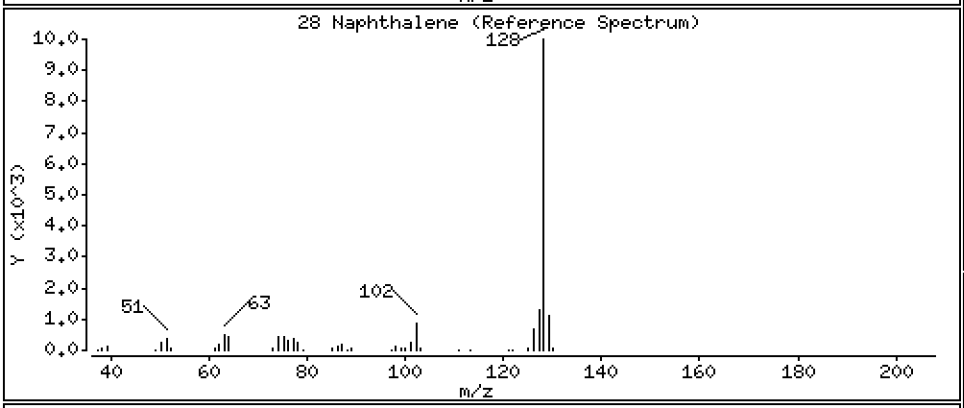
Column diameter: 0.25

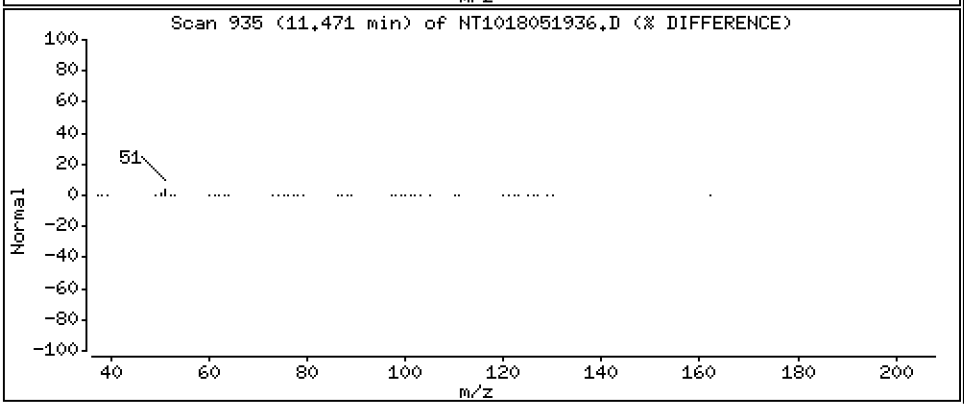
28 Naphthalene

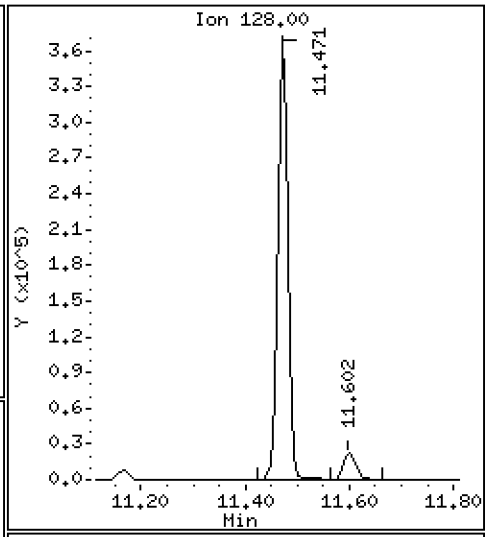
Concentration: 5.241 ug/mL

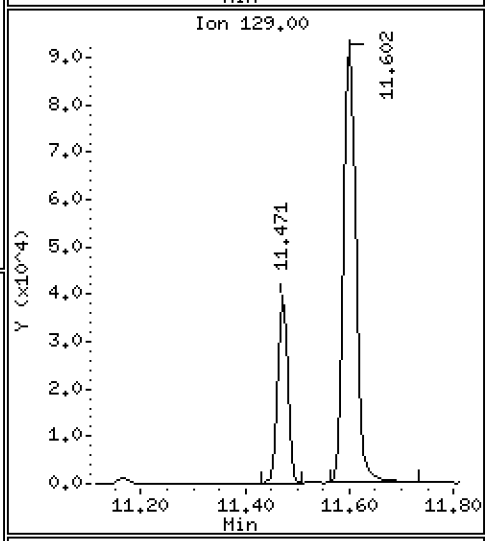


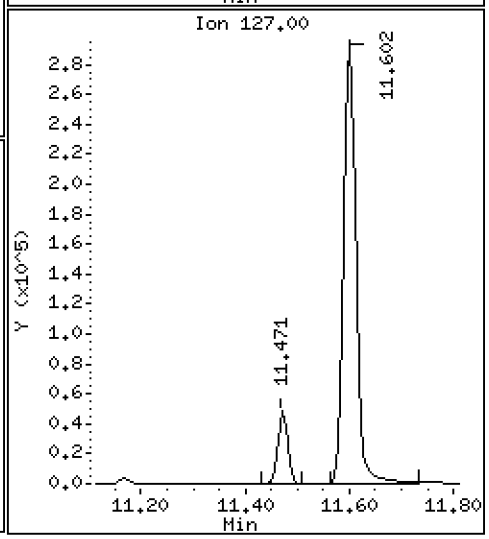












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

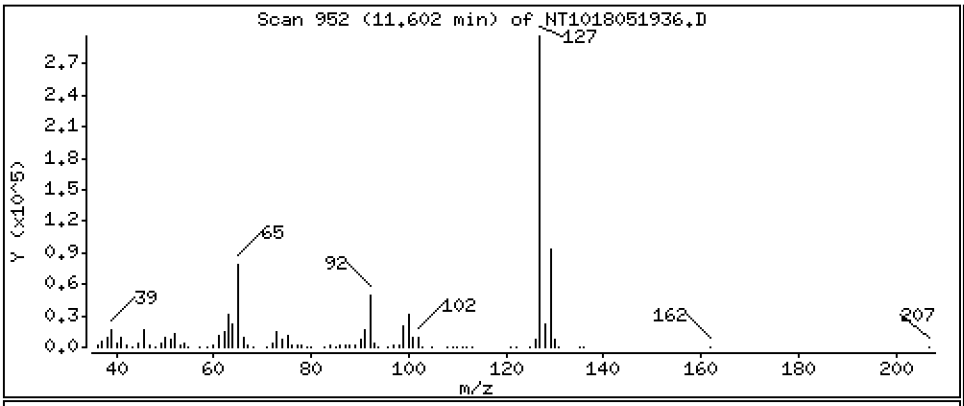
Operator: YZ

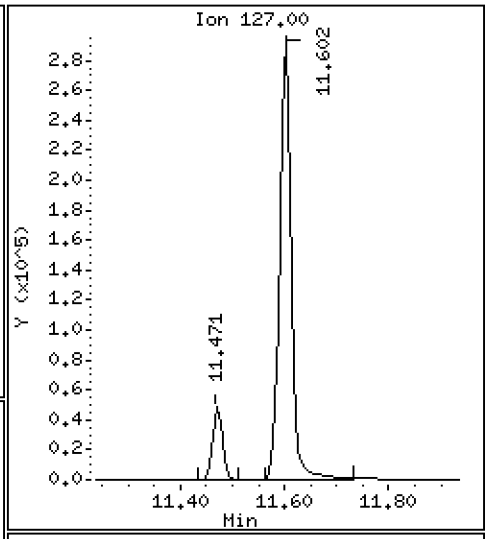
Column phase: ZB-5msi

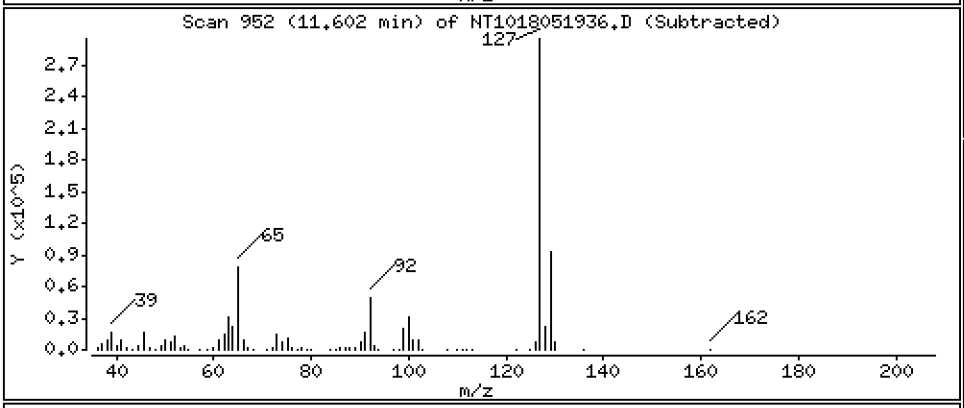
Column diameter: 0.25

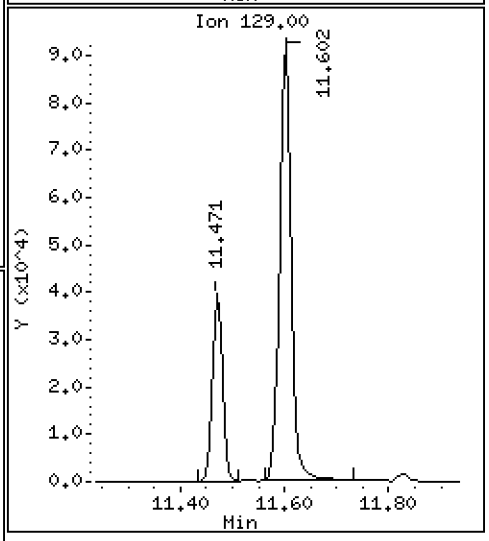
29 4-Chloroaniline

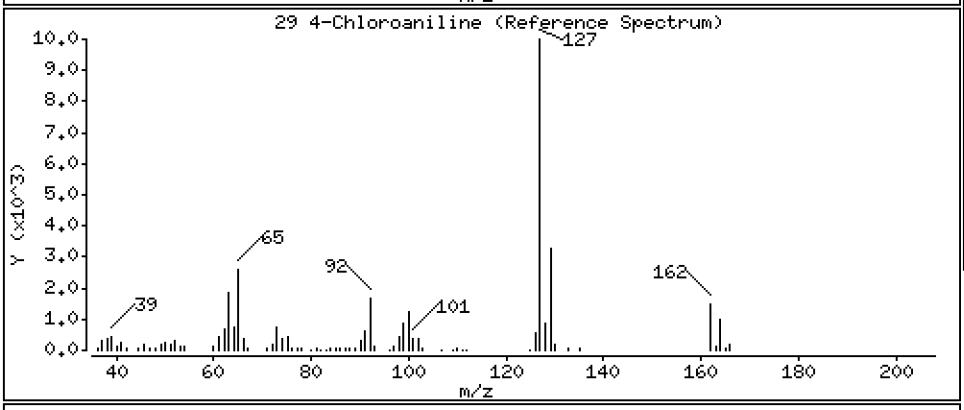
Concentration: 11.35 ug/mL

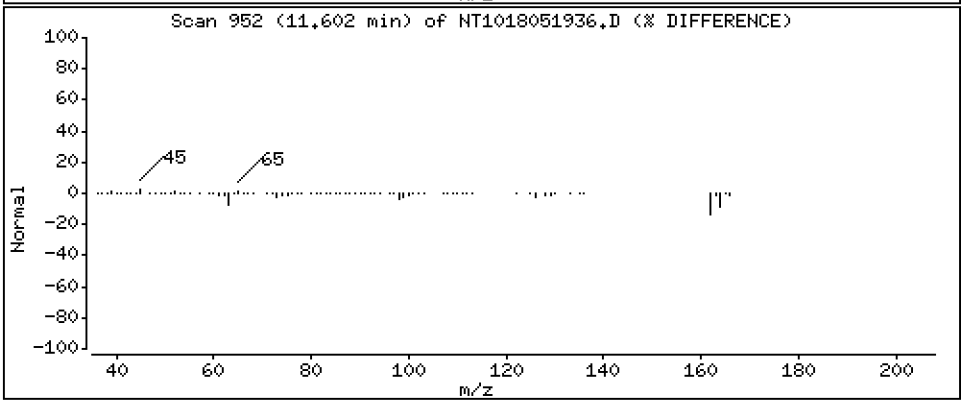












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

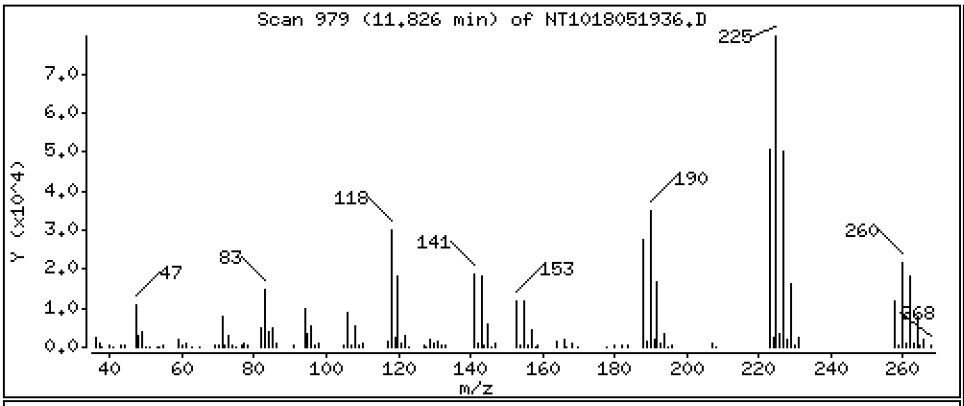
Operator: YZ

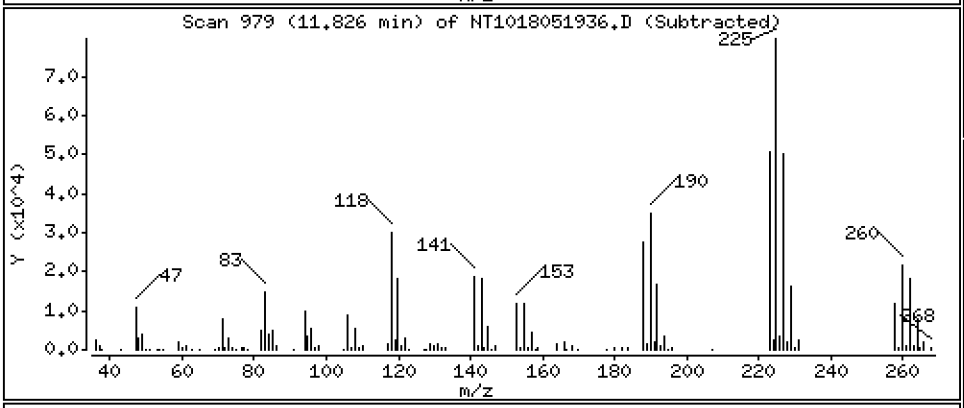
Column phase: ZB-5msi

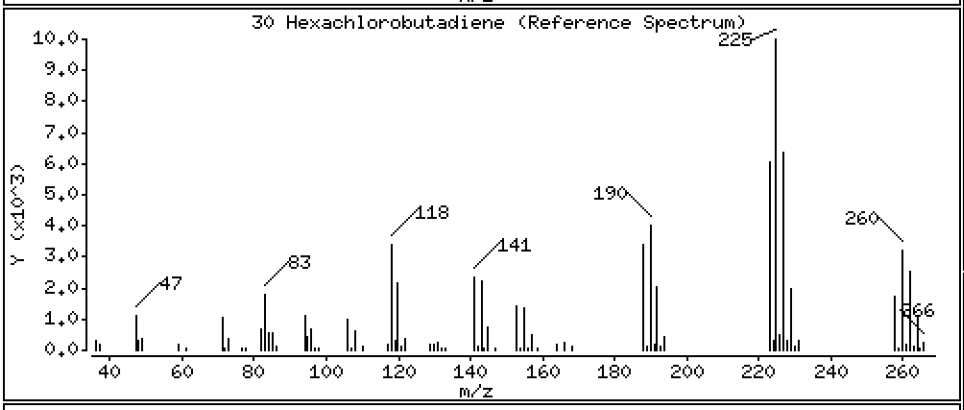
Column diameter: 0.25

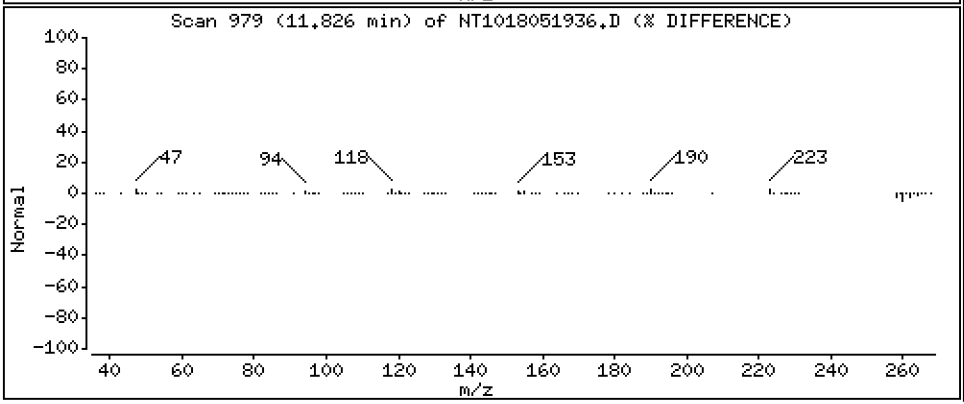
30 Hexachlorobutadiene

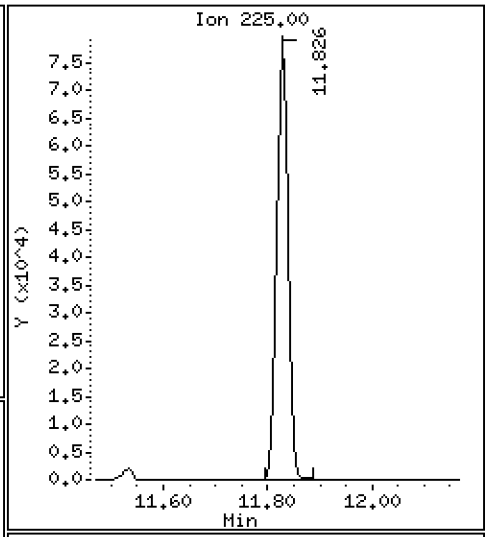
Concentration: 5.496 ug/mL

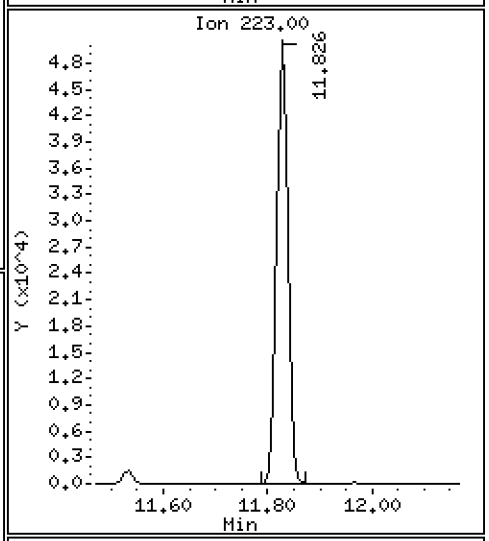


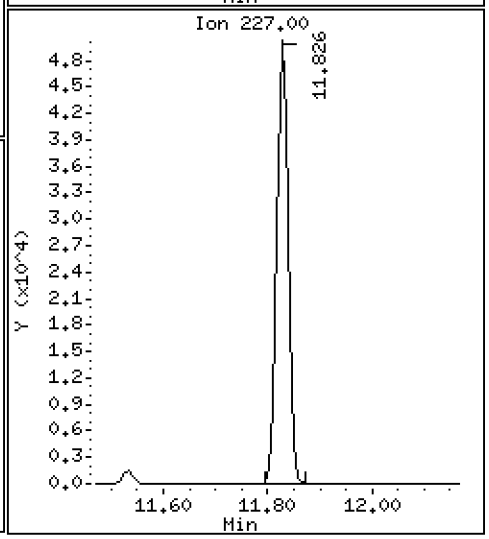












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

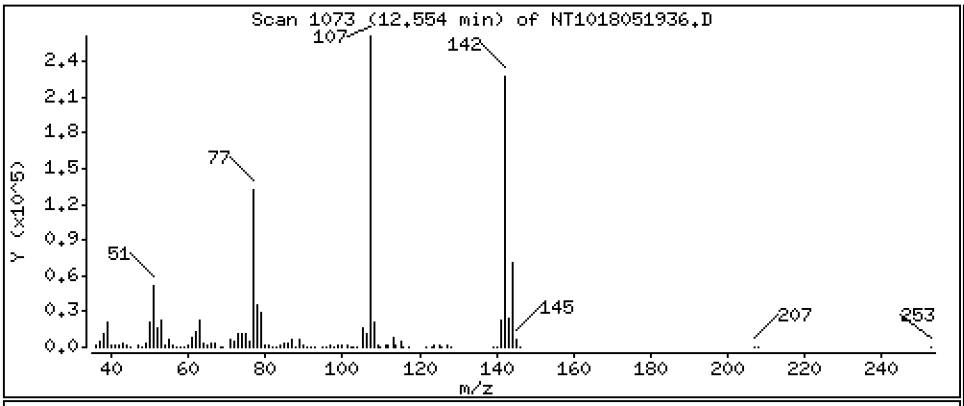
Operator: YZ

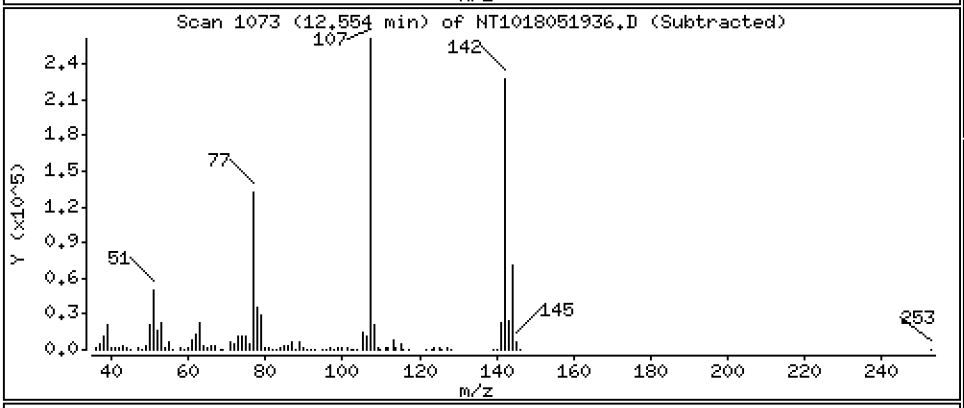
Column phase: ZB-5msi

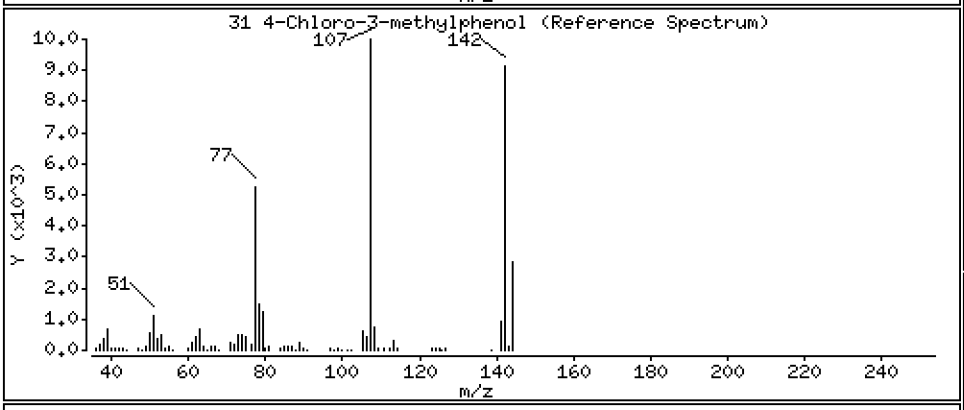
Column diameter: 0.25

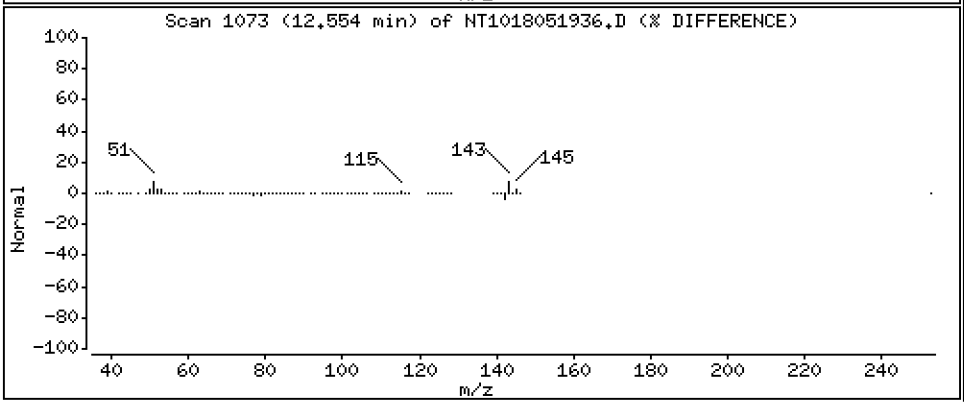
31 4-Chloro-3-methylphenol

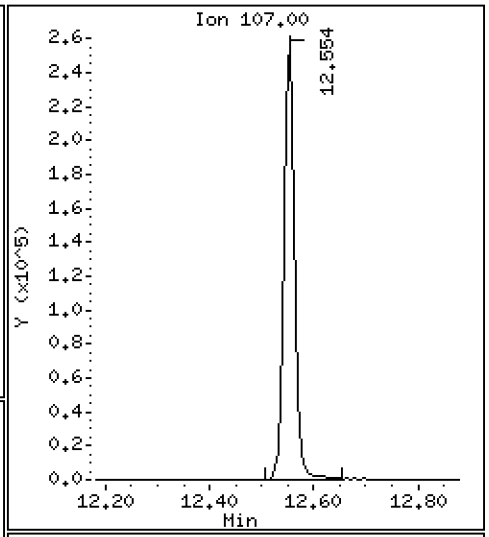
Concentration: 11.79 ug/mL

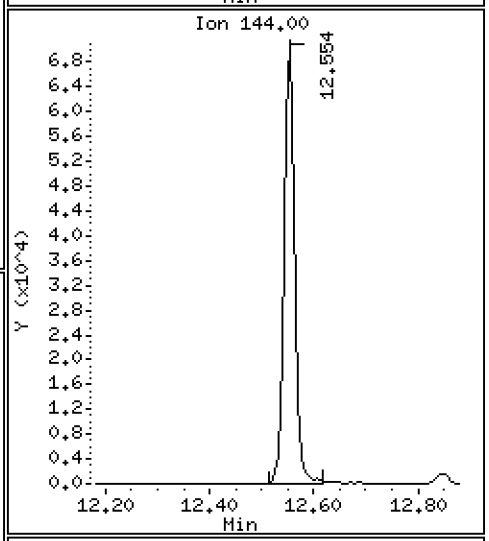


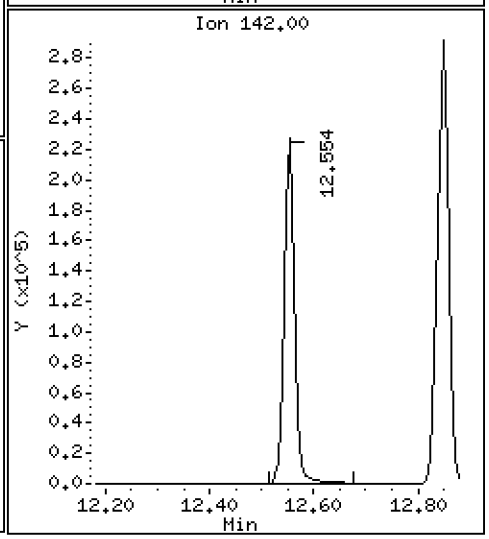












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

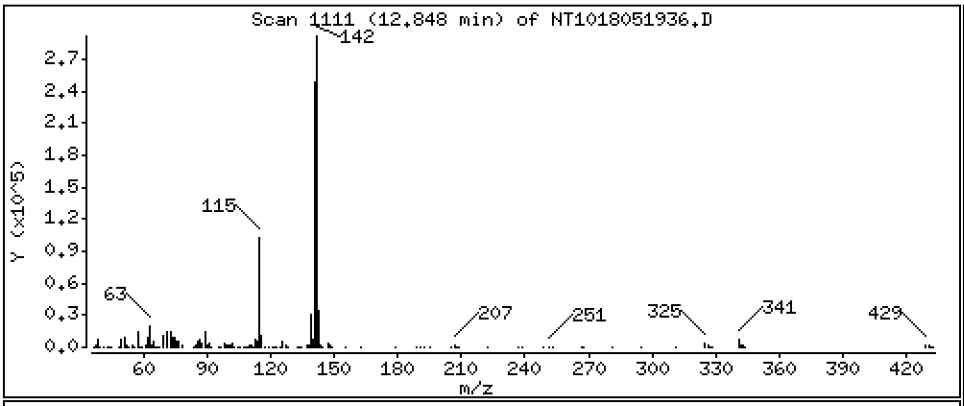
Operator: YZ

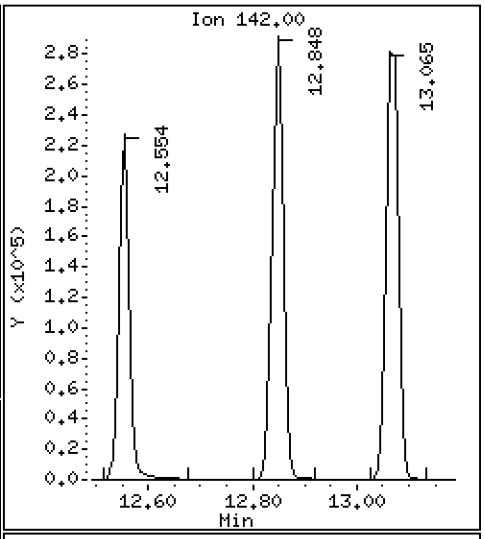
Column phase: ZB-5msi

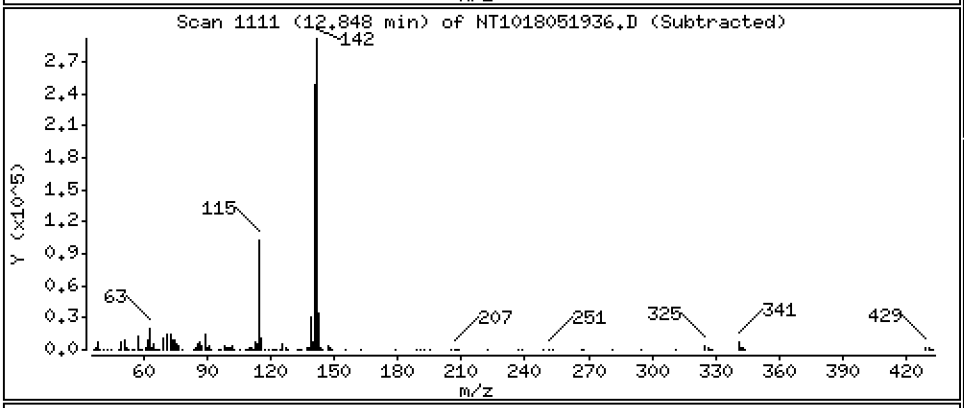
Column diameter: 0.25

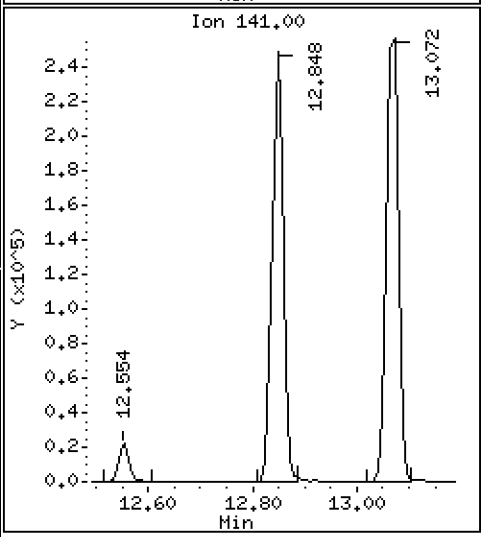
32 2-Methylnaphthalene

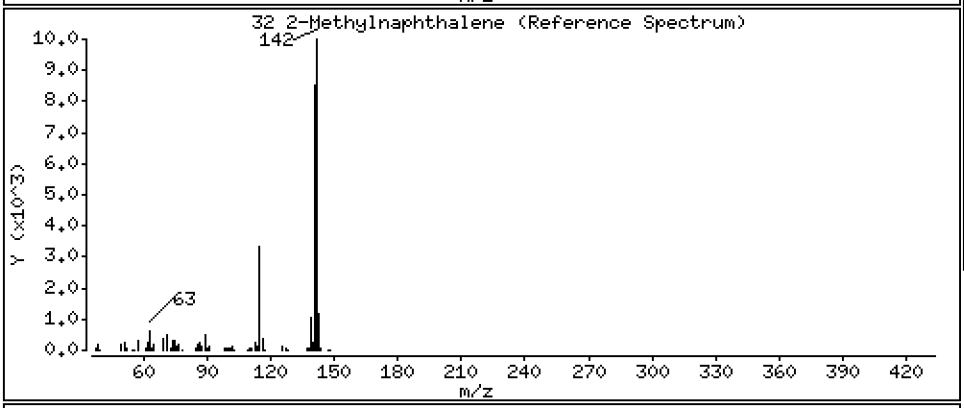
Concentration: 5.489 ug/mL

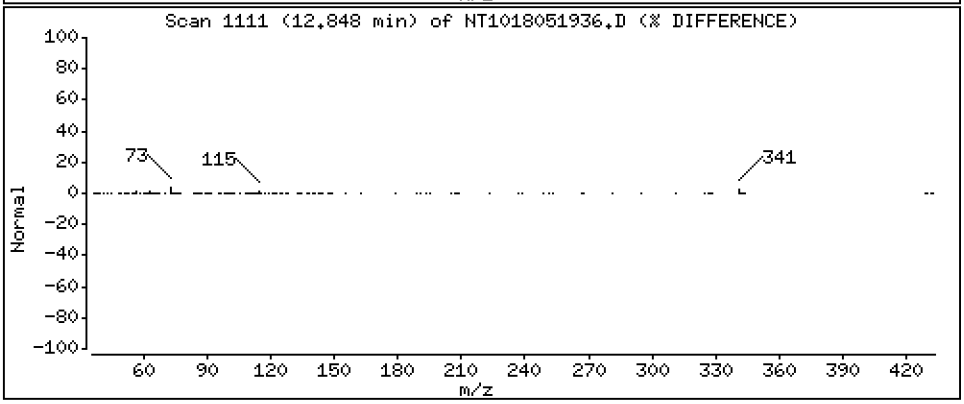












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

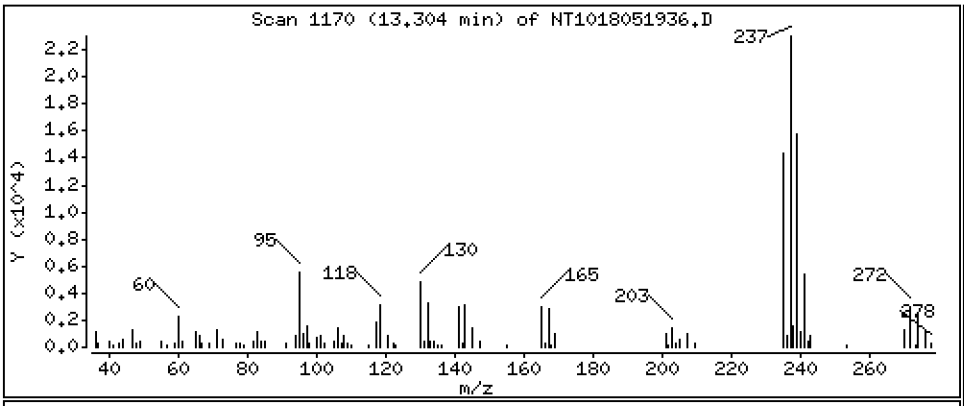
Operator: YZ

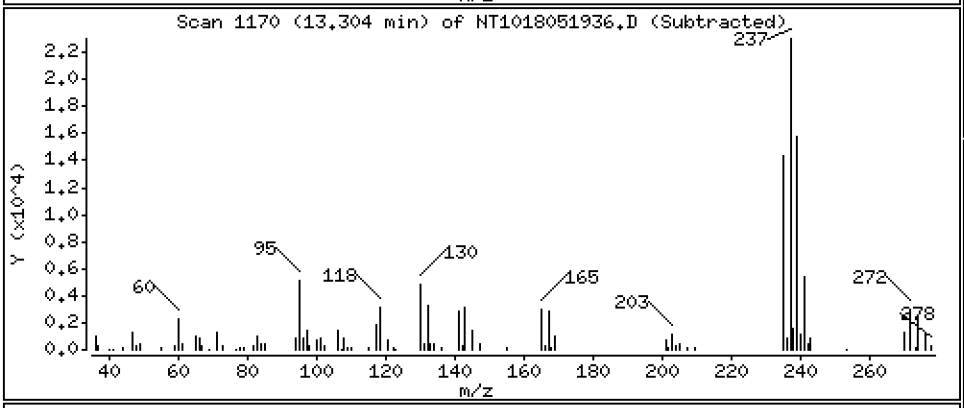
Column phase: ZB-5msi

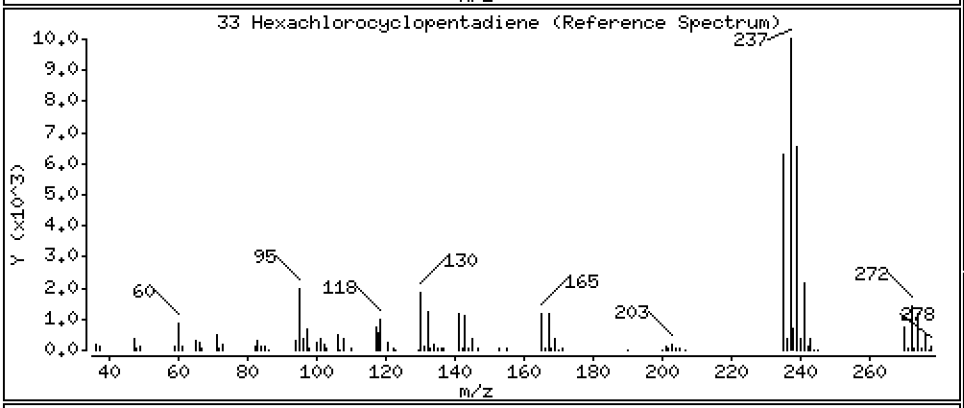
Column diameter: 0.25

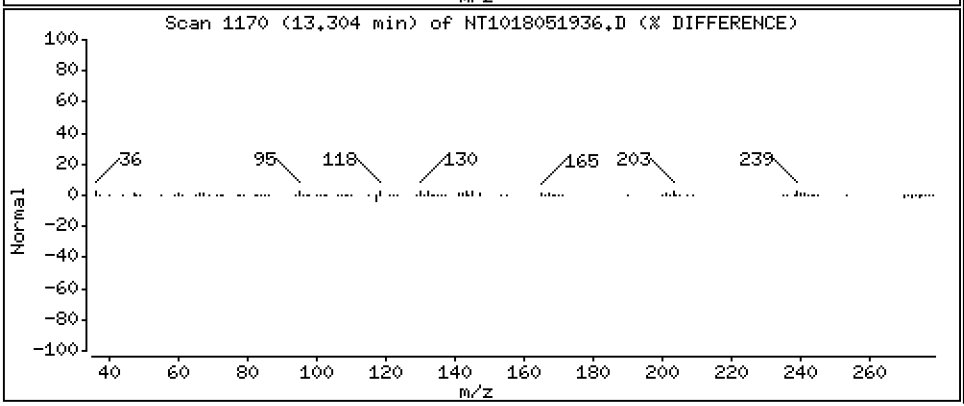
33 Hexachlorocyclopentadiene

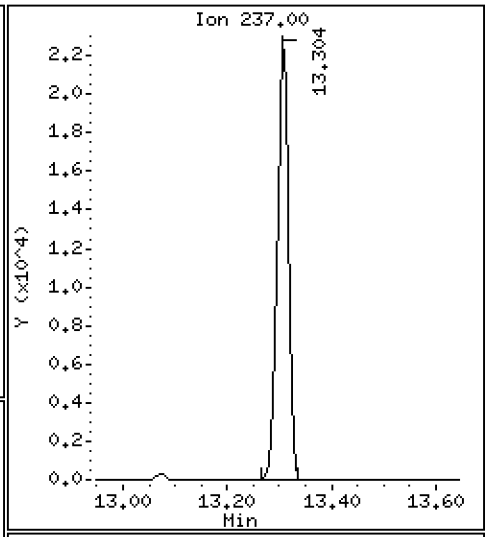
Concentration: 1.464 ug/mL

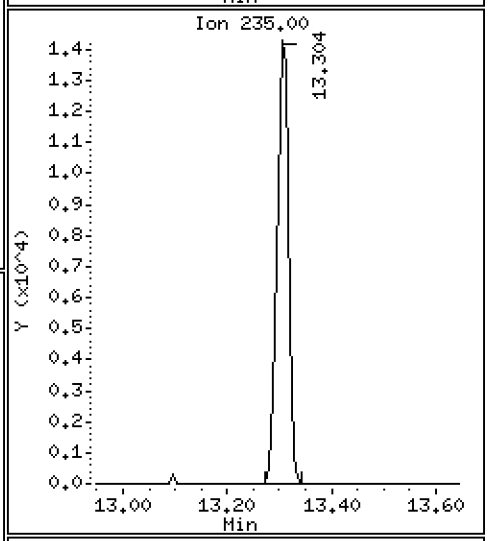


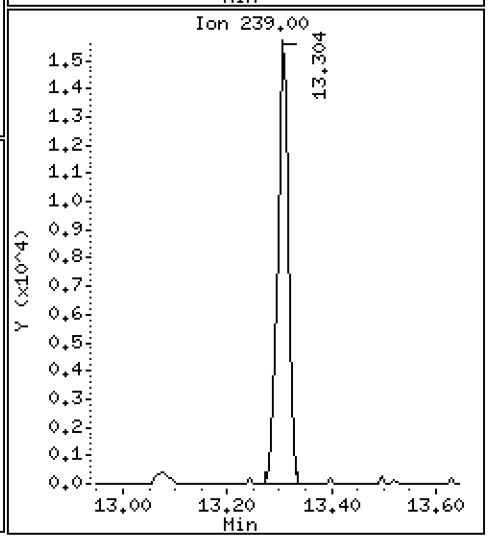












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

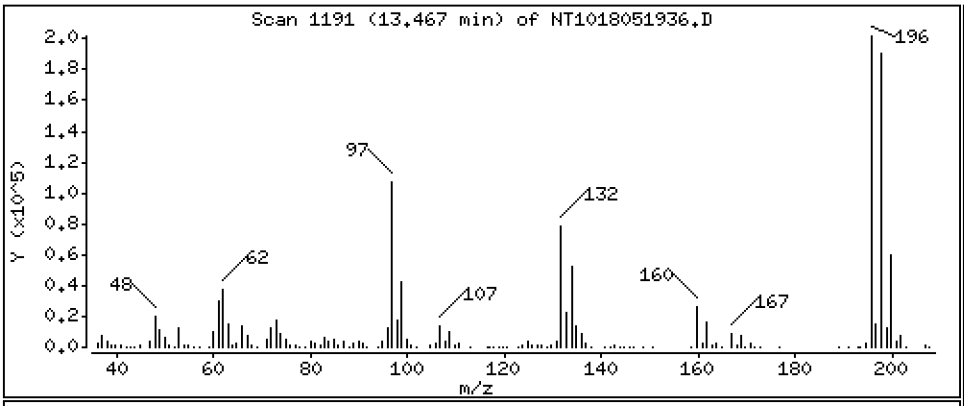
Operator: YZ

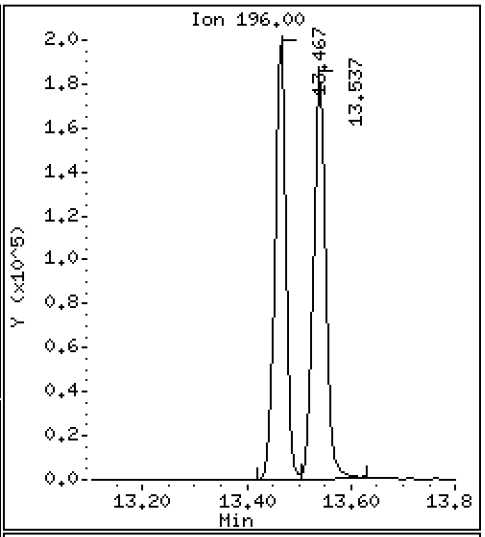
Column phase: ZB-5msi

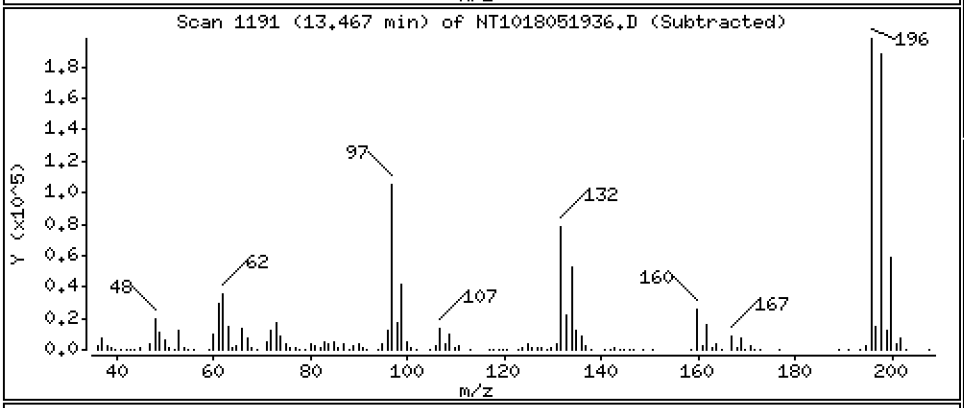
Column diameter: 0.25

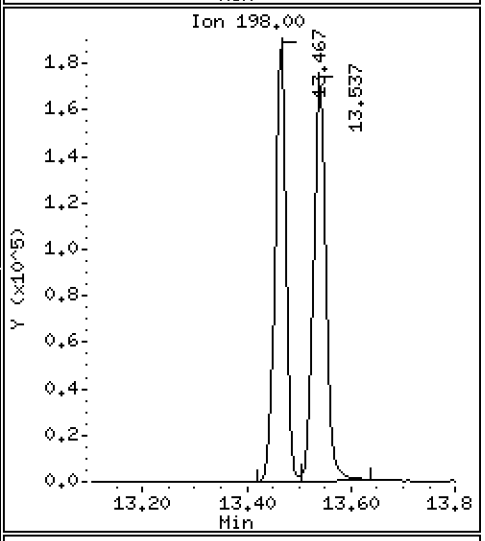
34 2,4,6-Trichlorophenol

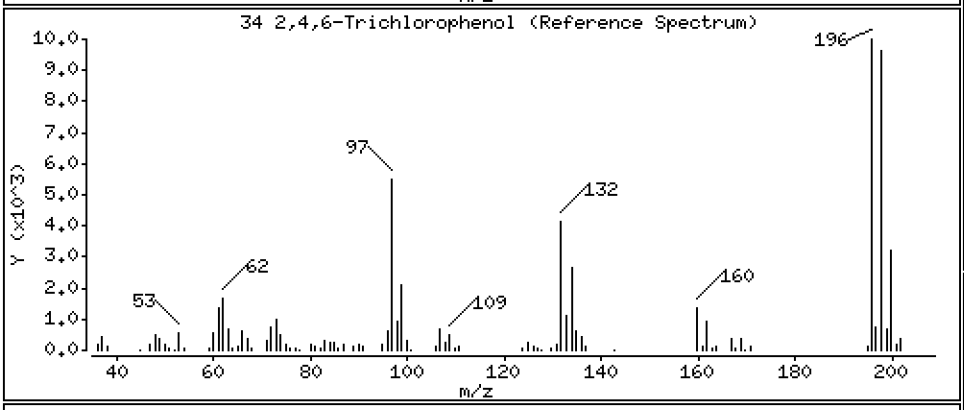
Concentration: 11.77 ug/mL

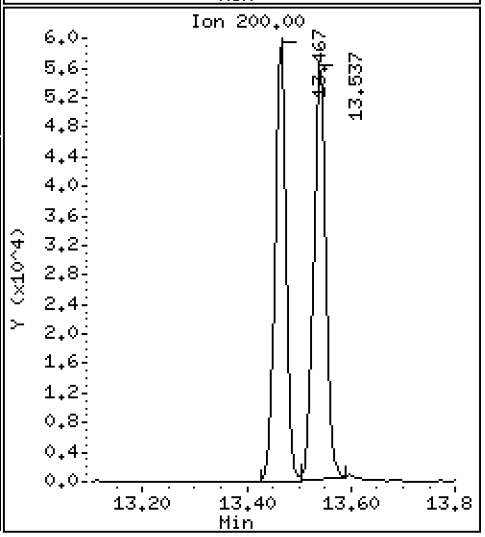


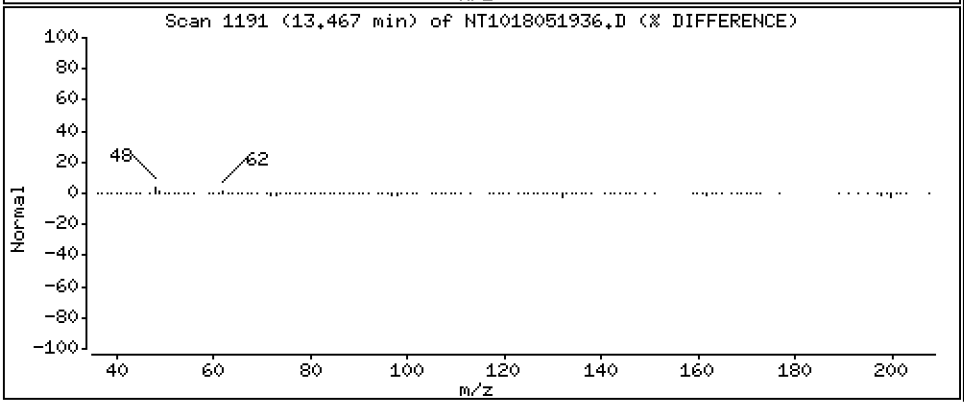












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

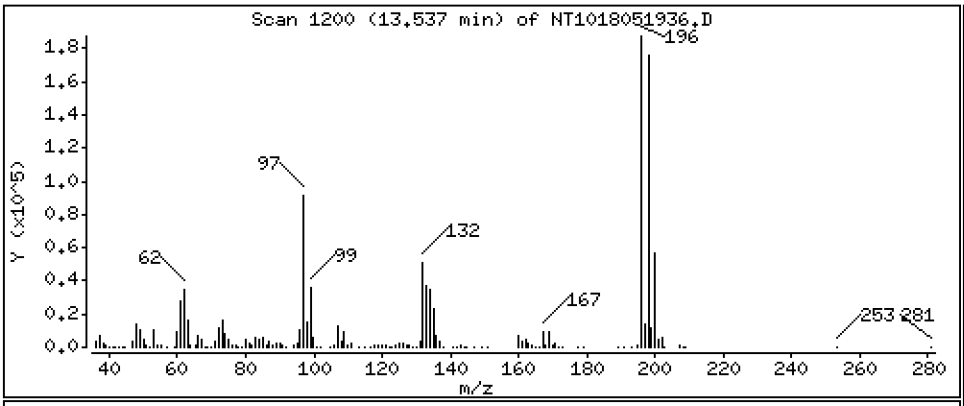
Operator: YZ

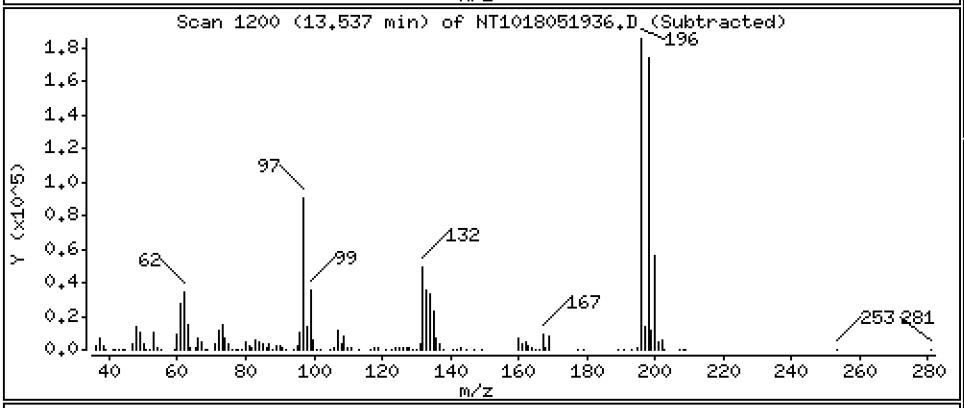
Column phase: ZB-5msi

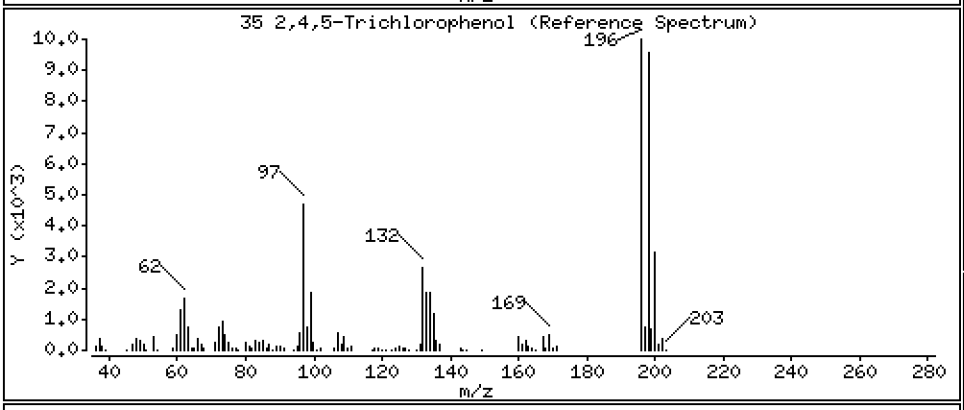
Column diameter: 0.25

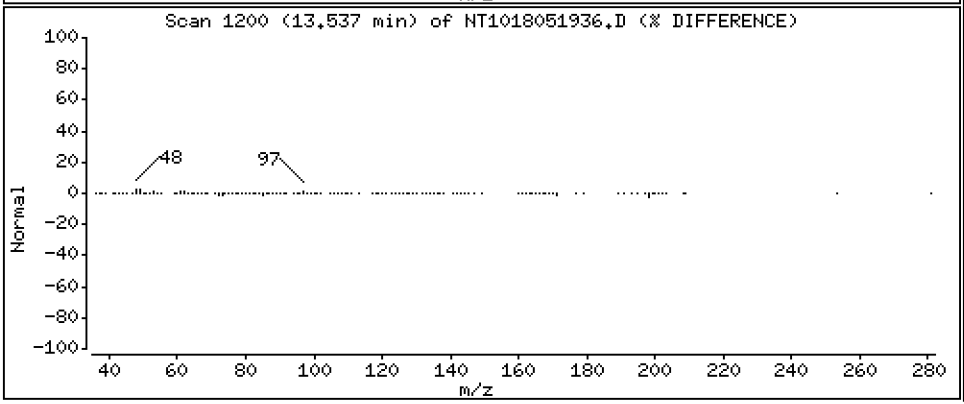
35 2,4,5-Trichlorophenol

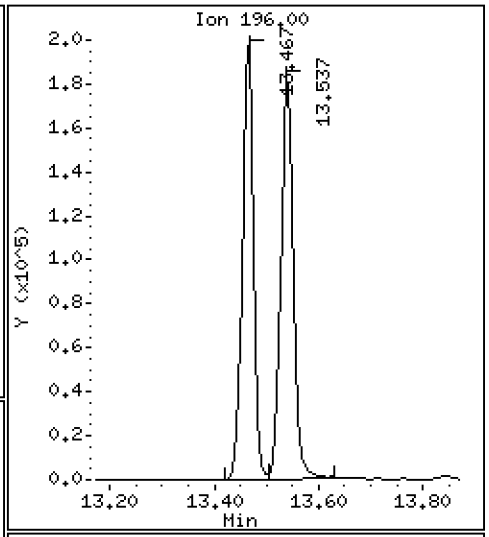
Concentration: 10.76 ug/mL

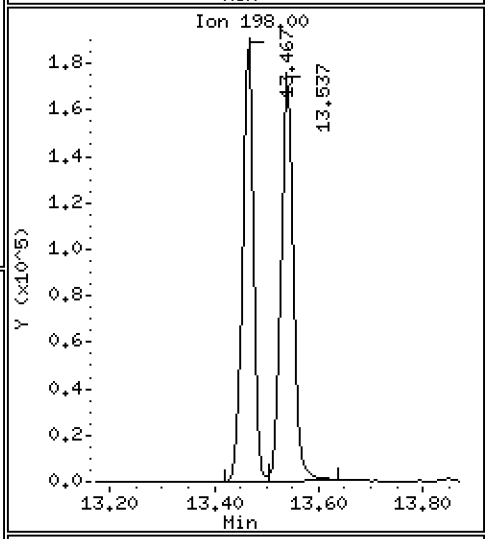


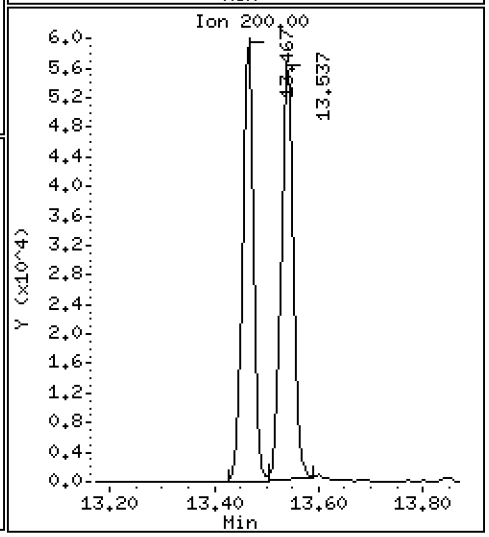












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

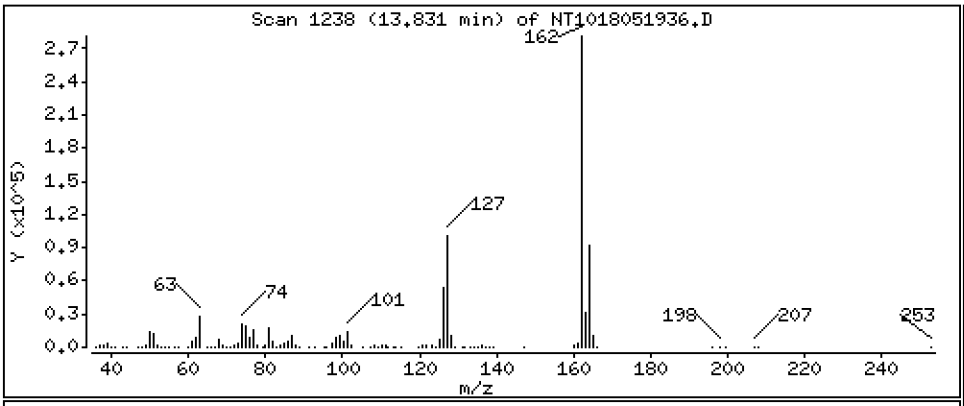
Operator: YZ

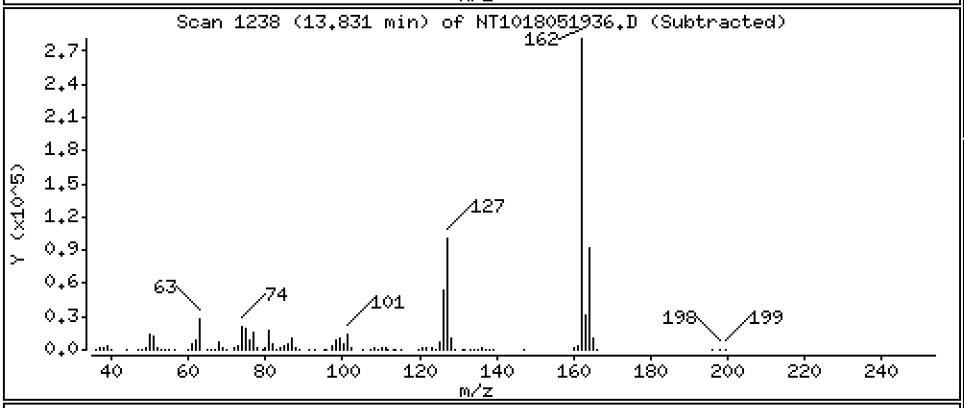
Column phase: ZB-5msi

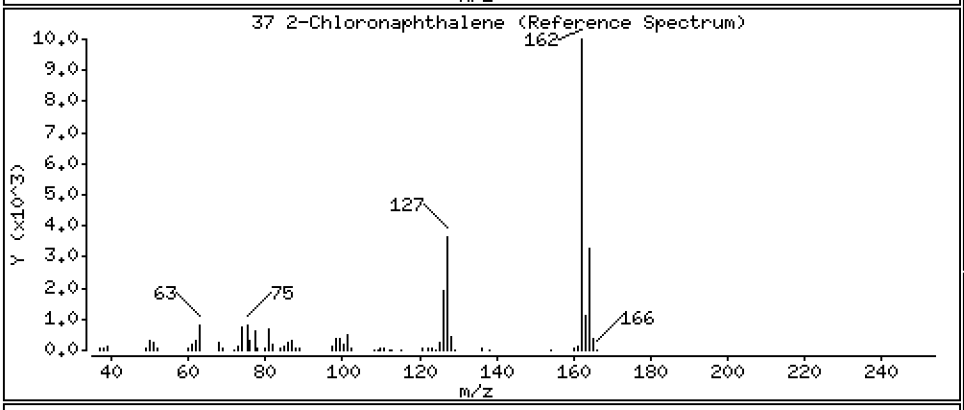
Column diameter: 0.25

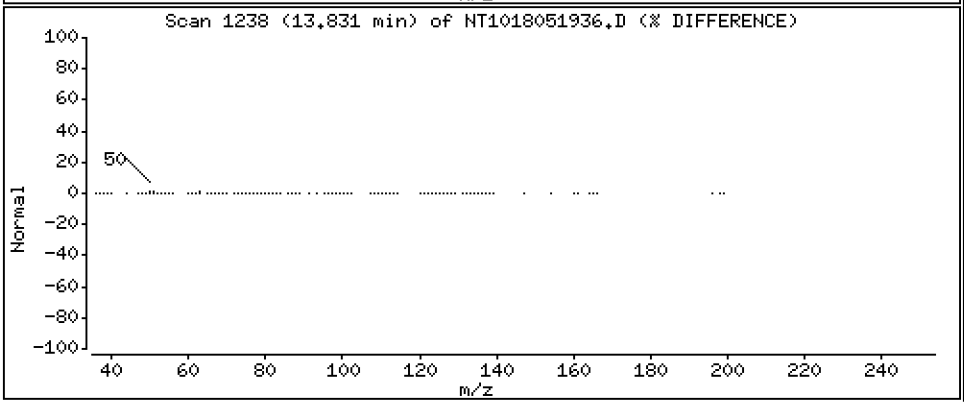
37 2-Chloronaphthalene

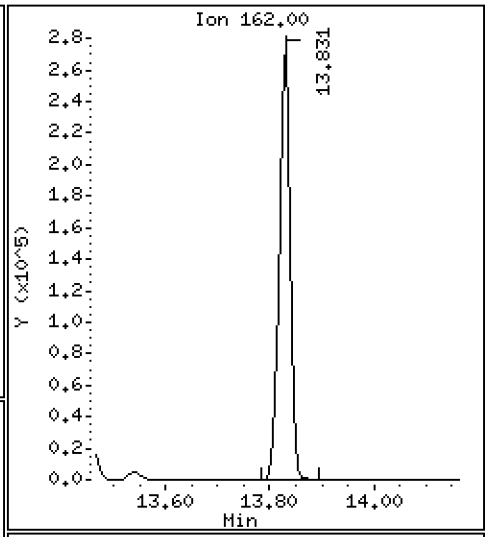
Concentration: 5.367 ug/mL

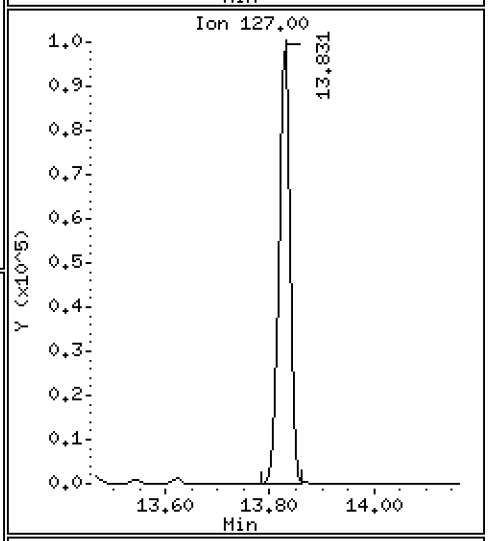


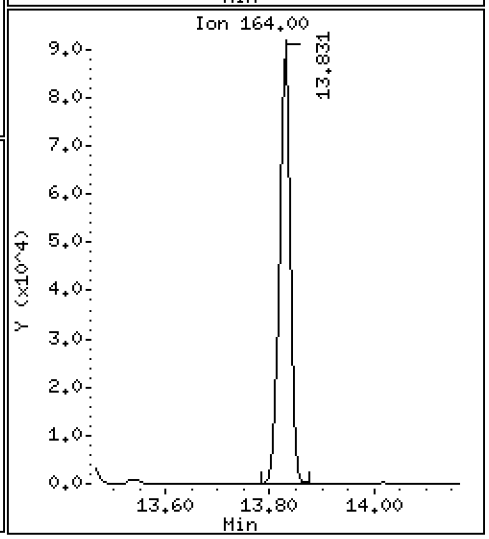












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

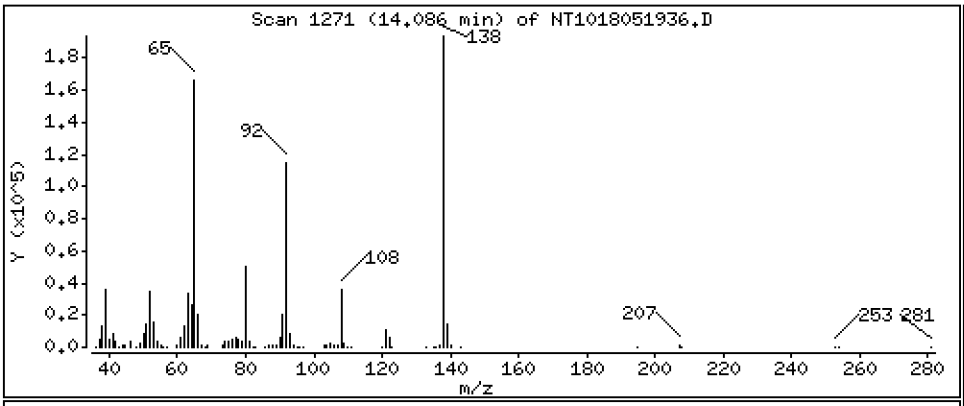
Operator: YZ

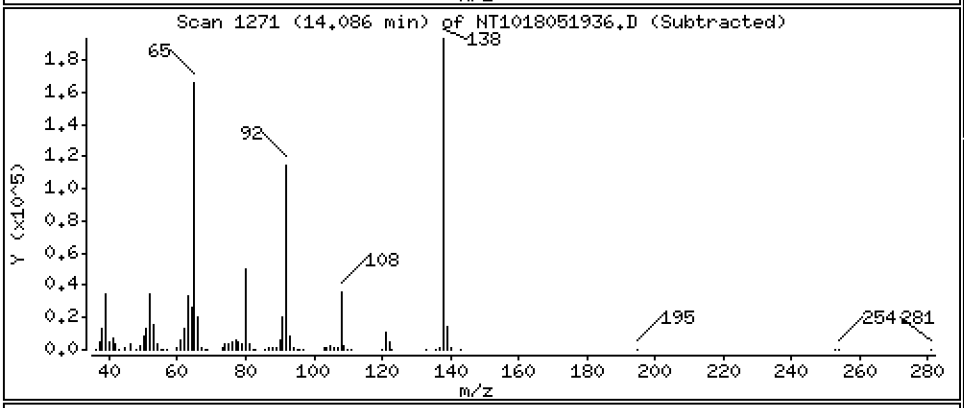
Column phase: ZB-5msi

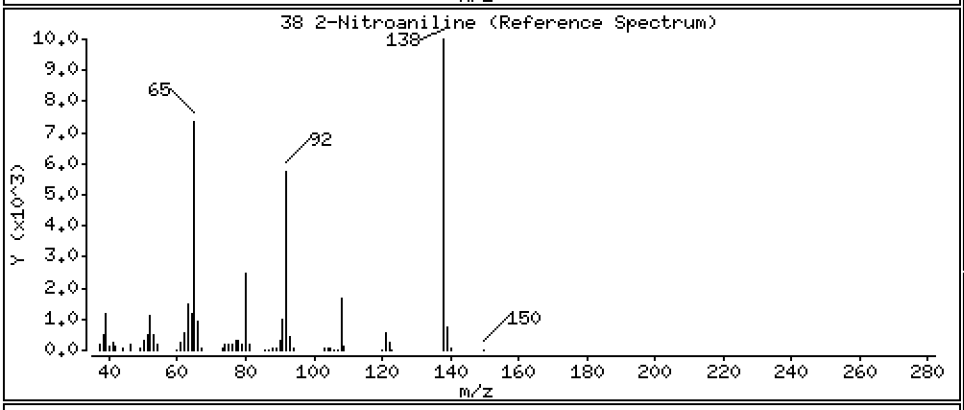
Column diameter: 0.25

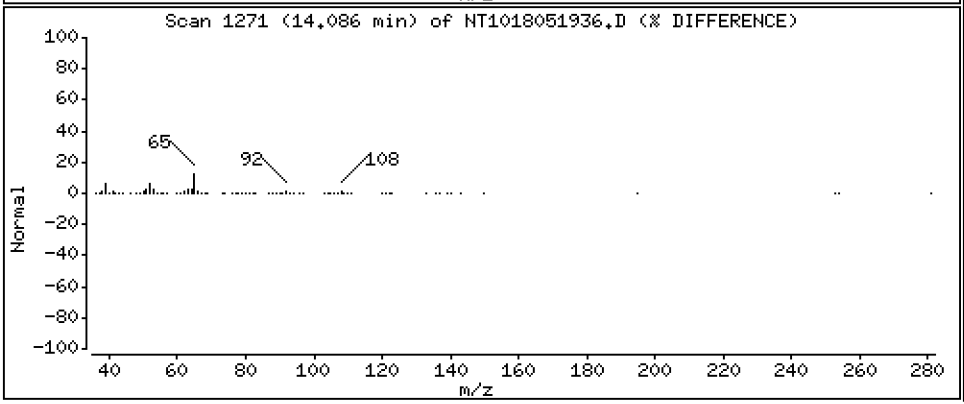
38 2-Nitroaniline

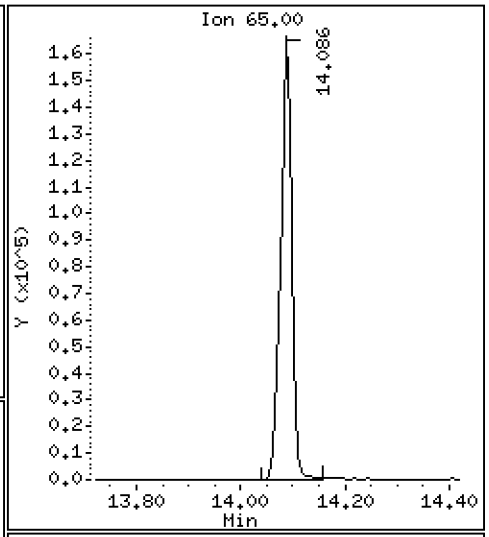
Concentration: 11.53 ug/mL

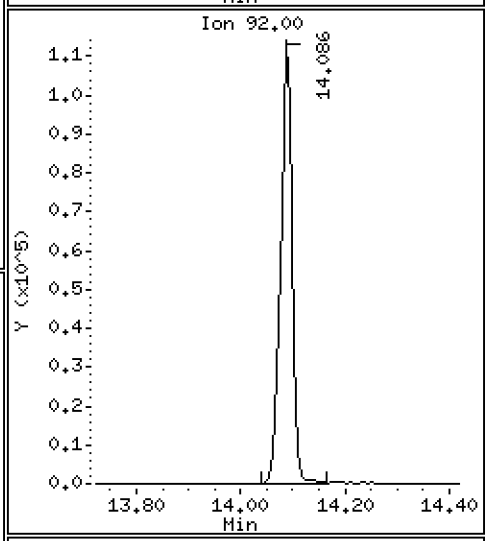


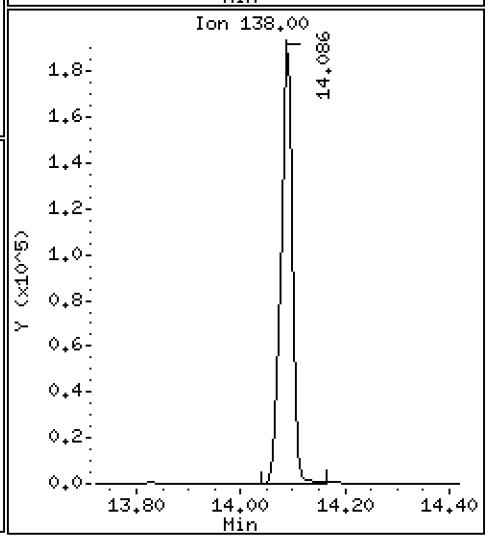












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

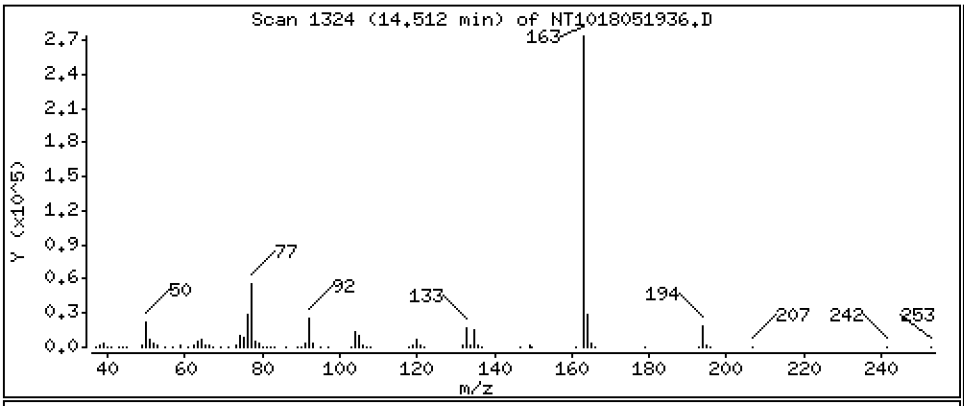
Operator: YZ

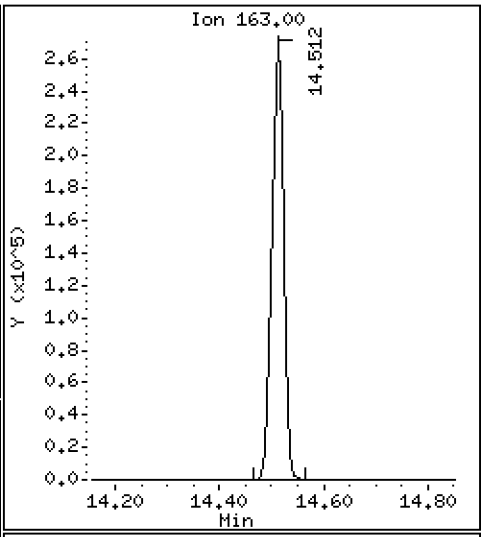
Column phase: ZB-5msi

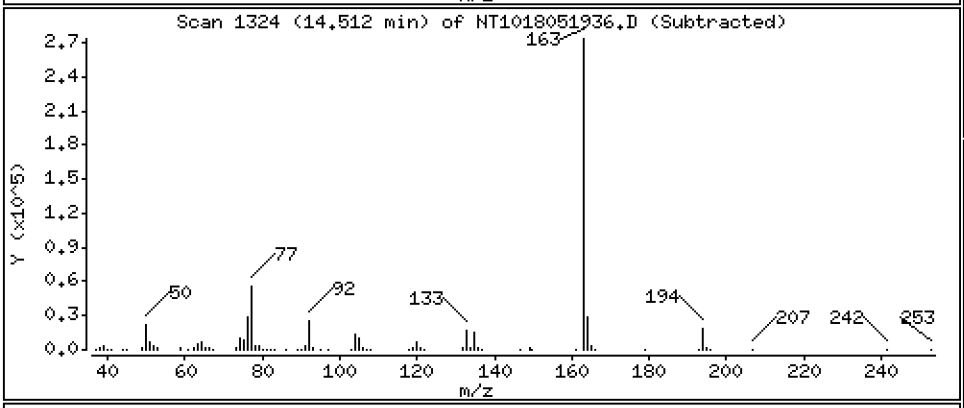
Column diameter: 0.25

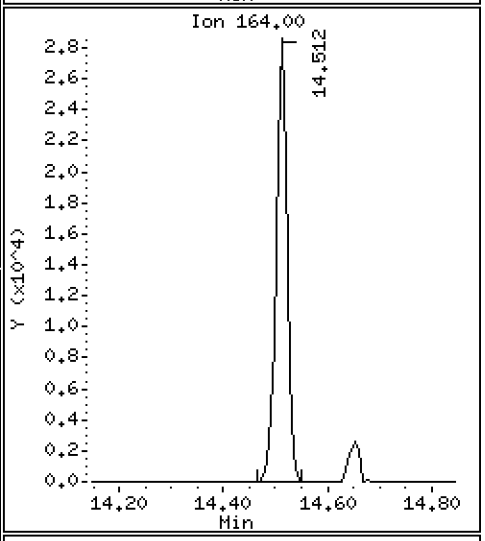
39 Dimethylphthalate

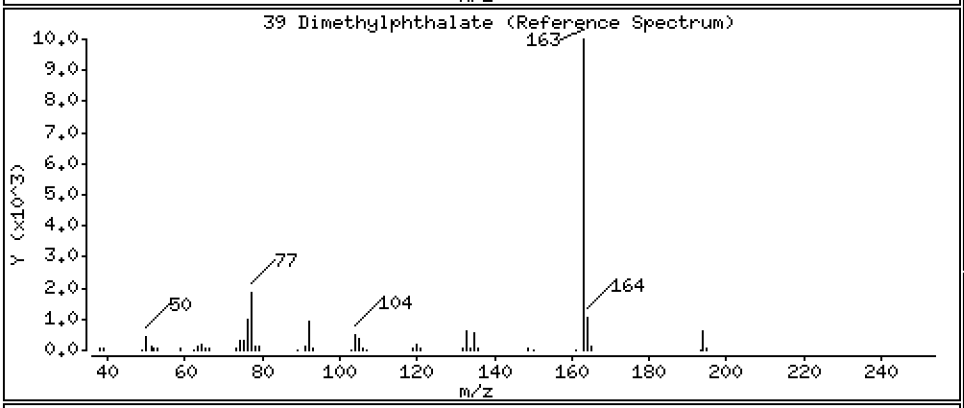
Concentration: 5.176 ug/mL

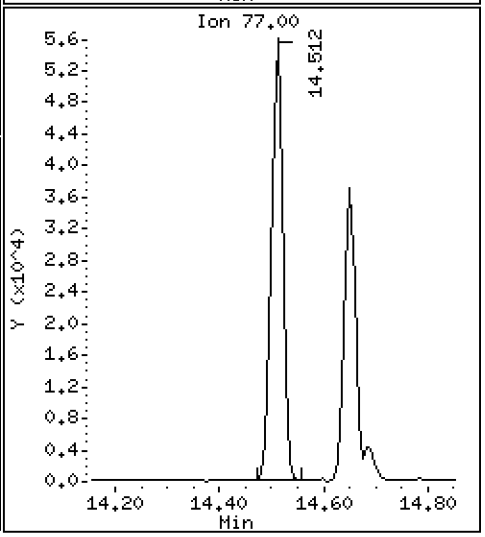


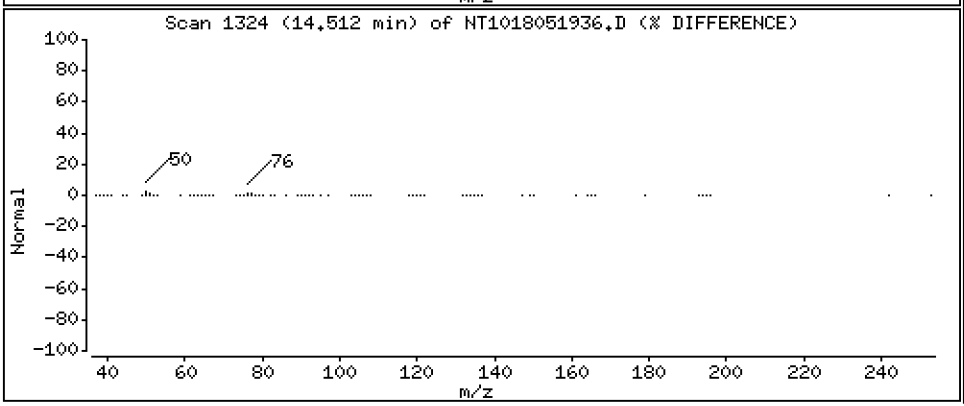












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

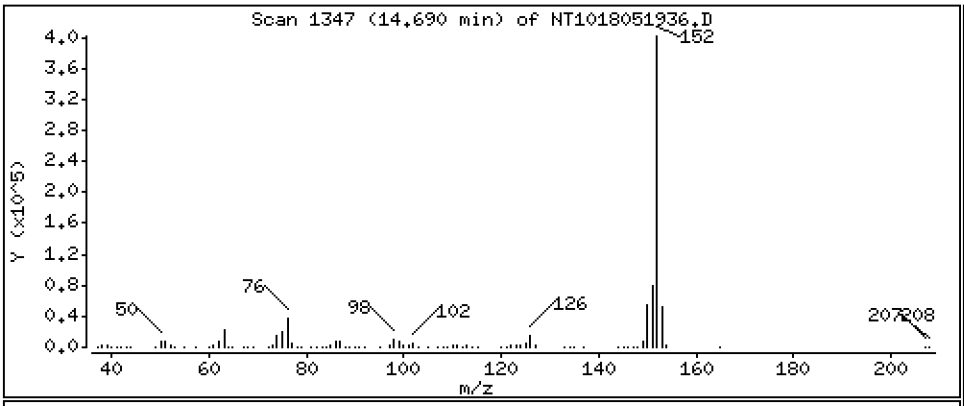
Operator: YZ

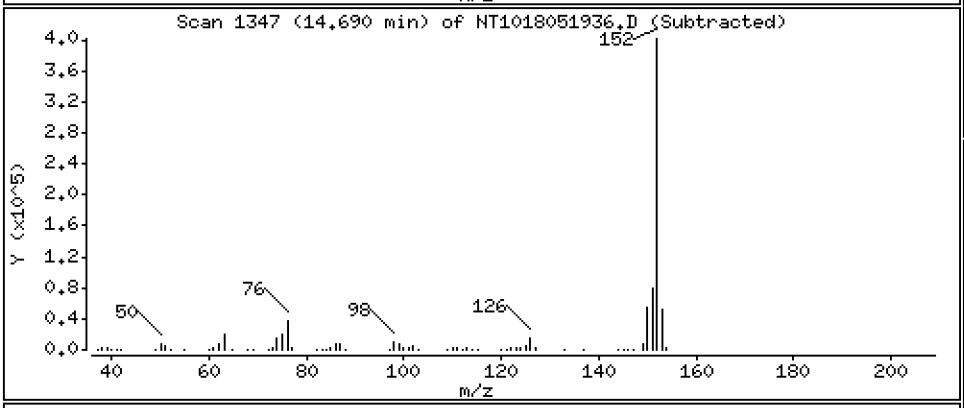
Column phase: ZB-5msi

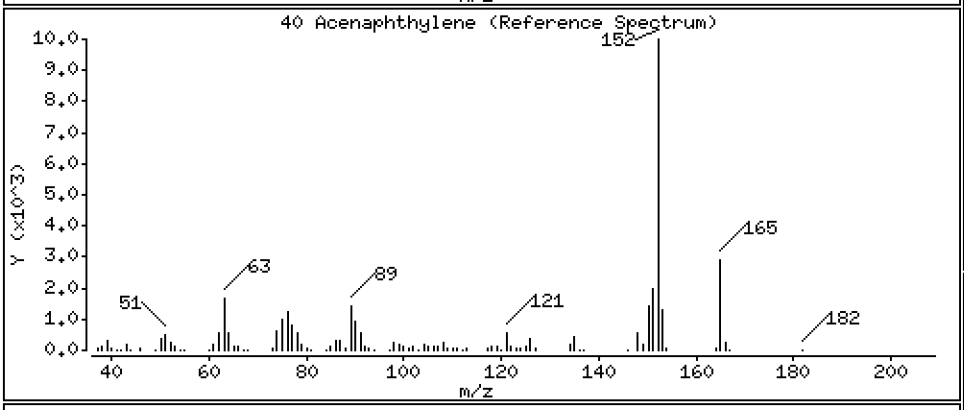
Column diameter: 0.25

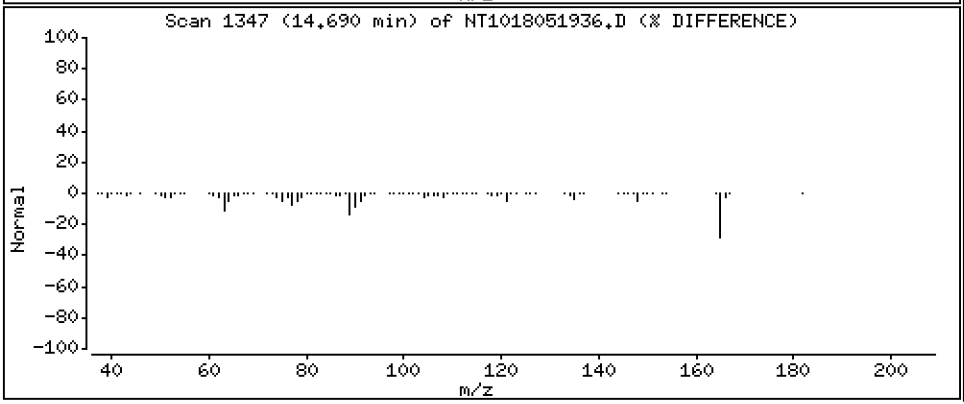
40 Acenaphthylene

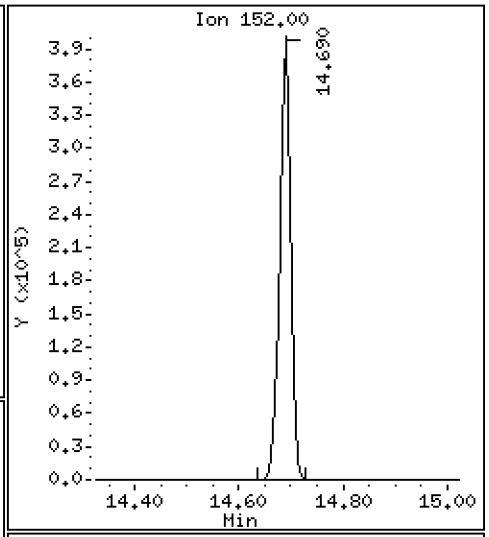
Concentration: 5.032 ug/mL

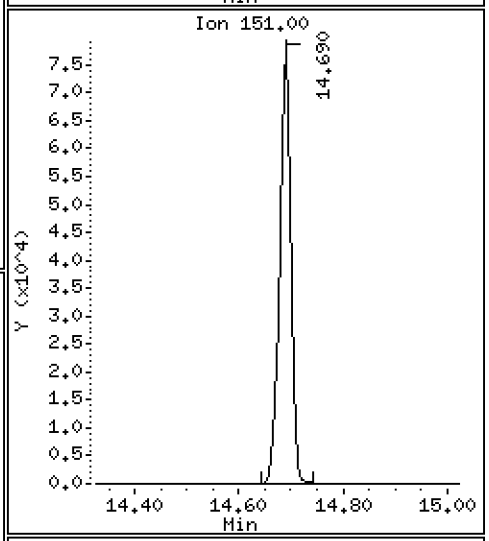


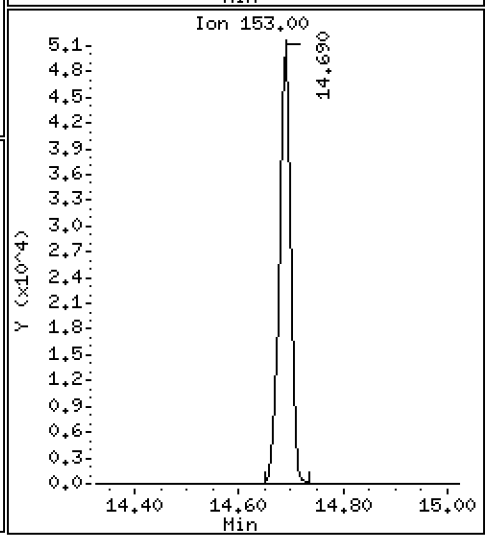












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

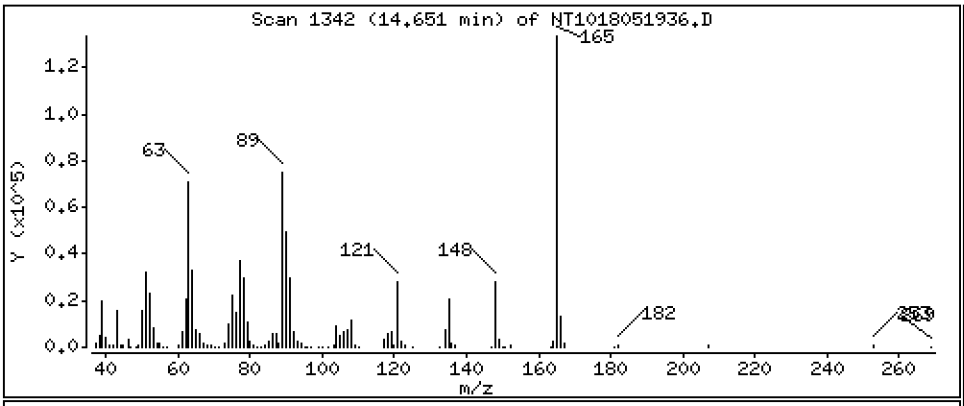
Operator: YZ

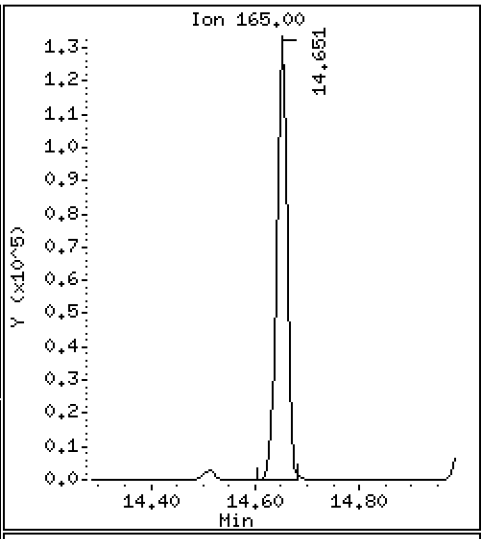
Column phase: ZB-5msi

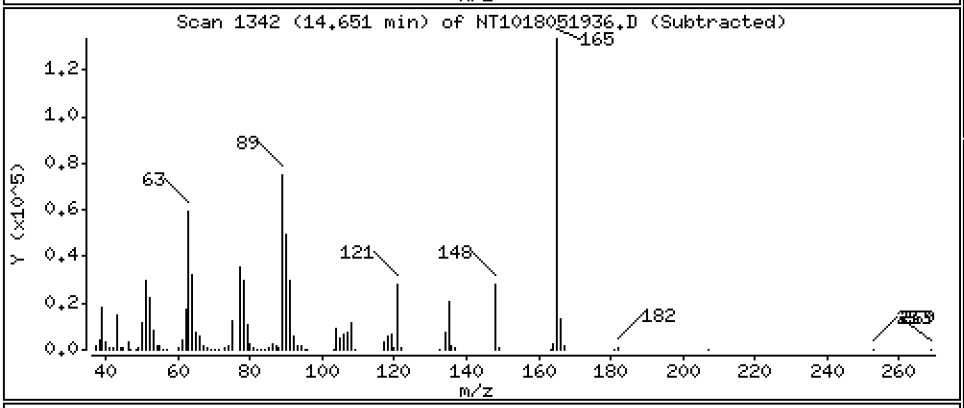
Column diameter: 0.25

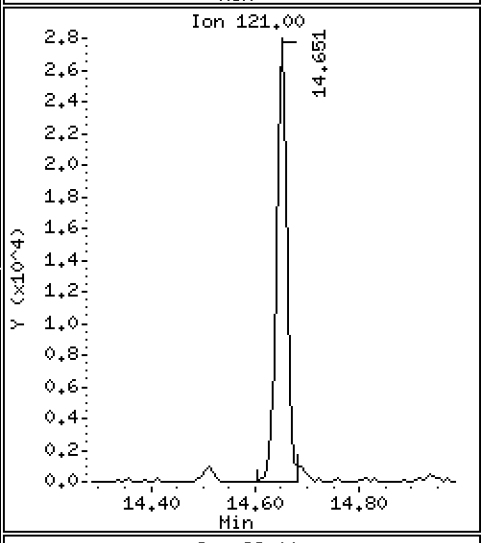
41 2,6-Dinitrotoluene

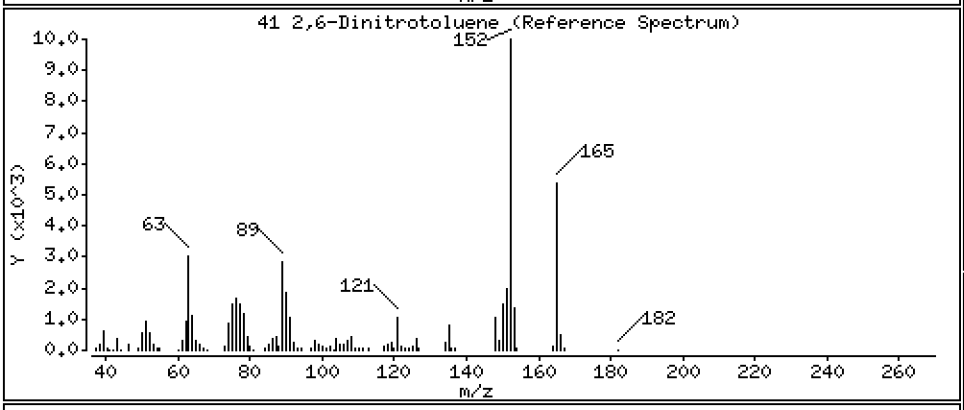
Concentration: 10.92 ug/mL

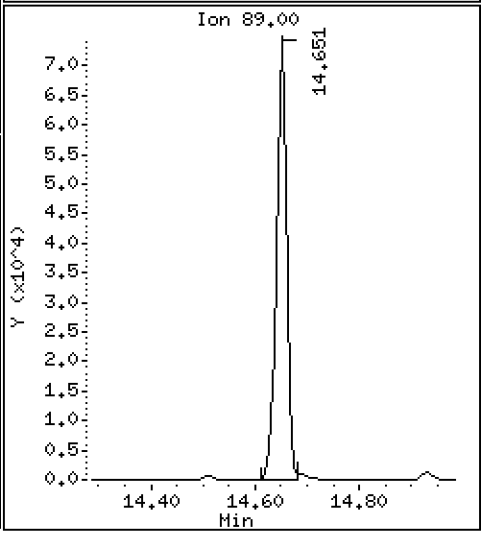


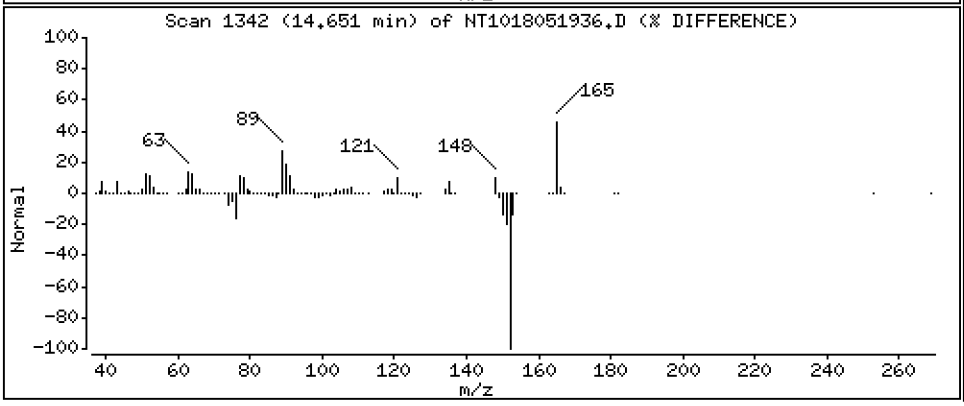












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

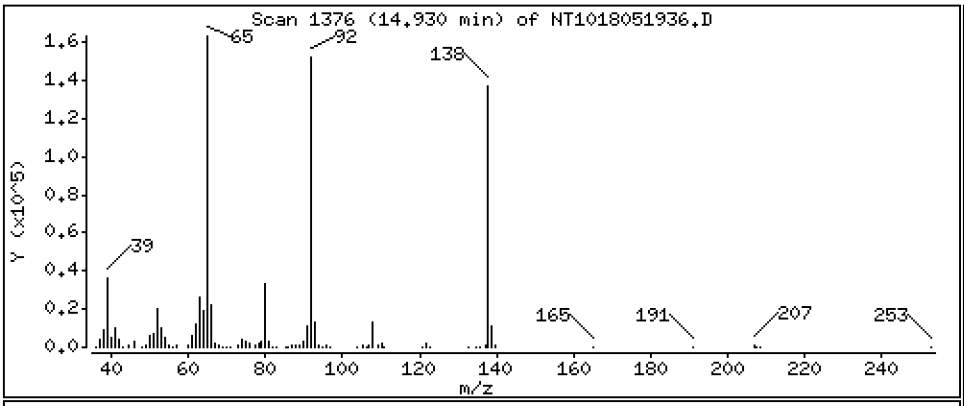
Operator: YZ

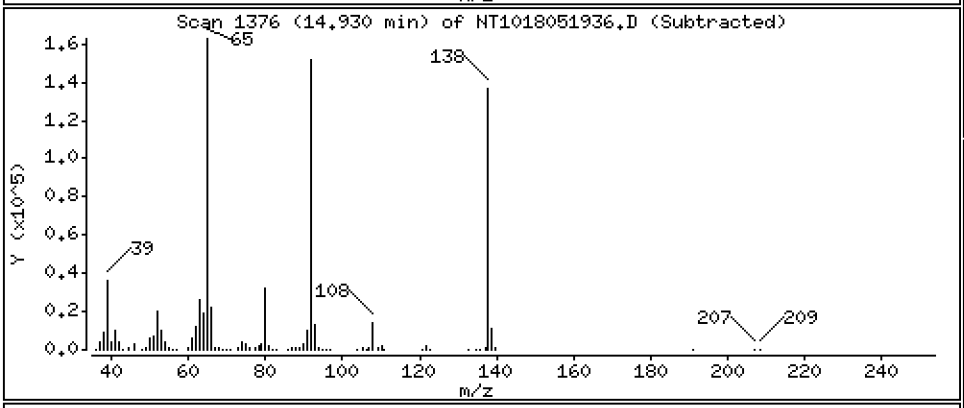
Column phase: ZB-5msi

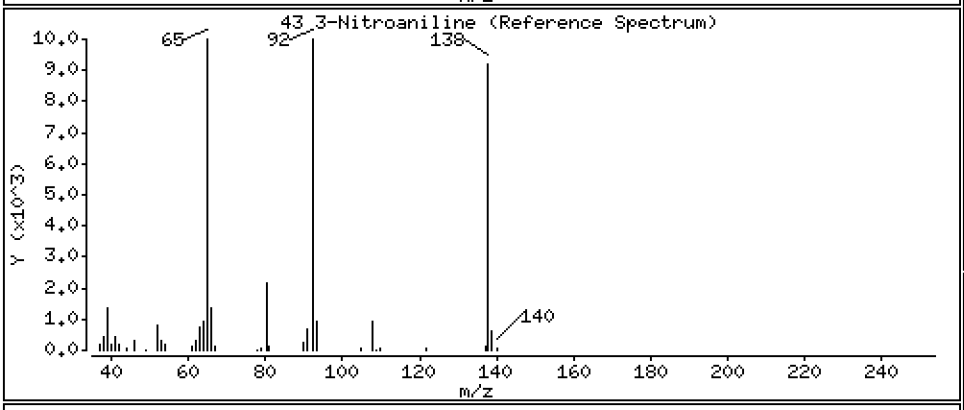
Column diameter: 0.25

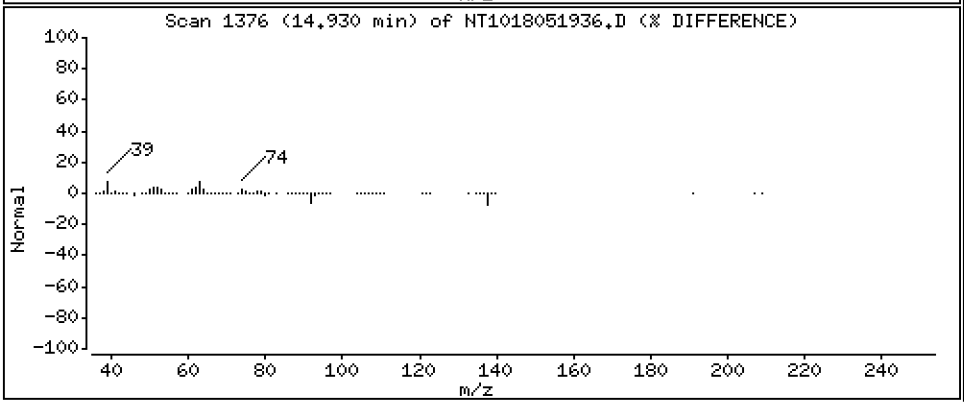
43 3-Nitroaniline

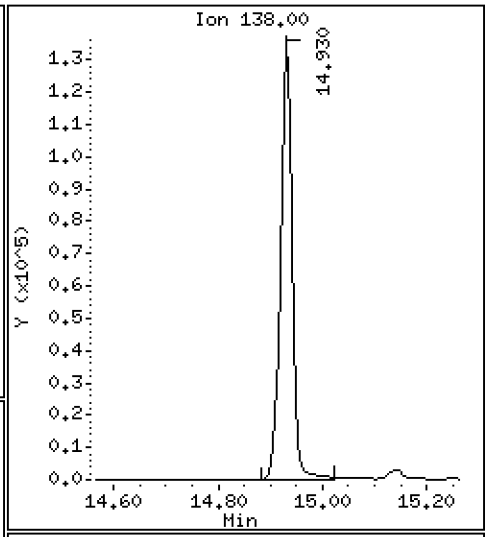
Concentration: 10.80 ug/mL

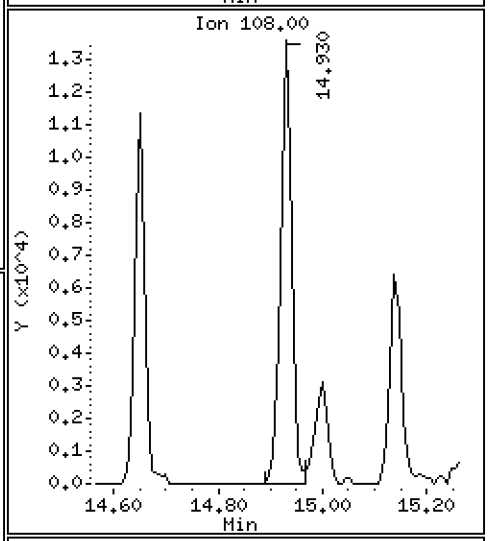


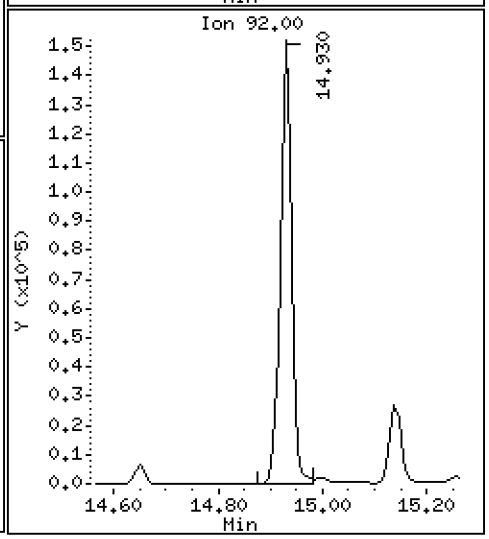












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

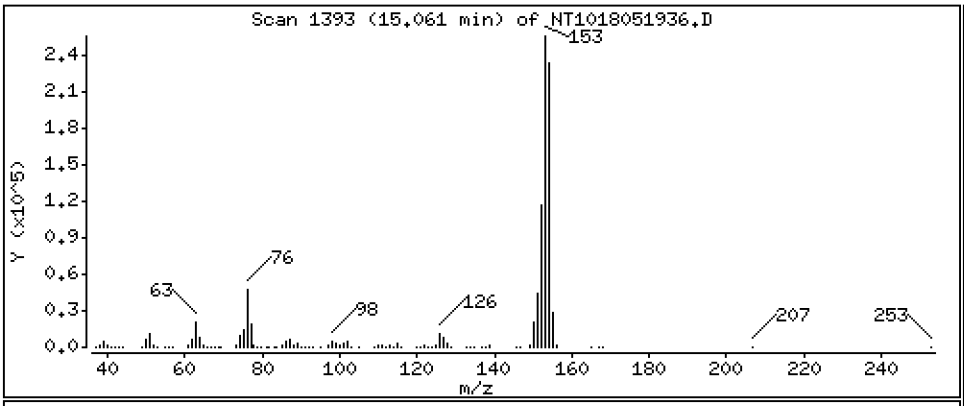
Operator: YZ

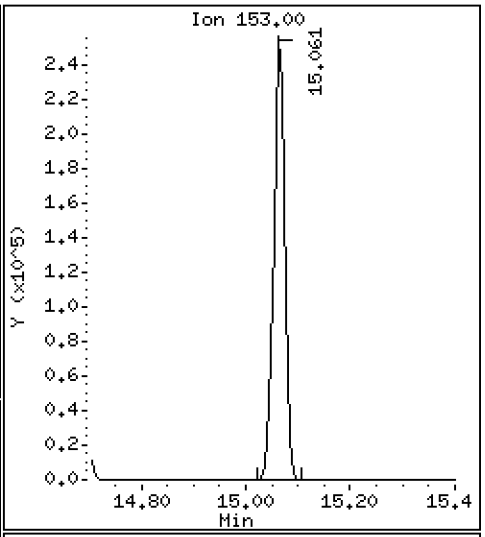
Column phase: ZB-5msi

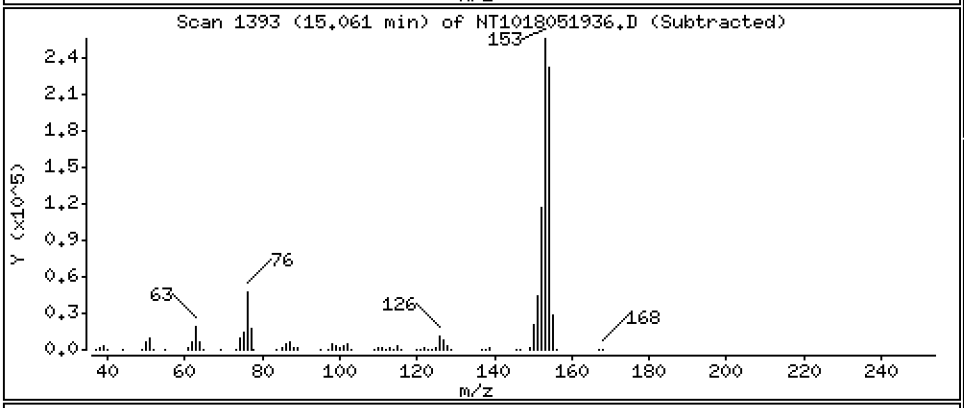
Column diameter: 0.25

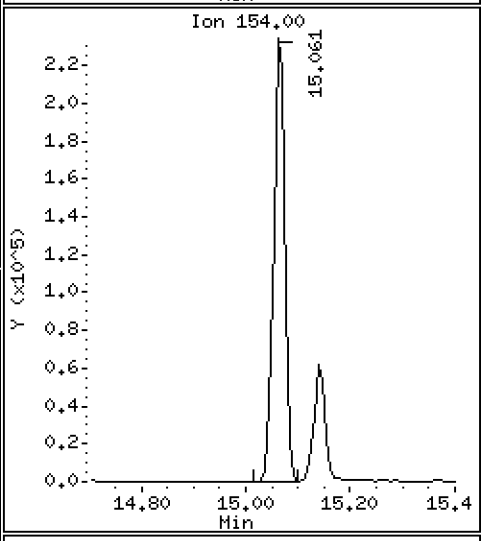
44 Acenaphthene

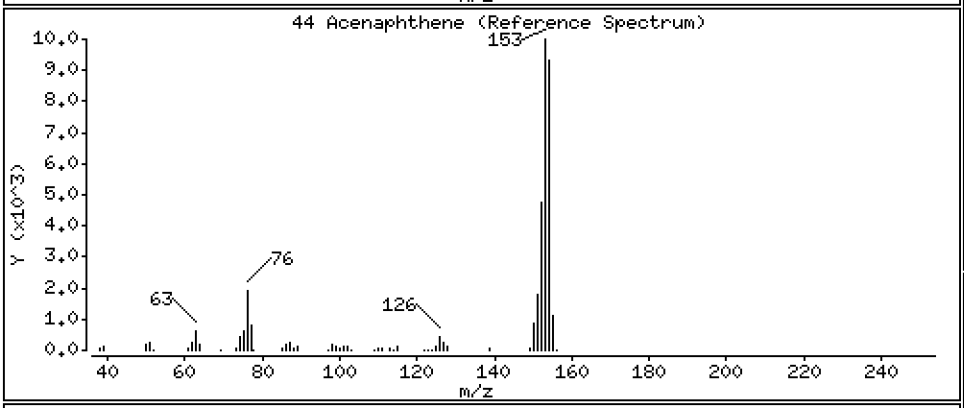
Concentration: 5.306 ug/mL

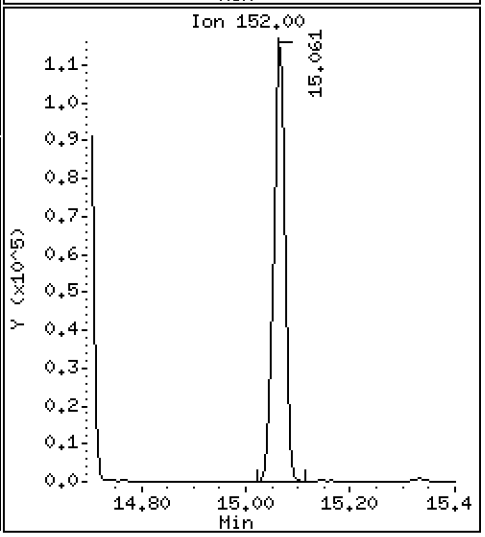


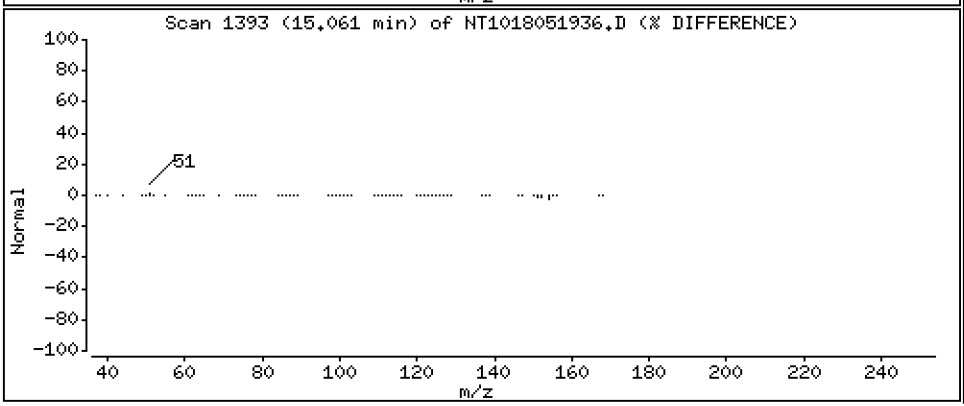












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

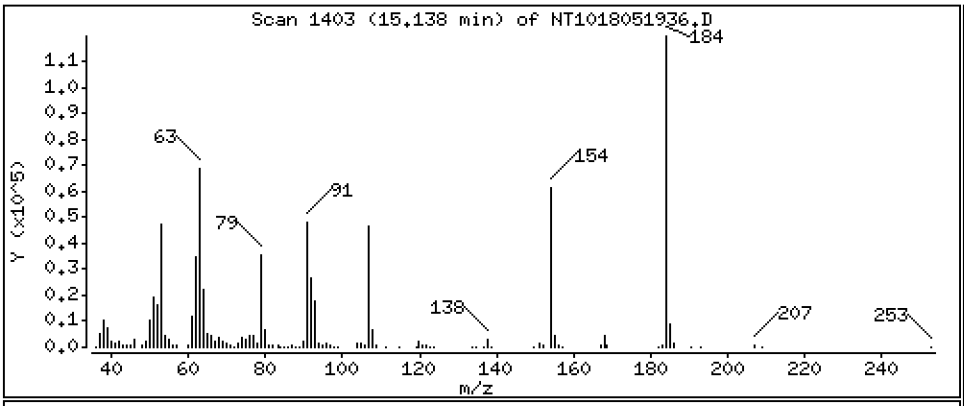
Operator: YZ

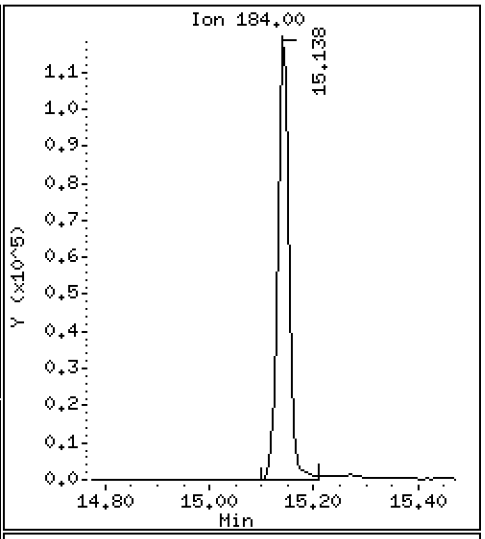
Column phase: ZB-5msi

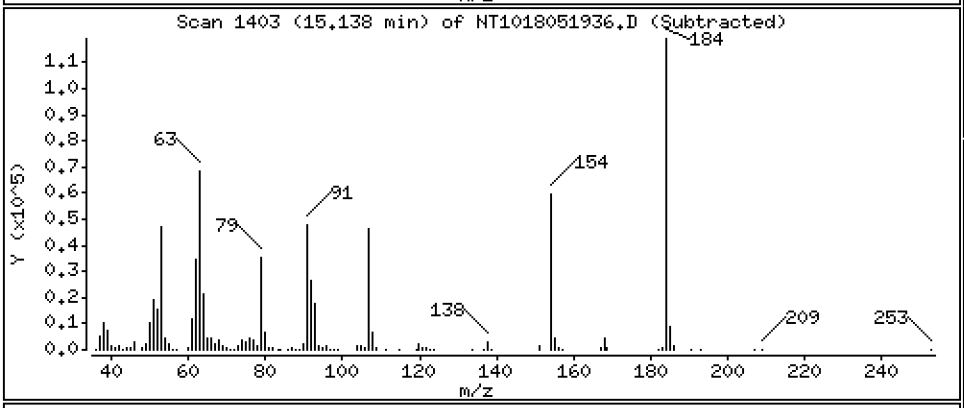
Column diameter: 0.25

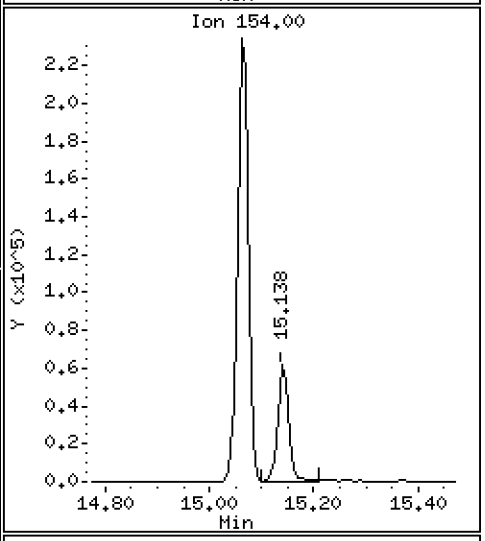
45 2,4-Dinitrophenol

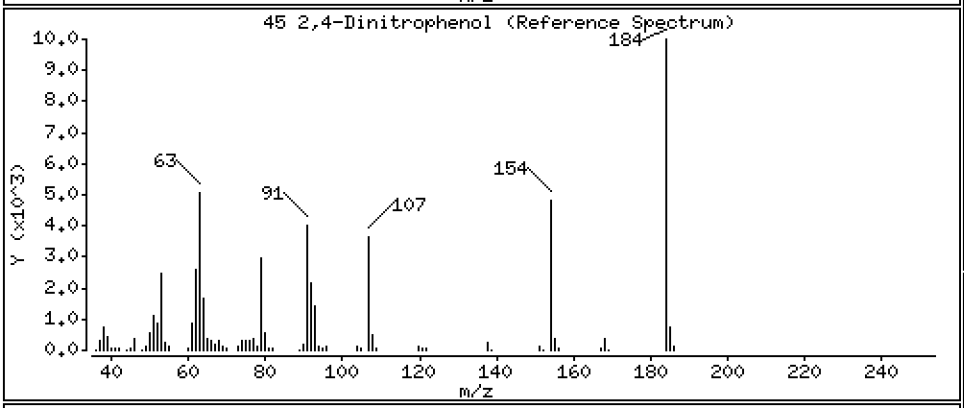
Concentration: 16.88 ug/mL

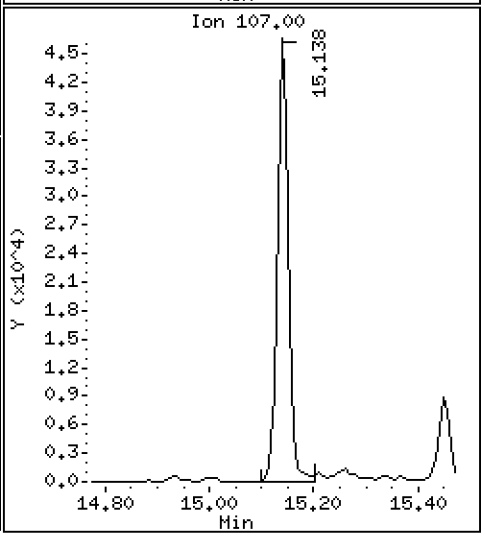


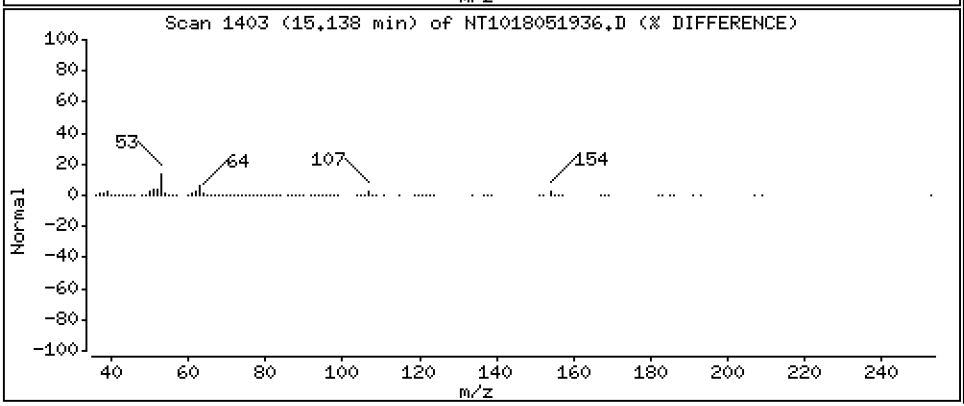












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

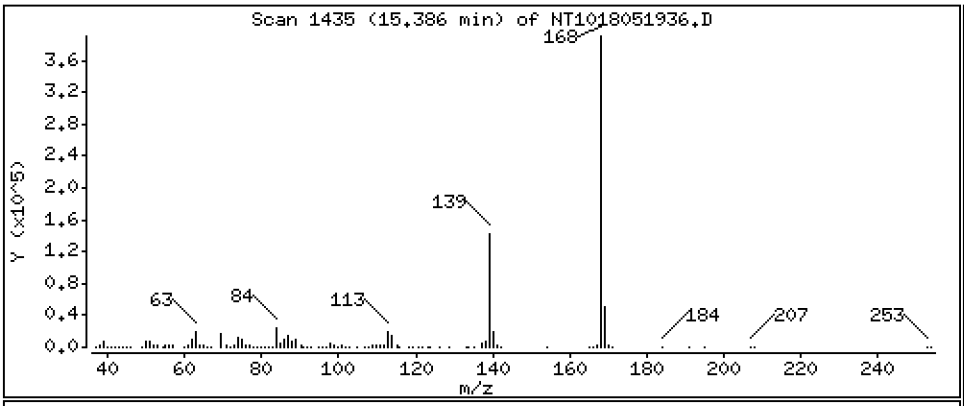
Operator: YZ

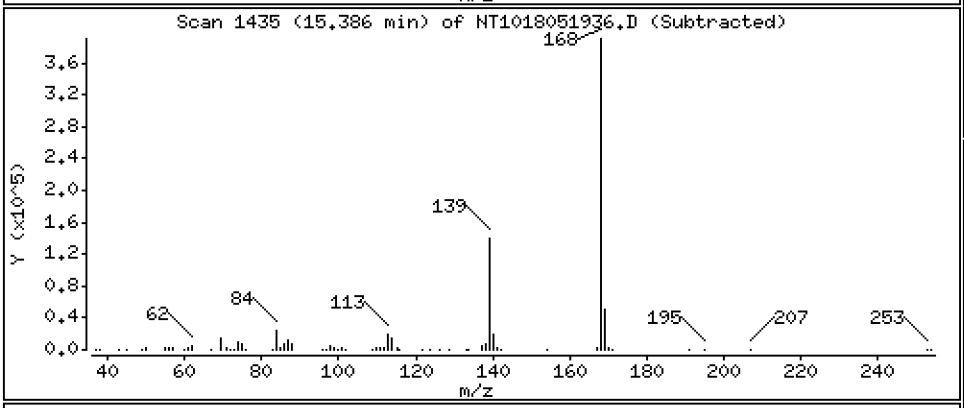
Column phase: ZB-5msi

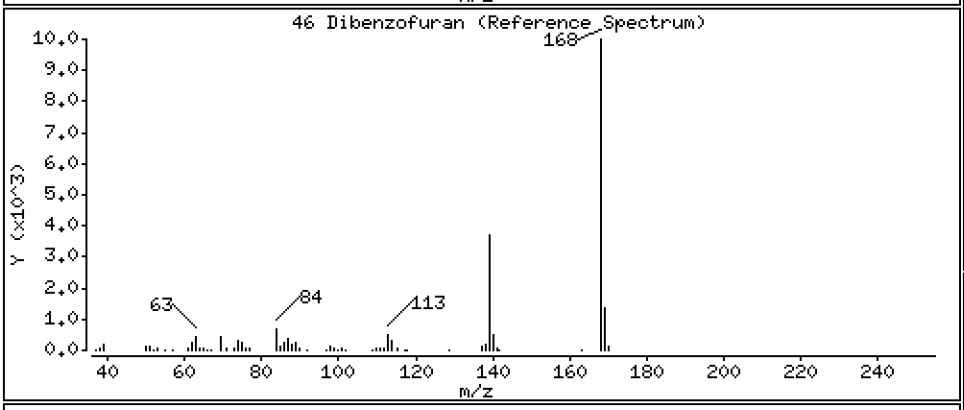
Column diameter: 0.25

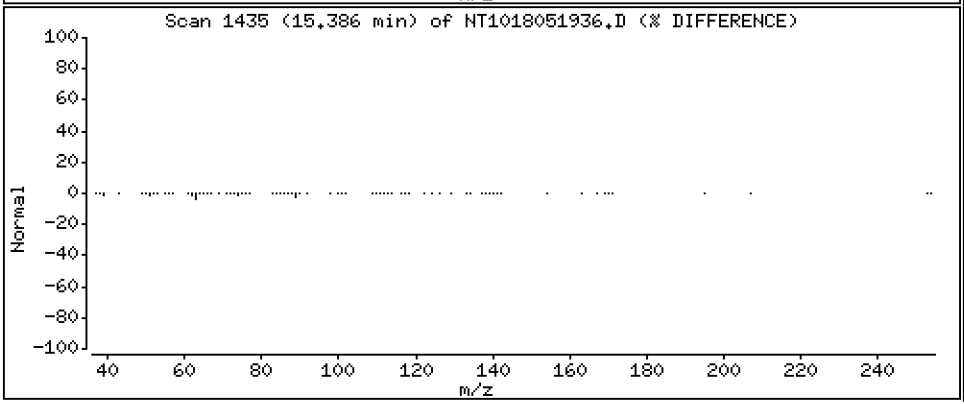
46 Dibenzofuran

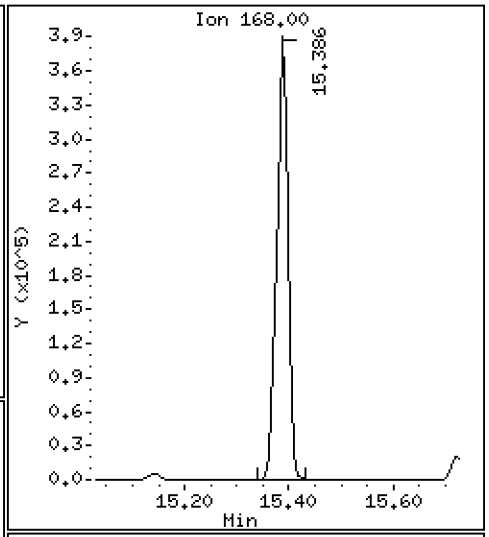
Concentration: 5.224 ug/mL

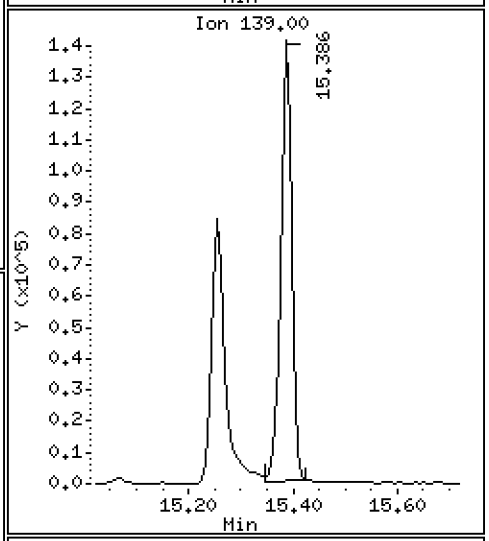


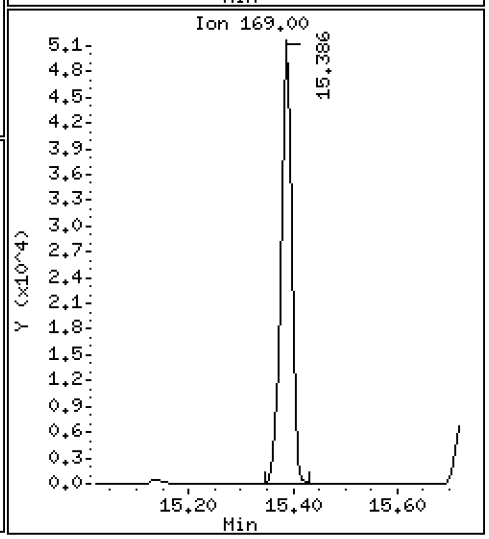












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

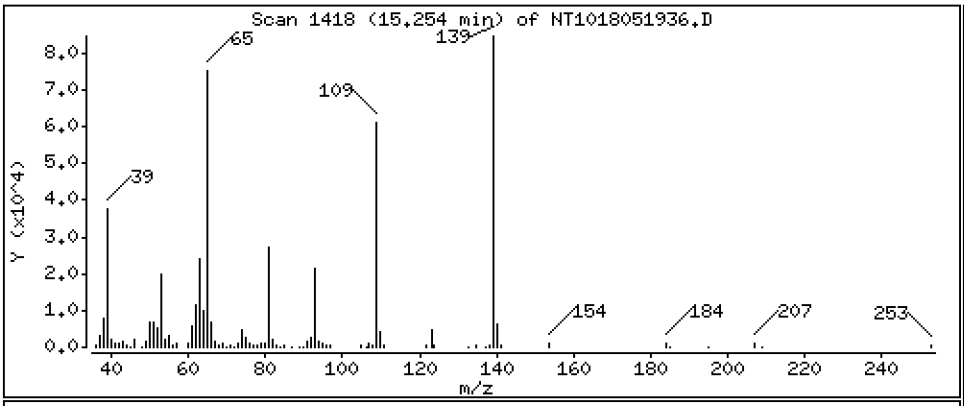
Operator: YZ

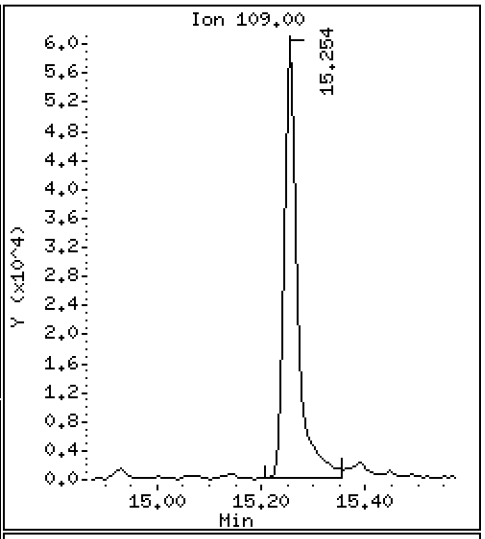
Column phase: ZB-5msi

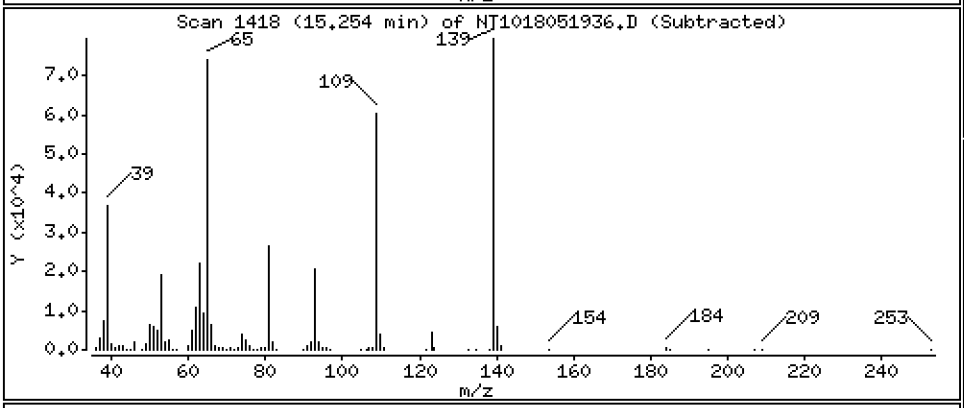
Column diameter: 0.25

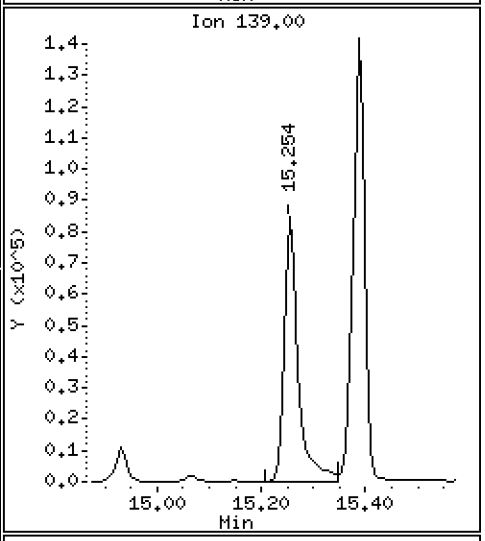
47 4-Nitrophenol

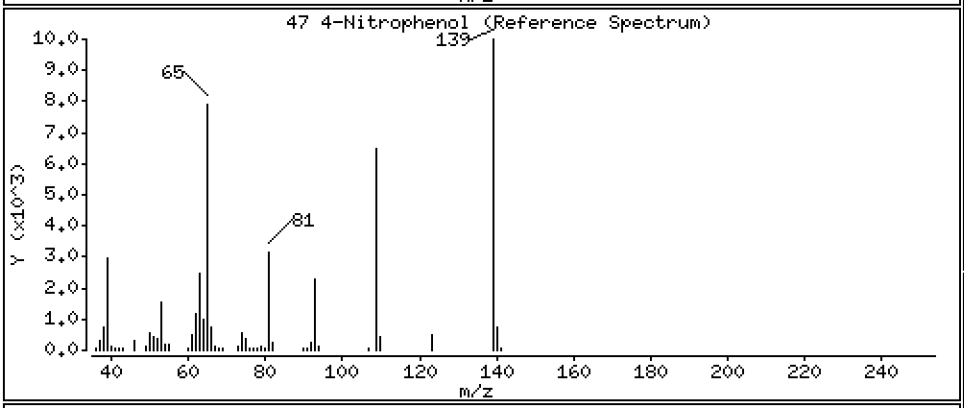
Concentration: 9.205 ug/mL

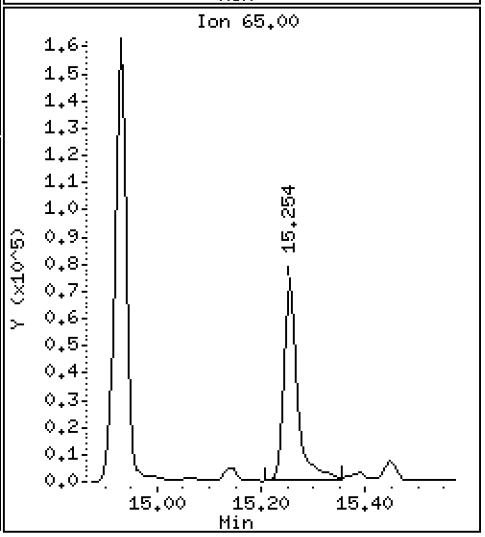


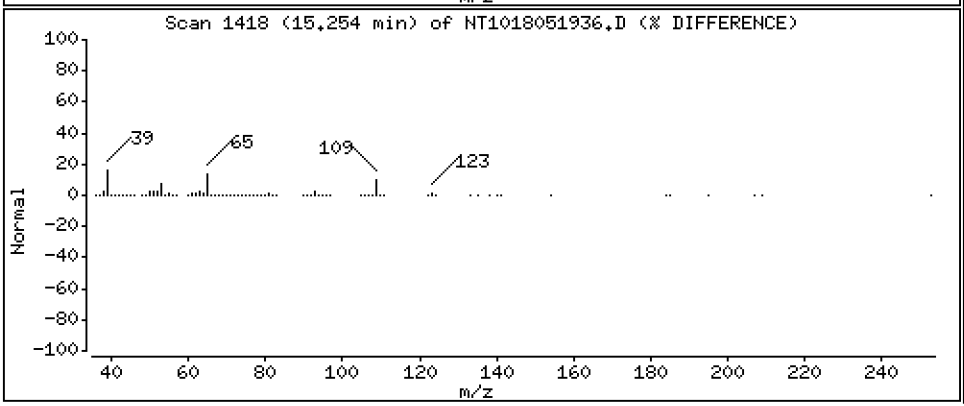












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

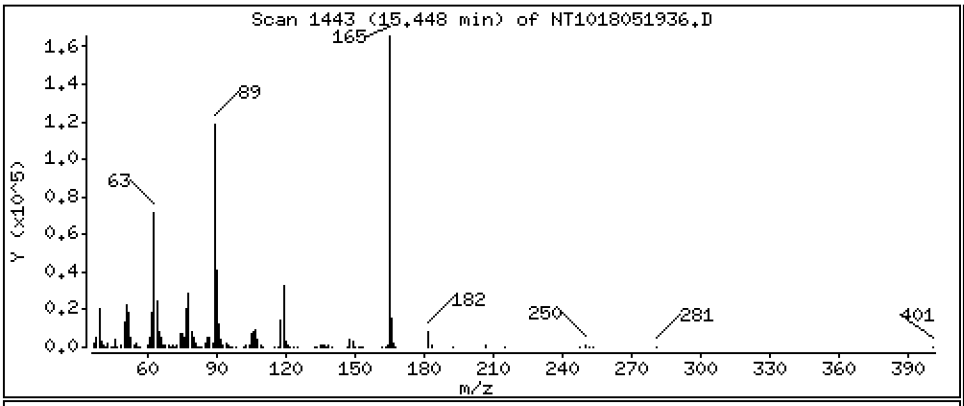
Operator: YZ

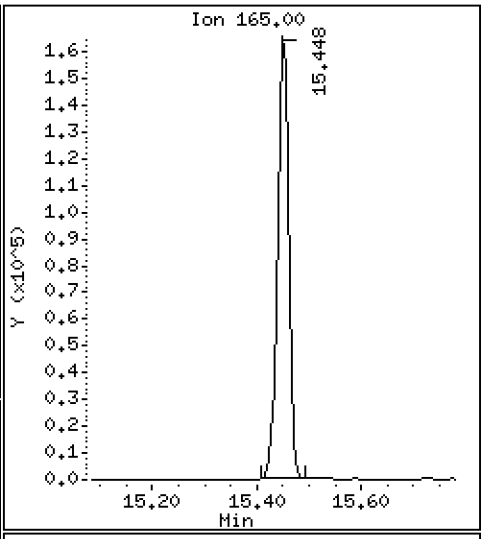
Column phase: ZB-5msi

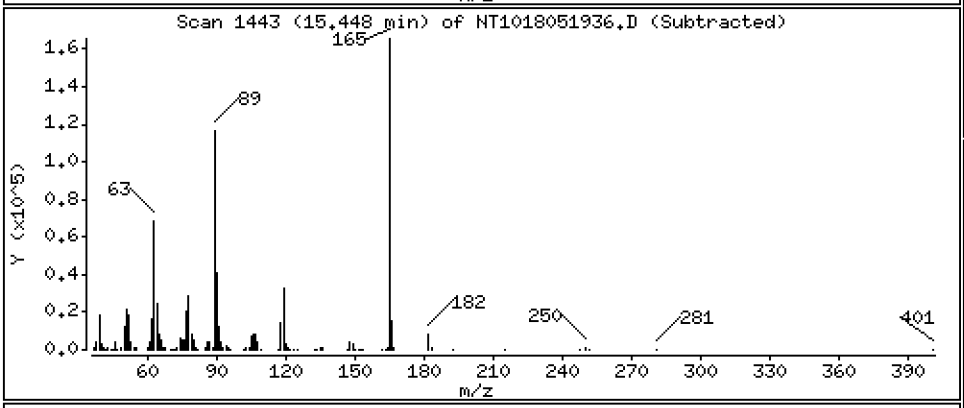
Column diameter: 0.25

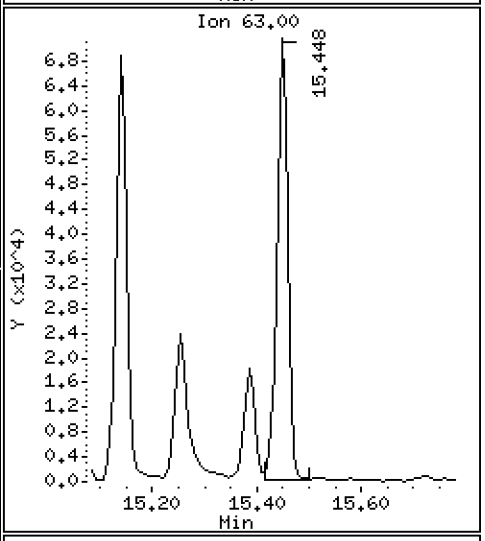
48 2,4-Dinitrotoluene

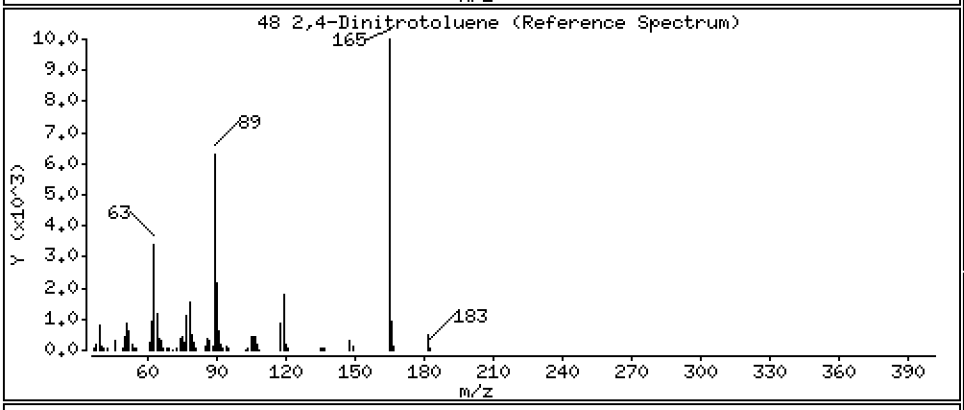
Concentration: 11.52 ug/mL

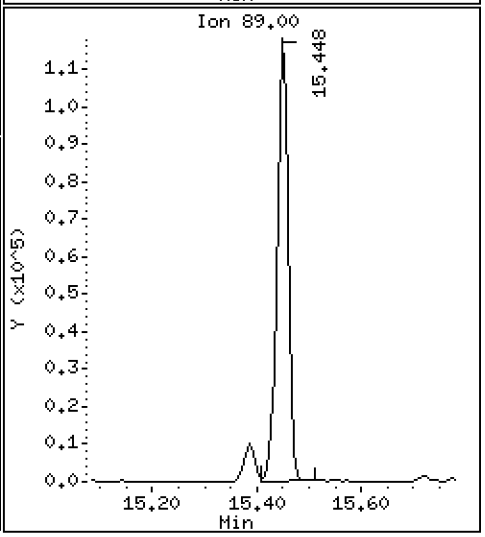


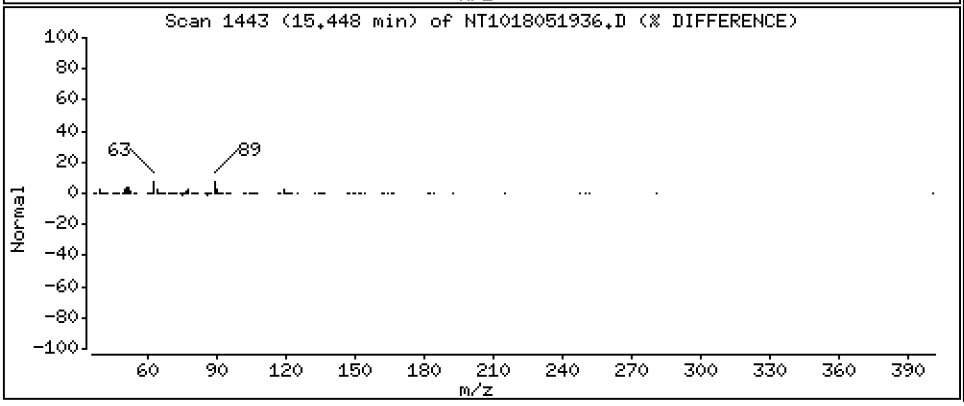












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

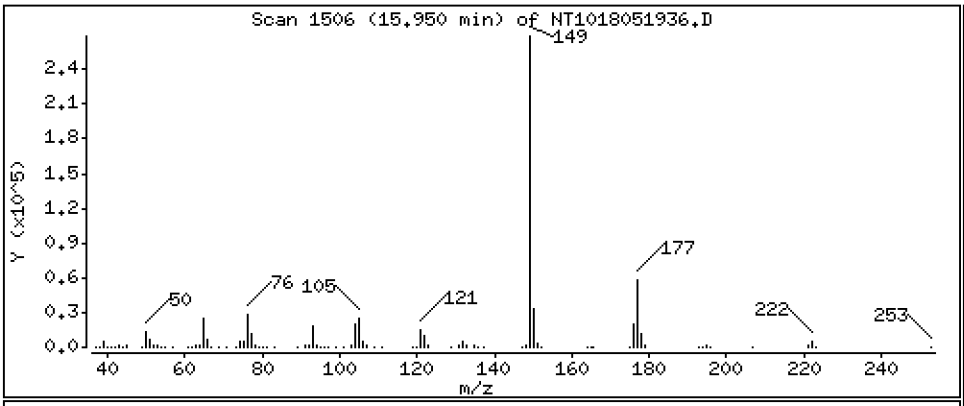
Operator: YZ

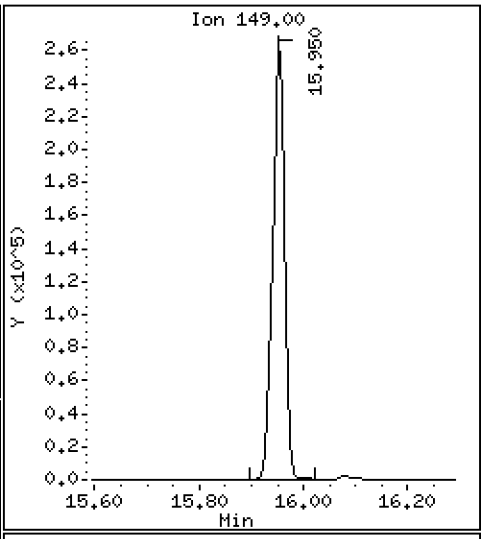
Column phase: ZB-5msi

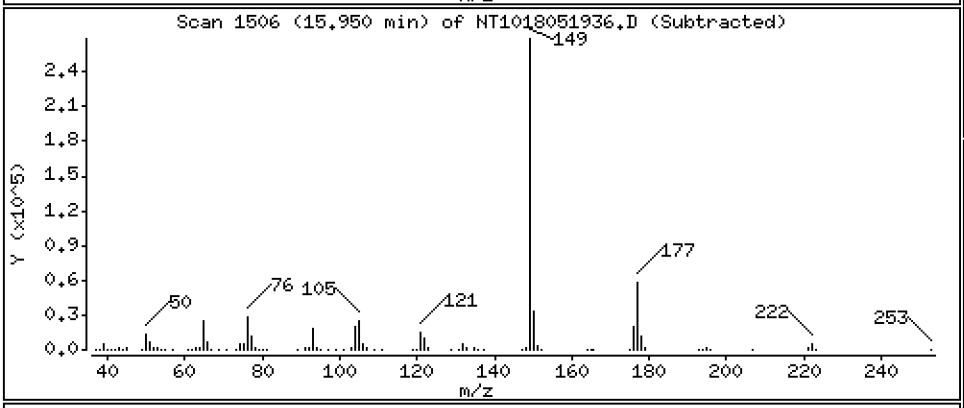
Column diameter: 0.25

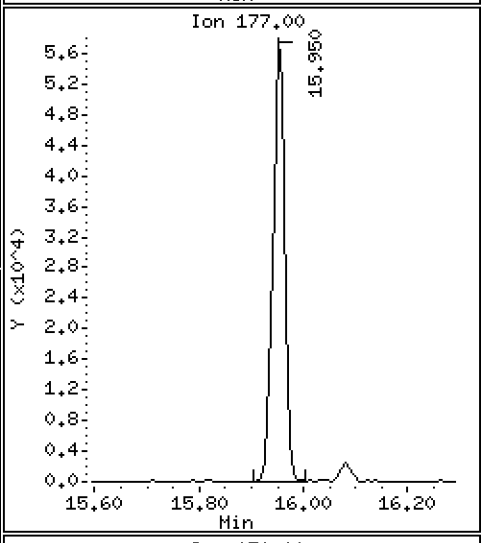
50 Diethylphthalate

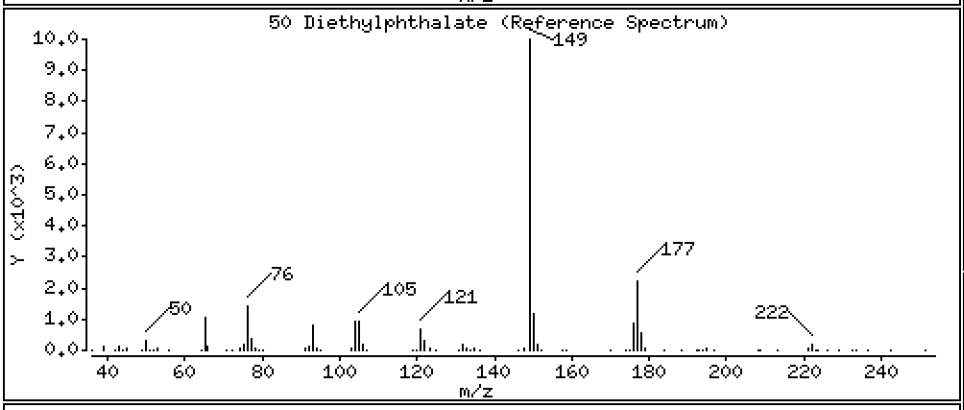
Concentration: 5.054 ug/mL

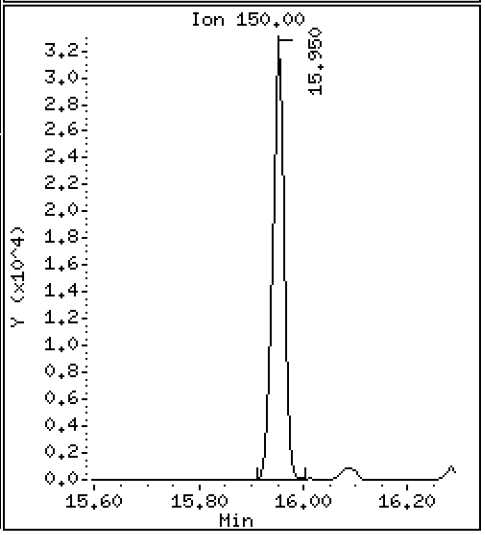


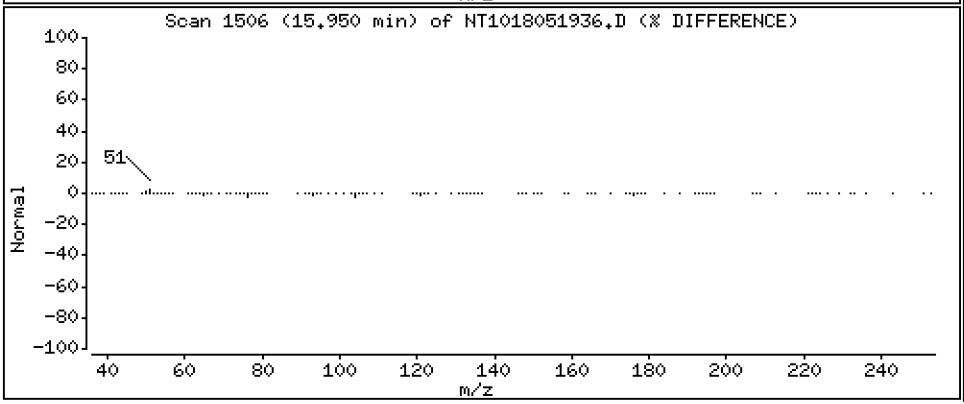












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

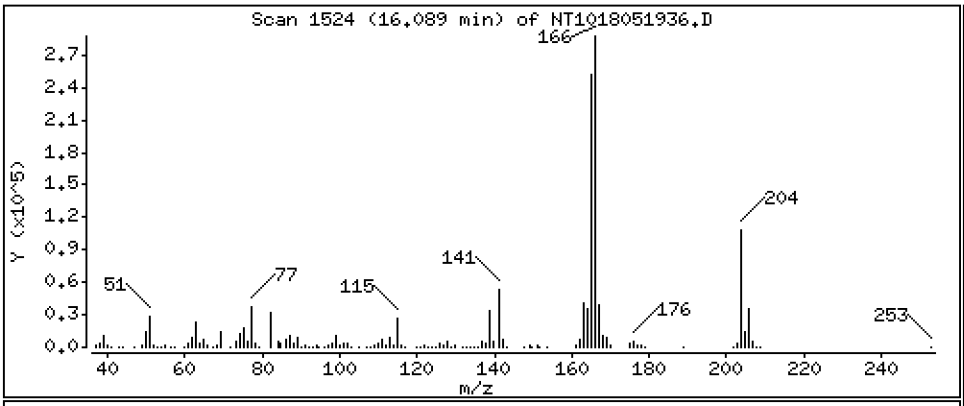
Operator: YZ

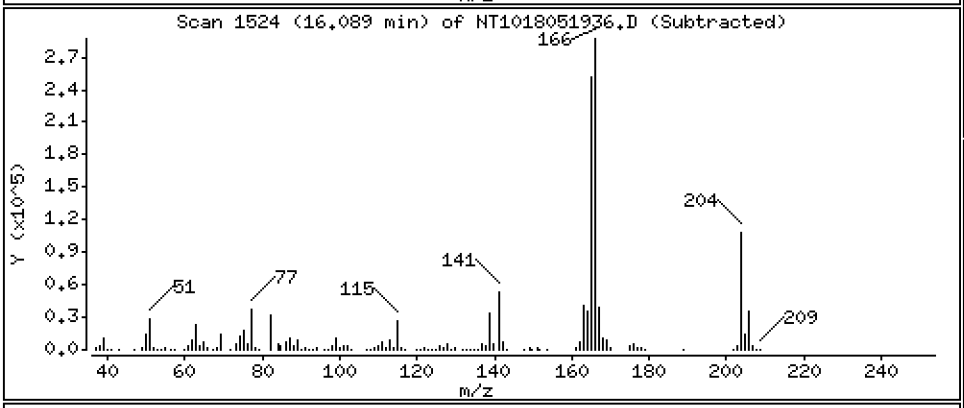
Column phase: ZB-5msi

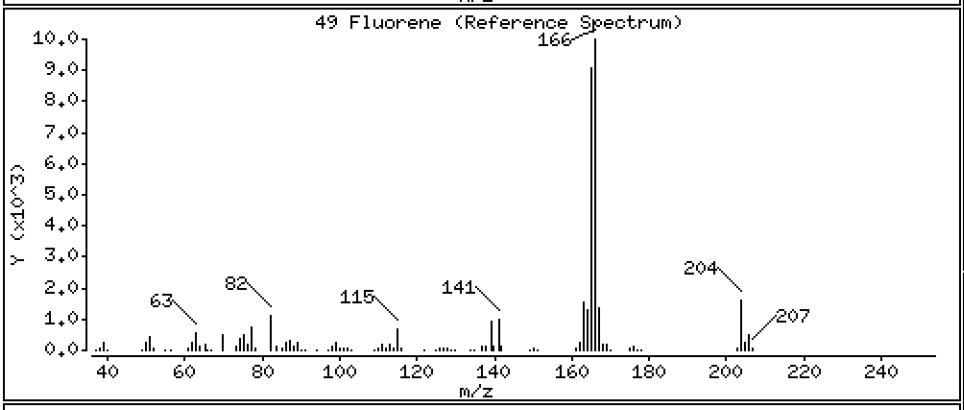
Column diameter: 0.25

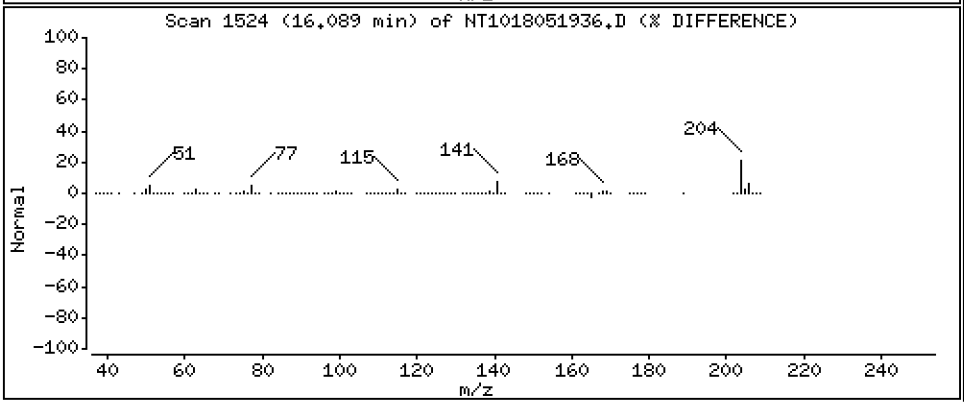
49 Fluorene

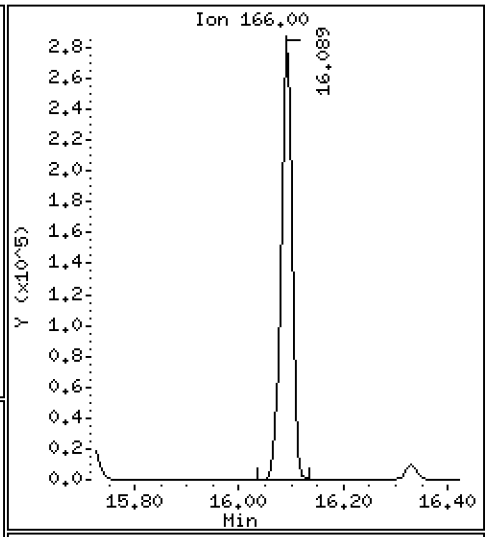
Concentration: 5.133 ug/mL

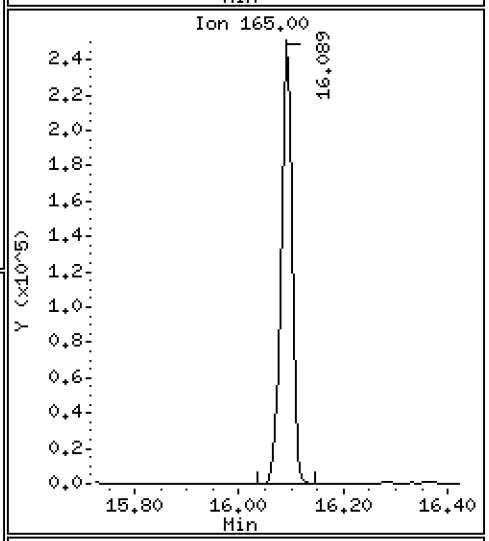


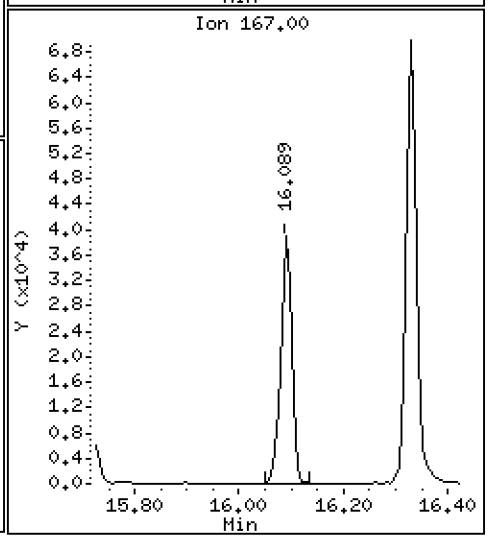












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

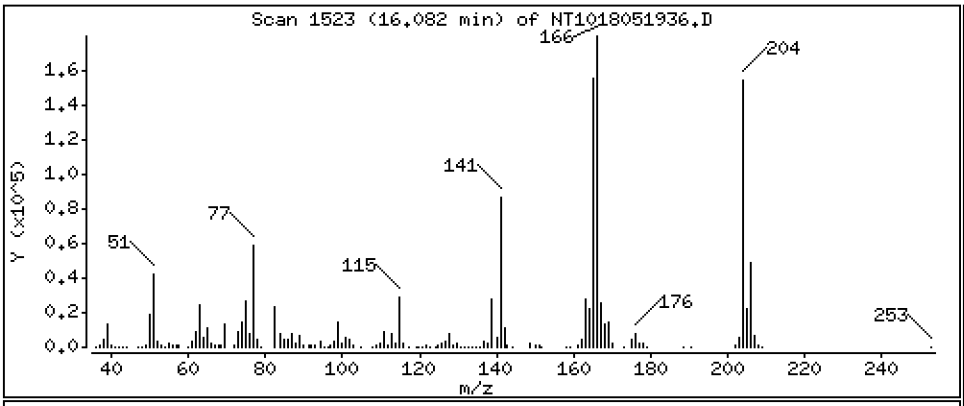
Operator: YZ

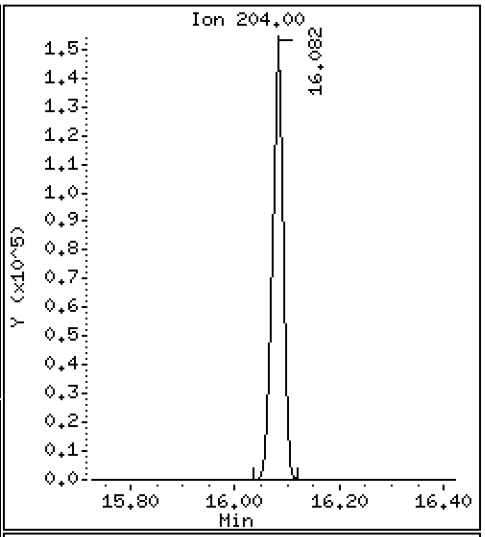
Column phase: ZB-5msi

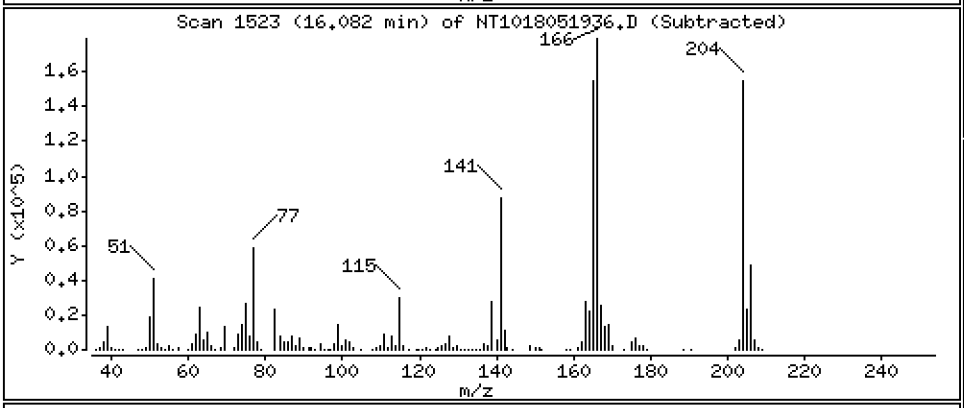
Column diameter: 0.25

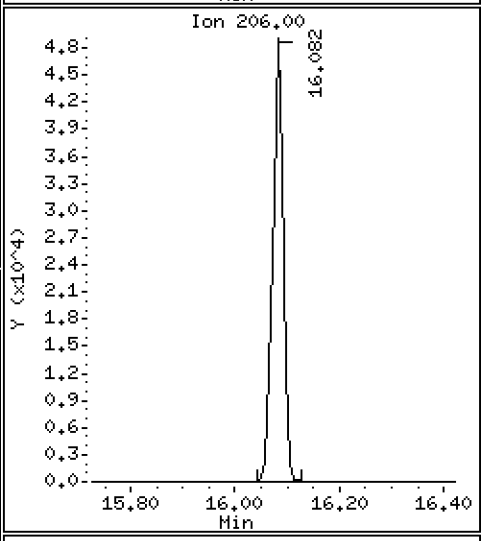
51 4-Chlorophenyl-phenylether

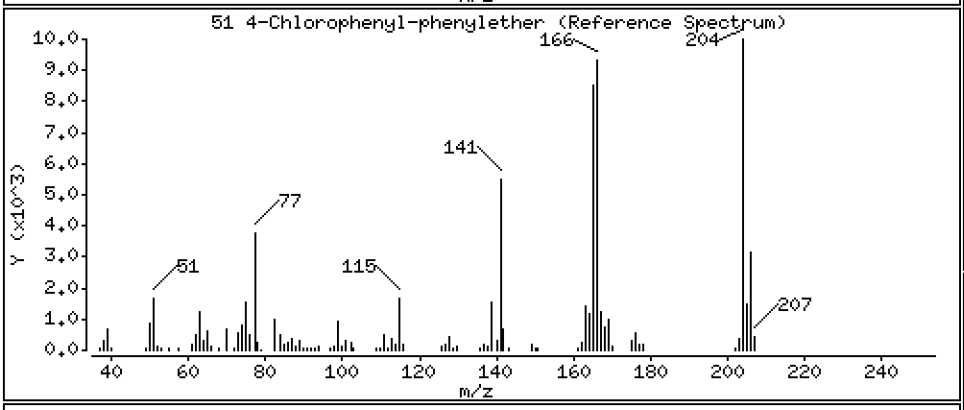
Concentration: 5.204 ug/mL

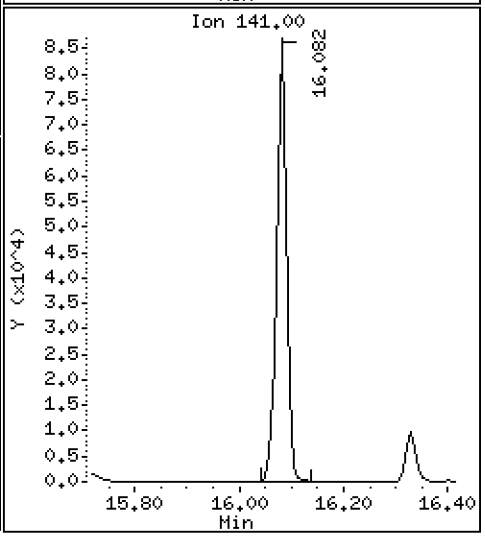


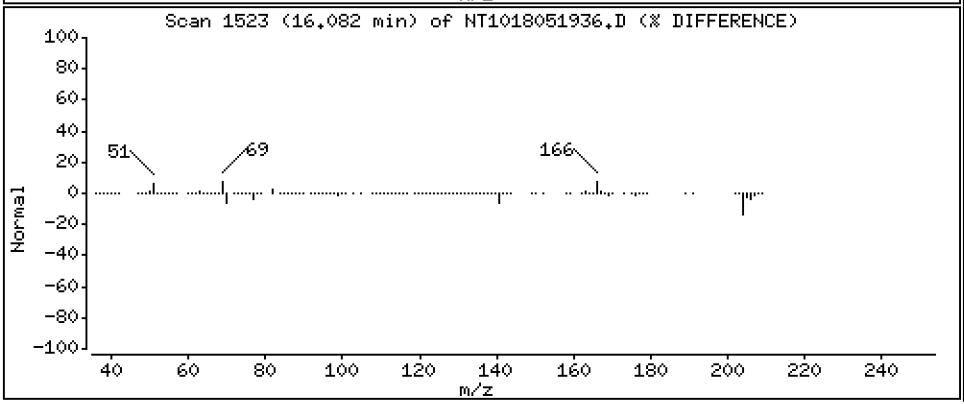












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

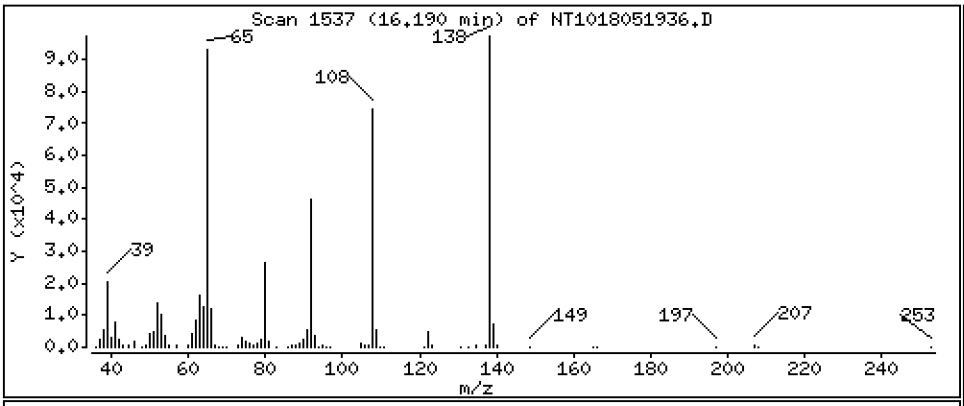
Operator: YZ

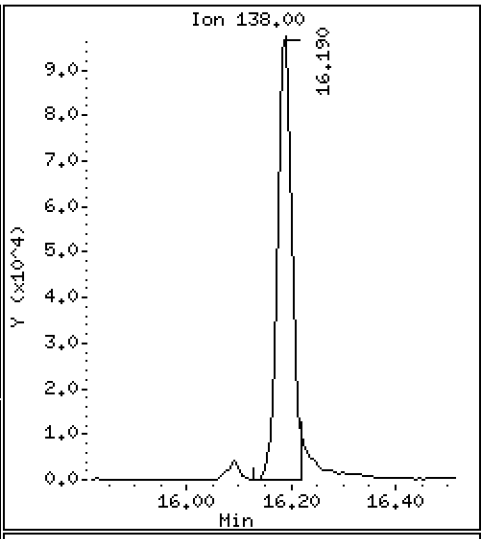
Column phase: ZB-5msi

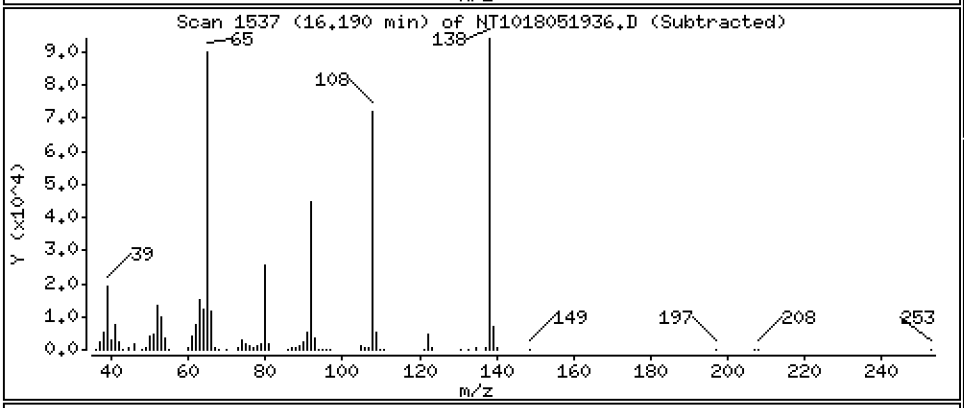
Column diameter: 0.25

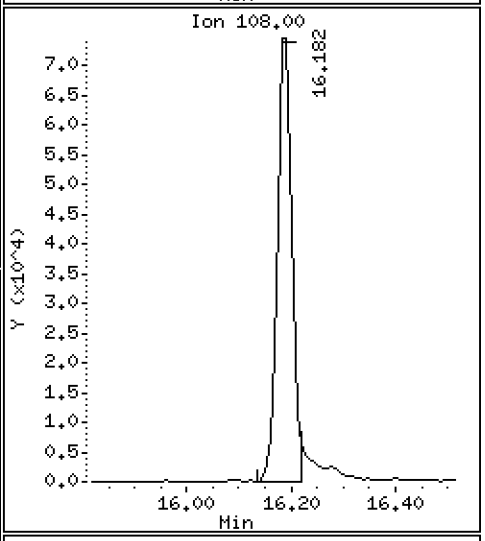
52 4-Nitroaniline

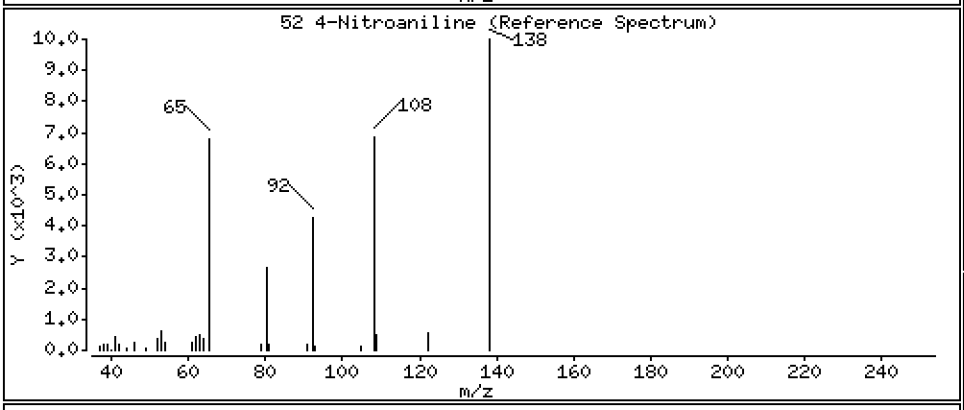
Concentration: 9.131 ug/mL

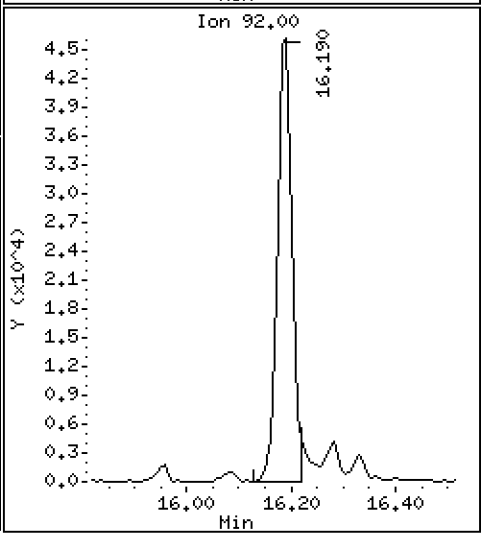


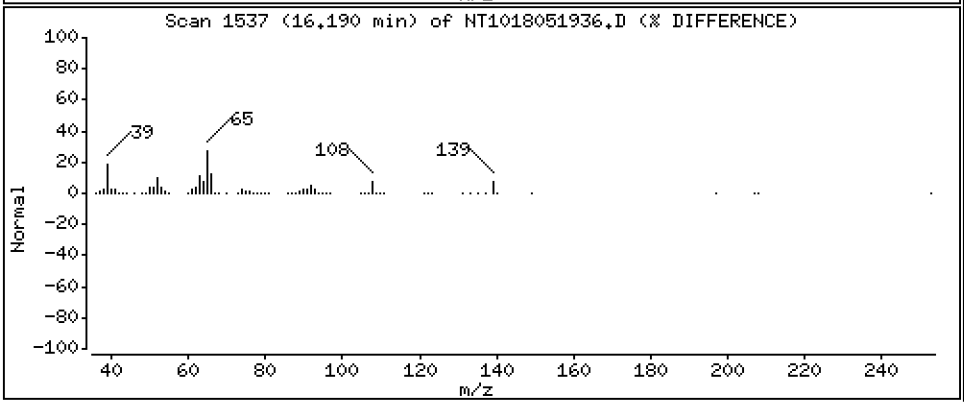












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

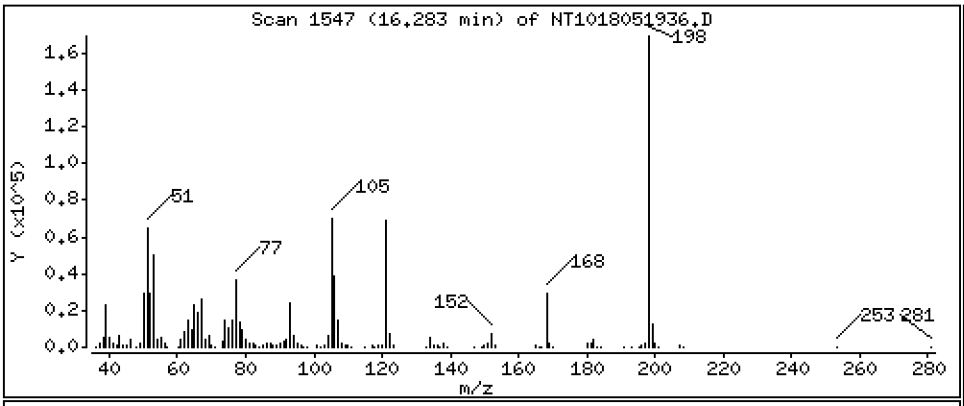
Operator: YZ

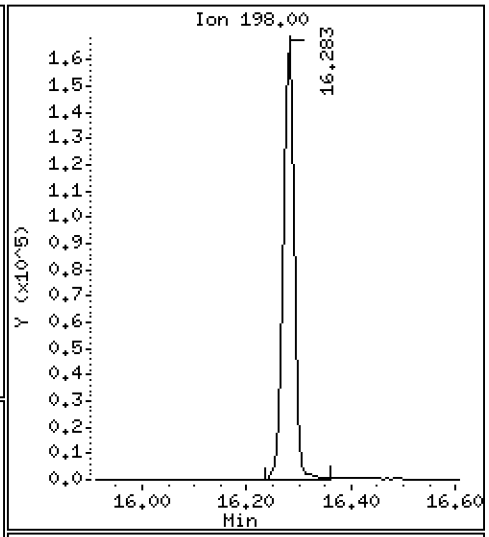
Column phase: ZB-5msi

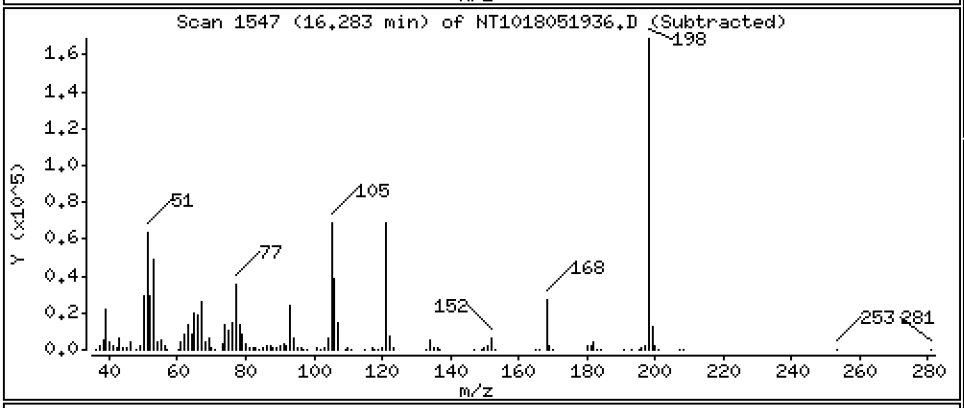
Column diameter: 0.25

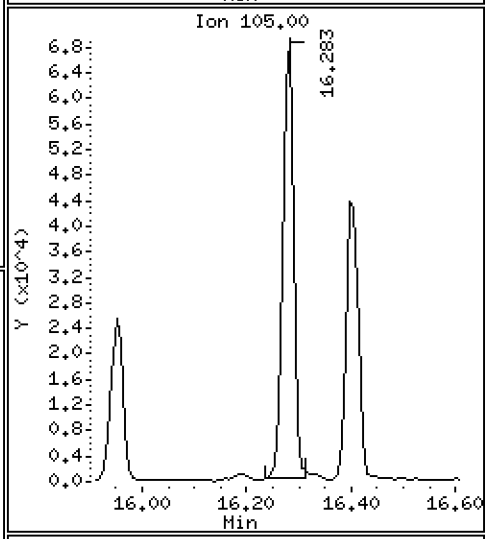
53 4,6-Dinitro-2-methylphenol

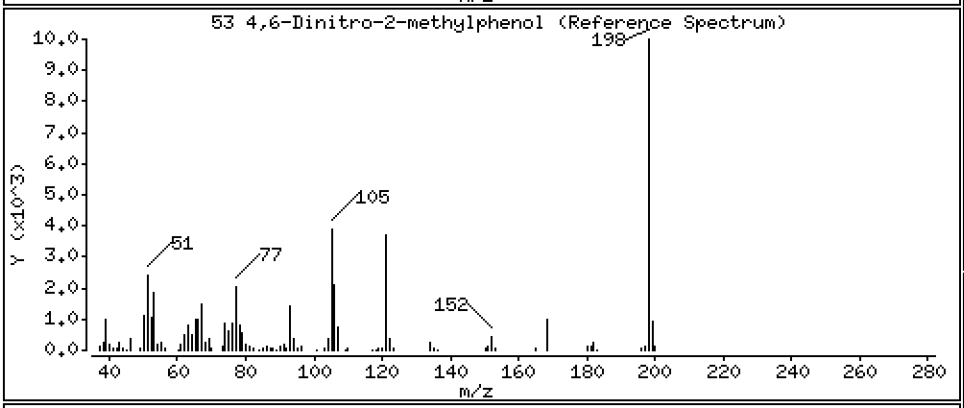
Concentration: 14.86 ug/mL

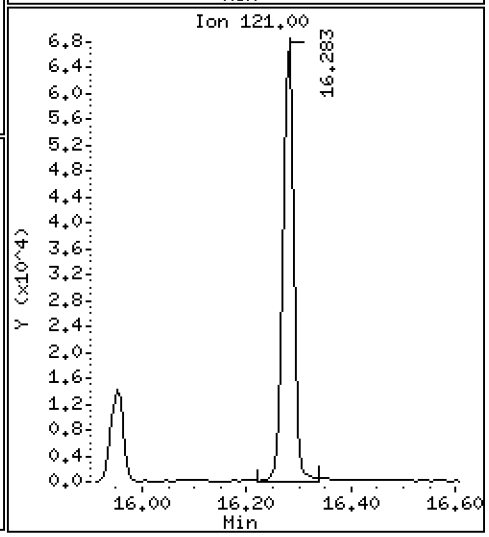


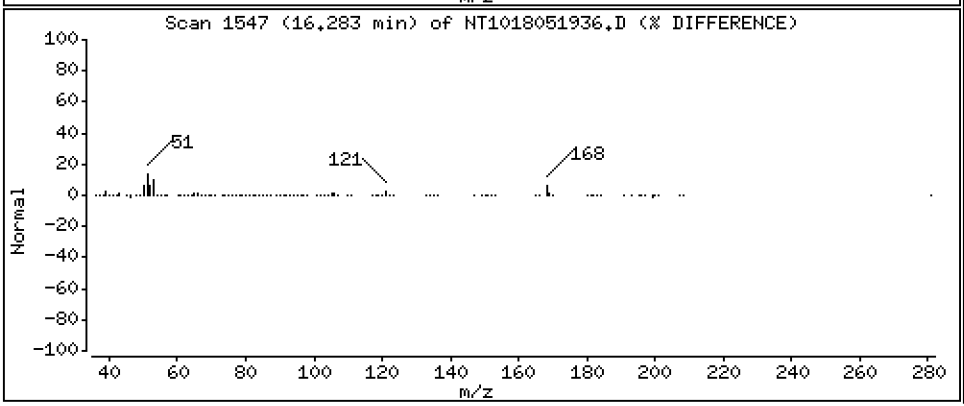












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

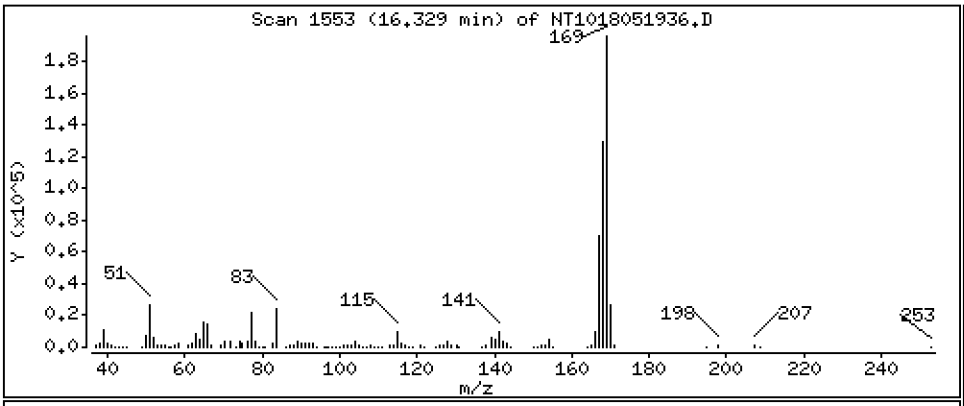
Operator: YZ

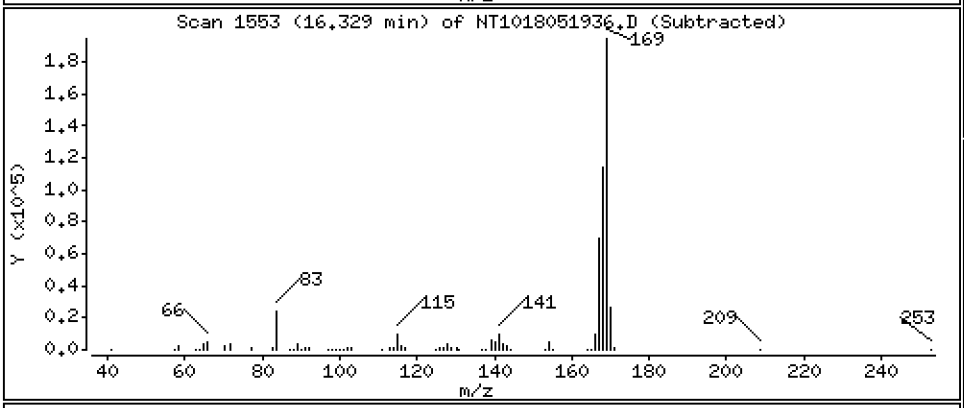
Column phase: ZB-5msi

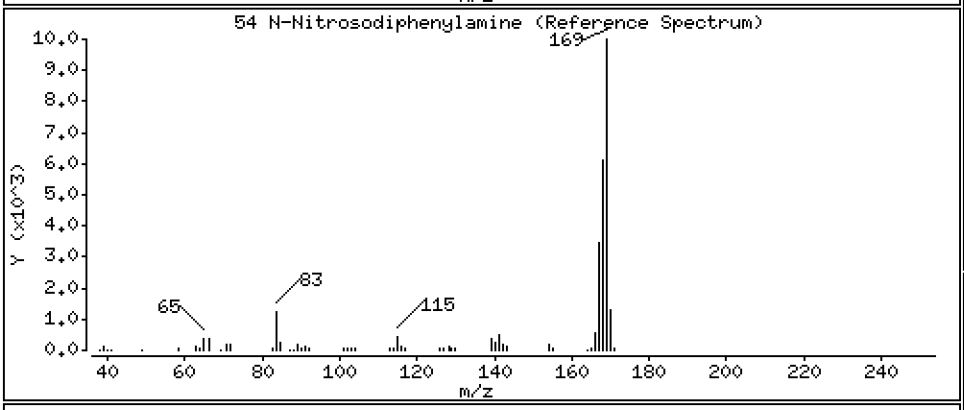
Column diameter: 0.25

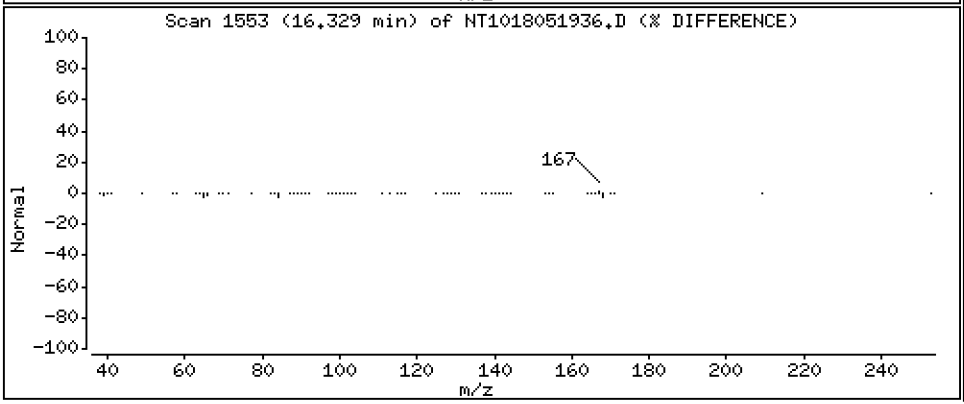
54 N-Nitrosodiphenylamine

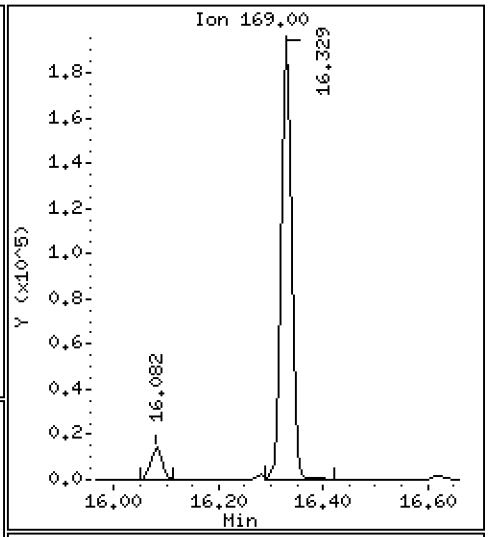
Concentration: 5.112 ug/mL

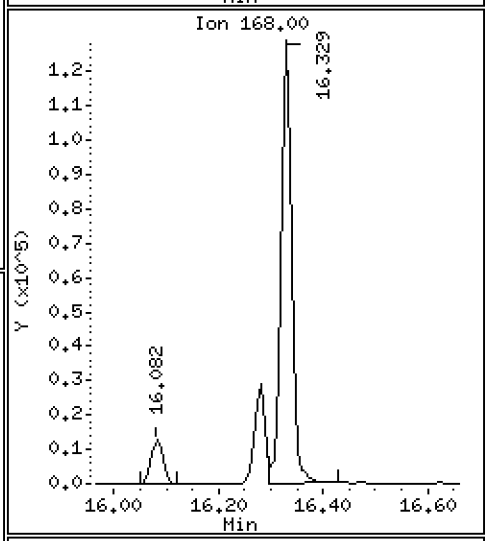


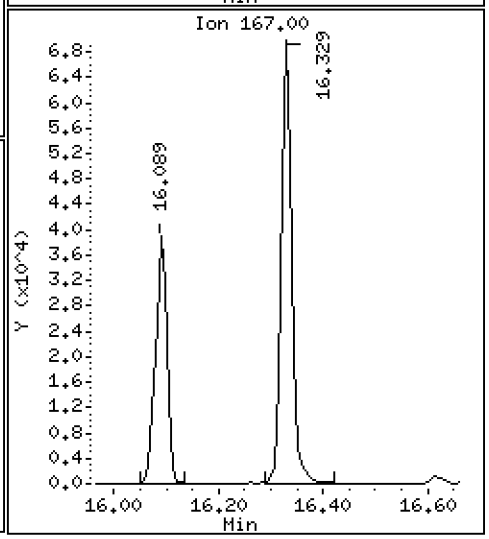












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

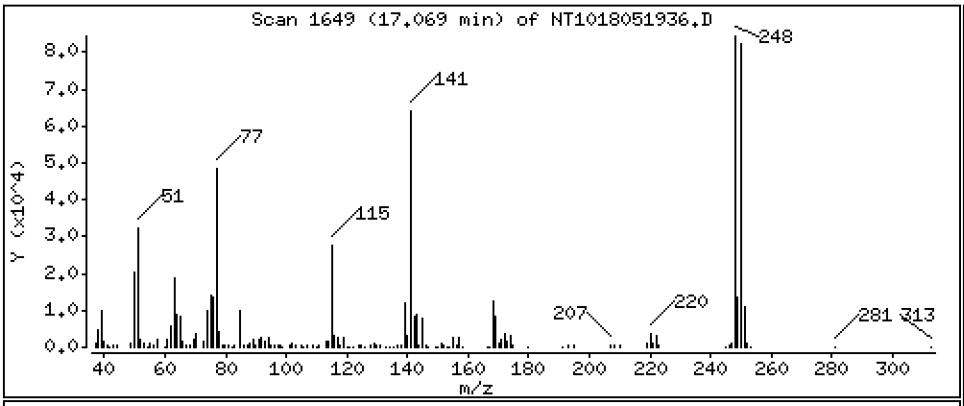
Operator: YZ

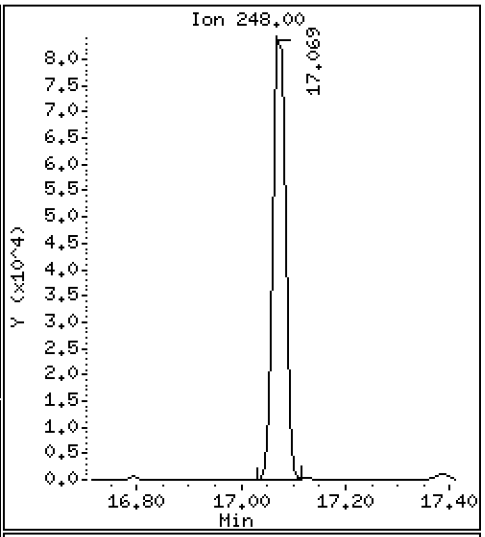
Column phase: ZB-5msi

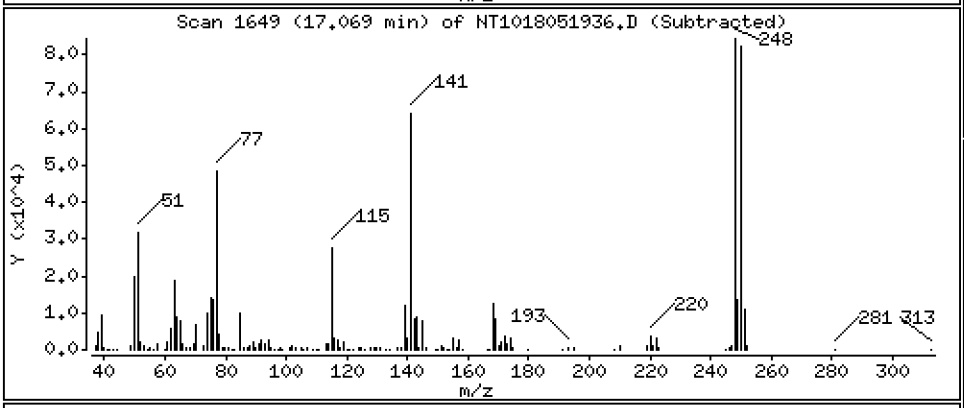
Column diameter: 0.25

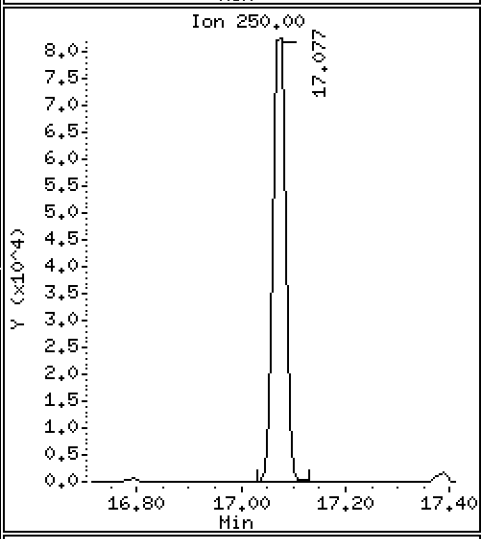
56 4-Bromophenyl-phenylether

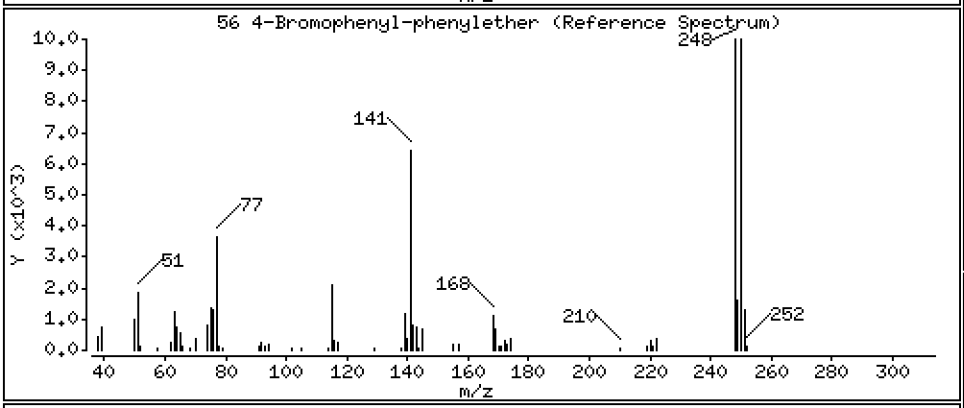
Concentration: 5.373 ug/mL

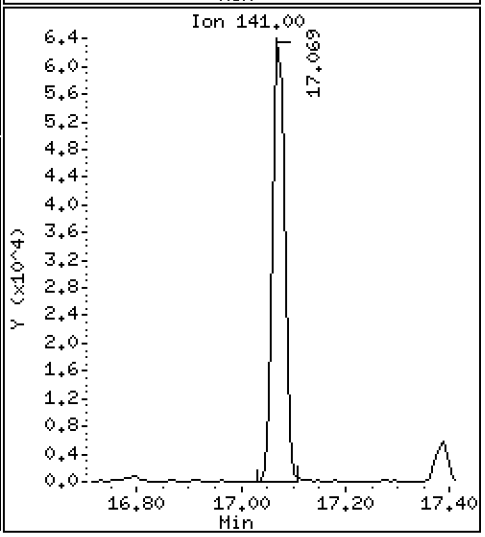


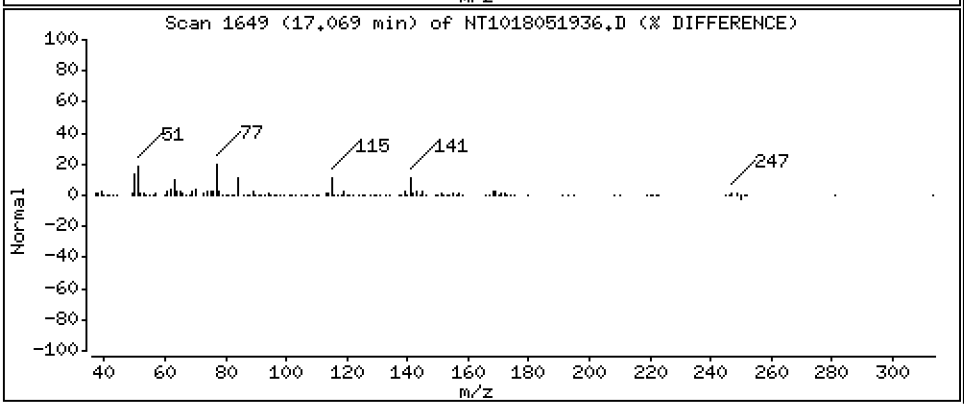












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

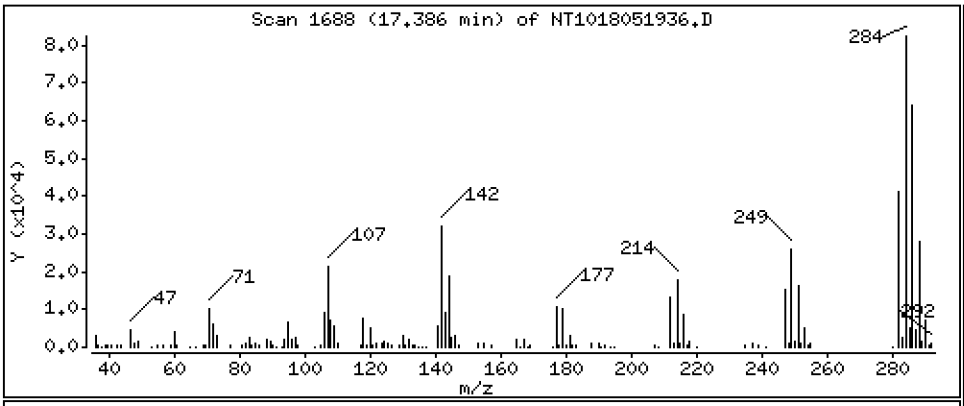
Operator: YZ

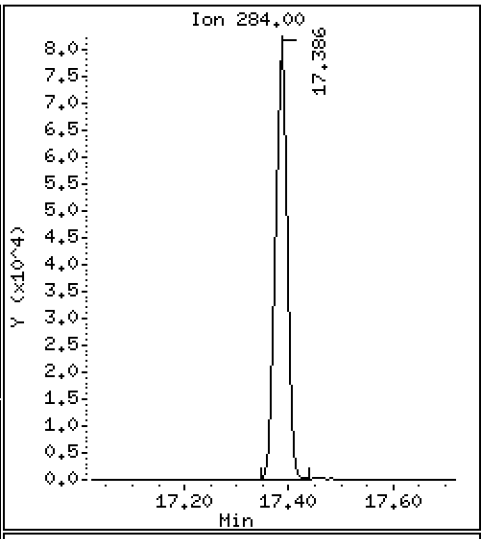
Column phase: ZB-5msi

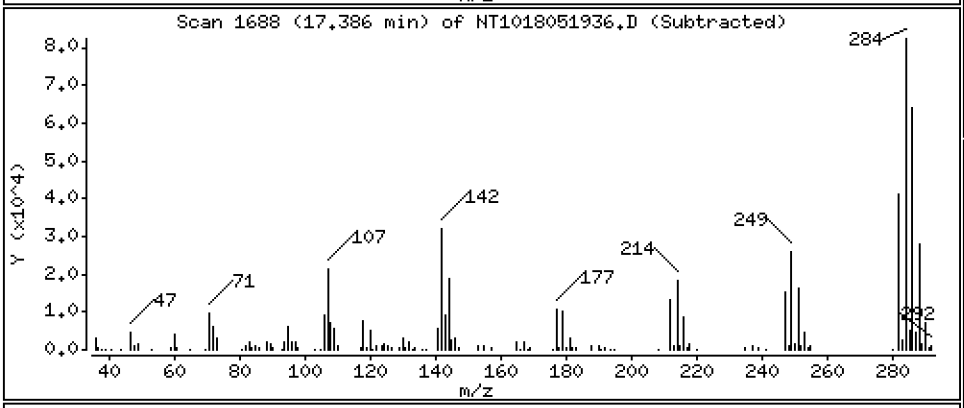
Column diameter: 0.25

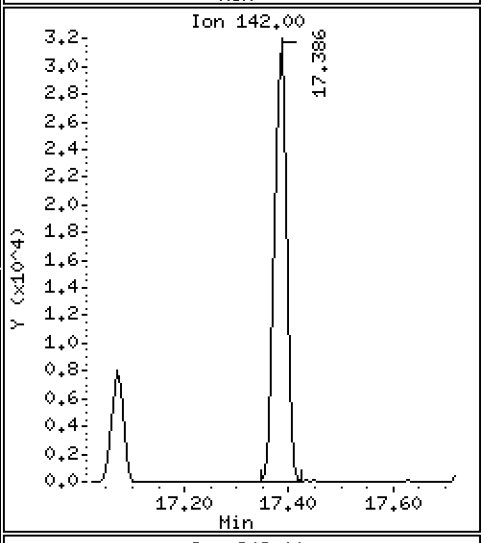
57 Hexachlorobenzene

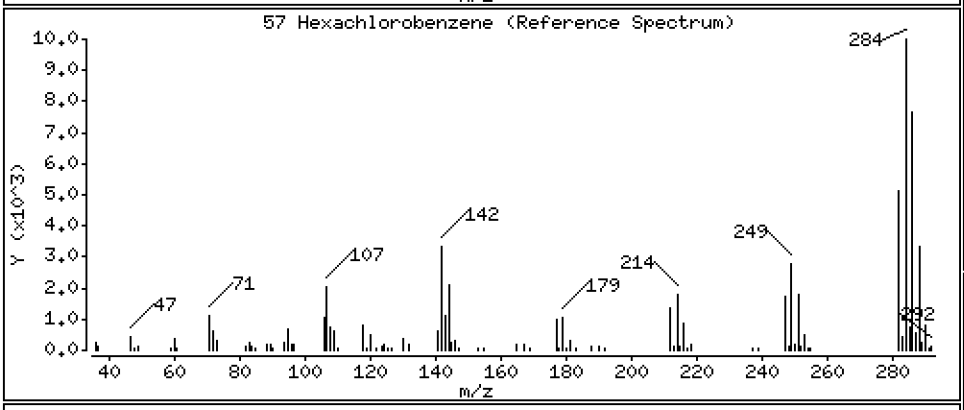
Concentration: 5.223 ug/mL

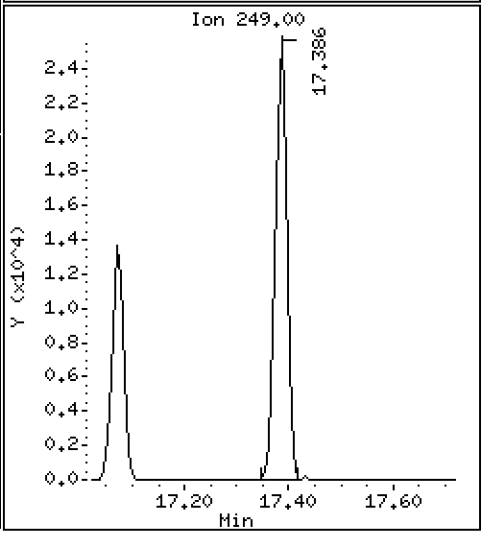


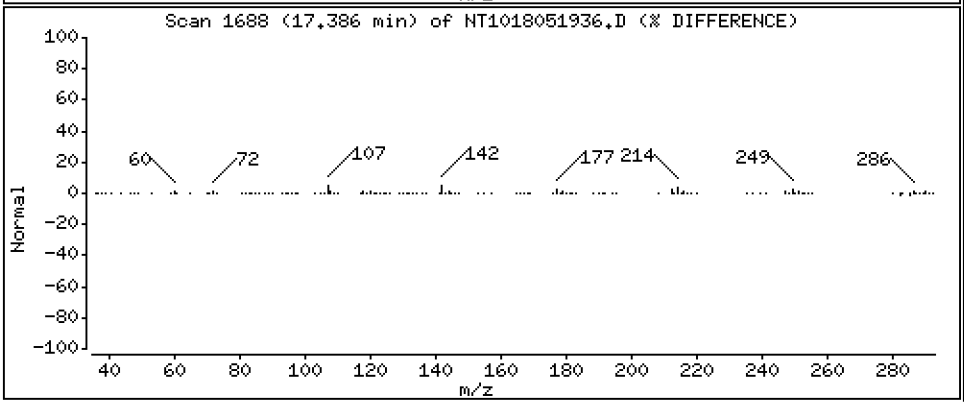












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

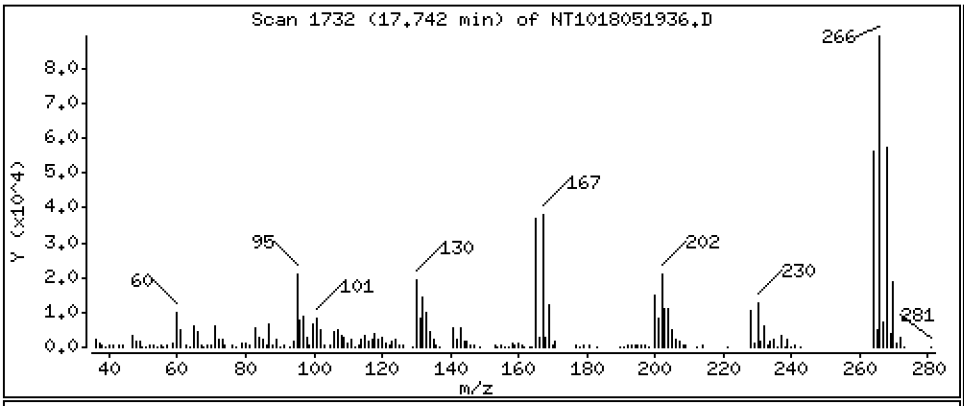
Operator: YZ

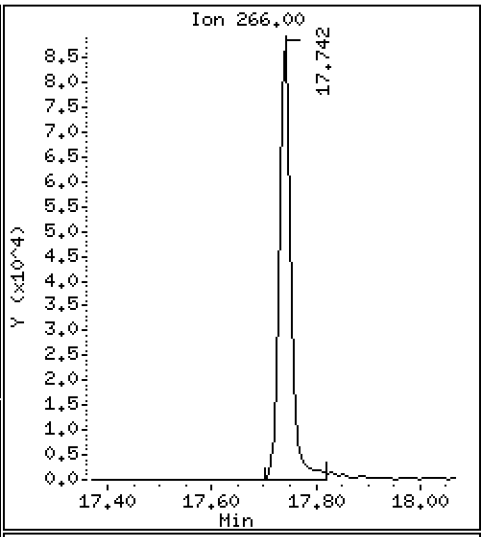
Column phase: ZB-5msi

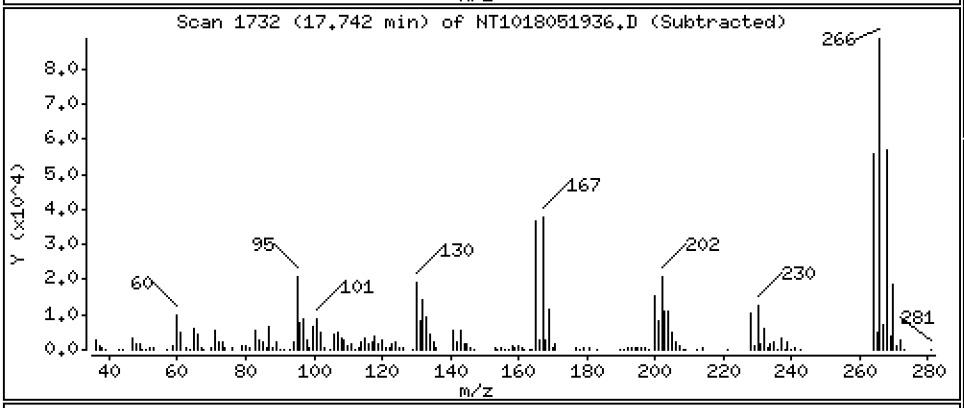
Column diameter: 0.25

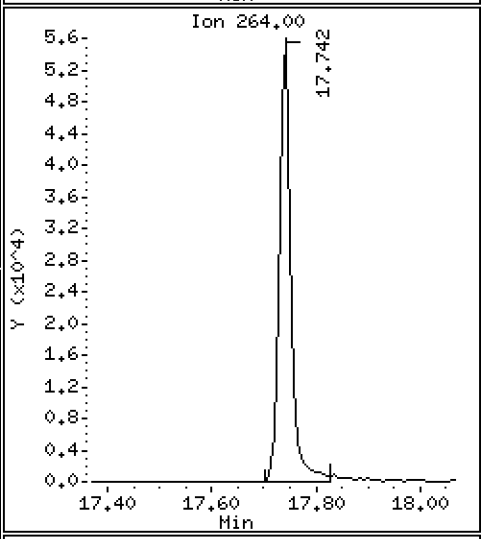
58 Pentachlorophenol

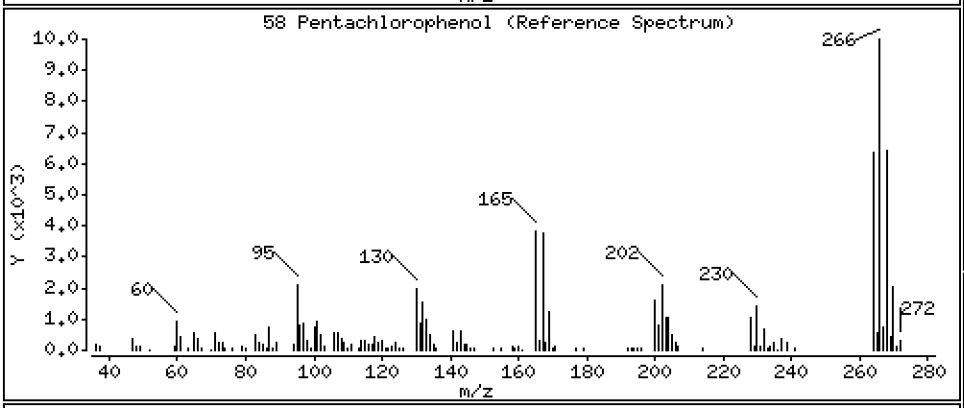
Concentration: 10.32 ug/mL

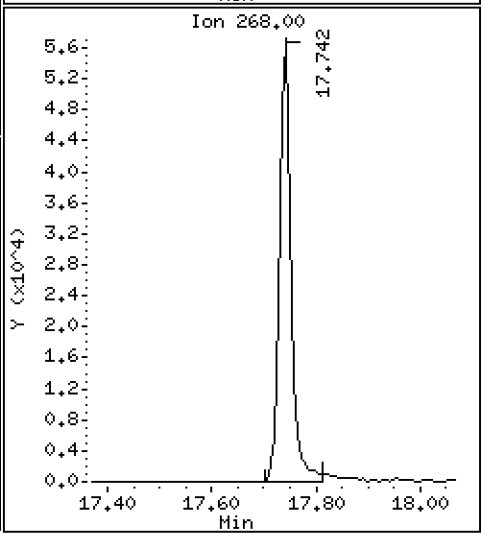


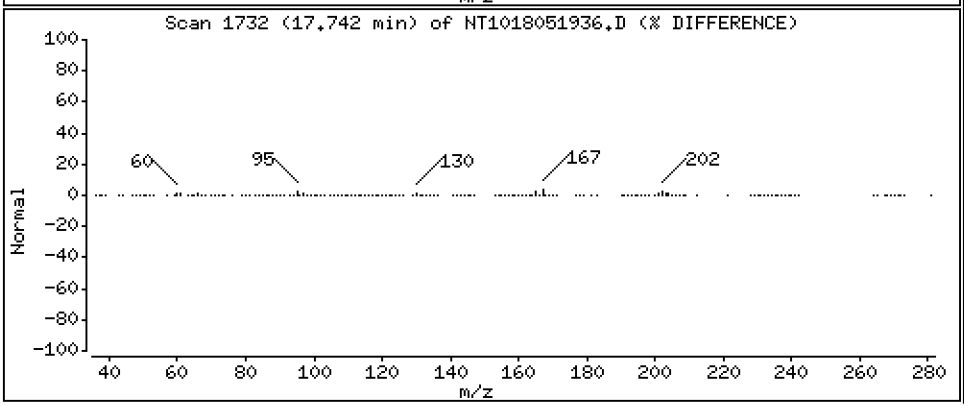












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

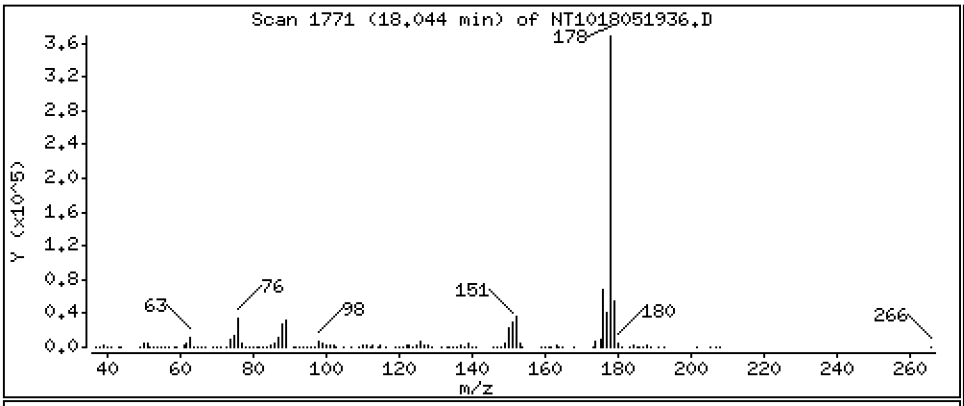
Operator: YZ

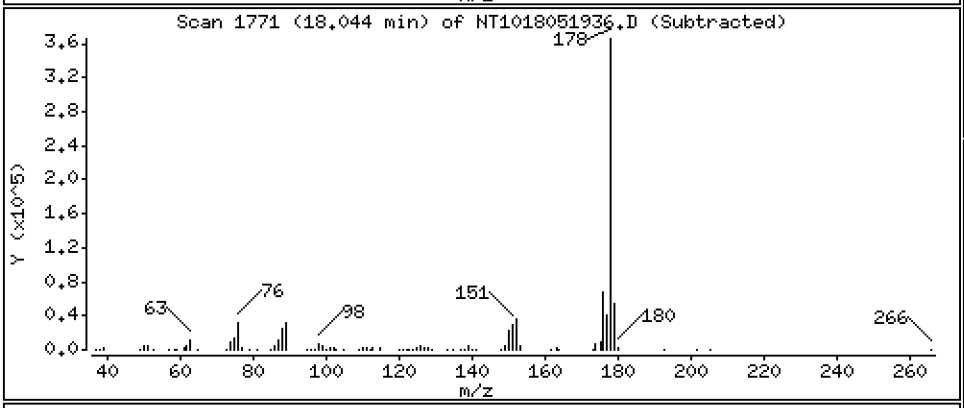
Column phase: ZB-5msi

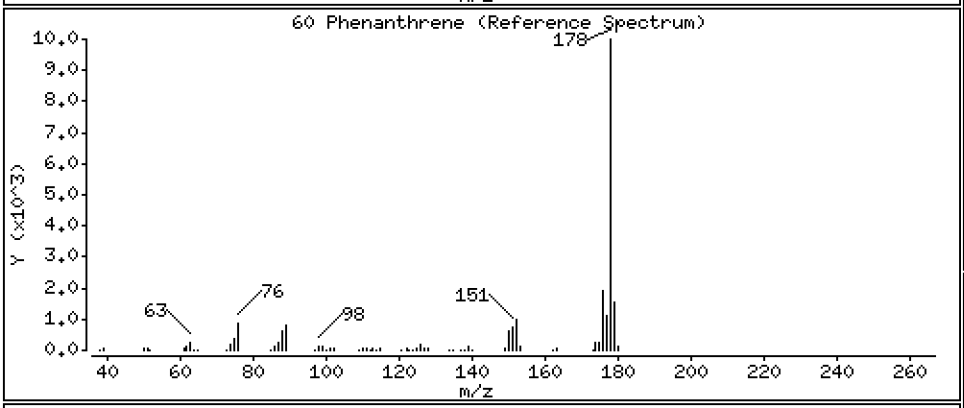
Column diameter: 0.25

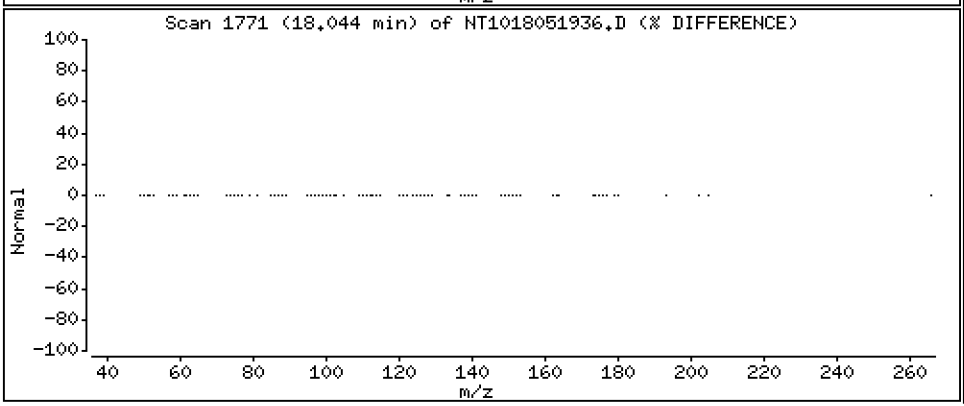
60 Phenanthrene

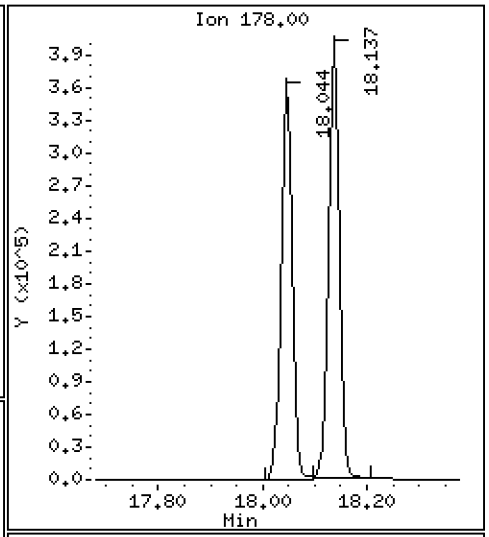
Concentration: 5.070 ug/mL

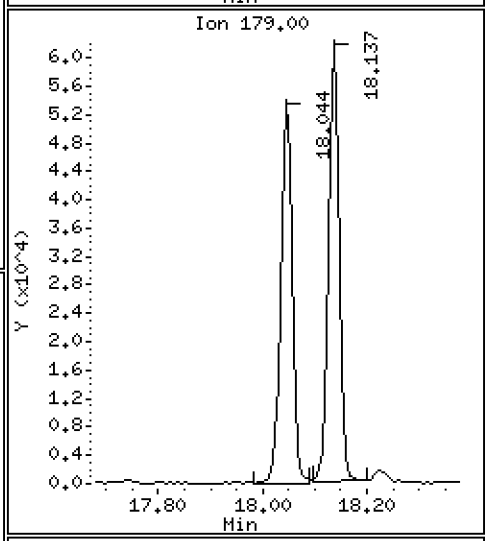


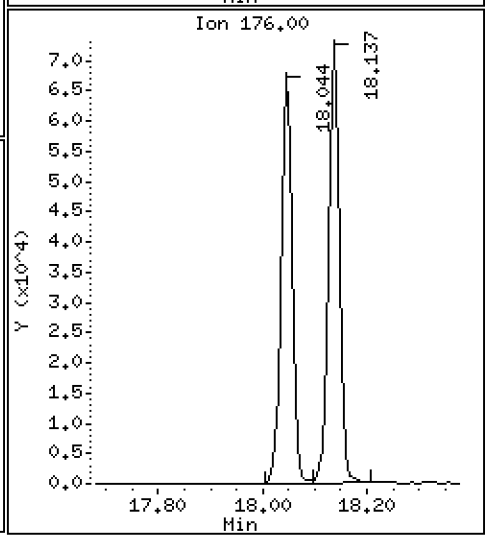












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

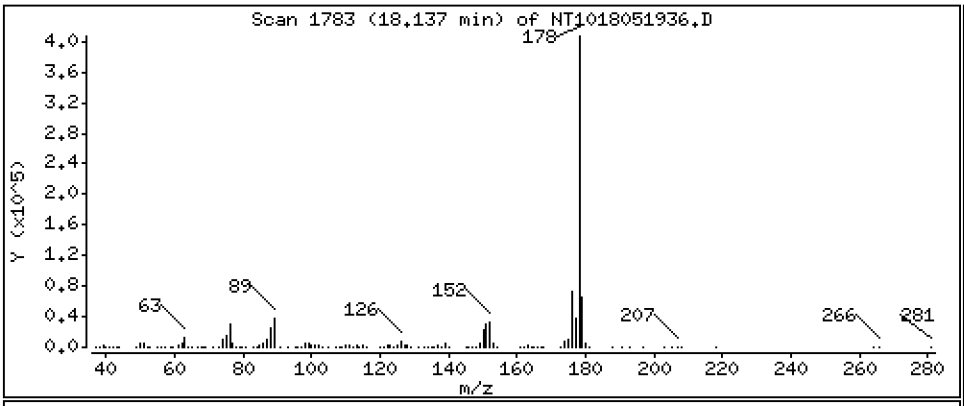
Operator: YZ

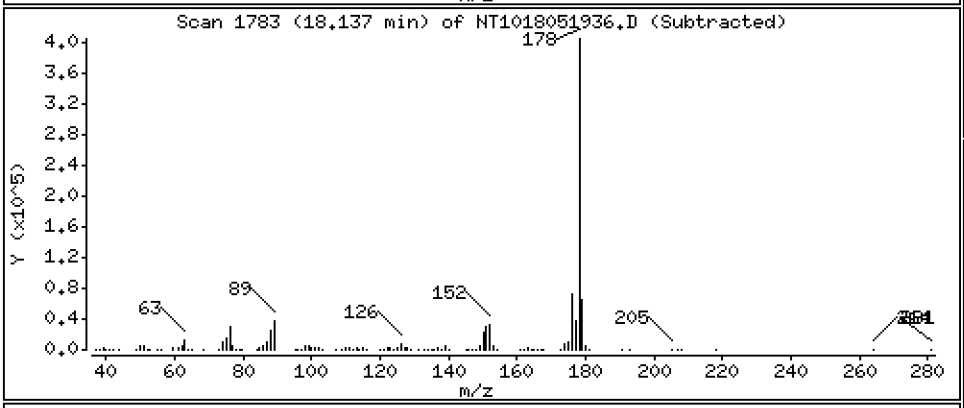
Column phase: ZB-5msi

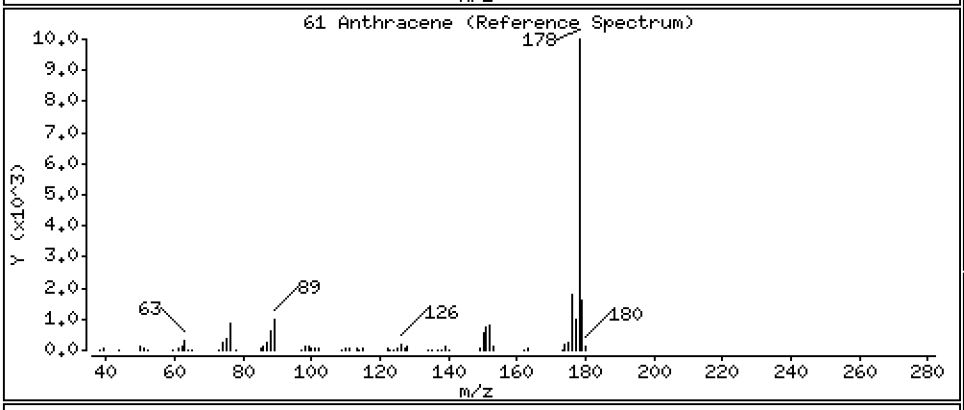
Column diameter: 0.25

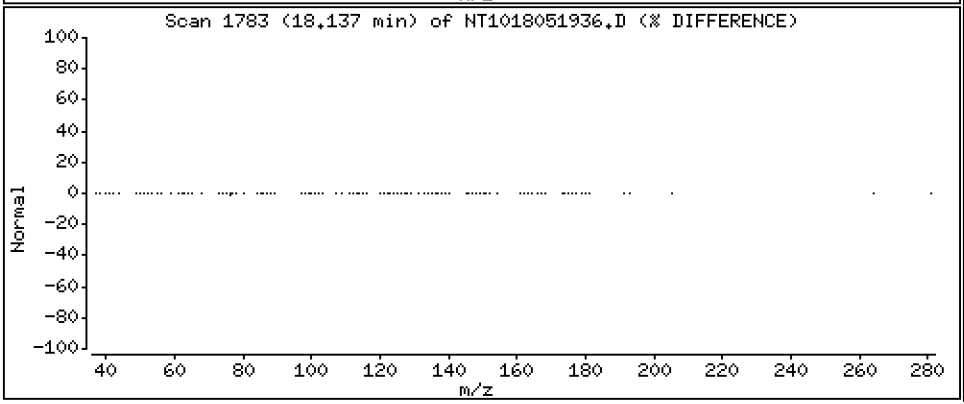
61 Anthracene

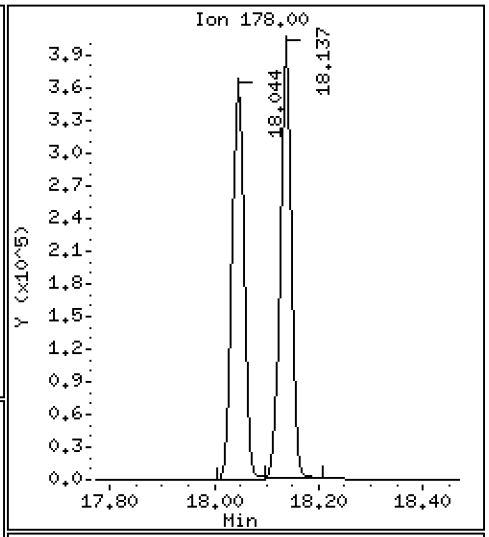
Concentration: 5.234 ug/mL

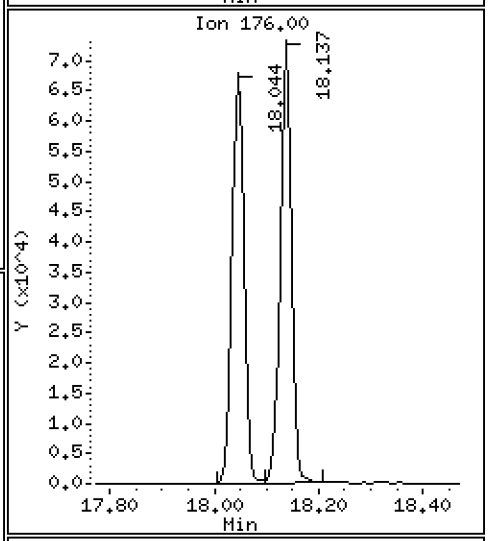


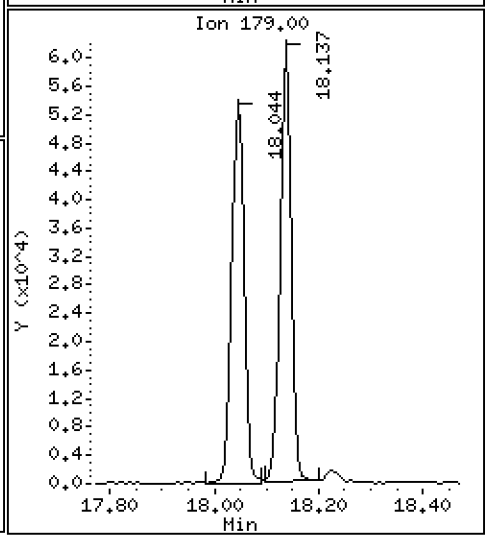












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

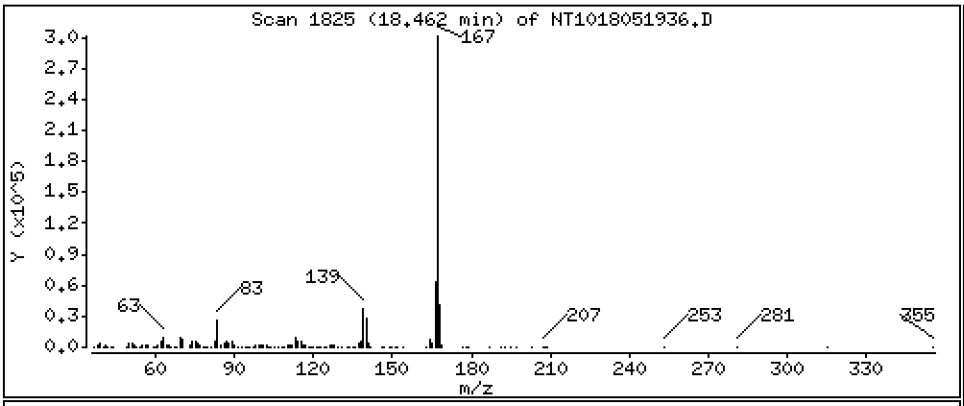
Operator: YZ

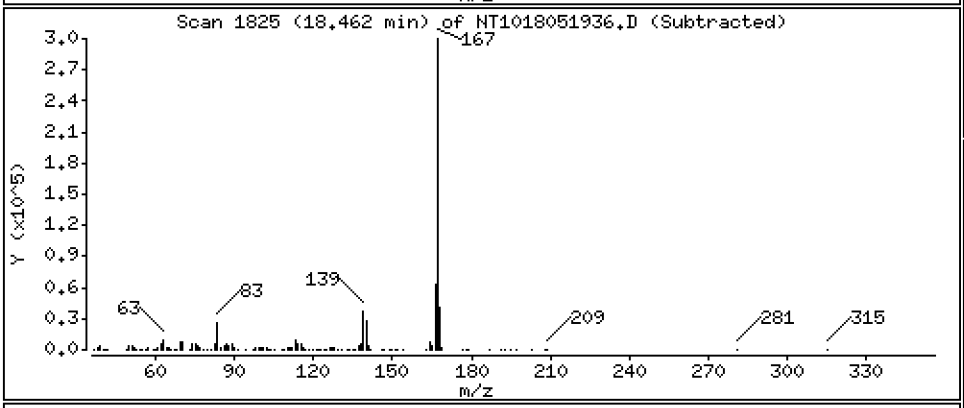
Column phase: ZB-5msi

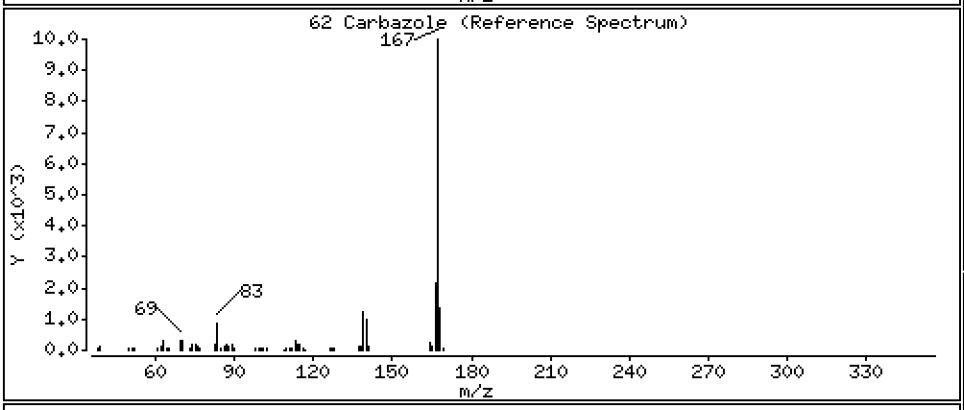
Column diameter: 0.25

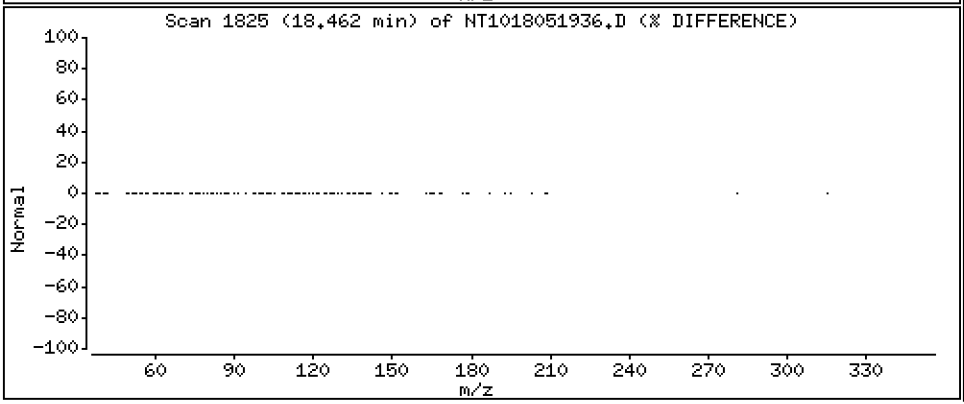
62 Carbazole

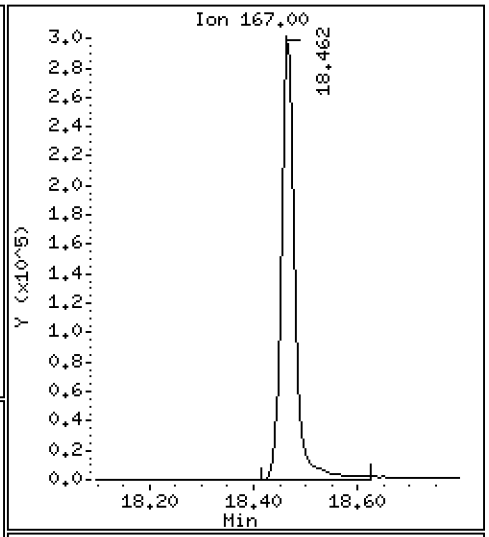
Concentration: 5.468 ug/mL

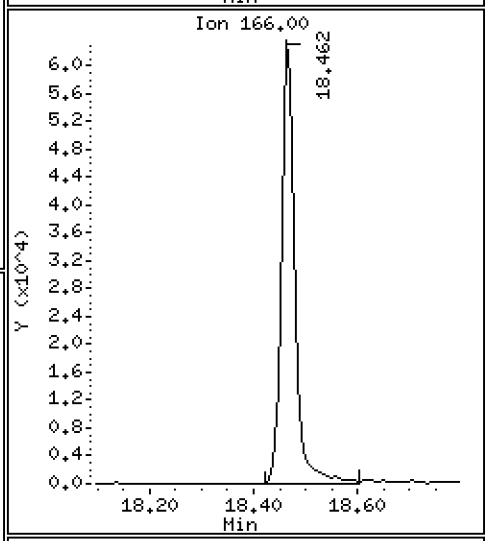


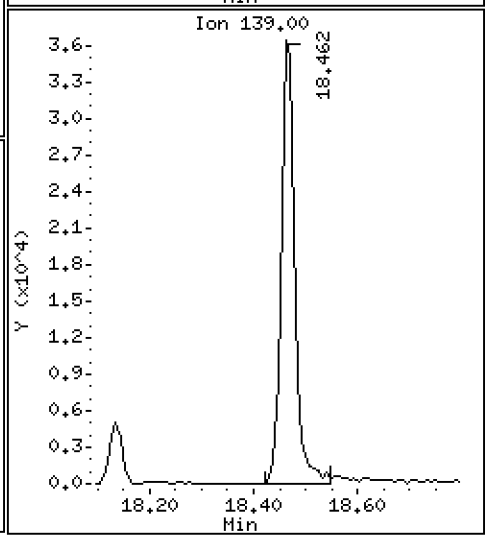












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

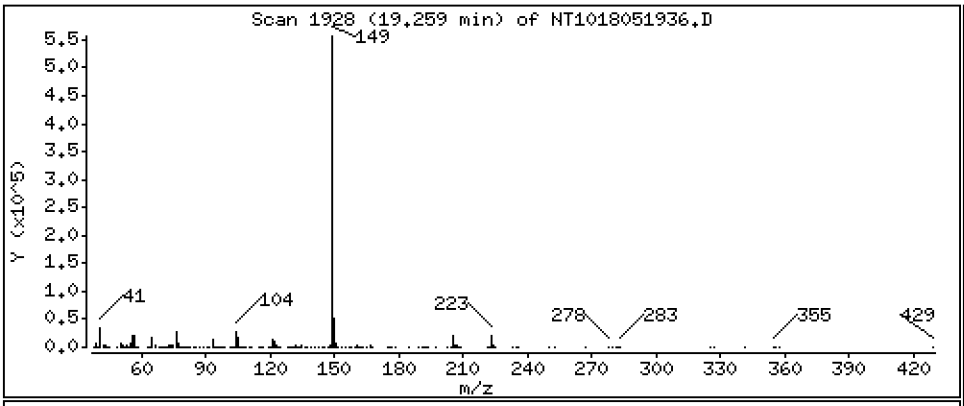
Operator: YZ

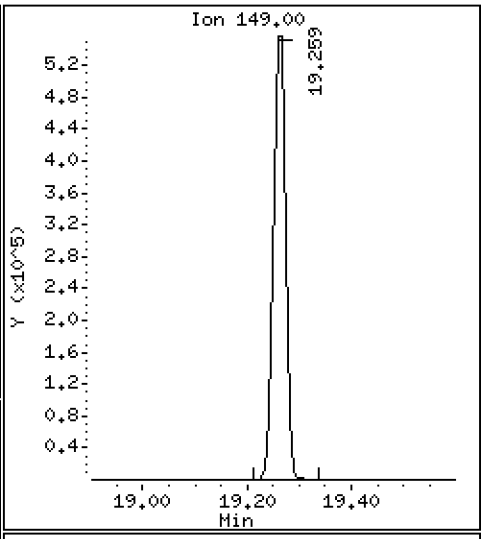
Column phase: ZB-5msi

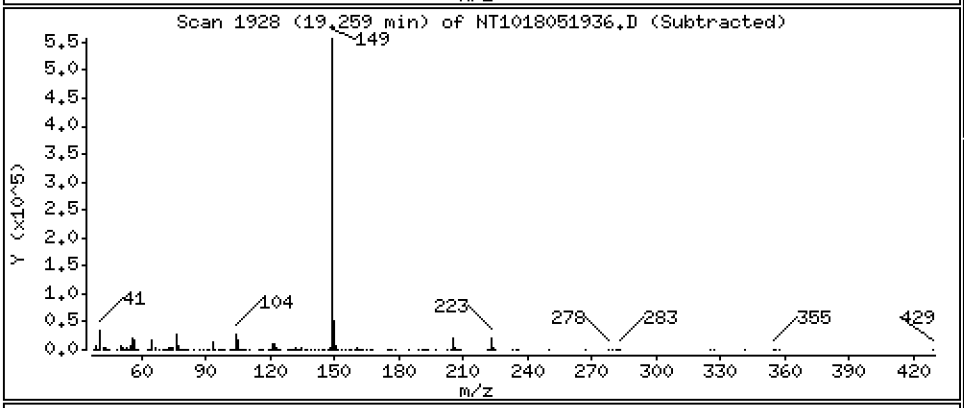
Column diameter: 0.25

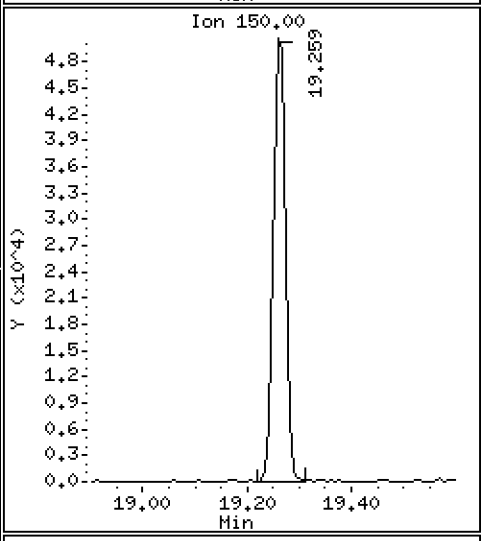
63 Di-n-butylphthalate

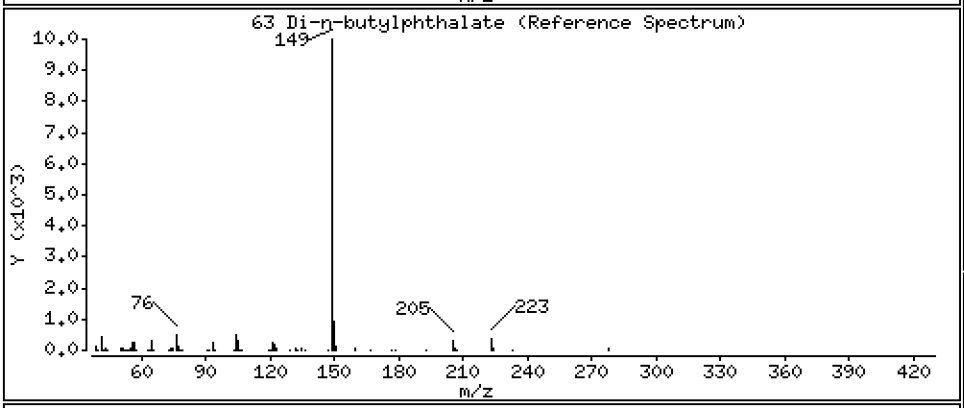
Concentration: 5.548 ug/mL

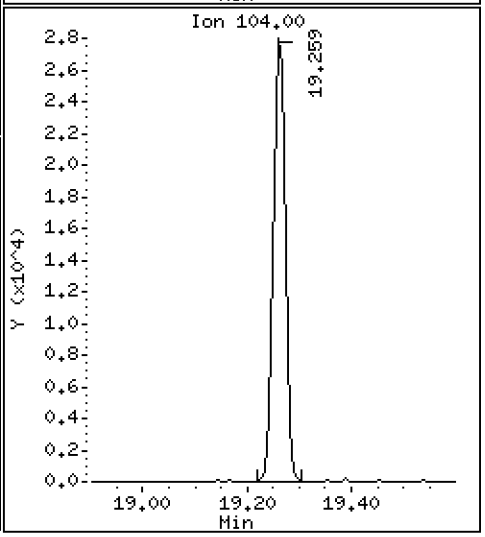


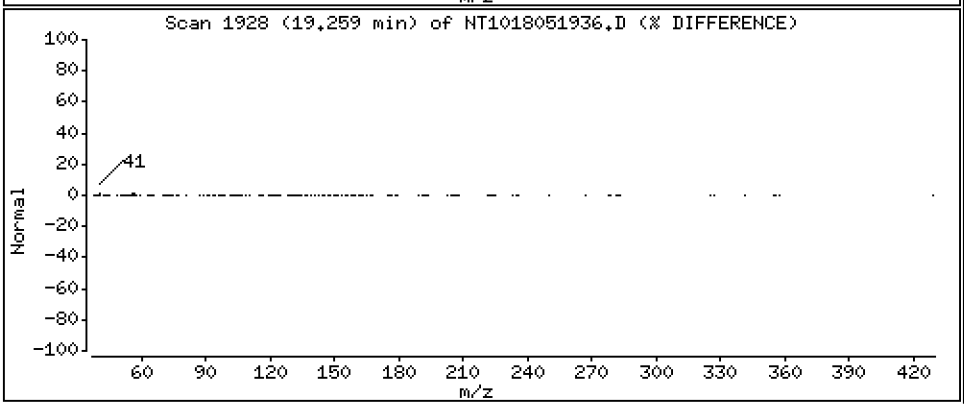












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

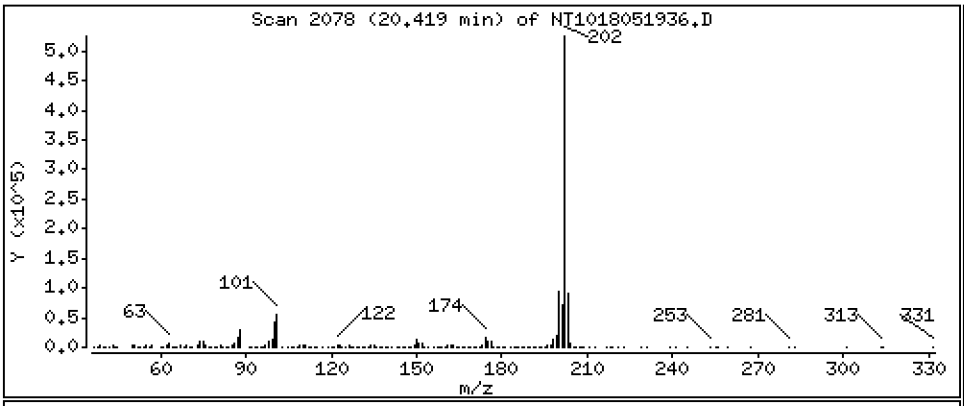
Operator: YZ

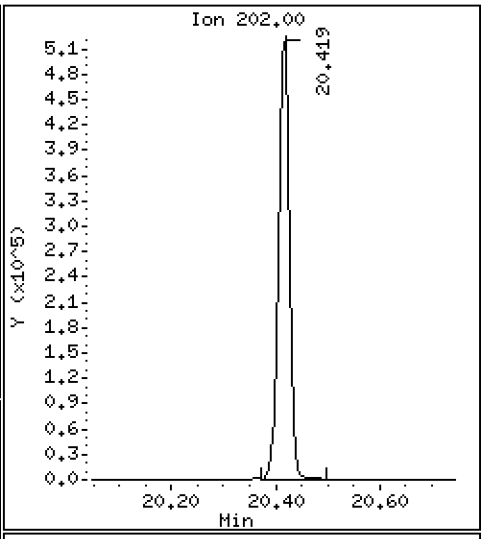
Column phase: ZB-5msi

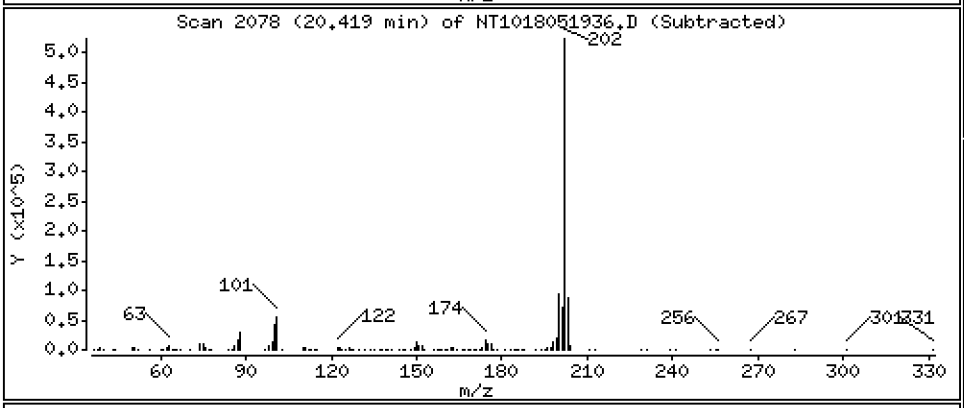
Column diameter: 0.25

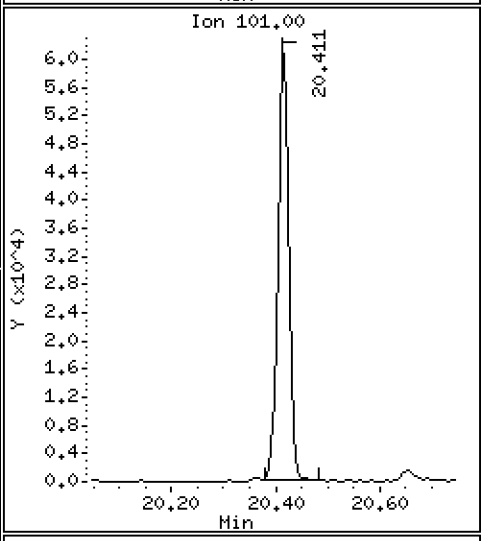
64 Fluoranthene

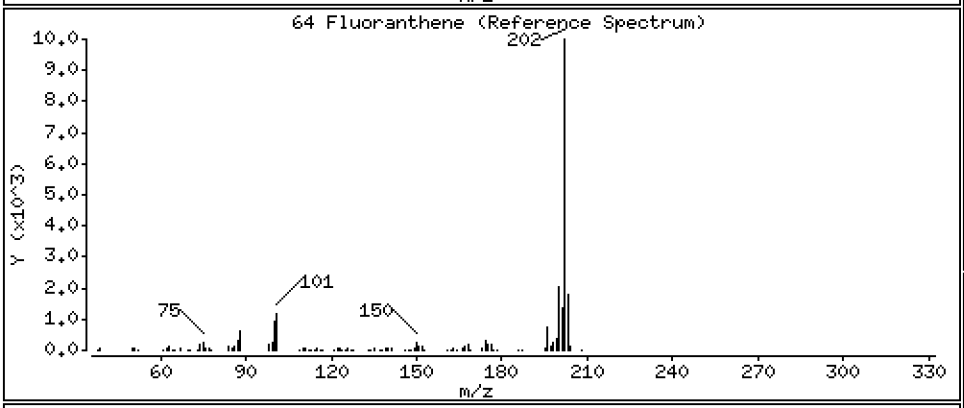
Concentration: 5.096 ug/mL

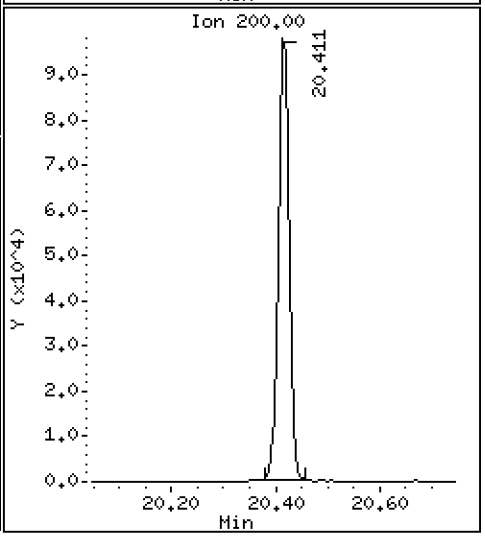


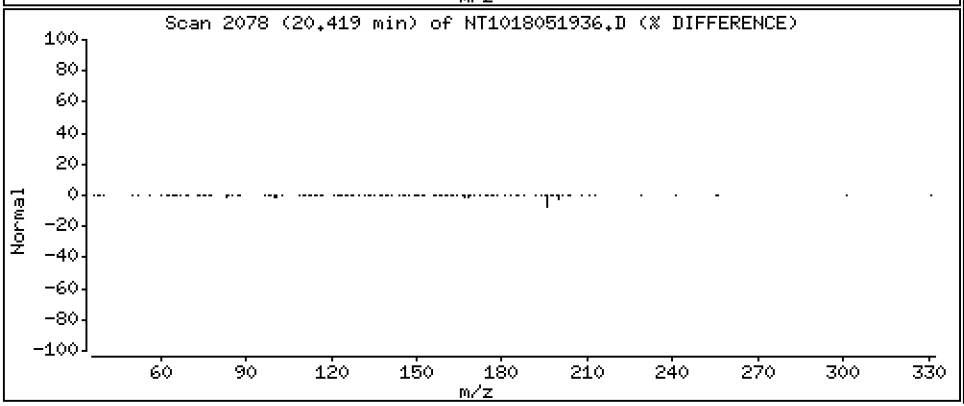












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

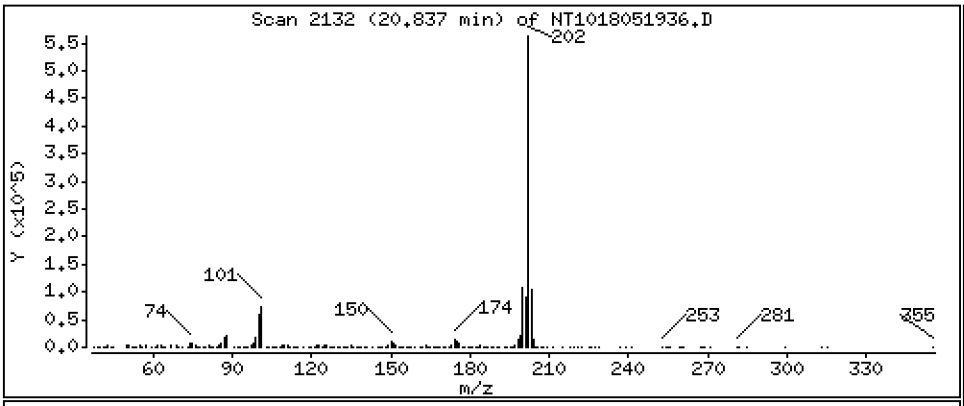
Operator: YZ

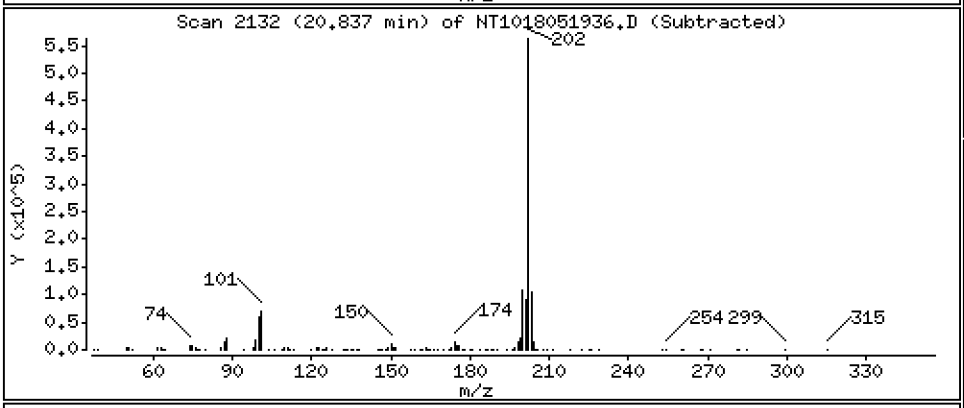
Column phase: ZB-5msi

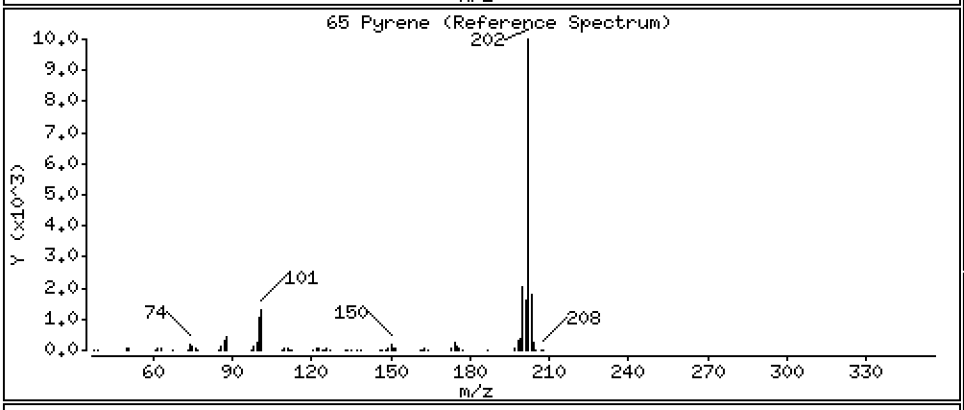
Column diameter: 0.25

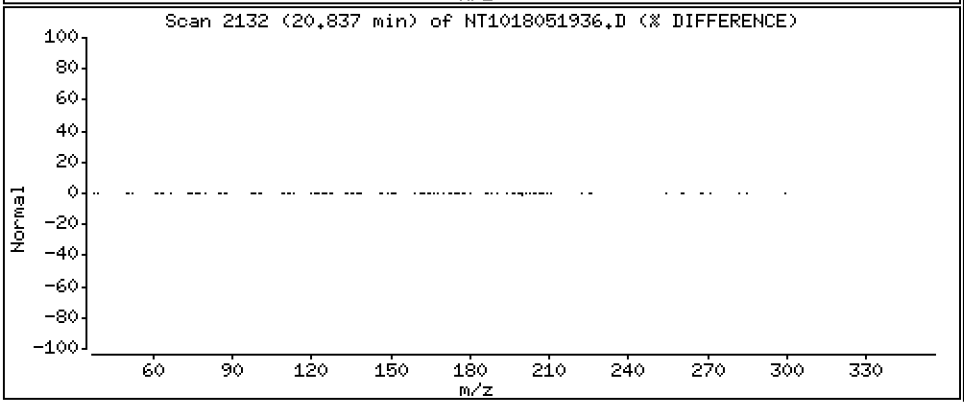
65 Pyrene

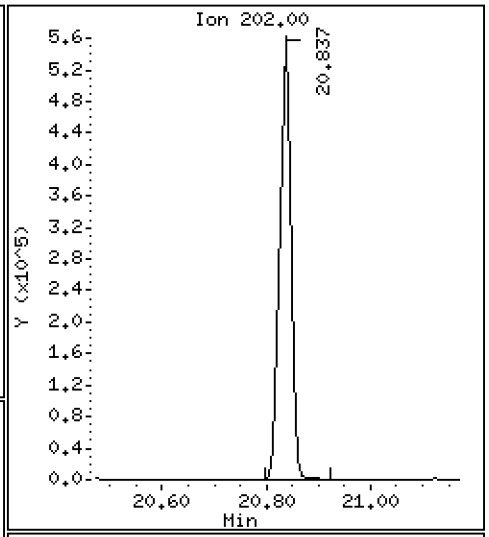
Concentration: 5.060 ug/mL

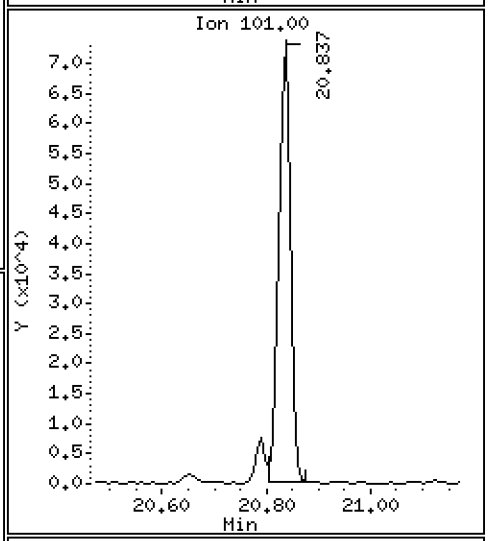


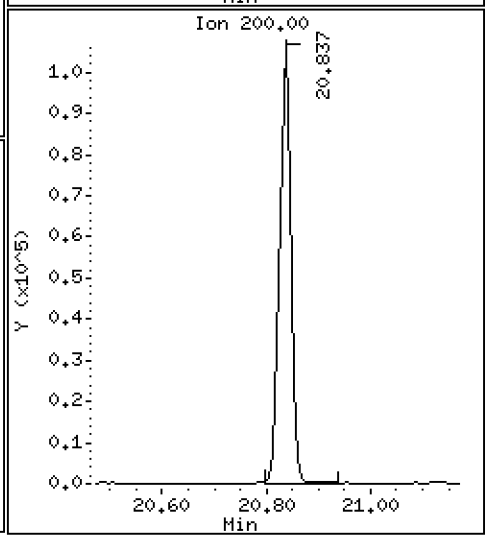












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

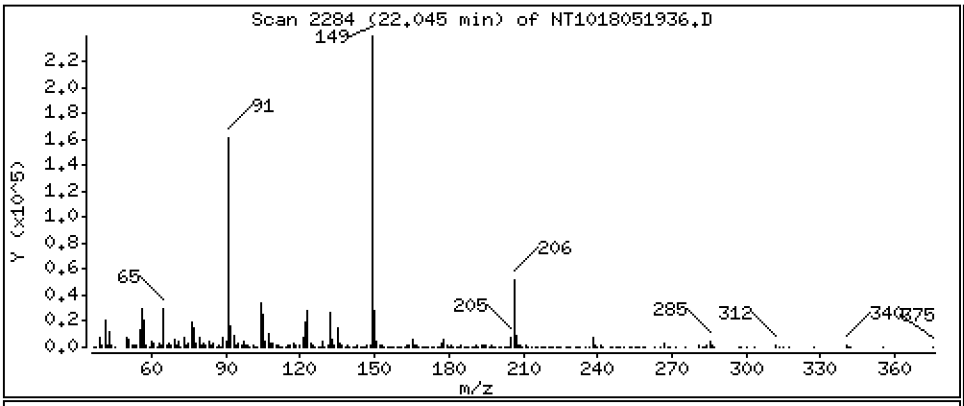
Operator: YZ

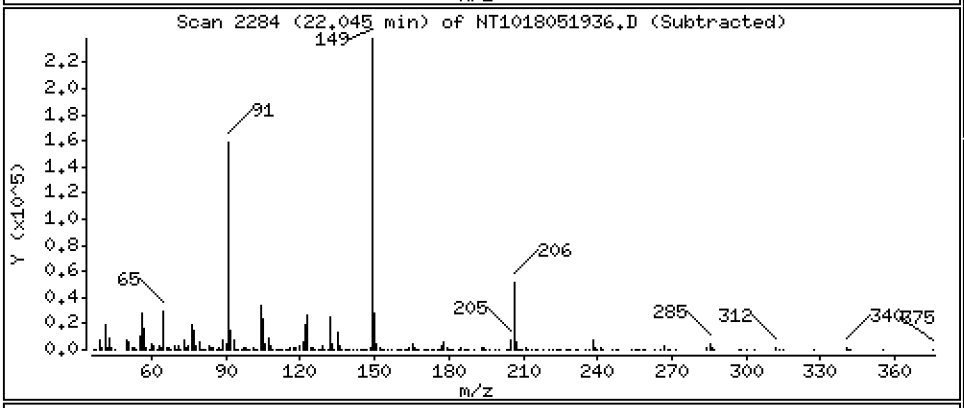
Column phase: ZB-5msi

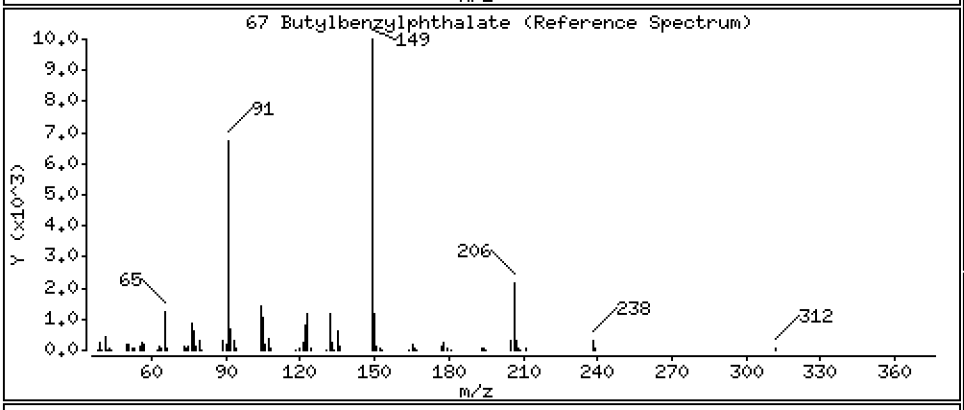
Column diameter: 0.25

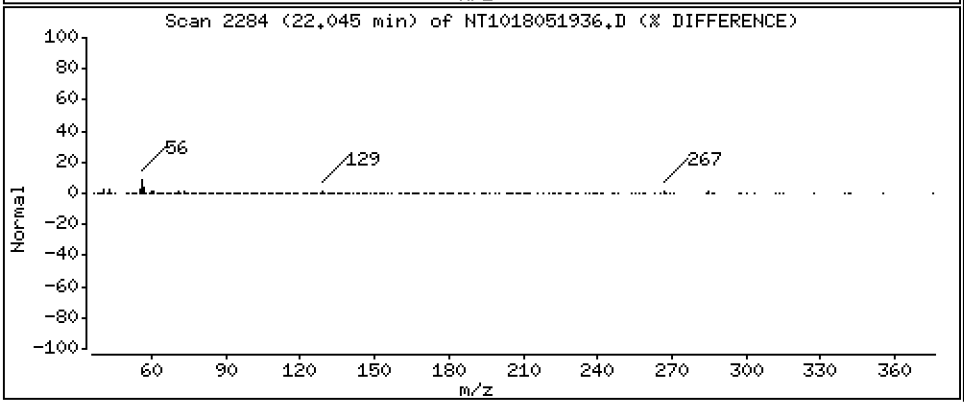
67 Butylbenzylphthalate

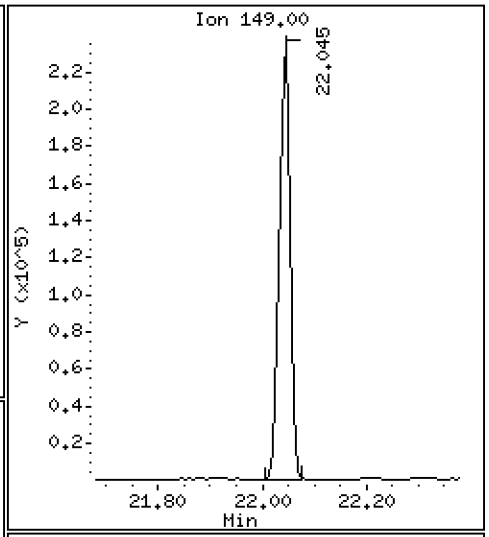
Concentration: 5.141 ug/mL

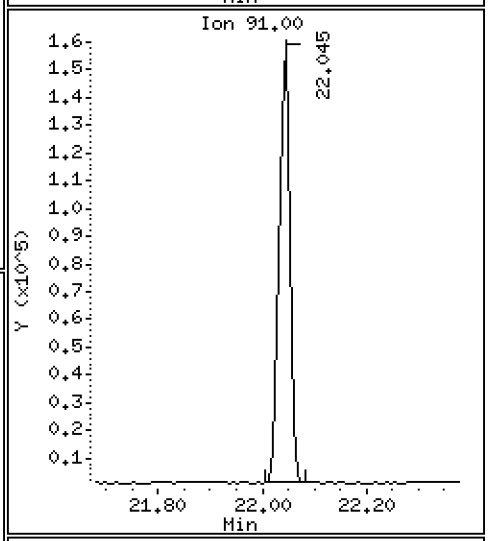


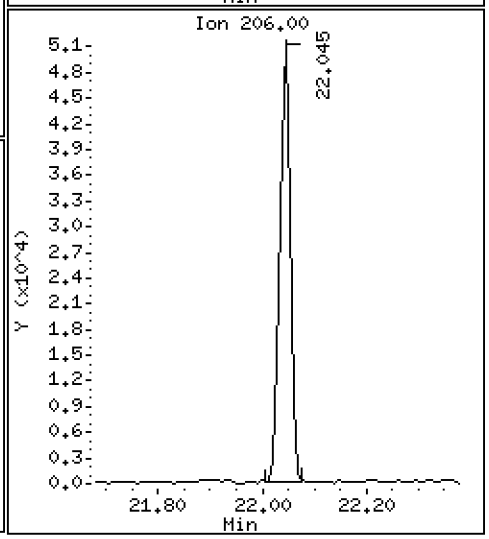












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

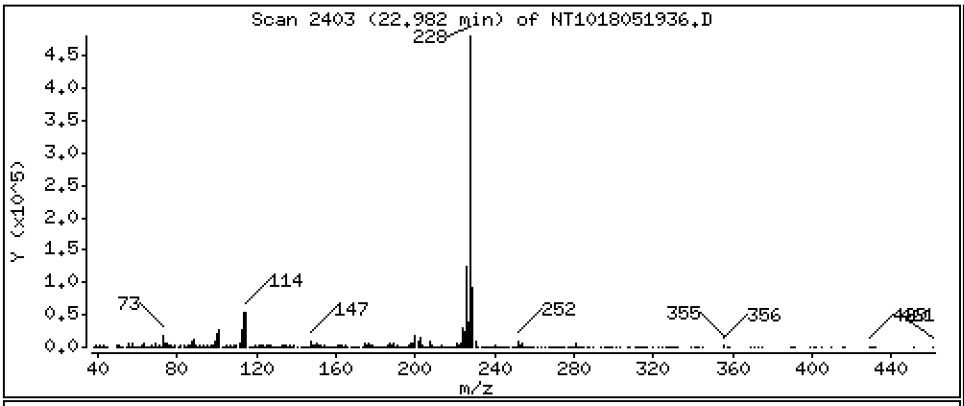
Operator: YZ

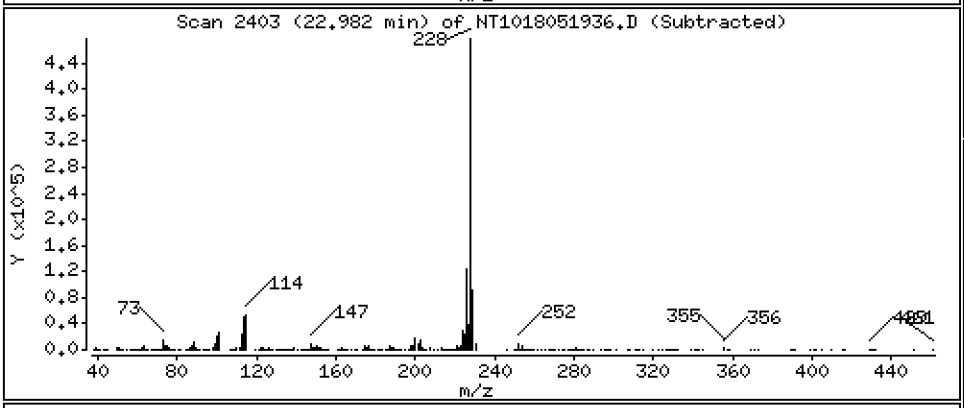
Column phase: ZB-5msi

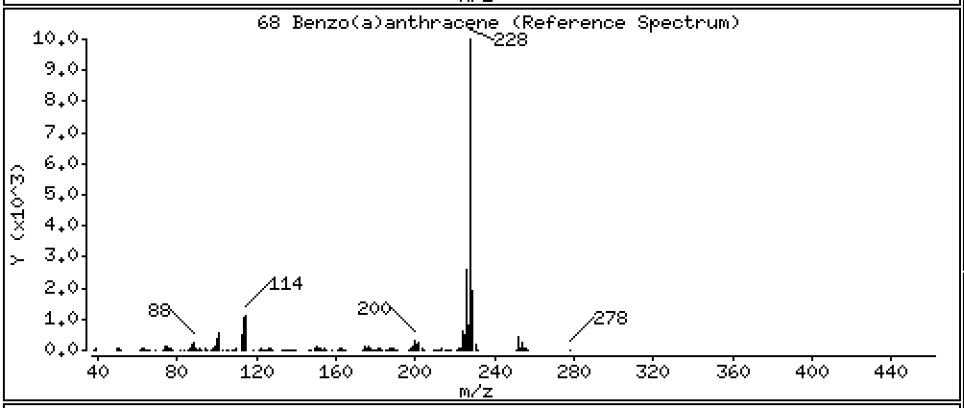
Column diameter: 0.25

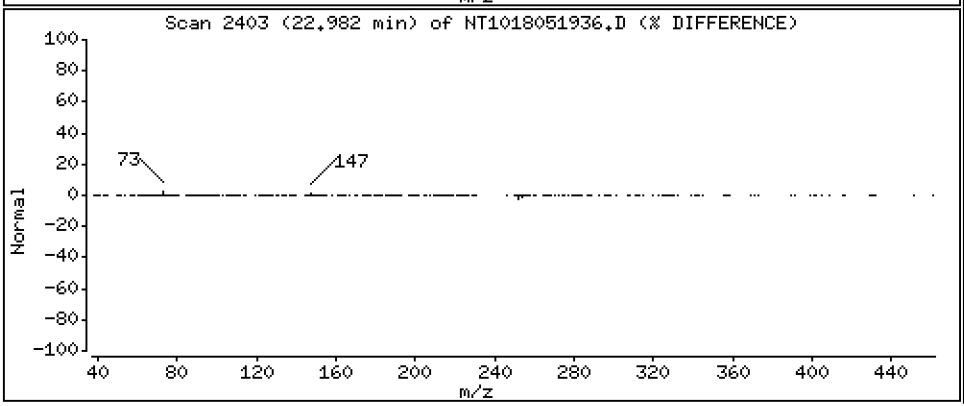
68 Benzo(a)anthracene

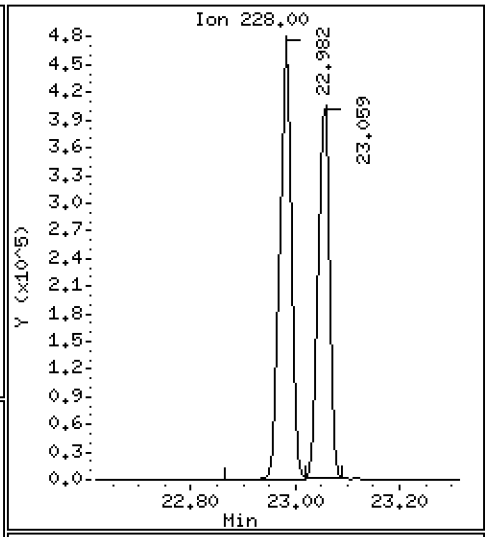
Concentration: 5.071 ug/mL

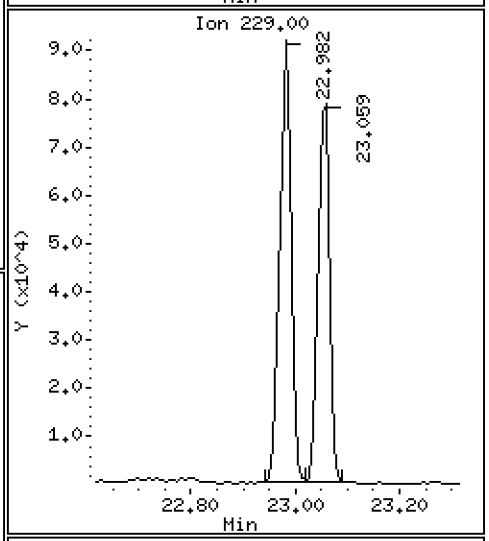


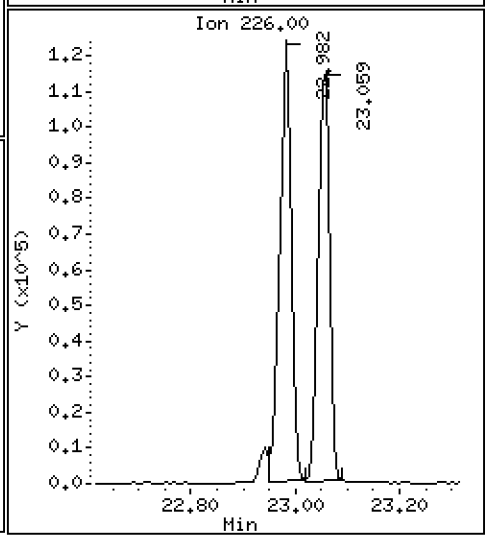












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

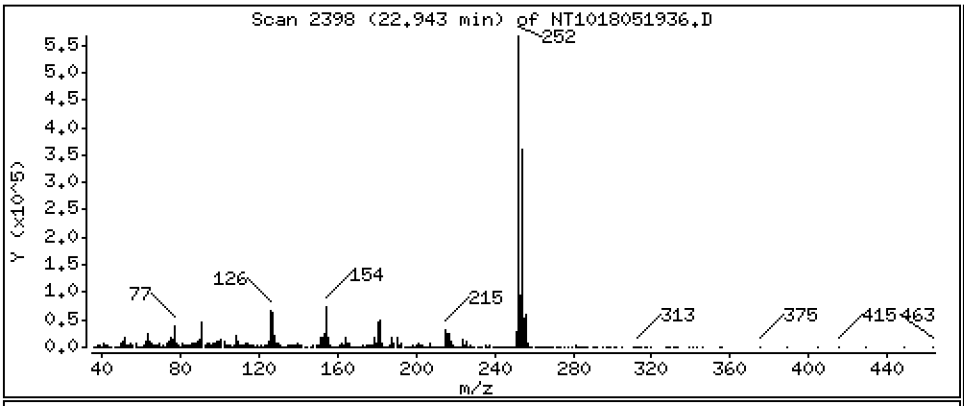
Operator: YZ

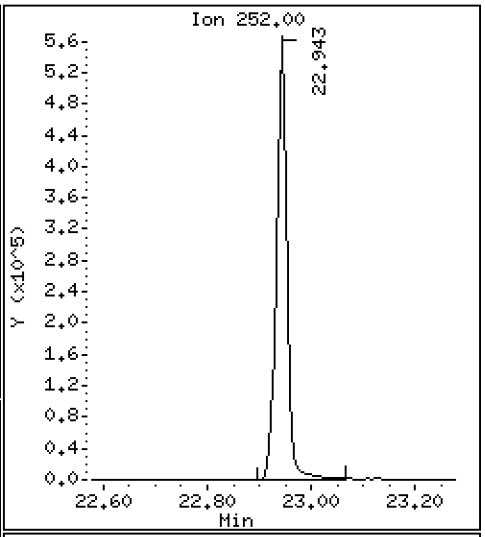
Column phase: ZB-5msi

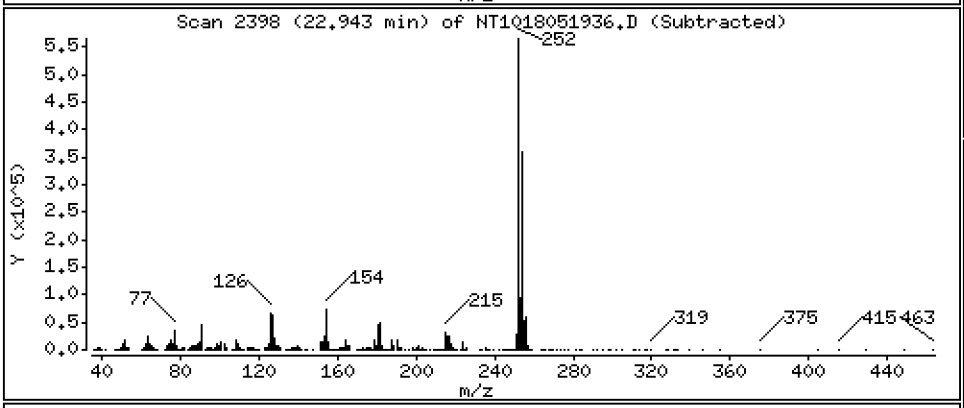
Column diameter: 0.25

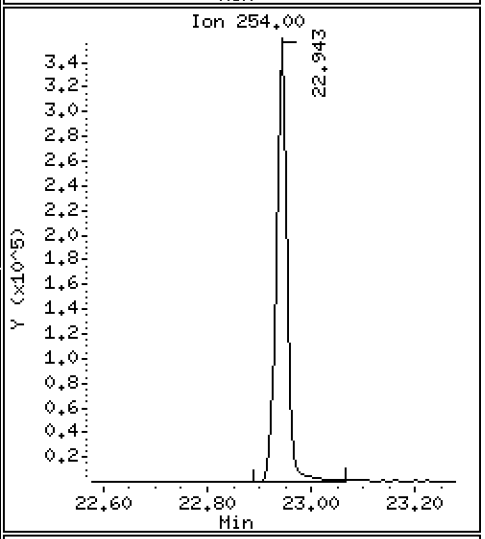
70 3,3'-Dichlorobenzidine

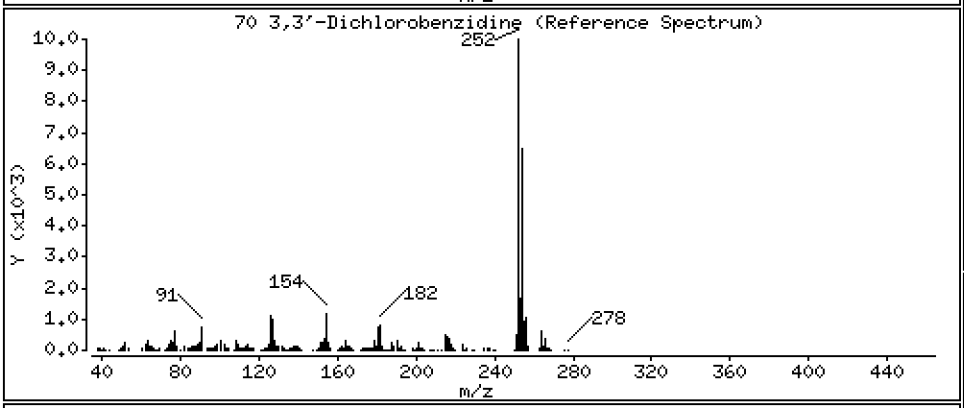
Concentration: 16.22 ug/mL

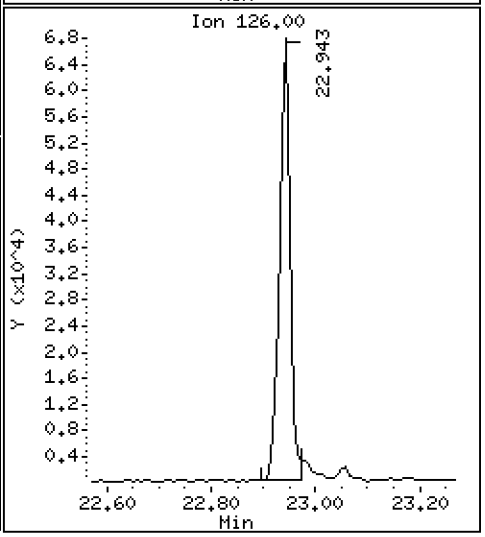


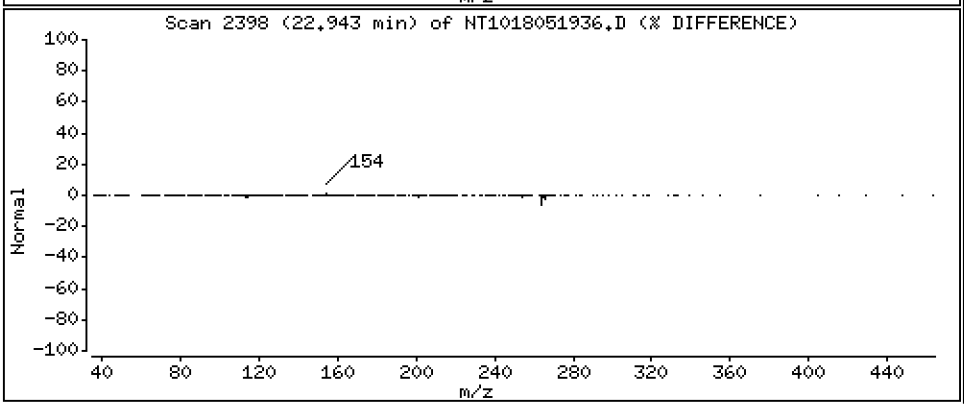












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

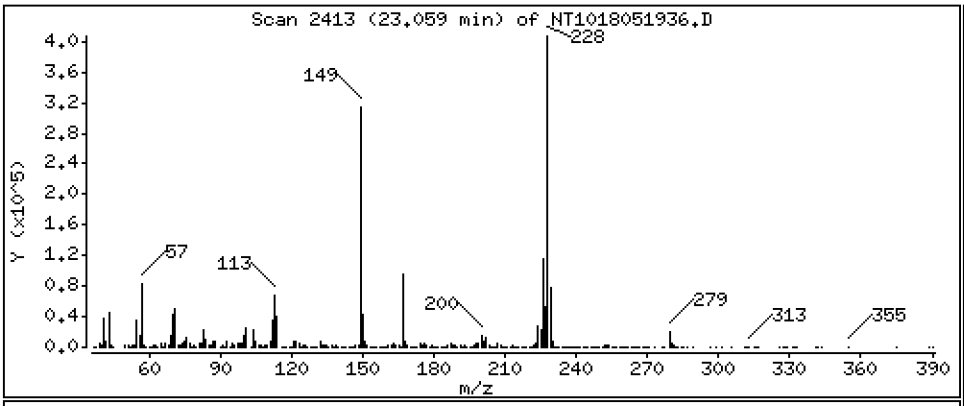
Operator: YZ

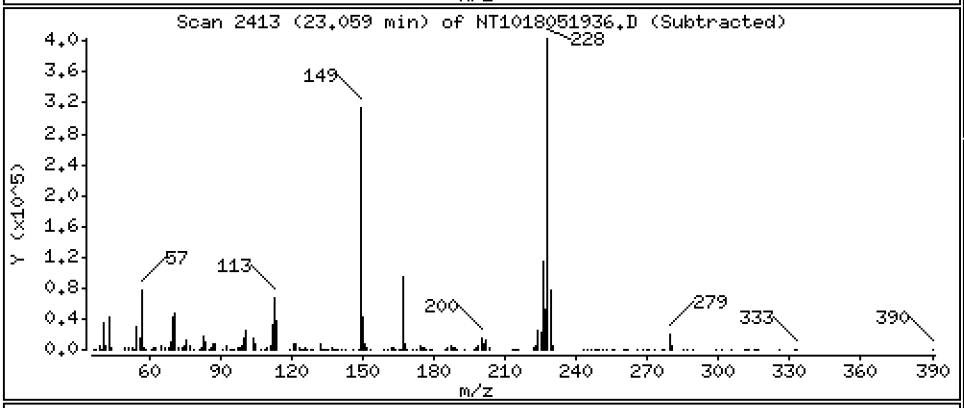
Column phase: ZB-5msi

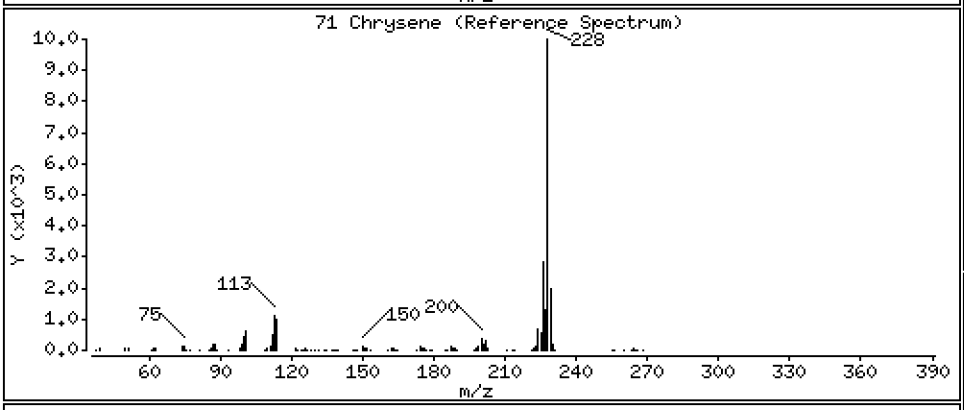
Column diameter: 0.25

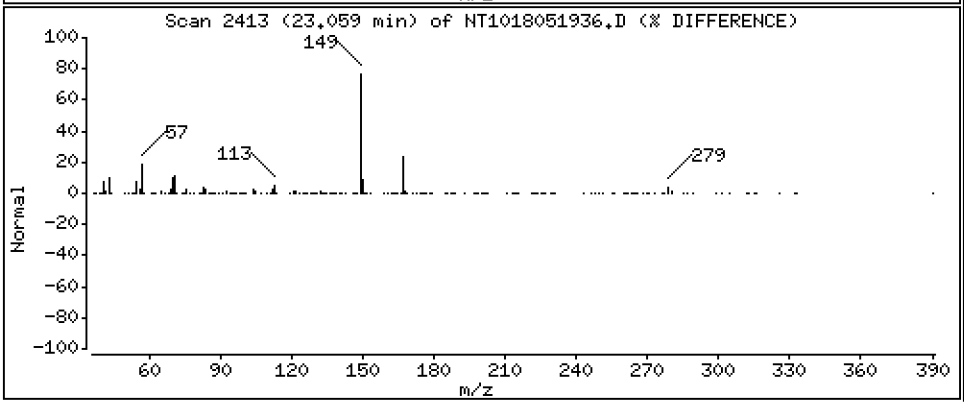
71 Chrysene

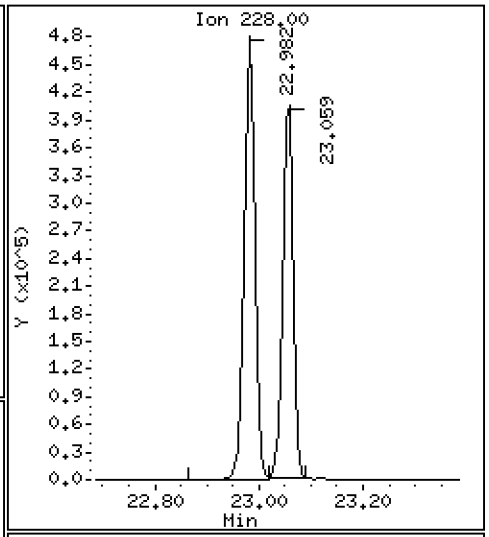
Concentration: 5.150 ug/mL

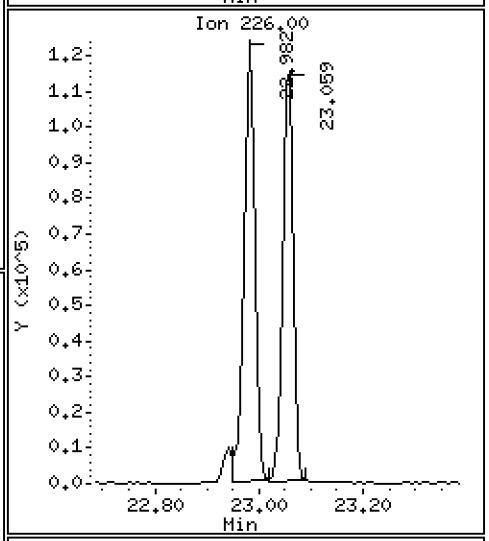


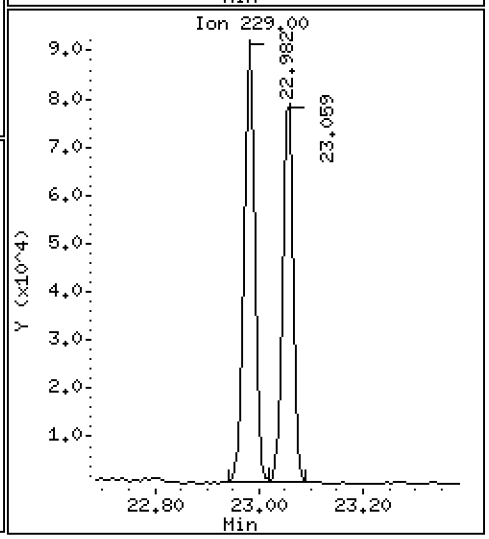












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

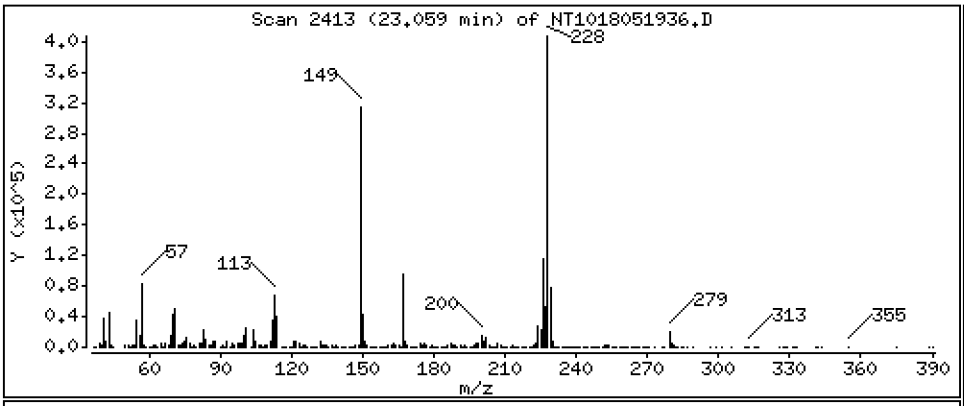
Operator: YZ

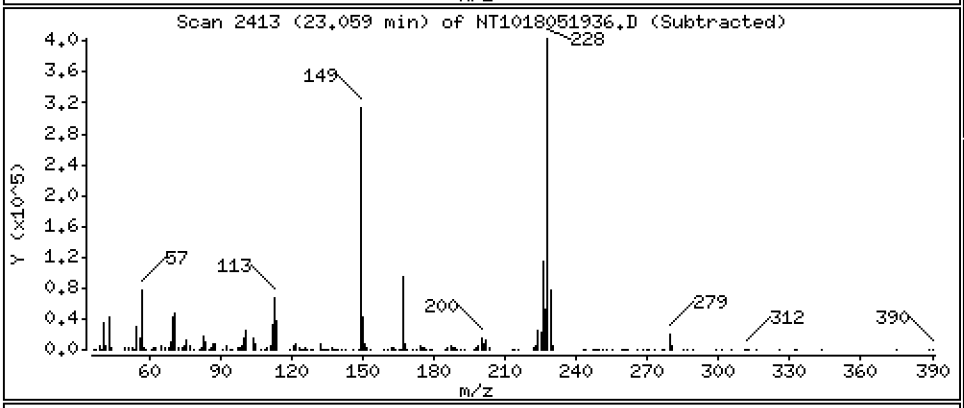
Column phase: ZB-5msi

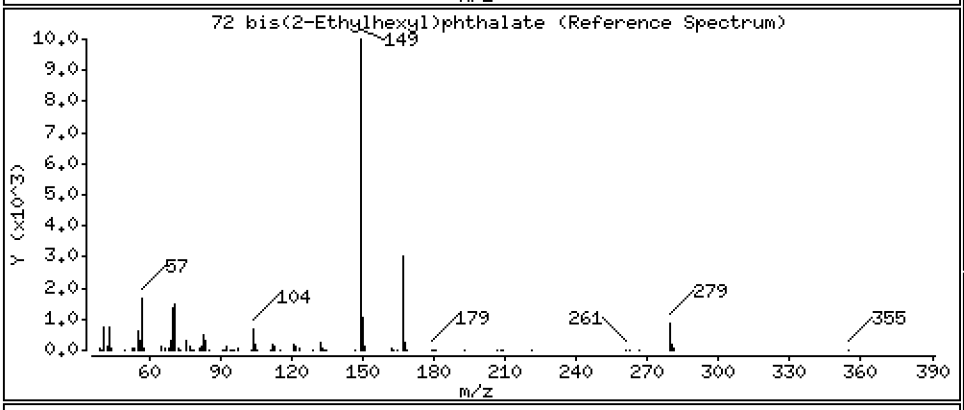
Column diameter: 0.25

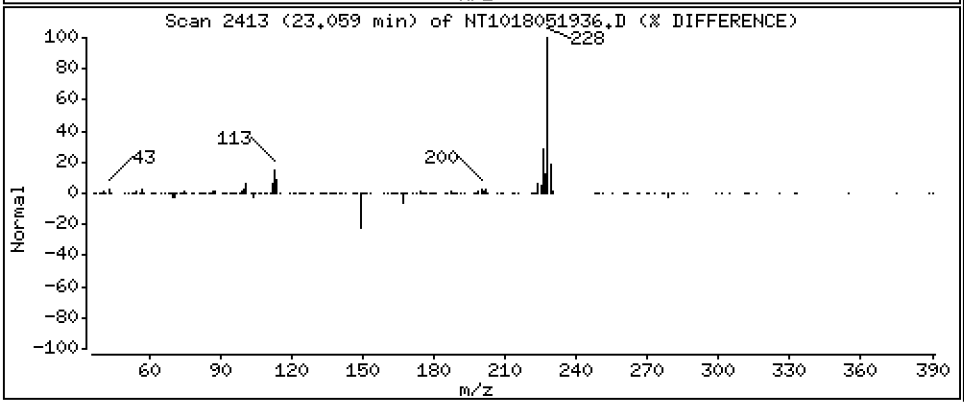
72 bis(2-Ethylhexyl)phthalate

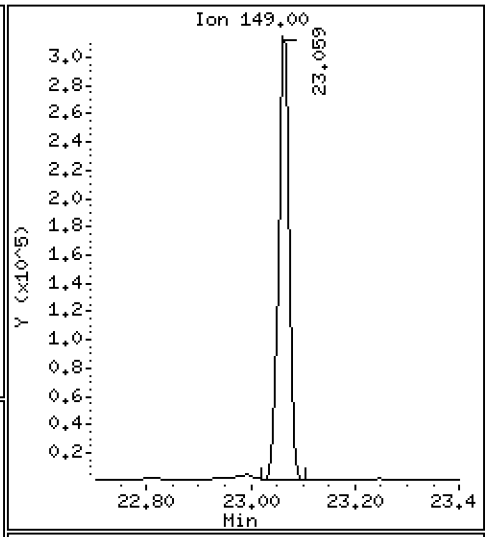
Concentration: 5.371 ug/mL

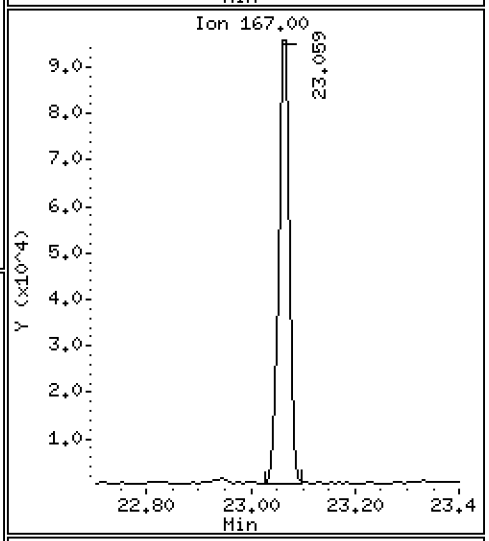


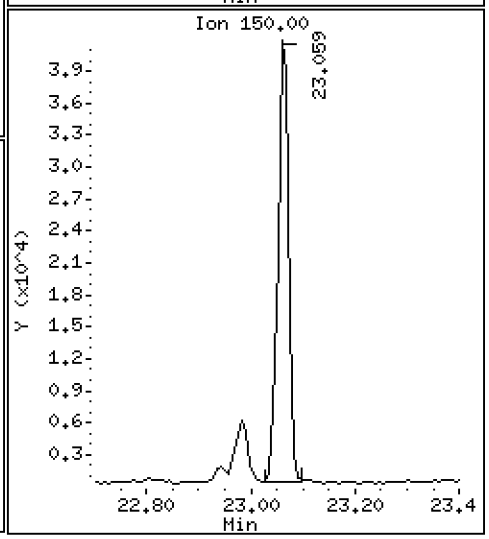












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

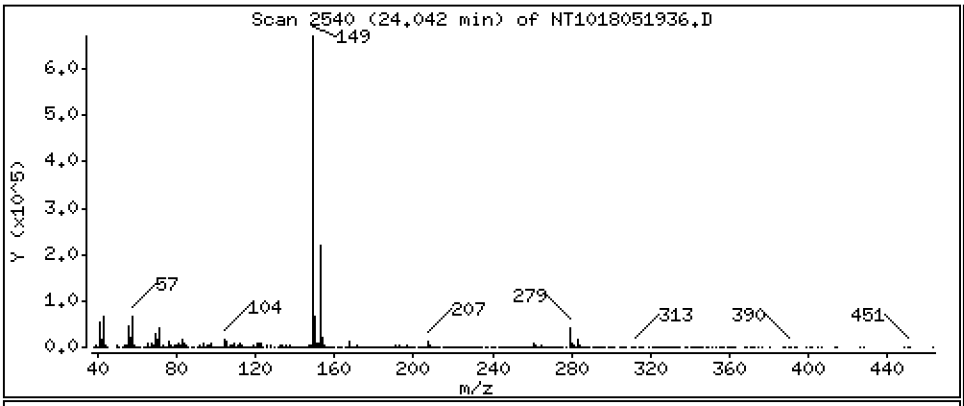
Operator: YZ

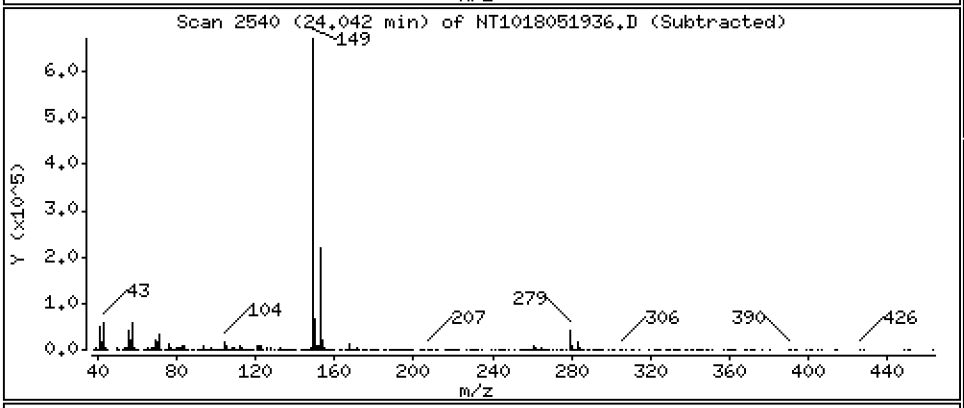
Column phase: ZB-5msi

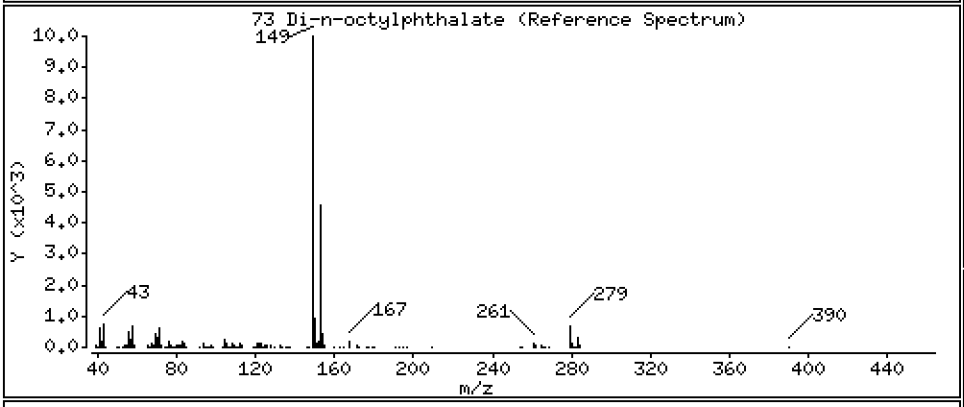
Column diameter: 0.25

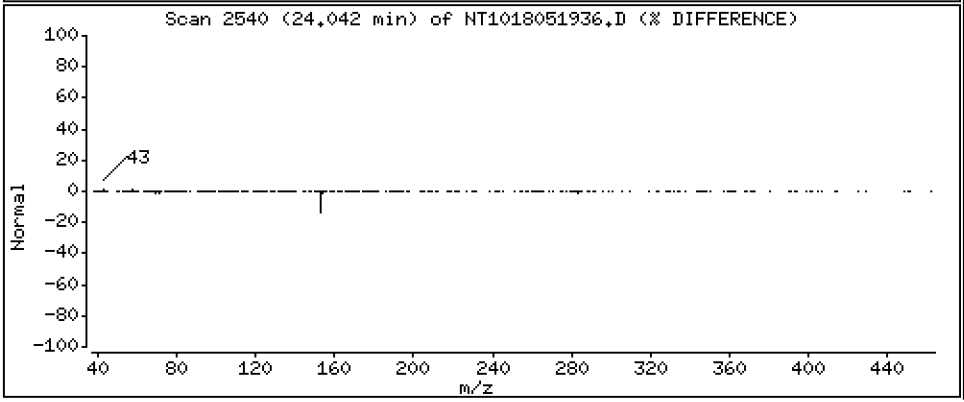
73 Di-n-octylphthalate

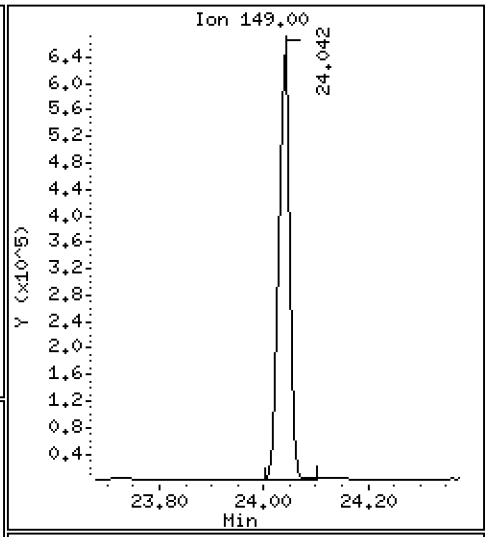
Concentration: 5.144 ug/mL

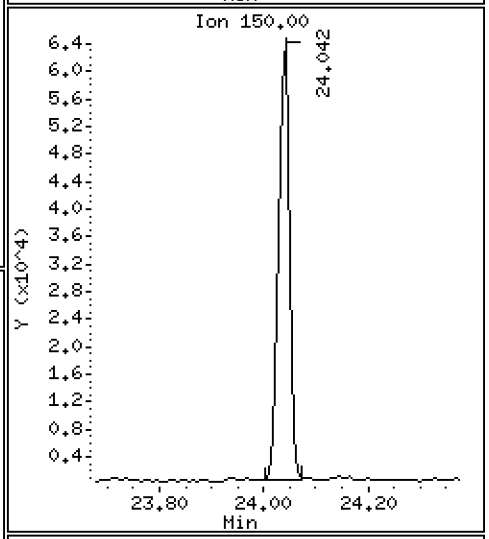


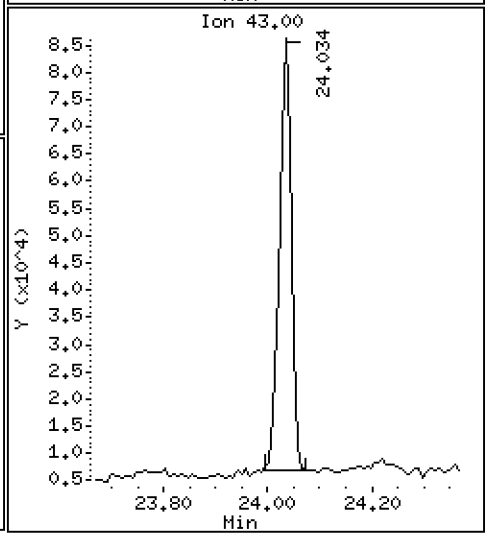












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

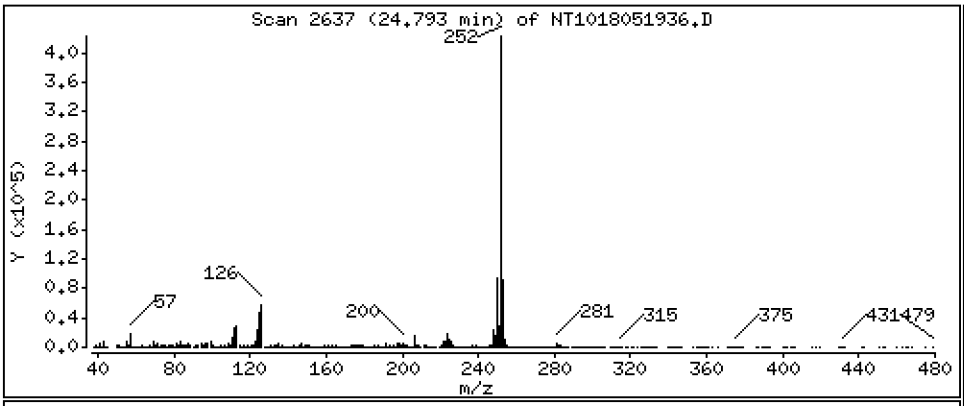
Operator: YZ

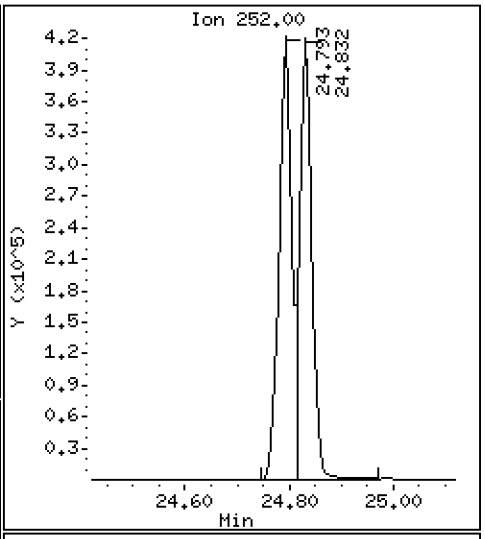
Column phase: ZB-5msi

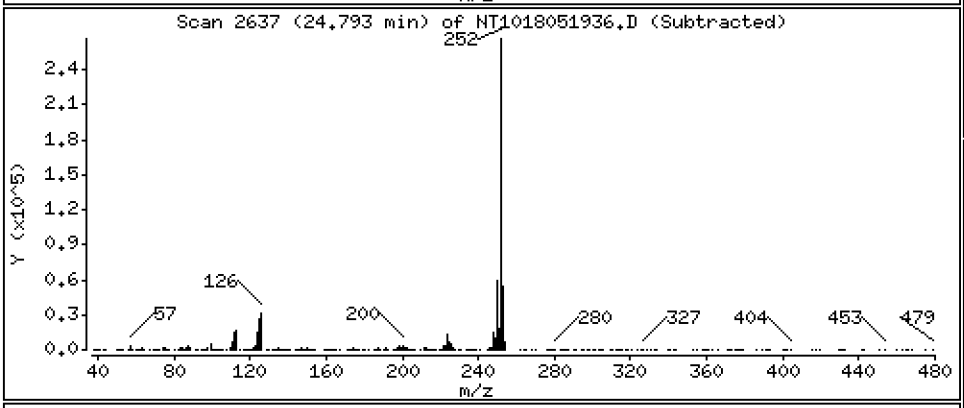
Column diameter: 0.25

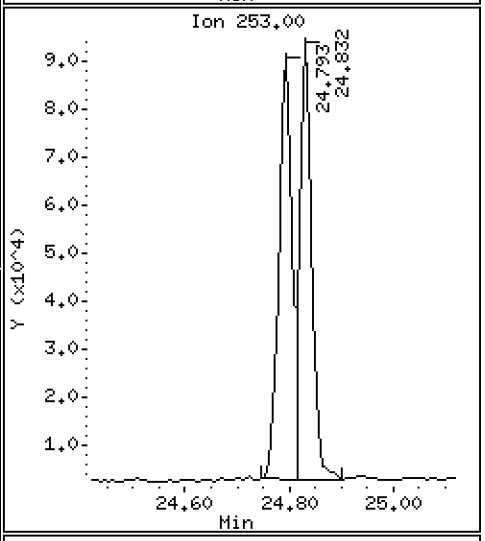
74 Benzo(b)fluoranthene

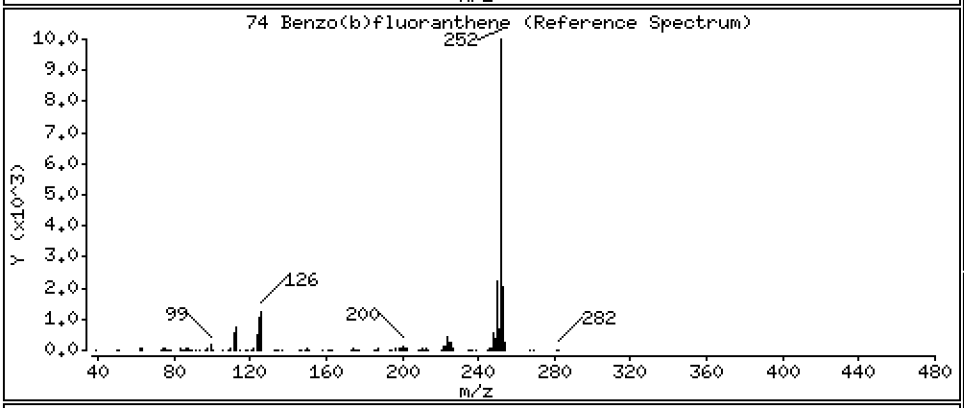
Concentration: 5.740 ug/mL

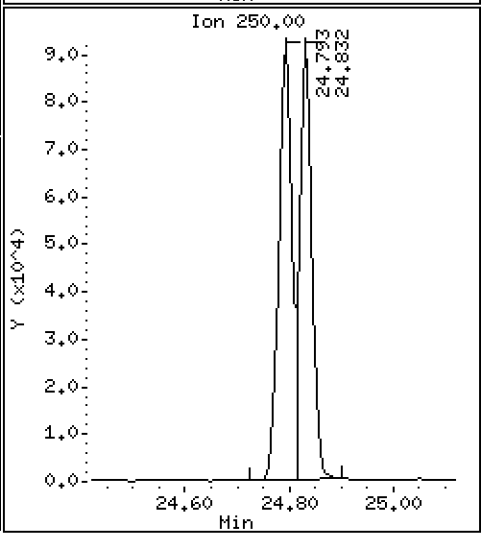


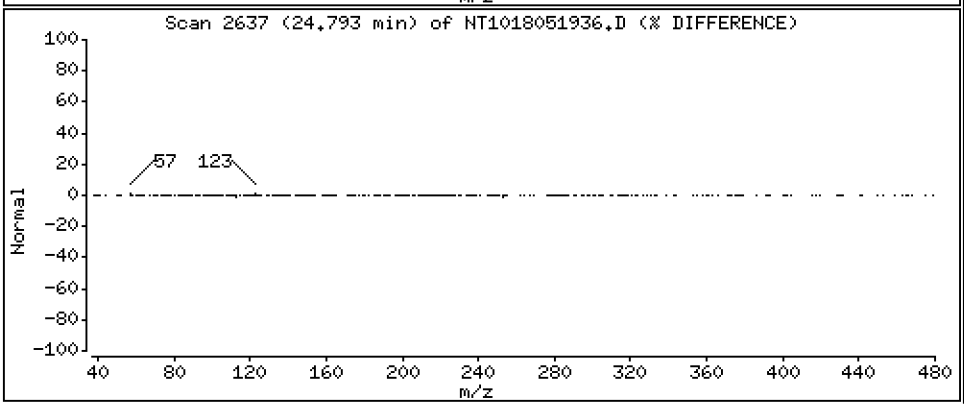












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

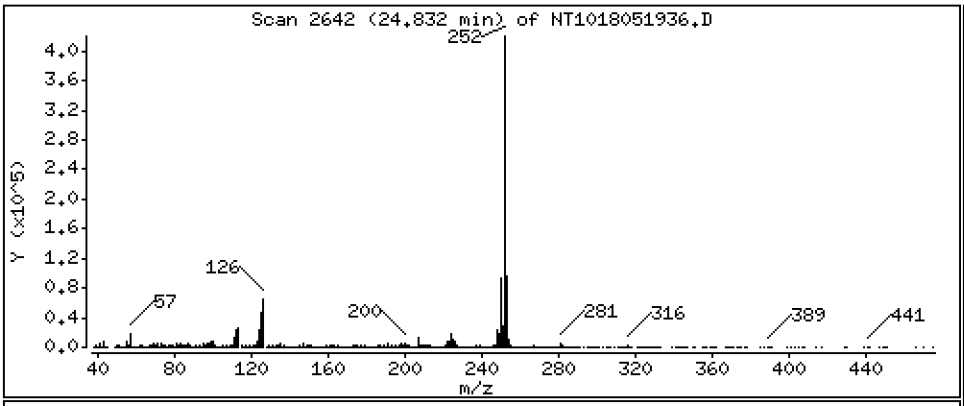
Operator: YZ

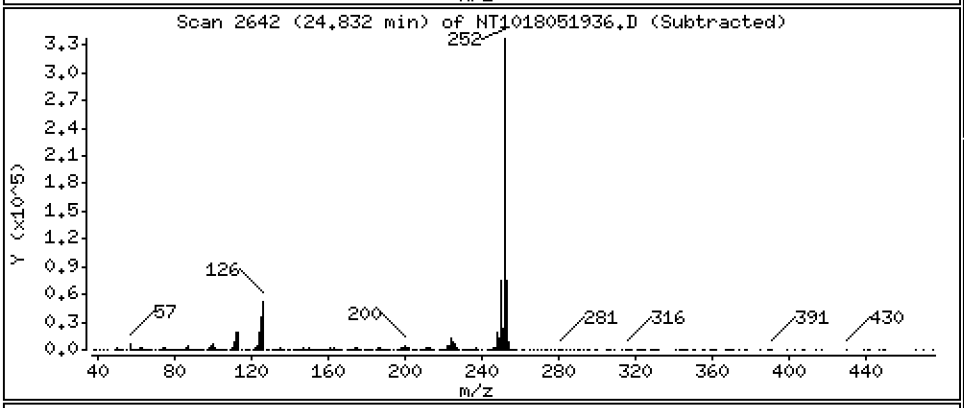
Column phase: ZB-5msi

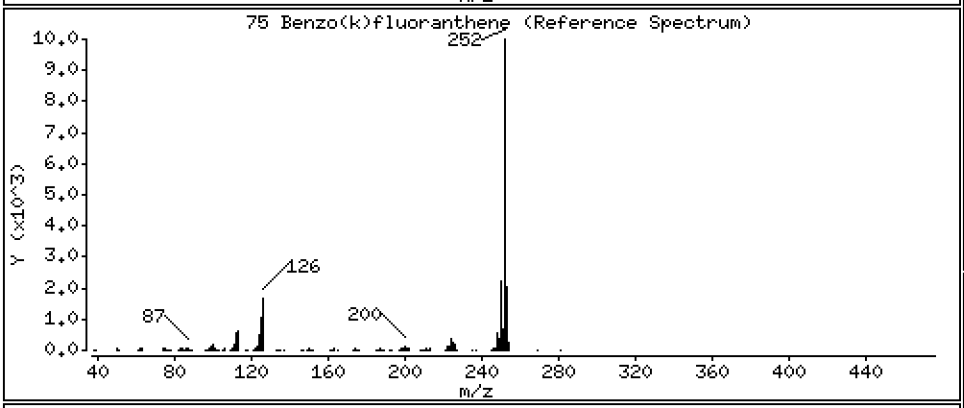
Column diameter: 0.25

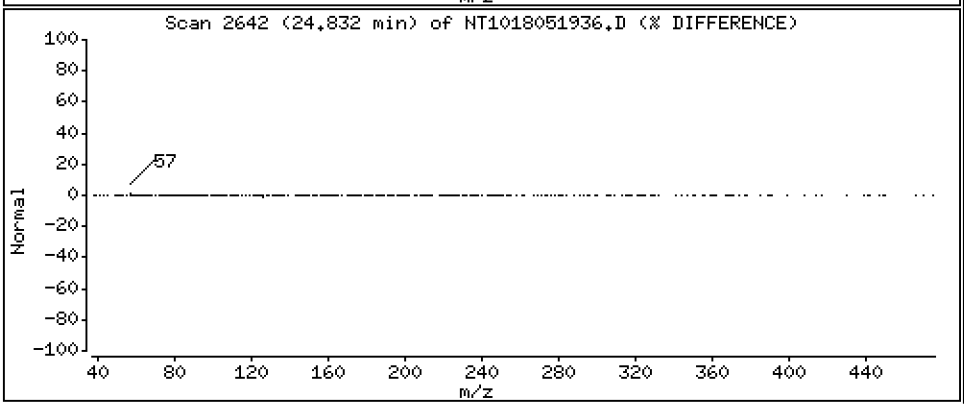
75 Benzo(k)fluoranthene

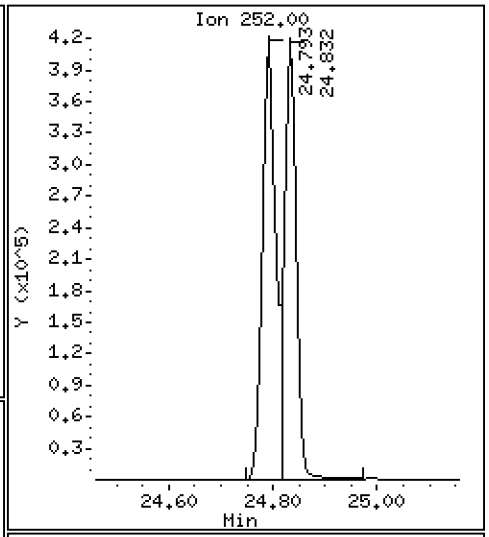
Concentration: 5.123 ug/mL

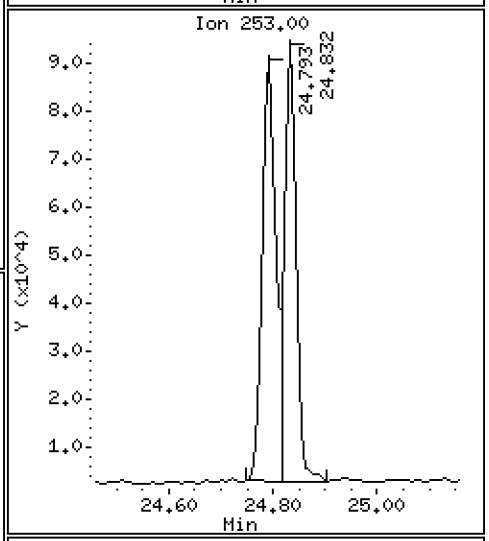


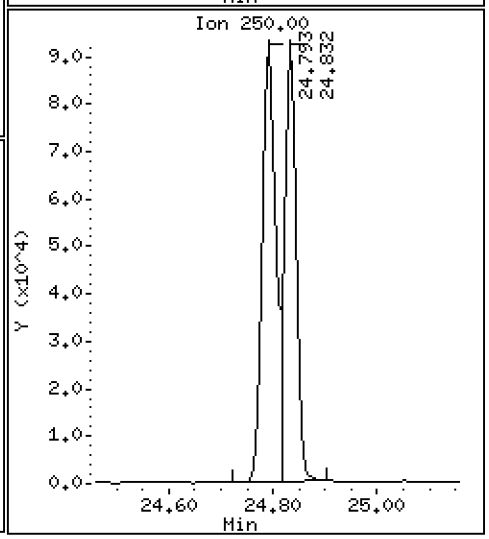












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

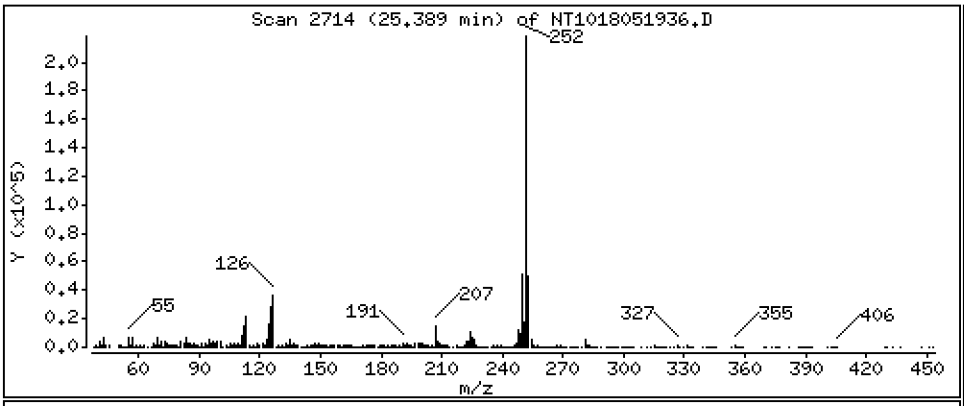
Operator: YZ

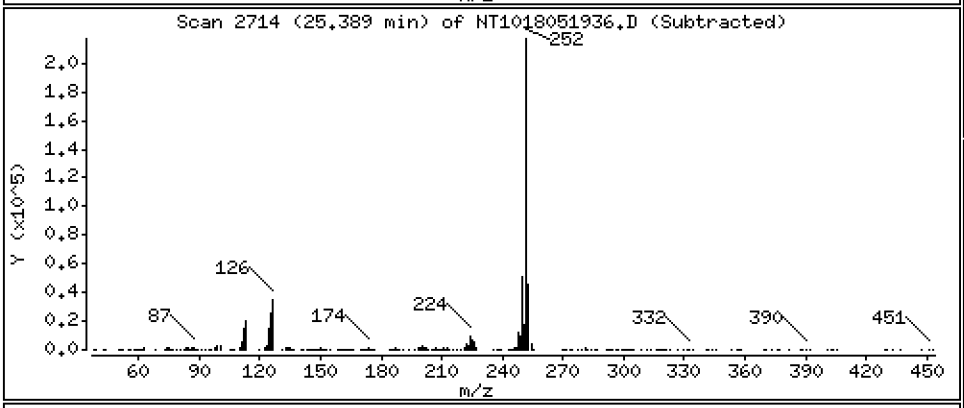
Column phase: ZB-5msi

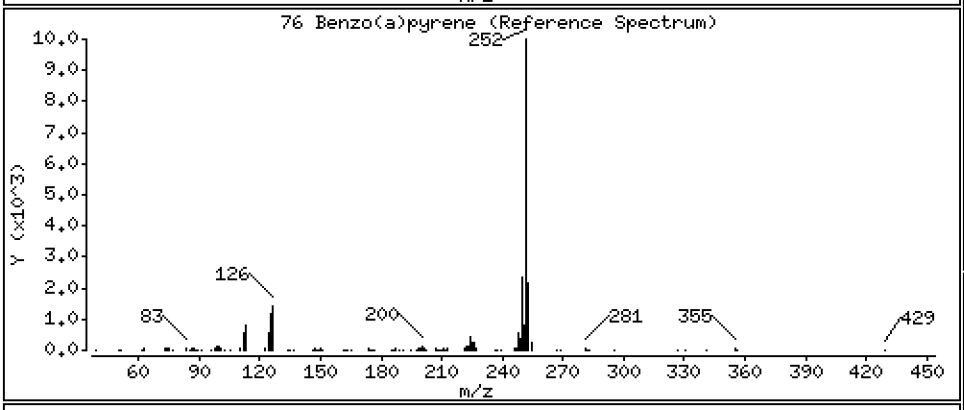
Column diameter: 0.25

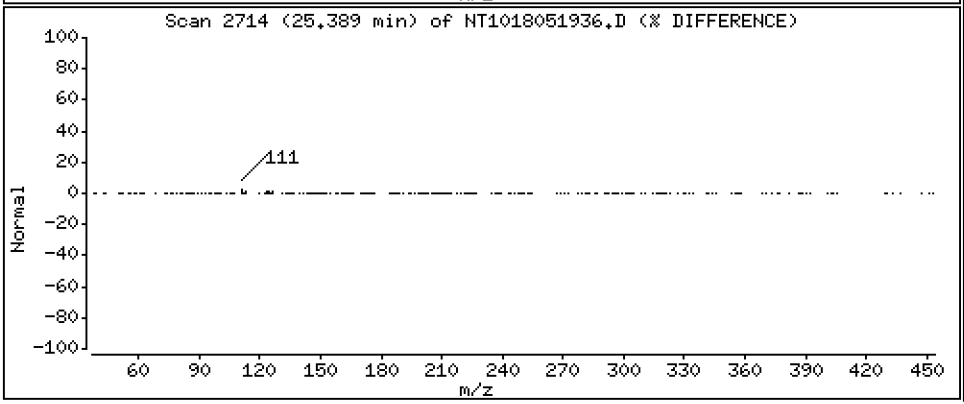
76 Benzo(a)pyrene

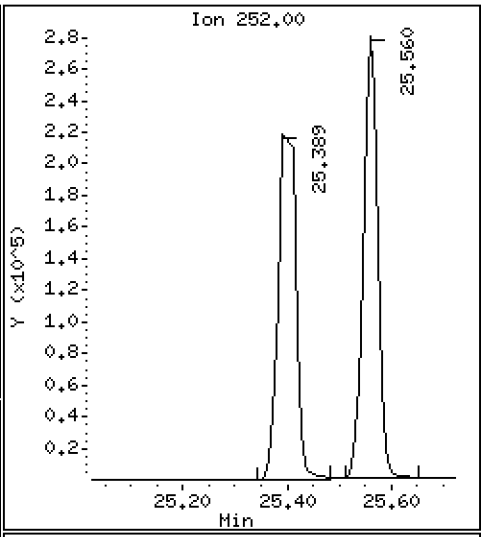
Concentration: 2.878 ug/mL

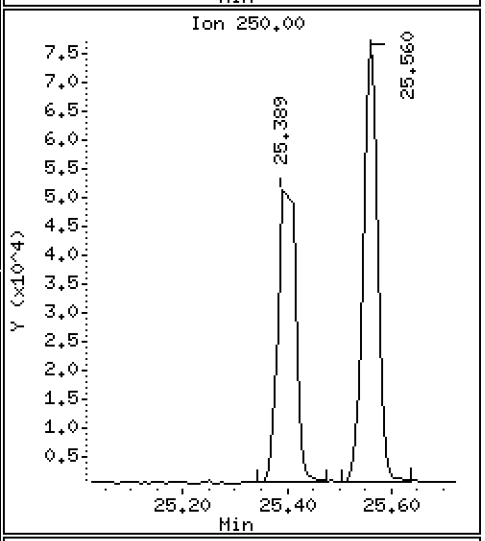


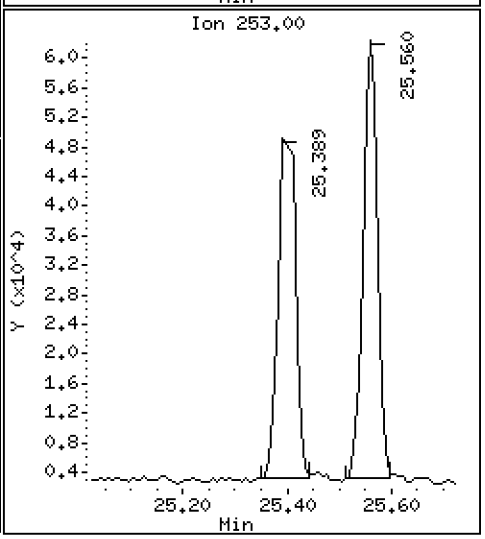












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

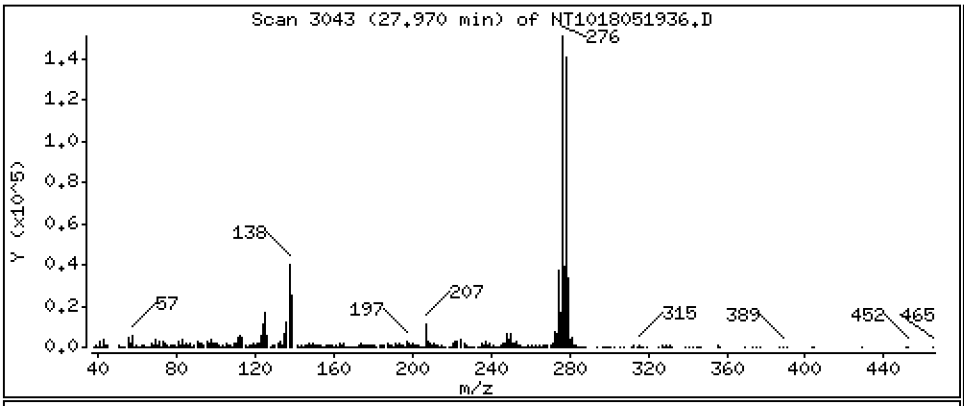
Operator: YZ

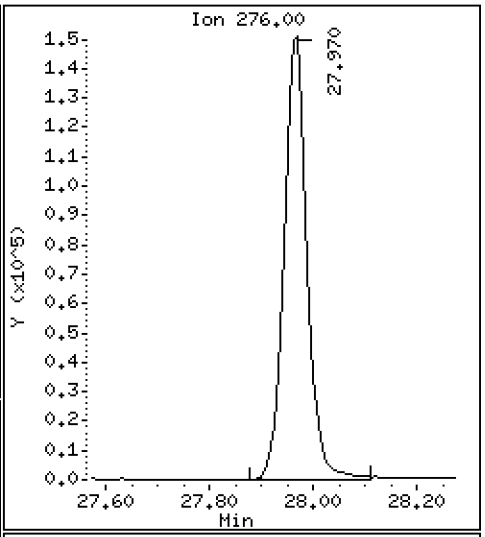
Column phase: ZB-5msi

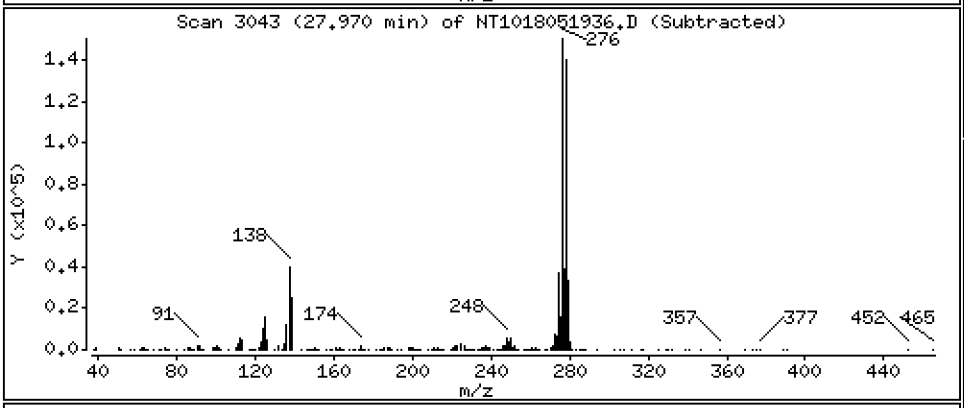
Column diameter: 0.25

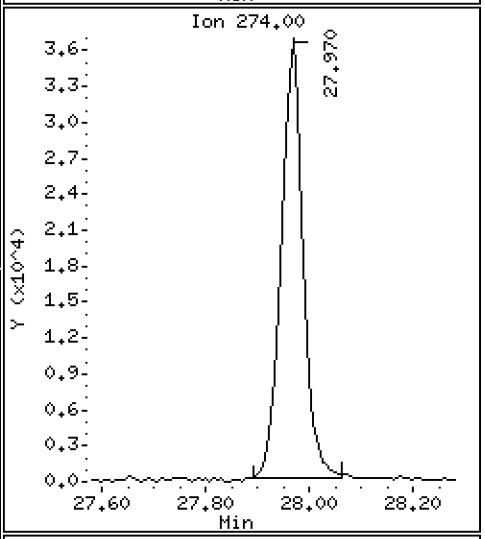
78 Indeno(1,2,3-cd)pyrene

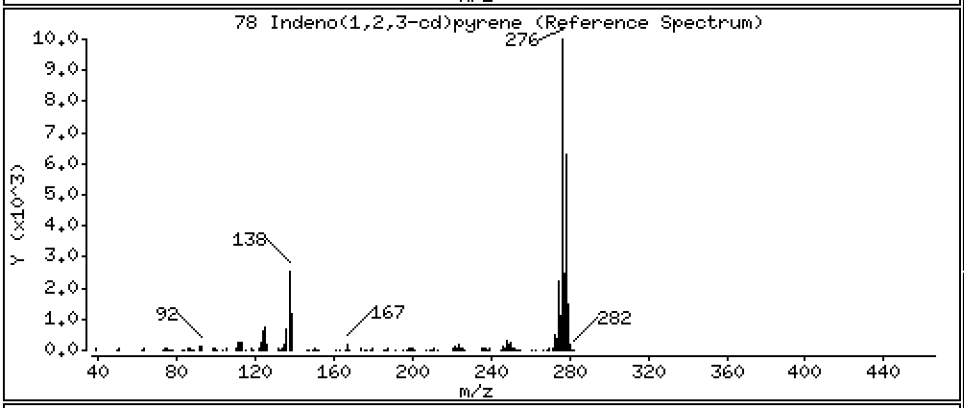
Concentration: 3.616 ug/mL

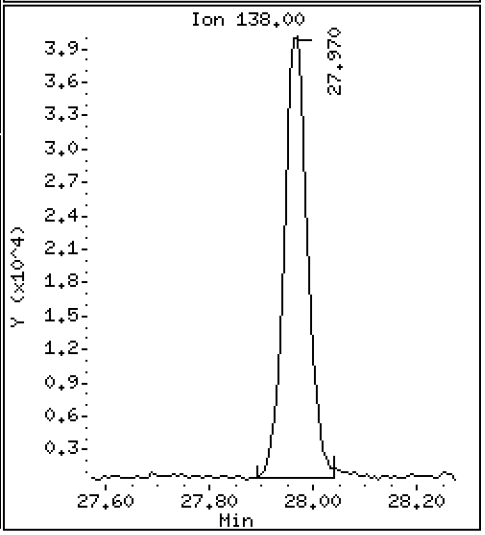


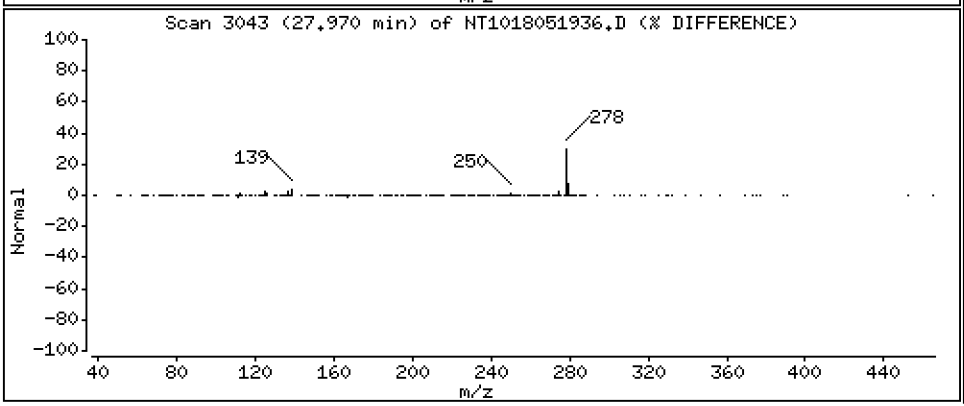












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

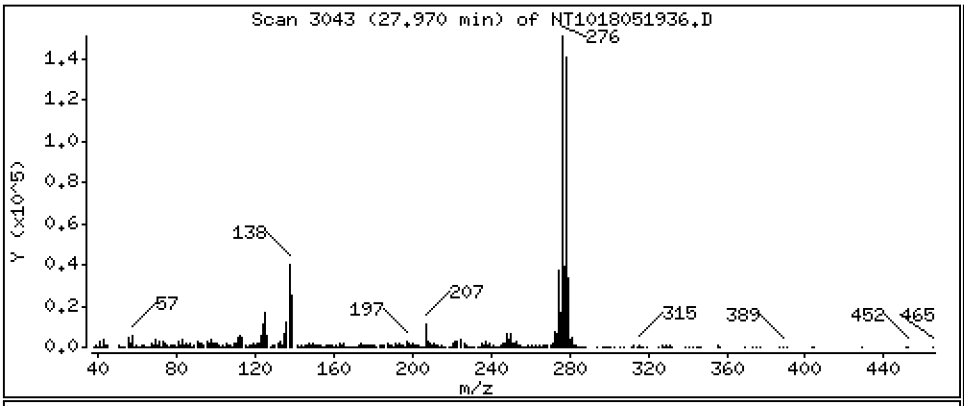
Operator: YZ

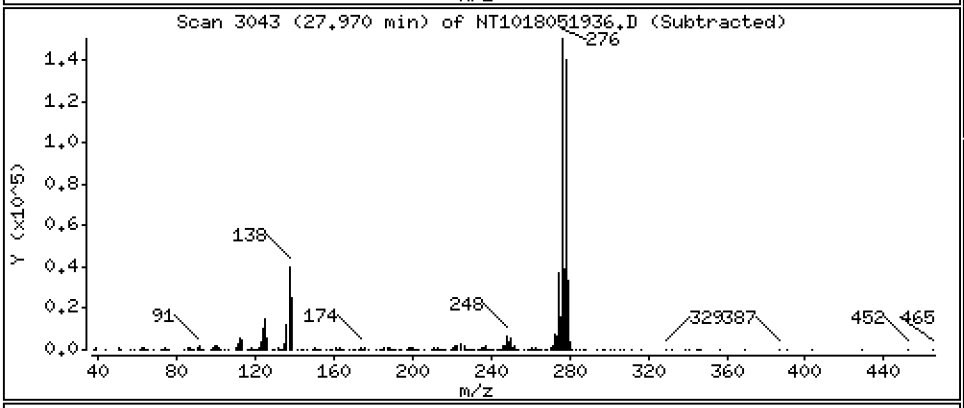
Column phase: ZB-5msi

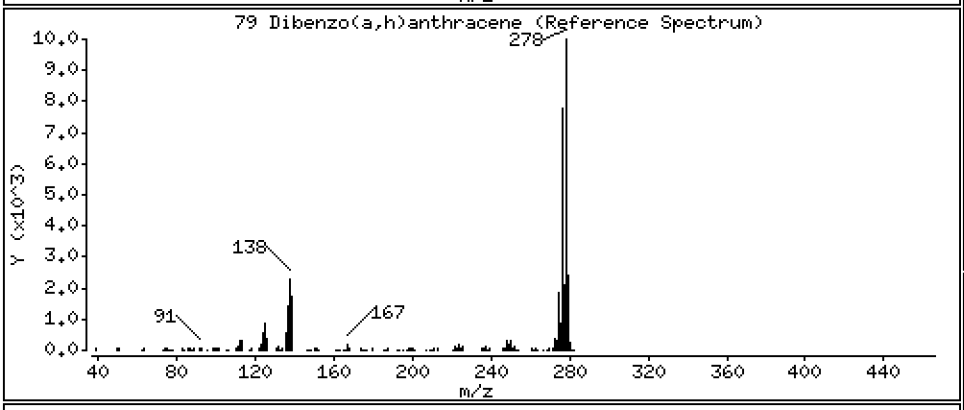
Column diameter: 0.25

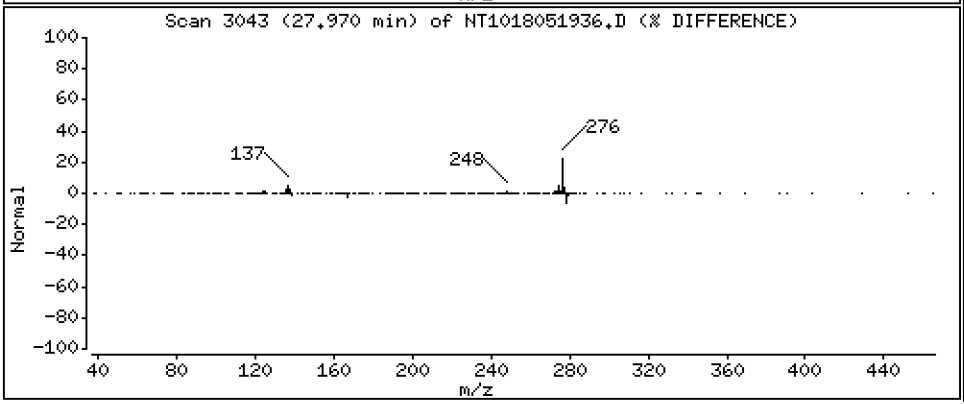
79 Dibenzo(a,h)anthracene

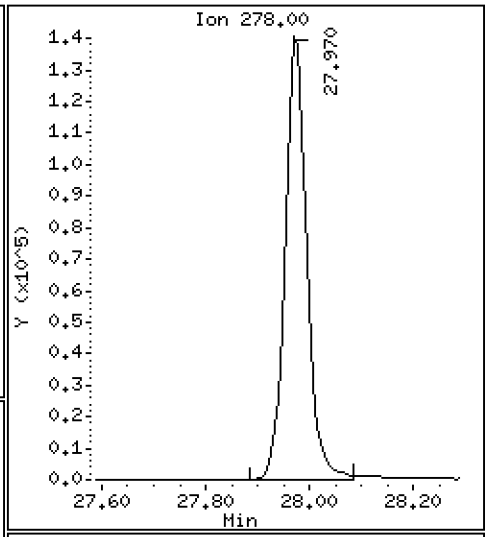
Concentration: 3.948 ug/mL

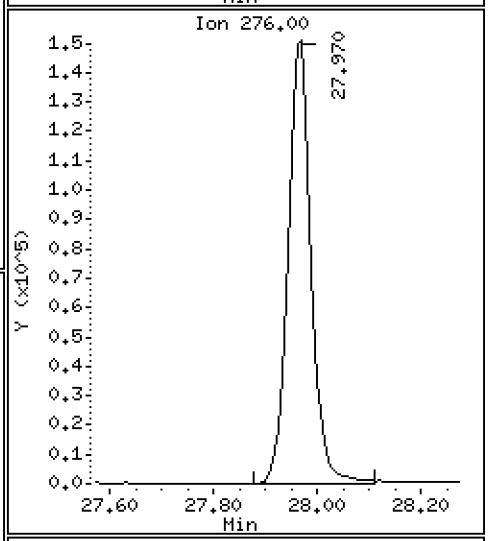


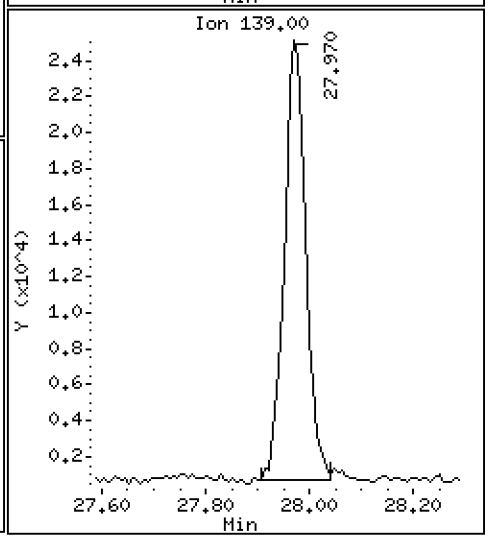












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

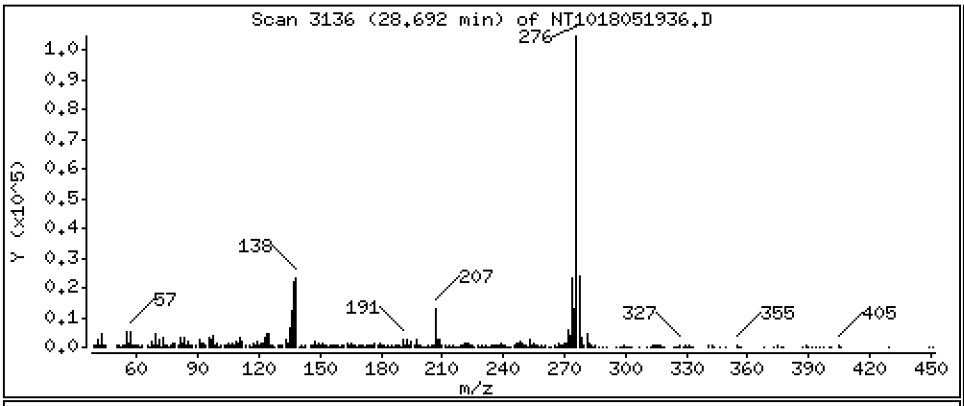
Operator: YZ

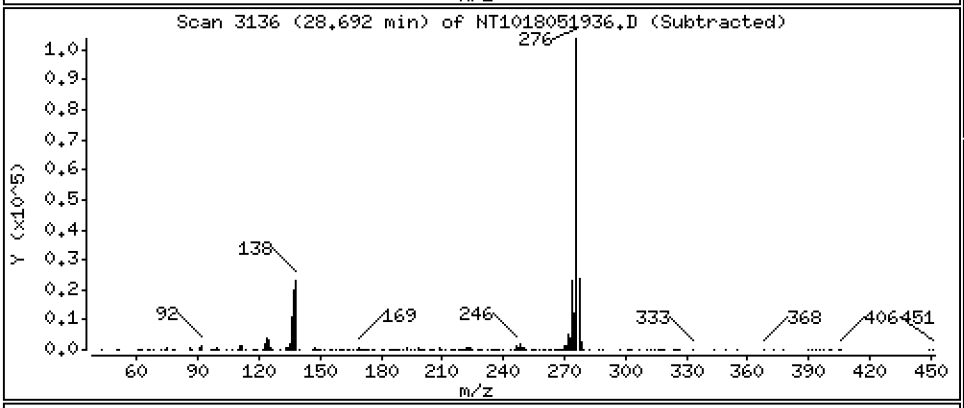
Column phase: ZB-5msi

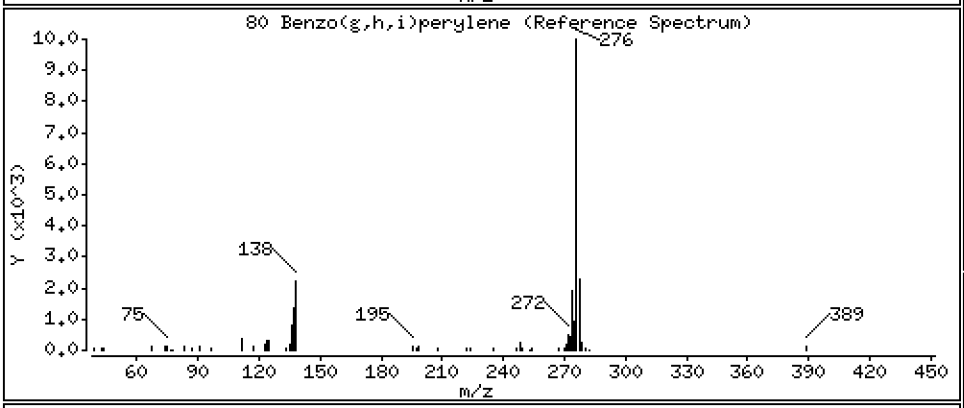
Column diameter: 0.25

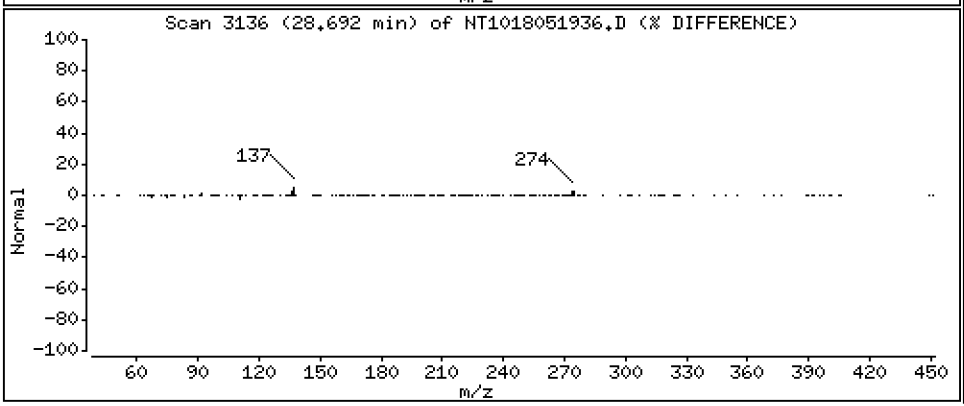
80 Benzo(g,h,i)perylene

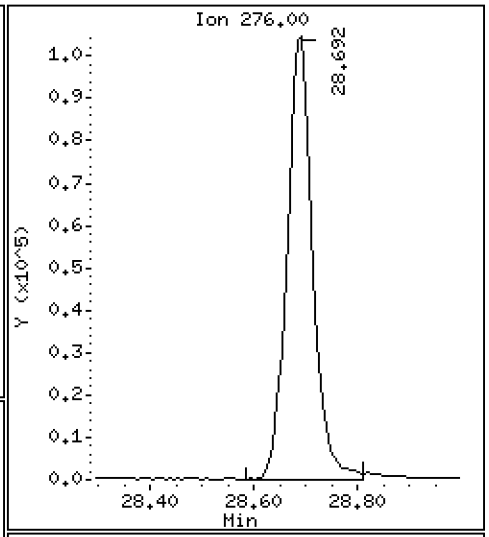
Concentration: 3.114 ug/mL

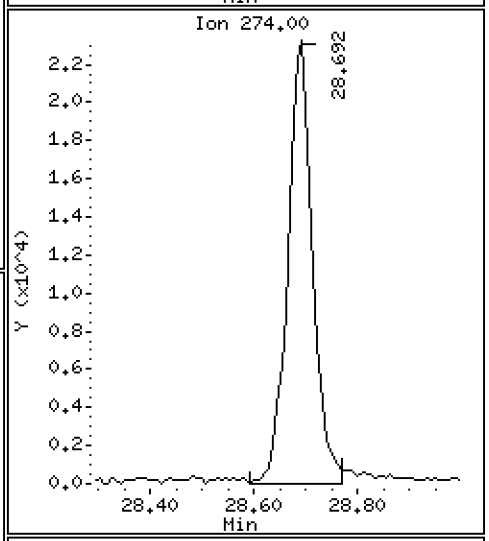


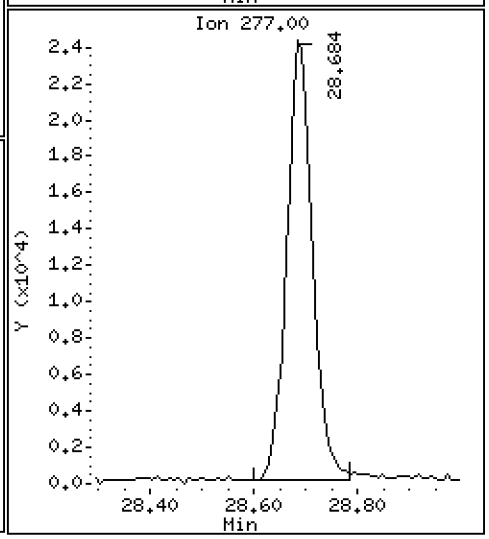












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

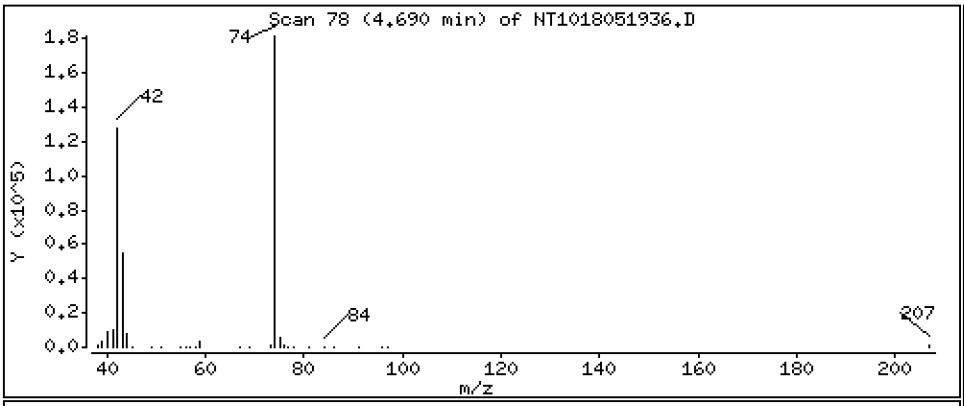
Operator: YZ

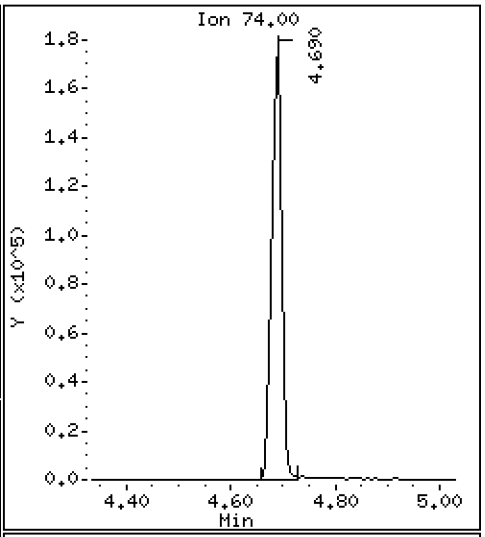
Column phase: ZB-5msi

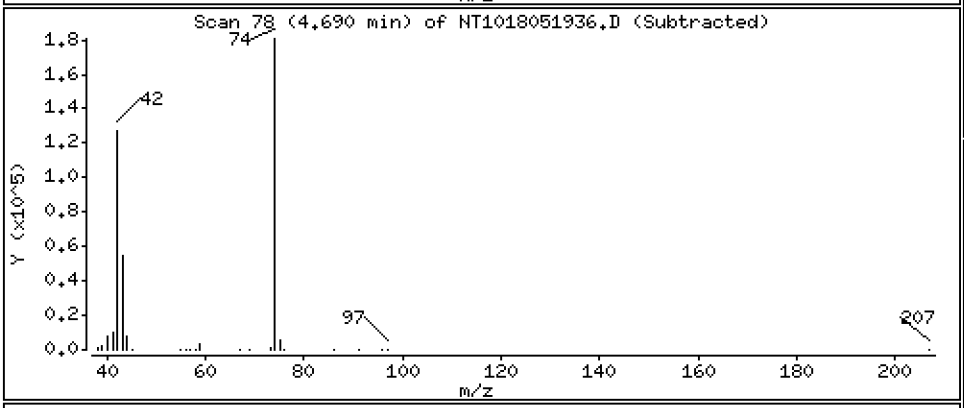
Column diameter: 0.25

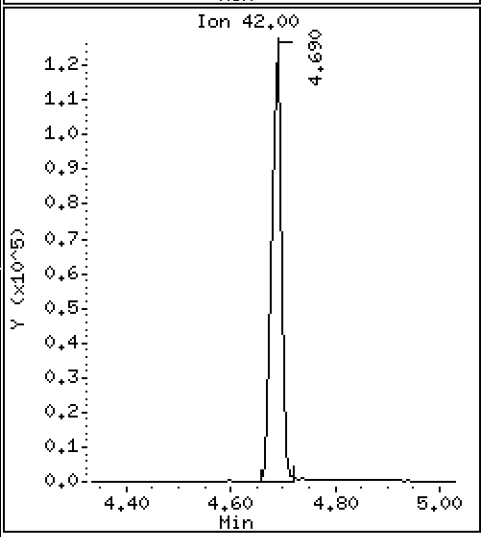
90 N-Nitrosodimethylamine

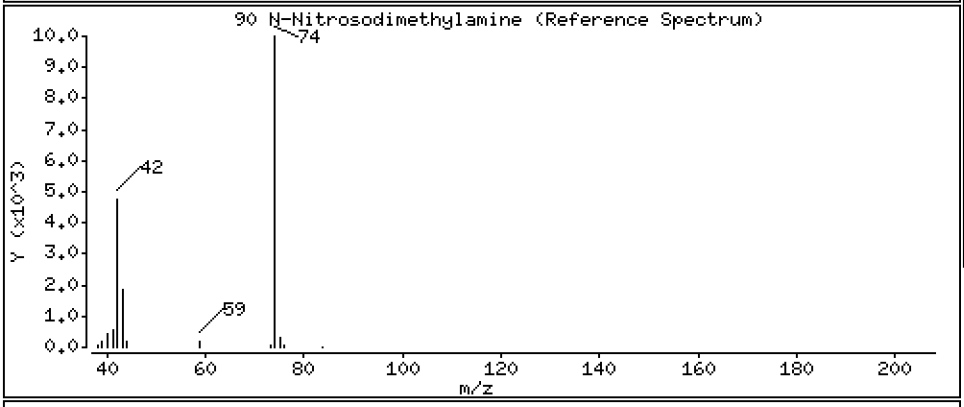
Concentration: 10.35 ug/mL

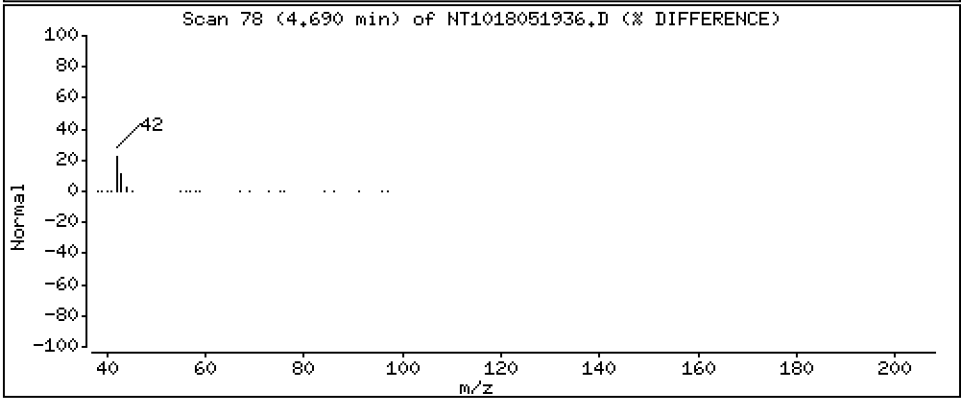












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

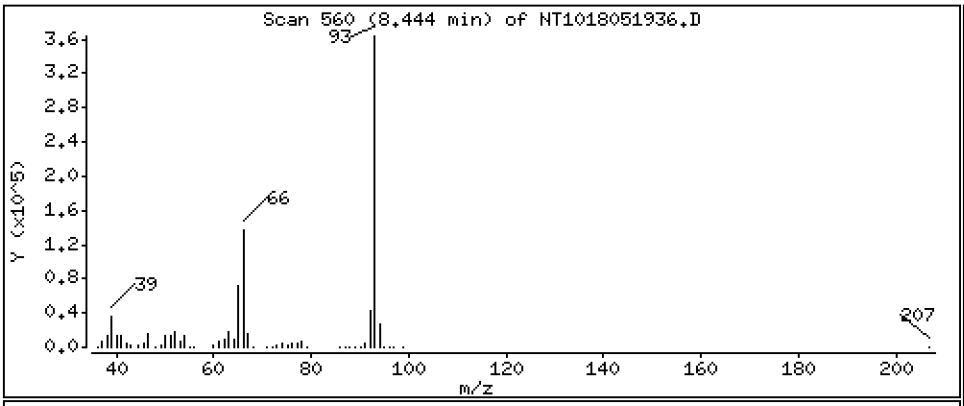
Operator: YZ

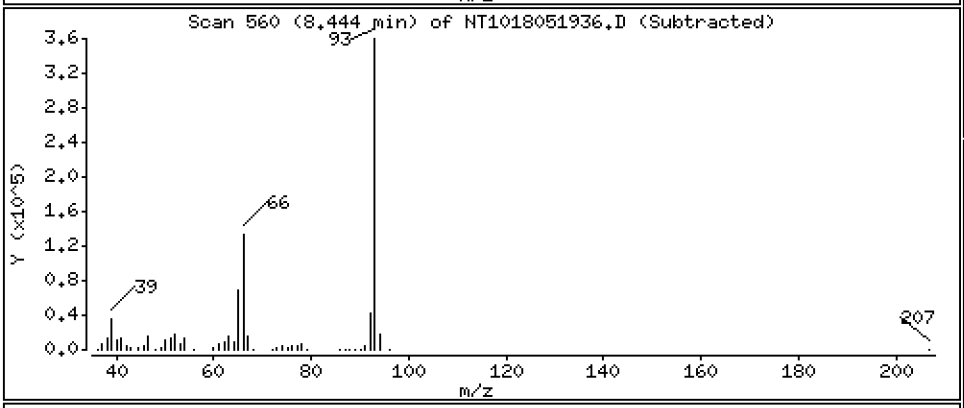
Column phase: ZB-5msi

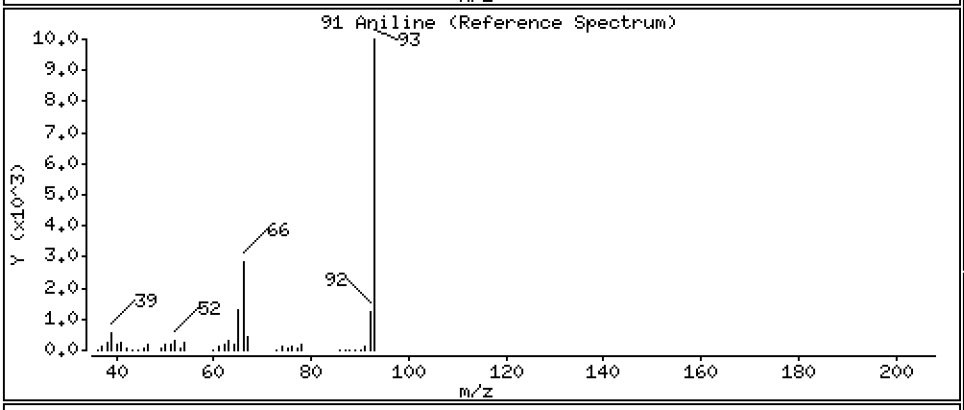
Column diameter: 0.25

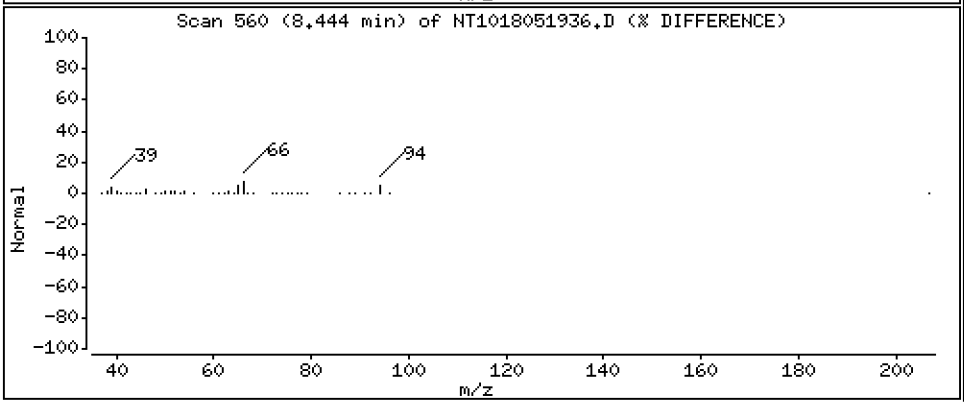
91 Aniline

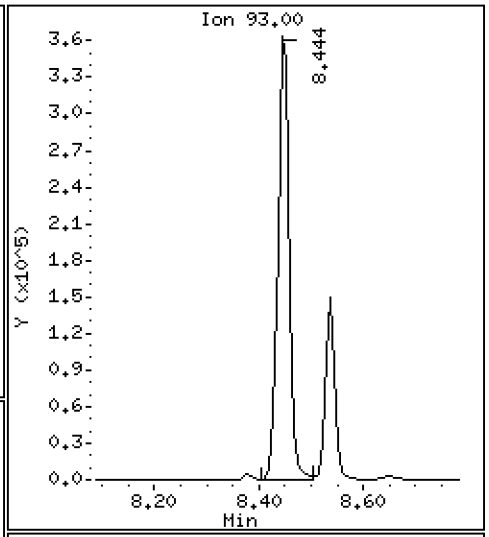
Concentration: 10.05 ug/mL

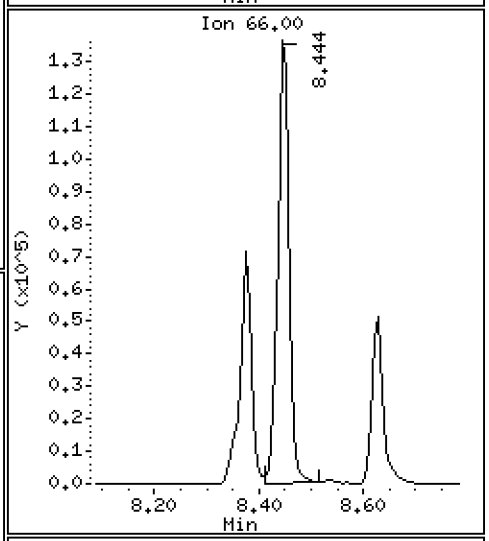


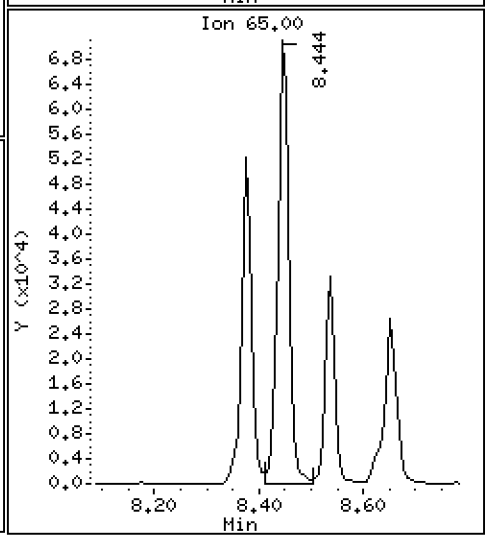












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

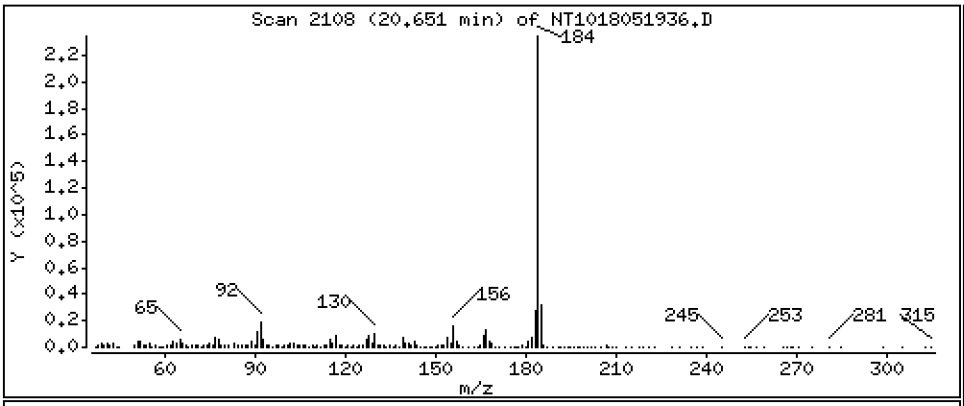
Operator: YZ

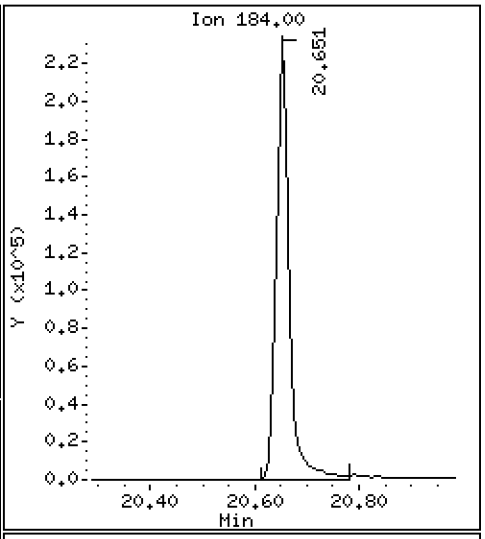
Column phase: ZB-5msi

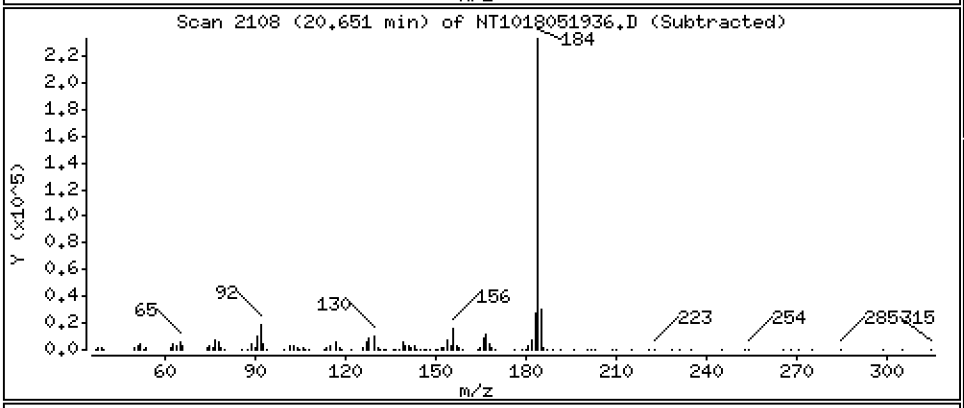
Column diameter: 0.25

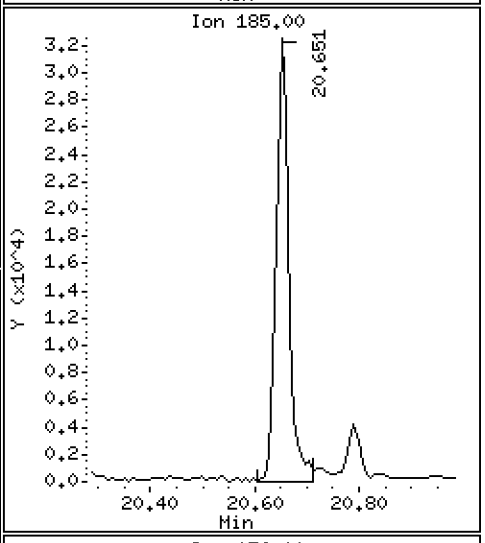
93 Benzidine

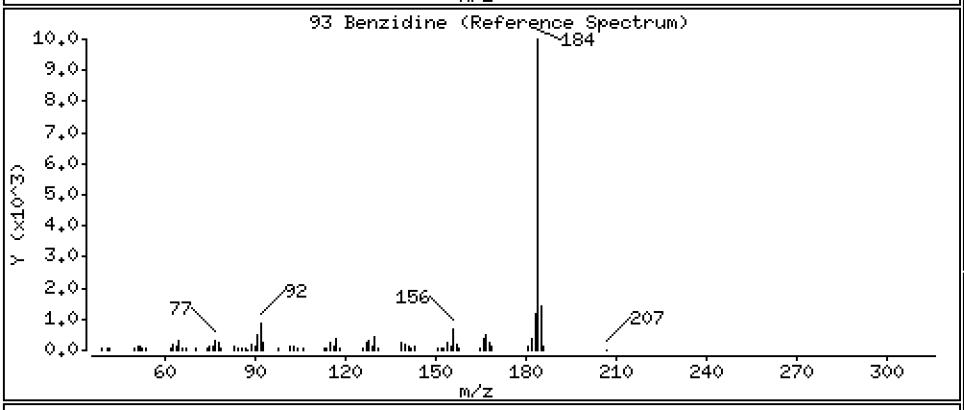
Concentration: 5.947 ug/mL

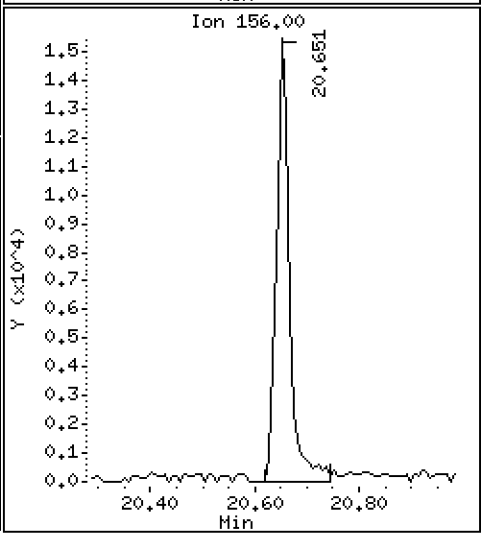


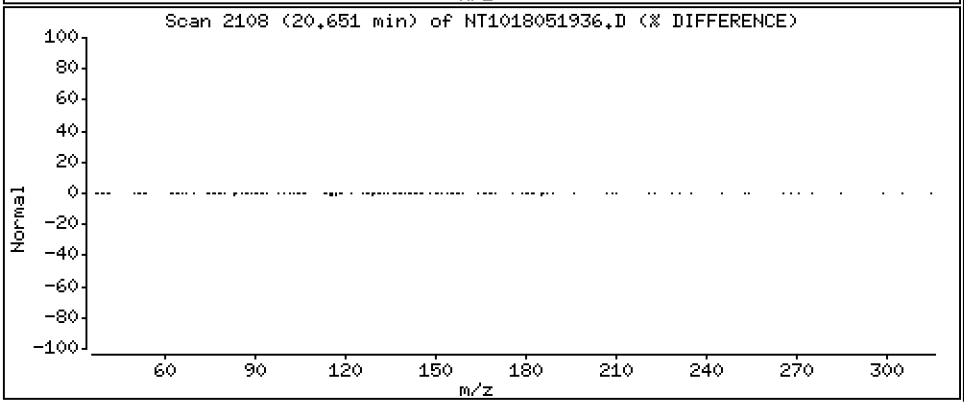












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

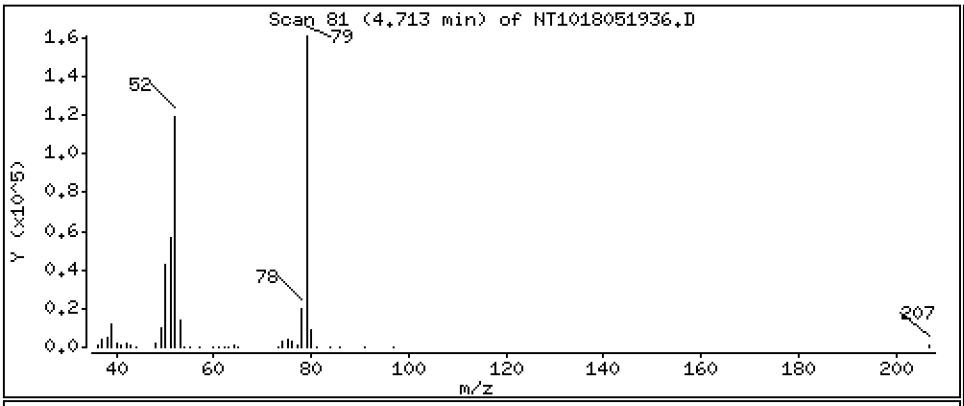
Operator: YZ

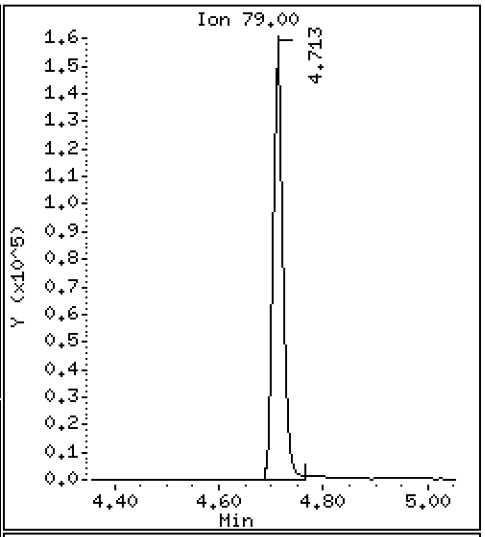
Column phase: ZB-5msi

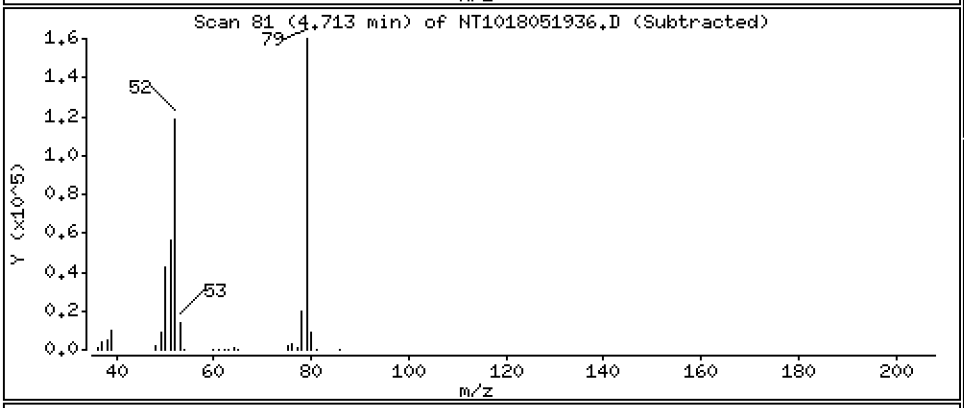
Column diameter: 0.25

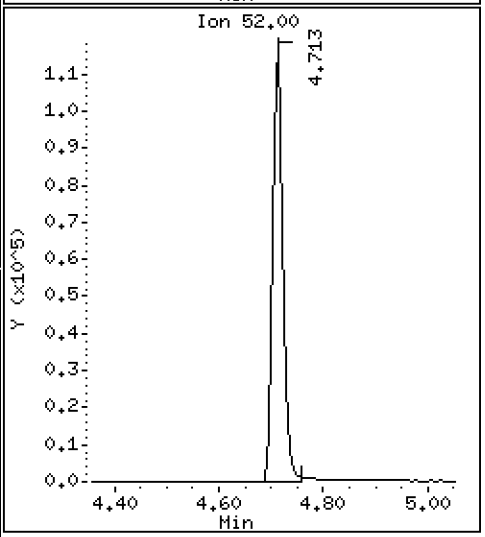
103 Pyridine

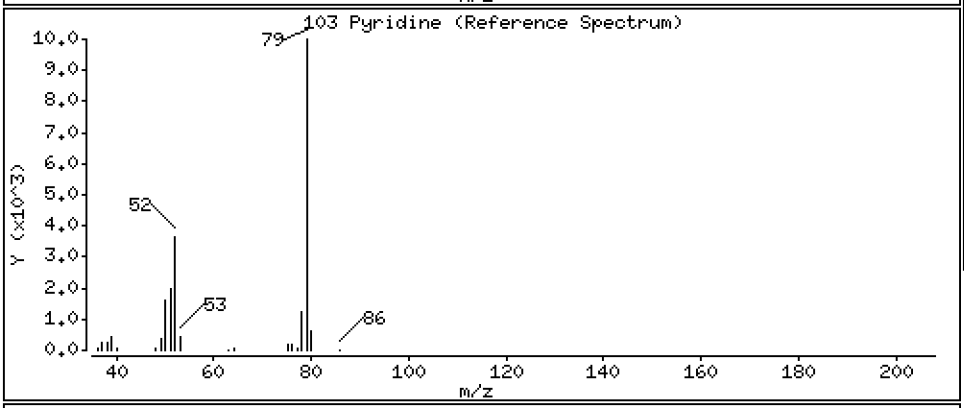
Concentration: 5.075 ug/mL

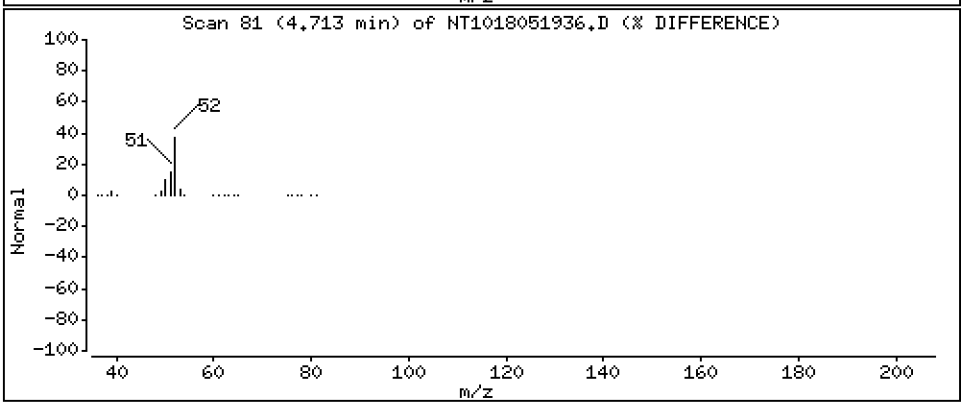












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

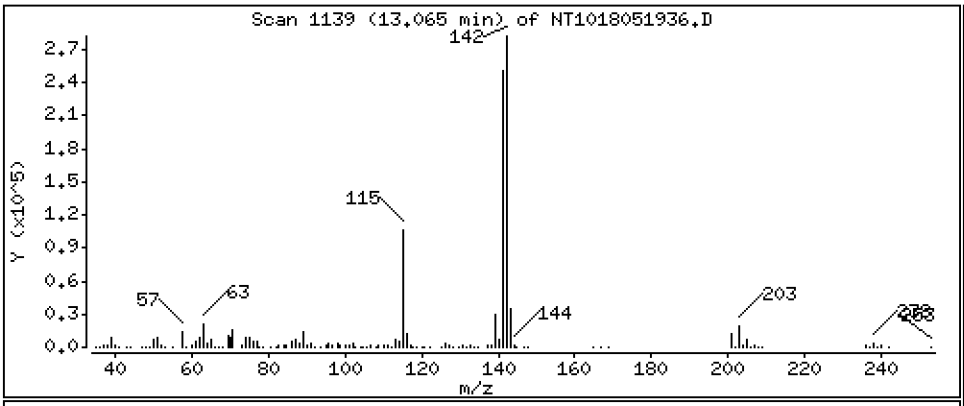
Operator: YZ

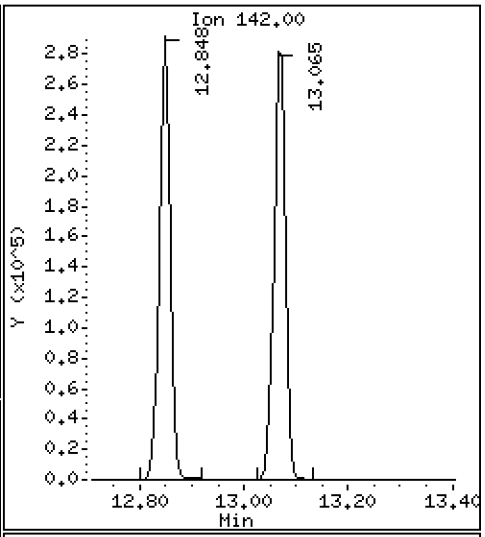
Column phase: ZB-5msi

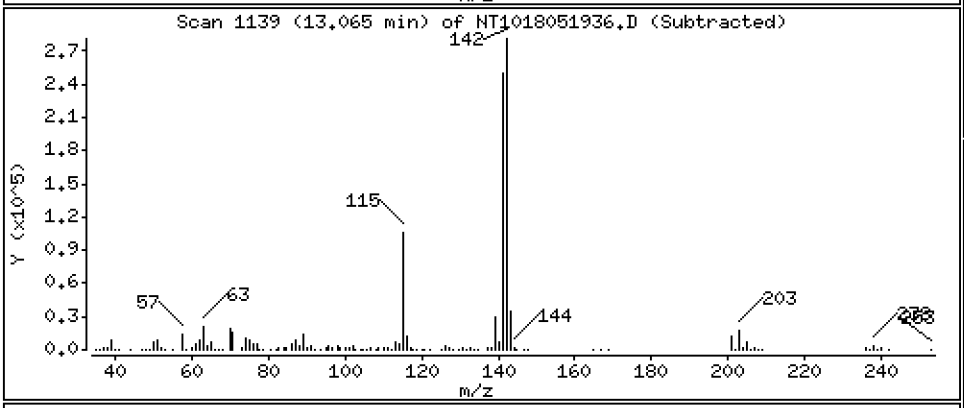
Column diameter: 0.25

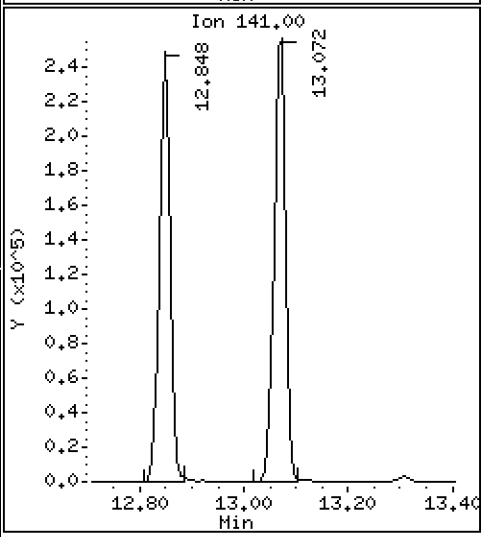
105 1-methylnaphthalene

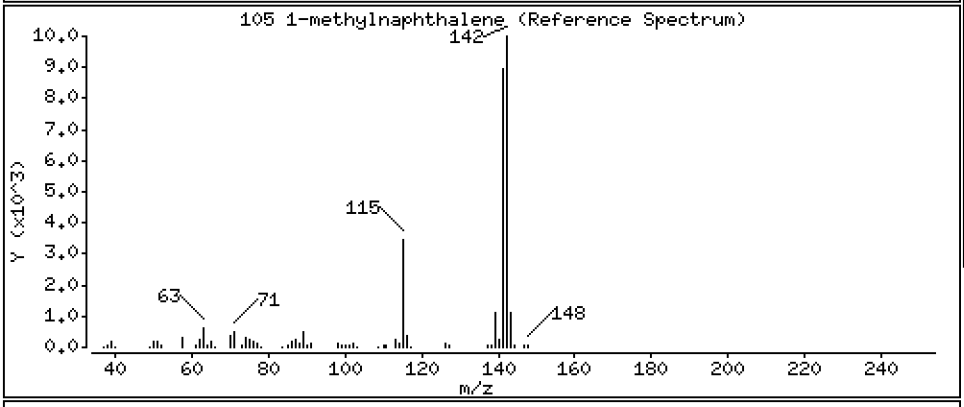
Concentration: 5.419 ug/mL

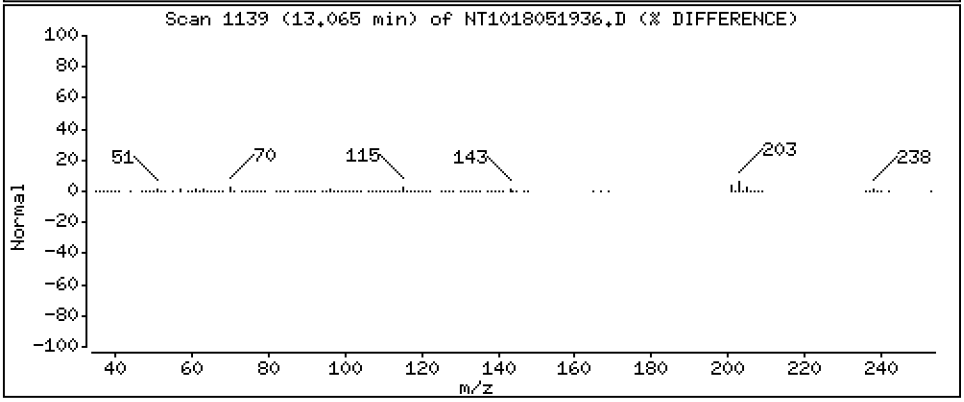












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

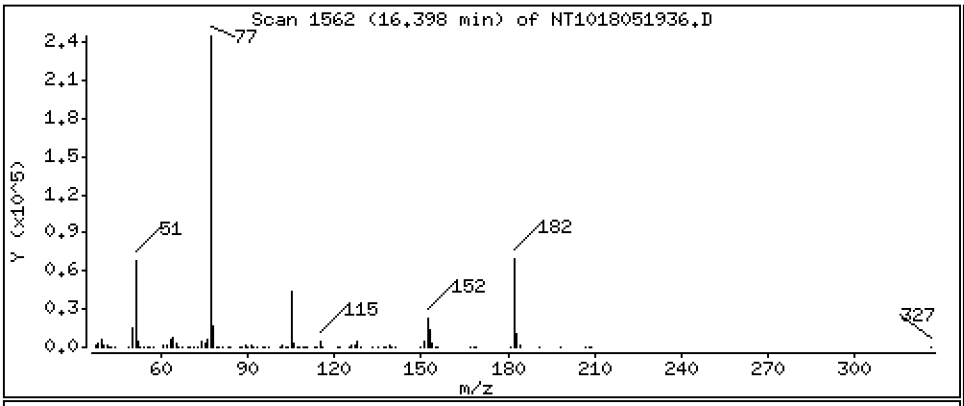
Operator: YZ

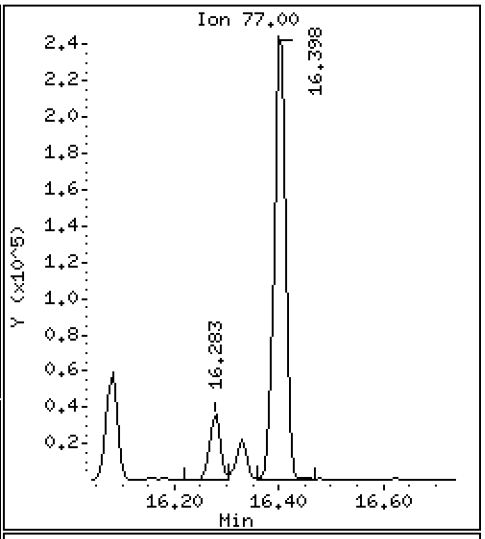
Column phase: ZB-5msi

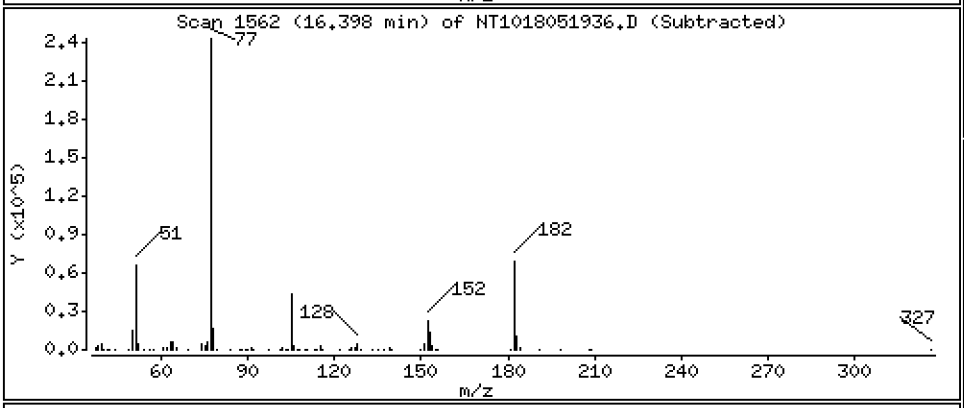
Column diameter: 0.25

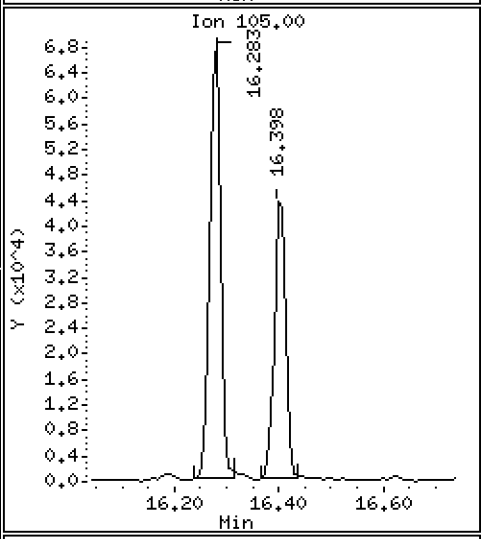
111 Azobenzene (1,2-DP-Hydrazine)

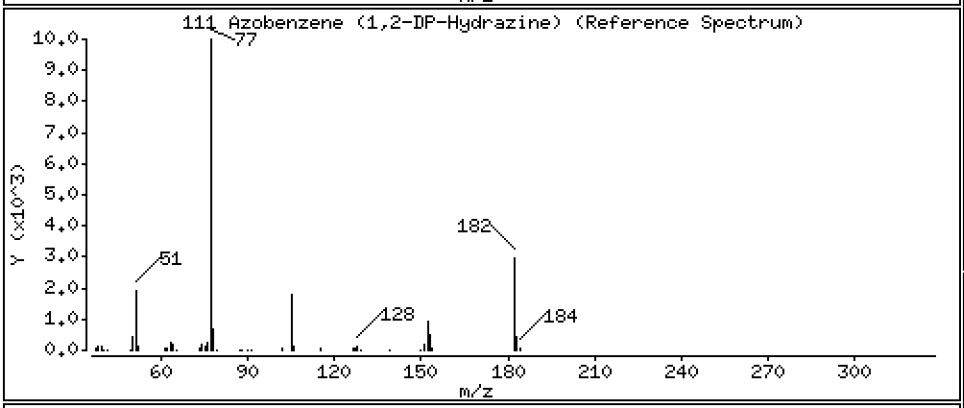
Concentration: 4.798 ug/mL

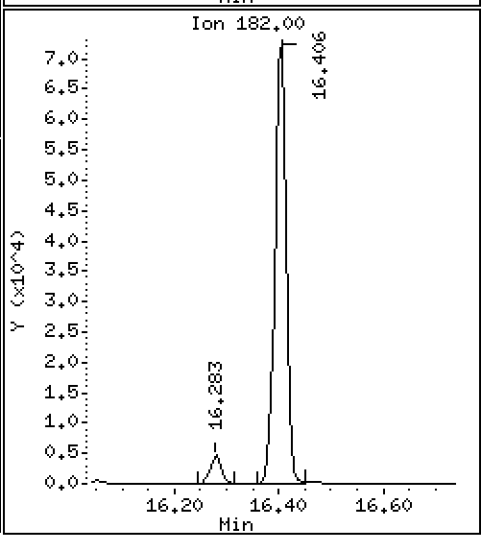


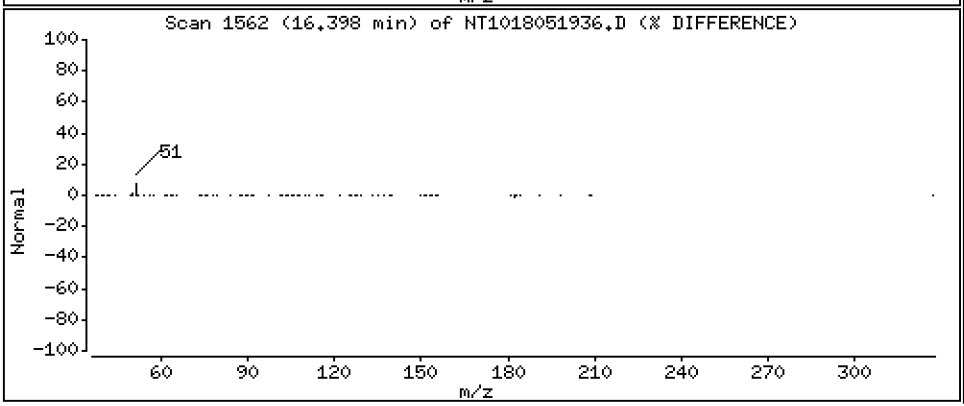












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

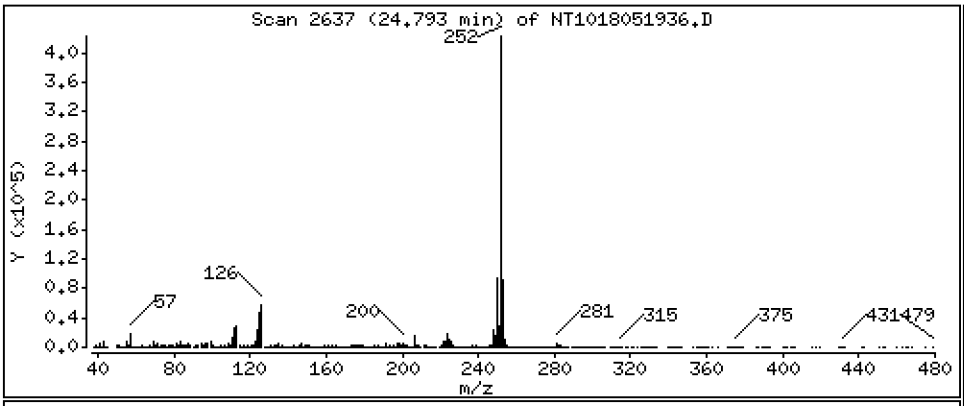
Operator: YZ

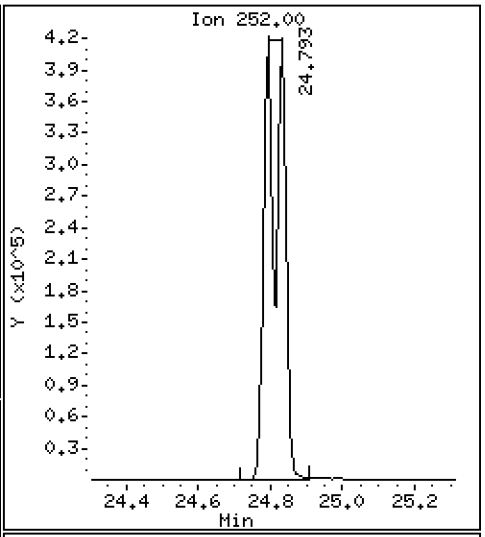
Column phase: ZB-5msi

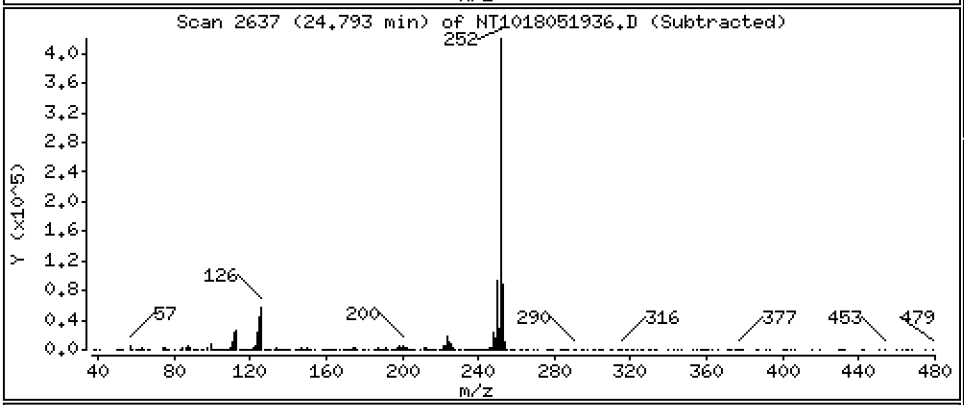
Column diameter: 0.25

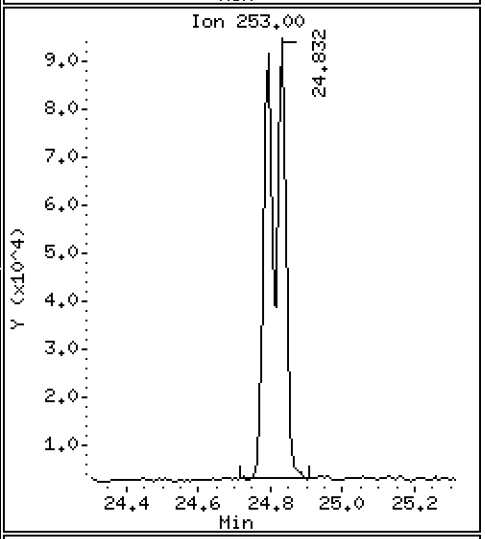
187 Total Benzofluoranthenes

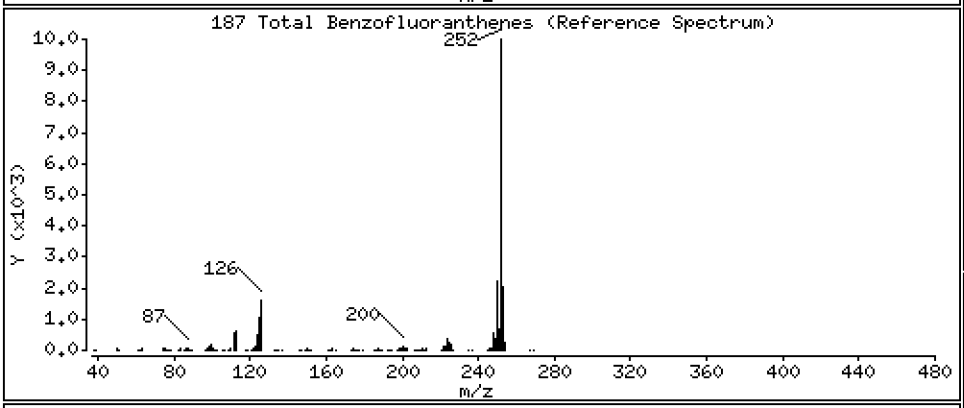
Concentration: 10.72 ug/mL

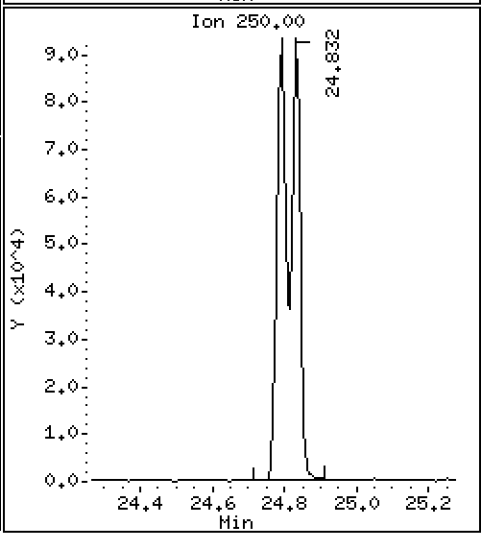


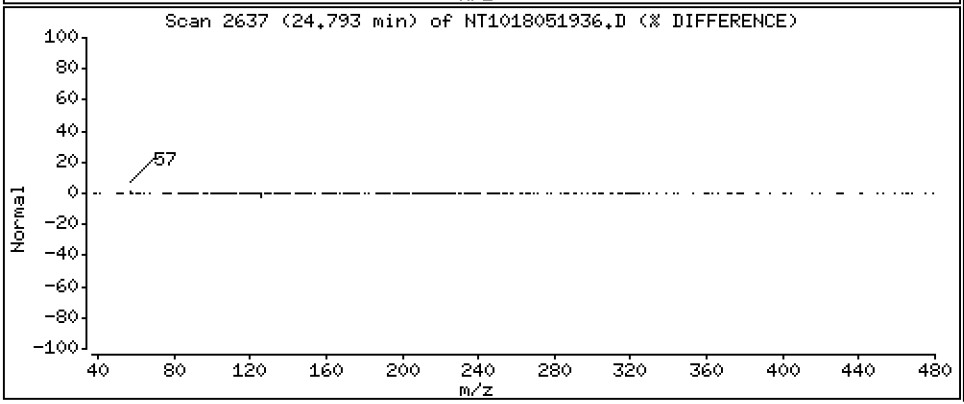












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

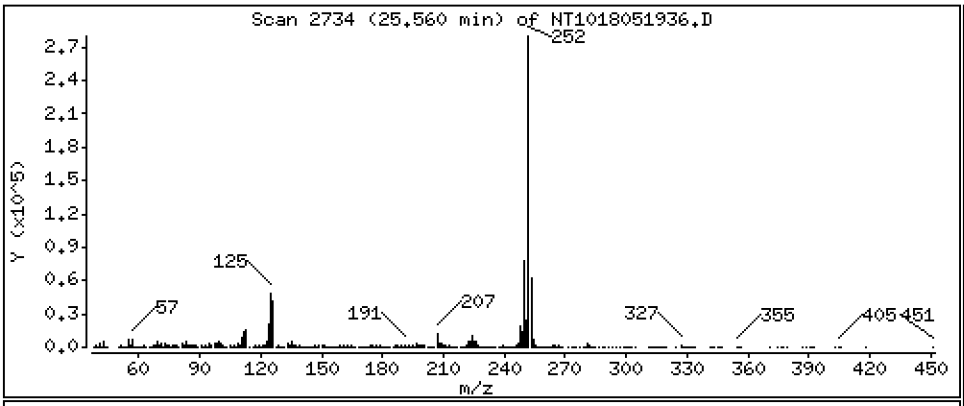
Operator: YZ

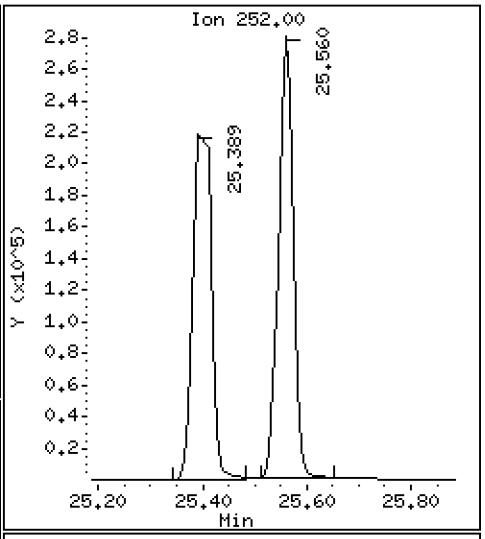
Column phase: ZB-5msi

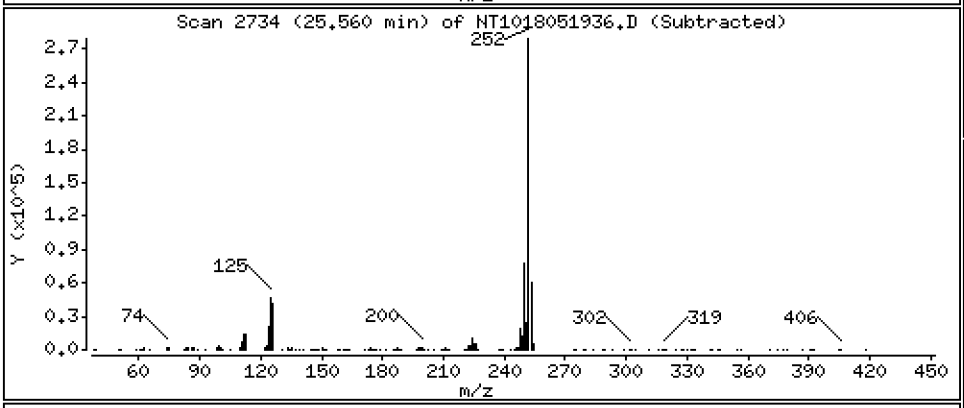
Column diameter: 0.25

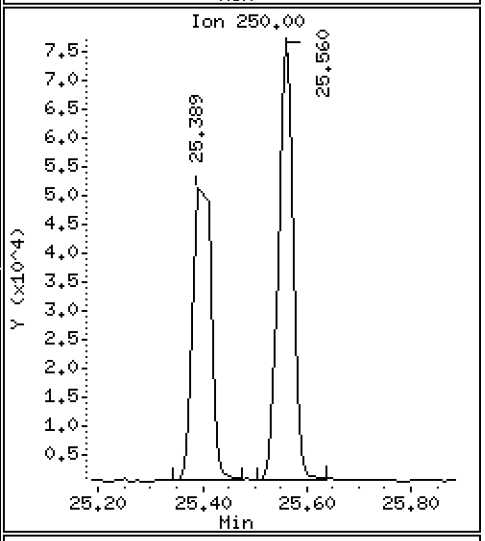
99 Perylene

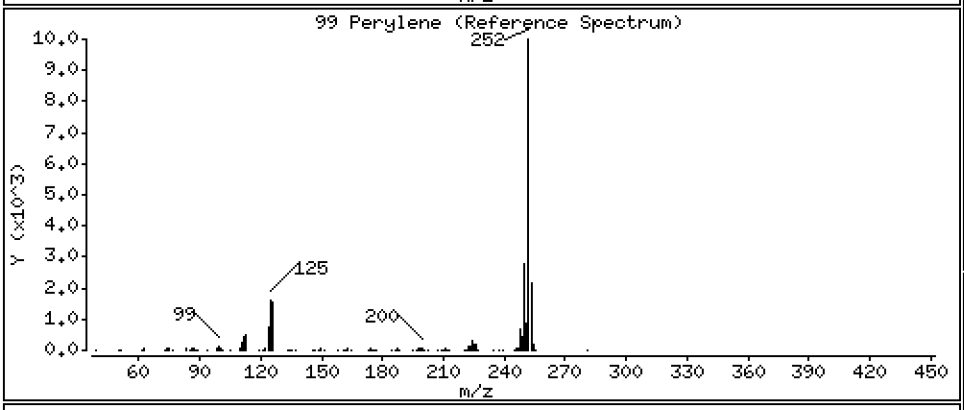
Concentration: 5.181 ug/mL

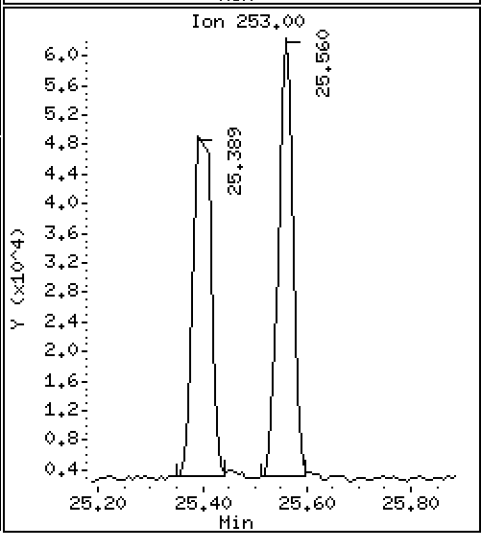


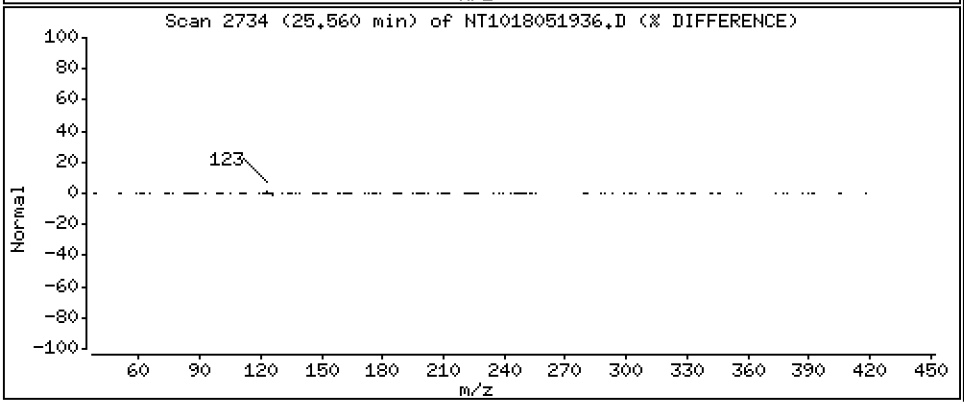












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D

Date : 20-MAY-2018 05:22

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-CCV1

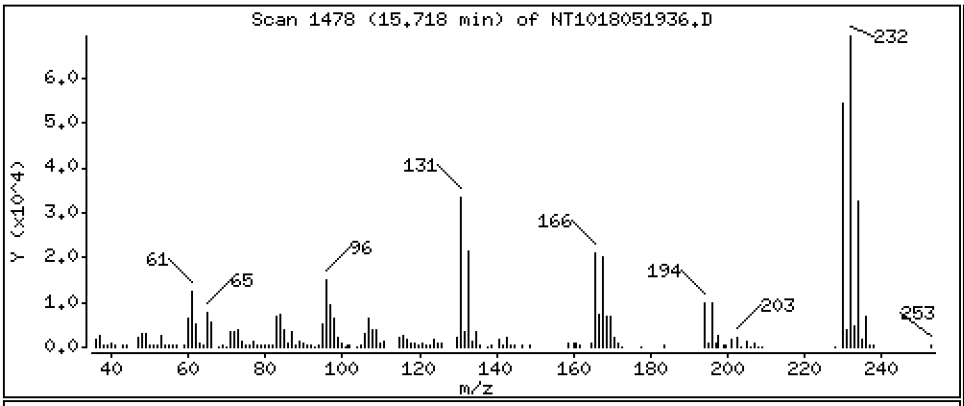
Operator: YZ

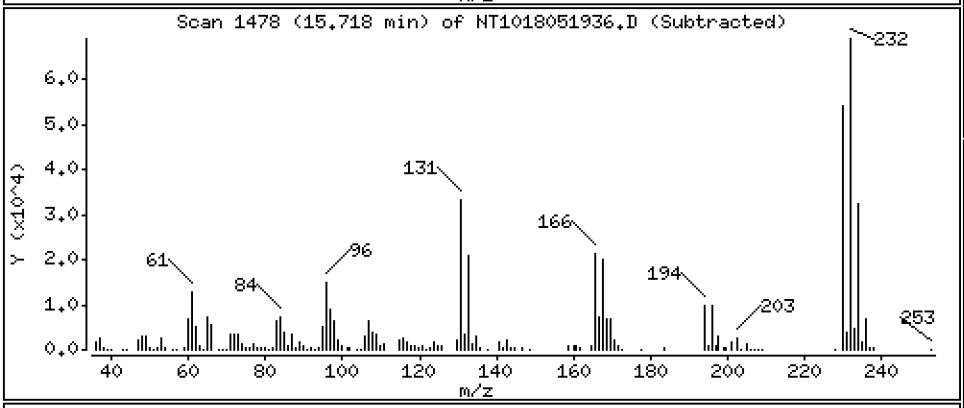
Column phase: ZB-5msi

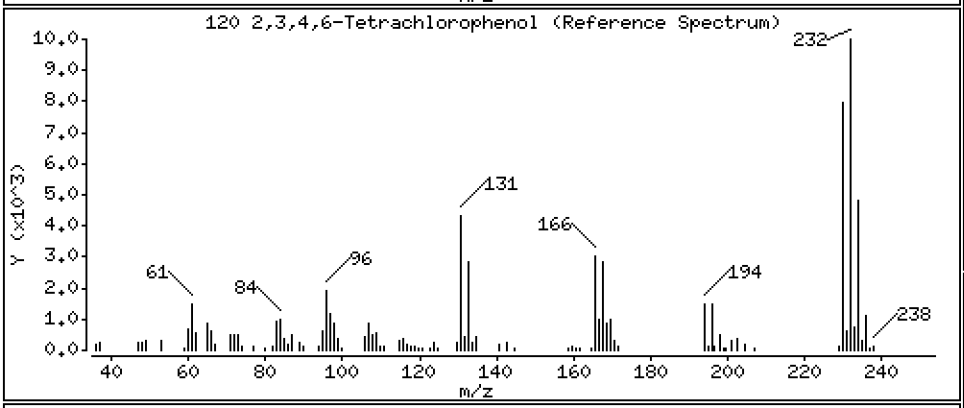
Column diameter: 0.25

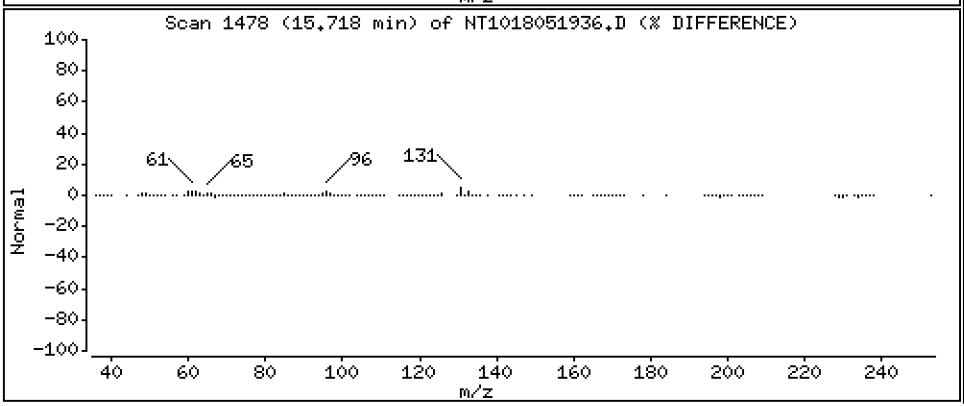
120 2,3,4,6-Tetrachlorophenol

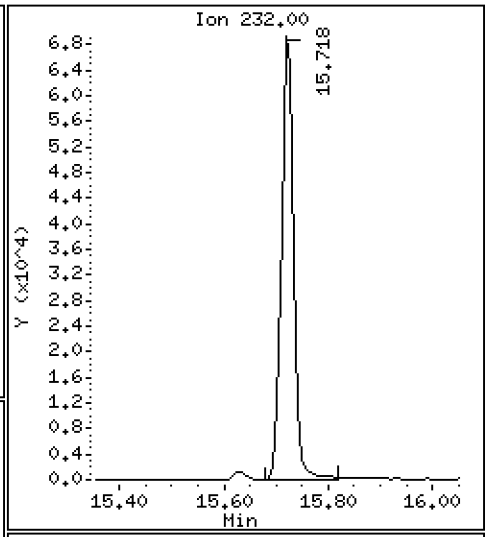
Concentration: 5.354 ug/mL

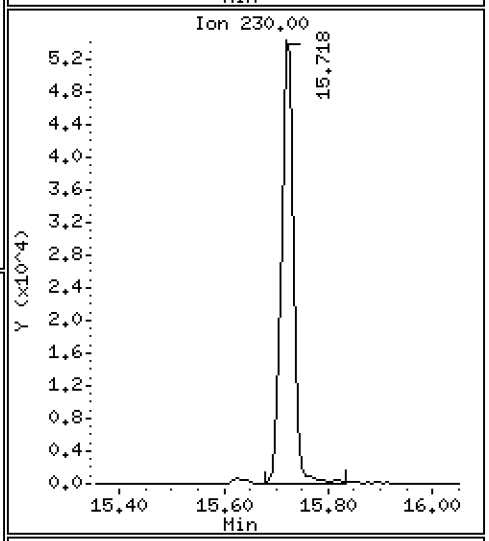


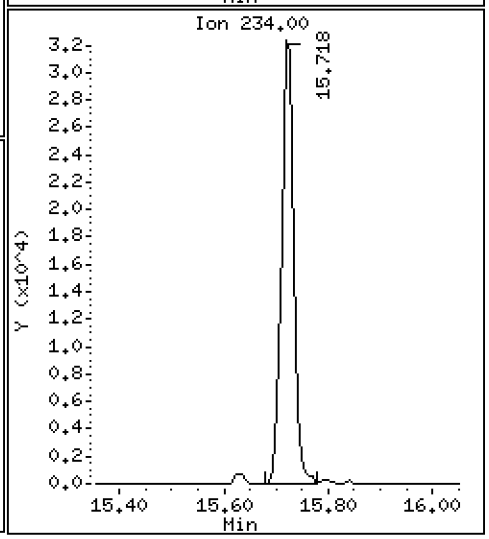












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051936.D
Lab Smp Id: SGE0328-CCV1
Inj Date : 20-MAY-2018 05:22
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-CCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.790	6.774	(0.756)	292247	7.84847	7.848
$	2 Phenol-d5	99	8.358	8.335	(0.930)	381119	7.74485	7.745
	3 Phenol	94	8.374	8.358	(0.932)	250280	5.12151	5.122
$	5 2-Chlorophenol-d4	132	8.629	8.613	(0.960)	303121	7.89992	7.900
	4 Bis(2-Chloroethyl)ether	93	8.536	8.528	(0.950)	194252	5.16919	5.169
	6 2-Chlorophenol	128	8.652	8.644	(0.963)	209221	5.24653	5.247
	7 1,3-Dichlorobenzene	146	8.923	8.915	(0.993)	212738	5.30548	5.305
*	8 1,4-Dichlorobenzene-d4	152	8.985	8.977	(1.000)	108692	4.00000	
	9 1,4-Dichlorobenzene	146	9.016	9.008	(1.003)	194190	5.34210	5.342
$	10 1,2-Dichlorobenzene-d4	152	9.342	9.326	(1.040)	136475	5.03213	5.032
	12 1,2-Dichlorobenzene	146	9.365	9.357	(1.042)	192059	5.32525	5.325
	11 Benzyl alcohol	108	9.248	9.233	(1.029)	121311	5.01248	5.012
	14 2,2'-oxybis(1-Chloropropane)	121	9.543	9.536	(1.062)	82129	5.72051	5.721
	13 2-Methylphenol	108	9.474	9.458	(1.054)	166784	5.08865	5.089
	17 Hexachloroethane	117	9.947	9.939	(1.107)	54928	3.24955	3.250
	16 N-Nitroso-di-n-propylamine	70	9.800	9.792	(1.091)	121655	5.03060	5.031
	15 4-Methylphenol	108	9.738	9.722	(1.084)	180422	5.18401	5.184
$	18 Nitrobenzene-d5	82	10.063	10.056	(0.880)	197811	5.10846	5.108
	19 Nitrobenzene	77	10.094	10.087	(0.883)	199368	5.23395	5.234
	20 Isophorone	82	10.537	10.529	(0.922)	462839	5.91796	5.918
	21 2-Nitrophenol	139	10.715	10.706	(0.937)	120974	5.76135	5.761
	22 2,4-Dimethylphenol	107	10.764	10.756	(0.942)	377365	10.1258	10.13
	23 Bis(2-Chloroethoxy)methane	93	10.964	10.955	(0.959)	202204	4.92676	4.927
	24 Benzoic acid	105	10.989	10.955	(0.961)	492732	19.7419	19.74
	25 2,4-Dichlorophenol	162	11.163	11.146	(0.976)	361883	12.0511	12.05
	26 1,2,4-Trichlorobenzene	180	11.347	11.339	(0.993)	169475	5.24834	5.248
*	27 Naphthalene-d8	136	11.432	11.424	(1.000)	387852	4.00000	
	28 Naphthalene	128	11.470	11.463	(1.003)	519019	5.24090	5.241
	29 4-Chloroaniline	127	11.602	11.586	(1.015)	501412	11.3506	11.35
	30 Hexachlorobutadiene	225	11.826	11.818	(1.034)	111461	5.49610	5.496
	31 4-Chloro-3-methylphenol	107	12.553	12.530	(1.098)	383273	11.7895	11.79
	32 2-Methylnaphthalene	142	12.847	12.840	(1.124)	428946	5.48911	5.489
	33 Hexachlorocyclopentadiene	237	13.304	13.296	(0.887)	33601	1.46406	1.464

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.466	13.451	(0.898)	296985	11.7688	11.77
	35	2,4,5-Trichlorophenol	196	13.536	13.521	(0.902)	301010	10.7594	10.76
$	36	2-Fluorobiphenyl	172	13.621	13.613	(0.908)	467852	5.12224	5.122
	37	2-Chloronaphthalene	162	13.830	13.815	(0.922)	403033	5.36704	5.367
	38	2-Nitroaniline	65	14.086	14.070	(0.939)	241629	11.5321	11.53
	39	Dimethylphthalate	163	14.511	14.504	(0.968)	413631	5.17559	5.176
	40	Acenaphthylene	152	14.689	14.674	(0.979)	596093	5.03206	5.032
	41	2,6-Dinitrotoluene	165	14.651	14.635	(0.977)	187126	10.9187	10.92
*	42	Acenaphthene-d10	164	14.999	14.983	(1.000)	207029	4.00000	
	43	3-Nitroaniline	138	14.929	14.914	(0.995)	214121	10.7989	10.80
	44	Acenaphthene	153	15.061	15.053	(1.004)	373862	5.30614	5.306
	45	2,4-Dinitrophenol	184	15.138	15.122	(1.009)	184335	16.8774	16.88
	46	Dibenzofuran	168	15.385	15.377	(1.026)	571581	5.22394	5.224
	47	4-Nitrophenol	109	15.254	15.223	(1.017)	112999	9.20534	9.205
	48	2,4-Dinitrotoluene	165	15.447	15.432	(1.030)	254102	11.5236	11.52
	50	Diethylphthalate	149	15.950	15.942	(1.063)	412147	5.05376	5.054
	49	Fluorene	166	16.089	16.073	(1.073)	428660	5.13337	5.133
	51	4-Chlorophenyl-phenylether	204	16.081	16.073	(1.072)	212290	5.20367	5.204
	52	4-Nitroaniline	138	16.189	16.166	(1.079)	174903	9.13094	9.131
	53	4,6-Dinitro-2-methylphenol	198	16.282	16.259	(0.905)	258519	14.8647	14.86
	54	N-Nitrosodiphenylamine	169	16.328	16.313	(0.907)	281029	5.11202	5.112
$	55	2,4,6-Tribromophenol	330	16.621	16.606	(1.108)	92990	8.31397	8.314
	56	4-Bromophenyl-phenylether	248	17.069	17.061	(0.948)	133329	5.37303	5.373
	57	Hexachlorobenzene	284	17.386	17.370	(0.966)	123742	5.22334	5.223
	58	Pentachlorophenol	266	17.742	17.718	(0.986)	143742	10.3182	10.32
*	59	Phenanthrene-d10	188	17.997	17.982	(1.000)	408608	4.00000	
	60	Phenanthrene	178	18.044	18.028	(1.003)	549159	5.06982	5.070
	61	Anthracene	178	18.136	18.121	(1.008)	601096	5.23407	5.234
	62	Carbazole	167	18.461	18.446	(1.026)	560648	5.46804	5.468
	63	Di-n-butylphthalate	149	19.258	19.250	(1.070)	866824	5.54839	5.548
	64	Fluoranthene	202	20.419	20.395	(0.887)	786496	5.09554	5.096
	65	Pyrene	202	20.837	20.821	(0.905)	813921	5.05982	5.060
$	66	Terphenyl-d14	244	21.123	21.107	(0.918)	480481	4.72530	4.725
	67	Butylbenzylphthalate	149	22.044	22.029	(0.958)	327467	5.14080	5.141
	68	Benzo(a)anthracene	228	22.981	22.966	(0.999)	715670	5.07142	5.071
*	69	Chrysene-d12	240	23.012	22.989	(1.000)	387627	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.942	22.927	(0.997)	803301	16.2244	16.22
	71	Chrysene	228	23.059	23.035	(1.002)	583755	5.15043	5.150
	72	bis(2-Ethylhexyl)phthalate	149	23.059	23.051	(0.960)	449480	5.37117	5.371
*	134	Di-n-octylphthalate-d4	153	24.026	24.018	(1.000)	803310	4.00000	
	73	Di-n-octylphthalate	149	24.042	24.026	(1.001)	899823	5.14404	5.144
	74	Benzo(b)fluoranthene	252	24.793	24.769	(0.972)	764248	5.74018	5.740
	75	Benzo(k)fluoranthene	252	24.831	24.808	(0.974)	686324	5.12265	5.123
	76	Benzo(a)pyrene	252	25.389	25.373	(0.995)	386571	2.87805	2.878
*	77	Perylene-d12	264	25.505	25.482	(1.000)	380750	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.969	27.922	(1.097)	477311	3.61609	3.616
	79	Dibenzo(a,h)anthracene	278	27.969	27.938	(1.097)	420660	3.94786	3.948
	80	Benzo(g,h,i)perylene	276	28.692	28.645	(1.125)	365858	3.11419	3.114
	90	N-Nitrosodimethylamine	74	4.689	4.681	(0.522)	227588	10.3488	10.35
	91	Aniline	93	8.443	8.435	(0.940)	545751	10.0484	10.05
	93	Benzidine	184	20.651	20.635	(0.897)	389884	5.94714	5.947
	103	Pyridine	79	4.712	4.705	(0.525)	201713	5.07510	5.075
	105	1-methylnaphthalene	142	13.064	13.056	(1.143)	436099	5.41925	5.419
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.398	16.390	(1.093)	374524	4.79796	4.798

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.793	24.808	(0.972)	1377305	10.7230	10.72
99	Perylene	252	25.559	25.536	(1.002)	557950	5.18085	5.181
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.718	15.702	(1.048)	125636	5.35418	5.354

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051936.D
Lab Smp Id: SGE0328-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	108692	-1.81
27 Naphthalene-d8	393946	196973	787892	387852	-1.55
42 Acenaphthene-d10	203210	101605	406420	207029	1.88
59 Phenanthrene-d10	403506	201753	807012	408608	1.26
69 Chrysene-d12	354618	177309	709236	387627	9.31
134 Di-n-octylphthala	800232	400116	1600464	803310	0.38
77 Perylene-d12	378948	189474	757896	380750	0.48

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.99	0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.43	0.07
42 Acenaphthene-d10	14.98	14.48	15.48	15.00	0.10
59 Phenanthrene-d10	17.98	17.48	18.48	18.00	0.09
69 Chrysene-d12	22.99	22.49	23.49	23.01	0.10
134 Di-n-octylphthala	24.02	23.52	24.52	24.03	0.03
77 Perylene-d12	25.48	24.98	25.98	25.51	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051936.D

Lab ID: SGE0328-CCV1
nt10.i, ABN.m, 20-MAY-2018 05:22

RT	CO-ELUTION COMPOUNDS
27.970	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
27.970	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051911.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/19/18
Lab Sample ID:	SGE0328-SCV1	Injection Time:	14:41
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Phenol	A	5.0000	5.3	1.7984170	1.9088390		6.1	20
bis(2-chloroethyl) ether	A	5.0000	5.5	1.3829460	1.5320310		10.8	20
2-Chlorophenol	A	5.0000	5.2	1.4675600	1.5163110		3.3	20
1,3-Dichlorobenzene	A	5.0000	5.4	1.4756490	1.5855650		7.4	20
1,4-Dichlorobenzene	A	5.0000	5.3	1.3377560	1.4239910		6.4	20
1,2-Dichlorobenzene	A	5.0000	5.4	1.3272630	1.4268200		7.5	20
Benzyl Alcohol	A	5.0000	5.1	0.8906565	0.9022713		1.3	20
2,2'-Oxybis(1-chloropropane)	A	5.0000	4.7	0.5283531	0.4954905		-6.2	20
2-Methylphenol	A	5.0000	5.1	1.2061870	1.2194420		1.1	20
Hexachloroethane	A	5.0000	5.3	0.6220608	0.6595157		6.0	20
N-Nitroso-di-n-Propylamine	A	5.0000	5.3	0.8899646	0.9522094		7.0	20
4-Methylphenol	A	5.0000	5.0	1.2808140	1.2928160		0.9	20
Nitrobenzene	A	5.0000	5.4	0.3928437	0.4255548		8.3	20
Isophorone	A	5.0000	5.1	0.8065878	0.8284311		2.7	20
2-Nitrophenol	A	5.0000	5.0	0.2165516	0.2186451		1.0	20
2,4-Dimethylphenol	A	5.0000	5.0	0.3843482	0.3839491		-0.1	20
Bis(2-Chloroethoxy)methane	A	5.0000	5.3	0.4232749	0.4445371		5.0	20
2,4-Dichlorophenol	A	5.0000	5.2	0.3096960	0.3234457		4.4	20
1,2,4-Trichlorobenzene	A	5.0000	5.2	0.3330258	0.3493819		4.9	20
Naphthalene	A	5.0000	5.3	1.0213430	1.0734860		5.1	20
Benzoic acid	A	10.000	8.8	0.2160131	0.2252943		-12.3	20
4-Chloroaniline	A	5.0000	4.7	0.4555838	0.4294476		-5.7	20
Hexachlorobutadiene	A	5.0000	5.2	0.2091520	0.2164333		3.5	20
4-Chloro-3-Methylphenol	A	5.0000	5.2	0.3352795	0.3515859		4.9	20
2-Methylnaphthalene	A	5.0000	4.8	0.8059253	0.7787155		-3.4	20
Hexachlorocyclopentadiene	A	5.0000	5.6	0.4434257	0.4937314		11.3	20
2,4,6-Trichlorophenol	A	5.0000	5.0	0.4875623	0.4902584		0.6	20
2,4,5-Trichlorophenol	A	5.0000	4.5	0.4794408	0.4908240		-9.6	20
2-Chloronaphthalene	A	5.0000	5.2	1.4508900	1.5221870		4.9	20
2-Nitroaniline	A	5.0000	5.5	0.4048286	0.4456373		10.1	20
Acenaphthylene	A	5.0000	5.1	2.2887440	2.3283680		1.7	20
Dimethylphthalate	A	5.0000	4.9	1.5441220	1.5059800		-2.5	20
2,6-Dinitrotoluene	A	5.0000	5.4	0.3311250	0.3570249		7.8	20
Acenaphthene	A	5.0000	5.1	1.3613250	1.3806770		1.4	20

* Values outside of QC limits

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018051911.D	Calibration Date:	05/19/18 00:00
Sequence:	SGE0328	Injection Date:	05/19/18
Lab Sample ID:	SGE0328-SCV1	Injection Time:	14:41
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
3-Nitroaniline	A	5.0000	5.2	0.3830973	0.4010427		4.7	20	
2,4-Dinitrophenol	A	5.0000	2.9	0.1626979	0.1207291		-41.1	20	*
Dibenzofuran	A	5.0000	4.9	2.1140180	2.0656570		-2.3	20	
4-Nitrophenol	A	5.0000	4.2	0.2078877	0.1972105		-17.0	20	
2,4-Dinitrotoluene	A	5.0000	5.7	0.4260379	0.4845266		13.7	20	
Fluorene	A	5.0000	5.0	1.6133890	1.6140920		0.04	20	
4-Chlorophenylphenyl ether	A	5.0000	4.8	0.7882218	0.7593799		-3.7	20	
Diethyl phthalate	A	5.0000	4.8	1.5756750	1.5225230		-3.4	20	
4-Nitroaniline	A	5.0000	5.5	0.3700928	0.4044025		9.3	20	
4,6-Dinitro-2-methylphenol	A	5.0000	3.5	0.1324757	0.1197517		-30.8	20	*
N-Nitrosodiphenylamine	A	5.0000	5.2	0.5381609	0.5626066		4.5	20	
4-Bromophenyl phenyl ether	A	5.0000	5.0	0.2429173	0.2423520		-0.2	20	
Hexachlorobenzene	A	5.0000	5.2	0.2319114	0.2409984		3.9	20	
Pentachlorophenol	A	5.0000	5.0	0.1363741	0.1361499		-0.2	20	
Phenanthrene	A	5.0000	5.1	1.0603730	1.0790990		1.8	20	
Anthracene	A	5.0000	4.8	1.1242370	1.0803170		-3.9	20	
Carbazole	A	5.0000	5.4	1.0037180	1.0905270		8.6	20	
Di-n-Butylphthalate	A	5.0000	5.3	1.5293860	1.6193690		5.9	20	
Fluoranthene	A	5.0000	5.2	1.5927680	1.6608060		4.3	20	
Pyrene	A	5.0000	5.3	1.6599440	1.7432560		5.0	20	
Butylbenzylphthalate	A	5.0000	5.4	0.6573293	0.7086098		7.8	20	
Benzo(a)anthracene	A	5.0000	5.0	1.4562270	1.4649470		0.6	20	
3,3'-Dichlorobenzidine	A	10.000	10.0	0.5109220	0.5104904		-0.08	20	
Chrysene	A	5.0000	5.3	1.1695890	1.2305140		5.2	20	
bis(2-Ethylhexyl)phthalate	A	5.0000	5.2	0.4166951	0.4359354		4.6	20	
Di-n-Octylphthalate	A	5.0000	5.2	0.8710232	0.9046334		3.9	20	
Benzofluoranthenes, Total	A	10.000	10.2	1.3493830	1.3813840		2.4	20	
Benzo(a)pyrene	A	5.0000	5.3	1.4110800	1.4894040		5.6	20	
Indeno(1,2,3-cd)pyrene	A	5.0000	5.0	1.3866980	1.3815790		-0.4	20	
Dibenzo(a,h)anthracene	A	5.0000	4.9	1.1194120	1.0884150		-2.8	20	
Benzo(g,h,i)perylene	A	5.0000	5.1	1.2342060	1.2507370		1.3	20	
1-Methylnaphthalene	A	5.0000	4.6	0.8299272	0.7711973		-7.1	20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

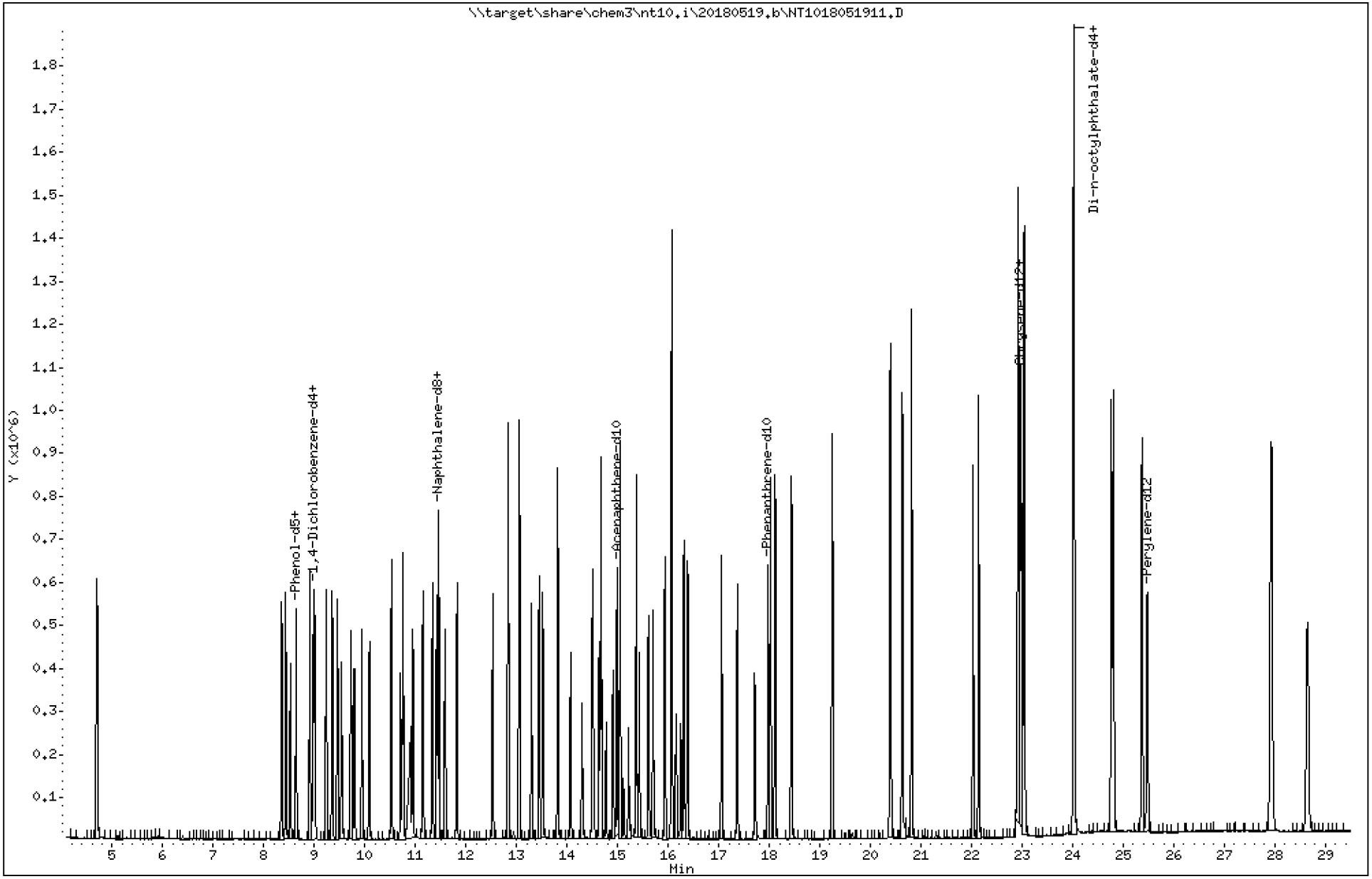
Instrument: nt10.i

Sample Info: SGE0328-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

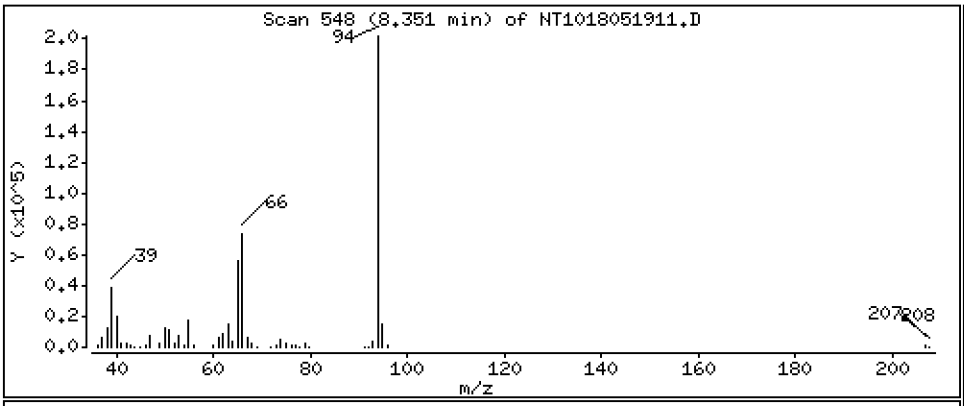
Operator: YZ

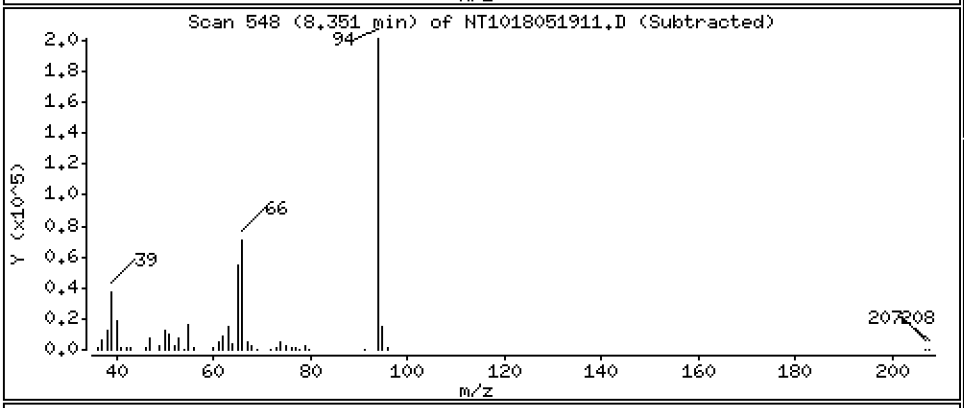
Column phase: ZB-5msi

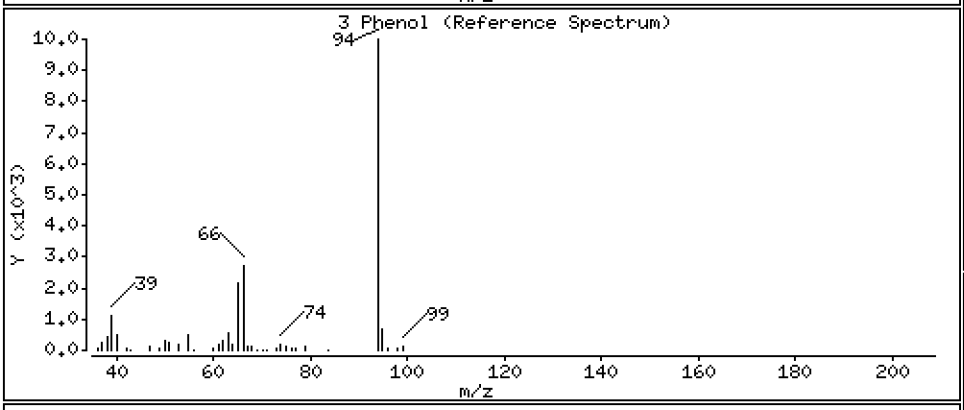
Column diameter: 0.25

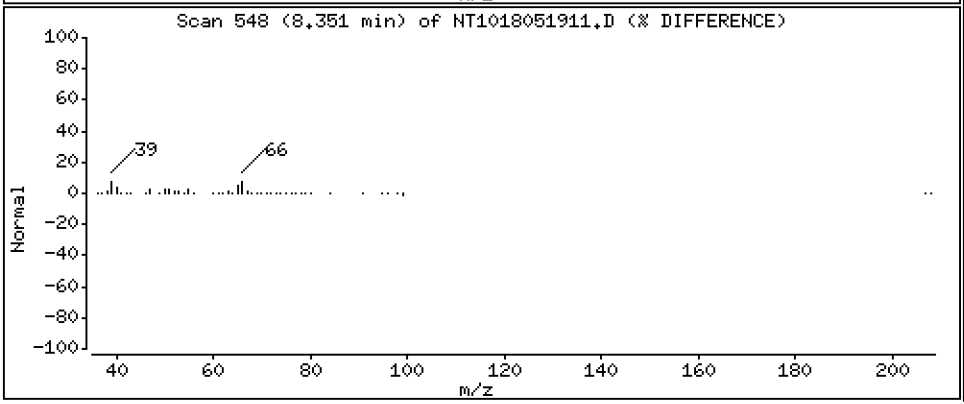
3 Phenol

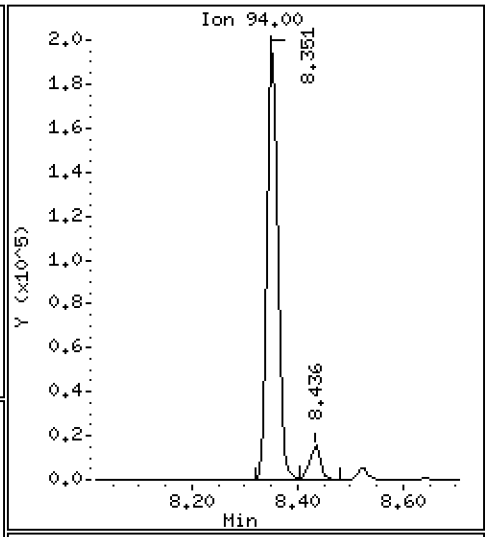
Concentration: 5.307 ug/mL

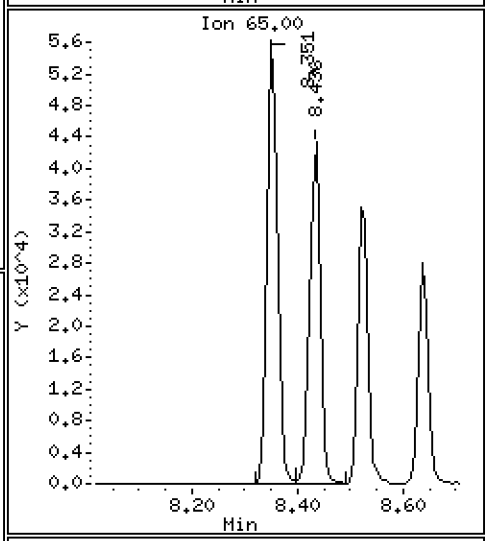


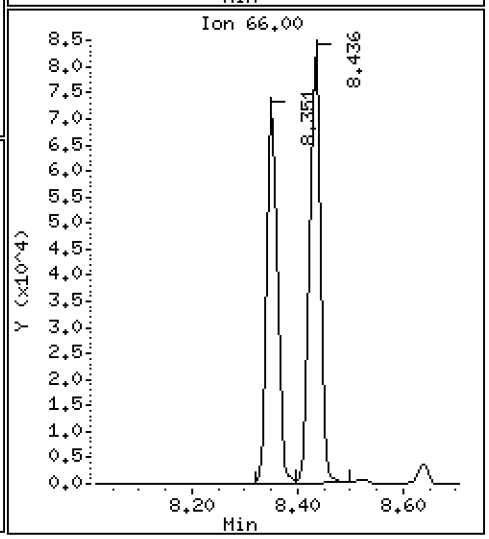












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

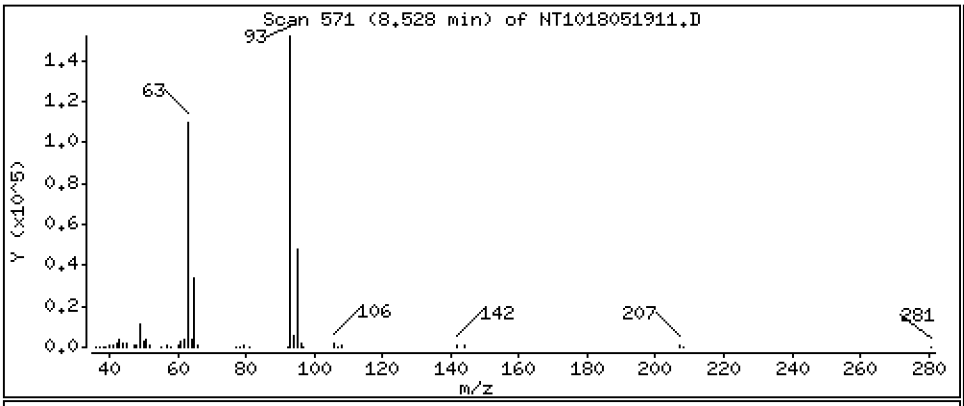
Operator: YZ

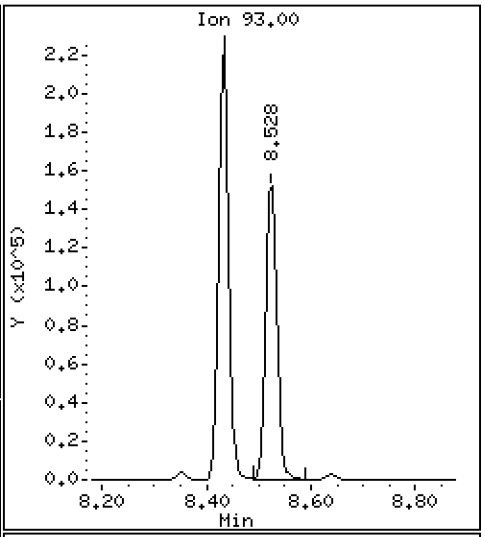
Column phase: ZB-5msi

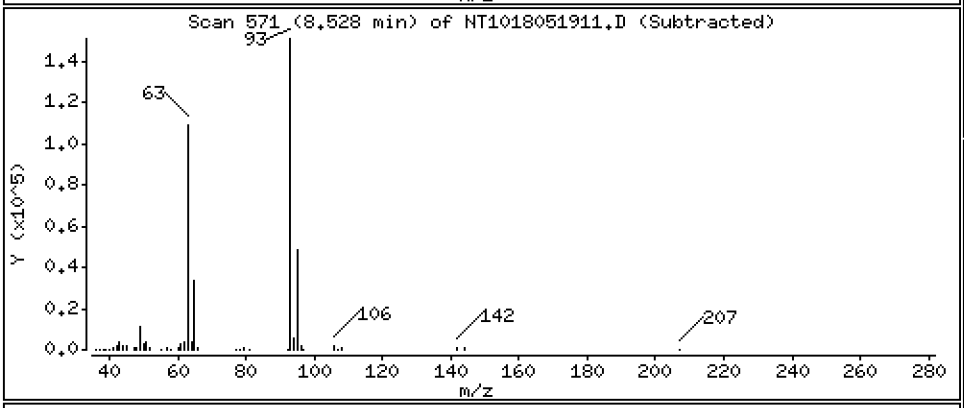
Column diameter: 0.25

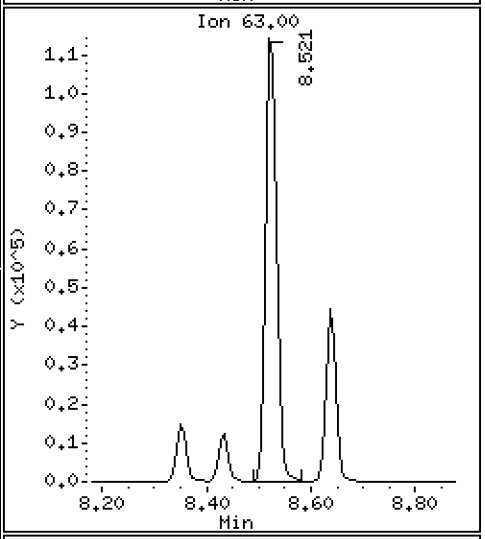
4 Bis(2-Chloroethyl)ether

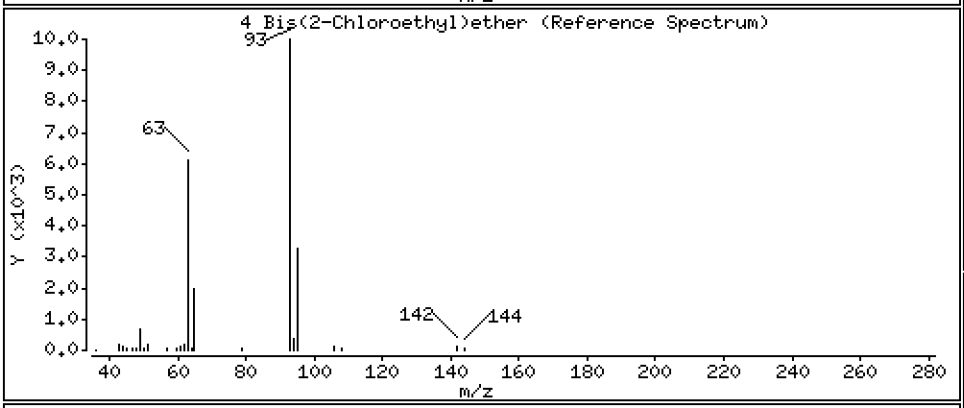
Concentration: 5.539 ug/mL

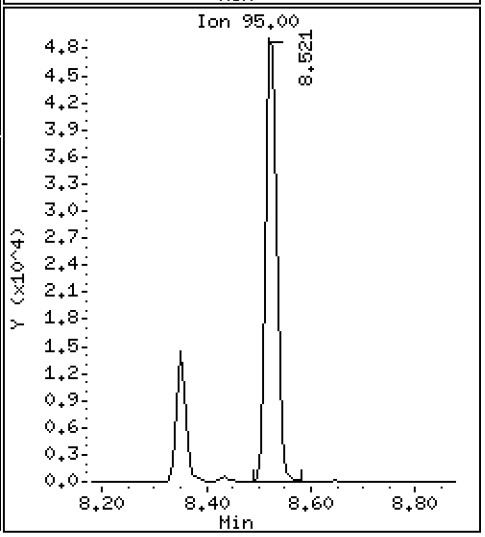


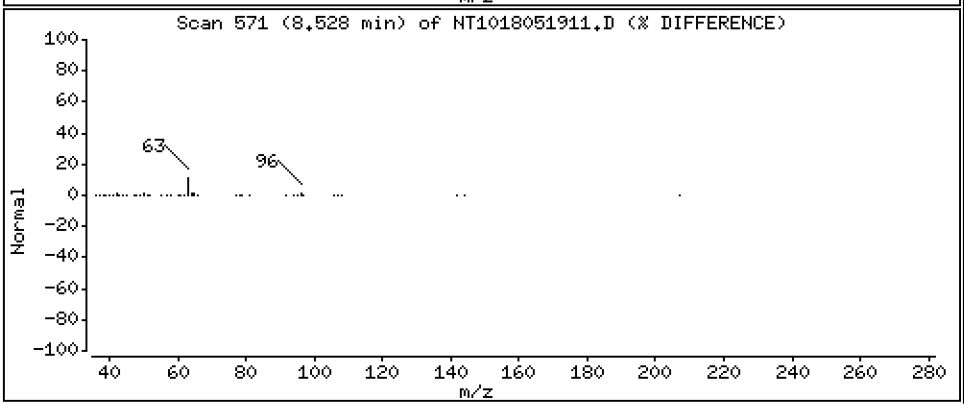












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

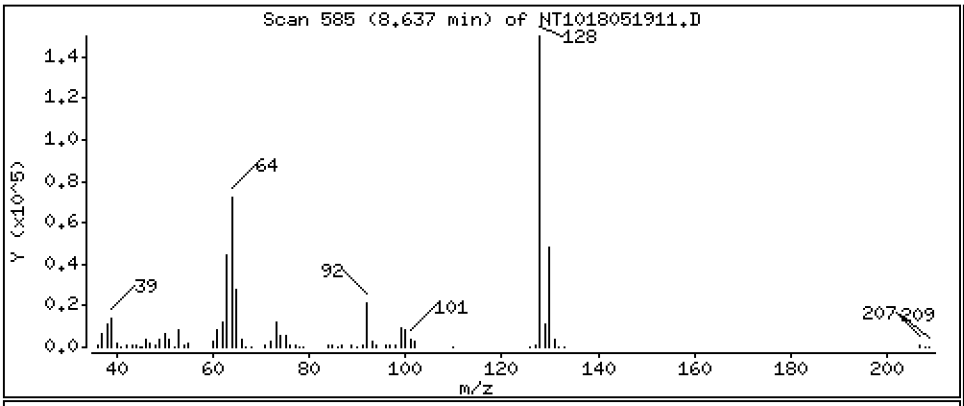
Operator: YZ

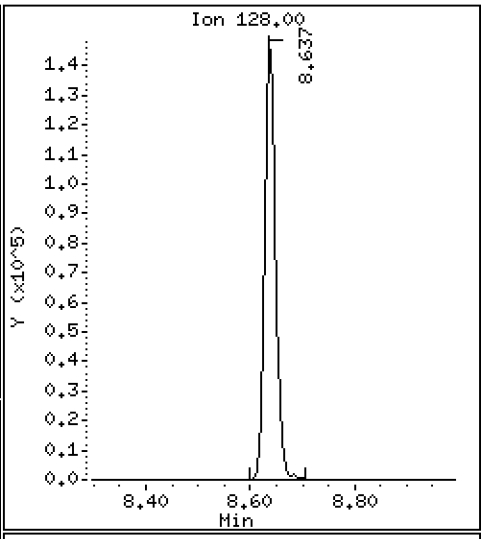
Column phase: ZB-5msi

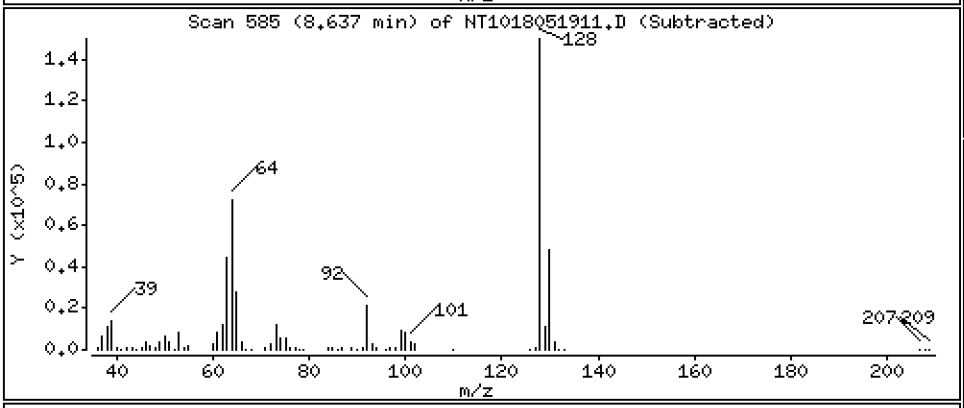
Column diameter: 0.25

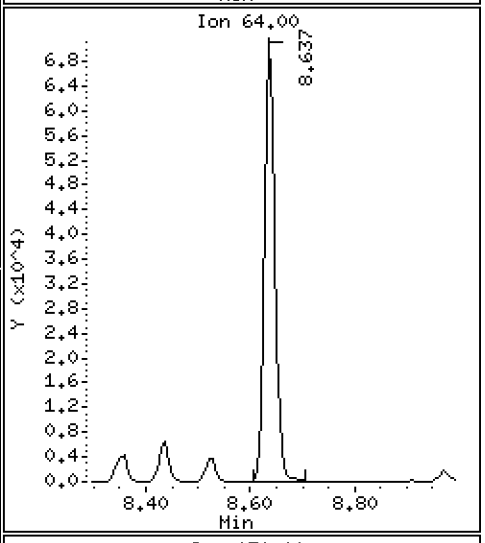
6 2-Chlorophenol

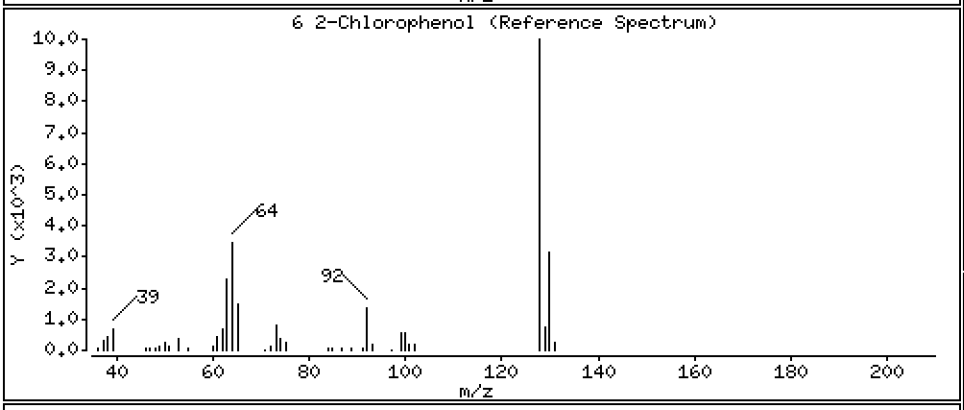
Concentration: 5.166 ug/mL

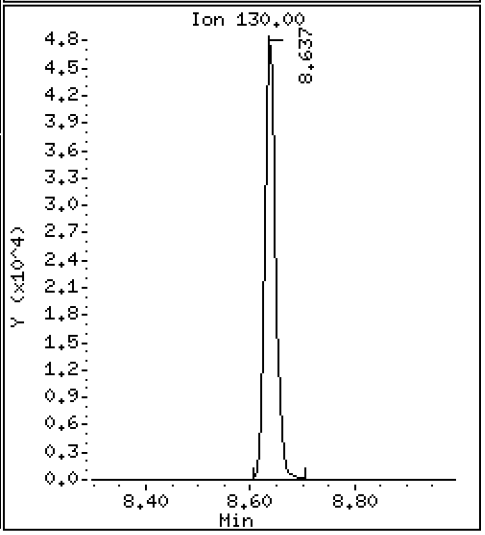


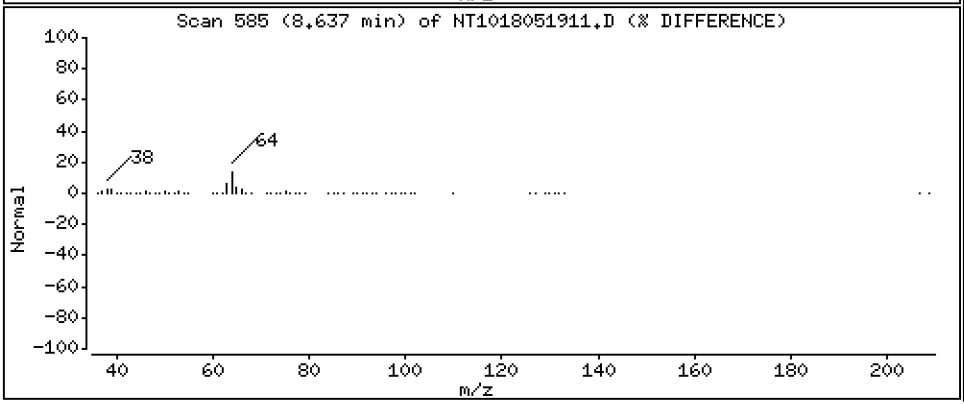












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

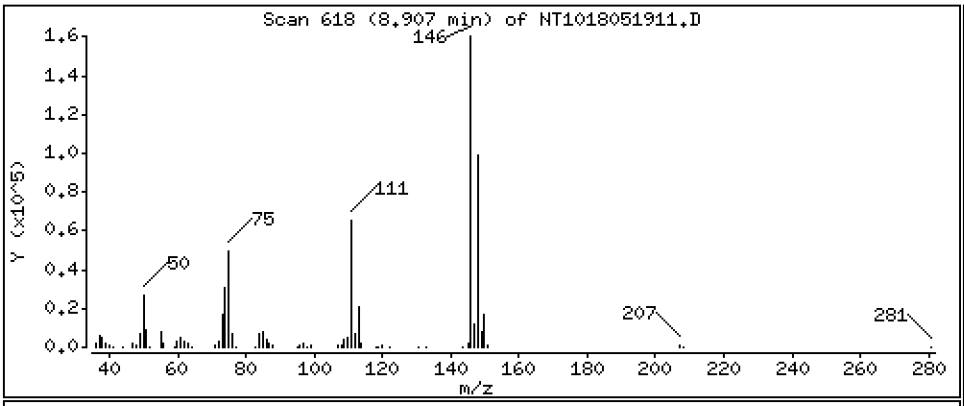
Operator: YZ

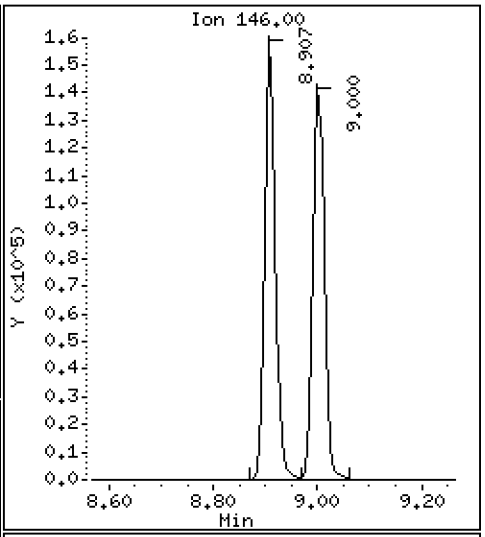
Column phase: ZB-5msi

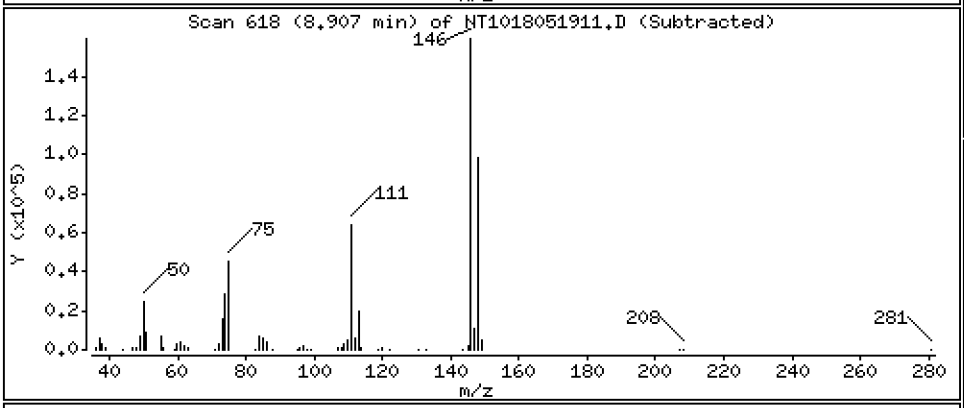
Column diameter: 0.25

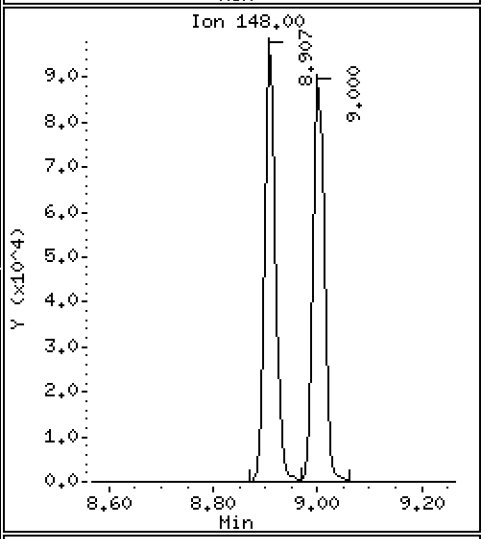
7 1,3-Dichlorobenzene

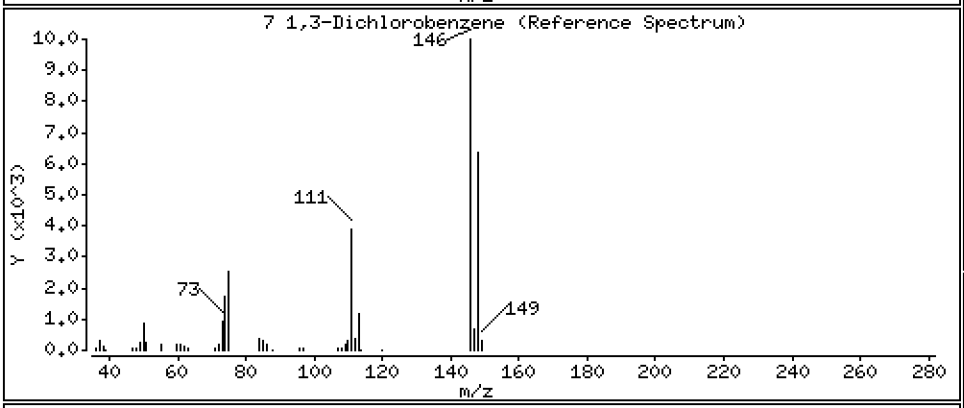
Concentration: 5.372 ug/mL

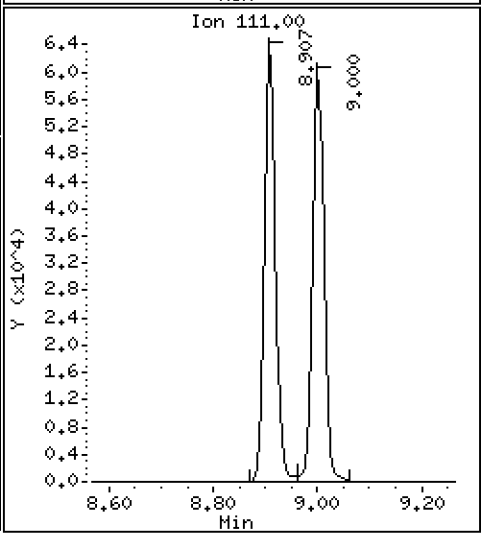


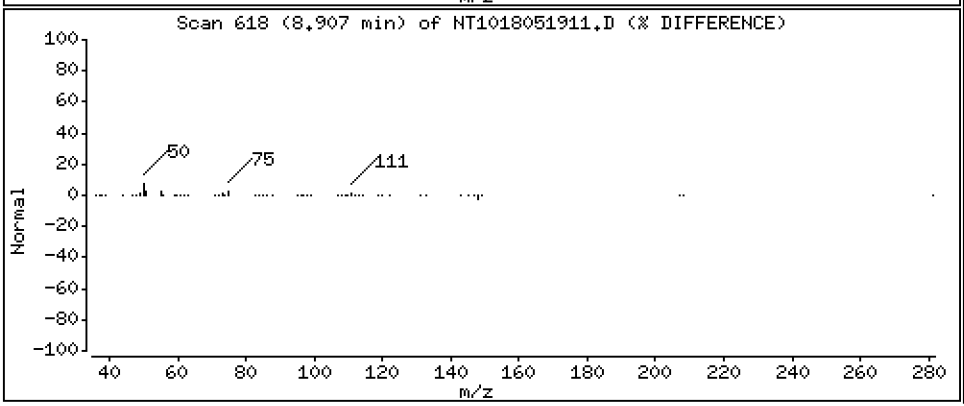












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

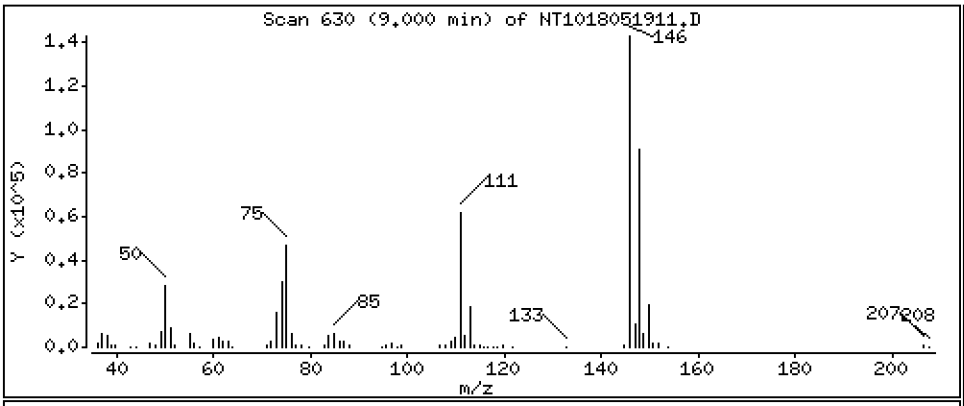
Operator: YZ

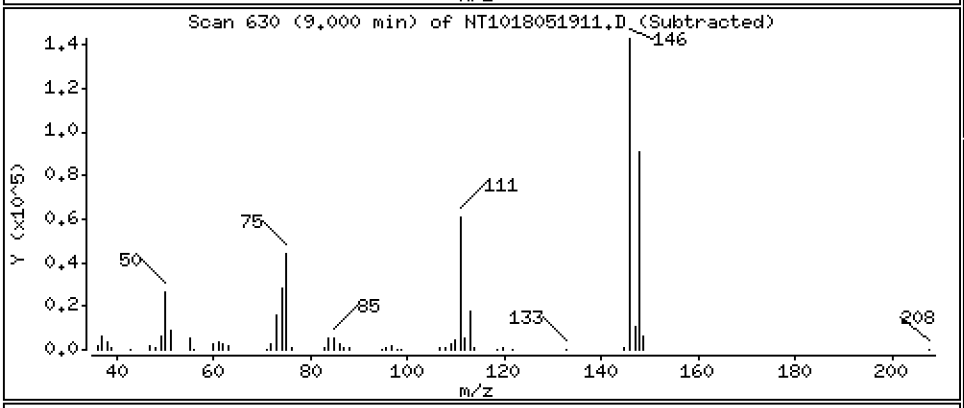
Column phase: ZB-5msi

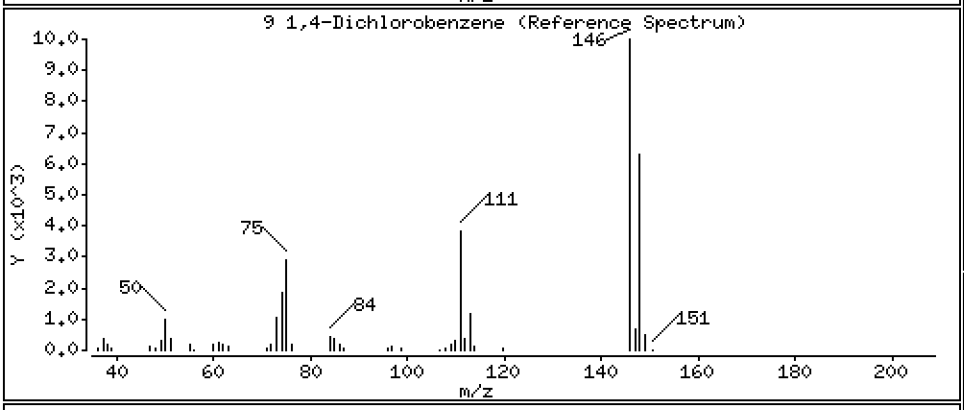
Column diameter: 0.25

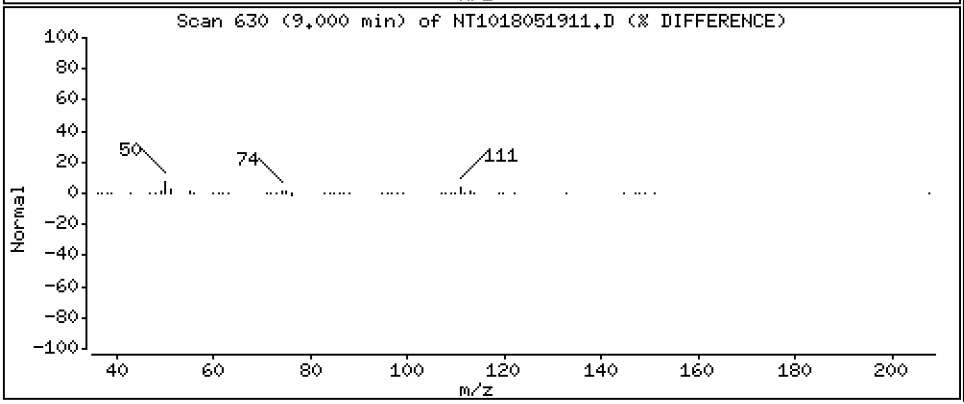
9 1,4-Dichlorobenzene

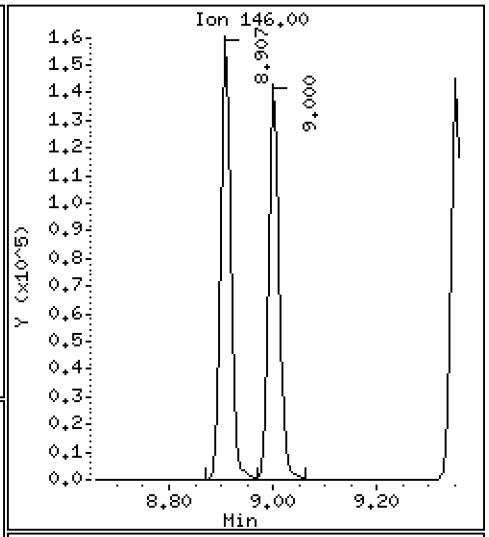
Concentration: 5.322 ug/mL

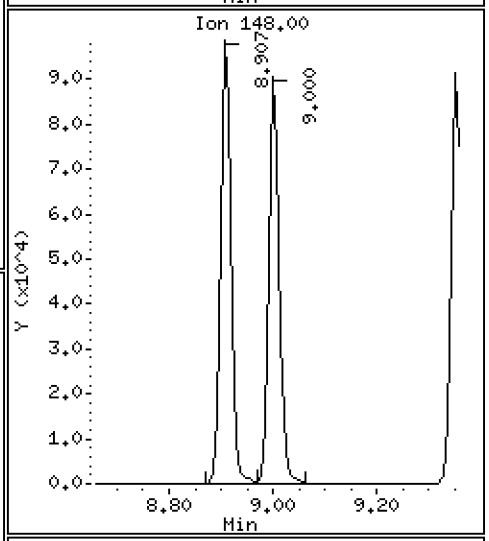


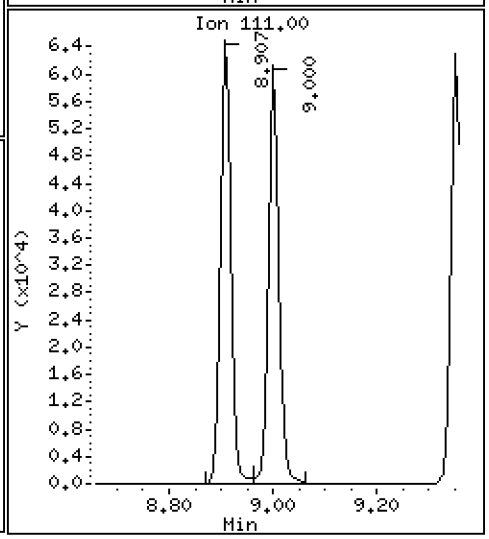












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

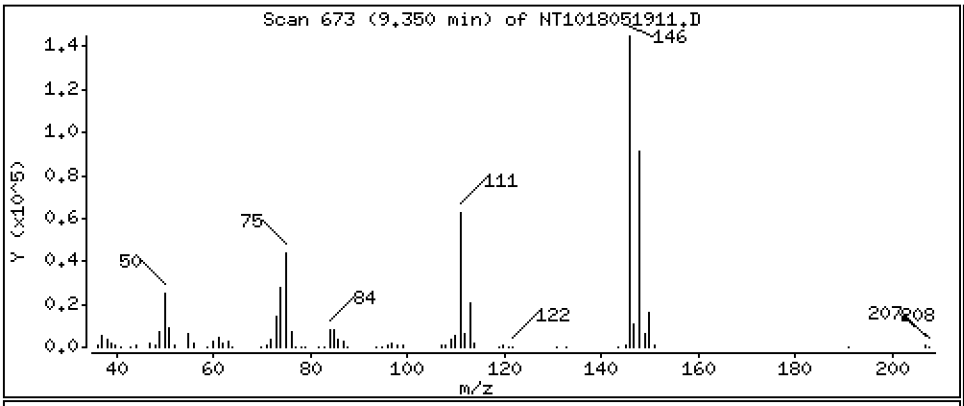
Operator: YZ

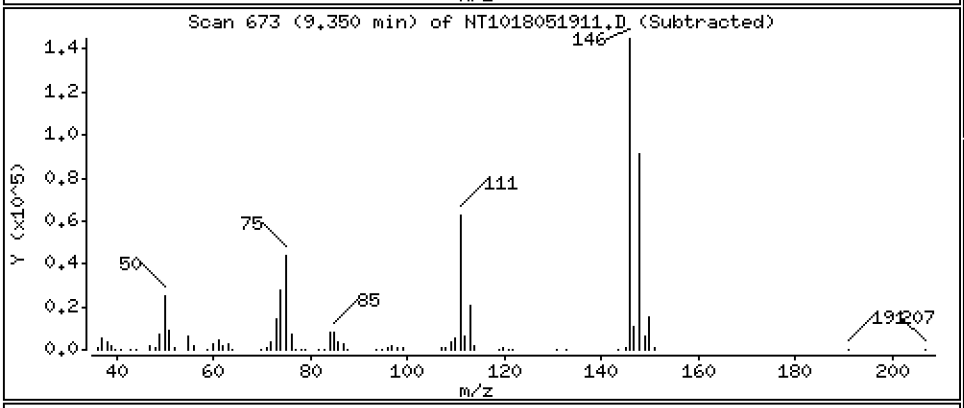
Column phase: ZB-5msi

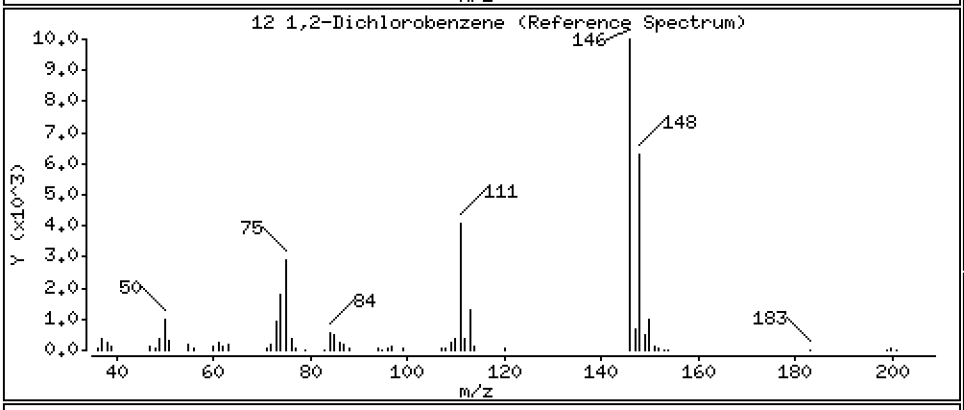
Column diameter: 0.25

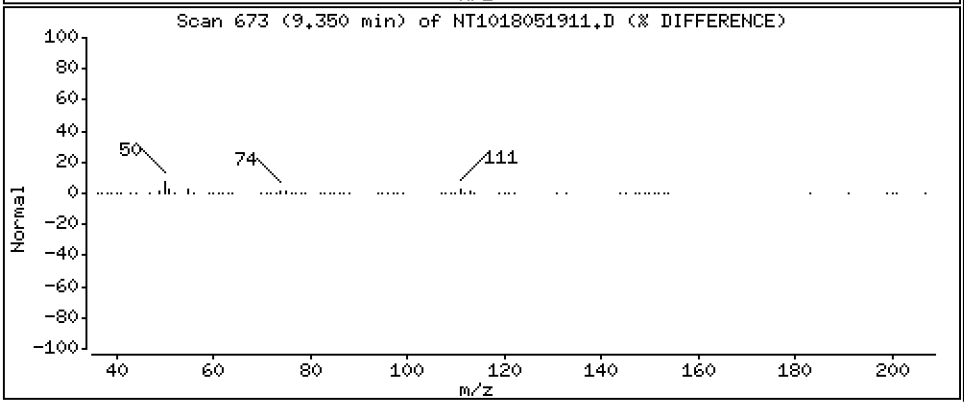
12 1,2-Dichlorobenzene

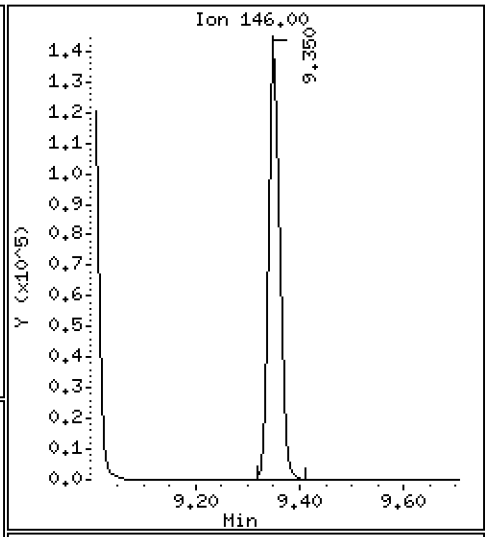
Concentration: 5.375 ug/mL

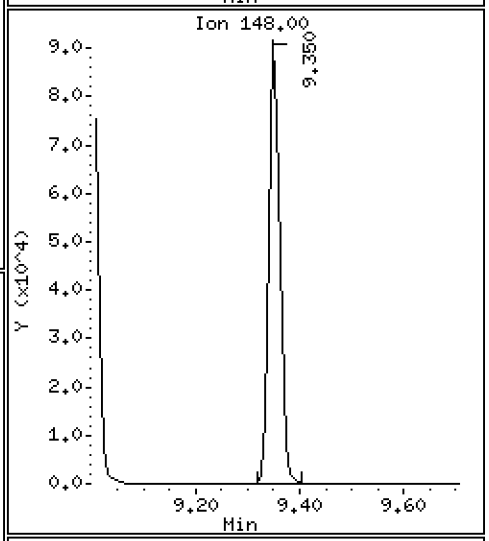


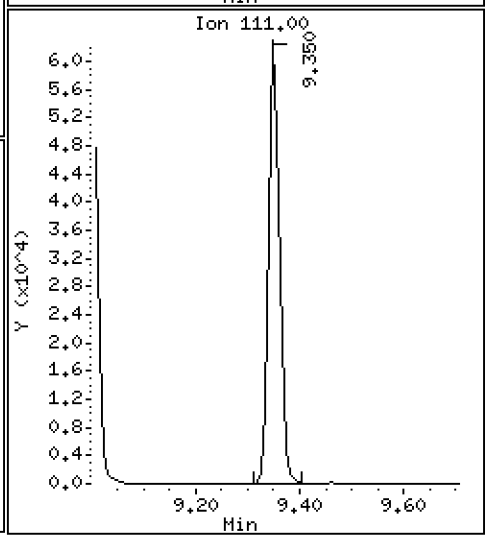












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

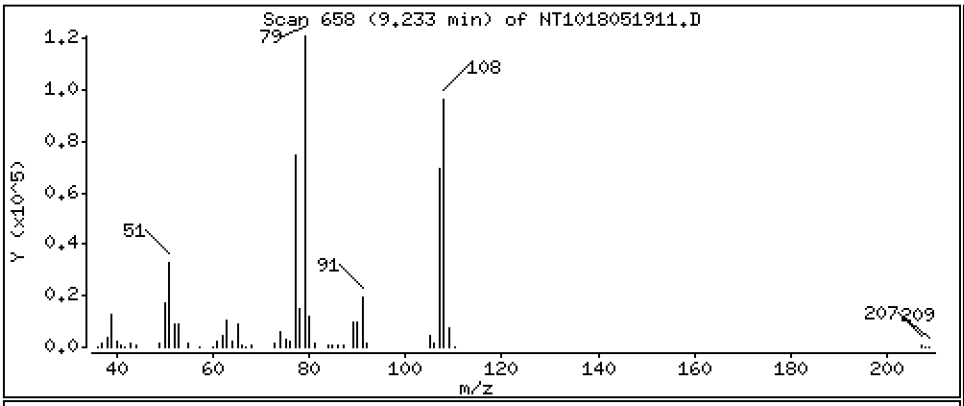
Operator: YZ

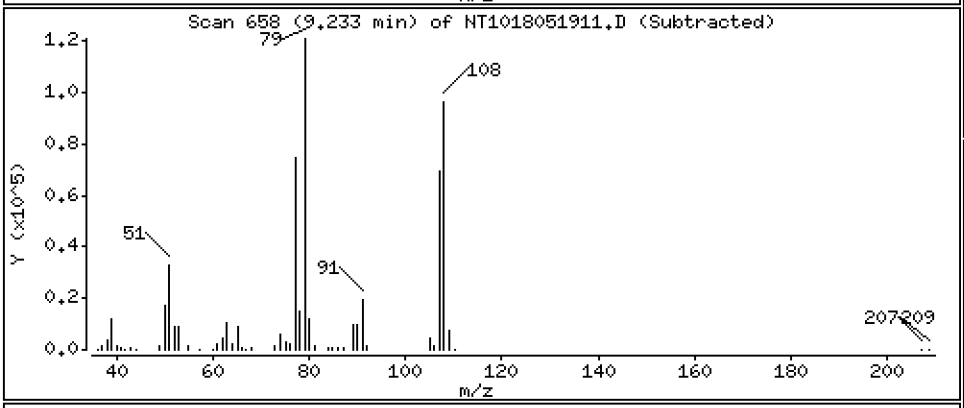
Column phase: ZB-5msi

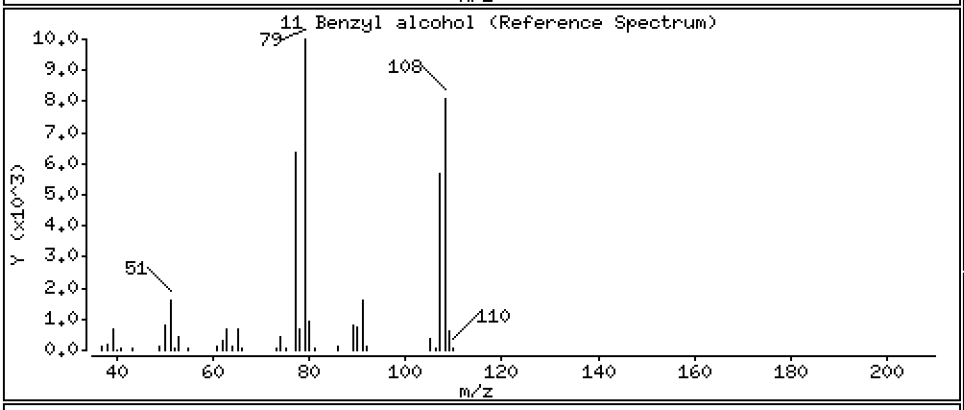
Column diameter: 0.25

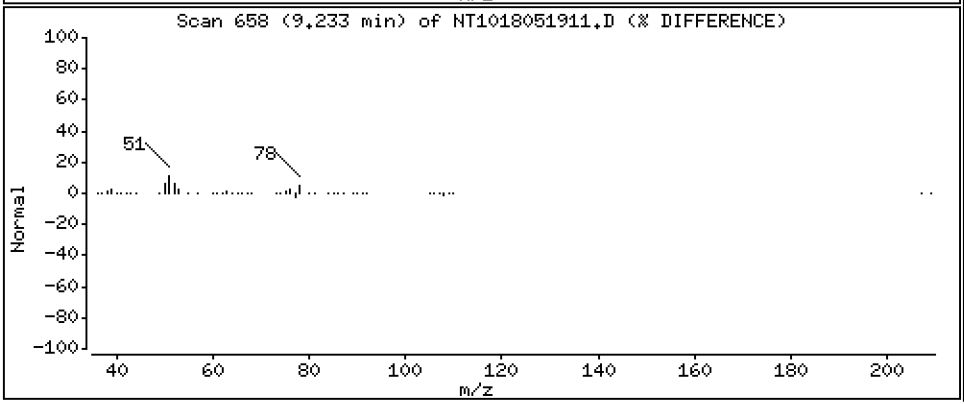
11 Benzyl alcohol

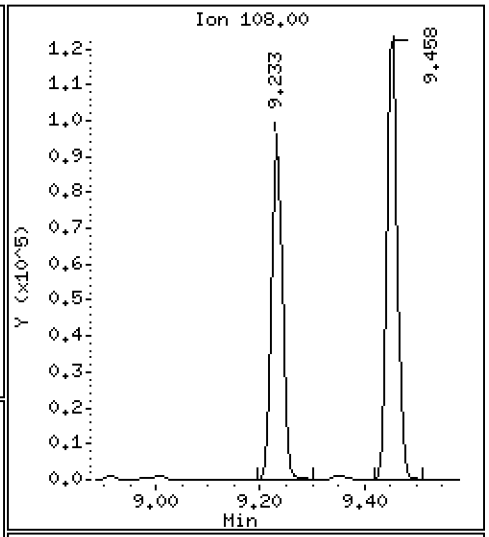
Concentration: 5.065 ug/mL

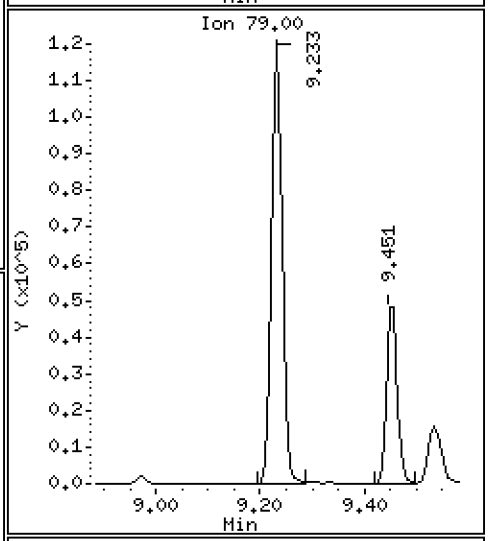


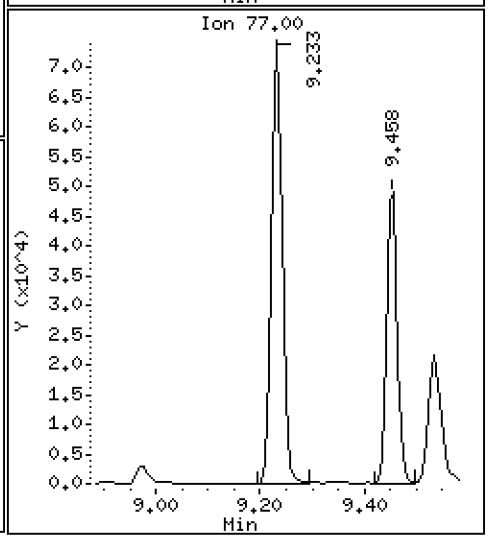












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

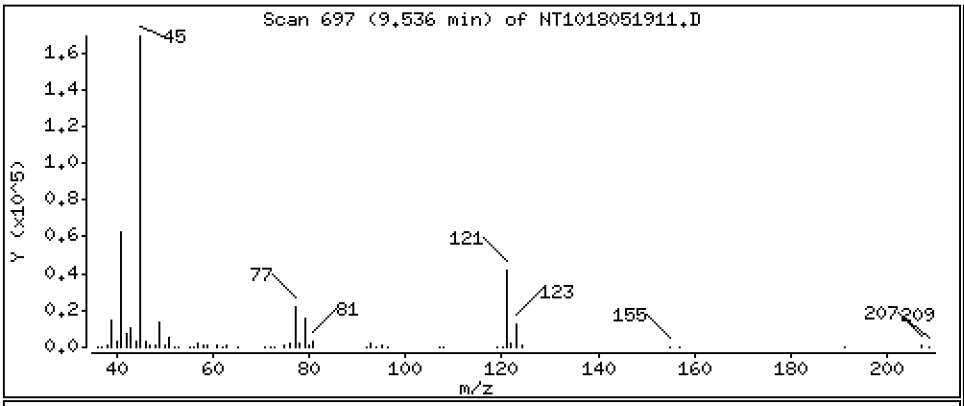
Operator: YZ

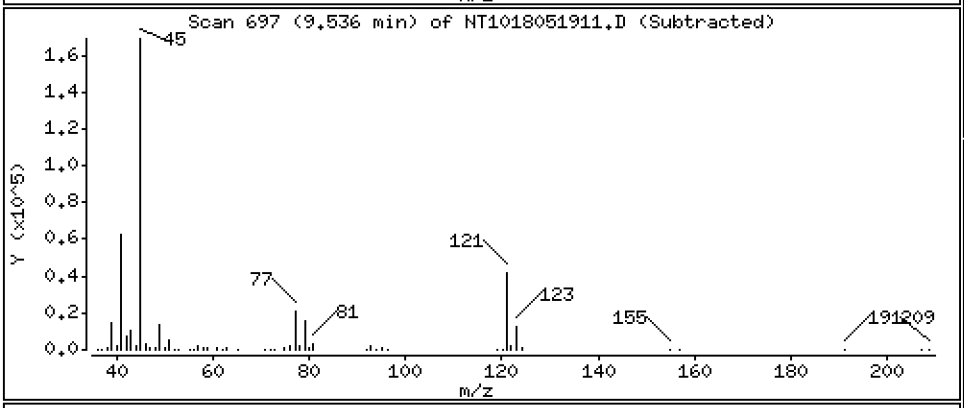
Column phase: ZB-5msi

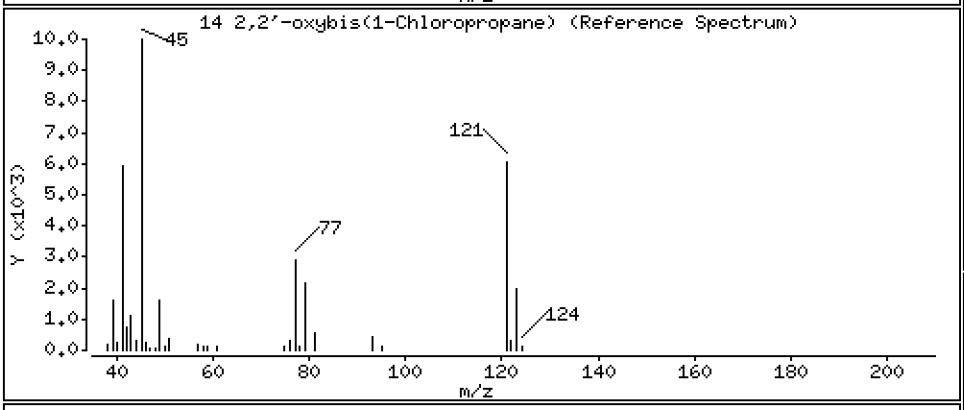
Column diameter: 0.25

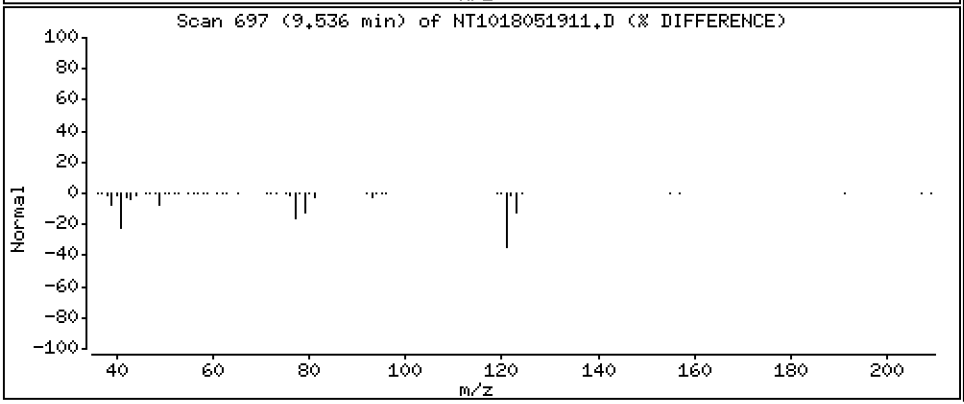
14 2,2'-oxybis(1-Chloropropane)

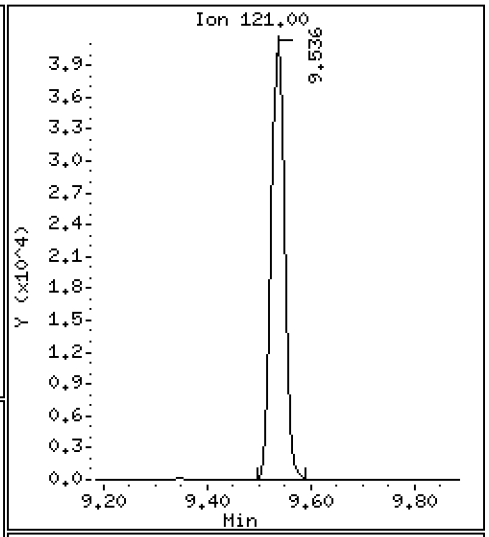
Concentration: 4.689 ug/mL

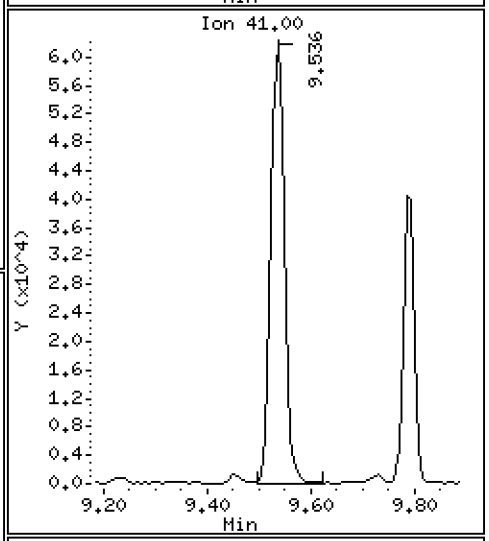


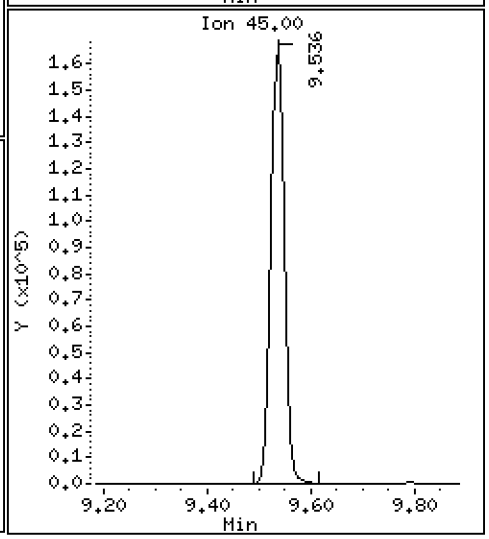












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

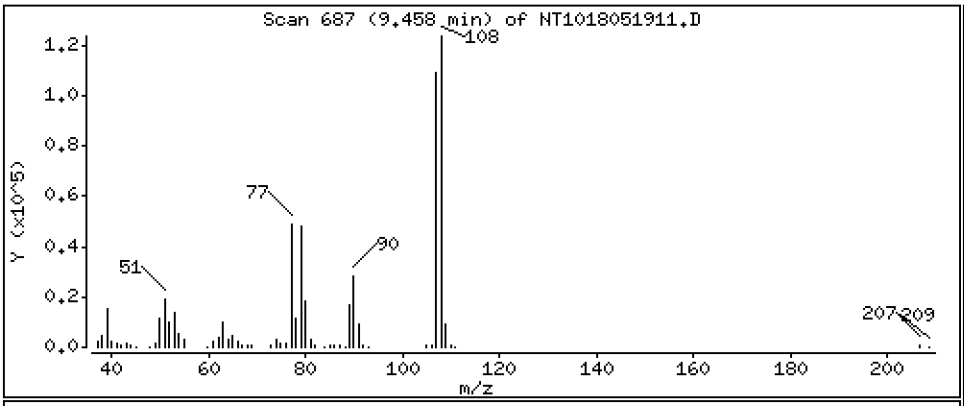
Operator: YZ

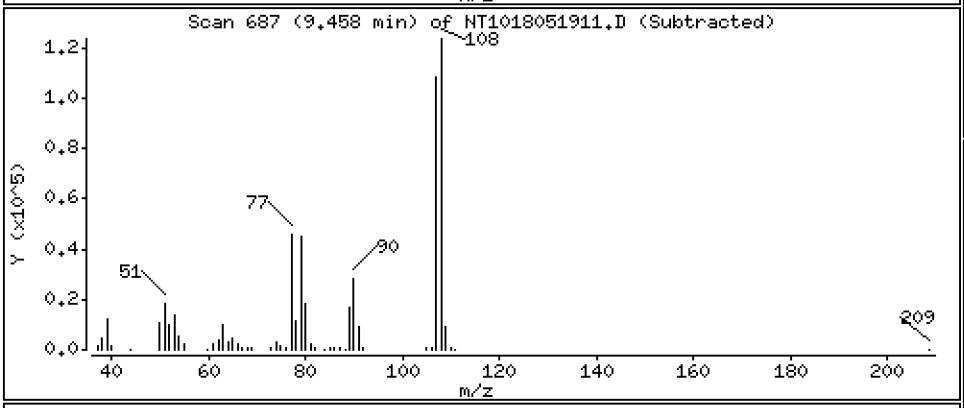
Column phase: ZB-5msi

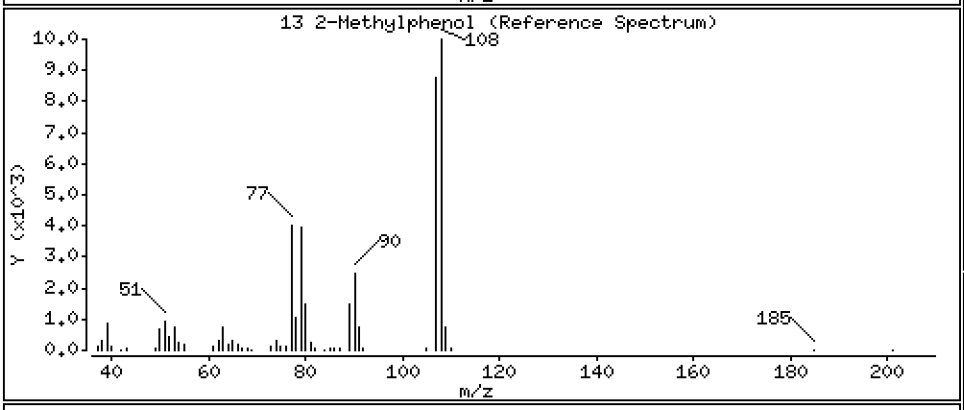
Column diameter: 0.25

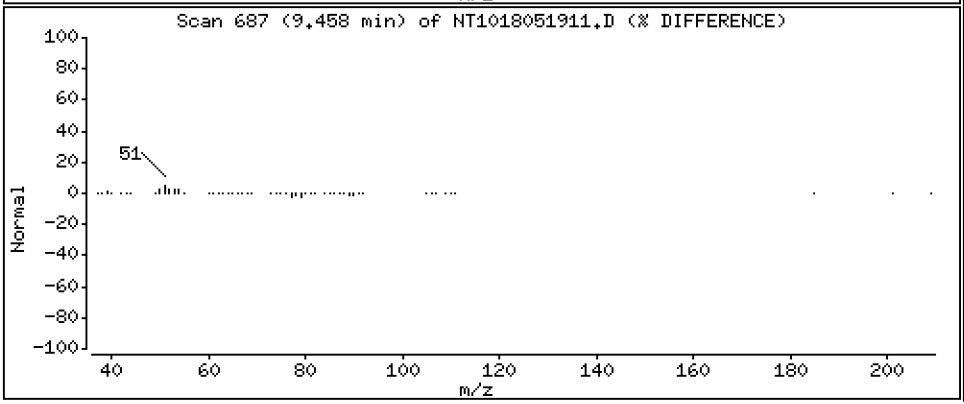
13 2-Methylphenol

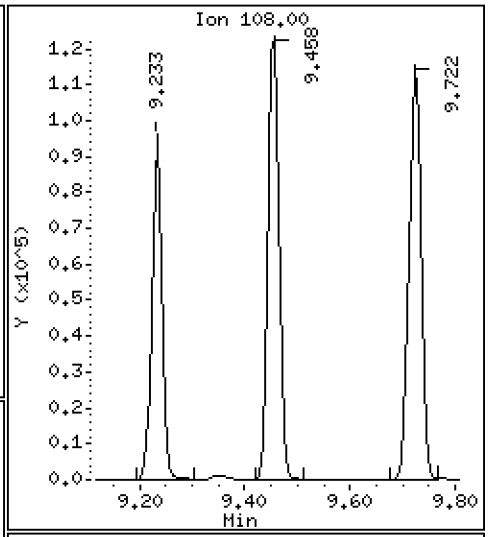
Concentration: 5.055 ug/mL

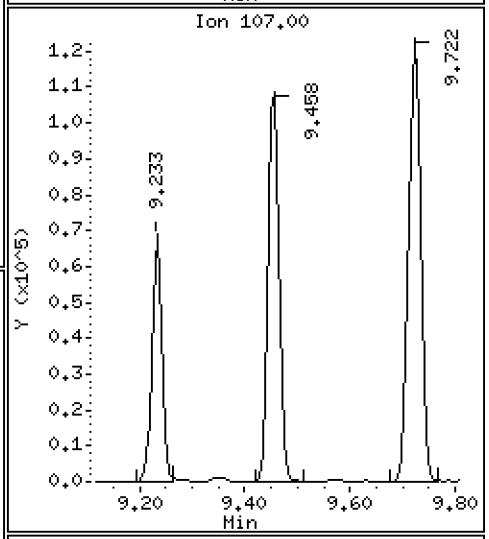


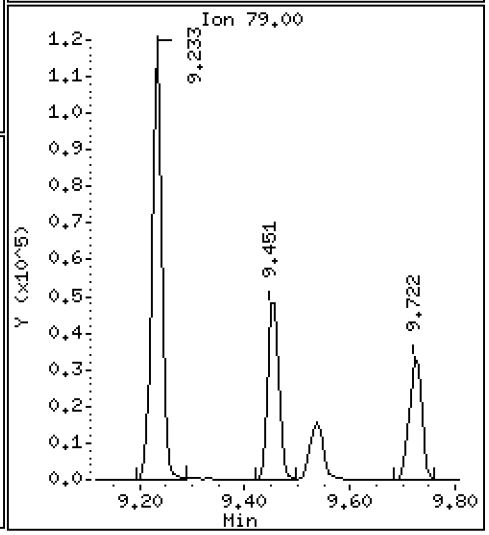












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

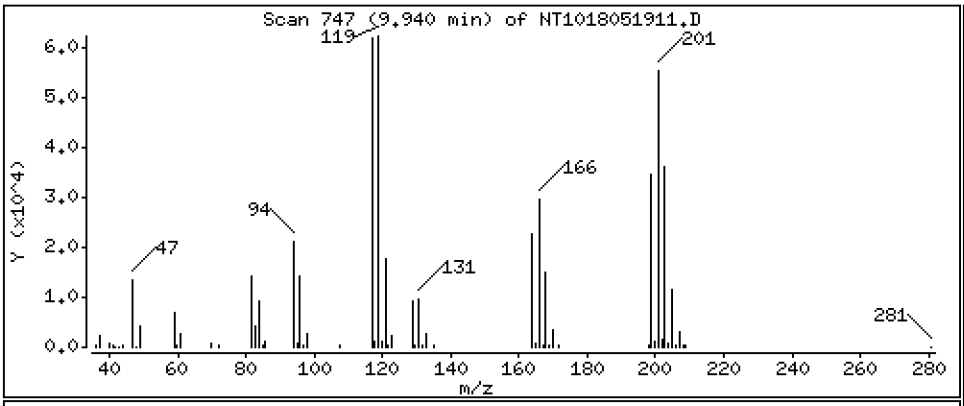
Operator: YZ

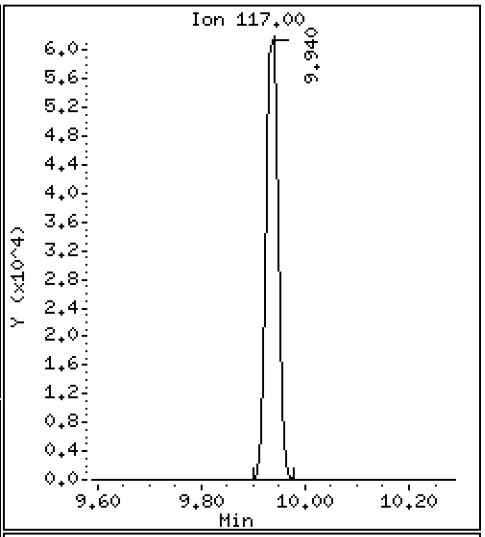
Column phase: ZB-5msi

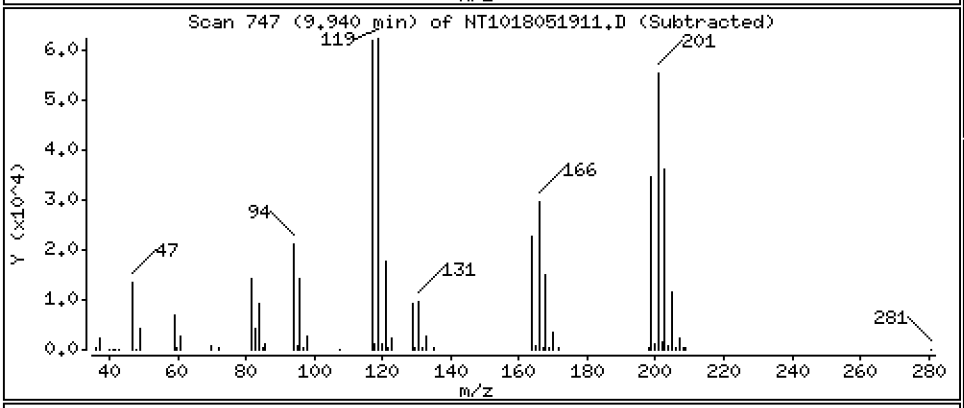
Column diameter: 0.25

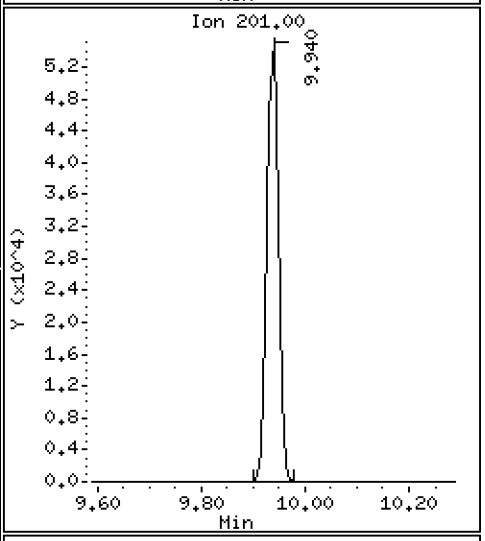
17 Hexachloroethane

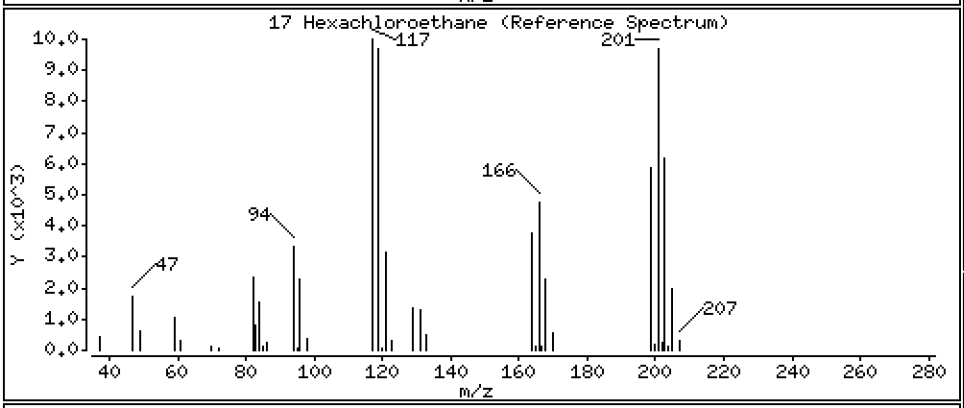
Concentration: 5.301 ug/mL

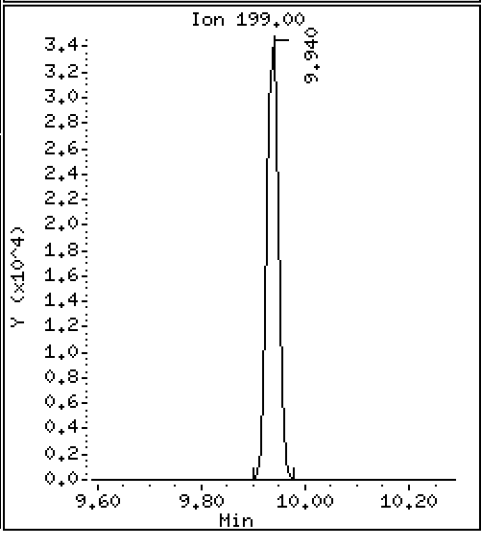


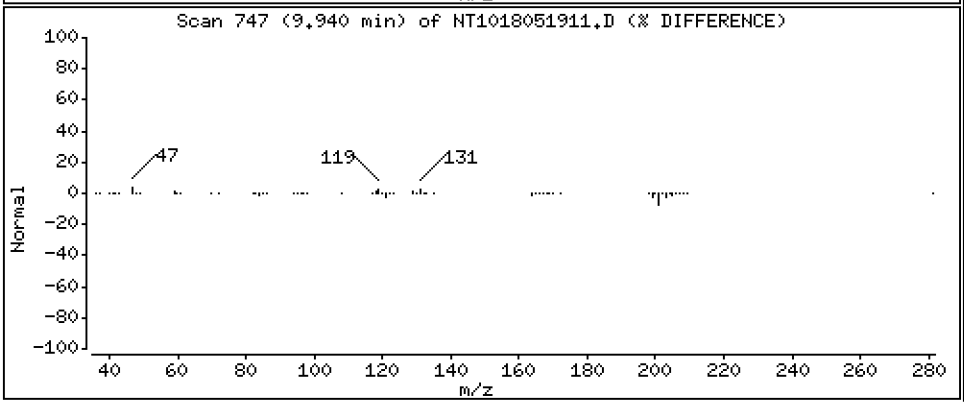












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

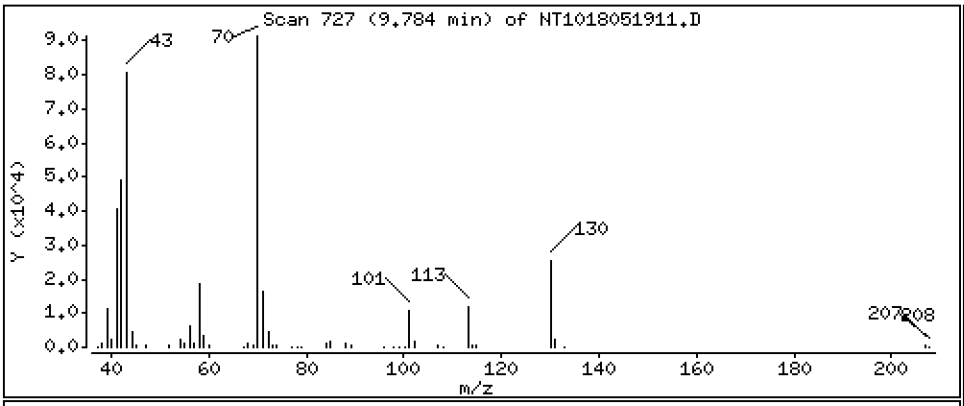
Operator: YZ

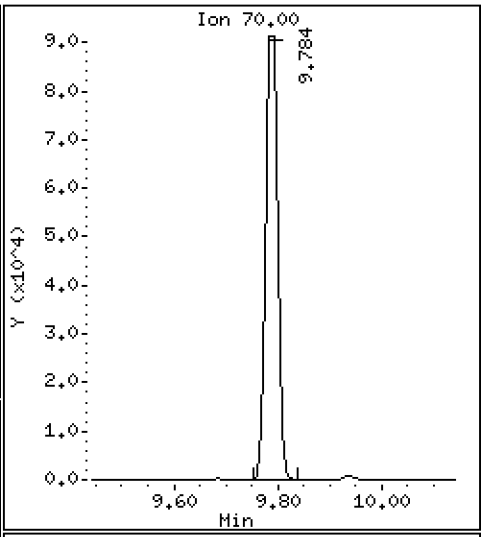
Column phase: ZB-5msi

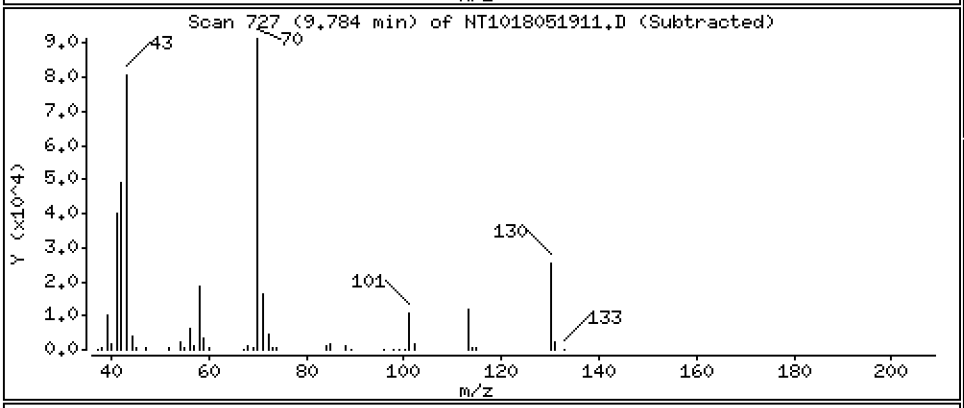
Column diameter: 0.25

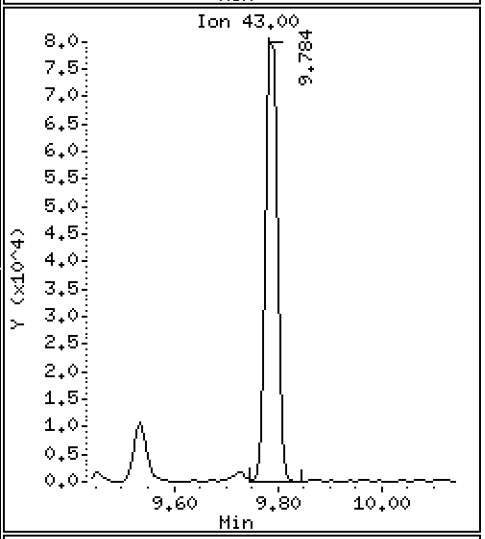
16 N-Nitroso-di-n-propylamine

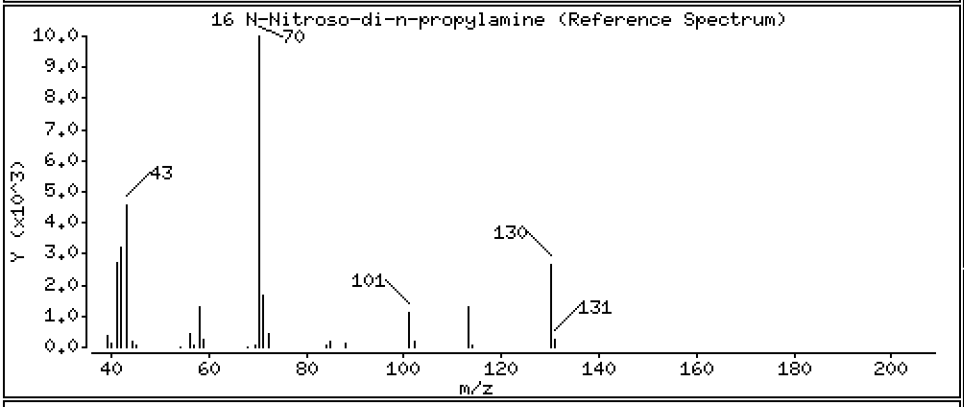
Concentration: 5.350 ug/mL

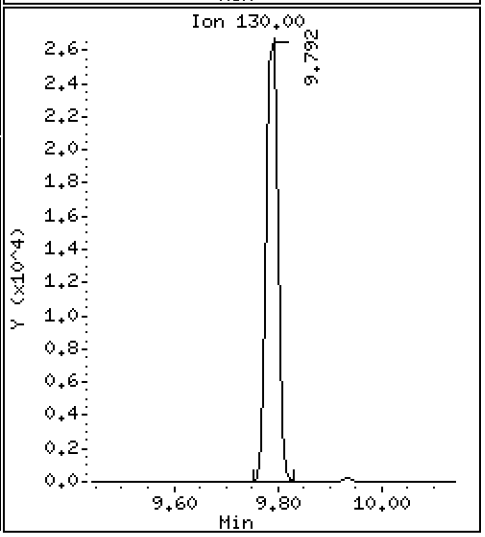


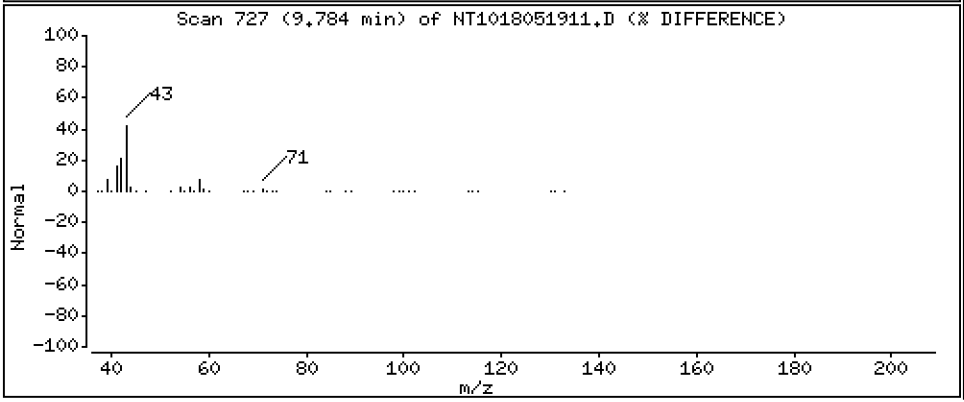












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

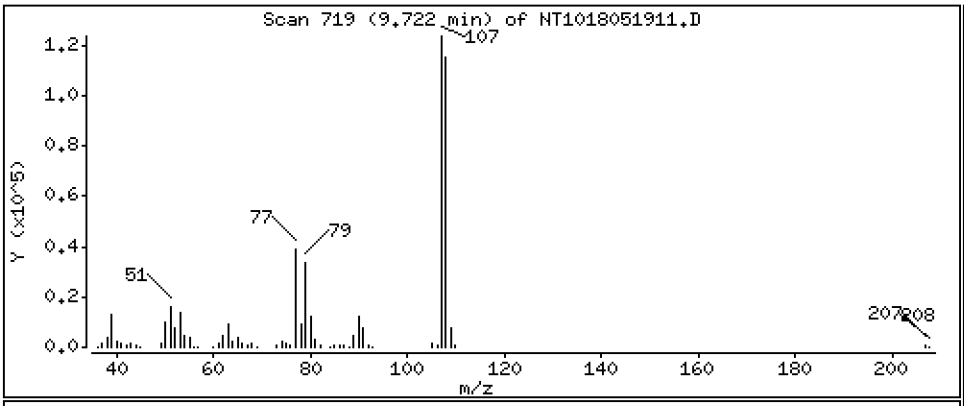
Operator: YZ

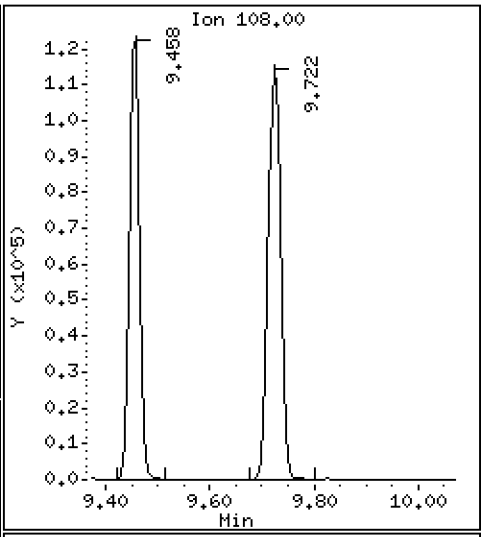
Column phase: ZB-5msi

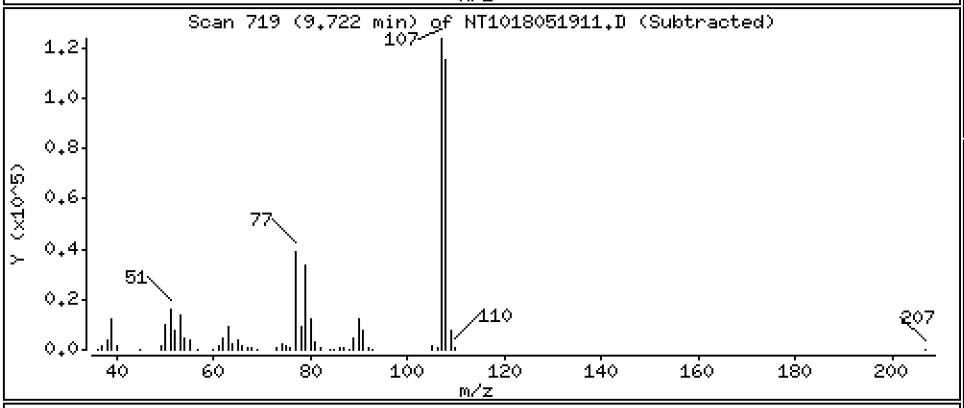
Column diameter: 0.25

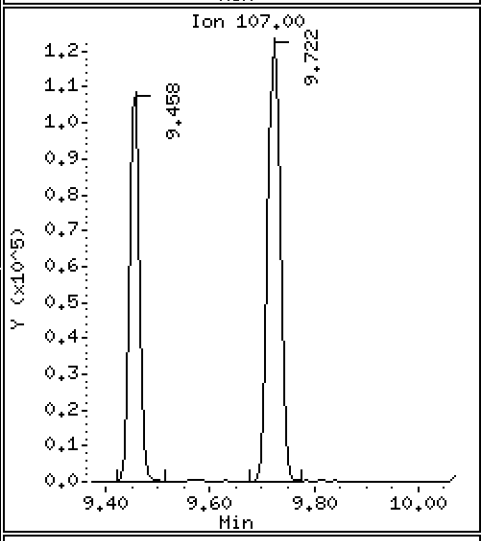
15 4-Methylphenol

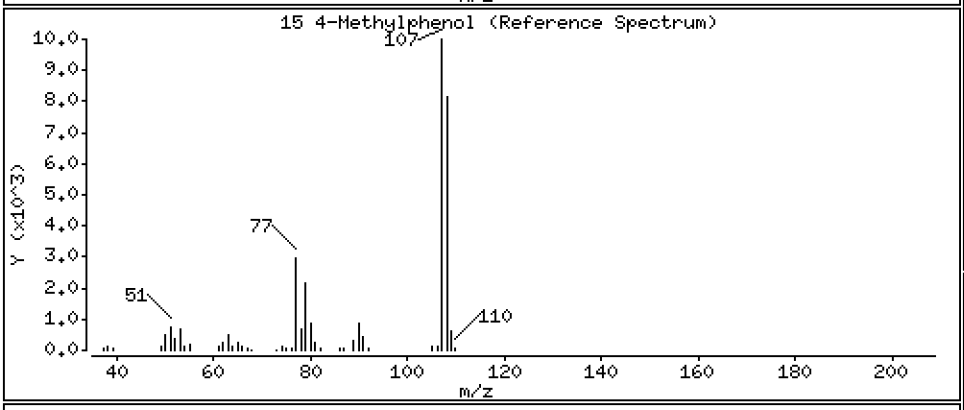
Concentration: 5.047 ug/mL

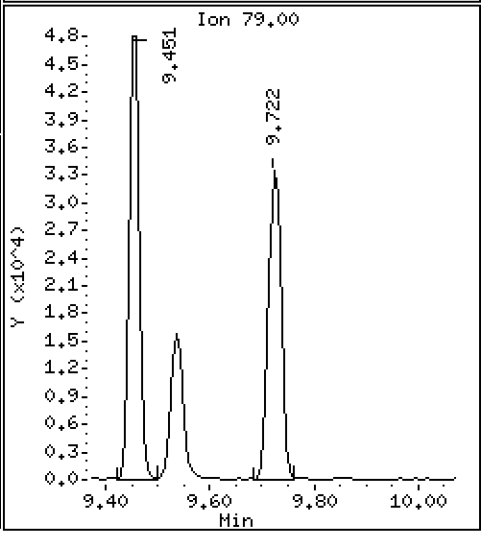


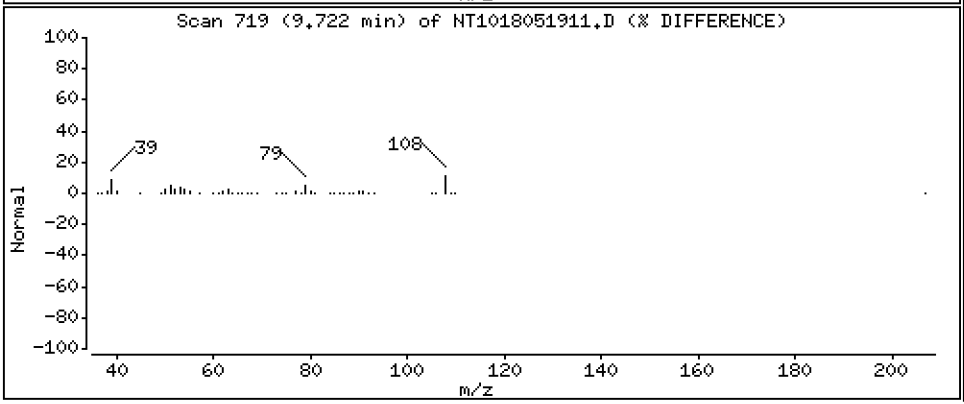












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

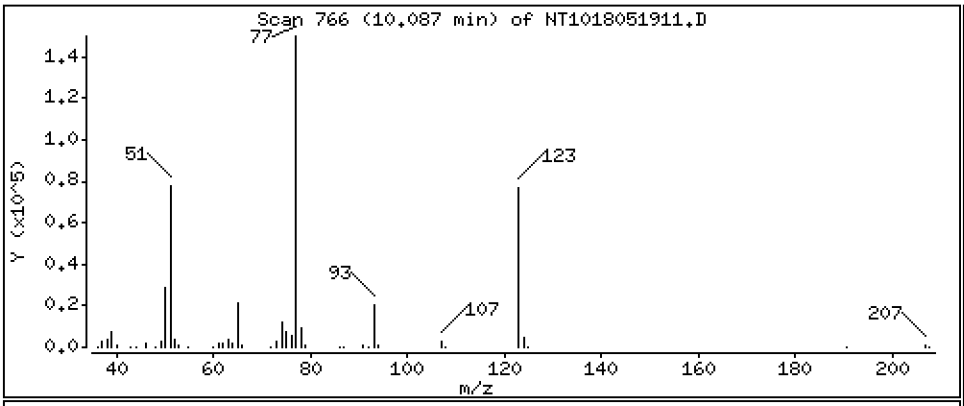
Operator: YZ

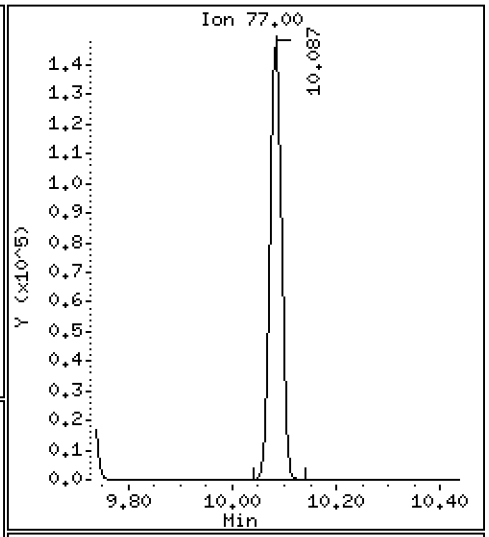
Column phase: ZB-5msi

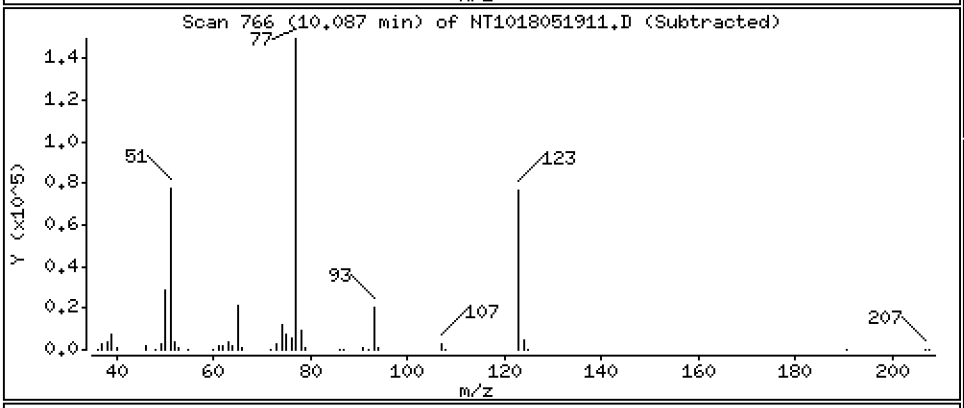
Column diameter: 0.25

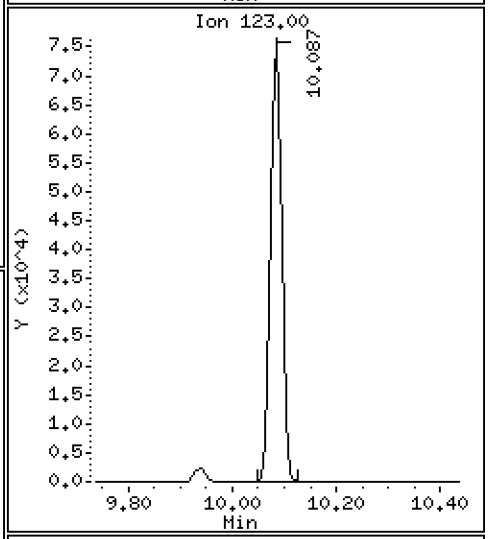
19 Nitrobenzene

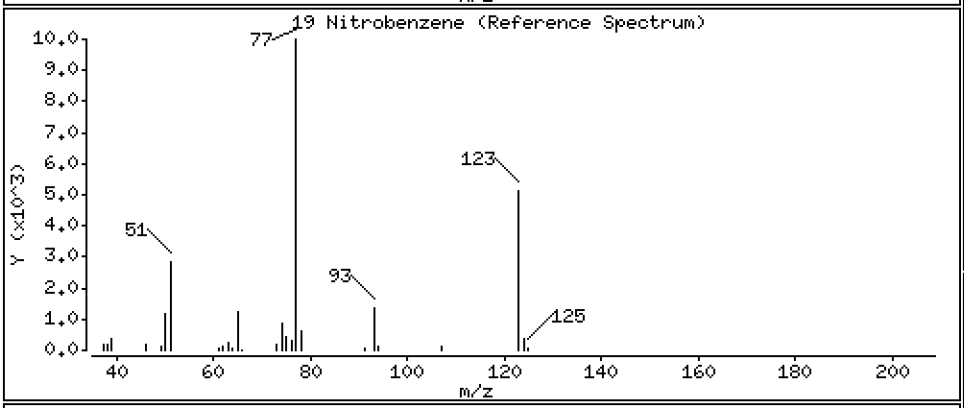
Concentration: 5.416 ug/mL

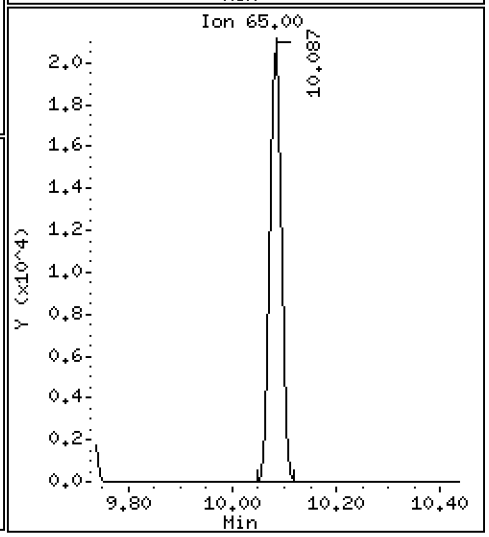


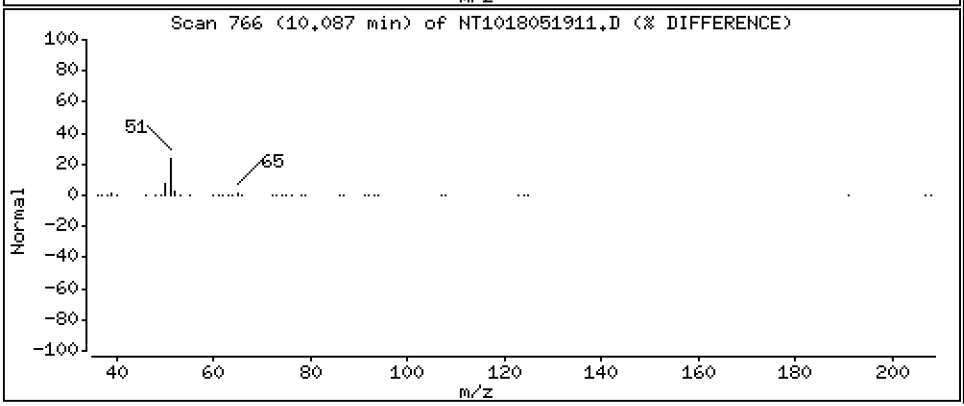












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

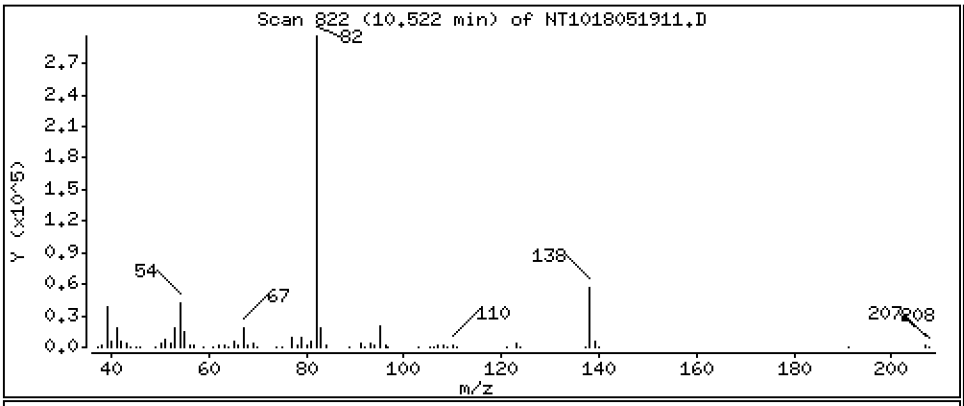
Operator: YZ

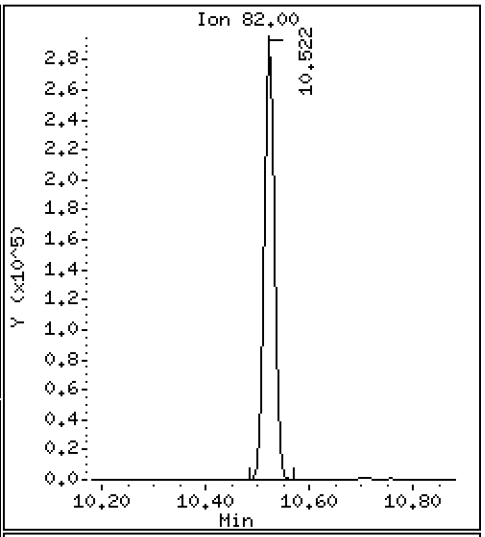
Column phase: ZB-5msi

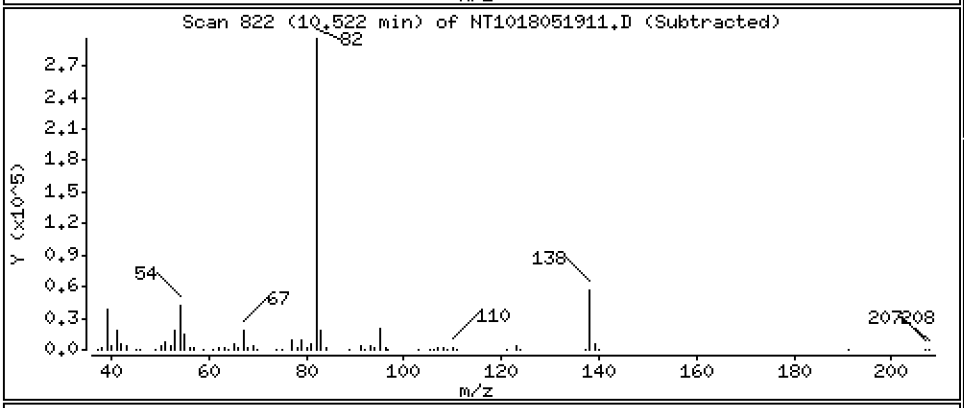
Column diameter: 0.25

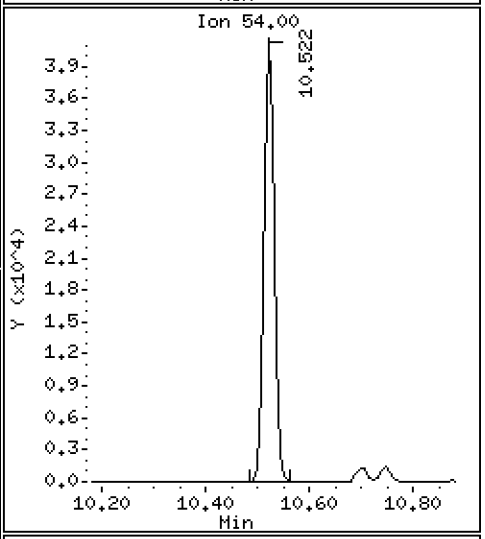
20 Isophorone

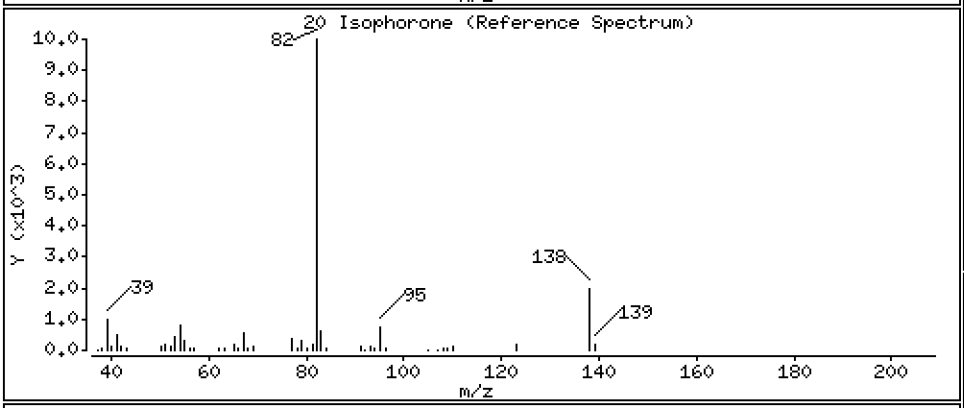
Concentration: 5.135 ug/mL

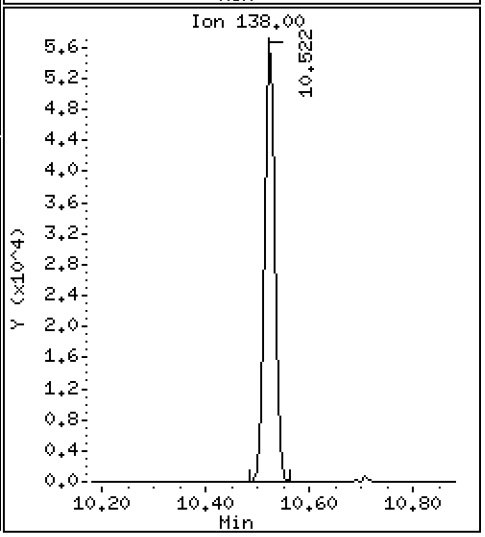


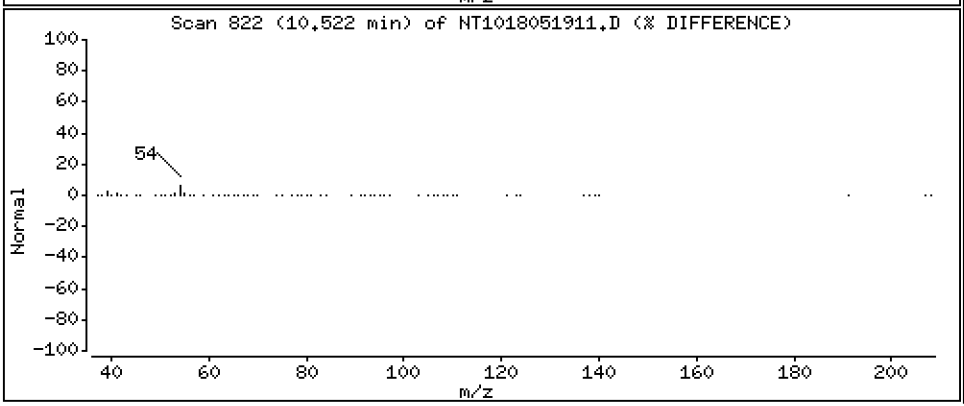












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

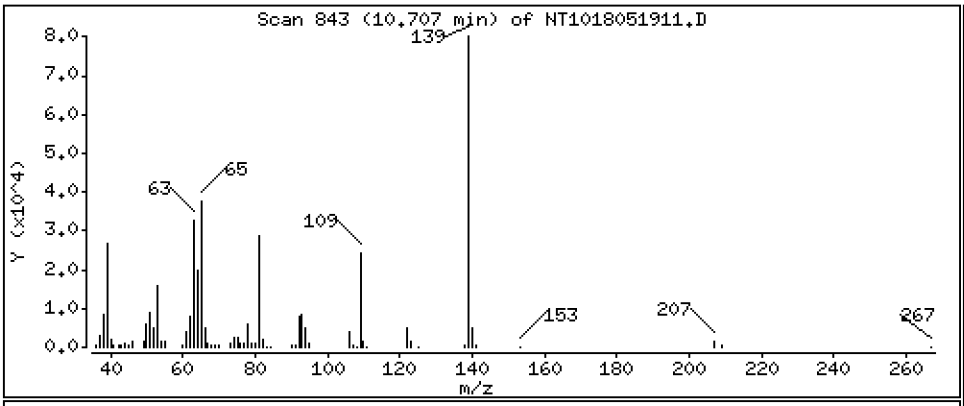
Operator: YZ

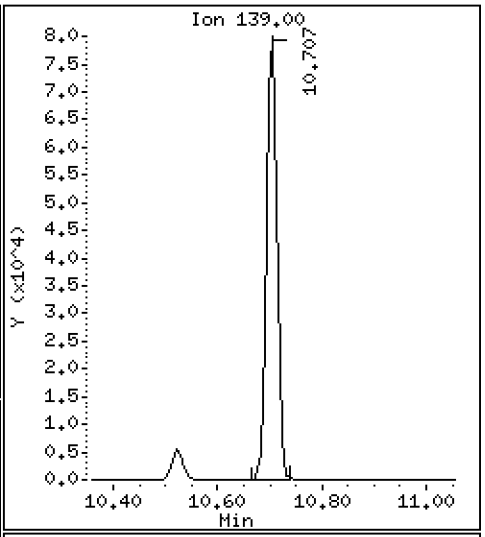
Column phase: ZB-5msi

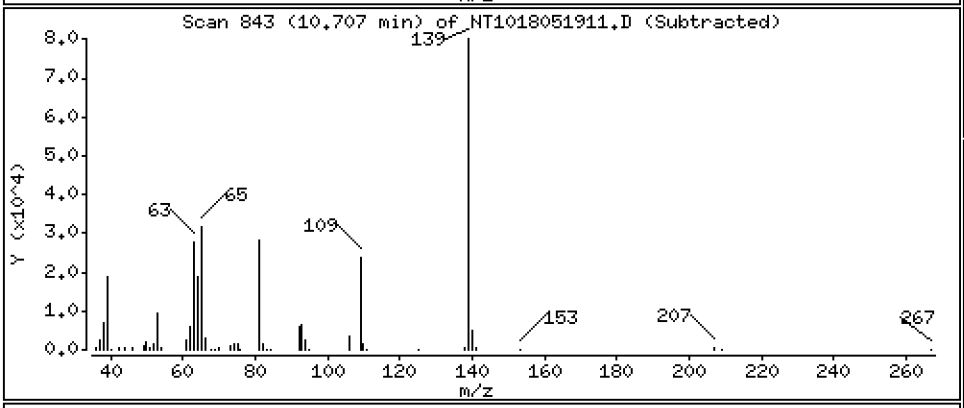
Column diameter: 0.25

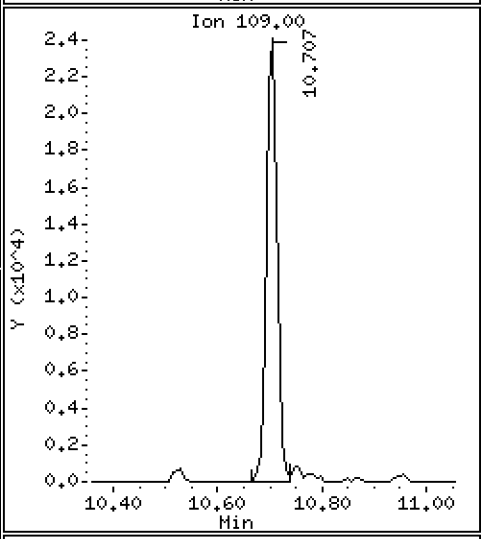
21 2-Nitrophenol

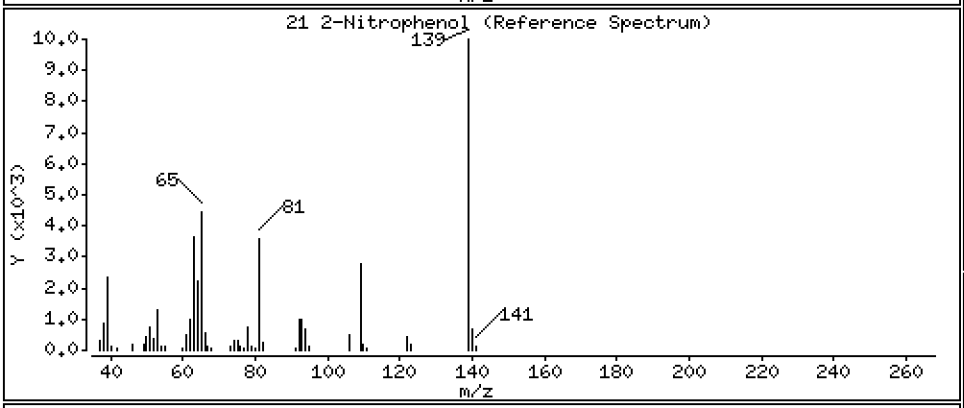
Concentration: 5.048 ug/mL

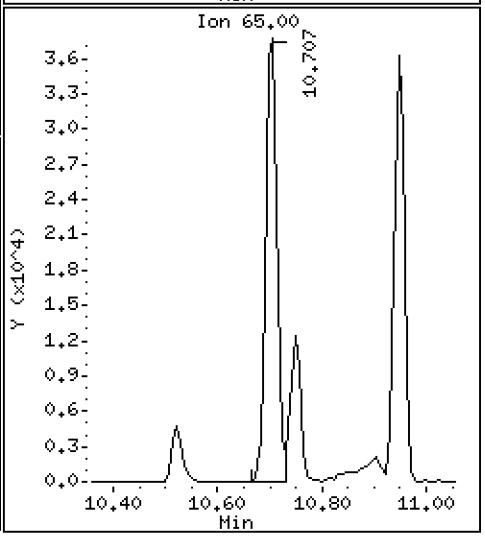


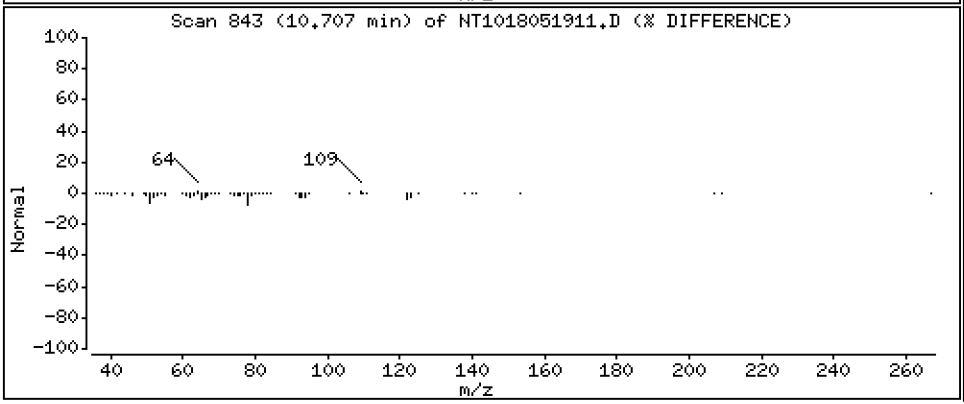












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

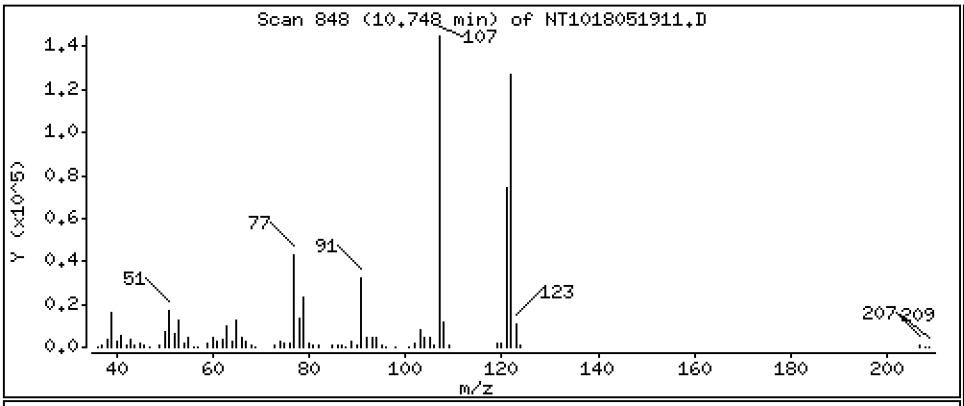
Operator: YZ

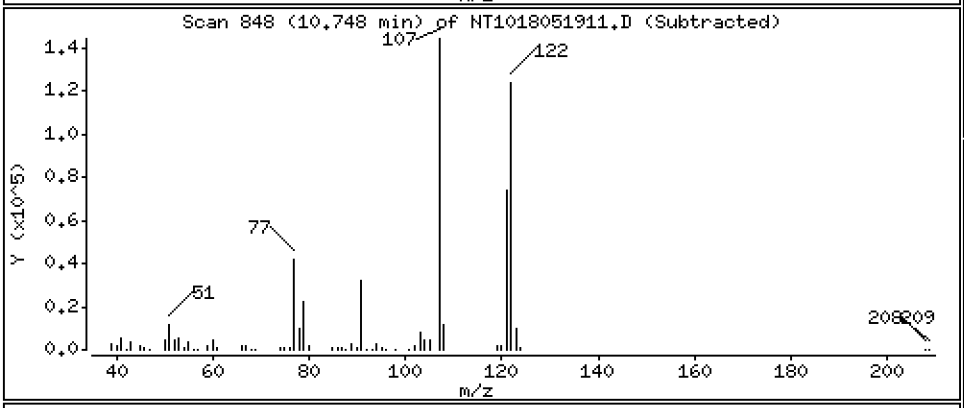
Column phase: ZB-5msi

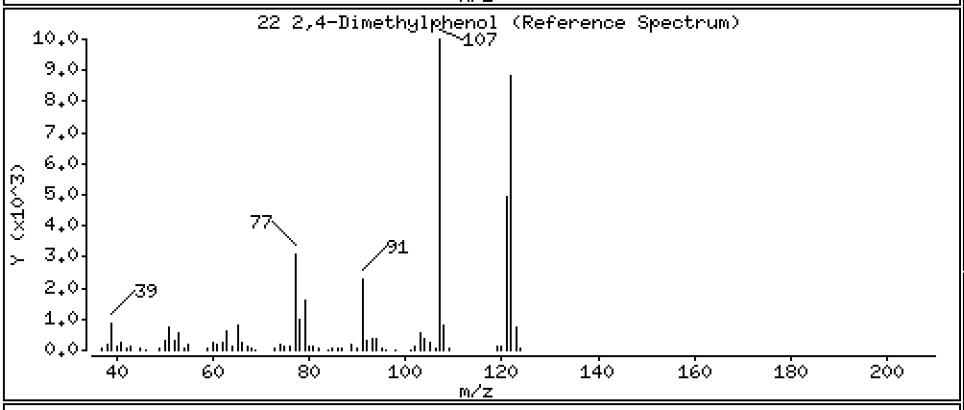
Column diameter: 0.25

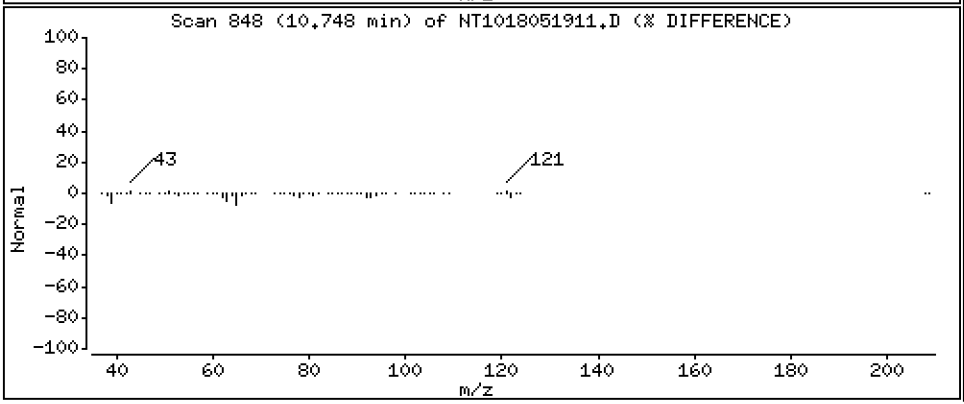
22 2,4-Dimethylphenol

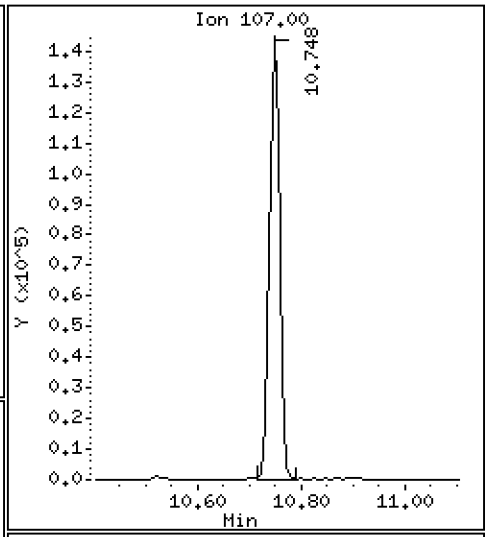
Concentration: 4.995 ug/mL

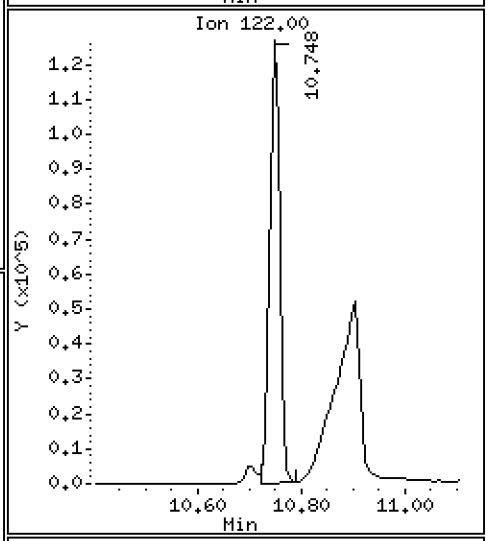


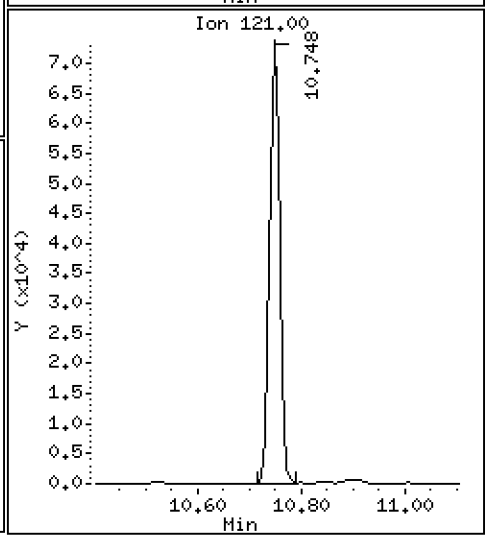












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

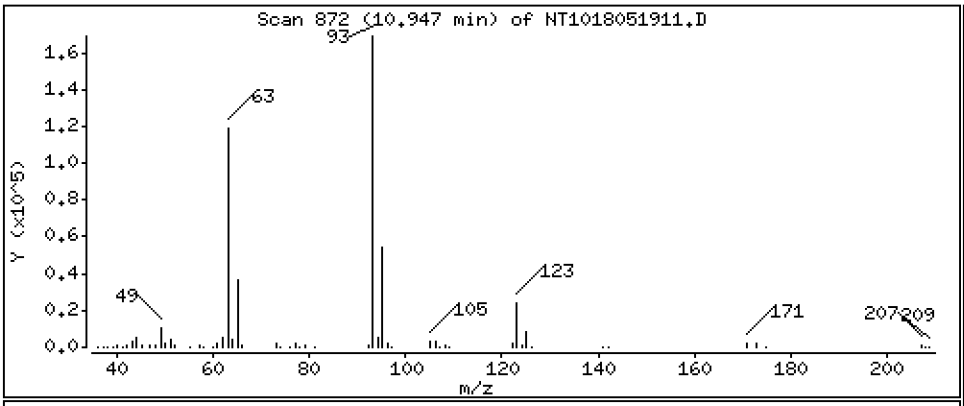
Operator: YZ

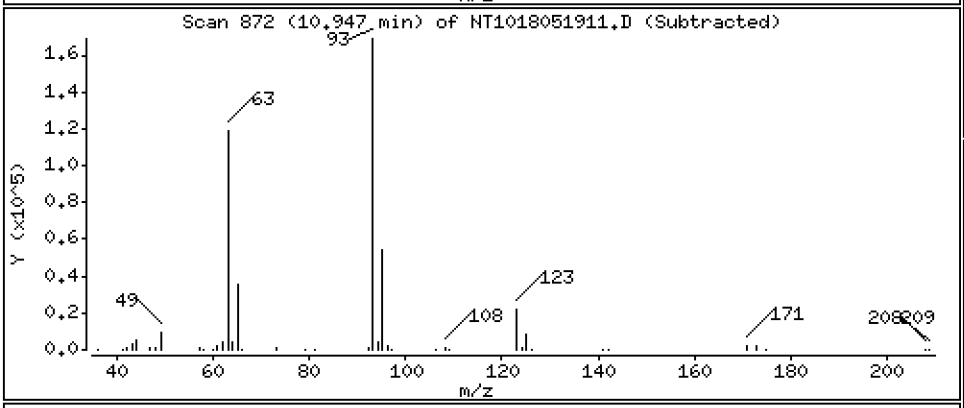
Column phase: ZB-5msi

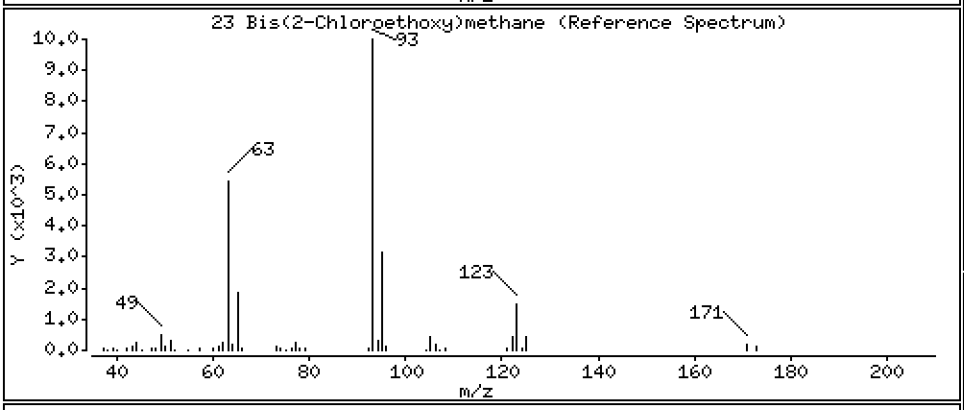
Column diameter: 0.25

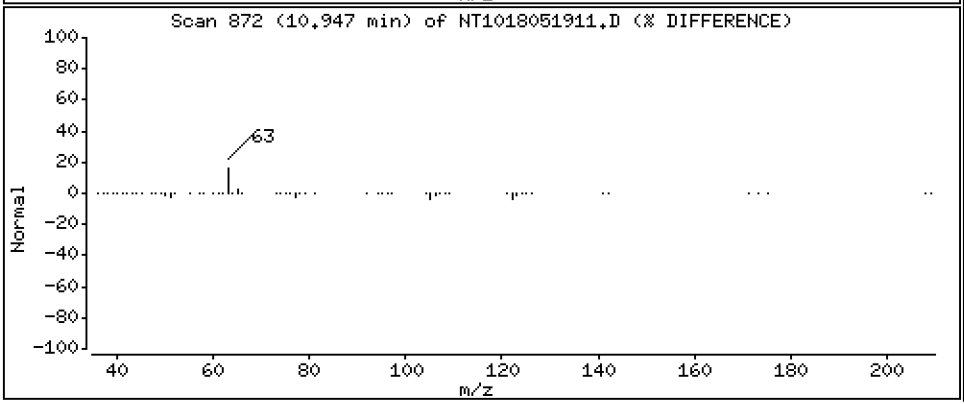
23 Bis(2-Chloroethoxy)methane

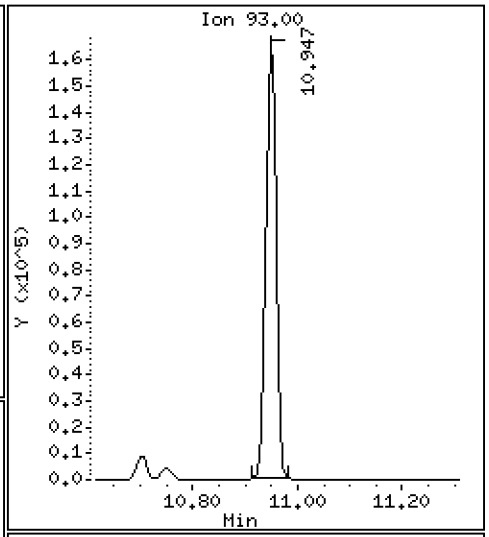
Concentration: 5.251 ug/mL

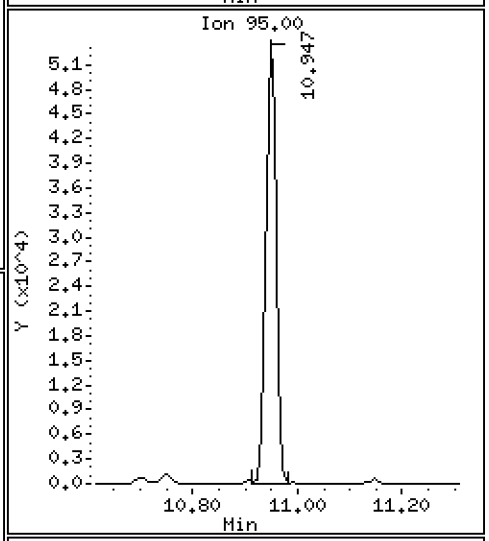


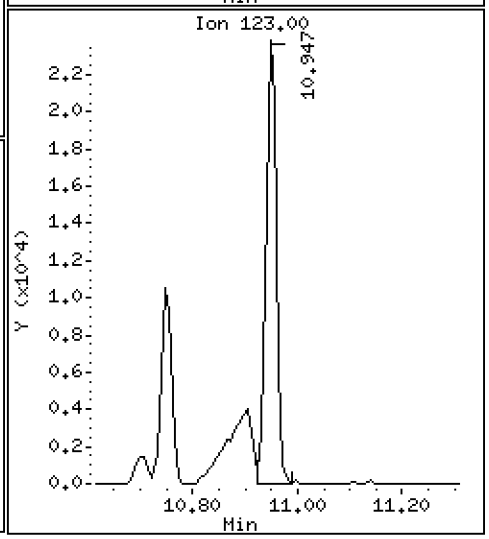












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

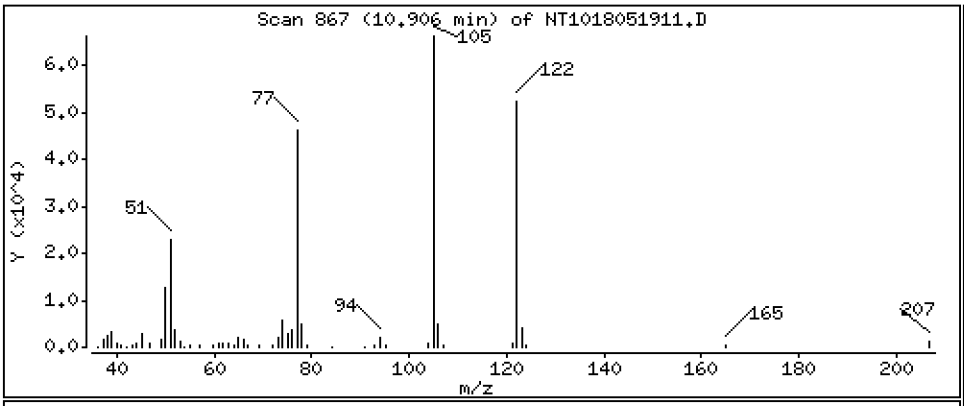
Operator: YZ

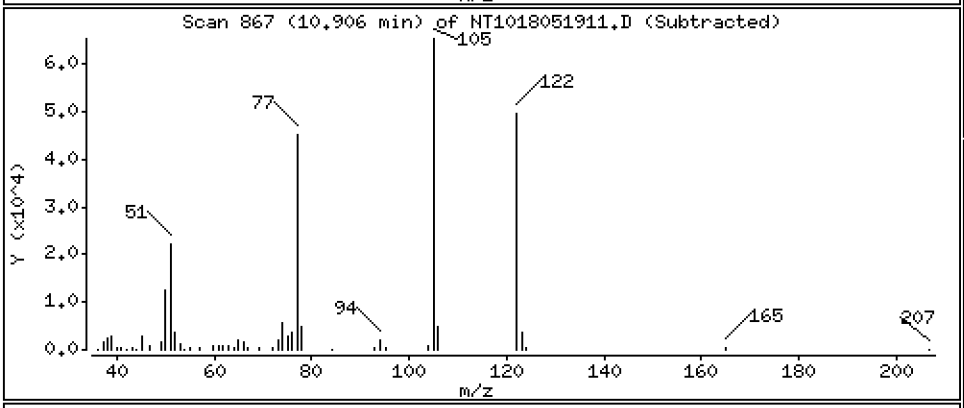
Column phase: ZB-5msi

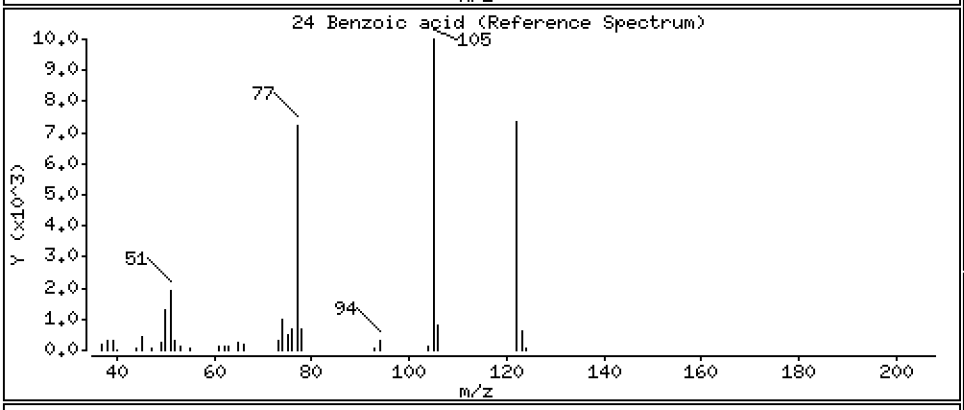
Column diameter: 0.25

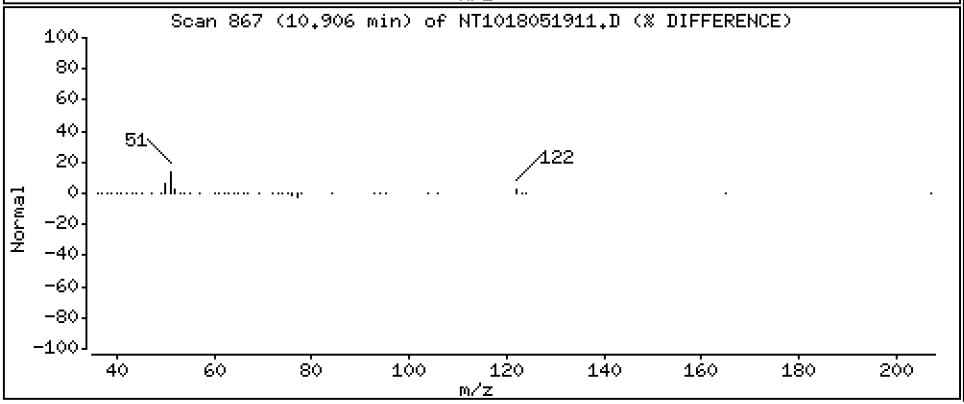
24 Benzoic acid

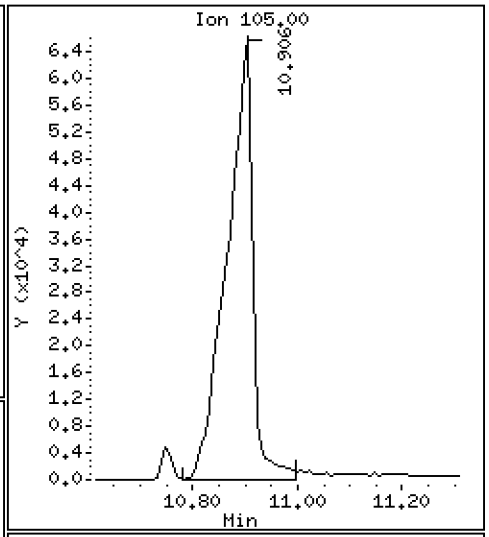
Concentration: 8.772 ug/mL

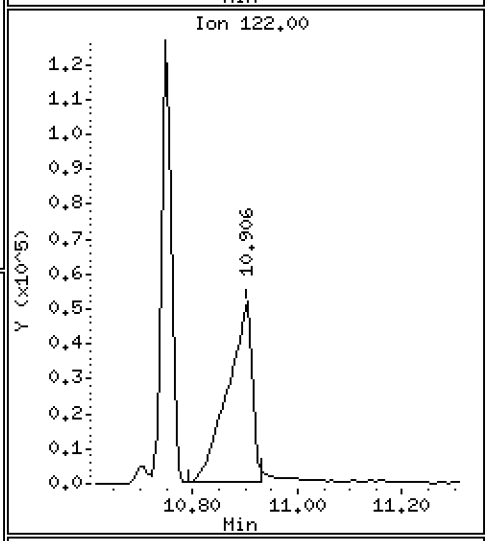


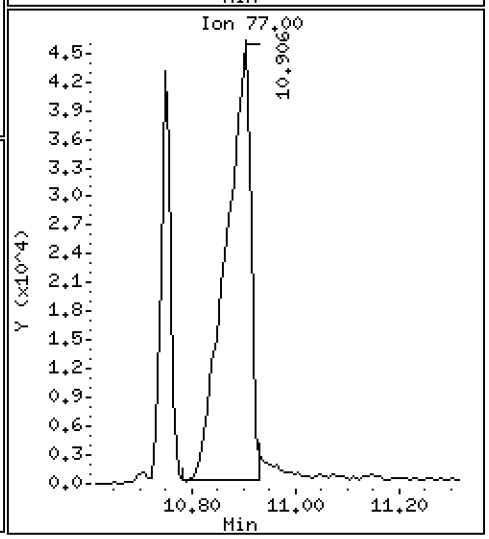












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

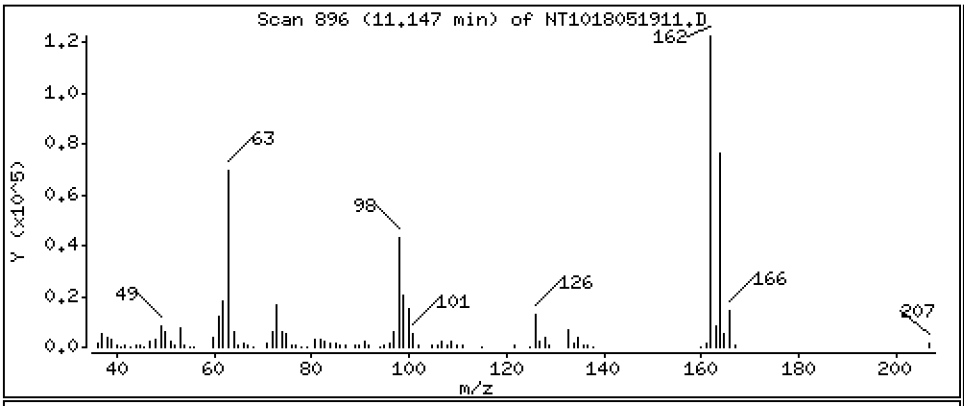
Operator: YZ

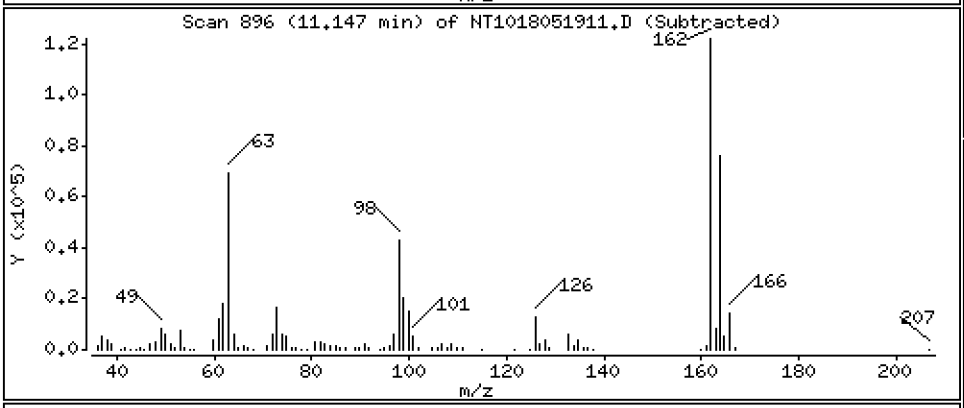
Column phase: ZB-5msi

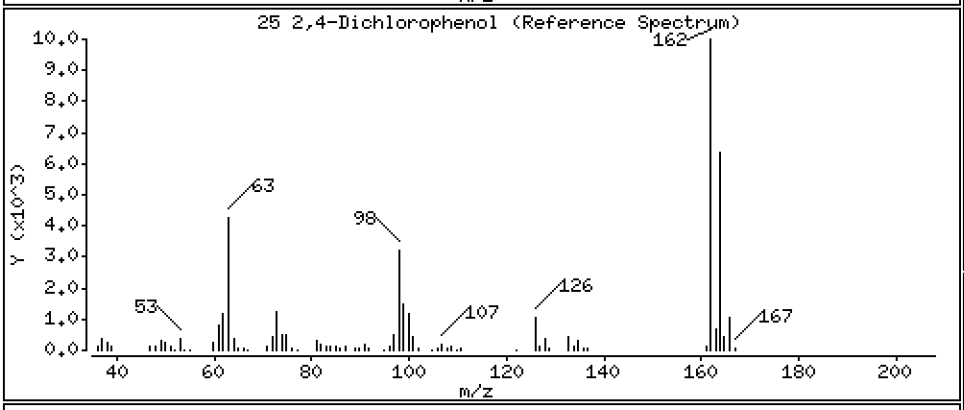
Column diameter: 0.25

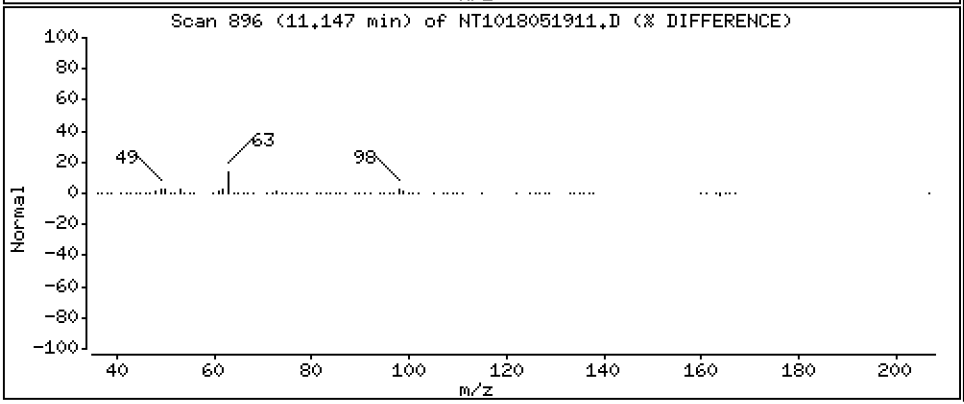
25 2,4-Dichlorophenol

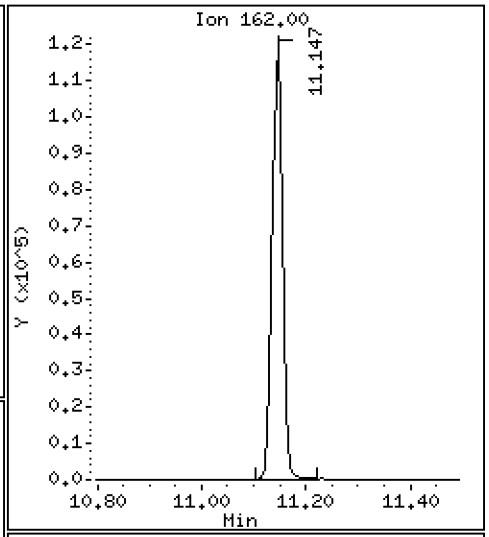
Concentration: 5.222 ug/mL

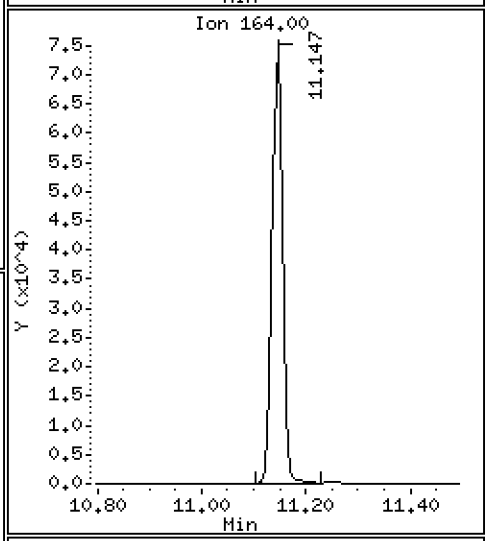


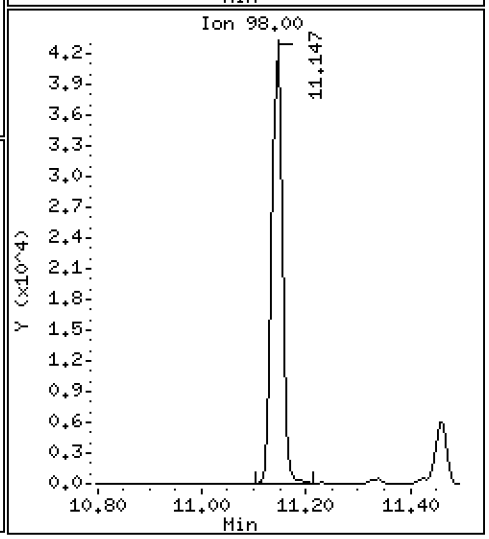












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

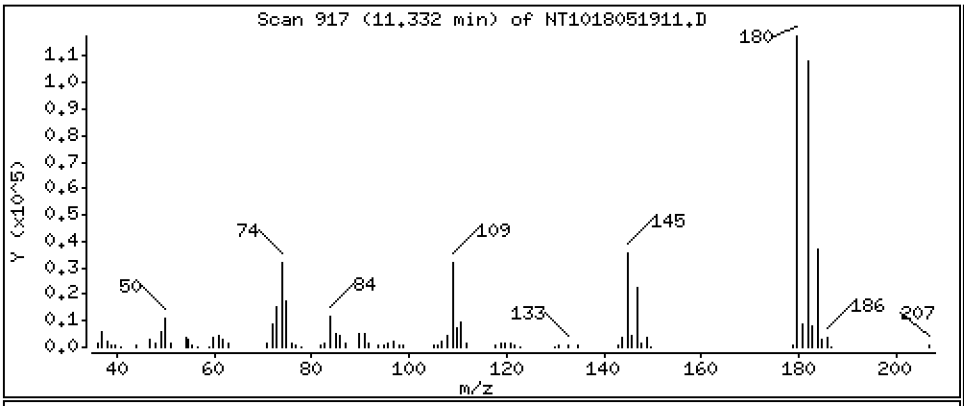
Operator: YZ

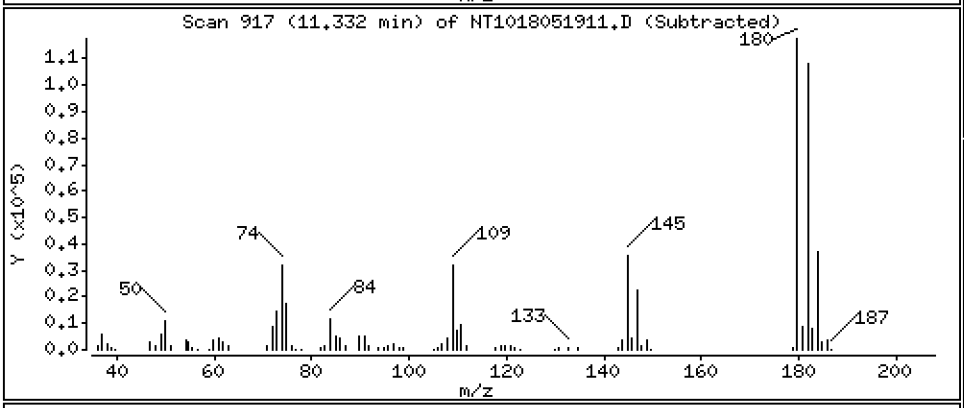
Column phase: ZB-5msi

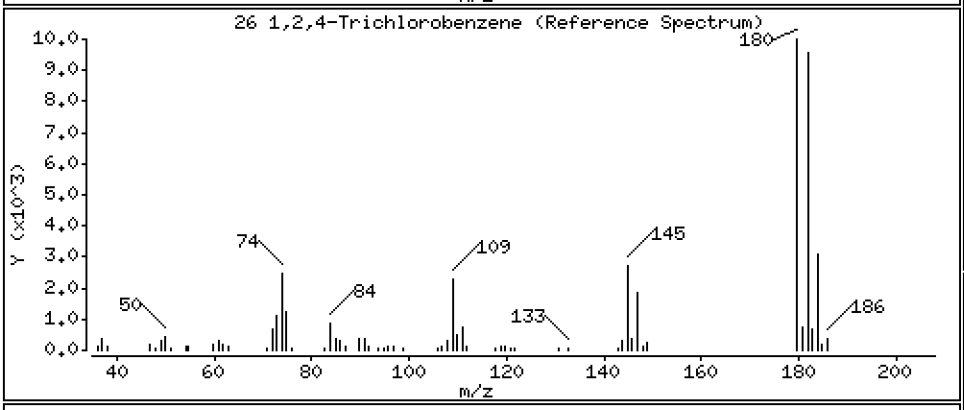
Column diameter: 0.25

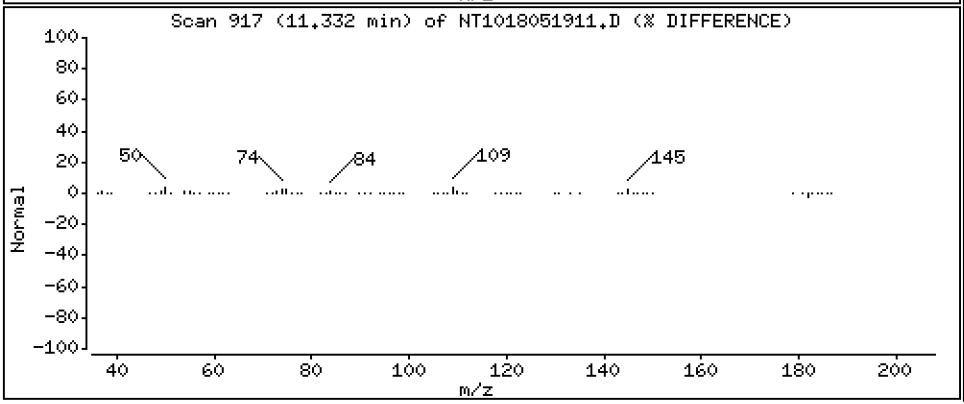
26 1,2,4-Trichlorobenzene

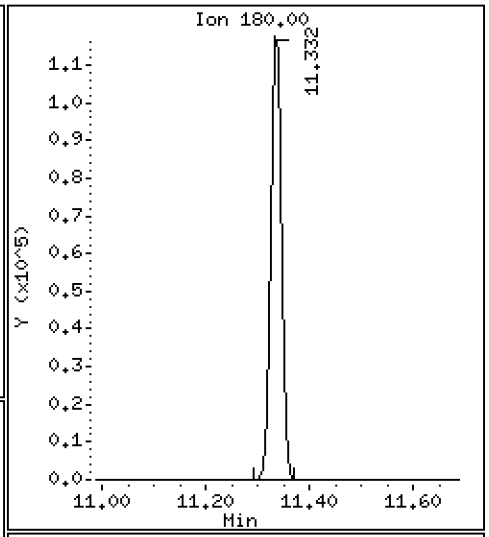
Concentration: 5.246 ug/mL

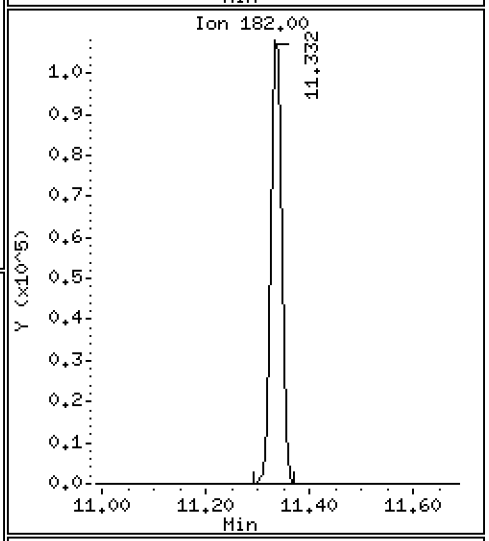


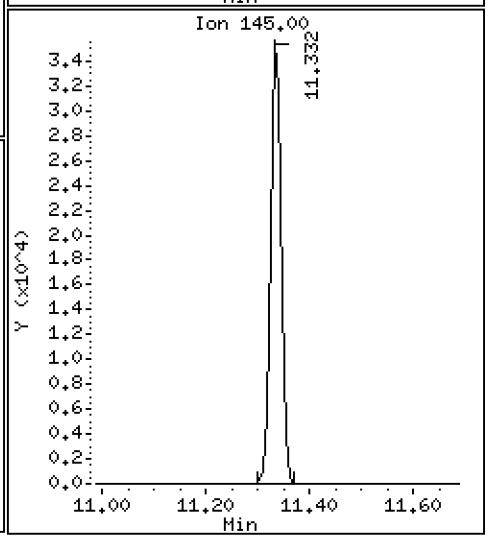












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

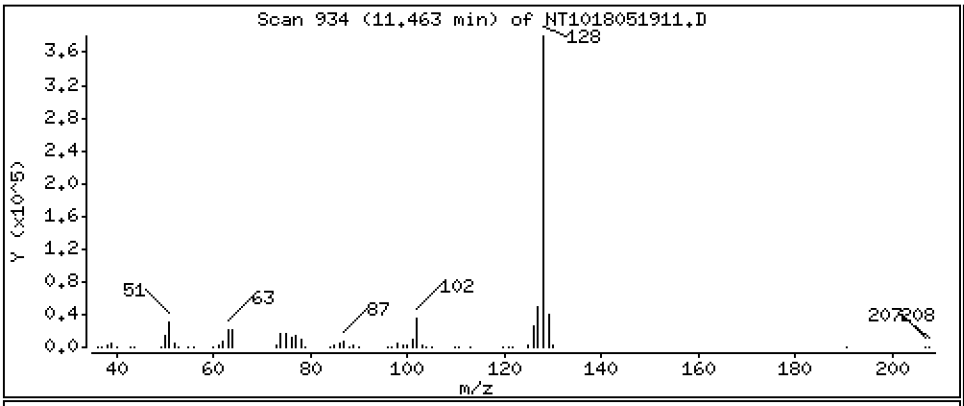
Operator: YZ

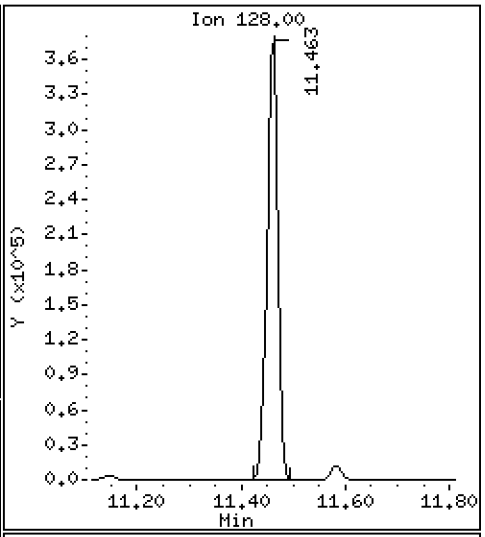
Column phase: ZB-5msi

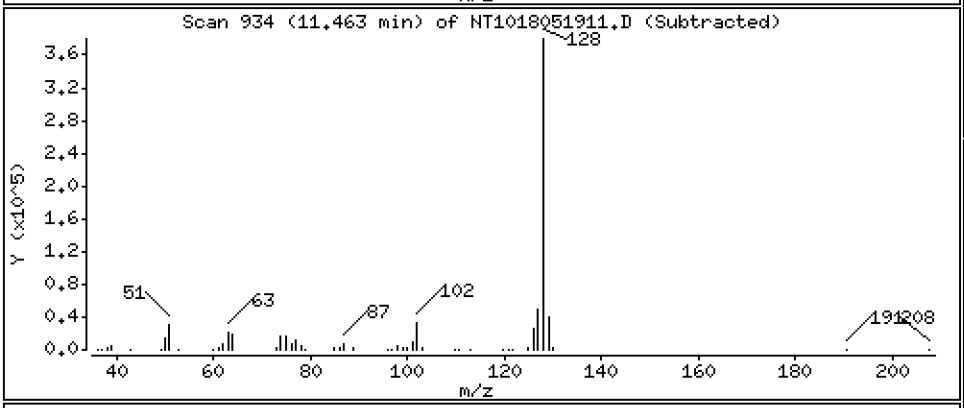
Column diameter: 0.25

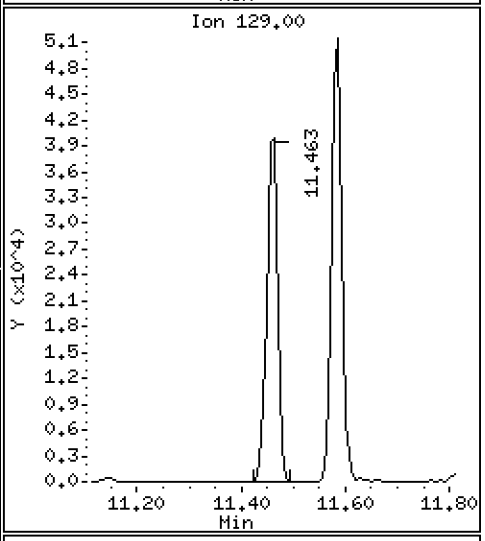
28 Naphthalene

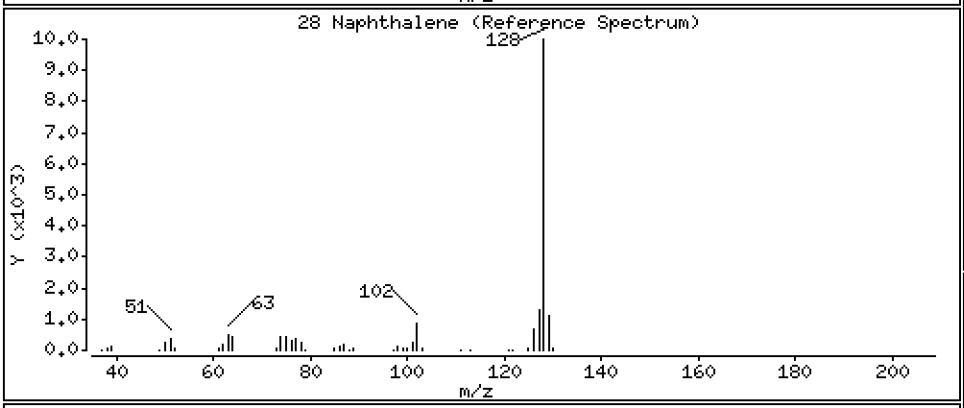
Concentration: 5.255 ug/mL

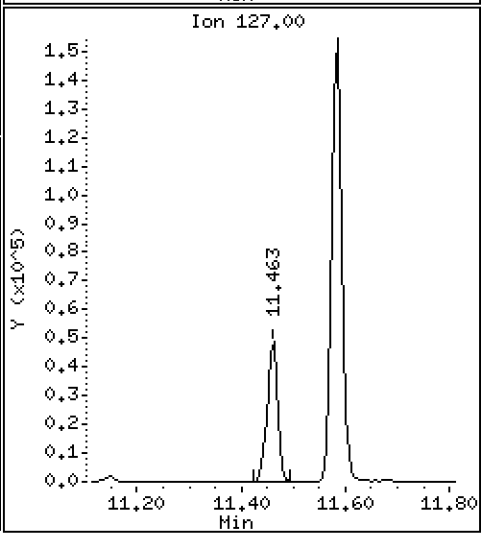


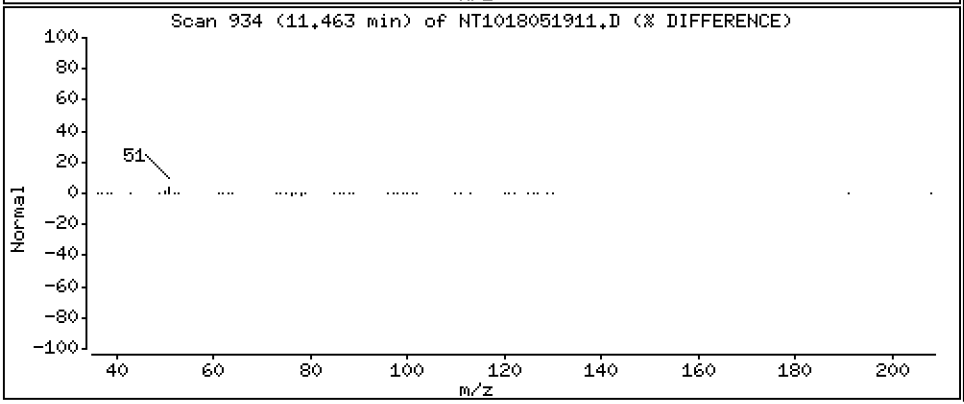












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

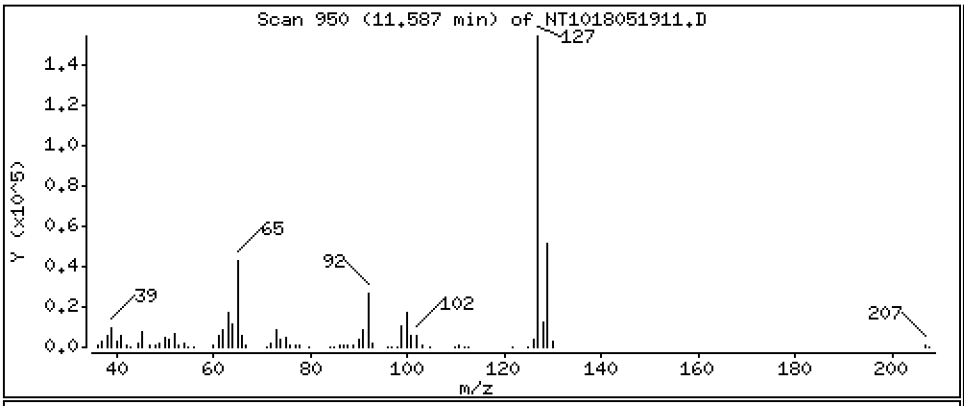
Operator: YZ

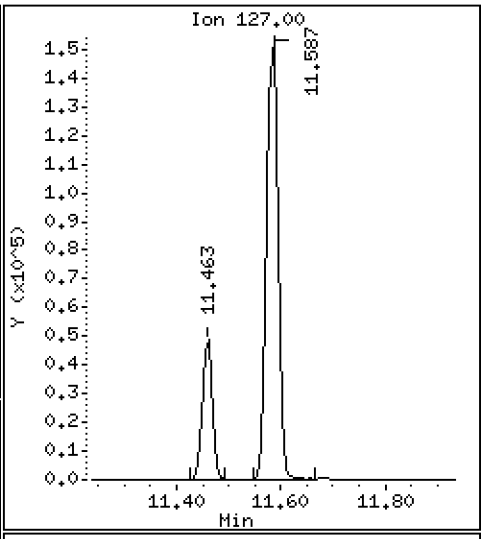
Column phase: ZB-5msi

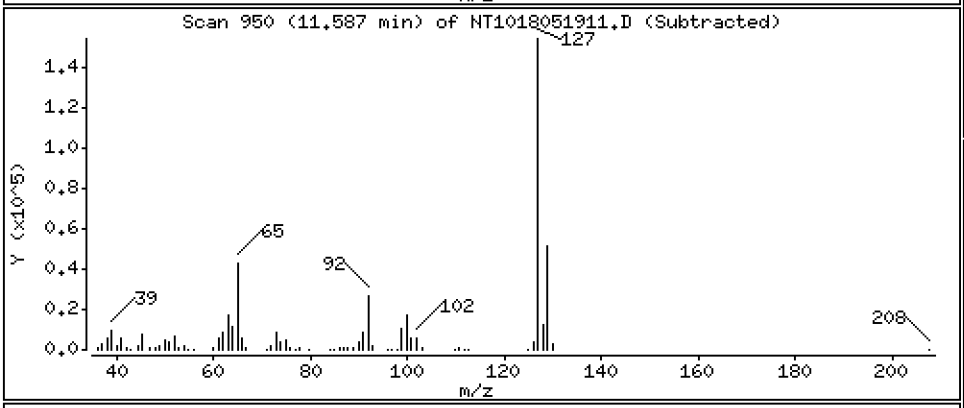
Column diameter: 0.25

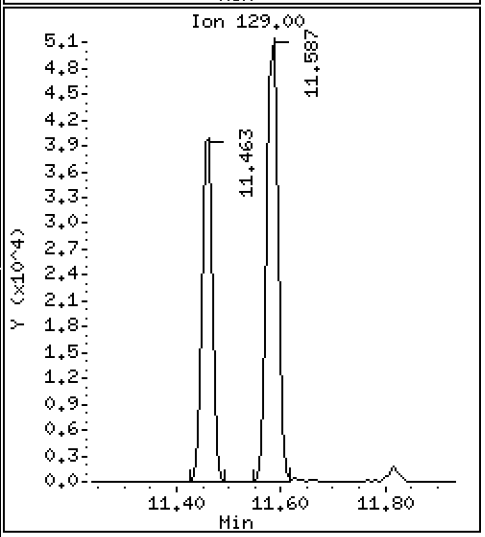
29 4-Chloroaniline

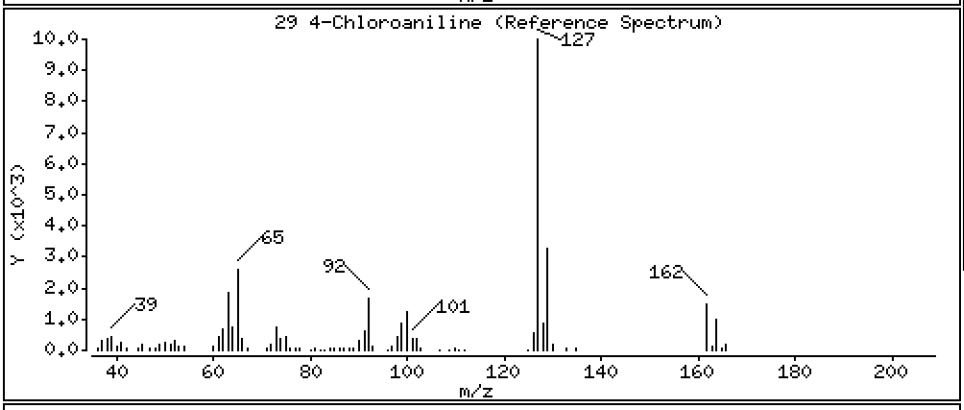
Concentration: 4.713 ug/mL

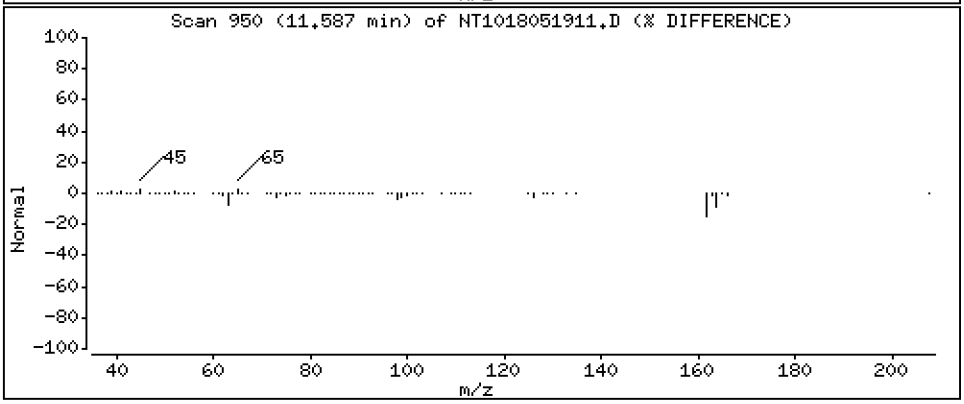












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

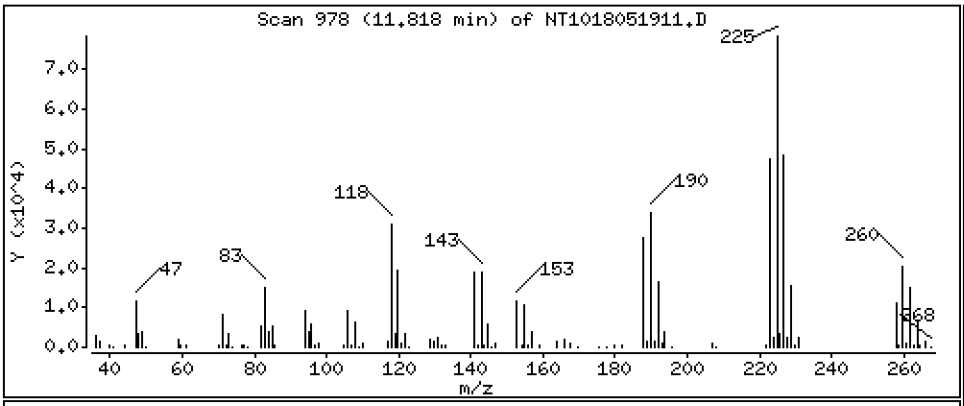
Operator: YZ

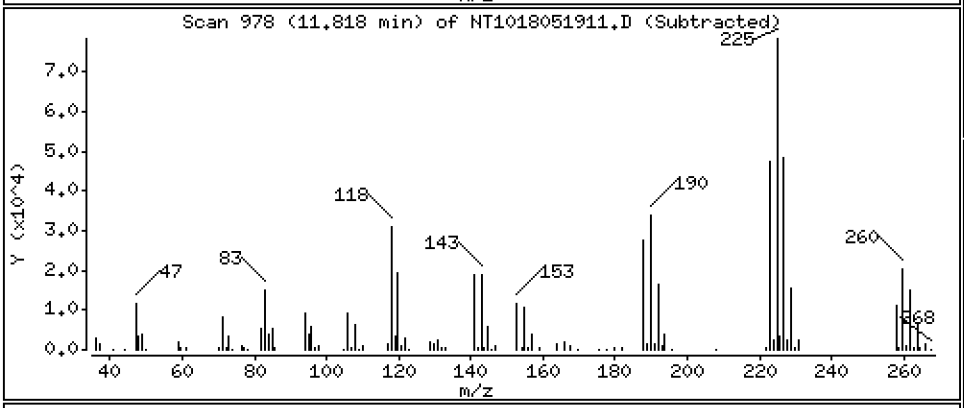
Column phase: ZB-5msi

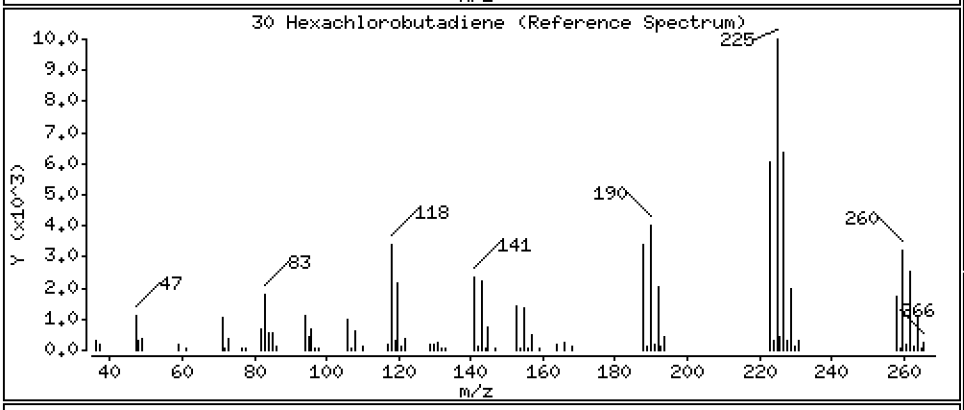
Column diameter: 0.25

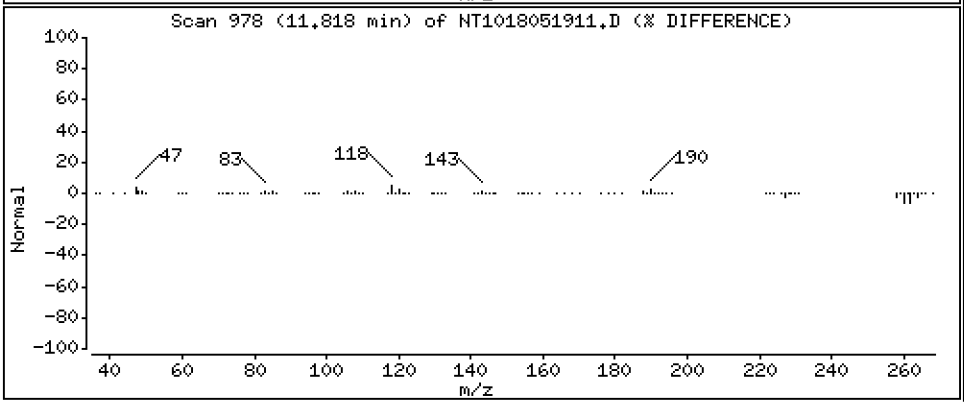
30 Hexachlorobutadiene

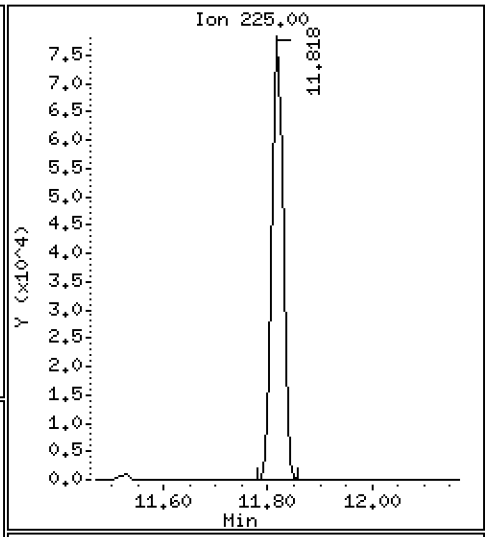
Concentration: 5.174 ug/mL

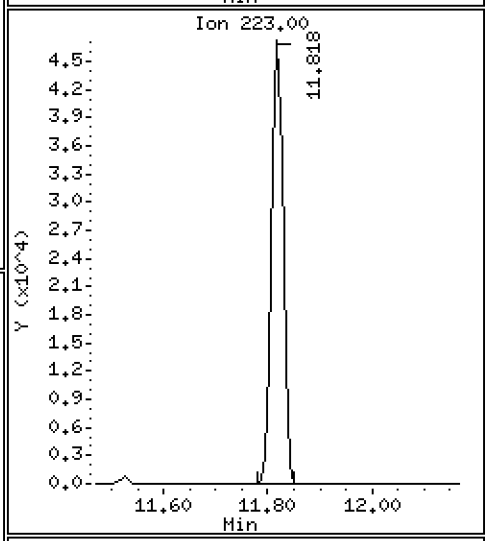


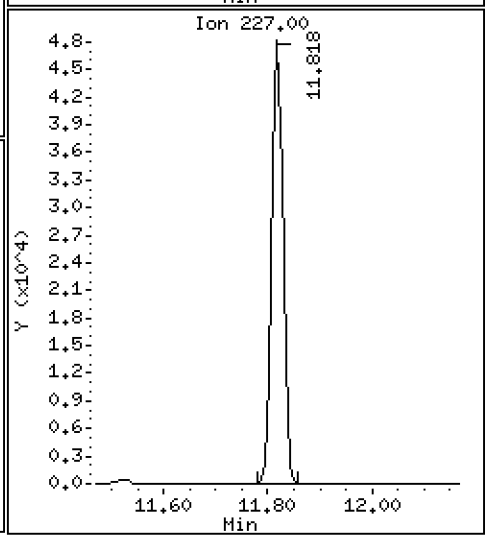












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

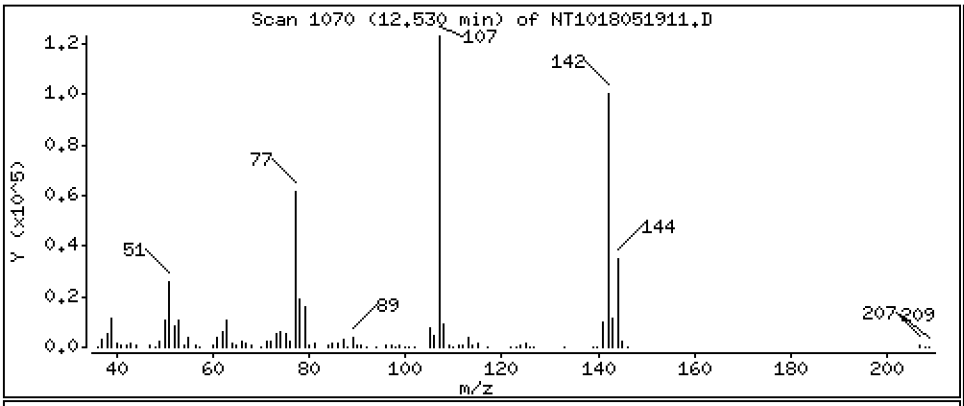
Operator: YZ

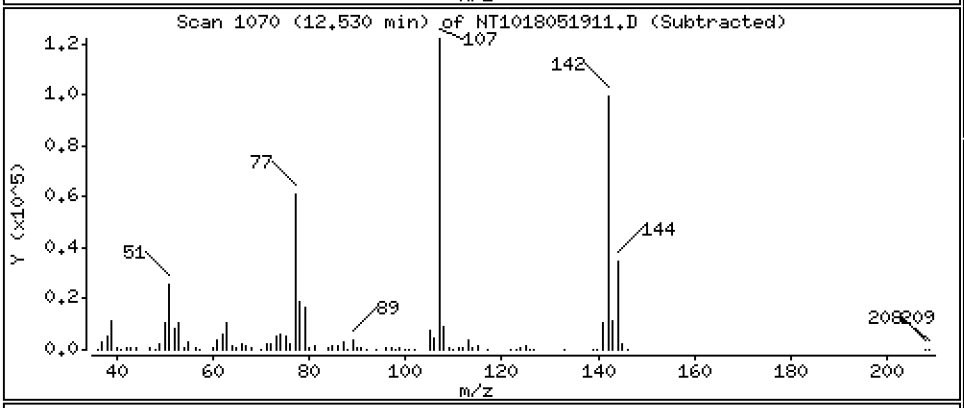
Column phase: ZB-5msi

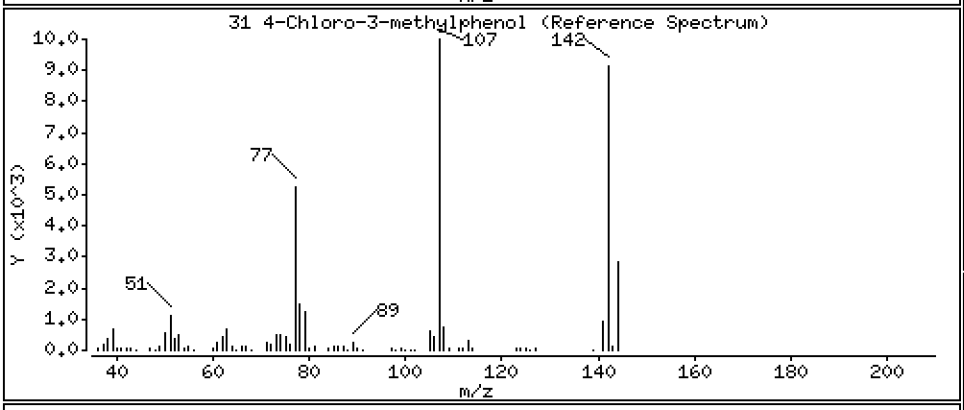
Column diameter: 0.25

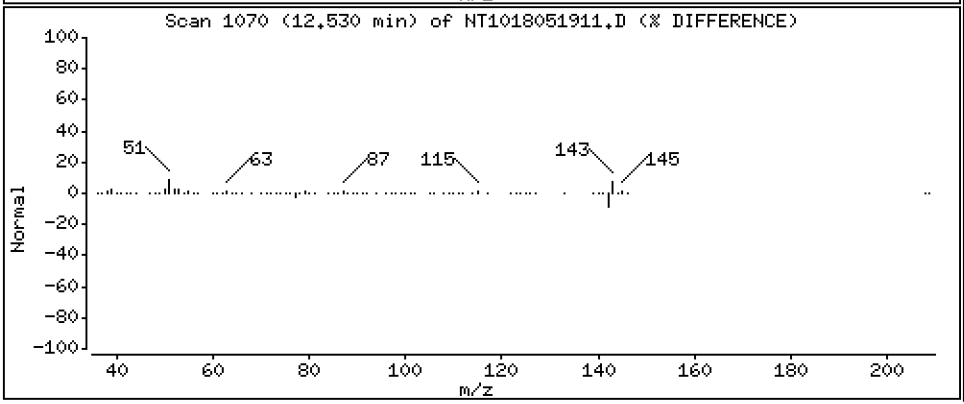
31 4-Chloro-3-methylphenol

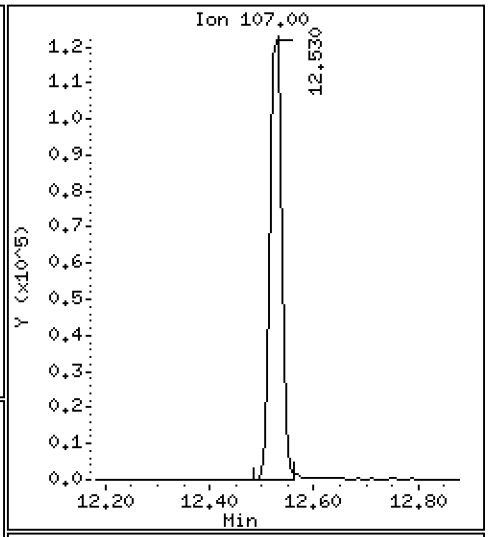
Concentration: 5.243 ug/mL

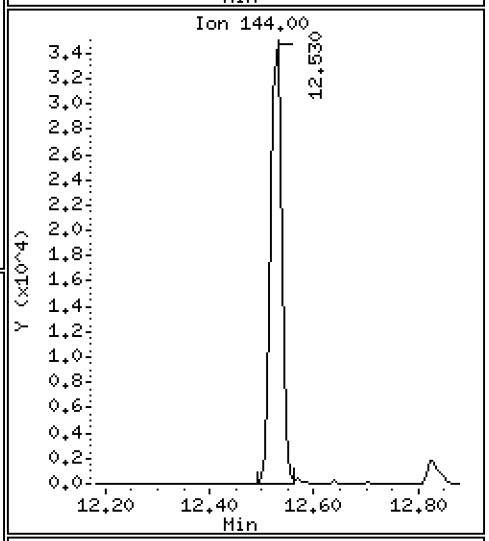


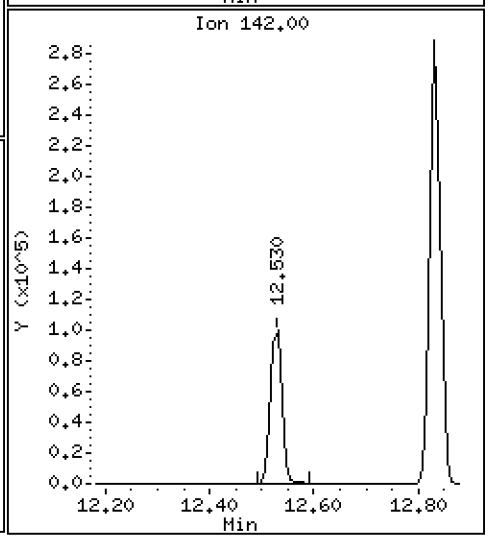












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

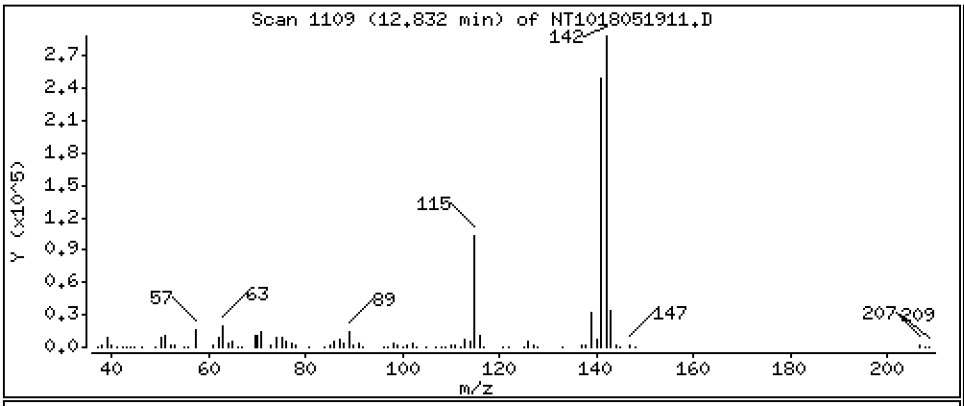
Operator: YZ

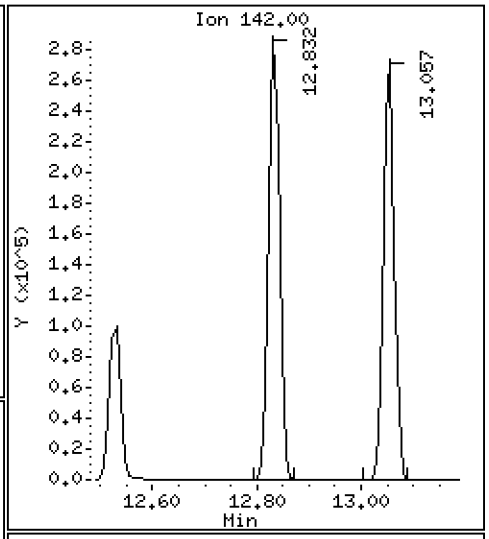
Column phase: ZB-5msi

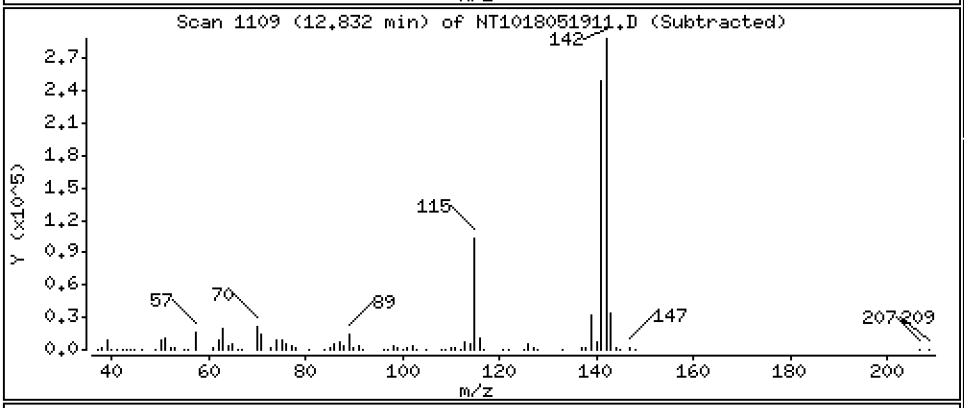
Column diameter: 0.25

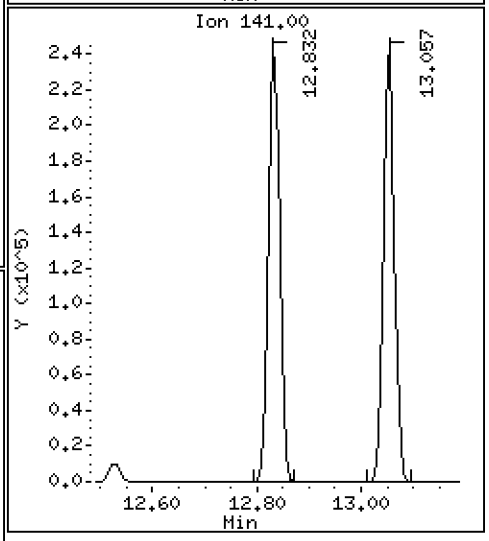
32 2-Methylnaphthalene

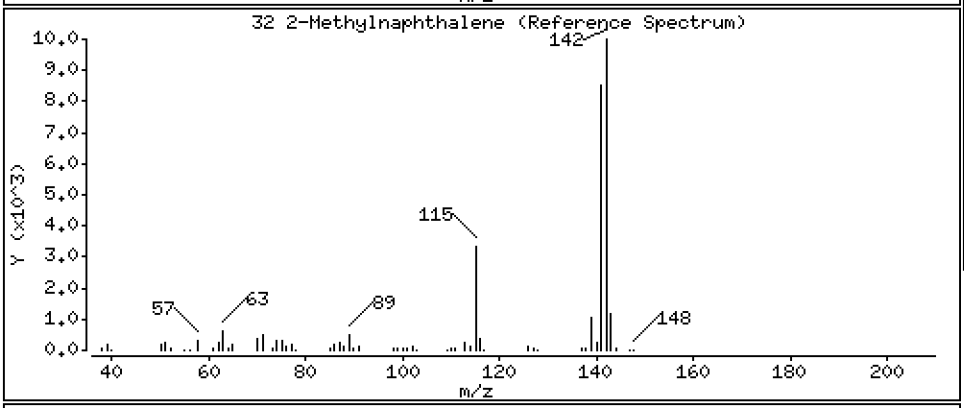
Concentration: 4.831 ug/mL

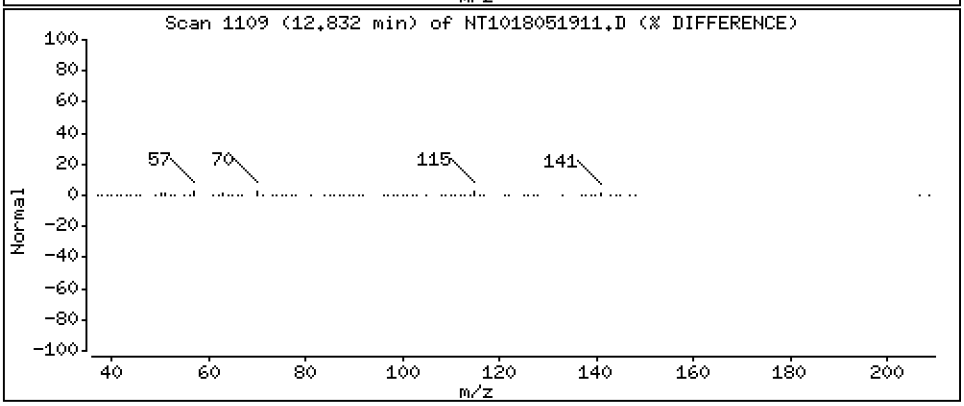












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

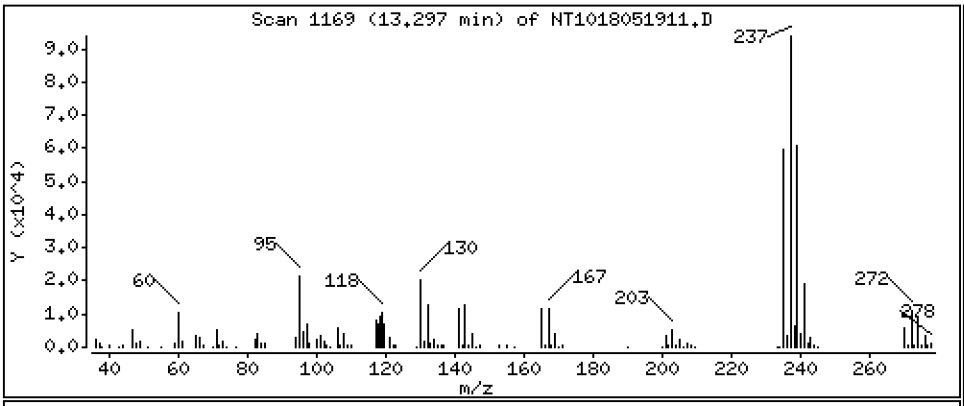
Operator: YZ

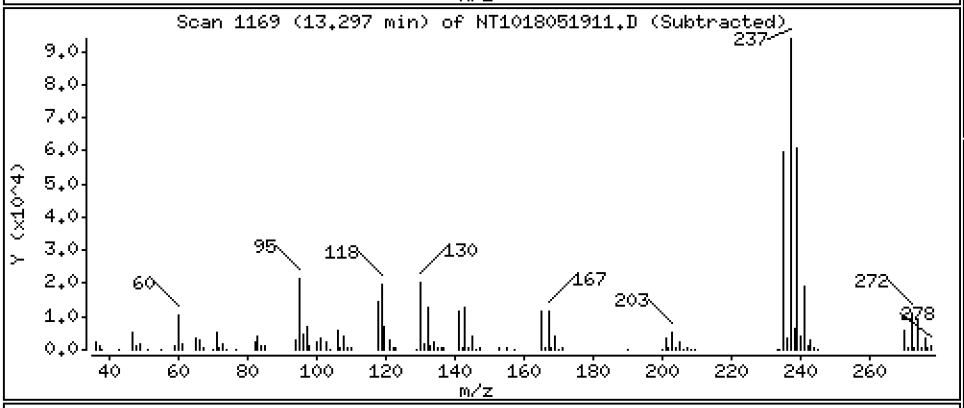
Column phase: ZB-5msi

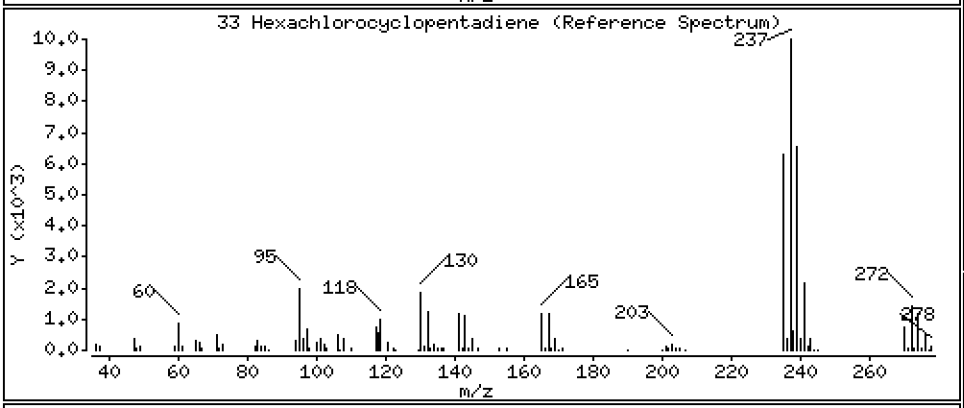
Column diameter: 0.25

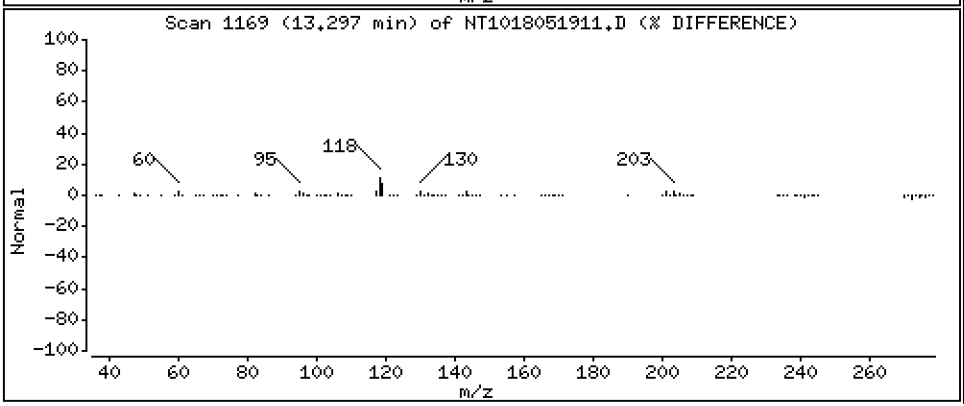
33 Hexachlorocyclopentadiene

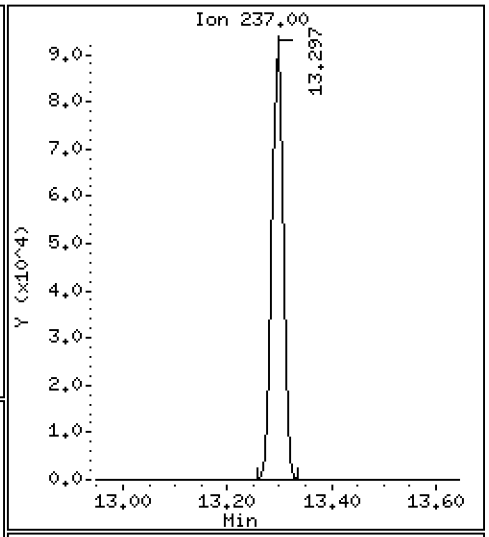
Concentration: 5.567 ug/mL

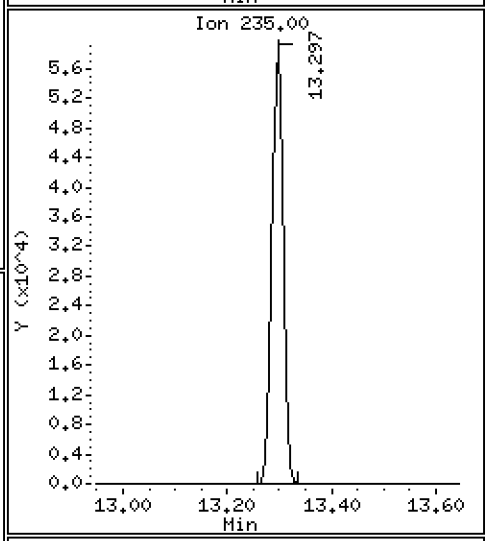


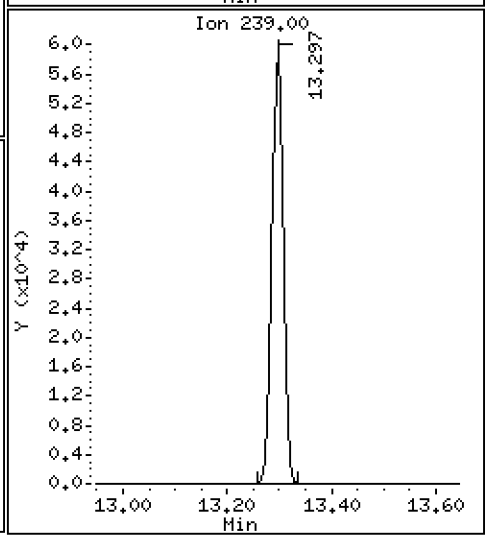












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

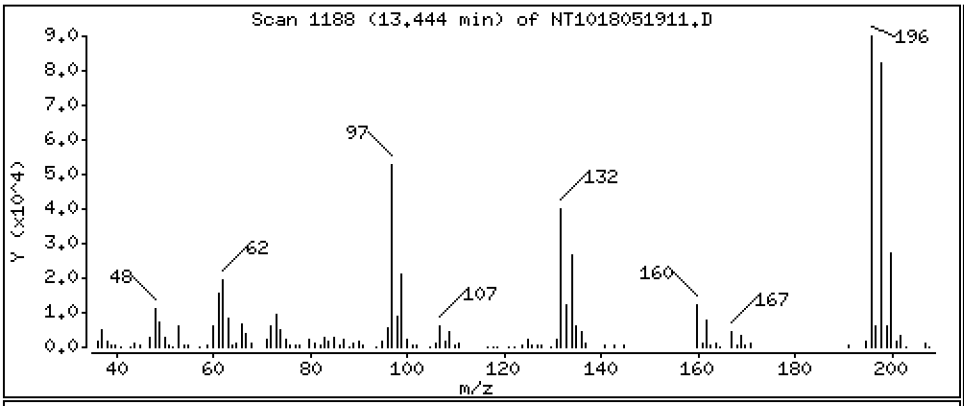
Operator: YZ

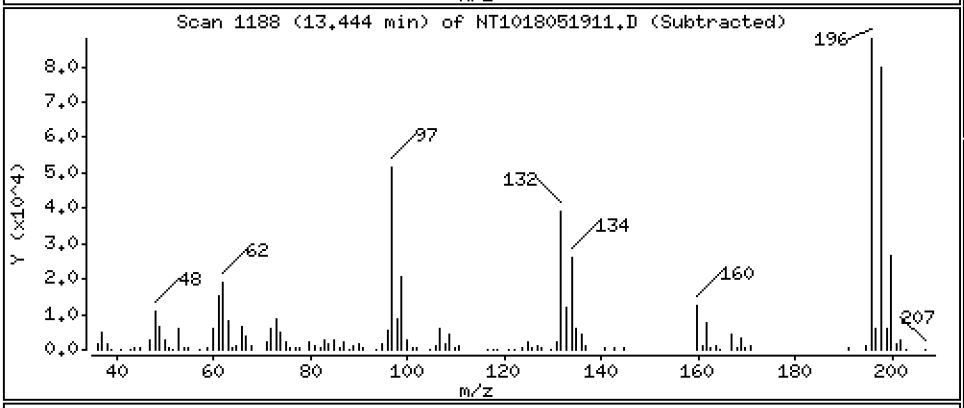
Column phase: ZB-5msi

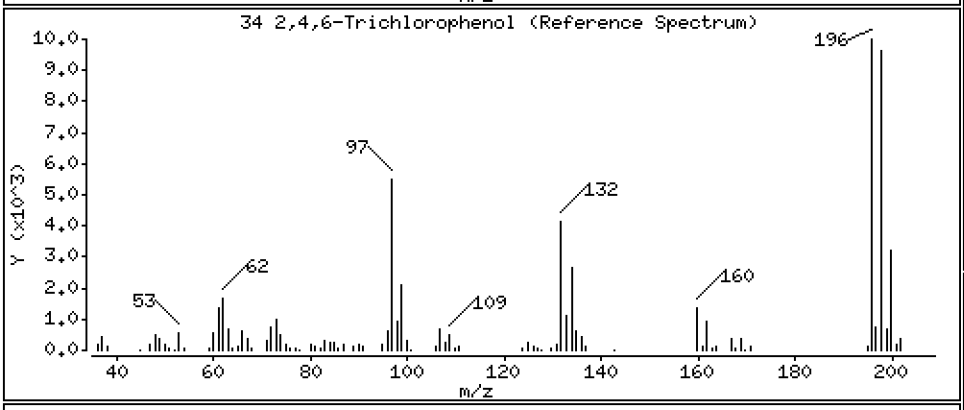
Column diameter: 0.25

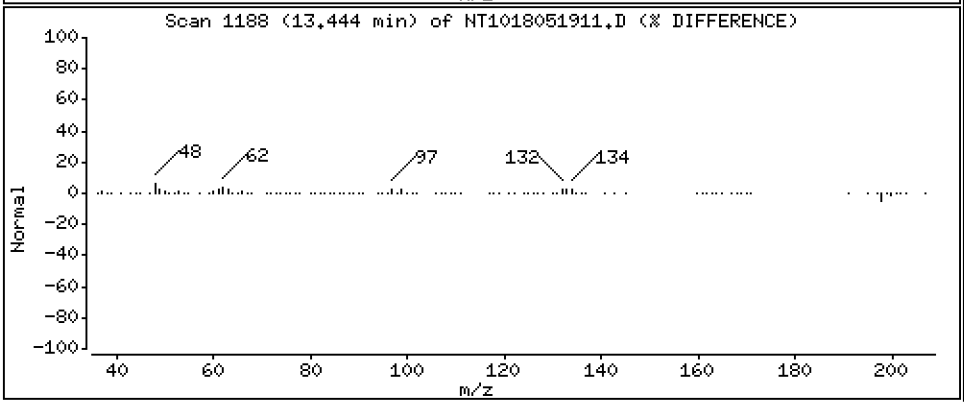
34 2,4,6-Trichlorophenol

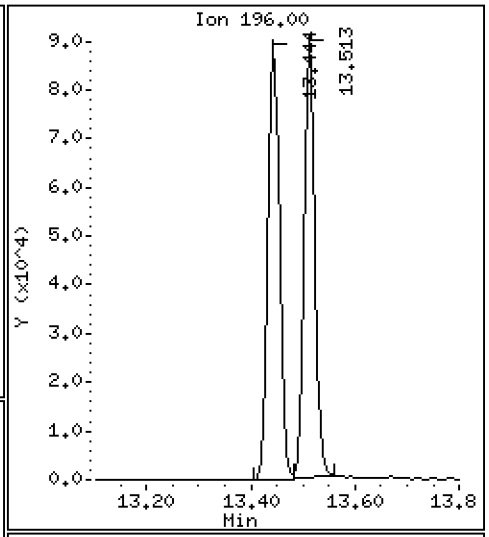
Concentration: 5.028 ug/mL

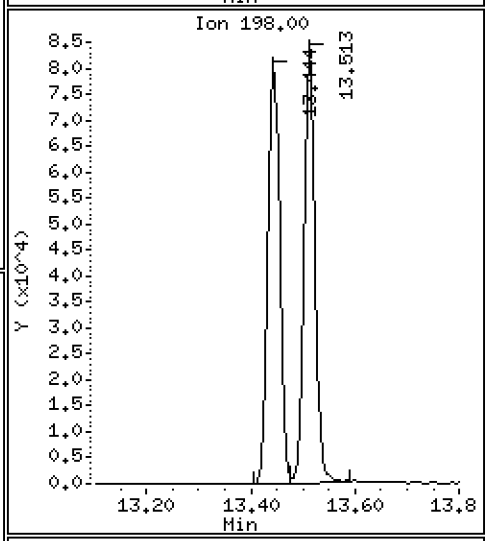


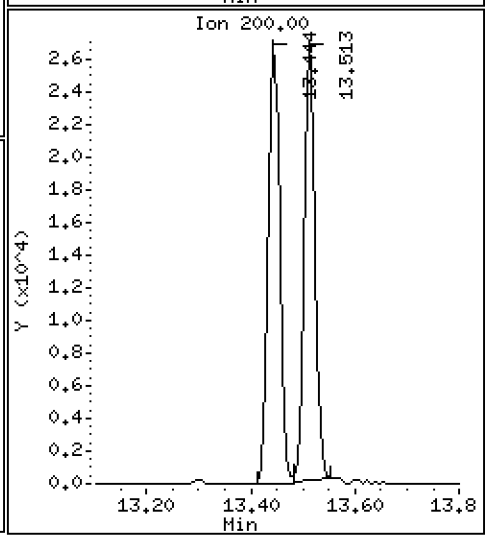












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

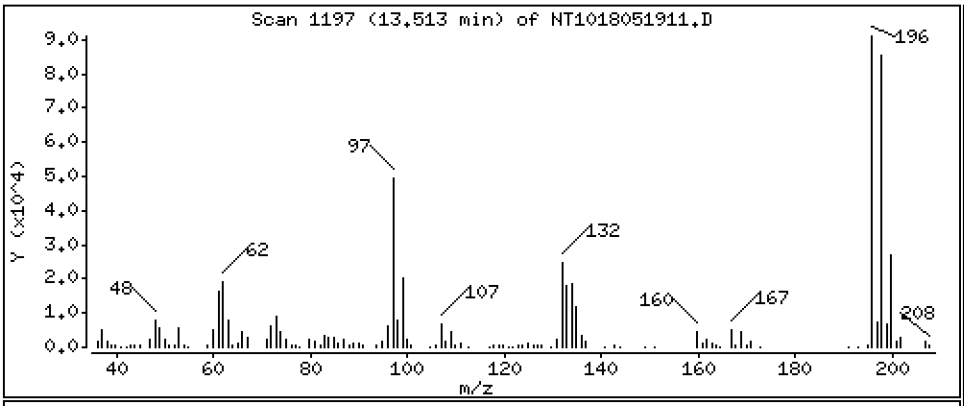
Operator: YZ

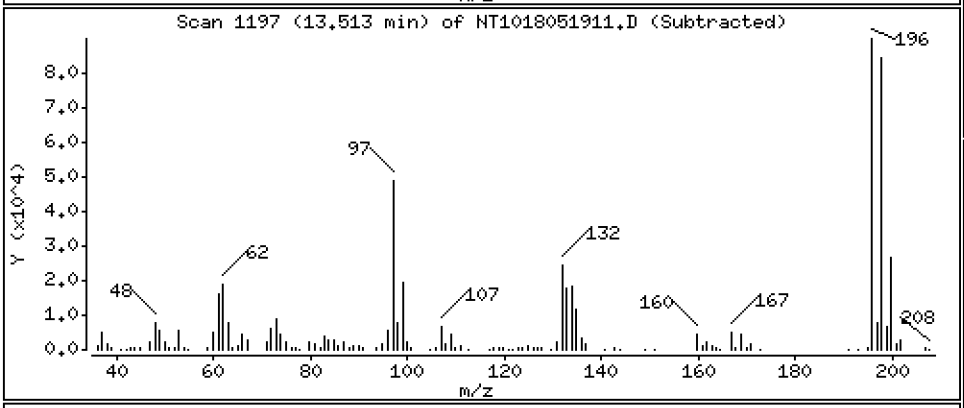
Column phase: ZB-5msi

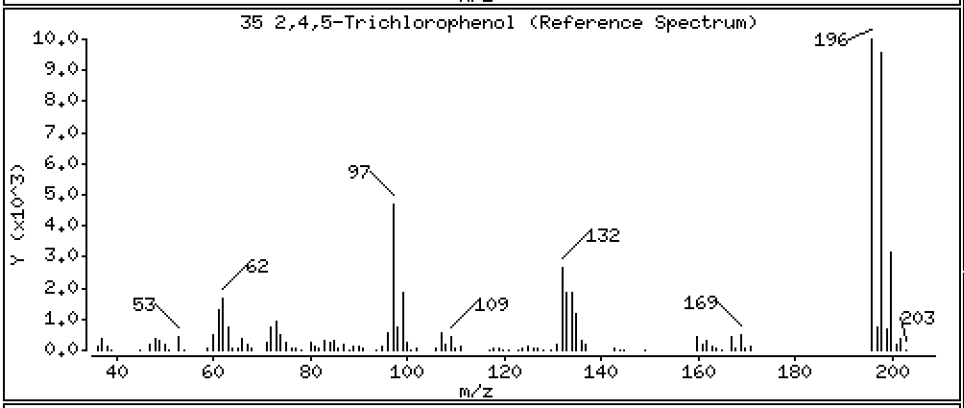
Column diameter: 0.25

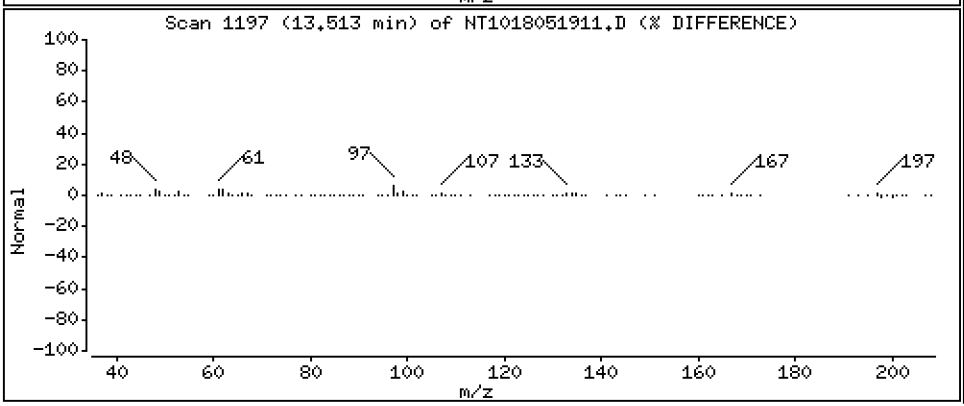
35 2,4,5-Trichlorophenol

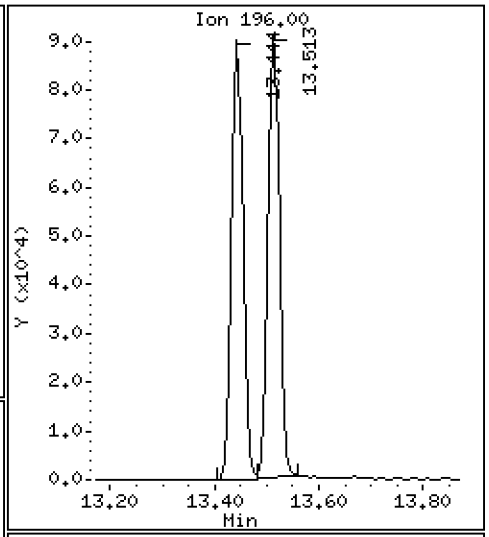
Concentration: 4.519 ug/mL

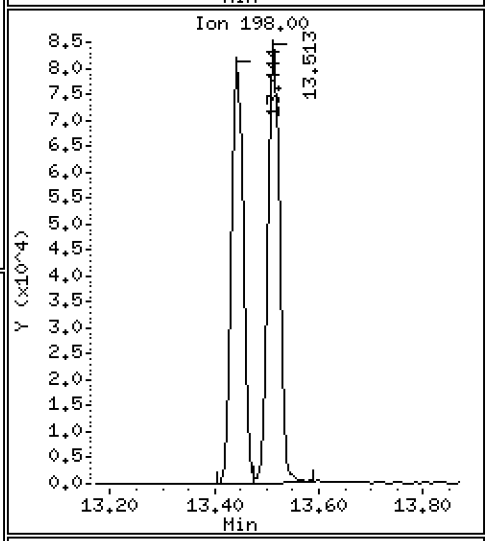


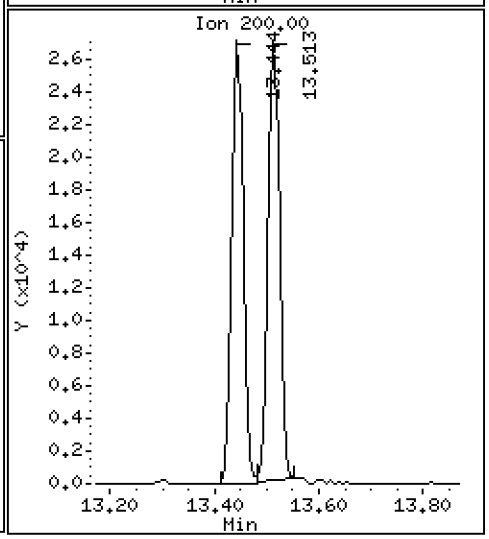












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

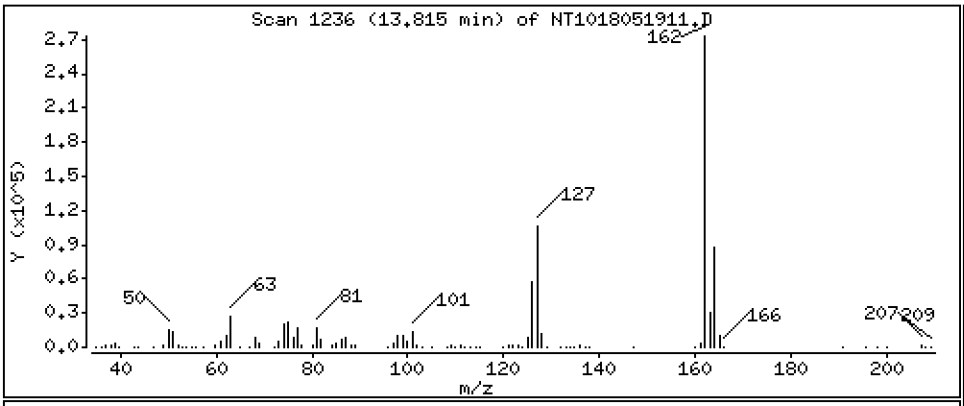
Operator: YZ

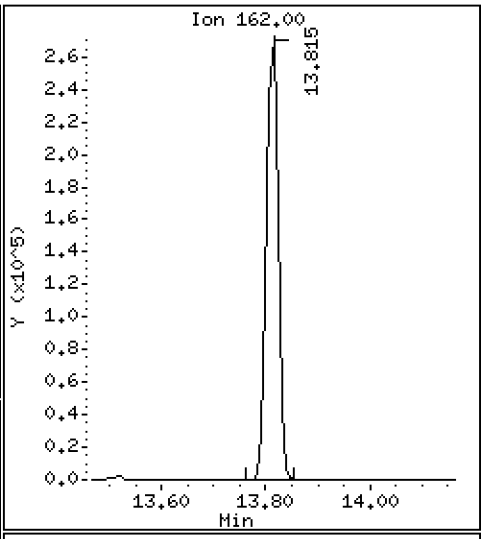
Column phase: ZB-5msi

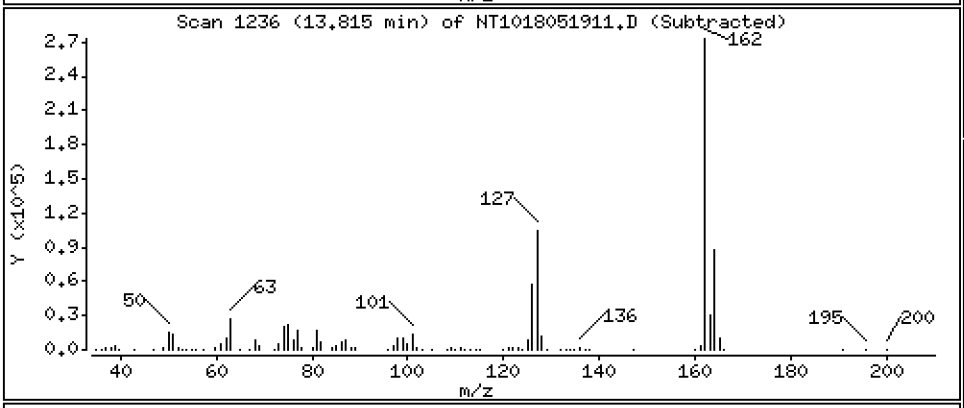
Column diameter: 0.25

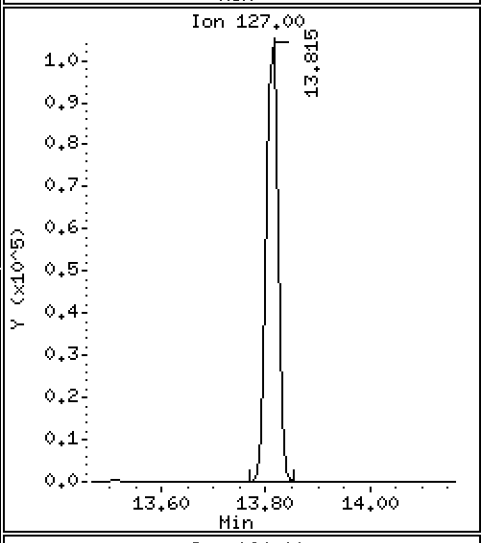
37 2-Chloronaphthalene

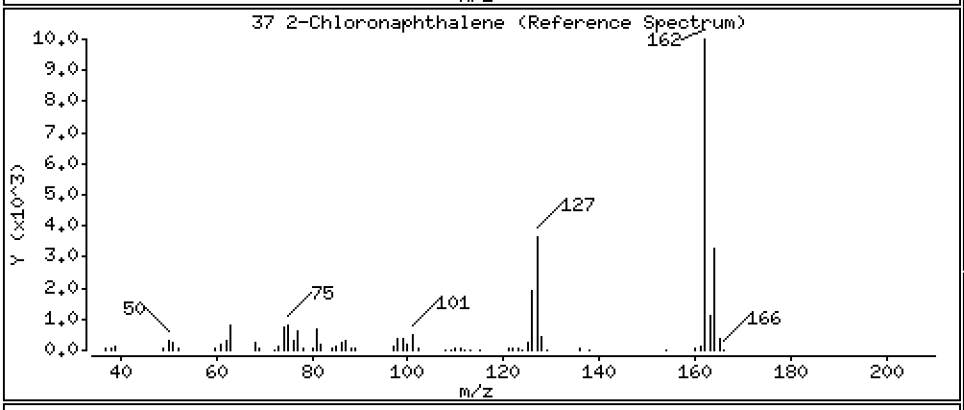
Concentration: 5.246 ug/mL

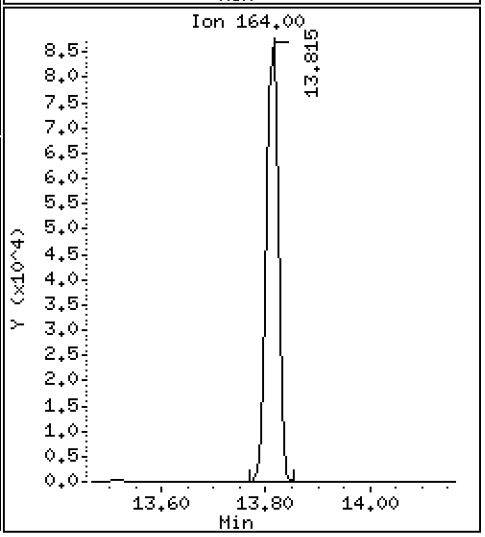


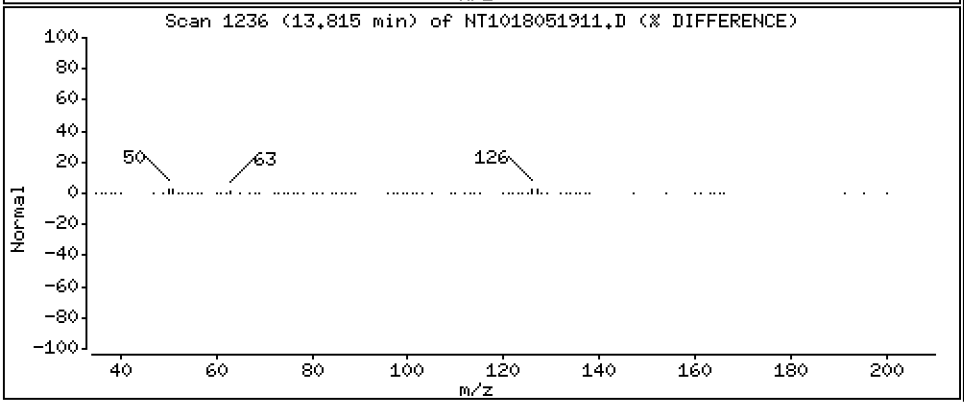












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

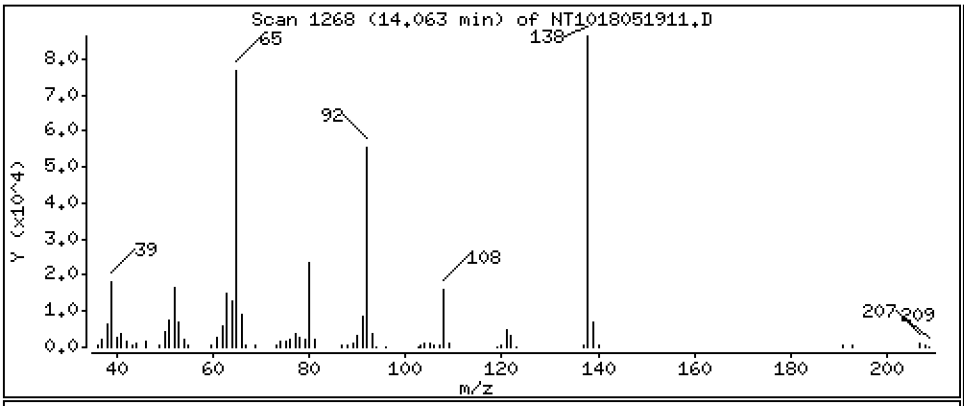
Operator: YZ

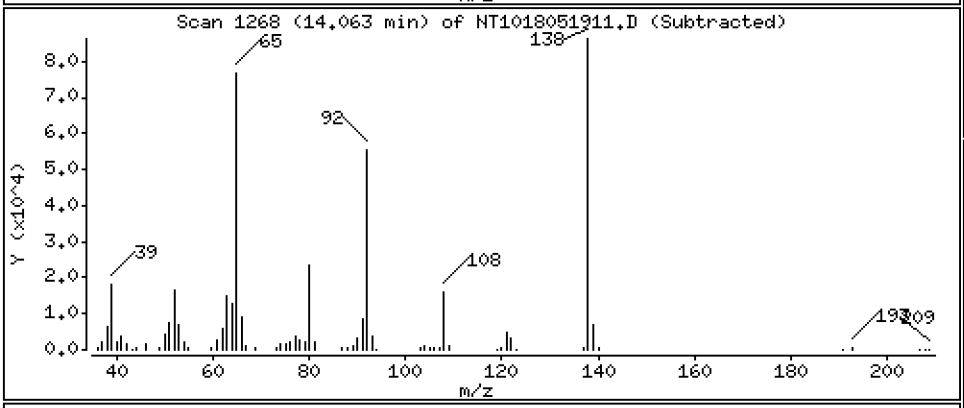
Column phase: ZB-5msi

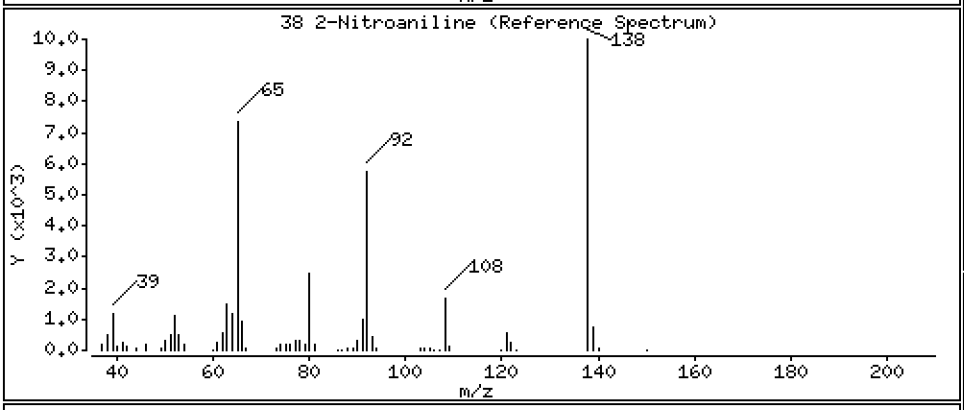
Column diameter: 0.25

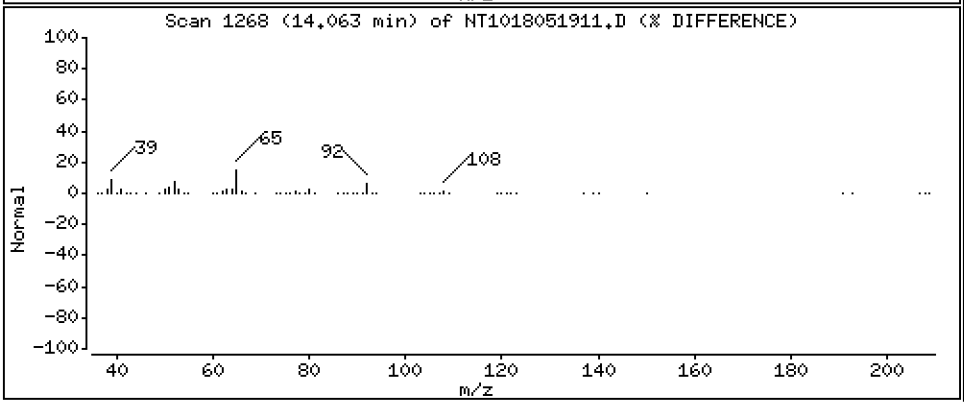
38 2-Nitroaniline

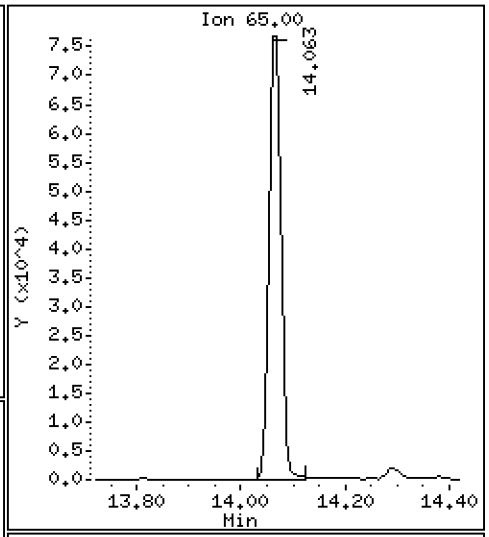
Concentration: 5.504 ug/mL

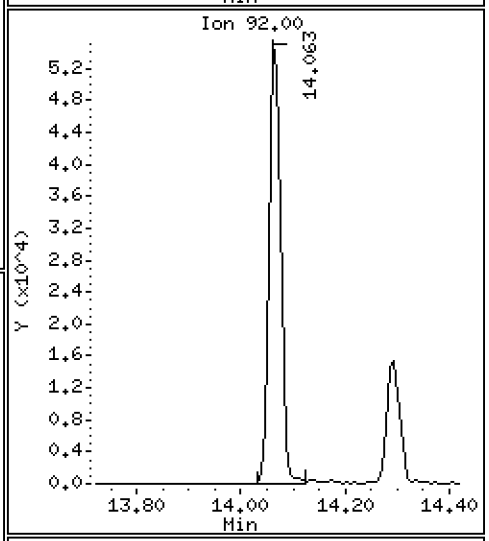


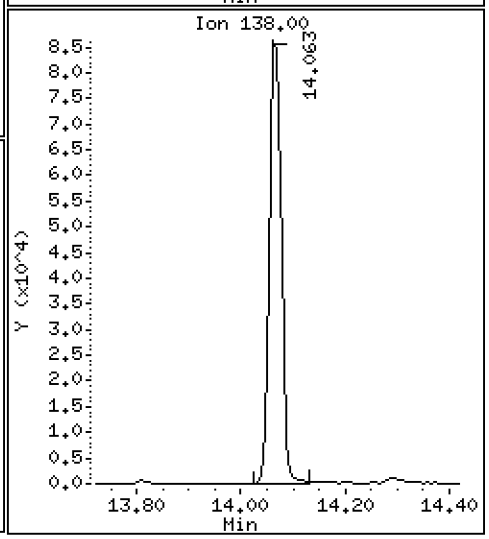












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

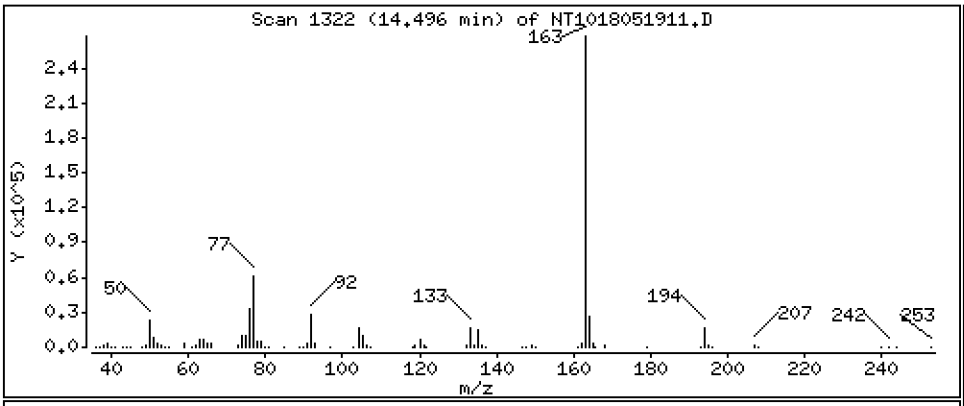
Operator: YZ

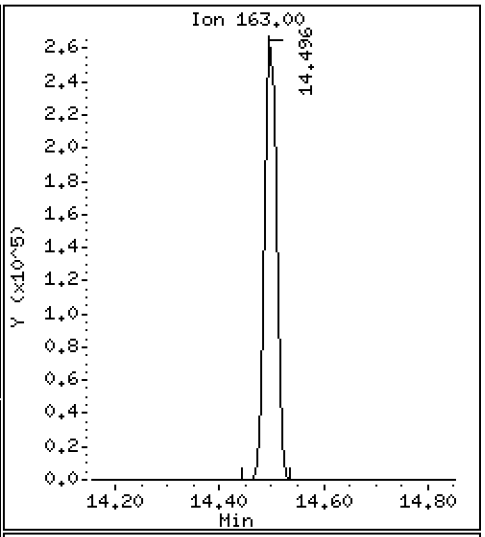
Column phase: ZB-5msi

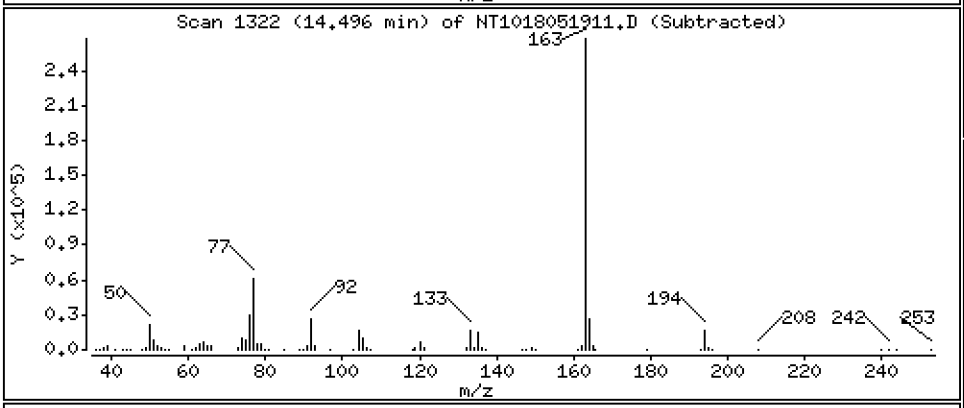
Column diameter: 0.25

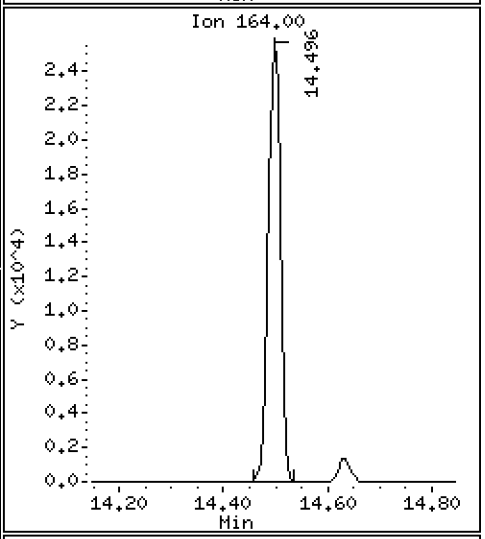
39 Dimethylphthalate

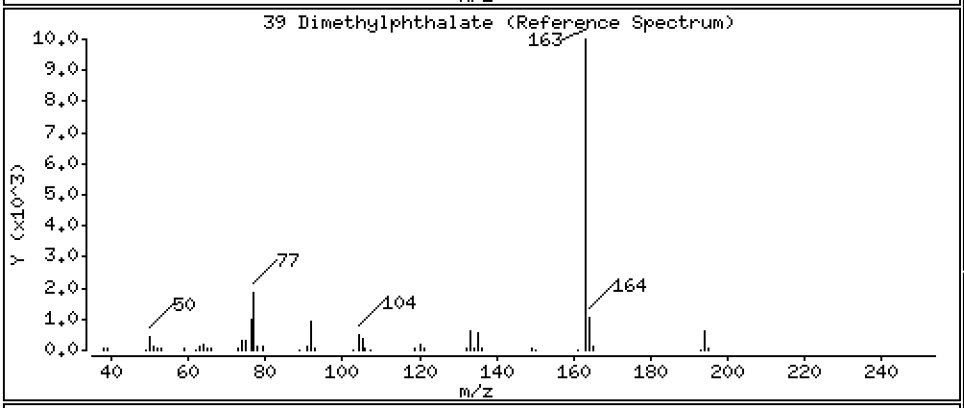
Concentration: 4.876 ug/mL

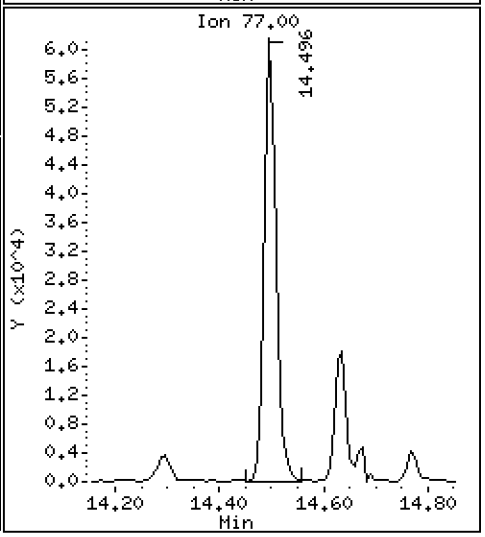


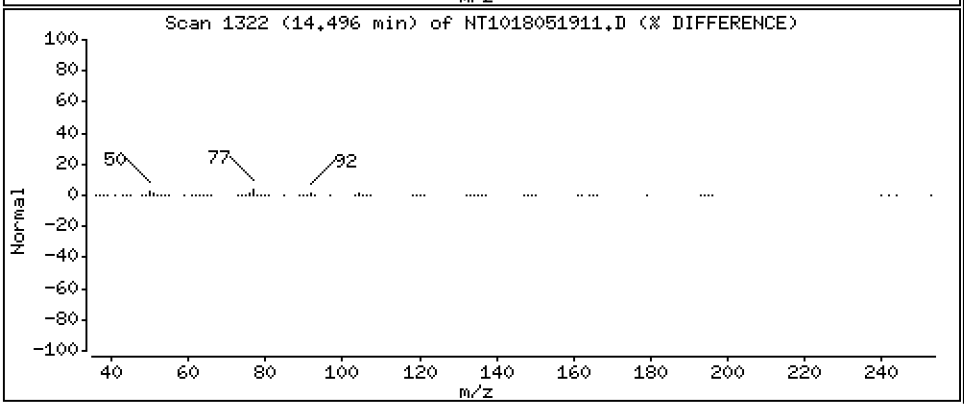












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

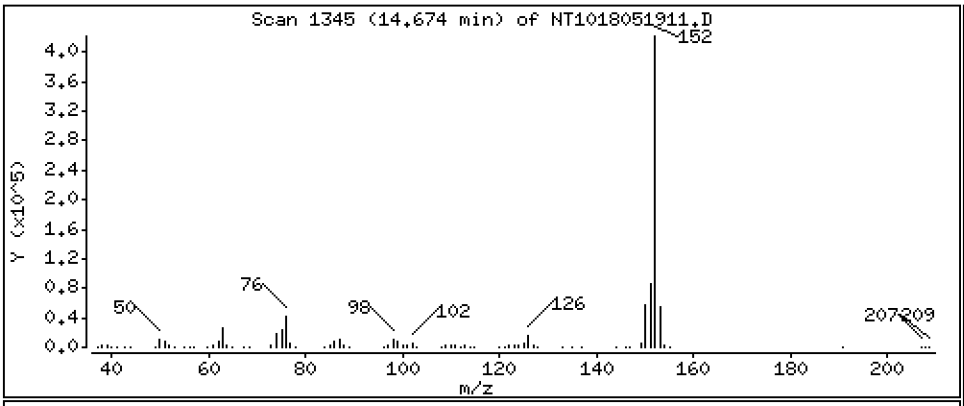
Operator: YZ

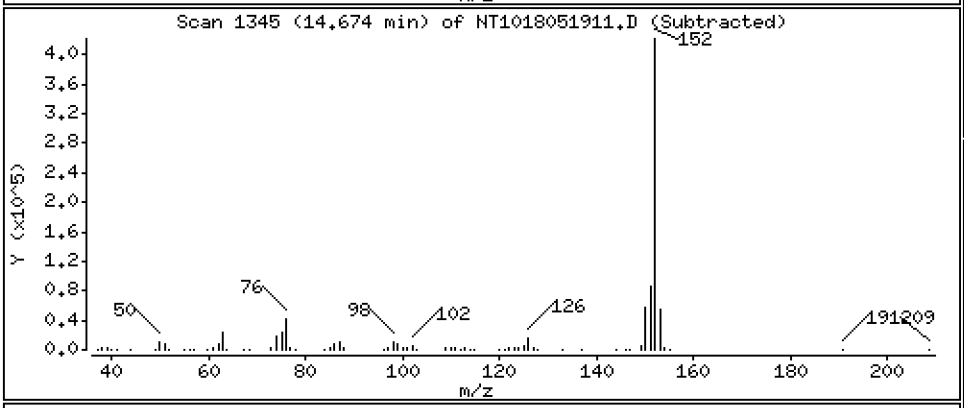
Column phase: ZB-5msi

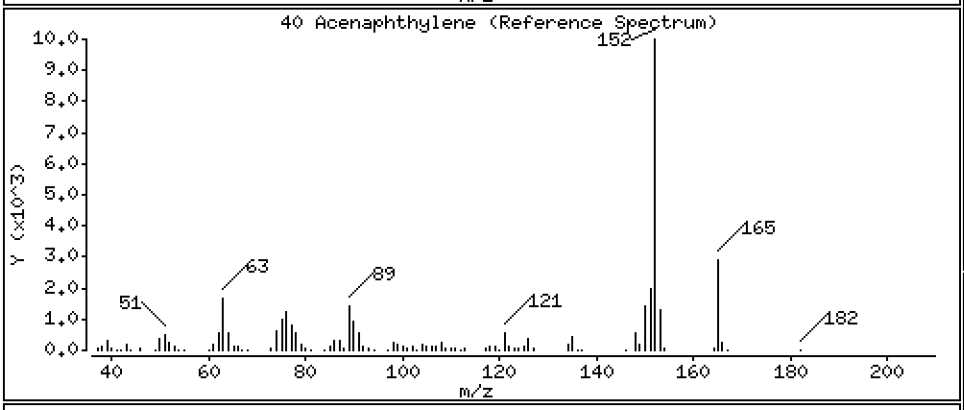
Column diameter: 0.25

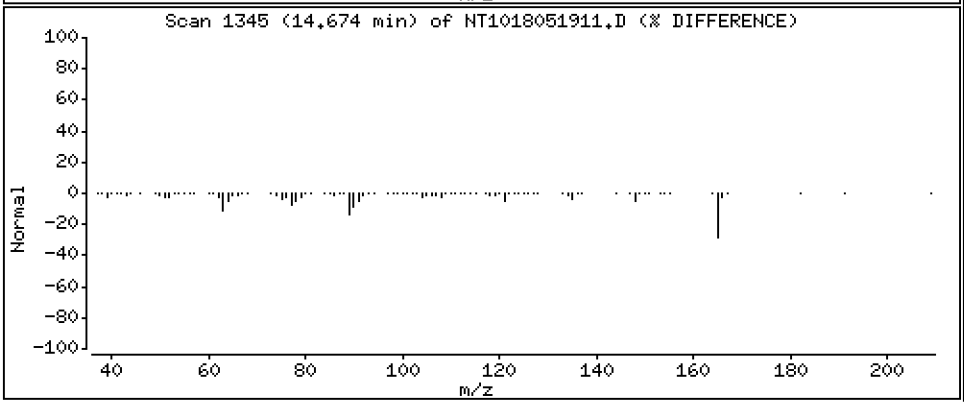
40 Acenaphthylene

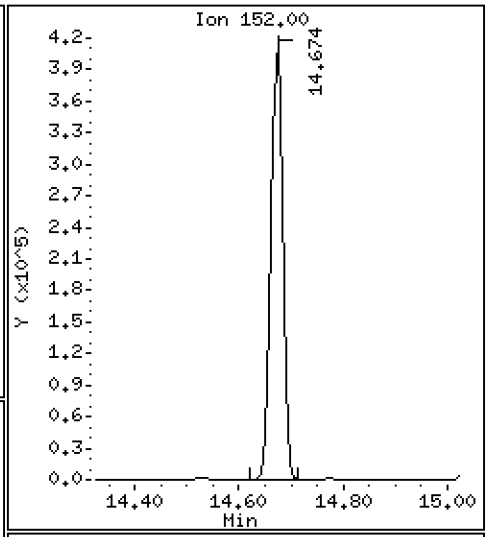
Concentration: 5.087 ug/mL

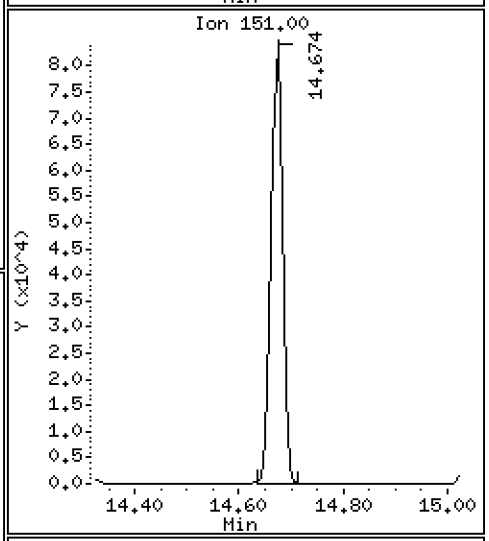


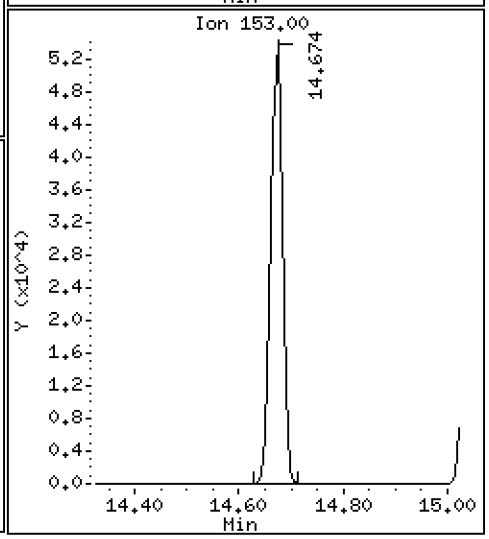












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

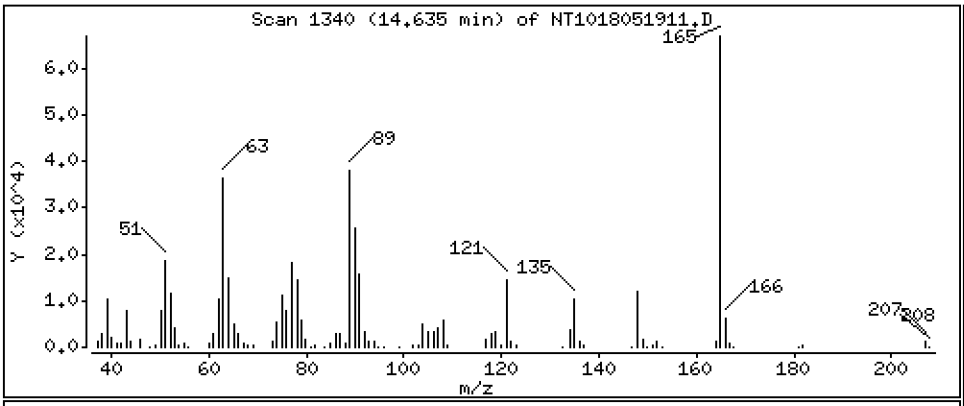
Operator: YZ

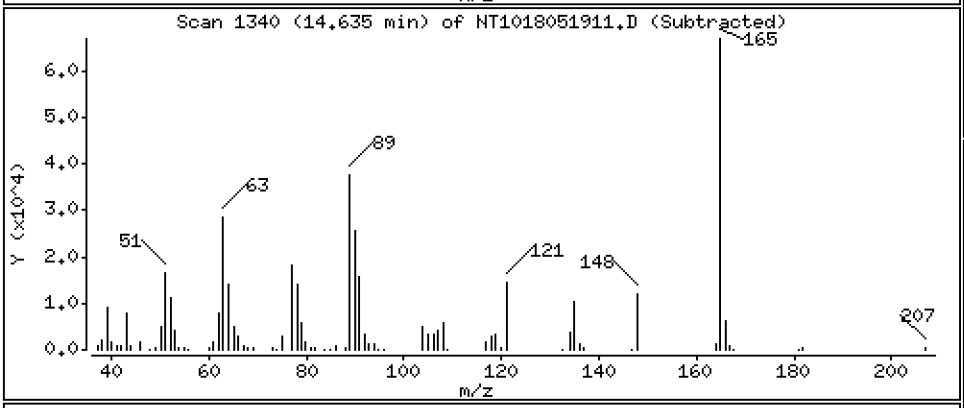
Column phase: ZB-5msi

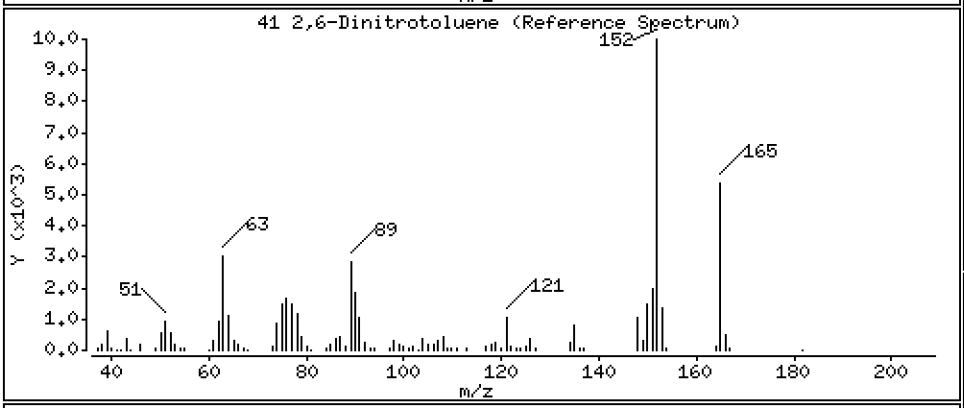
Column diameter: 0.25

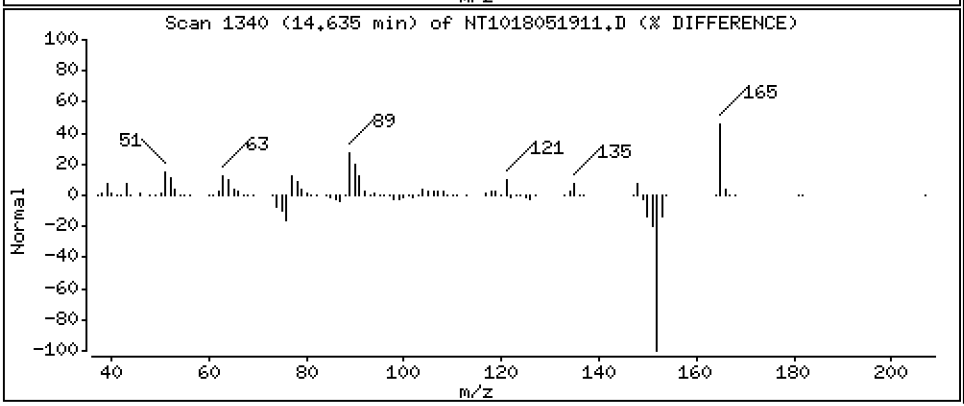
41 2,6-Dinitrotoluene

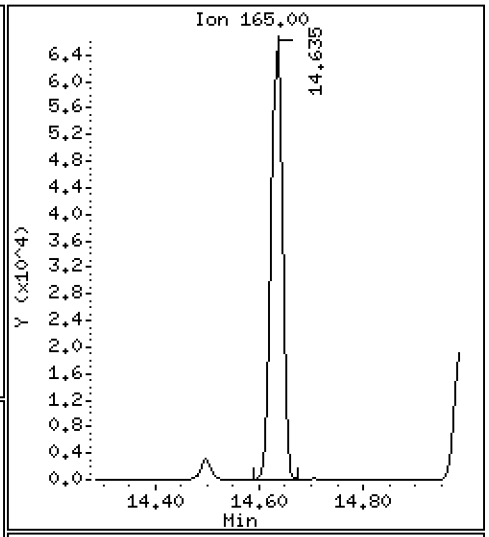
Concentration: 5.391 ug/mL

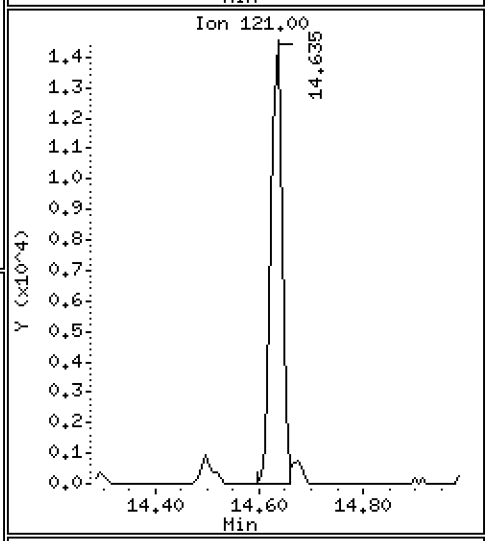


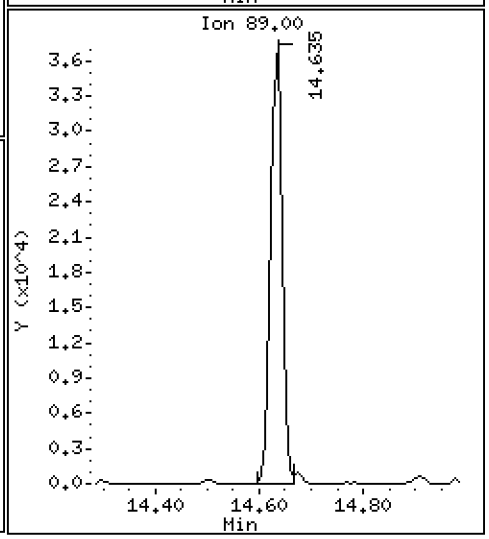












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

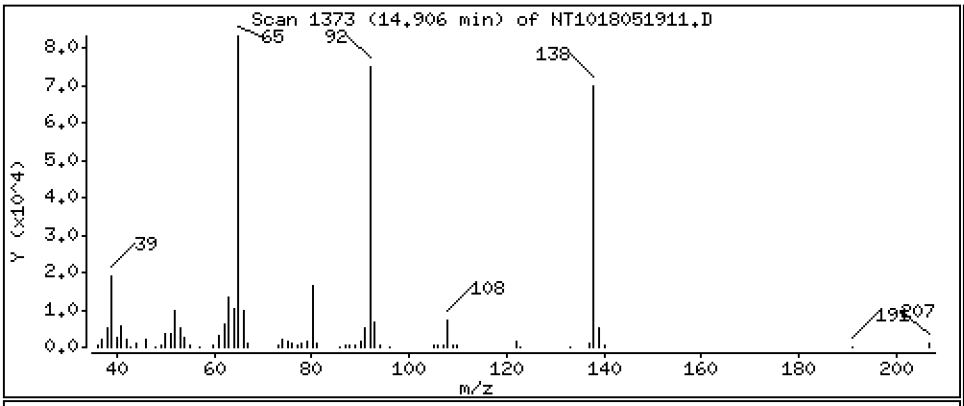
Operator: YZ

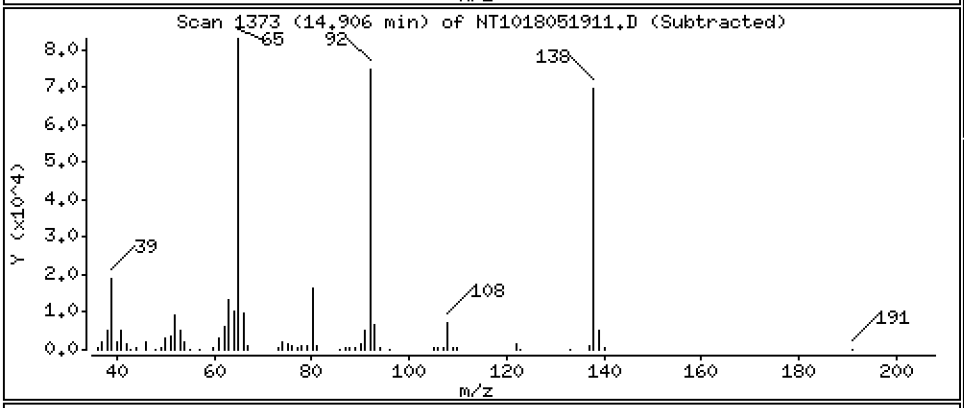
Column phase: ZB-5msi

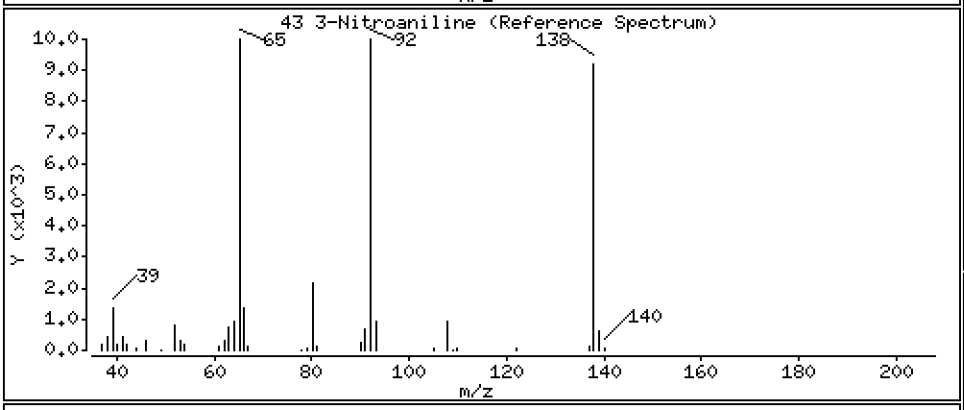
Column diameter: 0.25

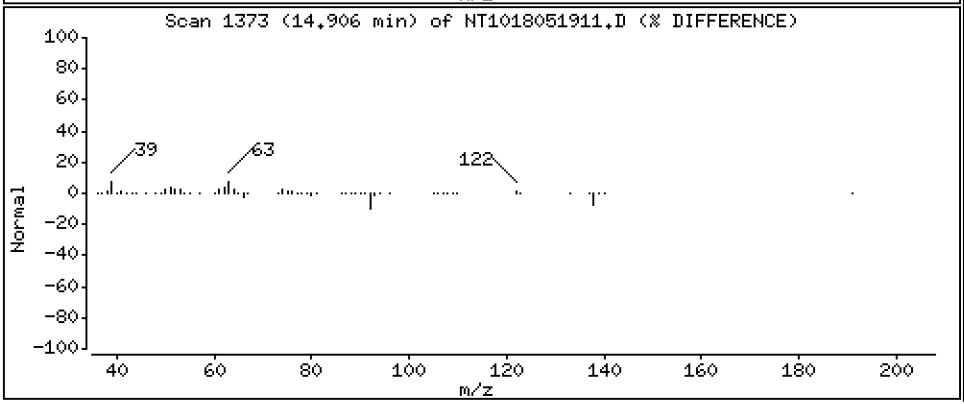
43 3-Nitroaniline

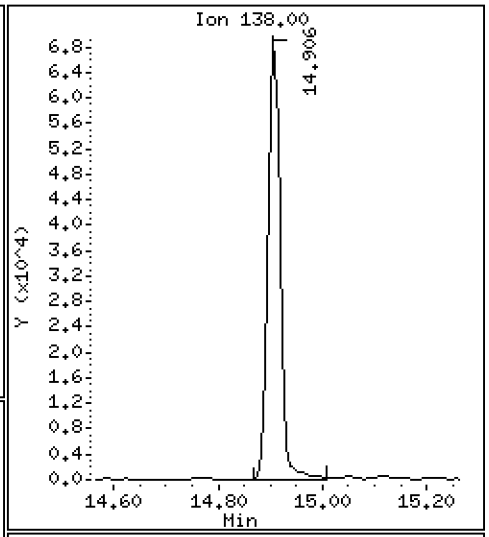
Concentration: 5.234 ug/mL

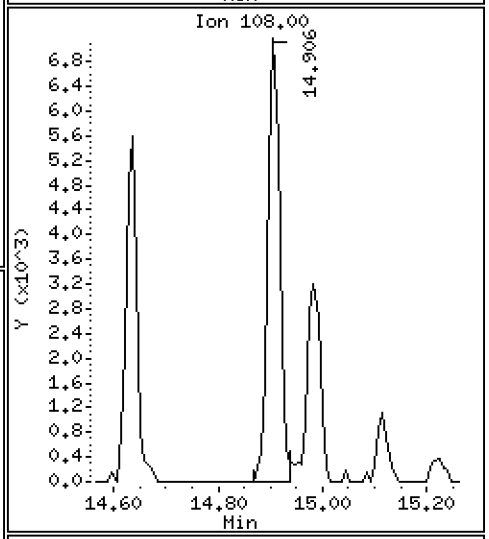


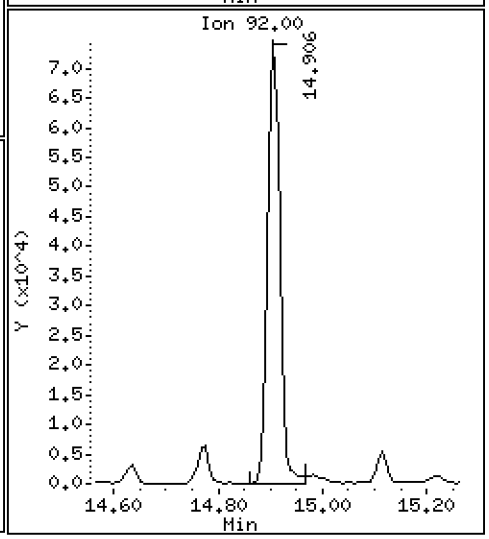












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

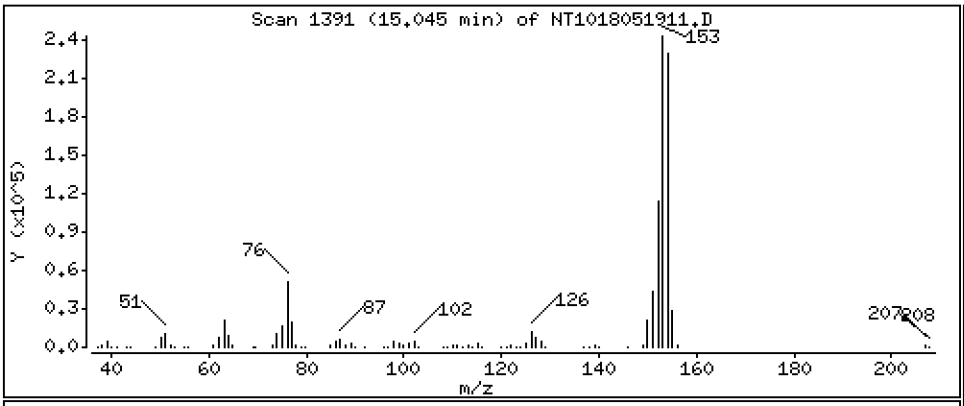
Operator: YZ

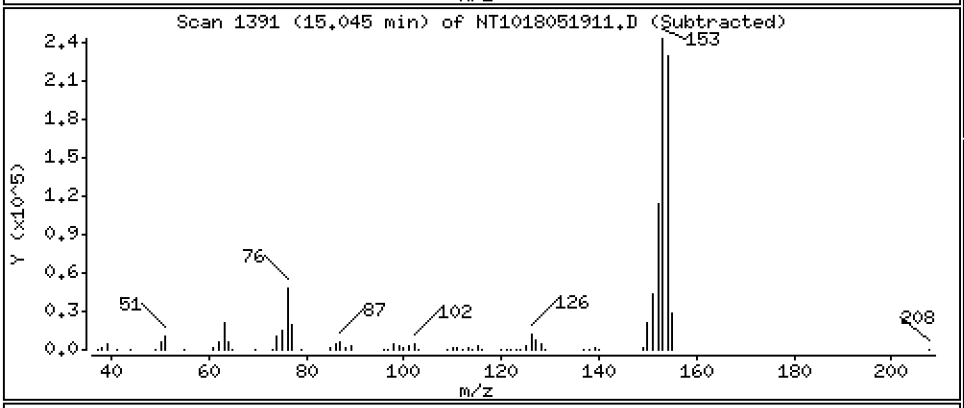
Column phase: ZB-5msi

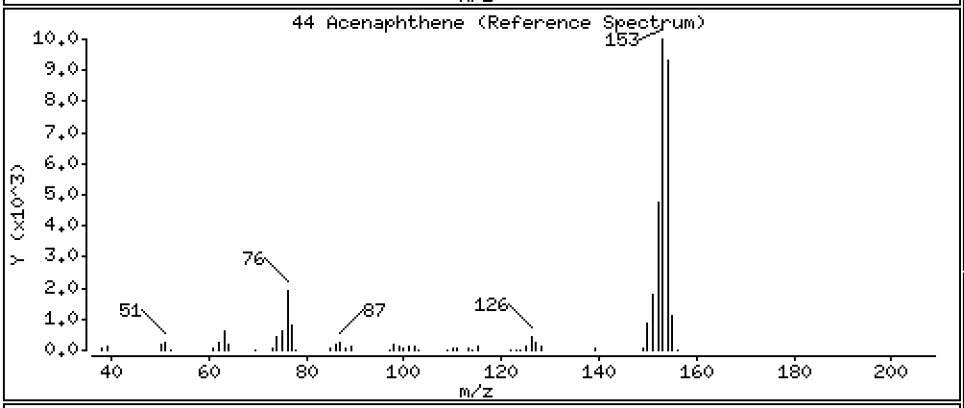
Column diameter: 0.25

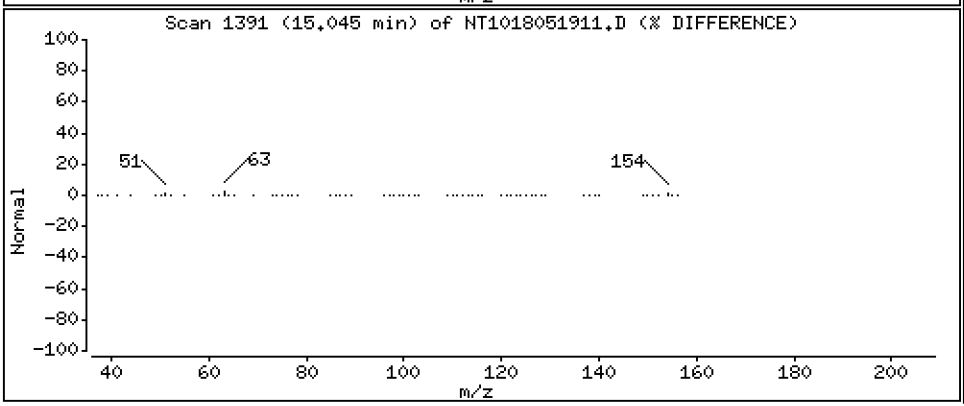
44 Acenaphthene

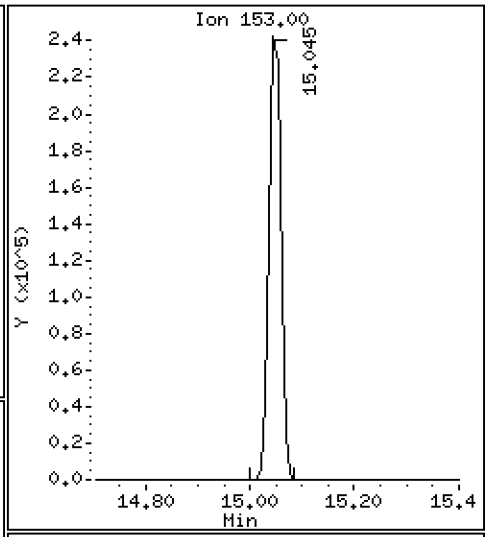
Concentration: 5.071 ug/mL

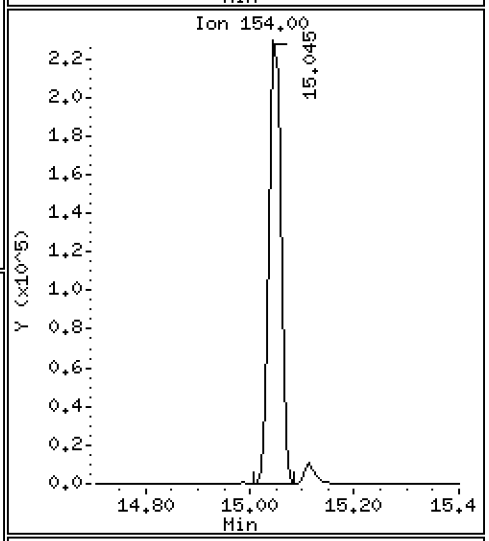


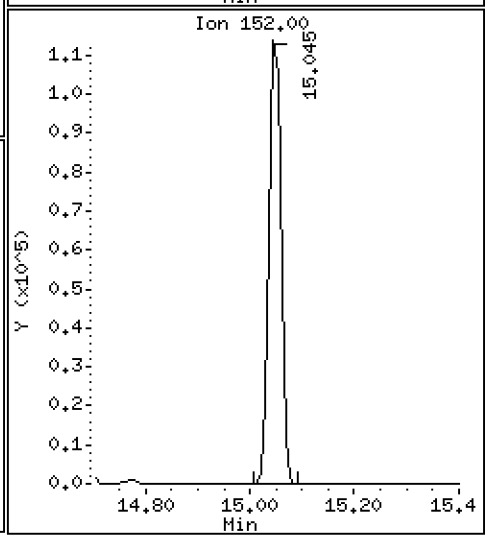












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

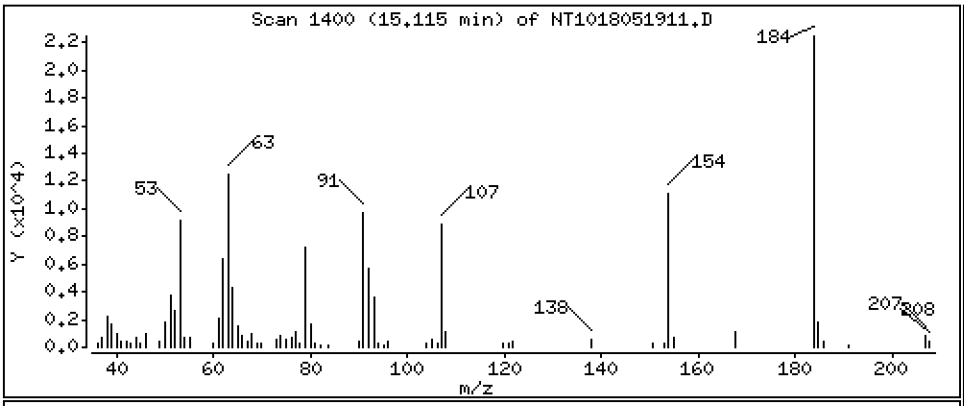
Operator: YZ

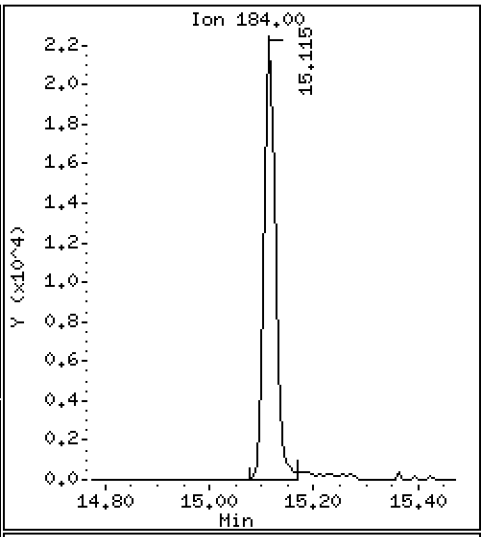
Column phase: ZB-5msi

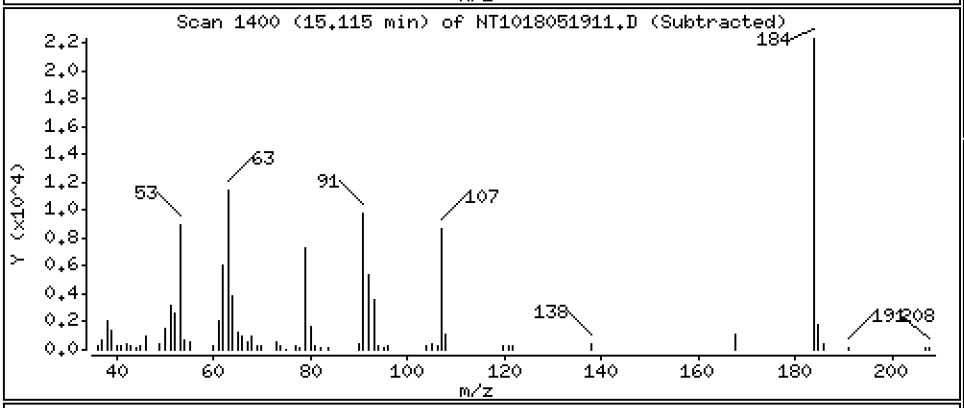
Column diameter: 0.25

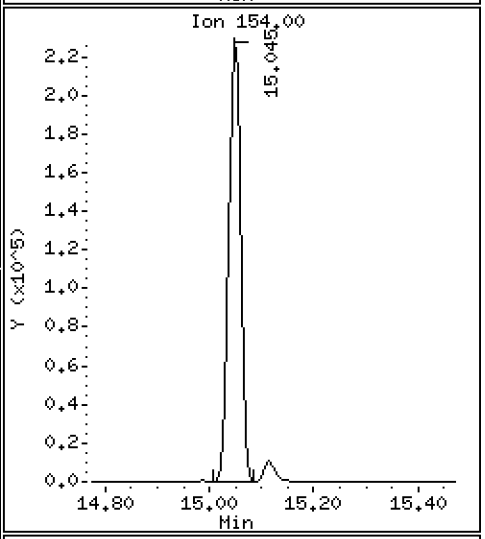
45 2,4-Dinitrophenol

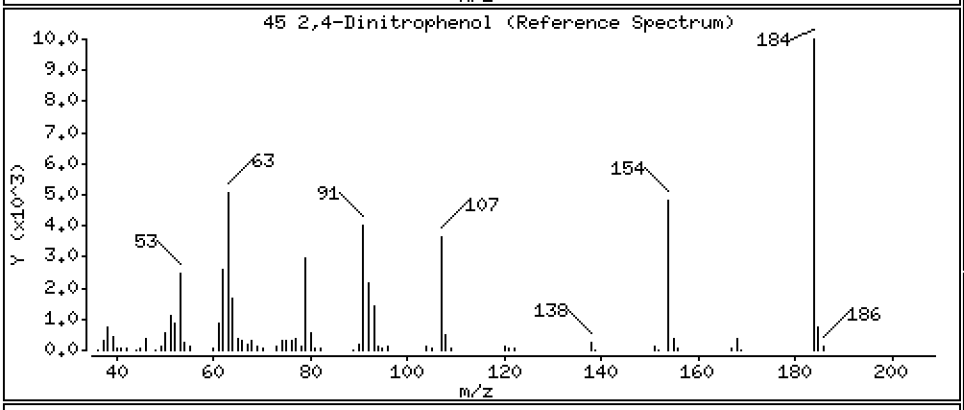
Concentration: 2.947 ug/mL

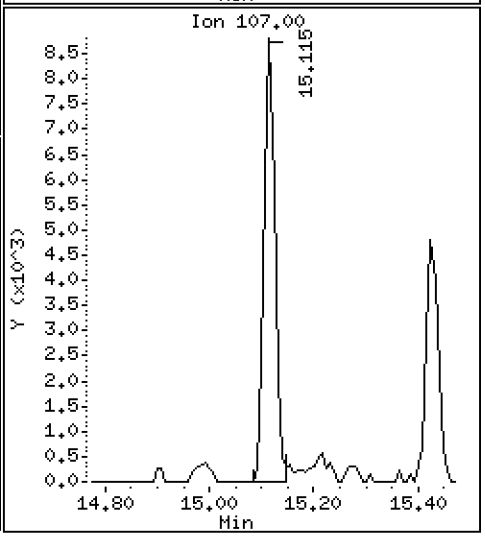


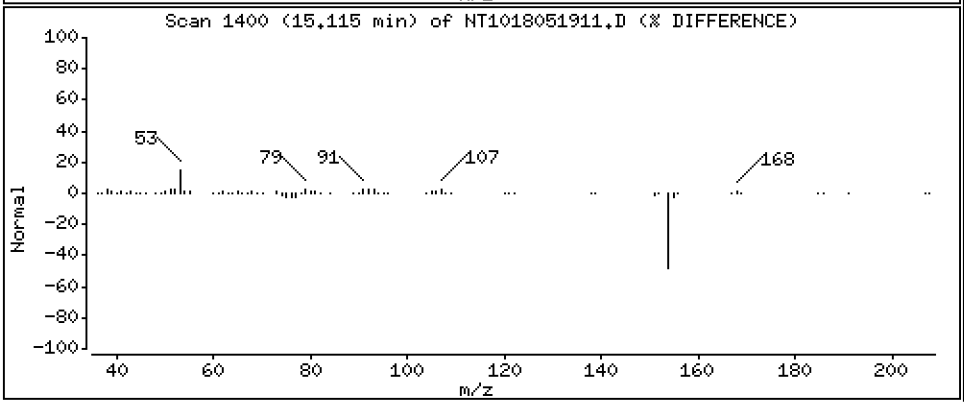












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

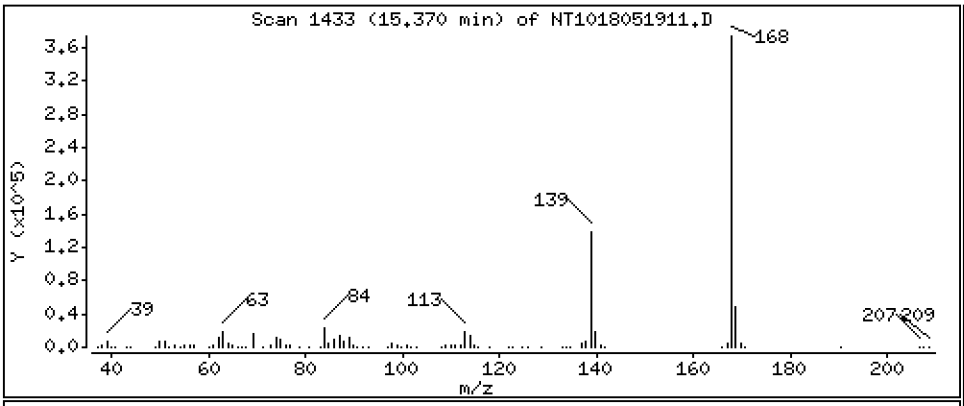
Operator: YZ

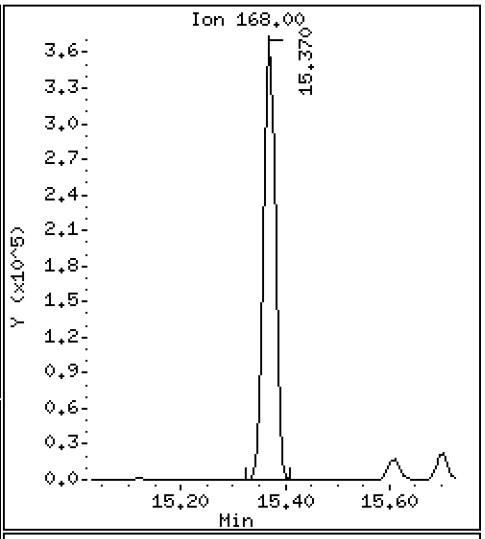
Column phase: ZB-5msi

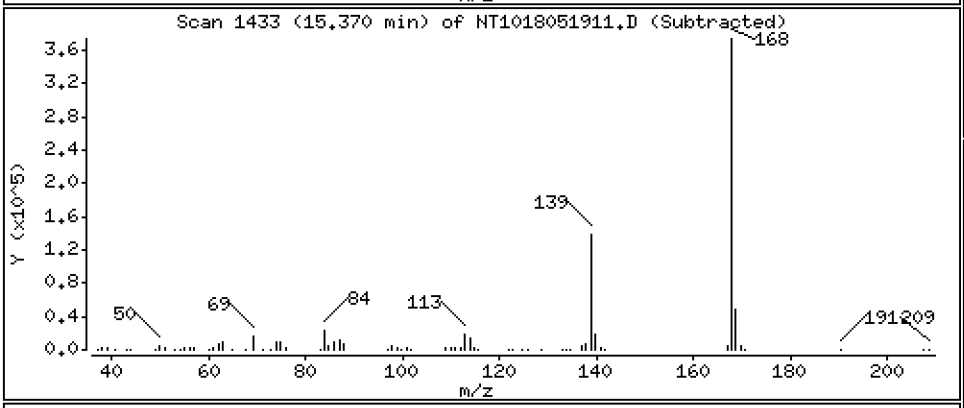
Column diameter: 0.25

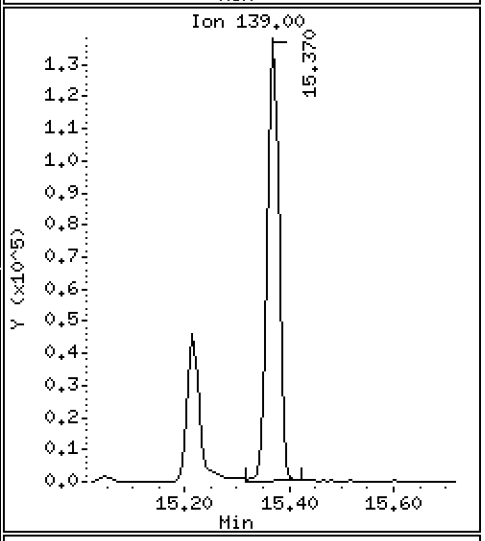
46 Dibenzofuran

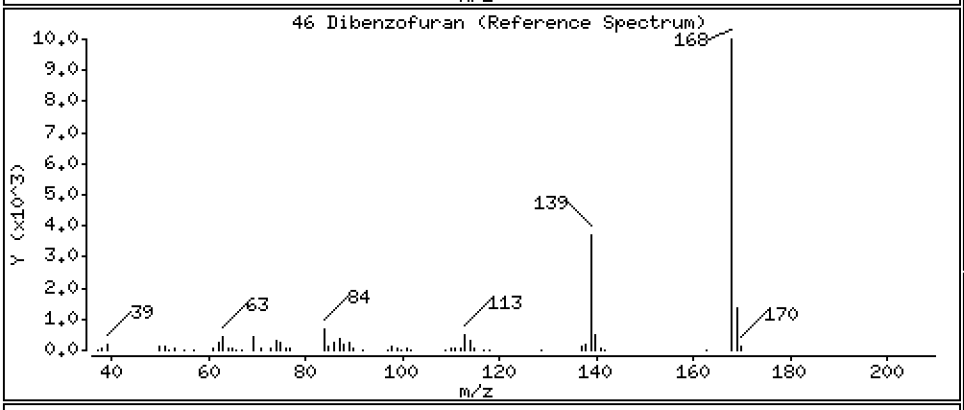
Concentration: 4.886 ug/mL

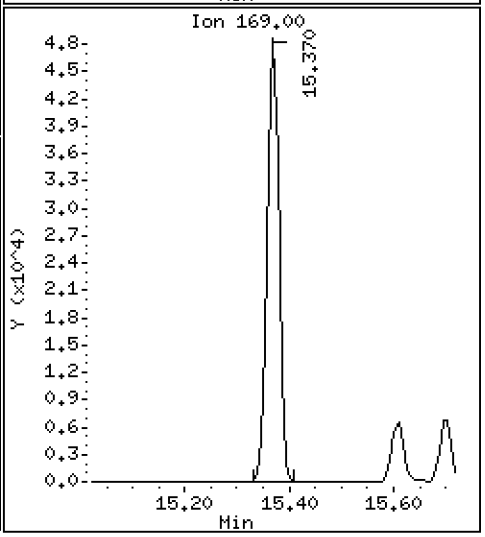


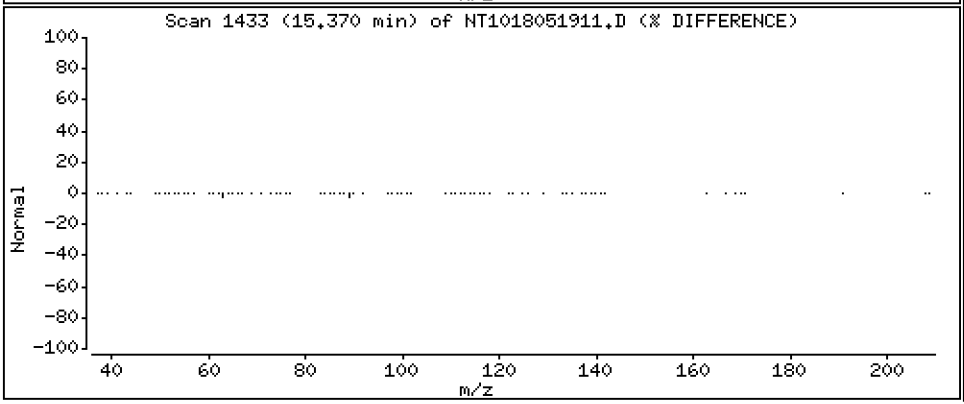












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

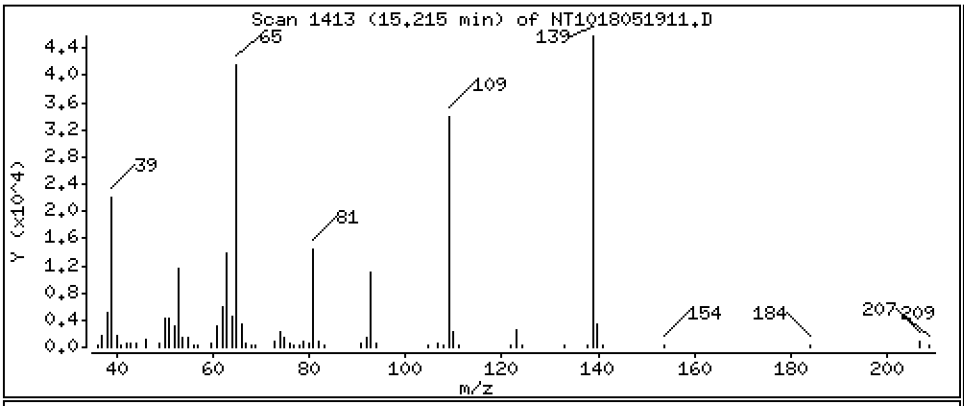
Operator: YZ

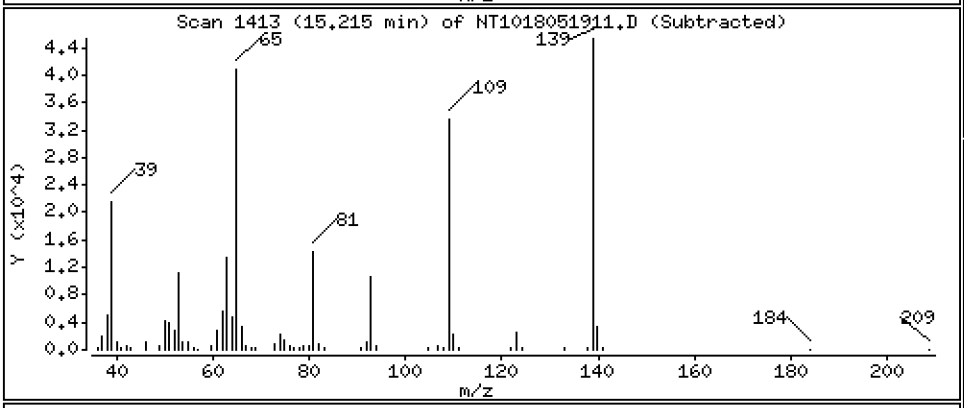
Column phase: ZB-5msi

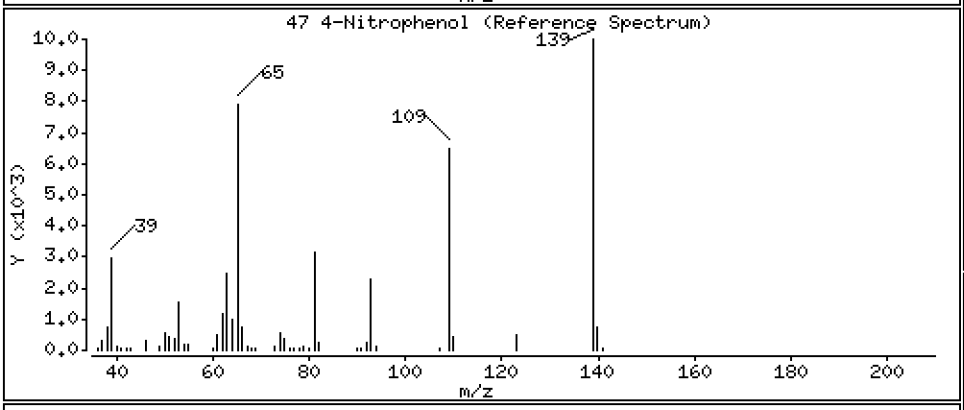
Column diameter: 0.25

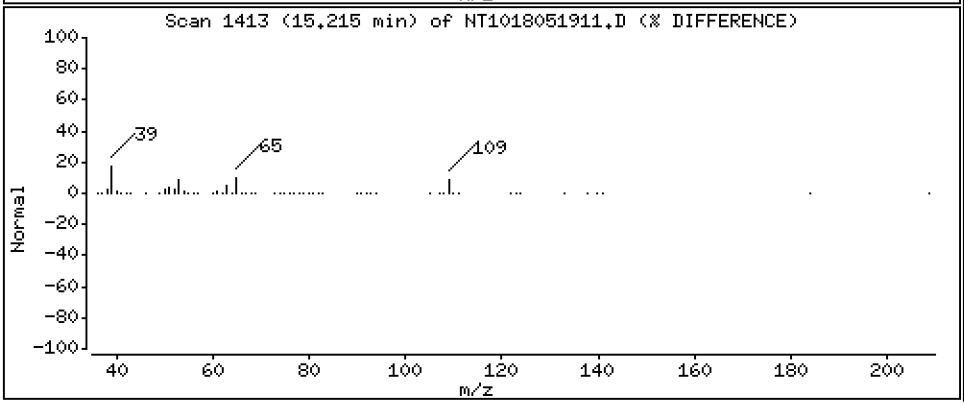
47 4-Nitrophenol

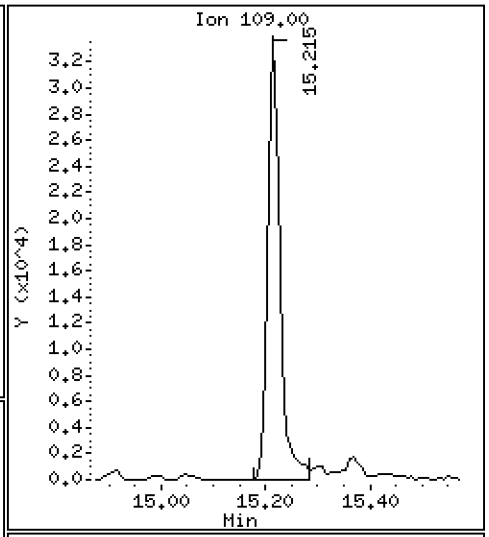
Concentration: 4.151 ug/mL

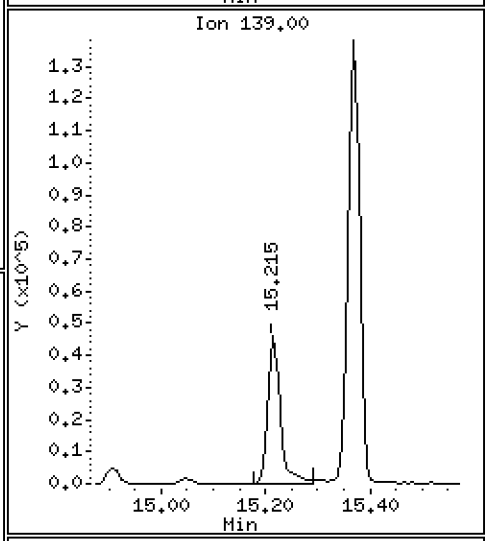


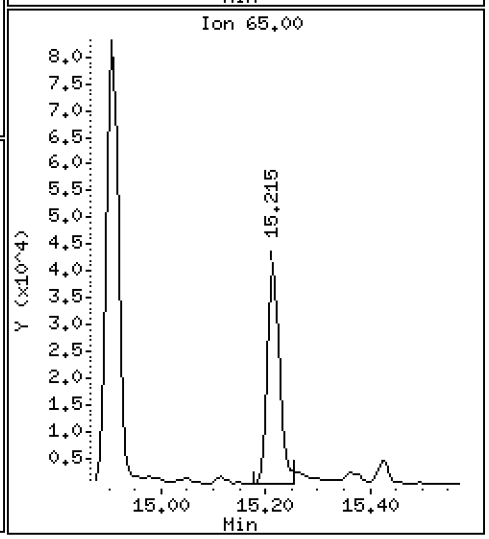












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

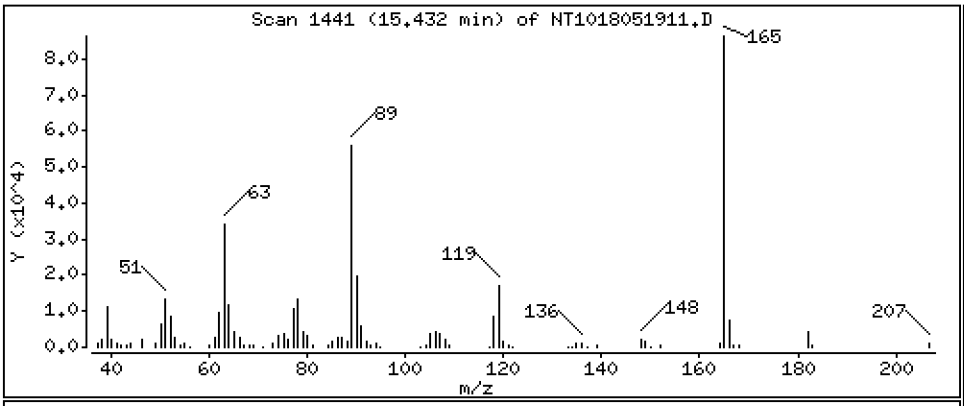
Operator: YZ

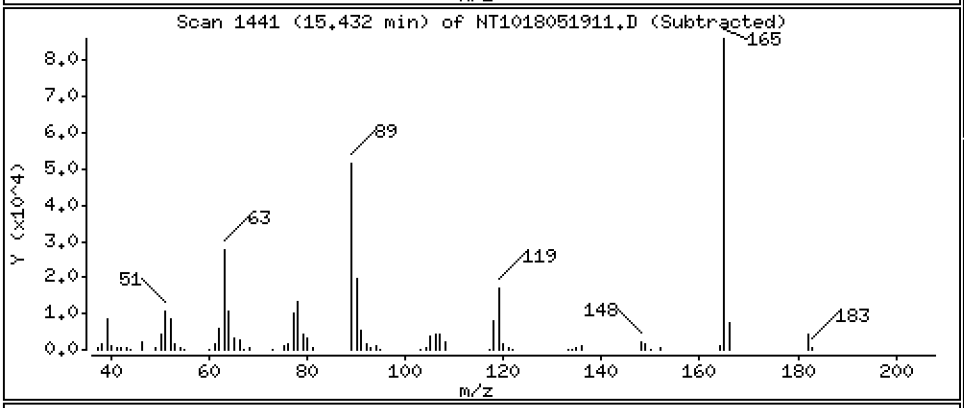
Column phase: ZB-5msi

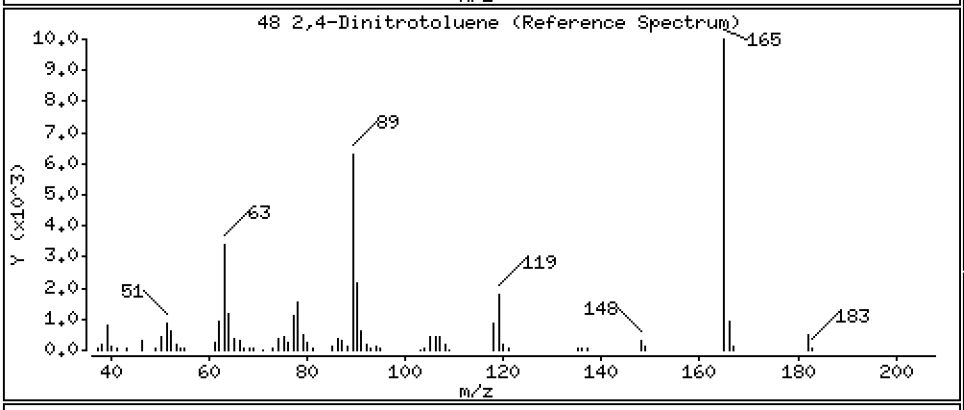
Column diameter: 0.25

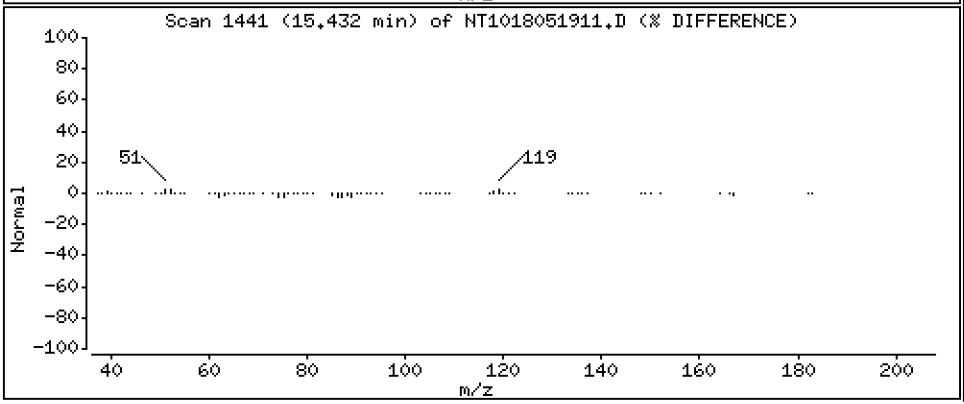
48 2,4-Dinitrotoluene

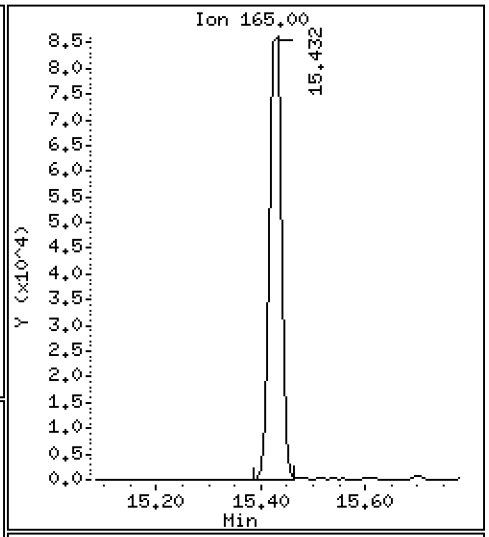
Concentration: 5.686 ug/mL

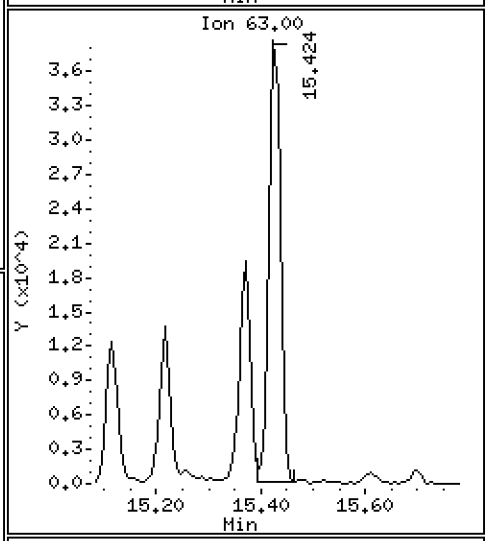


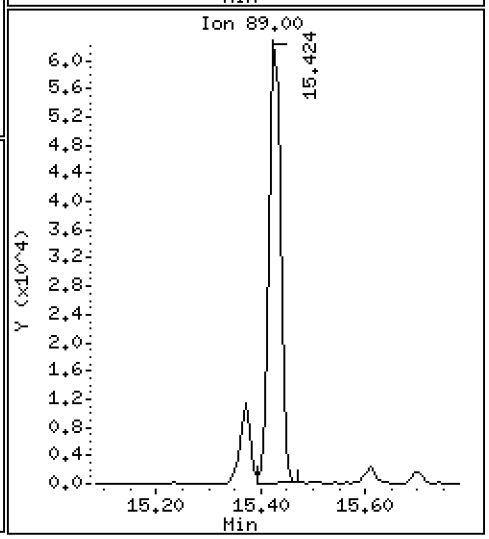












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

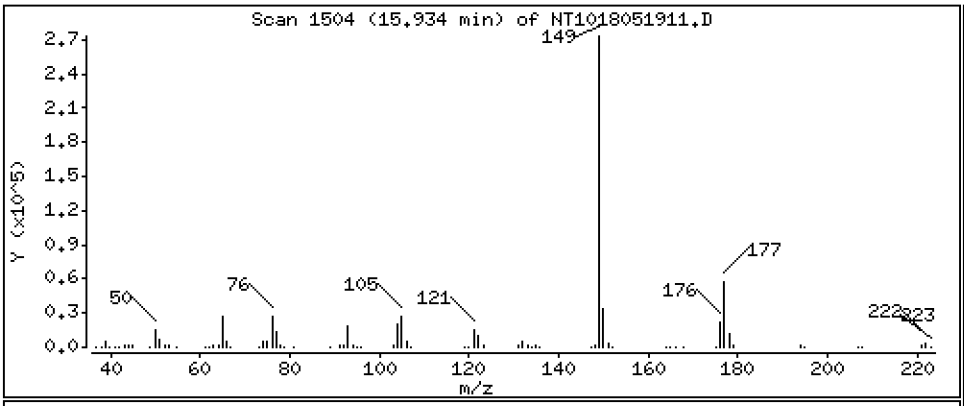
Operator: YZ

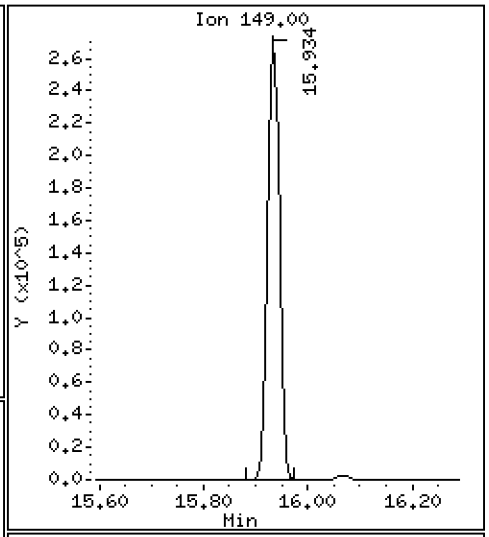
Column phase: ZB-5msi

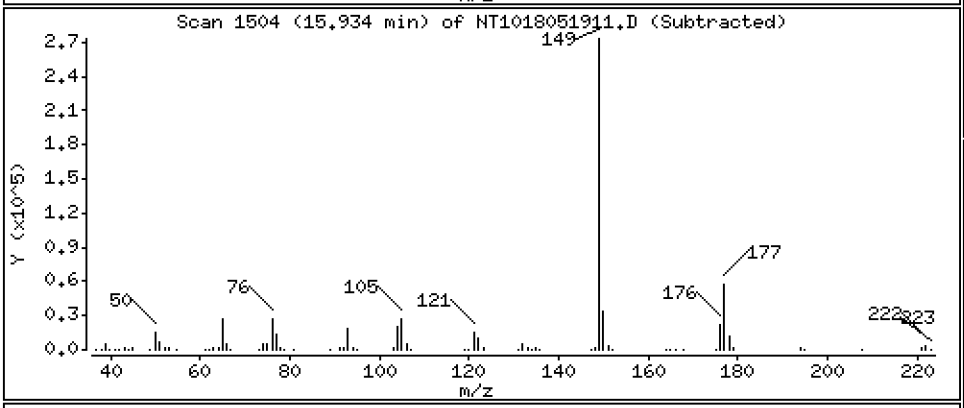
Column diameter: 0.25

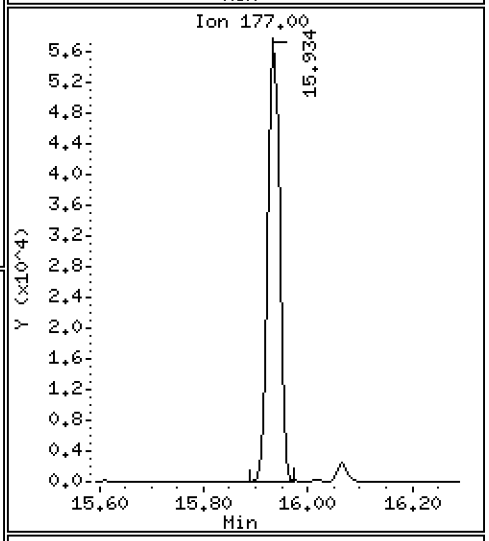
50 Diethylphthalate

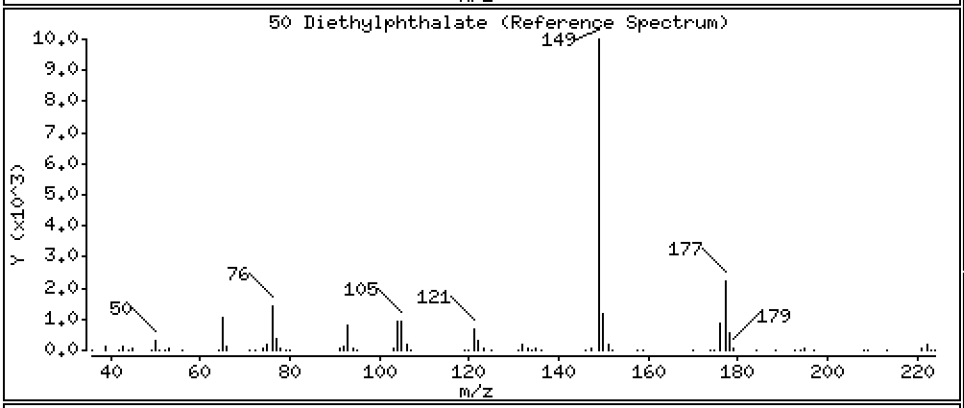
Concentration: 4.831 ug/mL

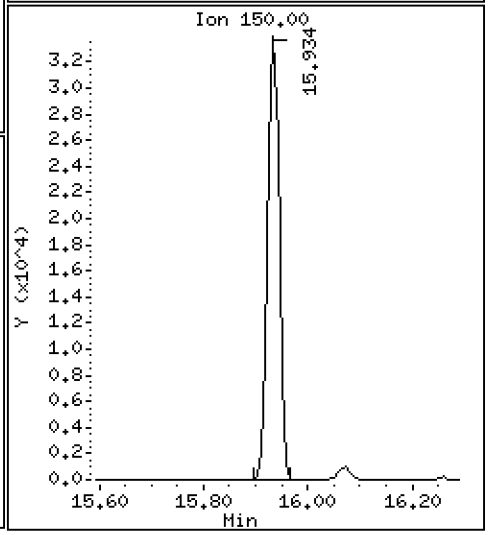


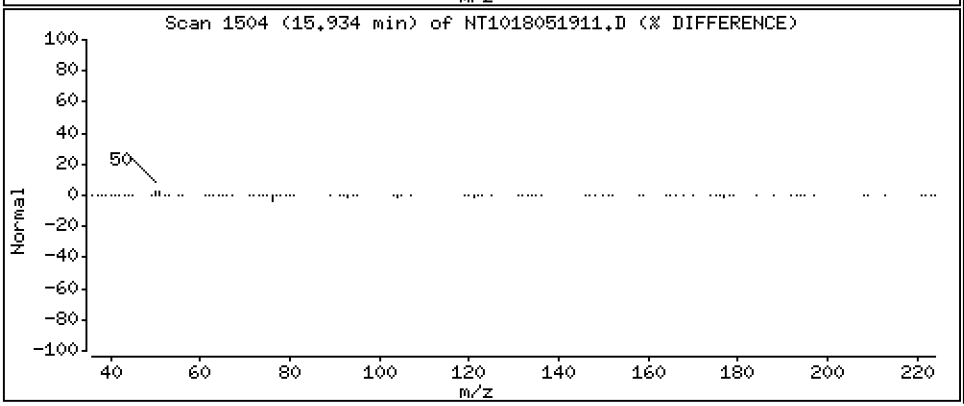












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

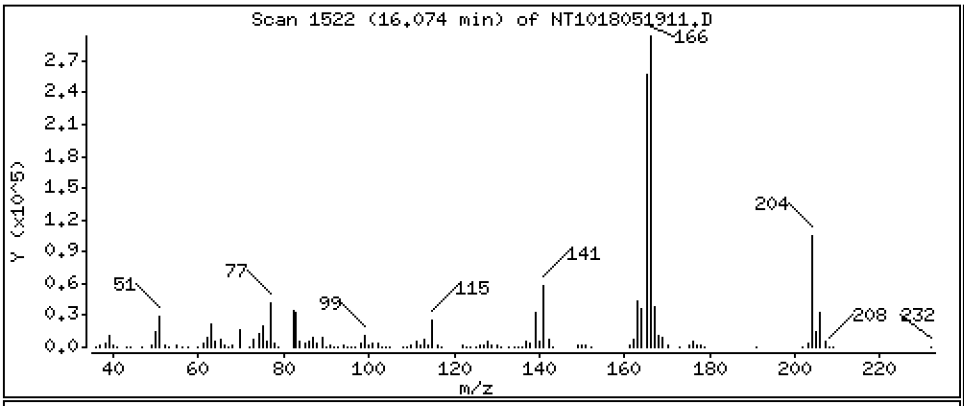
Operator: YZ

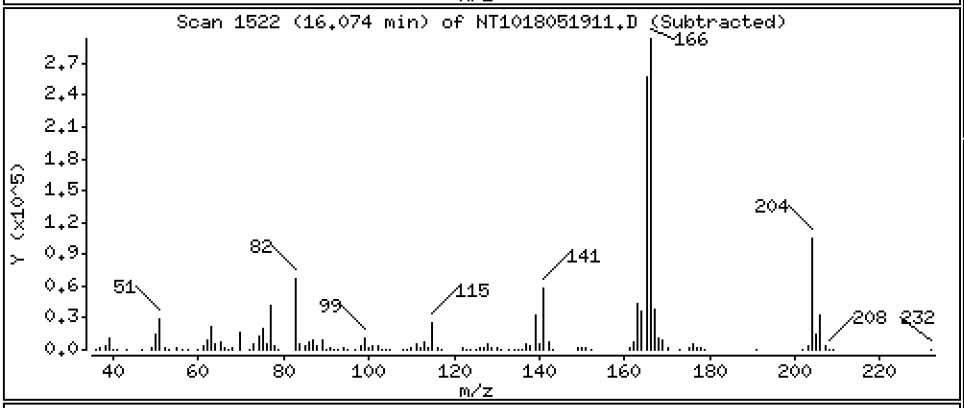
Column phase: ZB-5msi

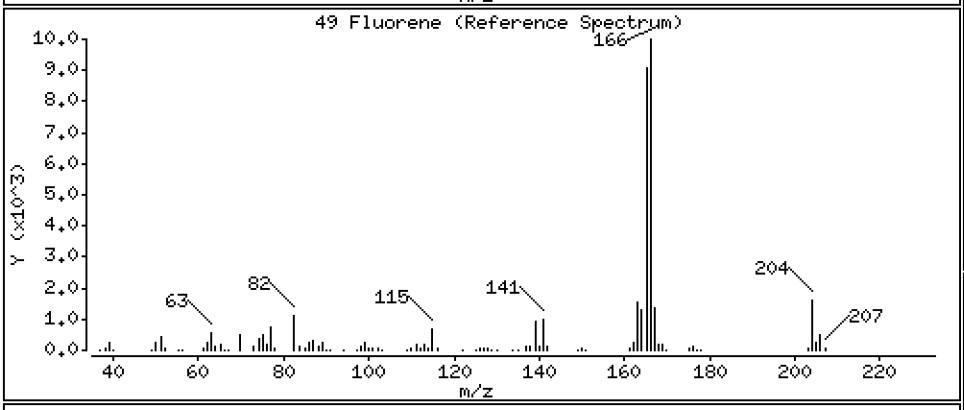
Column diameter: 0.25

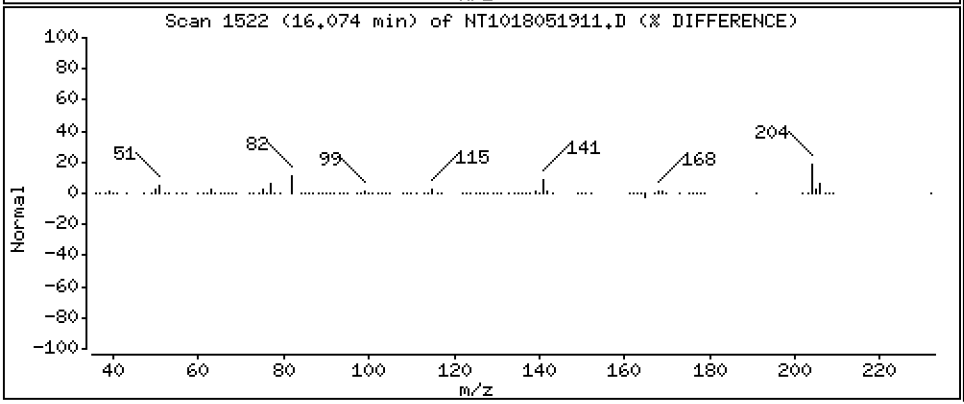
49 Fluorene

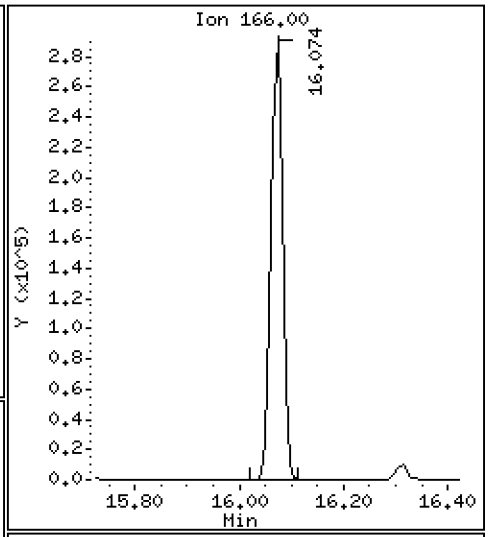
Concentration: 5.002 ug/mL

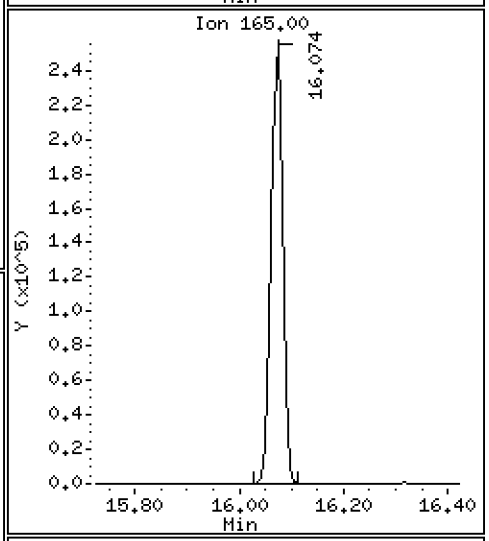


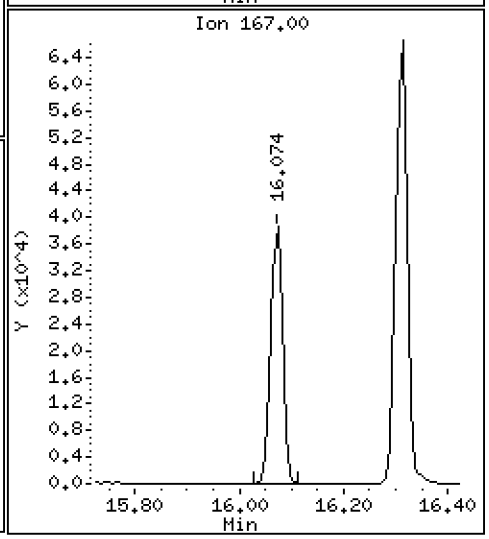












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

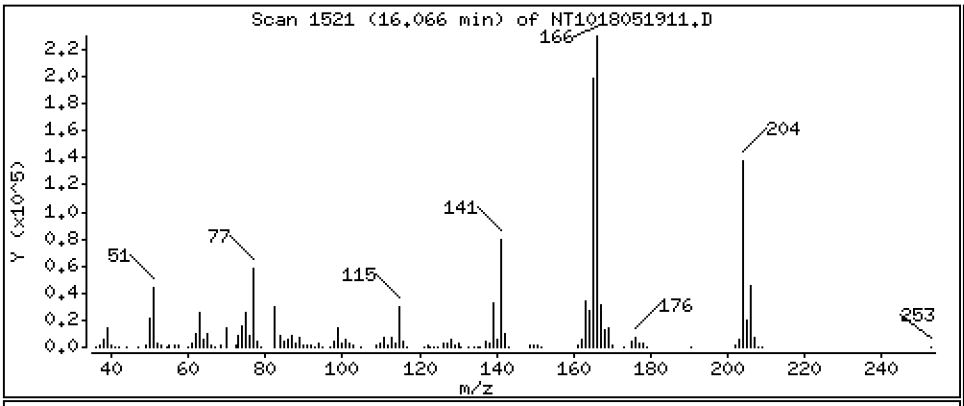
Operator: YZ

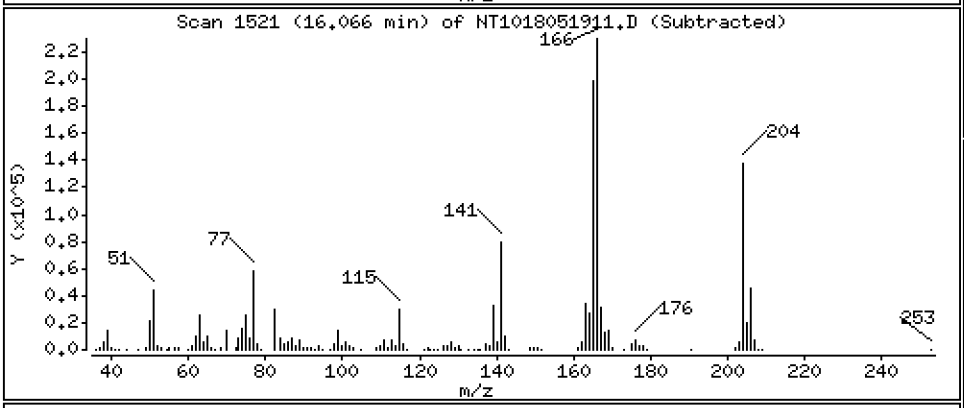
Column phase: ZB-5msi

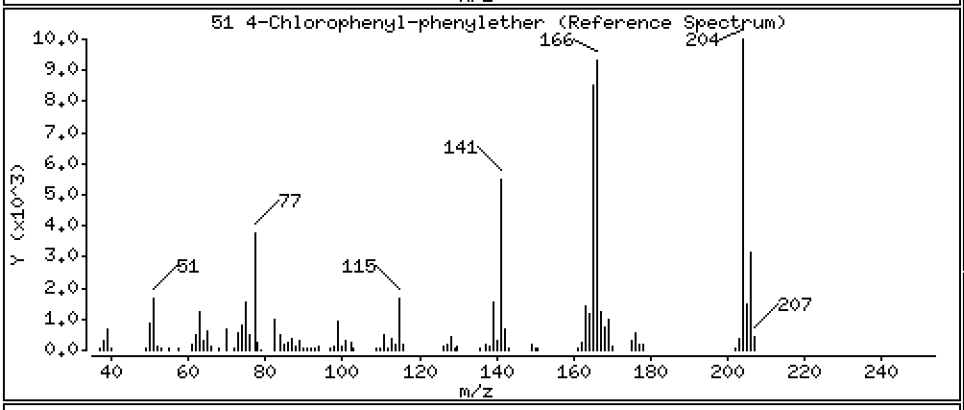
Column diameter: 0.25

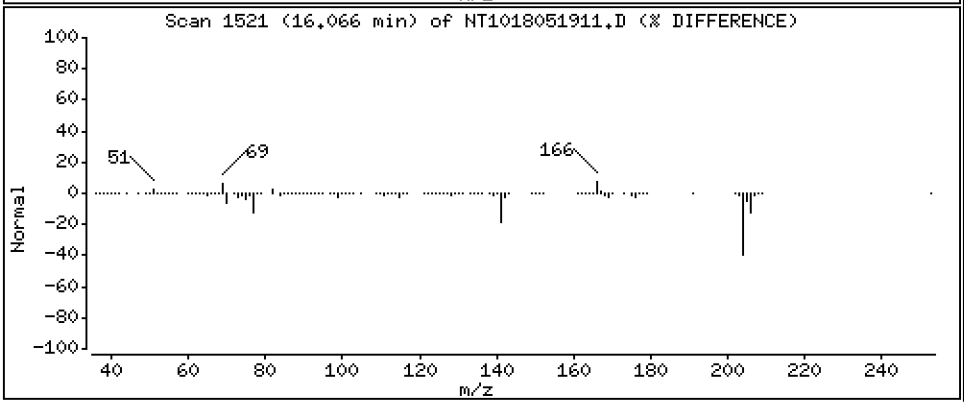
51 4-Chlorophenyl-phenylether

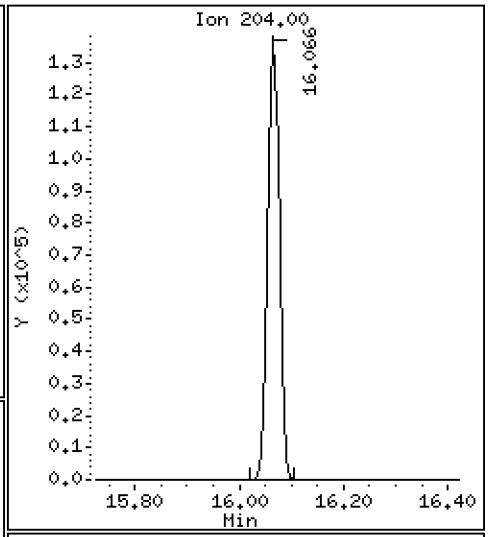
Concentration: 4.817 ug/mL

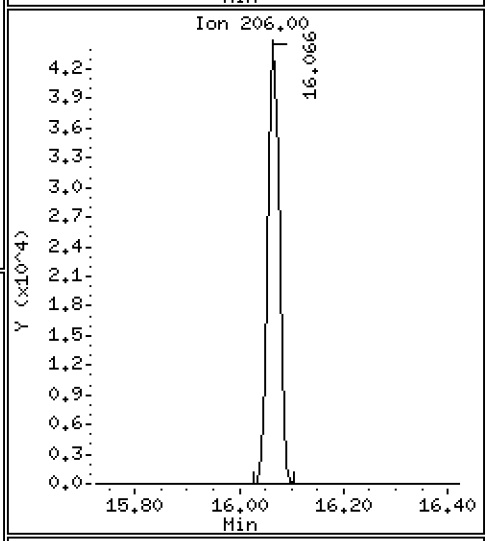


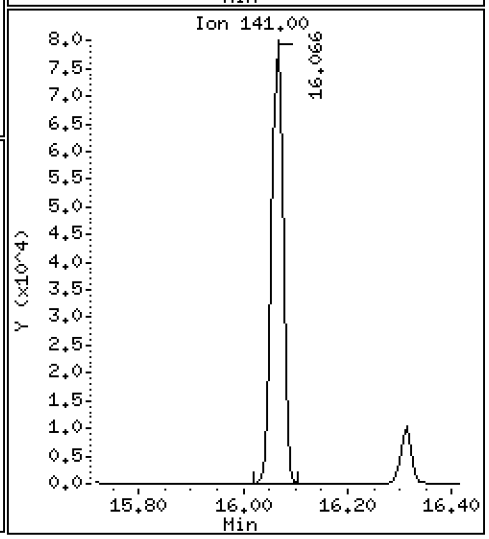












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

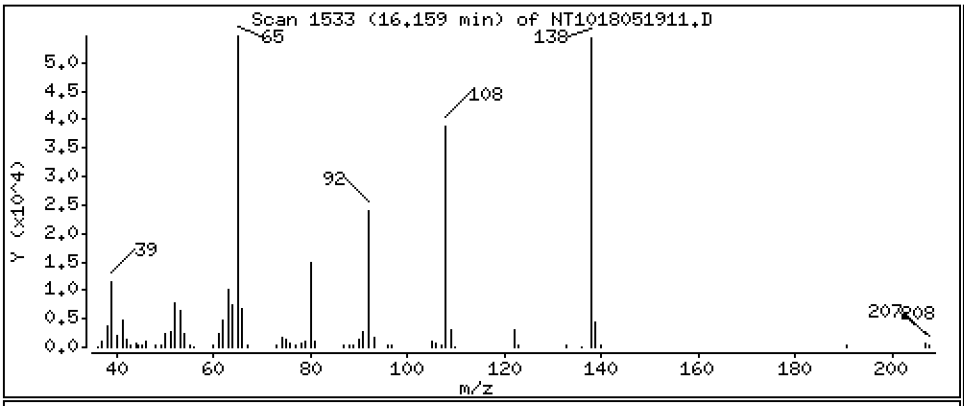
Operator: YZ

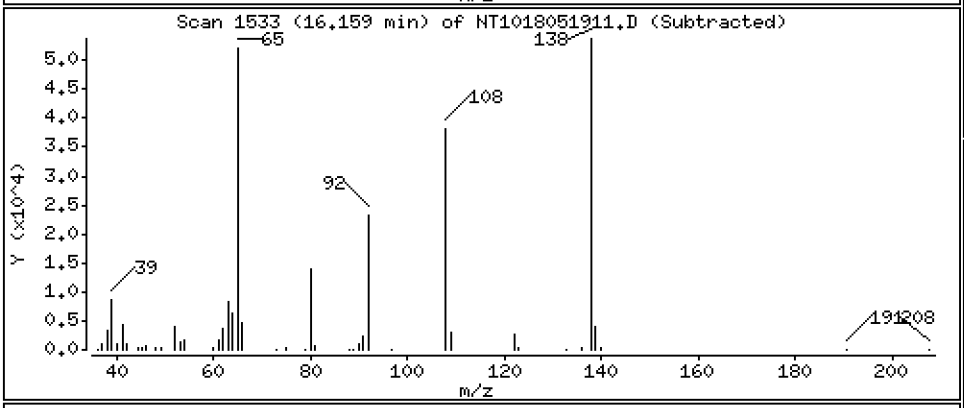
Column phase: ZB-5msi

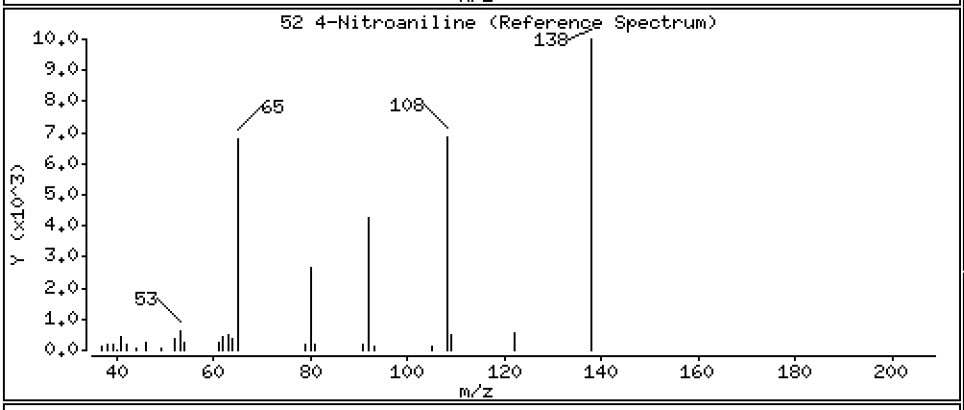
Column diameter: 0.25

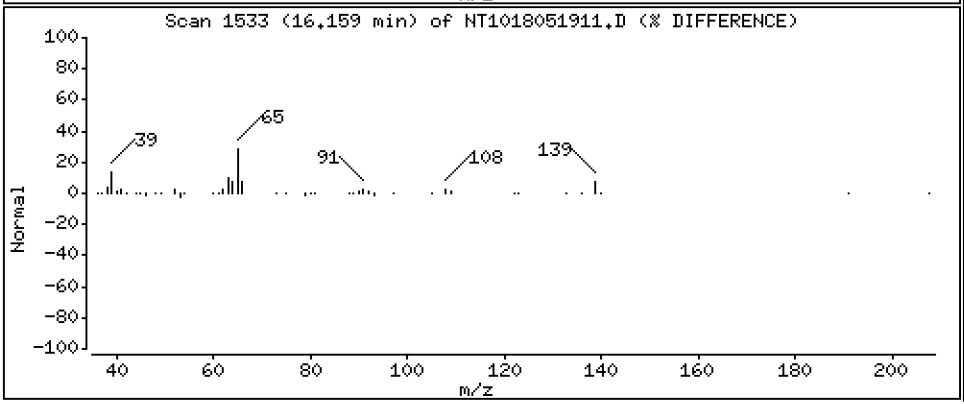
52 4-Nitroaniline

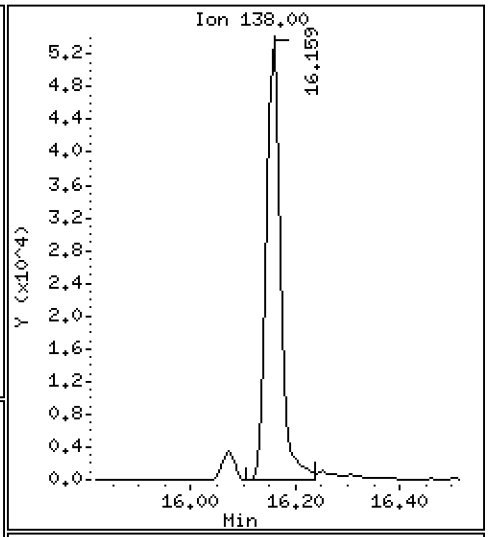
Concentration: 5.464 ug/mL

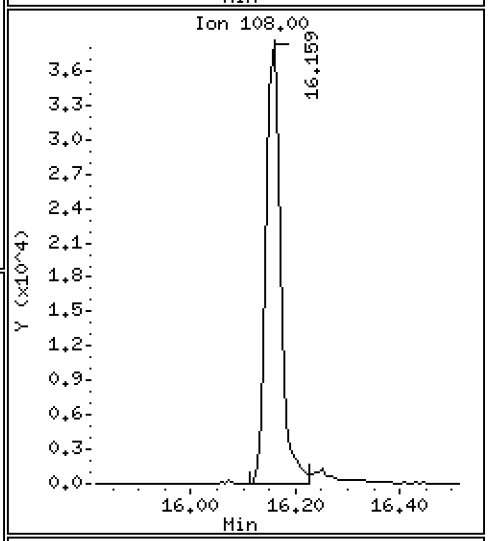


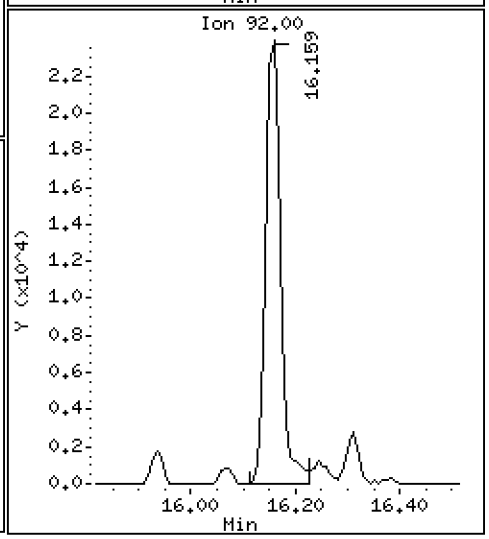












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

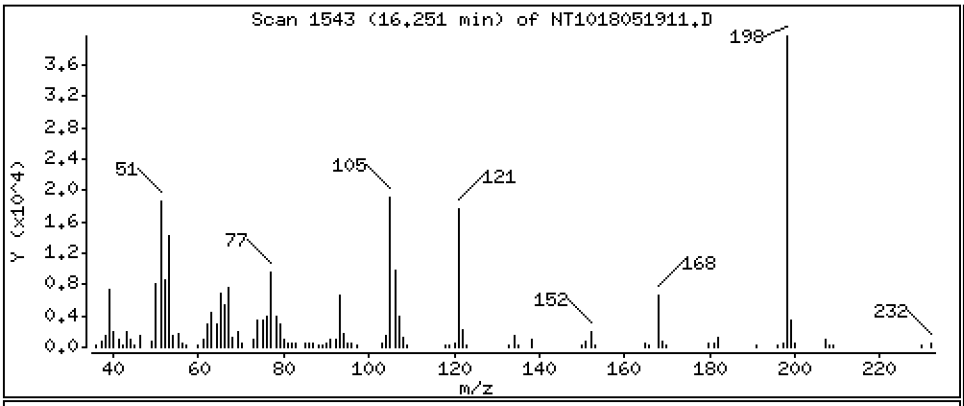
Operator: YZ

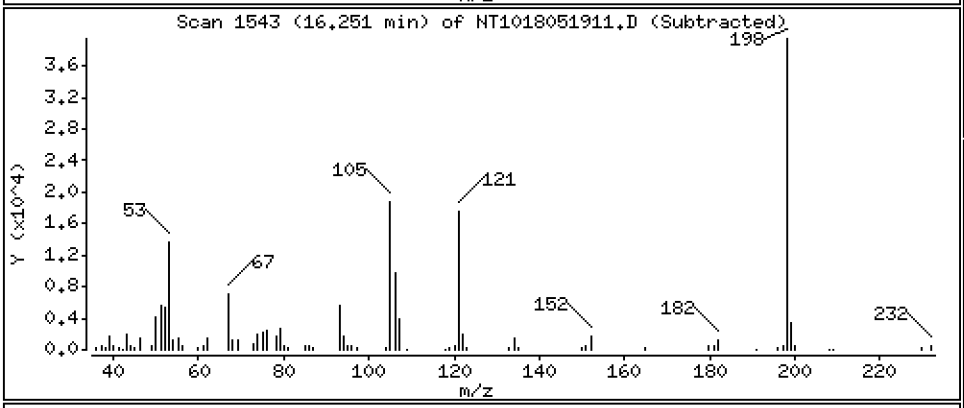
Column phase: ZB-5msi

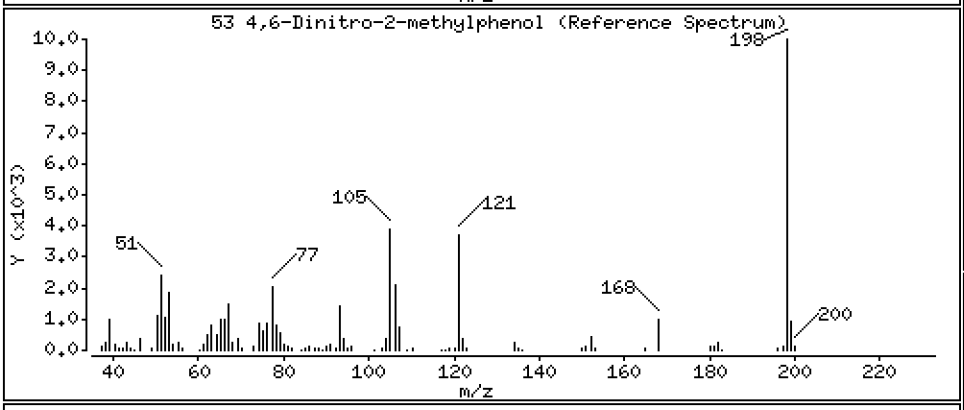
Column diameter: 0.25

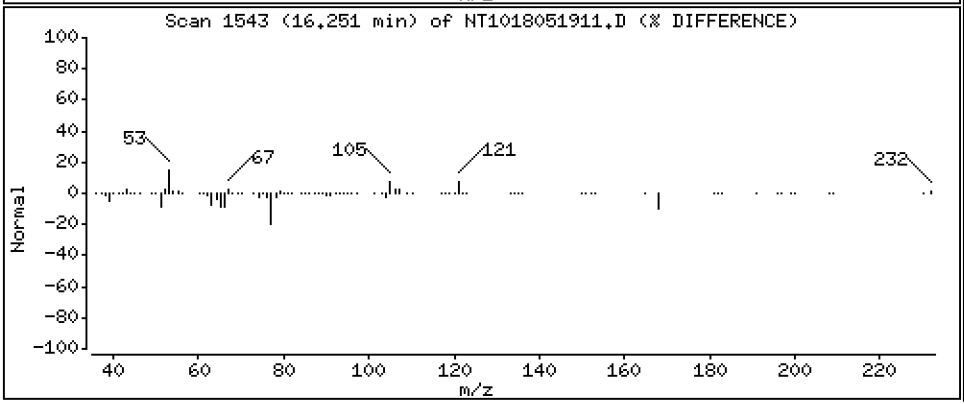
53 4,6-Dinitro-2-methylphenol

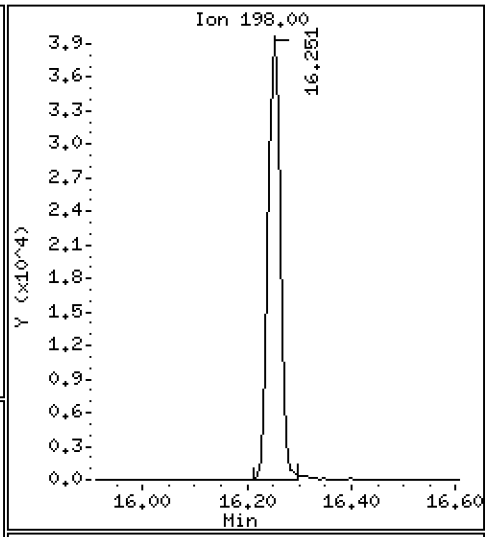
Concentration: 3.462 ug/mL

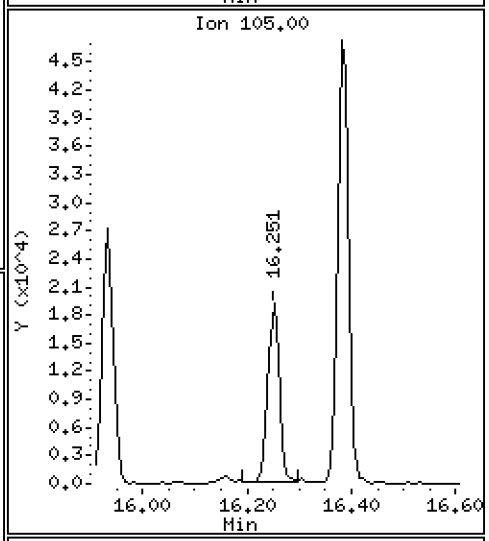


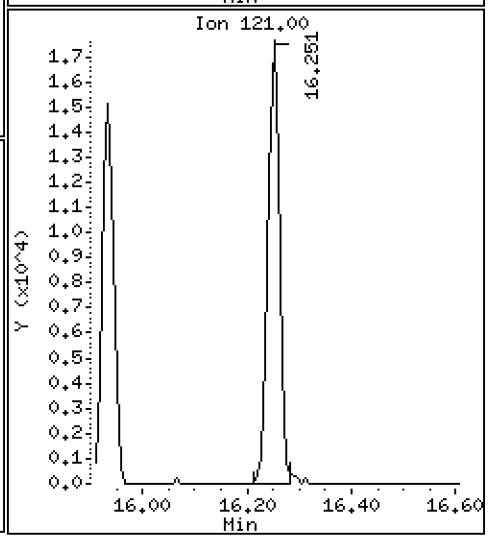












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

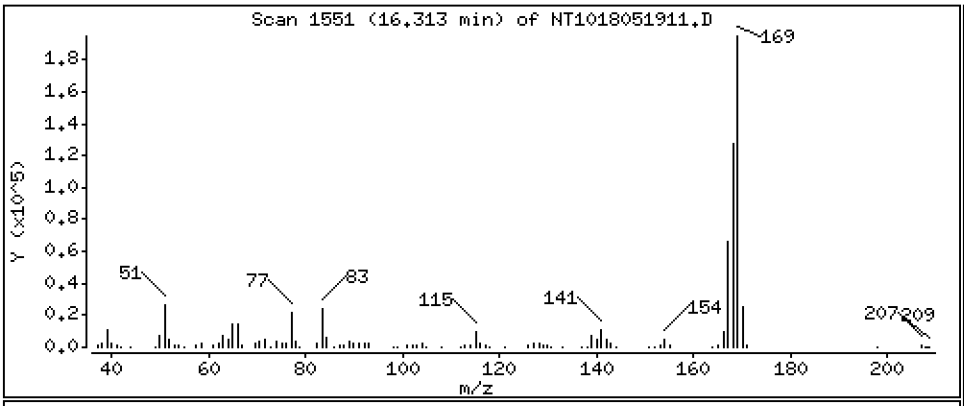
Operator: YZ

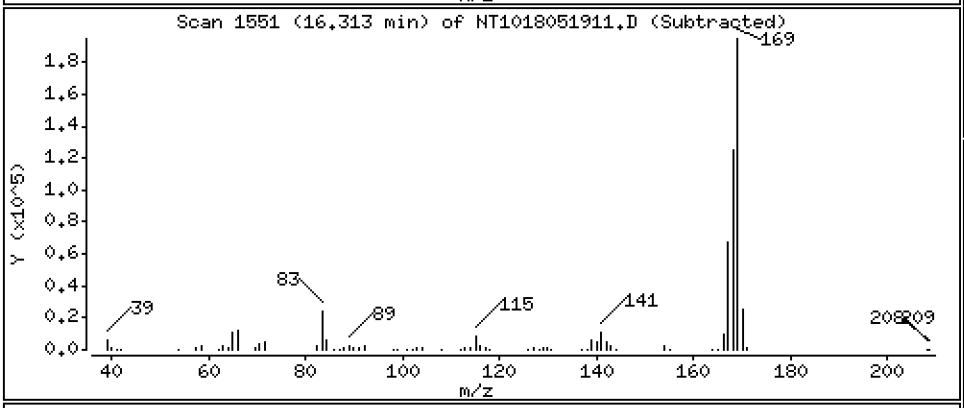
Column phase: ZB-5msi

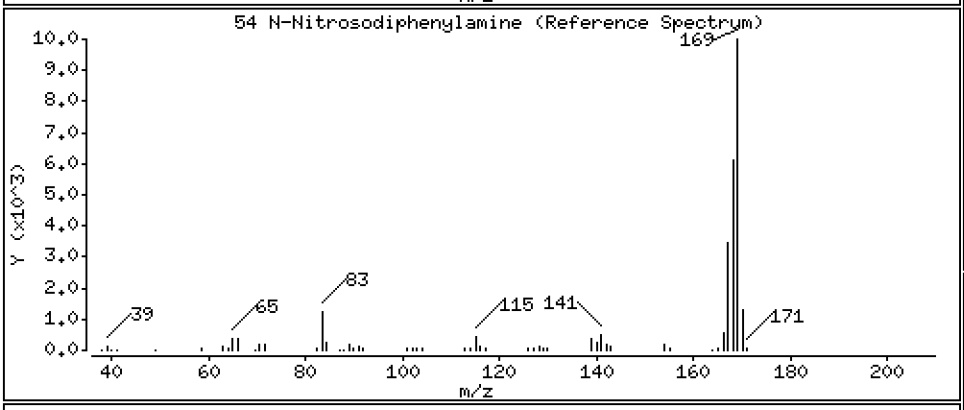
Column diameter: 0.25

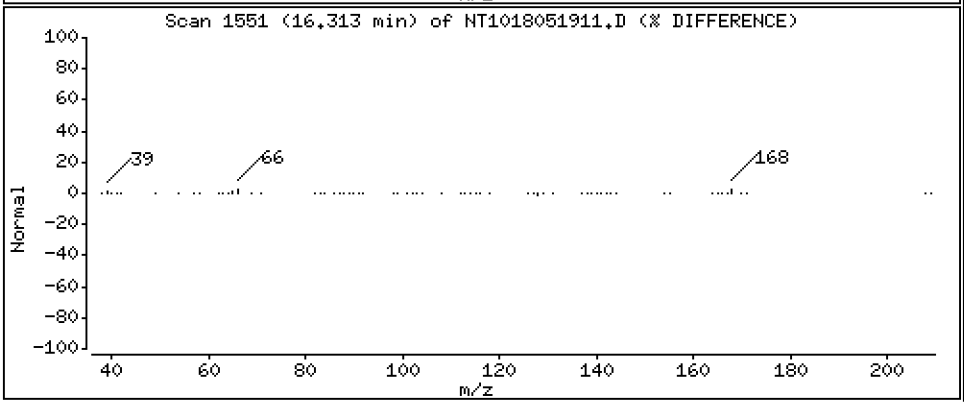
54 N-Nitrosodiphenylamine

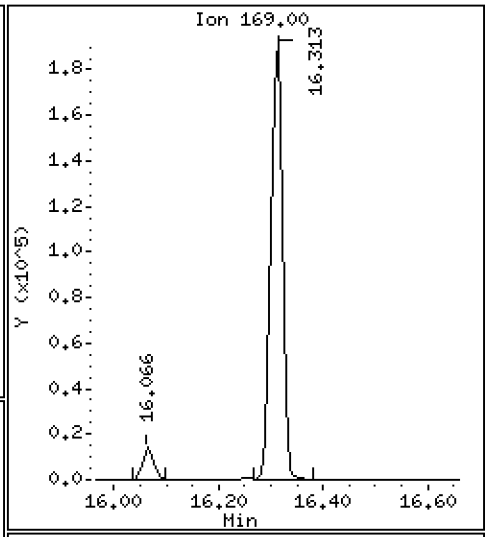
Concentration: 5.227 ug/mL

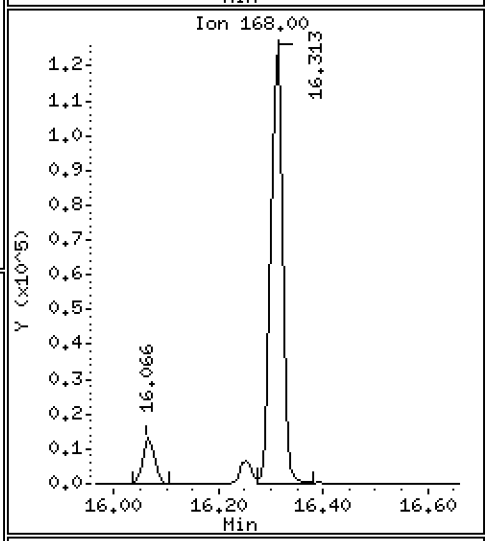


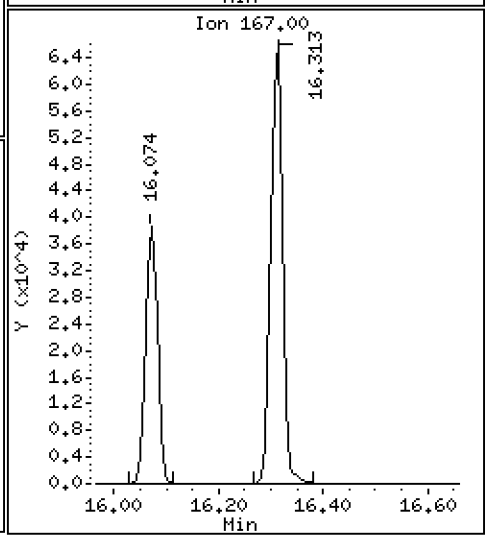












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

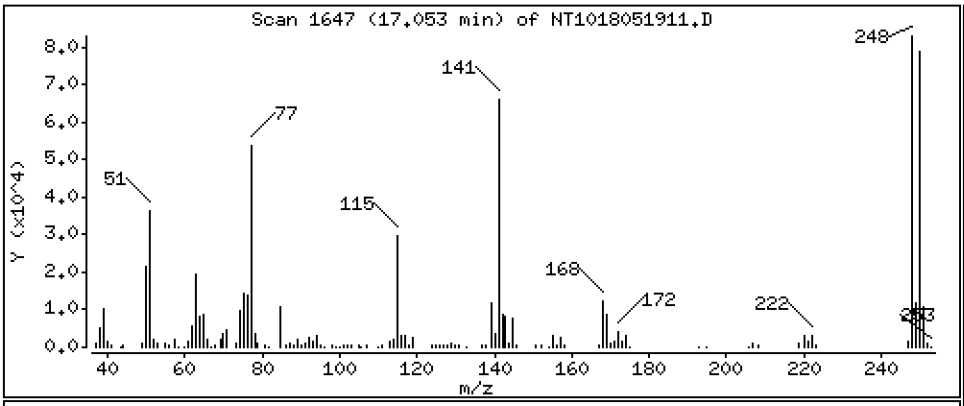
Operator: YZ

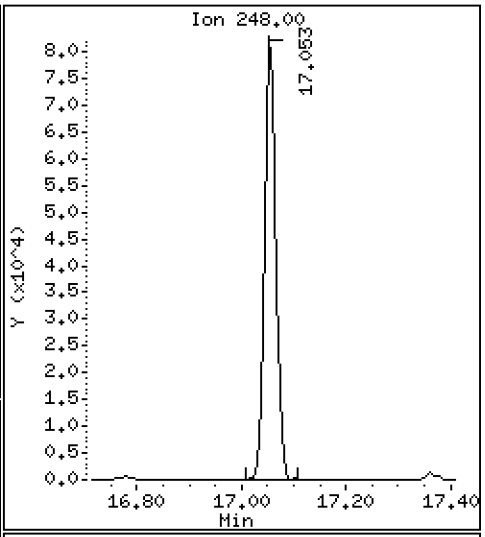
Column phase: ZB-5msi

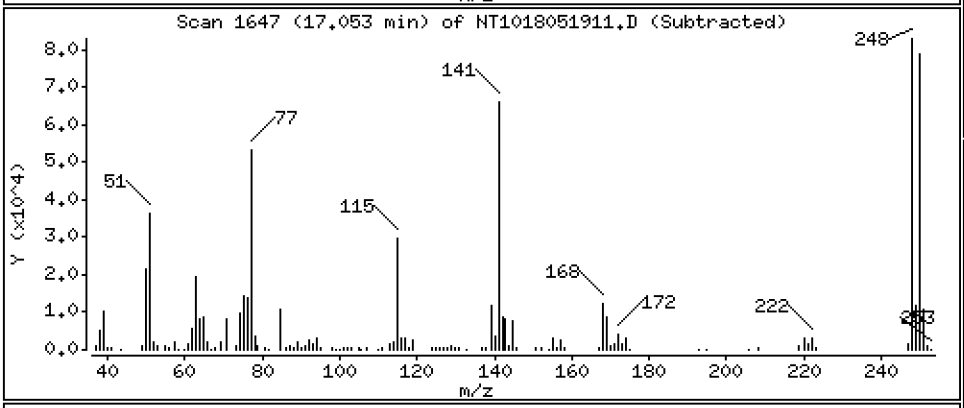
Column diameter: 0.25

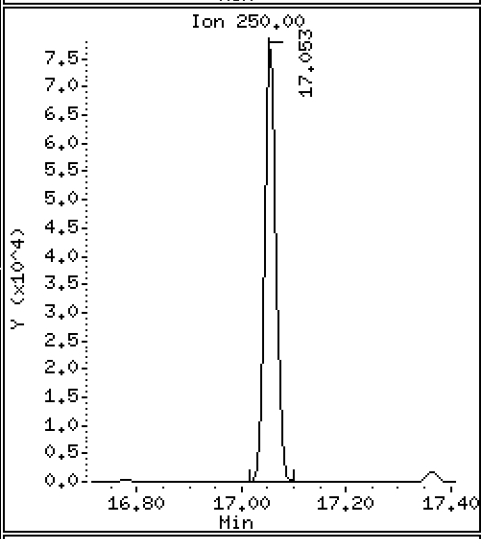
56 4-Bromophenyl-phenylether

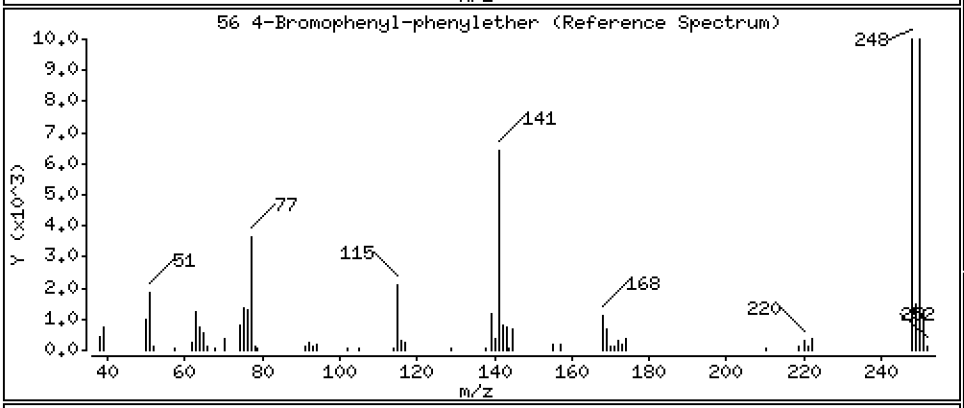
Concentration: 4.988 ug/mL

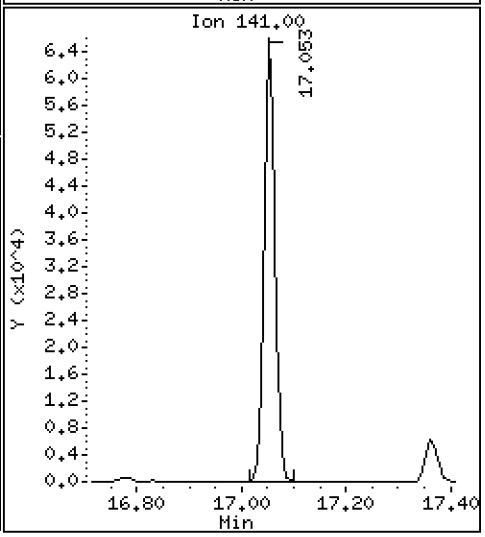


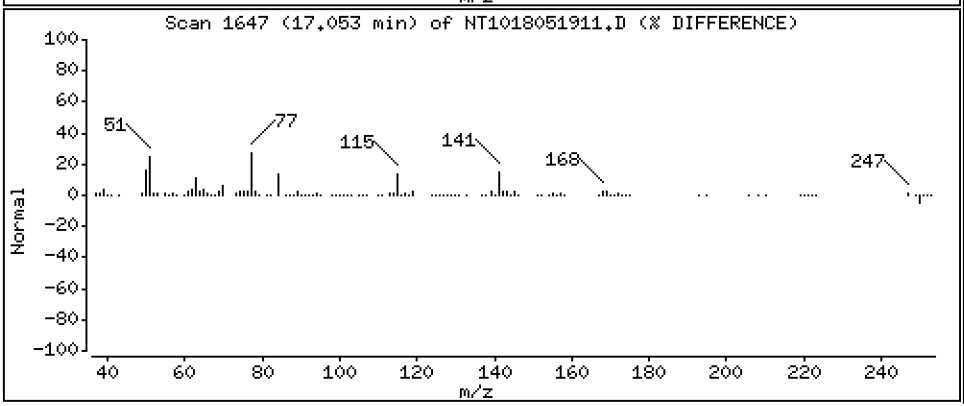












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

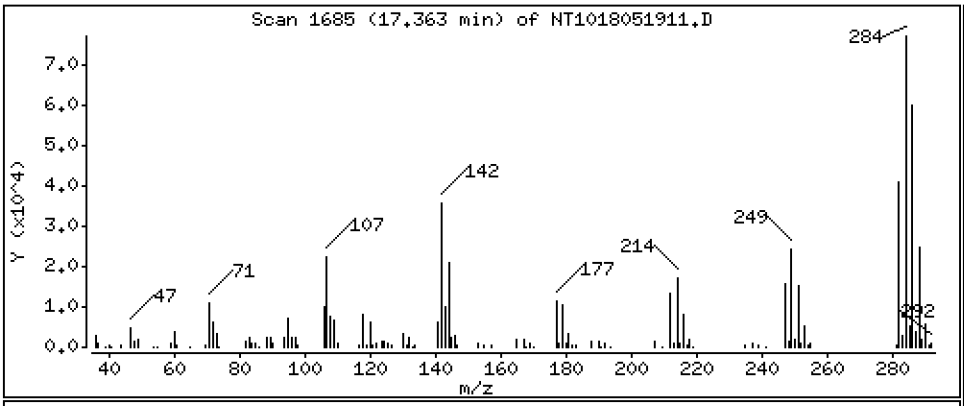
Operator: YZ

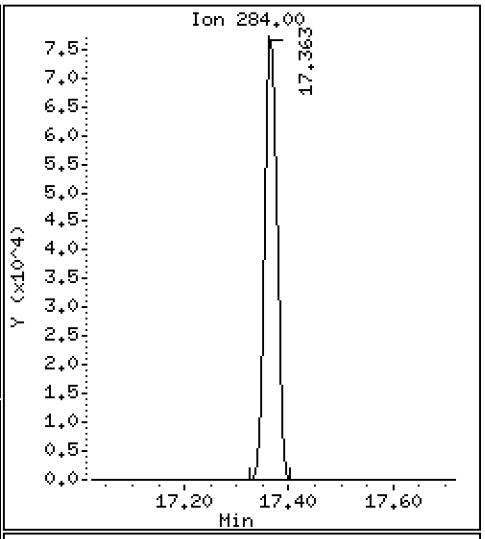
Column phase: ZB-5msi

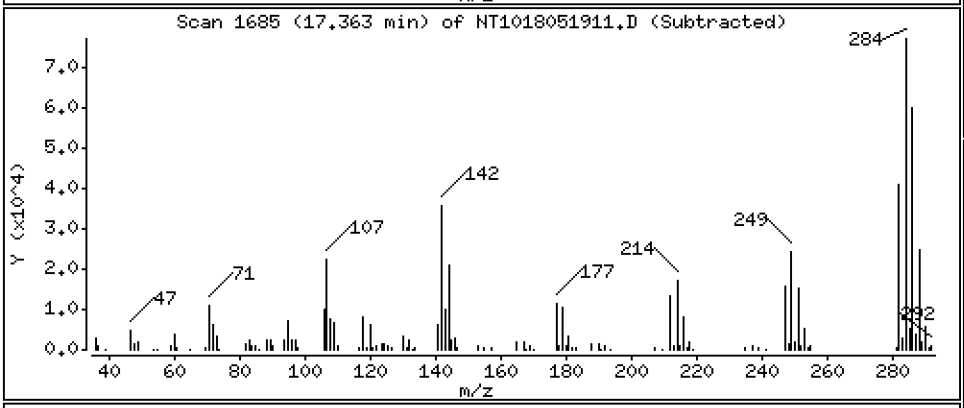
Column diameter: 0.25

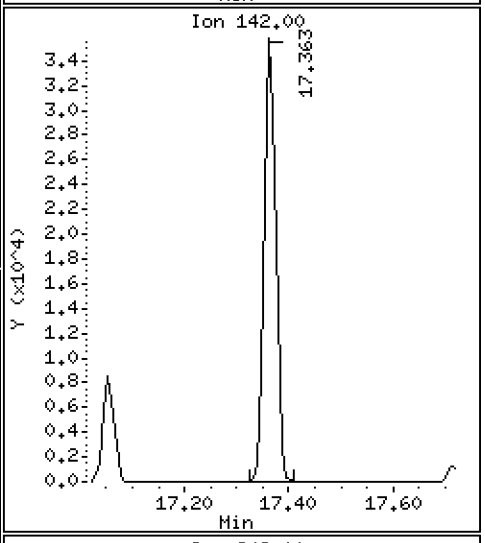
57 Hexachlorobenzene

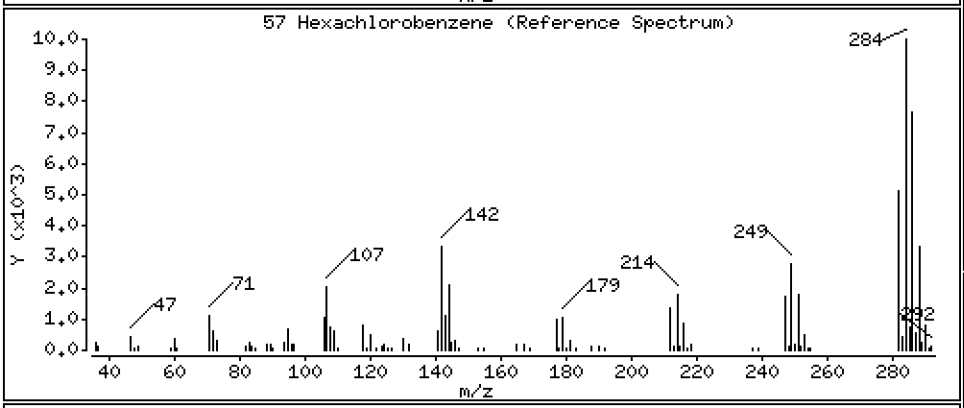
Concentration: 5.196 ug/mL

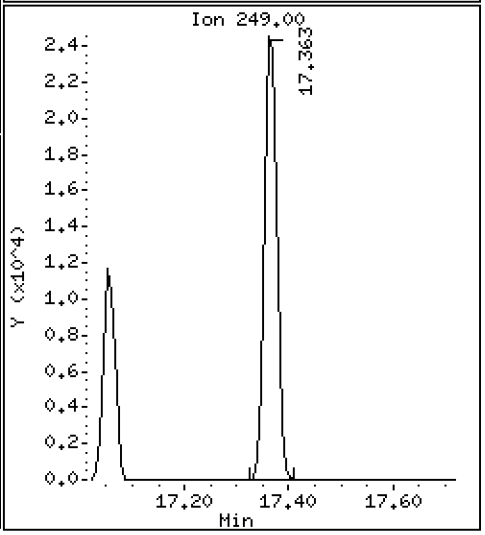


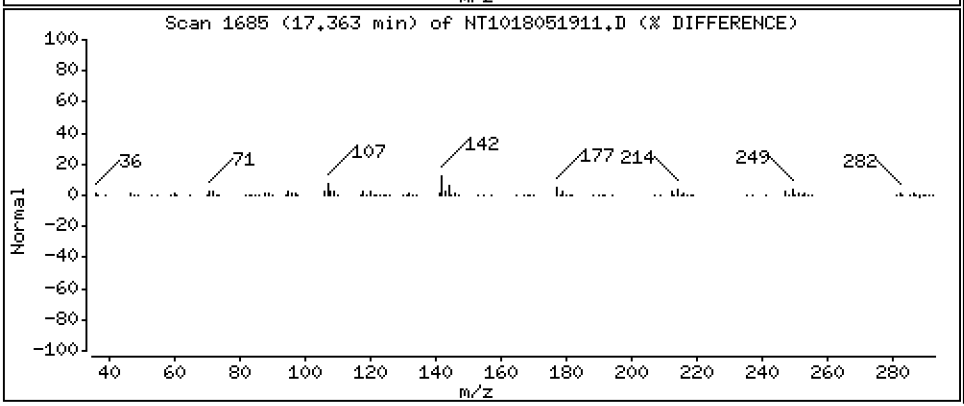












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

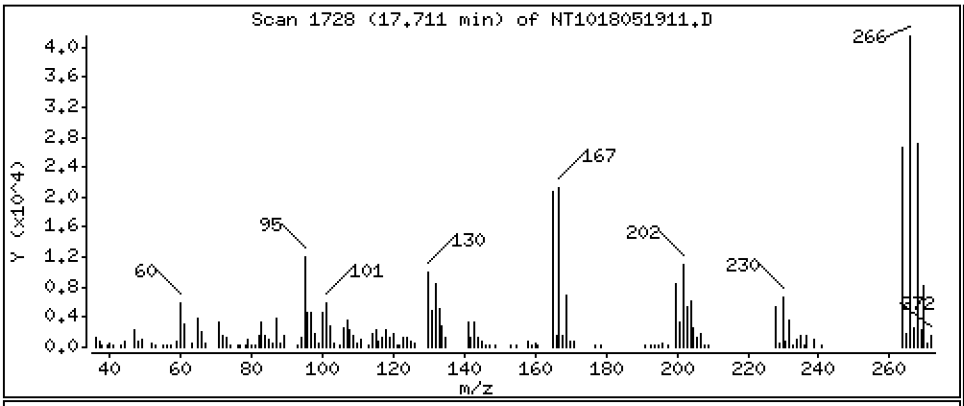
Operator: YZ

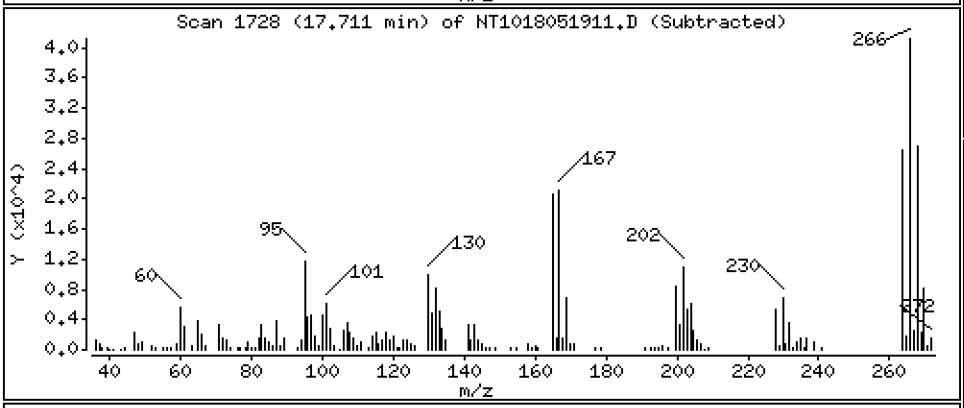
Column phase: ZB-5msi

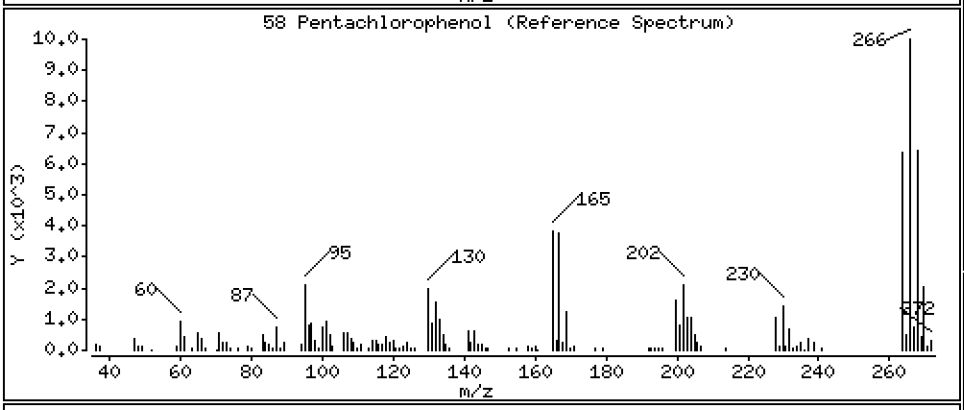
Column diameter: 0.25

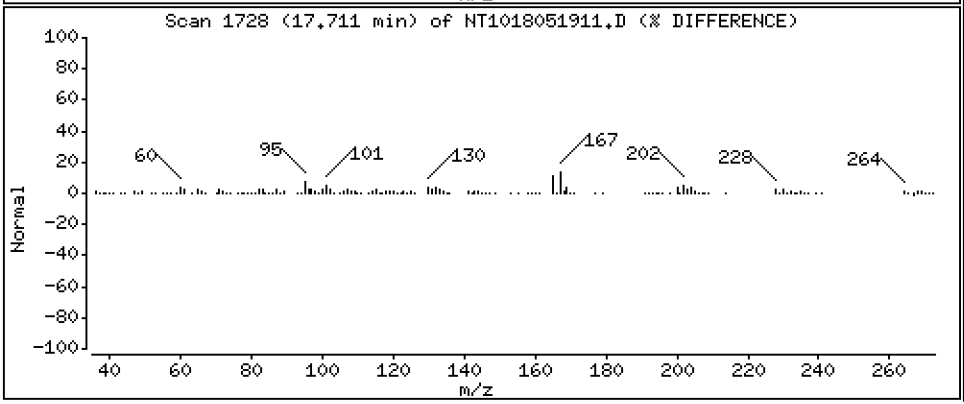
58 Pentachlorophenol

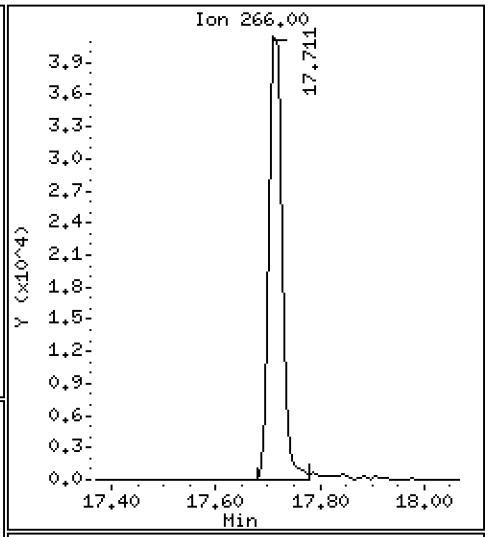
Concentration: 4.992 ug/mL

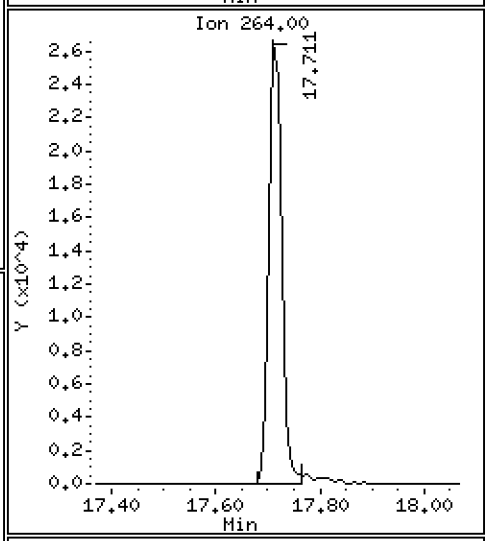


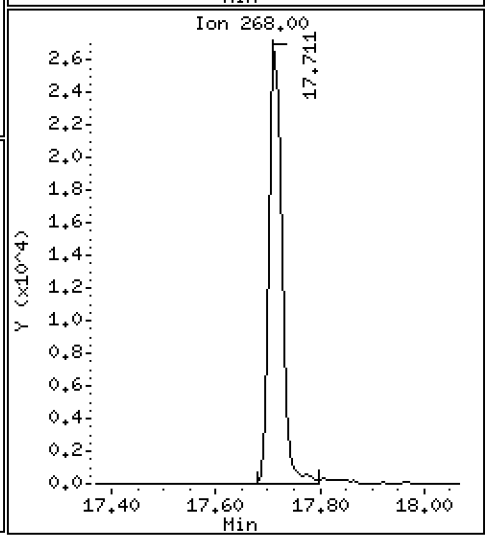












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

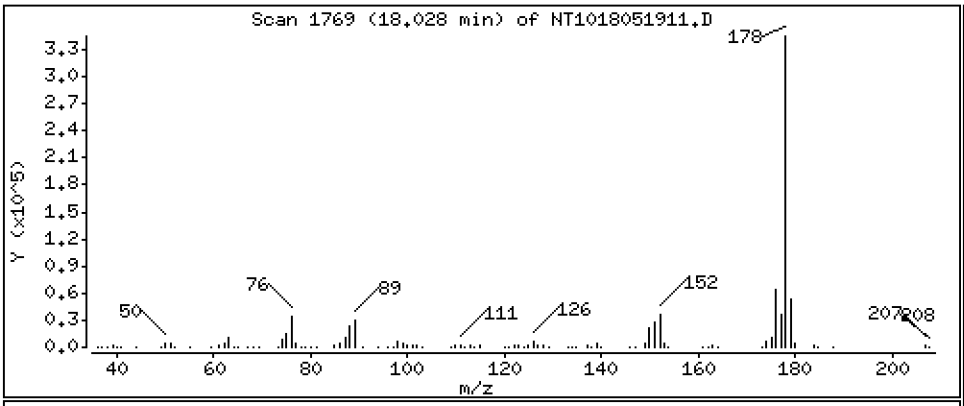
Operator: YZ

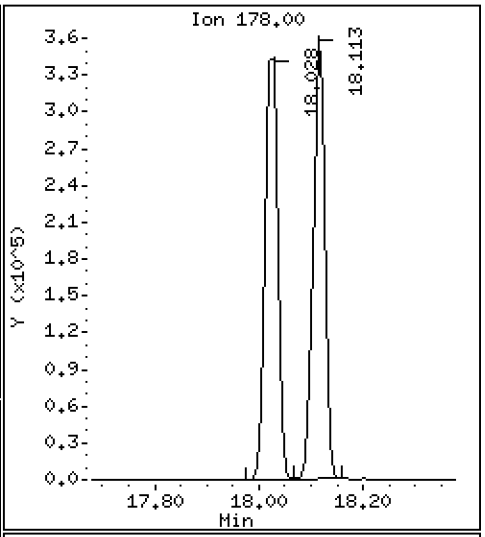
Column phase: ZB-5msi

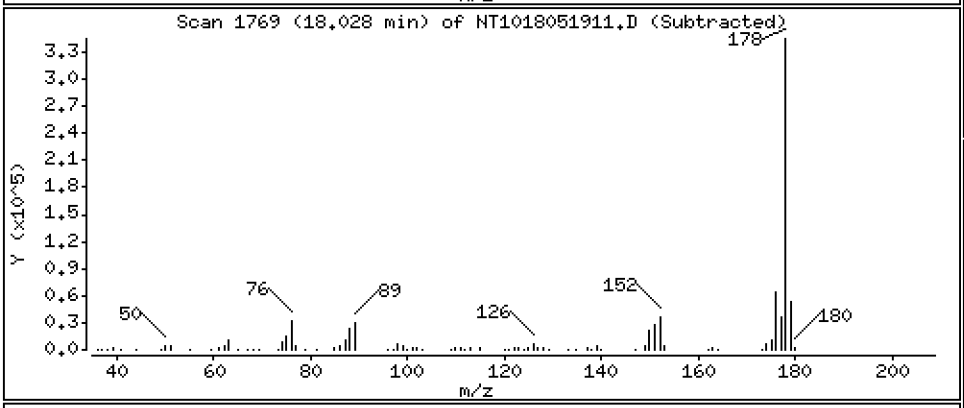
Column diameter: 0.25

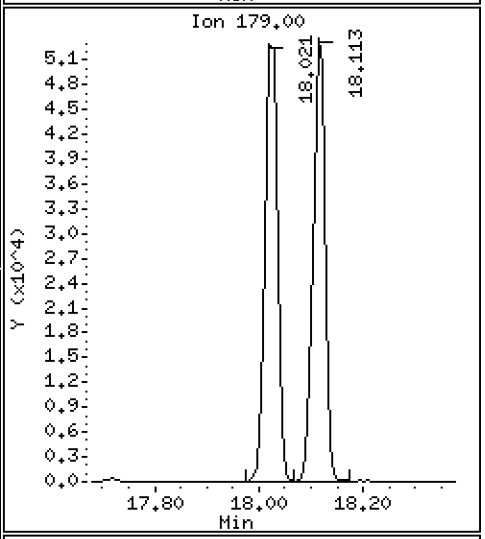
60 Phenanthrene

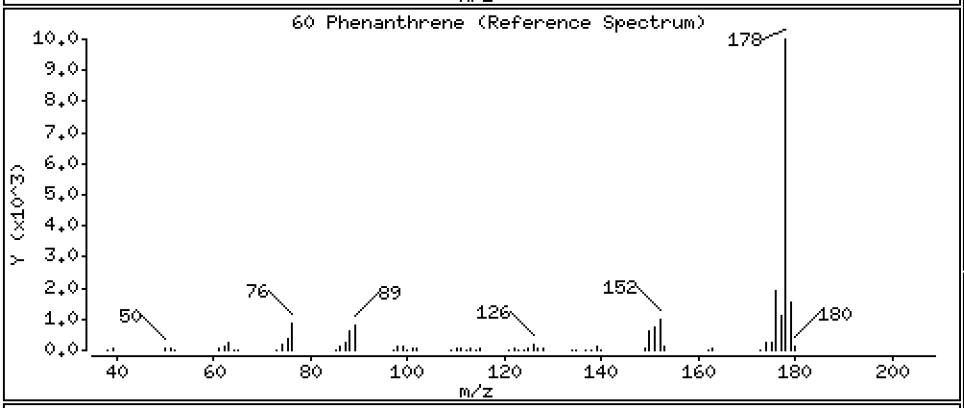
Concentration: 5.088 ug/mL

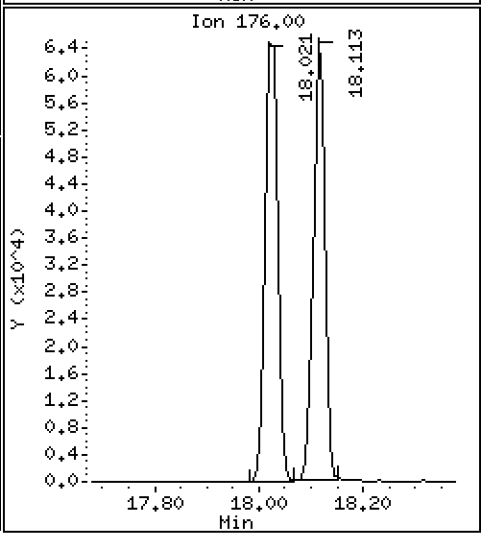


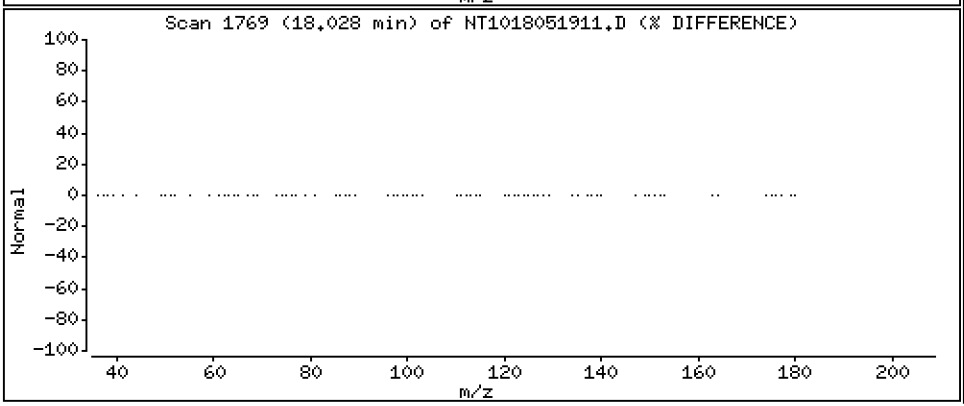












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

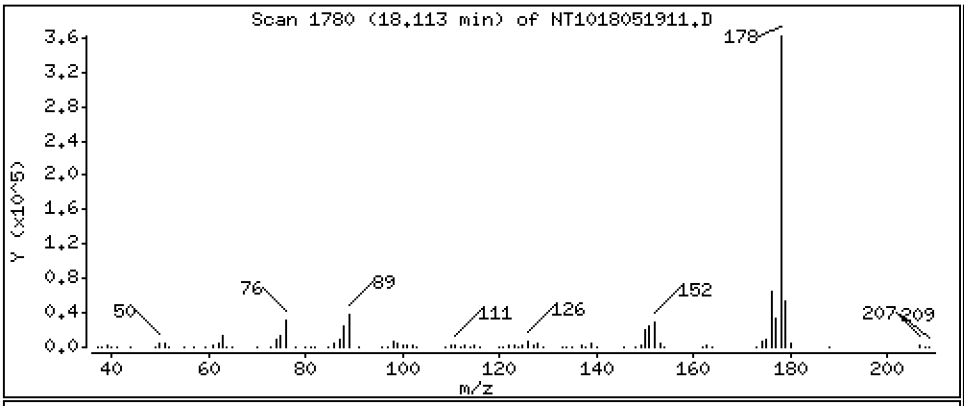
Operator: YZ

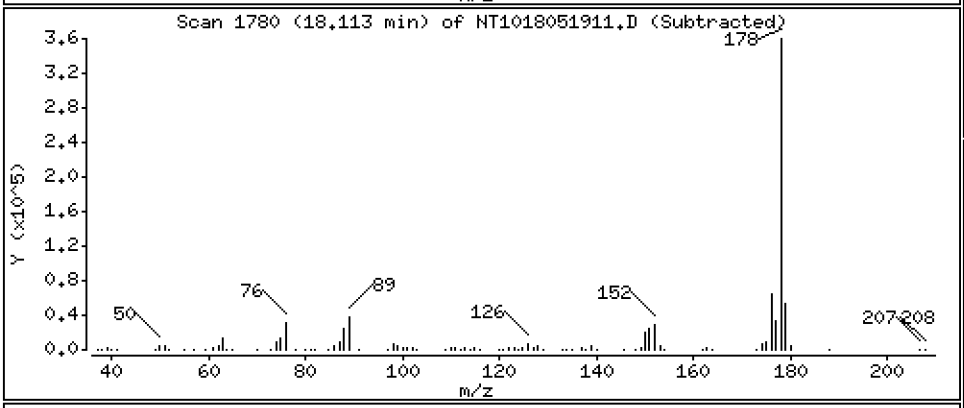
Column phase: ZB-5msi

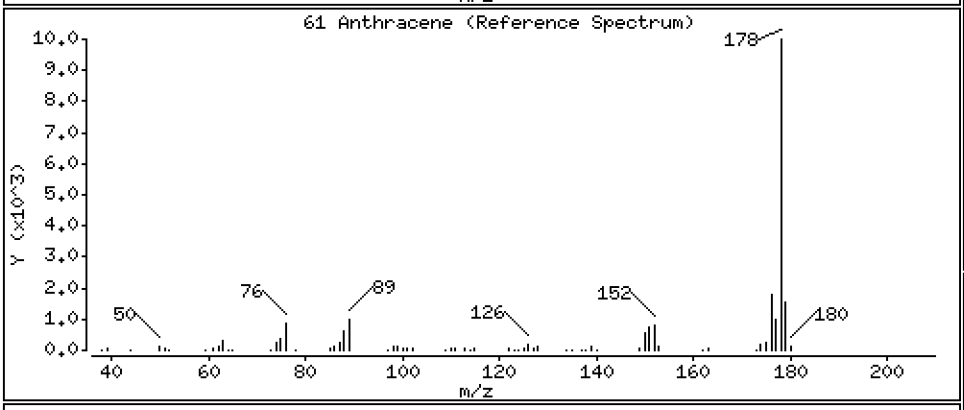
Column diameter: 0.25

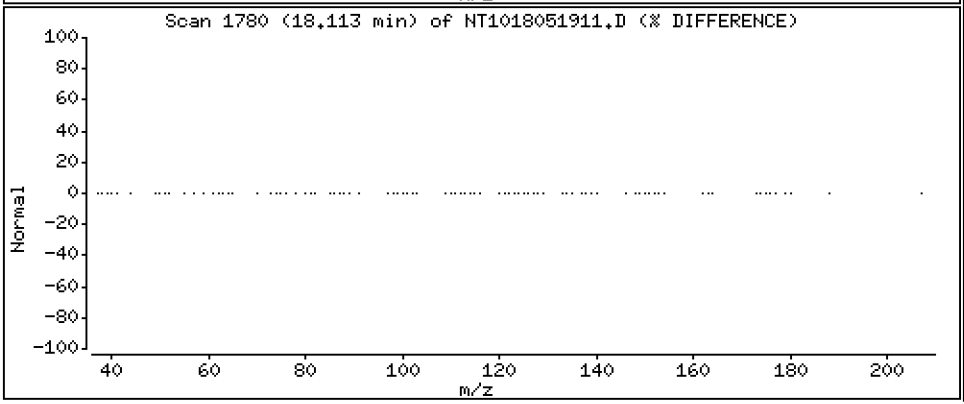
61 Anthracene

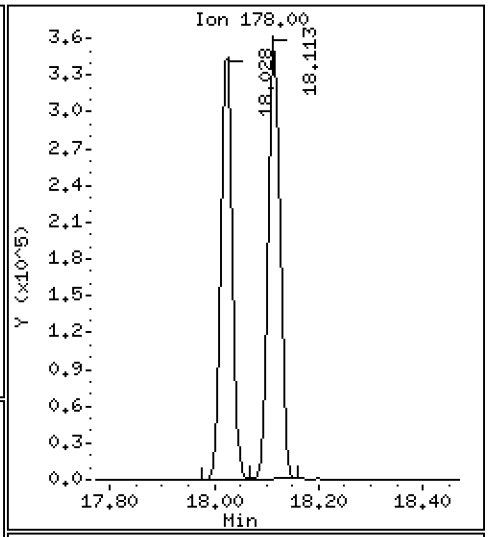
Concentration: 4.805 ug/mL

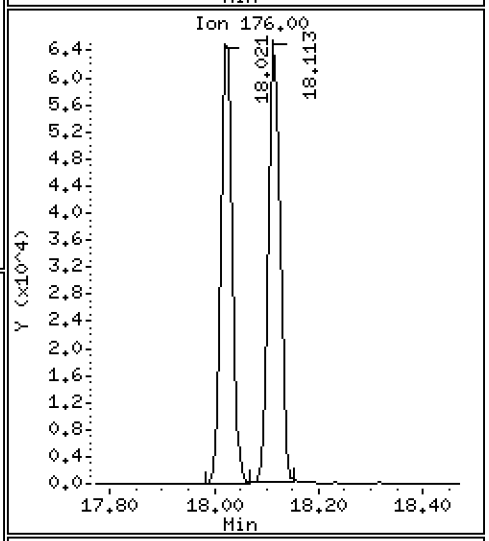


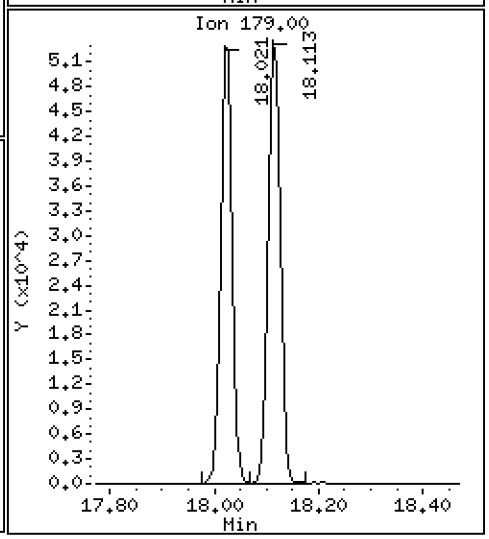












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

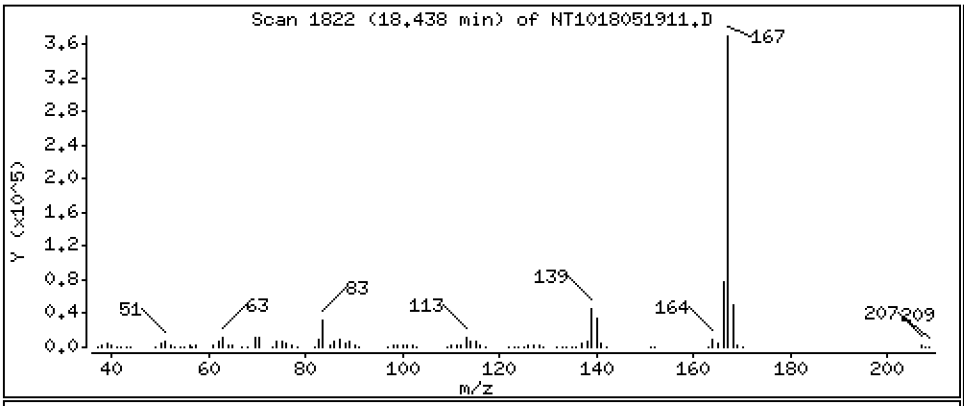
Operator: YZ

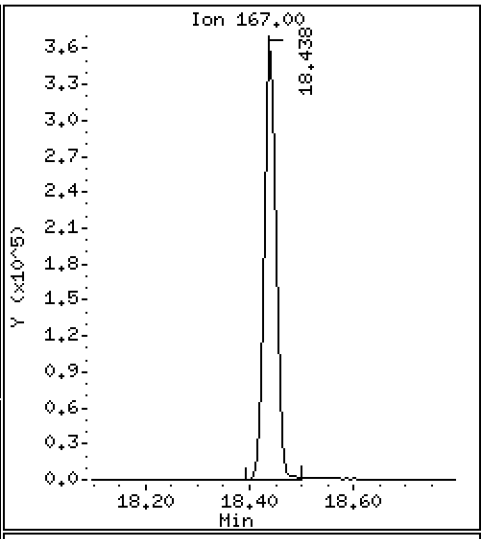
Column phase: ZB-5msi

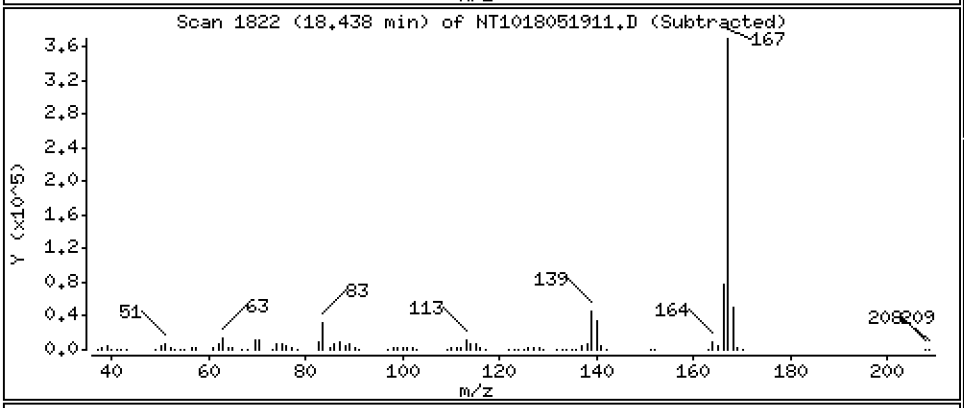
Column diameter: 0.25

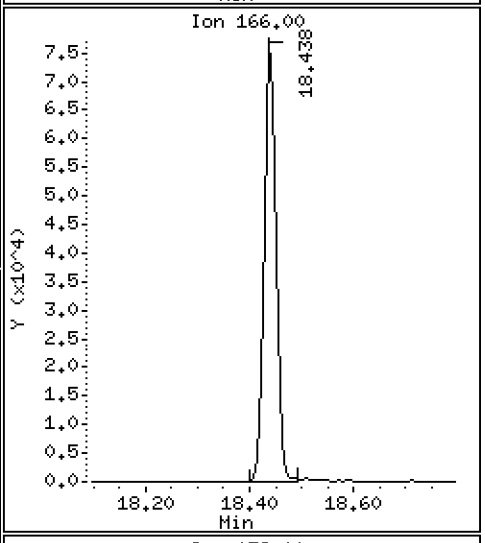
62 Carbazole

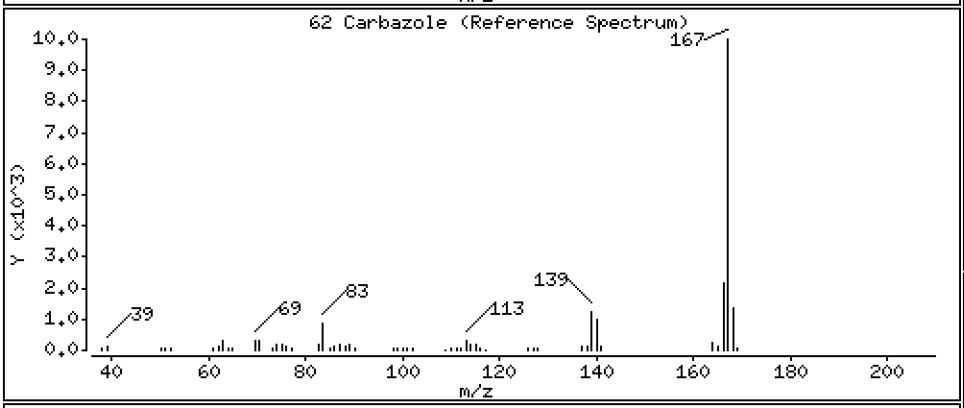
Concentration: 5.432 ug/mL

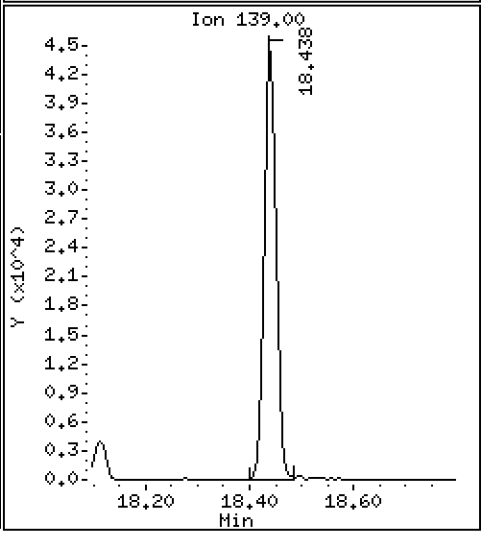


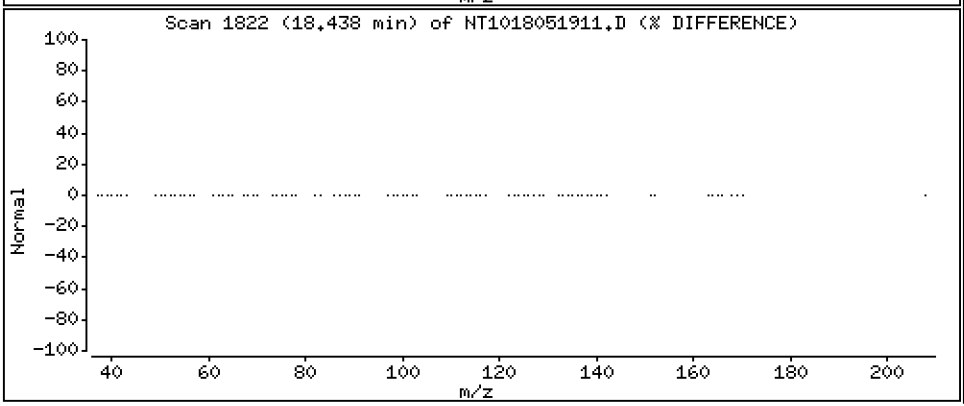












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

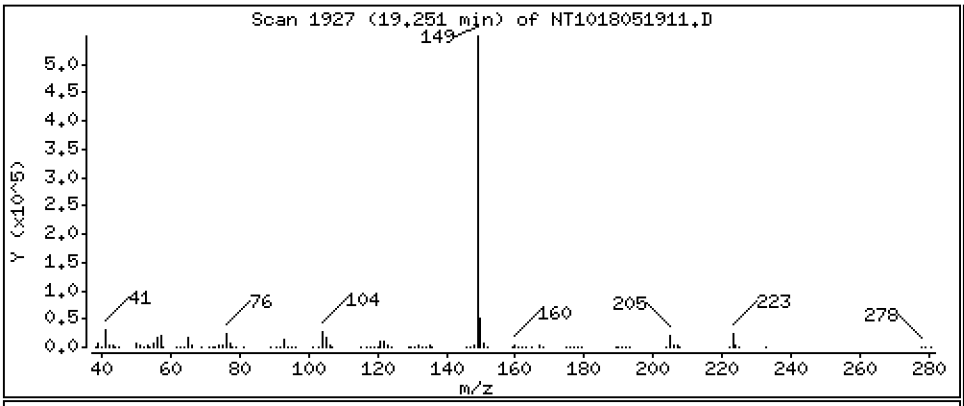
Operator: YZ

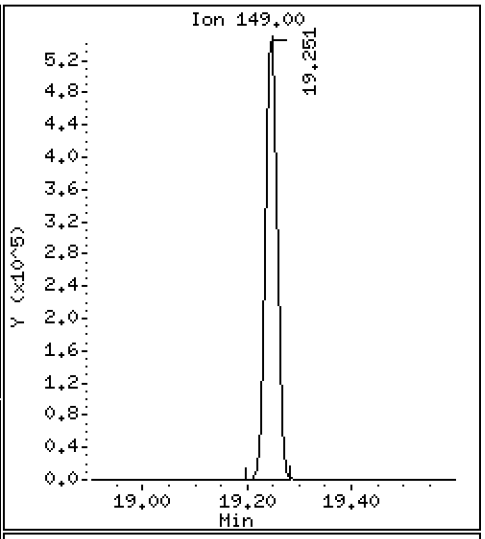
Column phase: ZB-5msi

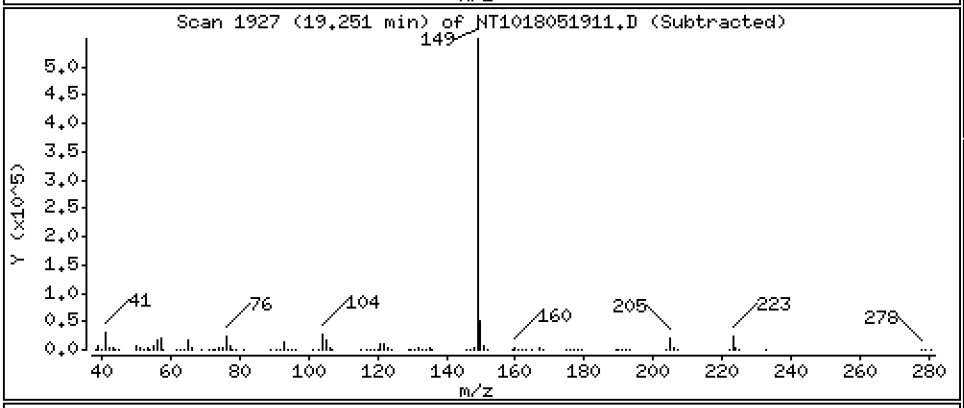
Column diameter: 0.25

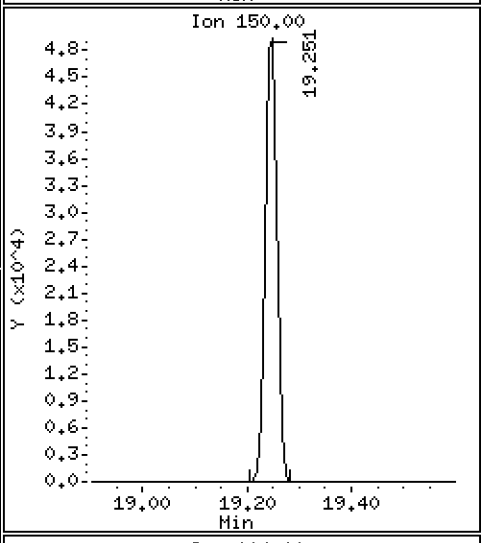
63 Di-n-butylphthalate

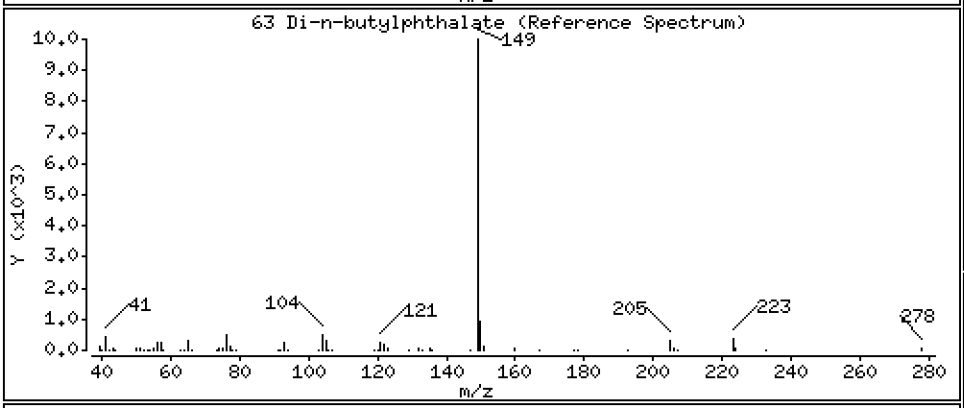
Concentration: 5.294 ug/mL

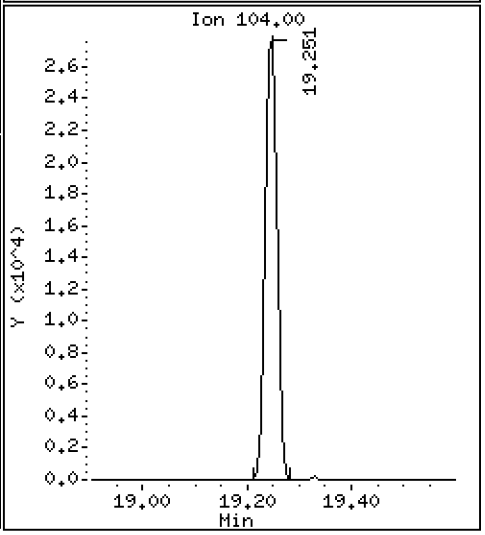


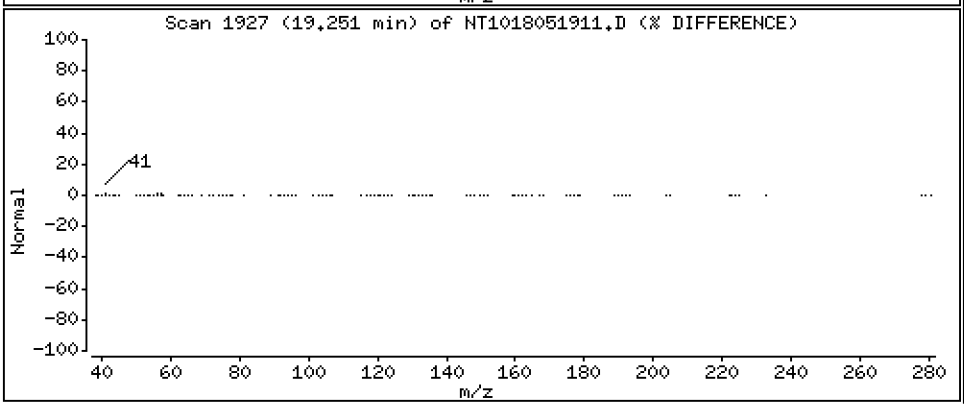












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

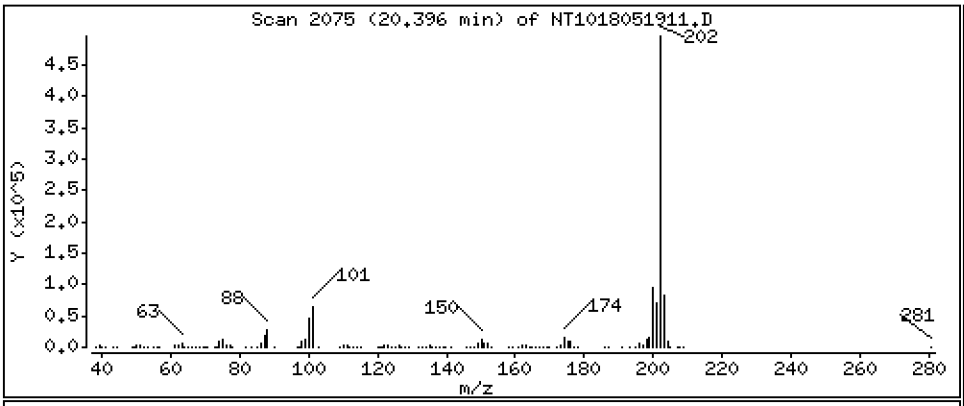
Operator: YZ

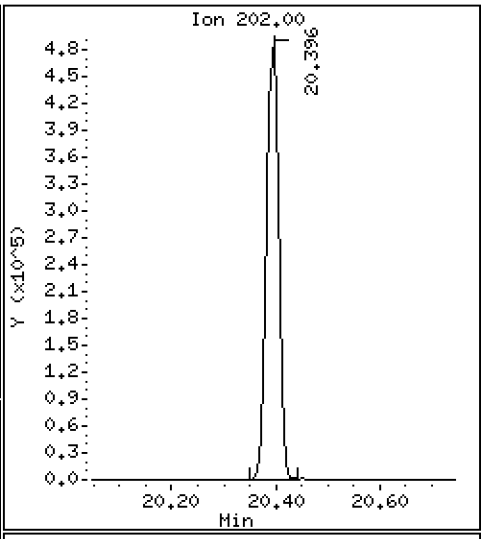
Column phase: ZB-5msi

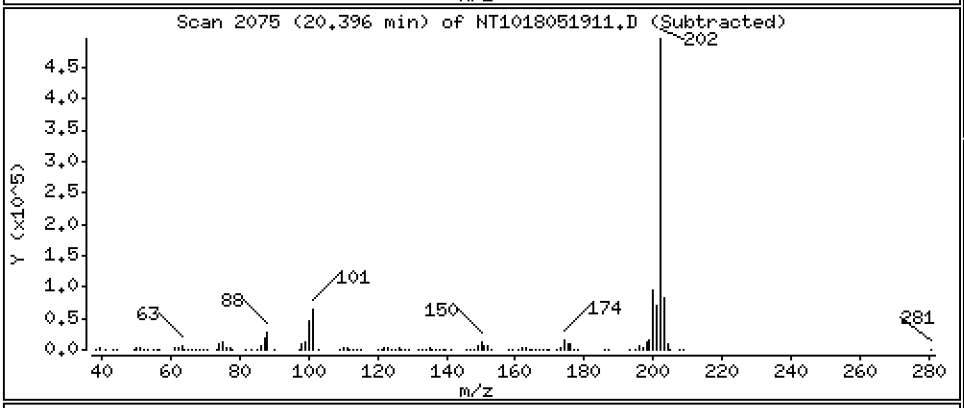
Column diameter: 0.25

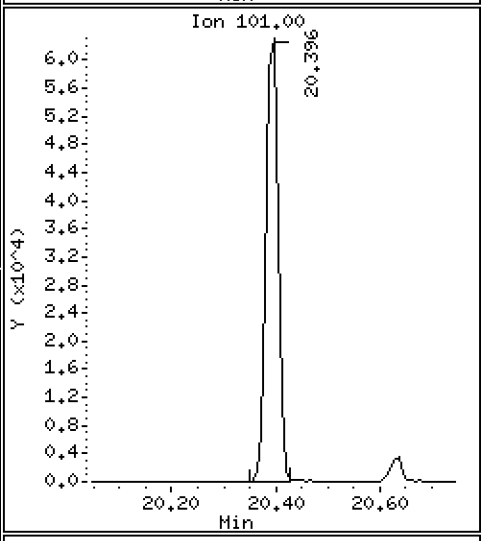
64 Fluoranthene

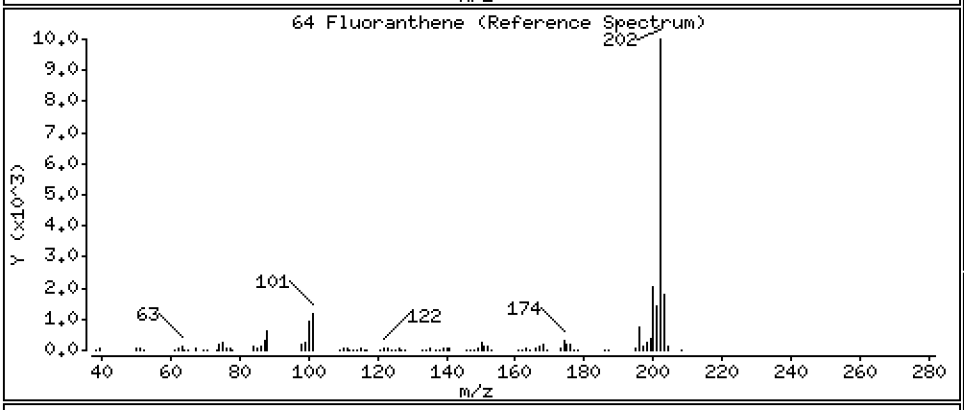
Concentration: 5.214 ug/mL

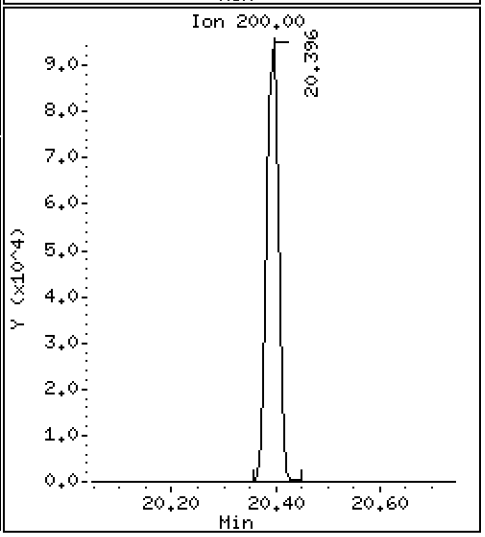


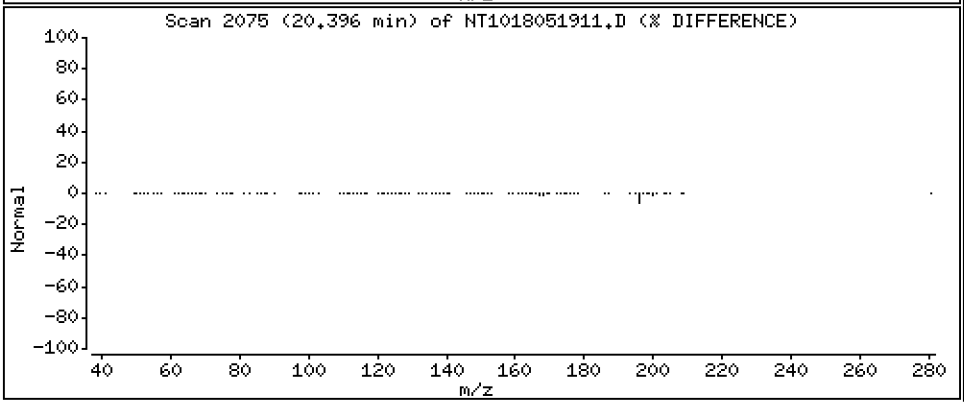












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

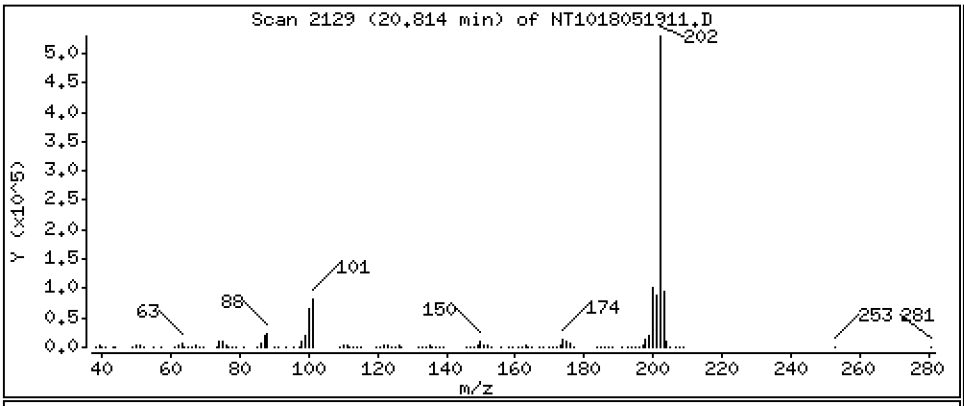
Operator: YZ

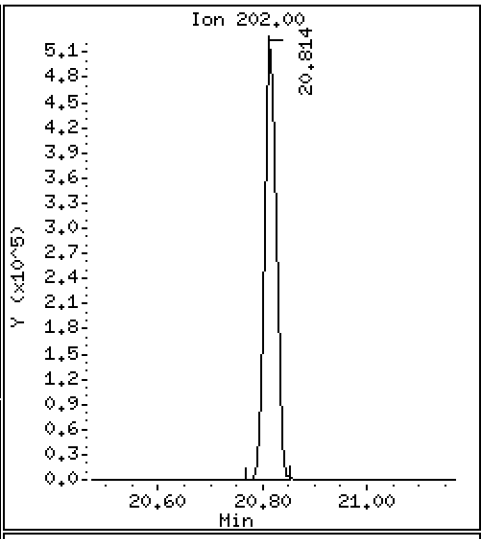
Column phase: ZB-5msi

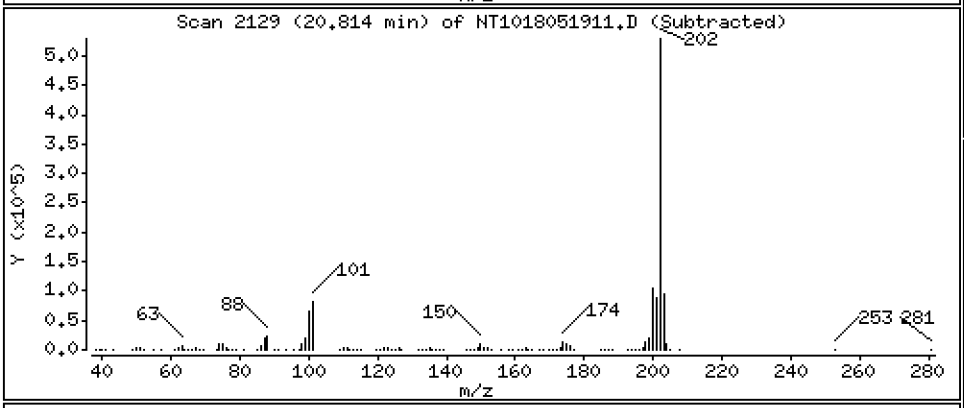
Column diameter: 0.25

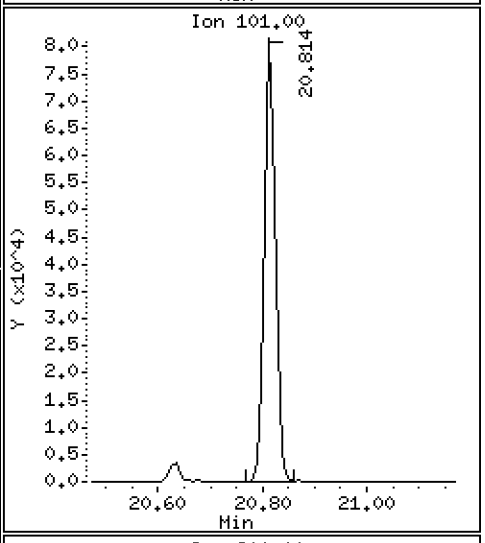
65 Pyrene

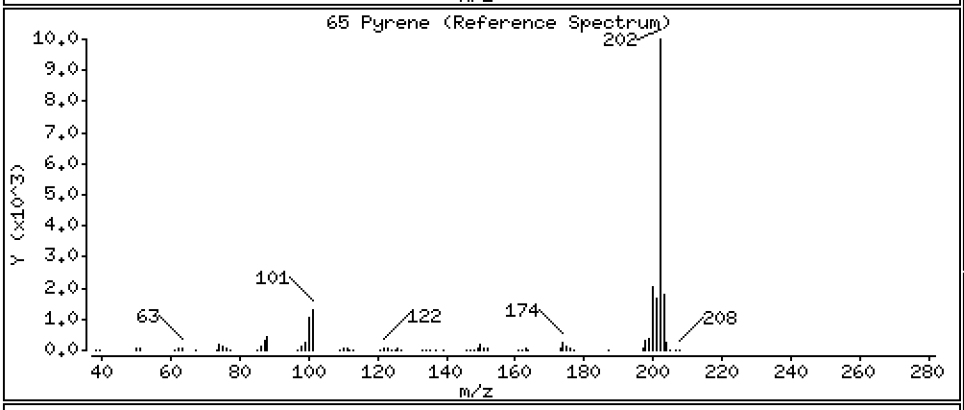
Concentration: 5.251 ug/mL

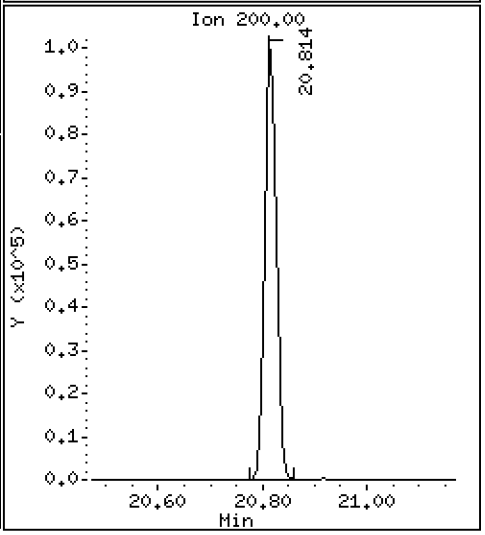


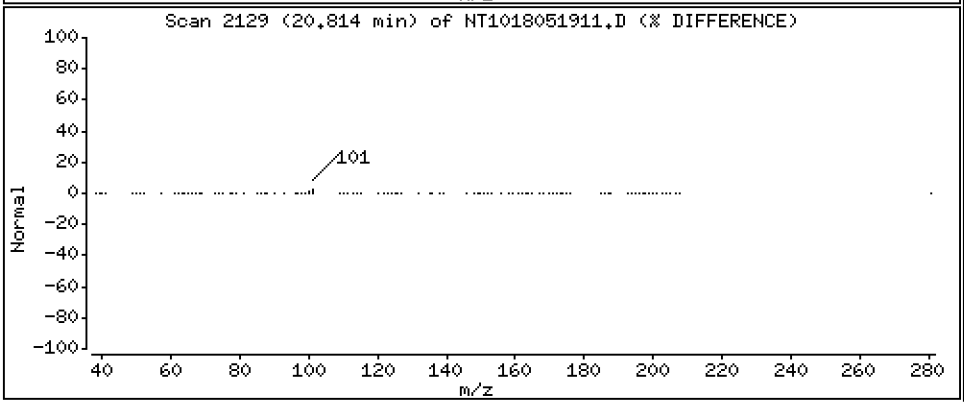












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

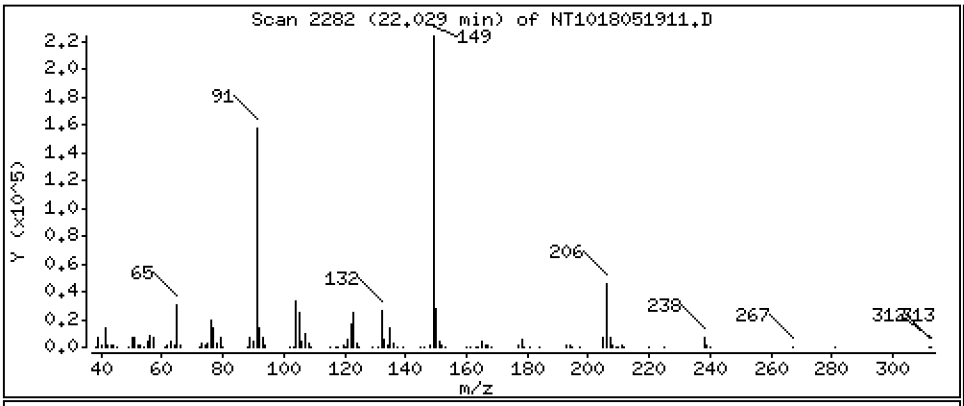
Operator: YZ

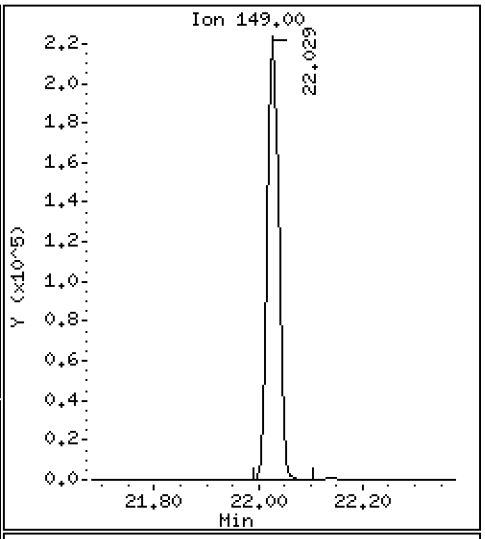
Column phase: ZB-5msi

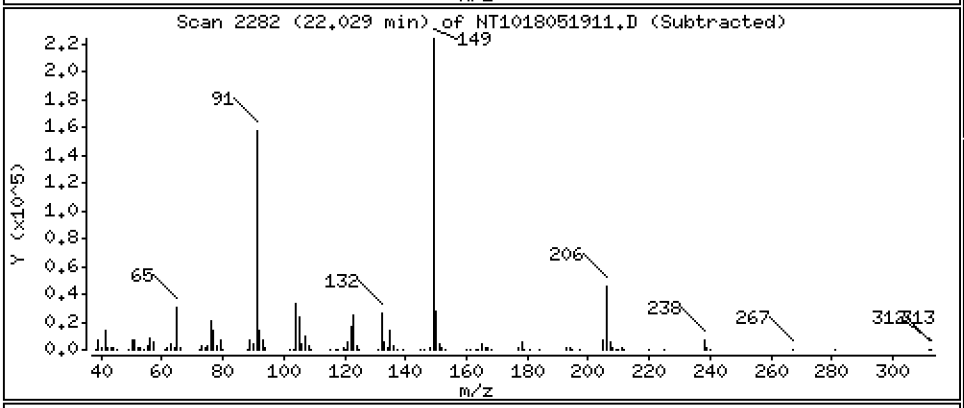
Column diameter: 0.25

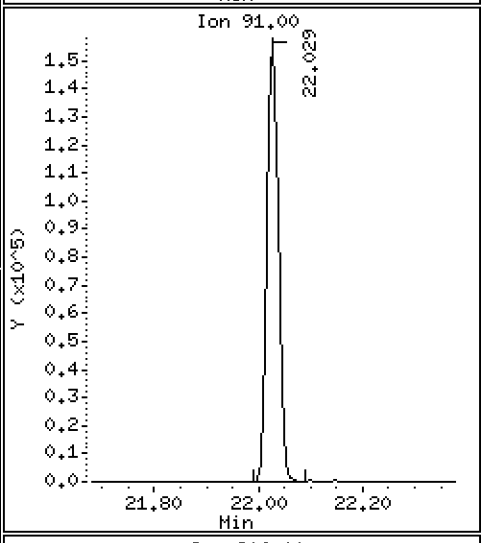
67 Butylbenzylphthalate

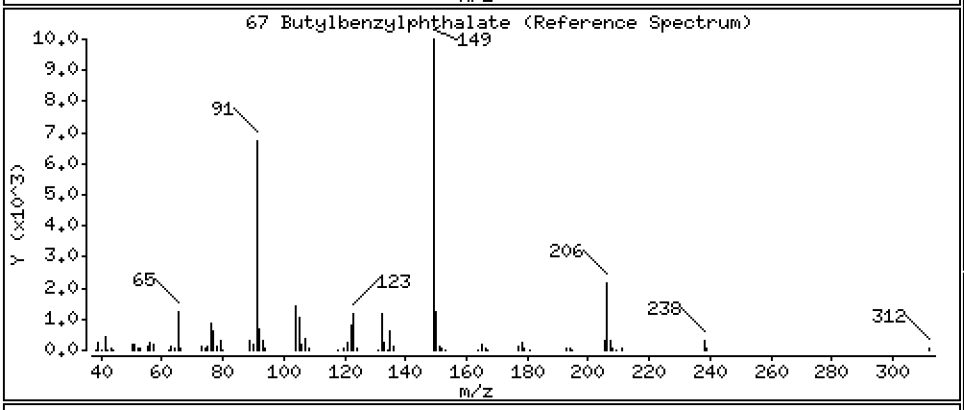
Concentration: 5.390 ug/mL

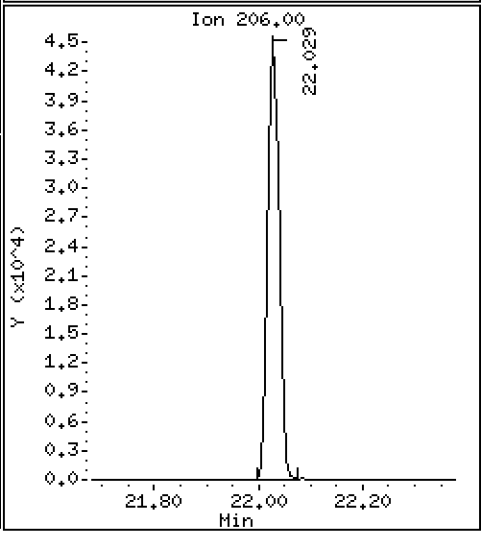


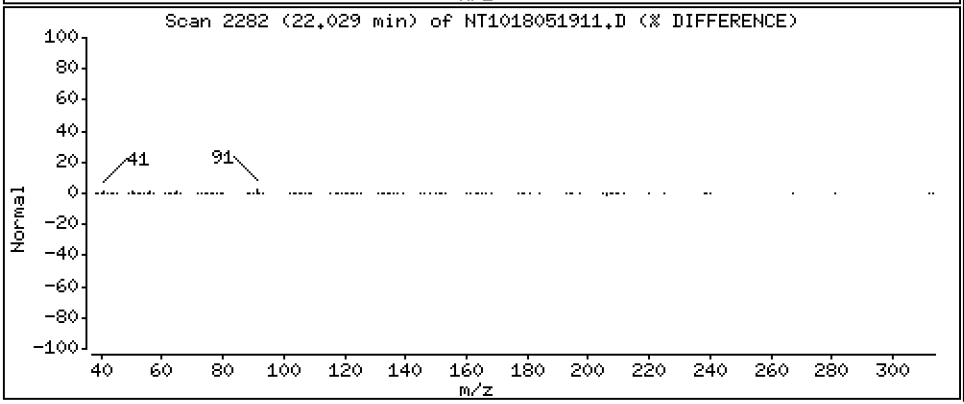












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

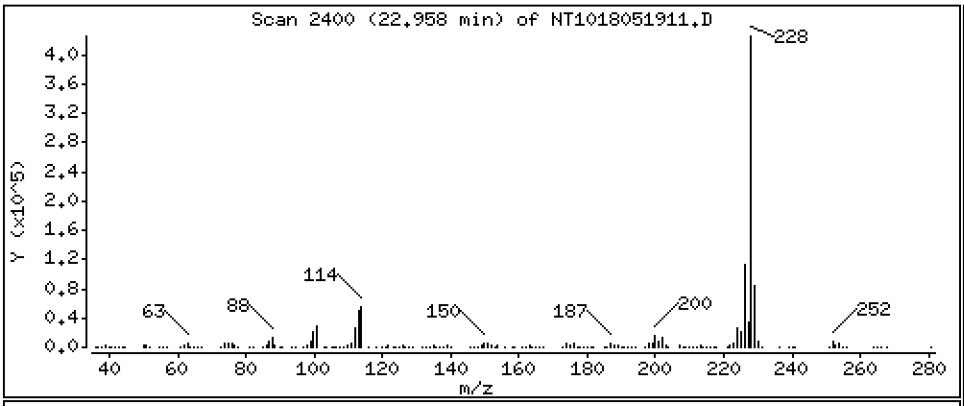
Operator: YZ

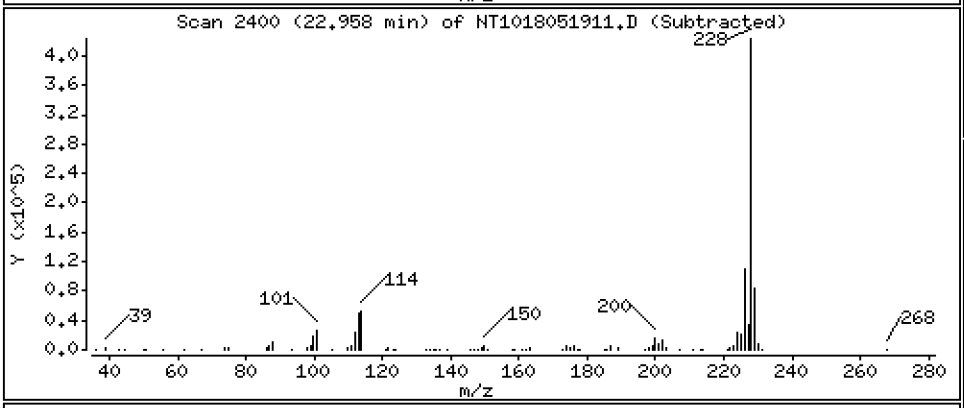
Column phase: ZB-5msi

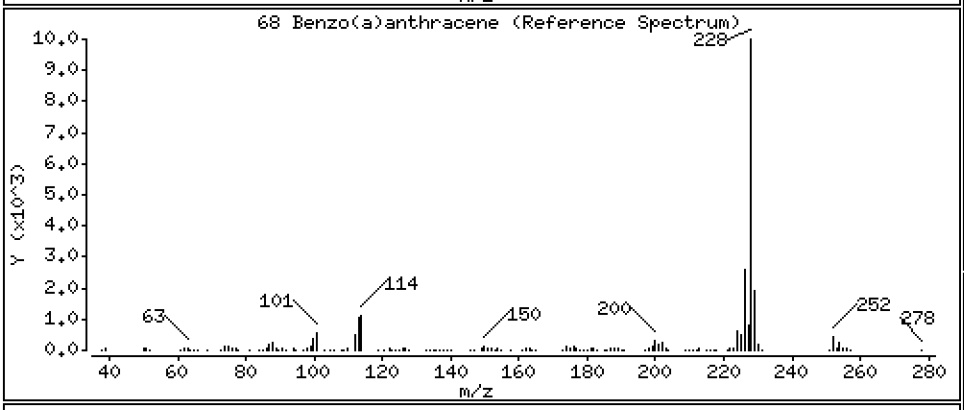
Column diameter: 0.25

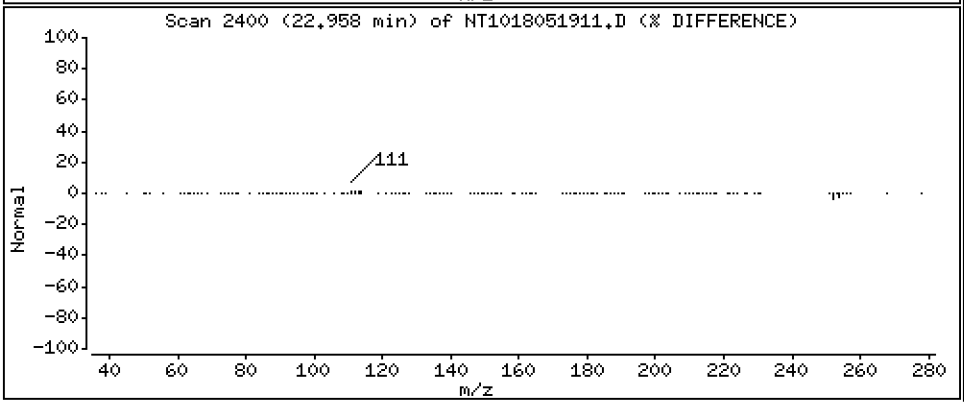
68 Benzo(a)anthracene

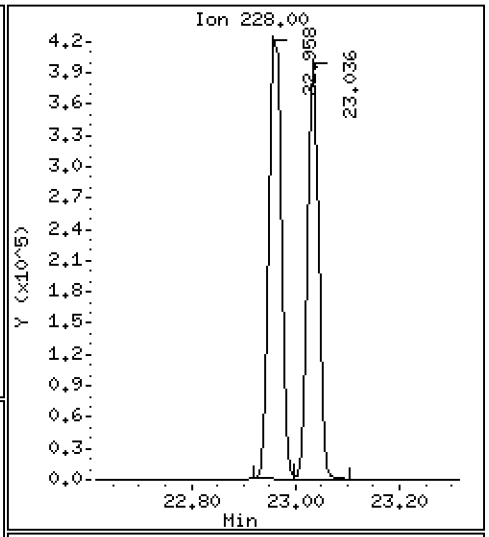
Concentration: 5.030 ug/mL

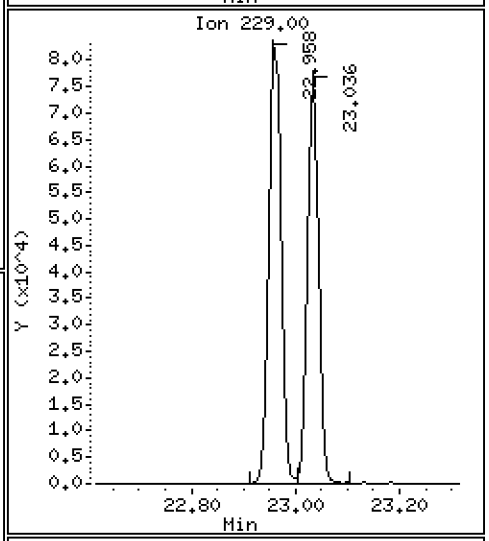


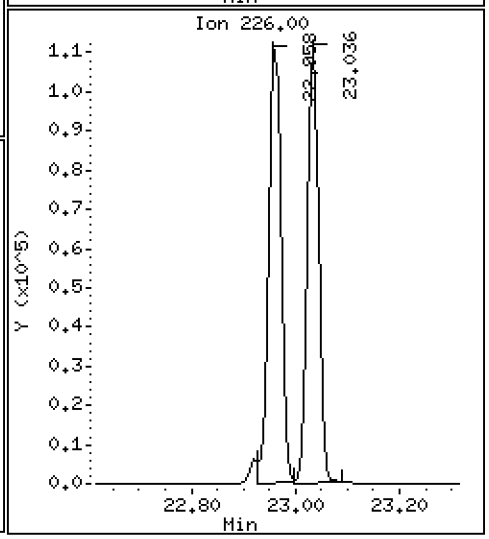












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

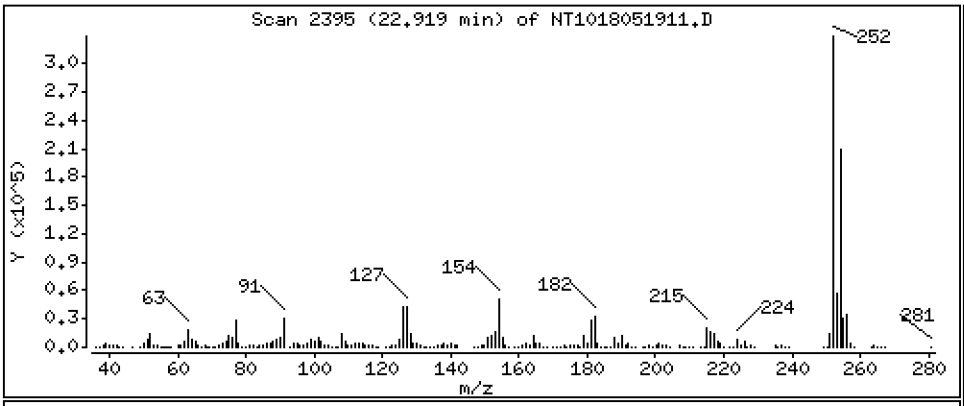
Operator: YZ

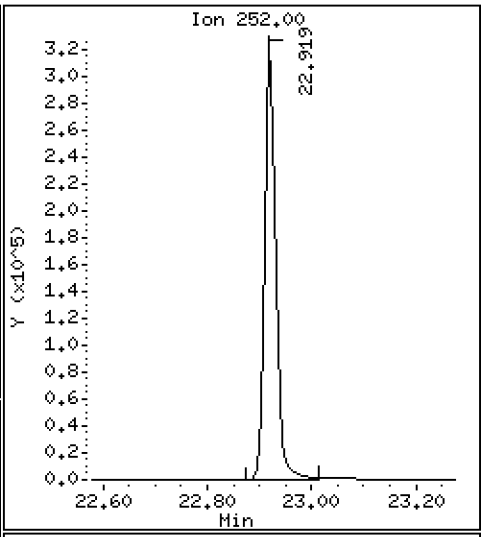
Column phase: ZB-5msi

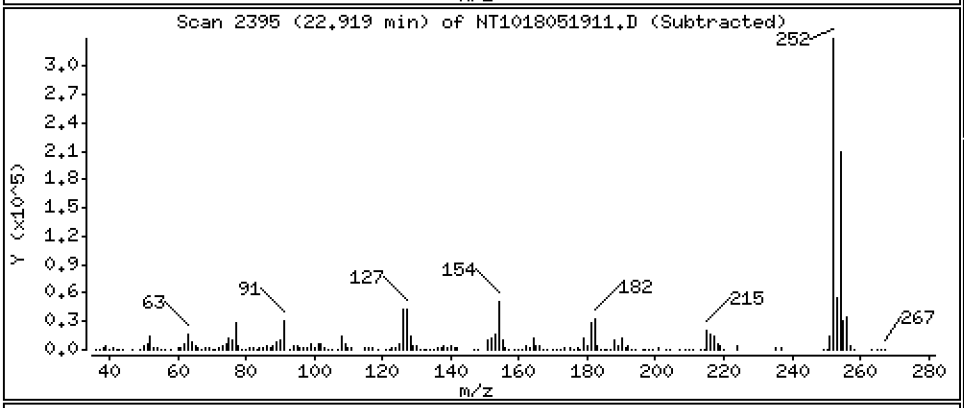
Column diameter: 0.25

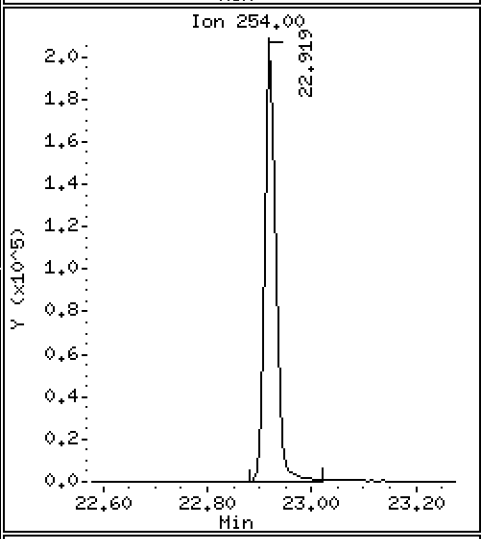
70 3,3'-Dichlorobenzidine

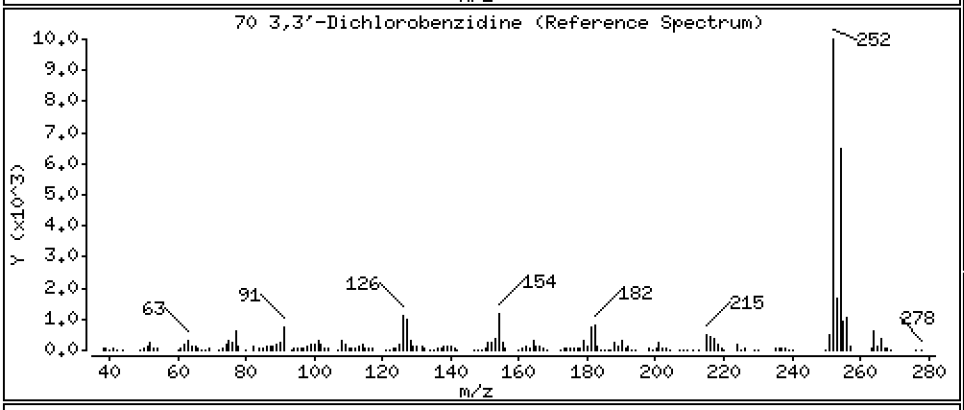
Concentration: 9.992 ug/mL

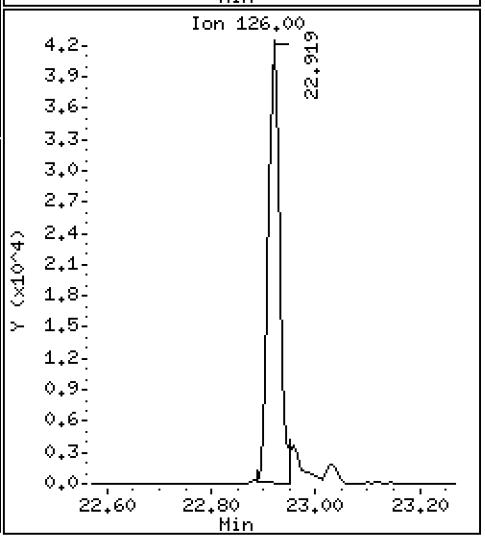


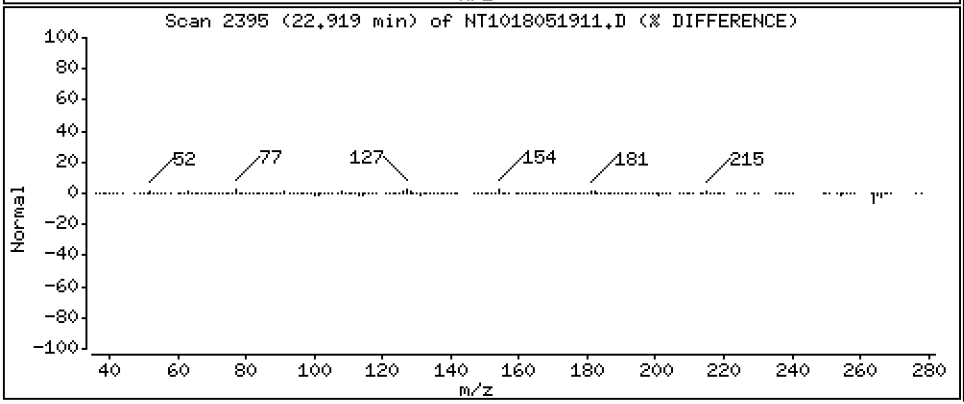












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

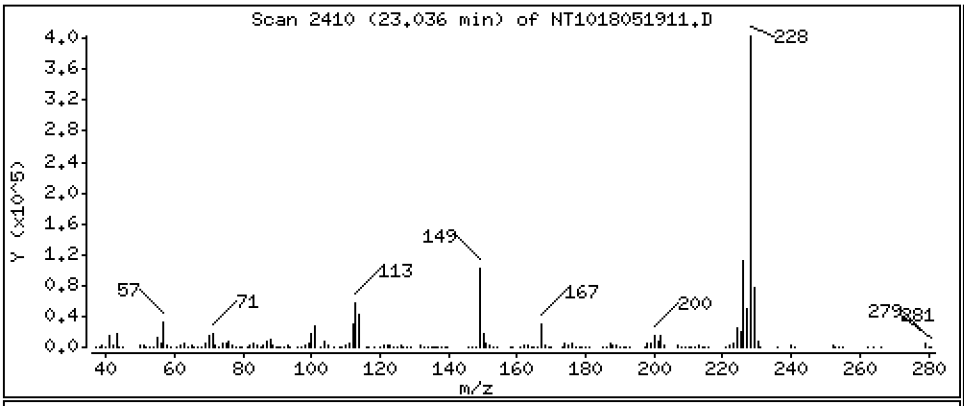
Operator: YZ

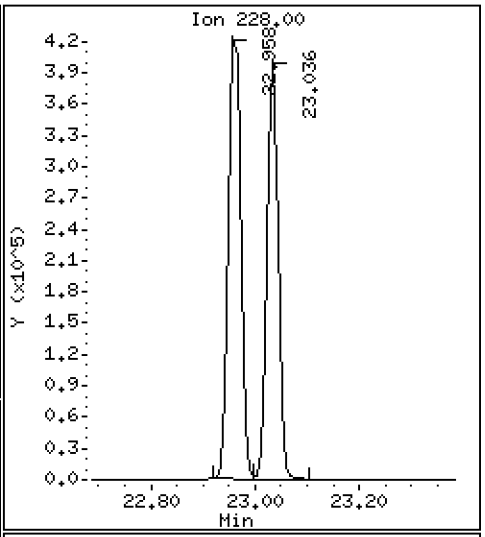
Column phase: ZB-5msi

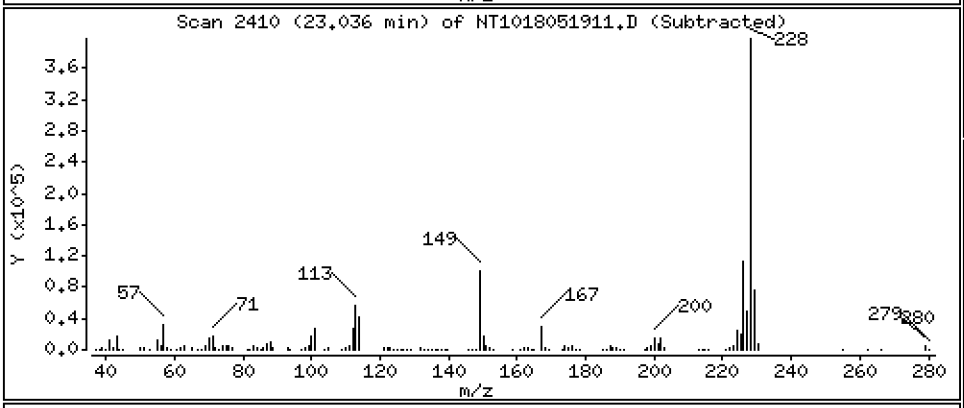
Column diameter: 0.25

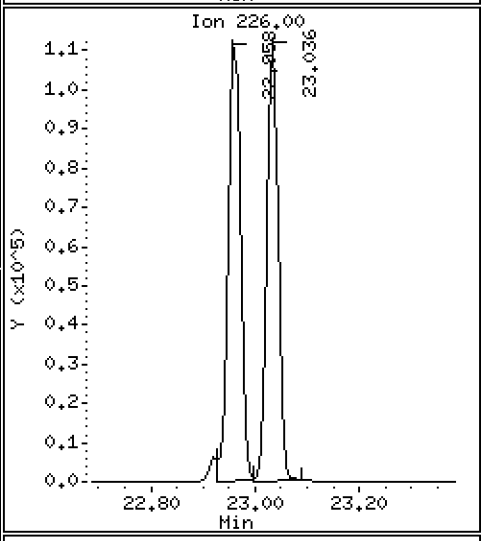
71 Chrysene

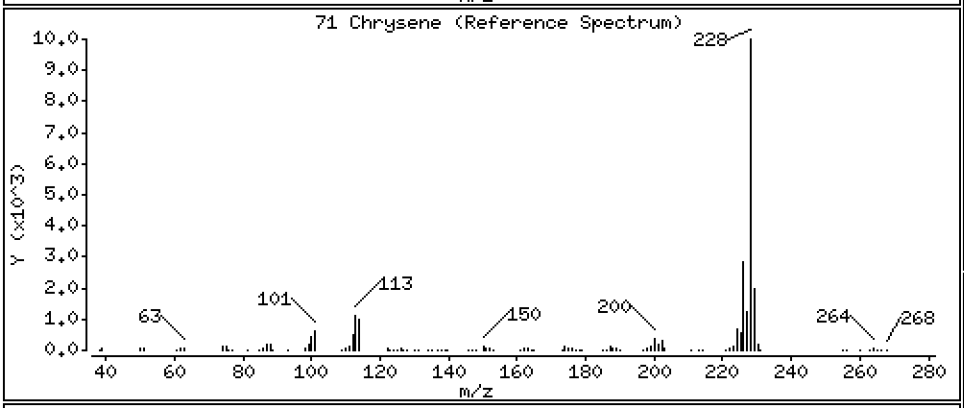
Concentration: 5.260 ug/mL

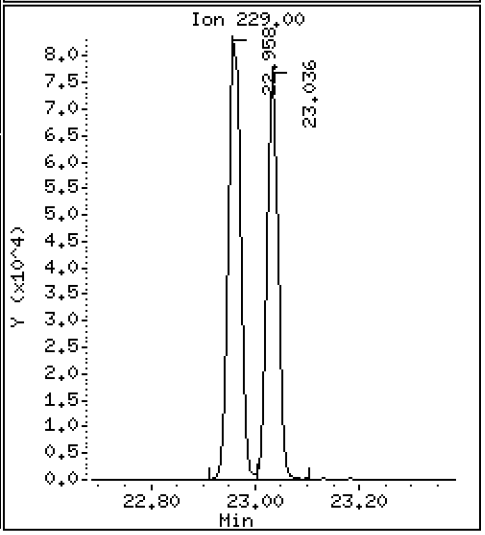


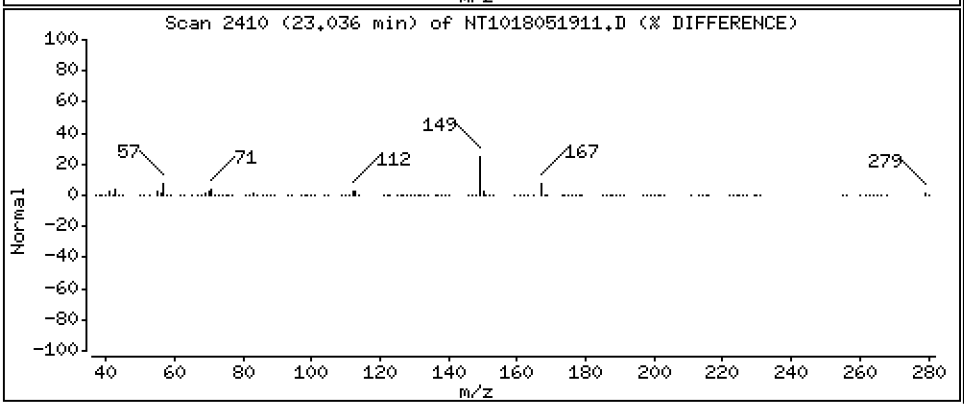












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

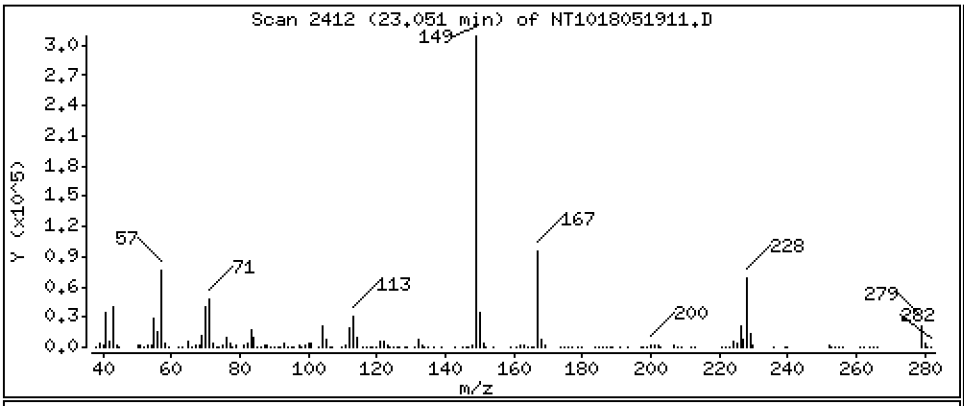
Operator: YZ

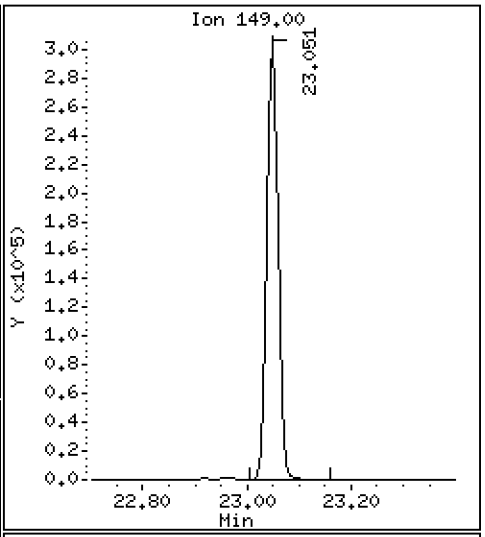
Column phase: ZB-5msi

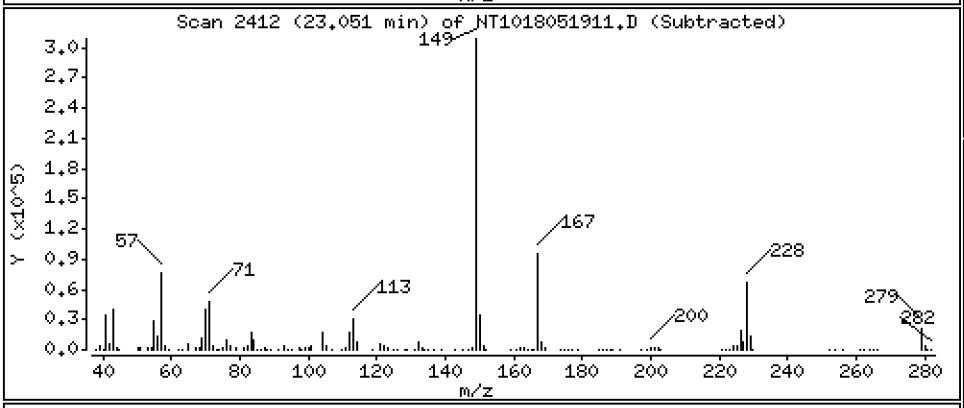
Column diameter: 0.25

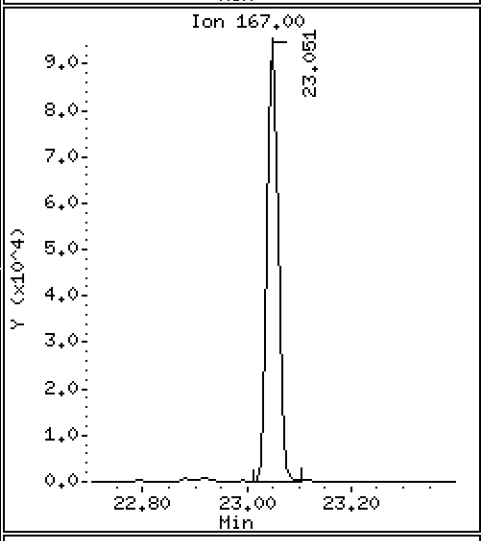
72 bis(2-Ethylhexyl)phthalate

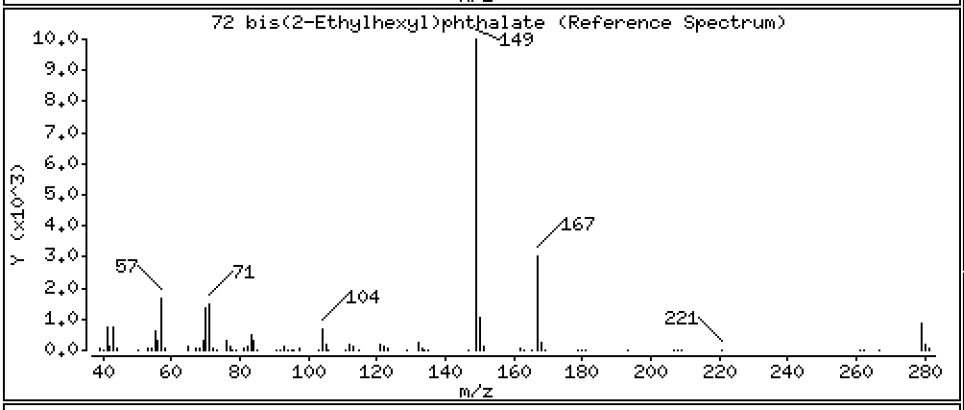
Concentration: 5.231 ug/mL

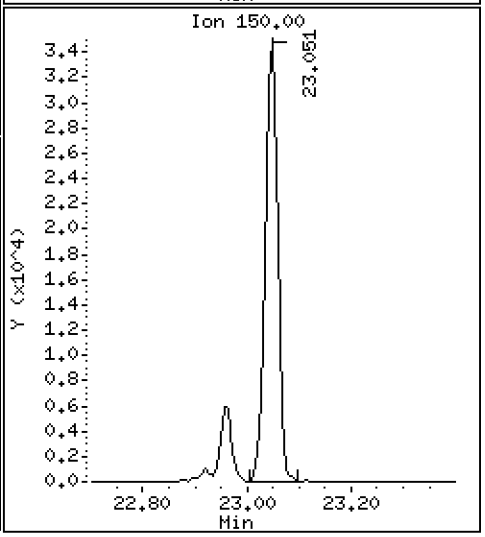


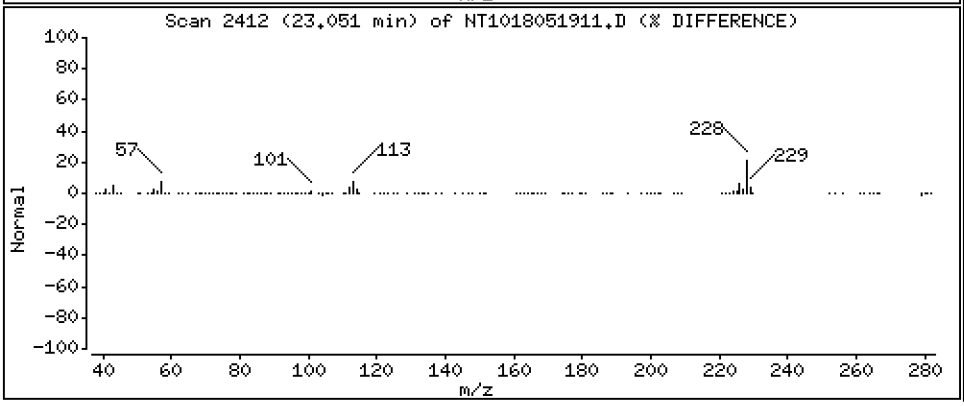












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

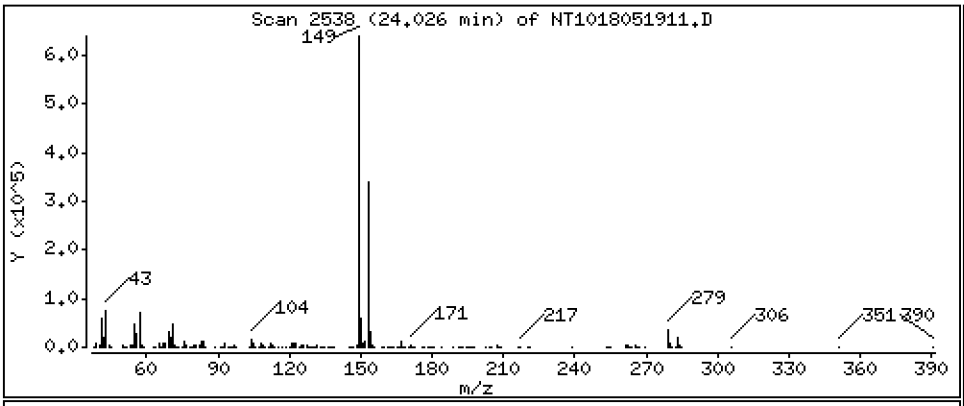
Operator: YZ

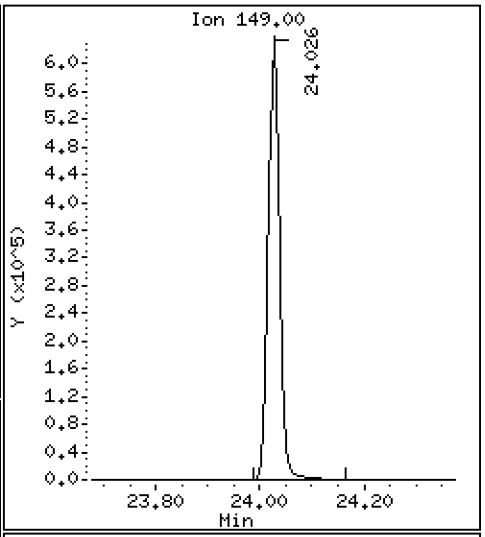
Column phase: ZB-5msi

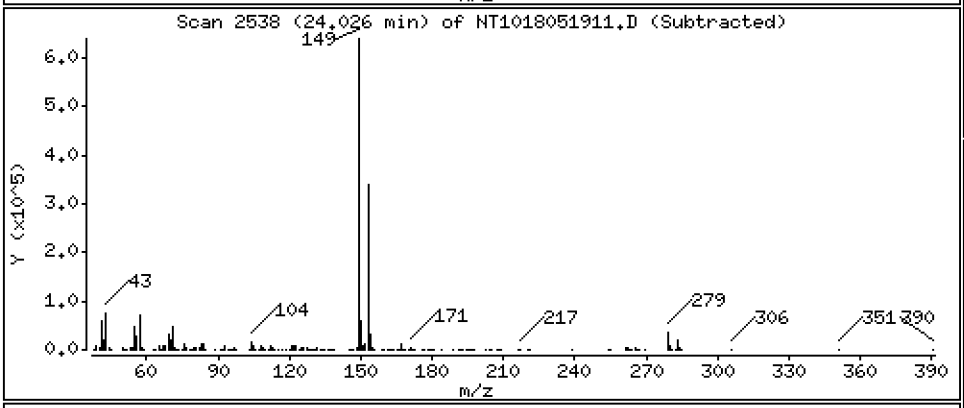
Column diameter: 0.25

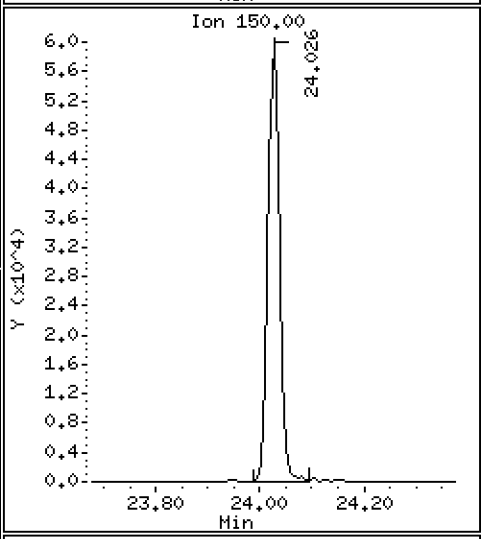
73 Di-n-octylphthalate

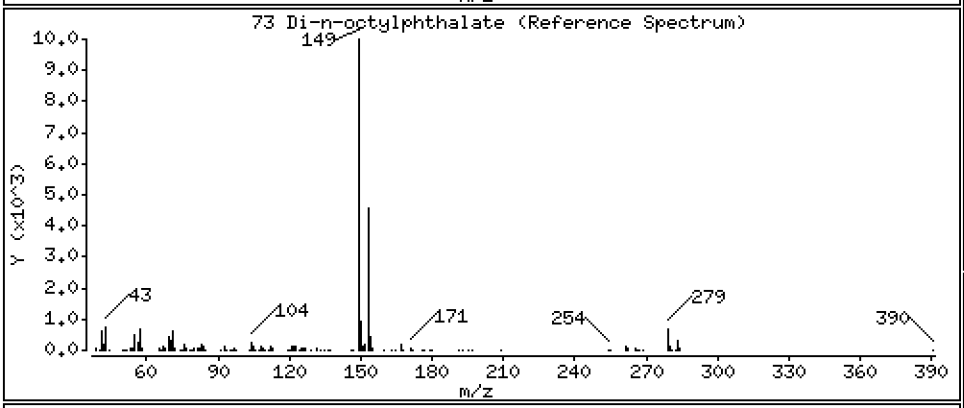
Concentration: 5.193 ug/mL

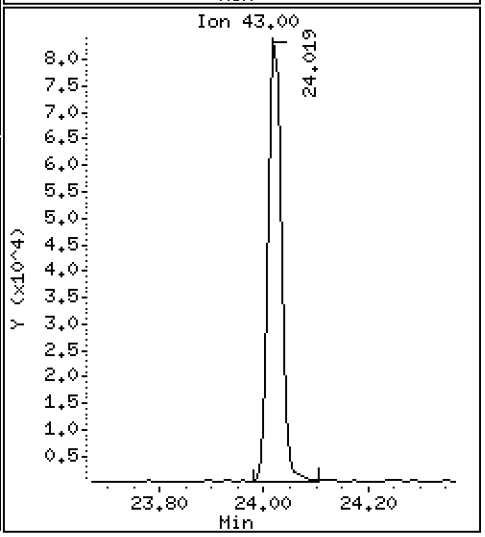


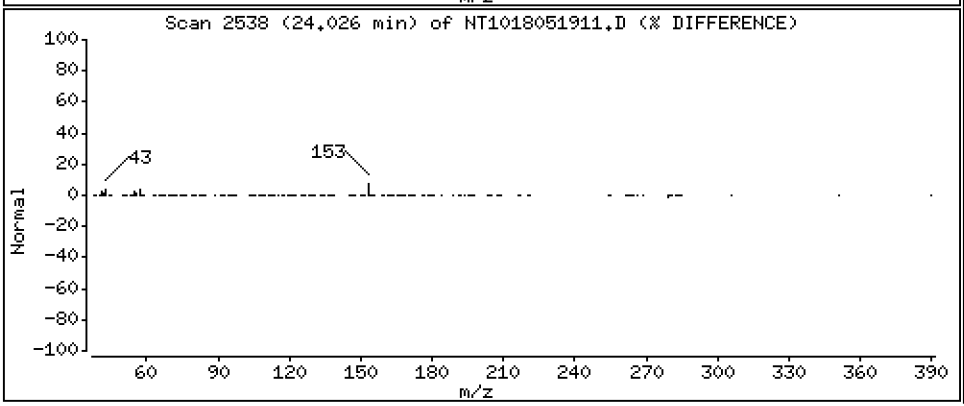












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

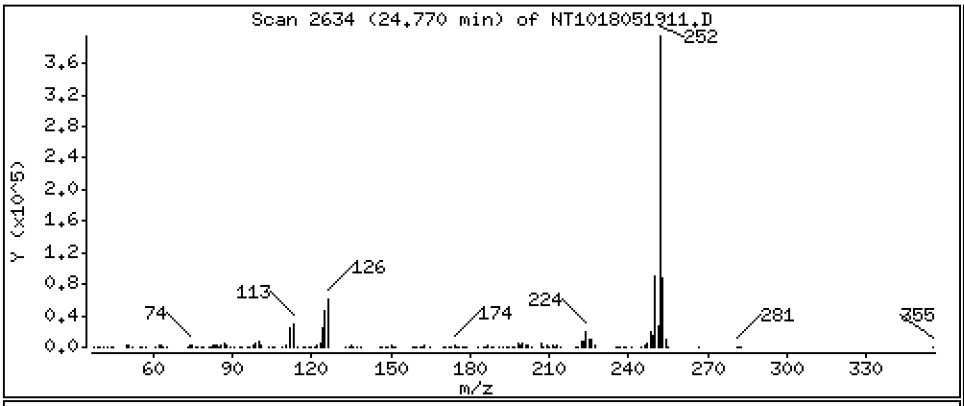
Operator: YZ

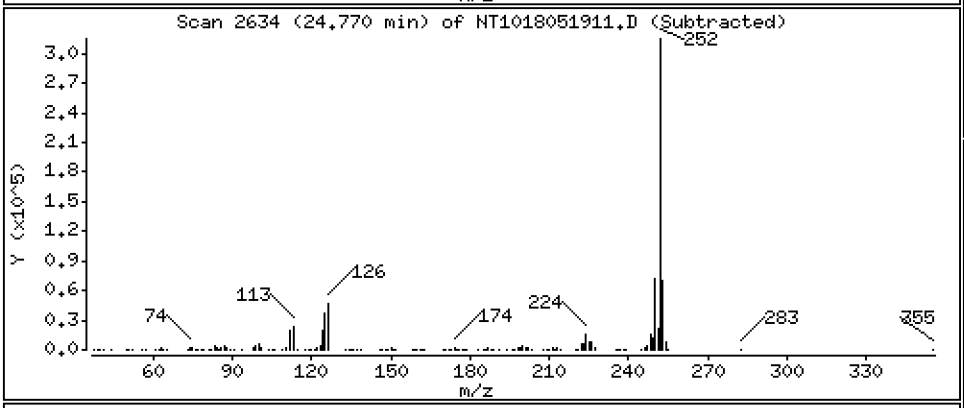
Column phase: ZB-5msi

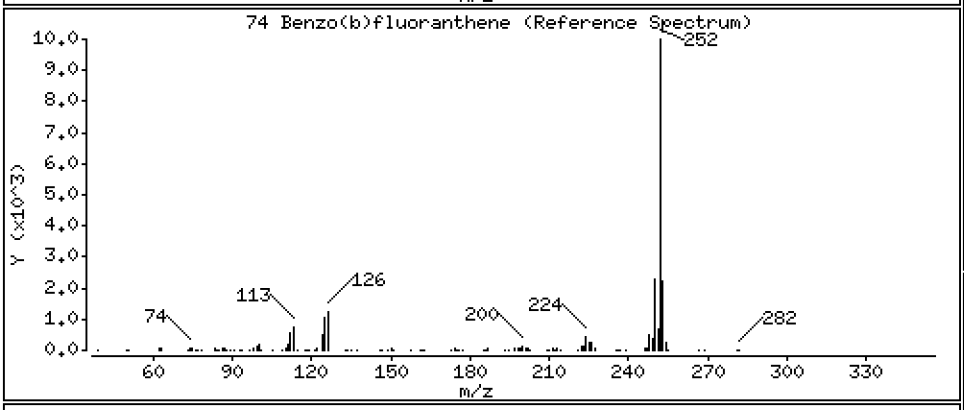
Column diameter: 0.25

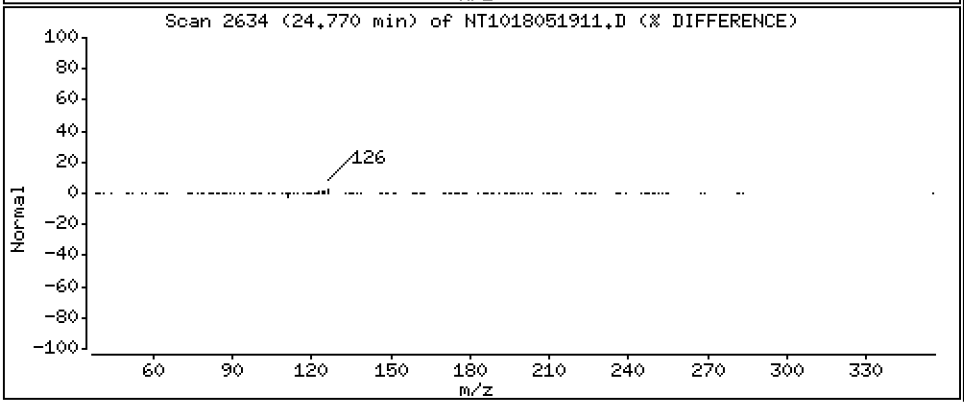
74 Benzo(b)fluoranthene

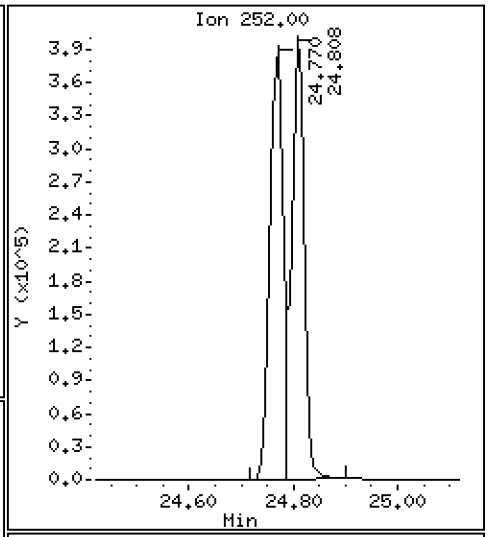
Concentration: 4.906 ug/mL

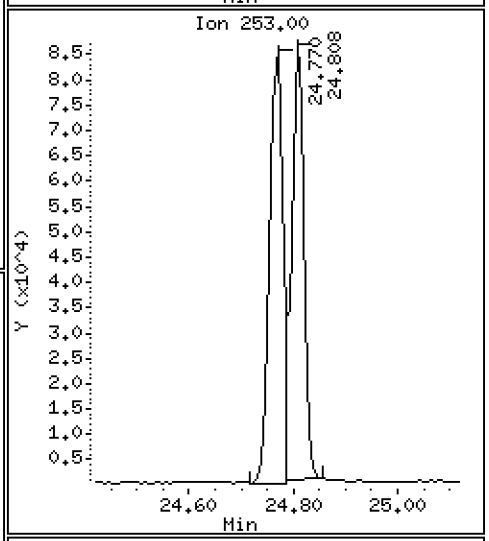


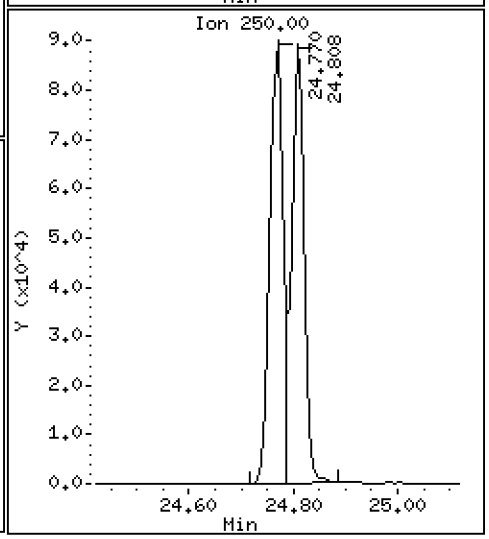












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

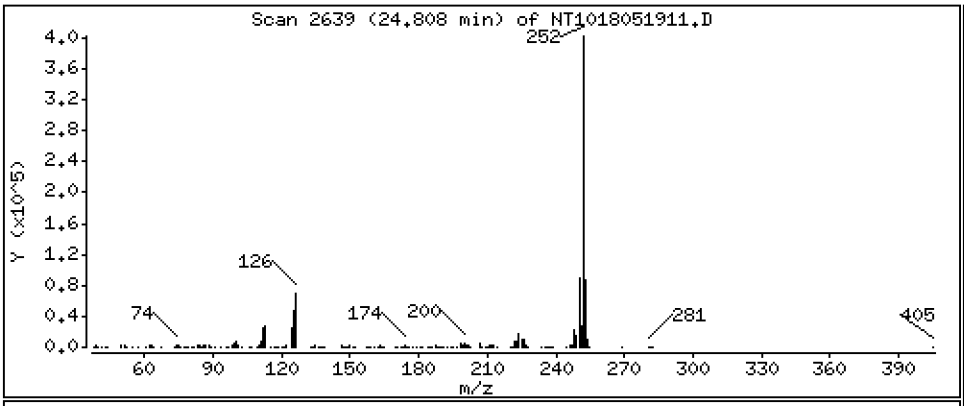
Operator: YZ

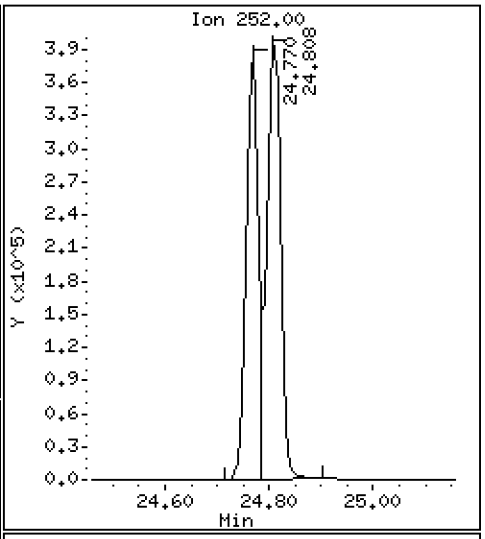
Column phase: ZB-5msi

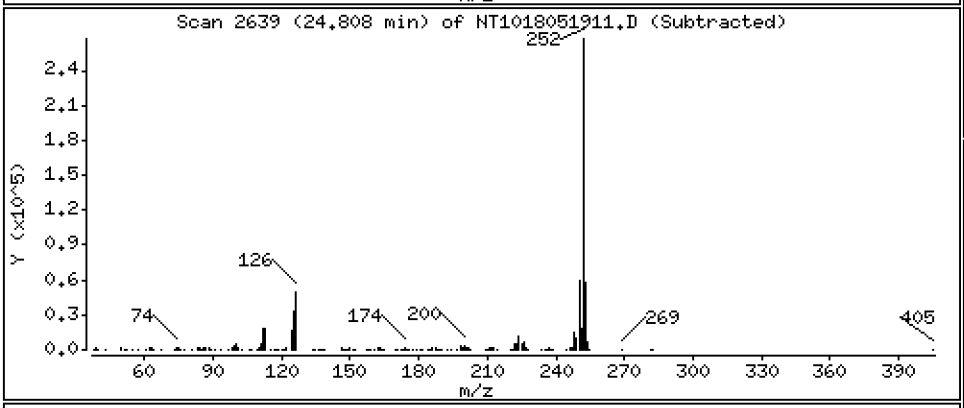
Column diameter: 0.25

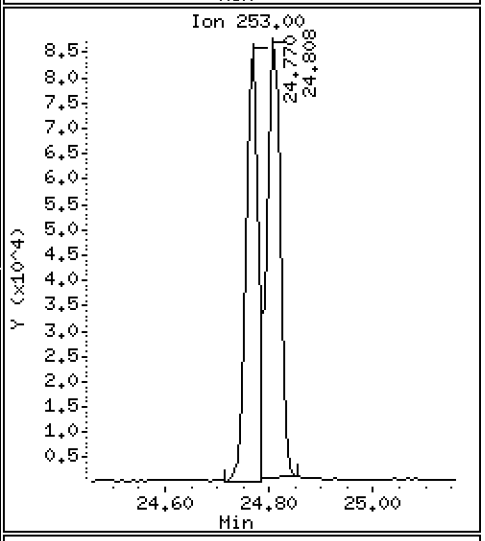
75 Benzo(k)fluoranthene

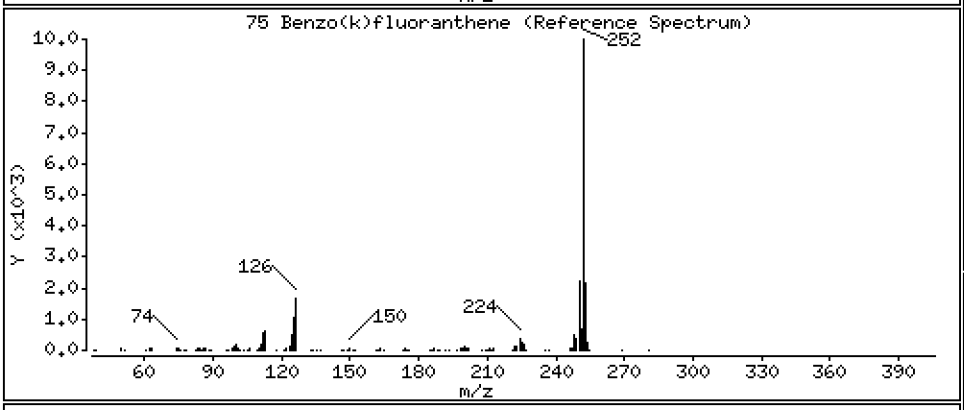
Concentration: 5.423 ug/mL

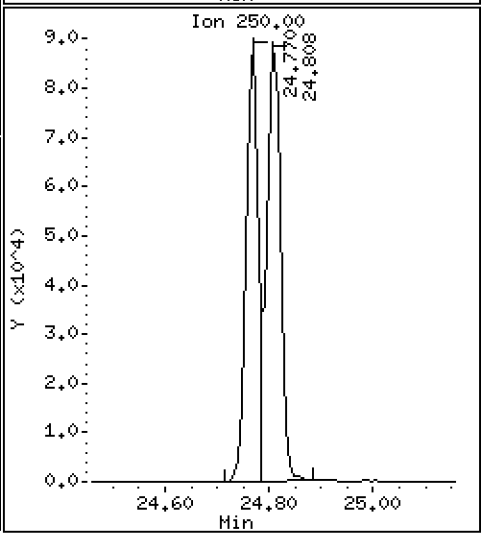


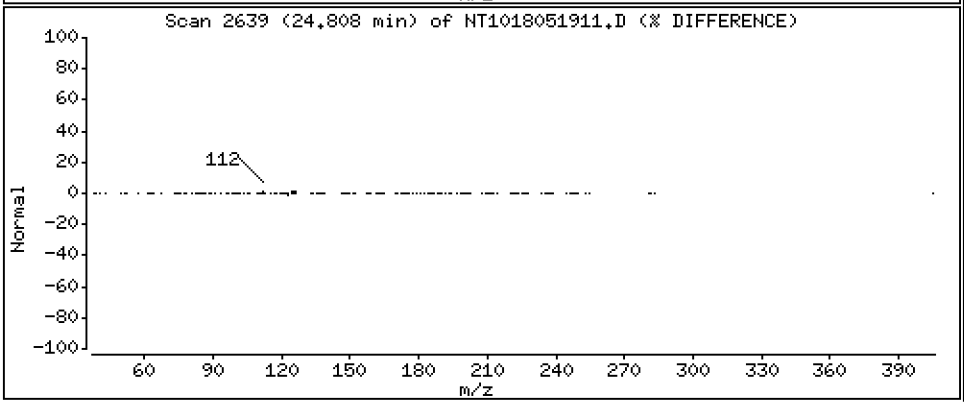












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

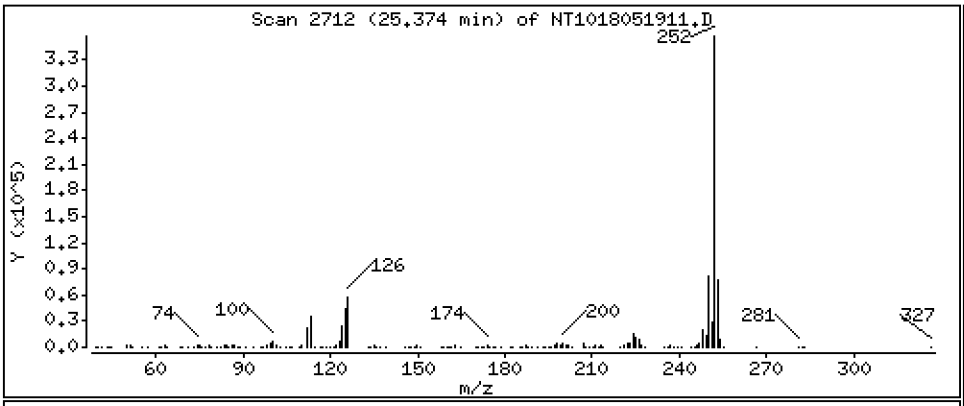
Operator: YZ

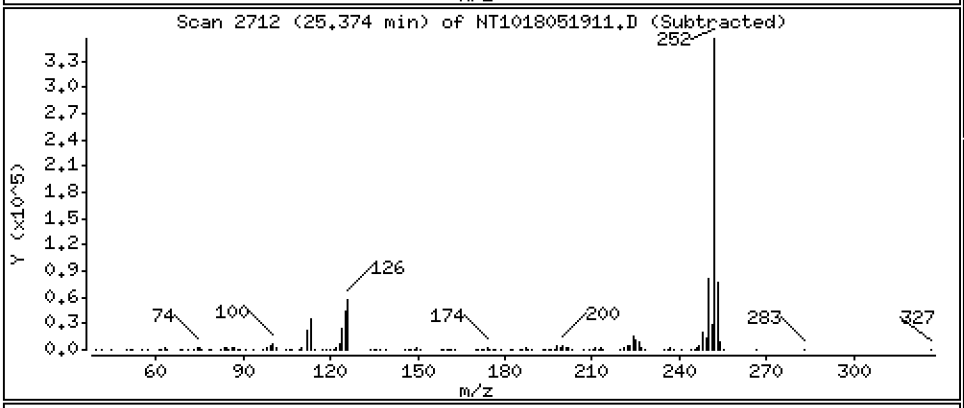
Column phase: ZB-5msi

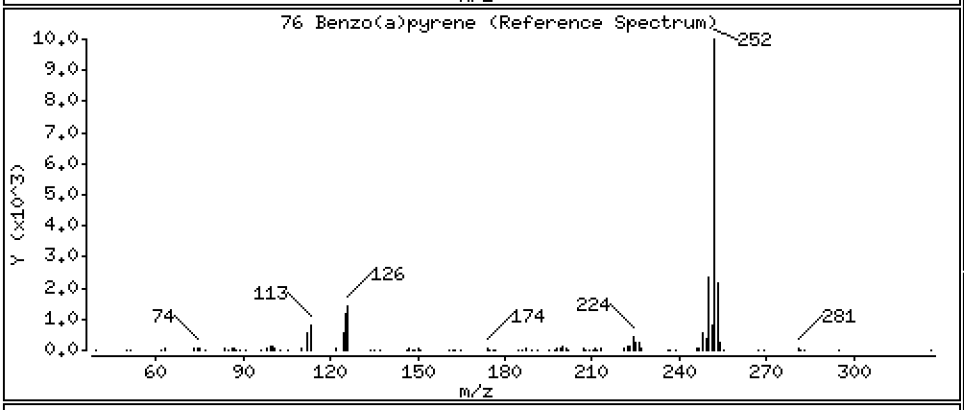
Column diameter: 0.25

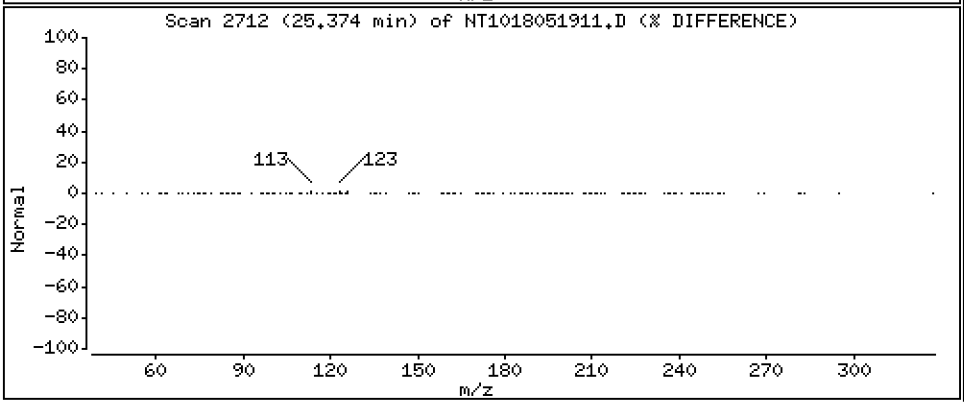
76 Benzo(a)pyrene

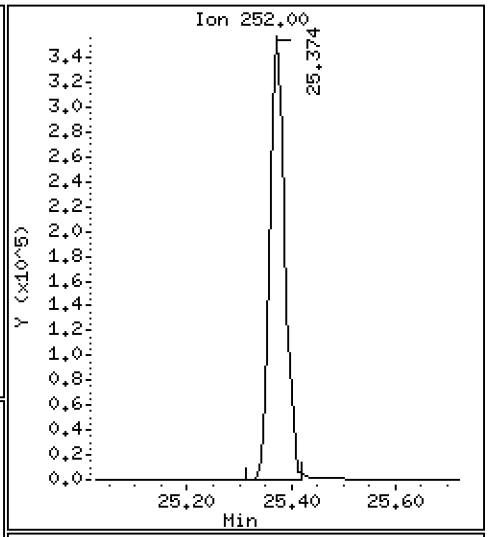
Concentration: 5.278 ug/mL

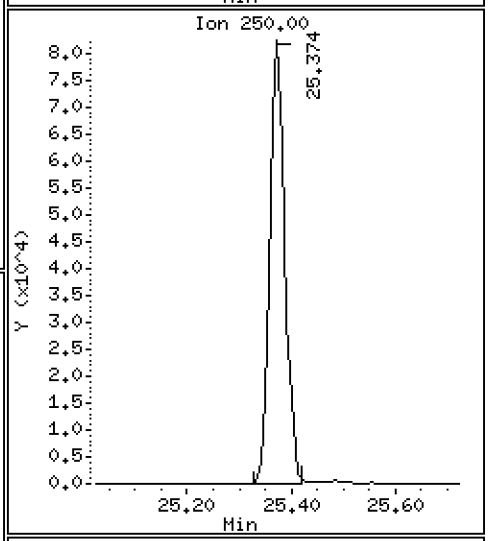


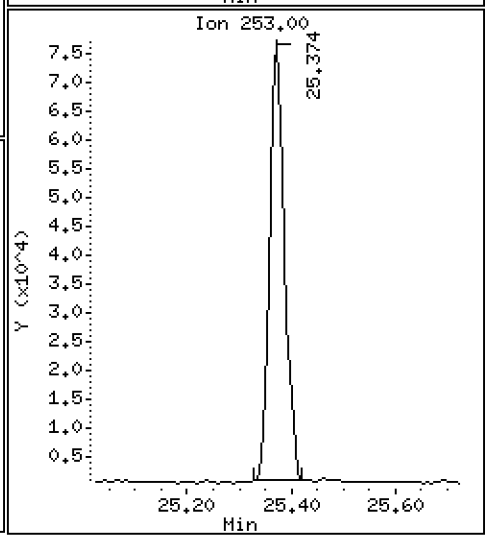












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

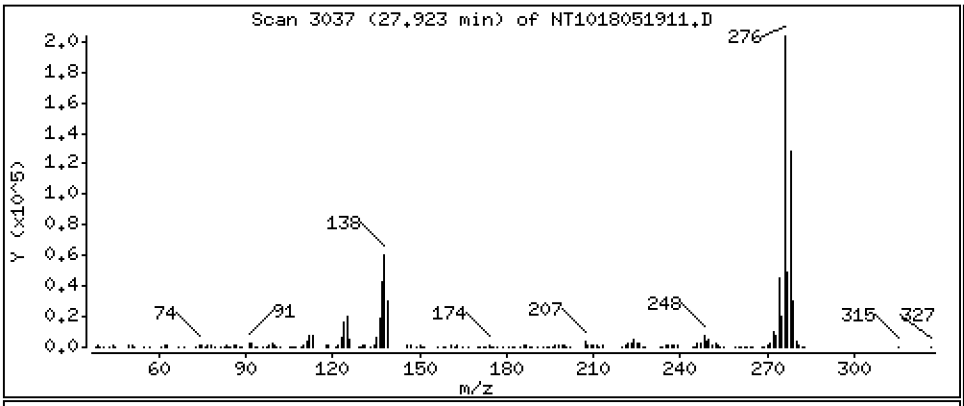
Operator: YZ

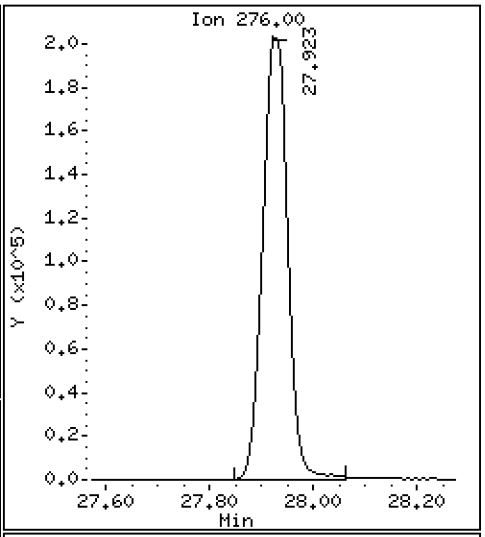
Column phase: ZB-5msi

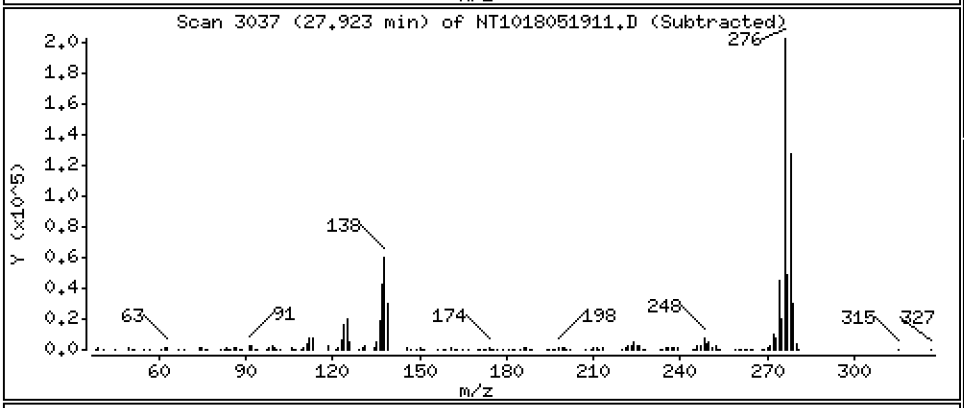
Column diameter: 0.25

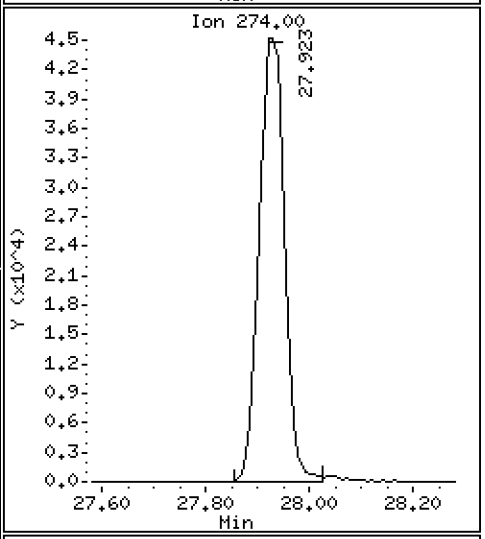
78 Indeno(1,2,3-cd)pyrene

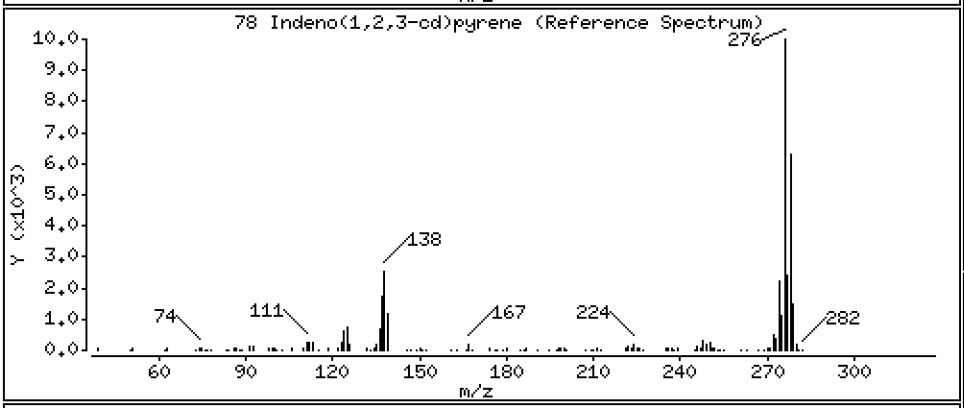
Concentration: 4.982 ug/mL

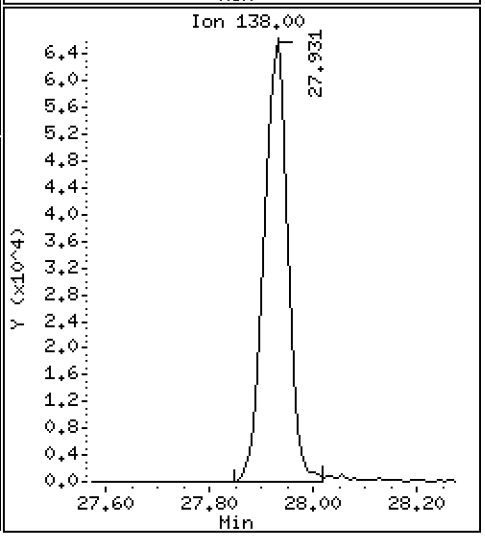


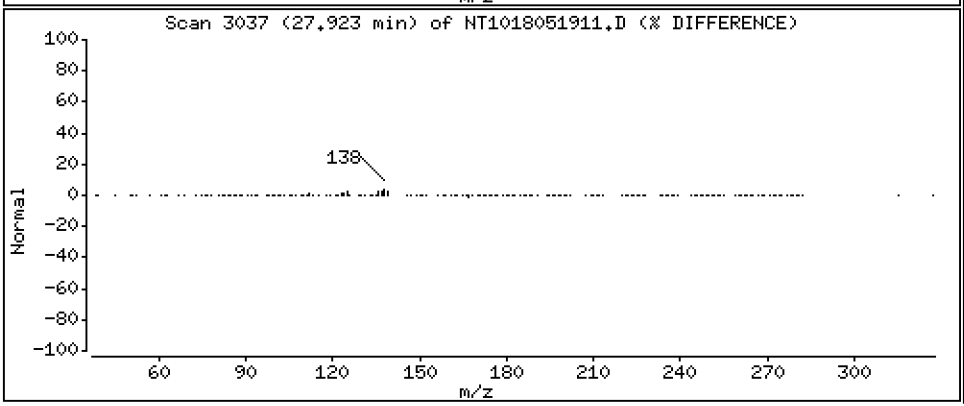












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

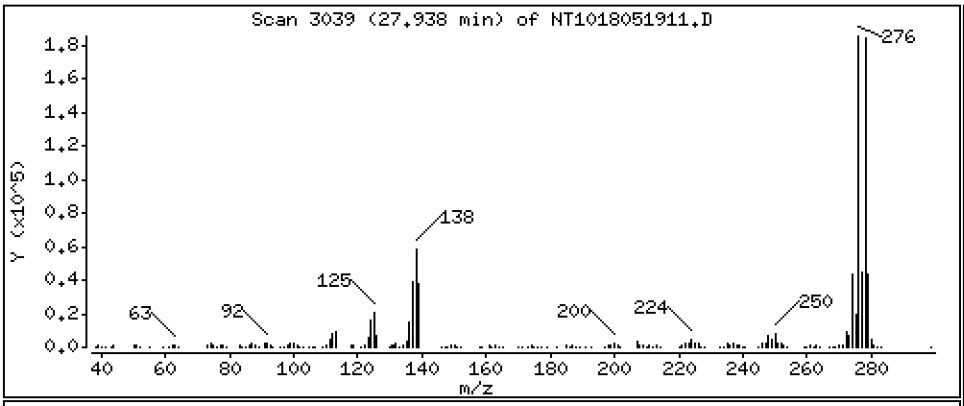
Operator: YZ

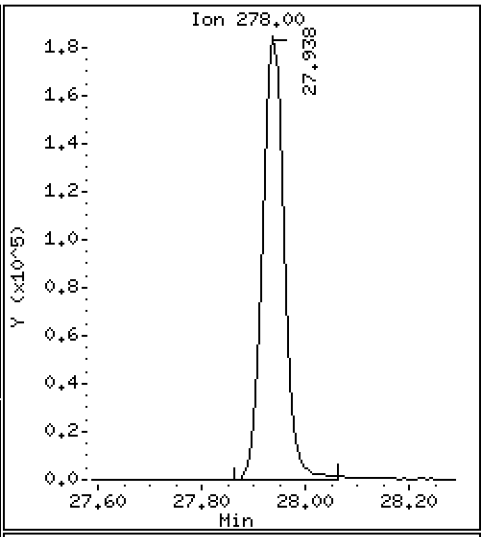
Column phase: ZB-5msi

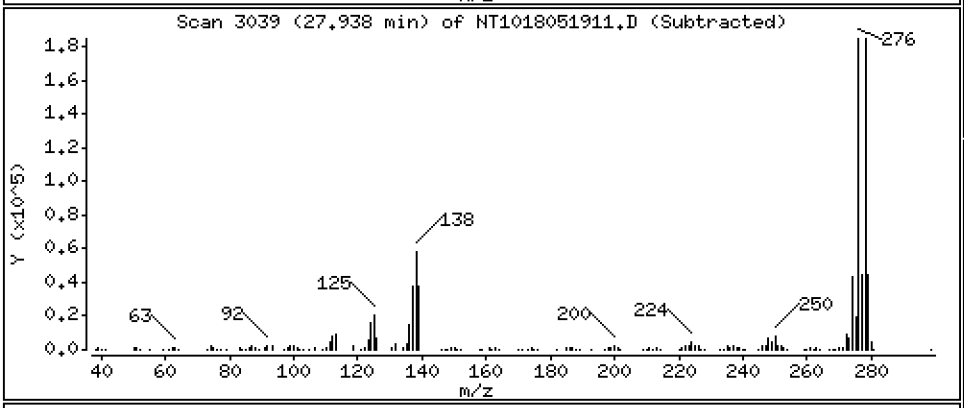
Column diameter: 0.25

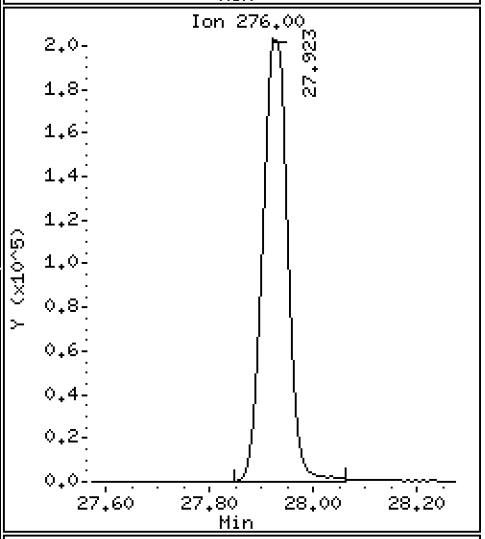
79 Dibenzo(a,h)anthracene

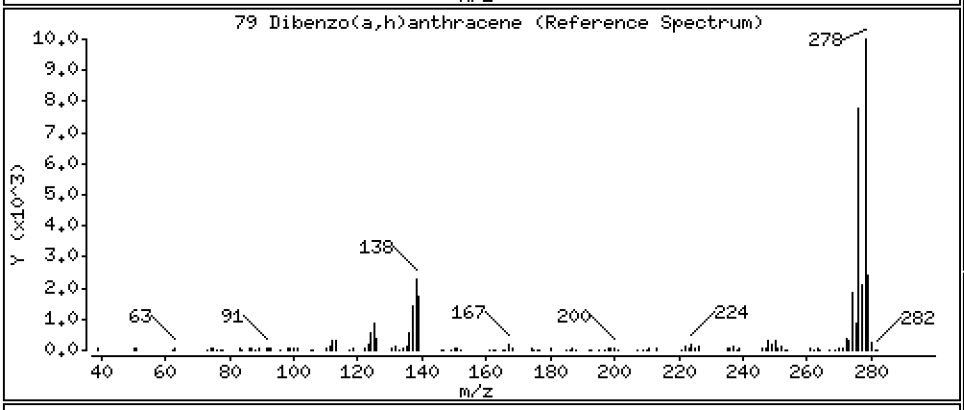
Concentration: 4.862 ug/mL

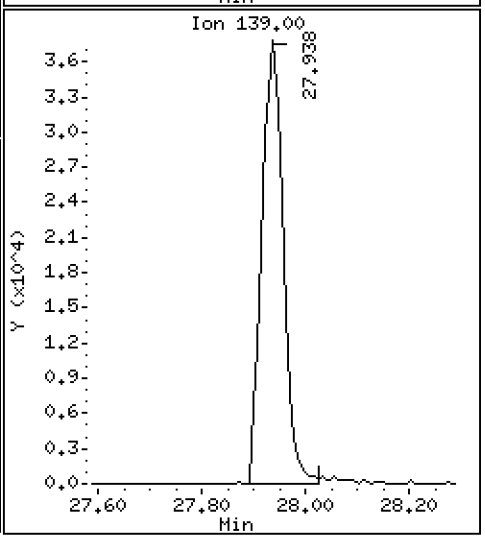


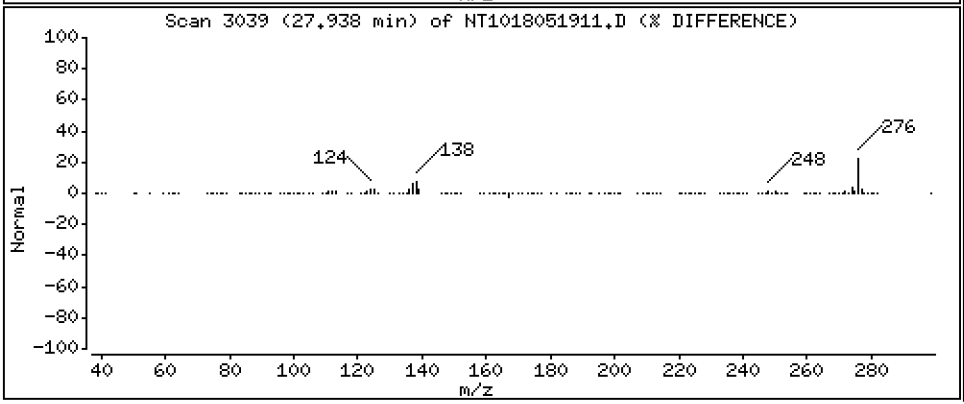












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

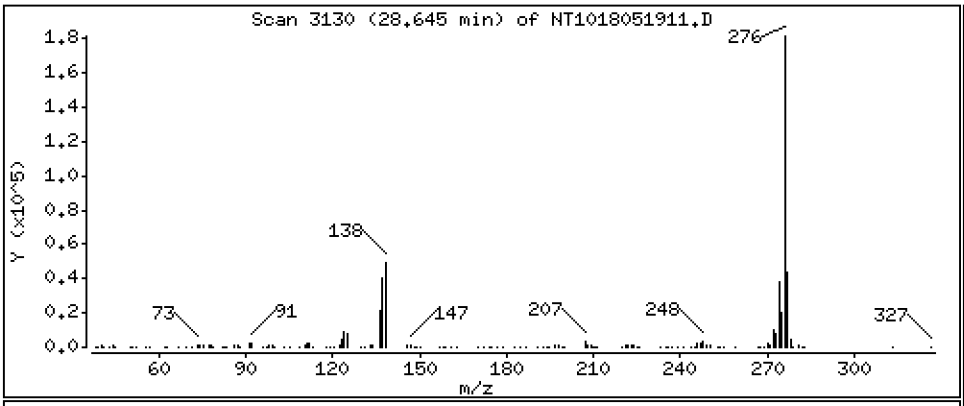
Operator: YZ

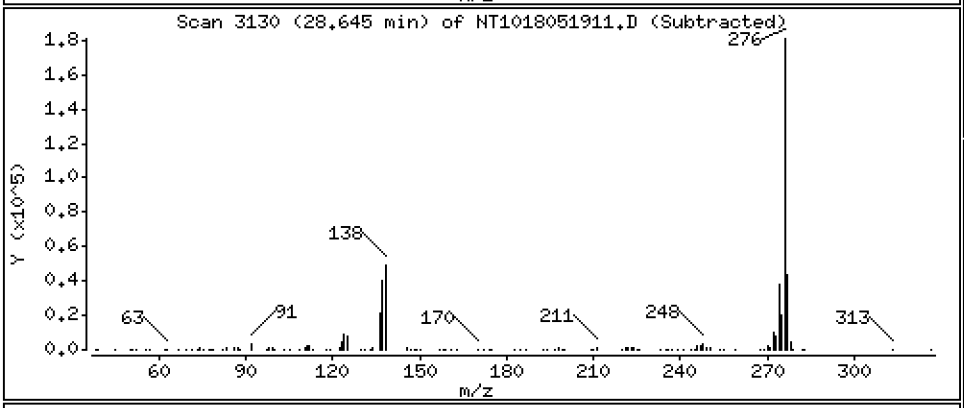
Column phase: ZB-5msi

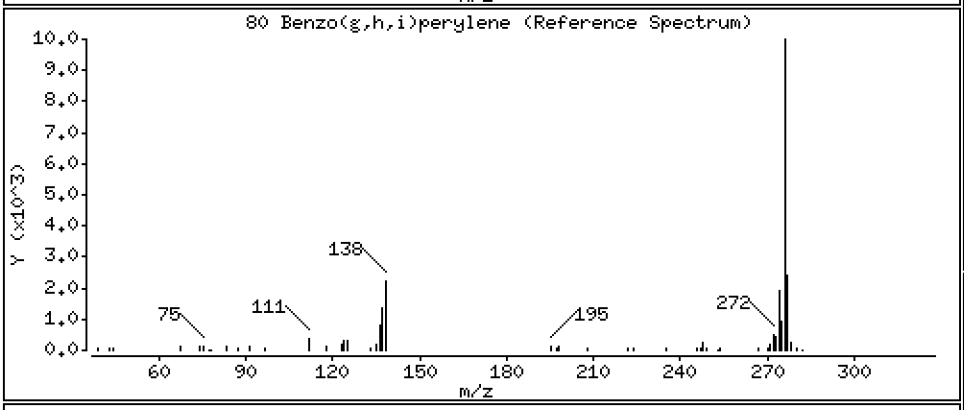
Column diameter: 0.25

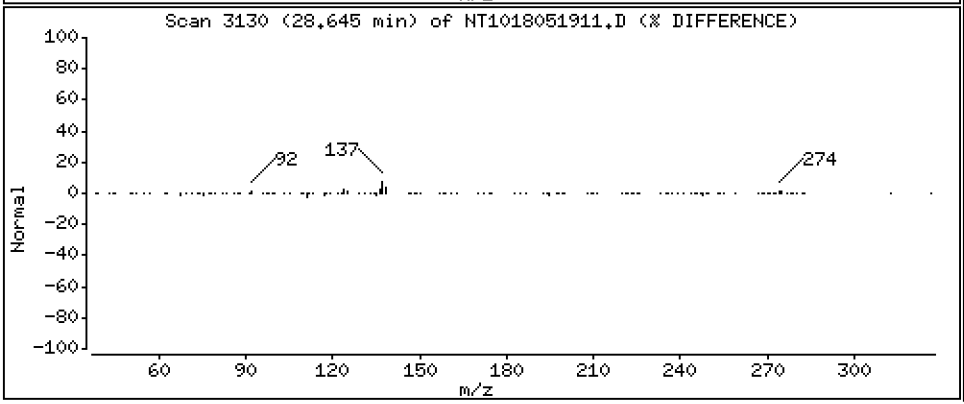
80 Benzo(g,h,i)perylene

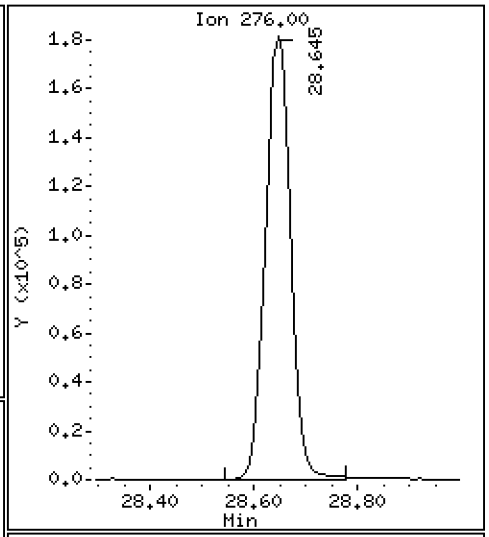
Concentration: 5.067 ug/mL

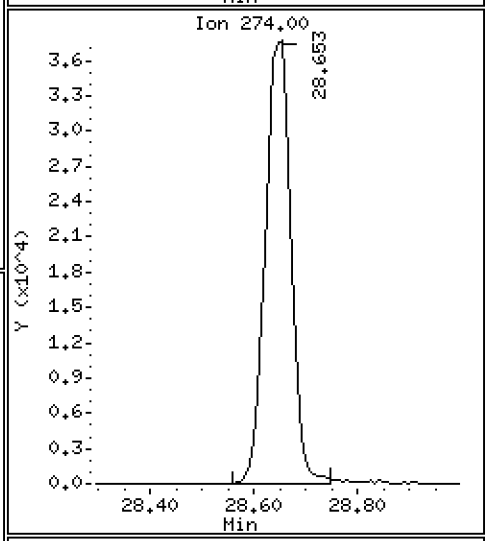


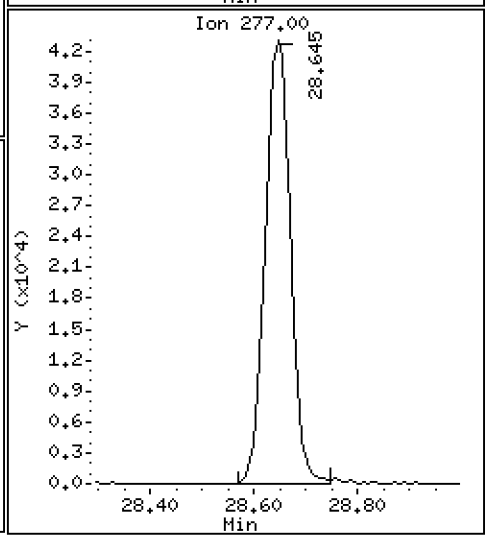












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

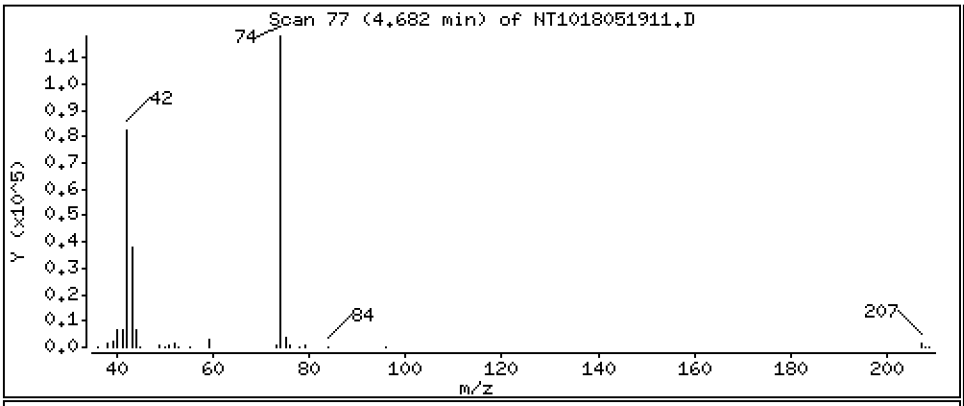
Operator: YZ

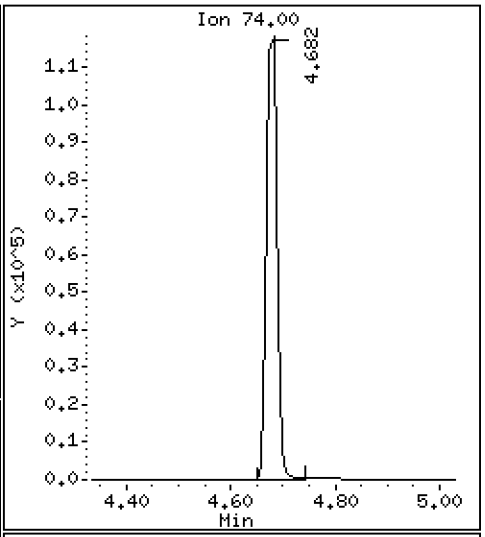
Column phase: ZB-5msi

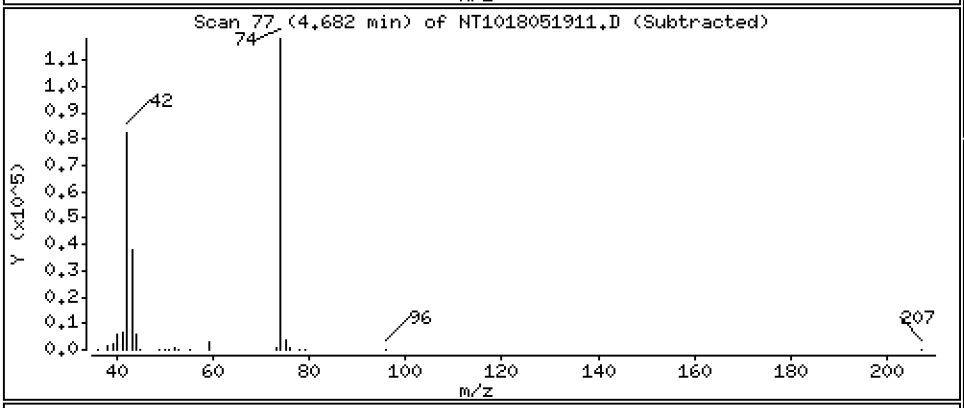
Column diameter: 0.25

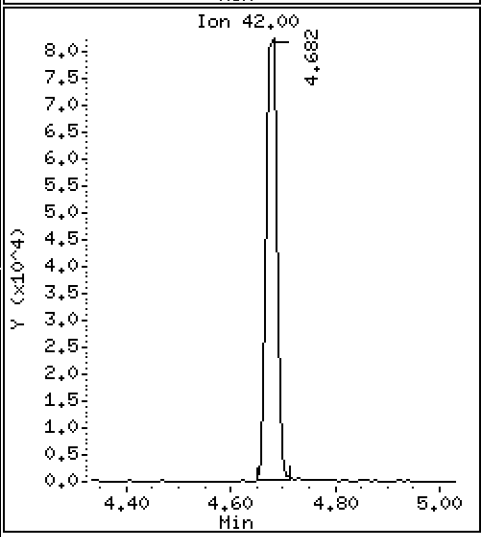
90 N-Nitrosodimethylamine

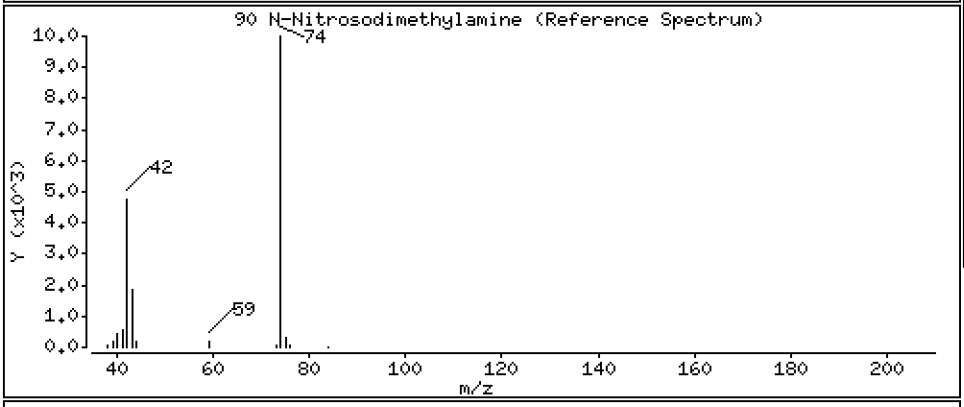
Concentration: 6.676 ug/mL

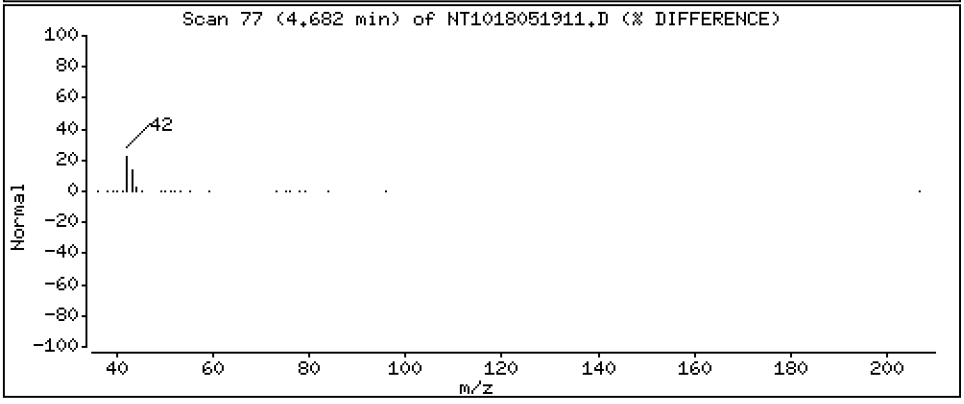












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

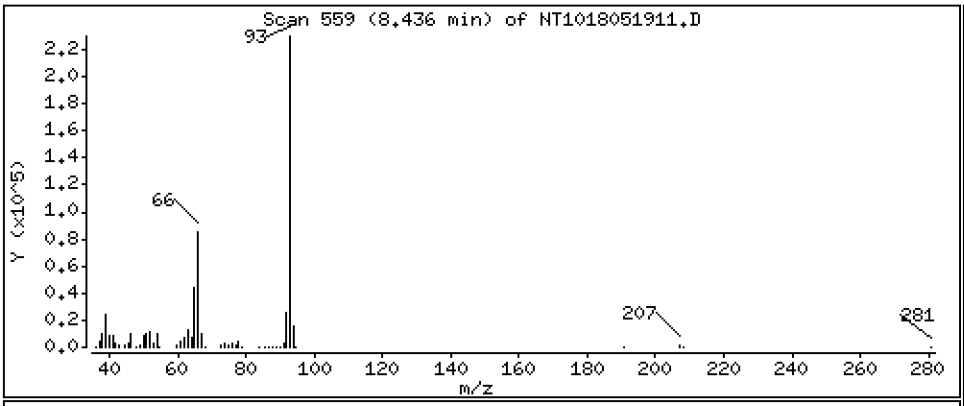
Operator: YZ

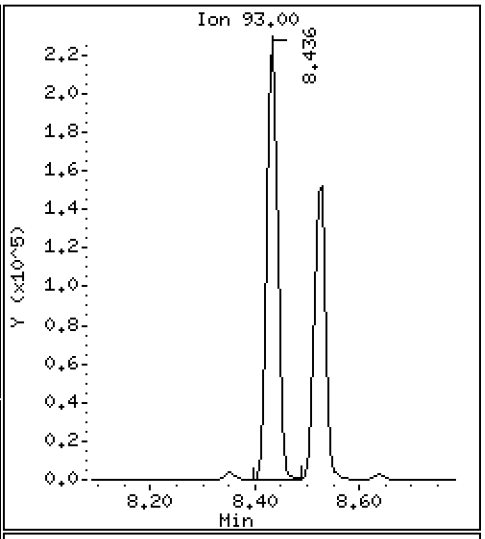
Column phase: ZB-5msi

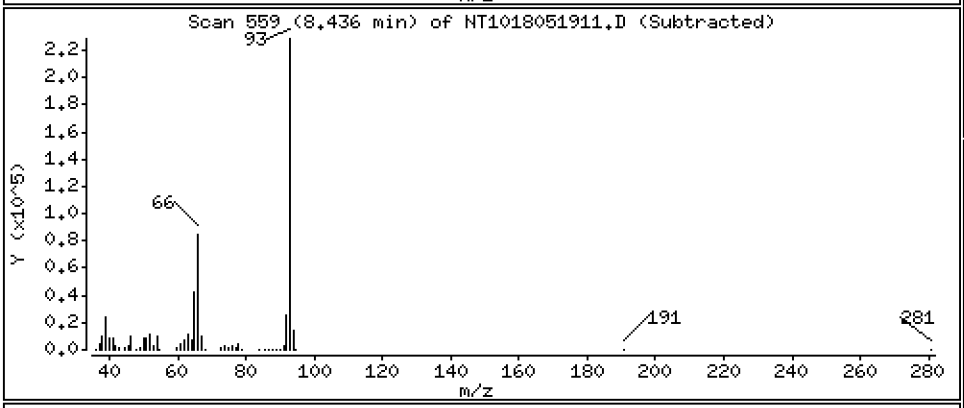
Column diameter: 0.25

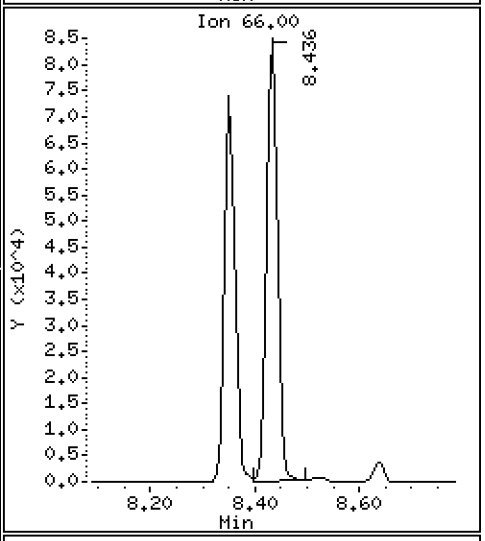
91 Aniline

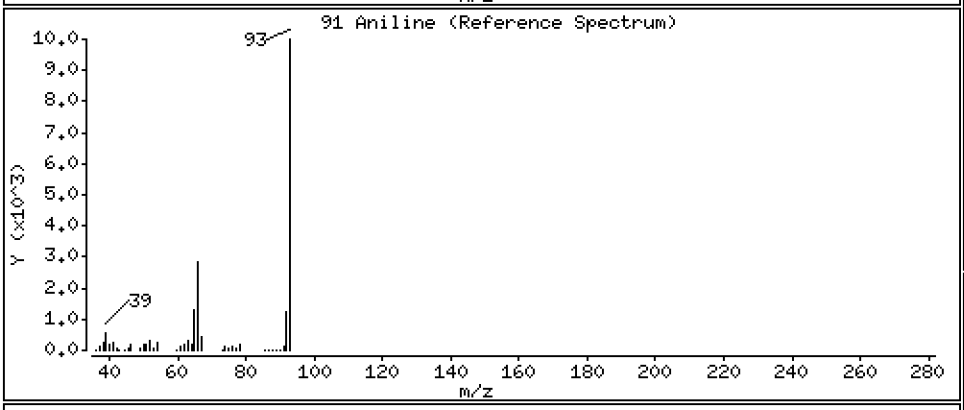
Concentration: 5.424 ug/mL

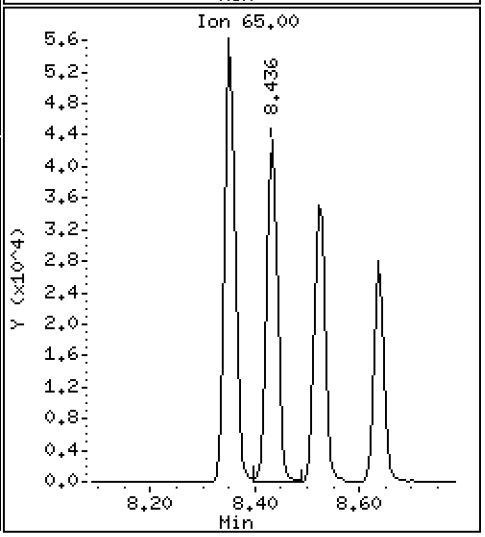


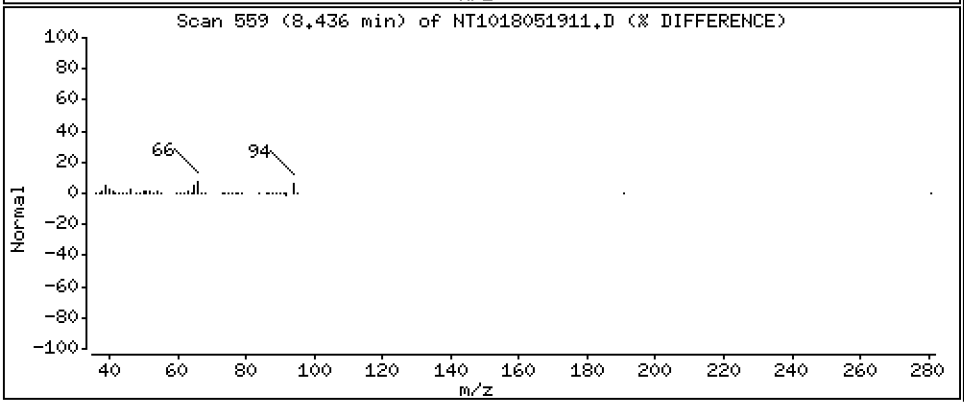












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

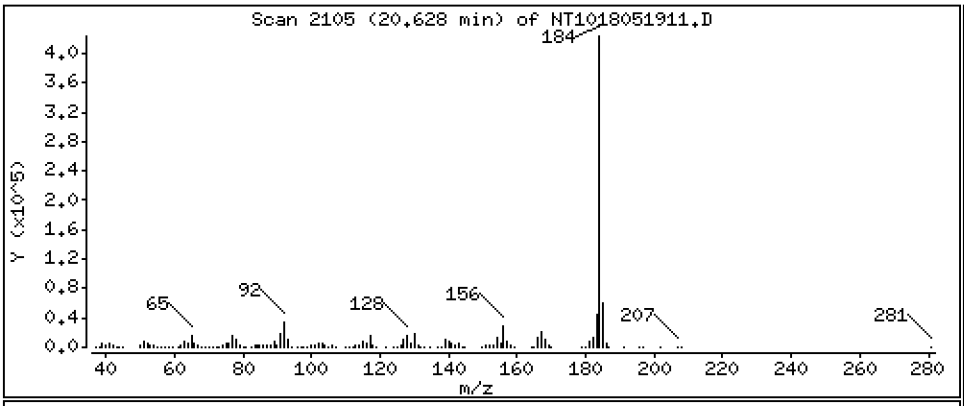
Operator: YZ

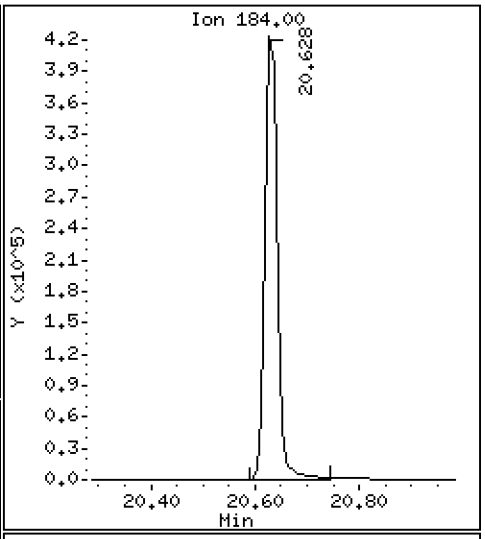
Column phase: ZB-5msi

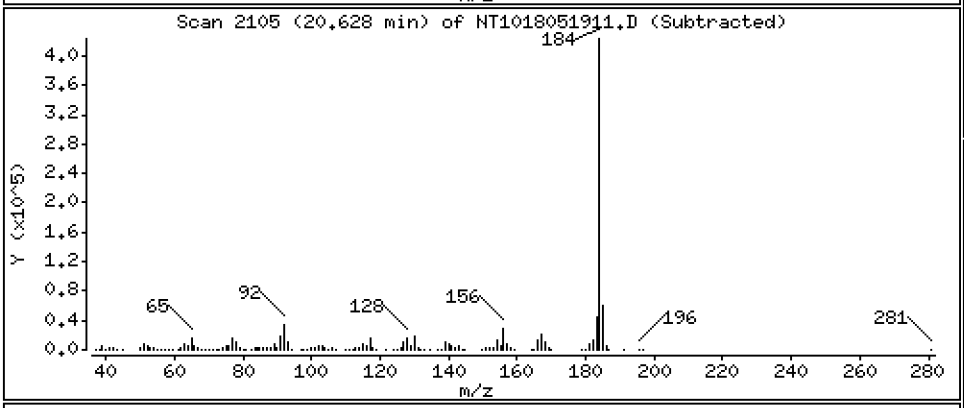
Column diameter: 0.25

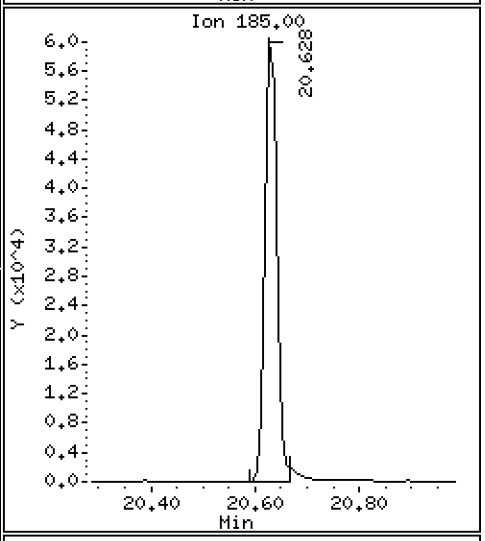
93 Benzidine

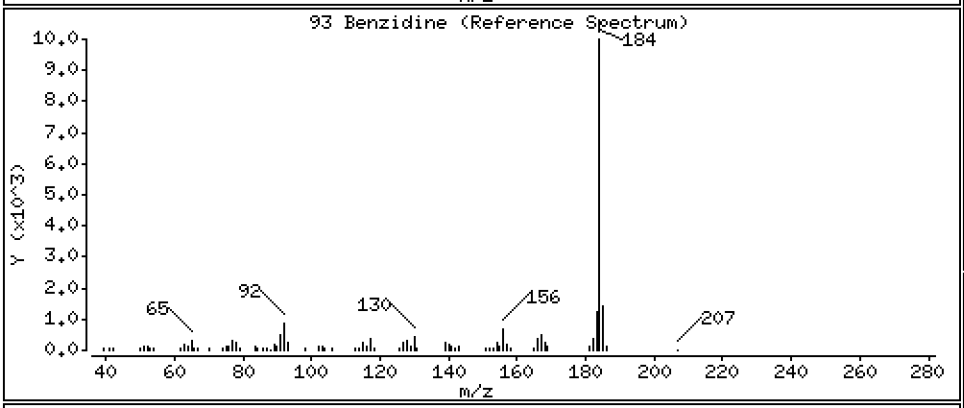
Concentration: 10.70 ug/mL

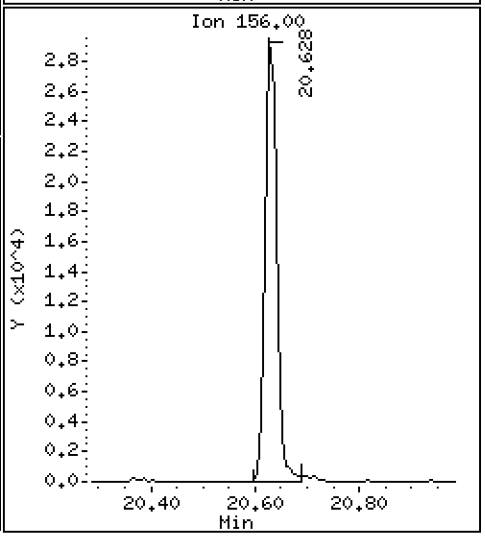


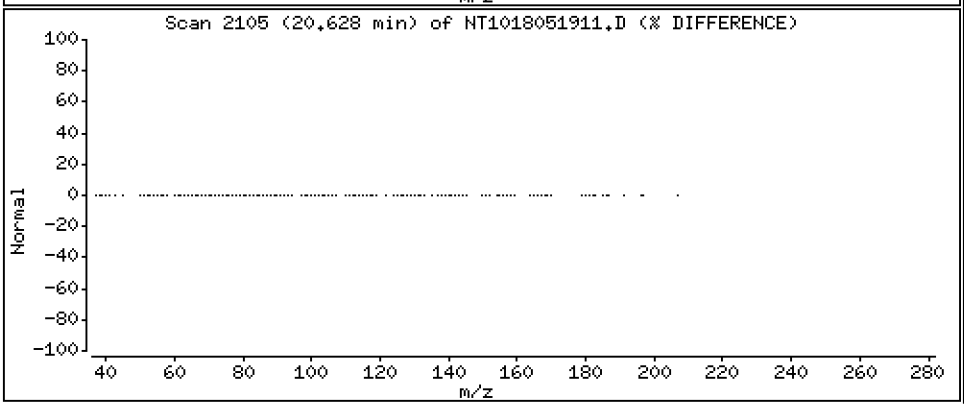












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

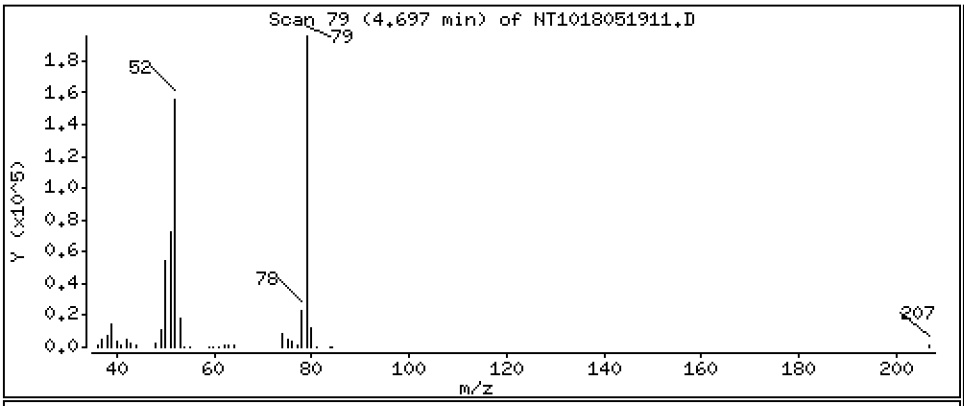
Operator: YZ

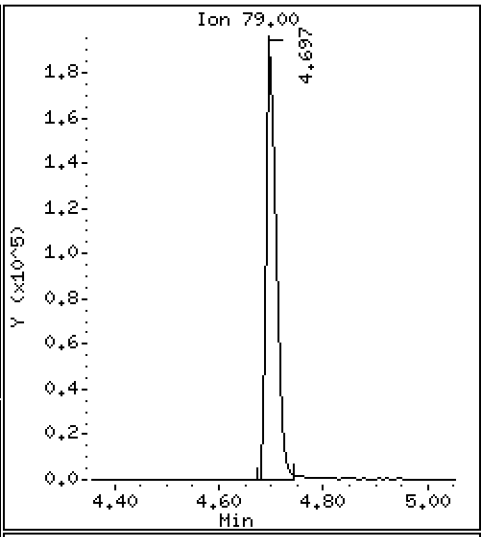
Column phase: ZB-5msi

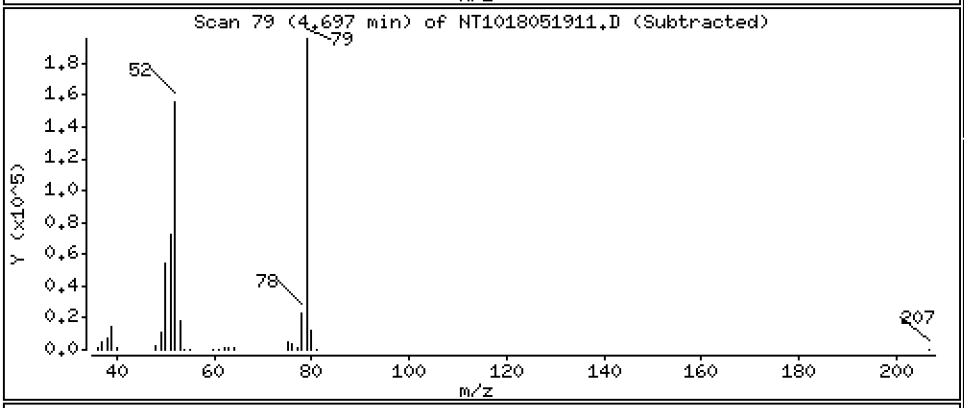
Column diameter: 0.25

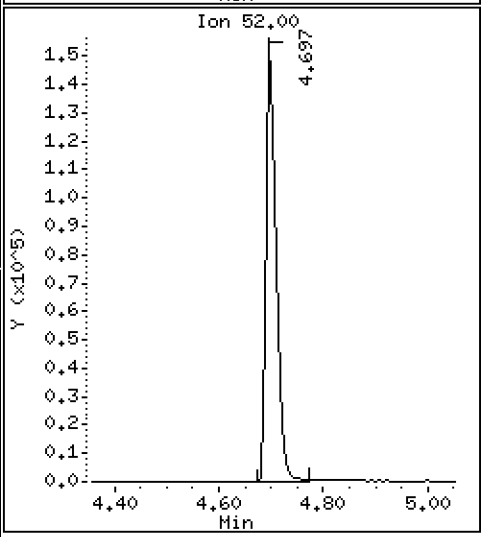
103 Pyridine

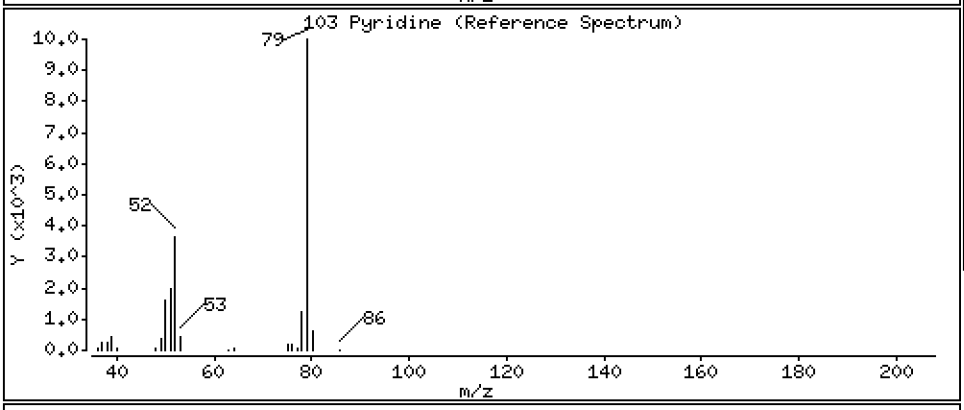
Concentration: 5.898 ug/mL

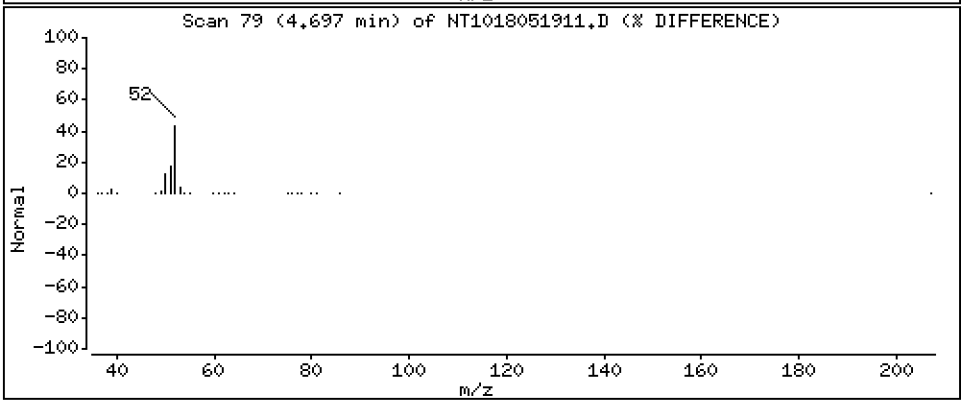












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

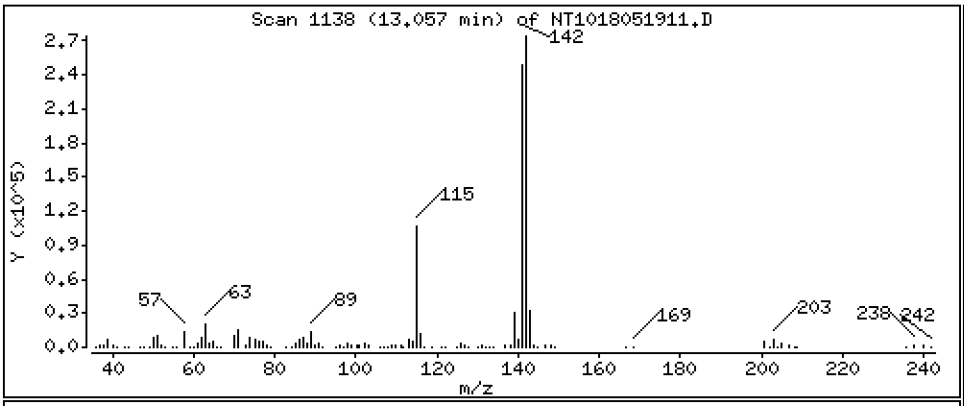
Operator: YZ

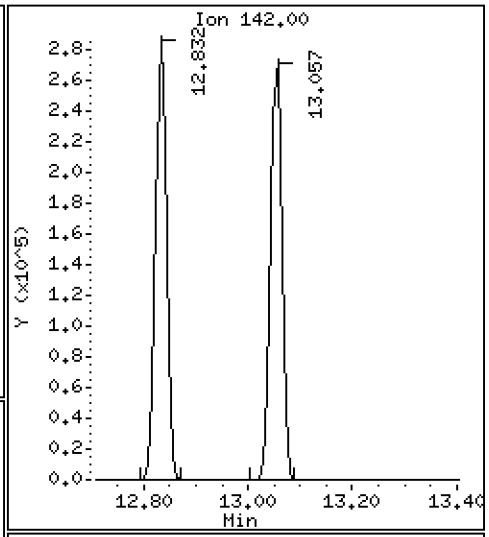
Column phase: ZB-5msi

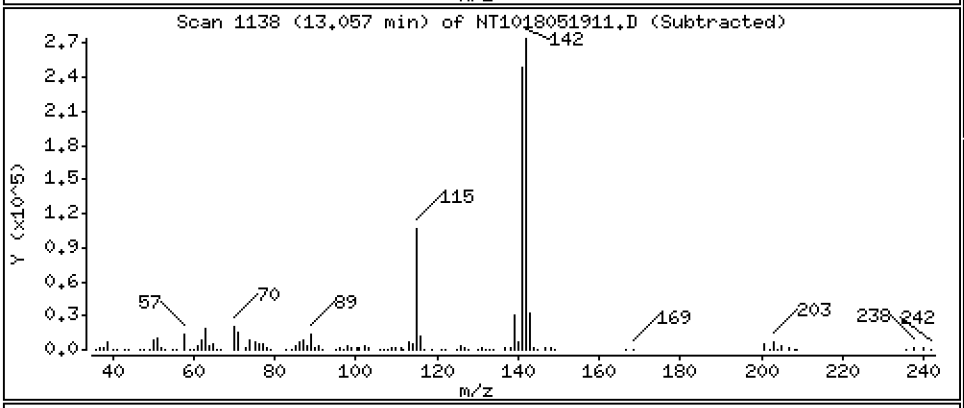
Column diameter: 0.25

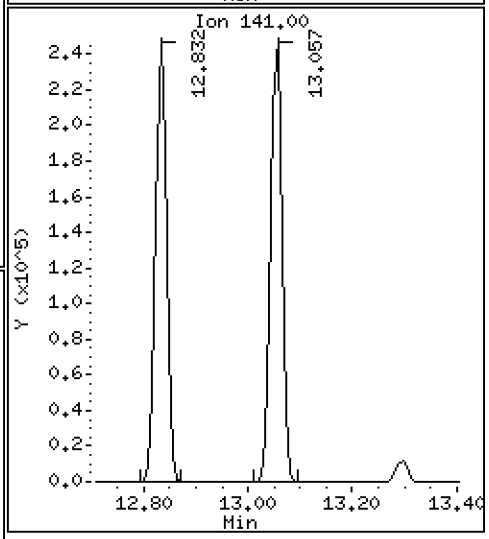
105 1-methylnaphthalene

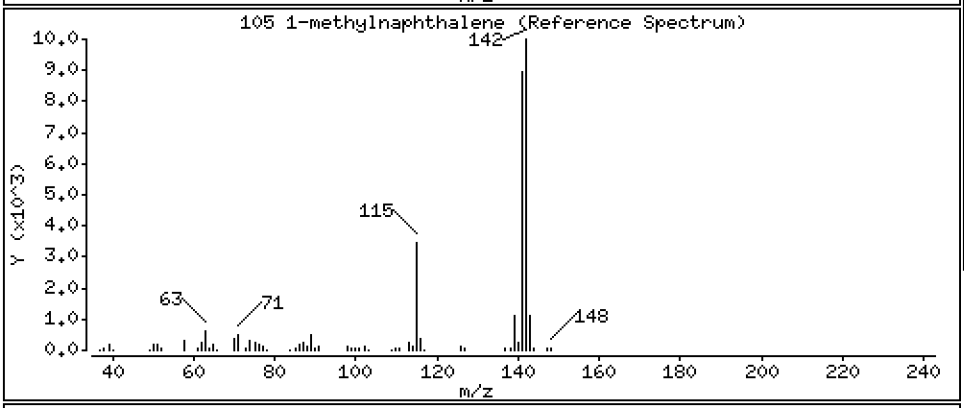
Concentration: 4.646 ug/mL

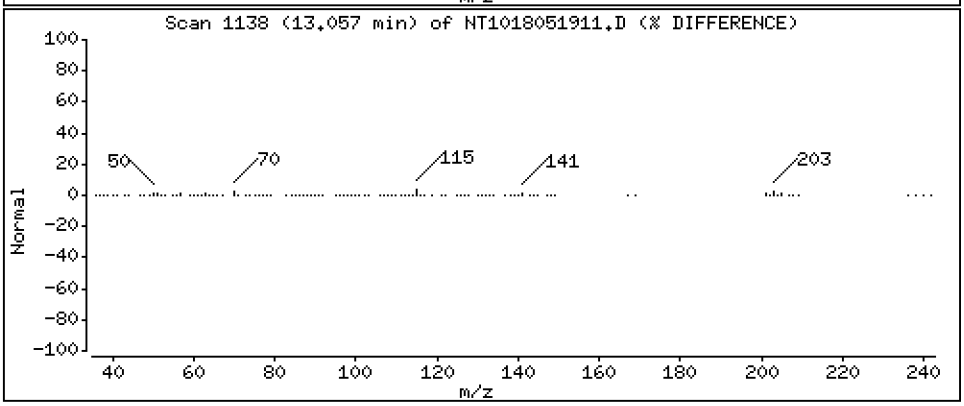












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

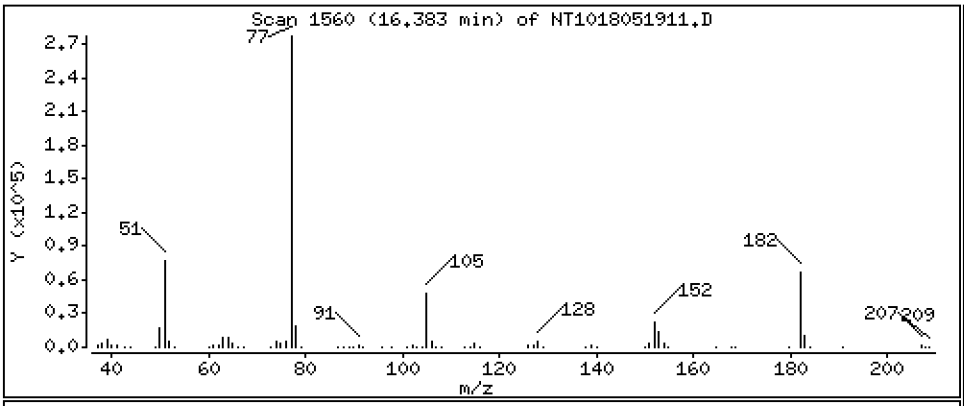
Operator: YZ

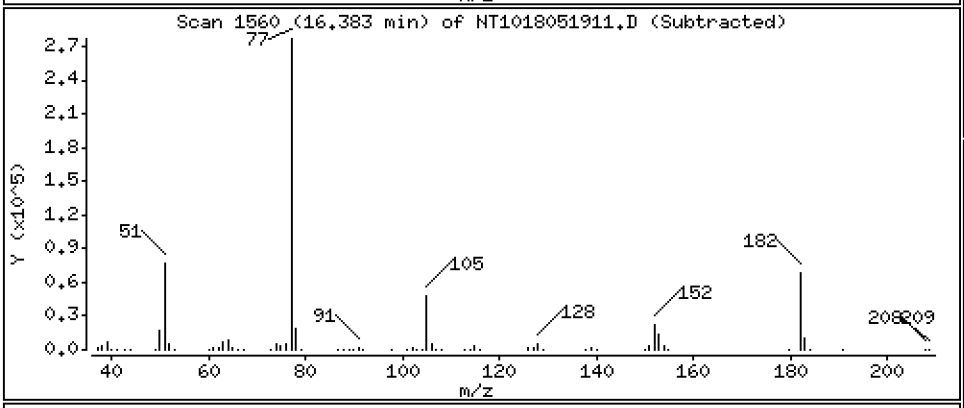
Column phase: ZB-5msi

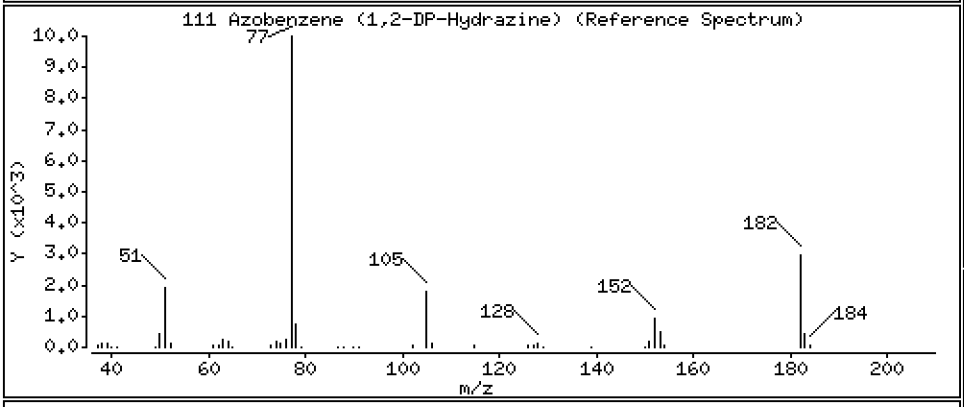
Column diameter: 0.25

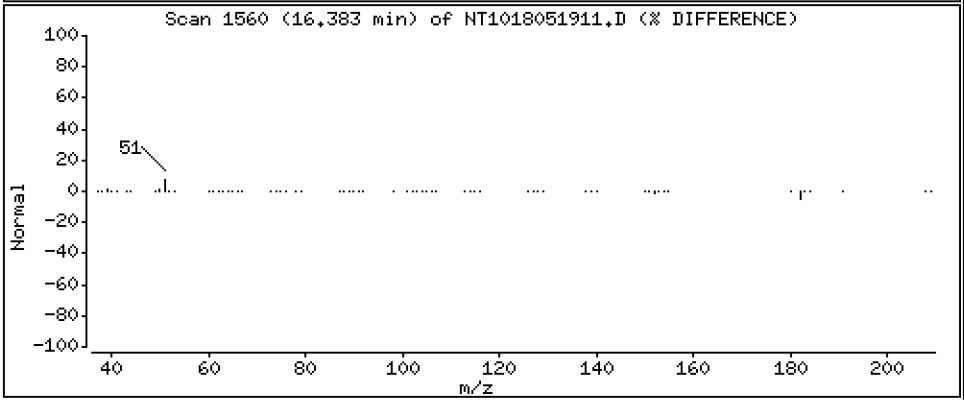
111 Azobenzene (1,2-DP-Hydrazine)

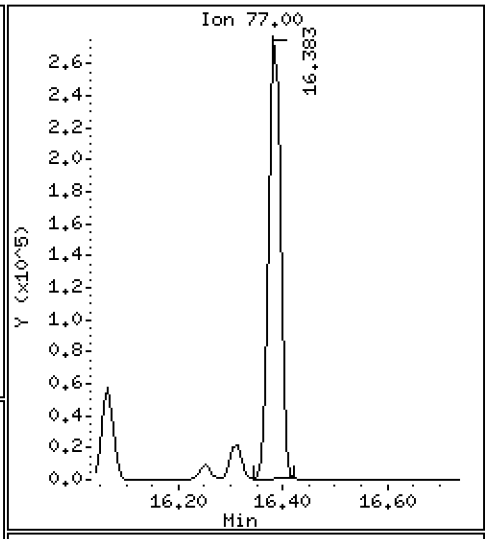
Concentration: 5.092 ug/mL

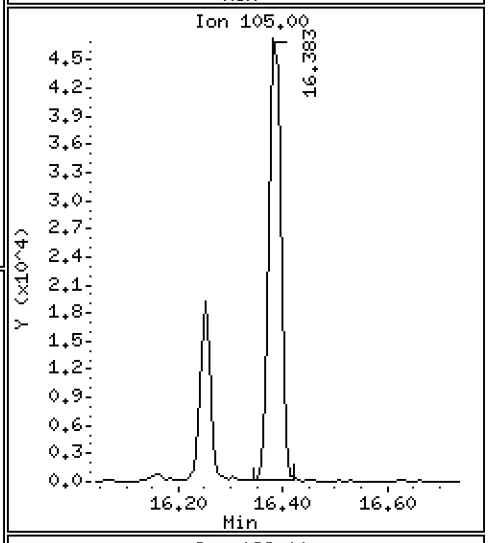


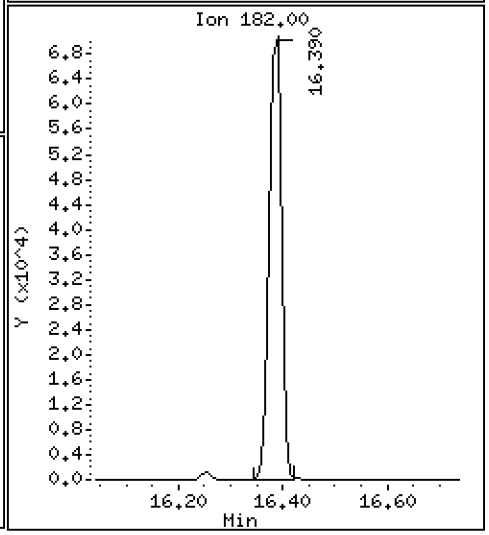












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

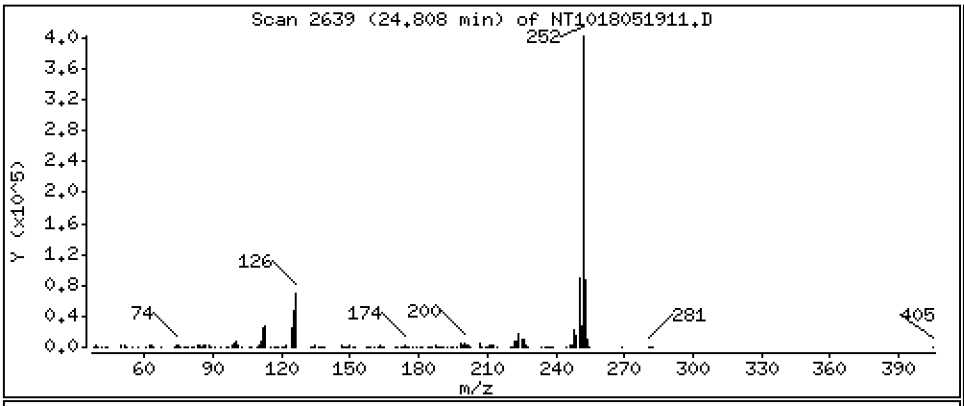
Operator: YZ

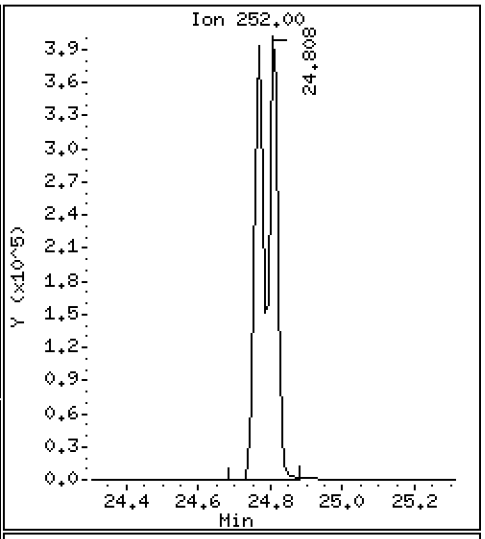
Column phase: ZB-5msi

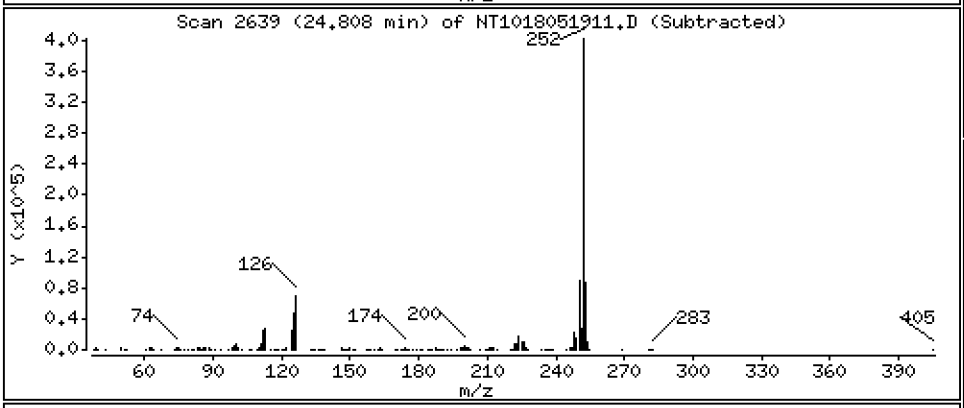
Column diameter: 0.25

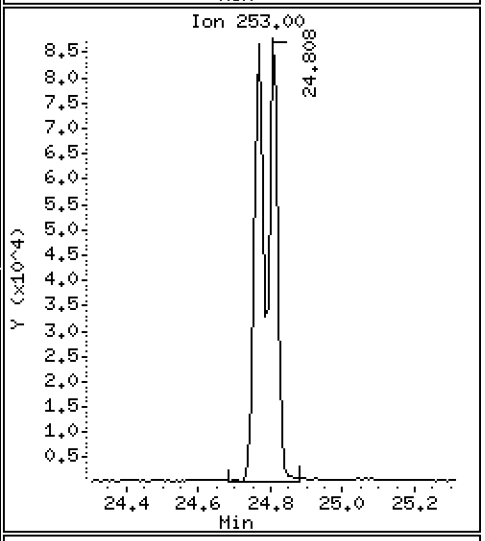
187 Total Benzofluoranthenes

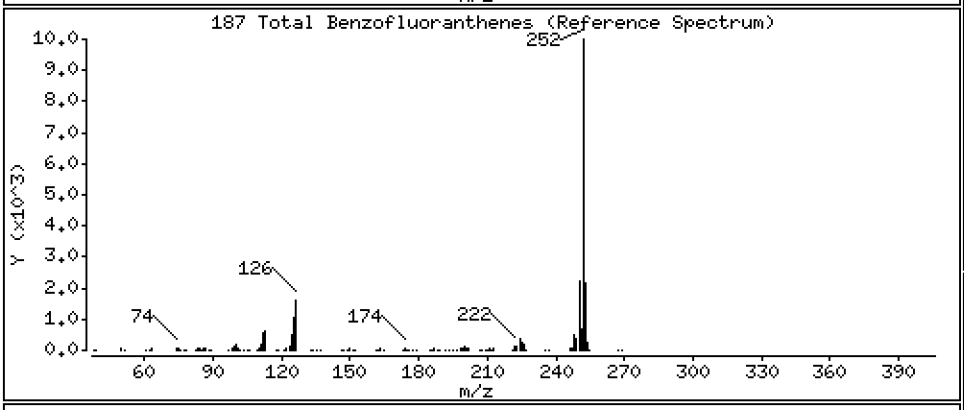
Concentration: 10.24 ug/mL

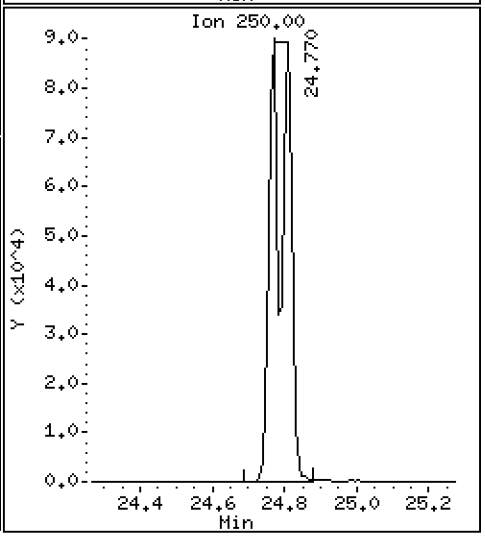


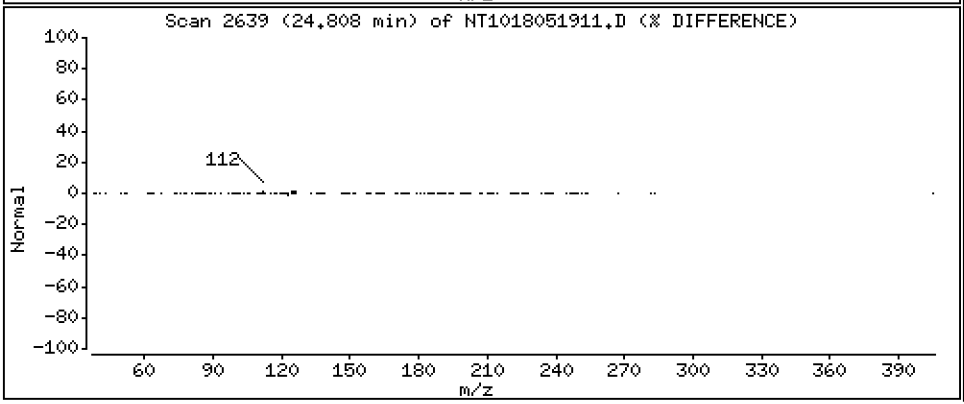












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

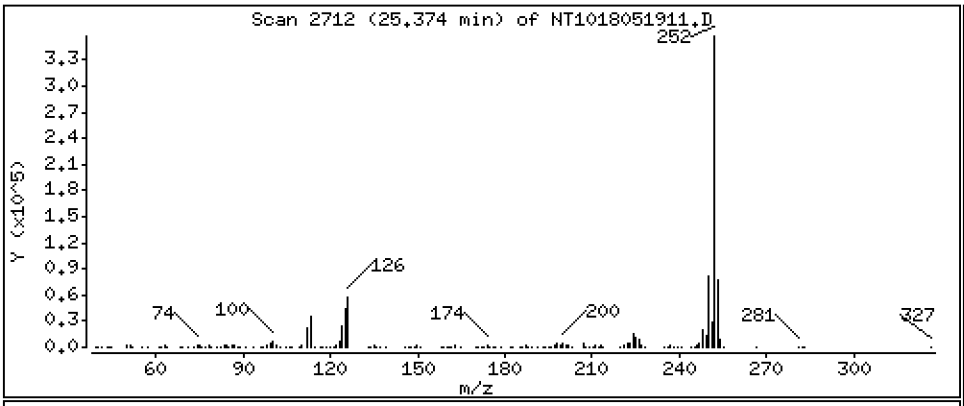
Operator: YZ

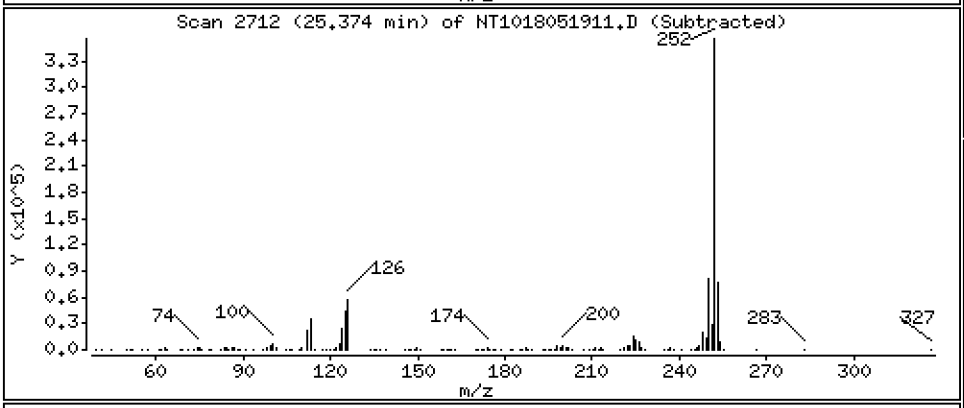
Column phase: ZB-5msi

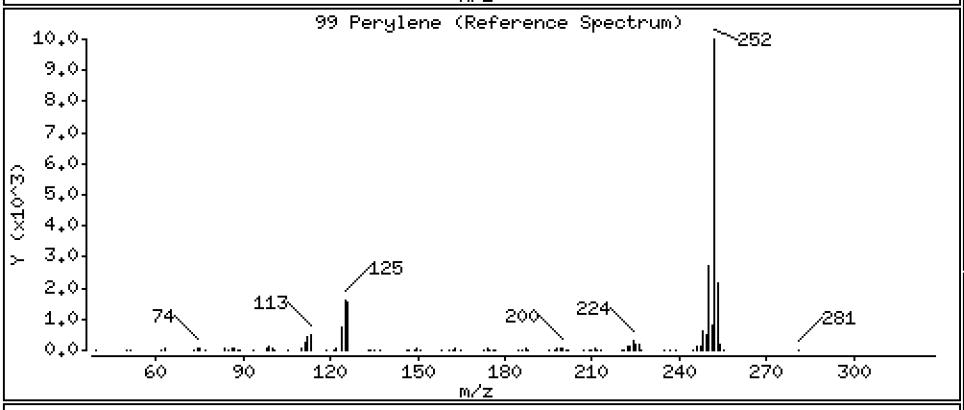
Column diameter: 0.25

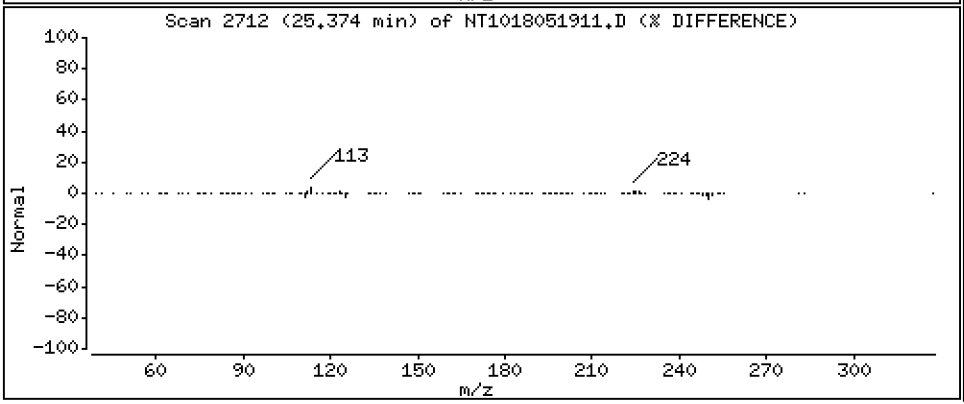
99 Perylene

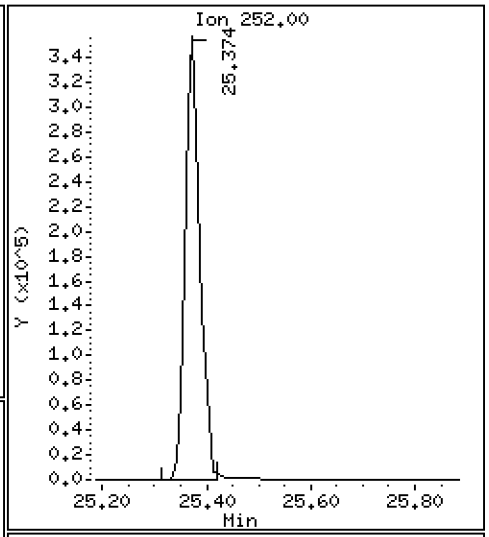
Concentration: 6.582 ug/mL

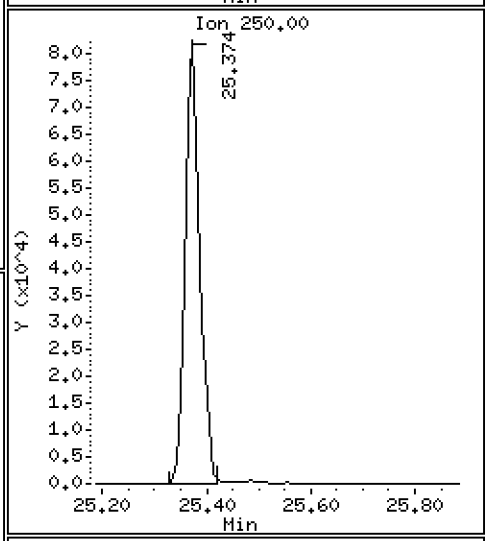


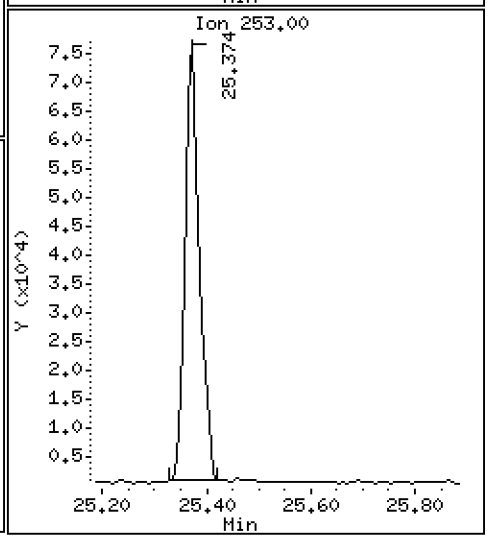












Data File: \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D

Date : 19-MAY-2018 14:41

Client ID:

Instrument: nt10.i

Sample Info: SGE0328-SCV1

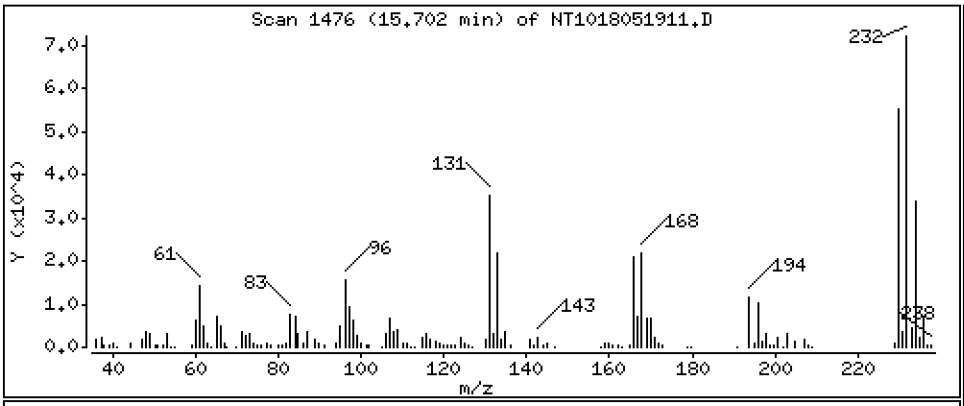
Operator: YZ

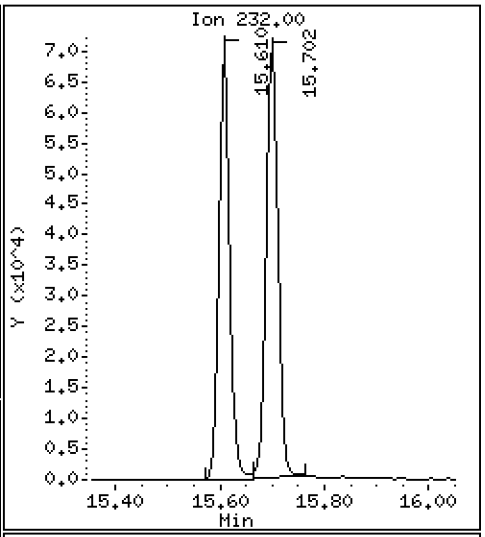
Column phase: ZB-5msi

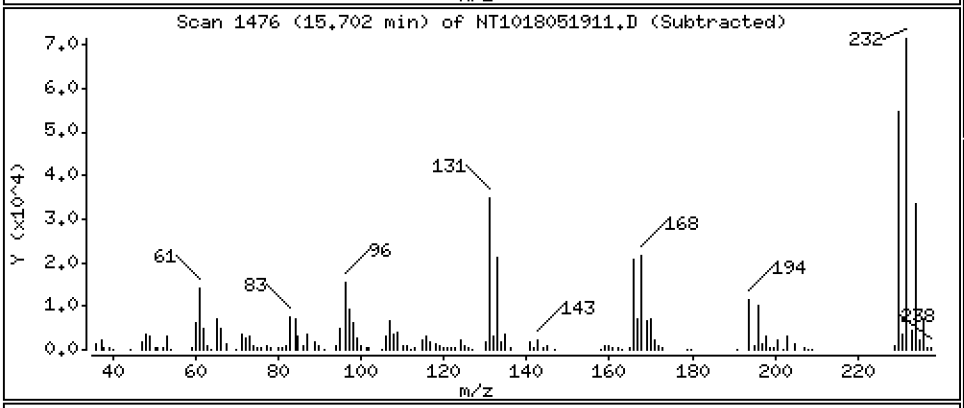
Column diameter: 0.25

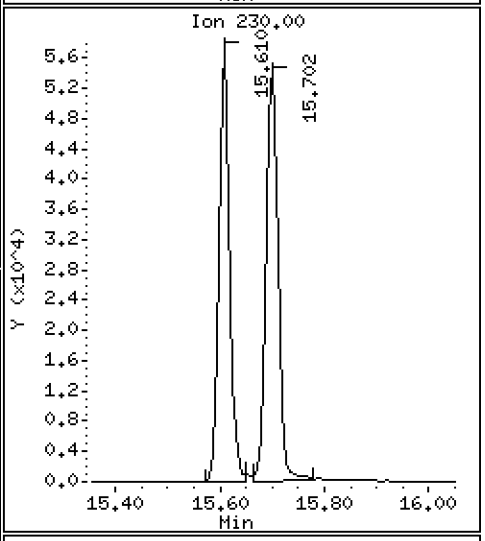
120 2,3,4,6-Tetrachlorophenol

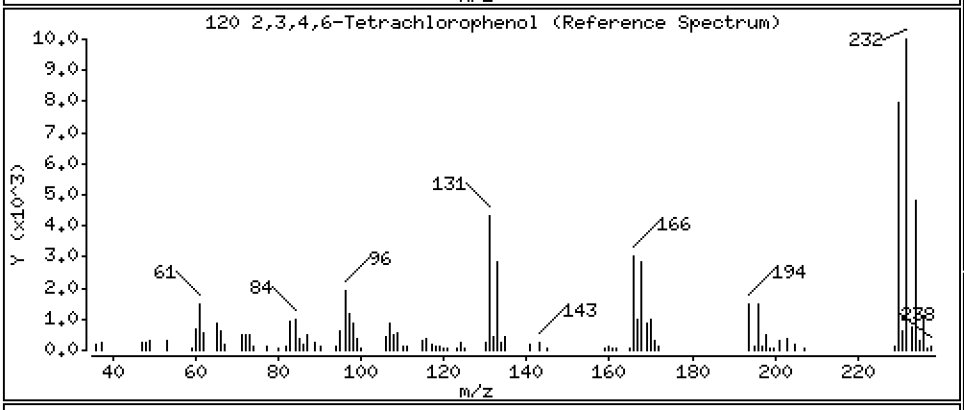
Concentration: 4.385 ug/mL

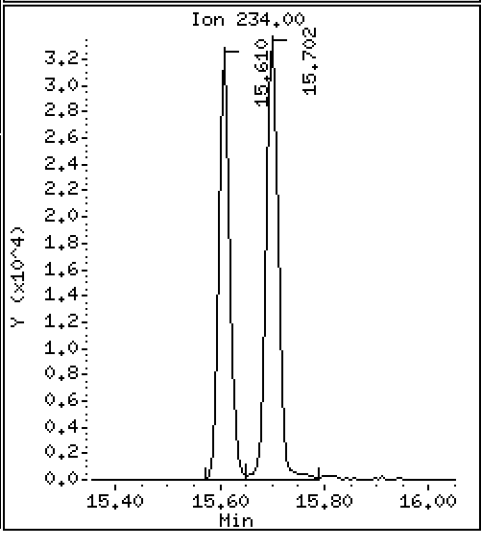


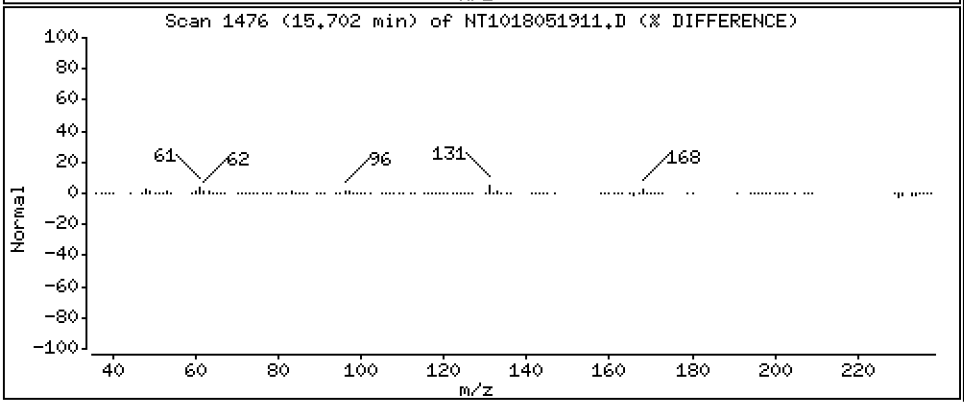












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20180519.b\NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Inj Date : 19-MAY-2018 14:41
Operator : YZ Inst ID: nt10.i
Smp Info : SGE0328-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20180519.b\ABN.m
Meth Date : 23-May-2018 10:02 van Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	8.636	8.335	(0.963)	10865	0.20949	0.2095
3	Phenol	94	8.350	8.358	(0.931)	273341	5.30700	5.307
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.528	8.528	(0.951)	219383	5.53901	5.539
6	2-Chlorophenol	128	8.636	8.644	(0.963)	217132	5.16610	5.166
7	1,3-Dichlorobenzene	146	8.907	8.915	(0.993)	227049	5.37243	5.372
* 8	1,4-Dichlorobenzene-d4	152	8.969	8.977	(1.000)	114558	4.00000	
9	1,4-Dichlorobenzene	146	9.000	9.008	(1.003)	203912	5.32231	5.322
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.349	9.357	(1.042)	204317	5.37505	5.375
11	Benzyl alcohol	108	9.233	9.233	(1.029)	129203	5.06520	5.065
14	2,2'-oxybis(1-Chloropropane)	121	9.536	9.536	(1.063)	70953	4.68901	4.689
13	2-Methylphenol	108	9.458	9.458	(1.055)	174621	5.05495	5.055
17	Hexachloroethane	117	9.939	9.939	(1.108)	94441	5.30106	5.301
16	N-Nitroso-di-n-propylamine	70	9.784	9.792	(1.091)	136354	5.34970	5.350
15	4-Methylphenol	108	9.722	9.722	(1.084)	185128	5.04685	5.047
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.087	10.087	(0.884)	216451	5.41634	5.416
20	Isophorone	82	10.521	10.529	(0.922)	421367	5.13541	5.135
21	2-Nitrophenol	139	10.706	10.706	(0.938)	111210	5.04834	5.048
22	2,4-Dimethylphenol	107	10.748	10.756	(0.941)	195289	4.99481	4.995
23	Bis(2-Chloroethoxy)methane	93	10.947	10.955	(0.959)	226106	5.25116	5.251
24	Benzoic acid	105	10.905	10.955	(0.955)	229184	8.77175	8.772
25	2,4-Dichlorophenol	162	11.146	11.146	(0.976)	164515	5.22199	5.222
26	1,2,4-Trichlorobenzene	180	11.331	11.339	(0.993)	177707	5.24557	5.246
* 27	Naphthalene-d8	136	11.416	11.424	(1.000)	406906	4.00000	
28	Naphthalene	128	11.462	11.463	(1.004)	546010	5.25527	5.255
29	4-Chloroaniline	127	11.586	11.586	(1.015)	218431	4.71316	4.713
30	Hexachlorobutadiene	225	11.818	11.818	(1.035)	110085	5.17407	5.174
31	4-Chloro-3-methylphenol	107	12.530	12.530	(1.098)	178828	5.24318	5.243
32	2-Methylnaphthalene	142	12.832	12.840	(1.124)	396080	4.83119	4.831
33	Hexachlorocyclopentadiene	237	13.296	13.296	(0.887)	130932	5.56724	5.567

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.443	13.451	(0.897)	130011	5.02765	5.028
	35 2,4,5-Trichlorophenol	196	13.513	13.521	(0.902)	130161	4.51931	4.519
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.815	13.815	(0.922)	403667	5.24570	5.246
	38 2-Nitroaniline	65	14.062	14.070	(0.939)	118178	5.50402	5.504
	39 Dimethylphthalate	163	14.496	14.504	(0.967)	399369	4.87649	4.876
	40 Acenaphthylene	152	14.674	14.674	(0.979)	617457	5.08656	5.087
	41 2,6-Dinitrotoluene	165	14.635	14.635	(0.977)	94679	5.39109	5.391
*	42 Acenaphthene-d10	164	14.983	14.983	(1.000)	212151	4.00000	
	43 3-Nitroaniline	138	14.906	14.914	(0.995)	106352	5.23421	5.234
	44 Acenaphthene	153	15.045	15.053	(1.004)	366140	5.07108	5.071
	45 2,4-Dinitrophenol	184	15.115	15.122	(1.009)	32016	2.94715	2.947
	46 Dibenzofuran	168	15.370	15.377	(1.026)	547789	4.88562	4.886
	47 4-Nitrophenol	109	15.215	15.223	(1.015)	52298	4.15065	4.151
	48 2,4-Dinitrotoluene	165	15.431	15.432	(1.030)	128491	5.68643	5.686
	50 Diethylphthalate	149	15.934	15.942	(1.063)	403756	4.83134	4.831
	49 Fluorene	166	16.073	16.073	(1.073)	428039	5.00218	5.002
	51 4-Chlorophenyl-phenylether	204	16.065	16.073	(1.072)	201379	4.81704	4.817
	52 4-Nitroaniline	138	16.158	16.166	(1.078)	107243	5.46353	5.464
	53 4,6-Dinitro-2-methylphenol	198	16.251	16.259	(0.904)	60956	3.46185	3.462
	54 N-Nitrosodiphenylamine	169	16.313	16.313	(0.908)	286378	5.22712	5.227
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.053	17.061	(0.949)	123362	4.98836	4.988
	57 Hexachlorobenzene	284	17.362	17.370	(0.966)	122673	5.19592	5.196
	58 Pentachlorophenol	266	17.711	17.718	(0.985)	69303	4.99178	4.992
*	59 Phenanthrene-d10	188	17.974	17.982	(1.000)	407216	4.00000	
	60 Phenanthrene	178	18.028	18.028	(1.003)	549283	5.08830	5.088
	61 Anthracene	178	18.113	18.121	(1.008)	549903	4.80467	4.805
	62 Carbazole	167	18.438	18.446	(1.026)	555100	5.43244	5.432
	63 Di-n-butylphthalate	149	19.250	19.250	(1.071)	824291	5.29418	5.294
	64 Fluoranthene	202	20.395	20.395	(0.887)	748878	5.21358	5.214
	65 Pyrene	202	20.813	20.821	(0.905)	786056	5.25095	5.251
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.028	22.029	(0.958)	319521	5.39007	5.390
	68 Benzo(a)anthracene	228	22.958	22.966	(0.999)	660563	5.02994	5.030
*	69 Chrysene-d12	240	22.989	22.989	(1.000)	360730	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.919	22.927	(0.997)	460373	9.99155	9.992
	71 Chrysene	228	23.035	23.035	(1.002)	554854	5.26045	5.260
	72 bis(2-Ethylhexyl)phthalate	149	23.051	23.051	(0.960)	431855	5.23087	5.231
*	134 Di-n-octylphthalate-d4	153	24.018	24.018	(1.000)	792512	4.00000	
	73 Di-n-octylphthalate	149	24.026	24.026	(1.000)	896166	5.19293	5.193
	74 Benzo(b)fluoranthene	252	24.769	24.769	(0.972)	664828	4.90589	4.906
	75 Benzo(k)fluoranthene	252	24.808	24.808	(0.974)	739570	5.42328	5.423
	76 Benzo(a)pyrene	252	25.373	25.373	(0.996)	721514	5.27753	5.278
*	77 Perylene-d12	264	25.481	25.482	(1.000)	387545	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.922	27.922	(1.096)	669280	4.98154	4.982
	79 Dibenzo(a,h)anthracene	278	27.938	27.938	(1.096)	527262	4.86155	4.862
	80 Benzo(g,h,i)perylene	276	28.645	28.645	(1.124)	605896	5.06697	5.067
	90 N-Nitrosodimethylamine	74	4.681	4.681	(0.522)	154746	6.67624	6.676
	91 Aniline	93	8.435	8.435	(0.941)	310490	5.42405	5.424
	93 Benzidine	184	20.627	20.635	(0.897)	653077	10.7046	10.70
	103 Pyridine	79	4.697	4.705	(0.524)	247064	5.89783	5.898
	105 1-methylnaphthalene	142	13.056	13.056	(1.144)	392256	4.64617	4.646
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.382	16.390	(1.093)	407279	5.09161	5.092

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.808	24.808	(0.974)	1338371	10.2371	10.24
99	Perylene	252	25.373	25.536	(0.996)	721514	6.58216	6.582
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.702	15.702	(1.048)	104899	4.38535	4.385

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018051911.D
Lab Smp Id: SGE0328-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt10.i\20180519.b\ABN.m
Misc Info:

Calibration Date: 19-MAY-2018
Calibration Time: 09:09
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	114558	3.49
27 Naphthalene-d8	393946	196973	787892	406906	3.29
42 Acenaphthene-d10	203210	101605	406420	212151	4.40
59 Phenanthrene-d10	403506	201753	807012	407216	0.92
69 Chrysene-d12	354618	177309	709236	360730	1.72
134 Di-n-octylphthala	800232	400116	1600464	792512	-0.96
77 Perylene-d12	378948	189474	757896	387545	2.27

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.97	-0.09
27 Naphthalene-d8	11.42	10.92	11.92	11.42	-0.07
42 Acenaphthene-d10	14.98	14.48	15.48	14.98	-0.00
59 Phenanthrene-d10	17.98	17.48	18.48	17.97	-0.04
69 Chrysene-d12	22.99	22.49	23.49	22.99	-0.00
134 Di-n-octylphthala	24.02	23.52	24.52	24.02	-0.00
77 Perylene-d12	25.48	24.98	25.98	25.48	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018051911.D

Lab ID: SGE0328-SCV1
nt10.i, ABN.m, 19-MAY-2018 14:41

RT	CO-ELUTION COMPOUNDS
25.374	Perylene and Benzo(a)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt10.i, ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070516.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-CCV1	Injection Time:	20:29
Sequence Name:	Continuing Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	4.0	1.7984170	1.4293980		-20.5	50	
bis(2-chloroethyl) ether	A	5.0000	3.4	1.3829460	0.9437159		-31.8	50	
2-Chlorophenol	A	5.0000	4.0	1.4675600	1.1784750		-19.7	50	
1,3-Dichlorobenzene	A	5.0000	4.7	1.4756490	1.3928250		-5.6	50	
1,4-Dichlorobenzene	A	5.0000	5.8	1.3377560	1.5390450		15.0	50	
1,2-Dichlorobenzene	A	5.0000	4.6	1.3272630	1.2261640		-7.6	50	
Benzyl Alcohol	A	5.0000	4.0	0.8906565	0.7171108		-19.5	50	
2,2'-Oxybis(1-chloropropane)	A	5.0000	3.7	0.5283531	0.3928892		-25.6	50	
2-Methylphenol	A	5.0000	3.7	1.2061870	0.9003130		-25.4	50	
Hexachloroethane	A	5.0000	3.3	0.6220608	0.4139807		-33.5	50	
N-Nitroso-di-n-Propylamine	A	5.0000	4.0	0.8899646	0.7034671		-21.0	50	
4-Methylphenol	A	5.0000	3.6	1.2808140	0.9226164		-28.0	50	
Nitrobenzene	A	5.0000	5.1	0.3928437	0.3987799		1.5	50	
Isophorone	A	5.0000	5.2	0.8065878	0.8442815		4.7	50	
2-Nitrophenol	A	5.0000	5.5	0.2165516	0.2382371		10.0	50	
2,4-Dimethylphenol	A	10.000	10.0	0.3843482	0.3855833		0.3	50	
Bis(2-Chloroethoxy)methane	A	5.0000	4.0	0.4232749	0.3388875		-19.9	50	
2,4-Dichlorophenol	A	10.000	12.2	0.3096960	0.3775311		21.9	50	
1,2,4-Trichlorobenzene	A	5.0000	5.9	0.3330258	0.3940919		18.3	50	
Naphthalene	A	5.0000	5.0	1.0213430	1.0142640		-0.7	50	
Benzoic acid	A	20.000	14.6	0.2160131	0.1876559		-27.0	50	
4-Chloroaniline	A	10.000	11.0	0.4555838	0.4998535		9.7	50	
Hexachlorobutadiene	A	5.0000	7.7	0.2091520	0.3218234		53.9	50	*
4-Chloro-3-Methylphenol	A	10.000	10.8	0.3352795	0.3619449		8.0	50	
2-Methylnaphthalene	A	5.0000	5.4	0.8059253	0.8717554		8.2	50	
Hexachlorocyclopentadiene	A	10.000	2.0	0.4434257	0.0879117		-80.2	50	*
2,4,6-Trichlorophenol	A	10.000	11.7	0.4875623	0.5685390		16.6	50	
2,4,5-Trichlorophenol	A	10.000	10.8	0.4794408	0.5830700		7.9	50	
2-Chloronaphthalene	A	5.0000	4.8	1.4508900	1.3788530		-5.0	50	
2-Nitroaniline	A	10.000	12.0	0.4048286	0.4840271		19.6	50	
Acenaphthylene	A	5.0000	4.5	2.2887440	2.0691200		-9.6	50	
Dimethylphthalate	A	5.0000	5.2	1.5441220	1.6032050		3.8	50	
2,6-Dinitrotoluene	A	10.000	10.3	0.3311250	0.3410899		3.0	50	
Acenaphthene	A	5.0000	4.9	1.3613250	1.3294340		-2.3	50	

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070516.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-CCV1	Injection Time:	20:29
Sequence Name:	Continuing Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
3-Nitroaniline	A	10.000	9.6	0.3830973	0.3695315		-3.5	50	
2,4-Dinitrophenol	A	20.000	15.3	0.1626979	0.1612953		-23.3	50	
Dibenzofuran	A	5.0000	5.0	2.1140180	2.1308840		0.8	50	
4-Nitrophenol	A	10.000	15.4	0.2078877	0.3647693		54.1	50	*
2,4-Dinitrotoluene	A	10.000	11.5	0.4260379	0.4889857		14.8	50	
Fluorene	A	5.0000	2.7	1.6133890	0.8558592		-47.0	50	
4-Chlorophenylphenyl ether	A	5.0000	3.7	0.7882218	0.5854313		-25.7	50	
Diethyl phthalate	A	5.0000	5.2	1.5756750	1.6512790		4.8	50	
4-Nitroaniline	A	10.000	9.3	0.3700928	0.3453130		-6.7	50	
4,6-Dinitro-2-methylphenol	A	20.000	13.9	0.1324757	0.1180774		-30.7	50	
N-Nitrosodiphenylamine	A	5.0000	4.7	0.5381609	0.5042647		-6.3	50	
4-Bromophenyl phenyl ether	A	5.0000	6.2	0.2429173	0.3019715		24.3	50	
Hexachlorobenzene	A	5.0000	6.5	0.2319114	0.3035744		30.9	50	
Pentachlorophenol	A	10.000	5.9	0.1363741	0.0800540		-41.3	50	
Phenanthrene	A	5.0000	4.7	1.0603730	0.9953726		-6.1	50	
Anthracene	A	5.0000	4.5	1.1242370	1.0169170		-9.5	50	
Carbazole	A	5.0000	4.6	1.0037180	0.9201420		-8.3	50	
Di-n-Butylphthalate	A	5.0000	4.6	1.5293860	1.4178820		-7.3	50	
Fluoranthene	A	5.0000	4.1	1.5927680	1.2993120		-18.4	50	
Pyrene	A	5.0000	4.0	1.6599440	1.3235740		-20.3	50	
Butylbenzylphthalate	A	5.0000	4.3	0.6573293	0.5668449		-13.8	50	
Benzo(a)anthracene	A	5.0000	4.4	1.4562270	1.2704290		-12.8	50	
3,3'-Dichlorobenzidine	A	15.000	15.9	0.5109220	0.5425091		6.2	50	
Chrysene	A	5.0000	4.8	1.1695890	1.1238390		-3.9	50	
bis(2-Ethylhexyl)phthalate	A	5.0000	5.5	0.4166951	0.4557784		9.4	50	
Di-n-Octylphthalate	A	5.0000	4.8	0.8710232	0.8407600		-3.5	50	
Benzofluoranthenes, Total	A	10.000	8.7	1.3493830	1.1786160		-12.7	50	
Benzo(a)pyrene	A	5.0000	4.0	1.4110800	1.1259340		-20.2	50	
Indeno(1,2,3-cd)pyrene	A	5.0000	4.6	1.3866980	1.2642300		-8.8	50	
Dibenzo(a,h)anthracene	A	5.0000	4.9	1.1194120	1.0881920		-2.8	50	
Benzo(g,h,i)perylene	A	5.0000	4.4	1.2342060	1.0965940		-11.1	50	
1-Methylnaphthalene	A	5.0000	5.2	0.8299272	0.8676645		4.5	50	
2-Fluorophenol	A	7.5000	5.82	1.3703370	1.0631570		-22.4	50	
Phenol-d5	A	7.5000	5.04	1.8109650	1.2173840		-32.8	50	

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070516.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-CCV1	Injection Time:	20:29
Sequence Name:	Continuing Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
2-Chlorophenol-d4	A	7.5000	6.48	1.4120680	1.2194220		-13.6	50	
1,2-Dichlorobenzene-d4	A	5.0000	4.37	0.9980763	0.8723435		-12.6	50	
Nitrobenzene-d5	A	5.0000	5.28	0.3993507	0.4220494		5.7	50	
2-Fluorobiphenyl	A	5.0000	5.10	1.7647260	1.7985210		1.9	50	
2,4,6-Tribromophenol	A	7.5000	12.4	0.2161010	0.3582915		65.8	50	*
p-Terphenyl-d14	A	5.0000	4.71	1.0492840	0.9894064		-5.7	50	

* Values outside of QC limits

* Values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

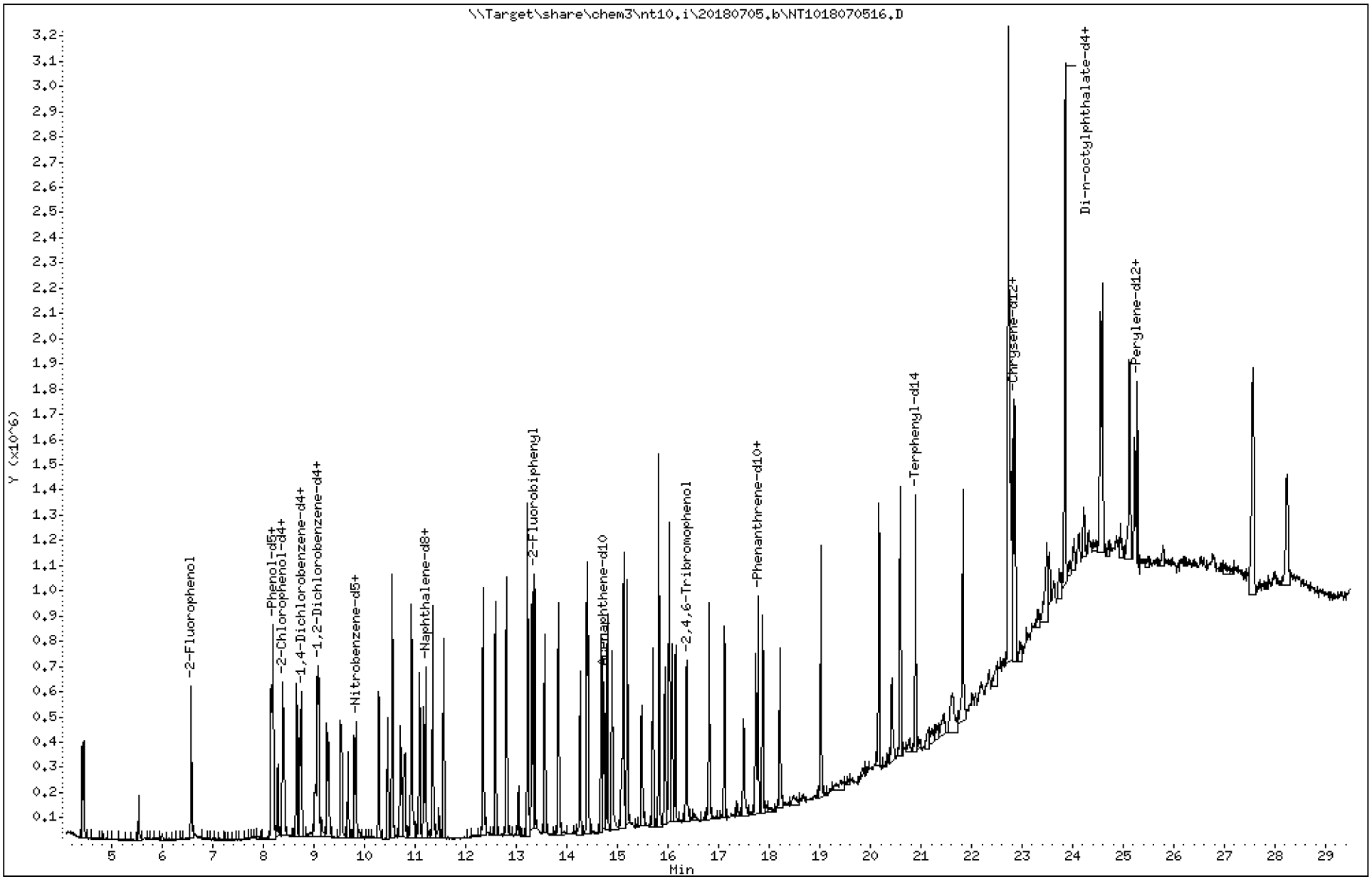
Instrument: nt10.i

Sample Info: SGG0051-CCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

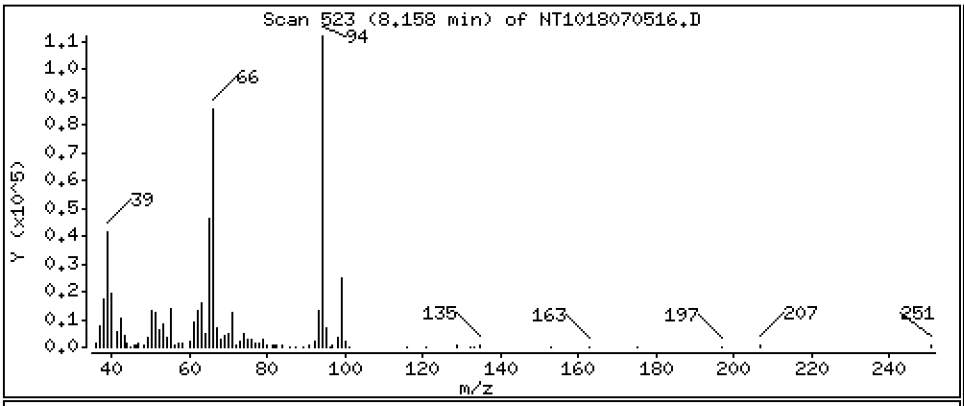
Operator: YZ

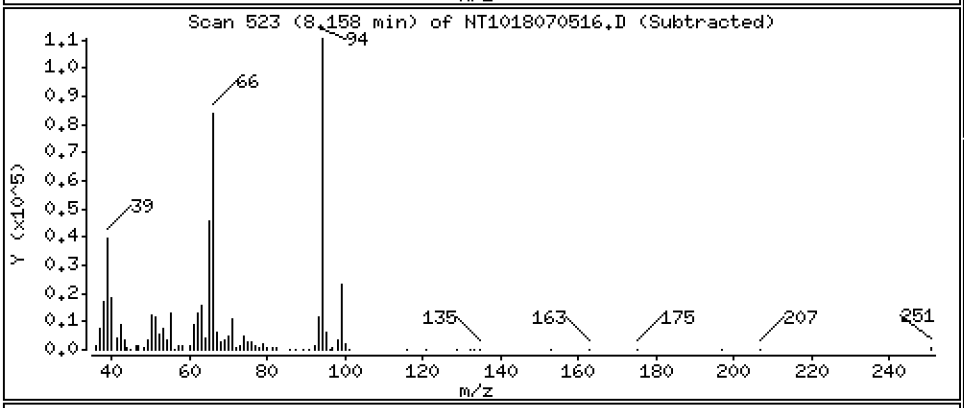
Column phase: ZB-5msi

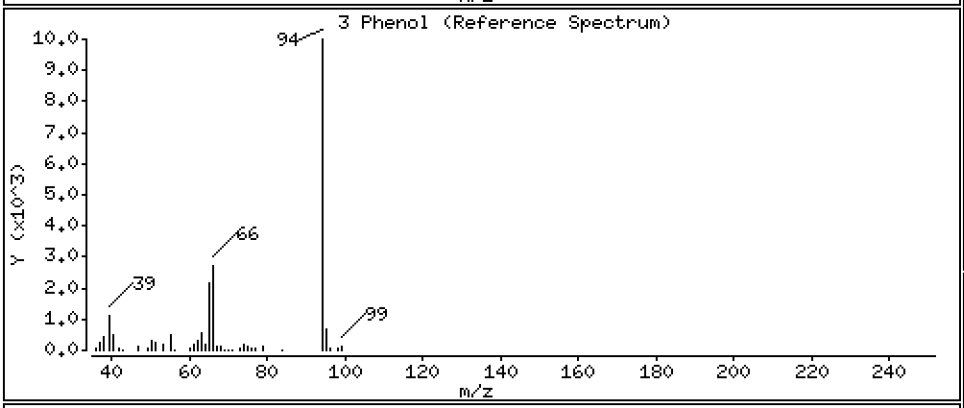
Column diameter: 0.25

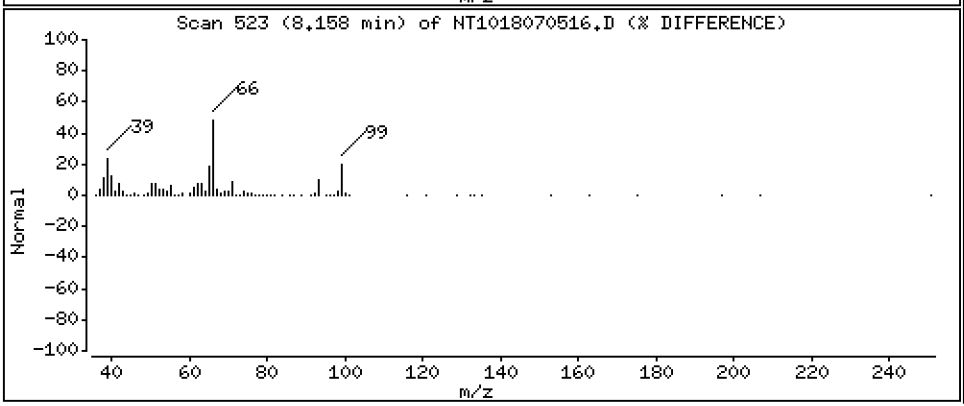
3 Phenol

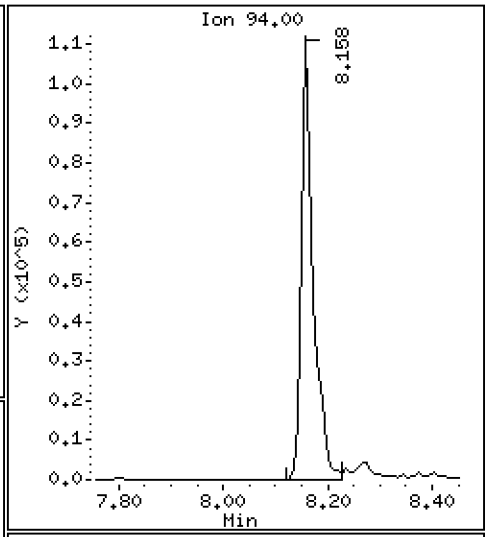
Concentration: 3.974 ug/mL

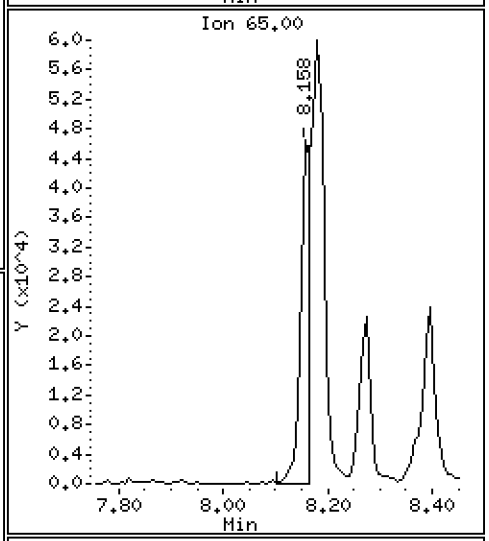


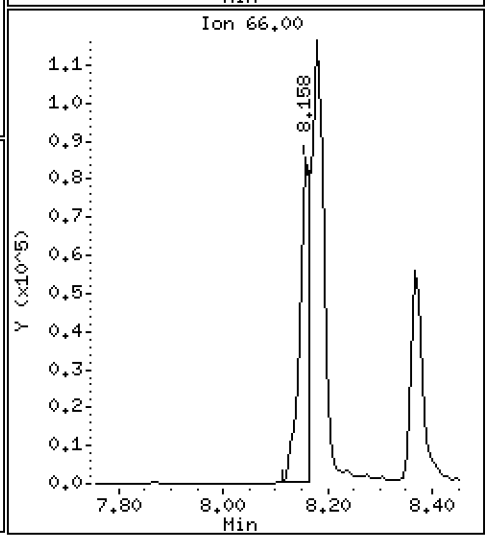












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

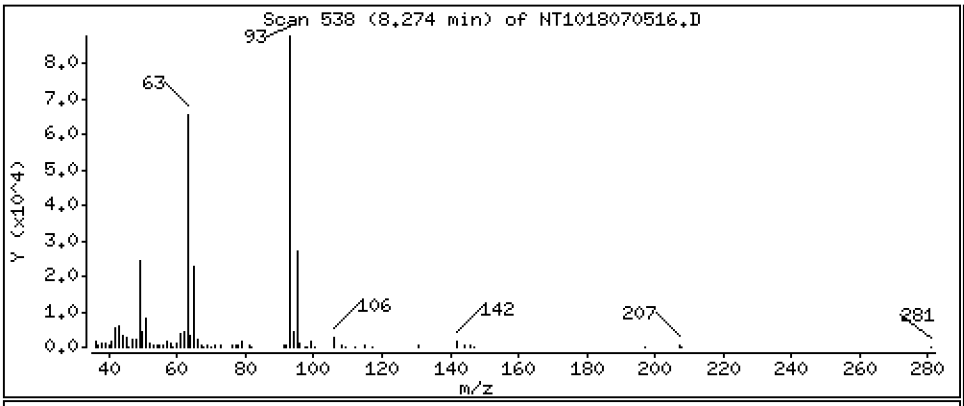
Operator: YZ

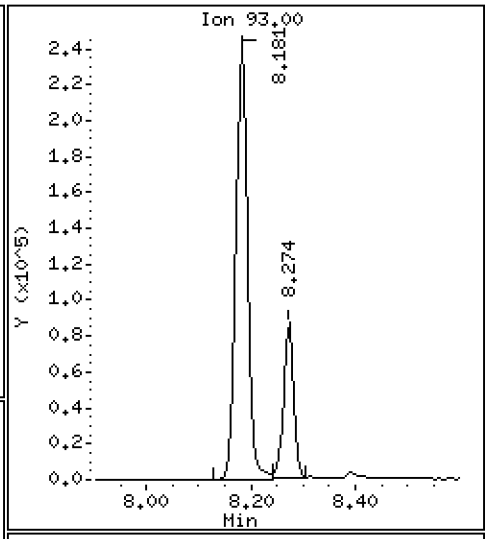
Column phase: ZB-5msi

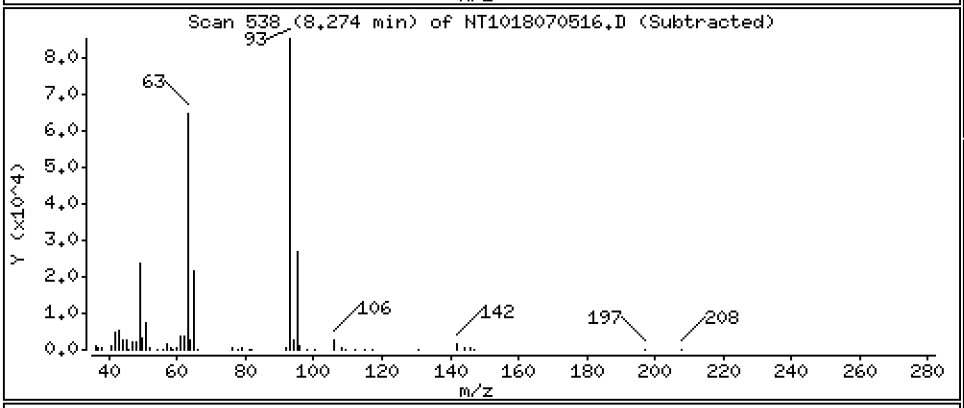
Column diameter: 0.25

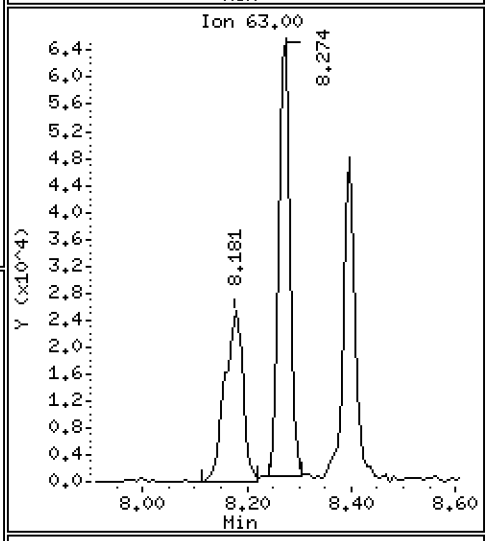
4 Bis(2-Chloroethyl)ether

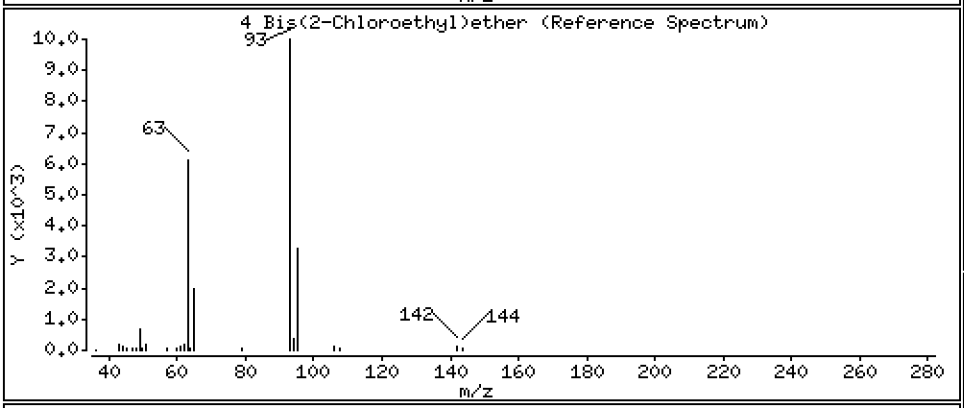
Concentration: 3.412 ug/mL

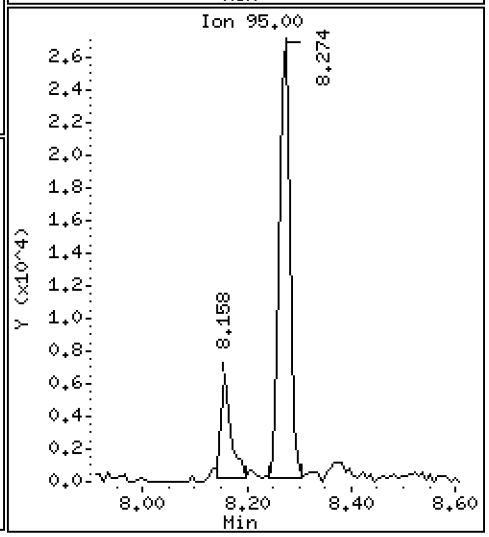


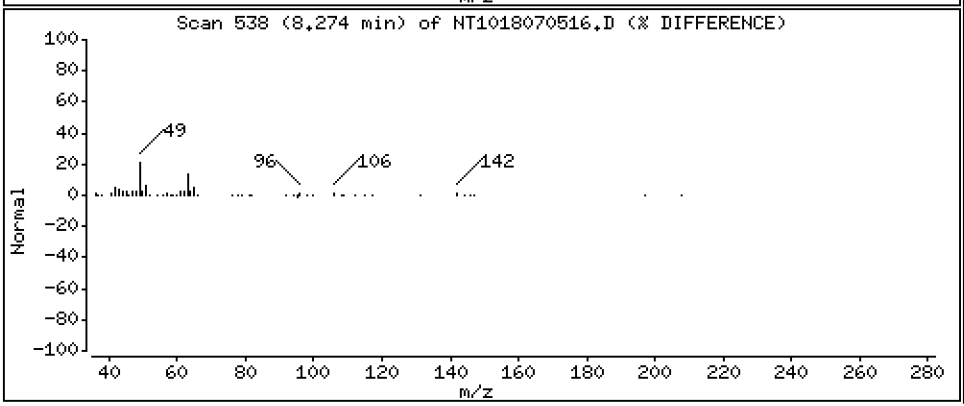












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

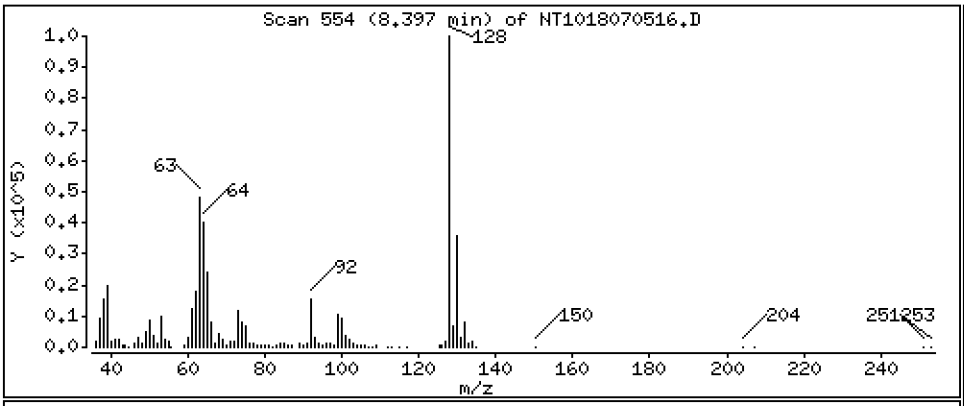
Operator: YZ

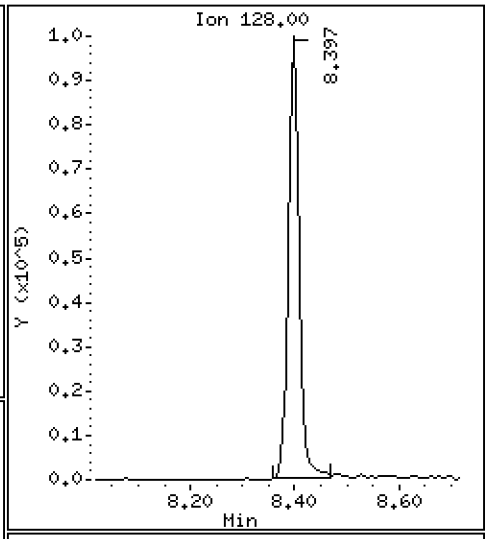
Column phase: ZB-5msi

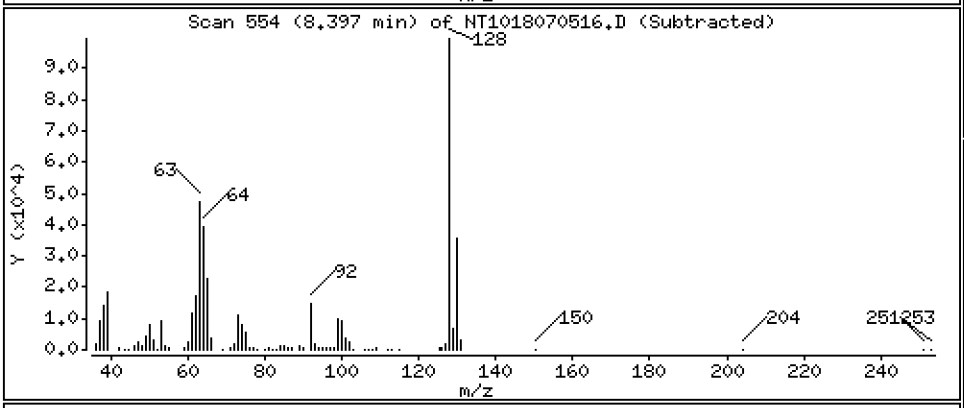
Column diameter: 0.25

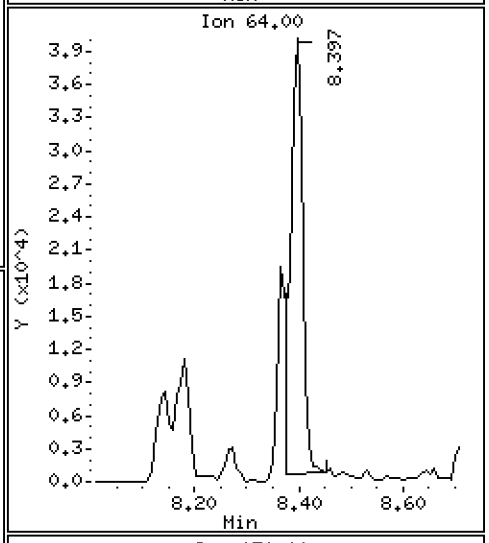
6 2-Chlorophenol

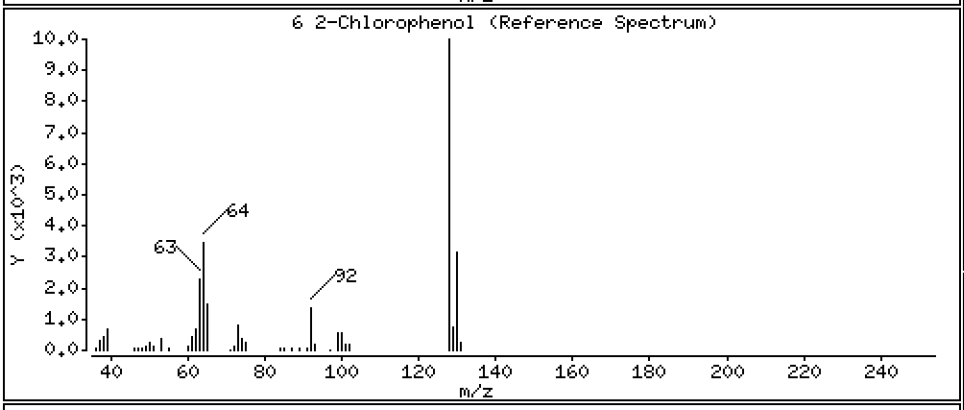
Concentration: 4.015 ug/mL

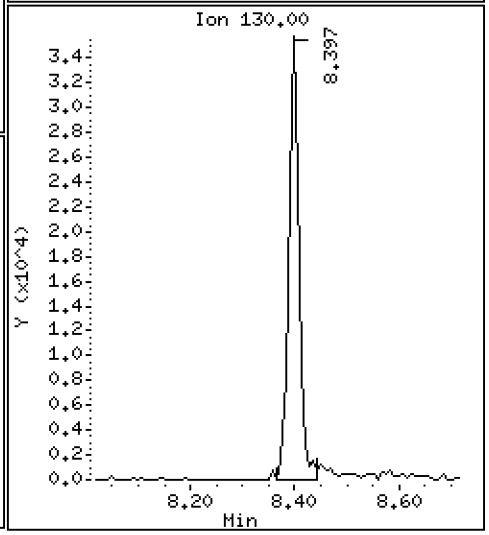


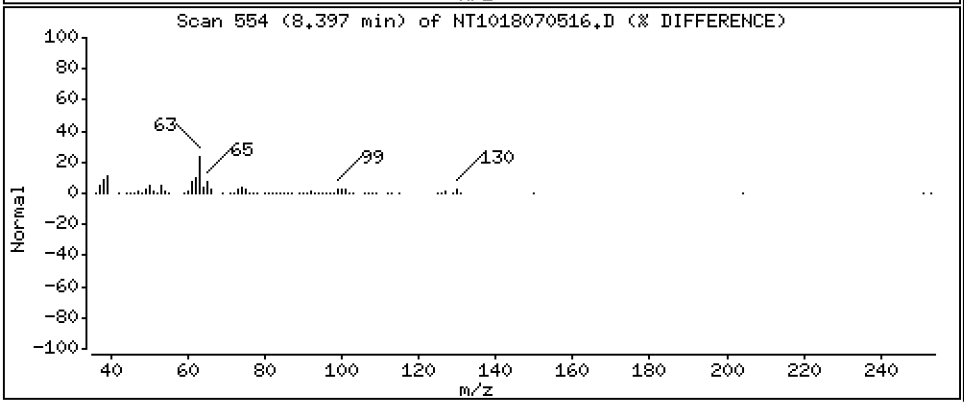












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

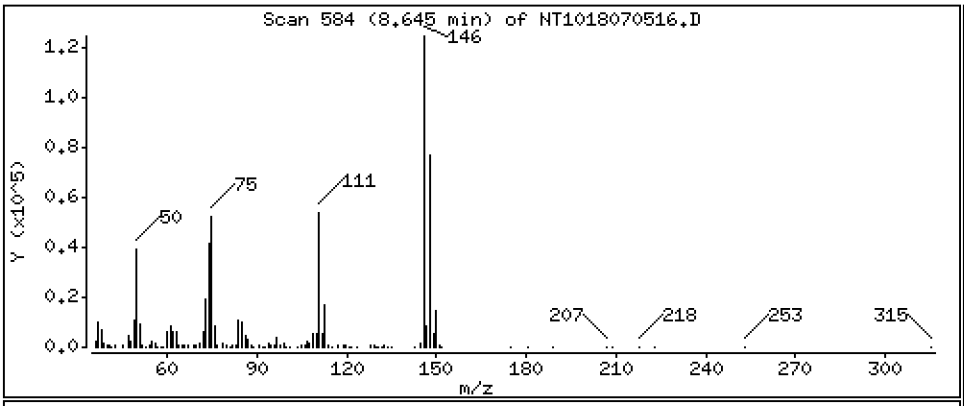
Operator: YZ

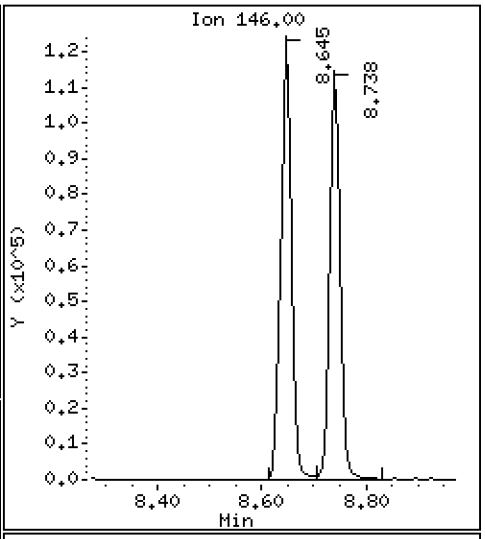
Column phase: ZB-5msi

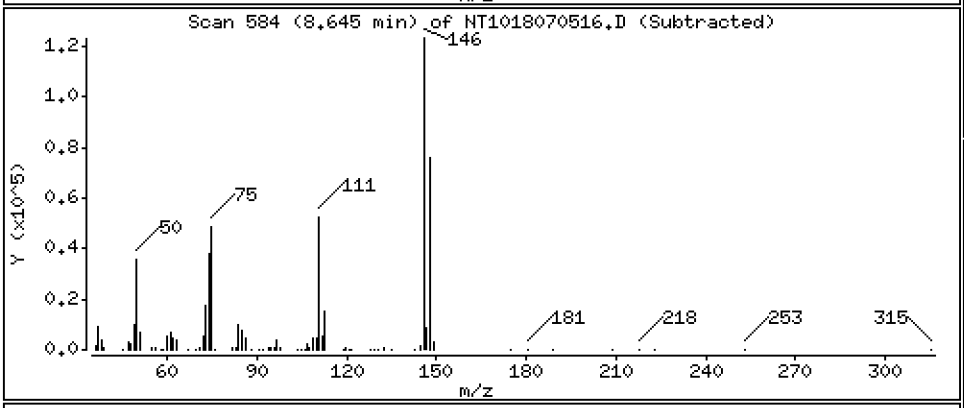
Column diameter: 0.25

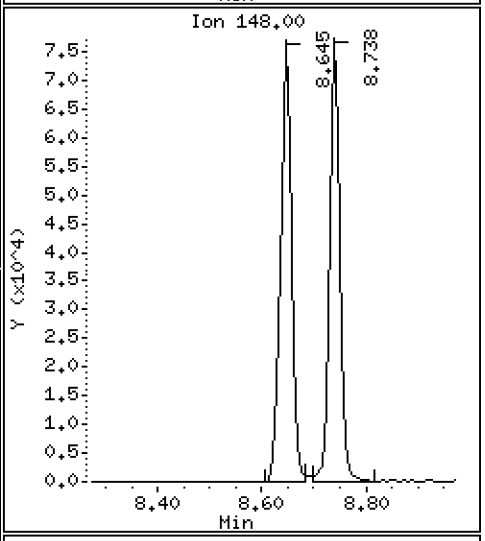
7 1,3-Dichlorobenzene

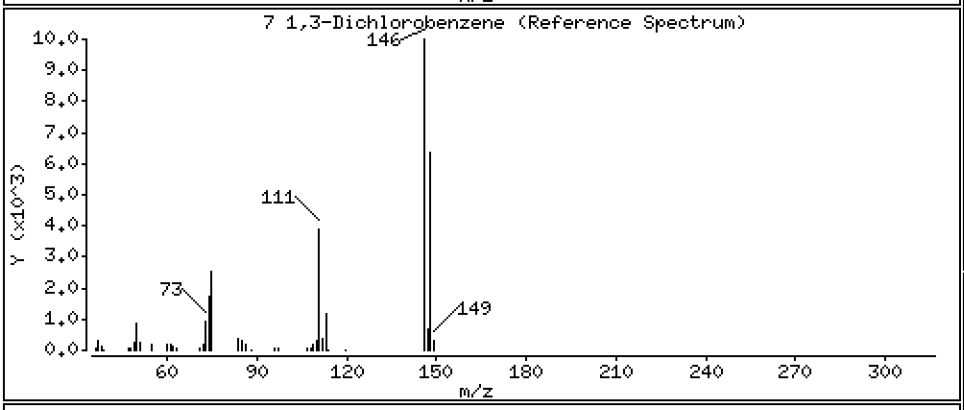
Concentration: 4.719 ug/mL

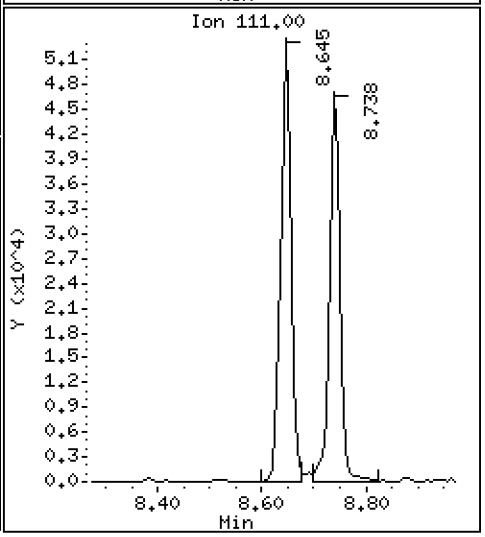


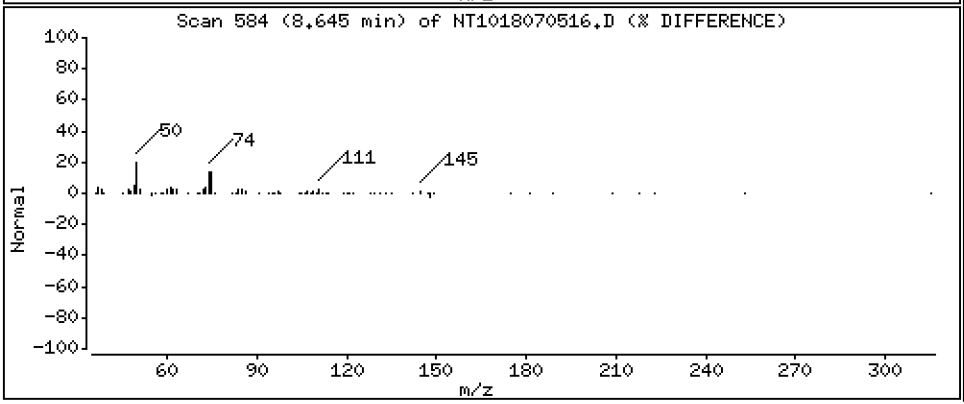












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

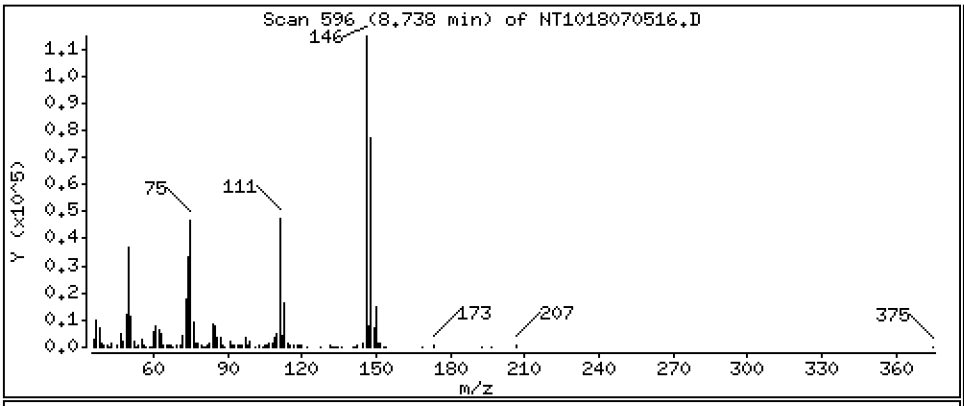
Operator: YZ

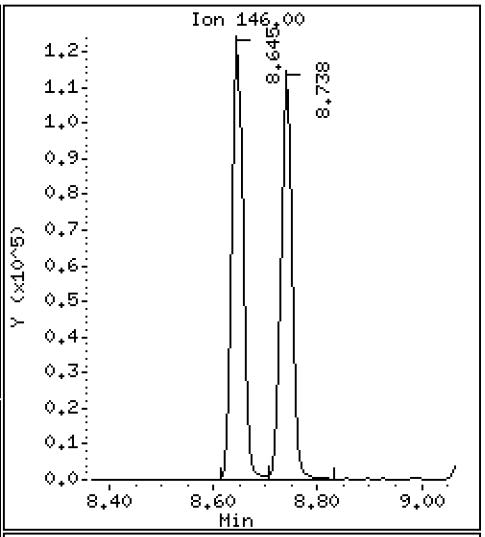
Column phase: ZB-5msi

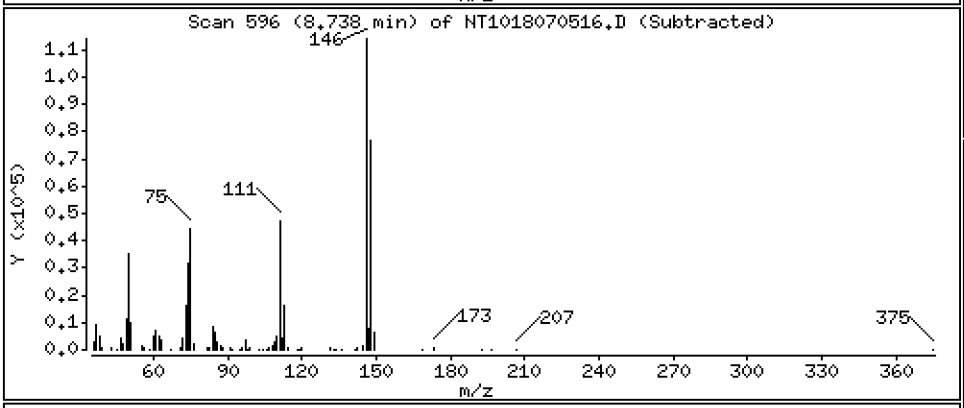
Column diameter: 0.25

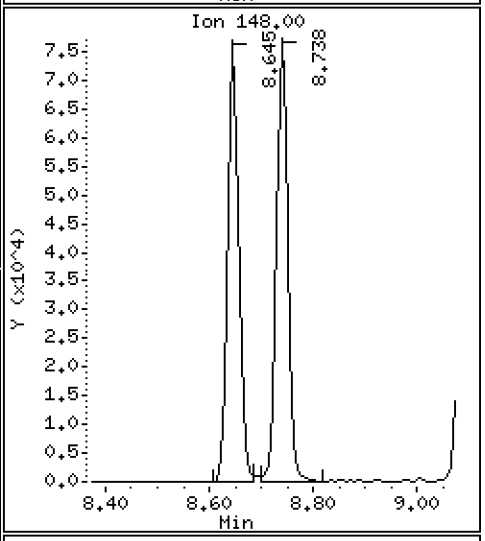
9 1,4-Dichlorobenzene

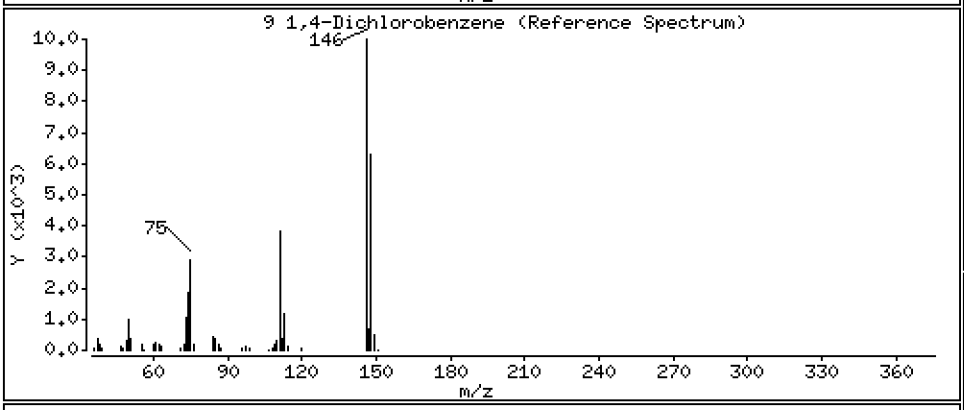
Concentration: 5.752 ug/mL

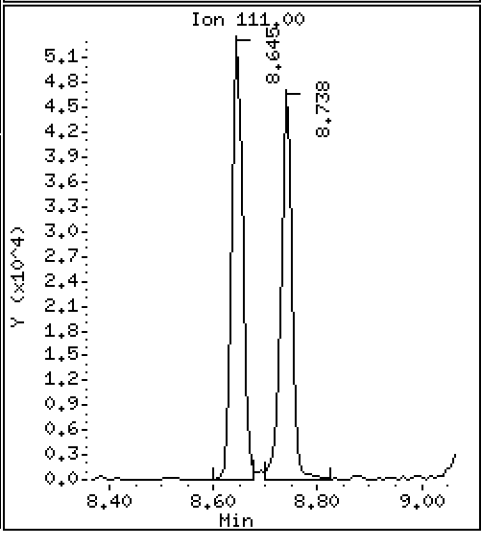


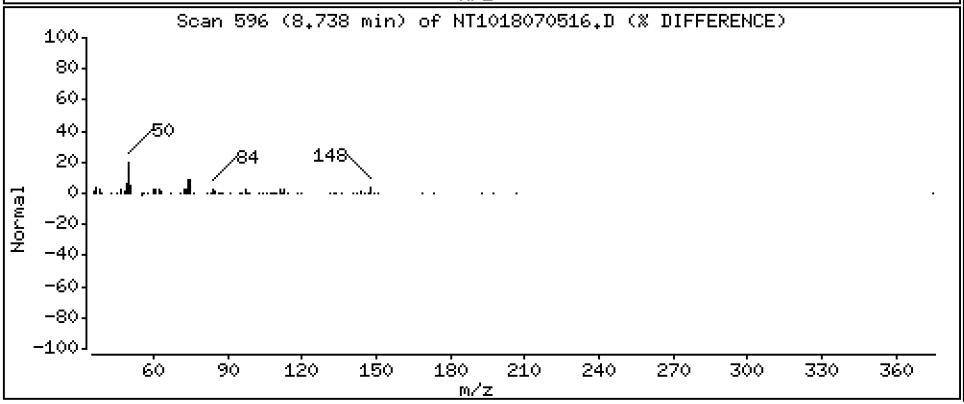












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

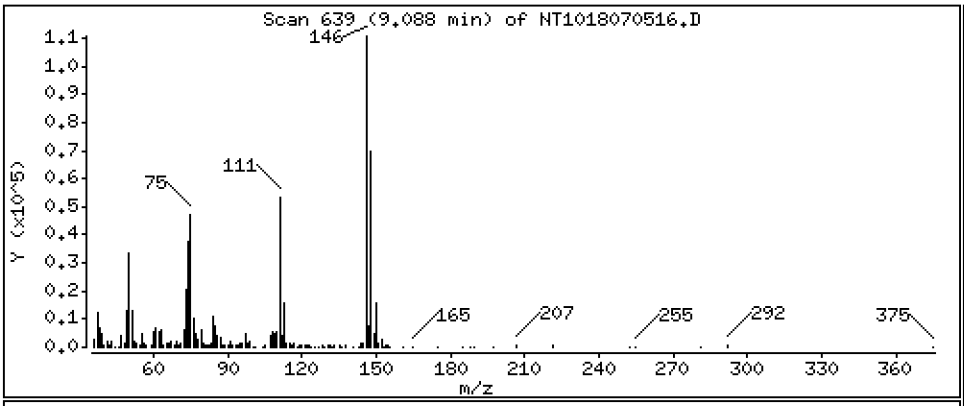
Operator: YZ

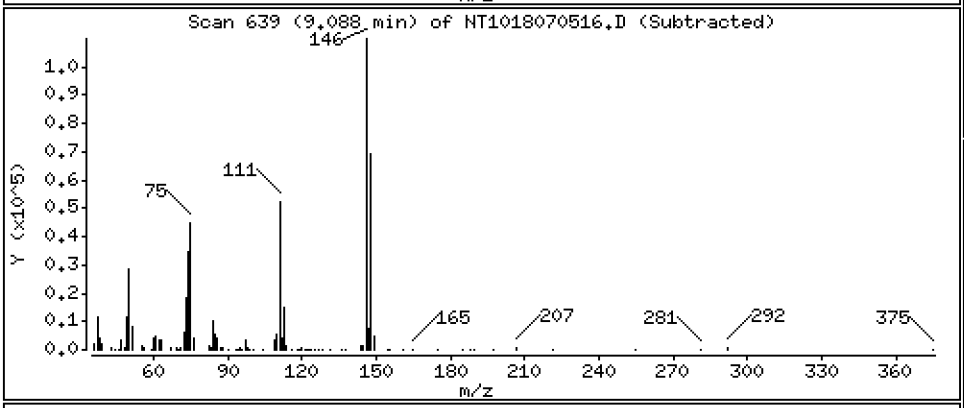
Column phase: ZB-5msi

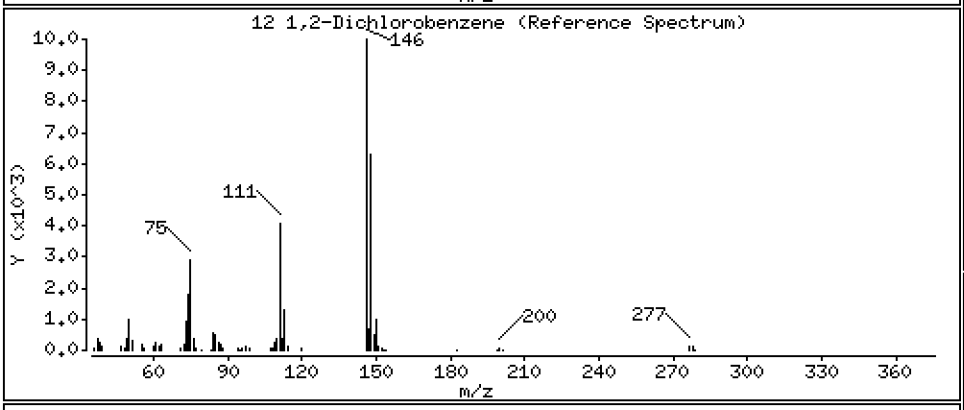
Column diameter: 0.25

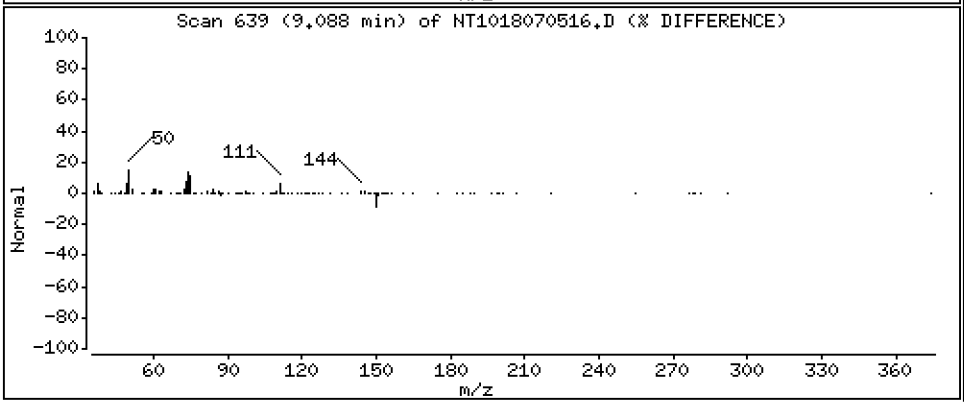
12 1,2-Dichlorobenzene

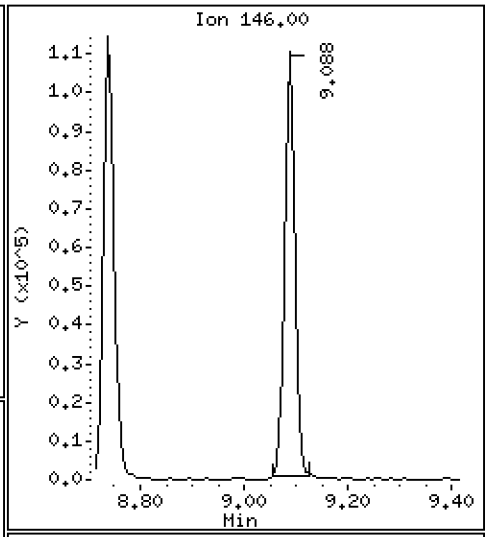
Concentration: 4.619 ug/mL

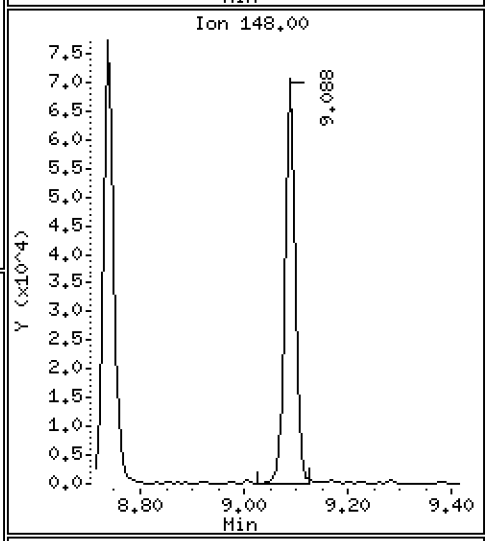


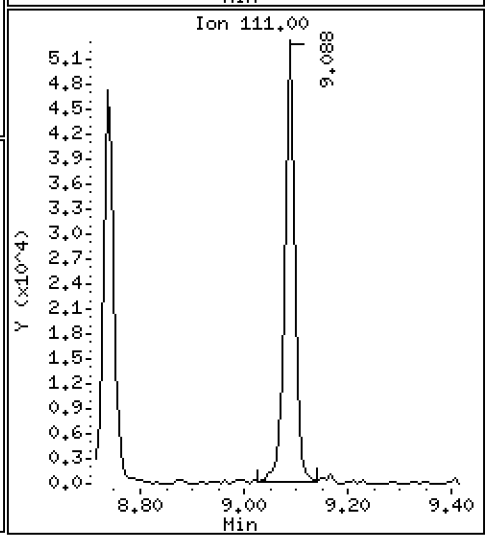












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

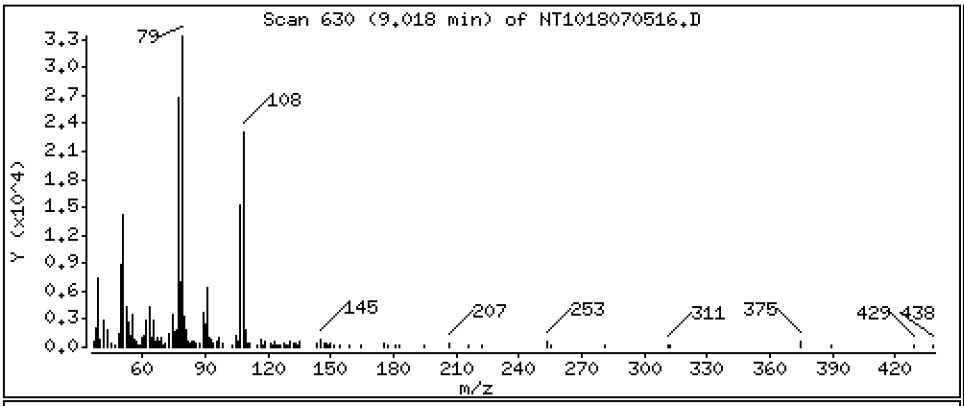
Operator: YZ

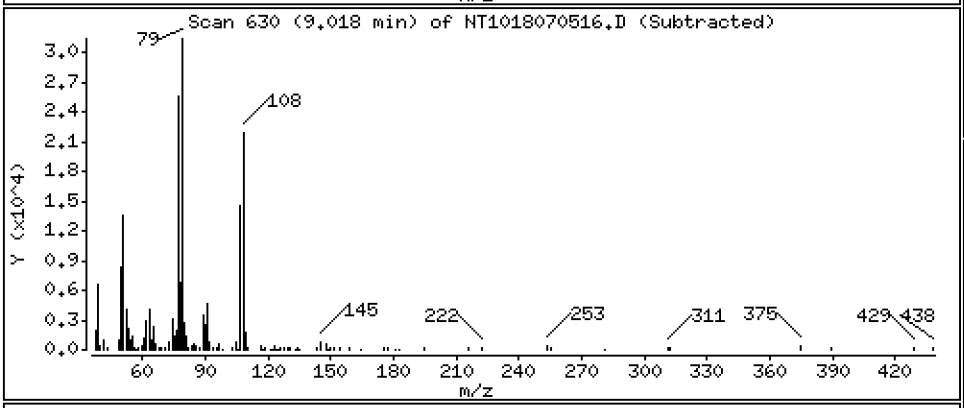
Column phase: ZB-5msi

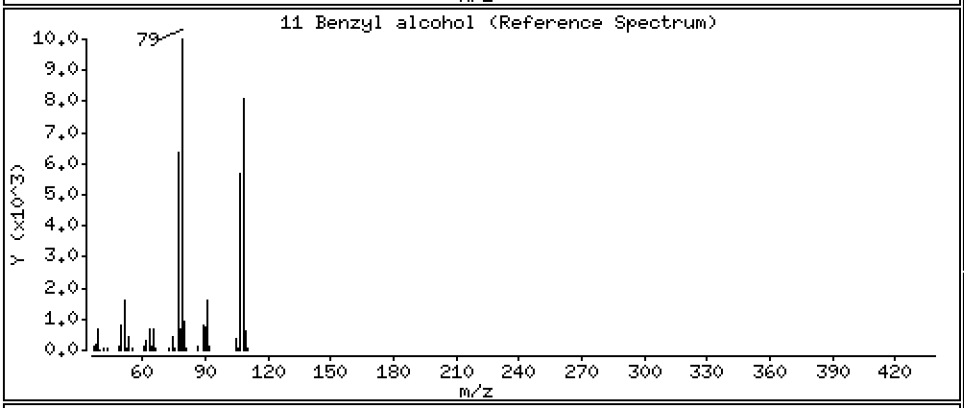
Column diameter: 0.25

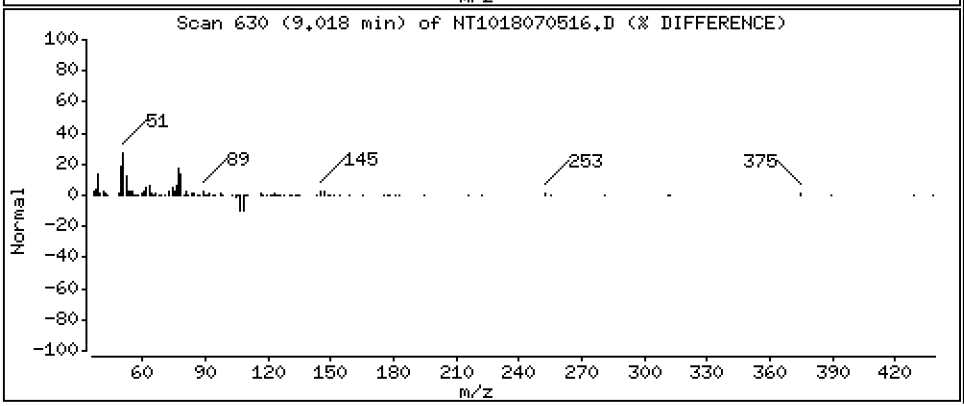
11 Benzyl alcohol

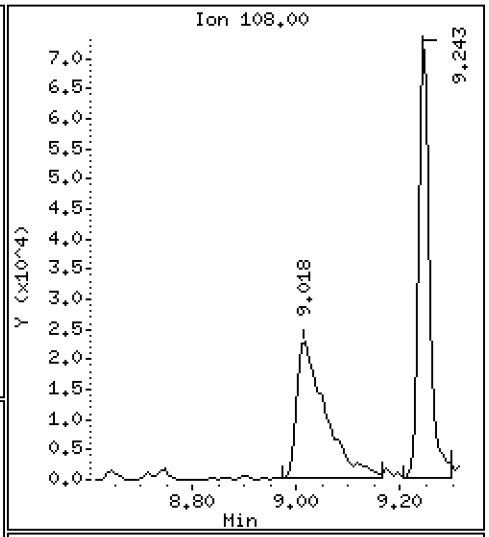
Concentration: 4.026 ug/mL

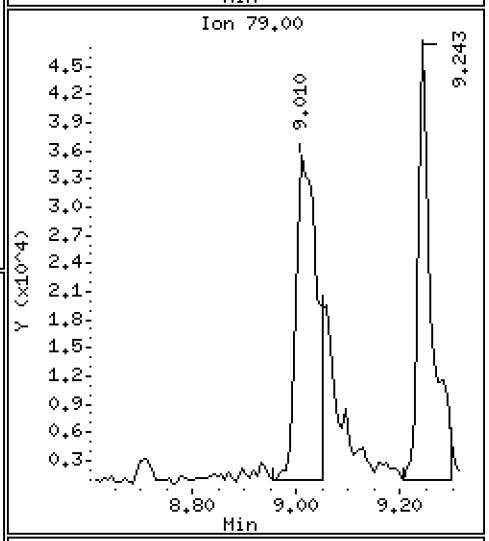


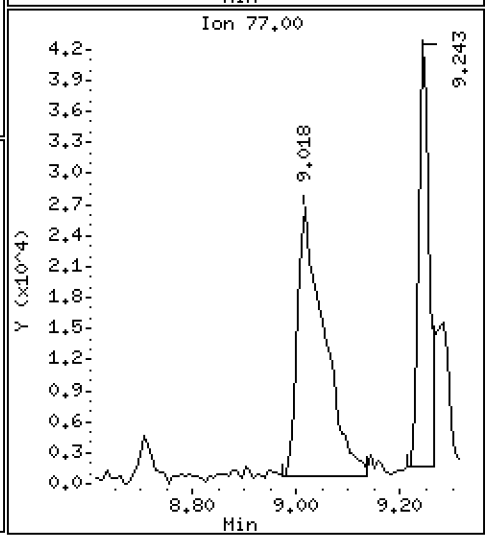












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

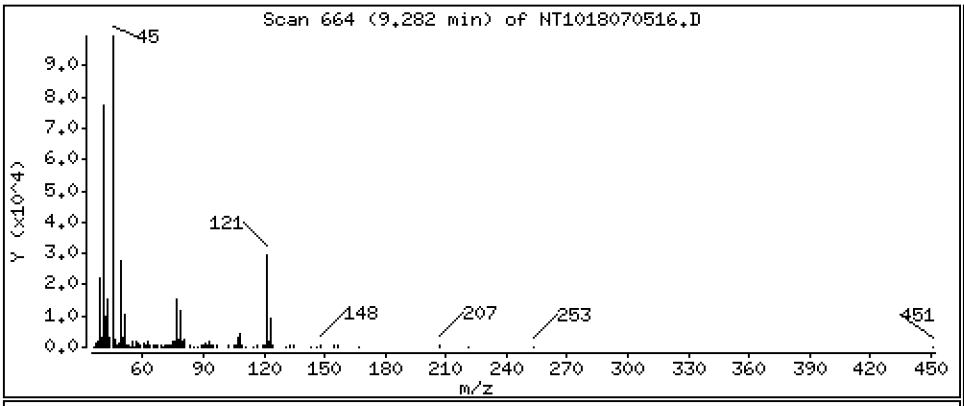
Operator: YZ

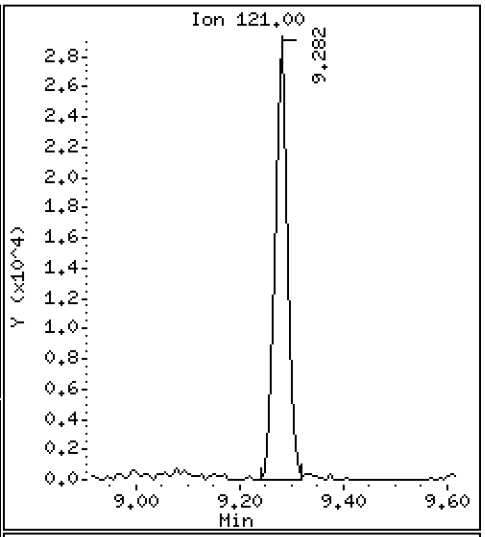
Column phase: ZB-5msi

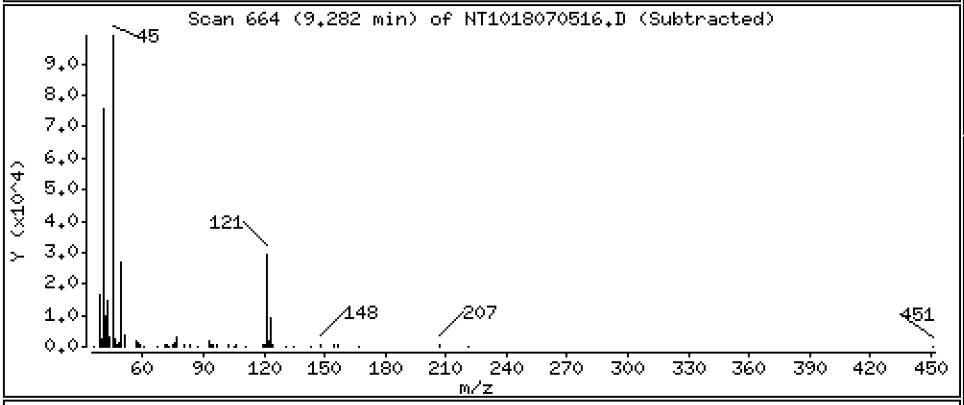
Column diameter: 0.25

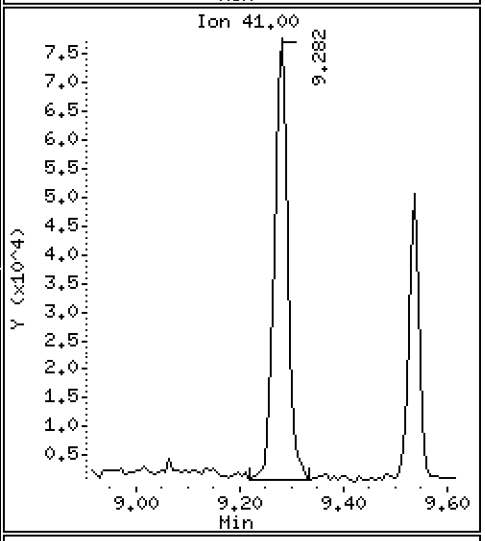
14 2,2'-oxybis(1-Chloropropane)

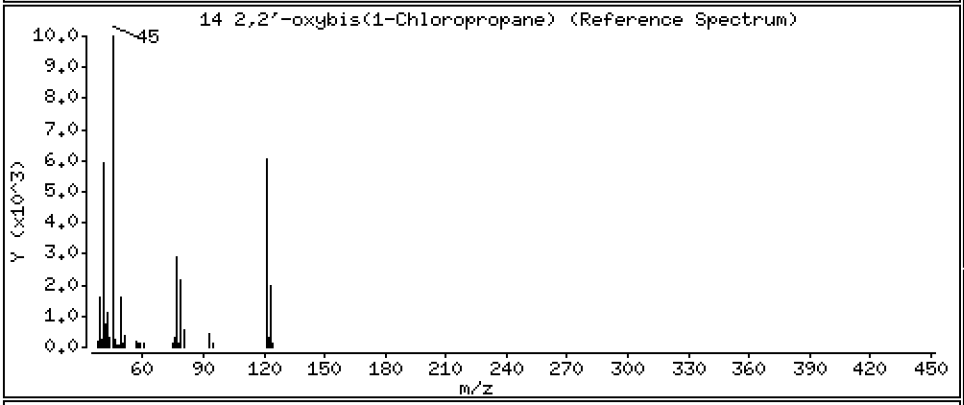
Concentration: 3.718 ug/mL

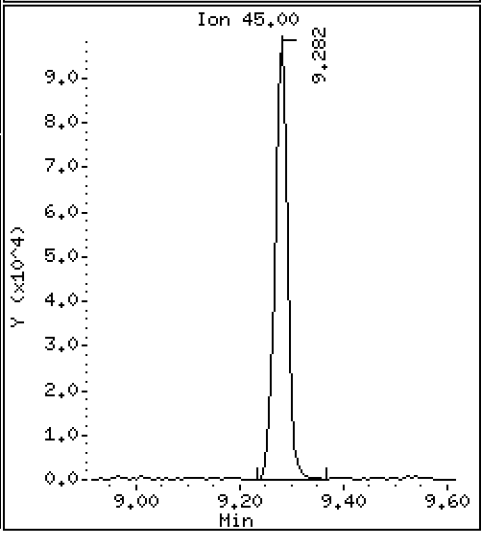


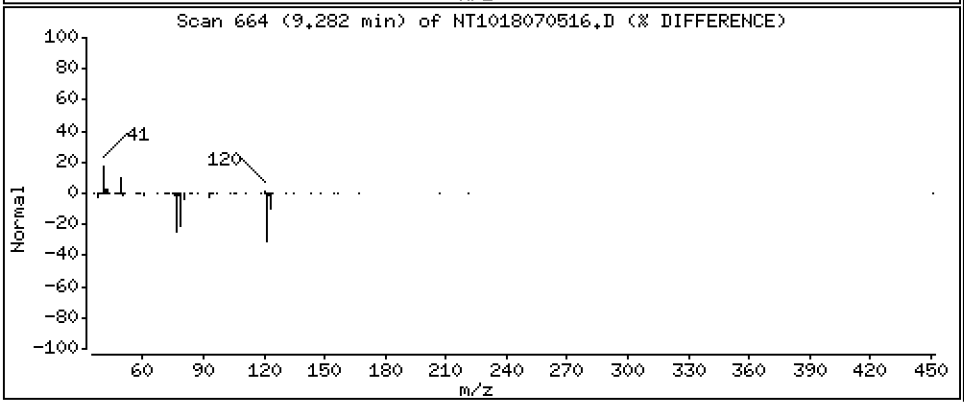












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

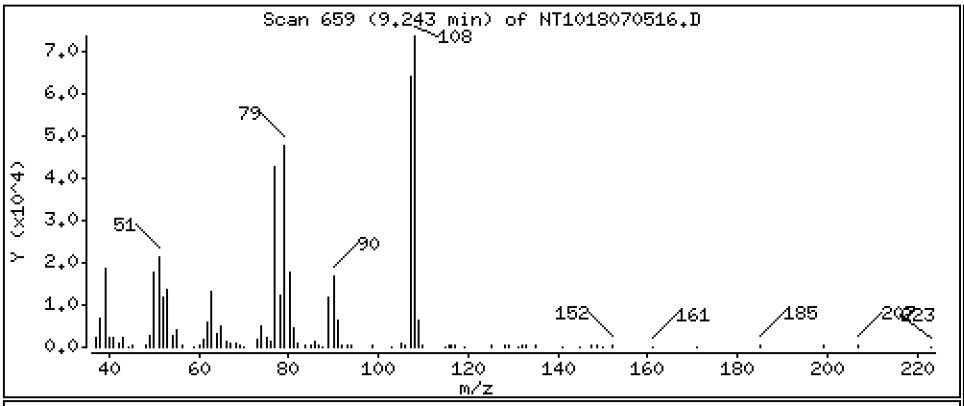
Operator: YZ

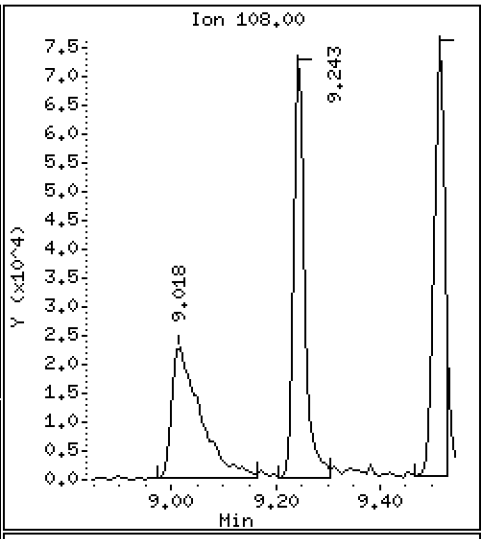
Column phase: ZB-5msi

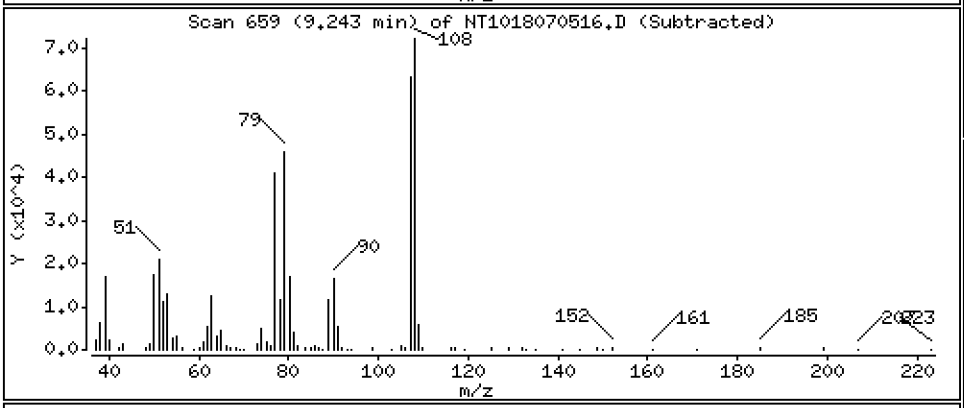
Column diameter: 0.25

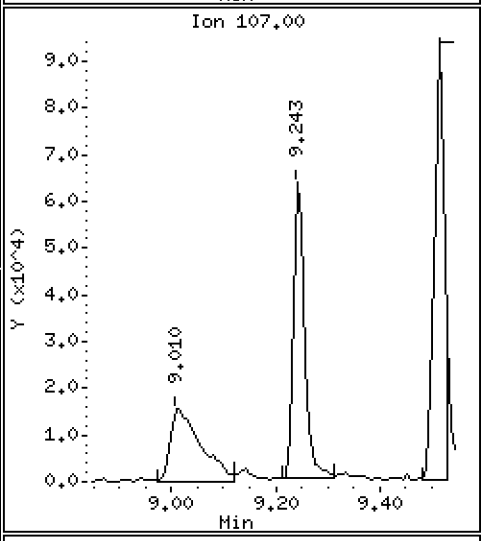
13 2-Methylphenol

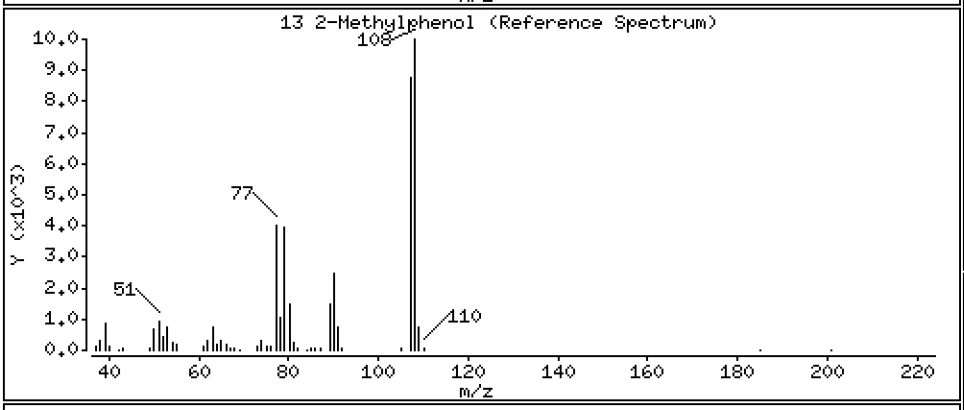
Concentration: 3.732 ug/mL

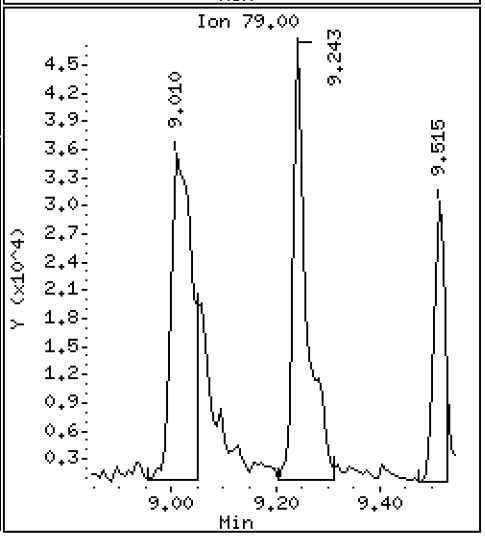


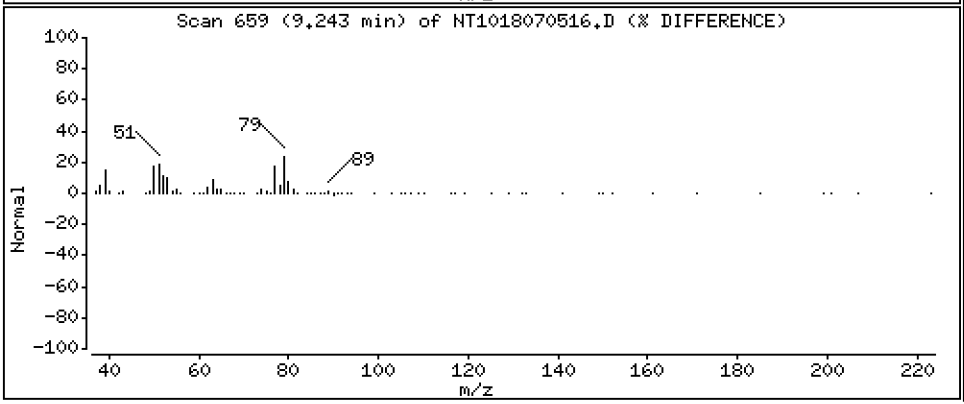












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

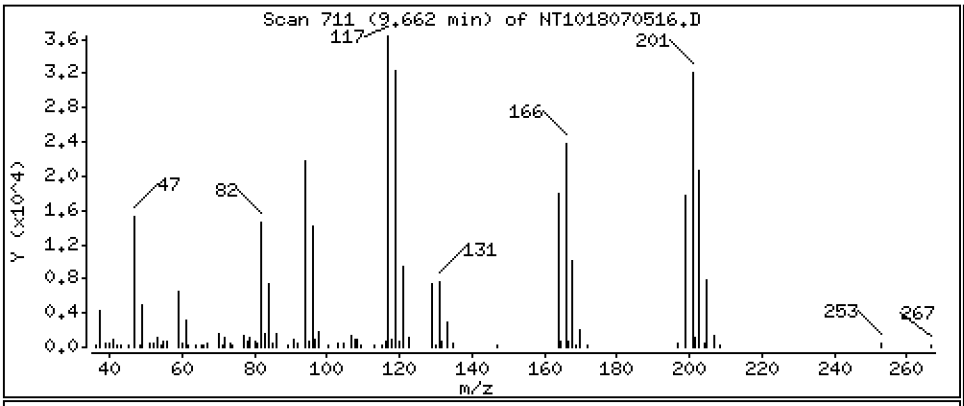
Operator: YZ

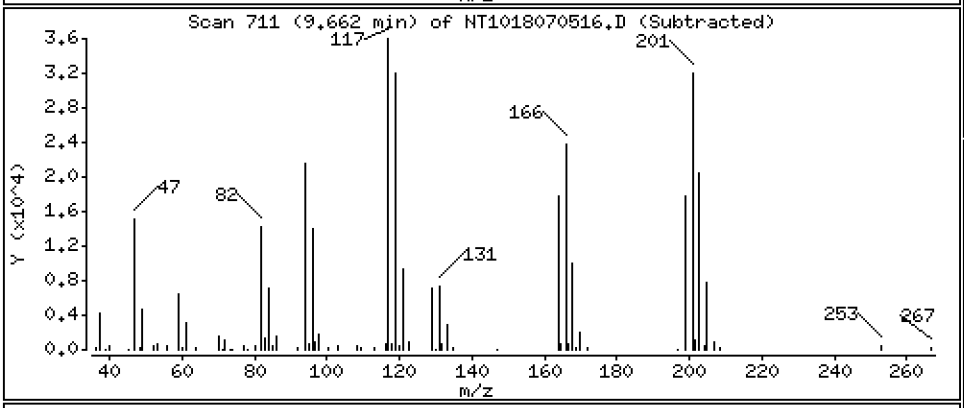
Column phase: ZB-5msi

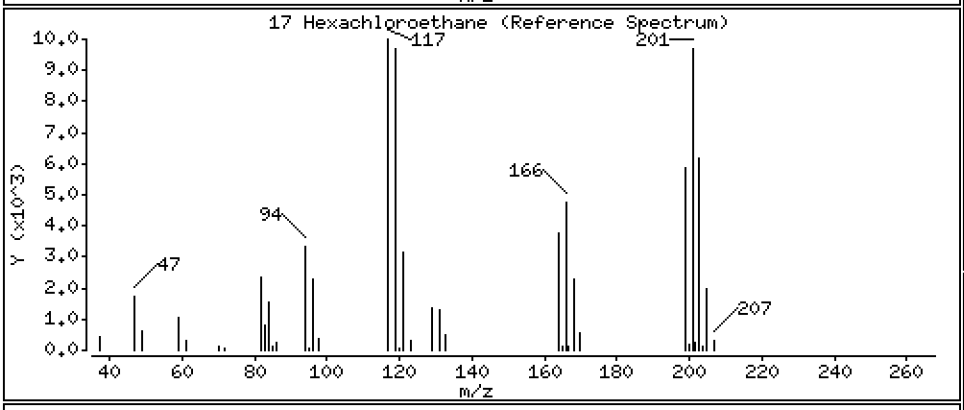
Column diameter: 0.25

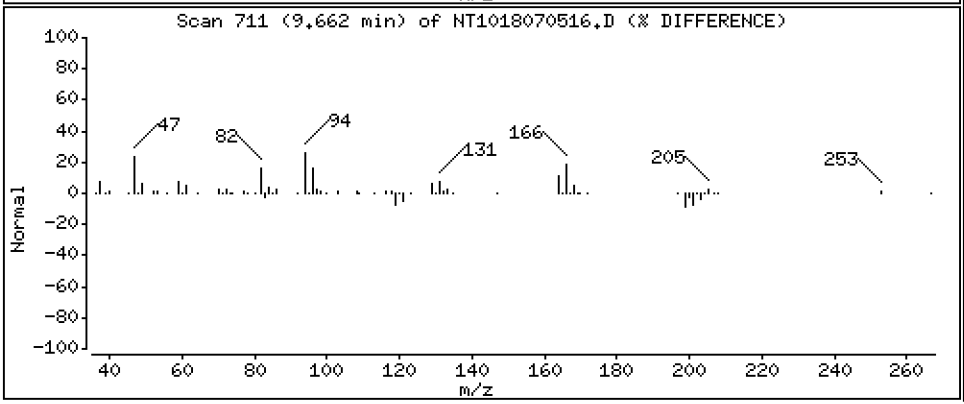
17 Hexachloroethane

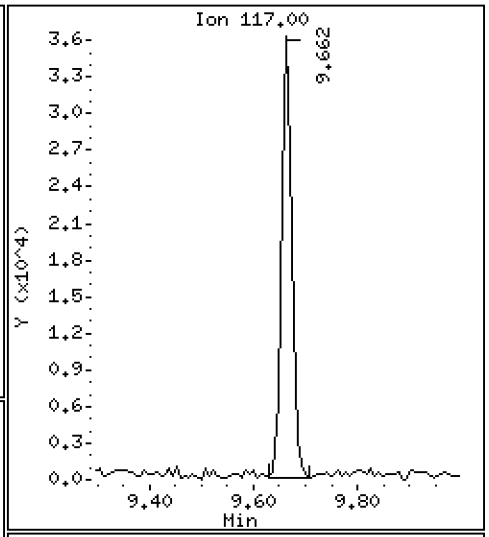
Concentration: 3.327 ug/mL

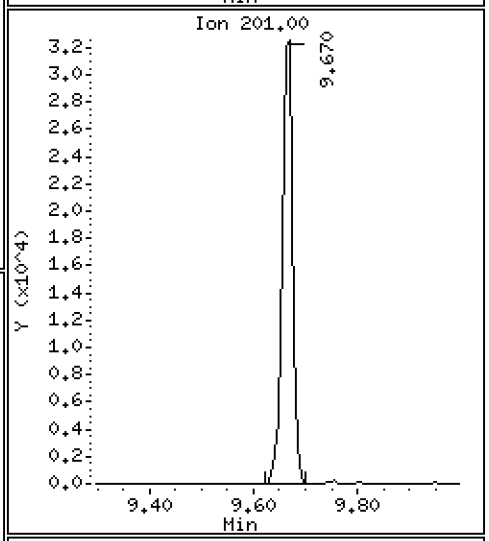


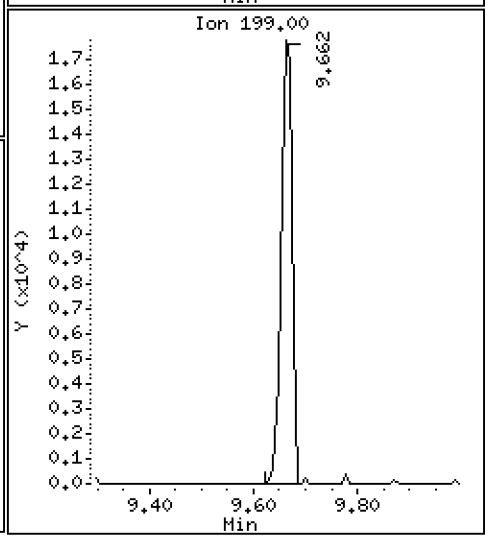












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

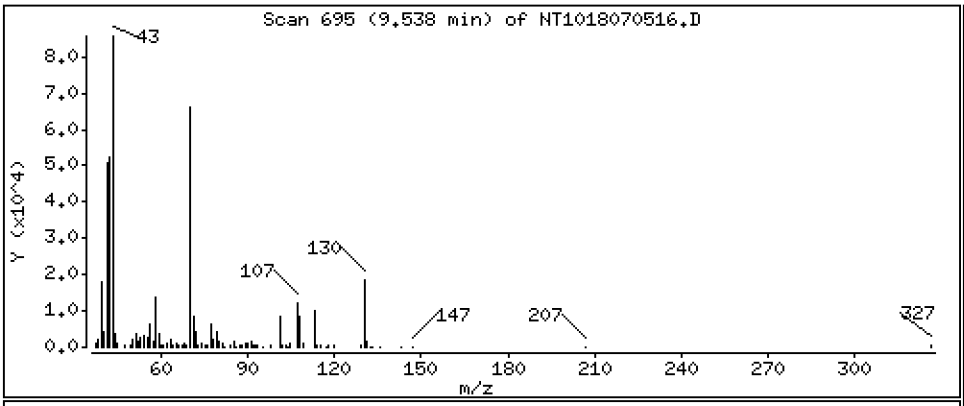
Operator: YZ

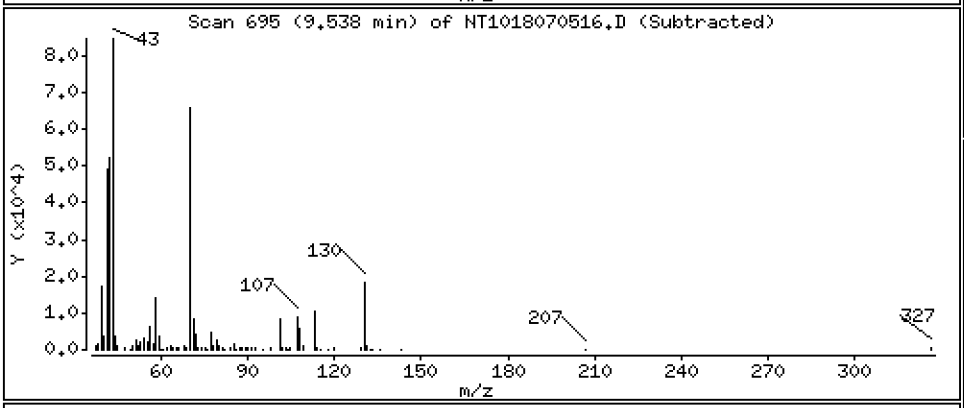
Column phase: ZB-5msi

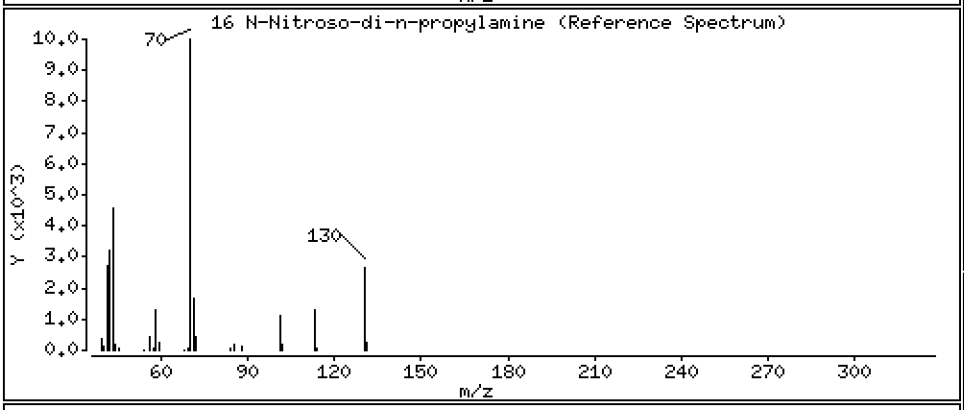
Column diameter: 0.25

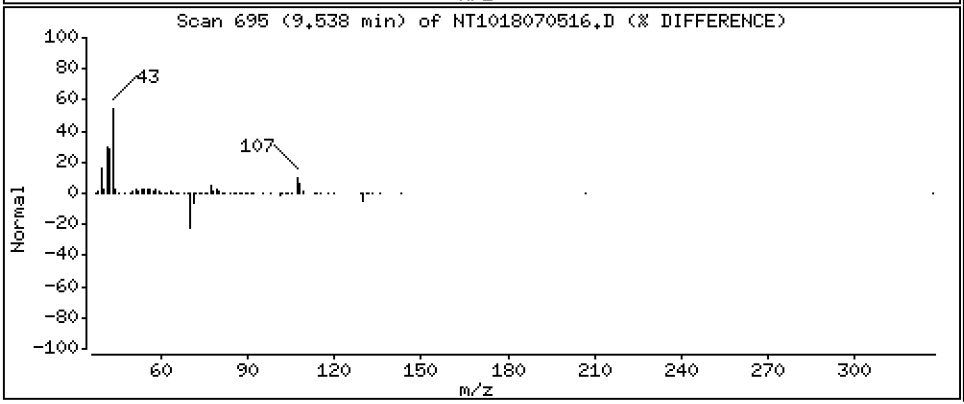
16 N-Nitroso-di-n-propylamine

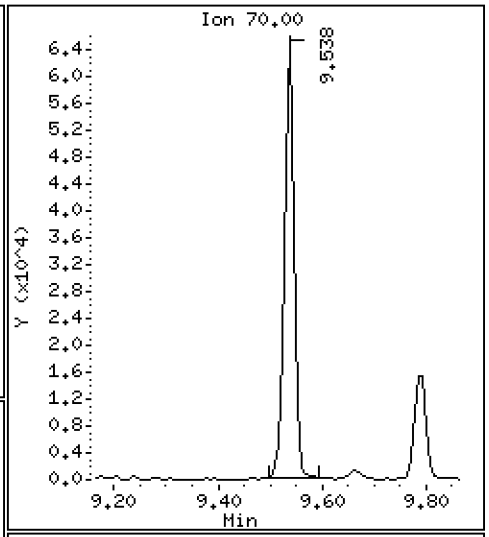
Concentration: 3.952 ug/mL

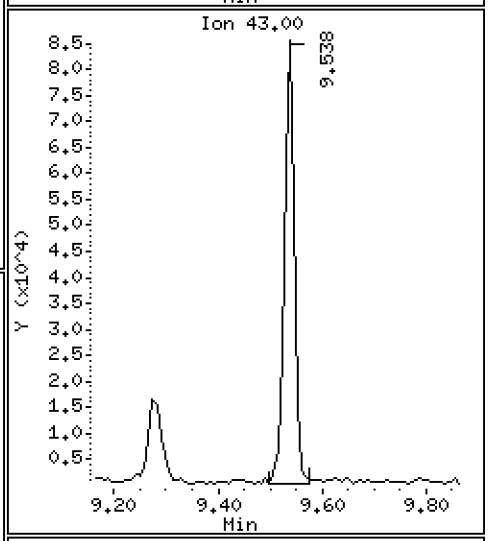


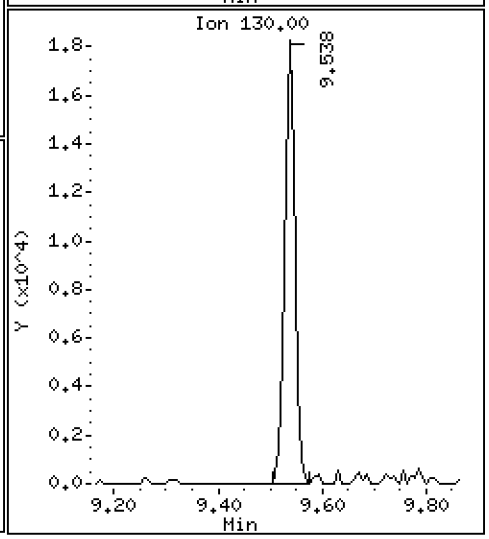












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

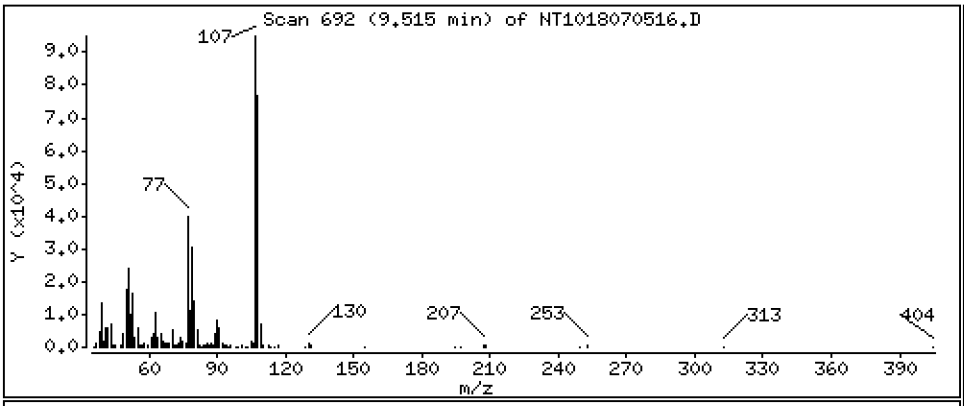
Operator: YZ

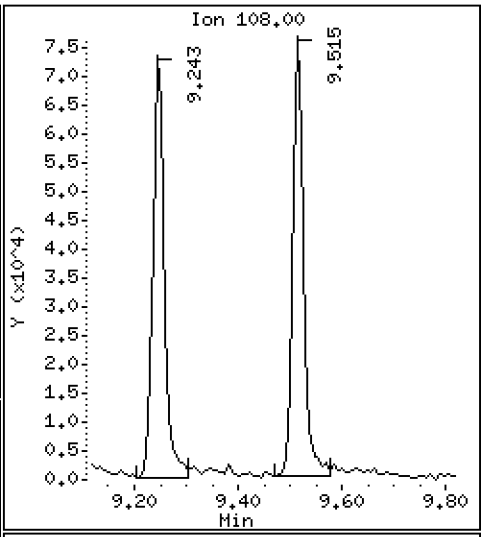
Column phase: ZB-5msi

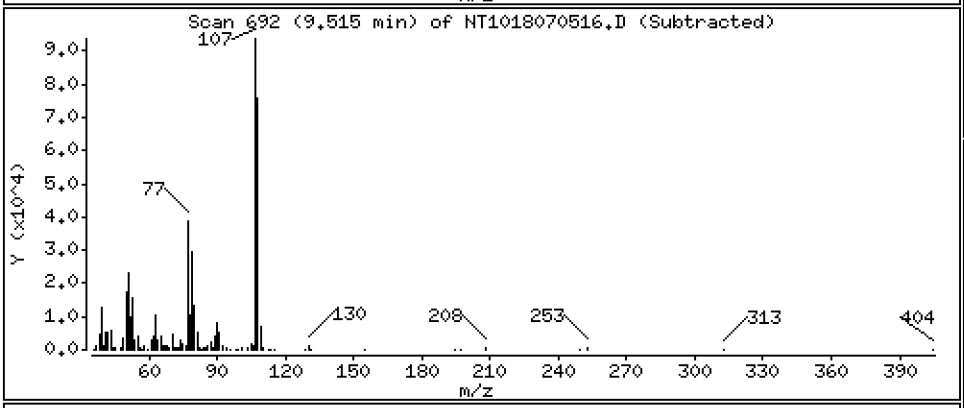
Column diameter: 0.25

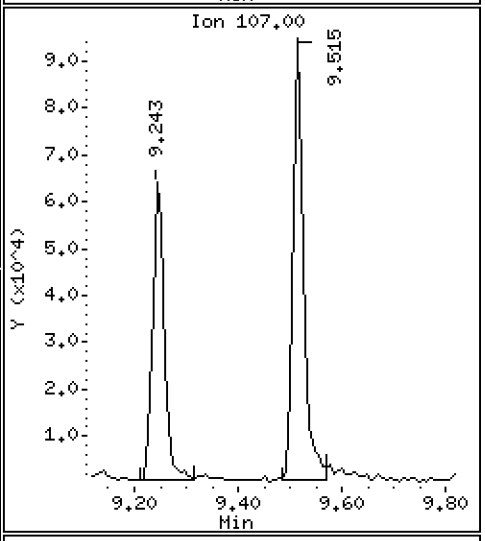
15 4-Methylphenol

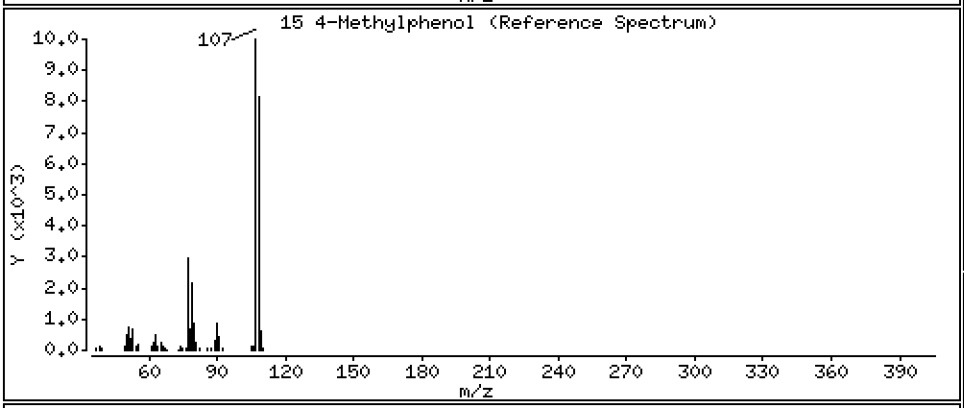
Concentration: 3.602 ug/mL

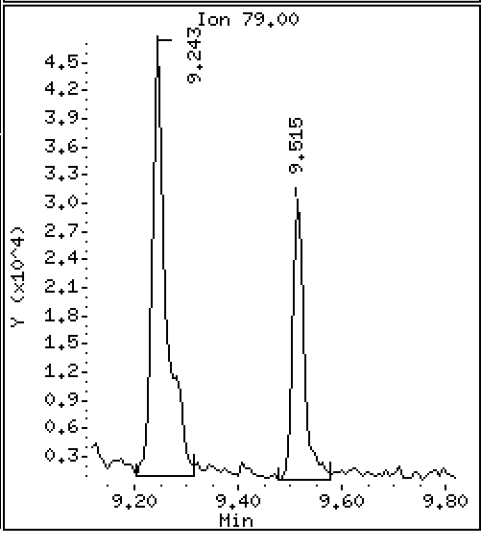


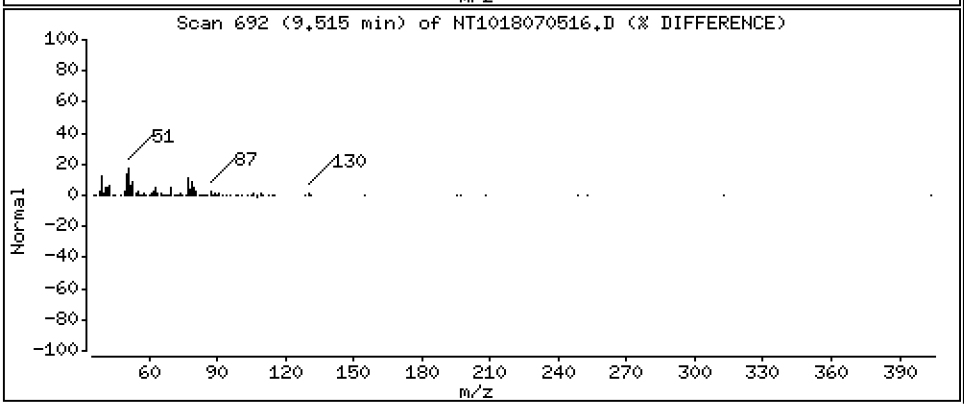












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

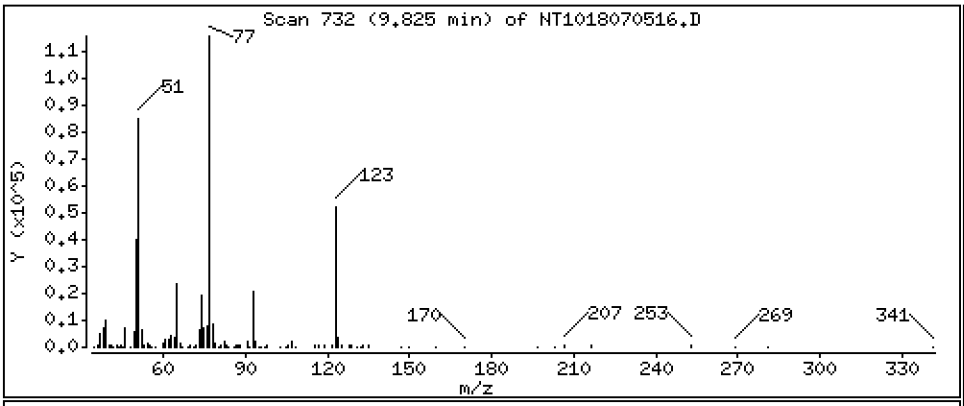
Operator: YZ

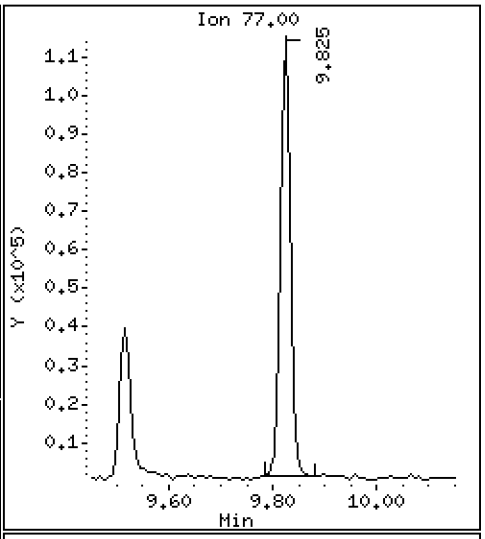
Column phase: ZB-5msi

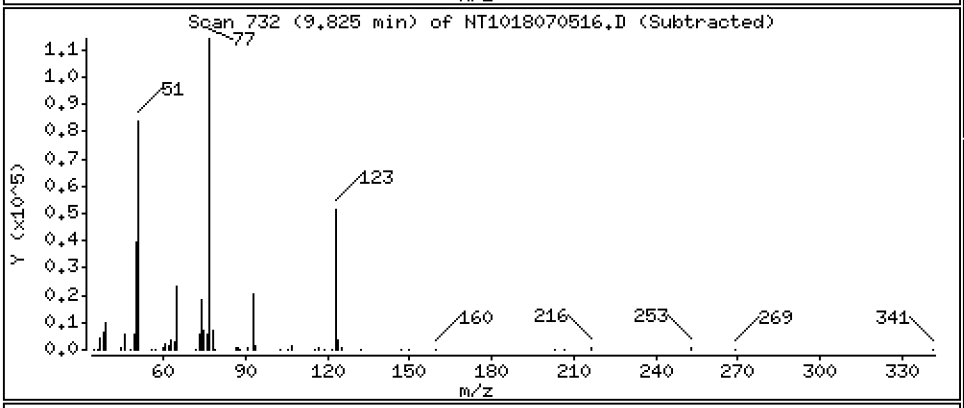
Column diameter: 0.25

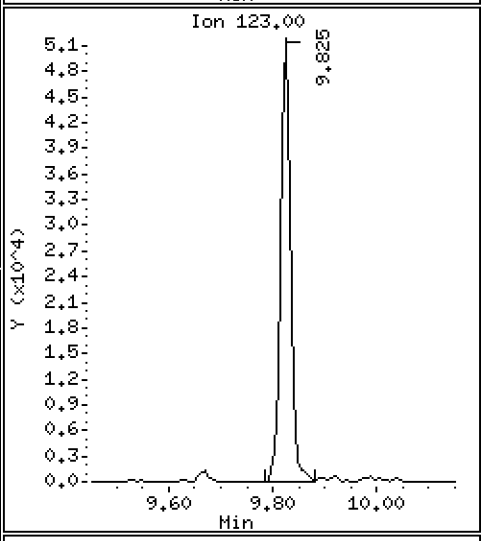
19 Nitrobenzene

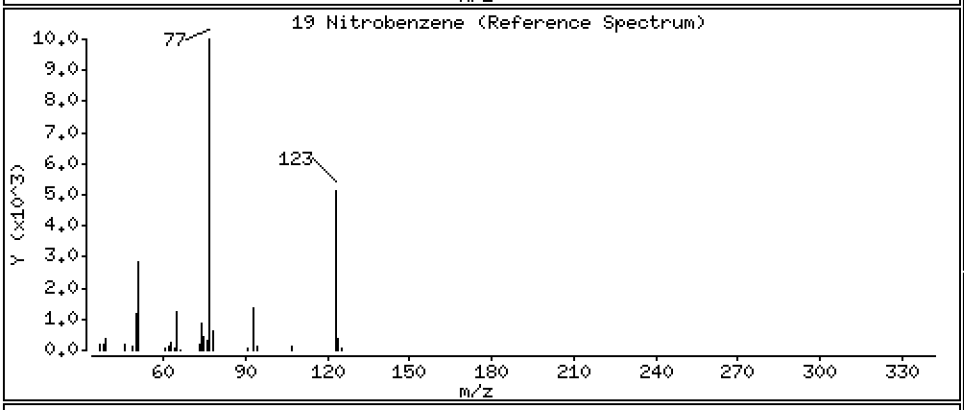
Concentration: 5.076 ug/mL

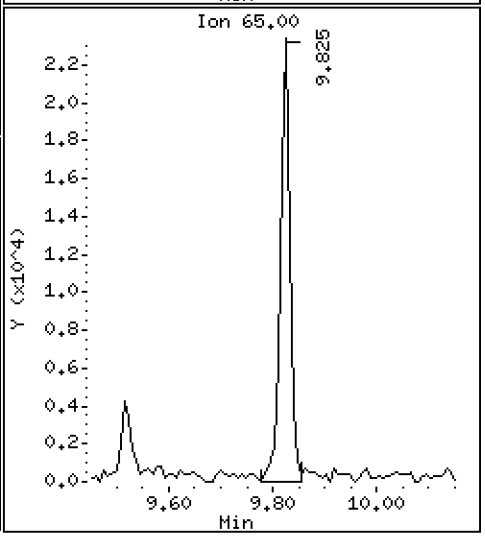


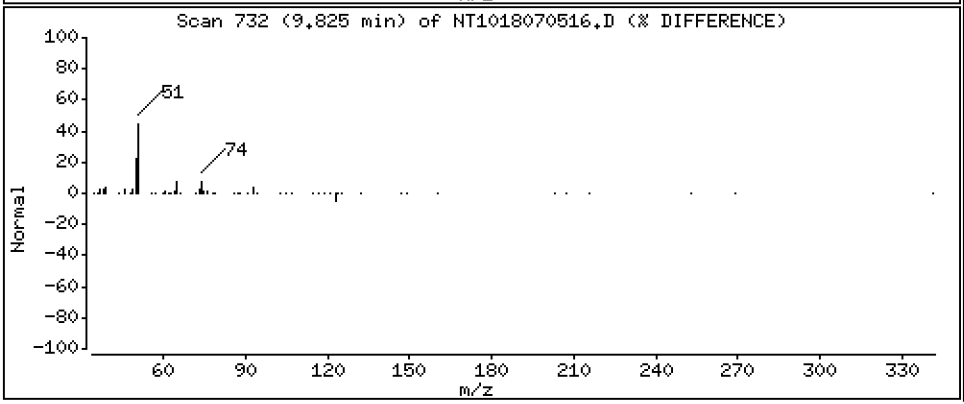












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

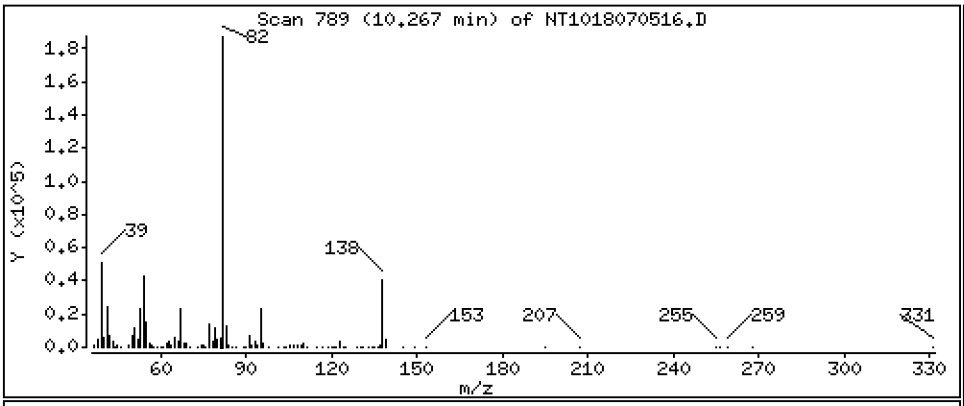
Operator: YZ

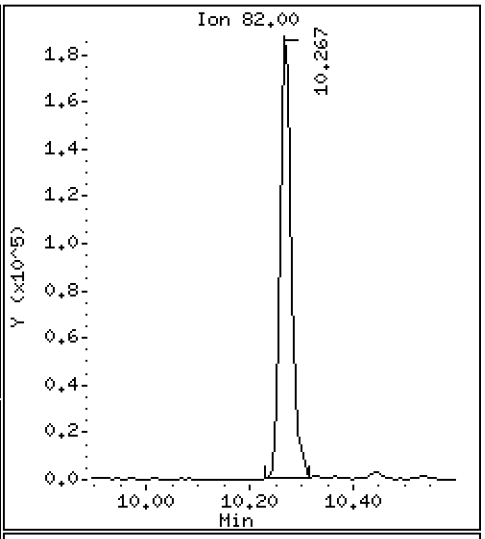
Column phase: ZB-5msi

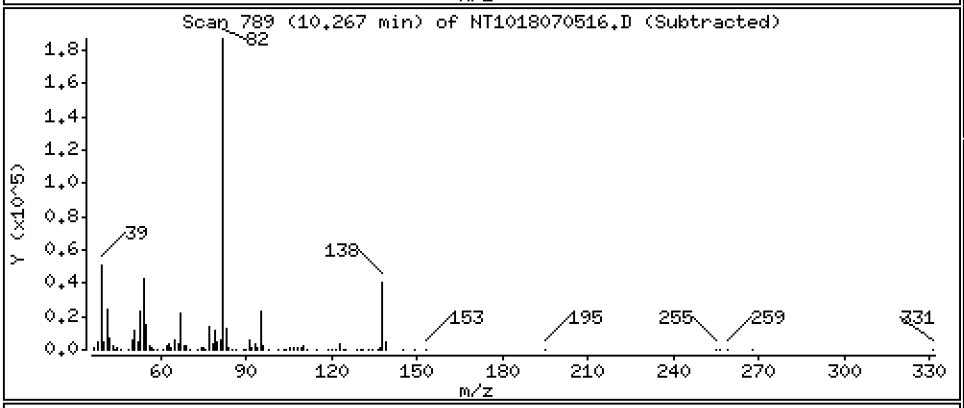
Column diameter: 0.25

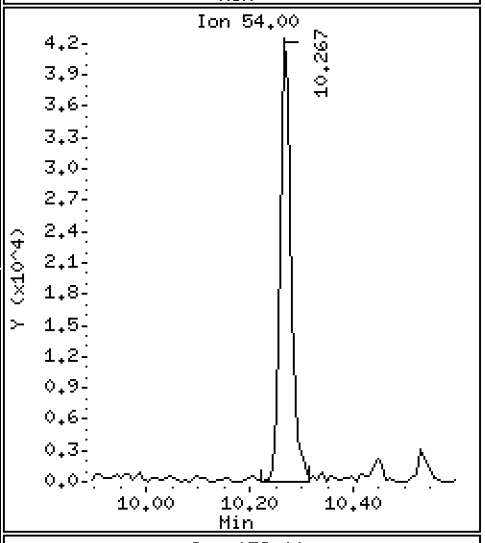
20 Isophorone

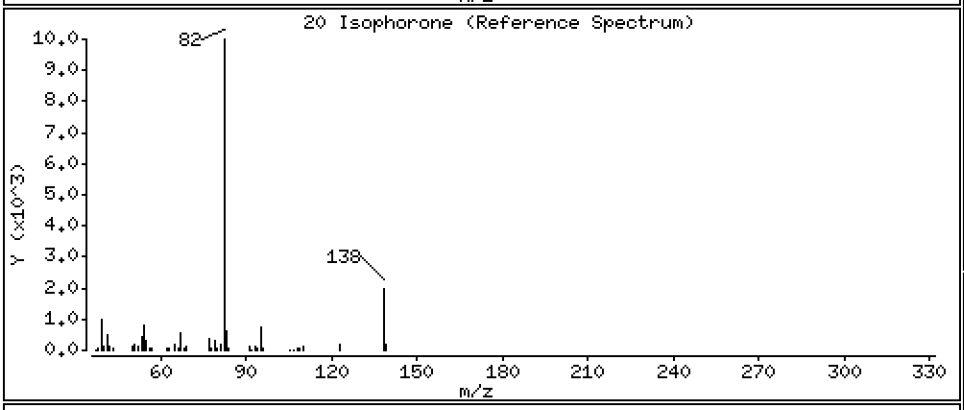
Concentration: 5.234 ug/mL

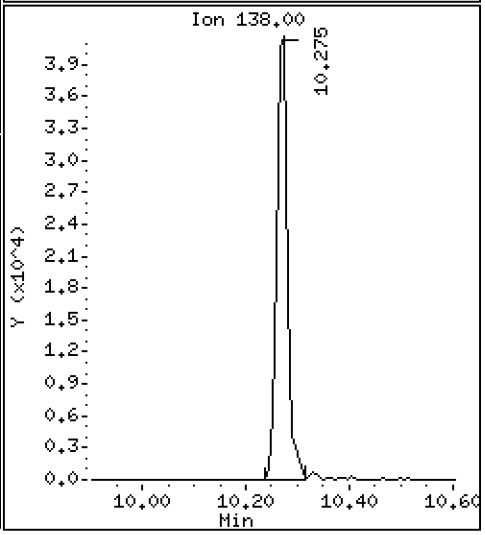


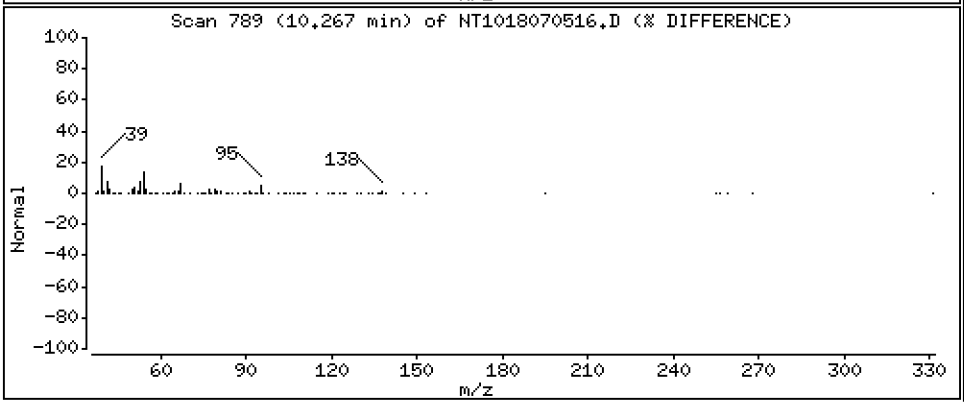












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

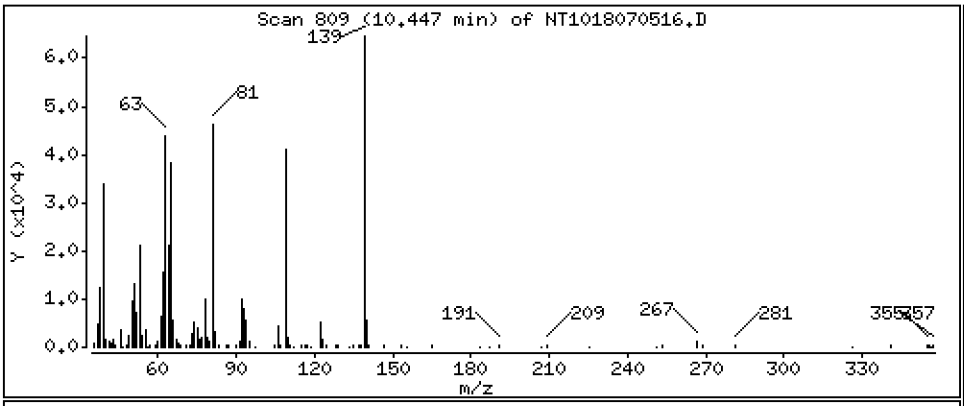
Operator: YZ

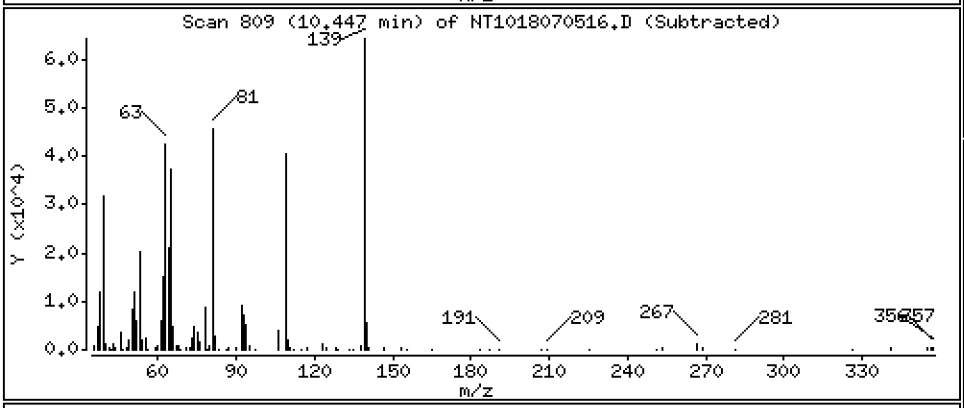
Column phase: ZB-5msi

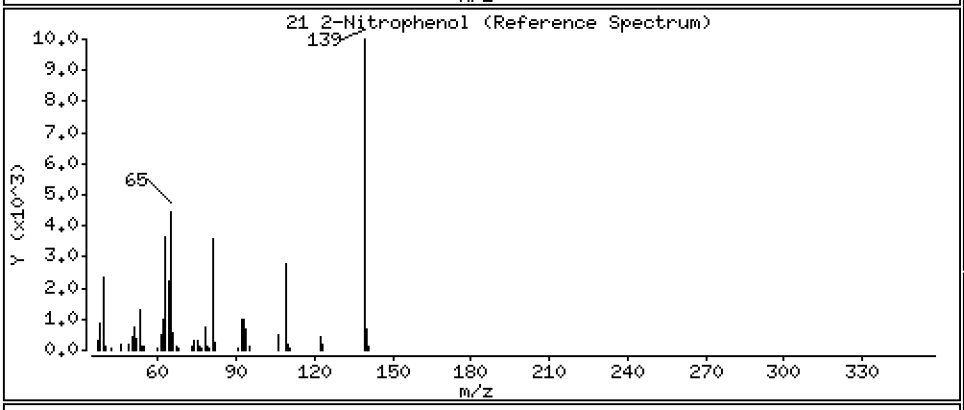
Column diameter: 0.25

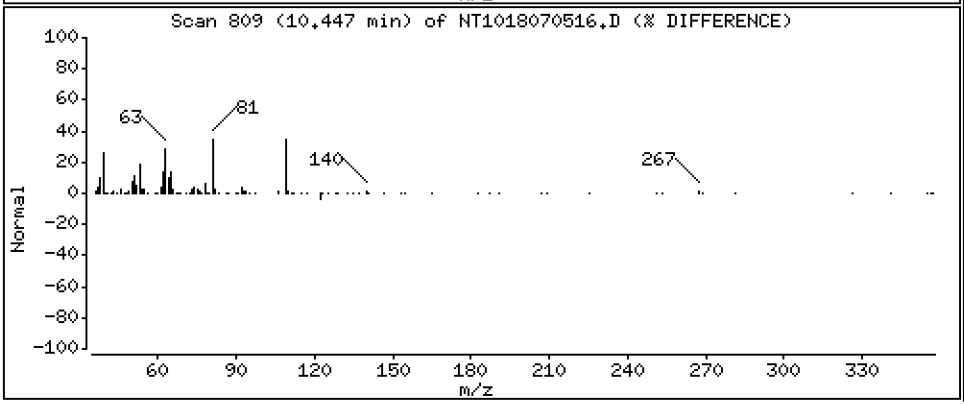
21 2-Nitrophenol

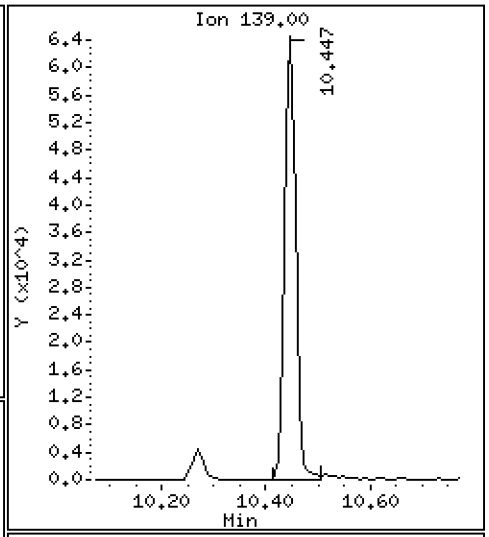
Concentration: 5.501 ug/mL

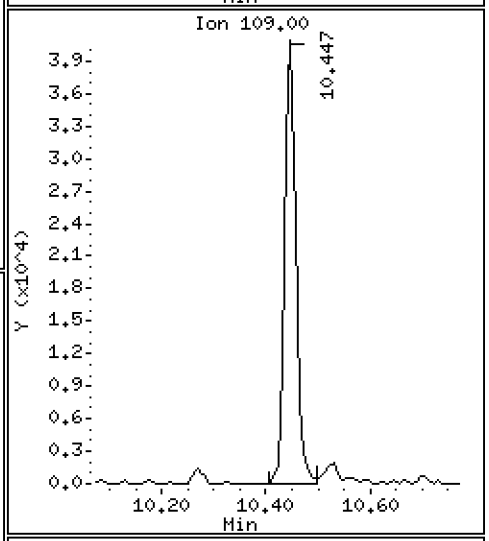


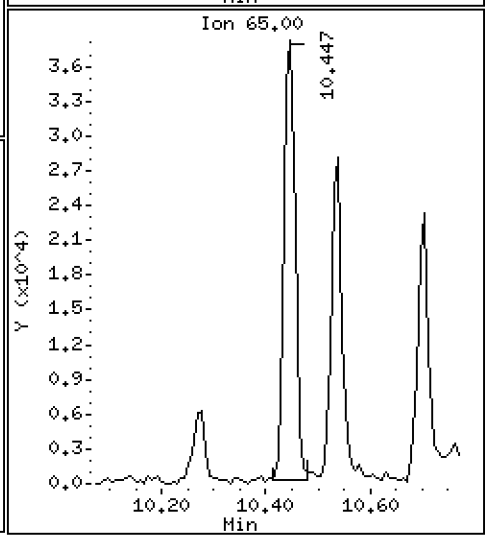












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

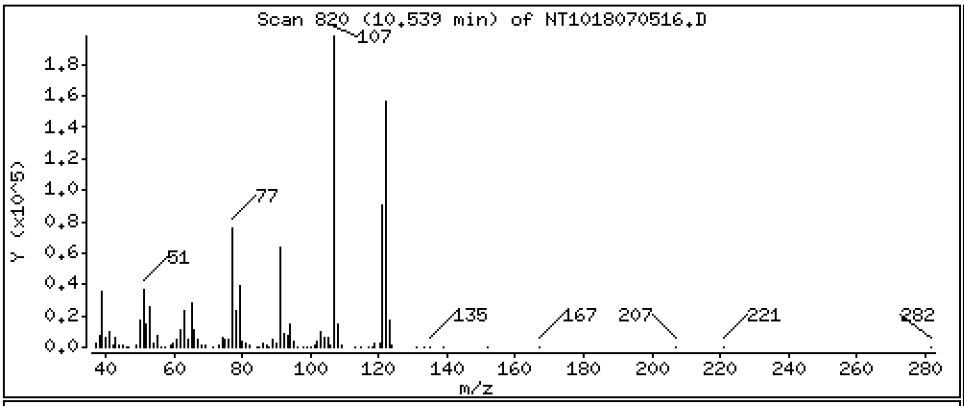
Operator: YZ

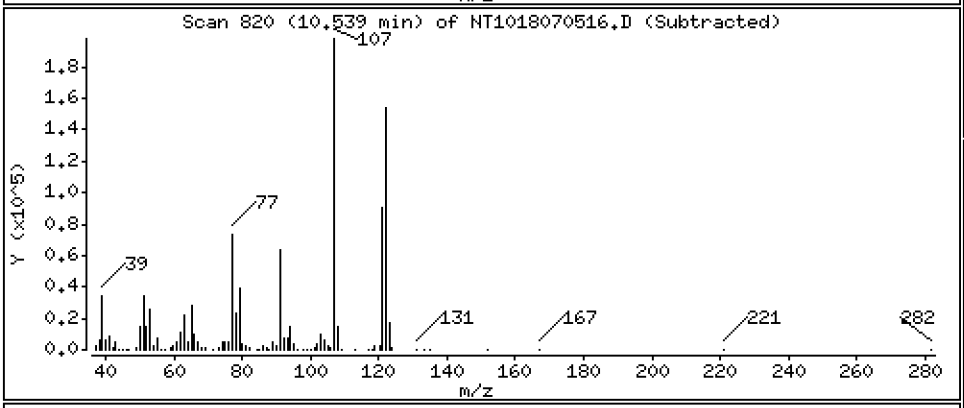
Column phase: ZB-5msi

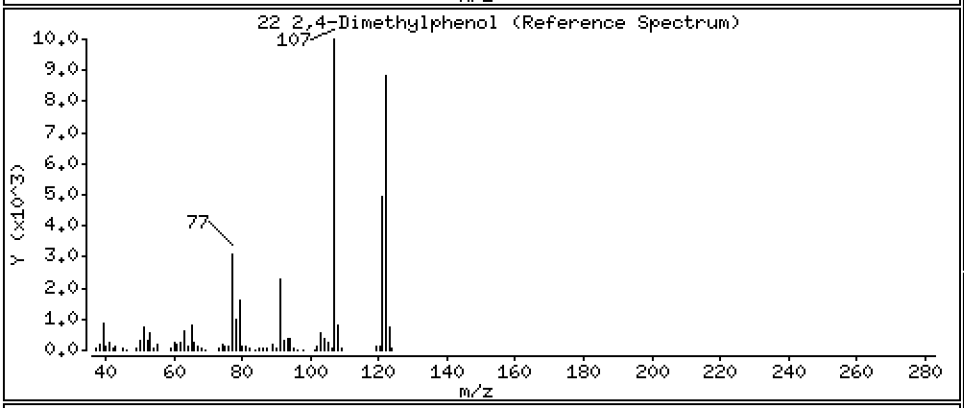
Column diameter: 0.25

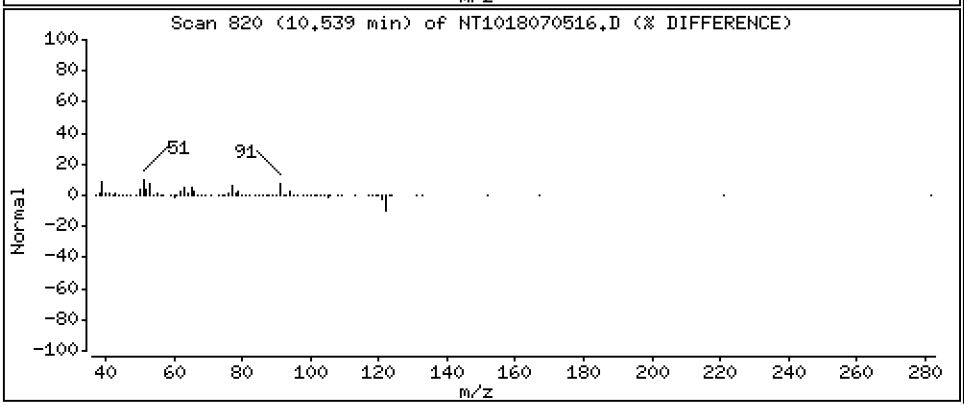
22 2,4-Dimethylphenol

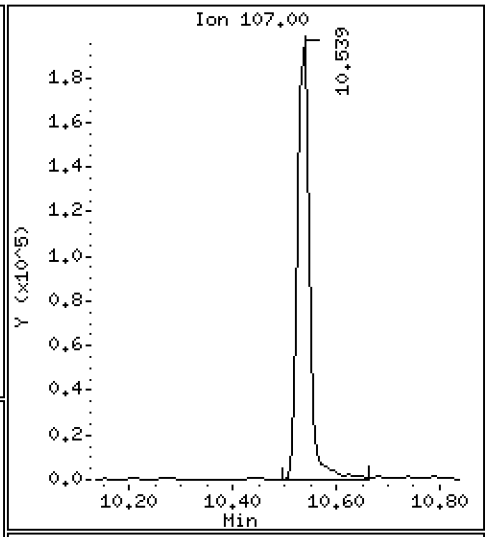
Concentration: 10.03 ug/mL

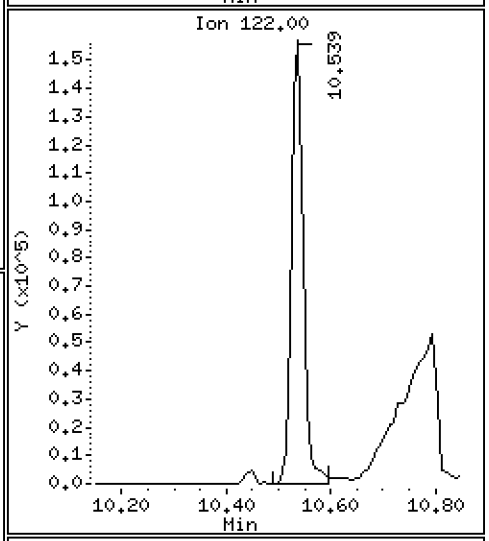


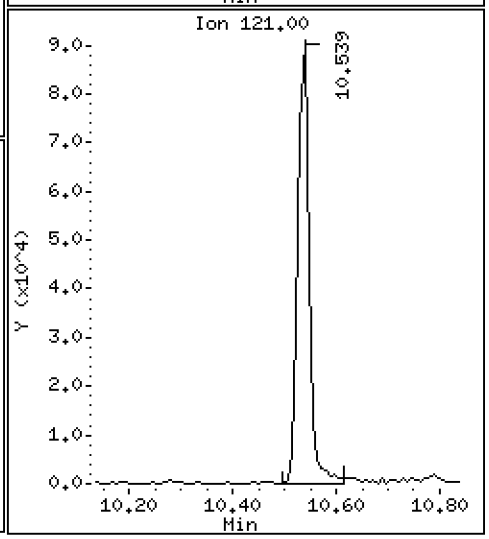












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

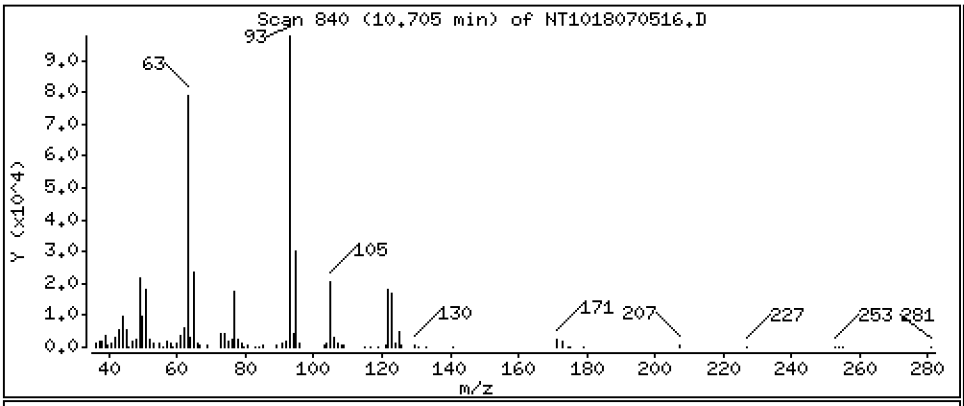
Operator: YZ

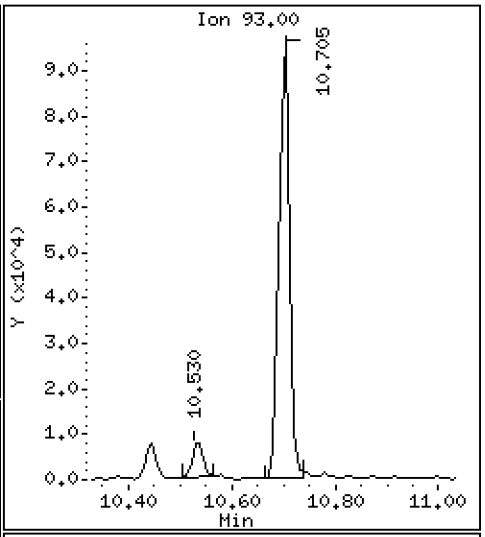
Column phase: ZB-5msi

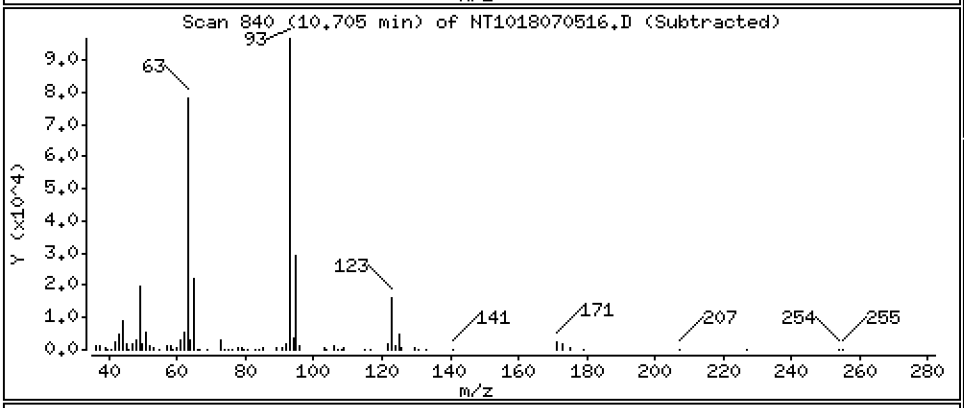
Column diameter: 0.25

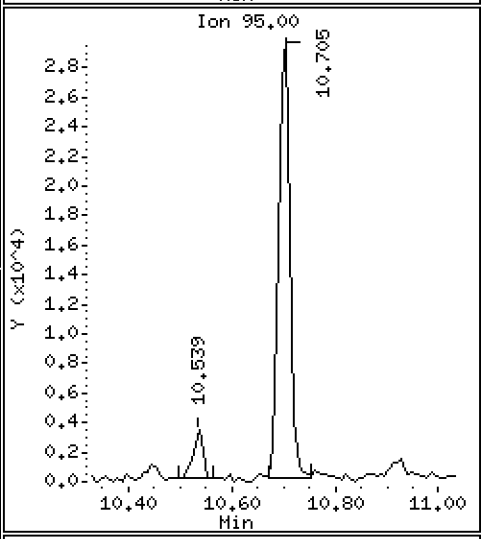
23 Bis(2-Chloroethoxy)methane

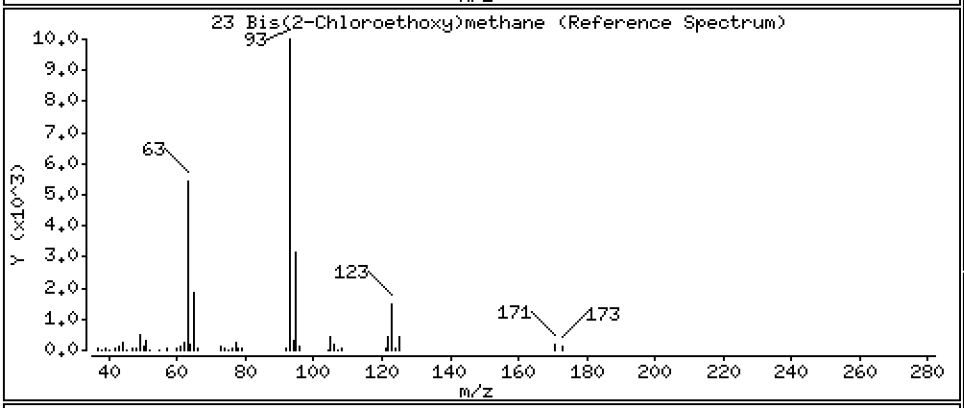
Concentration: 4.003 ug/mL

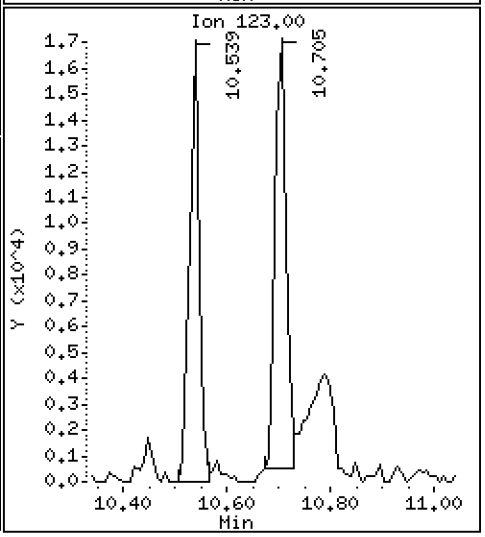


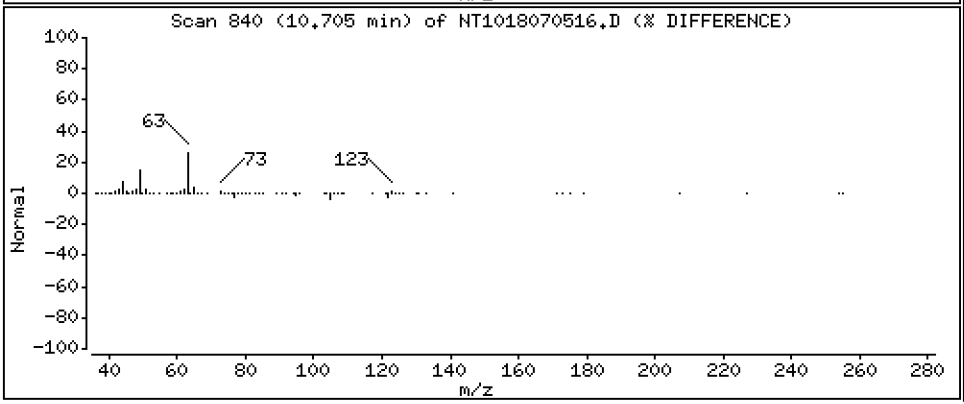












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

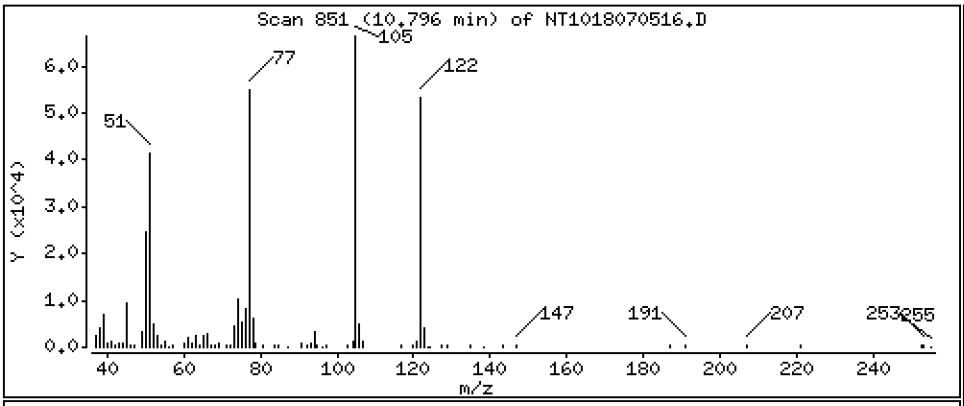
Operator: YZ

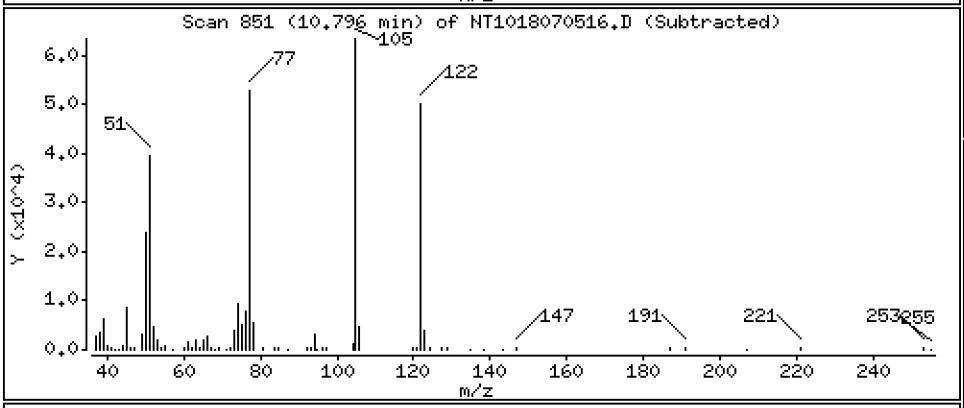
Column phase: ZB-5msi

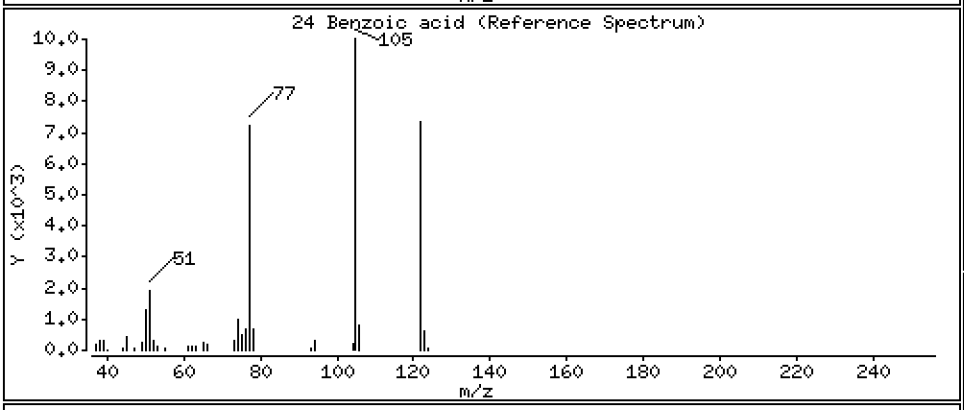
Column diameter: 0.25

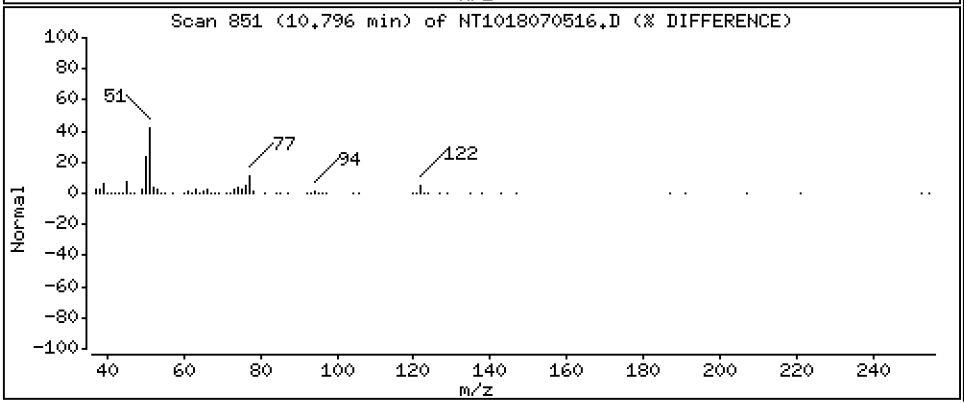
24 Benzoic acid

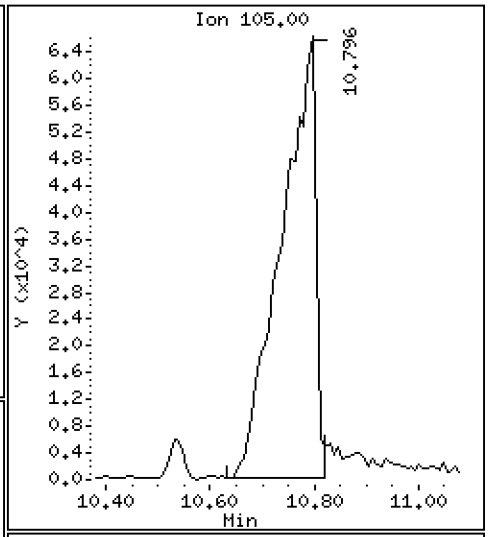
Concentration: 14.60 ug/mL

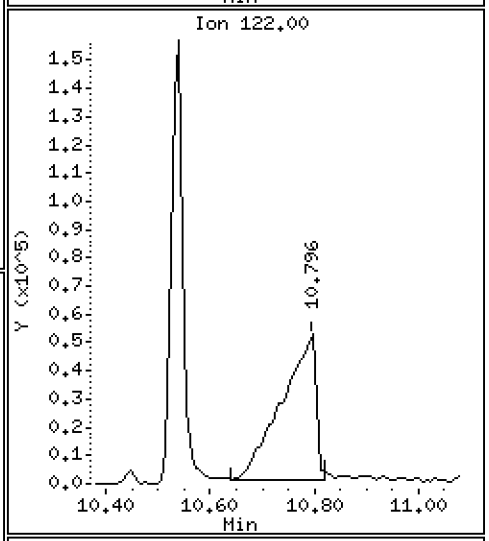


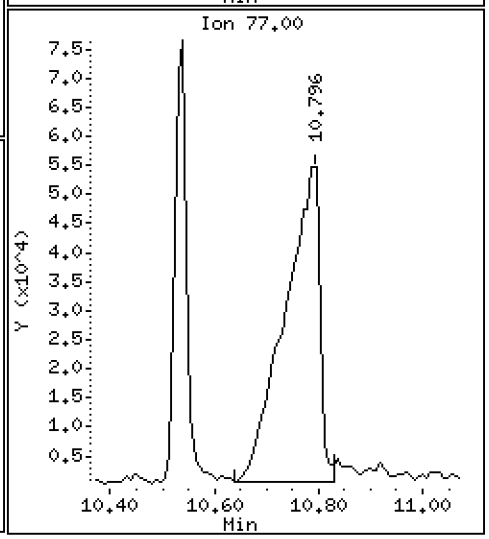












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

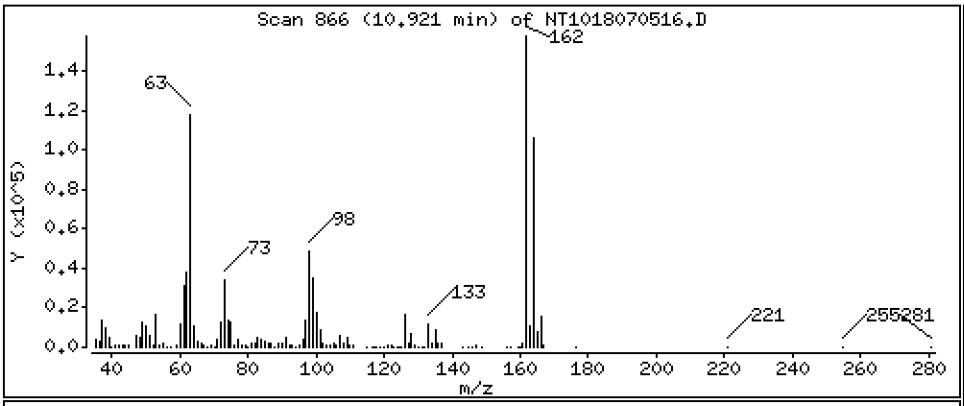
Operator: YZ

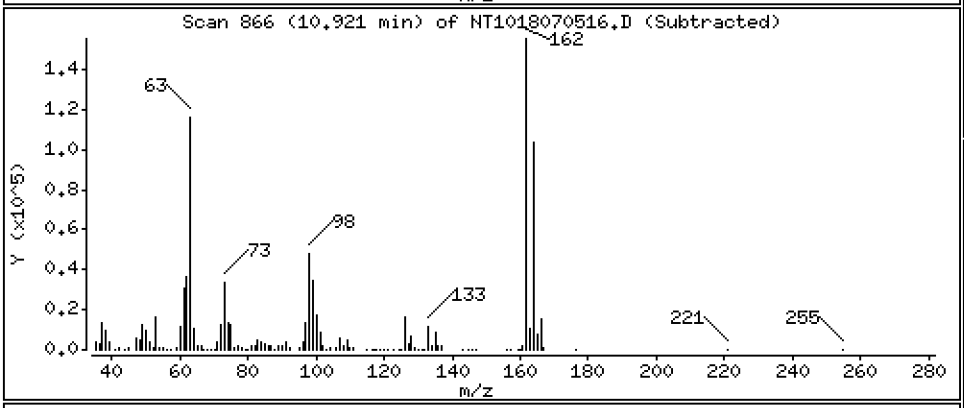
Column phase: ZB-5msi

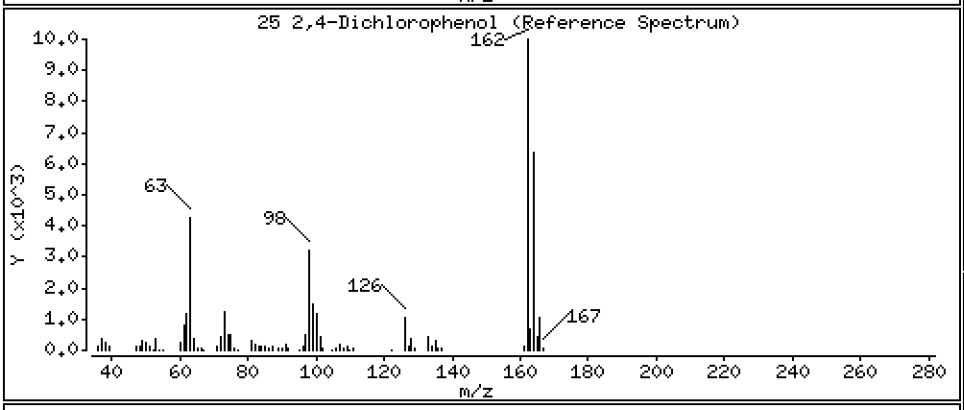
Column diameter: 0.25

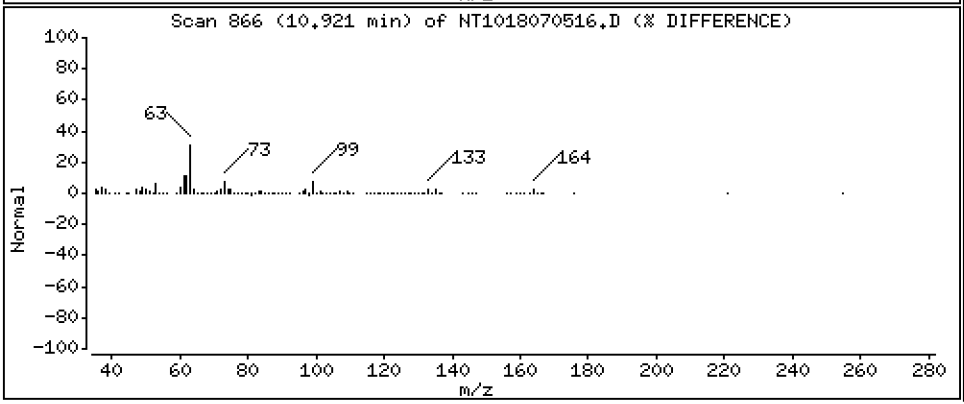
25 2,4-Dichlorophenol

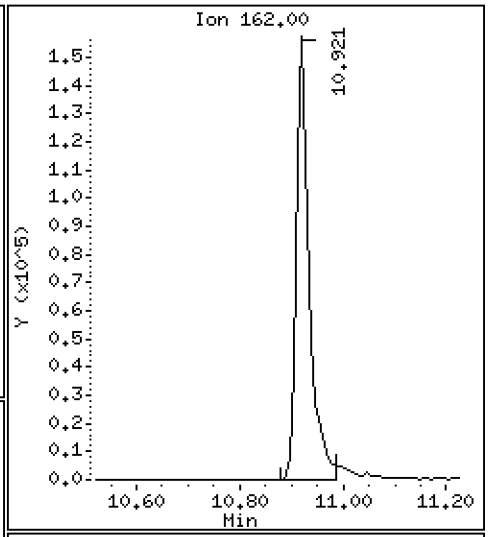
Concentration: 12.19 ug/mL

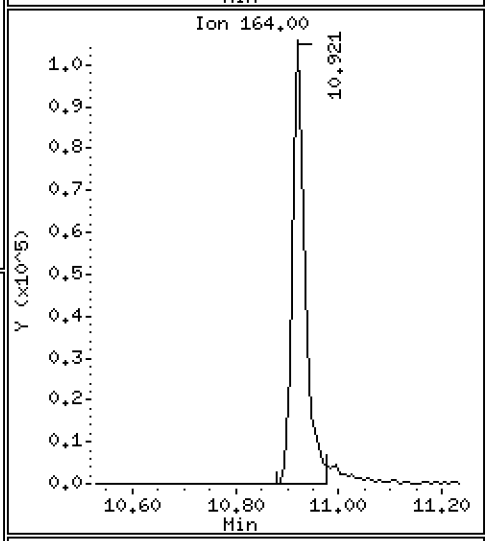


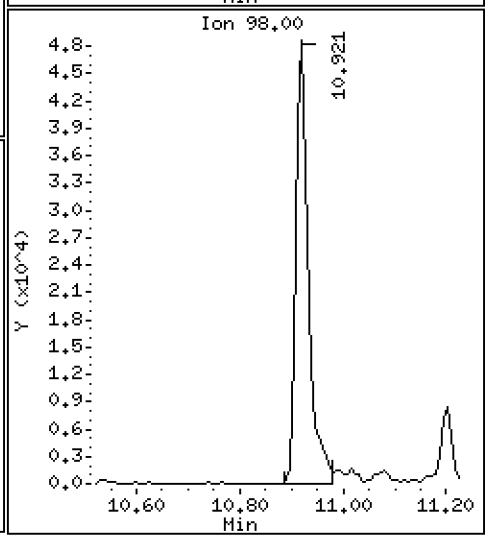












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

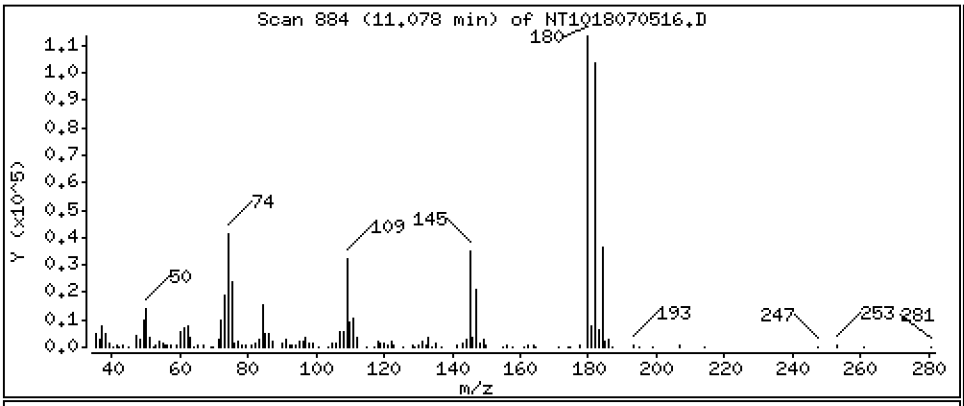
Operator: YZ

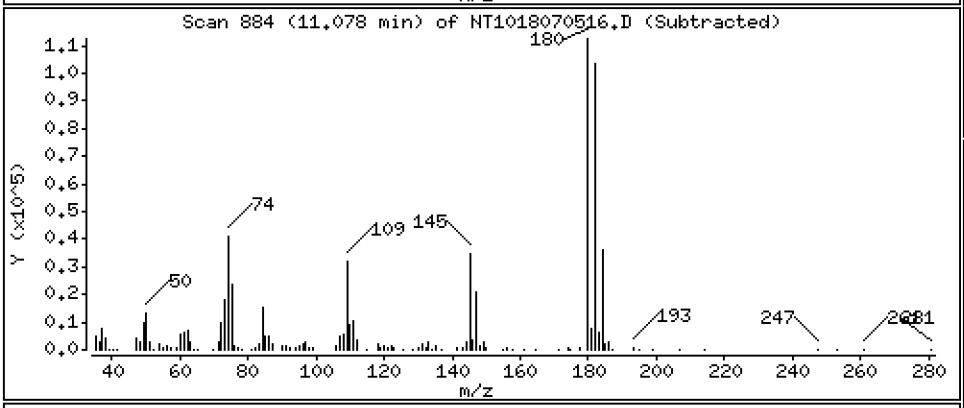
Column phase: ZB-5msi

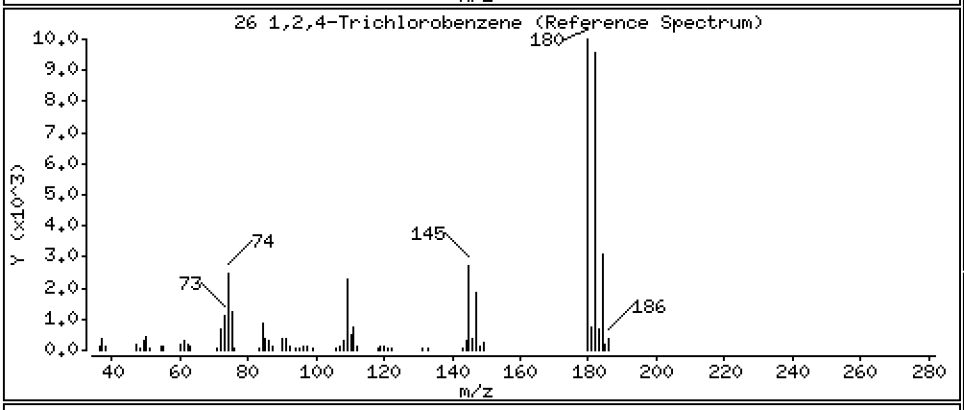
Column diameter: 0.25

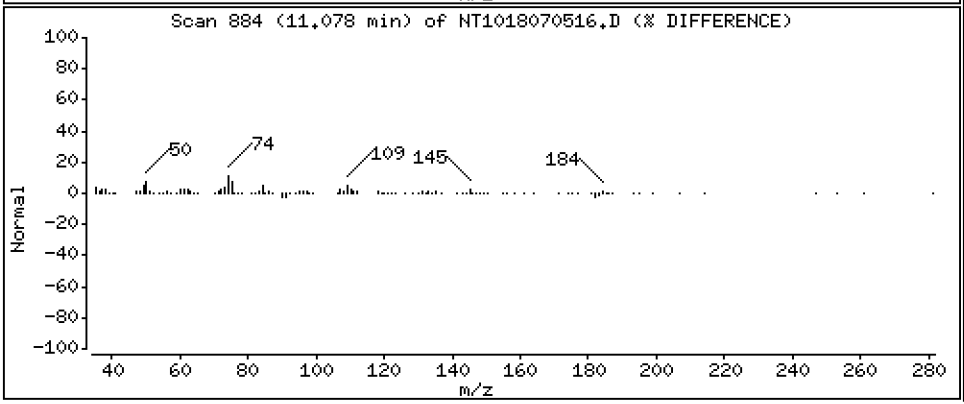
26 1,2,4-Trichlorobenzene

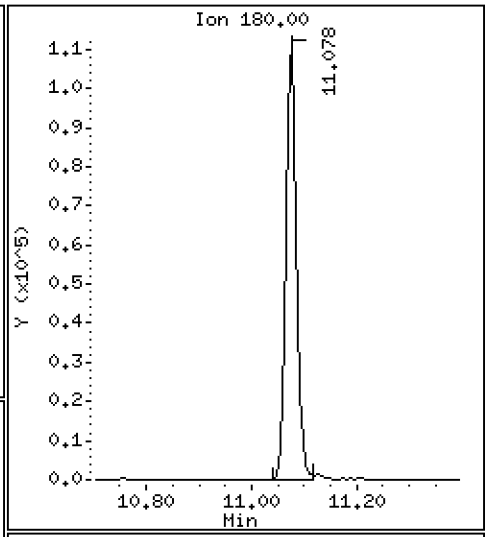
Concentration: 5.917 ug/mL

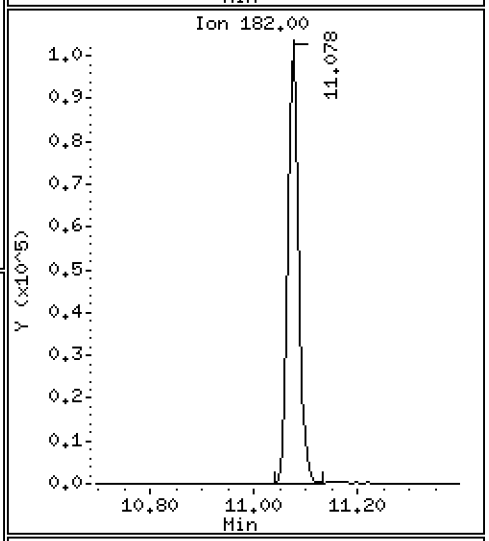


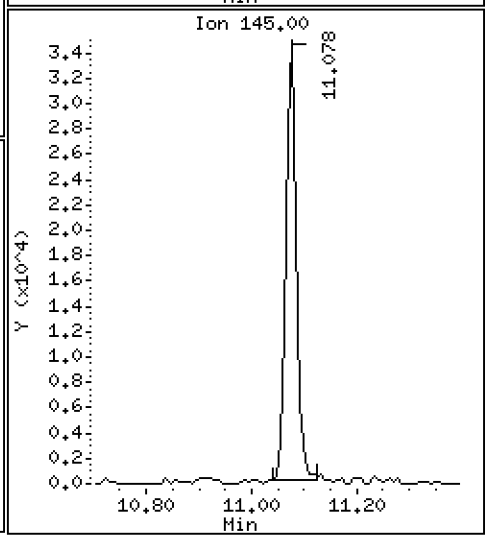












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

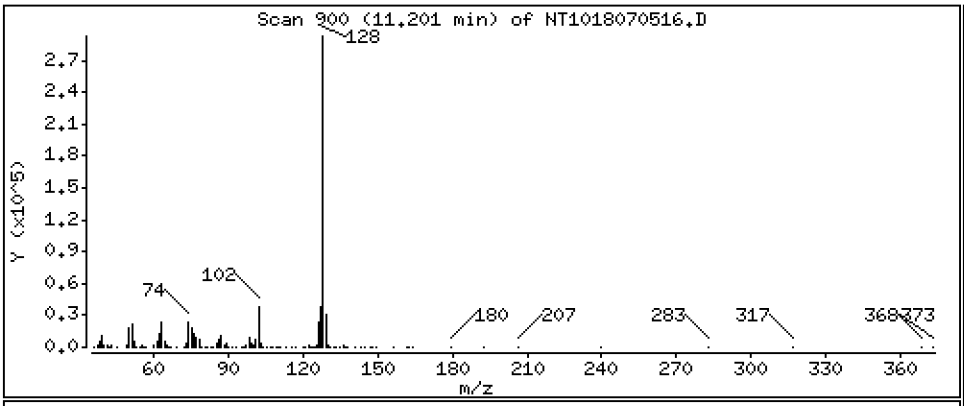
Operator: YZ

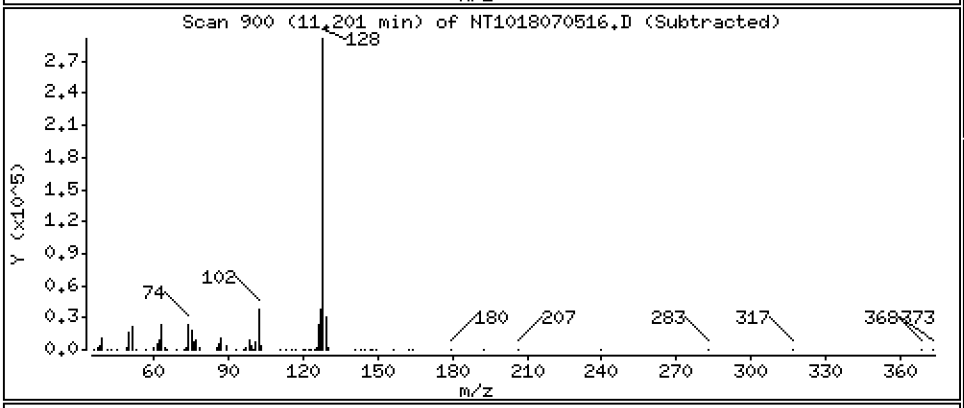
Column phase: ZB-5msi

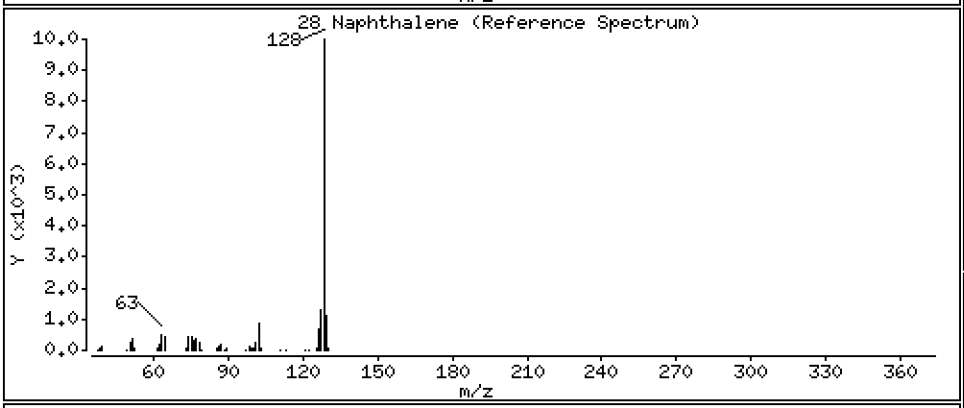
Column diameter: 0.25

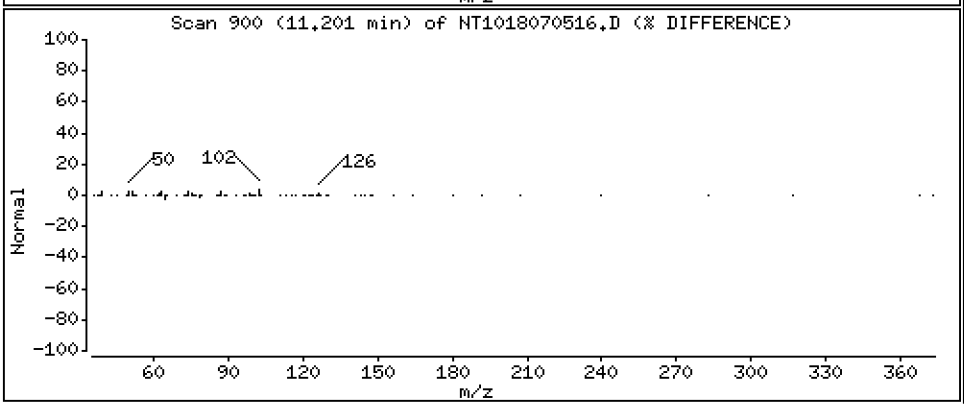
28 Naphthalene

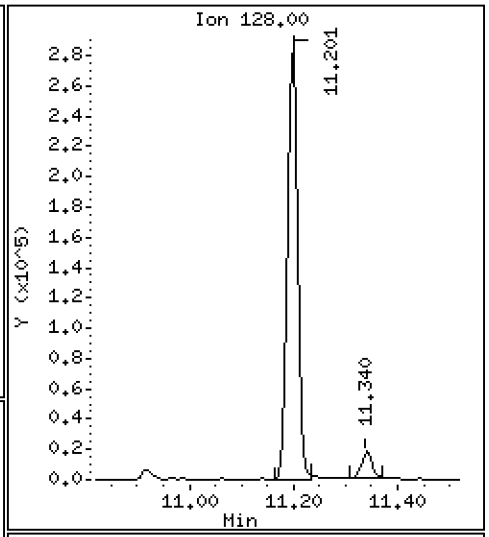
Concentration: 4.965 ug/mL

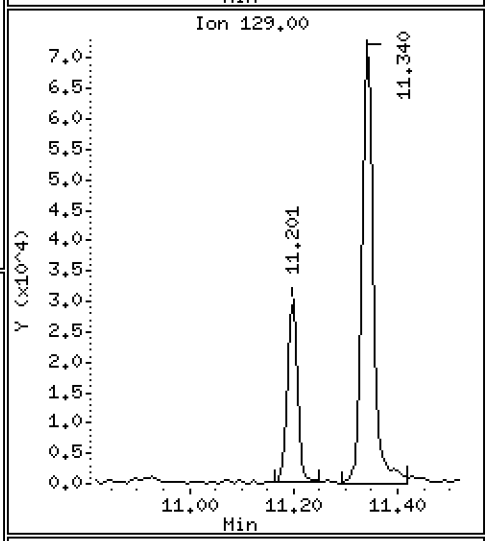


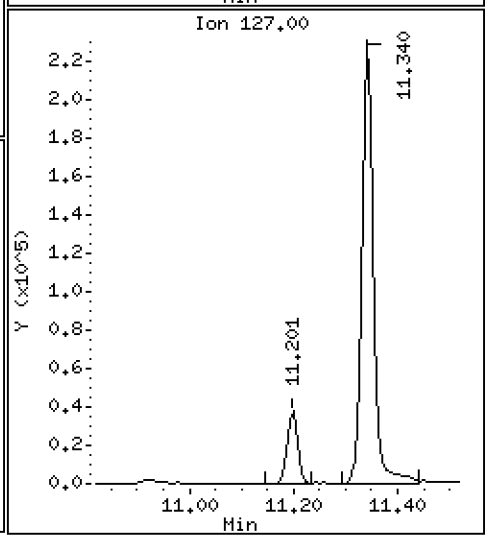












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

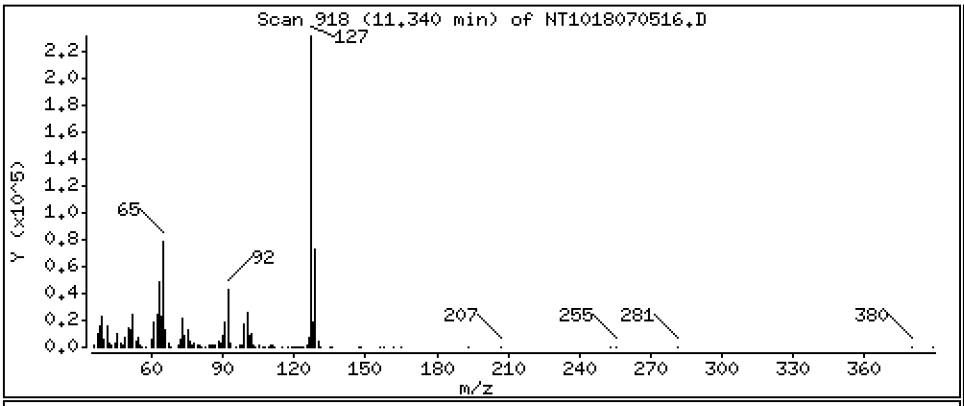
Operator: YZ

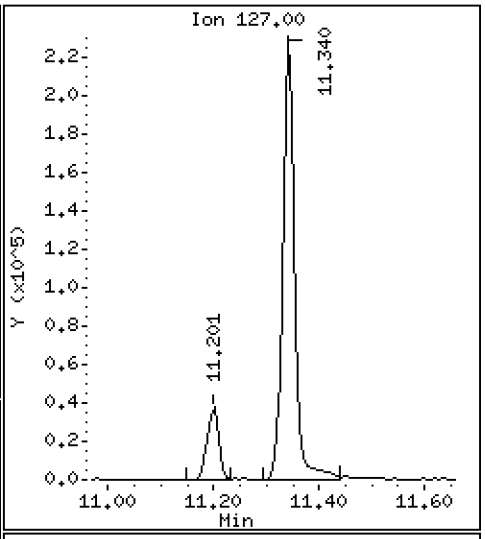
Column phase: ZB-5msi

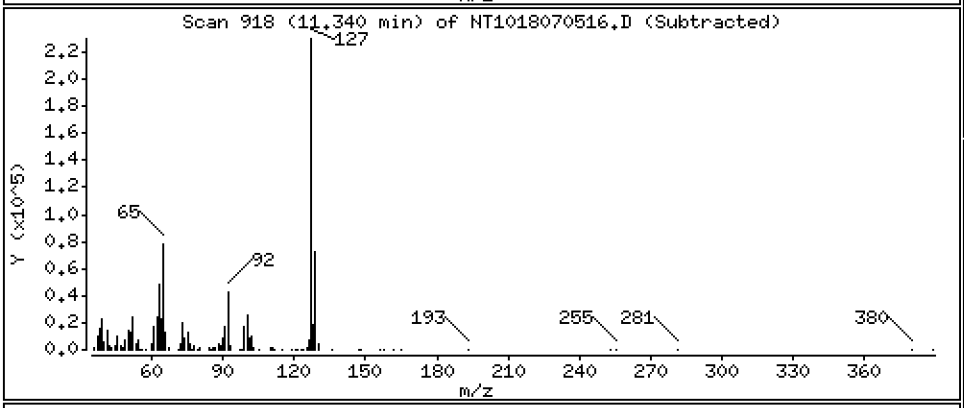
Column diameter: 0.25

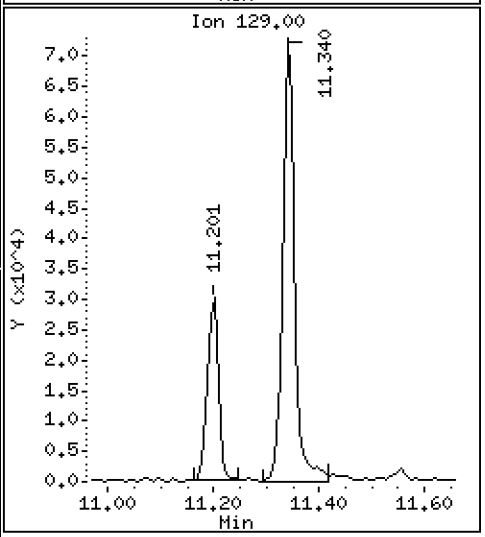
29 4-Chloroaniline

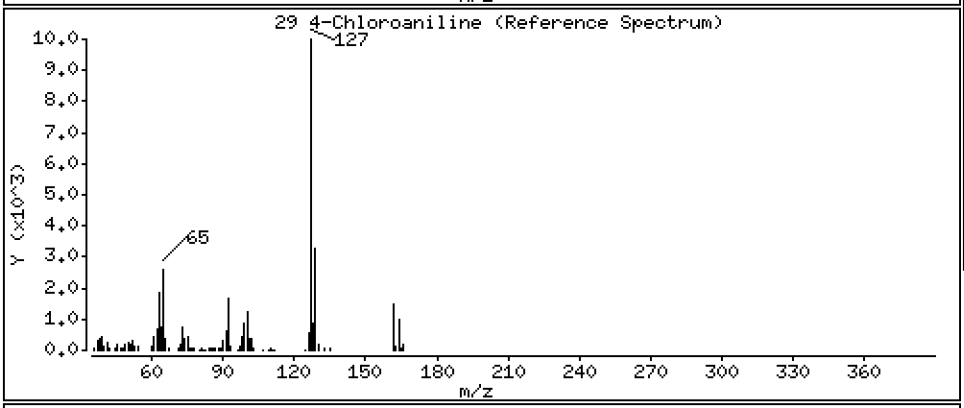
Concentration: 10.97 ug/mL

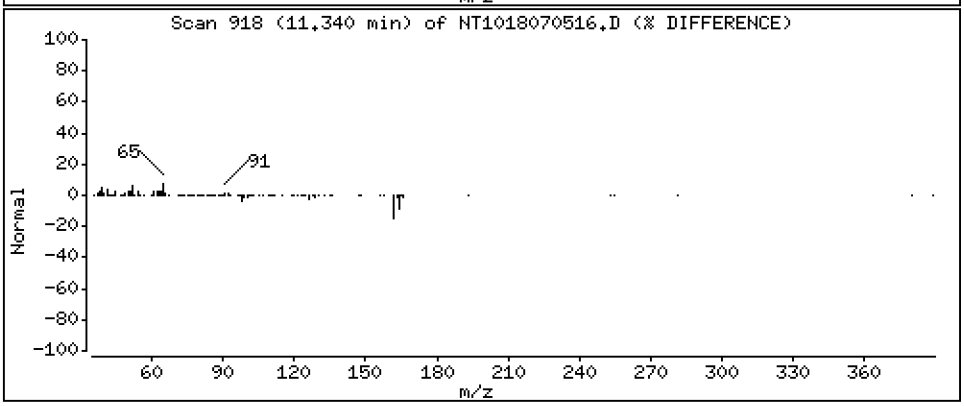












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

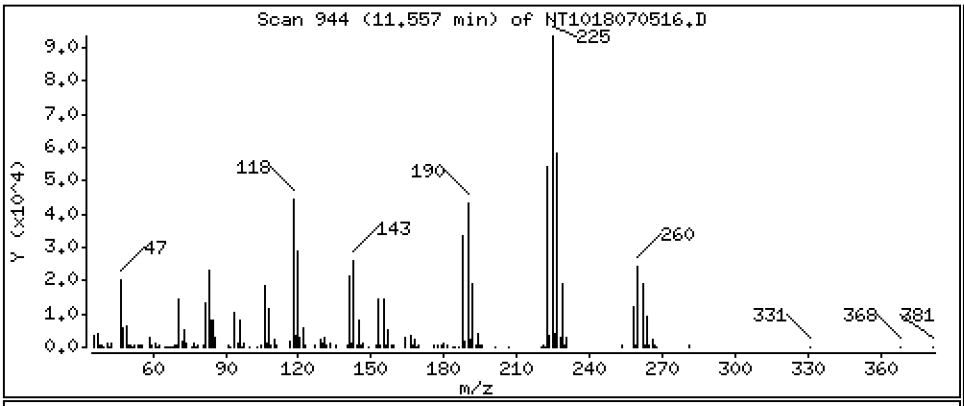
Operator: YZ

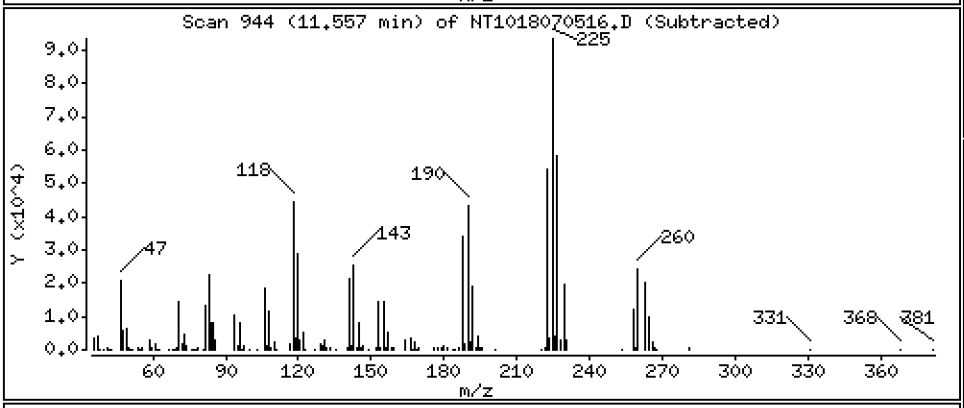
Column phase: ZB-5msi

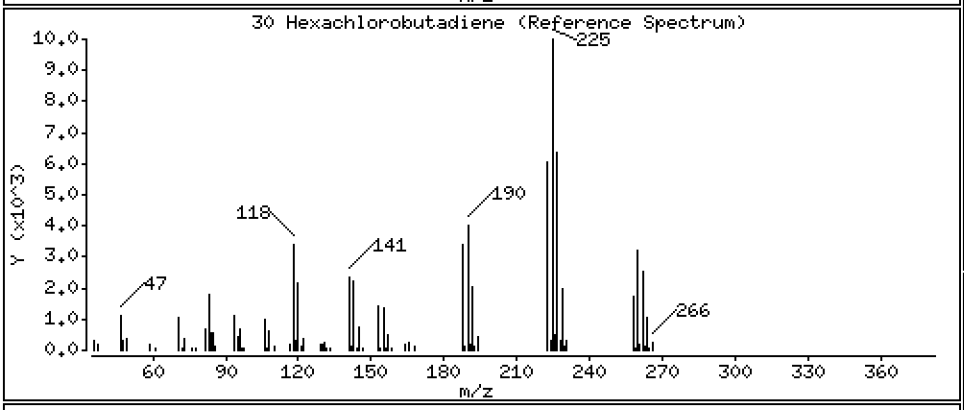
Column diameter: 0.25

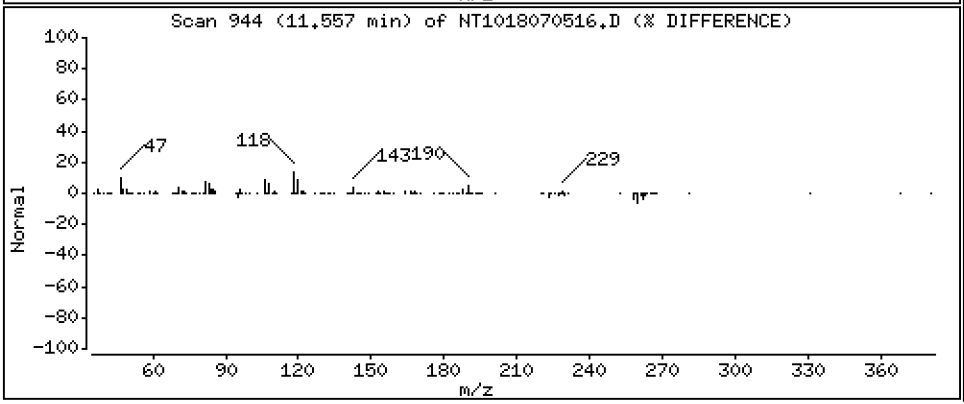
30 Hexachlorobutadiene

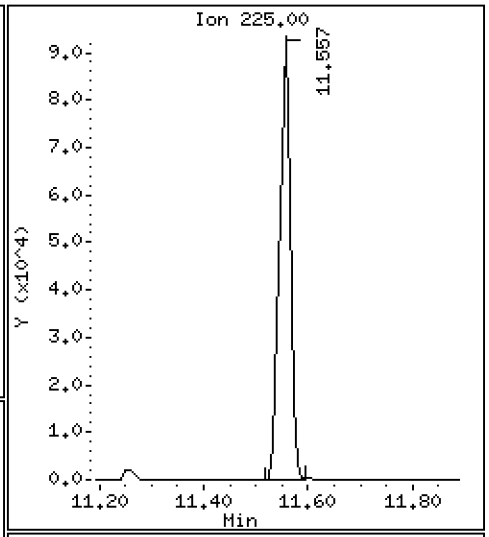
Concentration: 7.694 ug/mL

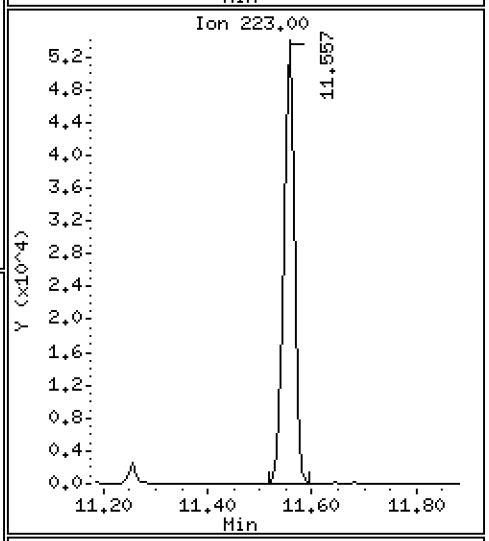


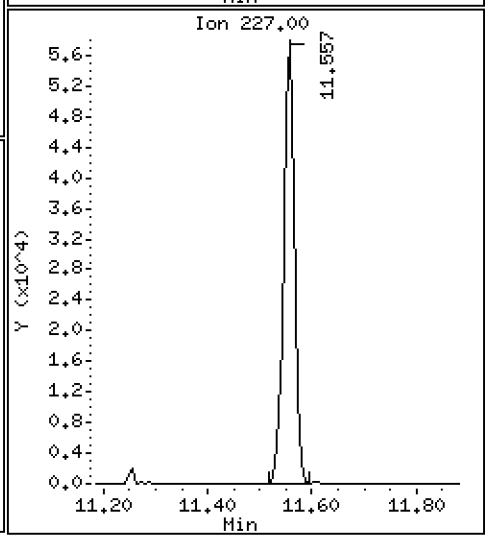












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

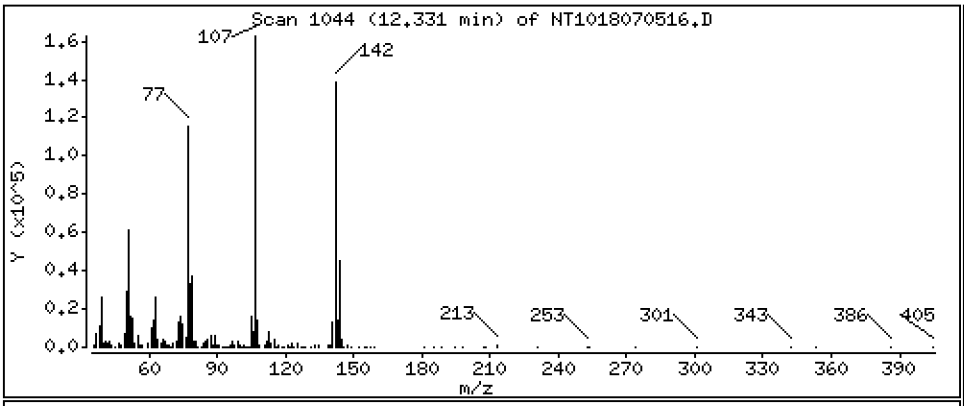
Operator: YZ

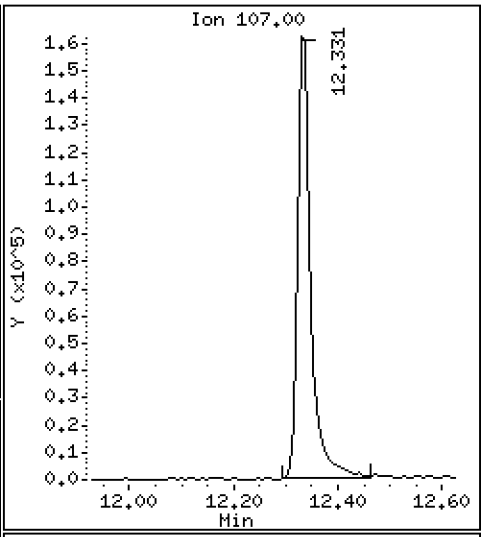
Column phase: ZB-5msi

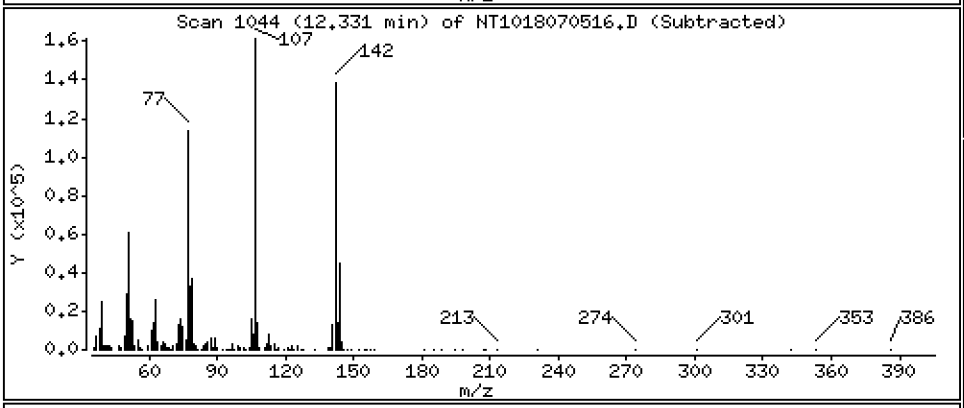
Column diameter: 0.25

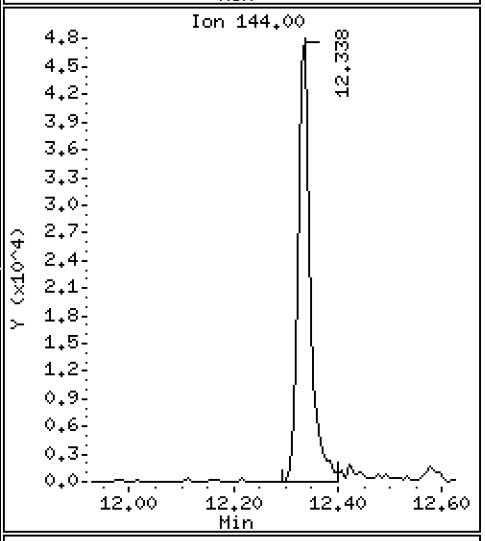
31 4-Chloro-3-methylphenol

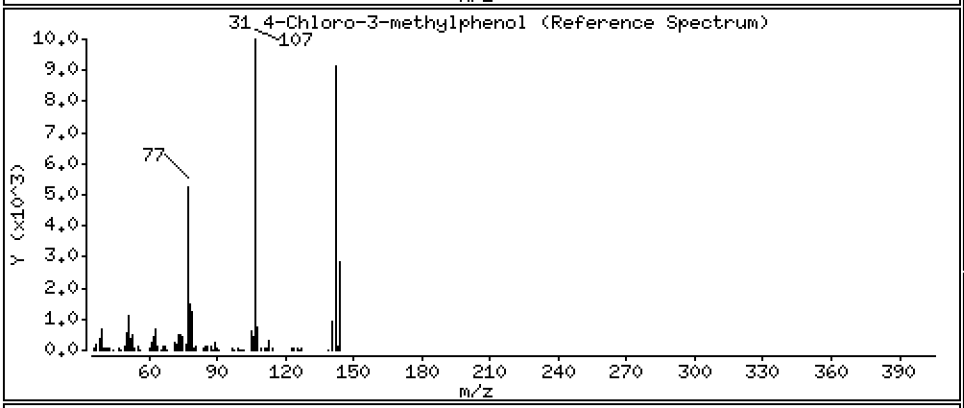
Concentration: 10.80 ug/mL

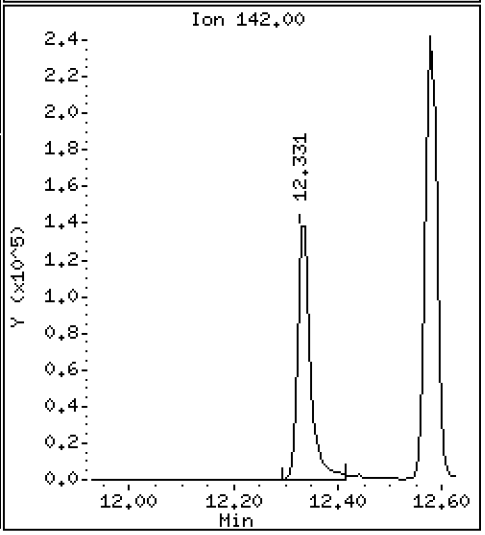


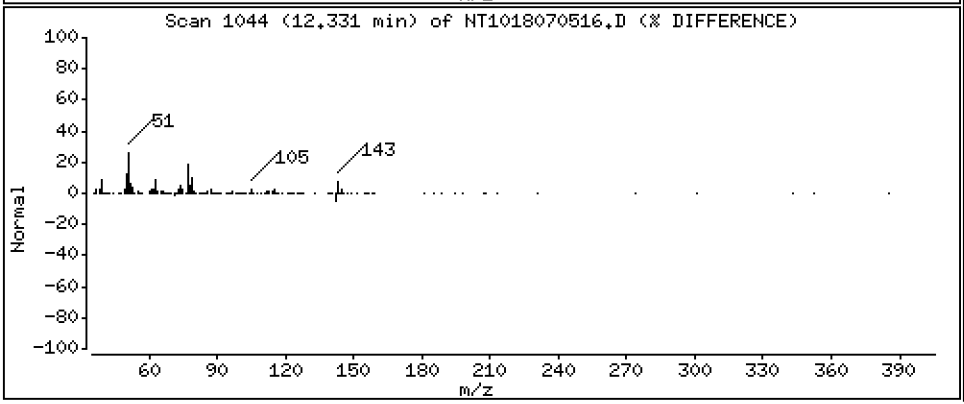












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

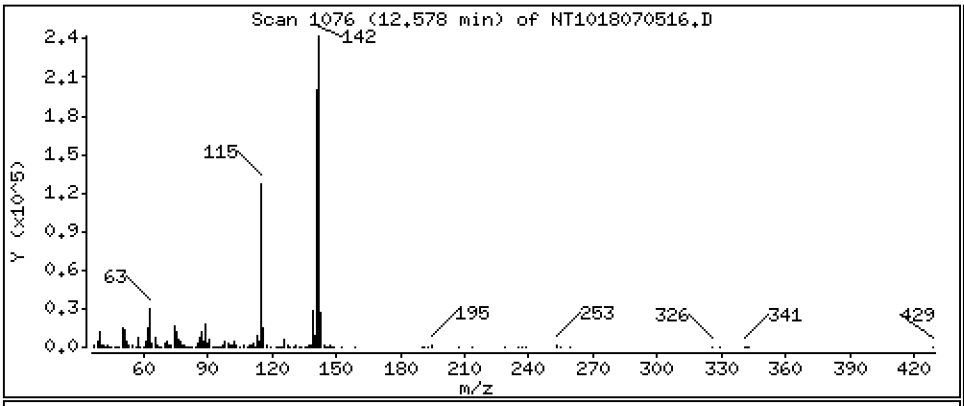
Operator: YZ

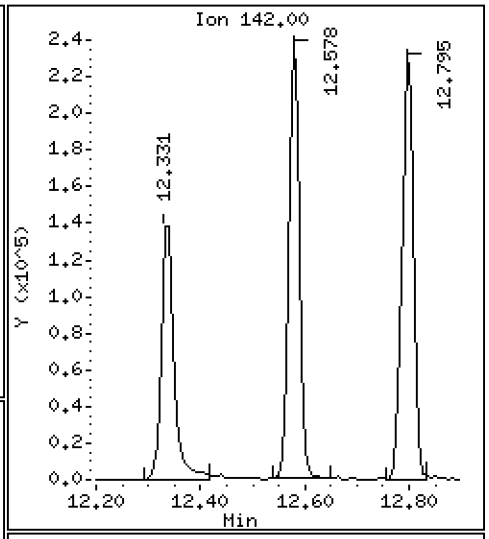
Column phase: ZB-5msi

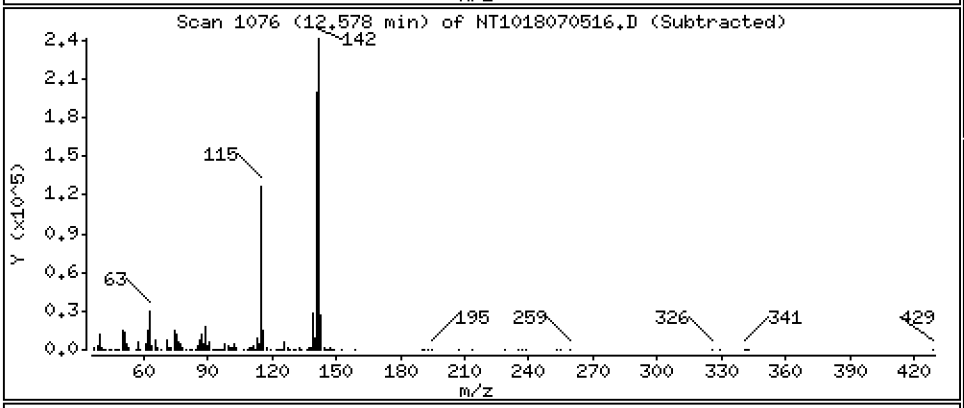
Column diameter: 0.25

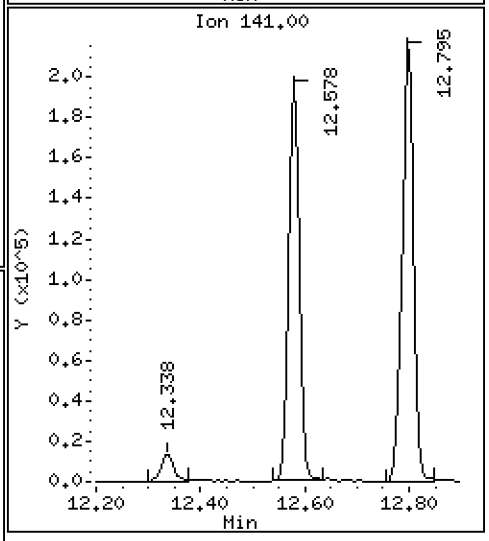
32 2-Methylnaphthalene

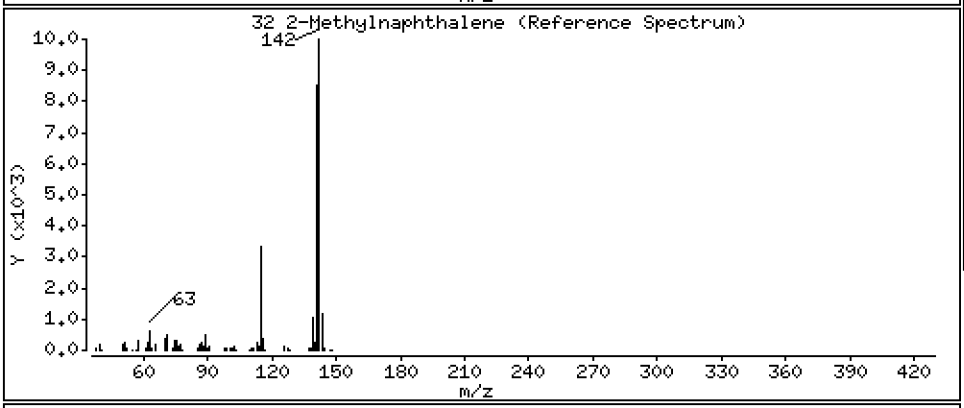
Concentration: 5.408 ug/mL

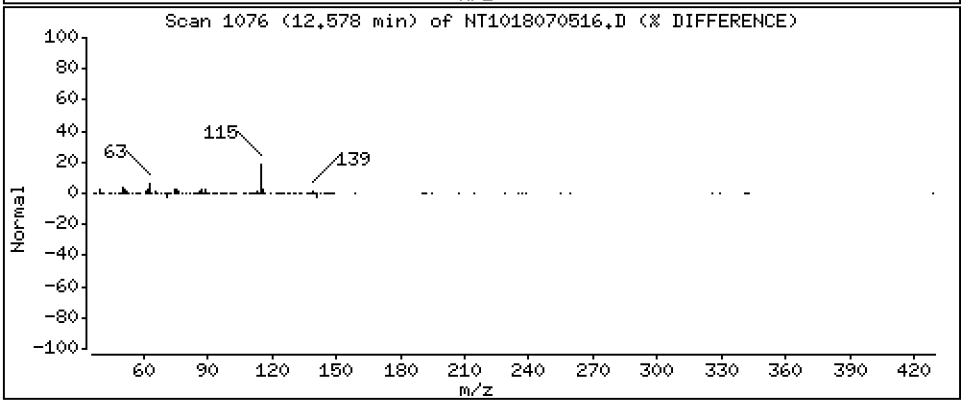












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

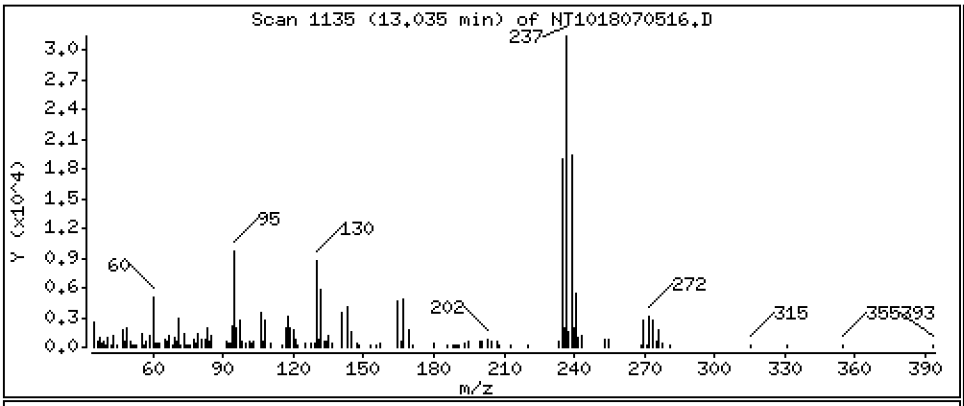
Operator: YZ

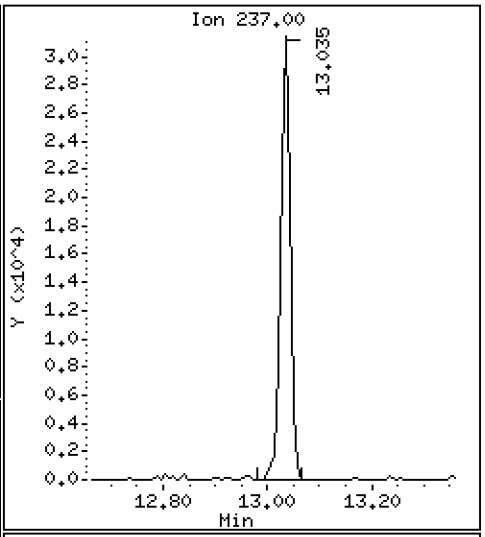
Column phase: ZB-5msi

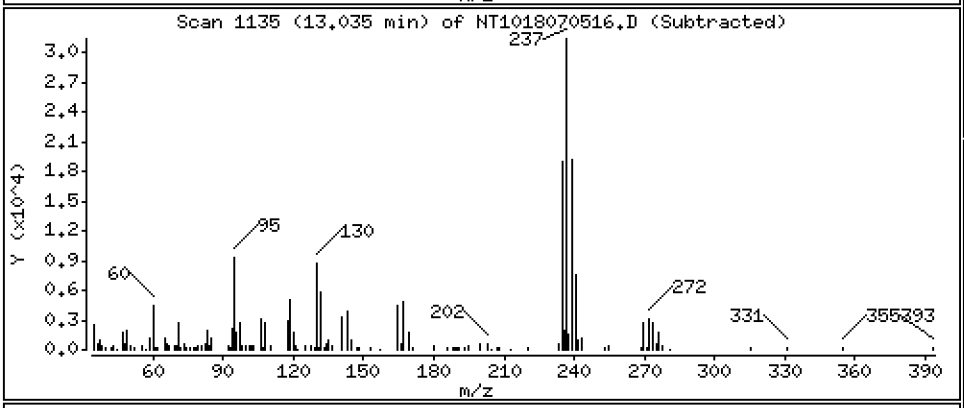
Column diameter: 0.25

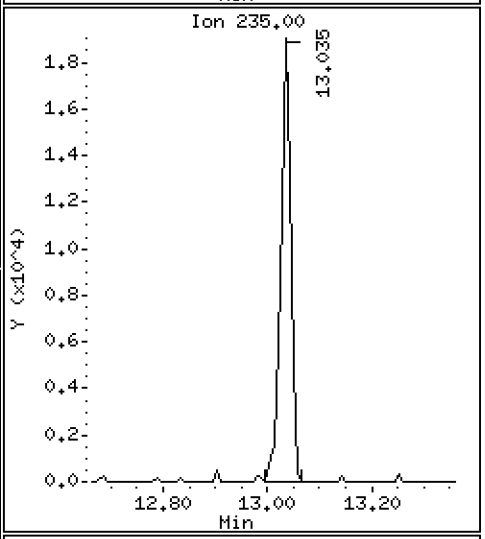
33 Hexachlorocyclopentadiene

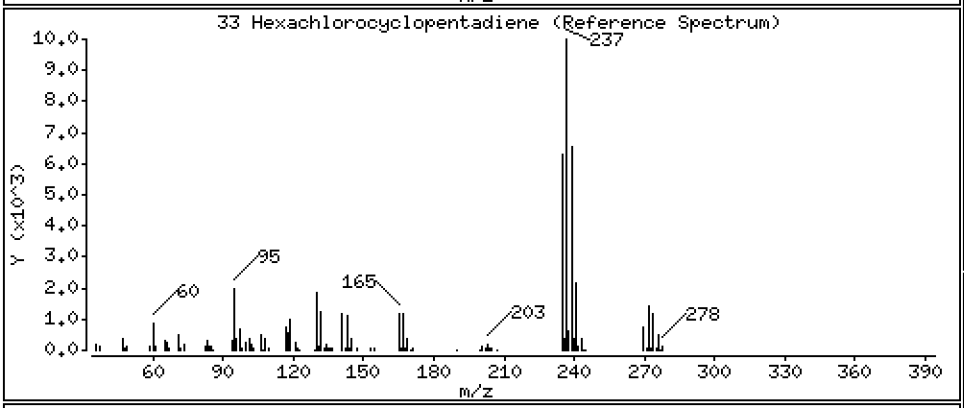
Concentration: 1.983 ug/mL

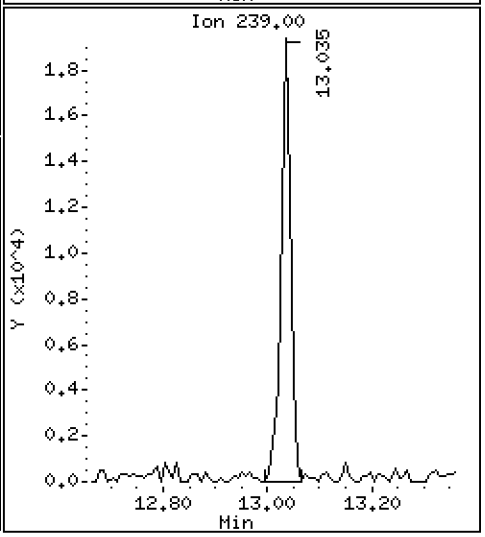


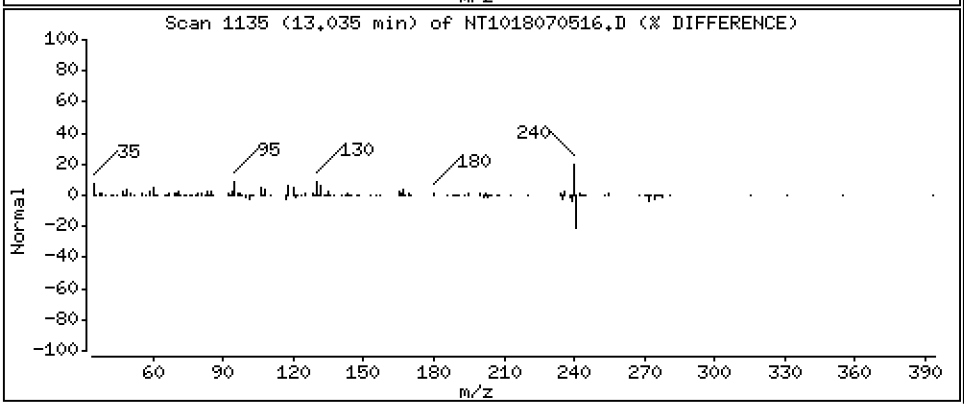












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

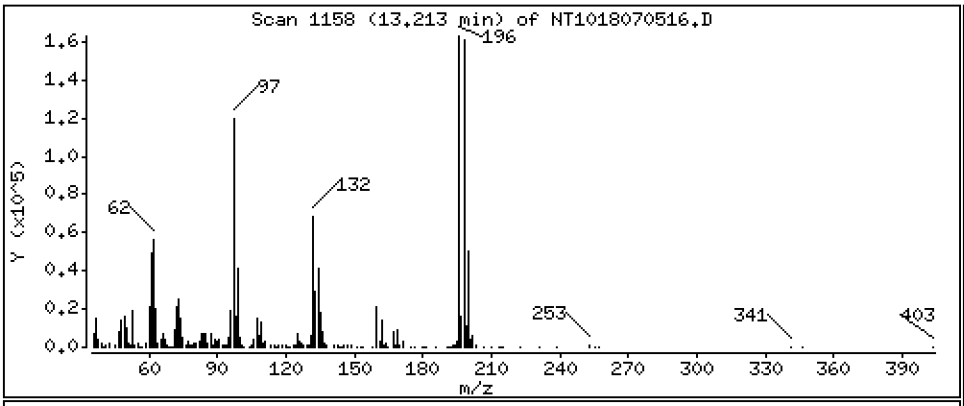
Operator: YZ

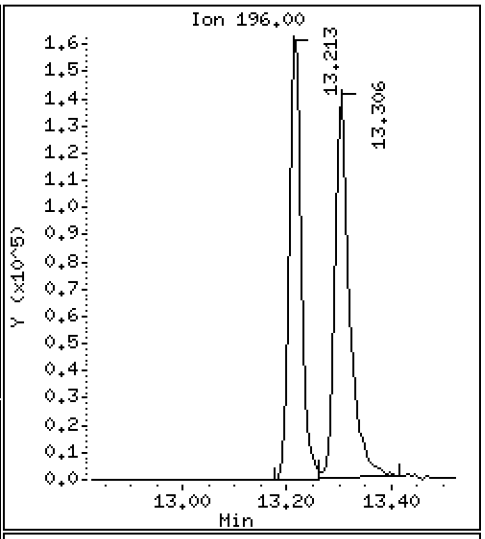
Column phase: ZB-5msi

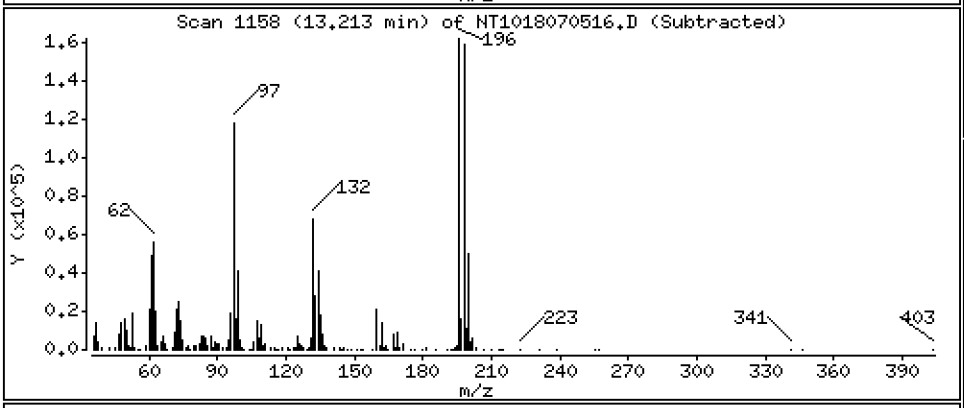
Column diameter: 0.25

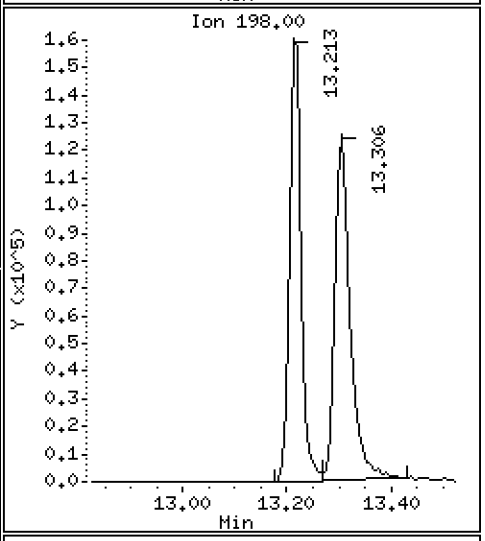
34 2,4,6-Trichlorophenol

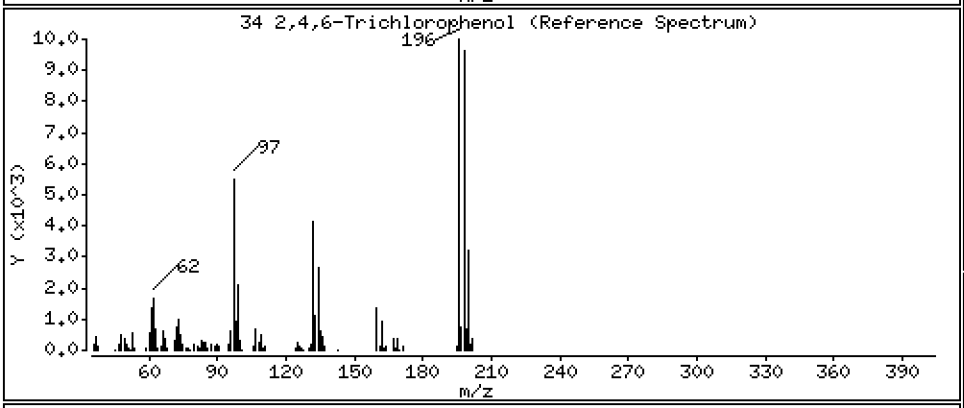
Concentration: 11.66 ug/mL

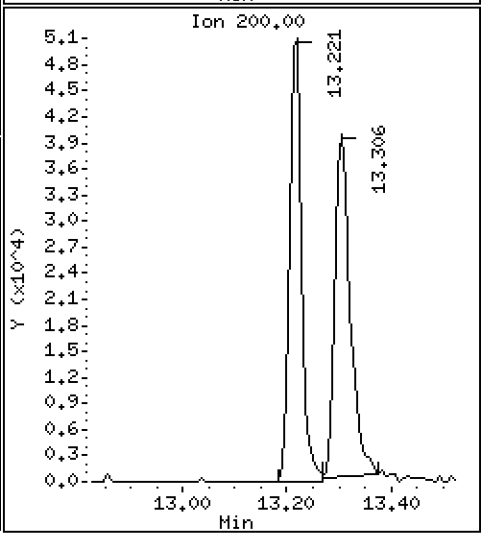


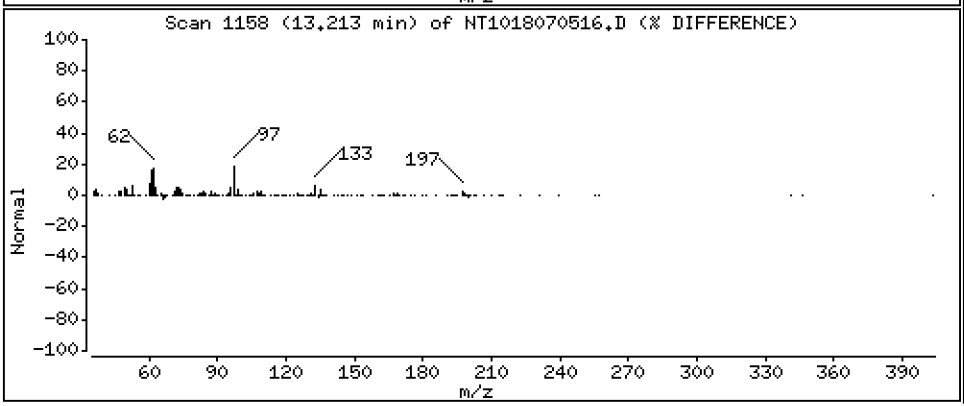












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

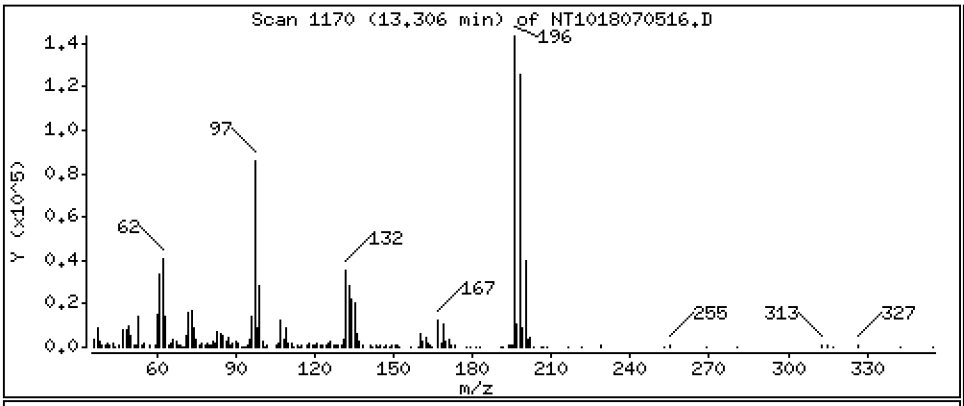
Operator: YZ

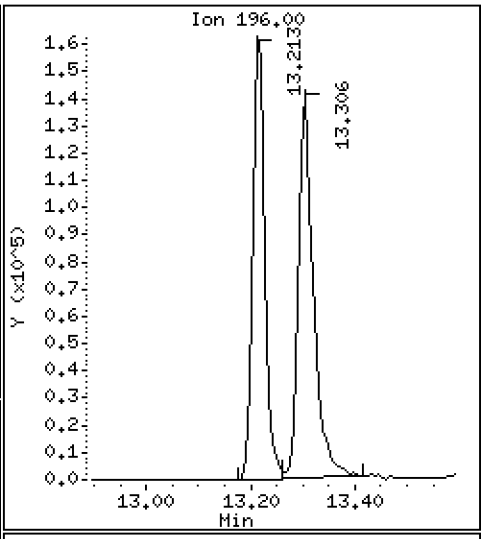
Column phase: ZB-5msi

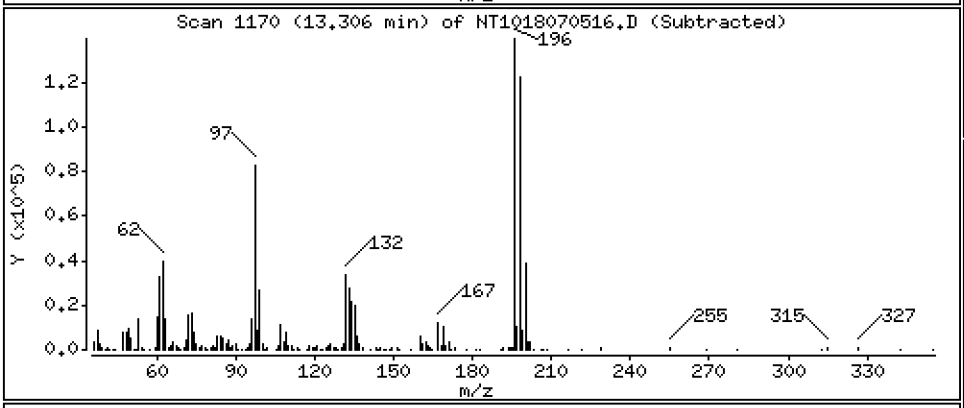
Column diameter: 0.25

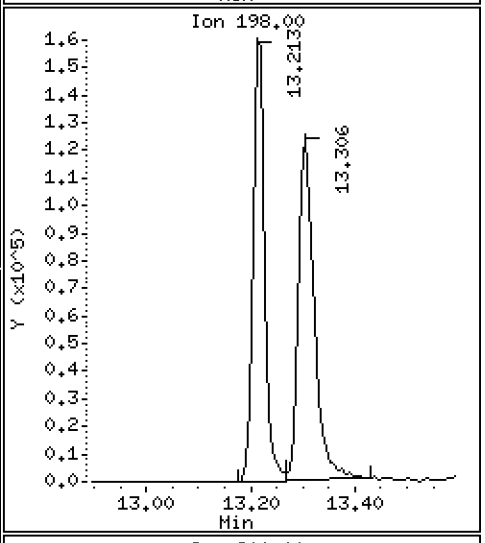
35 2,4,5-Trichlorophenol

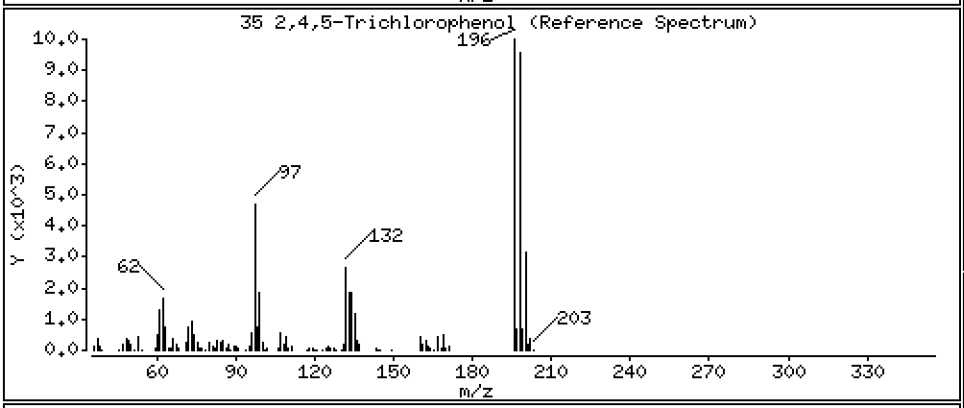
Concentration: 10.79 ug/mL

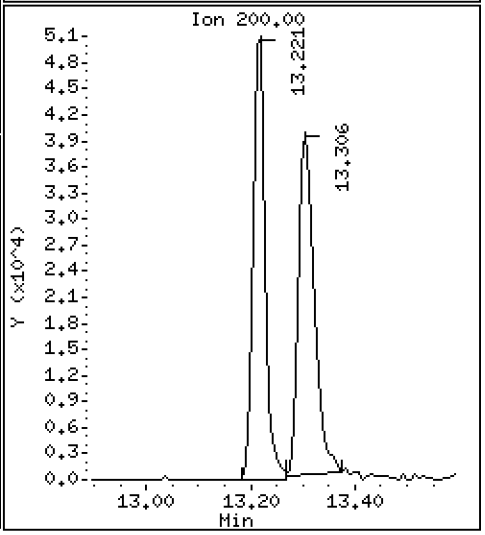


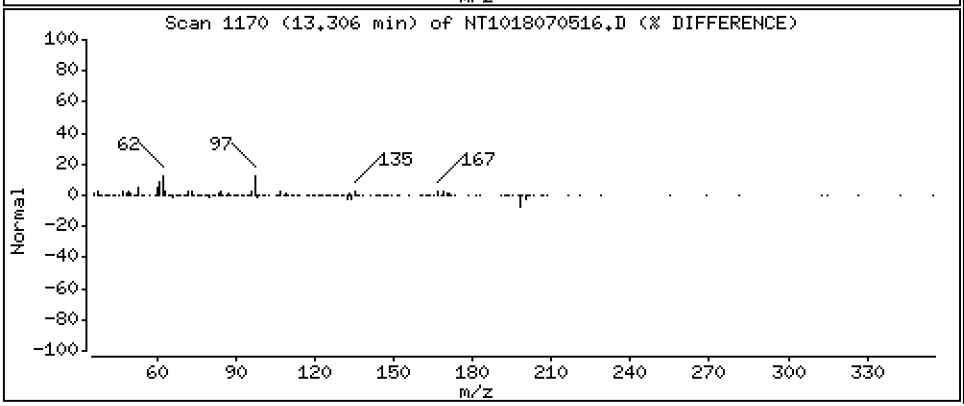












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

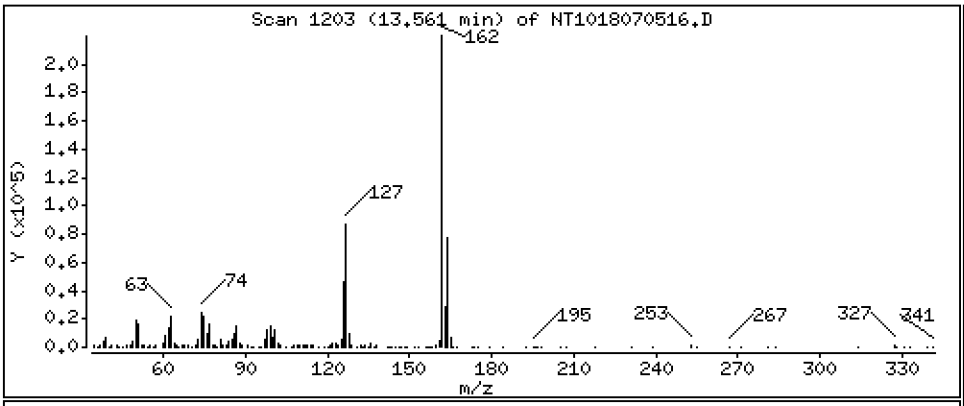
Operator: YZ

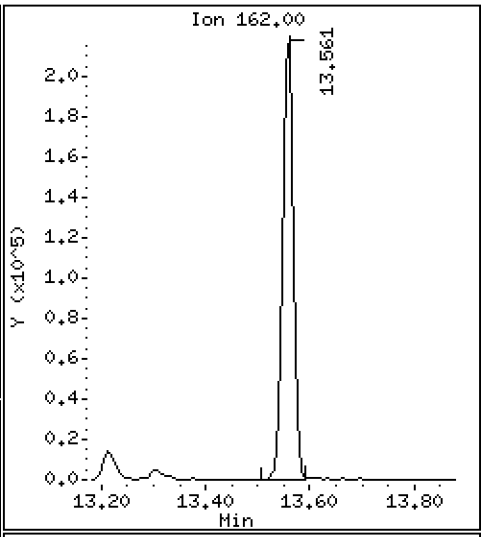
Column phase: ZB-5msi

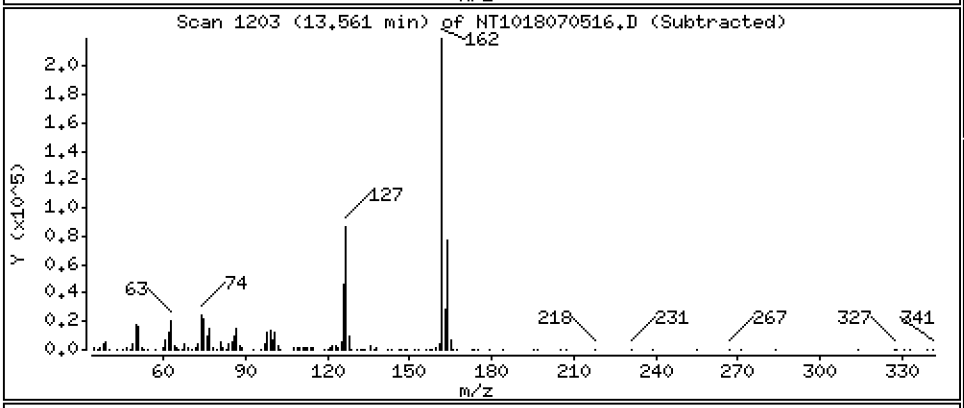
Column diameter: 0.25

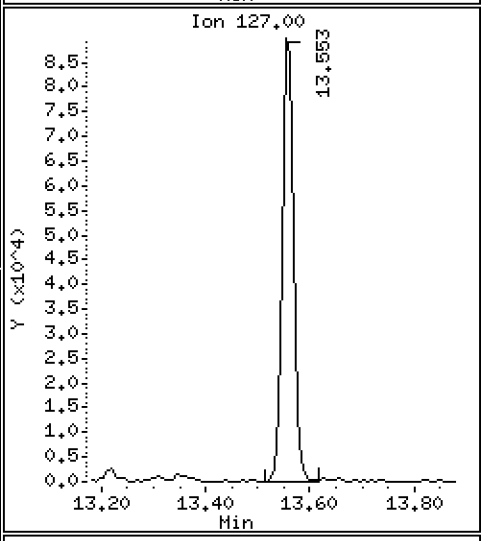
37 2-Chloronaphthalene

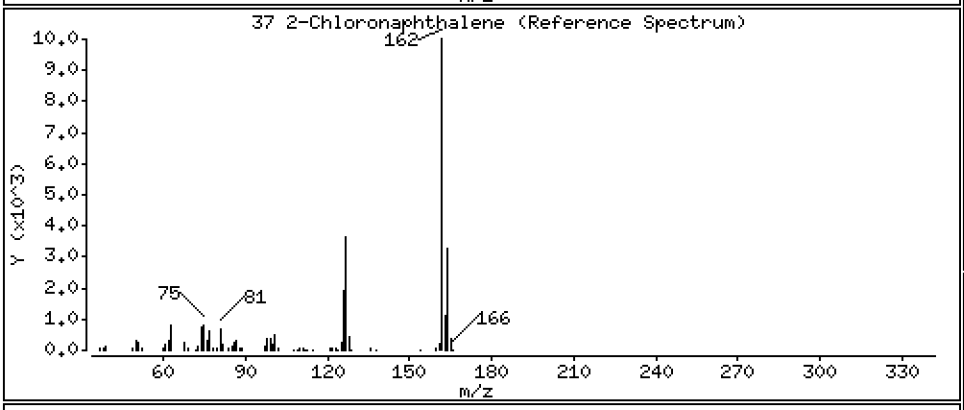
Concentration: 4.752 ug/mL

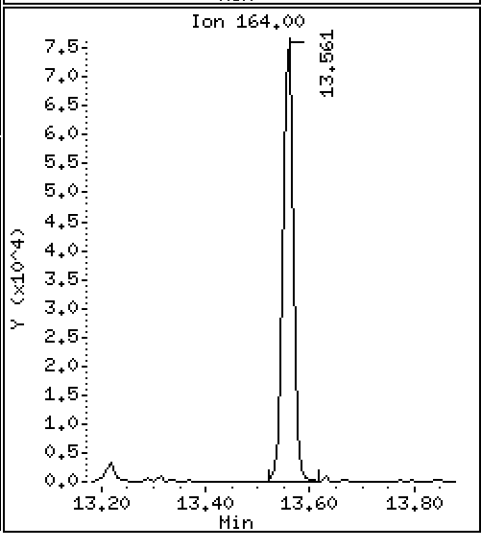


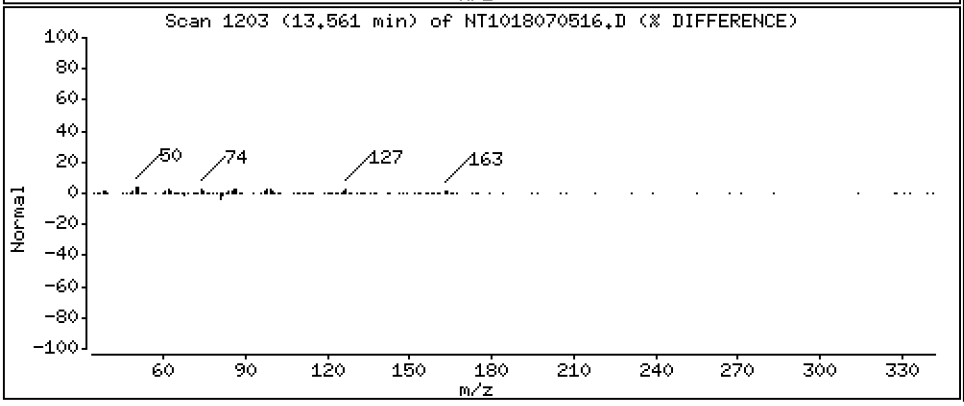












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

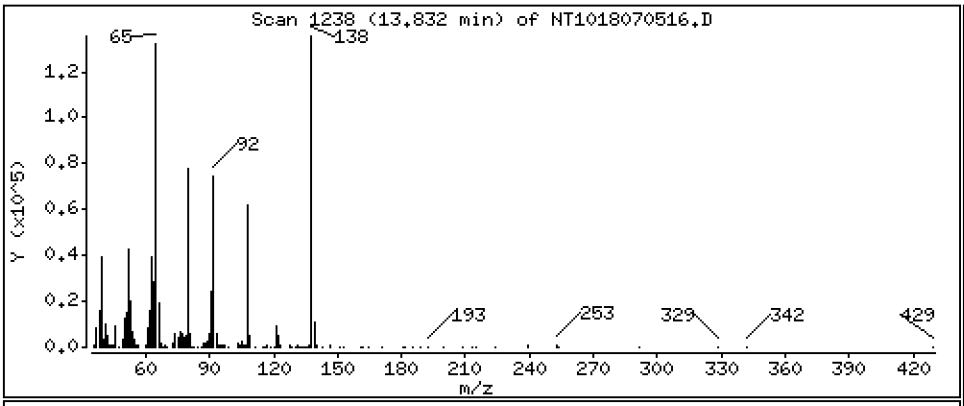
Operator: YZ

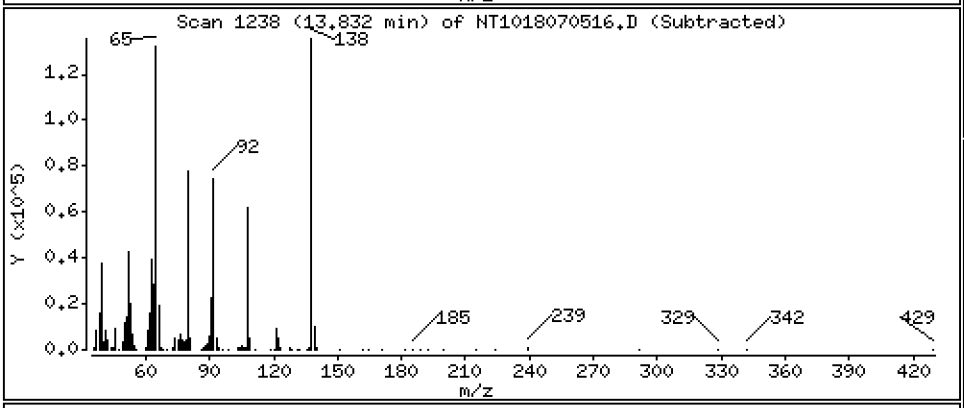
Column phase: ZB-5msi

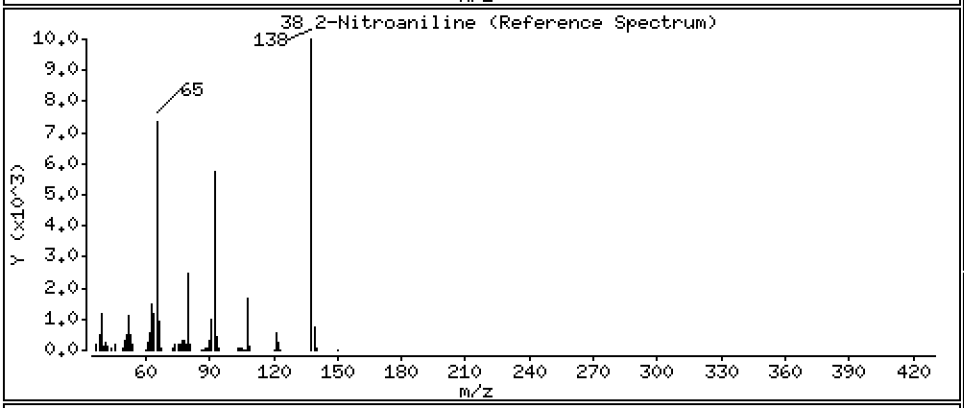
Column diameter: 0.25

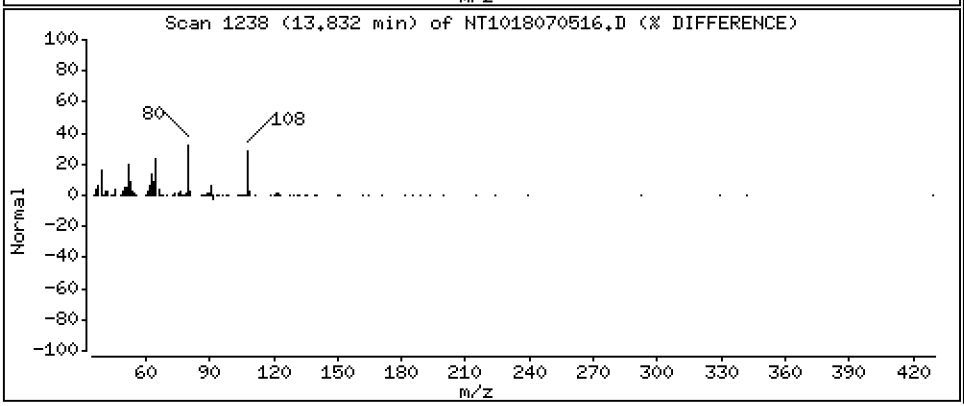
38 2-Nitroaniline

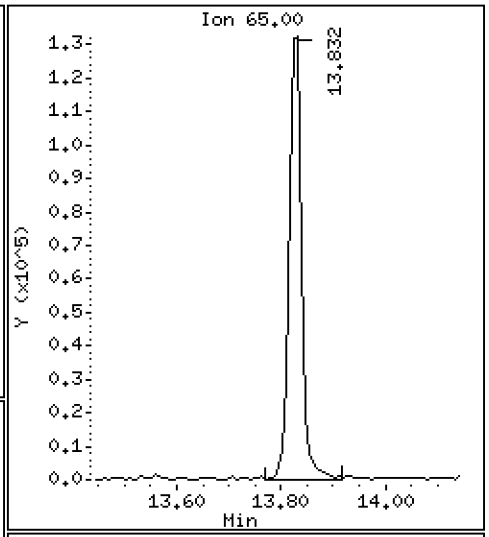
Concentration: 11.96 ug/mL

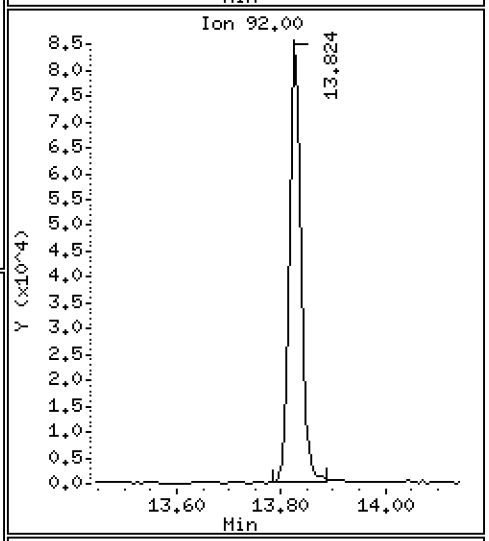


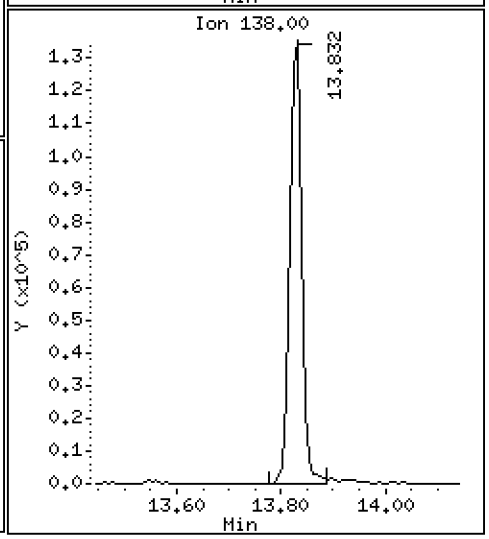












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

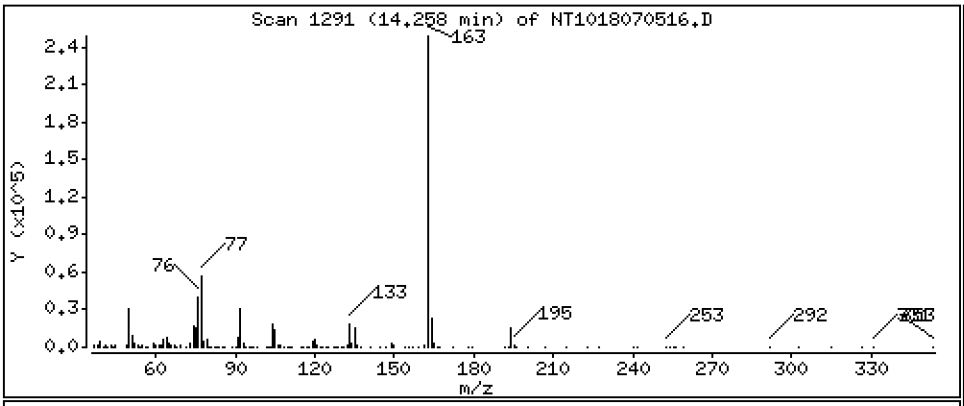
Operator: YZ

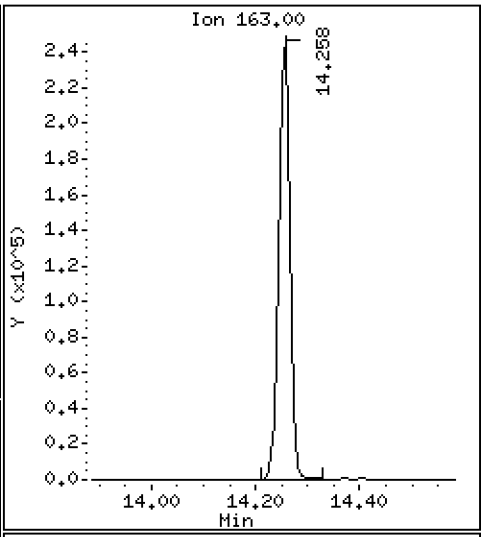
Column phase: ZB-5msi

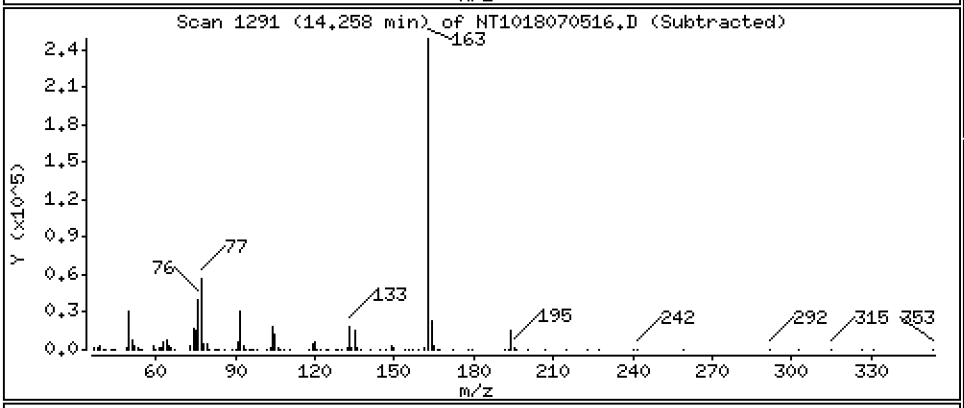
Column diameter: 0.25

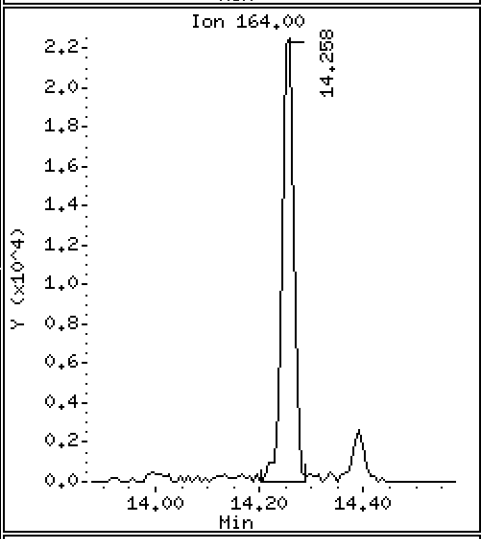
39 Dimethylphthalate

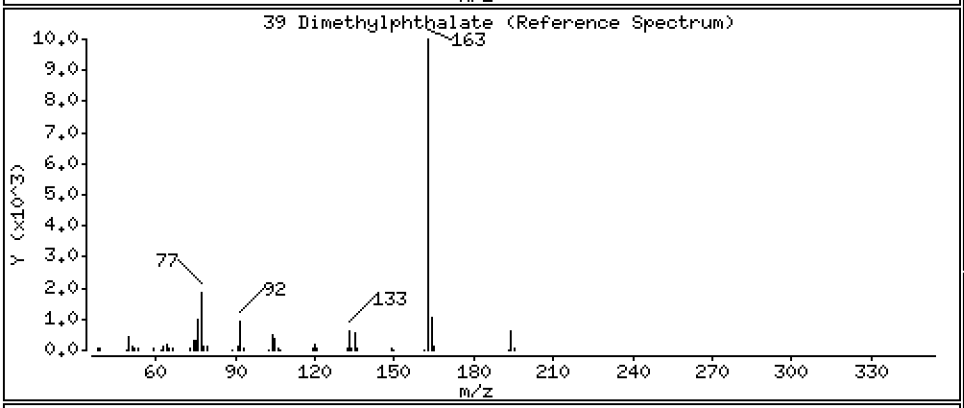
Concentration: 5.191 ug/mL

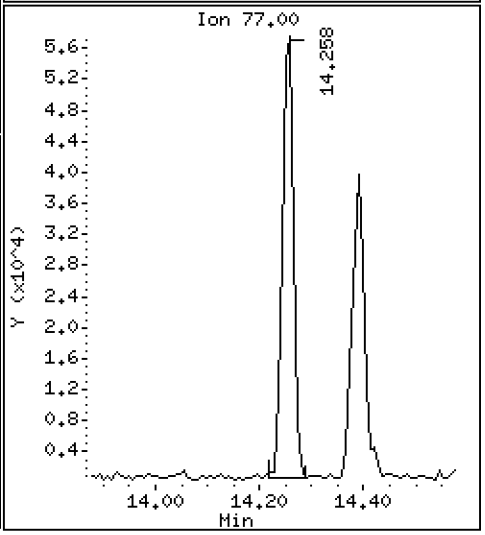


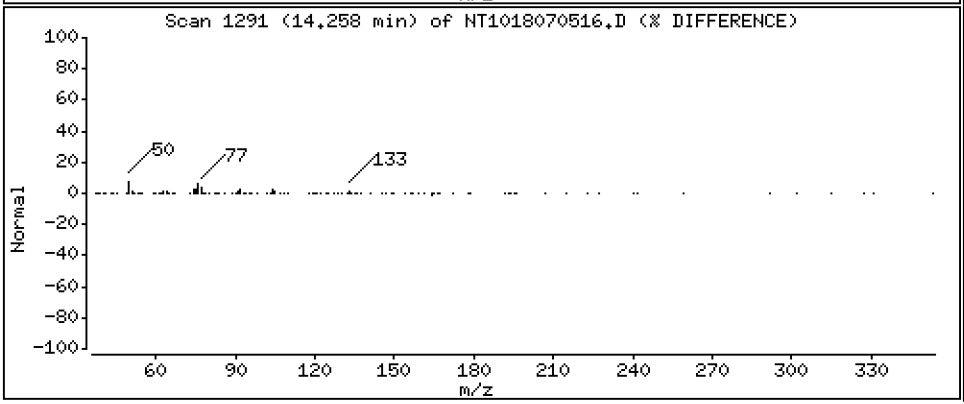












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

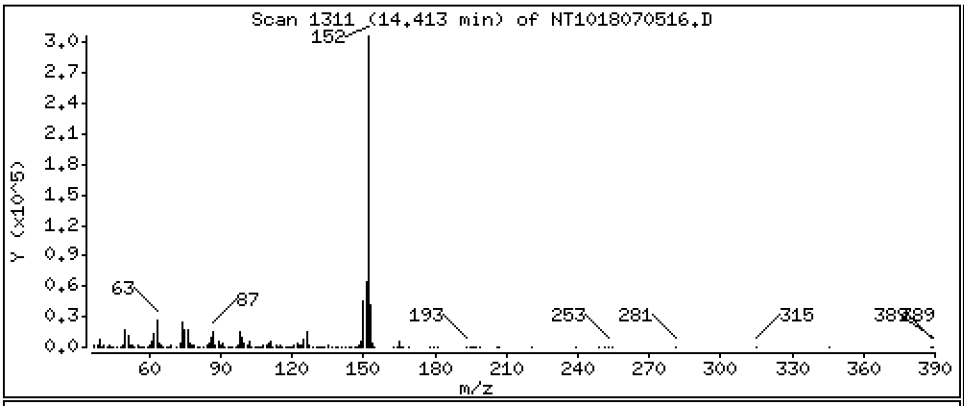
Operator: YZ

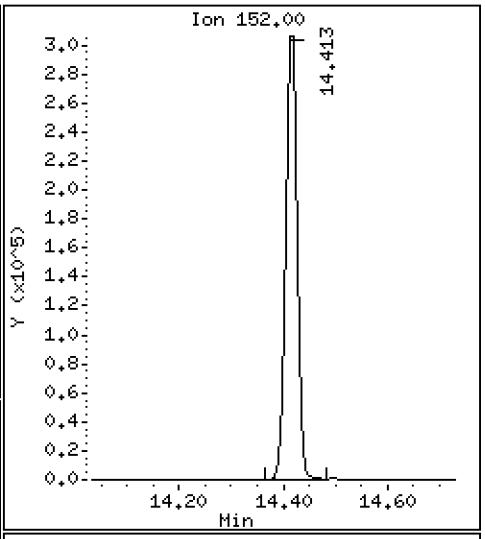
Column phase: ZB-5msi

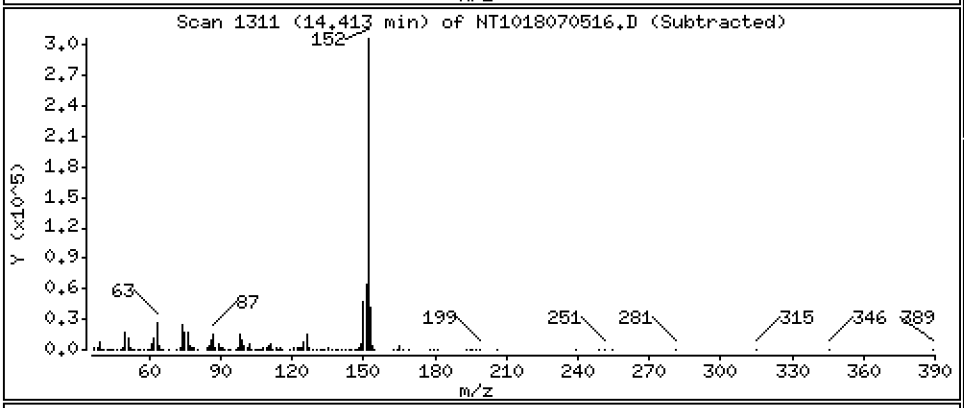
Column diameter: 0.25

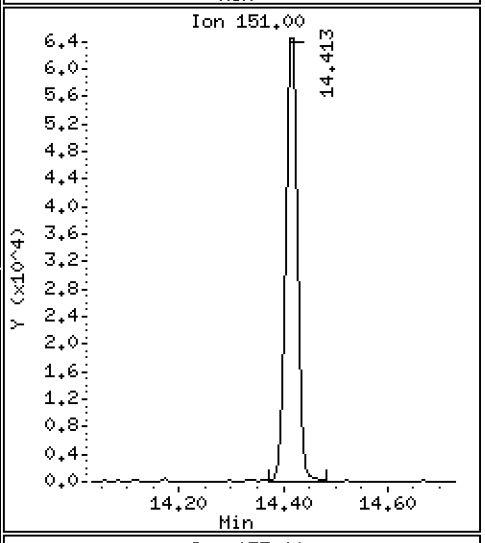
40 Acenaphthylene

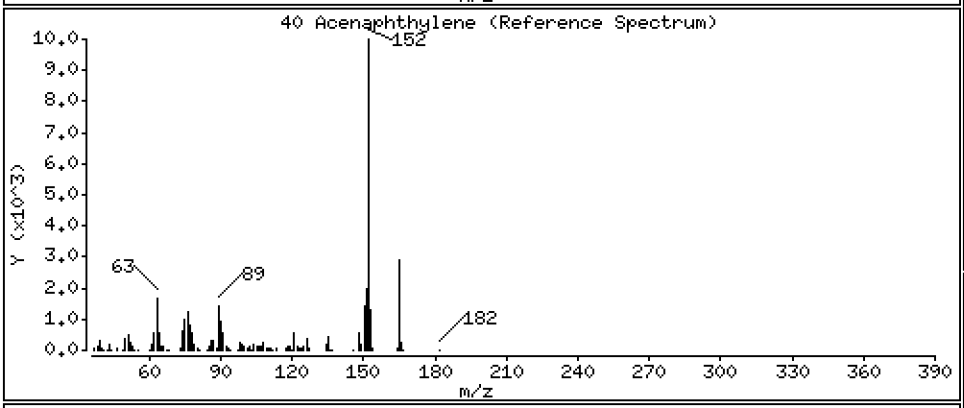
Concentration: 4.520 ug/mL

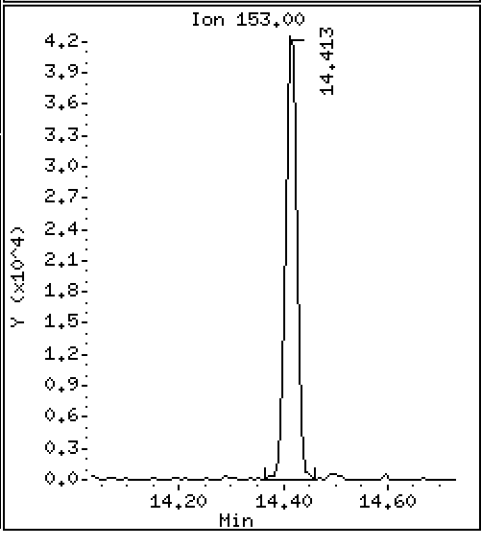


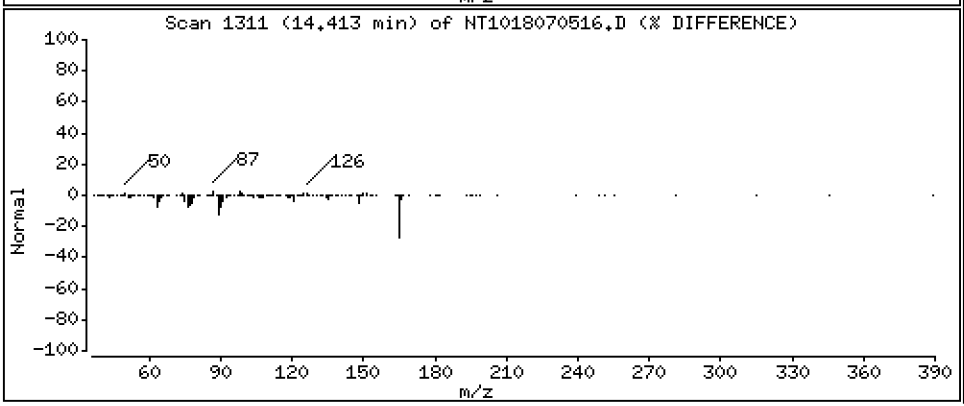












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

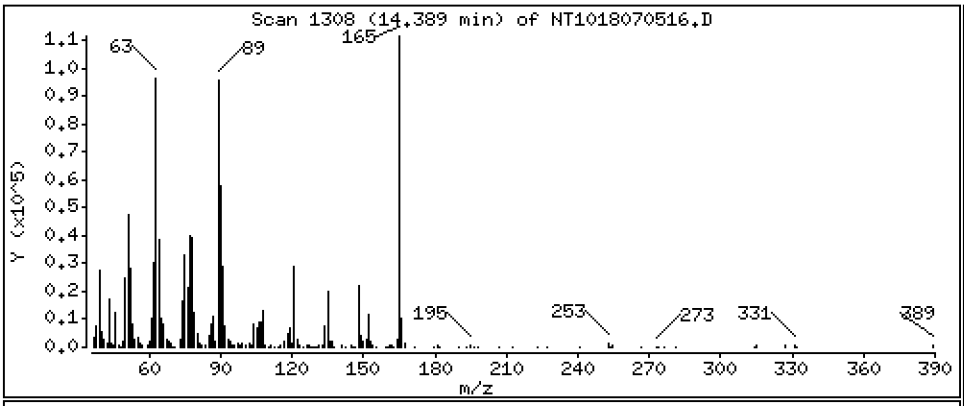
Operator: YZ

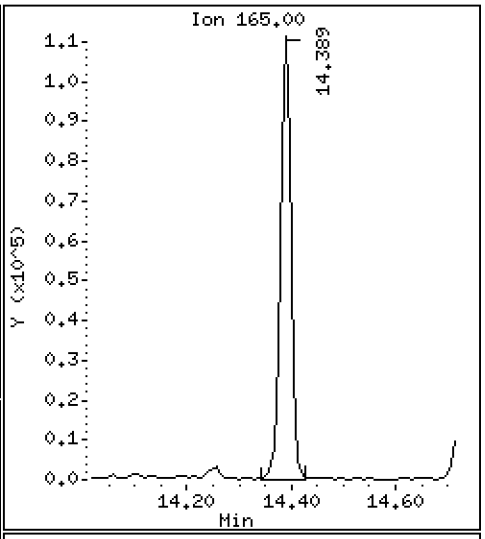
Column phase: ZB-5msi

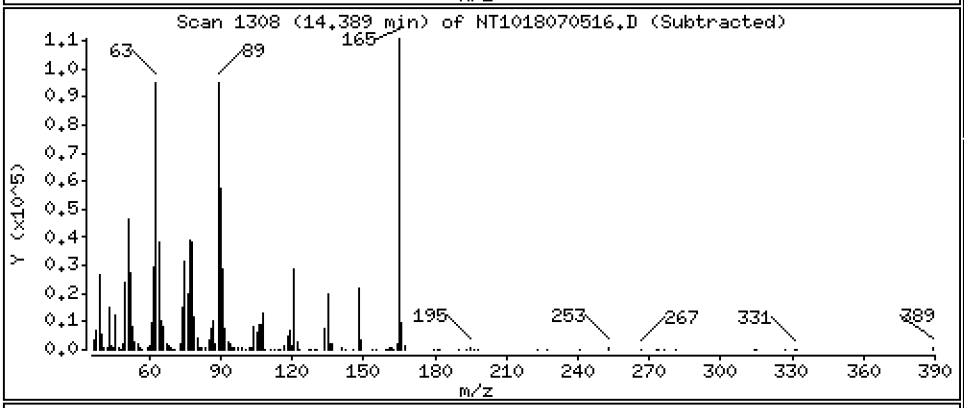
Column diameter: 0.25

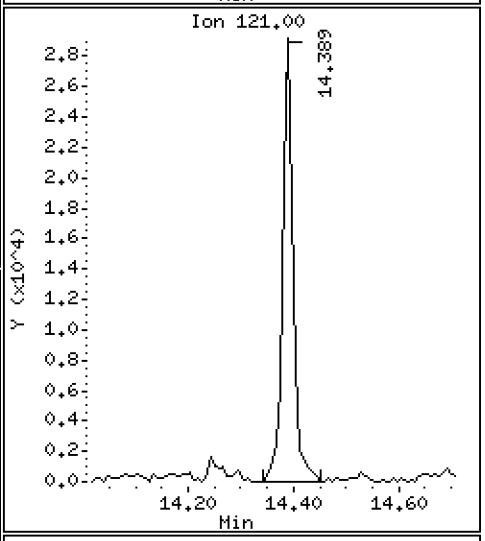
41 2,6-Dinitrotoluene

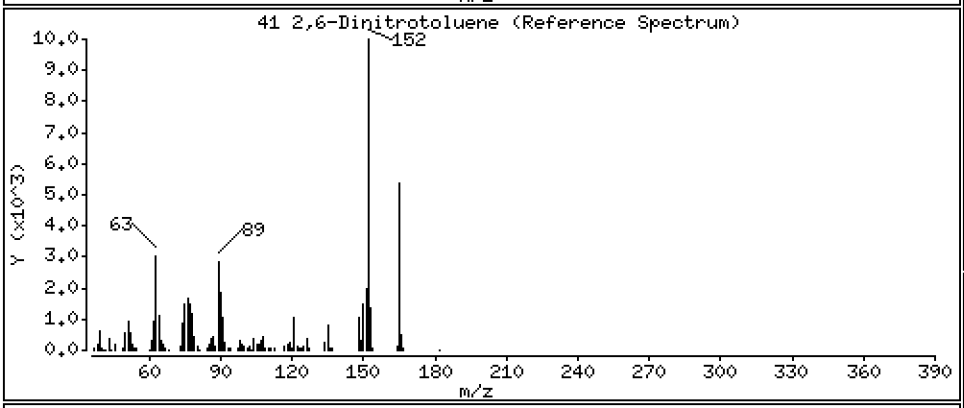
Concentration: 10.30 ug/mL

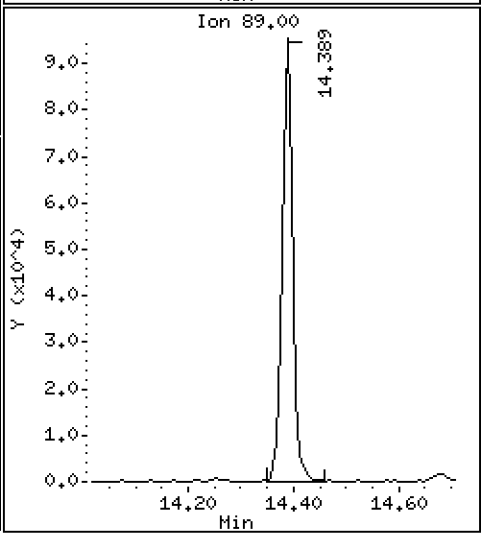


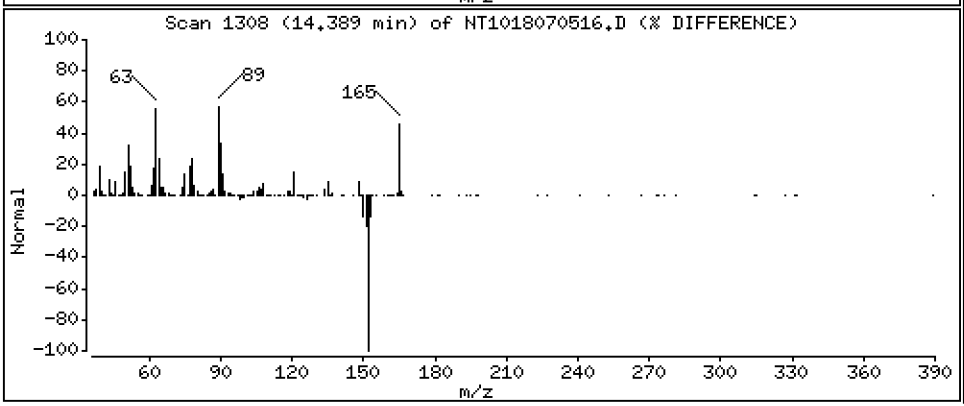












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

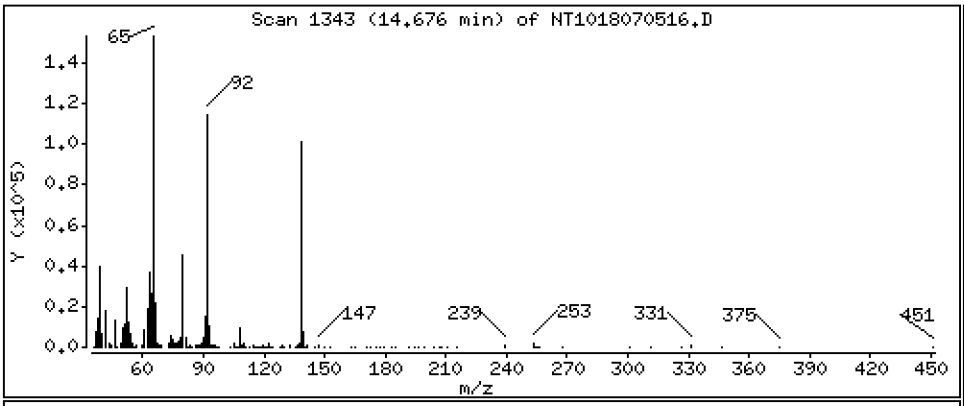
Operator: YZ

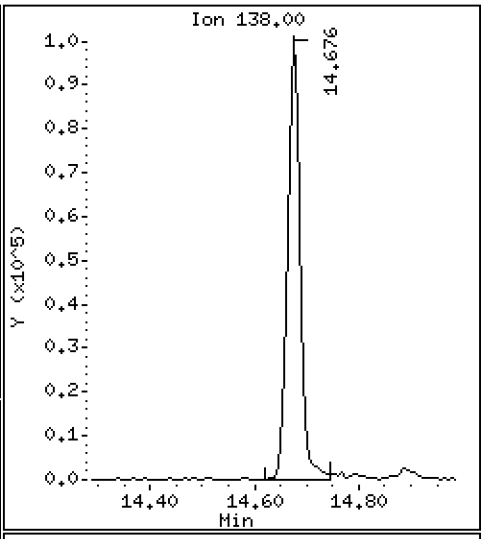
Column phase: ZB-5msi

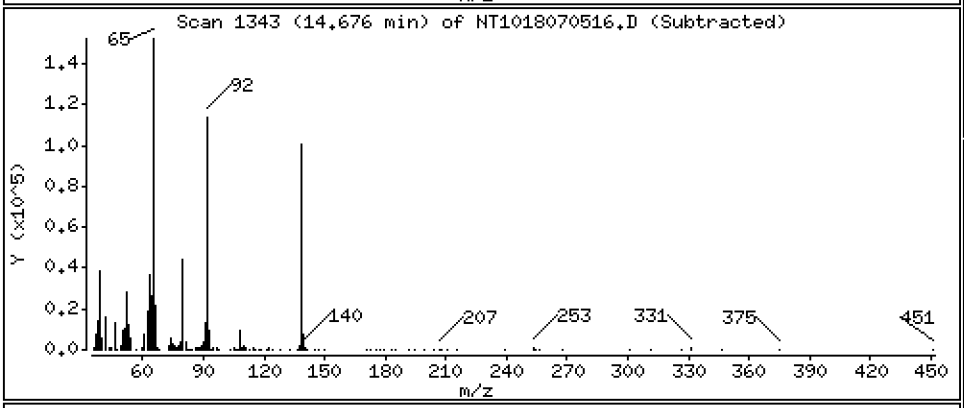
Column diameter: 0.25

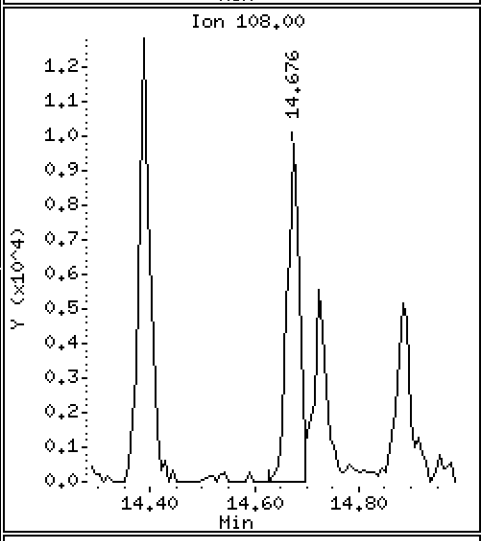
43 3-Nitroaniline

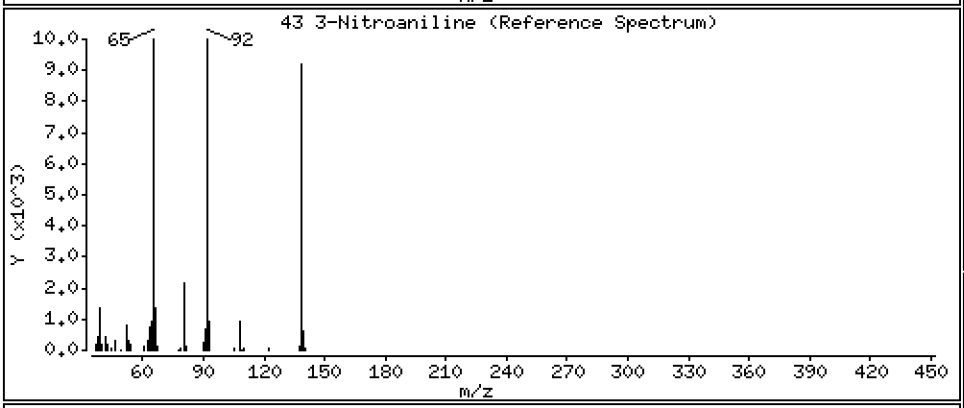
Concentration: 9.646 ug/mL

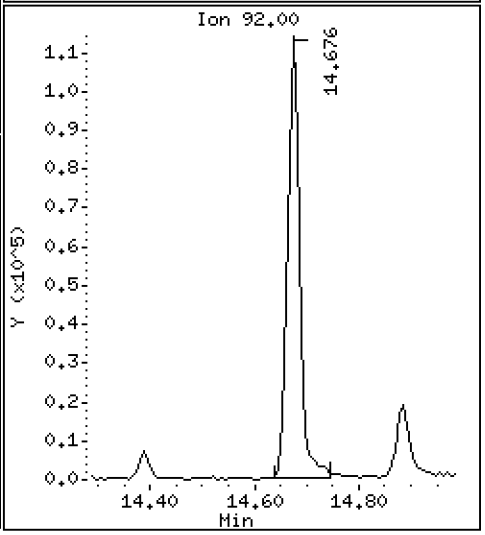


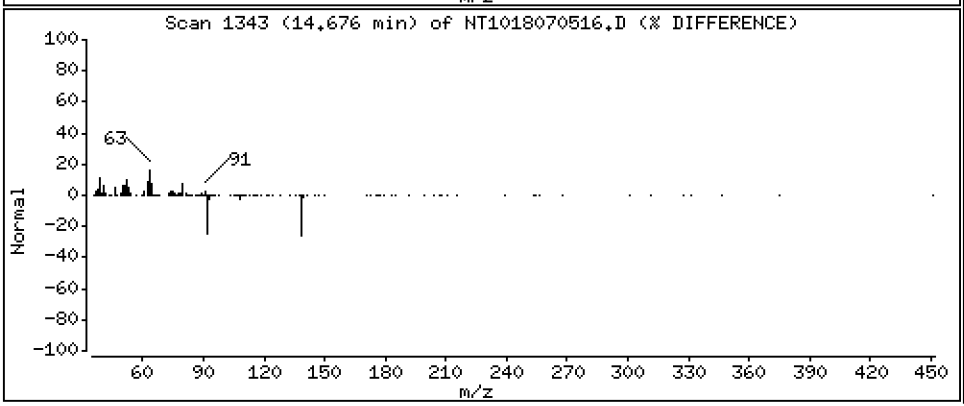












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

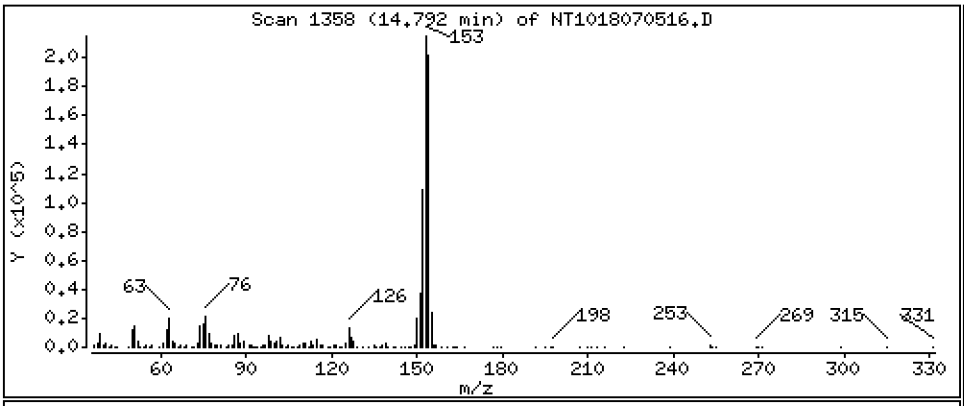
Operator: YZ

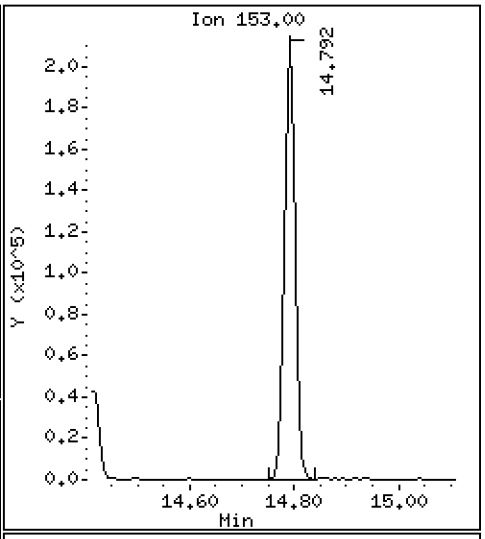
Column phase: ZB-5msi

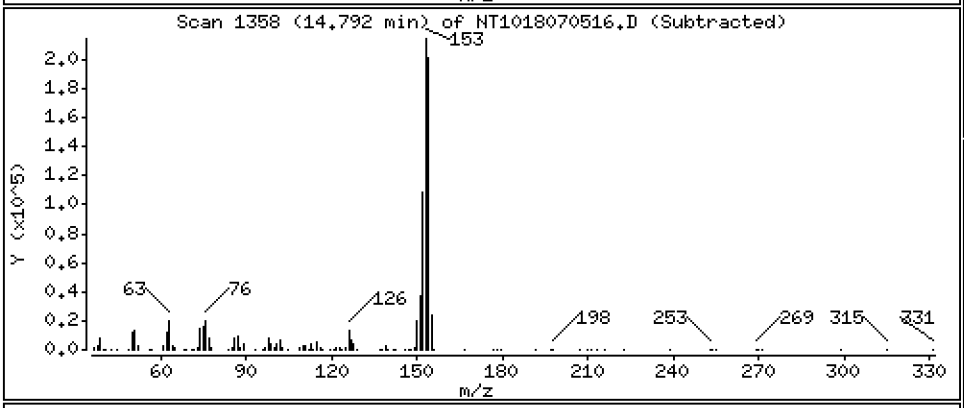
Column diameter: 0.25

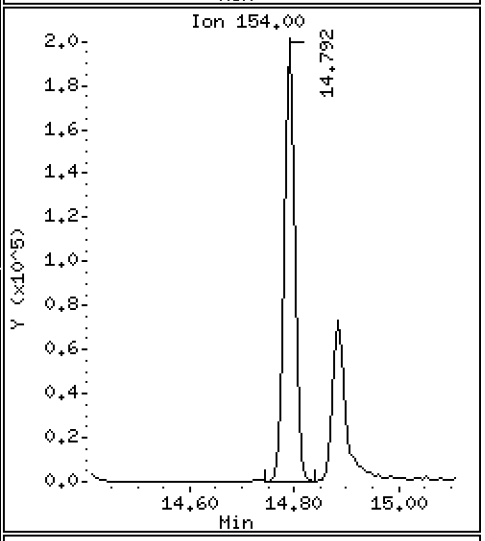
44 Acenaphthene

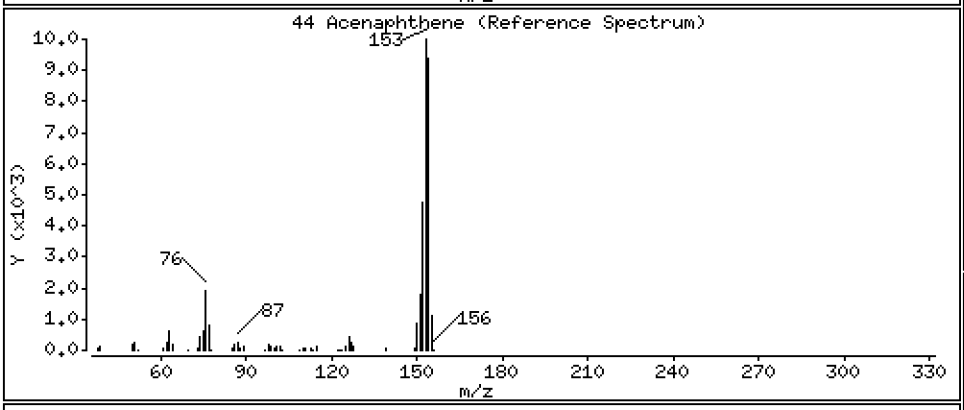
Concentration: 4.883 ug/mL

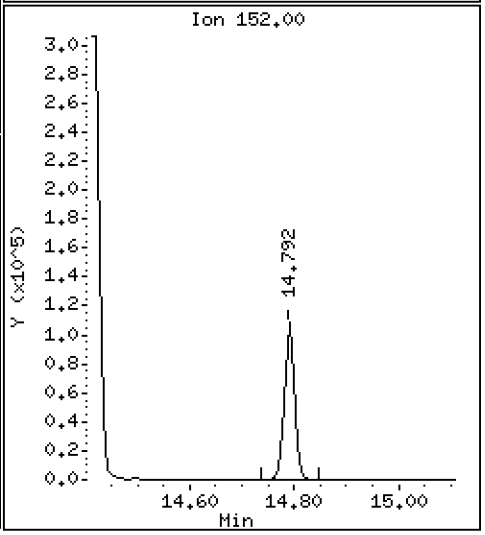


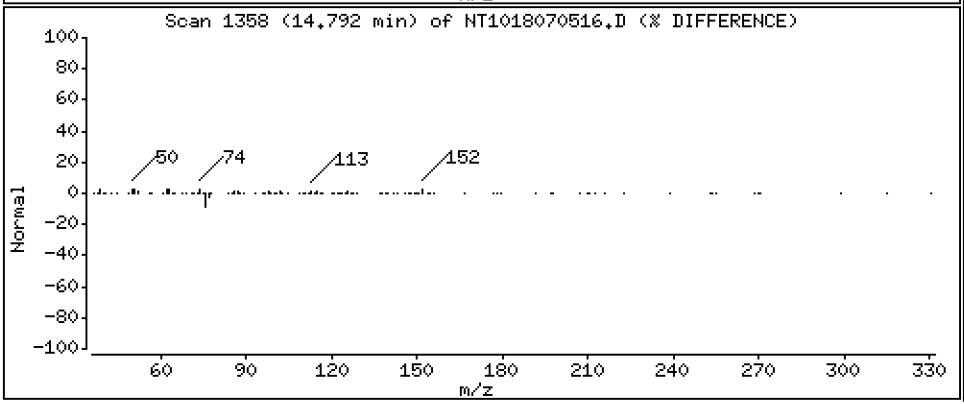












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

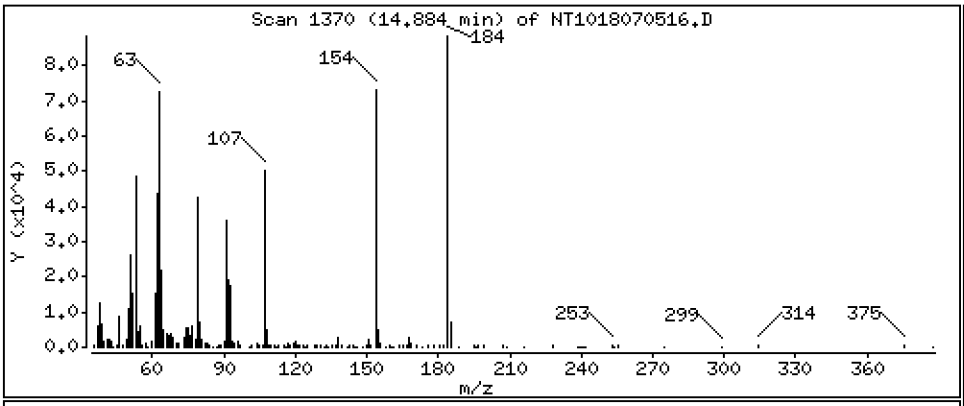
Operator: YZ

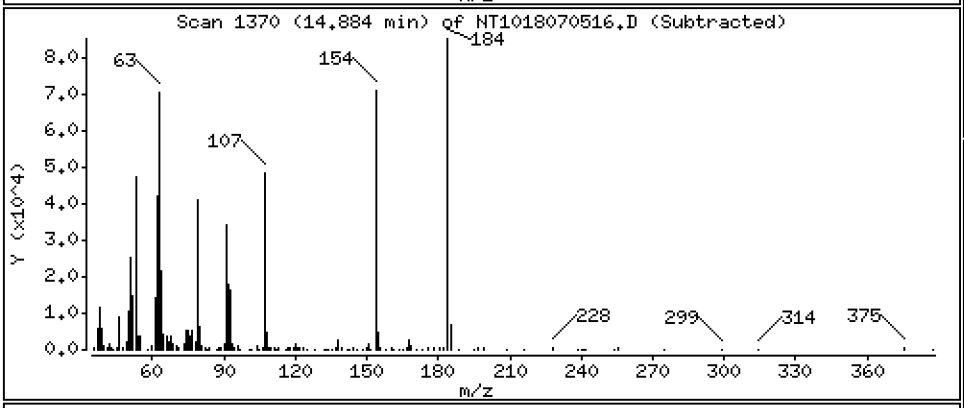
Column phase: ZB-5msi

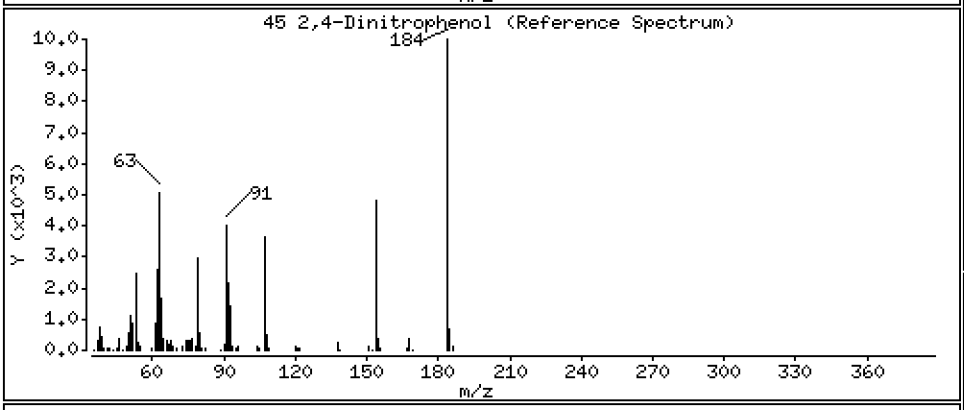
Column diameter: 0.25

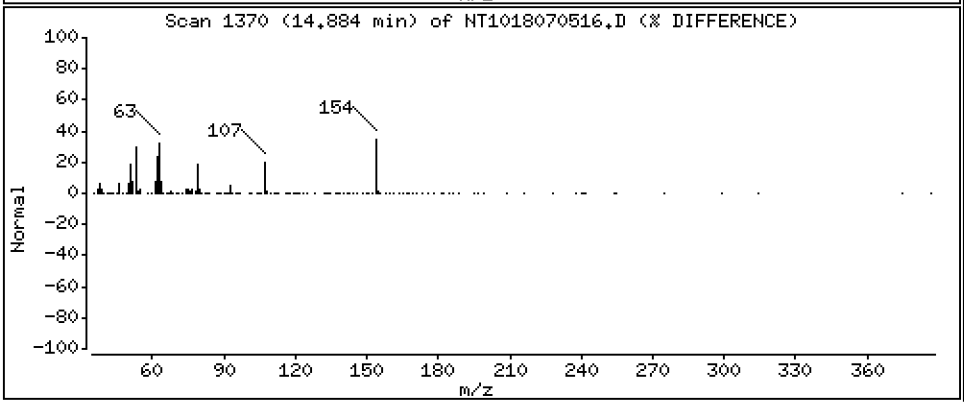
45 2,4-Dinitrophenol

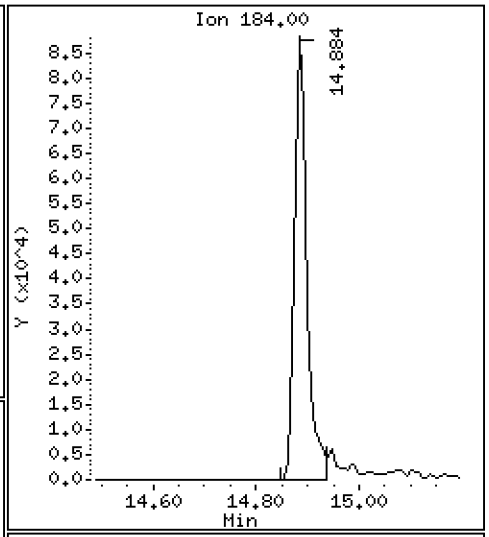
Concentration: 15.34 ug/mL

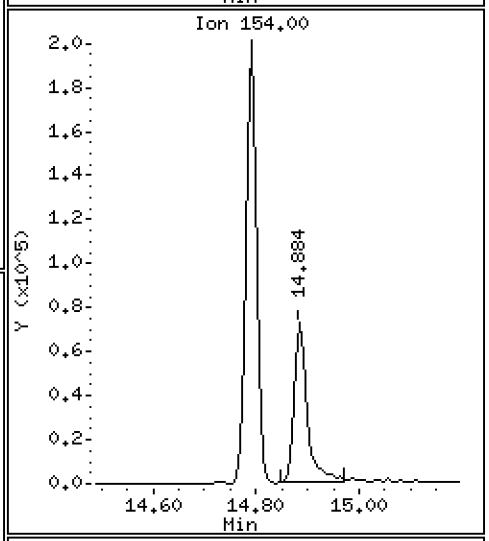


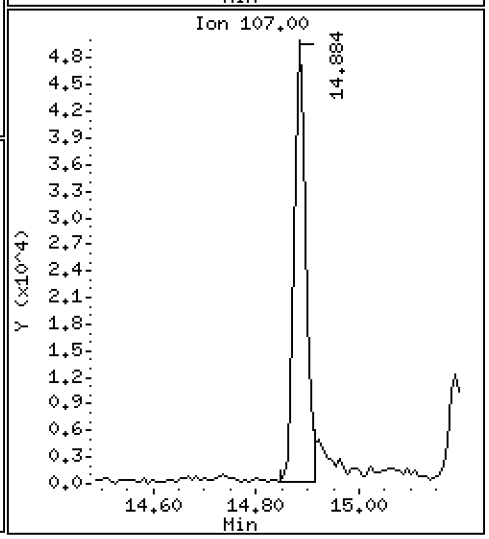












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

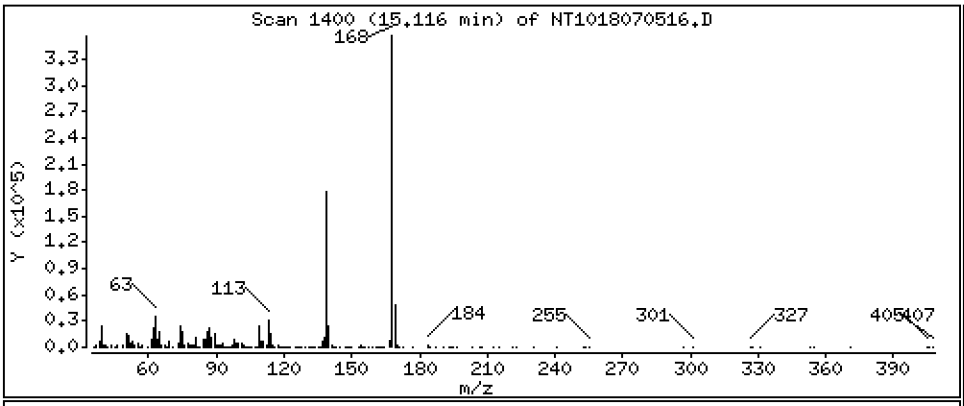
Operator: YZ

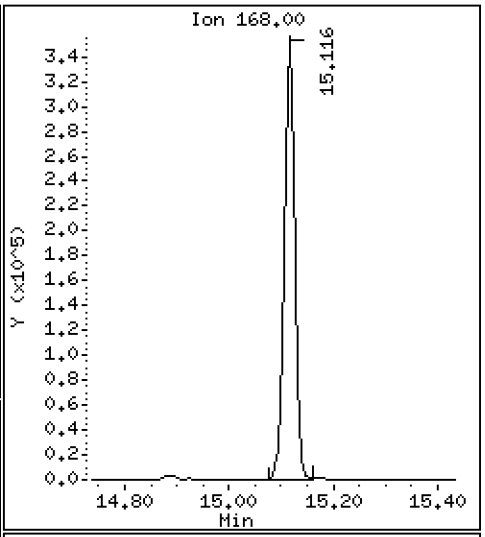
Column phase: ZB-5msi

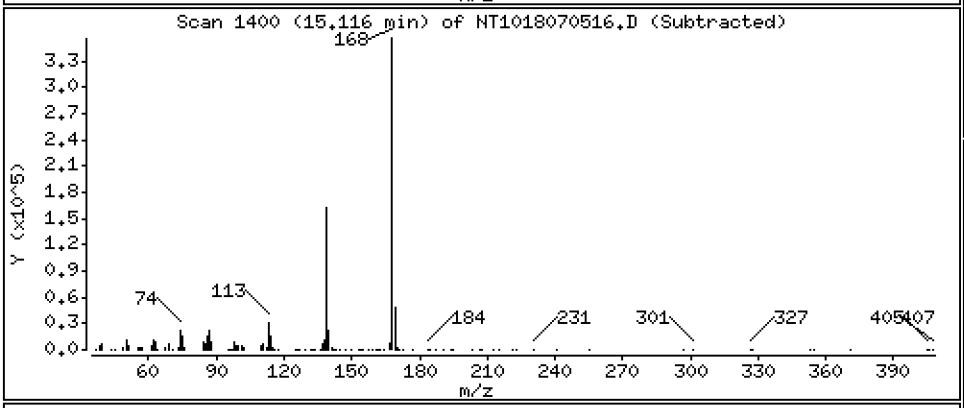
Column diameter: 0.25

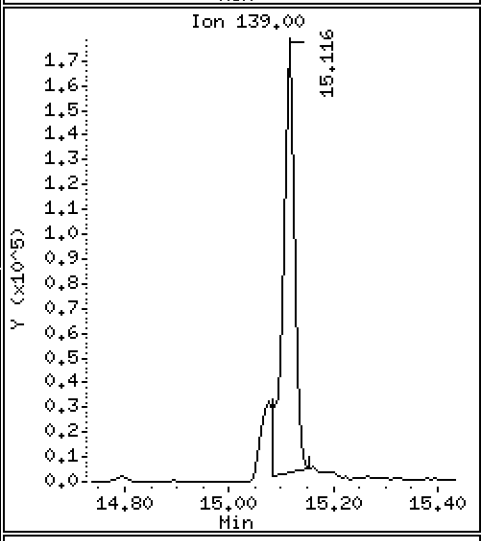
46 Dibenzofuran

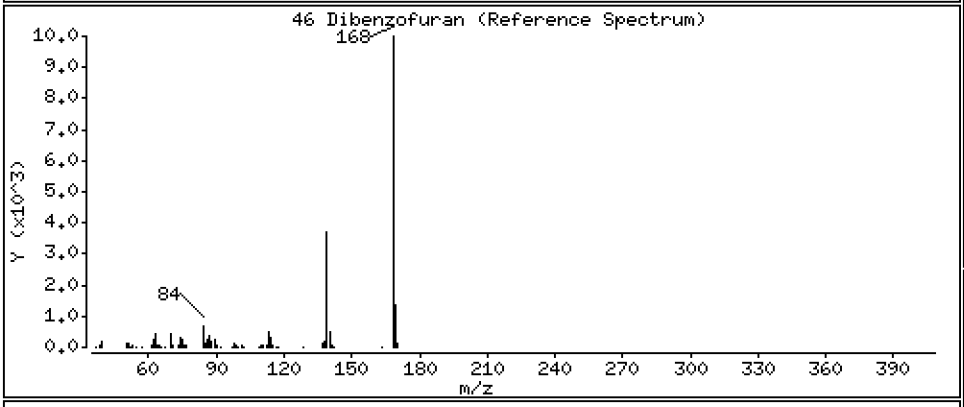
Concentration: 5.040 ug/mL

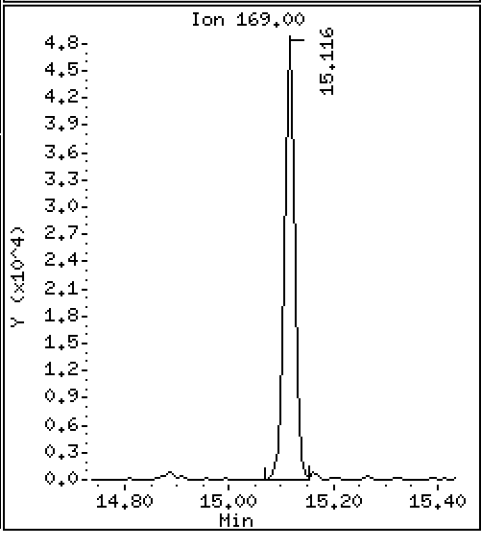


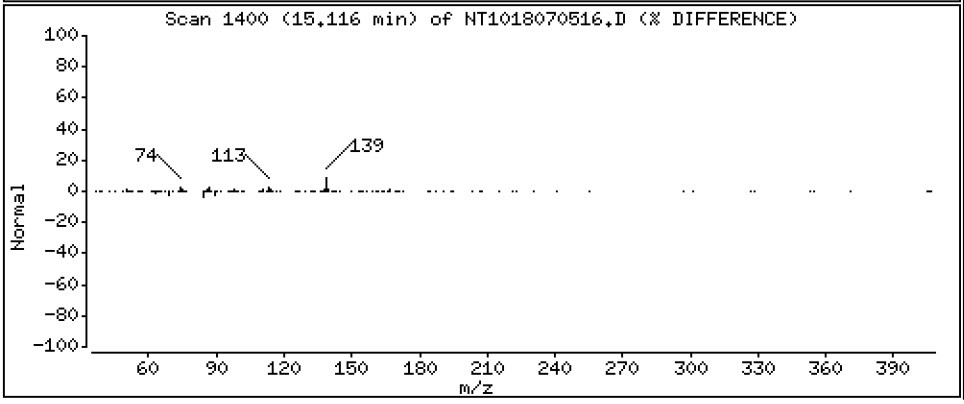












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

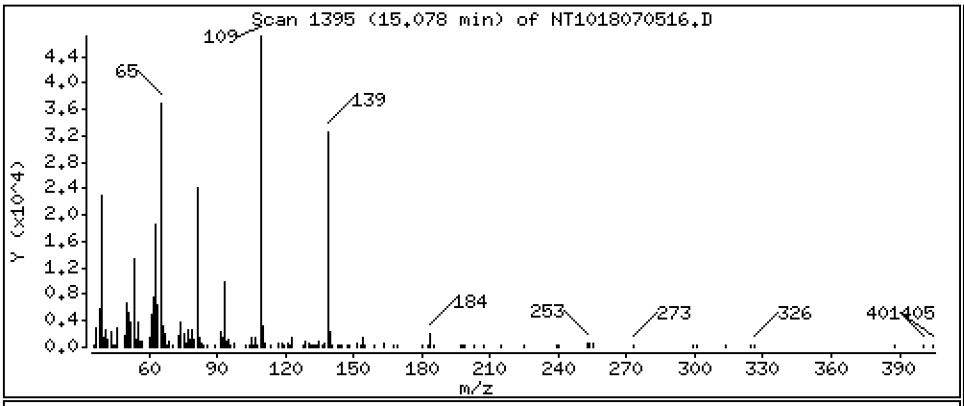
Operator: YZ

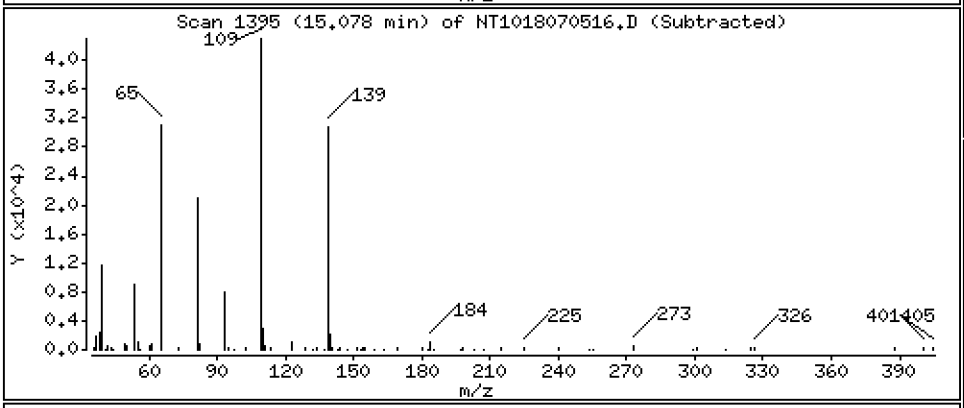
Column phase: ZB-5msi

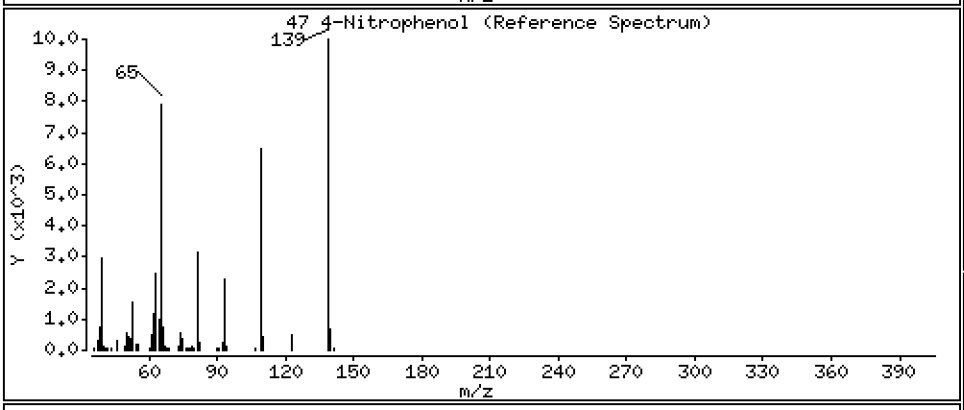
Column diameter: 0.25

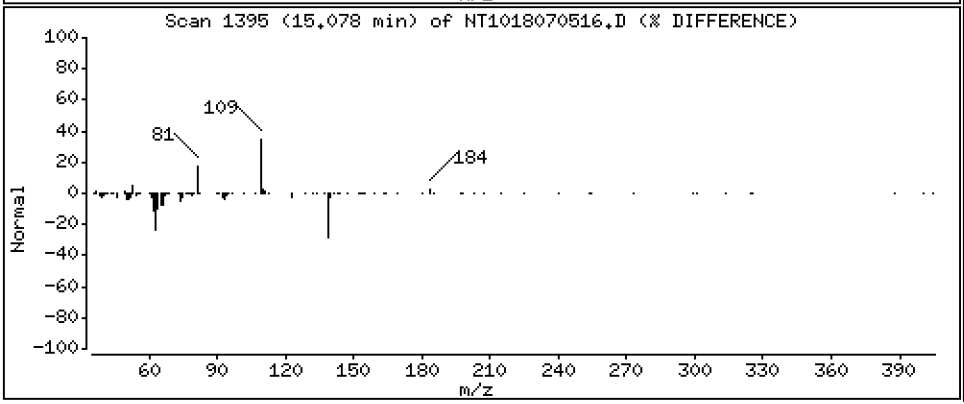
47 4-Nitrophenol

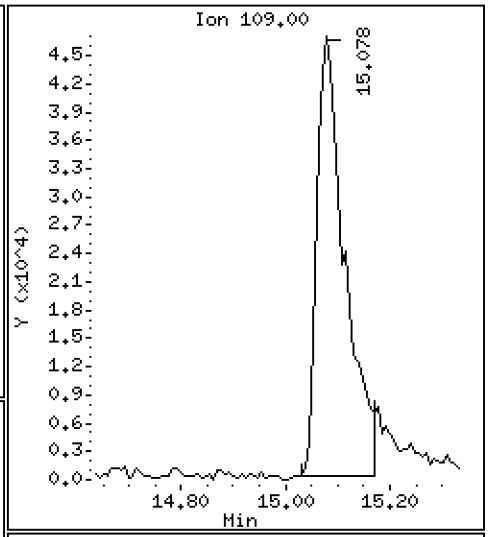
Concentration: 15.41 ug/mL

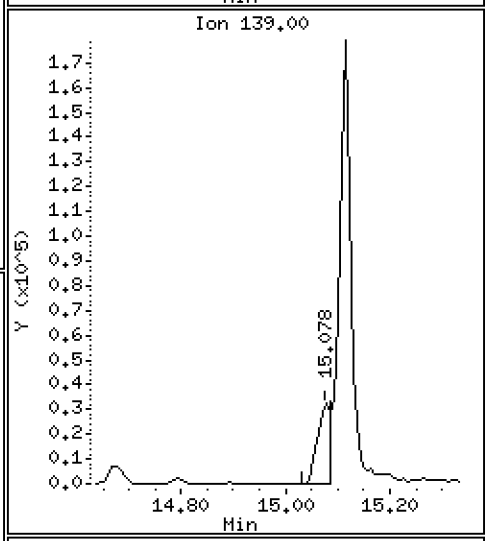


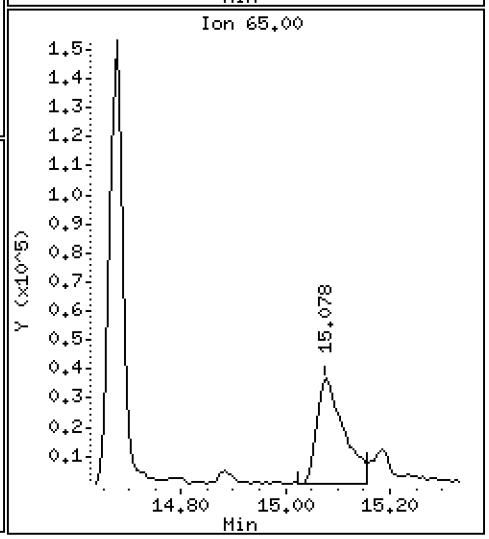












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

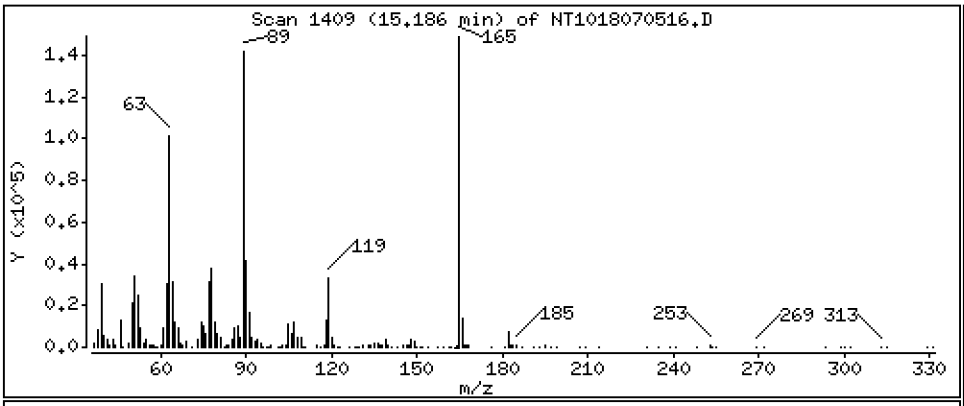
Operator: YZ

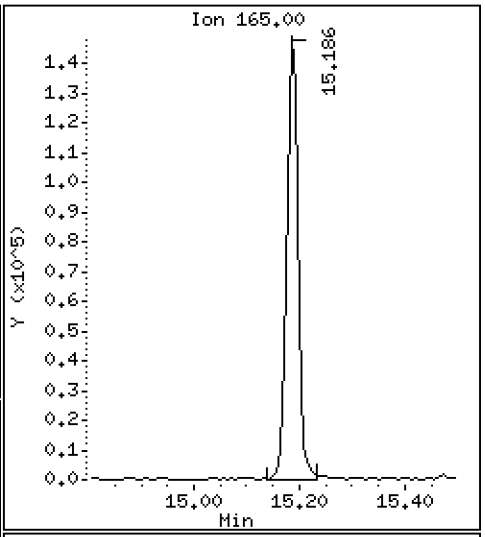
Column phase: ZB-5msi

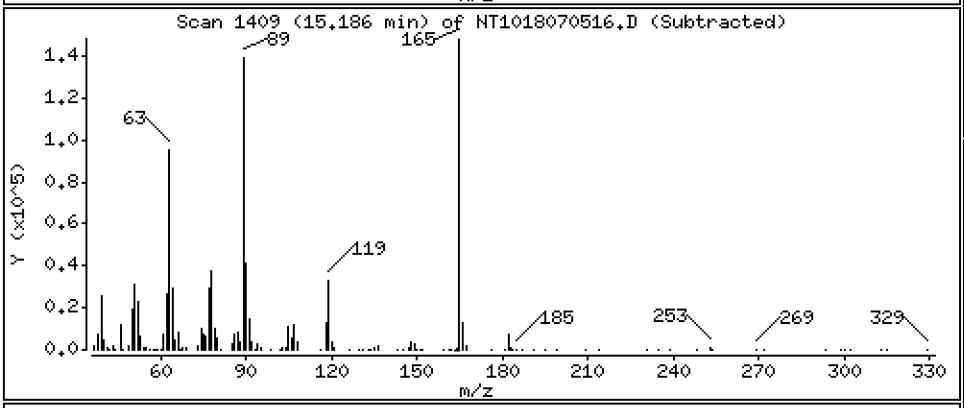
Column diameter: 0.25

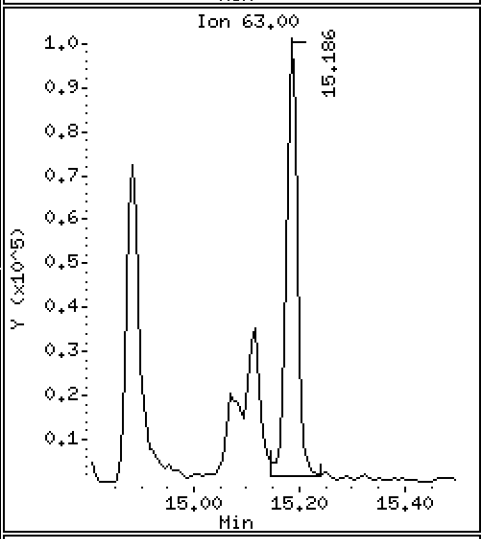
48 2,4-Dinitrotoluene

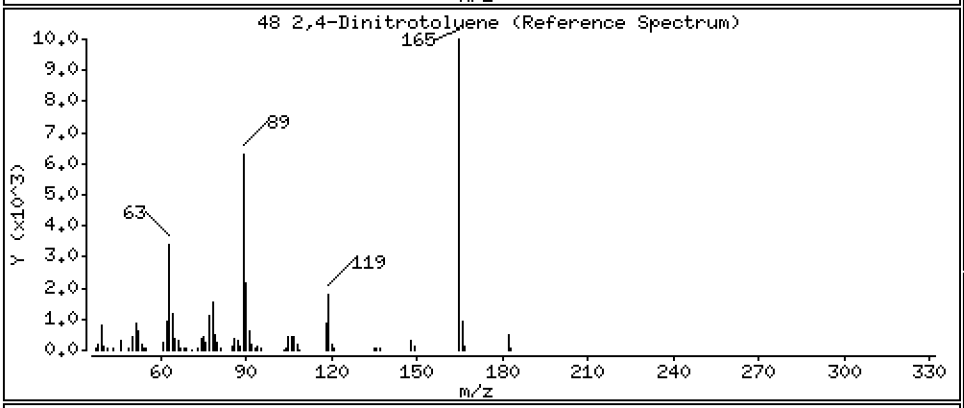
Concentration: 11.48 ug/mL

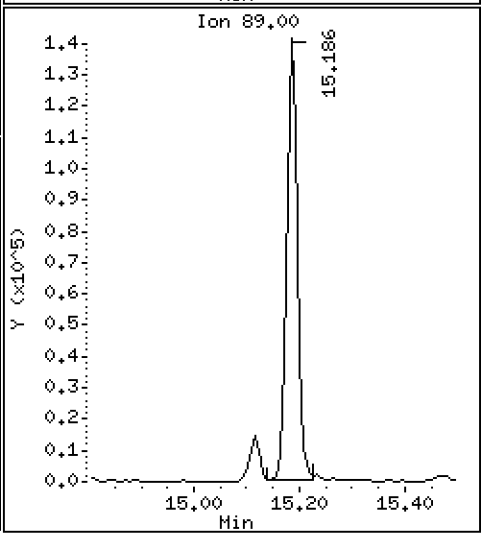


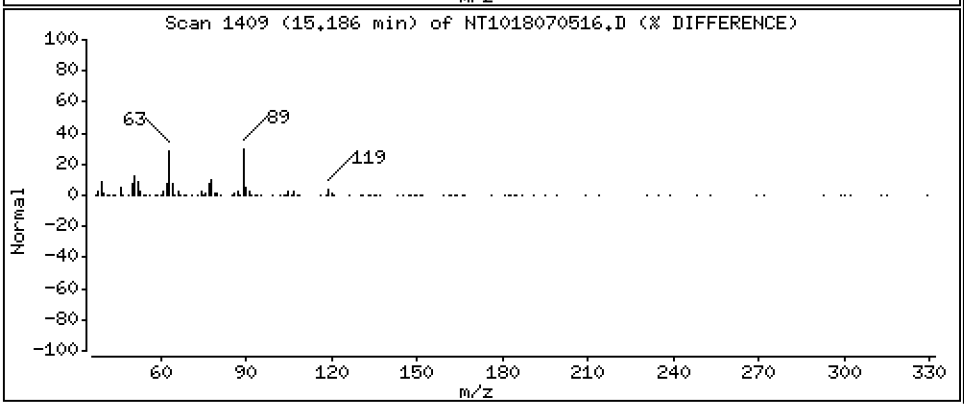












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

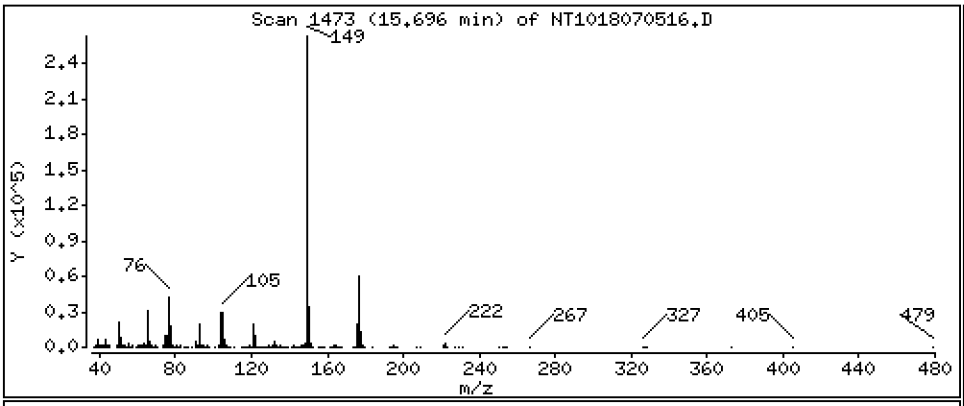
Operator: YZ

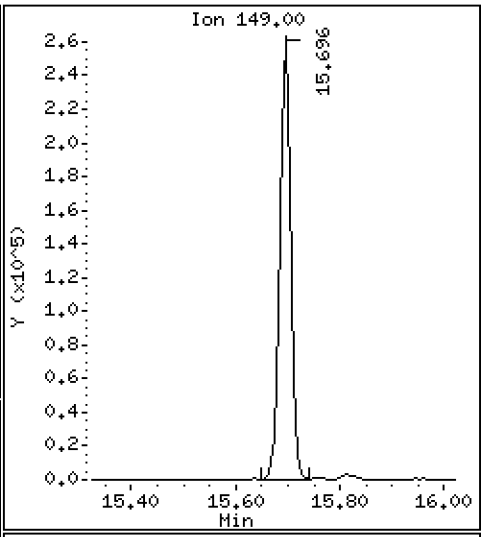
Column phase: ZB-5msi

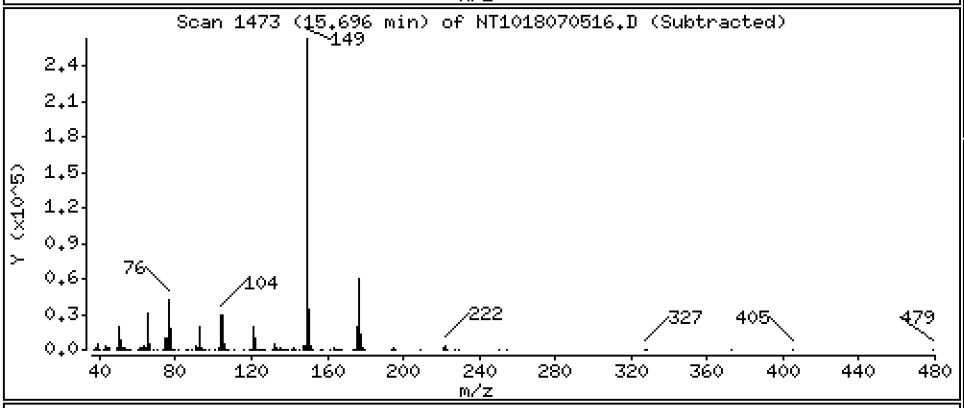
Column diameter: 0.25

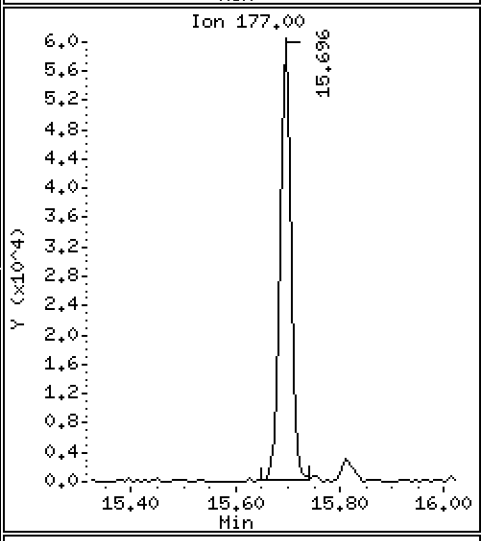
50 Diethylphthalate

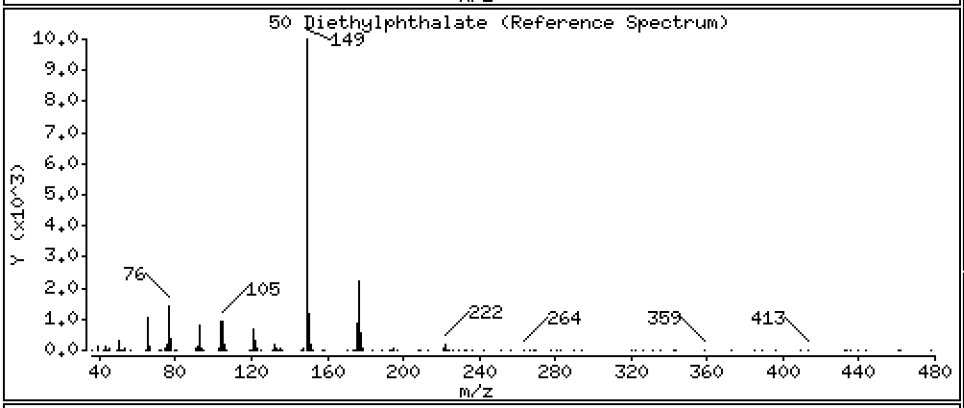
Concentration: 5.240 ug/mL

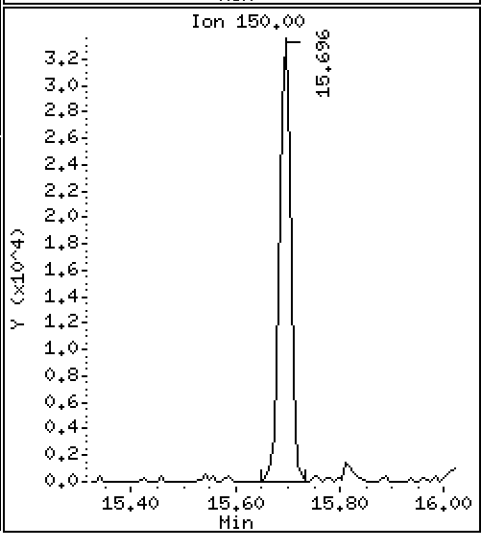


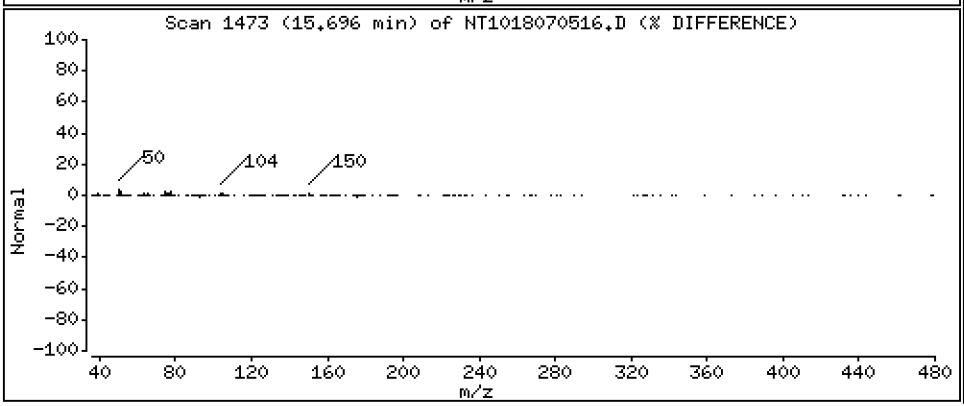












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

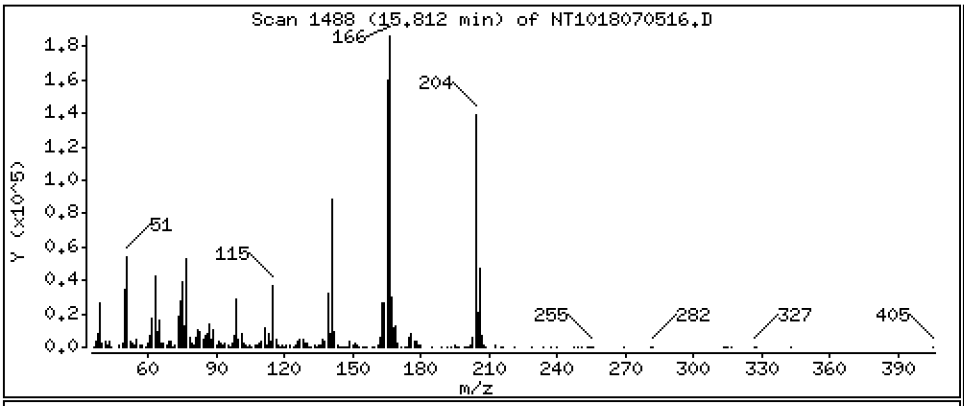
Operator: YZ

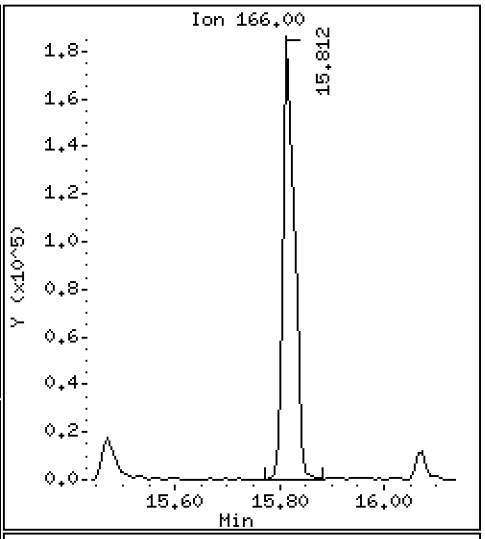
Column phase: ZB-5msi

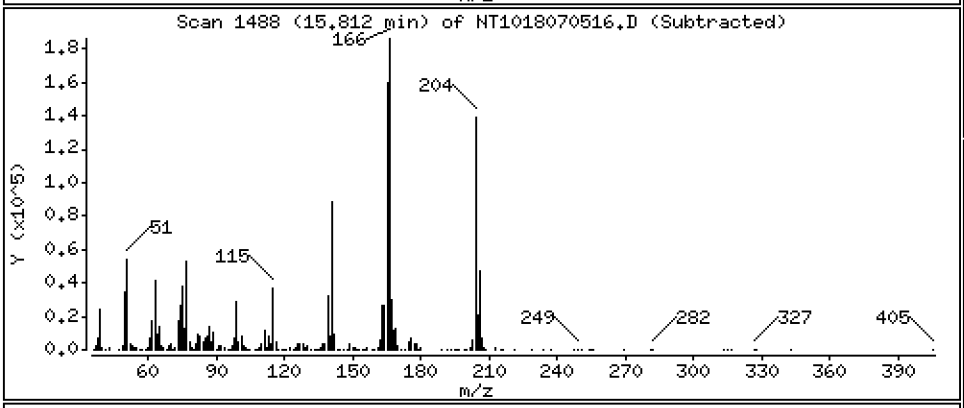
Column diameter: 0.25

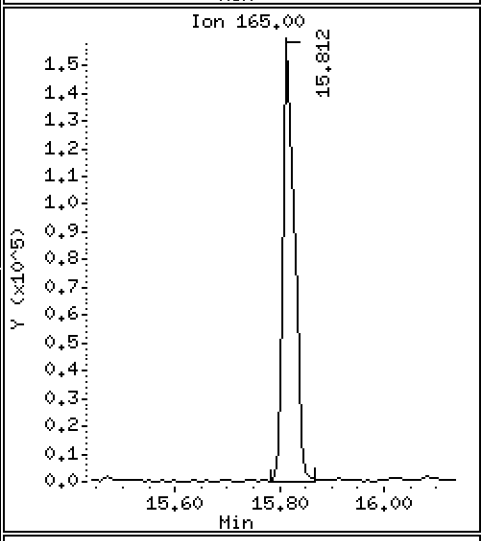
49 Fluorene

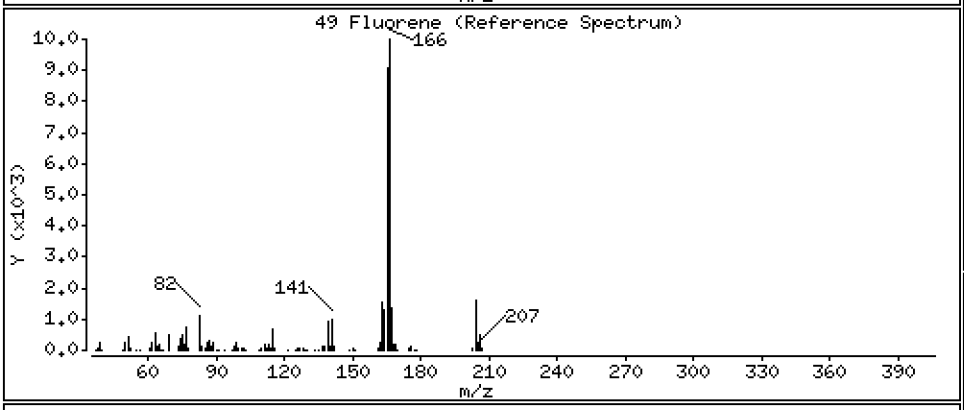
Concentration: 2.652 ug/mL

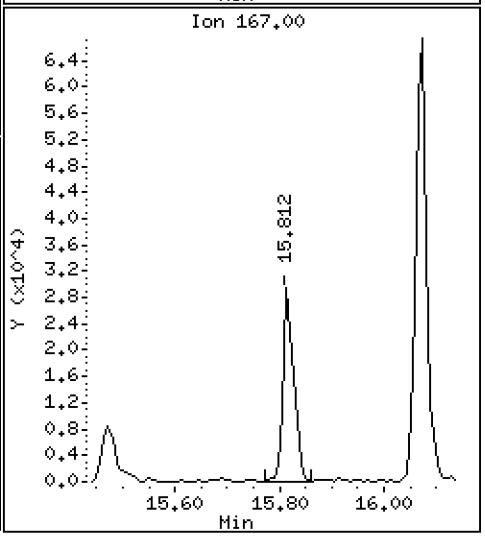


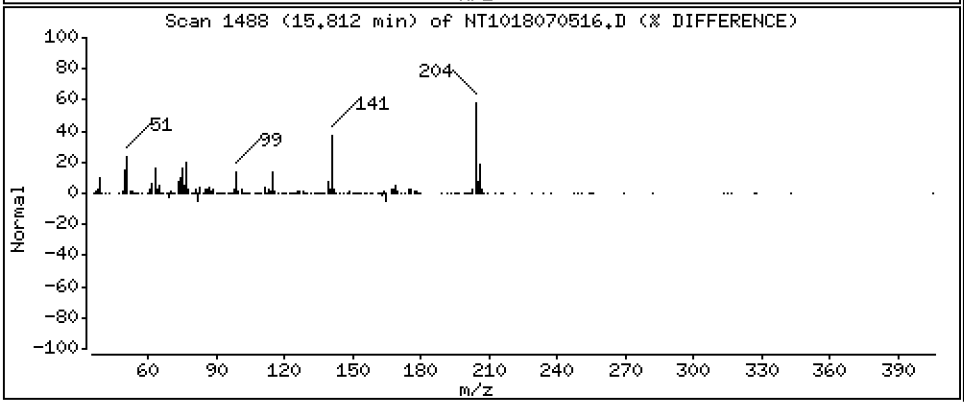












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

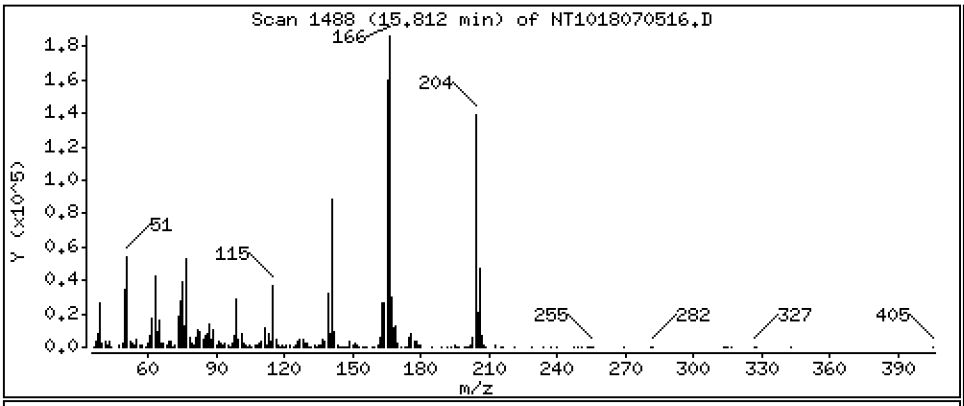
Operator: YZ

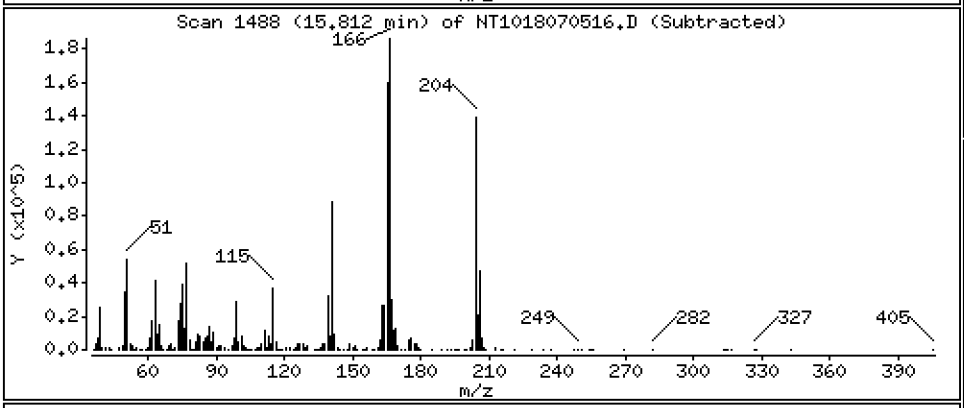
Column phase: ZB-5msi

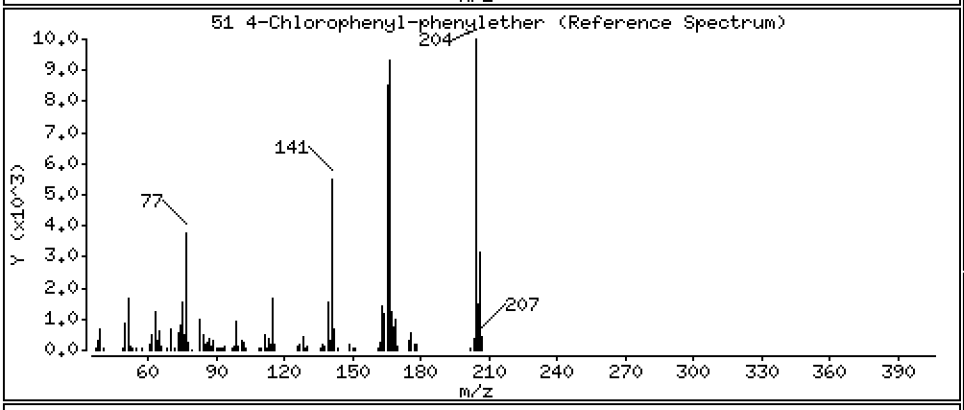
Column diameter: 0.25

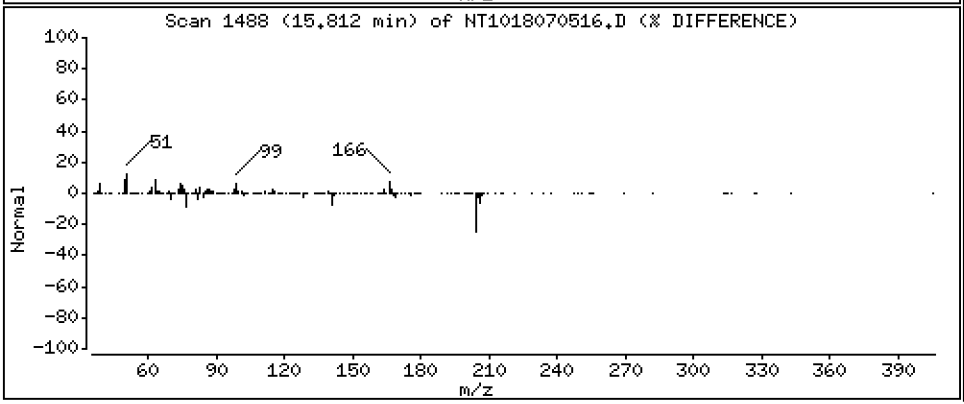
51 4-Chlorophenyl-phenylether

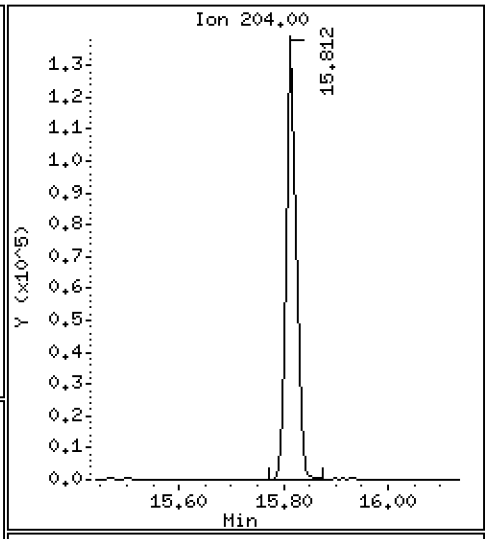
Concentration: 3.714 ug/mL

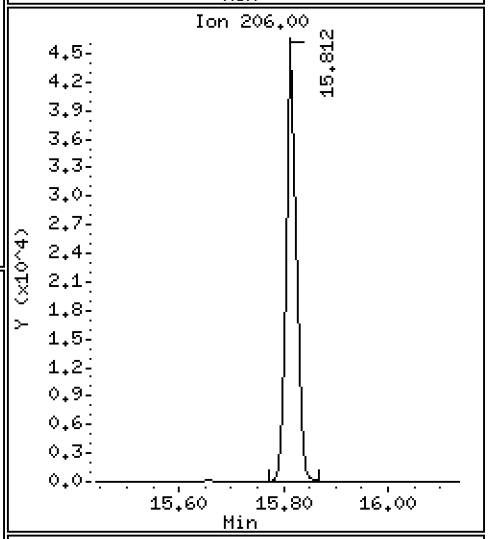


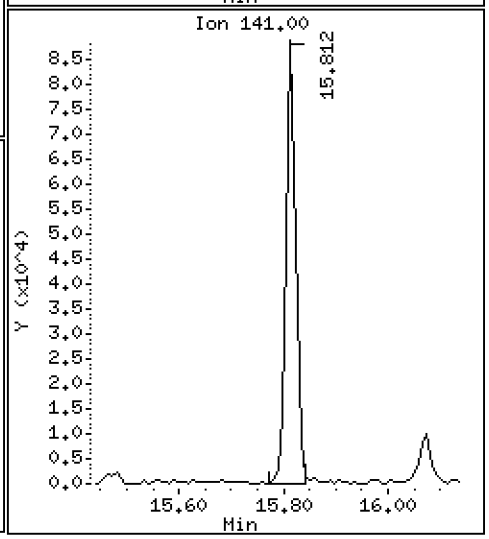












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

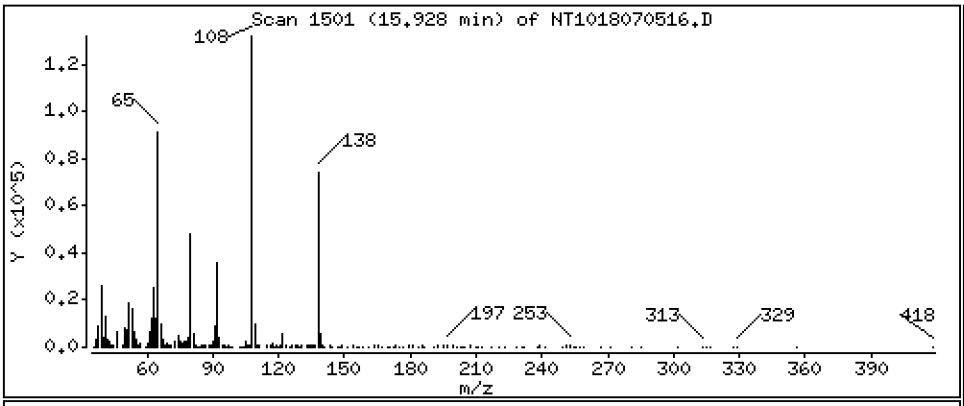
Operator: YZ

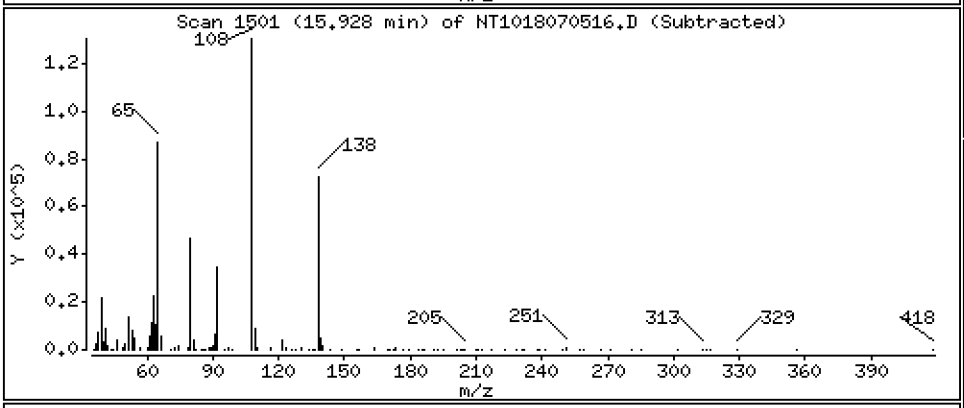
Column phase: ZB-5msi

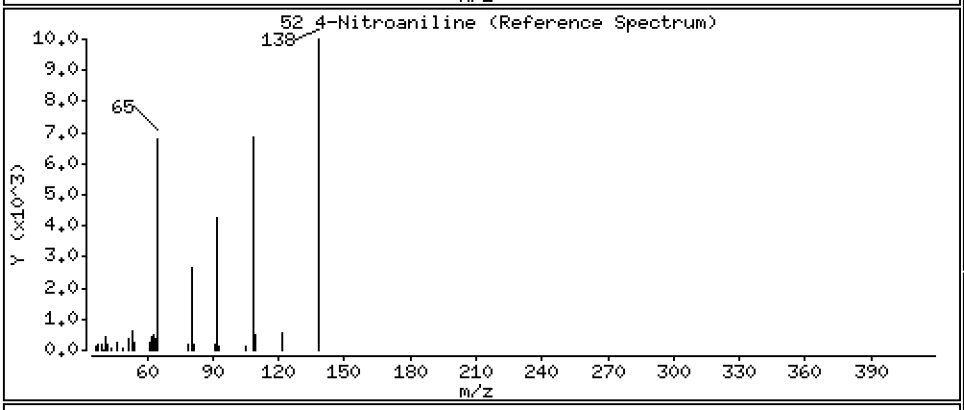
Column diameter: 0.25

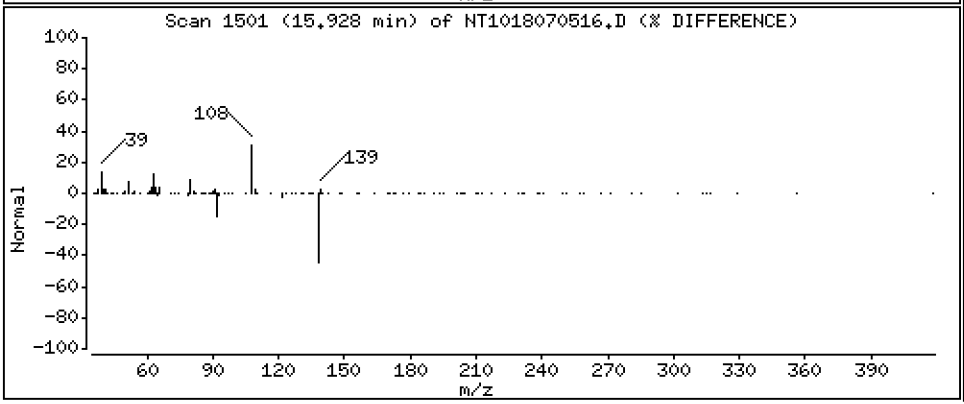
52 4-Nitroaniline

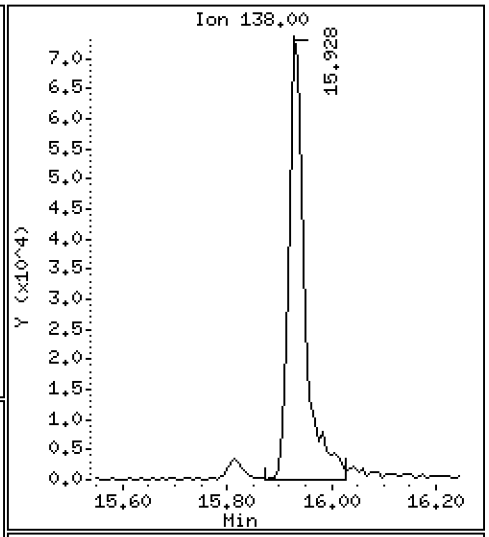
Concentration: 9.330 ug/mL

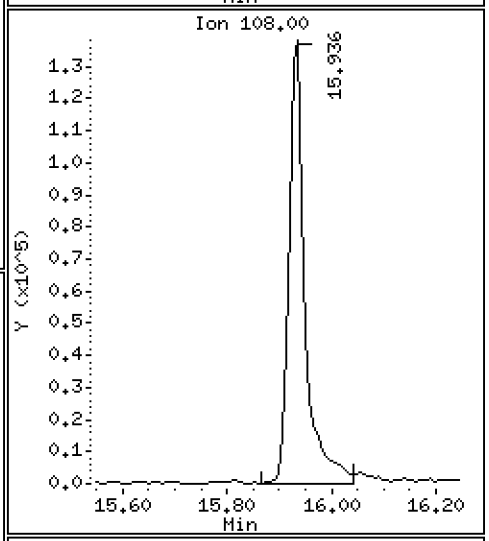


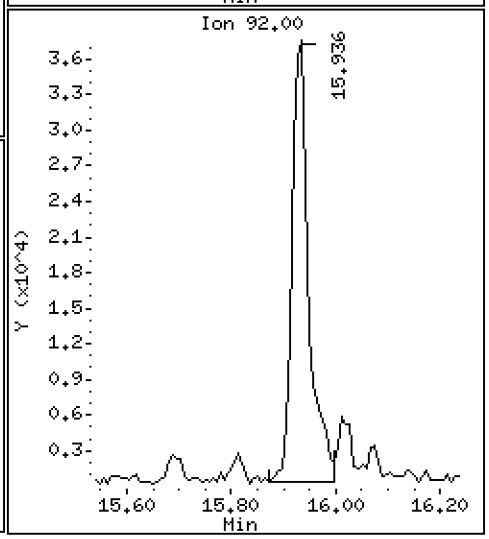












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

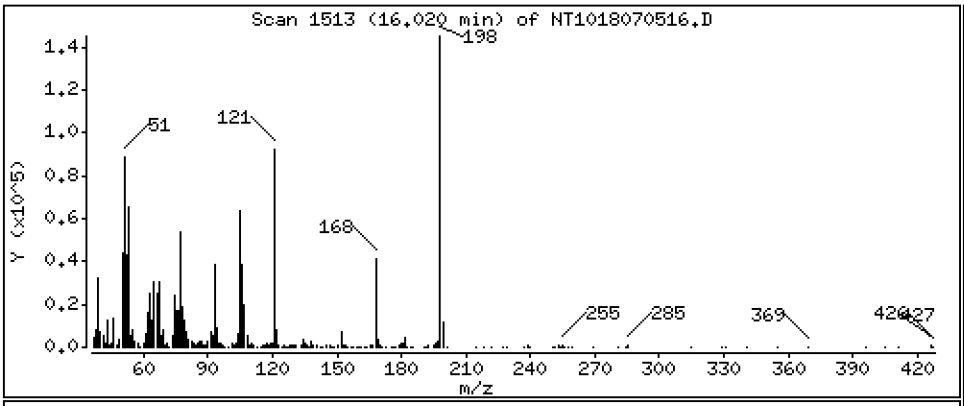
Operator: YZ

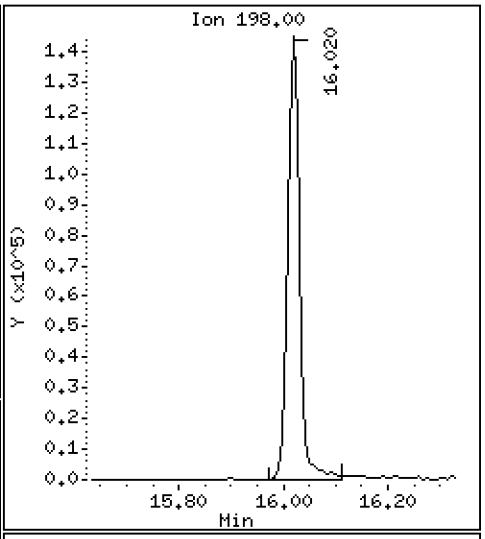
Column phase: ZB-5msi

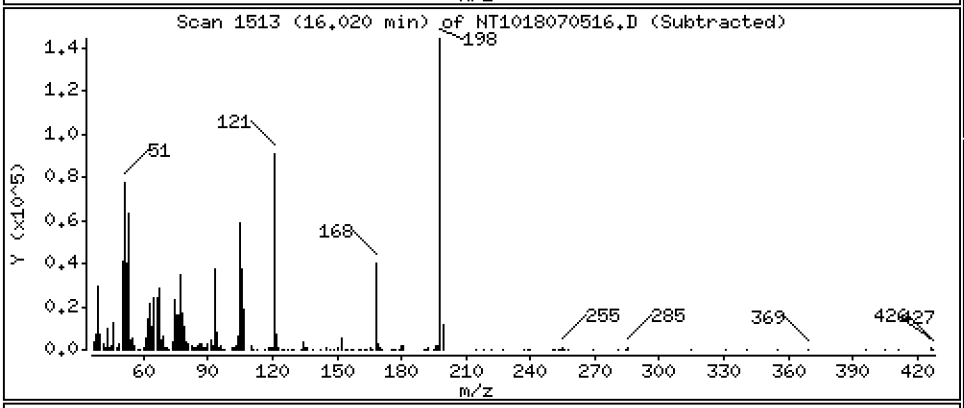
Column diameter: 0.25

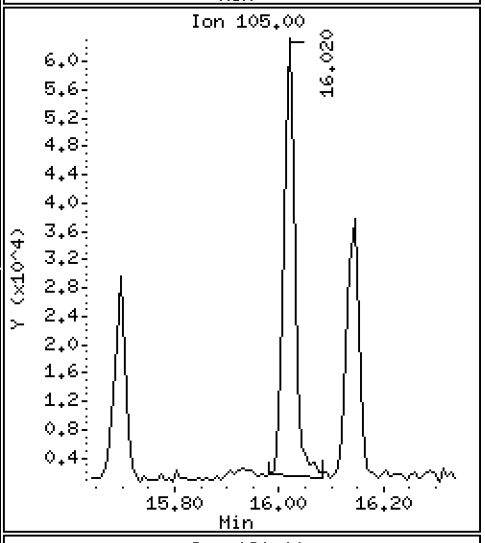
53 4,6-Dinitro-2-methylphenol

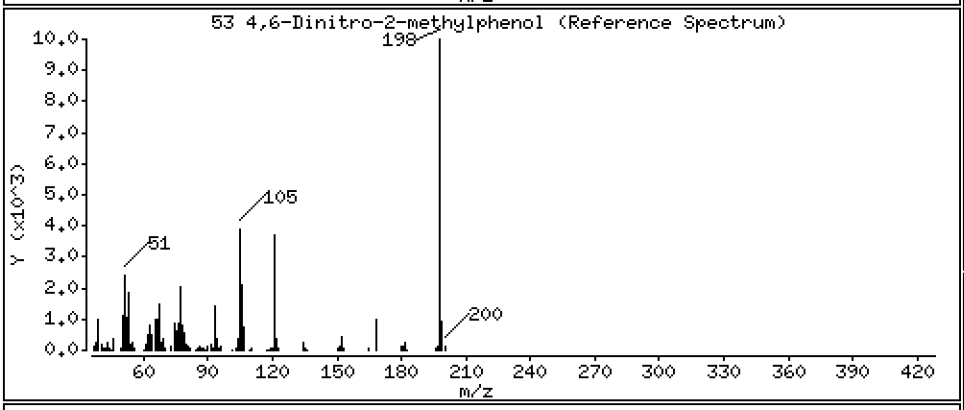
Concentration: 13.85 ug/mL

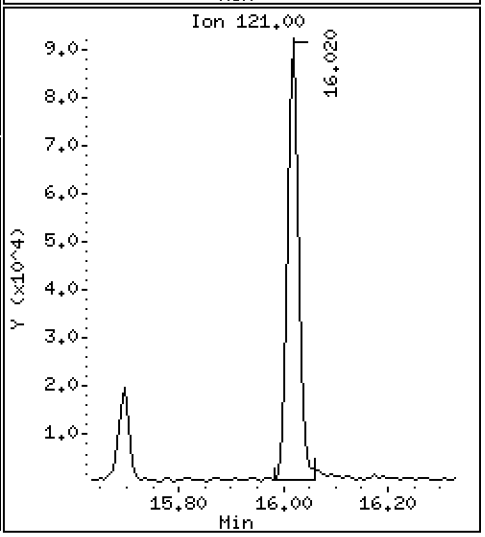


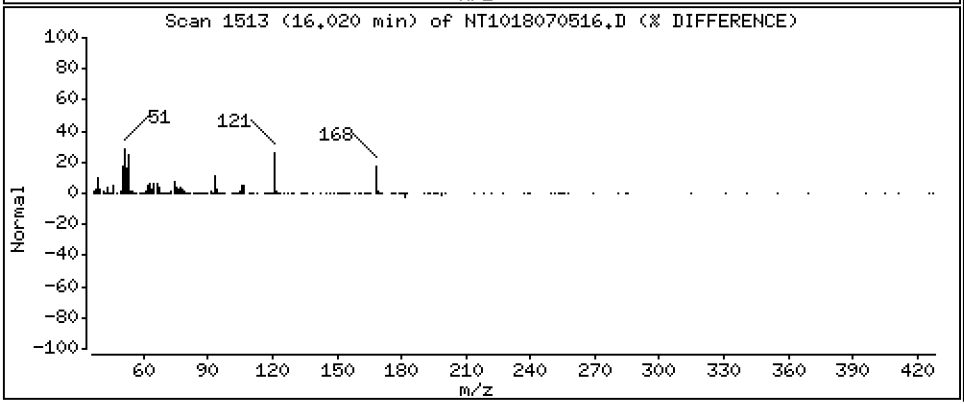












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

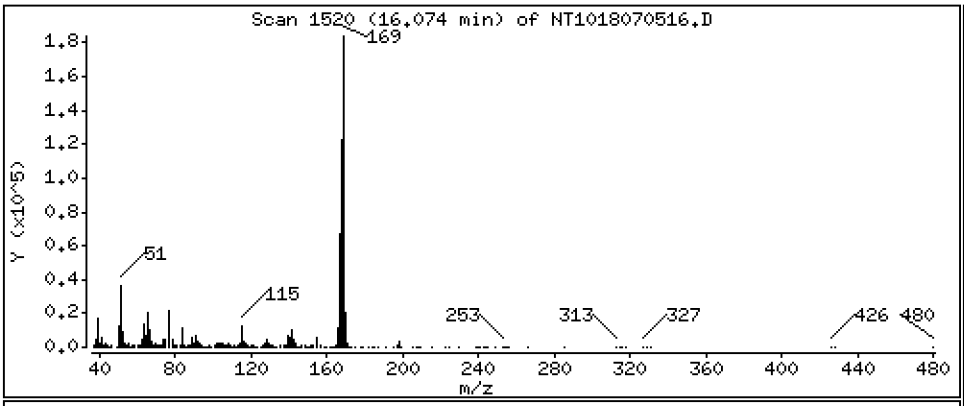
Operator: YZ

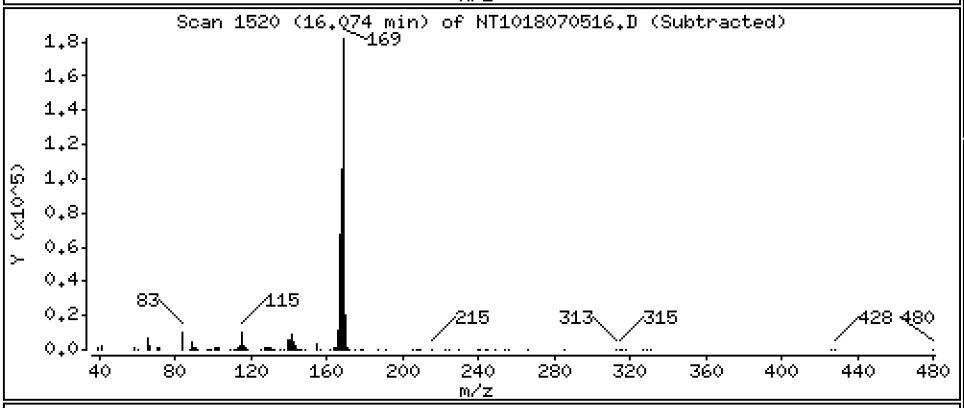
Column phase: ZB-5msi

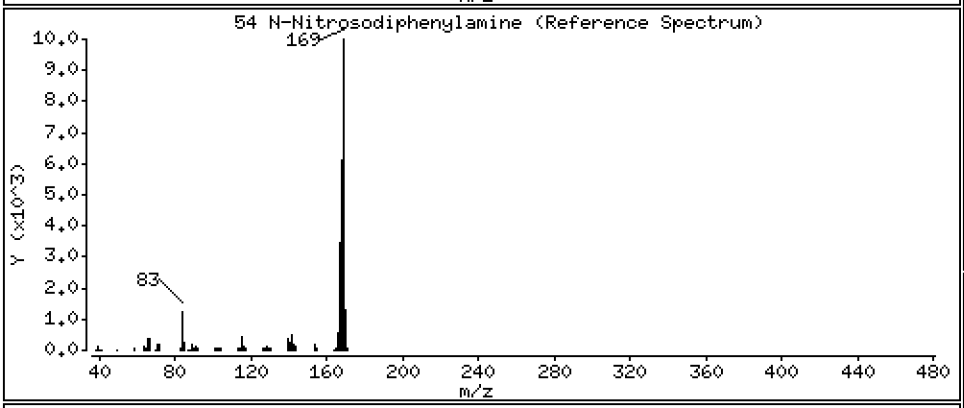
Column diameter: 0.25

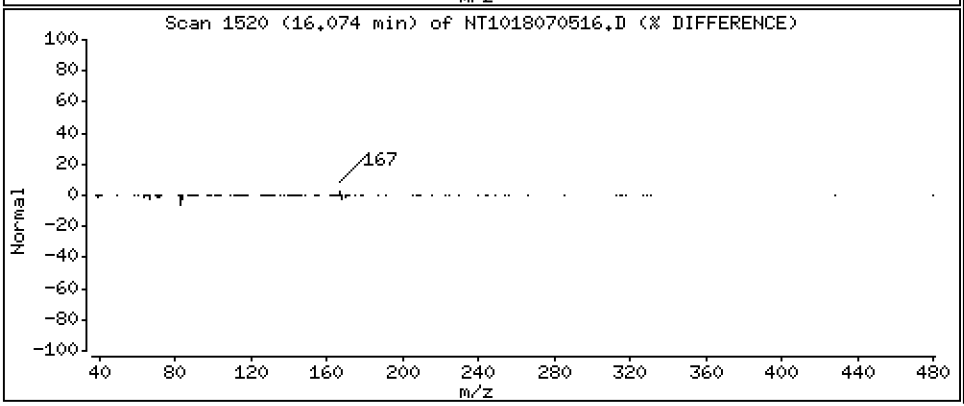
54 N-Nitrosodiphenylamine

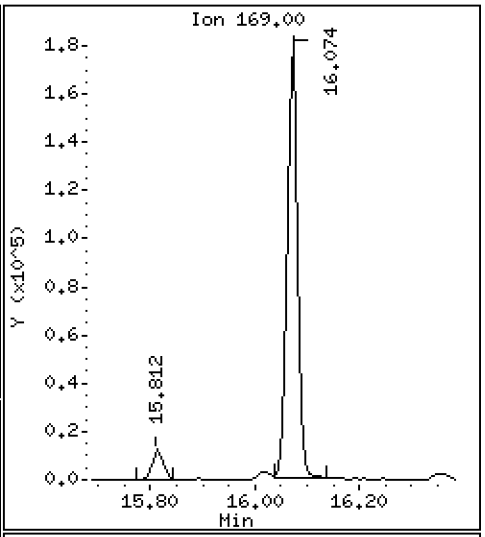
Concentration: 4.685 ug/mL

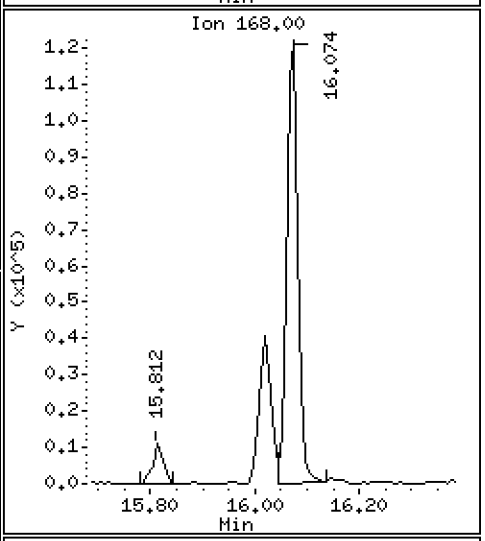


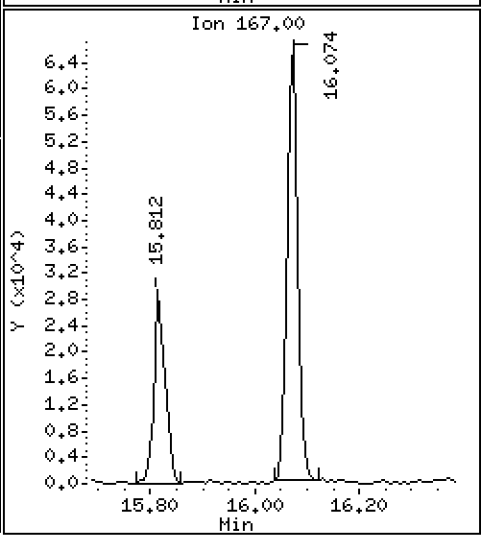












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

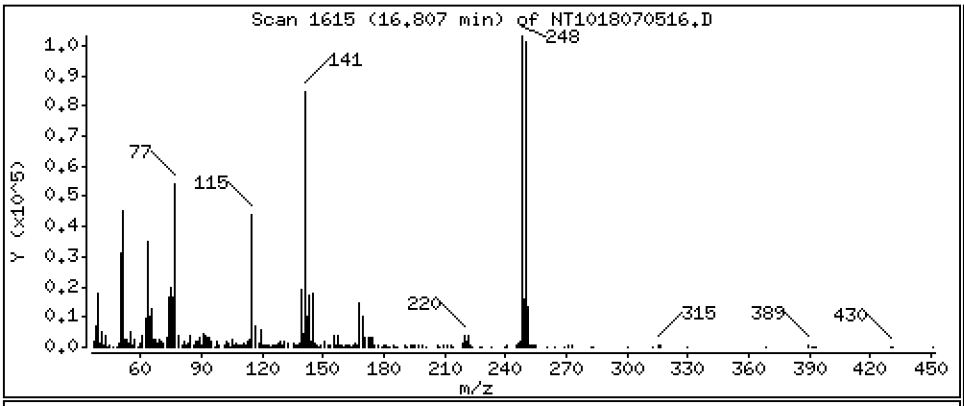
Operator: YZ

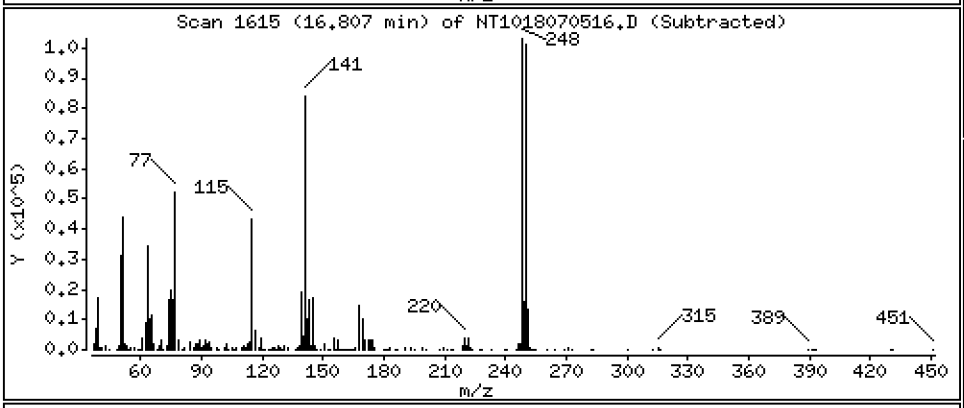
Column phase: ZB-5msi

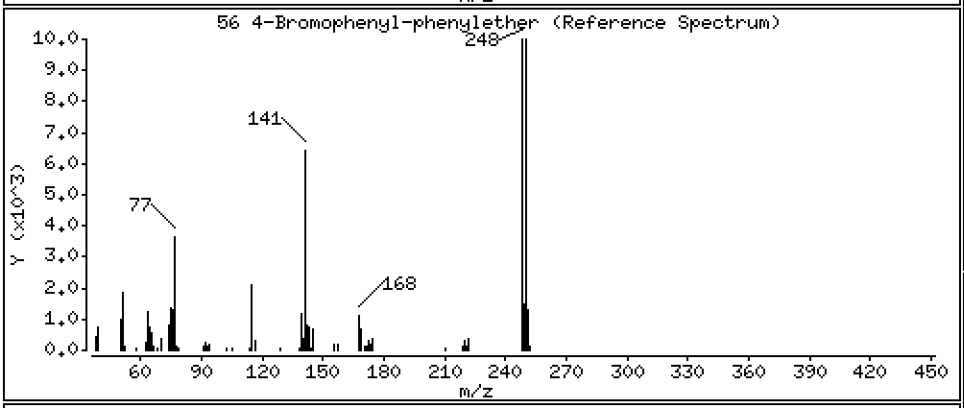
Column diameter: 0.25

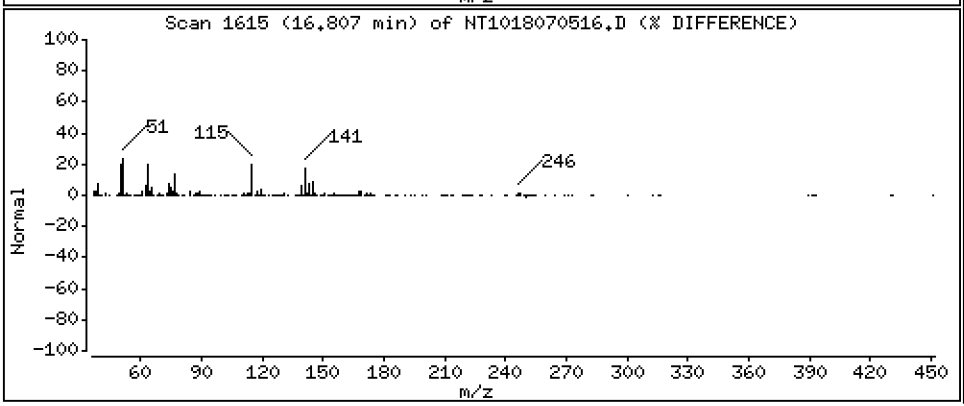
56 4-Bromophenyl-phenylether

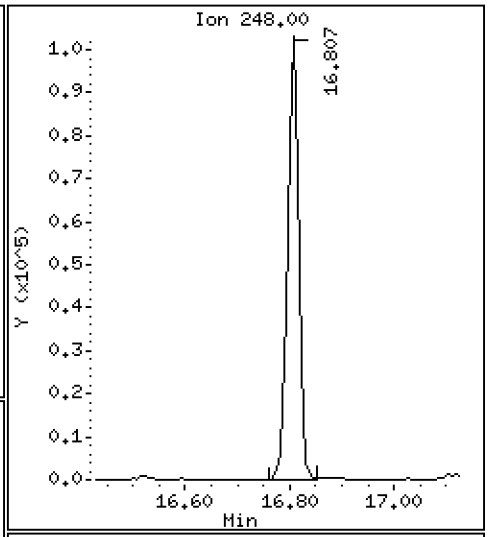
Concentration: 6.216 ug/mL

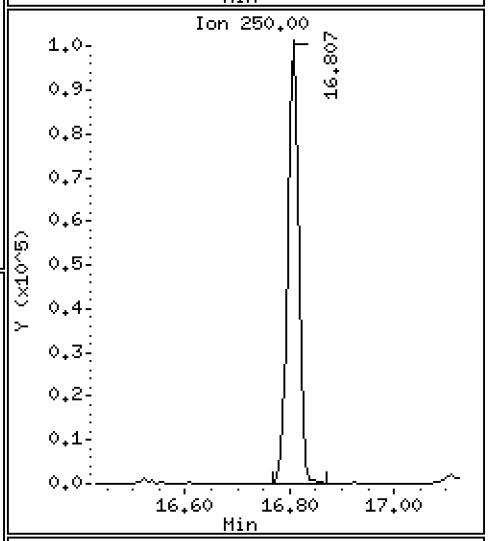


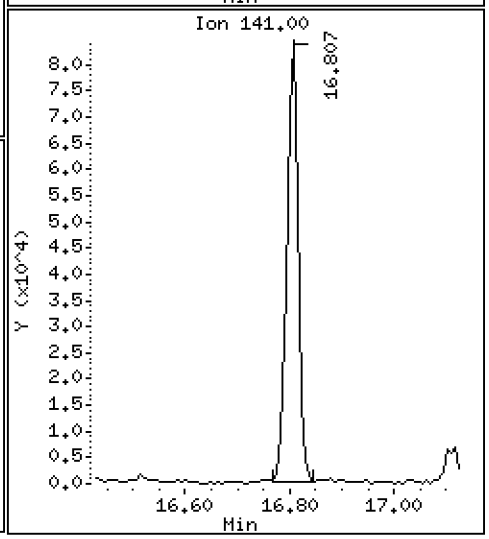












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

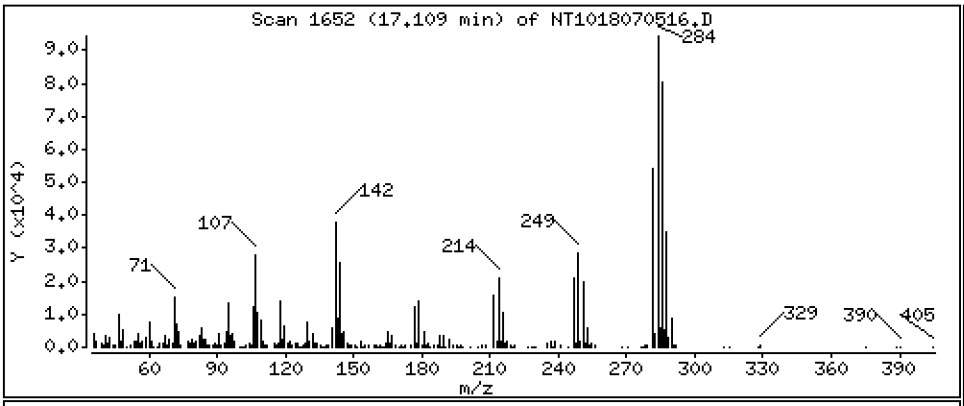
Operator: YZ

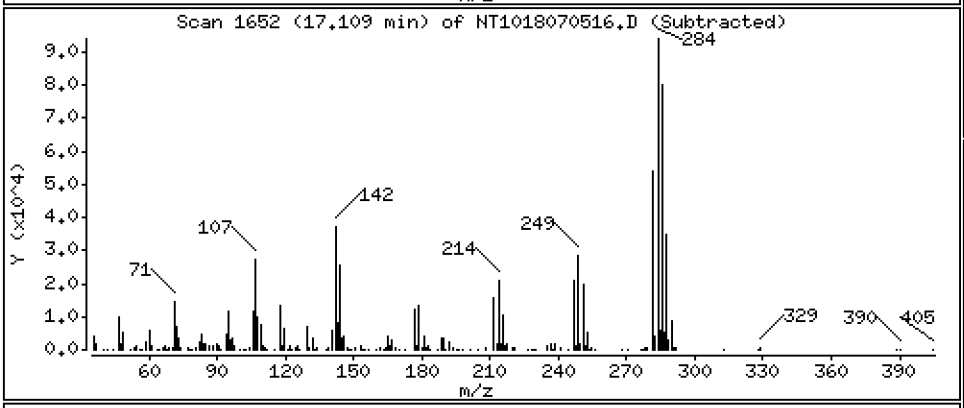
Column phase: ZB-5msi

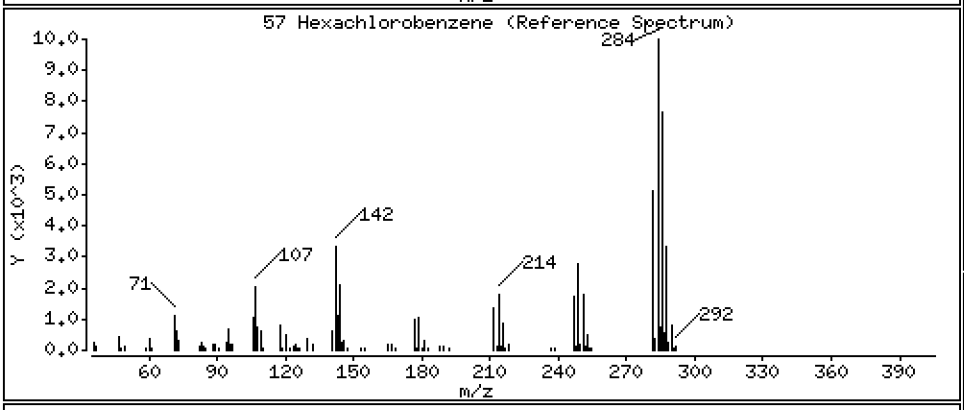
Column diameter: 0.25

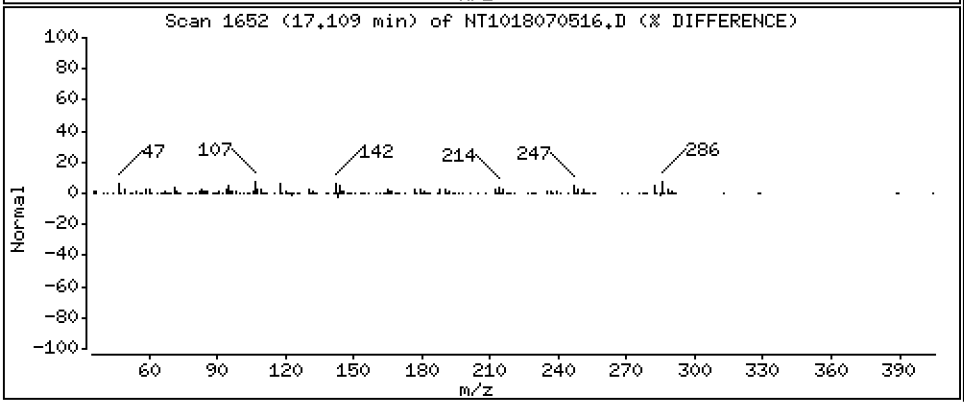
57 Hexachlorobenzene

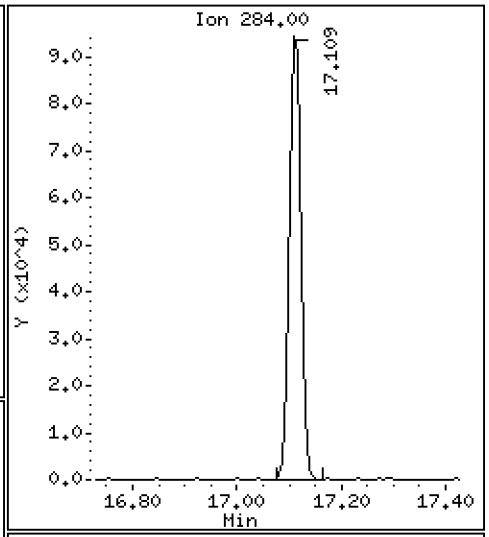
Concentration: 6.545 ug/mL

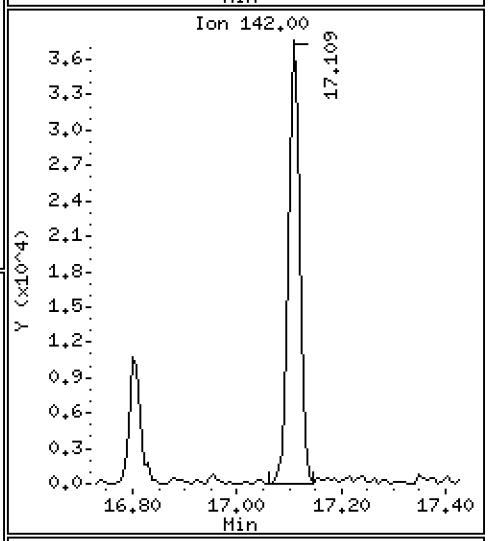


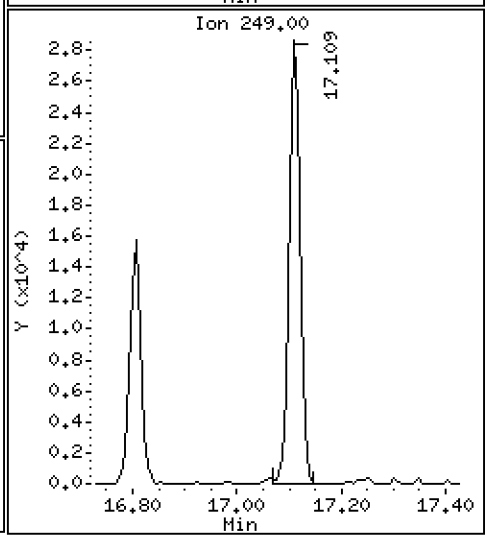












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

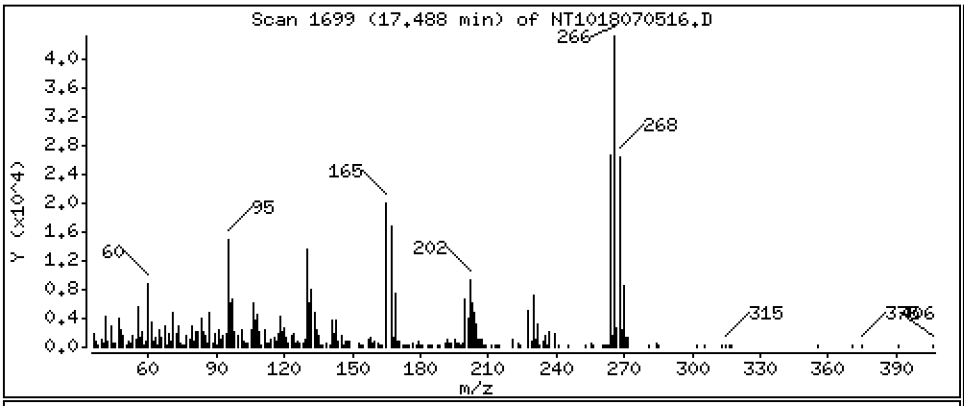
Operator: YZ

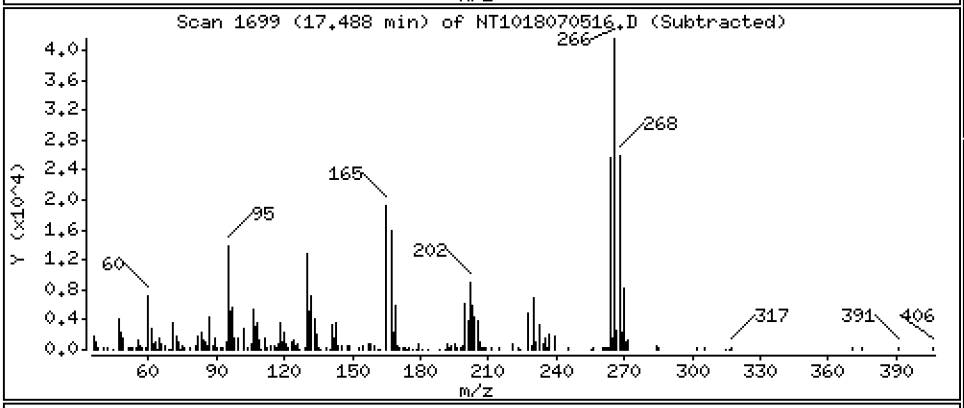
Column phase: ZB-5msi

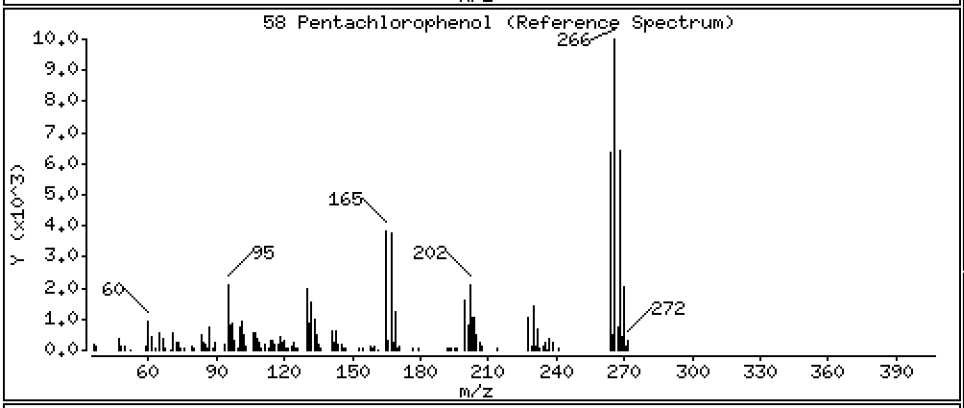
Column diameter: 0.25

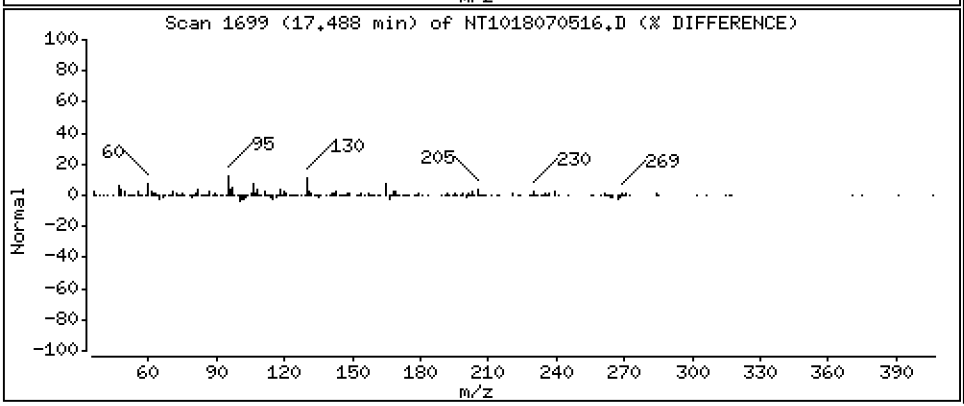
58 Pentachlorophenol

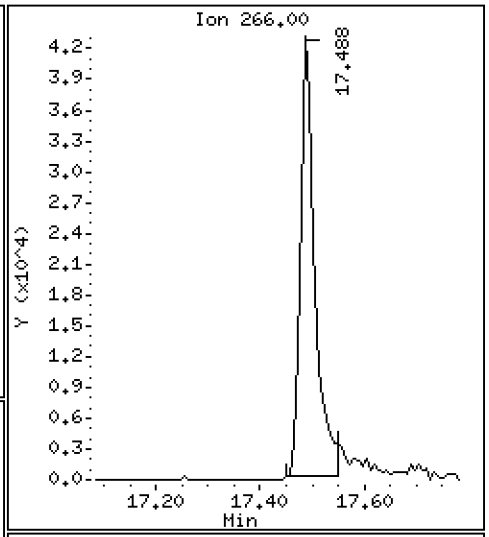
Concentration: 5.870 ug/mL

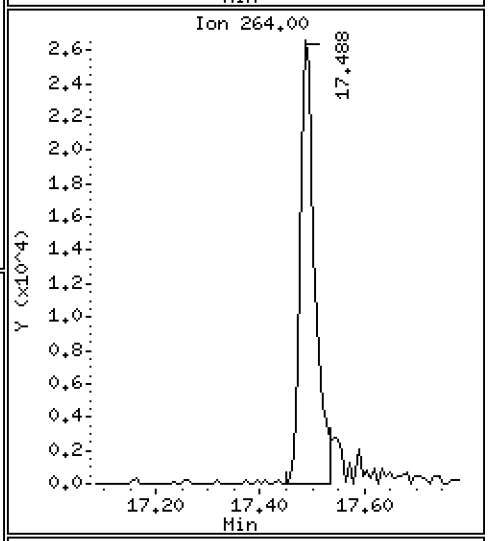


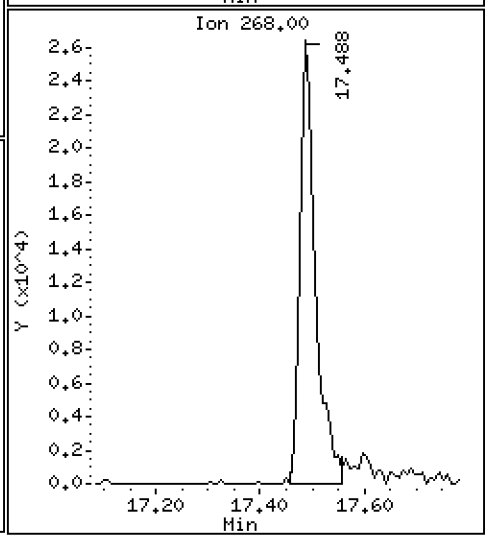












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

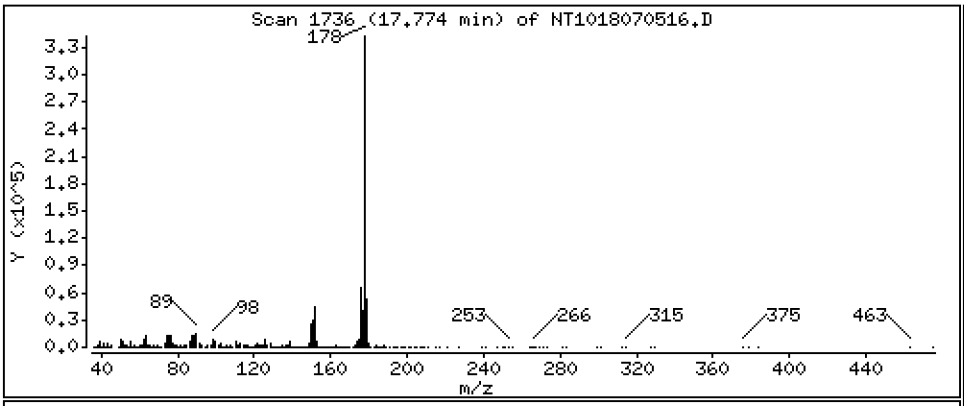
Operator: YZ

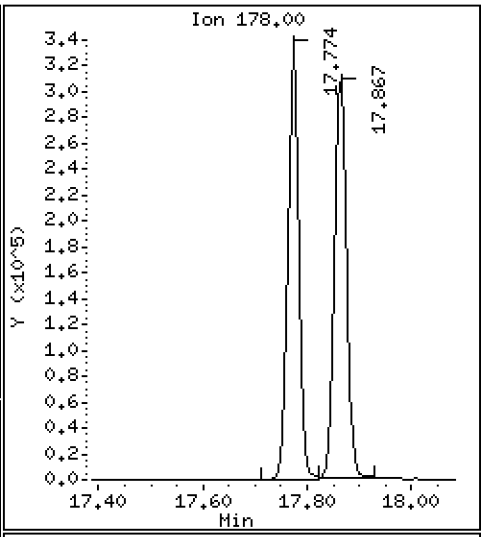
Column phase: ZB-5msi

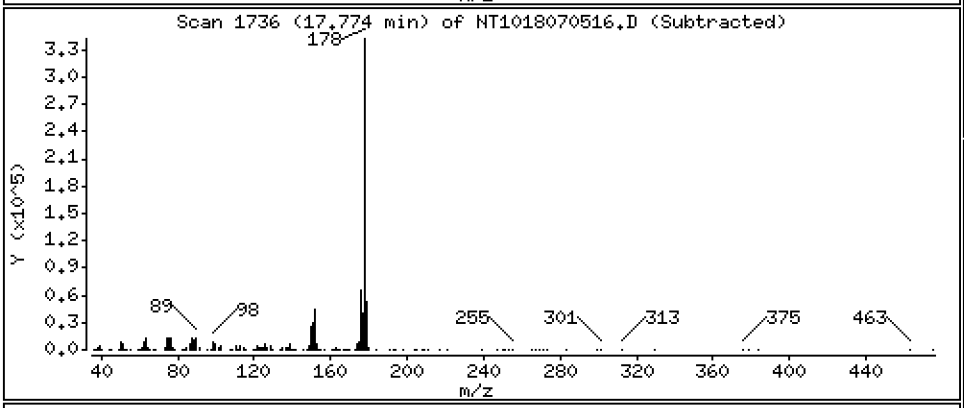
Column diameter: 0.25

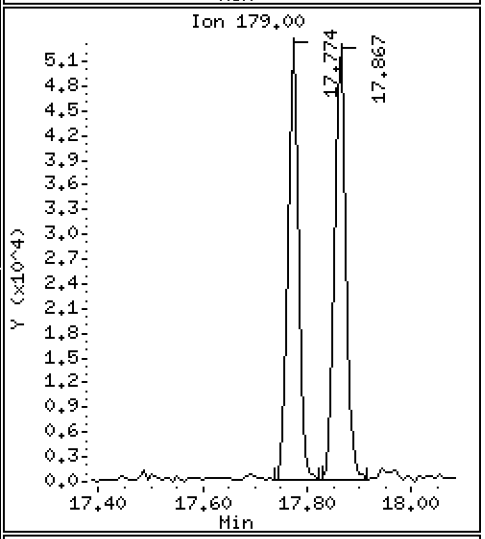
60 Phenanthrene

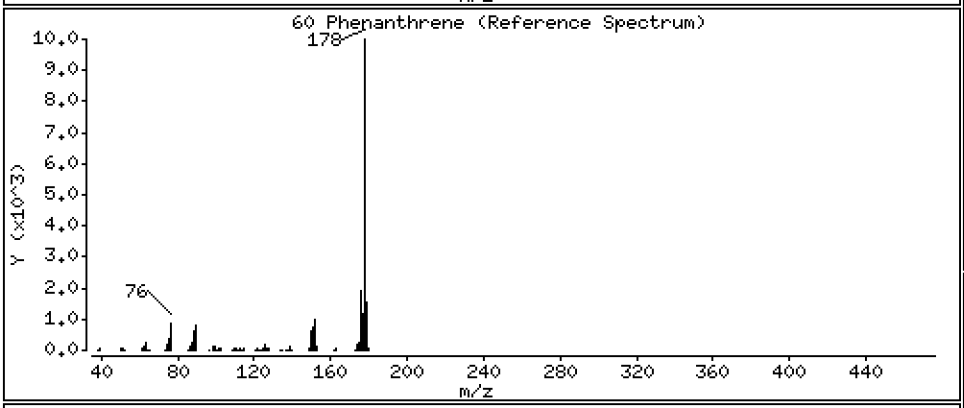
Concentration: 4.694 ug/mL

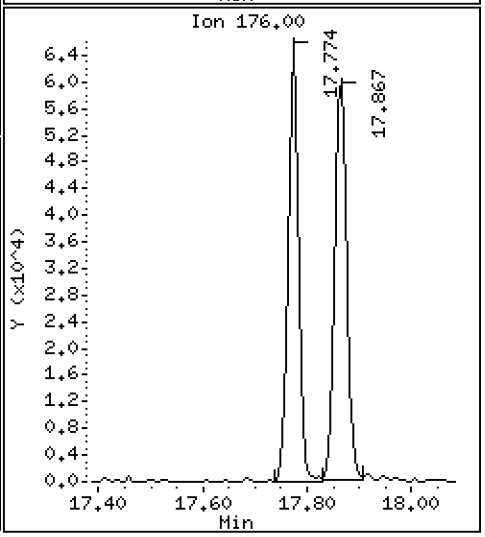


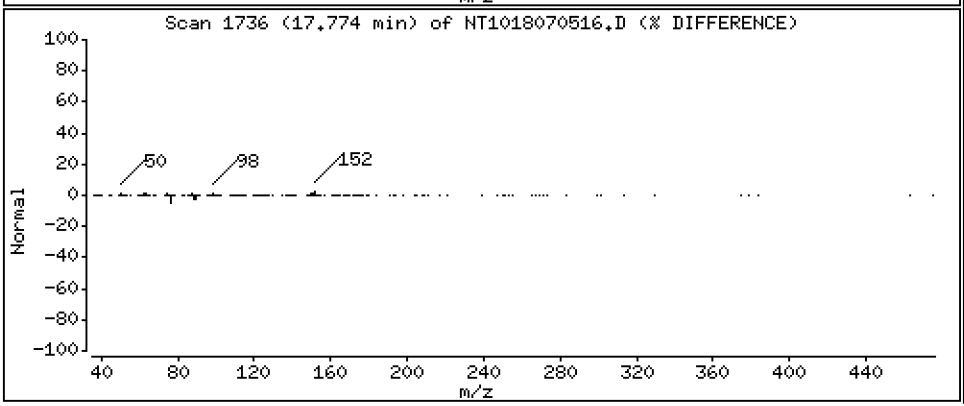












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

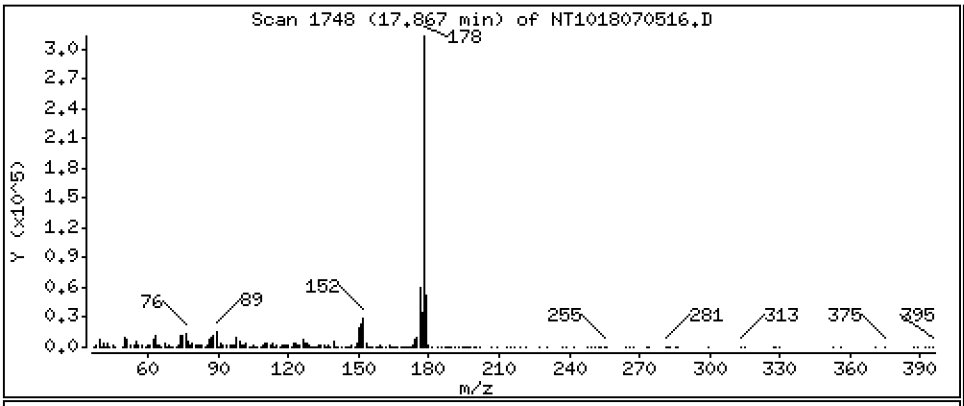
Operator: YZ

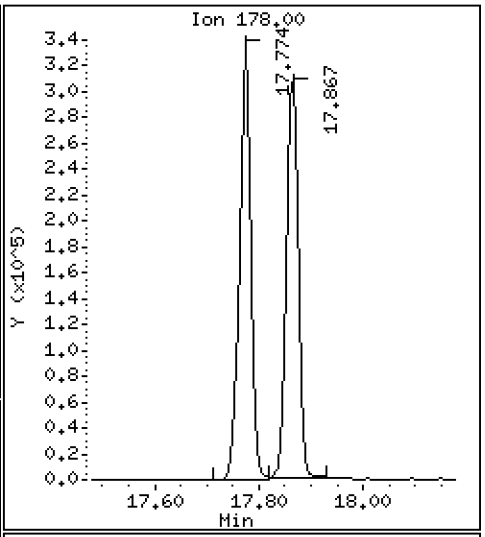
Column phase: ZB-5msi

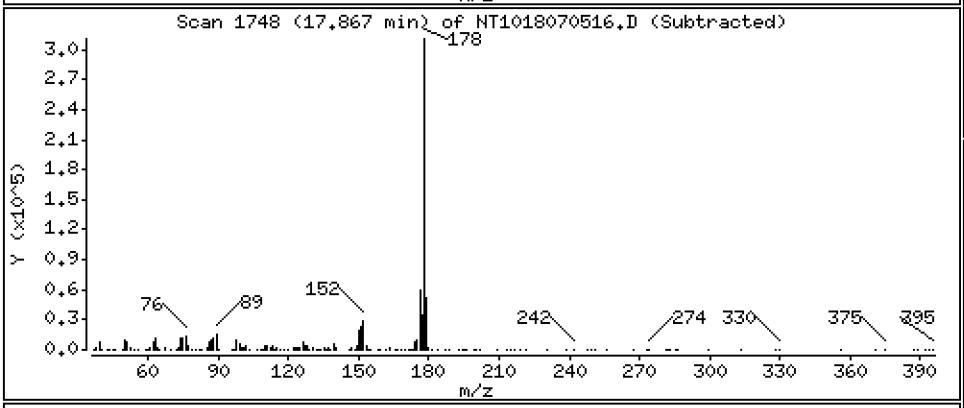
Column diameter: 0.25

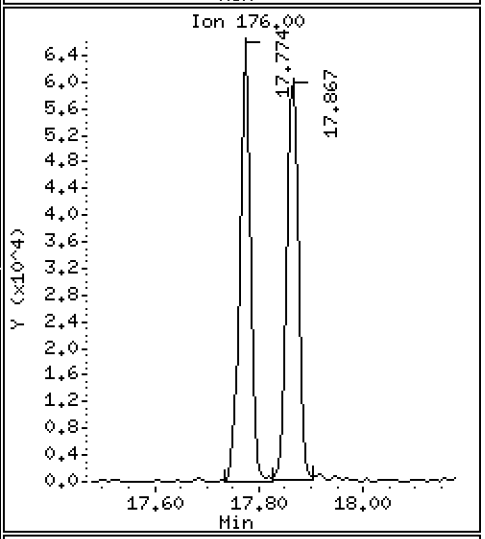
61 Anthracene

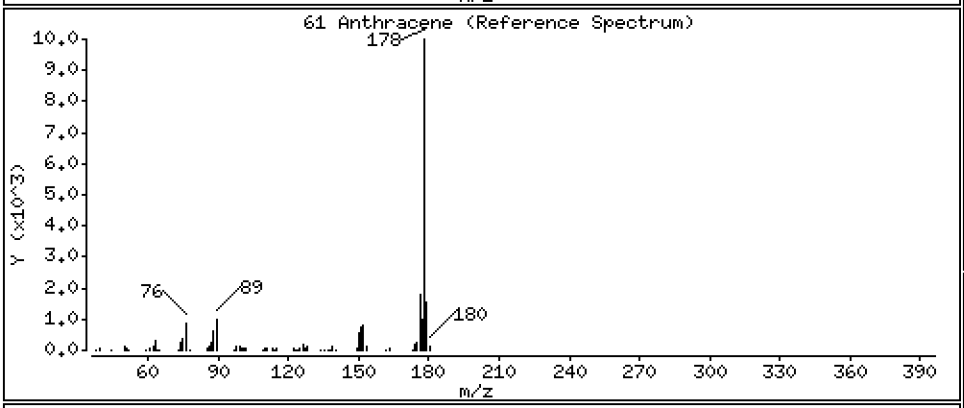
Concentration: 4.523 ug/mL

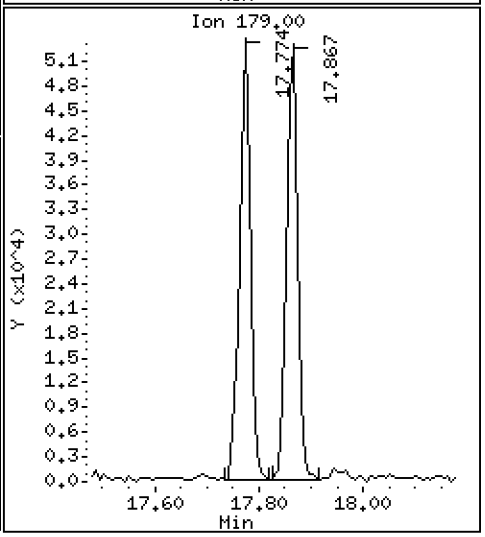


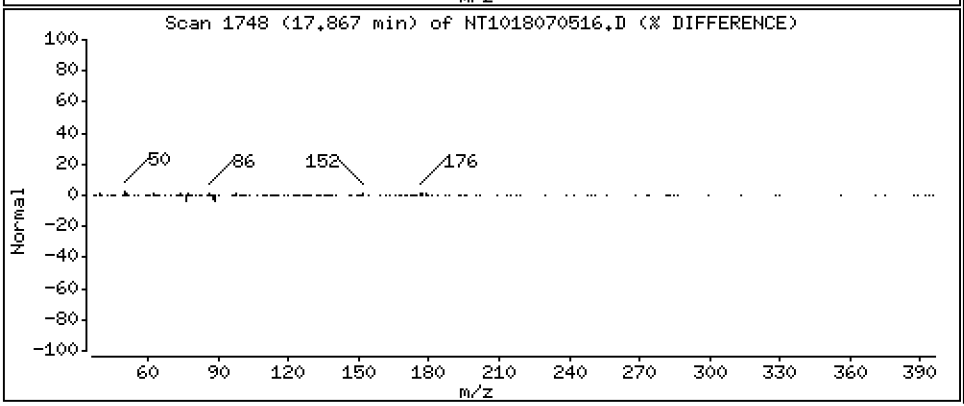












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

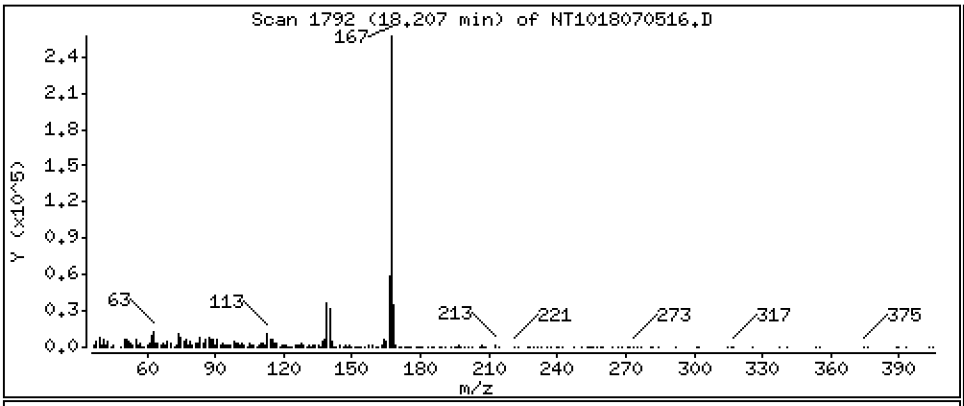
Operator: YZ

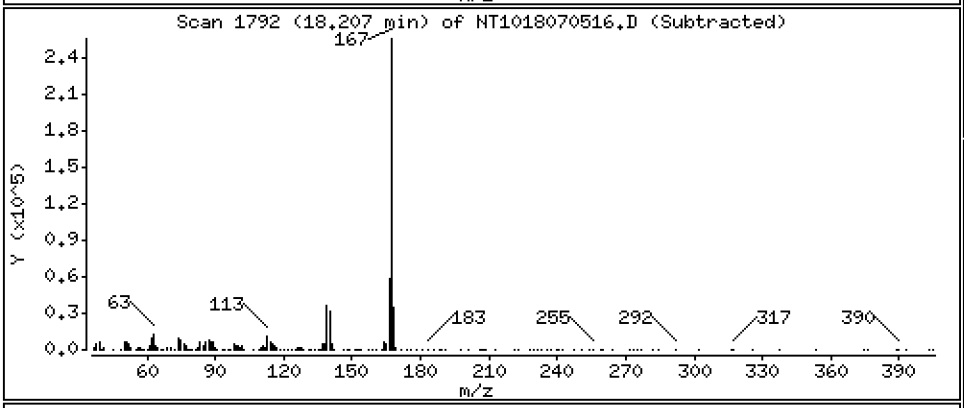
Column phase: ZB-5msi

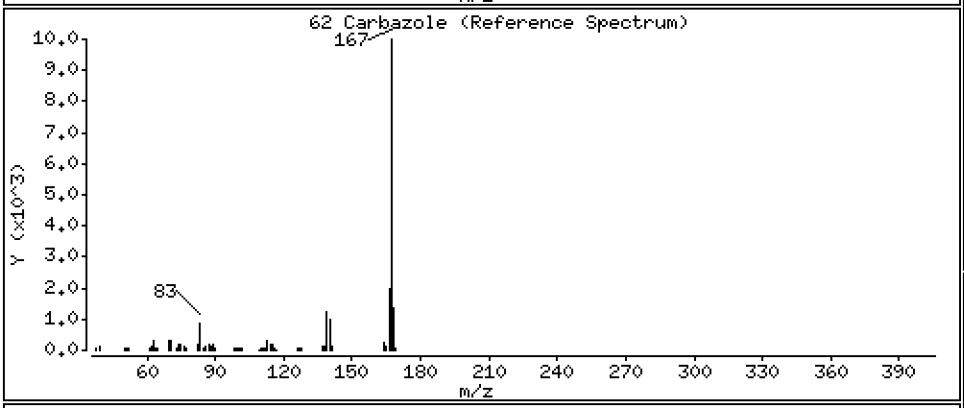
Column diameter: 0.25

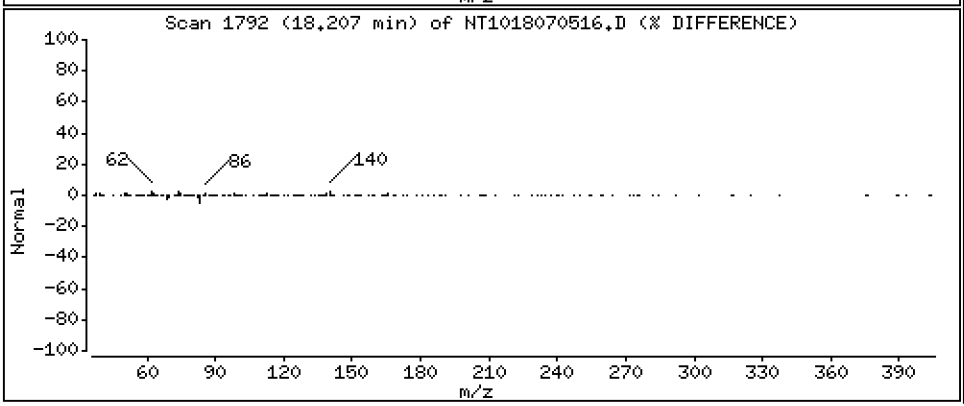
62 Carbazole

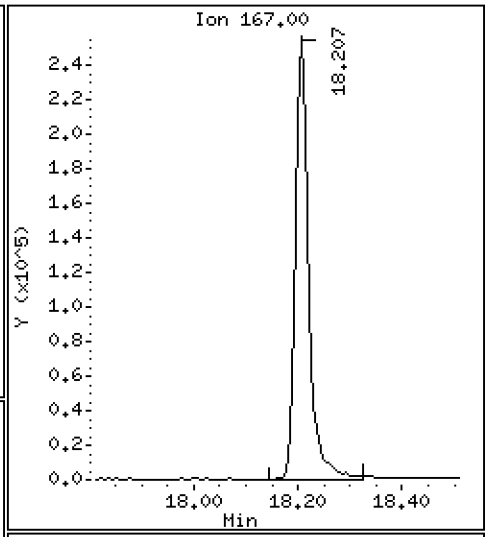
Concentration: 4.584 ug/mL

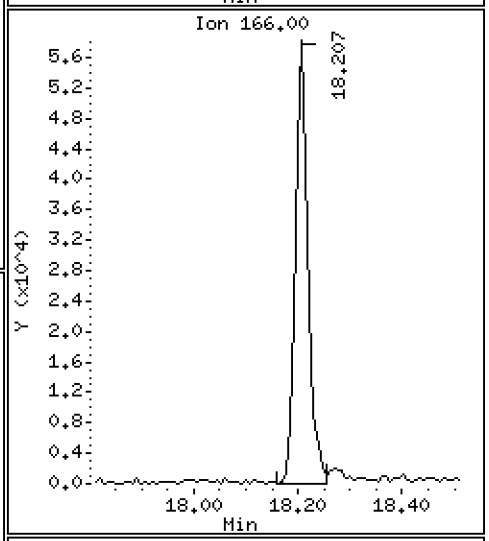


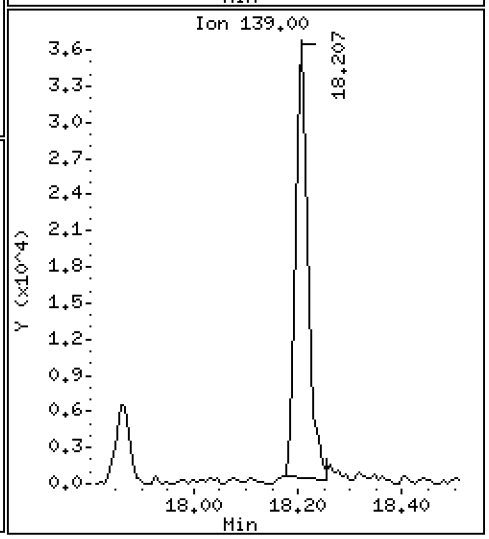












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

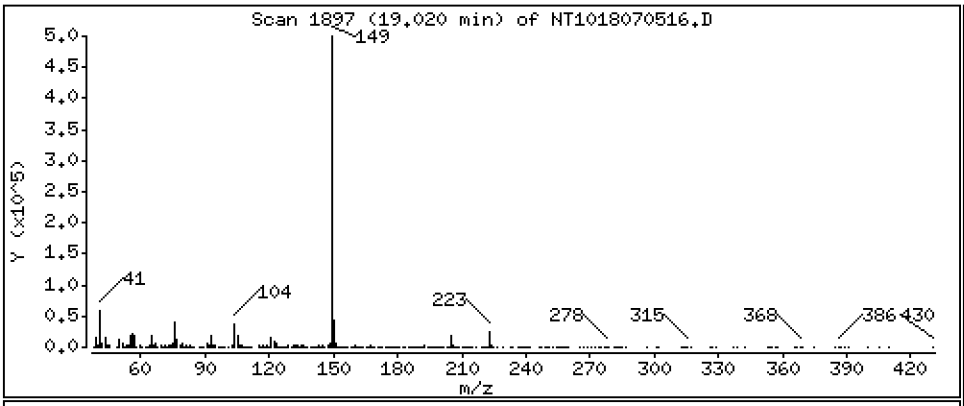
Operator: YZ

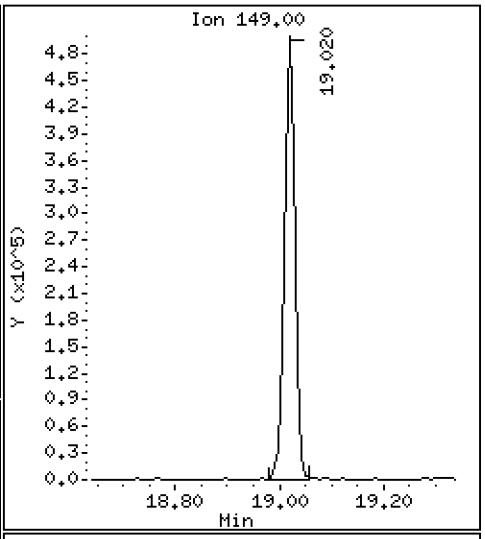
Column phase: ZB-5msi

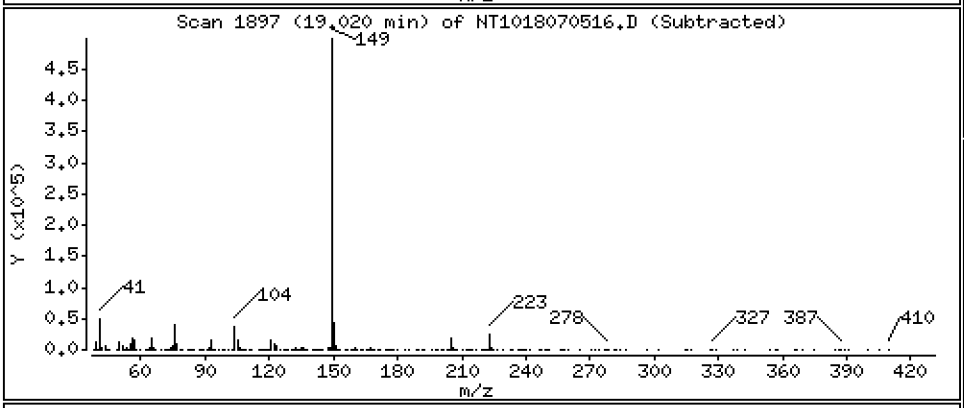
Column diameter: 0.25

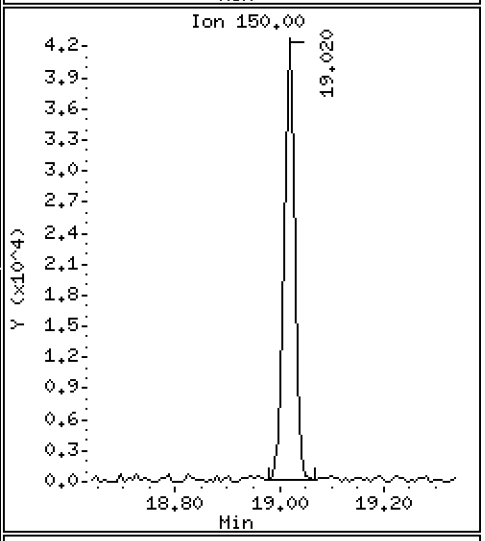
63 Di-n-butylphthalate

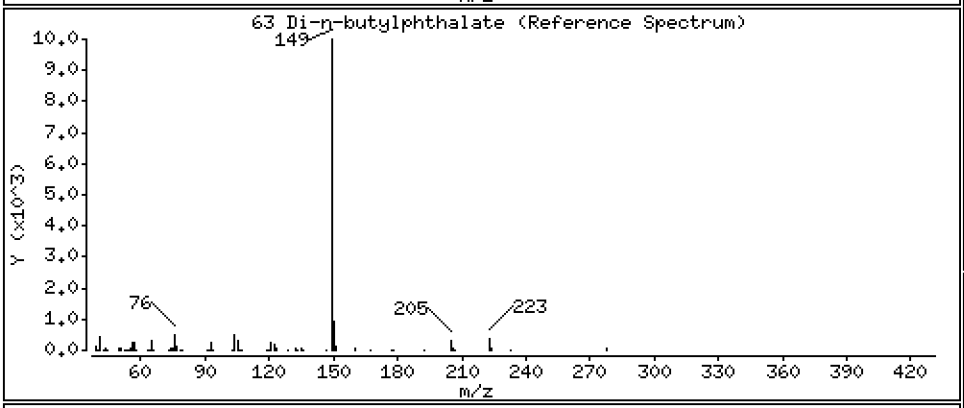
Concentration: 4.635 ug/mL

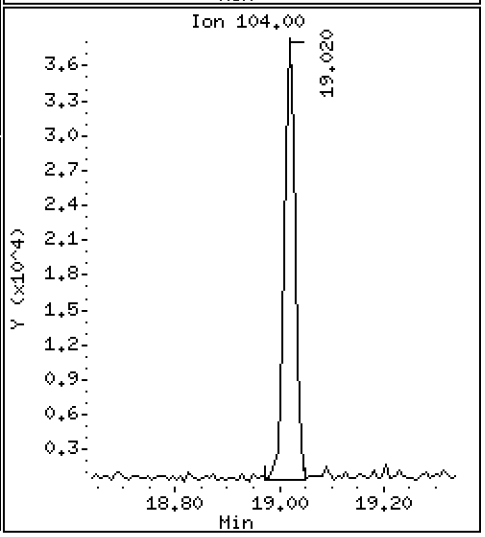


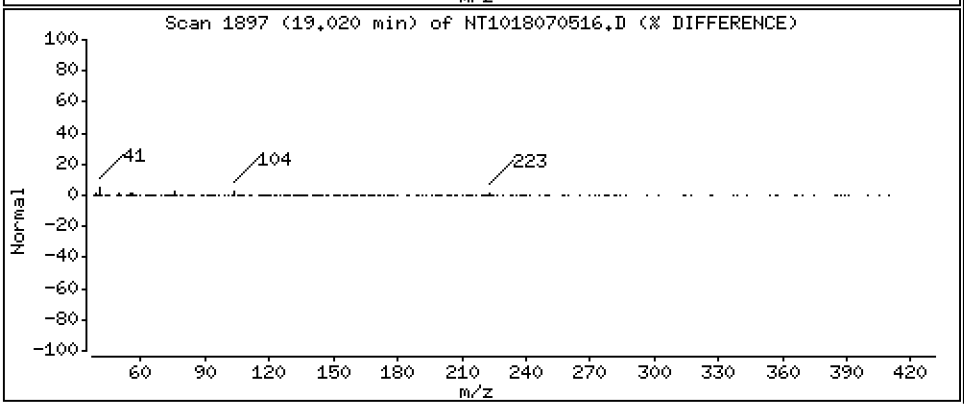












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

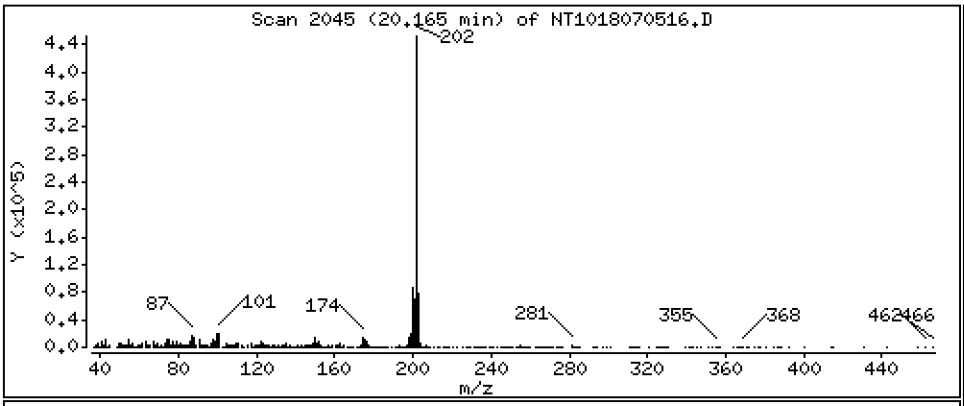
Operator: YZ

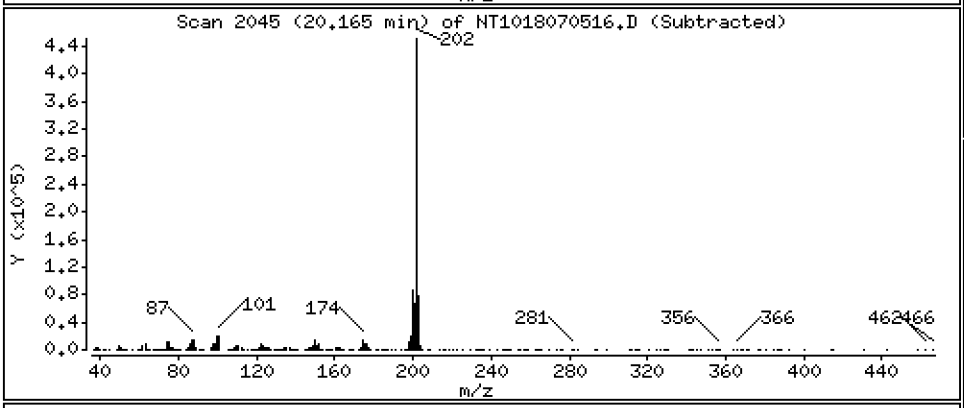
Column phase: ZB-5msi

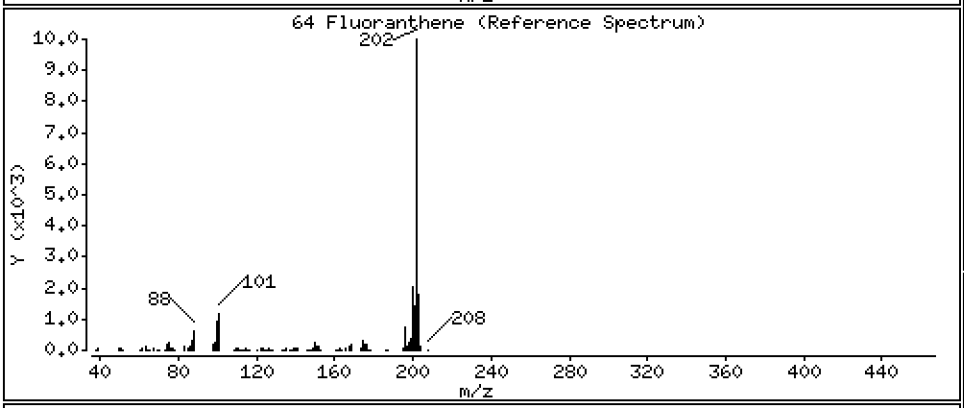
Column diameter: 0.25

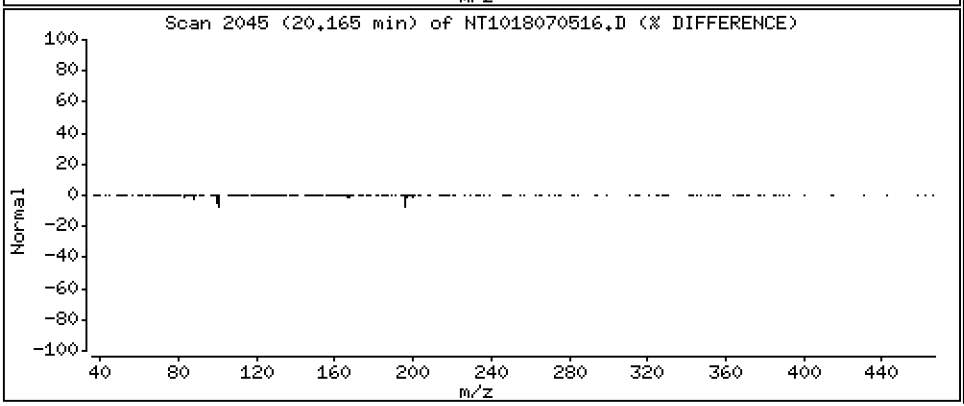
64 Fluoranthene

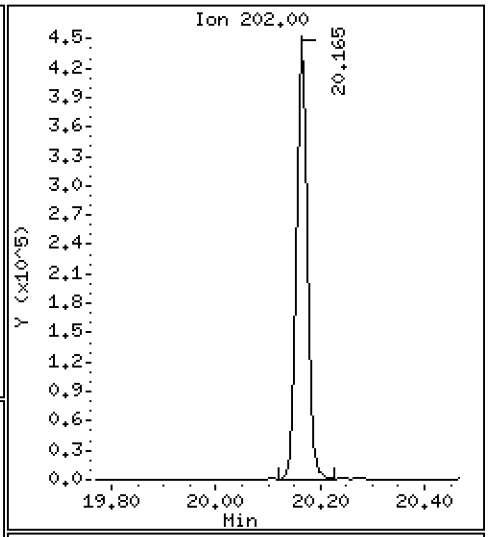
Concentration: 4.079 ug/mL

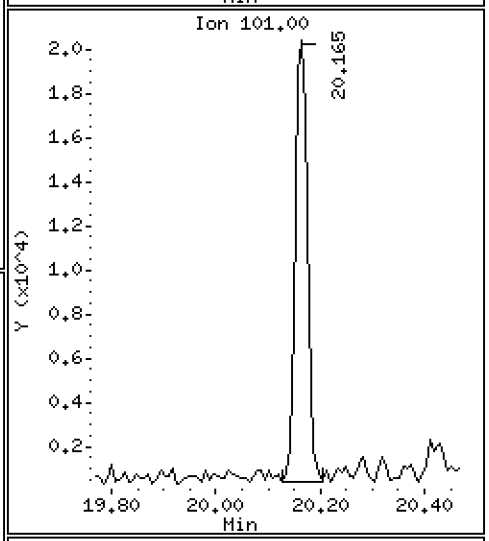


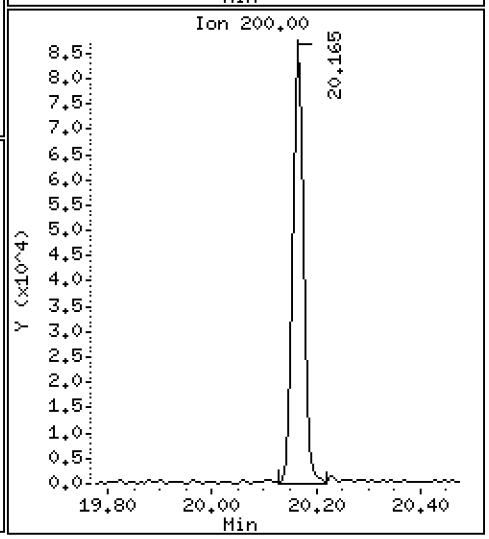












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

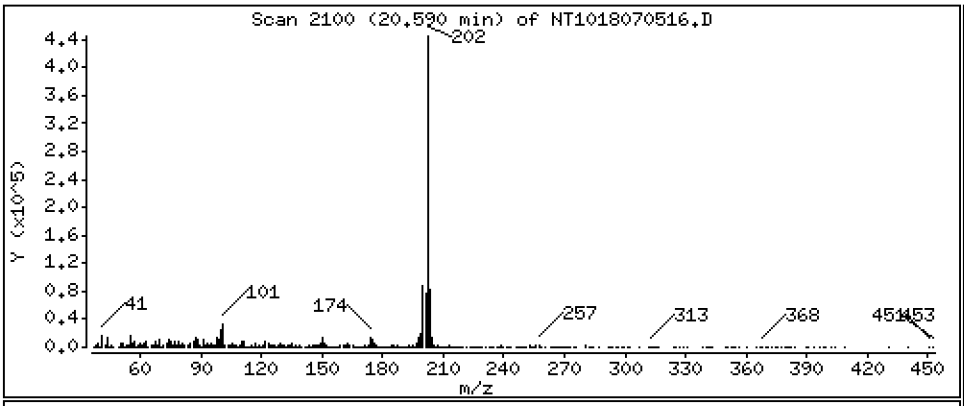
Operator: YZ

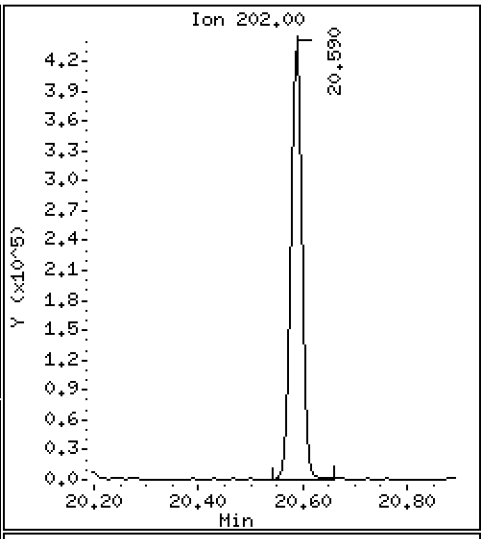
Column phase: ZB-5msi

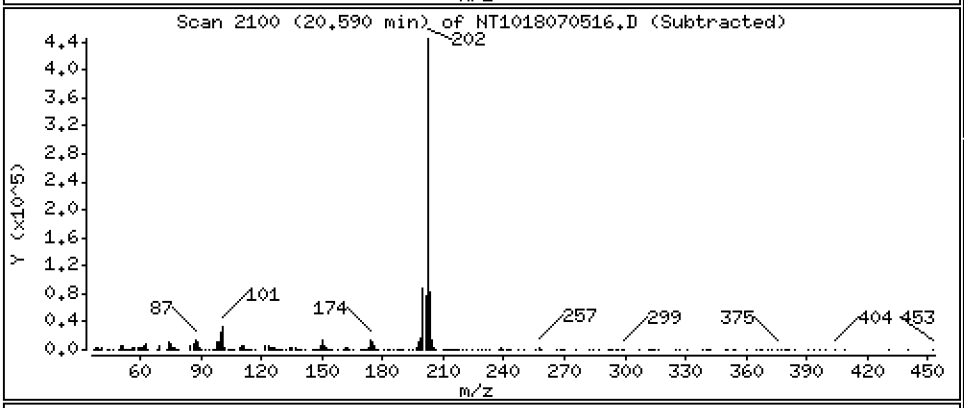
Column diameter: 0.25

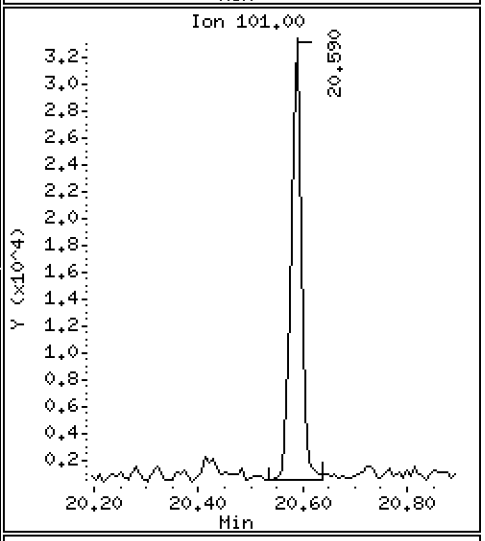
65 Pyrene

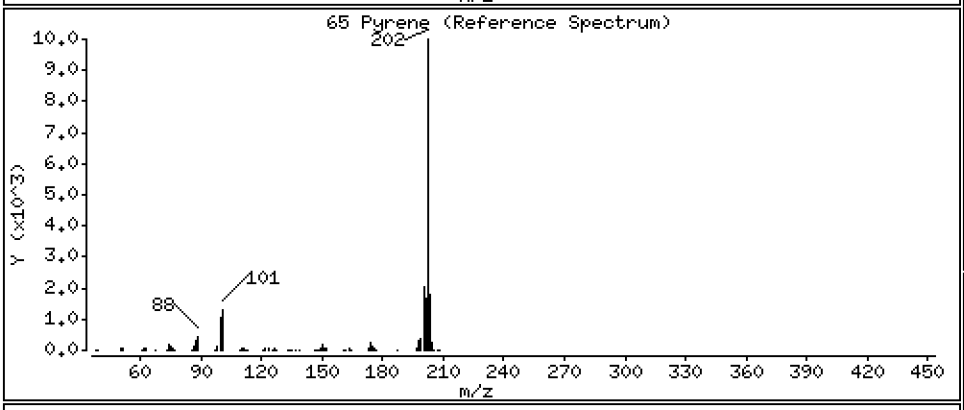
Concentration: 3.987 ug/mL

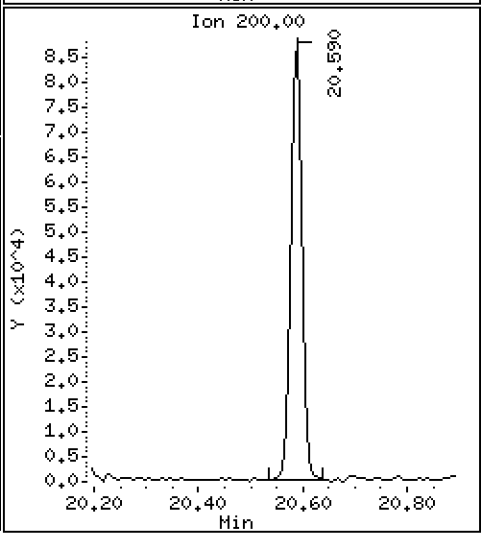


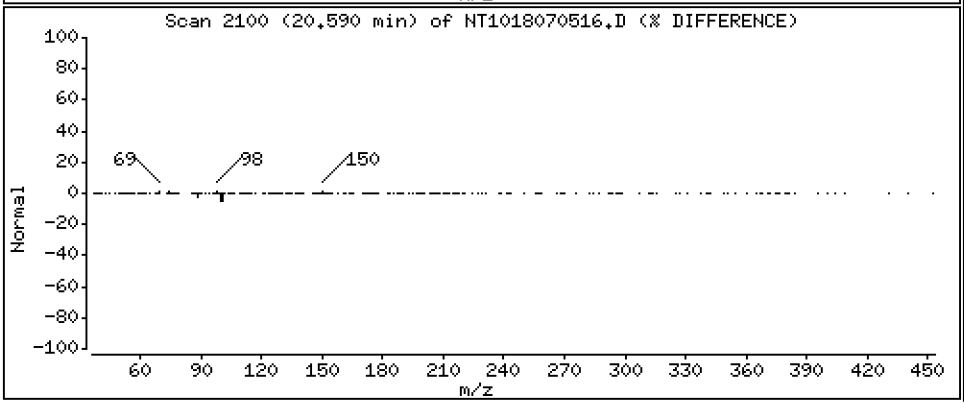












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

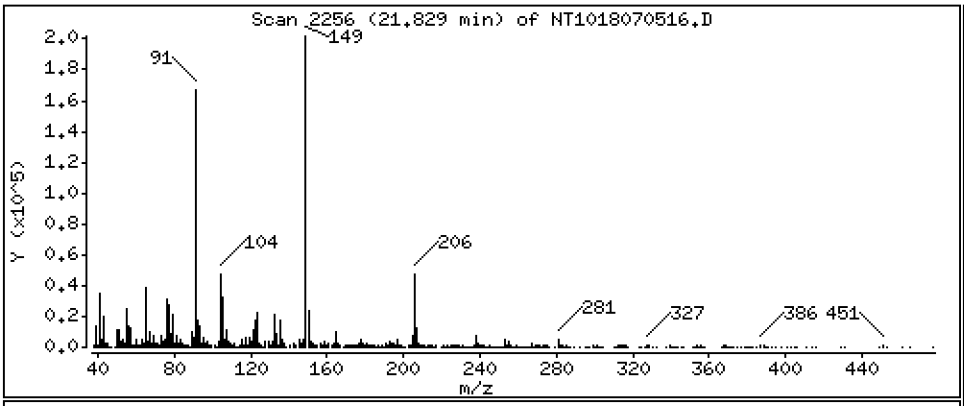
Operator: YZ

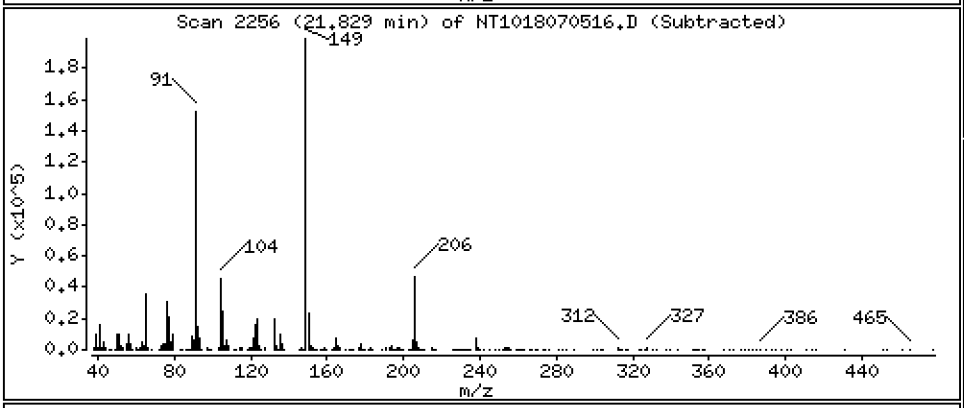
Column phase: ZB-5msi

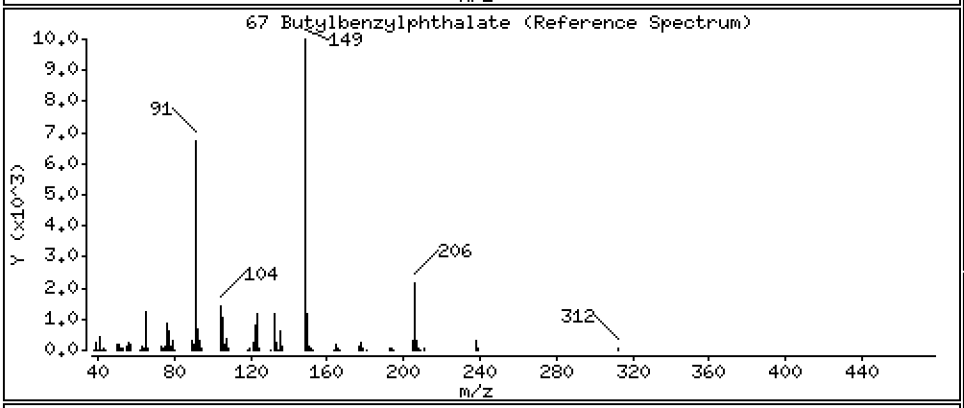
Column diameter: 0.25

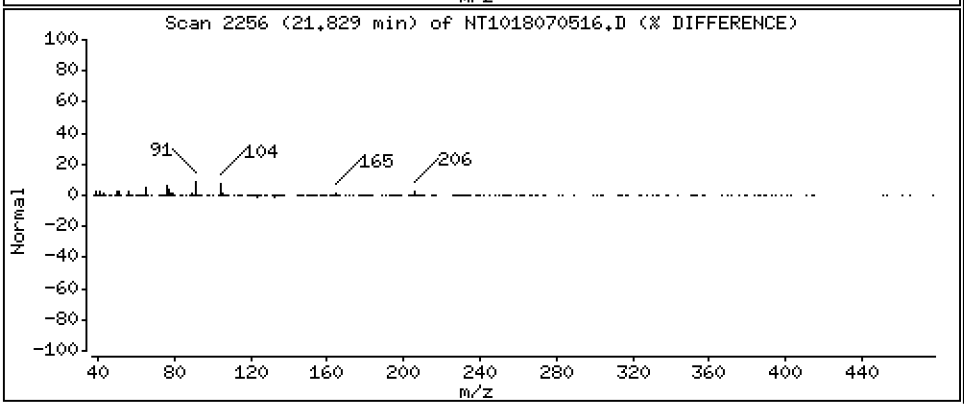
67 Butylbenzylphthalate

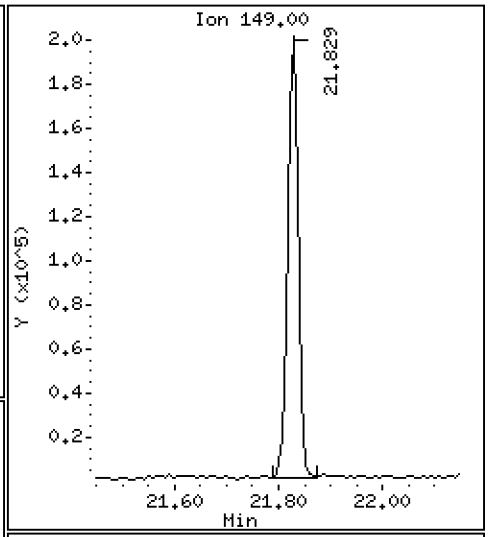
Concentration: 4.312 ug/mL

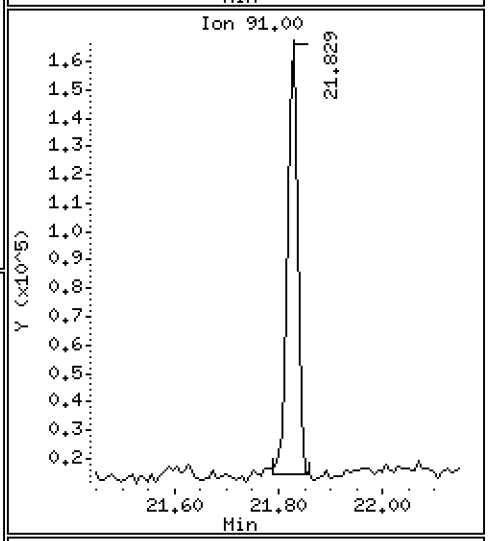


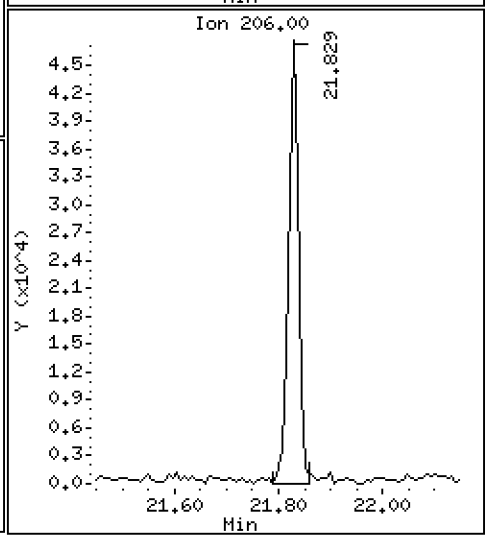












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

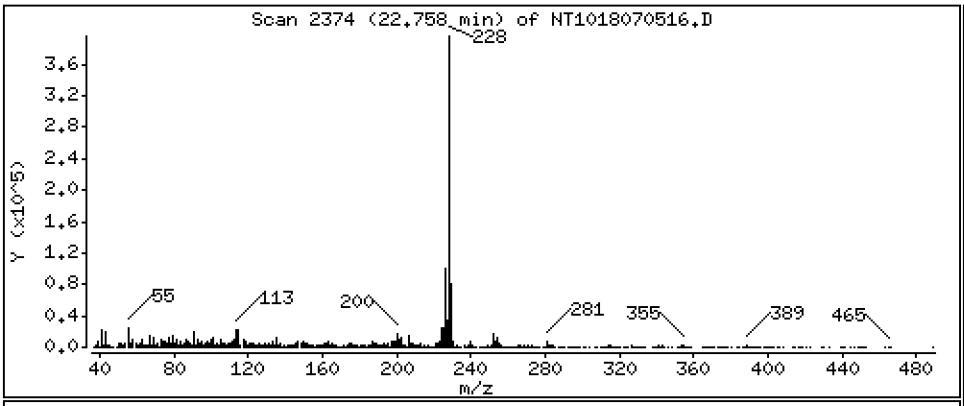
Operator: YZ

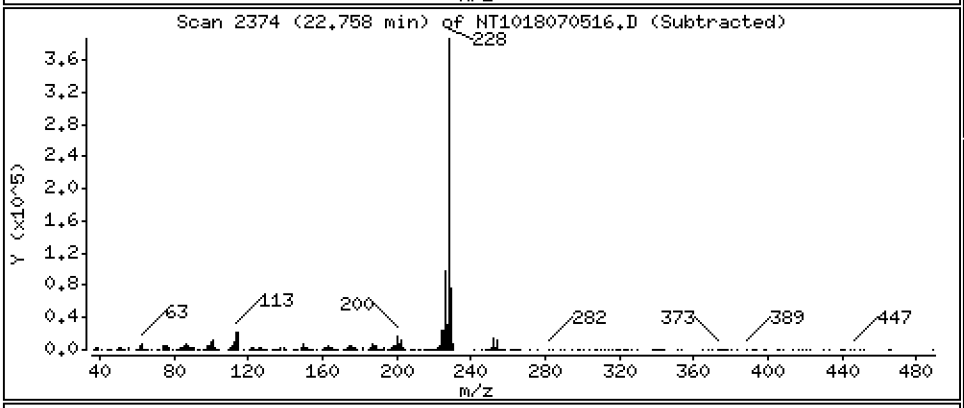
Column phase: ZB-5msi

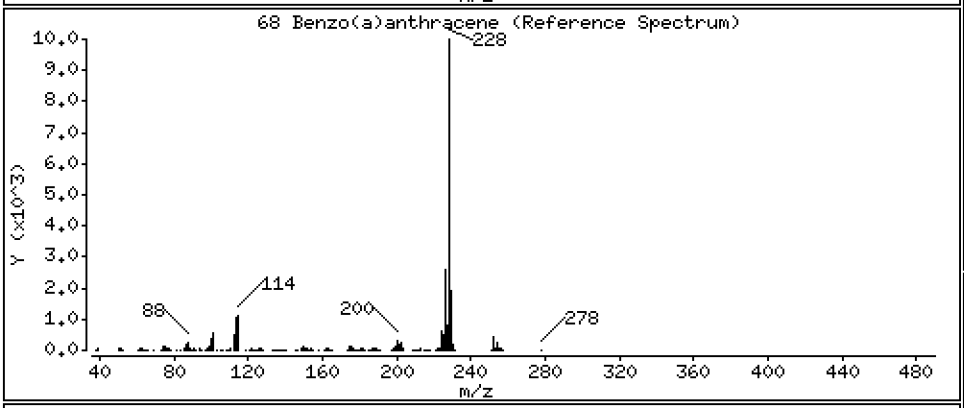
Column diameter: 0.25

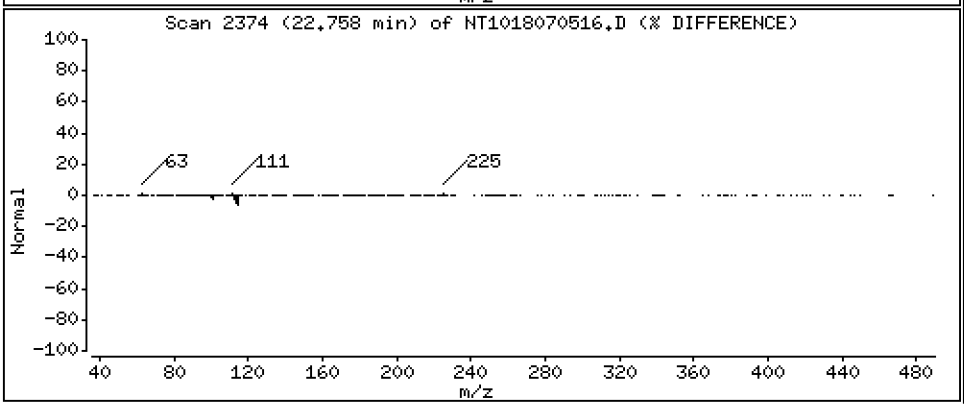
68 Benzo(a)anthracene

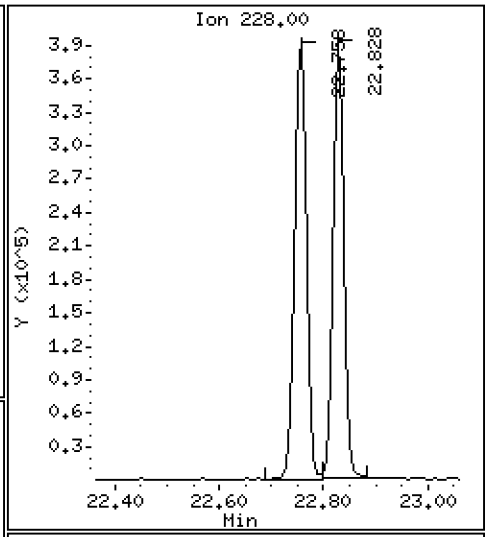
Concentration: 4.362 ug/mL

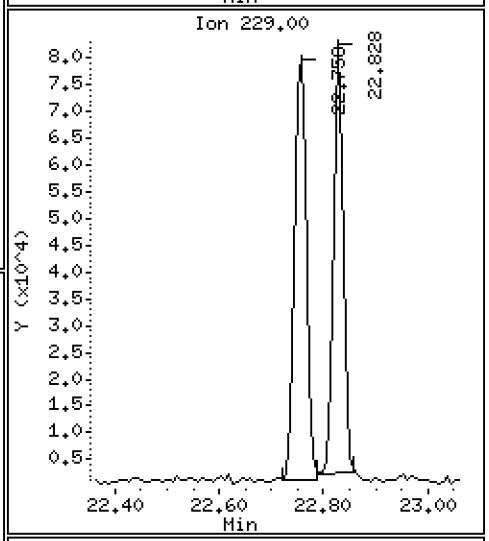


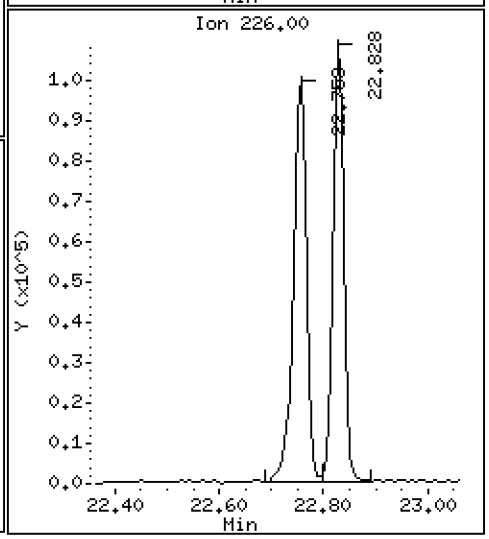












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

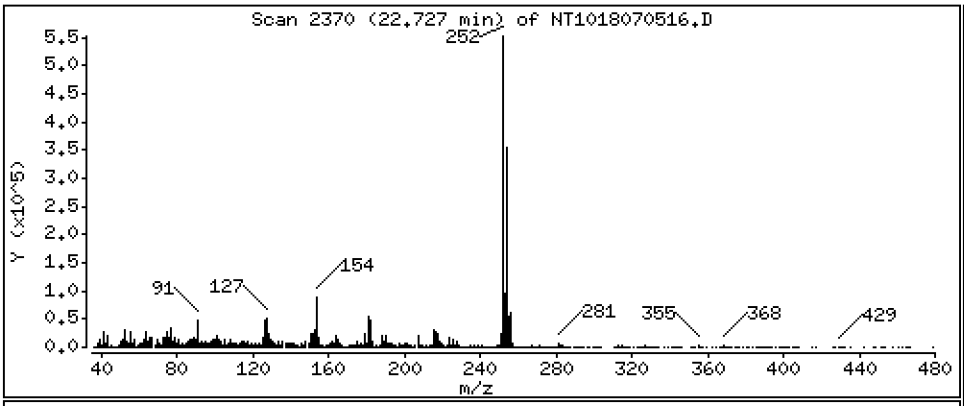
Operator: YZ

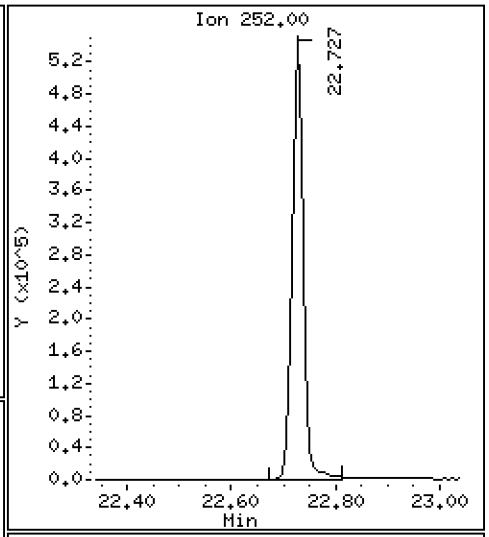
Column phase: ZB-5msi

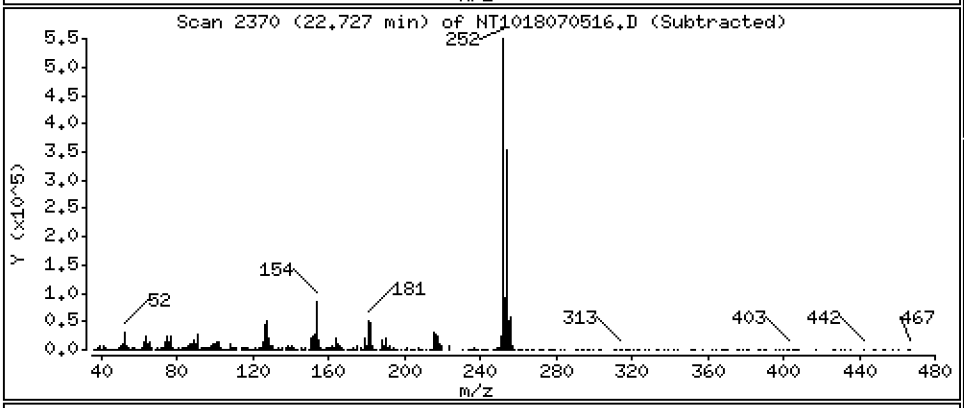
Column diameter: 0.25

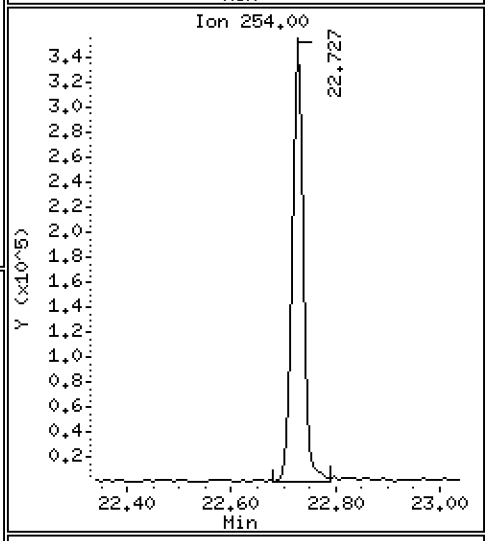
70 3,3'-Dichlorobenzidine

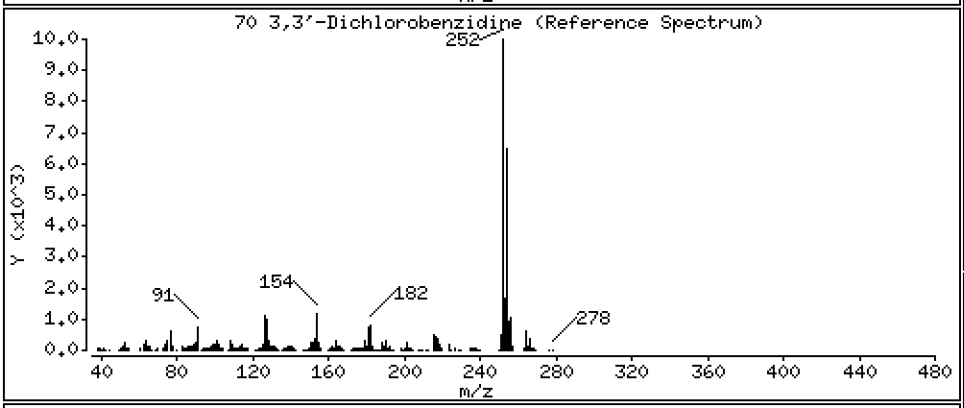
Concentration: 15.93 ug/mL

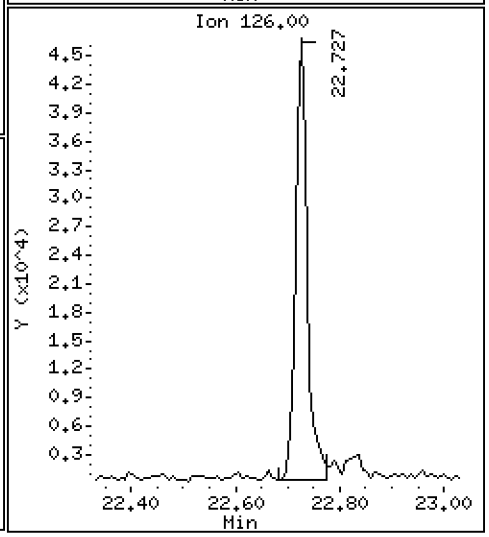


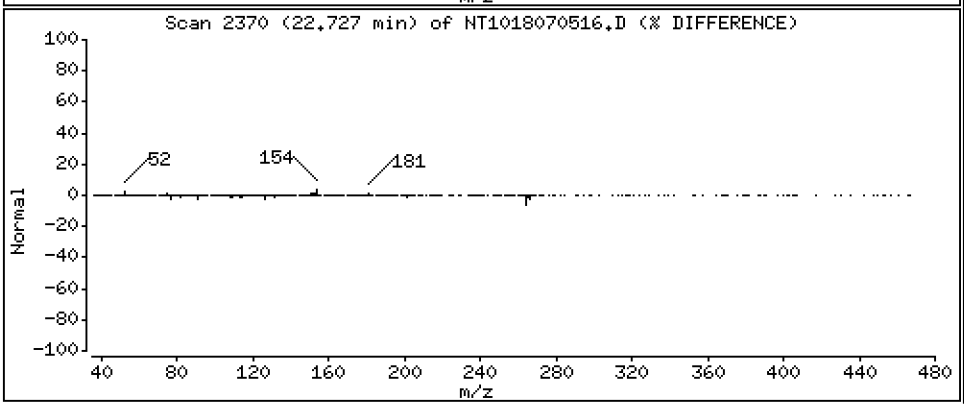












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

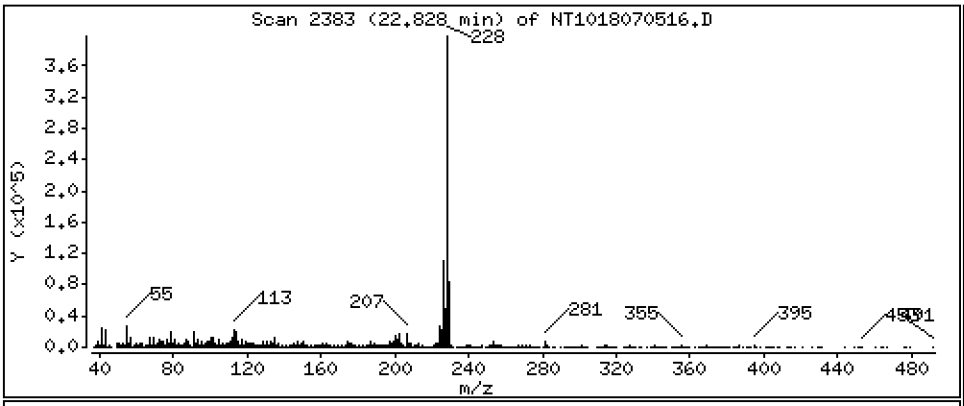
Operator: YZ

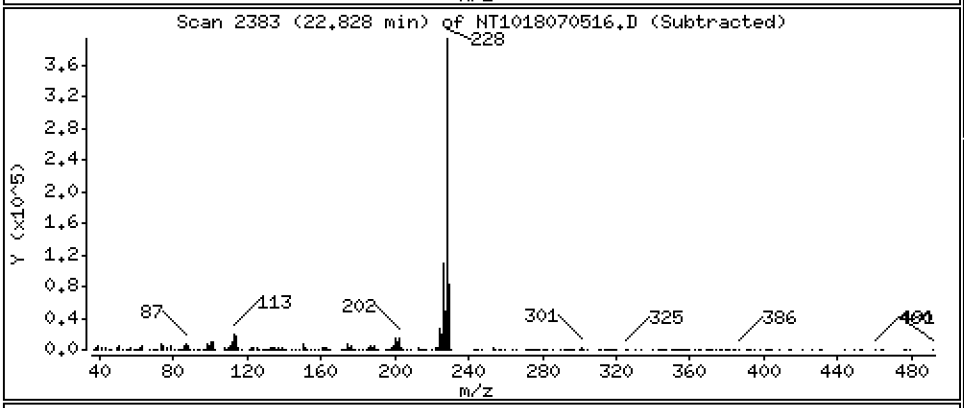
Column phase: ZB-5msi

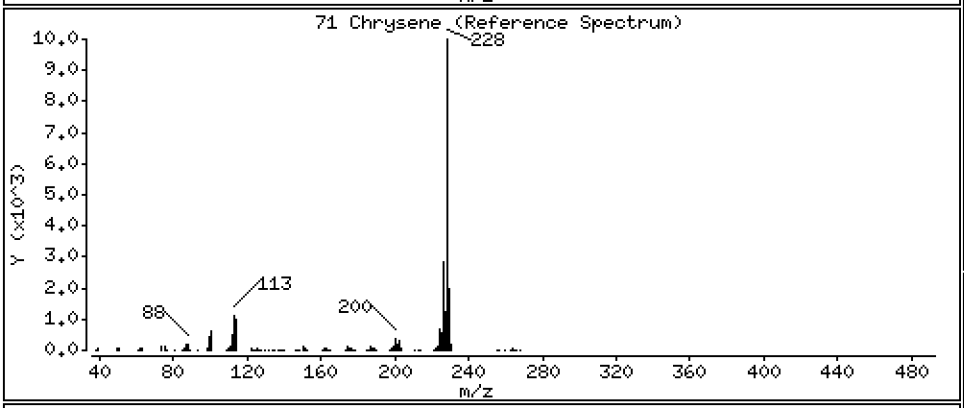
Column diameter: 0.25

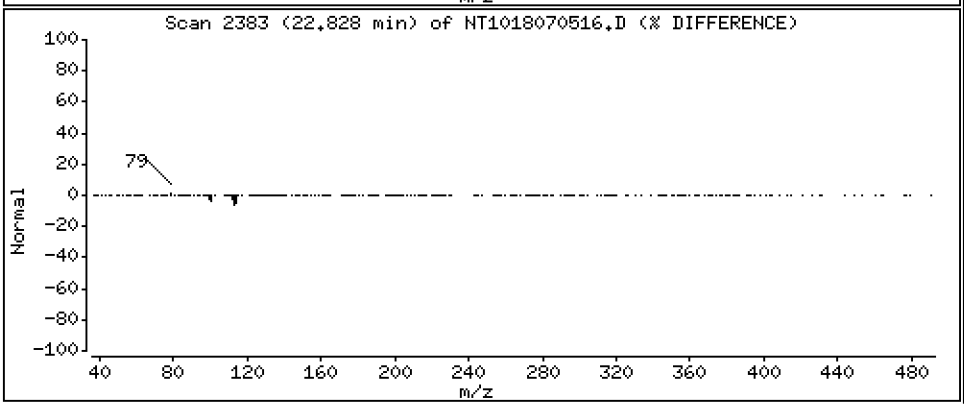
71 Chrysene

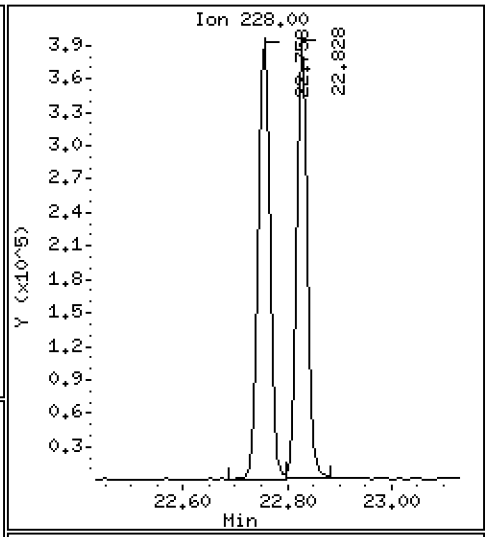
Concentration: 4.804 ug/mL

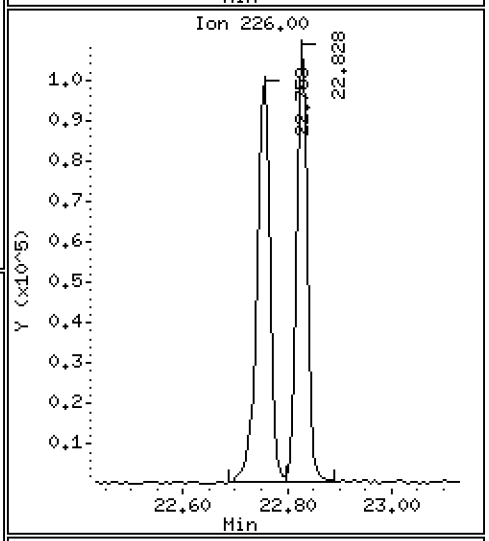


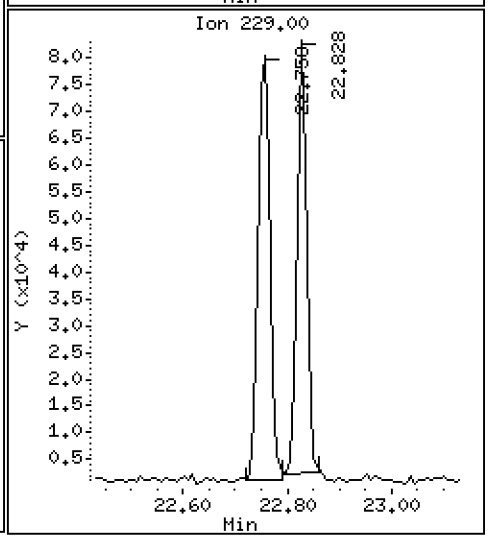












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

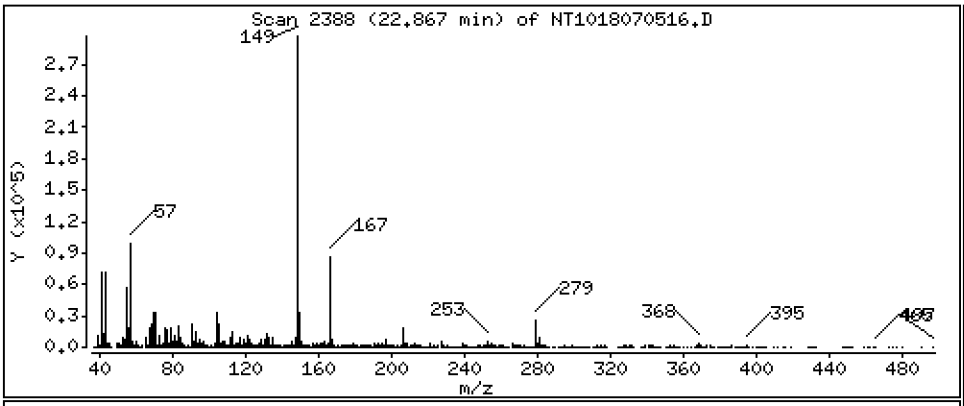
Operator: YZ

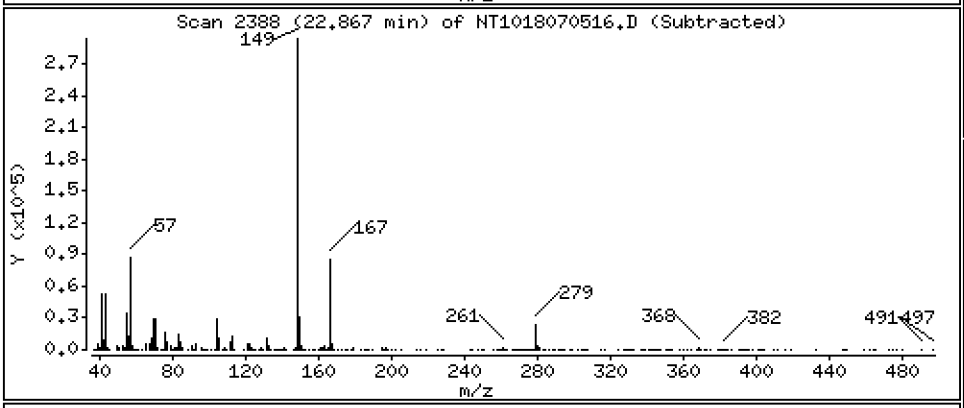
Column phase: ZB-5msi

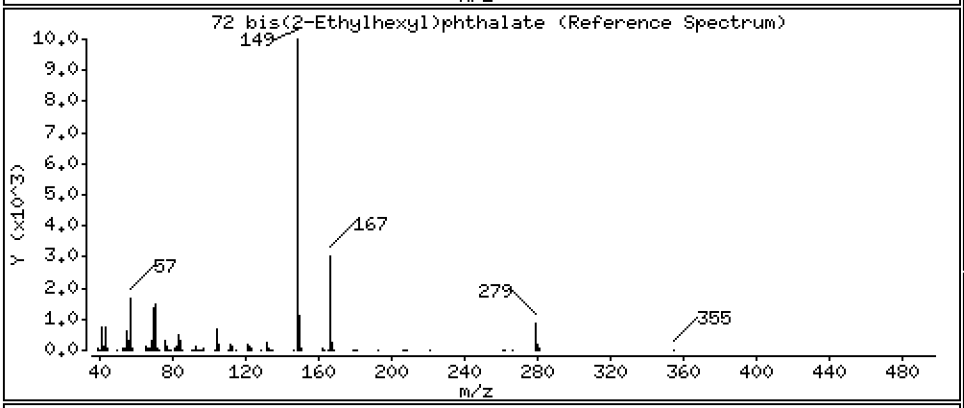
Column diameter: 0.25

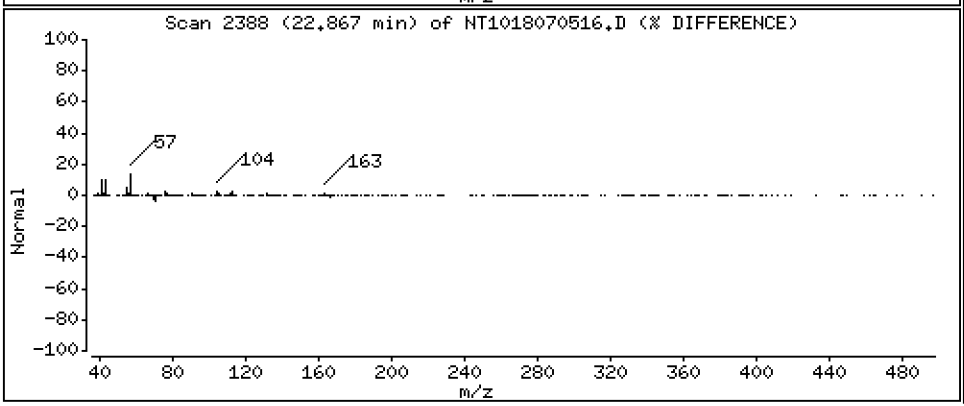
72 bis(2-Ethylhexyl)phthalate

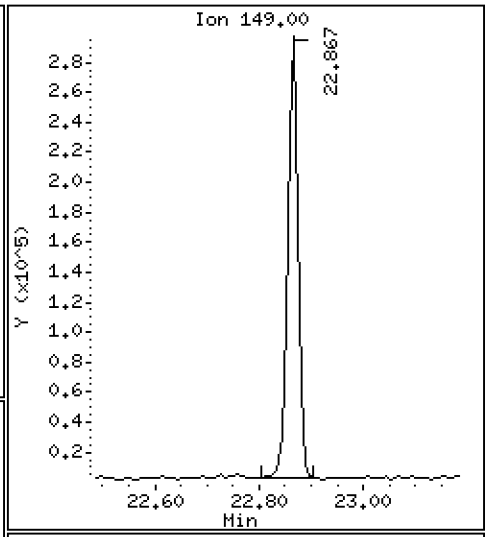
Concentration: 5.469 ug/mL

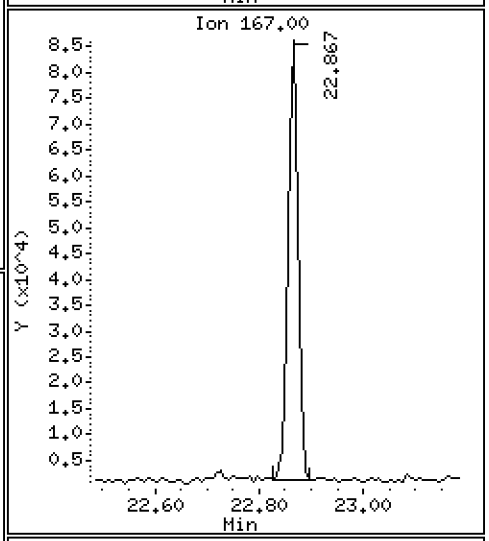


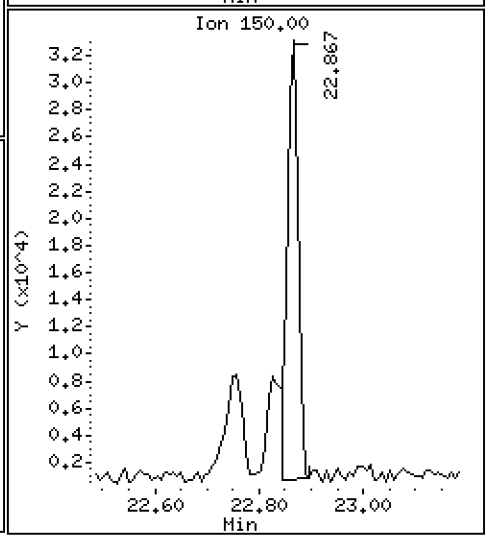












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

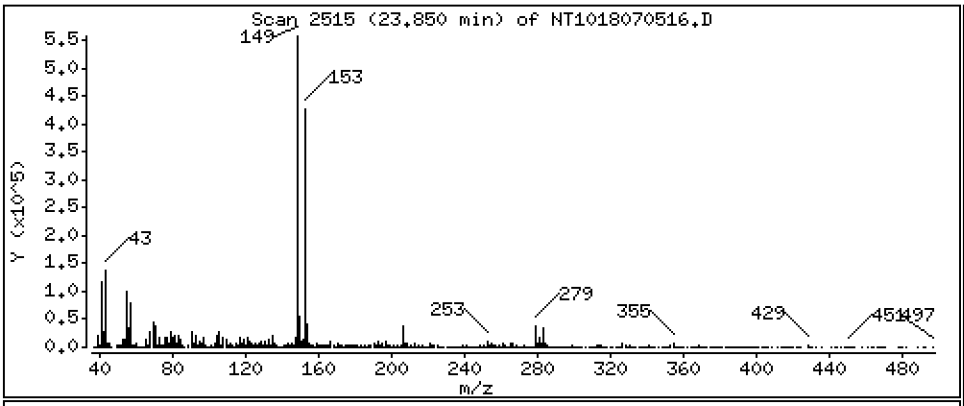
Operator: YZ

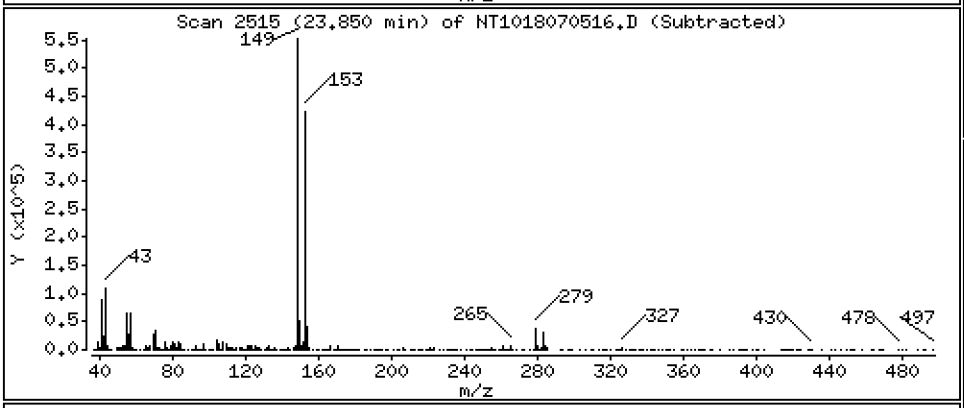
Column phase: ZB-5msi

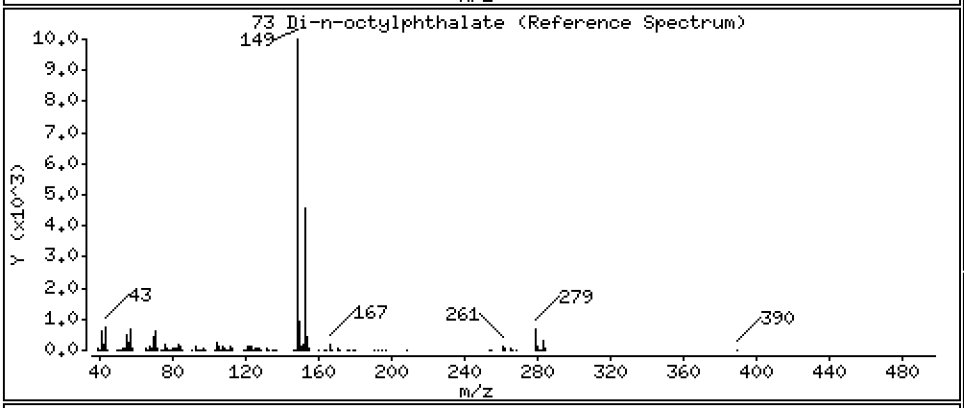
Column diameter: 0.25

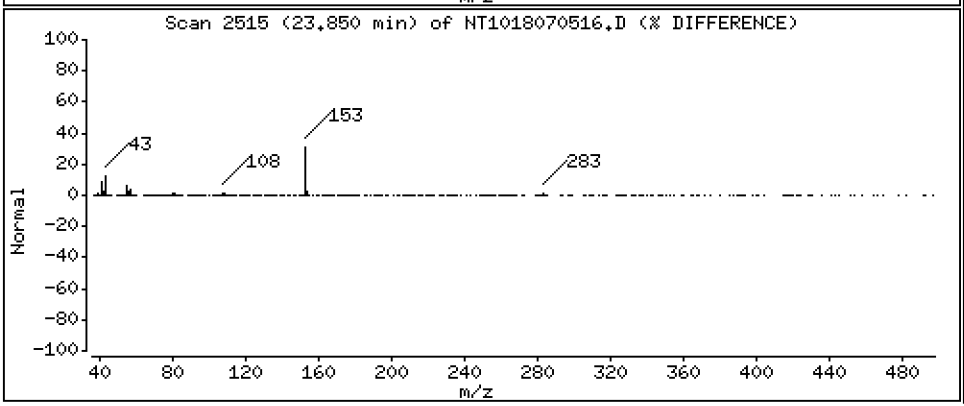
73 Di-n-octylphthalate

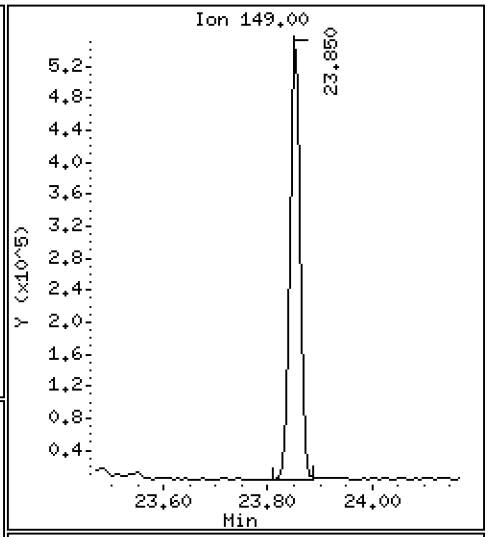
Concentration: 4.826 ug/mL

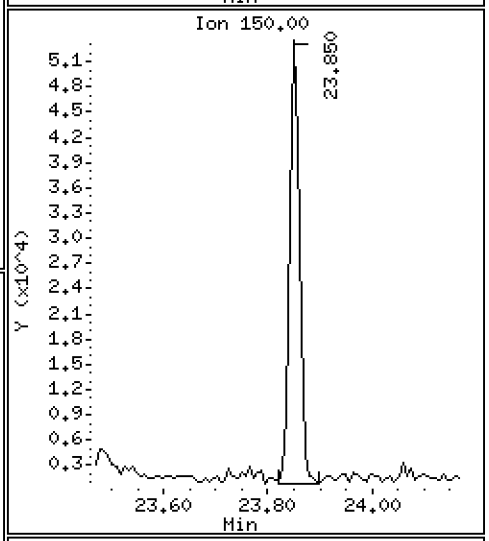


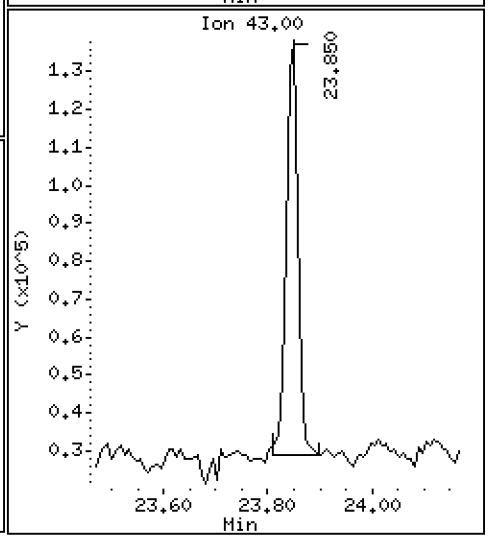












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

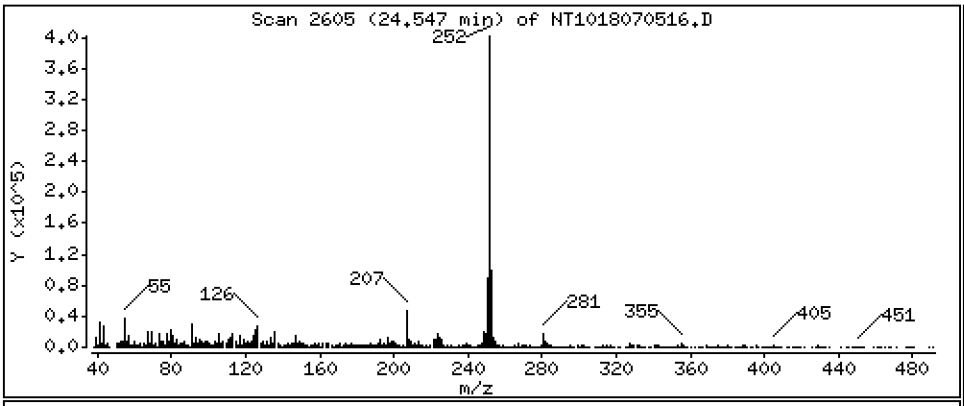
Operator: YZ

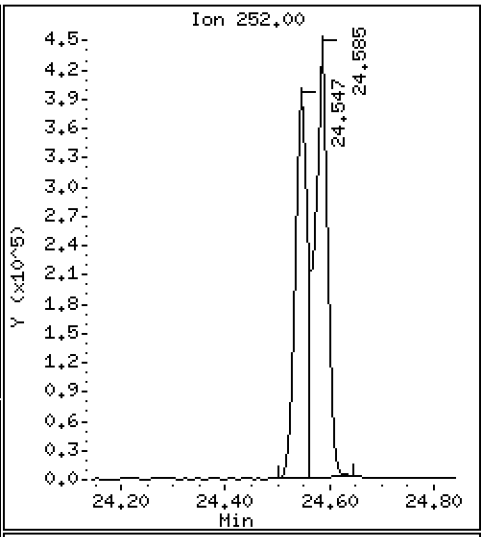
Column phase: ZB-5msi

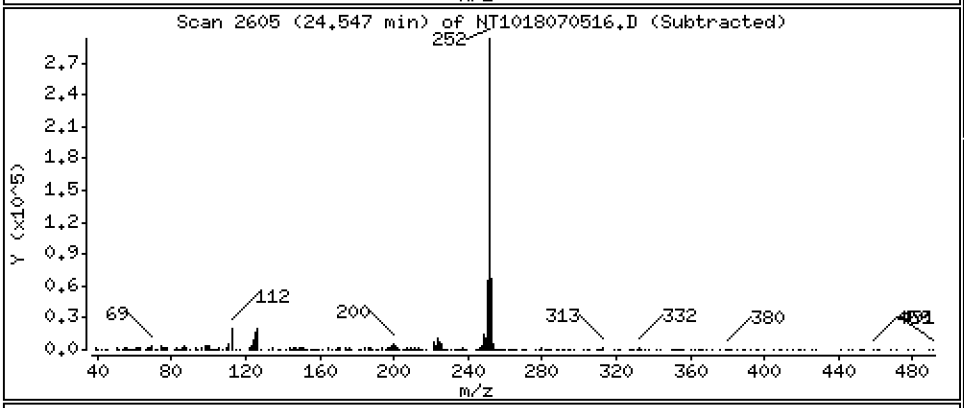
Column diameter: 0.25

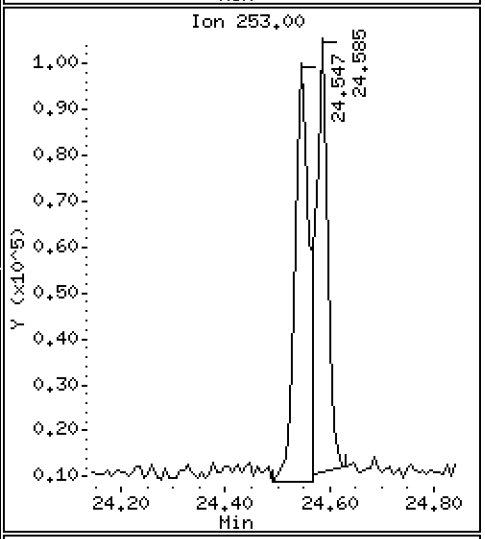
74 Benzo(b)fluoranthene

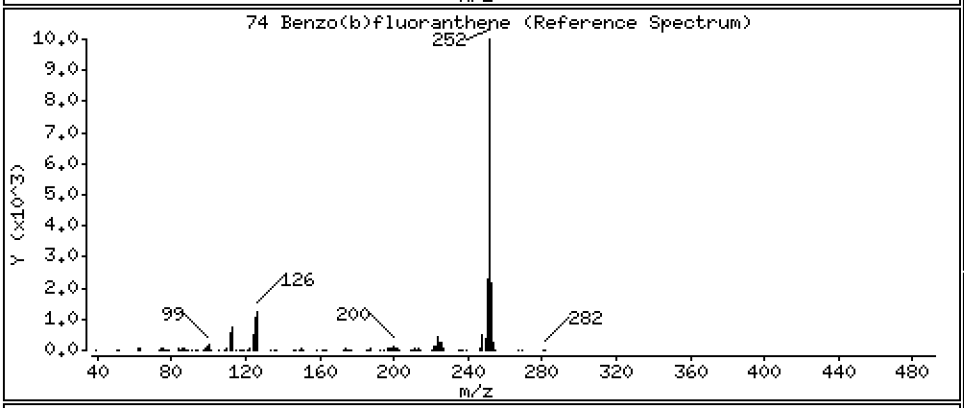
Concentration: 4.125 ug/mL

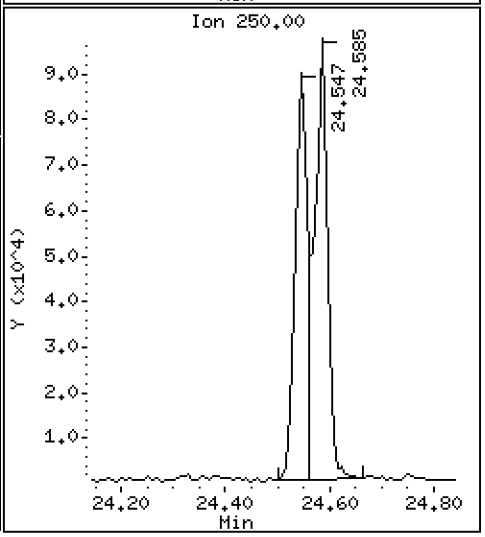


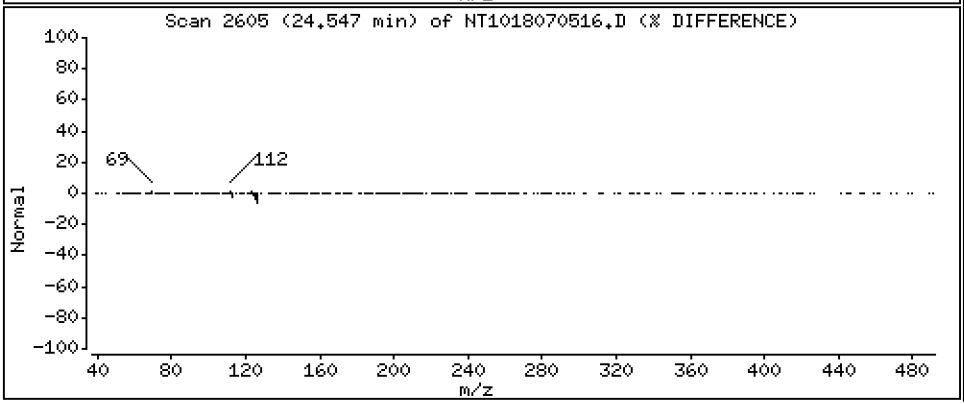












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

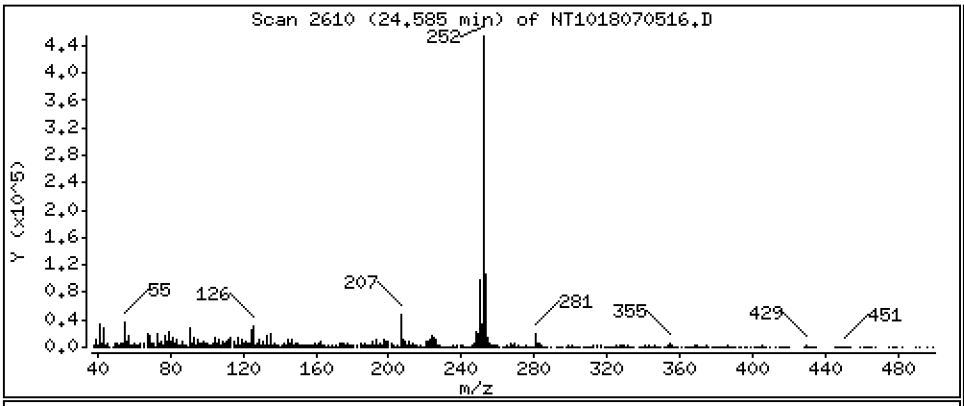
Operator: YZ

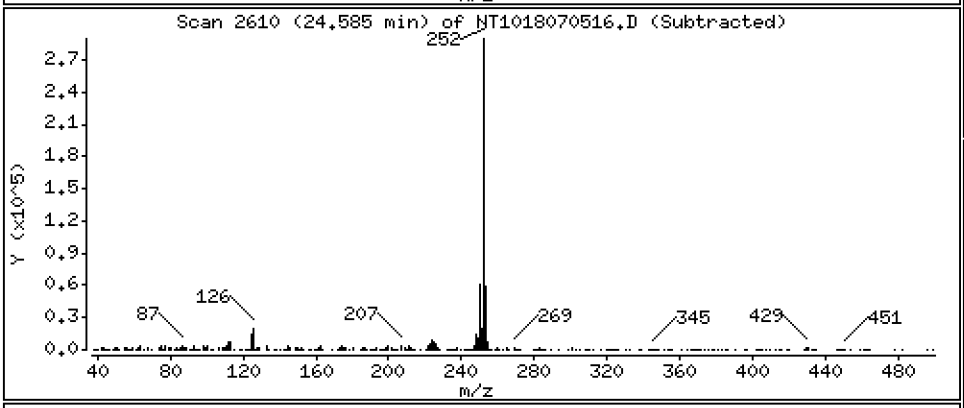
Column phase: ZB-5msi

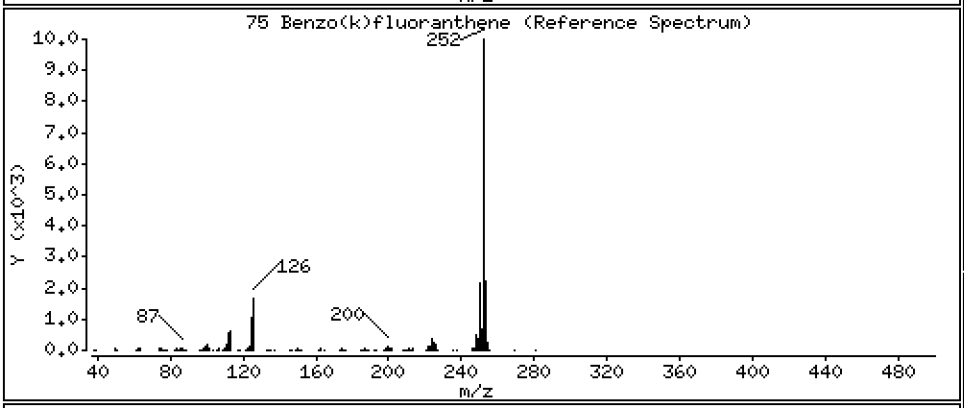
Column diameter: 0.25

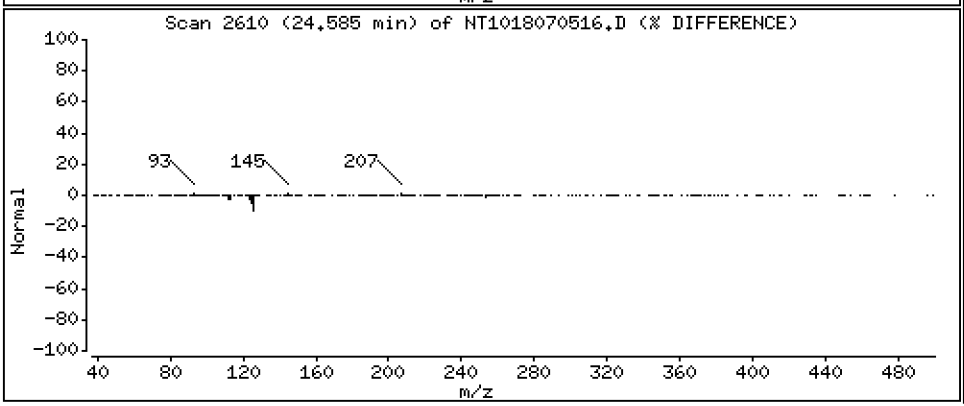
75 Benzo(k)fluoranthene

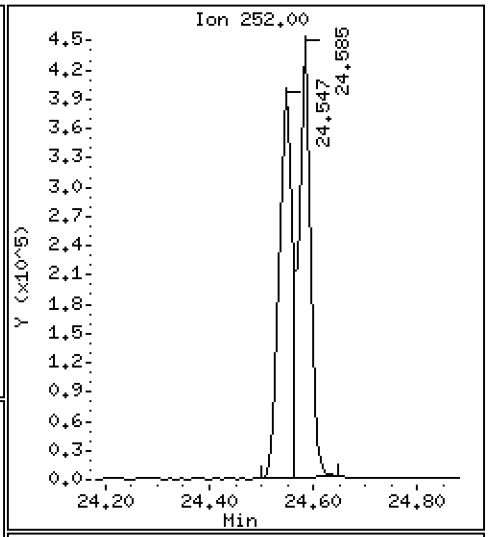
Concentration: 4.720 ug/mL

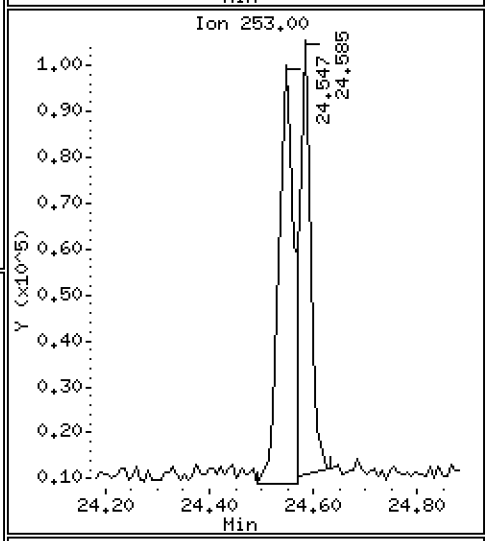


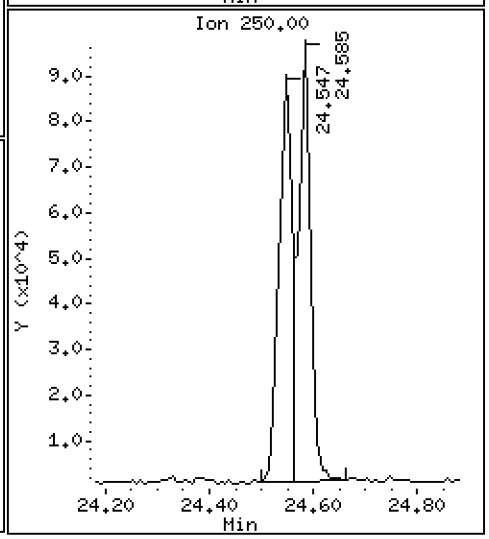












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

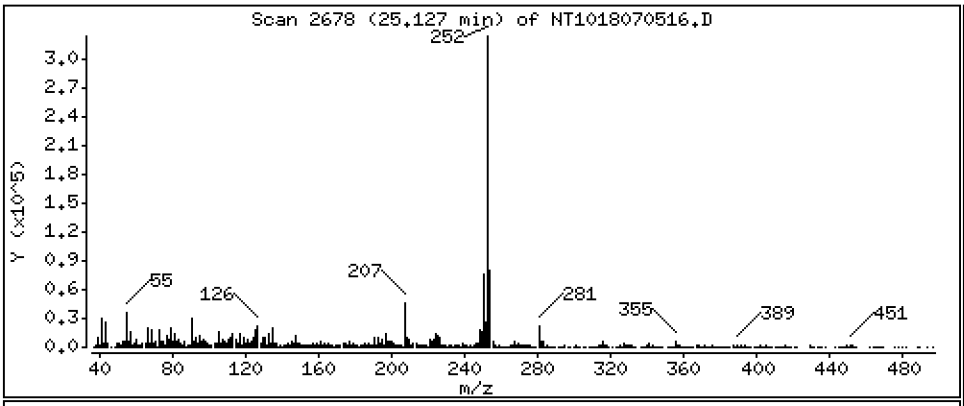
Operator: YZ

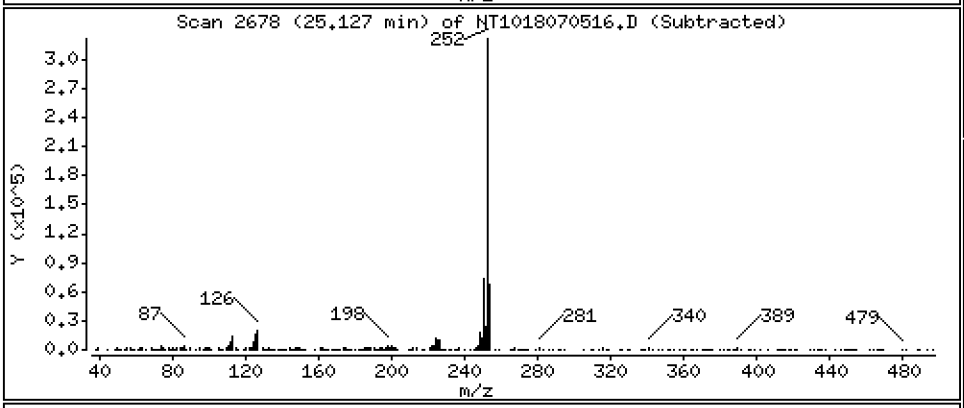
Column phase: ZB-5msi

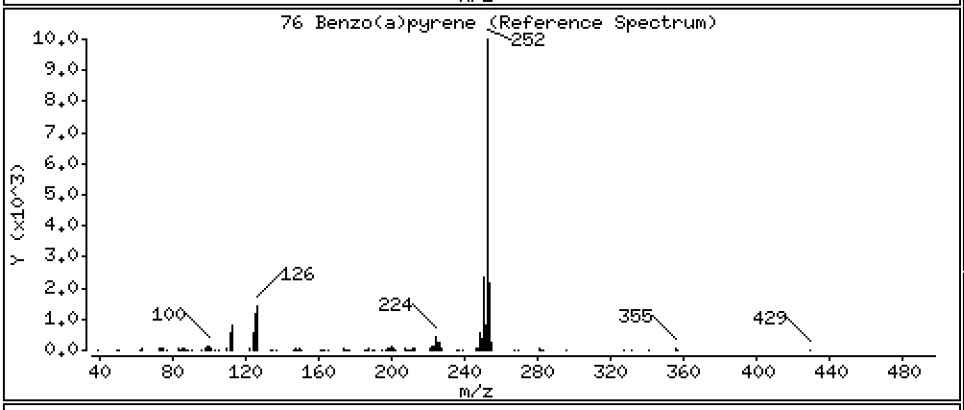
Column diameter: 0.25

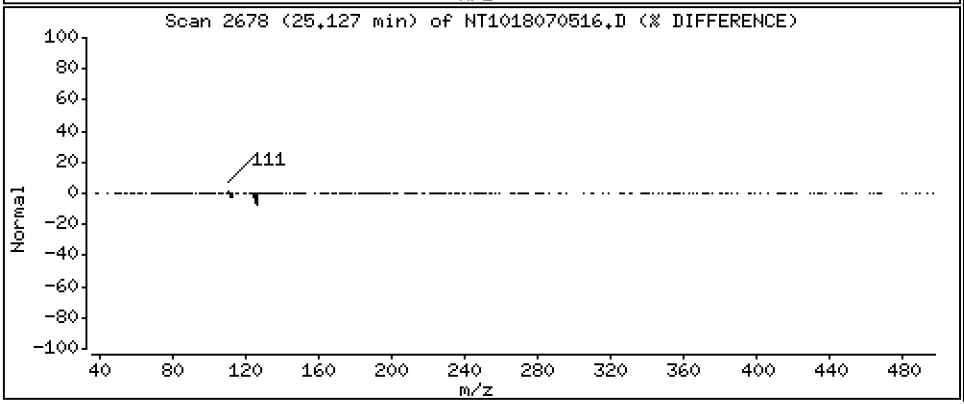
76 Benzo(a)pyrene

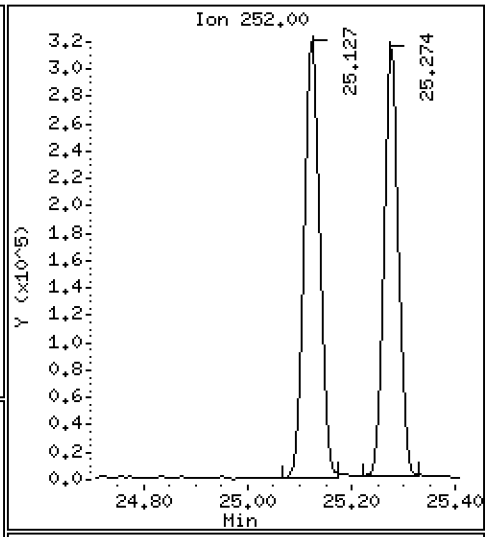
Concentration: 3.990 ug/mL

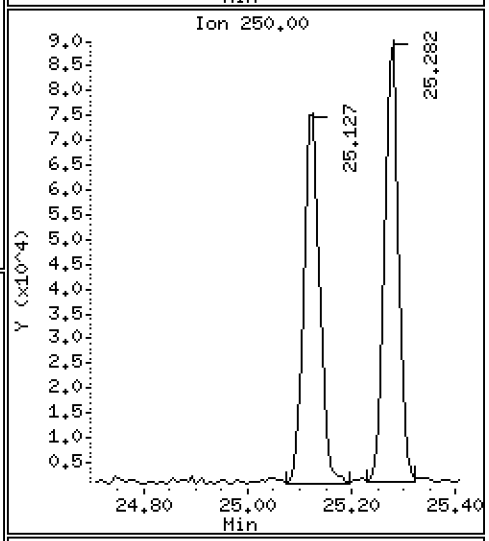


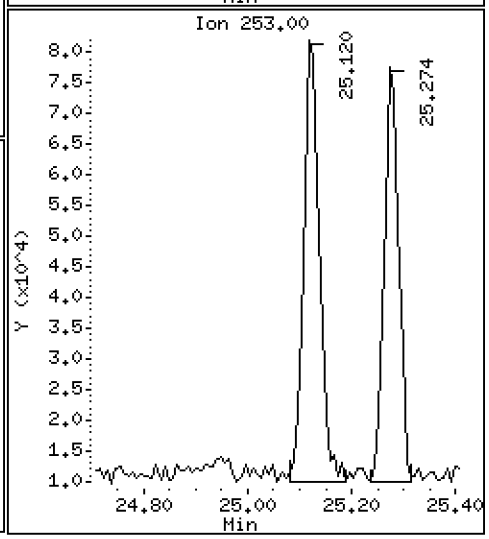












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

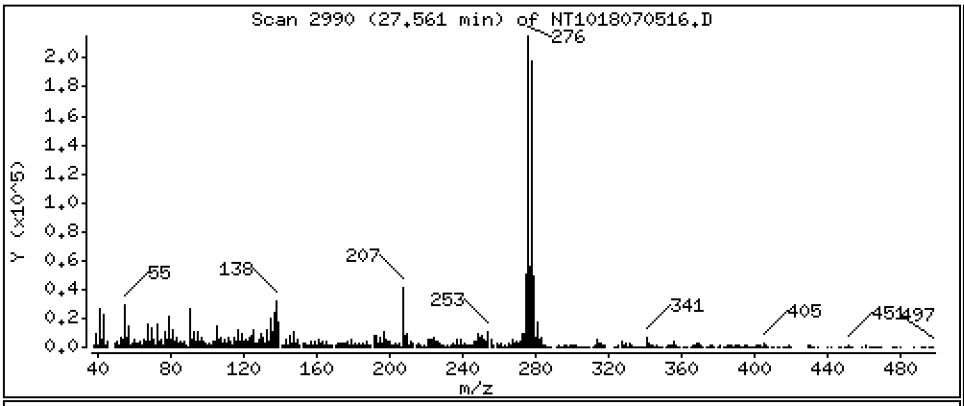
Operator: YZ

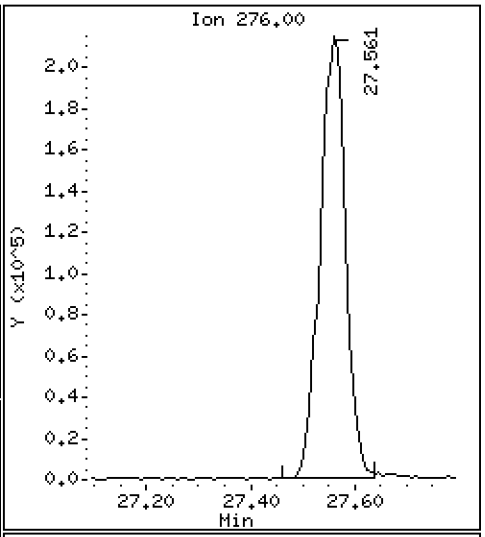
Column phase: ZB-5msi

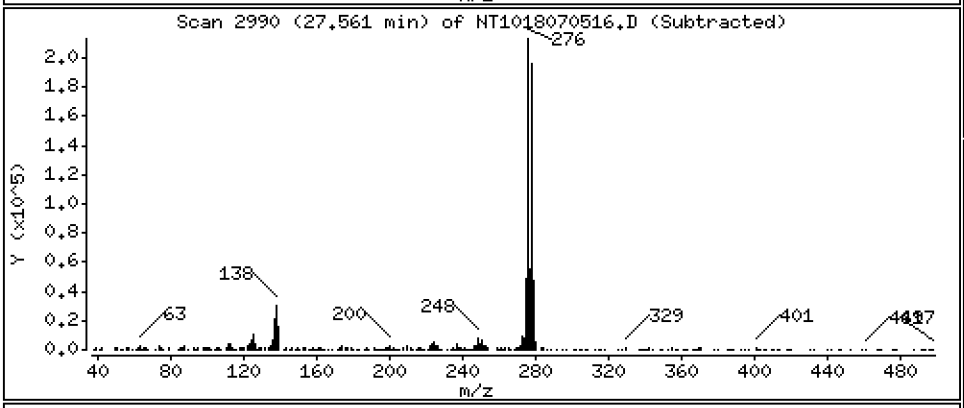
Column diameter: 0.25

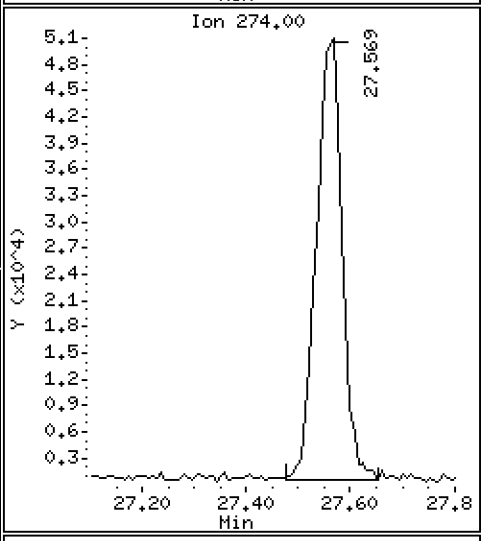
78 Indeno(1,2,3-cd)pyrene

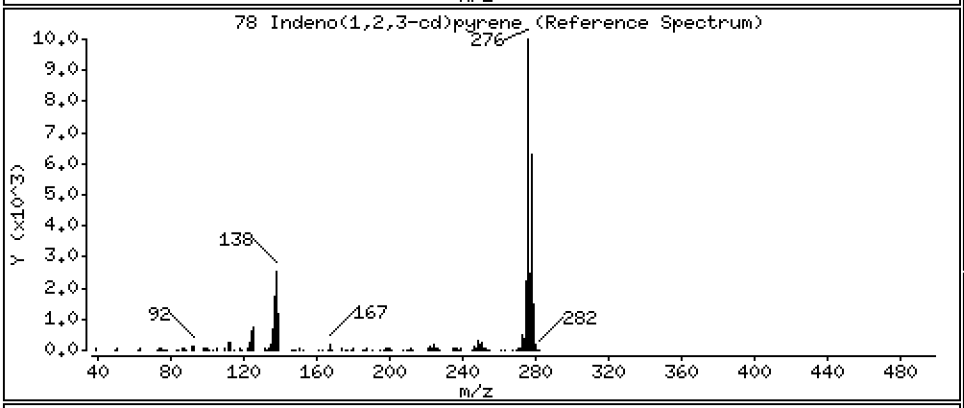
Concentration: 4.558 ug/mL

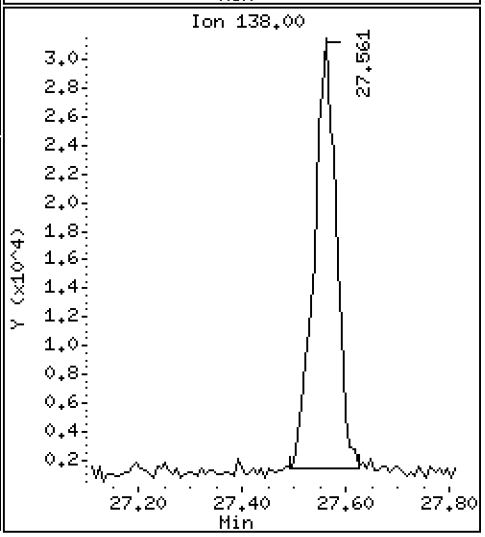


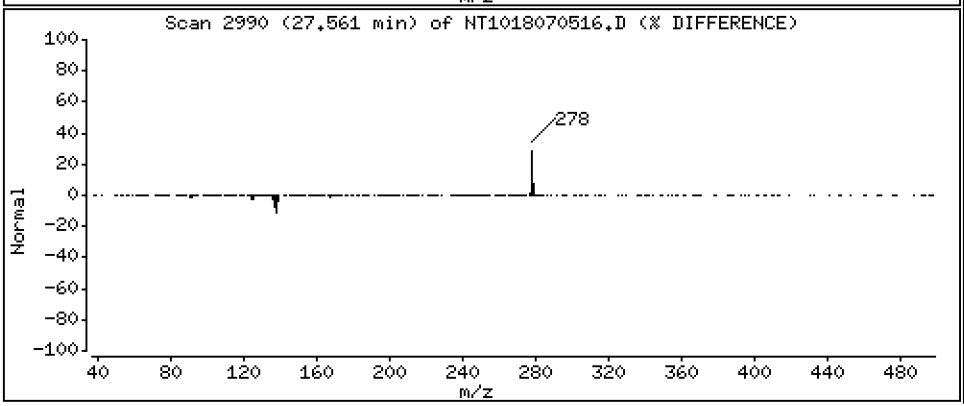












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

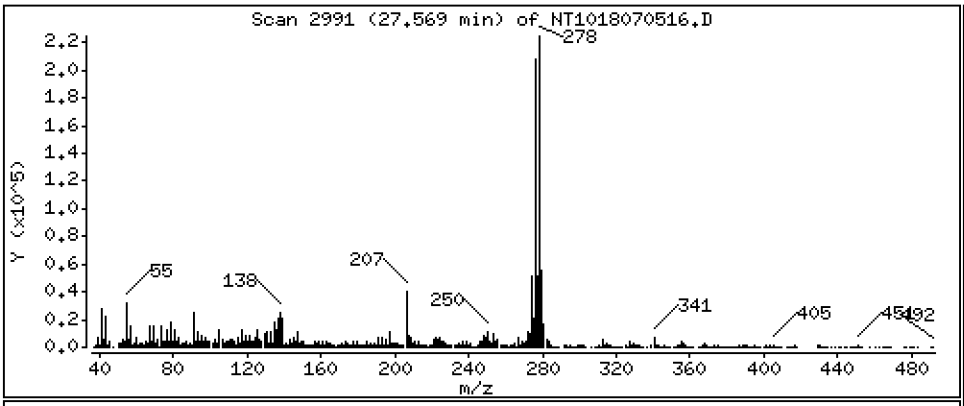
Operator: YZ

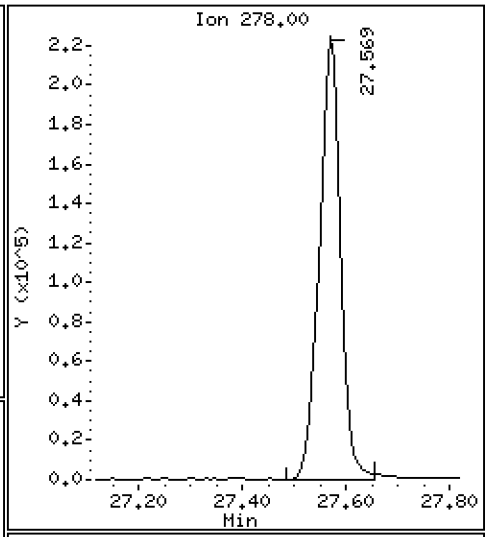
Column phase: ZB-5msi

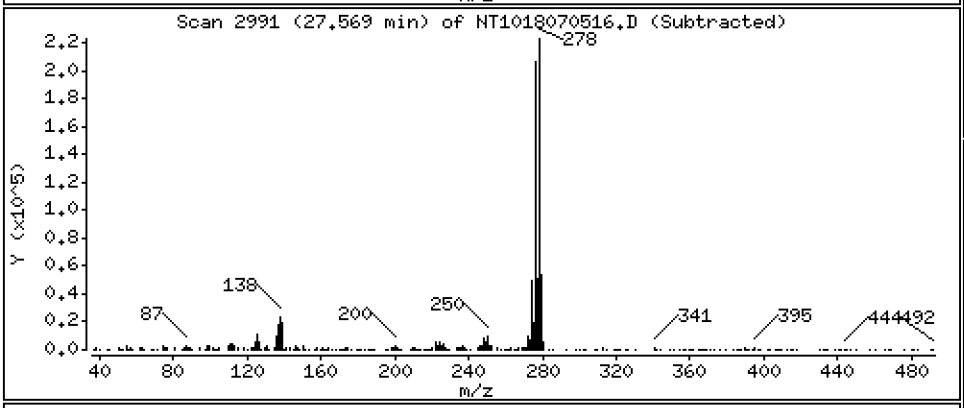
Column diameter: 0.25

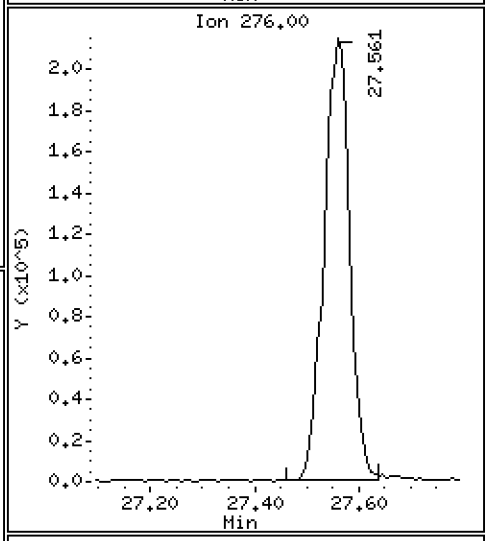
79 Dibenzo(a,h)anthracene

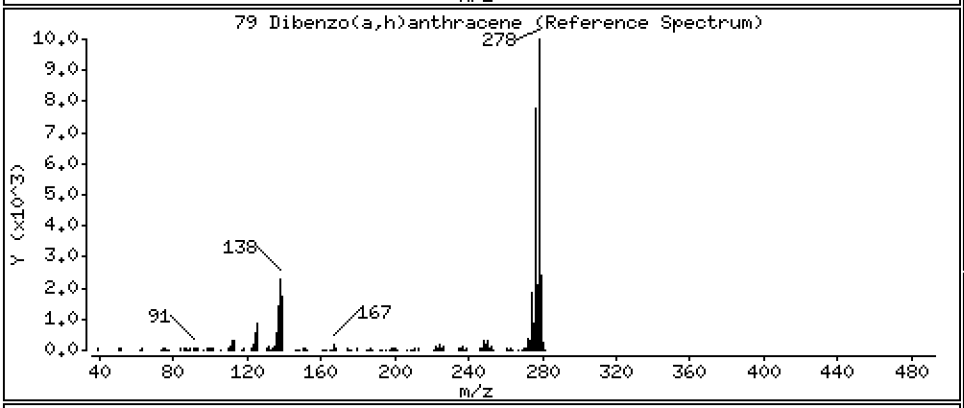
Concentration: 4.861 ug/mL

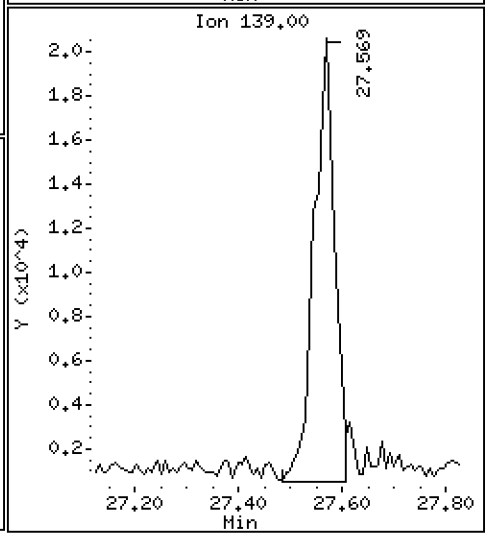


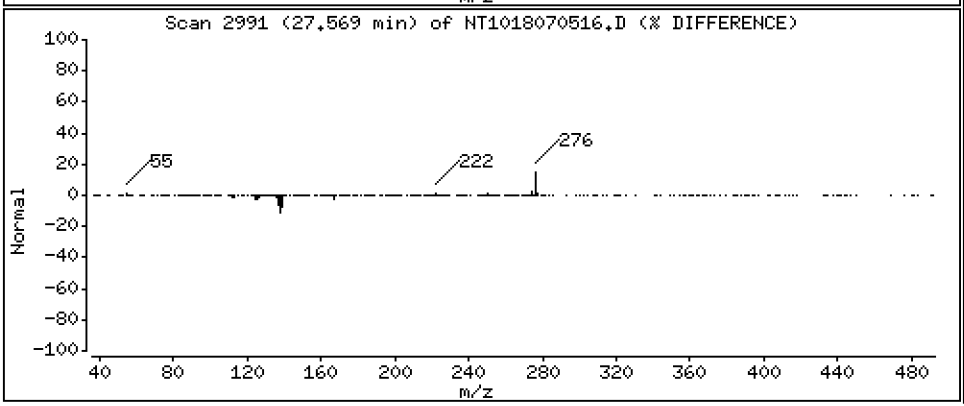












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

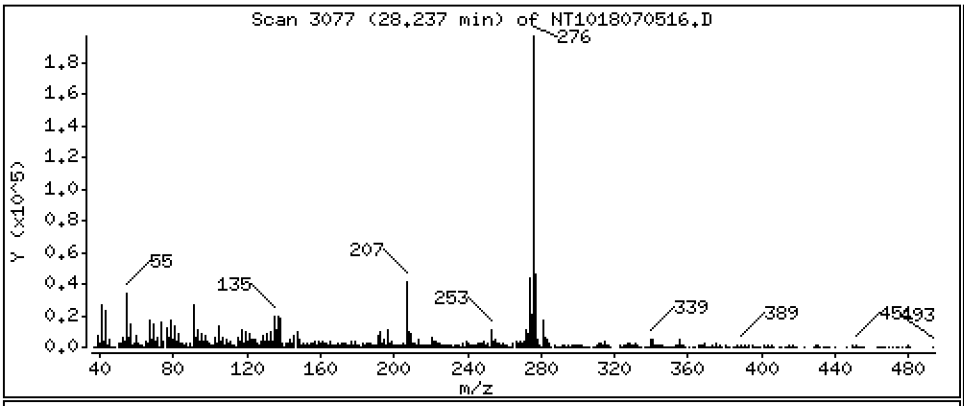
Operator: YZ

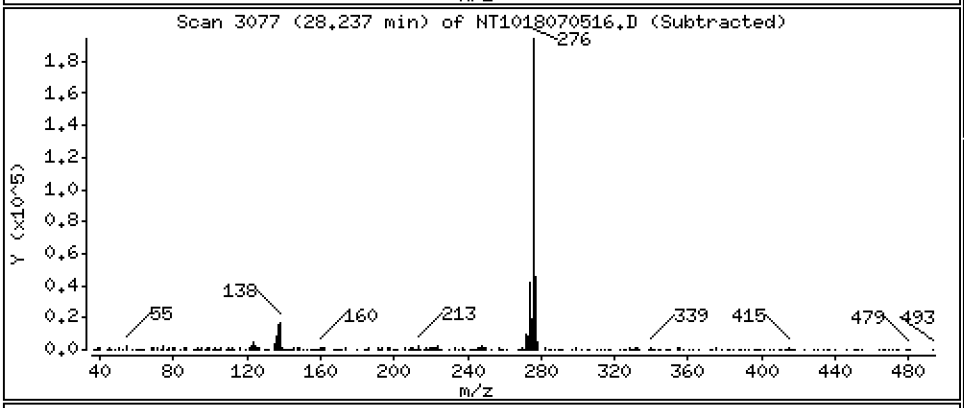
Column phase: ZB-5msi

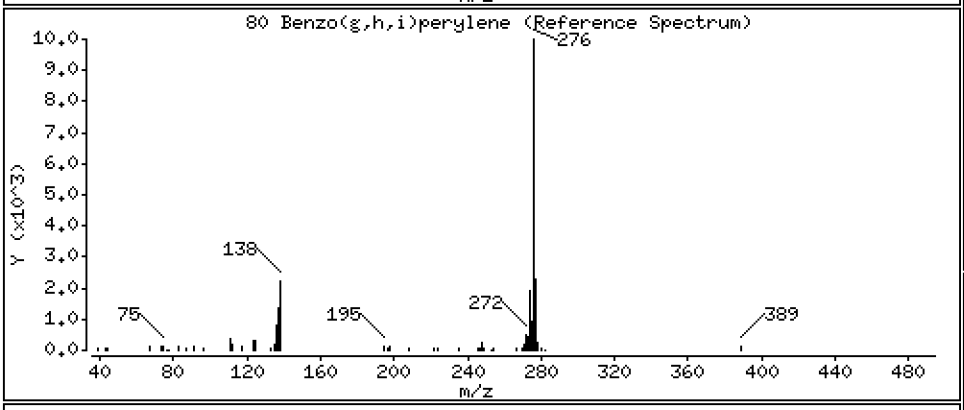
Column diameter: 0.25

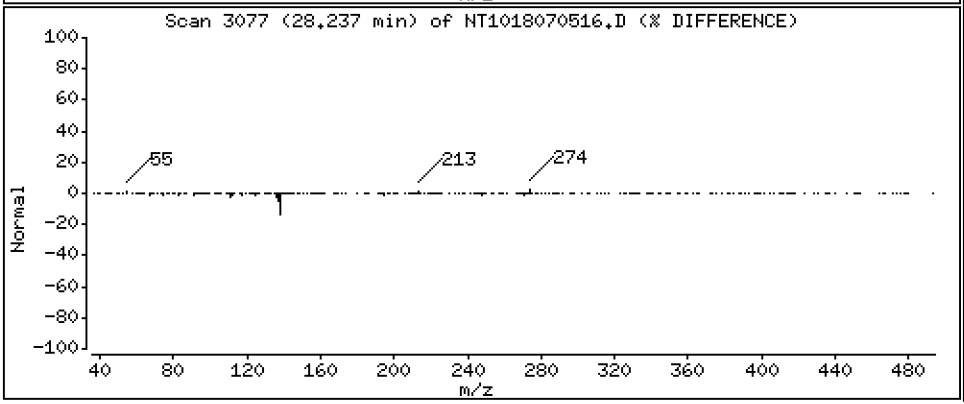
80 Benzo(g,h,i)perylene

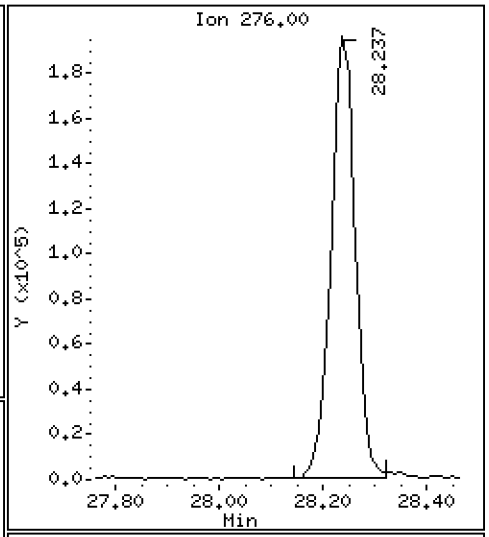
Concentration: 4.443 ug/mL

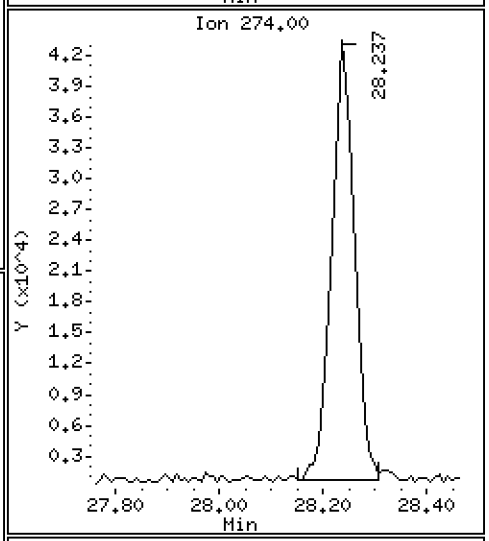


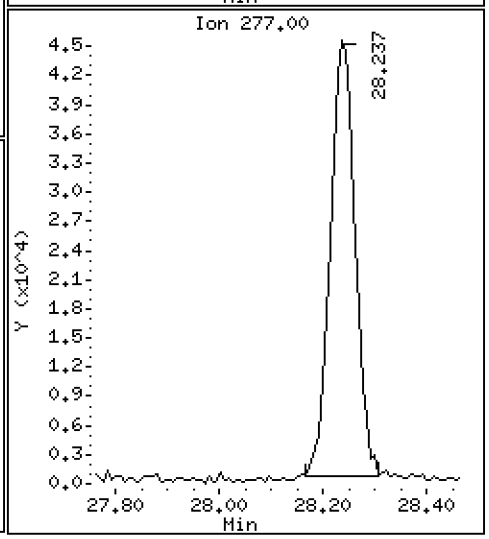












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

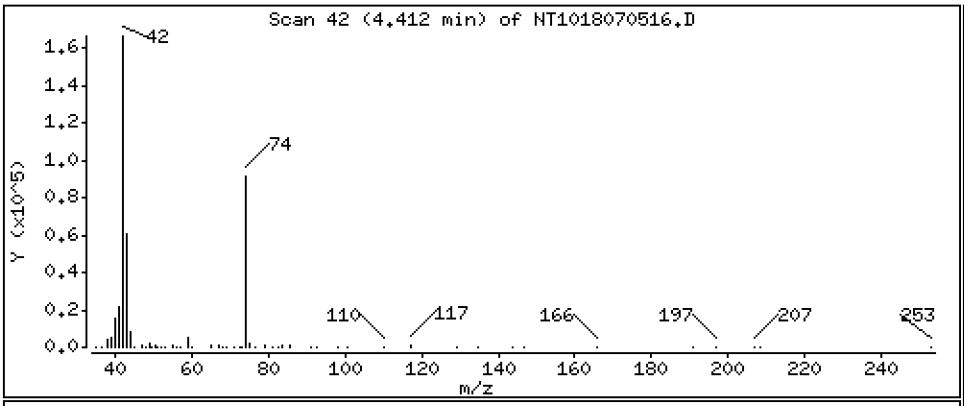
Operator: YZ

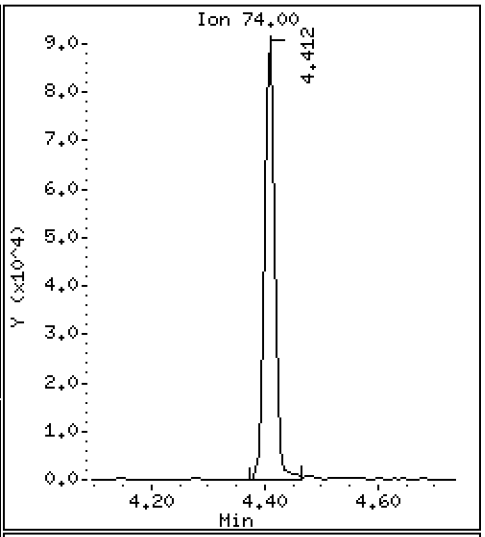
Column phase: ZB-5msi

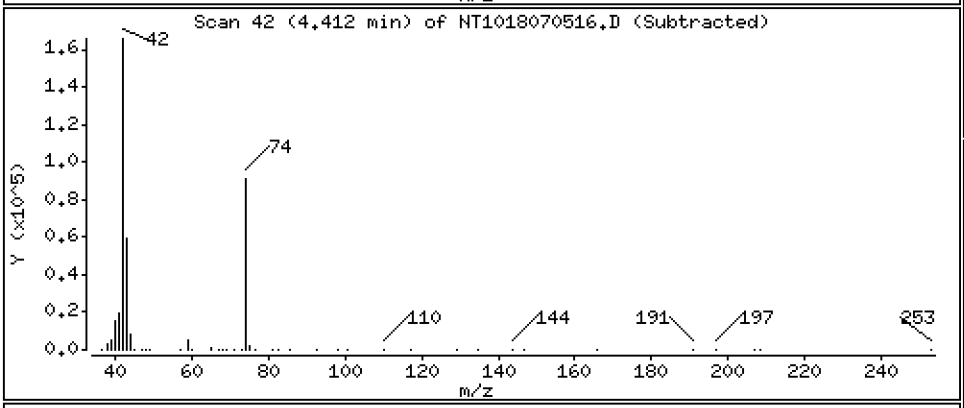
Column diameter: 0.25

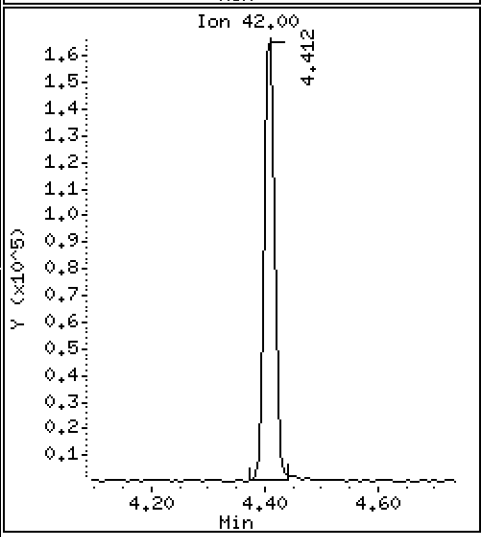
90 N-Nitrosodimethylamine

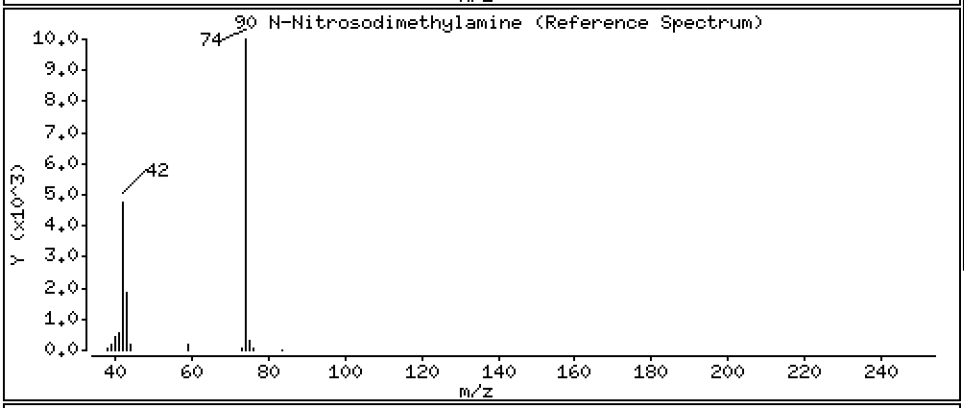
Concentration: 5.747 ug/mL

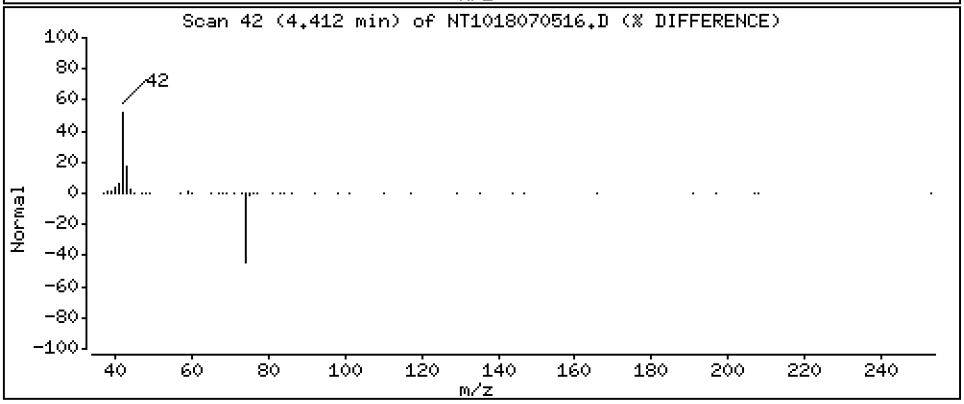












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

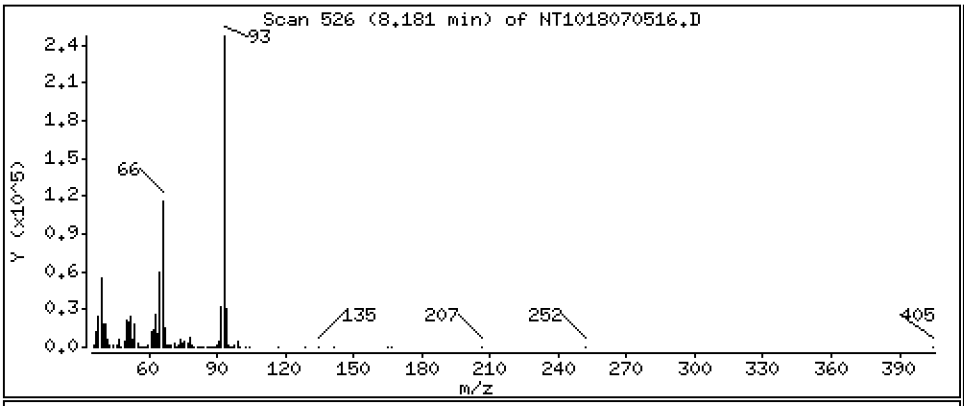
Operator: YZ

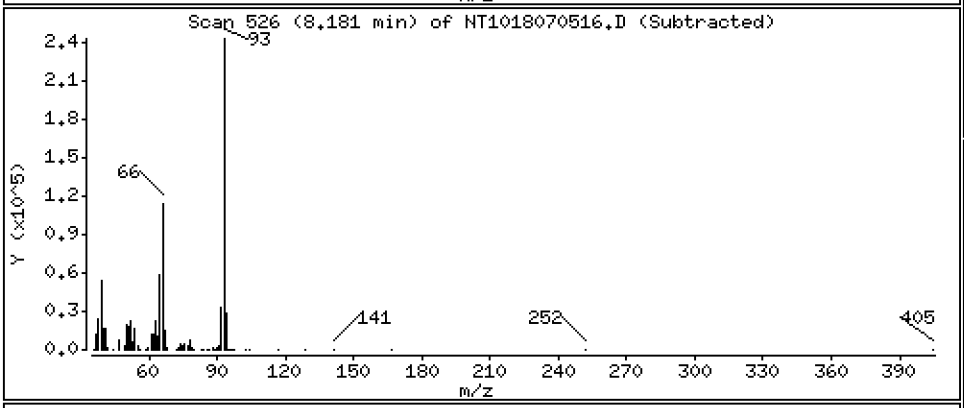
Column phase: ZB-5msi

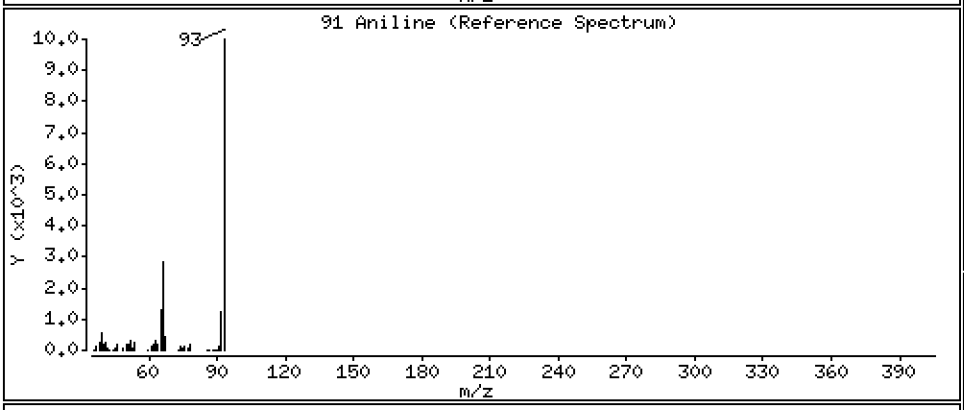
Column diameter: 0.25

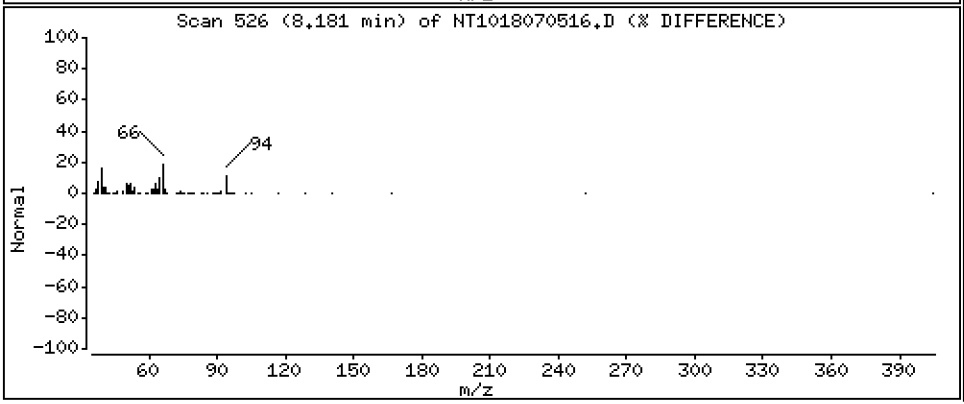
91 Aniline

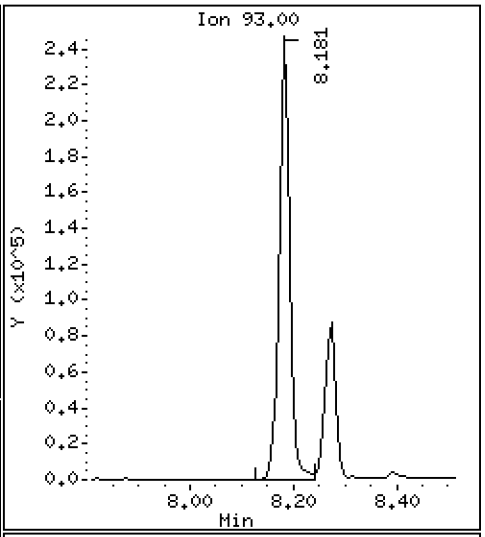
Concentration: 7.129 ug/mL

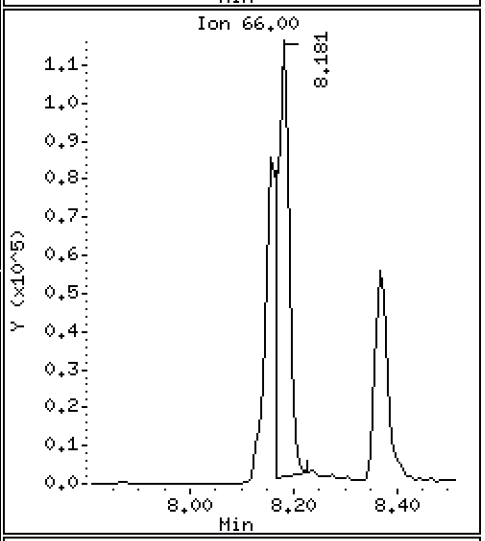


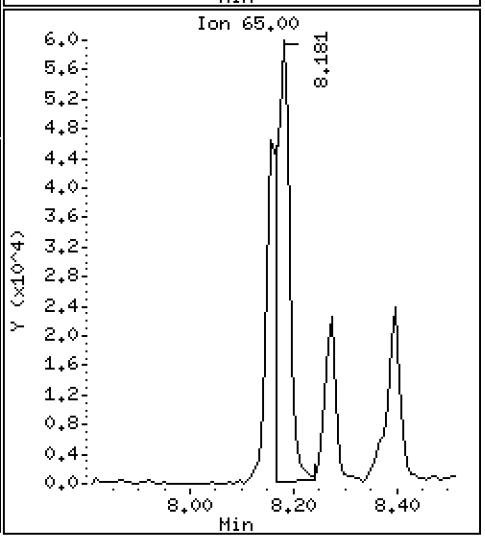












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

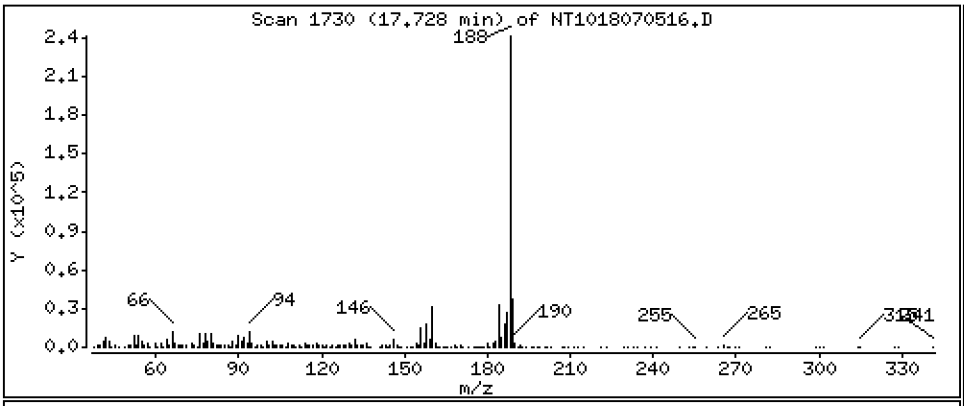
Operator: YZ

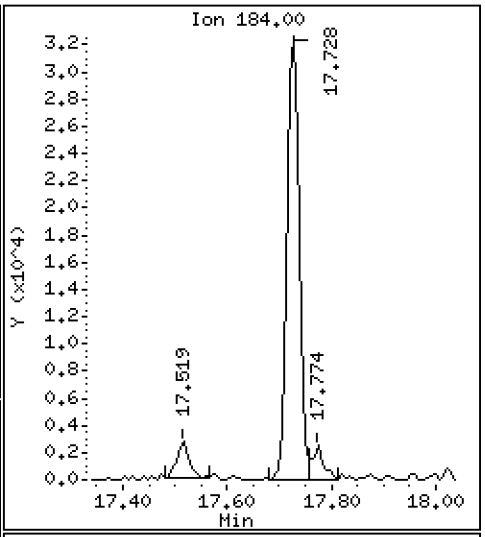
Column phase: ZB-5msi

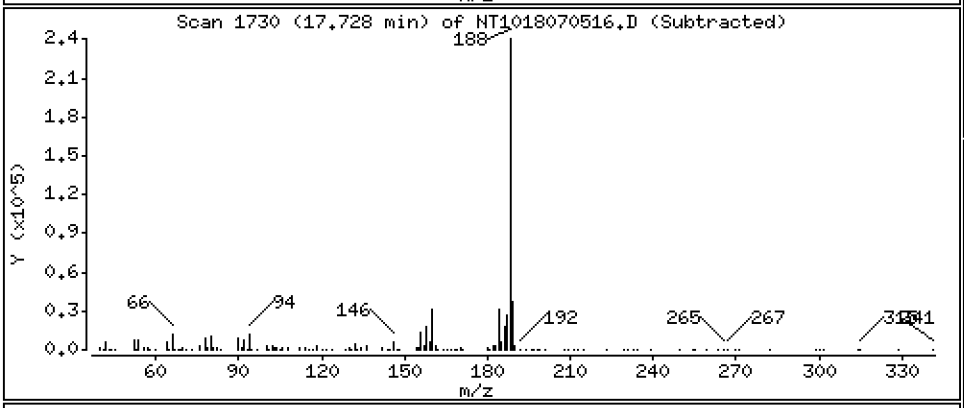
Column diameter: 0.25

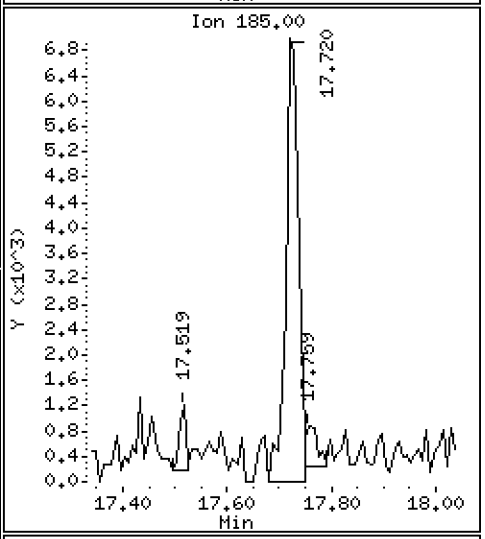
93 Benzidine

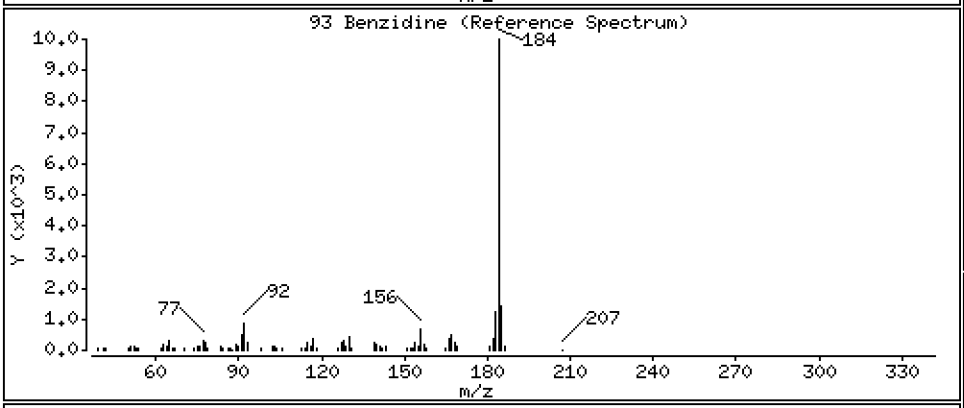
Concentration: 0.8009 ug/mL

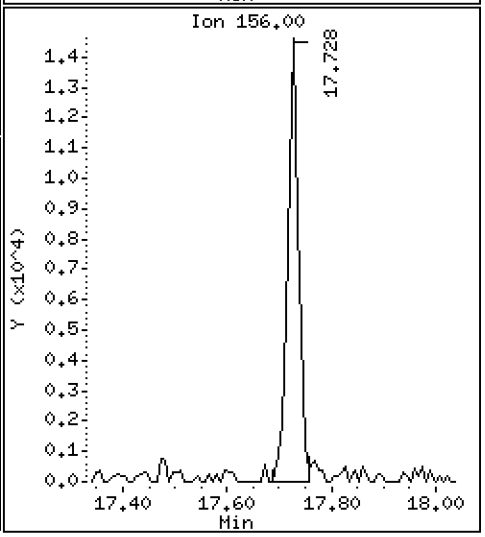


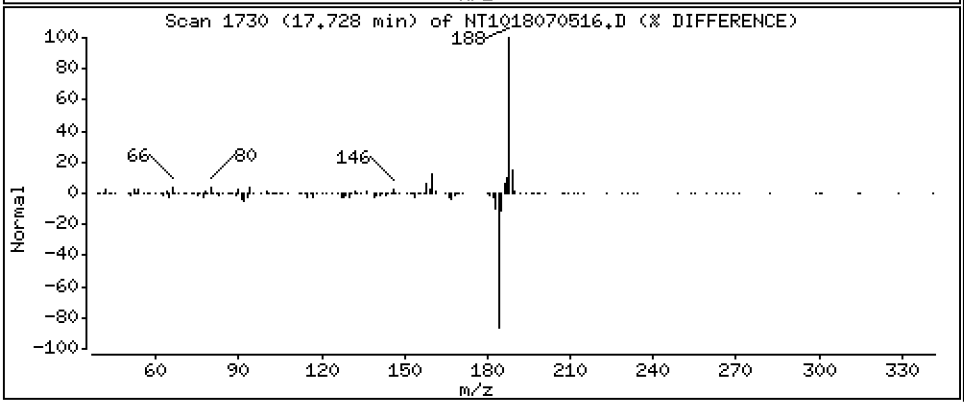












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

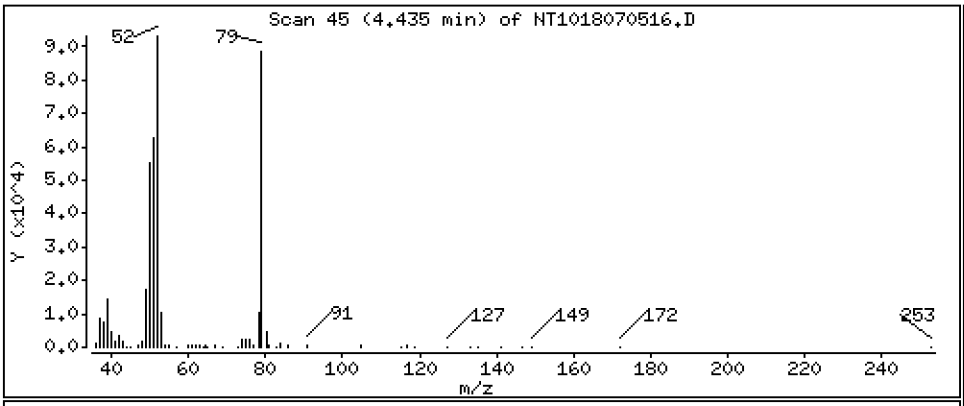
Operator: YZ

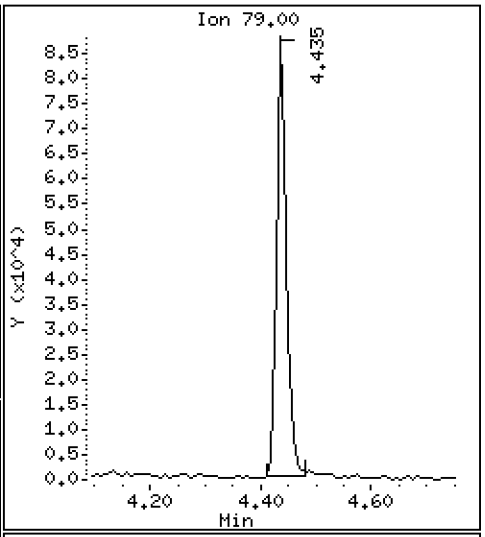
Column phase: ZB-5msi

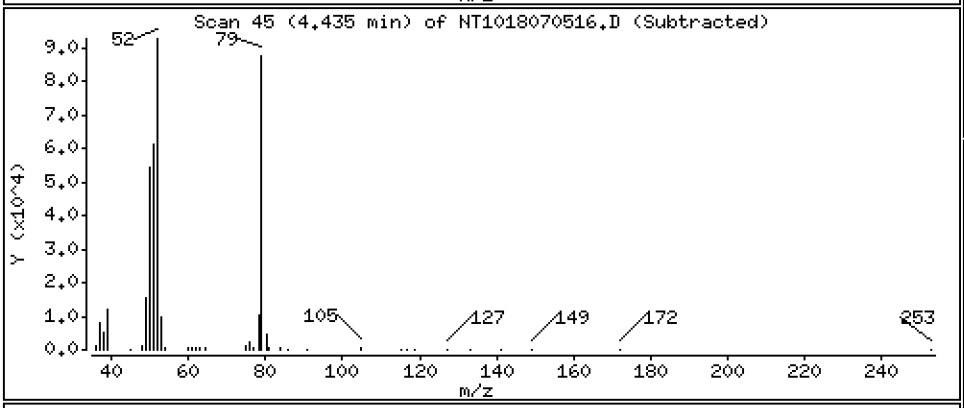
Column diameter: 0.25

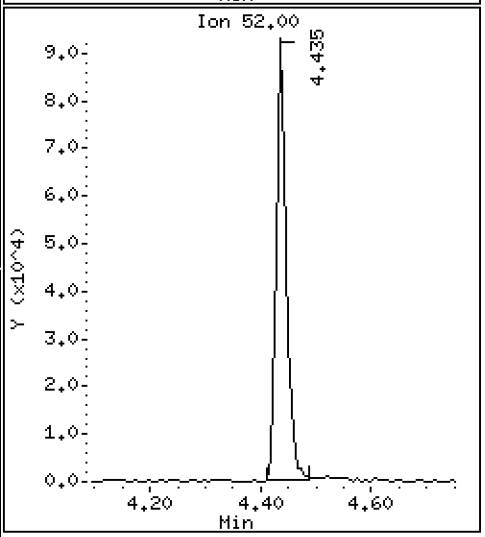
103 Pyridine

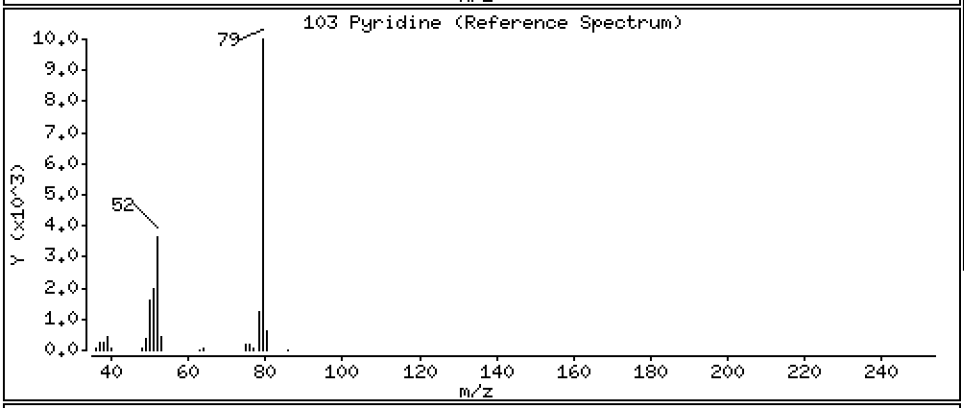
Concentration: 3.010 ug/mL

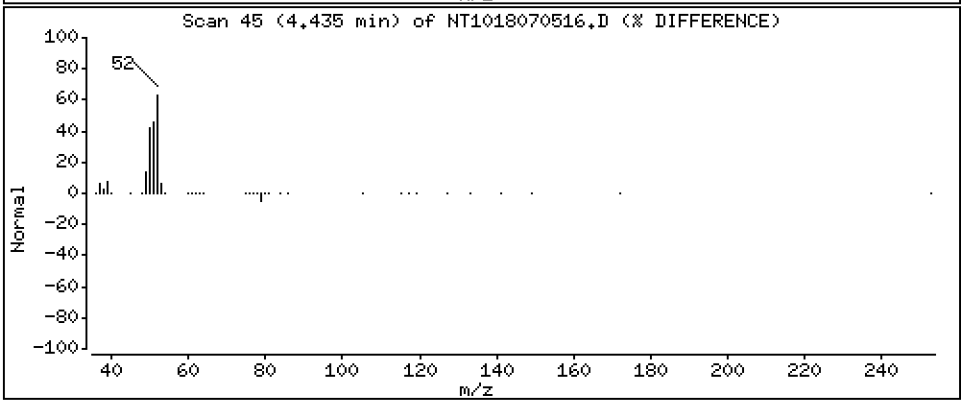












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

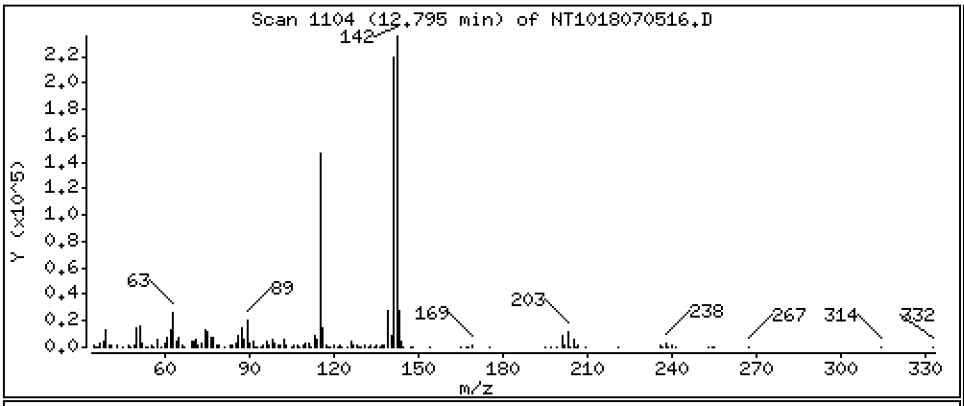
Operator: YZ

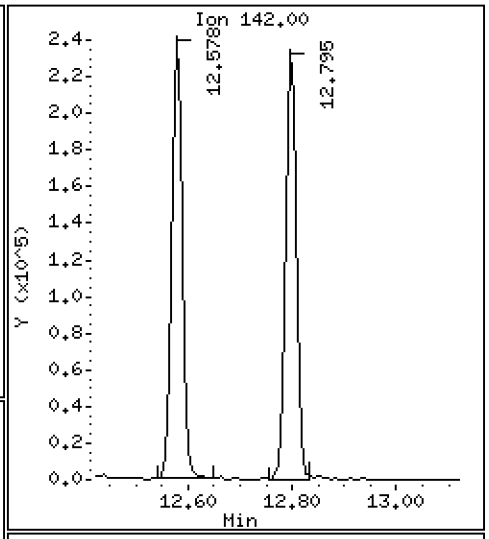
Column phase: ZB-5msi

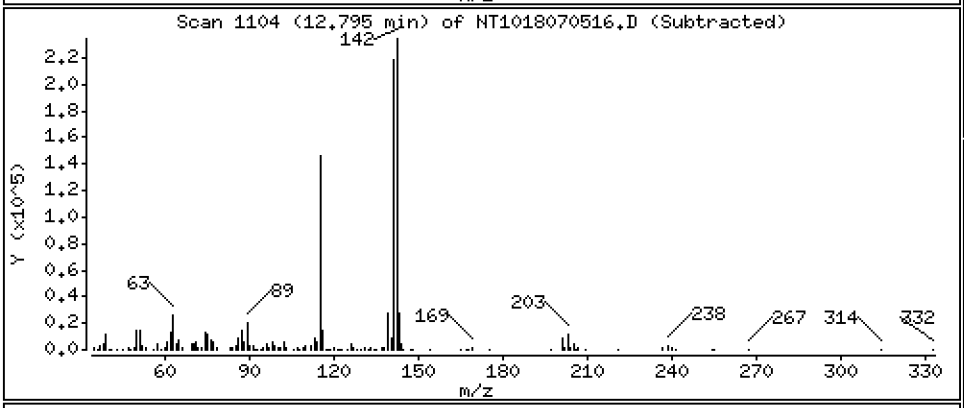
Column diameter: 0.25

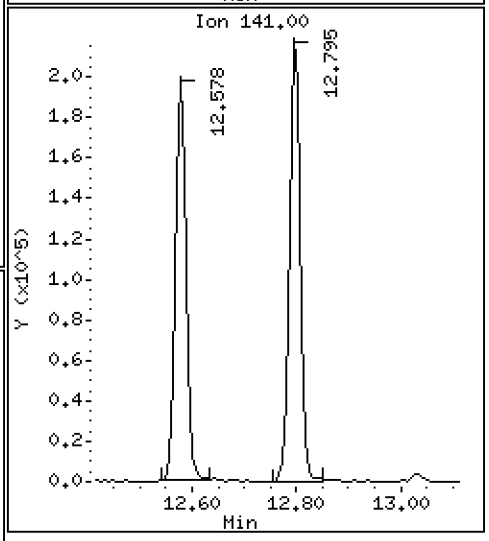
105 1-methylnaphthalene

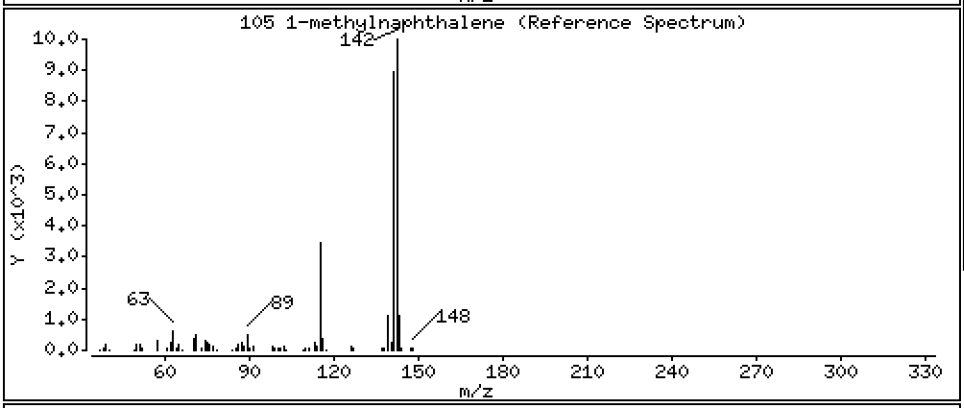
Concentration: 5.227 ug/mL

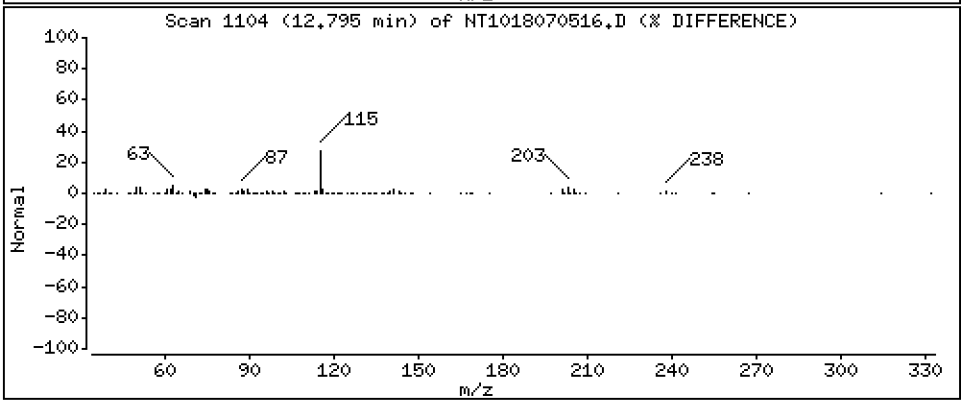












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

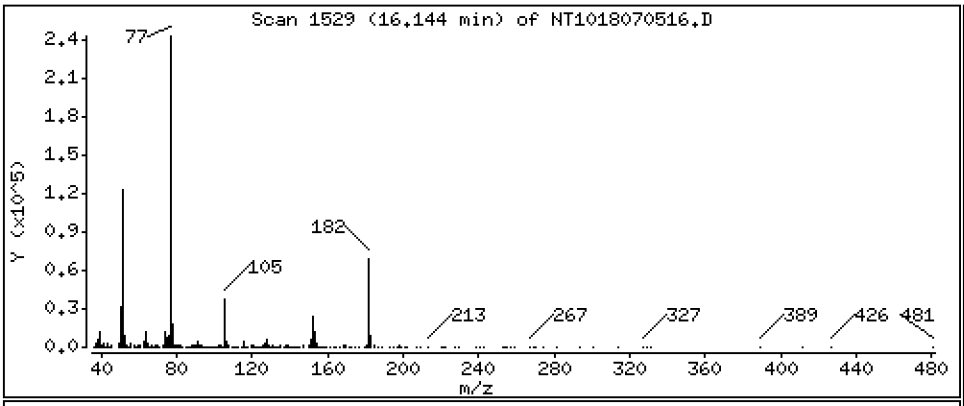
Operator: YZ

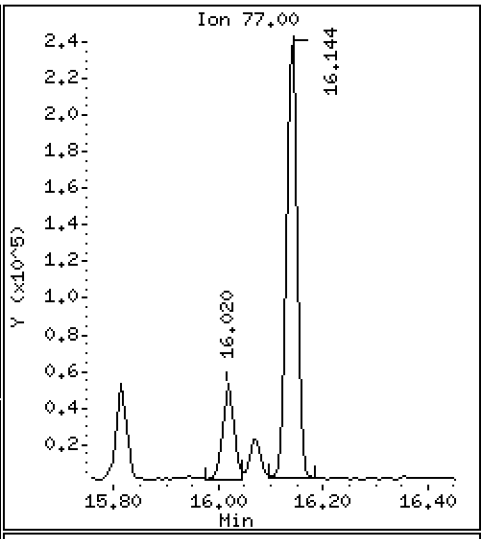
Column phase: ZB-5msi

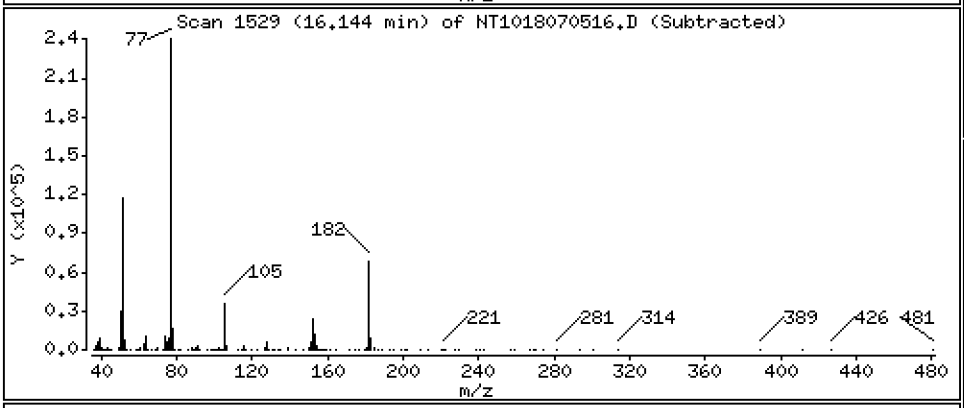
Column diameter: 0.25

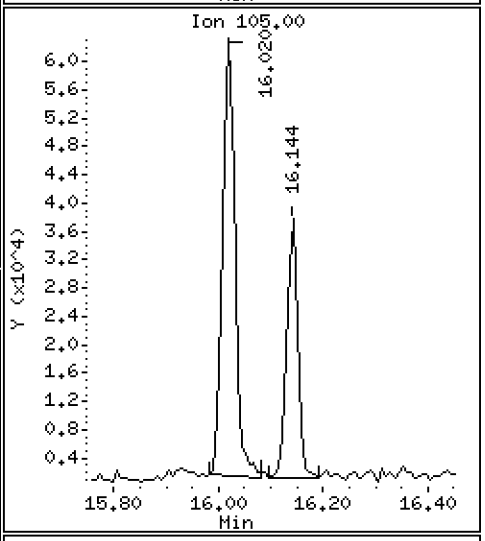
111 Azobenzene (1,2-DP-Hydrazine)

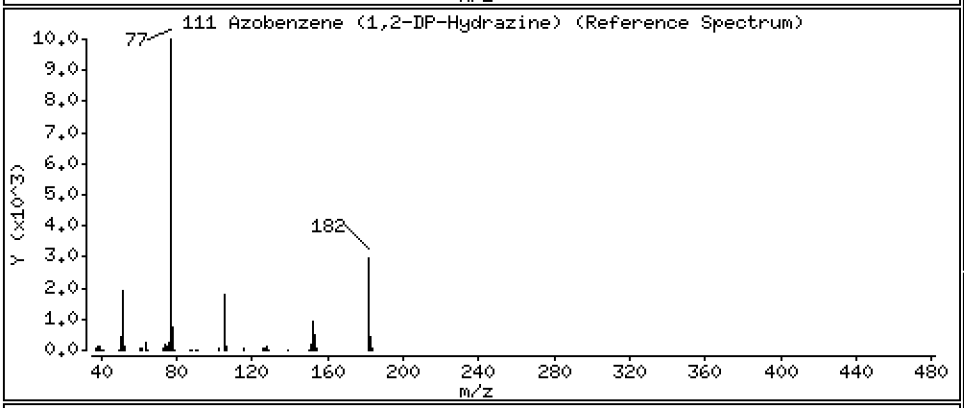
Concentration: 5.021 ug/mL

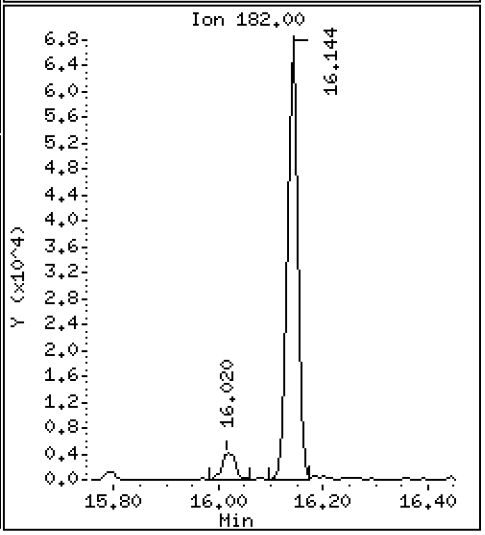


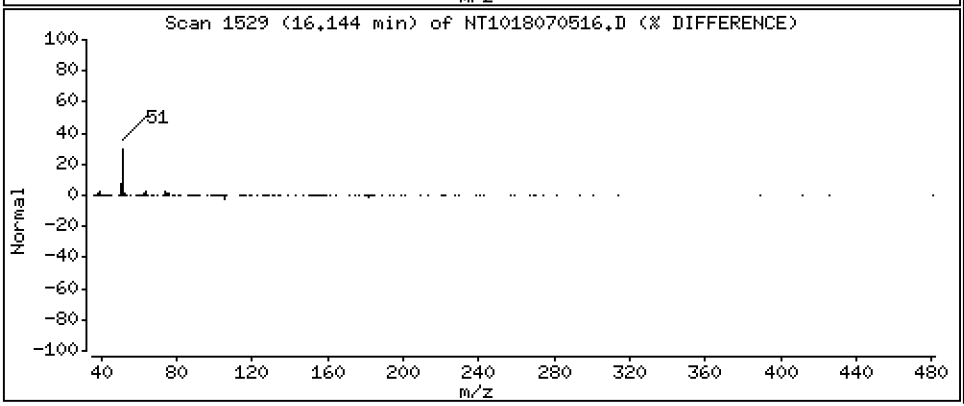












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

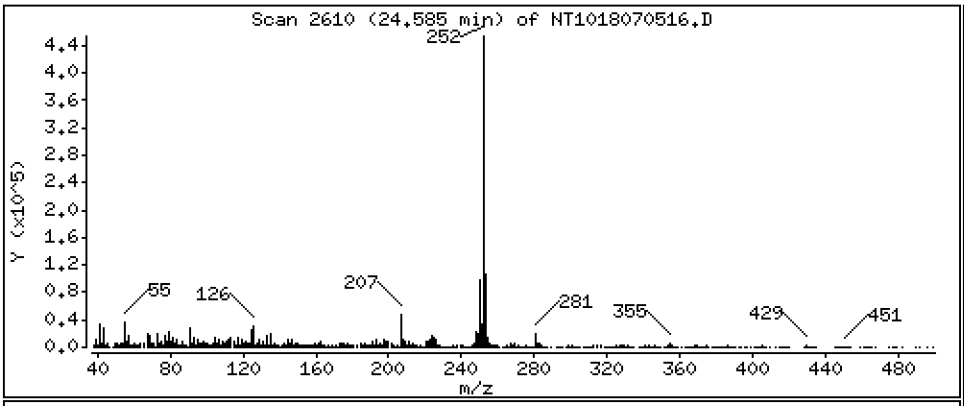
Operator: YZ

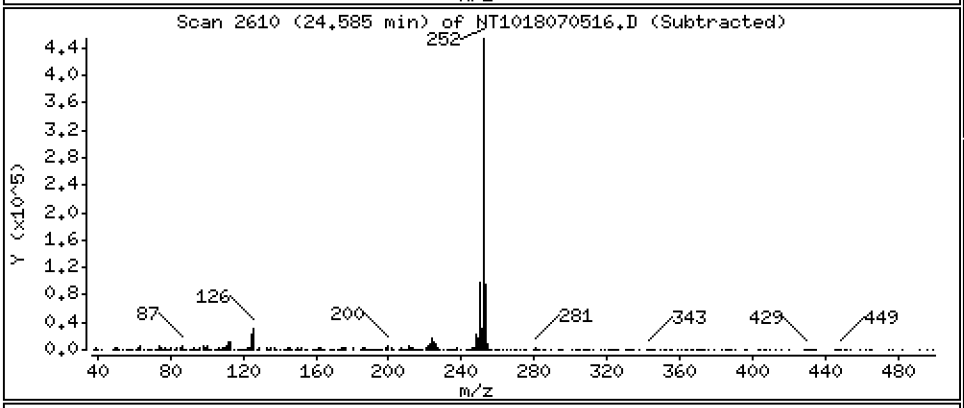
Column phase: ZB-5msi

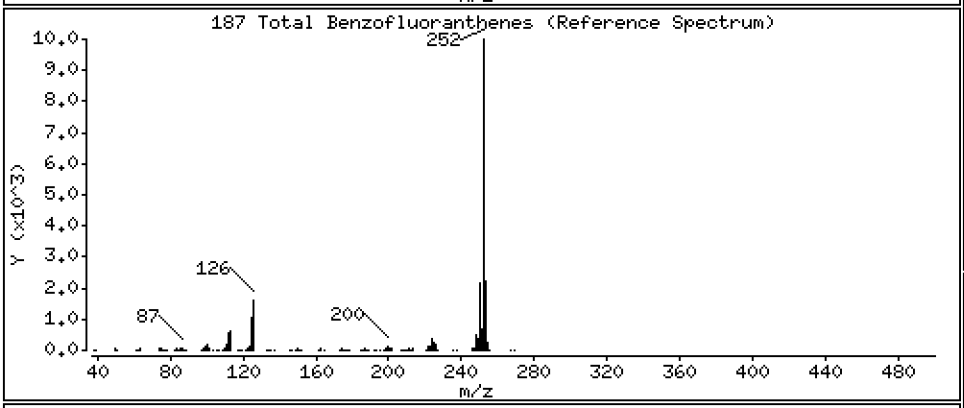
Column diameter: 0.25

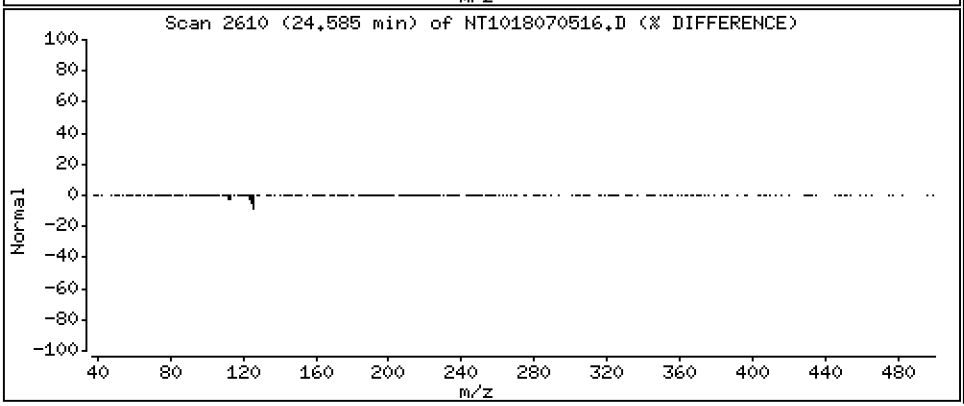
187 Total Benzofluoranthenes

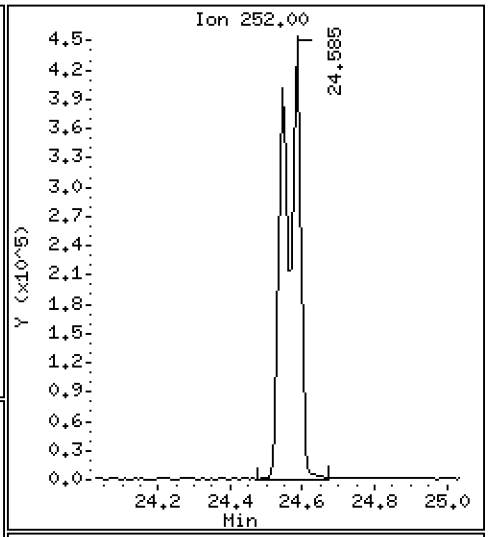
Concentration: 8.734 ug/mL

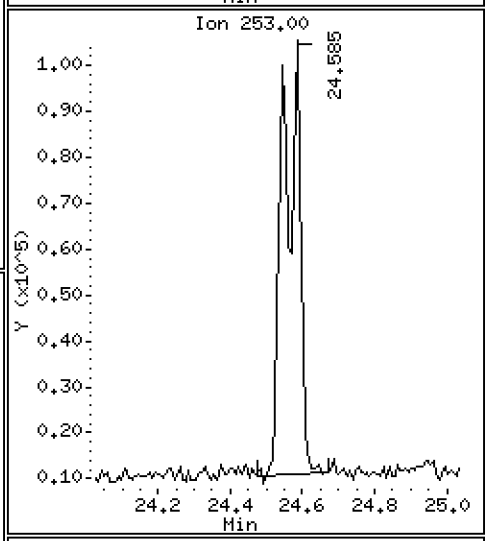


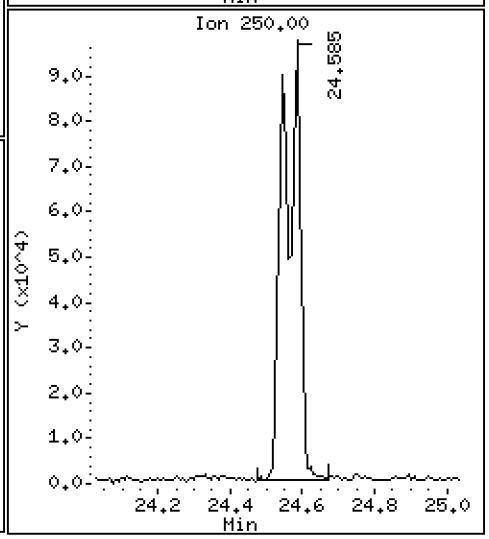












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

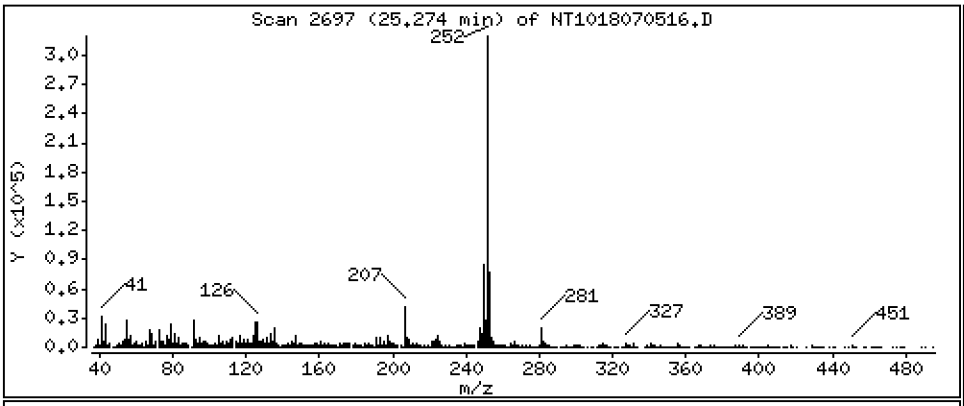
Operator: YZ

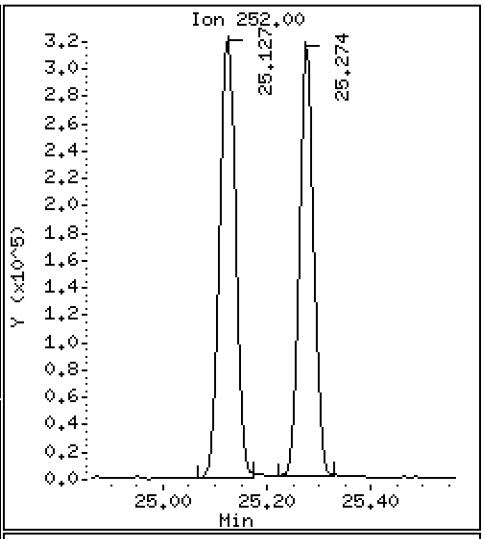
Column phase: ZB-5msi

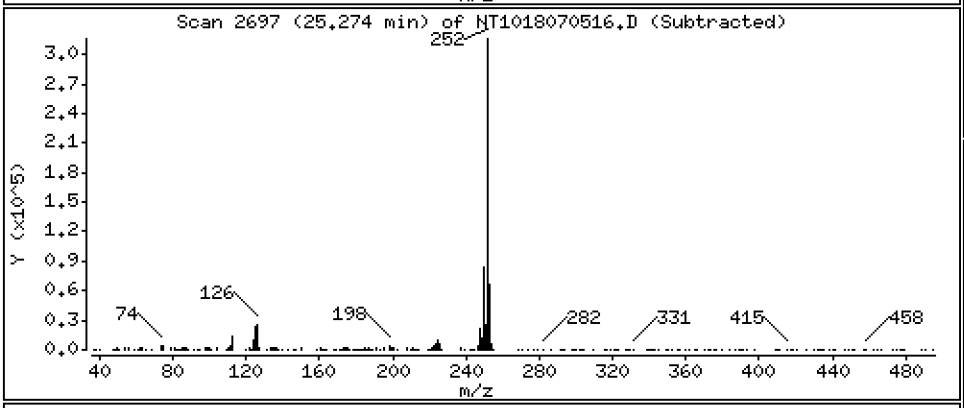
Column diameter: 0.25

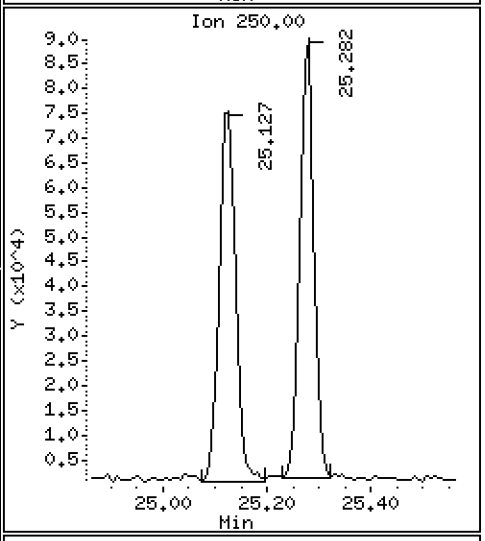
99 Perylene

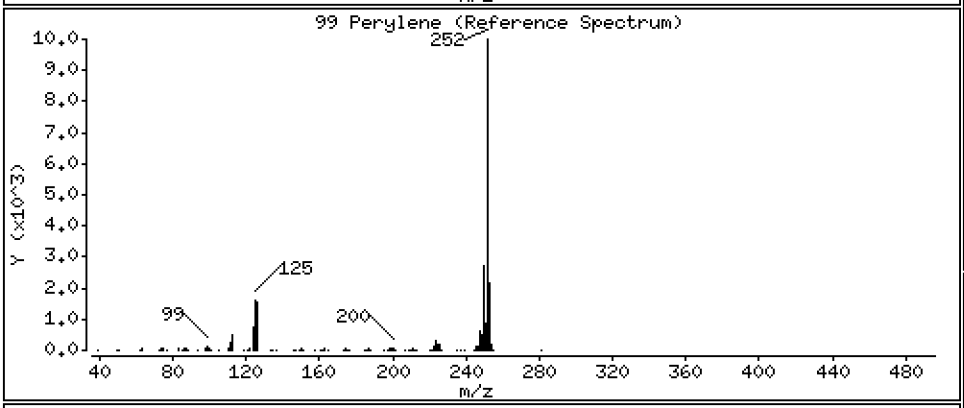
Concentration: 4.504 ug/mL

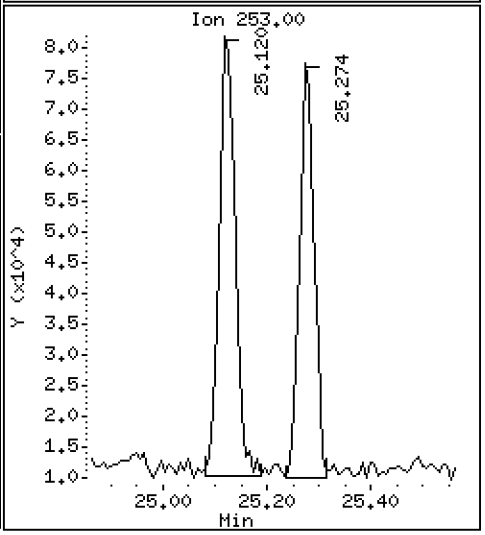


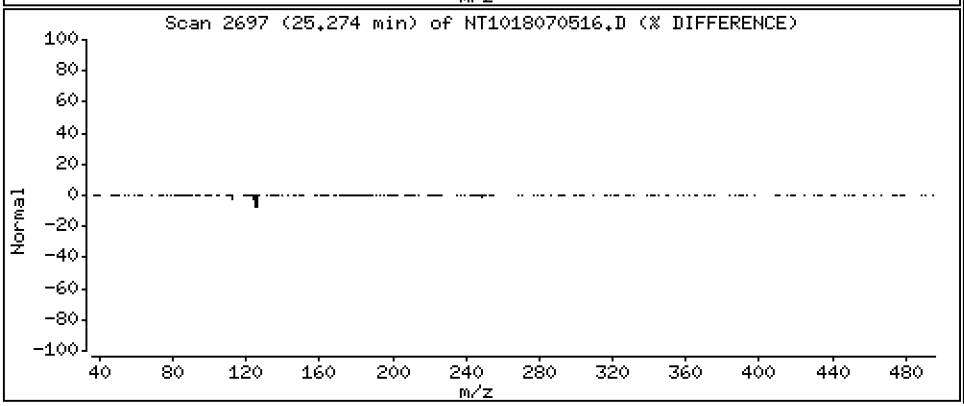












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D

Date : 05-JUL-2018 20:29

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-CCV1

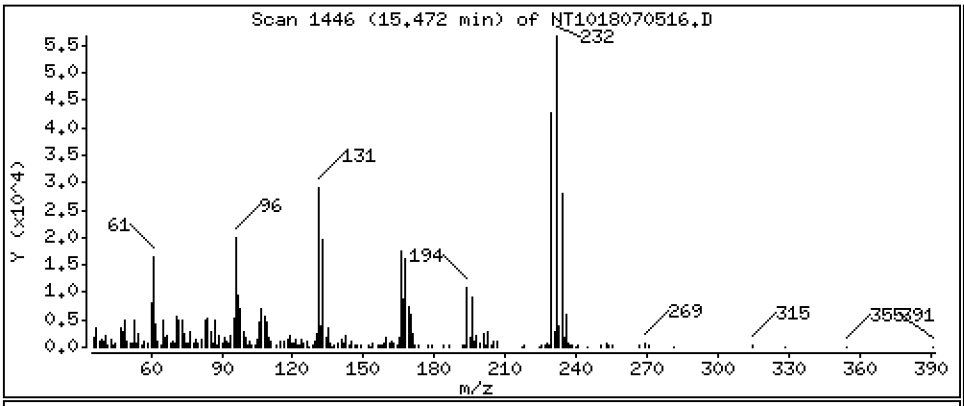
Operator: YZ

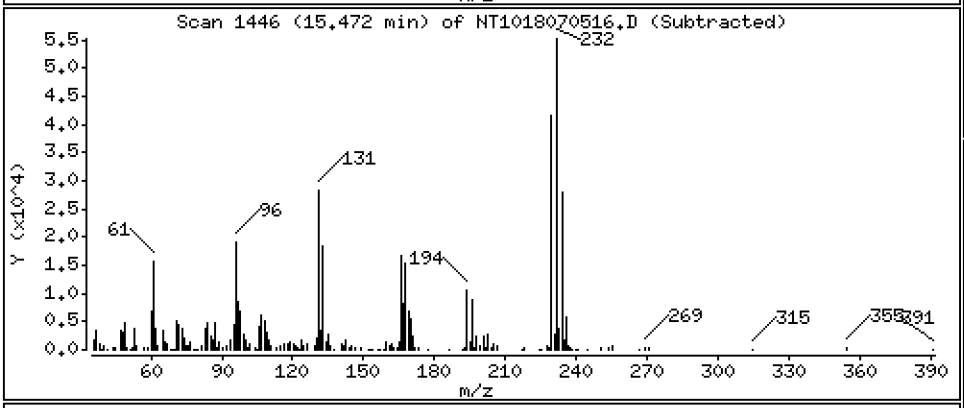
Column phase: ZB-5msi

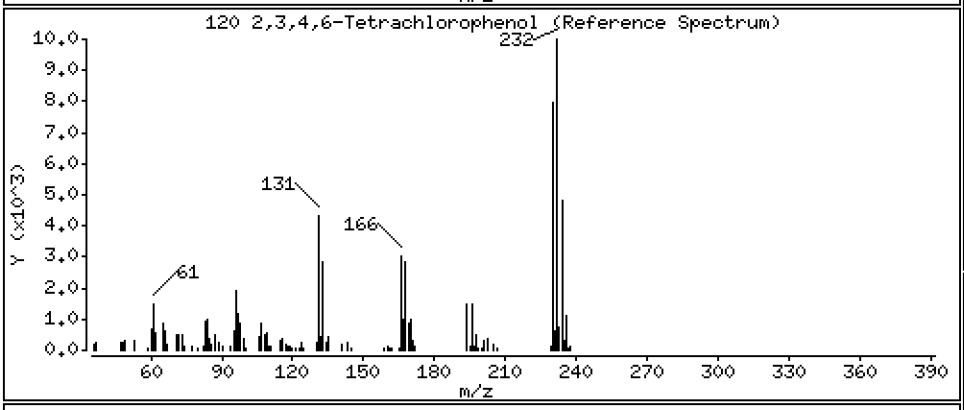
Column diameter: 0.25

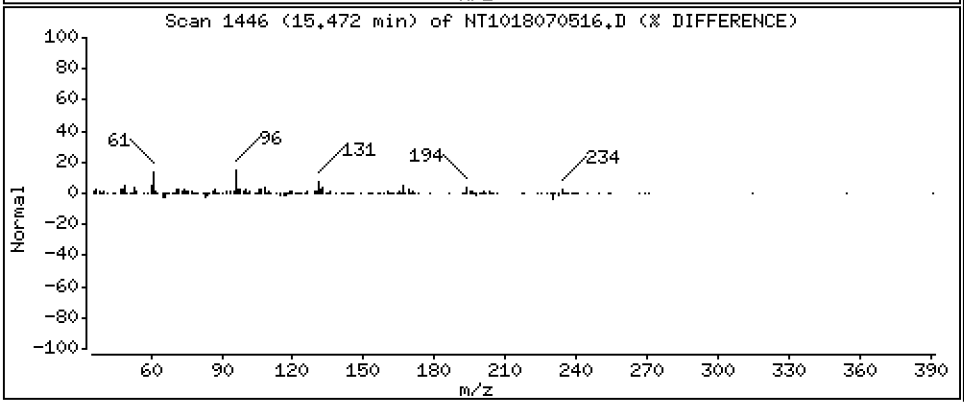
120 2,3,4,6-Tetrachlorophenol

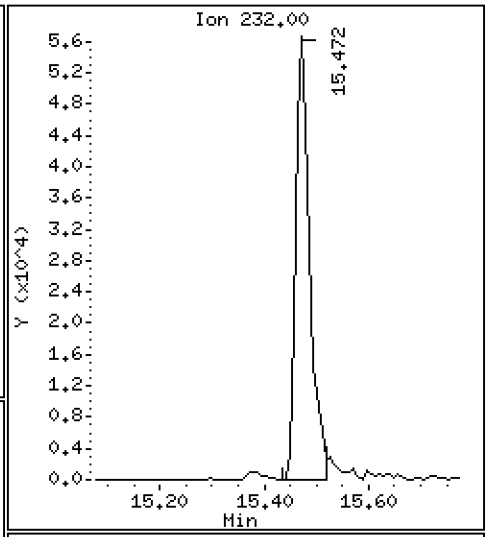
Concentration: 5.694 ug/mL

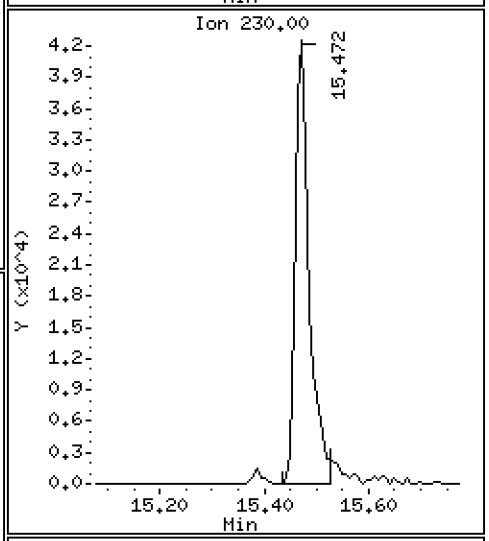


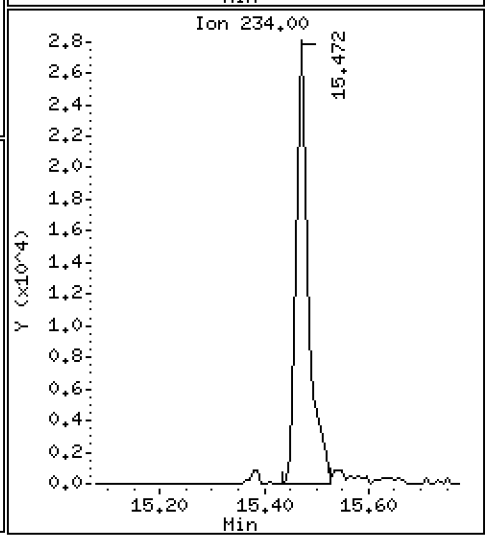












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070516.D
Lab Smp Id: SGG0051-CCV1
Inj Date : 05-JUL-2018 20:29
Operator : YZ Inst ID: nt10.i
Smp Info : SGG0051-CCV1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.558	6.512	(0.753)	198704	5.81877	5.819
$	2 Phenol-d5	99	8.134	8.088	(0.934)	227529	5.04172	5.042
	3 Phenol	94	8.158	8.104	(0.937)	178103	3.97404	3.974
$	5 2-Chlorophenol-d4	132	8.366	8.335	(0.961)	227910	6.47679	6.477
	4 Bis(2-Chloroethyl)ether	93	8.273	8.250	(0.950)	117587	3.41198	3.412
	6 2-Chlorophenol	128	8.397	8.366	(0.964)	146838	4.01508	4.015
	7 1,3-Dichlorobenzene	146	8.645	8.622	(0.993)	173546	4.71936	4.719
*	8 1,4-Dichlorobenzene-d4	152	8.707	8.691	(1.000)	99680	4.00000	
	9 1,4-Dichlorobenzene	146	8.738	8.715	(1.004)	191765	5.75234	5.752
$	10 1,2-Dichlorobenzene-d4	152	9.064	9.041	(1.041)	108694	4.37012	4.370
	12 1,2-Dichlorobenzene	146	9.087	9.064	(1.044)	152780	4.61914	4.619
	11 Benzyl alcohol	108	9.017	8.963	(1.036)	89352	4.02574	4.026
	14 2,2'-oxybis(1-Chloropropane)	121	9.281	9.266	(1.066)	48954	3.71806	3.718
	13 2-Methylphenol	108	9.242	9.196	(1.062)	112179	3.73206	3.732
	17 Hexachloroethane	117	9.662	9.646	(1.110)	51582	3.32749	3.327
	16 N-Nitroso-di-n-propylamine	70	9.537	9.514	(1.095)	87652	3.95222	3.952
	15 4-Methylphenol	108	9.514	9.468	(1.093)	114958	3.60168	3.602
$	18 Nitrobenzene-d5	82	9.786	9.770	(0.877)	171054	5.28420	5.284
	19 Nitrobenzene	77	9.825	9.801	(0.880)	161623	5.07555	5.076
	20 Isophorone	82	10.267	10.244	(0.920)	342182	5.23366	5.234
	21 2-Nitrophenol	139	10.447	10.422	(0.936)	96556	5.50070	5.501
	22 2,4-Dimethylphenol	107	10.538	10.488	(0.944)	312549	10.0321	10.03
	23 Bis(2-Chloroethoxy)methane	93	10.704	10.679	(0.959)	137349	4.00316	4.003
	24 Benzoic acid	105	10.796	10.729	(0.967)	304223	14.5957	14.60
	25 2,4-Dichlorophenol	162	10.920	10.870	(0.978)	306022	12.1904	12.19
	26 1,2,4-Trichlorobenzene	180	11.077	11.054	(0.992)	159723	5.91684	5.917
*	27 Naphthalene-d8	136	11.162	11.131	(1.000)	324235	4.00000	
	28 Naphthalene	128	11.201	11.170	(1.003)	411075	4.96535	4.965
	29 4-Chloroaniline	127	11.340	11.309	(1.016)	405175	10.9717	10.97
	30 Hexachlorobutadiene	225	11.556	11.541	(1.035)	130433	7.69353	7.694
	31 4-Chloro-3-methylphenol	107	12.330	12.276	(1.105)	293388	10.7953	10.80
	32 2-Methylnaphthalene	142	12.578	12.547	(1.127)	353317	5.40841	5.408
	33 Hexachlorocyclopentadiene	237	13.034	13.011	(0.885)	42071	1.98256	1.983

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.212	13.174	(0.897)	272080	11.6608	11.66
	35 2,4,5-Trichlorophenol	196	13.305	13.244	(0.903)	279034	10.7872	10.79
$	36 2-Fluorobiphenyl	172	13.352	13.329	(0.906)	430350	5.09575	5.096
	37 2-Chloronaphthalene	162	13.561	13.530	(0.921)	329932	4.75175	4.752
	38 2-Nitroaniline	65	13.832	13.793	(0.939)	231636	11.9563	11.96
	39 Dimethylphthalate	163	14.257	14.234	(0.968)	383615	5.19132	5.191
	40 Acenaphthylene	152	14.412	14.381	(0.978)	495099	4.52021	4.520
	41 2,6-Dinitrotoluene	165	14.389	14.366	(0.977)	163232	10.3009	10.30
*	42 Acenaphthene-d10	164	14.729	14.698	(1.000)	191424	4.00000	
	43 3-Nitroaniline	138	14.675	14.637	(0.996)	176843	9.64589	9.646
	44 Acenaphthene	153	14.791	14.760	(1.004)	318107	4.88287	4.883
	45 2,4-Dinitrophenol	184	14.884	14.845	(1.010)	154379	15.3394	15.34
	46 Dibenzofuran	168	15.116	15.085	(1.026)	509878	5.03989	5.040
	47 4-Nitrophenol	109	15.077	14.984	(1.024)	174564	15.4111	15.41
	48 2,4-Dinitrotoluene	165	15.185	15.155	(1.031)	234009	11.4775	11.48
	50 Diethylphthalate	149	15.696	15.673	(1.066)	395118	5.23991	5.240
	49 Fluorene	166	15.812	15.789	(1.073)	204790	2.65236	2.652
	51 4-Chlorophenyl-phenylether	204	15.812	15.789	(1.073)	140082	3.71362	3.714
	52 4-Nitroaniline	138	15.927	15.897	(1.081)	165253	9.33044	9.330
	53 4,6-Dinitro-2-methylphenol	198	16.020	15.981	(0.904)	242205	13.8520	13.85
	54 N-Nitrosodiphenylamine	169	16.074	16.035	(0.907)	258592	4.68507	4.685
$	55 2,4,6-Tribromophenol	330	16.359	16.313	(1.111)	128598	12.4349	12.43
	56 4-Bromophenyl-phenylether	248	16.806	16.776	(0.948)	154854	6.21552	6.216
	57 Hexachlorobenzene	284	17.108	17.077	(0.965)	155676	6.54505	6.545
	58 Pentachlorophenol	266	17.487	17.433	(0.986)	82105	5.87018	5.870
*	59 Phenanthrene-d10	188	17.727	17.689	(1.000)	410248	4.00000	
	60 Phenanthrene	178	17.774	17.735	(1.003)	510437	4.69350	4.694
	61 Anthracene	178	17.866	17.828	(1.008)	521485	4.52270	4.523
	62 Carbazole	167	18.207	18.161	(1.027)	471858	4.58367	4.584
	63 Di-n-butylphthalate	149	19.019	18.988	(1.073)	727104	4.63546	4.635
	64 Fluoranthene	202	20.164	20.118	(0.885)	676909	4.07879	4.079
	65 Pyrene	202	20.590	20.544	(0.904)	689549	3.98680	3.987
$	66 Terphenyl-d14	244	20.892	20.853	(0.917)	515456	4.71467	4.715
	67 Butylbenzylphthalate	149	21.829	21.798	(0.958)	295312	4.31173	4.312
	68 Benzo(a)anthracene	228	22.758	22.711	(0.999)	661862	4.36206	4.362
*	69 Chrysene-d12	240	22.781	22.735	(1.000)	416780	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.727	22.688	(0.998)	847901	15.9274	15.93
	71 Chrysene	228	22.827	22.781	(1.002)	585492	4.80442	4.804
	72 bis(2-Ethylhexyl)phthalate	149	22.866	22.835	(0.959)	425039	5.46897	5.469
*	134 Di-n-octylphthalate-d4	153	23.842	23.811	(1.000)	746045	4.00000	
	73 Di-n-octylphthalate	149	23.849	23.818	(1.000)	784056	4.82628	4.826
	74 Benzo(b)fluoranthene	252	24.546	24.492	(0.973)	683175	4.12520	4.125
	75 Benzo(k)fluoranthene	252	24.585	24.531	(0.975)	786561	4.71975	4.720
	76 Benzo(a)pyrene	252	25.127	25.057	(0.996)	666563	3.98962	3.990
*	77 Perylene-d12	264	25.228	25.166	(1.000)	473607	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	27.560	27.444	(1.092)	748435	4.55842	4.558
	79 Dibenzo(a,h)anthracene	278	27.568	27.467	(1.093)	644219	4.86055	4.861
	80 Benzo(g,h,i)perylene	276	28.236	28.112	(1.119)	649193	4.44251	4.443
	90 N-Nitrosodimethylamine	74	4.411	4.388	(0.507)	115913	5.74728	5.747
	91 Aniline	93	8.181	8.158	(0.940)	355089	7.12904	7.129
	93 Benzidine	184	17.727	17.689	(0.778)	56456	0.80092	0.8009
	103 Pyridine	79	4.434	4.404	(0.509)	109732	3.01046	3.010
	105 1-methylnaphthalene	142	12.795	12.771	(1.146)	351659	5.22735	5.227
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.143	16.105	(1.096)	362387	5.02094	5.021

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187	Total Benzofluoranthenes	252	24.585	24.531	(0.975)	1395502	8.73448	8.734
99	Perylene	252	25.274	25.212	(1.002)	603355	4.50402	4.504
98	Retene	219	Compound Not Detected.					
120	2,3,4,6-Tetrachlorophenol	232	15.471	15.425	(1.050)	123758	5.69356	5.694

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070516.D
Lab Smp Id: SGG0051-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	99680	-9.95
27 Naphthalene-d8	393946	196973	787892	324235	-17.70
42 Acenaphthene-d10	203210	101605	406420	191424	-5.80
59 Phenanthrene-d10	403506	201753	807012	410248	1.67
69 Chrysene-d12	354618	177309	709236	416780	17.53
134 Di-n-octylphthala	800232	400116	1600464	746045	-6.77
77 Perylene-d12	378948	189474	757896	473607	24.98

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.71	0.18
27 Naphthalene-d8	11.13	10.63	11.63	11.16	0.28
42 Acenaphthene-d10	14.70	14.20	15.20	14.73	0.21
59 Phenanthrene-d10	17.69	17.19	18.19	17.73	0.22
69 Chrysene-d12	22.74	22.24	23.24	22.78	0.20
134 Di-n-octylphthala	23.81	23.31	24.31	23.84	0.13
77 Perylene-d12	25.17	24.67	25.67	25.23	0.25

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070516.D

Lab ID: SGG0051-CCV1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 20:29

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070504.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-LCV1	Injection Time:	13:09
Sequence Name:	ABN 0.2		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Phenol	A	0.20000	0.1	1.7984170	1.2512550		-30.4	
bis(2-chloroethyl) ether	A	0.20000	0.2	1.3829460	1.2771880		-7.6	
2-Chlorophenol	A	0.20000	0.2	1.4675600	1.4863230		1.3	
1,3-Dichlorobenzene	A	0.20000	0.2	1.4756490	1.5342140		4.0	
1,4-Dichlorobenzene	A	0.20000	0.2	1.3377560	1.5545010		16.2	
1,2-Dichlorobenzene	A	0.20000	0.2	1.3272630	1.4823490		11.7	
Benzyl Alcohol	A	0.20000	0.07	0.8906565	0.2971809		-66.6	
2,2'-Oxybis(1-chloropropane)	A	0.20000	0.2	0.5283531	0.4874937		-7.7	
2-Methylphenol	A	0.20000	0.2	1.2061870	0.9264681		-23.2	
Hexachloroethane	A	0.20000	0.3	0.6220608	0.8741844		40.5	
N-Nitroso-di-n-Propylamine	A	0.20000	0.3	0.8899646	1.1600720		30.4	
4-Methylphenol	A	0.20000	0.1	1.2808140	0.9588841		-25.1	
Nitrobenzene	A	0.20000	0.3	0.3928437	0.4915380		25.1	
Isophorone	A	0.20000	0.2	0.8065878	0.7366340		-8.7	
2-Nitrophenol	A	0.20000	0.2	0.2165516	0.1699777		-21.5	
2,4-Dimethylphenol	A	0.40000	0.5	0.3843482	0.4368336		13.7	
Bis(2-Chloroethoxy)methane	A	0.20000	0.2	0.4232749	0.3634779		-14.1	
2,4-Dichlorophenol	A	0.40000	0.3	0.3096960	0.2573059		-16.9	
1,2,4-Trichlorobenzene	A	0.20000	0.2	0.3330258	0.3915511		17.6	
Naphthalene	A	0.20000	0.3	1.0213430	1.4042390		37.5	
Benzoic acid	A	0.80000	0.0	0.2160131				
4-Chloroaniline	A	0.40000	0.3	0.4555838	0.3549213		-22.1	
Hexachlorobutadiene	A	0.20000	0.3	0.2091520	0.3056650		46.1	
4-Chloro-3-Methylphenol	A	0.40000	0.3	0.3352795	0.2837768		-15.4	
2-Methylnaphthalene	A	0.20000	0.2	0.8059253	0.8800767		9.2	
Hexachlorocyclopentadiene	A	0.40000	0.3	0.4434257	0.3144218		-29.1	
2,4,6-Trichlorophenol	A	0.40000	0.4	0.4875623	0.4863138		-0.3	
2,4,5-Trichlorophenol	A	0.40000	0.4	0.4794408	0.5262269		-3.4	
2-Chloronaphthalene	A	0.20000	0.2	1.4508900	1.4174610		-2.3	
2-Nitroaniline	A	0.40000	0.5	0.4048286	0.4574340		13.0	
Acenaphthylene	A	0.20000	0.2	2.2887440	2.8577110		24.9	
Dimethylphthalate	A	0.20000	0.3	1.5441220	2.0173640		30.7	
2,6-Dinitrotoluene	A	0.40000	0.5	0.3311250	0.4470035		35.0	
Acenaphthene	A	0.20000	0.2	1.3613250	1.6758710		23.1	

* Values outside of QC limits

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070504.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-LCV1	Injection Time:	13:09
Sequence Name:	ABN 0.2		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
3-Nitroaniline	A	0.40000	0.04	0.3830973	0.0386471		-89.9	
2,4-Dinitrophenol	A	0.80000	0.07	0.1626979	0.0174243		-91.4	
Dibenzofuran	A	0.20000	0.2	2.1140180	2.1029780		-0.5	
4-Nitrophenol	A	0.40000	0.1	0.2078877	0.0751839		-68.4	
2,4-Dinitrotoluene	A	0.40000	0.4	0.4260379	0.4597251		7.9	
Fluorene	A	0.20000	0.3	1.6133890	2.3841790		47.8	
4-Chlorophenylphenyl ether	A	0.20000	0.3	0.7882218	1.2352590		56.7	
Diethyl phthalate	A	0.20000	0.3	1.5756750	2.1408420		35.9	
4-Nitroaniline	A	0.40000	0.2	0.3700928	0.2245267		-39.3	
4,6-Dinitro-2-methylphenol	A	0.80000	0.3	0.1324757	0.0752988		-56.7	
N-Nitrosodiphenylamine	A	0.20000	0.3	0.5381609	0.7263407		35.0	
4-Bromophenyl phenyl ether	A	0.20000	0.2	0.2429173	0.2790760		14.9	
Hexachlorobenzene	A	0.20000	0.2	0.2319114	0.2492932		7.5	
Pentachlorophenol	A	0.40000	0.06	0.1363741	0.0189844		-86.1	
Phenanthrene	A	0.20000	0.2	1.0603730	1.2710240		19.9	
Anthracene	A	0.20000	0.2	1.1242370	1.2901240		14.8	
Carbazole	A	0.20000	0.2	1.0037180	1.0790320		7.5	
Di-n-Butylphthalate	A	0.20000	0.2	1.5293860	1.8295820		19.6	
Fluoranthene	A	0.20000	0.2	1.5927680	1.7376220		9.1	
Pyrene	A	0.20000	0.2	1.6599440	1.6524870		-0.5	
Butylbenzylphthalate	A	0.20000	0.3	0.6573293	0.9532043		45.0	
Benzo(a)anthracene	A	0.20000	0.3	1.4562270	2.1528550		47.8	
3,3'-Dichlorobenzidine	A	0.60000	0.7	0.5109220	0.6173241		20.8	
Chrysene	A	0.20000	0.3	1.1695890	1.8827280		61.0	
bis(2-Ethylhexyl)phthalate	A	0.20000	0.3	0.4166951	0.5898375		41.6	
Di-n-Octylphthalate	A	0.20000	0.2	0.8710232	1.0469840		20.2	
Benzofluoranthenes, Total	A	0.40000	0.6	1.3493830	2.0795160		54.1	
Benzo(a)pyrene	A	0.20000	0.3	1.4110800	1.8661890		32.3	
Indeno(1,2,3-cd)pyrene	A	0.20000	0.3	1.3866980	2.1750140		56.9	
Dibenzo(a,h)anthracene	A	0.20000	0.4	1.1194120	2.0090660		79.5	
Benzo(g,h,i)perylene	A	0.20000	0.3	1.2342060	2.1197310		71.8	
1-Methylnaphthalene	A	0.20000	0.2	0.8299272	0.8357876		0.7	
2-Fluorophenol	A	0.30000	0.222	1.3703370	1.0122130		-26.1	
Phenol-d5	A	0.30000	0.204	1.8109650	1.2333390		-31.9	

* Values outside of QC limits

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT10	Calibration:	BE00068
Lab File ID:	NT1018070504.D	Calibration Date:	05/19/18 00:00
Sequence:	SGG0051	Injection Date:	07/05/18
Lab Sample ID:	SGG0051-LCV1	Injection Time:	13:09
Sequence Name:	ABN 0.2		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2-Chlorophenol-d4	A	0.30000	0.283	1.4120680	1.3299590		-5.8	
1,2-Dichlorobenzene-d4	A	0.20000	0.215	0.9980763	1.0732810		7.5	
Nitrobenzene-d5	A	0.20000	0.225	0.3993507	0.4500691		12.7	
2-Fluorobiphenyl	A	0.20000	0.196	1.7647260	1.7259130		-2.2	
2,4,6-Tribromophenol	A	0.30000	0.198	0.2161010	0.1425298		-34.0	
p-Terphenyl-d14	A	0.20000	0.230	1.0492840	1.2076960		15.1	

* Values outside of QC limits

Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

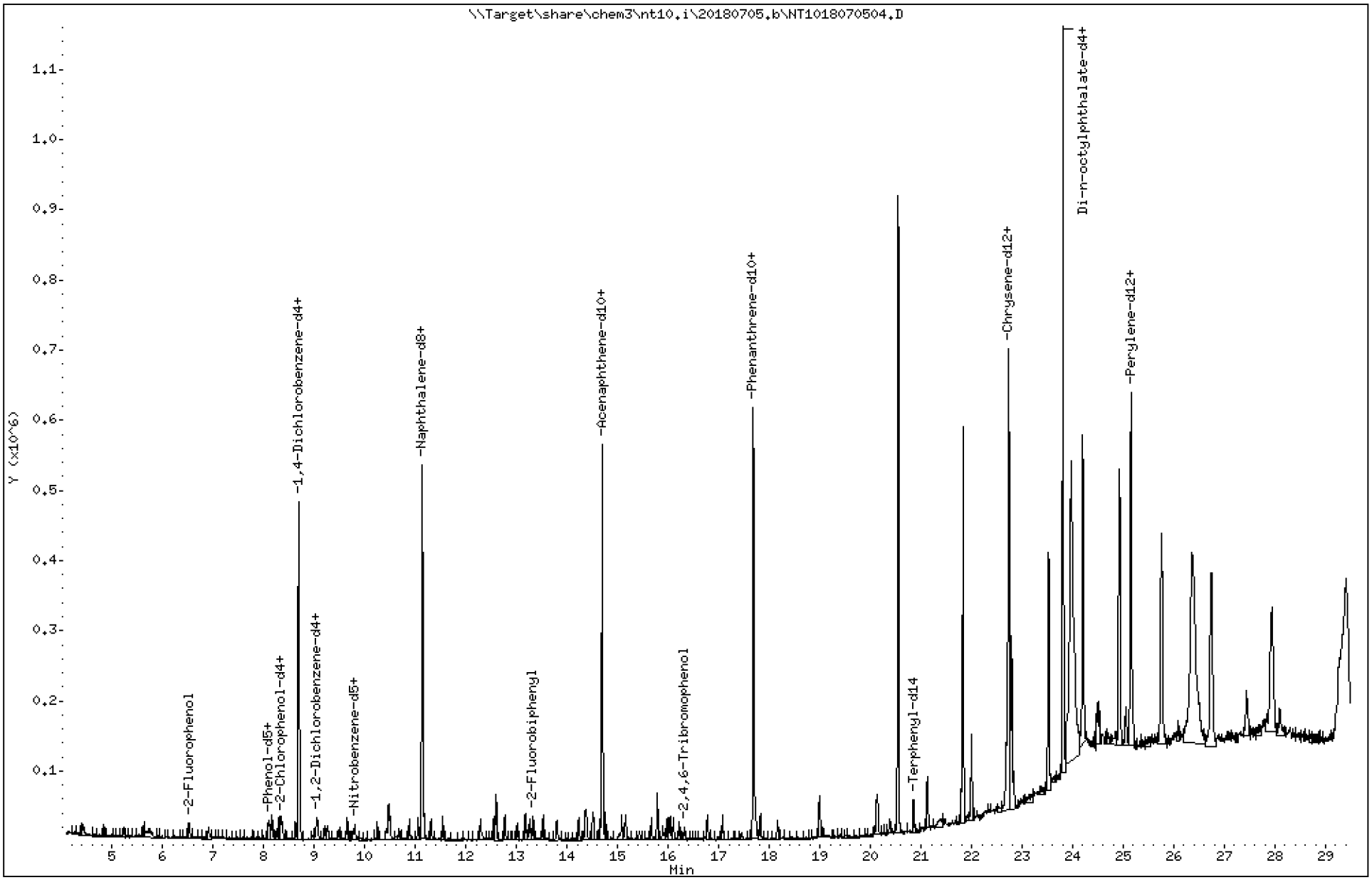
Instrument: nt10.i

Sample Info: SGG0051-LCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

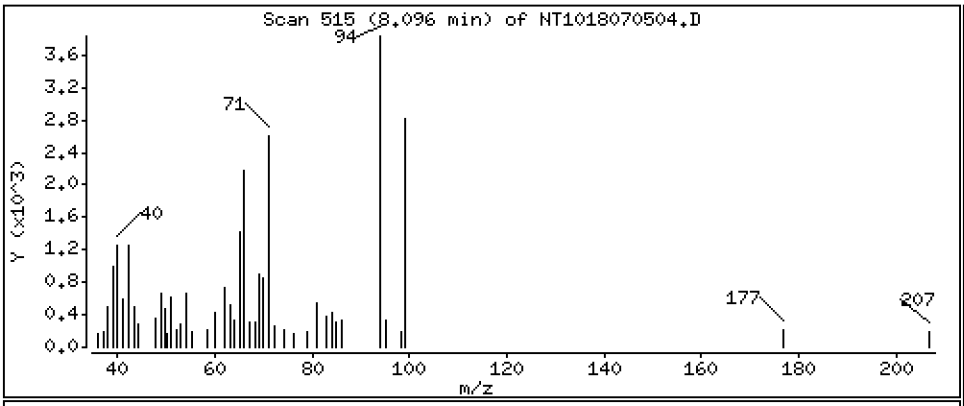
Operator: YZ

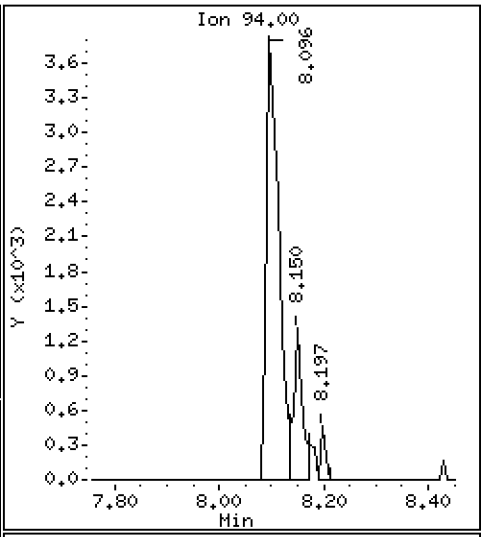
Column phase: ZB-5msi

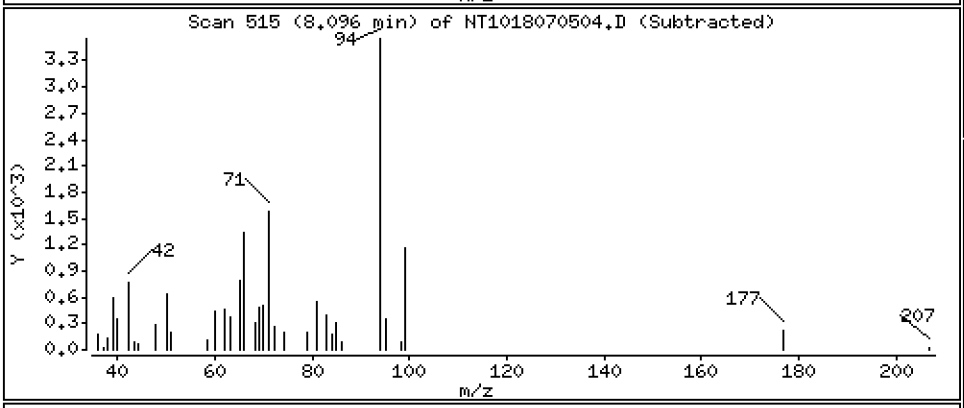
Column diameter: 0.25

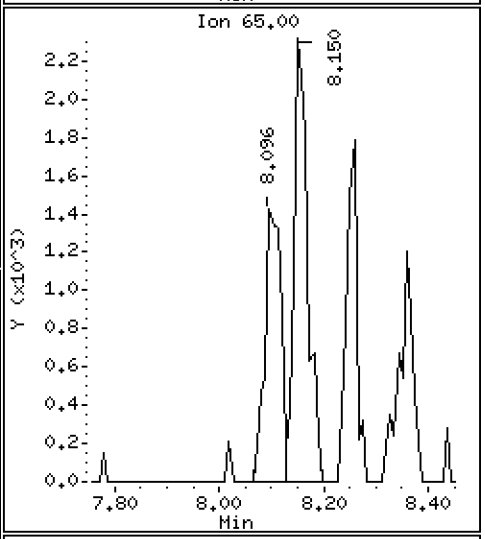
3 Phenol

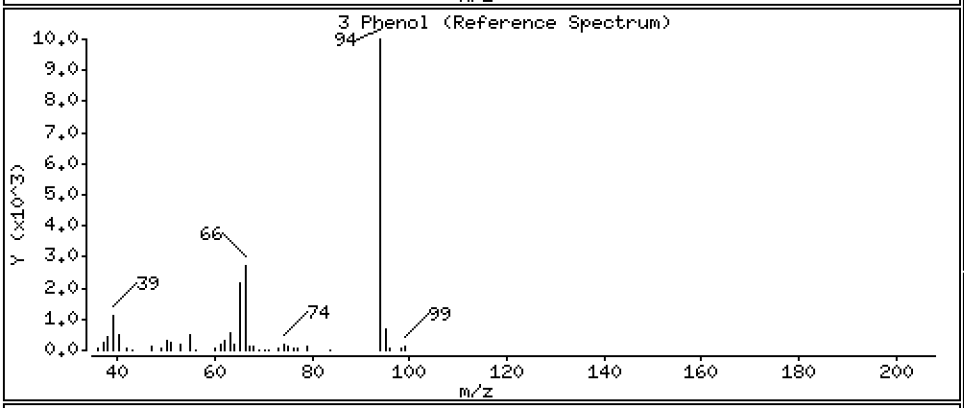
Concentration: 0.1392 ug/mL

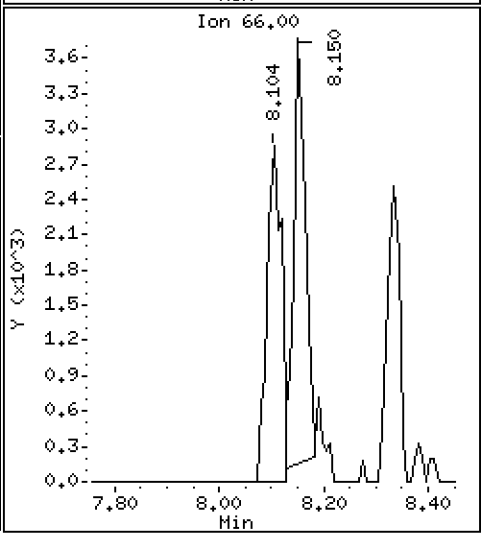


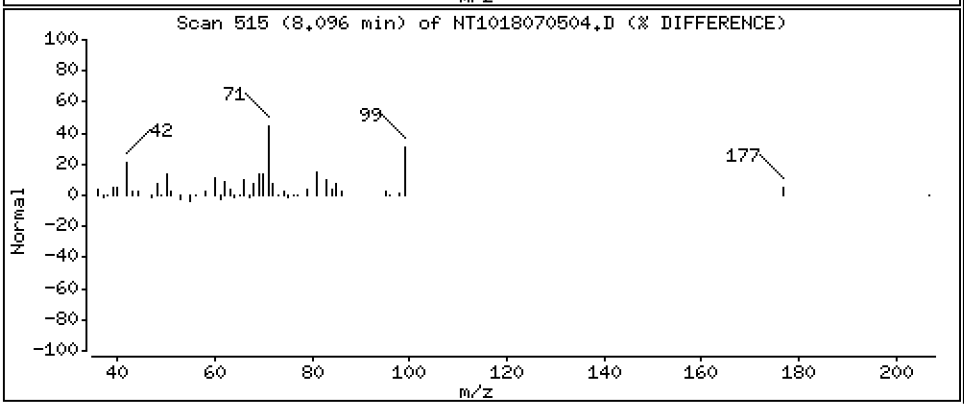












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

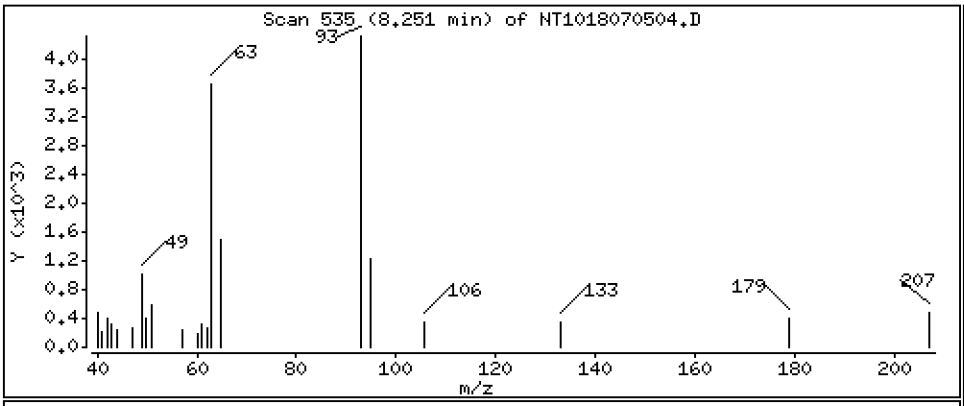
Operator: YZ

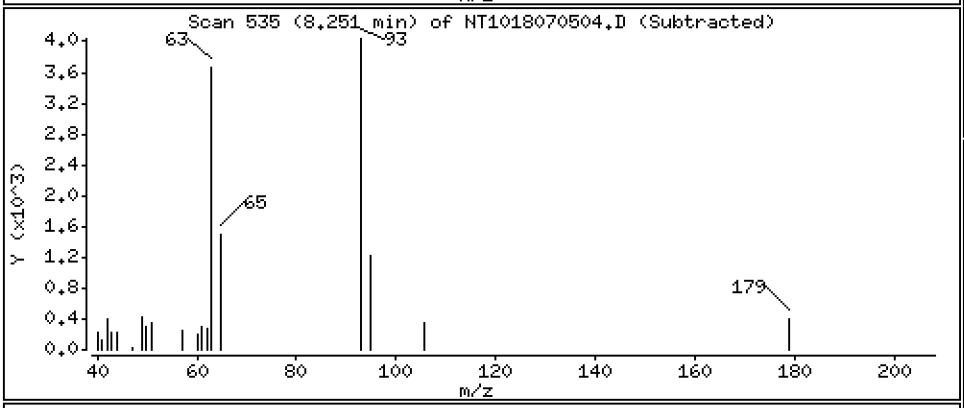
Column phase: ZB-5msi

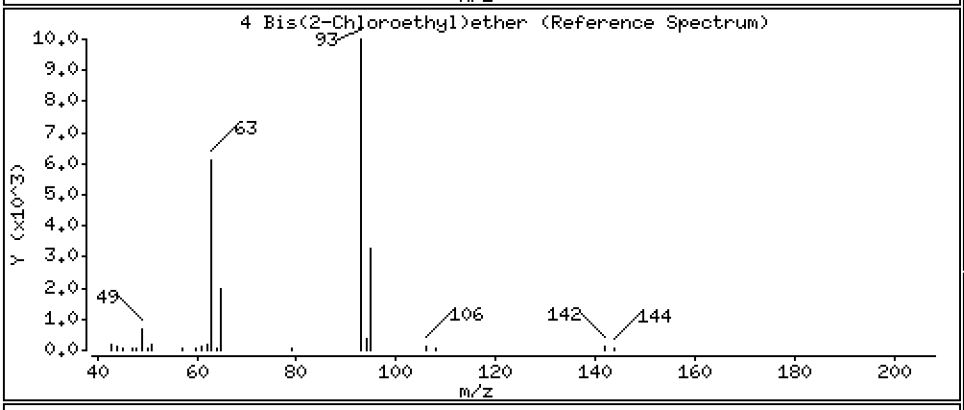
Column diameter: 0.25

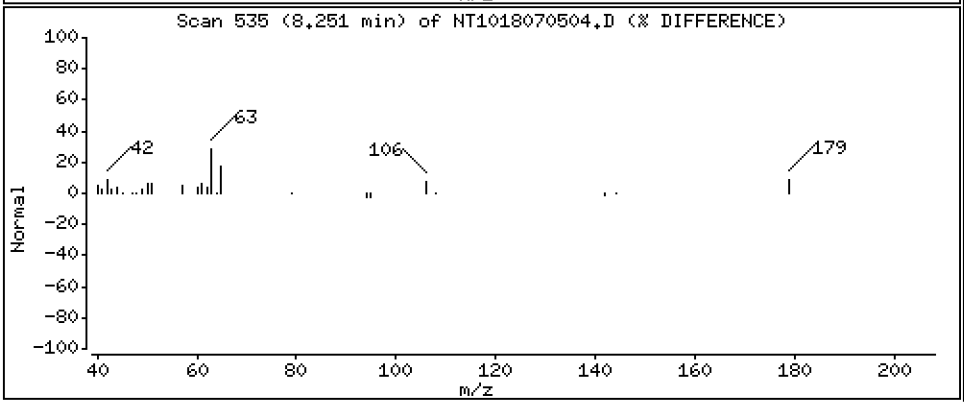
4 Bis(2-Chloroethyl)ether

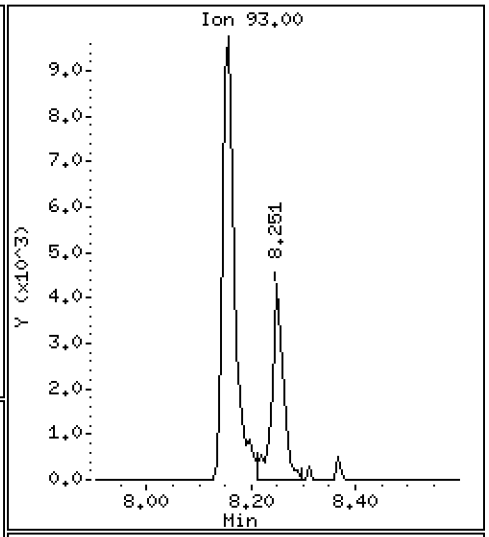
Concentration: 0.1847 ug/mL

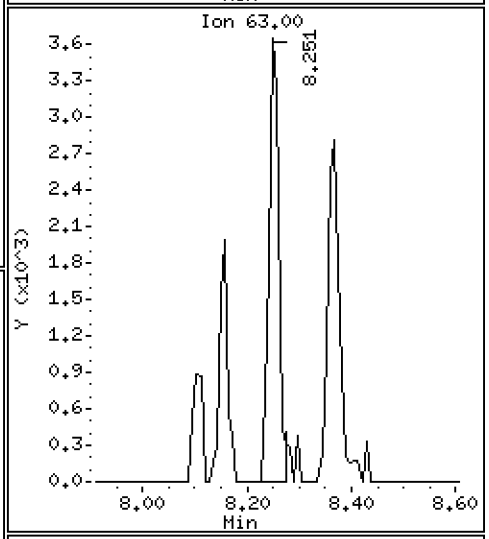


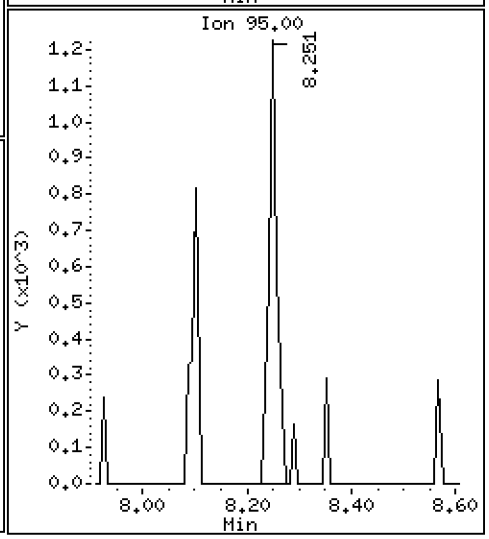












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

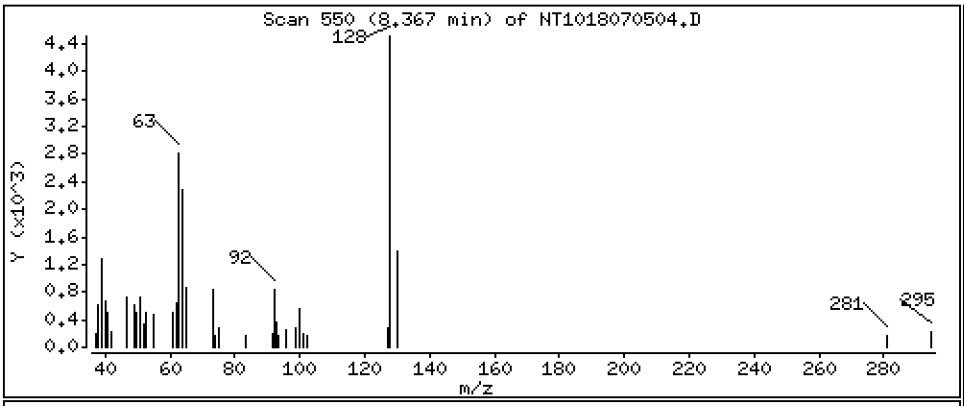
Operator: YZ

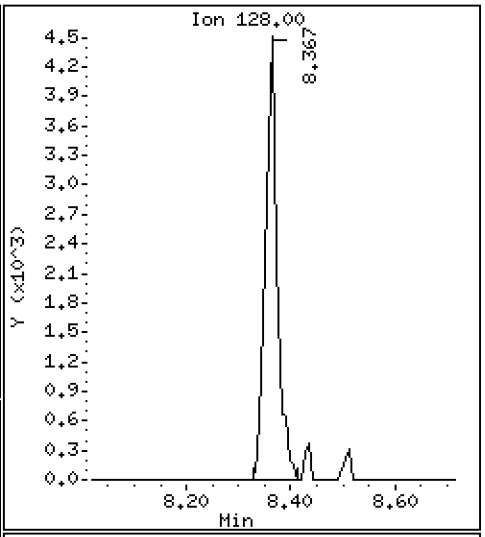
Column phase: ZB-5msi

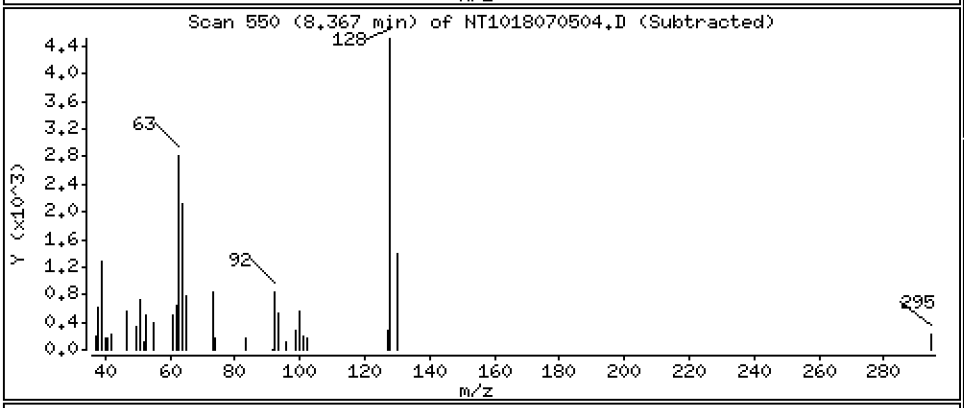
Column diameter: 0.25

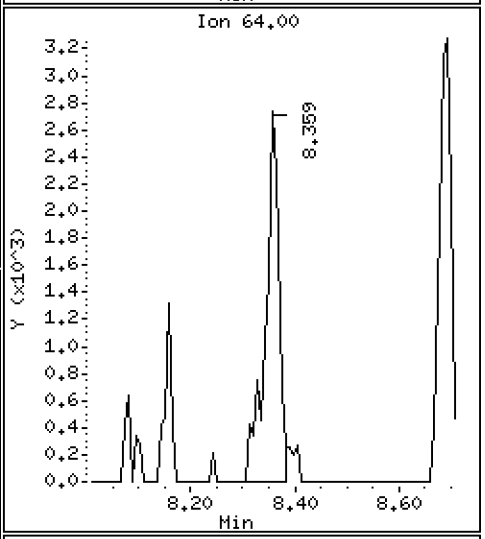
6 2-Chlorophenol

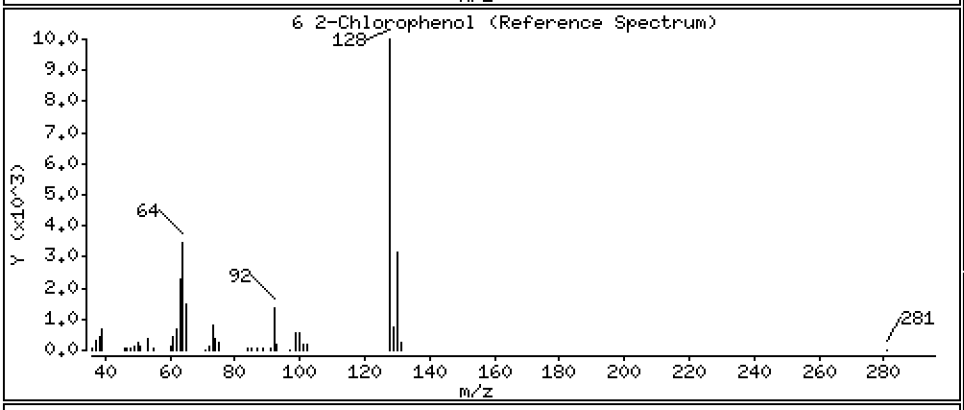
Concentration: 0.2026 ug/mL

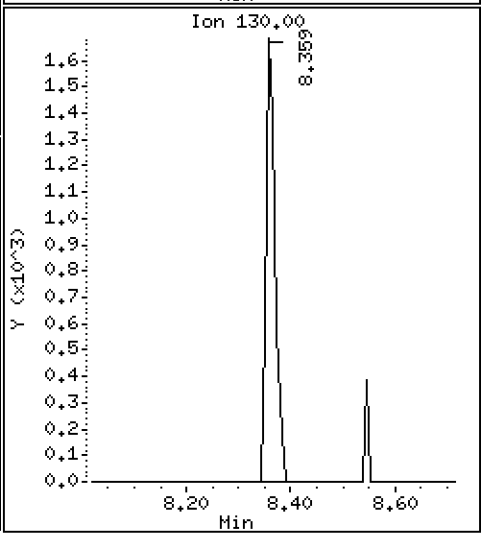


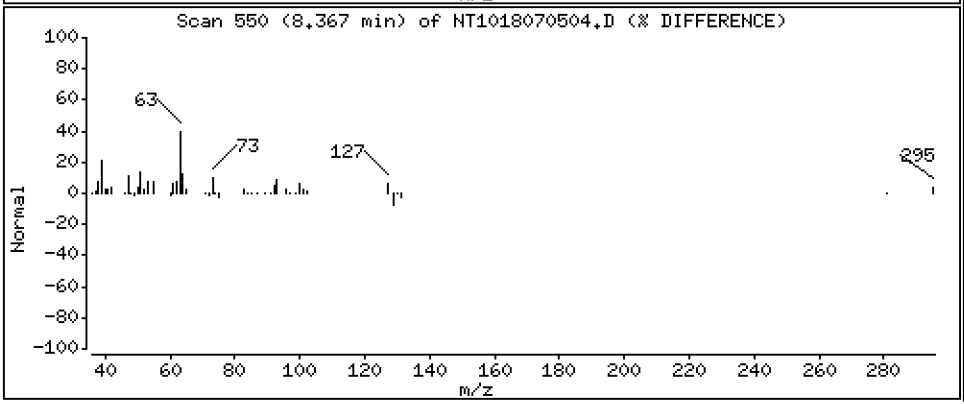












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

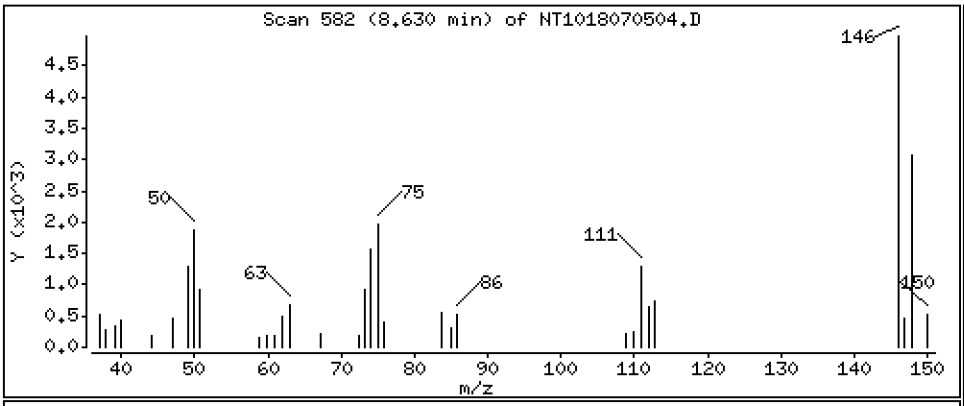
Operator: YZ

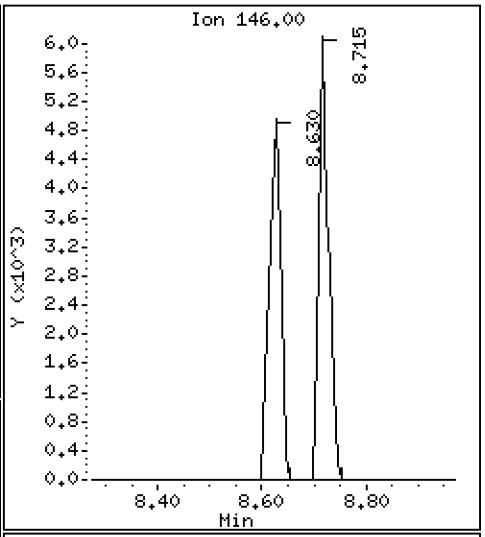
Column phase: ZB-5msi

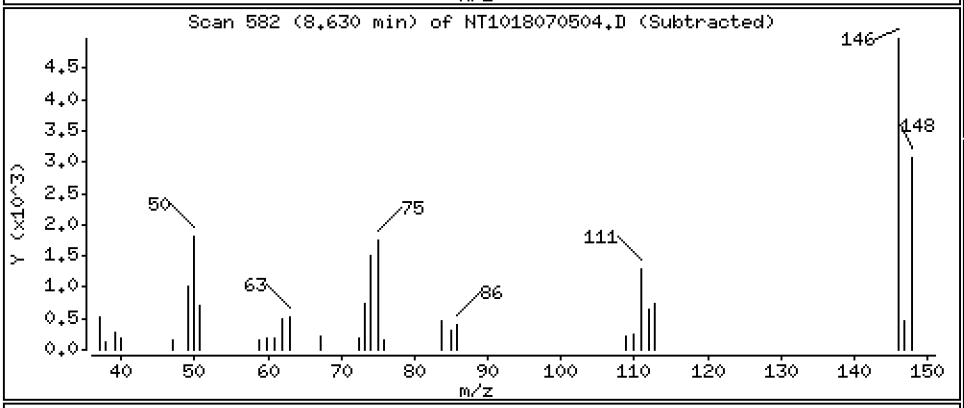
Column diameter: 0.25

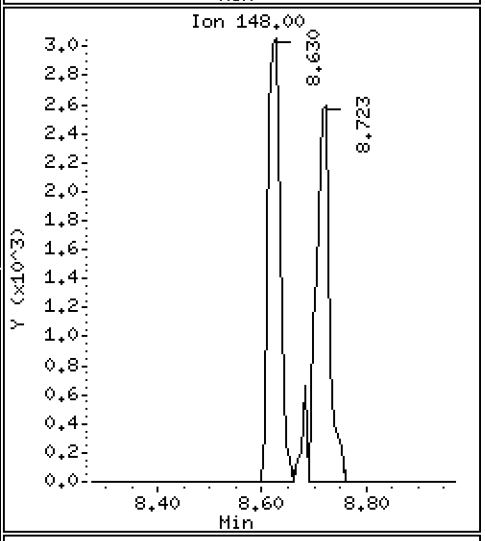
7 1,3-Dichlorobenzene

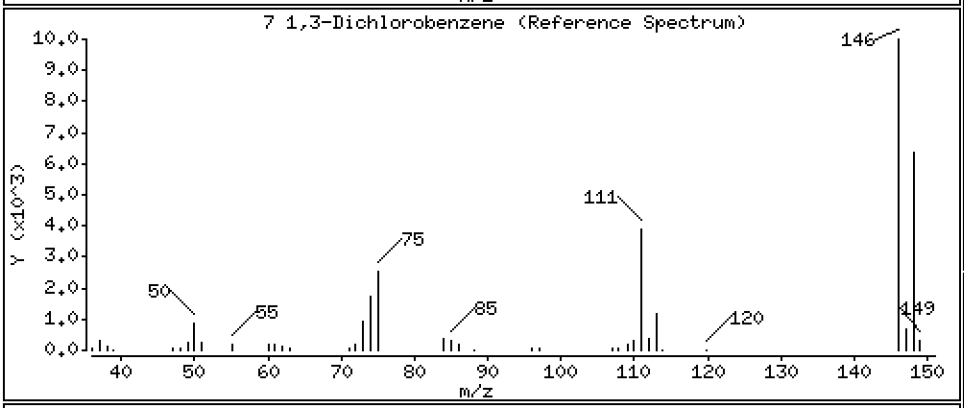
Concentration: 0.2079 ug/mL

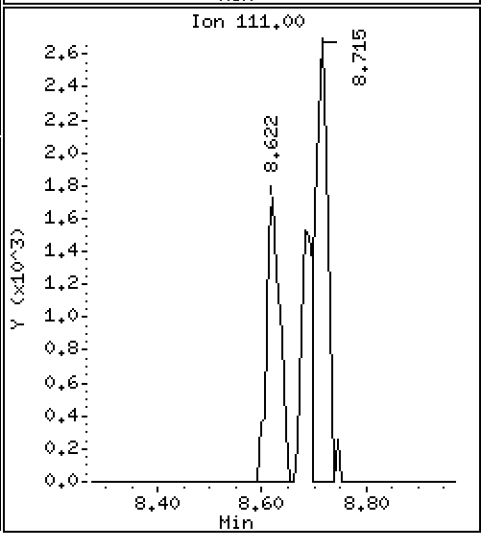


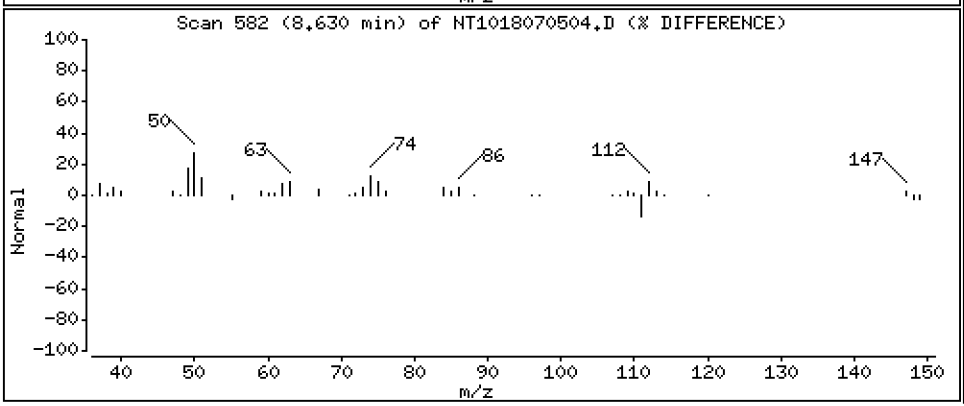












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

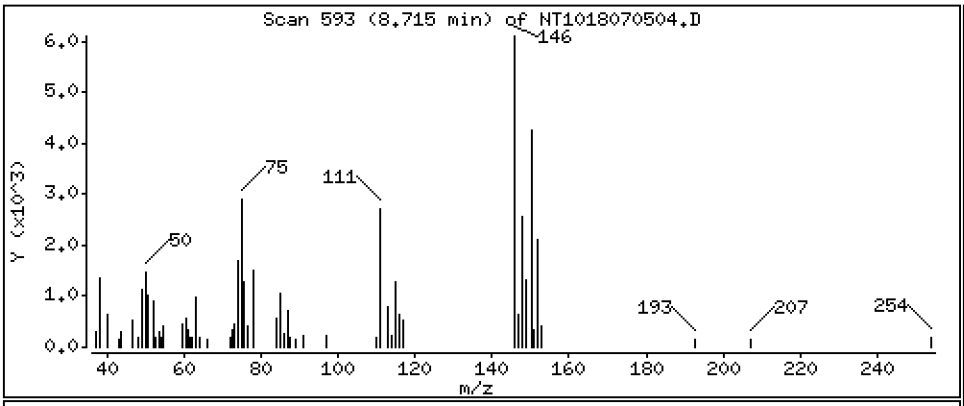
Operator: YZ

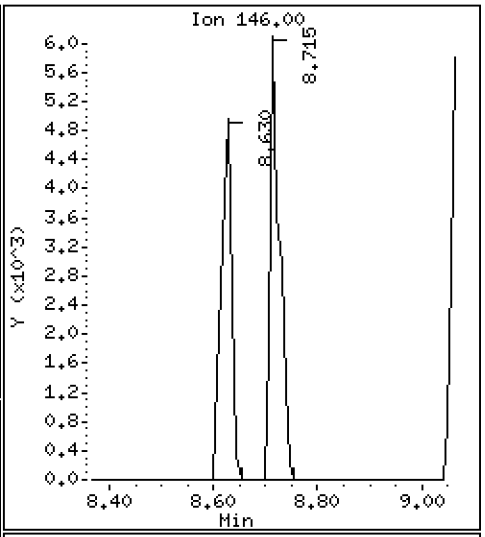
Column phase: ZB-5msi

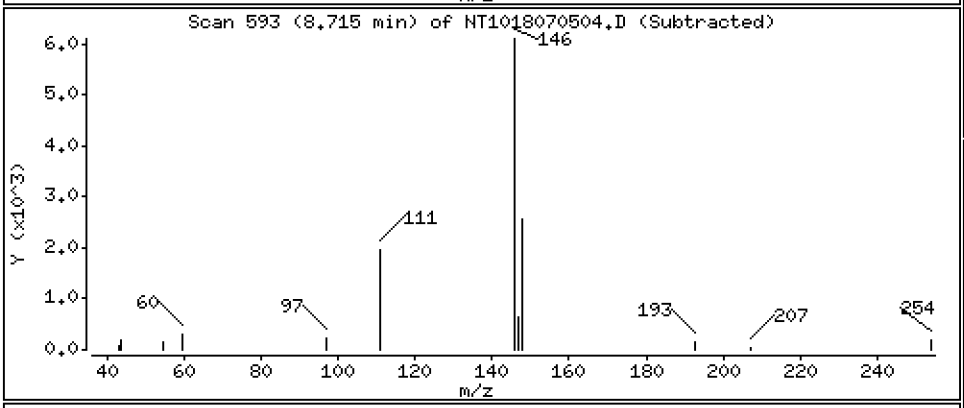
Column diameter: 0.25

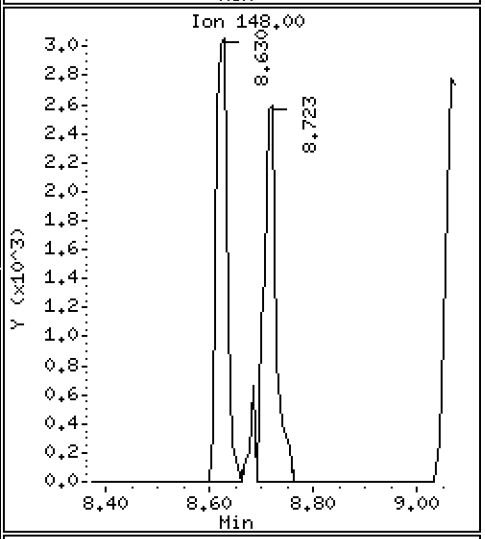
9 1,4-Dichlorobenzene

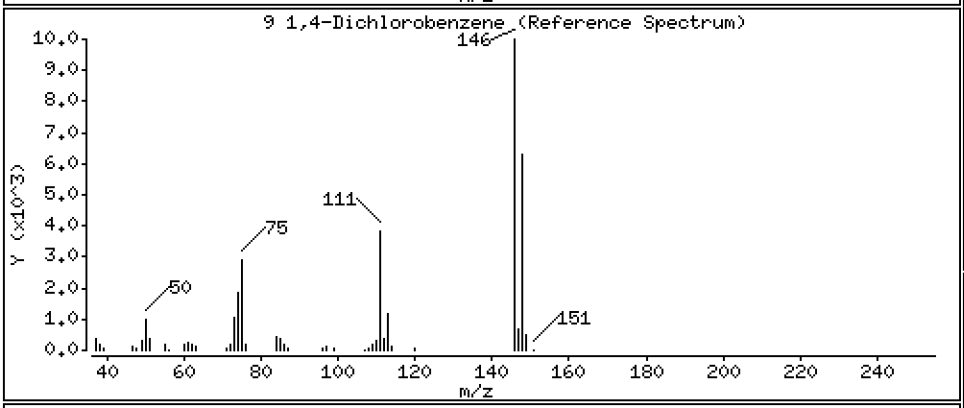
Concentration: 0.2324 ug/mL

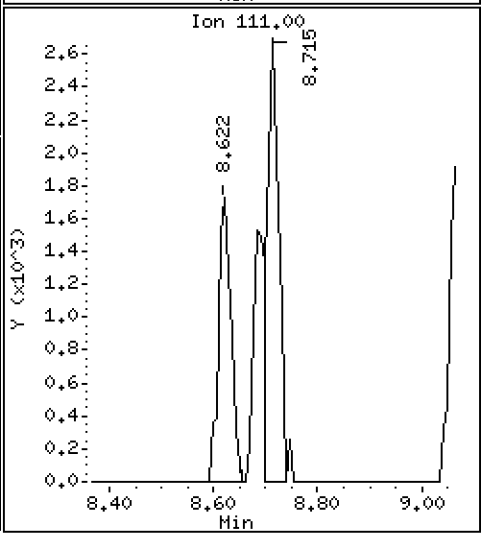


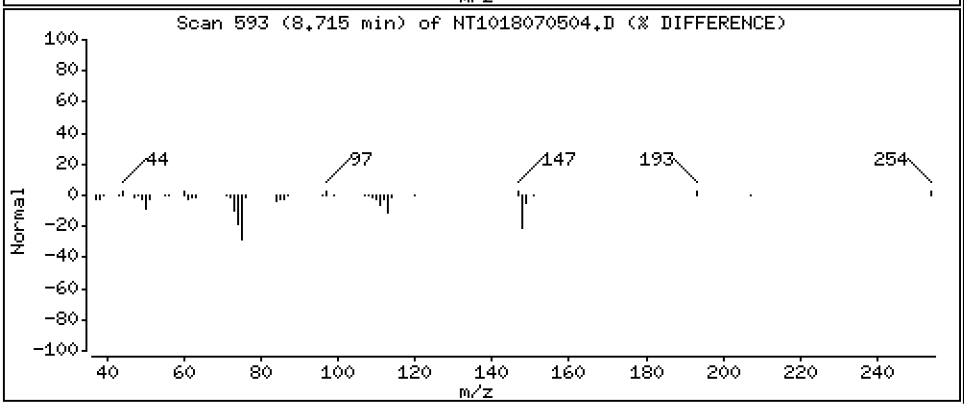












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

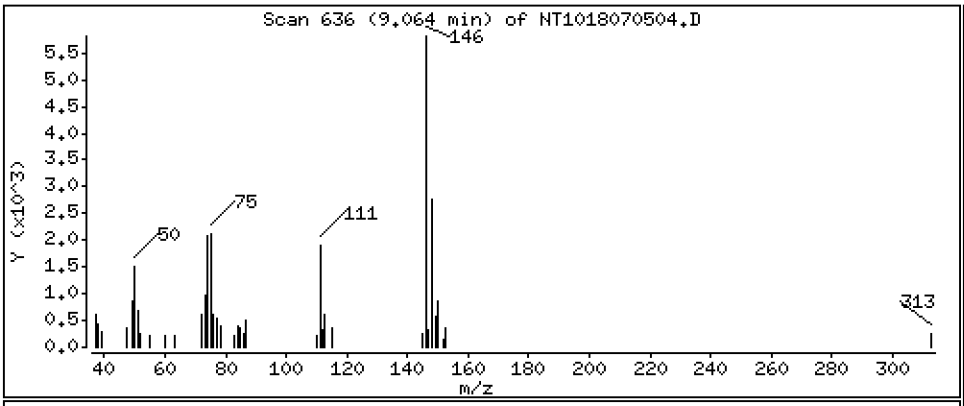
Operator: YZ

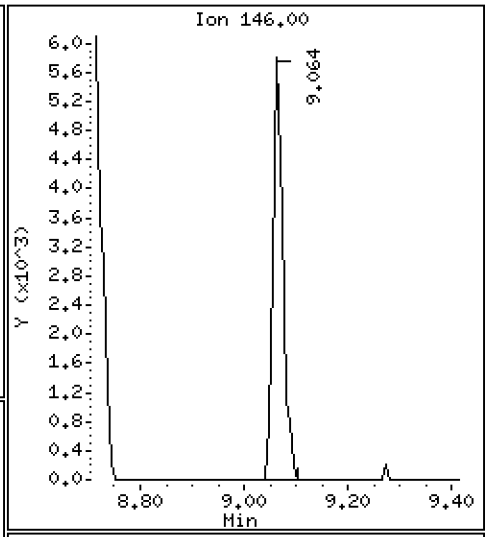
Column phase: ZB-5msi

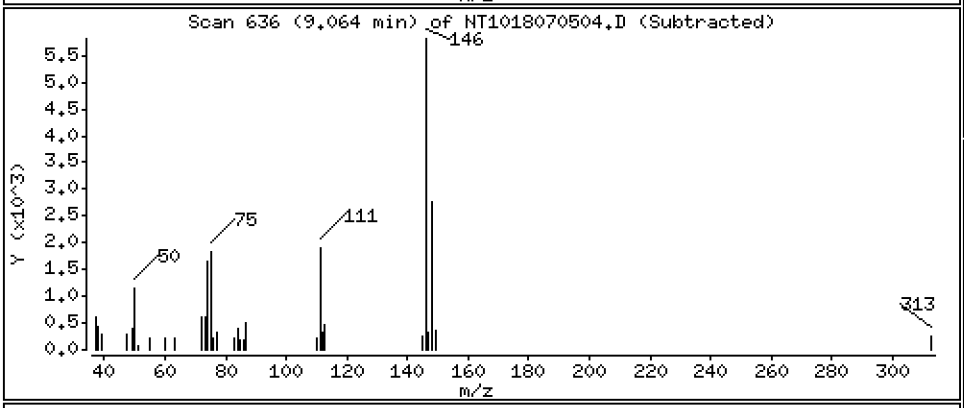
Column diameter: 0.25

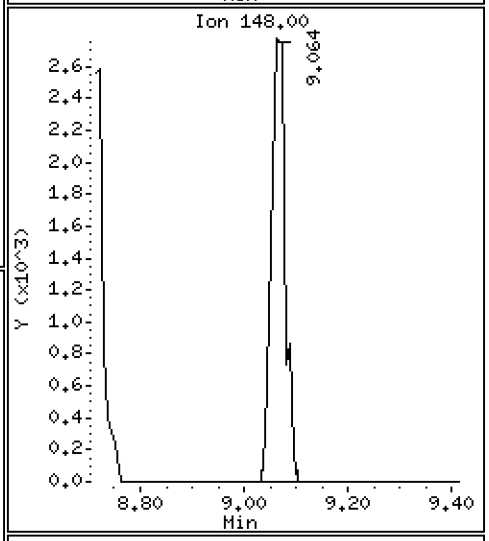
12 1,2-Dichlorobenzene

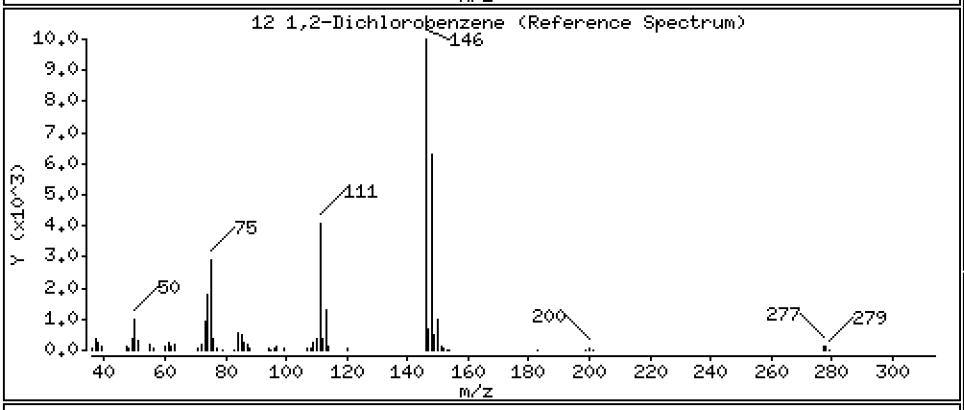
Concentration: 0.2234 ug/mL

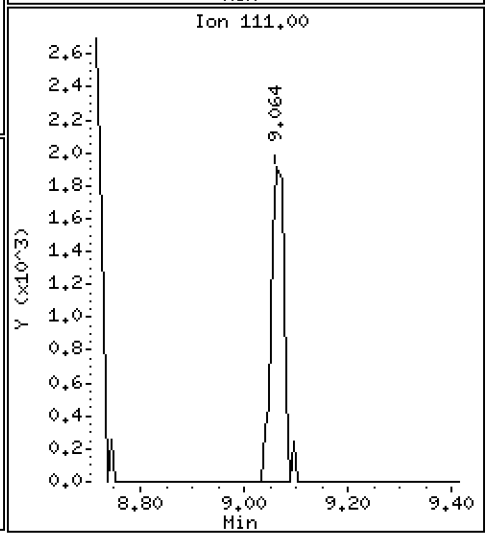


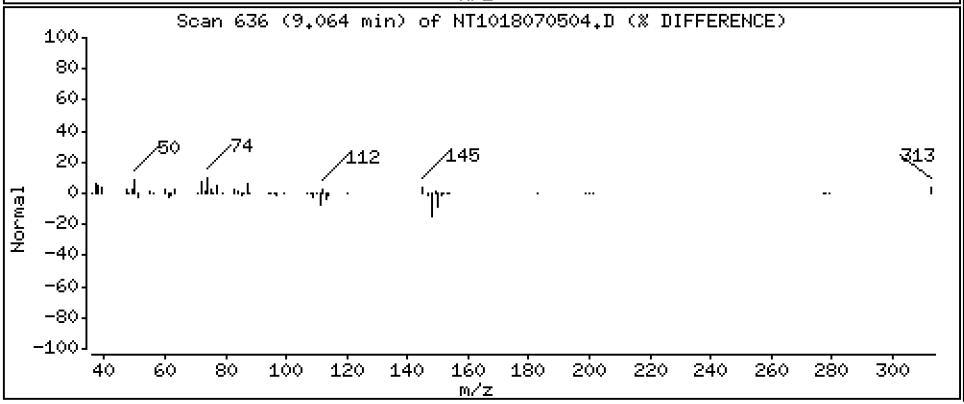












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

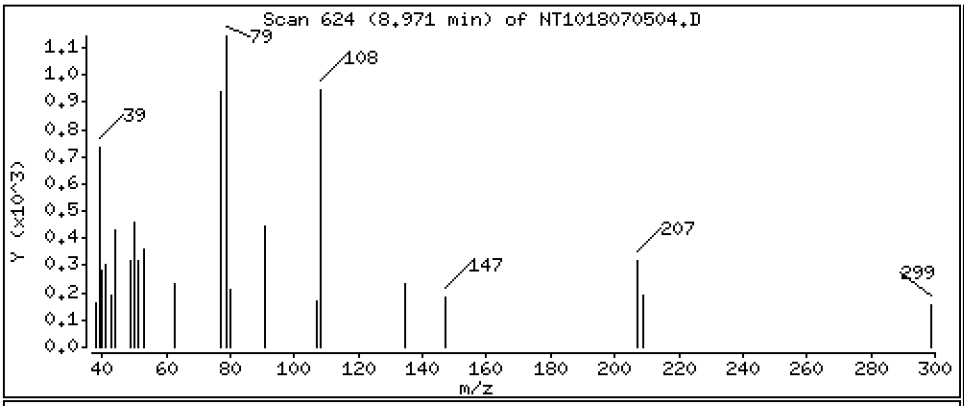
Operator: YZ

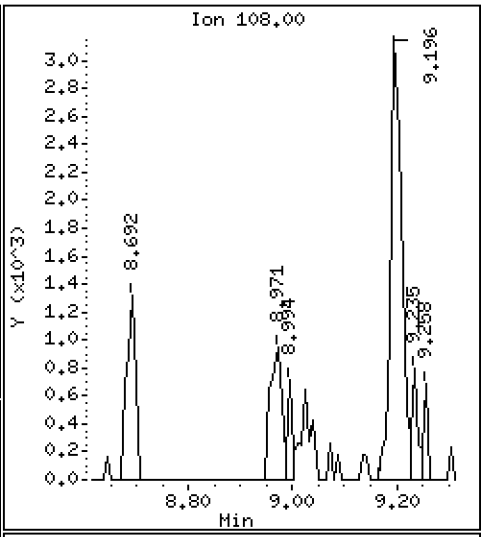
Column phase: ZB-5msi

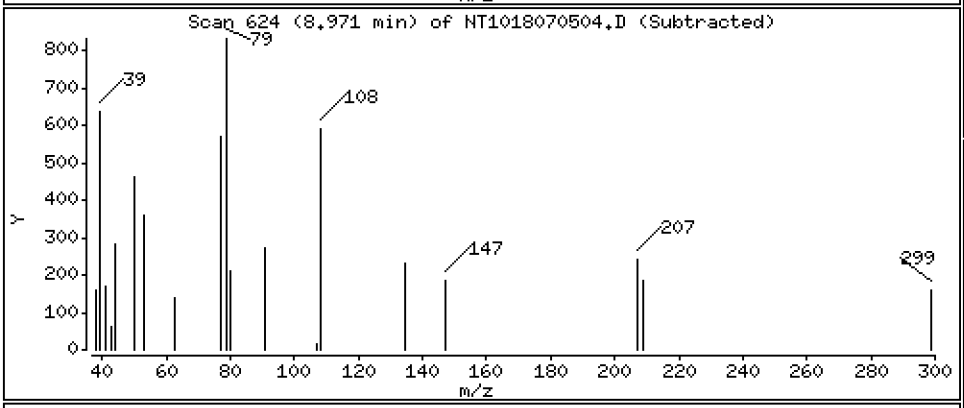
Column diameter: 0.25

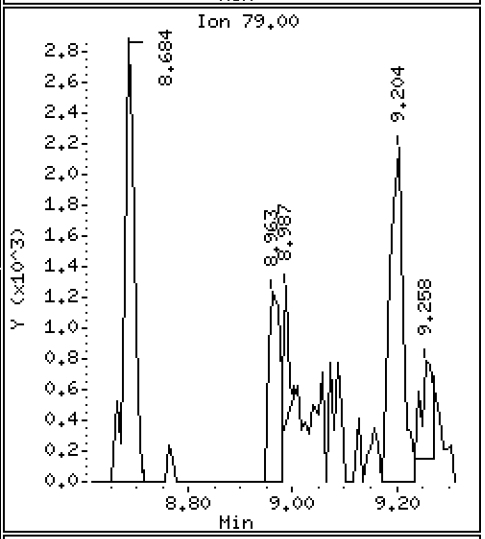
11 Benzyl alcohol

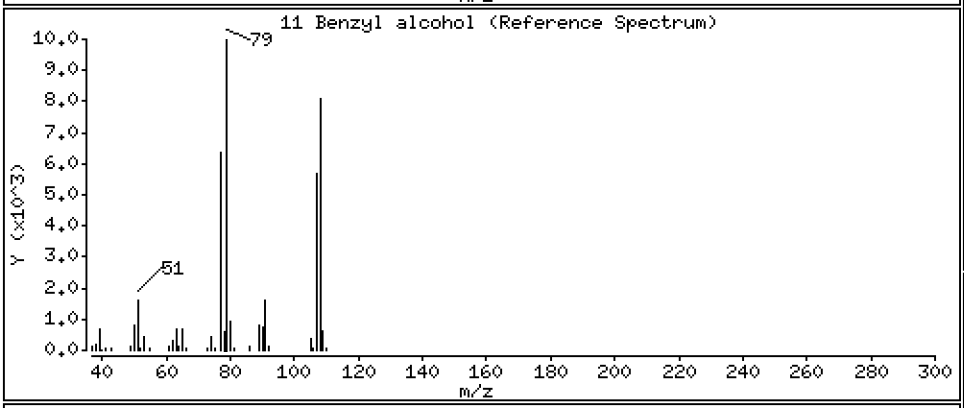
Concentration: 0.06673 ug/mL

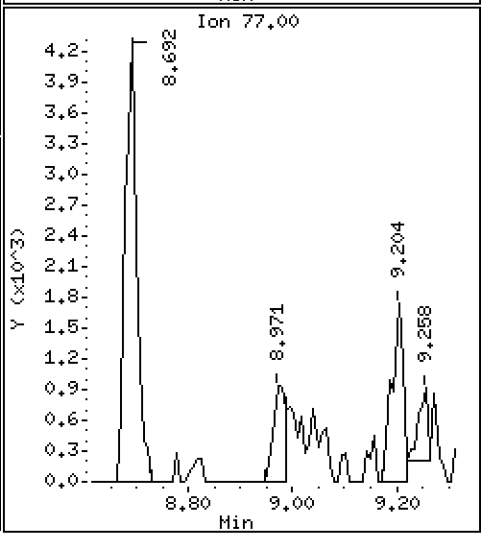


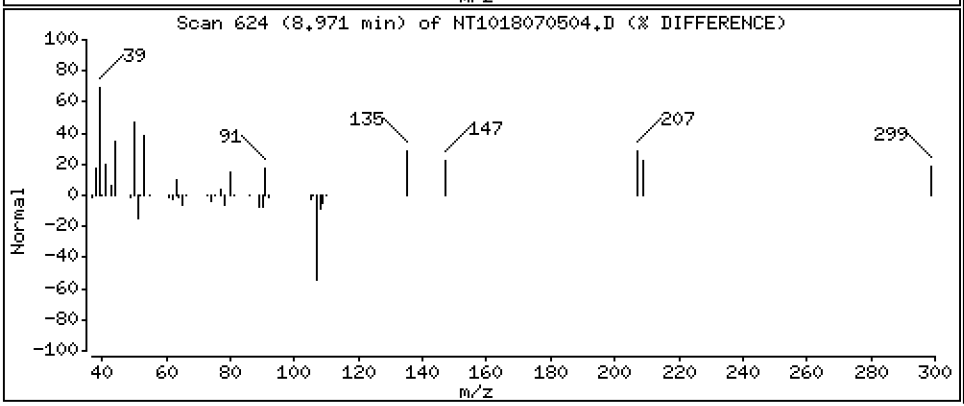












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

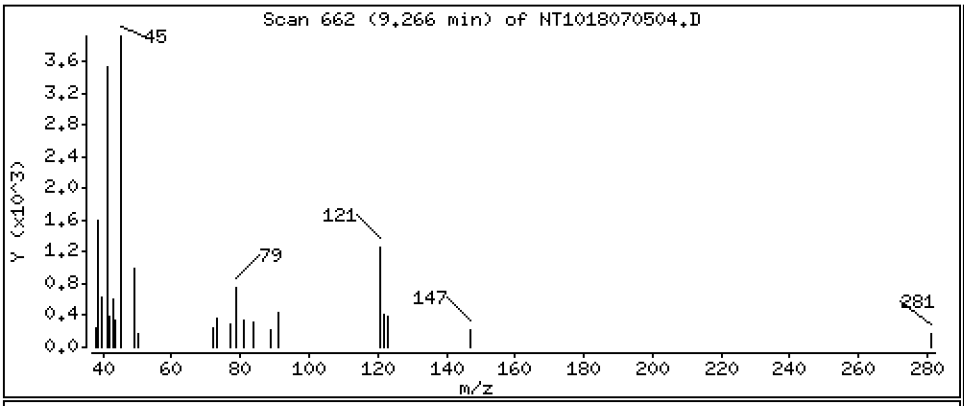
Operator: YZ

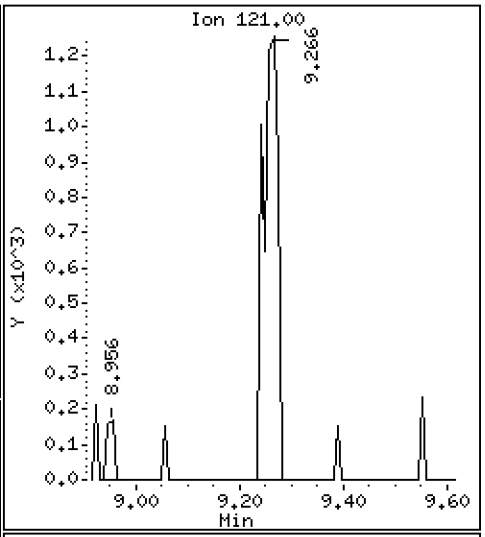
Column phase: ZB-5msi

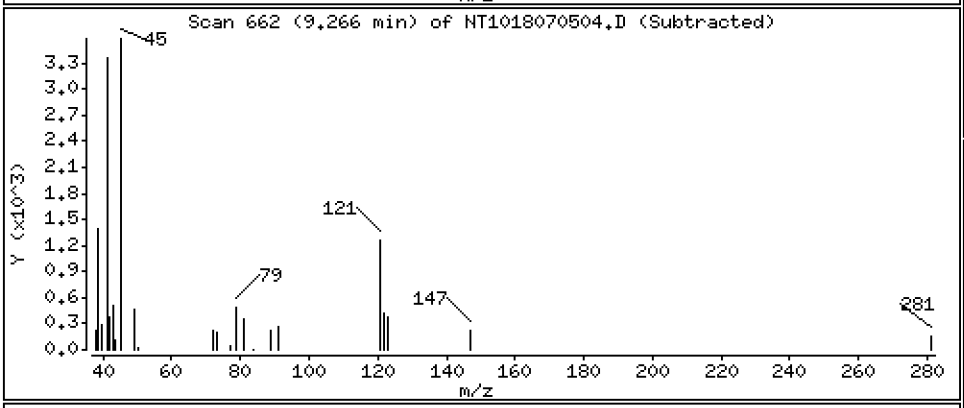
Column diameter: 0.25

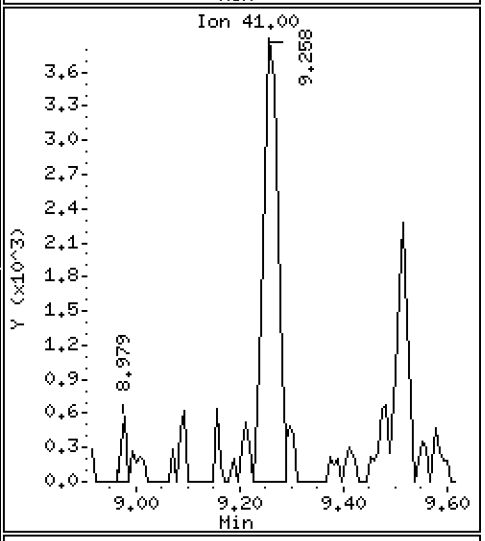
14 2,2'-oxybis(1-Chloropropane)

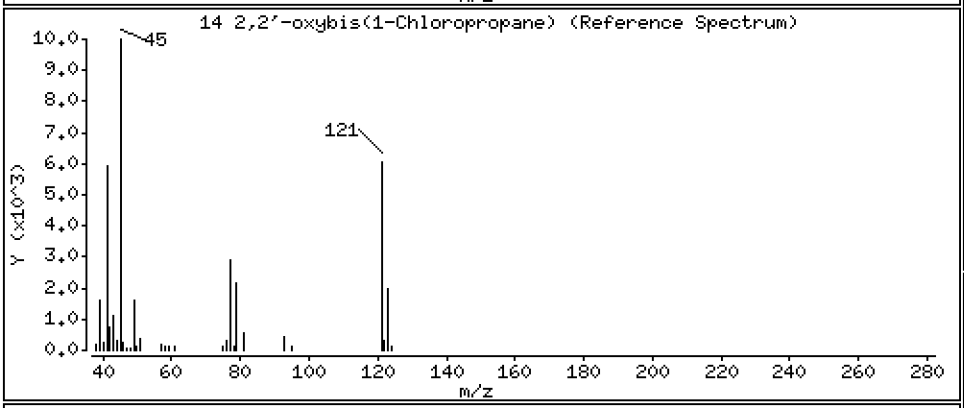
Concentration: 0.1845 ug/mL

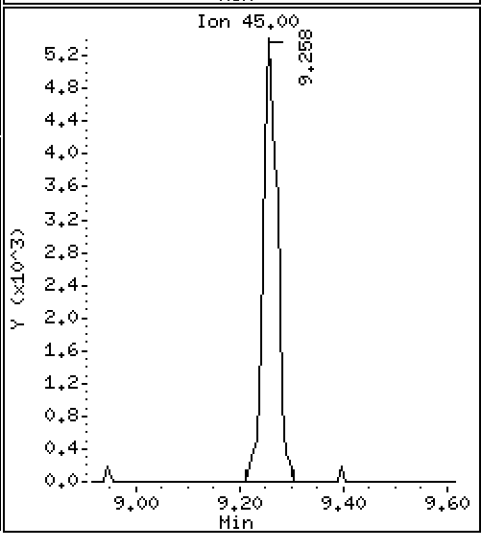


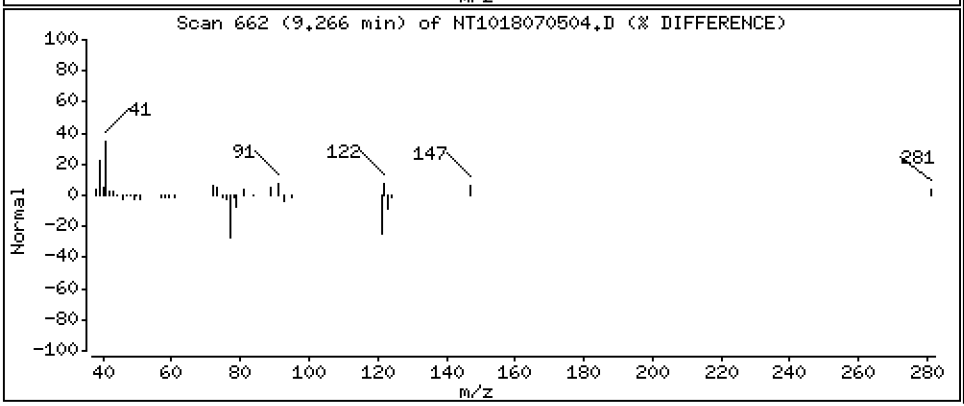












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

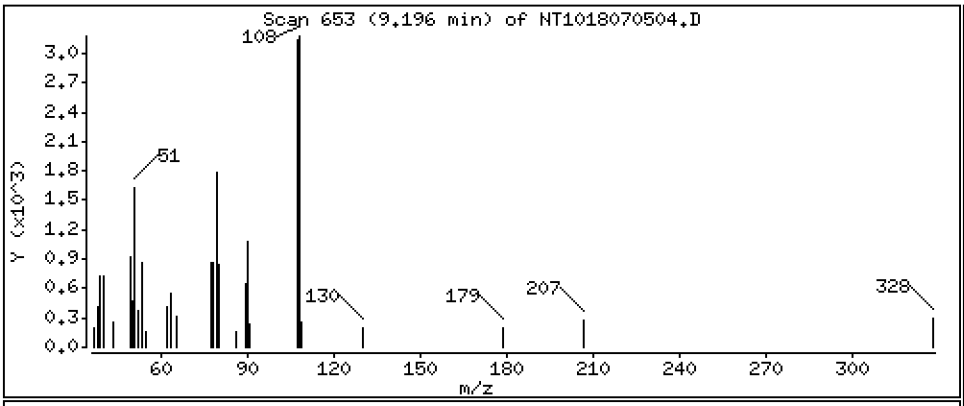
Operator: YZ

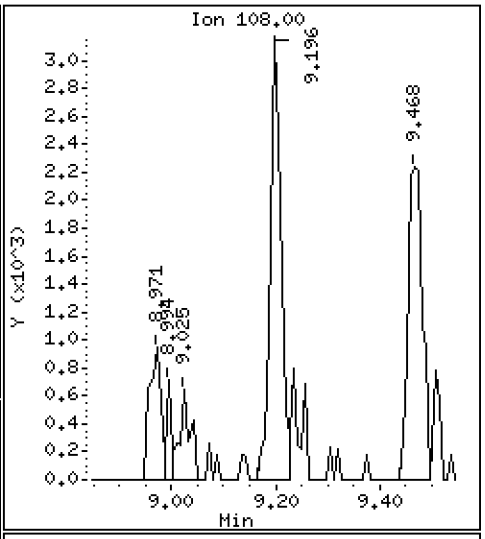
Column phase: ZB-5msi

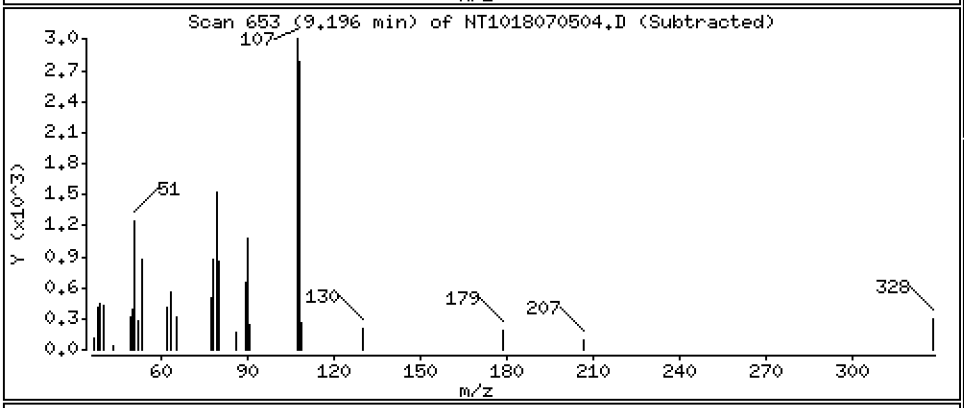
Column diameter: 0.25

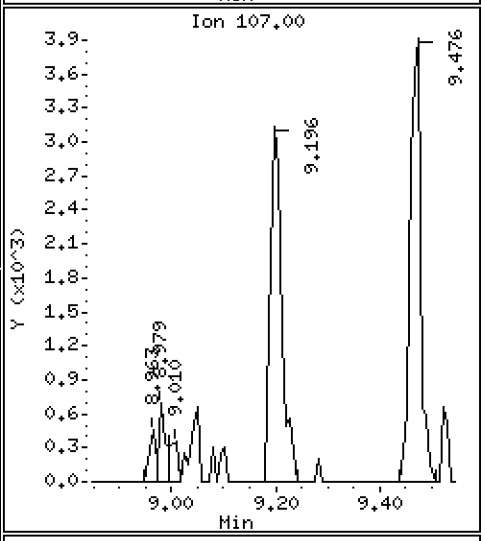
13 2-Methylphenol

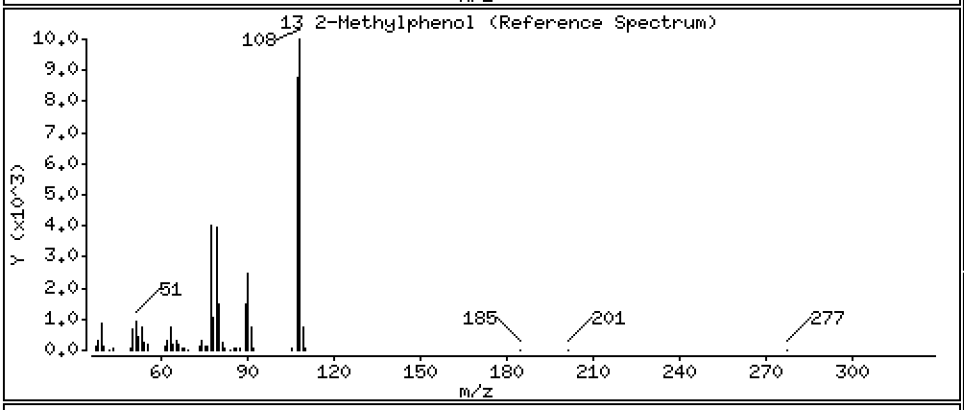
Concentration: 0.1536 ug/mL

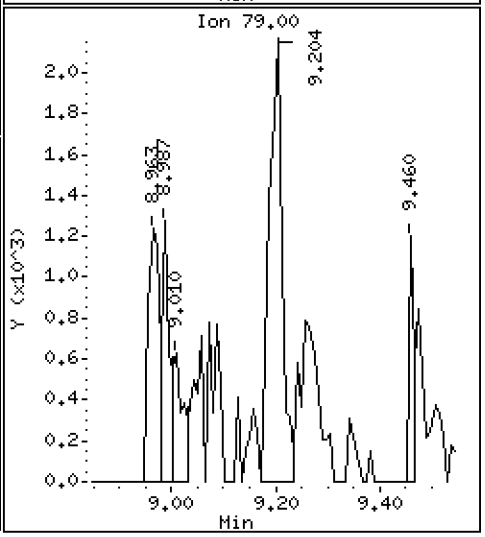


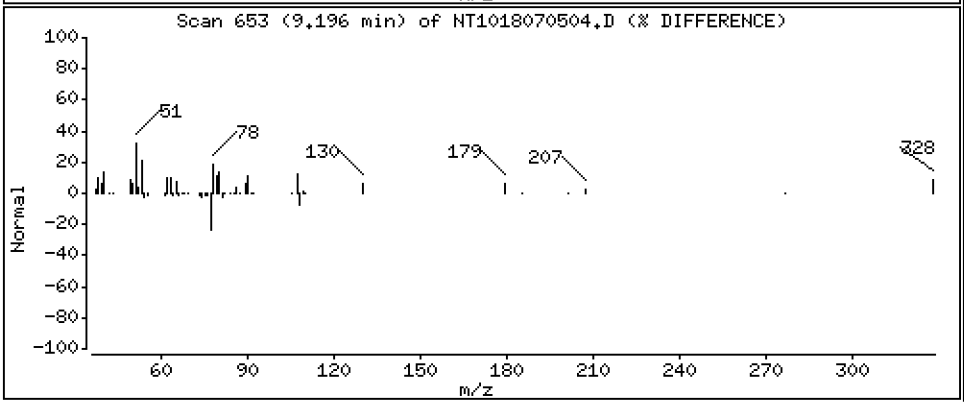












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

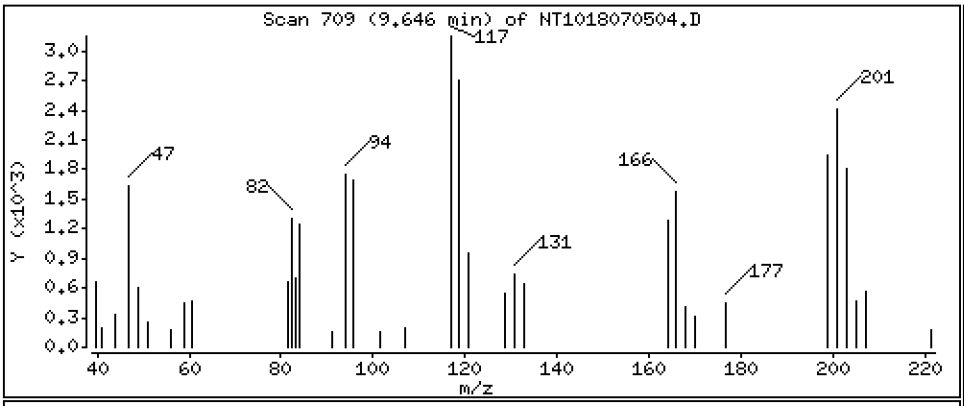
Operator: YZ

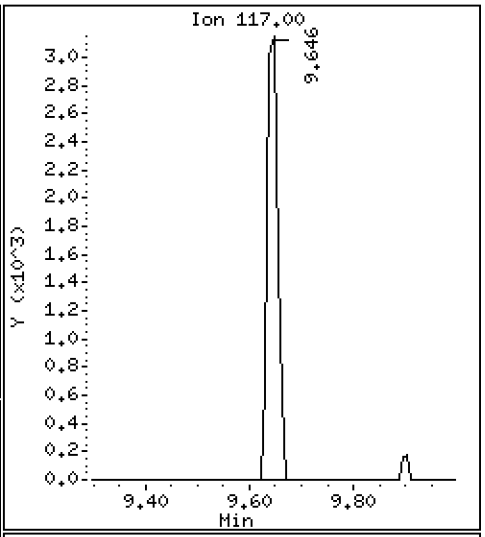
Column phase: ZB-5msi

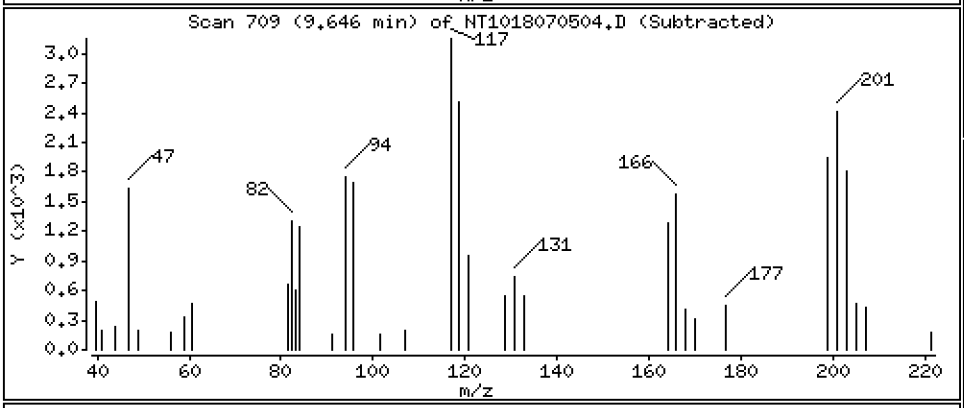
Column diameter: 0.25

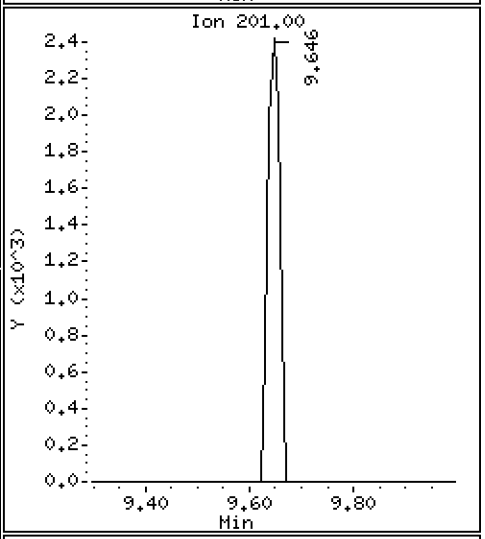
17 Hexachloroethane

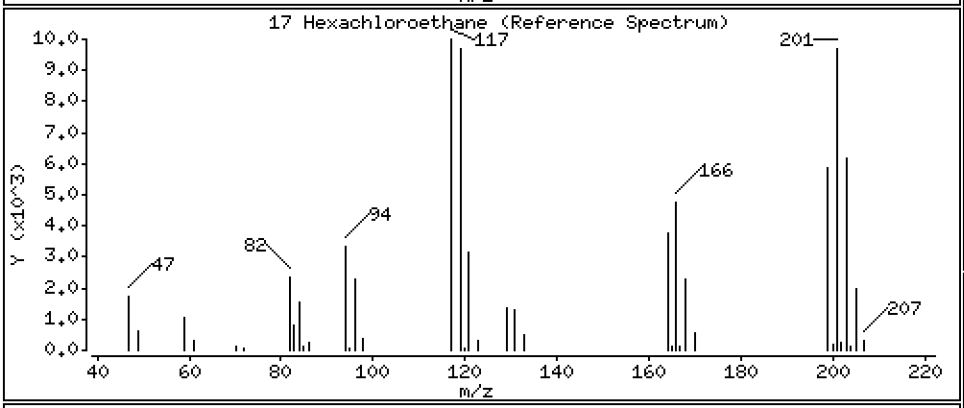
Concentration: 0.2811 ug/mL

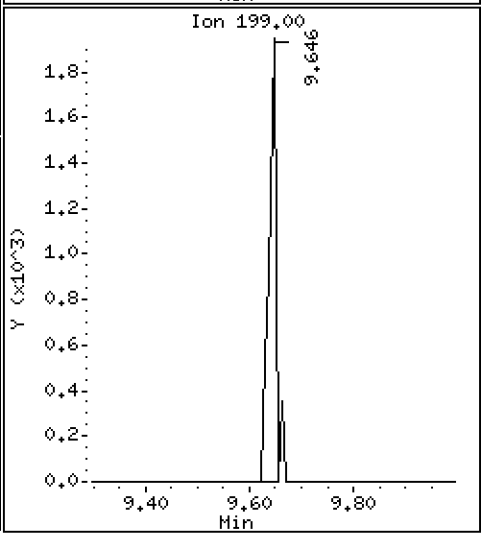


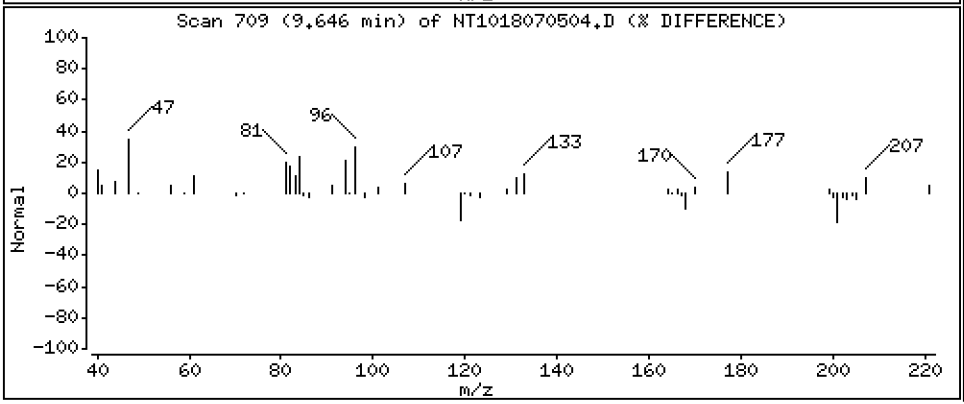












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

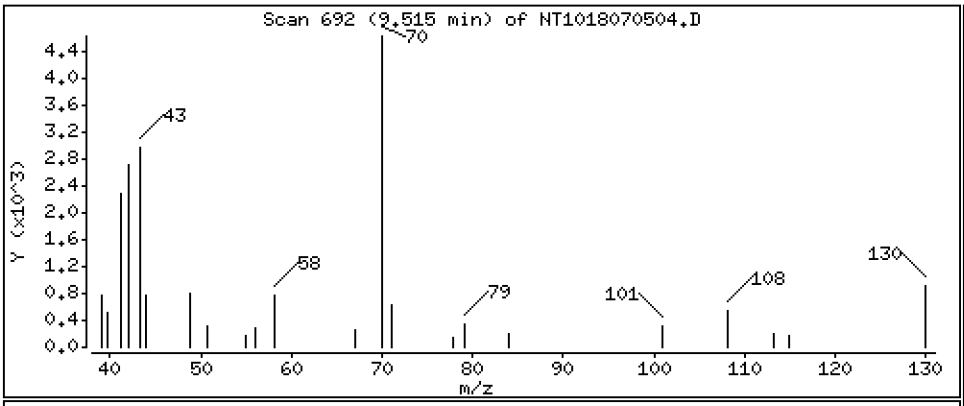
Operator: YZ

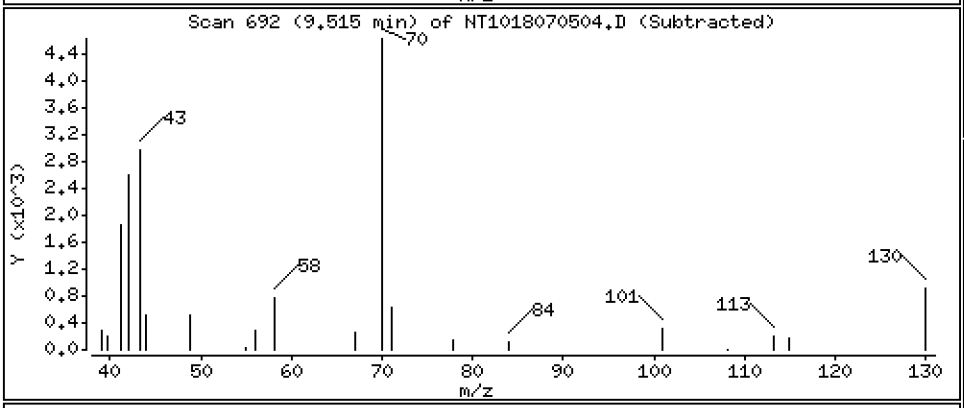
Column phase: ZB-5msi

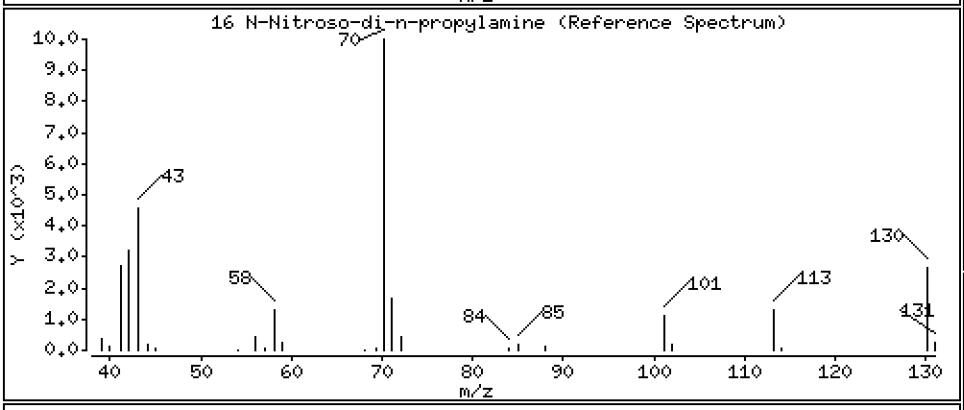
Column diameter: 0.25

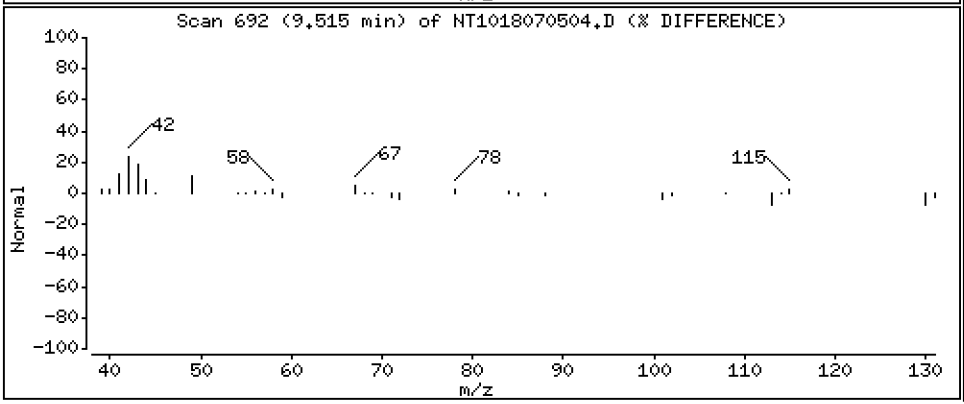
16 N-Nitroso-di-n-propylamine

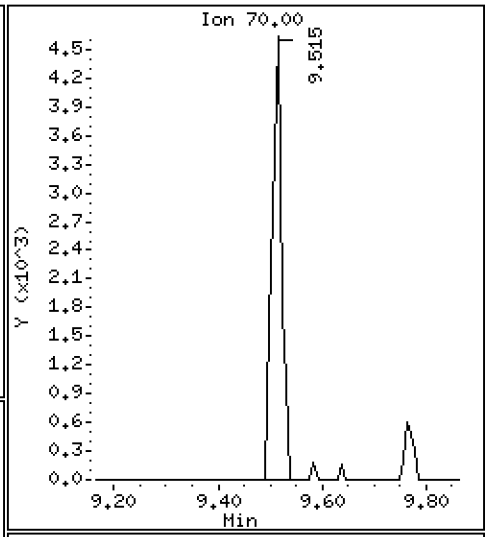
Concentration: 0.2607 ug/mL

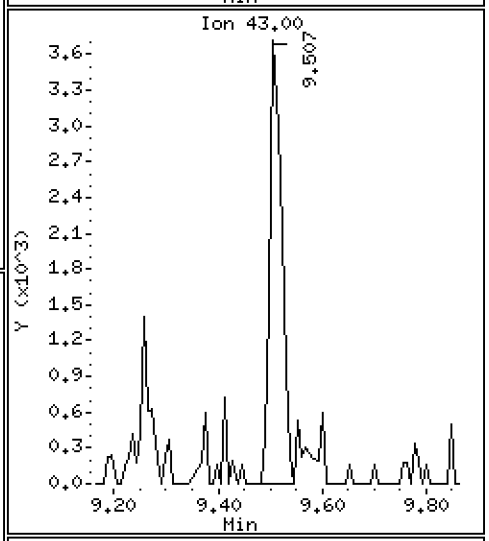


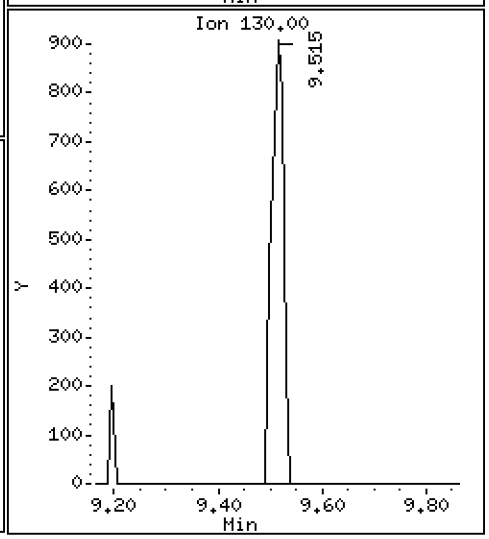












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

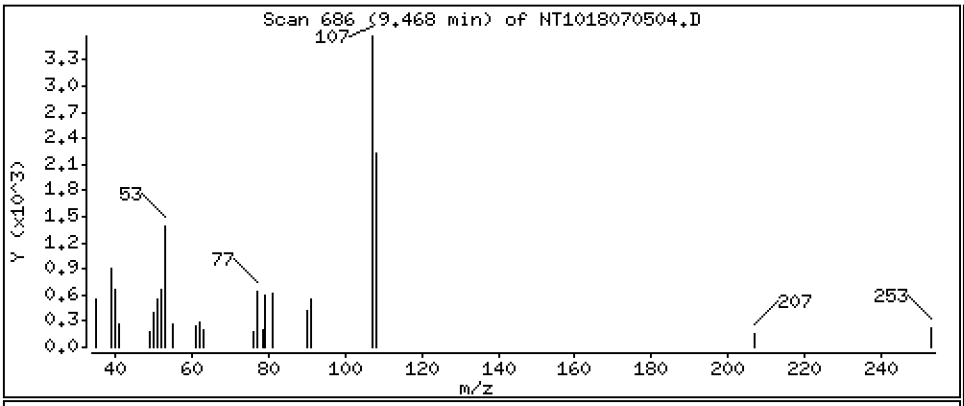
Operator: YZ

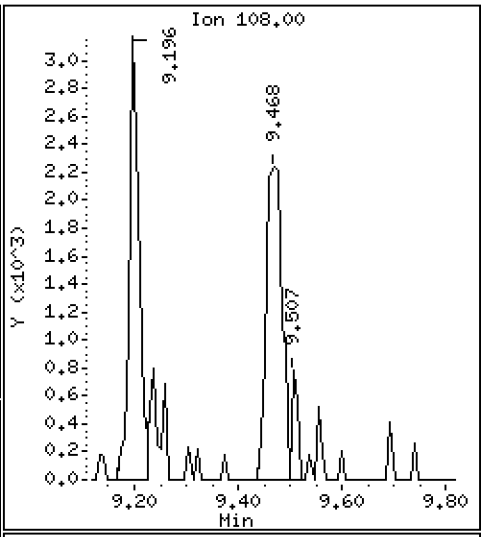
Column phase: ZB-5msi

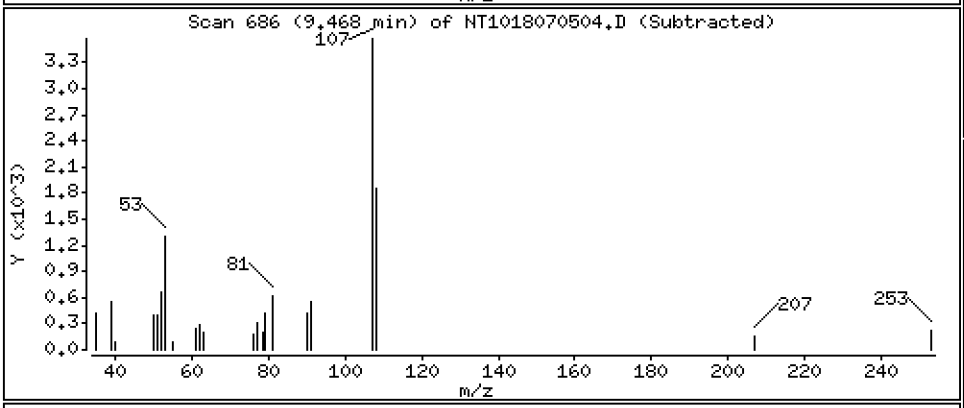
Column diameter: 0.25

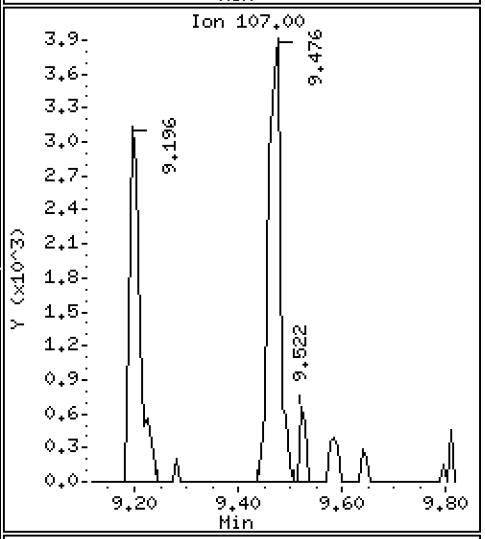
15 4-Methylphenol

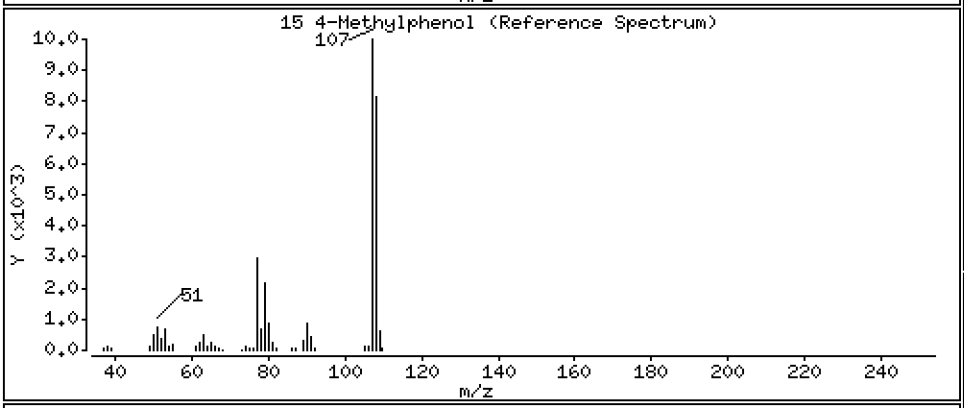
Concentration: 0.1497 ug/mL

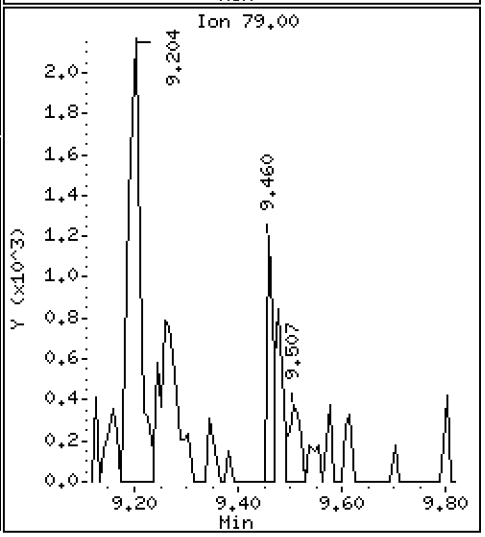


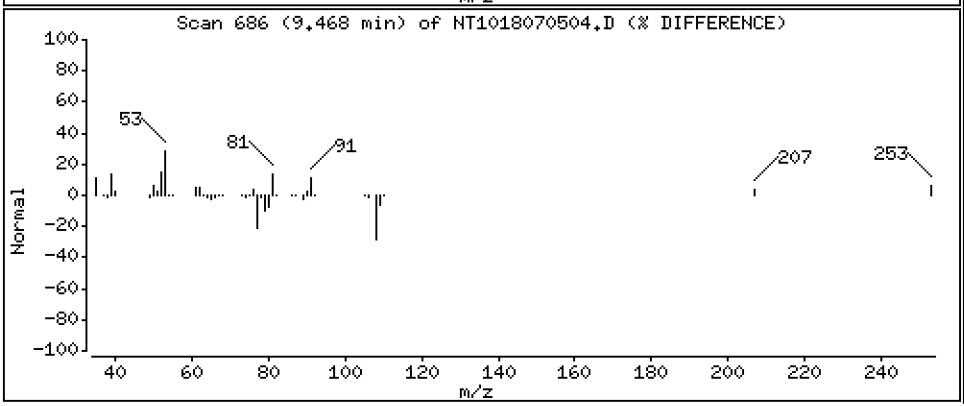












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

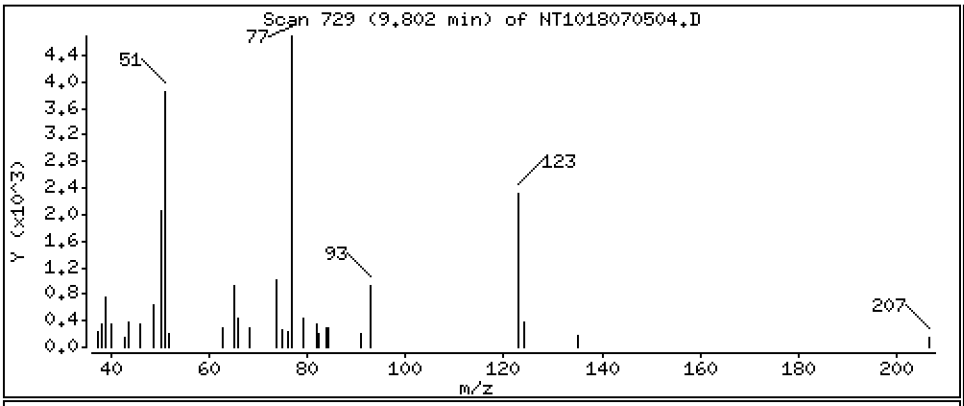
Operator: YZ

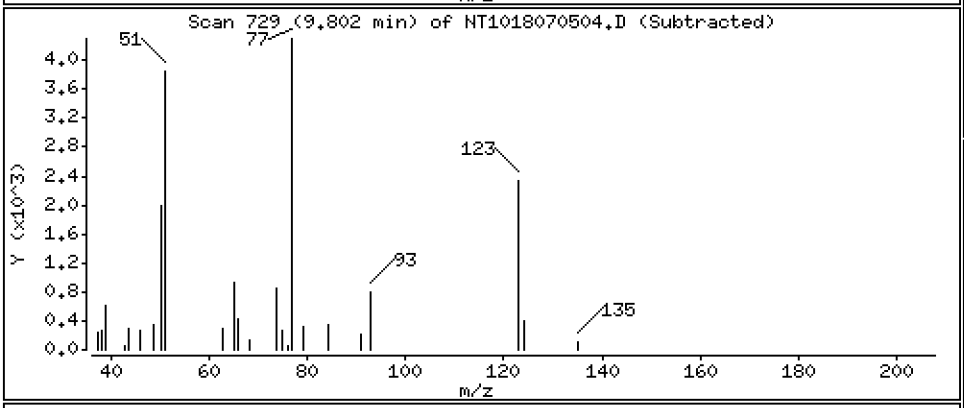
Column phase: ZB-5msi

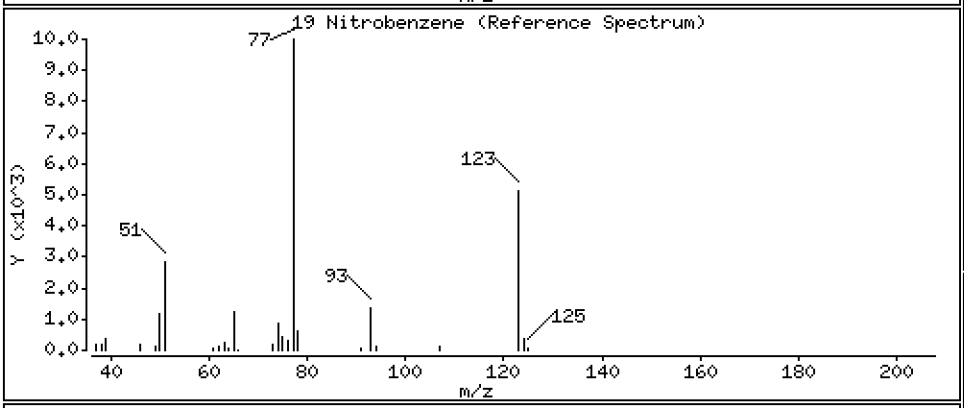
Column diameter: 0.25

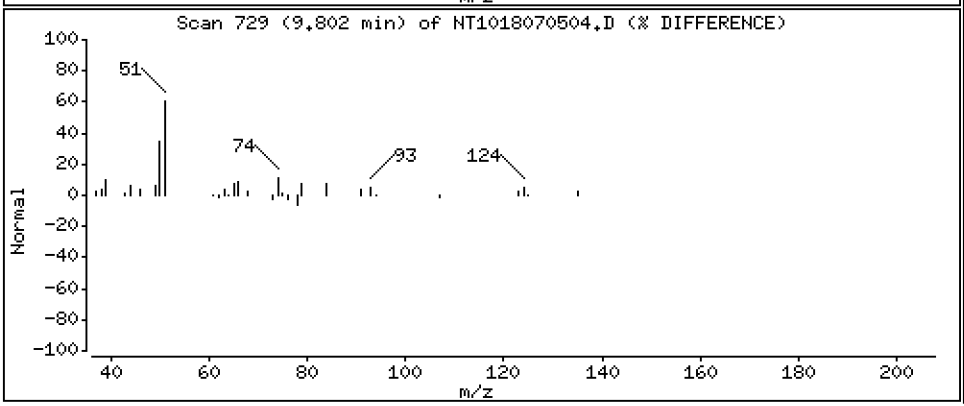
19 Nitrobenzene

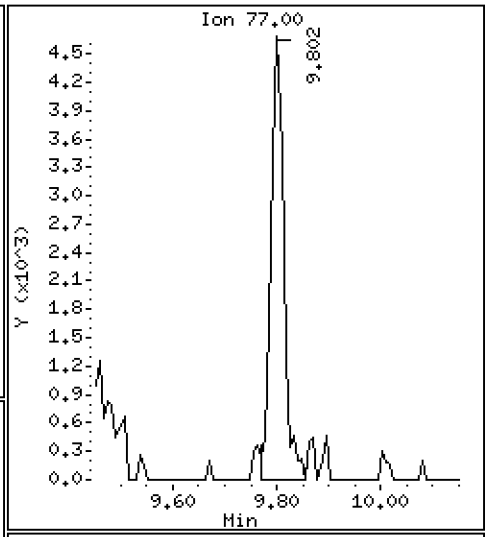
Concentration: 0.2502 ug/mL

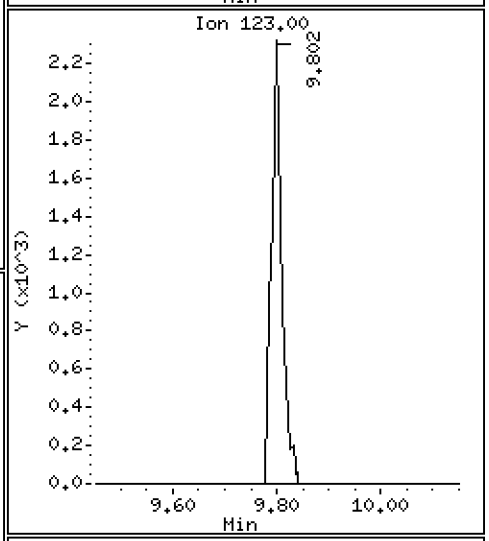


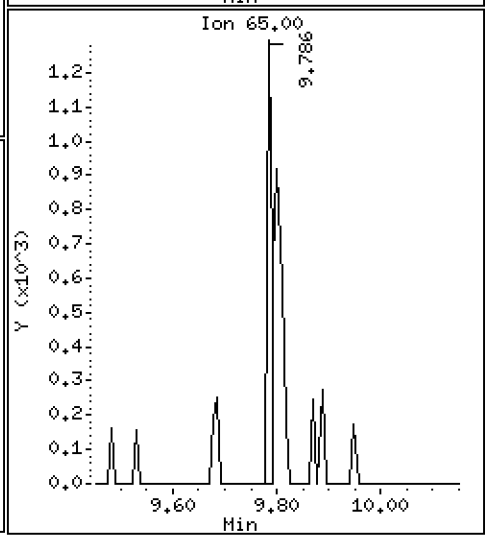












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

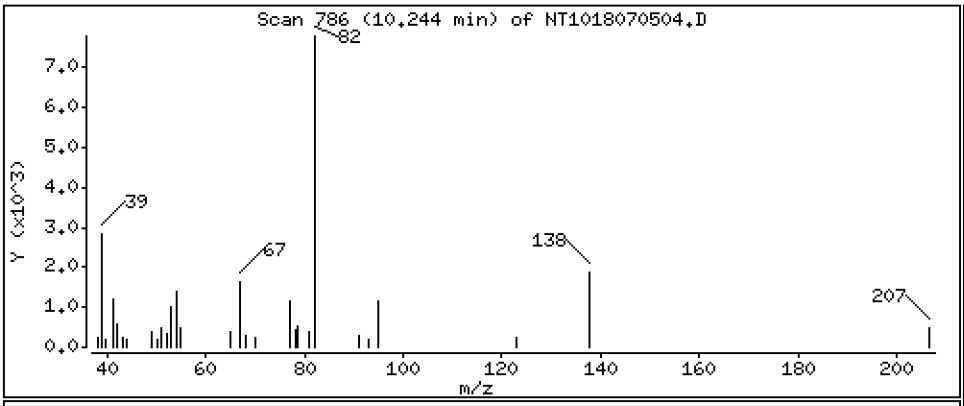
Operator: YZ

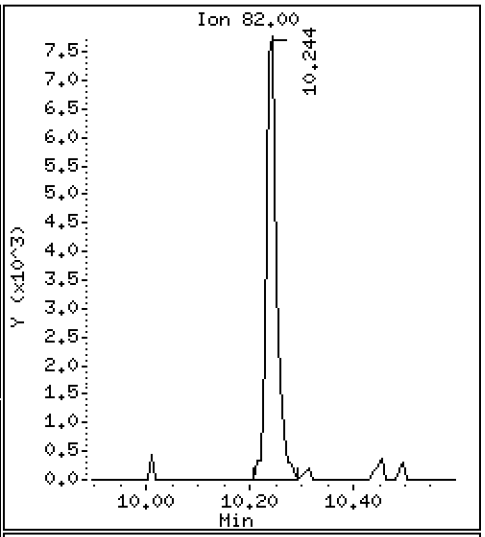
Column phase: ZB-5msi

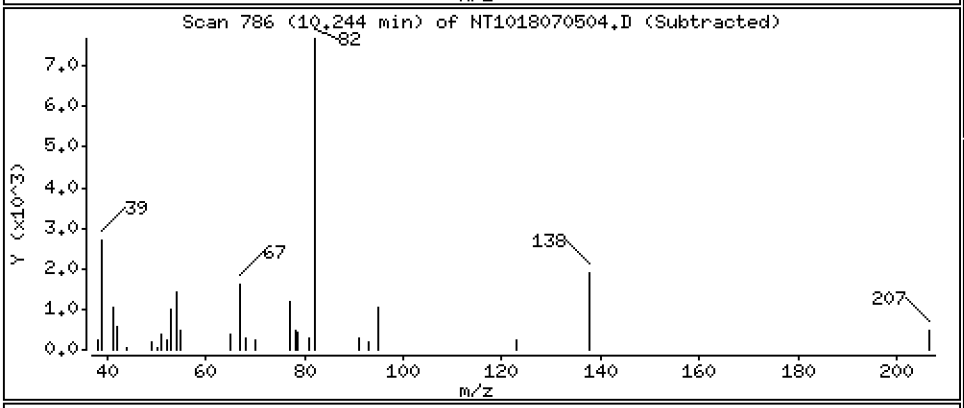
Column diameter: 0.25

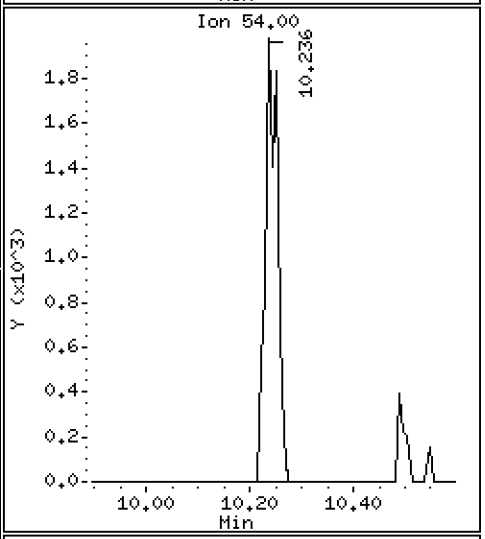
20 Isophorone

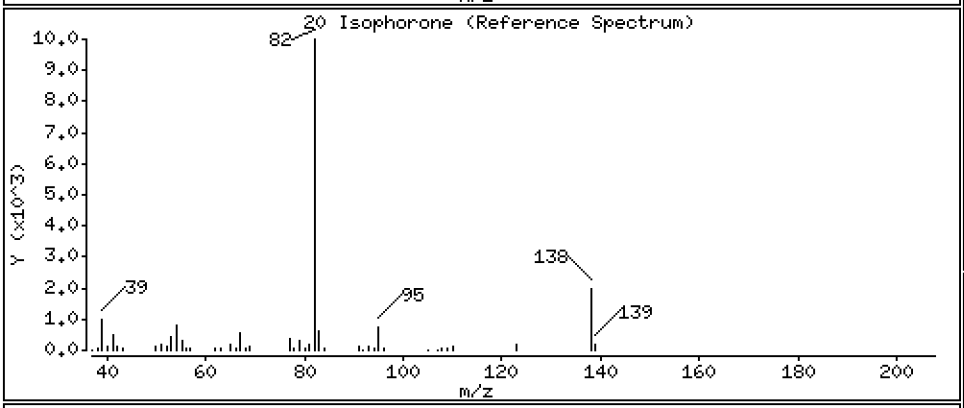
Concentration: 0.1827 ug/mL

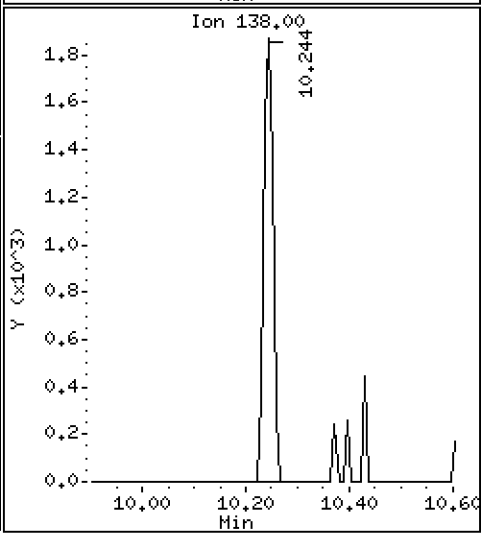


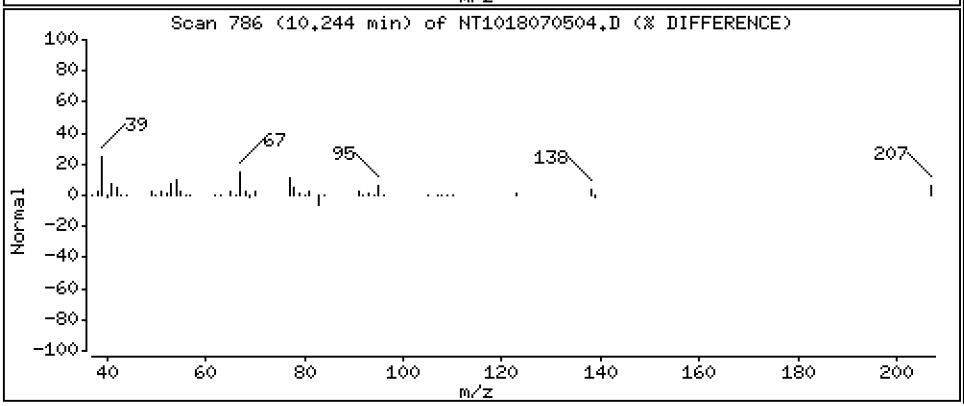












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

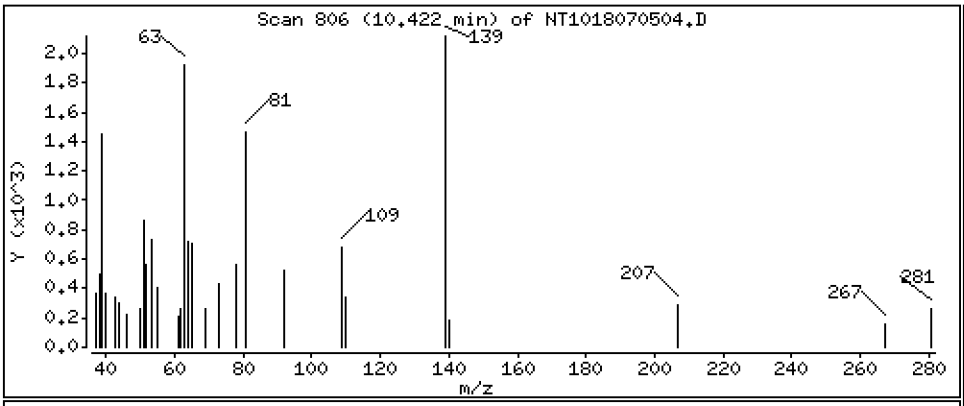
Operator: YZ

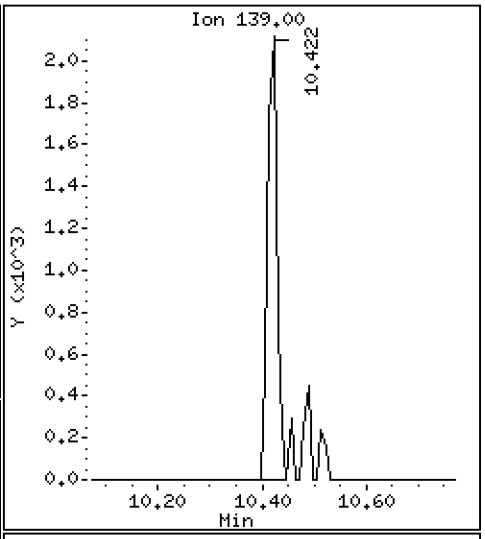
Column phase: ZB-5msi

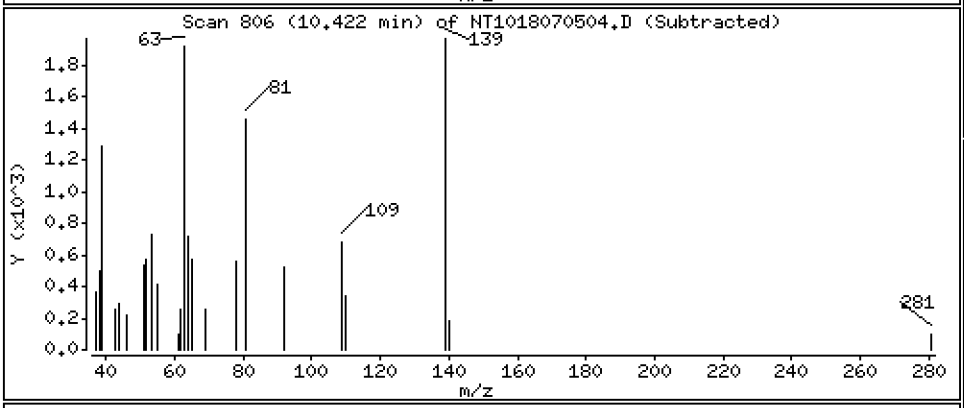
Column diameter: 0.25

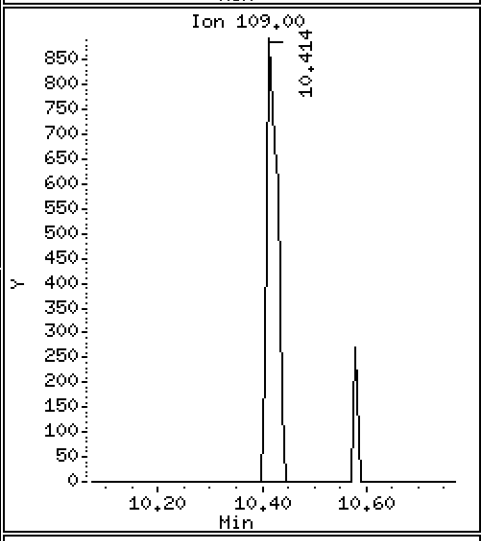
21 2-Nitrophenol

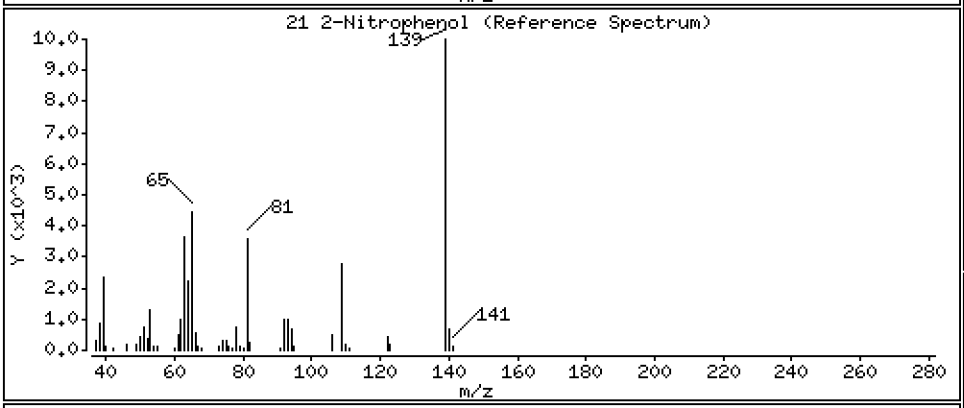
Concentration: 0.1570 ug/mL

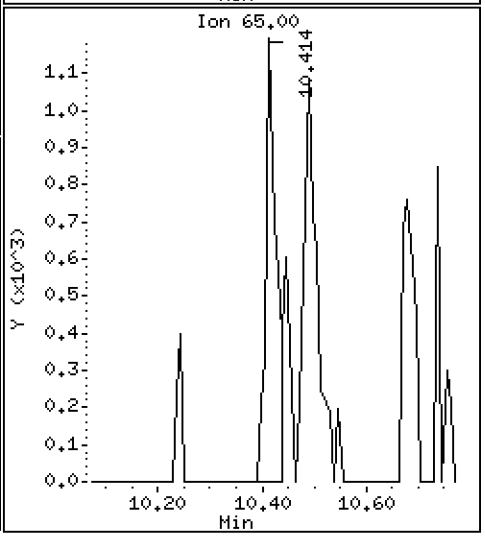


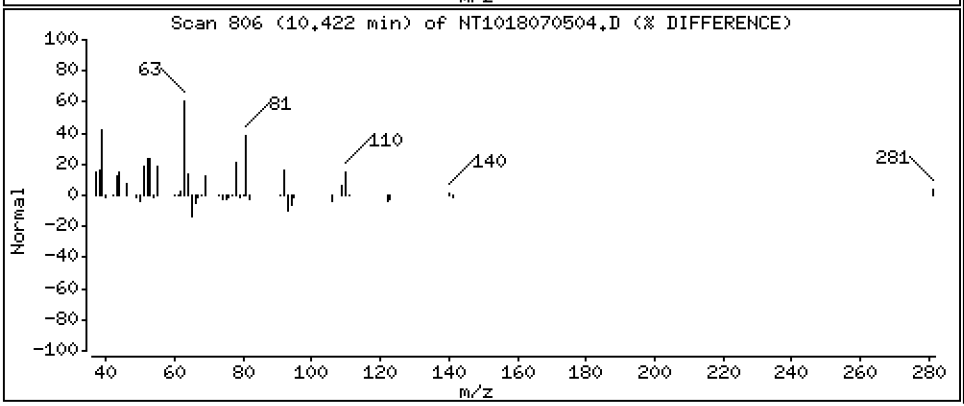












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

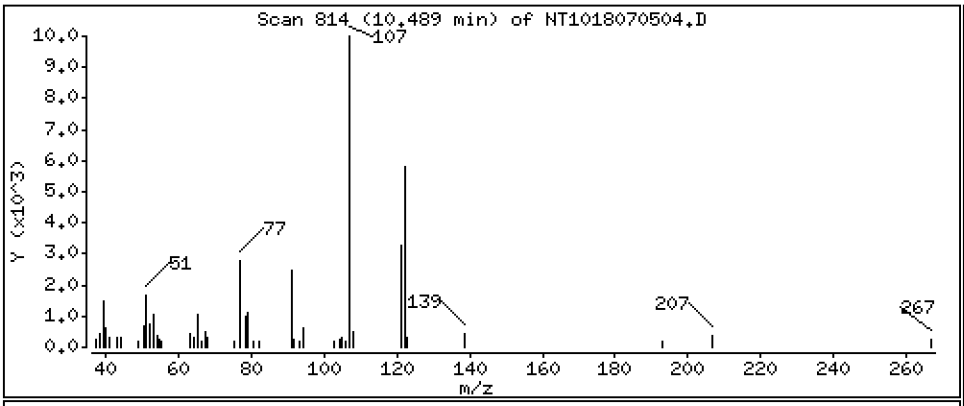
Operator: YZ

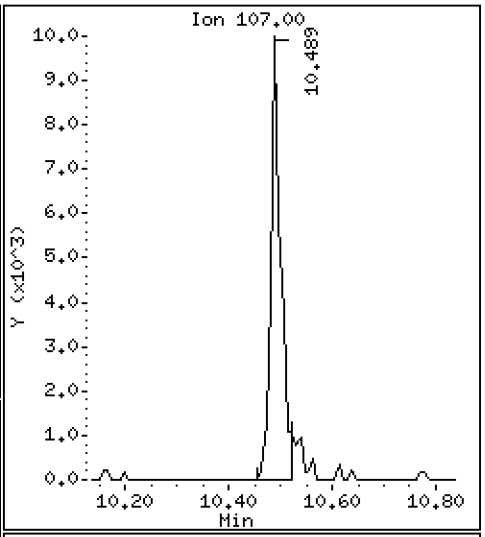
Column phase: ZB-5msi

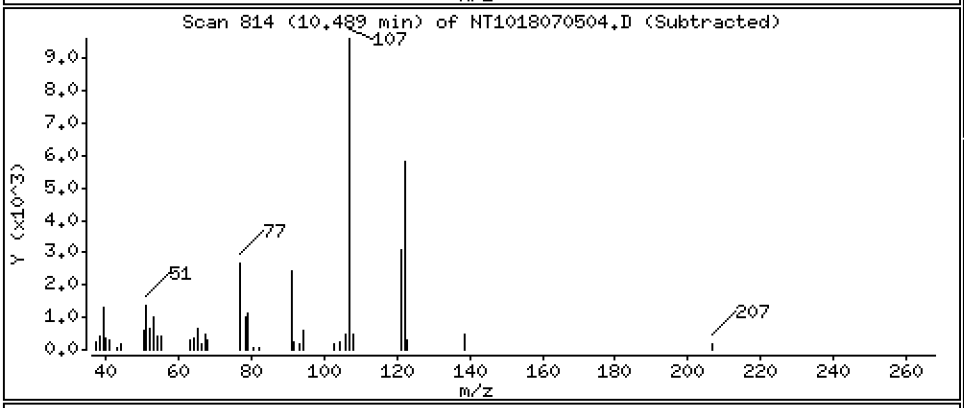
Column diameter: 0.25

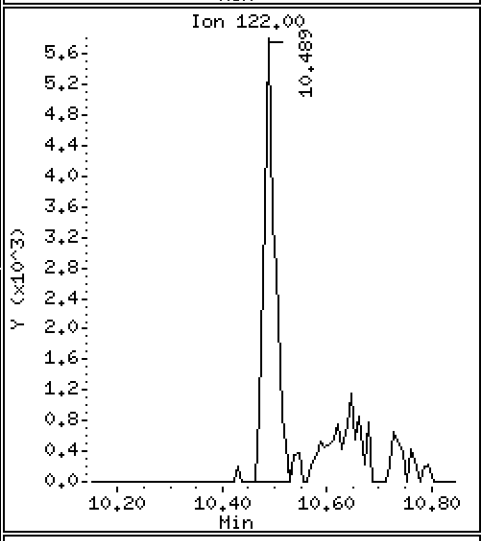
22 2,4-Dimethylphenol

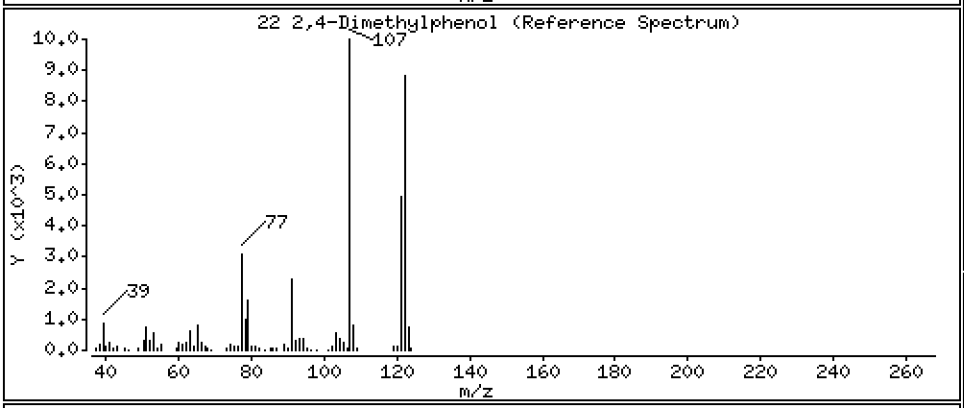
Concentration: 0.4546 ug/mL

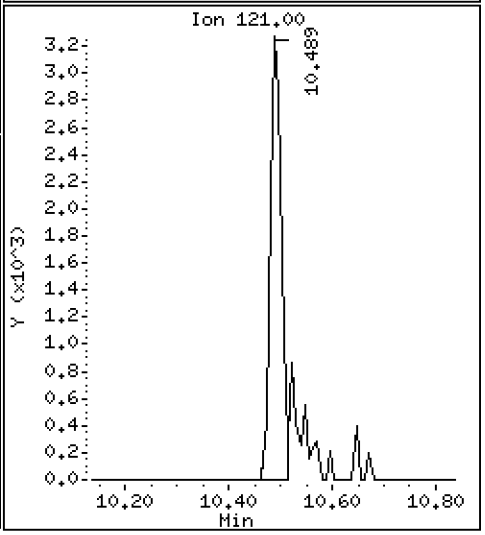


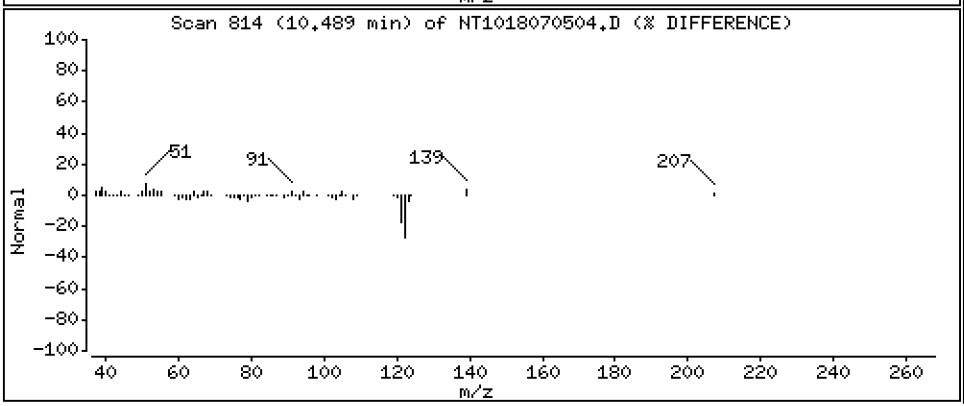












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

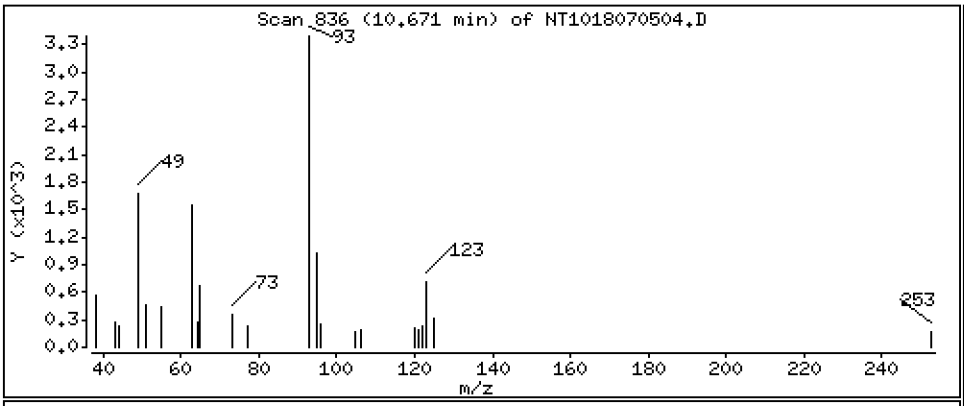
Operator: YZ

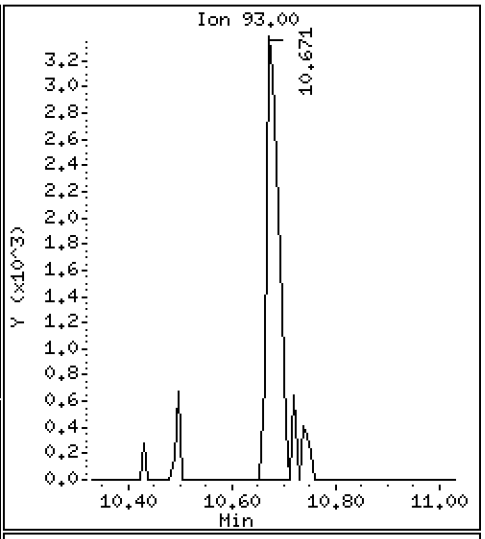
Column phase: ZB-5msi

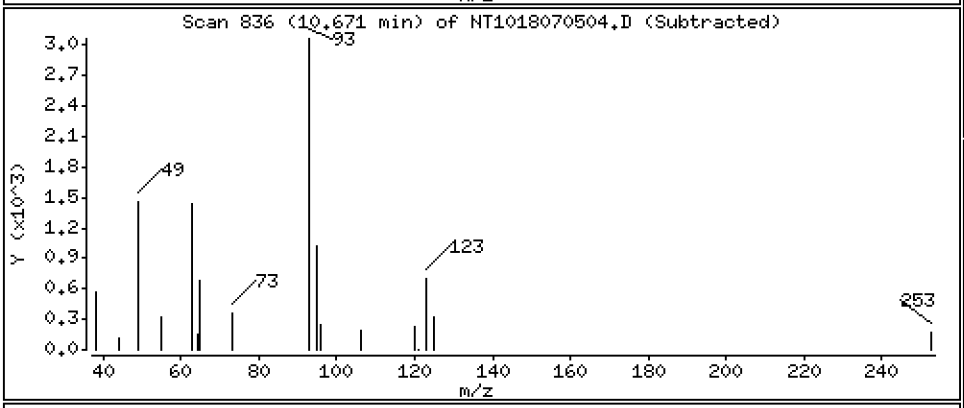
Column diameter: 0.25

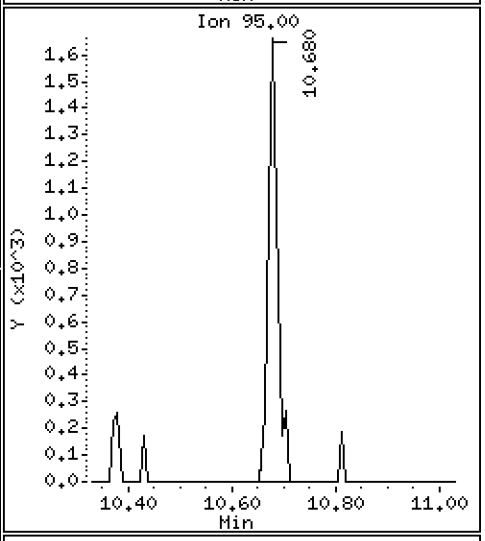
23 Bis(2-Chloroethoxy)methane

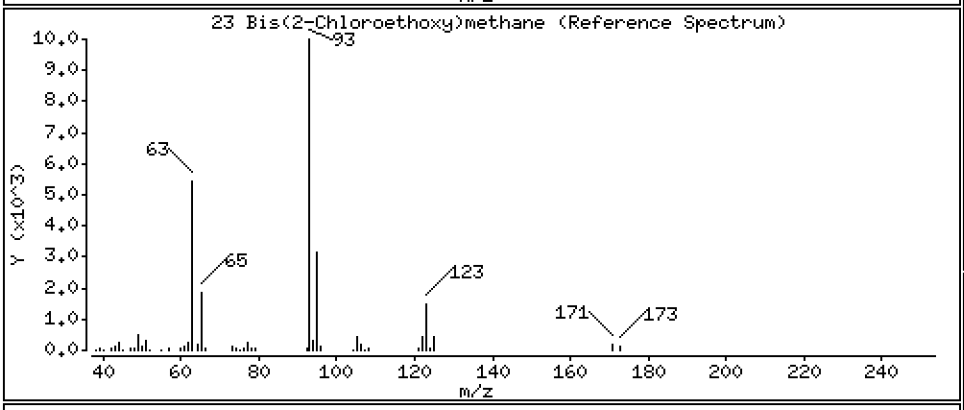
Concentration: 0.1717 ug/mL

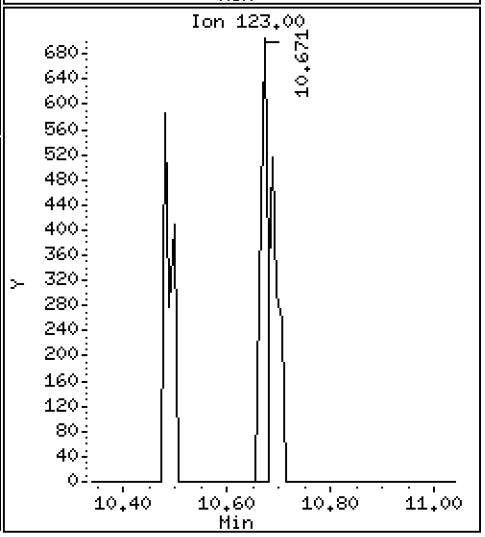


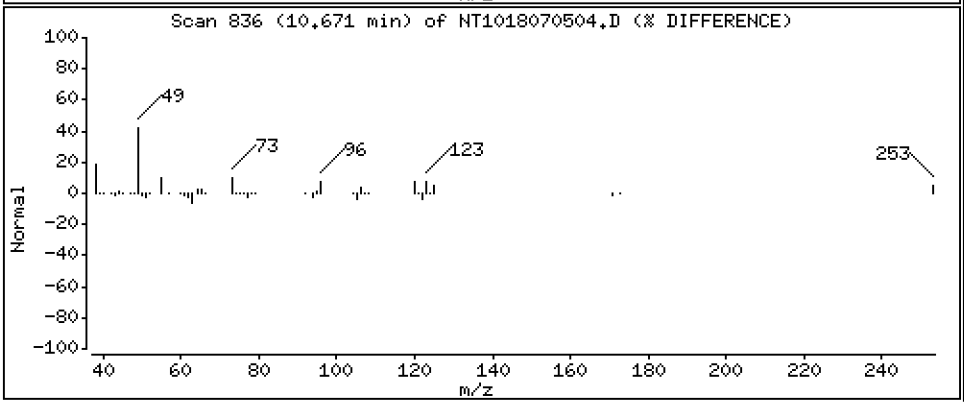












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

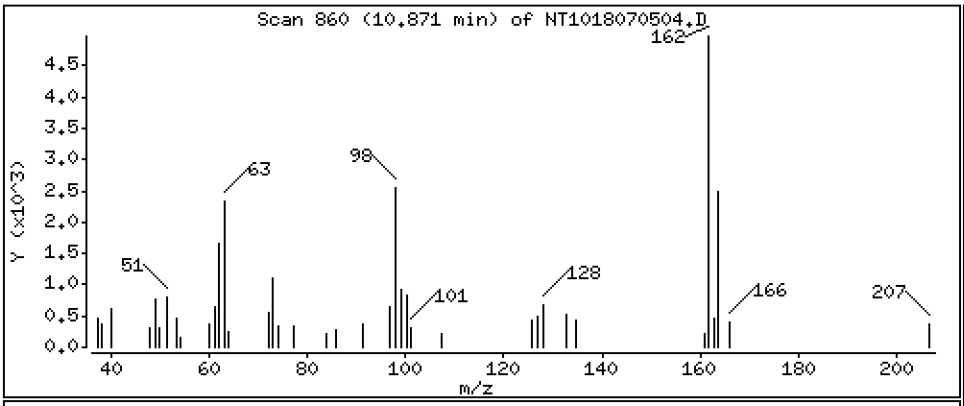
Operator: YZ

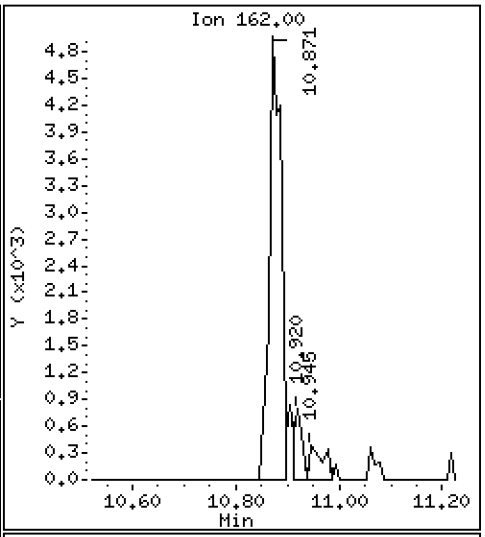
Column phase: ZB-5msi

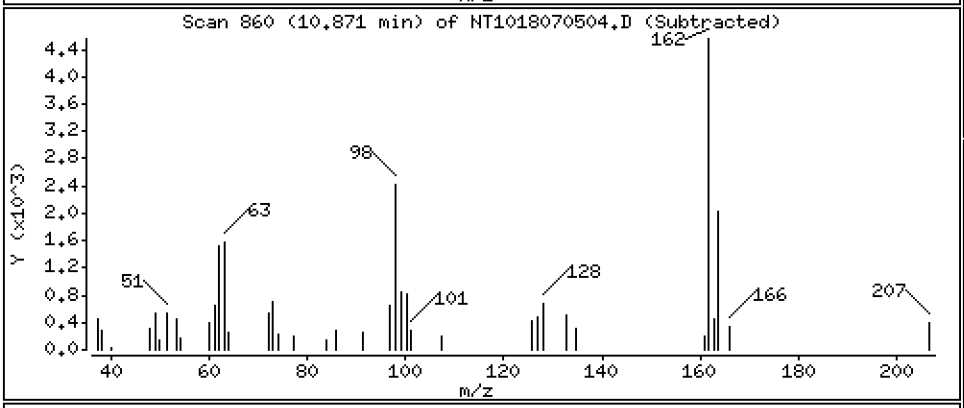
Column diameter: 0.25

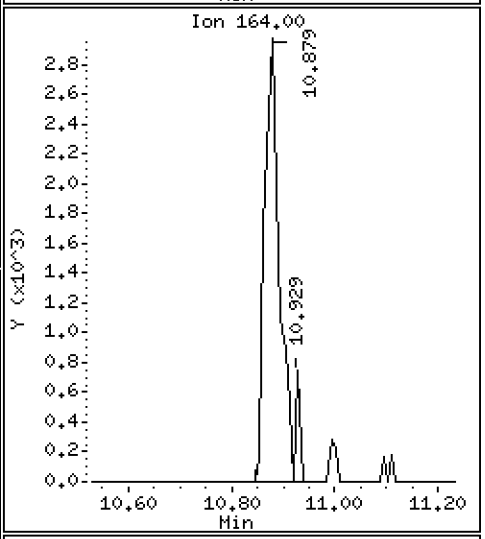
25 2,4-Dichlorophenol

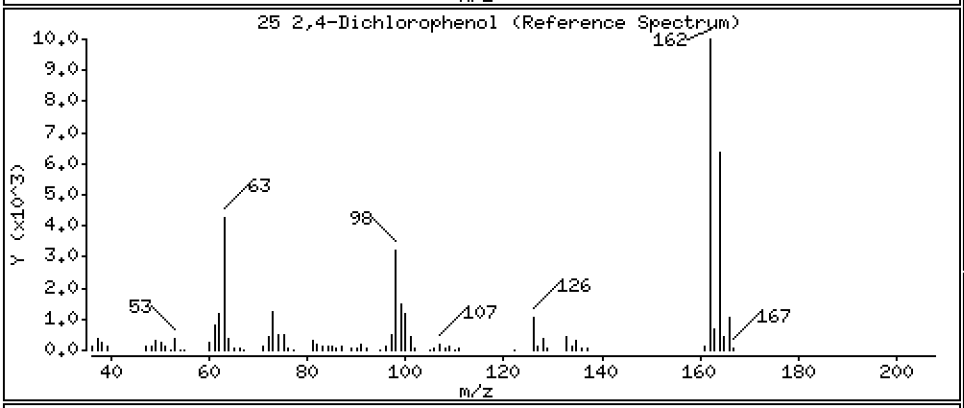
Concentration: 0.3323 ug/mL

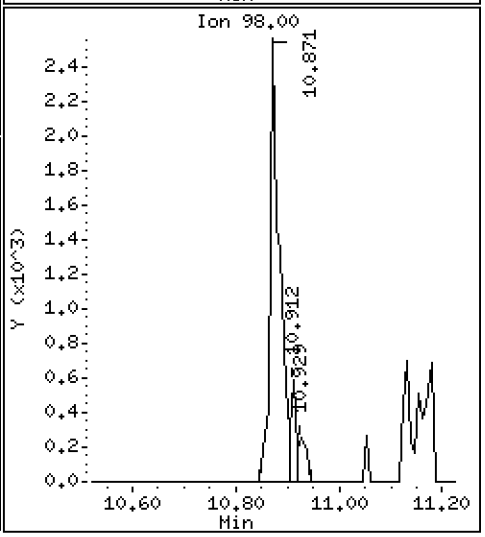


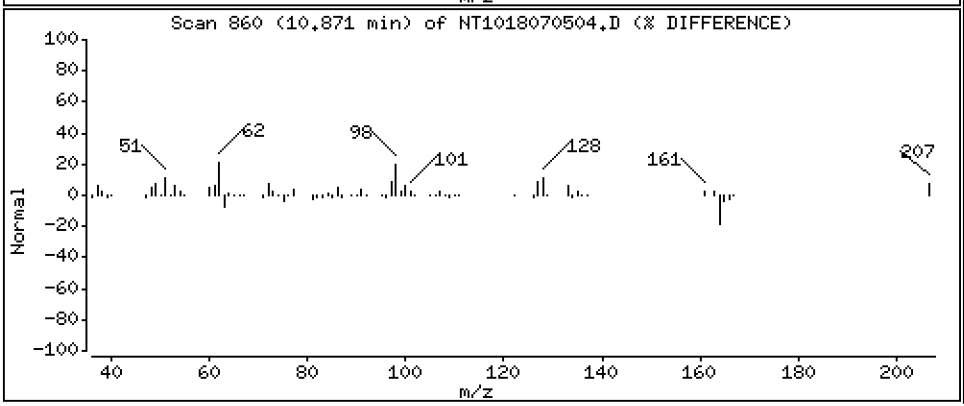












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

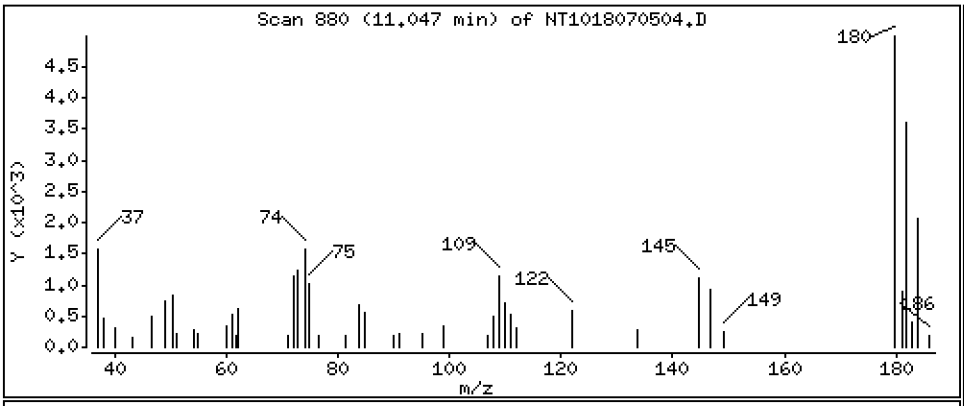
Operator: YZ

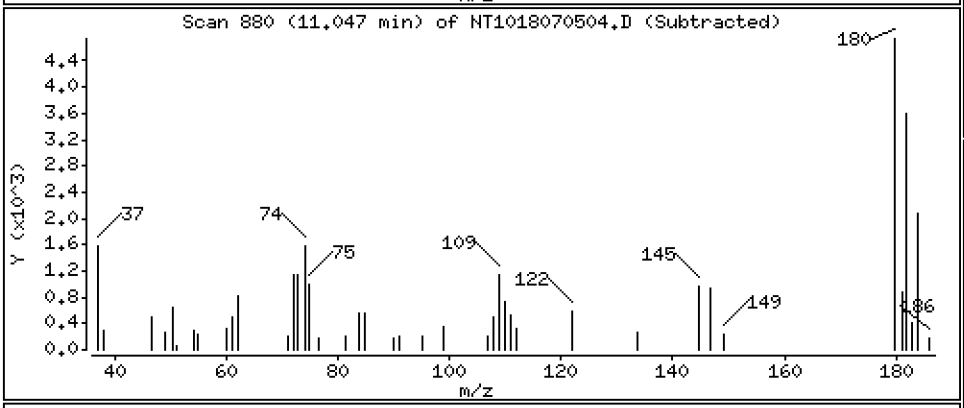
Column phase: ZB-5msi

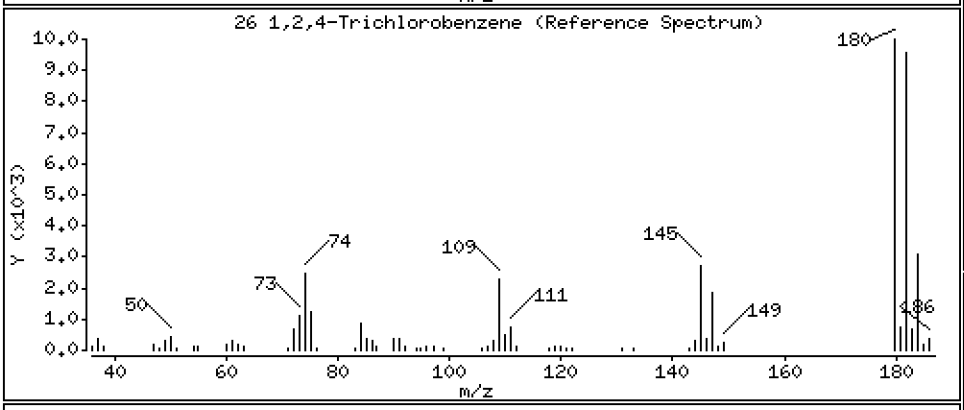
Column diameter: 0.25

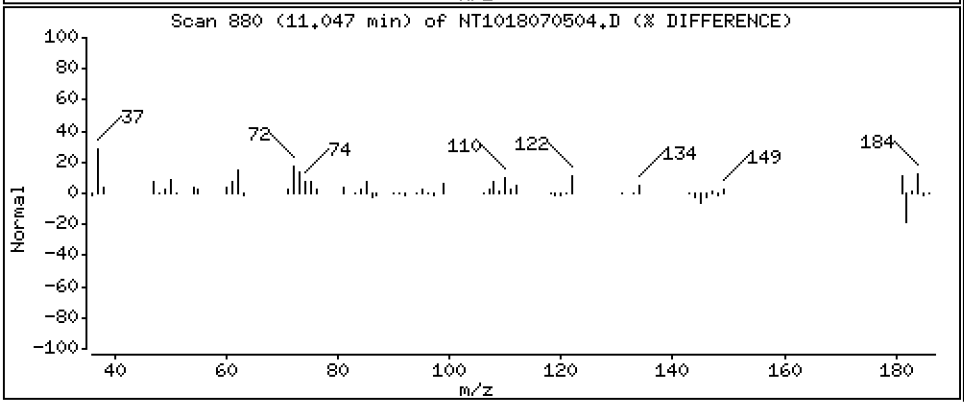
26 1,2,4-Trichlorobenzene

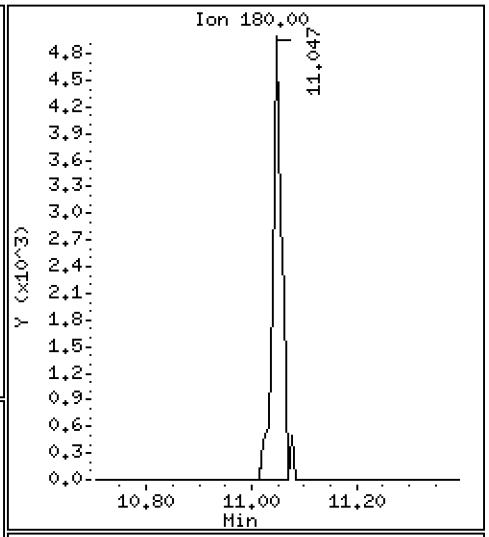
Concentration: 0.2351 ug/mL

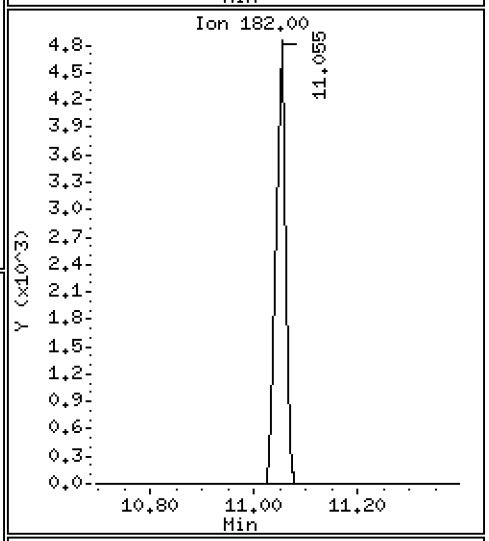


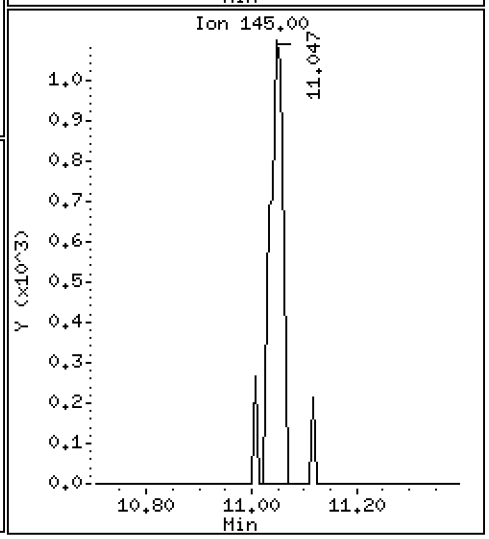












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

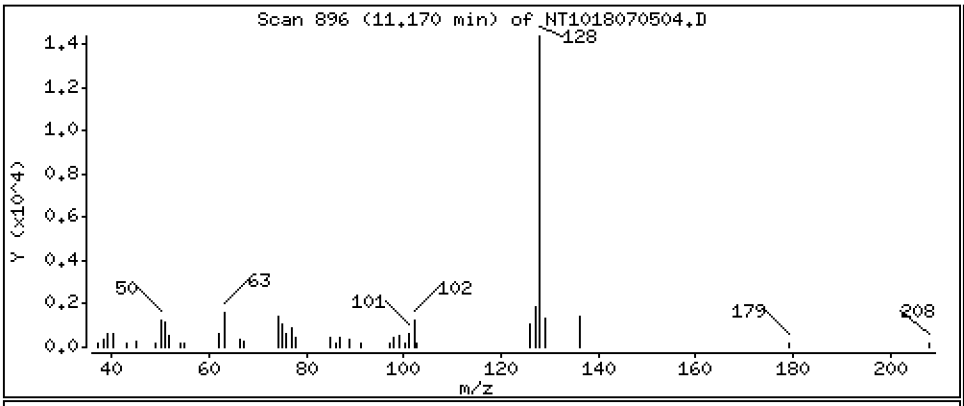
Operator: YZ

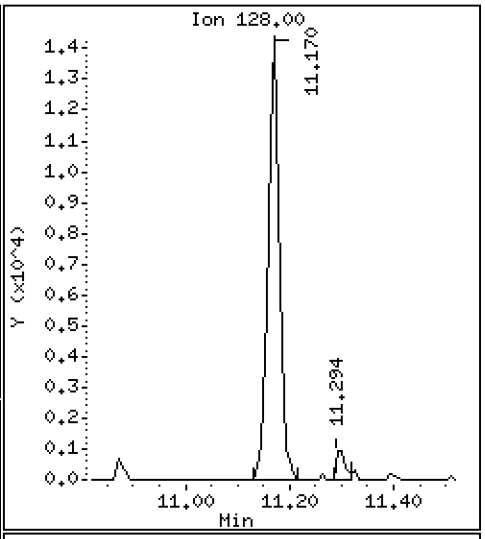
Column phase: ZB-5msi

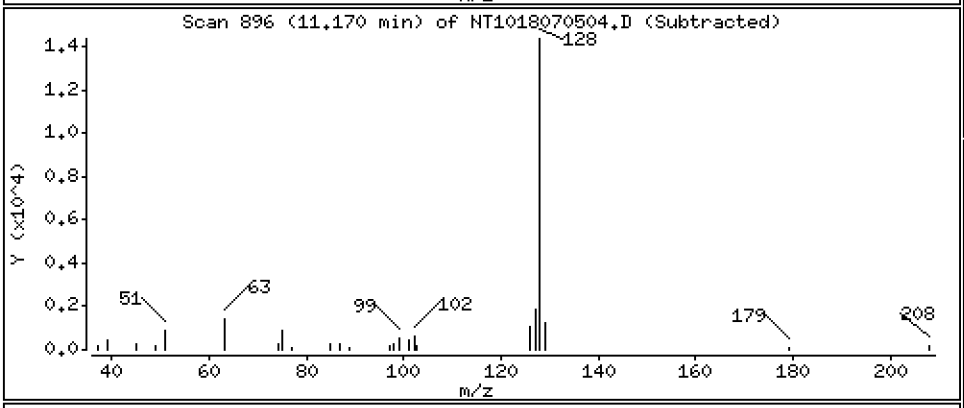
Column diameter: 0.25

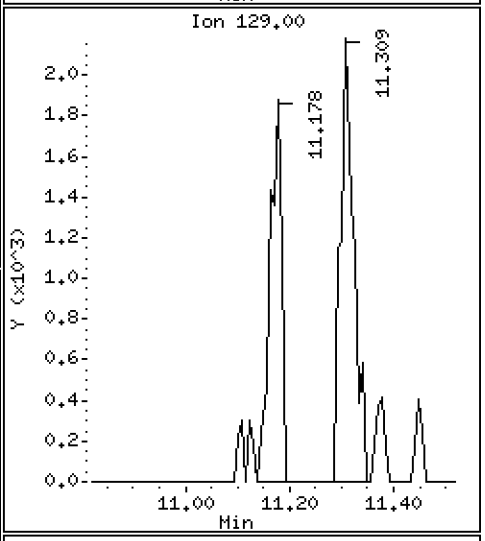
28 Naphthalene

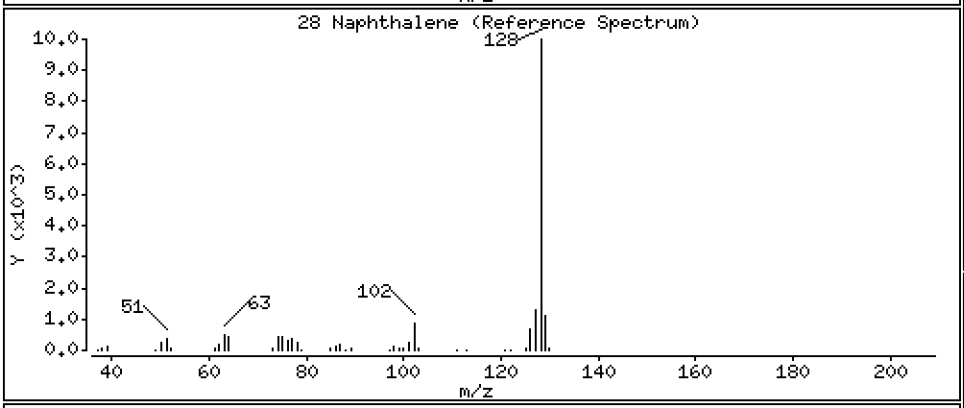
Concentration: 0.2750 ug/mL

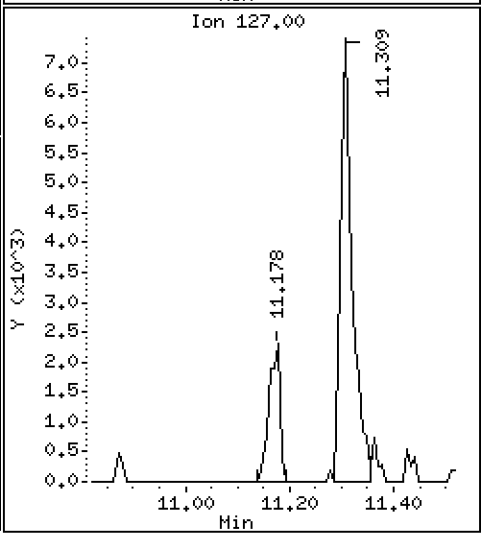


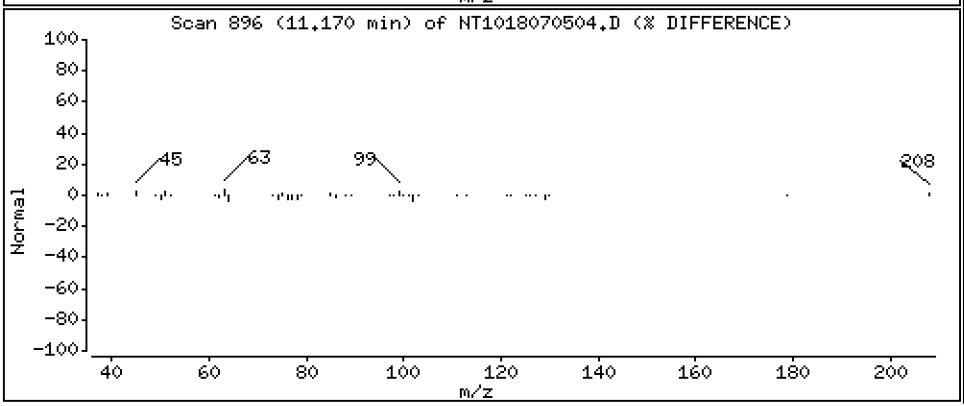












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

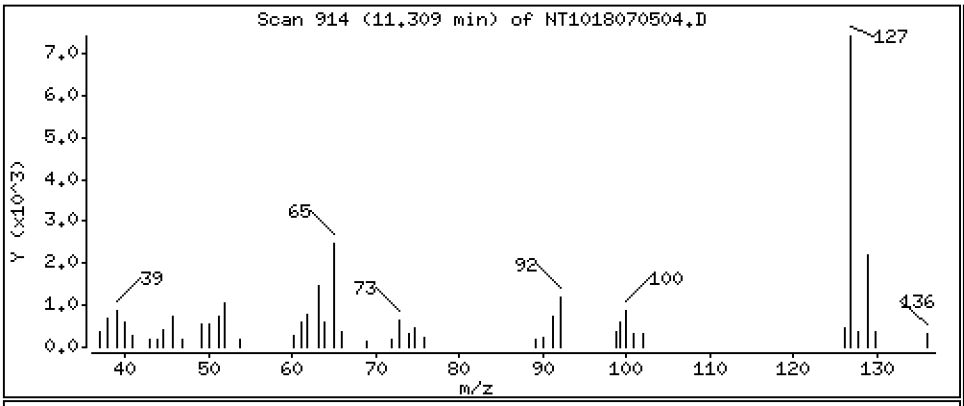
Operator: YZ

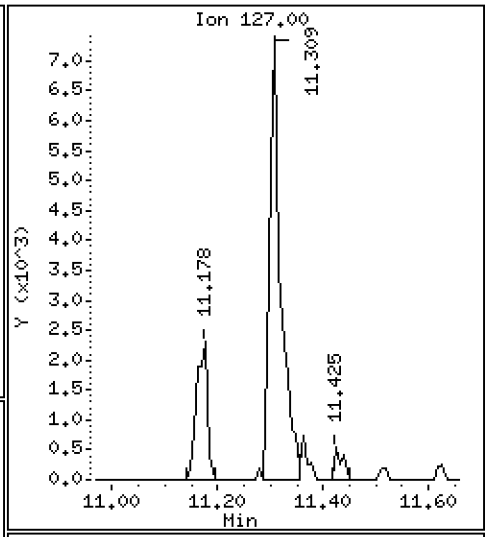
Column phase: ZB-5msi

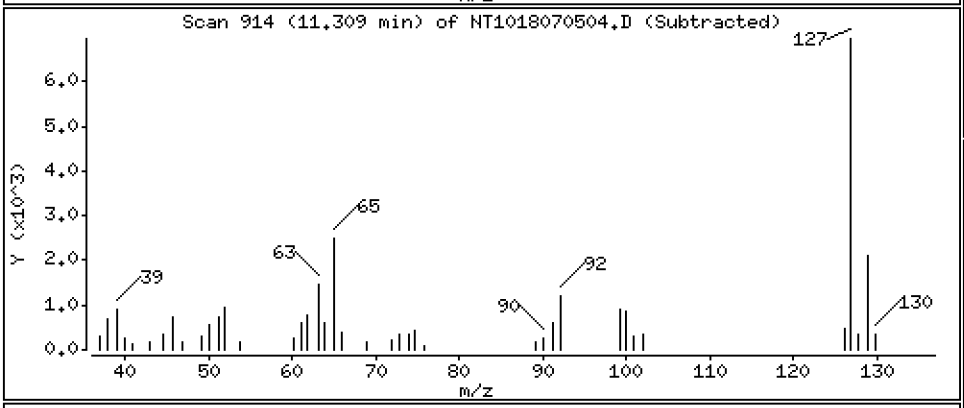
Column diameter: 0.25

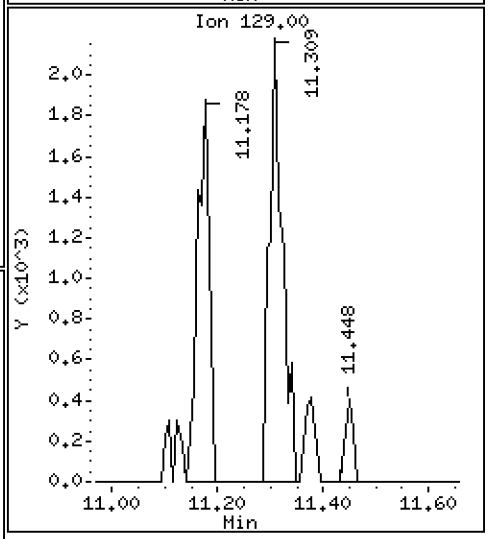
29 4-Chloroaniline

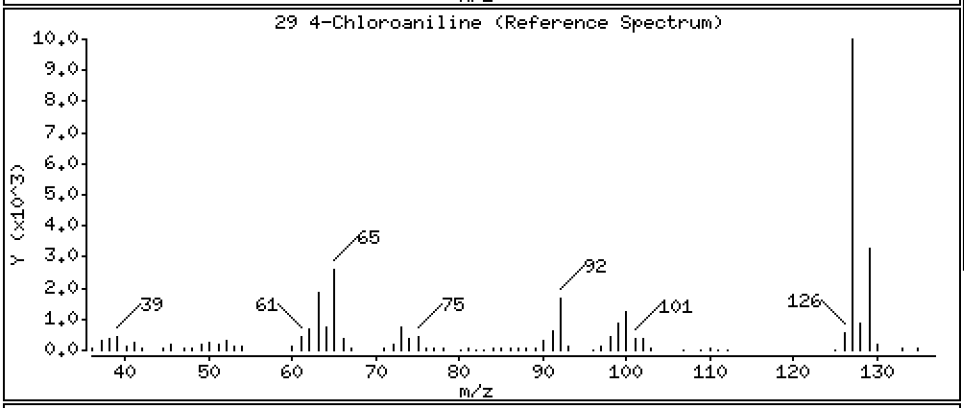
Concentration: 0.3116 ug/mL

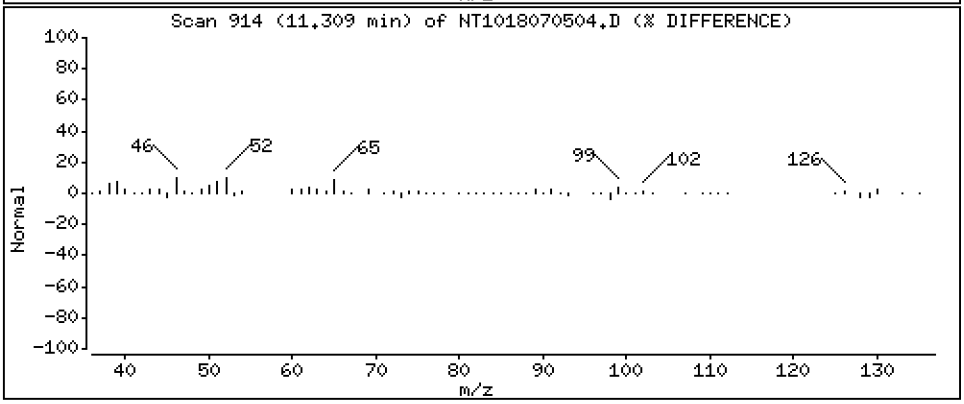












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

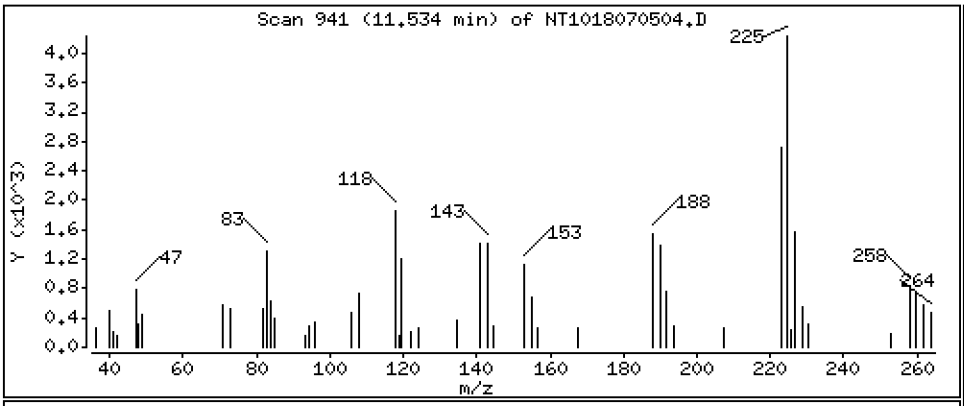
Operator: YZ

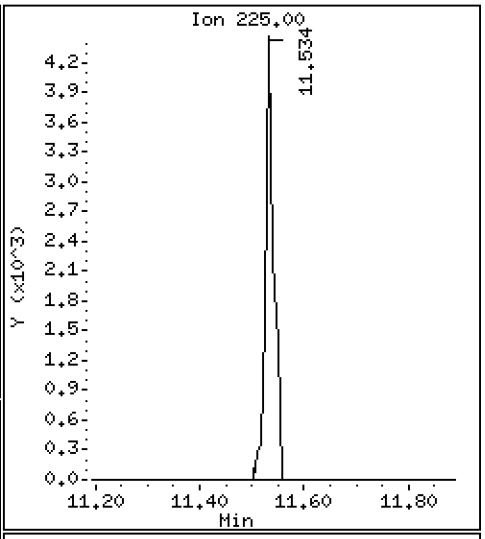
Column phase: ZB-5msi

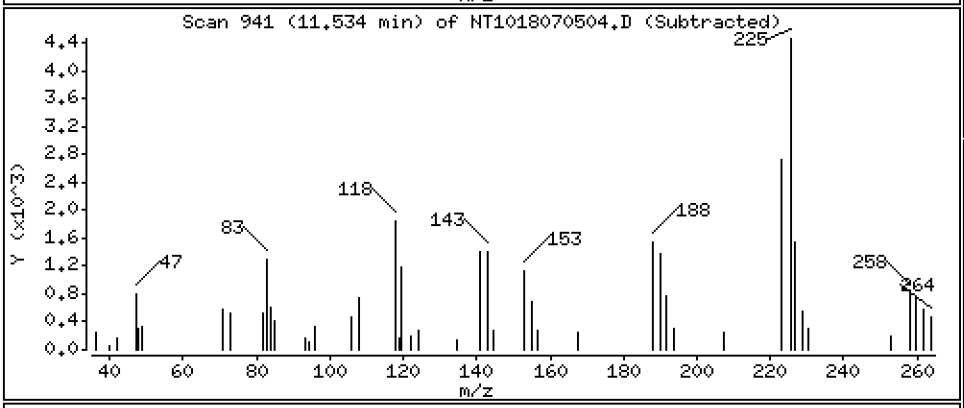
Column diameter: 0.25

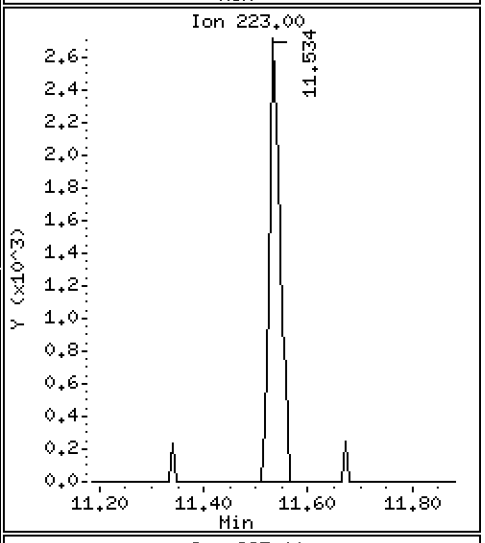
30 Hexachlorobutadiene

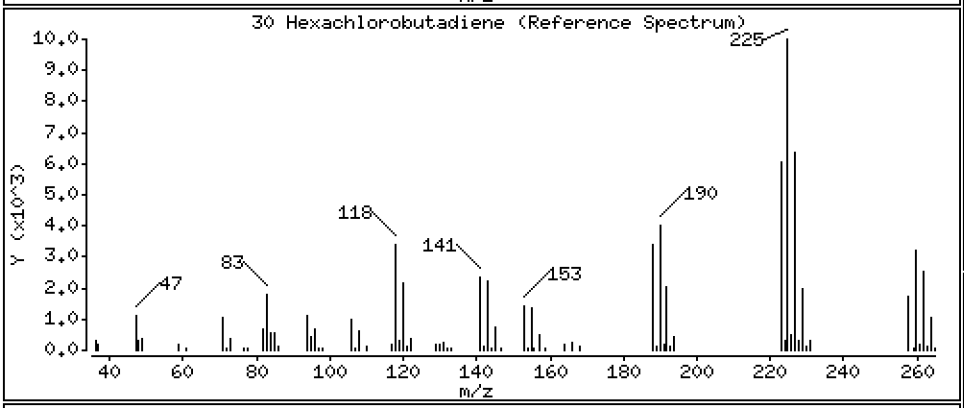
Concentration: 0.2923 ug/mL

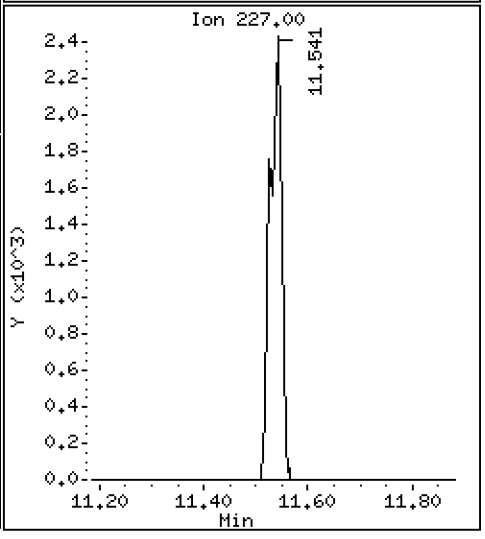


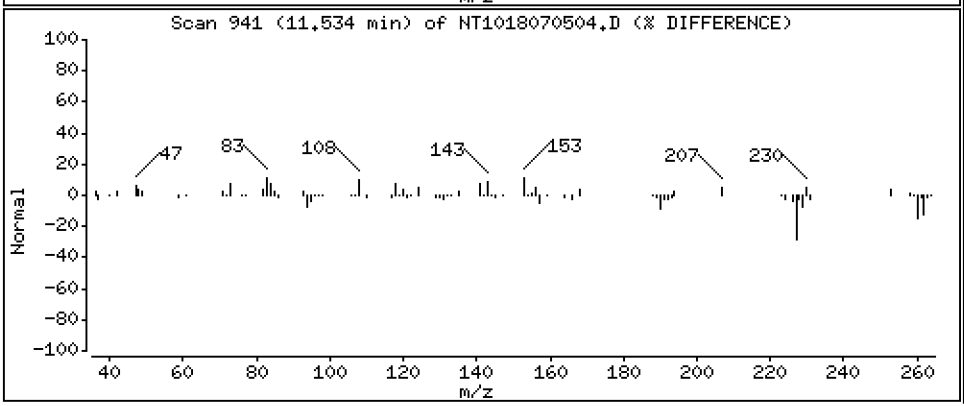












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

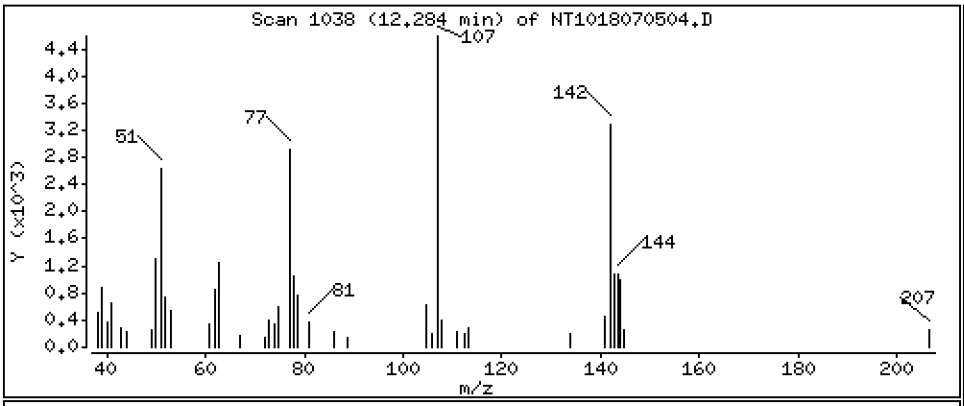
Operator: YZ

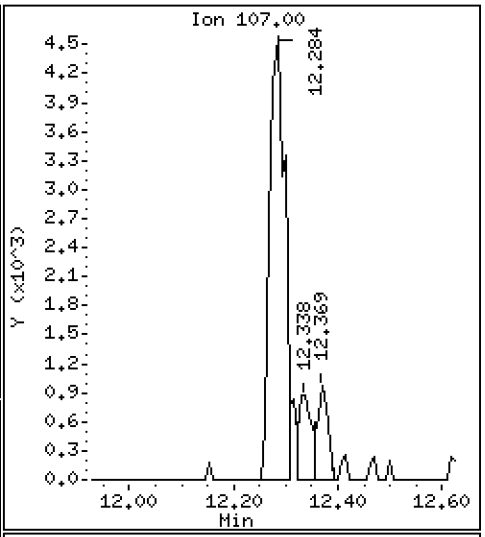
Column phase: ZB-5msi

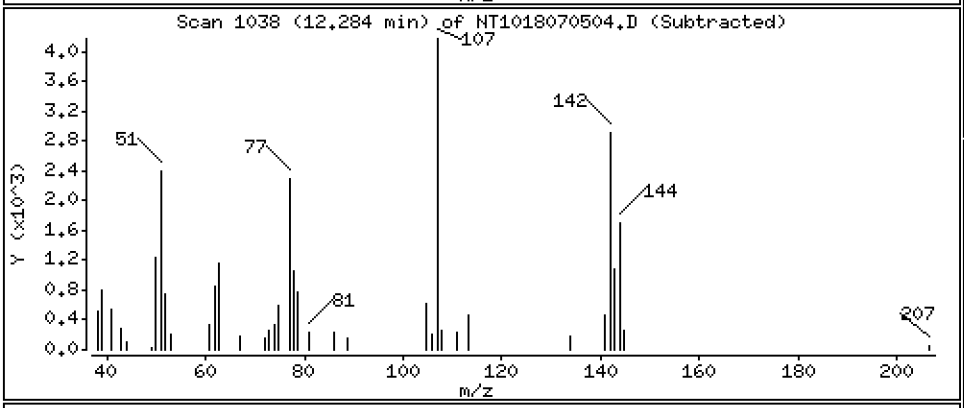
Column diameter: 0.25

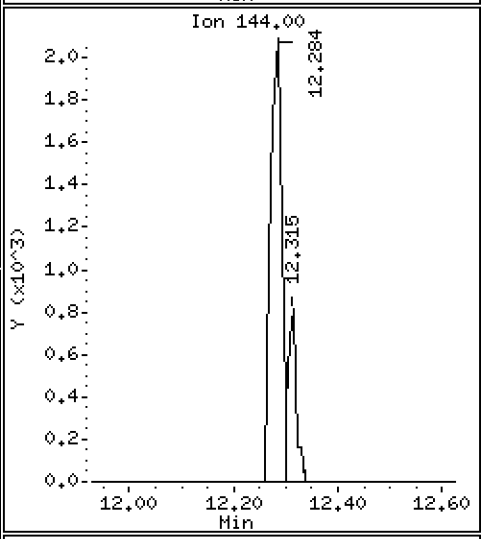
31 4-Chloro-3-methylphenol

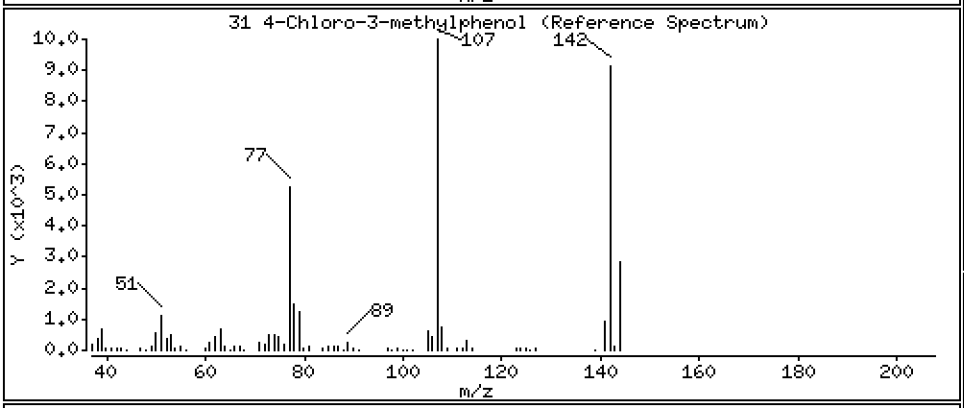
Concentration: 0.3386 ug/mL

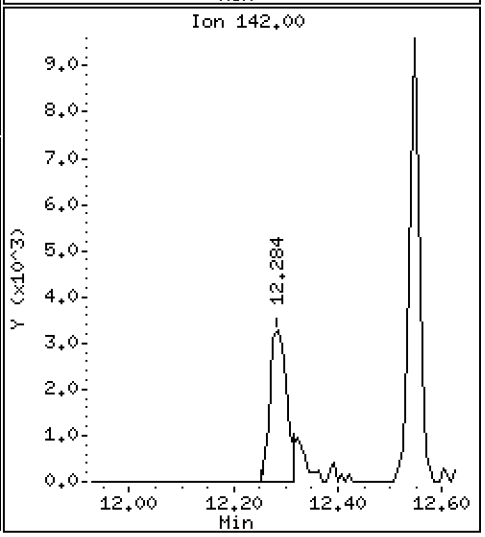


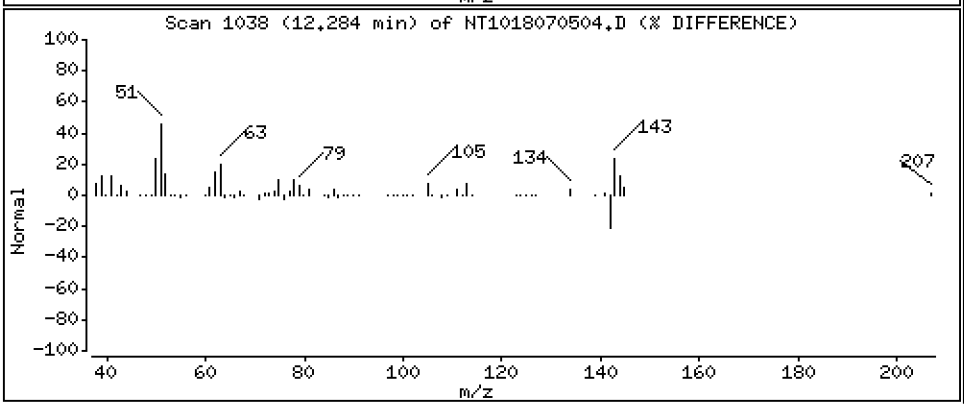












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

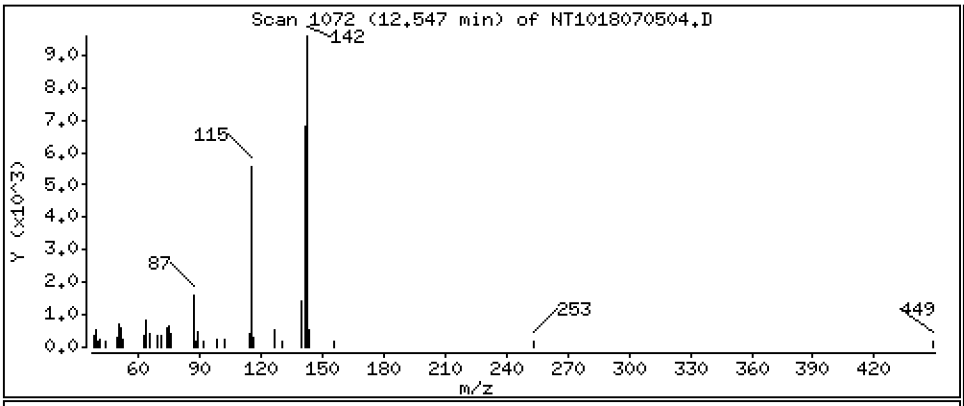
Operator: YZ

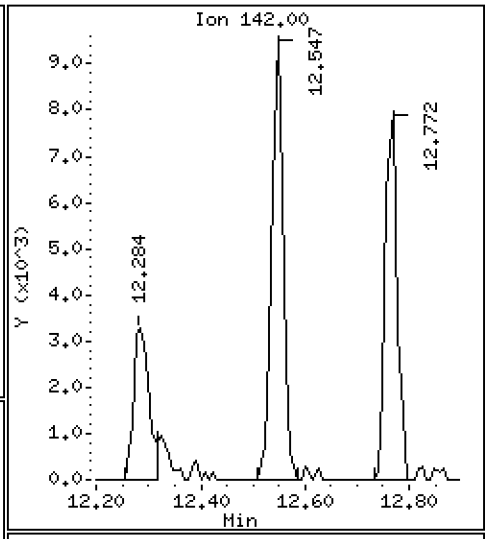
Column phase: ZB-5msi

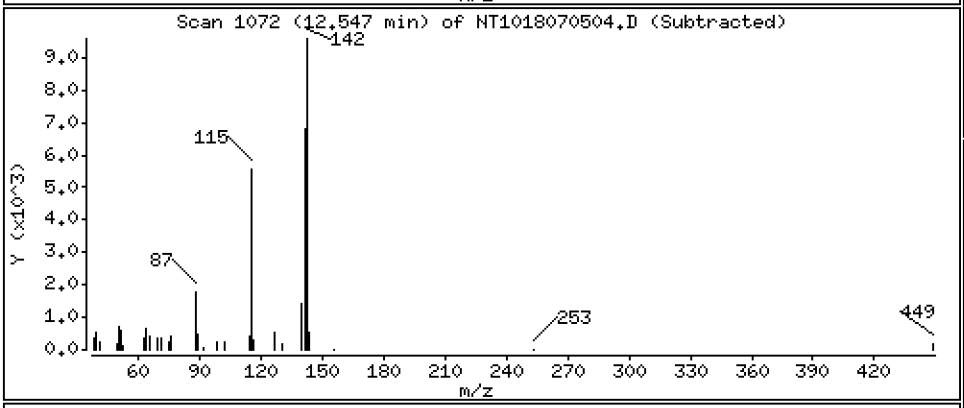
Column diameter: 0.25

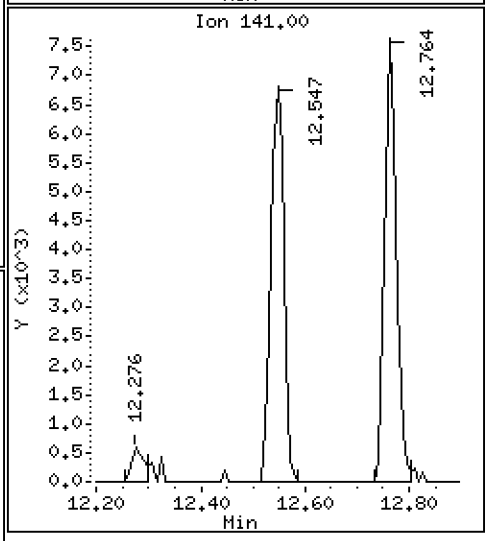
32 2-Methylnaphthalene

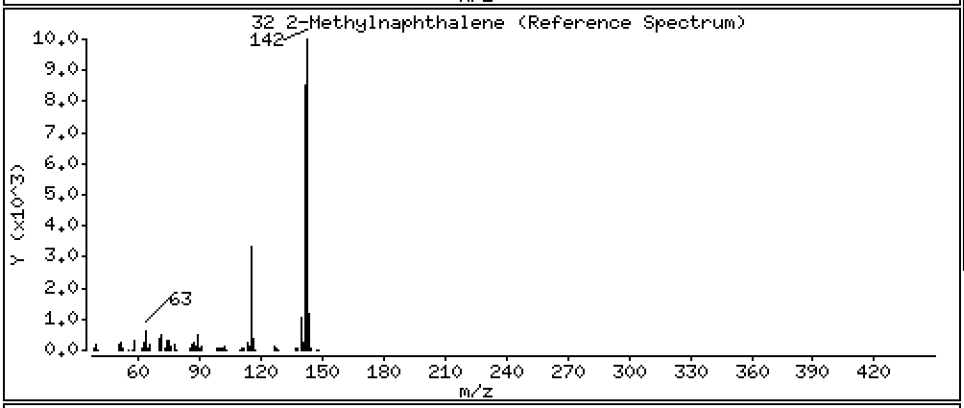
Concentration: 0.2184 ug/mL

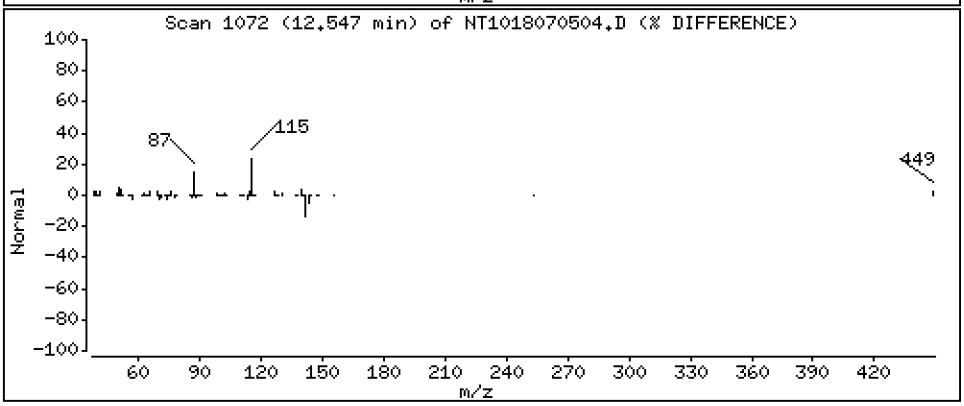












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

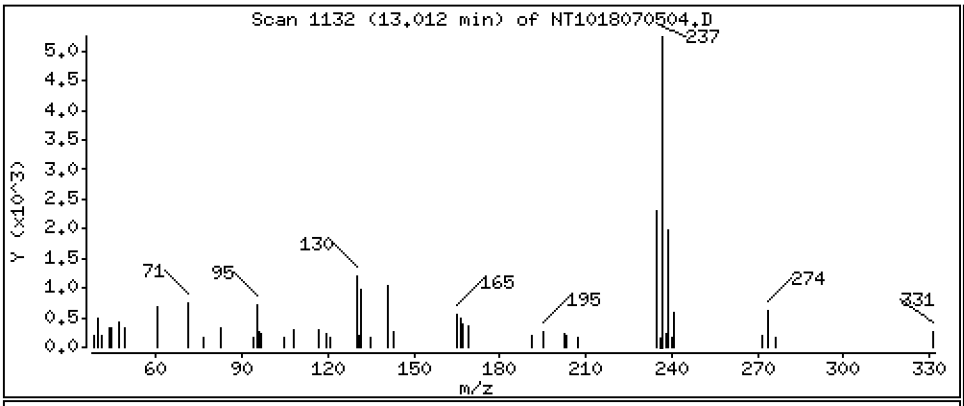
Operator: YZ

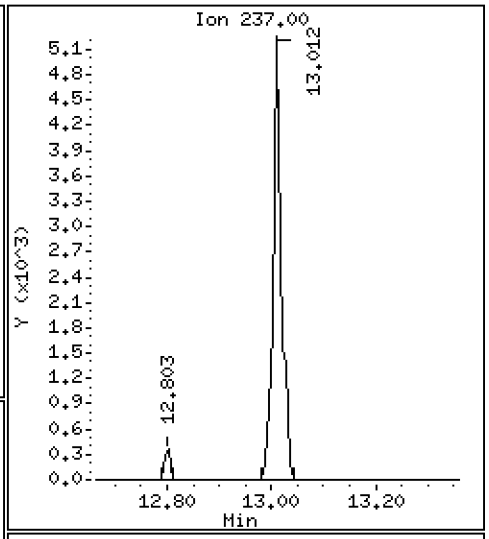
Column phase: ZB-5msi

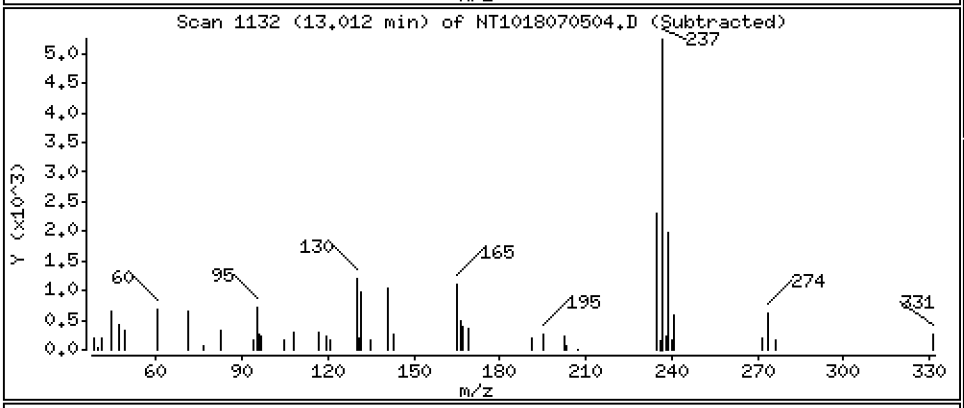
Column diameter: 0.25

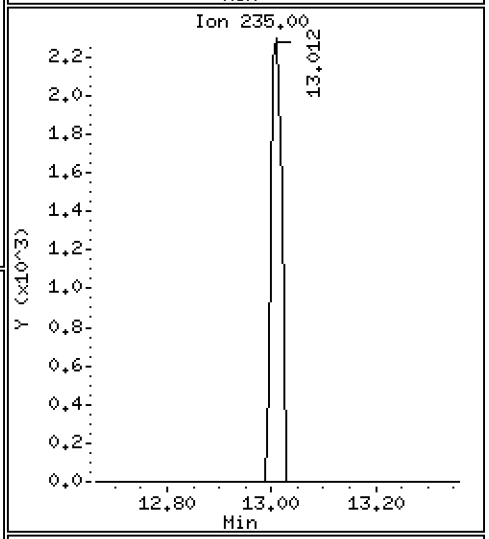
33 Hexachlorocyclopentadiene

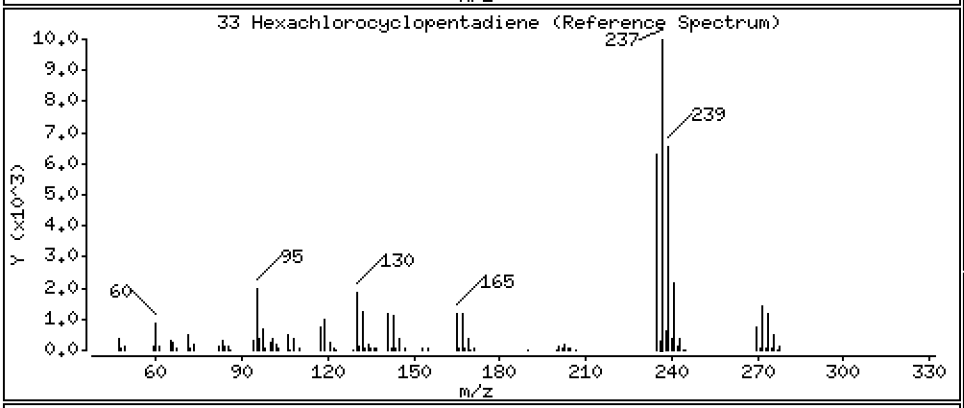
Concentration: 0.2836 ug/mL

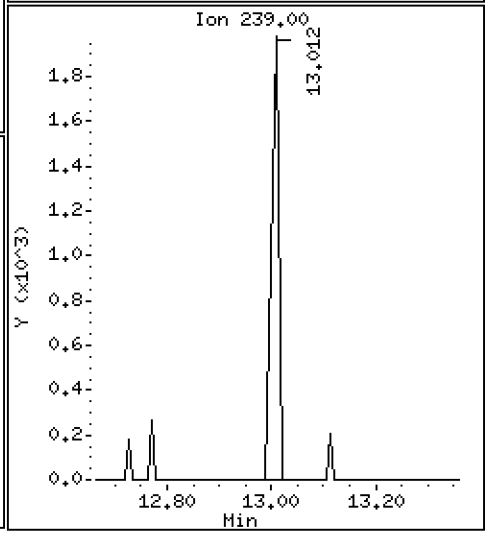


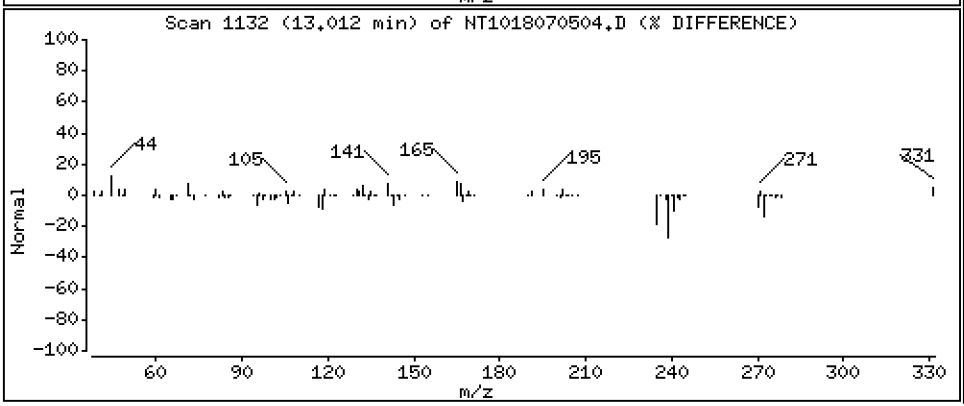












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

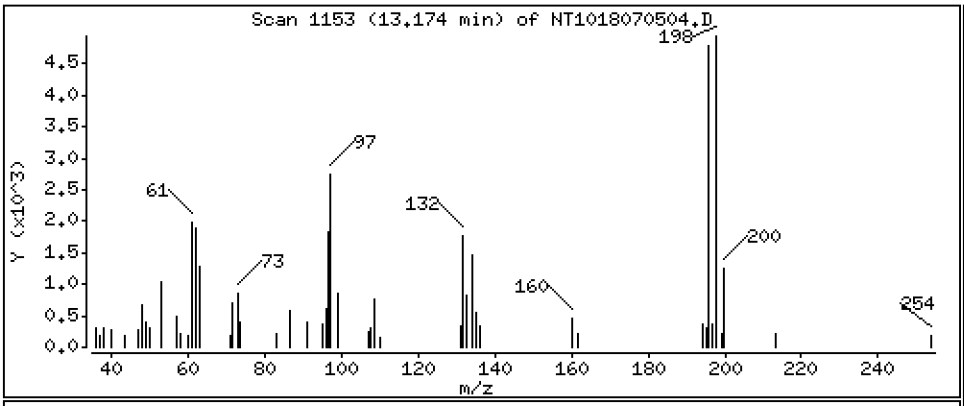
Operator: YZ

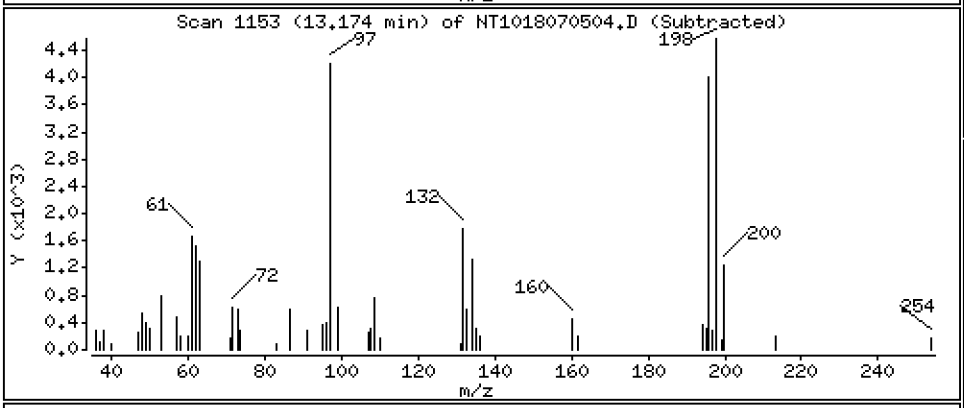
Column phase: ZB-5msi

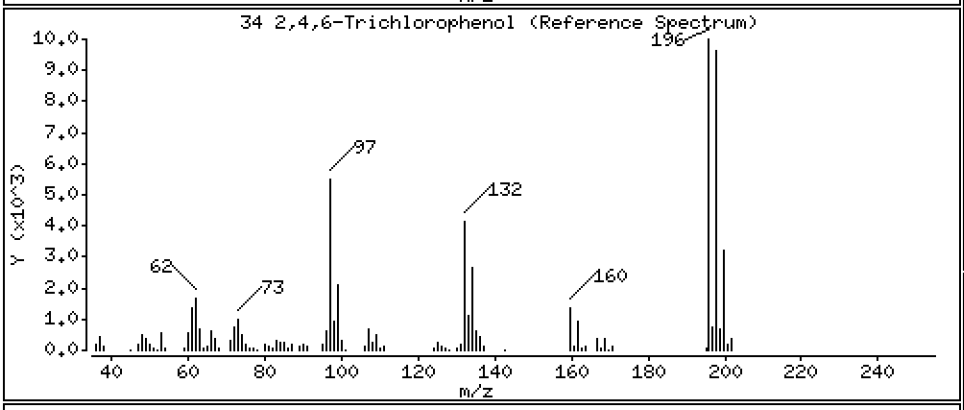
Column diameter: 0.25

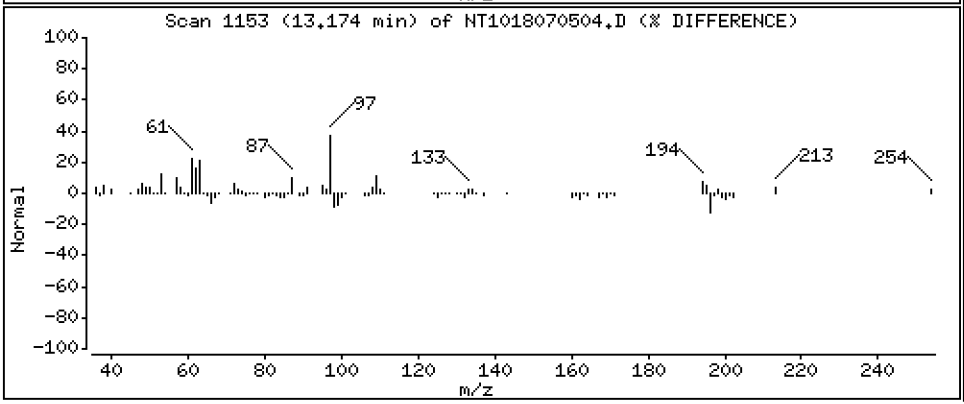
34 2,4,6-Trichlorophenol

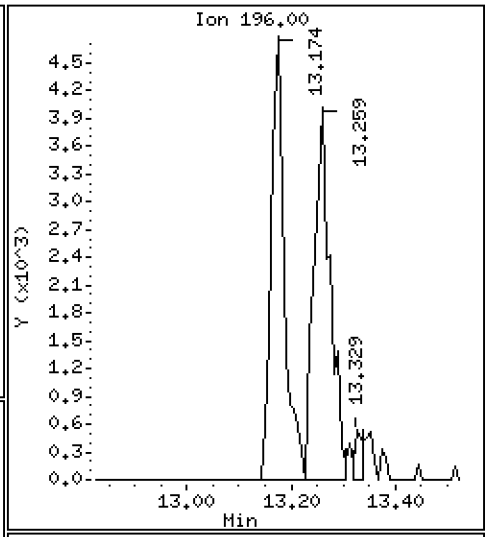
Concentration: 0.3990 ug/mL

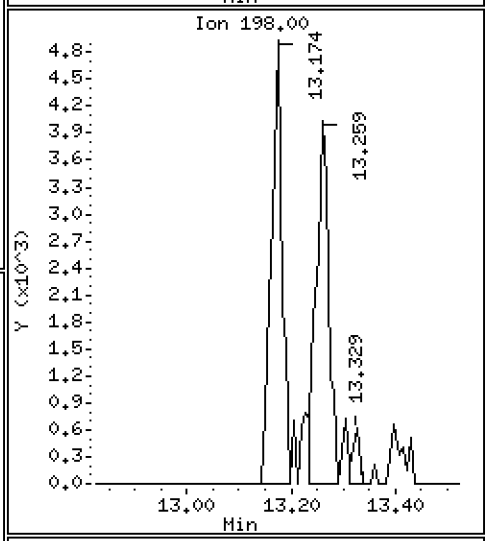


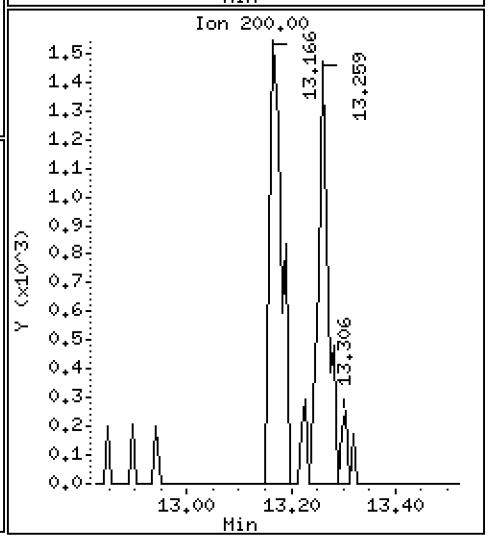












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

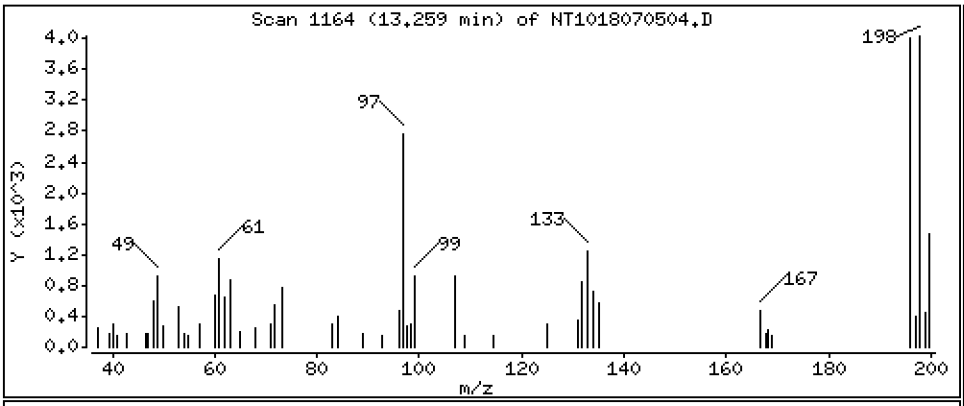
Operator: YZ

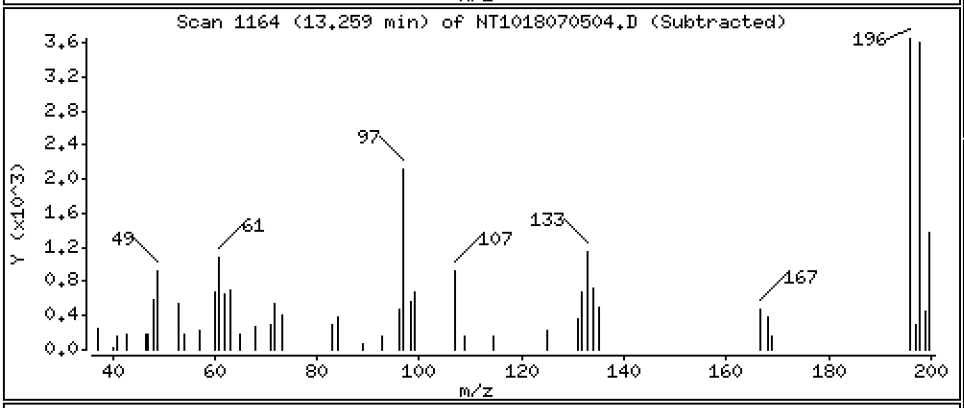
Column phase: ZB-5msi

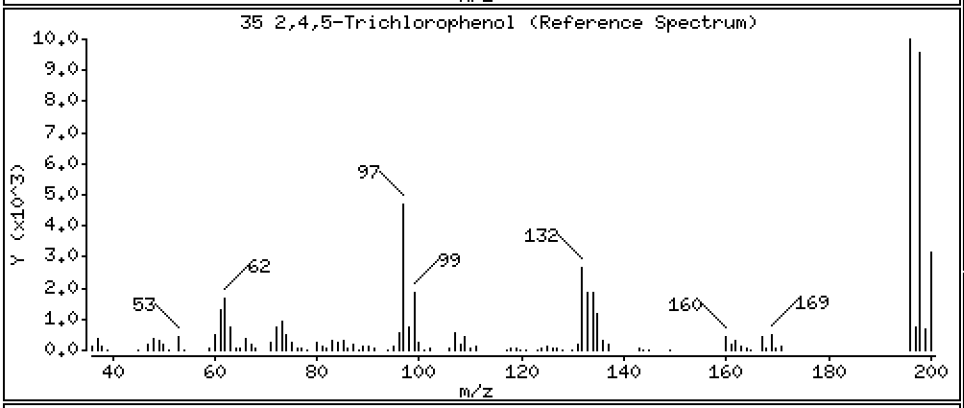
Column diameter: 0.25

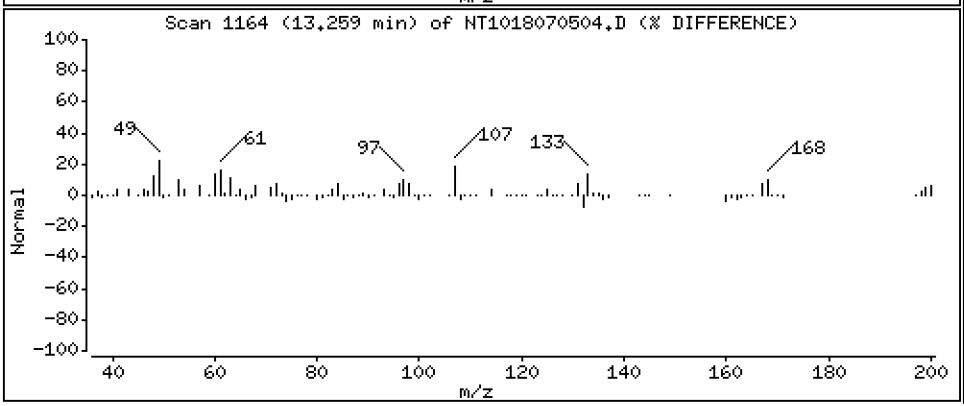
35 2,4,5-Trichlorophenol

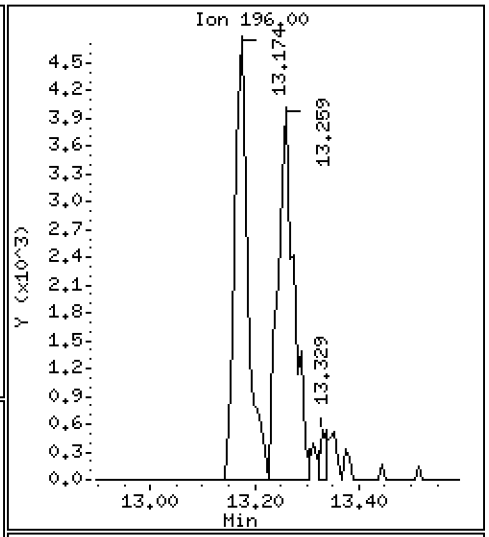
Concentration: 0.3864 ug/mL

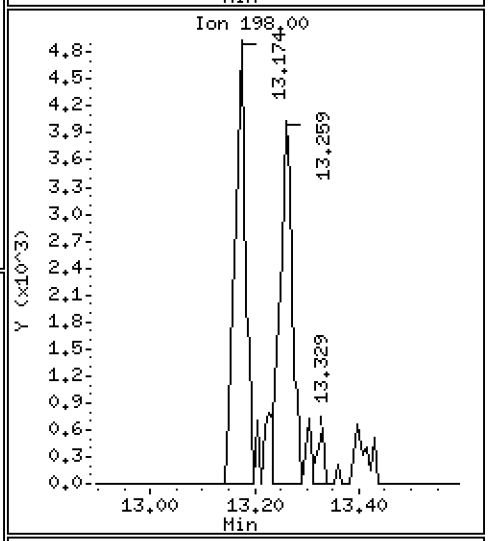


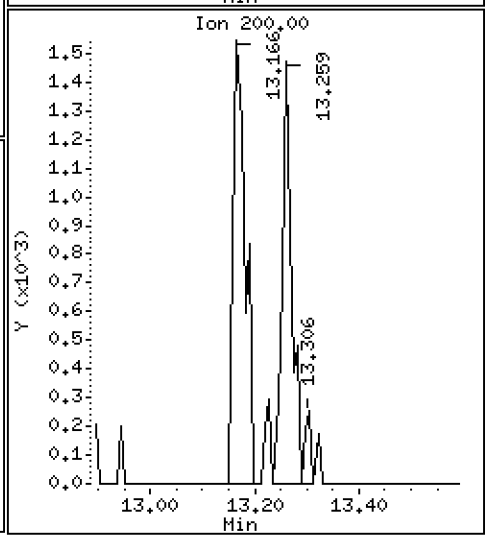












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

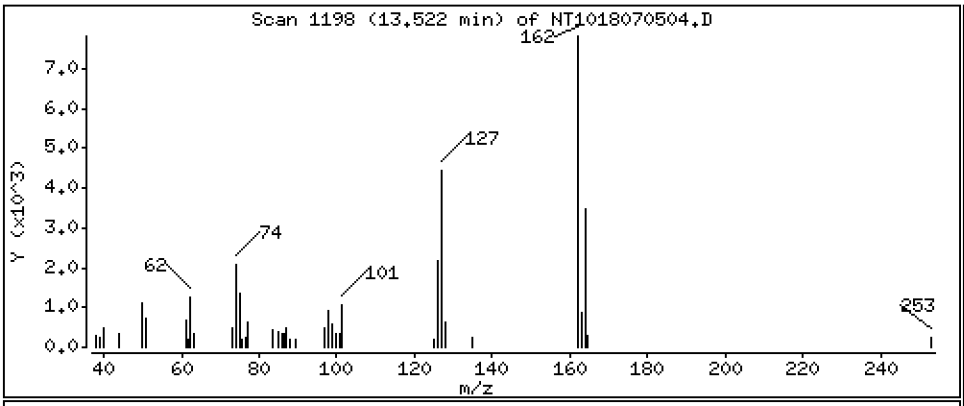
Operator: YZ

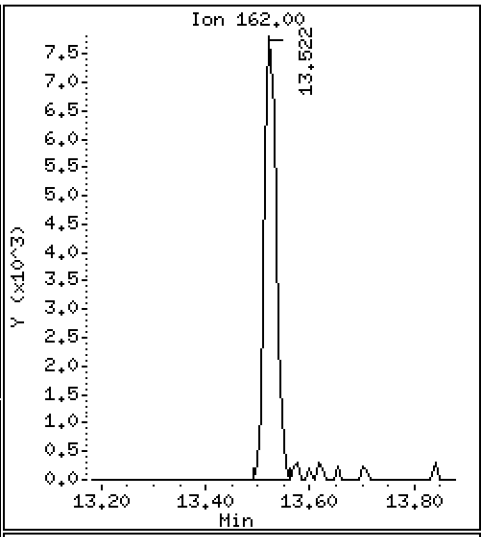
Column phase: ZB-5msi

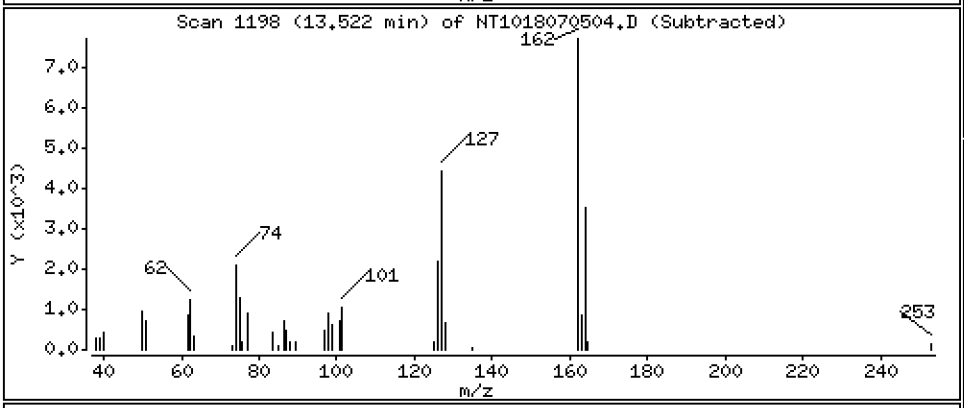
Column diameter: 0.25

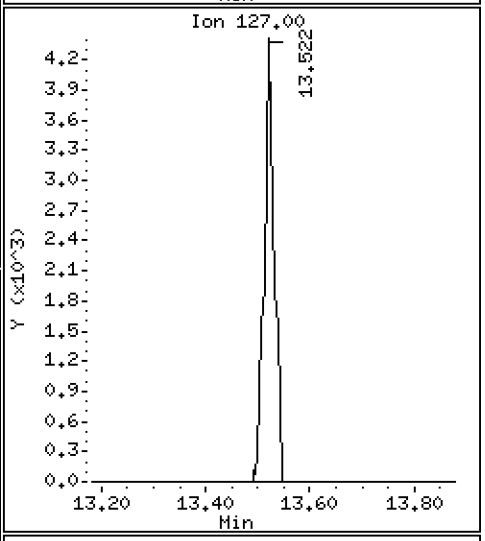
37 2-Chloronaphthalene

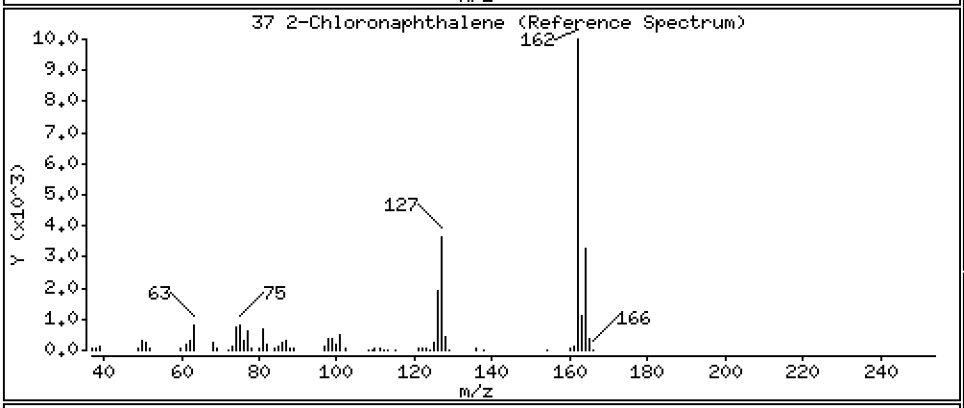
Concentration: 0.1954 ug/mL

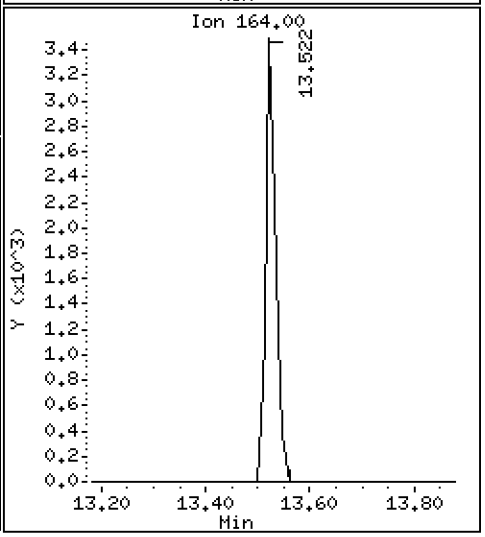


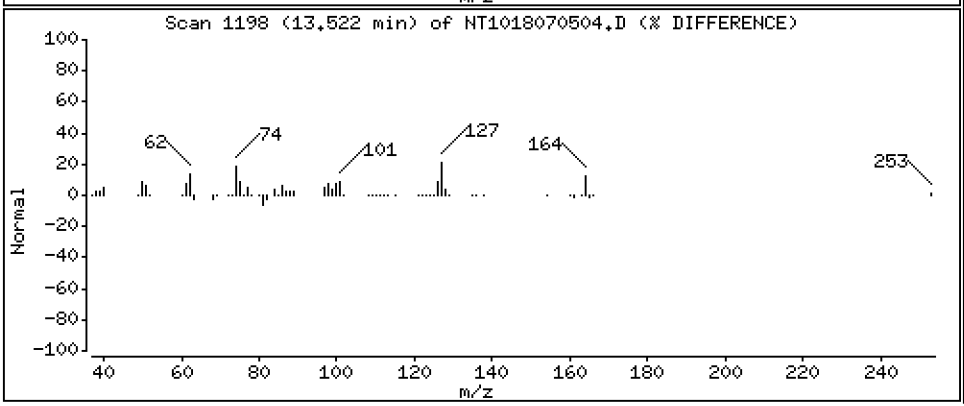












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

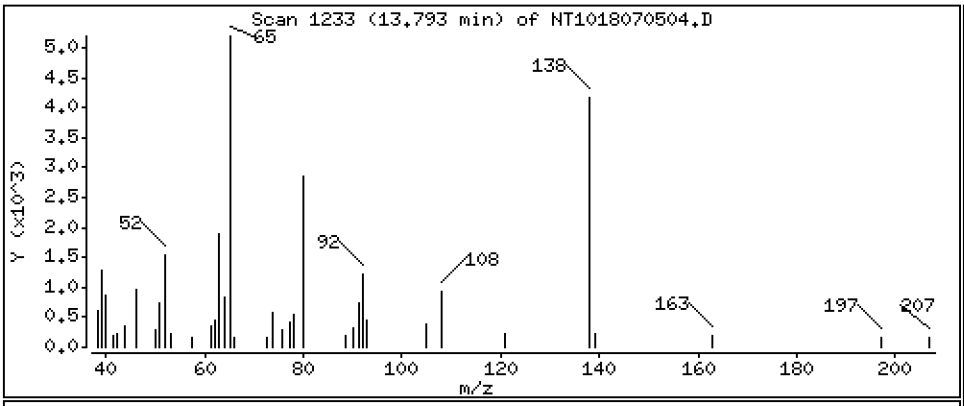
Operator: YZ

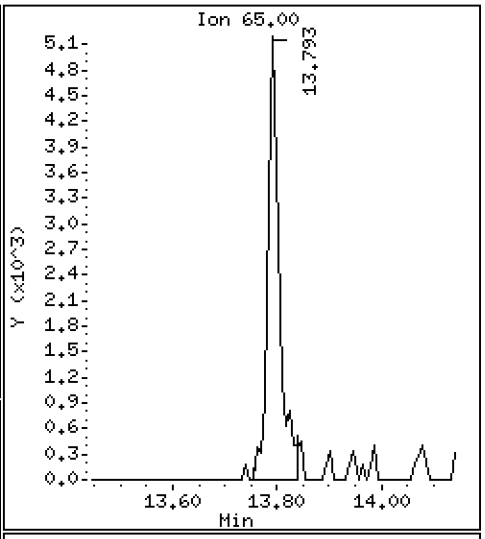
Column phase: ZB-5msi

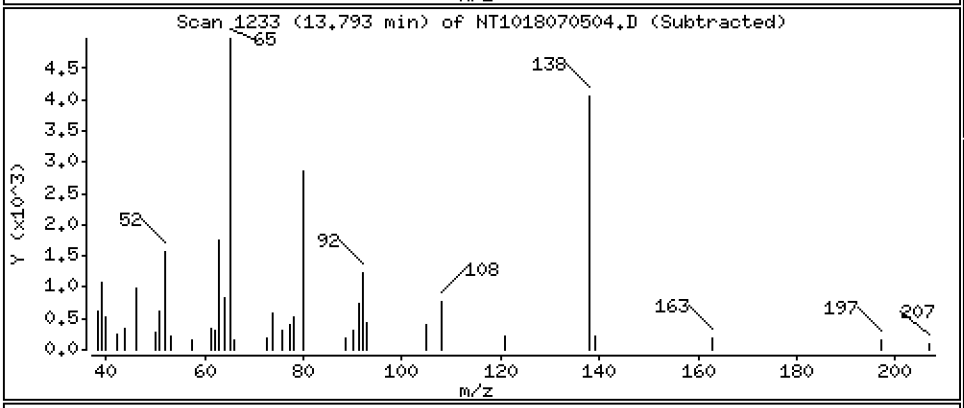
Column diameter: 0.25

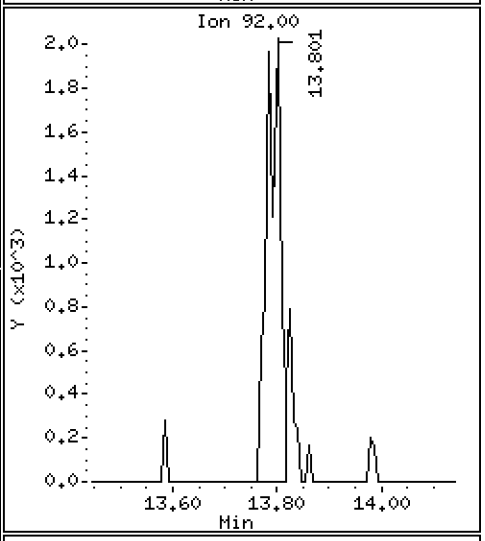
38 2-Nitroaniline

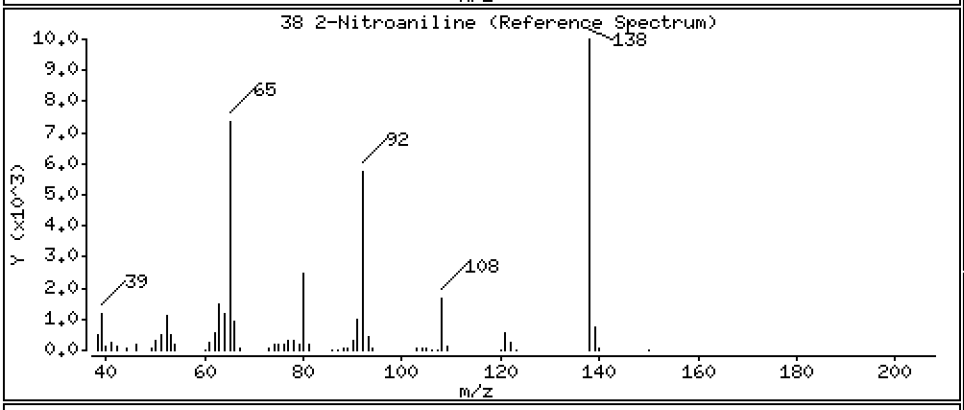
Concentration: 0.4520 ug/mL

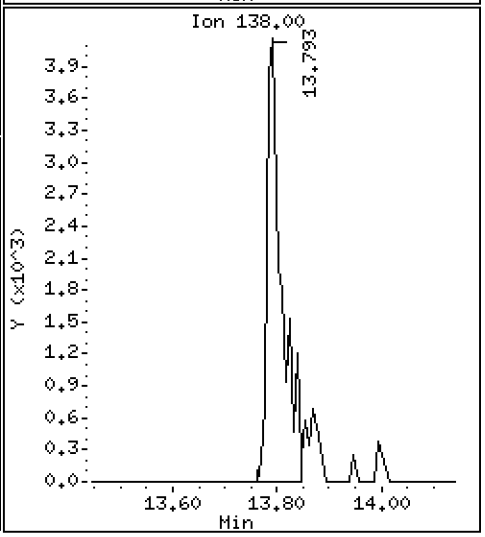


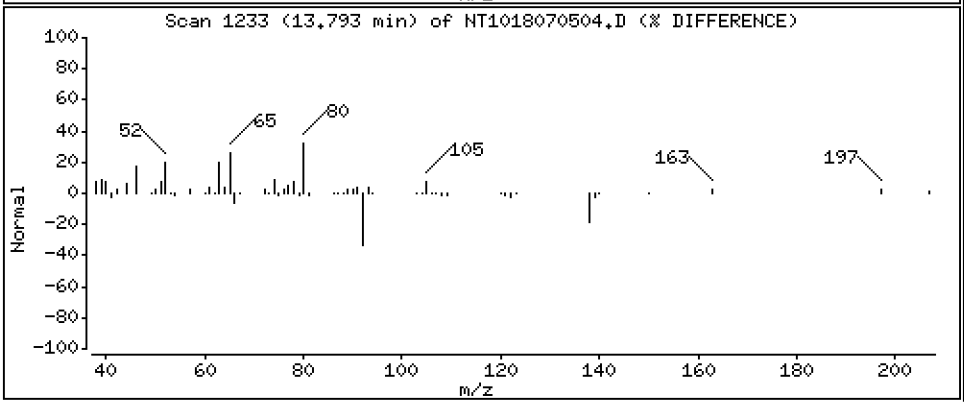












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

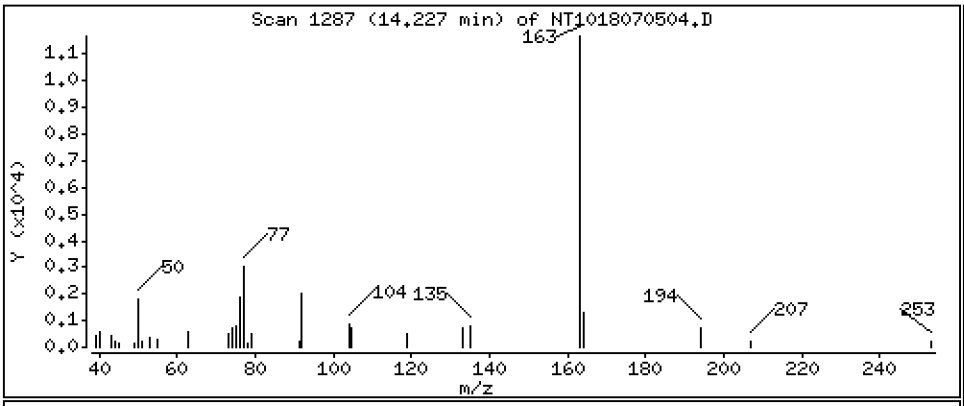
Operator: YZ

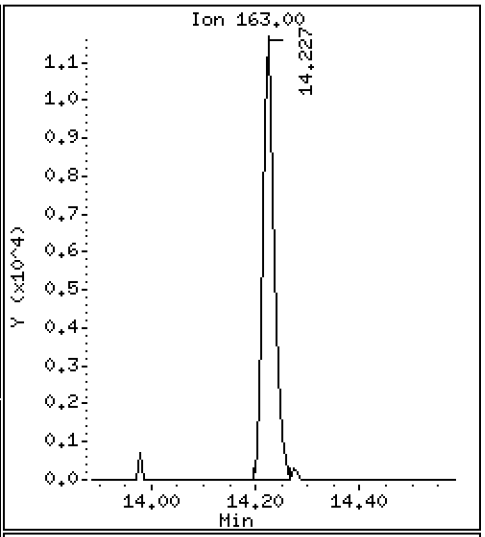
Column phase: ZB-5msi

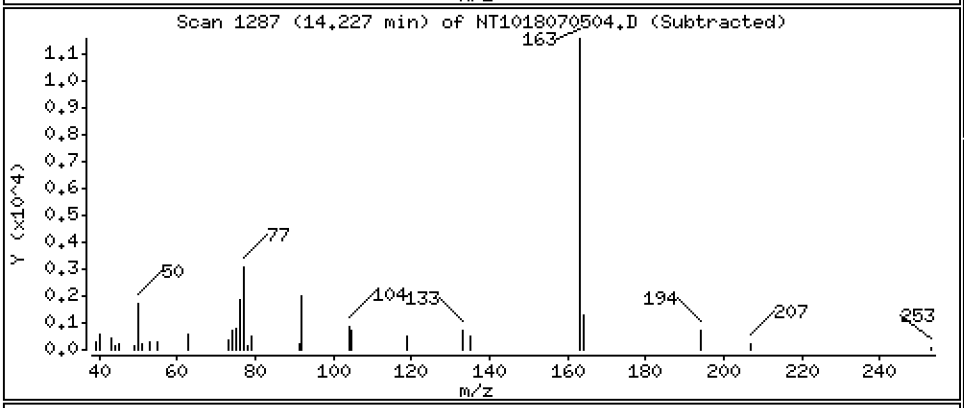
Column diameter: 0.25

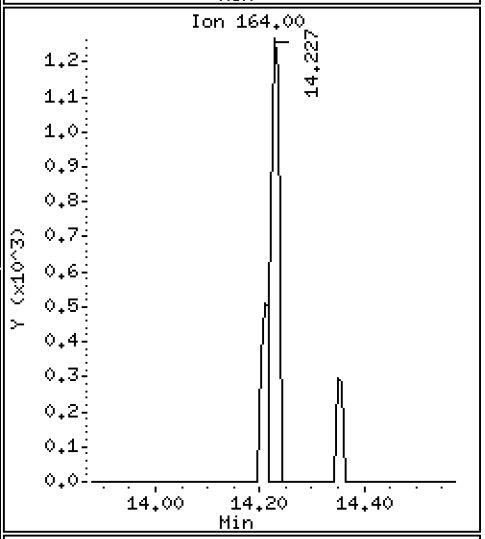
39 Dimethylphthalate

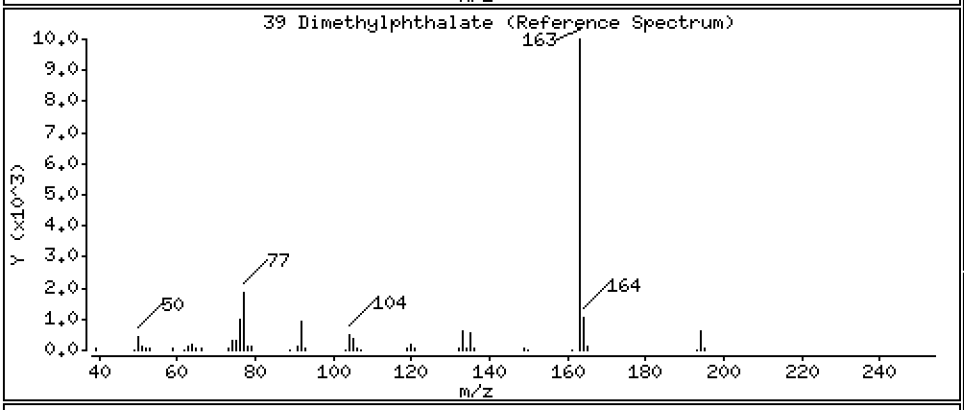
Concentration: 0.2613 ug/mL

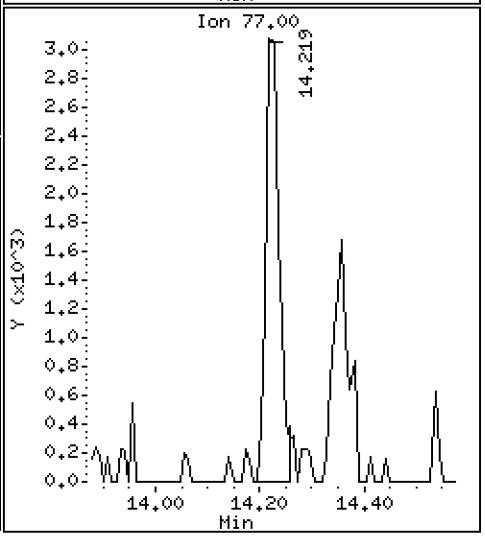


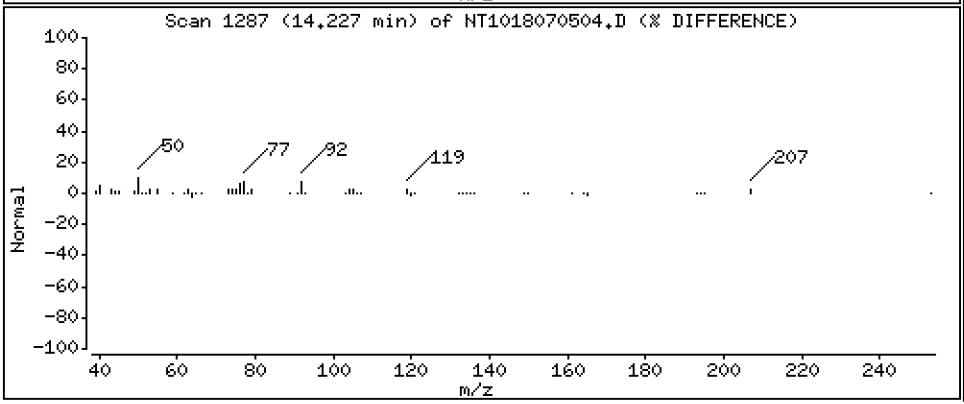












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

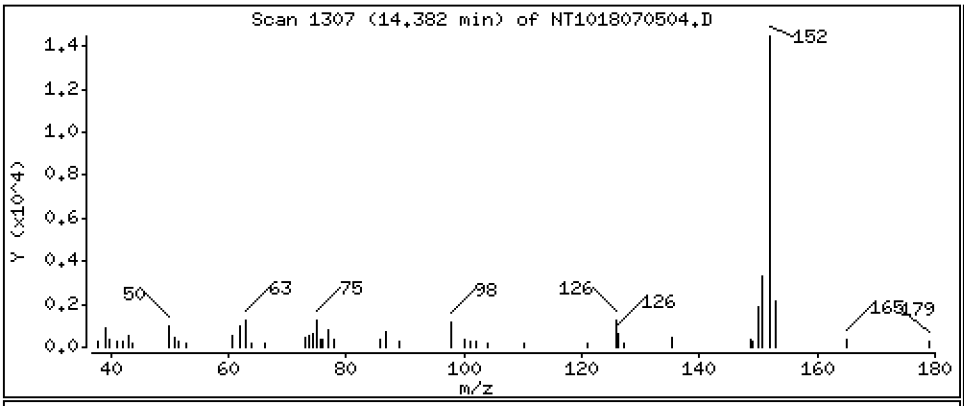
Operator: YZ

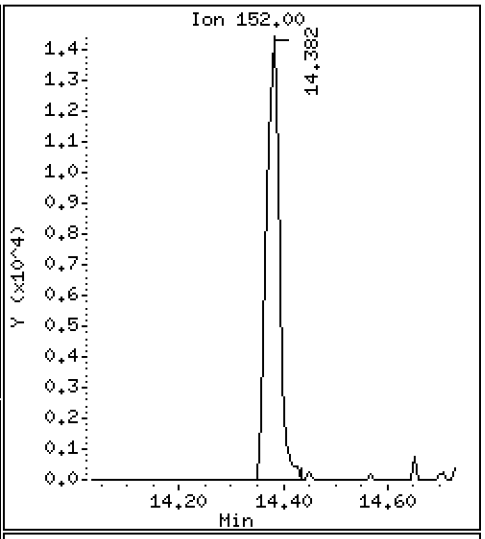
Column phase: ZB-5msi

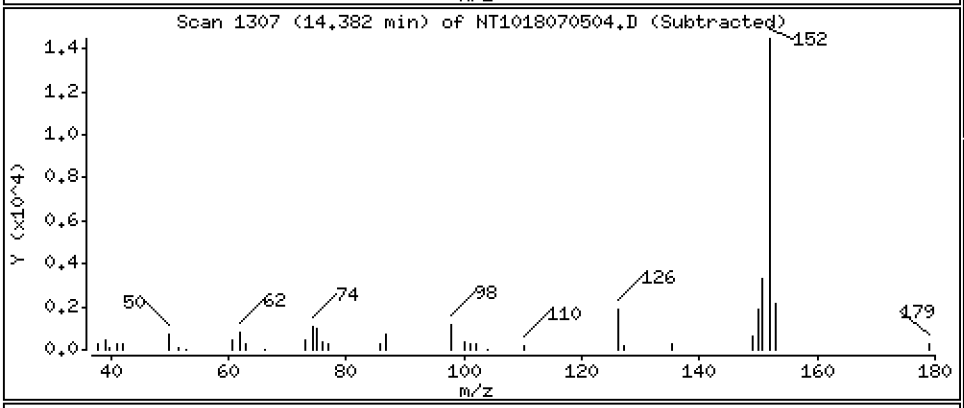
Column diameter: 0.25

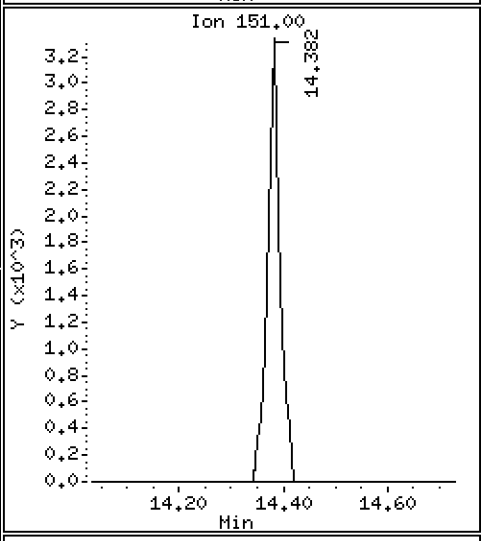
40 Acenaphthylene

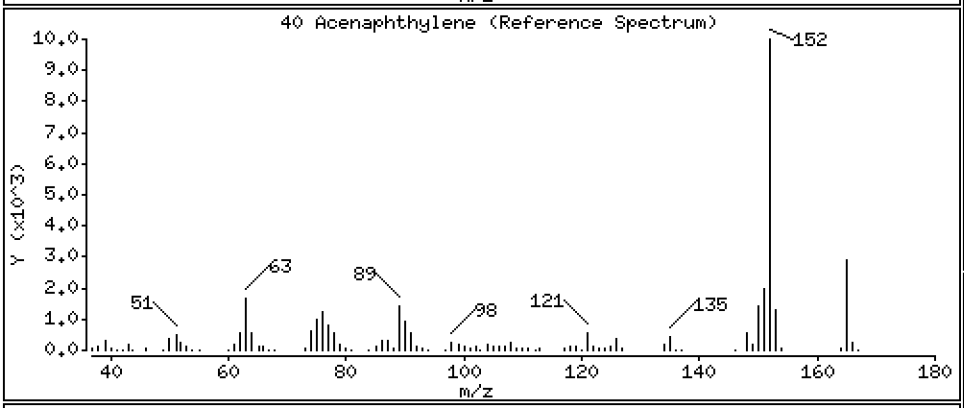
Concentration: 0.2497 ug/mL

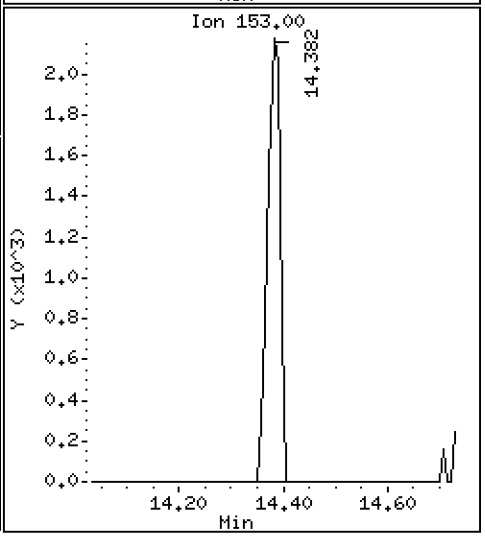


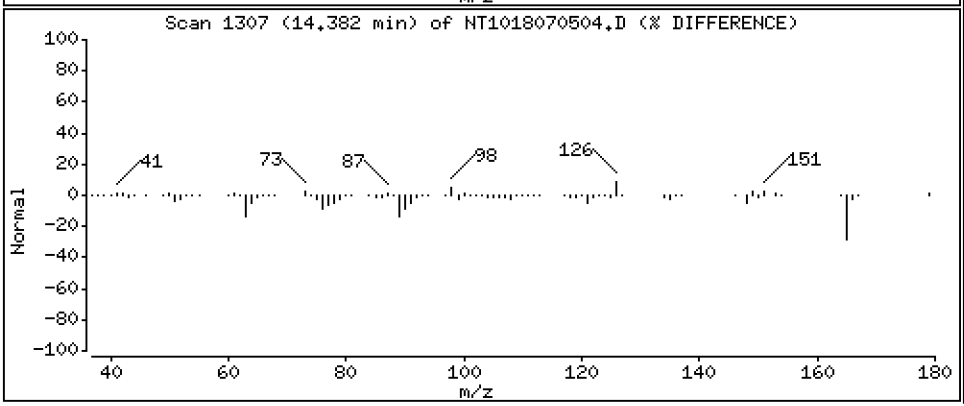












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

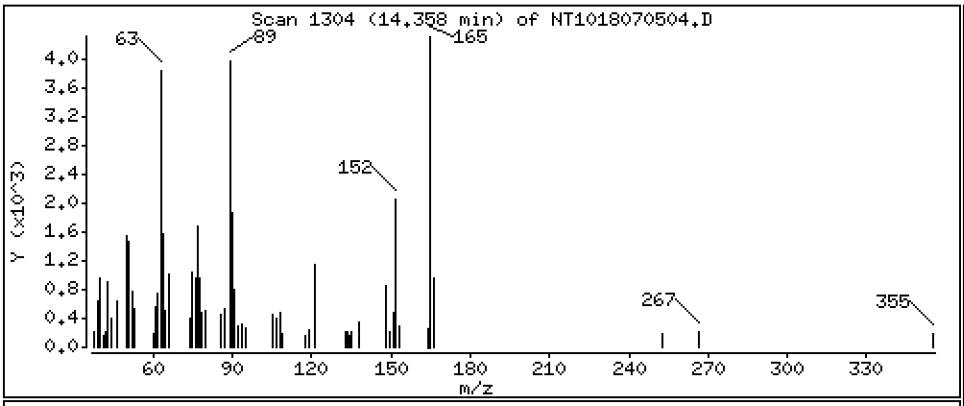
Operator: YZ

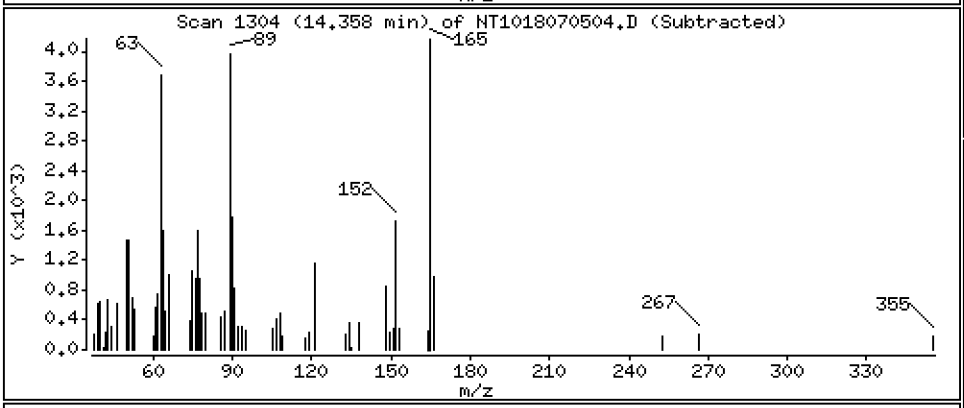
Column phase: ZB-5msi

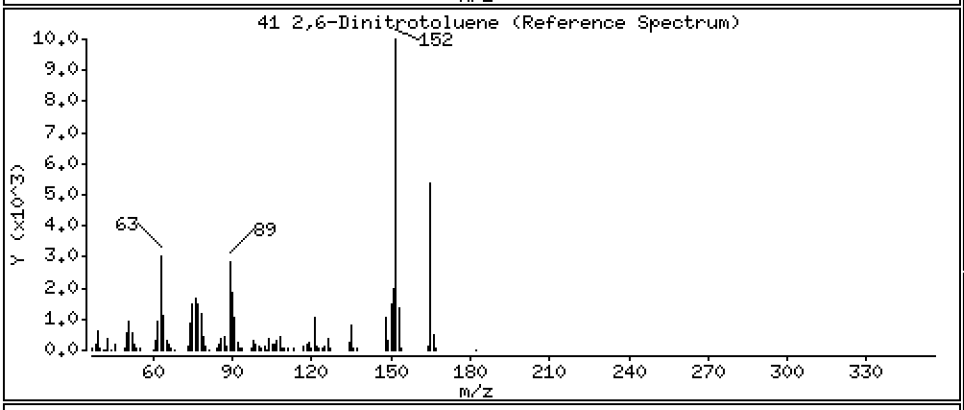
Column diameter: 0.25

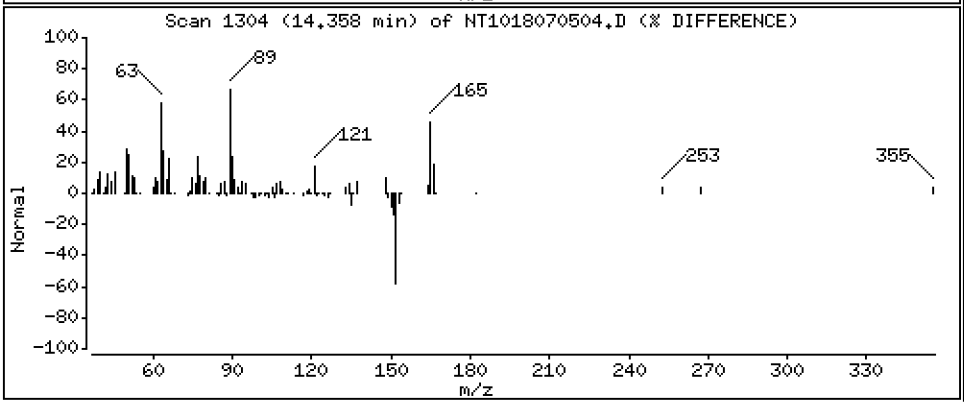
41 2,6-Dinitrotoluene

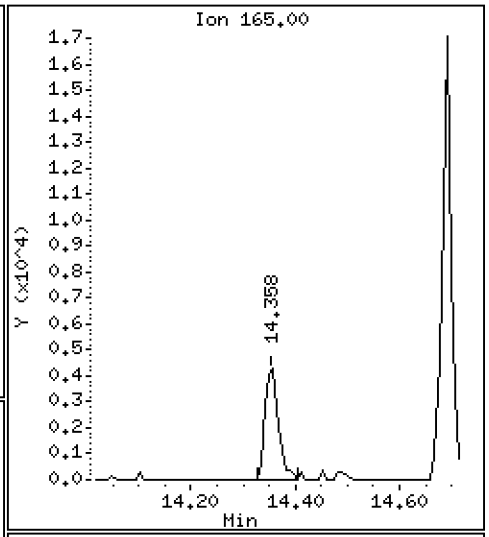
Concentration: 0.5400 ug/mL

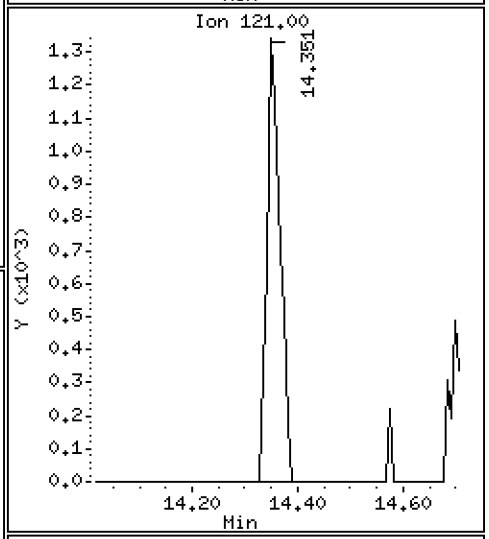


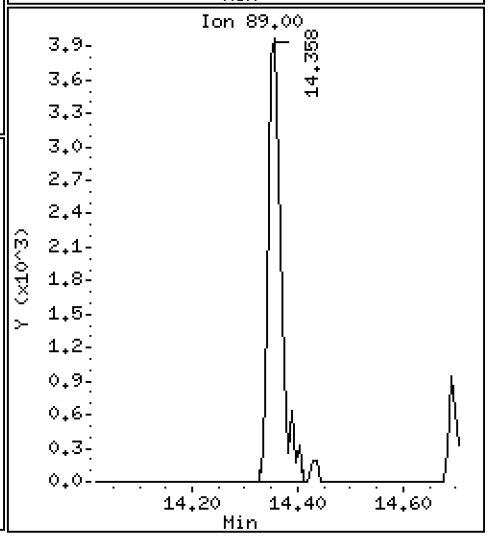












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

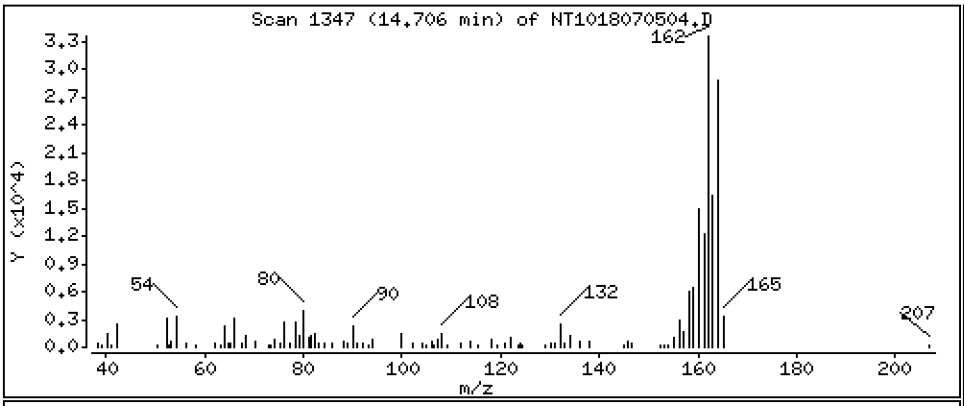
Operator: YZ

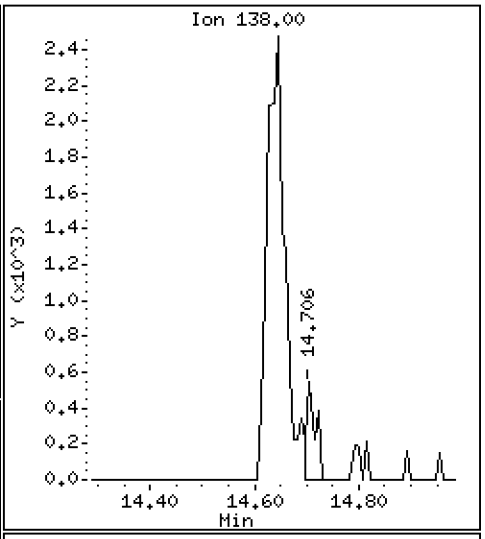
Column phase: ZB-5msi

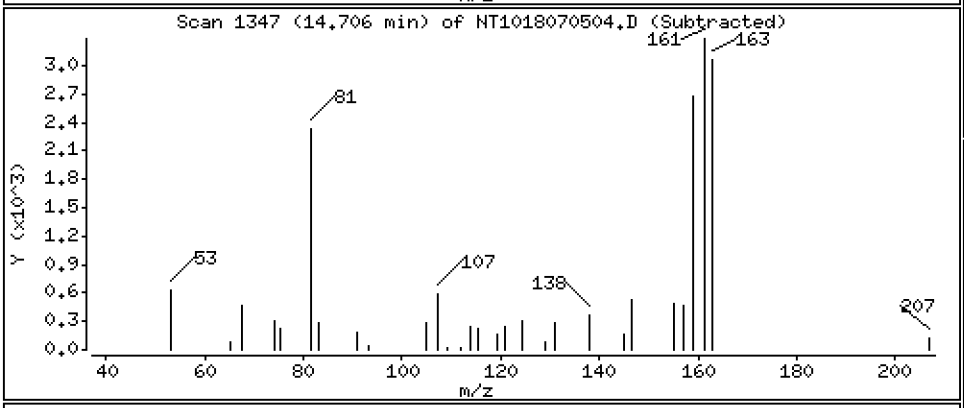
Column diameter: 0.25

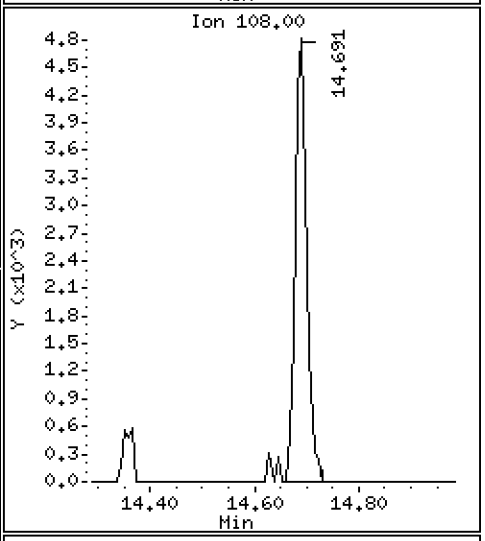
43 3-Nitroaniline

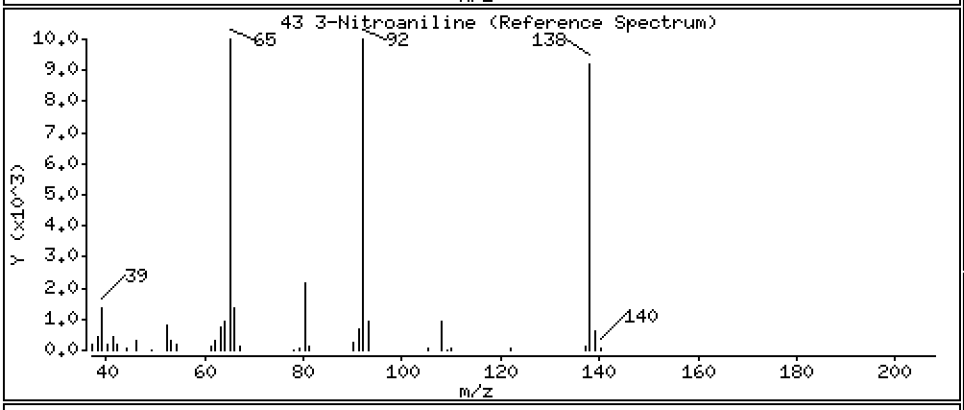
Concentration: 0.04035 ug/mL

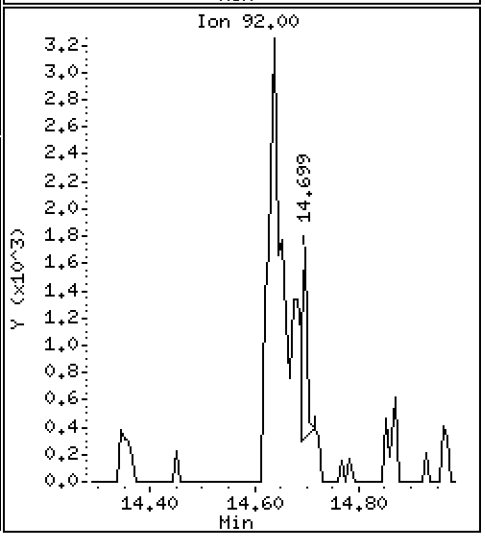


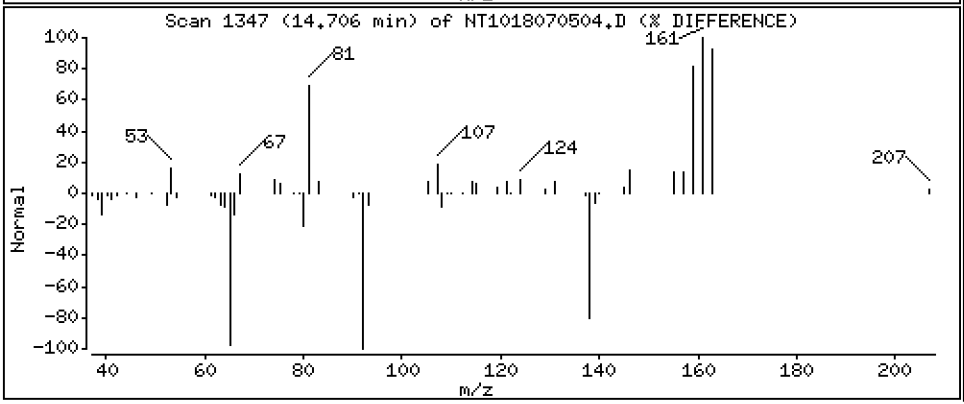












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

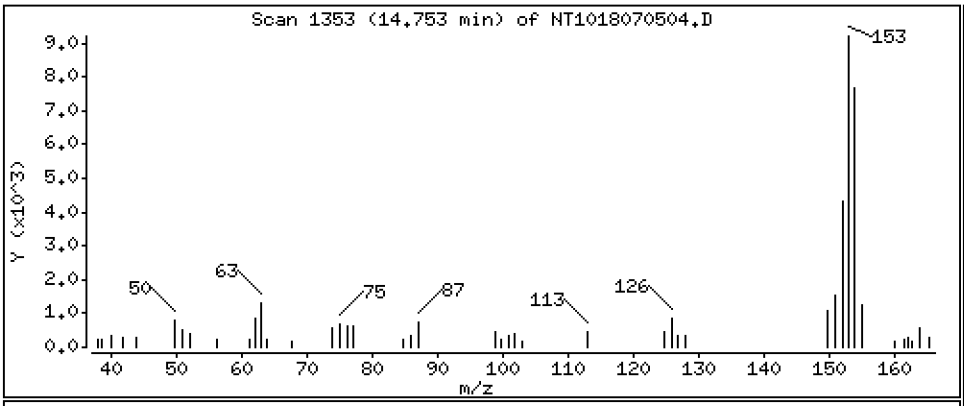
Operator: YZ

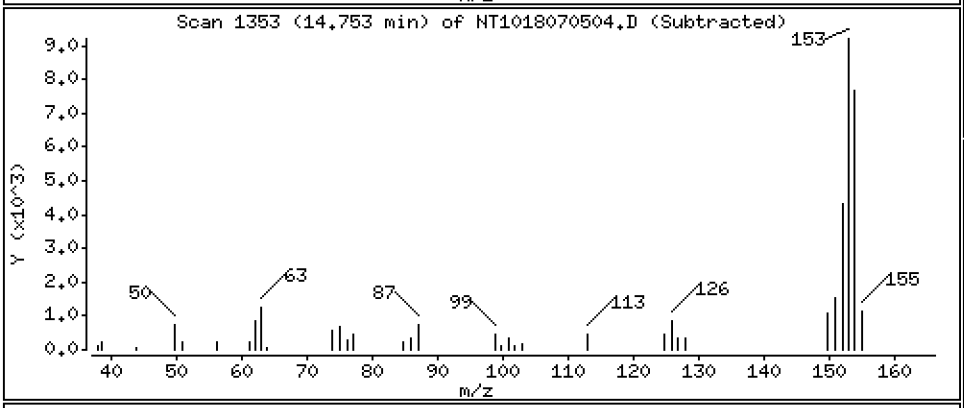
Column phase: ZB-5msi

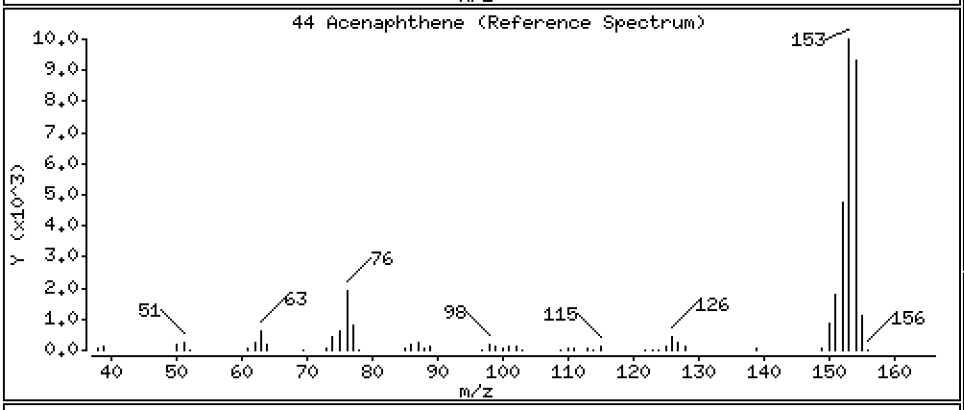
Column diameter: 0.25

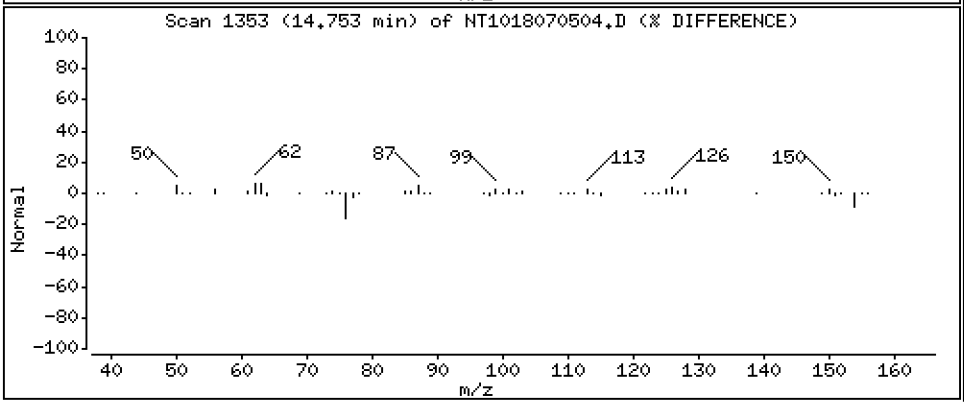
44 Acenaphthene

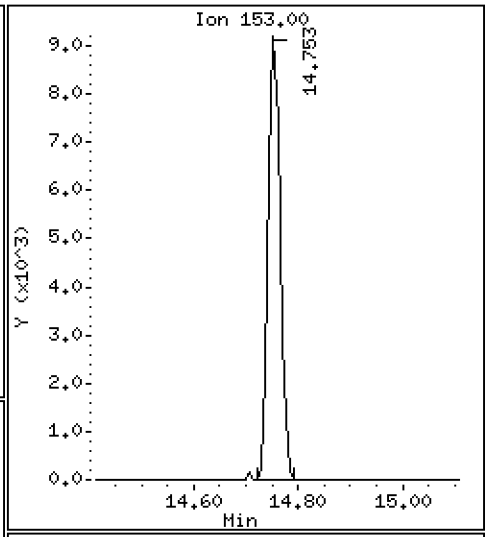
Concentration: 0.2462 ug/mL

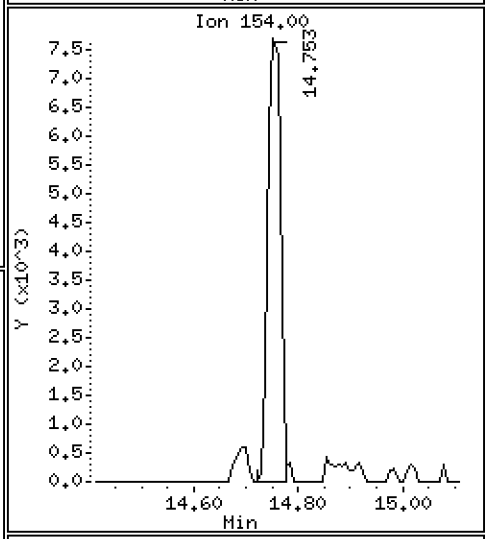


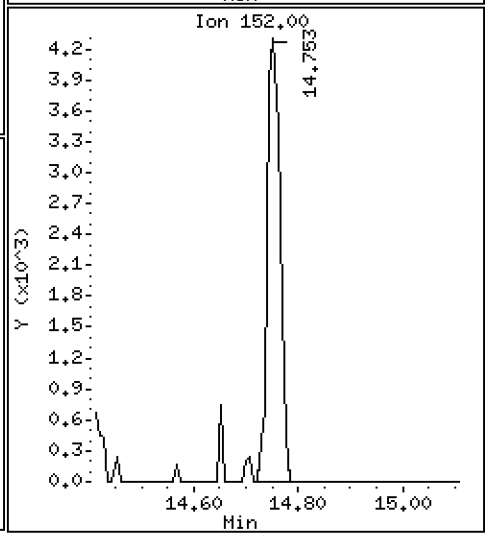












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

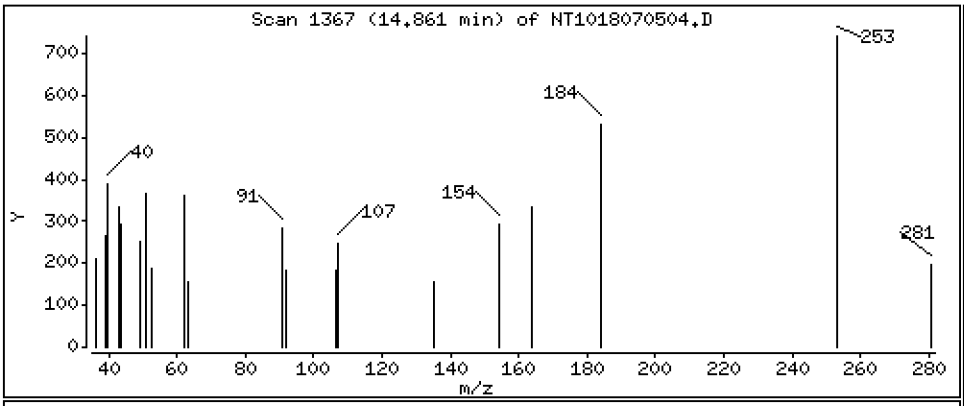
Operator: YZ

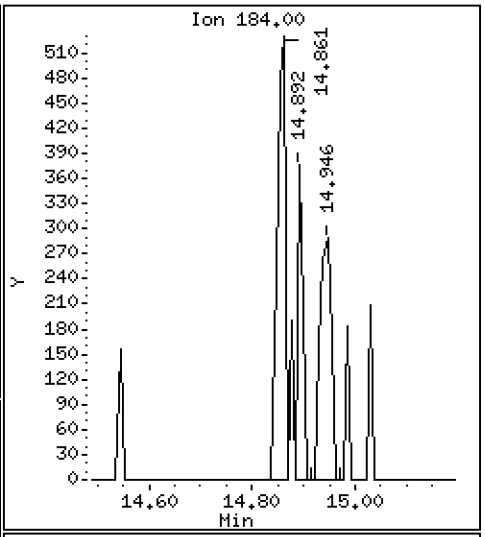
Column phase: ZB-5msi

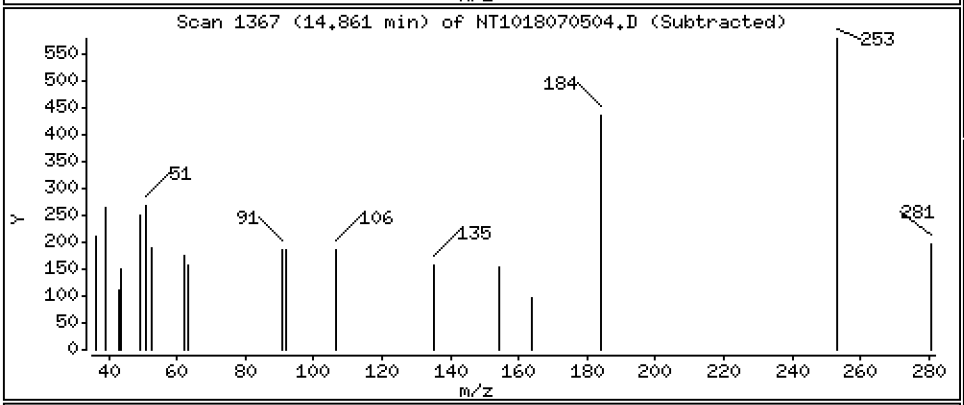
Column diameter: 0.25

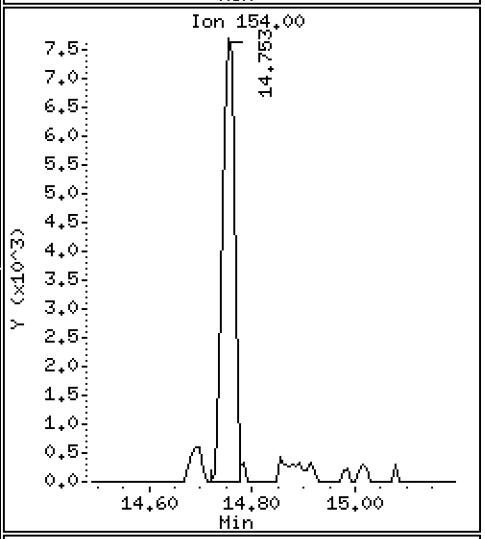
45 2,4-Dinitrophenol

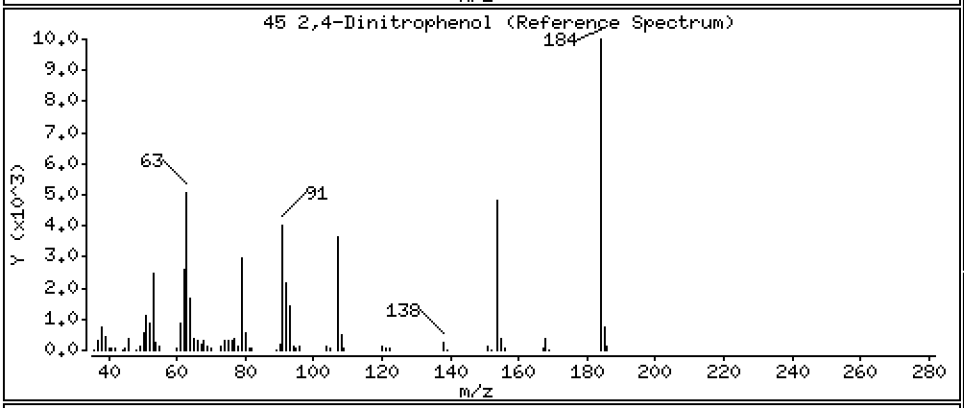
Concentration: 0.06845 ug/mL

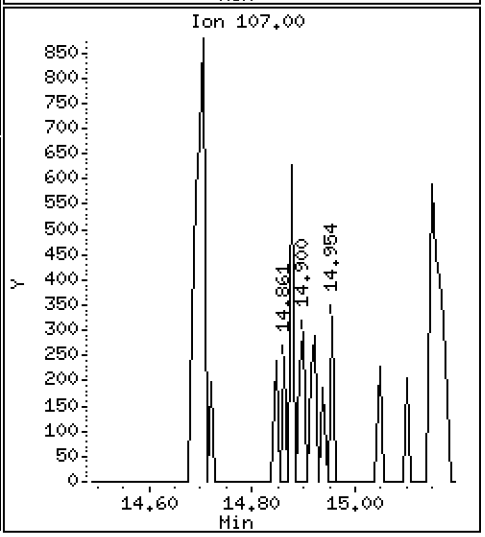


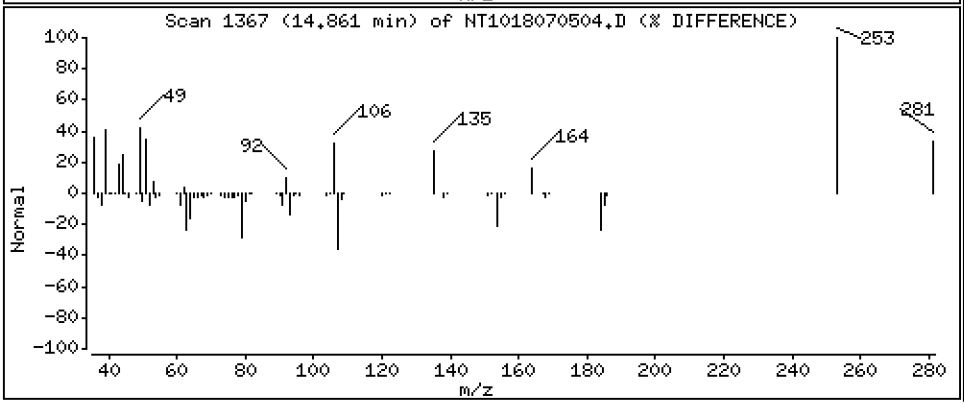












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

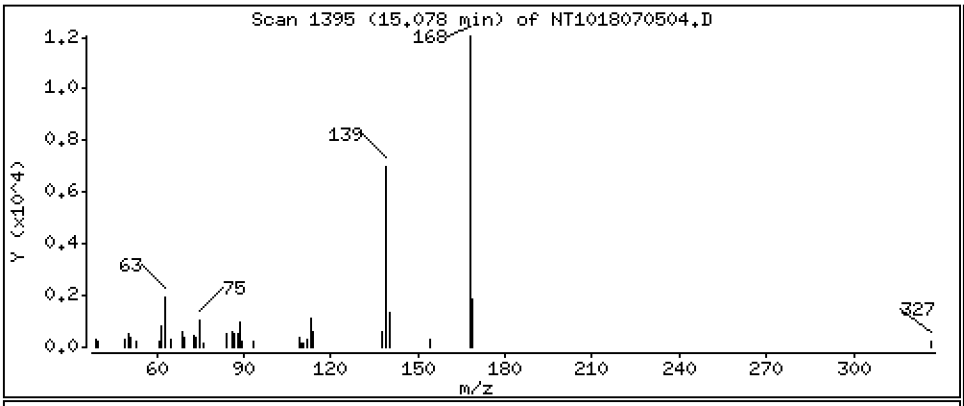
Operator: YZ

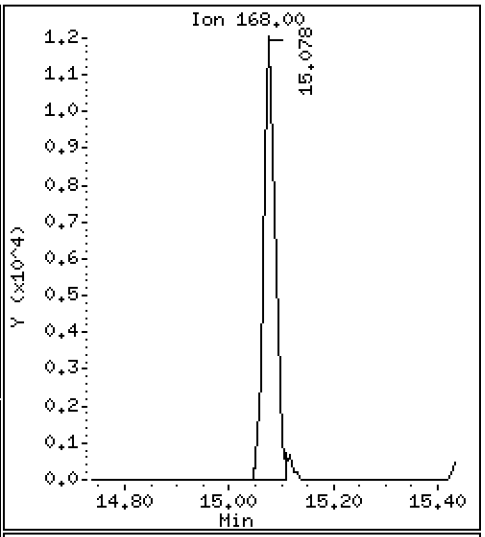
Column phase: ZB-5msi

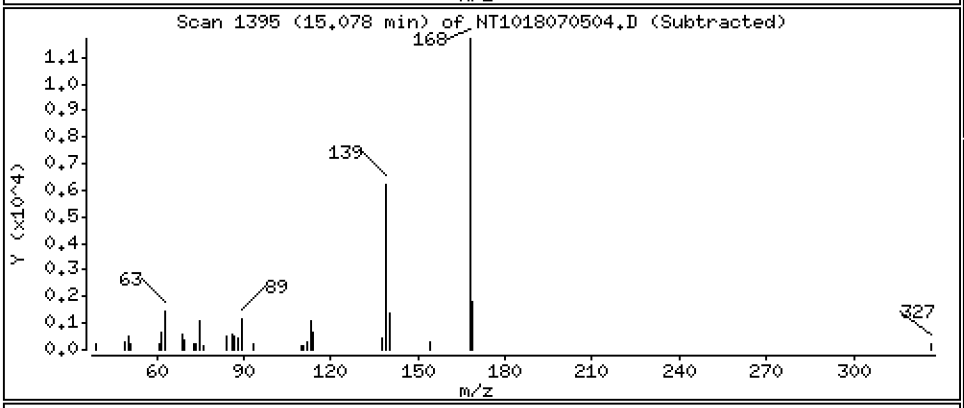
Column diameter: 0.25

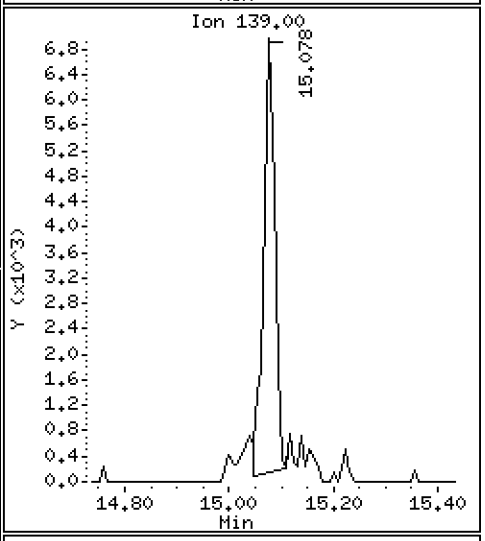
46 Dibenzofuran

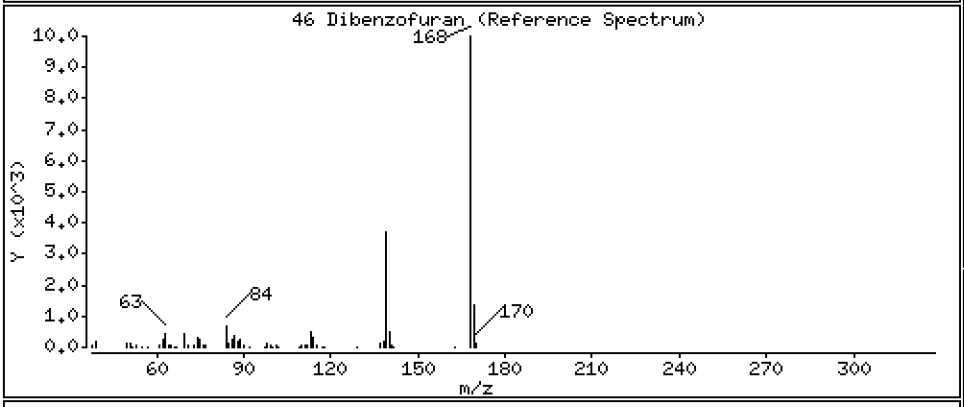
Concentration: 0.1990 ug/mL

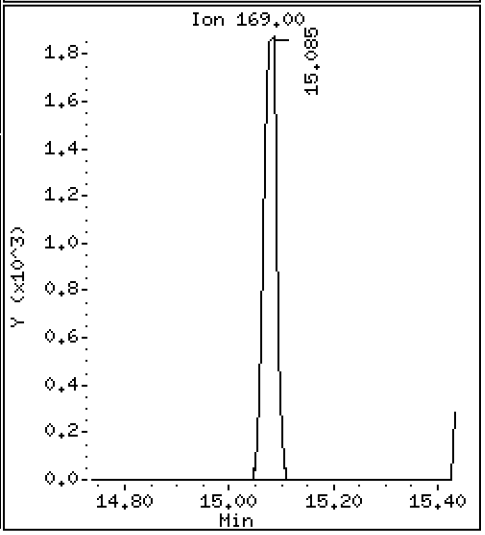


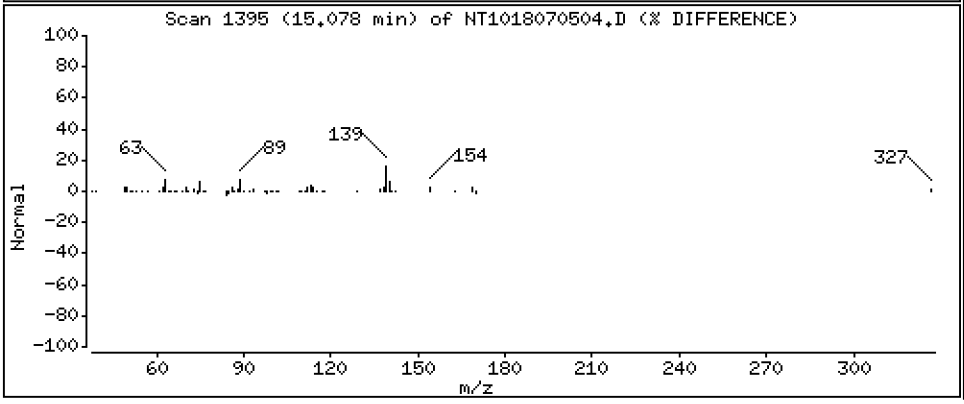












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

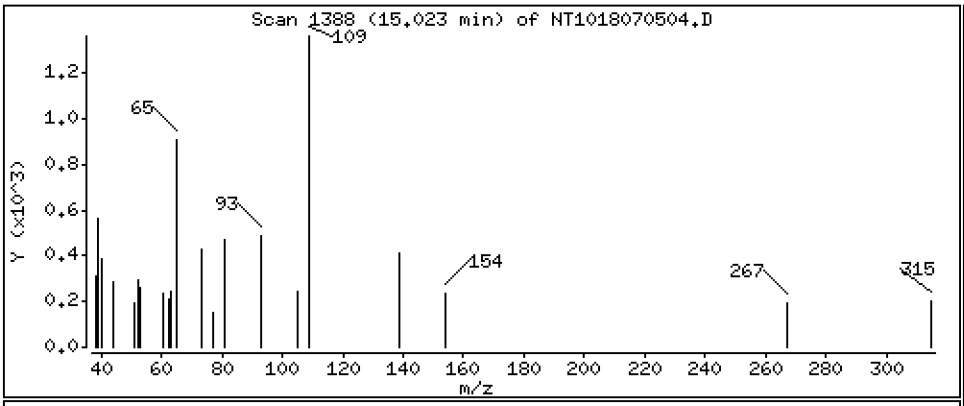
Operator: YZ

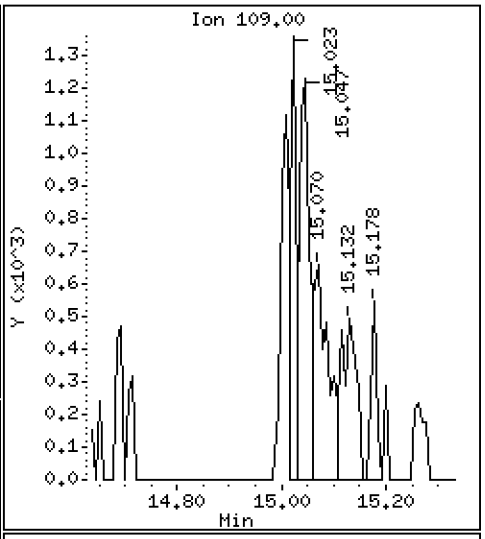
Column phase: ZB-5msi

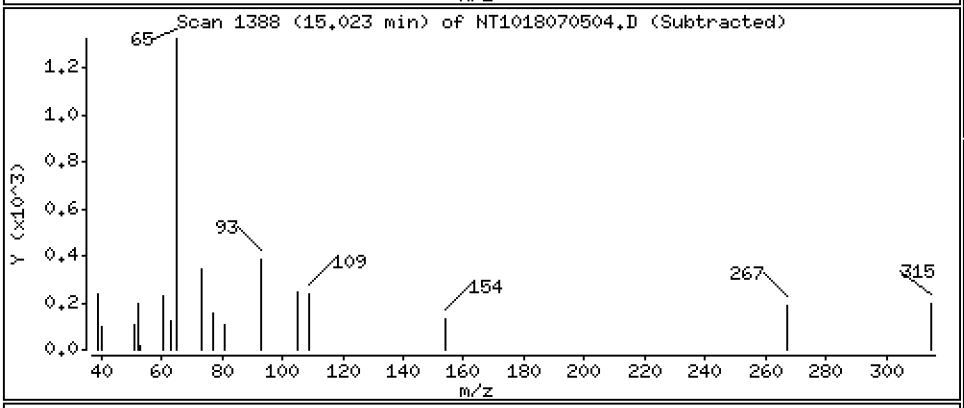
Column diameter: 0.25

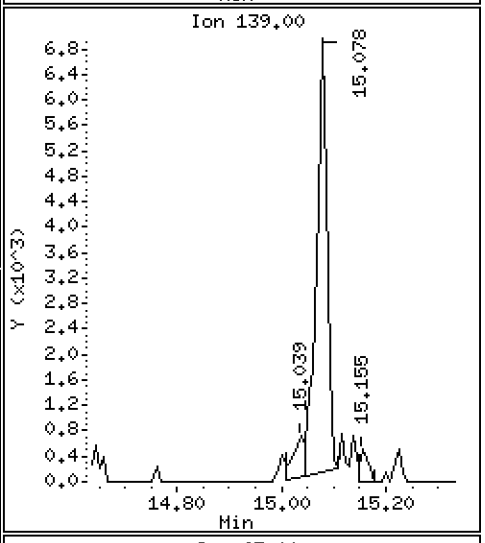
47 4-Nitrophenol

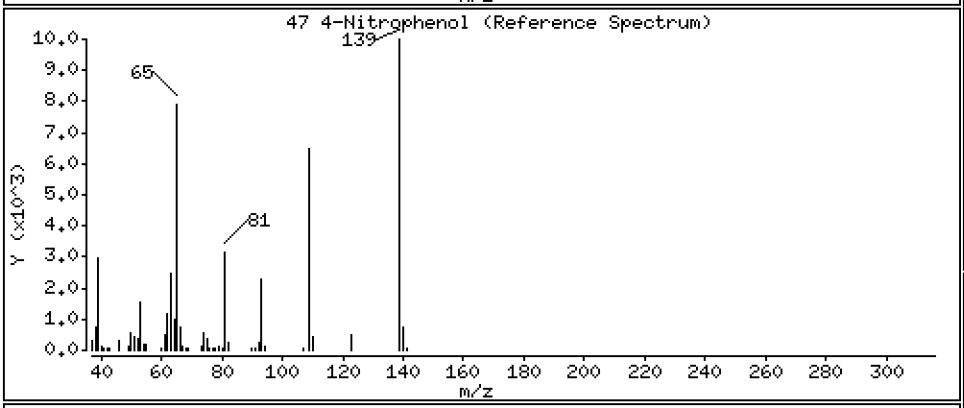
Concentration: 0.1264 ug/mL

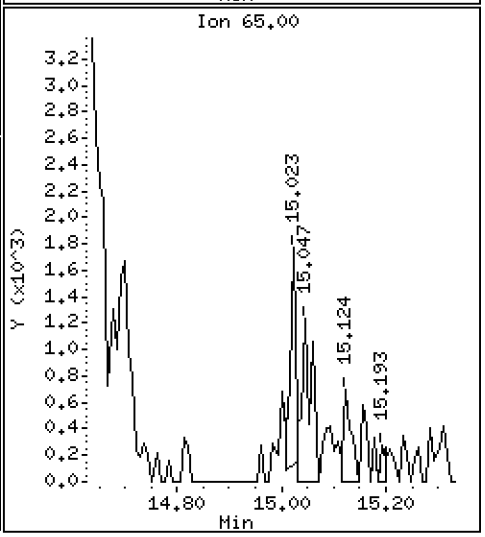


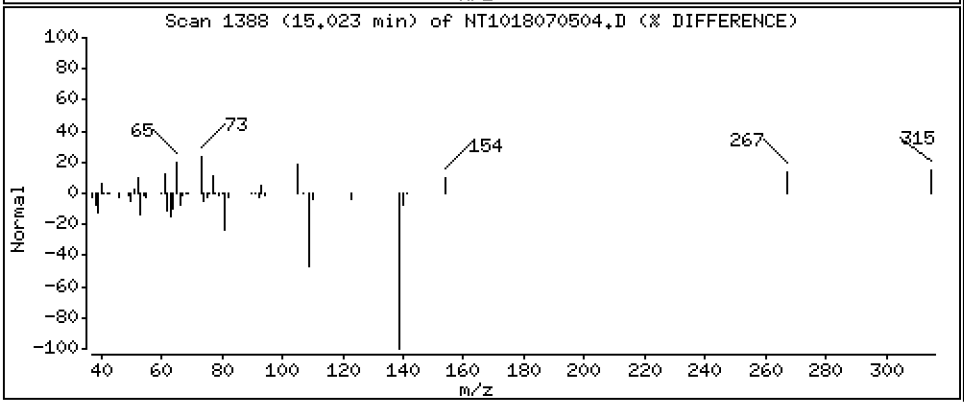












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

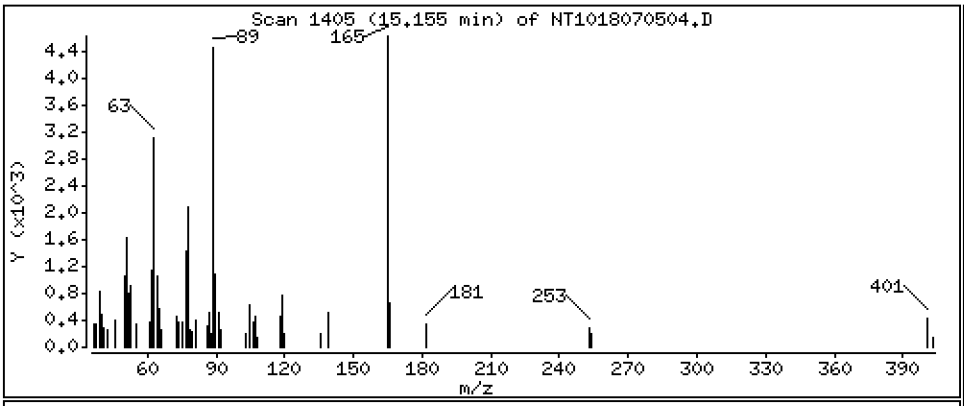
Operator: YZ

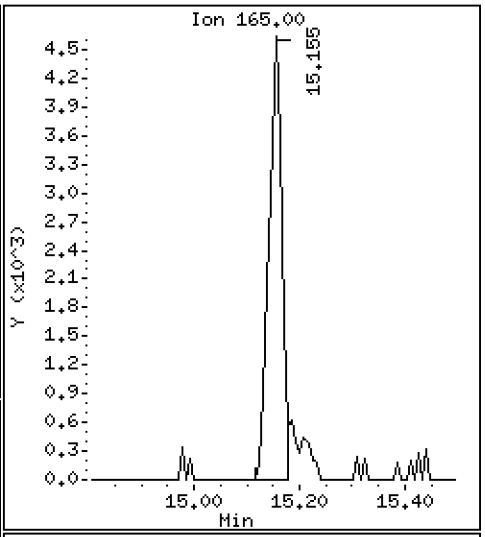
Column phase: ZB-5msi

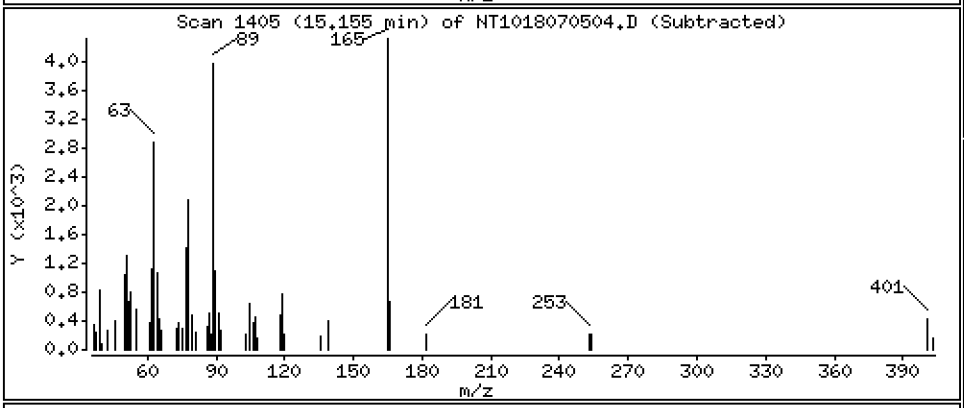
Column diameter: 0.25

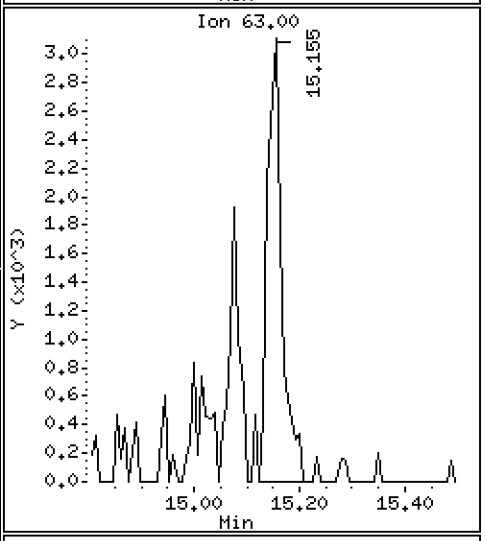
48 2,4-Dinitrotoluene

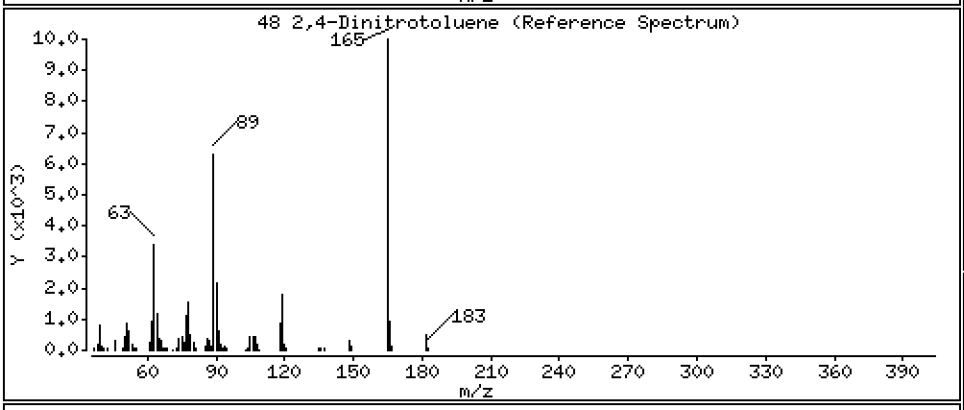
Concentration: 0.4316 ug/mL

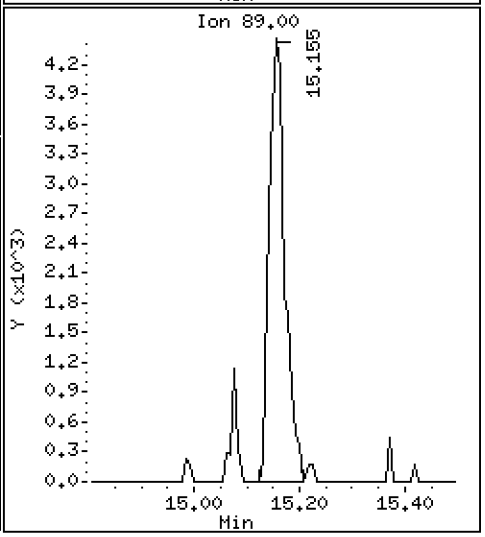


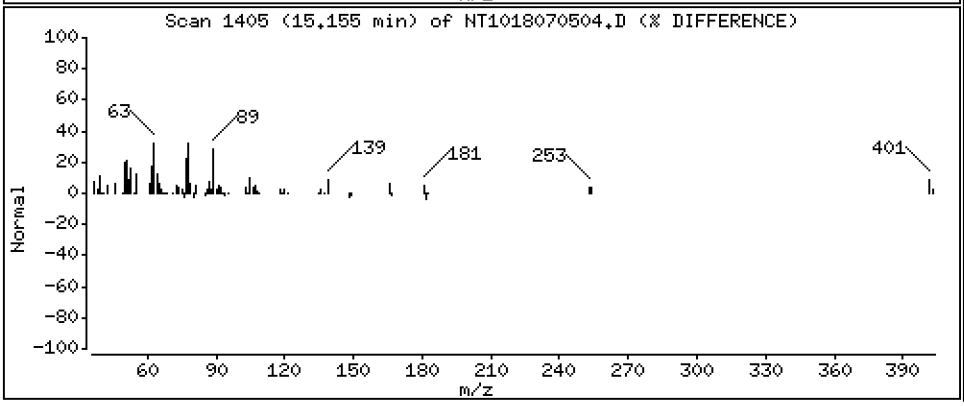












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

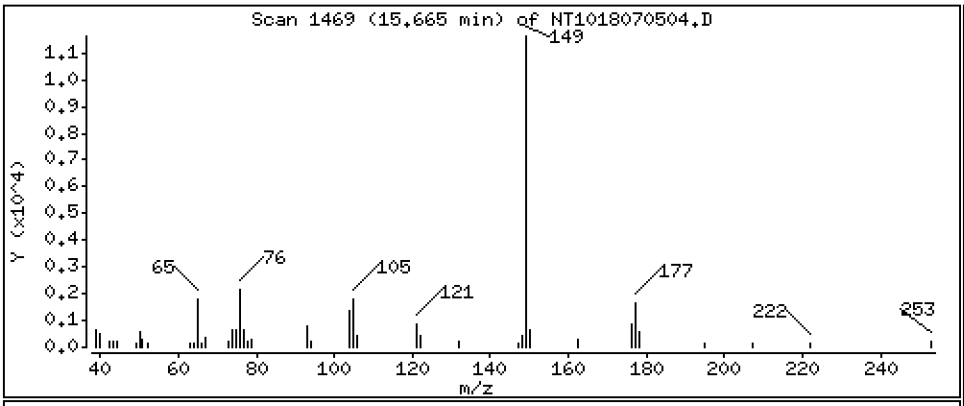
Operator: YZ

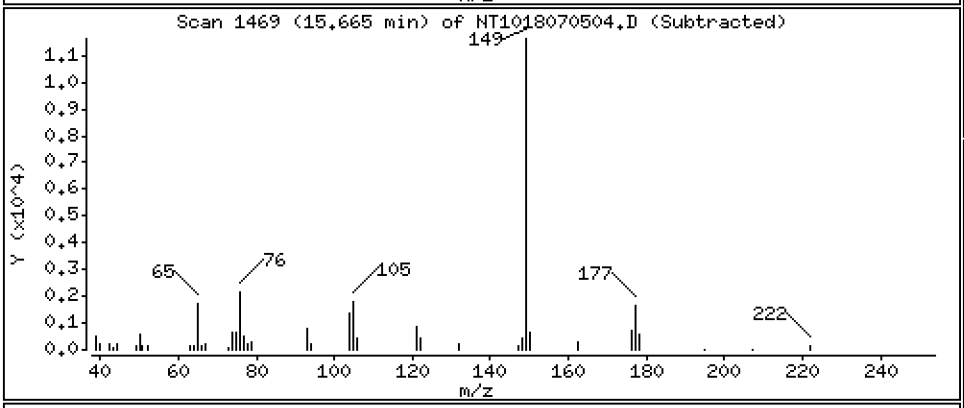
Column phase: ZB-5msi

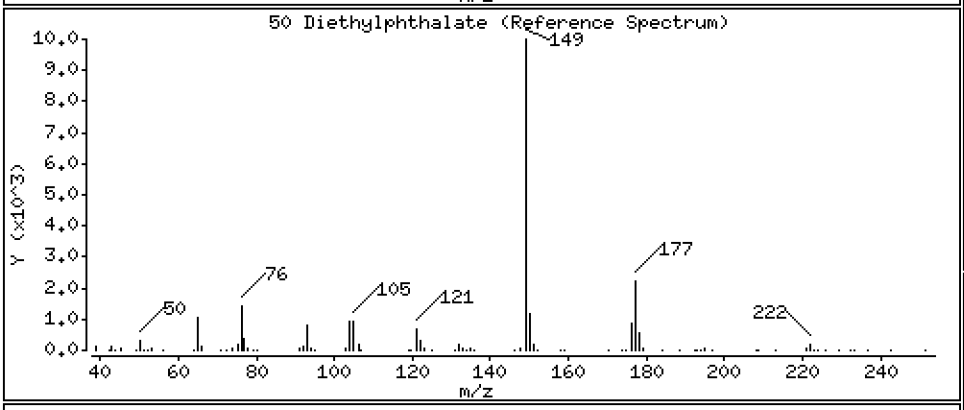
Column diameter: 0.25

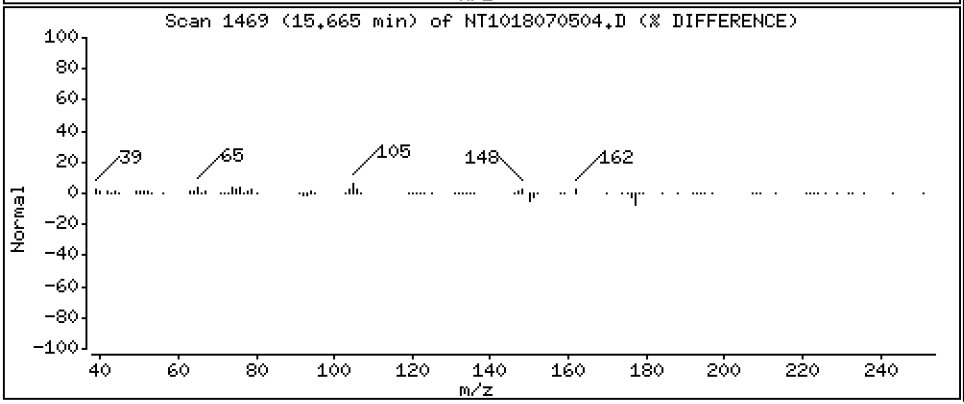
50 Diethylphthalate

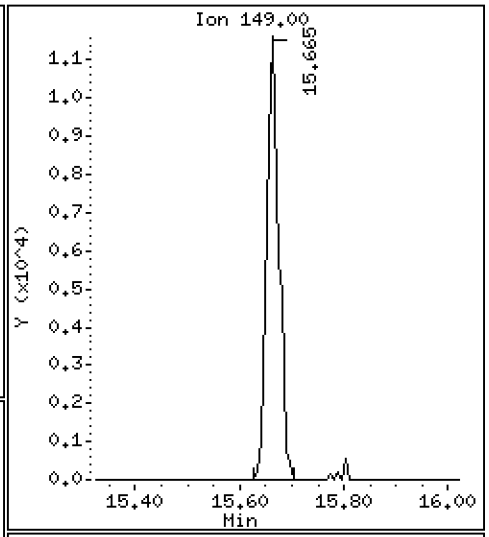
Concentration: 0.2717 ug/mL

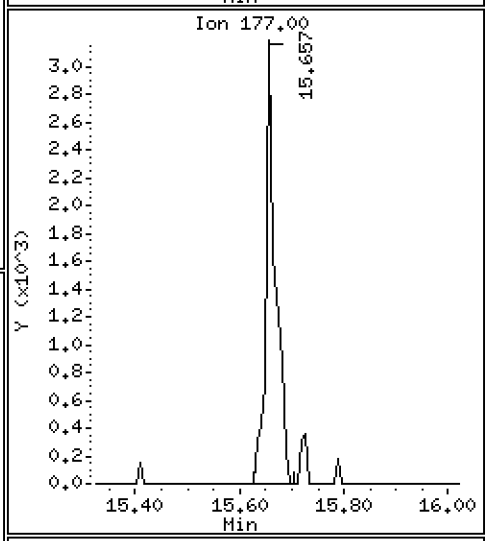


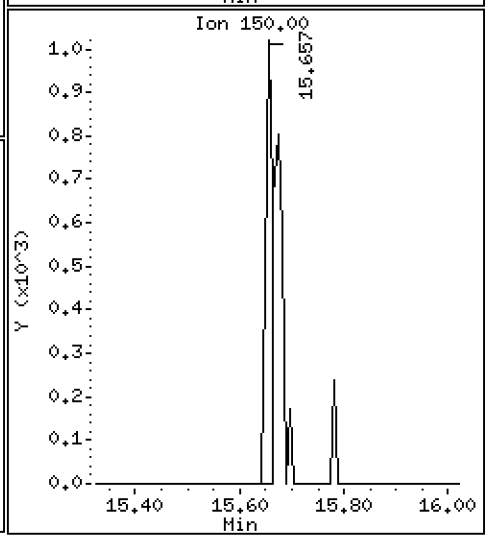












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

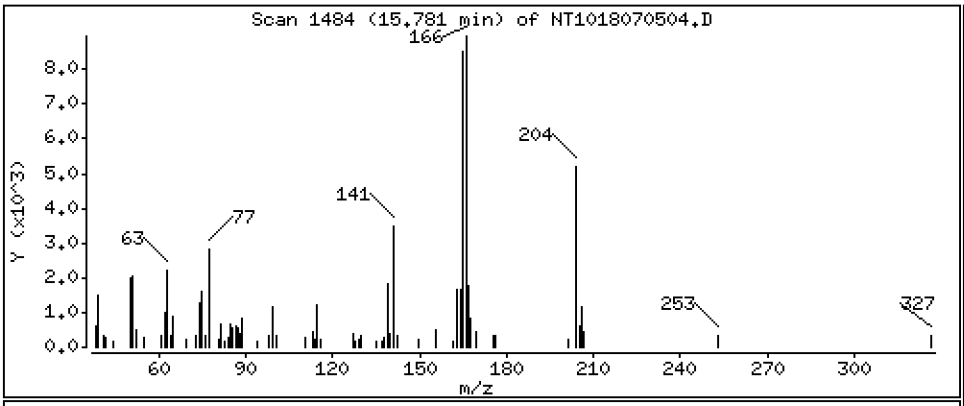
Operator: YZ

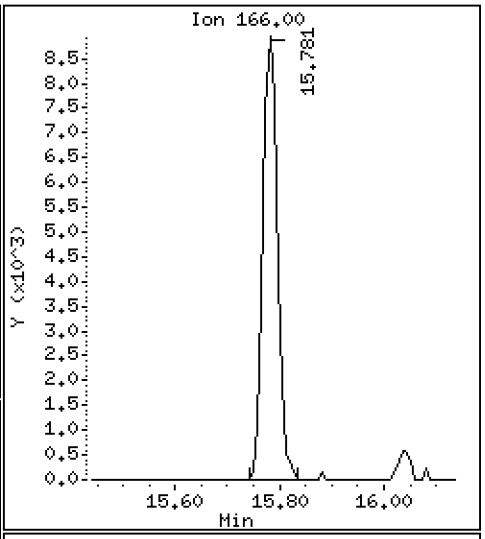
Column phase: ZB-5msi

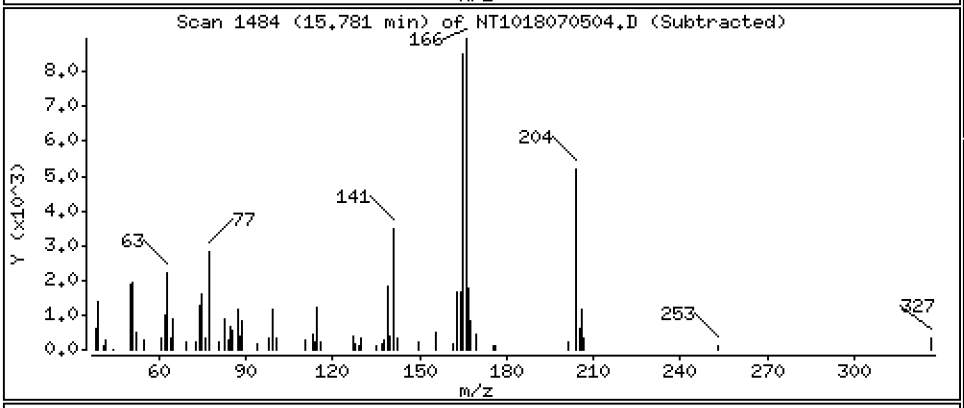
Column diameter: 0.25

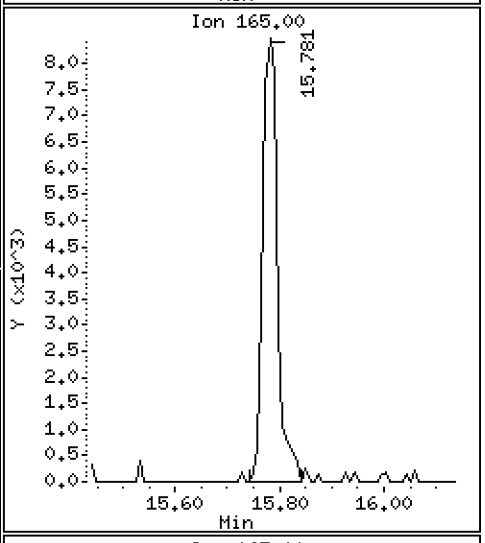
49 Fluorene

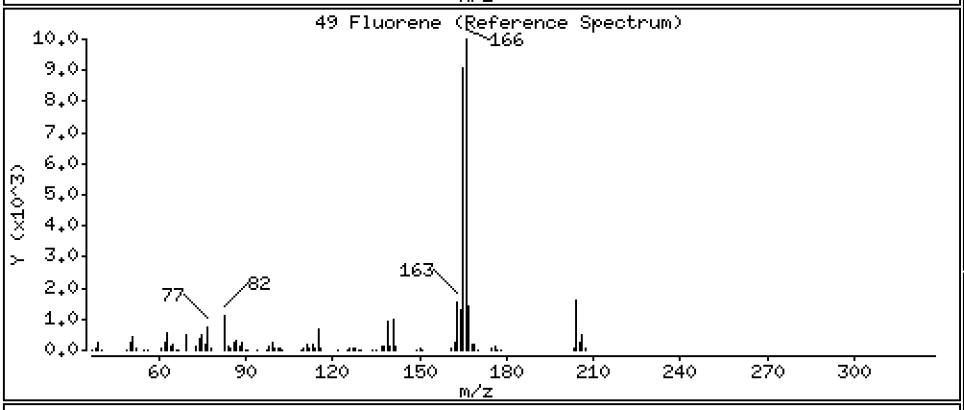
Concentration: 0.2955 ug/mL

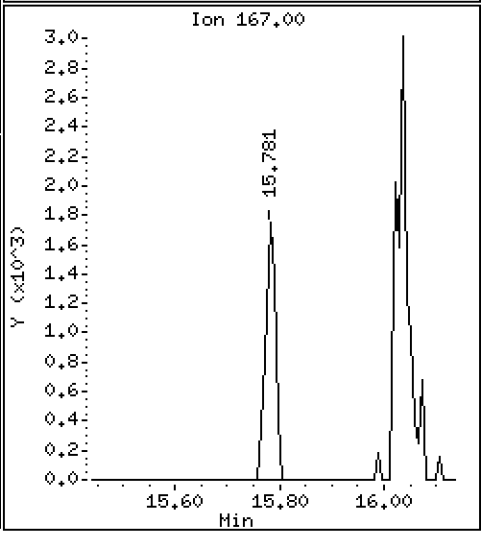


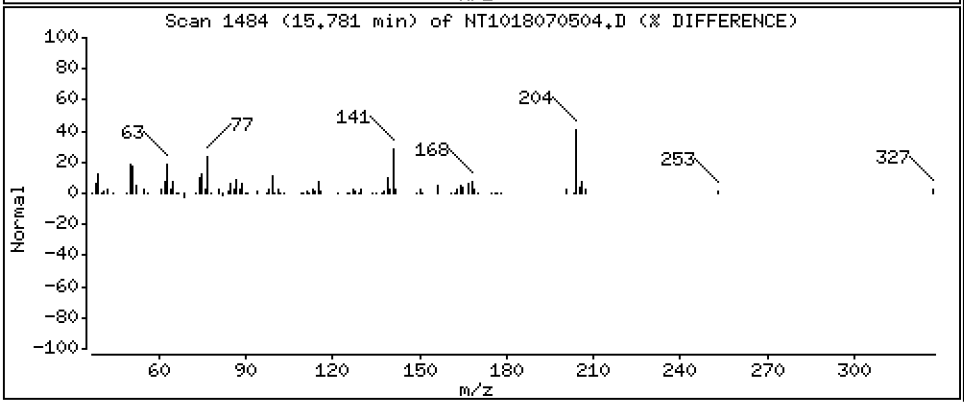












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

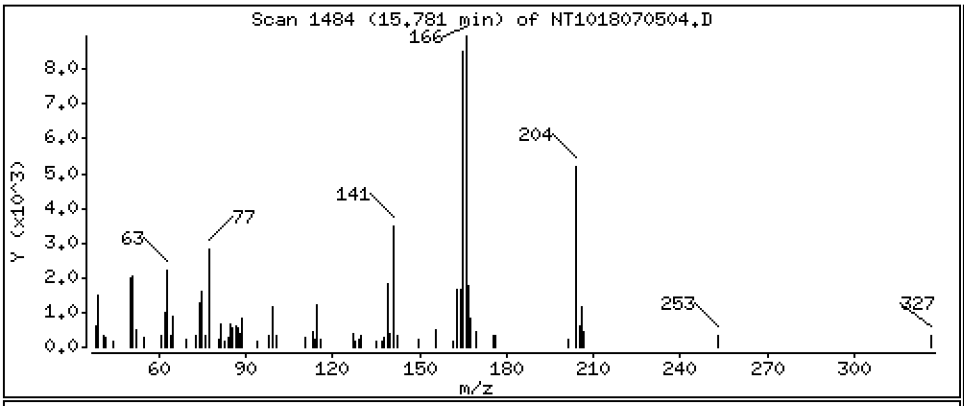
Operator: YZ

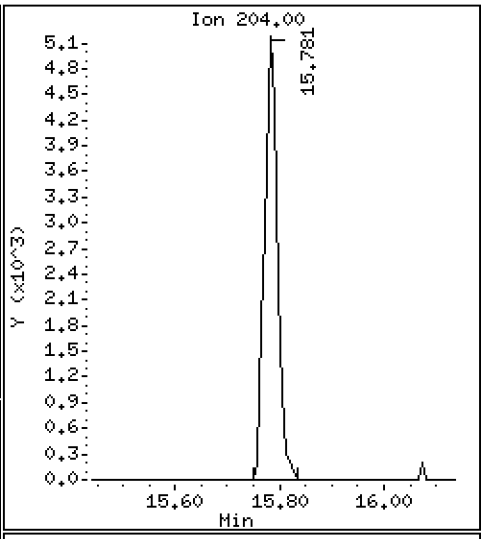
Column phase: ZB-5msi

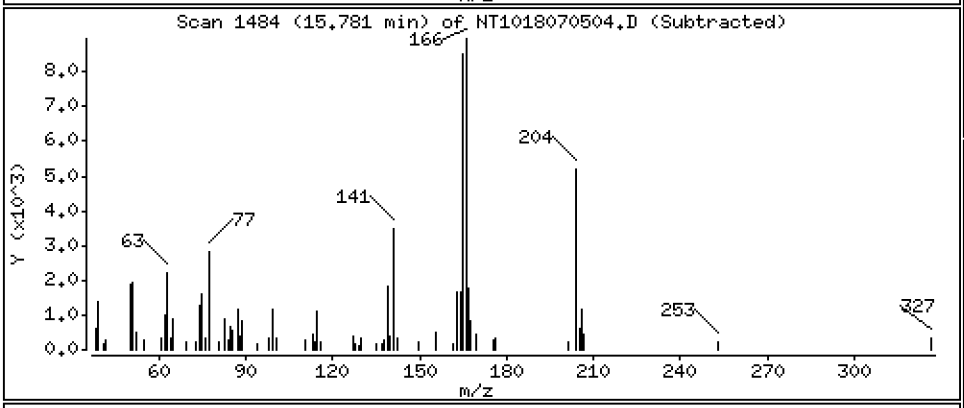
Column diameter: 0.25

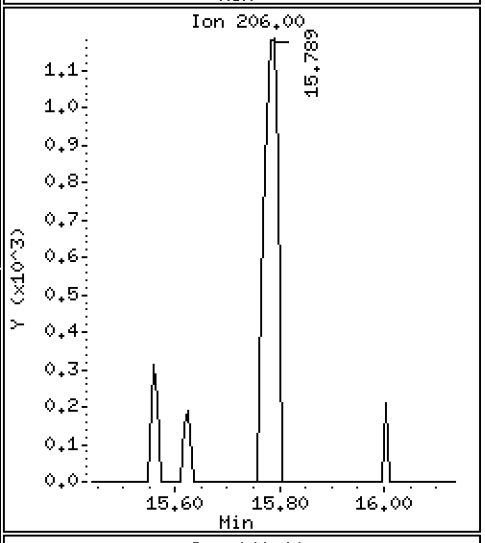
51 4-Chlorophenyl-phenylether

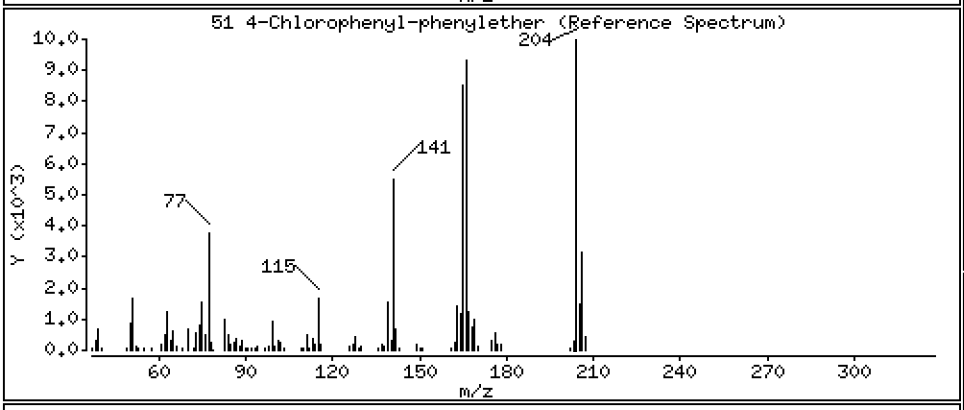
Concentration: 0.3134 ug/mL

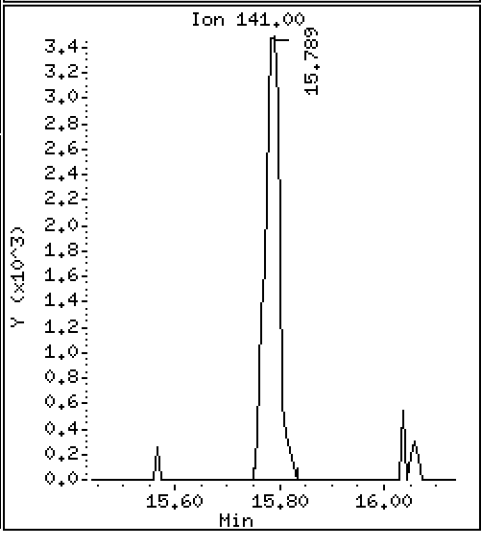


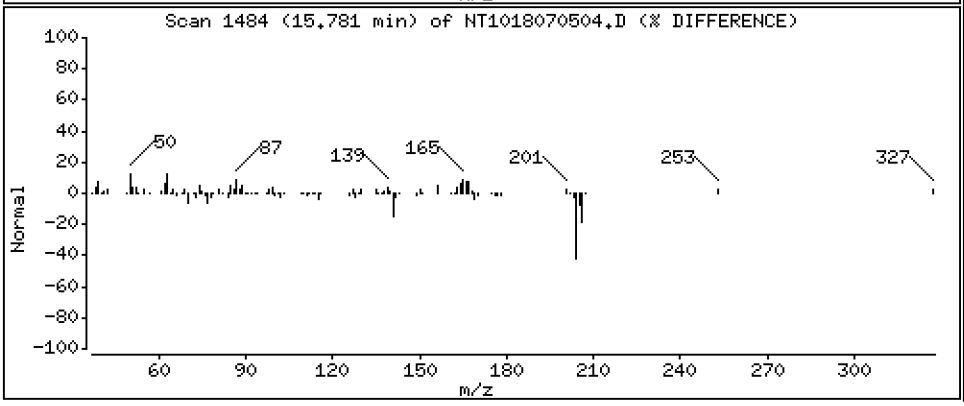












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

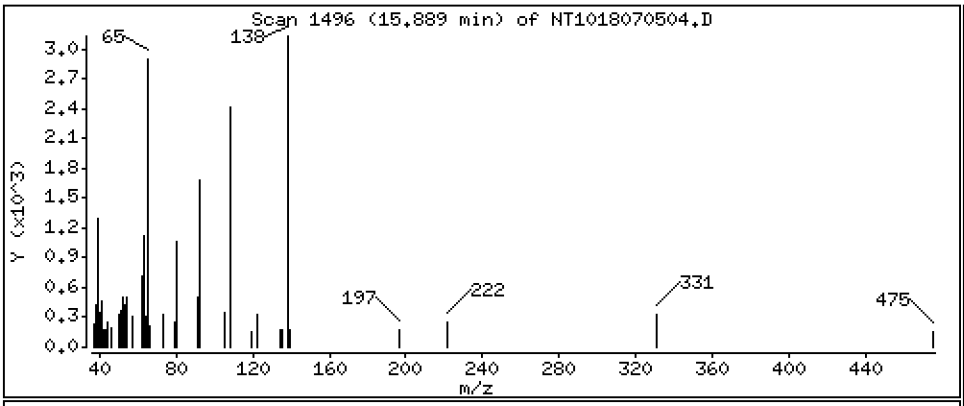
Operator: YZ

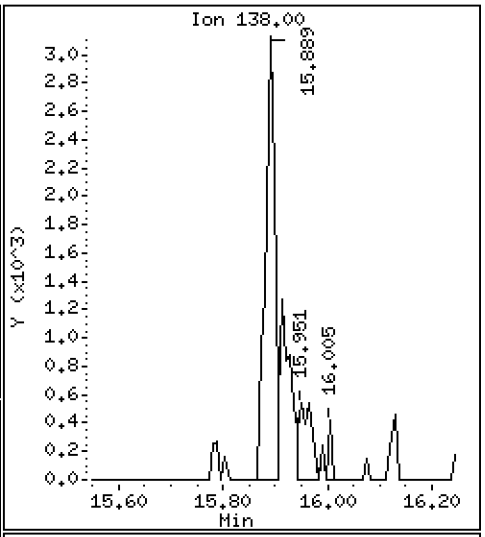
Column phase: ZB-5msi

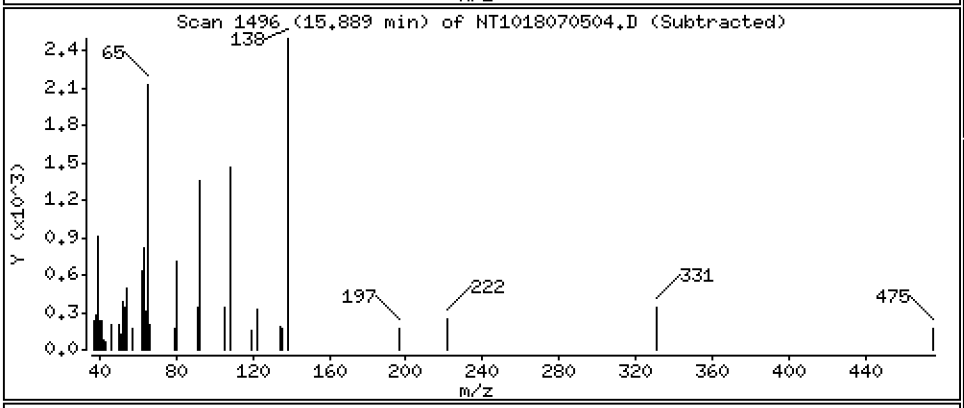
Column diameter: 0.25

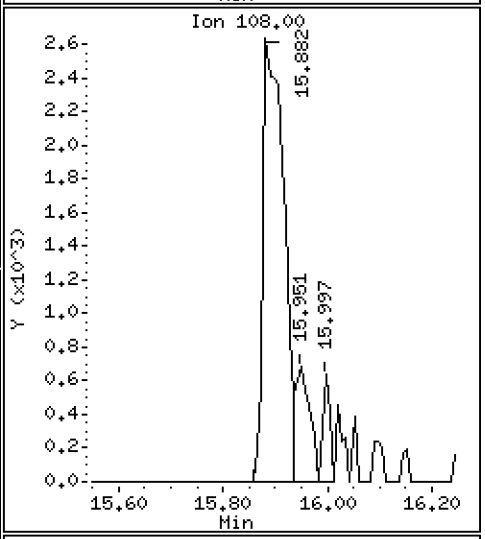
52 4-Nitroaniline

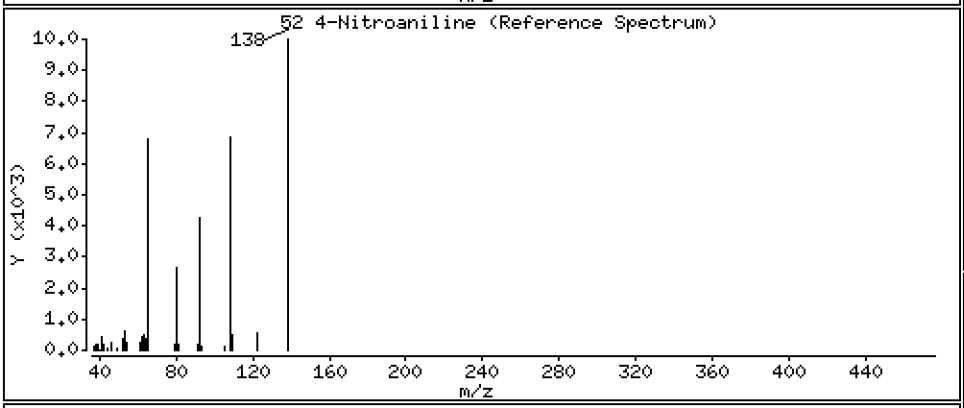
Concentration: 0.2427 ug/mL

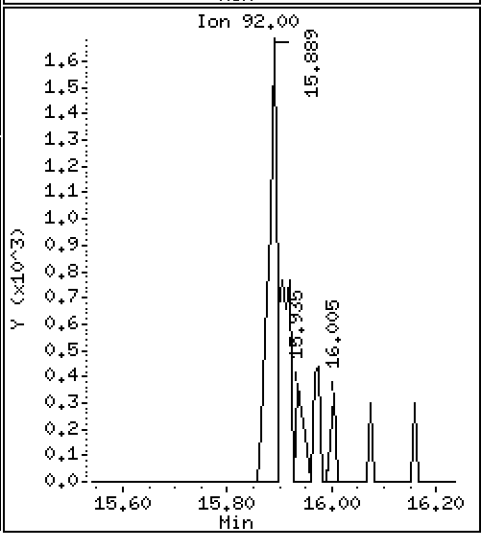


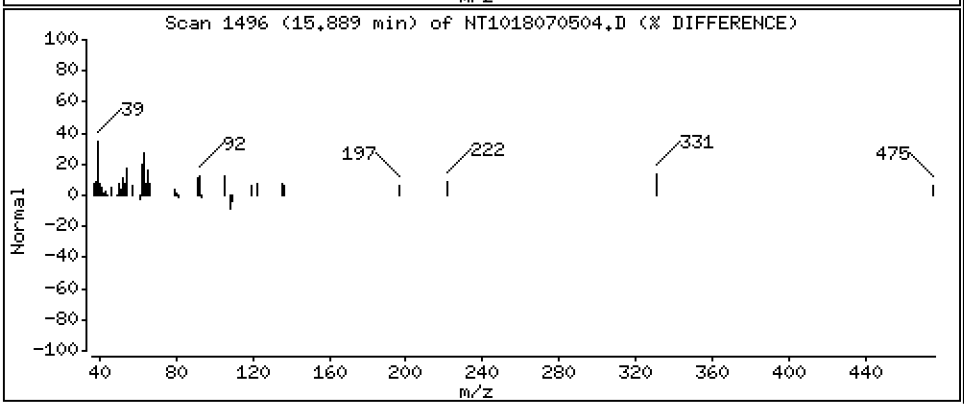












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

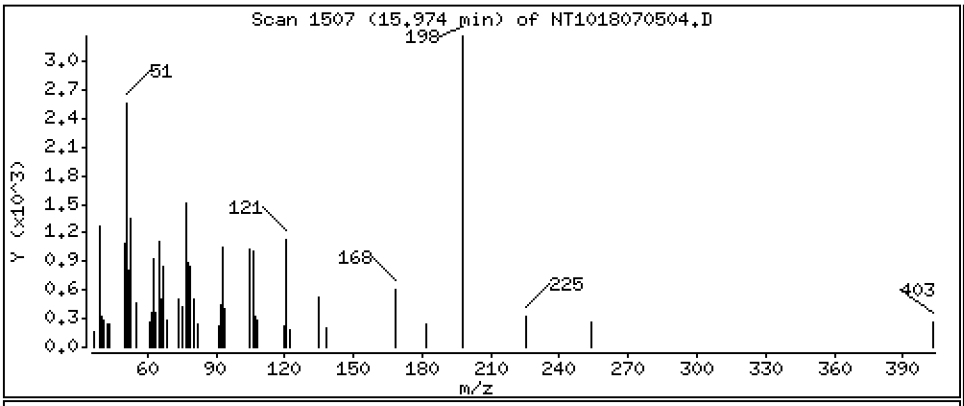
Operator: YZ

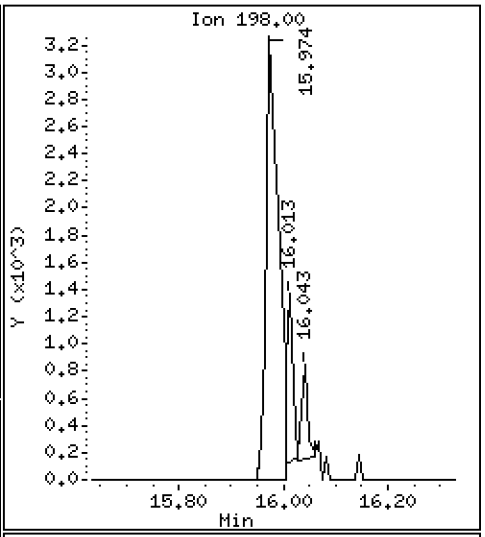
Column phase: ZB-5msi

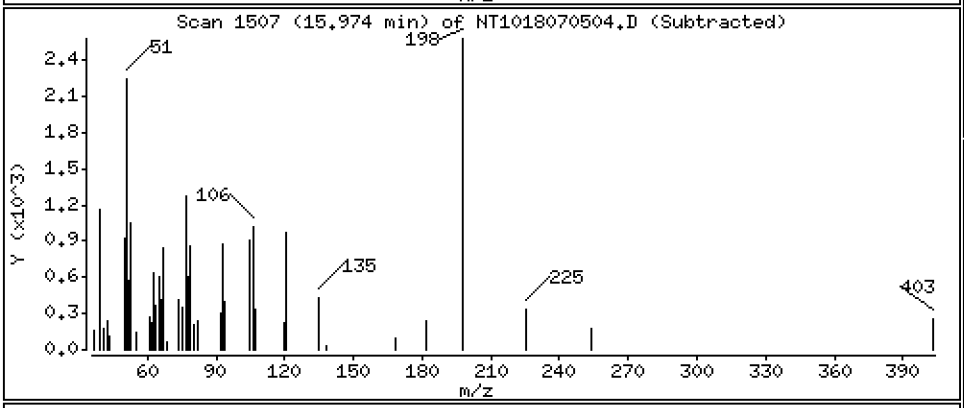
Column diameter: 0.25

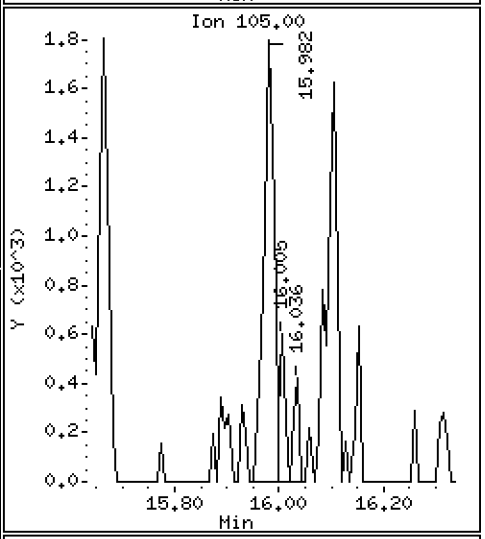
53 4,6-Dinitro-2-methylphenol

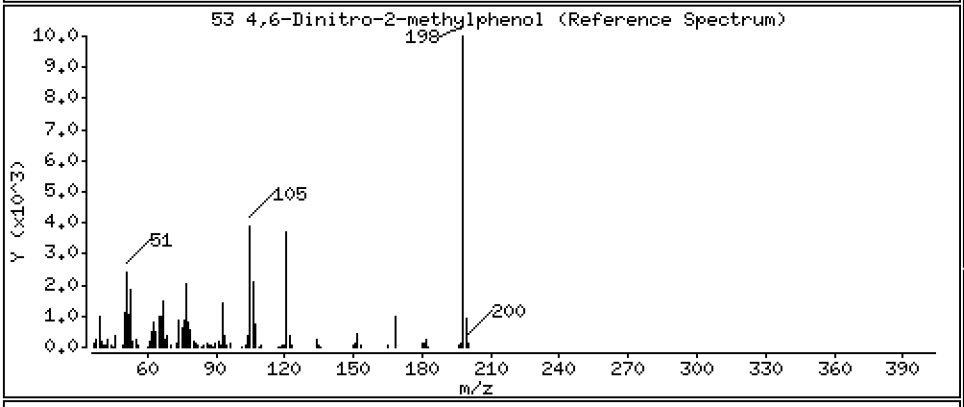
Concentration: 0.3467 ug/mL

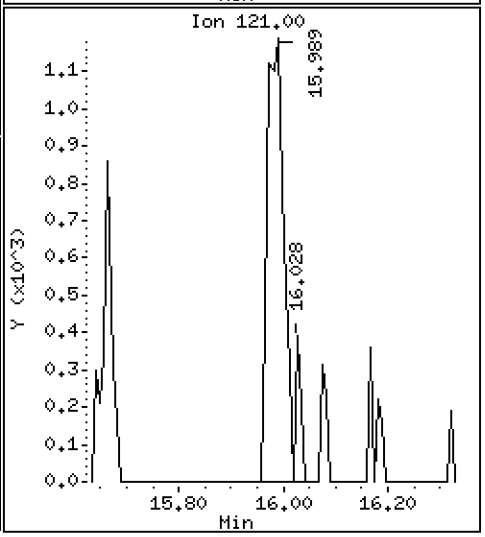


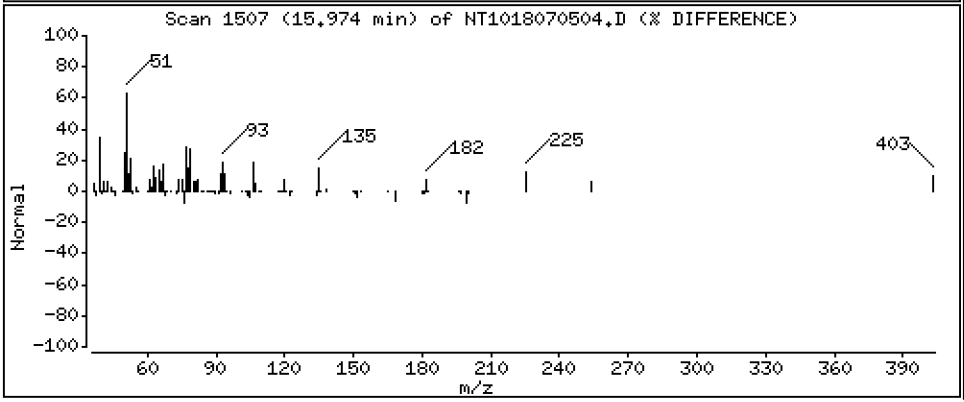












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

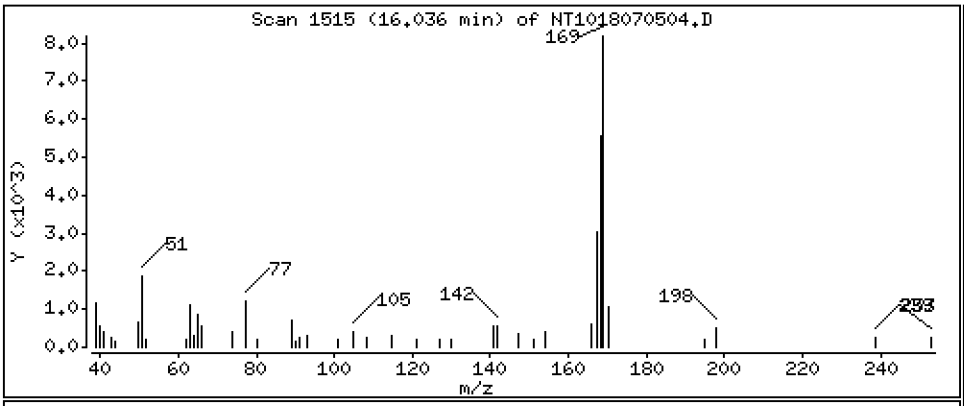
Operator: YZ

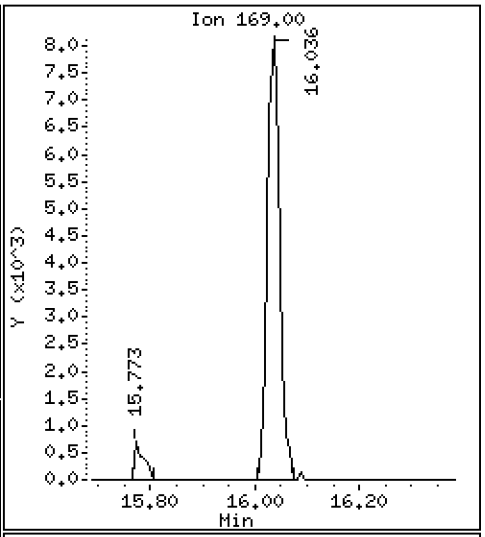
Column phase: ZB-5msi

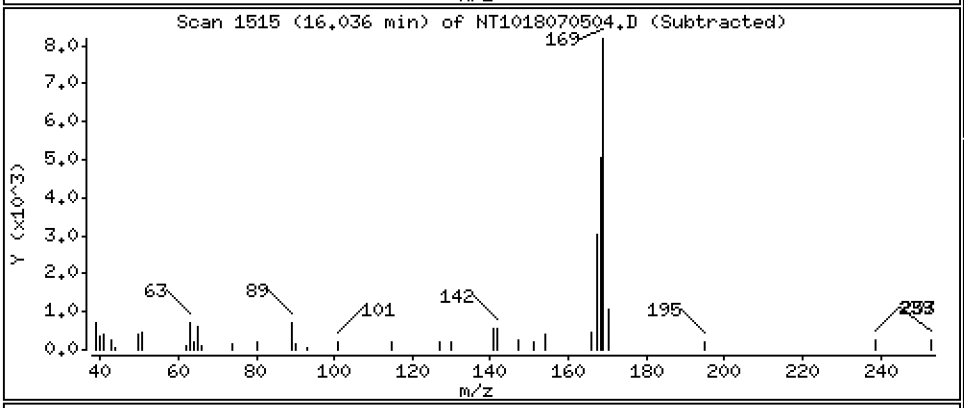
Column diameter: 0.25

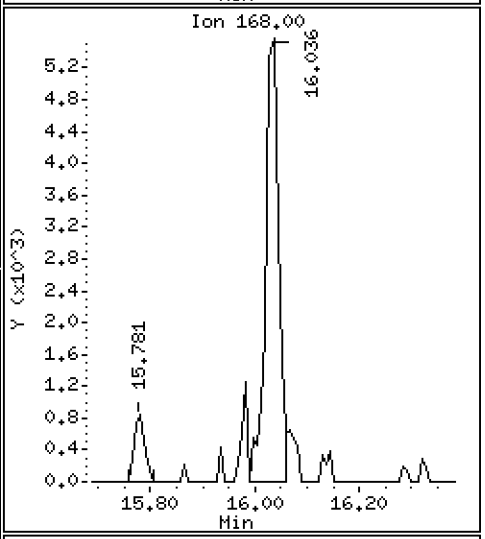
54 N-Nitrosodiphenylamine

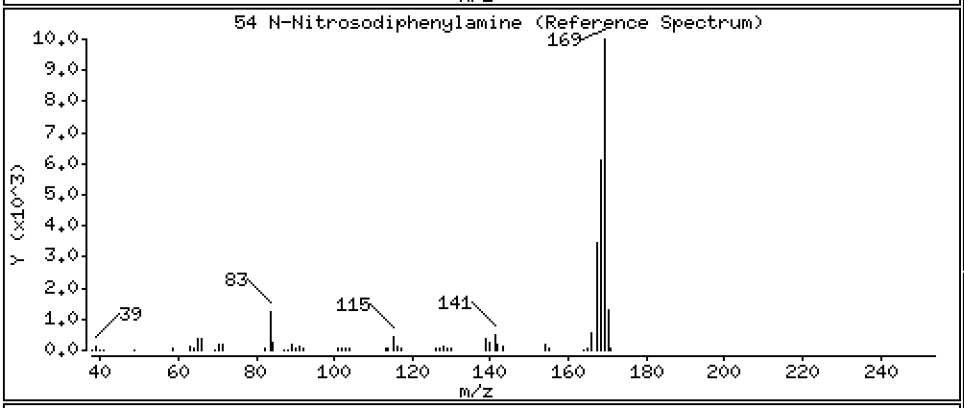
Concentration: 0.2699 ug/mL

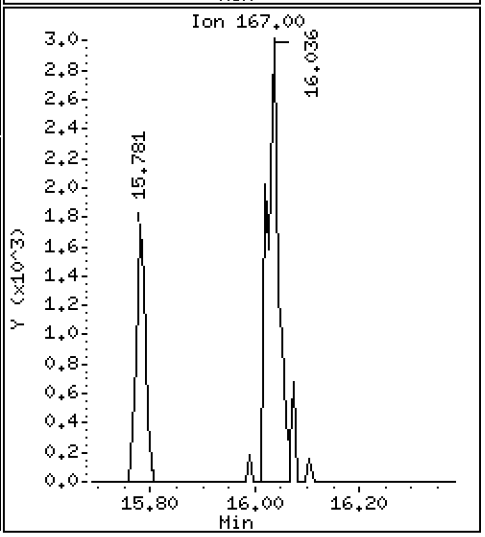


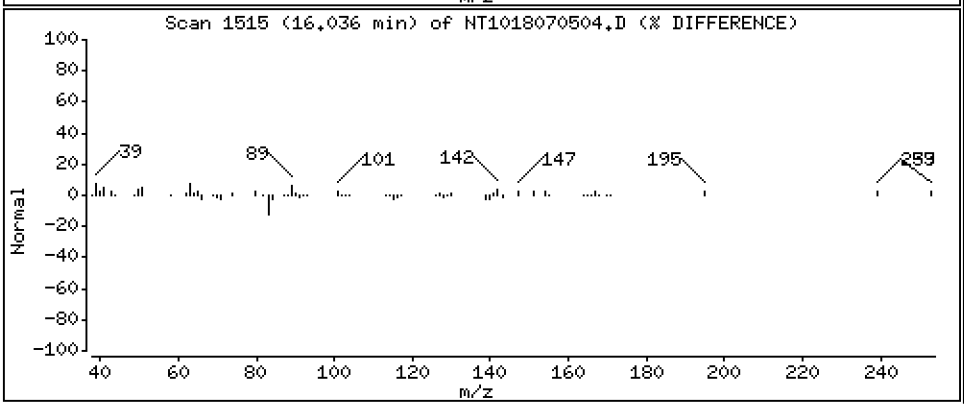












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

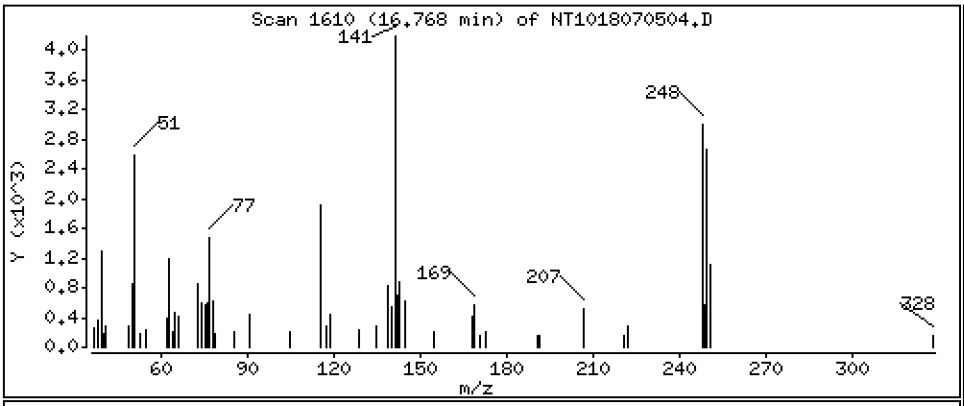
Operator: YZ

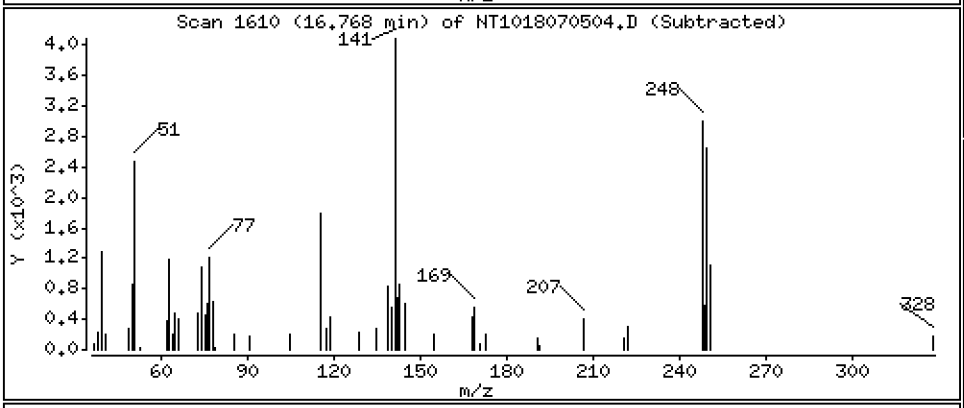
Column phase: ZB-5msi

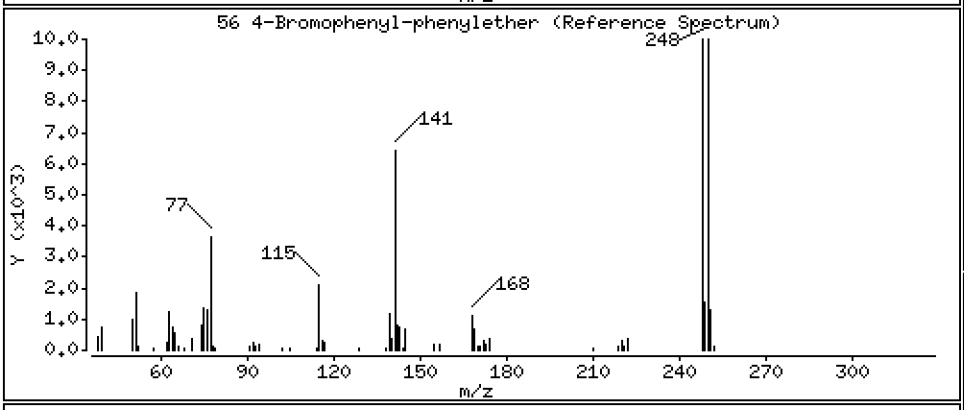
Column diameter: 0.25

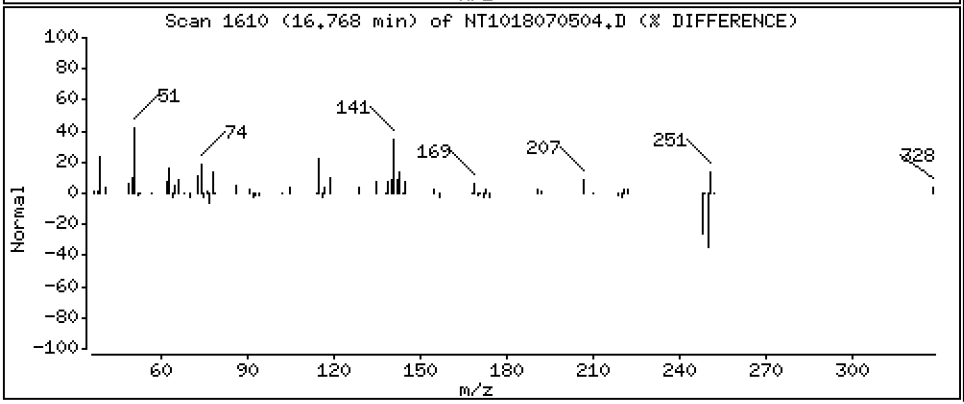
56 4-Bromophenyl-phenylether

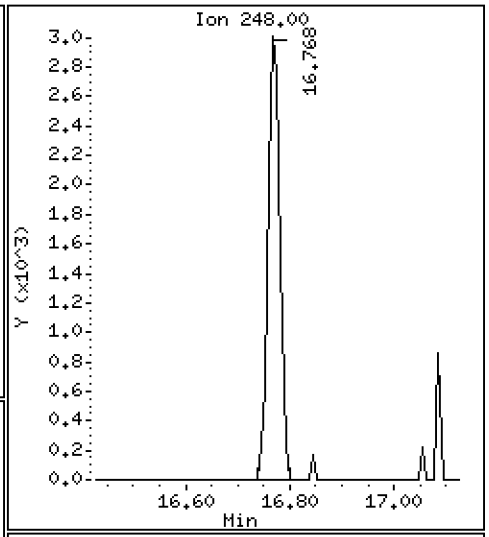
Concentration: 0.2298 ug/mL

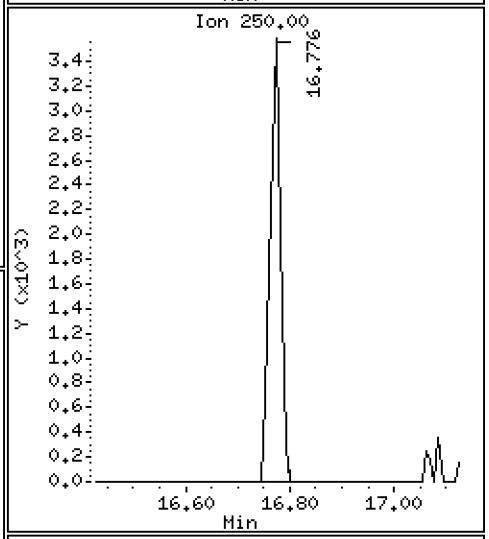


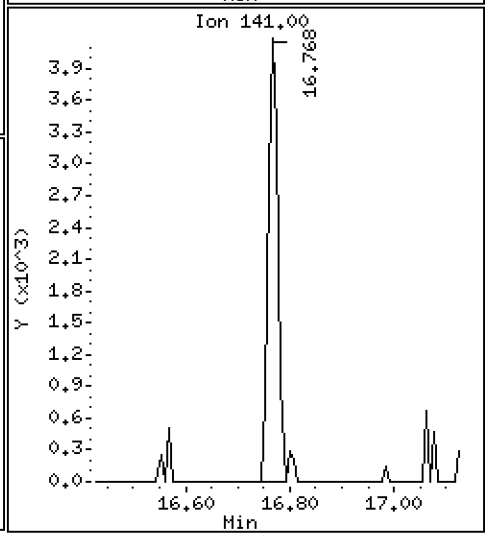












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

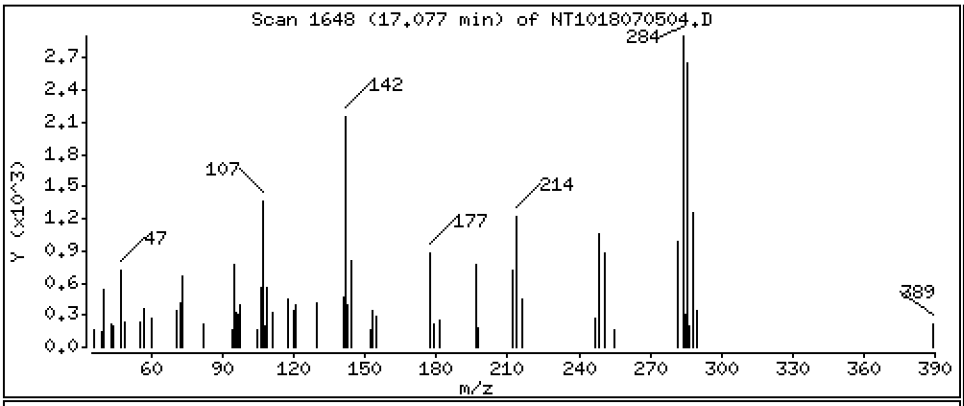
Operator: YZ

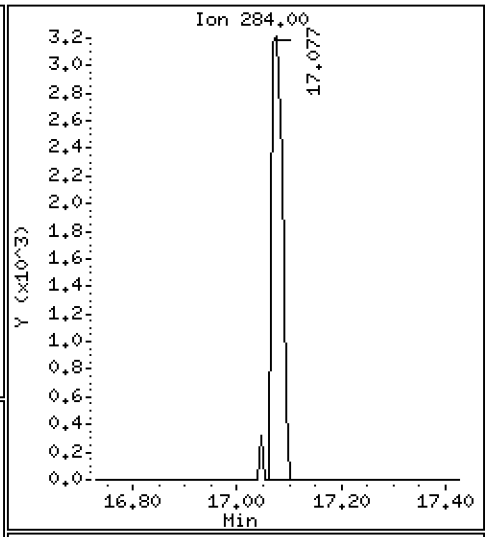
Column phase: ZB-5msi

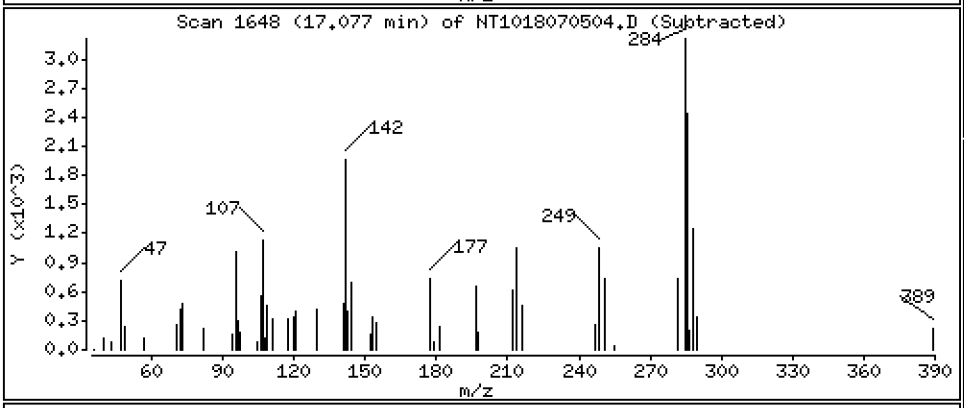
Column diameter: 0.25

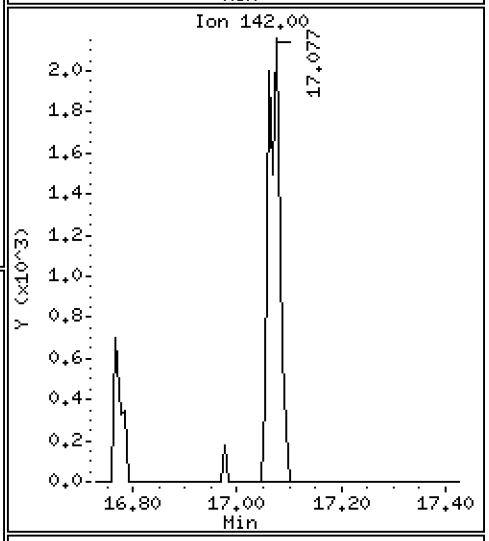
57 Hexachlorobenzene

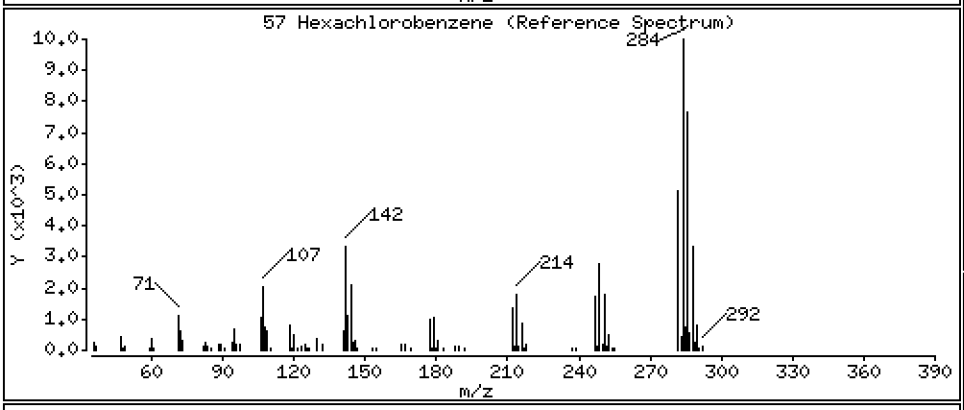
Concentration: 0.2150 ug/mL

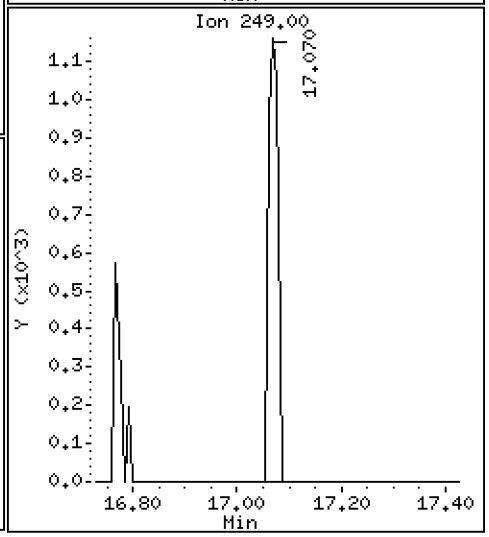


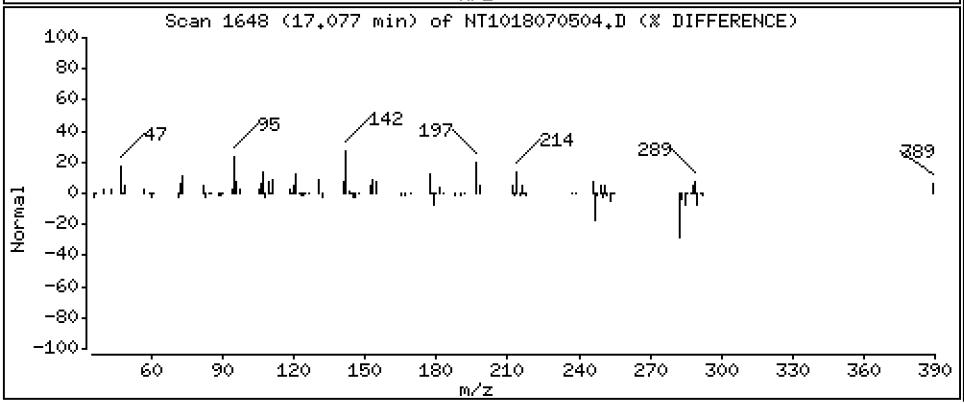












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

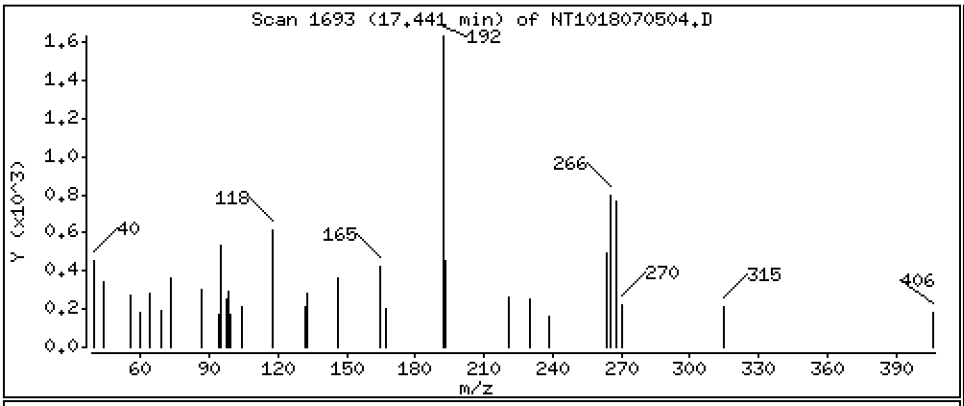
Operator: YZ

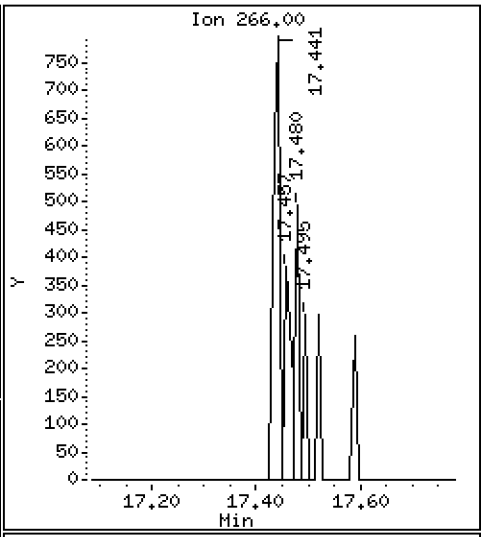
Column phase: ZB-5msi

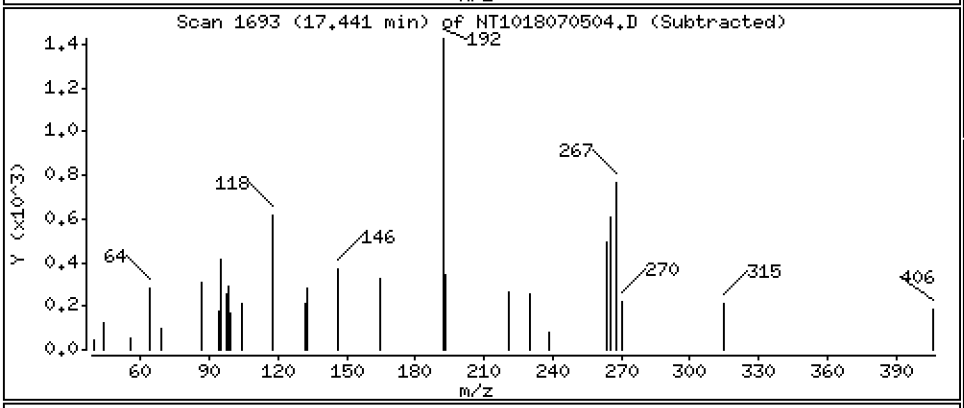
Column diameter: 0.25

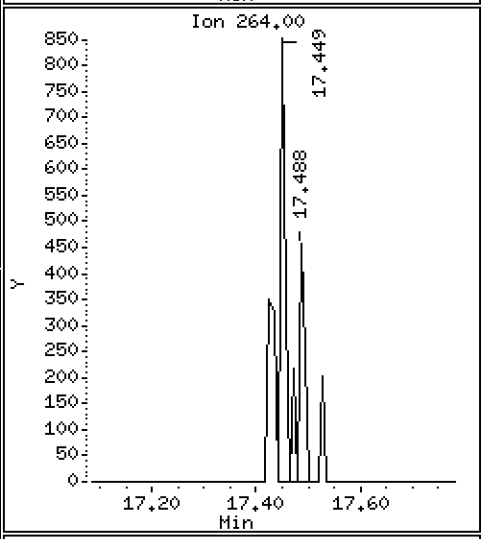
58 Pentachlorophenol

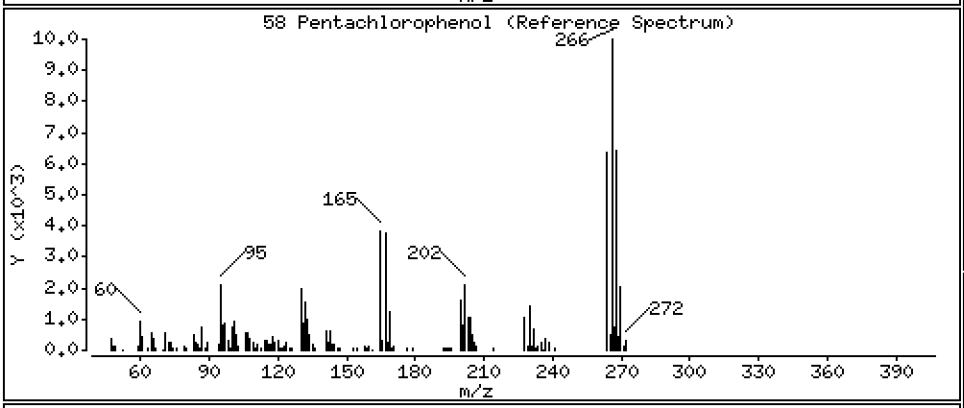
Concentration: 0.05568 ug/mL

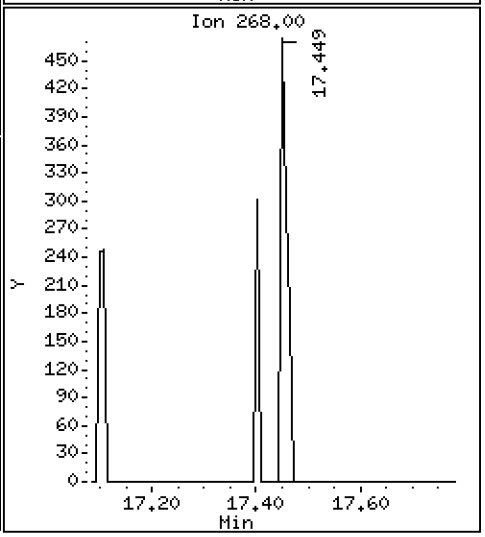


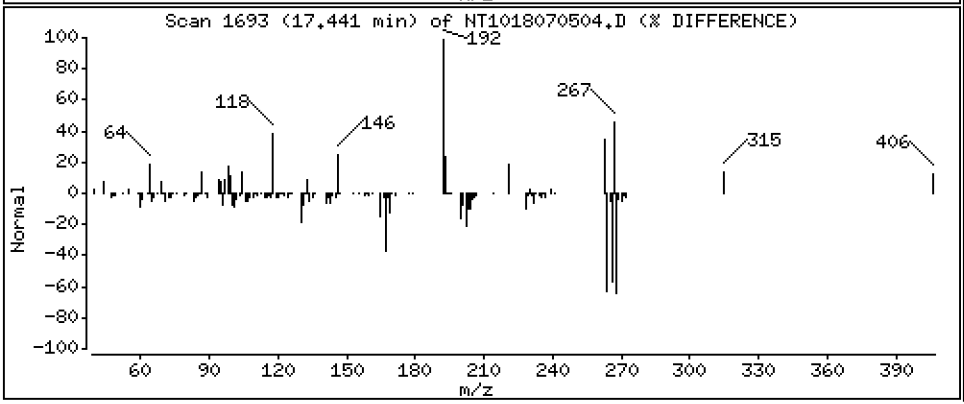












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

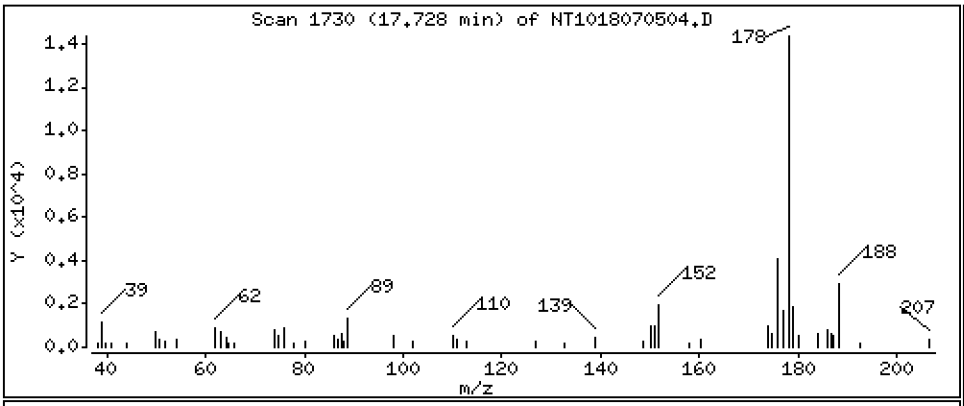
Operator: YZ

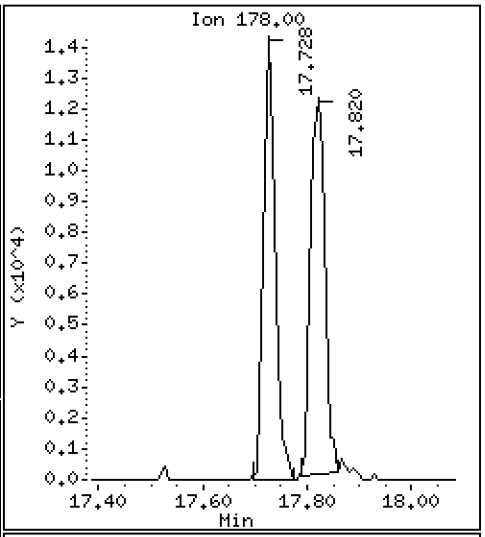
Column phase: ZB-5msi

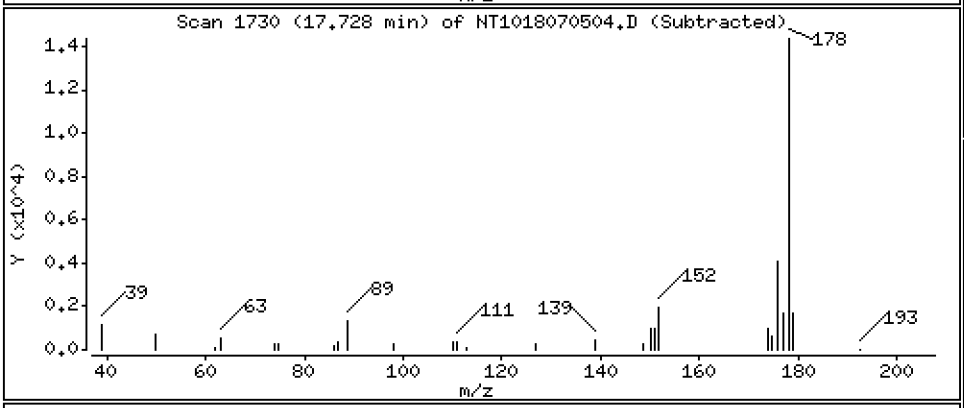
Column diameter: 0.25

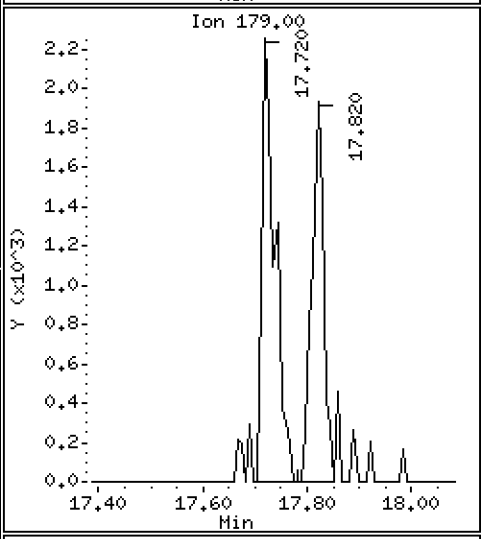
60 Phenanthrene

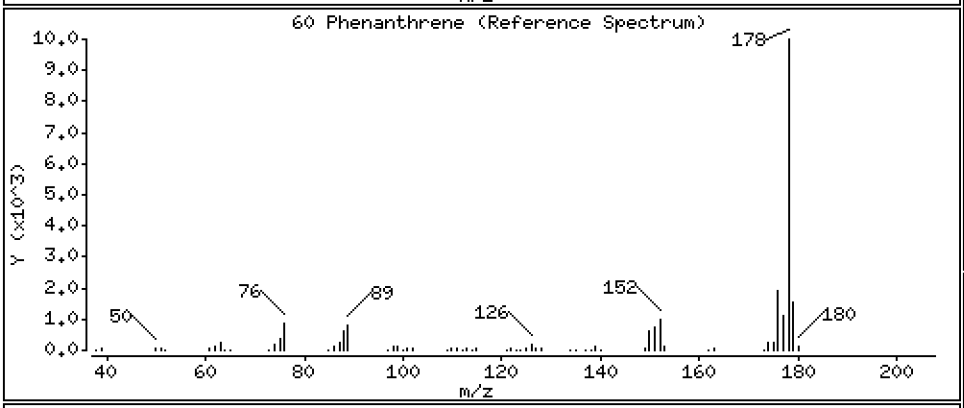
Concentration: 0.2397 ug/mL

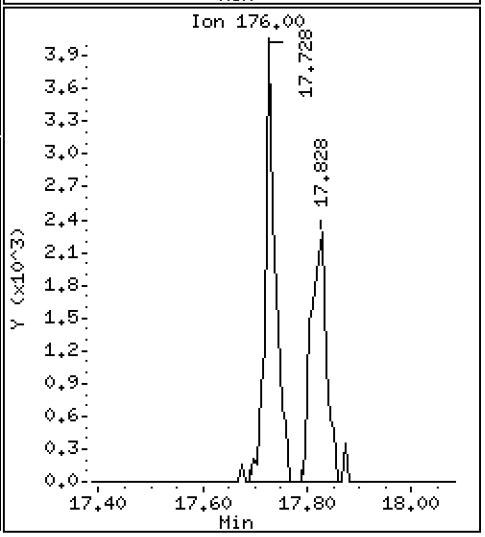


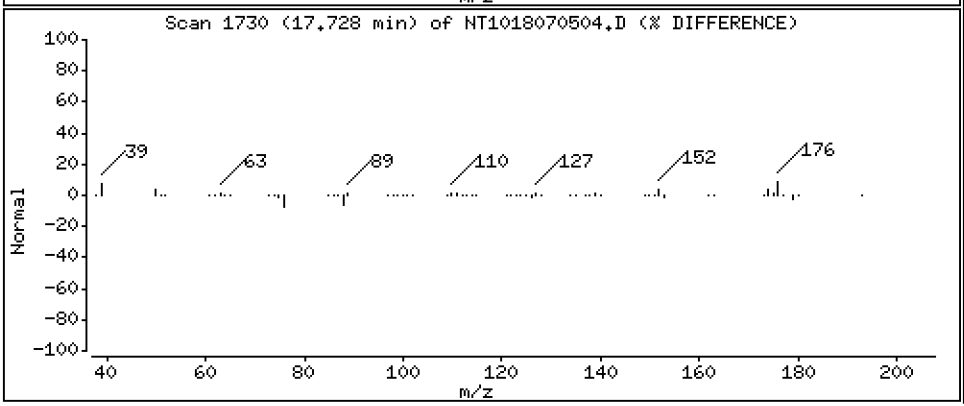












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

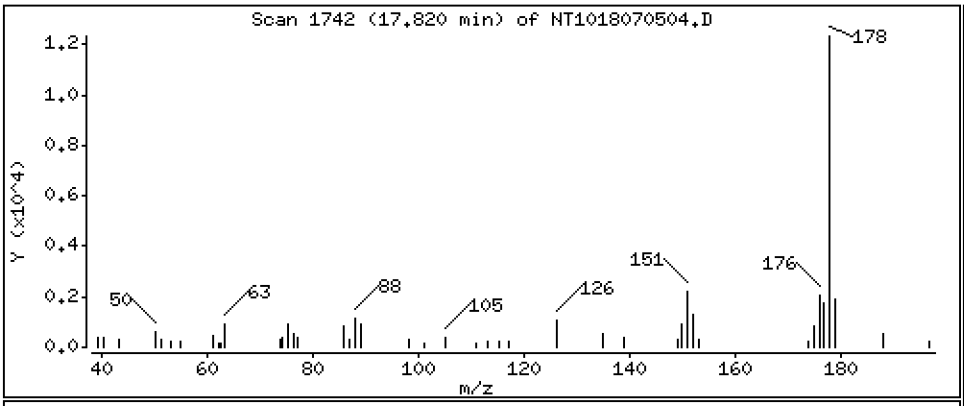
Operator: YZ

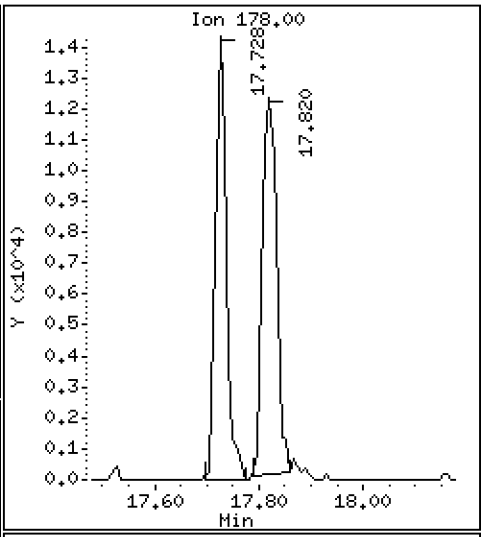
Column phase: ZB-5msi

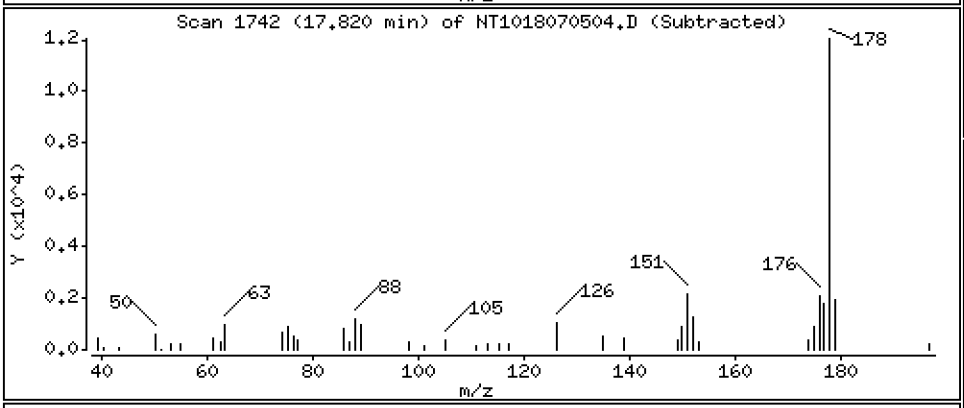
Column diameter: 0.25

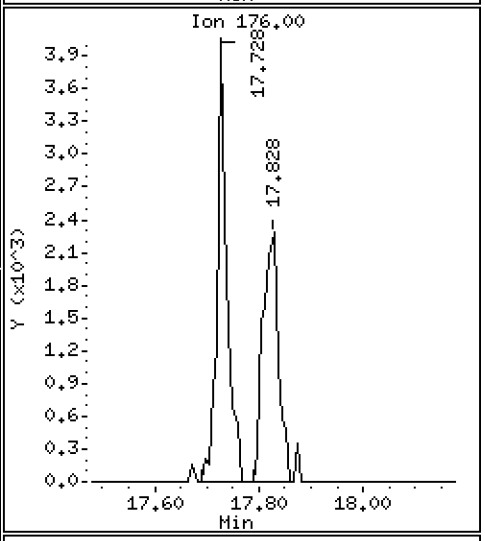
61 Anthracene

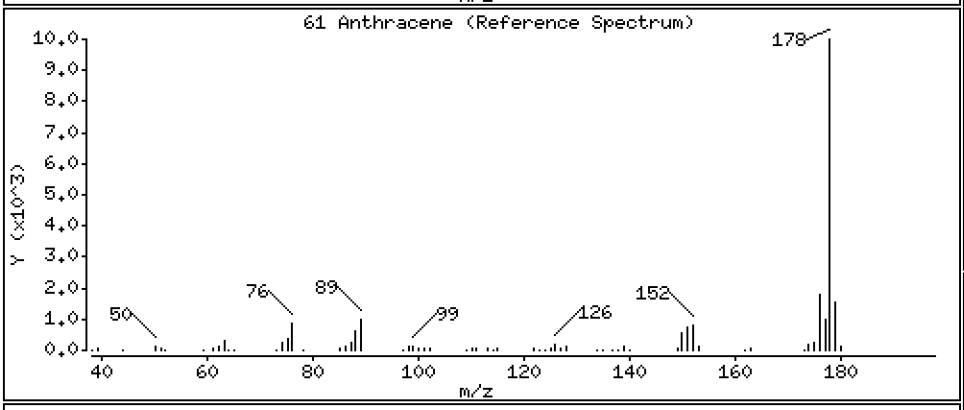
Concentration: 0.2295 ug/mL

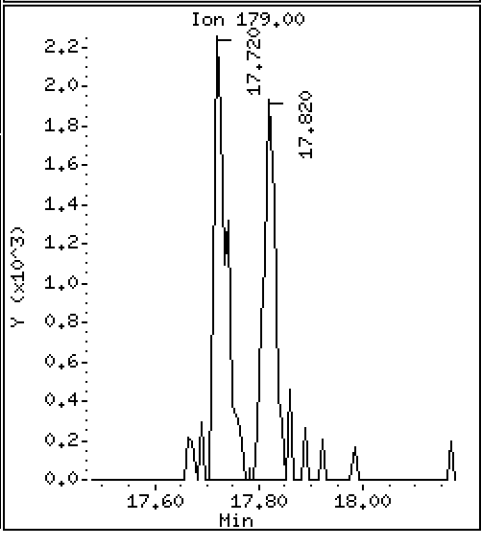


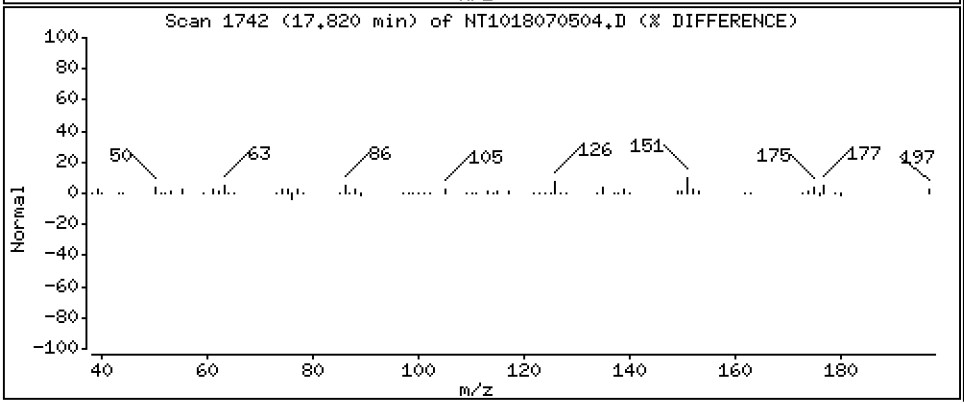












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

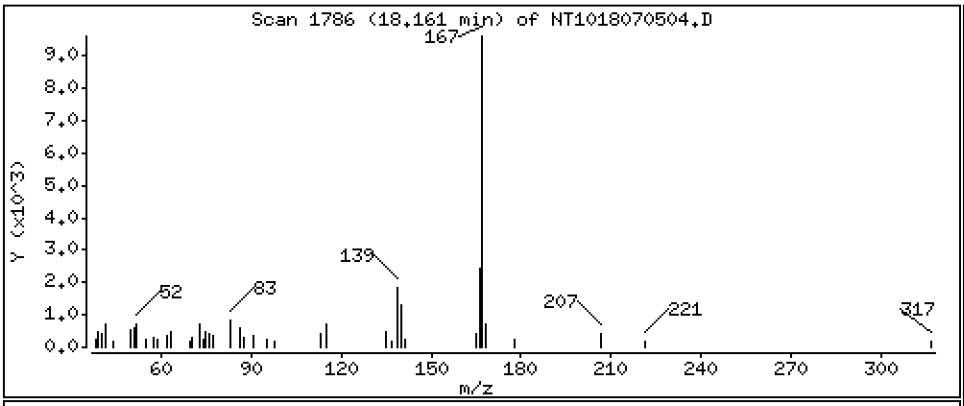
Operator: YZ

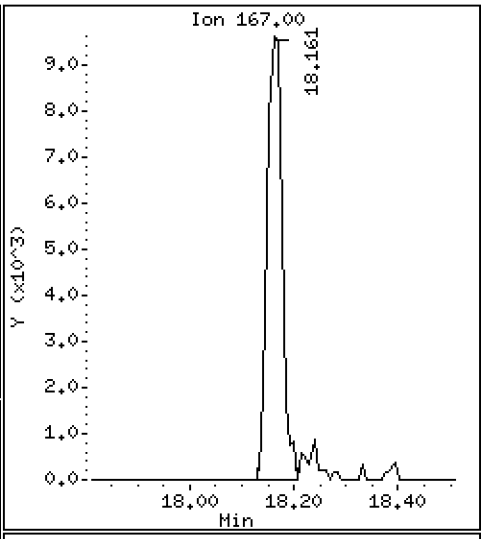
Column phase: ZB-5msi

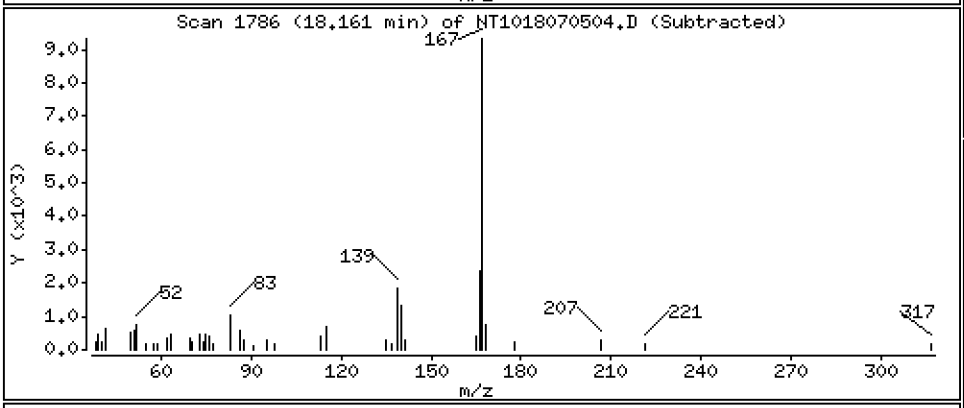
Column diameter: 0.25

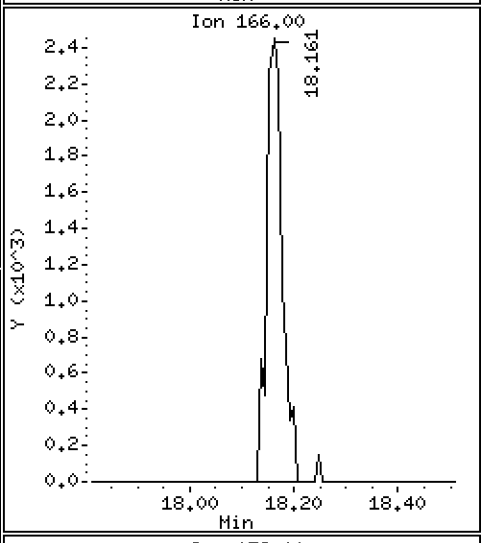
62 Carbazole

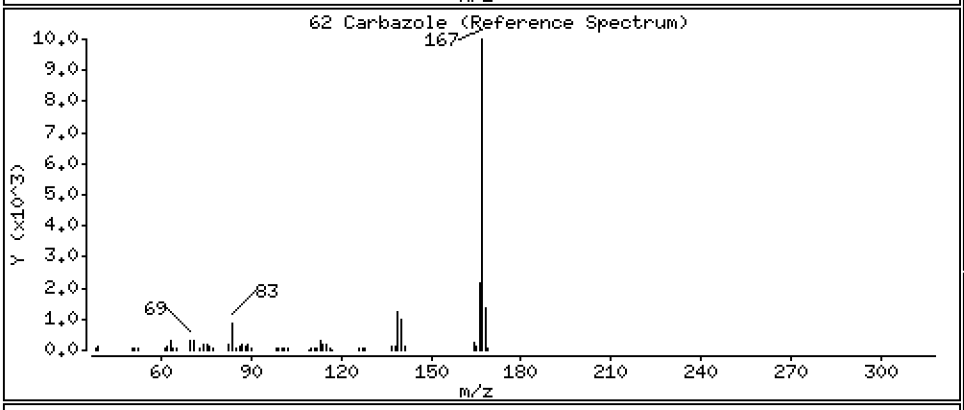
Concentration: 0.2150 ug/mL

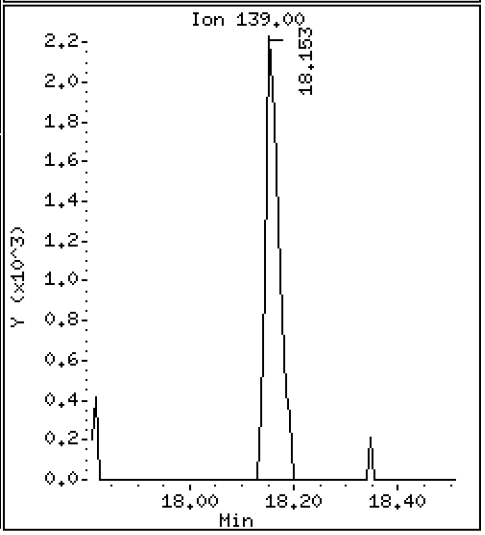


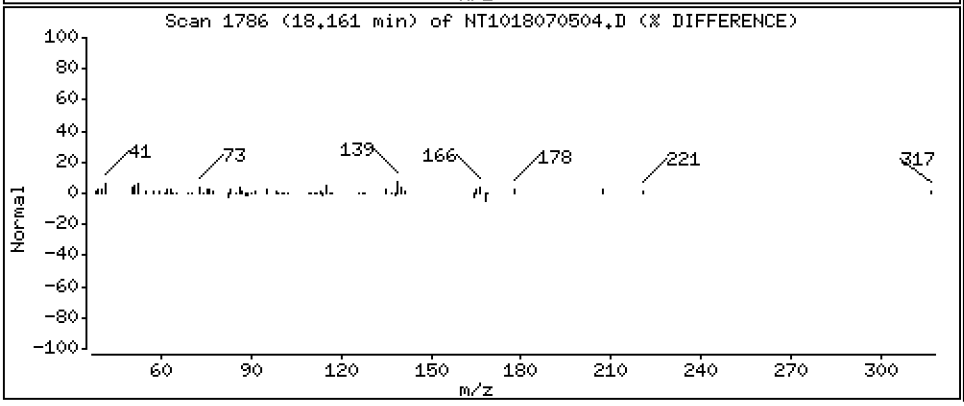












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

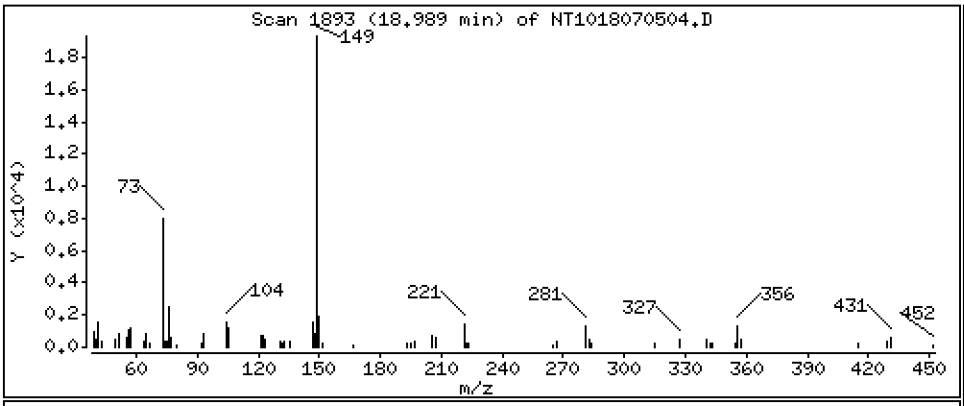
Operator: YZ

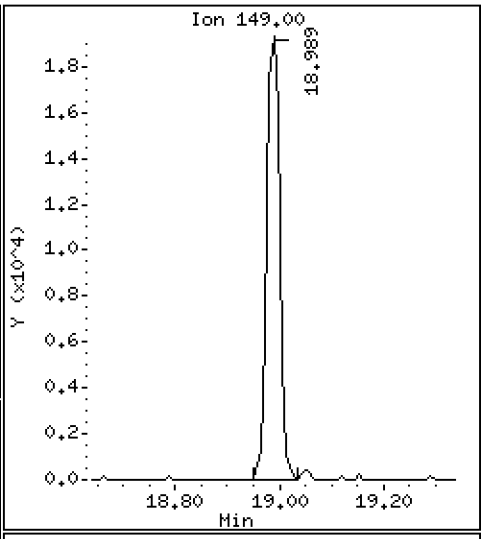
Column phase: ZB-5msi

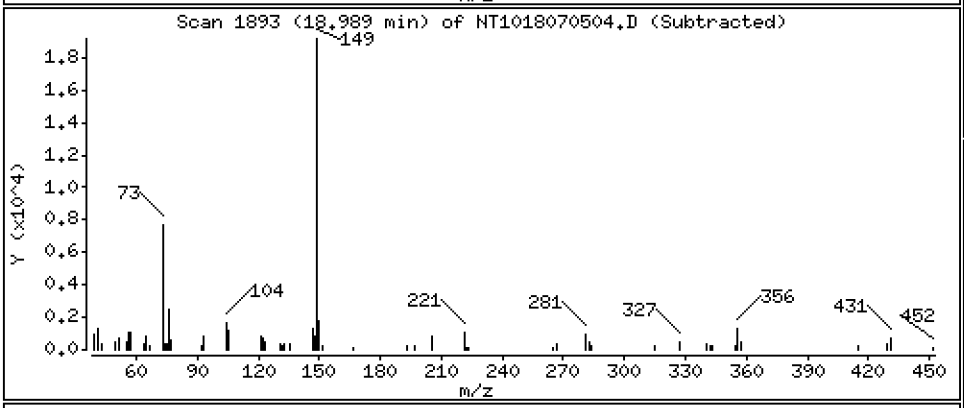
Column diameter: 0.25

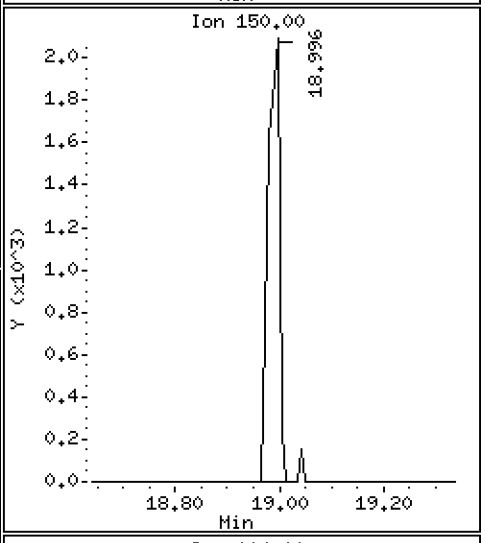
63 Di-n-butylphthalate

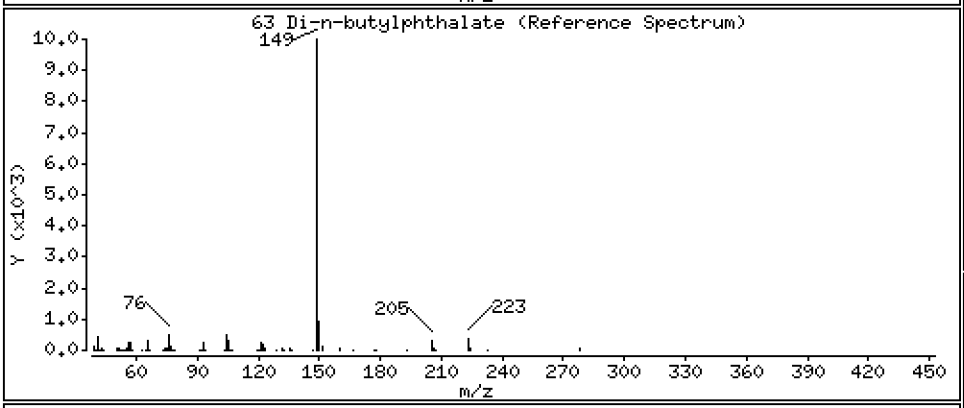
Concentration: 0.2393 ug/mL

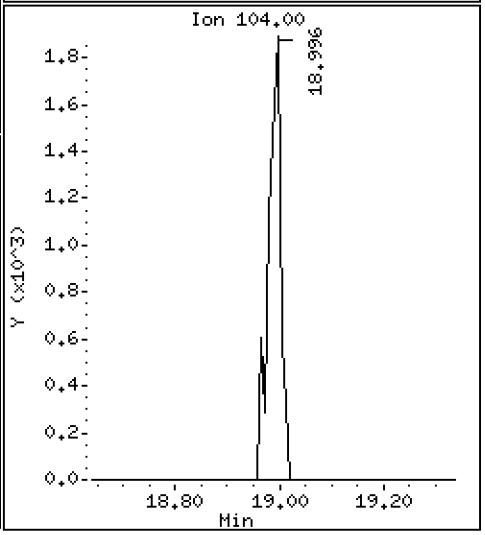


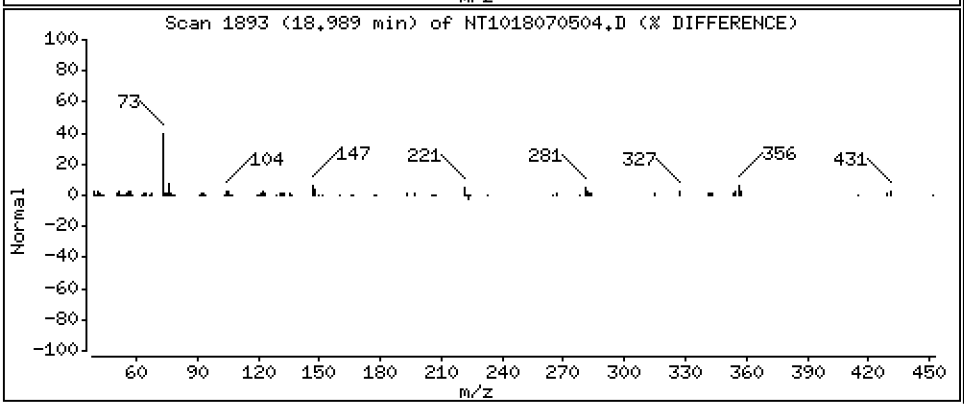












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

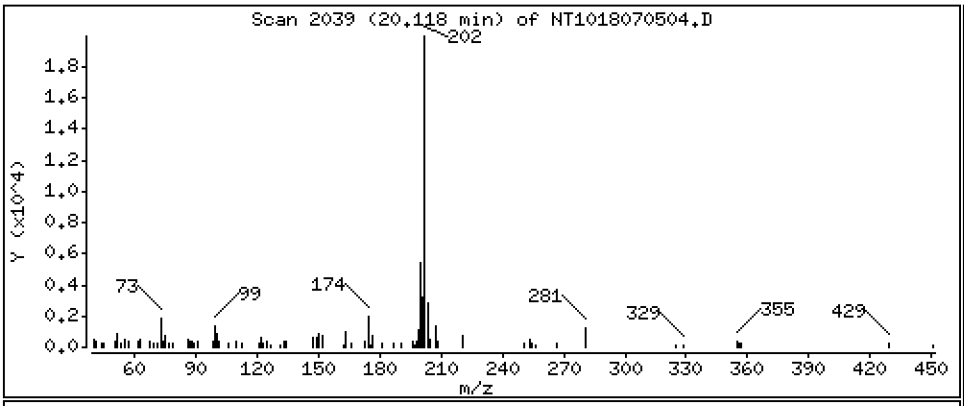
Operator: YZ

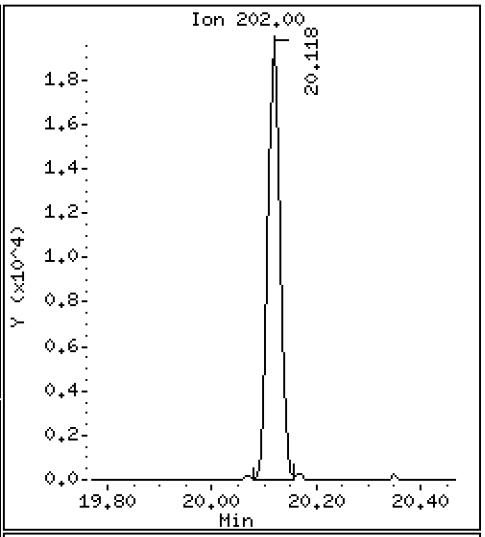
Column phase: ZB-5msi

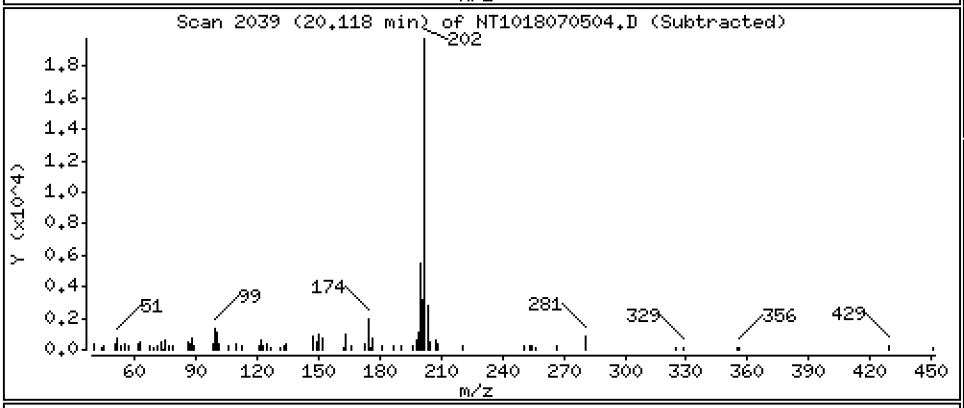
Column diameter: 0.25

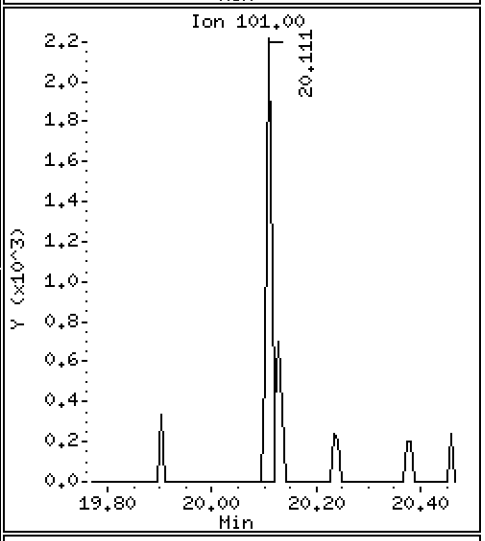
64 Fluoranthene

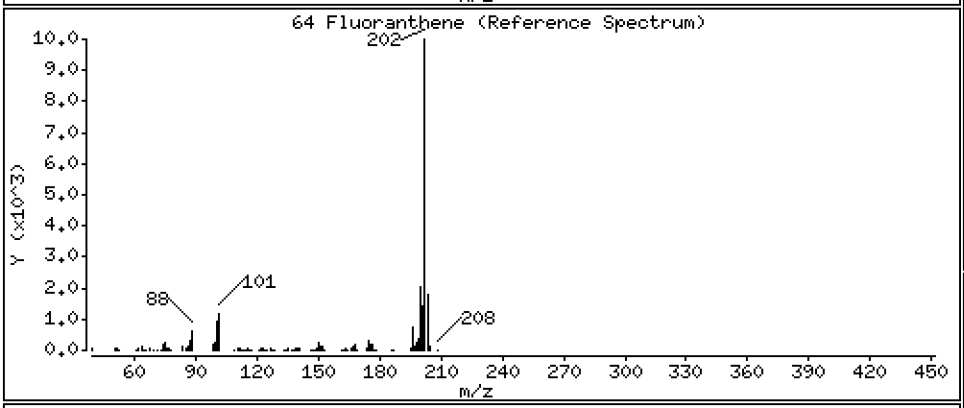
Concentration: 0.2182 ug/mL

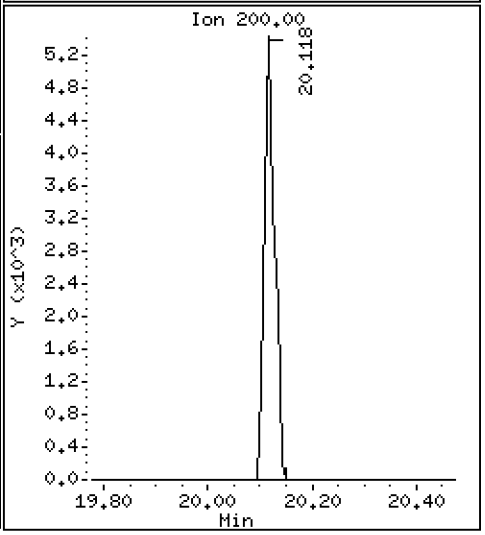


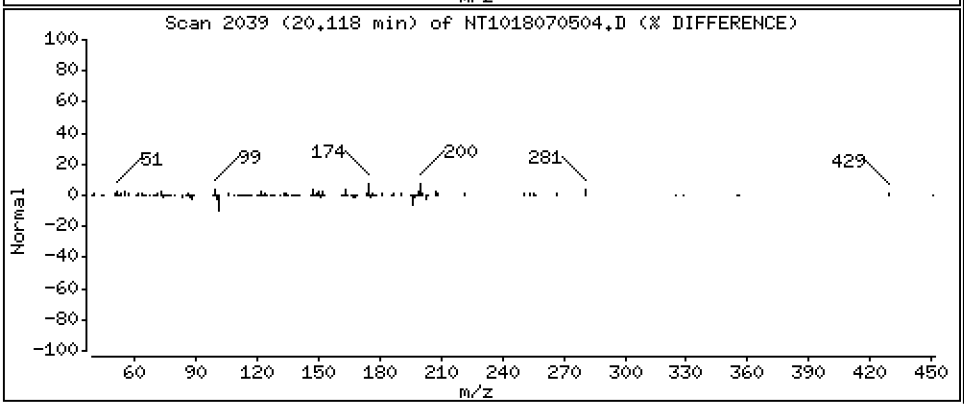












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

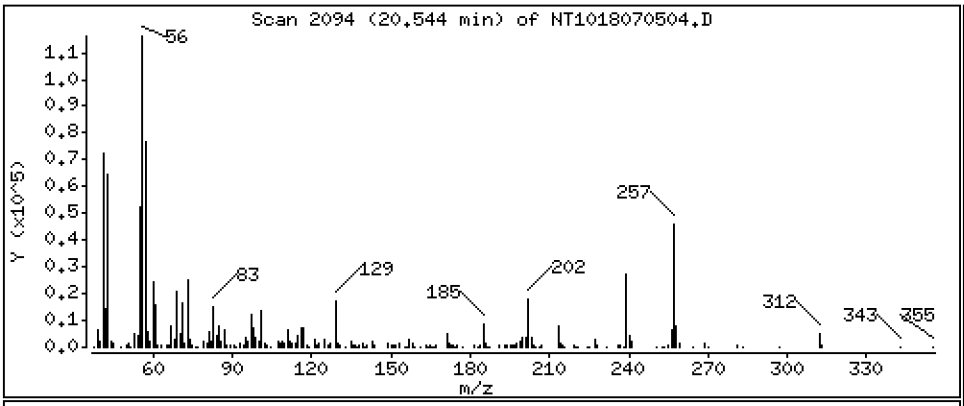
Operator: YZ

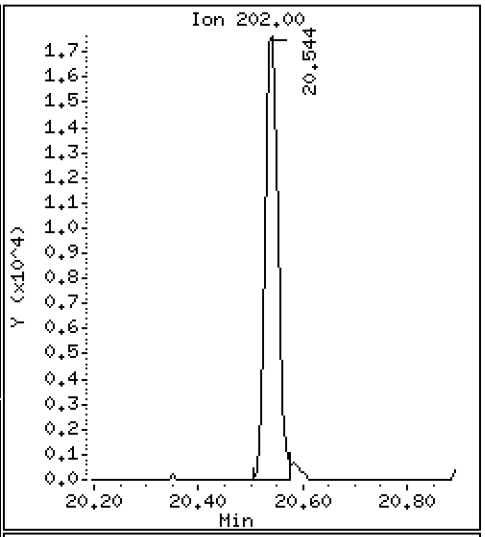
Column phase: ZB-5msi

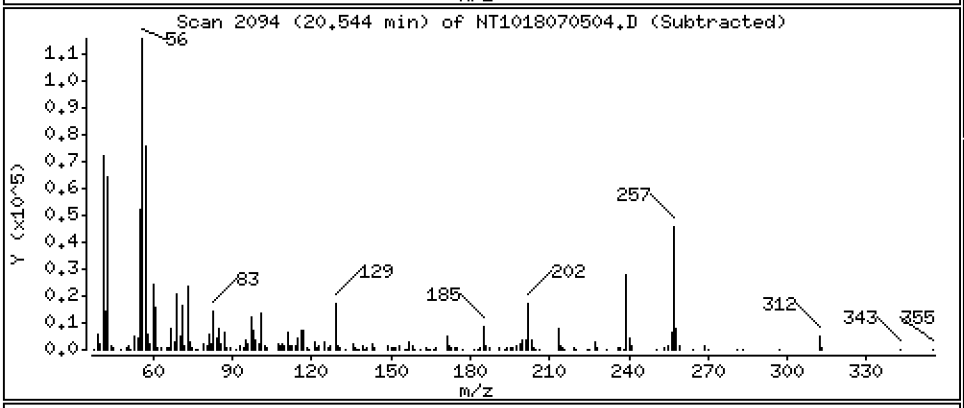
Column diameter: 0.25

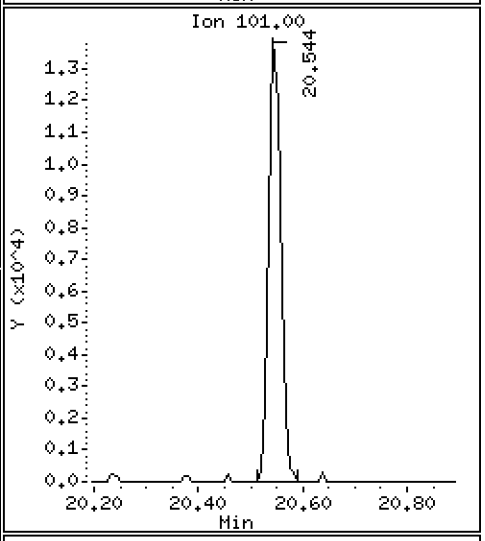
65 Pyrene

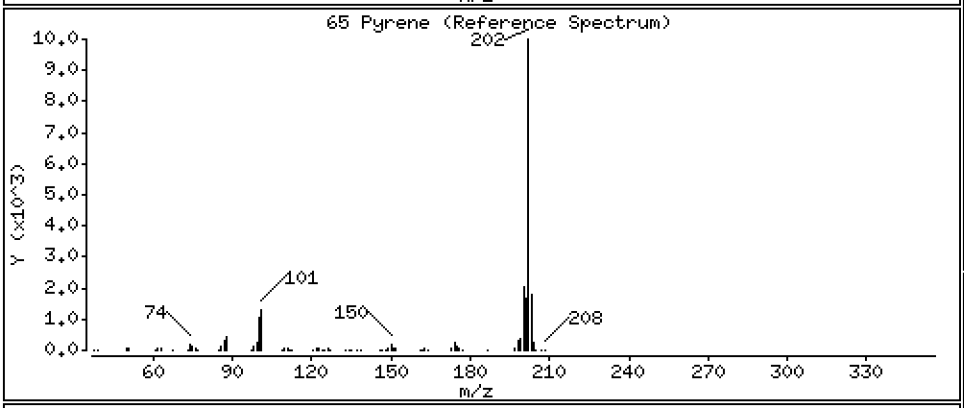
Concentration: 0.1991 ug/mL

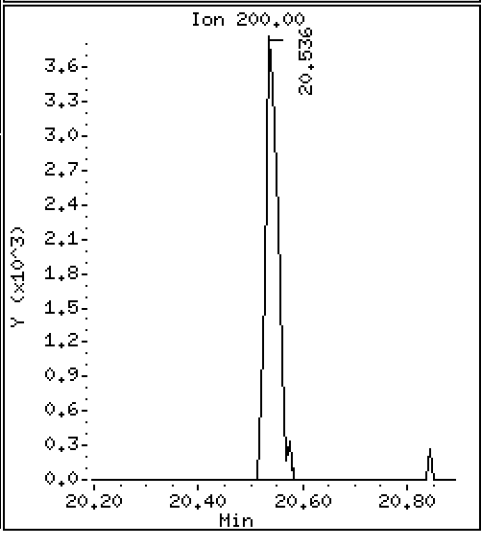


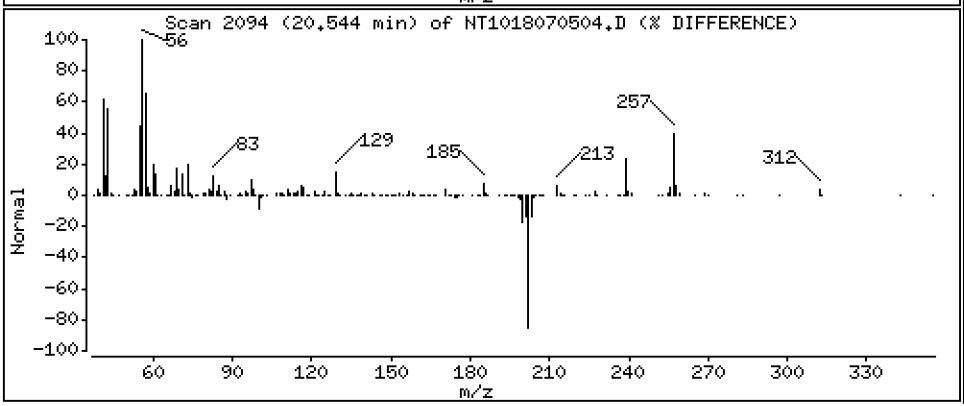












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

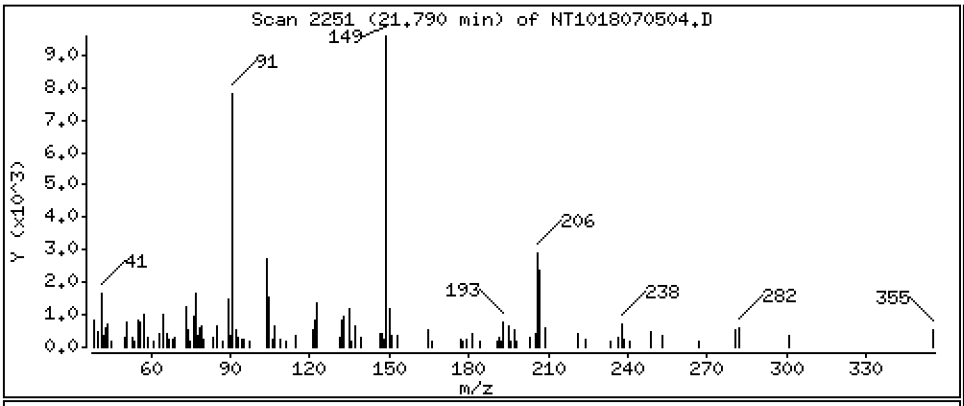
Operator: YZ

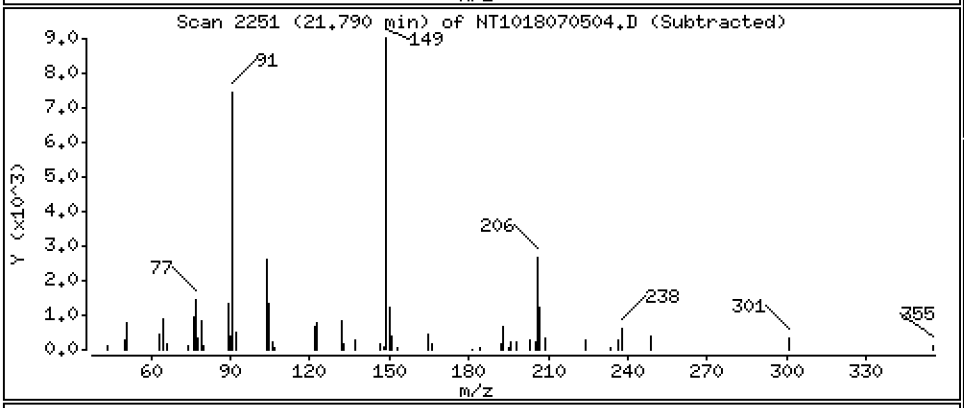
Column phase: ZB-5msi

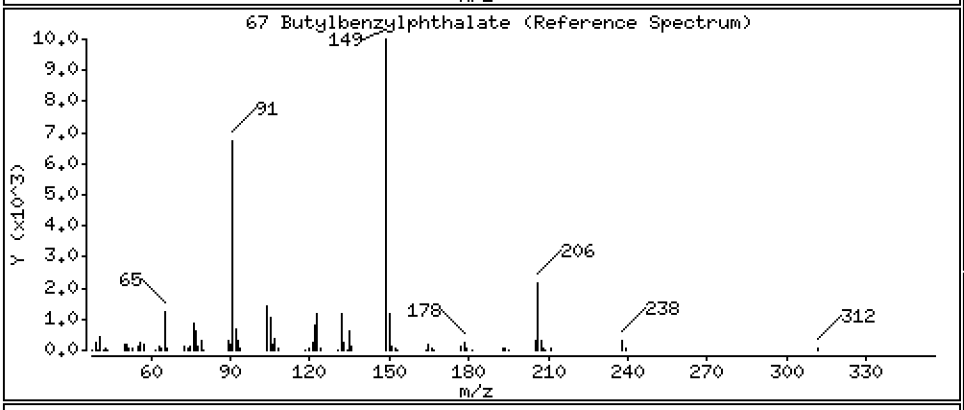
Column diameter: 0.25

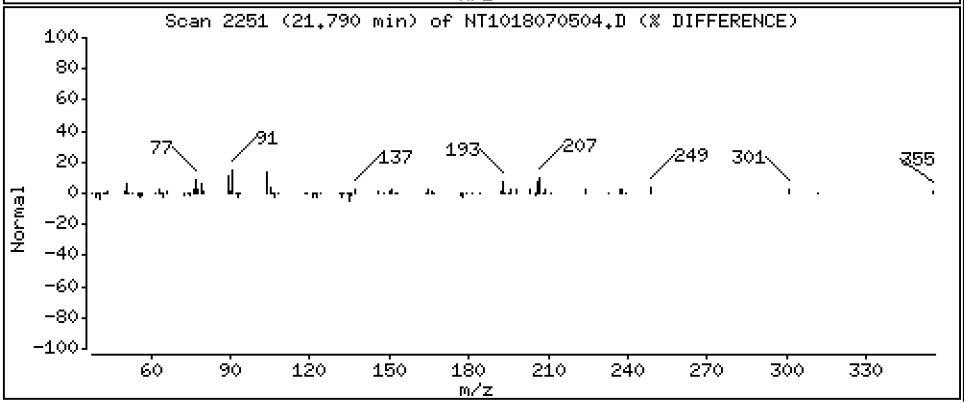
67 Butylbenzylphthalate

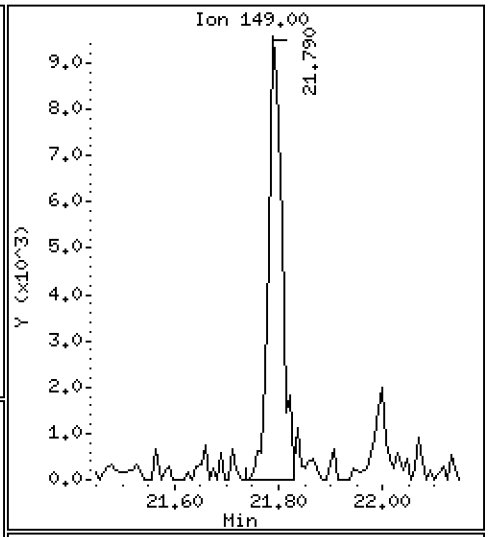
Concentration: 0.2900 ug/mL

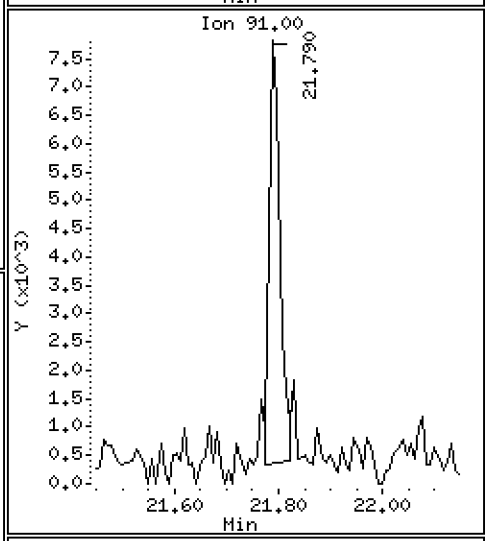


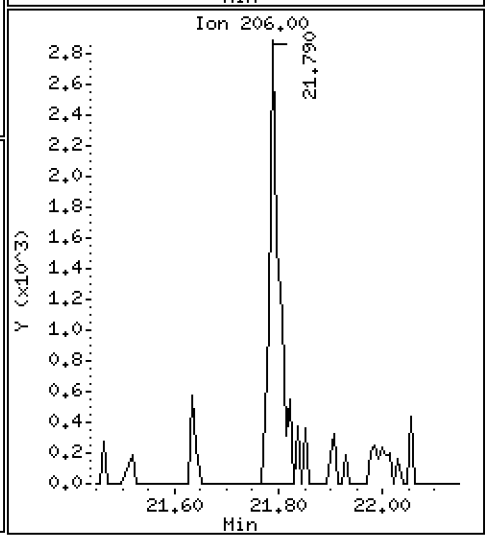












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

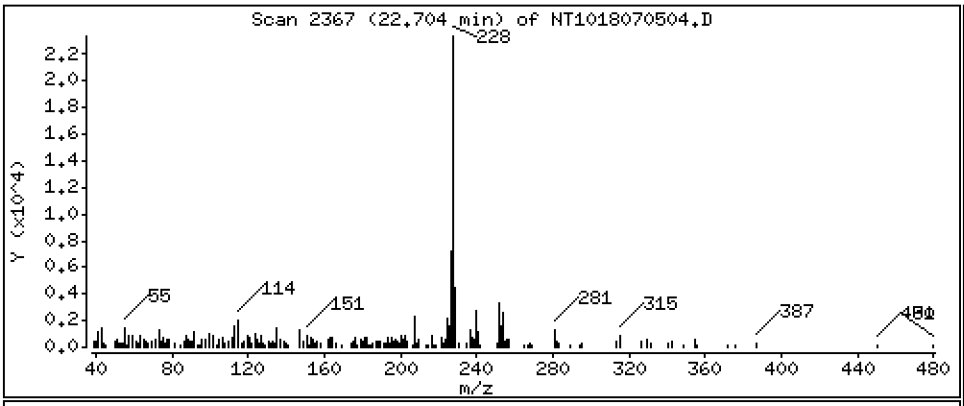
Operator: YZ

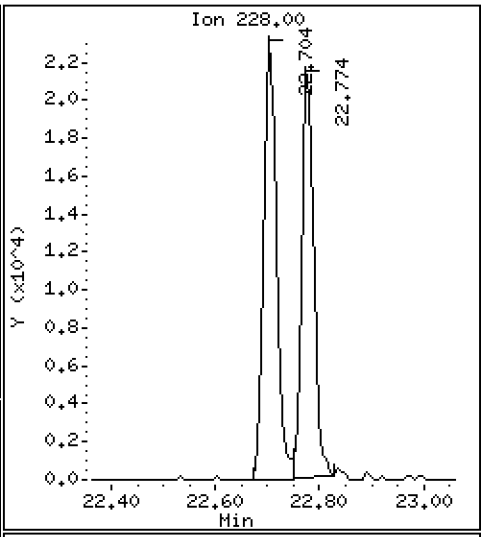
Column phase: ZB-5msi

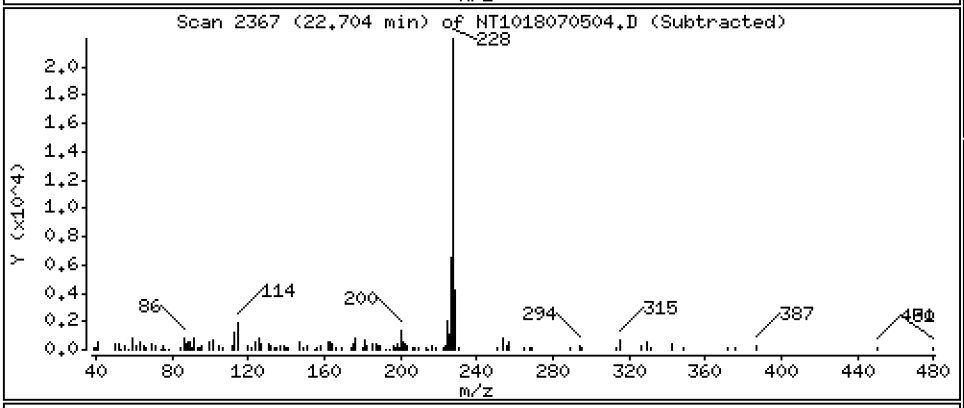
Column diameter: 0.25

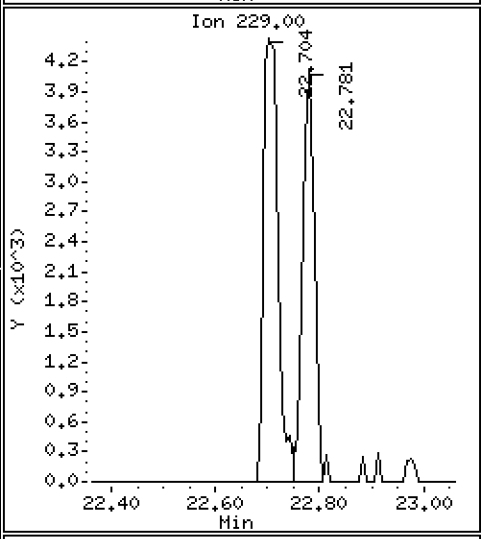
68 Benzo(a)anthracene

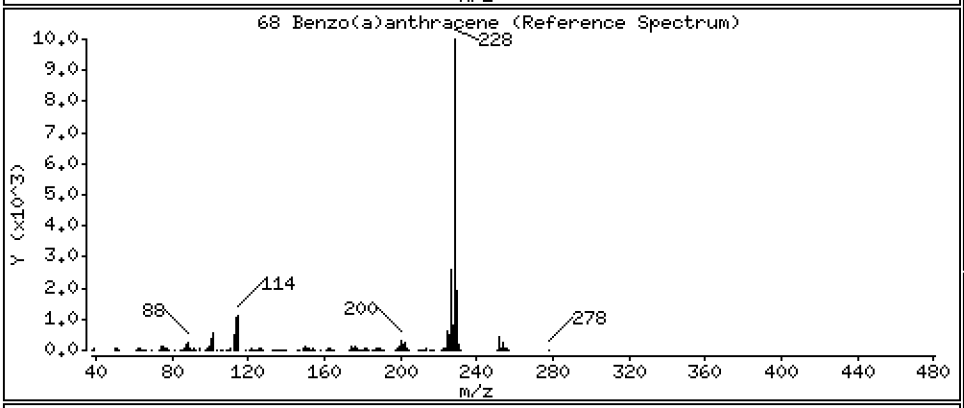
Concentration: 0.2957 ug/mL

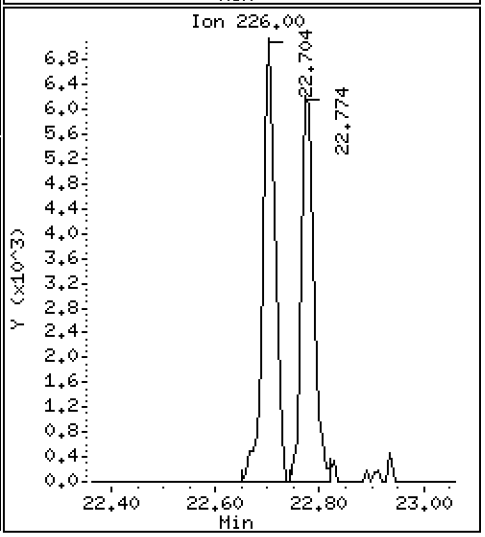


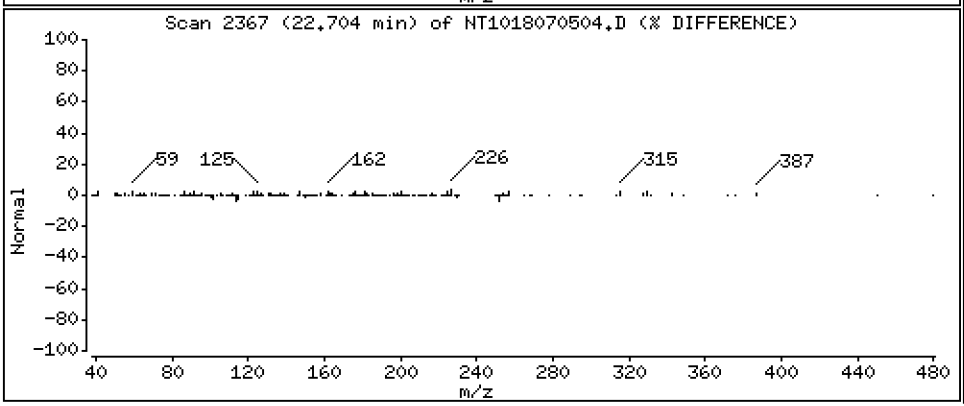












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

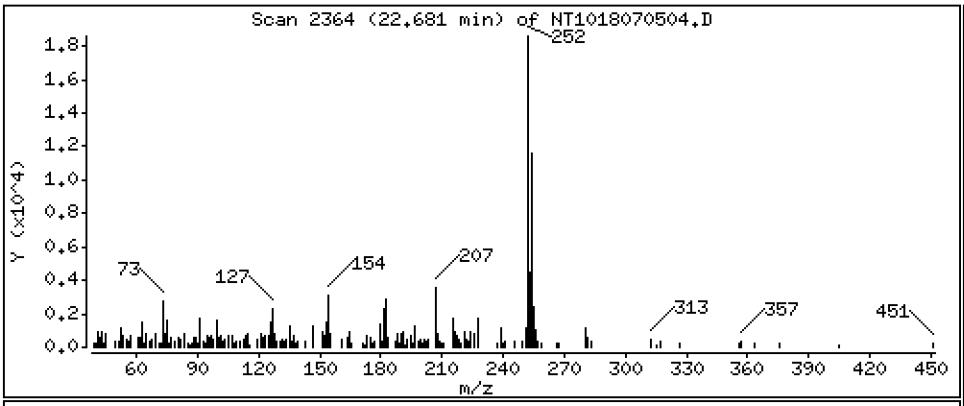
Operator: YZ

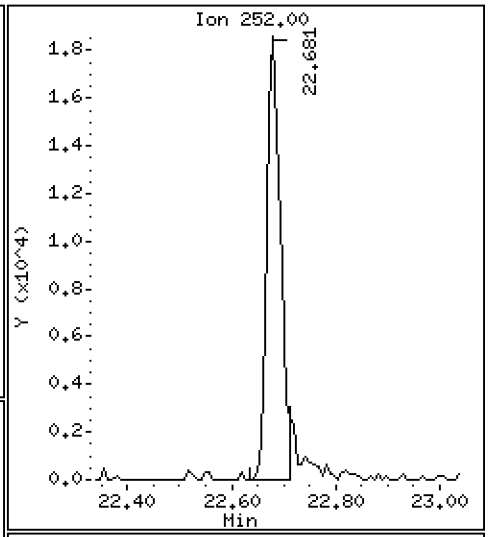
Column phase: ZB-5msi

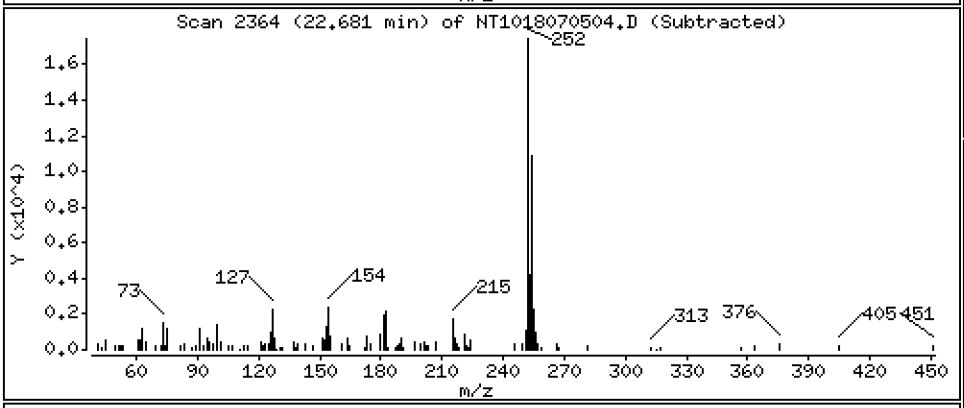
Column diameter: 0.25

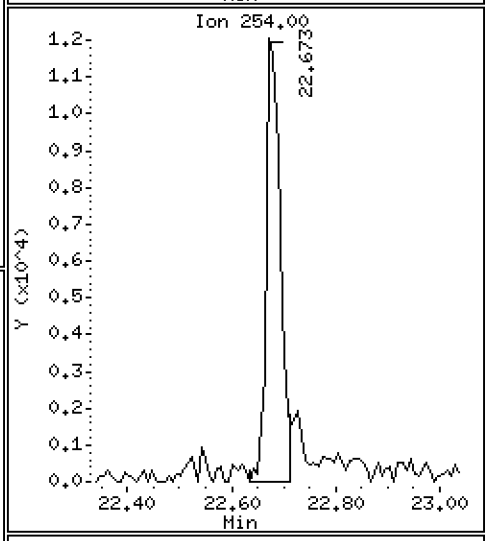
70 3,3'-Dichlorobenzidine

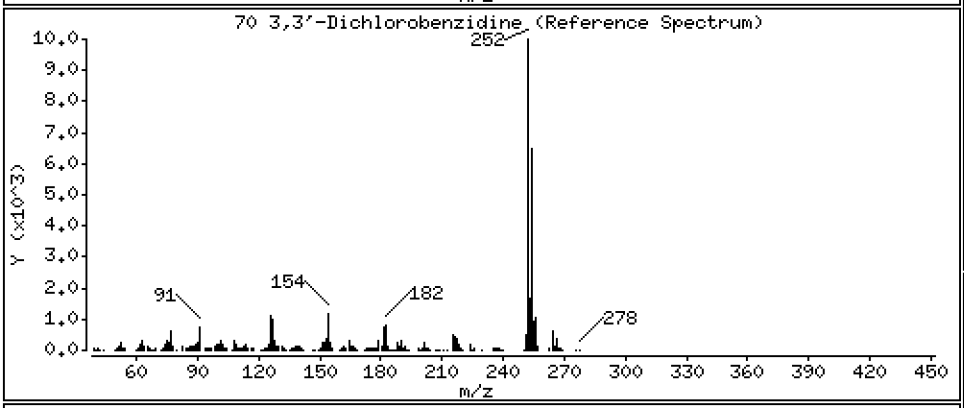
Concentration: 0.7250 ug/mL

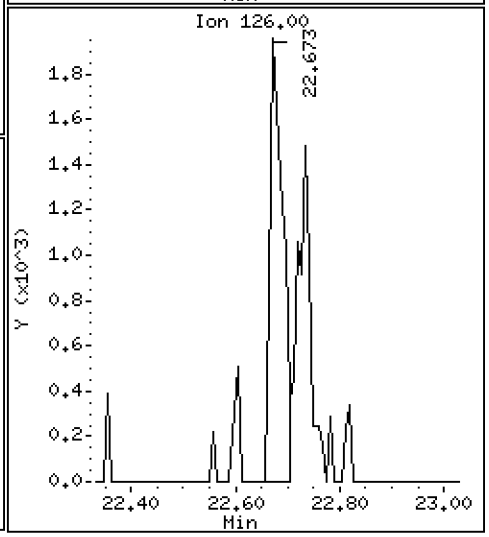


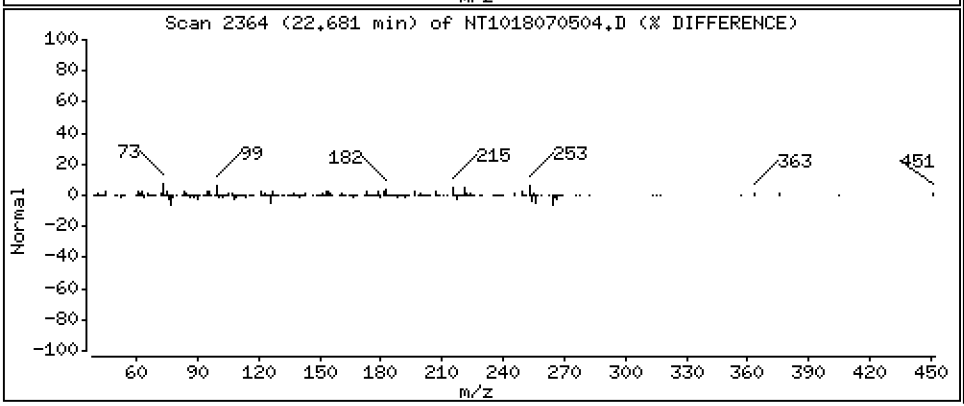












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

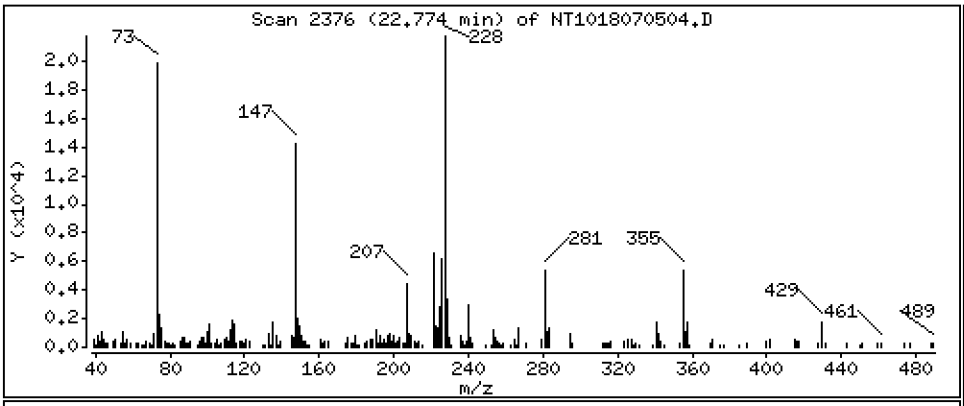
Operator: YZ

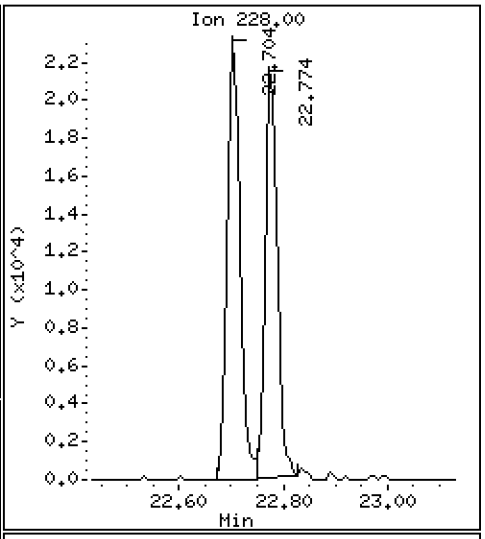
Column phase: ZB-5msi

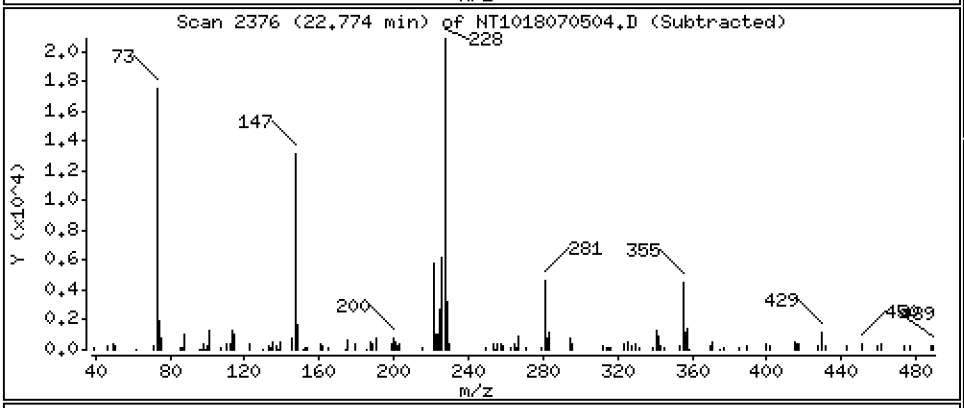
Column diameter: 0.25

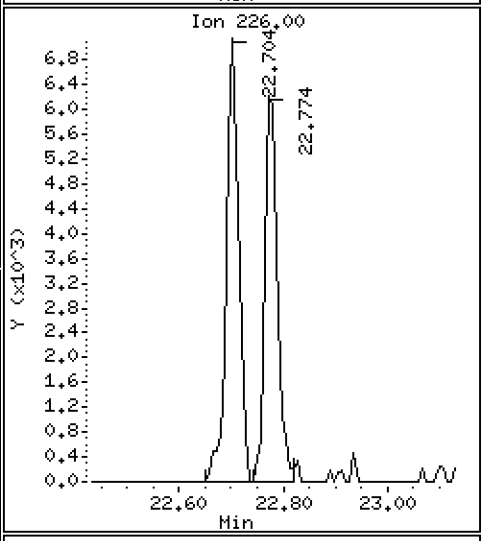
71 Chrysene

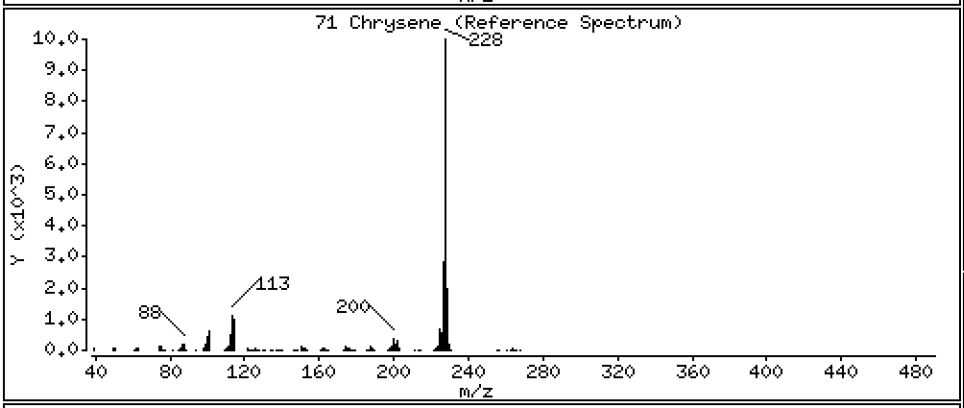
Concentration: 0.3219 ug/mL

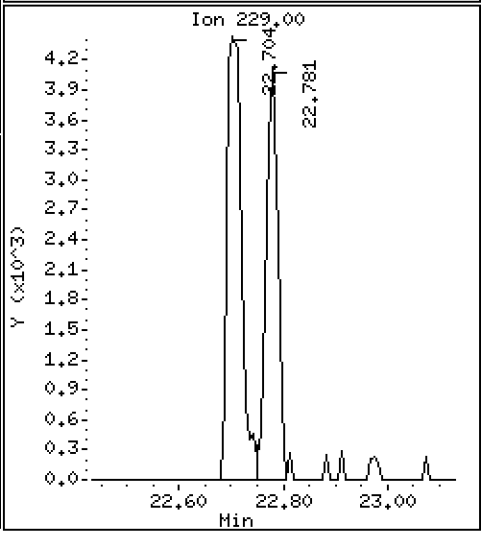


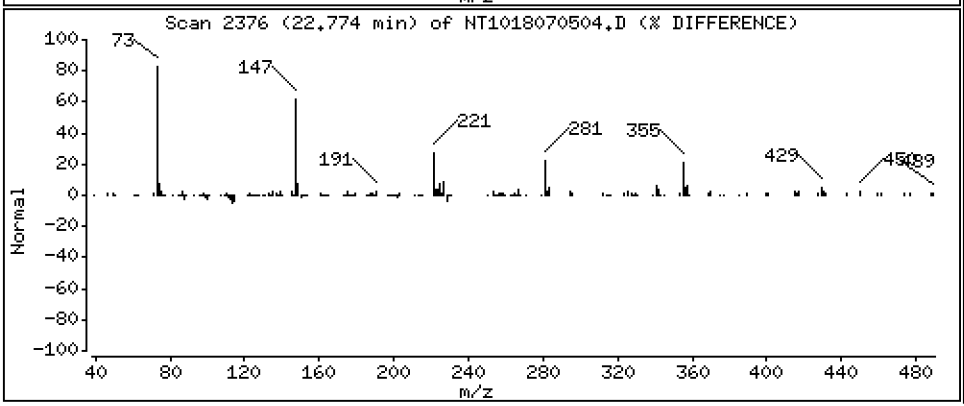












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

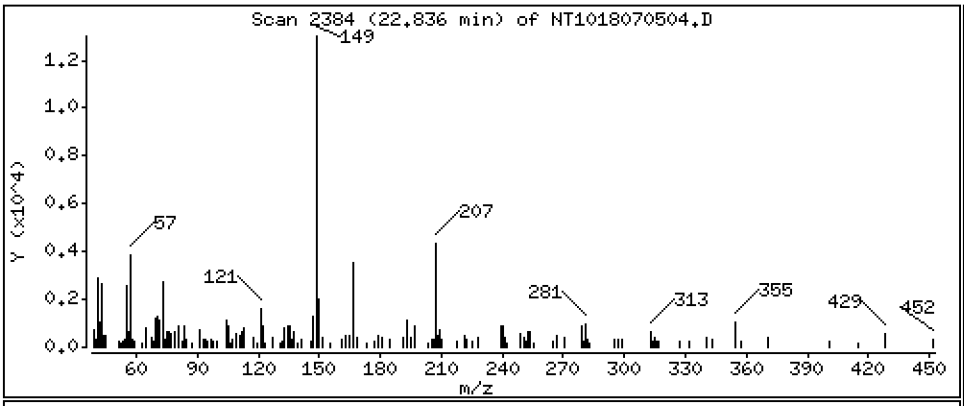
Operator: YZ

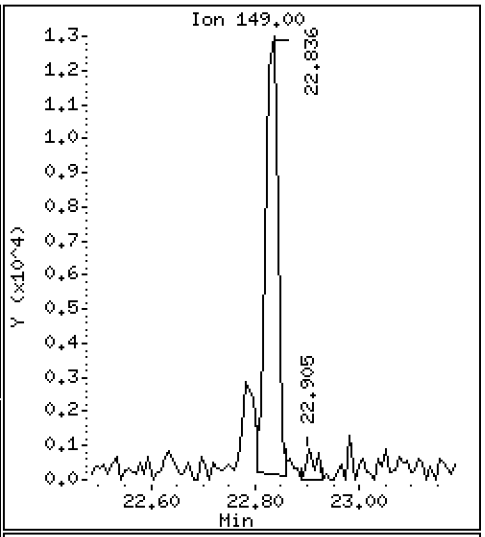
Column phase: ZB-5msi

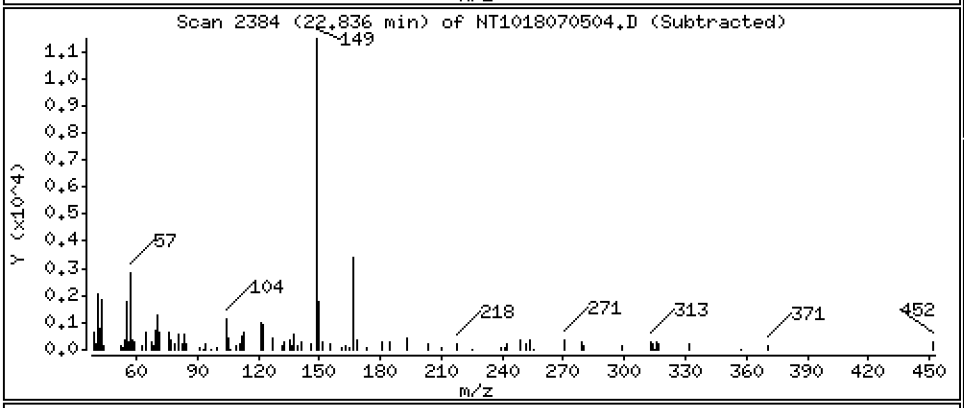
Column diameter: 0.25

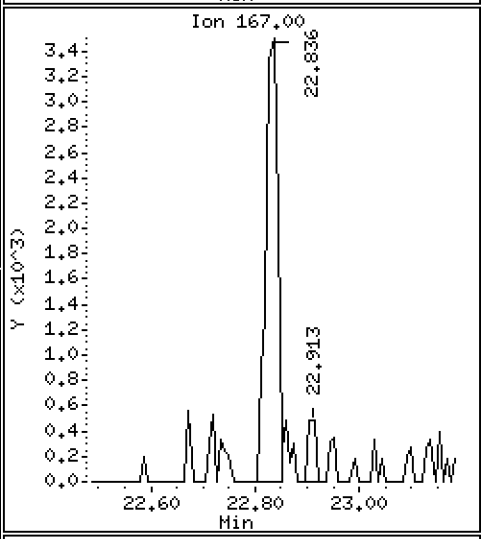
72 bis(2-Ethylhexyl)phthalate

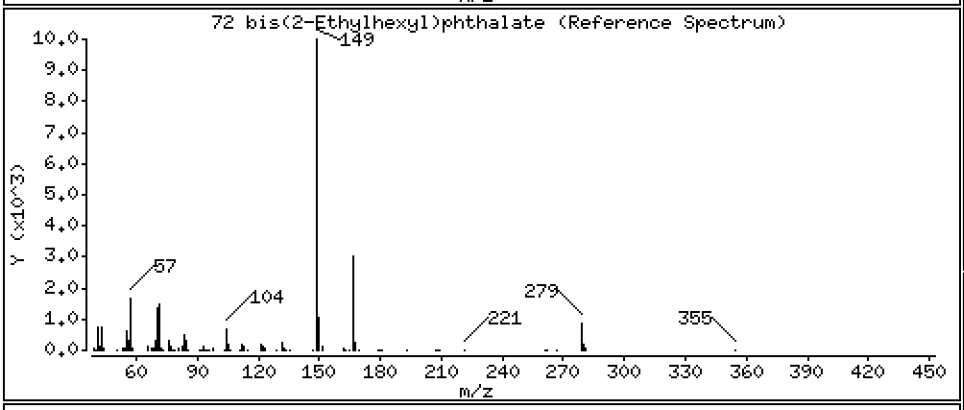
Concentration: 0.2831 ug/mL

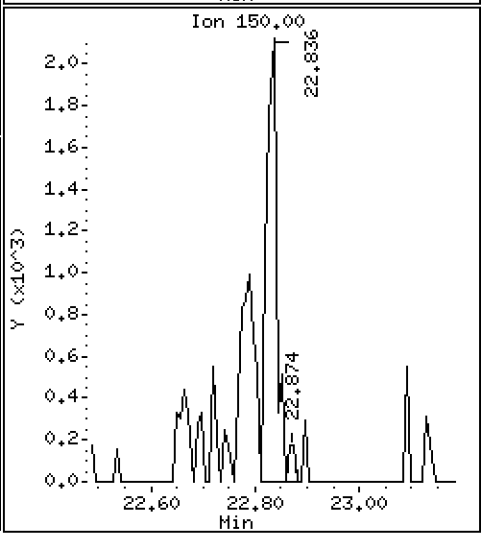


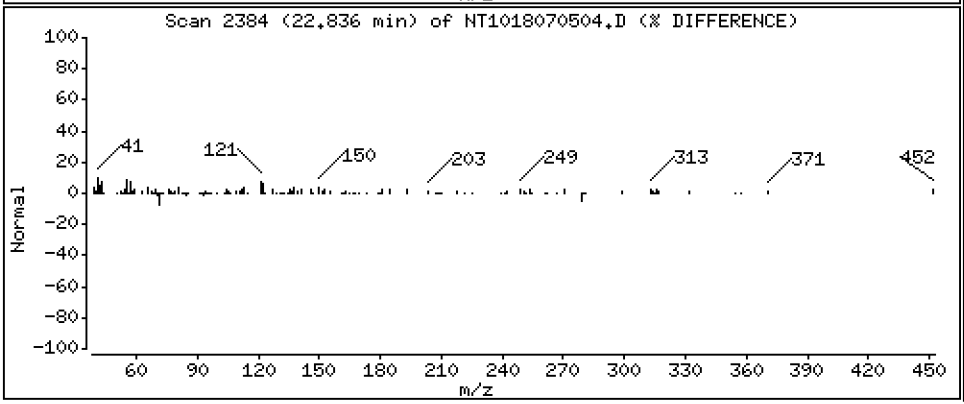












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

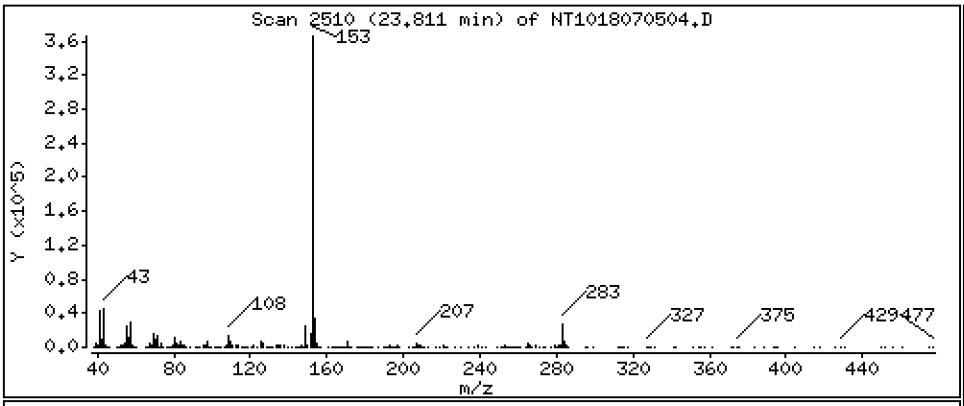
Operator: YZ

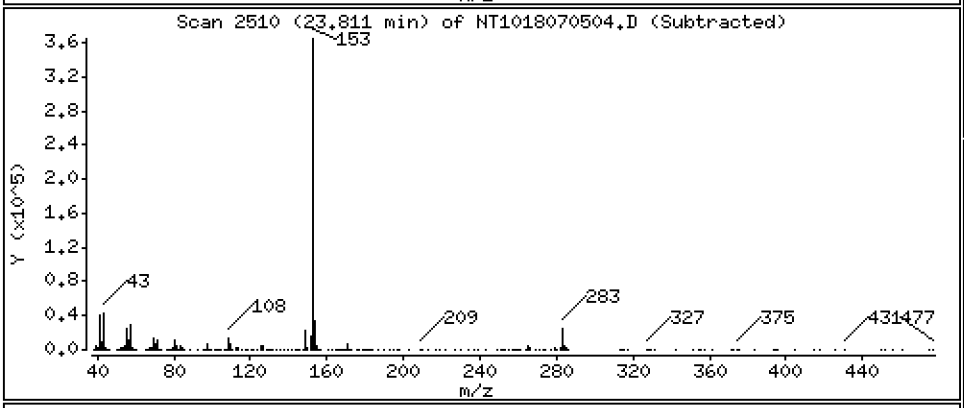
Column phase: ZB-5msi

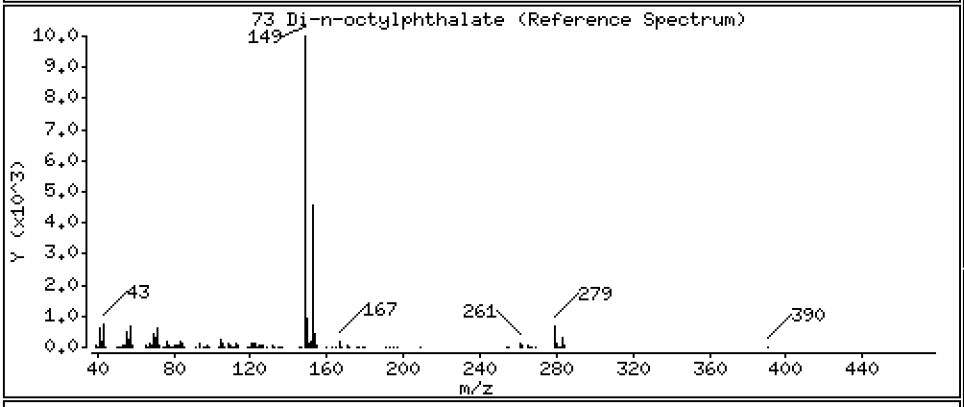
Column diameter: 0.25

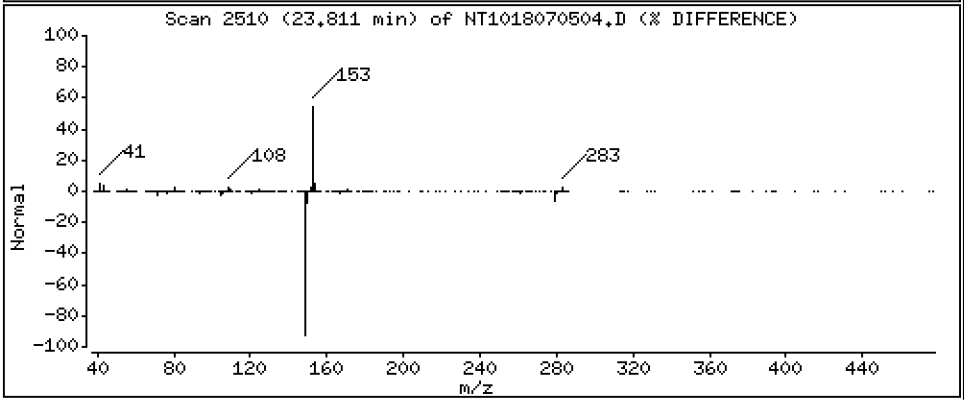
73 Di-n-octylphthalate

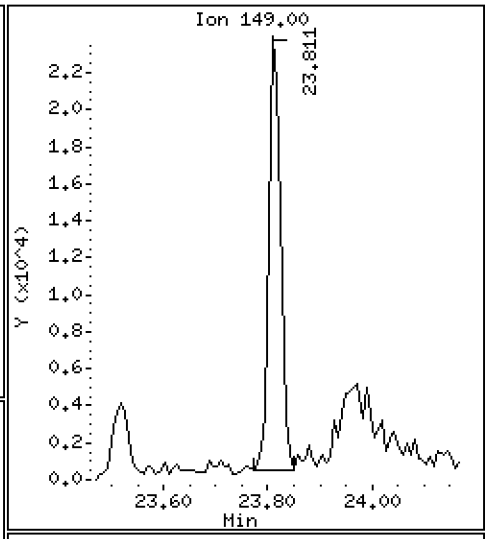
Concentration: 0.2404 ug/mL

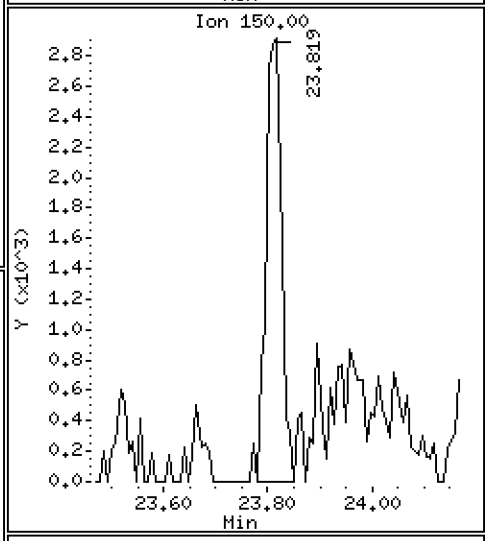


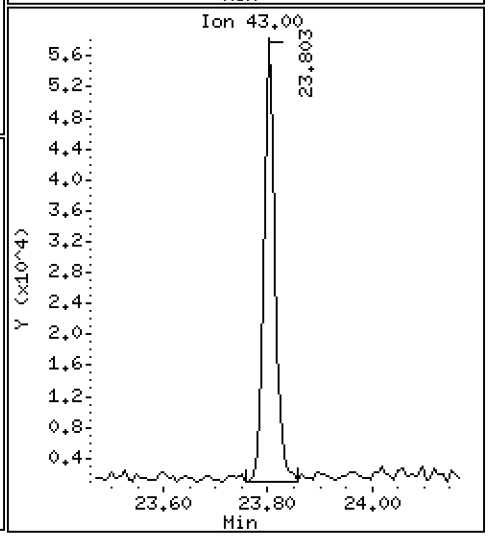












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

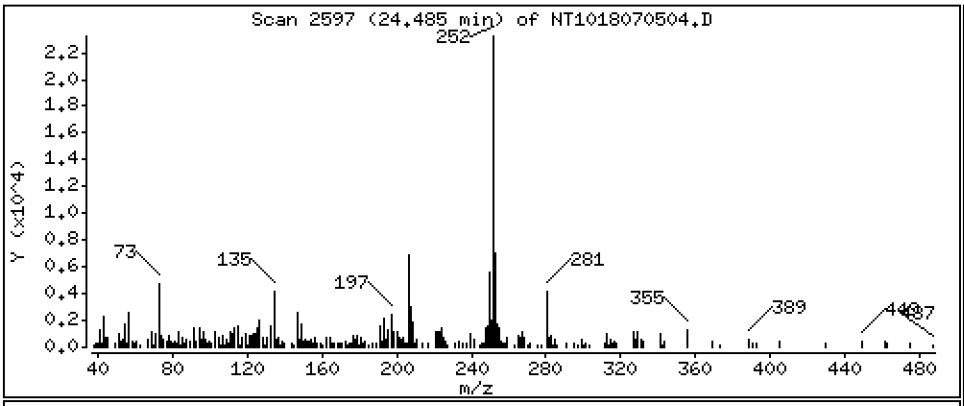
Operator: YZ

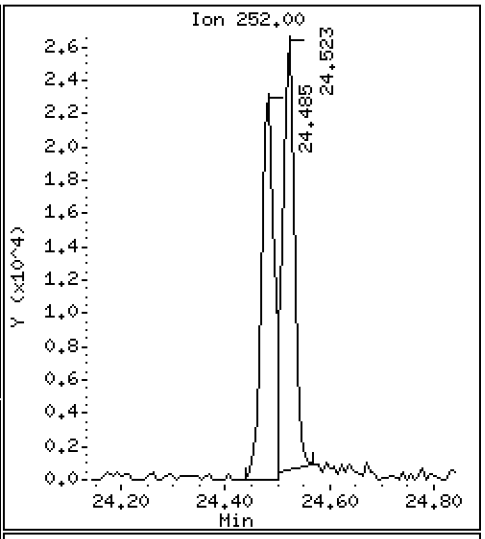
Column phase: ZB-5msi

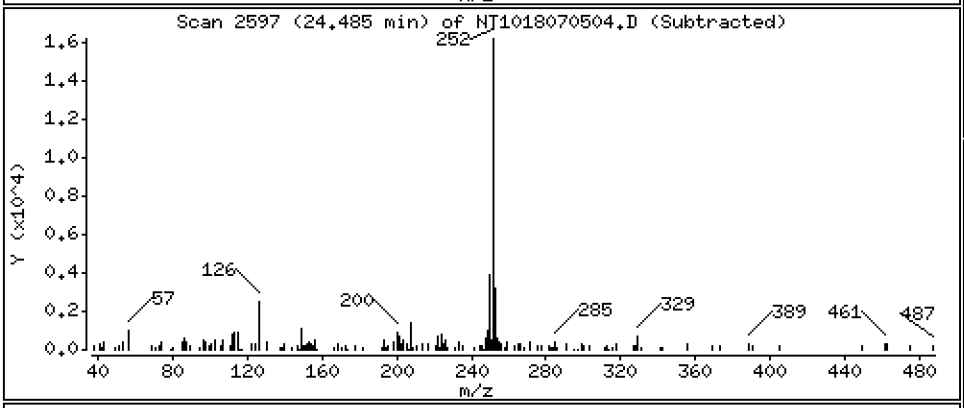
Column diameter: 0.25

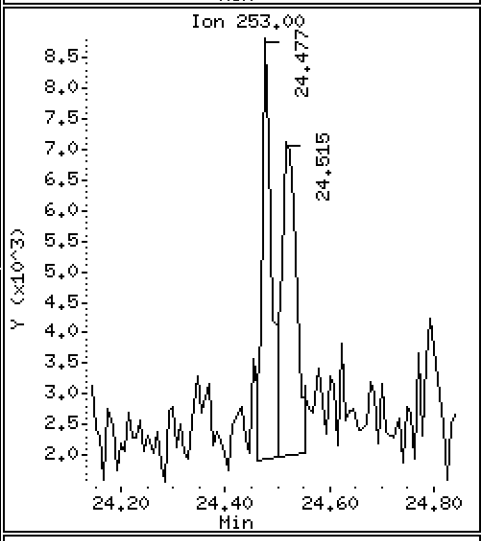
74 Benzo(b)fluoranthene

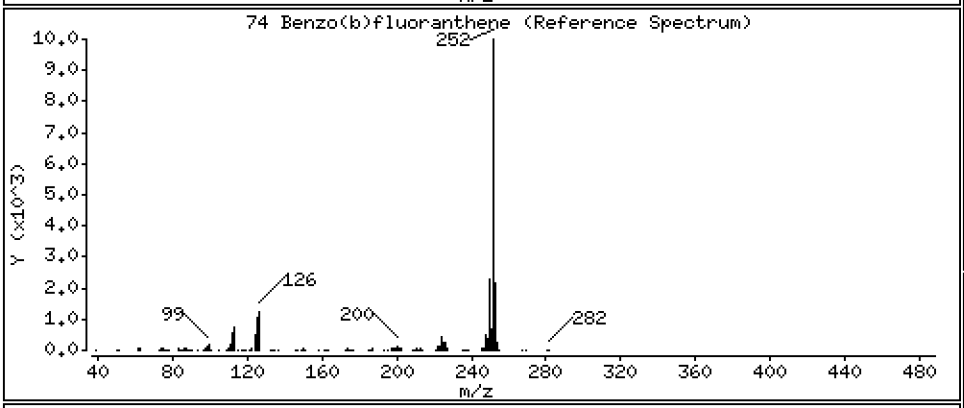
Concentration: 0.2811 ug/mL

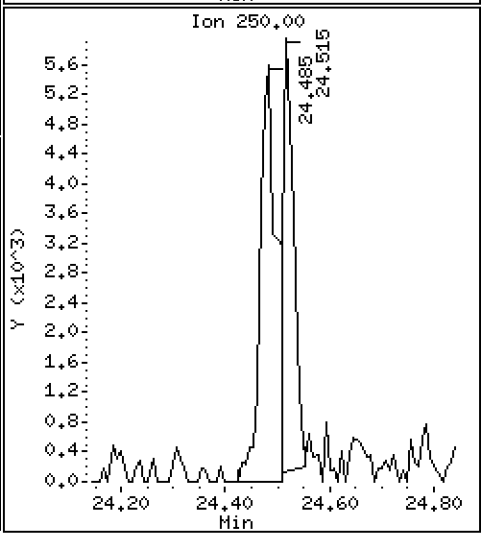


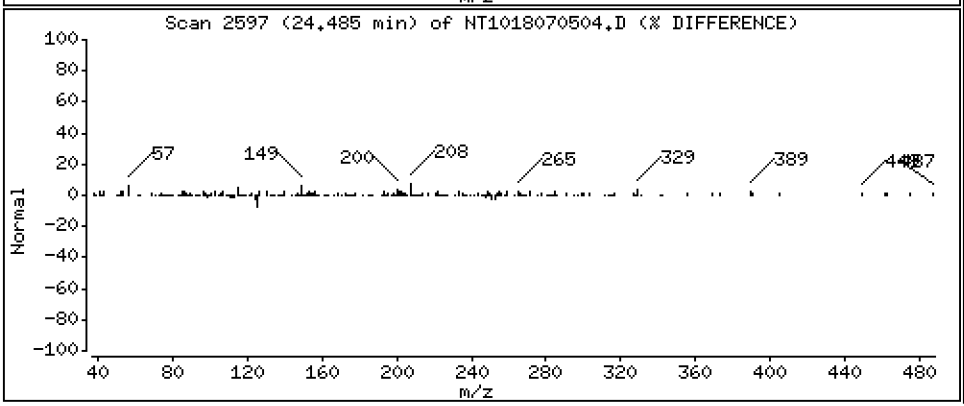












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

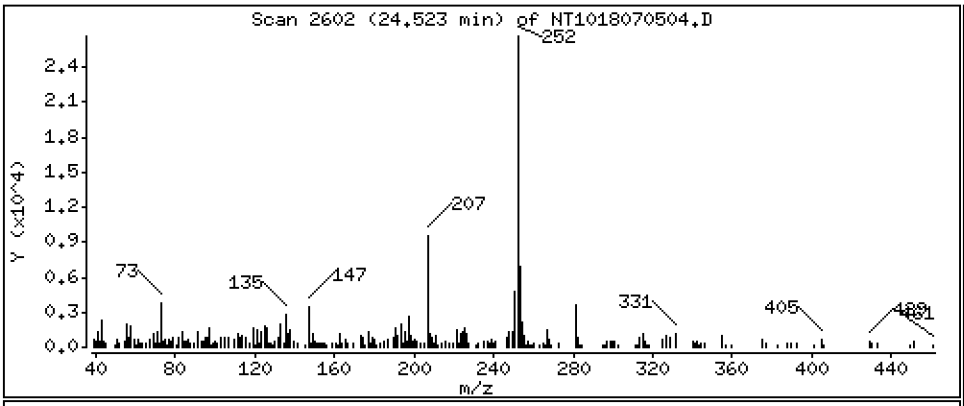
Operator: YZ

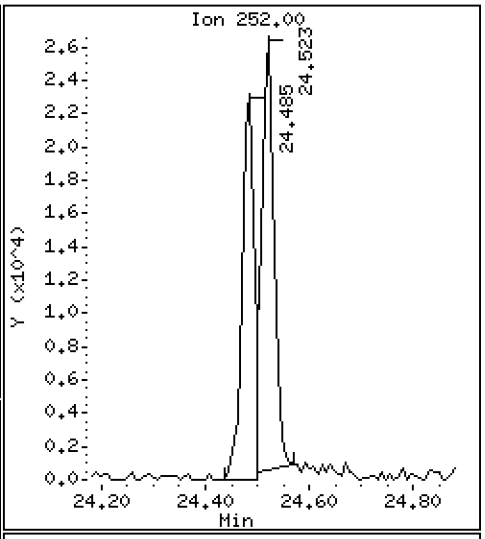
Column phase: ZB-5msi

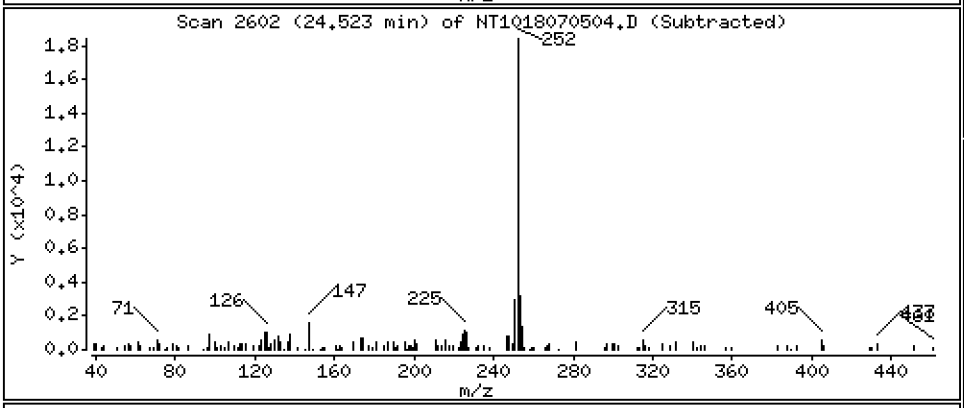
Column diameter: 0.25

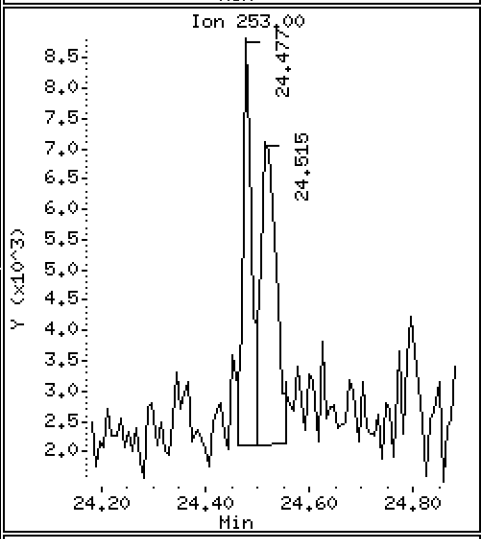
75 Benzo(k)fluoranthene

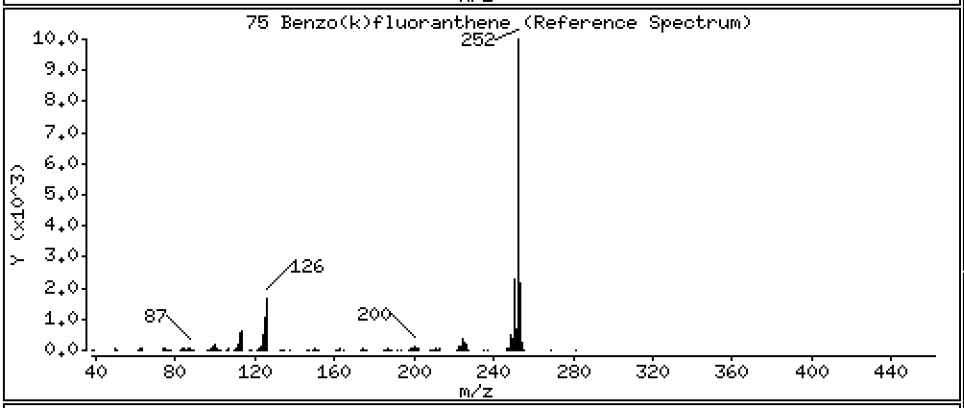
Concentration: 0.3120 ug/mL

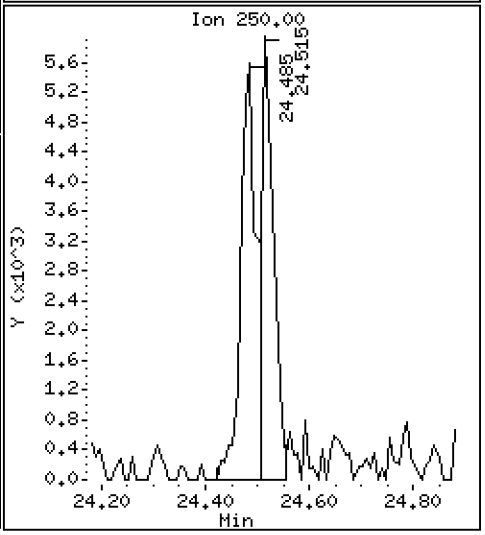


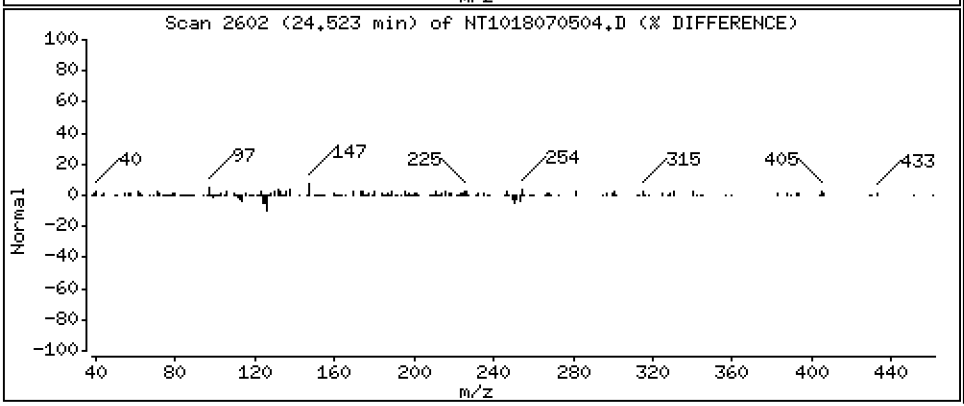












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

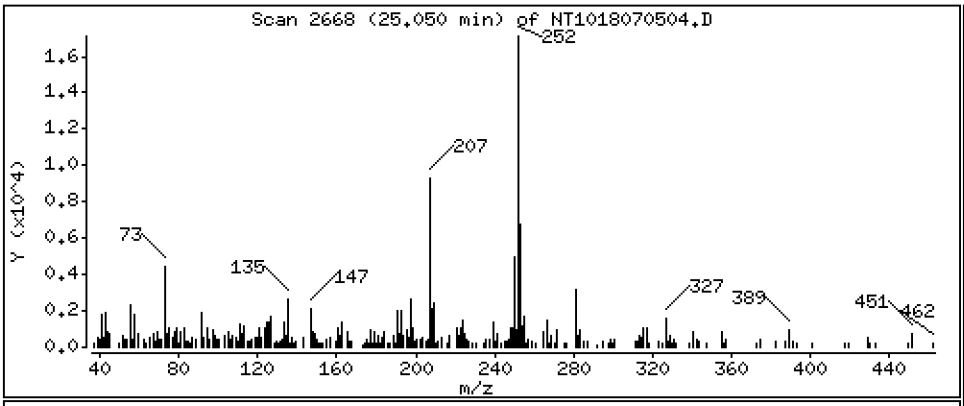
Operator: YZ

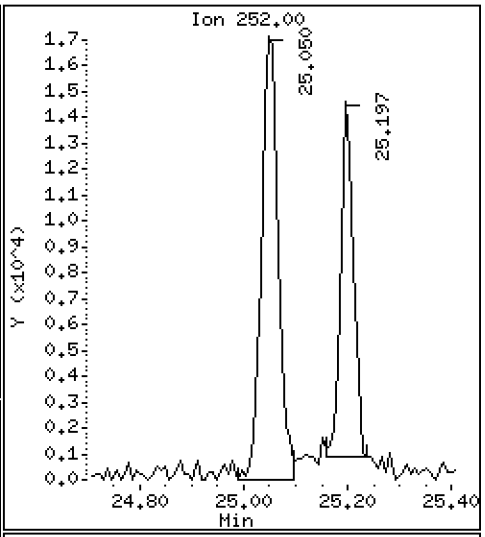
Column phase: ZB-5msi

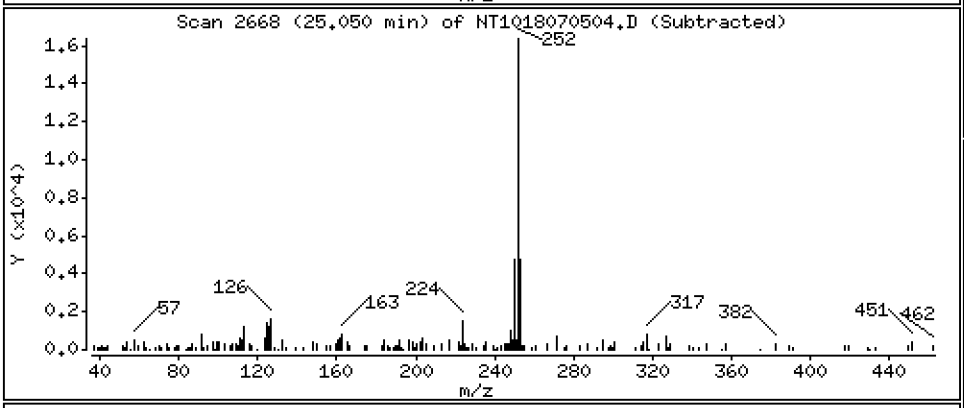
Column diameter: 0.25

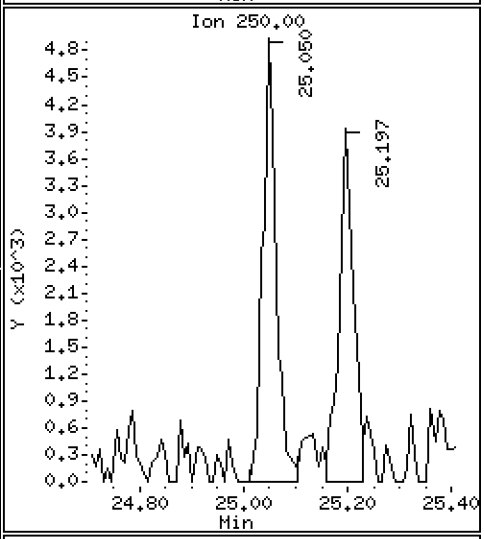
76 Benzo(a)pyrene

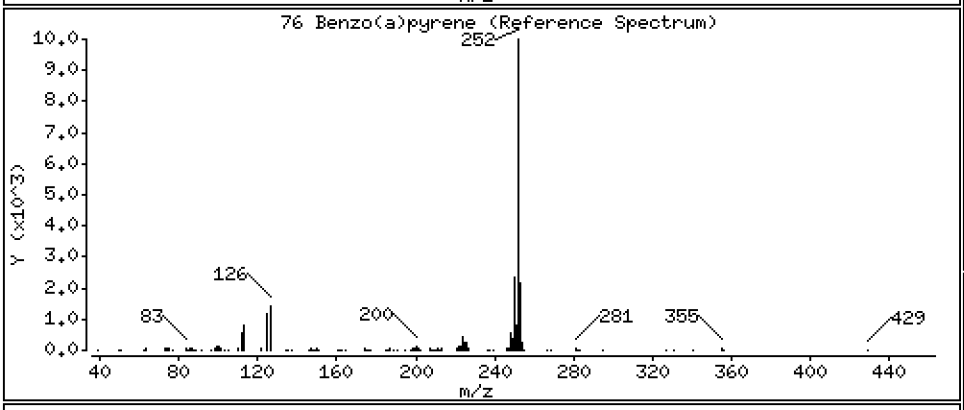
Concentration: 0.2645 ug/mL

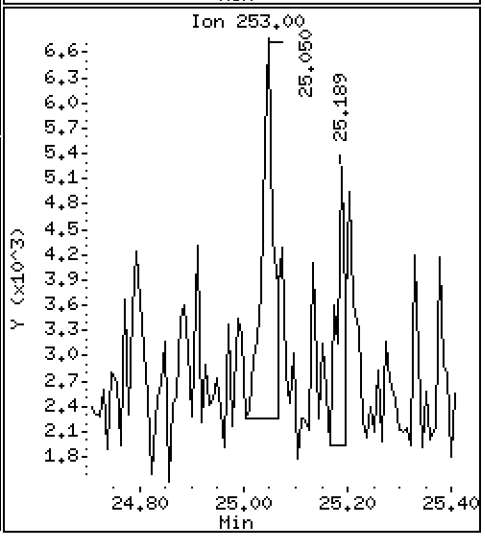


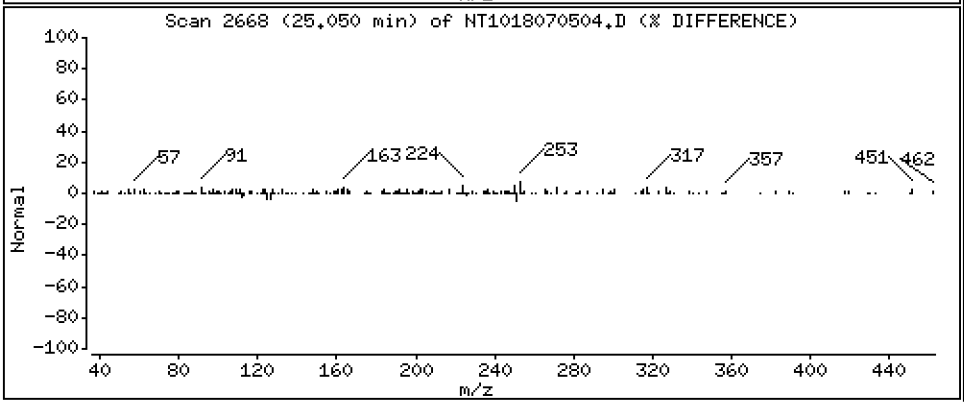












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

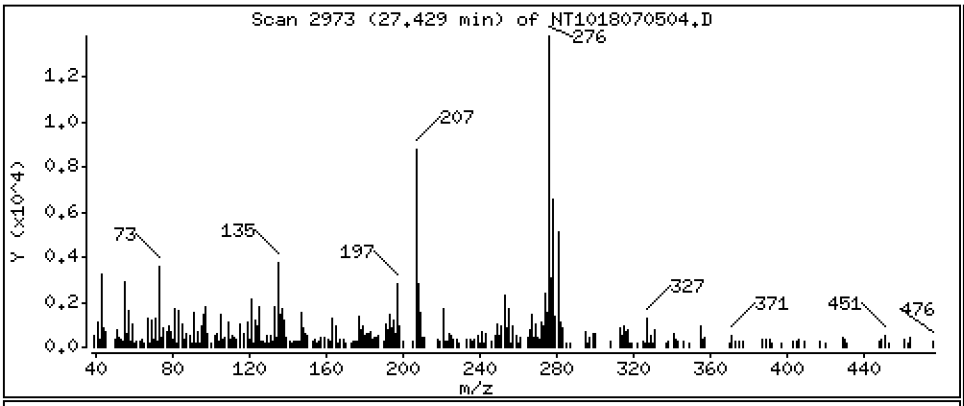
Operator: YZ

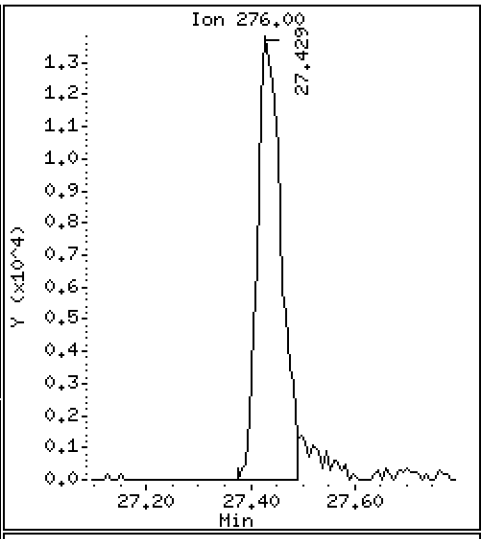
Column phase: ZB-5msi

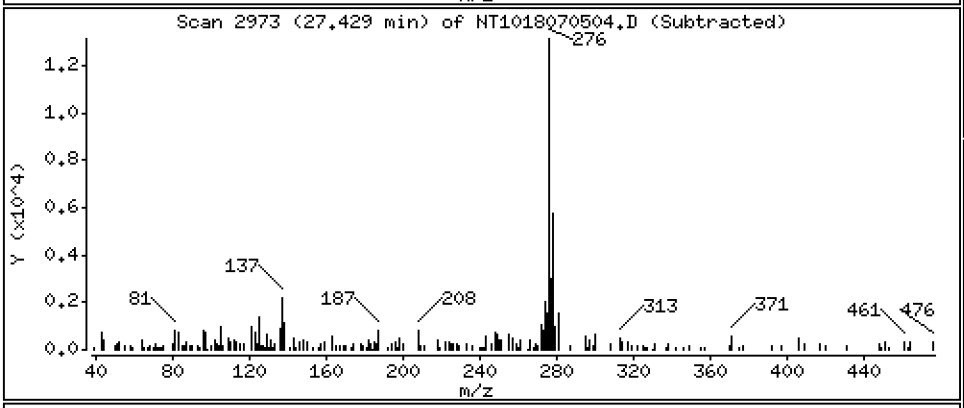
Column diameter: 0.25

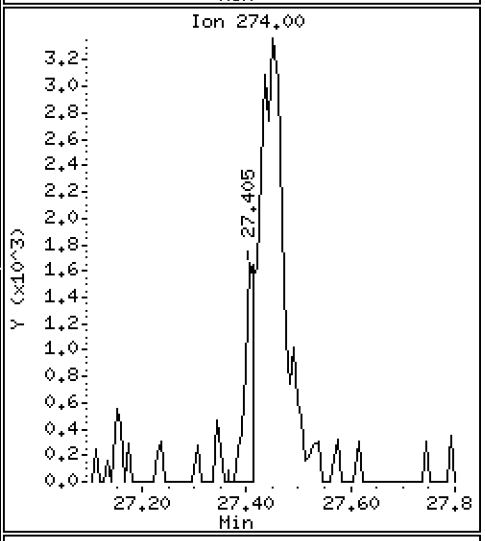
78 Indeno(1,2,3-cd)pyrene

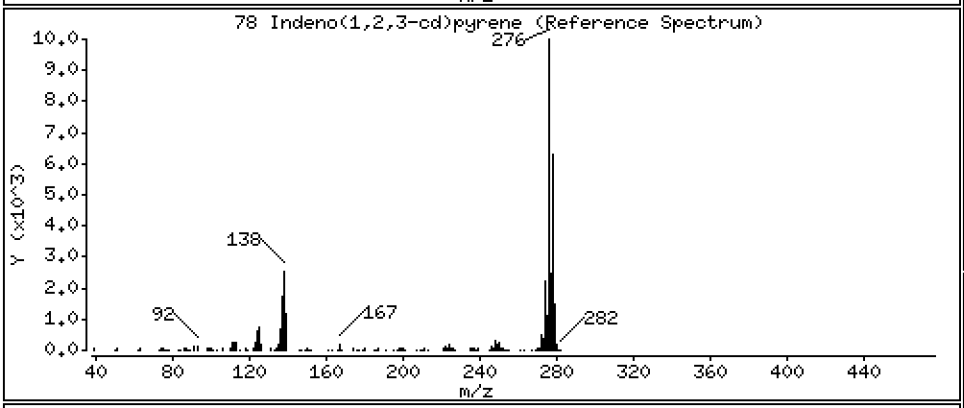
Concentration: 0.3137 ug/mL

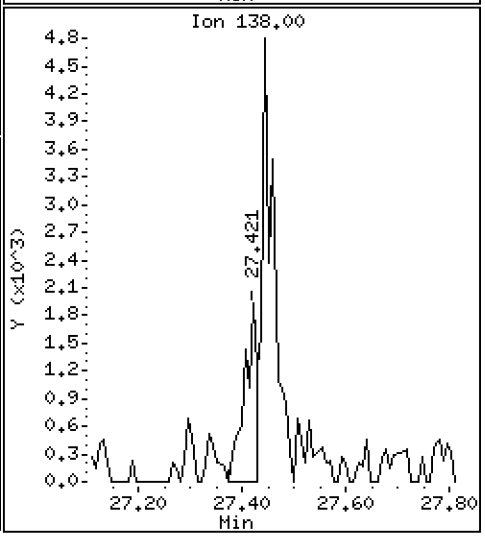


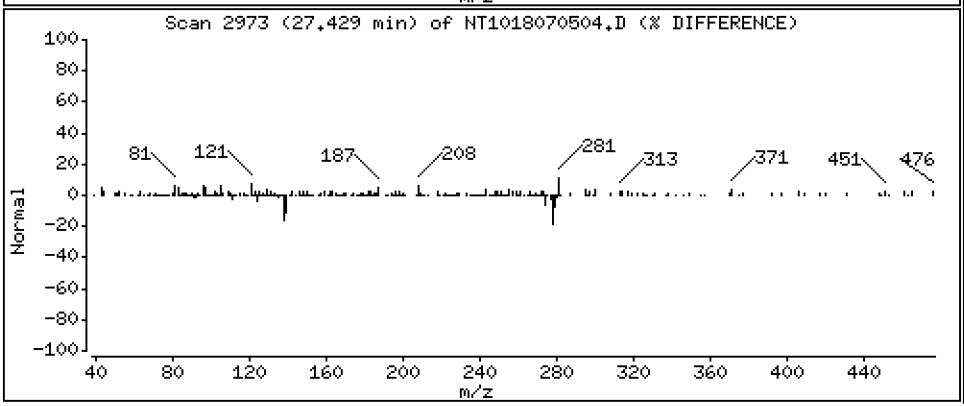












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

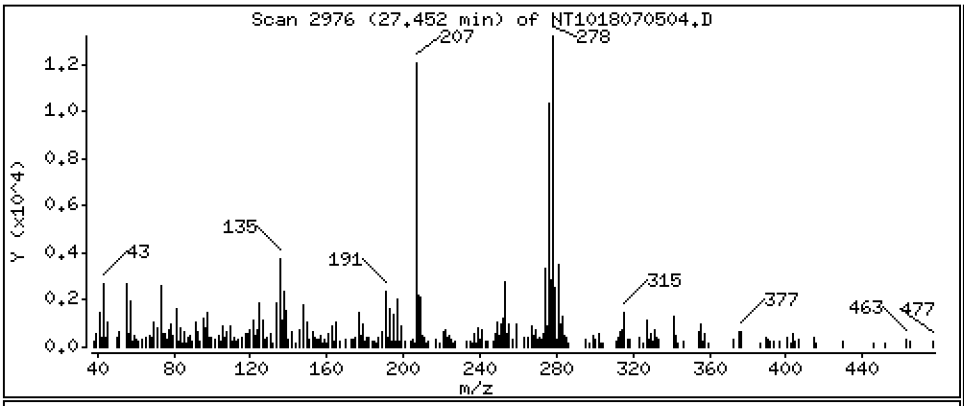
Operator: YZ

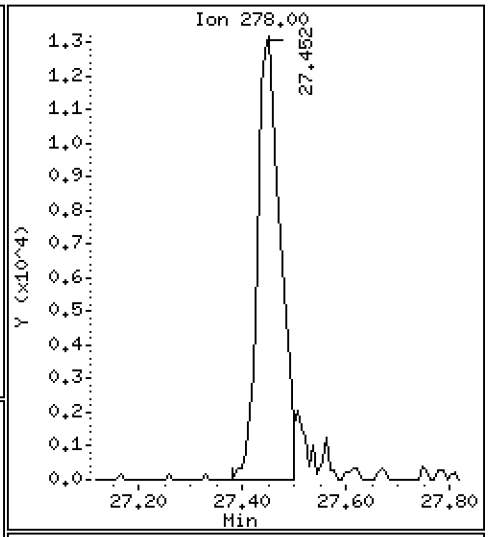
Column phase: ZB-5msi

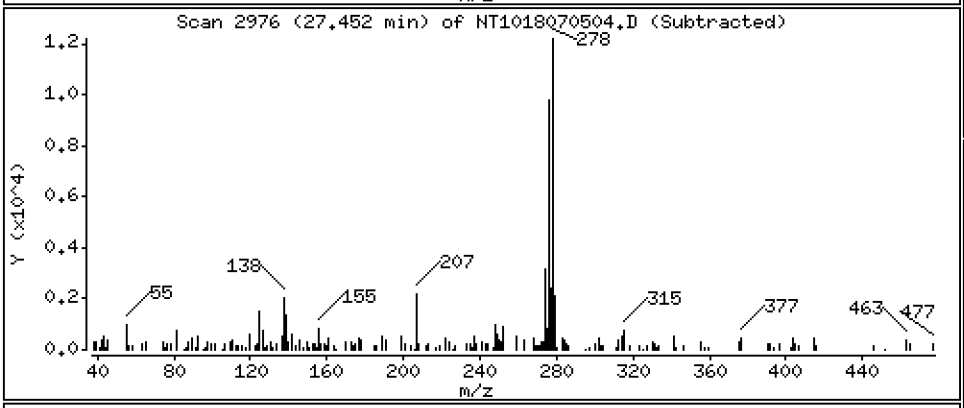
Column diameter: 0.25

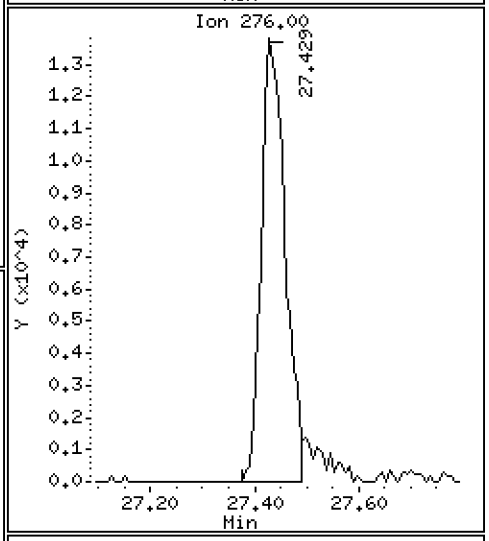
79 Dibenzo(a,h)anthracene

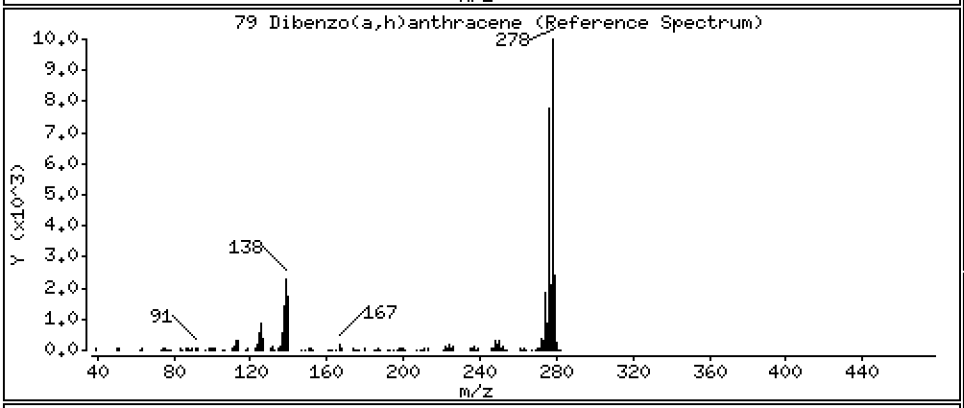
Concentration: 0.3590 ug/mL

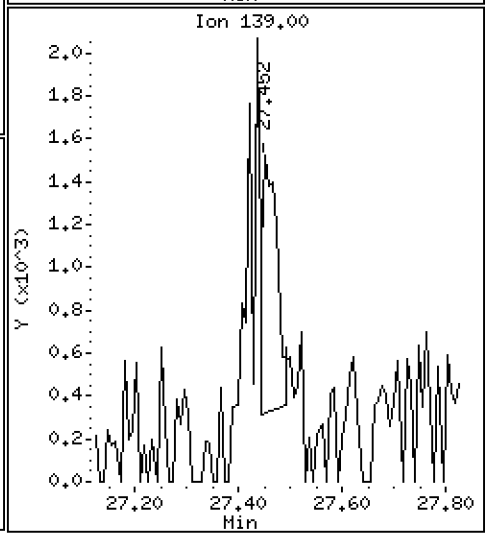


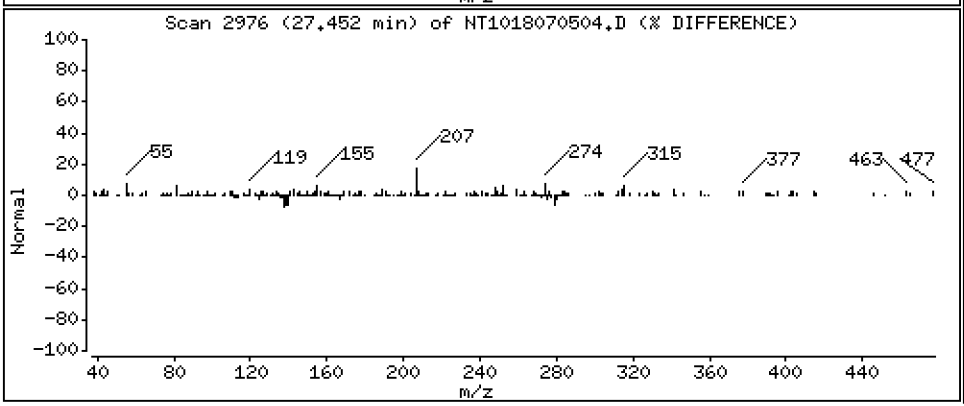












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

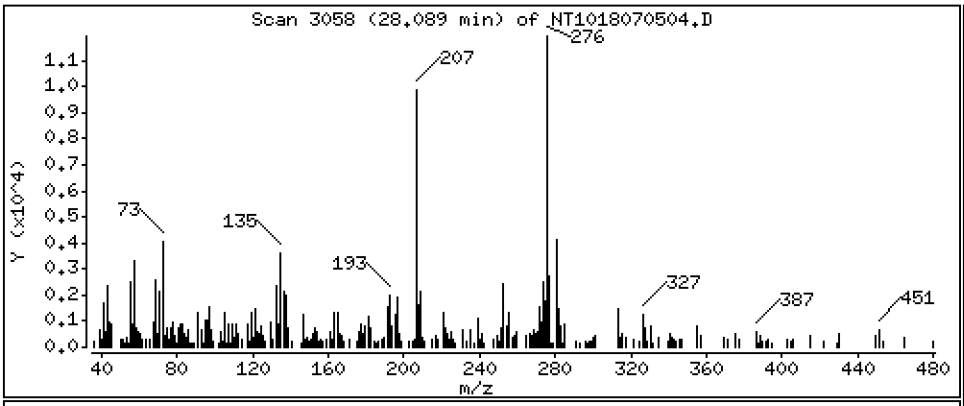
Operator: YZ

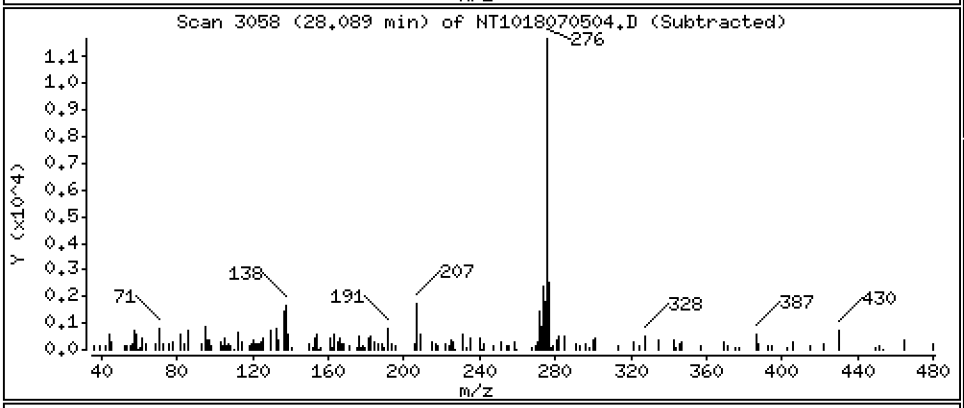
Column phase: ZB-5msi

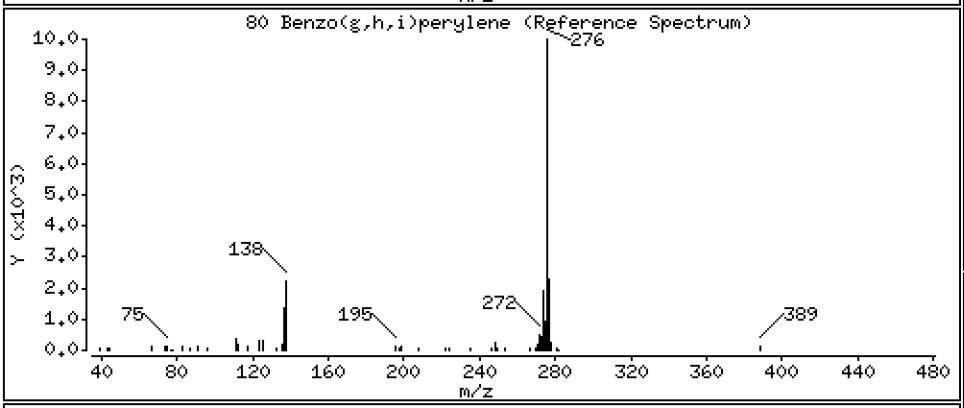
Column diameter: 0.25

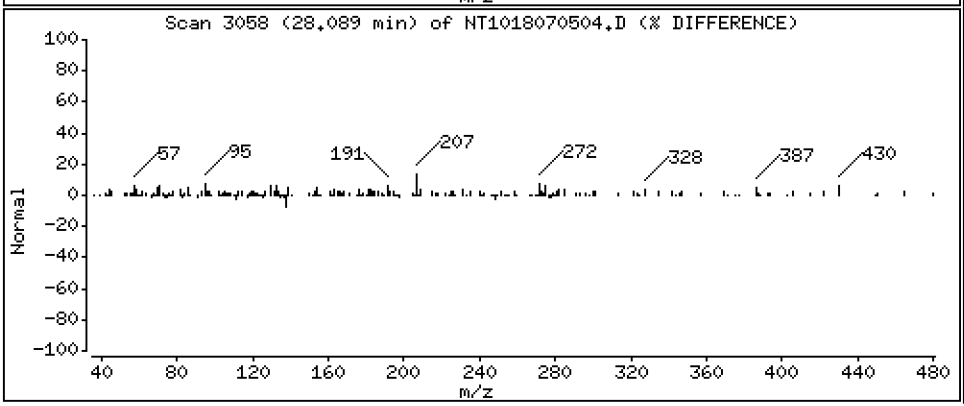
80 Benzo(g,h,i)perylene

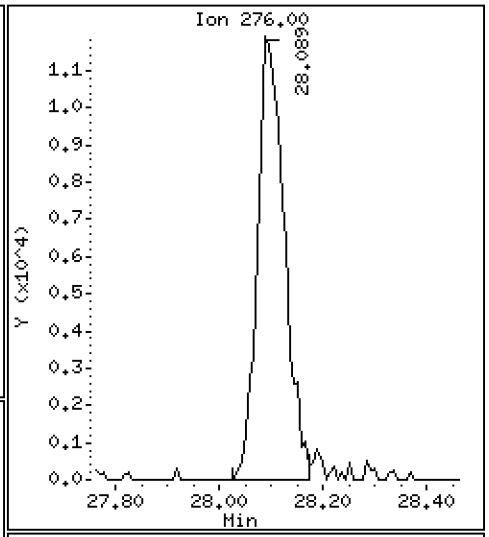
Concentration: 0.3435 ug/mL

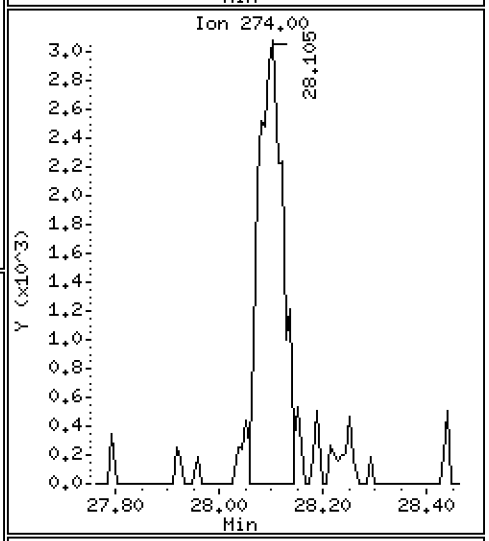


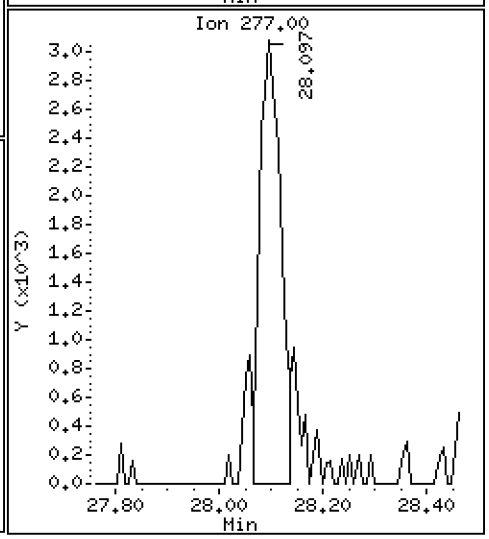












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

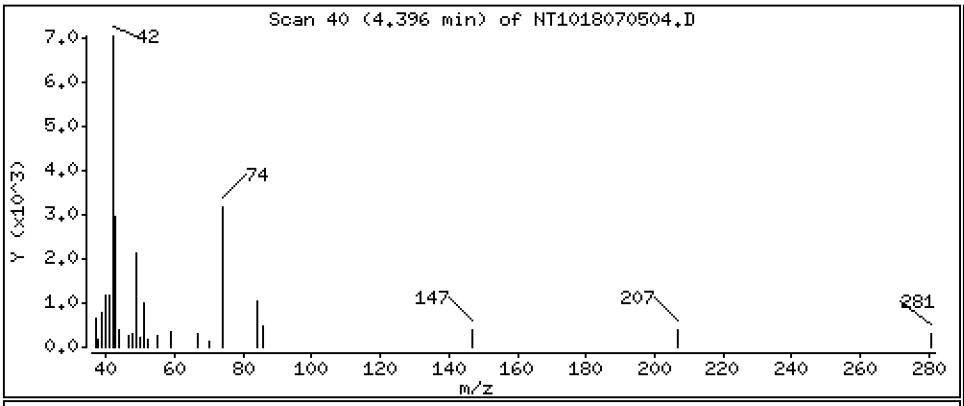
Operator: YZ

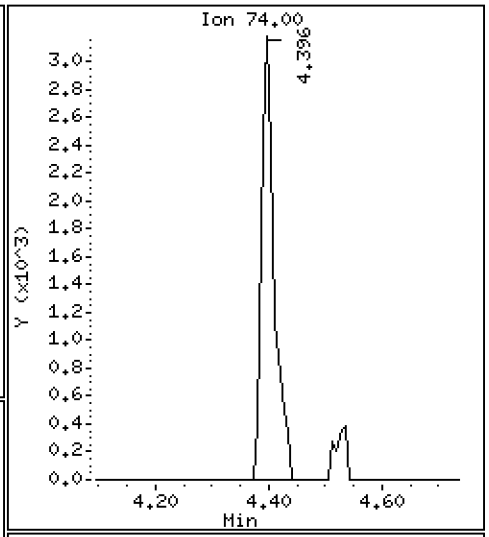
Column phase: ZB-5msi

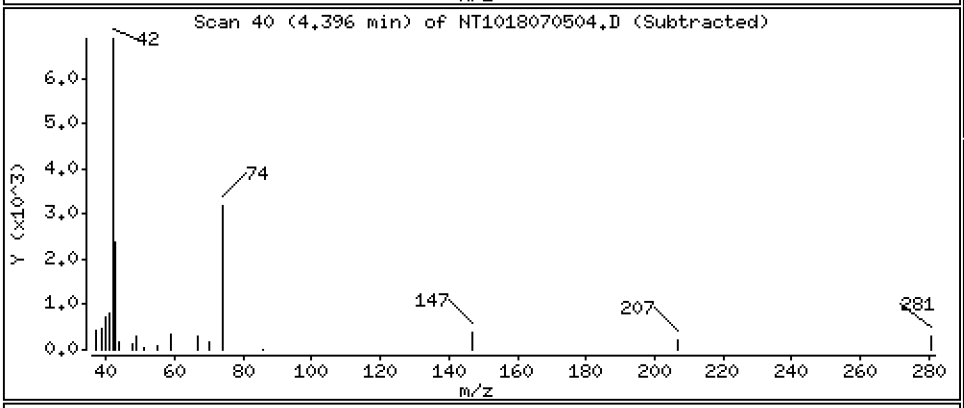
Column diameter: 0.25

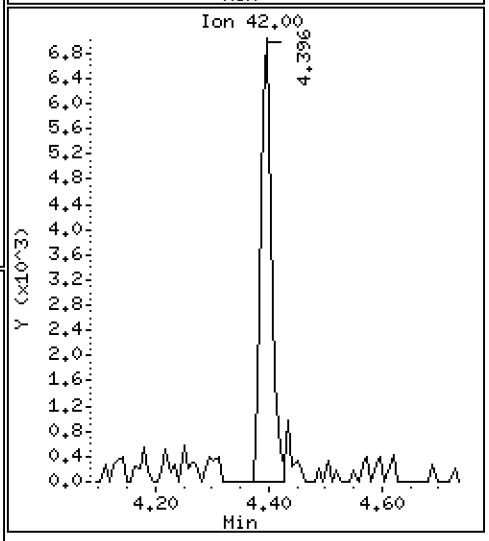
90 N-Nitrosodimethylamine

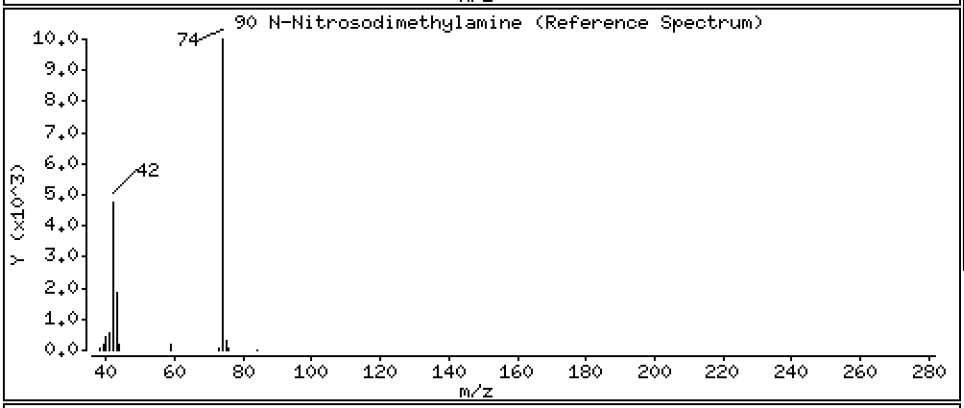
Concentration: 0.2657 ug/mL

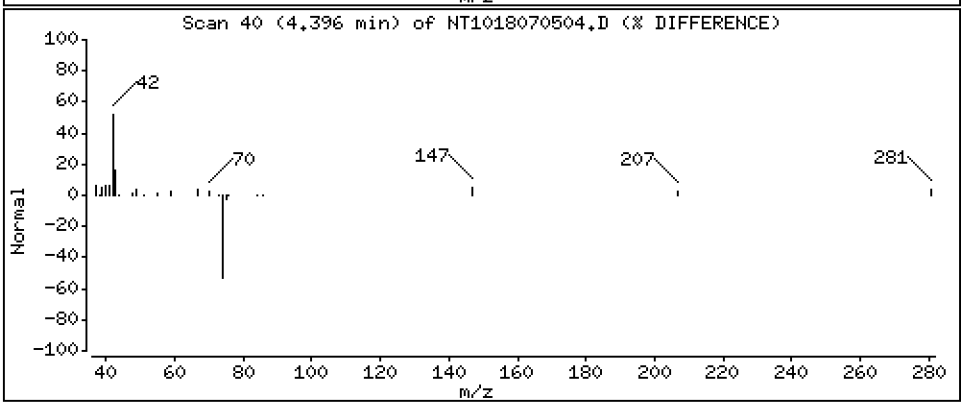












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

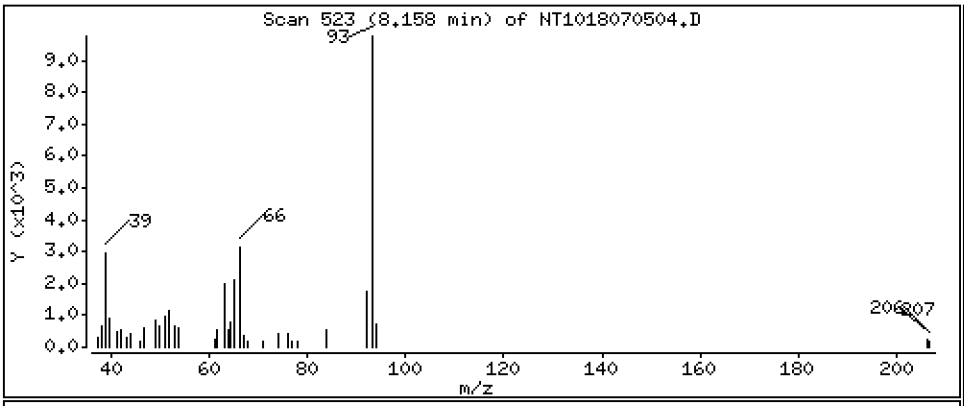
Operator: YZ

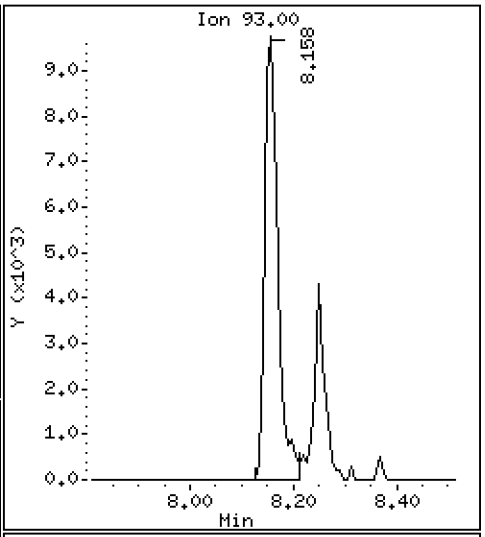
Column phase: ZB-5msi

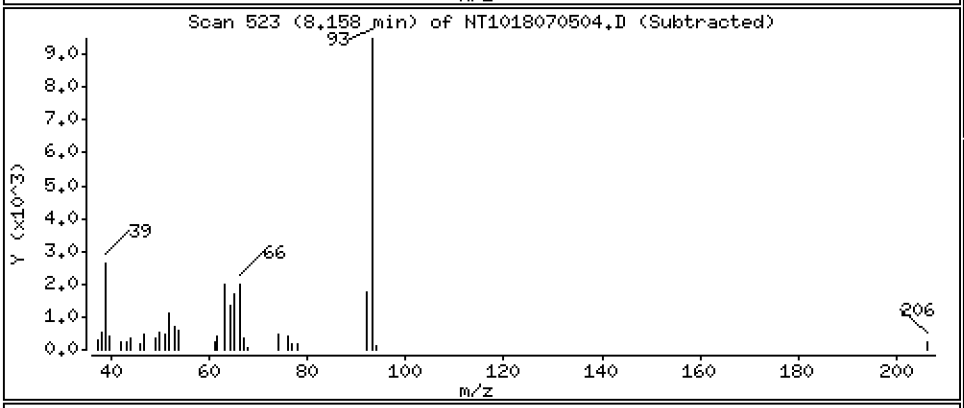
Column diameter: 0.25

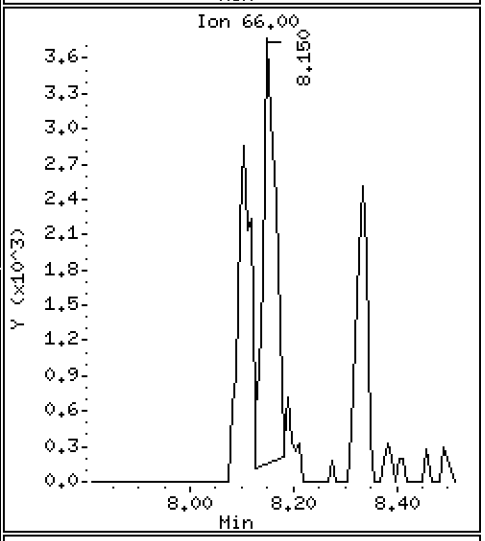
91 Aniline

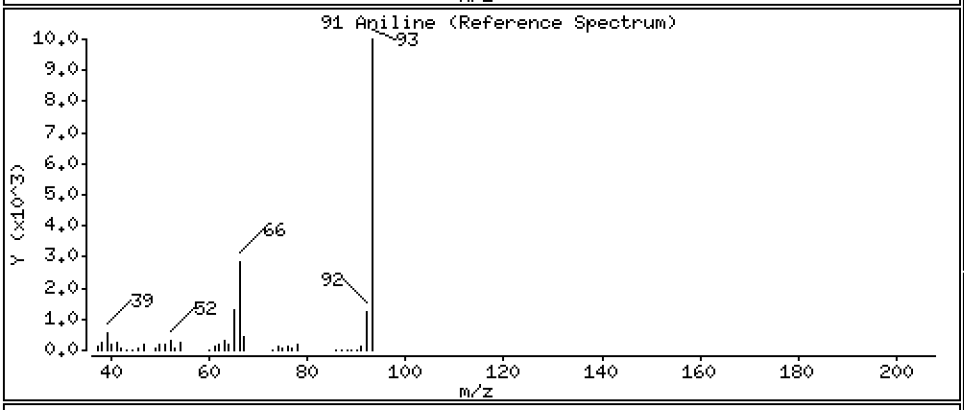
Concentration: 0.3411 ug/mL

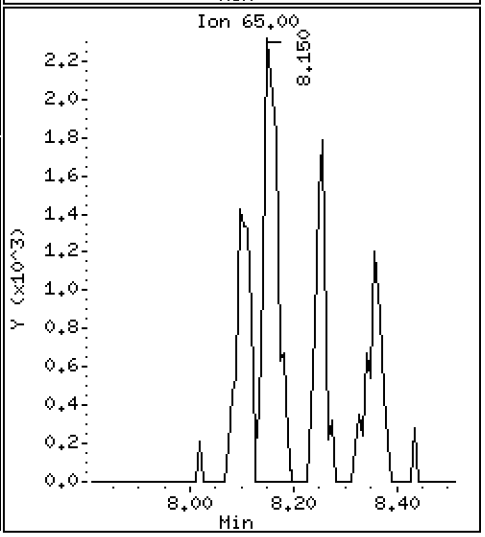


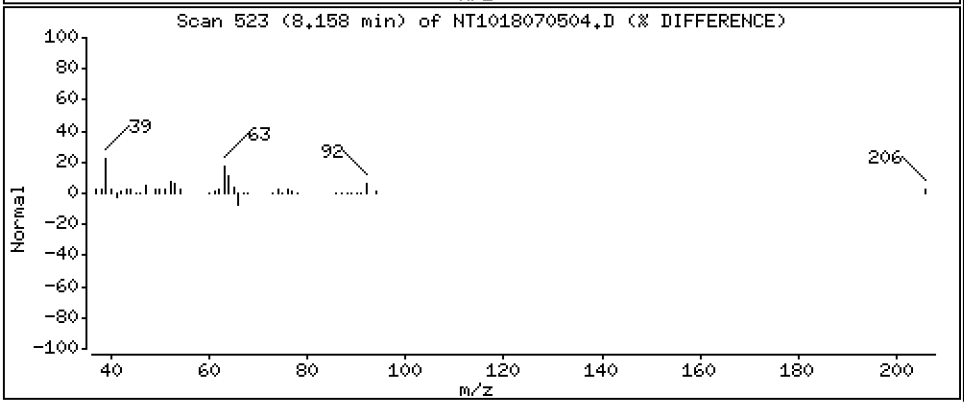












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

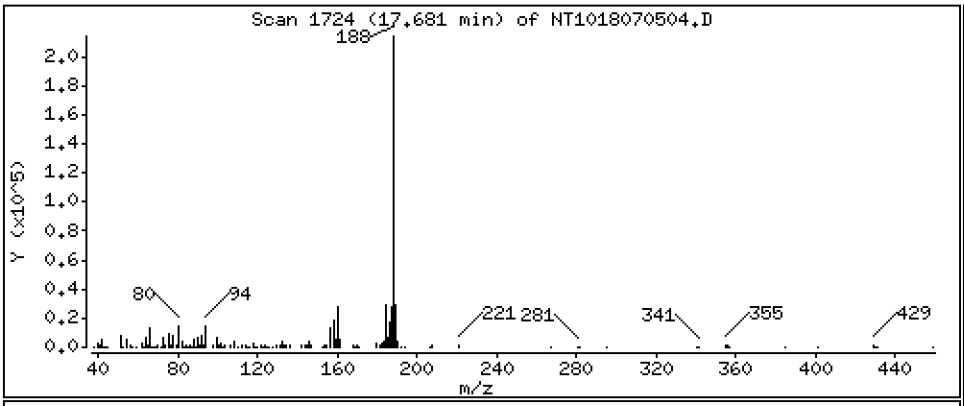
Operator: YZ

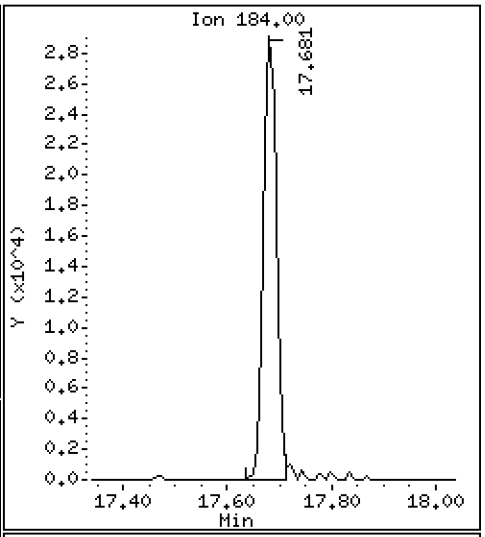
Column phase: ZB-5msi

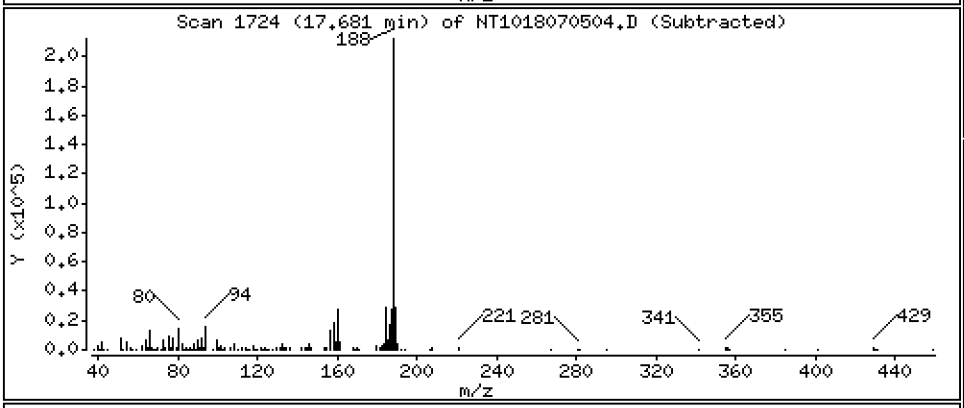
Column diameter: 0.25

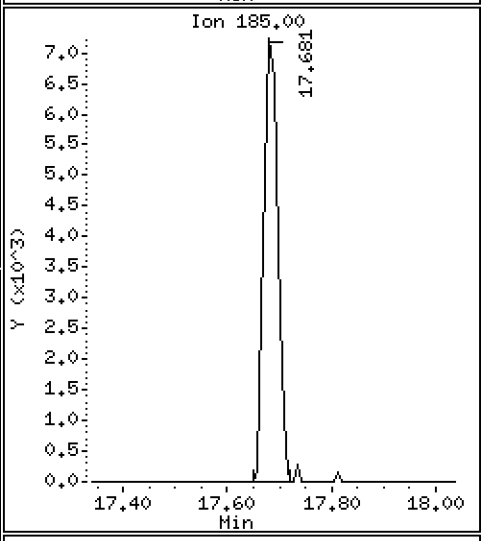
93 Benzidine

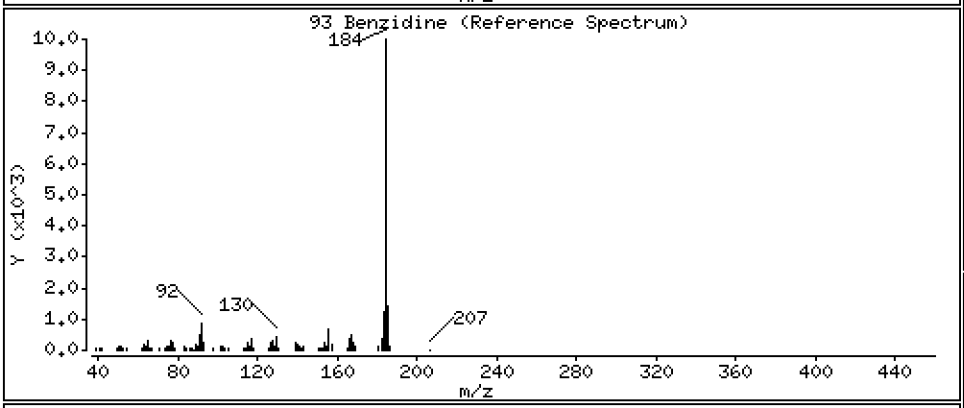
Concentration: 0.8129 ug/mL

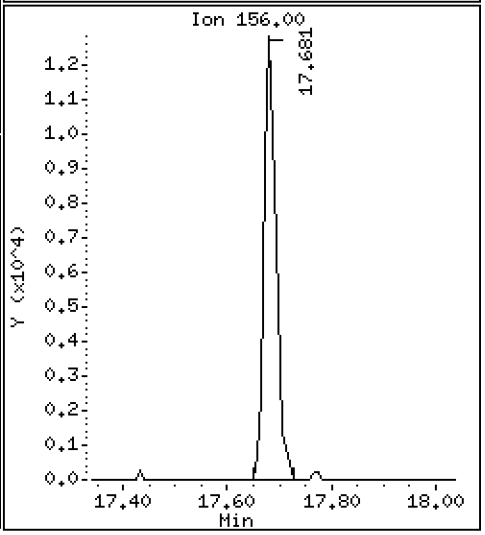


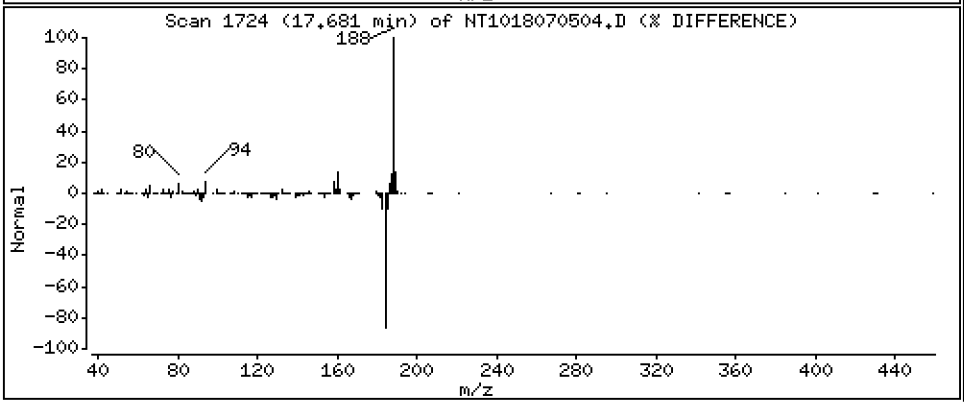












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

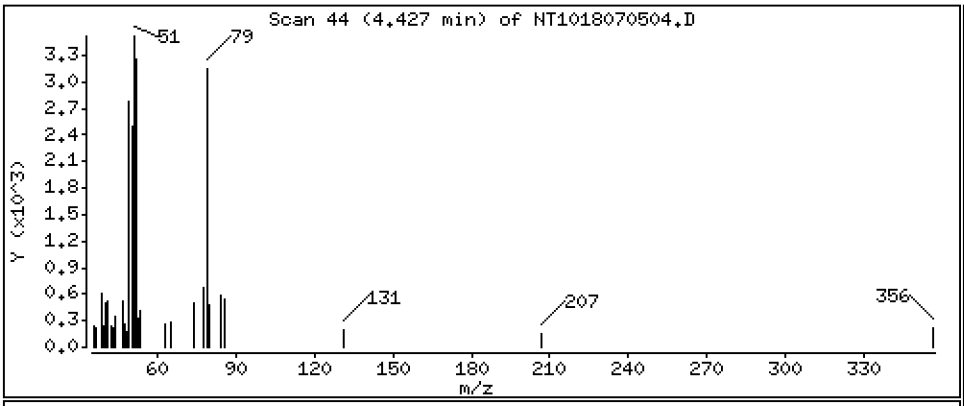
Operator: YZ

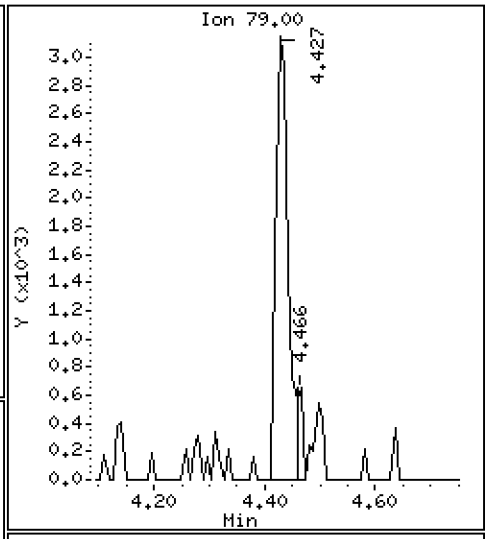
Column phase: ZB-5msi

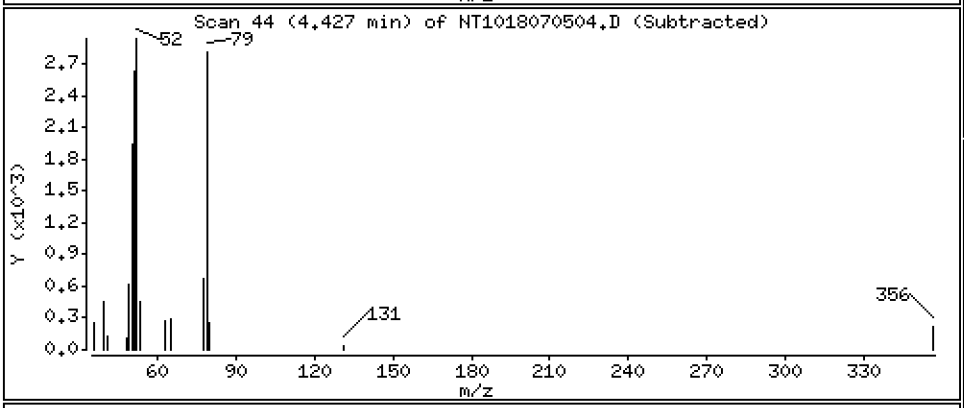
Column diameter: 0.25

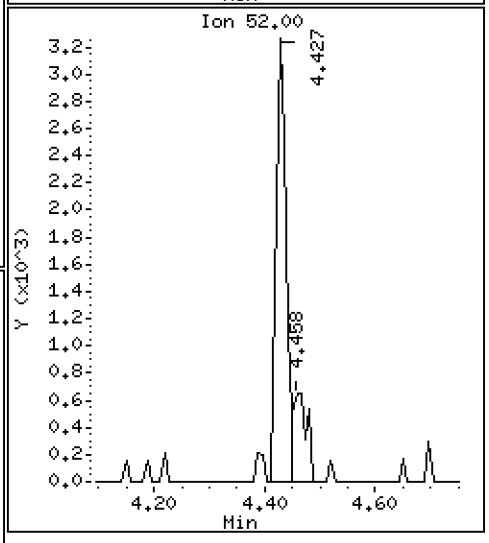
103 Pyridine

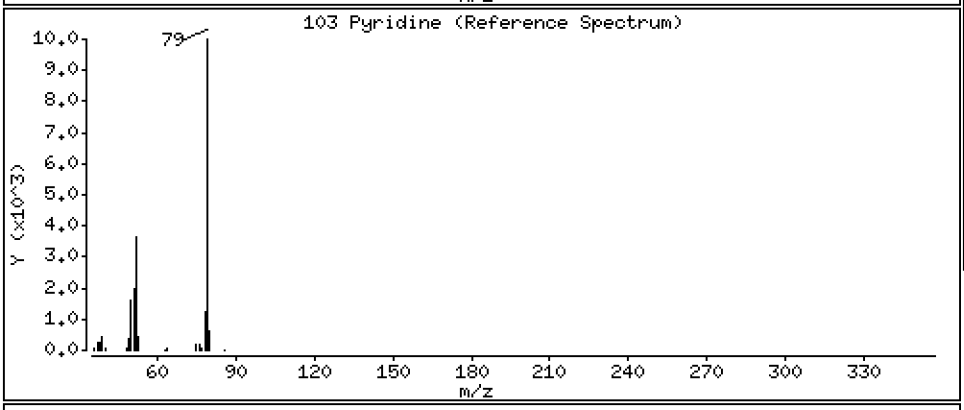
Concentration: 0.1383 ug/mL

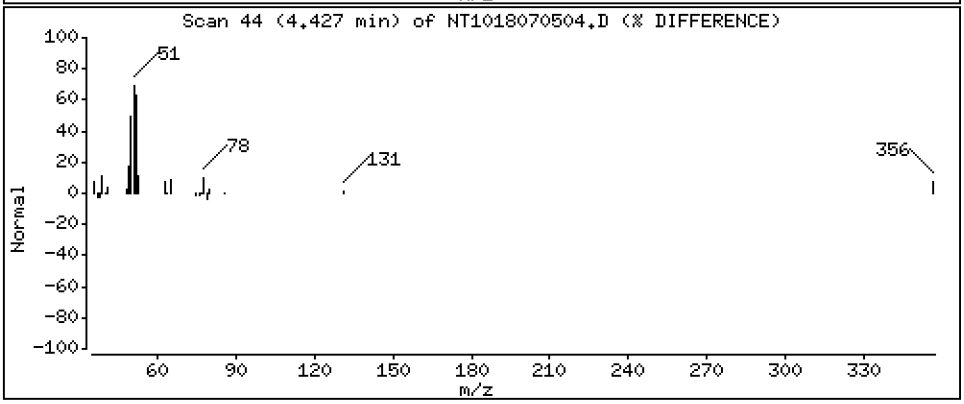












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

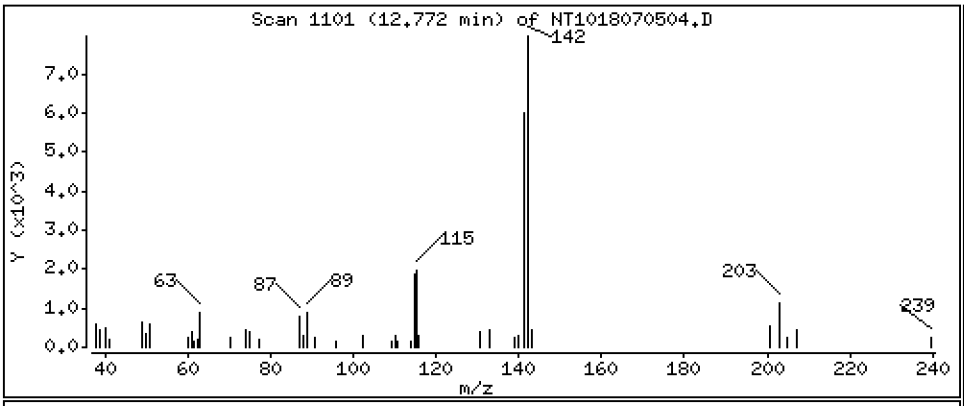
Operator: YZ

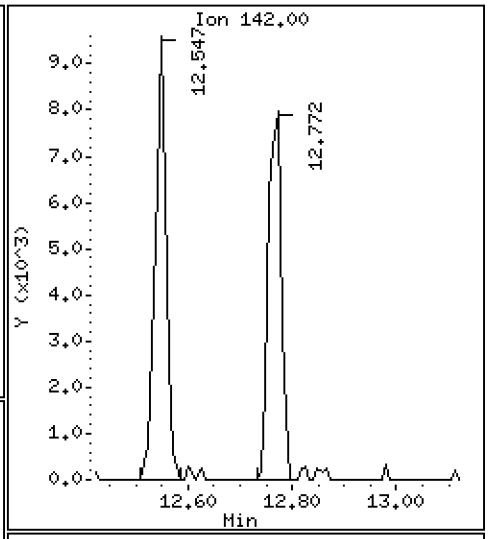
Column phase: ZB-5msi

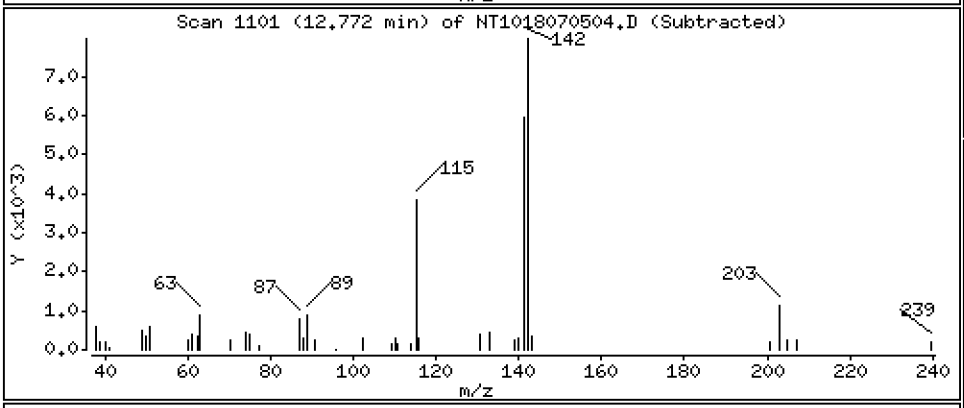
Column diameter: 0.25

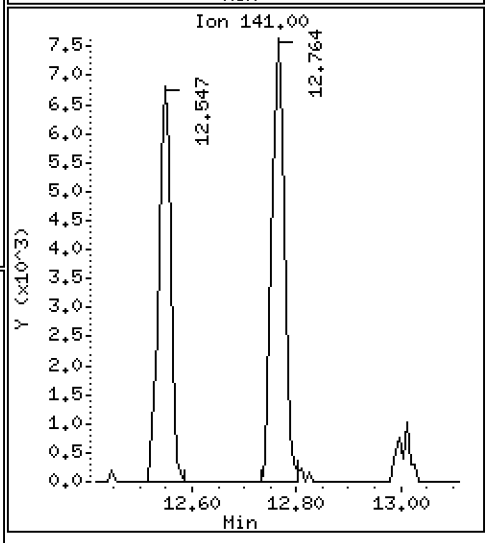
105 1-methylnaphthalene

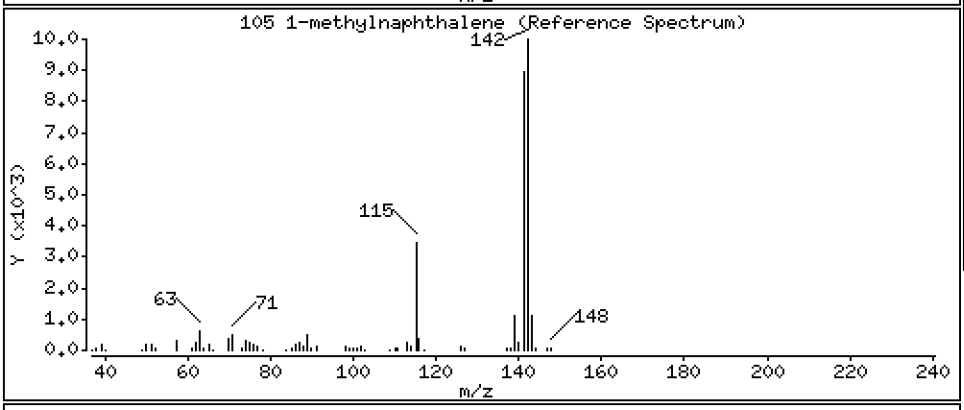
Concentration: 0.2014 ug/mL

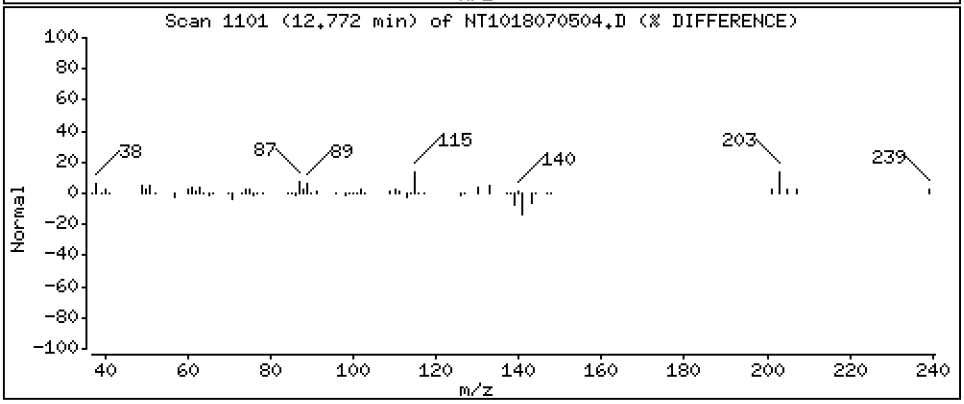












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

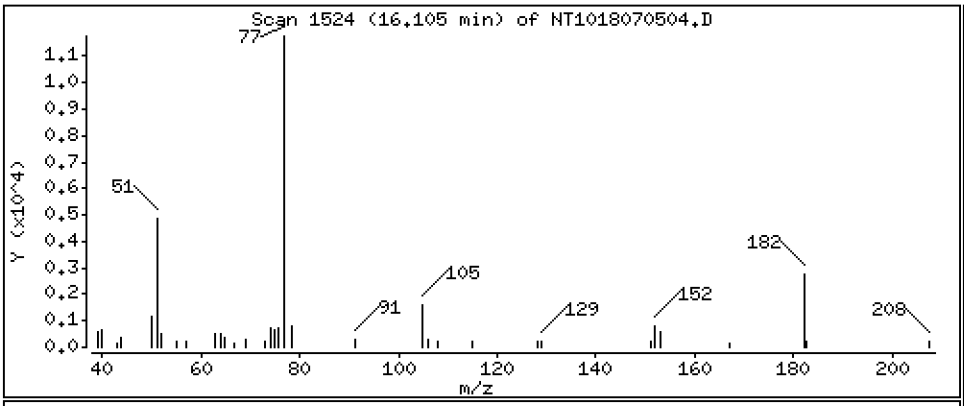
Operator: YZ

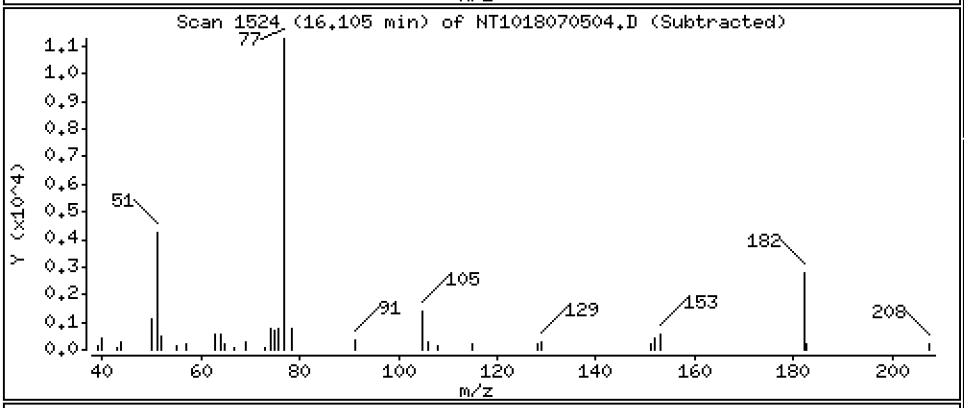
Column phase: ZB-5msi

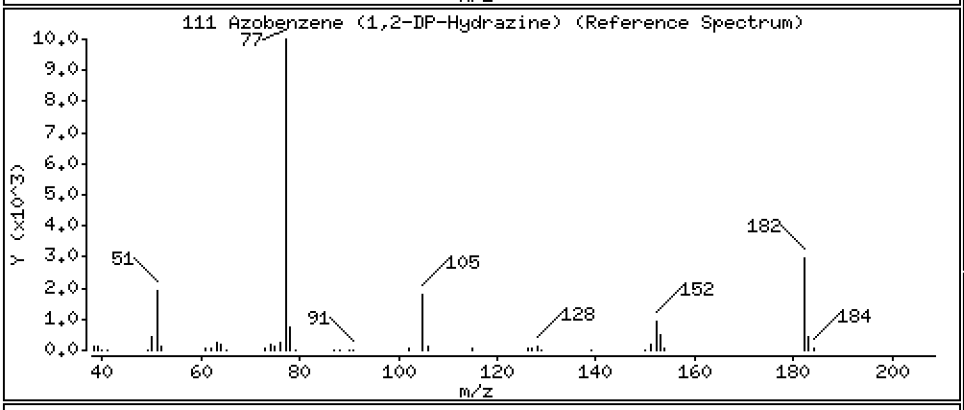
Column diameter: 0.25

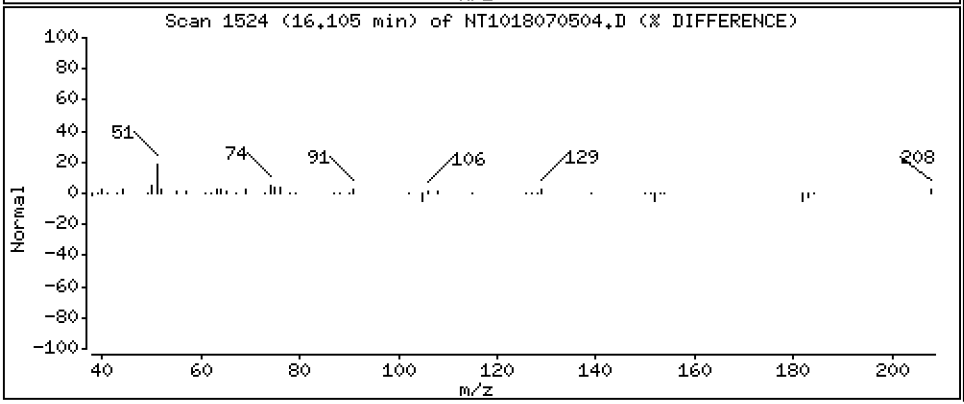
111 Azobenzene (1,2-DP-Hydrazine)

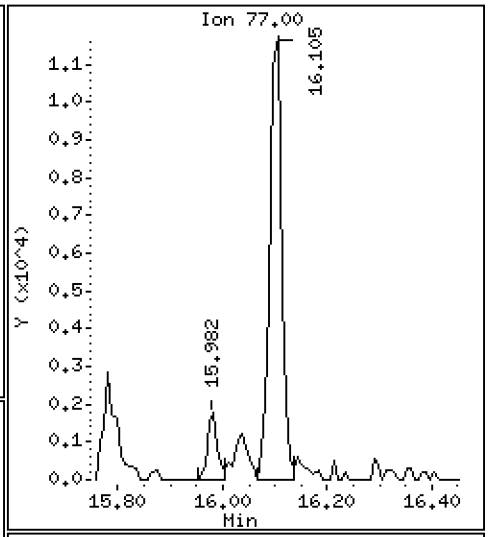
Concentration: 0.2815 ug/mL

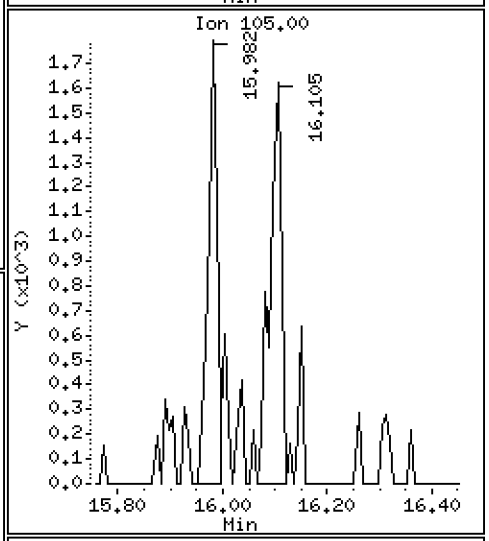


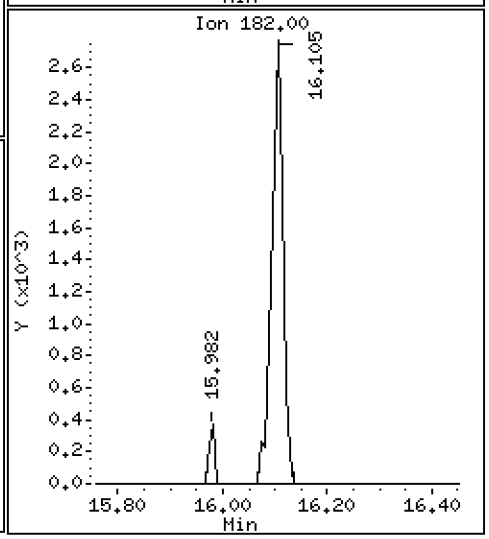












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

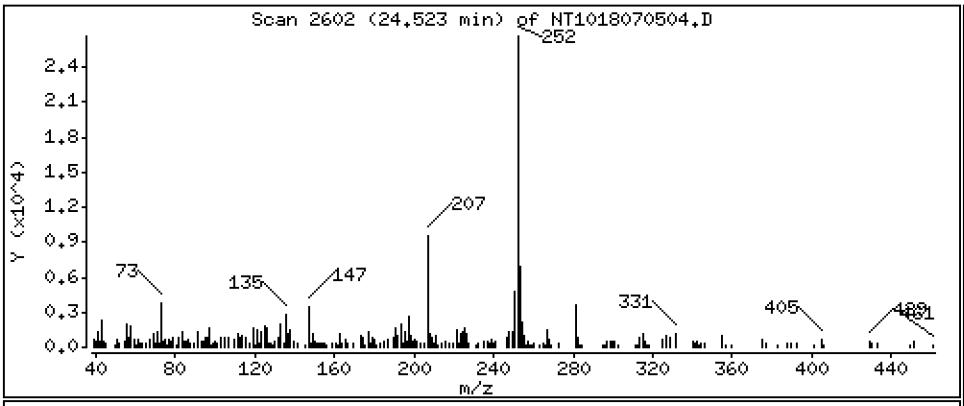
Operator: YZ

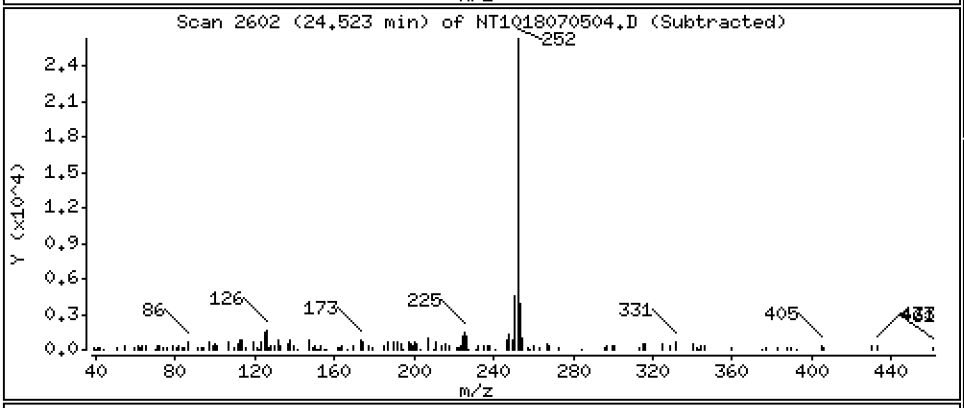
Column phase: ZB-5msi

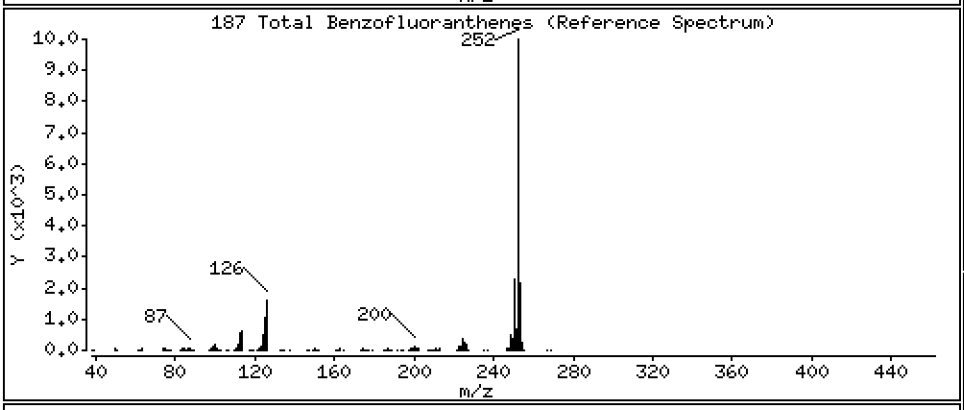
Column diameter: 0.25

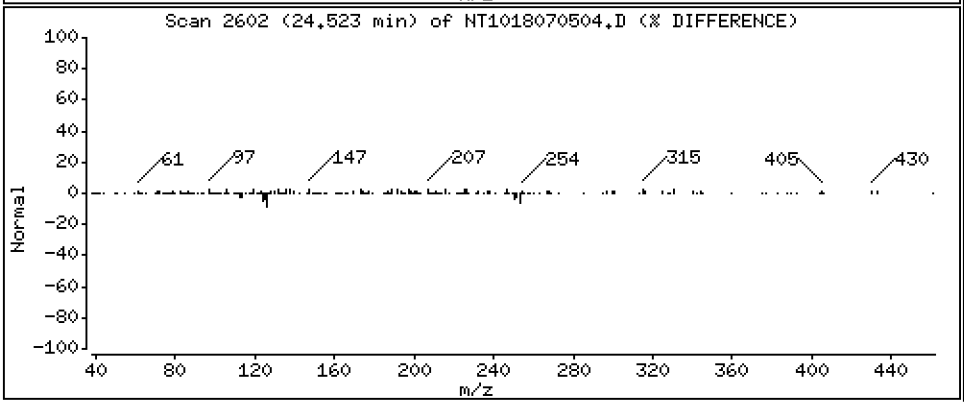
187 Total Benzofluoranthenes

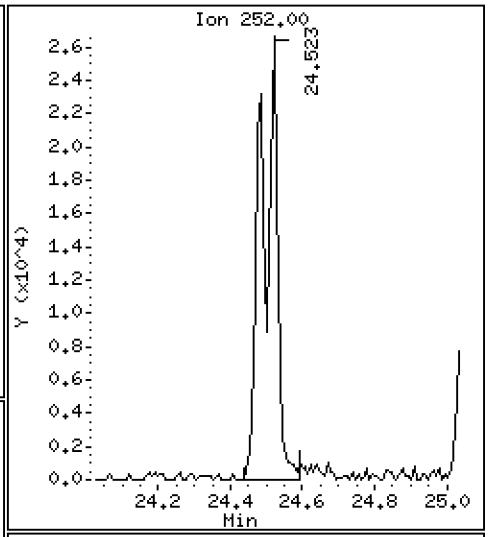
Concentration: 0.6164 ug/mL

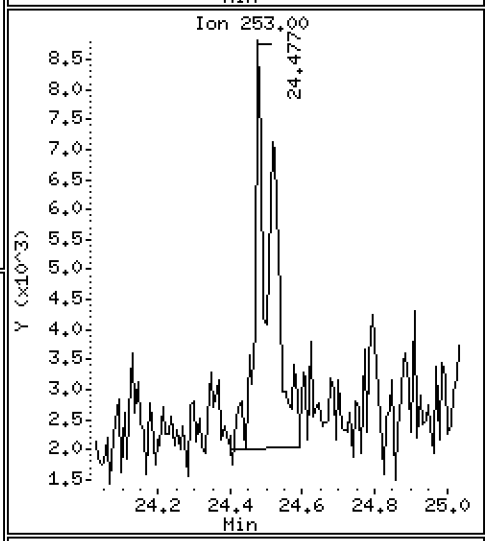


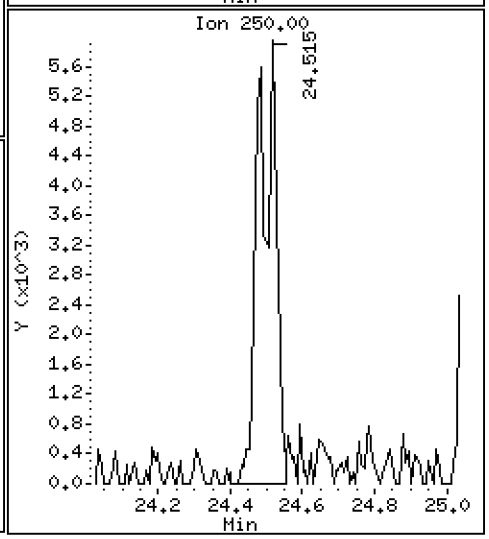












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

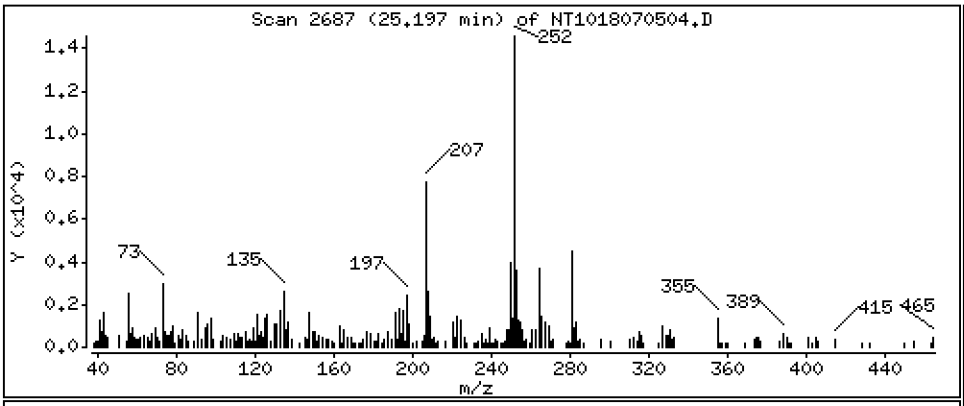
Operator: YZ

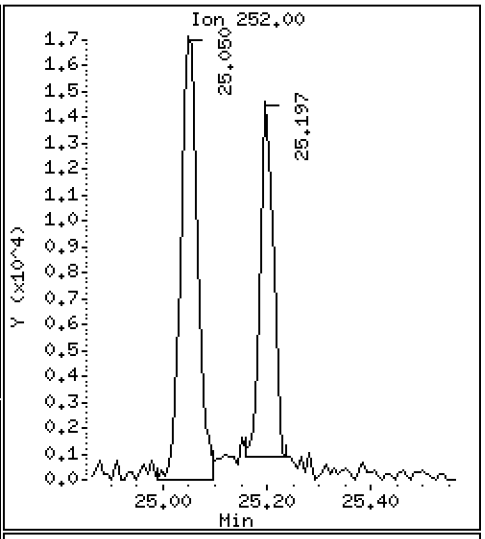
Column phase: ZB-5msi

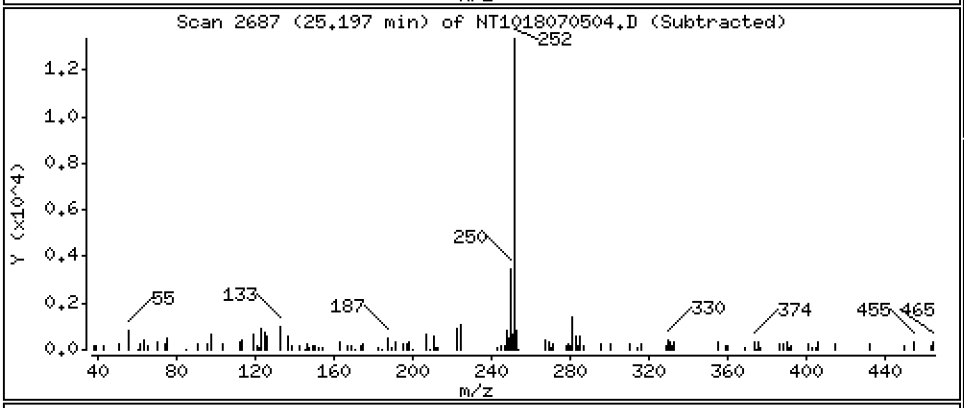
Column diameter: 0.25

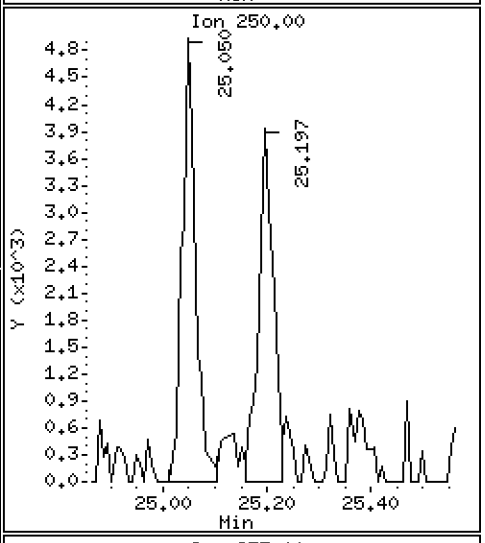
99 Perylene

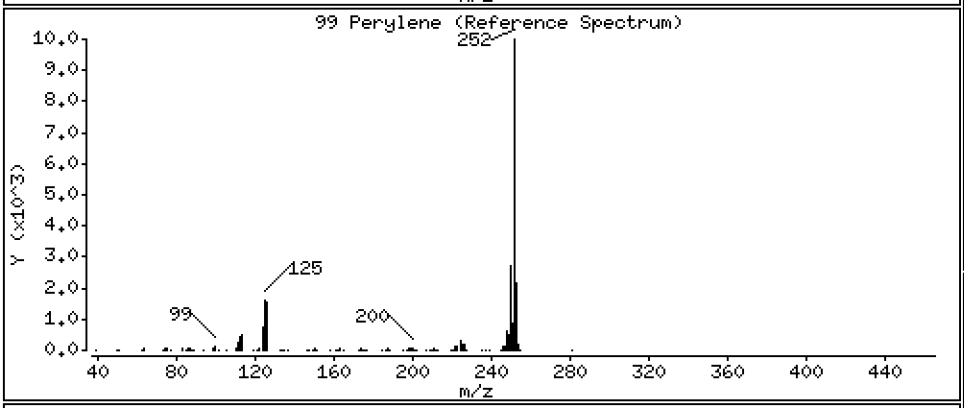
Concentration: 0.2024 ug/mL

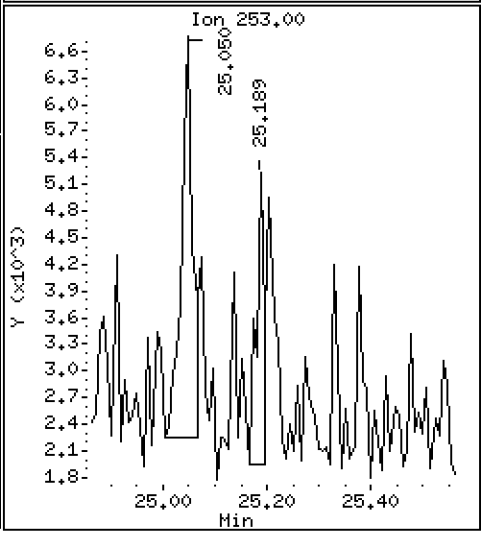


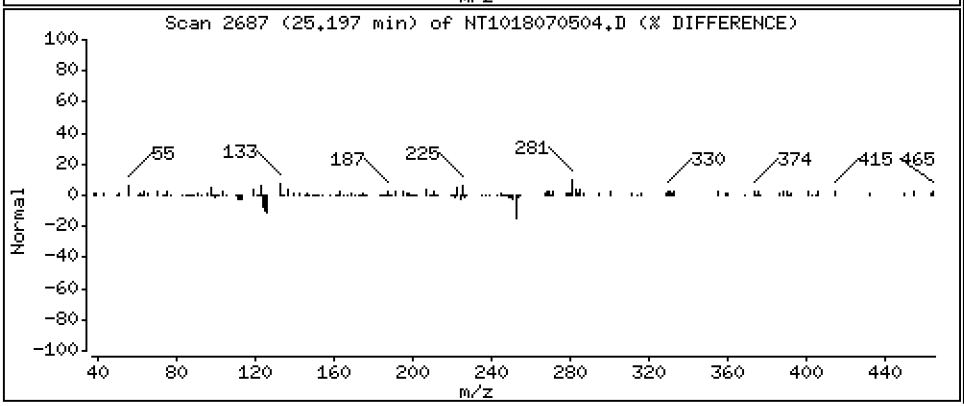












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

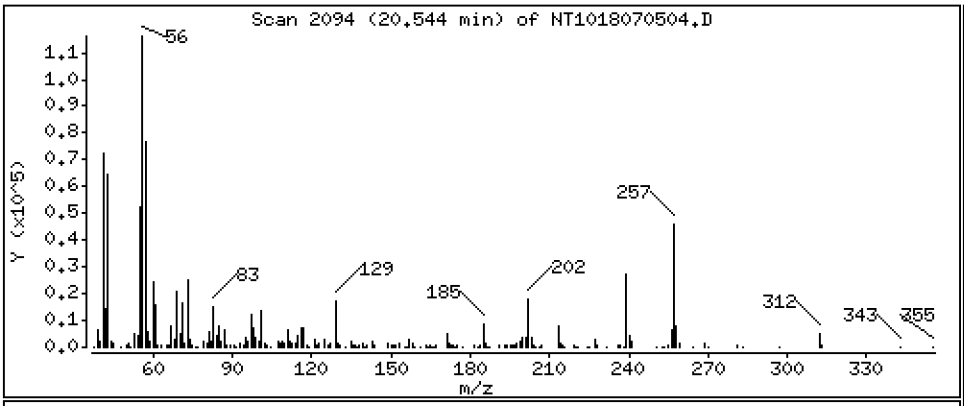
Sample Info: SGG0051-LCV1

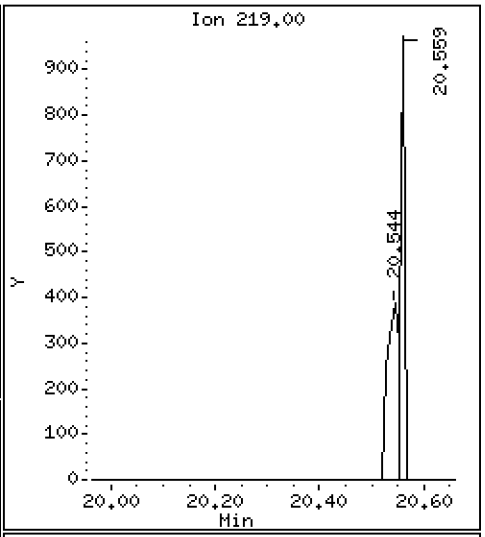
Operator: YZ

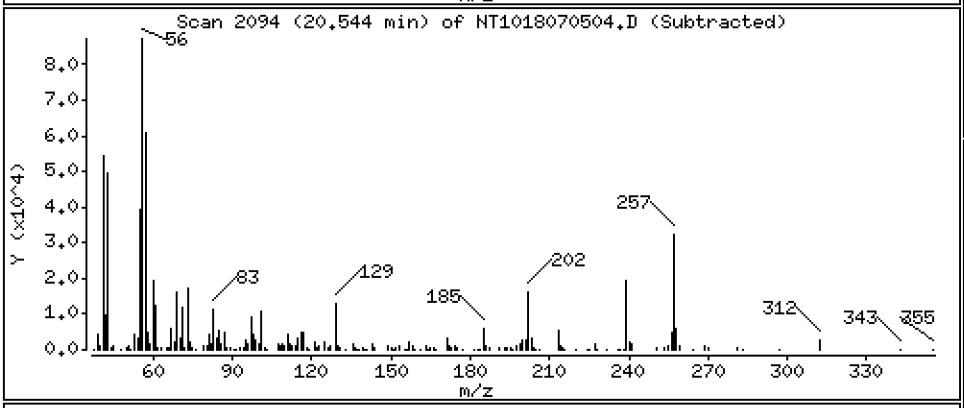
Column phase: ZB-5msi

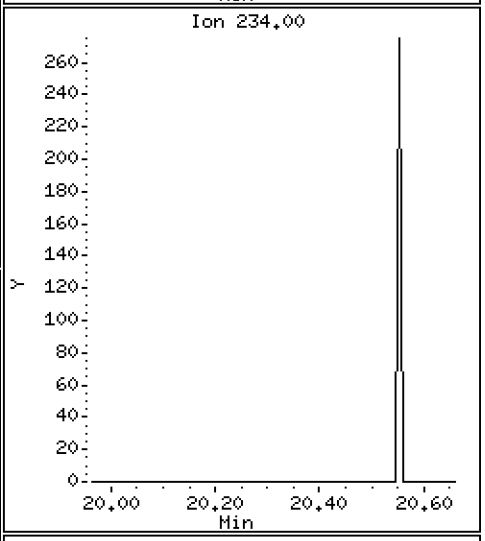
Column diameter: 0.25

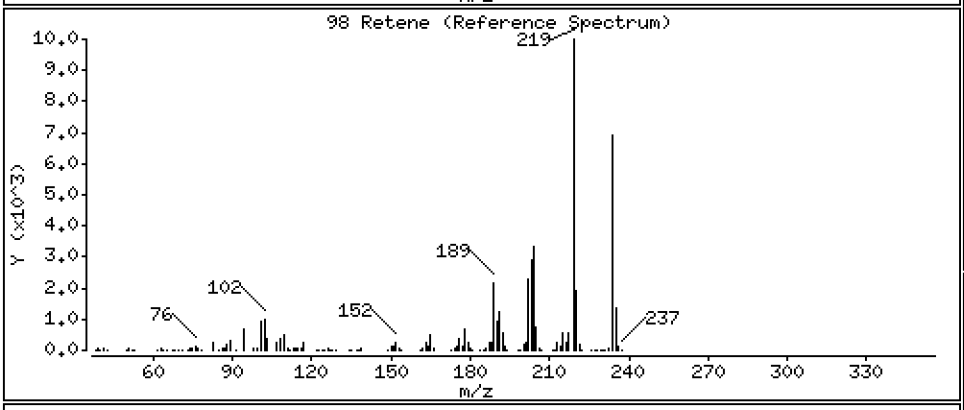
98 Retene

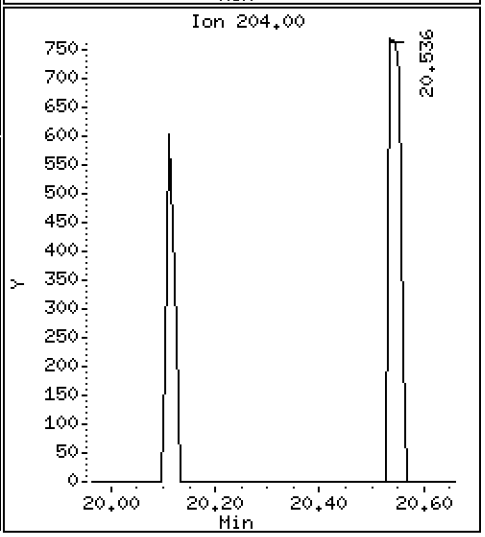


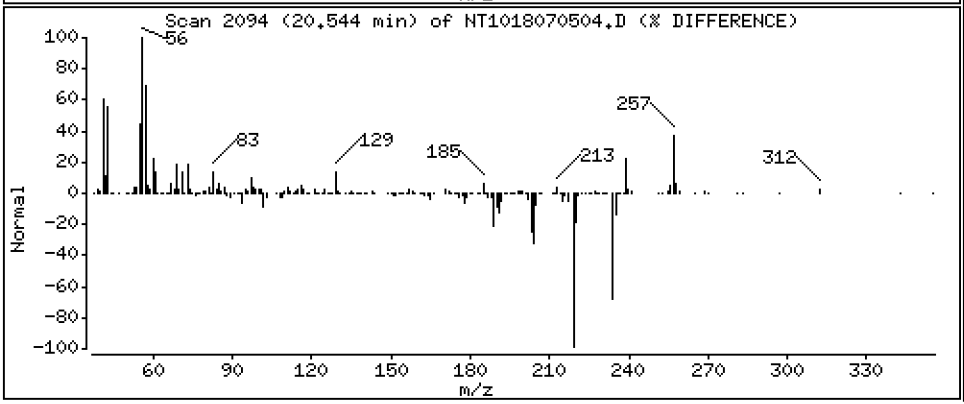












Data File: \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D

Date : 05-JUL-2018 13:09

Client ID:

Instrument: nt10.i

Sample Info: SGG0051-LCV1

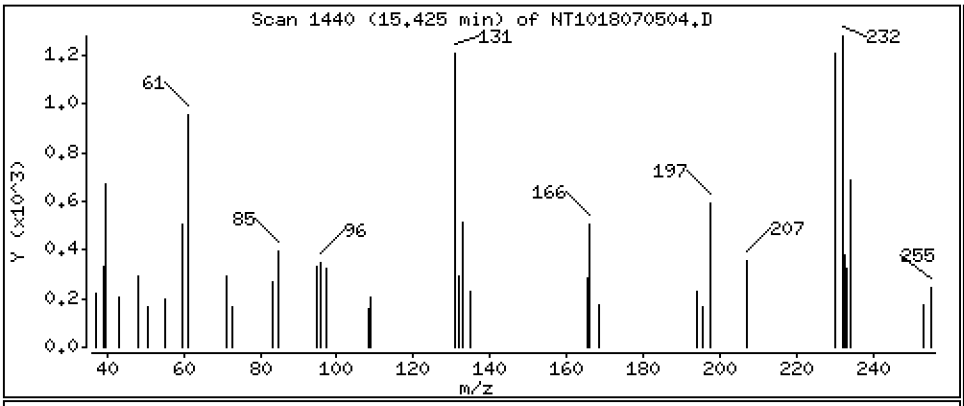
Operator: YZ

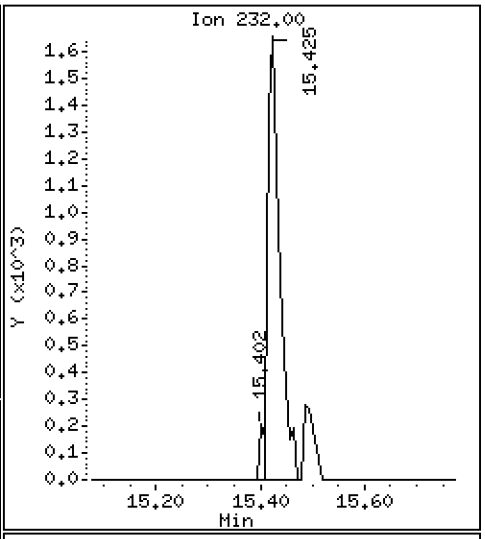
Column phase: ZB-5msi

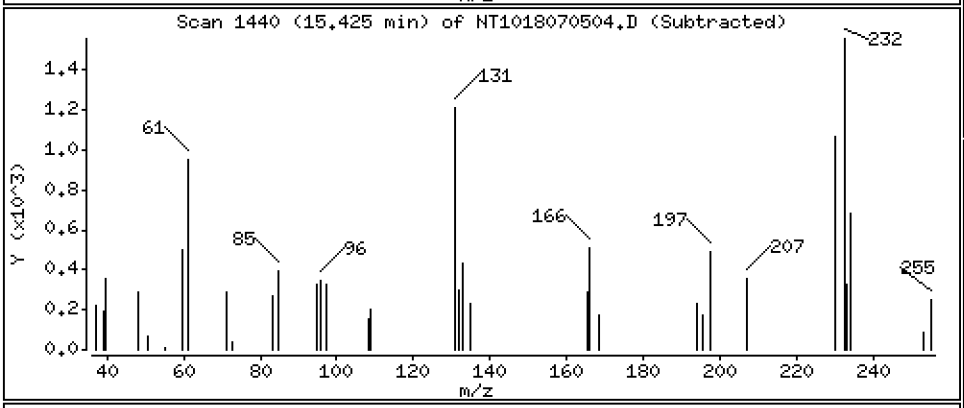
Column diameter: 0.25

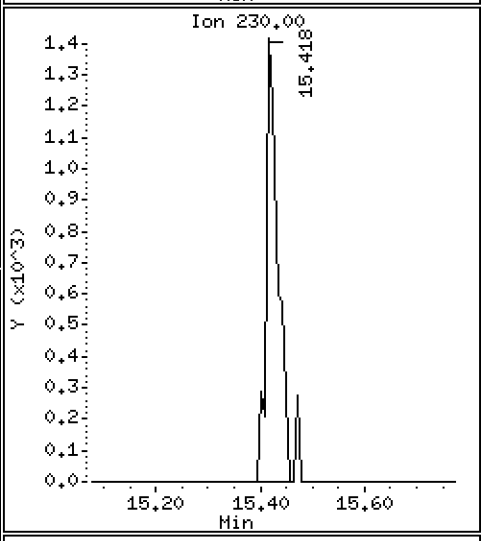
120 2,3,4,6-Tetrachlorophenol

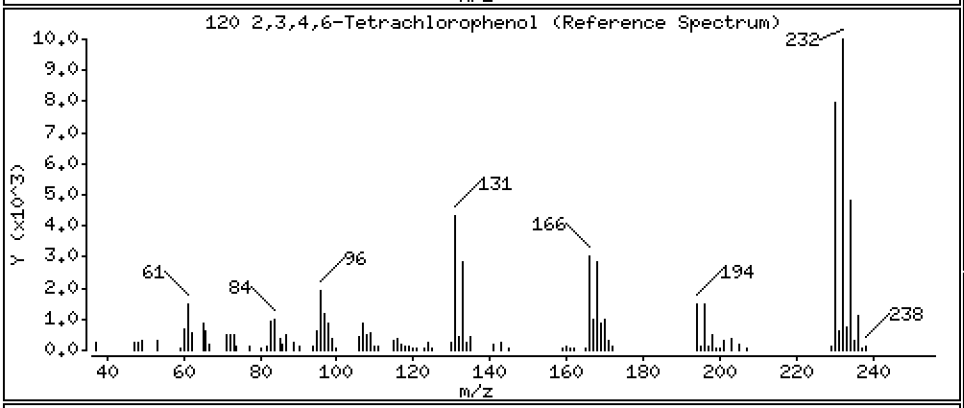
Concentration: 0.1374 ug/mL

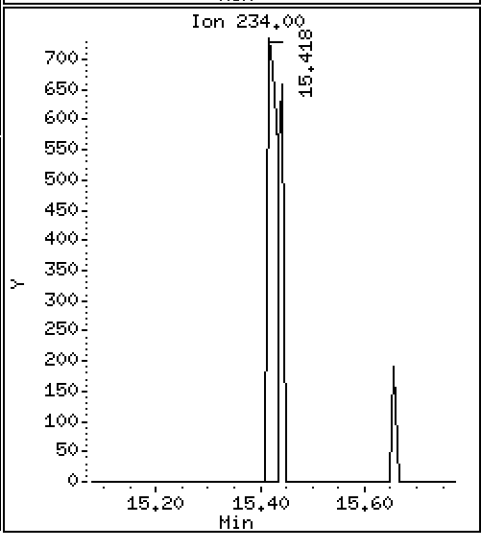


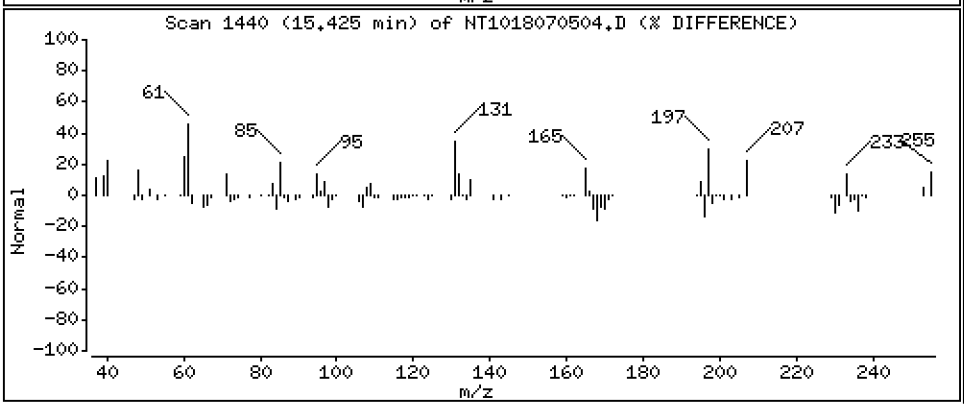












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\Target\share\chem3\nt10.i\20180705.b\NT1018070504.D
Lab Smp Id: SGG0051-LCV1
Inj Date : 05-JUL-2018 13:09
Operator : YZ Inst ID: nt10.i
Smp Info : SGG0051-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Meth Date : 05-Jul-2018 15:42 yev Quant Type: ISTD
Cal Date : 19-MAY-2018 12:51 Cal File: NT1018051908.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDAICAL.sub
Target Version: 4.14
Processing Host: ORGDATA03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.519	6.512	(0.751)	7260	0.22160	0.2216
$	2 Phenol-d5	99	8.080	8.088	(0.931)	8846	0.20431	0.2043
	3 Phenol	94	8.096	8.104	(0.932)	5983	0.13915	0.1392
$	5 2-Chlorophenol-d4	132	8.335	8.335	(0.960)	9539	0.28256	0.2826
	4 Bis(2-Chloroethyl)ether	93	8.250	8.250	(0.950)	6107	0.18471	0.1847
	6 2-Chlorophenol	128	8.366	8.366	(0.963)	7107	0.20256	0.2026
	7 1,3-Dichlorobenzene	146	8.629	8.622	(0.994)	7336	0.20794	0.2079
*	8 1,4-Dichlorobenzene-d4	152	8.683	8.691	(1.000)	95632	4.00000	
	9 1,4-Dichlorobenzene	146	8.714	8.715	(1.004)	7433	0.23240	0.2324
$	10 1,2-Dichlorobenzene-d4	152	9.040	9.041	(1.041)	5132	0.21507	0.2151
	12 1,2-Dichlorobenzene	146	9.064	9.064	(1.044)	7088	0.22337	0.2234
	11 Benzyl alcohol	108	8.971	8.963	(1.033)	1421	0.06673	0.06673
	14 2,2'-oxybis(1-Chloropropane)	121	9.266	9.266	(1.067)	2331	0.18453	0.1845
	13 2-Methylphenol	108	9.196	9.196	(1.059)	4430	0.15362	0.1536
	17 Hexachloroethane	117	9.646	9.646	(1.111)	4180	0.28106	0.2811
	16 N-Nitroso-di-n-propylamine	70	9.514	9.514	(1.096)	5547	0.26070	0.2607
	15 4-Methylphenol	108	9.467	9.468	(1.090)	4585	0.14973	0.1497
$	18 Nitrobenzene-d5	82	9.762	9.770	(0.877)	7022	0.22540	0.2254
	19 Nitrobenzene	77	9.801	9.801	(0.881)	7669	0.25025	0.2502
	20 Isophorone	82	10.243	10.244	(0.920)	11493	0.18265	0.1827
	21 2-Nitrophenol	139	10.422	10.422	(0.936)	2652	0.15699	0.1570
	22 2,4-Dimethylphenol	107	10.488	10.488	(0.942)	13631	0.45462	0.4546
	23 Bis(2-Chloroethoxy)methane	93	10.671	10.679	(0.959)	5671	0.17175	0.1717
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	10.870	10.870	(0.977)	8029	0.33233	0.3323
	26 1,2,4-Trichlorobenzene	180	11.046	11.054	(0.992)	6109	0.23515	0.2351
*	27 Naphthalene-d8	136	11.131	11.131	(1.000)	312041	4.00000	
	28 Naphthalene	128	11.170	11.170	(1.003)	21909	0.27498	0.2750
	29 4-Chloroaniline	127	11.309	11.309	(1.016)	11075	0.31162	0.3116
	30 Hexachlorobutadiene	225	11.533	11.541	(1.036)	4769	0.29229	0.2923
	31 4-Chloro-3-methylphenol	107	12.284	12.276	(1.104)	8855	0.33856	0.3386
	32 2-Methylnaphthalene	142	12.547	12.547	(1.127)	13731	0.21840	0.2184
	33 Hexachlorocyclopentadiene	237	13.011	13.011	(0.886)	5215	0.28363	0.2836

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.174	13.174	(0.897)	8066	0.39898	0.3990
	35	2,4,5-Trichlorophenol	196	13.259	13.244	(0.903)	8728	0.38643	0.3864
$	36	2-Fluorobiphenyl	172	13.328	13.329	(0.907)	14313	0.19560	0.1956
	37	2-Chloronaphthalene	162	13.522	13.530	(0.920)	11755	0.19539	0.1954
	38	2-Nitroaniline	65	13.793	13.793	(0.939)	7587	0.45198	0.4520
	39	Dimethylphthalate	163	14.226	14.234	(0.968)	16730	0.26130	0.2613
	40	Acenaphthylene	152	14.381	14.381	(0.979)	23699	0.24972	0.2497
	41	2,6-Dinitrotoluene	165	14.358	14.366	(0.977)	7414	0.53998	0.5400
*	42	Acenaphthene-d10	164	14.691	14.698	(1.000)	165860	4.00000	
	43	3-Nitroaniline	138	14.706	14.637	(1.001)	641	0.04035	0.04035
	44	Acenaphthene	153	14.752	14.760	(1.004)	13898	0.24621	0.2462
	45	2,4-Dinitrophenol	184	14.861	14.845	(1.012)	578	0.06845	0.06845
	46	Dibenzofuran	168	15.077	15.085	(1.026)	17440	0.19896	0.1990
	47	4-Nitrophenol	109	15.023	14.984	(1.023)	1247	0.12642	0.1264
	48	2,4-Dinitrotoluene	165	15.154	15.155	(1.032)	7625	0.43163	0.4316
	50	Diethylphthalate	149	15.665	15.673	(1.066)	17754	0.27174	0.2717
	49	Fluorene	166	15.781	15.789	(1.074)	19772	0.29555	0.2955
	51	4-Chlorophenyl-phenylether	204	15.781	15.789	(1.074)	10244	0.31343	0.3134
	52	4-Nitroaniline	138	15.889	15.897	(1.082)	3724	0.24267	0.2427
	53	4,6-Dinitro-2-methylphenol	198	15.974	15.981	(0.903)	5188	0.34674	0.3467
	54	N-Nitrosodiphenylamine	169	16.035	16.035	(0.907)	12511	0.26993	0.2699
$	55	2,4,6-Tribromophenol	330	16.313	16.313	(1.110)	1773	0.19787	0.1979
	56	4-Bromophenyl-phenylether	248	16.768	16.776	(0.948)	4807	0.22977	0.2298
	57	Hexachlorobenzene	284	17.077	17.077	(0.966)	4294	0.21499	0.2150
	58	Pentachlorophenol	266	17.441	17.433	(0.986)	654	0.05568	0.05568
*	59	Phenanthrene-d10	188	17.681	17.689	(1.000)	344494	4.00000	
	60	Phenanthrene	178	17.727	17.735	(1.003)	21893	0.23973	0.2397
	61	Anthracene	178	17.820	17.828	(1.008)	22222	0.22951	0.2295
	62	Carbazole	167	18.160	18.161	(1.027)	18586	0.21501	0.2150
	63	Di-n-butylphthalate	149	18.988	18.988	(1.074)	31514	0.23926	0.2393
	64	Fluoranthene	202	20.118	20.118	(0.885)	30452	0.21819	0.2182
	65	Pyrene	202	20.543	20.544	(0.904)	28960	0.19910	0.1991
$	66	Terphenyl-d14	244	20.845	20.853	(0.917)	21165	0.23019	0.2302
	67	Butylbenzylphthalate	149	21.790	21.798	(0.958)	16705	0.29002	0.2900
	68	Benzo(a)anthracene	228	22.703	22.711	(0.999)	37729	0.29568	0.2957
*	69	Chrysene-d12	240	22.734	22.735	(1.000)	350502	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.680	22.688	(0.998)	32456	0.72495	0.7250
	71	Chrysene	228	22.773	22.781	(1.002)	32995	0.32195	0.3219
	72	bis(2-Ethylhexyl)phthalate	149	22.835	22.835	(0.959)	19999	0.28310	0.2831
*	134	Di-n-octylphthalate-d4	153	23.803	23.811	(1.000)	678119	4.00000	
	73	Di-n-octylphthalate	149	23.811	23.818	(1.000)	35499	0.24040	0.2404
	74	Benzo(b)fluoranthene	252	24.484	24.492	(0.974)	39786	0.28106	0.2811
	75	Benzo(k)fluoranthene	252	24.523	24.531	(0.975)	44439	0.31196	0.3120
	76	Benzo(a)pyrene	252	25.049	25.057	(0.996)	37774	0.26451	0.2645
*	77	Perylene-d12	264	25.150	25.166	(1.000)	404825	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	27.428	27.444	(1.091)	44025	0.31370	0.3137
	79	Dibenzo(a,h)anthracene	278	27.452	27.467	(1.092)	40666	0.35895	0.3590
	80	Benzo(g,h,i)perylene	276	28.088	28.112	(1.117)	42906	0.34350	0.3435
	90	N-Nitrosodimethylamine	74	4.396	4.388	(0.506)	5141	0.26569	0.2657
	91	Aniline	93	8.157	8.158	(0.939)	16301	0.34112	0.3411
	93	Benzidine	184	17.681	17.689	(0.778)	48186	0.81286	0.8129
	103	Pyridine	79	4.427	4.404	(0.510)	4835	0.13826	0.1383
	105	1-methylnaphthalene	142	12.771	12.771	(1.147)	13040	0.20141	0.2014
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.105	16.105	(1.096)	17601	0.28145	0.2815

						CONCENTRATIONS	
	QUANT SIG					ON-COLUMN	FINAL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
187 Total Benzofluoranthenes	252	24.523	24.531	(0.975)	84184	0.61643	0.6164
99 Perylene	252	25.196	25.212	(1.002)	23180	0.20244	0.2024
98 Retene	219	20.543	20.311	(0.904)	580		
120 2,3,4,6-Tetrachlorophenol	232	15.425	15.425	(1.050)	2513	0.13736	0.1374

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1018070504.D
Lab Smp Id: SGG0051-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\Target\share\chem3\nt10.i\20180705.b\ABN.m
Misc Info:

Calibration Date: 05-JUL-2018
Calibration Time: 11:56
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 5.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	110698	55349	221396	95632	-13.61
27 Naphthalene-d8	393946	196973	787892	312041	-20.79
42 Acenaphthene-d10	203210	101605	406420	165860	-18.38
59 Phenanthrene-d10	403506	201753	807012	344494	-14.62
69 Chrysene-d12	354618	177309	709236	350502	-1.16
134 Di-n-octylphthala	800232	400116	1600464	678119	-15.26
77 Perylene-d12	378948	189474	757896	404825	6.83

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.69	8.19	9.19	8.68	-0.09
27 Naphthalene-d8	11.13	10.63	11.63	11.13	-0.00
42 Acenaphthene-d10	14.70	14.20	15.20	14.69	-0.05
59 Phenanthrene-d10	17.69	17.19	18.19	17.68	-0.04
69 Chrysene-d12	22.74	22.24	23.24	22.73	-0.00
134 Di-n-octylphthala	23.81	23.31	24.31	23.80	-0.03
77 Perylene-d12	25.17	24.67	25.67	25.15	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1018070504.D

Lab ID: SGG0051-LCV1
nt10.i, 20180705.b\ABN.m,   05-JUL-2018 13:09

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt10.i, 20180705.b\ABN.m, PSDDAICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGE0328
Instrument: NT10
Calibration: BE00068

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGE0328-TUN1	NT1018051901.D	NA	05/19/18 08:54
ABN 5.0	SGE0328-CAL5	NT1018051902.D	NA	05/19/18 09:09
ABN 20	SGE0328-CAL7	NT1018051903.D	NA	05/19/18 09:49
ABN 0.2	SGE0328-CAL1	NT1018051904.D	NA	05/19/18 10:25
ABN 10	SGE0328-CAL6	NT1018051905.D	NA	05/19/18 11:02
ABN 0.5	SGE0328-CAL2	NT1018051906.D	NA	05/19/18 11:38
ABN 1.0	SGE0328-CAL3	NT1018051907.D	NA	05/19/18 12:14
ABN 2.5	SGE0328-CAL4	NT1018051908.D	NA	05/19/18 12:51
SCV 5.0	SGE0328-SCV1	NT1018051911.D	NA	05/19/18 14:41
MS Tune	SGE0328-TUN2	NT1018051912.D	NA	05/19/18 15:12
ABN 5.0	SGE0328-ICV1	NT1018051913.D	NA	05/19/18 15:28
ZZZZZ	BGE0396-BLK1	NT1018051915.D	Solid	05/19/18 16:42
ZZZZZ	BGE0396-BS1	NT1018051916.D	Solid	05/19/18 17:19
ZZZZZ	BGE0396-SRM1	NT1018051917.D	Solid	05/19/18 17:55
ZZZZZ	18B0338-03RE1	NT1018051920.D	Solid	05/19/18 19:45
ZZZZZ	18B0338-04RE1	NT1018051923.D	Solid	05/19/18 21:34
ZZZZZ	18B0338-05RE1	NT1018051924.D	Solid	05/19/18 22:10
ZZZZZ	18B0338-06RE1	NT1018051925.D	Solid	05/19/18 22:46
ZZZZZ	18B0338-07RE1	NT1018051926.D	Solid	05/19/18 23:22
ZZZZZ	18B0338-08RE1	NT1018051927.D	Solid	05/19/18 23:58
ZZZZZ	18B0359-01RE1	NT1018051928.D	Solid	05/20/18 00:34
ZZZZZ	18B0359-02RE1	NT1018051929.D	Solid	05/20/18 01:10
ZZZZZ	18B0359-03RE1	NT1018051930.D	Solid	05/20/18 01:46
ZZZZZ	18B0360-01RE1	NT1018051931.D	Solid	05/20/18 02:22
ZZZZZ	18B0362-01RE1	NT1018051932.D	Solid	05/20/18 02:58
ABN 5.0	SGE0328-CCV1	NT1018051936.D	NA	05/20/18 05:22

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 5/23/2018 11:34:25AM

ANALYSIS SEQUENCE

SGE0328

Instrument: NT10 Element Column ID: G002875
Calibration ID: BE00068 Tune File: 180519.U
EM Voltage: 1906

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGE0328-TUN1	MS Tune	QC		1	F010239		
SGE0328-CAL5	ABN 5.0	QC		2	G003850	G003857	
SGE0328-CAL7	ABN 20	QC		3	G003848	G003857	
SGE0328-CAL1	ABN 0.2	QC		4	G003854	G003857	
SGE0328-CAL6	ABN 10	QC		5	G003849	G003857	
SGE0328-CAL2	ABN 0.5	QC		6	G003853	G003857	
SGE0328-CAL3	ABN 1.0	QC		7	G003852	G003857	
SGE0328-CAL4	ABN 2.5	QC		8	G003851	G003857	
SGE0328-SCV1	SCV 5.0	QC		9	G004584	G003857	
SGE0328-TUN2	MS Tune	QC		10	F010239		
SGE0328-ICV1	ABN 5.0	QC		11	G003850	G003857	
BGE0396-BLK1	Blank	QC		12		G003857	
BGE0396-BS1	LCS	QC		13		G003857	
BGE0396-SRM1	Reference	QC		14		G003857	
18B0338-01RE2	LDW18-SSOT-T107 Park	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	15		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-02RE2	LDW18-SSOT-T107 Park-FD	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	16		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-03RE1	LDW18-SS-179	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	17		G003857	From BGC0127 by CCT on 15-May-2018
BGE0396-MS1	Matrix Spike	QC		18		G003857	
BGE0396-MSD1	Matrix Spike Dup	QC		19		G003857	
18B0338-04RE1	LDW18-SSOT-5thAveS	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	F 03	20		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-05RE1	LDW18-SS-184	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	D 03	21		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-06RE1	LDW18-SSOT-2109-1	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	22		G003857	From BGC0127 by CCT on 15-May-2018

Printed: 5/23/2018 11:34:25AM

ANALYSIS SEQUENCE

SGE0328

Instrument: NT10 Element Column ID: G002875
Calibration ID: BE00068 Tune File: 180519.U
EM Voltage: 1906

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
18B0338-07RE1	LDW18-SSOT-2109-2	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	E 03	23		G003857	From BGC0127 by CCT on 15-May-2018
18B0338-08RE1	LDW18-SS-169	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	D 03	24		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-01RE1	LDW18SS-008	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	25		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-02RE1	LDW18SS-069	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	26		G003857	From BGC0127 by CCT on 15-May-2018
18B0359-03RE1	LDW18SS-069-FD	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	27		G003857	From BGC0127 by CCT on 15-May-2018
18B0360-01RE1	LDW18-SS-040	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	28		G003857	From BGC0127 by CCT on 15-May-2018
18B0362-01RE1	LDW18-SSOT-SeattleDistCtr	0 SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 03	29		G003857	From BGC0127 by CCT on 15-May-2018
SGE0328-CCV1	ABN 5.0	QC		30	G003850	G003857	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

| | Time | Filename | LabID | ClientId | DF | | |

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

	Time	Filename	LabID	ClientId	DF												
21	2022	NT1018051921.D	BGE0396-MS1		1	8.98	117982	11.42	434813	14.99	214243	17.99	410337	23.00	366103	25.51	400522	24.03	745105
22	2058	NT1018051922.D	BGE0396-MSD1		1	8.98	118083	11.42	445191	14.99	219081	17.99	413480	23.00	377973	25.51	401082	24.03	762054
23	2134	NT1018051923.D	18B0338-04RE1		1	8.98	119663	11.42	441090	14.99	210599	17.99	401754	23.00	363785	25.52	361123	24.03	687421
24	2210	NT1018051924.D	18B0338-05RE1		1	8.98	132442	11.42	478391	14.99	223548	18.00	440888	23.01	376268	25.51	391542	24.03	723564
25	2246	NT1018051925.D	18B0338-06RE1		1	8.98	126056	11.43	457714	14.99	224756	17.99	430960	23.00	374416	25.50	395588	24.03	730120
26	2322	NT1018051926.D	18B0338-07RE1		1	8.98	136893	11.42	489700	14.99	237869	17.99	463109	23.01	412309	25.53	399954	24.03	779339
27	2358	NT1018051927.D	18B0338-08RE1		1	8.99	127543	11.43	452700	15.00	216296	18.00	421824	23.01	381756	25.52	381635	24.03	713662
28	0034	NT1018051928.D	18B0359-01RE1		1	8.99	132844	11.43	465966	15.00	229105	18.00	444765	23.01	393257	25.51	393576	24.03	752758
29	0110	NT1018051929.D	18B0359-02RE1		1	8.98	129262	11.42	462012	14.99	229683	18.00	448263	23.01	395143	25.52	389261	24.03	758433
30	0146	NT1018051930.D	18B0359-03RE1		1	8.99	127277	11.43	459610	15.00	223047	18.00	435625	23.01	388282	25.51	382930	24.03	729341
31	0222	NT1018051931.D	18B0360-01RE1		1	8.98	127777	11.43	454384	14.99	219202	18.00	429826	23.01	385044	25.51	378231	24.03	730998
32	0258	NT1018051932.D	18B0362-01RE1		1	8.99	127652	11.43	451804	15.00	220710	18.00	417523	23.02	377896	25.53	361409	24.03	730309
33	0334	NT1018051933.D	18B0362-02RE1		1	8.99	115680	11.43	428605	15.00	206650	18.01	389410	23.02	347374	25.52	337638	24.03	670239
34	0410	NT1018051934.D	18C0047-03RE1		1	8.99	118161	11.43	409412	15.00	204048	18.00	404367	23.01	356237	25.51	345128	24.03	702640
35	0446	NT1018051935.D	18C0047-04RE1		1	8.99	119036	11.43	427445	15.00	214033	18.00	422924	23.01	376295	25.51	359926	24.03	737089
36	0522	NT1018051936.D	SGE0328-CCV1		1	8.99	108692	11.43	387852	15.00	207029	18.00	408608	23.01	387627	25.51	380750	24.03	803310
37	0558	NT1018051937.D	SGE0328-CCV2		1	8.98	123397	11.43	407619	15.00	216406	18.00	430374	23.00	407713	25.51	382314	24.03	826214

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20180519.b

Instrument: nt10.i Date: 19-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0854	NT1018051901.D	SGE0000-TUN1	1	NO MANUAL INTEGRATION
0909	NT1018051902.D	SGE0328-CAL5	1	NO MANUAL INTEGRATION
0949	NT1018051903.D	SGE0328-CAL7	1	NO MANUAL INTEGRATION
1025	NT1018051904.D	SGE0328-CAL1	1	3-Nitroaniline, 2,4-Dinitrophenol, 4-Nitrophenol,
1102	NT1018051905.D	SGE0328-CAL6	1	NO MANUAL INTEGRATION
1138	NT1018051906.D	SGE0328-CAL2	1	4-Nitrophenol,
1214	NT1018051907.D	SGE0328-CAL3	1	NO MANUAL INTEGRATION
1251	NT1018051908.D	SGE0328-CAL4	1	NO MANUAL INTEGRATION
1327	NT1018051909.D	SGE0329-CAL1	1	NO MANUAL INTEGRATION
1404	NT1018051910.D	SGE0329-CAL2	1	NO MANUAL INTEGRATION
1441	NT1018051911.D	SGE0329-SCV1	1	NO MANUAL INTEGRATION
1512	NT1018051912.D	SGE0328-TUN2	1	NO MANUAL INTEGRATION
1528	NT1018051913.D	SGE0328-ICV1	1	NO MANUAL INTEGRATION
1605	NT1018051914.D	SGE0328-ICV2	1	NO MANUAL INTEGRATION
1642	NT1018051915.D	BGE0396-BLK1	1	NO MANUAL INTEGRATION
1719	NT1018051916.D	BGE0396-BS1	1	NO MANUAL INTEGRATION
1755	NT1018051917.D	BGE0396-SRM1	1	Benzo(k)fluoranthene,

Instrument: nt10.i Date: 19-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
1832	NT1018051918.D	18B0338-01RE1	1	NO MANUAL INTEGRATION
1909	NT1018051919.D	18B0338-02RE1	1	NO MANUAL INTEGRATION
1945	NT1018051920.D	18B0338-03RE1	1	Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
2022	NT1018051921.D	BGE0396-MS1	1	3,3'-Dichlorobenzidine,
2058	NT1018051922.D	BGE0396-MSD1	1	3,3'-Dichlorobenzidine,
2134	NT1018051923.D	18B0338-04RE1	1	Benzoic acid, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
2210	NT1018051924.D	18B0338-05RE1	1	Phenol, Benzoic acid,
2246	NT1018051925.D	18B0338-06RE1	1	Benzoic acid,
2322	NT1018051926.D	18B0338-07RE1	1	Phenol, Dibenzo(a,h)anthracene,
2358	NT1018051927.D	18B0338-08RE1	1	Benzoic acid, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Pyridine,
0034	NT1018051928.D	18B0359-01RE1	1	Phenol,
0110	NT1018051929.D	18B0359-02RE1	1	Benzoic acid, Benzo(k)fluoranthene,
0146	NT1018051930.D	18B0359-03RE1	1	Benzoic acid, bis(2-Ethylhexyl)phthalate, Benzo(k)fluoranthene, Pyridine,
0222	NT1018051931.D	18B0360-01RE1	1	Benzoic acid, Benzo(k)fluoranthene,
0258	NT1018051932.D	18B0362-01RE1	1	2,4-Dimethylphenol, Benzoic acid, Pyridine,
0334	NT1018051933.D	18B0362-02RE1	1	Phenol, Benzoic acid, Di-n-butylphthalate, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,
0410	NT1018051934.D	18C0047-03RE1	1	Phenol,
0446	NT1018051935.D	18C0047-04RE1	1	Phenol, Benzoic acid, Benzo(k)fluoranthene,

Instrument: nt10.i Date: 20-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0522	NT1018051936.D	SGE0328-CCV1	1	NO MANUAL INTEGRATION
0558	NT1018051937.D	SGE0328-CCV2	1	NO MANUAL INTEGRATION

Security Status Report

Date: 23-May-2018 11:32

NT1018051901.D	Data Locked	van, 23-May-2018 11:32
NT1018051902.D	Data Locked	van, 23-May-2018 11:32
NT1018051903.D	Data Locked	van, 23-May-2018 11:32
NT1018051904.D	Data Locked	van, 23-May-2018 11:32
NT1018051905.D	Data Locked	van, 23-May-2018 11:32
NT1018051906.D	Data Locked	van, 23-May-2018 11:32
NT1018051907.D	Data Locked	van, 23-May-2018 11:32
NT1018051908.D	Data Locked	van, 23-May-2018 11:32
NT1018051909.D	Data Locked	van, 23-May-2018 11:32
NT1018051910.D	Data Locked	van, 23-May-2018 11:32
NT1018051911.D	Data Locked	van, 23-May-2018 11:32
NT1018051912.D	Data Locked	van, 23-May-2018 11:32
NT1018051913.D	Data Locked	van, 23-May-2018 11:32
NT1018051914.D	Data Locked	van, 23-May-2018 11:32
NT1018051915.D	Data Locked	van, 23-May-2018 11:32
NT1018051916.D	Data Locked	van, 23-May-2018 11:32
NT1018051917.D	Data Locked	van, 23-May-2018 11:32
NT1018051918.D	Data Locked	van, 23-May-2018 11:32
NT1018051919.D	Data Locked	van, 23-May-2018 11:32
NT1018051920.D	Data Locked	van, 23-May-2018 11:32
NT1018051921.D	Data Locked	van, 23-May-2018 11:32
NT1018051922.D	Data Locked	van, 23-May-2018 11:32
NT1018051923.D	Data Locked	van, 23-May-2018 11:32
NT1018051924.D	Data Locked	van, 23-May-2018 11:32
NT1018051925.D	Data Locked	van, 23-May-2018 11:32
NT1018051926.D	Data Locked	van, 23-May-2018 11:32
NT1018051927.D	Data Locked	van, 23-May-2018 11:32
NT1018051928.D	Data Locked	van, 23-May-2018 11:32
NT1018051929.D	Data Locked	van, 23-May-2018 11:32
NT1018051930.D	Data Locked	van, 23-May-2018 11:32
NT1018051931.D	Data Locked	van, 23-May-2018 11:32
NT1018051932.D	Data Locked	van, 23-May-2018 11:32
NT1018051933.D	Data Locked	van, 23-May-2018 11:32
NT1018051934.D	Data Locked	van, 23-May-2018 11:32
NT1018051935.D	Data Locked	van, 23-May-2018 11:32
NT1018051936.D	Data Locked	van, 23-May-2018 11:32
NT1018051937.D	Data Locked	van, 23-May-2018 11:32

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGG0051	Instrument:	NT10
		Calibration:	BE00068

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGG0051-TUN1	NT1018070501.D	NA	07/05/18 11:40
Initial Cal Verification	SGG0051-ICV1	NT1018070502.D	NA	07/05/18 11:56
ABN 0.2	SGG0051-LCV1	NT1018070504.D	NA	07/05/18 13:09
ZZZZZ	BGF0634-BLK1	NT1018070505.D	Solid	07/05/18 13:46
ZZZZZ	BGF0634-BS1	NT1018070506.D	Solid	07/05/18 14:22
ZZZZZ	18F0307-01	NT1018070507.D	Solid	07/05/18 14:59
ZZZZZ	18F0256-02	NT1018070508.D	Solid	07/05/18 15:36
Blank	BGF0720-BLK1	NT1018070509.D	Tissue	07/05/18 16:13
LCS	BGF0720-BS1	NT1018070510.D	Tissue	07/05/18 16:50
LDW18-S2-CLWB-Comp1	BGF0720-MS1	NT1018070511.D	Tissue	07/05/18 17:26
LDW18-S2-CLWB-Comp1	BGF0720-MSD1	NT1018070512.D	Tissue	07/05/18 18:03
LDW18-S1-CLWB-Comp1	18F0364-10	NT1018070513.D	Tissue	07/05/18 18:40
LDW18-S2-CLWB-Comp1	18F0364-11	NT1018070514.D	Tissue	07/05/18 19:16
LDW18-S3-CLWB-Comp1	18F0364-12	NT1018070515.D	Tissue	07/05/18 19:52
Continuing Calibration Check	SGG0051-CCV1	NT1018070516.D	NA	07/05/18 20:29

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 7/5/2018 3:24:54PM

ANALYSIS SEQUENCE

SGG0051

Instrument: NT10 Element Column ID: G004790
Calibration ID: BE00060 Tune File: 180518
EM Voltage: 2200u

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0051-TUN1	MS Tune	QC		1	F010239	G003857	
SGG0051-ICV1	Initial Cal Verification	QC		2	G003850	G003857	
SGG0051-LCV1	ABN 0.2	QC		3	G003854	G003857	
BGF0634-BLK1	Blank	QC		4			
BGF0634-BS1	LCS	QC		5			
18F0307-01	MKJ-062018-3	) SV (20-200 ppb) or (0.2-2 ppb Low LVL	A 02	6			
SGG0051-CCV1	Continuing Calibration Check	QC		7	G003850	G003857	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\Target\share\chem3\nt10.i\20180705.b

	Time	Filename	LabID	ClientId	DF																			
1	1140	NT1018070501.D	SGG0051-TUN1		1	|NO ISTDS FOUND||																		
2	1156	NT1018070502.D	SGG0051-ICV1		1	| 8.69	99588	||11.13	336752	||14.70	179553	||17.69	392471	||22.74	411308	||25.17	470367	||23.81	835710	|				
3	1232	NT1018070503.D	SGF0400-ICV1		1	| 8.69	109881	||11.13	371492	||14.69	196396	||17.68	428561	||22.74	429858	||25.16	460889	||23.80	825525	|				
4	1309	NT1018070504.D	SGG0051-LCV1		1	| 8.68	95632	||11.13	312041	||14.69	165860	||17.68	344494	||22.73	350502	||25.15	404825	||23.80	678119	|				
5	1346	NT1018070505.D	BGF0634-BLK1		1	| 8.68	86027	||11.13	305129	||14.69	158953	||17.68	338009	||22.74	327320	||25.15	370924	||23.80	656018	|				
6	1422	NT1018070506.D	BGF0634-BS1		1	| 8.69	83015	||11.13	302169	||14.69	164666	||17.68	338686	||22.74	332543	||25.15	389605	||23.80	721346	|				
7	1459	NT1018070507.D	18F0307-01		1	| 8.69	80844	||11.13	284782	||14.69	153705	||17.68	315185	||22.73	311911	||25.16	259585	||23.81	601822	|				

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\Target\share\chem3\nt10.i\20180705.b

ARI Job No.: SGG0 Method: df8270.m Instrument: nt10.i Date: 05-JUL-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1140	NT1018070501.D	SGG0051-TUN1		1	NO MANUAL INTEGRATION
1156	NT1018070502.D	SGG0051-ICV1		1	Benzyl alcohol, Benzoic acid,
1232	NT1018070503.D	SGF0400-ICV1		1	NO MANUAL INTEGRATION
1309	NT1018070504.D	SGG0051-LCV1		1	NO MANUAL INTEGRATION
1346	NT1018070505.D	BGF0634-BLK1		1	NO MANUAL INTEGRATION
1422	NT1018070506.D	BGF0634-BS1		1	NO MANUAL INTEGRATION
1459	NT1018070507.D	18F0307-01		1	Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, Total Benzofluoranthenes,

Security Status Report

Date: 05-Jul-2018 15:53

NT1018070501.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070502.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070503.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070504.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070505.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070506.D	Data Locked	yev, 05-Jul-2018 15:53
NT1018070507.D	Data Locked	yev, 05-Jul-2018 15:53

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 7/9/2018 10:16:02AM

ANALYSIS SEQUENCE

SGG0051

Instrument: NT10 Element Column ID: G004790
Calibration ID: BE00060 Tune File: 180518
EM Voltage: 2200u

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0051-TUN1	MS Tune	QC		1	F010239	G003857	
SGG0051-ICV1	Initial Cal Verification	QC		2	G003850	G003857	
SGG0051-LCV1	ABN 0.2	QC		3	G003854	G003857	
BGF0634-BLK1	Blank	QC		4		G003857	
BGF0634-BS1	LCS	QC		5		G003857	
18F0307-01	MKJ-062018-3	D SV (20-200 ppb) or (0.2-2 ppb Low LVL	A 02	6			
18F0256-02	LDW18-BNK6-2	D SV (20-200 ppb) or (0.2-2 ppb Low LVL	C 01	7		G003857	
BGF0720-BLK1	Blank	QC		8		G003857	
BGF0720-BS1	LCS	QC		9		G003857	
BGF0720-MS1	Matrix Spike	QC		10		G003857	
BGF0720-MSD1	Matrix Spike Dup	QC		11		G003857	
18F0364-10	LDW18_S1-CLWB-Comp1	D SV (20-200 ppb) or (0.2-2 ppb Low LVL	A 02	12		G003857	
18F0364-11	LDW18_S2-CLWB-Comp1	D SV (20-200 ppb) or (0.2-2 ppb Low LVL	A 02	13		G003857	
18F0364-12	LDW18_S3-CLWB-Comp1	D SV (20-200 ppb) or (0.2-2 ppb Low LVL	A 02	14		G003857	
SGG0051-CCV1	Continuing Calibration Check	QC		15	G003850	G003857	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\Target\share\chem3\nt10.i\20180705.b

	Time	Filename	LabID	ClientId	DF													
1	1140	NT1018070501.D	SGG0051-TUN1		1	|NO ISTDS FOUND||												
2	1156	NT1018070502.D	SGG0051-ICV1		1	| 8.69	99588||11.13	336752||14.70	179553||17.69	392471||22.74	411308||25.17	470367||23.81	835710|					
3	1232	NT1018070503.D	SGF0400-ICV1		1	| 8.69	109881||11.13	371492||14.69	196396||17.68	428561||22.74	429858||25.16	460889||23.80	825525|					
4	1309	NT1018070504.D	SGG0051-LCV1		1	| 8.68	95632||11.13	312041||14.69	165860||17.68	344494||22.73	350502||25.15	404825||23.80	678119|					
5	1346	NT1018070505.D	BGF0634-BLK1		1	| 8.68	86027||11.13	305129||14.69	158953||17.68	338009||22.74	327320||25.15	370924||23.80	656018|					
6	1422	NT1018070506.D	BGF0634-BS1		1	| 8.69	83015||11.13	302169||14.69	164666||17.68	338686||22.74	332543||25.15	389605||23.80	721346|					
7	1459	NT1018070507.D	18F0307-01		1	| 8.69	80844||11.13	284782||14.69	153705||17.68	315185||22.73	311911||25.16	259585||23.81	601822|					
8	1536	NT1018070508.D	18F0256-02		1	| 8.69	82934||11.13	308915||14.70	158874||17.69	328281||22.74	310671||25.17	327790||23.81	576739|					
9	1613	NT1018070509.D	BGF0720-BLK1		1	| 8.69	89676||11.13	307926||14.69	163491||17.68	352315||22.74	335710||25.16	380337||23.80	637234|					
10	1650	NT1018070510.D	BGF0720-BS1		1	| 8.69	79938||11.13	293942||14.70	154611||17.68	319014||22.73	339929||25.16	360979||23.80	653226|					
11	1726	NT1018070511.D	BGF0720-MS1		1	| 8.69	80103||11.13	285315||14.70	148022||17.69	315559||22.80	417129||25.23	368903||23.86	673873|					
12	1803	NT1018070512.D	BGF0720-MSD1		1	| 8.70	80193||11.14	290079||14.71	160991||17.70	330210||22.81	441942||25.24	385634||23.87	686243|					
13	1840	NT1018070513.D	18F0364-10		1	| 8.71	89796||11.15	307791||14.71	168378||17.71	343269||22.84	424241||25.27	385320||23.88	652218|					
14	1916	NT1018070514.D	18F0364-11		1	| 8.71	97079||11.16	327355||14.71	193092||17.73	366493||22.84	425827||25.27	418973||23.88	688431|					
15	1952	NT1018070515.D	18F0364-12		1	| 8.72	90580||11.16	320940||14.72	186246||17.72	351632||22.82	402729||25.27	393401||23.87	662199|					
16	2029	NT1018070516.D	SGG0051-CCV1		1	| 8.71	99680||11.16	324235||14.73	191424||17.73	410248||22.78	416780||25.23	473607||23.84	746045|					

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\Target\share\chem3\nt10.i\20180705.b

ARI Job No.: SGG0 Method: df8270.m Instrument: nt10.i Date: 05-JUL-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1140	NT1018070501.D	SGG0051-TUN1		1	NO MANUAL INTEGRATION
1156	NT1018070502.D	SGG0051-ICV1		1	Benzyl alcohol, Benzoic acid,
1232	NT1018070503.D	SGF0400-ICV1		1	NO MANUAL INTEGRATION
1309	NT1018070504.D	SGG0051-LCV1		1	NO MANUAL INTEGRATION
1346	NT1018070505.D	BGF0634-BLK1		1	NO MANUAL INTEGRATION
1422	NT1018070506.D	BGF0634-BS1		1	NO MANUAL INTEGRATION
1459	NT1018070507.D	18F0307-01		1	Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, Total Benzofluoranthenes,
1536	NT1018070508.D	18F0256-02		1	Benzoic acid, Acenaphthene, Anthracene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Total Benzofluoranthenes,
1613	NT1018070509.D	BGF0720-BLK1		1	NO MANUAL INTEGRATION
1650	NT1018070510.D	BGF0720-BS1		1	NO MANUAL INTEGRATION
1726	NT1018070511.D	BGF0720-MS1		1	Benzoic acid, 4-Chloroaniline, Pyrene, Butylbenzylphthalate, Chrysene-d12, 3,3'-Dichlorobenzidine,
1803	NT1018070512.D	BGF0720-MSD1		1	Benzoic acid, 4-Chloroaniline, Butylbenzylphthalate, Chrysene-d12, 3,3'-Dichlorobenzidine, Benzo(k)fluoranthene,
1840	NT1018070513.D	18F0364-10		1	Benzoic acid, Pyrene, Chrysene-d12,
1916	NT1018070514.D	18F0364-11		1	Phenanthrene, Chrysene-d12,
1952	NT1018070515.D	18F0364-12		1	Benzoic acid,
2029	NT1018070516.D	SGG0051-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 09-Jul-2018 11:15

NT1018070501.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070502.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070503.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070504.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070505.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070506.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070507.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070508.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070509.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070510.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070511.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070512.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070513.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070514.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070515.D	Data Locked	yev, 09-Jul-2018 11:15
NT1018070516.D	Data Locked	yev, 09-Jul-2018 11:15

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGE0328
Instrument: NT10
Calibration: BE00068
Calibration Date: 05/19/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGE0328-ICV1 (Solid)			Lab File ID: NT1018051913.D			Analyzed: 05/19/18 15:28		
2-Fluorophenol	7.5000	103	80 - 120	6.774	6.778572	-0.0046	N/A	
Phenol-d5	7.5000	105	80 - 120	8.335	8.338286	-0.0033	N/A	
2-Chlorophenol-d4	7.5000	102	80 - 120	8.613	8.615286	-0.0023	N/A	
1,2-Dichlorobenzene-d4	5.0000	98.4	80 - 120	9.326	9.328286	-0.0023	N/A	
Nitrobenzene-d5	5.0000	105	80 - 120	10.048	10.05129	-0.0033	N/A	
2-Fluorobiphenyl	5.0000	101	80 - 120	13.605	13.60914	-0.0041	N/A	
2,4,6-Tribromophenol	7.5000	103	80 - 120	16.598	16.60317	-0.0052	N/A	
p-Terphenyl-d14	5.0000	100	80 - 120	21.107	21.10814	-0.0011	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068
Calibration Date: 05/19/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0051-ICV1 (Solid)			Lab File ID: NT1018070502.D			Analyzed: 07/05/18 11:56		
2-Fluorophenol	7.5000	83.2	80 - 120	6.512	6.778572	-0.2666	N/A	
Phenol-d5	7.5000	81.0	80 - 120	8.088	8.338286	-0.2503	N/A	
2-Chlorophenol-d4	7.5000	91.8	80 - 120	8.335	8.615286	-0.2803	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.5	80 - 120	9.041	9.328286	-0.2873	N/A	
Nitrobenzene-d5	5.0000	110	80 - 120	9.77	10.05129	-0.2813	N/A	
2-Fluorobiphenyl	5.0000	105	80 - 120	13.329	13.60914	-0.2801	N/A	
2,4,6-Tribromophenol	7.5000	144	80 - 120	16.313	16.60317	-0.2902	N/A	*
p-Terphenyl-d14	5.0000	93.0	80 - 120	20.853	21.10814	-0.2551	N/A	
SGG0051-LCV1 (Solid)			Lab File ID: NT1018070504.D			Analyzed: 07/05/18 13:09		
2-Fluorophenol	0.30000	73.9	0 - 200	6.519	6.778572	-0.2596	N/A	
Phenol-d5	0.30000	68.1	0 - 200	8.08	8.338286	-0.2583	N/A	
2-Chlorophenol-d4	0.30000	94.2	0 - 200	8.335	8.615286	-0.2803	N/A	
1,2-Dichlorobenzene-d4	0.20000	108	0 - 200	9.04	9.328286	-0.2883	N/A	
Nitrobenzene-d5	0.20000	113	0 - 200	9.762	10.05129	-0.2893	N/A	
2-Fluorobiphenyl	0.20000	97.8	0 - 200	13.328	13.60914	-0.2811	N/A	
2,4,6-Tribromophenol	0.30000	66.0	0 - 200	16.313	16.60317	-0.2902	N/A	
p-Terphenyl-d14	0.20000	115	0 - 200	20.845	21.10814	-0.2631	N/A	
BGF0720-BLK1 (Tissue)			Lab File ID: NT1018070509.D			Analyzed: 07/05/18 16:13		
2-Fluorophenol	750.00	55.7	20 - 130	6.535	6.778572	-0.2436	N/A	
Phenol-d5	750.00	52.0	20 - 130	8.088	8.338286	-0.2503	N/A	
2-Chlorophenol-d4	750.00	69.0	20 - 130	8.335	8.615286	-0.2803	N/A	
1,2-Dichlorobenzene-d4	500.00	72.8	20 - 130	9.041	9.328286	-0.2873	N/A	
Nitrobenzene-d5	500.00	82.9	20 - 130	9.763	10.05129	-0.2883	N/A	
2-Fluorobiphenyl	500.00	75.7	20 - 130	13.329	13.60914	-0.2801	N/A	
2,4,6-Tribromophenol	750.00	125	20 - 130	16.313	16.60317	-0.2902	N/A	
p-Terphenyl-d14	500.00	90.4	20 - 130	20.853	21.10814	-0.2551	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068
Calibration Date: 05/19/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BGF0720-BS1 (Tissue)			Lab File ID: NT1018070510.D			Analyzed: 07/05/18 16:50		
2-Fluorophenol	750.00	68.5	20 - 130	6.535	6.778572	-0.2436	N/A	
Phenol-d5	750.00	67.1	20 - 130	8.088	8.338286	-0.2503	N/A	
2-Chlorophenol-d4	750.00	81.9	20 - 130	8.343	8.615286	-0.2723	N/A	
1,2-Dichlorobenzene-d4	500.00	79.6	20 - 130	9.04	9.328286	-0.2883	N/A	
Nitrobenzene-d5	500.00	92.8	20 - 130	9.762	10.05129	-0.2893	N/A	
2-Fluorobiphenyl	500.00	88.6	20 - 130	13.328	13.60914	-0.2811	N/A	
2,4,6-Tribromophenol	750.00	141	20 - 130	16.313	16.60317	-0.2902	N/A	*
p-Terphenyl-d14	500.00	92.3	20 - 130	20.853	21.10814	-0.2551	N/A	
BGF0720-MS1 (Tissue)			Lab File ID: NT1018070511.D			Analyzed: 07/05/18 17:26		
2-Fluorophenol	750.00	65.0	20 - 130	6.558	6.778572	-0.2206	N/A	
Phenol-d5	750.00	65.9	20 - 130	8.104	8.338286	-0.2343	N/A	
2-Chlorophenol-d4	750.00	80.3	20 - 130	8.351	8.615286	-0.2643	N/A	
1,2-Dichlorobenzene-d4	500.00	78.4	20 - 130	9.048	9.328286	-0.2803	N/A	
Nitrobenzene-d5	500.00	89.8	20 - 130	9.77	10.05129	-0.2813	N/A	
2-Fluorobiphenyl	500.00	93.1	20 - 130	13.329	13.60914	-0.2801	N/A	
2,4,6-Tribromophenol	750.00	149	20 - 130	16.321	16.60317	-0.2822	N/A	*
p-Terphenyl-d14	500.00	81.5	20 - 130	20.9	21.10814	-0.2081	N/A	
BGF0720-MSD1 (Tissue)			Lab File ID: NT1018070512.D			Analyzed: 07/05/18 18:03		
2-Fluorophenol	747.01	65.7	20 - 130	6.566	6.778572	-0.2126	N/A	
Phenol-d5	747.01	63.9	20 - 130	8.119	8.338286	-0.2193	N/A	
2-Chlorophenol-d4	747.01	77.9	20 - 130	8.358	8.615286	-0.2573	N/A	
1,2-Dichlorobenzene-d4	498.01	74.6	20 - 130	9.048	9.328286	-0.2803	N/A	
Nitrobenzene-d5	498.01	86.8	20 - 130	9.778	10.05129	-0.2733	N/A	
2-Fluorobiphenyl	498.01	87.0	20 - 130	13.336	13.60914	-0.2731	N/A	
2,4,6-Tribromophenol	747.01	170	20 - 130	16.328	16.60317	-0.2752	N/A	*
p-Terphenyl-d14	498.01	77.8	20 - 130	20.899	21.10814	-0.2091	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068
Calibration Date: 05/19/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18F0364-10 (Tissue)			Lab File ID: NT1018070513.D			Analyzed: 07/05/18 18:40		
2-Fluorophenol	750.00	53.4	20 - 130	6.573	6.778572	-0.2056	N/A	
Phenol-d5	750.00	54.2	20 - 130	8.126	8.338286	-0.2123	N/A	
2-Chlorophenol-d4	750.00	76.1	20 - 130	8.366	8.615286	-0.2493	N/A	
1,2-Dichlorobenzene-d4	500.00	70.6	20 - 130	9.056	9.328286	-0.2723	N/A	
Nitrobenzene-d5	500.00	84.7	20 - 130	9.778	10.05129	-0.2733	N/A	
2-Fluorobiphenyl	500.00	88.4	20 - 130	13.344	13.60914	-0.2651	N/A	
2,4,6-Tribromophenol	750.00	170	20 - 130	16.343	16.60317	-0.2602	N/A	*
p-Terphenyl-d14	500.00	83.7	20 - 130	20.922	21.10814	-0.1861	N/A	
18F0364-11 (Tissue)			Lab File ID: NT1018070514.D			Analyzed: 07/05/18 19:16		
2-Fluorophenol	750.00	43.5	20 - 130	6.566	6.778572	-0.2126	N/A	
Phenol-d5	750.00	45.3	20 - 130	8.134	8.338286	-0.2043	N/A	
2-Chlorophenol-d4	750.00	60.0	20 - 130	8.366	8.615286	-0.2493	N/A	
1,2-Dichlorobenzene-d4	500.00	56.9	20 - 130	9.056	9.328286	-0.2723	N/A	
Nitrobenzene-d5	500.00	73.3	20 - 130	9.786	10.05129	-0.2653	N/A	
2-Fluorobiphenyl	500.00	76.2	20 - 130	13.344	13.60914	-0.2651	N/A	
2,4,6-Tribromophenol	750.00	142	20 - 130	16.351	16.60317	-0.2522	N/A	*
p-Terphenyl-d14	500.00	84.8	20 - 130	20.923	21.10814	-0.1851	N/A	
18F0364-12 (Tissue)			Lab File ID: NT1018070515.D			Analyzed: 07/05/18 19:52		
2-Fluorophenol	747.01	55.1	20 - 130	6.589	6.778572	-0.1896	N/A	
Phenol-d5	747.01	51.4	20 - 130	8.142	8.338286	-0.1963	N/A	
2-Chlorophenol-d4	747.01	75.1	20 - 130	8.374	8.615286	-0.2413	N/A	
1,2-Dichlorobenzene-d4	498.01	70.4	20 - 130	9.064	9.328286	-0.2643	N/A	
Nitrobenzene-d5	498.01	82.7	20 - 130	9.786	10.05129	-0.2653	N/A	
2-Fluorobiphenyl	498.01	83.4	20 - 130	13.352	13.60914	-0.2571	N/A	
2,4,6-Tribromophenol	747.01	160	20 - 130	16.352	16.60317	-0.2512	N/A	*
p-Terphenyl-d14	498.01	84.4	20 - 130	20.915	21.10814	-0.1931	N/A	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGE0328
Instrument: NT10
Calibration: BE00068

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGE0328-SCV1)		(Solid)		Lab File ID: NT1018051911.D				Analyzed: 05/19/18 14:41	
1,4-Dichlorobenzene-d4	114558	8.969	110698	8.977	103	50 - 200	0.0080	+/-0.50	
Naphthalene-d8	406906	11.416	393946	11.424	103	50 - 200	0.0080	+/-0.50	
Acenaphthene-d10	212151	14.983	203210	14.983	104	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	407216	17.974	403506	17.982	101	50 - 200	0.0080	+/-0.50	
Chrysene-d12	360730	22.989	354618	22.989	102	50 - 200	0.0000	+/-0.50	
Di-n-Octylphthalate-d4	792512	24.018	800232	24.018	99	50 - 200	0.0000	+/-0.50	
Perylene-d12	387545	25.481	378948	25.482	102	50 - 200	0.0010	+/-0.50	
Initial Cal Check (SGE0328-ICV1)		(Solid)		Lab File ID: NT1018051913.D				Analyzed: 05/19/18 15:28	
1,4-Dichlorobenzene-d4	111512	8.969	110698	8.977	101	50 - 200	0.0080	+/-0.50	
Naphthalene-d8	390606	11.416	393946	11.424	99	50 - 200	0.0080	+/-0.50	
Acenaphthene-d10	203299	14.983	203210	14.983	100	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	395184	17.981	403506	17.982	98	50 - 200	0.0010	+/-0.50	
Chrysene-d12	352267	22.988	354618	22.989	99	50 - 200	0.0010	+/-0.50	
Di-n-Octylphthalate-d4	793654	24.018	800232	24.018	99	50 - 200	0.0000	+/-0.50	
Perylene-d12	371298	25.481	378948	25.482	98	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGG0051-ICV1)		(Solid)	Lab File ID: NT1018070502.D				Analyzed: 07/05/18 11:56		
1,4-Dichlorobenzene-d4	99588	8.691	110698	8.691	90	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	336752	11.131	393946	11.131	85	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	179553	14.698	203210	14.698	88	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	392471	17.689	403506	17.689	97	50 - 200	0.0000	+/-0.50	
Chrysene-d12	411308	22.735	354618	22.735	116	50 - 200	0.0000	+/-0.50	
Di-n-Octylphthalate-d4	835710	23.811	800232	23.811	104	50 - 200	0.0000	+/-0.50	
Perylene-d12	470367	25.166	378948	25.166	124	50 - 200	0.0000	+/-0.50	
Low Cal Check (SGG0051-LCV1)		(Solid)	Lab File ID: NT1018070504.D				Analyzed: 07/05/18 13:09		
1,4-Dichlorobenzene-d4	95632	8.683	110698	8.691	86	50 - 200	0.0080	+/-0.50	
Naphthalene-d8	312041	11.131	393946	11.131	79	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	165860	14.691	203210	14.698	82	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	344494	17.681	403506	17.689	85	50 - 200	0.0080	+/-0.50	
Chrysene-d12	350502	22.734	354618	22.735	99	50 - 200	0.0010	+/-0.50	
Di-n-Octylphthalate-d4	678119	23.803	800232	23.811	85	50 - 200	0.0080	+/-0.50	
Perylene-d12	404825	25.15	378948	25.166	107	50 - 200	0.0160	+/-0.50	
Blank (BGF0720-BLK1)		(Tissue)	Lab File ID: NT1018070509.D				Analyzed: 07/05/18 16:13		
1,4-Dichlorobenzene-d4	89676	8.691	110698	8.691	81	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	307926	11.132	393946	11.131	78	50 - 200	-0.0010	+/-0.50	
Acenaphthene-d10	163491	14.691	203210	14.698	80	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	352315	17.681	403506	17.689	87	50 - 200	0.0080	+/-0.50	
Chrysene-d12	335710	22.735	354618	22.735	95	50 - 200	0.0000	+/-0.50	
Di-n-Octylphthalate-d4	637234	23.803	800232	23.811	80	50 - 200	0.0080	+/-0.50	
Perylene-d12	380337	25.158	378948	25.166	100	50 - 200	0.0080	+/-0.50	
LCS (BGF0720-BS1)		(Tissue)	Lab File ID: NT1018070510.D				Analyzed: 07/05/18 16:50		
1,4-Dichlorobenzene-d4	79938	8.691	110698	8.691	72	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	293942	11.131	393946	11.131	75	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	154611	14.698	203210	14.698	76	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	319014	17.681	403506	17.689	79	50 - 200	0.0080	+/-0.50	
Chrysene-d12	339929	22.734	354618	22.735	96	50 - 200	0.0010	+/-0.50	
Di-n-Octylphthalate-d4	653226	23.803	800232	23.811	82	50 - 200	0.0080	+/-0.50	
Perylene-d12	360979	25.158	378948	25.166	95	50 - 200	0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (BGF0720-MS1)		(Tissue)	Lab File ID: NT1018070511.D				Analyzed: 07/05/18 17:26		
1,4-Dichlorobenzene-d4	80103	8.691	110698	8.691	72	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	285315	11.131	393946	11.131	72	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	148022	14.698	203210	14.698	73	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	315559	17.689	403506	17.689	78	50 - 200	0.0000	+/-0.50	
Chrysene-d12	417129	22.797	354618	22.735	118	50 - 200	-0.0620	+/-0.50	
Di-n-Octylphthalate-d4	673873	23.857	800232	23.811	84	50 - 200	-0.0460	+/-0.50	
Perylene-d12	368903	25.228	378948	25.166	97	50 - 200	-0.0620	+/-0.50	
Matrix Spike Dup (BGF0720-MSD1)		(Tissue)	Lab File ID: NT1018070512.D				Analyzed: 07/05/18 18:03		
1,4-Dichlorobenzene-d4	80193	8.699	110698	8.691	72	50 - 200	-0.0080	+/-0.50	
Naphthalene-d8	290079	11.139	393946	11.131	74	50 - 200	-0.0080	+/-0.50	
Acenaphthene-d10	160991	14.706	203210	14.698	79	50 - 200	-0.0080	+/-0.50	
Phenanthrene-d10	330210	17.704	403506	17.689	82	50 - 200	-0.0150	+/-0.50	
Chrysene-d12	441942	22.812	354618	22.735	125	50 - 200	-0.0770	+/-0.50	
Di-n-Octylphthalate-d4	686243	23.873	800232	23.811	86	50 - 200	-0.0620	+/-0.50	
Perylene-d12	385634	25.243	378948	25.166	102	50 - 200	-0.0770	+/-0.50	
LDW18-S1-CLWB-Comp1 (18F0364-10)		(Tissue)	Lab File ID: NT1018070513.D				Analyzed: 07/05/18 18:40		
1,4-Dichlorobenzene-d4	89796	8.706	110698	8.691	81	50 - 200	-0.0150	+/-0.50	
Naphthalene-d8	307791	11.147	393946	11.131	78	50 - 200	-0.0160	+/-0.50	
Acenaphthene-d10	168378	14.714	203210	14.698	83	50 - 200	-0.0160	+/-0.50	
Phenanthrene-d10	343269	17.711	403506	17.689	85	50 - 200	-0.0220	+/-0.50	
Chrysene-d12	424241	22.835	354618	22.735	120	50 - 200	-0.1000	+/-0.50	
Di-n-Octylphthalate-d4	652218	23.88	800232	23.811	82	50 - 200	-0.0690	+/-0.50	
Perylene-d12	385320	25.266	378948	25.166	102	50 - 200	-0.1000	+/-0.50	
LDW18-S2-CLWB-Comp1 (18F0364-11)		(Tissue)	Lab File ID: NT1018070514.D				Analyzed: 07/05/18 19:16		
1,4-Dichlorobenzene-d4	97079	8.707	110698	8.691	88	50 - 200	-0.0160	+/-0.50	
Naphthalene-d8	327355	11.155	393946	11.131	83	50 - 200	-0.0240	+/-0.50	
Acenaphthene-d10	193092	14.714	203210	14.698	95	50 - 200	-0.0160	+/-0.50	
Phenanthrene-d10	366493	17.727	403506	17.689	91	50 - 200	-0.0380	+/-0.50	
Chrysene-d12	425827	22.835	354618	22.735	120	50 - 200	-0.1000	+/-0.50	
Di-n-Octylphthalate-d4	688431	23.88	800232	23.811	86	50 - 200	-0.0690	+/-0.50	
Perylene-d12	418973	25.266	378948	25.166	111	50 - 200	-0.1000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0051
Instrument: NT10
Calibration: BE00068

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-S3-CLWB-Comp1 (18F0364-12)		(Tissue)		Lab File ID: NT1018070515.D				Analyzed: 07/05/18 19:52	
1,4-Dichlorobenzene-d4	90580	8.715	110698	8.691	82	50 - 200	-0.0240	+/-0.50	
Naphthalene-d8	320940	11.155	393946	11.131	81	50 - 200	-0.0240	+/-0.50	
Acenaphthene-d10	186246	14.722	203210	14.698	92	50 - 200	-0.0240	+/-0.50	
Phenanthrene-d10	351632	17.72	403506	17.689	87	50 - 200	-0.0310	+/-0.50	
Chrysene-d12	402729	22.82	354618	22.735	114	50 - 200	-0.0850	+/-0.50	
Di-n-Octylphthalate-d4	662199	23.873	800232	23.811	83	50 - 200	-0.0620	+/-0.50	
Perylene-d12	393401	25.266	378948	25.166	104	50 - 200	-0.1000	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270D

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-S1-CLWB-Comp1 18F0364-10	05/16/18 10:57	05/21/18 10:10	06/29/18 15:30	44	365	07/05/18 18:40	6	365	
LDW18-S2-CLWB-Comp1 18F0364-11	05/15/18 10:45	05/21/18 10:10	06/29/18 15:30	45	365	07/05/18 19:16	6	365	
LDW18-S3-CLWB-Comp1 18F0364-12	05/17/18 12:13	05/21/18 10:10	06/29/18 15:30	43	365	07/05/18 19:52	6	365	
Matrix Spike BGF0720-MS1	05/15/18 10:45	05/21/18 10:10	06/29/18 15:30	45	365	07/05/18 17:26	6	365	
Matrix Spike Dup BGF0720-MSD1	05/15/18 10:45	05/21/18 10:10	06/29/18 15:30	45	365	07/05/18 18:03	6	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Solid Instrument: NT10

Analyte	MDL	RL	Units
Phenol	8.2	20.0	ug/kg
bis(2-chloroethyl) ether	6.8	20.0	ug/kg
2-Chlorophenol	6.5	20.0	ug/kg
1,3-Dichlorobenzene	5.1	20.0	ug/kg
1,4-Dichlorobenzene	4.4	20.0	ug/kg
1,2-Dichlorobenzene	4.7	20.0	ug/kg
Benzyl Alcohol	14.9	20.0	ug/kg
2,2'-Oxybis(1-chloropropane)	5.7	20.0	ug/kg
2-Methylphenol	7.8	20.0	ug/kg
Hexachloroethane	5.7	20.0	ug/kg
N-Nitroso-di-n-Propylamine	10.8	20.0	ug/kg
4-Methylphenol	14.7	20.0	ug/kg
Nitrobenzene	8.0	20.0	ug/kg
Isophorone	7.8	20.0	ug/kg
2-Nitrophenol	6.9	20.0	ug/kg
2,4-Dimethylphenol	26.8	100	ug/kg
Bis(2-Chloroethoxy)methane	6.3	20.0	ug/kg
2,4-Dichlorophenol	32.0	100	ug/kg
1,2,4-Trichlorobenzene	6.0	20.0	ug/kg
Naphthalene	5.3	20.0	ug/kg
Benzoic acid	59.1	200	ug/kg
4-Chloroaniline	33.7	100	ug/kg
Hexachlorobutadiene	5.0	20.0	ug/kg
4-Chloro-3-Methylphenol	28.9	100	ug/kg
2-Methylnaphthalene	5.7	20.0	ug/kg
Hexachlorocyclopentadiene	41.3	100	ug/kg
2,4,6-Trichlorophenol	25.4	100	ug/kg
2,4,5-Trichlorophenol	26.9	100	ug/kg
2-Chloronaphthalene	4.4	20.0	ug/kg
2-Nitroaniline	30.2	100	ug/kg
Acenaphthylene	4.8	20.0	ug/kg
Dimethylphthalate	6.4	20.0	ug/kg
2,6-Dinitrotoluene	26.7	100	ug/kg
Acenaphthene	5.1	20.0	ug/kg
3-Nitroaniline	37.7	100	ug/kg
2,4-Dinitrophenol	41.3	200	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Solid Instrument: NT10

Analyte	MDL	RL	Units
Dibenzofuran	4.6	20.0	ug/kg
4-Nitrophenol	44.4	100	ug/kg
2,4-Dinitrotoluene	22.9	100	ug/kg
Fluorene	5.0	20.0	ug/kg
4-Chlorophenylphenyl ether	7.0	20.0	ug/kg
Diethyl phthalate	17.7	20.0	ug/kg
4-Nitroaniline	34.9	100	ug/kg
4,6-Dinitro-2-methylphenol	50.5	200	ug/kg
N-Nitrosodiphenylamine	9.6	20.0	ug/kg
4-Bromophenyl phenyl ether	6.1	20.0	ug/kg
Hexachlorobenzene	4.7	20.0	ug/kg
Pentachlorophenol	31.3	100	ug/kg
Phenanthrene	4.7	20.0	ug/kg
Anthracene	5.9	20.0	ug/kg
Carbazole	7.4	20.0	ug/kg
Di-n-Butylphthalate	5.3	20.0	ug/kg
Fluoranthene	4.5	20.0	ug/kg
Pyrene	5.6	20.0	ug/kg
Butylbenzylphthalate	8.1	20.0	ug/kg
Benzo(a)anthracene	5.2	20.0	ug/kg
3,3'-Dichlorobenzidine	31.2	100	ug/kg
Chrysene	5.2	20.0	ug/kg
bis(2-Ethylhexyl)phthalate	28.8	50.0	ug/kg
Di-n-Octylphthalate	8.7	20.0	ug/kg
Benzofluoranthenes, Total	10.2	40.0	ug/kg
Benzo(a)pyrene	6.5	20.0	ug/kg
Indeno(1,2,3-cd)pyrene	6.0	20.0	ug/kg
Dibenzo(a,h)anthracene	6.2	20.0	ug/kg
Benzo(g,h,i)perylene	5.8	20.0	ug/kg
1-Methylnaphthalene	6.0	20.0	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Instrument: NT10

Analyte	MDL	RL	Units
Hexachlorobenzene		20.0	ug/kg
Pentachlorophenol		100	ug/kg
Carbazole		20.0	ug/kg
bis(2-Ethylhexyl)phthalate		50.0	ug/kg

Certificate of Analysis

SIGMA-ALDRICH

Product Name	2,4,6-Tribromophenol, 99%
Product Number	137715
Product Brand	ALDRICH
CAS Number	118-79-6
Molecular Formula	$Br_3C_6H_2OH$
Molecular Weight	330.80

TEST	SPECIFICATION	LOT 03410KL RESULTS
APPEARANCE	WHITE TO OFF-WHITE TO PINK FLAKES, CHUNKS,	OFF-WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE
MELTING POINT		93 DEGREES CELSIUS
GAS LIQUID CHROMATOGRAPHY		99.4 %

Barbara Rajzer

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait...

I 8244

137715 CLRNKE (Rev0) - Page 1/2 02472

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001941

Printed: 9/25/2013 1:45:31PM

Description:	SVOC 2,4-Dinitrophenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 13:45 by JZ
Vendor:	SIGMA	Lot #:	65H5021
Vendor Catalog #:			

Comments

Neat, Purity @ 90-95%. (ARI#: 0466)

Analyte	CAS Number	Concentration	Units
2,4-Dinitrophenol	51-28-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 2,4-Dinitrophenol

Manufacturer: Sigma

Product #: _____

Lot #: bEH502I

Purity: 90 ~ 94%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001945

Printed: 9/25/2013 3:23:22PM

Description:	SVOC Benzoic Acid	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:23 by JZ
Vendor:	ACROS Organics	Lot #:	A0224339
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Benzoic acid	65-85-0	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzoic Acid

Manufacturer: Acros Organics

Product #: _____

Lot #: A0224339

Purity: 98%

Analyst: _____

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001948

Printed: 9/25/2013 3:37:51PM

Description:	SVOC 4,6-Dinitro-2-Methylphenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:37 by JZ
Vendor:	Chem Service	Lot #:	179-31A
Vendor Catalog #:			

Comments

Neat, Purity @ 99%. (ARI#: 009A)

Analyte	CAS Number	Concentration	Units
4,6-Dinitro-2-methylphenol	534-52-1	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: 4,6-Dinitro-2-Methylphenol

Manufacturer: Chem Service

Product #: _____

Lot #: 179-31A

Purity: 99%

Analyst: KB

Certificate of Analysis

SIGMA-ALDRICH

Product Name	*p*-Terphenyl-d_{14}, 98 atom % D, 98% (CP)
Product Number	364630
Product Brand	ALDRICH
CAS Number	1718-51-0
Molecular Formula	$C_6D_5C_6D_4C_6D_5$
Molecular Weight	244.39

D001113

TEST	**LOT EB2136V RESULTS**
HPLC: Minimum 98% chemical purity	98.5%
m.p.: Conforms with standard	Conforms with standard
1H-NMR (FT): Structure and purity verification	Meets requirement
1H-NMR (FT): Minimum 98 atom% D	98.1 atom% D
Appearance: White powder	White powder
Release Date:	2012/10/10

C. T. Tan, PhD, Scientist
Quality Control Laboratory
Isotec Stable Isotopes (Sigma-Aldrich)
Miamisburg, Ohio, USA

Certificate of Analysis

DESCRIPTION: TCL Hazardous Substances Mix 2

CATALOG NO.: 48908 MFG DATE: Jul-2015

LOT NO.: LC14707V EXPIRATION DATE: Jul-2018

SOLVENT: METHYLENE CHLORIDE

ANALYTE (1)	CAS NUMBER	PERCENT PURITY(2)	WEIGHT(3) CONCENTRATION	ANALYTICAL(4) CONCENTRATION		STD DEV	SUPELCO LOT NO
ANILINE	62-53-3	99.9	2000	2026	+/-	10.7	LA41596
BENZYL ALCOHOL	100-51-6	99.9	2002	2063	+/-	8.1	LB99705
DIBENZOFURAN	132-64-9	98.8	2000	2018	+/-	7.2	LB78814
2-METHYLNAPHTHALENE	91-57-6	98.8	2000	2005	+/-	1.6	LB97828
2-NITROANILINE	88-74-4	99.9	1998	2006	+/-	12.0	LC05068
3-NITROANILINE	99-09-2	99.9	2001	2031	+/-	15.4	LC09264
4-CHLOROANILINE	106-47-8	99.9	2000	2024	+/-	5.4	LC09711
4-NITROANILINE	100-01-6	99.9	2000	2047	+/-	15.6	LC11400

D004078
Recd
10/13/15

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, based upon balance and Class A volumetric glassware tolerances. Weights are corrected for analytes less than 98% pure.

(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.
Supelco is a Sigma-Aldrich Company.

SUPELCO®
Solutions within.™
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Product Name: DI-N-OCTYL PHTHALATE
(Isotopic Label & Enrichment Specification) (RING-D4, 98%)

Lot Number: PR-14719

Catalog Number: DLM-1630-0

Product Information

Chemical Purity Specification: ≥ 98%

MW*: 394.58
** For isotopically labeled compounds, MW listed is for the fully enriched product.*

Labeled CAS Number: 93952-13-7

Unlabeled CAS Number: 117-84-0

Chemical Formula: C6D4-1,2-(CO2(CH2)7CH3)2

Storage: Store at room temperature away from light and moisture.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

The retest date for this chemical has been designated based on CIL's experience in working with chemical standards for over 30 years, and includes review of actual analytical results and relevant literature references. The retest date is valid only for unopened vials or ampoules that have been stored as recommended.

Approved by: Jeffrey O Neill
Jeffrey O'Neill, Quality Review

Quality Control Tests and Results

1H NMR for Chemical Purity	Pass
GC/MS for Chemical Purity	99.8%
GC/MS for Isotopic Enrichment	99.1%

Additional Testing Information:

Retest/Review Date: 01/17/23

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

TRIPLE ISO CERTIFICATION
ISO 17025 • ISO GUIDE 34 • ISO 9001

PAH Mixture

Product Number: US-106N **Page:** 1 of 1

Lot Number: CP-1227 **Lot Issue Date:** 22-Mar-2016 **Expiration Date:** 30-Apr-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
acenaphthene	000083-32-9	RM00070	1996 ± 10 µg/mL
acenaphthylene	000208-96-8	RM09993	1995 ± 10 µg/mL
anthracene	000120-12-7	RM03477	1997 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM06788	2001 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM09988	2004 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM10962	1997 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM09992	2009 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM06930	1995 ± 10 µg/mL
chrysene	000218-01-9	RM11308	2005 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	1996 ± 10 µg/mL
fluoranthene	000206-44-0	NT00940	1999 ± 10 µg/mL
fluorene	000086-73-7	RM09441	1997 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM03401	1999 ± 10 µg/mL
naphthalene	000091-20-3	RM10445	2007 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2002 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2004 ± 10 µg/mL

E00266 Recal 07/26/16

Matrix: methylene chloride/benzene (1:1)

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

William J. Leary
Quality Assurance Manager

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave , Torrance CA 90501 USA ▪ Tel 310-212-0555 ▪ Fax 310-328-7758 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101291	**Lot Number:**	CL10999
Description:	GC/MS Tuning Mix	**Certification Date:**	May 9, 2014
Storage:	4 °C	**Expiration Date:**	December 31, 2023
Provided As:	1 mL in 2 mL Ampoule in Methylene chloride	**Revision Date:**	June 19, 2015

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	1000	± 4.575%
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	1000	± 2.420%
4,4'-DDT	50-29-3	1000	± 2.772%
Pentachlorophenol	87-86-5	1000	± 2.616%

F 005754
Recd. qp
10/21/16

ACCREDITED
Reference Material Producer
Certificate No 2427 02

phenova
Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova s testing and calibration results are internationally recognized through the ILAC MRA Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No 2427 03

IL111106I3 us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel 310-212-0555 ▪ Fax 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35 [2]

2 Quality Standards. Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials This ensures that our manufacturing processes have been accredited to and meet strict international standards

3. Intended Use The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation. The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www phenomenex.com/mysupport

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7 Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials The purity of this material was verified using an ISO/IEC Guide 17025 methodology

9 Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS) The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC Guide 17025 methodology.

11. Values Obtained During Product Testing. This product is subjected to verification, homogeneity and stability testing using an ISO/IEC Guide 17025 chromatographic methodology All values obtained during testing meet criteria in accordance with ISO Guide 34

12 Period of Validity. The Certified Values and their uncertainties are guaranteed until the expiration date This product will be monitored during the period of validity and customers notified of any significant changes in stability

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification
[3] ISO Guide 34 2009(E) – General Requirements for the Competence of Reference Material Producers
[4] ISO/IEC Guide 17025 2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories
[5] ISO/IEC Guide 98-3 2008(E) – Uncertainty of Measurement – Part 3 Guide to Expression of Uncertainty in Measurement (GUM 1995)

ACCREDITED
Reference Material Producer
Certificate No 2427 02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No 2427 03

IL111106131 US

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: TCL Phenols Mix, 1x1ml, 2000µg/ml each in dichloromethane

Part Number: 48904

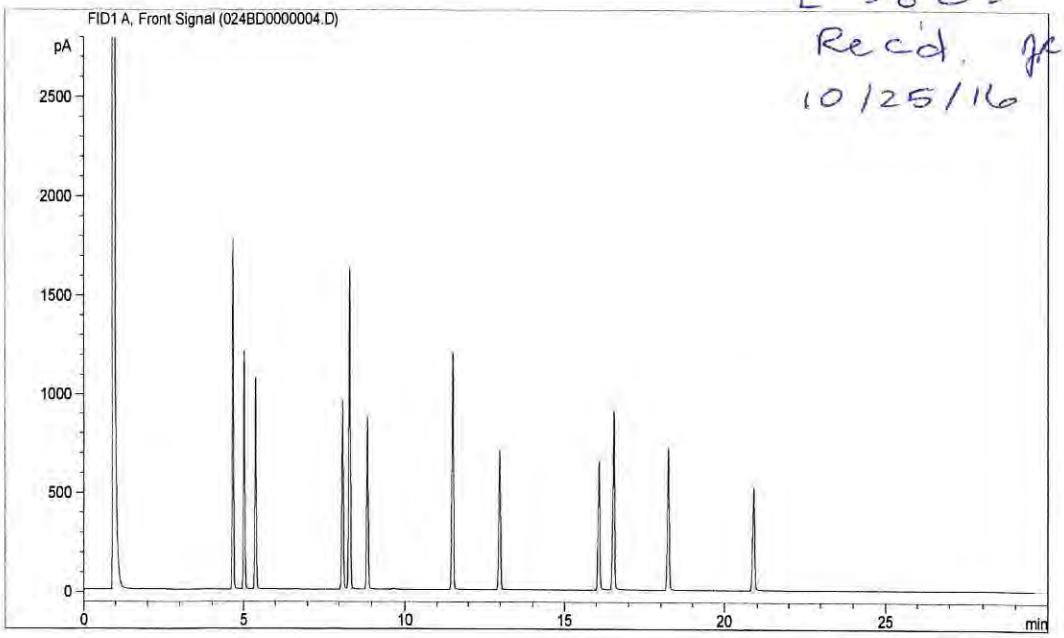
Lot Number: XA12807V

Expiration Date: March 2018

Storage: Refrigerate

Analytical Method Parameters:
Column: SPB-5 30m x 0.53mm x 1.5µm df
80°C (2 min) to 220°C at 6°C/min
Detector: FID, 310°C
Injection Volume: 1.0 ul

E 5823
Recd. JF
10/25/16



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
1.	Phenol	LB57703	108-95-2	99.9	1999.2	±110	2192.1
2.	2-Chlorophenol	LB83266	95-57-8	99.7	1995.2	±110	2184.5
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
4.	2-Nitrophenol	LB44736	88-75-5	99.9	1998.4	±140	2193.6
5.	2,4-Dimethylphenol	LB88935	105-67-9	99.9	1998.0	±140	2200.8
6.	2,4-Dichlorophenol	LB83402	120-83-2	99.9	1998.8	±140	2192.6
7.	4-Chloro-3-methylphenol	LB99671	59-50-7	99.9	1998.8	±180	2192.2
8.	2,4,6-Trichlorophenol	LB65559	88-06-2	99.9	1998.0	±190	2190.3
9.	2,4-Dinitrophenol	LB92092	51-28-5	99.9	1998.0	±240	2193.3
10.	4-Nitrophenol	LC10889	100-02-7	99.9	1998.8	±260	2185.6
11.	2-Methyl-4,6-Dinitrophenol	LB99844	534-52-1	99.9	1998.0	±260	2198.0
12.	Pentachlorophenol	LB84380	87-86-5	99.9	1999.2	±260	2182.5

ACLASS ACCREDITED TESTING Cert# AT-1607

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0121299

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

TE 75,415
Rec'd
12/13/16

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,015.2 µg/mL	+/- 11.7165 µg/mL +/- 90.7658 µg/mL +/- 100.7159 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,018.8 µg/mL	+/- 11.7375 µg/mL +/- 90.9280 µg/mL +/- 100.8958 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-25444) **Purity** 99%	2,013.5 µg/mL	+/- 11.7067 µg/mL +/- 90.6892 µg/mL +/- 100.6309 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-23065) **Purity** 99%	2,019.9 µg/mL	+/- 11.7439 µg/mL +/- 90.9775 µg/mL +/- 100.9508 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-26994) **Purity** 98%	2,013.4 µg/mL	+/- 11.7061 µg/mL +/- 90.6852 µg/mL +/- 100.6264 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-24113) **Purity** 99%	2,013.2 µg/mL	+/- 11.7049 µg/mL +/- 90.6757 µg/mL +/- 100.6159 µg/mL	Gravimetric Unstressed Stressed

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101244	**Lot Number:**	CL11086
Description:	Benzidines Standard	**Certification Date:**	May 9, 2014
Storage:	4 °C	**Expiration Date:**	March 31, 2024
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride	**Revision Date:**	October 22, 2015

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	2000	± 0.225%
3,3'-Dichlorobenzidine	91-94-1	2000	± 0.511%

F002709
Rec'd, jf
03/29/17

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC Guide 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC Guide 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC Guide 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC Guide 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101246	**Lot Number:**	CL10927
Description:	Benzoic Acid	**Certification Date:**	July 11, 2014
Storage:	4 °C	**Expiration Date:**	August 31, 2023
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride	**Revision Date:**	February 8, 2017

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 0.503%

F002710
Recd. JR
03/29/17

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 25 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Andrea L Gill
Andrea Gill, Certified Reference Materials Manager

F002713 AR
Recd. 03/29/17

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.952%
Acenaphthylene	208-96-8	1000	± 0.222%
Anthracene	120-12-7	1000	± 1.954%
Azobenzene	103-33-3	1000	± 2.059%
Benzo(a)anthracene	56-55-3	1000	± 1.913%
Benzo(b)fluoranthene	205-99-2	1000	± 1.914%
Benzo(k)fluoranthene	207-08-9	1000	± 2.093%
Benzo(g,h,i)perylene	191-24-2	1000	± 2.449%
Benzo(a)pyrene	50-32-8	1000	± 2.017%
Benzyl alcohol	100-51-6	1000	± 2.091%
Benzyl butyl phthalate	85-68-7	1000	± 2.388%
4-Bromophenyl phenyl ether	101-55-3	1000	± 2.102%
Carbazole	86-74-8	1000	± 2.095%
4-Chloroaniline	106-47-8	1000	± 1.935%
bis(2-Chloroethyl) ether	111-44-4	1000	± 1.874%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.386%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.556%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.313%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials
Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Chloronaphthalene	91-58-7	1000	± 2.040%
2-Chlorophenol	95-57-8	1000	± 1.794%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 2.769%
Chrysene	218-01-9	1000	± 1.760%
Dibenz(a,h)anthracene	53-70-3	1000	± 2.624%
Dibenzofuran	132-64-9	1000	± 1.209%
Di-n-butyl phthalate	84-74-2	1000	± 2.357%
1,2-Dichlorobenzene	95-50-1	1000	± 2.032%
1,3-Dichlorobenzene	541-73-1	1000	± 0.217%
1,4-Dichlorobenzene	106-46-7	1000	± 0.873%
2,4-Dichlorophenol	120-83-2	1000	± 2.249%
Diethyl phthalate	84-66-2	1000	± 2.181%
2,4-Dimethylphenol	105-67-9	1000	± 0.236%
Dimethyl phthalate	131-11-3	1000	± 2.339%
1,2-Dinitrobenzene	528-29-0	1000	± 0.295%
1,3-Dinitrobenzene	99-65-0	1000	± 0.217%
1,4-Dinitrobenzene	100-25-4	1000	± 2.670%
2,4-Dinitrophenol	51-28-5	1000	± 1.848%
2,4-Dinitrotoluene	121-14-2	1000	± 0.219%
2,6-Dinitrotoluene	606-20-2	1000	± 2.230%
Di-n-octyl phthalate	117-84-0	1000	± 1.803%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 2.228%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 1.937%
Fluoranthene	206-44-0	1000	± 2.052%
Fluorene	86-73-7	1000	± 3.234%
Hexachlorobenzene	118-74-1	1000	± 2.065%
Hexachlorobutadiene	87-68-3	1000	± 2.280%
Hexachlorocyclopentadiene	77-47-4	1000	± 1.896%
Hexachloroethane	67-72-1	1000	± 0.566%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 2.431%
Isophorone	78-59-1	1000	± 1.468%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 2.160%
1-Methylnaphthalene	90-12-0	1000	± 1.940%
2-Methylnaphthalene	91-57-6	1000	± 1.888%
2-Methylphenol	95-48-7	1000	± 2.054%
3-Methylphenol	108-39-4	500	± 0.573%
4-Methylphenol	106-44-5	500	± 0.573%
Naphthalene	91-20-3	1000	± 1.693%
2-Nitroaniline	88-74-4	1000	± 1.977%
3-Nitroaniline	99-09-2	1000	± 2.089%
4-Nitroaniline	100-01-6	1000	± 1.303%
Nitrobenzene	98-95-3	1000	± 2.254%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.994%
4-Nitrophenol	100-02-7	1000	± 2.305%
N-Nitrosodimethylamine	62-75-9	1000	± 0.448%
N-Nitrosodiphenylamine	86-30-6	1000	± 2.800%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.400%
Pentachlorophenol	87-86-5	1000	± 2.242%
Phenanthrene	85-01-8	1000	± 2.173%
Phenol	108-95-2	1000	± 1.954%
Pyrene	129-00-0	1000	± 1.999%
Pyridine	110-86-1	1000	± 0.934%
1,2,4-Trichlorobenzene	120-82-1	1000	± 2.120%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.630%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.418%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.978%
2,4,6-Trichlorophenol	88-06-2	1000	± 1.978%

Notes: The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111110613_us

Certificate of Composition

DESCRIPTION: ACID STOCK

QUOTE 22261940 LOT NO.: LC26159V MFG DATE: Apr-2017

SOLVENT: DICHLOROMETHANE

exp 2yrs. from rec.

ANALYTE (1)	CAS NUMBER	PERCENT PURITY (2)	WEIGHT CONCENTRATION (3)			SUPELCO LOT NO
BENZOIC ACID	65-85-0	99.9	1802	+/-	9.0	LB96892
PENTACHLOROPHENOL	87-86-5	97.5	802.4	+/-	4.01	LC17897
2-METHYL-4,6-DINITROPHENOL	534-52-1	99.9	1801	+/-	9.0	LB99844
2,4-DICHLOROPHENOL	120-83-2	99.9	802.0	+/-	4.01	LB83402
2,4-DIMETHYLPHENOL	105-67-9	99.9	801.0	+/-	4.01	LB88935
2,4-DINITROPHENOL	51-28-5	99.9	1800	+/-	9.0	LB92092
2,4,5-TRICHLOROPHENOL	95-95-4	99.7	801.0	+/-	4.01	LB35288
2,4,6-TRICHLOROPHENOL	88-06-2	99.9	801.0	+/-	4.01	LB65559
4-CHLORO-3-METHYLPHENOL	59-50-7	99.9	802.0	+/-	4.01	LC17531
4-NITROPHENOL	100-02-7	99.9	802.0	+/-	4.01	LC10889

F003203
Recd. JK
04/14/17

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, based upon balance and Class A volumetric glassware tolerances. Weights are corrected for analytes less than 98% pure.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.
Supelco is a Sigma-Aldrich Company. Sigma-Aldrich Corp. is a subsidiary of Merck KGaA, Darmstadt, Germany.

SUPELCO
Solutions within.™
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

Certificate of Composition

DESCRIPTION: BASE STOCK

QUOTE 22261942 LOT NO.: LC26160V MFG DATE: Mar-2017

SOLVENT: DICHLOROMETHANE

ANALYTE (1)	CAS NUMBER	PERCENT PURITY (2)	WEIGHT CONCENTRATION (3)	SUPELCO LOT NO
ANILINE	62-53-3	99.9	801.0 +/- 4.01	LA41596
HEXACHLOROCYCLOPENTADIENE	77-47-4	96.0	801.6 +/- 4.01	LB95525
N-NITROSODIMETHYLAMINE	62-75-9	99.9	801.0 +/- 4.01	LC24990
PERYLENE	198-55-0	99.9 (a)	200.0 +/- 1.00	LB81263
PYRIDINE (LOW WATER)	110-86-1	99.9	801.0 +/- 4.01	LC15471
2-NITROANILINE	88-74-4	99.9	802.0 +/- 4.01	LC05068
2,4-DINITROTOLUENE	121-14-2	97.8	801.0 +/- 4.01	LB46632
2,6-DINITROTOLUENE	606-20-2	99.9	800.0 +/- 4.00	LB79891
3-NITROANILINE	99-09-2	99.9	802.0 +/- 4.01	LC09264
3,3'-DICHLOROBENZIDINE	91-94-1	99.9	801.0 +/- 4.01	LC24307
4-CHLOROANILINE	106-47-8	99.9	801.0 +/- 4.01	LC09711
4-NITROANILINE	100-01-6	99.9	800.0 +/- 4.00	LC11400

F 3220
Recd
JK 04/14/17

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.
a) HPLC UV-254NM

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, based upon balance and Class A volumetric glassware tolerances. Weights are corrected for analytes less than 98% pure.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.
Supelco is a Sigma-Aldrich Company. Sigma-Aldrich Corp. is a subsidiary of Merck KGaA, Darmstadt, Germany.

SUPELCO
Solutions within.
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: TCL Hazardous Substances Mix 1, 1x1ml, 2000µg/ml each in dichloromethane

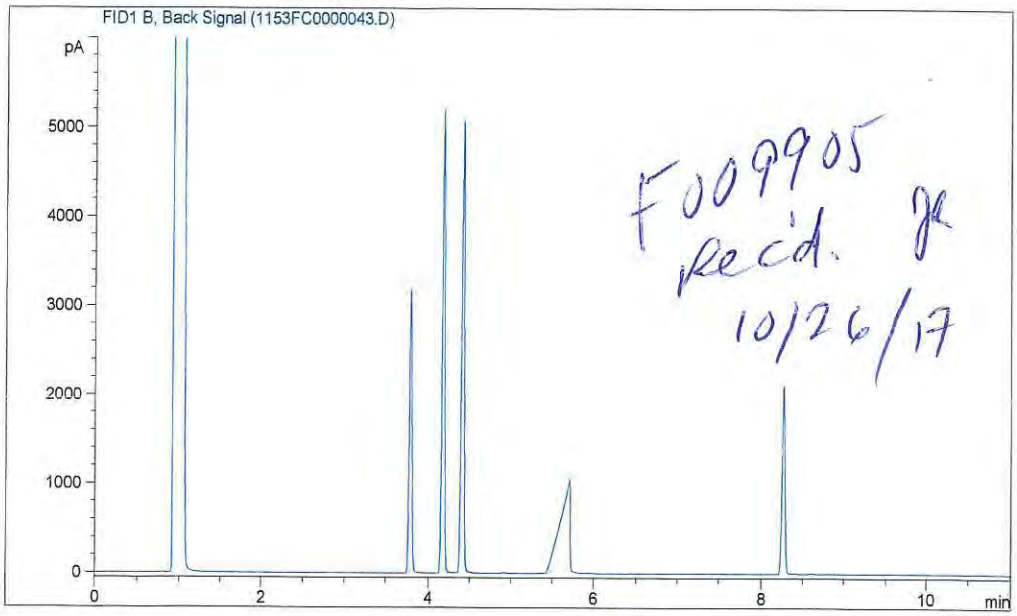
Part Number: 48907

Lot Number: XA14055V

Expiration Date: May 2018

Storage: Refrigerate

Analytical Method Parameters:
Column: SPB-5: 30m x 0.53mm, 1.5µm df
80°C to 190°C at 10°C/min
Detector: FID; 310°C
Injection Volume: 1 ul



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	2-Methylphenol	LB91878	95-48-7	99.9	1998.5	±130	1924.5
3.	p-Cresol (4-Methylphenol)	LB32518	106-44-5	99.8	1997.5	±160	1940.5
4.	Benzoic Acid	LB96892	65-85-0	99.9	1998.0	±300	1966.2
5.	2,4,5-Trichlorophenol	LB35288	95-95-4	99.4	1989.0	±340	1961.7

ACLASS ACCREDITED TESTING Cert# AT-1607

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

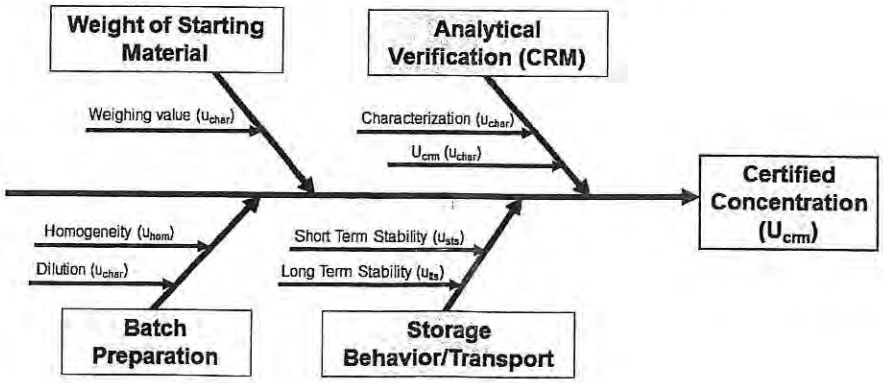
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: May 04, 2017
Form: 44806

Duane Funk

Duane Funk
QC Manager

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®
Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: S-2520 **Lot No.** EN160615017

Description: 1-Methylnaphthalene

Matrix: Methanol (Purge & Trap Grade)

Ship Date: 10-19-2017
Expiration Date: 10-18-2020

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality contro standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTI and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1-Methylnaphthalene	90-12-0	1000 µg/mL	95%	999 µg/mL	± 26 µg/mL

F009969
Recd. JR
10/27/17

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 10-19-2017 Certifying Officer: Shannon Mone

©2016 SPEX CertiPrep, LLC

Report of Certification

Catalog Number: S-2520 **Lot No.** EN160615017

Description: 1-Methylnaphthalene

Matrix: Methanol (Purge & Trap Grade)

Ship Date: 10-19-2017

Expiration Date: 10-18-2020

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shippir conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applic only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve a one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that shoul removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that cor in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identificati are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation h been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appe X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedur 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bott variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i, where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individu who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleg negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liab for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep®
Your Science is Our Passion.®

203 Norcross Ave. Metuchen, NJ 08840
www.spexcertiprep.com • E-mail: crmsales@spexcsp.com
Phone: 1-732-549-7144 • Fax 1-732-603-9647

Accredited to 17025 & Guide 34 ISO Certified to 9001

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NOT Requested 11/9/17

Chemical: 2-ChloroNaphthalene

Manufacturer: Chemservice

Product #: F20

Lot #: 265-125A

Purity: 99%

Analyst: VTS

F010396
2-Chloronaphthalene NEAT
Solvent / Lot: NEAT
Prep: 11/9/2017 by VS
Exp: 5/8/2029
Location: BOX P

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

F010639
SVOA PAH STD-RMP-1000ug/ml
Solvent / Lot: DCM
Prep: 11/15/2017 by VS
Exp: 2/21/2022
Location:

RM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 934
Lot Number: 022117
Description: PAH Standard
30 components
Expiration Date: 022122
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11

Methylene chloride 76782

5E-05 Balance Uncertainty
0.002 Flask Uncertainty

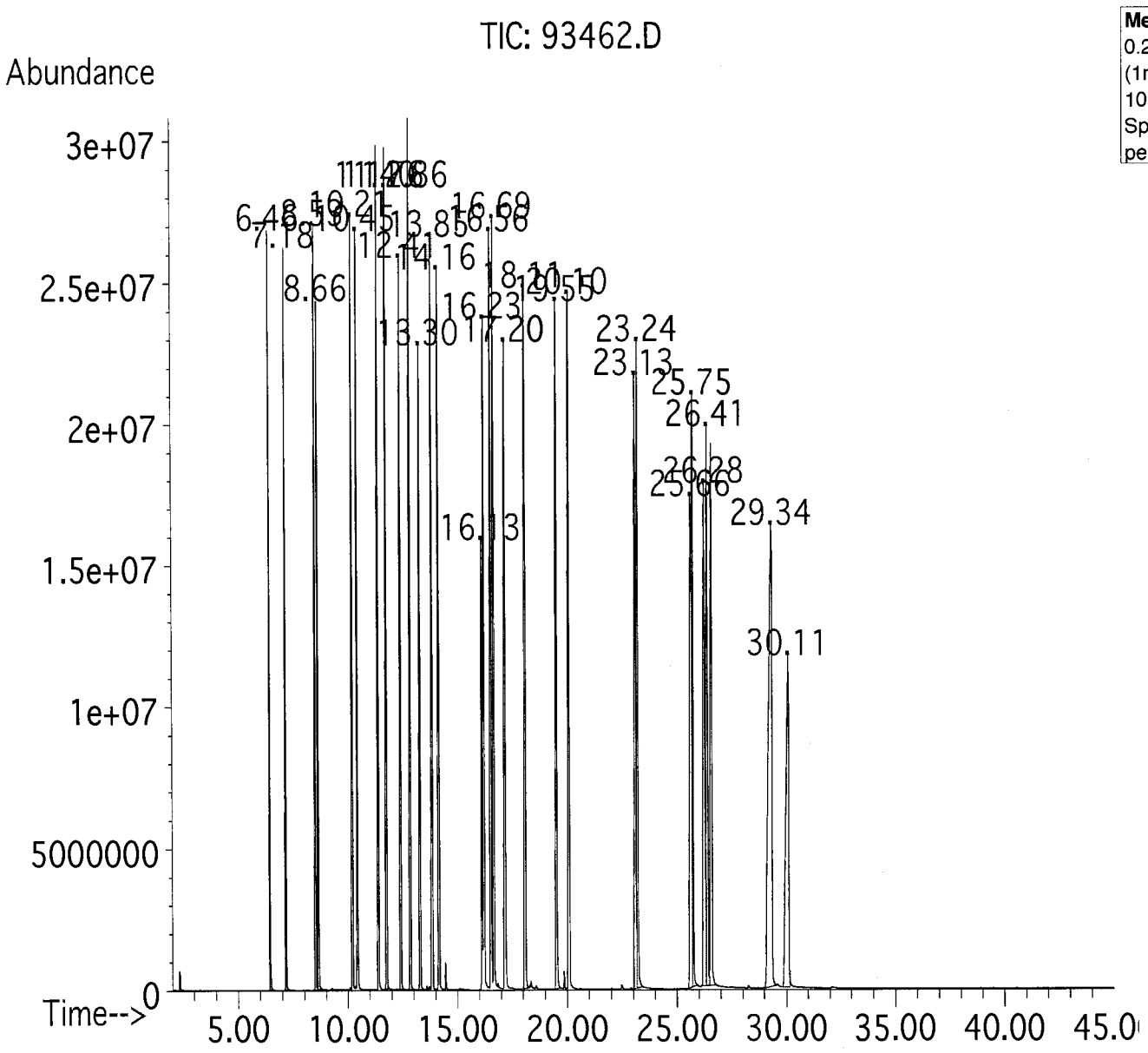
Volume(s) shown below were combined and diluted to (mL): 20.0

Gabriel Helland 022117
Formulated By: Gabriel Helland DATE

Pedro Rentas 022117
Reviewed By: Pedro L. Rentas DATE

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acenaphthene	10007	080116	0.50	10.00	0.006	2005.2	1003.3	4.2	83-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	10007	080116	0.50	10.00	0.006	2001.2	1001.4	4.2	208-96-8	N/A	N/A
3. Anthracene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	10007	080116	0.50	10.00	0.006	2001.2	1001.3	4.2	56-55-3	N/A	N/A
5. Benzo(a)pyrene	10007	080116	0.50	10.00	0.006	2001.9	1001.7	4.2	50-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	10007	080116	0.50	10.00	0.006	2000.2	1000.8	4.2	207-08-9	N/A	N/A
8. Benzo(g,h,i)perylene	10007	080116	0.50	10.00	0.006	2001.8	1001.6	4.2	191-24-2	N/A	N/A
9. Carbazole	10007	080116	0.50	10.00	0.006	2020.8	1011.2	4.3	86-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.3	218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	10007	080116	0.50	10.00	0.006	2001.5	1001.5	4.2	53-70-3	0.2mg/m3	N/A
12. Fluoranthene	10007	080116	0.50	10.00	0.006	2001.3	1001.4	4.3	206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	10007	080116	0.50	10.00	0.006	2001.7	1001.6	4.3	86-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	193-39-5	N/A	N/A
15. Naphthalene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	10007	080116	0.50	10.00	0.006	2001.4	1001.4	4.2	85-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	10007	080116	0.50	10.00	0.006	2000.5	1001.0	4.3	129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg
18. Benzo(e)pyrene	94851	031416	0.50	10.00	0.006	2001.9	1001.7	4.3	192-97-2	N/A	N/A
19. Biphenyl	94851	031416	0.50	10.00	0.006	2000.7	1001.1	4.3	92-52-4	0.2 ppm(1mg/m3/8H)	orl-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	91-17-8	N/A	N/A
21. Dibenzofuran	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-64-9	N/A	N/A
22. Dibenzothiophene	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-65-0	N/A	orl-mus 470 mg/kg
23. 2,6-Dimethylnaphthalene	94851	031416	0.50	10.00	0.006	2004.9	1003.2	4.4	581-42-0	N/A	N/A
24. 1-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2003.5	1002.5	4.4	90-12-0	N/A	orl-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2006.1	1003.8	4.4	91-57-6	N/A	orl-rat 1630mg/kg
26. 1-Methylphenanthrene	94851	031416	0.50	10.00	0.006	2004.4	1002.9	10.2	832-69-9	N/A	N/A
27. Pentachlorophenol	94851	031416	0.50	10.00	0.006	2006.6	1004.0	4.4	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg
28. Perylene	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	198-55-0	N/A	N/A
29. Thianaphthene	94851	031416	0.50	10.00	0.006	2003.9	1002.7	4.4	95-15-8	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	031416	0.50	10.00	0.006	2002.9	1002.2	4.5	2245-38-7	N/A	N/A

- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**



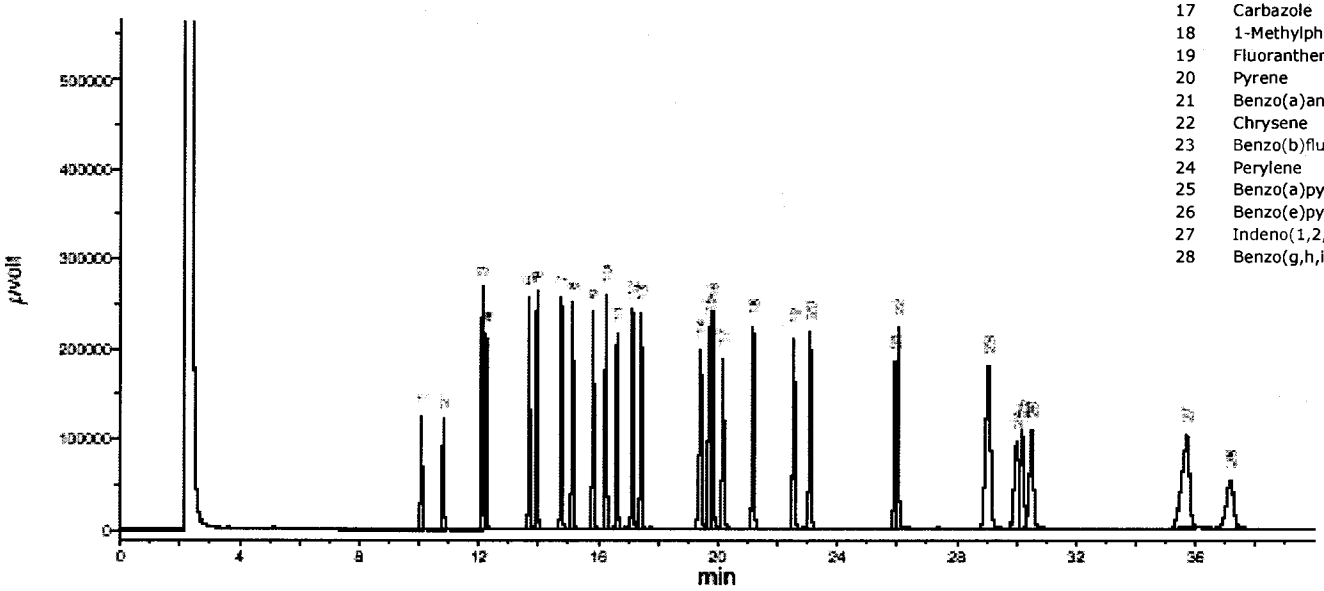
Method GC8MSD-2Long: Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

Retention Time (min.)	
Decahydronaphthalene (Decalin) (isomer)	6.46
Decahydronaphthalene (Decalin) (isomer)	7.18
Naphthalene	8.53
Thianaphthene	8.66
2-Methylnaphthalene	10.21
1-Methylnaphthalene	10.45
Biphenyl	11.4
2,6-Dimethylnaphthalene	11.76
Acenaphthylene	12.41
Acenaphthene	12.86
Dibenzofuran	13.3
2,3,5-Trimethylnaphthalene	13.85
Fluorene	14.16
Pentachlorophenol	16.13
Dibenzothiophene	16.23
Phenanthrene	16.56
Anthracene	16.69
Carbazole	17.2
1-Methylphenanthrene	18.11
Fluoranthene	19.55
Pyrene	20.1
Benzo(a)anthracene	23.13
Chrysene	23.24
Benzo(b)fluoranthene	25.66
Benzo(k)fluoranthene	25.75
Perylene	26.28
Benzo(a)pyrene	26.41
Benzo(e)pyrene	26.61
Indeno(1,2,3-cd)pyrene	29.34
Dibenzo(a,h)anthracene	29.34
Benzo(g,h,i)perylene	30.11

Run 28, "P93462 L022117 [1000µg/mL in MeCl2]"

Run Length: 40.00 min, 23998 points at 10 points/second.
Created: Thu, Mar 16, 2017 at 10:15:46 AM.
Sampled: Sequence "031517-GC4M2", Method "GC4-M2".
Analyzed using Method "GC4-M2".

Comments
GC4-M2 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) =360 mLOven Temp 1 = 50°C (1 min).
Rate = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes. Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673. Standard Injection = 0.5 uL, Range = 4



Peak No.	Name	FID RT (min.)
1	Decahydronaphthalene (Decalin) (isomer)	9.58
2	Decahydronaphthalene (Decalin) (isomer)	10.30
3	Naphthalene	11.58
4	Thianaphthene	11.71
5	2-Methylnaphthalene	13.14
6	1-Methylnaphthalene	13.39
7	Biphenyl	14.22
8	2,6-Dimethylnaphthalene	14.58
9	Acenaphthylene	15.24
10	Acenaphthene	15.67
11	Dibenzofuran	16.04
12	2,3,5-Trimethylnaphthalene	16.56
13	Fluorene	16.85
14	Pentachlorophenol/Dibenzothiophene	18.80
15	Phenanthrene	19.09
16	Anthracene	19.20
17	Carbazole	19.57
18	1-Methylphenanthrene	20.56
19	Fluoranthene	21.90
20	Pyrene	22.43
21	Benzo(a)anthracene	25.25
22	Chrysene	25.35
23	Benzo(b)fluoranthene/Benzo(k)fluoranthene	28.02
24	Perylene	28.82
25	Benzo(a)pyrene	28.99
26	Benzo(e)pyrene	29.26
27	Indeno(1,2,3-cd)pyrene/Dibenzo(a,h)anthracene	33.68
28	Benzo(g,h,i)perylene	34.92

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70476
Lot Number: 110316
Description: Benzo(j)fluoranthene

Solvent(s): **Lot#**
Methylene chloride 76782

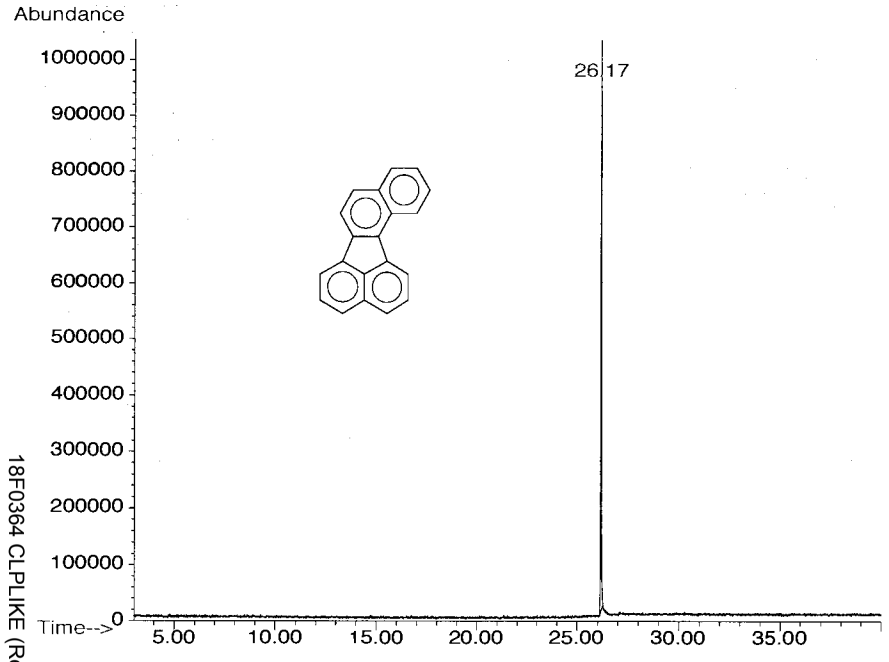
Expiration Date: 110321
Recommended Storage: Refrigerate (4 ºC)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By:	Bryan Njeba	110316 DATE
Reviewed By:	Pedro L. Rentas	110316 DATE

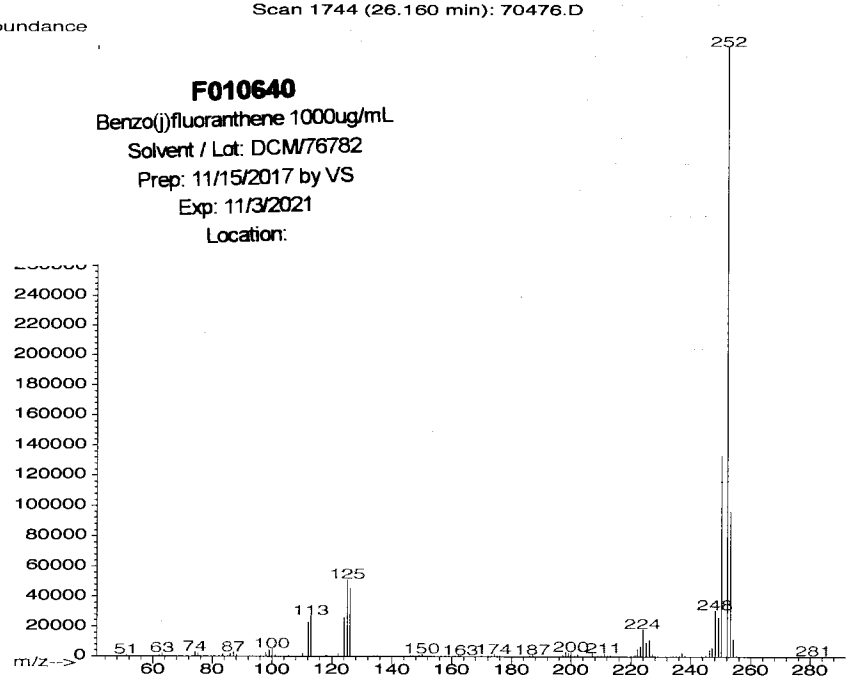
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	ER022108-01	1000	98	0.2	0.02551	0.02552	1000.5	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD-2.M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14 min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Gina McLane.

TIC: 70476.D



Scan 1744 (26.160 min): 70476.D

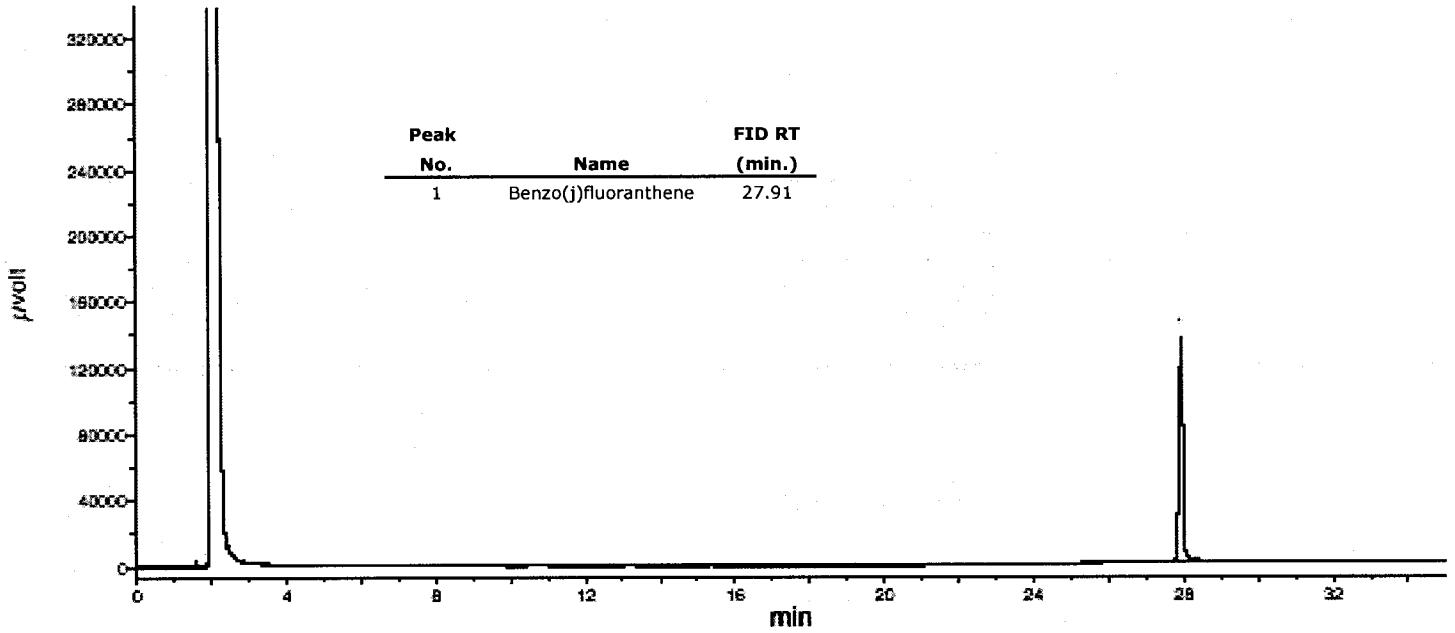


- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 18, "P70476 L110316 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Tue, Nov 8, 2016 at 2:59:30 AM.
Sampled: Sequence "110716-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments
GC4-M1 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min.)
1	Benzo(j)fluoranthene	27.91

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0131981

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

Read 4/24/17 JK

x 14

F010900

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBD7945V)	1,498.0 µg/mL	+/- 8.8977 +/- 43.7545 +/- 53.0797	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-24670)	1,502.0 µg/mL	+/- 8.9214 +/- 43.8714 +/- 53.2214	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 **Purity** 99%	(Lot PR-20630)	1,500.0 µg/mL	+/- 8.9095 +/- 43.8130 +/- 53.1506	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 **Purity** 99%	(Lot M-1611)	1,000.0 µg/mL	+/- 5.9397 +/- 29.2086 +/- 35.4337	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-25462)	996.0 µg/mL	+/- 7.0625 +/- 29.3464 +/- 35.5022	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot Z20C043)	996.0 µg/mL	+/- 7.0625 +/- 29.3464 +/- 35.5022	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	1,504.0 µg/mL	+/- 8.9333 +/- 43.9298 +/- 53.2923	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	p-Terphenyl-d14		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 29.2671	µg/mL	Unstressed
	Purity 99%			+/- 35.5046	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

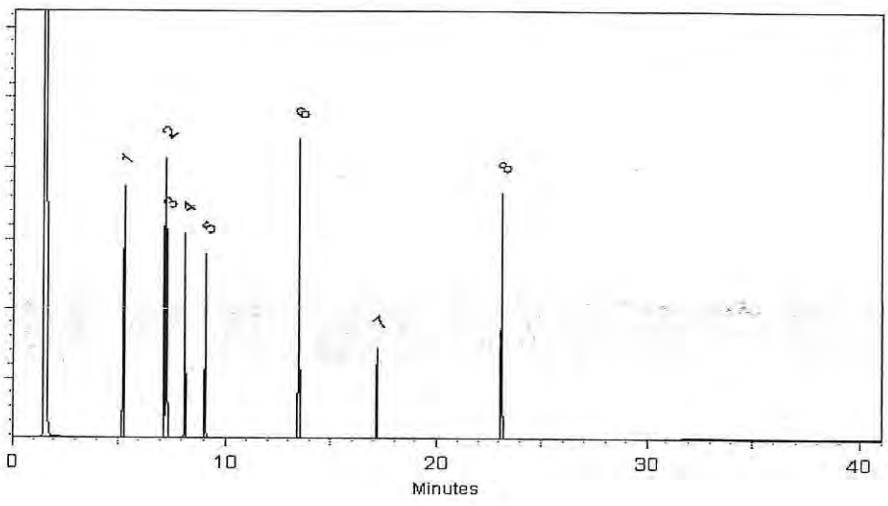
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Larry J. Moore - Mix Technician **Date Mixed:** 30-Oct-2017 **Balance:** 1128353505

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 01-Nov-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Certificate of Analysis

BNAs - Sandy Loam

Certified Reference Material

Product ID **CRM143-50G**
Lot **LRAB6640**
Expiration Date December 31, 2020
Storage Conditions Store at 2-8ºC

Analyte	*Units*	*Certified Value* [1,4]	*k* [5]	*Standard Deviation* [2]	*Acceptance Interval* [3]
1,3-Dichlorobenzene Dichlorobenzene, 1,3-	ug/Kg	5450 ± 743	2.00	1890	1670 to 9230
1,4-Dichlorobenzene Dichlorobenzene, 1,4-	ug/Kg	5630 ± 736	2.00	1880	1880 to 9380
Naphthalene	ug/Kg	4480 ± 598	2.00	1520	1430 to 7520
Nitrobenzene	ug/Kg	1550 ± 203	2.00	518	512 to 2590
Acenaphthene	ug/Kg	2350 ± 281	2.00	717	917 to 3780
Acenaphthylene	ug/Kg	1920 ± 227	2.00	579	762 to 3080
Anthracene	ug/Kg	2370 ± 251	2.00	601	1120 to 3630
Benzo(a)anthracene	ug/Kg	7700 ± 940	2.00	2250	3000 to 12400
Benzo(a)pyrene	ug/Kg	4550 ± 506	2.00	1290	1970 to 7130
Benzo(b)fluoranthene	ug/Kg	8170 ± 979	2.00	2350	3270 to 13100
Benzo(g,h,i)perylene	ug/Kg	8550 ± 897	2.00	2290	3980 to 13100
Benzo(k)fluoranthene	ug/Kg	1110 ± 168	2.00	323	420 to 1800
4-Bromophenyl phenyl ether Bromophenyl phenyl ether, 4-	ug/Kg	2070 ± 199	2.00	466	1090 to 3040
Butyl benzyl phthalate	ug/Kg	5970 ± 653	2.00	1670	2630 to 9300
4-Chloro-3-methylphenol Chloro-3-methylphenol, 4-	ug/Kg	6410 ± 400	2.00	1040	4330 to 8490
bis(2-Chloroethoxy)methane	ug/Kg	5010 ± 642	2.00	1540	1800 to 8210
bis(2-Chloroisopropyl) ether 2,2'-Oxybis(2-chloropropane)	ug/Kg	8260 ± 1260	2.00	2870	2240 to 14300
2-Chlorophenol Chlorophenol, 2-	ug/Kg	8140 ± 1180	2.00	3120	1920 to 14400
4-Chlorophenyl phenylether Chlorophenyl phenylether, 4-	ug/Kg	3580 ± 346	2.00	829	1850 to 5300
Chrysene	ug/Kg	5340 ± 682	2.00	1630	1930 to 8750
Dibenzo(a,h)anthracene	ug/Kg	2900 ± 319	2.00	765	1300 to 4500
Dibenzofuran	ug/Kg	6700 ± 714	2.00	1820	3060 to 10300

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

Diethyl phthalate	ug/Kg	7490 ± 641	2.00	1670	4160 to 10800
2,4-Dinitrophenol Dinitrophenol, 2,4-	ug/Kg	2180 ± 632	2.00	1330	0.00 to 5000
2,6-Dinitrotoluene (2,6-DNT) Dinitrotoluene, 2,6-	ug/Kg	5360 ± 525	2.00	1340	2680 to 8030
bis(2-Ethylhexyl) phthalate (DEHP)	ug/Kg	3520 ± 514	2.00	1230	948 to 6090
Fluoranthene	ug/Kg	4970 ± 482	2.00	1230	2510 to 7430
Fluorene	ug/Kg	7290 ± 714	2.00	1820	3640 to 10900
Hexachlorocyclopentadiene	ug/Kg	922 ± 385	2.00	567	70.0 to 2200
Indeno(1,2,3-cd) pyrene	ug/Kg	4940 ± 528	2.00	1350	2240 to 7630
Isophorone	ug/Kg	1890 ± 280	2.00	715	463 to 3320
2-Methyl-4,6-dinitrophenol Methyl-4,6-dinitrophenol, 2-	ug/Kg	4900 ± 1170	2.00	2610	0.00 to 10400
2-Methylnaphthalene Methylnaphthalene, 2-	ug/Kg	3860 ± 530	2.00	1410	1060 to 6660
2-Methylphenol (o-Cresol) Methylphenol, 2-	ug/Kg	8330 ± 1100	2.00	2860	2610 to 14000
4-Methylphenol (p-Cresol) Methylphenol, 4-	ug/Kg	3150 ± 744	2.00	1220	488 to 5800
3+4-Methylphenol (m+p-Cresol) Methylphenol , 3+4-	ug/Kg	3000 ± 426	2.00	874	1140 to 4860
2-Nitroaniline Nitroaniline, 2-	ug/Kg	4150 ± 449	2.00	1050	1950 to 6360
2-Nitrophenol Nitrophenol, 2-	ug/Kg	6050 ± 1080	2.00	2760	530 to 11600
4-Nitrophenol Nitrophenol, 4-	ug/Kg	5680 ± 1190	2.00	3050	0.00 to 11800
n-Nitrosodimethylamine	ug/Kg	4850 ± 1560	2.00	2990	0.00 to 11200
n-Nitrosodiphenylamine	ug/Kg	2800 ± 457	2.00	938	801 to 4800
Pentachlorophenol	ug/Kg	6660 ± 1020	2.00	2660	1340 to 12000
Phenanthrene	ug/Kg	3580 ± 323	2.00	823	1930 to 5220
Phenol	ug/Kg	4820 ± 691	2.00	1860	1100 to 8540
Pyrene	ug/Kg	6350 ± 626	2.00	1600	3160 to 9540
2,4,5-Trichlorophenol Trichlorophenol, 2,4,5-	ug/Kg	6210 ± 673	2.00	1780	2650 to 9760
2,4,6-Trichlorophenol Trichlorophenol, 2,4,6-	ug/Kg	8380 ± 859	2.00	2230	3920 to 12800

Sample Information

Certificate of Analysis

BNAs - Sandy Loam

Certified Reference Material

Product ID	**CRM143-50G**
Lot	**LRAB6640**
Expiration Date	December 31, 2020
Storage Conditions	Store at 2-8ºC

DESCRIPTION

The organic sample is a soil containing extractable BNAs for analysis by 8100, 8270, 8310 or equivalent methods.

This product consist of a 5 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested show homogeneity. Only one vial is need for test the remaining vials are to be used for multiple methods or routine testing.

The soil has been sterilized to minimize degradation of the sample.

The sample has been sized to 100 mesh.

Required storage condition is 4ºC.

The sample has been intentionally prepared with an apparent headspace.

STORAGE

The sample should be stored at 4ºC. It has been determined to be stable for the duration of the expiration date.

After sub-sampling replace cap securely and store remaining sample at 4ºC.

The shelf life of the product was determined by historic stability of similar CRM's. The expiration date may be extended based on stock and popularity upon successful stability testing by a 17025 accredited laboratory.

Stability and shelf life after opening must be determined by the user, taking into account sampling frequency/volume and all local conditions.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extraction solvent.

Assume a 10g sample size for all calculations.

Note: Sample extracts and calibration solutions should be in the same solvent.

Report all results on a wet weight basis, do not correct for moisture.

NOTE: For method 8100 and using a packed column gas chromatographic method or cannot adequately resolve the following may coelute in four pairs of compounds: anthracene and phenanthrene; chrysene and benzo(a)anthracene; benzo(b)fluoranthene and benzo(k)fluoranthene; and dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

SCOPE AND APPLICATION

The BNAs in Soil Certified Reference Material (CRM) consists of 5 10mL VOA vials, with a Teflon lined closures containing approximately 10 grams of soil, fortified with BNAs. Being a natural matrix waste sample the analyst is challenged by the same preparation problems, analytical interferences, etc. as is typical for similar matrices received by the laboratory for analysis. Rigorous analyses identified, quantified, and certified various aliphatic and aromatic banding which are listed on the enclosed Certificate of Analysis. The sample has been analyzed by a minimum of 12 independent laboratories in a round-robin to meet the requirements specified by the ISO Guides 34 and 35, and ISO 17025.

EVALUATION OF RESULTS

The Reference Value, 95% confidence interval(C.I.) for the Reference Value and 95% Prediction Interval (P.I.) around the Reference Value were obtained by the methods identified in the 'Scope and Application' section of this Certificate of Analysis. Samples were selected in a random fashion from the beginning to the end of the bottling sequence and sent for analysis by an independent laboratory round-robin. The data produced in the round-robin was used to calculate reference values by the USEPA EMSL-CINN's computer program “BIWEIGHT”.

The generated BIWEIGHT mean, BIWEIGHT standard deviation and BIWEIGHT standard deviation of the mean are used to calculate the 95% Confidence Interval (CI) for the mean and the 95% Prediction Interval (PI). For normally distributed data, the BIWEIGHT 95% CI compares well to the classical calculation method used to generate a 95% CI. For non-Gaussian data sets, the BIWEIGHT method is more robust in data treatment.

BIWEIGHT data are also used to calculate a 95% PI. The 95% PI compares well to a 95% tolerance limit calculated using classical

SIGMA-ALDRICH
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

methods. For normally distributed data, the BIWEIGHT 95% PI typically represents approximately a ±2 BIWEIGHT standard deviation window around the BIWEIGHT mean. Again, the BIWEIGHT method is more robust than classical methods when handling non-Gaussian data sets.

Laboratories performing the same analytical procedures on a sample whose values have been determined by the BIWEIGHT method can assume that the true mean, as determined by the method, is within the 95% CI window. Laboratories analyzing the sample should have results within the 95% PI window 19 out of 20 analyses. Laboratories should use the PI as guidance for laboratory performance.

Additional information on the program may be obtained by referring to the reference or by downloading the program from the EMSL-CINN web site. Additionally contact SigmaAldrich for additional guidance - 1(307)742-5452 - RTCTechGRoup@sial.com - www.sigmaaldrich.com

HEALTH AND SAFETY INFORMATION

Certified Reference Materials are intended only for professional use by properly trained laboratory personnel. This CRM has been reviewed for both health and safety and shipping risks. It is classified as non hazardous and is not classified as hazardous goods for shipping by road, sea or air transport.

A full international MSDS as a downloadable pdf file is available at www.sigmaaldrich.com

1 Certified value - based on the robust mean of round robin, interlaboratory study and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2 The standard deviation is the robust statistical standard deviation from the round robin interlaboratory study.
3 Acceptance limits are based on Interlaboratory Study Results. These ranges are recommendations only.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom}\ ogeneity}^2 + u_{stability}^2}$$

5 ***k*:** Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (ANAB Cert AT-1467) and ISO GUIDE 34:2009 (ANAB Cert AR-1470).

Robert O'Brien - QC Supervisor

Mark Pooler - QA Supervisor

Certification Date November 20, 2017
Version 305-11202017

LPTP13-S3

SIGMA-ALDRICH®

TO: ANALYTICAL RESOURCES

4611 S 134TH PLACE STE 100
TUKWILA, WA 98168-3240

PO: 60166

FROM: SIGMA-ALDRICH, INC.

6000 N. TEUTONIA AVE.
MILWAUKEE, WI 53209
414-438-3850 or 800-558-9160

DATE: 12/6/2017 TIME: 6:36:58PM

CARTON: 981002954

Sales Order No: 3019709914

Catalog No. - Unit	Description	Batch	Orig. Pkt Qty	Units Packed
CRM143-50G	BNAS - SANDY LOAM	LRAB6640	1	1

DELIVERY No.	SOLD TO ACCT.	SHIP TO No.	REQUESTED ROUTING TERMS-NET 30 DAYS F.O.B. PLANT
0858430079	49432933	49647437	R07P - RPS/FXG

All sales are expressly limited to and conditioned upon the terms and conditions appearing on the front and back of this form. Sigma-Aldrich brand products are sold exclusively through Sigma-Aldrich, Inc.

Hazardous materials are packed according to UN performance oriented packaging requirements for protection from breakage and/or leakage. Although not required, we follow similar processes for non-hazardous materials to prevent breakage and/or leakage.

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101246
Description: Benzoic Acid
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL11817
Certification Date: May 5, 2017
Expiration Date: April 30, 2027

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 2.953%

G001043
Rec'd. gf
02/02/18

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova
Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 25 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101244	**Lot Number:**	CL11085
Description:	Benzidines Standard	**Certification Date:**	May 9, 2014
Storage:	4 °C	**Expiration Date:**	March 31, 2024
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride	**Revision Date:**	November 2, 2015

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	2000	± 1.502%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.421%

G 001044
Recd. JF
02/02/18

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC Guide 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC Guide 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC Guide 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC Guide 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

G001045 Reed. JR 02/02/18

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.669%
Acenaphthylene	208-96-8	1000	± 0.410%
Anthracene	120-12-7	1000	± 4.619%
Azobenzene	103-33-3	1000	± 2.728%
Benzo(a)anthracene	56-55-3	1000	± 4.049%
Benzo(a)pyrene	50-32-8	1000	± 4.027%
Benzo(b)fluoranthene	205-99-2	1000	± 2.358%
Benzo(k)fluoranthene	207-08-9	1000	± 2.305%
Benzo(g,h,i)perylene	191-24-2	1000	± 5.955%
Benzyl alcohol	100-51-6	1000	± 2.599%
Benzyl butyl phthalate	85-68-7	1000	± 6.331%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 1.443%
bis(2-Chloroethyl) ether	111-44-4	1000	± 2.590%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.536%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 5.547%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 5.525%
4-Bromophenyl phenyl ether	101-55-3	1000	± 2.987%
Carbazole	86-74-8	1000	± 5.570%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 1.342%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.206%
2-Chloronaphthalene	91-58-7	1000	± 1.240%
2-Chlorophenol	95-57-8	1000	± 2.640%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 2.399%
Chrysene	218-01-9	1000	± 3.792%
Dibenz(a,h)anthracene	53-70-3	1000	± 6.364%
Dibenzofuran	132-64-9	1000	± 0.296%
Di-n-butyl phthalate	84-74-2	1000	± 5.220%
1,2-Dichlorobenzene	95-50-1	1000	± 2.311%
1,3-Dichlorobenzene	541-73-1	1000	± 2.604%
1,4-Dichlorobenzene	106-46-7	1000	± 2.587%
2,4-Dichlorophenol	120-83-2	1000	± 1.841%
Diethyl phthalate	84-66-2	1000	± 3.162%
2,4-Dimethylphenol	105-67-9	1000	± 3.444%
Dimethyl phthalate	131-11-3	1000	± 2.543%
1,2-Dinitrobenzene	528-29-0	1000	± 0.295%
1,3-Dinitrobenzene	99-65-0	1000	± 2.277%
1,4-Dinitrobenzene	100-25-4	1000	± 2.532%
2,4-Dinitrophenol	51-28-5	1000	± 3.741%
2,4-Dinitrotoluene	121-14-2	1000	± 3.798%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111130613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 2.659%
Di-n-octyl phthalate	117-84-0	1000	± 3.976%
Fluoranthene	206-44-0	1000	± 6.133%
Fluorene	86-73-7	1000	± 0.239%
Hexachlorobenzene	118-74-1	1000	± 3.169%
Hexachlorobutadiene	87-68-3	1000	± 2.303%
Hexachlorocyclopentadiene	77-47-4	1000	± 2.394%
Hexachloroethane	67-72-1	1000	± 2.498%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 6.236%
Isophorone	78-59-1	1000	± 1.697%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 4.774%
1-Methylnaphthalene	90-12-0	1000	± 1.716%
2-Methylnaphthalene	91-57-6	1000	± 1.779%
2-Methylphenol	95-48-7	1000	± 2.628%
3-Methylphenol	108-39-4	500	± 3.497%
4-Methylphenol	106-44-5	500	± 3.497%
Naphthalene	91-20-3	1000	± 2.226%
2-Nitroaniline	88-74-4	1000	± 2.376%
3-Nitroaniline	99-09-2	1000	± 3.387%
4-Nitroaniline	100-01-6	1000	± 0.614%
Nitrobenzene	98-95-3	1000	± 2.608%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova Certified Reference Materials
Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 2.508%
4-Nitrophenol	100-02-7	1000	± 3.759%
N-Nitrosodimethylamine	62-75-9	1000	± 4.339%
N-Nitrosodiphenylamine	86-30-6	1000	± 3.937%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 6.662%
Pentachlorophenol	87-86-5	1000	± 4.539%
Phenanthrene	85-01-8	1000	± 4.566%
Phenol	108-95-2	1000	± 2.905%
Pyrene	129-00-0	1000	± 6.164%
Pyridine	110-86-1	1000	± 1.952%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.126%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.361%
1,2,4-Trichlorobenzene	120-82-1	1000	± 1.390%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.249%
2,4,6-Trichlorophenol	88-06-2	1000	± 1.342%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova
Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA
ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL 111013_us

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0134523

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

G002461
Reed JL
03/21/19

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,001.4 µg/mL	+/- 11.6363 µg/mL +/- 90.1443 µg/mL +/- 100.0262 µg/mL		Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99%	(Lot M-1452)	2,003.9 µg/mL	+/- 11.6508 µg/mL +/- 90.2569 µg/mL +/- 100.1511 µg/mL		Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 99%	(Lot PR-25444)	2,005.7 µg/mL	+/- 11.6613 µg/mL +/- 90.3379 µg/mL +/- 100.2411 µg/mL		Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99%	(Lot PR-23065)	2,018.9 µg/mL	+/- 11.7381 µg/mL +/- 90.9325 µg/mL +/- 100.9008 µg/mL		Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99%	(Lot PR-27952)	2,013.3 µg/mL	+/- 11.7055 µg/mL +/- 90.6802 µg/mL +/- 100.6209 µg/mL		Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99%	(Lot PR-24113)	2,012.6 µg/mL	+/- 11.7014 µg/mL +/- 90.6487 µg/mL +/- 100.5859 µg/mL		Gravimetric Unstressed Stressed

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: TCL Benzidines Mix, 1x1ml, 2000µg/ml each in methanol

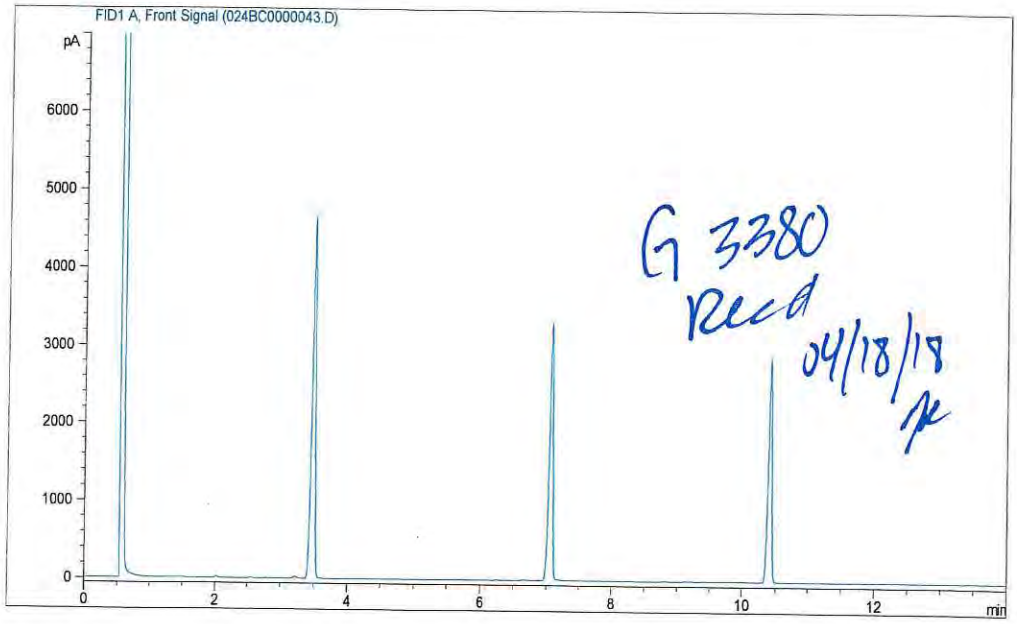
Part Number: 48906

Lot Number: XA26144V

Expiration Date: April 2020

Storage: Refrigerate

Analytical Method Parameters:
Column: SPB-5 30m x 0.53mm, 1.5µm df
200°C (4 min) to 300°C at 10°C/min
Detector: FID, 310°C
Injection Volume: 1 µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Ucrm µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Benzidine	LB83682	92-87-5	99.9	1998.0	±120	1882.5
3.	3,3'-Dichlorobenzidine	LC24307	91-94-1	99.9	1997.2	±120	1996.6

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

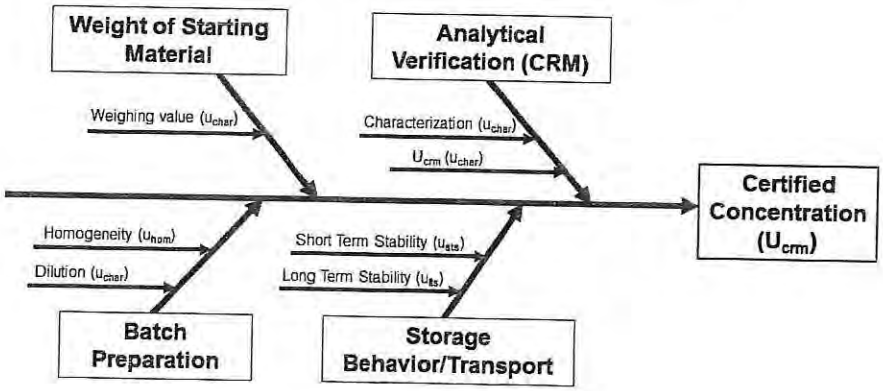
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: April 13, 2017
Form: 48906

Duane Funk

Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: TCL Base/Neutrals Mix 2, 1x1ml, 2000µg/ml each in methylene chloride

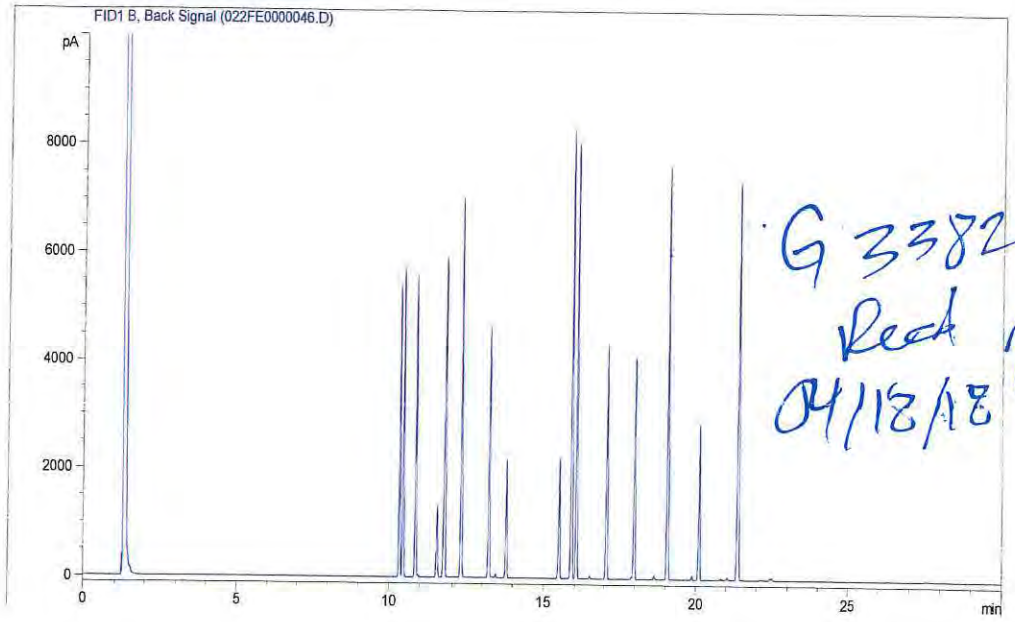
Part Number: 48120-U

Lot Number: XA26297V

Expiration Date: April 2020

Storage: Refrigerate

Analytical Method Parameters:
Column: SPB-5; 30m x 0.53mm, 1.5µm df
40 °C (4 min) to 250 °C (5 min) at 10 °C/min
Detector: FID, 310 °C
Injection Volume: 1 µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/mL	Ucrm µg/mL	Analytical Conc. µg/mL
1.	1,3-Dichlorobenzene	LC17654	541-73-1	99.9	1996.0	±130	1976.2
2.	1,4-Dichlorobenzene	LB90630	106-46-7	99.9	2000.0	±120	1969.8
3.	1,2-Dichlorobenzene	LB58923	95-50-1	99.4	1991.0	±110	1983.1
4.	Hexachloroethane	LB29072	67-72-1	99.4	1986.0	±97	1973.0
5.	Nitrobenzene	LB47070	98-95-3	99.9	1999.0	±73	1967.7
6.	Isophorone	LC14006	78-59-1	99.5	1993.0	±64	1965.5
7.	1,2,4-Trichlorobenzene	LB48083	120-82-1	99.4	1988.0	±70	1960.6
8.	Hexachlorobutadiene	LC19488	87-68-3	96.6	1997.7	±70	1968.5
9.	Hexachlorocyclopentadiene	LB95525	77-47-4	96.0	2000.6	±61	1962.5
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
11.	2-Chloronaphthalene	LC11403	91-58-7	99.9	1996.0	±51	1957.4
12.	2,6-Dinitrotoluene	LB79891	606-20-2	99.9	1996.0	±63	1962.5
13.	2,4-Dinitrotoluene	LB46632	121-14-2	97.8	2001.0	±72	1936.6
14.	Azobenzene	LB91797	103-33-3	99.9	2001.0	±70	1957.2
15.	Hexachlorobenzene	LB99528	118-74-1	99.2	1987.0	±83	1955.9

ANAB ACCREDITED TESTING LABORATORY
Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/mL	Ucrm µg/mL	Analytical Conc. µg/mL
16.	Carbazole	LC13236	86-74-8	98.1	1963.0	±120	1957.0

Notes:

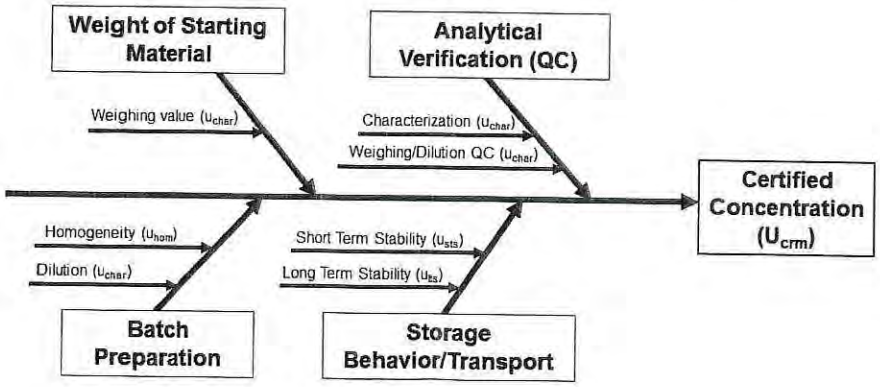
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/mL.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independently prepared Quality Control Standard. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: April 17, 2017
Form: 48120U

Duane Funk

Duane Funk
QC Manager

LDW18-C01-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-01	SDG:	18F0364
Sampled:	05/16/18 13:33	Prepared:	06/29/18 11:28	File ID:	N818070505.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 18:03
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.29	J	0.53	4.98
218-01-9	Chrysene	1	5.61		0.49	4.98
205-99-2	Benzo(b)fluoranthene	1	2.86	J	1.00	4.98
207-08-9	Benzo(k)fluoranthene	1	1.94	J	0.71	4.98
50-32-8	Benzo(a)pyrene	1	4.98	U	0.91	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.98	U	0.57	4.98
53-70-3	Dibenzo(a,h)anthracene	1	11.1		1.52	4.98

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.25	76.1	51.0	20 - 130	
Dibenzo[a,h]anthracene-d14	149.25	102	68.5	20 - 130	
Fluoranthene-d10	149.25	96.0	64.3	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

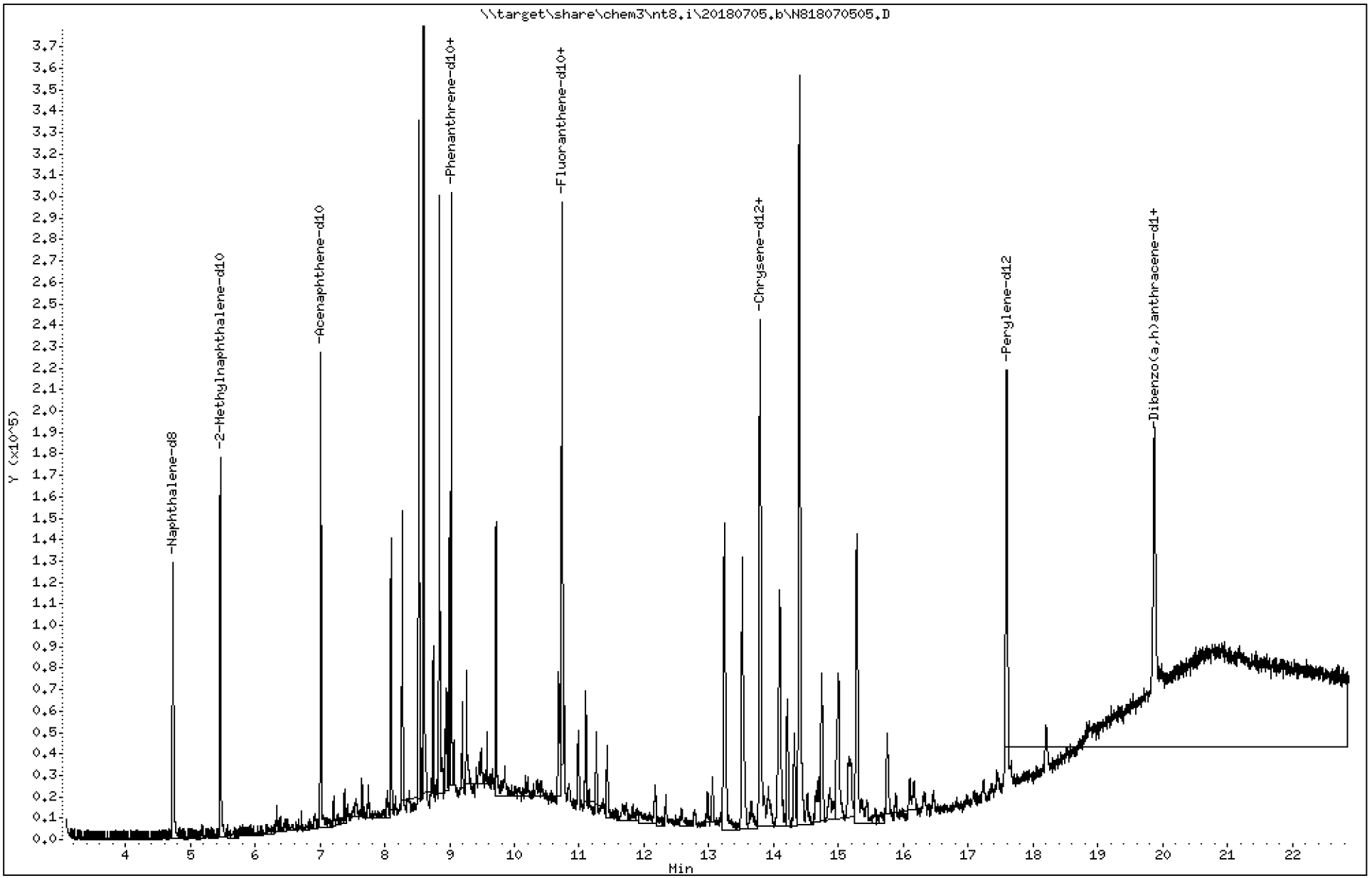
Instrument: nt8.i

Sample Info: 18F0364-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

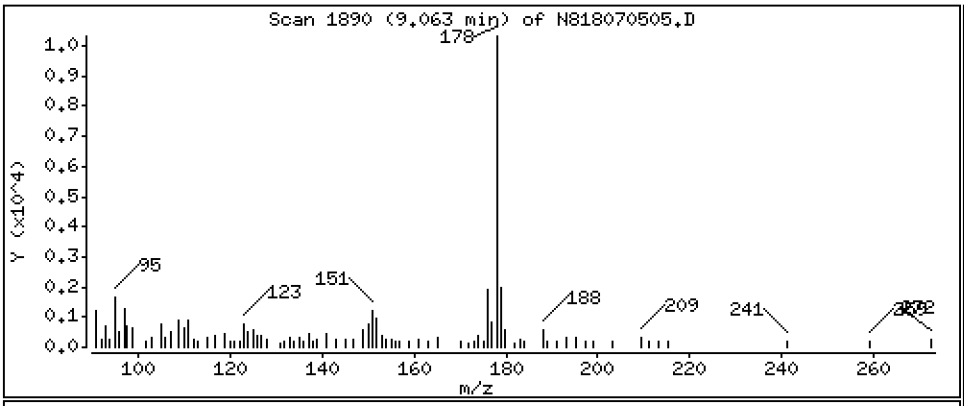
Operator: JZ

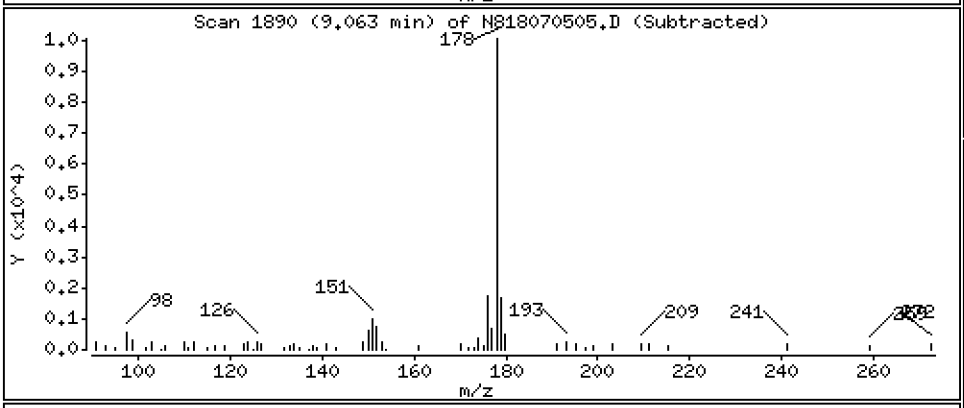
Column phase: Rxi-17sil

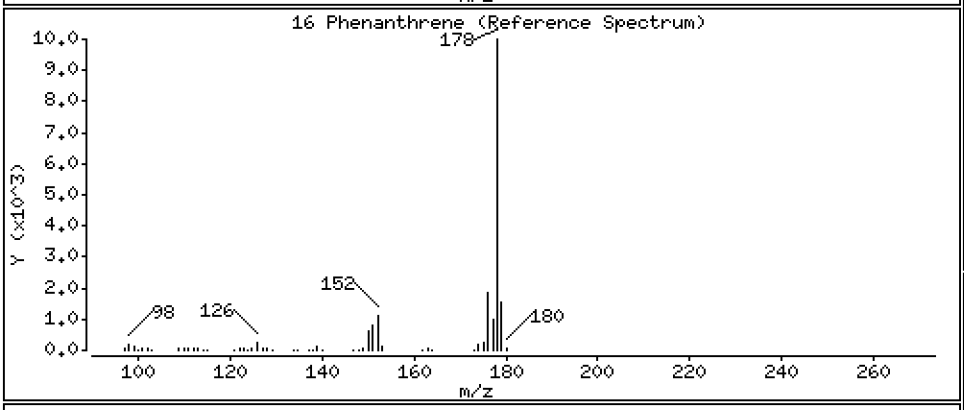
Column diameter: 0.25

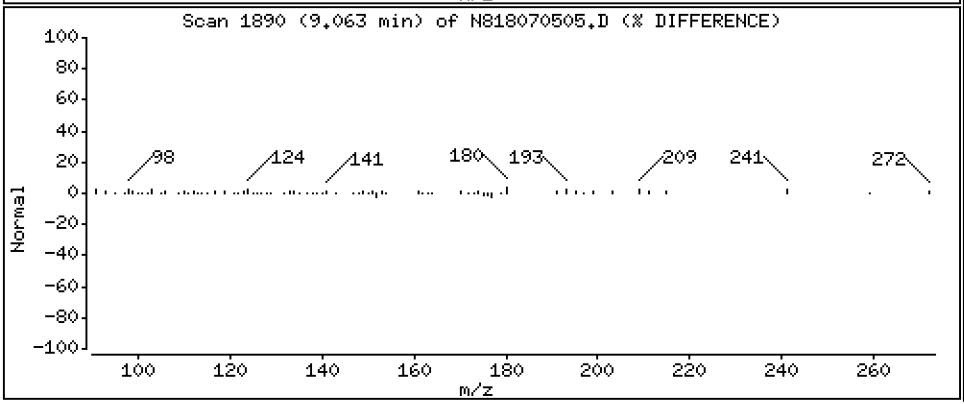
16 Phenanthrene

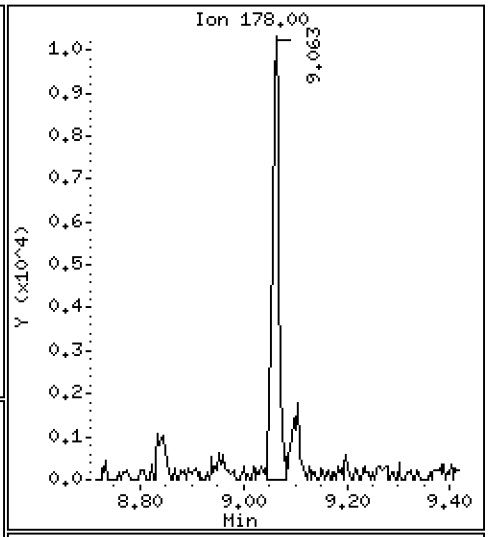
Concentration: 0.1389 ug/mL

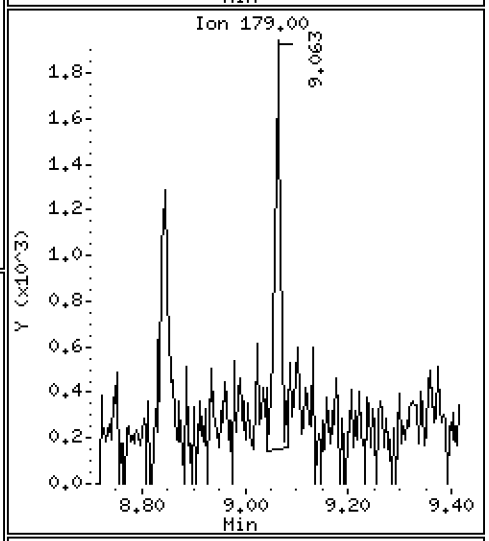


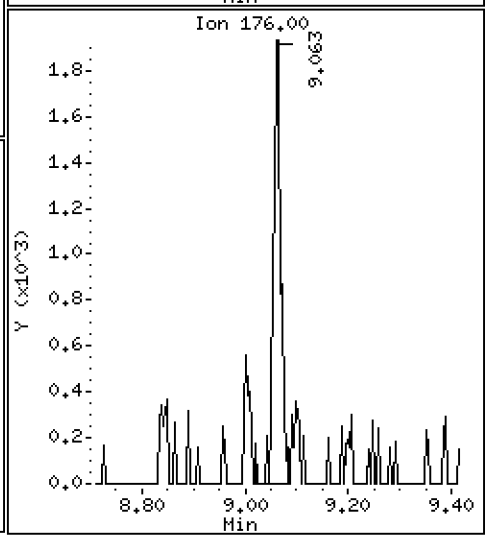












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

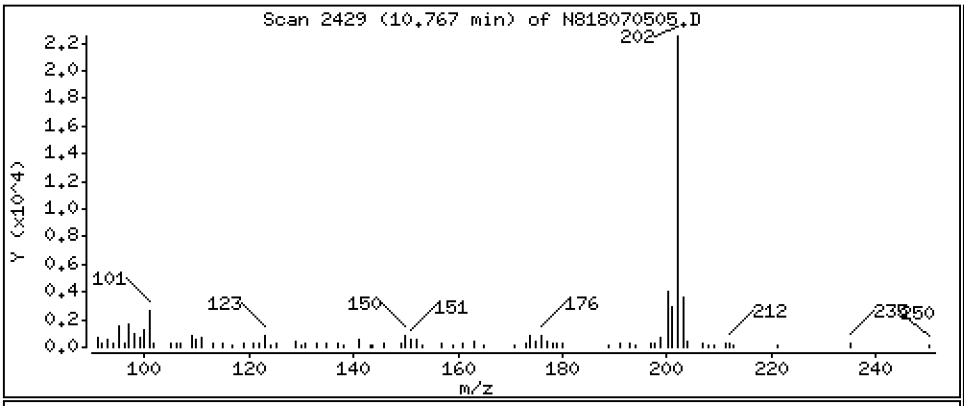
Operator: JZ

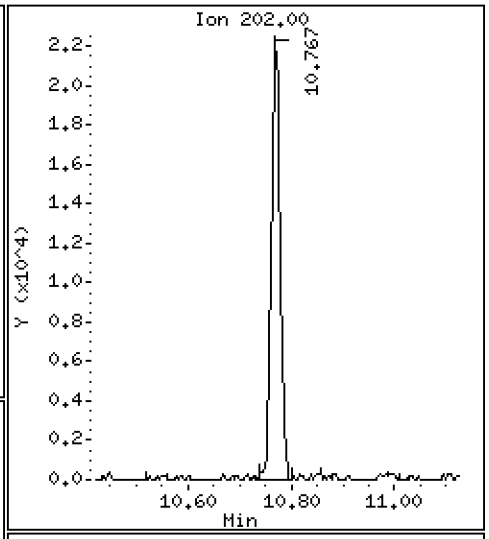
Column phase: Rxi-17sil

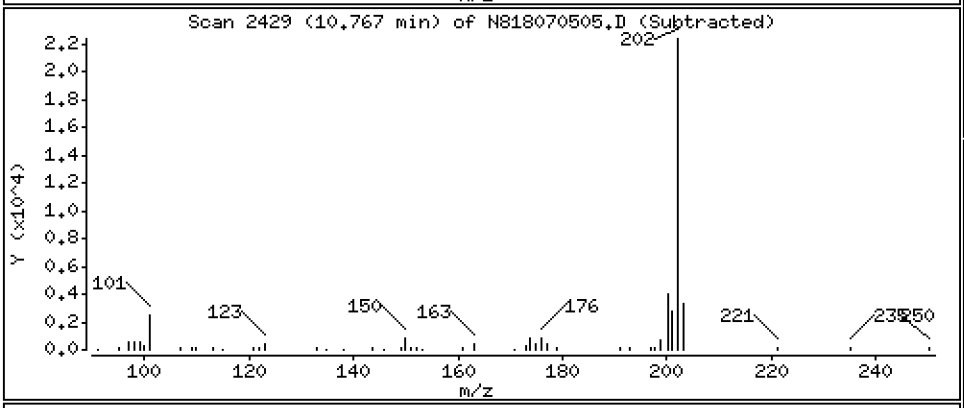
Column diameter: 0.25

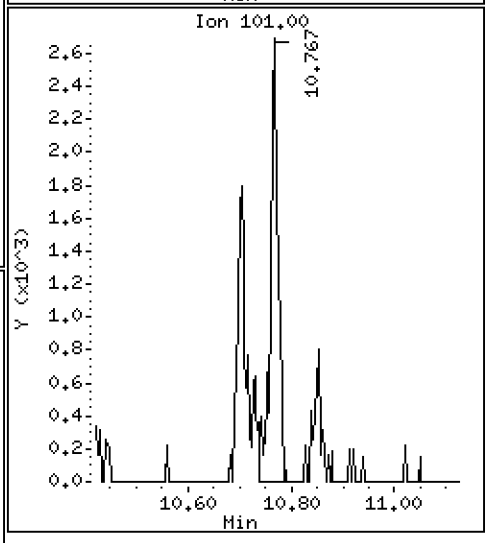
22 Fluoranthene

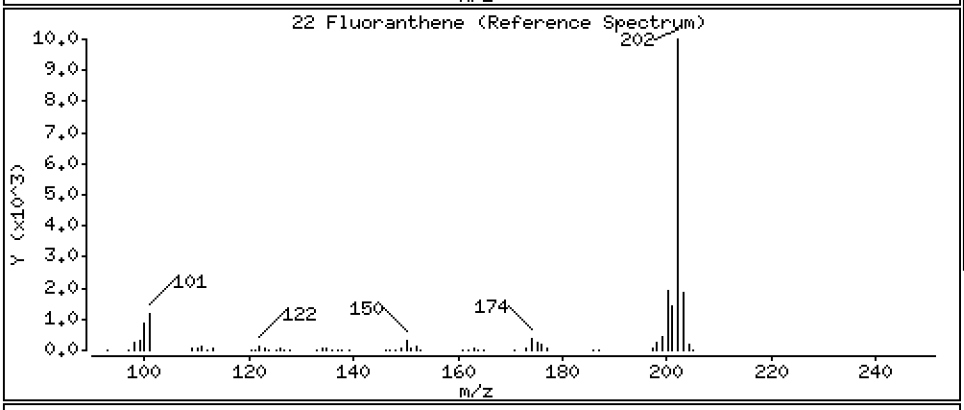
Concentration: 0.3433 ug/mL

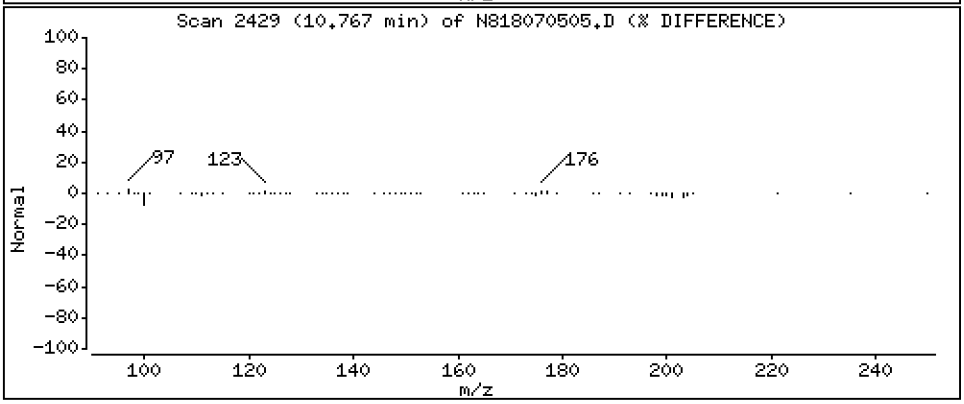












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

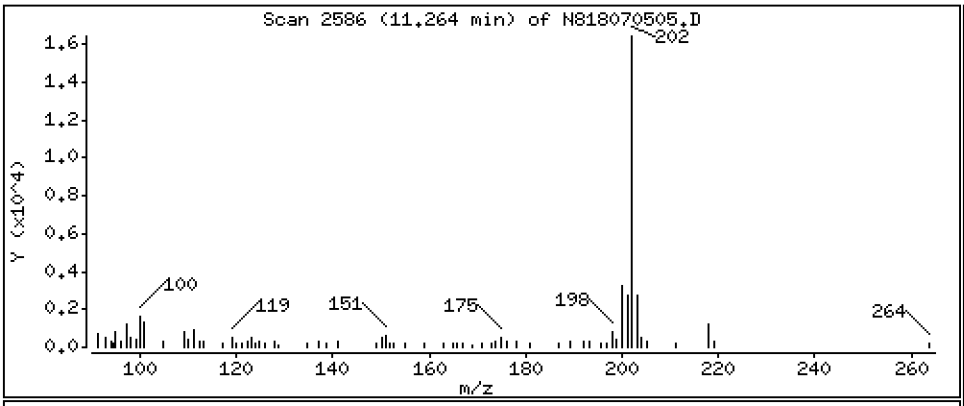
Operator: JZ

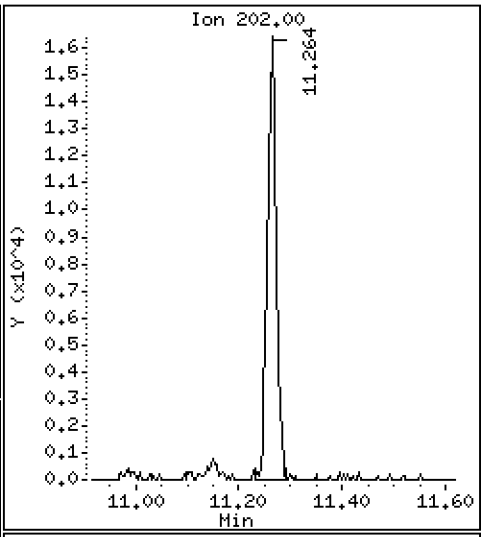
Column phase: Rxi-17sil

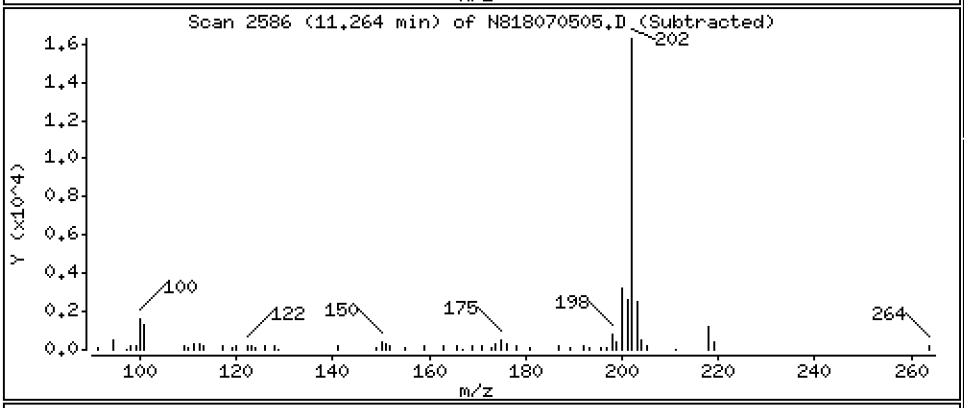
Column diameter: 0.25

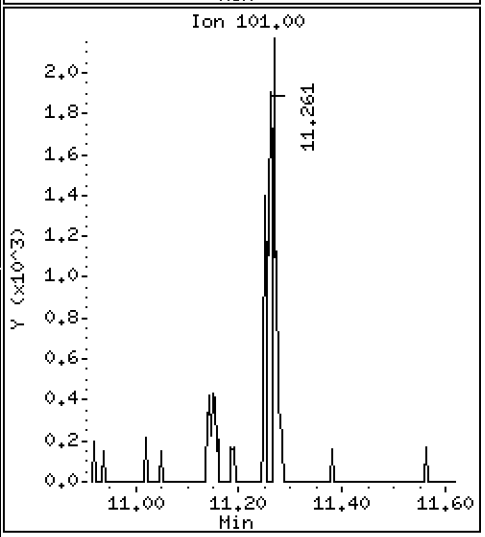
23 Pyrene

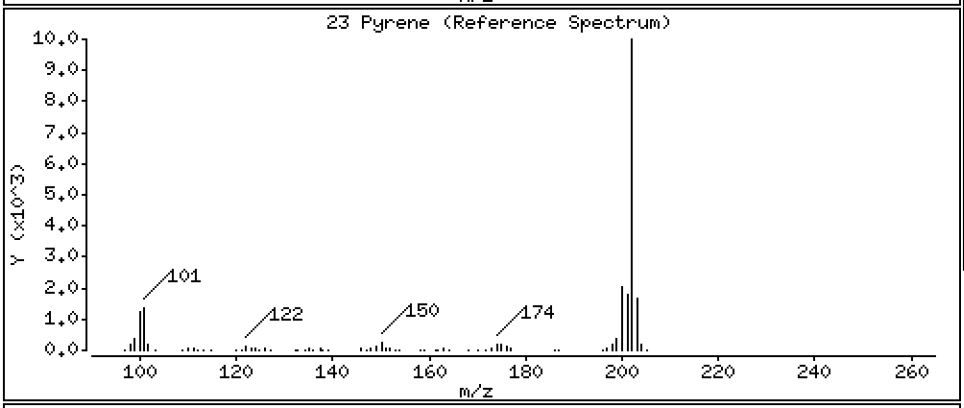
Concentration: 0.2407 ug/mL

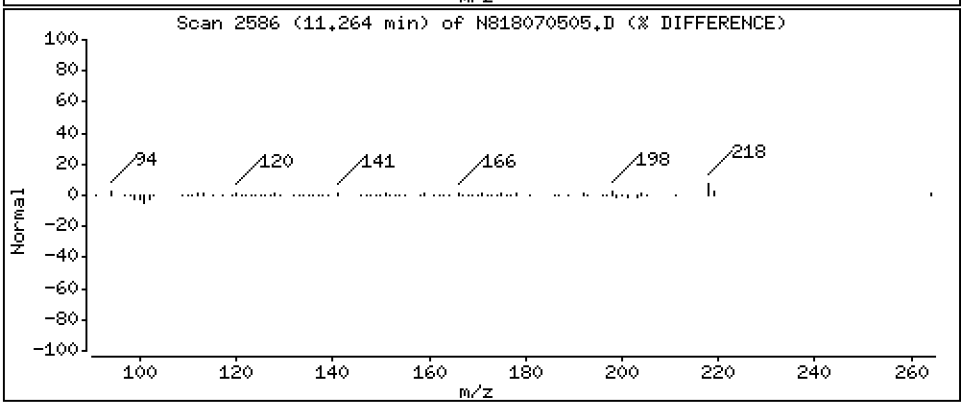












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

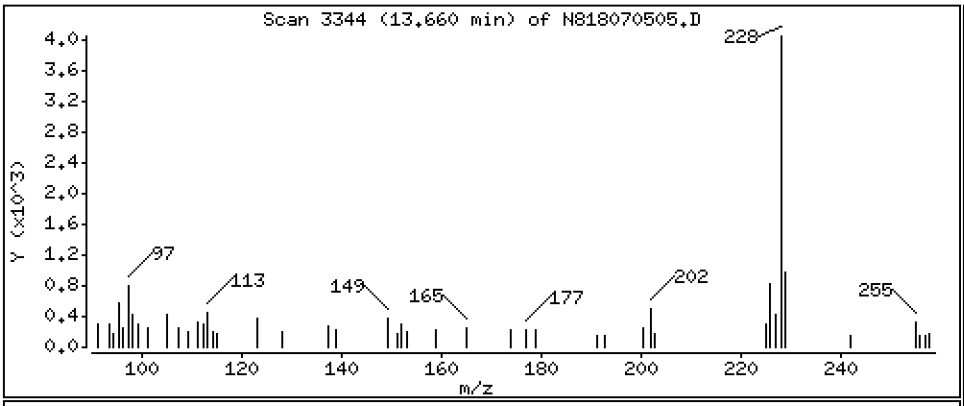
Operator: JZ

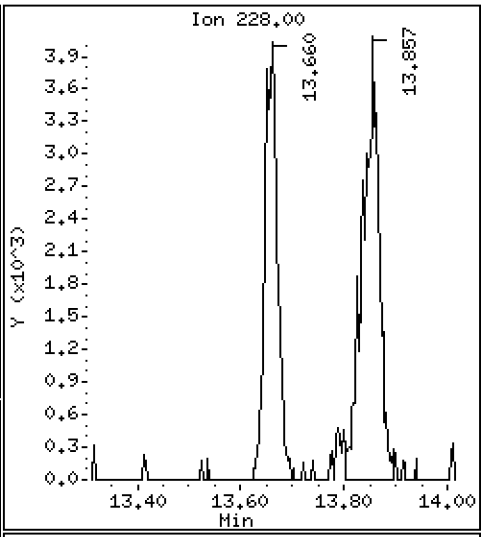
Column phase: Rxi-17sil

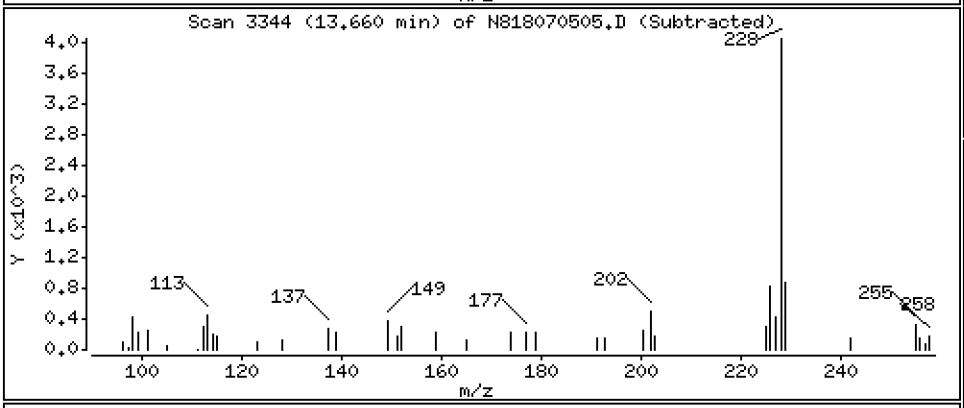
Column diameter: 0.25

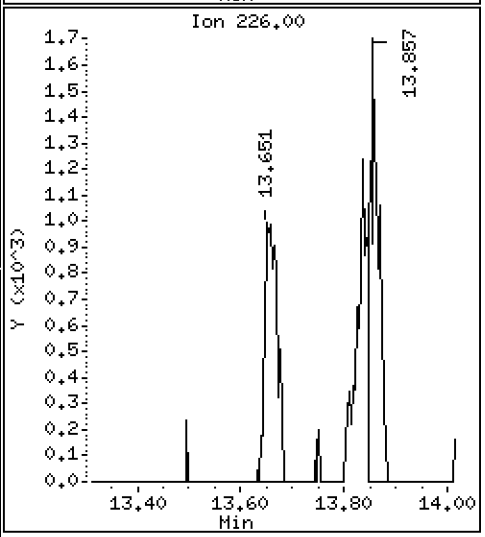
24 Benzo(a)anthracene

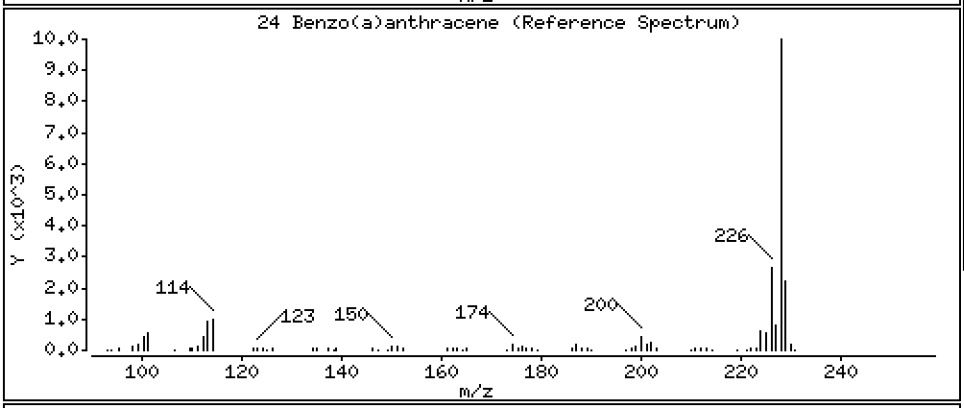
Concentration: 0.08622 ug/mL

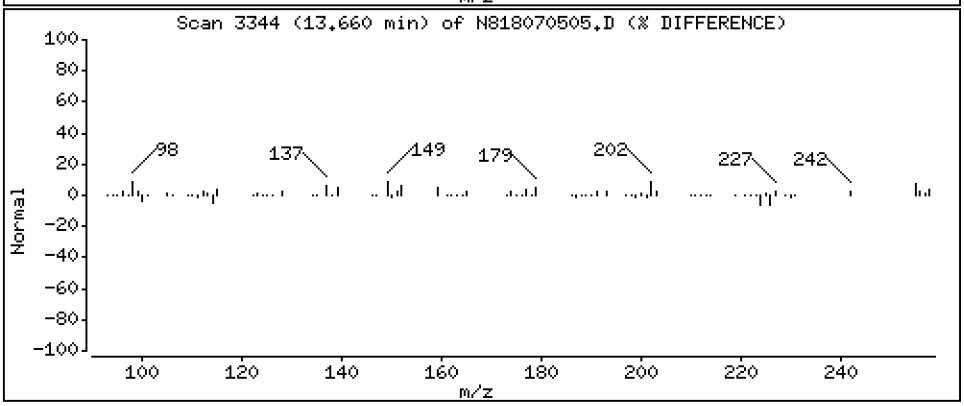












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

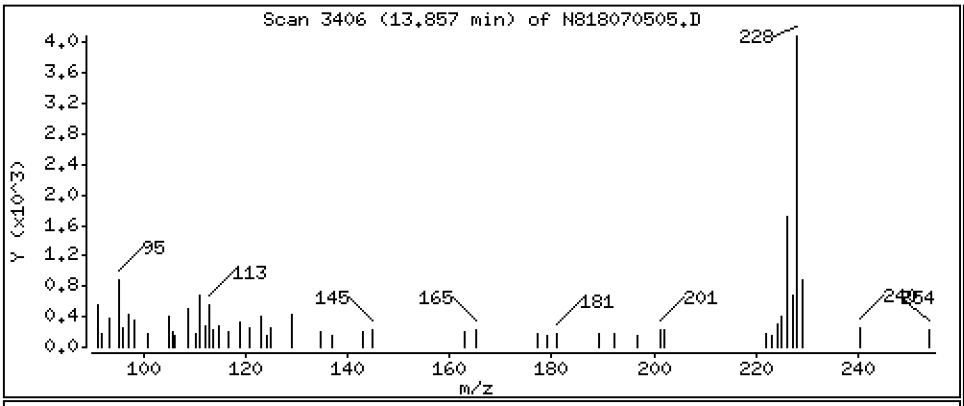
Operator: JZ

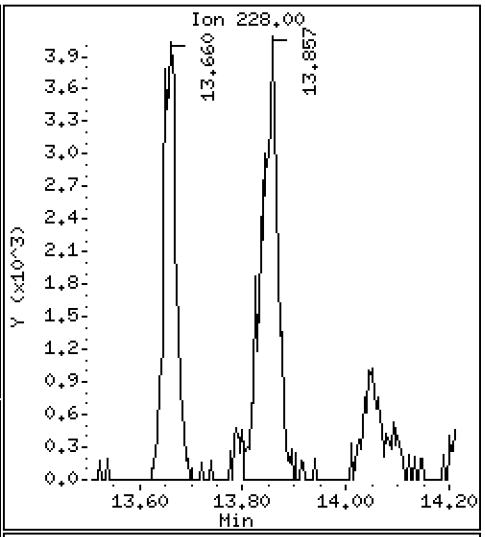
Column phase: Rxi-17sil

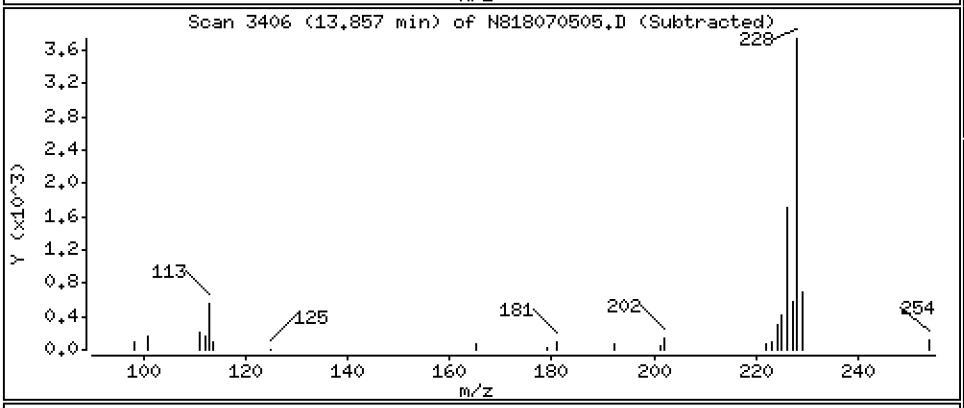
Column diameter: 0.25

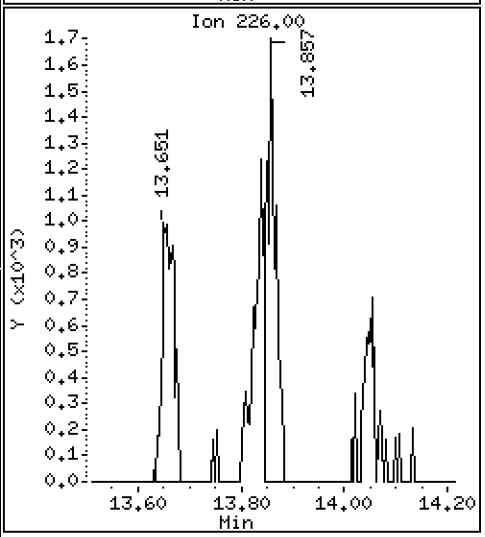
27 Chrysene

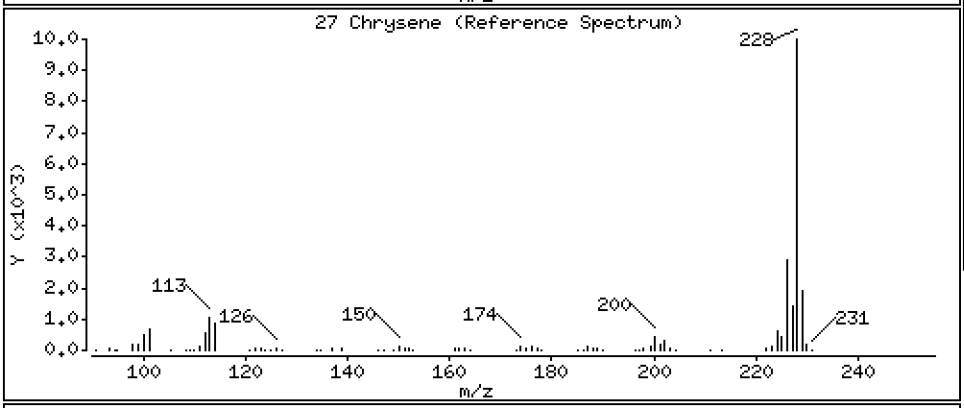
Concentration: 0.1127 ug/mL

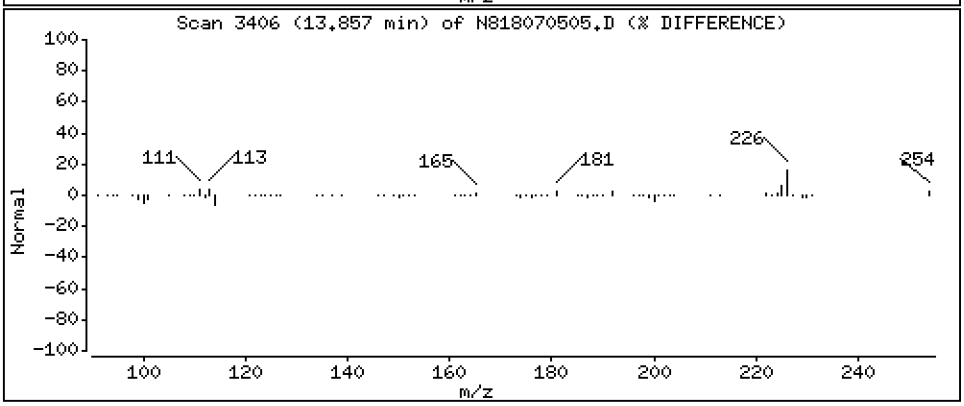












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

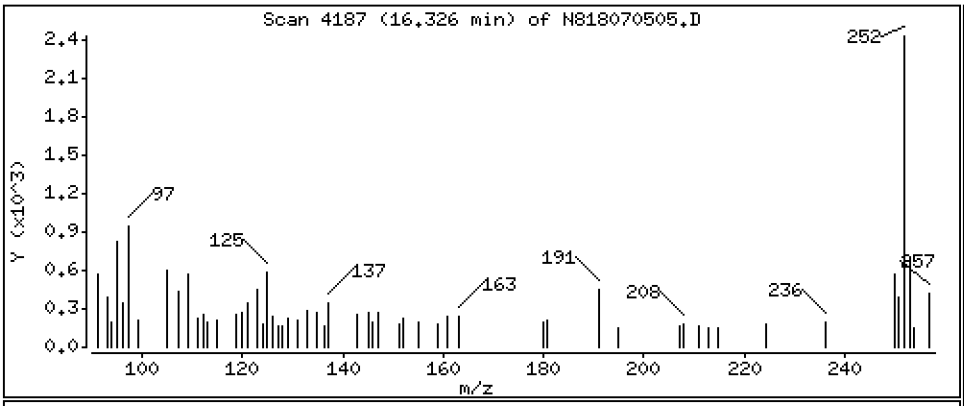
Operator: JZ

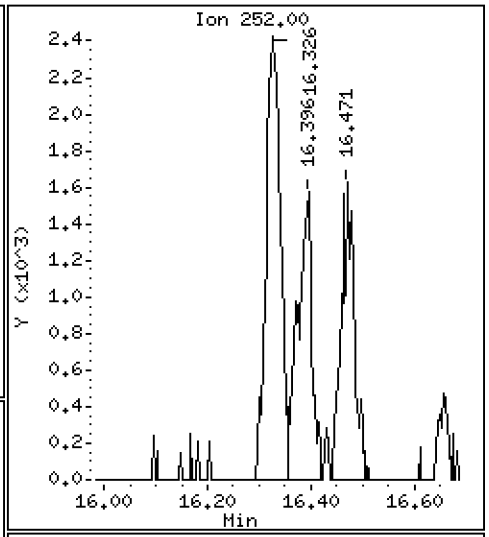
Column phase: Rxi-17sil

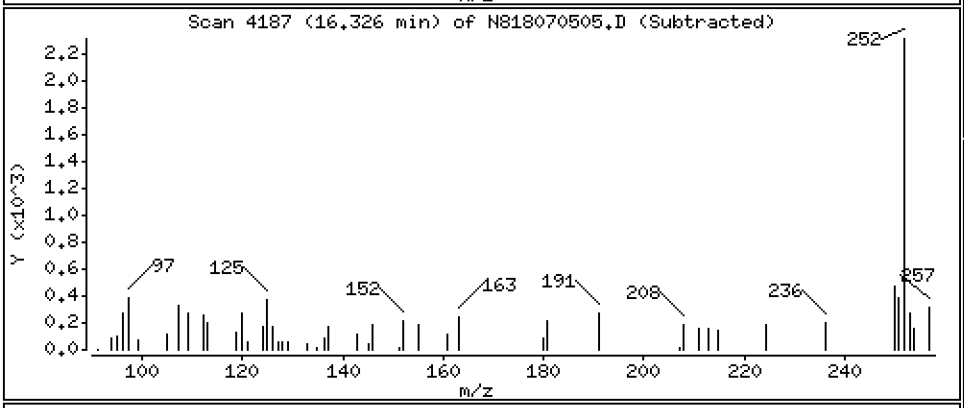
Column diameter: 0.25

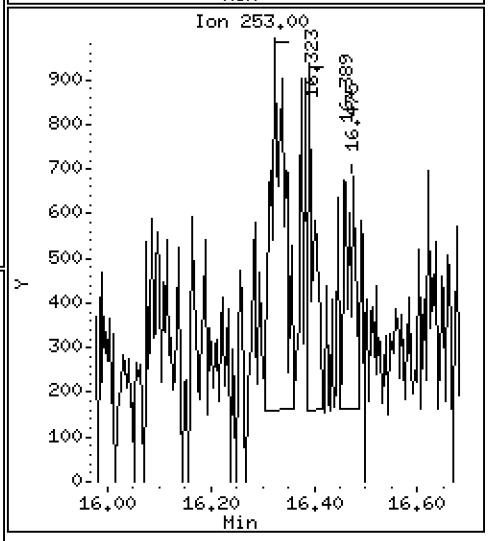
28 Benzo(b)fluoranthene

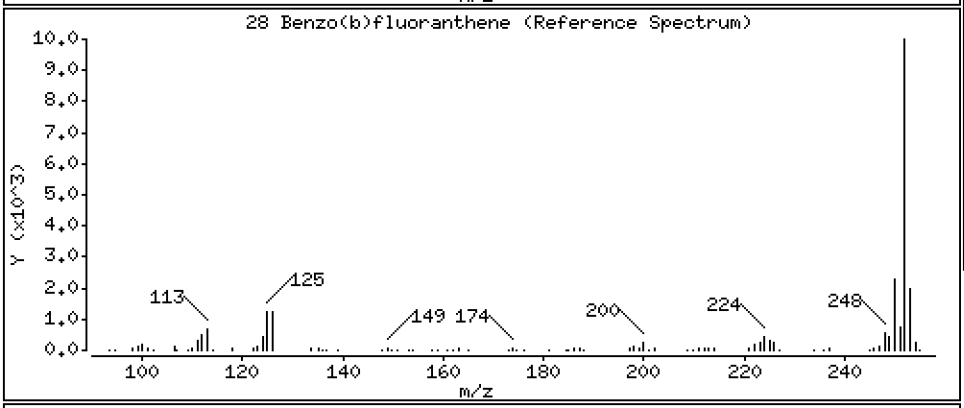
Concentration: 0.05743 ug/mL

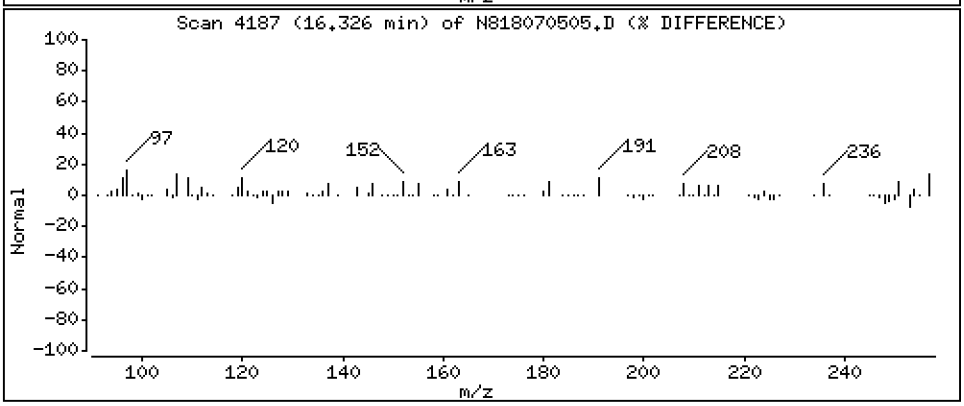












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

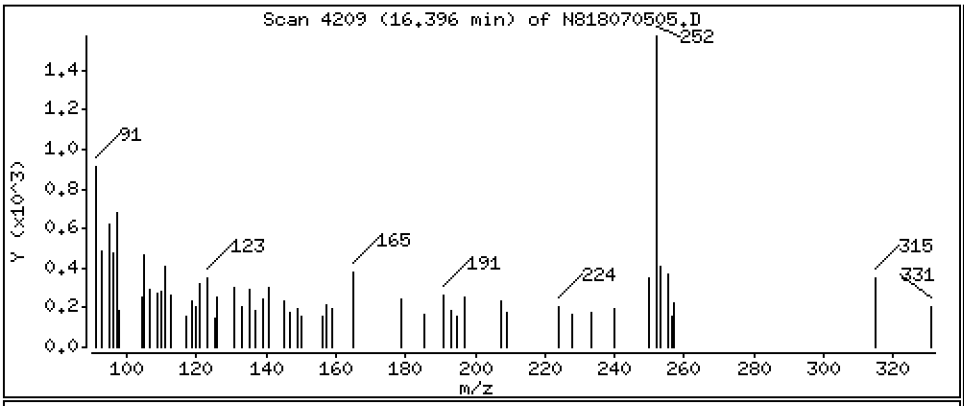
Operator: JZ

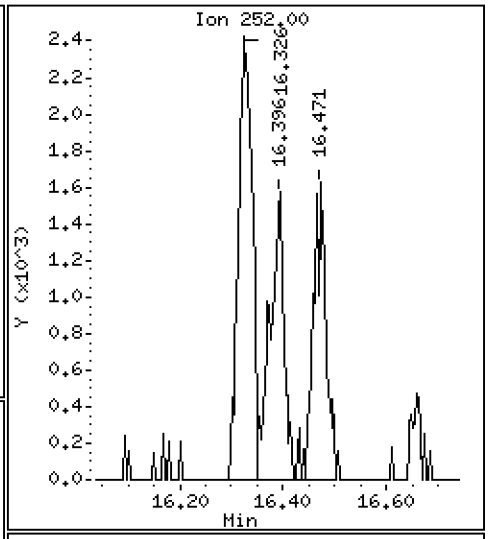
Column phase: Rxi-17sil

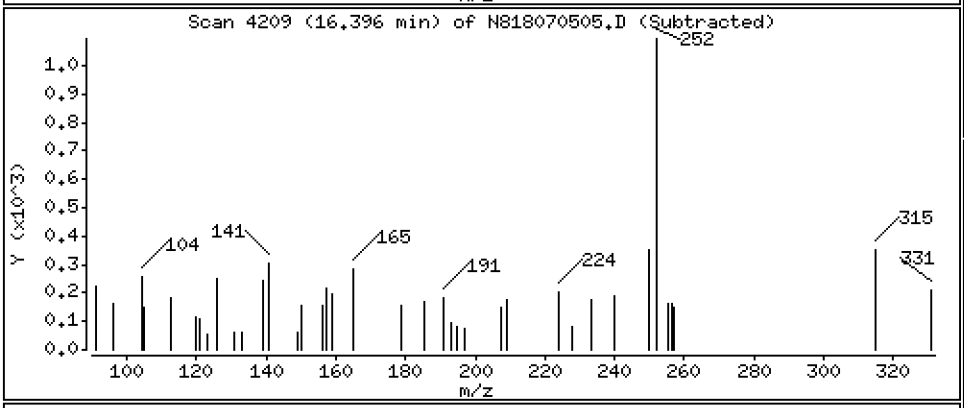
Column diameter: 0.25

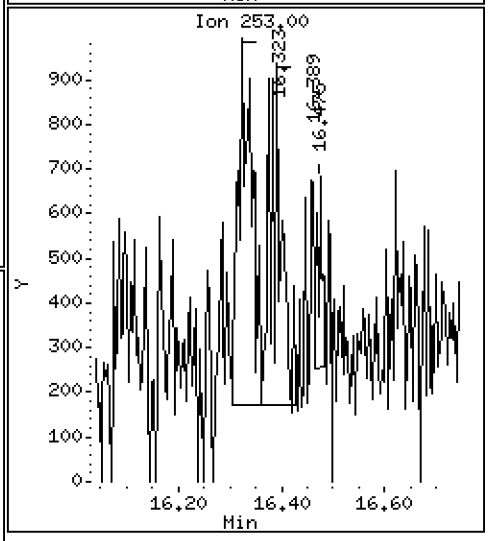
29 Benzo(k)fluoranthene

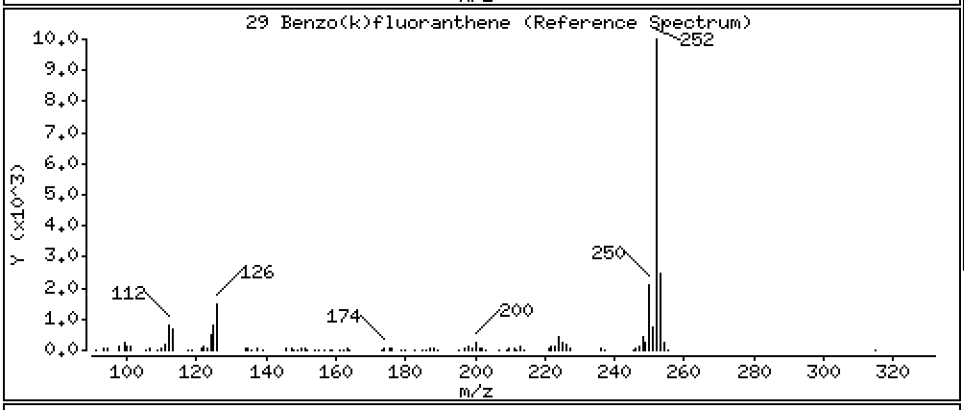
Concentration: 0.03894 ug/mL

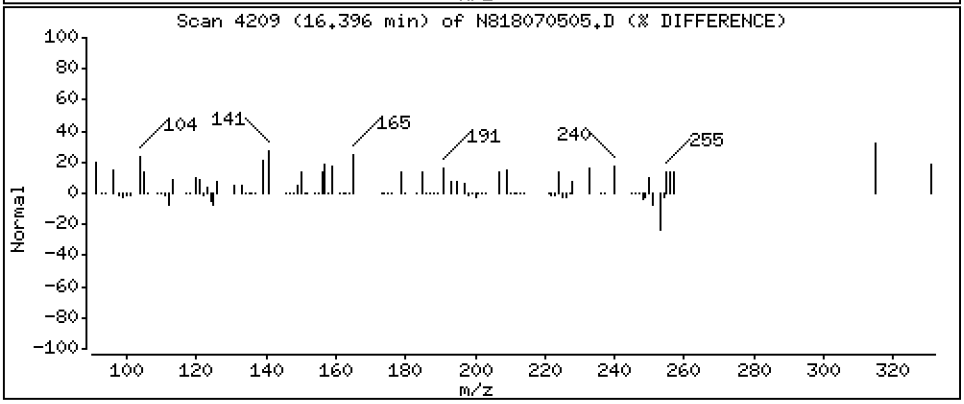












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

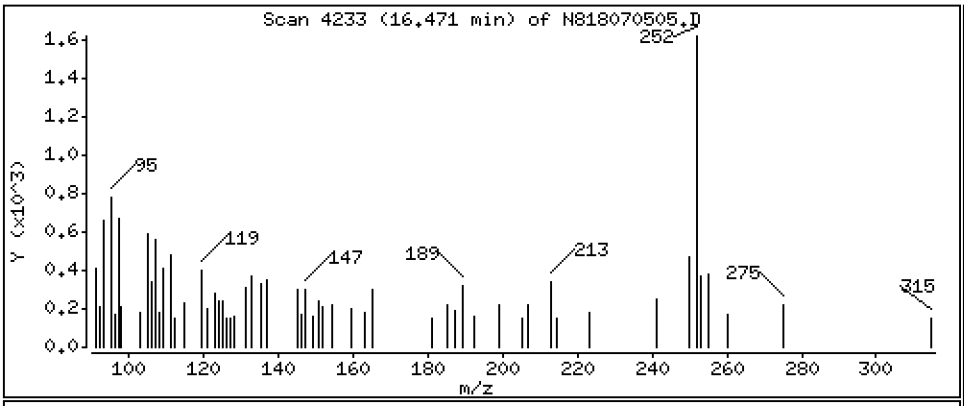
Operator: JZ

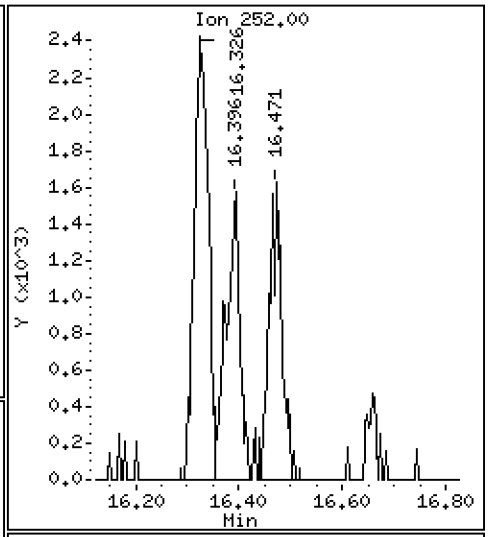
Column phase: Rxi-17sil

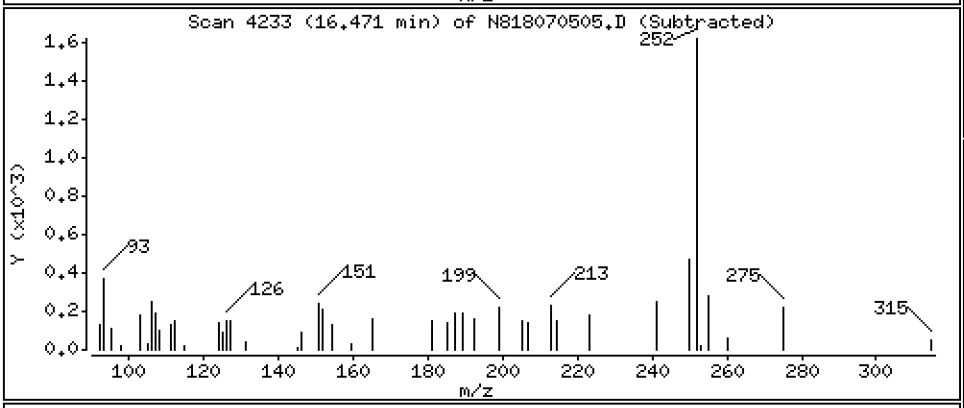
Column diameter: 0.25

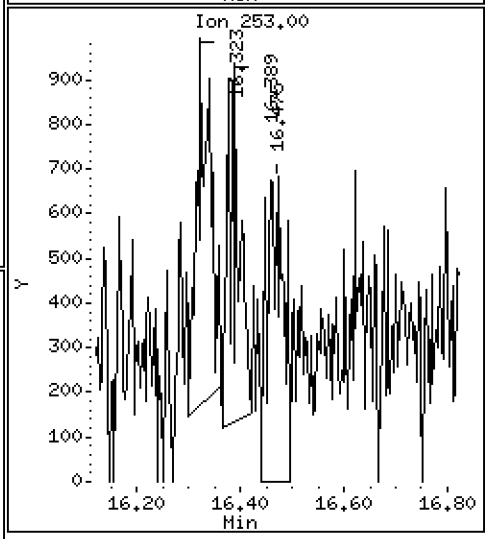
30 Benzo(j)fluoranthene

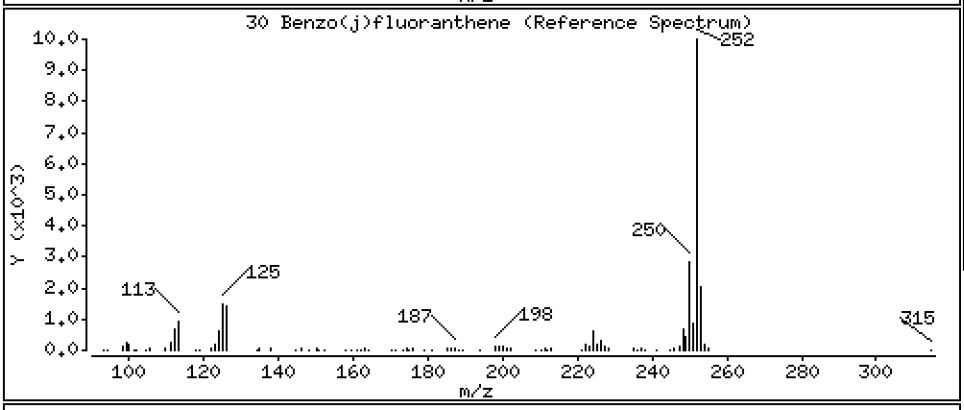
Concentration: 0.03442 ug/mL

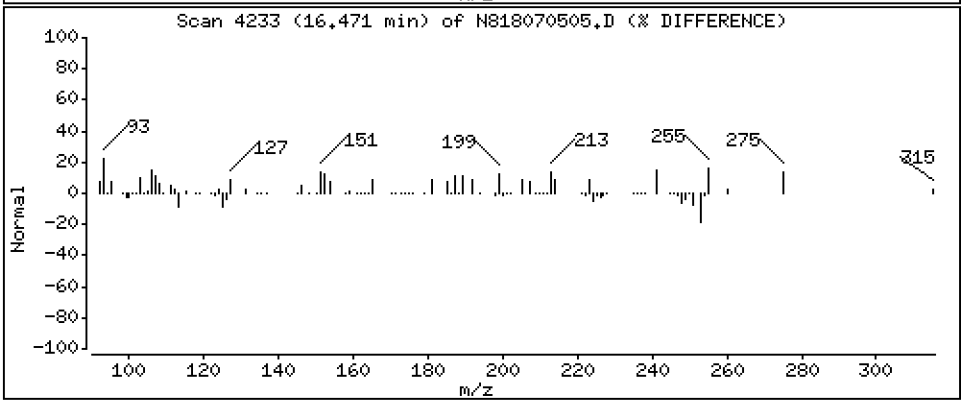












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

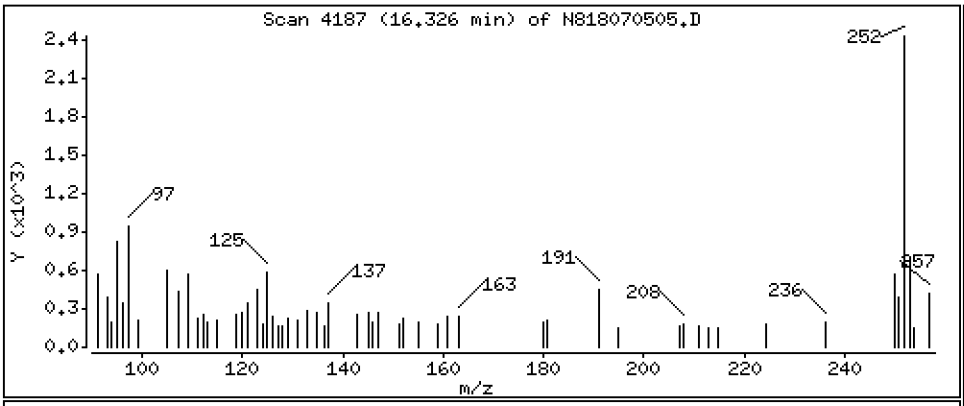
Operator: JZ

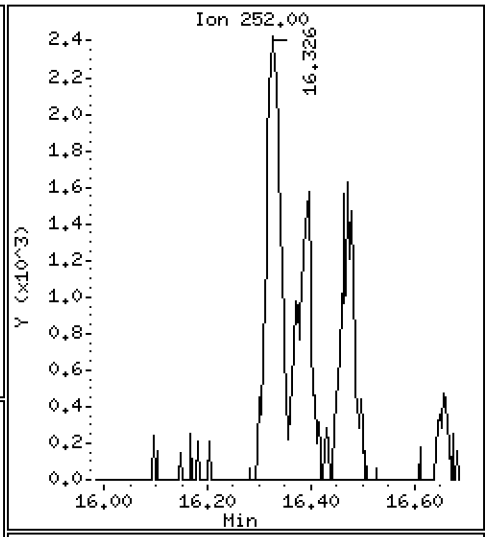
Column phase: Rxi-17sil

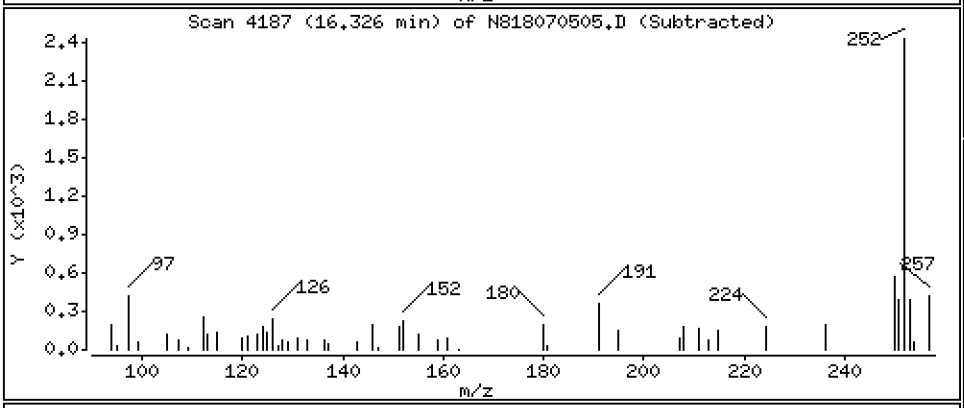
Column diameter: 0.25

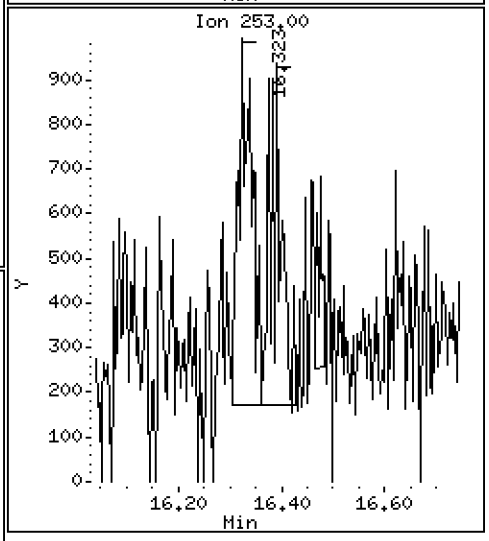
31 Total Benzofluoranthenes

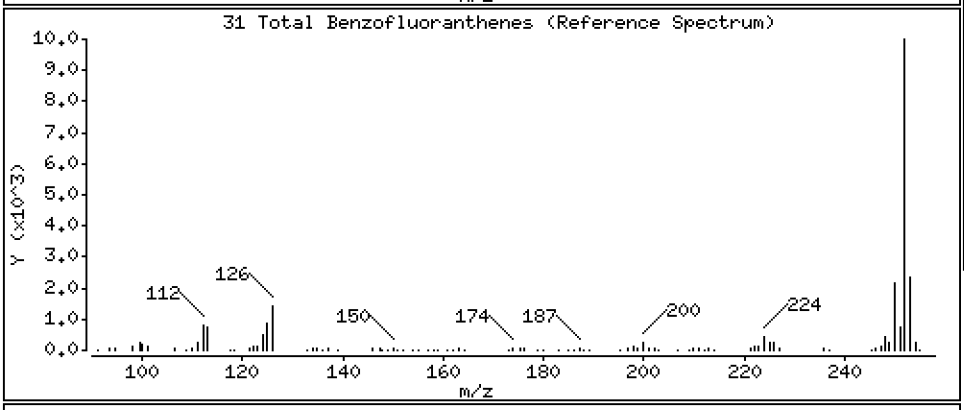
Concentration: 0.1302 ug/mL

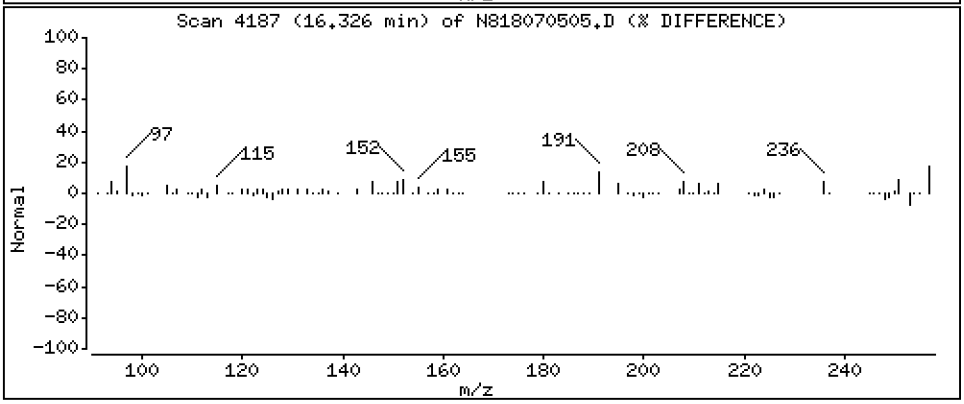












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070505.D

Date : 05-JUL-2018 18:03

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-01

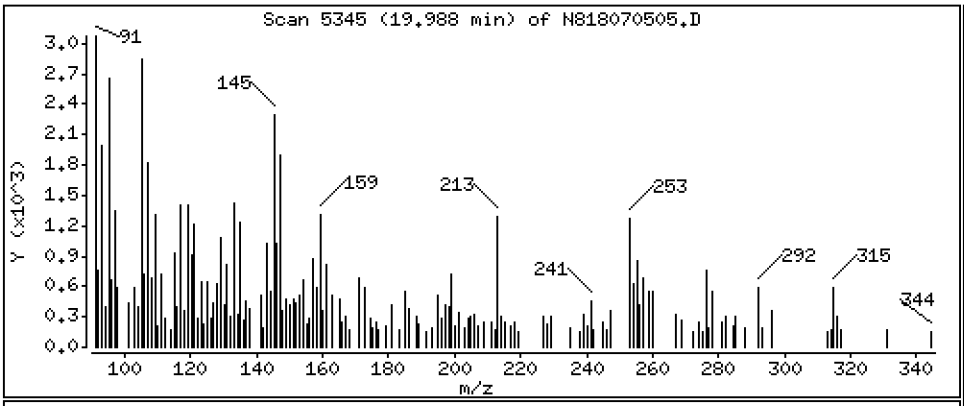
Operator: JZ

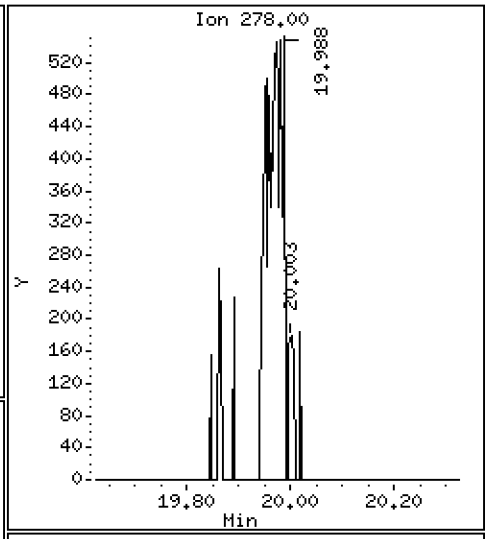
Column phase: Rxi-17sil

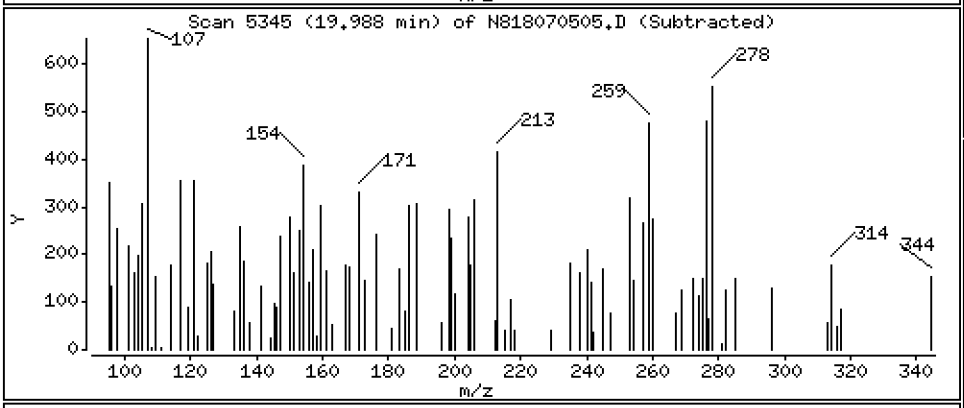
Column diameter: 0.25

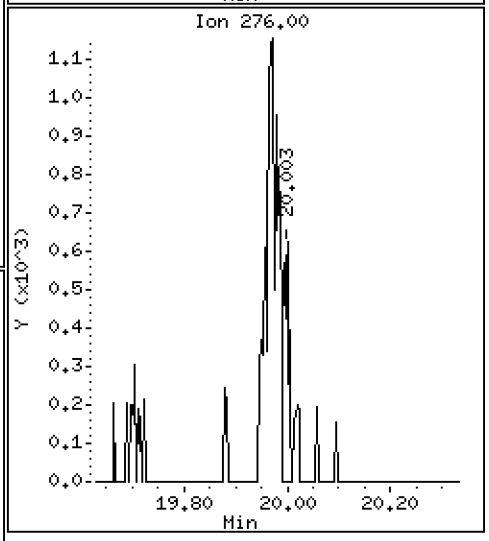
38 Dibenzo(a,h)anthracene

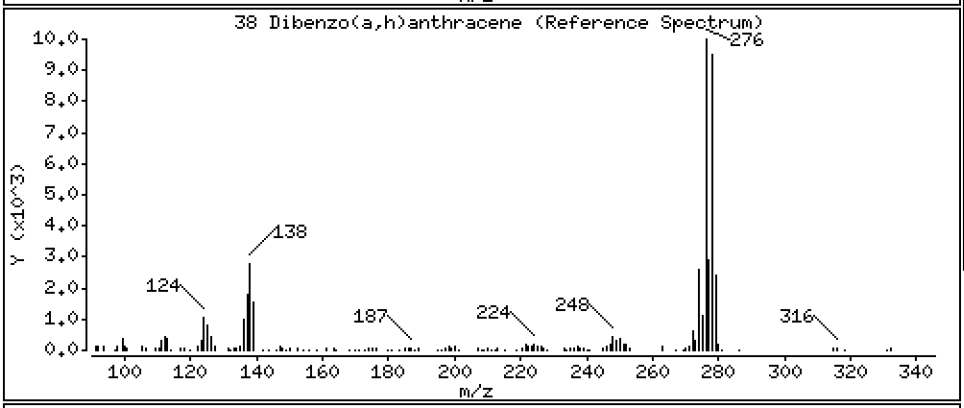
Concentration: 0.2241 ug/mL

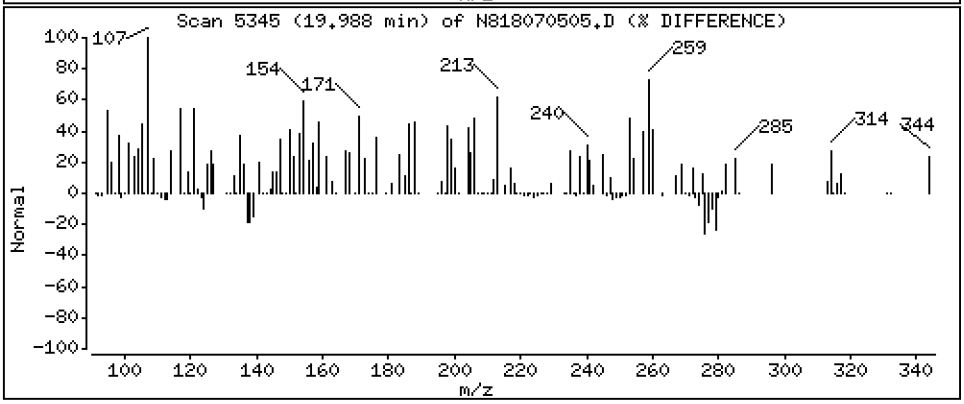












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070505.D
Lab Smp Id: 18F0364-01
Inj Date : 05-JUL-2018 18:03
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.731	4.743	(1.000)	106941	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.461	5.470	(1.154)	60050	1.52868	1.529
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.014	7.013	(1.000)	59414	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.028	9.031	(1.000)	119301	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	9192	0.13887	0.1389
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.767	10.773	(1.193)	26579	0.34332	0.3433
$	21 Fluoranthene-d10	212	10.735	10.738	(1.189)	147474	1.92949	1.929
	23 Pyrene	202	11.263	11.266	(0.817)	19500	0.24073	0.2407
	24 Benzo(a)anthracene	228	13.660	13.663	(0.991)	6951	0.08622	0.08622
*	25 Chrysene-d12	240	13.786	13.786	(1.000)	139867	2.00000	
	27 Chrysene	228	13.856	13.859	(1.005)	8972	0.11272	0.1127
	28 Benzo(b)fluoranthene	252	16.326	16.335	(0.928)	4667	0.05743	0.05743
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.932)	3211	0.03894	0.03894
	30 Benzo(j)fluoranthene	252	16.471	16.474	(0.936)	2807	0.03442	0.03442
	31 Total Benzofluoranthenes	252	16.326	16.335	(0.928)	10553	0.13021	0.1302(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.593	17.593	(1.000)	129946	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.870	19.876	(1.129)	120798	2.05595	2.056
	38 Dibenzo(a,h)anthracene	278	19.987	19.974	(1.136)	1207	0.22406	0.2241
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070505.D
Lab Smp Id: 18F0364-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	106941	9.19
10 Acenaphthene-d10	54983	27492	109966	59414	8.06
15 Phenanthrene-d10	115816	57908	231632	119301	3.01
25 Chrysene-d12	129167	64584	258334	139867	8.28
33 Perylene-d12	111506	55753	223012	129946	16.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.26
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	-0.03
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.00
33 Perylene-d12	17.59	17.09	18.09	17.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070505.D

Lab ID: 18F0364-01
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 18:03

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

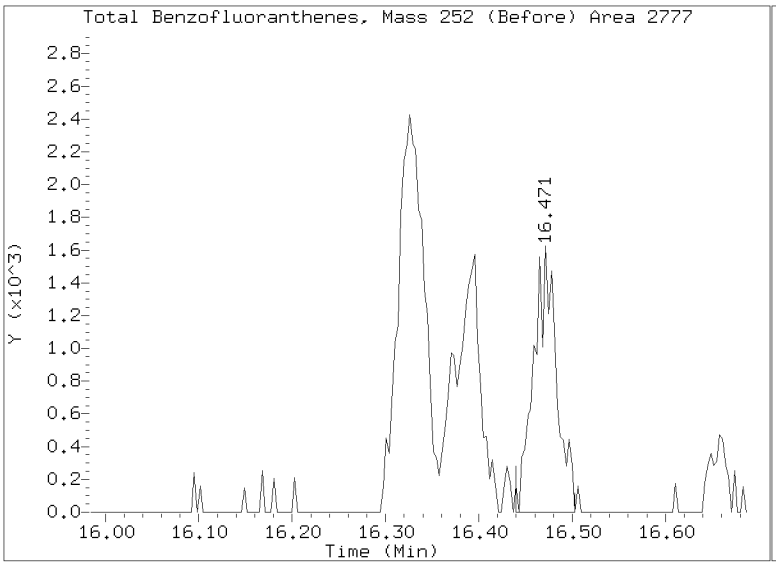
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

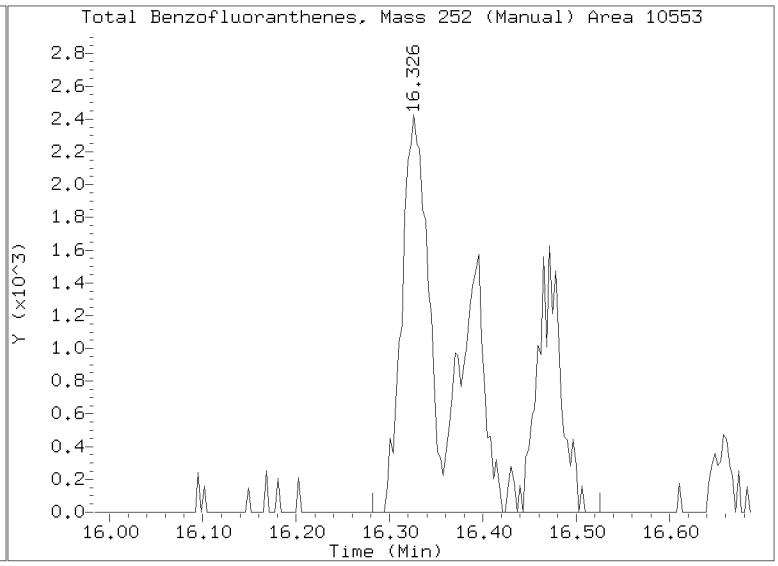
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070505.D
Injection Date: 05-JUL-2018 18:03
Lab ID:18F0364-01 Client ID:
Report Date: 07/09/2018 10:17





LDW18-C02-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-02	SDG:	18F0364
Sampled:	05/16/18 11:57	Prepared:	06/29/18 11:28	File ID:	N818070508.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 19:24
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.07 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.33	J	0.53	4.97
218-01-9	Chrysene	1	5.61		0.48	4.97
205-99-2	Benzo(b)fluoranthene	1	2.86	J	1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	1.83	J	0.71	4.97
50-32-8	Benzo(a)pyrene	1	4.97	U	0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	11.2		0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	11.6		1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.96	84.1	56.5	20 - 130	
Dibenzo[a,h]anthracene-d14	148.96	117	78.4	20 - 130	
Fluoranthene-d10	148.96	109	73.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

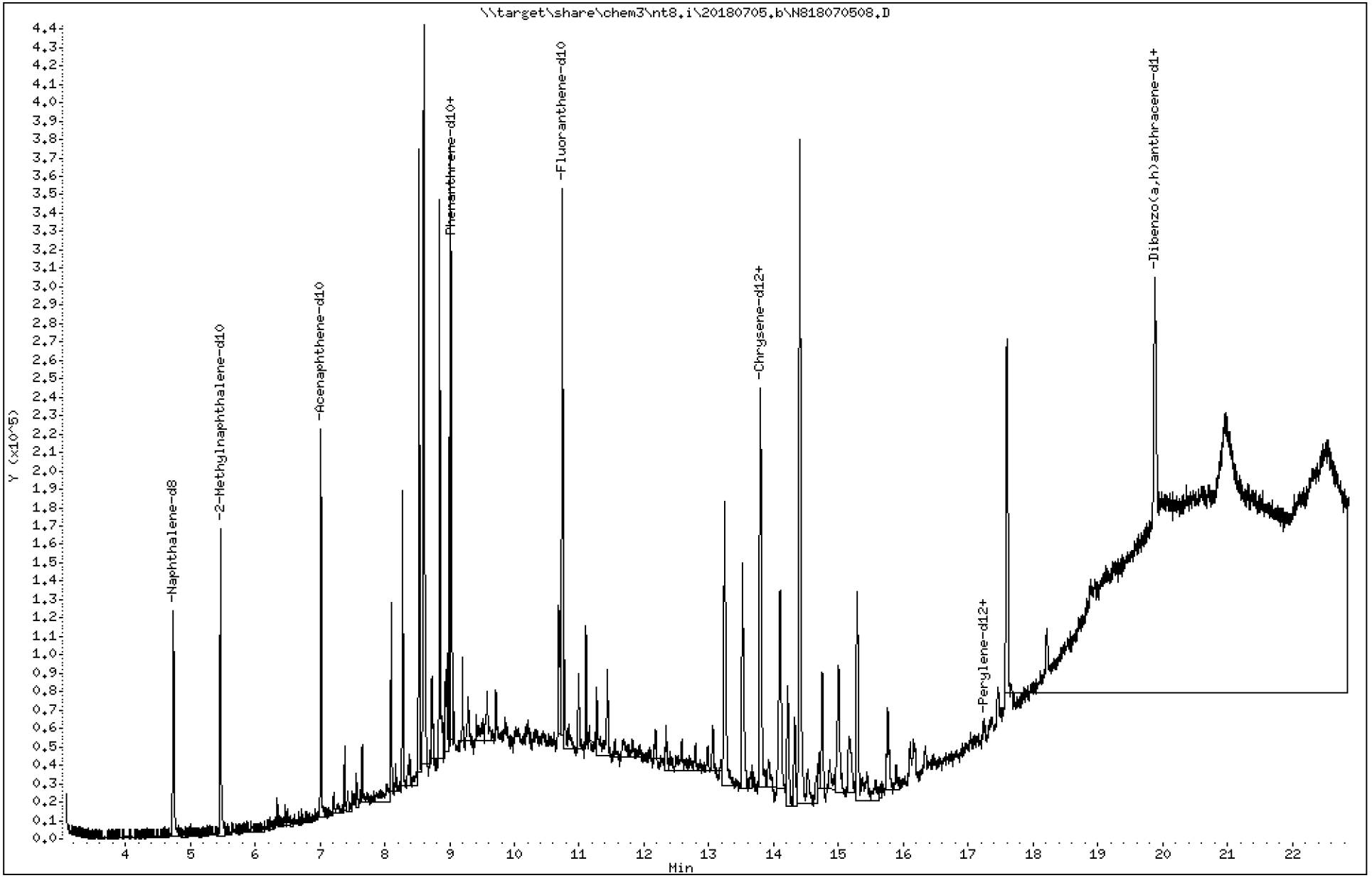
Instrument: nt8.i

Sample Info: 18F0364-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

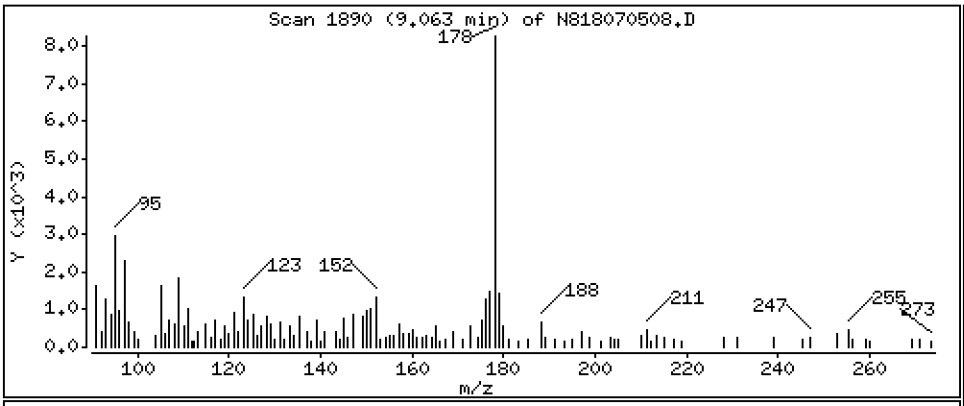
Operator: JZ

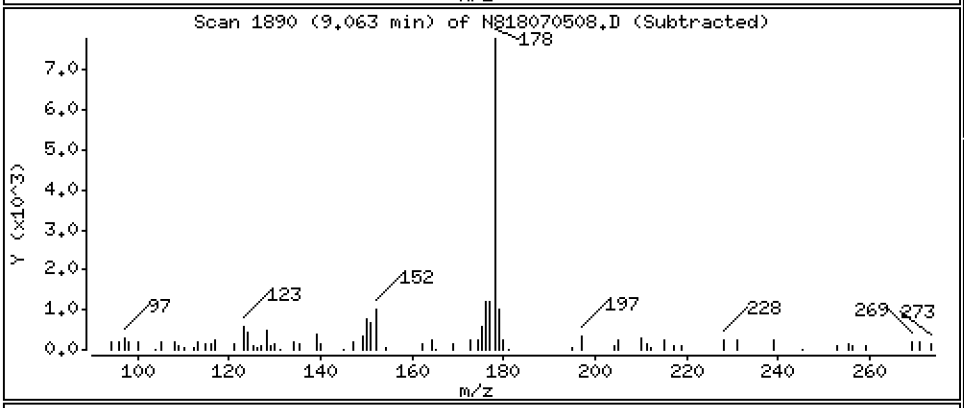
Column phase: Rxi-17sil

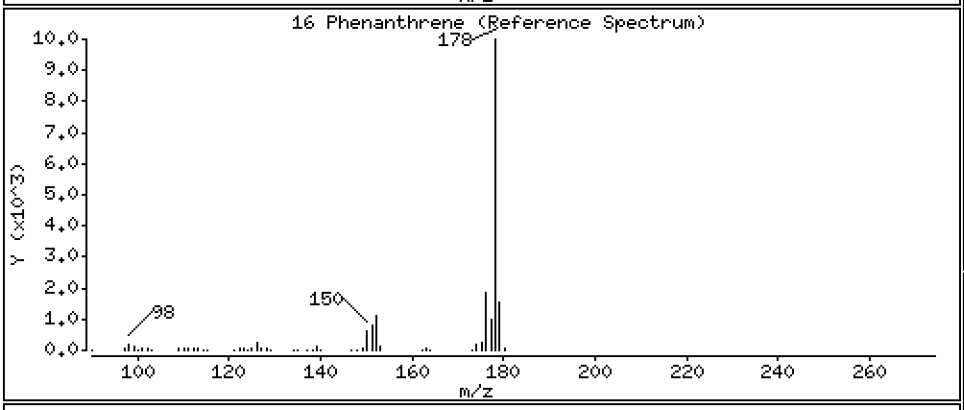
Column diameter: 0.25

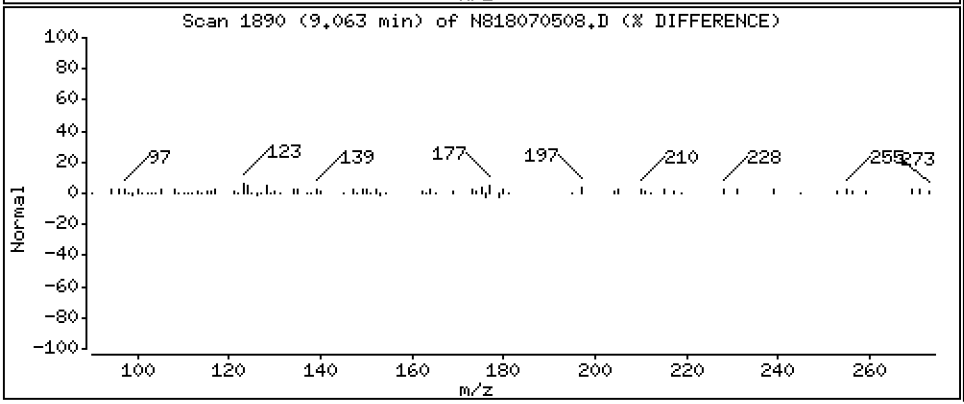
16 Phenanthrene

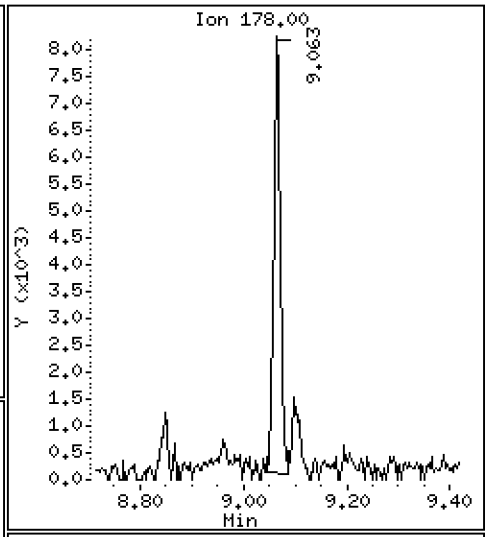
Concentration: 0.1135 ug/mL

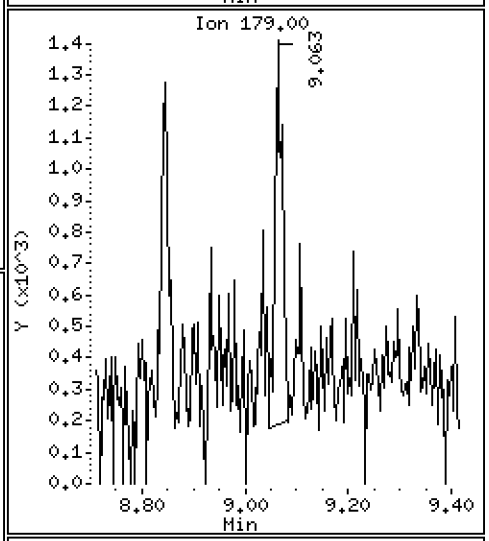


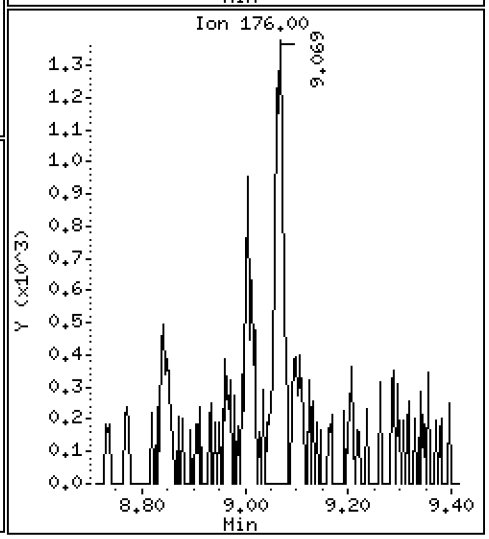












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

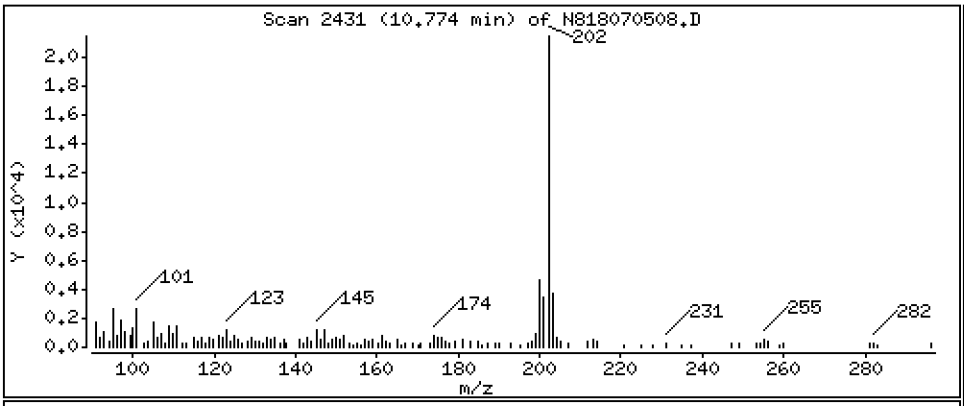
Operator: JZ

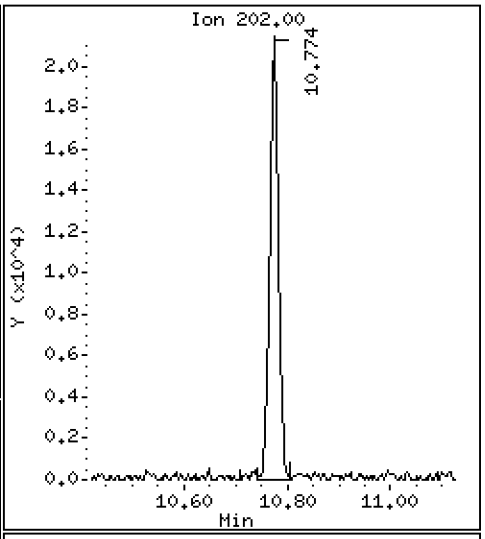
Column phase: Rxi-17sil

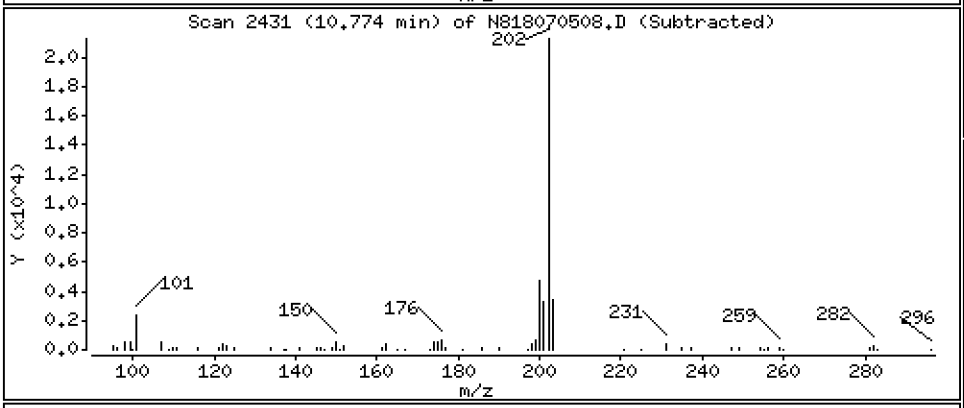
Column diameter: 0.25

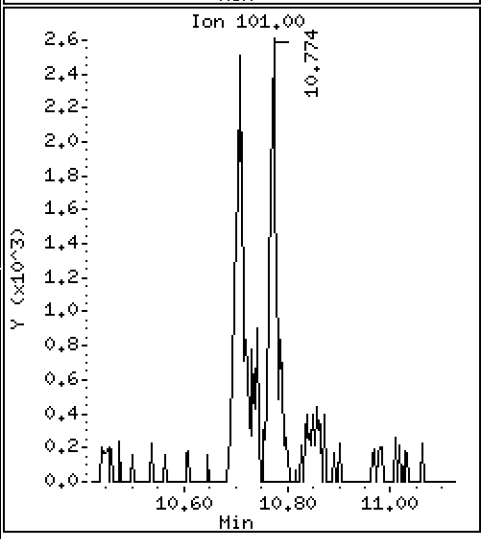
22 Fluoranthene

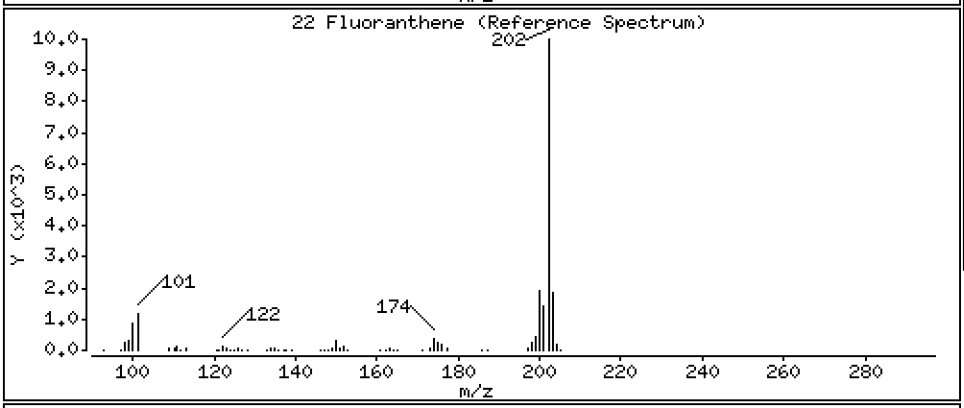
Concentration: 0.3417 ug/mL

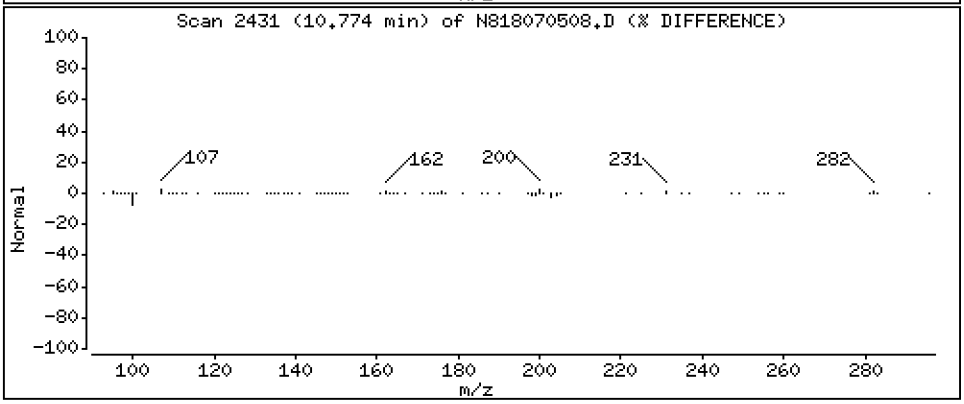












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

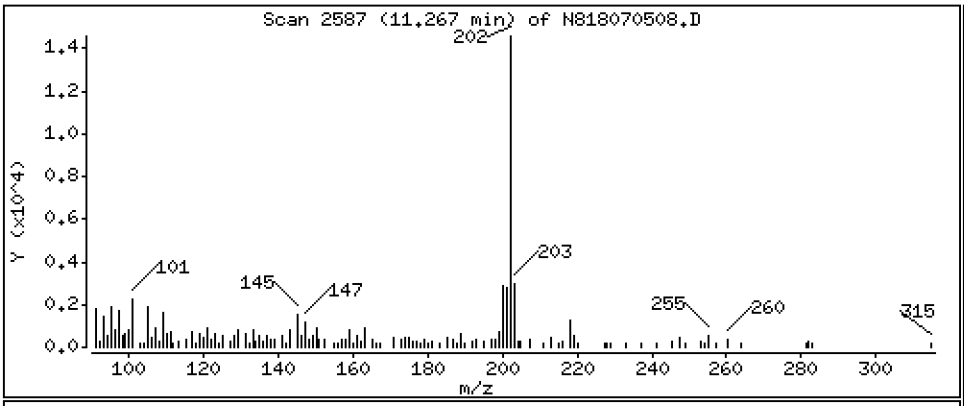
Operator: JZ

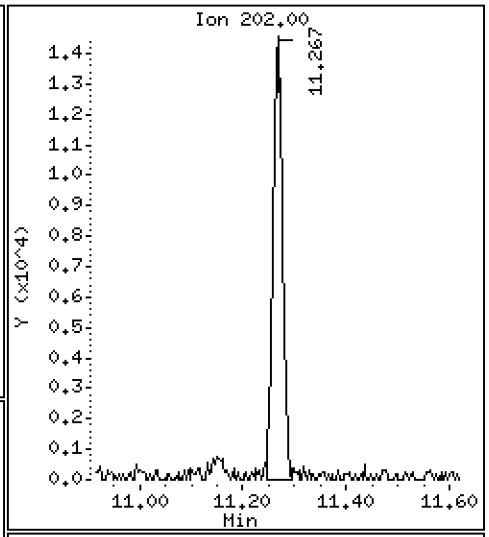
Column phase: Rxi-17sil

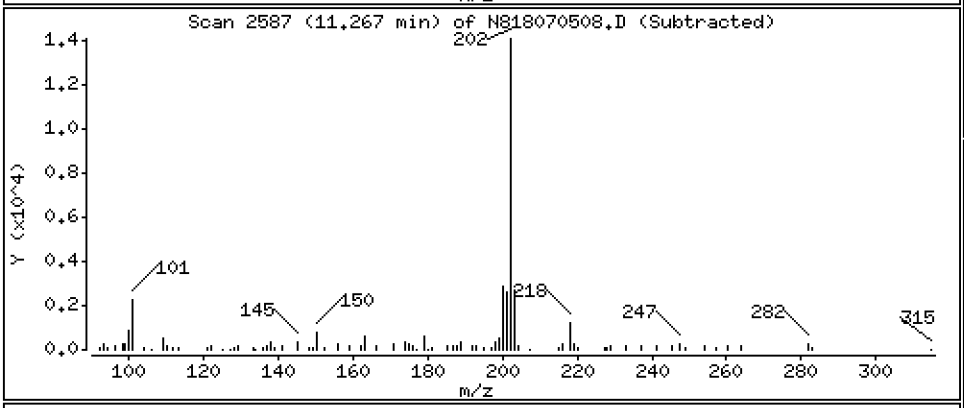
Column diameter: 0.25

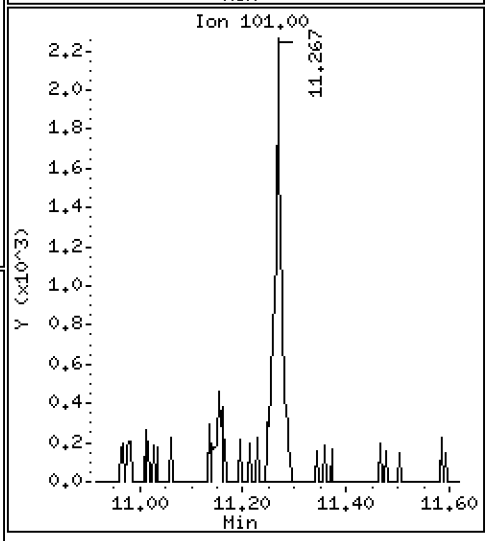
23 Pyrene

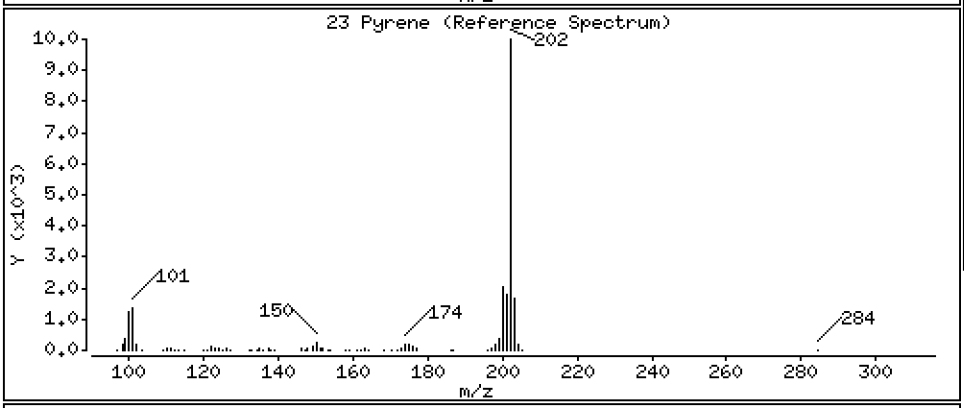
Concentration: 0.2409 ug/mL

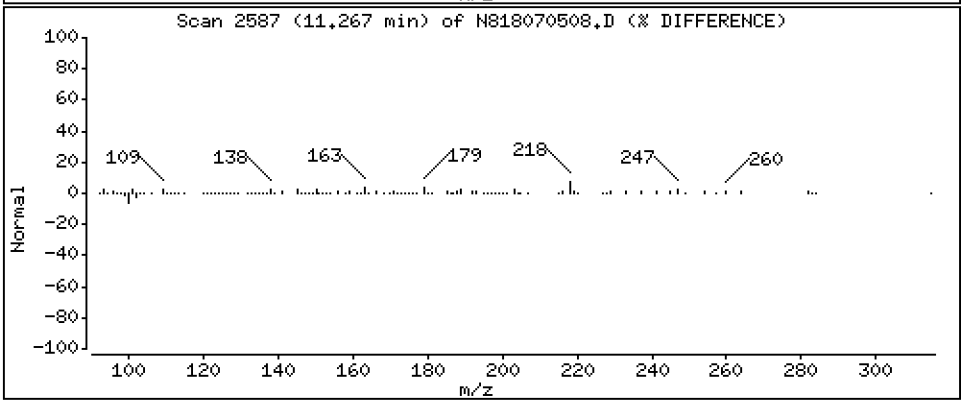












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

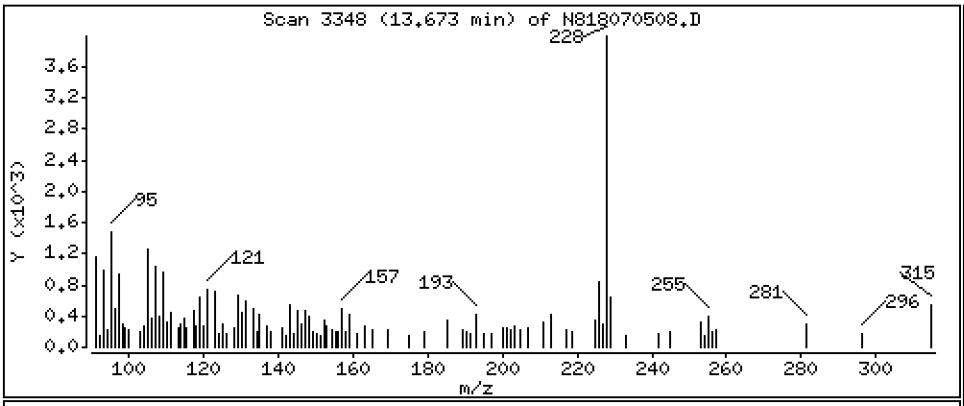
Operator: JZ

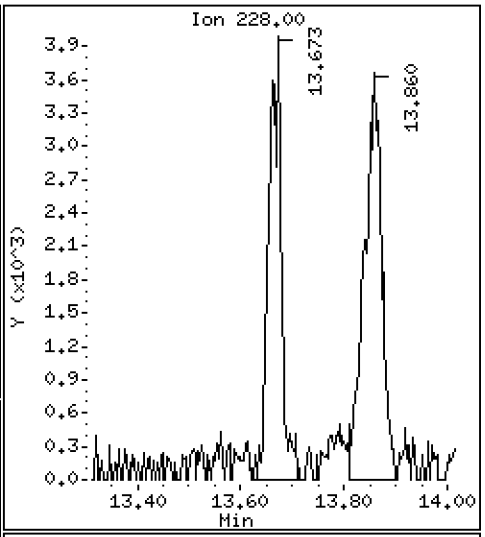
Column phase: Rxi-17sil

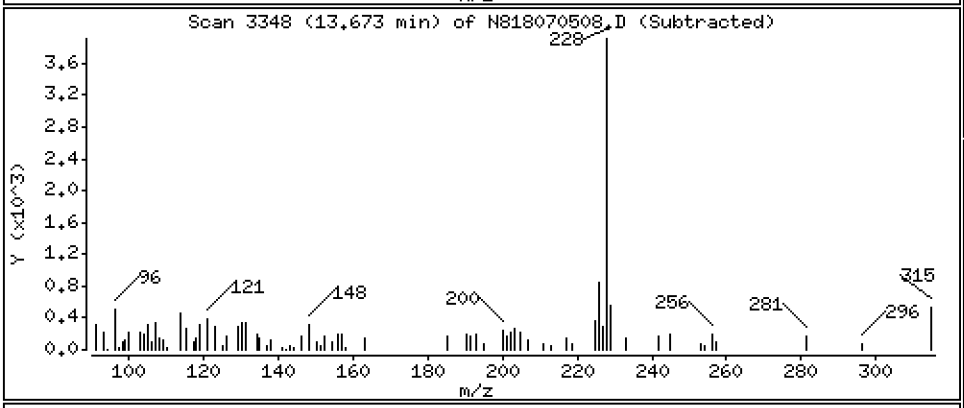
Column diameter: 0.25

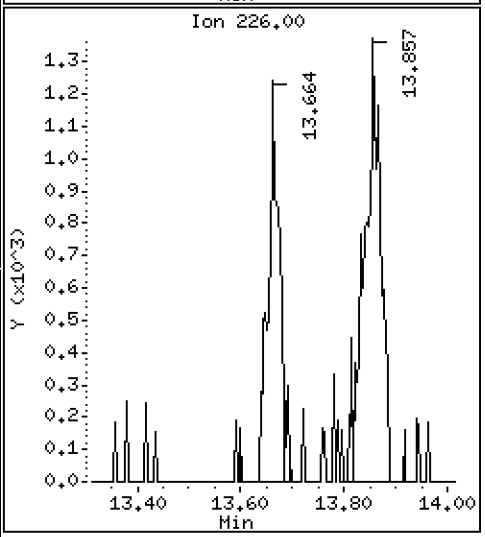
24 Benzo(a)anthracene

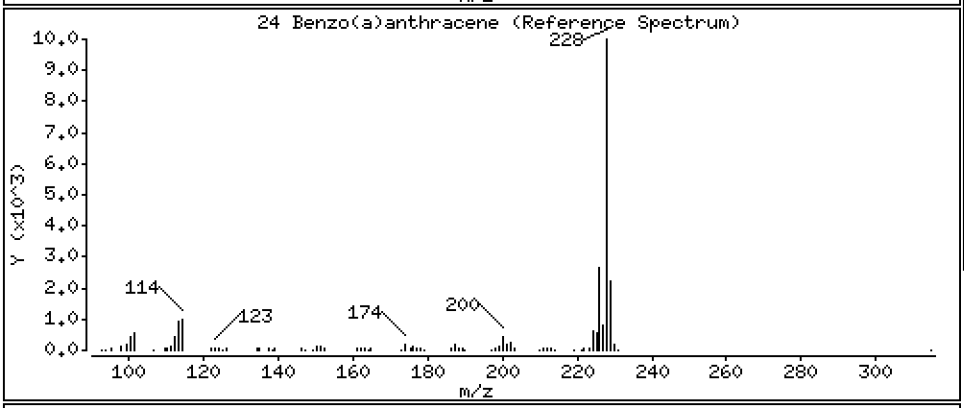
Concentration: 0.08717 ug/mL

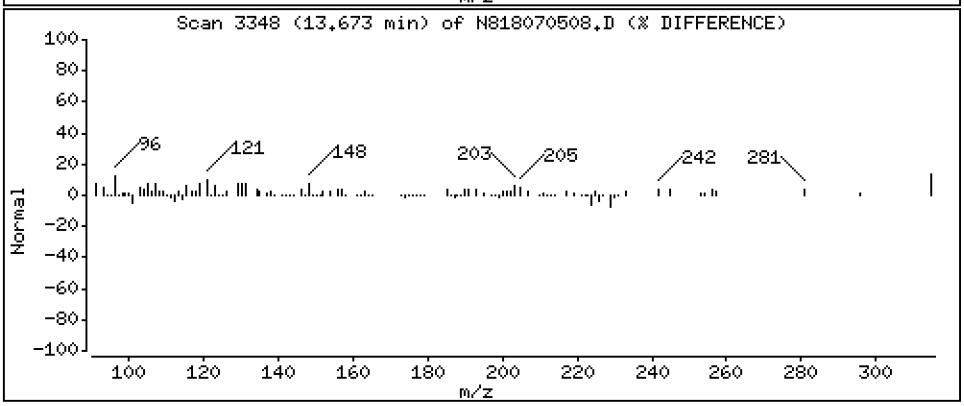












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

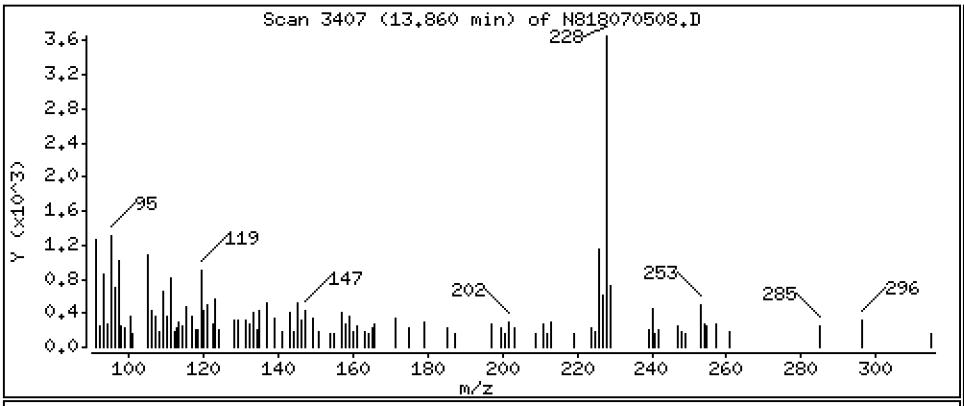
Operator: JZ

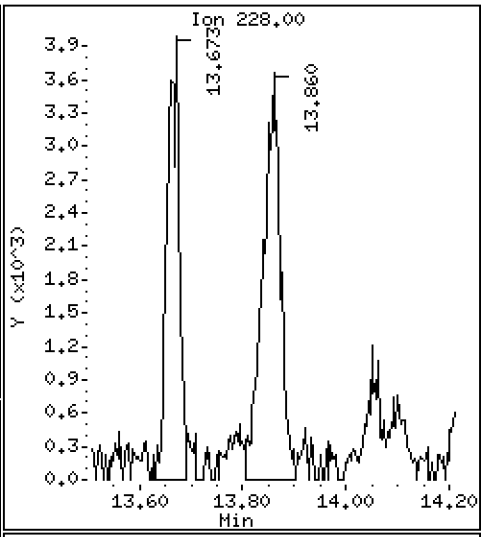
Column phase: Rxi-17sil

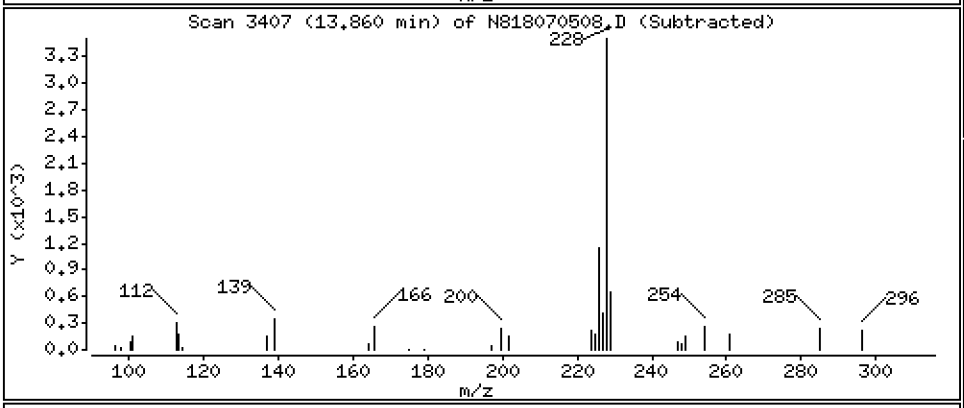
Column diameter: 0.25

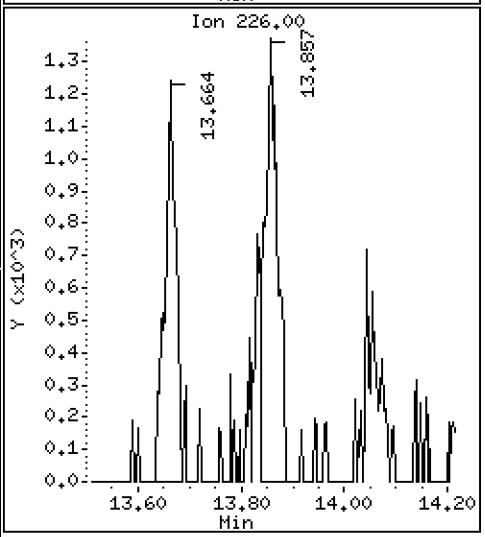
27 Chrysene

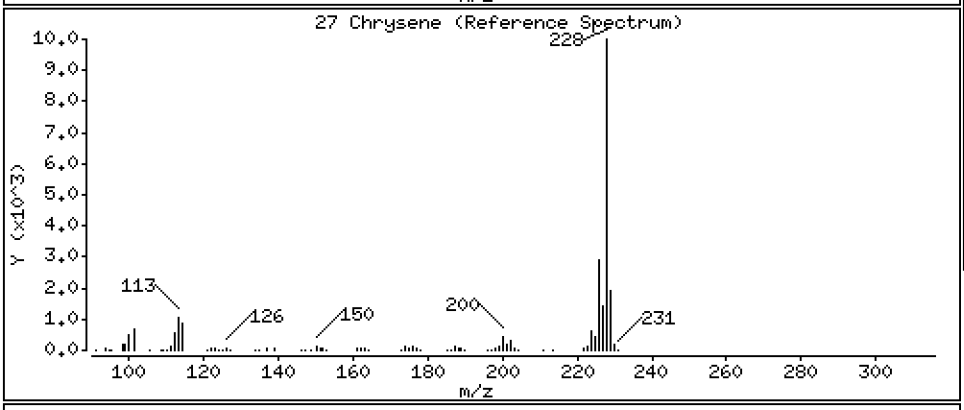
Concentration: 0.1129 ug/mL

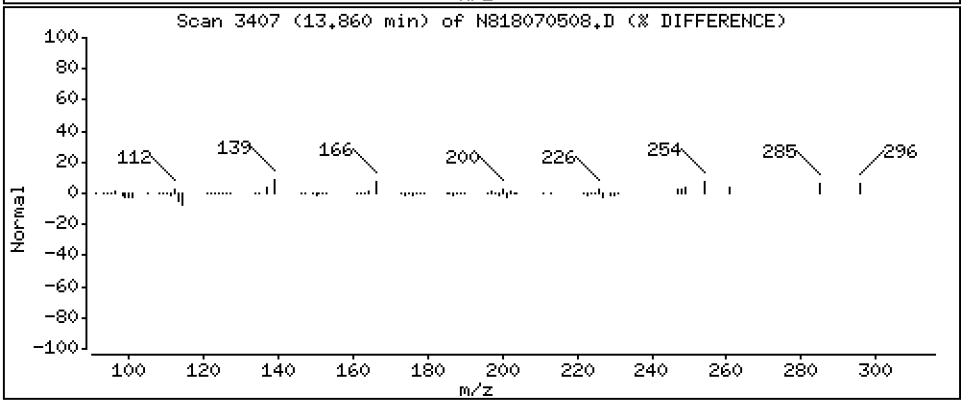












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

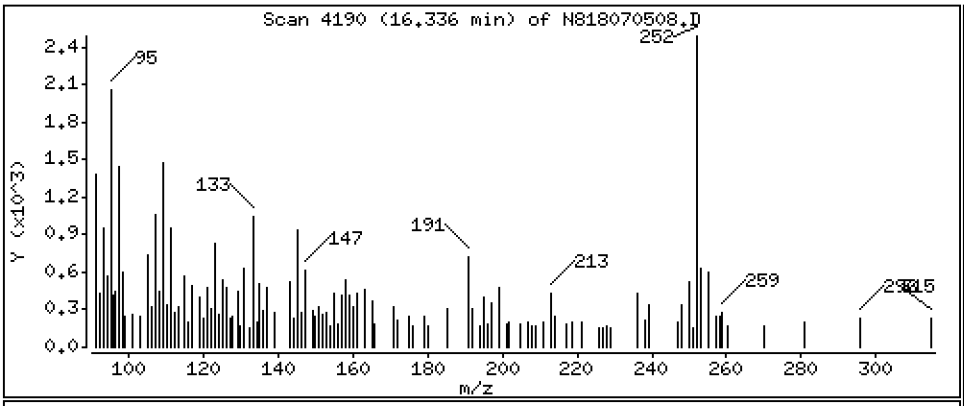
Operator: JZ

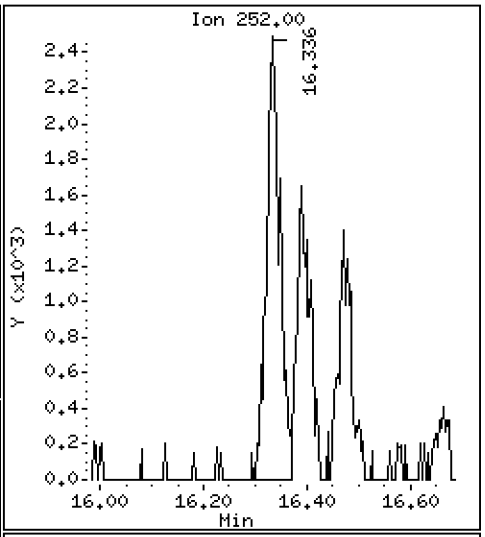
Column phase: Rxi-17sil

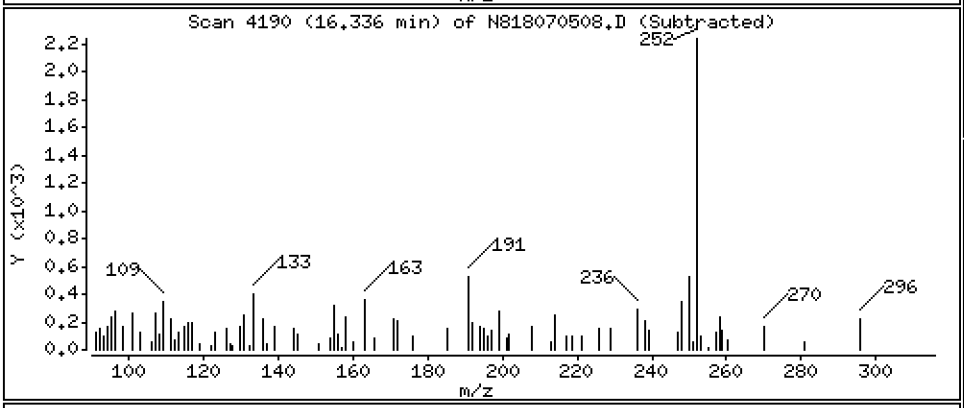
Column diameter: 0.25

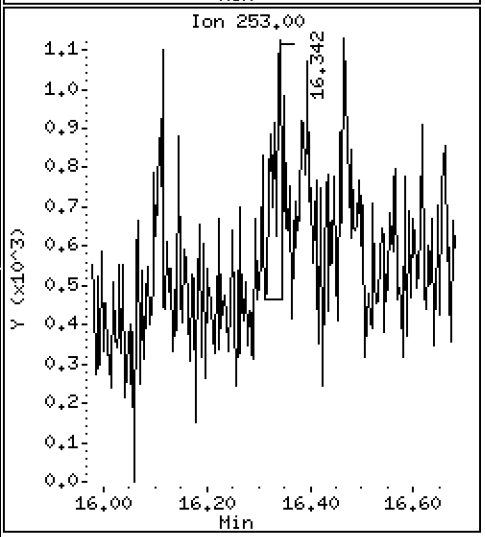
28 Benzo(b)fluoranthene

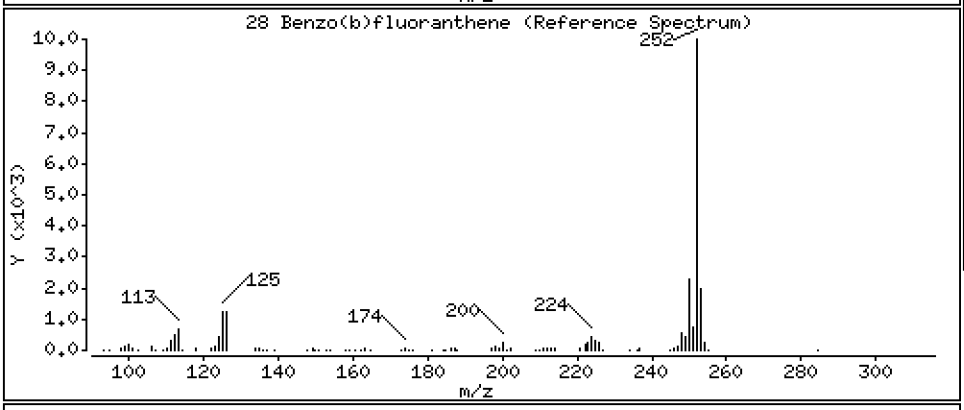
Concentration: 0.05755 ug/mL

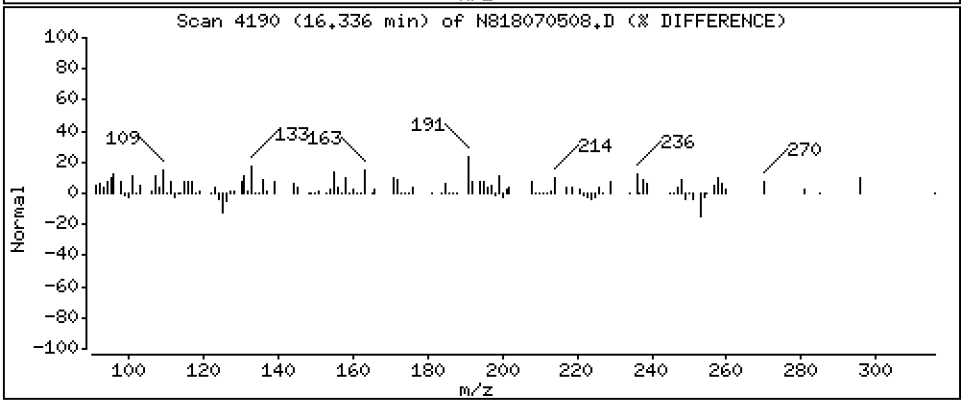












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

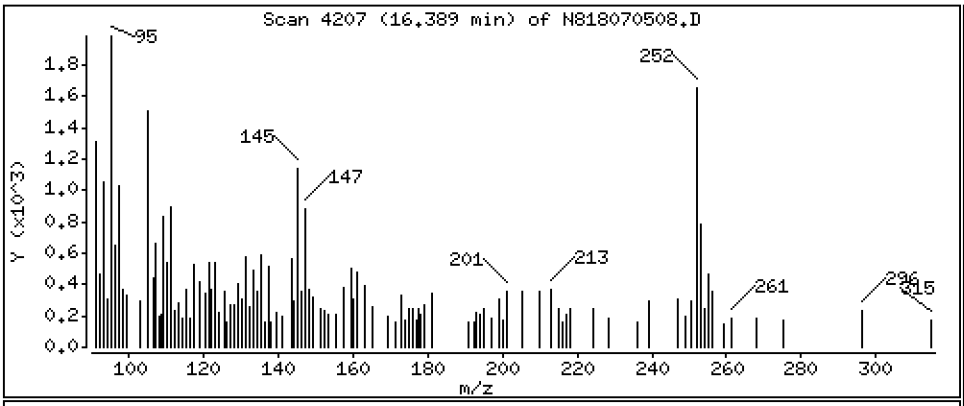
Operator: JZ

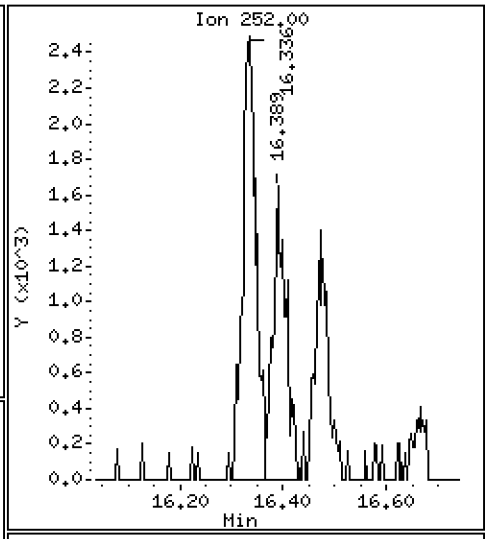
Column phase: Rxi-17sil

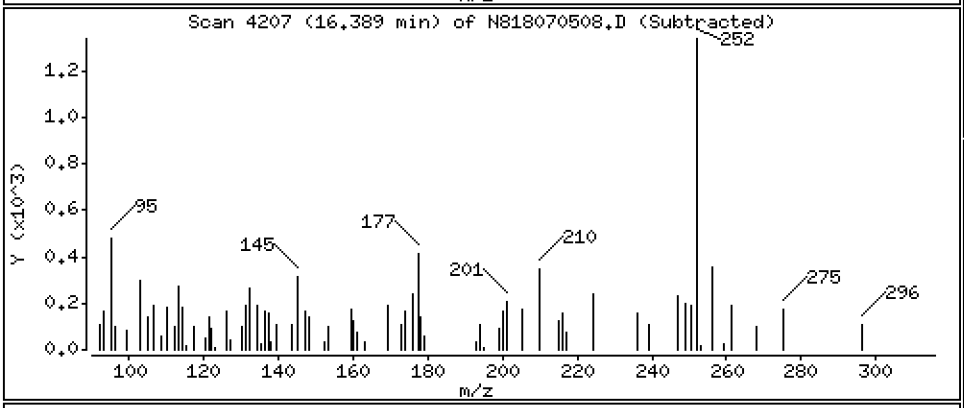
Column diameter: 0.25

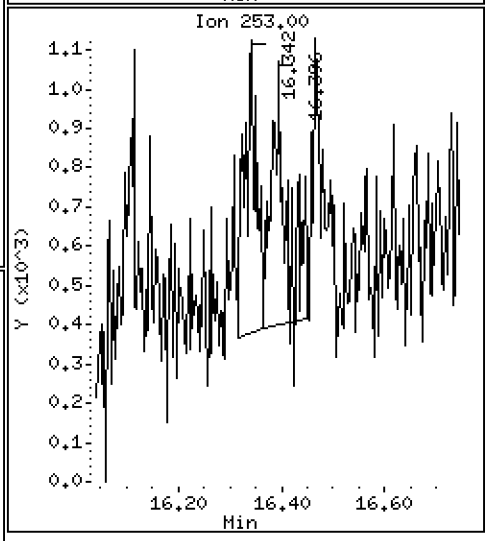
29 Benzo(k)fluoranthene

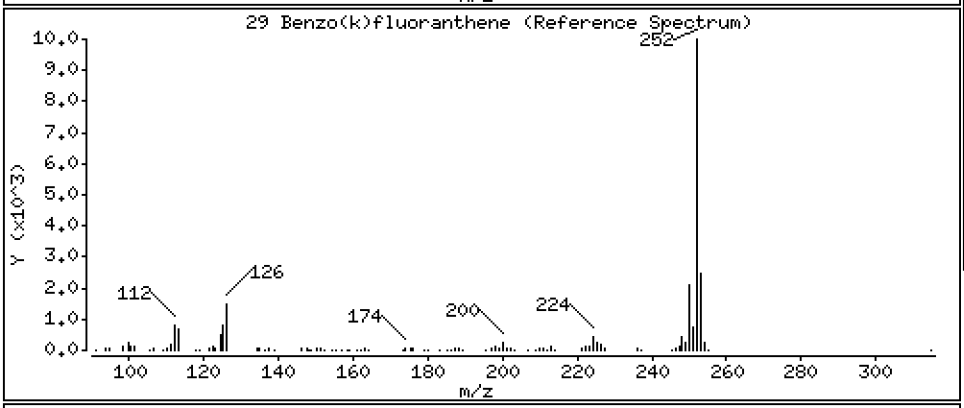
Concentration: 0.03694 ug/mL

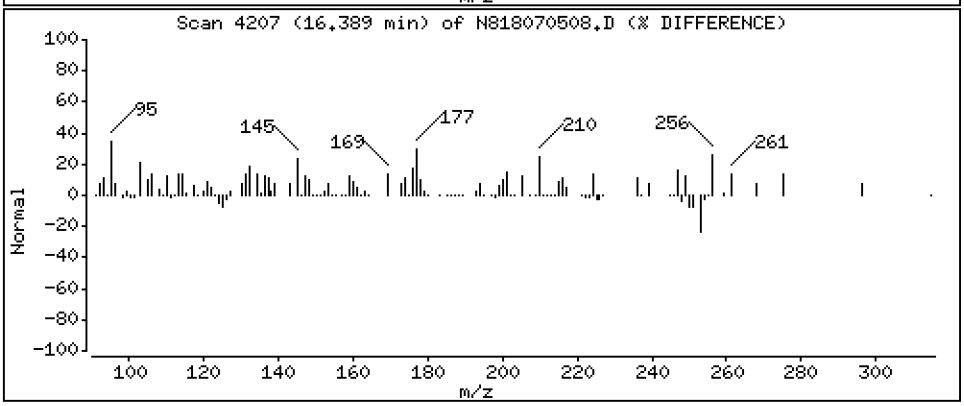












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

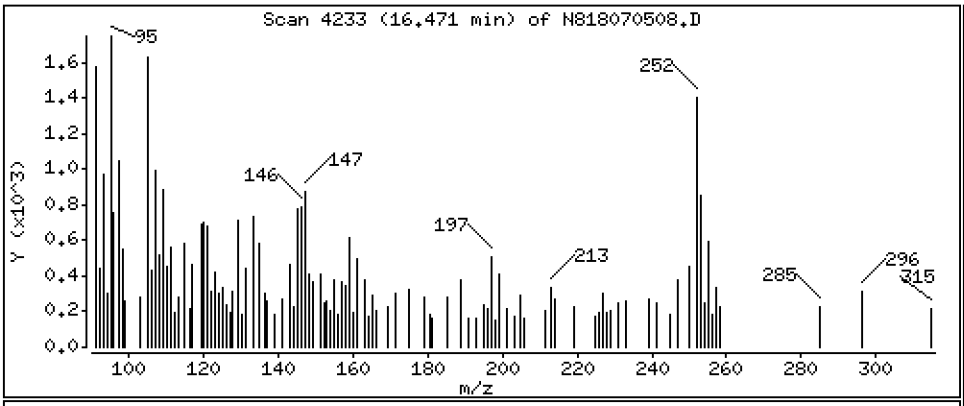
Operator: JZ

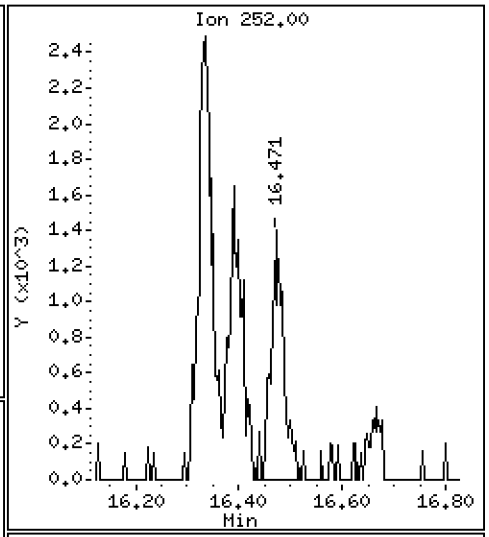
Column phase: Rxi-17sil

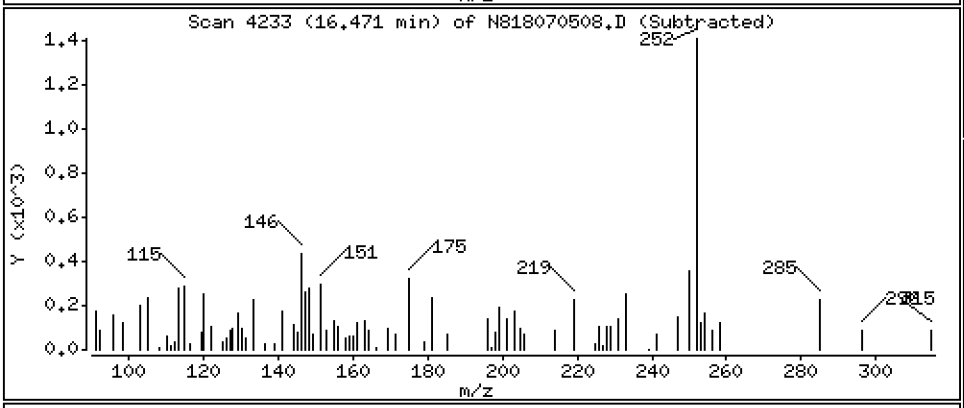
Column diameter: 0.25

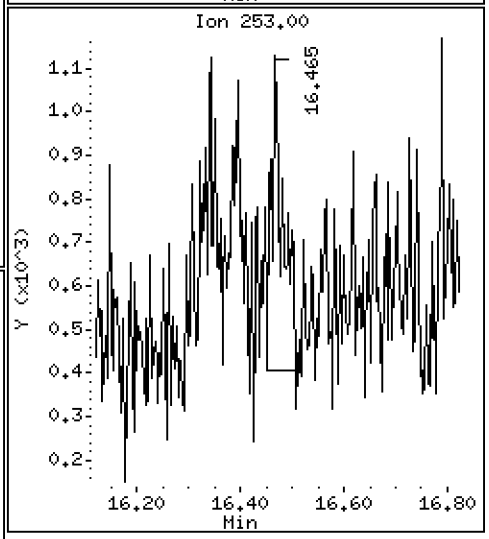
30 Benzo(j)fluoranthene

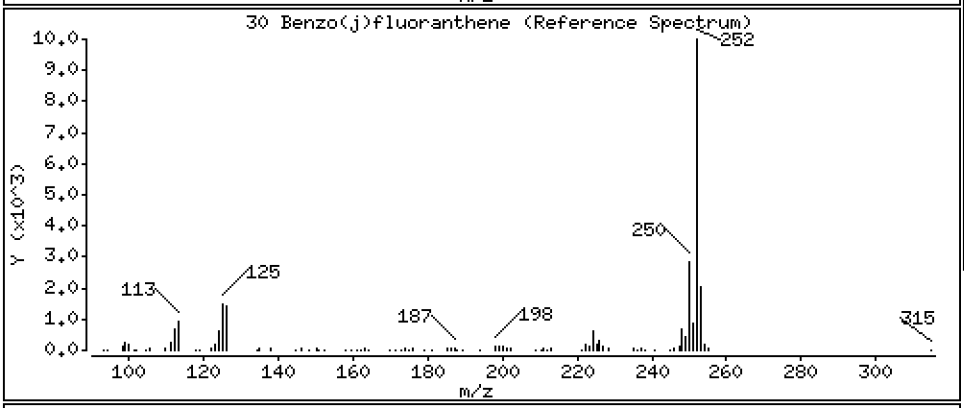
Concentration: 0.03016 ug/mL

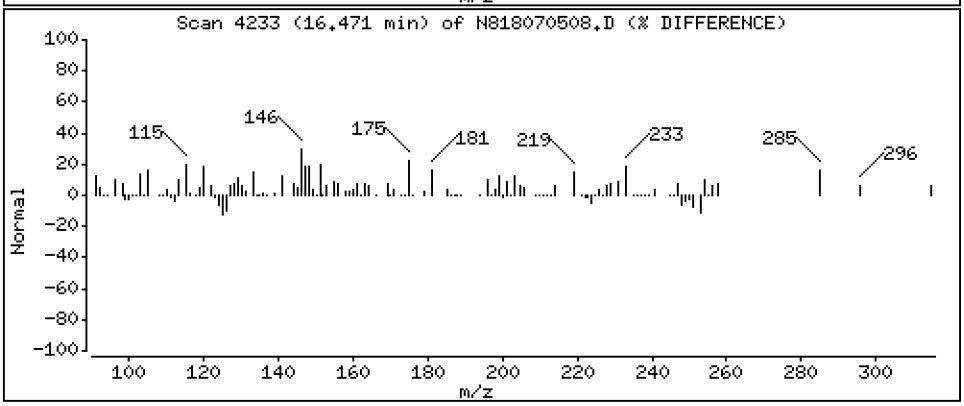












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

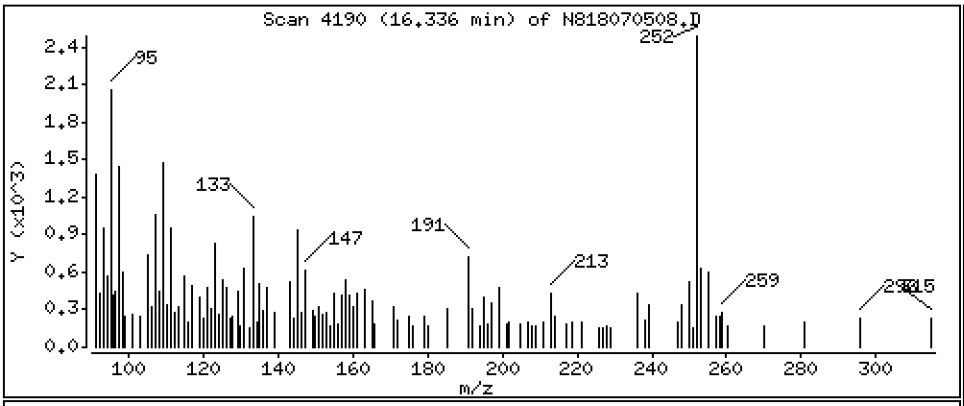
Operator: JZ

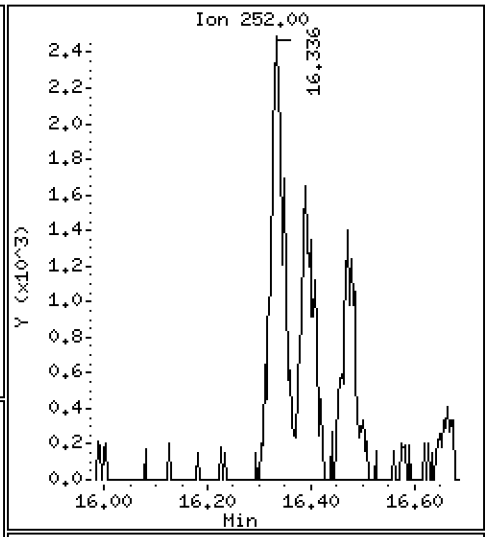
Column phase: Rxi-17sil

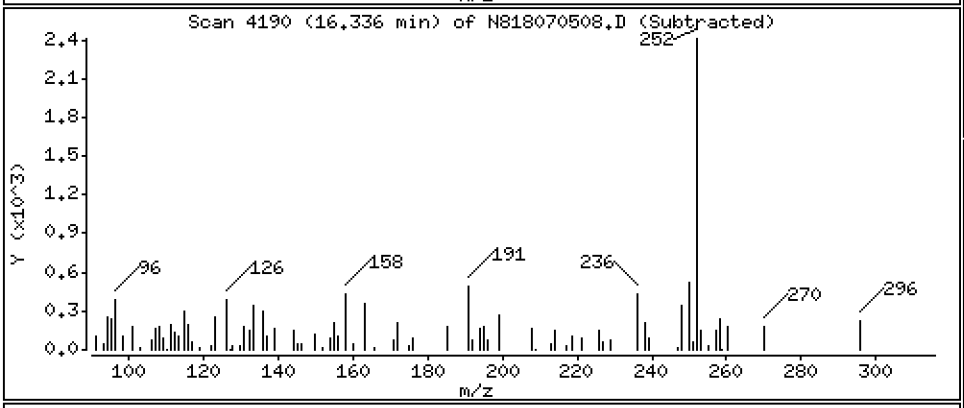
Column diameter: 0.25

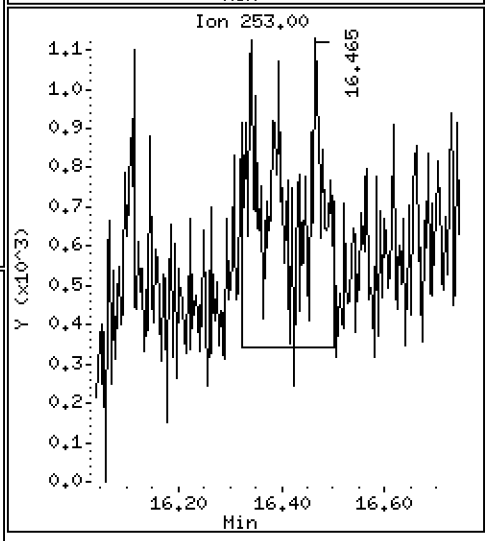
31 Total Benzofluoranthenes

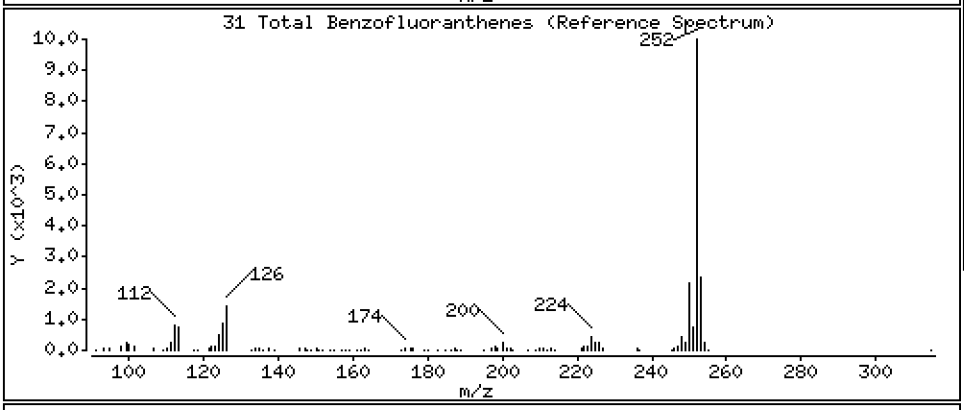
Concentration: 0.1237 ug/mL

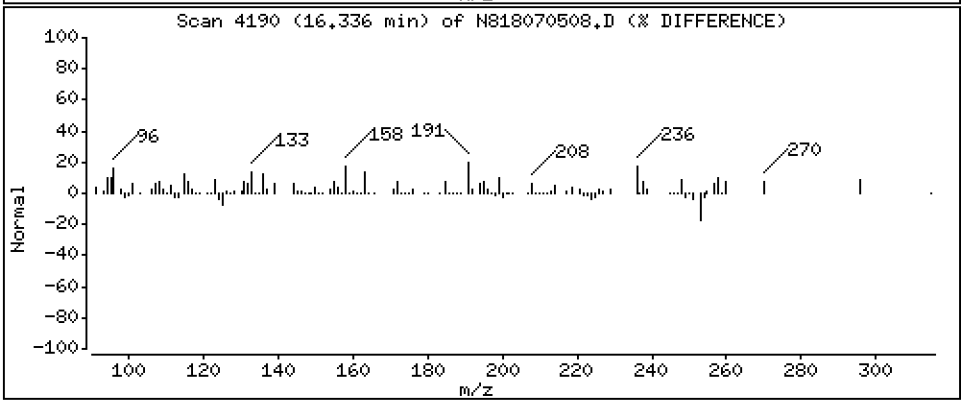












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

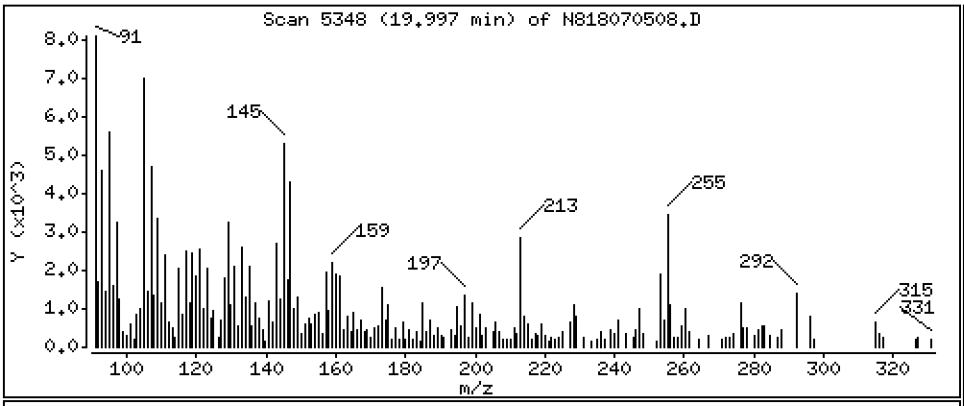
Operator: JZ

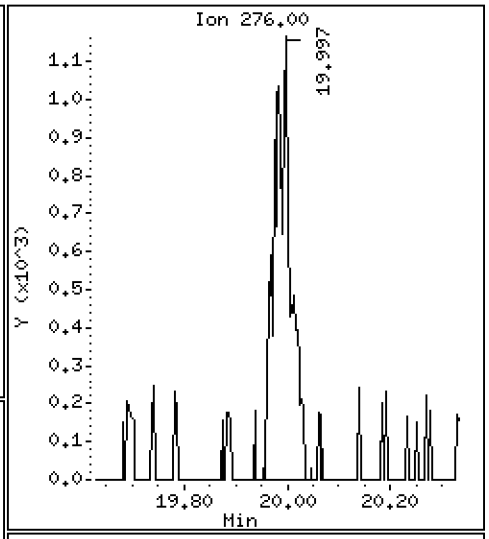
Column phase: Rxi-17sil

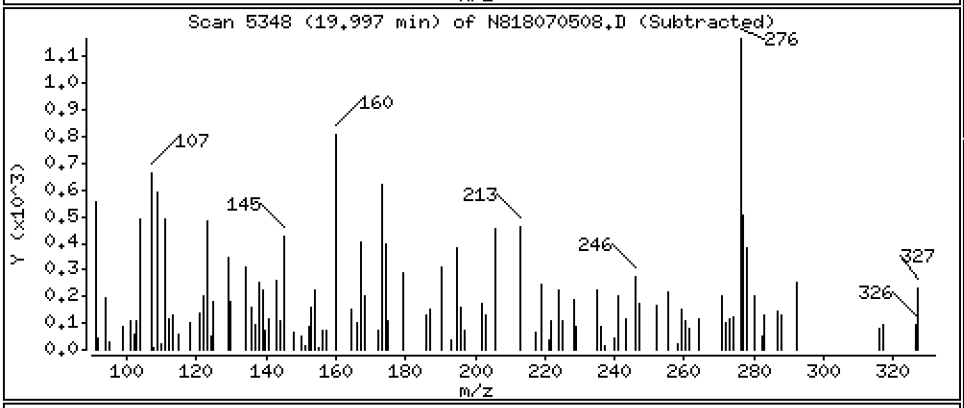
Column diameter: 0.25

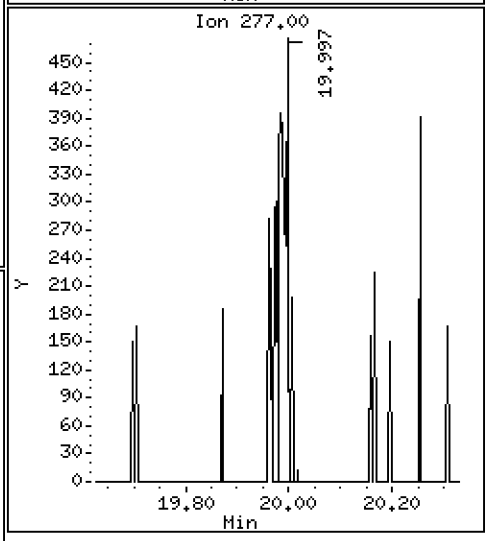
37 Indeno(1,2,3-cd)pyrene

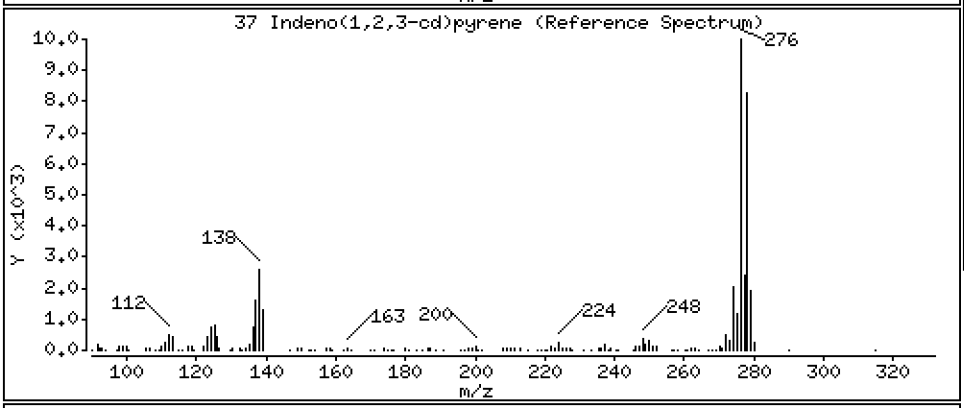
Concentration: 0.2252 ug/mL

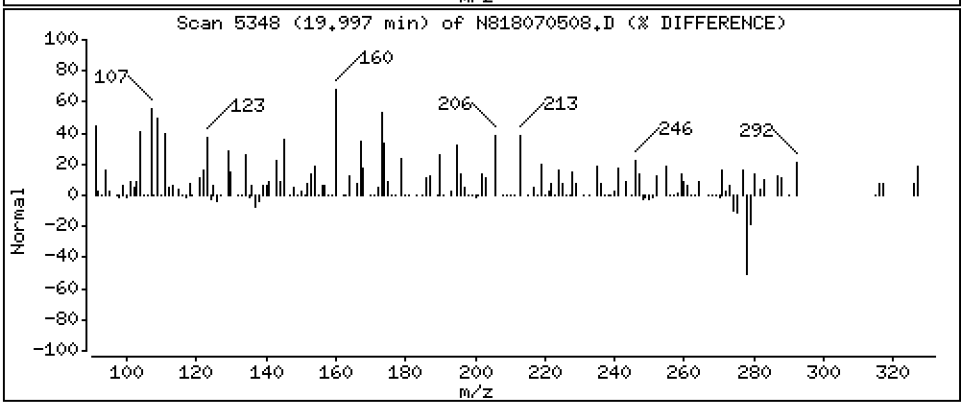












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

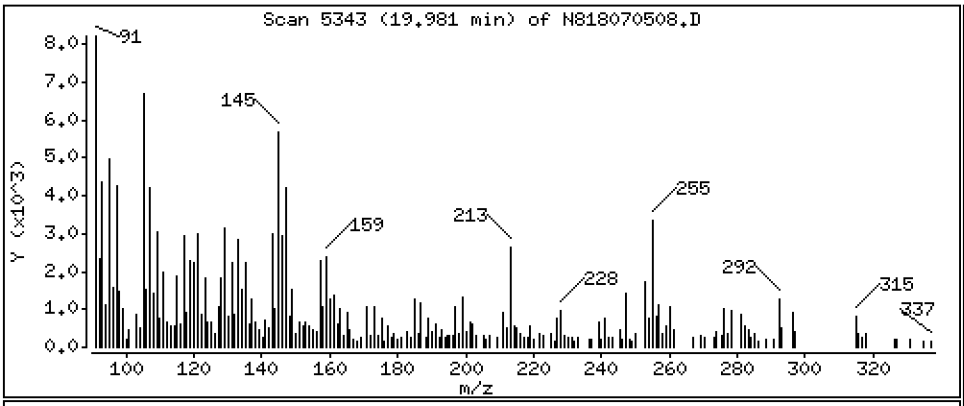
Operator: JZ

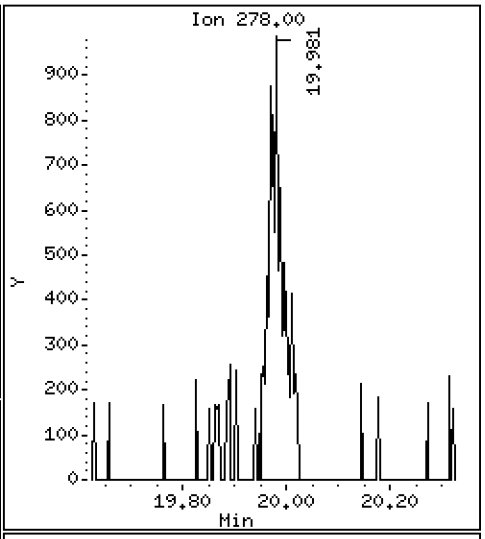
Column phase: Rxi-17sil

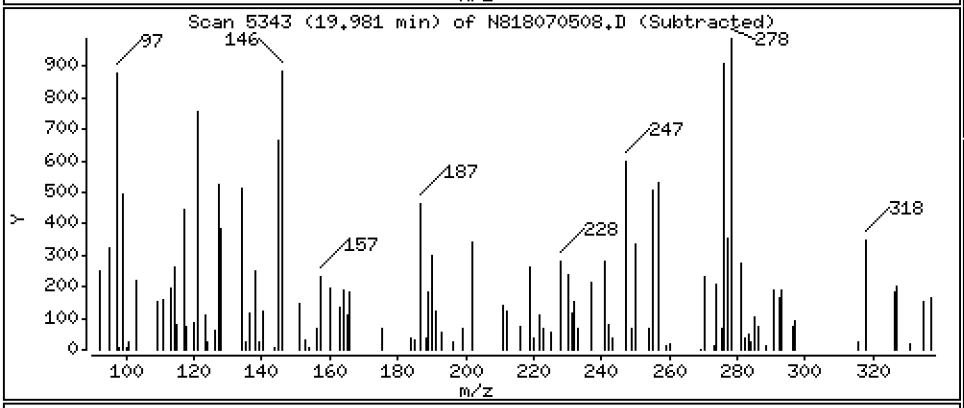
Column diameter: 0.25

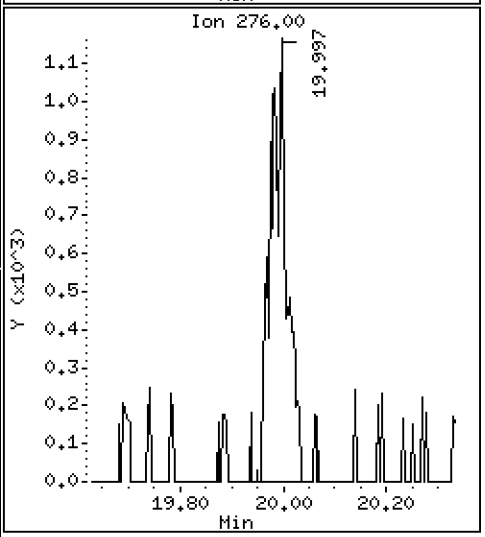
38 Dibenzo(a,h)anthracene

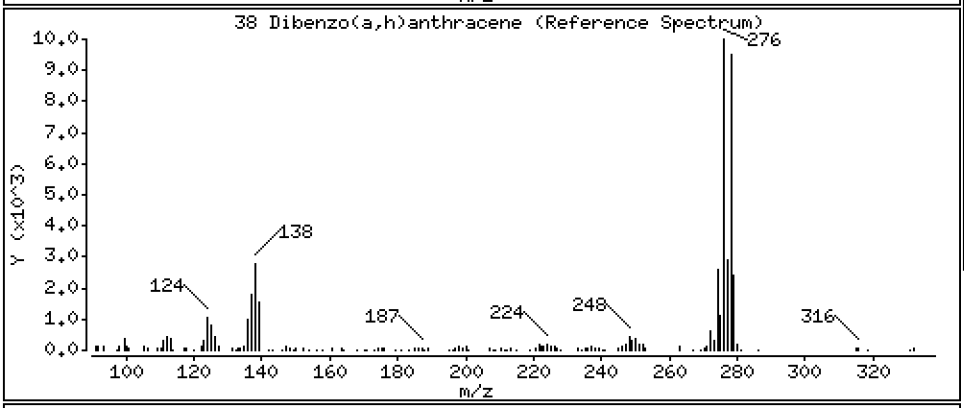
Concentration: 0.2331 ug/mL

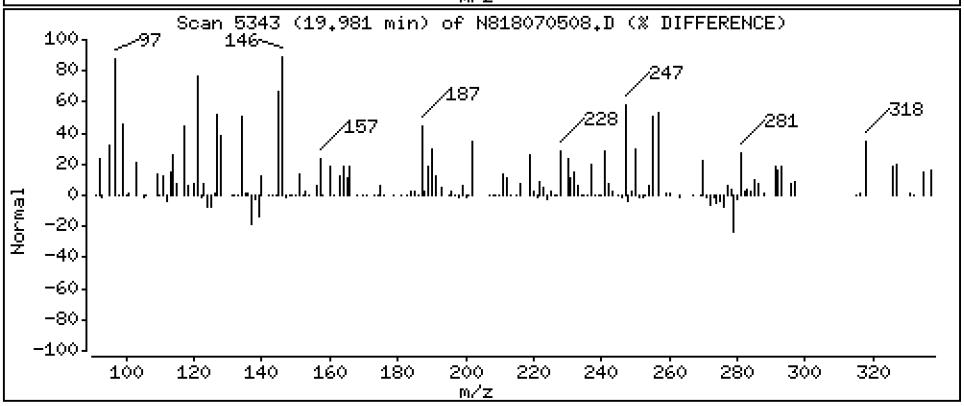












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

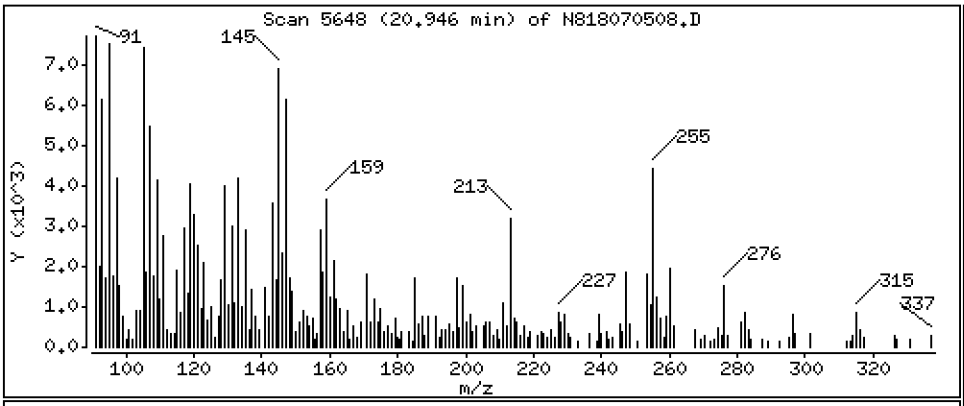
Operator: JZ

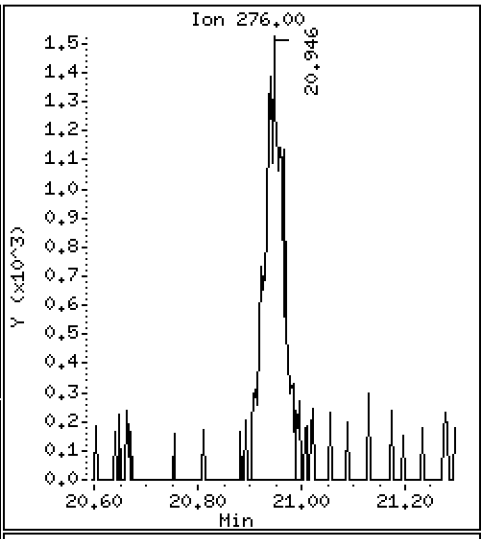
Column phase: Rxi-17sil

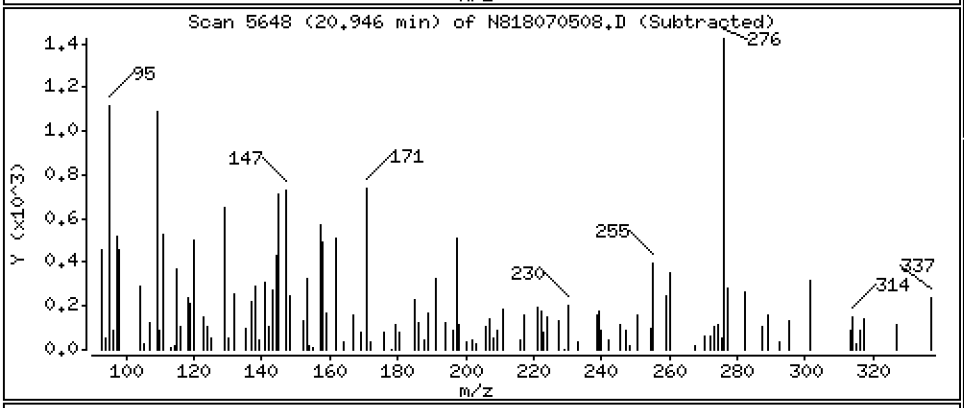
Column diameter: 0.25

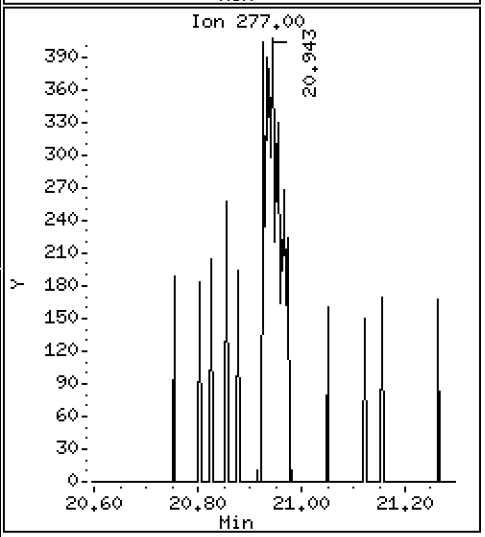
39 Benzo(g,h,i)perylene

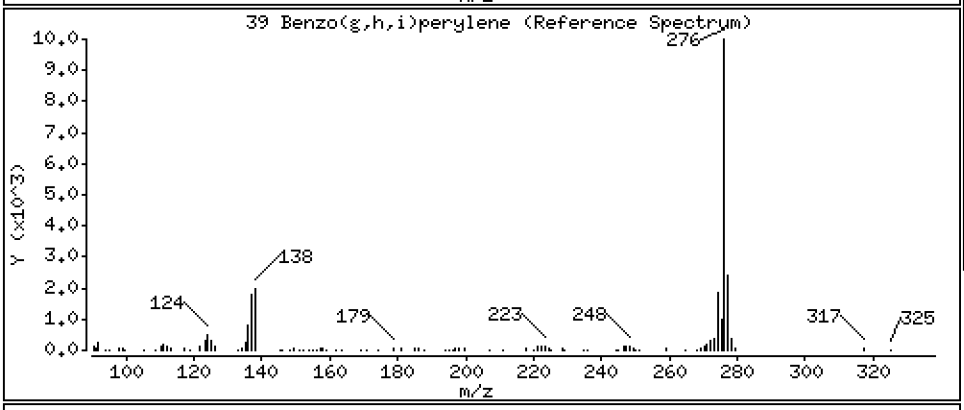
Concentration: 0.06541 ug/mL

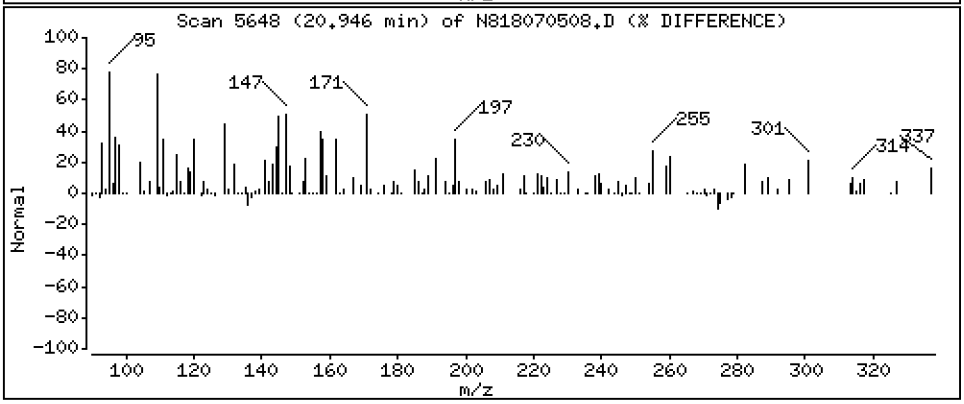












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070508.D

Date : 05-JUL-2018 19:24

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-02

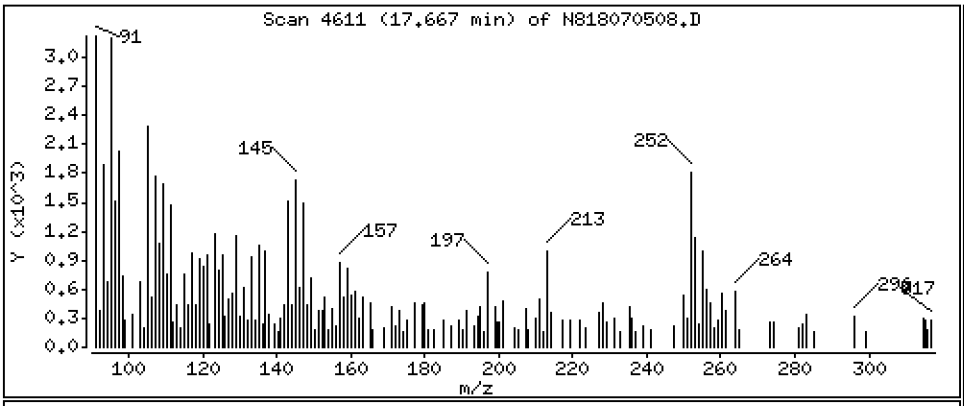
Operator: JZ

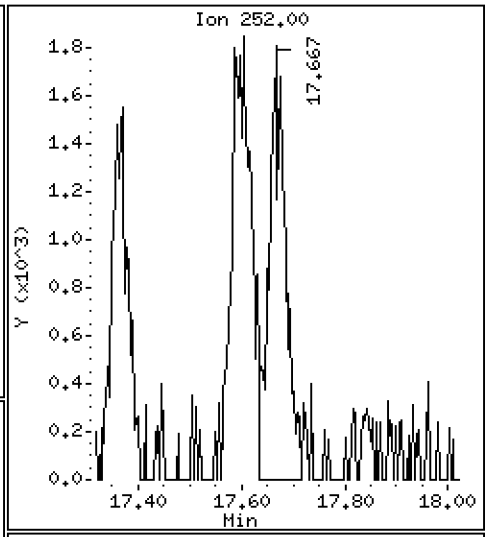
Column phase: Rxi-17sil

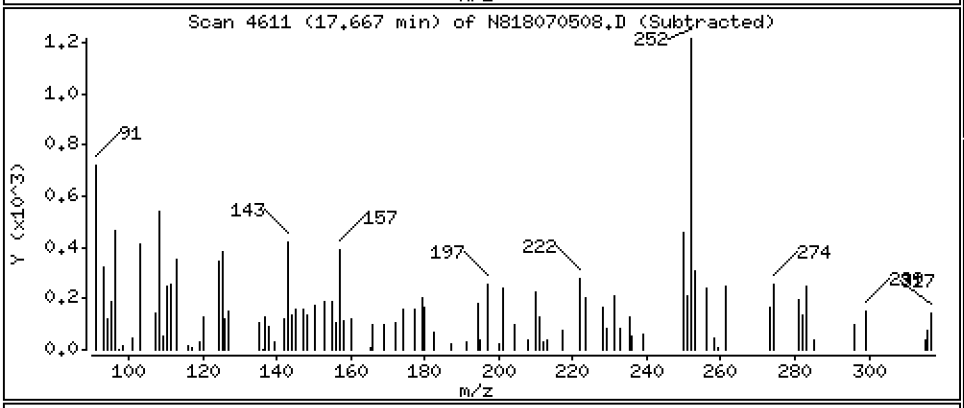
Column diameter: 0.25

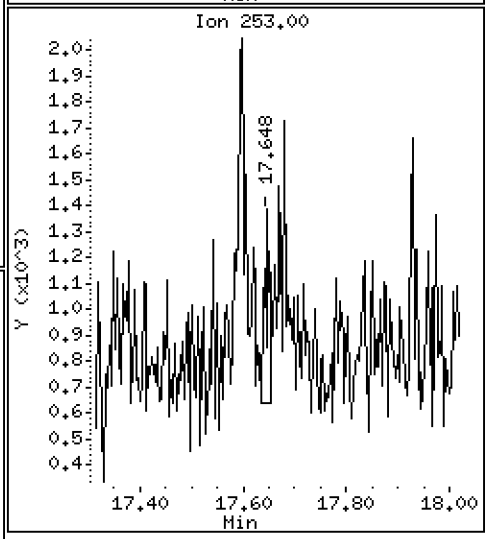
35 Perylene

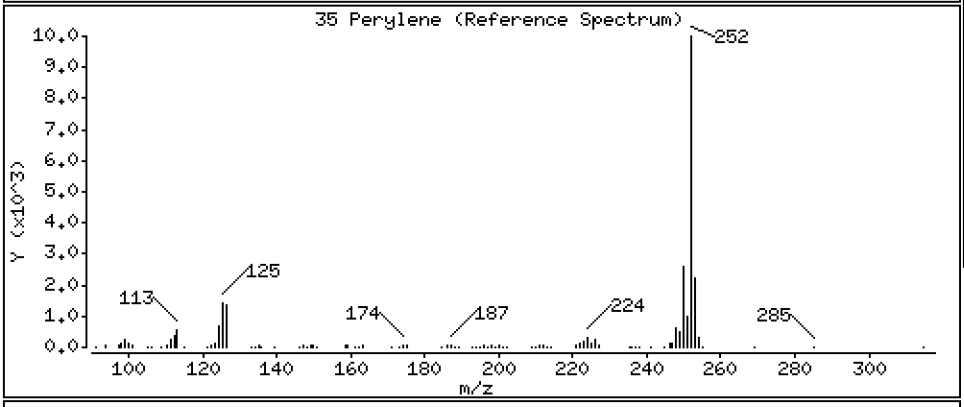
Concentration: 0.05277 ug/mL

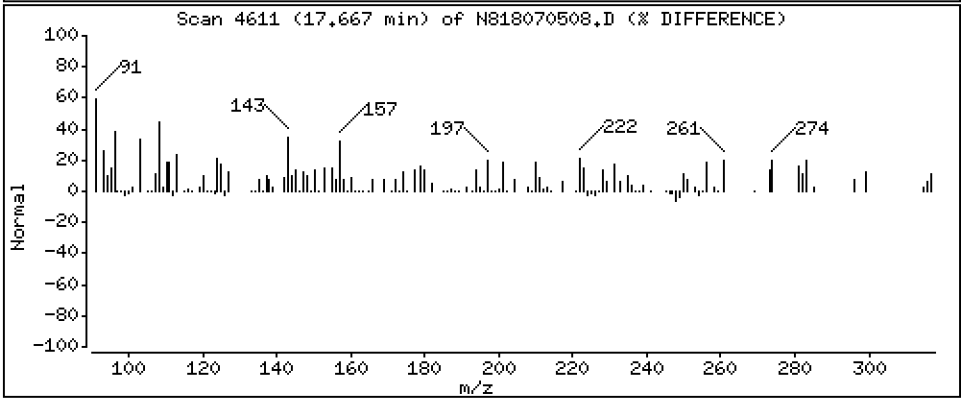












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070508.D
Lab Smp Id: 18F0364-02
Inj Date : 05-JUL-2018 19:24
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	100688	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.467	5.470	(1.154)	62674	1.69456	1.695
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.014	7.013	(1.000)	56252	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	115713	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	7285	0.11347	0.1135
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.773	10.773	(1.193)	25657	0.34168	0.3417
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	162636	2.19384	2.194
	23 Pyrene	202	11.266	11.266	(0.817)	18888	0.24094	0.2409
	24 Benzo(a)anthracene	228	13.673	13.663	(0.992)	6801	0.08717	0.08717
*	25 Chrysene-d12	240	13.790	13.786	(1.000)	135355	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	8699	0.11293	0.1129
	28 Benzo(b)fluoranthene	252	16.335	16.335	(0.928)	4587	0.05755	0.05755
	29 Benzo(k)fluoranthene	252	16.389	16.389	(0.931)	2987	0.03694	0.03694
	30 Benzo(j)fluoranthene	252	16.471	16.474	(0.936)	2412	0.03016	0.03016(M)
	31 Total Benzofluoranthenes	252	16.335	16.335	(0.928)	9831	0.12368	0.1237(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.597	17.593	(1.000)	127443	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.997	19.981	(1.136)	2600	0.22523	0.2252
$	36 Dibenzo(a,h)anthracene-d14	292	19.883	19.876	(1.130)	137527	2.35082	2.351
	38 Dibenzo(a,h)anthracene	278	19.981	19.974	(1.135)	1857	0.23313	0.2331
	39 Benzo(g,h,i)perylene	276	20.945	20.945	(1.190)	3884	0.06541	0.06541
	35 Perylene	252	17.666	17.669	(1.004)	4076	0.05277	0.05277

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070508.D
Lab Smp Id: 18F0364-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	100688	2.81
10 Acenaphthene-d10	54983	27492	109966	56252	2.31
15 Phenanthrene-d10	115816	57908	231632	115713	-0.09
25 Chrysene-d12	129167	64584	258334	135355	4.79
33 Perylene-d12	111506	55753	223012	127443	14.29

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.02
33 Perylene-d12	17.59	17.09	18.09	17.60	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070508.D

Lab ID: 18F0364-02
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 19:24

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

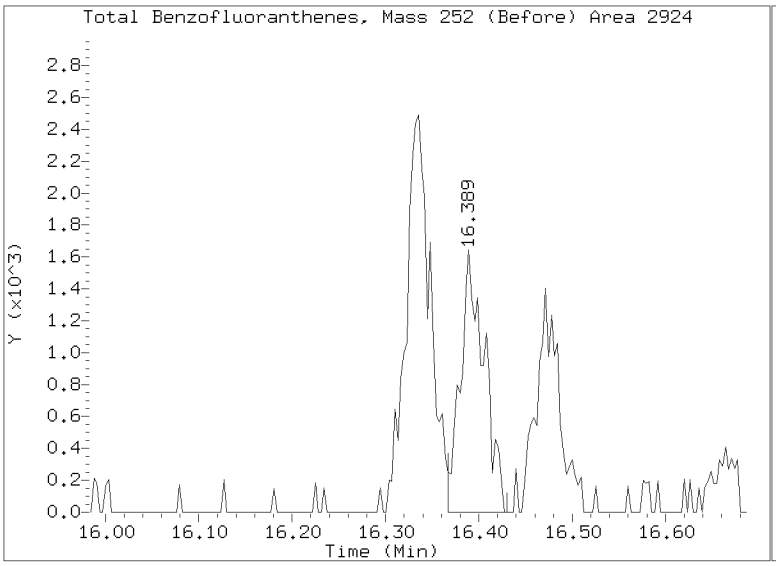
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

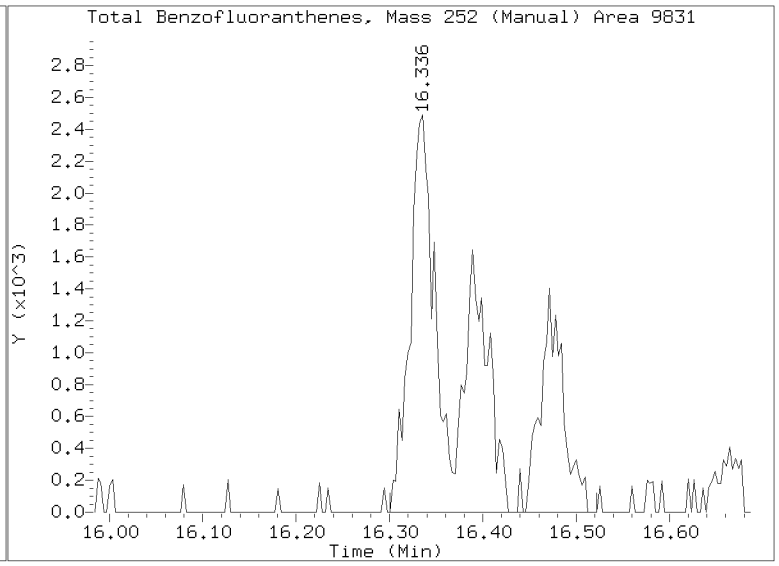
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

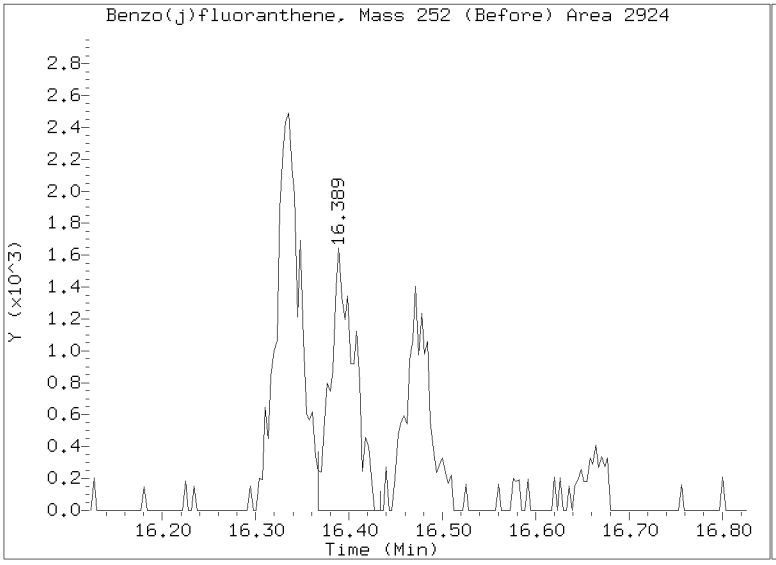
* Only compounds listed in the work order have been verified by the analyst *

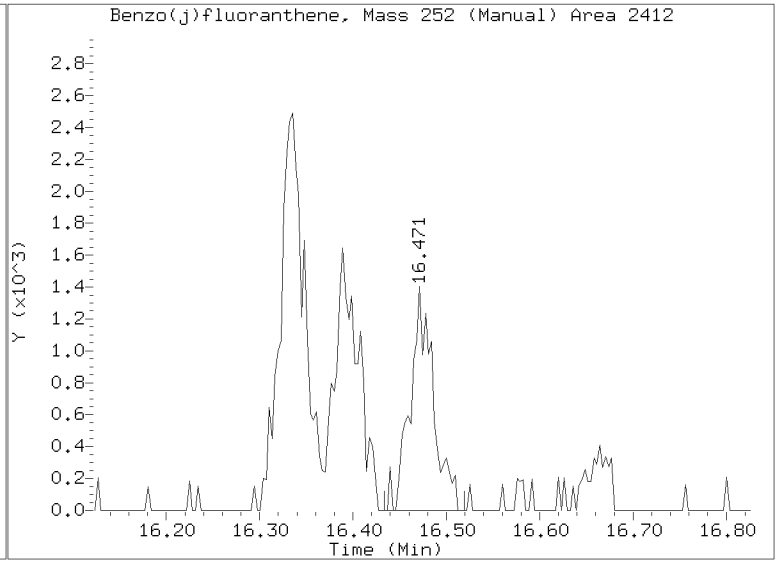
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070508.D
Injection Date: 05-JUL-2018 19:24
Lab ID:18F0364-02 Client ID:
Report Date: 07/09/2018 10:17









LDW18-C03-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-03	SDG:	18F0364
Sampled:	05/16/18 12:40	Prepared:	06/29/18 11:28	File ID:	N818070509.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 19:51
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.60	J	0.54	5.00
218-01-9	Chrysene	1	4.39	J	0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	2.46	J	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.71	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.92	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	10.8		0.58	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	69.2	46.1	20 - 130	
Dibenzo[a,h]anthracene-d14	150.00	104	69.2	20 - 130	
Fluoranthene-d10	150.00	96.8	64.5	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

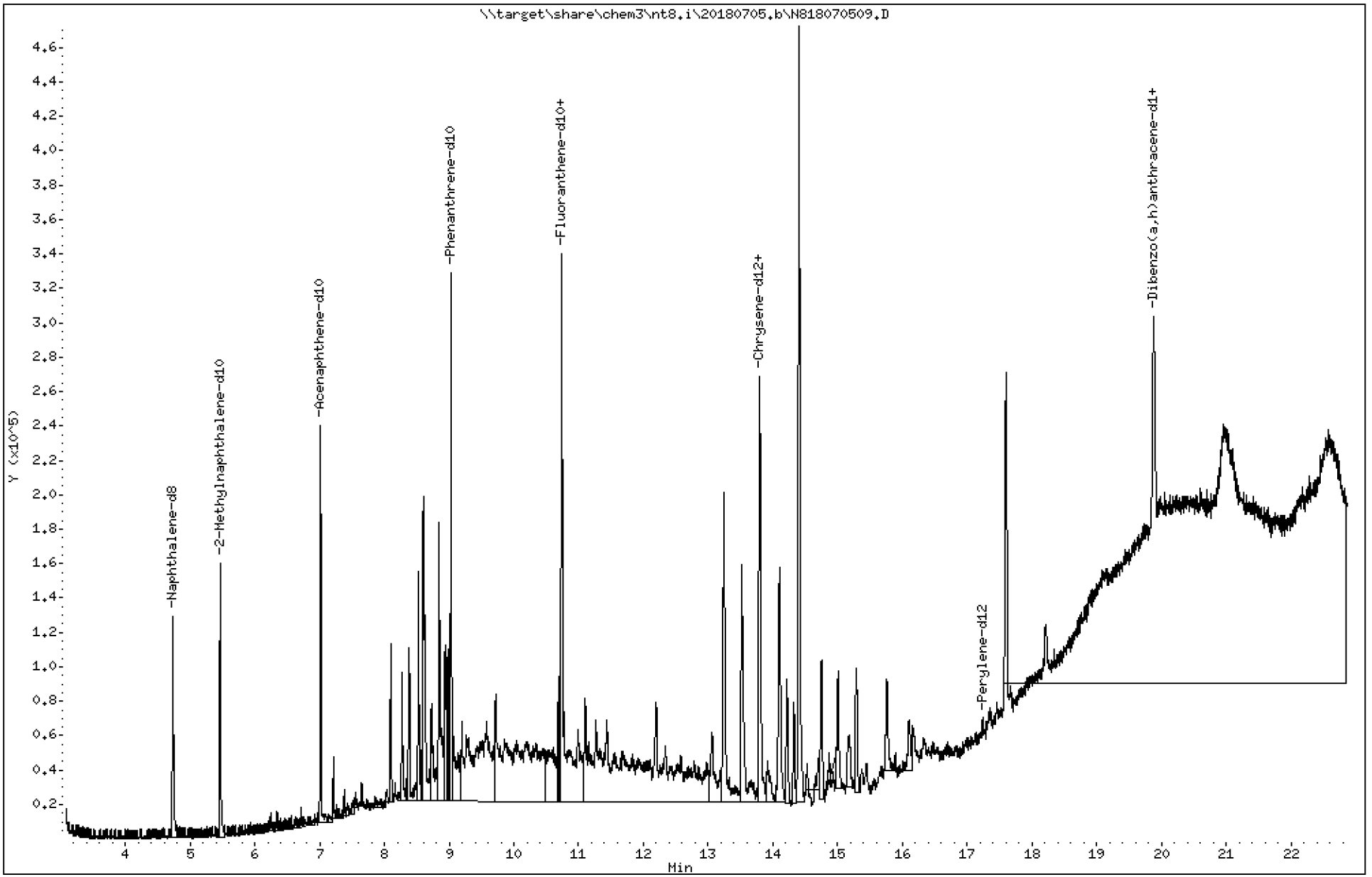
Instrument: nt8.i

Sample Info: 18F0364-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

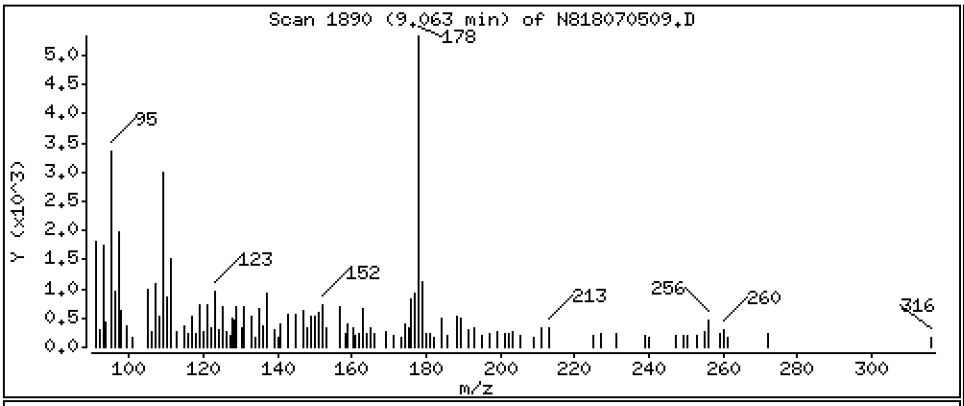
Operator: JZ

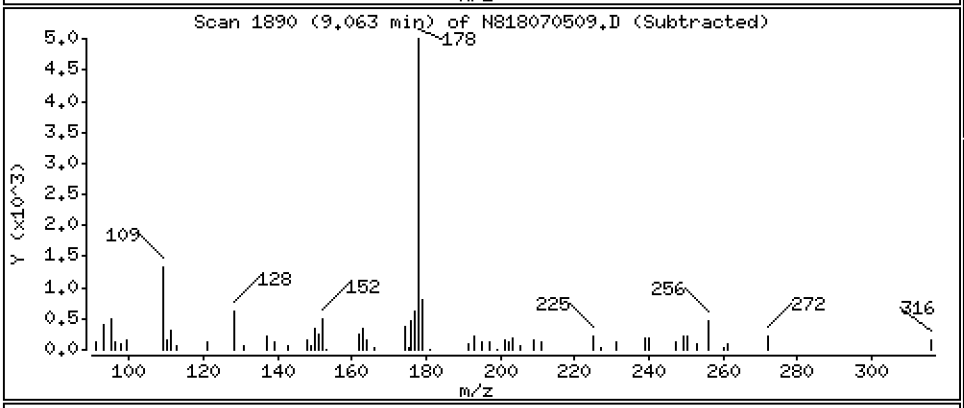
Column phase: Rxi-17sil

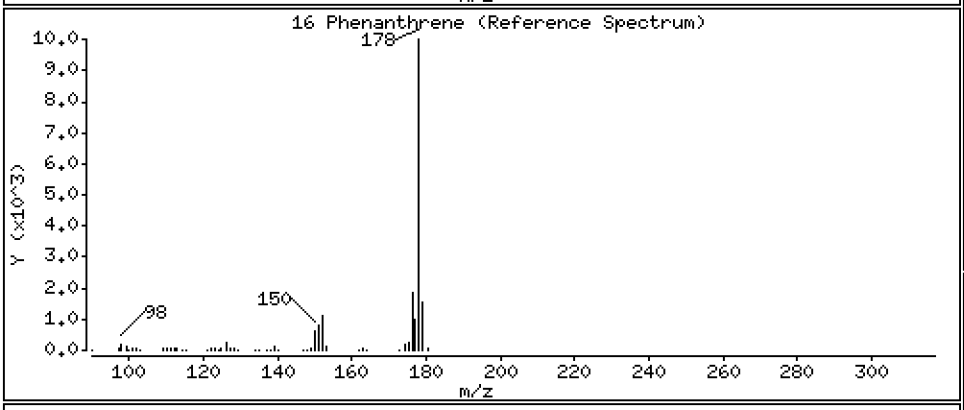
Column diameter: 0.25

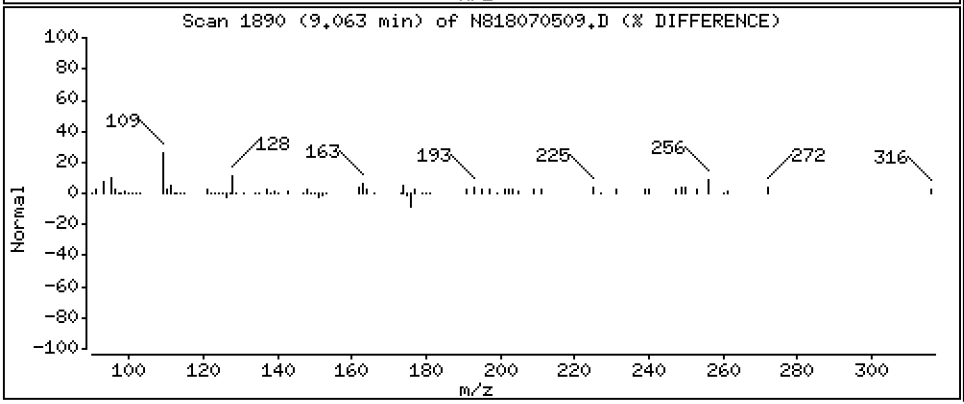
16 Phenanthrene

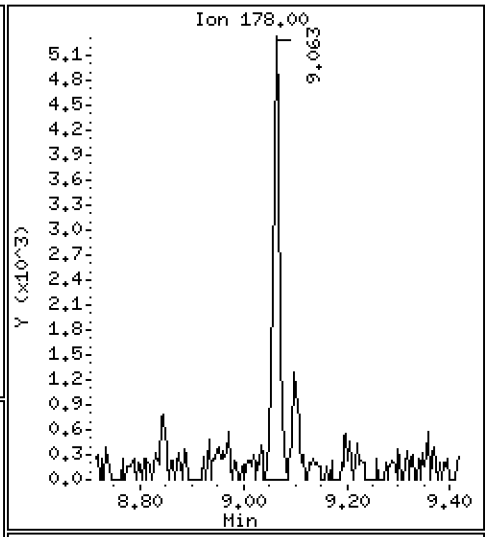
Concentration: 0.07063 ug/mL

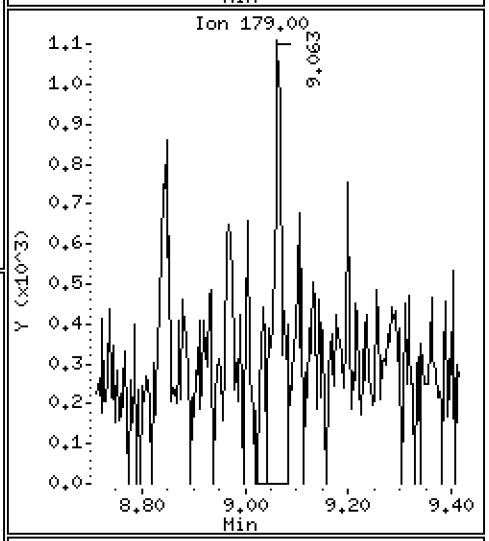


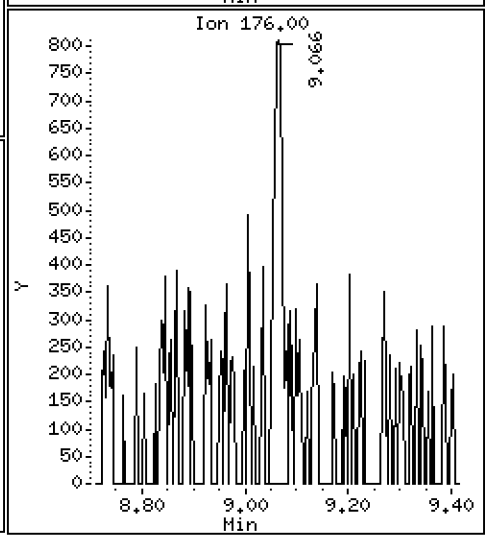












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

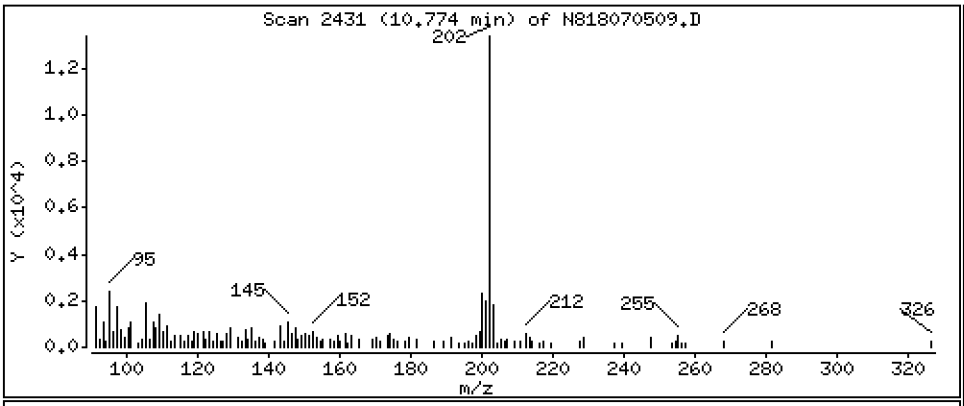
Operator: JZ

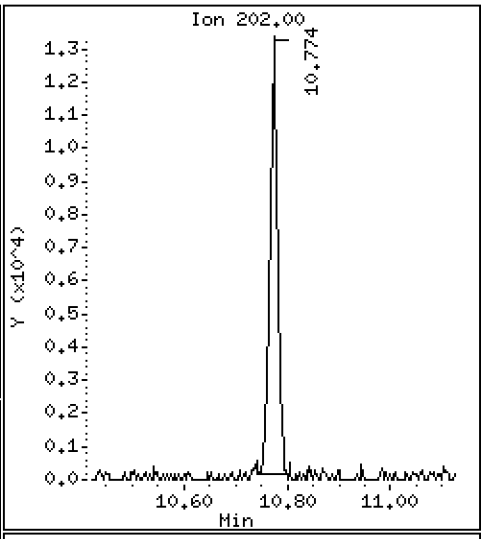
Column phase: Rxi-17sil

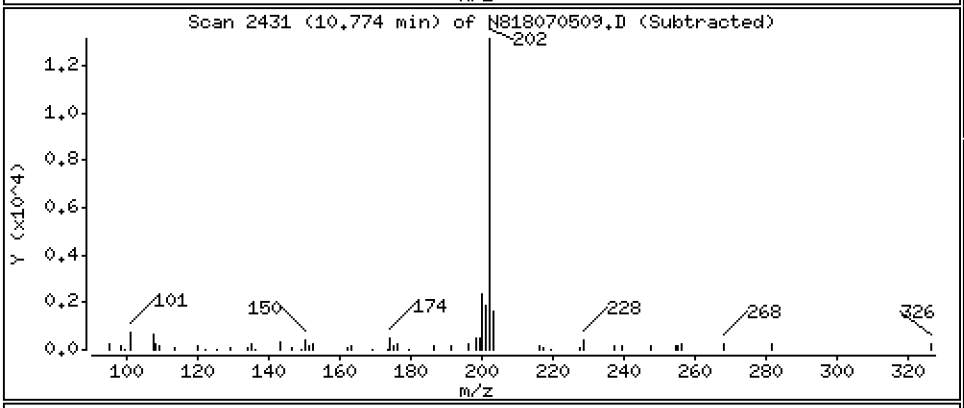
Column diameter: 0.25

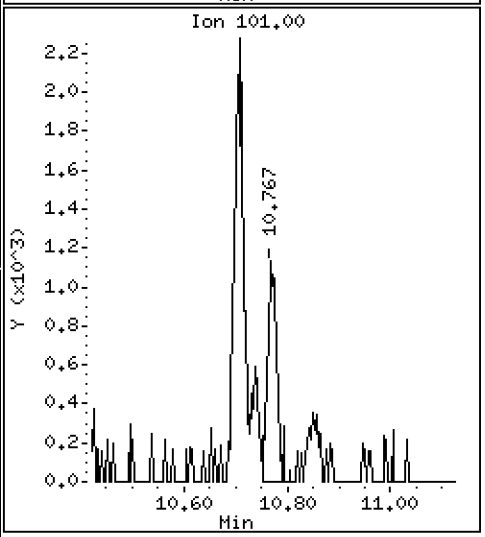
22 Fluoranthene

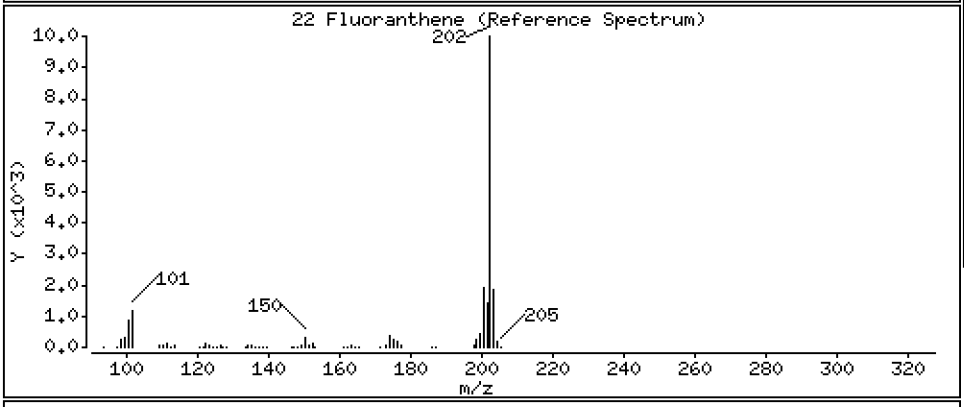
Concentration: 0.1780 ug/mL

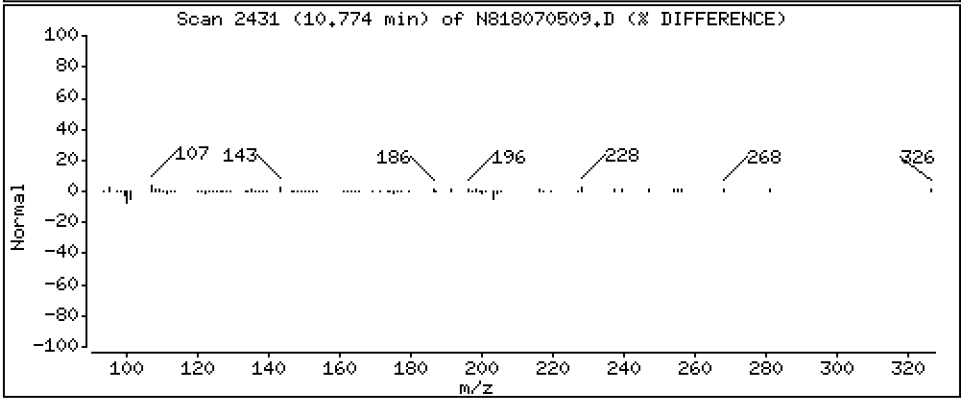












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

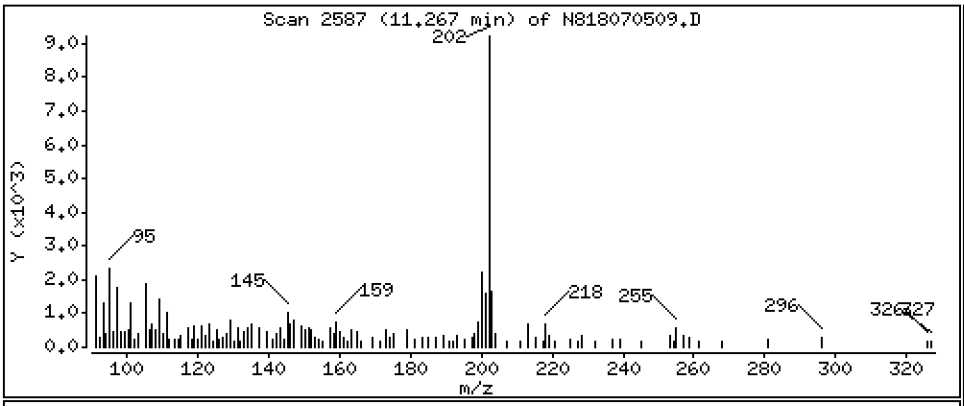
Operator: JZ

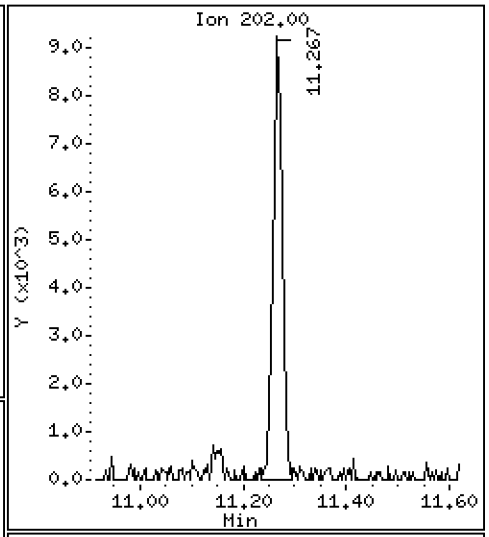
Column phase: Rxi-17sil

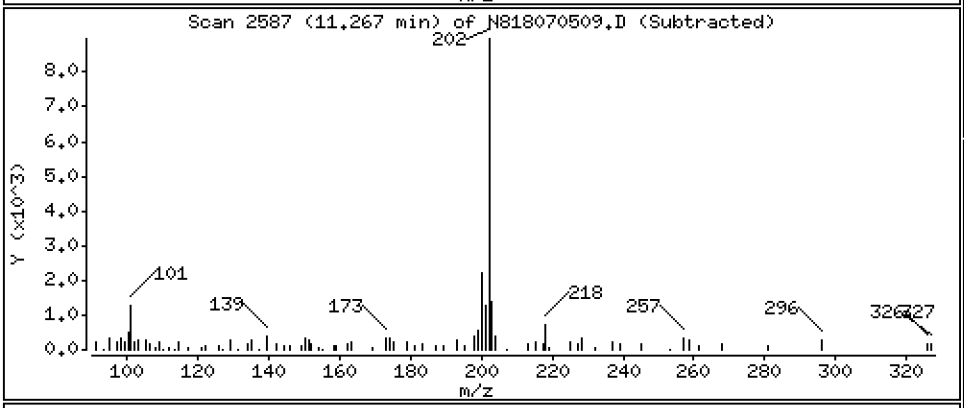
Column diameter: 0.25

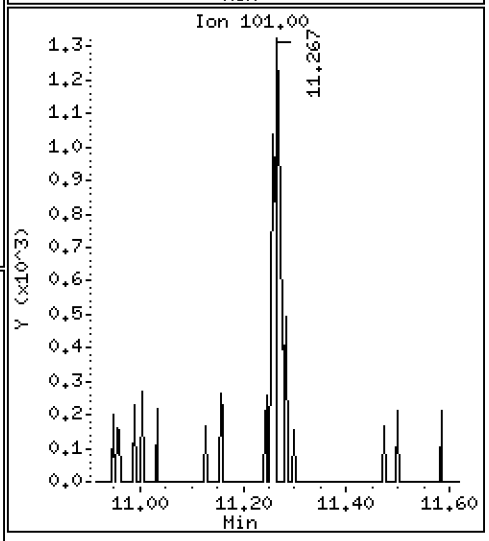
23 Pyrene

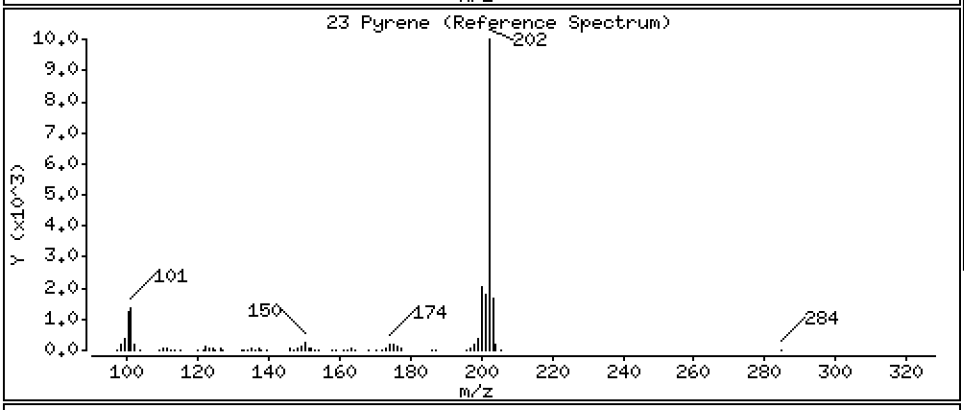
Concentration: 0.1416 ug/mL

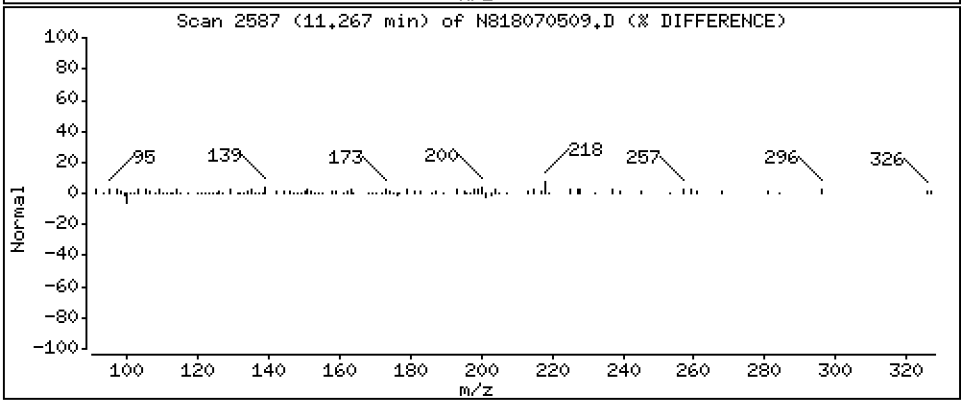












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

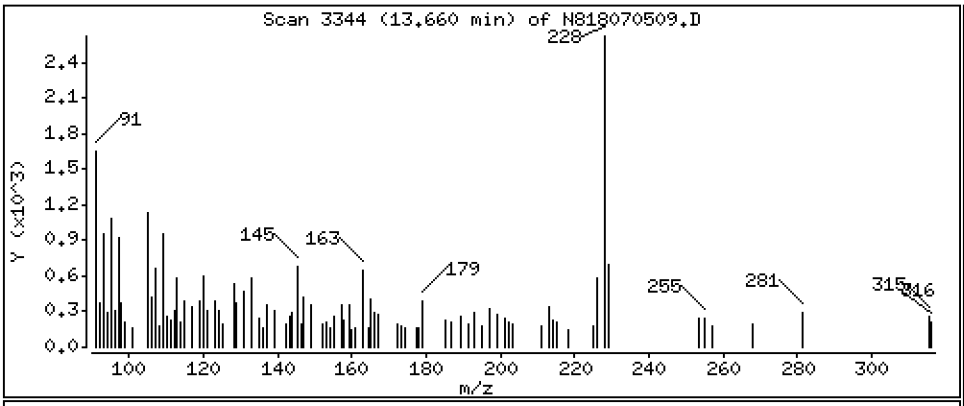
Operator: JZ

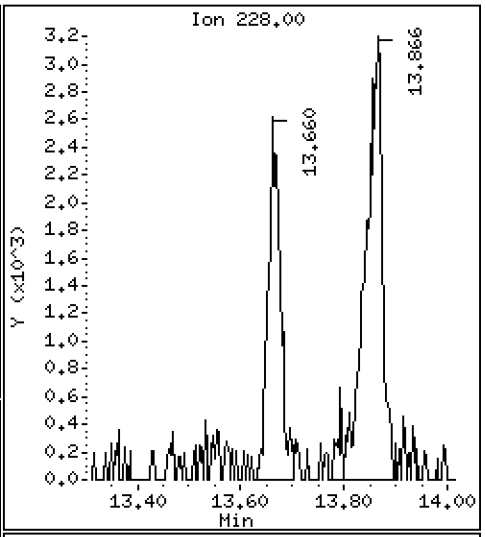
Column phase: Rxi-17sil

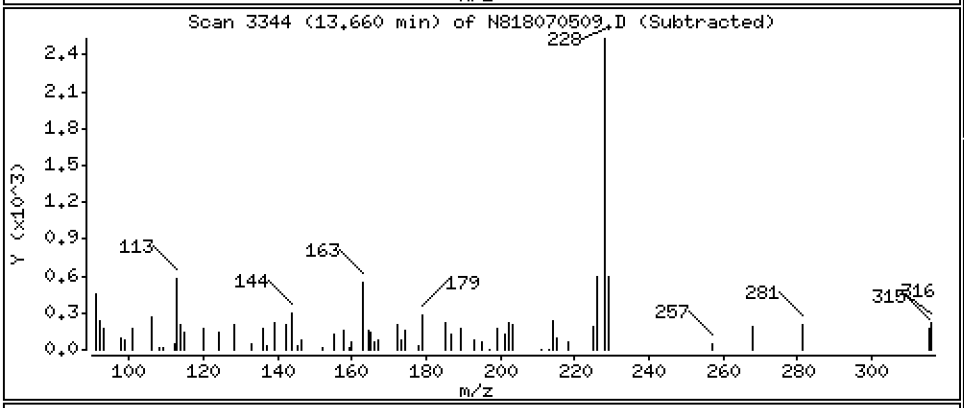
Column diameter: 0.25

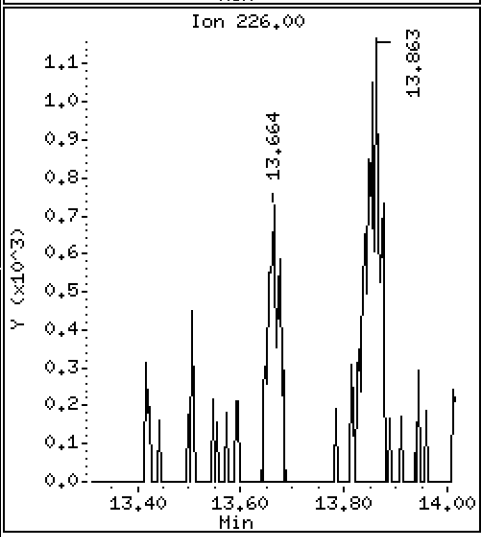
24 Benzo(a)anthracene

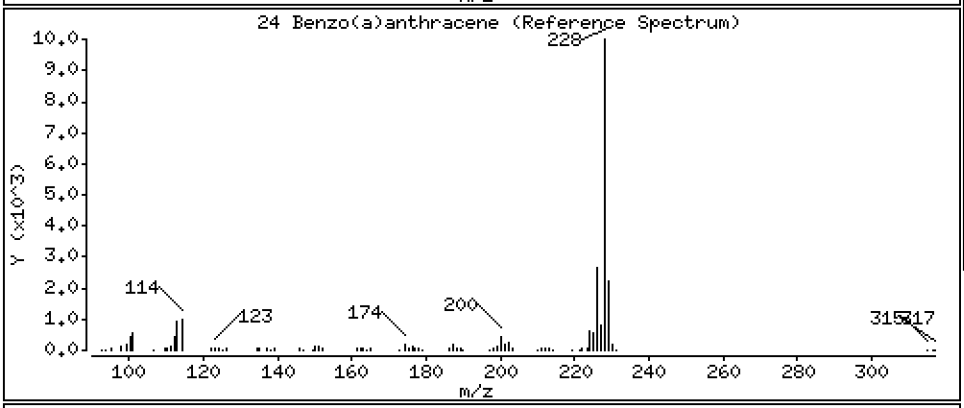
Concentration: 0.05197 ug/mL

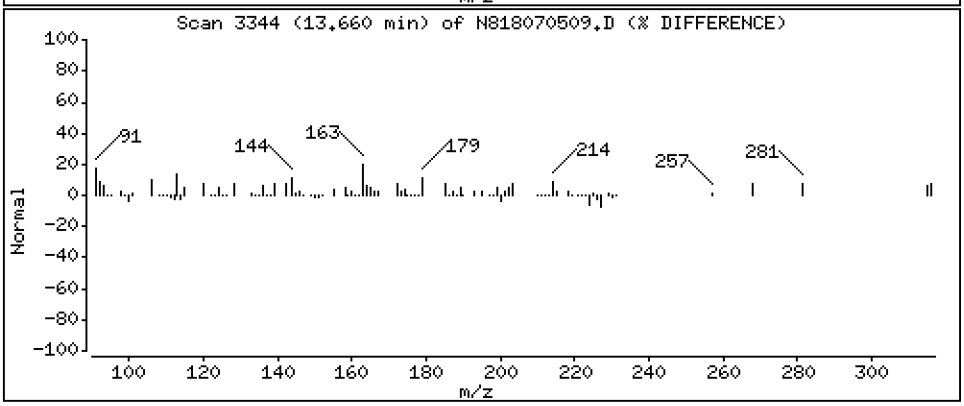












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

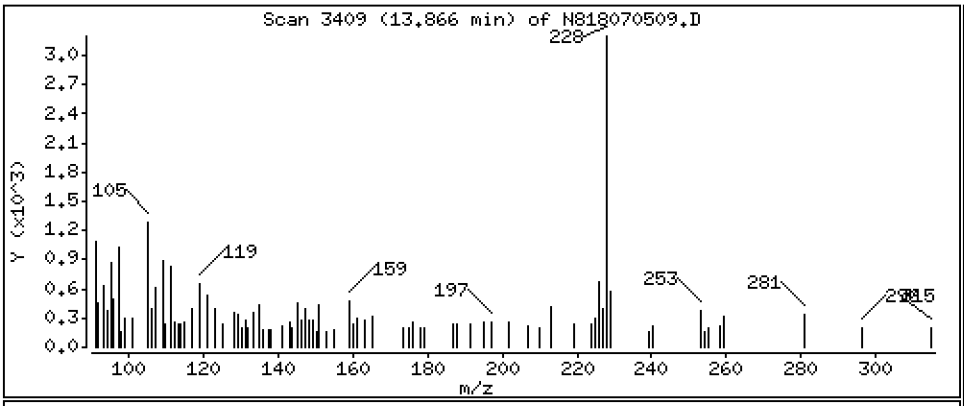
Operator: JZ

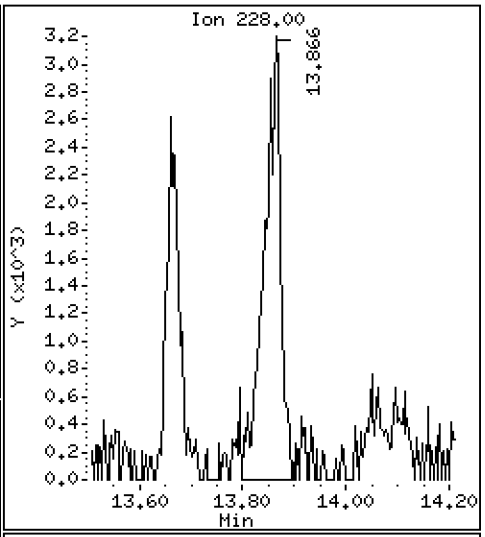
Column phase: Rxi-17sil

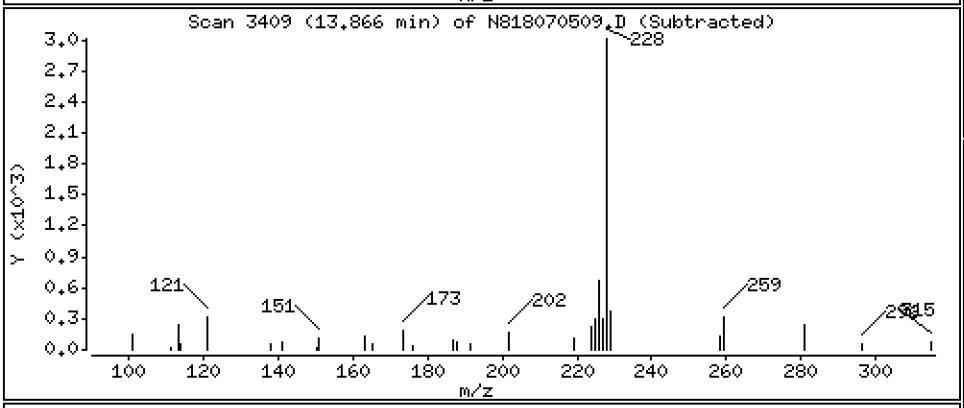
Column diameter: 0.25

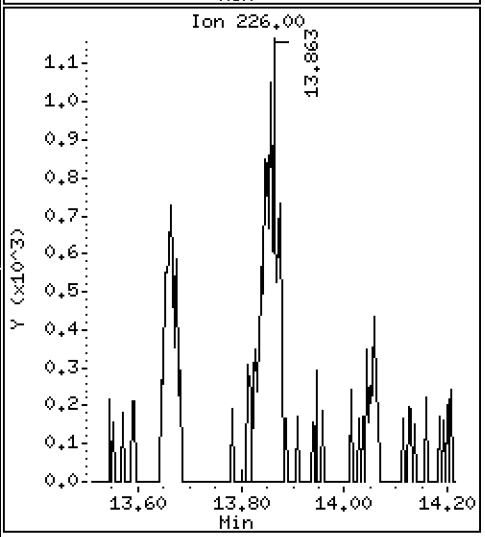
27 Chrysene

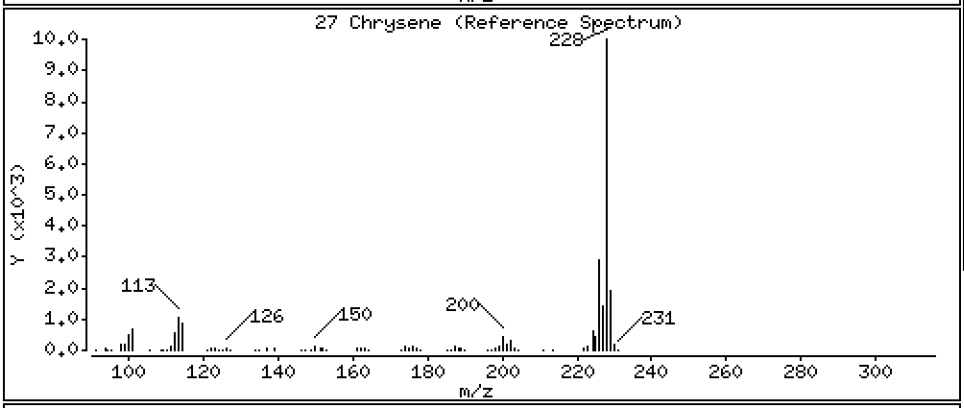
Concentration: 0.08775 ug/mL

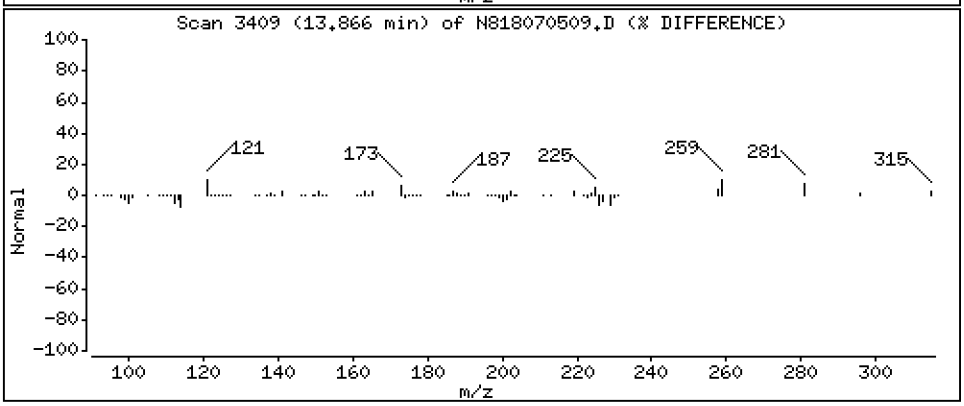












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

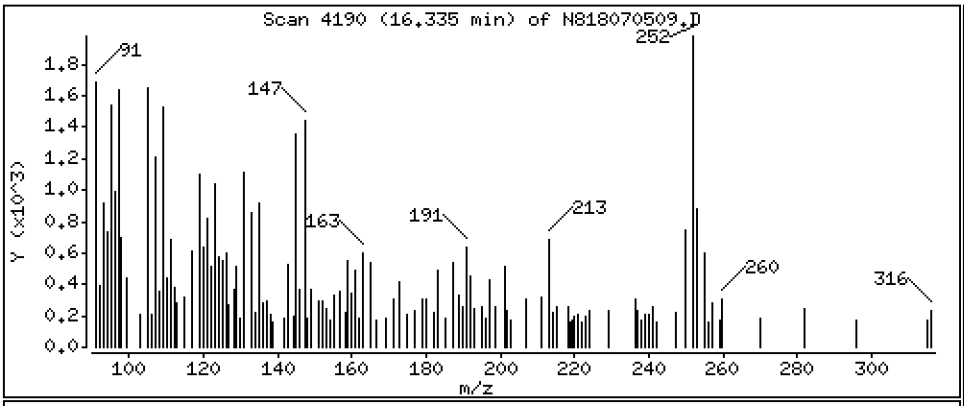
Operator: JZ

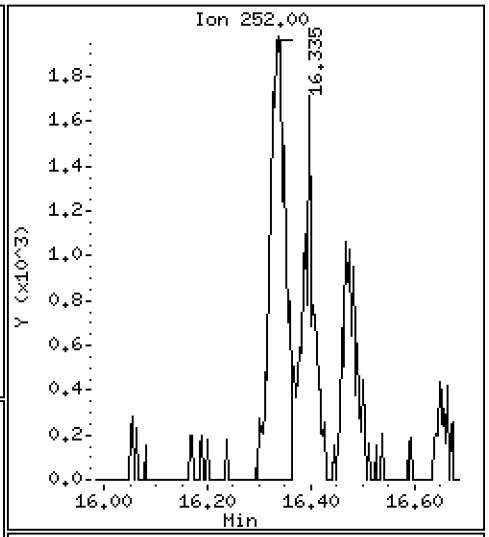
Column phase: Rxi-17sil

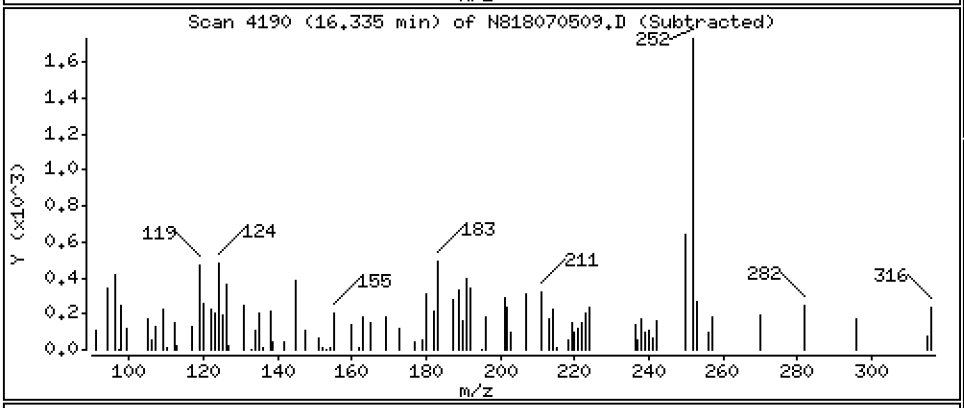
Column diameter: 0.25

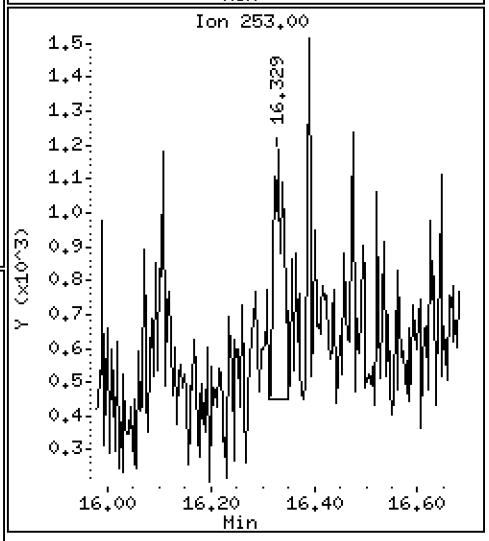
28 Benzo(b)fluoranthene

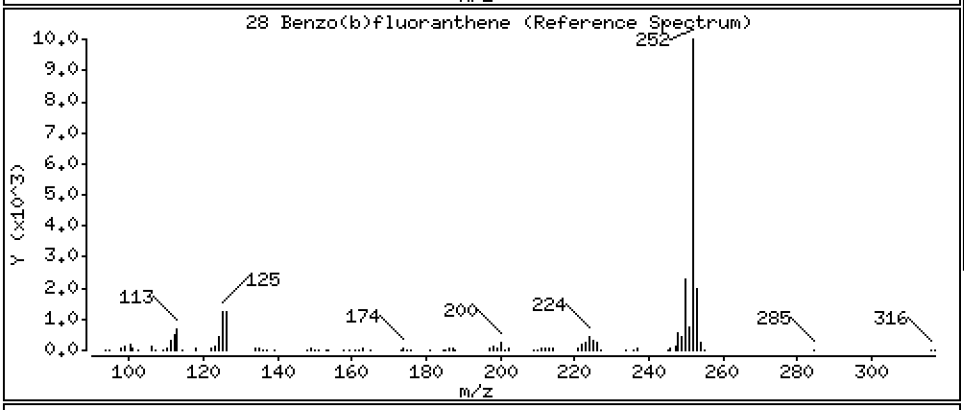
Concentration: 0.04912 ug/mL

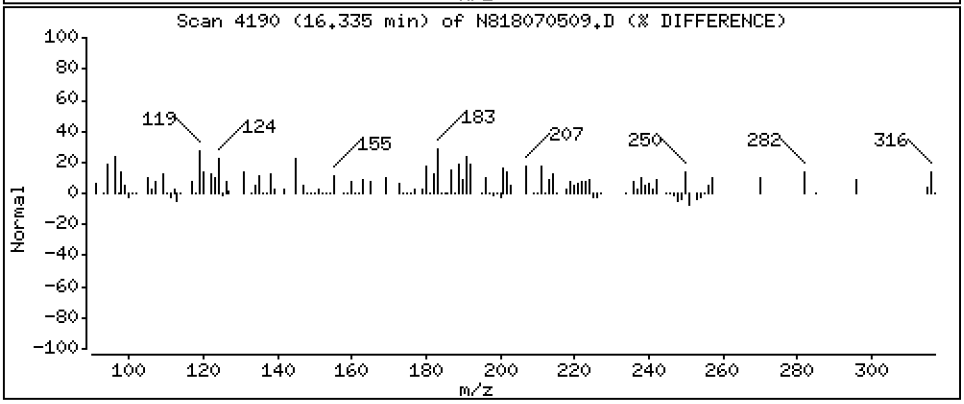












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

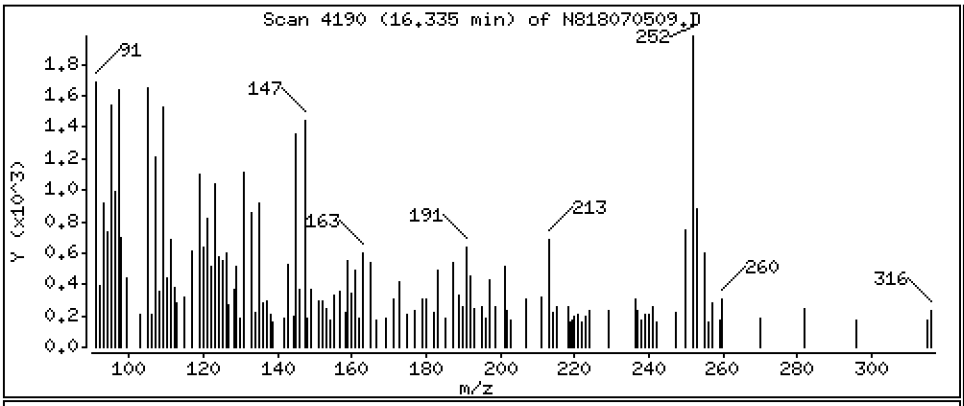
Operator: JZ

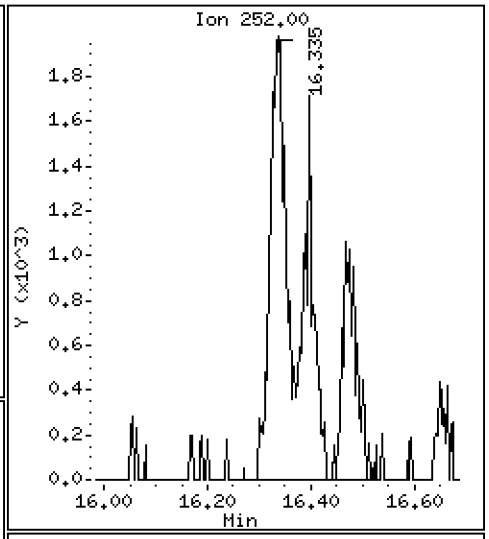
Column phase: Rxi-17sil

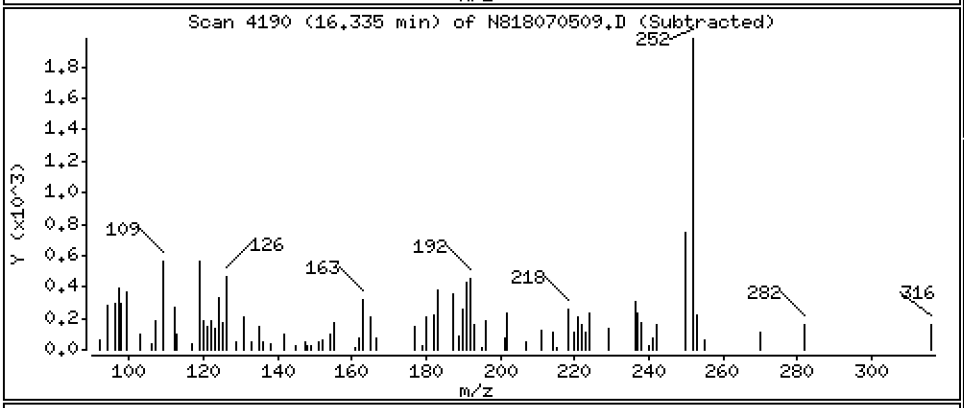
Column diameter: 0.25

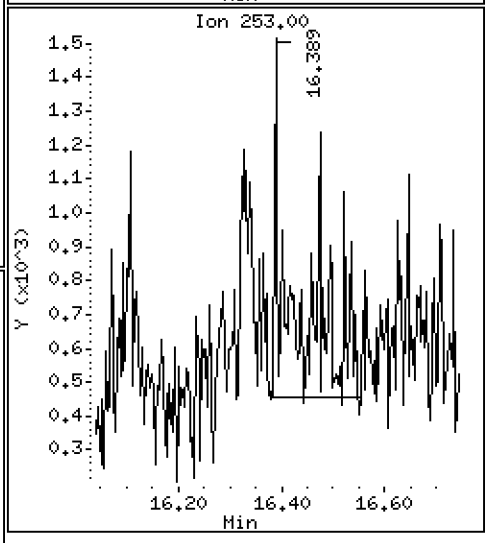
31 Total Benzofluoranthenes

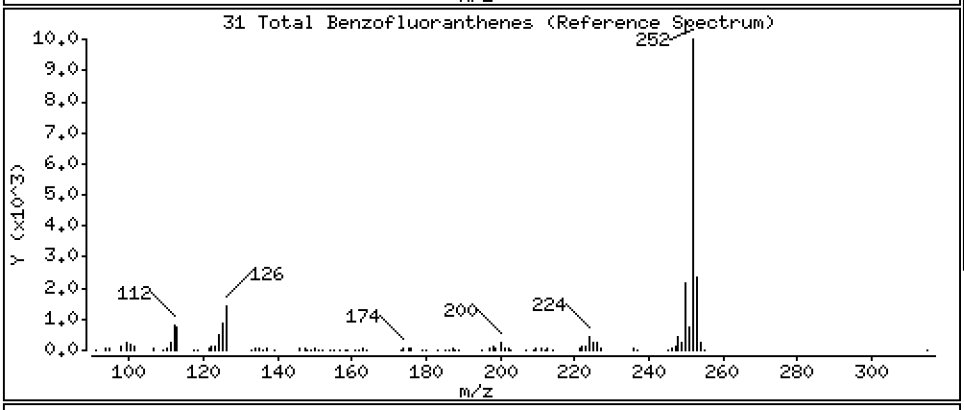
Concentration: 0.1015 ug/mL

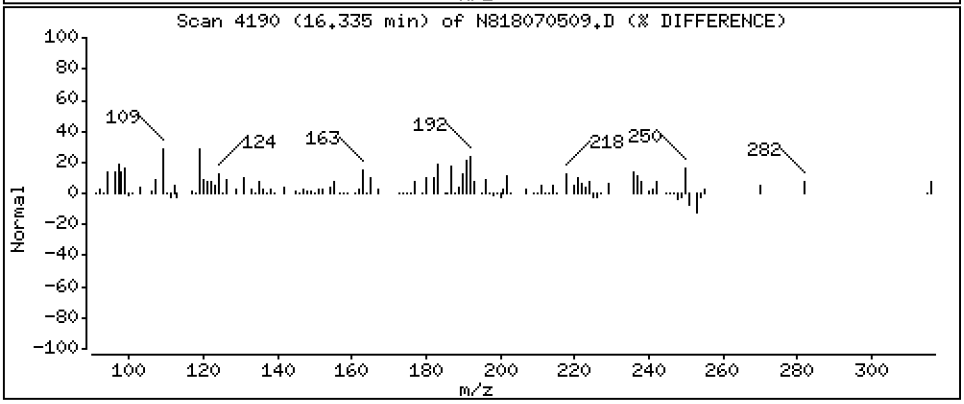












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

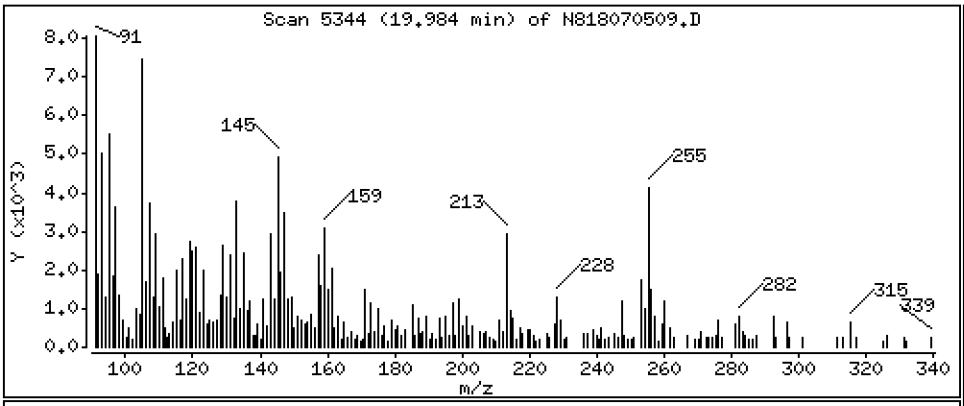
Operator: JZ

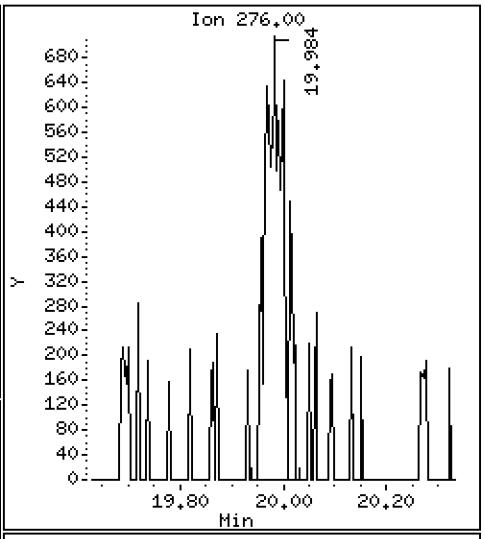
Column phase: Rxi-17sil

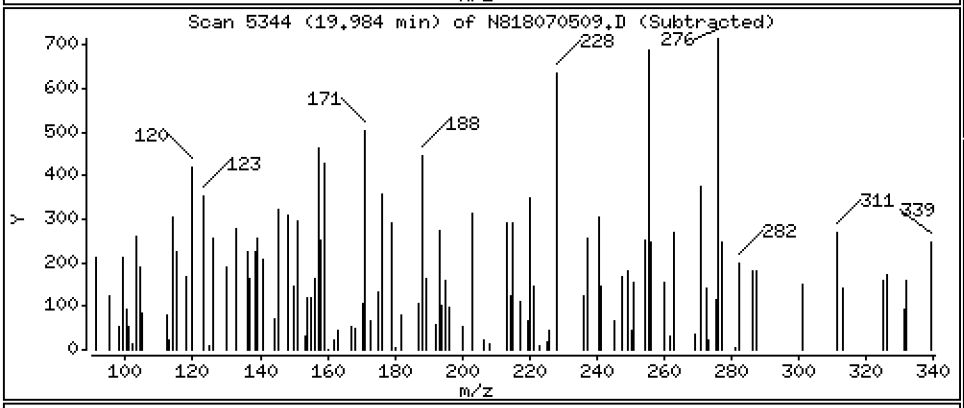
Column diameter: 0.25

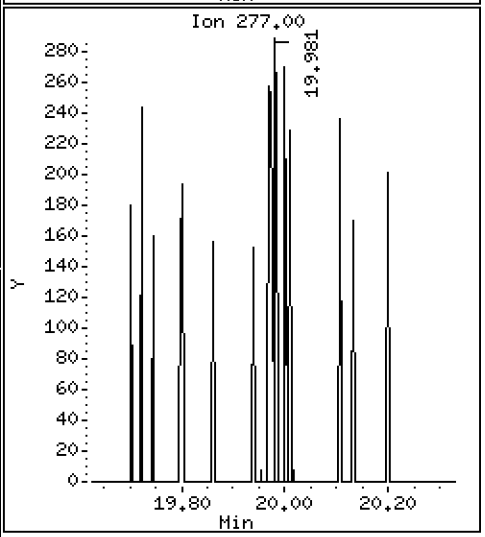
37 Indeno(1,2,3-cd)pyrene

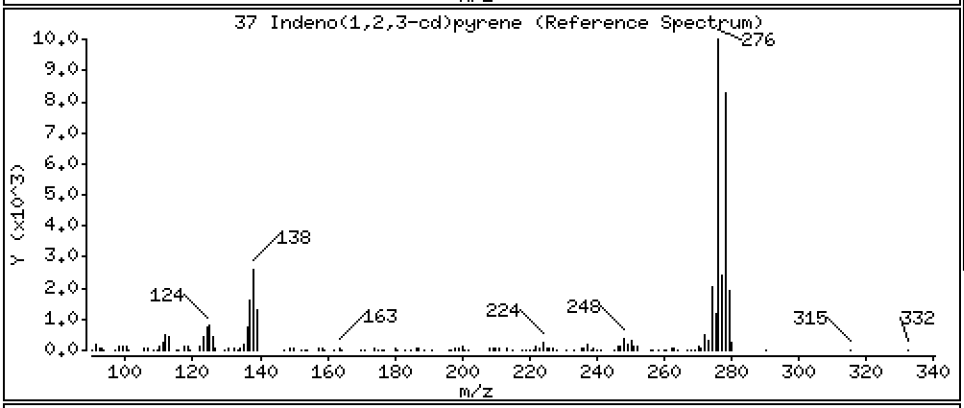
Concentration: 0.2151 ug/mL

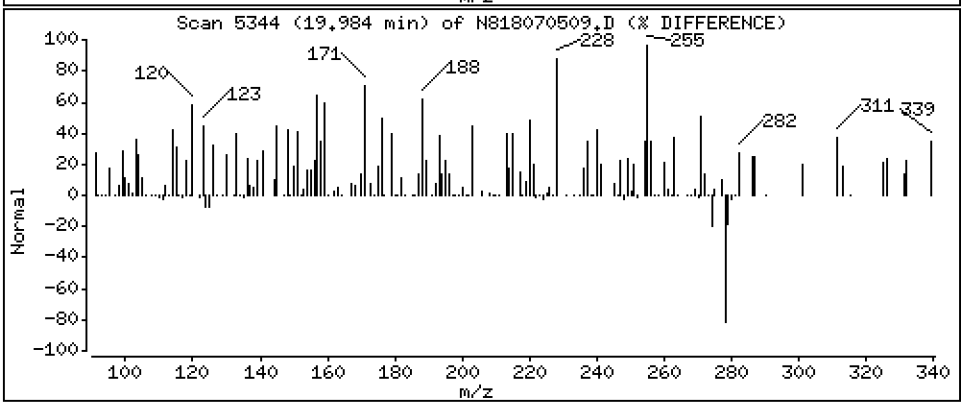












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070509.D

Date : 05-JUL-2018 19:51

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-03

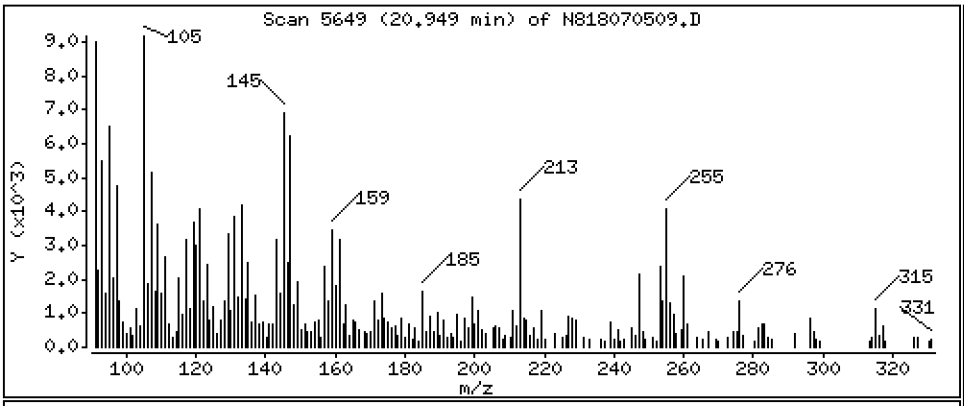
Operator: JZ

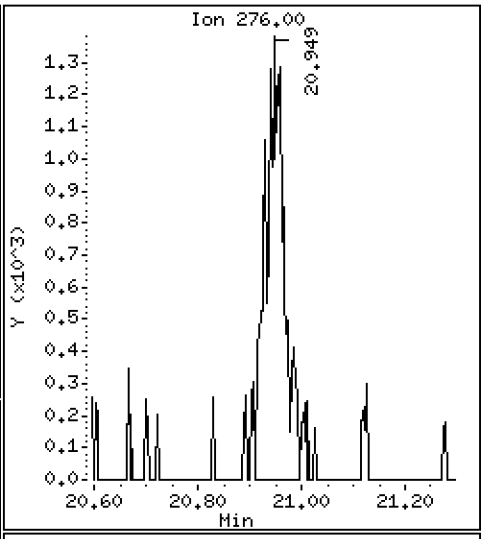
Column phase: Rxi-17sil

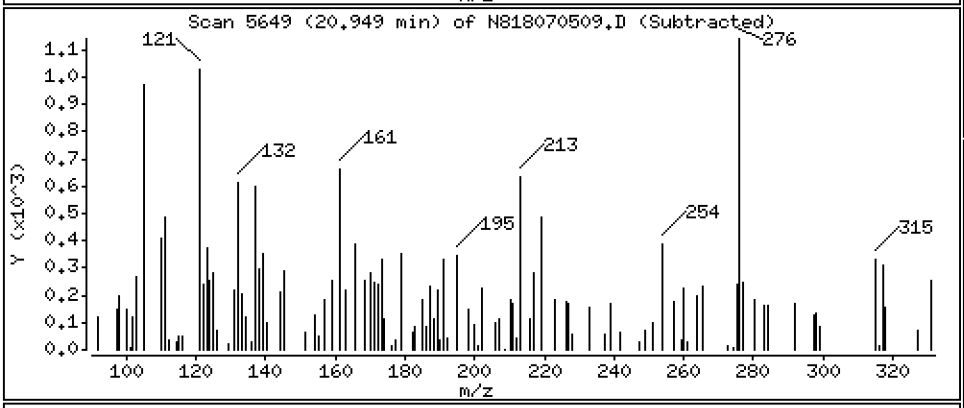
Column diameter: 0.25

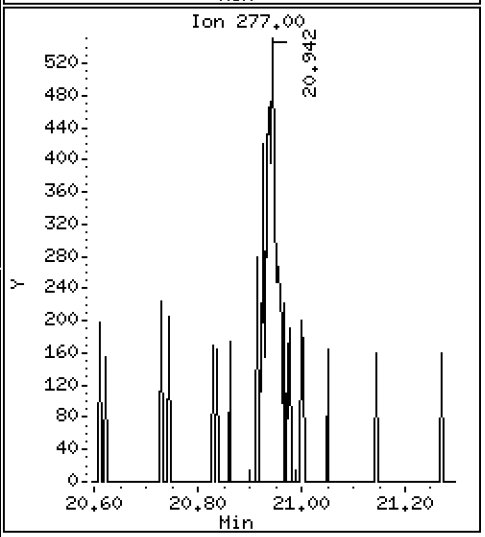
39 Benzo(g,h,i)perylene

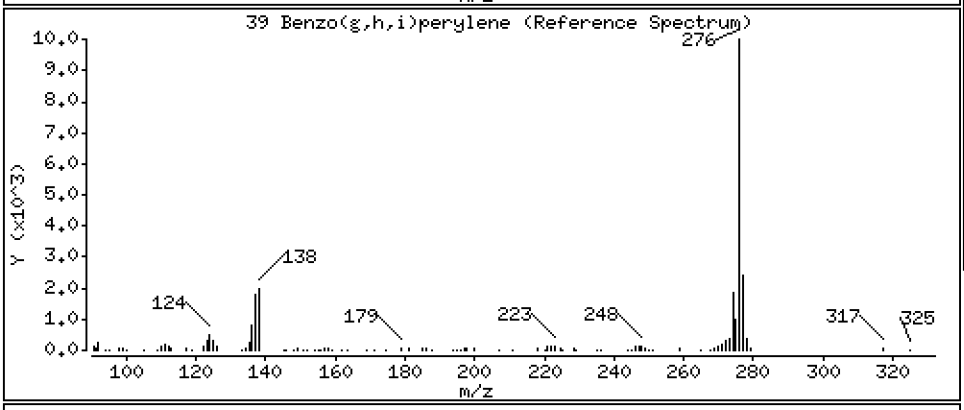
Concentration: 0.05477 ug/mL

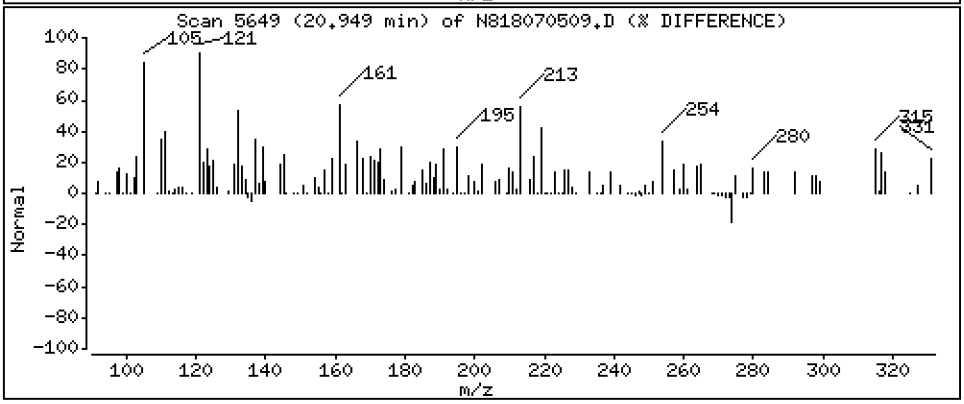












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070509.D
Lab Smp Id: 18F0364-03
Inj Date : 05-JUL-2018 19:51
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.734	4.743	(1.000)	109482	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	55660	1.38403	1.384
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.013	7.013	(1.000)	62319	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	121285	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	4753	0.07063	0.07063
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.773	10.773	(1.193)	14009	0.17799	0.1780
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	150398	1.93556	1.936
	23 Pyrene	202	11.266	11.266	(0.817)	11670	0.14161	0.1416
	24 Benzo(a)anthracene	228	13.660	13.663	(0.990)	4262	0.05197	0.05197
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	142296	2.00000	
	27 Chrysene	228	13.865	13.859	(1.005)	7106	0.08775	0.08775(M)
	28 Benzo(b)fluoranthene	252	16.335	16.335	(0.928)	4132	0.04912	0.04912
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.335	16.335	(0.928)	8512	0.10147	0.1015(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.597	17.593	(1.000)	134497	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.984	19.981	(1.136)	1830	0.21510	0.2151
$	36 Dibenzo(a,h)anthracene-d14	292	19.880	19.876	(1.130)	126301	2.07461	2.075
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.948	20.945	(1.190)	3432	0.05477	0.05477(M)
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070509.D
Lab Smp Id: 18F0364-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	109482	11.79
10 Acenaphthene-d10	54983	27492	109966	62319	13.34
15 Phenanthrene-d10	115816	57908	231632	121285	4.72
25 Chrysene-d12	129167	64584	258334	142296	10.16
33 Perylene-d12	111506	55753	223012	134497	20.62

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.20
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070509.D

Lab ID: 18F0364-03
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 19:51

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

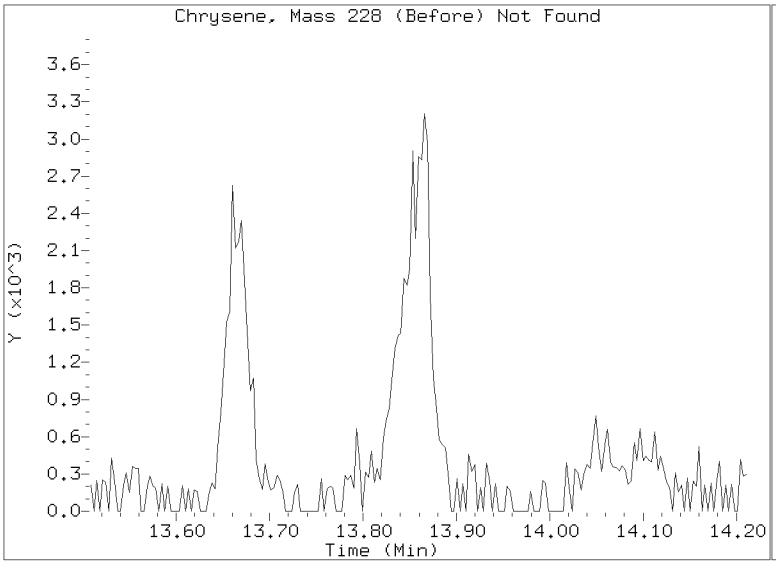
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

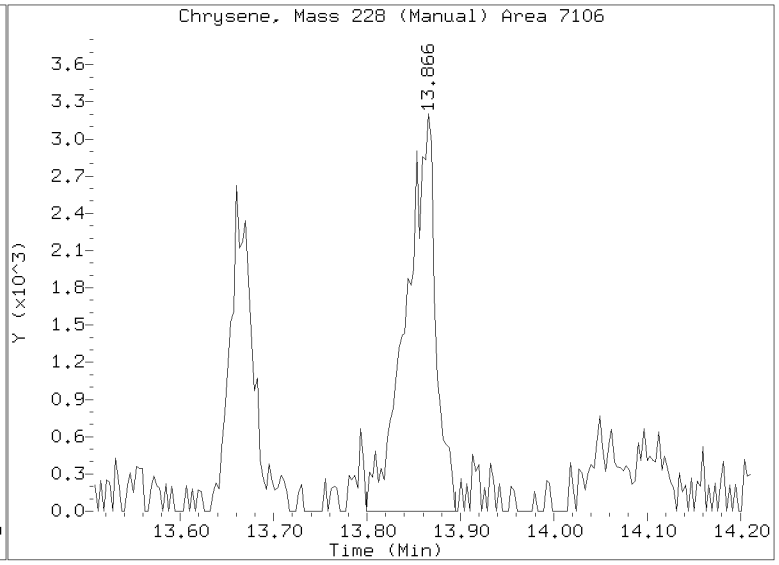
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

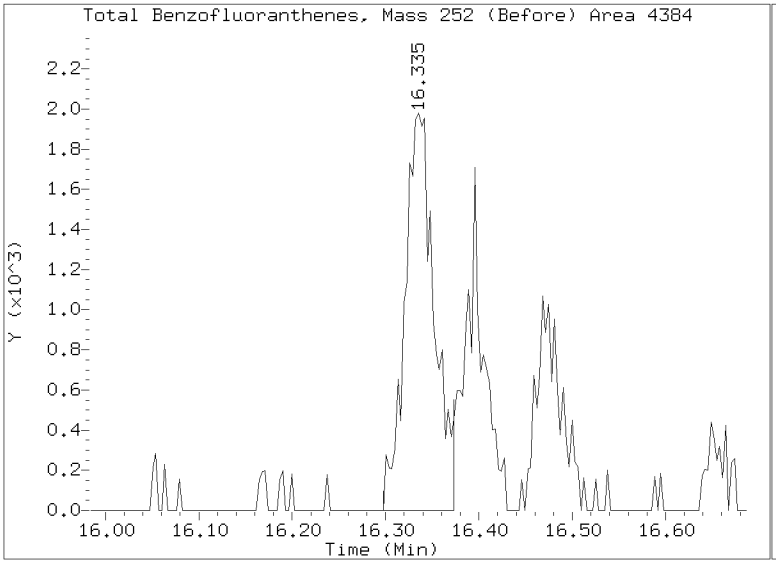
* Only compounds listed in the work order have been verified by the analyst *

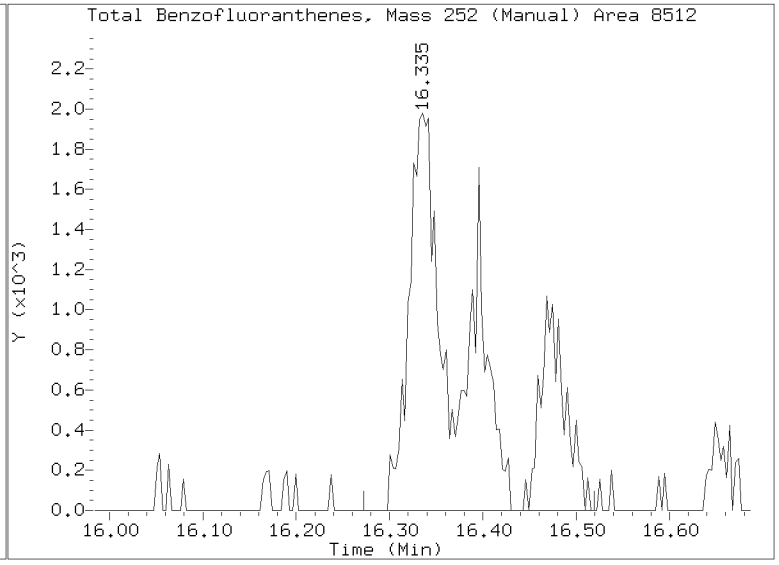
Quant Ion Manual Peak Adjustment Report

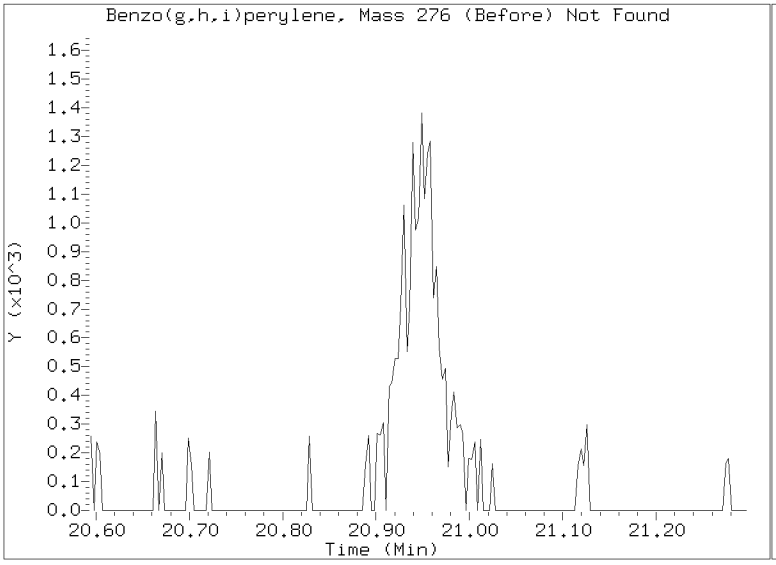
Datafile: //target/share/chem3/nt8.i/20180705.b/N818070509.D
Injection Date: 05-JUL-2018 19:51
Lab ID:18F0364-03 Client ID:
Report Date: 07/09/2018 10:49

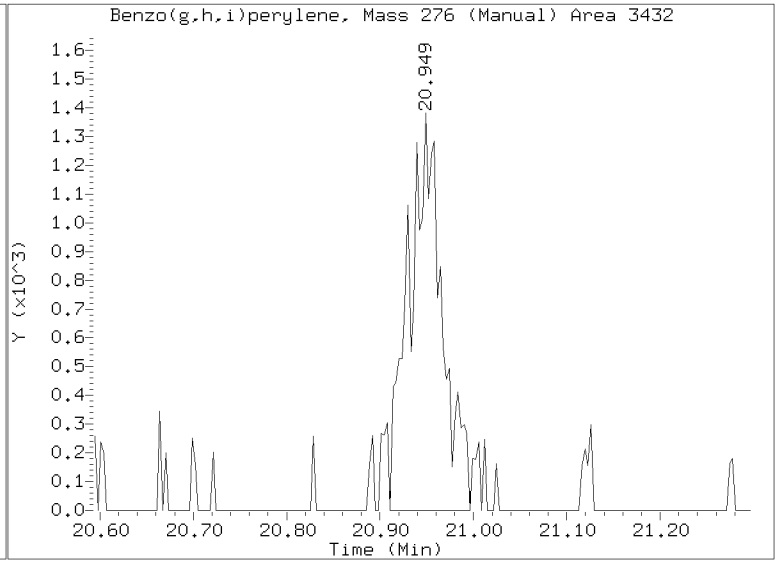












LDW18-C04-CLWB-Comp2

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-04	SDG:	18F0364
Sampled:	05/19/18 14:45	Prepared:	06/29/18 11:28	File ID:	N818070510.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 20:18
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.02 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.39	J	0.54	4.99
218-01-9	Chrysene	1	4.41	J	0.49	4.99
205-99-2	Benzo(b)fluoranthene	1	2.68	J	1.00	4.99
207-08-9	Benzo(k)fluoranthene	1	1.73	J	0.71	4.99
50-32-8	Benzo(a)pyrene	1	4.99	U	0.91	4.99
193-39-5	Indeno(1,2,3-cd)pyrene	1	10.9		0.57	4.99
53-70-3	Dibenzo(a,h)anthracene	1	4.99	U	1.52	4.99

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.70	63.6	42.5	20 - 130	
Dibenzo[a,h]anthracene-d14	149.70	93.6	62.5	20 - 130	
Fluoranthene-d10	149.70	81.9	54.7	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Page 1

Date : 05-JUL-2018 20:18

Client ID:

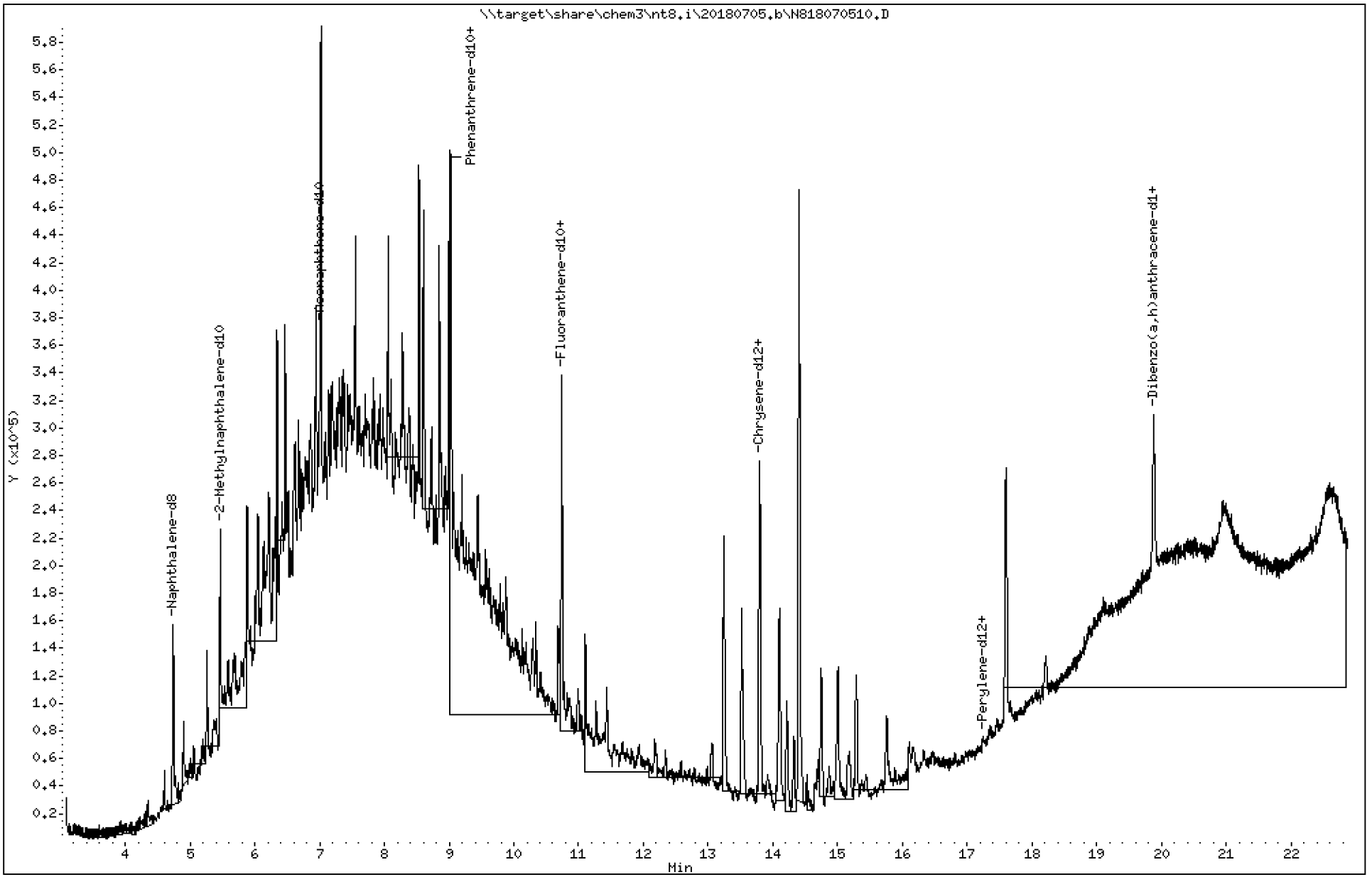
Instrument: nt8.i

Sample Info: 18F0364-04

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

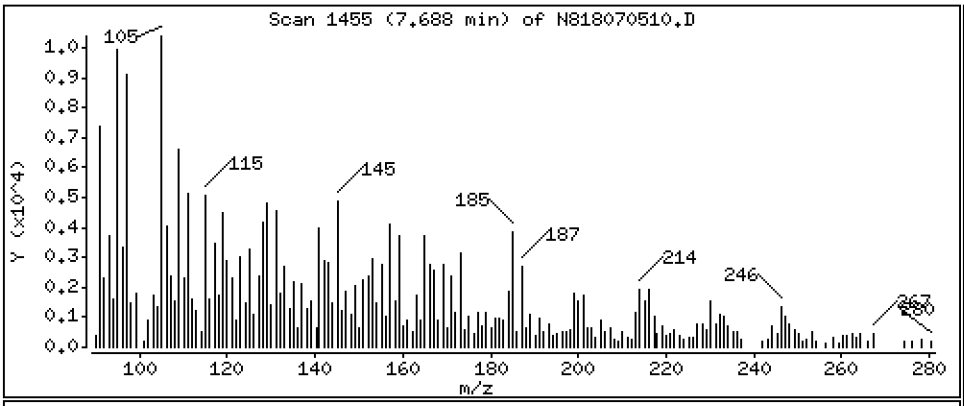
Operator: JZ

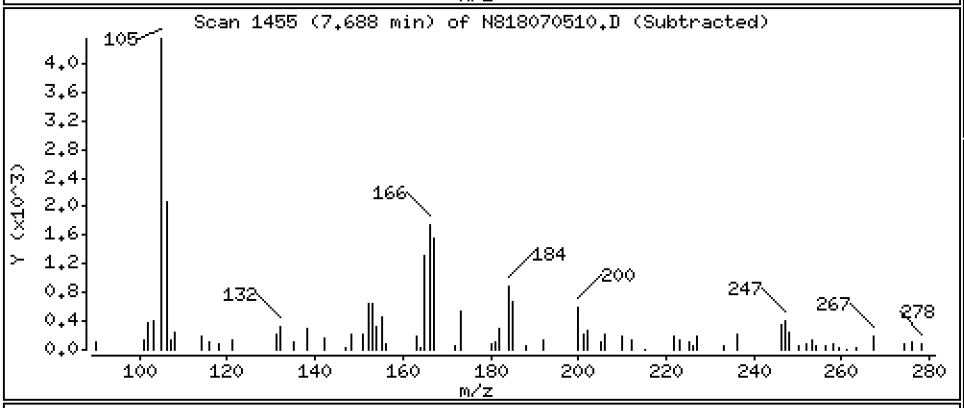
Column phase: Rxi-17sil

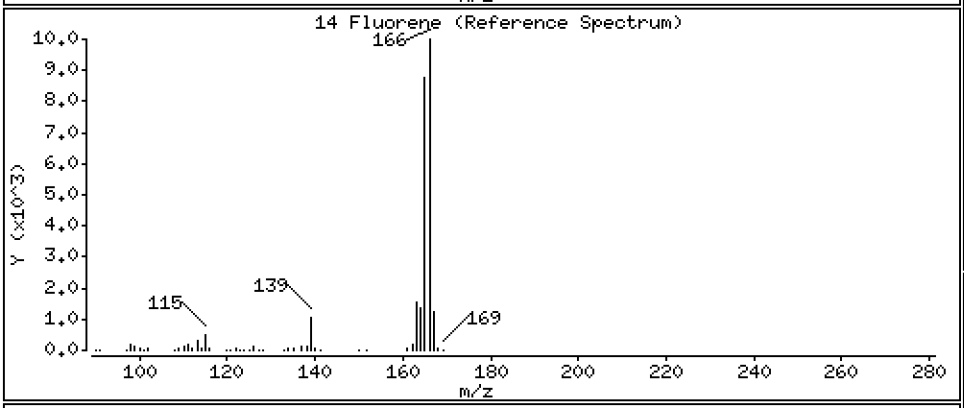
Column diameter: 0.25

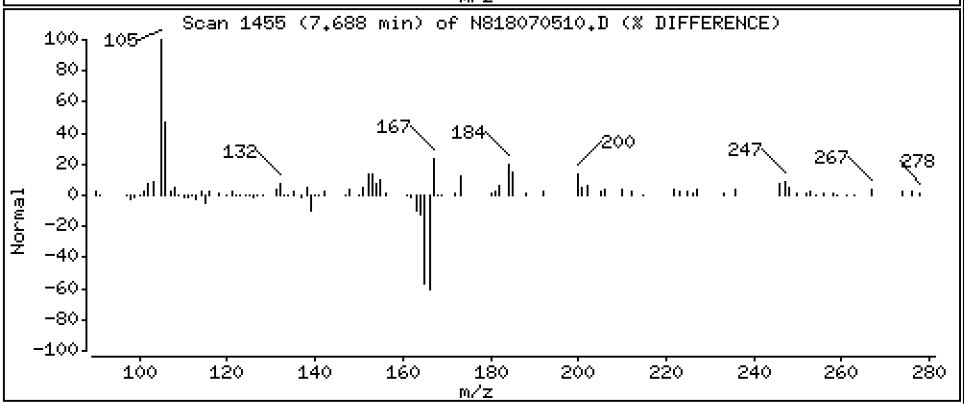
14 Fluorene

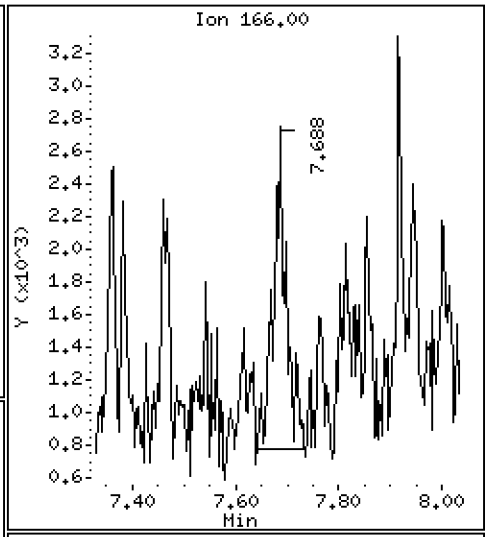
Concentration: 0.06671 ug/mL

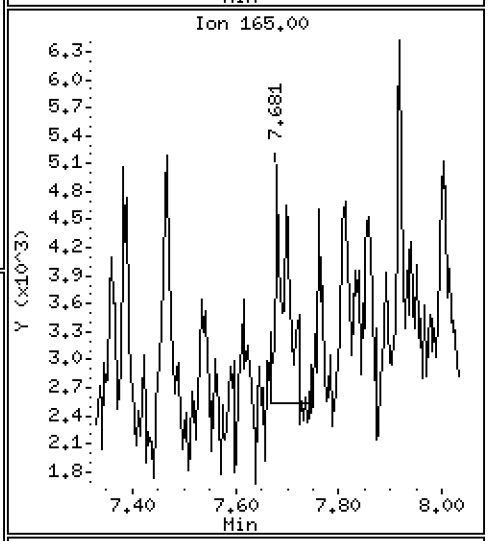


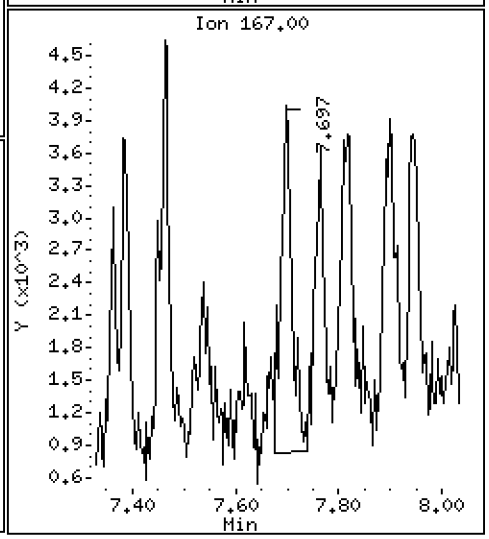












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

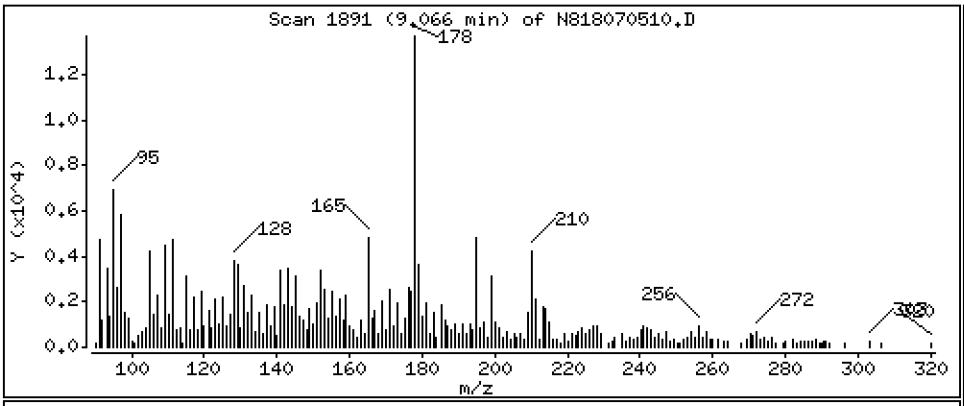
Operator: JZ

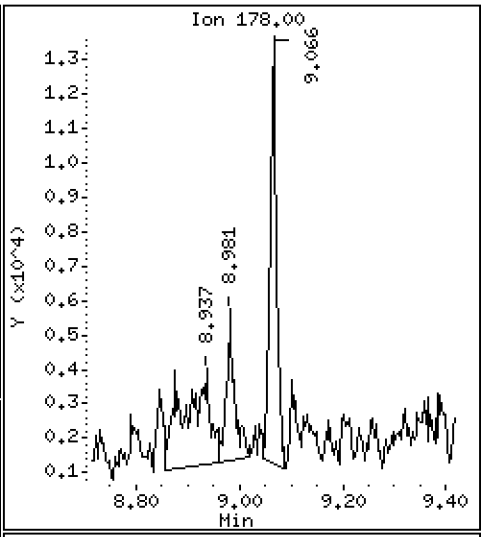
Column phase: Rxi-17sil

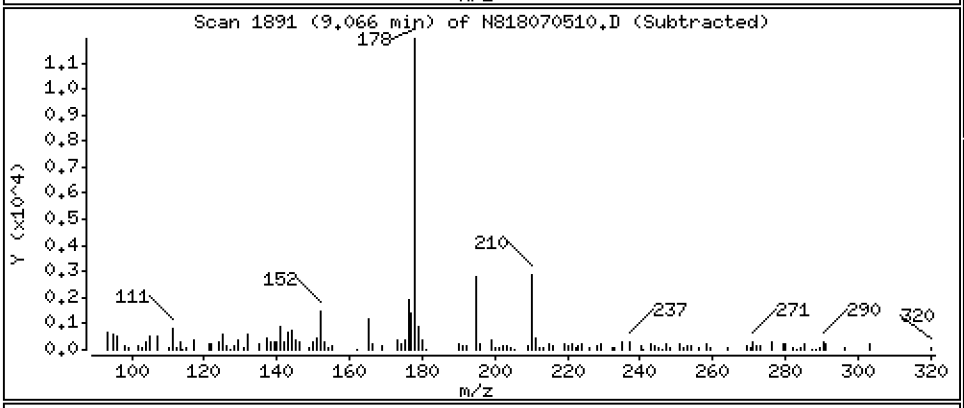
Column diameter: 0.25

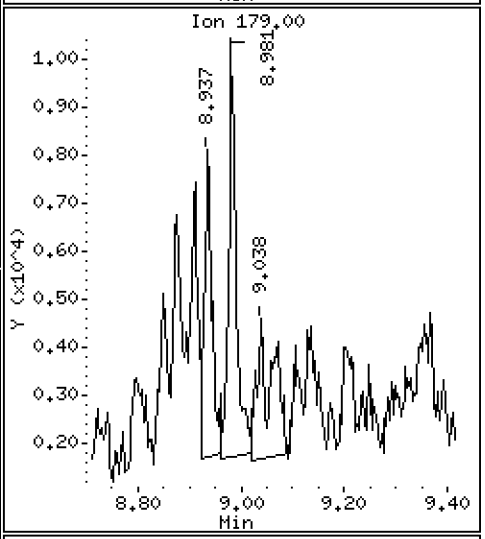
16 Phenanthrene

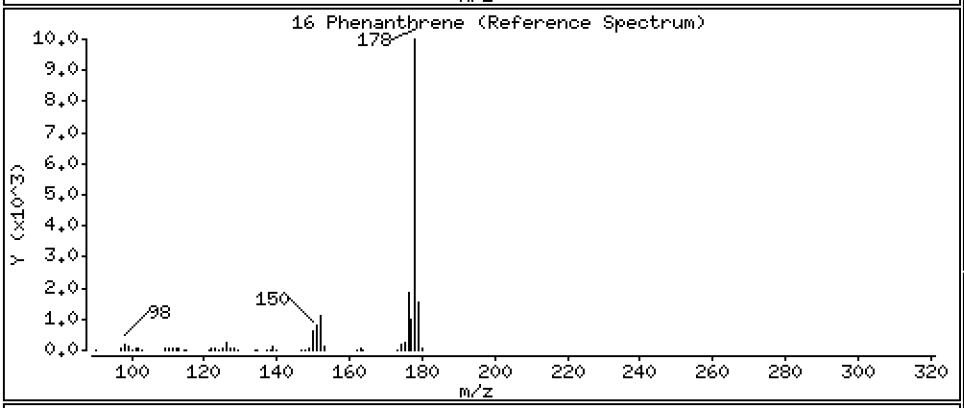
Concentration: 0.1662 ug/mL

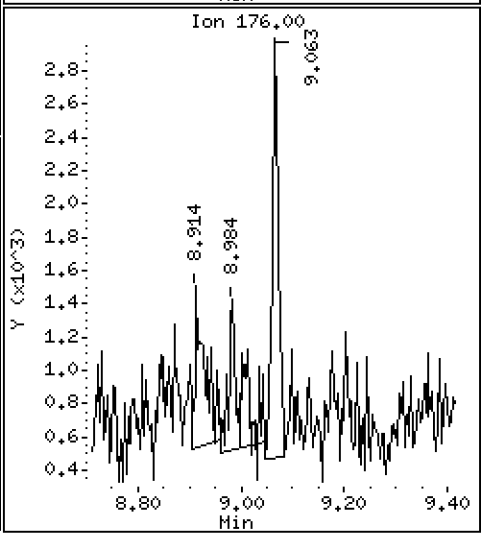


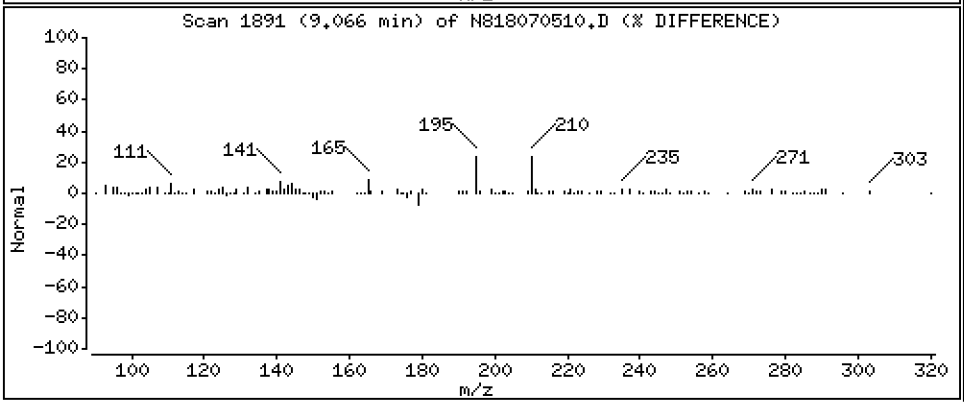












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

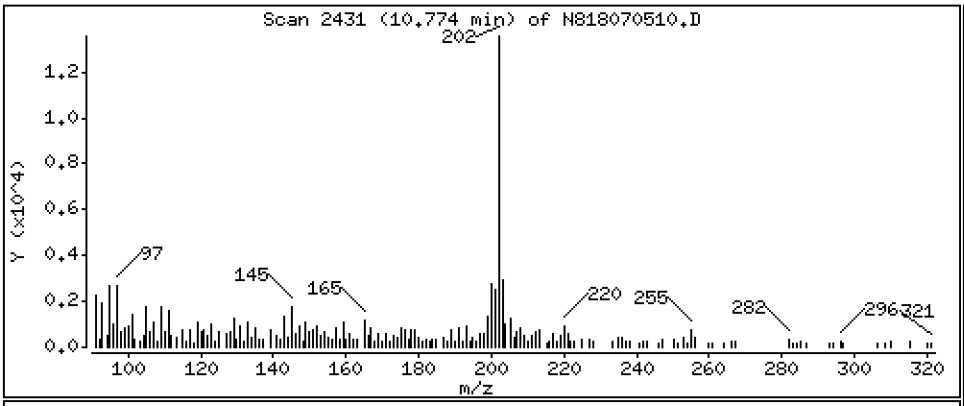
Operator: JZ

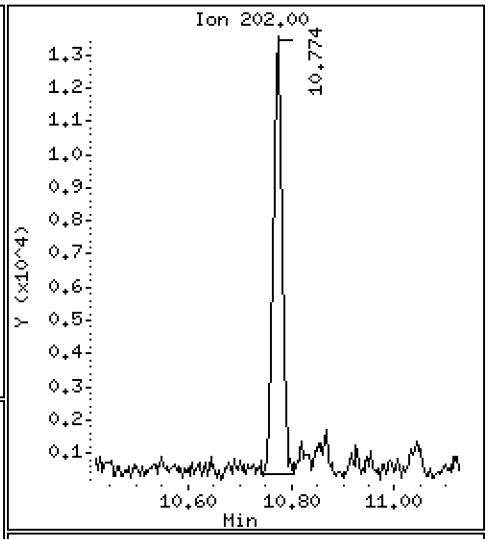
Column phase: Rxi-17sil

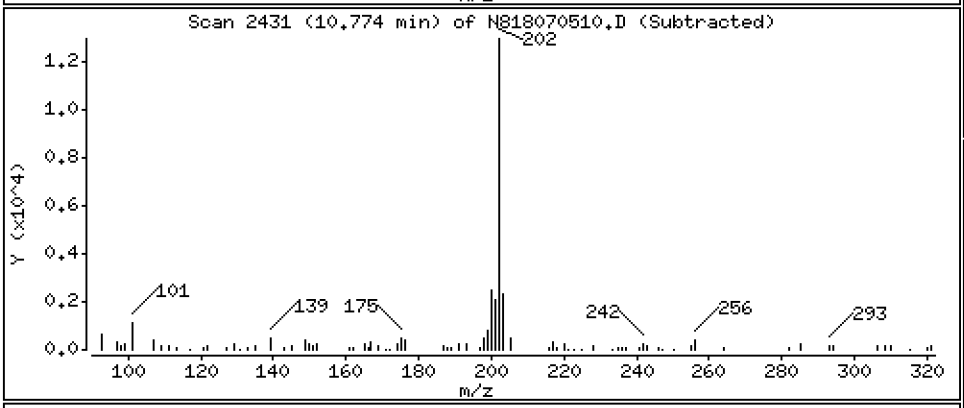
Column diameter: 0.25

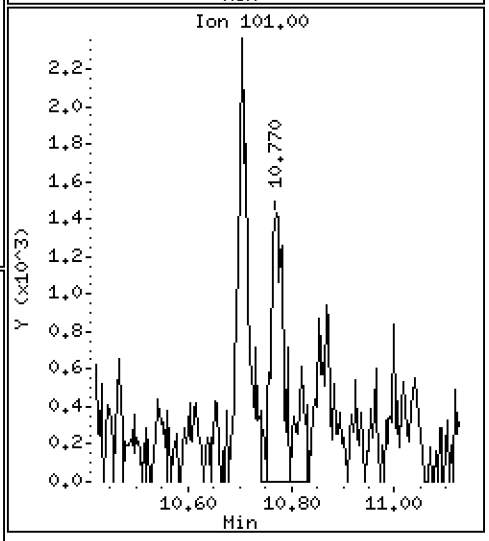
22 Fluoranthene

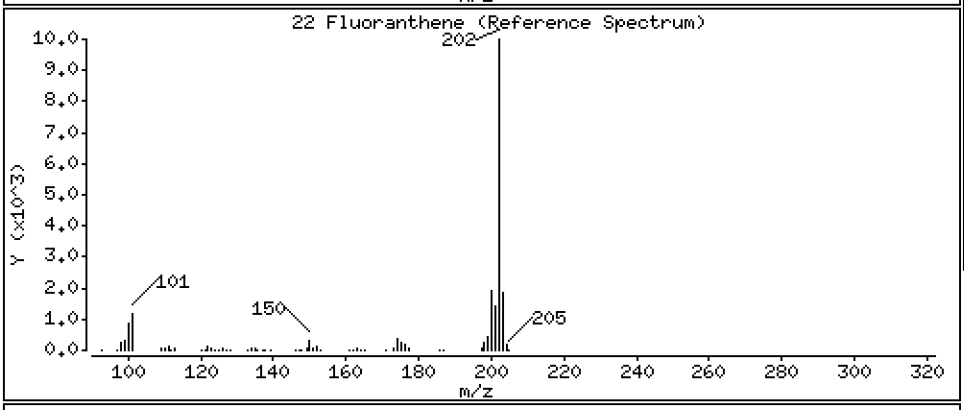
Concentration: 0.2024 ug/mL

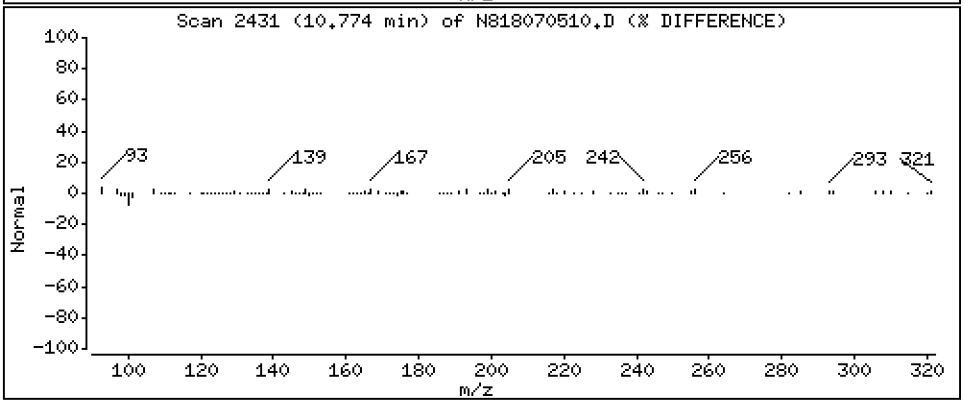












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

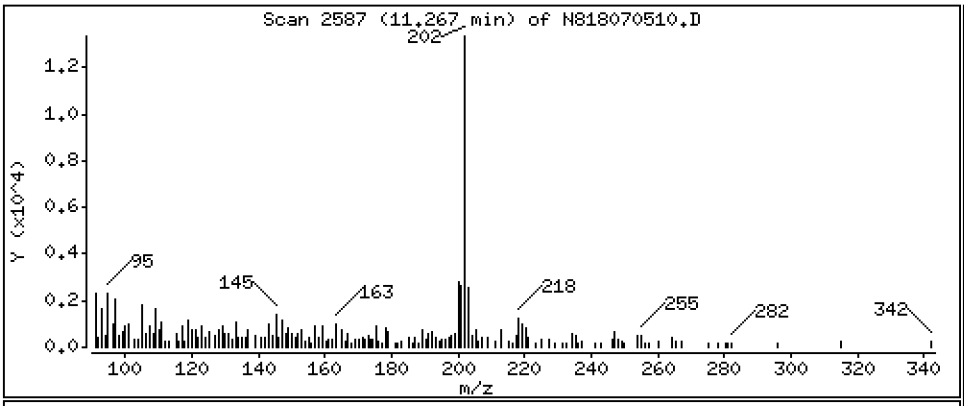
Operator: JZ

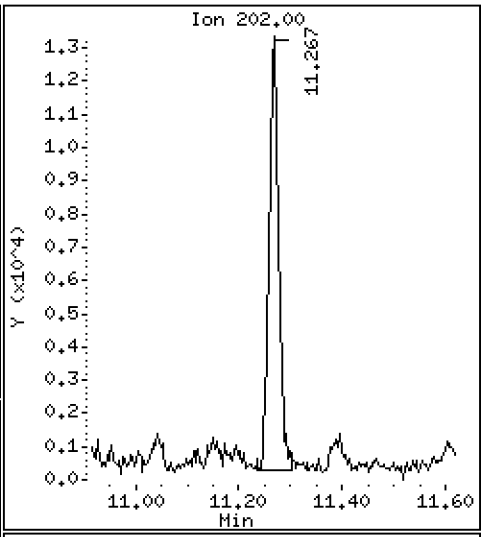
Column phase: Rxi-17sil

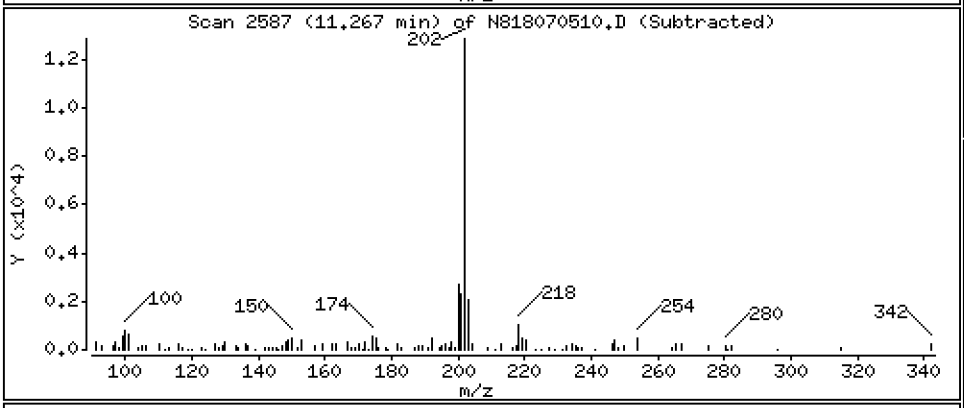
Column diameter: 0.25

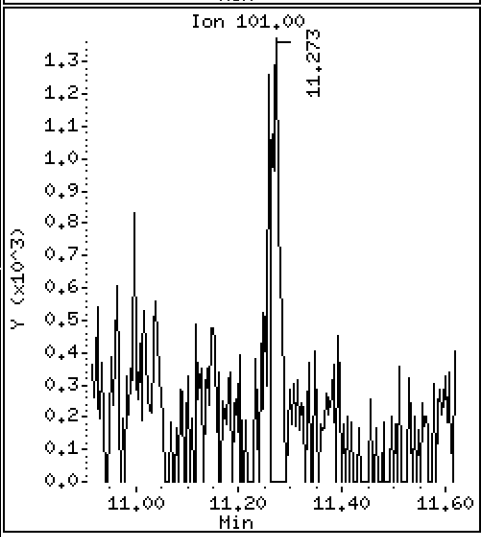
23 Pyrene

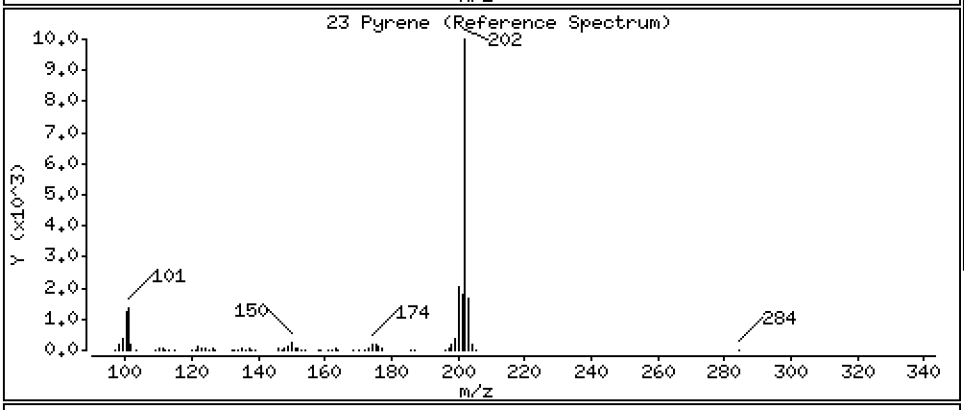
Concentration: 0.2100 ug/mL

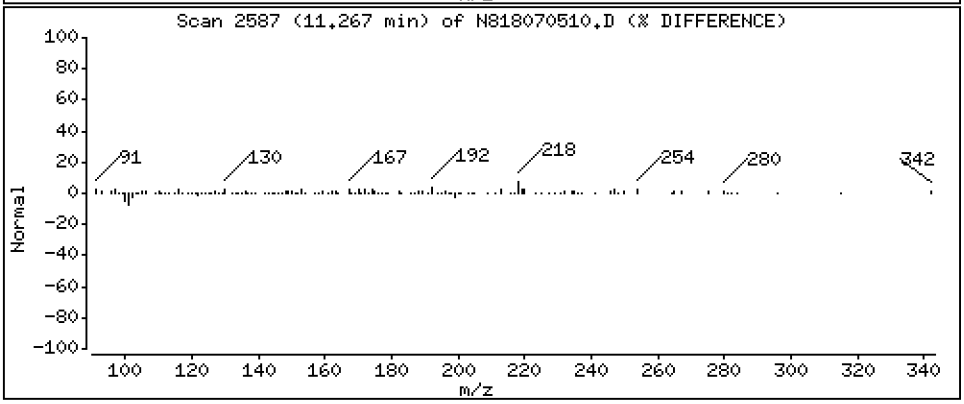












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

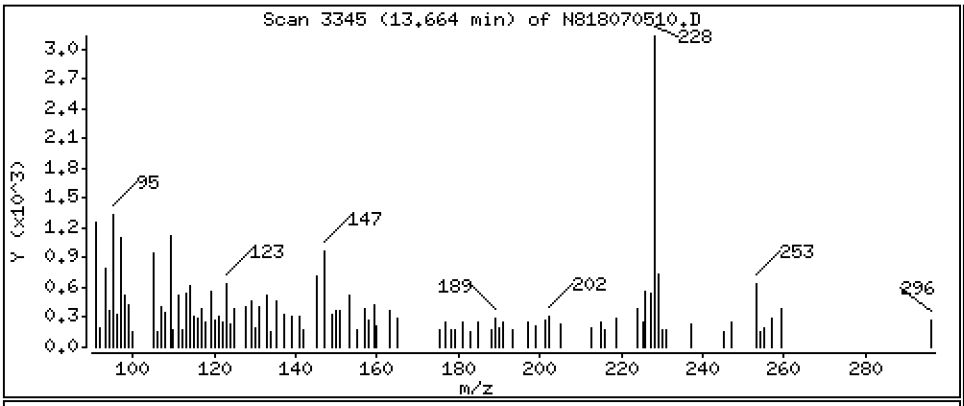
Operator: JZ

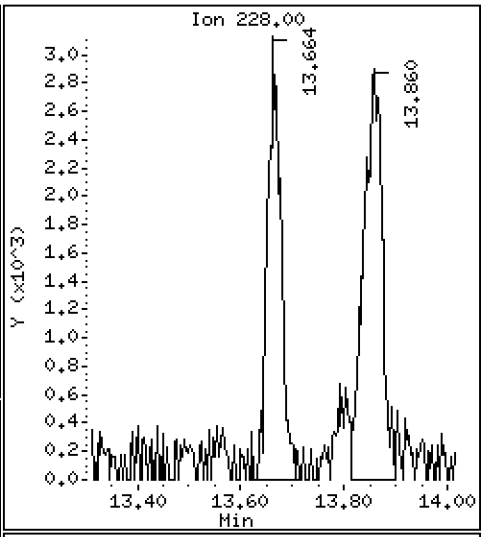
Column phase: Rxi-17sil

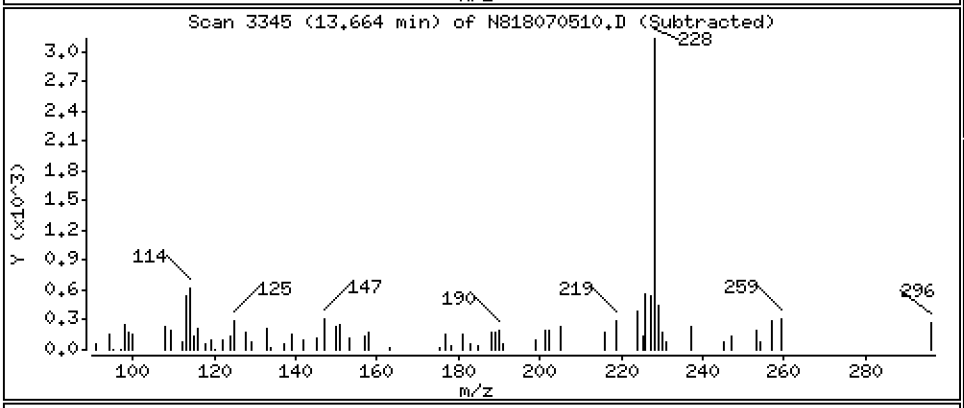
Column diameter: 0.25

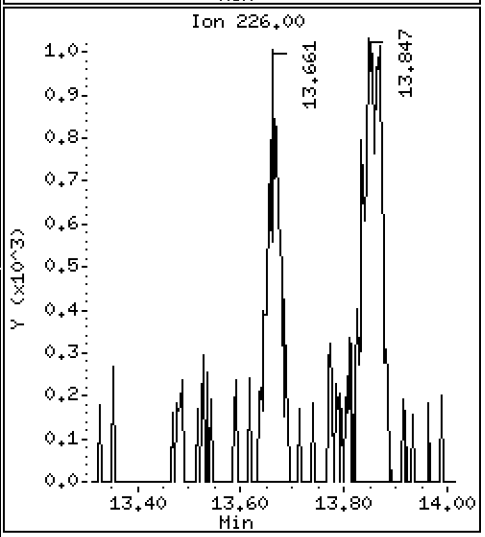
24 Benzo(a)anthracene

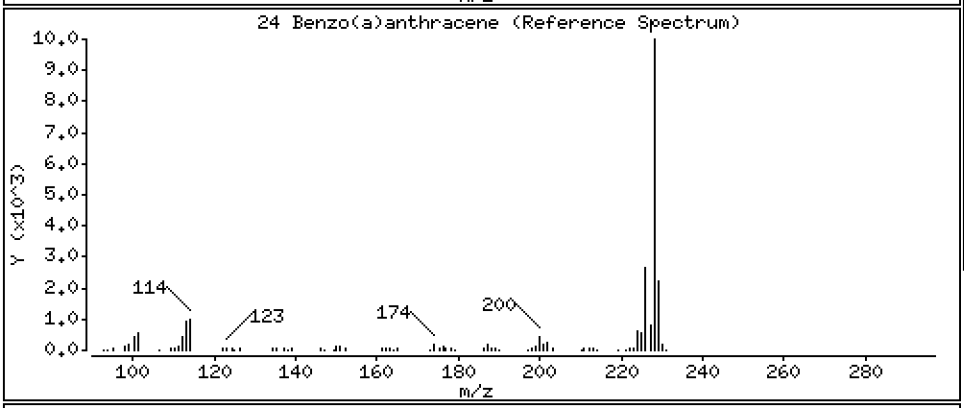
Concentration: 0.06786 ug/mL

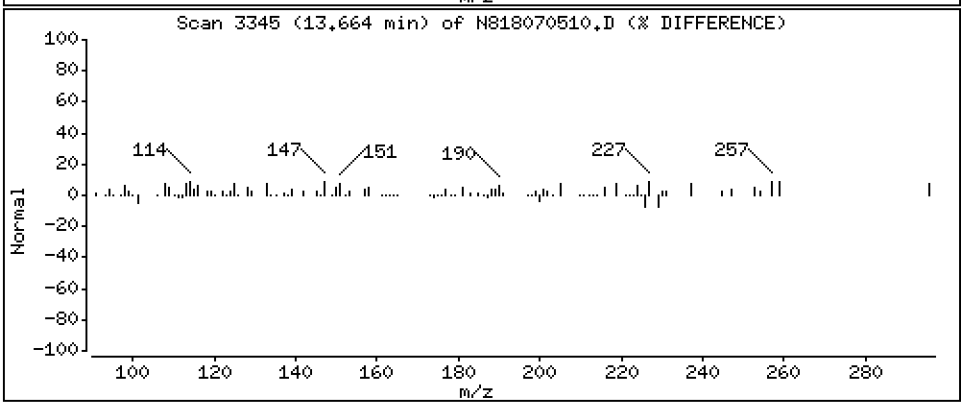












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

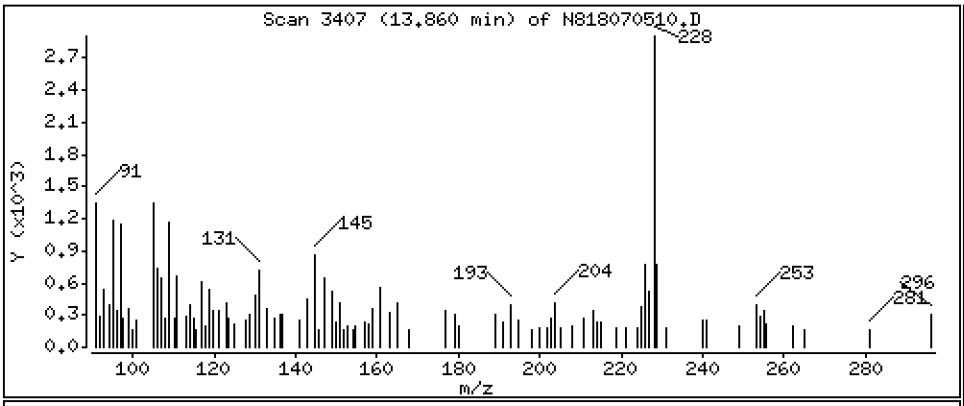
Operator: JZ

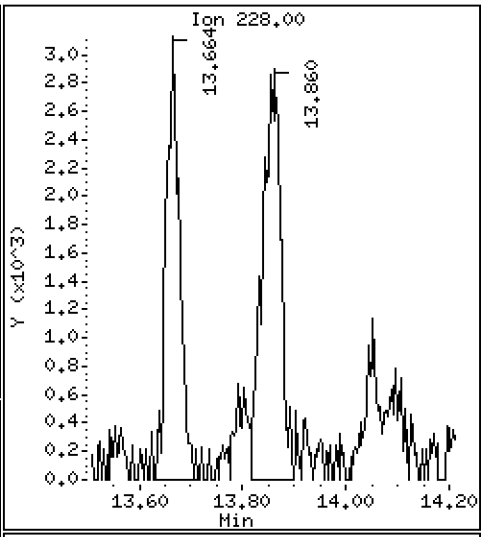
Column phase: Rxi-17sil

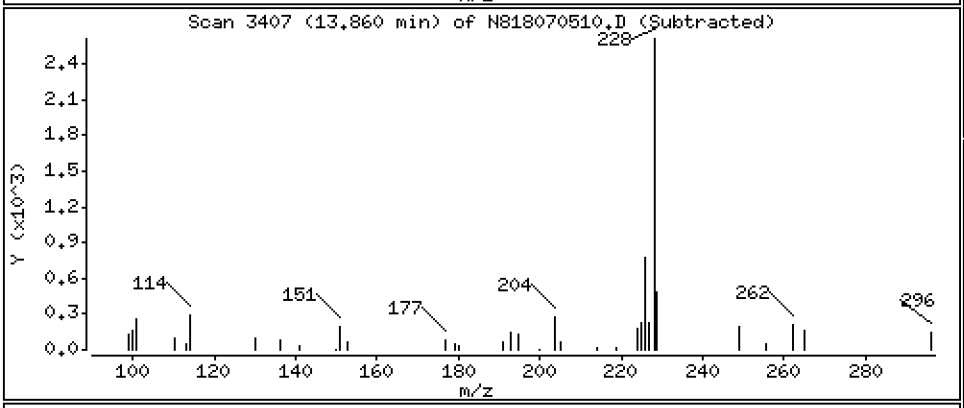
Column diameter: 0.25

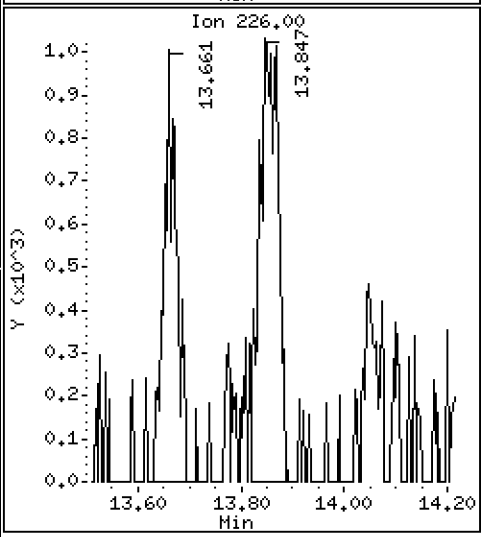
27 Chrysene

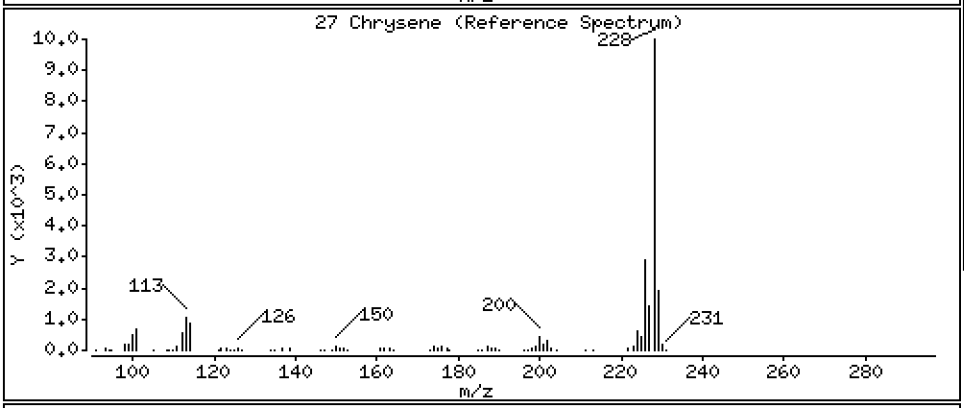
Concentration: 0.08833 ug/mL

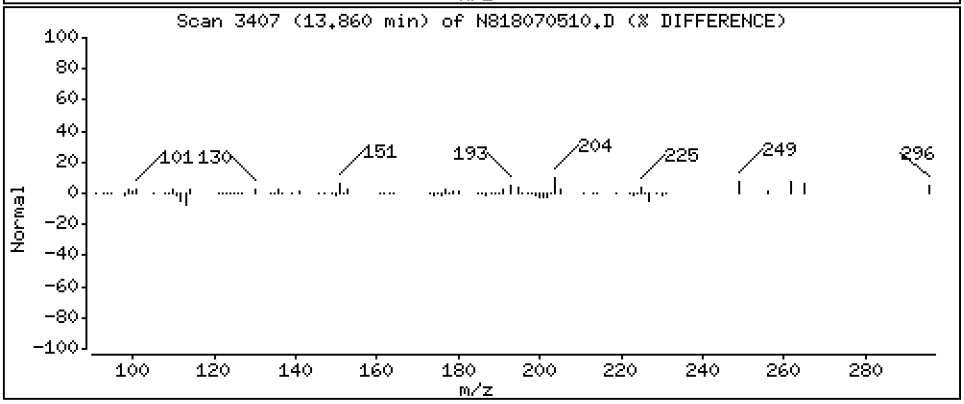












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

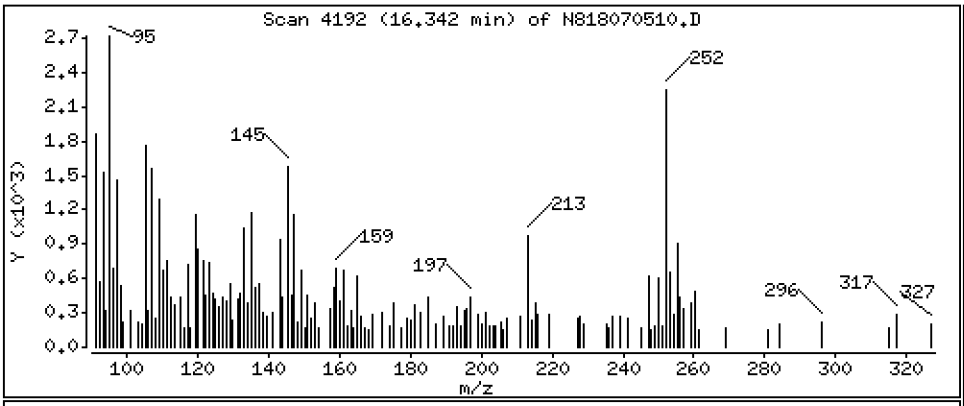
Operator: JZ

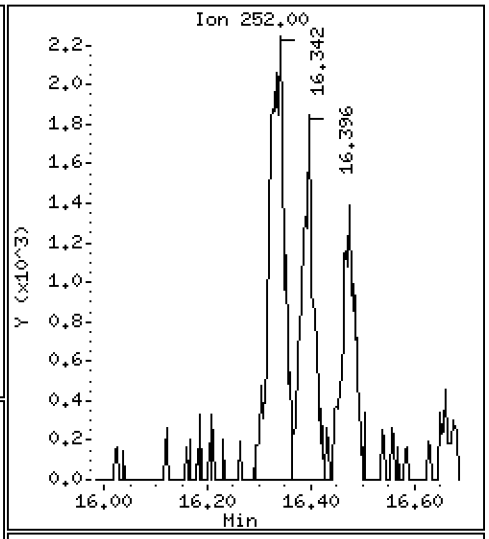
Column phase: Rxi-17sil

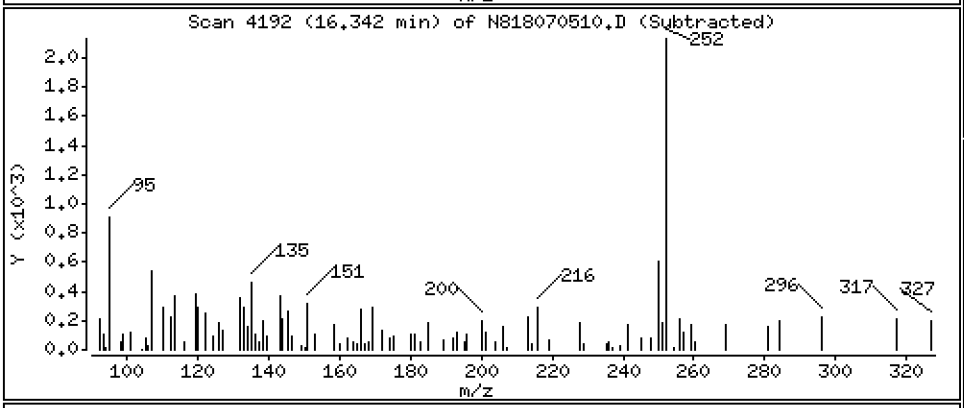
Column diameter: 0.25

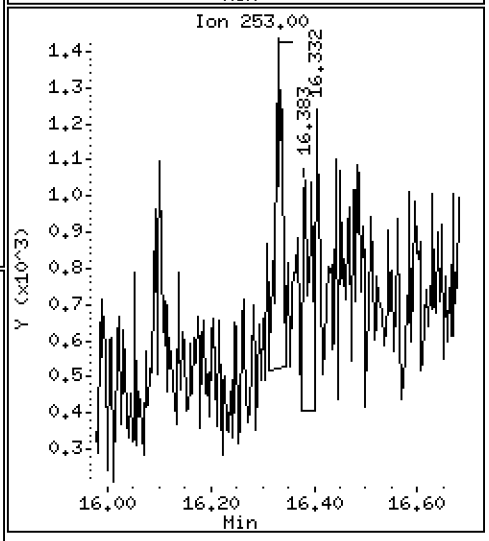
28 Benzo(b)fluoranthene

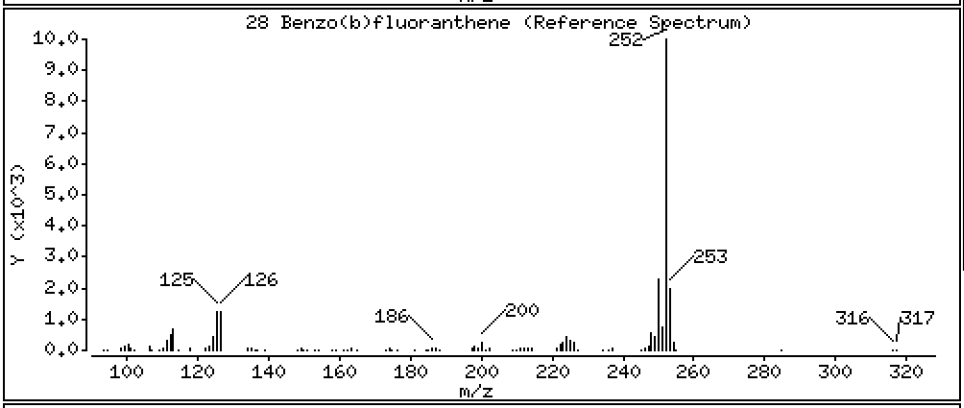
Concentration: 0.05373 ug/mL

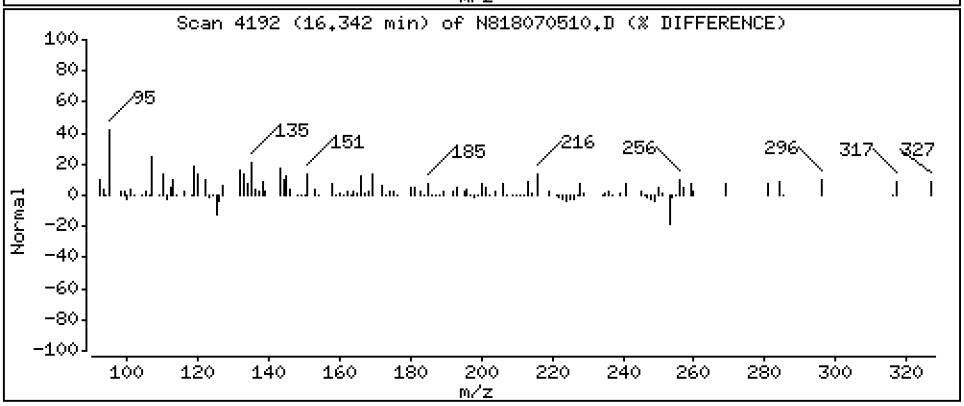












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

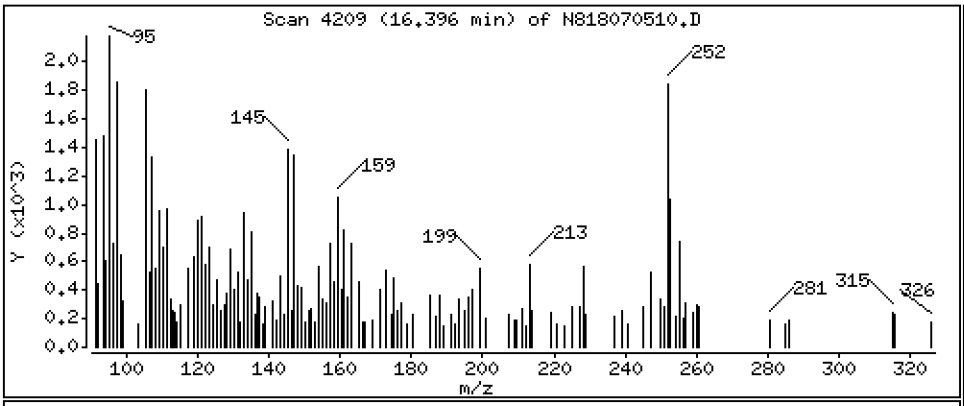
Operator: JZ

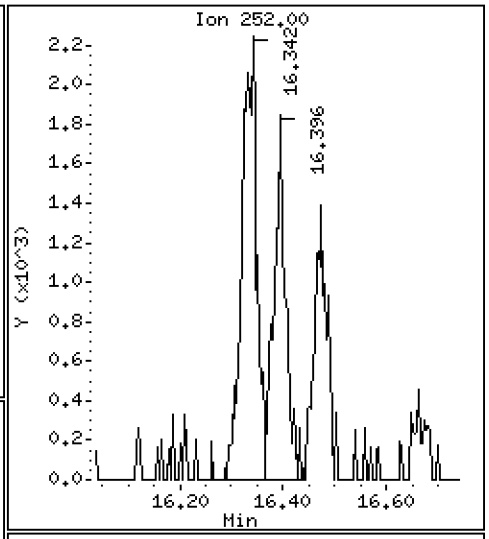
Column phase: Rxi-17sil

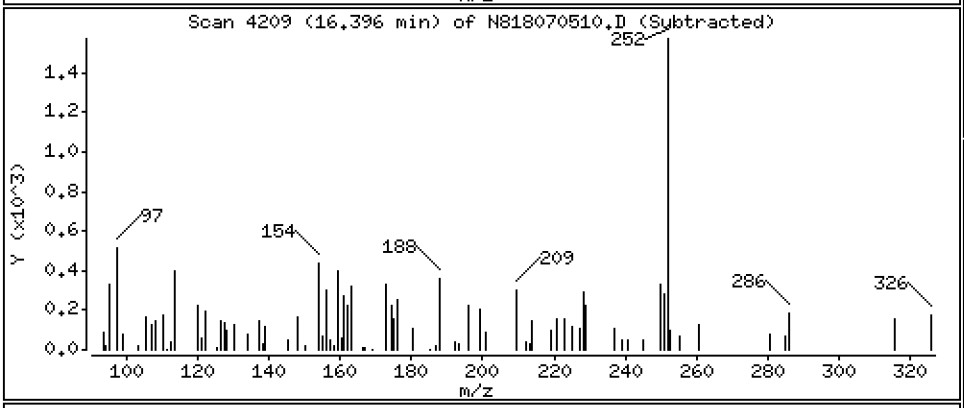
Column diameter: 0.25

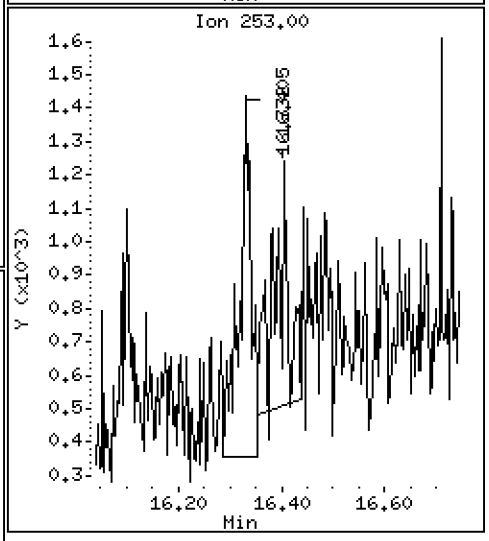
29 Benzo(k)fluoranthene

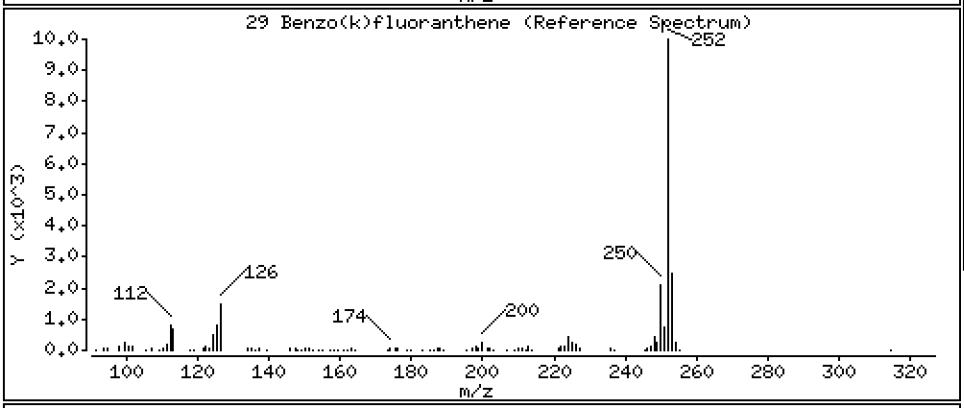
Concentration: 0.03474 ug/mL

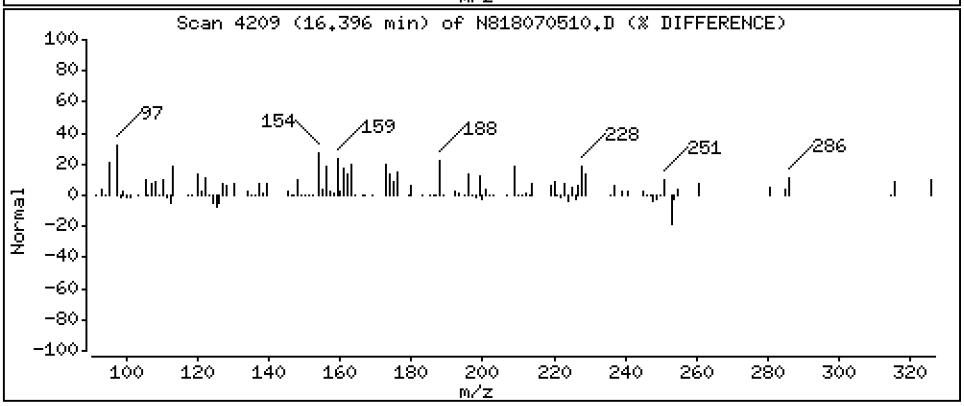












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

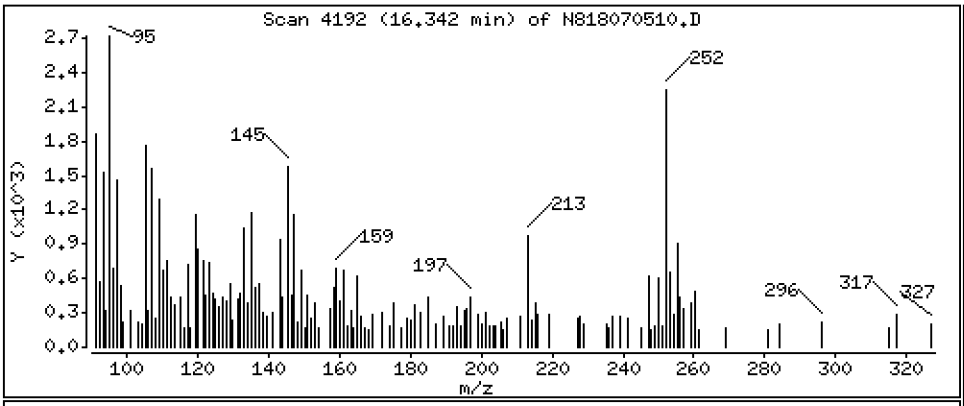
Operator: JZ

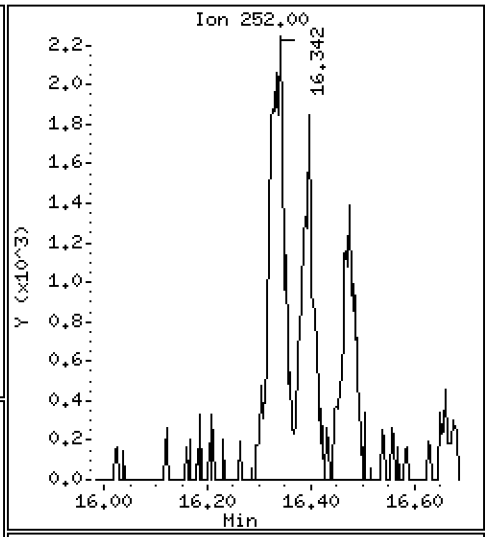
Column phase: Rxi-17sil

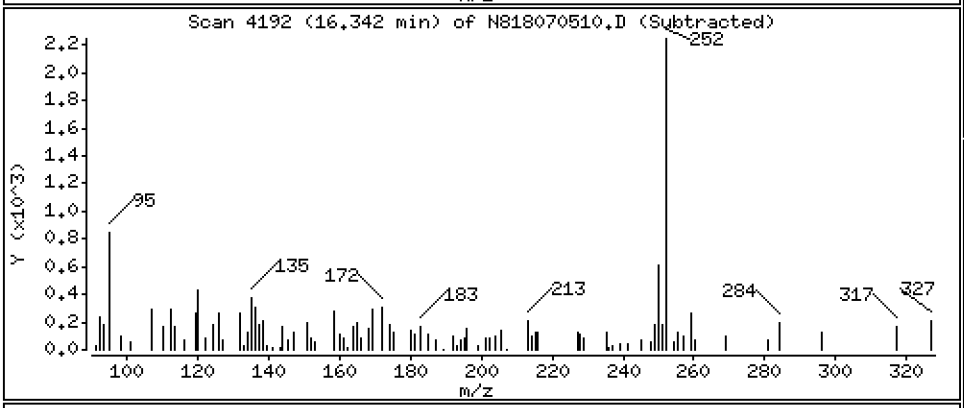
Column diameter: 0.25

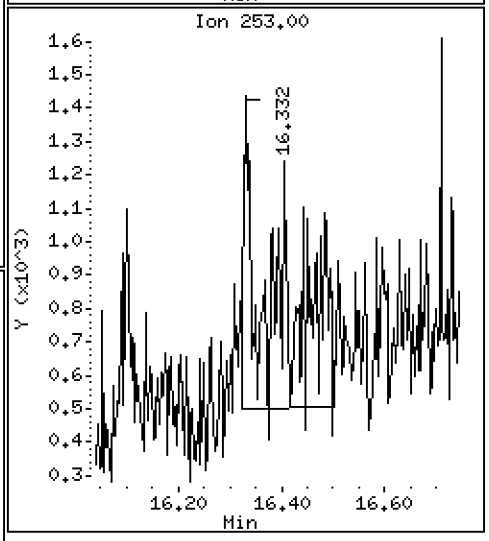
31 Total Benzofluoranthenes

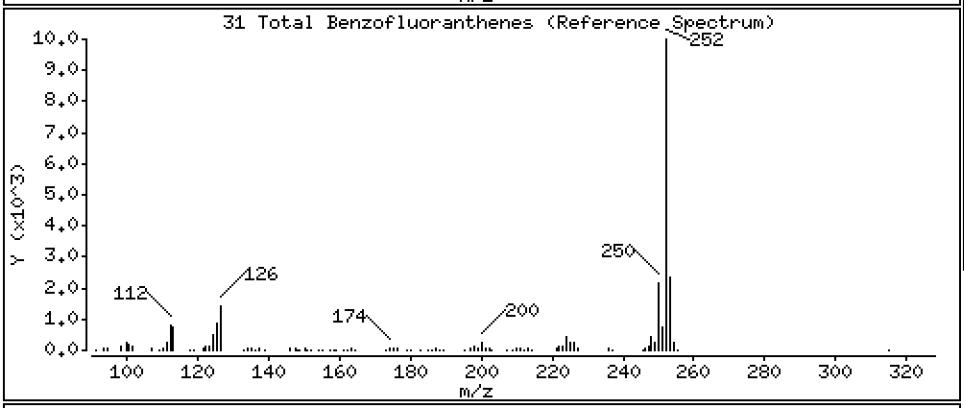
Concentration: 0.1171 ug/mL

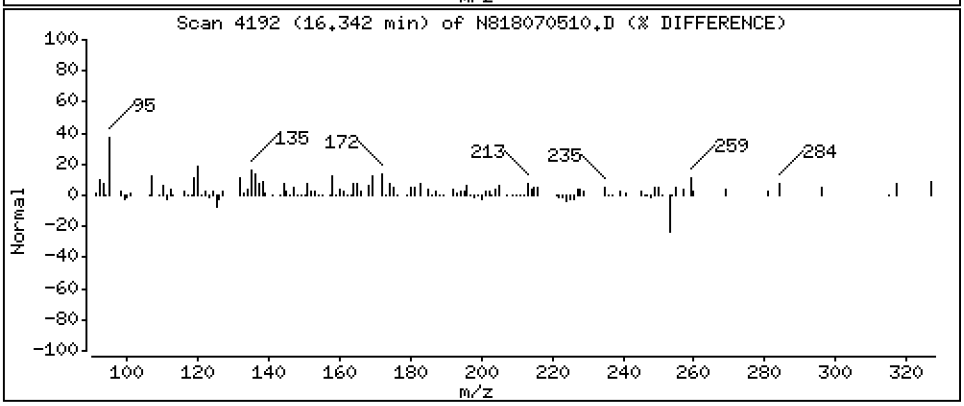












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

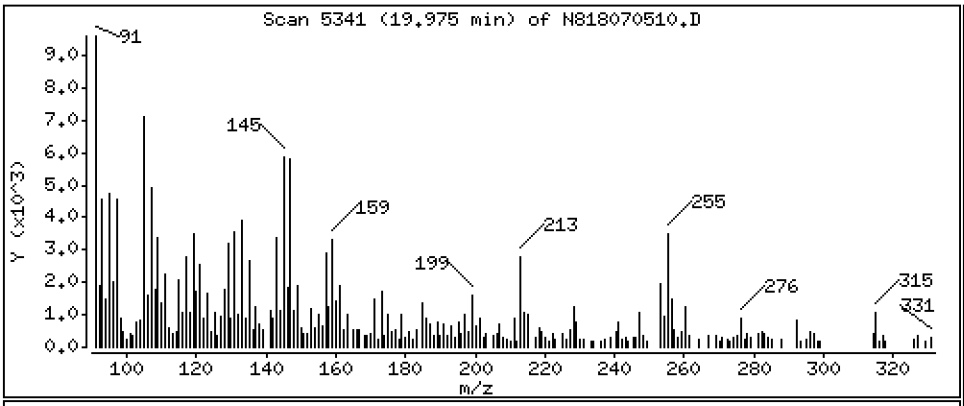
Operator: JZ

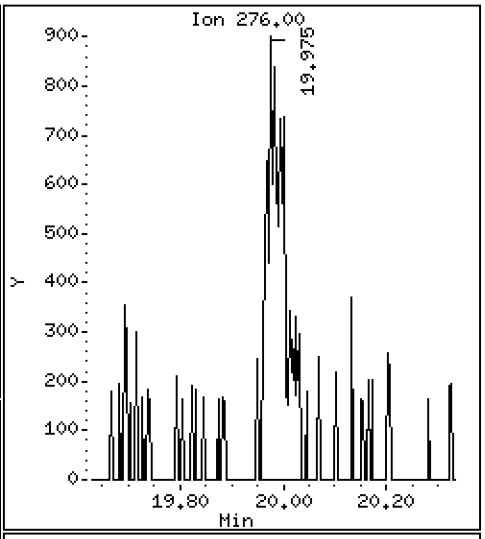
Column phase: Rxi-17sil

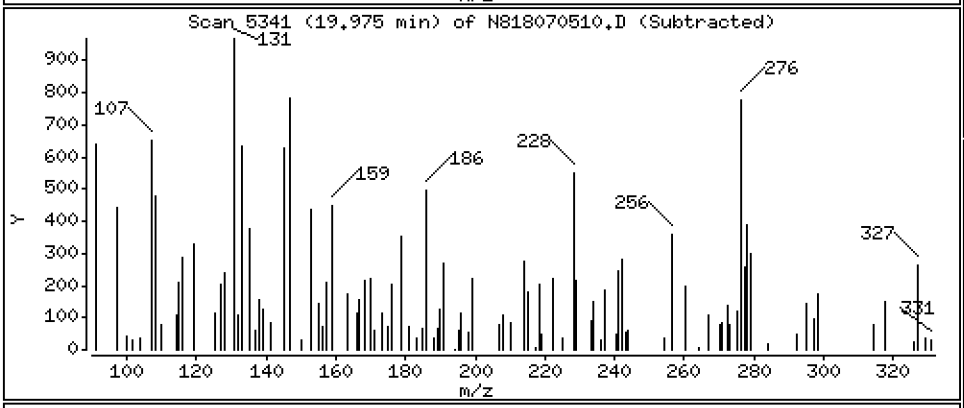
Column diameter: 0.25

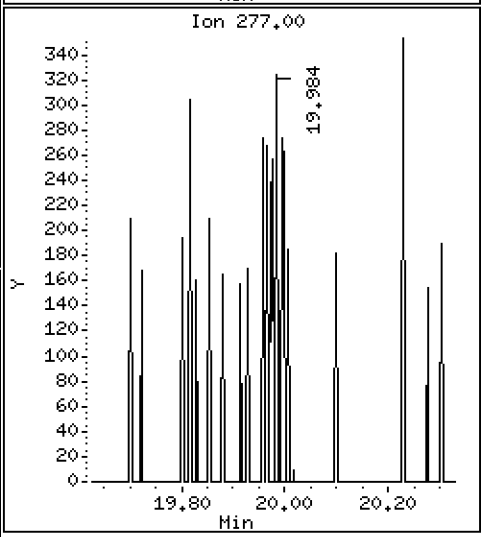
37 Indeno(1,2,3-cd)pyrene

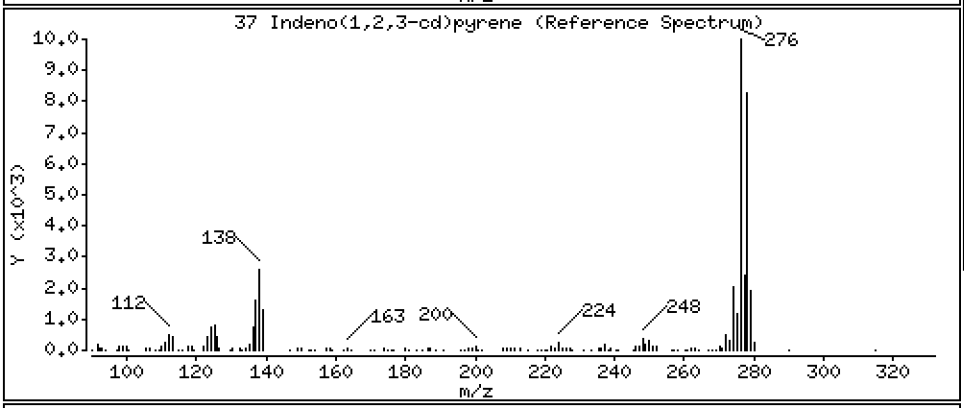
Concentration: 0.2184 ug/mL

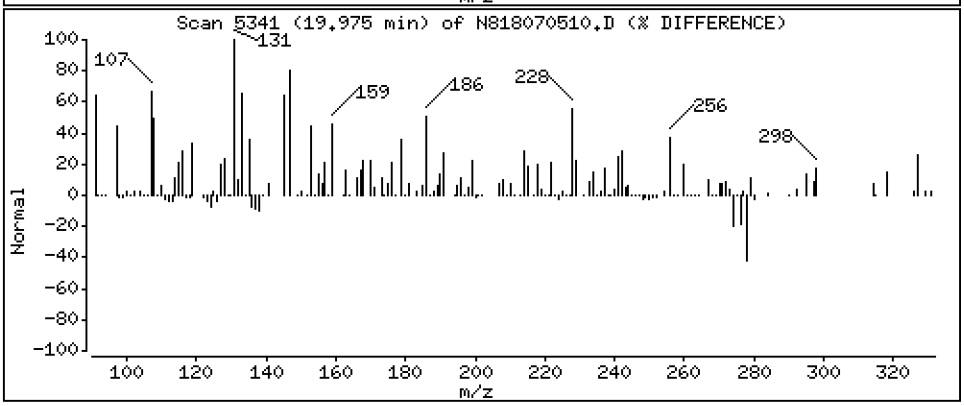












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070510.D

Date : 05-JUL-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-04

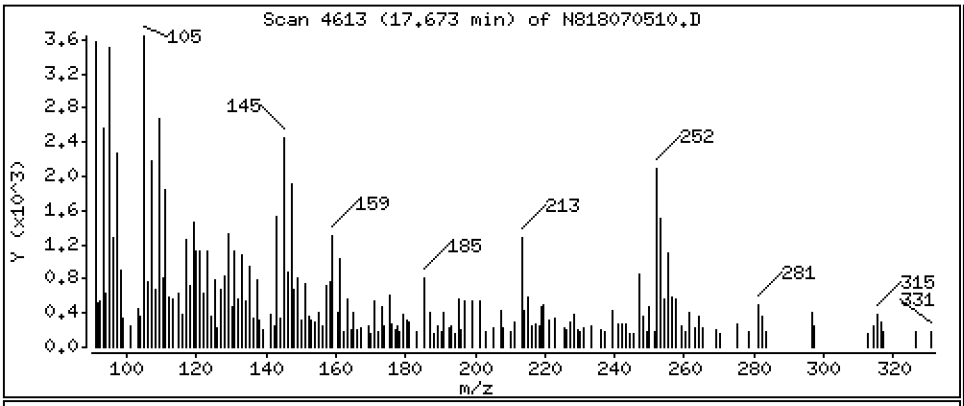
Operator: JZ

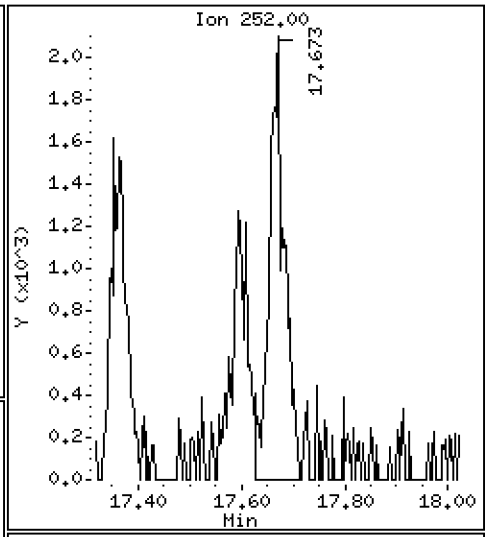
Column phase: Rxi-17sil

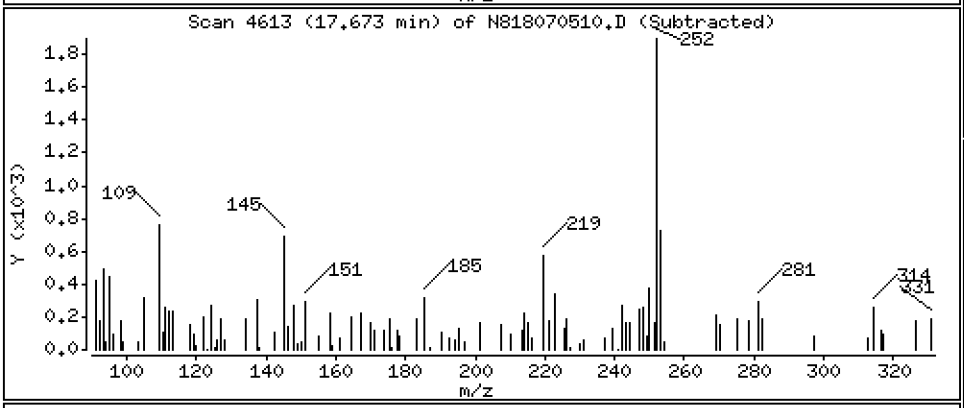
Column diameter: 0.25

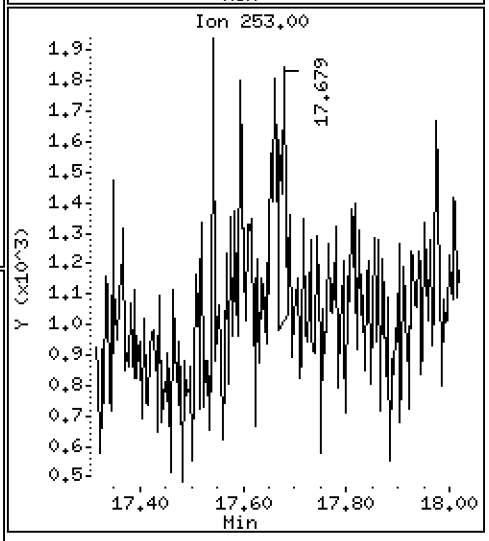
35 Perylene

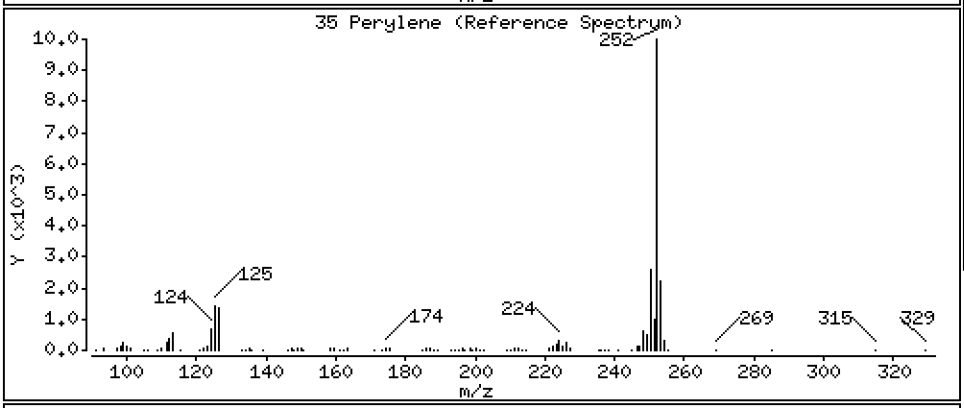
Concentration: 0.05292 ug/mL

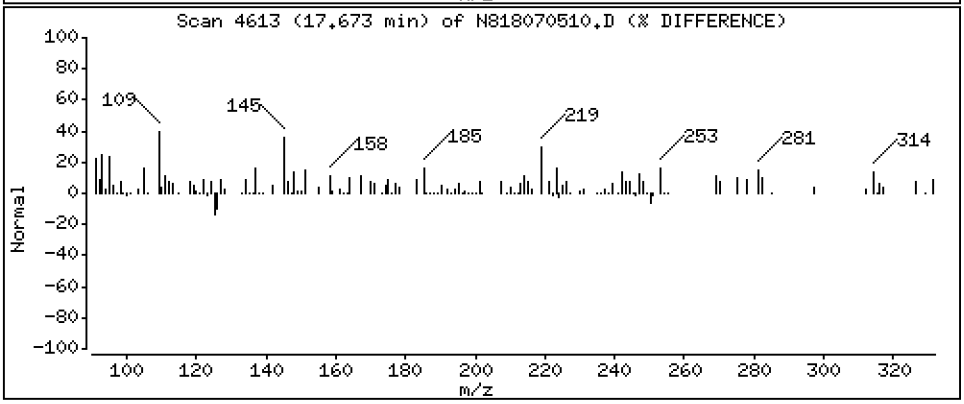












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070510.D
Lab Smp Id: 18F0364-04
Inj Date : 05-JUL-2018 20:18
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-04
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	106345	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	49802	1.27490	1.275
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.014	7.013	(1.000)	62869	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.687	7.681	(1.096)	3350	0.06671	0.06671
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	122898	2.00000	
	16 Phenanthrene	178	9.066	9.065	(1.004)	11333	0.16621	0.1662
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.773	10.773	(1.193)	16138	0.20235	0.2024
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	129266	1.64176	1.642
	23 Pyrene	202	11.266	11.266	(0.817)	17404	0.21002	0.2100
	24 Benzo(a)anthracene	228	13.663	13.663	(0.991)	5597	0.06786	0.06786
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	143088	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	7193	0.08833	0.08833
	28 Benzo(b)fluoranthene	252	16.341	16.335	(0.929)	4526	0.05373	0.05373
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.932)	2969	0.03474	0.03474
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.341	16.335	(0.929)	9839	0.11713	0.1171(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.597	17.593	(1.000)	134685	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.974	19.981	(1.135)	2135	0.21845	0.2184
$	36 Dibenzo(a,h)anthracene-d14	292	19.880	19.876	(1.130)	112917	1.87606	1.876
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	17.673	17.669	(1.004)	4320	0.05292	0.05292

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070510.D
Lab Smp Id: 18F0364-04
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	106345	8.59
10 Acenaphthene-d10	54983	27492	109966	62869	14.34
15 Phenanthrene-d10	115816	57908	231632	122898	6.11
25 Chrysene-d12	129167	64584	258334	143088	10.78
33 Perylene-d12	111506	55753	223012	134685	20.79

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070510.D

Lab ID: 18F0364-04
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 20:18

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

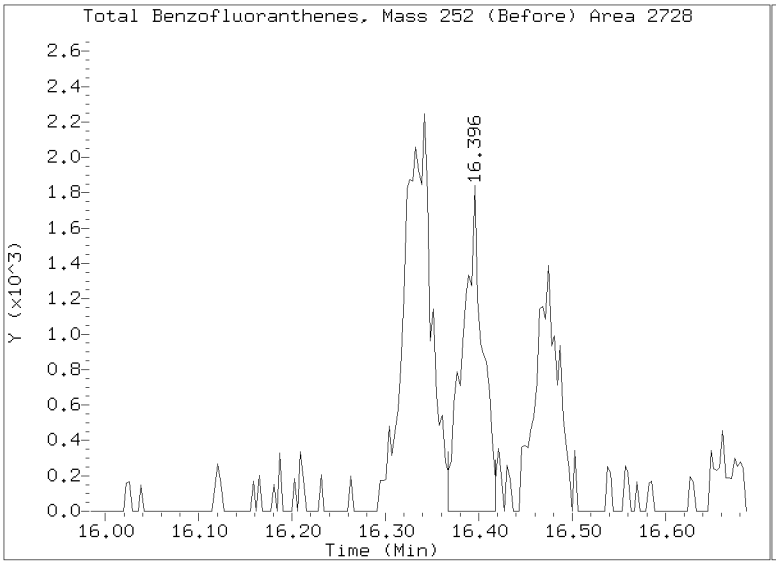
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

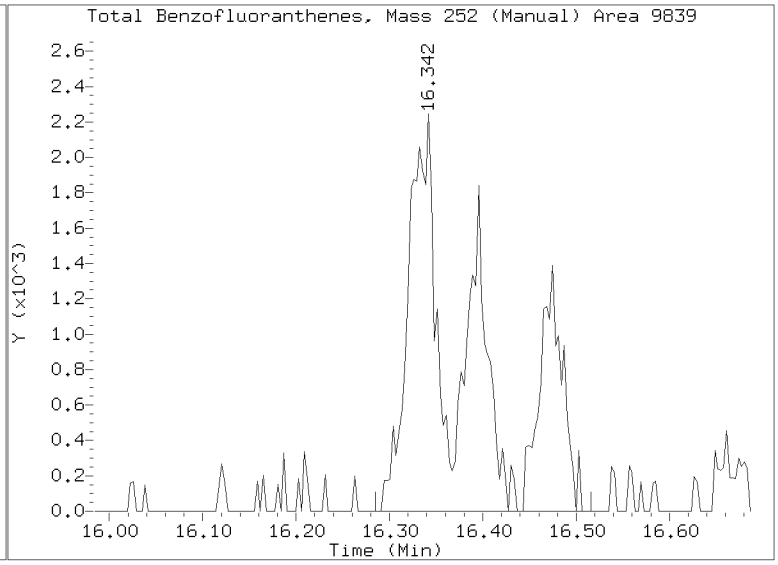
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070510.D
Injection Date: 05-JUL-2018 20:18
Lab ID:18F0364-04 Client ID:
Report Date: 07/09/2018 10:50





LDW18-C05-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-05	SDG:	18F0364
Sampled:	05/18/18 15:32	Prepared:	06/29/18 11:28	File ID:	N818070511.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 20:44
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	6.77		0.53	4.98
218-01-9	Chrysene	1	8.05		0.49	4.98
205-99-2	Benzo(b)fluoranthene	1	4.71	J	1.00	4.98
207-08-9	Benzo(k)fluoranthene	1	2.76	J	0.71	4.98
50-32-8	Benzo(a)pyrene	1	3.93	J	0.91	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	11.4		0.57	4.98
53-70-3	Dibenzo(a,h)anthracene	1	11.0		1.52	4.98

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.25	78.6	52.7	20 - 130	
Dibenzo[a,h]anthracene-d14	149.25	108	72.3	20 - 130	
Fluoranthene-d10	149.25	102	68.6	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

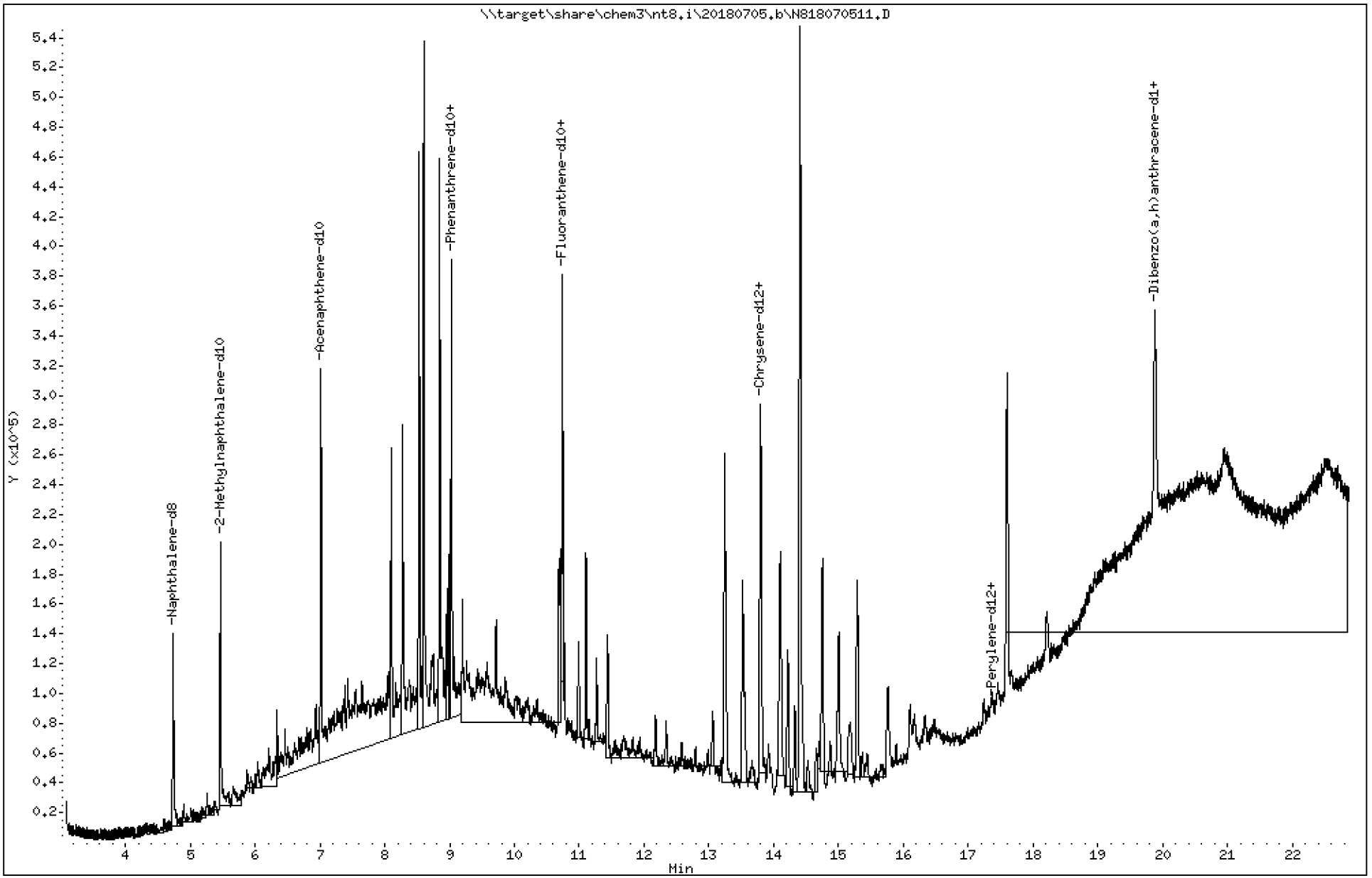
Instrument: nt8.i

Sample Info: 18F0364-05

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

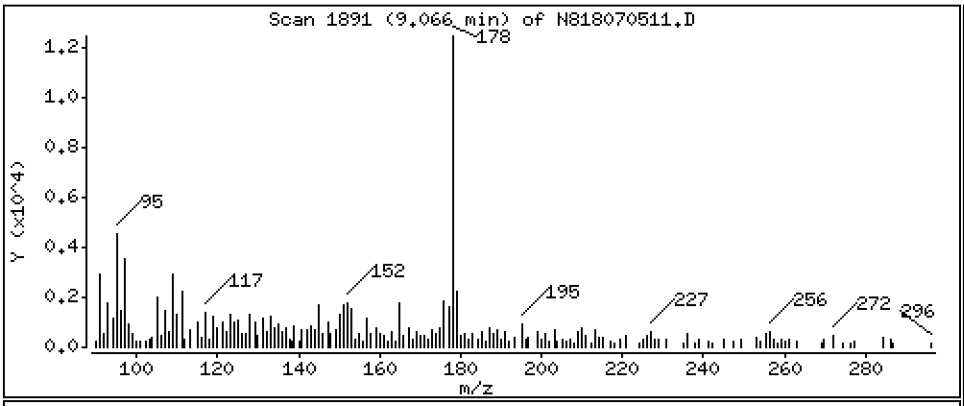
Operator: JZ

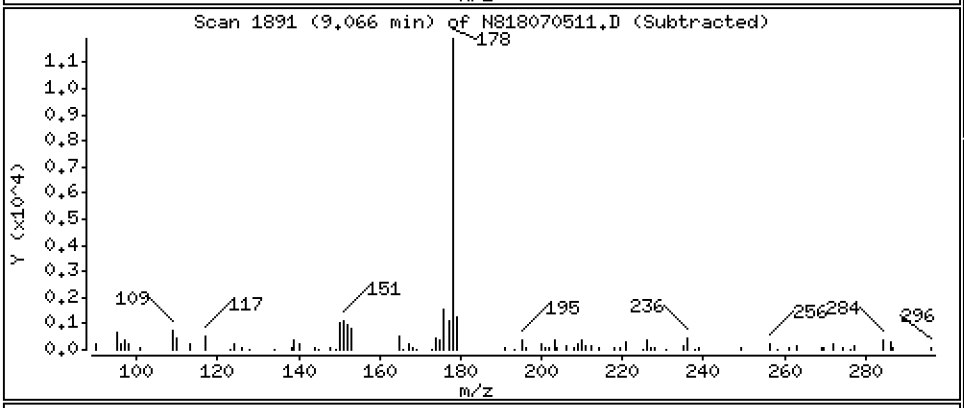
Column phase: Rxi-17sil

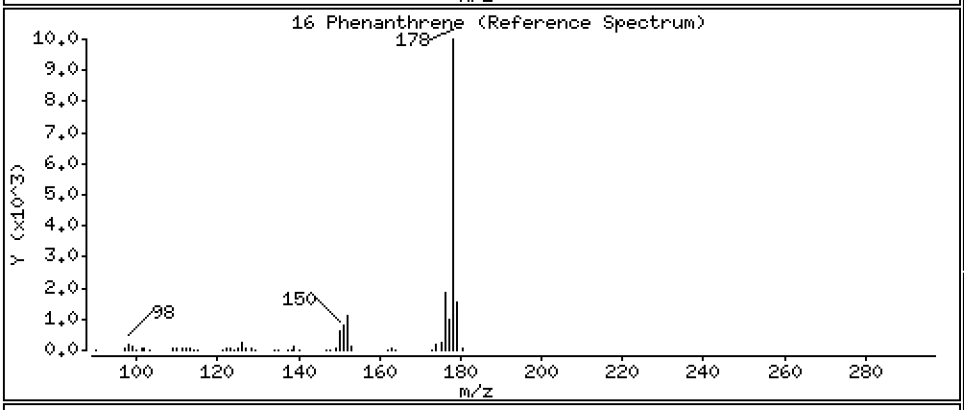
Column diameter: 0.25

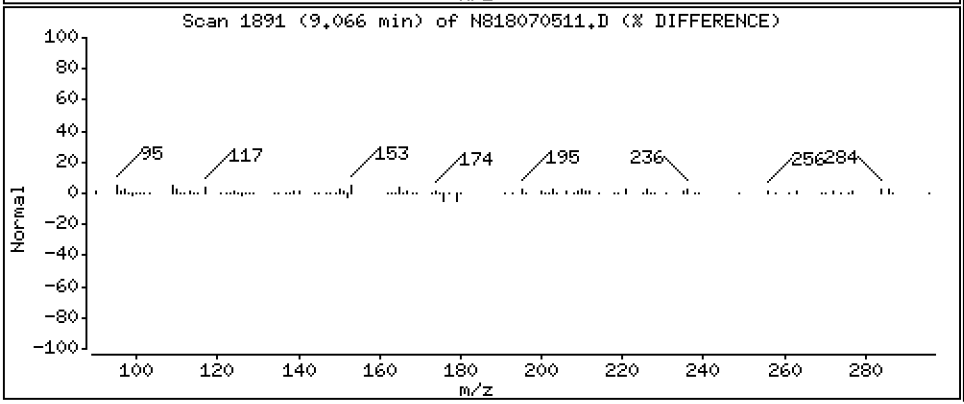
16 Phenanthrene

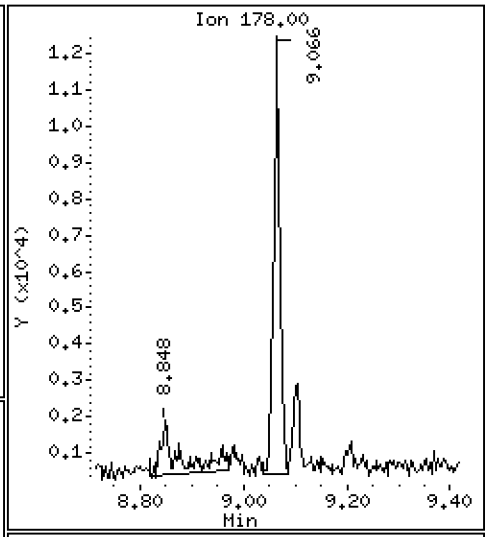
Concentration: 0.1544 ug/mL

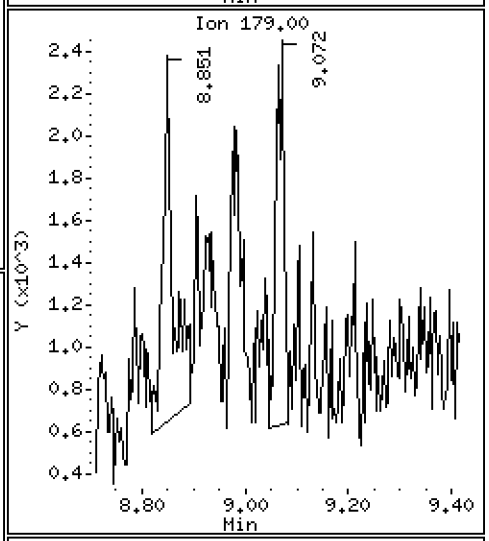


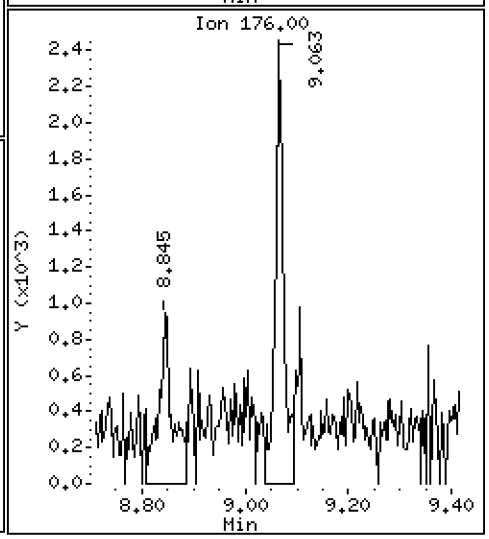












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

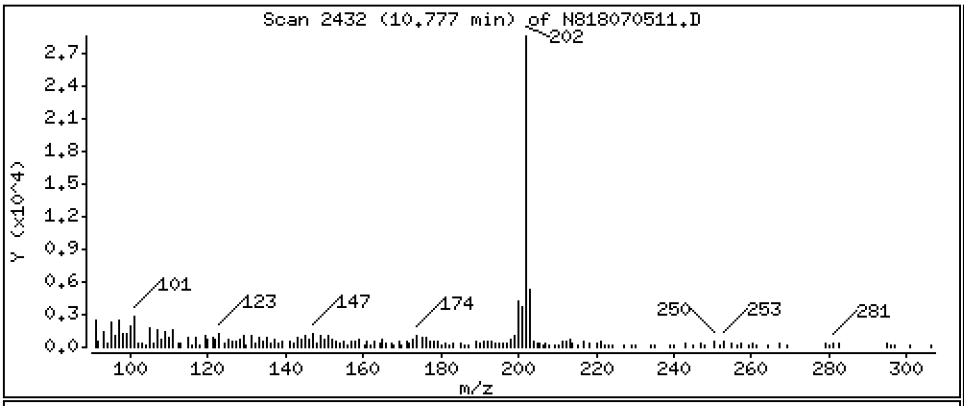
Operator: JZ

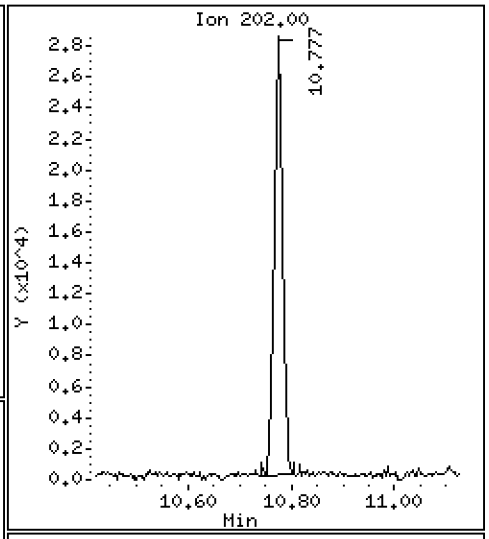
Column phase: Rxi-17sil

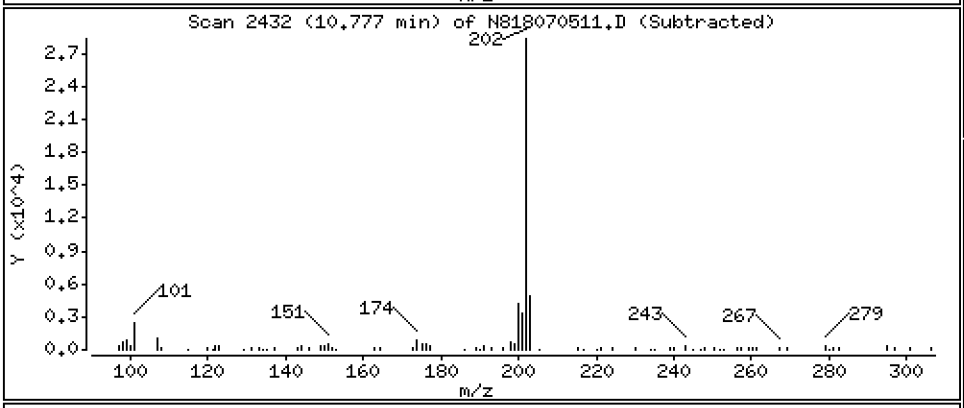
Column diameter: 0.25

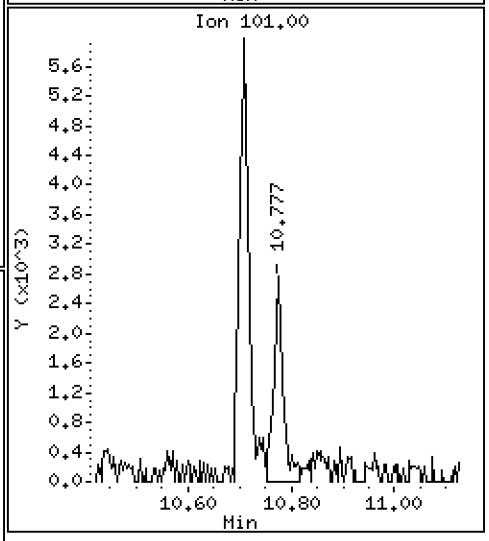
22 Fluoranthene

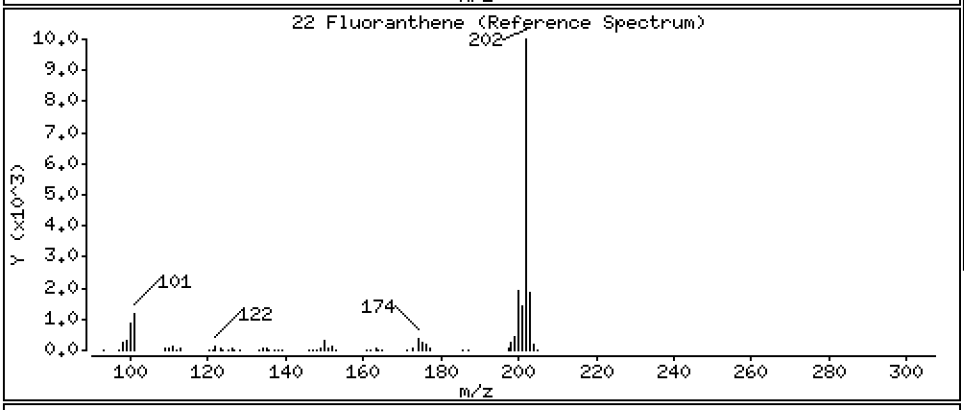
Concentration: 0.4122 ug/mL

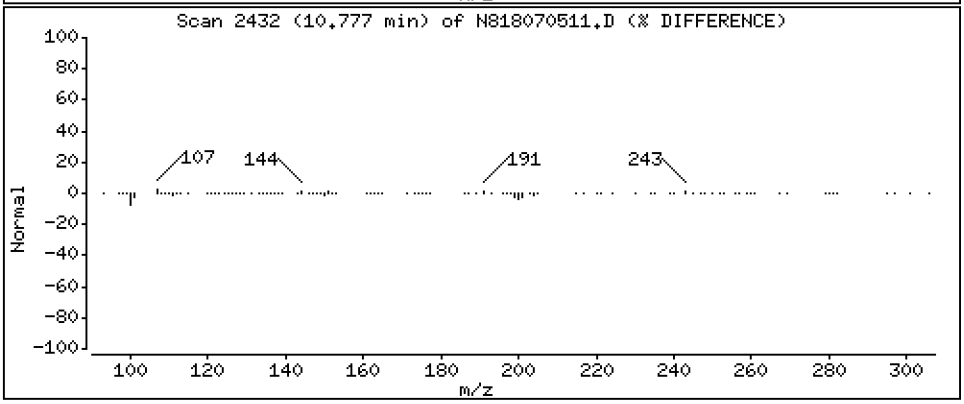












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

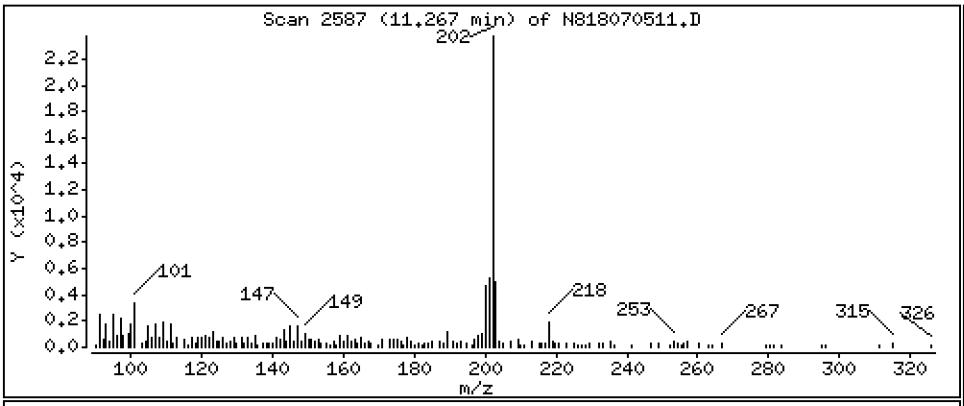
Operator: JZ

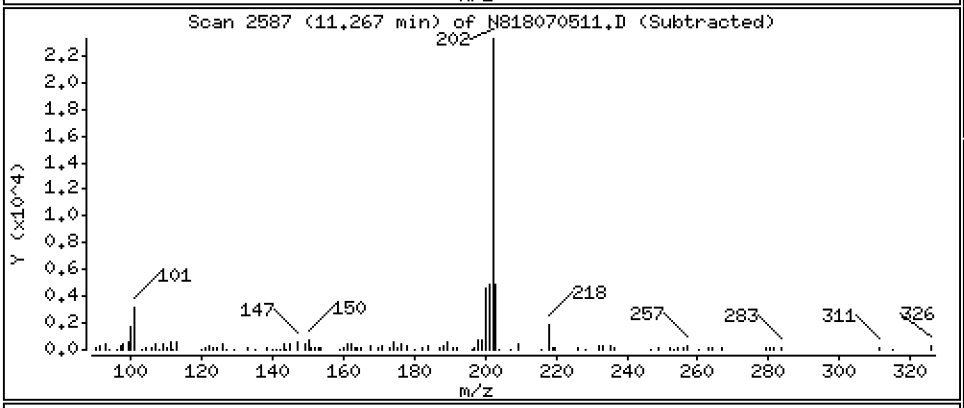
Column phase: Rxi-17sil

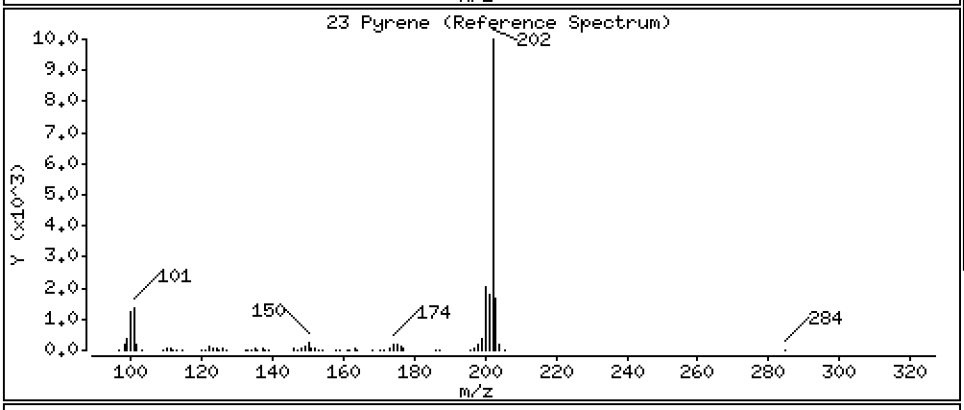
Column diameter: 0.25

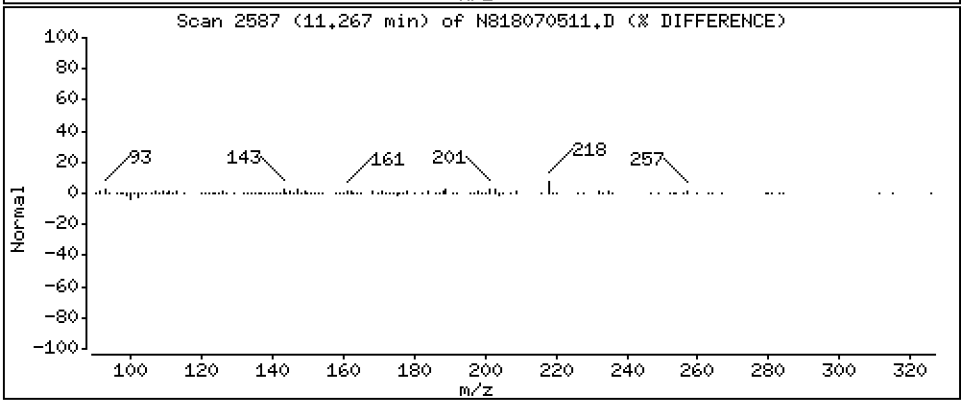
23 Pyrene

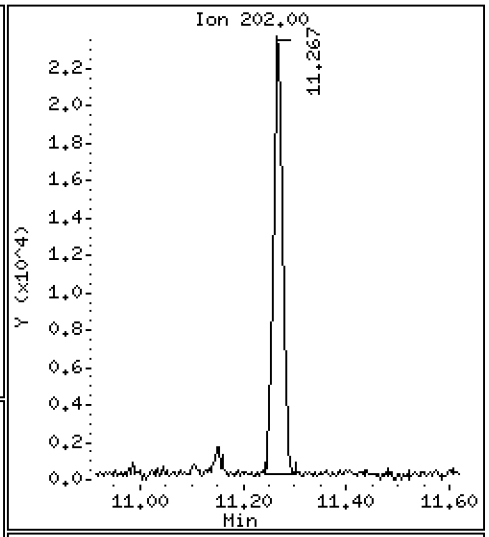
Concentration: 0.3535 ug/mL

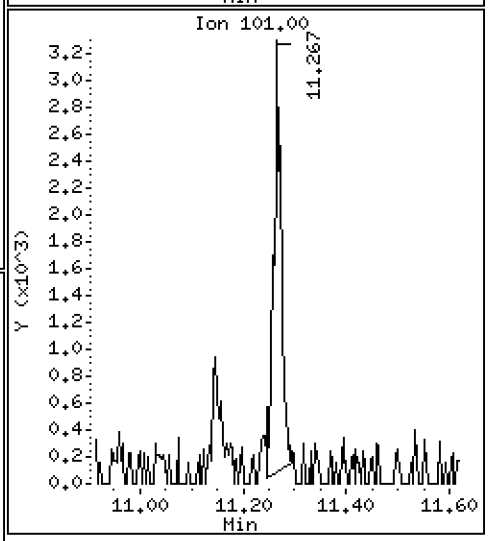












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

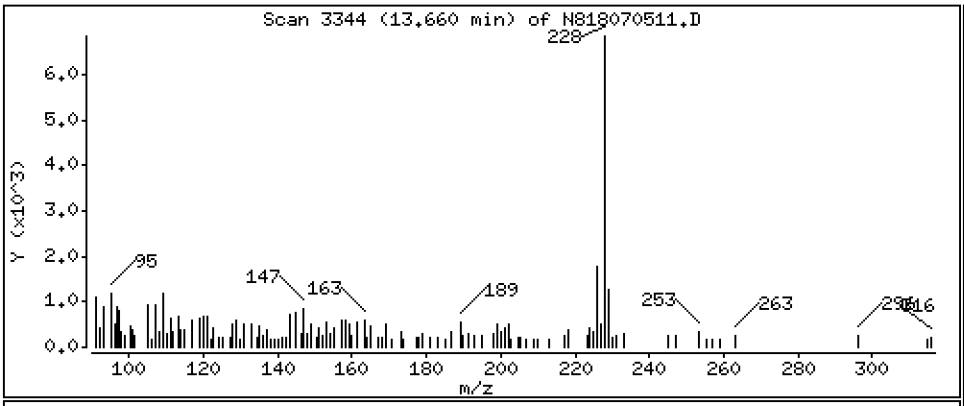
Operator: JZ

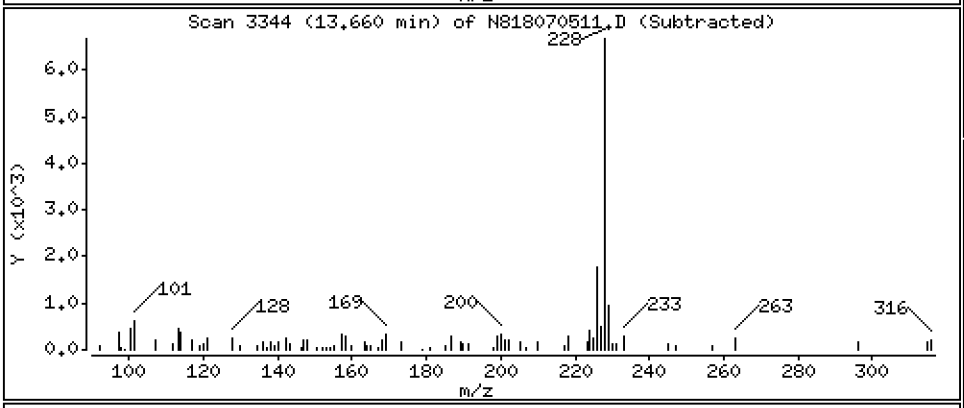
Column phase: Rxi-17sil

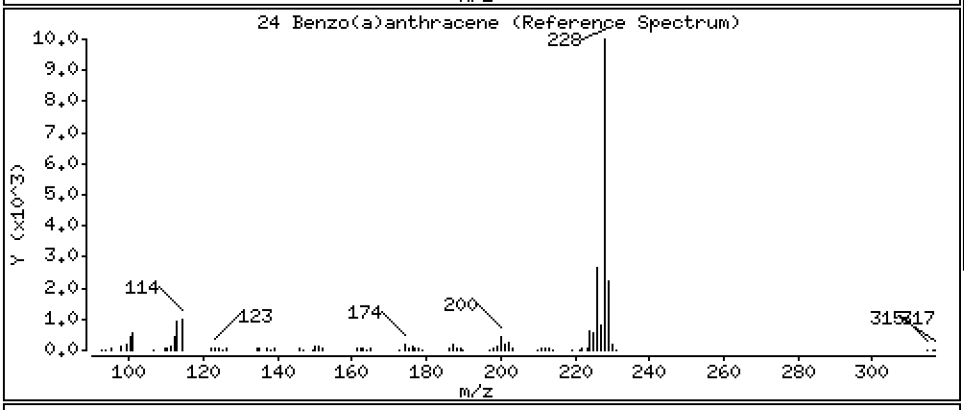
Column diameter: 0.25

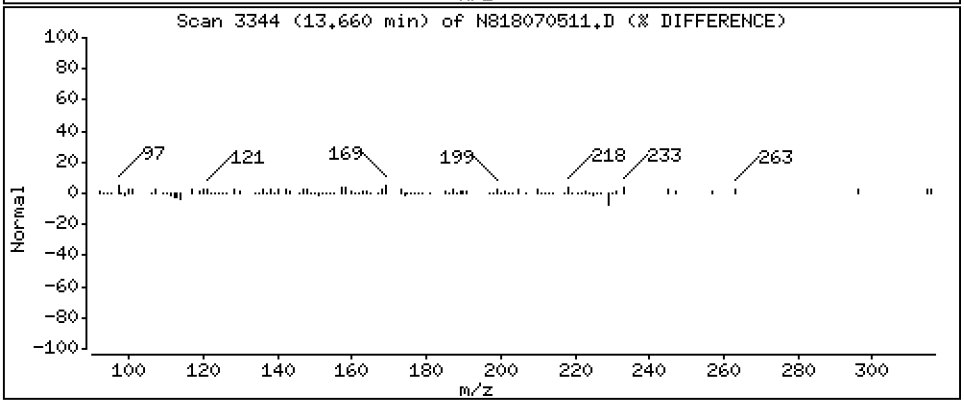
24 Benzo(a)anthracene

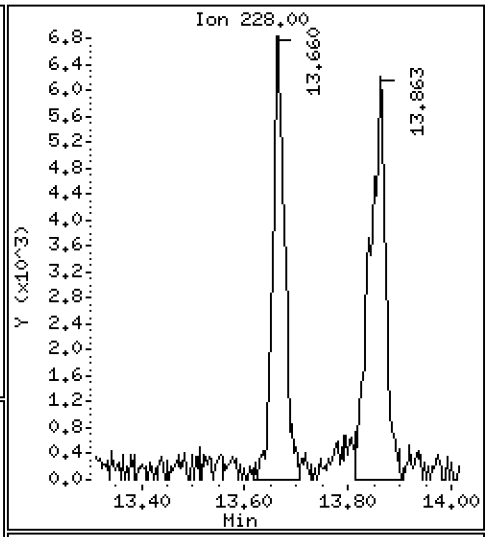
Concentration: 0.1360 ug/mL

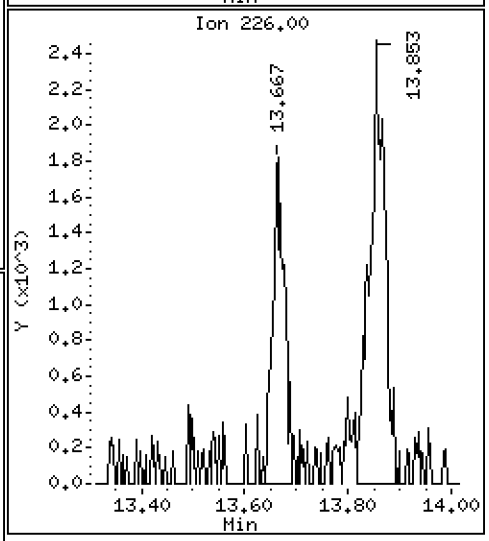












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

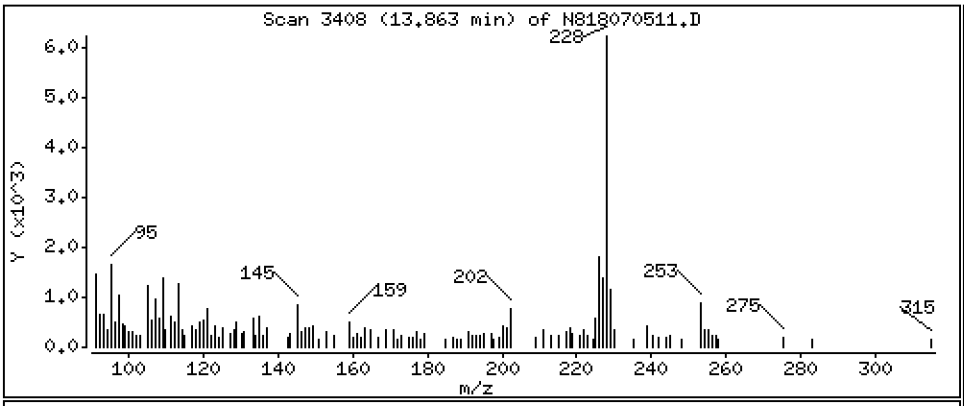
Operator: JZ

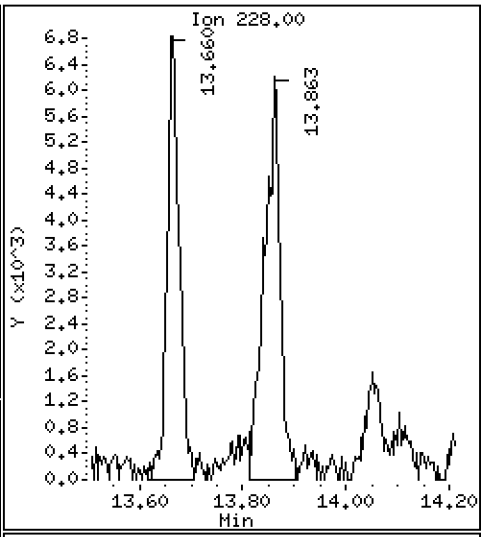
Column phase: Rxi-17sil

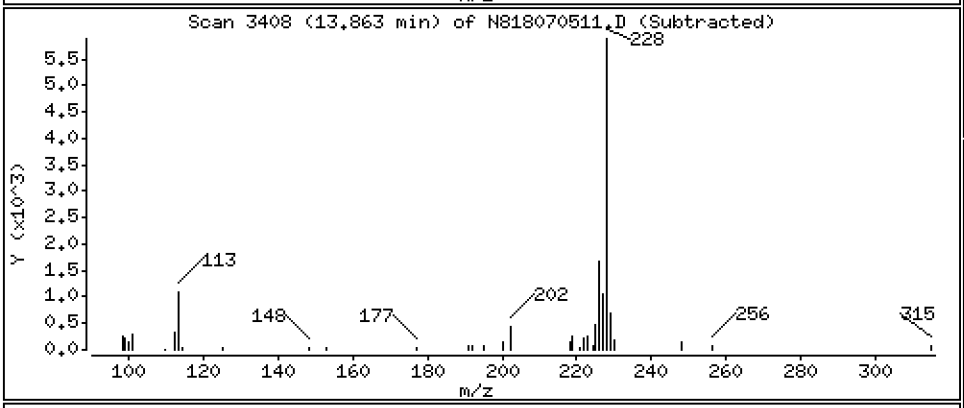
Column diameter: 0.25

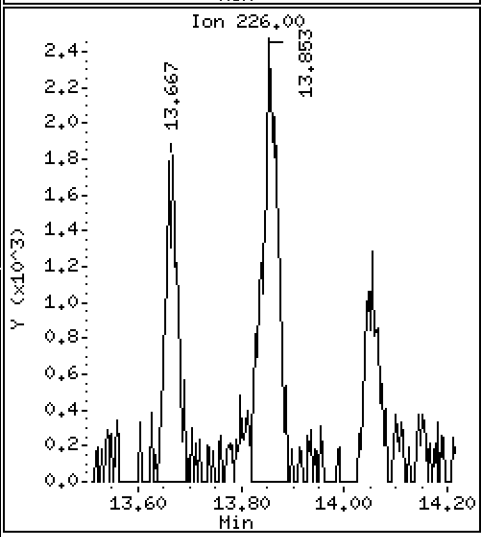
27 Chrysene

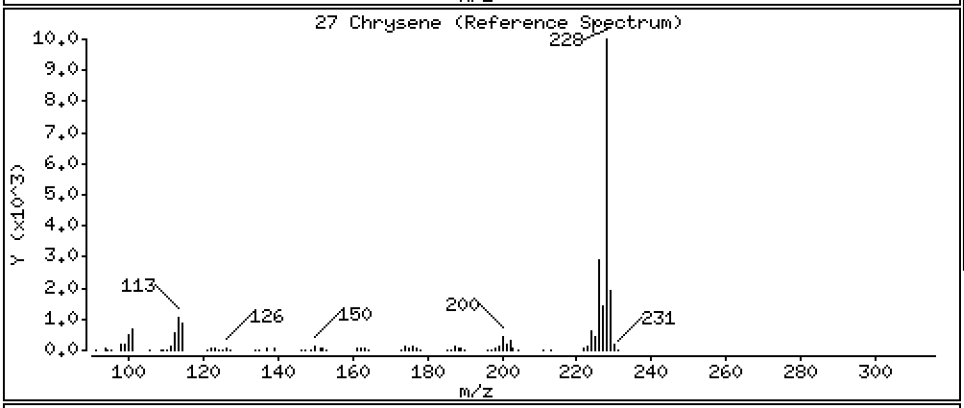
Concentration: 0.1617 ug/mL

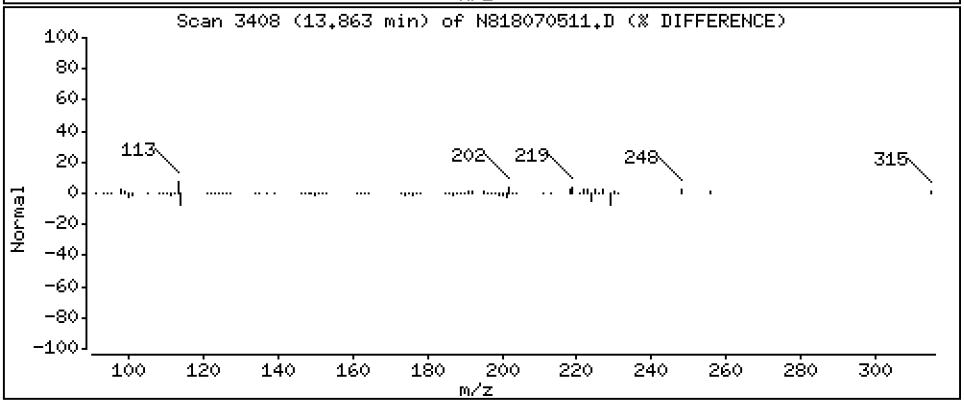












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

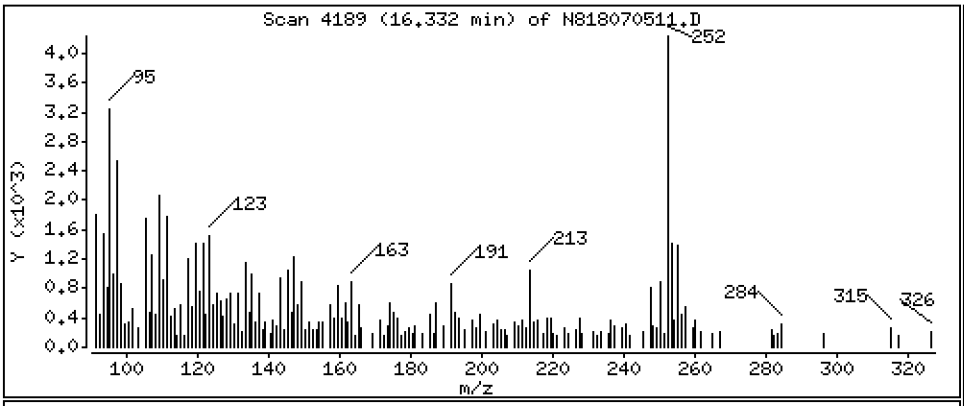
Operator: JZ

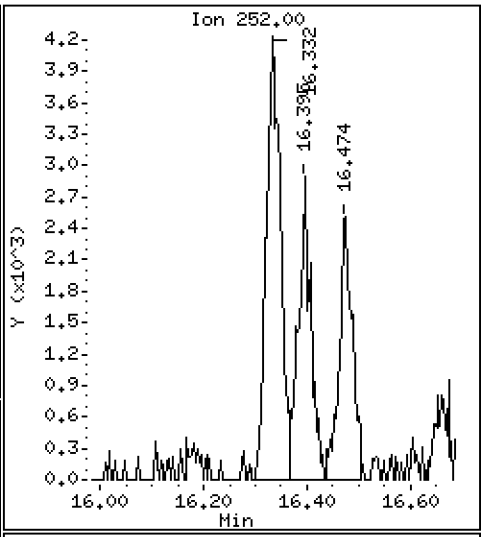
Column phase: Rxi-17sil

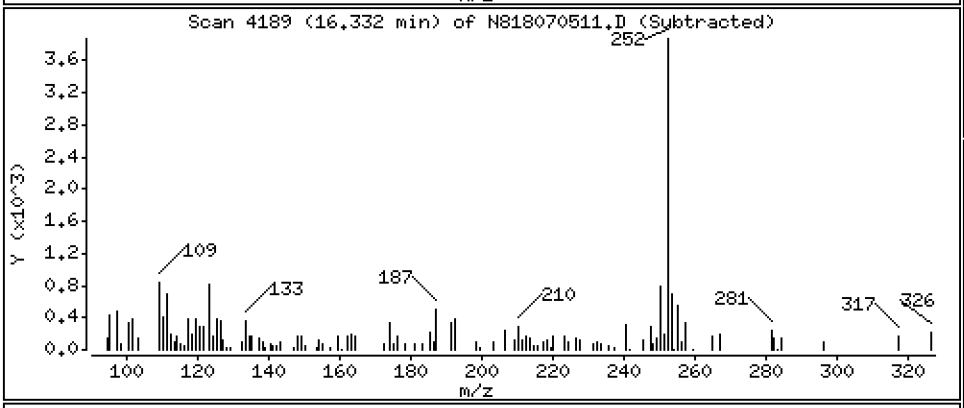
Column diameter: 0.25

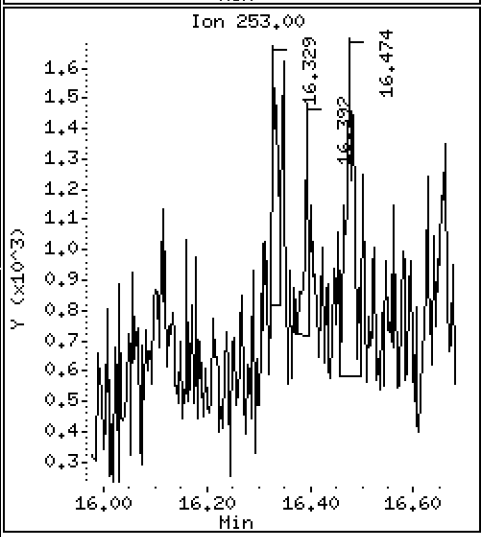
28 Benzo(b)fluoranthene

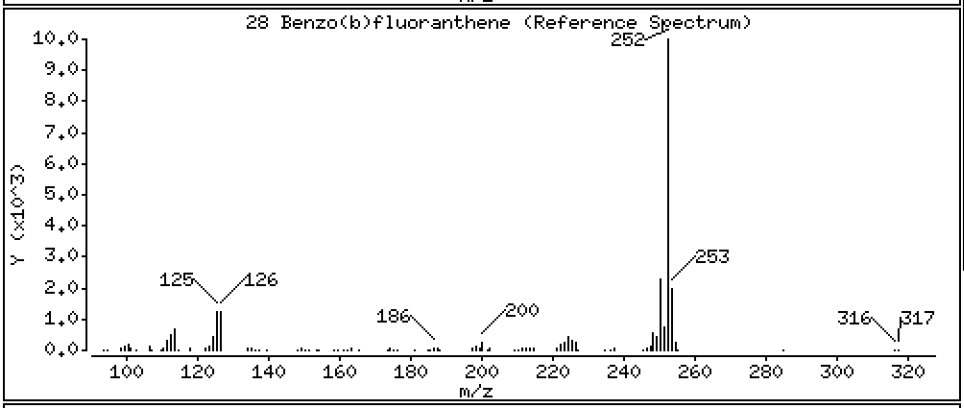
Concentration: 0.09462 ug/mL

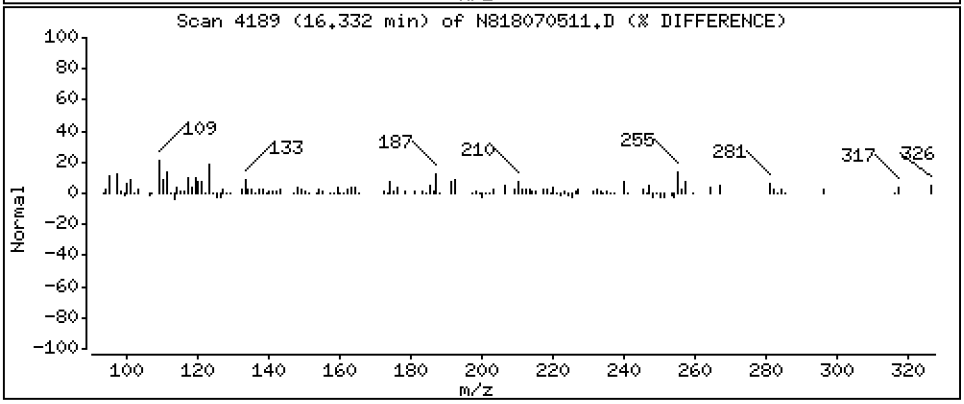












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

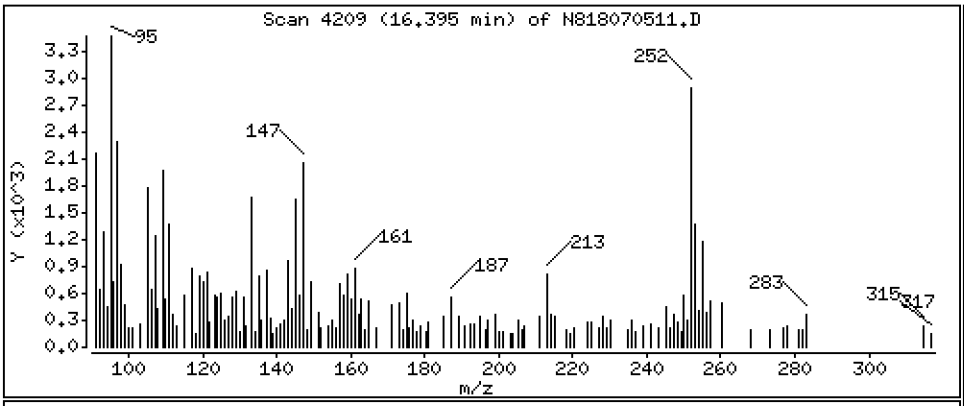
Operator: JZ

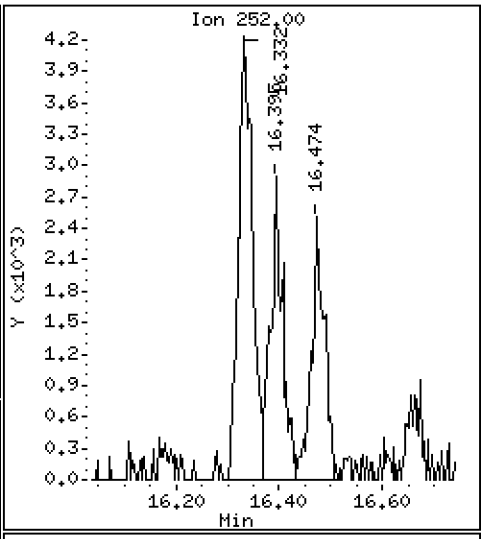
Column phase: Rxi-17sil

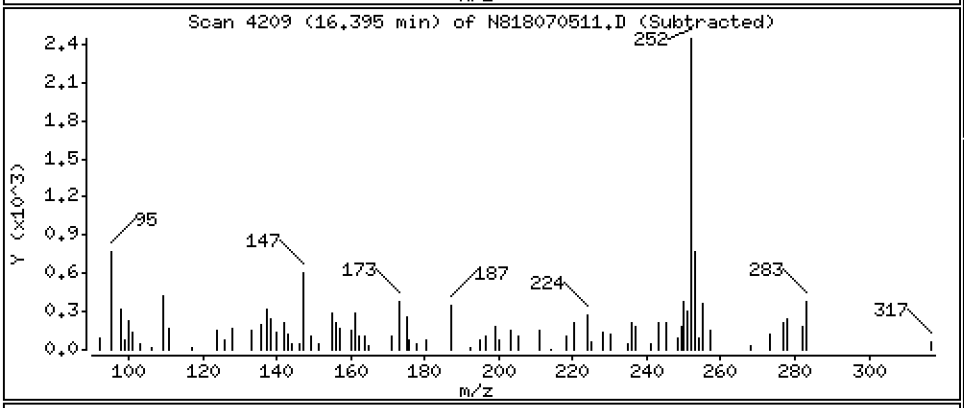
Column diameter: 0.25

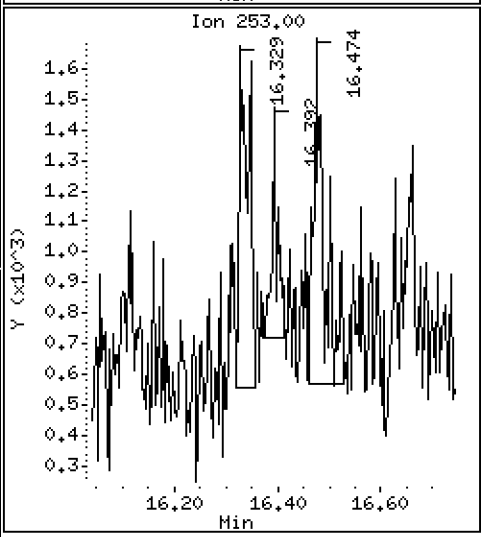
29 Benzo(k)fluoranthene

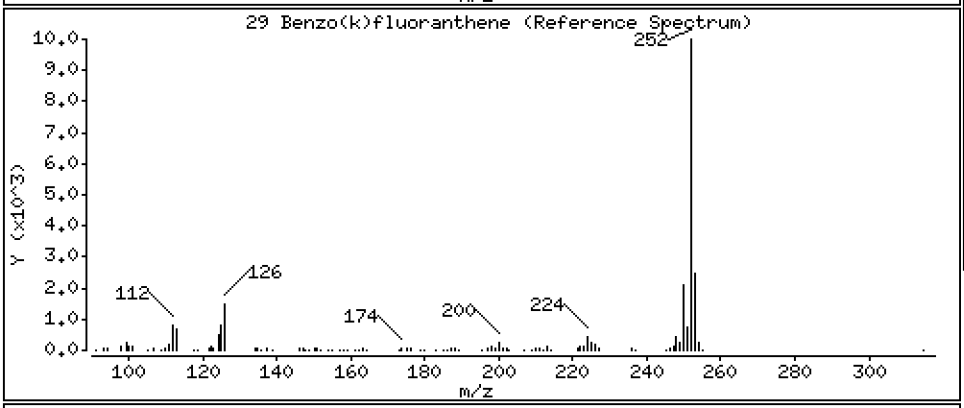
Concentration: 0.05554 ug/mL

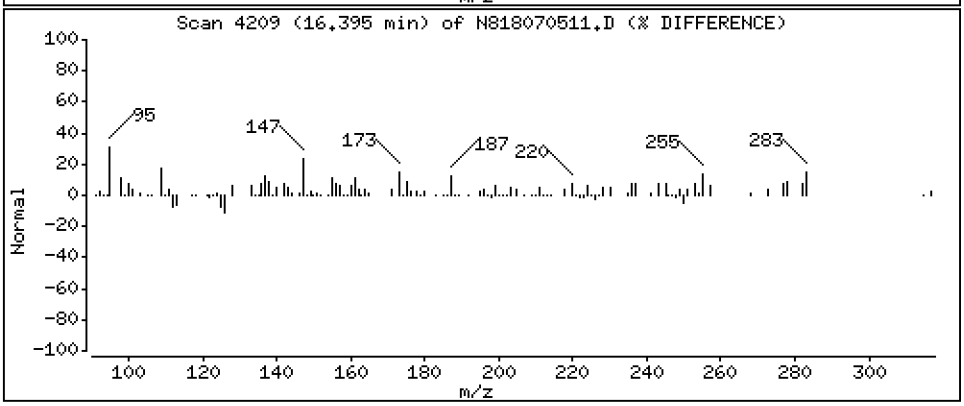












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

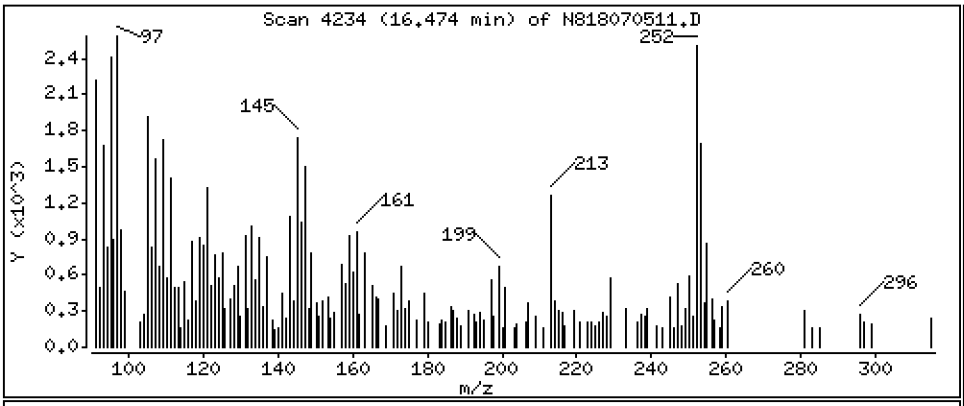
Operator: JZ

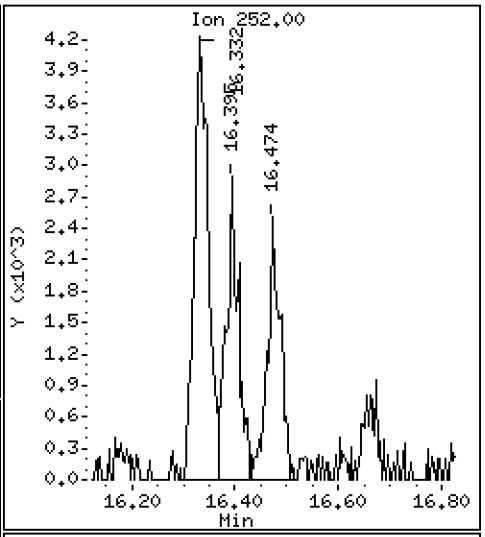
Column phase: Rxi-17sil

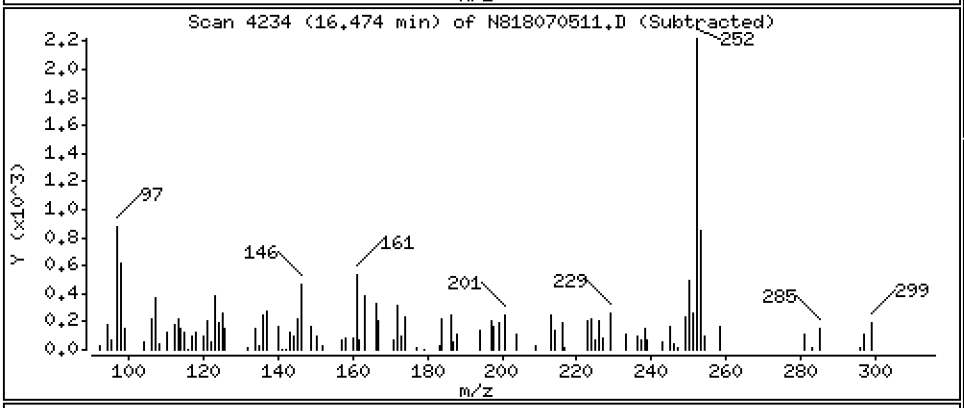
Column diameter: 0.25

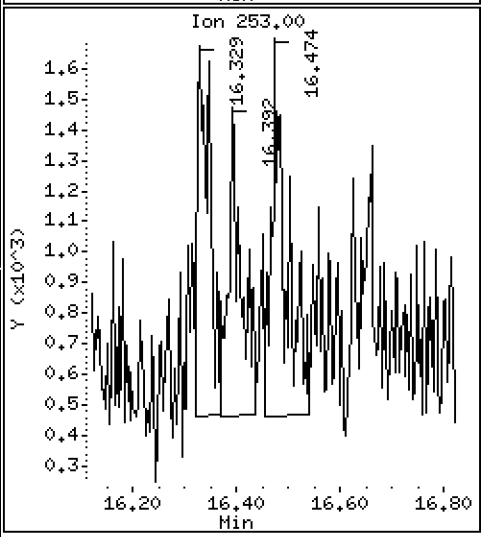
30 Benzo(j)fluoranthene

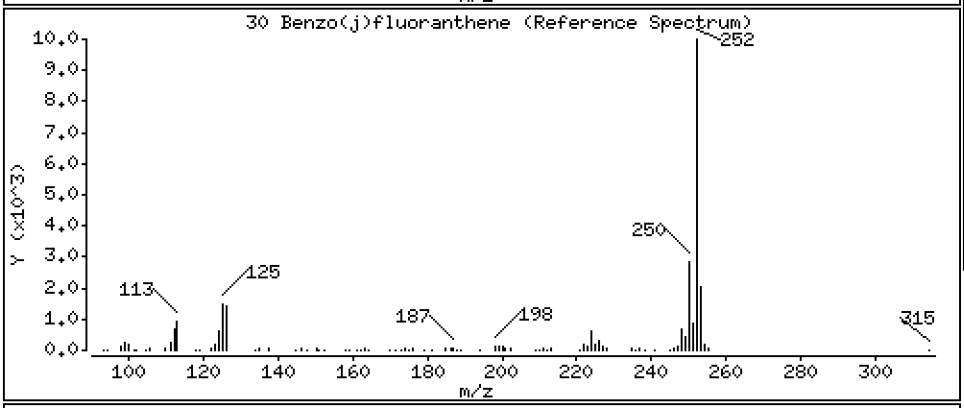
Concentration: 0.05223 ug/mL

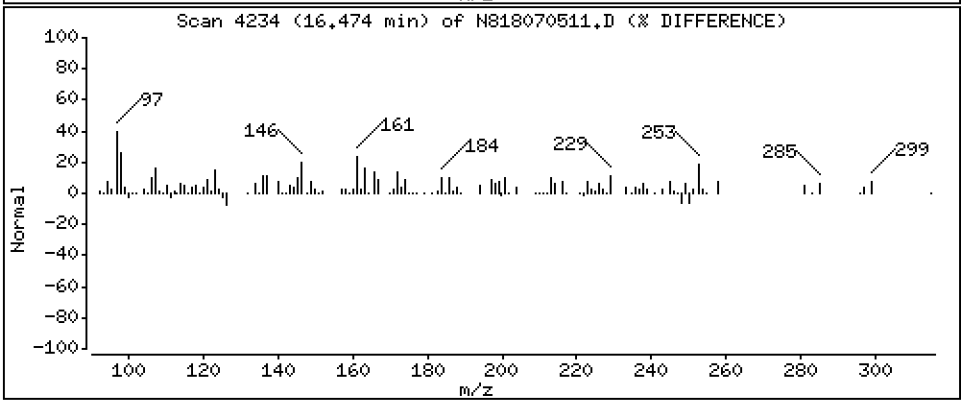












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

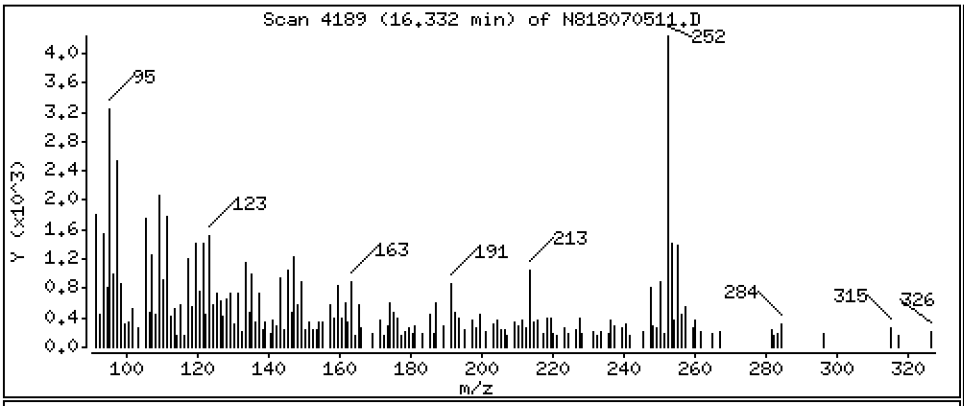
Operator: JZ

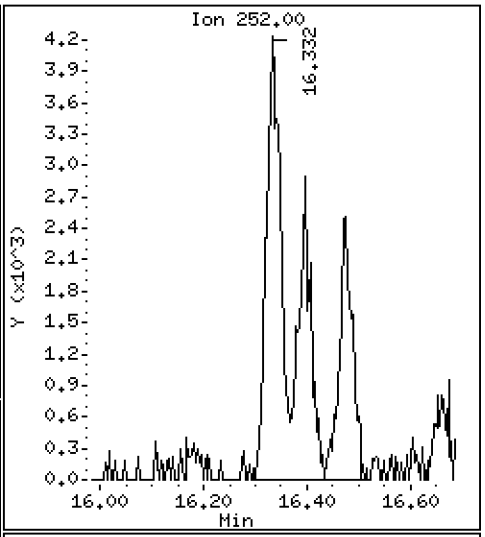
Column phase: Rxi-17sil

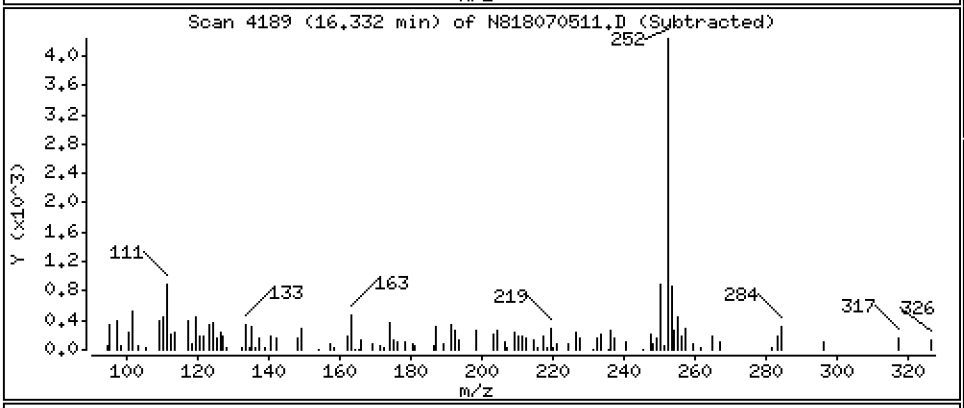
Column diameter: 0.25

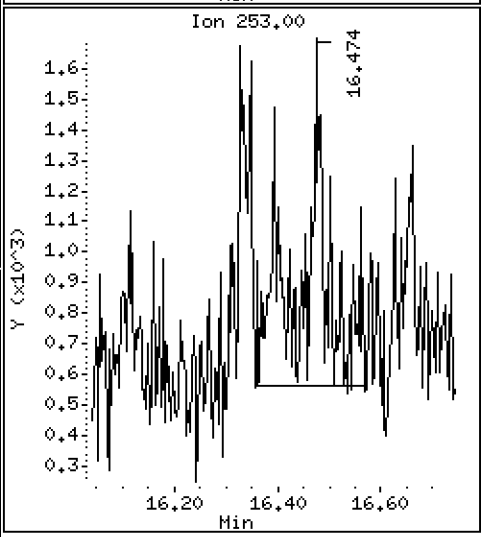
31 Total Benzofluoranthenes

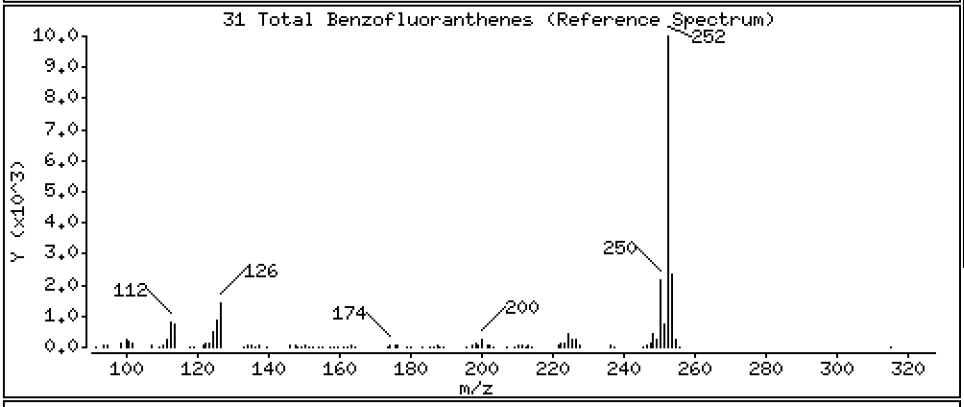
Concentration: 0.2018 ug/mL

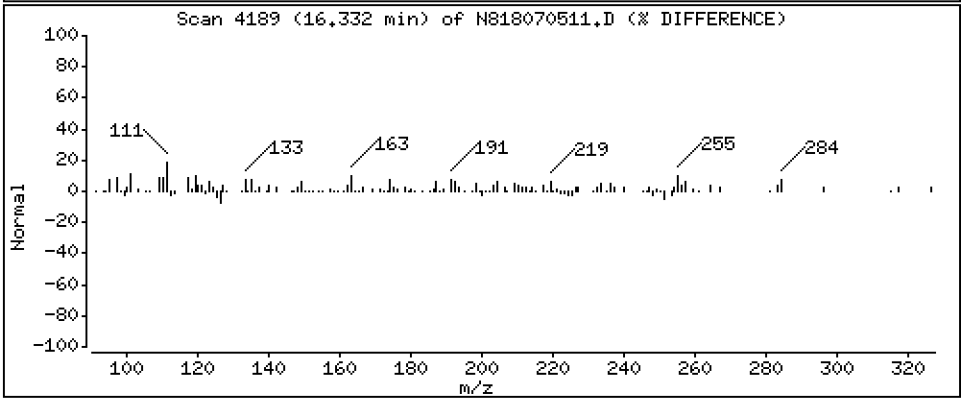












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

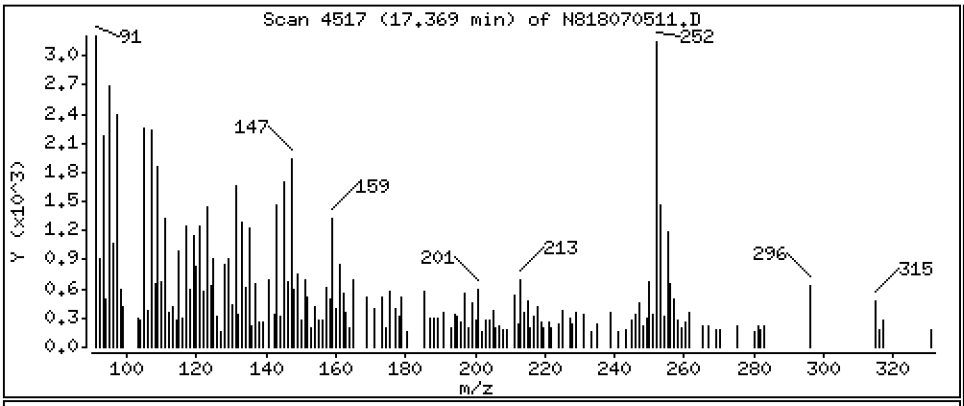
Operator: JZ

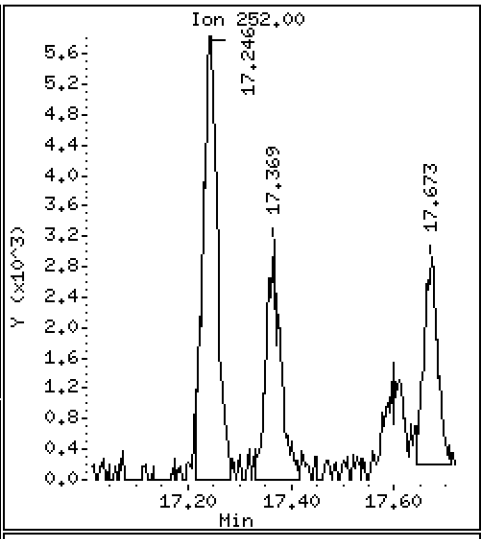
Column phase: Rxi-17sil

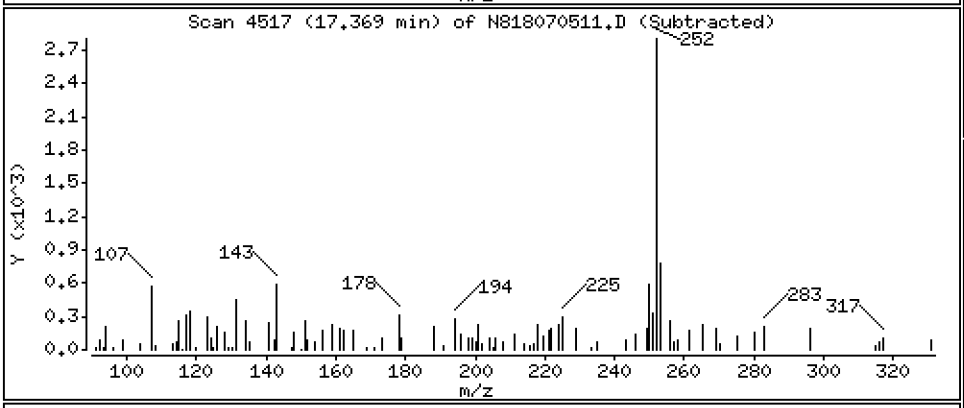
Column diameter: 0.25

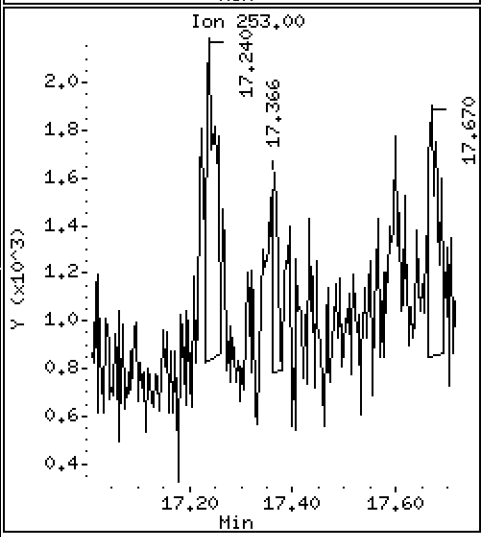
32 Benzo(a)pyrene

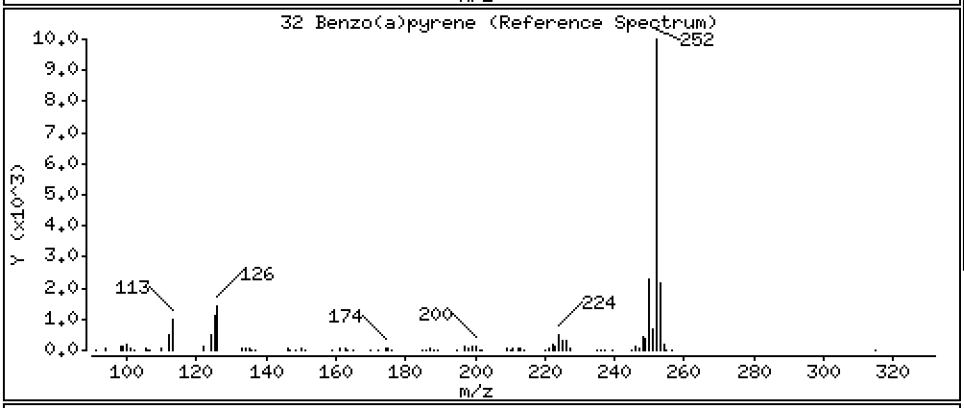
Concentration: 0.07898 ug/mL

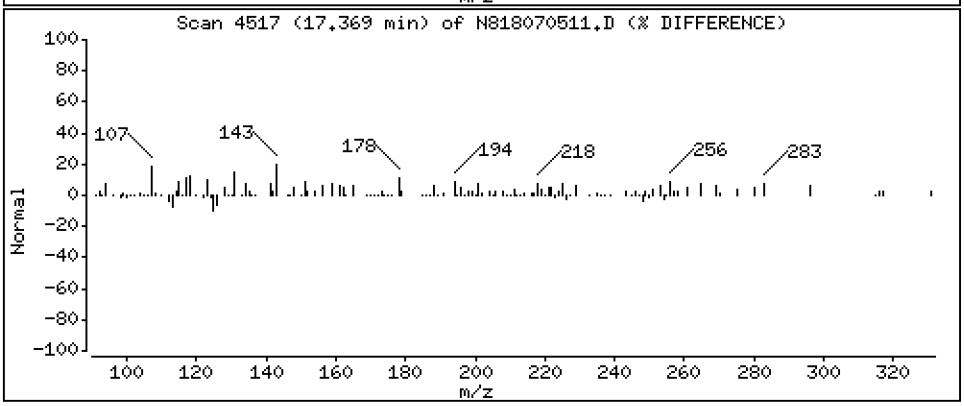












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

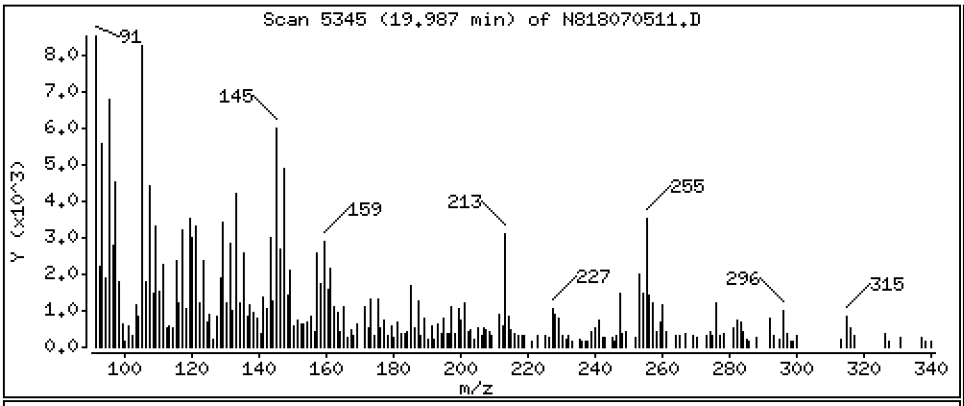
Operator: JZ

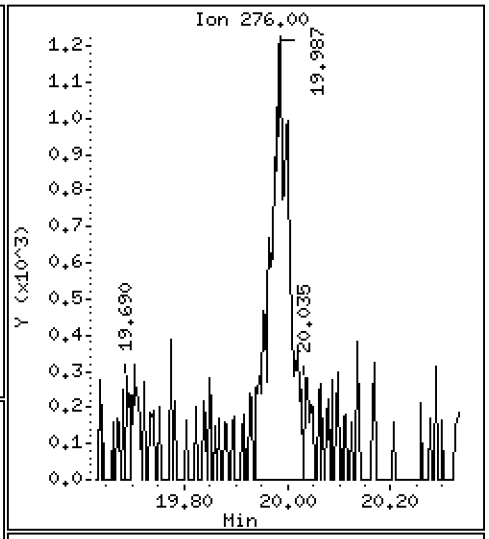
Column phase: Rxi-17sil

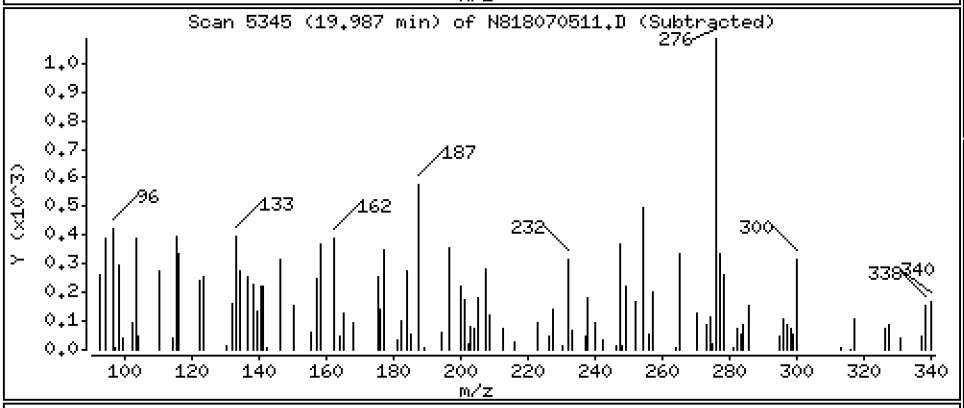
Column diameter: 0.25

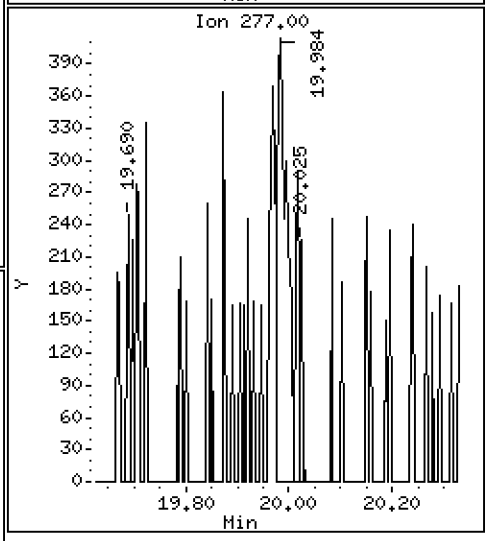
37 Indeno(1,2,3-cd)pyrene

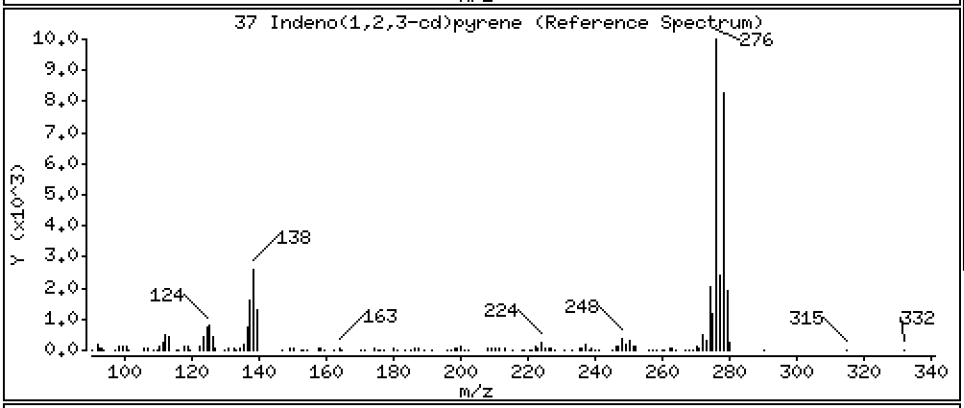
Concentration: 0.2296 ug/mL

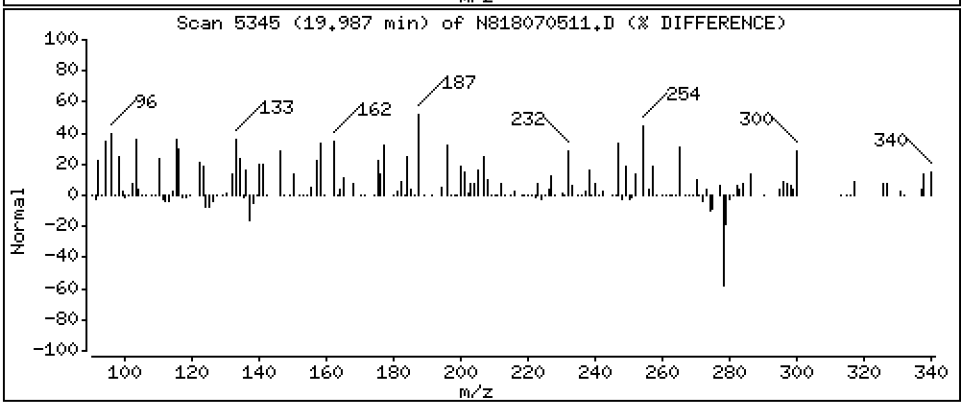












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

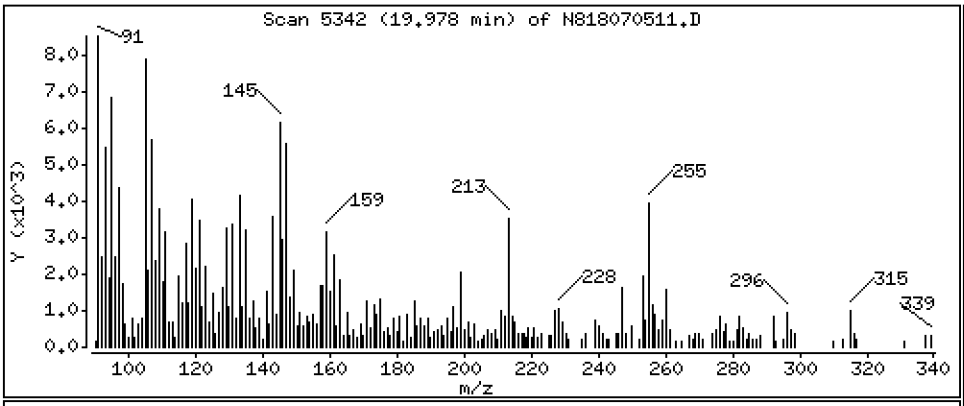
Operator: JZ

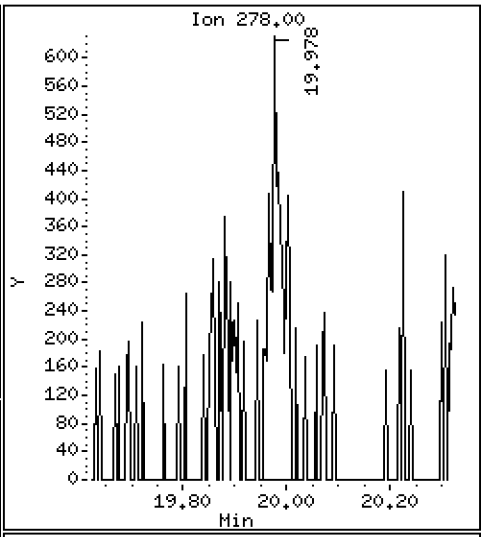
Column phase: Rxi-17sil

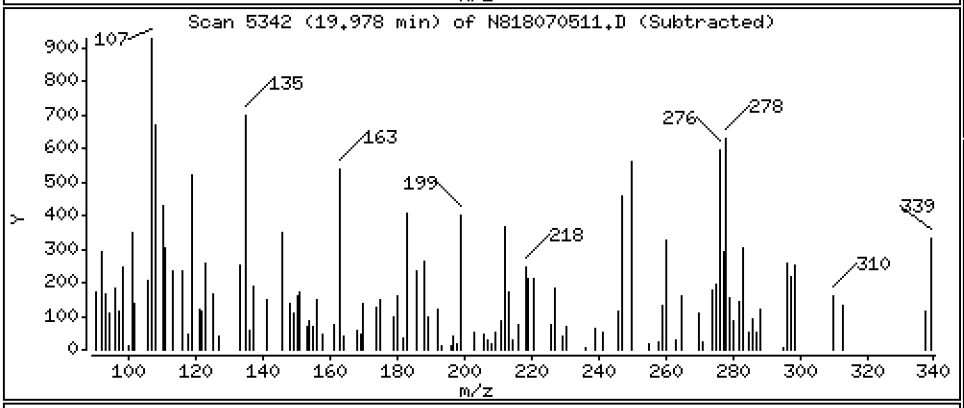
Column diameter: 0.25

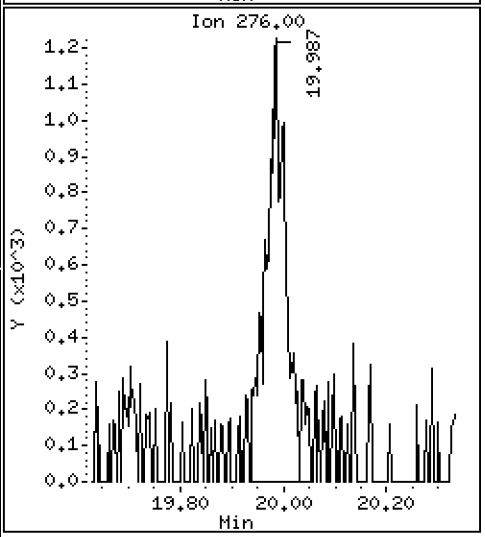
38 Dibenzo(a,h)anthracene

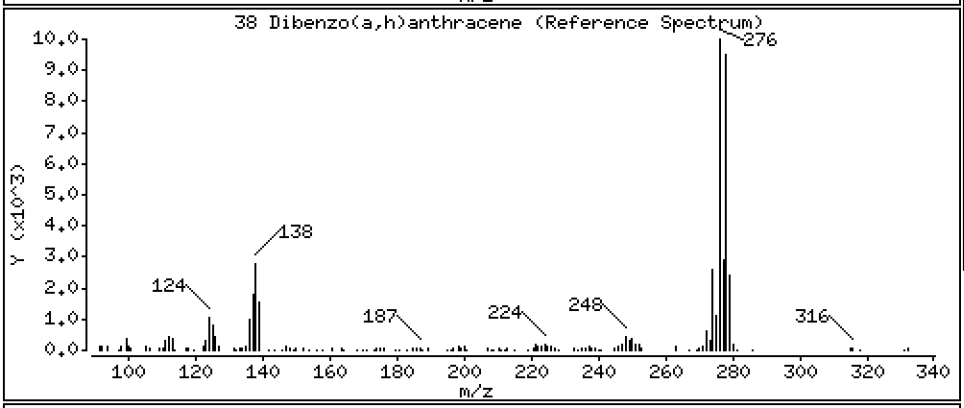
Concentration: 0.2208 ug/mL

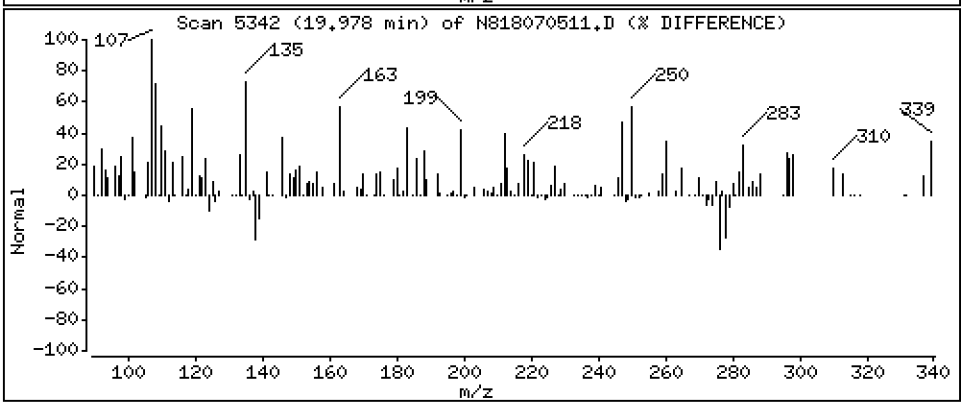












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

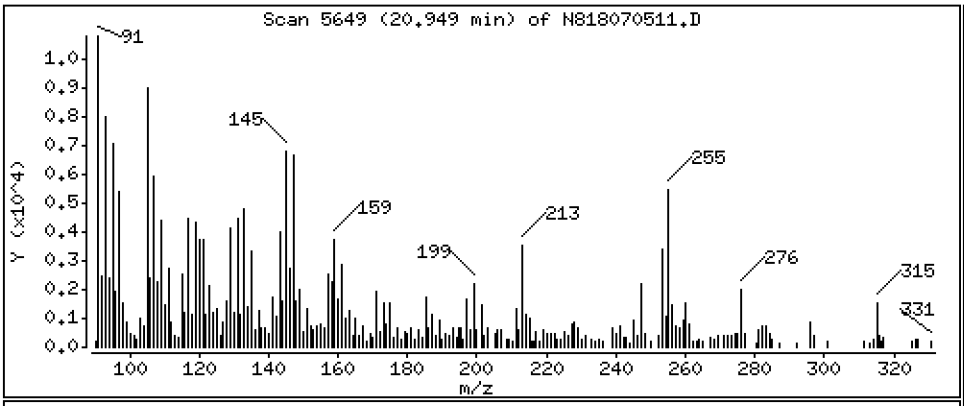
Operator: JZ

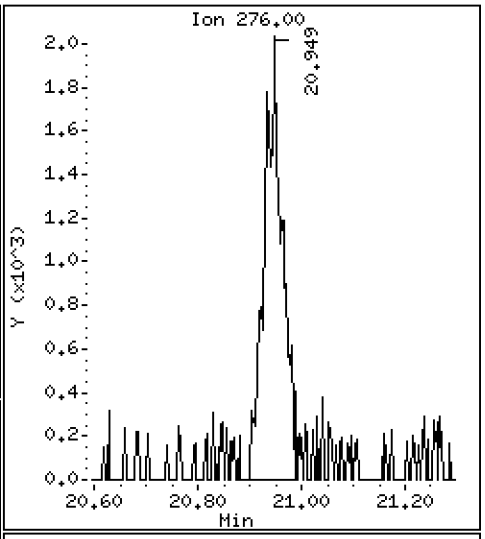
Column phase: Rxi-17sil

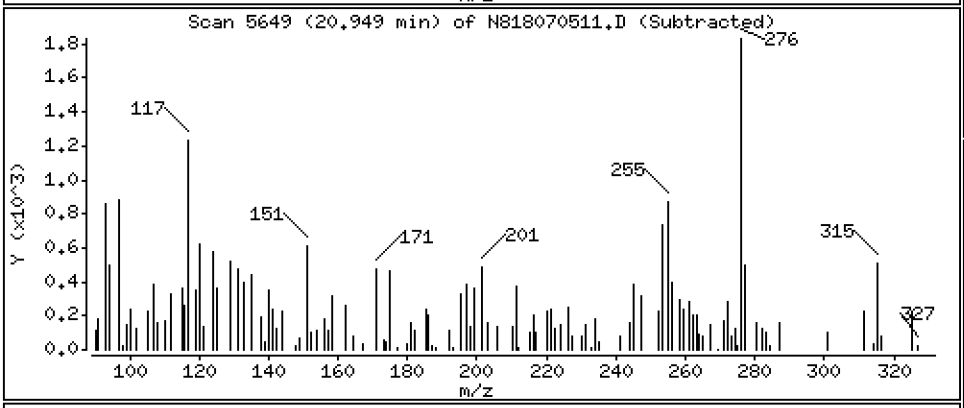
Column diameter: 0.25

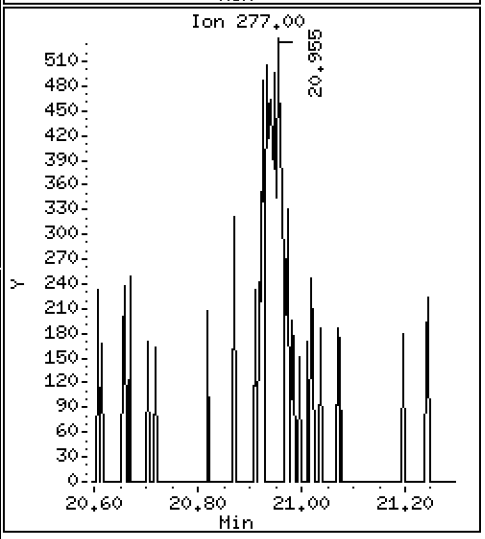
39 Benzo(g,h,i)perylene

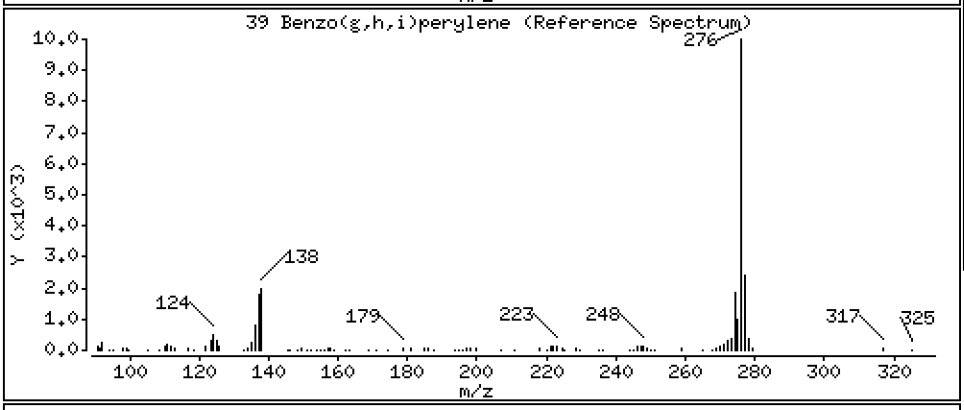
Concentration: 0.07758 ug/mL

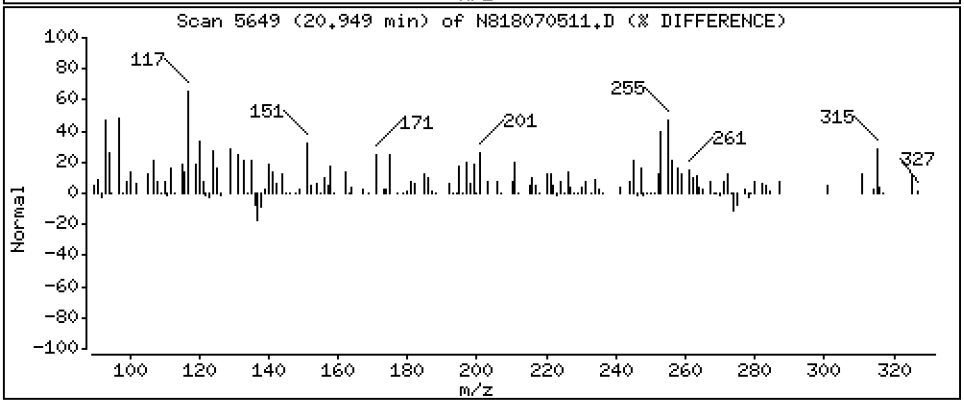












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070511.D

Date : 05-JUL-2018 20:44

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-05

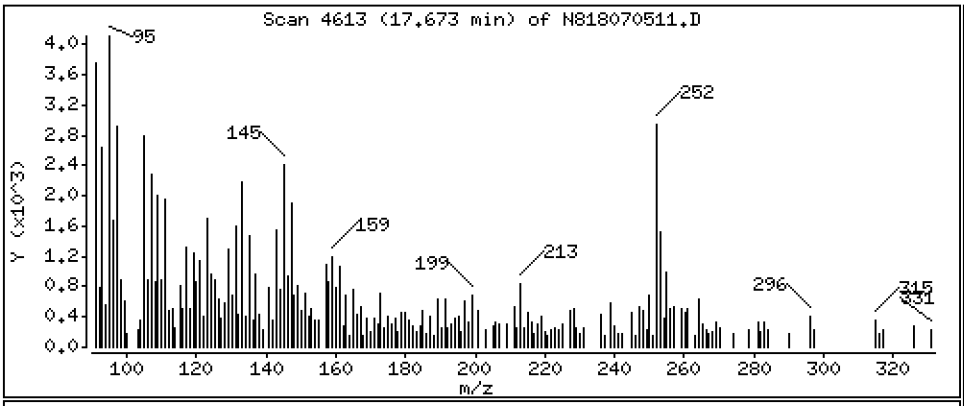
Operator: JZ

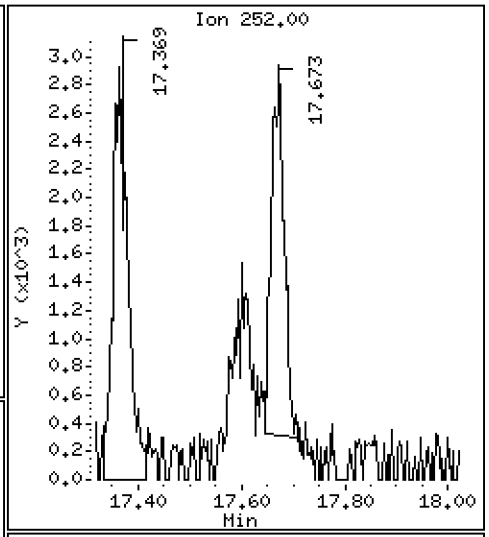
Column phase: Rxi-17sil

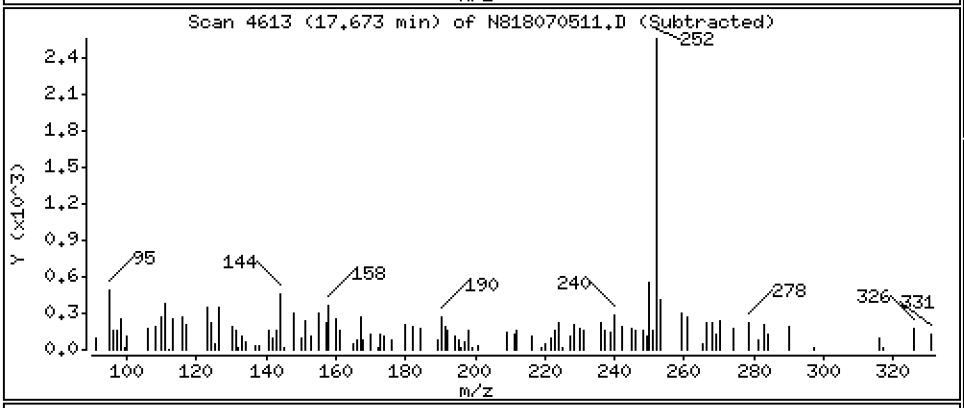
Column diameter: 0.25

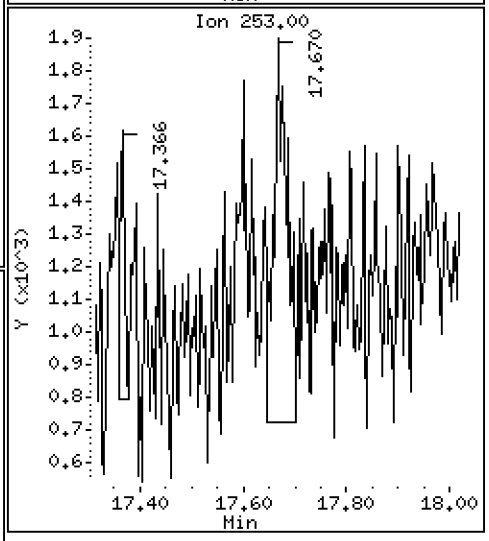
35 Perylene

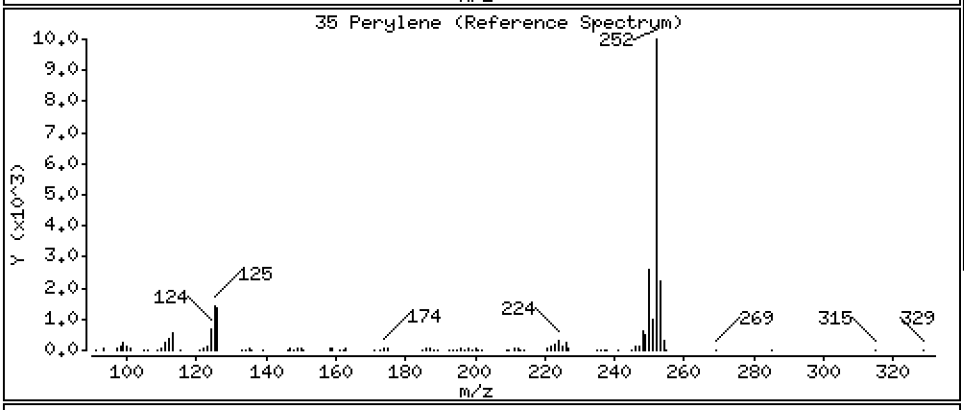
Concentration: 0.05569 ug/mL

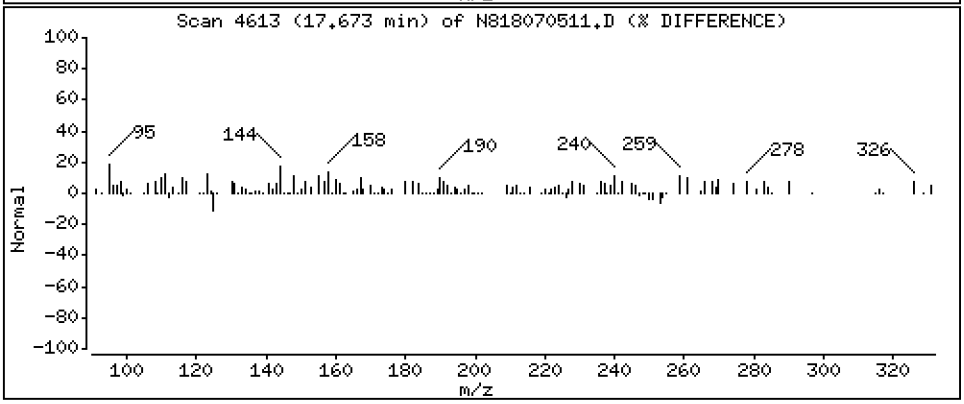












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070511.D
Lab Smp Id: 18F0364-05
Inj Date : 05-JUL-2018 20:44
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-05
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	110968	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	64401	1.57994	1.580
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.013	7.013	(1.000)	60262	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	122891	2.00000	
	16 Phenanthrene	178	9.066	9.065	(1.004)	10526	0.15438	0.1544
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.776	10.773	(1.193)	32869	0.41216	0.4122
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	162073	2.05855	2.059
	23 Pyrene	202	11.266	11.266	(0.817)	29453	0.35347	0.3535
	24 Benzo(a)anthracene	228	13.660	13.663	(0.990)	11277	0.13599	0.1360
*	25 Chrysene-d12	240	13.796	13.786	(1.000)	143874	2.00000	
	27 Chrysene	228	13.862	13.859	(1.005)	13242	0.16173	0.1617
	28 Benzo(b)fluoranthene	252	16.332	16.335	(0.928)	8092	0.09462	0.09462
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.932)	4819	0.05554	0.05554
	30 Benzo(j)fluoranthene	252	16.474	16.474	(0.936)	4482	0.05223	0.05223
	31 Total Benzofluoranthenes	252	16.332	16.335	(0.928)	17213	0.20183	0.2018(M)
	32 Benzo(a)pyrene	252	17.369	17.366	(0.987)	6007	0.07898	0.07898
*	33 Perylene-d12	264	17.600	17.593	(1.000)	136740	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.987	19.981	(1.136)	3188	0.22958	0.2296
$	36 Dibenzo(a,h)anthracene-d14	292	19.879	19.876	(1.130)	134988	2.16951	2.170
	38 Dibenzo(a,h)anthracene	278	19.977	19.974	(1.135)	1008	0.22077	0.2208
	39 Benzo(g,h,i)perylene	276	20.948	20.945	(1.190)	4943	0.07758	0.07758
	35 Perylene	252	17.672	17.669	(1.004)	4616	0.05569	0.05569

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070511.D
Lab Smp Id: 18F0364-05
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	110968	13.31
10 Acenaphthene-d10	54983	27492	109966	60262	9.60
15 Phenanthrene-d10	115816	57908	231632	122891	6.11
25 Chrysene-d12	129167	64584	258334	143874	11.39
33 Perylene-d12	111506	55753	223012	136740	22.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.80	0.07
33 Perylene-d12	17.59	17.09	18.09	17.60	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070511.D

Lab ID: 18F0364-05
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 20:44

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

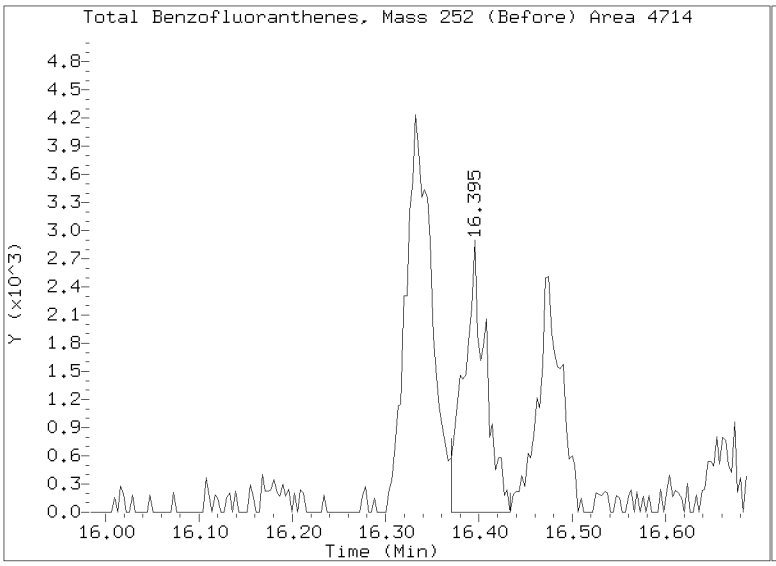
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

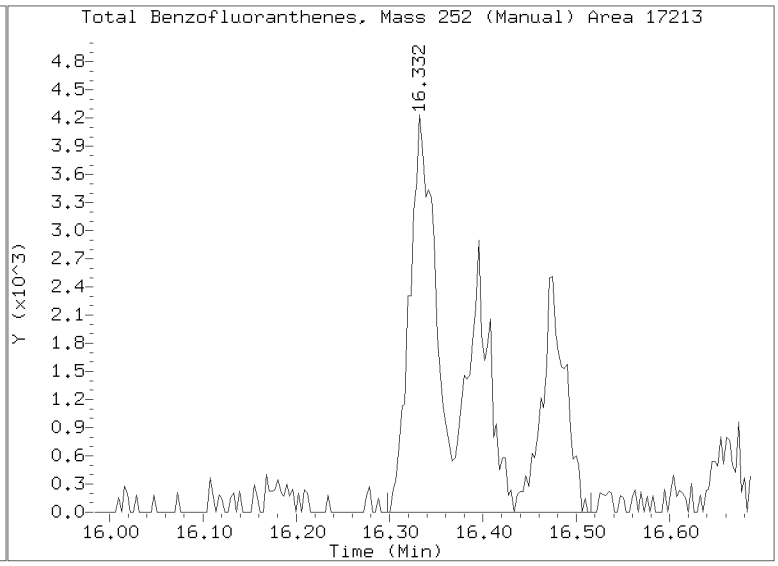
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070511.D
Injection Date: 05-JUL-2018 20:44
Lab ID:18F0364-05 Client ID:
Report Date: 07/09/2018 10:50





LDW18-C06-CLWB-Comp2

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-06	SDG:	18F0364
Sampled:	05/15/18 11:55	Prepared:	06/29/18 11:28	File ID:	N818070512.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 21:11
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.07 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.02	J	0.53	4.97
218-01-9	Chrysene	1	3.57	J	0.48	4.97
205-99-2	Benzo(b)fluoranthene	1	2.27	J	1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	4.97	U	0.71	4.97
50-32-8	Benzo(a)pyrene	1	4.97	U	0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	10.6		0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	4.97	U	1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.96	71.2	47.8	20 - 130	
Dibenzo[a,h]anthracene-d14	148.96	94.8	63.6	20 - 130	
Fluoranthene-d10	148.96	91.4	61.4	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

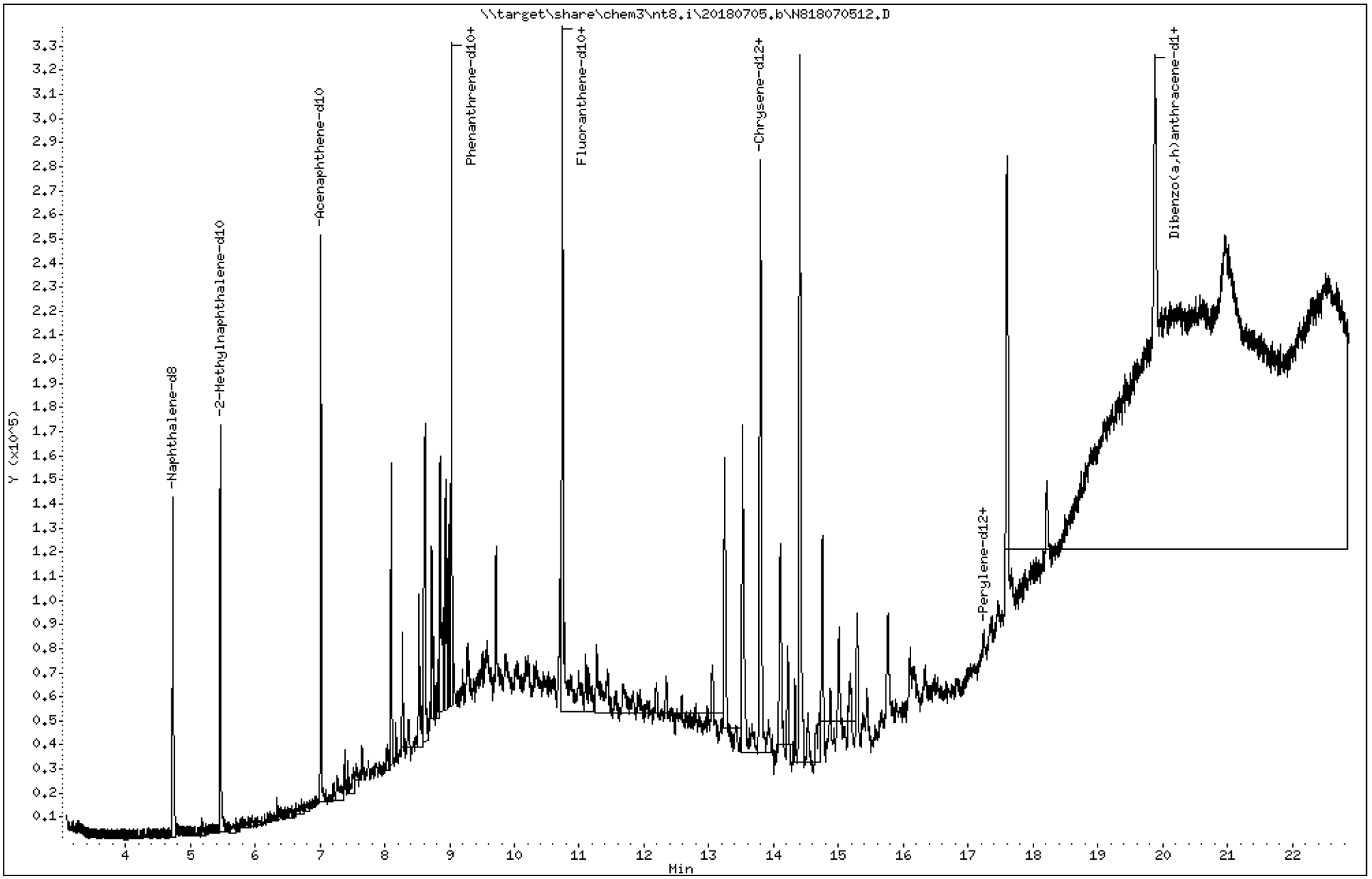
Instrument: nt8.i

Sample Info: 18F0364-06

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

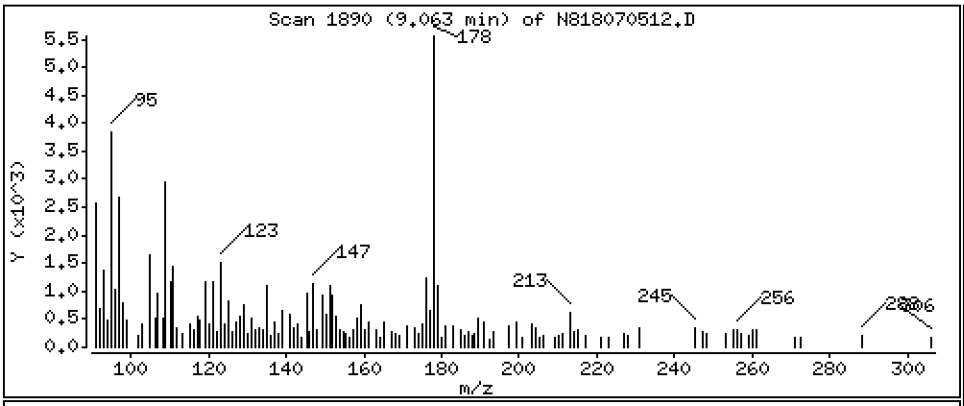
Operator: JZ

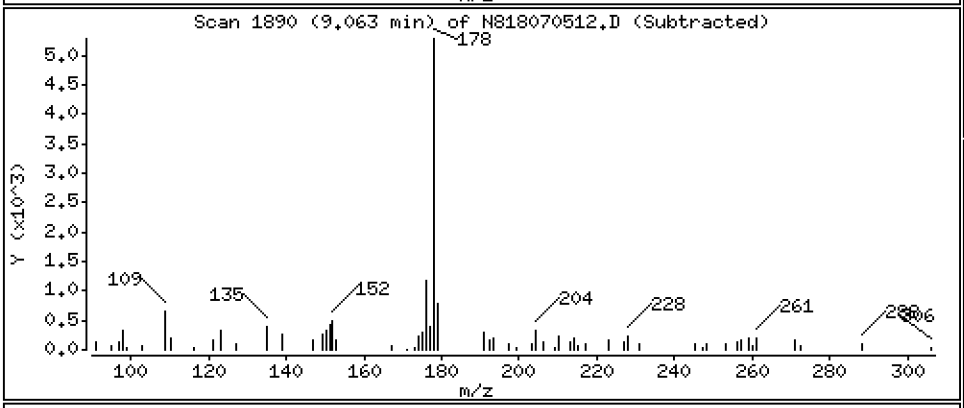
Column phase: Rxi-17sil

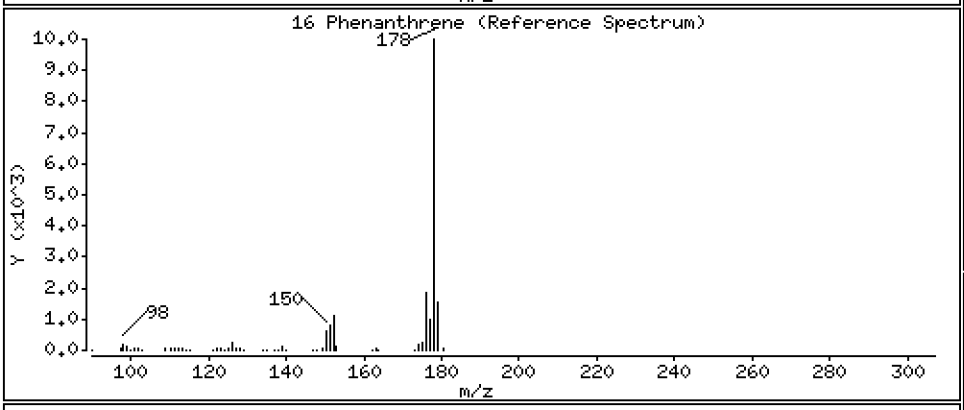
Column diameter: 0.25

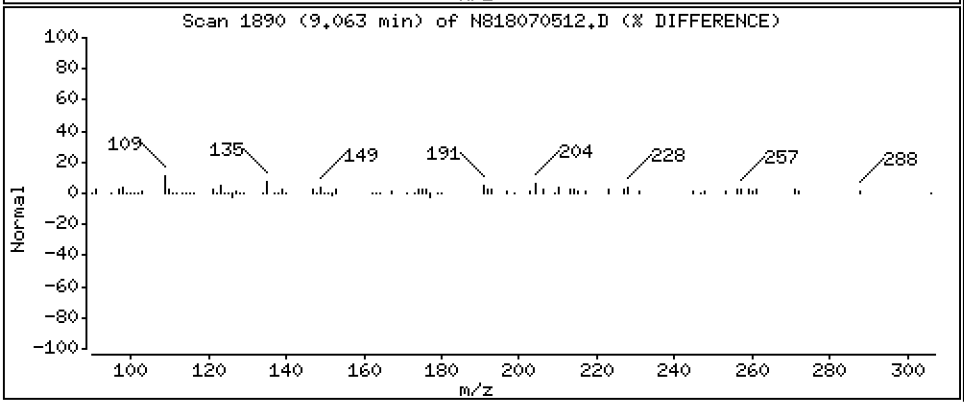
16 Phenanthrene

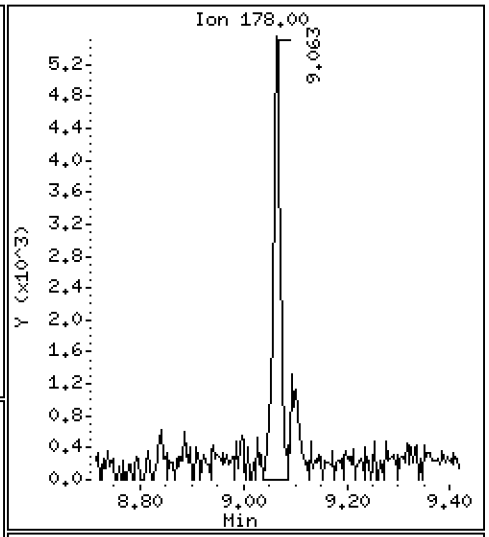
Concentration: 0.08092 ug/mL

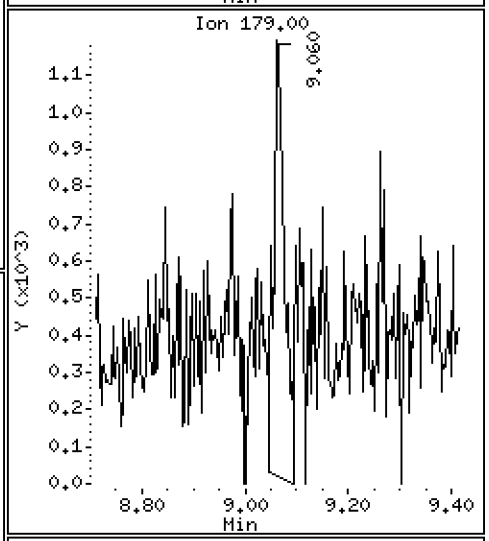


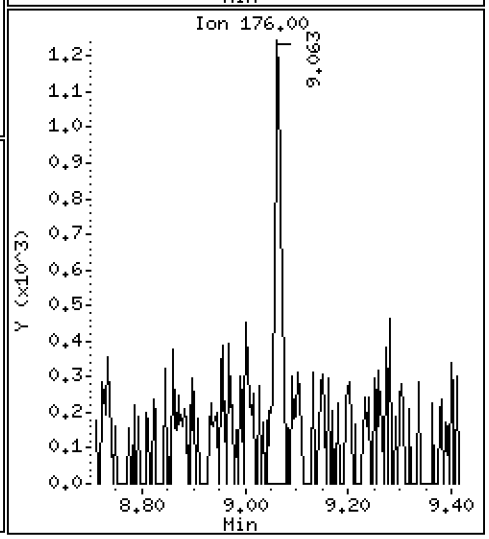












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

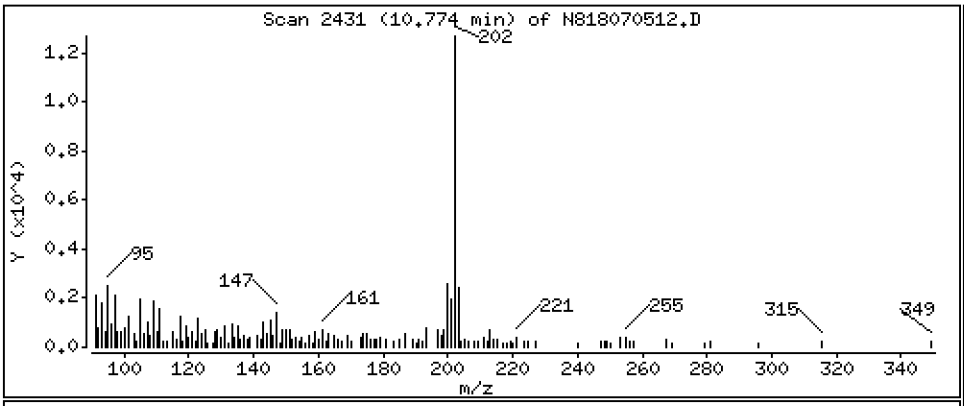
Operator: JZ

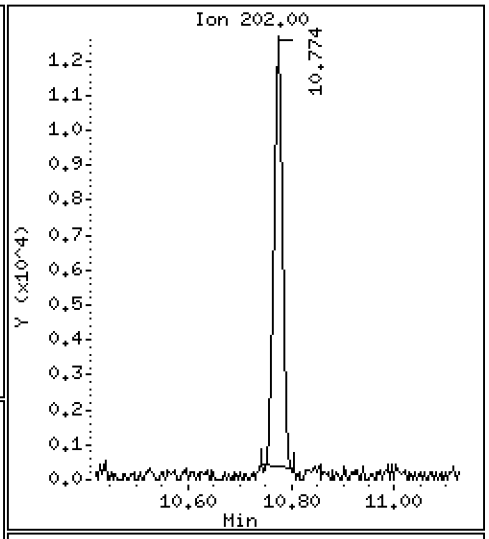
Column phase: Rxi-17sil

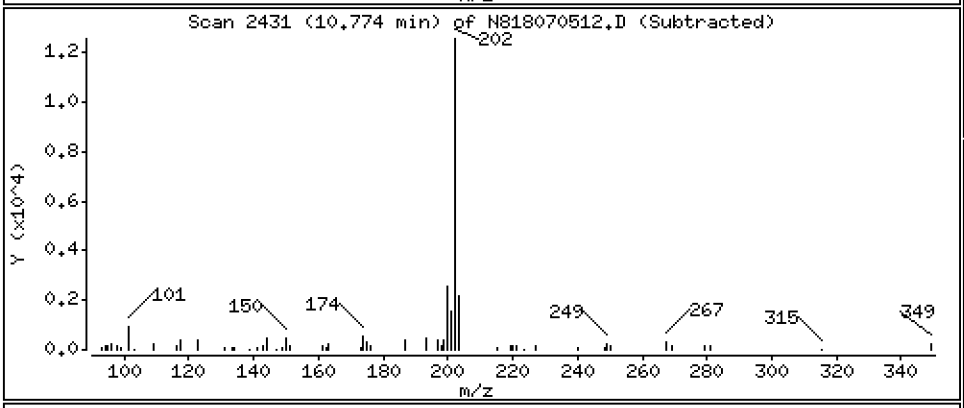
Column diameter: 0.25

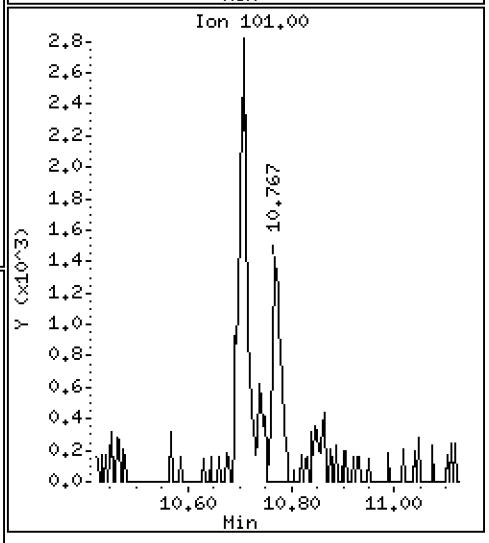
22 Fluoranthene

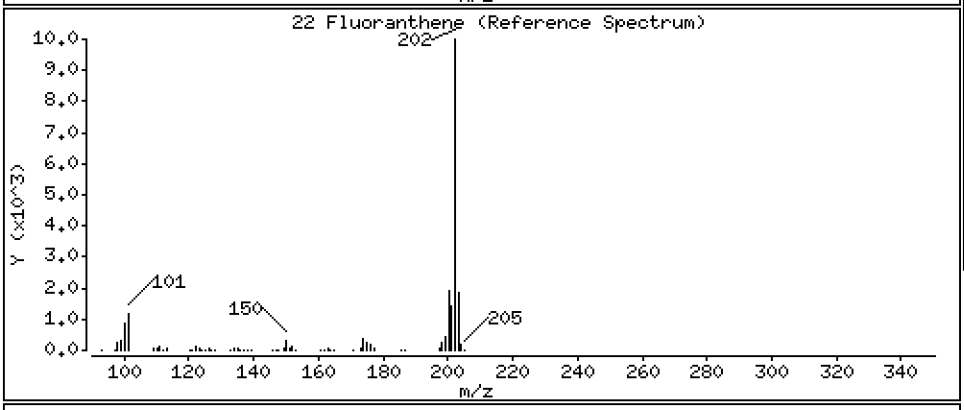
Concentration: 0.1794 ug/mL

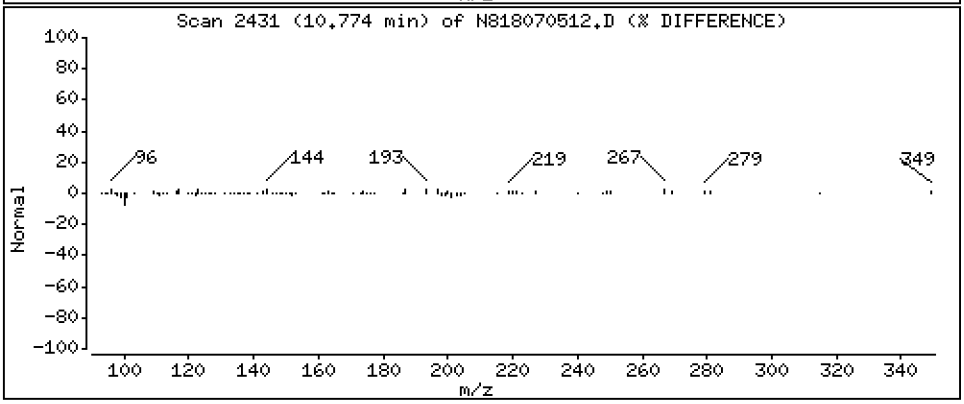












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

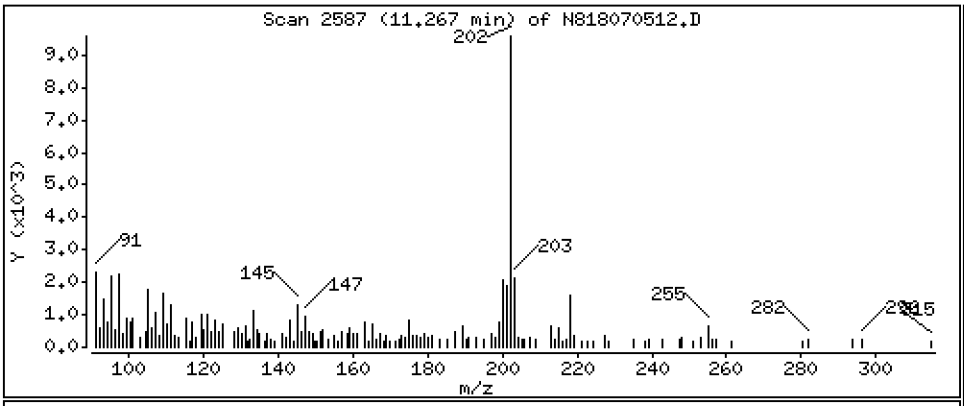
Operator: JZ

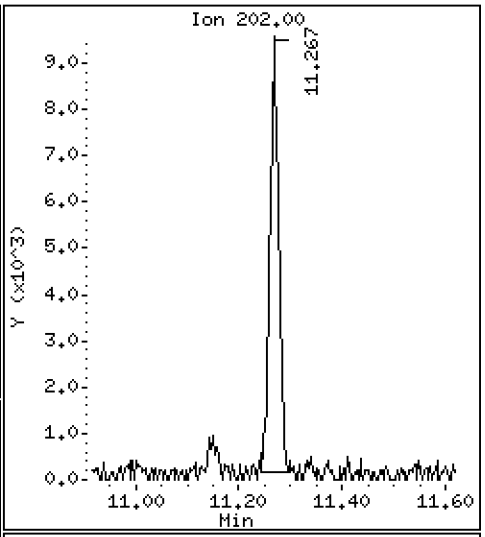
Column phase: Rxi-17sil

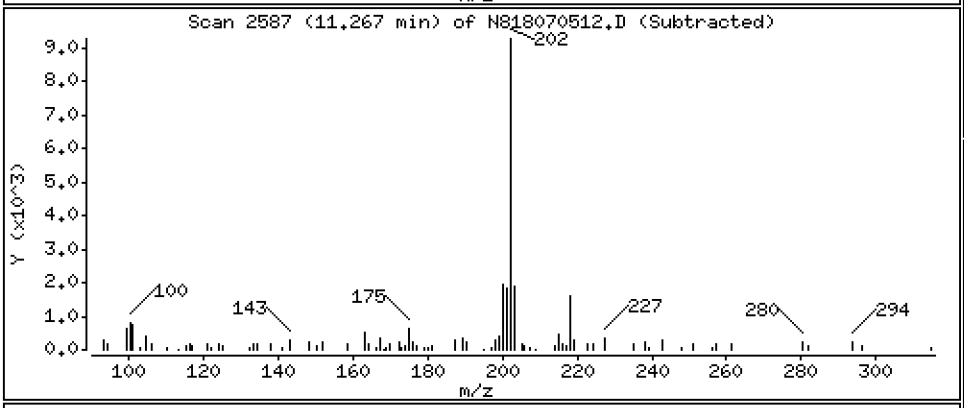
Column diameter: 0.25

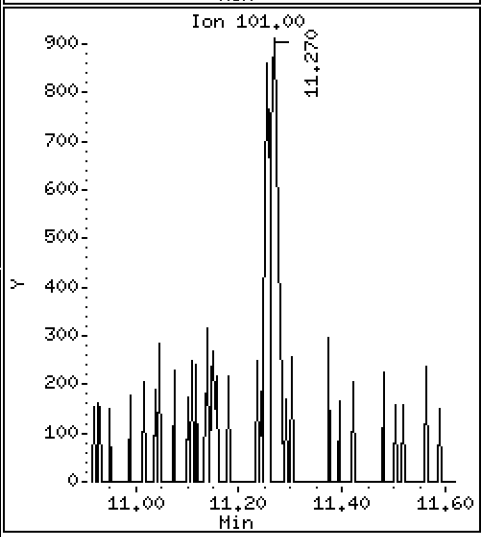
23 Pyrene

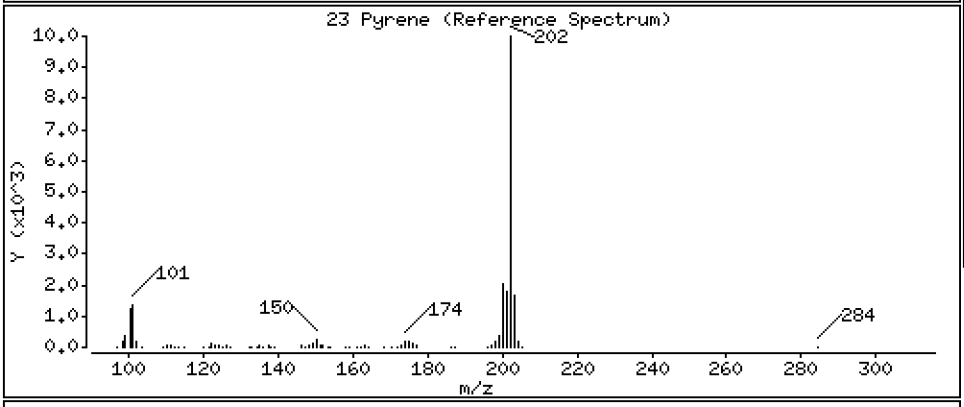
Concentration: 0.1394 ug/mL

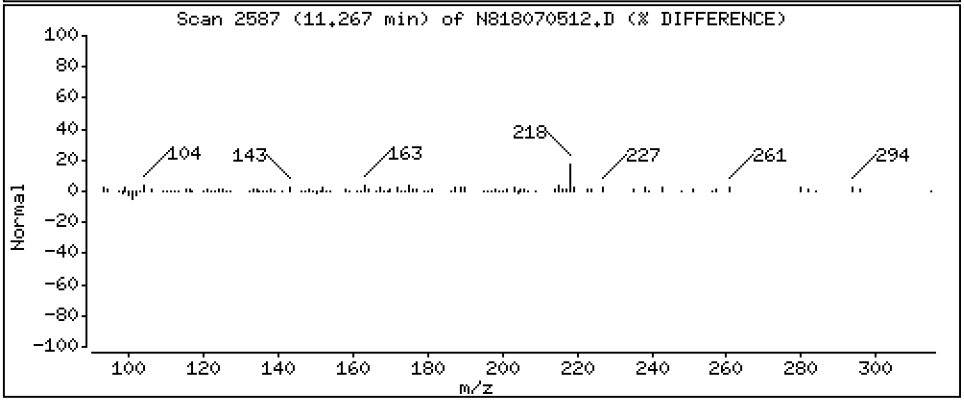












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

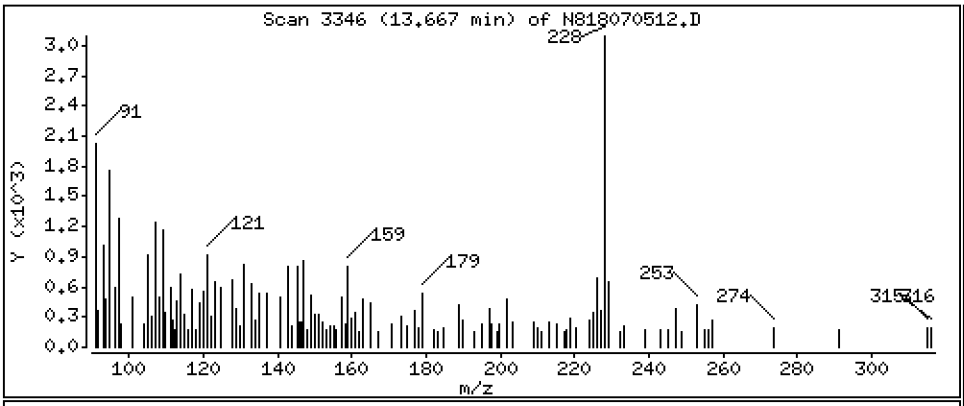
Operator: JZ

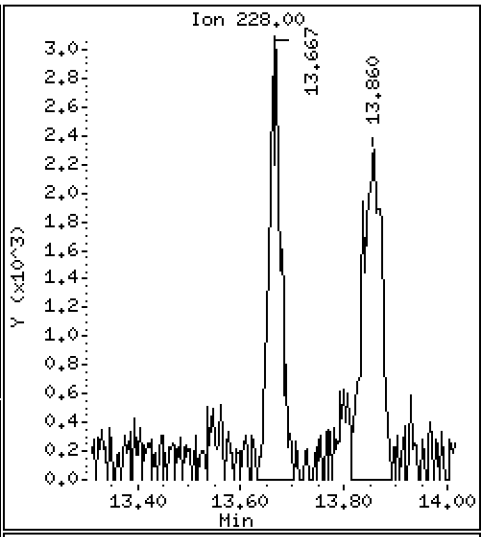
Column phase: Rxi-17sil

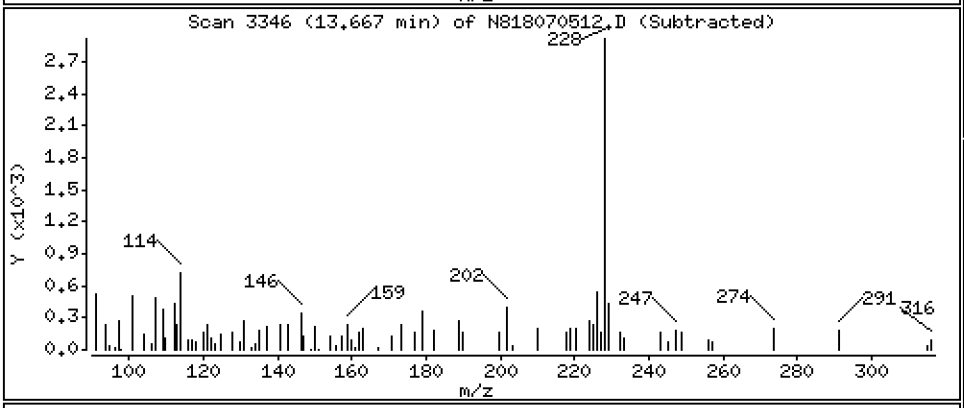
Column diameter: 0.25

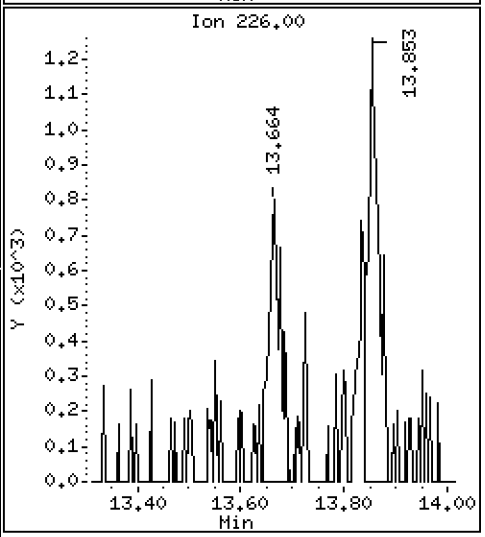
24 Benzo(a)anthracene

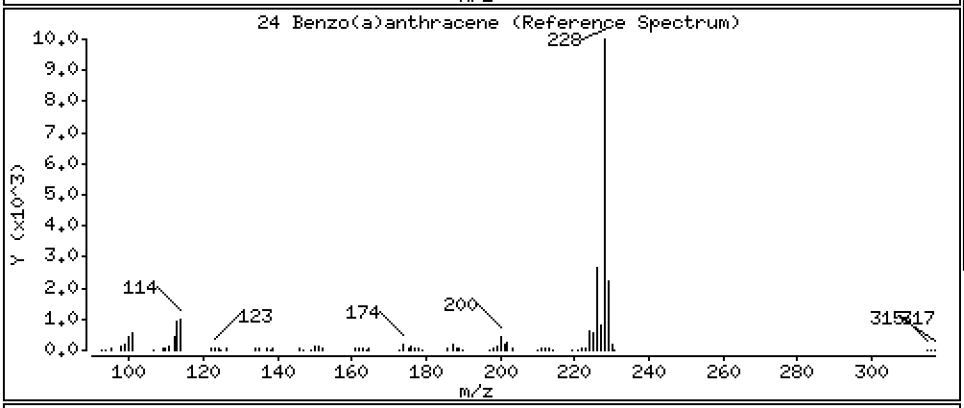
Concentration: 0.06079 ug/mL

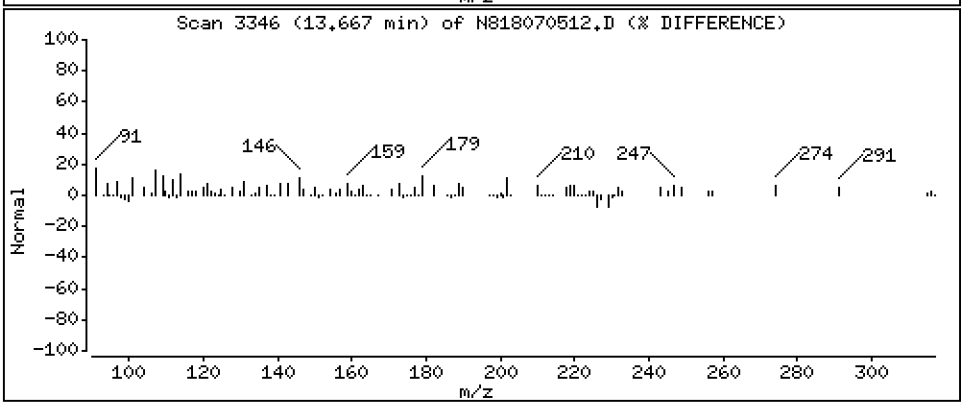












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

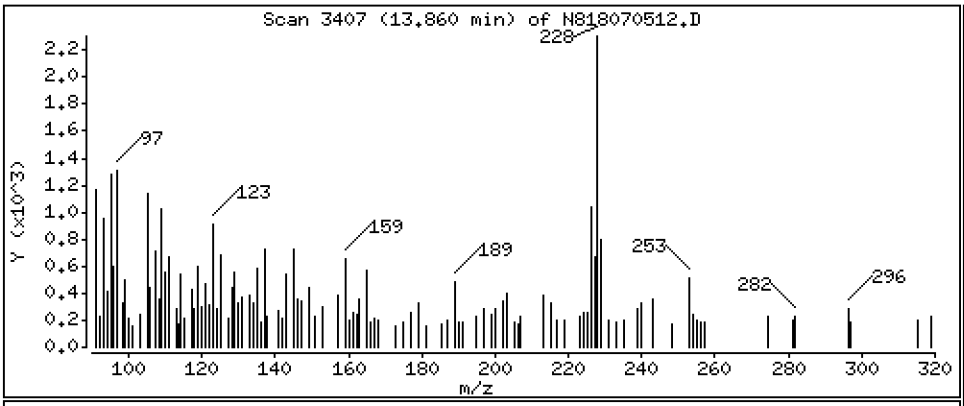
Operator: JZ

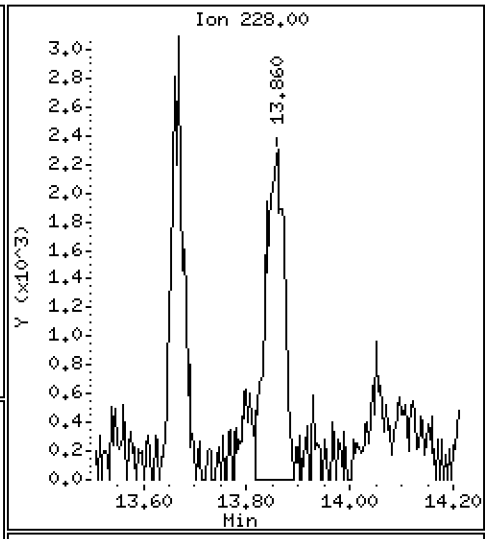
Column phase: Rxi-17sil

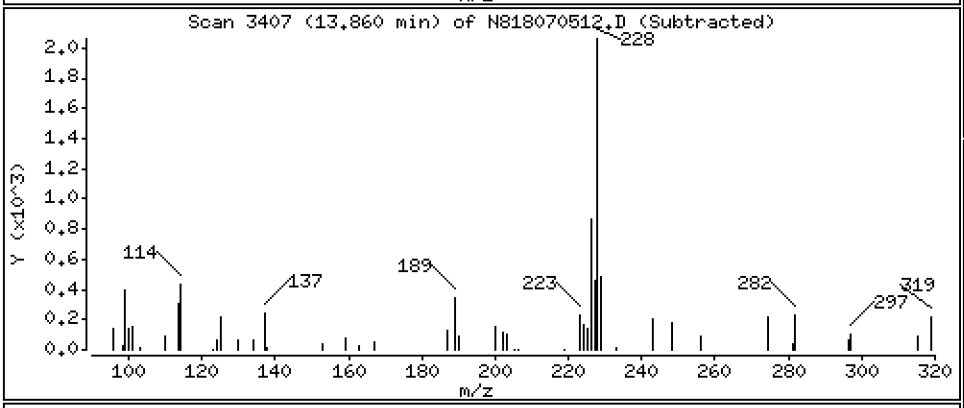
Column diameter: 0.25

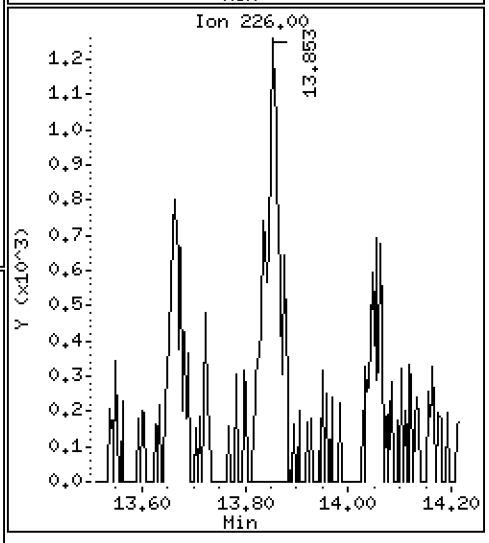
27 Chrysene

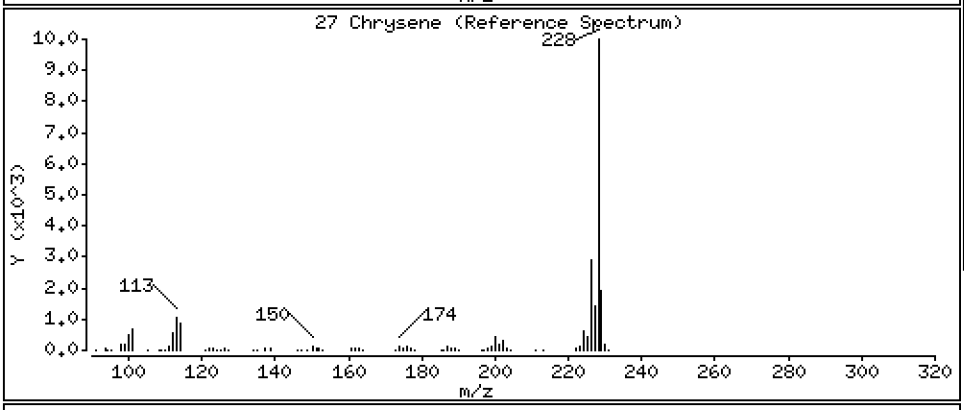
Concentration: 0.07199 ug/mL

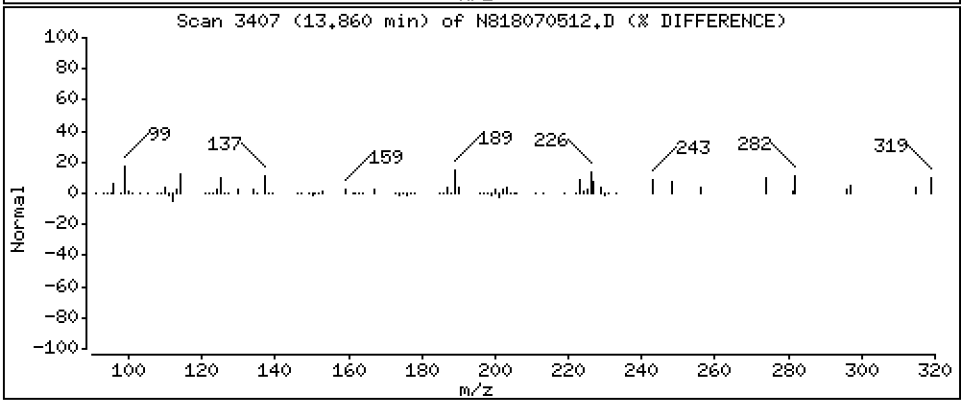












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

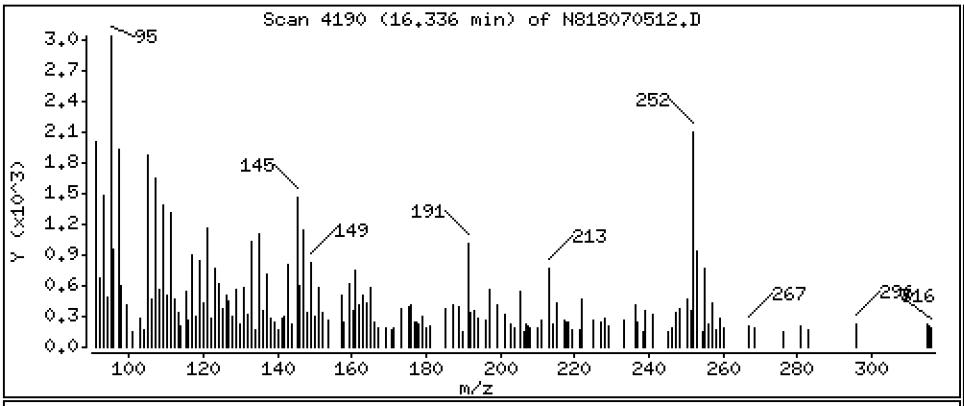
Operator: JZ

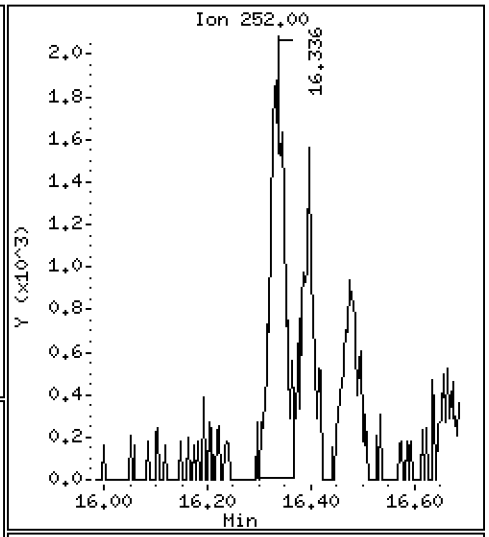
Column phase: Rxi-17sil

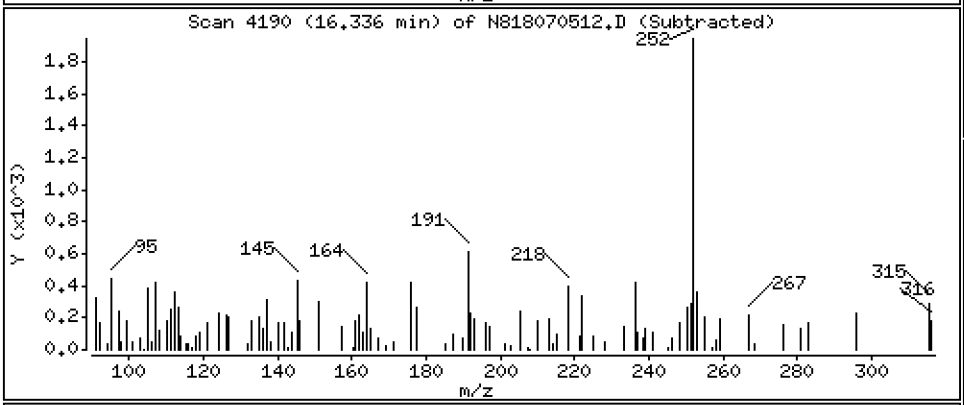
Column diameter: 0.25

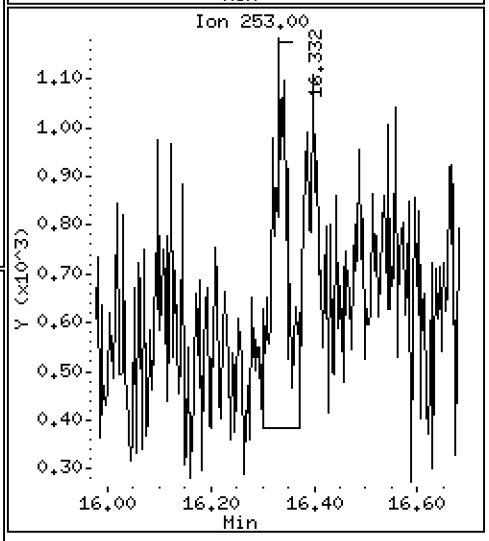
28 Benzo(b)fluoranthene

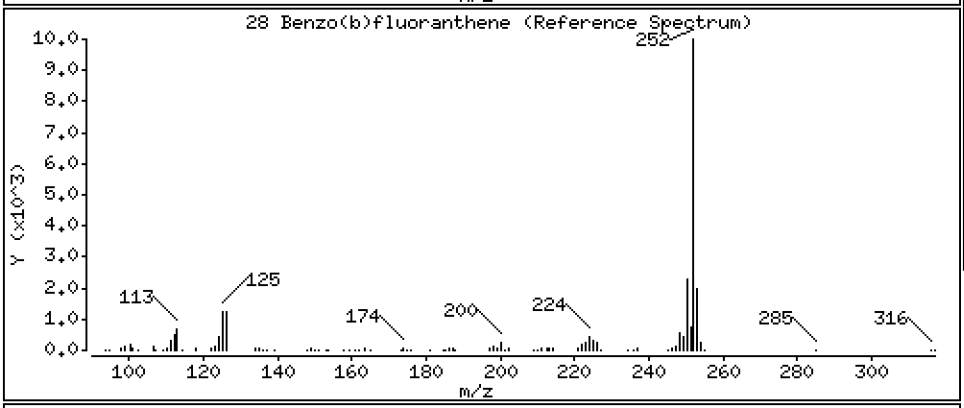
Concentration: 0.04574 ug/mL

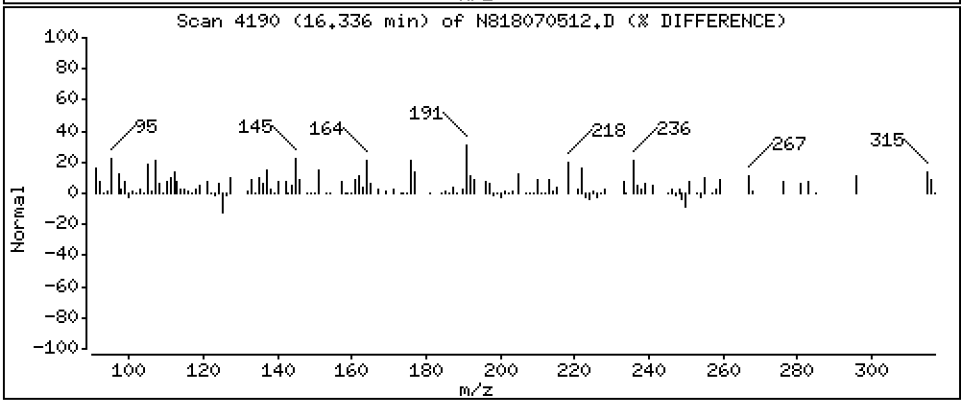












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

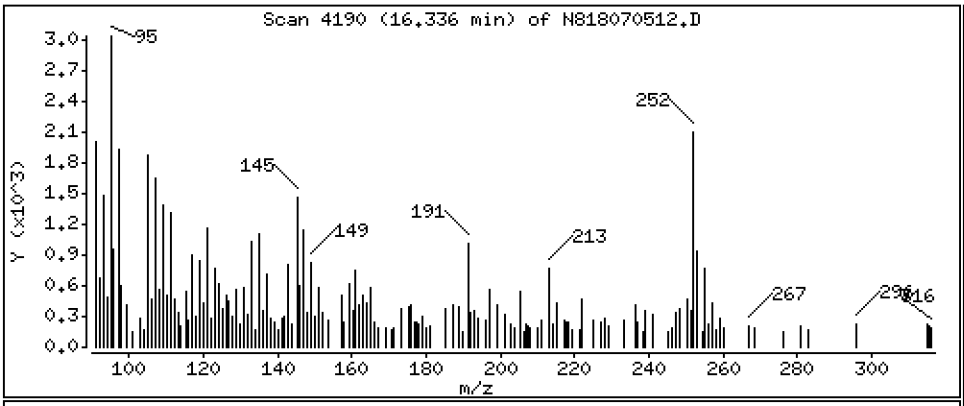
Operator: JZ

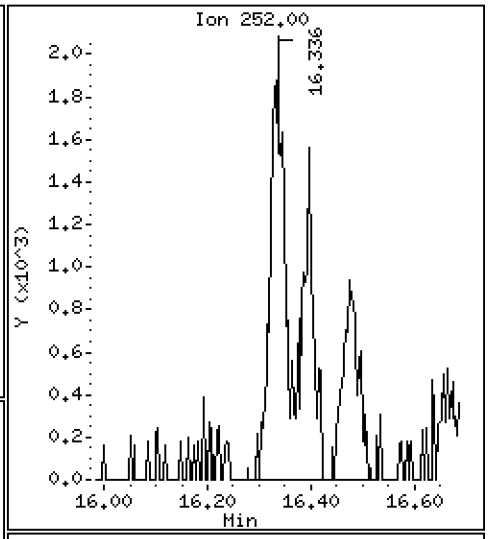
Column phase: Rxi-17sil

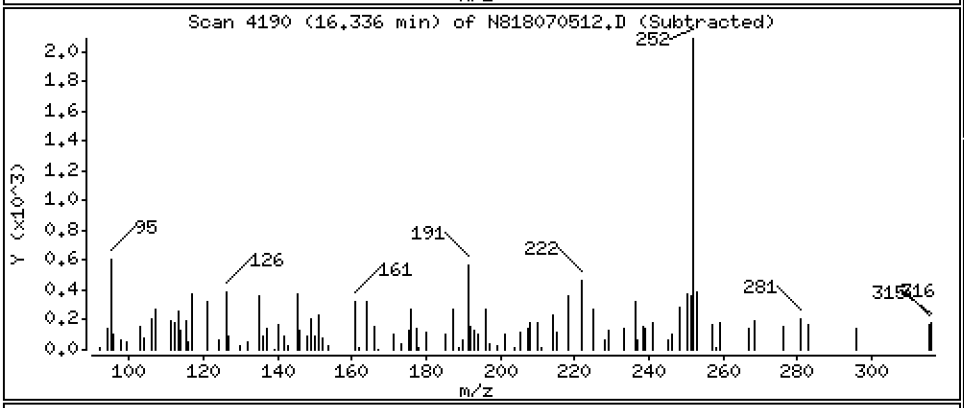
Column diameter: 0.25

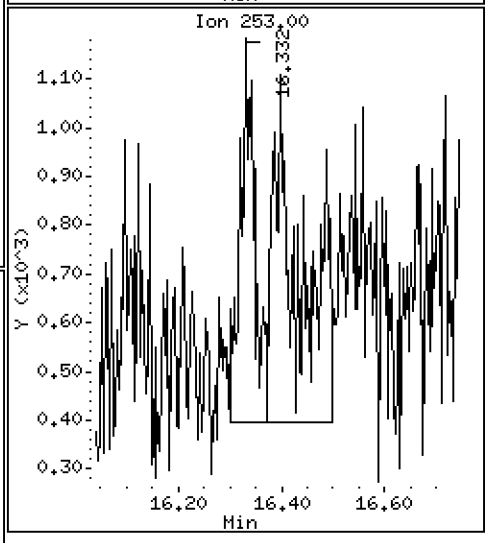
31 Total Benzofluoranthenes

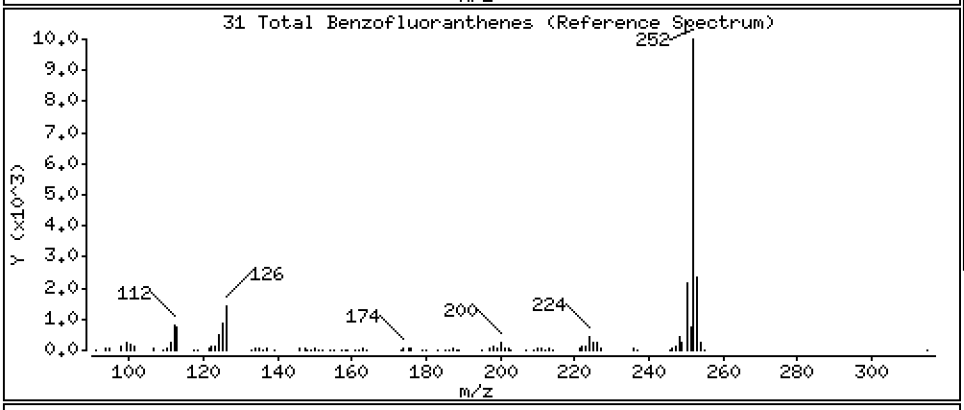
Concentration: 0.09708 ug/mL

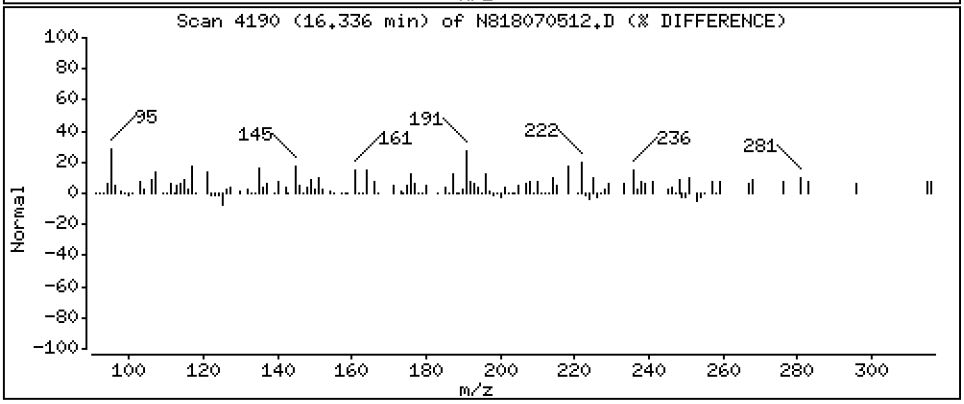












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

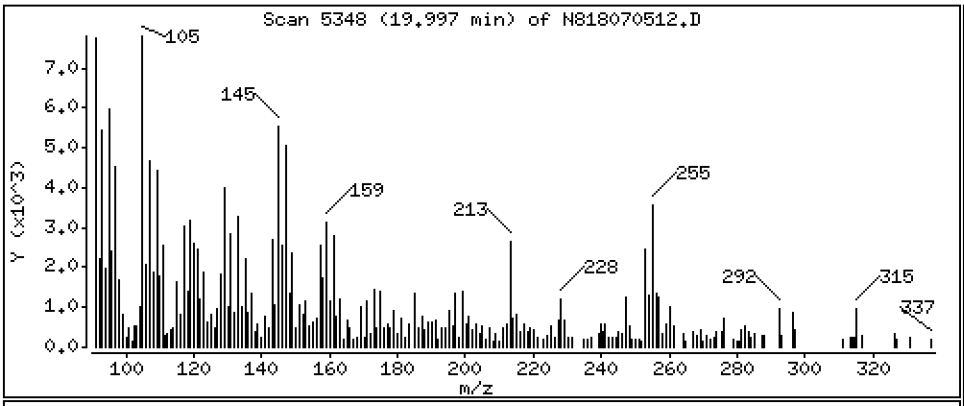
Operator: JZ

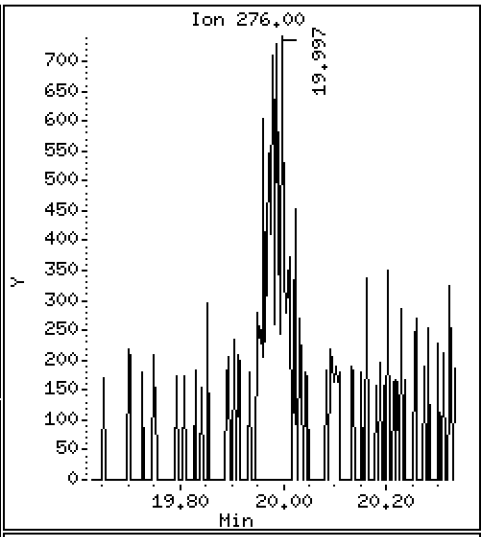
Column phase: Rxi-17sil

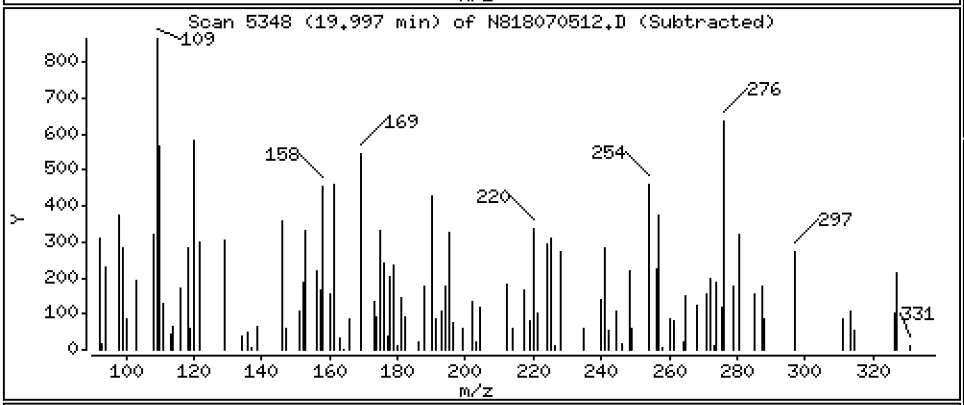
Column diameter: 0.25

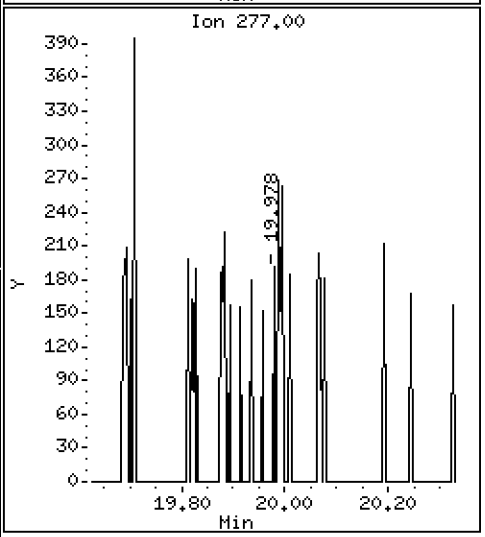
37 Indeno(1,2,3-cd)pyrene

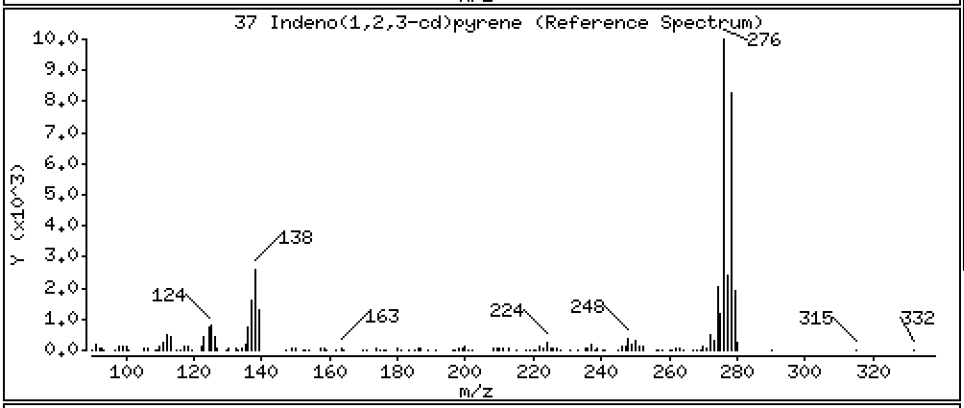
Concentration: 0.2125 ug/mL

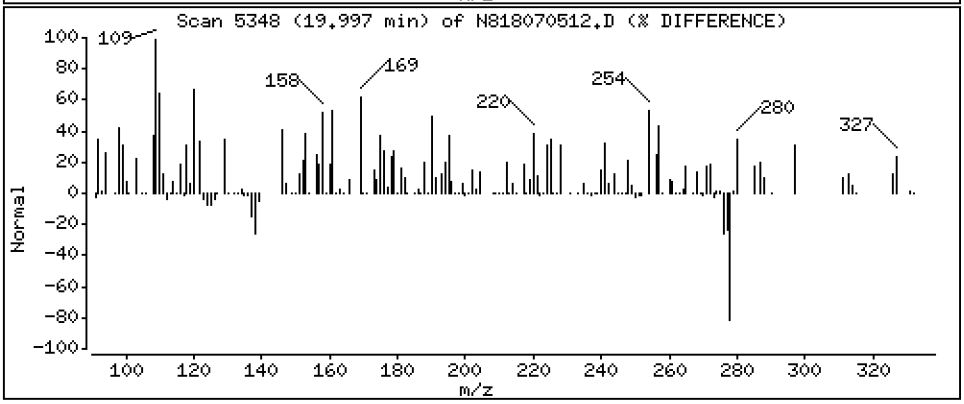












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

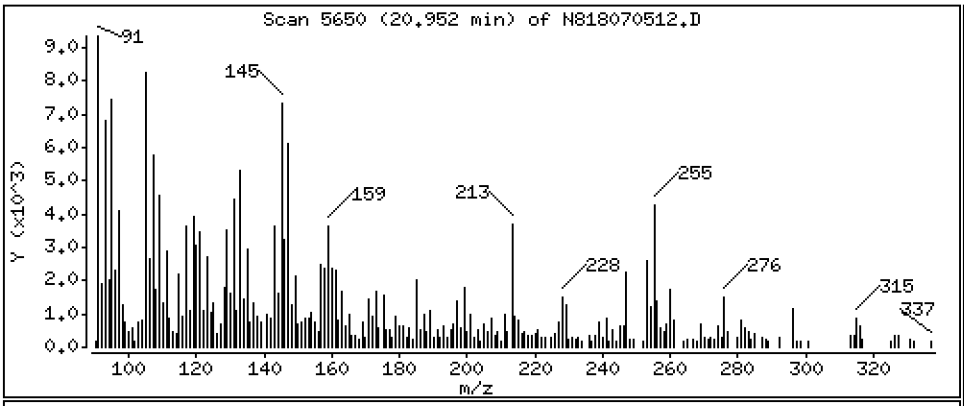
Operator: JZ

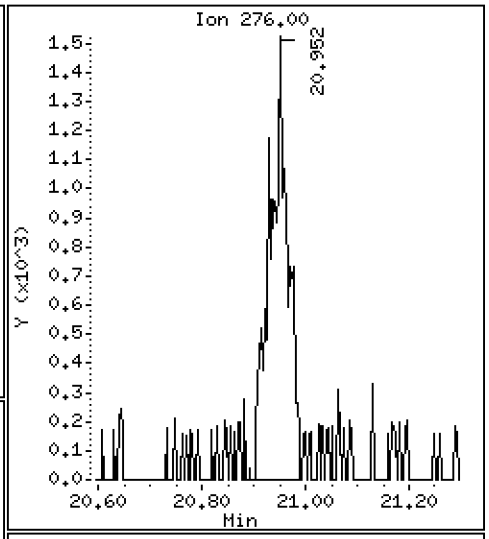
Column phase: Rxi-17sil

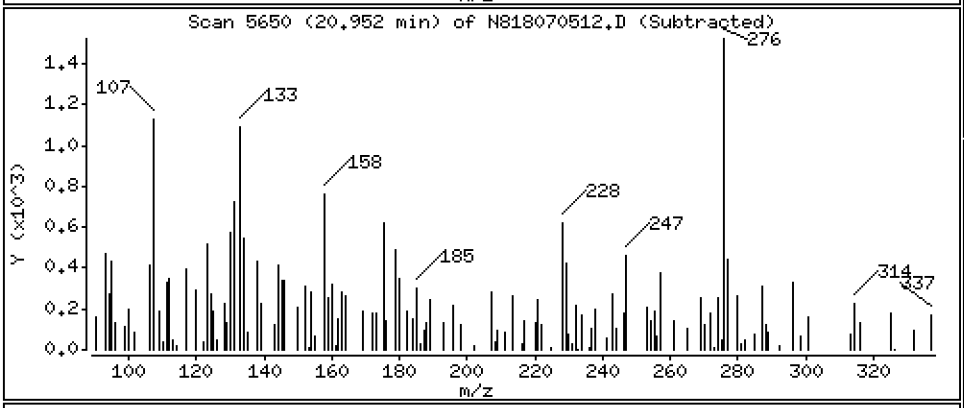
Column diameter: 0.25

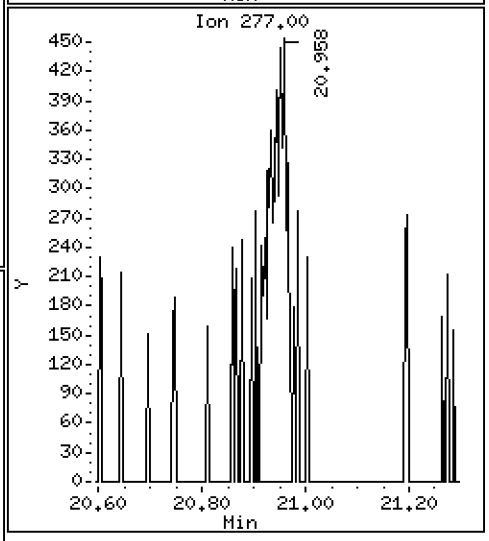
39 Benzo(g,h,i)perylene

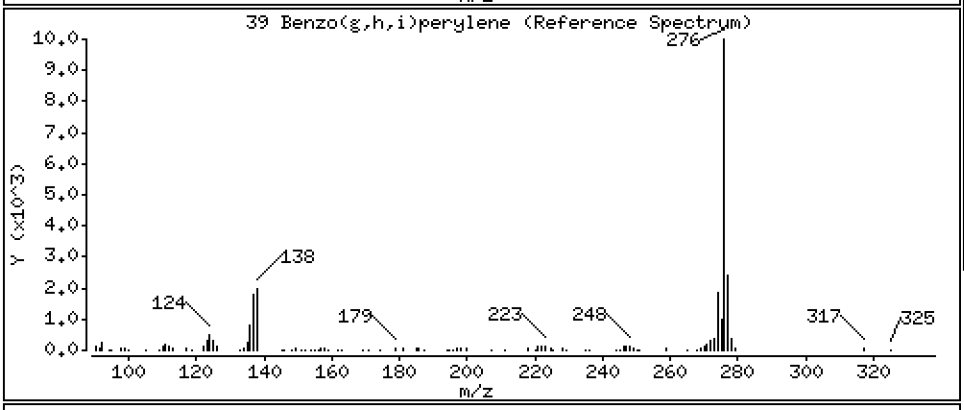
Concentration: 0.05684 ug/mL

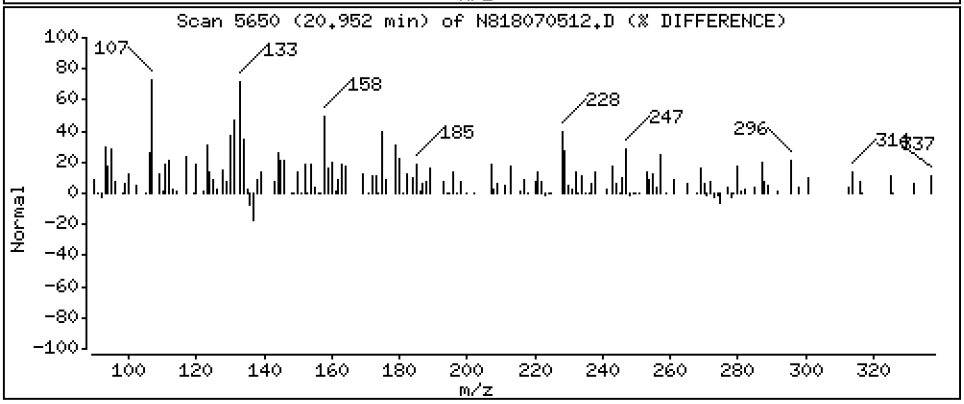












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070512.D

Date : 05-JUL-2018 21:11

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-06

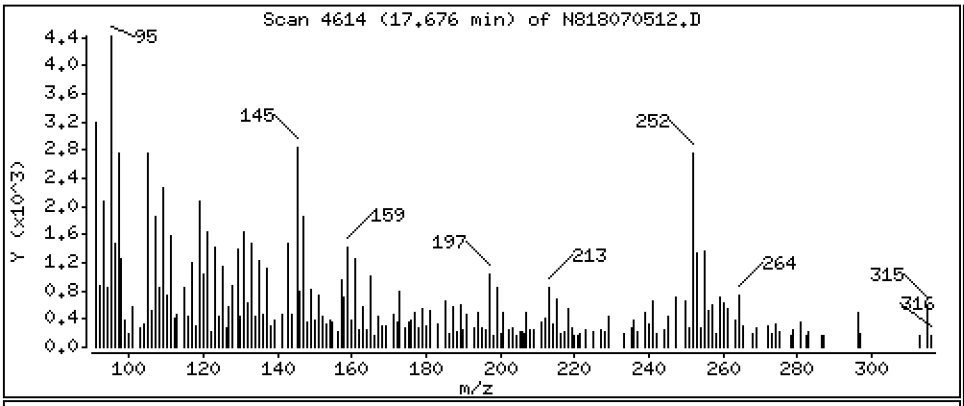
Operator: JZ

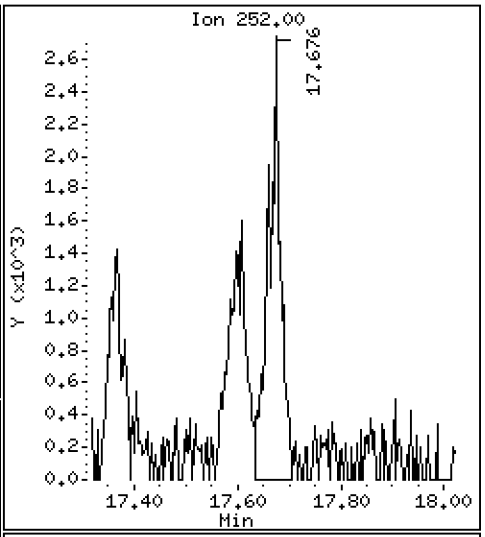
Column phase: Rxi-17sil

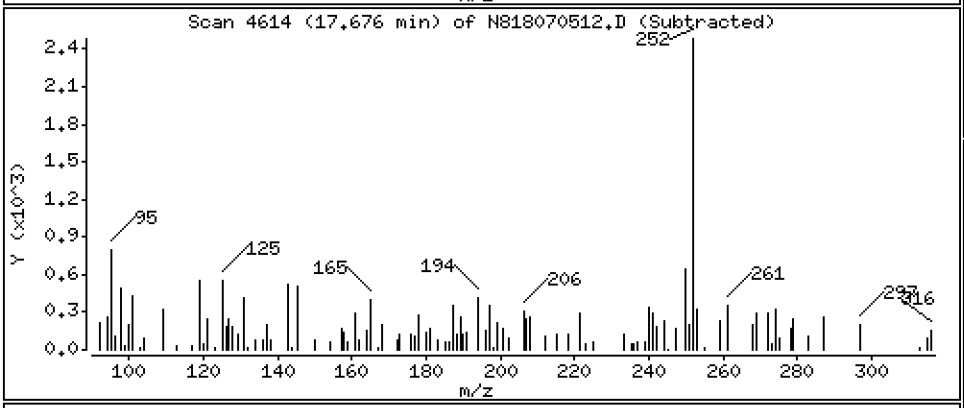
Column diameter: 0.25

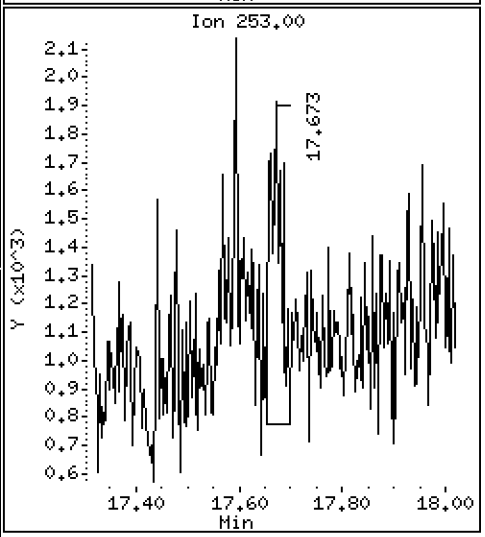
35 Perylene

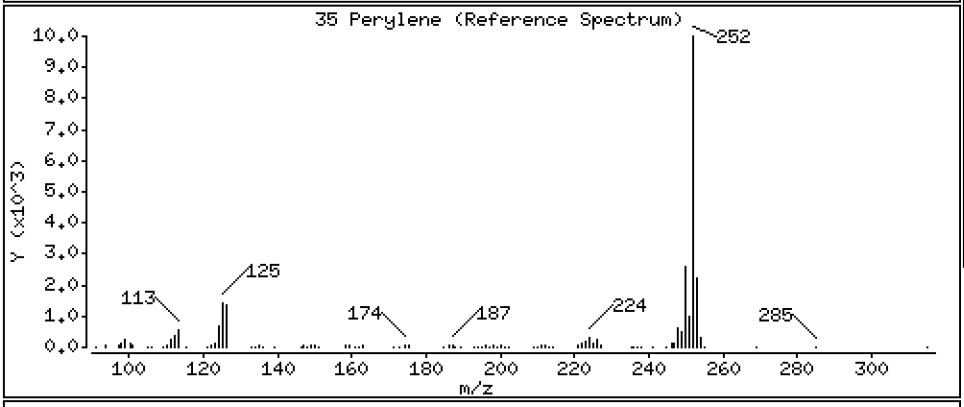
Concentration: 0.05412 ug/mL

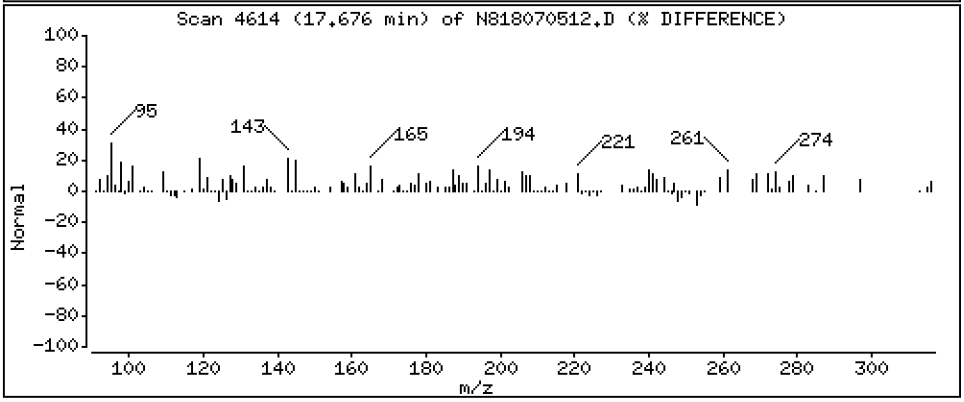












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070512.D
Lab Smp Id: 18F0364-06
Inj Date : 05-JUL-2018 21:11
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-06
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.731	4.743	(1.000)	113397	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.155)	59751	1.43447	1.434
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.014	7.013	(1.000)	60825	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	123266	2.00000	
	16 Phenanthrene	178	9.063	9.065	(1.004)	5534	0.08092	0.08092
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.773	10.773	(1.193)	14349	0.17938	0.1794
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	145404	1.84121	1.841
	23 Pyrene	202	11.266	11.266	(0.817)	11413	0.13940	0.1394
	24 Benzo(a)anthracene	228	13.666	13.663	(0.991)	4953	0.06079	0.06079
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	141363	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	5791	0.07199	0.07199(M)
	28 Benzo(b)fluoranthene	252	16.335	16.335	(0.928)	3881	0.04574	0.04574(M)
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.335	16.335	(0.928)	8214	0.09708	0.09708(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.603	17.593	(1.000)	135660	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.997	19.981	(1.136)	1610	0.21250	0.2125(M)
$	36 Dibenzo(a,h)anthracene-d14	292	19.883	19.876	(1.129)	115971	1.90857	1.909
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.952	20.945	(1.190)	3593	0.05684	0.05684(M)
	35 Perylene	252	17.676	17.669	(1.004)	4450	0.05412	0.05412

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070512.D
Lab Smp Id: 18F0364-06
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	113397	15.79
10 Acenaphthene-d10	54983	27492	109966	60825	10.63
15 Phenanthrene-d10	115816	57908	231632	123266	6.43
25 Chrysene-d12	129167	64584	258334	141363	9.44
33 Perylene-d12	111506	55753	223012	135660	21.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.26
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070512.D

Lab ID: 18F0364-06
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 21:11

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

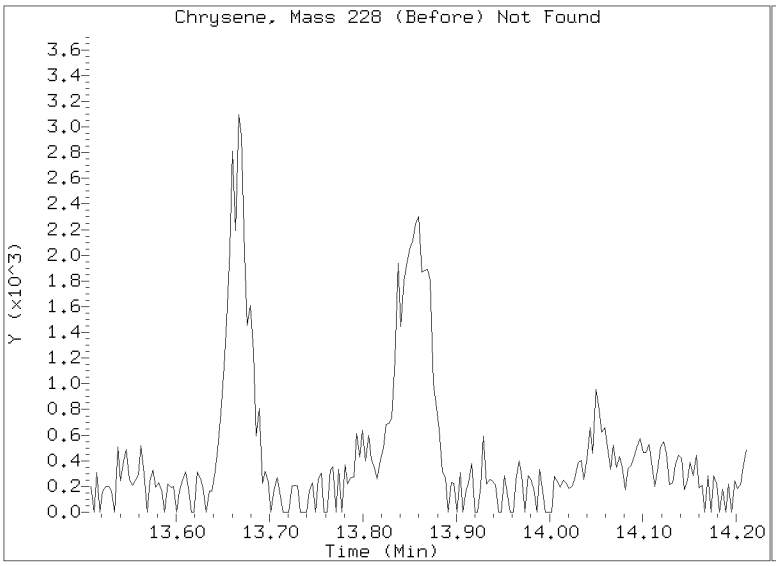
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

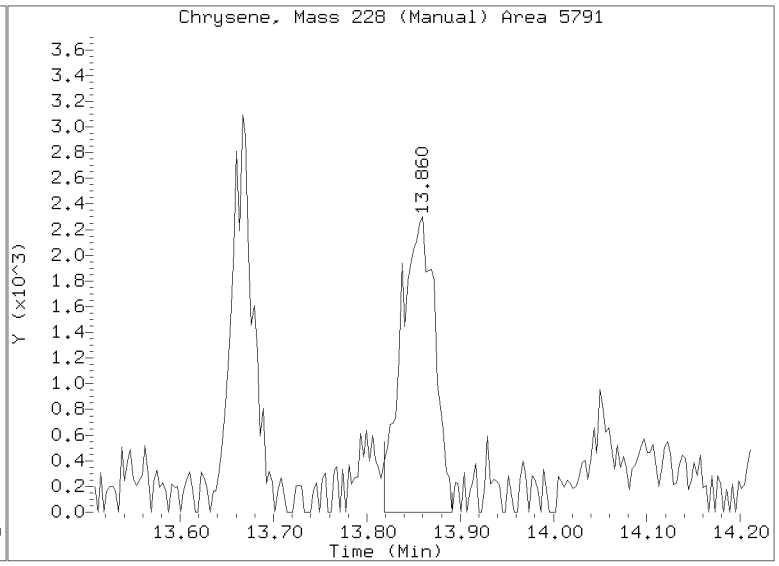
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

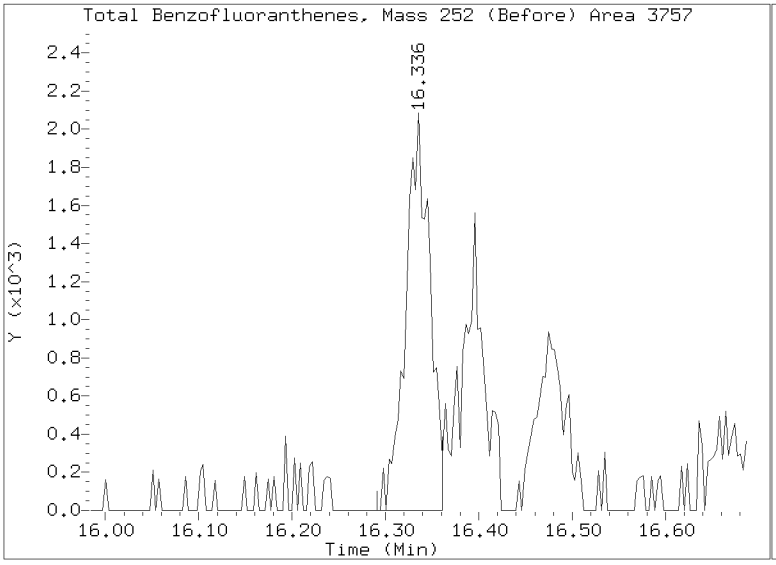
* Only compounds listed in the work order have been verified by the analyst *

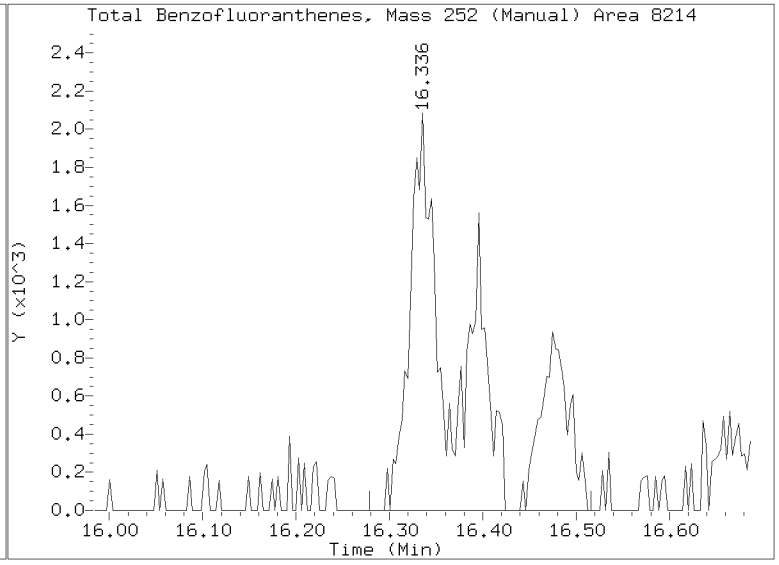
Quant Ion Manual Peak Adjustment Report

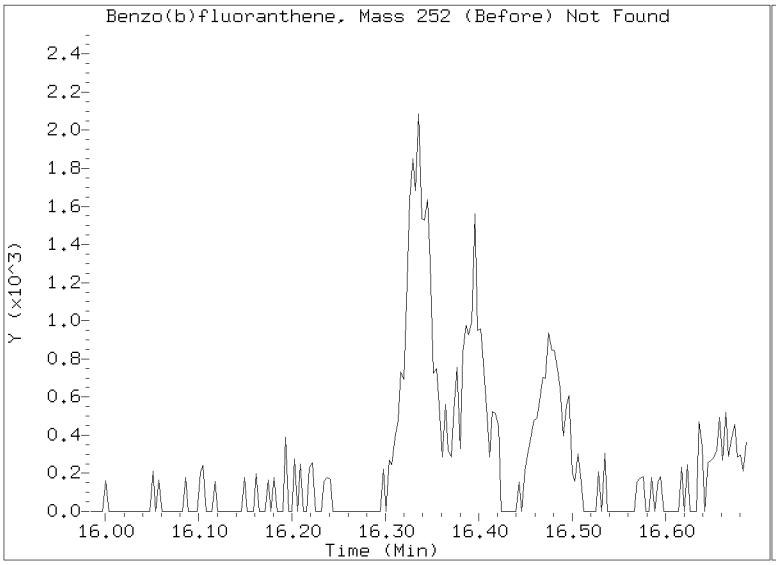
Datafile: //target/share/chem3/nt8.i/20180705.b/N818070512.D
Injection Date: 05-JUL-2018 21:11
Lab ID:18F0364-06 Client ID:
Report Date: 07/09/2018 10:50

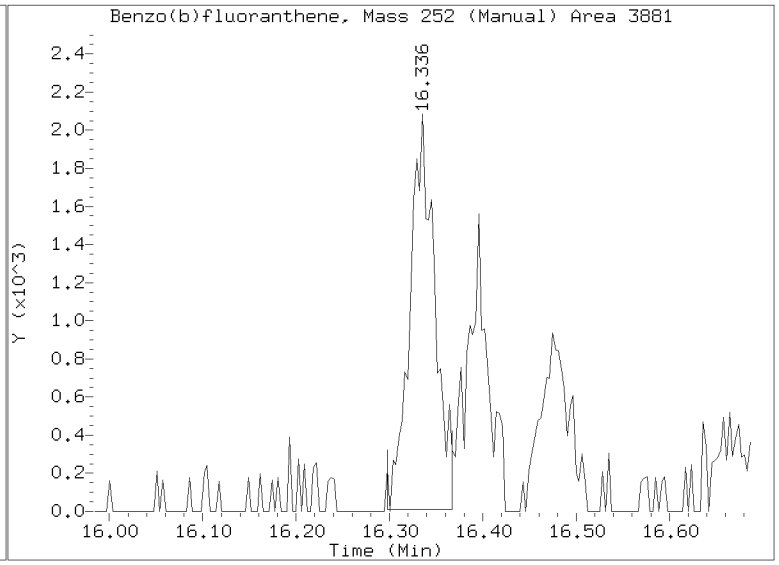






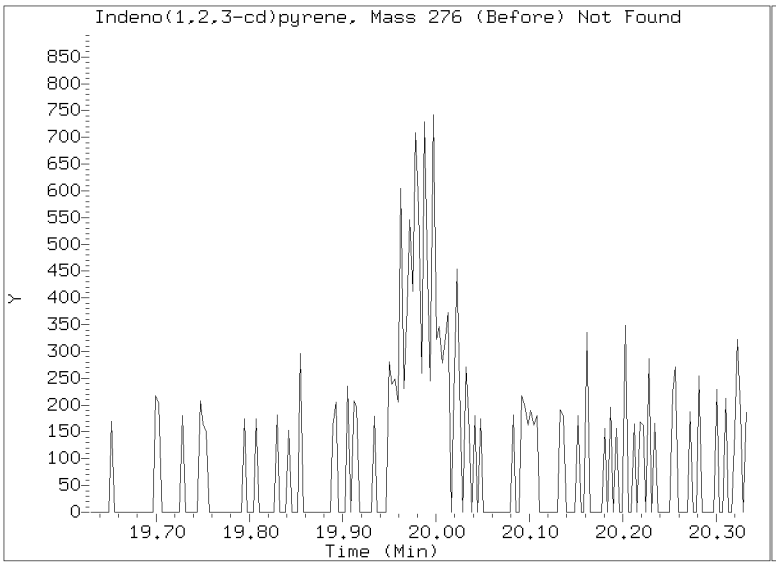


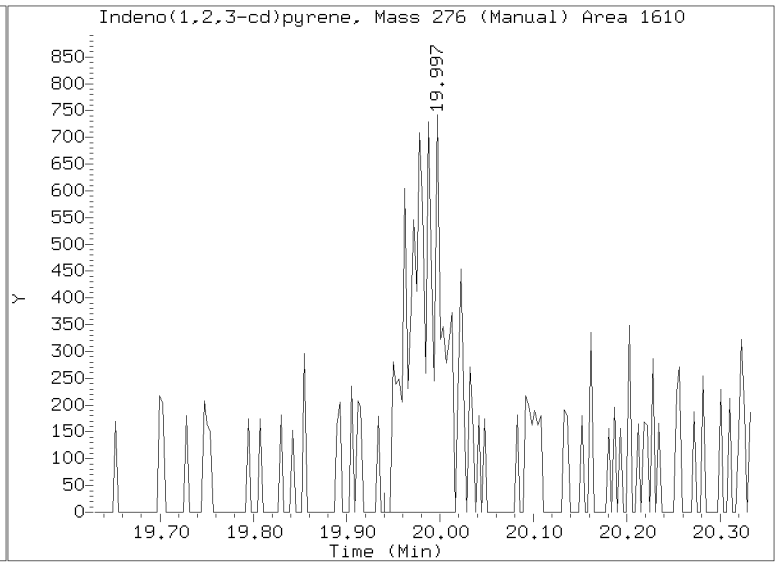


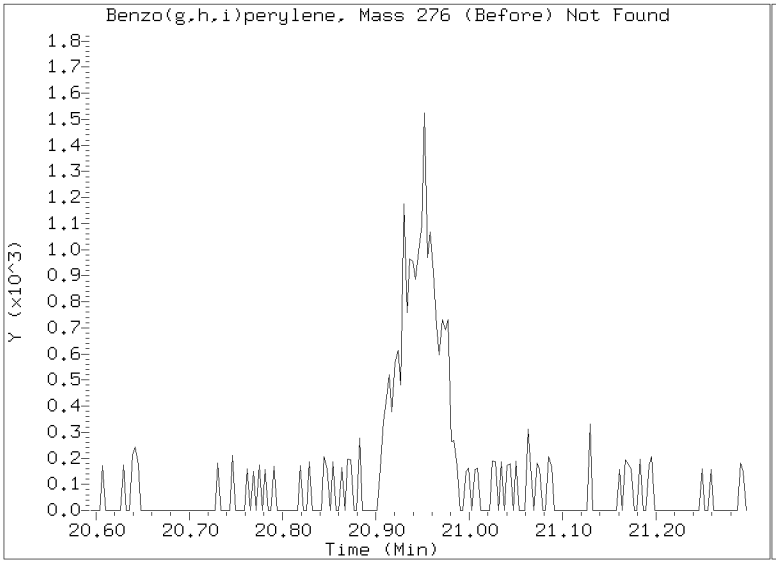


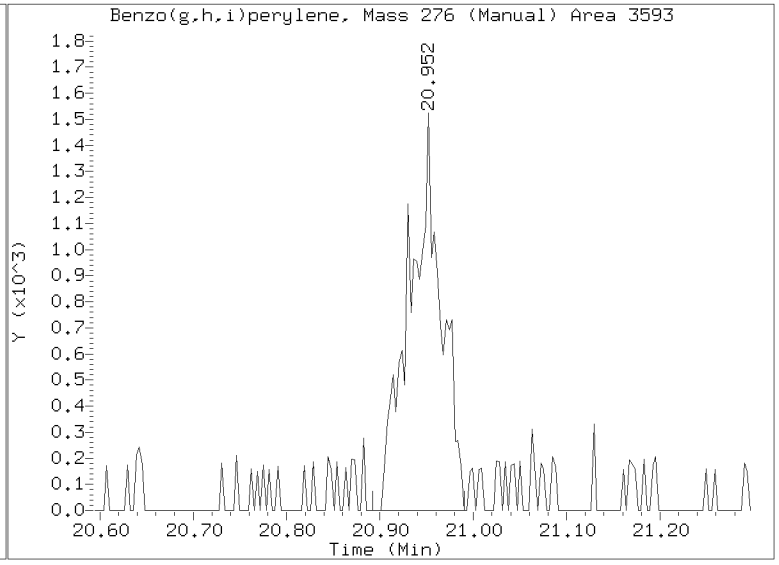
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070512.D
Injection Date: 05-JUL-2018 21:11
Lab ID:18F0364-06 Client ID:
Report Date: 07/09/2018 10:50









LDW18-C08-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-07	SDG:	18F0364
Sampled:	05/18/18 13:20	Prepared:	06/29/18 11:28	File ID:	N818070513.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 21:38
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.07 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.62	J	0.53	4.97
218-01-9	Chrysene	1	3.92	J	0.48	4.97
205-99-2	Benzo(b)fluoranthene	1	1.71	J	1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	4.97	U	0.71	4.97
50-32-8	Benzo(a)pyrene	1	4.97	U	0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	10.2		0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	4.97	U	1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.96	72.3	48.5	20 - 130	
Dibenzo[a,h]anthracene-d14	148.96	102	68.7	20 - 130	
Fluoranthene-d10	148.96	101	67.6	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

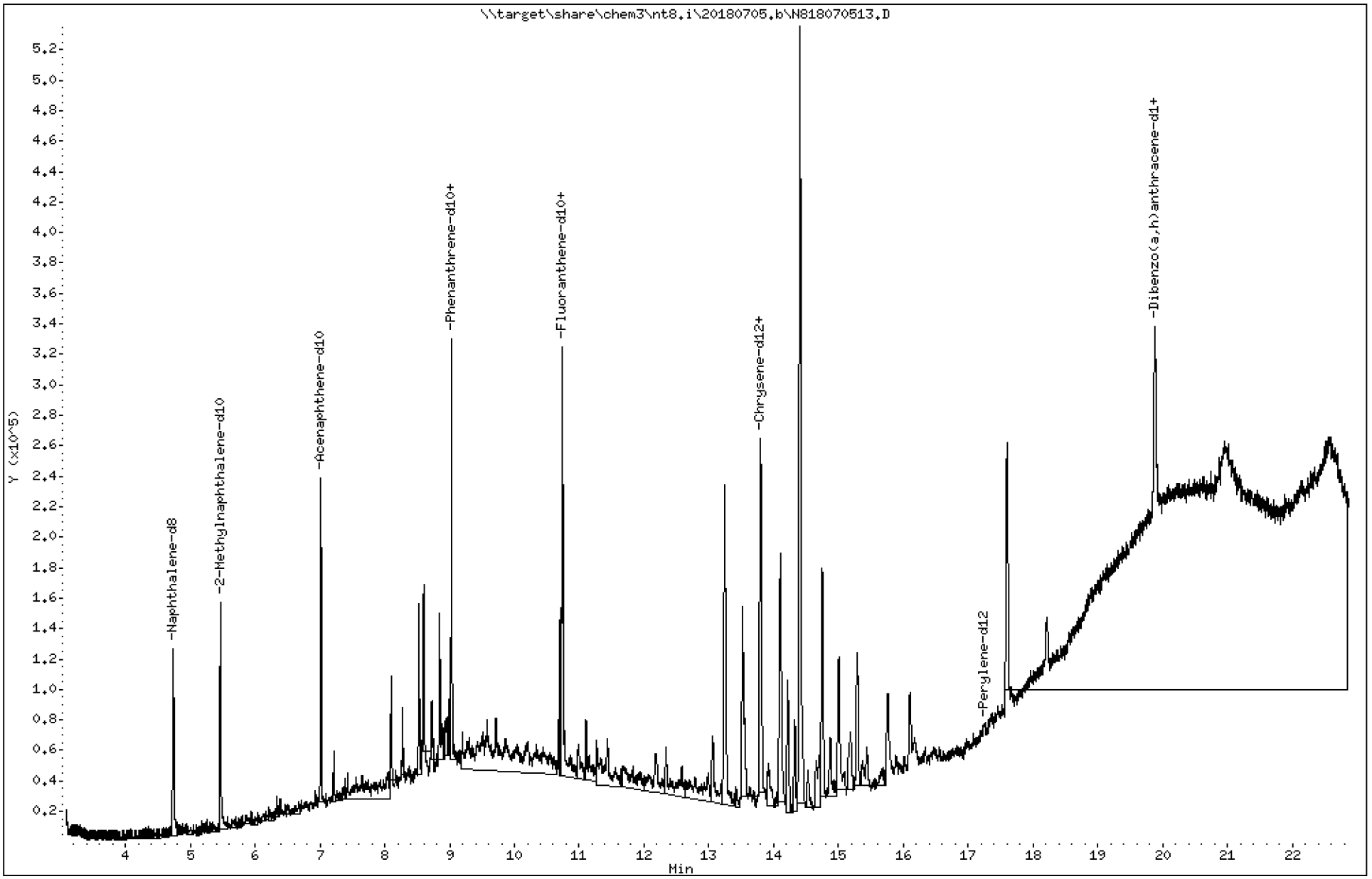
Instrument: nt8.i

Sample Info: 18F0364-07

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

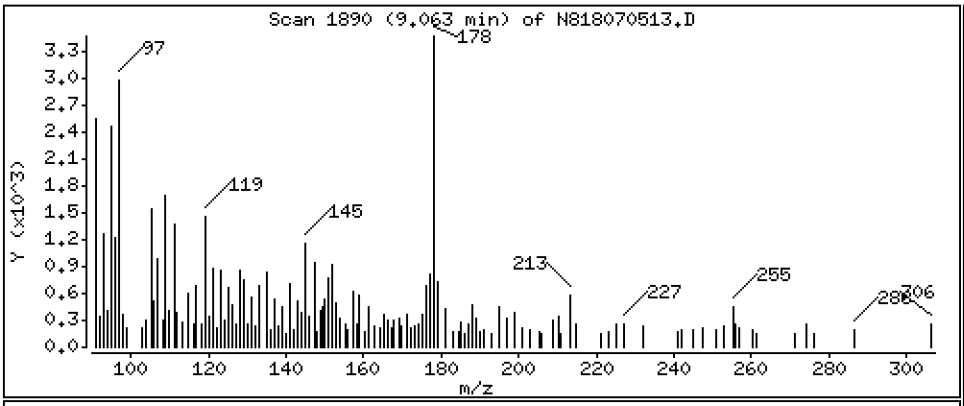
Operator: JZ

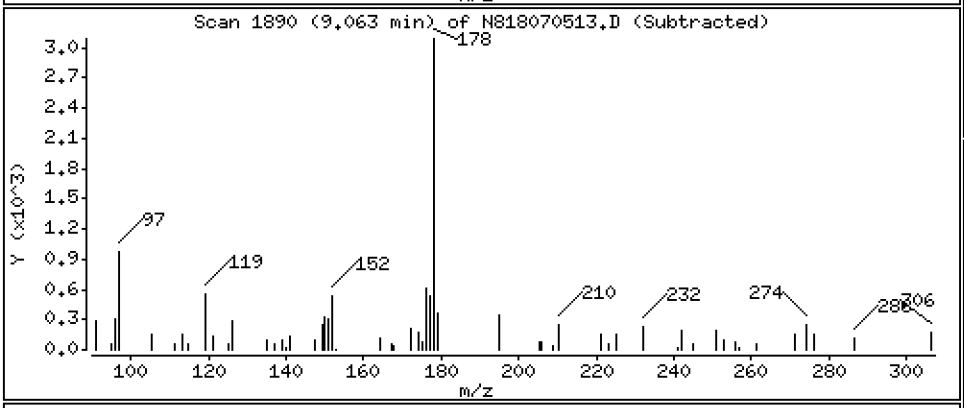
Column phase: Rxi-17sil

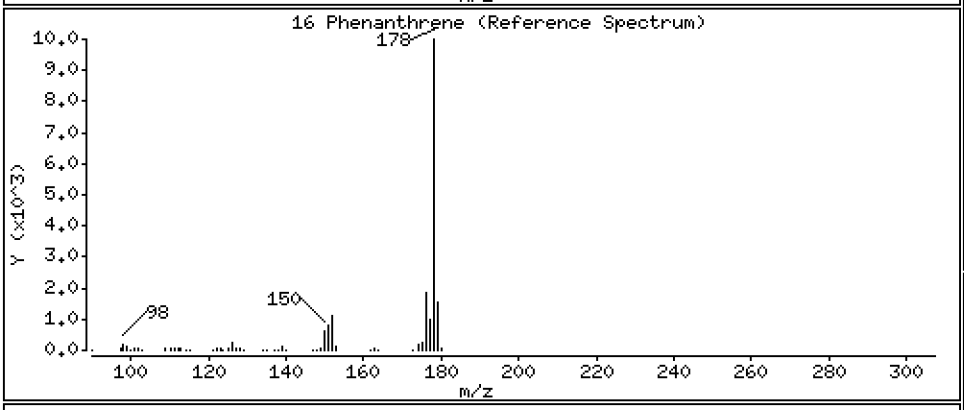
Column diameter: 0.25

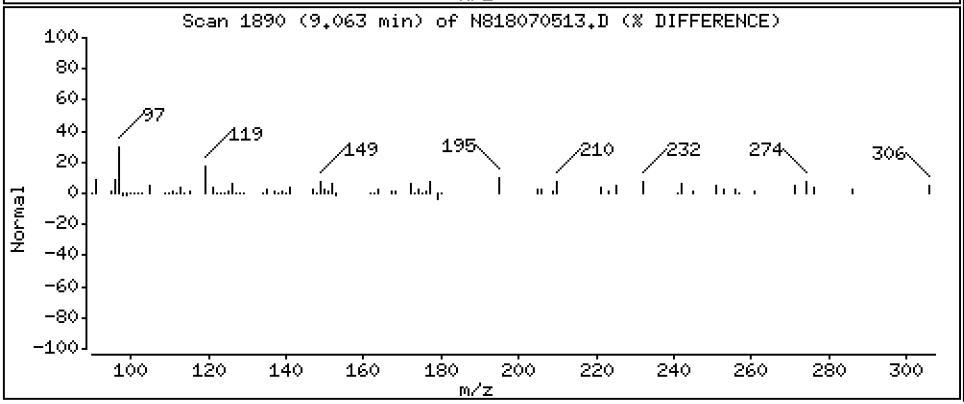
16 Phenanthrene

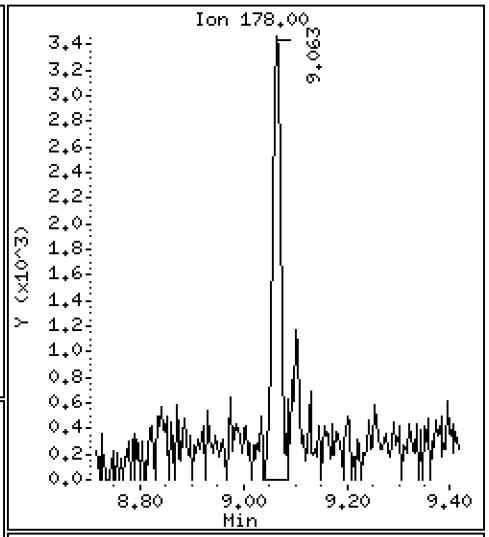
Concentration: 0.06520 ug/mL

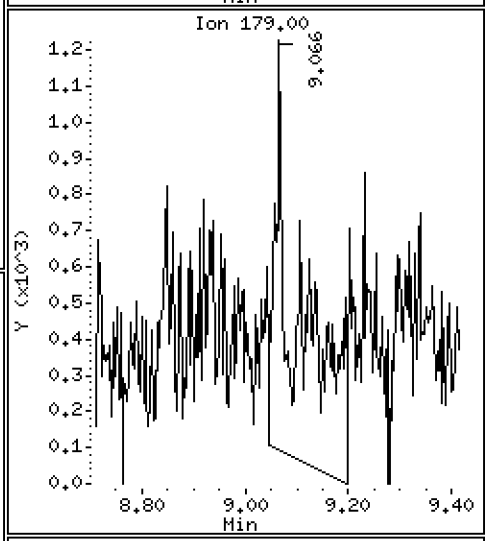


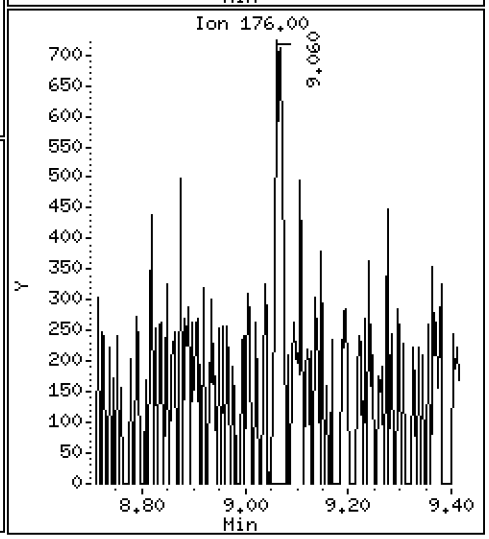












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

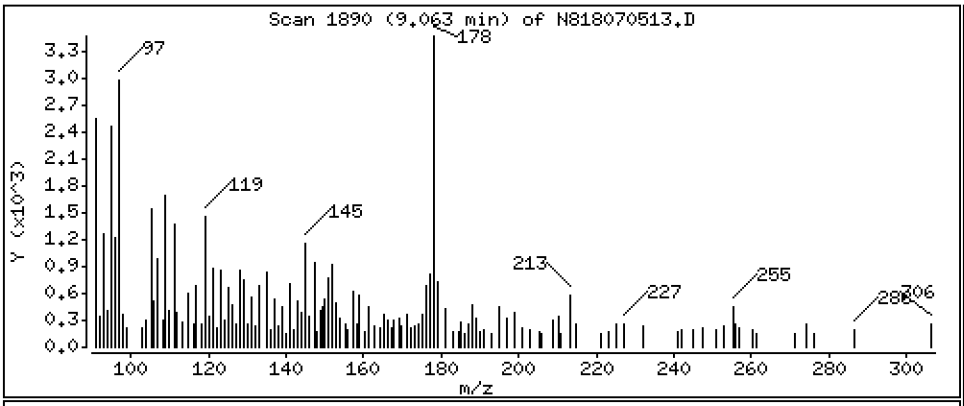
Operator: JZ

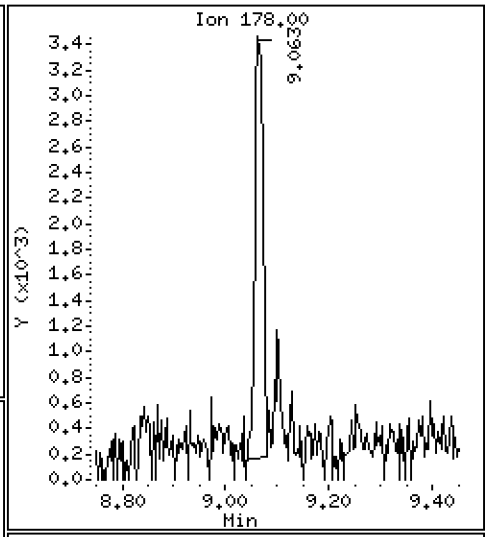
Column phase: Rxi-17sil

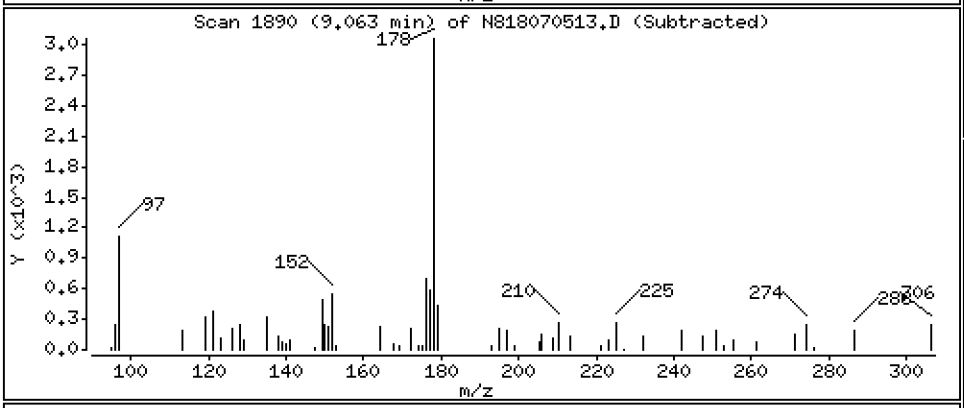
Column diameter: 0.25

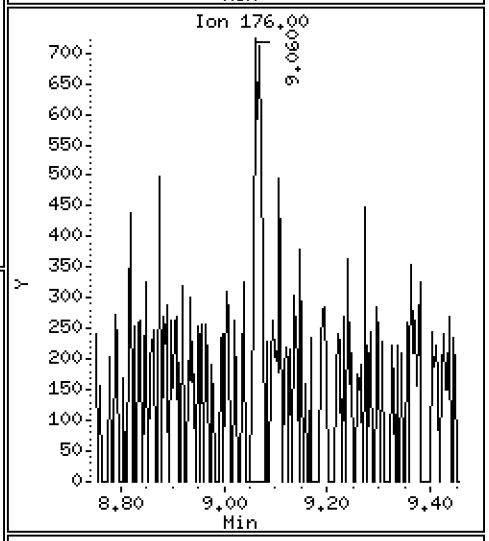
17 Anthracene

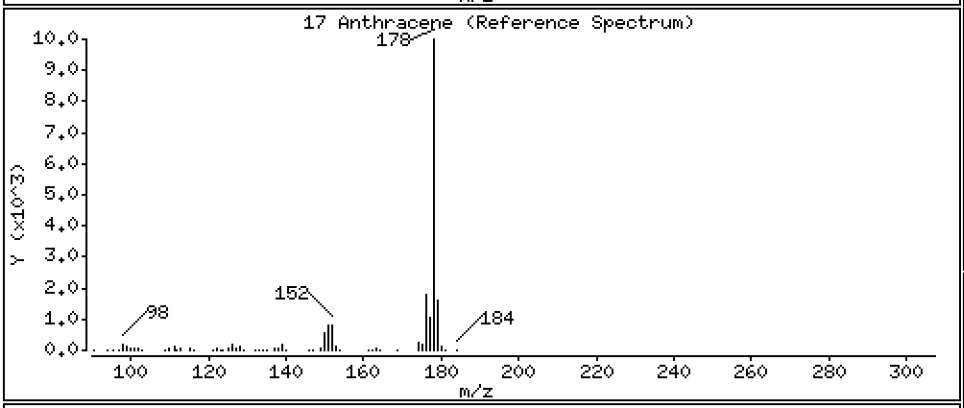
Concentration: 0.05927 ug/mL

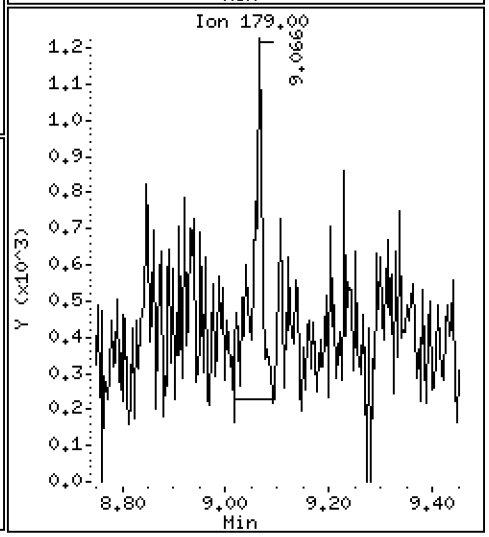


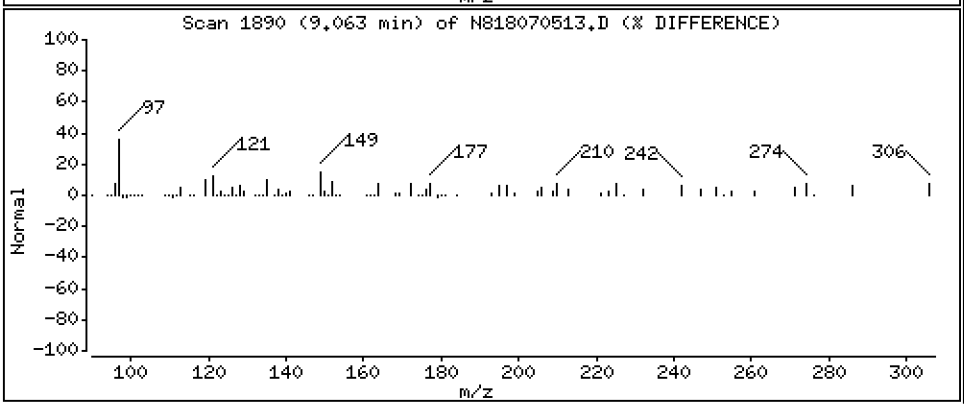












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

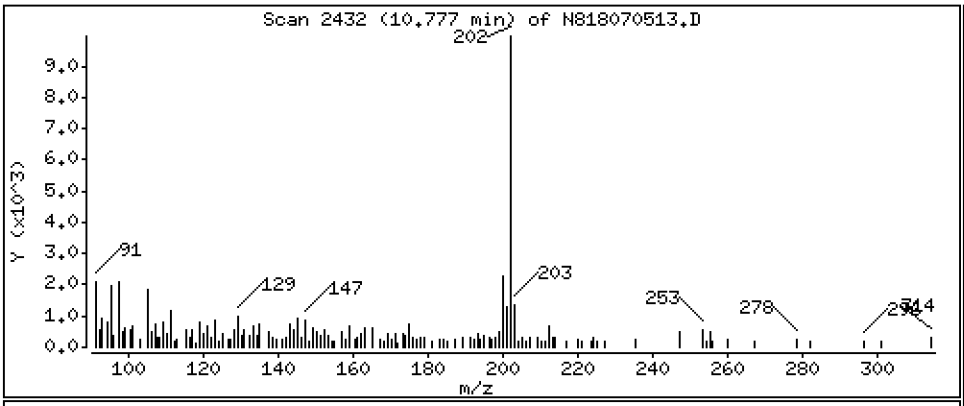
Operator: JZ

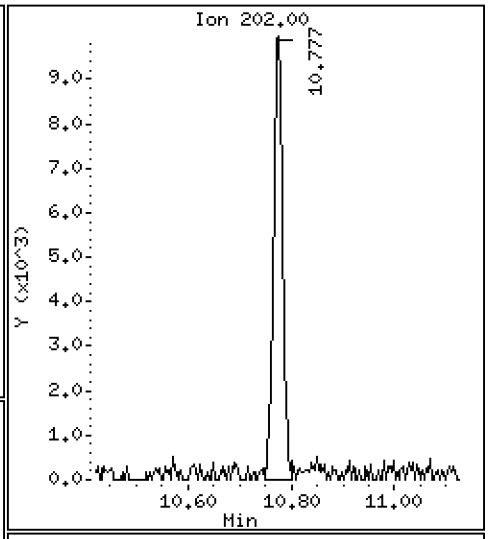
Column phase: Rxi-17sil

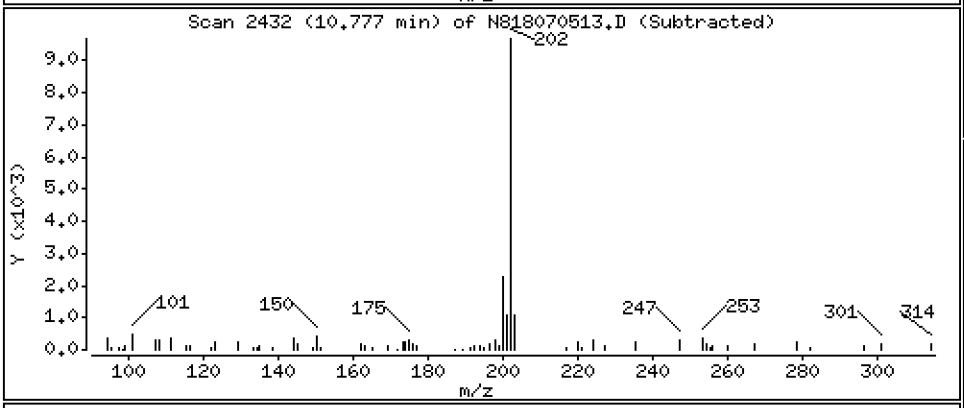
Column diameter: 0.25

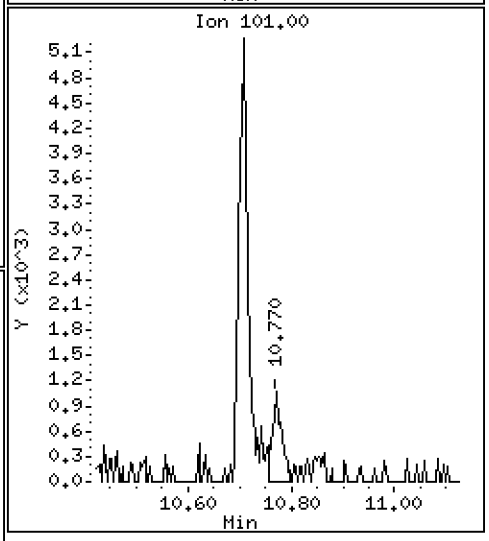
22 Fluoranthene

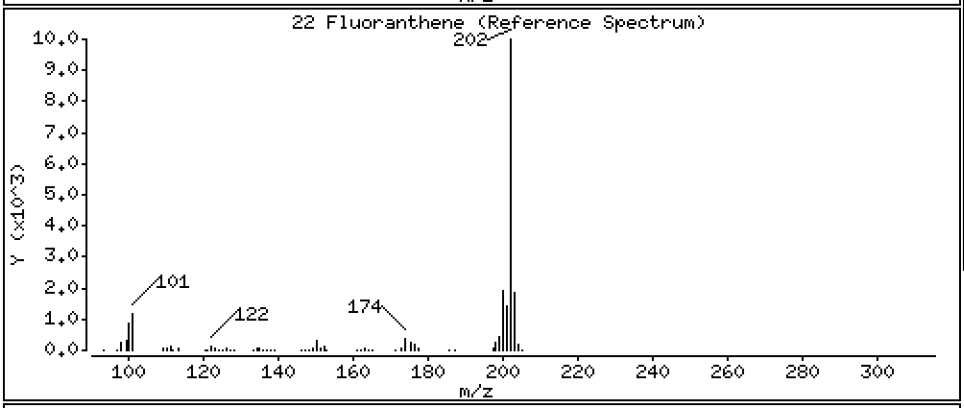
Concentration: 0.1695 ug/mL

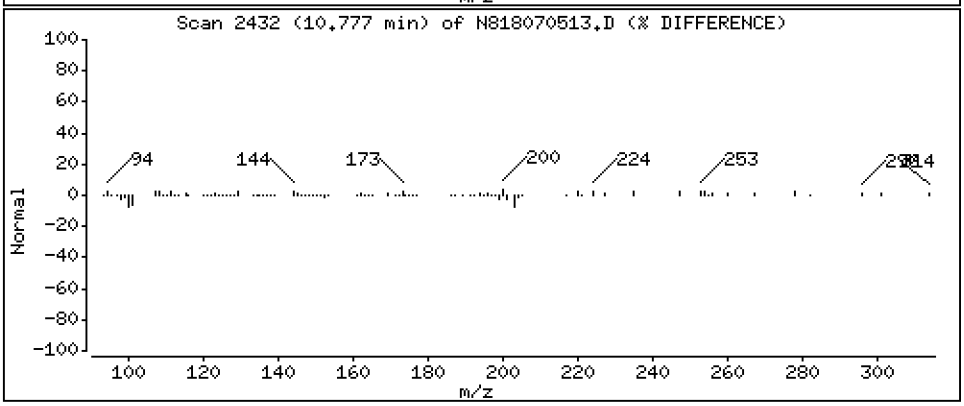












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

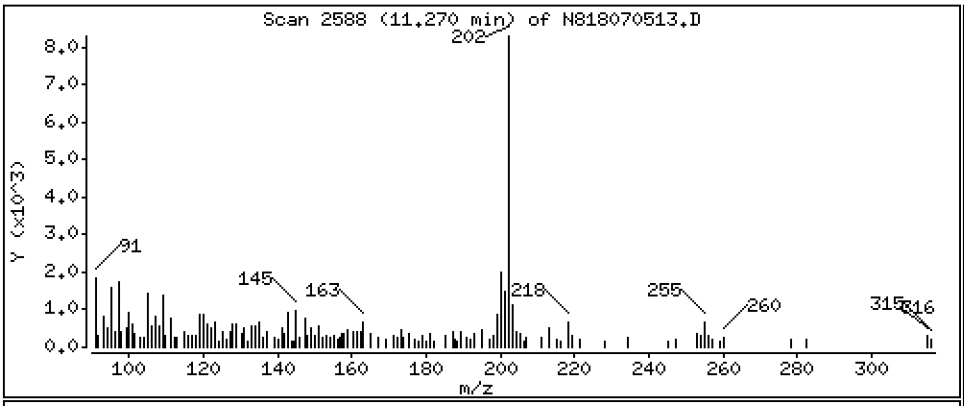
Operator: JZ

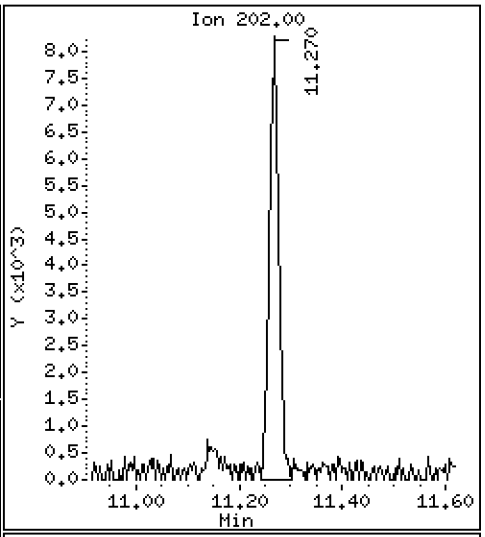
Column phase: Rxi-17sil

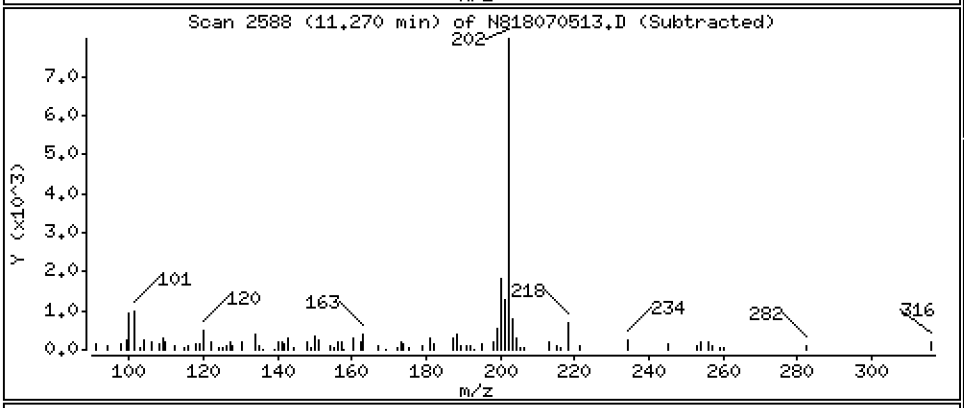
Column diameter: 0.25

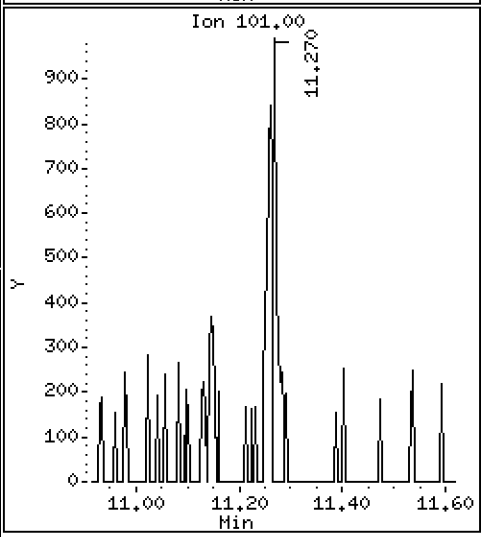
23 Pyrene

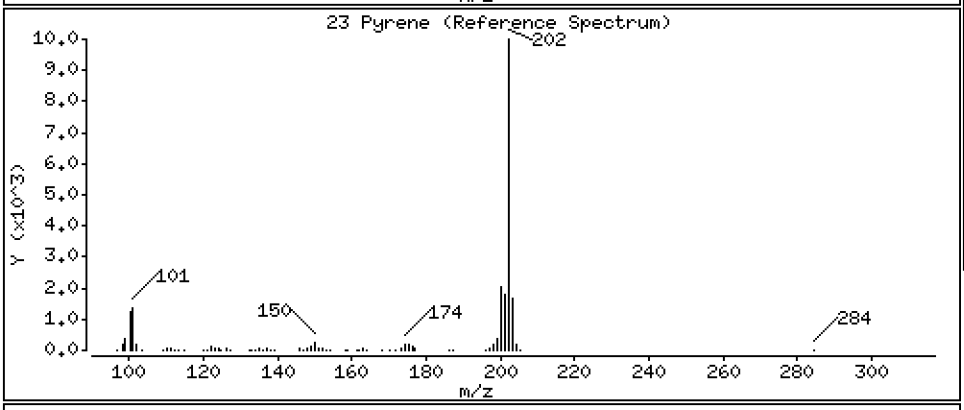
Concentration: 0.1356 ug/mL

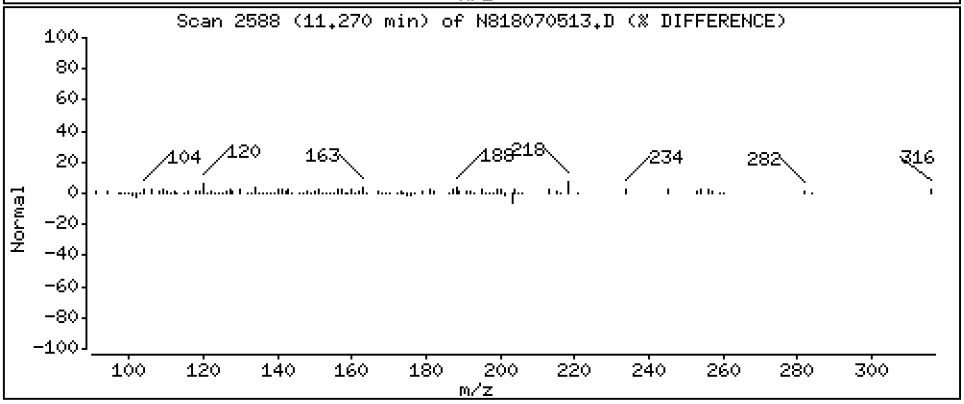












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

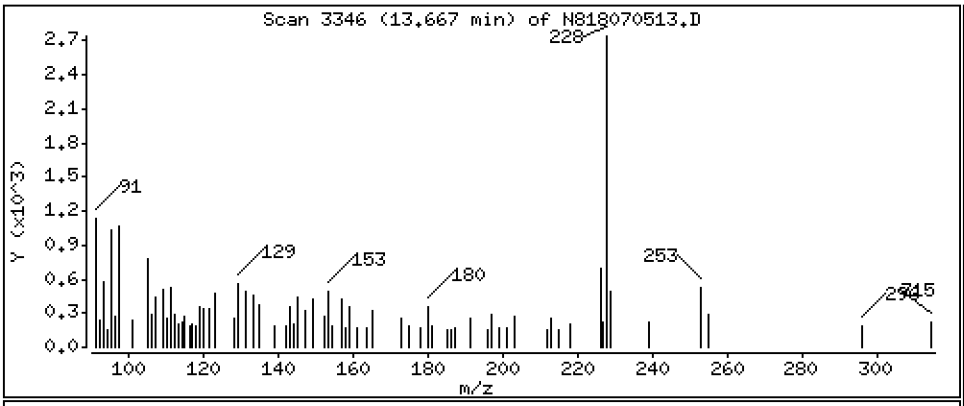
Operator: JZ

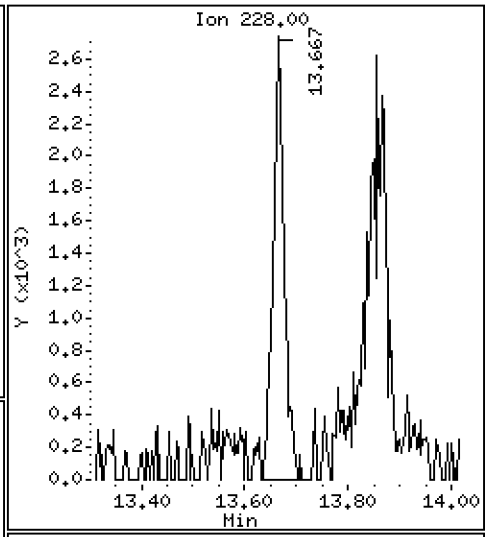
Column phase: Rxi-17sil

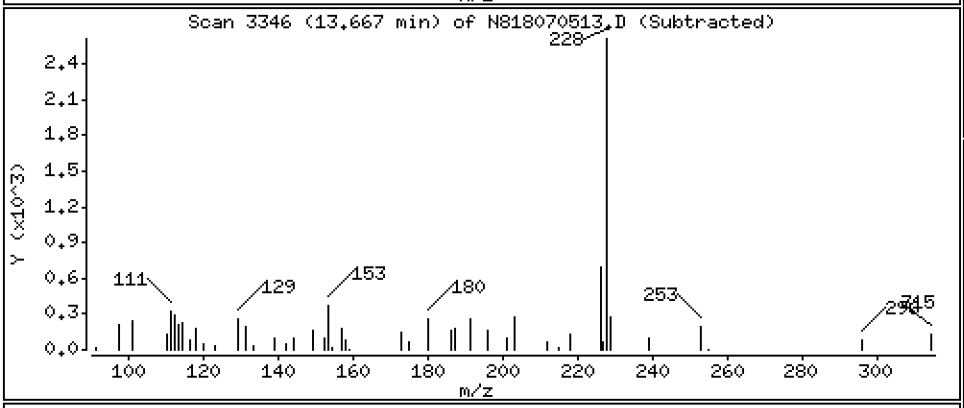
Column diameter: 0.25

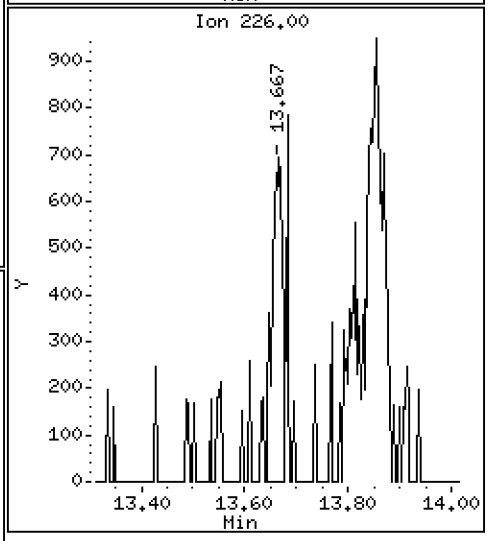
24 Benzo(a)anthracene

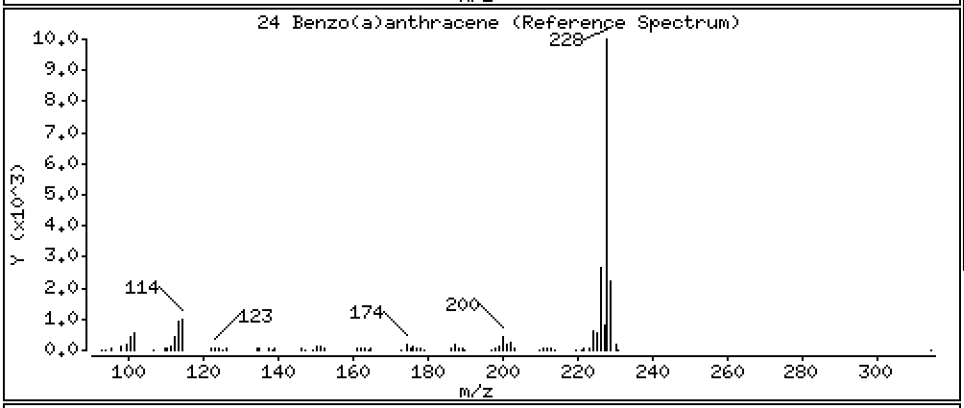
Concentration: 0.05277 ug/mL

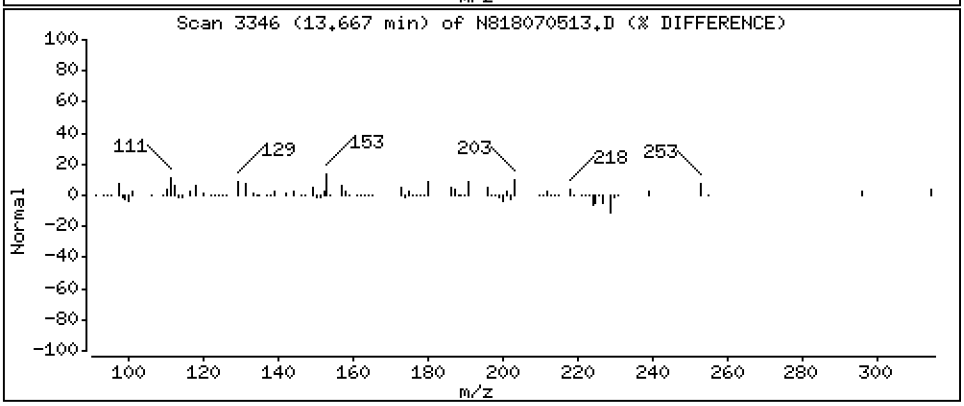












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

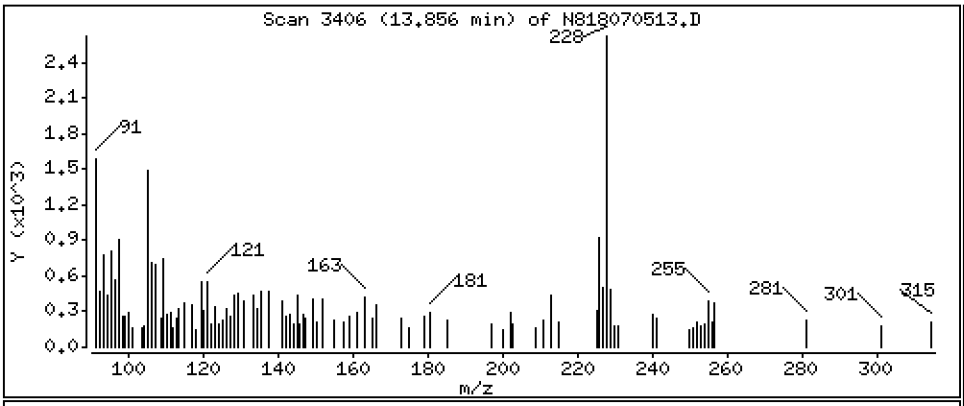
Operator: JZ

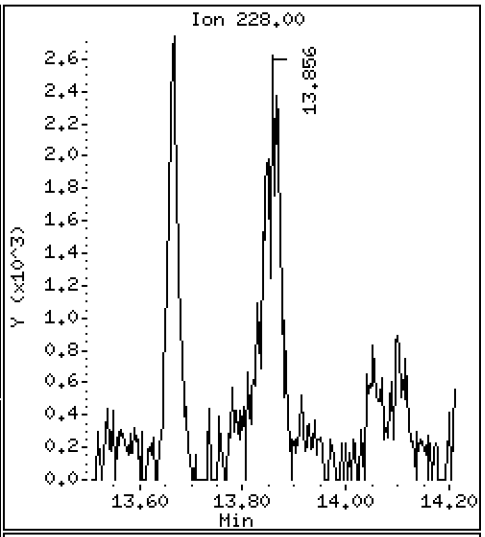
Column phase: Rxi-17sil

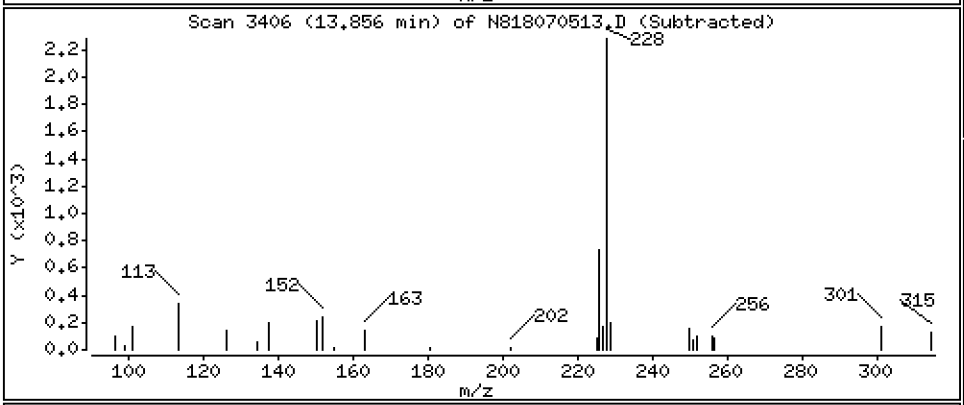
Column diameter: 0.25

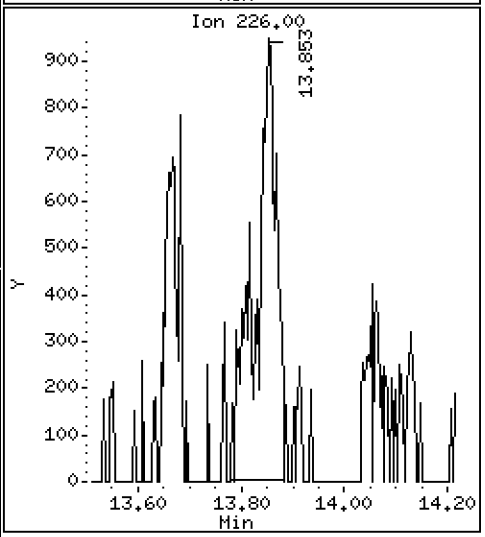
27 Chrysene

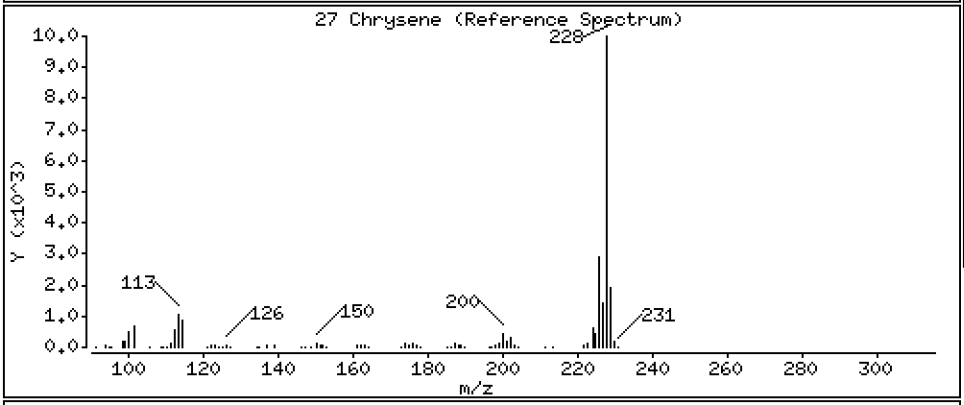
Concentration: 0.07891 ug/mL

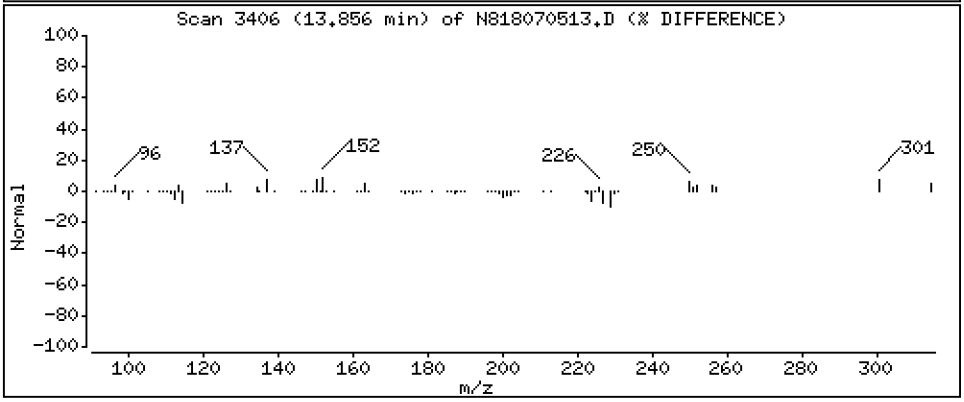












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

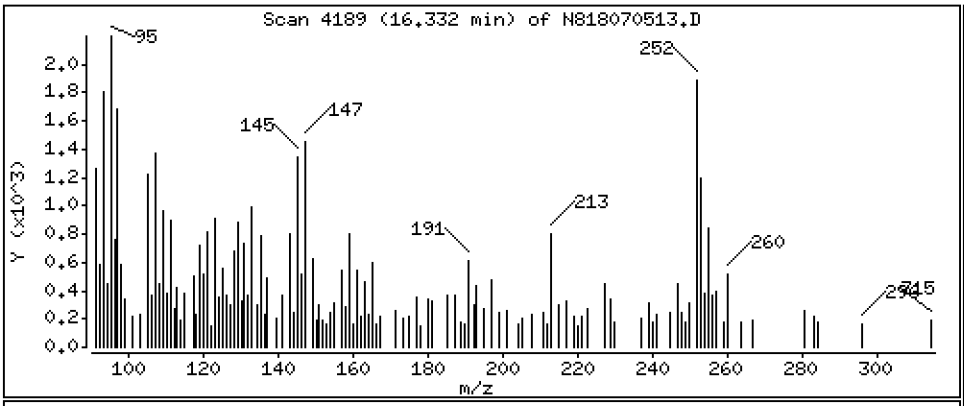
Operator: JZ

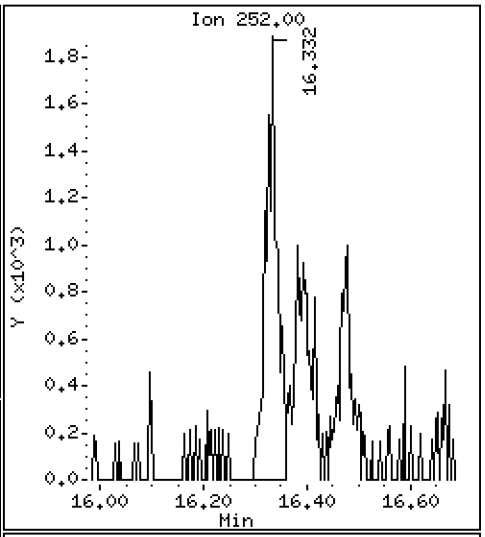
Column phase: Rxi-17sil

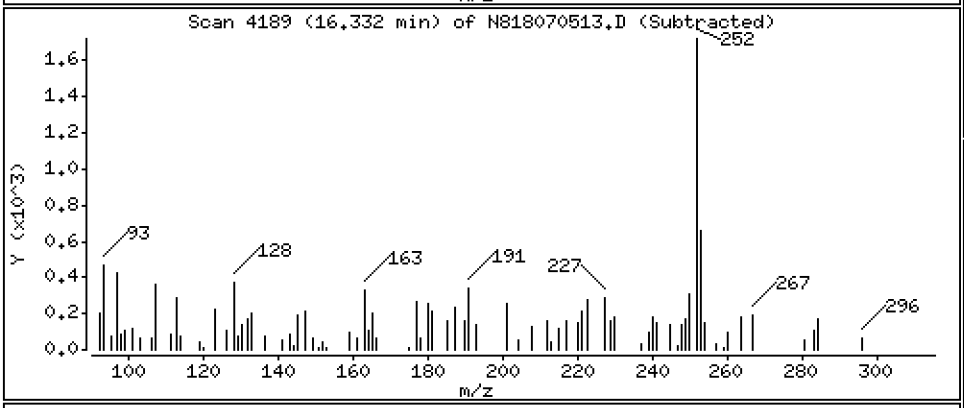
Column diameter: 0.25

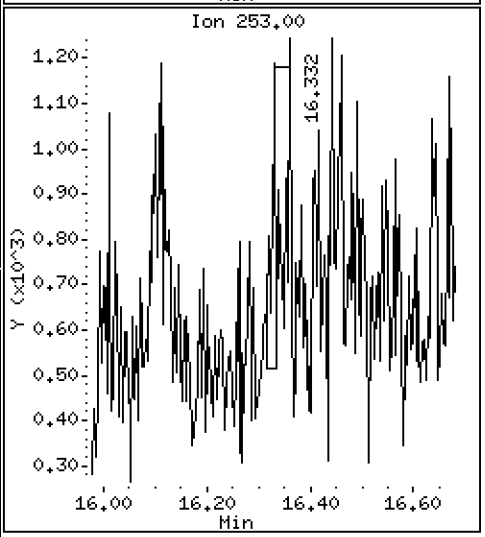
28 Benzo(b)fluoranthene

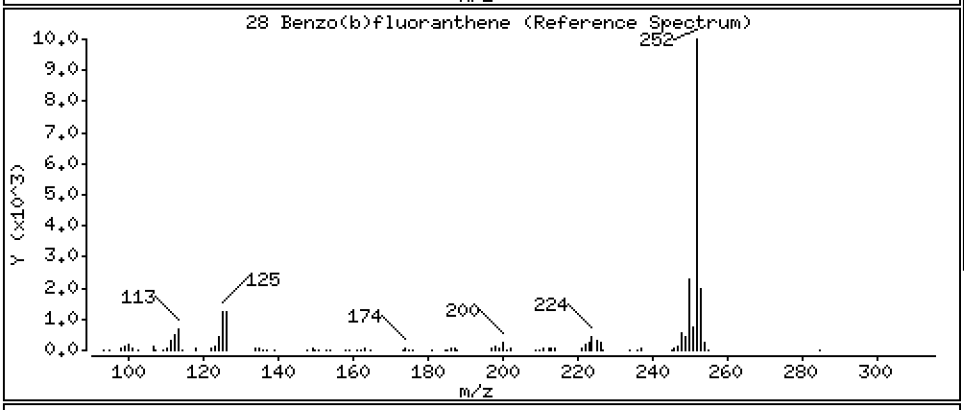
Concentration: 0.03454 ug/mL

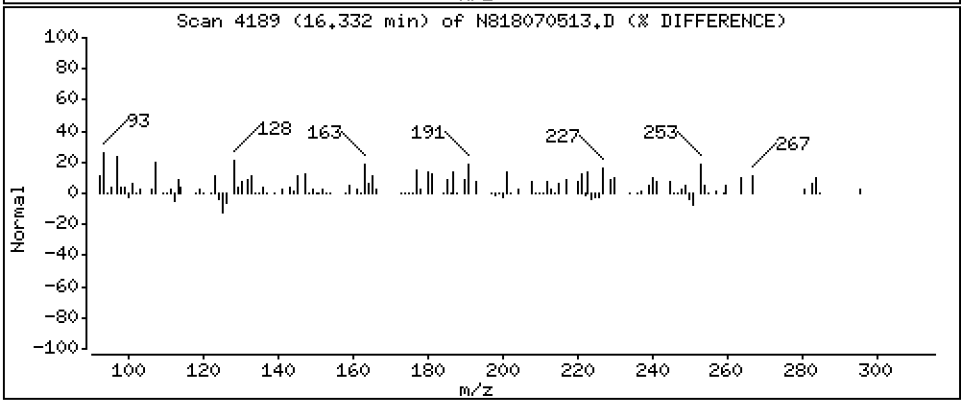












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

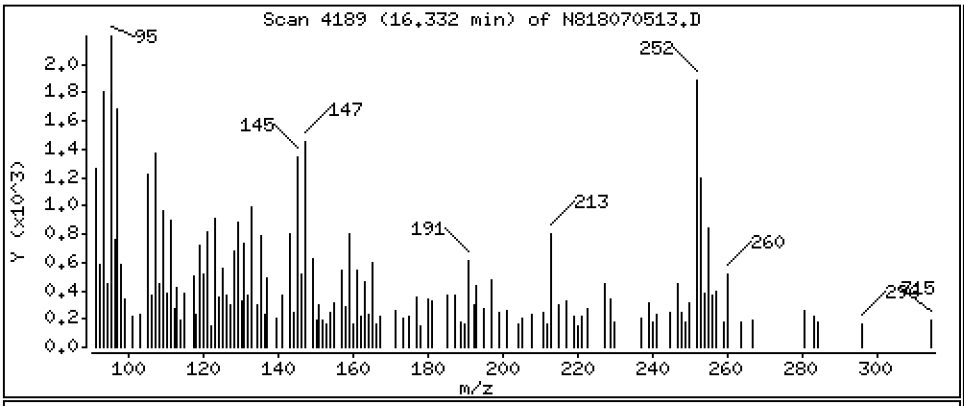
Operator: JZ

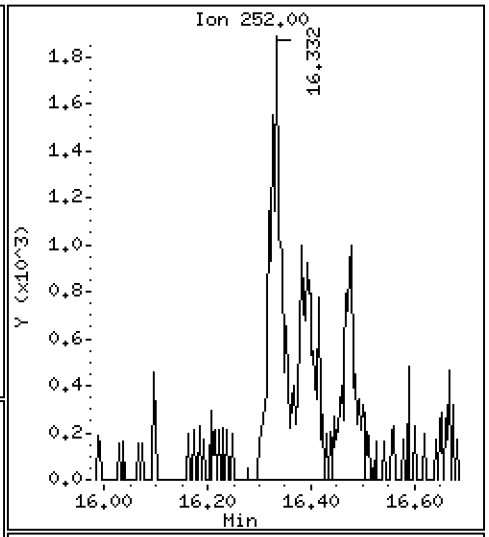
Column phase: Rxi-17sil

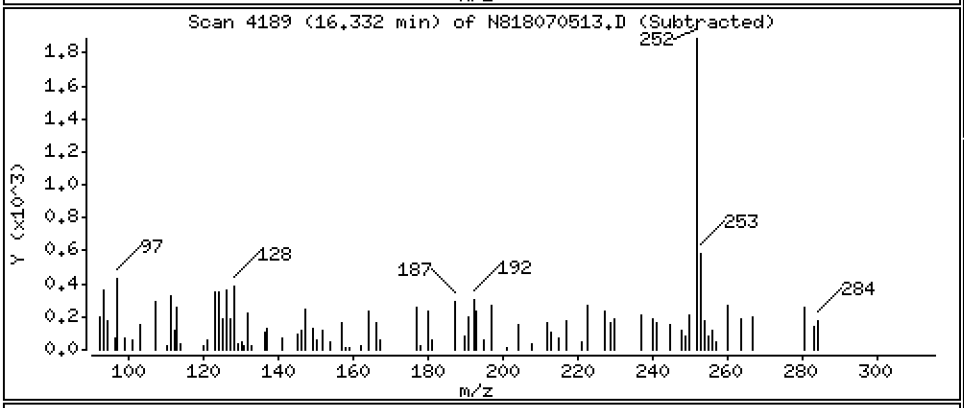
Column diameter: 0.25

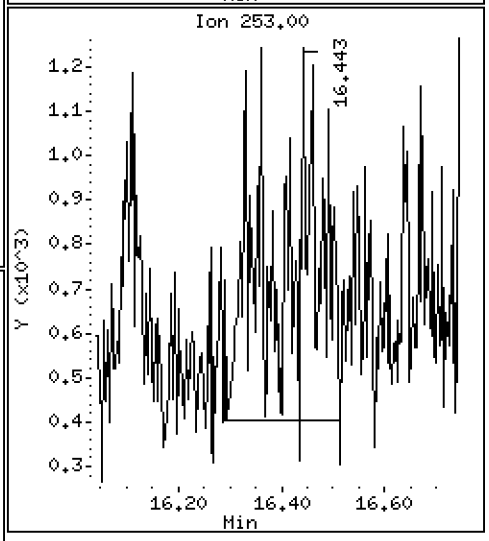
31 Total Benzofluoranthenes

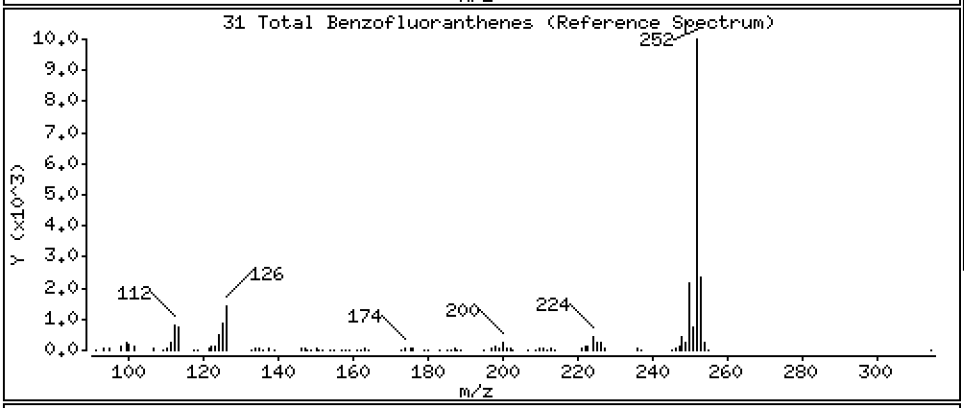
Concentration: 0.08073 ug/mL

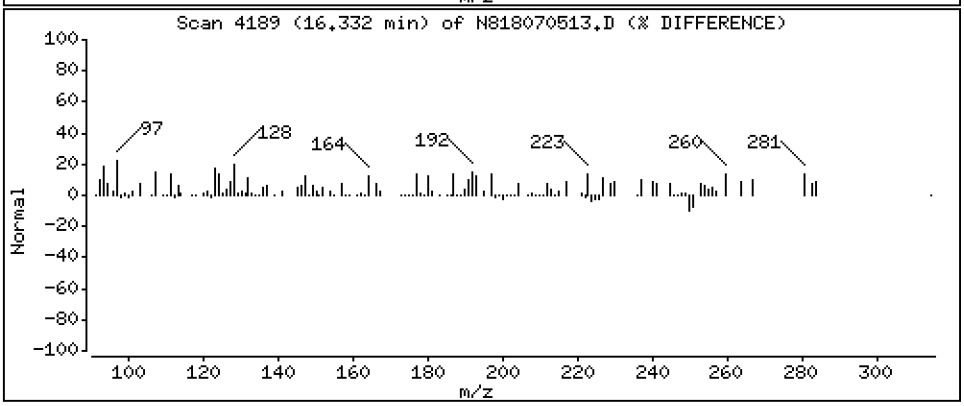












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070513.D

Date : 05-JUL-2018 21:38

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-07

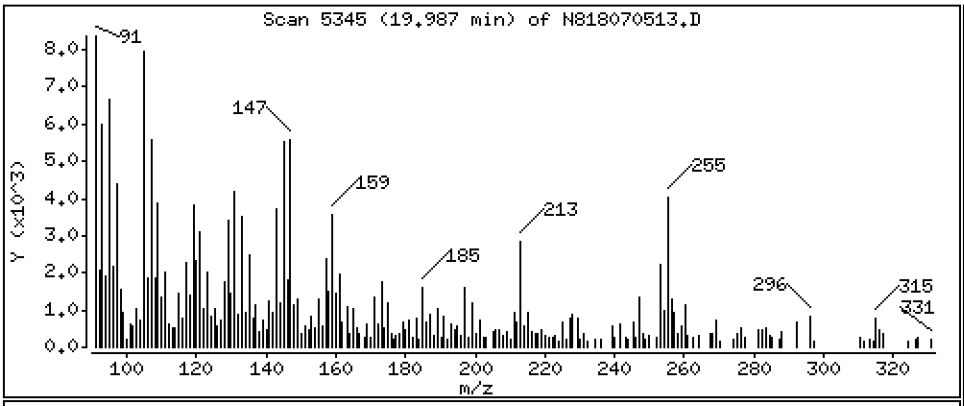
Operator: JZ

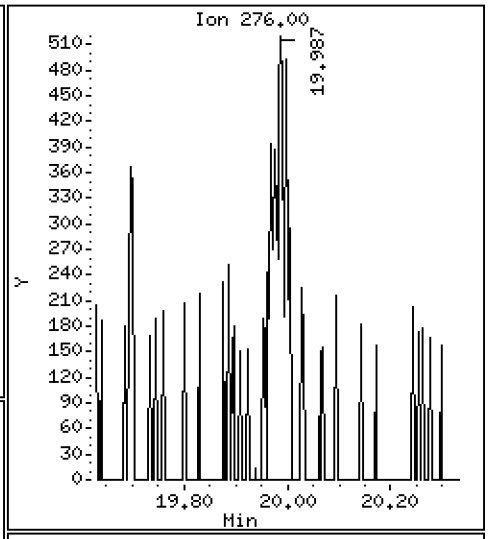
Column phase: Rxi-17sil

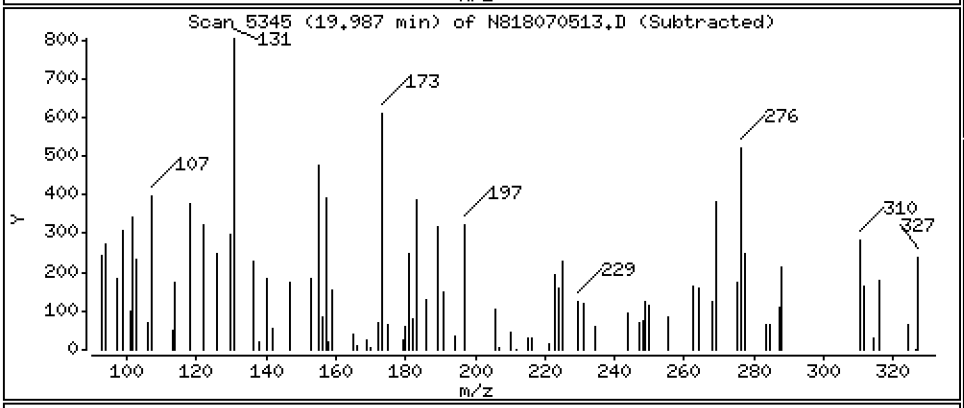
Column diameter: 0.25

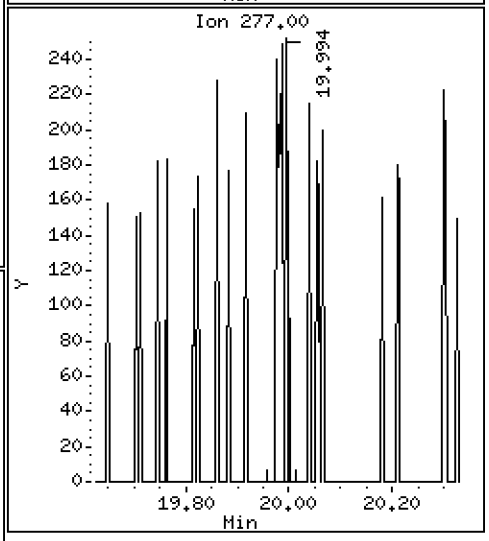
37 Indeno(1,2,3-cd)pyrene

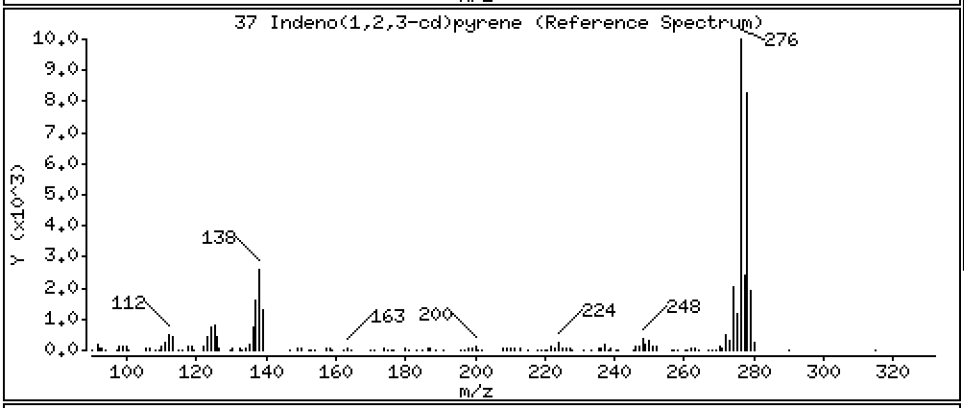
Concentration: 0.2062 ug/mL

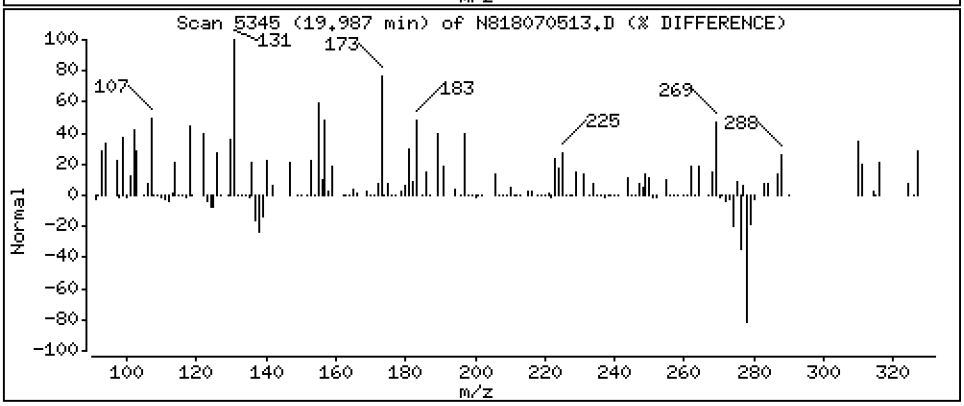












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070513.D
Lab Smp Id: 18F0364-07
Inj Date : 05-JUL-2018 21:38
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-07
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	101600	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	54324	1.45561	1.456
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.013	7.013	(1.000)	57800	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	114274	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	4134	0.06520	0.06520
	17 Anthracene	178	9.062	9.100	(1.004)	3640	0.05927	0.05927
	22 Fluoranthene	202	10.776	10.773	(1.193)	12573	0.16955	0.1695
$	21 Fluoranthene-d10	212	10.741	10.738	(1.189)	148485	2.02818	2.028
	23 Pyrene	202	11.269	11.266	(0.817)	10715	0.13560	0.1356
	24 Benzo(a)anthracene	228	13.666	13.663	(0.991)	4150	0.05277	0.05277
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	136438	2.00000	
	27 Chrysene	228	13.856	13.859	(1.005)	6127	0.07891	0.07891(M)
	28 Benzo(b)fluoranthene	252	16.332	16.335	(0.928)	2824	0.03454	0.03454
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.332	16.335	(0.928)	6583	0.08073	0.08073(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.600	17.593	(1.000)	130742	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.987	19.981	(1.136)	998	0.20619	0.2062(M)
$	36 Dibenzo(a,h)anthracene-d14	292	19.886	19.876	(1.130)	121940	2.06202	2.062
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070513.D
Lab Smp Id: 18F0364-07
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	101600	3.74
10 Acenaphthene-d10	54983	27492	109966	57800	5.12
15 Phenanthrene-d10	115816	57908	231632	114274	-1.33
25 Chrysene-d12	129167	64584	258334	136438	5.63
33 Perylene-d12	111506	55753	223012	130742	17.25

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070513.D

Lab ID: 18F0364-07
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 21:38

RT	CO-ELUTION COMPOUNDS
9.063	Anthracene and Phenanthrene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

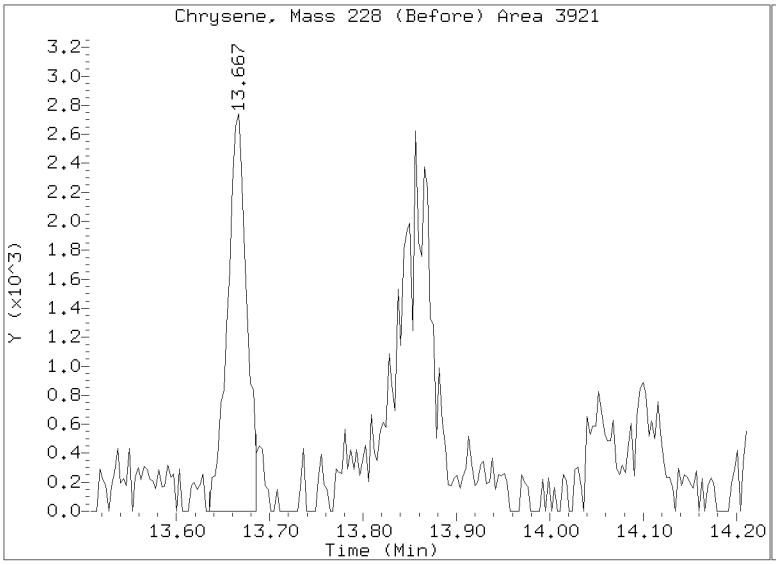
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

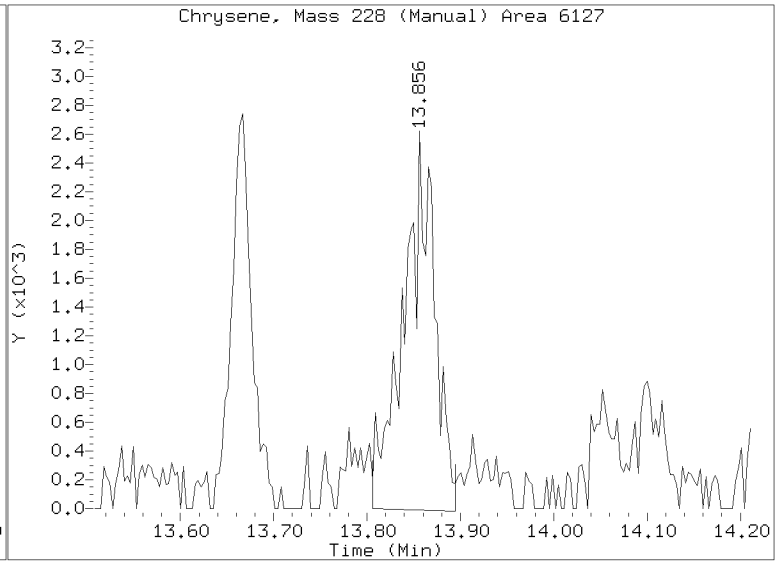
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

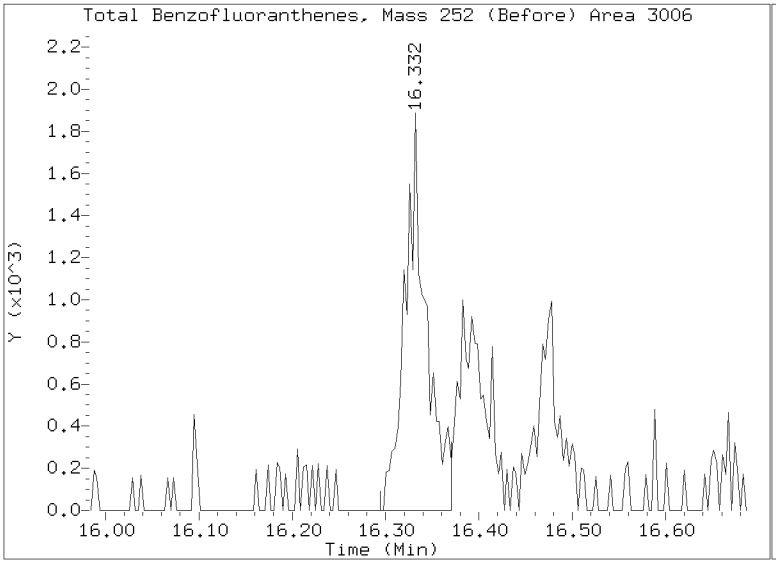
* Only compounds listed in the work order have been verified by the analyst *

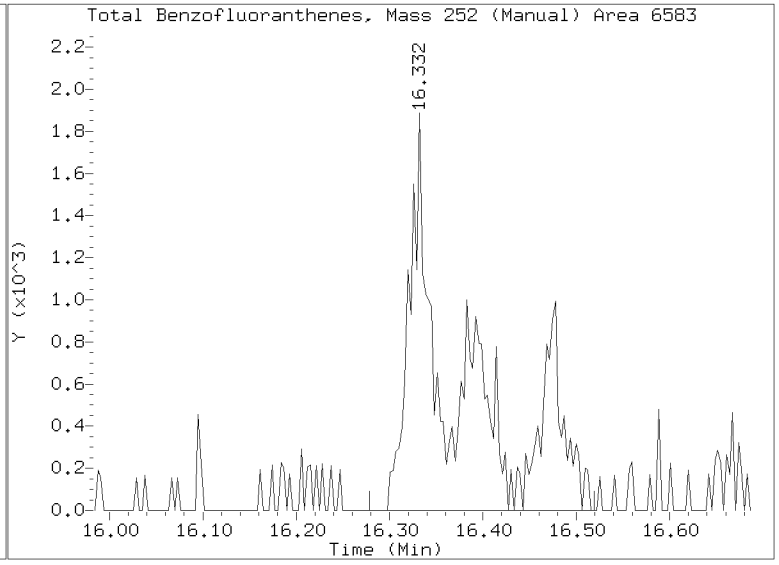
Quant Ion Manual Peak Adjustment Report

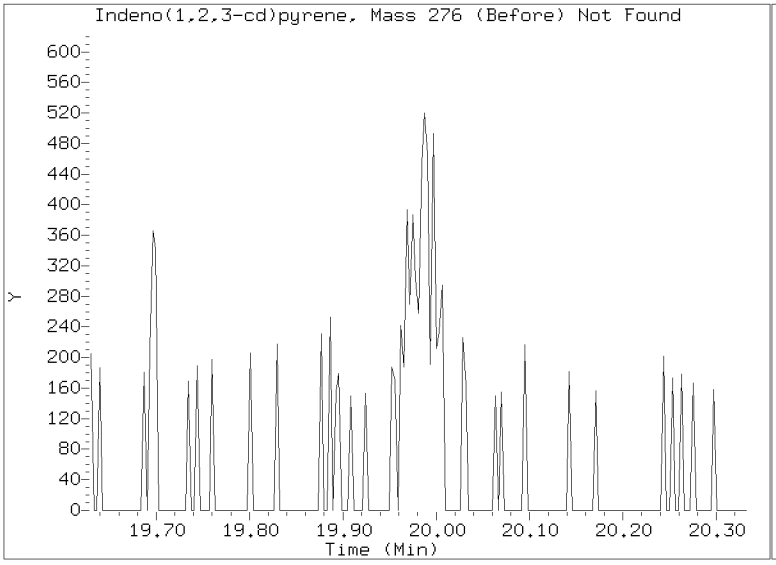
Datafile: //target/share/chem3/nt8.i/20180705.b/N818070513.D
Injection Date: 05-JUL-2018 21:38
Lab ID:18F0364-07 Client ID:
Report Date: 07/09/2018 10:50

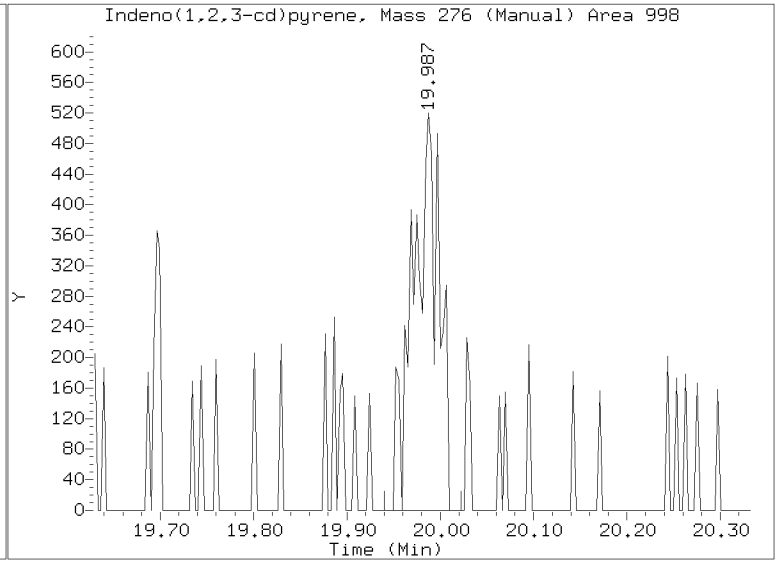












LDW18-C10-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-08	SDG:	18F0364
Sampled:	05/17/18 13:52	Prepared:	06/29/18 11:28	File ID:	N818070514.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 22:05
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.54	5.00
218-01-9	Chrysene	1	5.00	U	0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	5.00	U	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.71	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.92	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	10.4		0.58	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	76.5	51.0	20 - 130	
Dibenzo[a,h]anthracene-d14	150.00	108	71.8	20 - 130	
Fluoranthene-d10	150.00	103	68.8	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

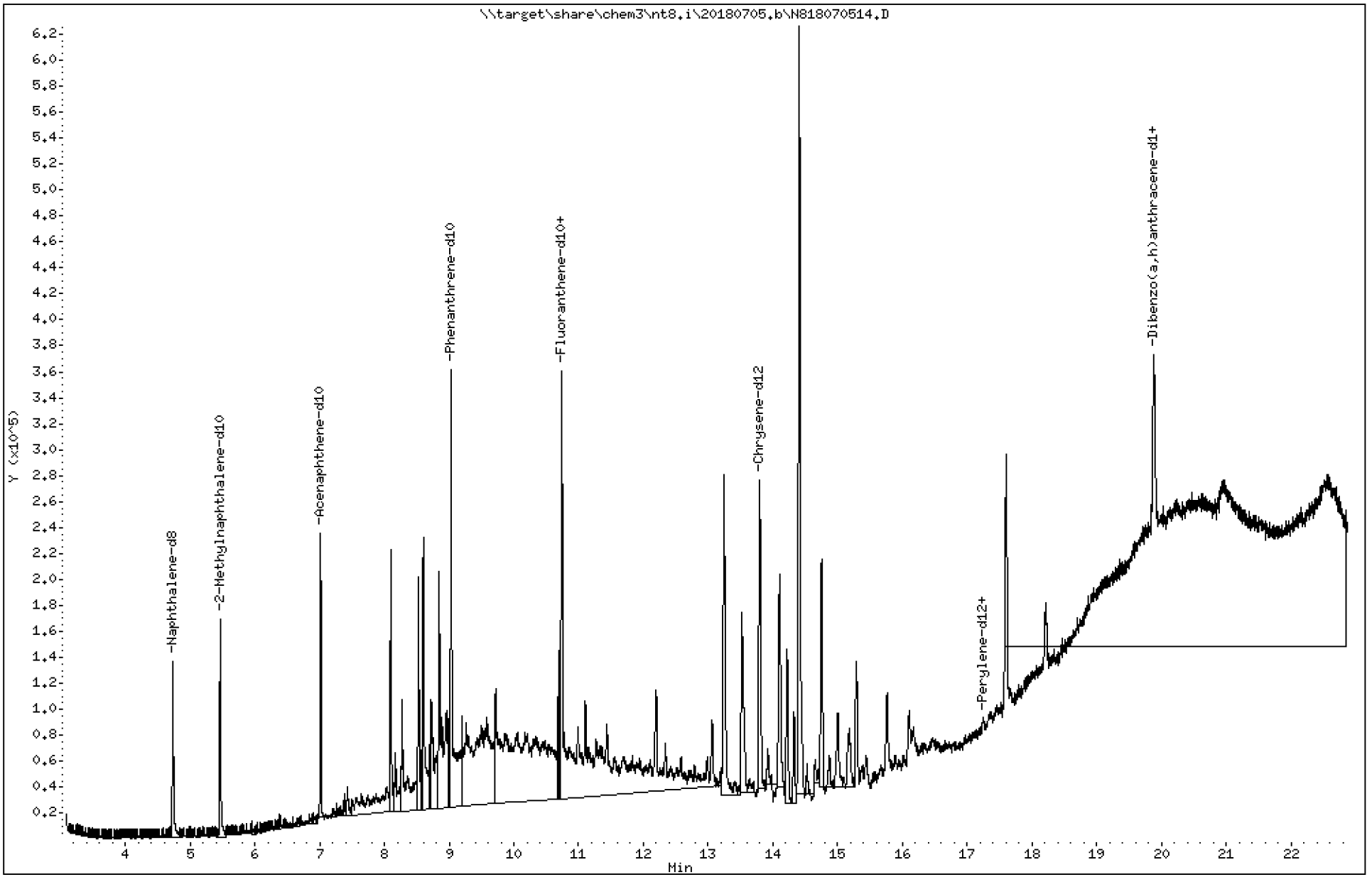
Instrument: nt8.i

Sample Info: 18F0364-08

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

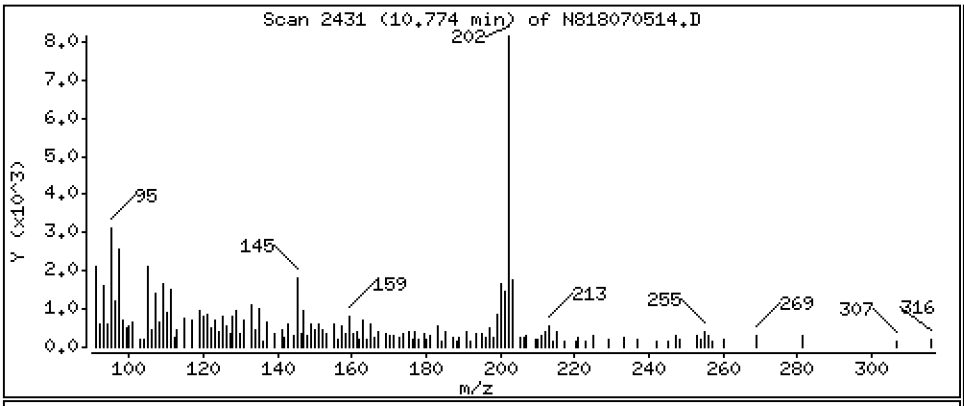
Operator: JZ

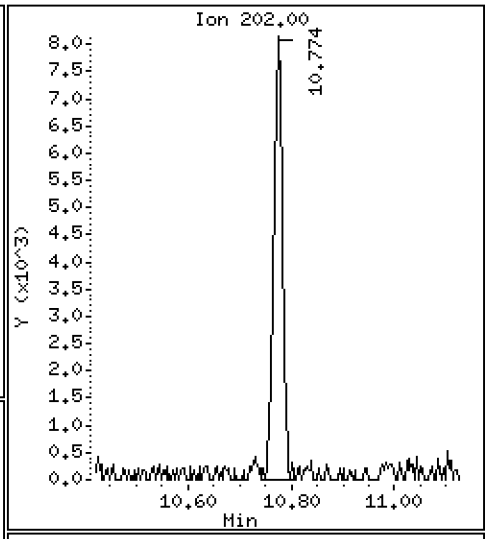
Column phase: Rxi-17sil

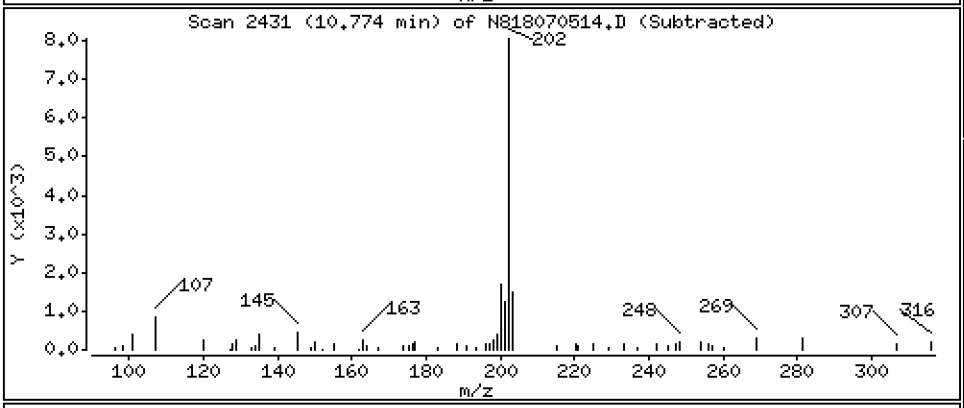
Column diameter: 0.25

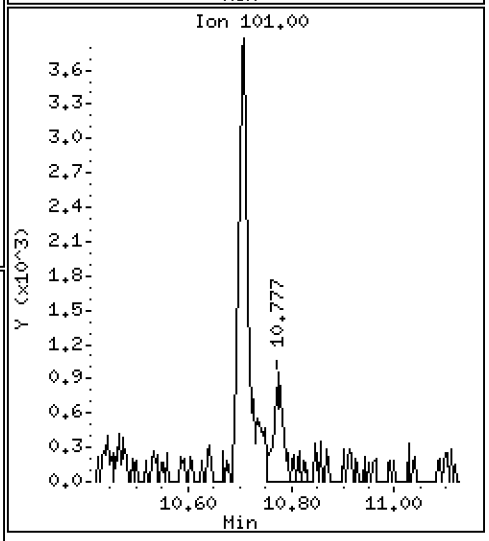
22 Fluoranthene

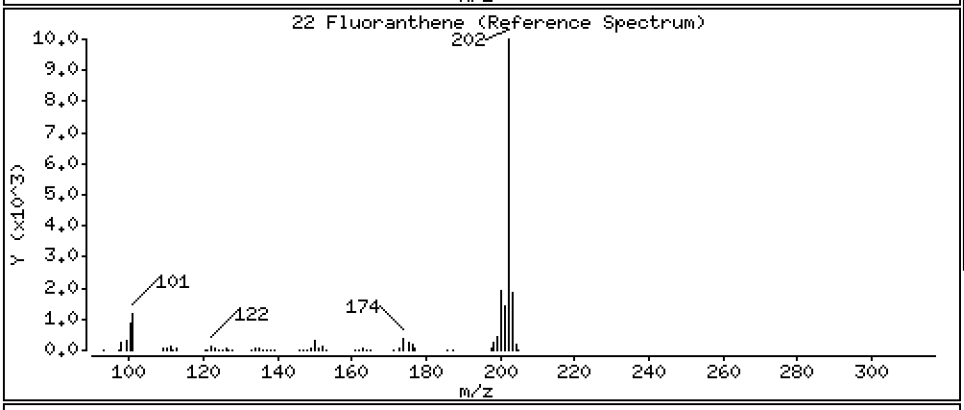
Concentration: 0.1252 ug/mL

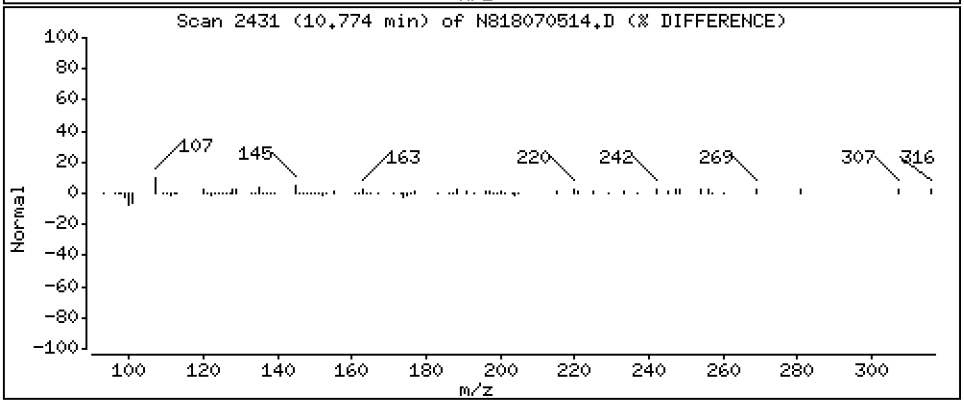












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

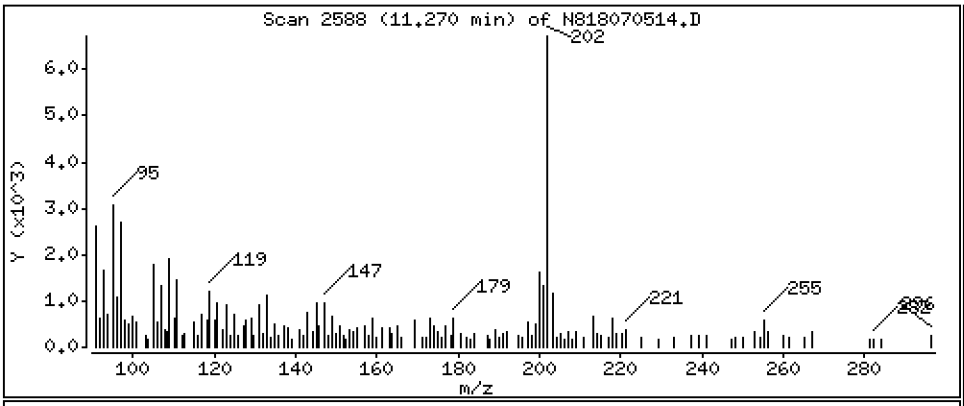
Operator: JZ

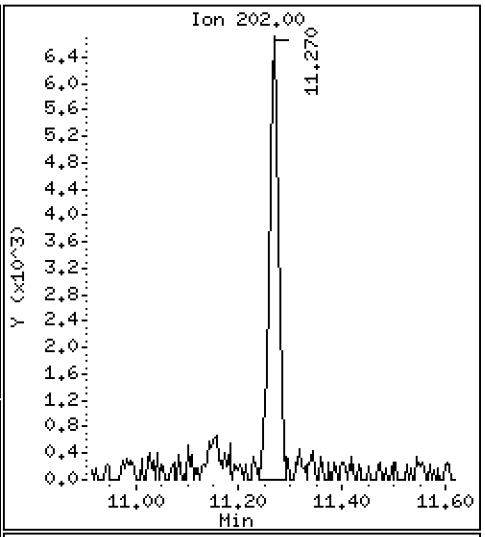
Column phase: Rxi-17sil

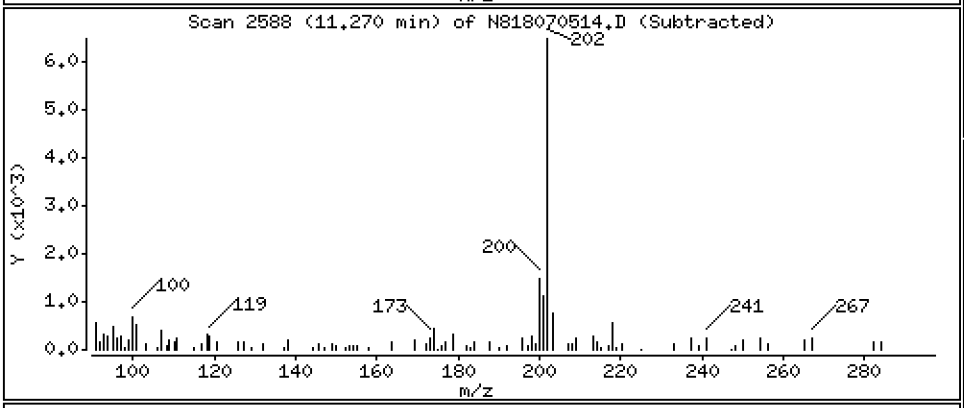
Column diameter: 0.25

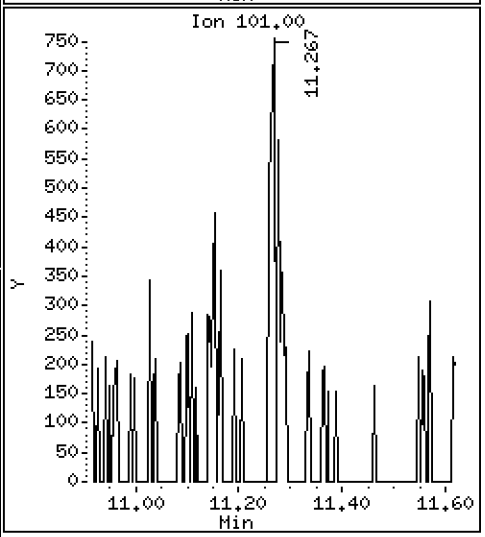
23 Pyrene

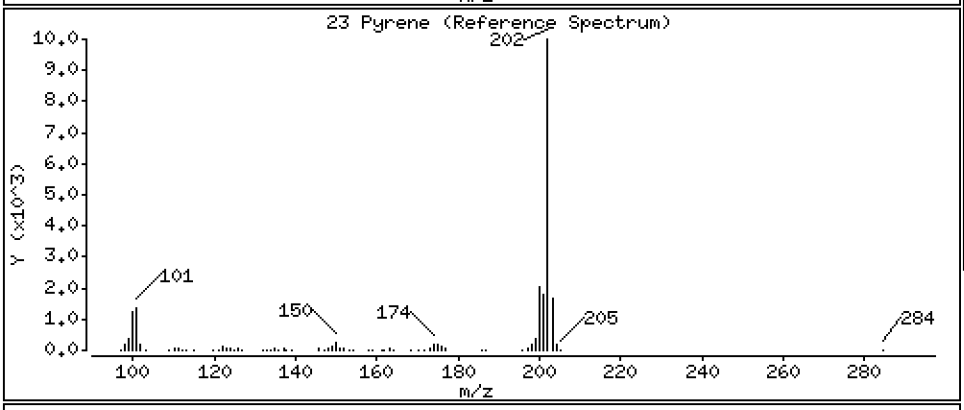
Concentration: 0.1044 ug/mL

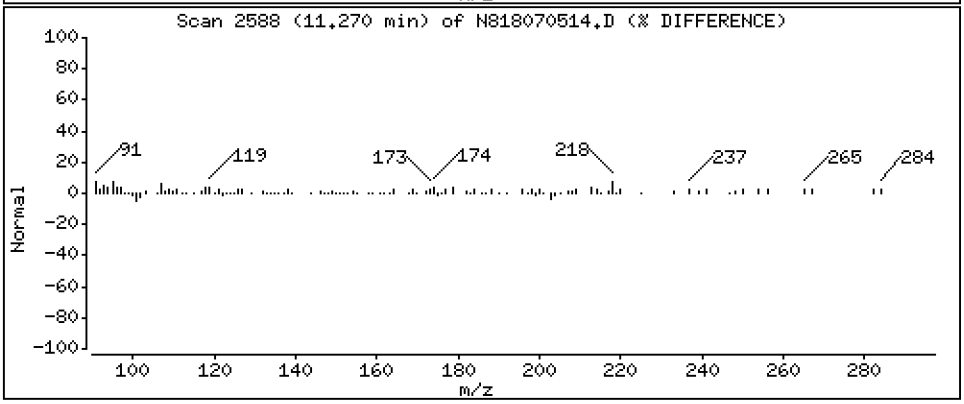












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

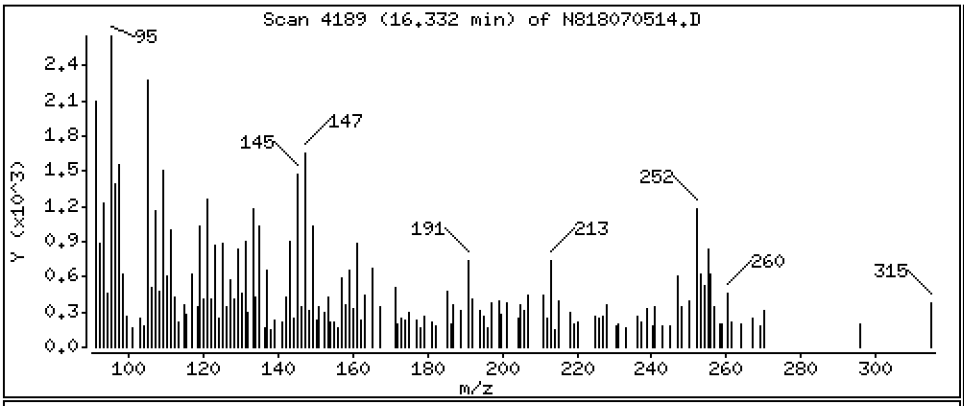
Operator: JZ

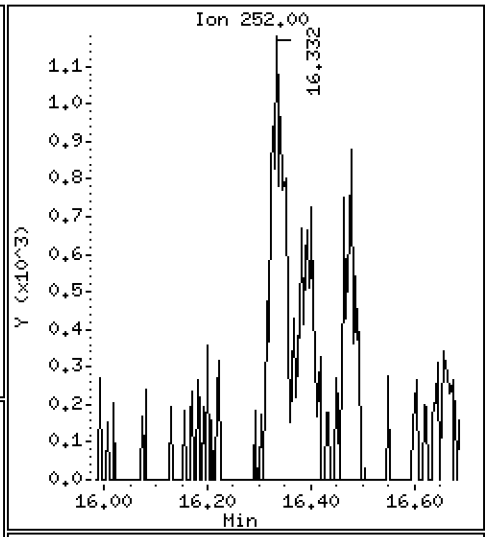
Column phase: Rxi-17sil

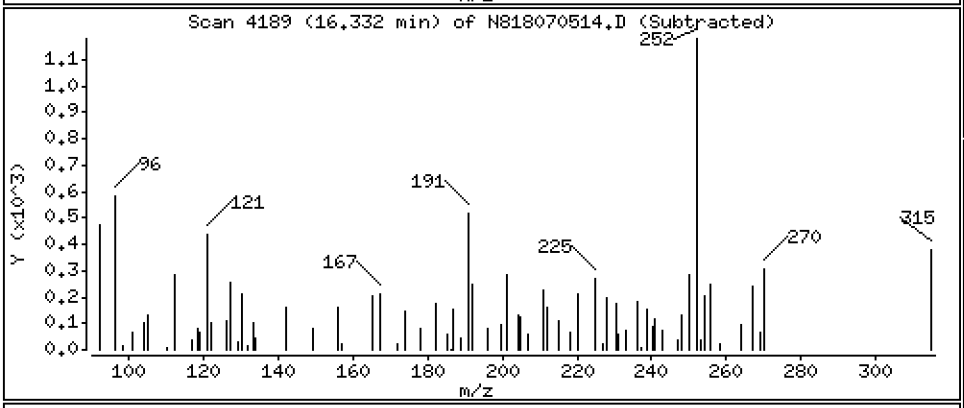
Column diameter: 0.25

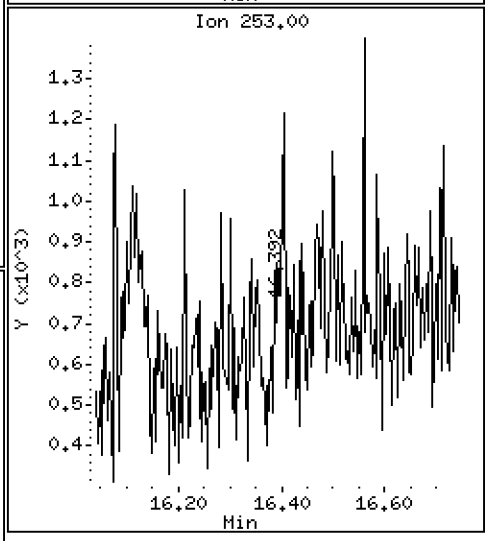
31 Total Benzofluoranthenes

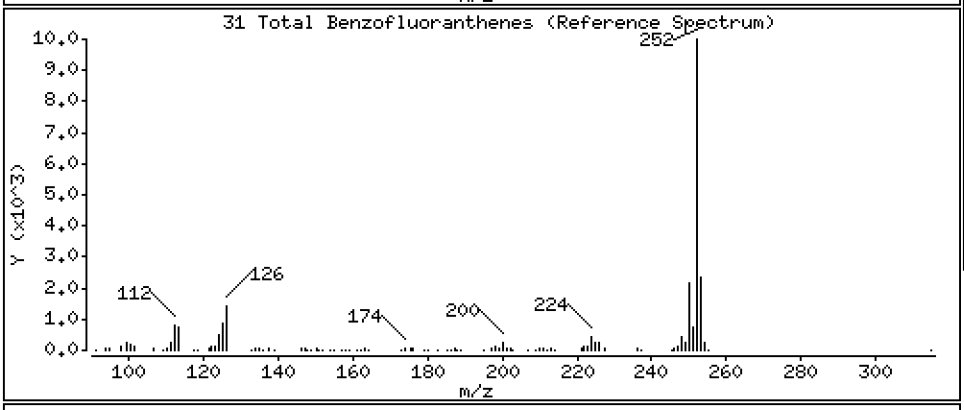
Concentration: 0.05837 ug/mL

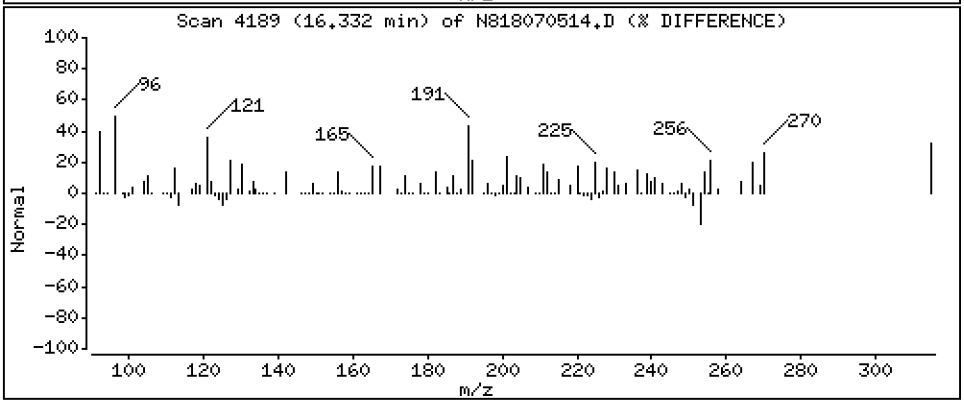












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

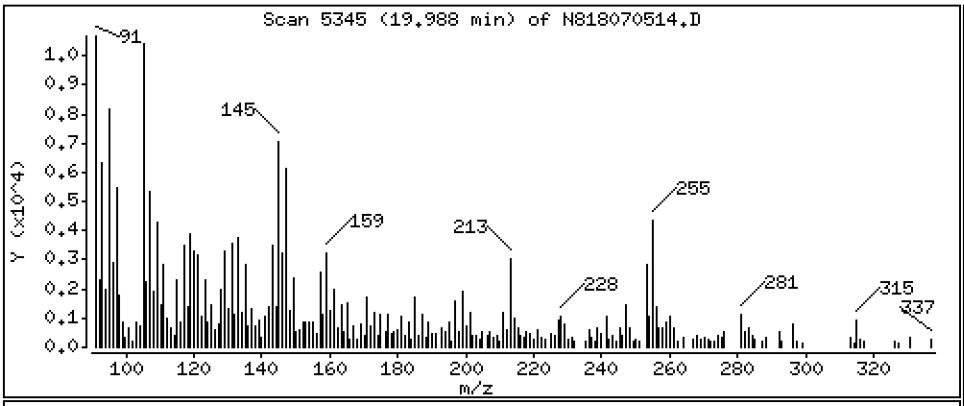
Operator: JZ

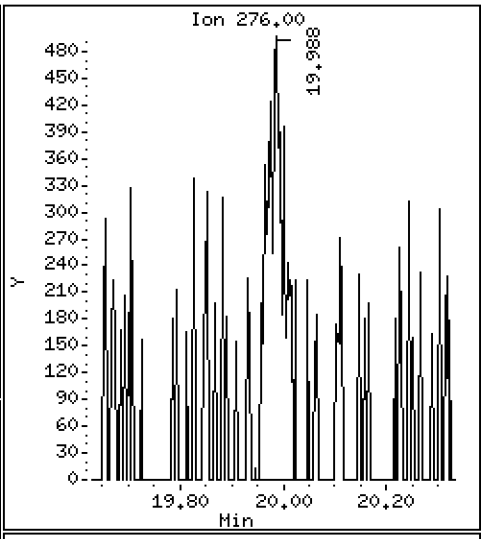
Column phase: Rxi-17sil

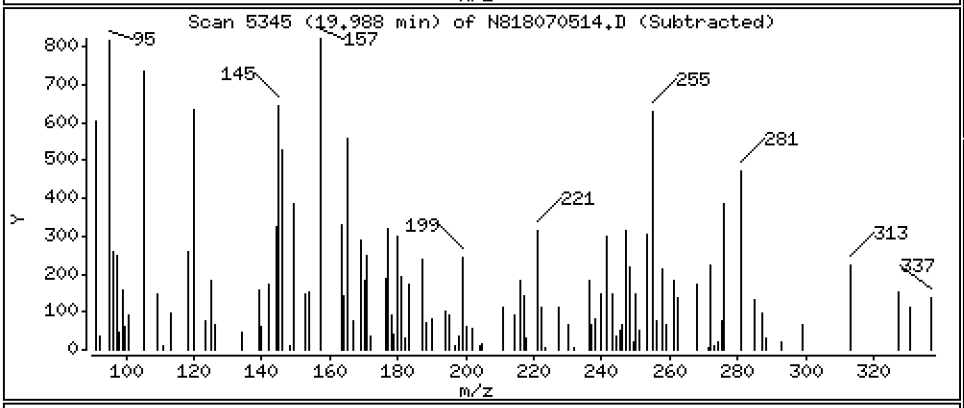
Column diameter: 0.25

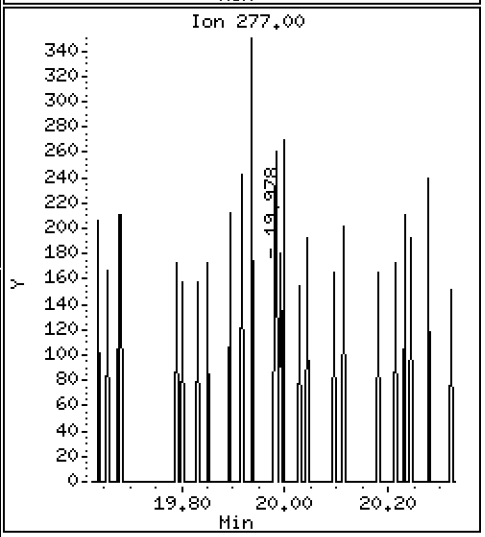
37 Indeno(1,2,3-cd)pyrene

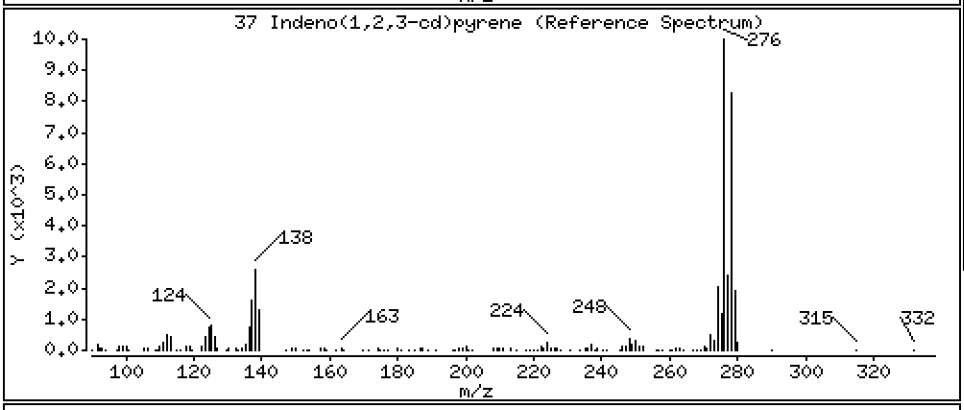
Concentration: 0.2073 ug/mL

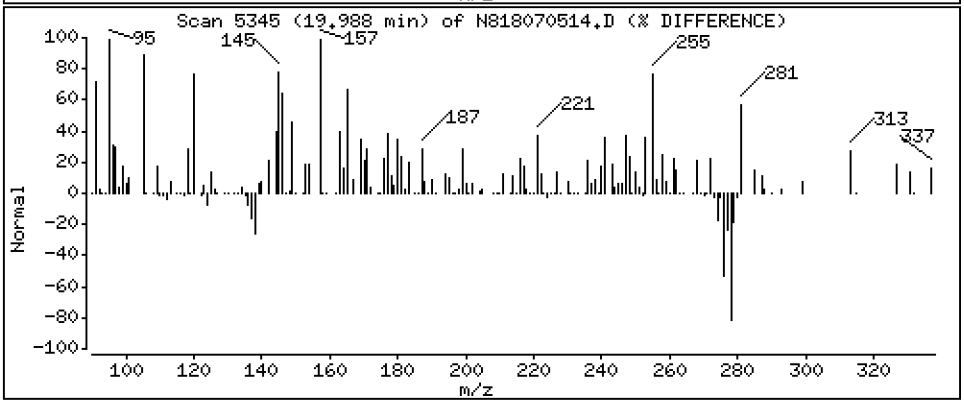












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

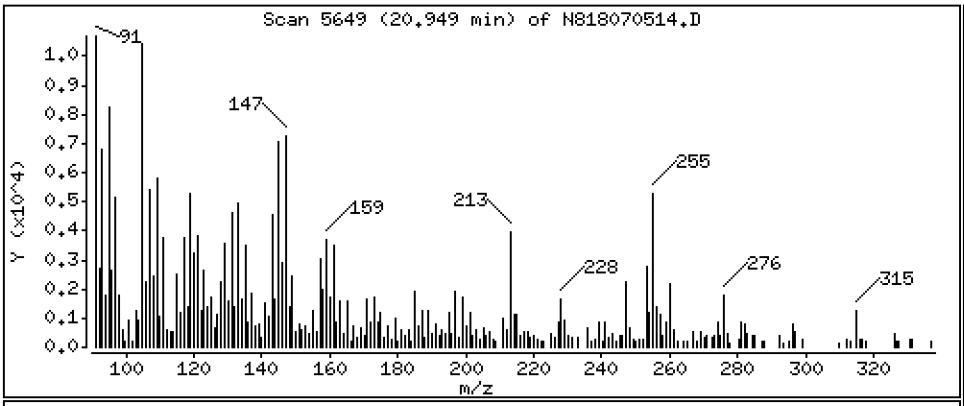
Operator: JZ

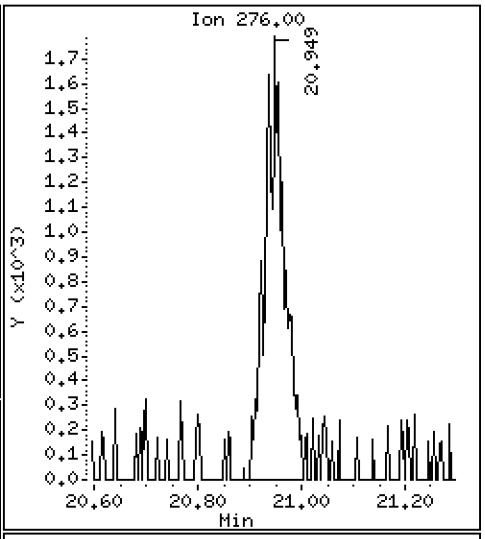
Column phase: Rxi-17sil

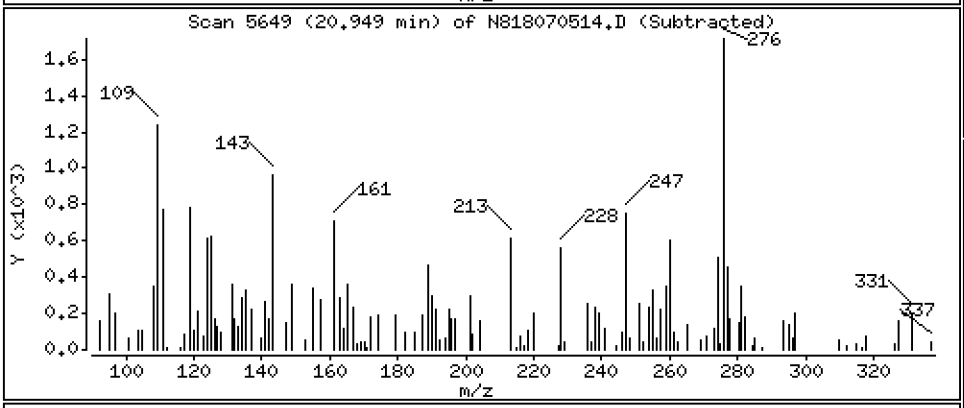
Column diameter: 0.25

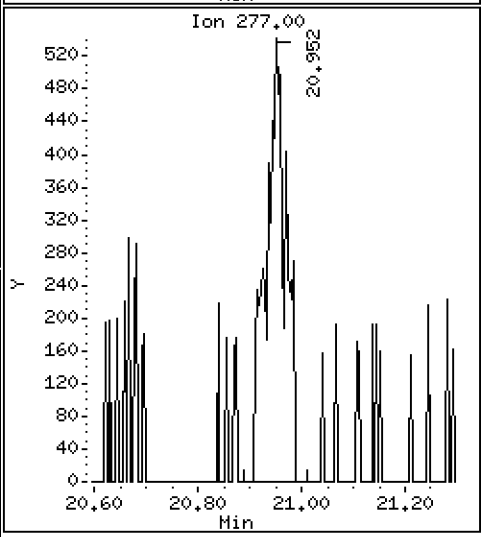
39 Benzo(g,h,i)perylene

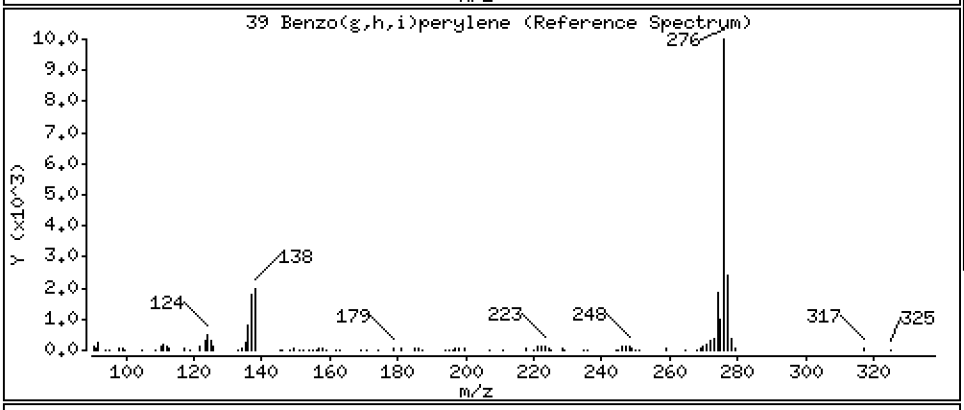
Concentration: 0.07199 ug/mL

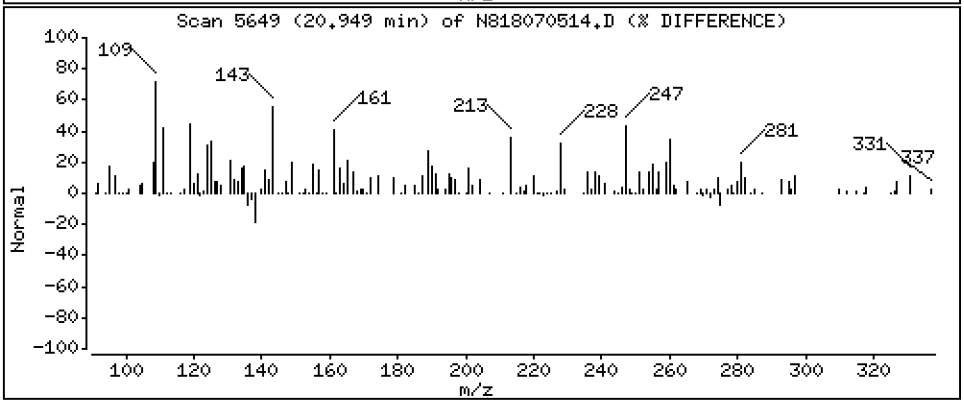












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070514.D

Date : 05-JUL-2018 22:05

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-08

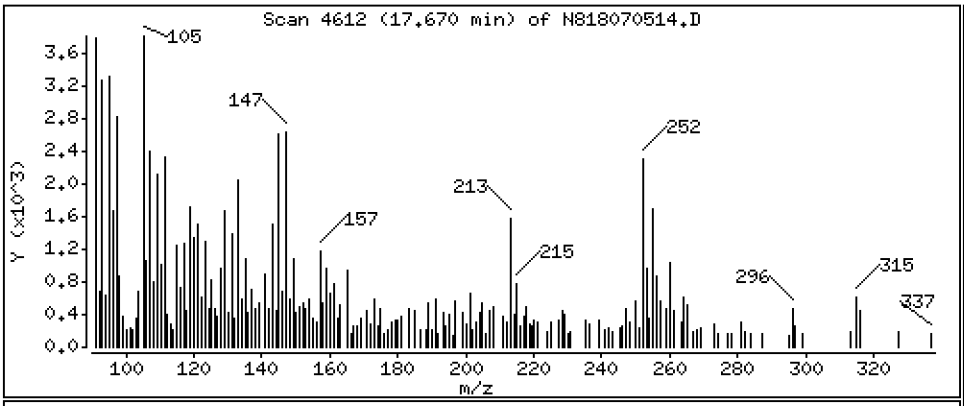
Operator: JZ

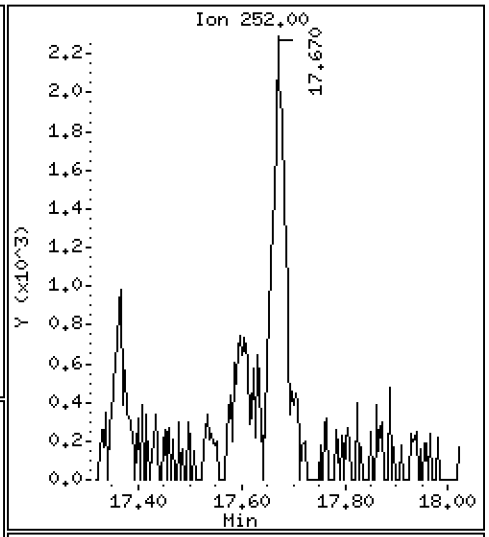
Column phase: Rxi-17sil

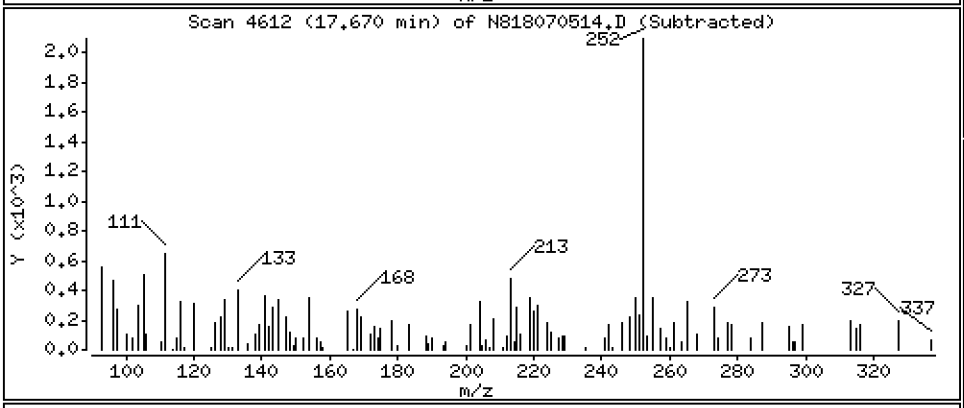
Column diameter: 0.25

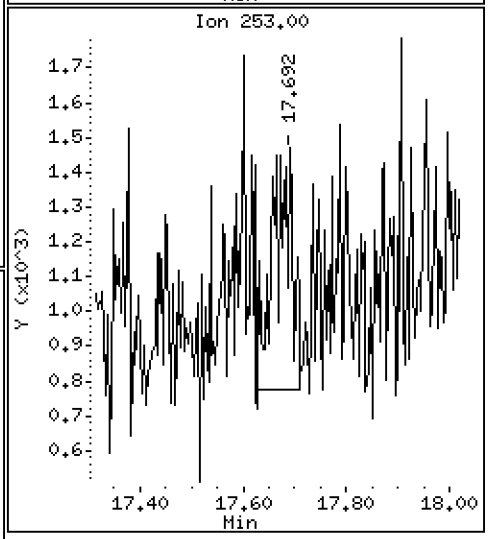
35 Perylene

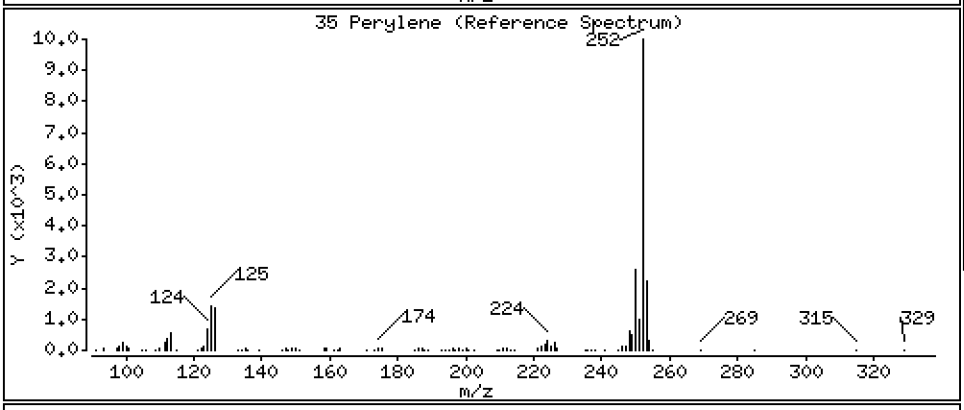
Concentration: 0.05329 ug/mL

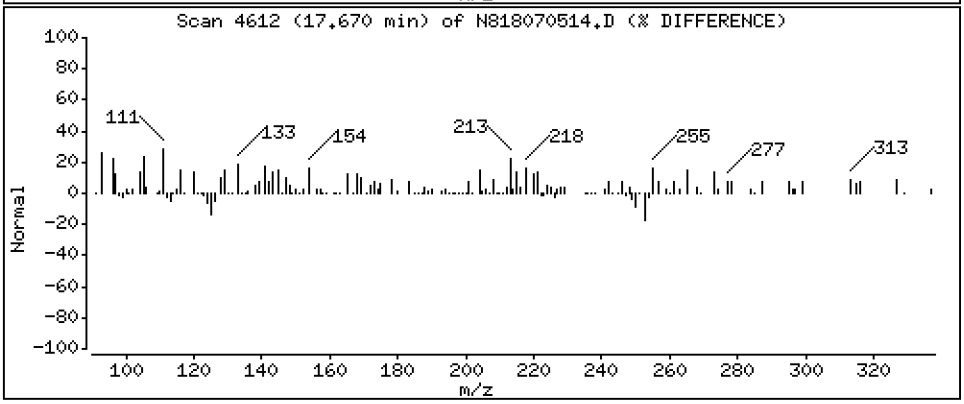












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070514.D
Lab Smp Id: 18F0364-08
Inj Date : 05-JUL-2018 22:05
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-08
Misc Info : 18-
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	110343	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	62011	1.52993	1.530
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.010	7.013	(1.000)	62349	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	122423	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.773	10.773	(1.193)	9944	0.12517	0.1252
$	21 Fluoranthene-d10	212	10.742	10.738	(1.189)	161990	2.06536	2.065
	23 Pyrene	202	11.270	11.266	(0.817)	8664	0.10443	0.1044
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	143251	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	Compound Not Detected.					
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.332	16.335	(0.928)	4951	0.05837	0.05837(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.603	17.593	(1.000)	136010	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.987	19.981	(1.135)	1141	0.20732	0.2073(M)
$	36 Dibenzo(a,h)anthracene-d14	292	19.886	19.876	(1.130)	133154	2.15337	2.153
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.948	20.945	(1.190)	4562	0.07199	0.07199(M)
	35 Perylene	252	17.669	17.669	(1.004)	4393	0.05329	0.05329(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070514.D
Lab Smp Id: 18F0364-08
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	110343	12.67
10 Acenaphthene-d10	54983	27492	109966	62349	13.40
15 Phenanthrene-d10	115816	57908	231632	122423	5.70
25 Chrysene-d12	129167	64584	258334	143251	10.90
33 Perylene-d12	111506	55753	223012	136010	21.98

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	-0.04
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070514.D

Lab ID: 18F0364-08
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 22:05

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

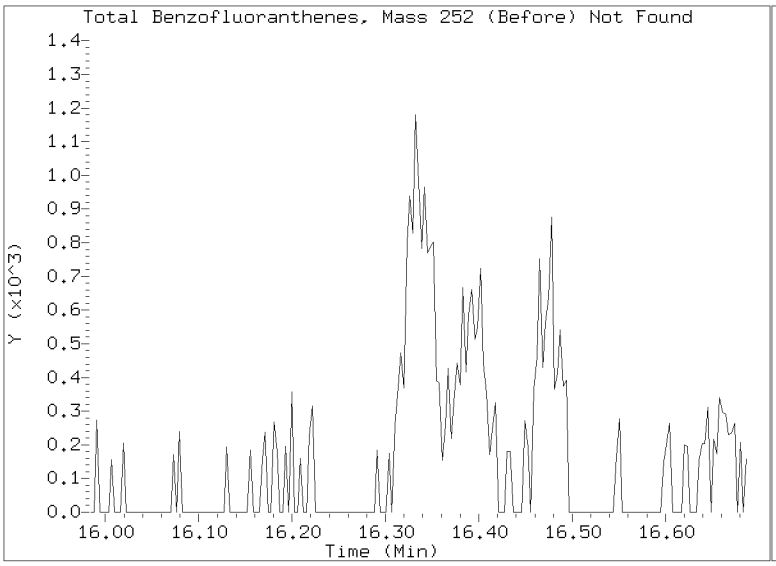
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

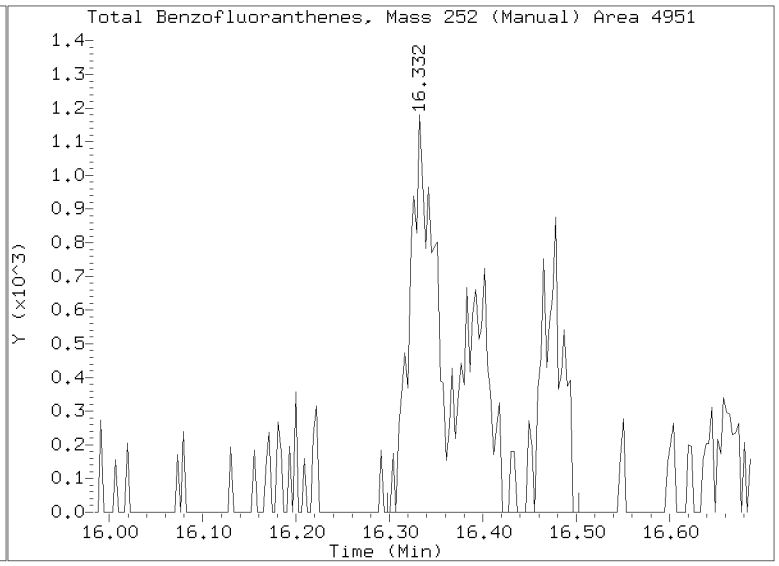
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

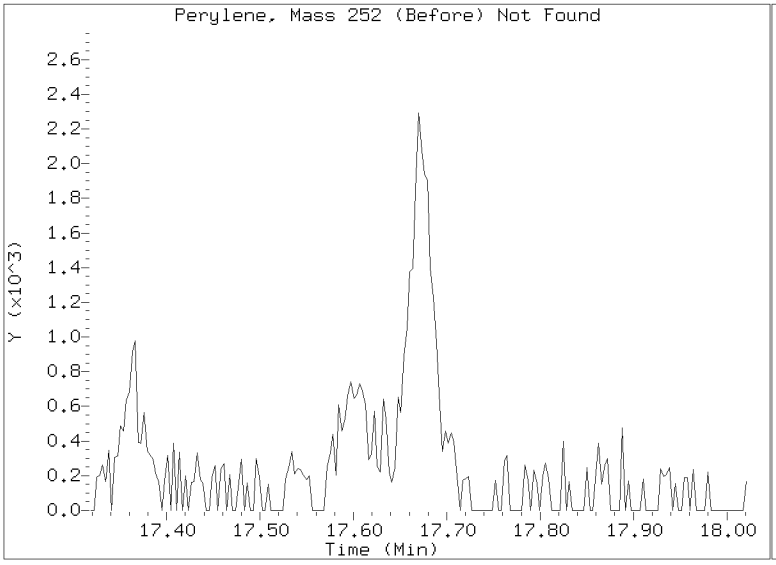
* Only compounds listed in the work order have been verified by the analyst *

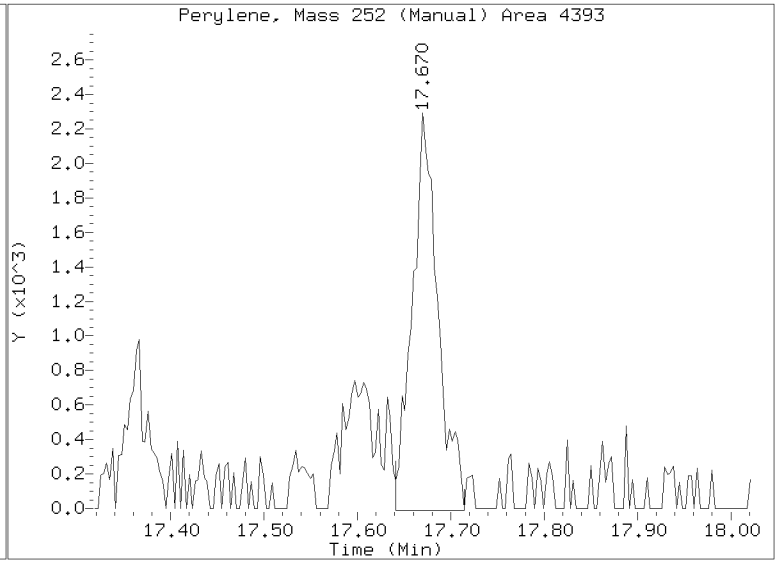
Quant Ion Manual Peak Adjustment Report

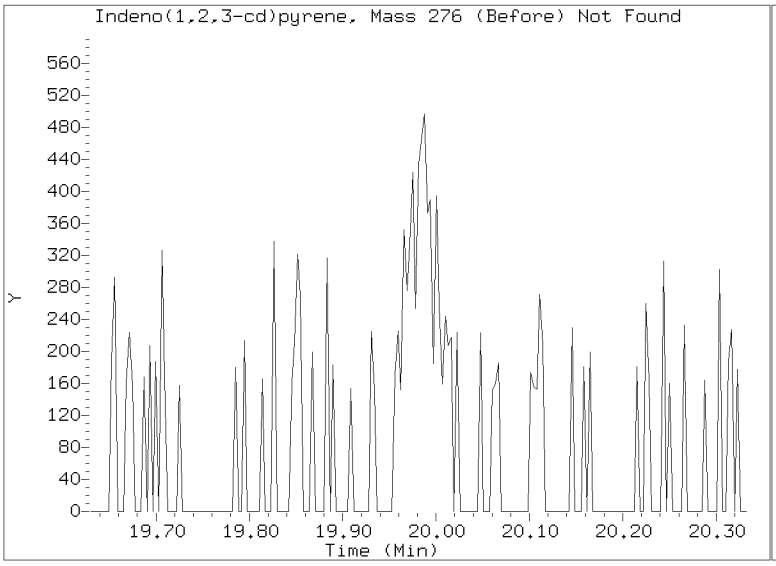
Datafile: //target/share/chem3/nt8.i/20180705.b/N818070514.D
Injection Date: 05-JUL-2018 22:05
Lab ID:18F0364-08 Client ID:
Report Date: 07/09/2018 10:50

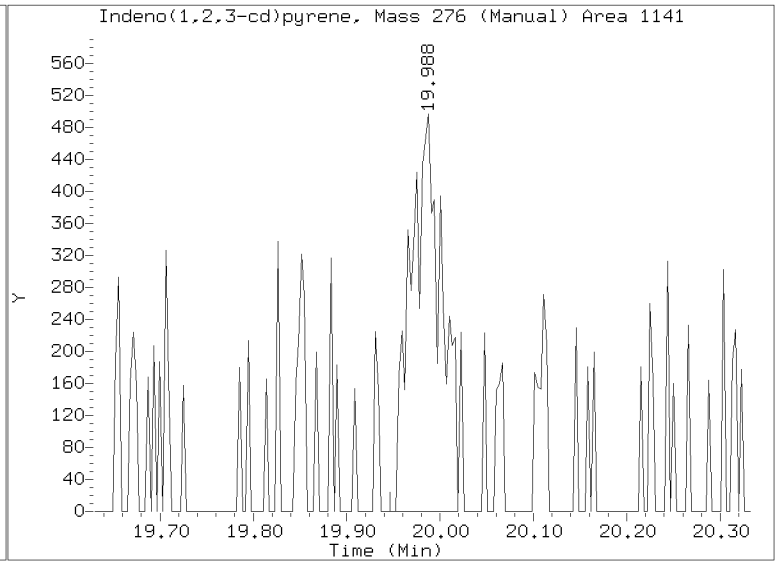






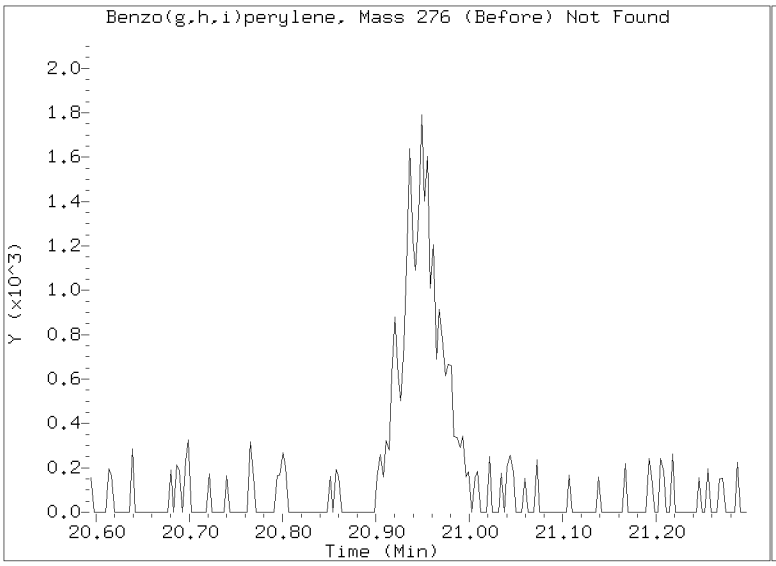


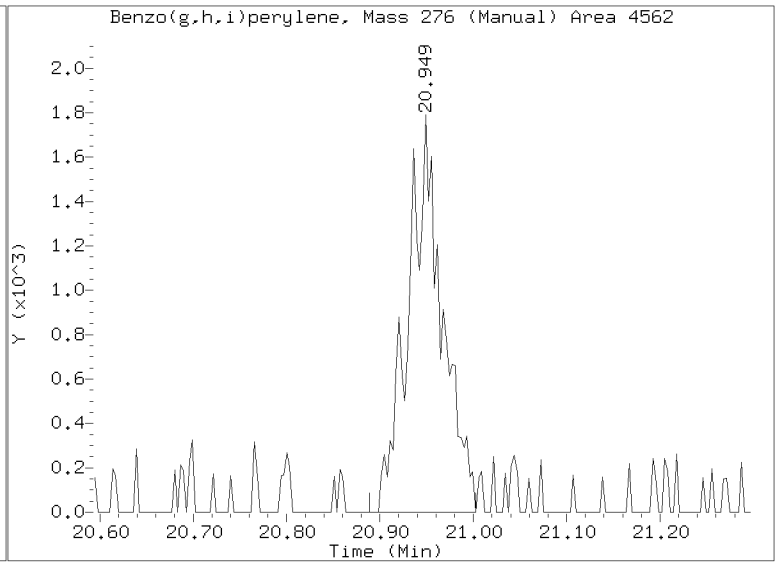




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070514.D
Injection Date: 05-JUL-2018 22:05
Lab ID:18F0364-08 Client ID:
Report Date: 07/09/2018 10:50





LDW18-C11-CLWB-Comp2

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-09	SDG:	18F0364
Sampled:	05/18/18 13:53	Prepared:	06/29/18 11:28	File ID:	N818070515.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/05/18 22:32
Batch:	BGF0721	Sequence:	SGG0053	Initial/Final:	10.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BF00065
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.85	J	0.53	4.98
218-01-9	Chrysene	1	4.41	J	0.49	4.98
205-99-2	Benzo(b)fluoranthene	1	3.18	J	1.00	4.98
207-08-9	Benzo(k)fluoranthene	1	1.86	J	0.71	4.98
50-32-8	Benzo(a)pyrene	1	3.22	J	0.91	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	11.8		0.57	4.98
53-70-3	Dibenzo(a,h)anthracene	1	4.98	U	1.52	4.98

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.25	64.8	43.4	20 - 130	
Dibenzo[a,h]anthracene-d14	149.25	93.8	62.9	20 - 130	
Fluoranthene-d10	149.25	87.6	58.7	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

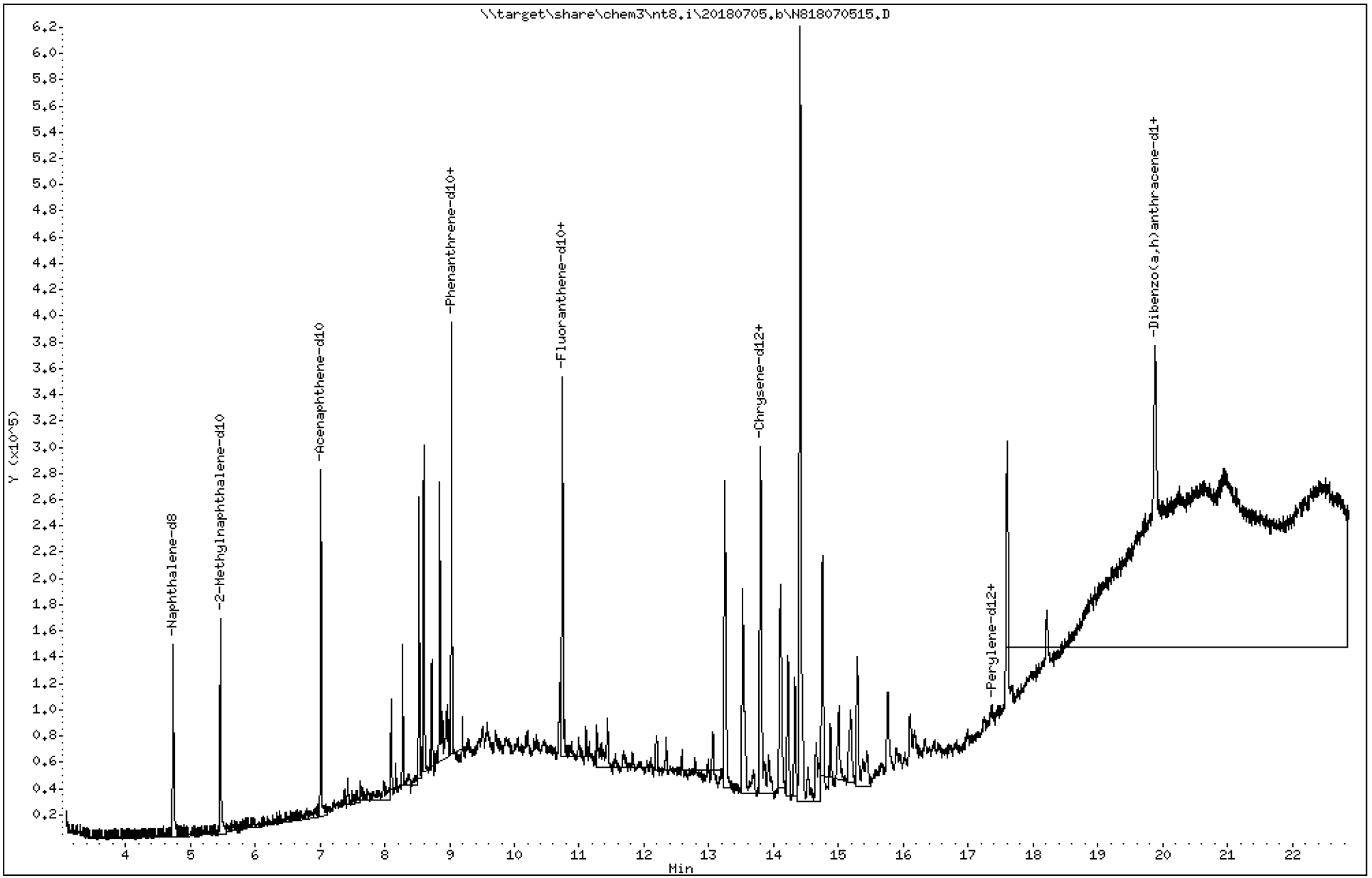
Instrument: nt8.i

Sample Info: 18F0364-09

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

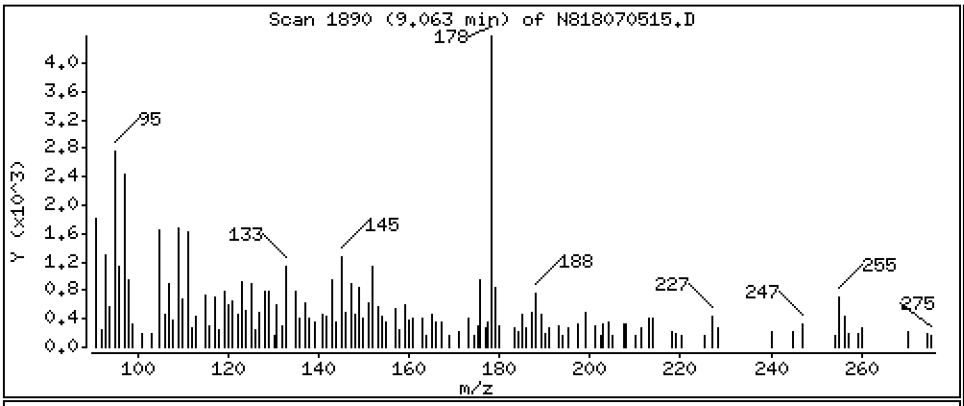
Operator: JZ

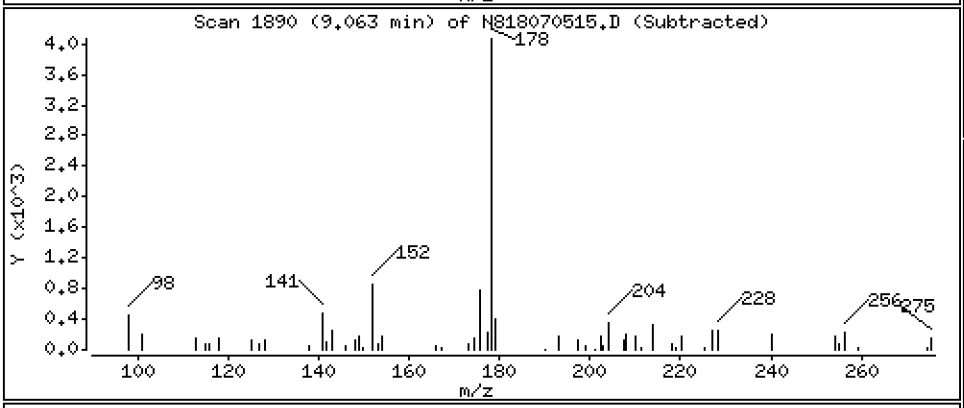
Column phase: Rxi-17sil

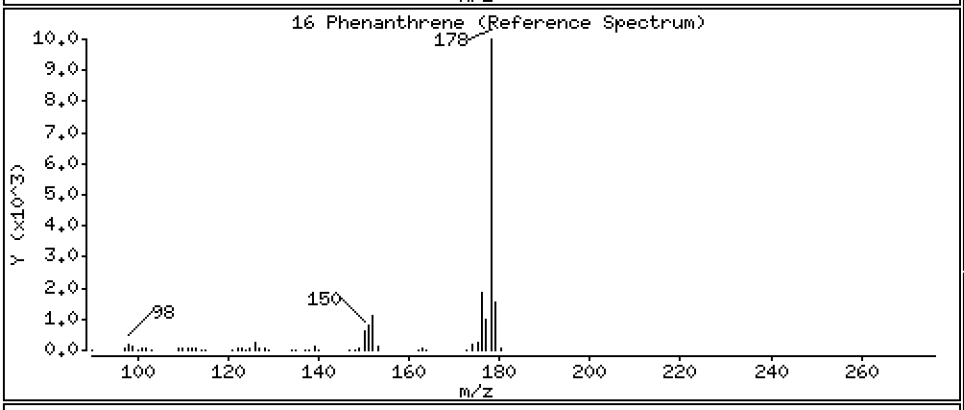
Column diameter: 0.25

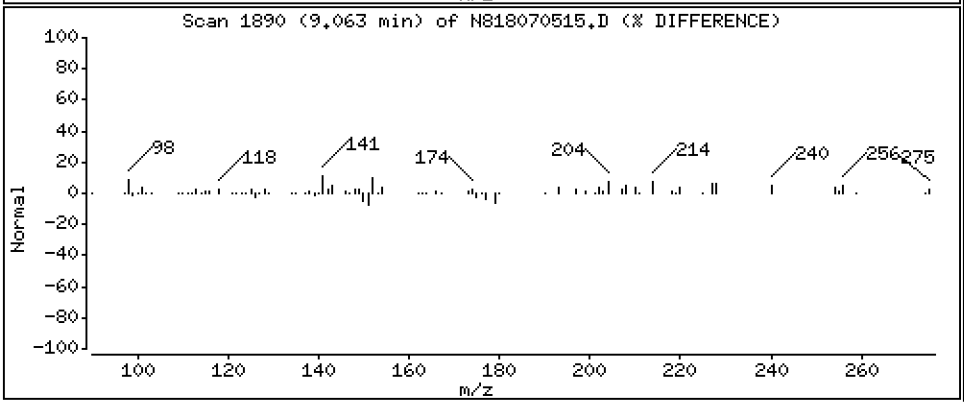
16 Phenanthrene

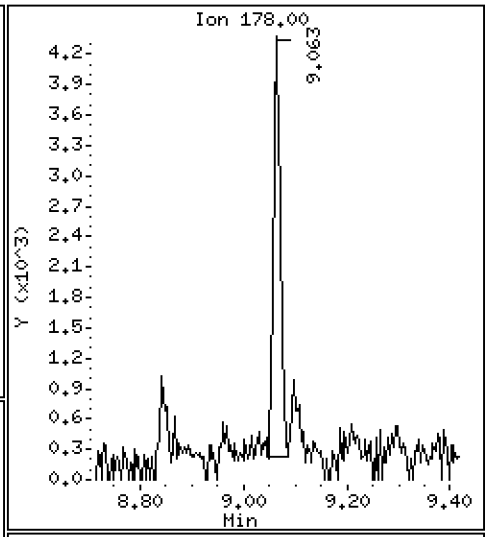
Concentration: 0.05318 ug/mL

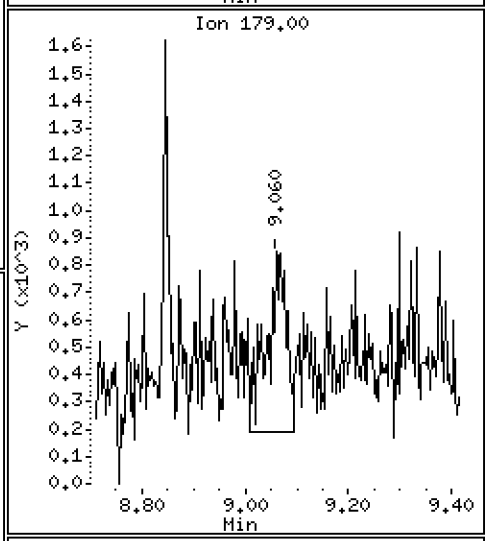


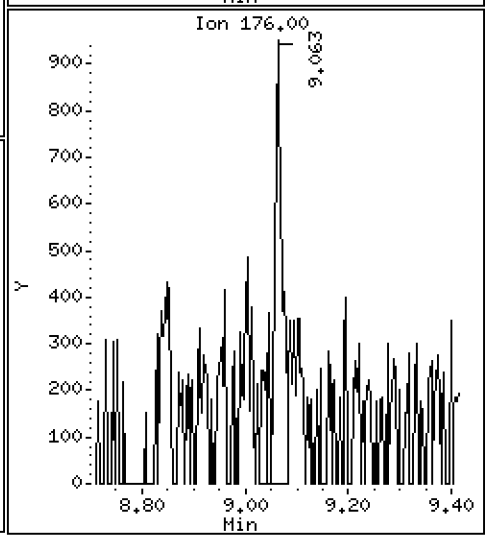












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

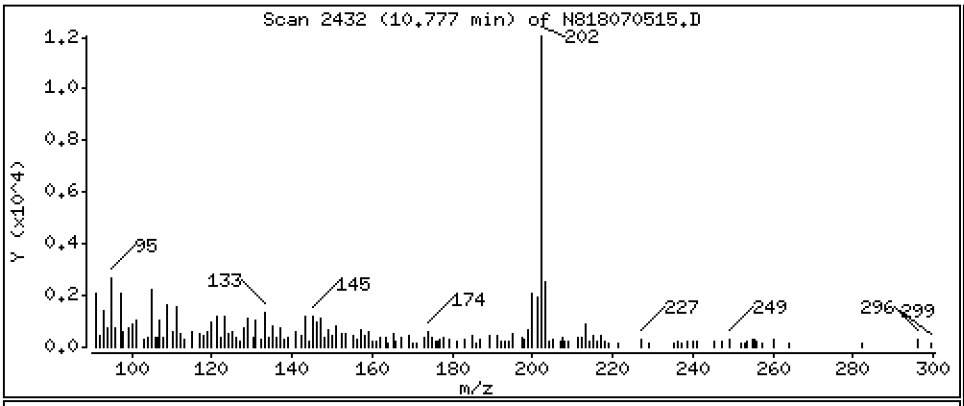
Operator: JZ

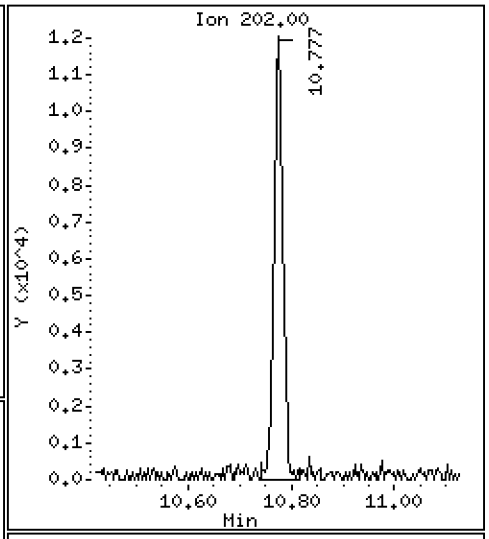
Column phase: Rxi-17sil

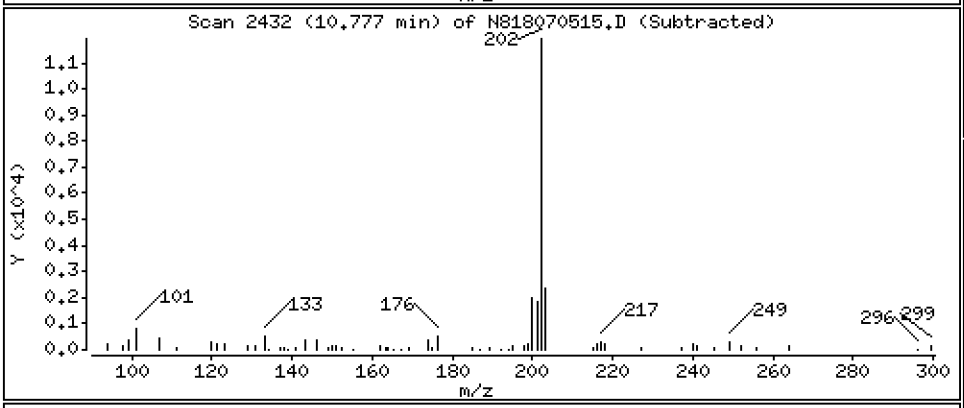
Column diameter: 0.25

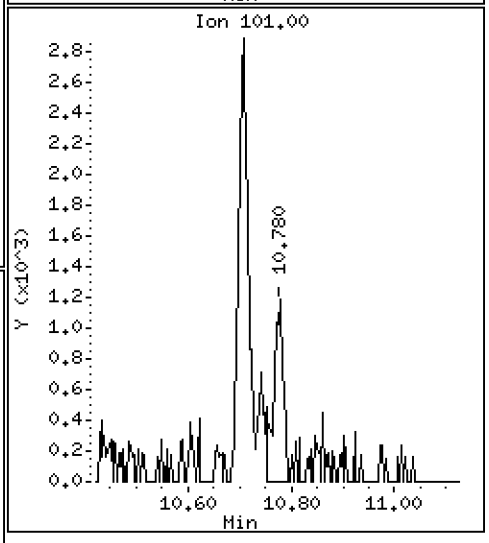
22 Fluoranthene

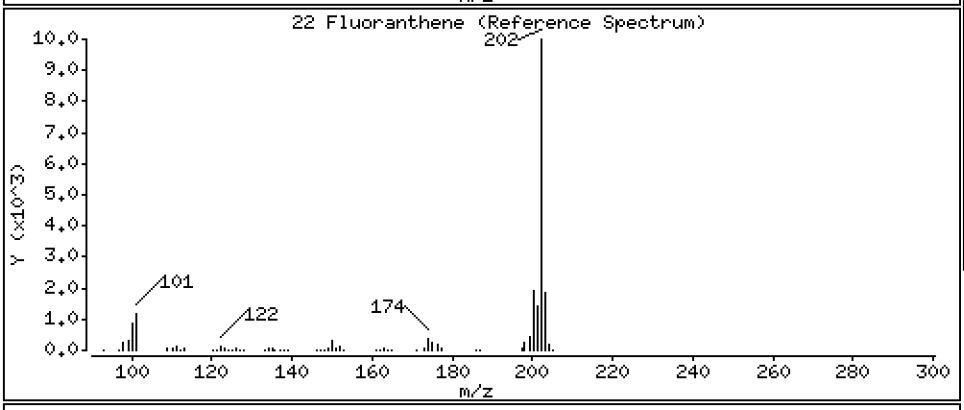
Concentration: 0.1651 ug/mL

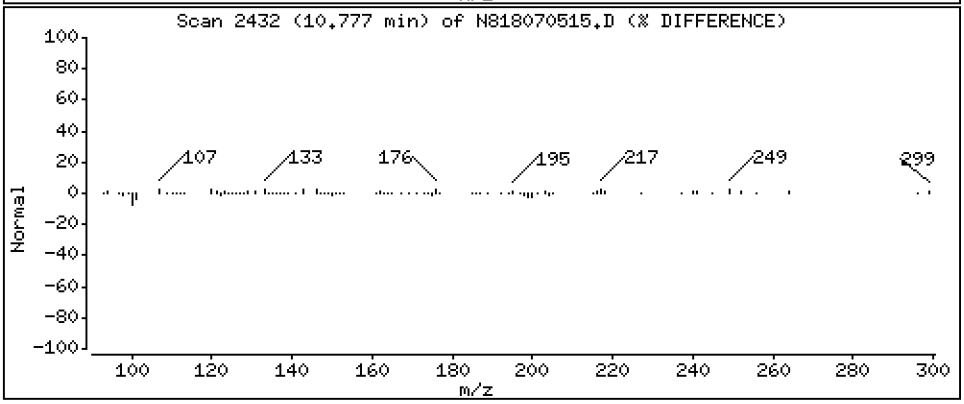












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

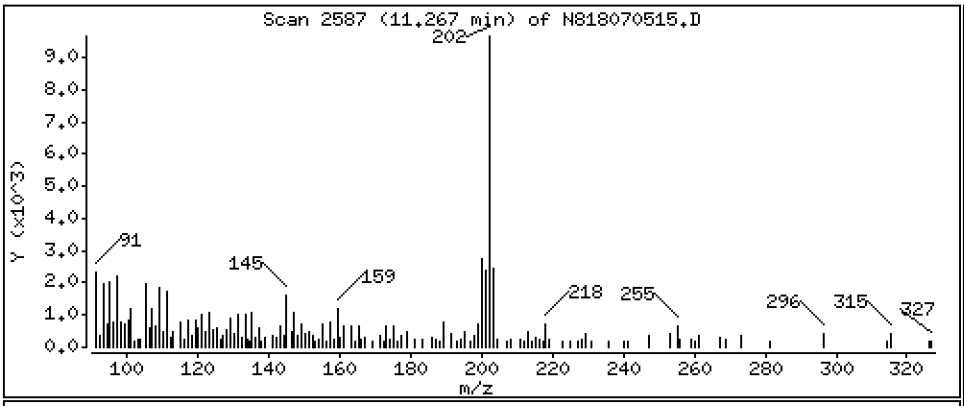
Operator: JZ

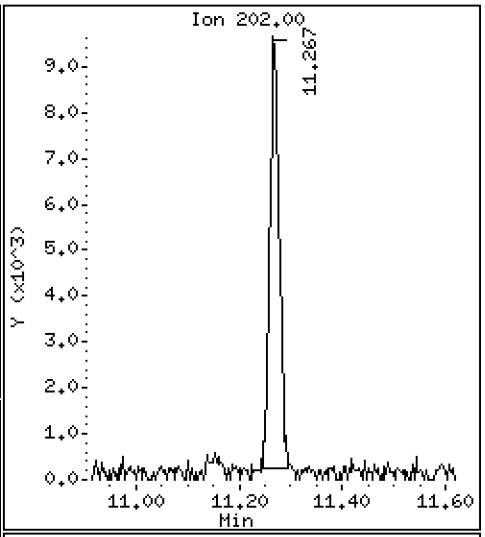
Column phase: Rxi-17sil

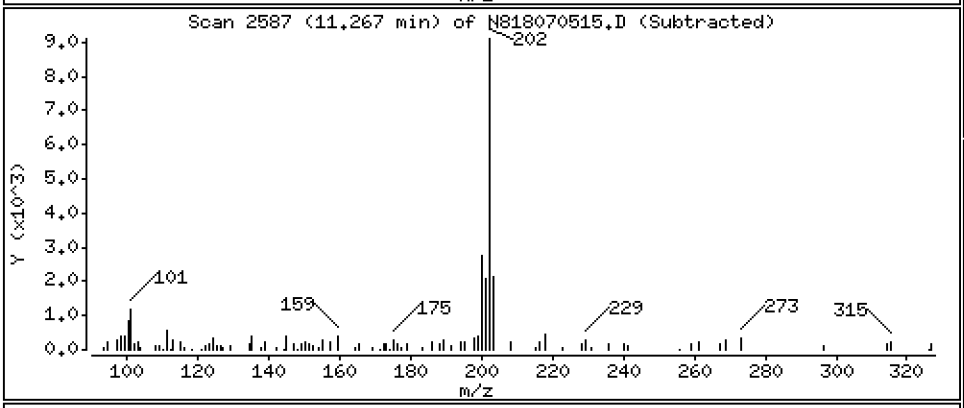
Column diameter: 0.25

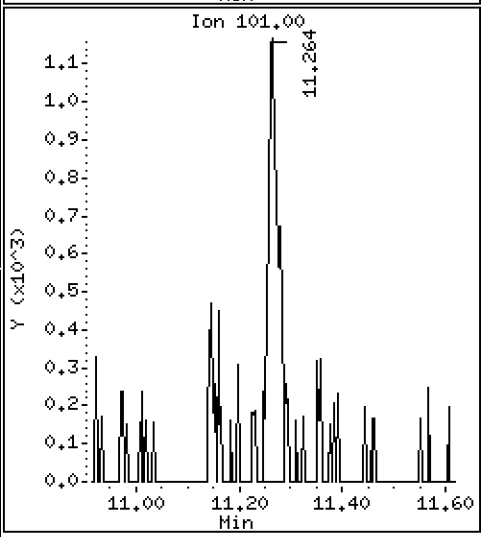
23 Pyrene

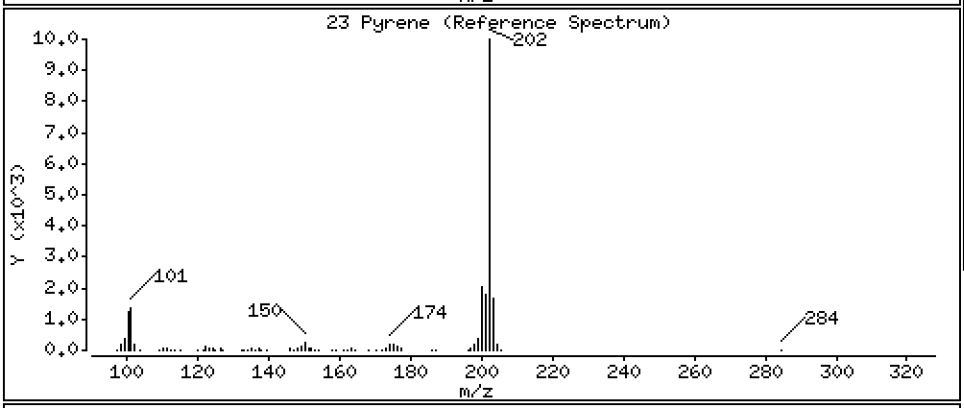
Concentration: 0.1284 ug/mL

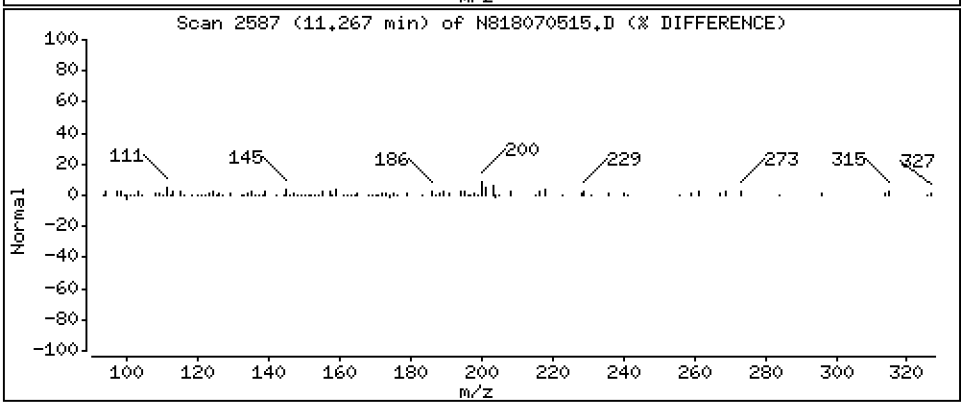












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

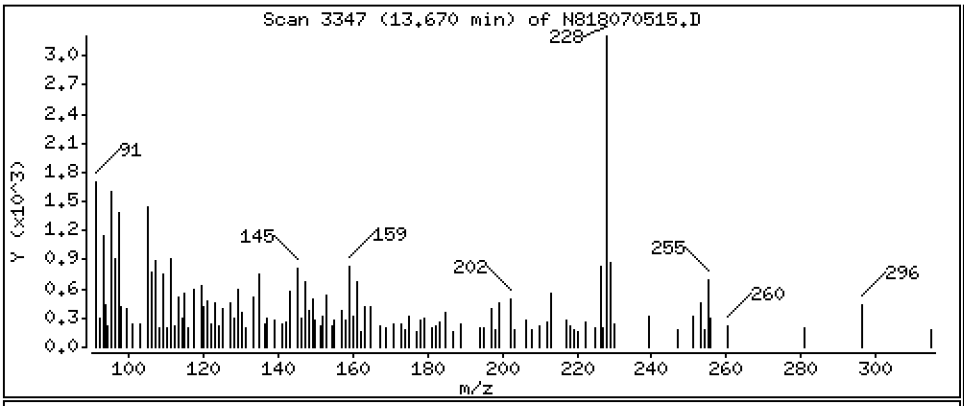
Operator: JZ

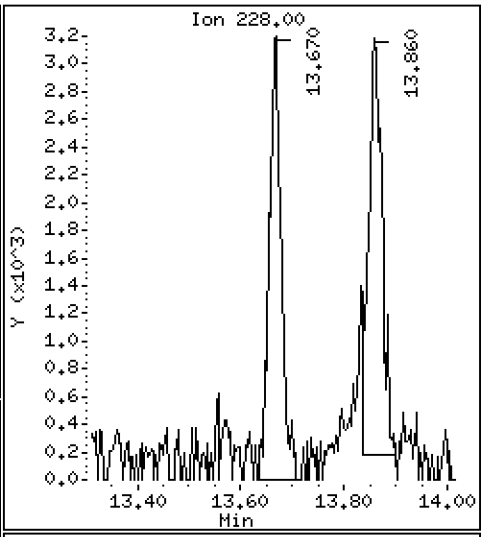
Column phase: Rxi-17sil

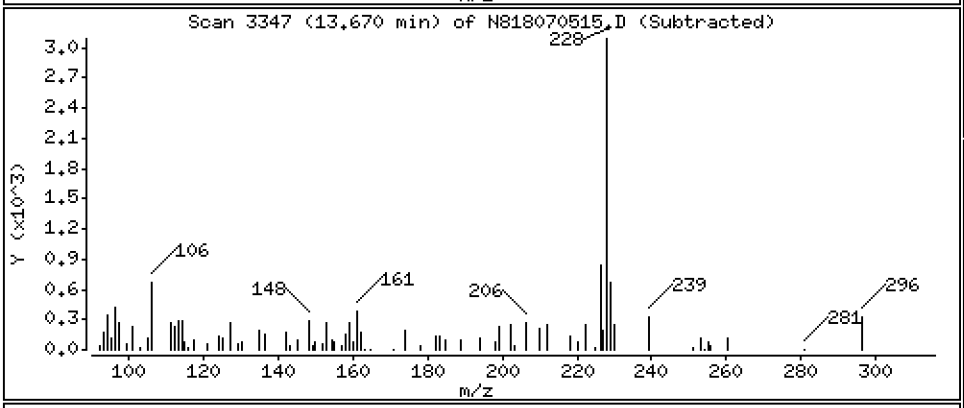
Column diameter: 0.25

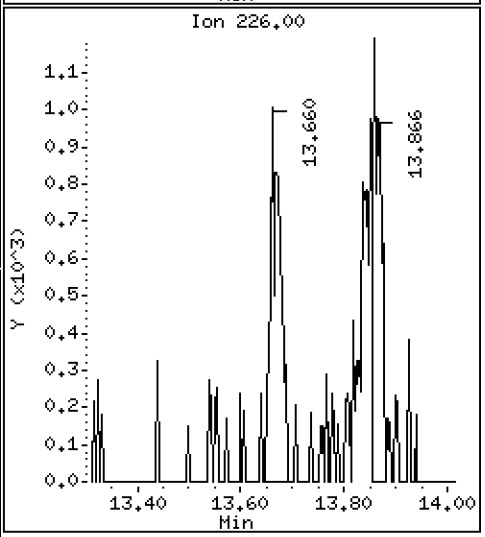
24 Benzo(a)anthracene

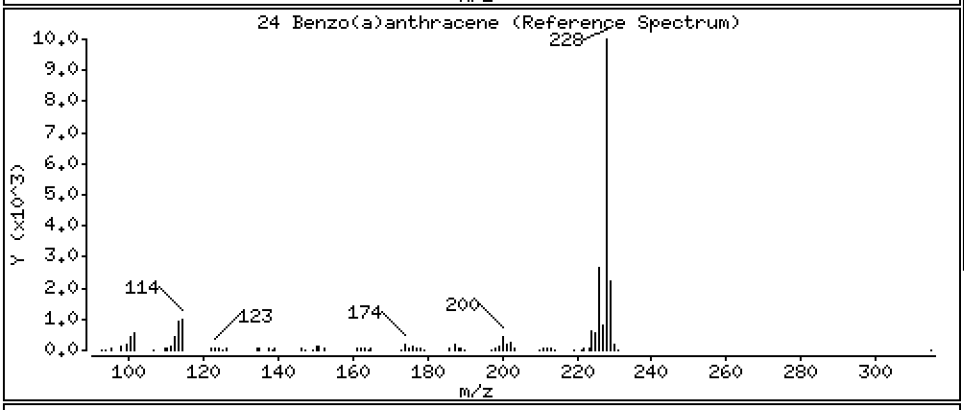
Concentration: 0.05736 ug/mL

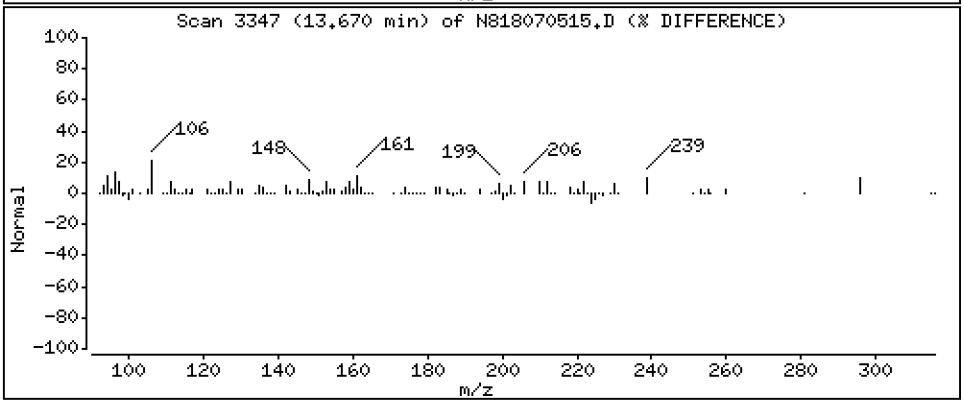












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

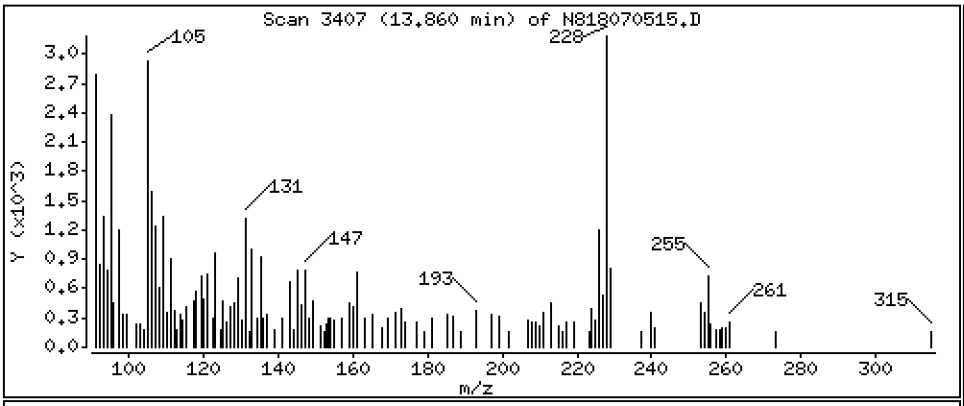
Operator: JZ

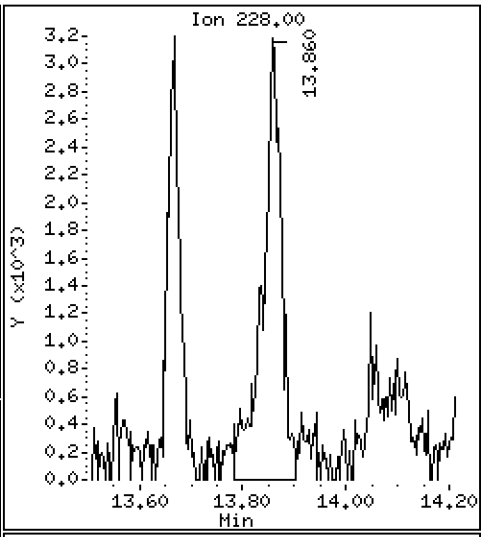
Column phase: Rxi-17sil

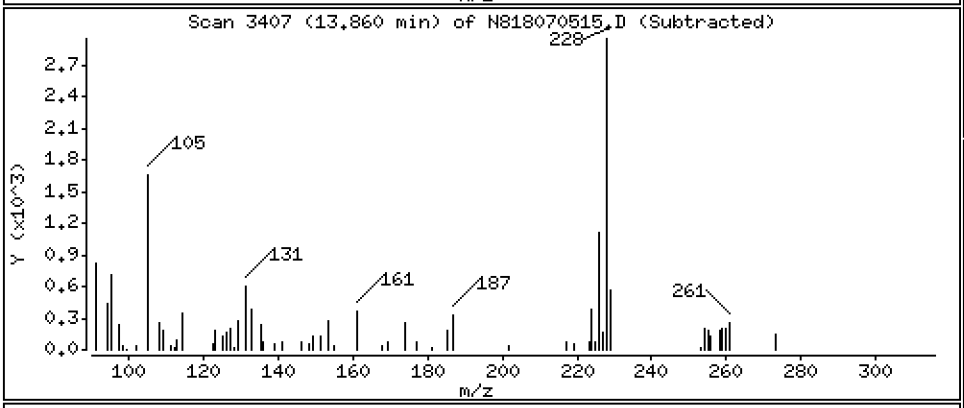
Column diameter: 0.25

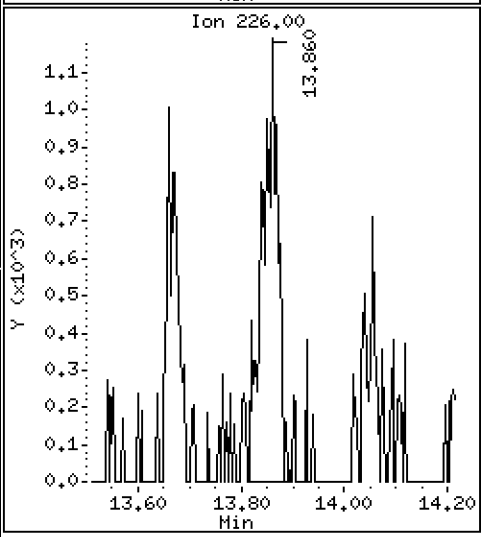
27 Chrysene

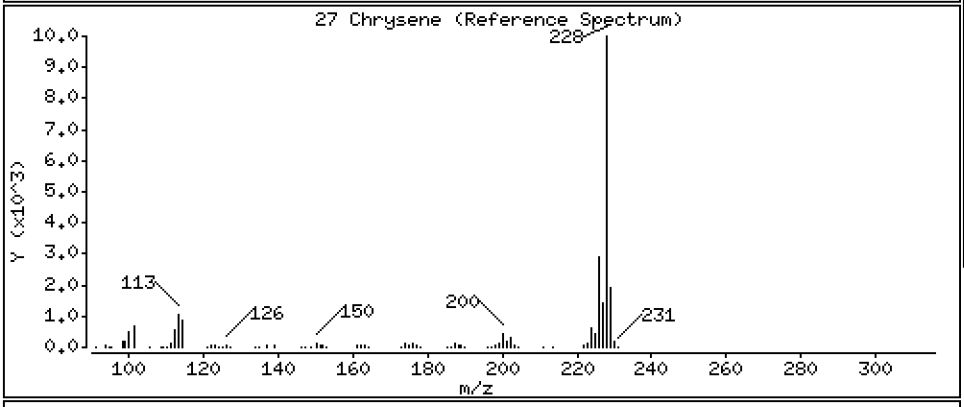
Concentration: 0.08859 ug/mL

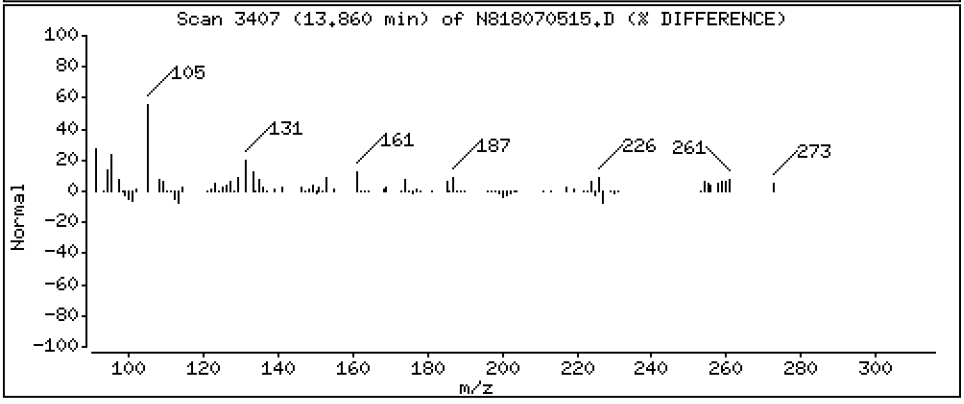












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

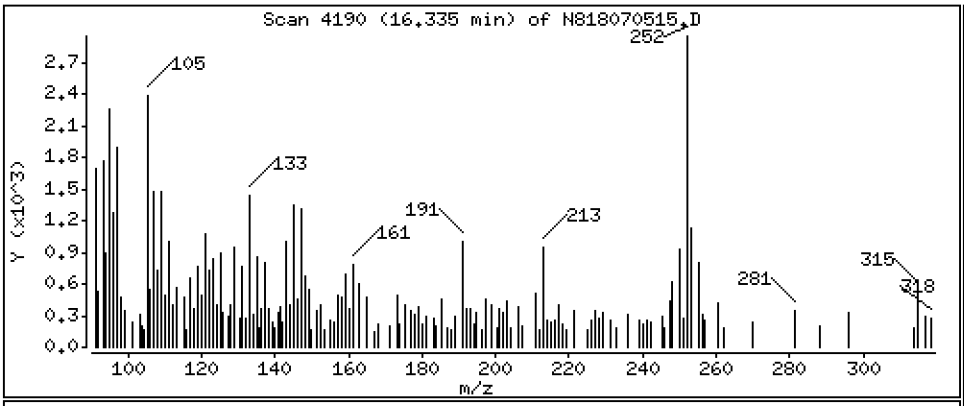
Operator: JZ

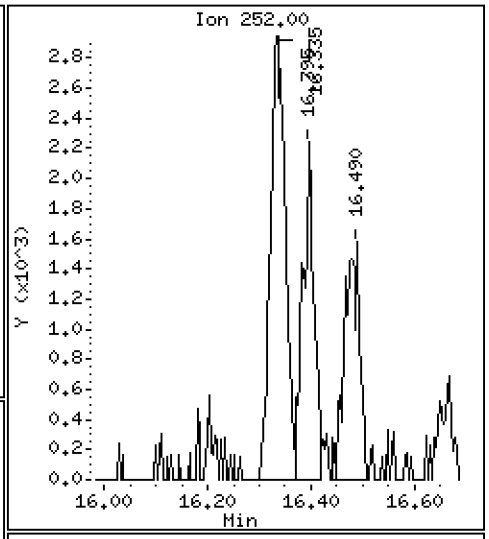
Column phase: Rxi-17sil

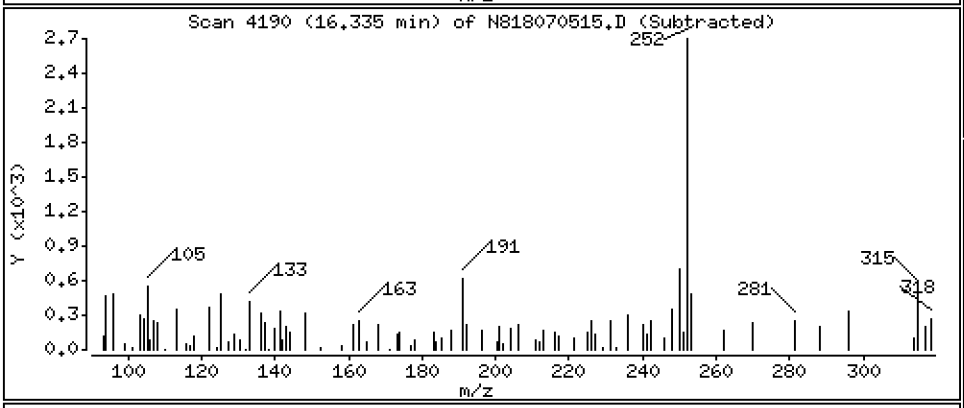
Column diameter: 0.25

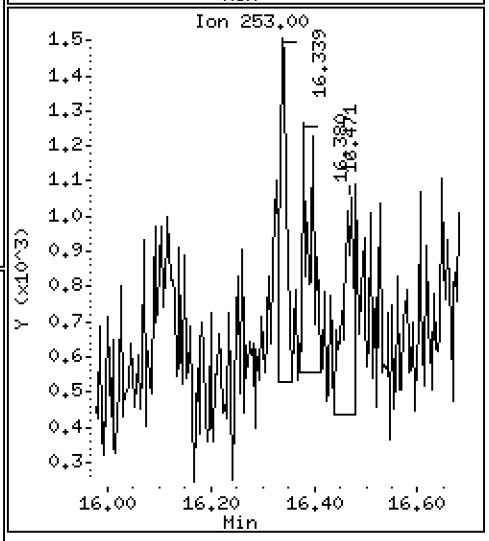
28 Benzo(b)fluoranthene

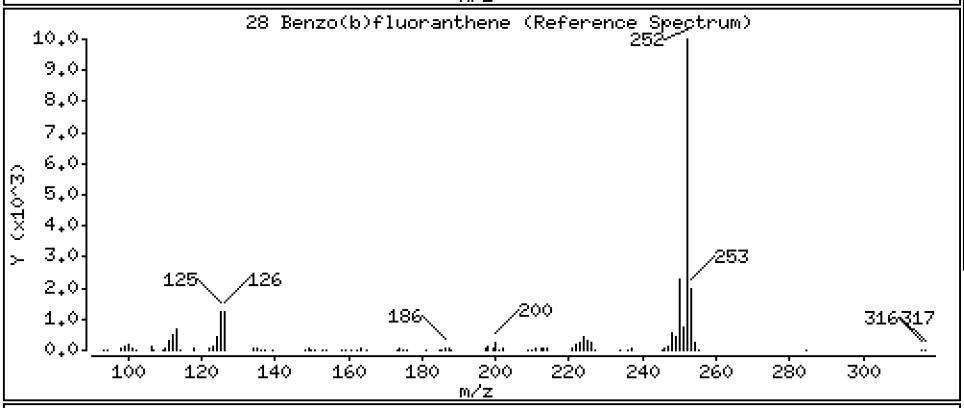
Concentration: 0.06401 ug/mL

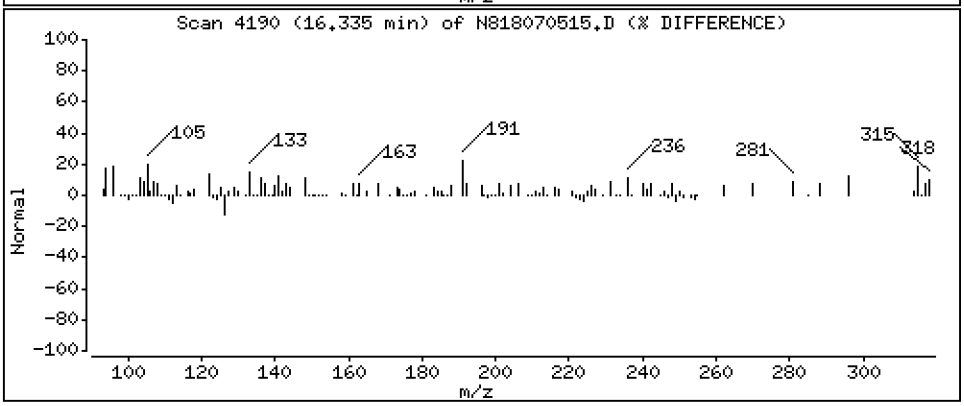












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

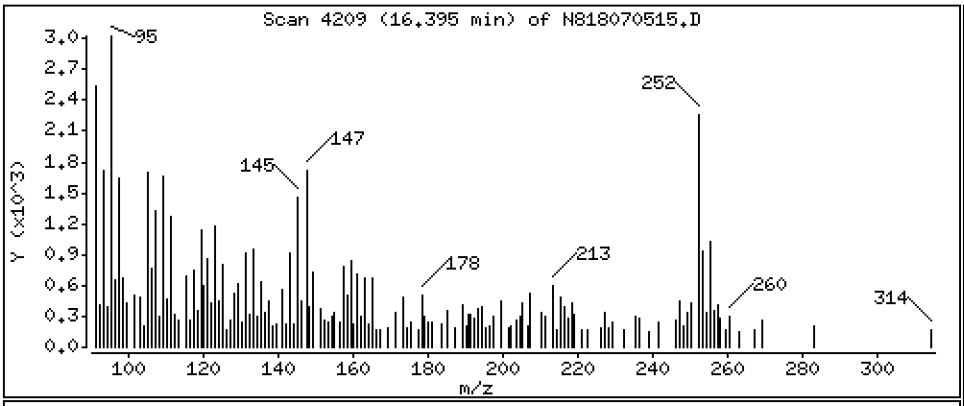
Operator: JZ

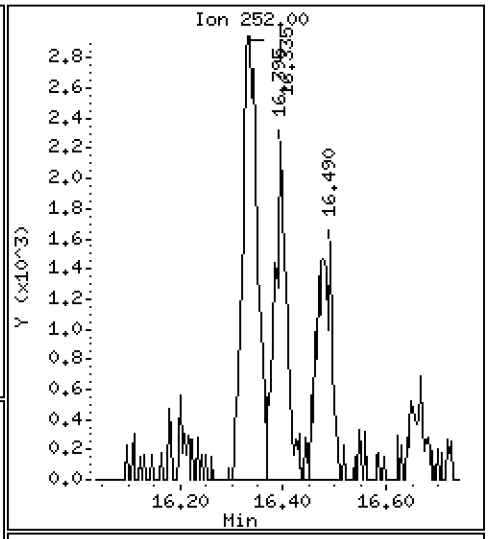
Column phase: Rxi-17sil

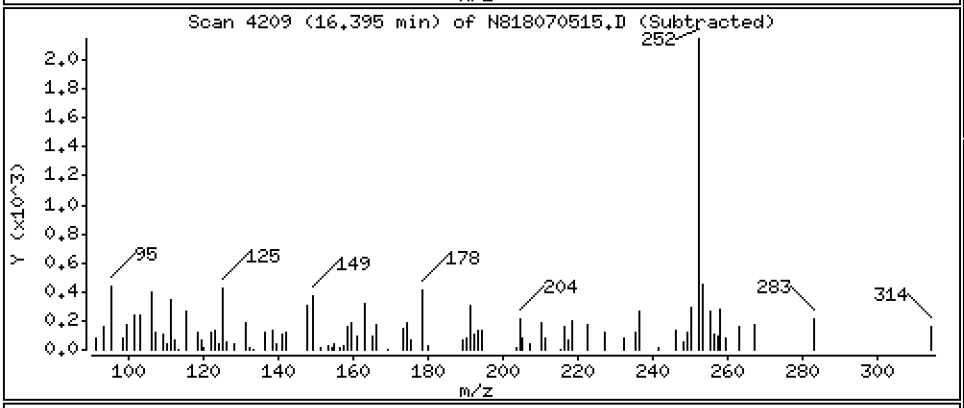
Column diameter: 0.25

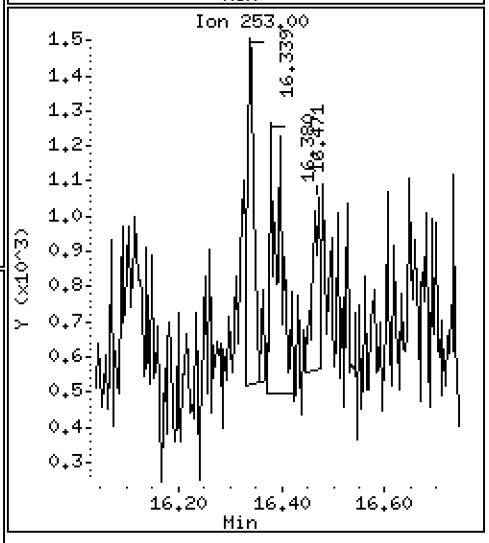
29 Benzo(k)fluoranthene

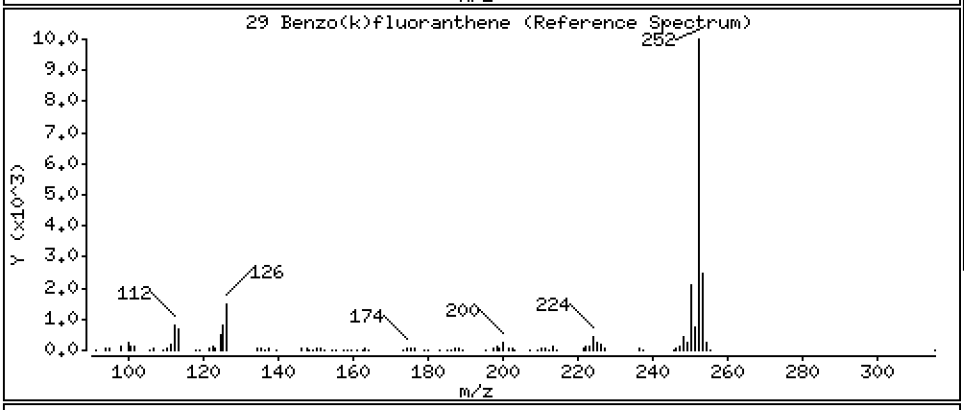
Concentration: 0.03739 ug/mL

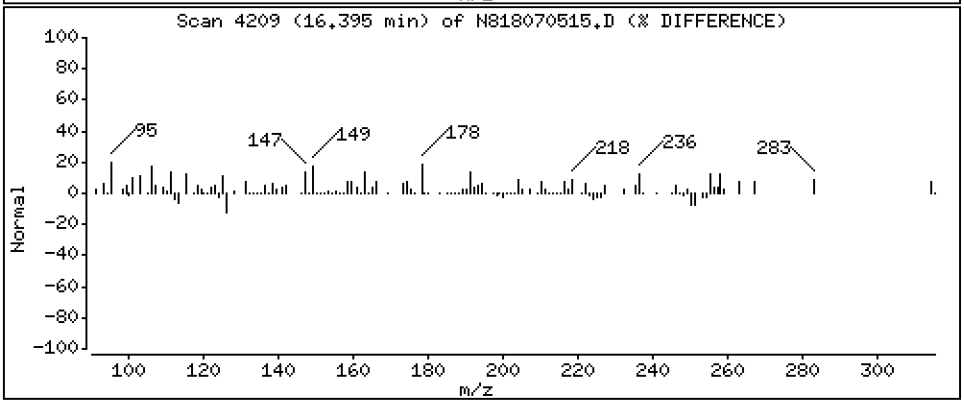












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

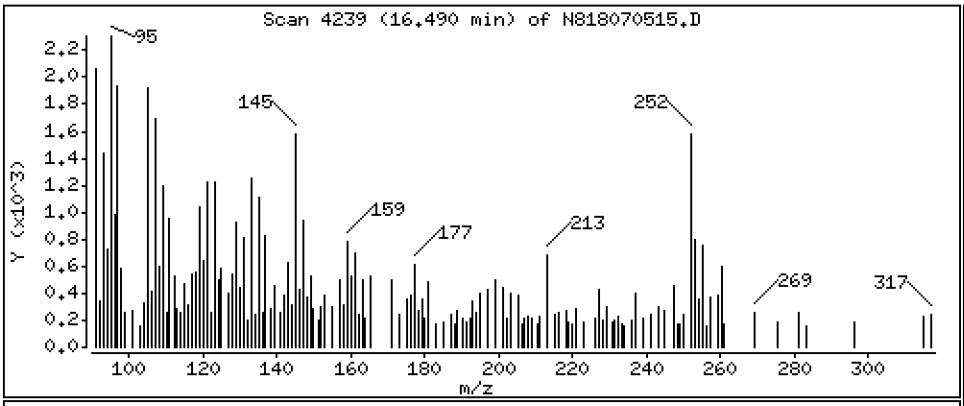
Operator: JZ

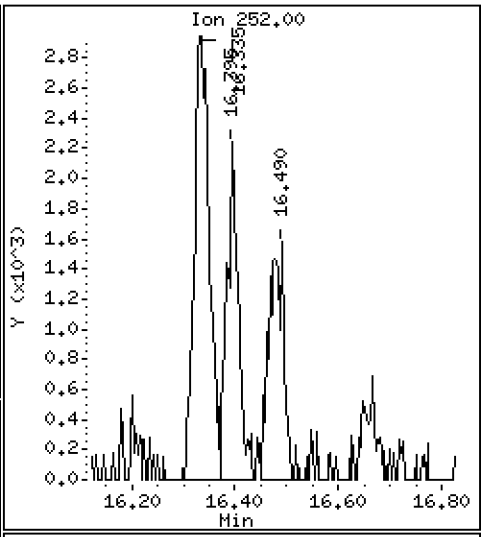
Column phase: Rxi-17sil

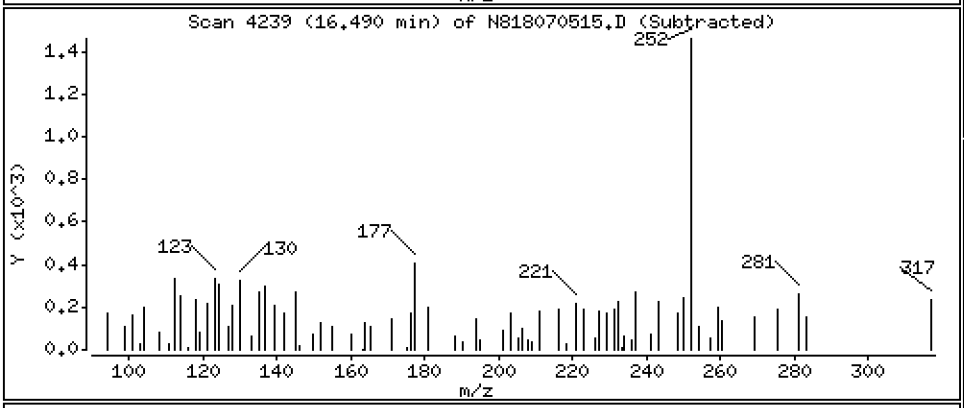
Column diameter: 0.25

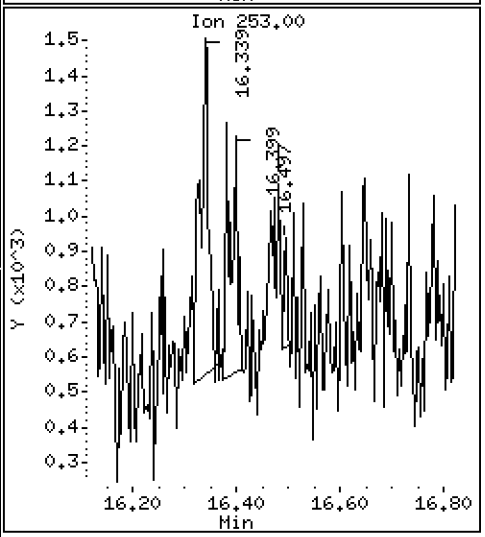
30 Benzo(j)fluoranthene

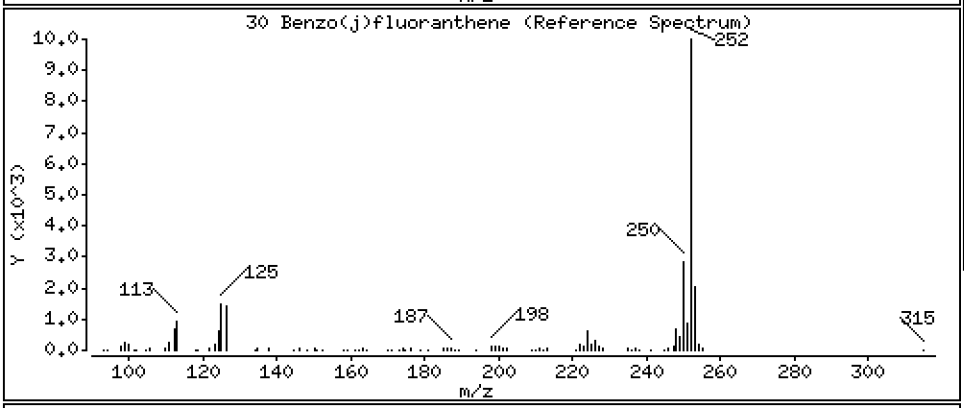
Concentration: 0.03424 ug/mL

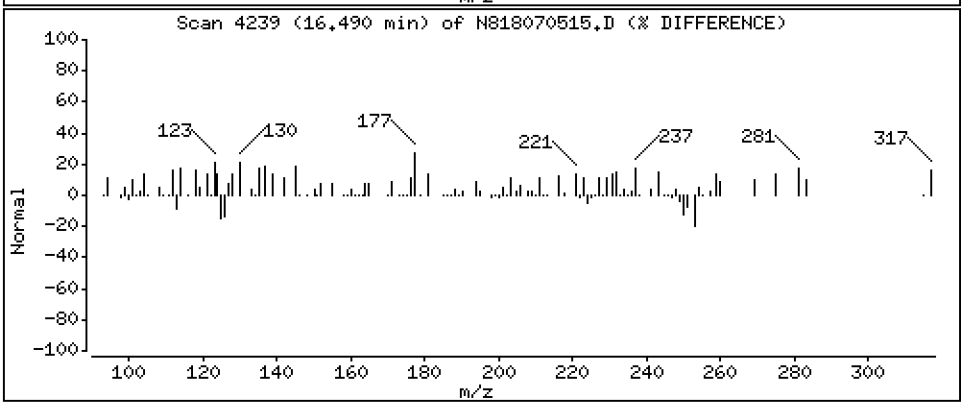












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

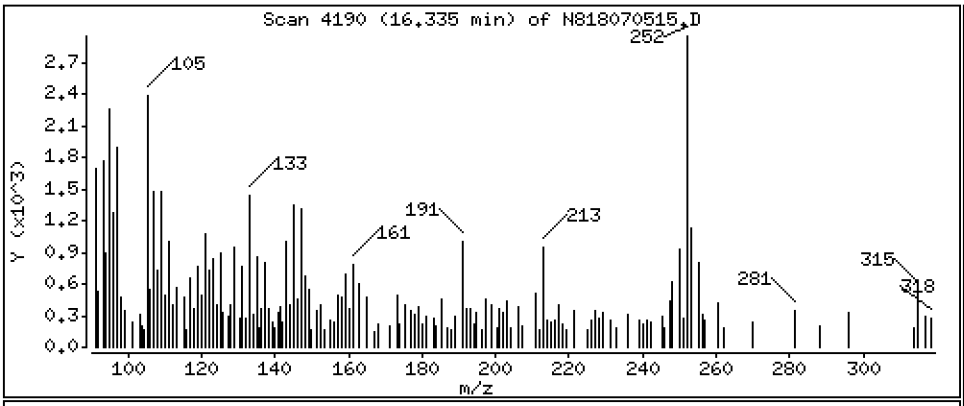
Operator: JZ

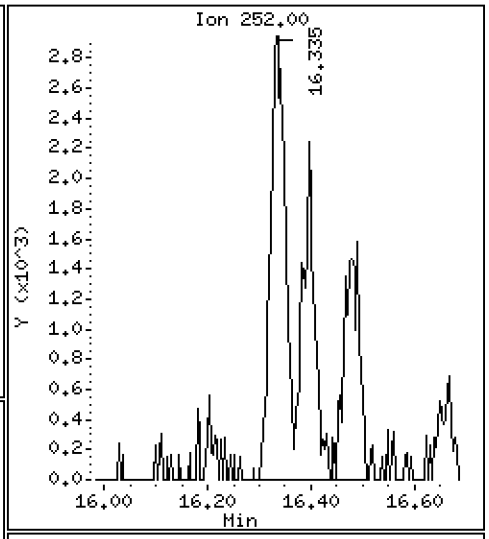
Column phase: Rxi-17sil

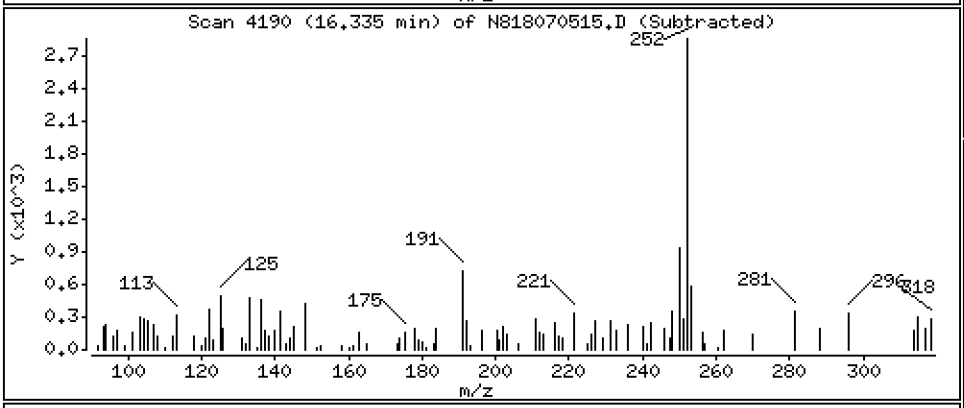
Column diameter: 0.25

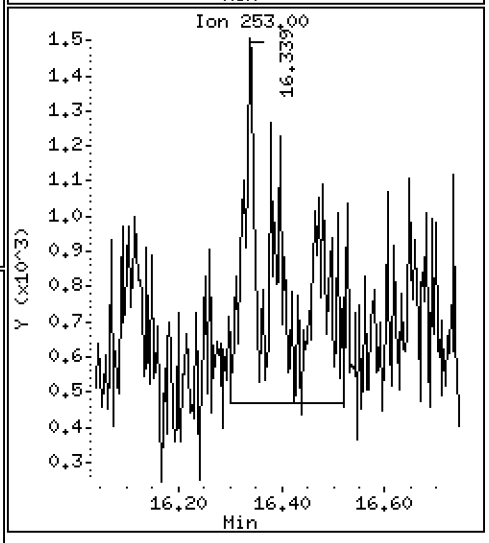
31 Total Benzofluoranthenes

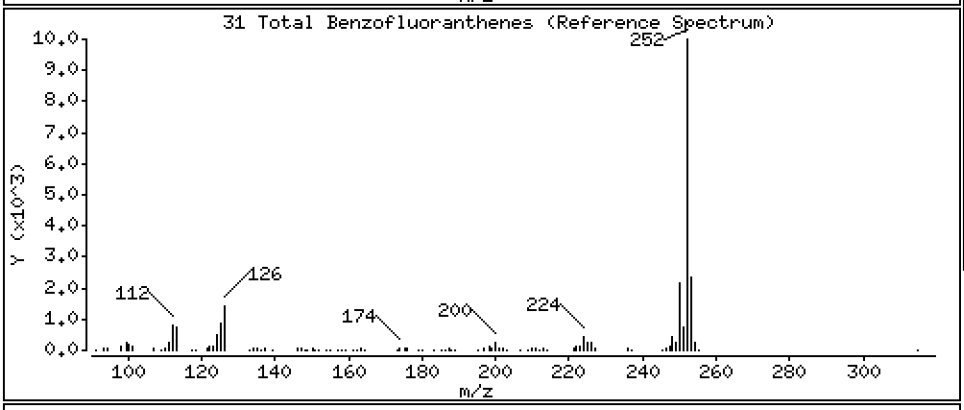
Concentration: 0.1360 ug/mL

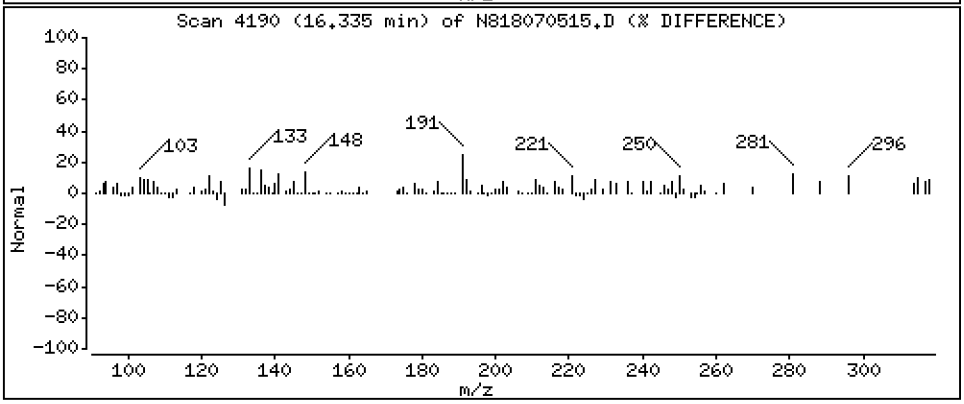












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

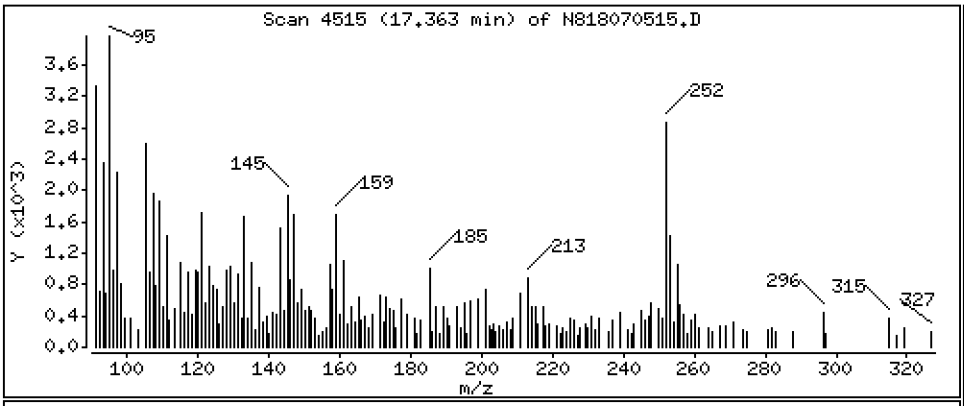
Operator: JZ

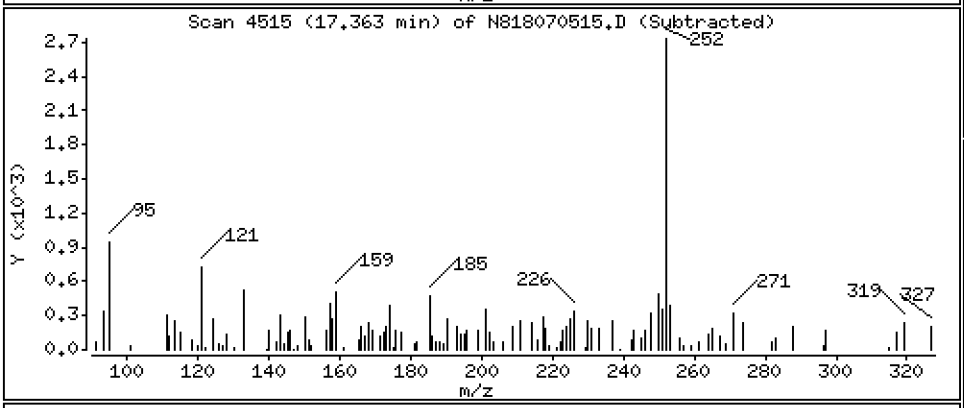
Column phase: Rxi-17sil

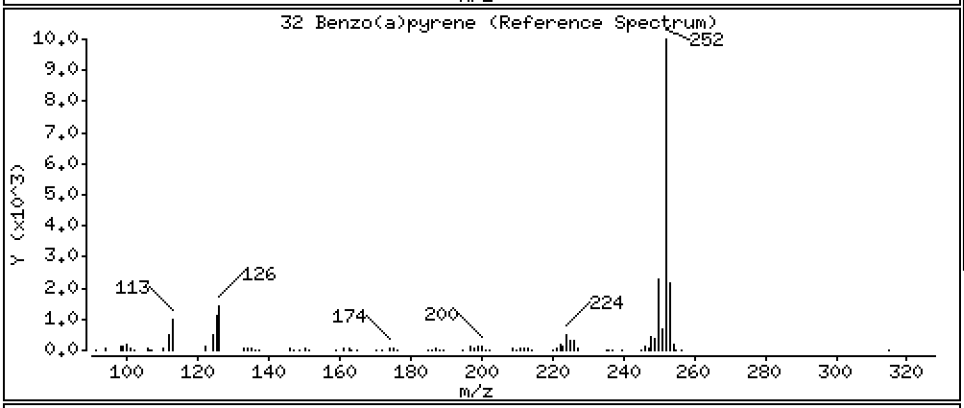
Column diameter: 0.25

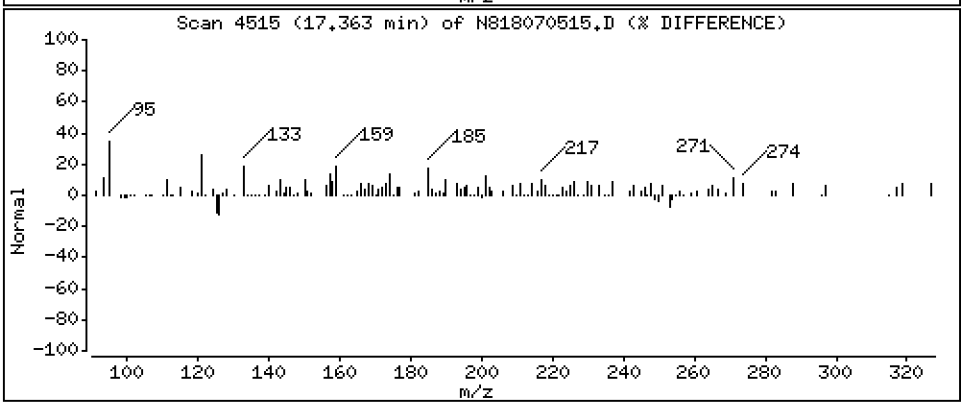
32 Benzo(a)pyrene

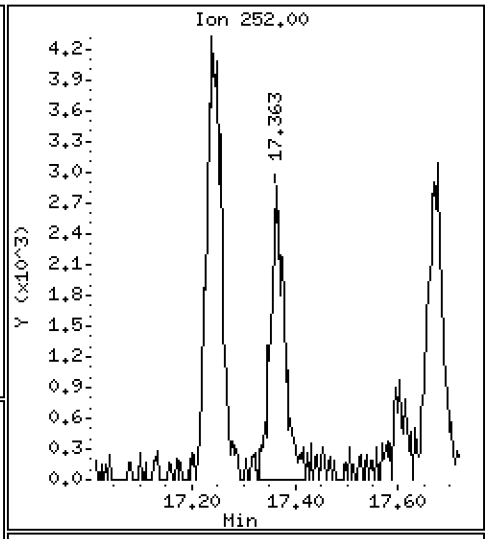
Concentration: 0.06466 ug/mL

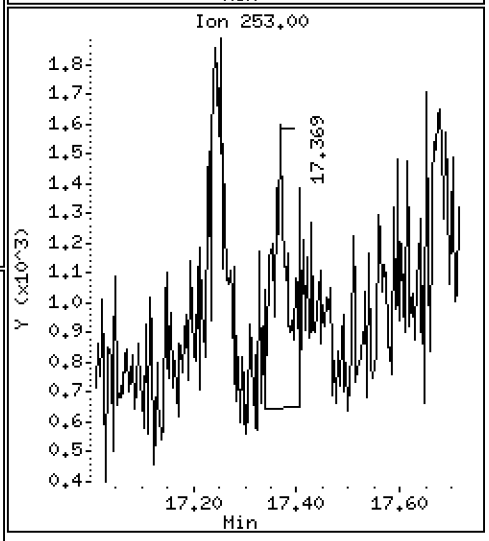












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

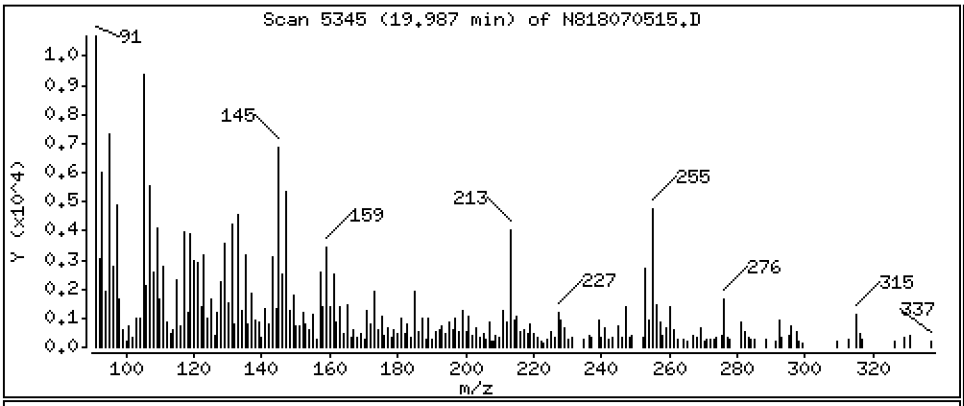
Operator: JZ

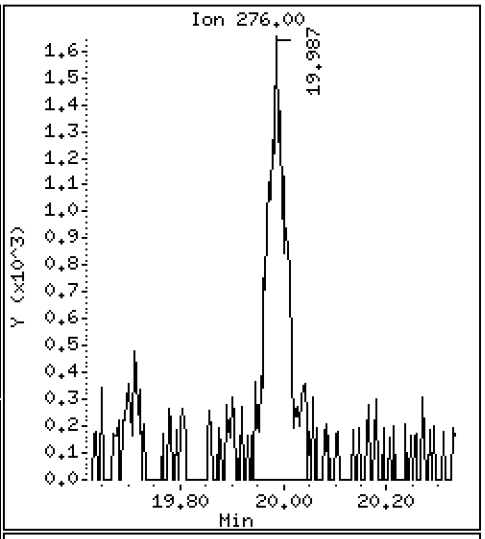
Column phase: Rxi-17sil

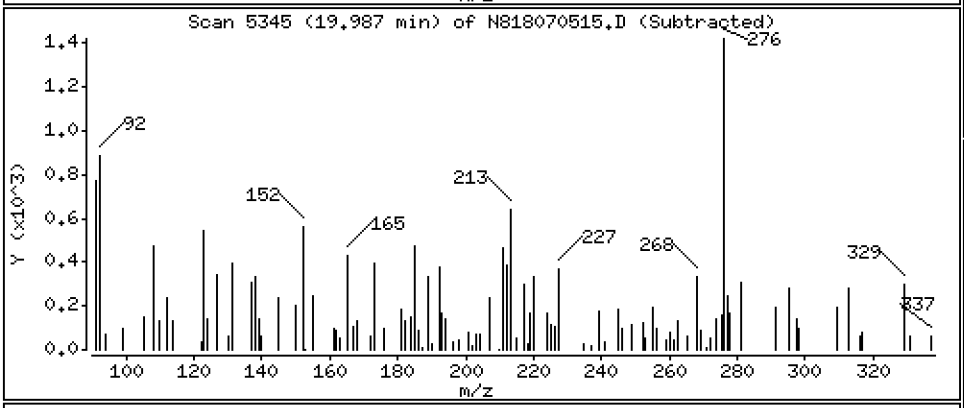
Column diameter: 0.25

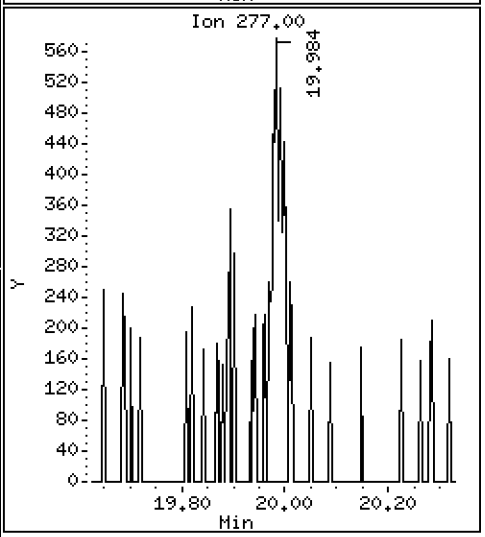
37 Indeno(1,2,3-cd)pyrene

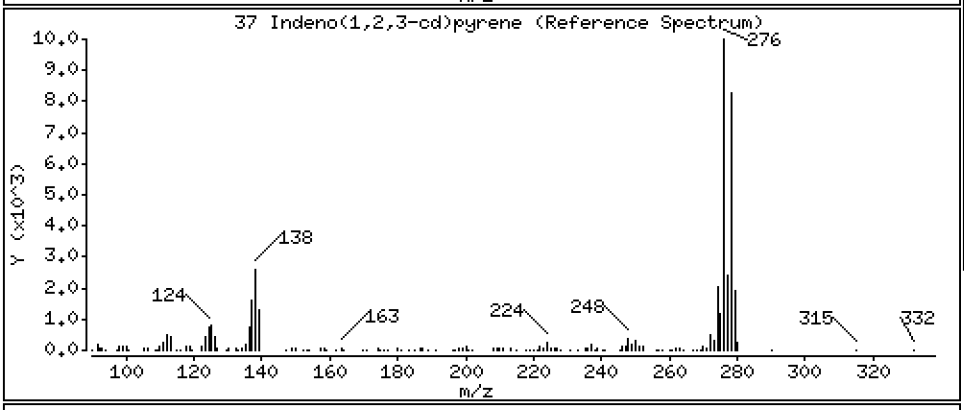
Concentration: 0.2371 ug/mL

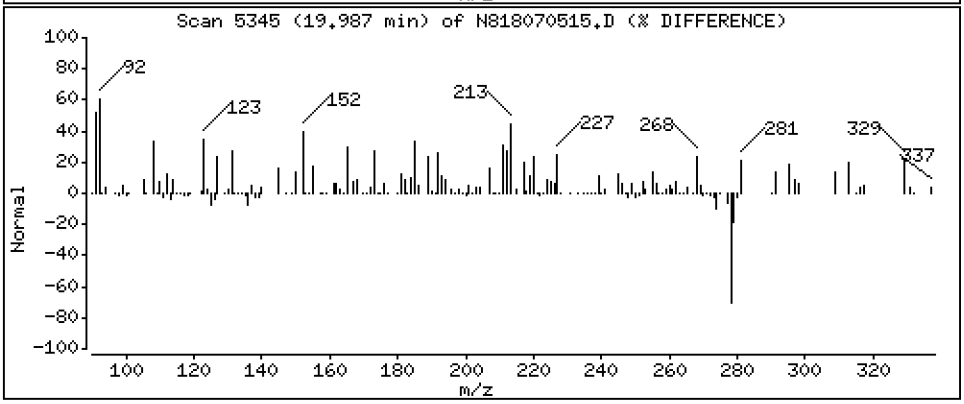












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

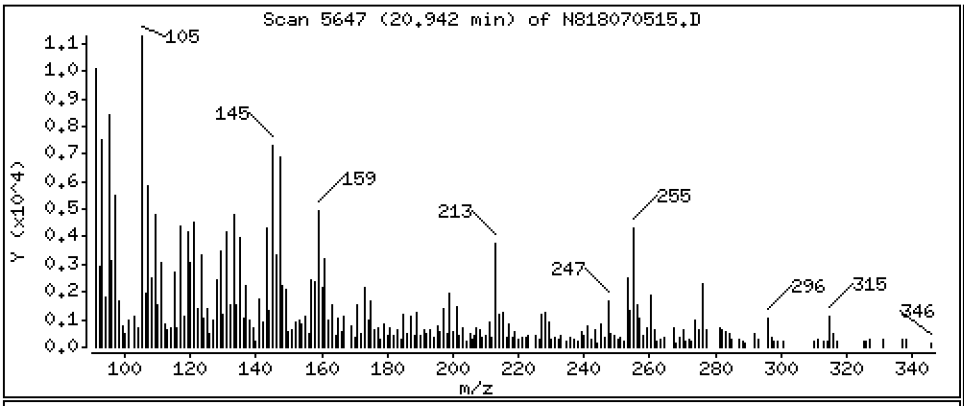
Operator: JZ

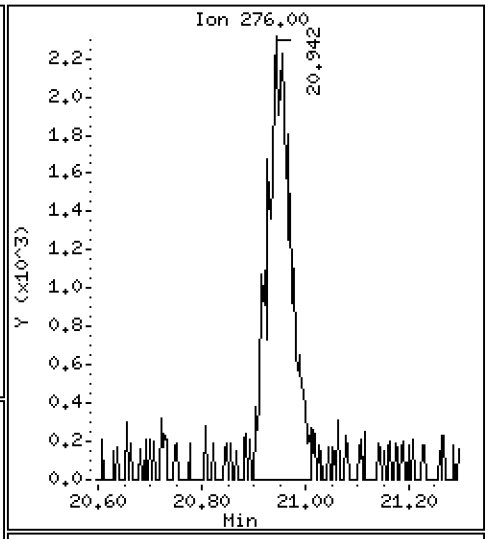
Column phase: Rxi-17sil

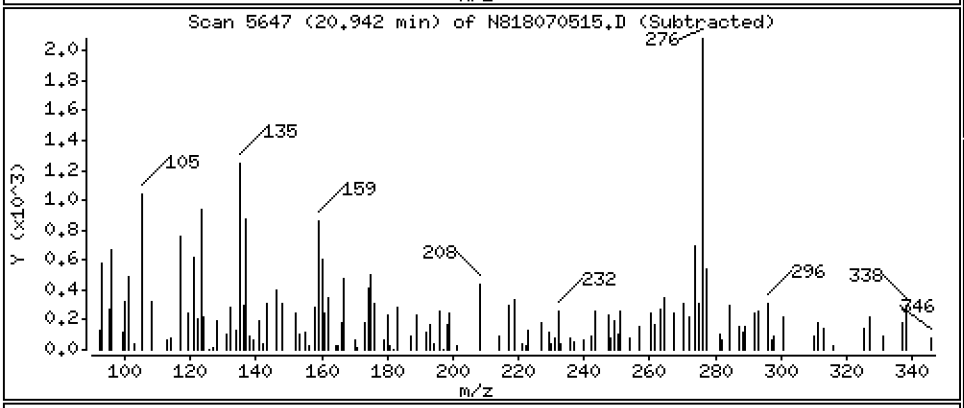
Column diameter: 0.25

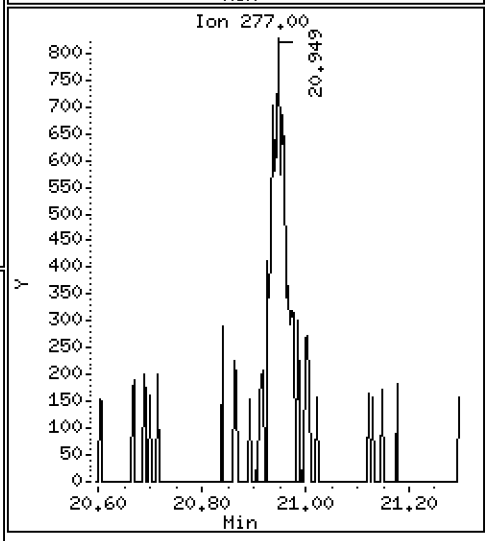
39 Benzo(g,h,i)perylene

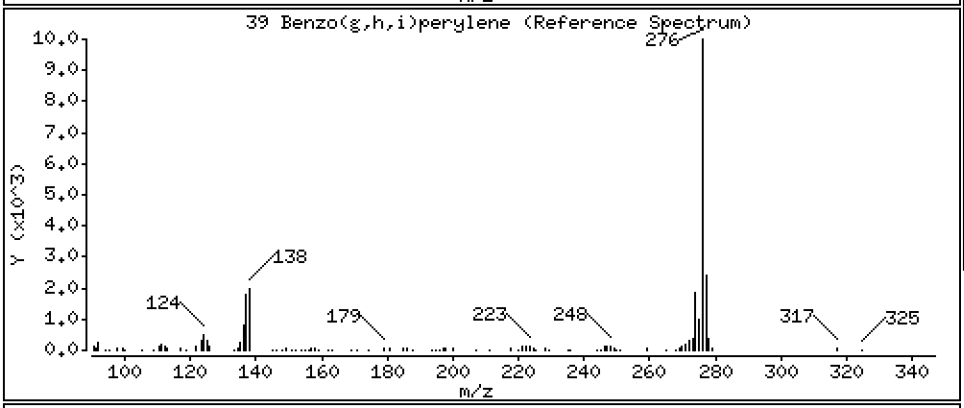
Concentration: 0.1037 ug/mL

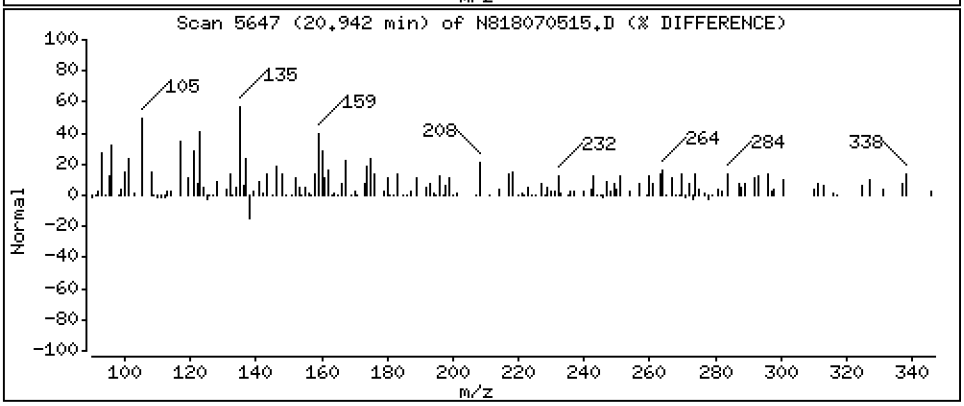












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070515.D

Date : 05-JUL-2018 22:32

Client ID:

Instrument: nt8.i

Sample Info: 18F0364-09

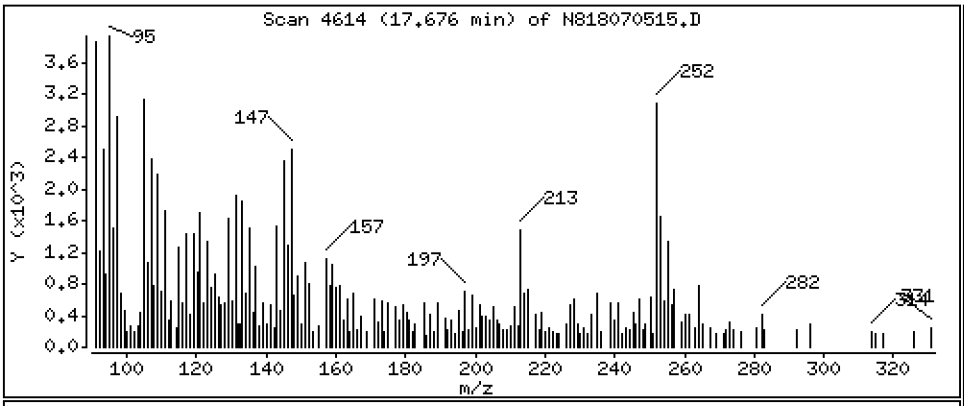
Operator: JZ

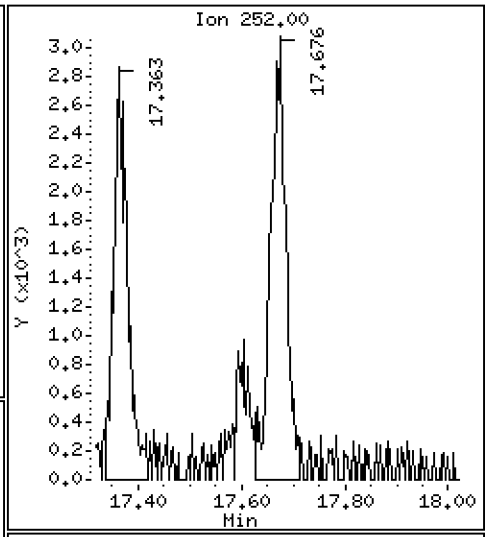
Column phase: Rxi-17sil

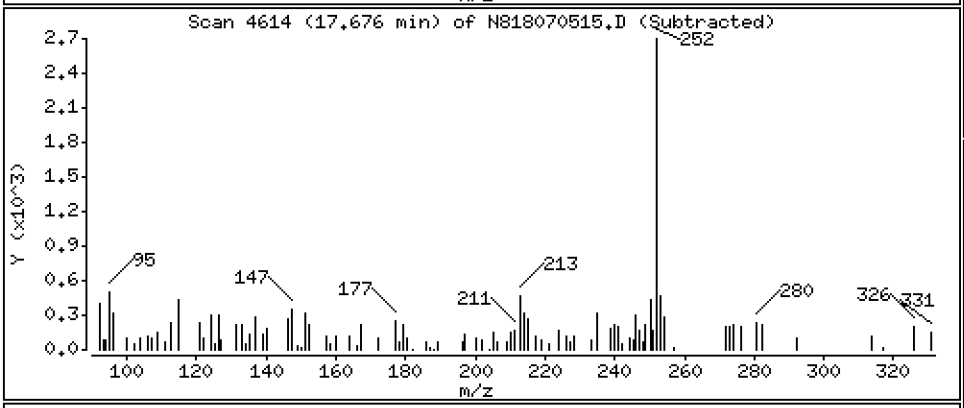
Column diameter: 0.25

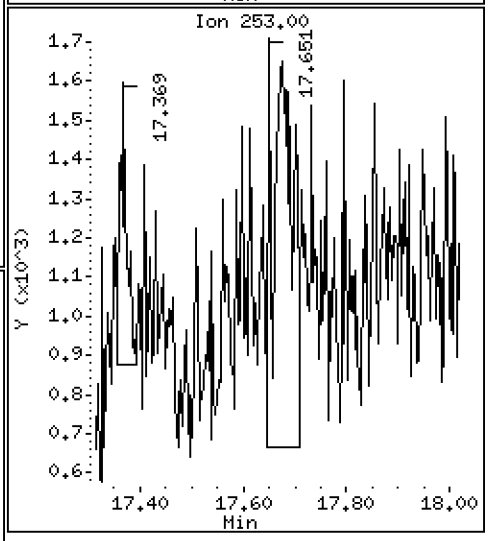
35 Perylene

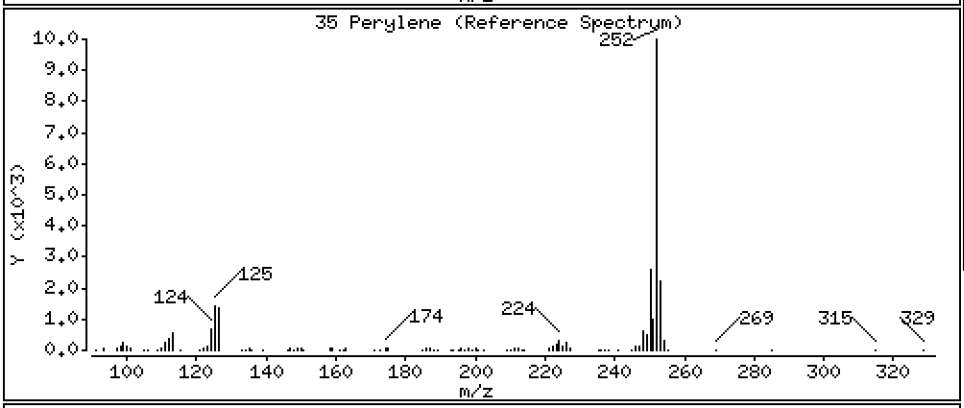
Concentration: 0.06893 ug/mL

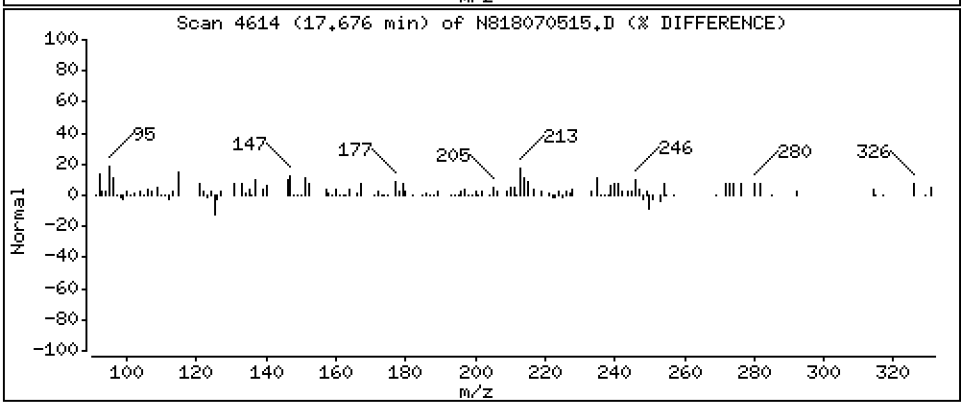












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070515.D
Lab Smp Id: 18F0364-09
Inj Date : 05-JUL-2018 22:32
Operator : JZ Inst ID: nt8.i
Smp Info : 18F0364-09
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	123337	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.467	5.470	(1.154)	58993	1.30213	1.302
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.013	7.013	(1.000)	67768	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	136695	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	4033	0.05318	0.05318
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.776	10.773	(1.193)	14643	0.16507	0.1651
$	21 Fluoranthene-d10	212	10.741	10.738	(1.189)	154237	1.76119	1.761
	23 Pyrene	202	11.266	11.266	(0.817)	11875	0.12837	0.1284
	24 Benzo(a)anthracene	228	13.669	13.663	(0.991)	5281	0.05736	0.05736
*	25 Chrysene-d12	240	13.796	13.786	(1.000)	159721	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	8052	0.08859	0.08859(M)
	28 Benzo(b)fluoranthene	252	16.335	16.335	(0.928)	6060	0.06401	0.06401
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.931)	3591	0.03739	0.03739
	30 Benzo(j)fluoranthene	252	16.490	16.474	(0.937)	3252	0.03424	0.03424
	31 Total Benzofluoranthenes	252	16.335	16.335	(0.928)	12838	0.13599	0.1360(M)
	32 Benzo(a)pyrene	252	17.363	17.366	(0.986)	5444	0.06466	0.06466(M)
*	33 Perylene-d12	264	17.603	17.593	(1.000)	151369	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.987	19.981	(1.135)	4295	0.23713	0.2371
$	36 Dibenzo(a,h)anthracene-d14	292	19.886	19.876	(1.130)	127696	1.88637	1.886
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.942	20.945	(1.190)	7316	0.10373	0.1037(M)
	35 Perylene	252	17.676	17.669	(1.004)	6324	0.06893	0.06893

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070515.D
Lab Smp Id: 18F0364-09
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	123337	25.94
10 Acenaphthene-d10	54983	27492	109966	67768	23.25
15 Phenanthrene-d10	115816	57908	231632	136695	18.03
25 Chrysene-d12	129167	64584	258334	159721	23.65
33 Perylene-d12	111506	55753	223012	151369	35.75

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.80	0.07
33 Perylene-d12	17.59	17.09	18.09	17.60	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070515.D

Lab ID: 18F0364-09
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 22:32

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

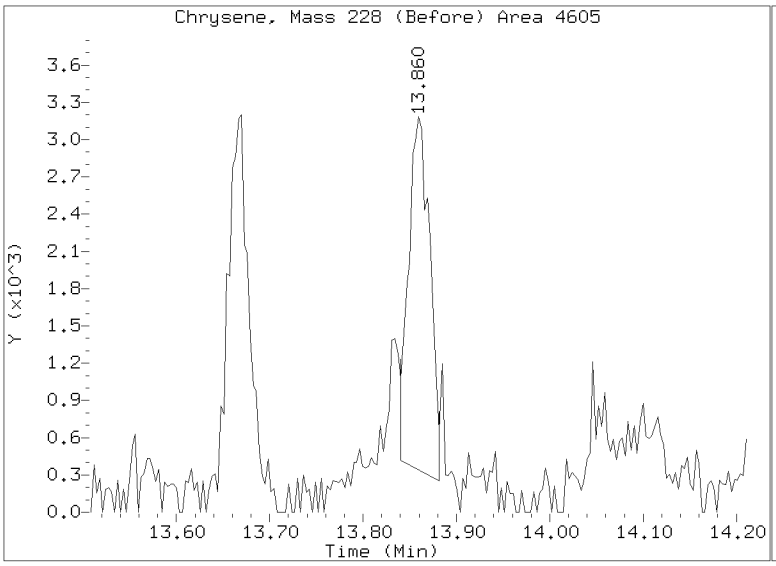
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

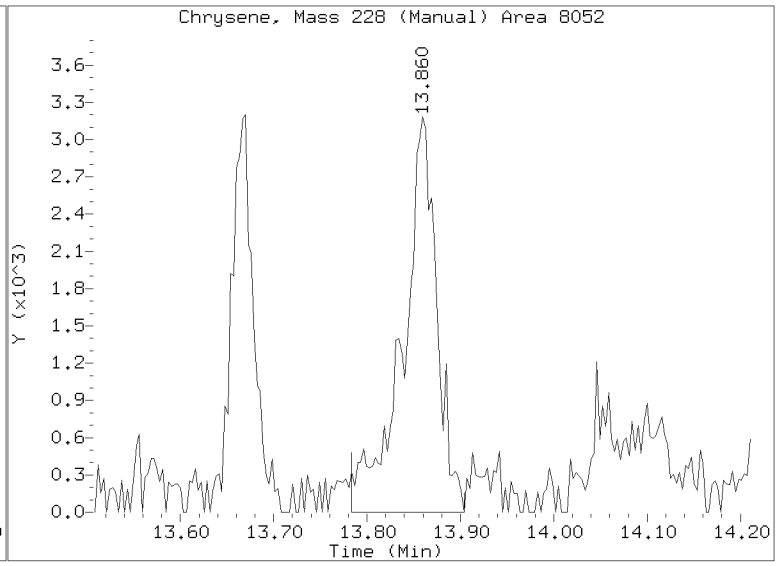
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

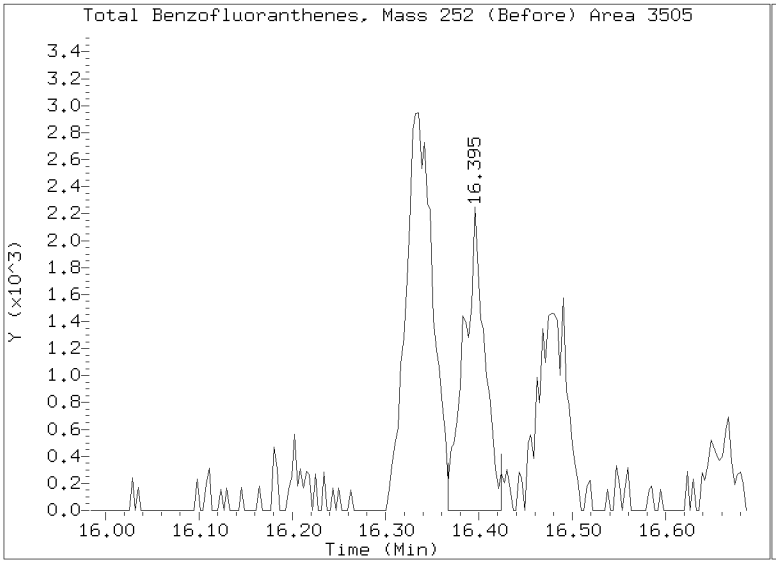
* Only compounds listed in the work order have been verified by the analyst *

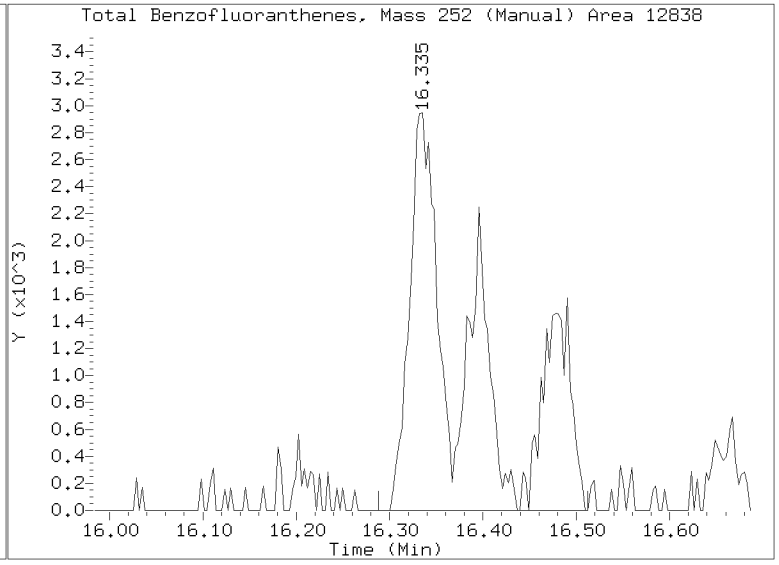
Quant Ion Manual Peak Adjustment Report

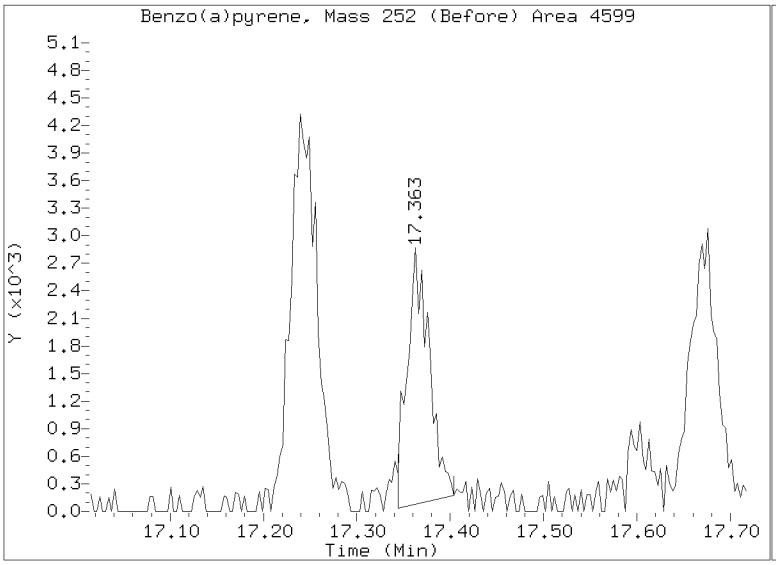
Datafile: //target/share/chem3/nt8.i/20180705.b/N818070515.D
Injection Date: 05-JUL-2018 22:32
Lab ID:18F0364-09 Client ID:
Report Date: 07/09/2018 10:50

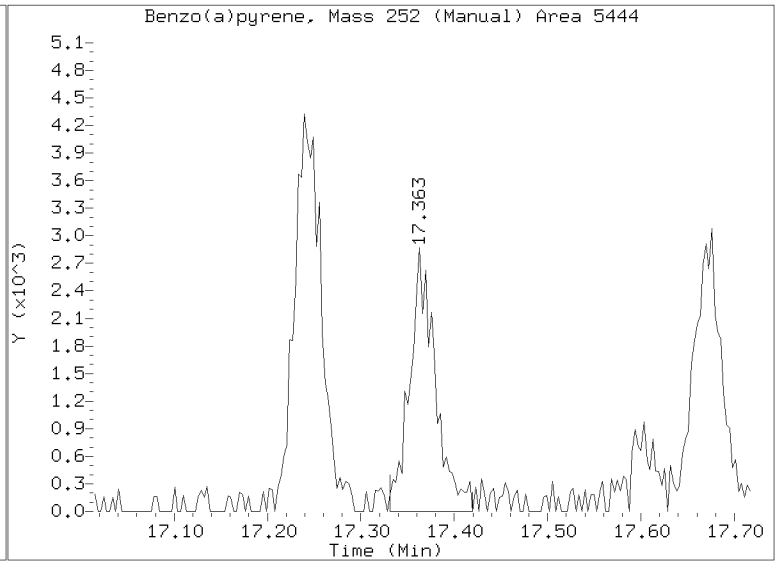






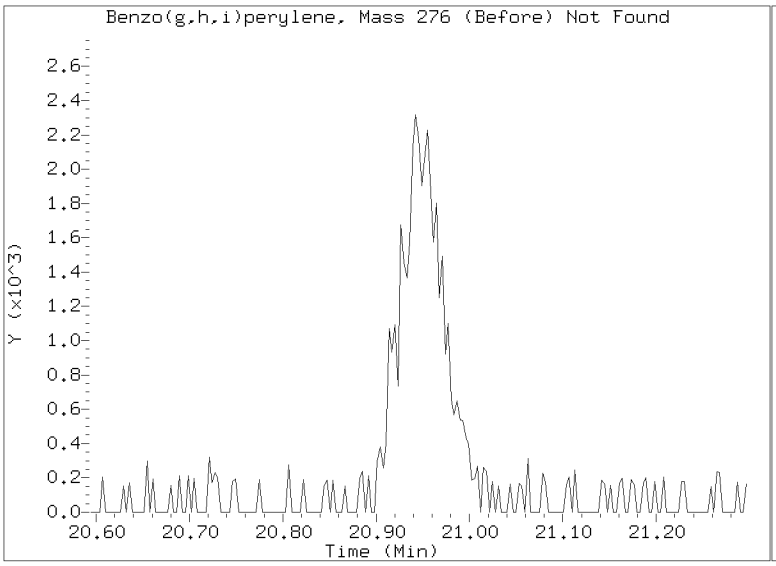


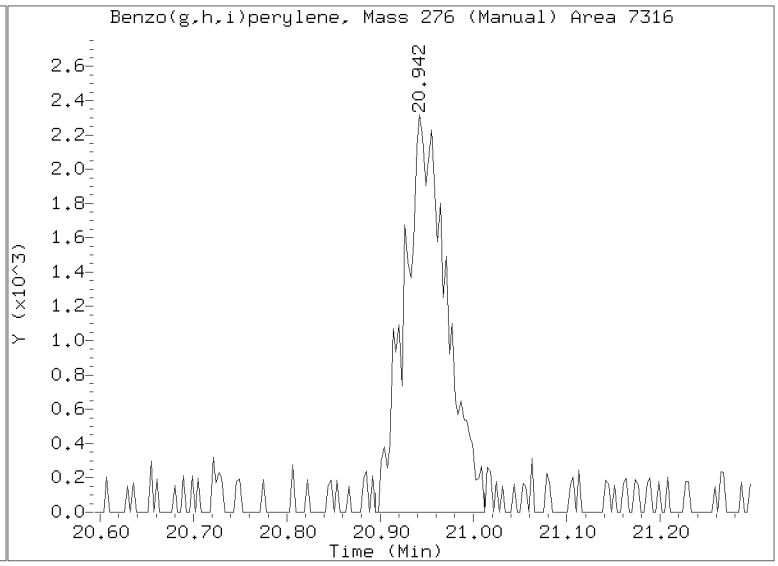




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070515.D
Injection Date: 05-JUL-2018 22:32
Lab ID:18F0364-09 Client ID:
Report Date: 07/09/2018 10:50





LDW18-S1-CLWB-Comp1

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Butyl Tins

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-10	SDG:	18F0364
Sampled:	05/16/18 10:57	Prepared:	06/29/18 09:37	File ID:	NT1418070705.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/07/18 15:00
Batch:	BGF0719	Sequence:	SGG0077	Initial/Final:	10.01 g Wet / 1 mL
Instrument:	NT14	Column:	ZB-5MS	Calibration:	BE00033
Cleanups:	Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	6.19		0.450	3.86

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Tripentyltin	45.133	25.3	56.2	20 - 130	
Tripropyltin	43.702	33.0	75.6	20 - 130	

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070705.D

Date : 07-JUL-2018 15:00

Client ID:

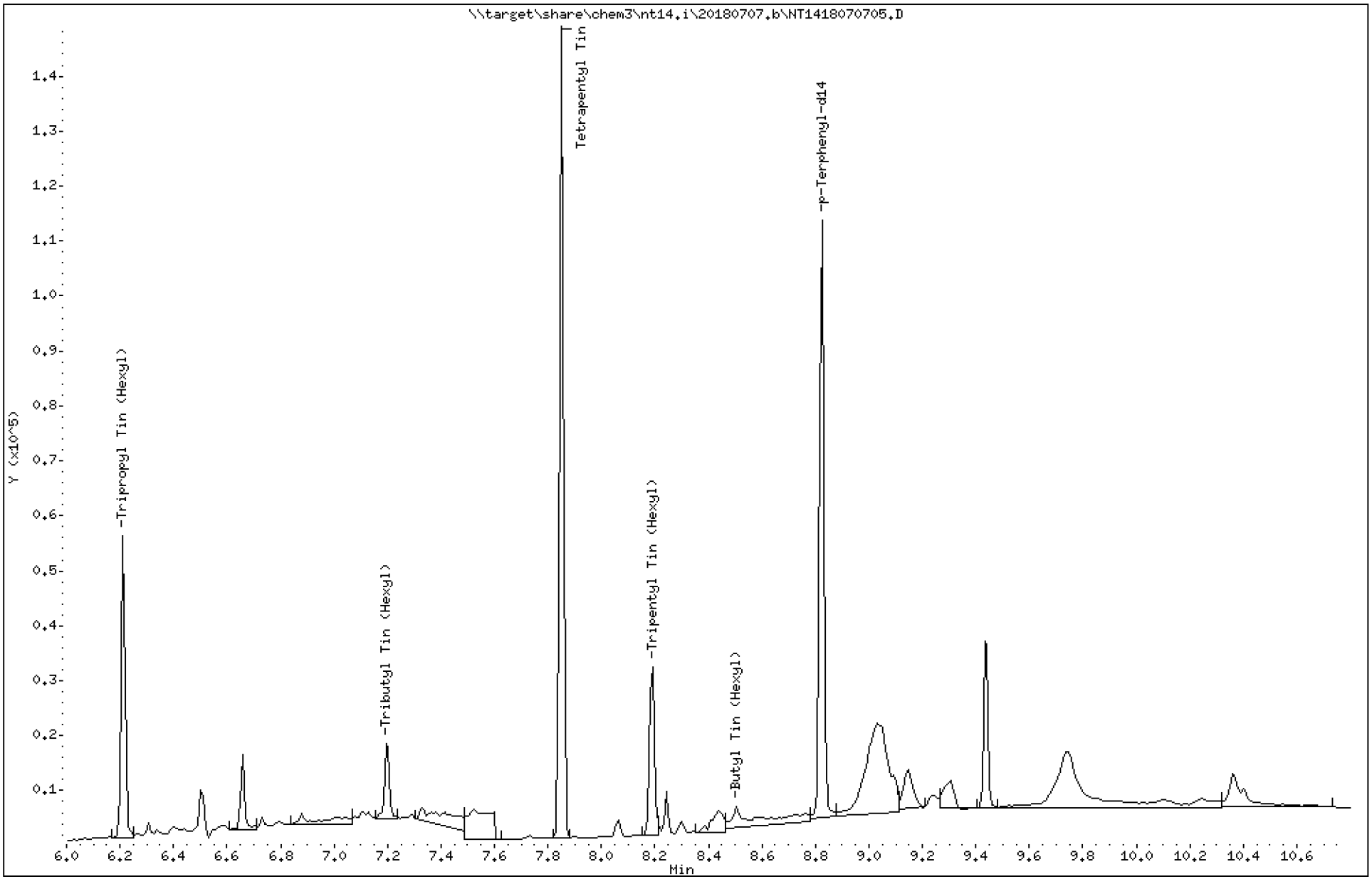
Instrument: nt14.i

Sample Info: 18F0364-10

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070705.D

Date : 07-JUL-2018 15:00

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-10

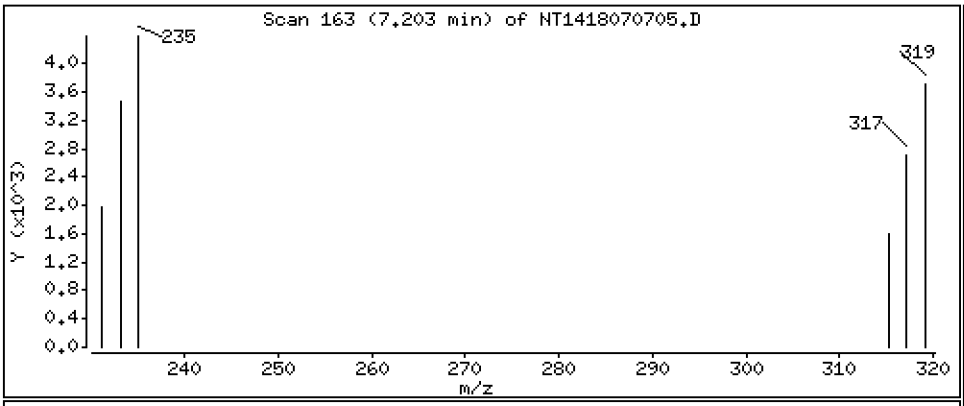
Operator: VTS

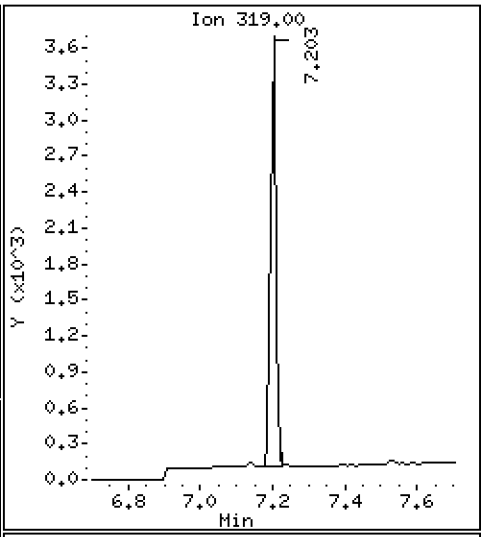
Column phase: ZB-5msi

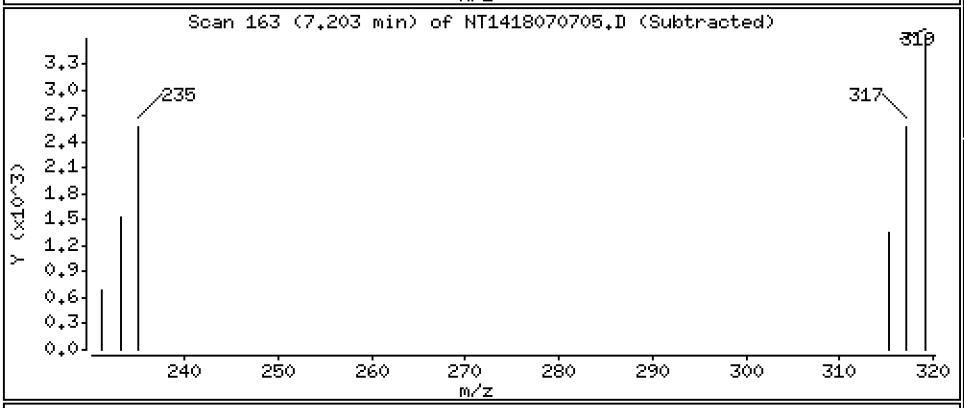
Column diameter: 0.25

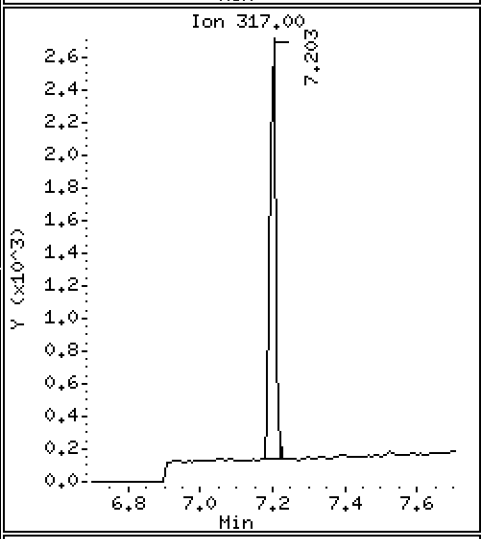
3 Tributyl Tin (Hexyl)

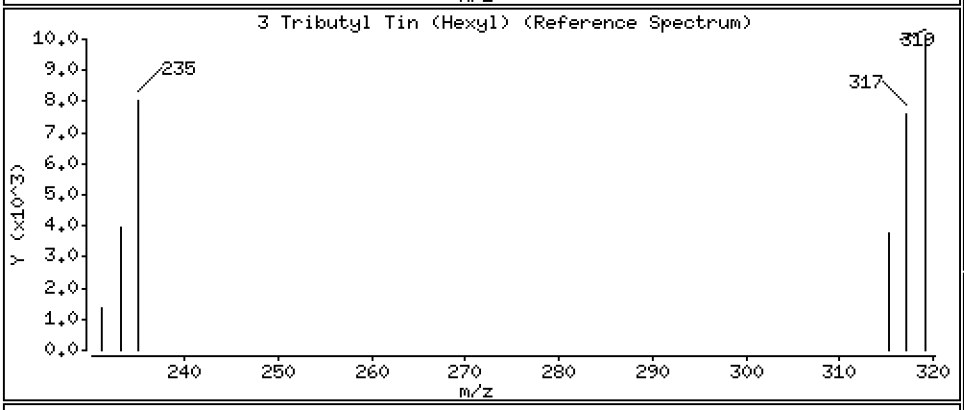
Concentration: 0.08017 ug/mL

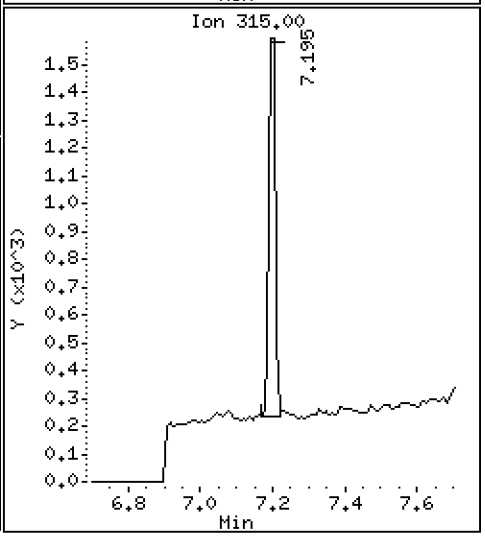


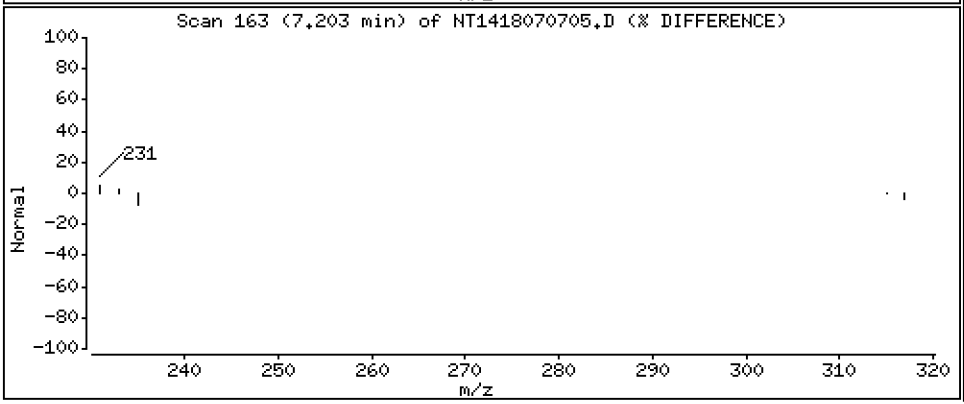












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070705.D

Date : 07-JUL-2018 15:00

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-10

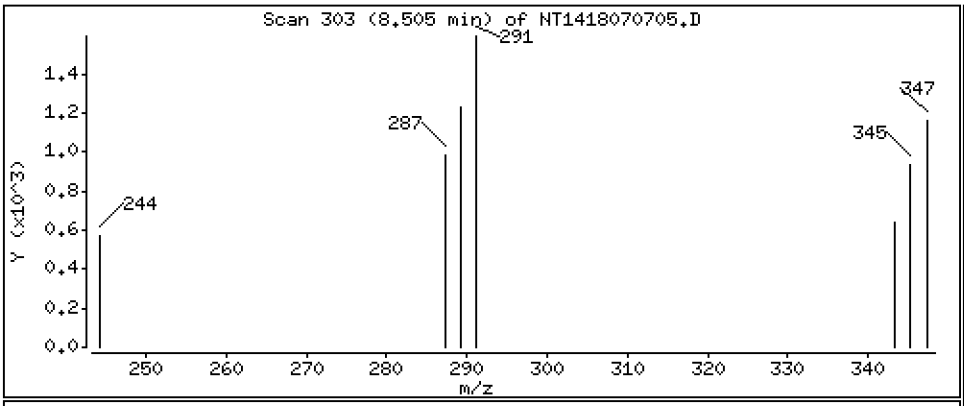
Operator: VTS

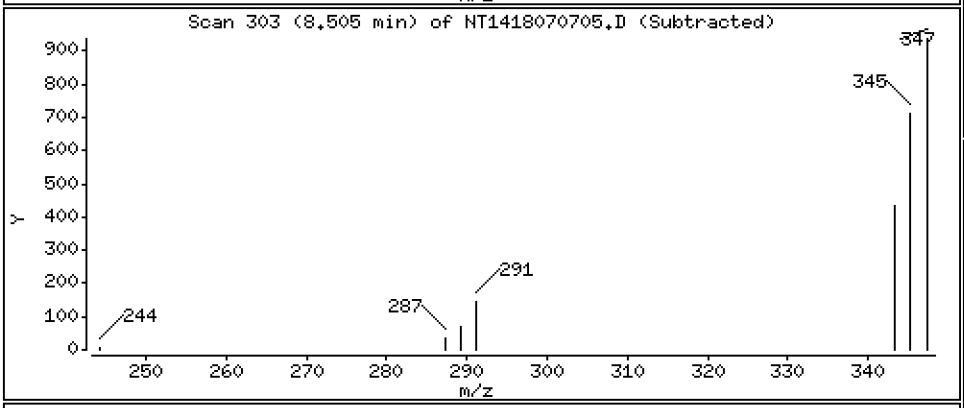
Column phase: ZB-5msi

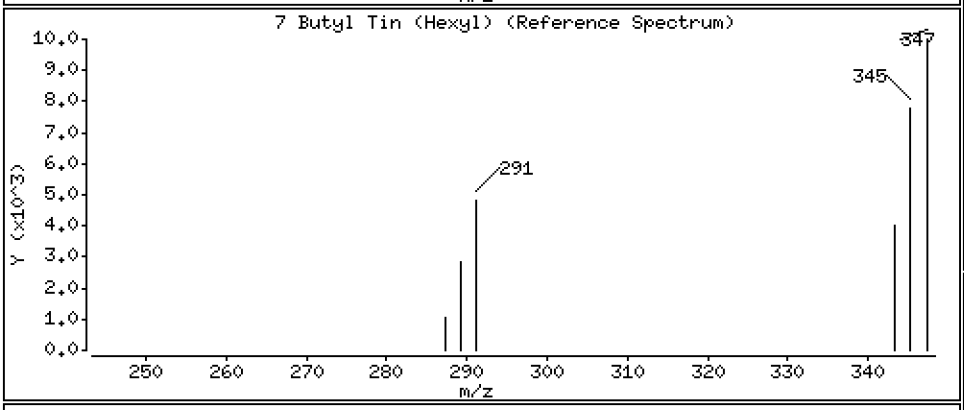
Column diameter: 0.25

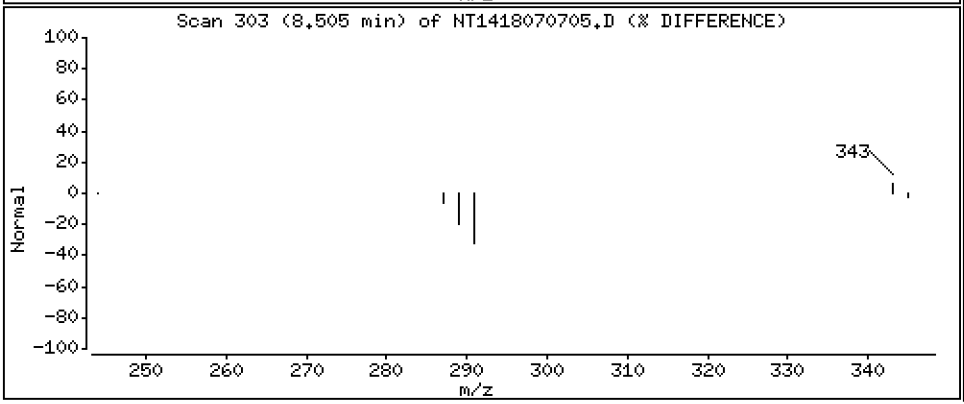
7 Butyl Tin (Hexyl)

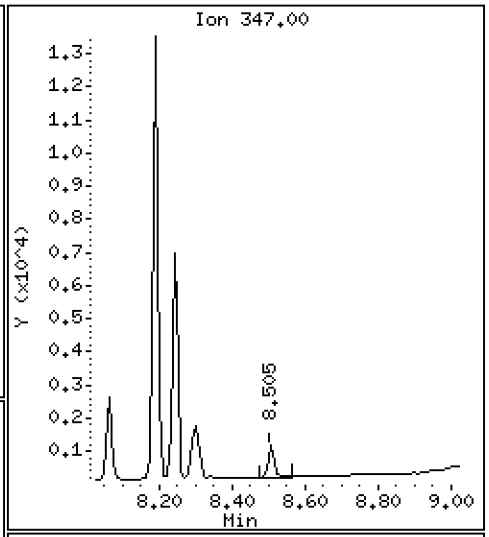
Concentration: 0.02382 ug/mL

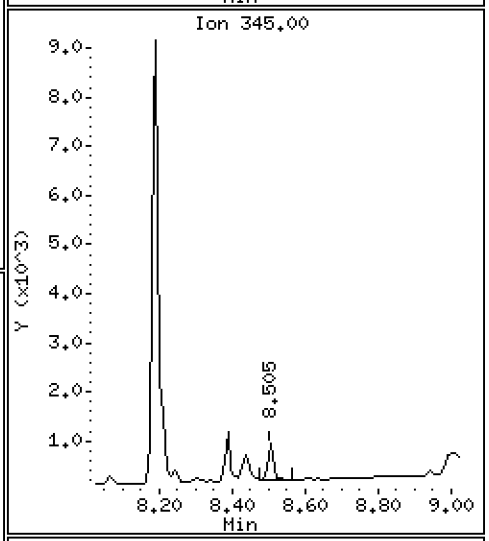


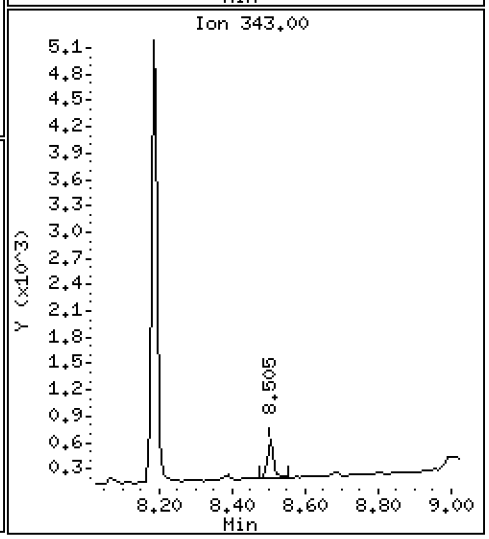












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070705.D
Lab Smp Id: 18F0364-10
Inj Date : 07-JUL-2018 15:00
Operator : VTS Inst ID: nt14.i
Smp Info : 18F0364-10
Misc Info :
Comment   : 2 ul Injection
Method   : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	25408	0.44421	0.4442
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	3552	0.08017	0.08017
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	142010	2.00000	
	5 Dibutyl Tin (Hexyl)	347	Compound Not Detected.					
$	6 Tripentyl Tin (Hexyl)	347	8.192	8.183	(0.928)	14329	0.31878	0.3188
	7 Butyl Tin (Hexyl)	347	8.504	8.524	(0.963)	1170	0.02382	0.02382
*	8 p-Terphenyl-d14	244	8.827	8.827	(1.000)	119603	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070705.D
Lab Smp Id: 18F0364-10
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	142010	-6.29
8 p-Terphenyl-d14	129365	64683	258730	119603	-7.55

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.83	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070705.D

Lab ID: 18F0364-10
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 15:00

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LDW18-S2-CLWB-Comp1

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Butyl Tins

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-11	SDG:	18F0364
Sampled:	05/15/18 10:45	Prepared:	06/29/18 09:37	File ID:	NT1418070708.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/07/18 15:41
Batch:	BGF0719	Sequence:	SGG0077	Initial/Final:	10.05 g Wet / 1 mL
Instrument:	NT14	Column:	ZB-5MS	Calibration:	BE00033
Cleanups:	Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	7.44		0.448	3.84

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Tripentyltin	44.953	32.0	71.1	20 - 130	
Tripropyltin	43.528	33.6	77.3	20 - 130	

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070708.D

Date : 07-JUL-2018 15:41

Client ID:

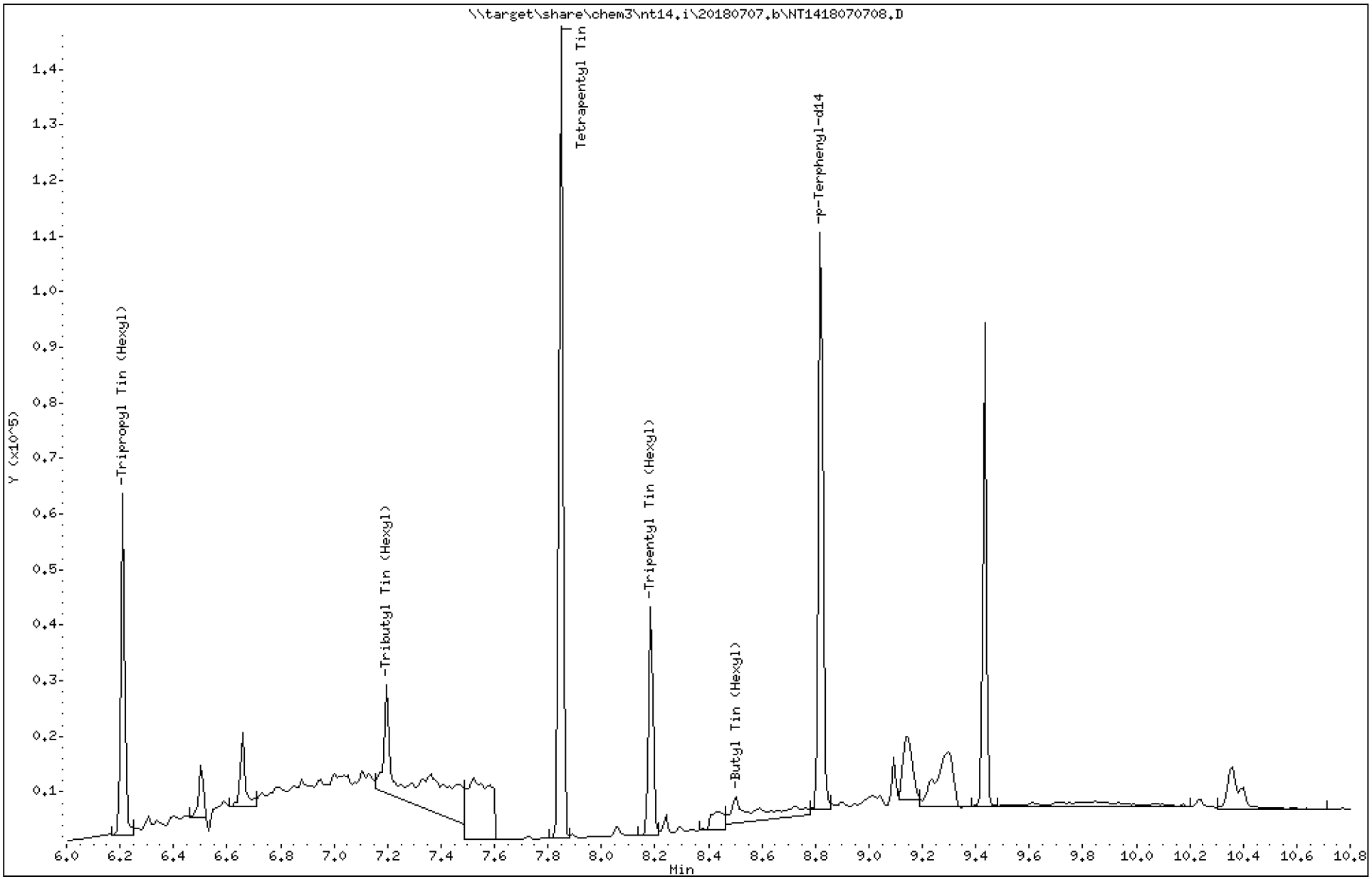
Instrument: nt14.i

Sample Info: 18F0364-11

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070708.D

Date : 07-JUL-2018 15:41

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-11

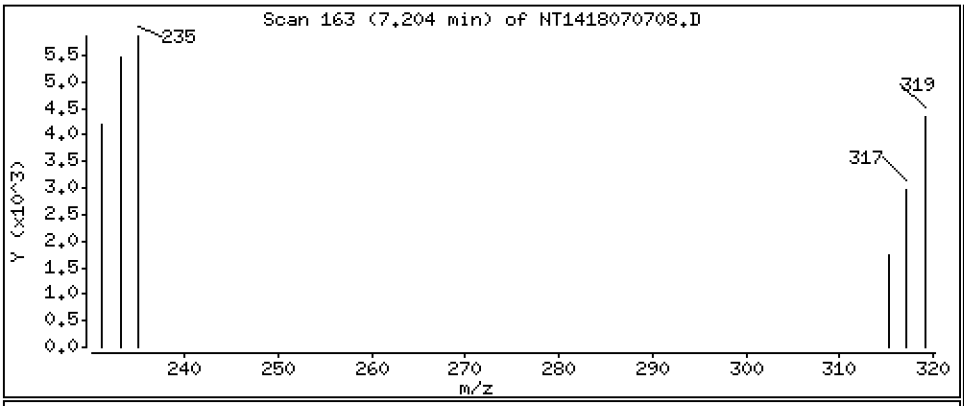
Operator: VTS

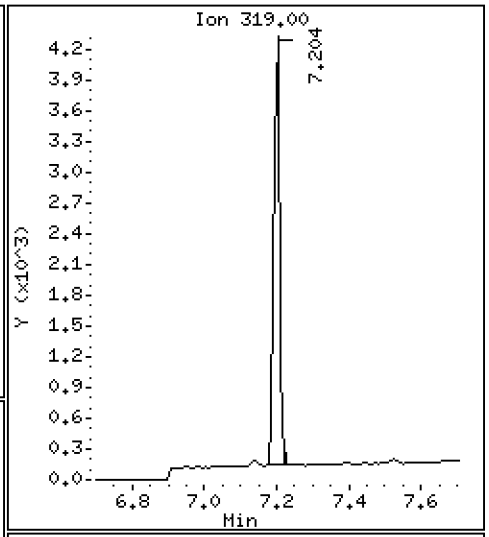
Column phase: ZB-5msi

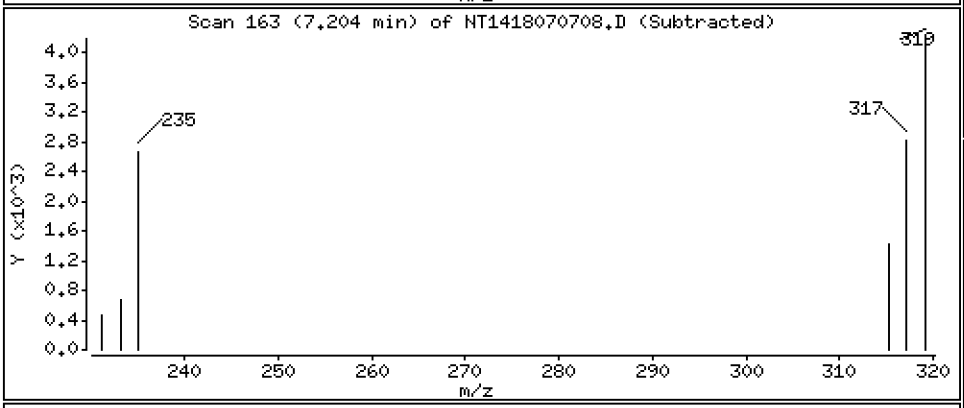
Column diameter: 0.25

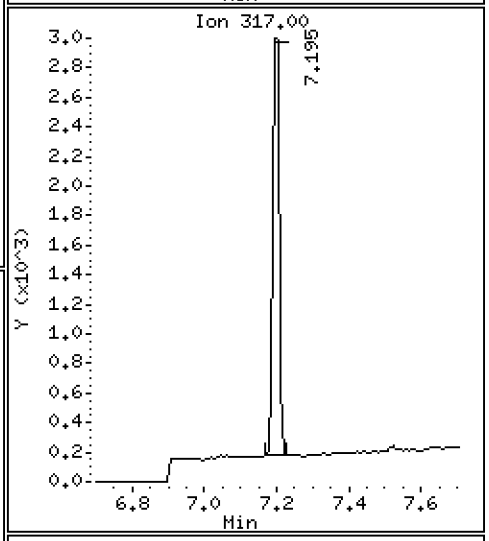
3 Tributyl Tin (Hexyl)

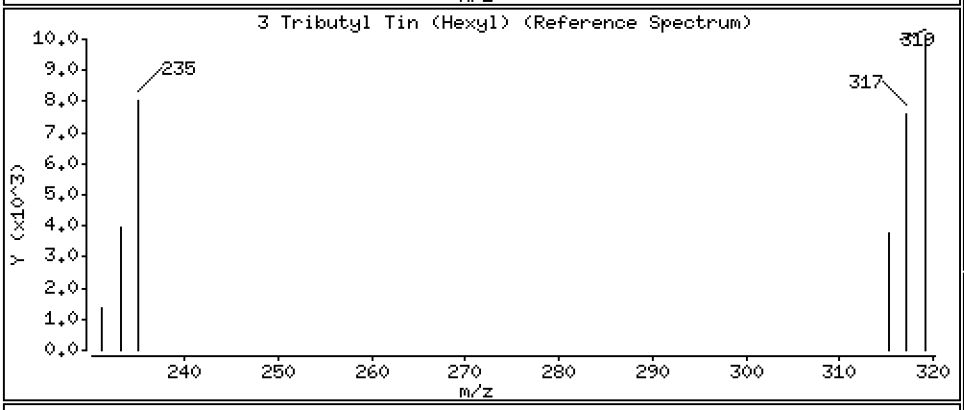
Concentration: 0.09675 ug/mL

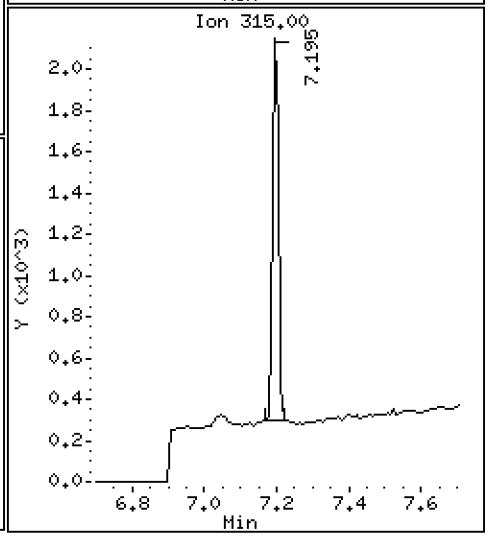


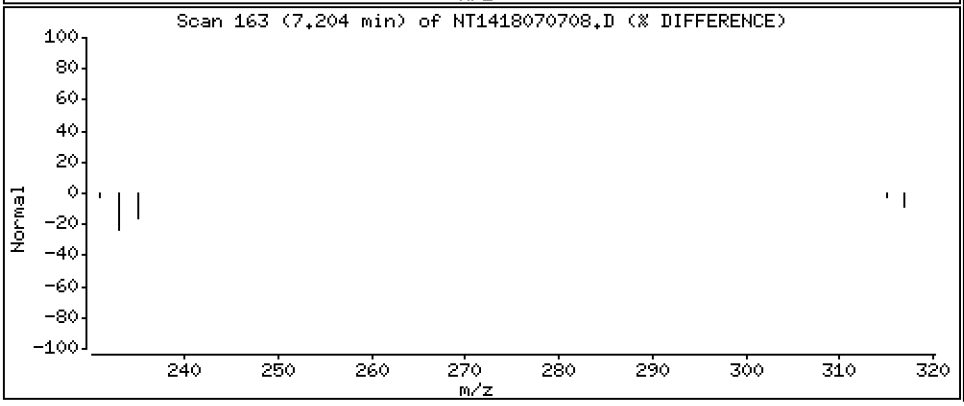












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070708.D

Date : 07-JUL-2018 15:41

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-11

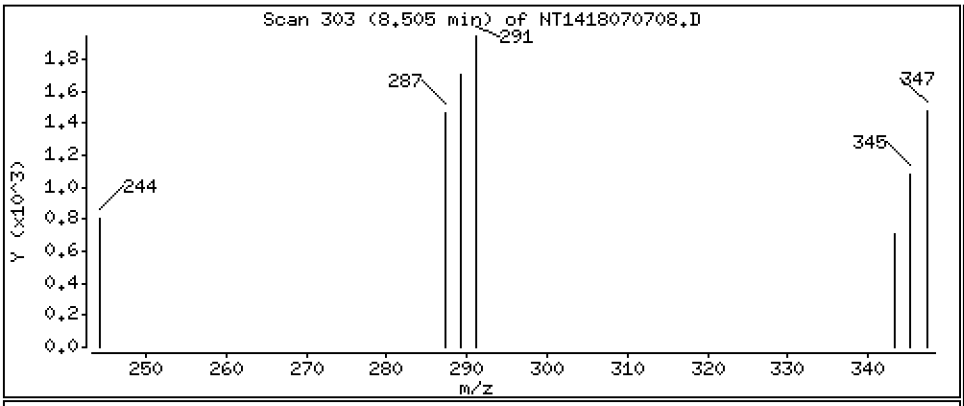
Operator: VTS

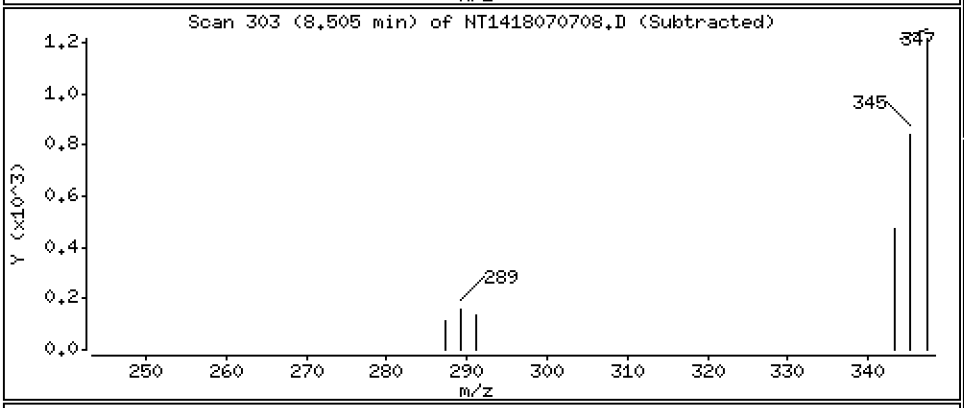
Column phase: ZB-5msi

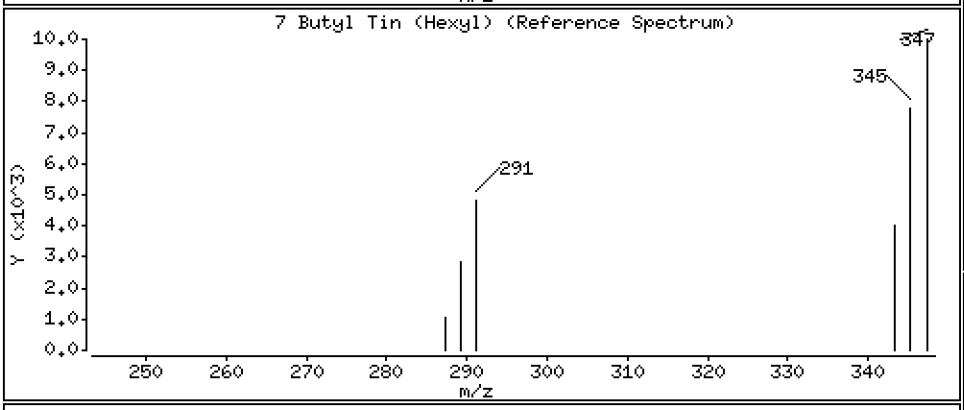
Column diameter: 0.25

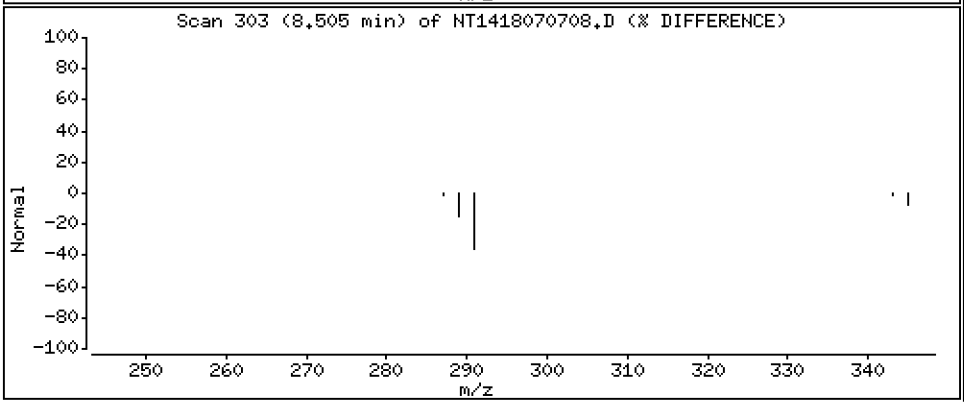
7 Butyl Tin (Hexyl)

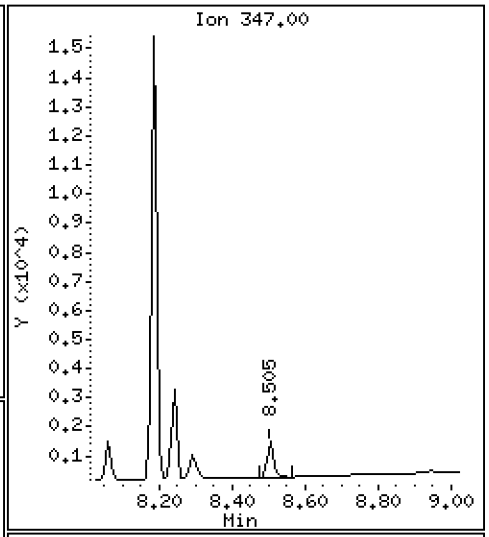
Concentration: 0.03180 ug/mL

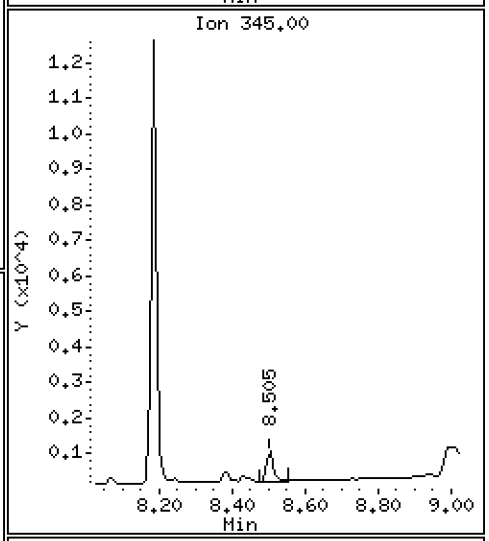


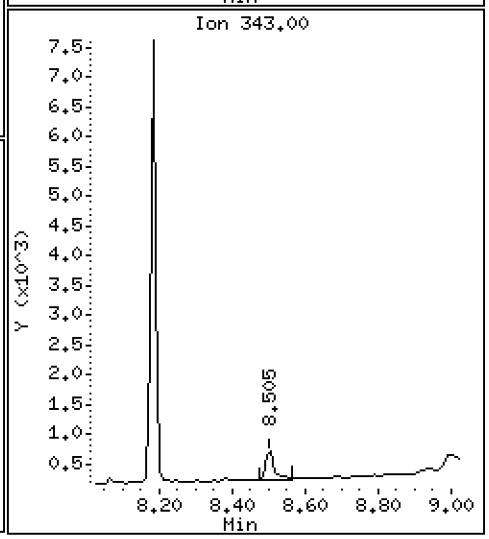












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070708.D
Lab Smp Id: 18F0364-11
Inj Date : 07-JUL-2018 15:41
Operator : VTS Inst ID: nt14.i
Smp Info : 18F0364-11
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	26638	0.45421	0.4542
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	4395	0.09675	0.09675
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	145609	2.00000	
	5 Dibutyl Tin (Hexyl)	347	Compound Not Detected.					
$	6 Tripentyl Tin (Hexyl)	347	8.182	8.183	(0.928)	18000	0.40373	0.4037
	7 Butyl Tin (Hexyl)	347	8.504	8.524	(0.965)	1549	0.03180	0.03180
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	118632	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070708.D
Lab Smp Id: 18F0364-11
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	145609	-3.91
8 p-Terphenyl-d14	129365	64683	258730	118632	-8.30

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070708.D

Lab ID: 18F0364-11
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 15:41

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LDW18-S3-CLWB-Comp1

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Butyl Tins

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-12	SDG:	18F0364
Sampled:	05/17/18 12:13	Prepared:	06/29/18 09:37	File ID:	NT1418070709.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	07/07/18 15:55
Batch:	BGF0719	Sequence:	SGG0077	Initial/Final:	10 g Wet / 1 mL
Instrument:	NT14	Column:	ZB-5MS	Calibration:	BE00033
Cleanups:	Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	5.34		0.450	3.86

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Tripentyltin	45.178	21.2	46.9	20 - 130	
Tripropyltin	43.746	25.2	57.5	20 - 130	

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070709.D

Date : 07-JUL-2018 15:55

Client ID:

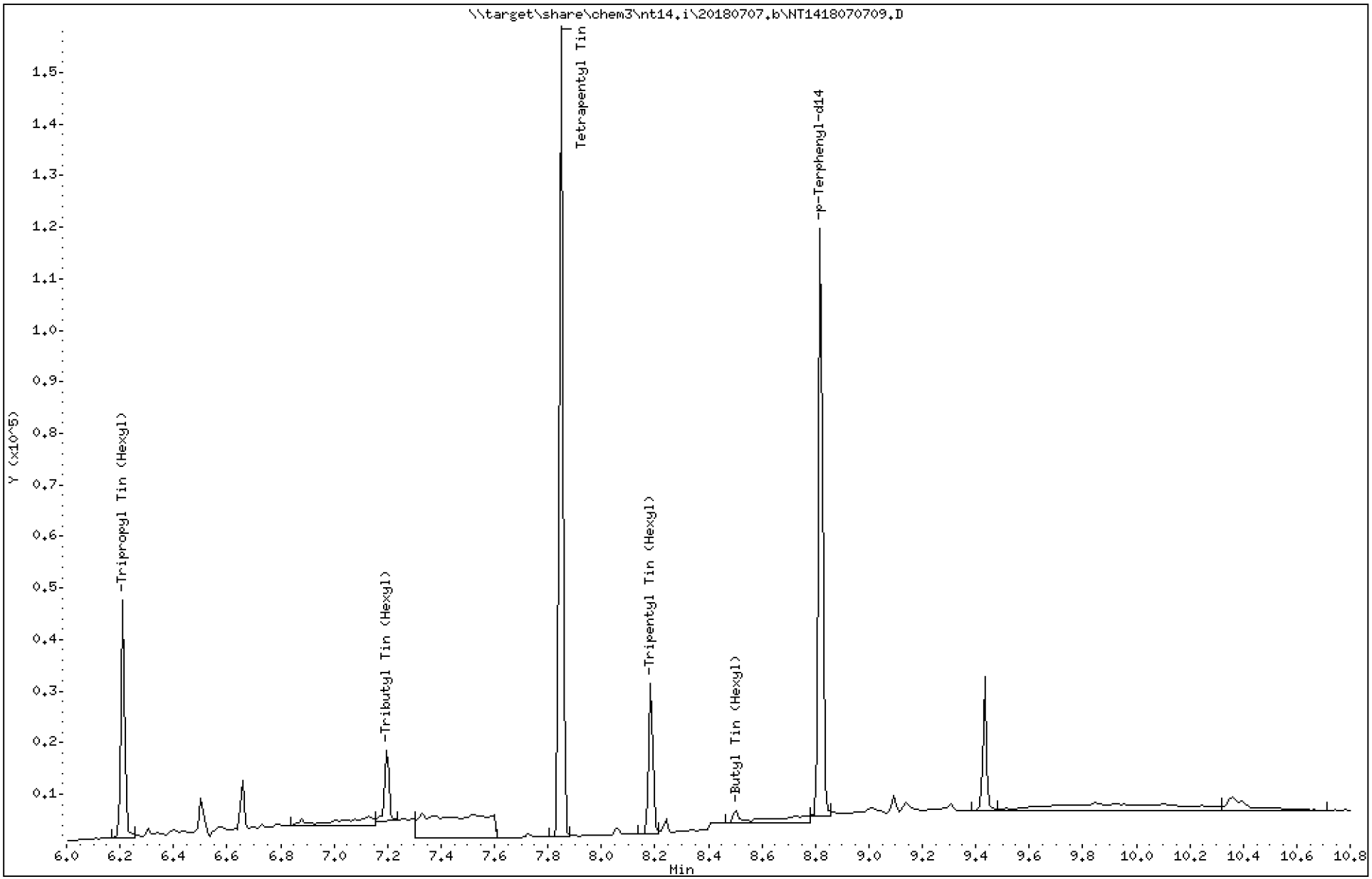
Instrument: nt14.i

Sample Info: 18F0364-12

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070709.D

Date : 07-JUL-2018 15:55

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-12

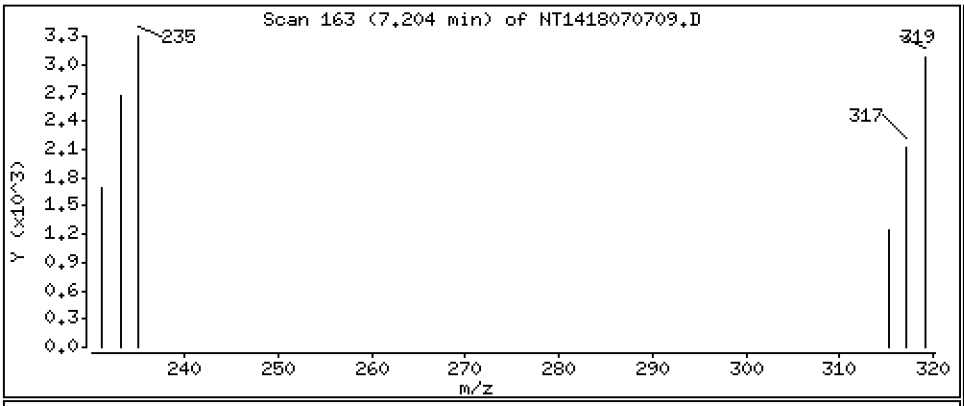
Operator: VTS

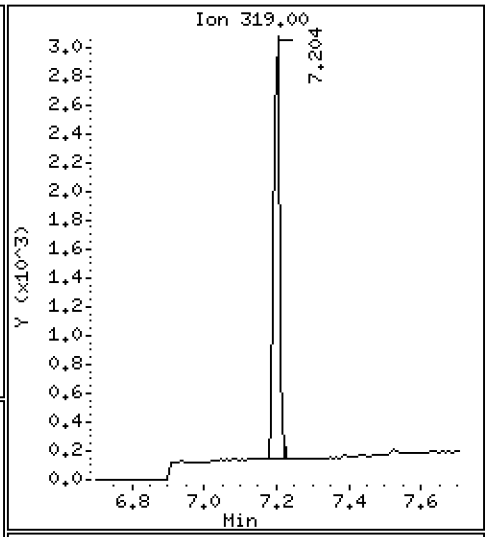
Column phase: ZB-5msi

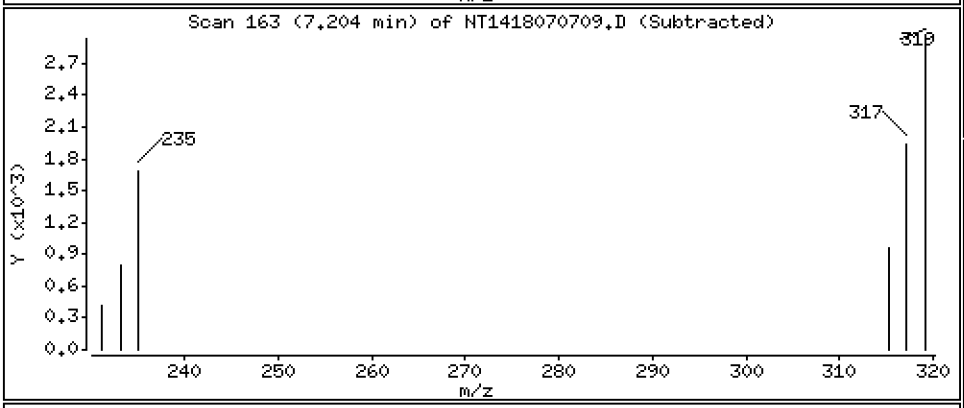
Column diameter: 0.25

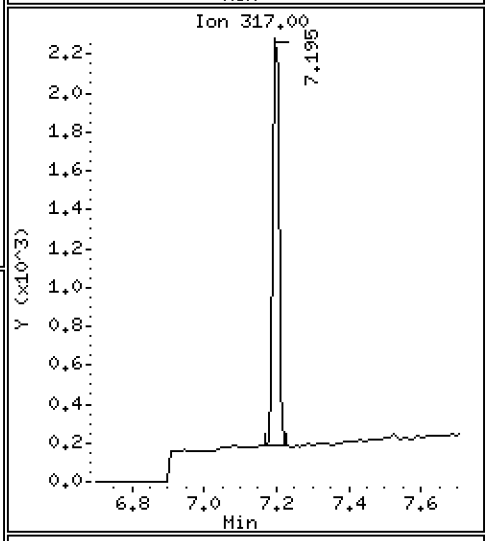
3 Tributyl Tin (Hexyl)

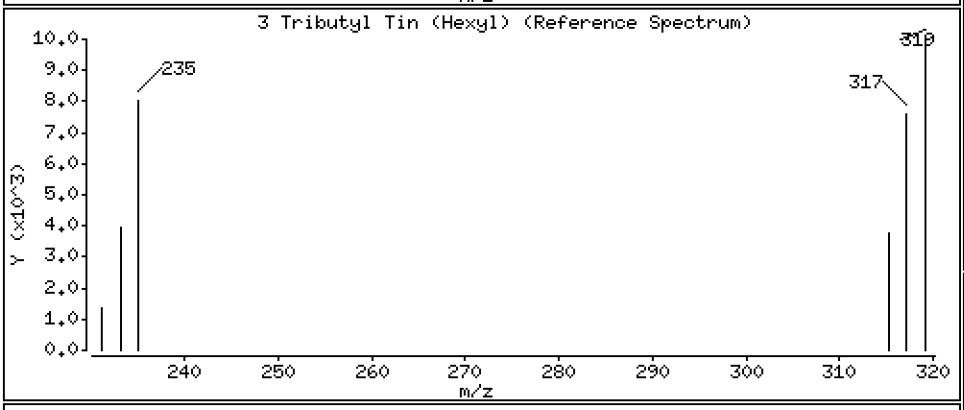
Concentration: 0.06906 ug/mL

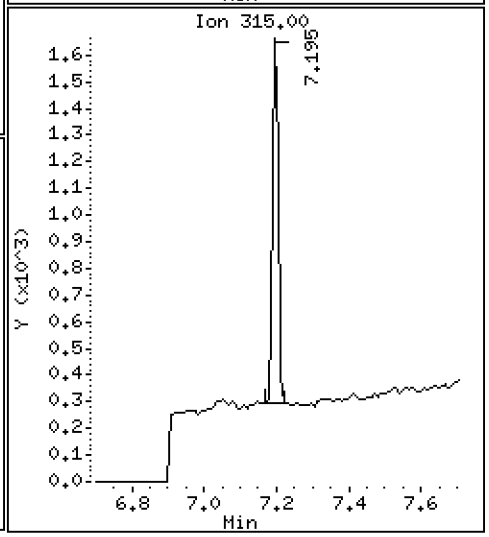


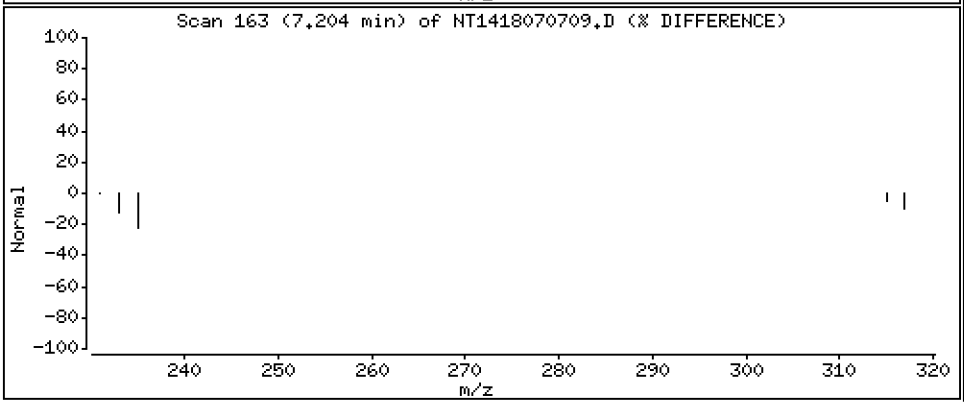












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070709.D

Date : 07-JUL-2018 15:55

Client ID:

Instrument: nt14.i

Sample Info: 18F0364-12

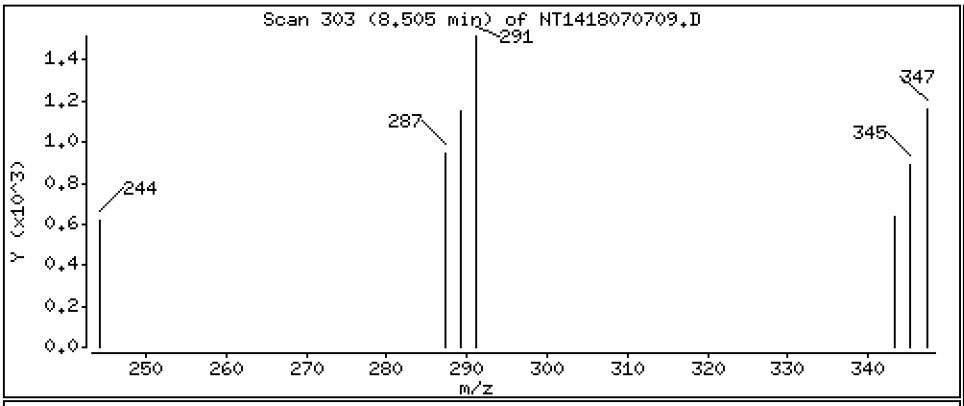
Operator: VTS

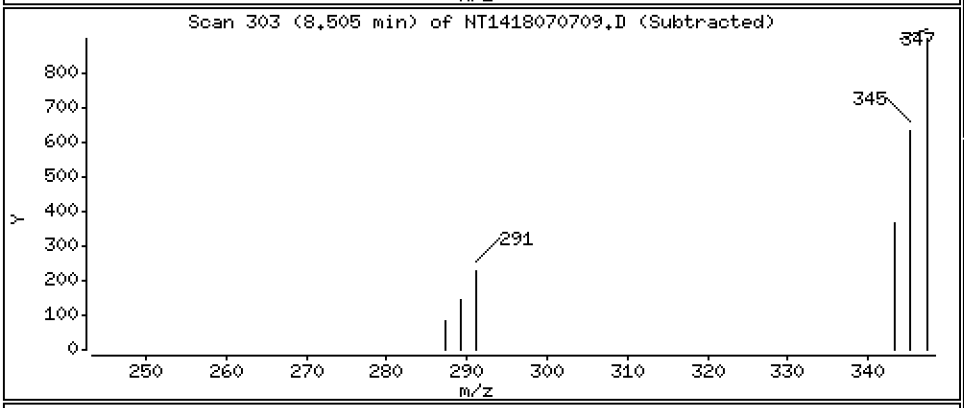
Column phase: ZB-5msi

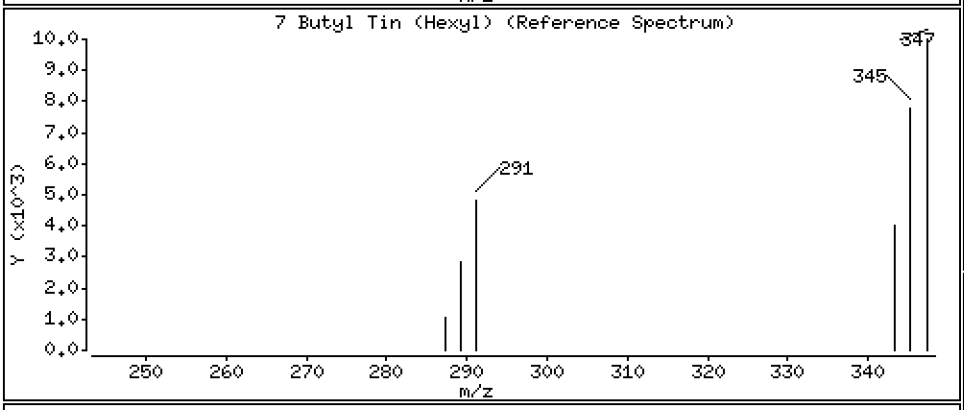
Column diameter: 0.25

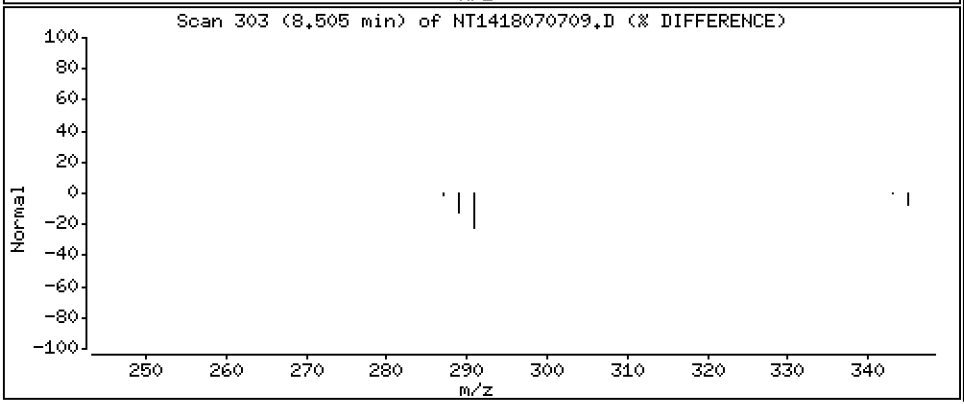
7 Butyl Tin (Hexyl)

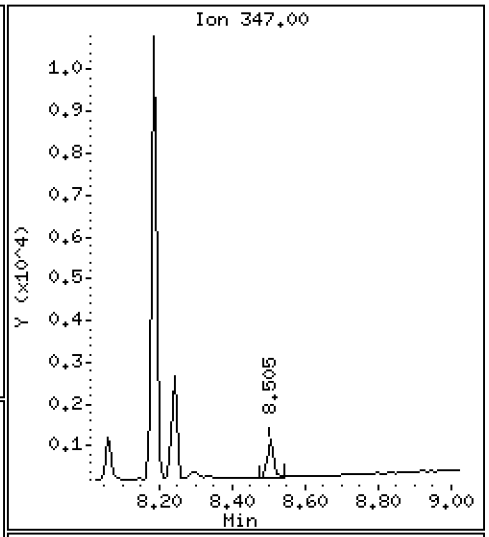
Concentration: 0.02193 ug/mL

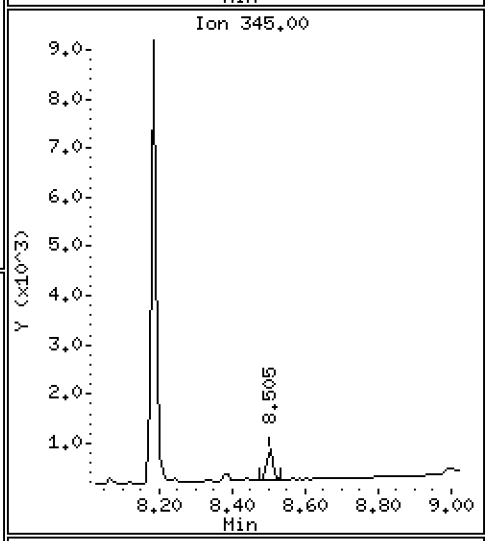


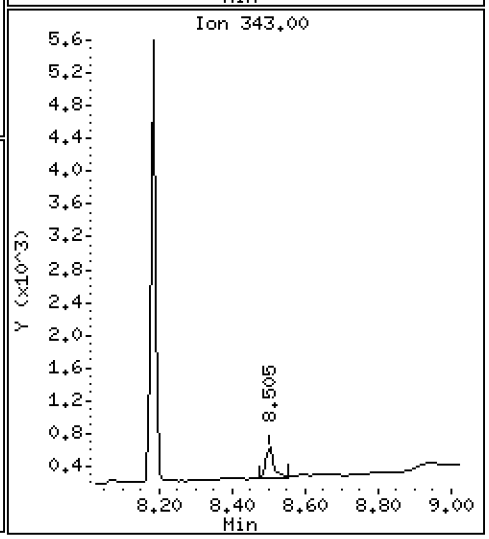












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070709.D
Lab Smp Id: 18F0364-12
Inj Date : 07-JUL-2018 15:55
Operator : VTS Inst ID: nt14.i
Smp Info : 18F0364-12
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	19841	0.33815	0.3381
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	3139	0.06906	0.06906
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	145680	2.00000	
	5 Dibutyl Tin (Hexyl)	347	Compound Not Detected.					
$	6 Tripentyl Tin (Hexyl)	347	8.183	8.183	(0.928)	12018	0.26640	0.2664
	7 Butyl Tin (Hexyl)	347	8.505	8.524	(0.965)	1081	0.02193	0.02193
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	120039	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070709.D
Lab Smp Id: 18F0364-12
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	145680	-3.87
8 p-Terphenyl-d14	129365	64683	258730	120039	-7.21

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070709.D

Lab ID: 18F0364-12
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 15:55

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0719 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-S1-CLWB-Comp1	18F0364-10	NT1418070705.D	06/29/18 09:37	
LDW18-S2-CLWB-Comp1	18F0364-11	NT1418070708.D	06/29/18 09:37	
LDW18-S3-CLWB-Comp1	18F0364-12	NT1418070709.D	06/29/18 09:37	
Blank	BGF0719-BLK1	NT1418070703.D	06/29/18 09:37	
LCS	BGF0719-BS1	NT1418070704.D	06/29/18 09:37	
LDW18-S1-CLWB-Comp1	BGF0719-MS1	NT1418070706.D	06/29/18 09:37	
LDW18-S1-CLWB-Comp1	BGF0719-MSD1	NT1418070707.D	06/29/18 09:37	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0719

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM Butyl Tins in Tissue (Version:TBT Only)

Matrix: Tissue **Date Prepared:** 06/29/18 **Balance ID:** B1464626l4 **Set Up By:** CCT 6/29/18

Analysis: 8270D-SIM Butyl Tins

Lab Number & Container	Initial (g) Target Wet: 10 (Wet)	Actual	(REQ) ~~Alumina Clean~~ Silica (1:1) SP 7/6/18	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18F0364-10 A	(10.00)	10.01	(1:1)	1	1.0	
18F0364-11 A	(10.00)	10.05	(1:1)	1	1.0	See notes
18F0364-12 A	(10.00)	10.00	(1:1)	1	1.0	

Batch QC

Lab Number	Initial (g) Target Wet: 10 (Wet)	Actual	(REQ) Alumina Clean (1:1)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGF0719-BLK1	(10.00)	10.00	(1:1)	1	1.0	Use Solvent Only for Blanks
BGF0719-BS1	(10.00)	10.00	(1:1)	1	1.0	Use Solvent Only for Blanks
BGF0719-MS1	(10.00)	10.00	(1:1)	1	1.0	Use 18F0364-10
BGF0719-MSD1	(10.00)	10.04	(1:1)	1	1.0	Use 18F0364-10

06/29/18 — Client ID verified By — Date

SP 7/6/18 — Preparation Reviewed By — Date

06/29/18 9:37 — Extraction Date and Time

Printed: 6/29/2018 8:36:54AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0719

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM Butyl Tins in Tissue (Version:TBT Only)

Prep Steps

TissueMizer
YP/CT 6/29/18
Analyst/Date

KD 100°C Hexane Exchange 2X 20mL
1 2 (3) 4 (5) 6
BH 6/29/18
Analyst/Date

HexMgBr Addition Vortex 45min or Sit Overnight
1 2 3 (4/5)
SP 6/29/18
Analyst/Date

(REQ) Hydrolisys (~4mL) Vortex
1 (2) 3
SP 7/6/18
Analyst/Date

(REQ) ~~Alumina~~ Cleanup (1:1) SPE silica
SP 7/6/18
Analyst/Date

TurboVap
1 2 (3) 4 5
SP 7/6/18
Analyst/Date

Vialing
SP 7/6/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: YP/CT Date: 6/29/18	
Anhydrous Sodium Sulfate	G00573
0.10% Tropolone in Methylene Chloride	G00492
Neutral Glasswool	G00392
Methylene Chloride	G00858
KD Analyst: BH Date: 6/29/18	
Hexane	G001645
0.10% Tropolone in Methylene Chloride	G00026
Methylene Chloride	G00858
Vialing/HexMgBr Addition Analyst: SP Date: 6/29/18	
HexylMagnesiumBromide	D00547
Hexane silica	G001645
Hydrolysis/~~Alumina~~/Final Vialing Analyst: SP Date: 7/6/18	
1:1 HCL/DI H2O	G00504
Anhydrous Sodium Sulfate	G00582
~~Alumina~~ SPE Darts	F00553
Hexane	G001645
~~Neutral Glasswool~~	N/A

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate 2.5µg/mL	L F011673 Exp: 12/07/2018	200µL	YP	CT
Spike 2.5µg/mL	8 F011436 Exp: 12/07/2018	200µL	YP	CT

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: TBT

Element Batch: BGF0719 Work Order(s): 18F0364 (-10, -11, -12)

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Other (Details)= 10, 11, 12. TiBme.	06/29/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	
18F0364-11 – lost approx 1-2% of extract when tape caught on the turbo-tube and extract spilled.	SP 6/29/18
☒ Share Samples (Y) / N	MU 06/29/18
☒ Multiple Jars Y / (N)	MU 06/29/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0719

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM Butyl Tins in Tissue (Version:TBT Only)

Prep Instructions	Cleaning Instructions
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL centrifuge bottle. 2. Add surr/spike and add 0.10% Tropolone in DCM. 3. Add sodium sulfate just before tissuemizing. 4. Extract one time with 0.10% Tropolone in DCM and 2 more times with DCM only. 5. Collect in 500mL flask with funnel and glasswool plug (may us small amount of sodium sulfate if fines are present). 6. KD with 2X 20mL hexane exchange 7. TurboVap to ~3mL-Transfer with hexane to 40mL VOA vial. 8. Derivitize=1 pipet HexMgBr (Mix by hand) then Vortex. Let sit 45min (vortex every 10 min) or let sit overnite in fridge. 9. Hydrolisys: Add (2) pipet 1:1 HCL. Vortex. Draw off/discard HCL. Add 1 pipet 1:1 HCL and 5mL DI H2O. Vortex. Draw off/discard H20. Add 5mL DI H2O. Vortex. Draw off/discard H2O. 10. Add sodium sulfate and Let sit 15min. 11. TurboVap to ~2mL. 12. Alumina Clean, manual columns 13. TurboVap 14. Vial in hexane. NOTE: DERIVITIZATIONS MUST BE DONE IN THE HOOD TO PROTECT FROM POTENTIAL CHEMICAL REACTIONS, ODORS AND FUMES. A. Need Total Solids Y (N) B. Archive/Freeze Y (N)	Pre-Rinse all extraction glassware with 0.10% Tropolone in DCM Rinse KD glassware w/ 0.02% Tropolone

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0721 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-C01-CLWB-Comp2	18F0364-01	N818070505.D	06/29/18 11:28	
LDW18-C02-CLWB-Comp2	18F0364-02	N818070508.D	06/29/18 11:28	
LDW18-C03-CLWB-Comp2	18F0364-03	N818070509.D	06/29/18 11:28	
LDW18-C04-CLWB-Comp2	18F0364-04	N818070510.D	06/29/18 11:28	
LDW18-C05-CLWB-Comp2	18F0364-05	N818070511.D	06/29/18 11:28	
LDW18-C06-CLWB-Comp2	18F0364-06	N818070512.D	06/29/18 11:28	
LDW18-C08-CLWB-Comp2	18F0364-07	N818070513.D	06/29/18 11:28	
LDW18-C10-CLWB-Comp2	18F0364-08	N818070514.D	06/29/18 11:28	
LDW18-C11-CLWB-Comp2	18F0364-09	N818070515.D	06/29/18 11:28	
Blank	BGF0721-BLK1	N818070503.D	06/29/18 11:28	
LCS	BGF0721-BS1	N818070504.D	06/29/18 11:28	
LDW18-C01-CLWB-Comp2	BGF0721-MS1	N818070506.D	06/29/18 11:28	
LDW18-C01-CLWB-Comp2	BGF0721-MSD1	N818070507.D	06/29/18 11:28	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0721

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH Only)

Matrix: Tissue **Date Prepared:** 06/29/18 **Balance ID:** B1464,2614 **Set Up By:** CCT 6/29/18

The following standards may be missing from this batch!

Designator	Description
I	Surrogate
18	Spike

Analysis: 8270D-SIM PAH (0.1 ug/L or 5 ug/kg)

Lab Number & Container	Initial (g) Target Wet: 10 (Wet) Actual	(REQ) GPC (1:1) (1)	(REQ) Silica Gel C/U (1:1) EPH Aro	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
18F0364-01 A	(10.000) 10.05	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-02 A	(10.000) 10.07	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-03 A	(10.000) 10.04	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-04 A	(10.000) 10.02	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-05 A	(10.000) 10.05	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-06 A	(10.000) 10.07	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-07 A	(10.000) 10.07	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-08 A	(10.000) 10.00	(1:1)	(1:1)	0.5 ____	0.5 ____	
18F0364-09 A	(10.000) 10.05	(1:1)	(1:1)	0.5 ____	0.5 ____	

Batch QC

Lab Number	Initial (g) Target Wet: 10 (Wet) Actual	(REQ) GPC (1:1) (1)	(REQ) Silica Gel C/U (1:1) EPH Aro	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
BGF0721-BLK1	(10.000) 10.00	(1:1)	(1:1)	0.5 ____	0.5 ____	
BGF0721-BS1	(10.000) 10.00	(1:1)	(1:1)	0.5 ____	0.5 ____	
BGF0721-MS1	(10.000) 10.04	(1:1)	(1:1)	0.5 ____	0.5 ____	Use 18F0364-01
BGF0721-MSD1	(10.000) 10.03	(1:1)	(1:1)	0.5 ____	0.5 ____	Use 18F0364-01

06/29/18 — Client ID Verified By — Date

7/5/18 — Preparation Reviewed By — Date

06/29/18 11:28 — Extraction Date and Time

Printed: 6/29/2018 8:58:10AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0721

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH Only)

Prep Steps

Tissuemizing
CT 06/29/18
Analyst/Date

KD Pre GPC 80 - 85°C
(D)
1 (2) 3 4 5 6
BH YM 7/2/18
Analyst/Date

TurboVap Pre GPC
1 2 3 4 5
Analyst/Date

GPC Filter
SC 7/2/18
Analyst/Date

GPC
SC 7/2/18
Analyst/Date

KD 80 - 85°C Hexane Exchange (2 X 20 mL) 100°C
(DD)
1 (2) 3 4 (5) (6)
BH YM 7/3/18
Analyst/Date

TurboVap Pre Silica Gel Clean
(1) 2 3 4 5
SC 7/5/18
Analyst/Date

TurboVap Post Silica Gel Clean
1 2 3 4 5
SC 7/5/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: CT Date: 06/29/18	
Corn Oil — CT 06/29/18	N/A.
Neutral Glasswool	G003192
Anhydrous Sodium Sulfate	G005573
Methylene Chloride	G005858
1:1 Methylene Chloride/Acetone	G005712 06/29/18
Pre GPC KD Analyst: BH YM Date: 7/2/18	
Methylene Chloride	G005487
GPC Filter Prep Analyst: SC Date:	7/2/18
Methylene Chloride	G005487
GPC Analyst: SC Date:	7/2/18
Methylene Chloride	G005487
GPC Calibration File	CG00067 GPC4
Post GPC KD Analyst: BH YM Date:	7/3/18
Methylene Chloride	G005858
Hexane	G004645
Vialing Analyst: SC Date:	7/5/18
60:40 Pentane/Methylene Chloride	G006087
Pentane	F008624
Hexane	G004645
Methylene Chloride	G005858
Neutral Sodium Sulfate	G005382
0% Silica Gel	F012007
Neutral Glasswool	G003192

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate	B G005526 Exp. 11/10/18	100uL	YL	CT
Spike	15 G003923 Exp. 11/3/18	100uL	YL	CT

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SIM PNA

Element Batch: BGF0721 Work Order(s): 18F0364

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Other (Details)= ϕ1 — ϕ9. = Tissue	YE ϕ6/29/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	BH 7/3/18
Used recycled KD's for second KD session.	
☒ Share Samples Y / N	YE ϕ6/29/18
☒ Multiple Jars Y / N	YE ϕ6/29/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0721

Prepared using: EPA 3550C-Mod (Ultrasonic)

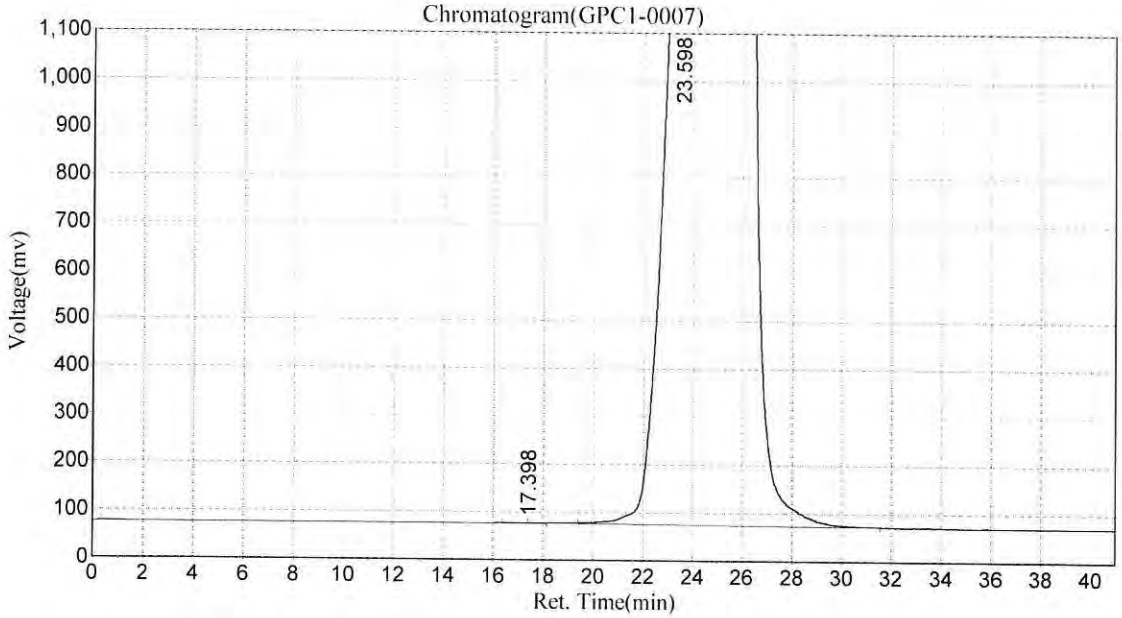
8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH Only)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into samples 250mL Centrifuge bottle(s). 2. Add surr/spike. 3. Add 1:1 DCM/Acetone 4. Add Sodium Sulfate just before tissuemizing 5. Tissuemize 2X with 1:1 DCM/Acetone, then 1x with DCM for 1 min each. 6. Collect samples into 500mL flask (sodium sulfate in flask) with funnel and glasswool. 7. KD using DCM to 5mL at 80°C. 8. TurboVap for GPC 1:1 9. Post GPC KD at 80°C. 10. Exchange to Hexane (2X with 20mL) at 100°C. 11. TurboVap extract to 2mL in Hexane. 12. Silica Clean-up with normal Silica Gel REQ. Collect EPH Aromatic fraction only. 13. TurboVap to 0.5 mL A. Need Total Solids Y / N B. Freeze Y / N	

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,10:55:37 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0007
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-02,10:55:37 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.398	2120.685	184274.578	0.0534
2		23.598	1415091.000	345112640.000	99.9466
Total			1417211.685	345296914.578	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

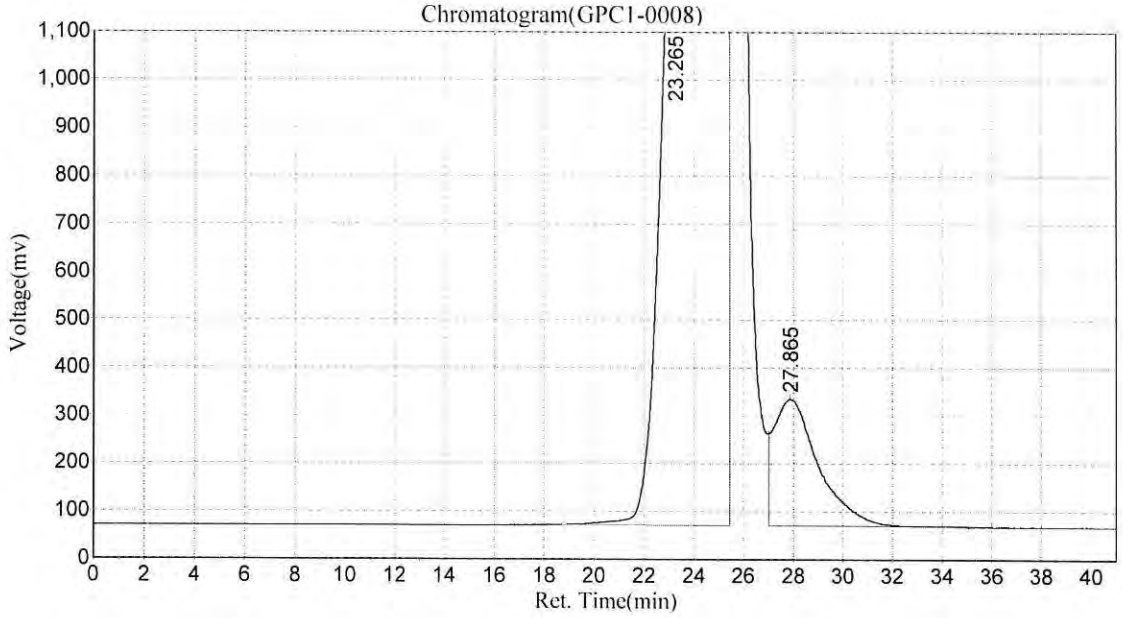
2018-07-02

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-02,11:38:18 PM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0008
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-02,11:38:19 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		23.265	1419565.625	245190288.000	87.9368
2		27.865	265820.313	33635404.000	12.0632
Total			1685385.938	278825692.000	100.000

Ingredient Table

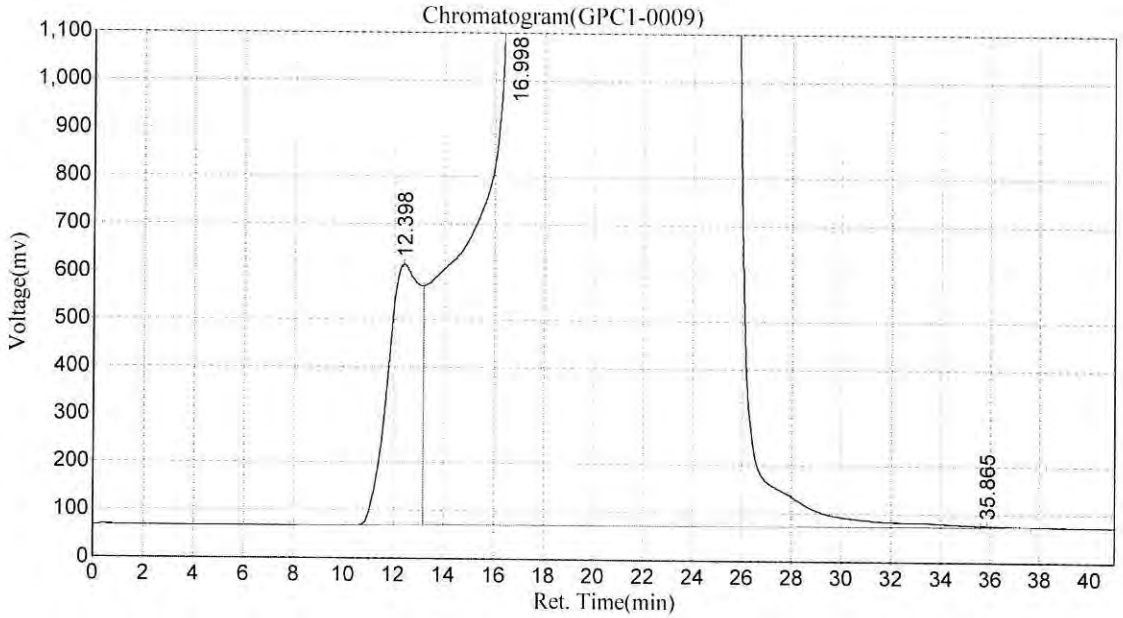
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

-01

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,12:21:04 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0009
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,12:21:04 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.398	547813.938	48937308.000	4.8912
2		16.998	1419801.125	951419904.000	95.0932
3		35.865	2570.978	156030.172	0.0156
Total			1970186.041	1000513242.172	100.000

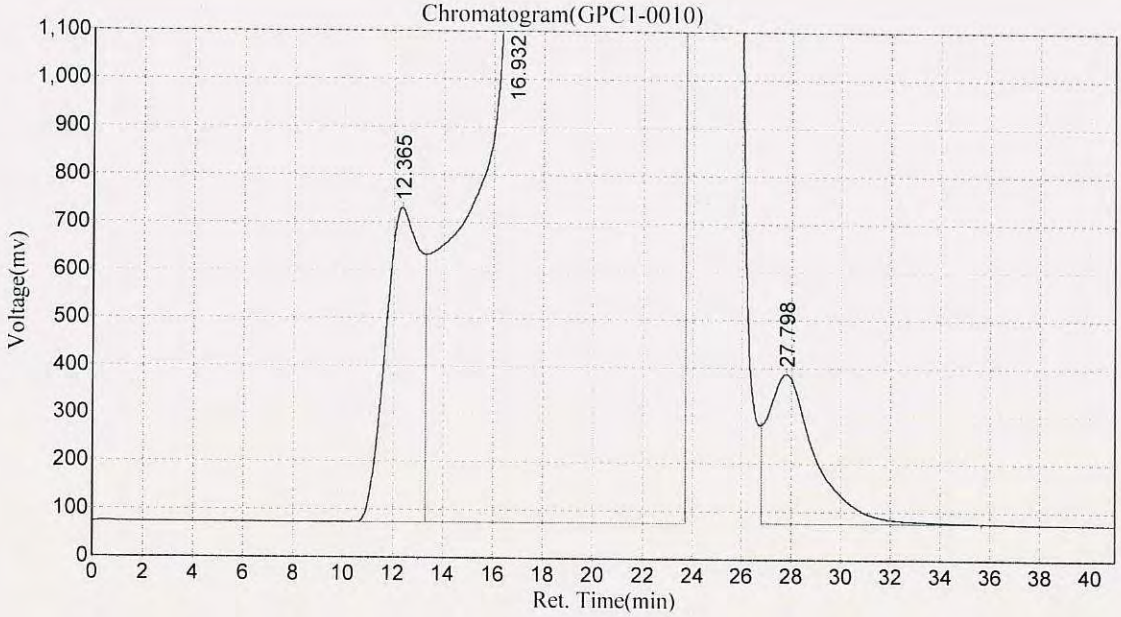
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,1:03:46 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0010
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,1:03:46 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.365	658392.250	64766296.000	7.6067
2		16.932	1415585.000	744918976.000	87.4899
3		27.798	312527.906	41748584.000	4.9033
Total			2386505.156	851433856.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

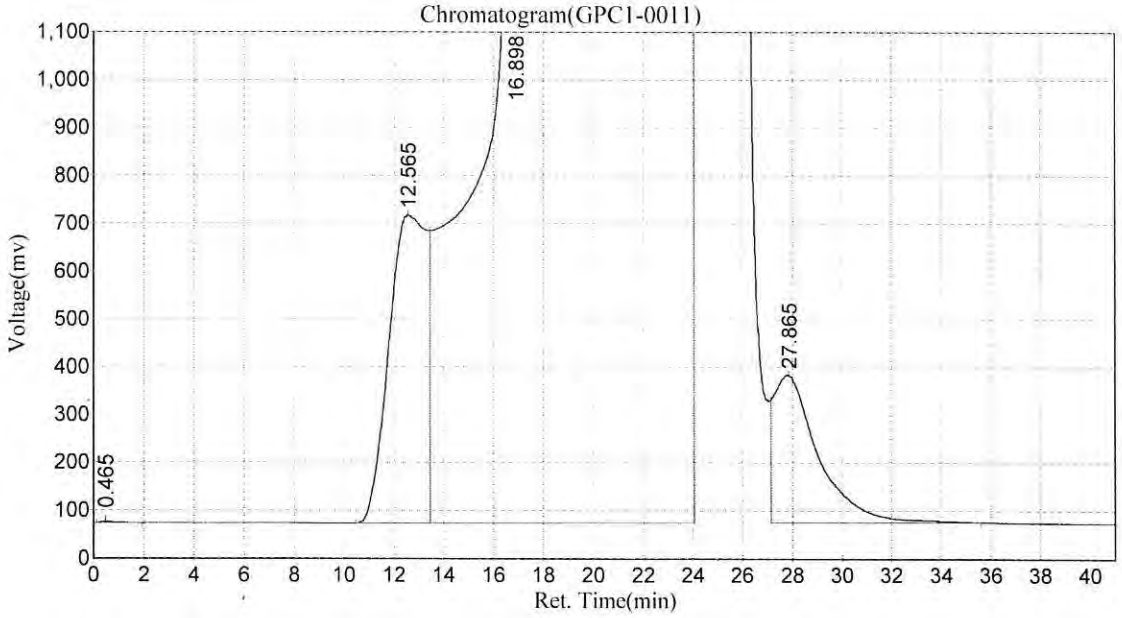
2018-07-03

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,1:46:30 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0011
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,1:46:30 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		0.465	2623.600	111050.000	0.0126
2		12.565	644127.313	67219432.000	7.6377
3		16.898	1415084.875	774437248.000	87.9937
4		27.865	308857.156	38337364.000	4.3560
Total			2370692.944	880105094.000	100.000

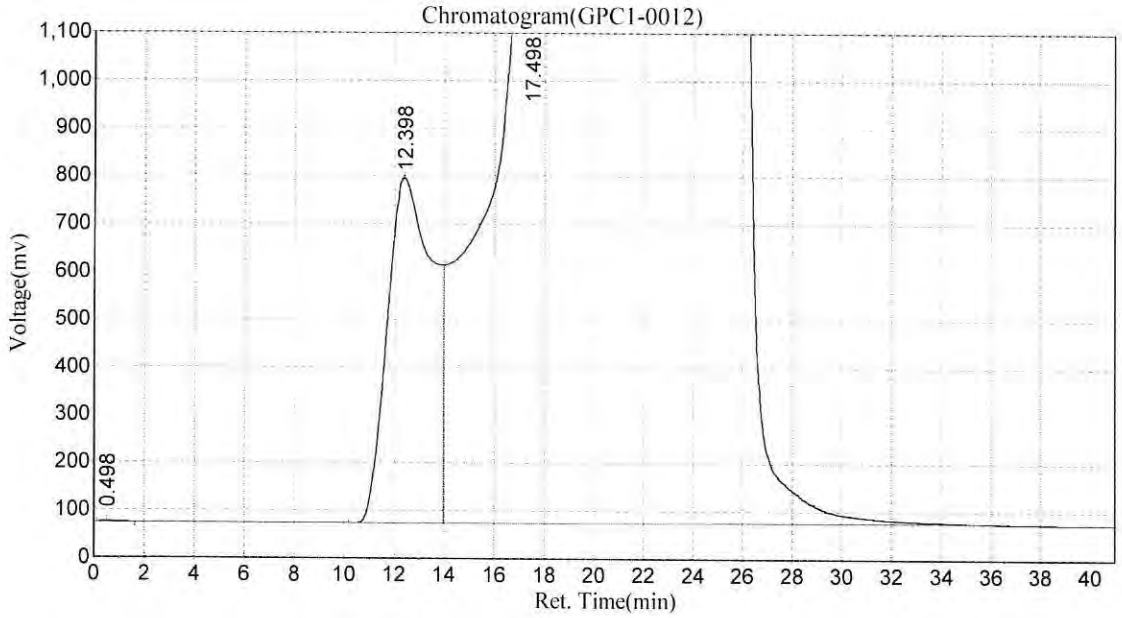
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,2:29:12 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0012
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,2:29:12 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		0.498	3207.652	122237.203	0.0119
2		12.398	723666.438	91745784.000	8.9338
3		17.498	1415095.625	935085696.000	91.0543
Total			2141969.715	1026953717.203	100.000

Ingredient Table

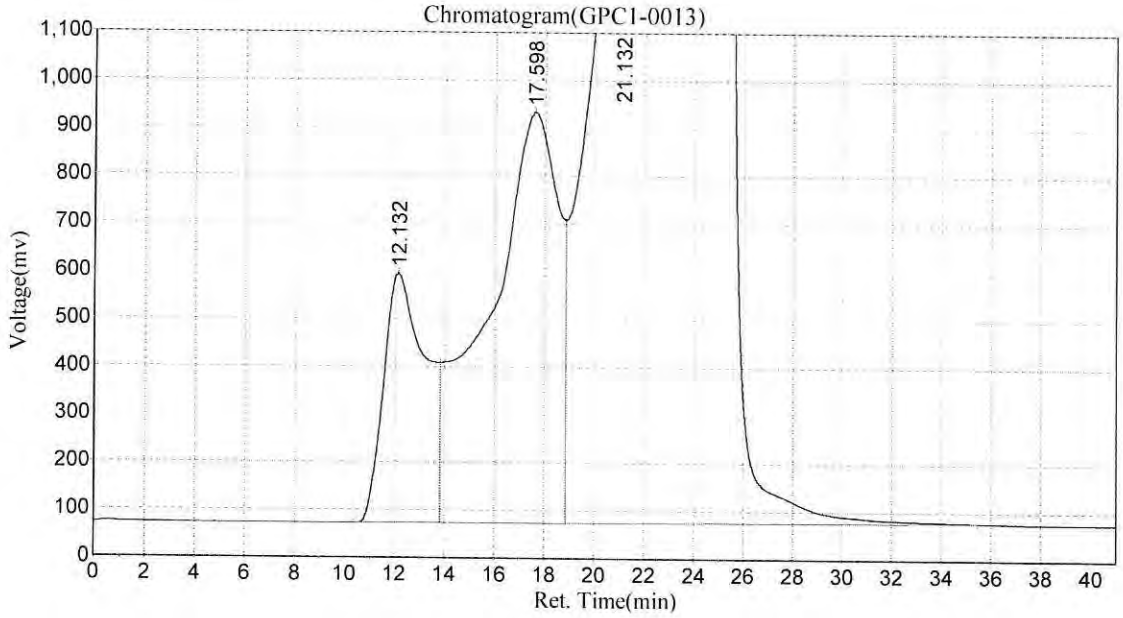
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

-03

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,3:11:55 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0013
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,3:11:55 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	522493.063	60881660.000	7.8320
2		17.598	859881.938	169665184.000	21.8262
3		21.132	1414623.250	546800128.000	70.3418
Total			2796998.250	777346972.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

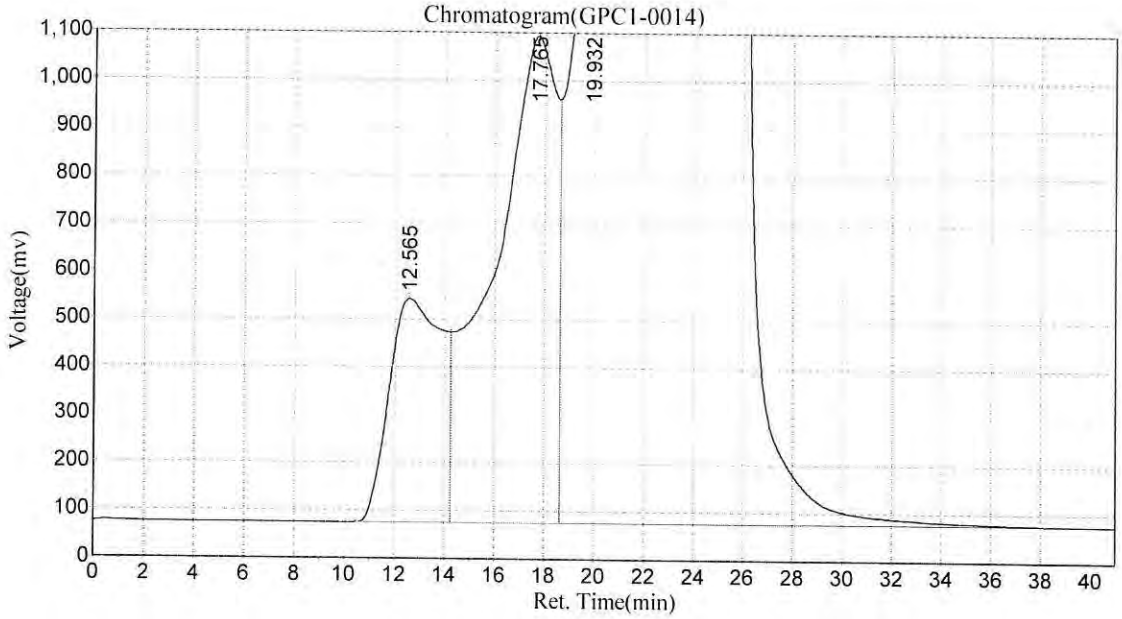
2018-07-03

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,3:54:40 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0014
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-03,3:54:40 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.565	469345.000	68706832.000	7.5258
2		17.765	1018683.313	179459408.000	19.6570
3		19.932	1414330.875	664790080.000	72.8173
Total			2902359.188	912956320.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

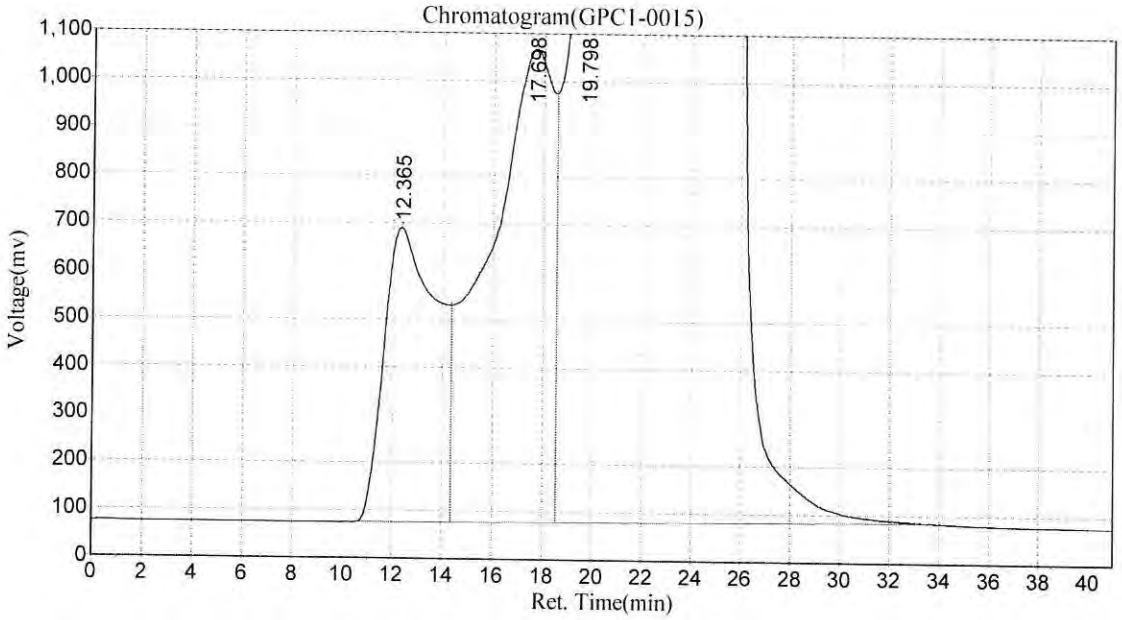
2018-07-03

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,4:37:24 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0015
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-03,4:37:24 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.365	615119.250	90565800.000	9.8148
2		17.698	990914.500	178997968.000	19.3983
3		19.798	1410788.000	653185408.000	70.7869
Total			3016821.750	922749176.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

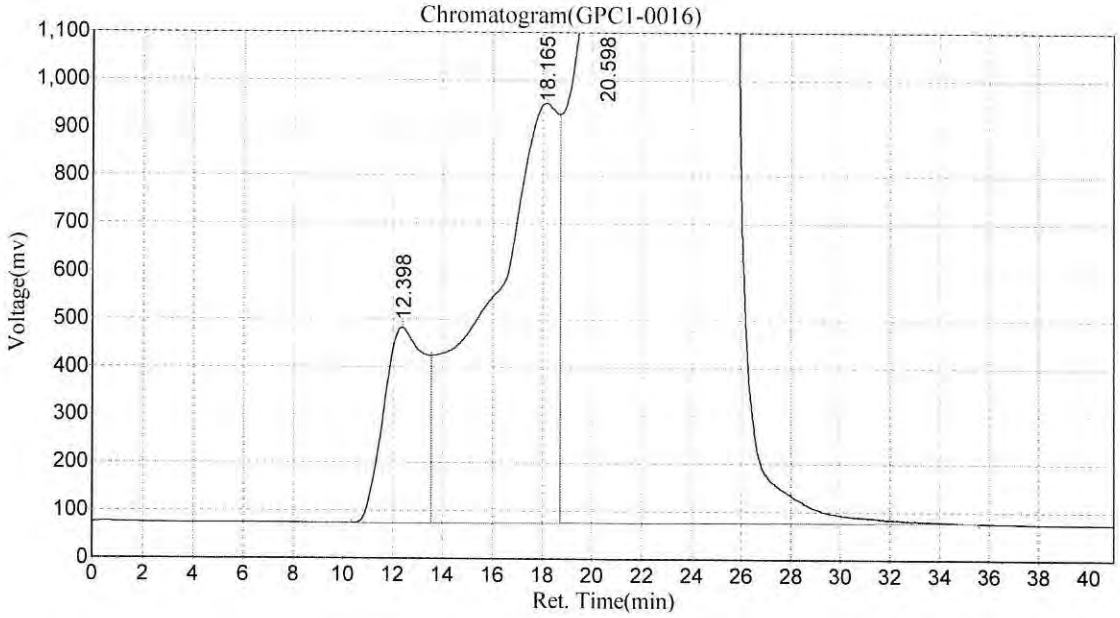
2018-07-03

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,5:20:05 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0016
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,5:20:06 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.398	408674.625	46829484.000	5.6520
2		18.165	877708.938	174454720.000	21.0554
3		20.598	1414116.500	607267584.000	73.2926
Total			2700500.063	828551788.000	100.000

Ingredient Table

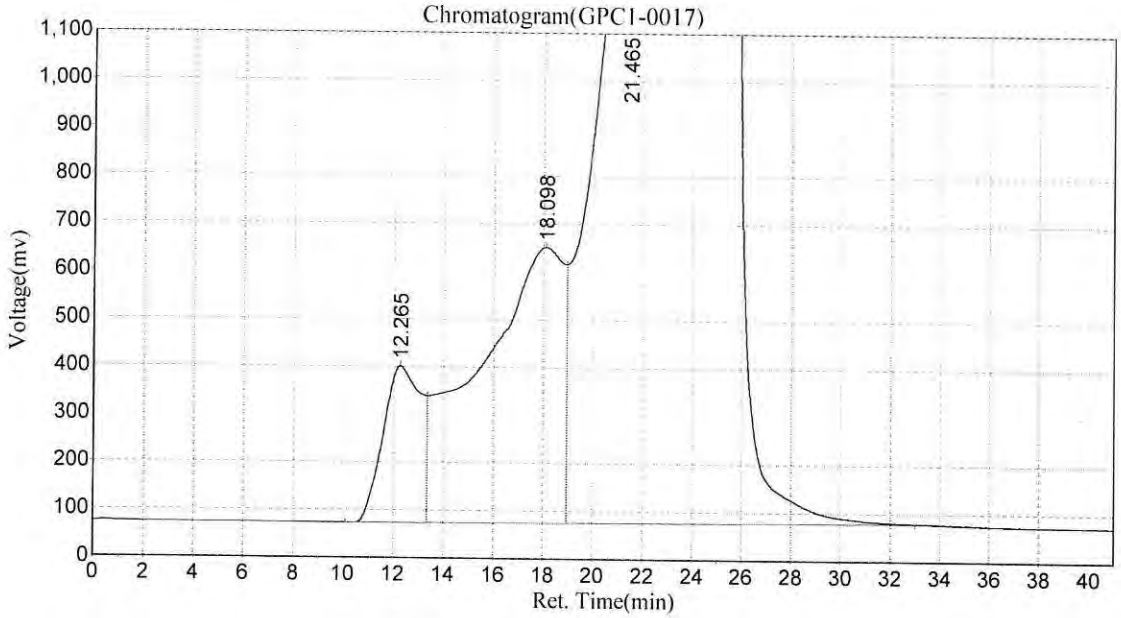
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

2018-07-03 **Analytical Resources, Inc.**

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,6:02:49 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0017
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,6:02:49 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.265	327952.781	34779904.000	4.8456
2		18.098	577026.750	135822592.000	18.9232
3		21.465	1414041.125	547153728.000	76.2311
Total			2319020.656	717756224.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

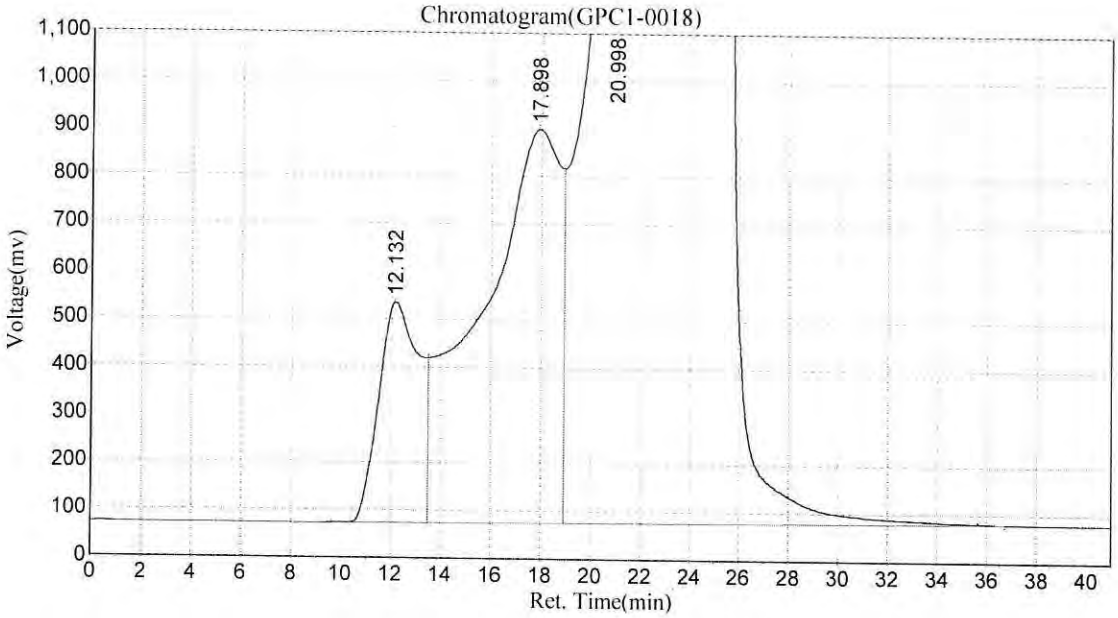
2018-07-03

Analytical Resources, Inc.

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,6:45:30 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0018
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºSP
Date/Time2018-07-03,6:45:30 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	461841.281	52353936.000	6.5498
2		17.898	824209.188	181284672.000	22.6799
3		20.998	1413260.375	565680576.000	70.7703
Total			2699310.844	799319184.000	100.000

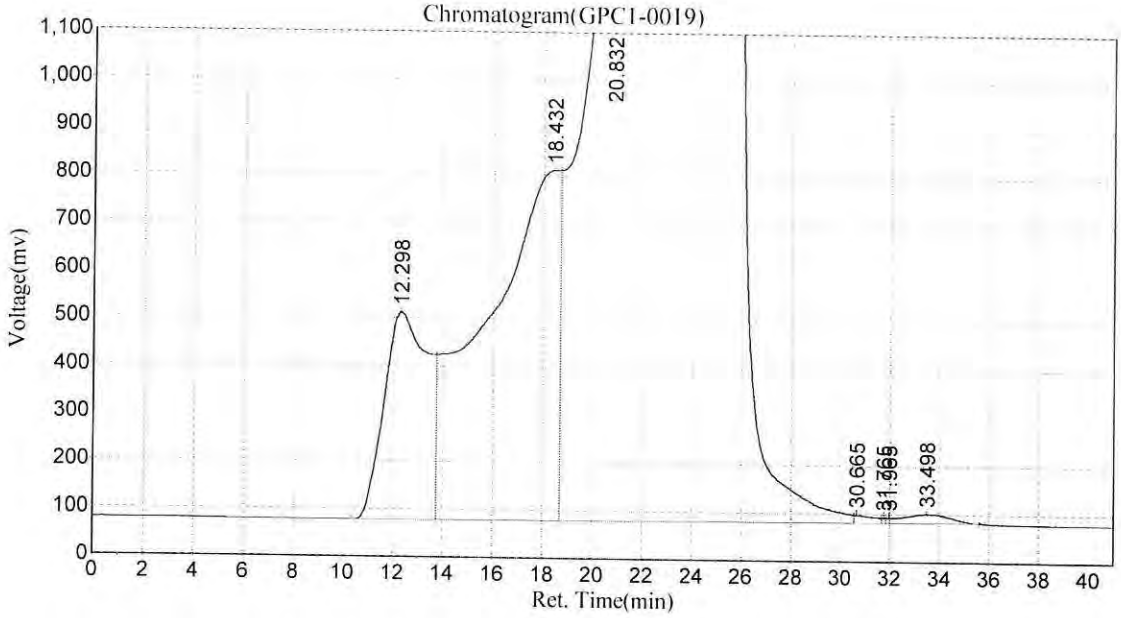
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0720/721/18F0364BAN/SIM PNA

Date:2018-07-03,7:28:13 AM
Data File:d:\n2000\data\gpc1\070218B\GPC1-0019
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°SP
Date/Time2018-07-03,7:28:13 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.298	433882.969	52919756.000	6.5843
2		18.432	733784.125	148966976.000	18.5347
3		20.832	1410574.000	597496064.000	74.3412
4		30.665	18384.838	1013460.375	0.1261
5		31.765	12897.955	125245.086	0.0156
6		31.965	12872.612	125466.555	0.0156
7		33.498	22492.652	3074228.000	0.3825
Total			2644889.151	803721196.016	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

2018-07-03

Analytical Resources, Inc.

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Cleanup Batch:	CGG0026	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-C10-CLWB-Comp2	18F0364-08	N818070514.D	07/02/2018	
LDW18-C08-CLWB-Comp2	18F0364-07	N818070513.D	07/02/2018	
LDW18-C06-CLWB-Comp2	18F0364-06	N818070512.D	07/02/2018	
LDW18-C05-CLWB-Comp2	18F0364-05	N818070511.D	07/02/2018	
LDW18-C04-CLWB-Comp2	18F0364-04	N818070510.D	07/02/2018	
LDW18-C03-CLWB-Comp2	18F0364-03	N818070509.D	07/02/2018	
LDW18-C02-CLWB-Comp2	18F0364-02	N818070508.D	07/02/2018	
LDW18-C01-CLWB-Comp2	18F0364-01	N818070505.D	07/02/2018	
LDW18-C11-CLWB-Comp2	18F0364-09	N818070515.D	07/02/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGG0026

Matrix: Tissue **Cleanup using: Organics - EPA 3640A GPC Cleanup** **Printed: 7/5/2018 3:25:15PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18F0364-09	A	LDW18-C11-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-08	A	LDW18-C10-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-05	A	LDW18-C05-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-04	A	LDW18-C04-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-06	A	LDW18-C06-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-07	A	LDW18-C08-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-01	A	LDW18-C01-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-02	A	LDW18-C02-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
18F0364-03	A	LDW18-C03-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/2/2018	SDP	
BGF0721-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	7/2/2018	SDP	
BGF0721-MS1	-	Matrix Spike	-	0.5	0.5	-	7/2/2018	SDP	
BGF0721-BS1	-	LCS	-	0.5	0.5	-	7/2/2018	SDP	
BGF0721-BLK1	-	Blank	-	0.5	0.5	-	7/2/2018	SDP	

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Cleanup Batch:	CGG0027	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-C02-CLWB-Comp2	18F0364-02	N818070508.D	07/05/2018	
LDW18-C01-CLWB-Comp2	18F0364-01	N818070505.D	07/05/2018	
LDW18-C11-CLWB-Comp2	18F0364-09	N818070515.D	07/05/2018	
LDW18-C10-CLWB-Comp2	18F0364-08	N818070514.D	07/05/2018	
LDW18-C08-CLWB-Comp2	18F0364-07	N818070513.D	07/05/2018	
LDW18-C06-CLWB-Comp2	18F0364-06	N818070512.D	07/05/2018	
LDW18-C05-CLWB-Comp2	18F0364-05	N818070511.D	07/05/2018	
LDW18-C04-CLWB-Comp2	18F0364-04	N818070510.D	07/05/2018	
LDW18-C03-CLWB-Comp2	18F0364-03	N818070509.D	07/05/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGG0027

Matrix: Tissue **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 7/5/2018 3:26:30PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18F0364-09	A	LDW18-C11-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-08	A	LDW18-C10-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-05	A	LDW18-C05-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-04	A	LDW18-C04-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-06	A	LDW18-C06-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-07	A	LDW18-C08-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-01	A	LDW18-C01-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-02	A	LDW18-C02-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
18F0364-03	A	LDW18-C03-CLWB-Comp2	A 03	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	7/5/2018	SDP	
BGF0721-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	7/5/2018	SDP	
BGF0721-MS1	-	Matrix Spike	-	0.5	0.5	-	7/5/2018	SDP	
BGF0721-BS1	-	LCS	-	0.5	0.5	-	7/5/2018	SDP	
BGF0721-BLK1	-	Blank	-	0.5	0.5	-	7/5/2018	SDP	

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Cleanup Batch:	CGG0037	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-S2-CLWB-Comp1	18F0364-11	NT1418070708.D	07/06/2018	
LDW18-S1-CLWB-Comp1	18F0364-10	NT1418070705.D	07/06/2018	
LDW18-S3-CLWB-Comp1	18F0364-12	NT1418070709.D	07/06/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGG0037

Matrix: Tissue **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 7/6/2018 3:43:51PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18F0364-10	A	LDW18_S1-CLWB-Comp1	A 01	1	1	8270D-SIM Butyl Tins	7/6/2018	SDP	
18F0364-11	A	LDW18_S2-CLWB-Comp1	A 01	1	1	8270D-SIM Butyl Tins	7/6/2018	SDP	
18F0364-12	A	LDW18_S3-CLWB-Comp1	A 01	1	1	8270D-SIM Butyl Tins	7/6/2018	SDP	
BGF0719-BLK1	-	Blank	-	1	1	-	7/6/2018	SDP	
BGF0719-BS1	-	LCS	-	1	1	-	7/6/2018	SDP	
BGF0719-MS1	-	Matrix Spike	-	1	1	-	7/6/2018	SDP	
BGF0719-MSD1	-	Matrix Spike Dup	-	1	1	-	7/6/2018	SDP	

Cleanup Reviewed By Date

Form I

METHOD BLANK DATA SHEET

EPA 8270D-SIM

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	BGF0719-BLK1	File ID:	NT1418070703.D
Sampled:	N/A	Prepared:	06/29/18 09:37	Analyzed:	07/07/18 14:23
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	10 g / 1 mL
Batch:	BGF0719	Sequence:	SGG0077	Calibration:	BE00033
Instrument:	NT14	Column:	ZB-5MS	Cleanups:	Silica Gel

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	3.86	U	0.450	3.86

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Tripentyltin	45.178	14.9	33.0	20 - 130	
Tripropyltin	43.746	60.1	137	20 - 130	*

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070703.D

Date : 07-JUL-2018 14:23

Client ID:

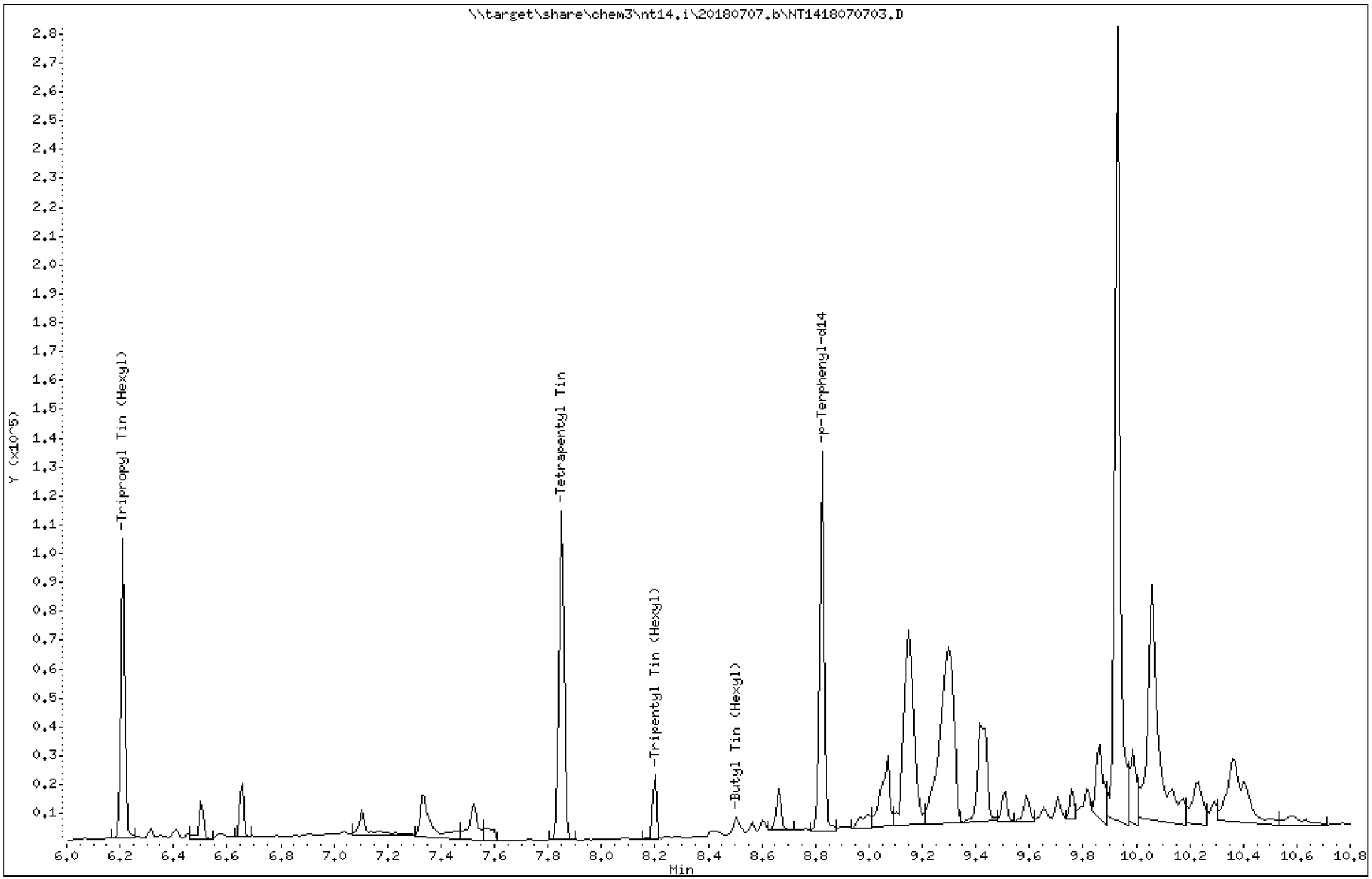
Instrument: nt14.i

Sample Info: BGF0719-BLK1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070703.D

Date : 07-JUL-2018 14:23

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-BLK1

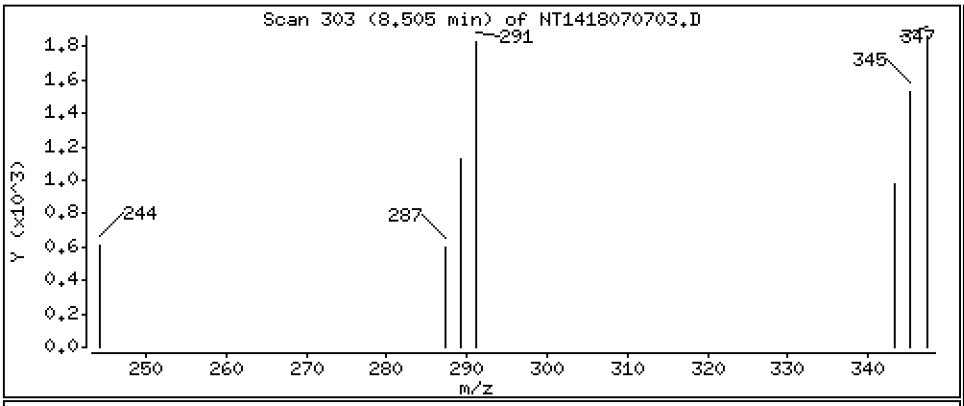
Operator: VTS

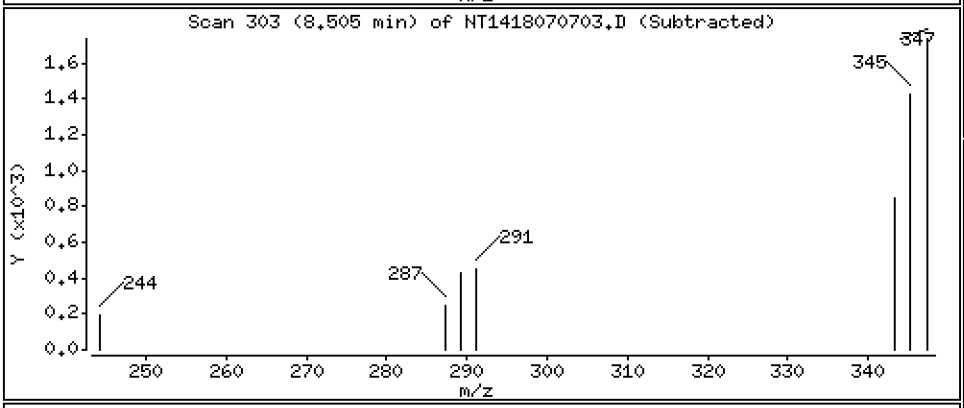
Column phase: ZB-5msi

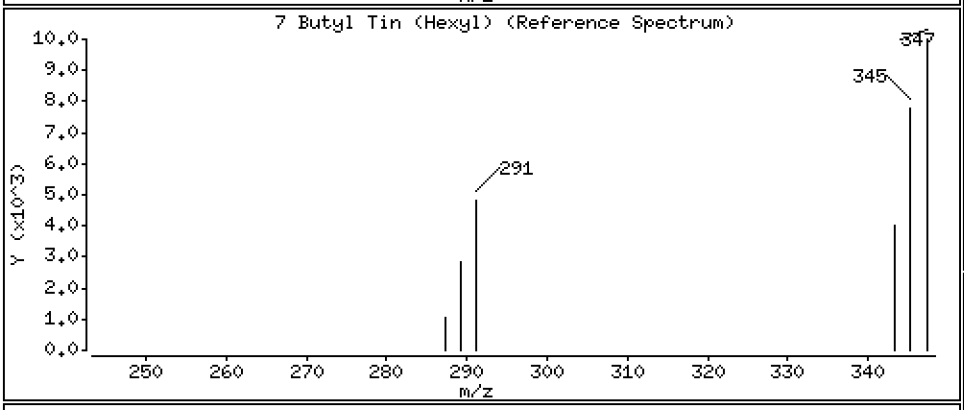
Column diameter: 0.25

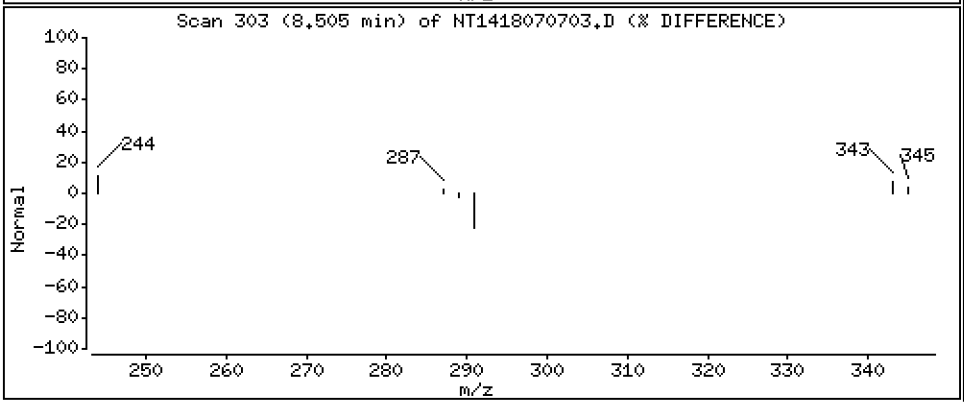
7 Butyl Tin (Hexyl)

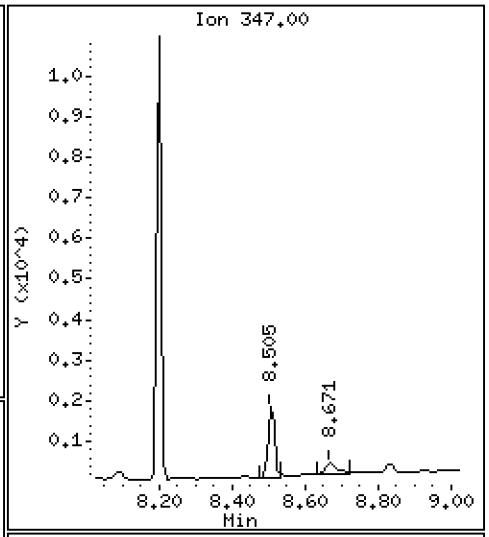
Concentration: 0.04300 ug/mL

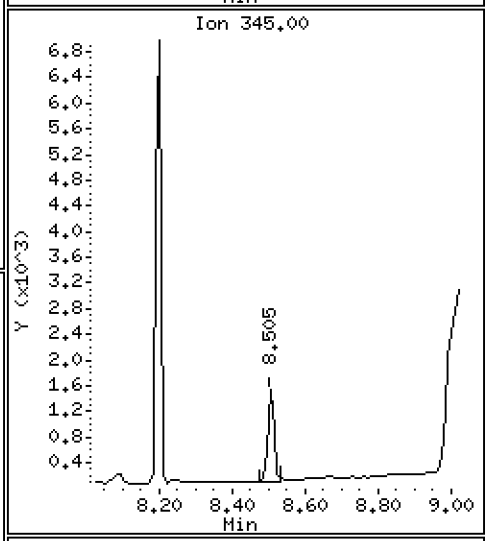


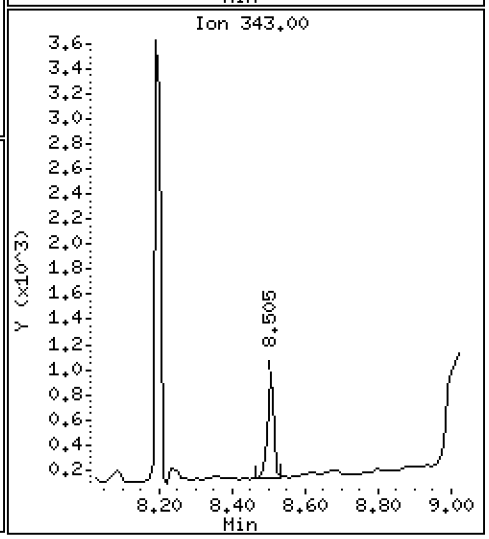












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070703.D
Lab Smp Id: BGF0719-BLK1
Inj Date : 07-JUL-2018 14:23
Operator : VTS Inst ID: nt14.i
Smp Info : BGF0719-BLK1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	47464	0.80752	0.8075
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	Compound Not Detected.					
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	145932	2.00000	
	5 Dibutyl Tin (Hexyl)	347	Compound Not Detected.					
$	6 Tripentyl Tin (Hexyl)	347	8.202	8.183	(0.929)	9280	0.18718	0.1872
	7 Butyl Tin (Hexyl)	347	8.505	8.524	(0.963)	2329	0.04300	0.04300
*	8 p-Terphenyl-d14	244	8.827	8.827	(1.000)	131916	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070703.D
Lab Smp Id: BGF0719-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	145932	-3.70
8 p-Terphenyl-d14	129365	64683	258730	131916	1.97

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.83	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070703.D

Lab ID: BGF0719-BLK1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 14:23

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Form I

METHOD BLANK DATA SHEET

EPA 8270D-SIM

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	BGF0721-BLK1	File ID:	N818070503.D
Sampled:	N/A	Prepared:	06/29/18 11:28	Analyzed:	07/05/18 17:09
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	10 g / 0.5 mL
Batch:	BGF0721	Sequence:	SGG0053	Calibration:	BF00065
Instrument:	NT8	Column:	RXI-17Sil ms	Cleanups:	GPC, Silica Gel

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.54	5.00
218-01-9	Chrysene	1	5.00	U	0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	5.00	U	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.71	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.92	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	0.58	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	66.7	44.5	20 - 130	
Dibenzo[a,h]anthracene-d14	150.00	88.2	58.8	20 - 130	
Fluoranthene-d10	150.00	73.4	48.9	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070503.D

Date : 05-JUL-2018 17:09

Client ID:

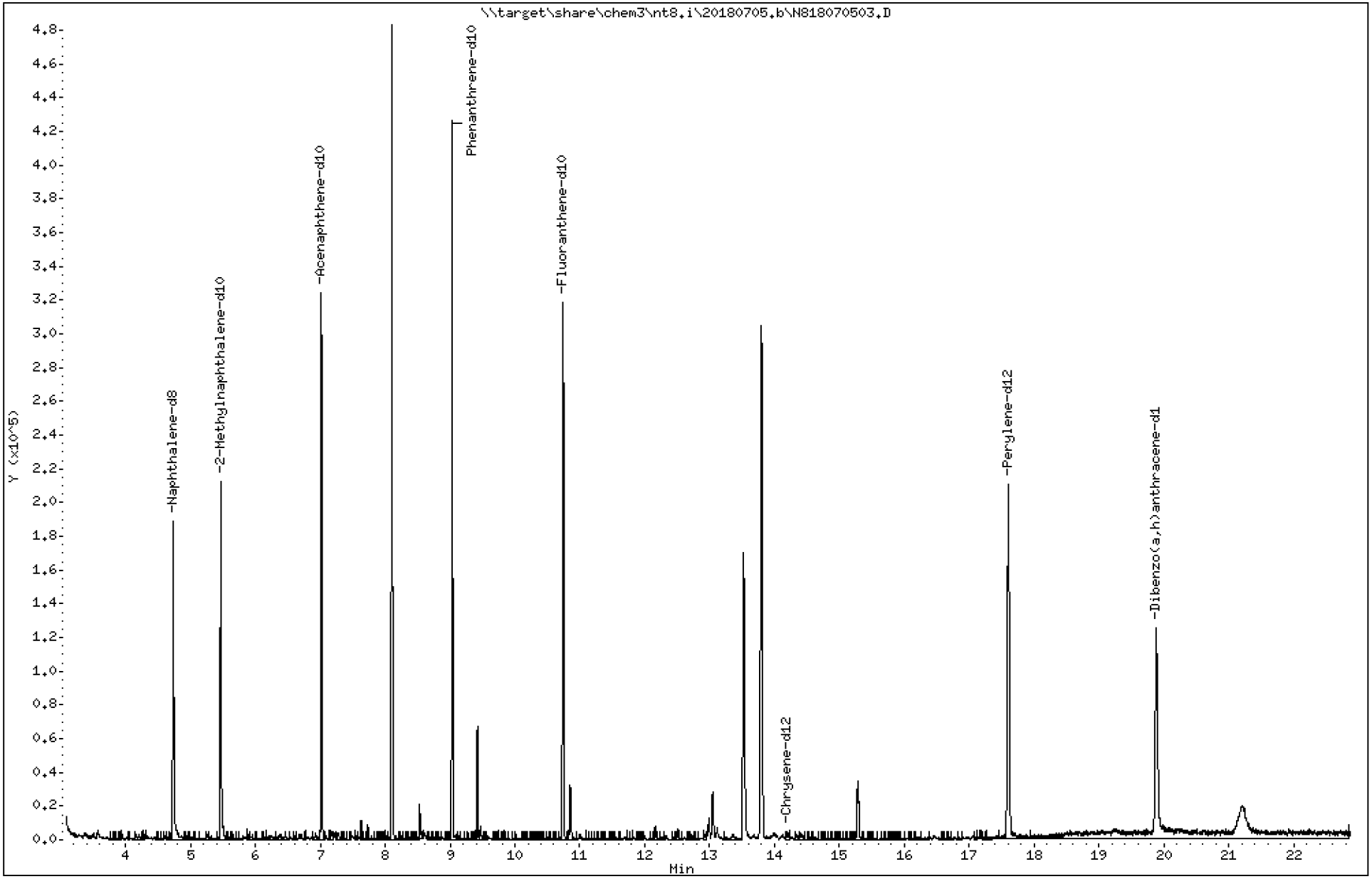
Instrument: nt8.i

Sample Info: BGF0721-BLK1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070503.D
Lab Smp Id: BGF0721-BLK1
Inj Date : 05-JUL-2018 17:09
Operator : JZ Inst ID: nt8.i
Smp Info : BGF0721-BLK1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.734	4.743	(1.000)	151126	2.00000	
	2	Naphthalene	128	Compound Not Detected.					
$	3	2-Methylnaphthalene-d10	152	5.467	5.470	(1.155)	74032	1.33360	1.334
	4	2-Methylnaphthalene	141	Compound Not Detected.					
	5	1-methylnaphthalene	141	Compound Not Detected.					
	9	Acenaphthylene	152	Compound Not Detected.					
*	10	Acenaphthene-d10	164	7.017	7.013	(1.000)	88175	2.00000	
	11	Acenaphthene	153	Compound Not Detected.					
	12	Dibenzofuran	168	Compound Not Detected.					
	14	Fluorene	166	Compound Not Detected.					
*	15	Phenanthrene-d10	188	9.034	9.031	(1.000)	181039	2.00000	
	16	Phenanthrene	178	Compound Not Detected.					
	17	Anthracene	178	Compound Not Detected.					
	22	Fluoranthene	202	Compound Not Detected.					
$	21	Fluoranthene-d10	212	10.741	10.738	(1.189)	170256	1.46792	1.468
	23	Pyrene	202	Compound Not Detected.					
	24	Benzo(a)anthracene	228	Compound Not Detected.					
*	25	Chrysene-d12	240	13.799	13.786	(1.000)	200962	2.00000	
	27	Chrysene	228	Compound Not Detected.					
	28	Benzo(b)fluoranthene	252	Compound Not Detected.					
	29	Benzo(k)fluoranthene	252	Compound Not Detected.					
	30	Benzo(j)fluoranthene	252	Compound Not Detected.					
	31	Total Benzofluoranthenes	252	Compound Not Detected.					
	32	Benzo(a)pyrene	252	Compound Not Detected.					
*	33	Perylene-d12	264	17.600	17.593	(1.000)	159144	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36	Dibenzo(a,h)anthracene-d14	292	19.886	19.876	(1.130)	124432	1.76465	1.765
	38	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39	Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35	Perylene	252	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070503.D
Lab Smp Id: BGF0721-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	151126	54.31
10 Acenaphthene-d10	54983	27492	109966	88175	60.37
15 Phenanthrene-d10	115816	57908	231632	181039	56.32
25 Chrysene-d12	129167	64584	258334	200962	55.58
33 Perylene-d12	111506	55753	223012	159144	42.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.20
10 Acenaphthene-d10	7.01	6.51	7.51	7.02	0.05
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.04
25 Chrysene-d12	13.79	13.29	14.29	13.80	0.09
33 Perylene-d12	17.59	17.09	18.09	17.60	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070503.D

Lab ID: BGF0721-BLK1
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 17:09

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/07/18 14:36
Batch:	BGF0719	Laboratory ID:	BGF0719-BS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	LCS
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	Q	LCS % REC. #	QC LIMITS REC.
Tributyltin Ion	44.6	53.7		121	20 - 130

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070704.D

Date : 07-JUL-2018 14:36

Client ID:

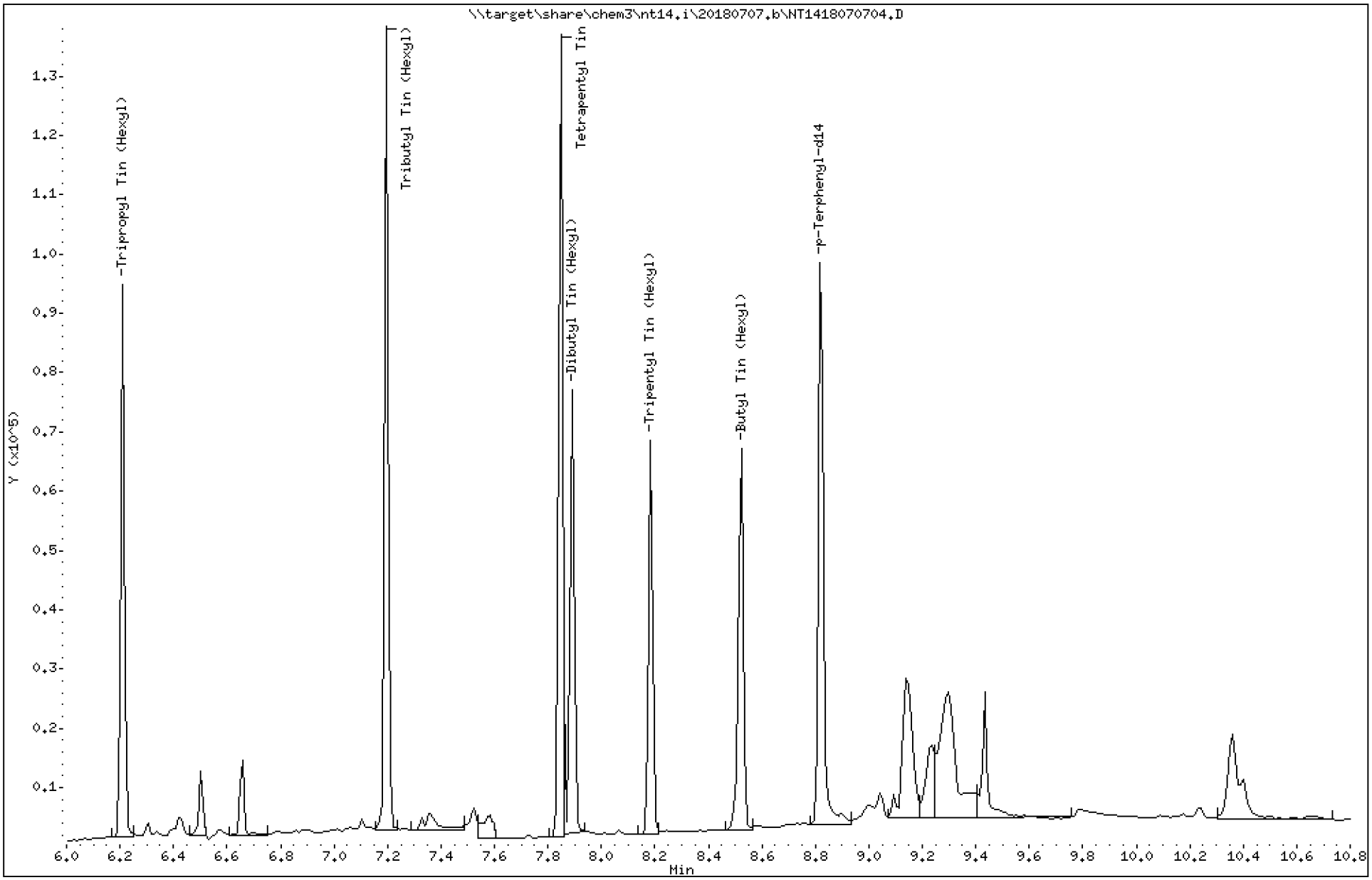
Instrument: nt14.i

Sample Info: BGF0719-BS1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070704.D

Date : 07-JUL-2018 14:36

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-BS1

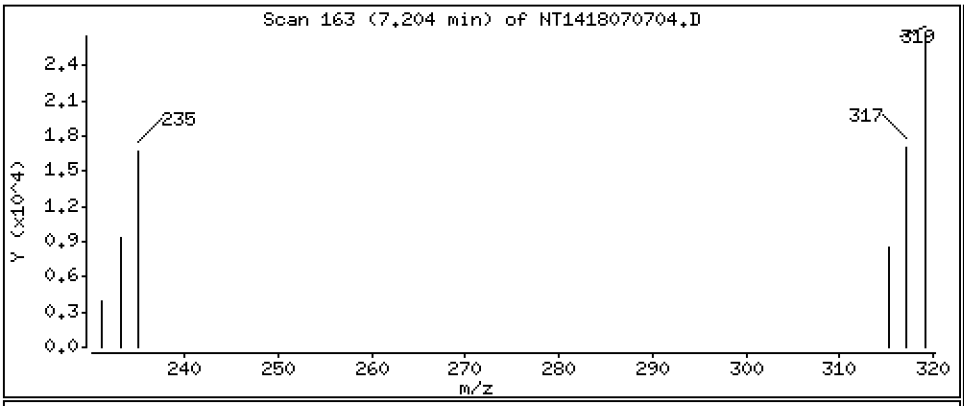
Operator: VTS

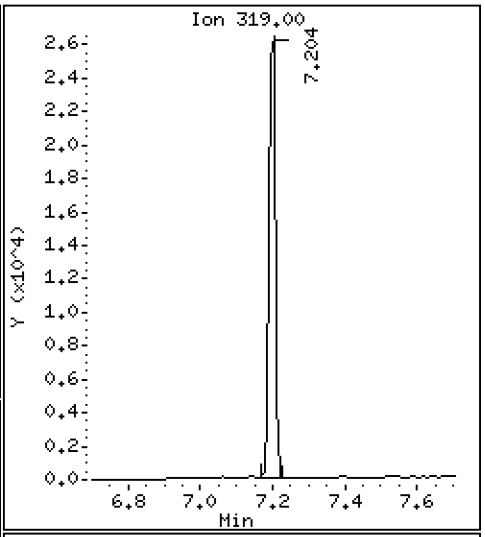
Column phase: ZB-5msi

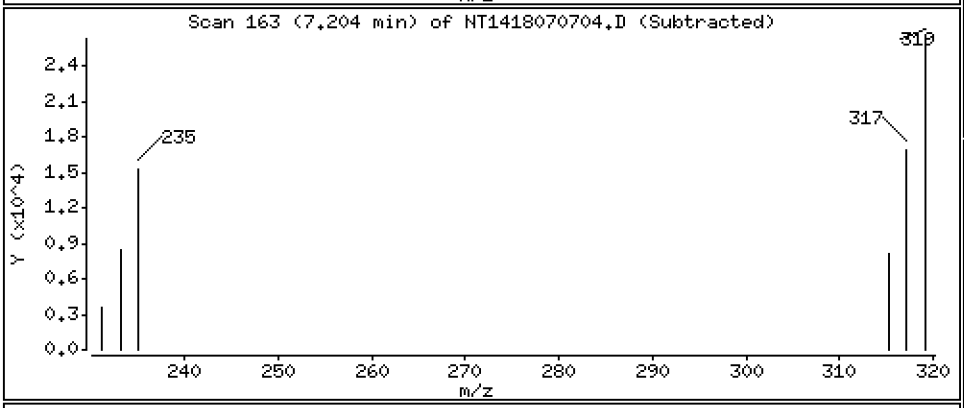
Column diameter: 0.25

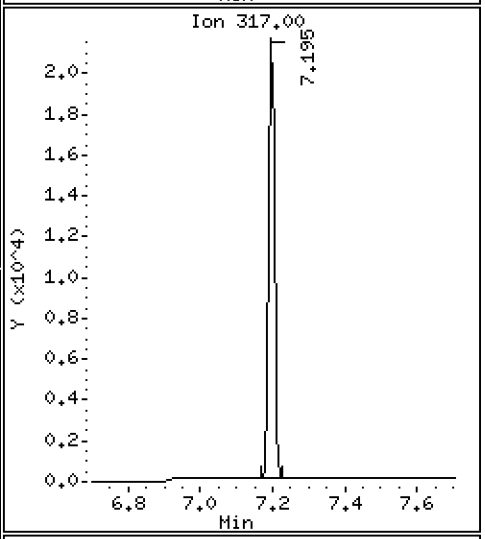
3 Tributyl Tin (Hexyl)

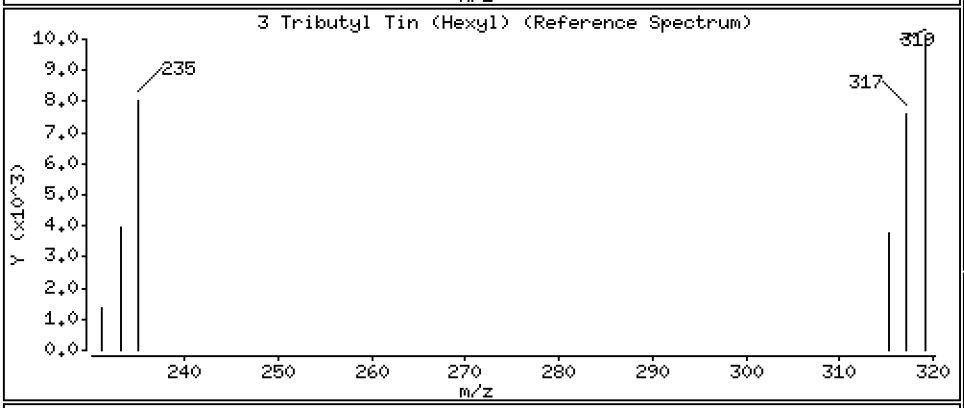
Concentration: 0.6947 ug/mL

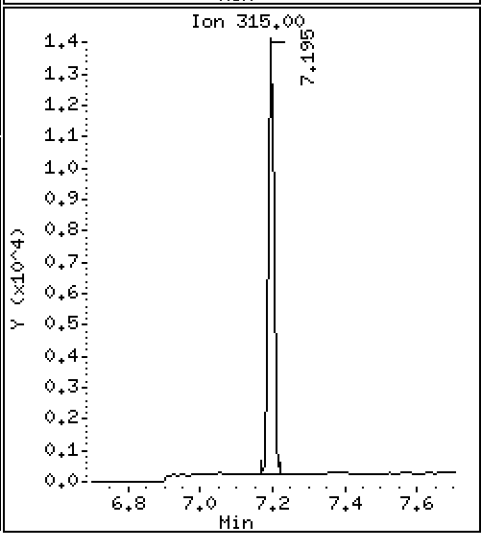


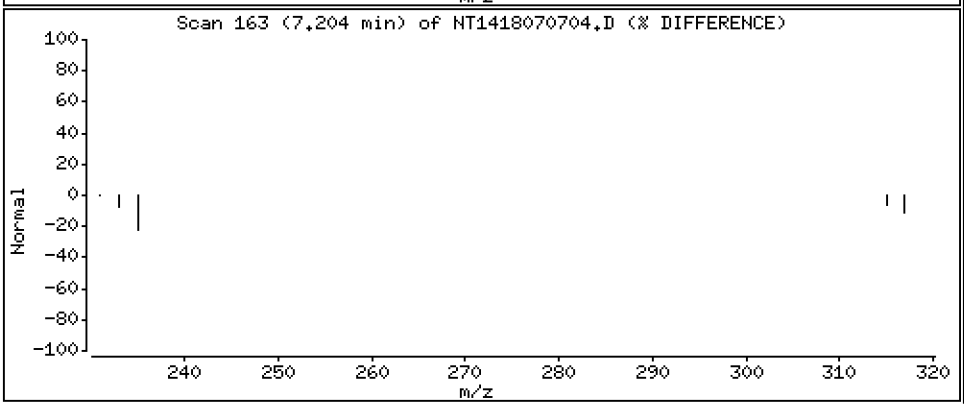












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070704.D

Date : 07-JUL-2018 14:36

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-BS1

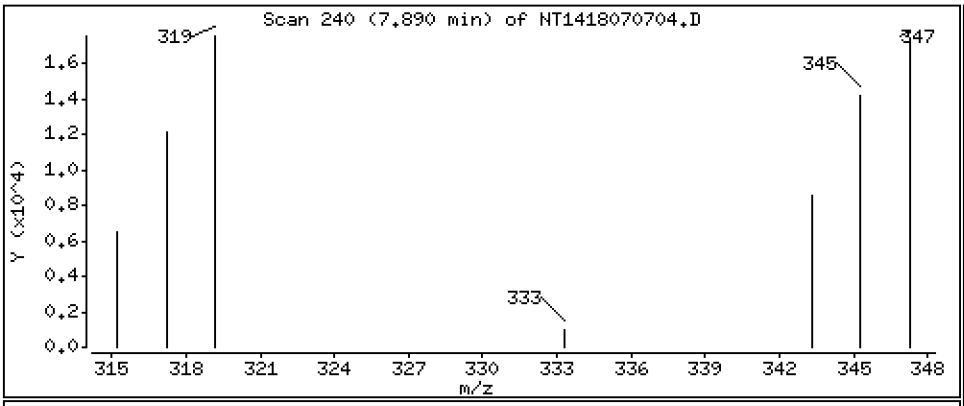
Operator: VTS

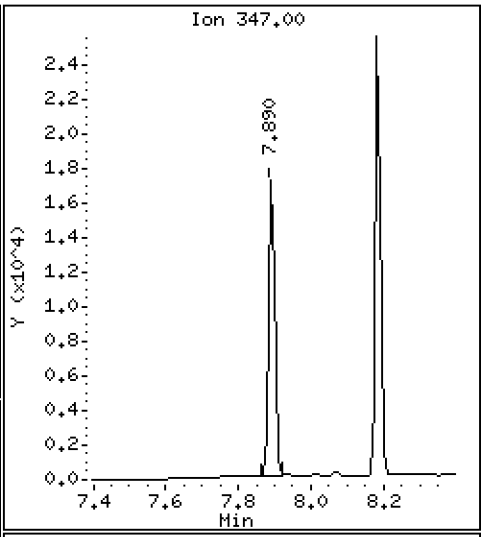
Column phase: ZB-5msi

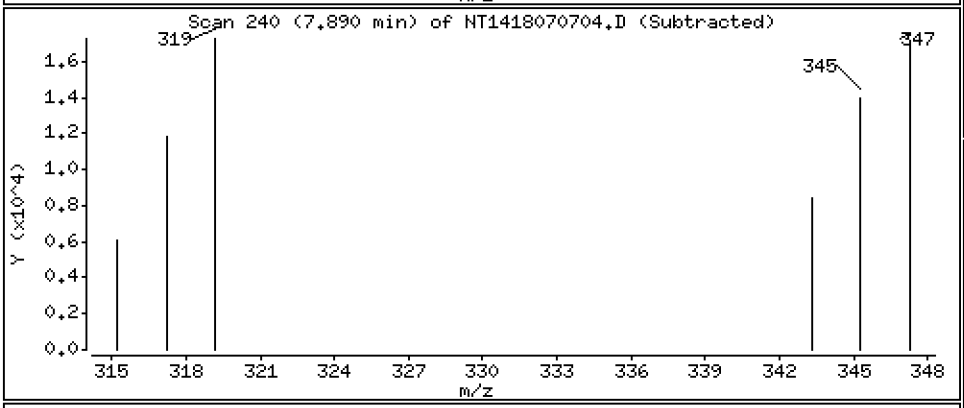
Column diameter: 0.25

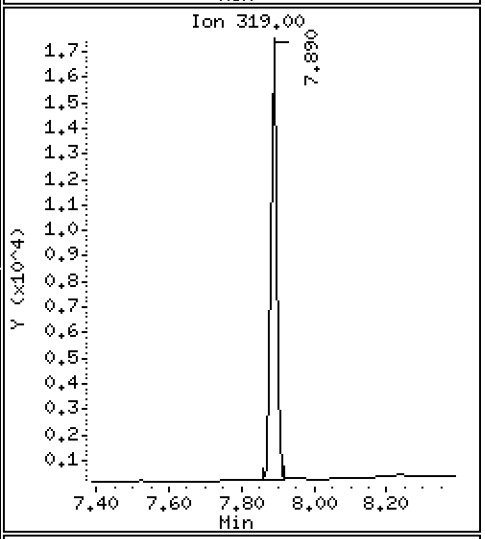
5 Dibutyl Tin (Hexyl)

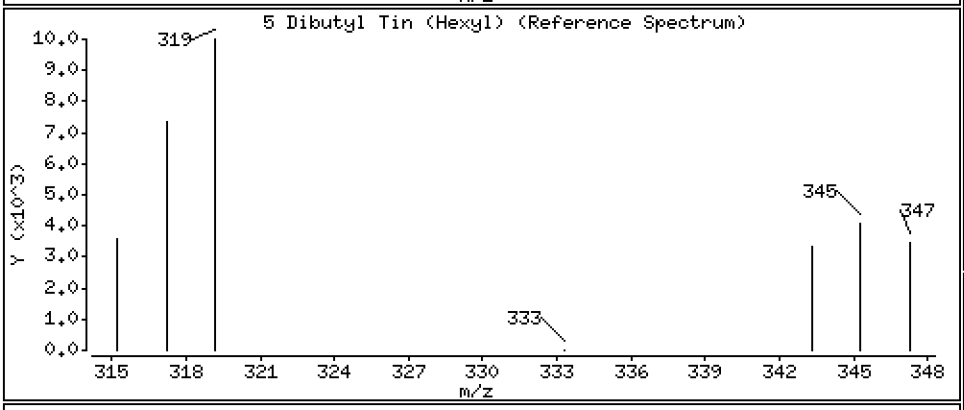
Concentration: 0.6639 ug/mL

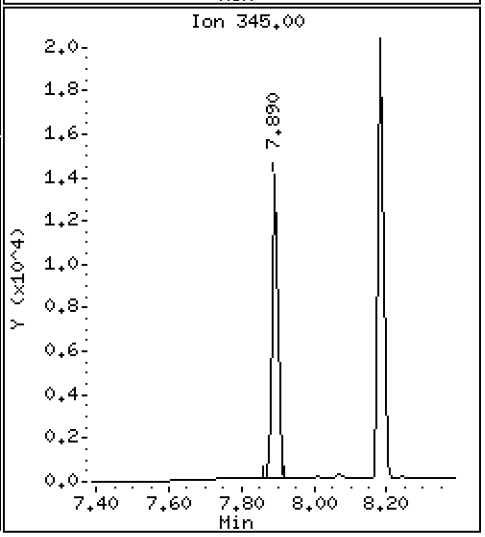


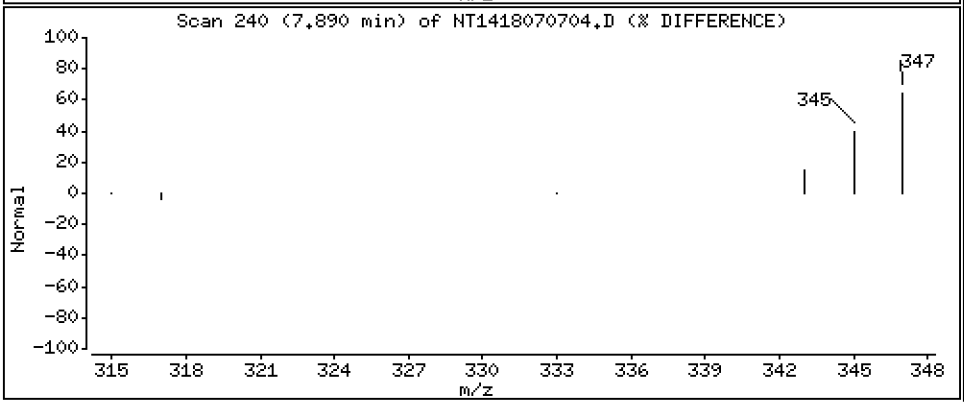












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070704.D

Date : 07-JUL-2018 14:36

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-BS1

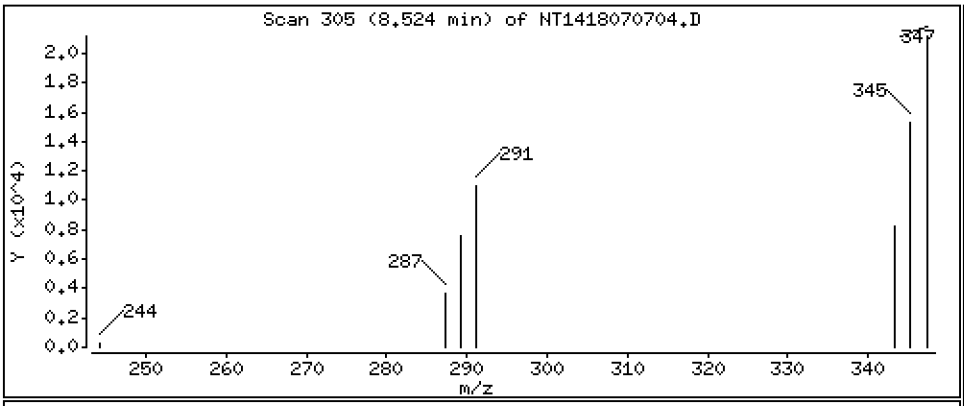
Operator: VTS

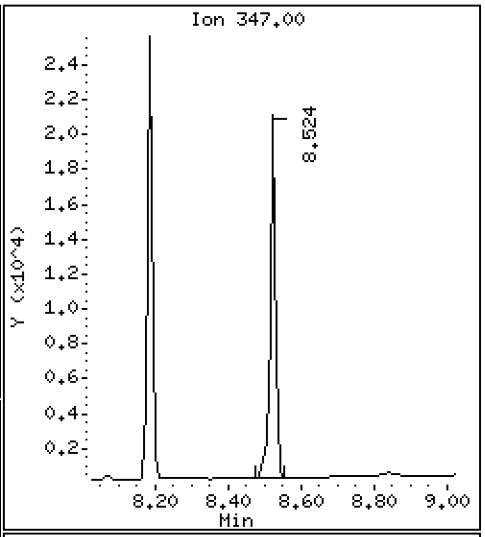
Column phase: ZB-5msi

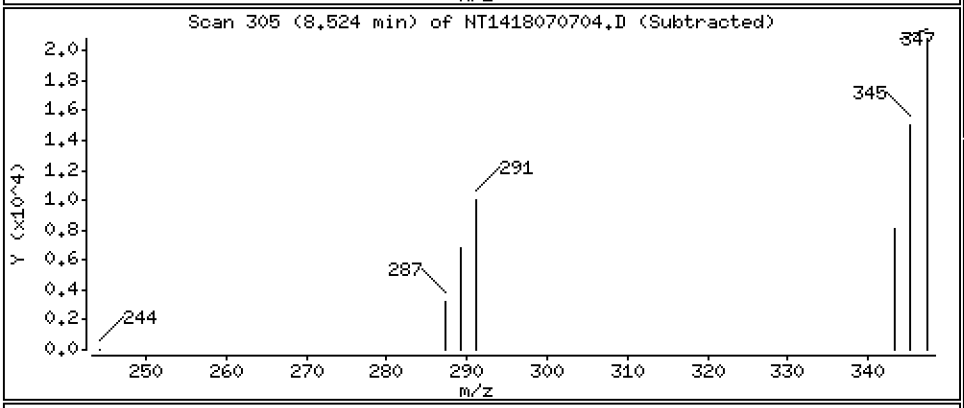
Column diameter: 0.25

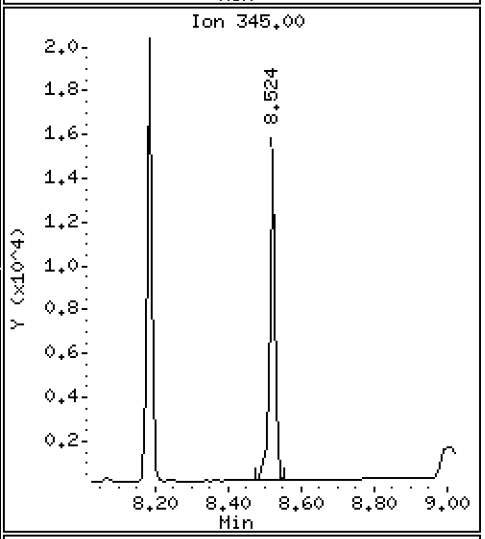
7 Butyl Tin (Hexyl)

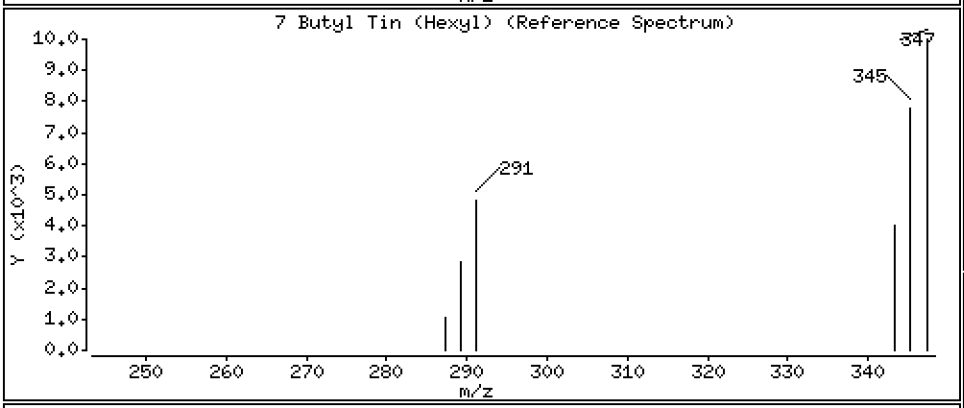
Concentration: 0.4961 ug/mL

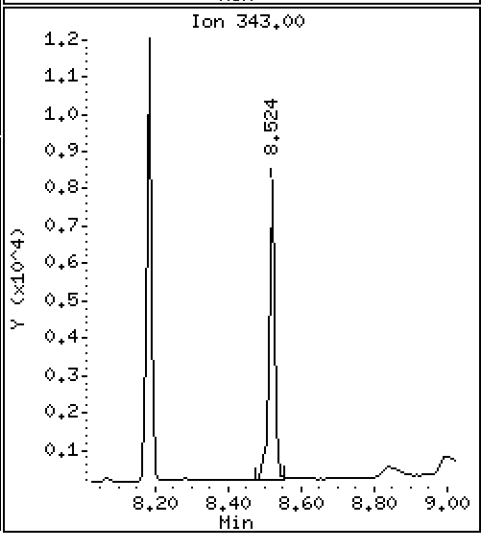


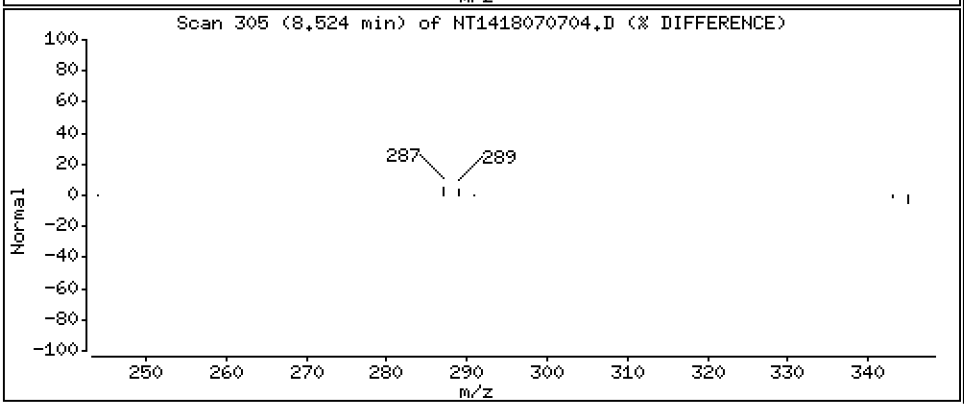












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070704.D
Lab Smp Id: BGF0719-BS1
Inj Date : 07-JUL-2018 14:36
Operator : VTS Inst ID: nt14.i
Smp Info : BGF0719-BS1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	40234	0.71228	0.7123
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	30394	0.69465	0.6947
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	140243	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.890	7.900	(0.895)	18974	0.66386	0.6639
$	6 Tripentyl Tin (Hexyl)	347	8.182	8.183	(0.928)	27553	0.65056	0.6506
	7 Butyl Tin (Hexyl)	347	8.524	8.524	(0.967)	22957	0.49610	0.4961
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	112693	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070704.D
Lab Smp Id: BGF0719-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	140243	-7.45
8 p-Terphenyl-d14	129365	64683	258730	112693	-12.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070704.D

Lab ID: BGF0719-BS1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 14:36

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 17:36
Batch:	BGF0721	Laboratory ID:	BGF0721-BS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	LCS
Initial/Final:	10 g / 0.5 mL		

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	Q	LCS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	150	105		70.0	20 - 130
Chrysene	150	105		70.2	20 - 130
Benzo(b)fluoranthene	150	107		71.5	20 - 130
Benzo(k)fluoranthene	150	108		72.3	20 - 130
Benzo(a)pyrene	150	104		69.4	20 - 130
Indeno(1,2,3-cd)pyrene	150	109		72.6	20 - 130
Dibenzo(a,h)anthracene	150	112		74.4	20 - 130

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

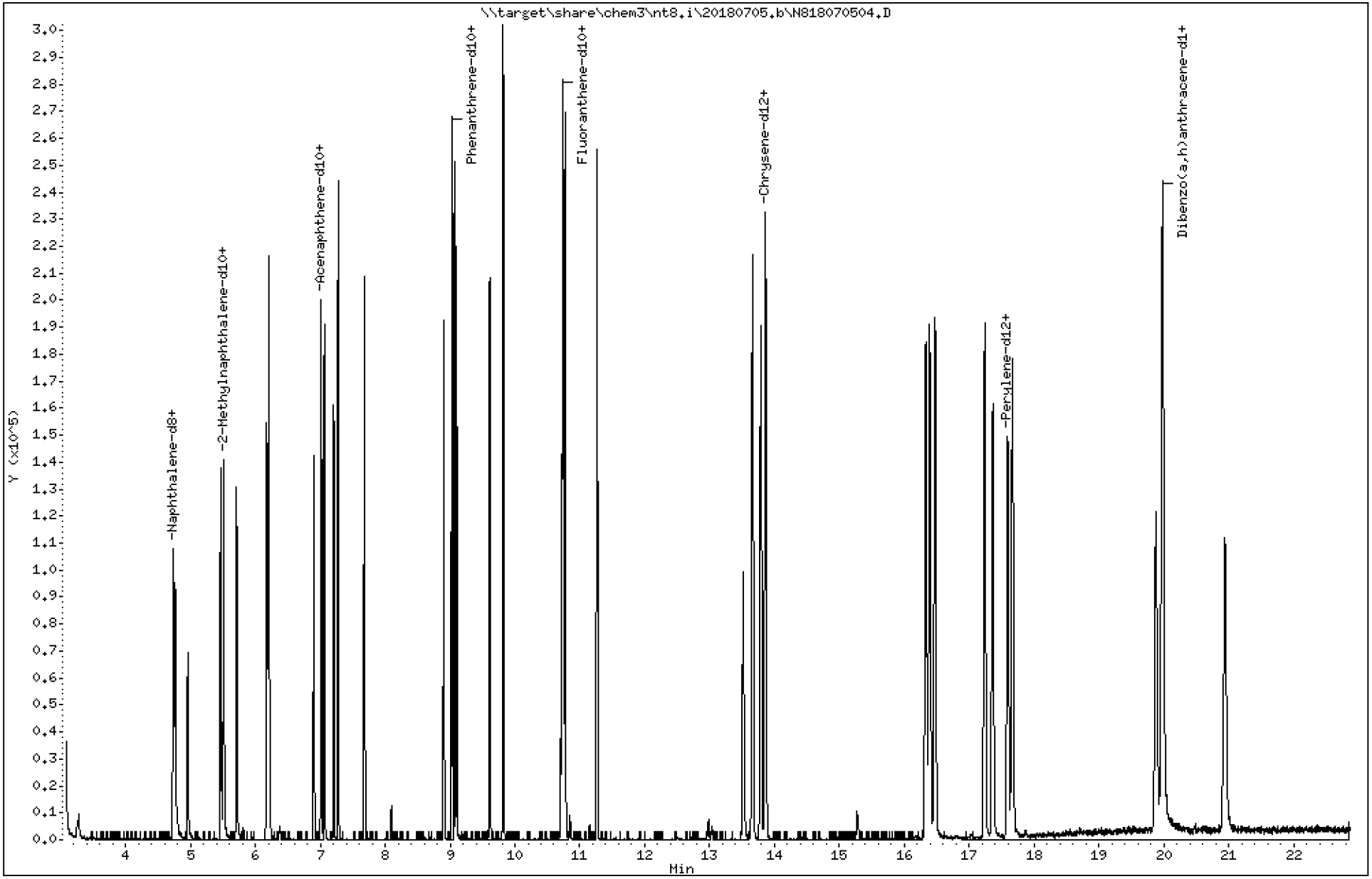
Instrument: nt8.i

Sample Info: BGF0721-BS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

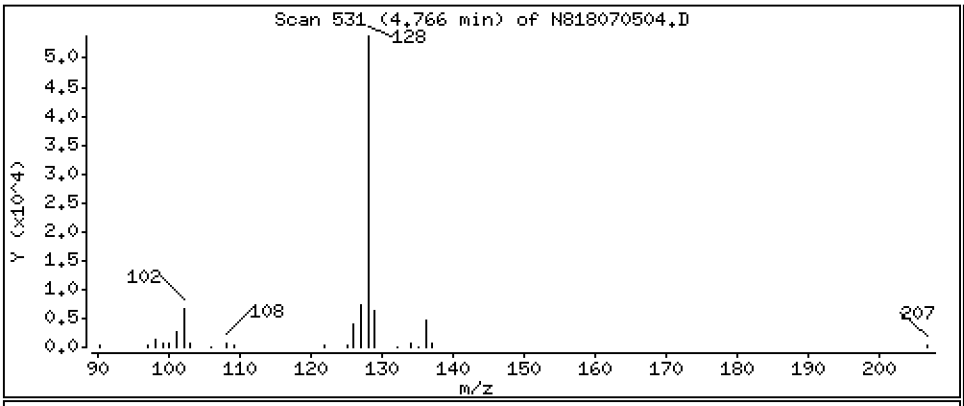
Operator: JZ

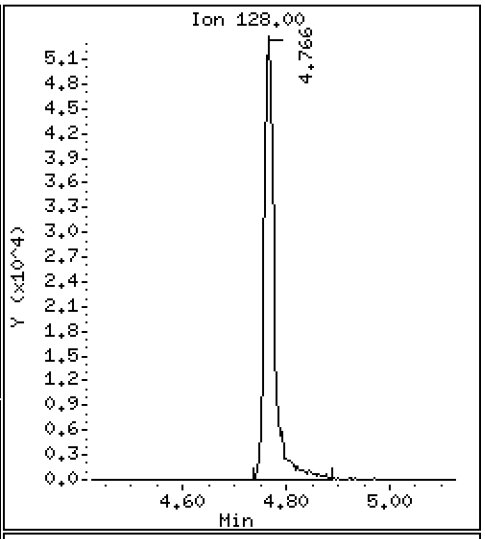
Column phase: Rxi-17sil

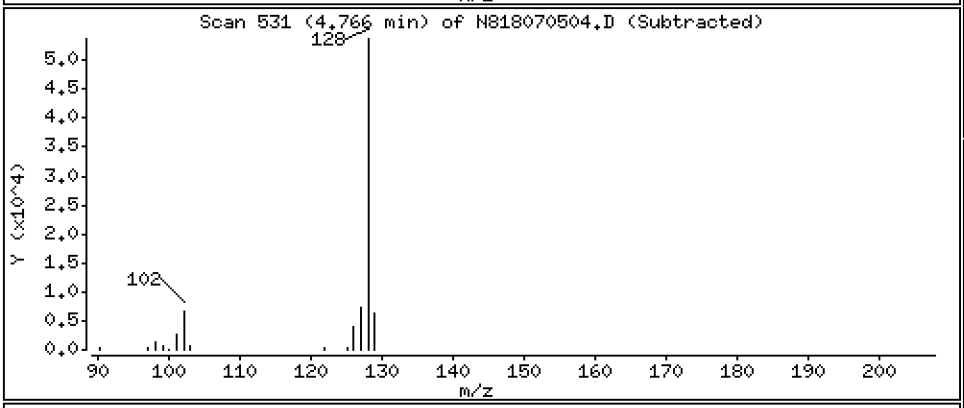
Column diameter: 0.25

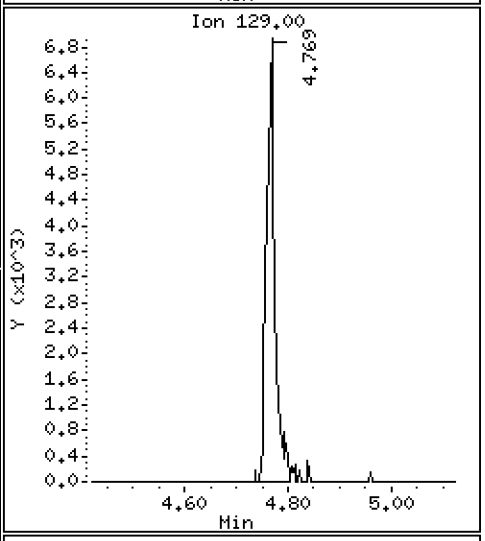
2 Naphthalene

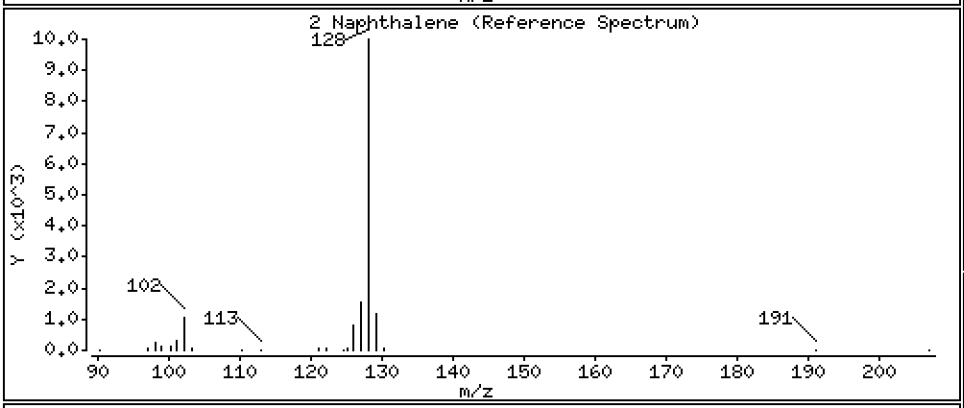
Concentration: 1.375 ug/mL

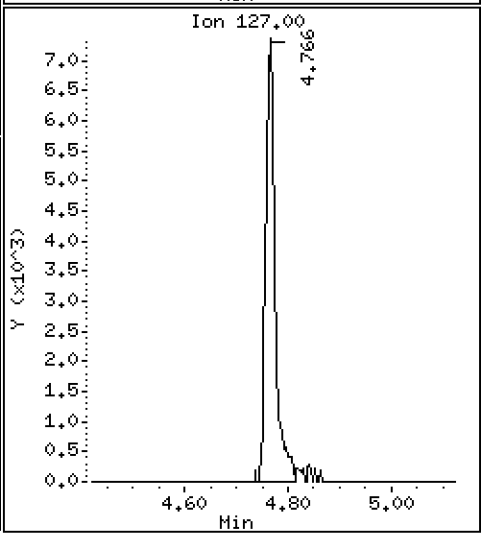


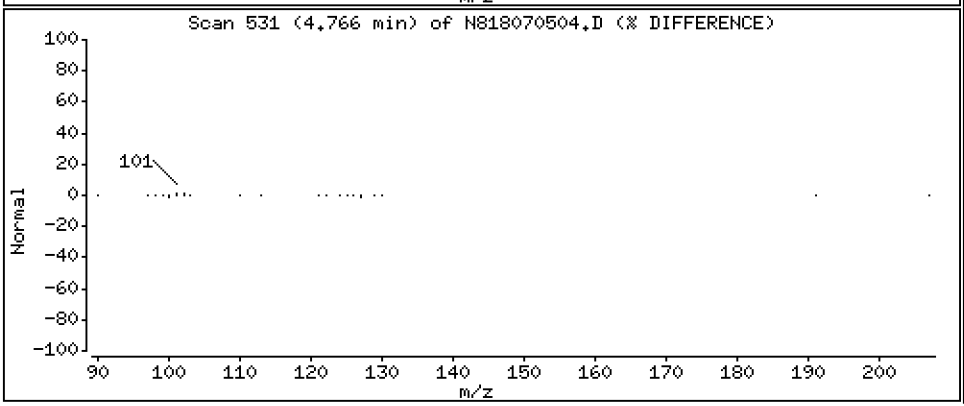












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

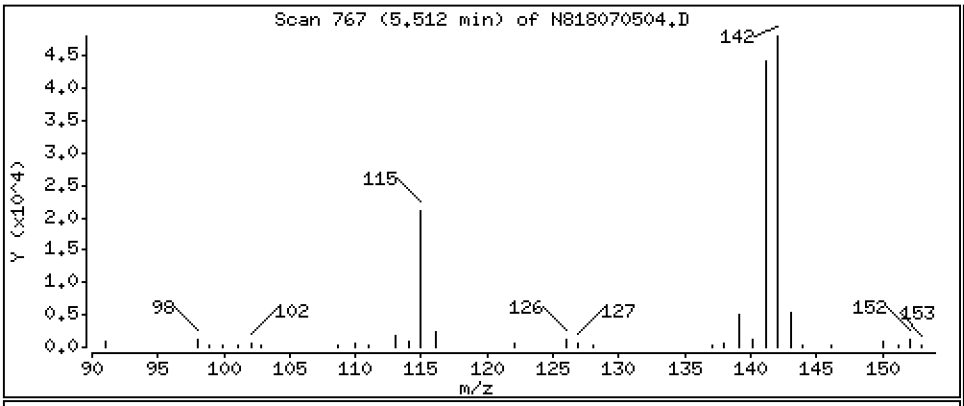
Operator: JZ

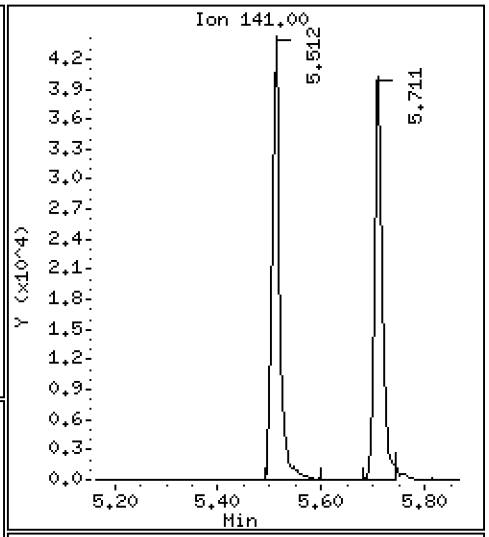
Column phase: Rxi-17sil

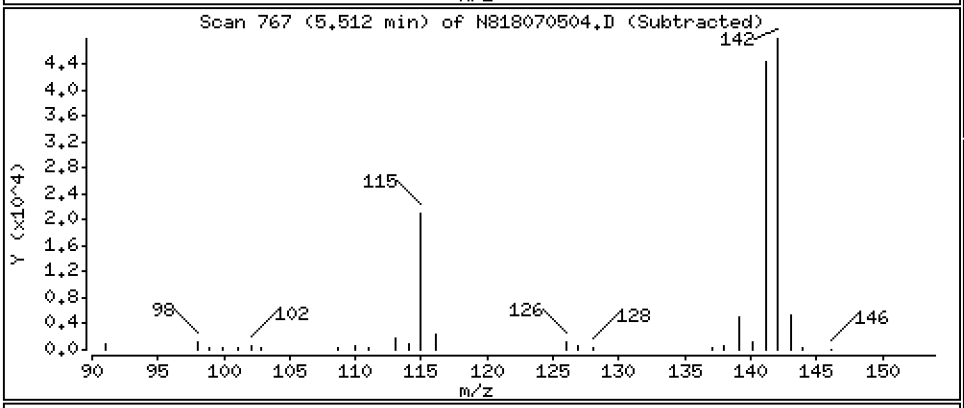
Column diameter: 0.25

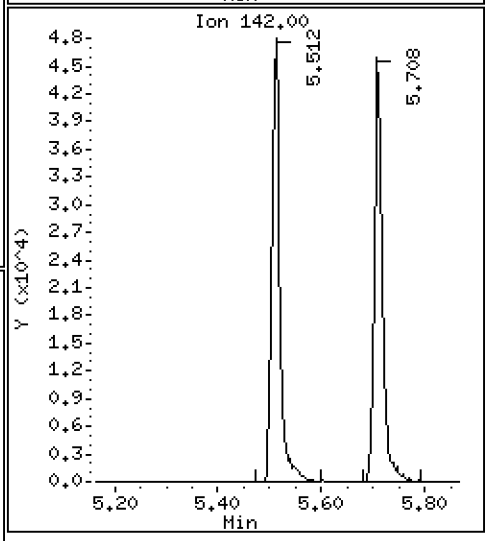
4 2-Methylnaphthalene

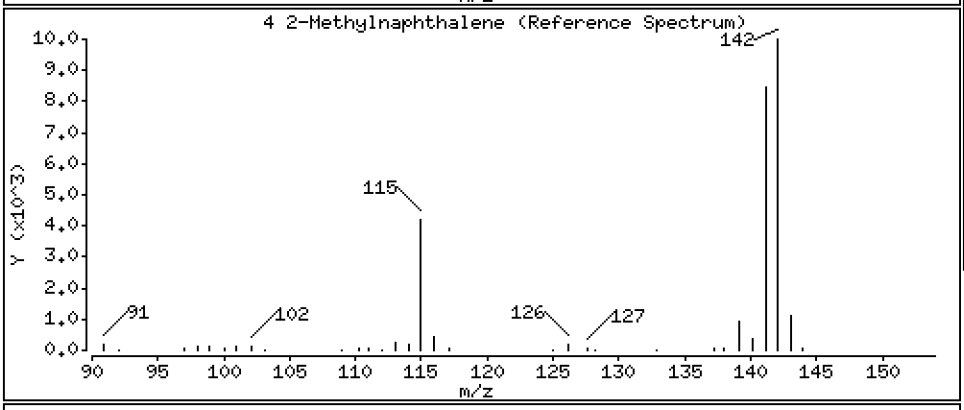
Concentration: 1.455 ug/mL

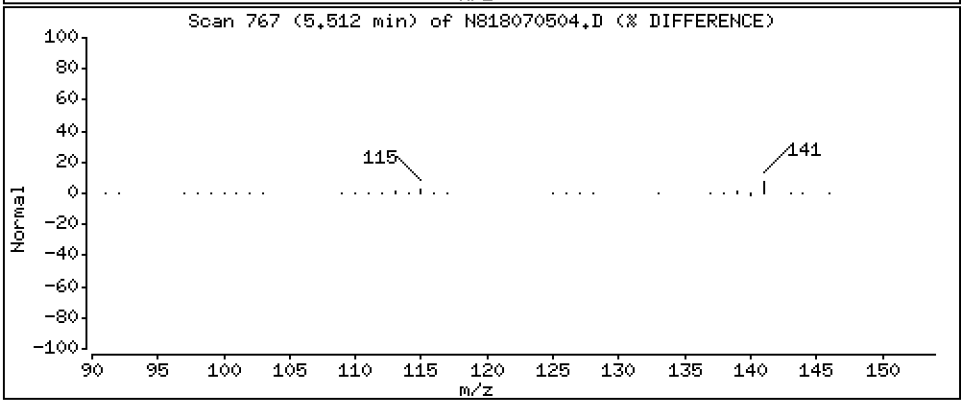












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

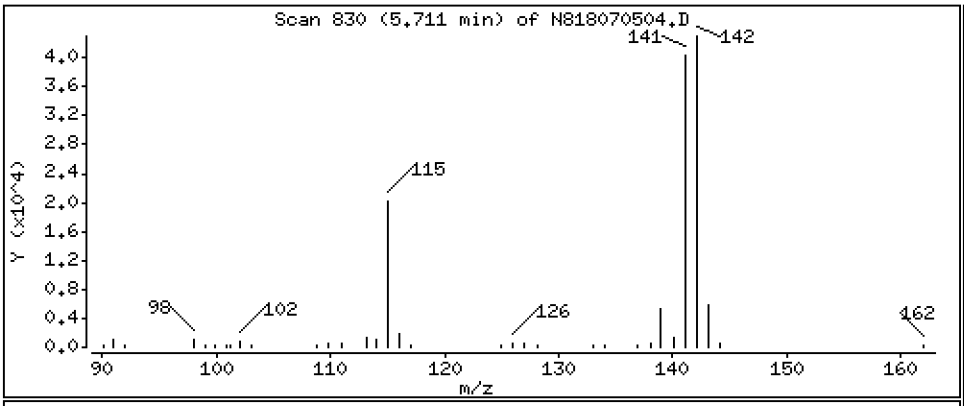
Operator: JZ

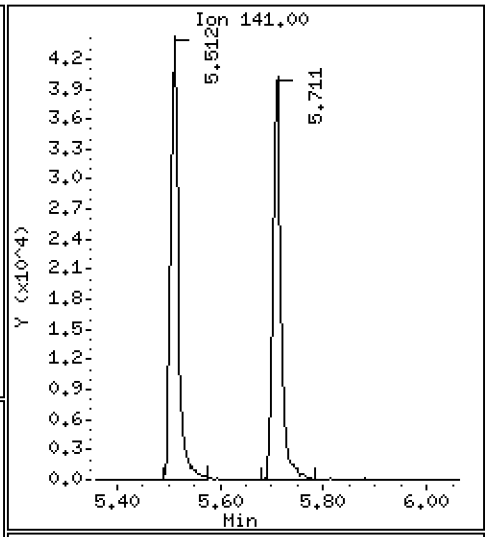
Column phase: Rxi-17sil

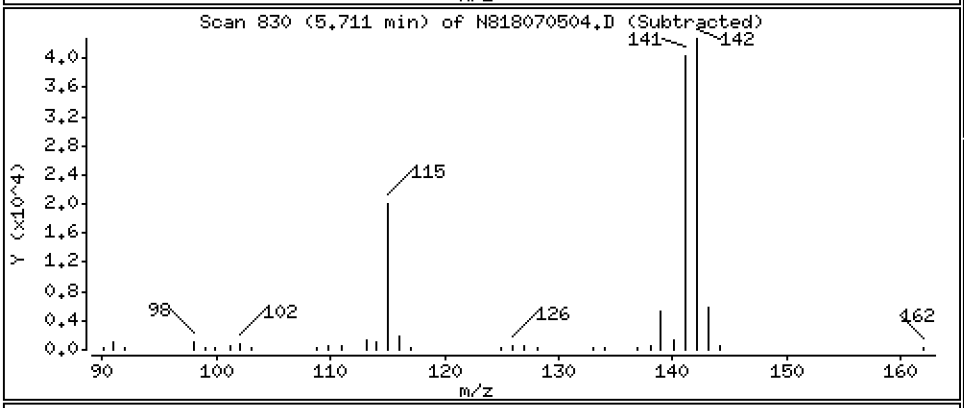
Column diameter: 0.25

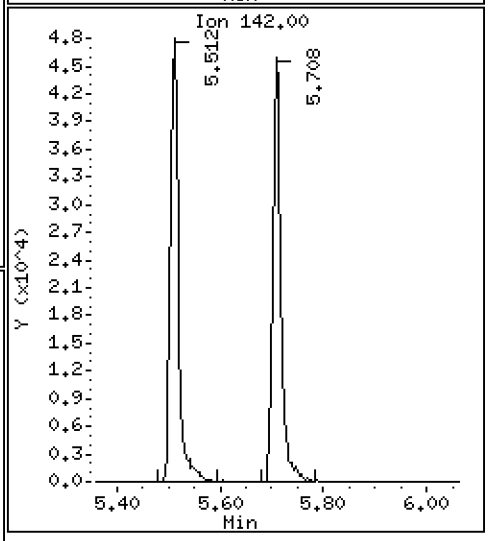
5 1-methylnaphthalene

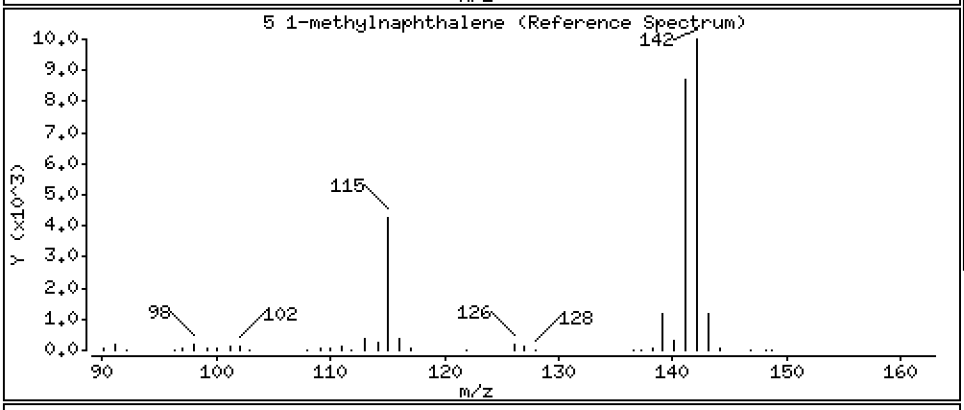
Concentration: 1.430 ug/mL

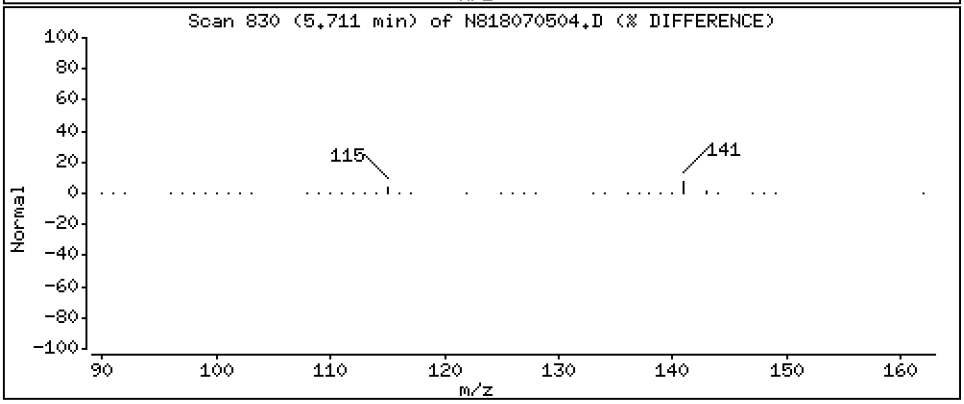












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

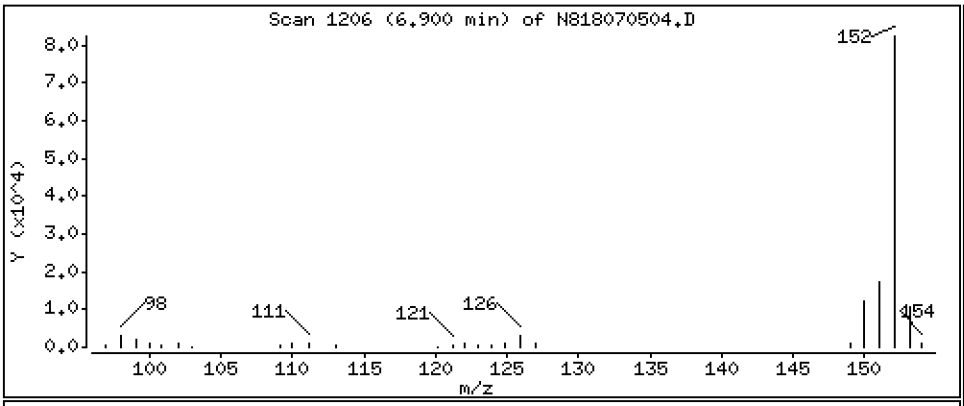
Operator: JZ

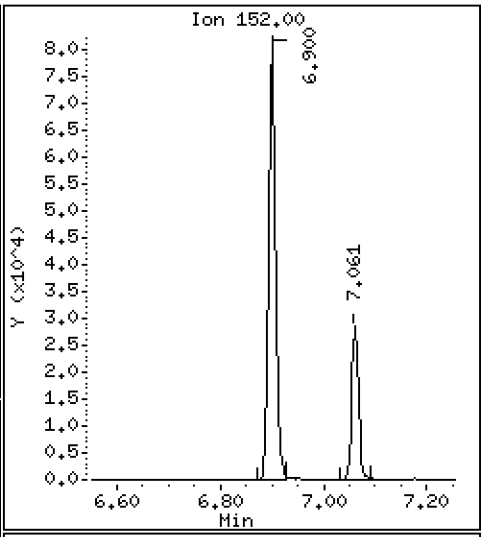
Column phase: Rxi-17sil

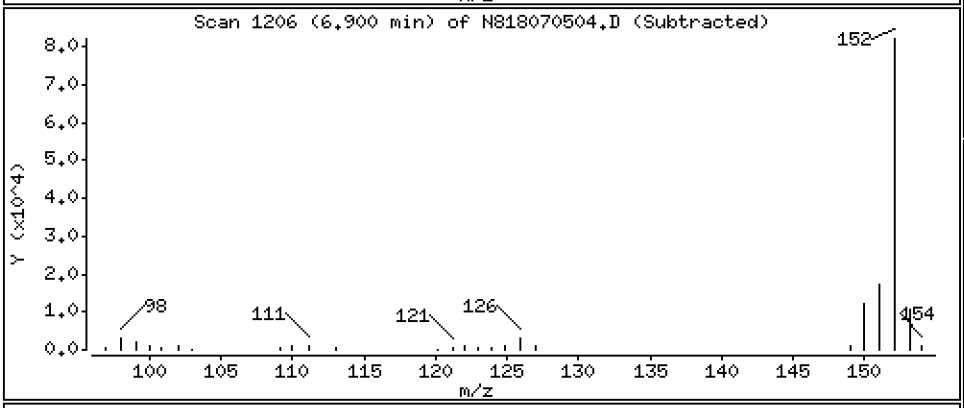
Column diameter: 0.25

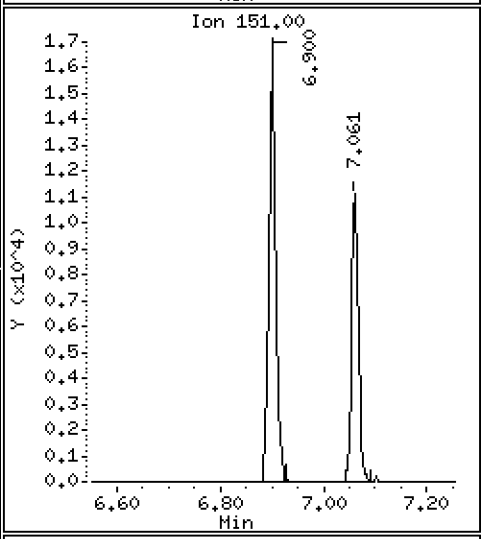
9 Acenaphthylene

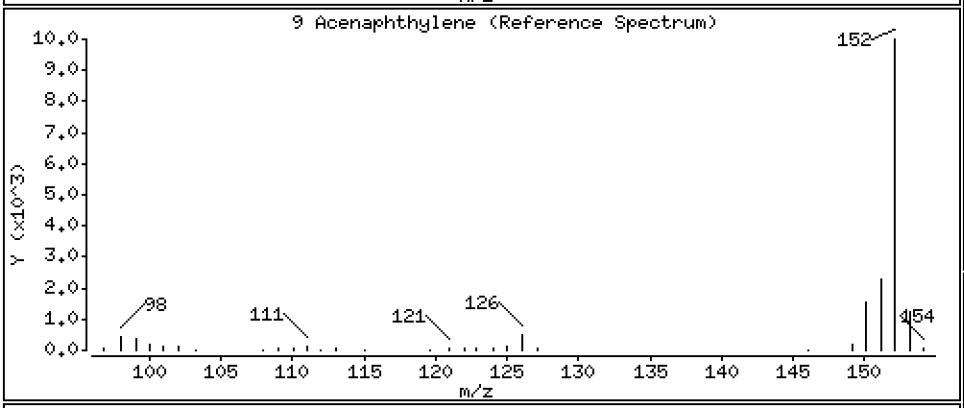
Concentration: 1.440 ug/mL

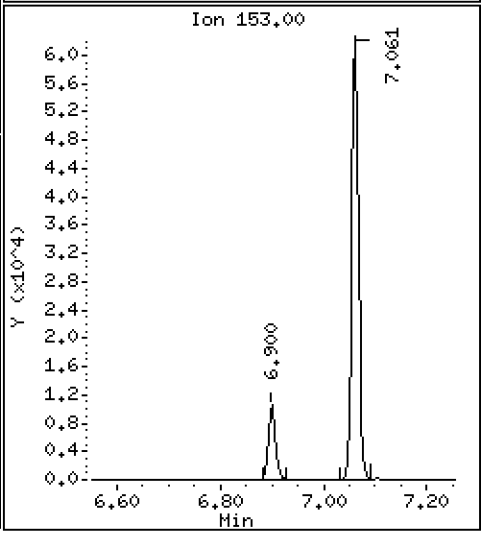


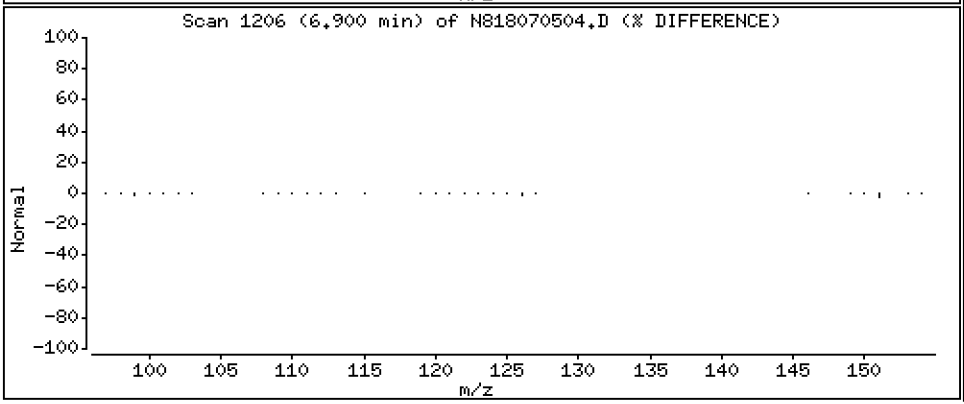












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

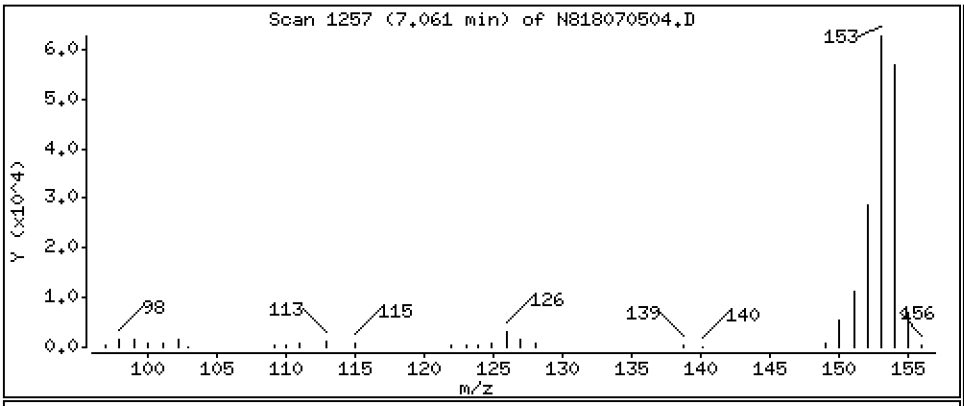
Operator: JZ

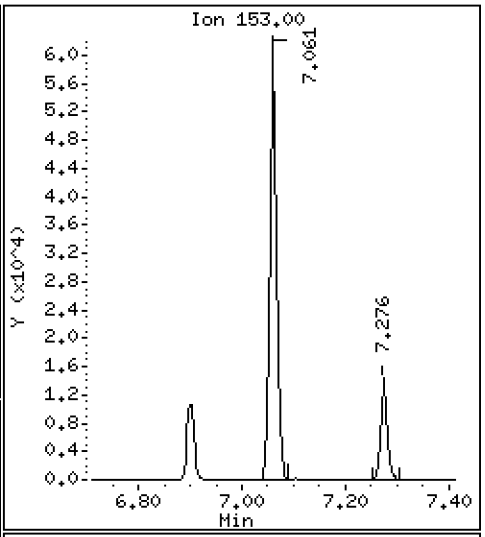
Column phase: Rxi-17sil

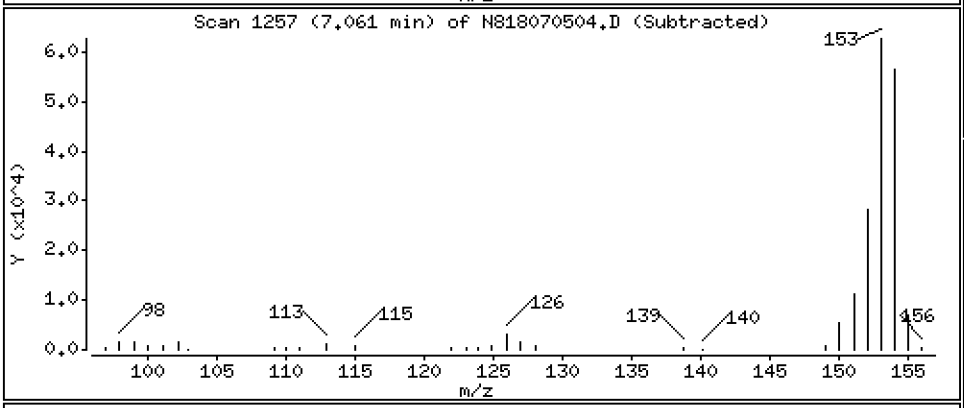
Column diameter: 0.25

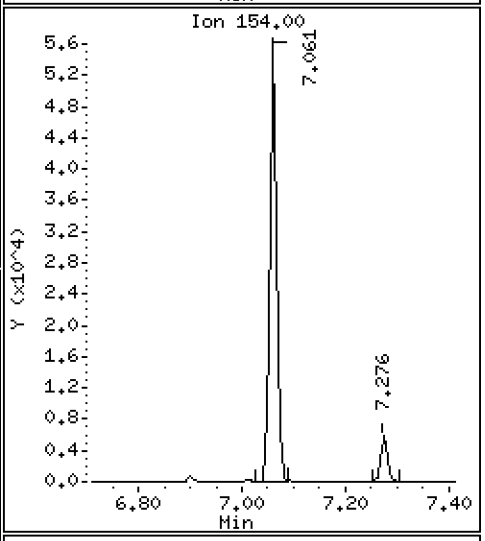
11 Acenaphthene

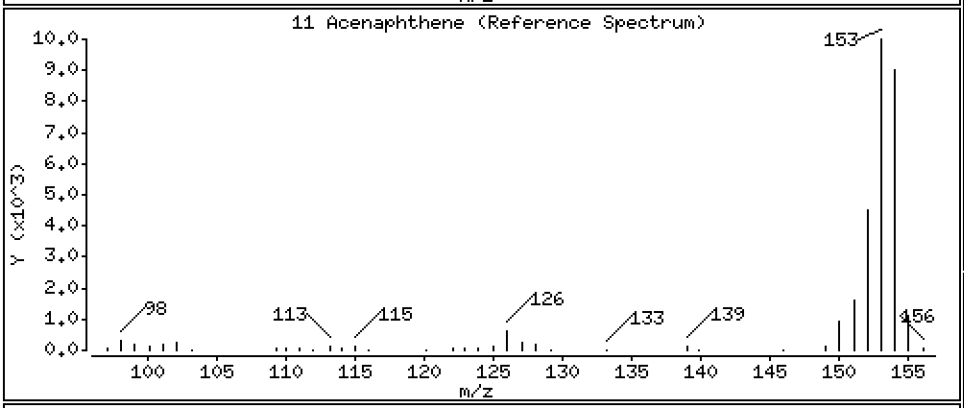
Concentration: 1.476 ug/mL

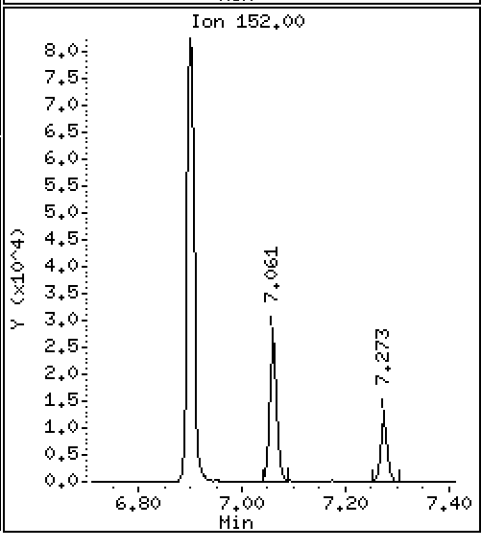


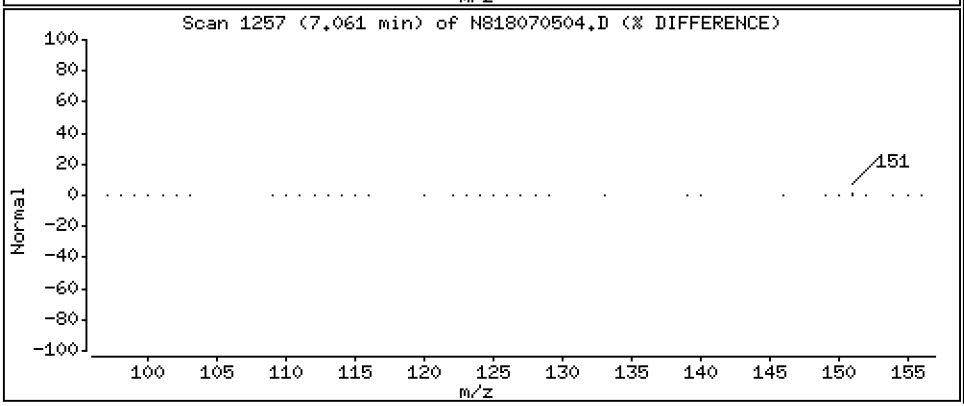












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

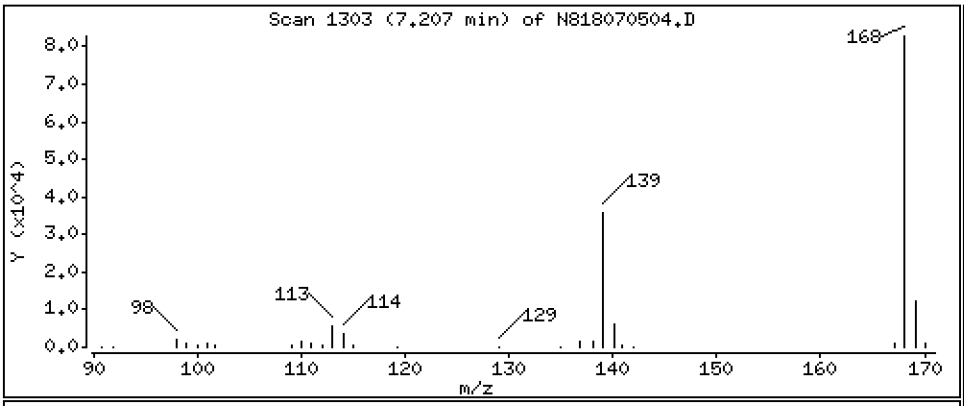
Operator: JZ

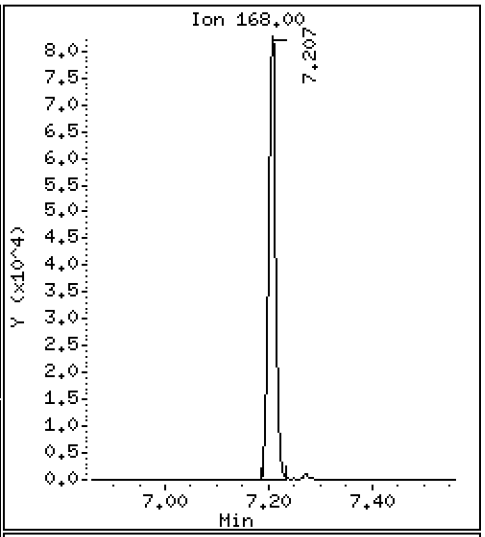
Column phase: Rxi-17sil

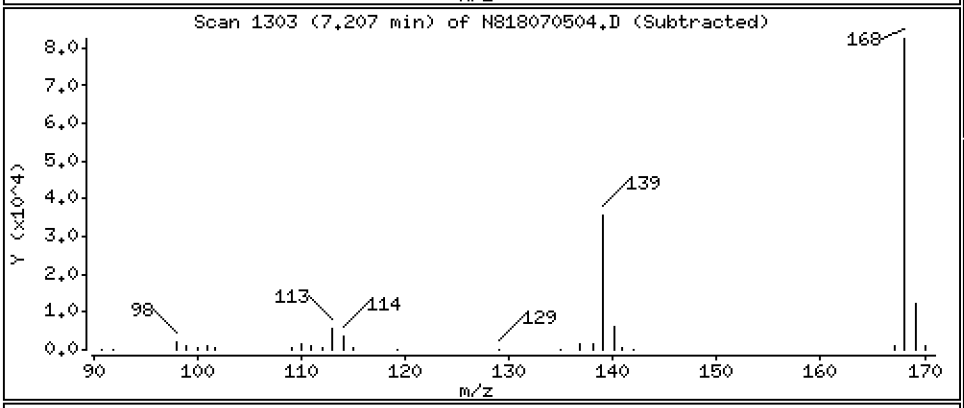
Column diameter: 0.25

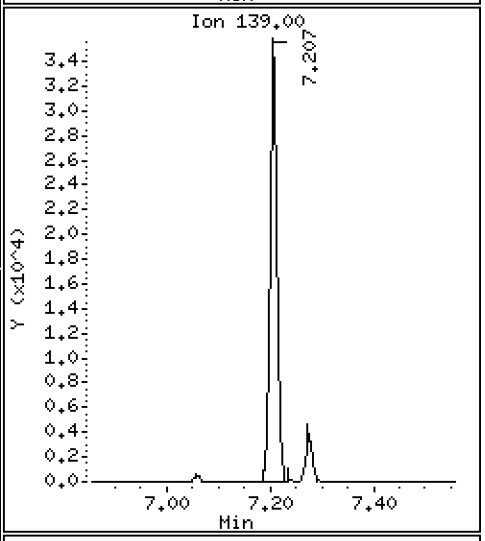
12 Dibenzofuran

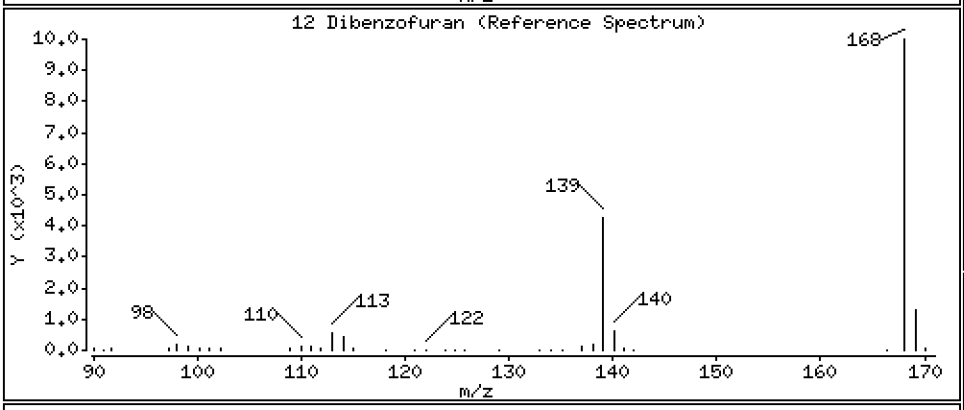
Concentration: 1.479 ug/mL

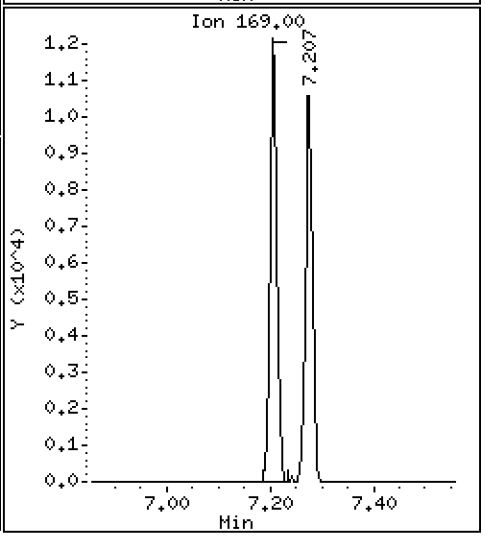


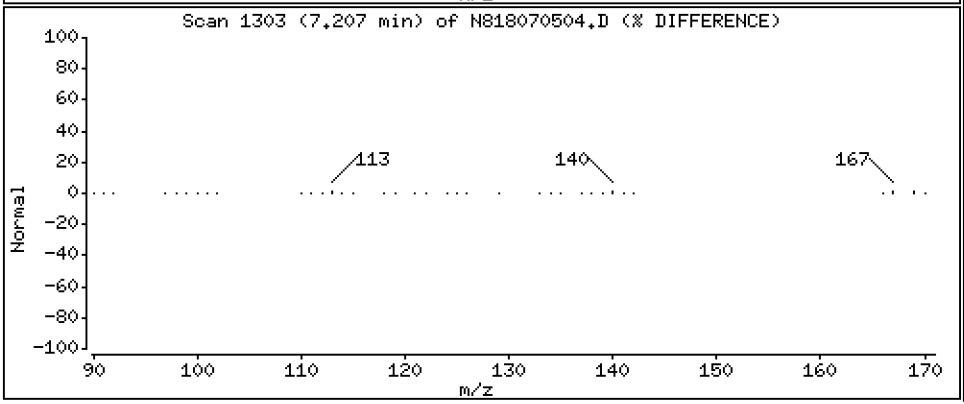












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

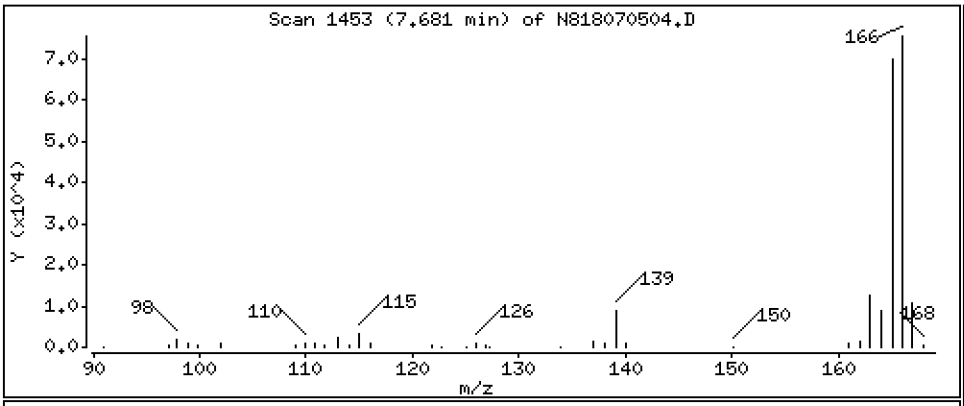
Operator: JZ

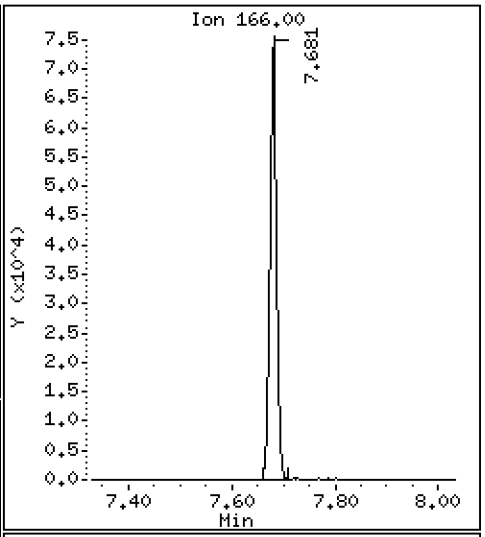
Column phase: Rxi-17sil

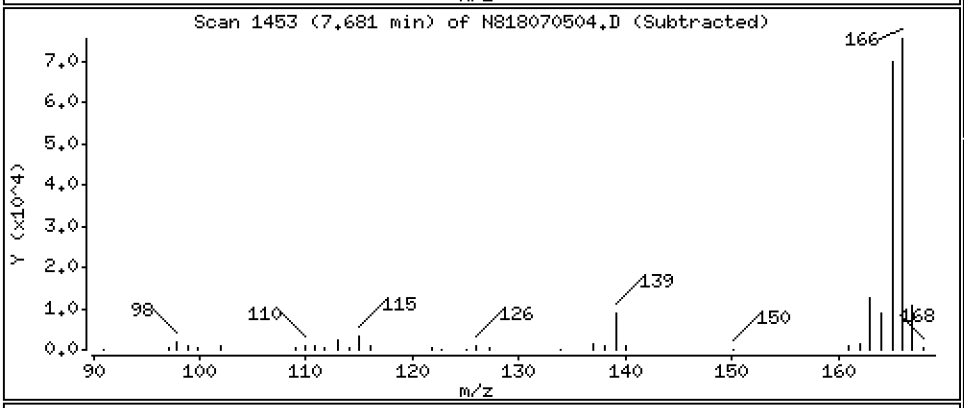
Column diameter: 0.25

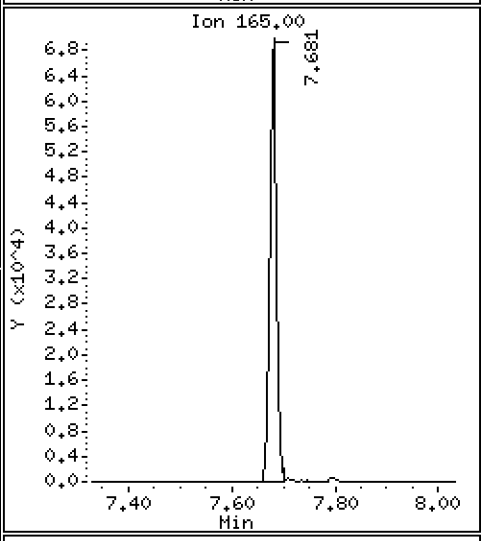
14 Fluorene

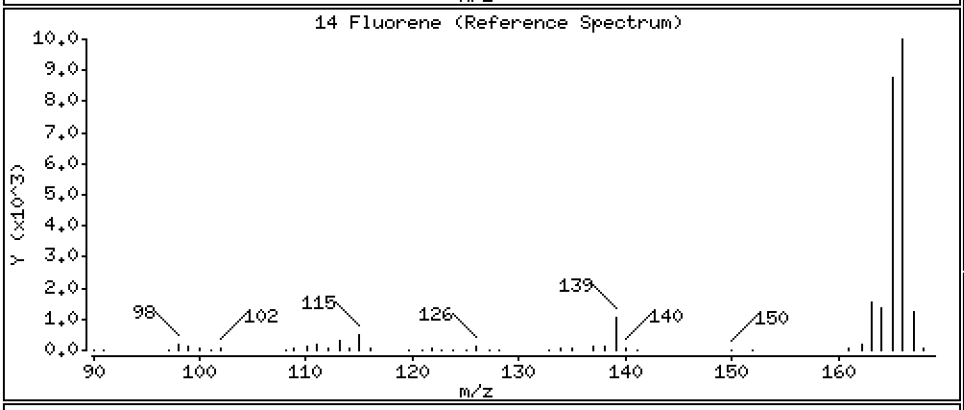
Concentration: 1.589 ug/mL

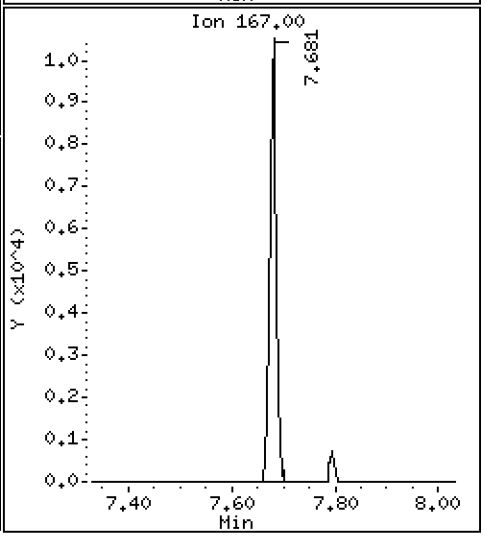


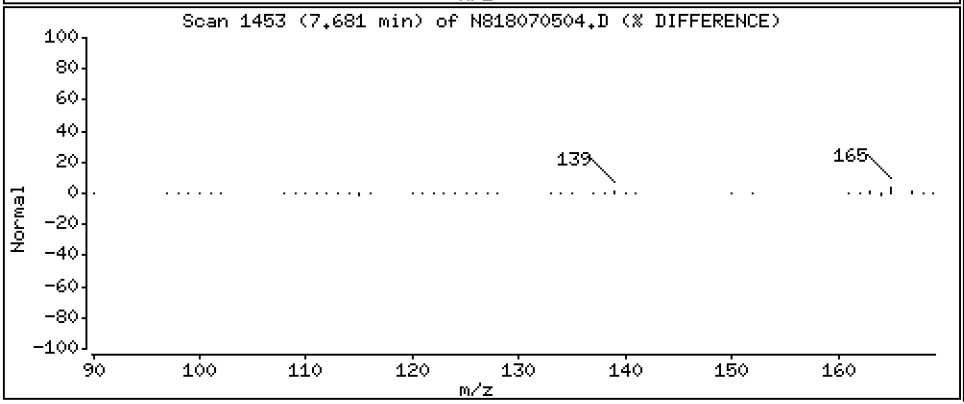












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

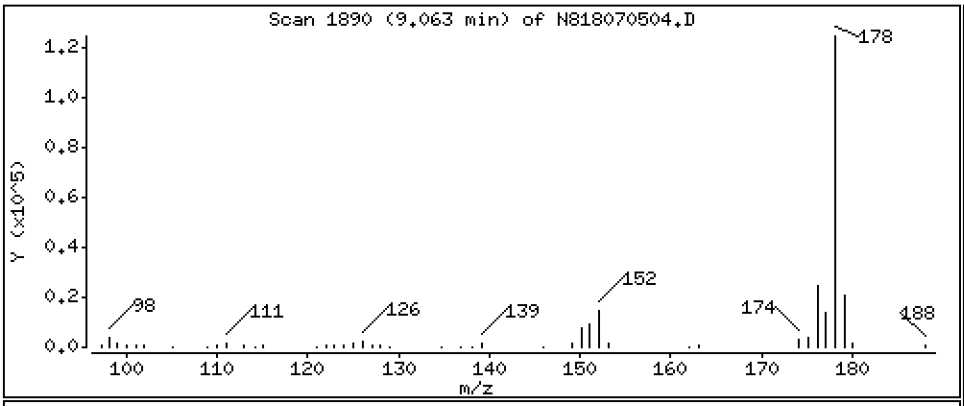
Operator: JZ

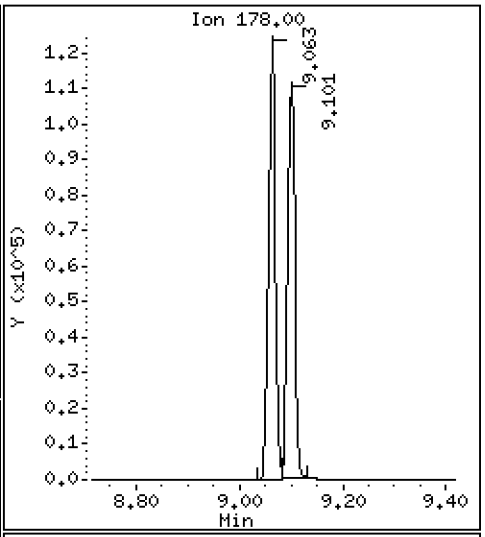
Column phase: Rxi-17sil

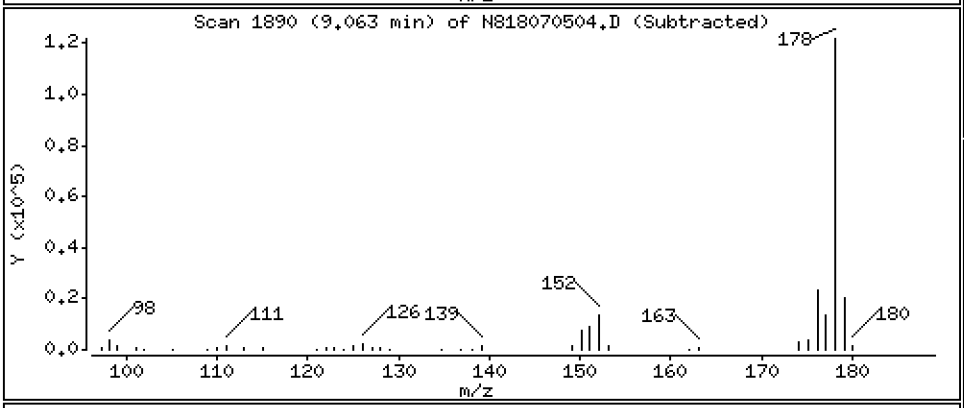
Column diameter: 0.25

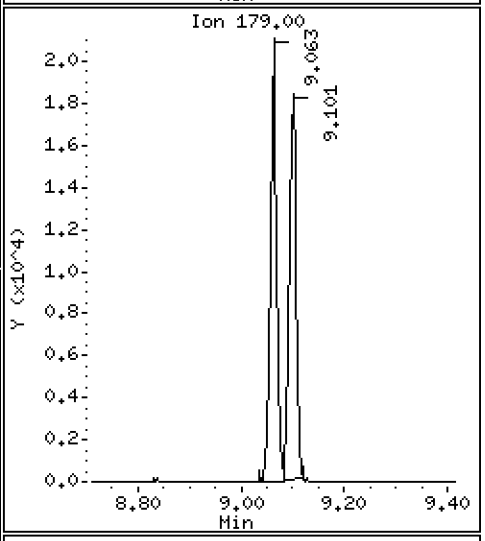
16 Phenanthrene

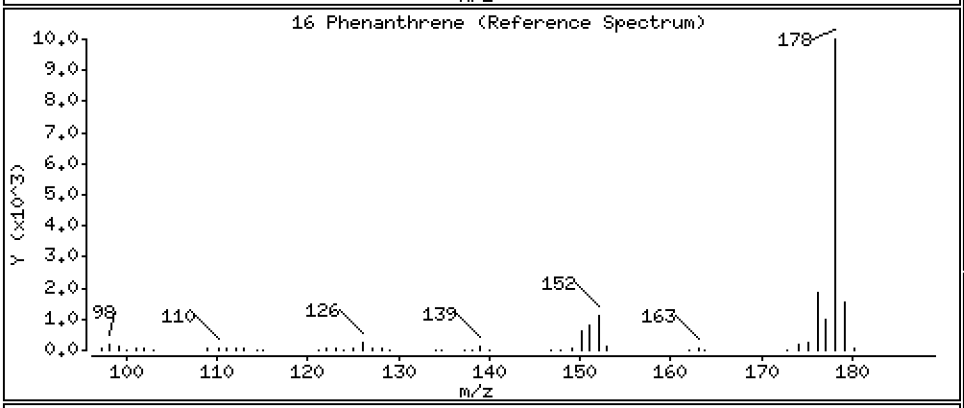
Concentration: 1.766 ug/mL

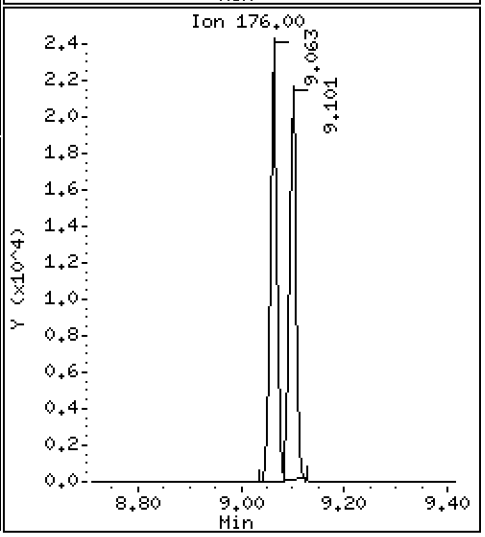


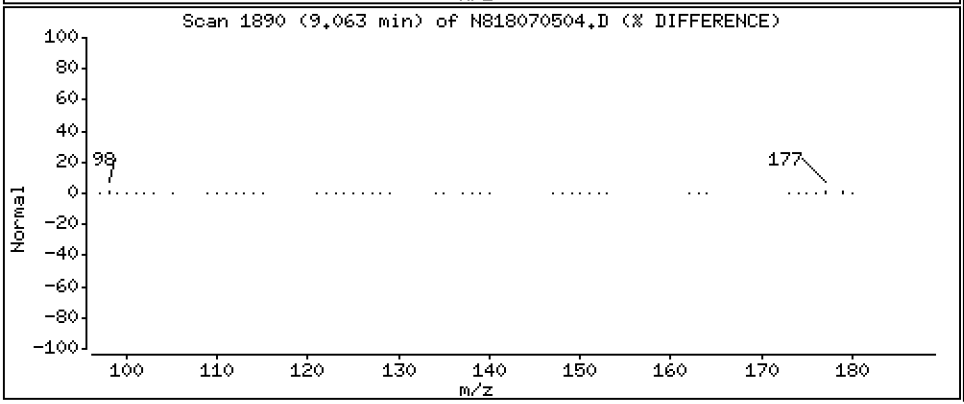












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

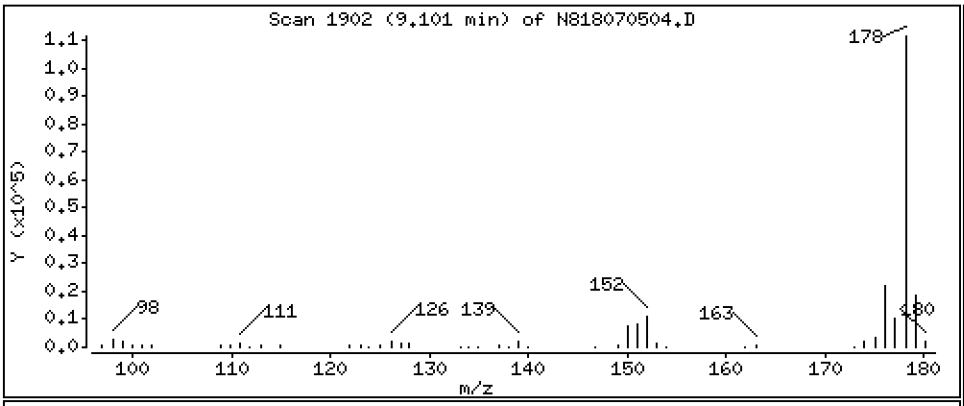
Operator: JZ

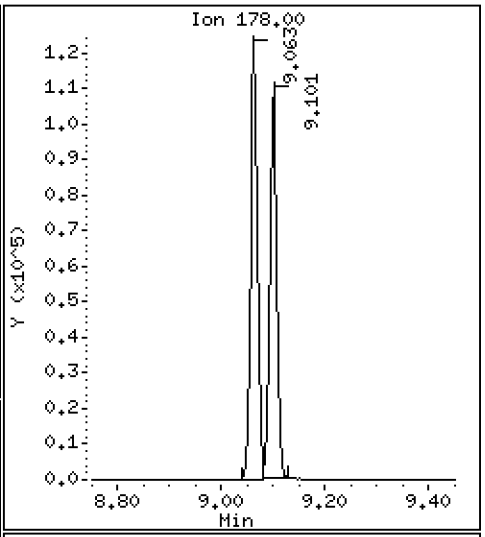
Column phase: Rxi-17sil

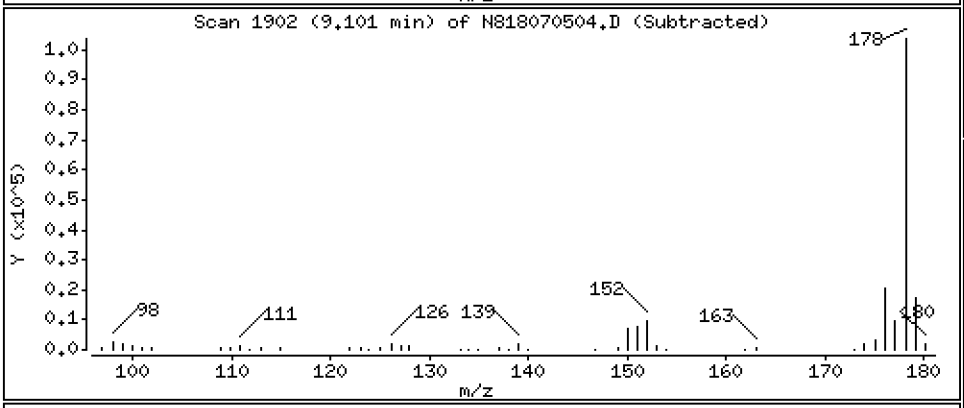
Column diameter: 0.25

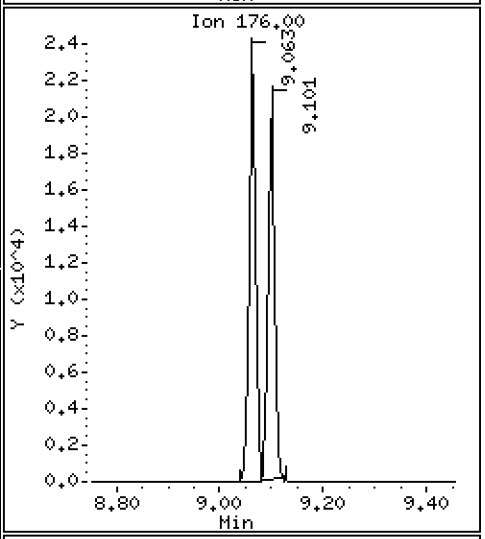
17 Anthracene

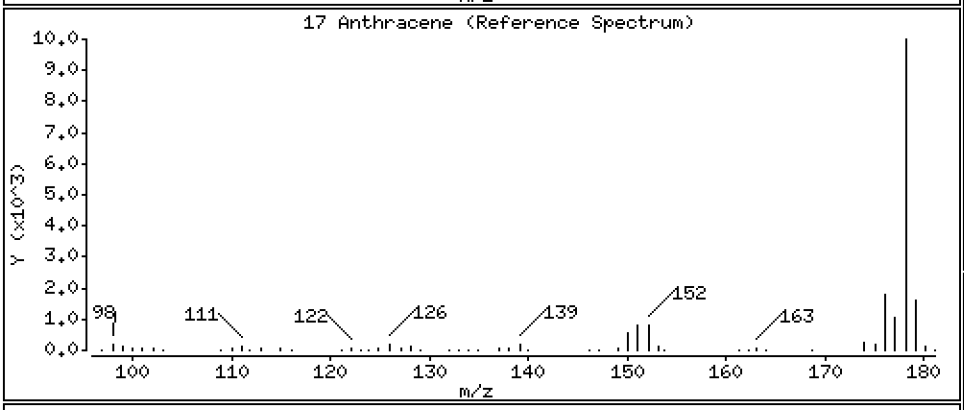
Concentration: 1.721 ug/mL

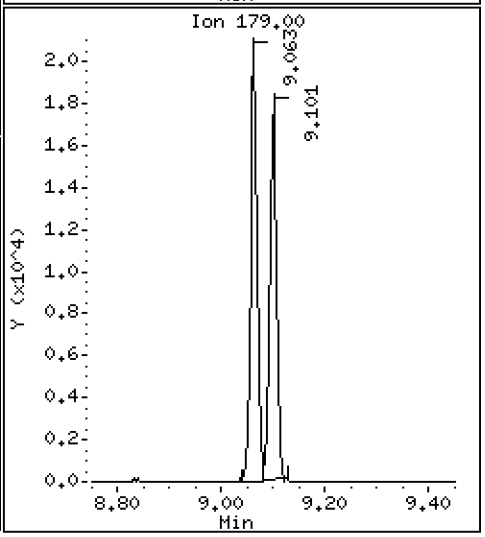


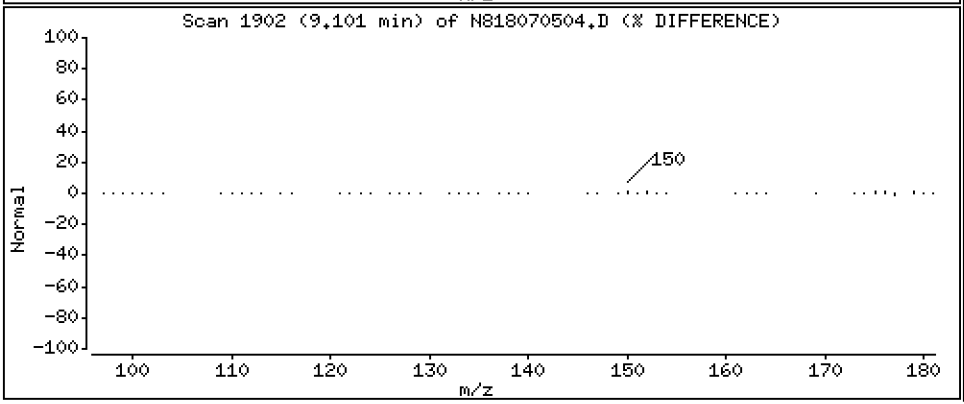












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

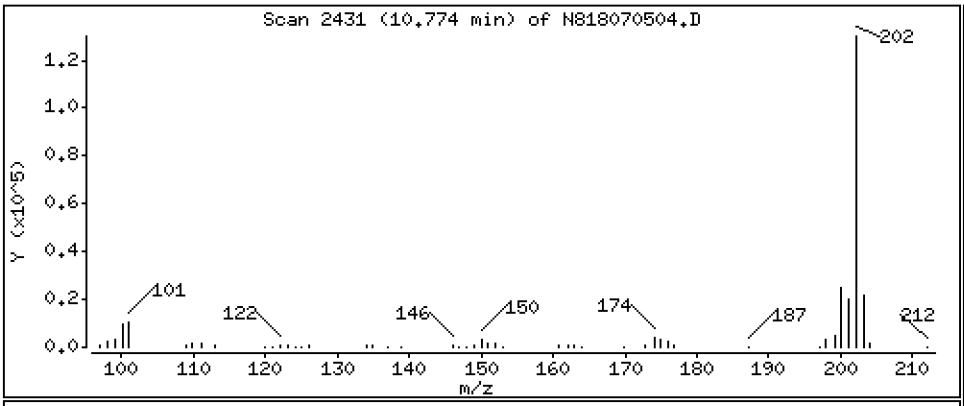
Operator: JZ

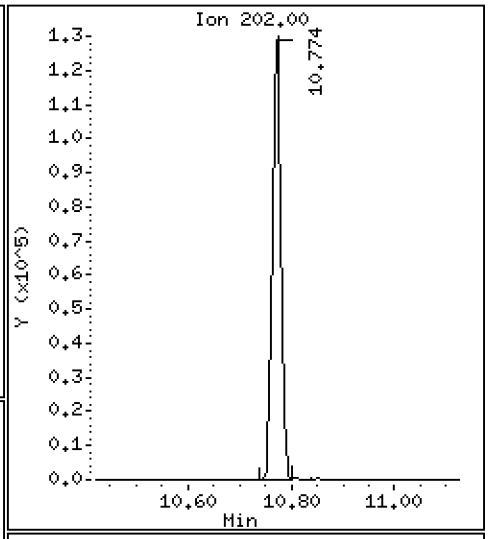
Column phase: Rxi-17sil

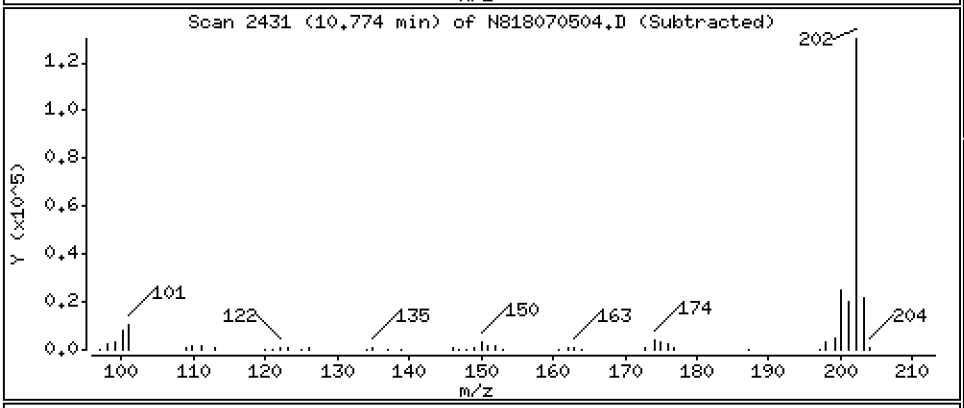
Column diameter: 0.25

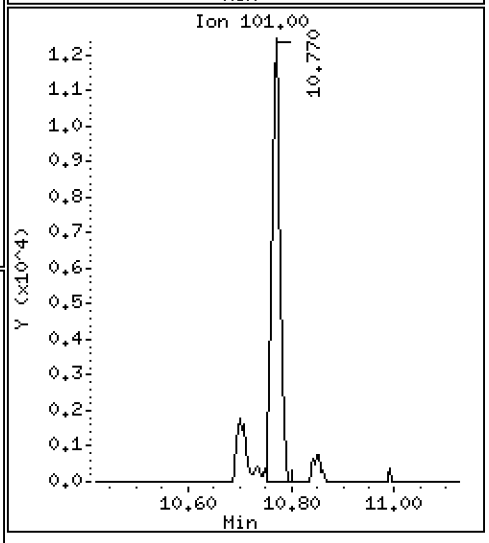
22 Fluoranthene

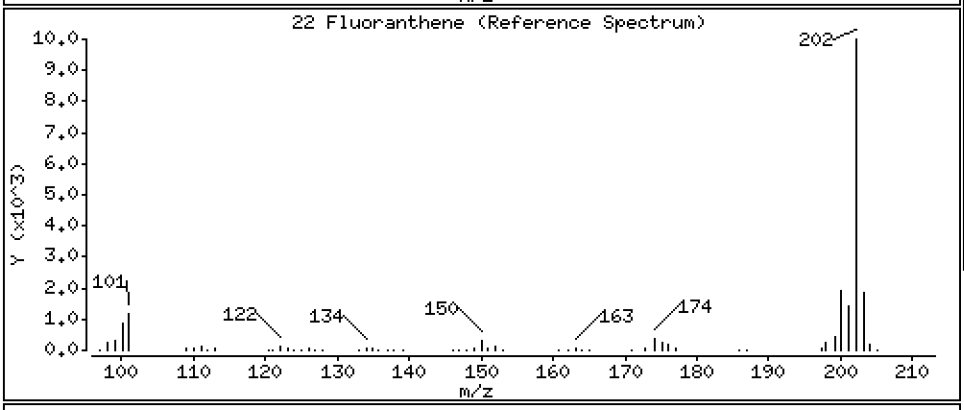
Concentration: 2.029 ug/mL

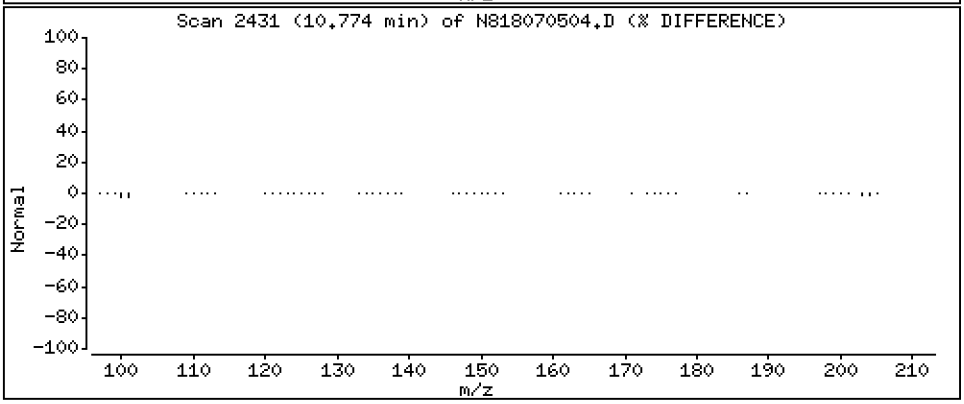












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

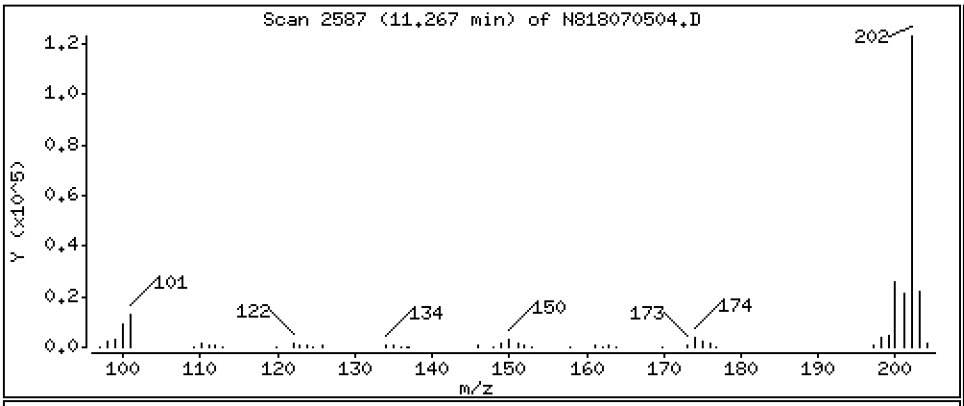
Operator: JZ

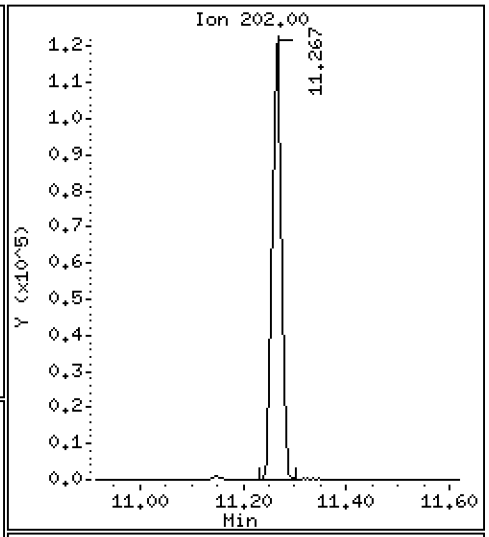
Column phase: Rxi-17sil

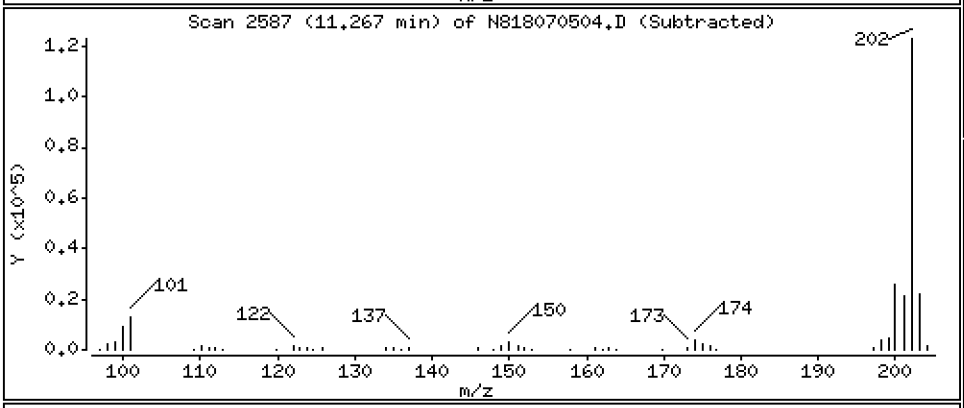
Column diameter: 0.25

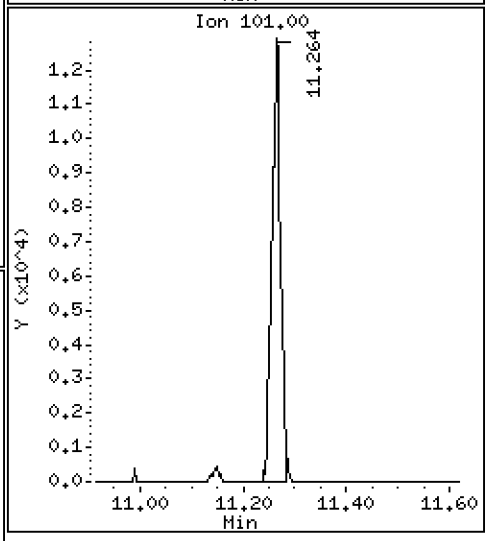
23 Pyrene

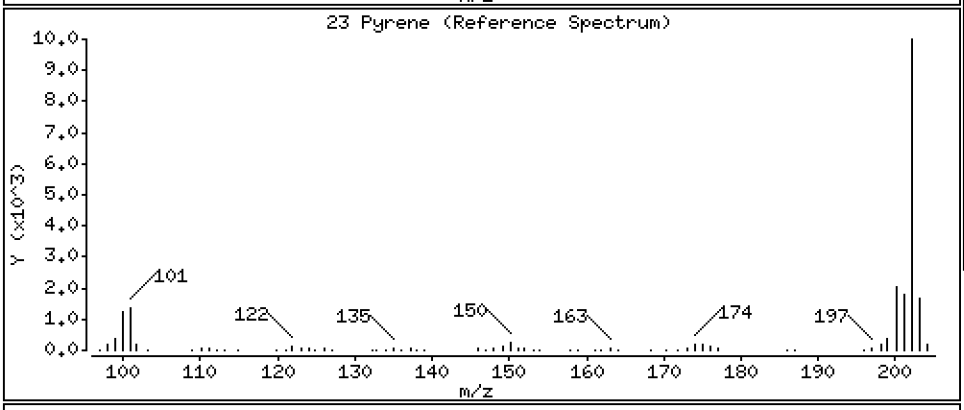
Concentration: 2.038 ug/mL

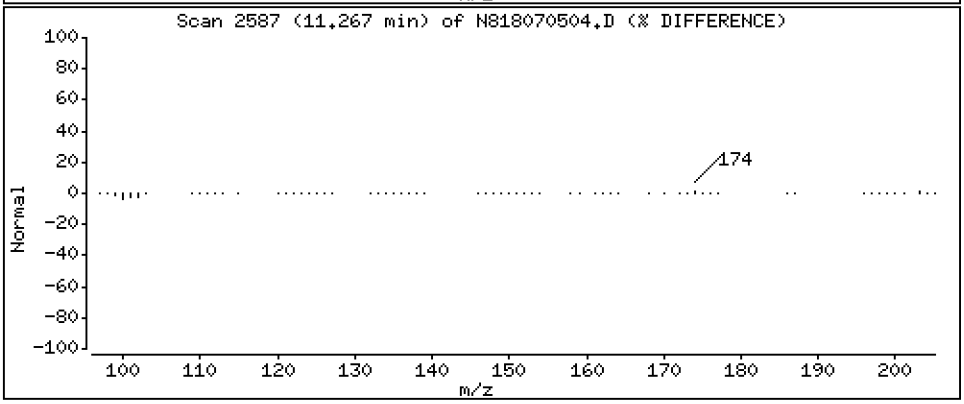












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

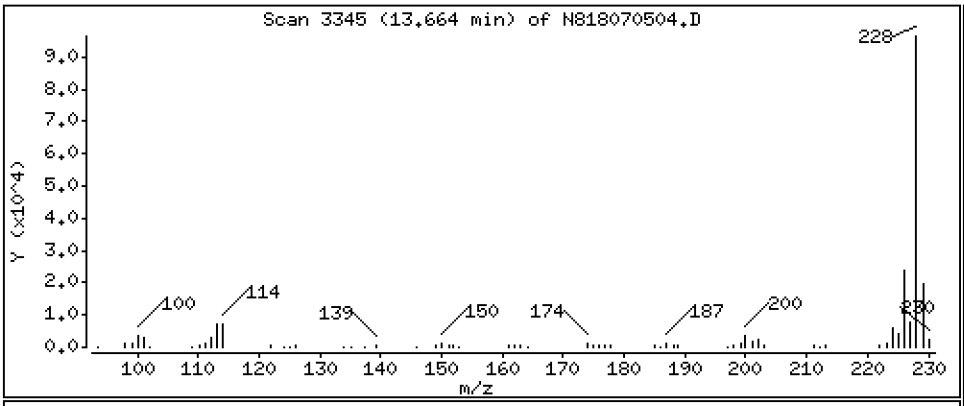
Operator: JZ

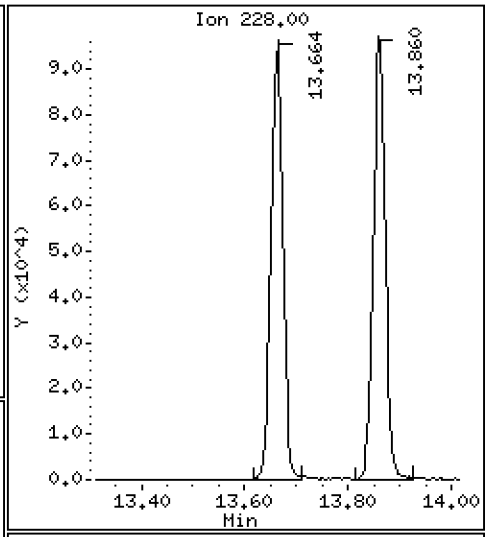
Column phase: Rxi-17sil

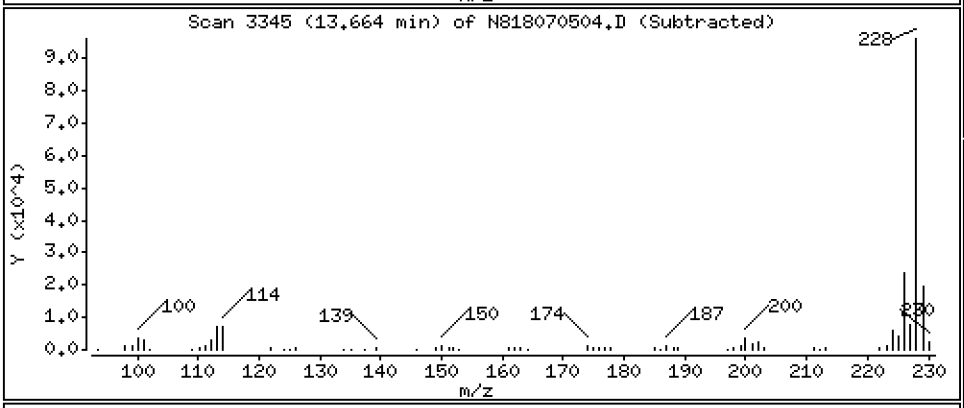
Column diameter: 0.25

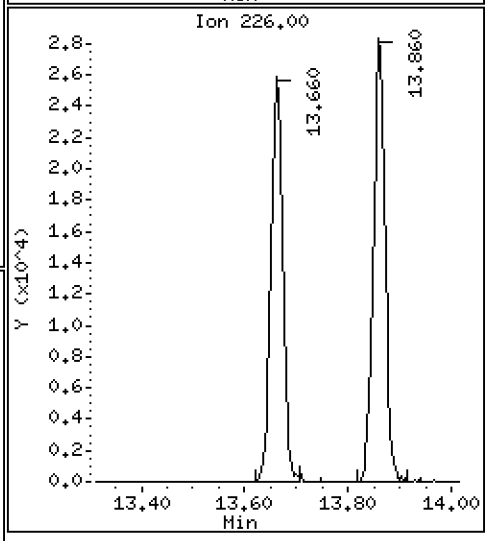
24 Benzo(a)anthracene

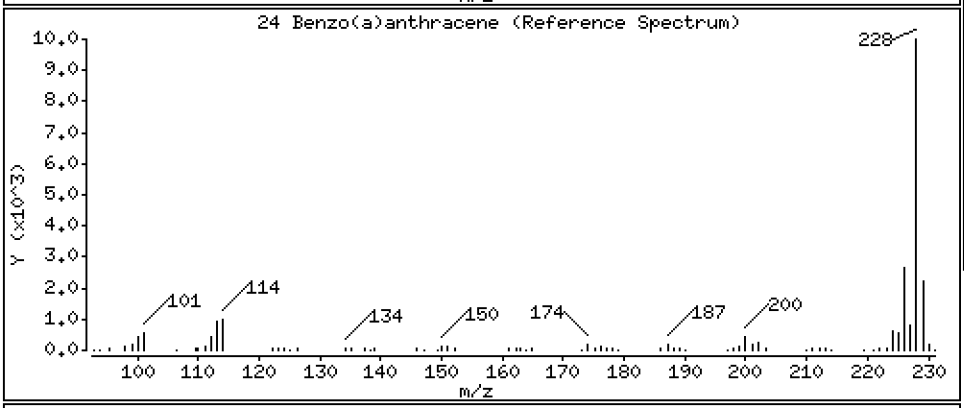
Concentration: 2.099 ug/mL

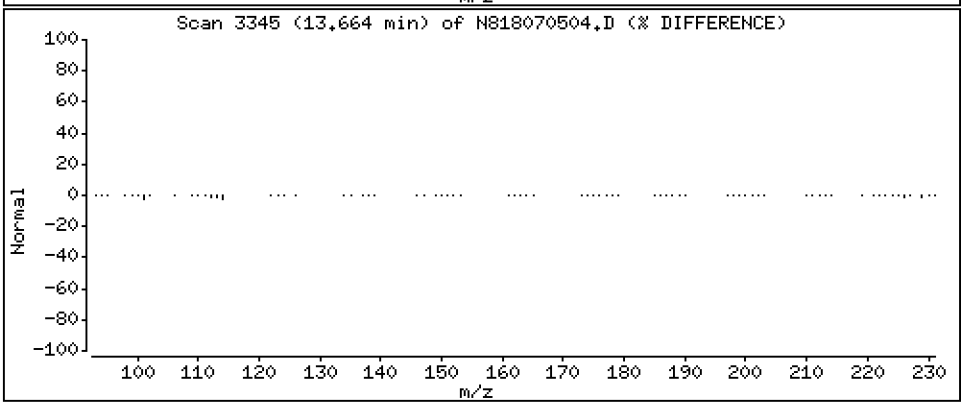












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

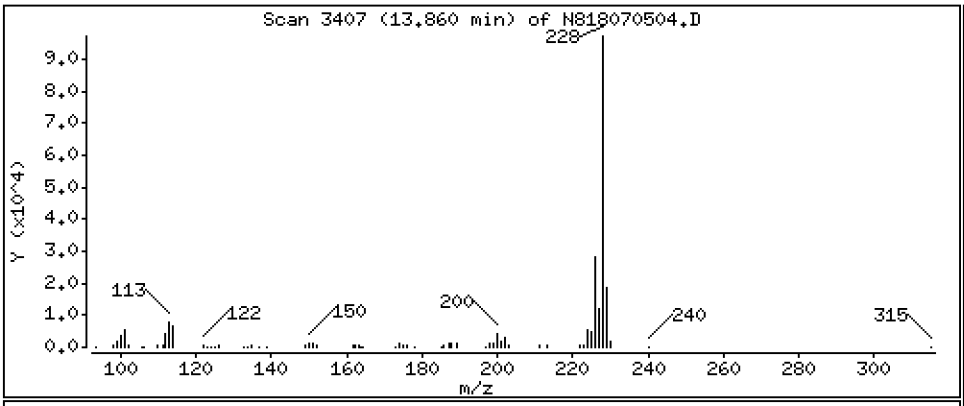
Operator: JZ

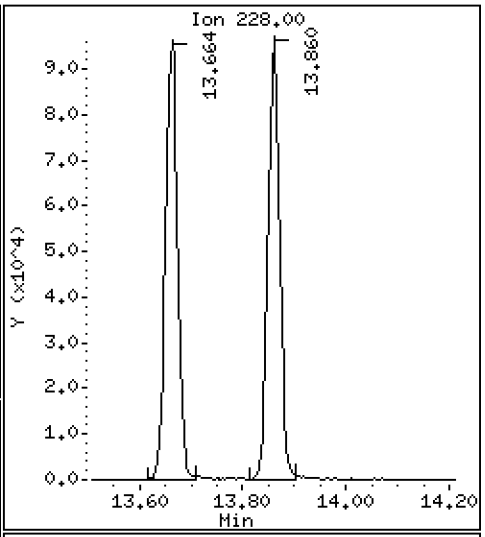
Column phase: Rxi-17sil

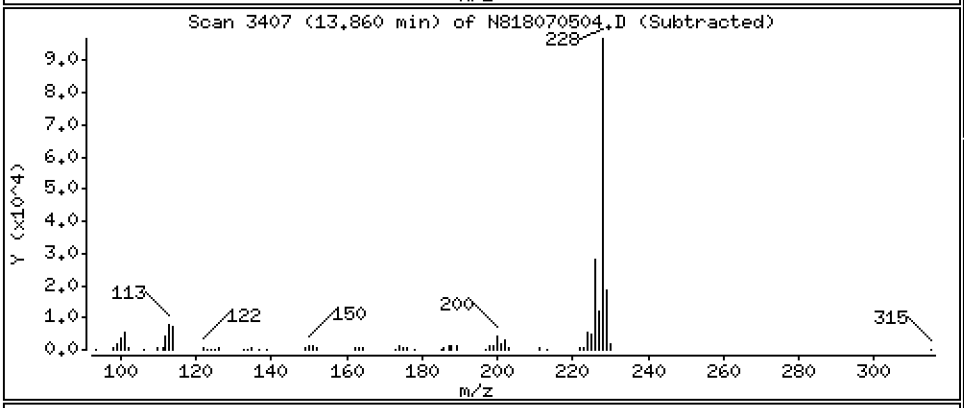
Column diameter: 0.25

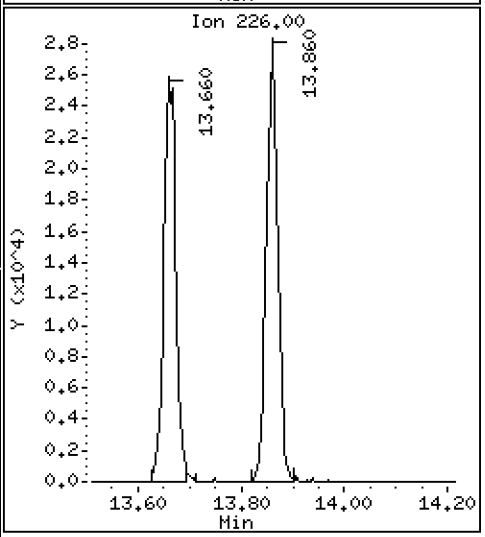
27 Chrysene

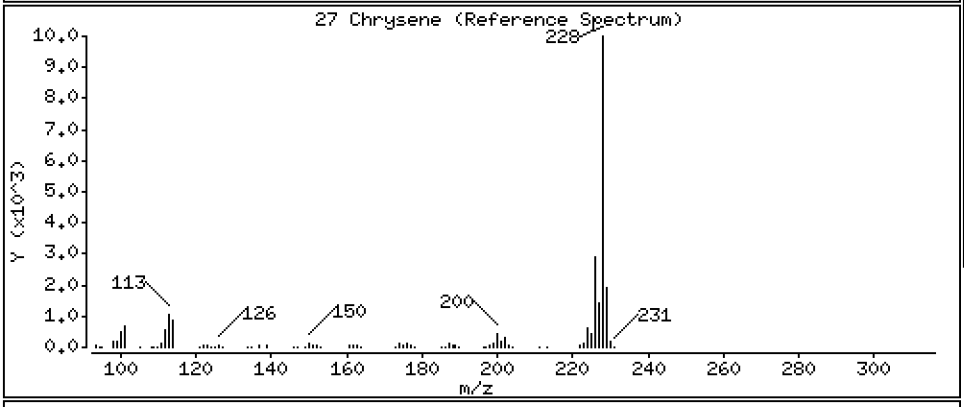
Concentration: 2.107 ug/mL

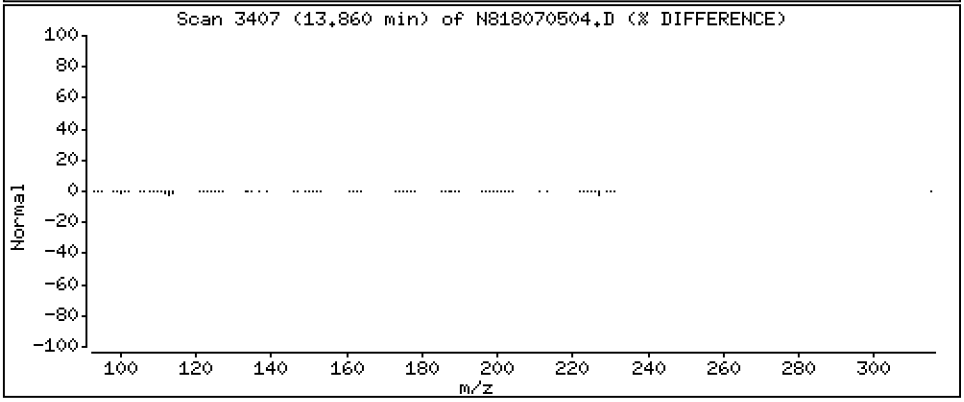












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

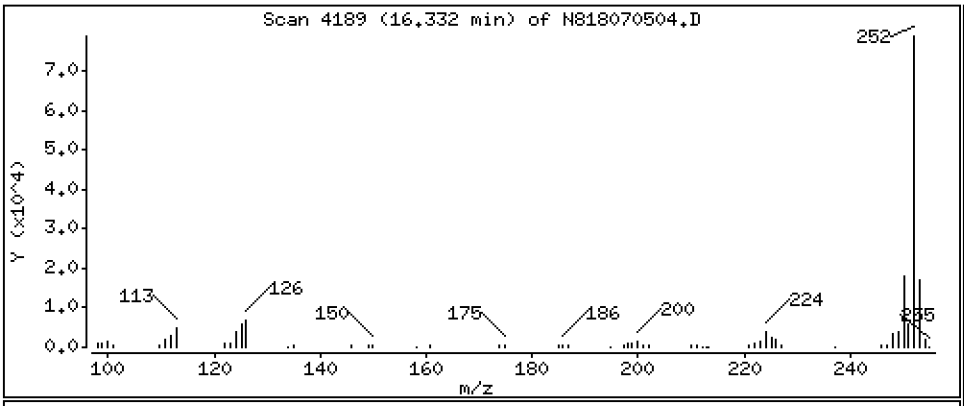
Operator: JZ

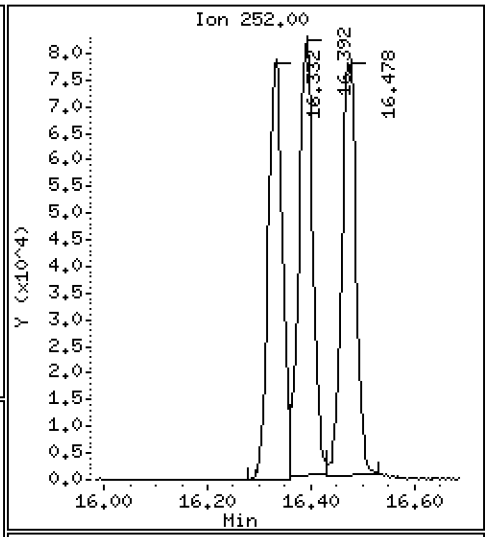
Column phase: Rxi-17sil

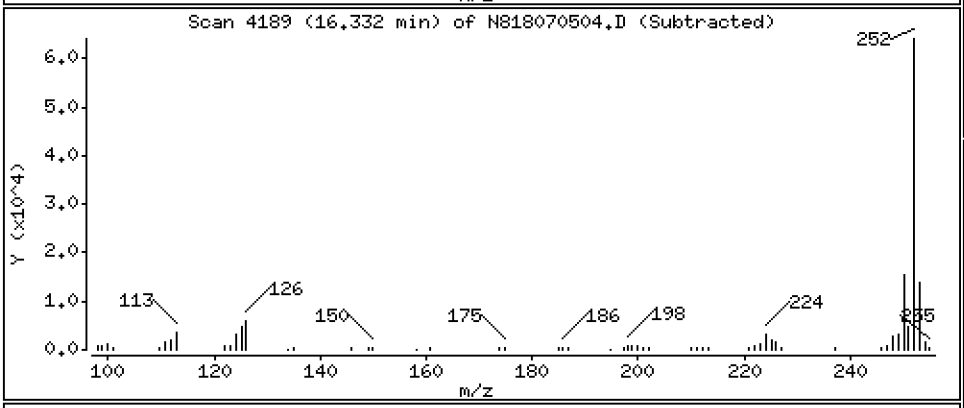
Column diameter: 0.25

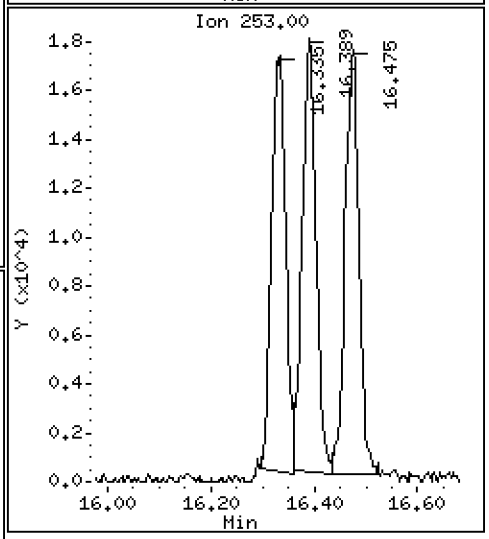
28 Benzo(b)fluoranthene

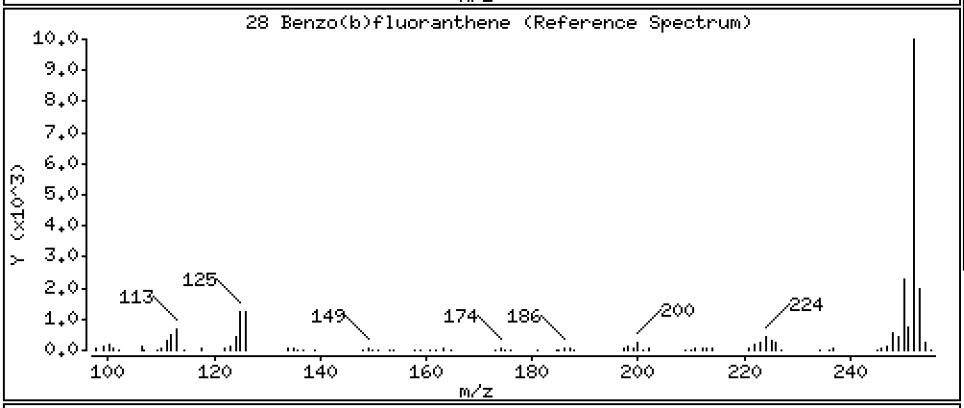
Concentration: 2.144 ug/mL

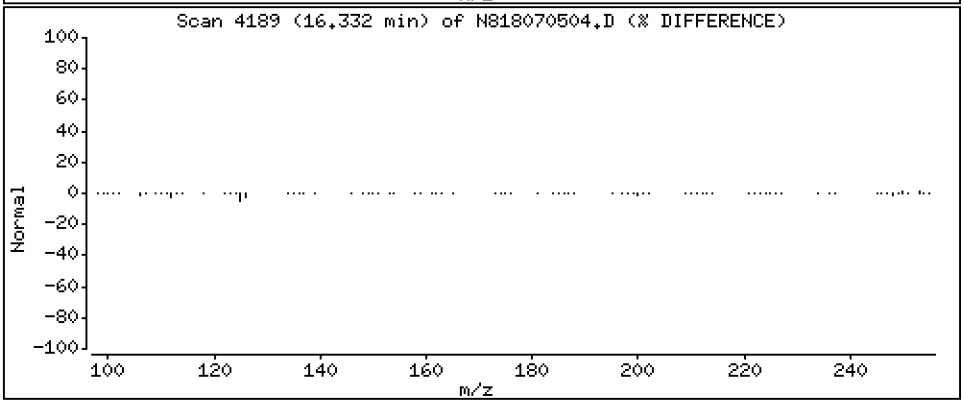












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

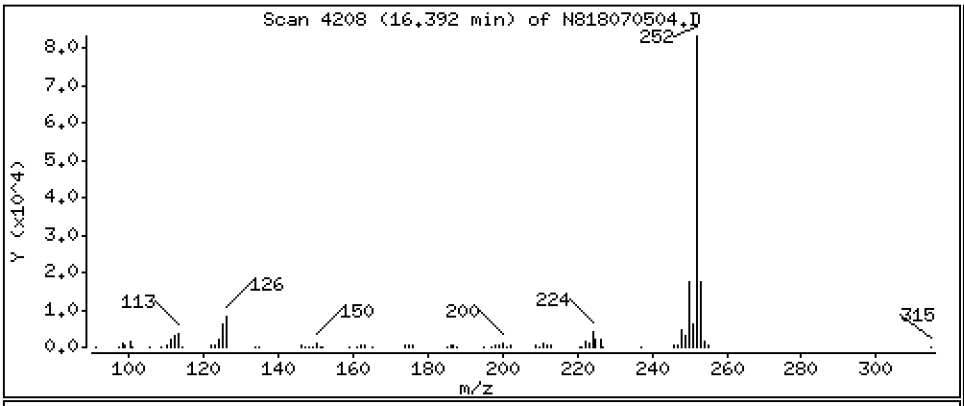
Operator: JZ

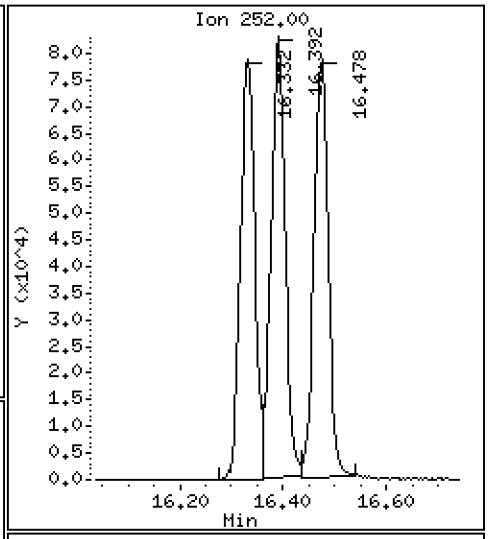
Column phase: Rxi-17sil

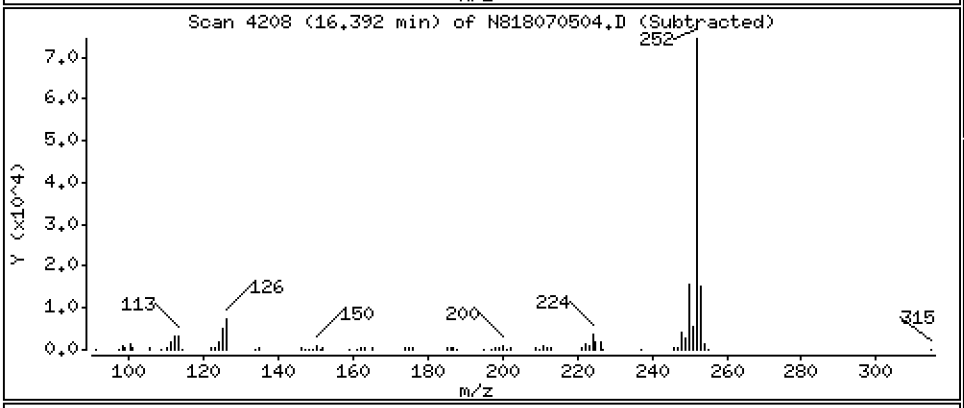
Column diameter: 0.25

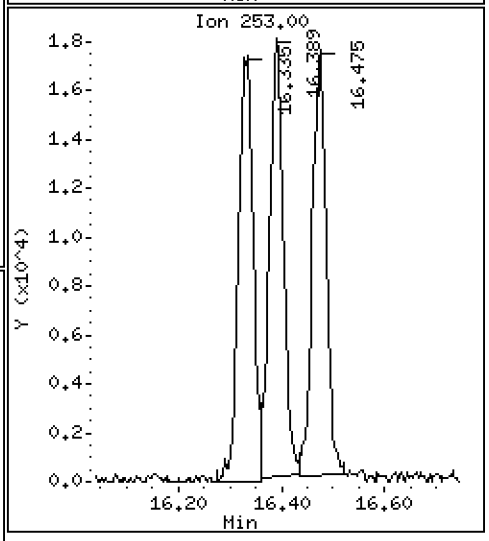
29 Benzo(k)fluoranthene

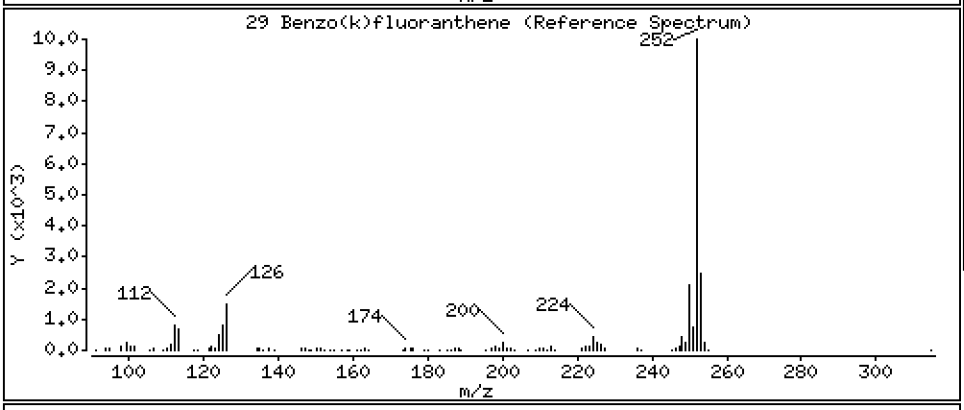
Concentration: 2.170 ug/mL

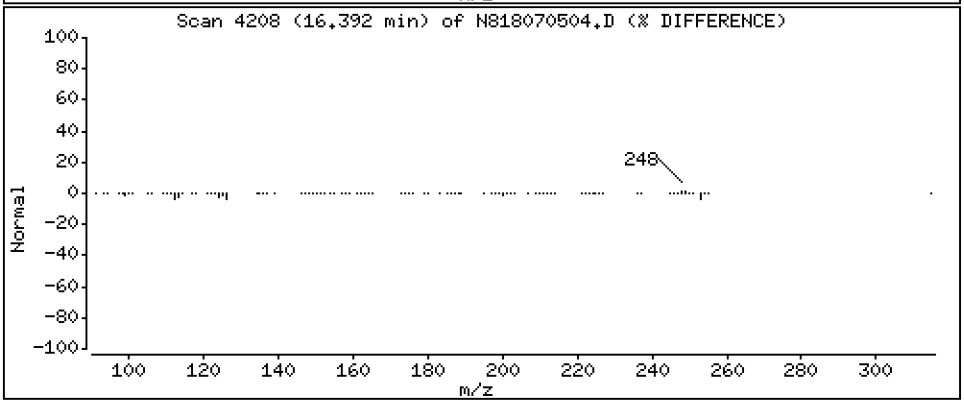












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

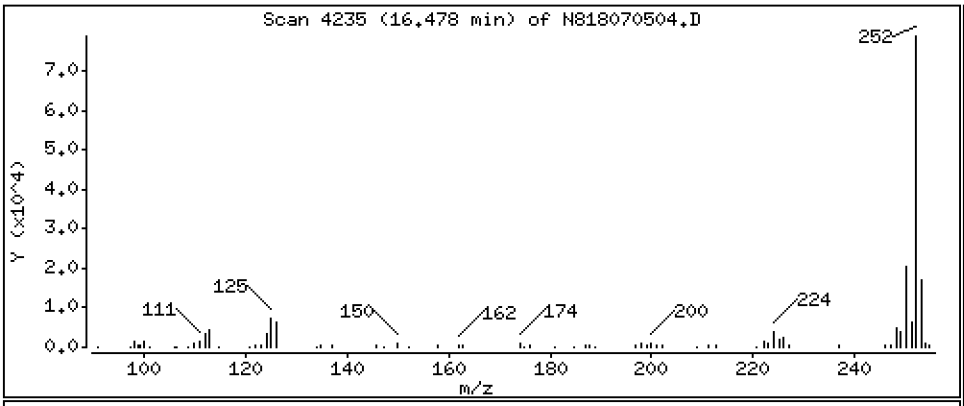
Operator: JZ

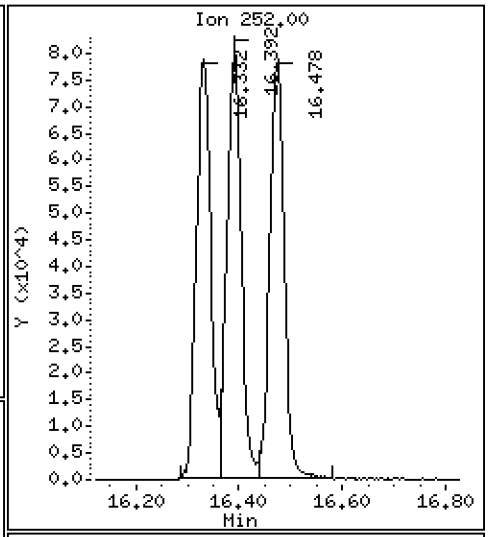
Column phase: Rxi-17sil

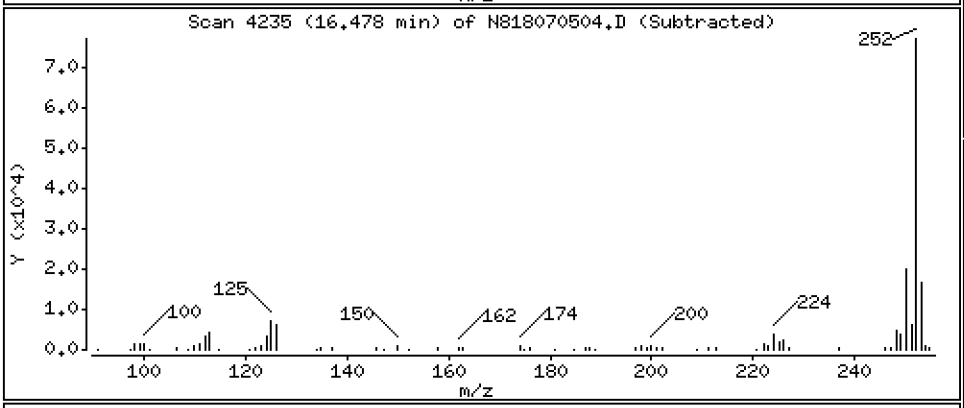
Column diameter: 0.25

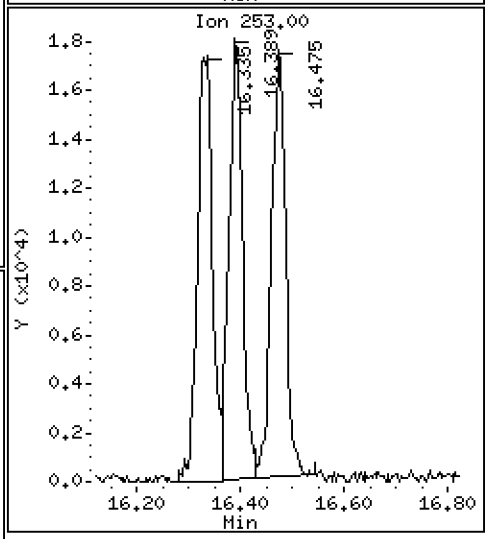
30 Benzo(j)fluoranthene

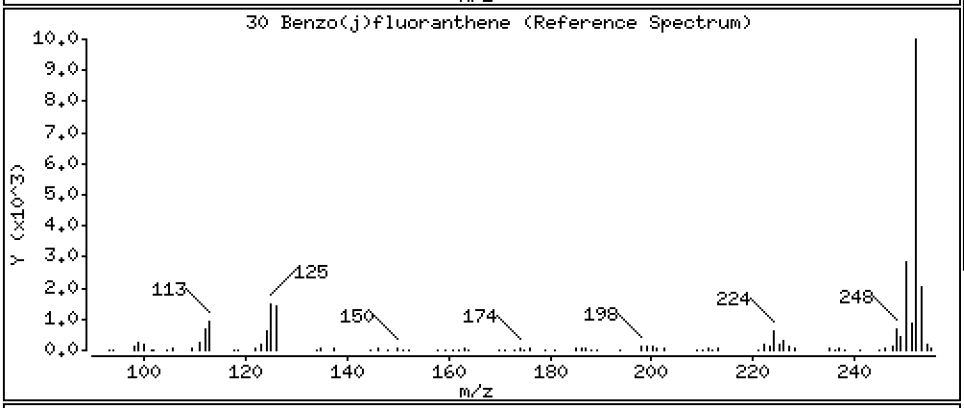
Concentration: 2.141 ug/mL

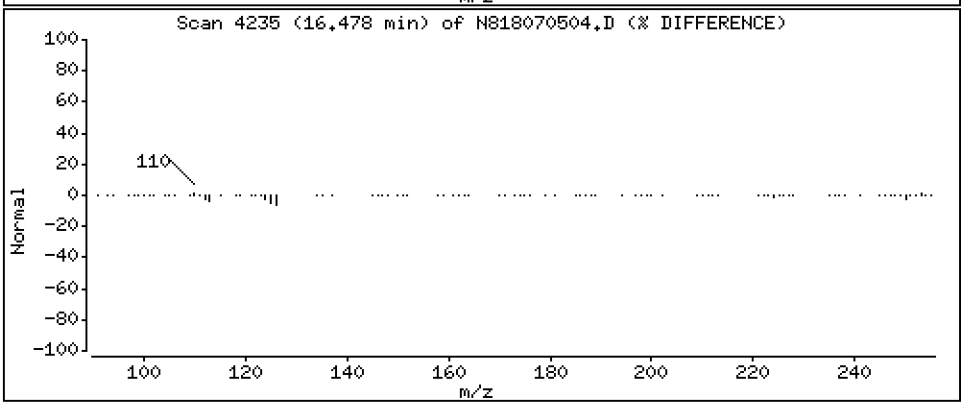












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

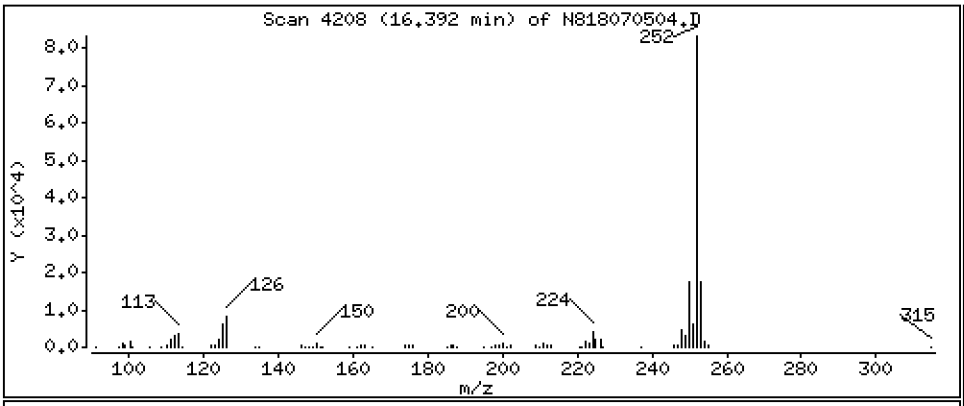
Operator: JZ

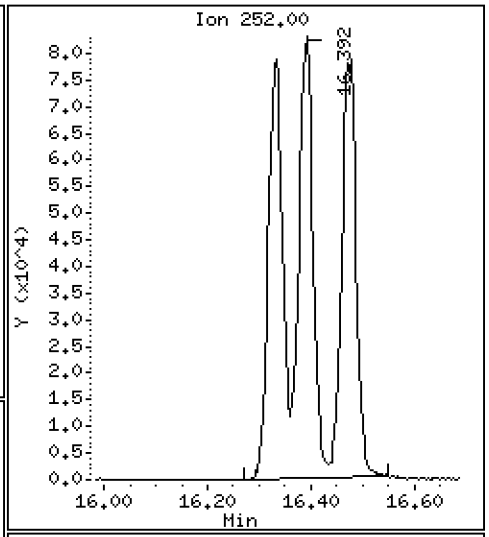
Column phase: Rxi-17sil

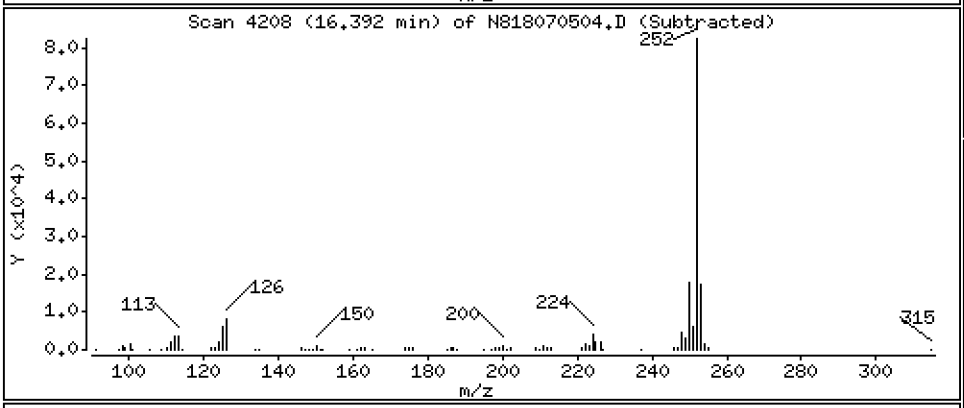
Column diameter: 0.25

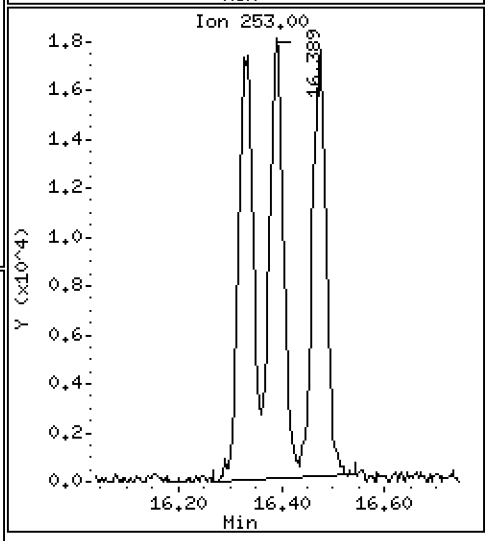
31 Total Benzofluoranthenes

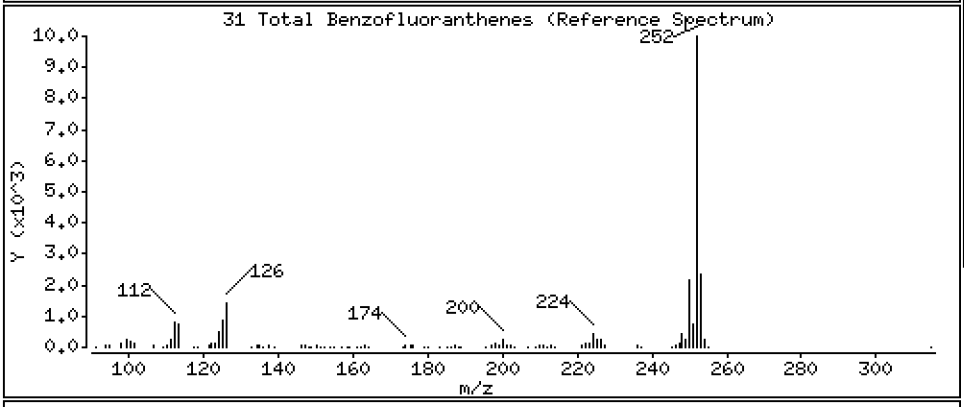
Concentration: 6.459 ug/mL

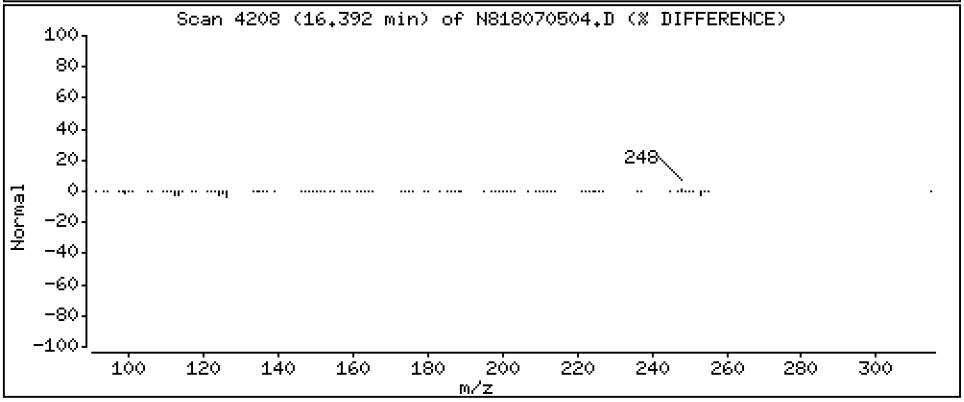












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

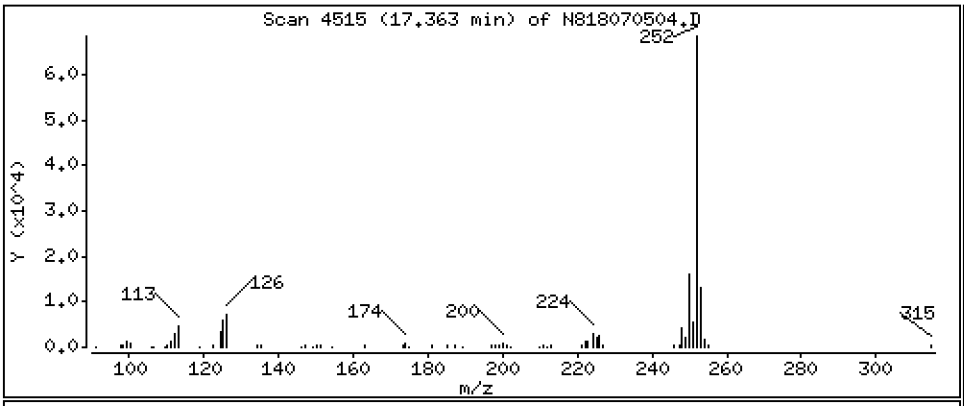
Operator: JZ

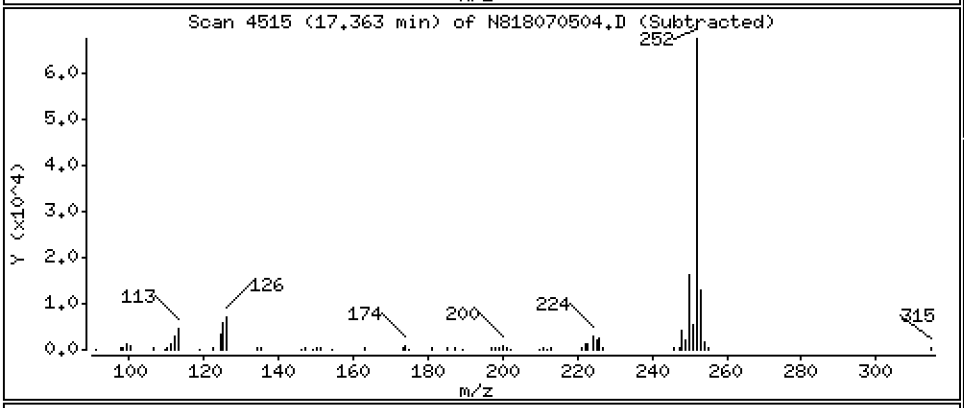
Column phase: Rxi-17sil

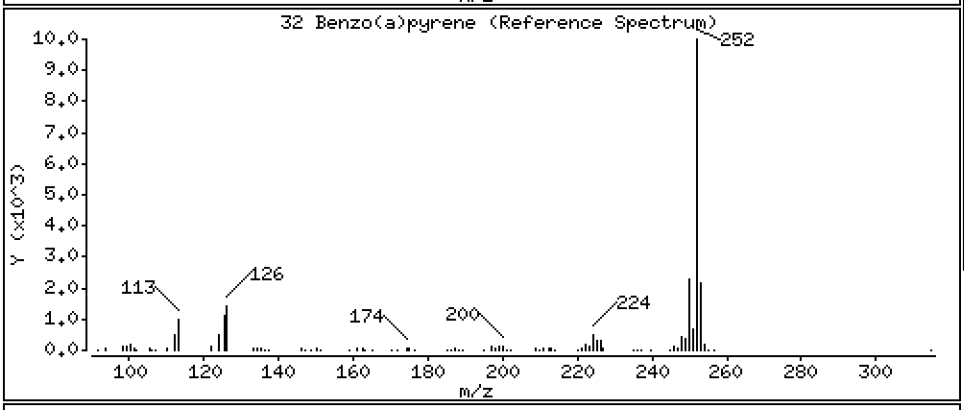
Column diameter: 0.25

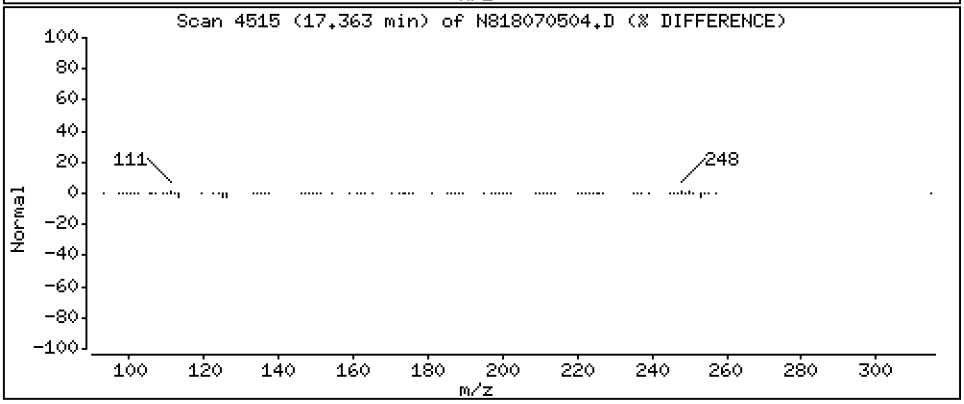
32 Benzo(a)pyrene

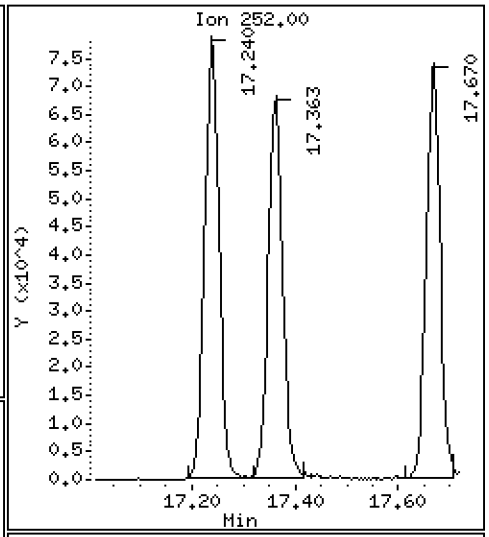
Concentration: 2.081 ug/mL

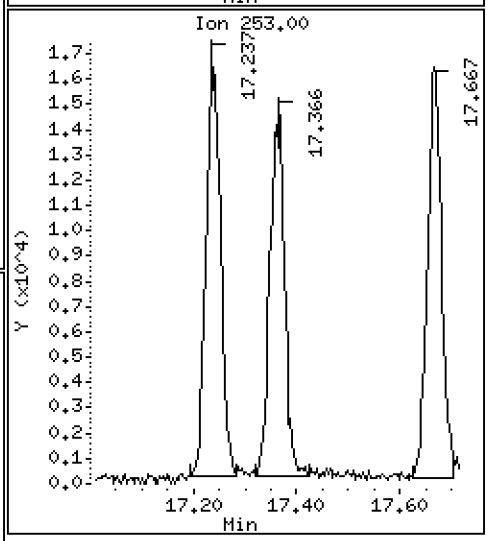












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

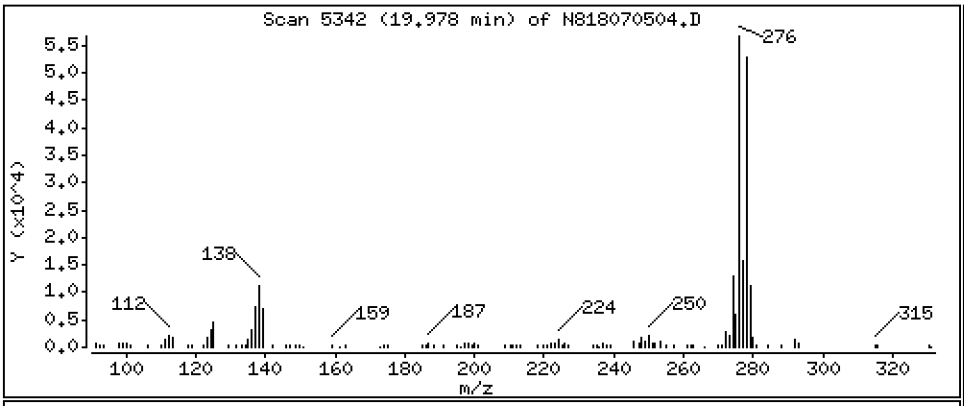
Operator: JZ

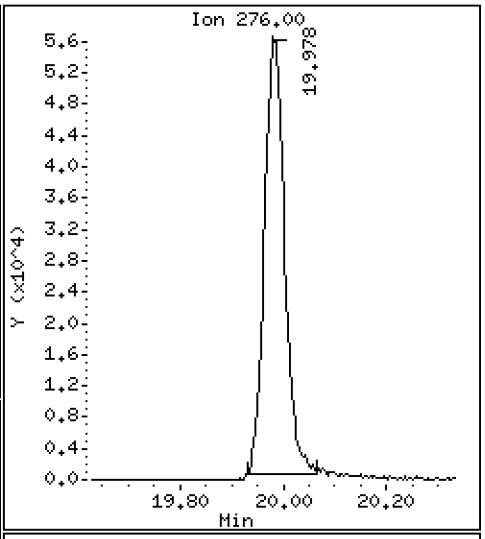
Column phase: Rxi-17sil

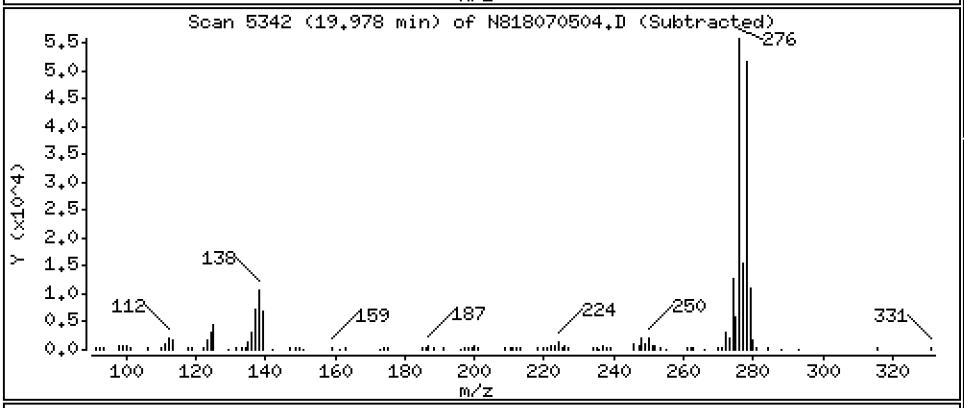
Column diameter: 0.25

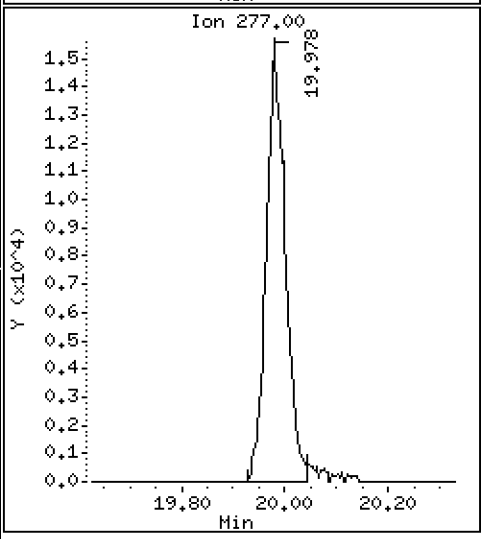
37 Indeno(1,2,3-cd)pyrene

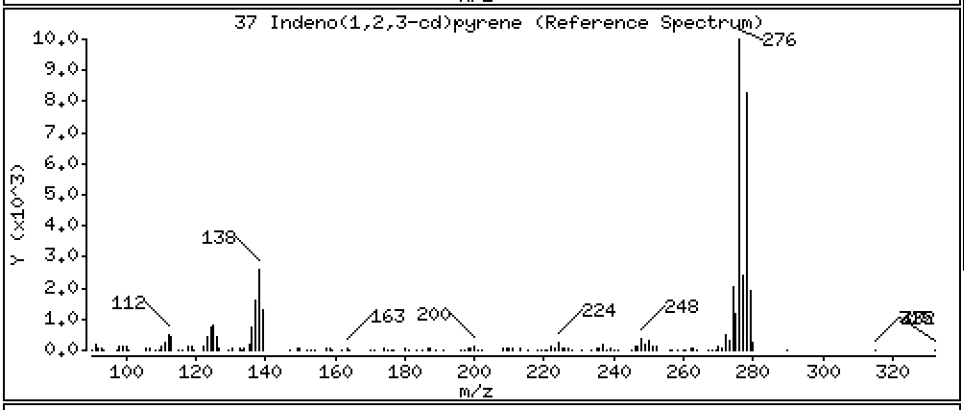
Concentration: 2.178 ug/mL

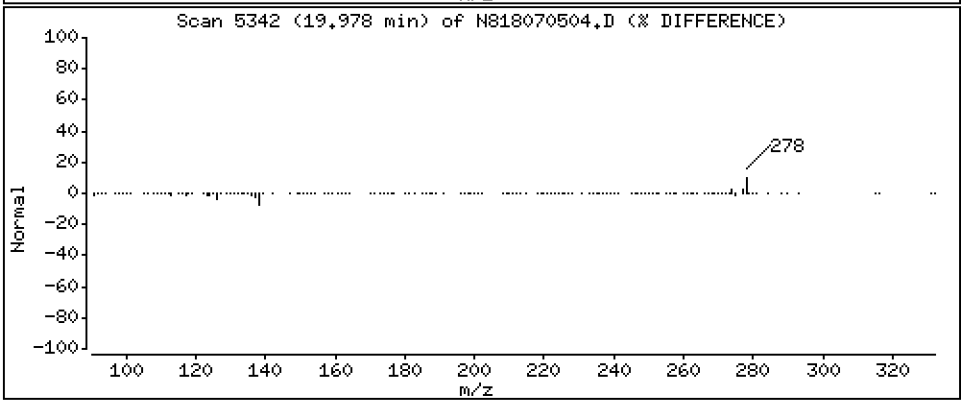












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

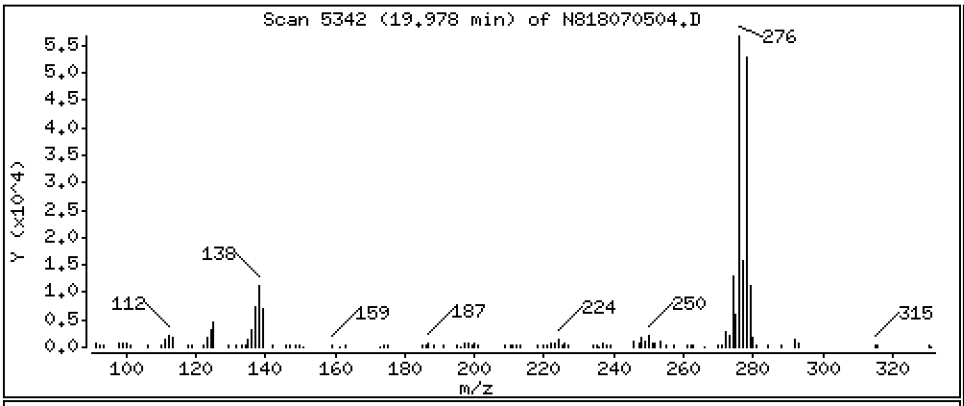
Operator: JZ

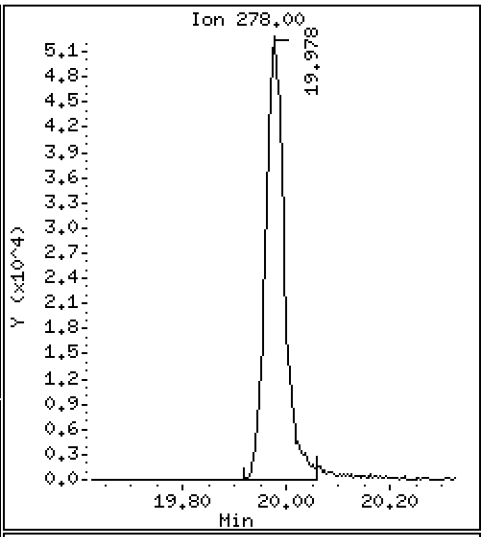
Column phase: Rxi-17sil

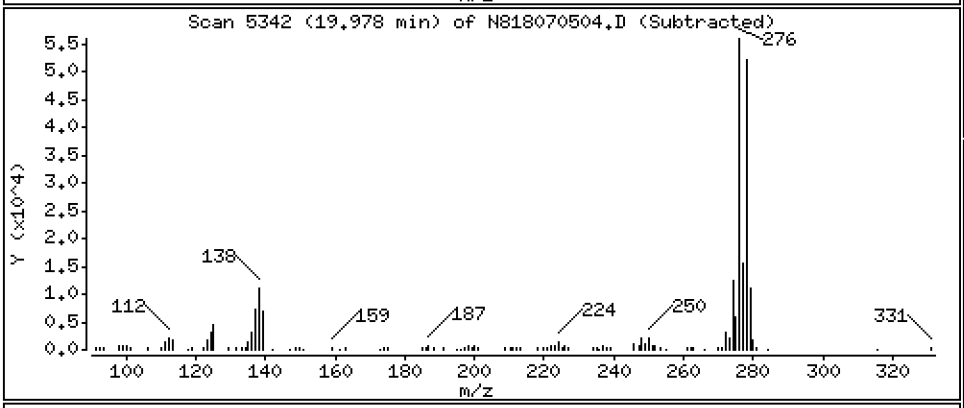
Column diameter: 0.25

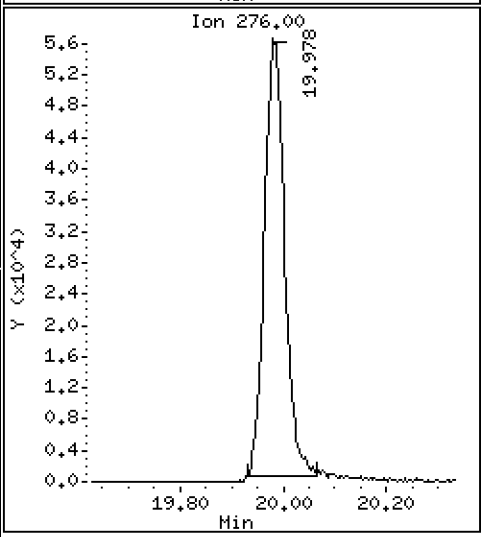
38 Dibenzo(a,h)anthracene

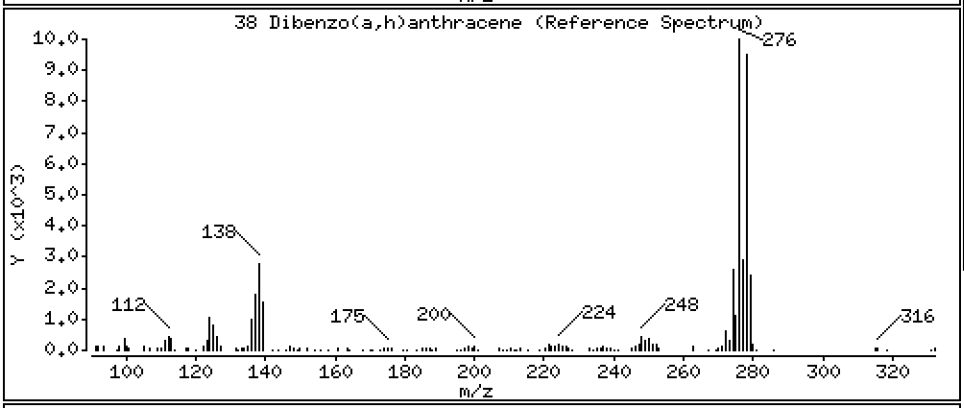
Concentration: 2.233 ug/mL

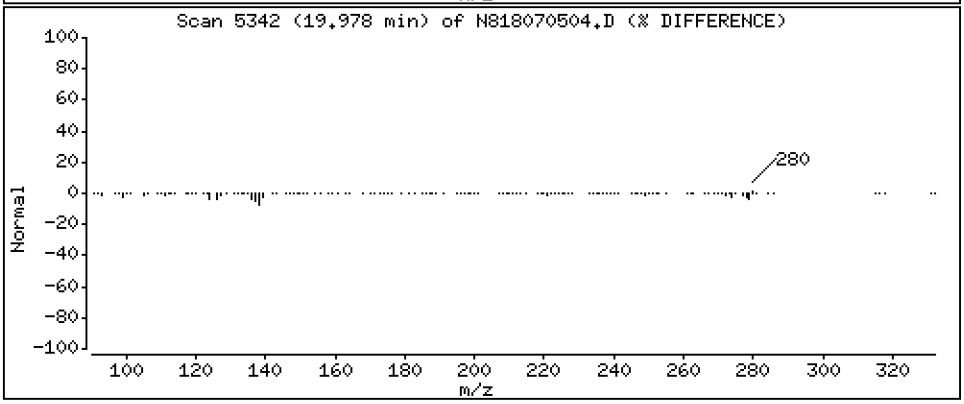












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

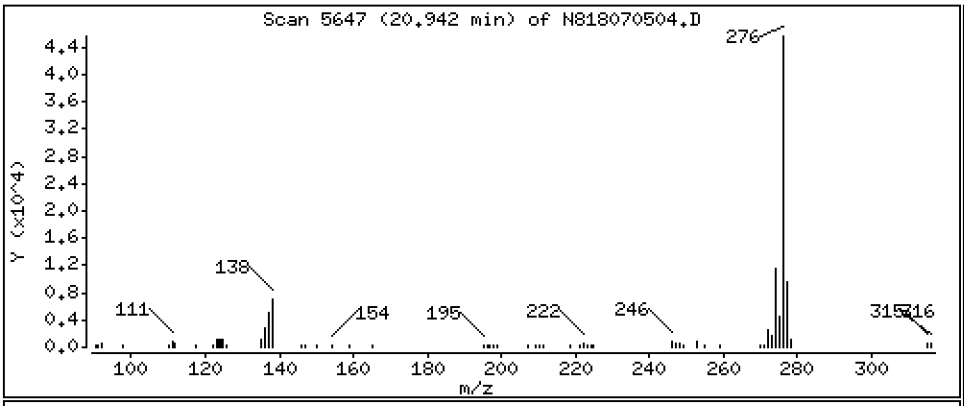
Operator: JZ

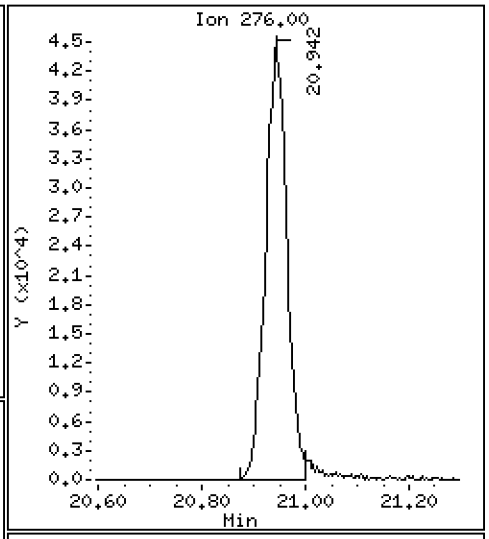
Column phase: Rxi-17sil

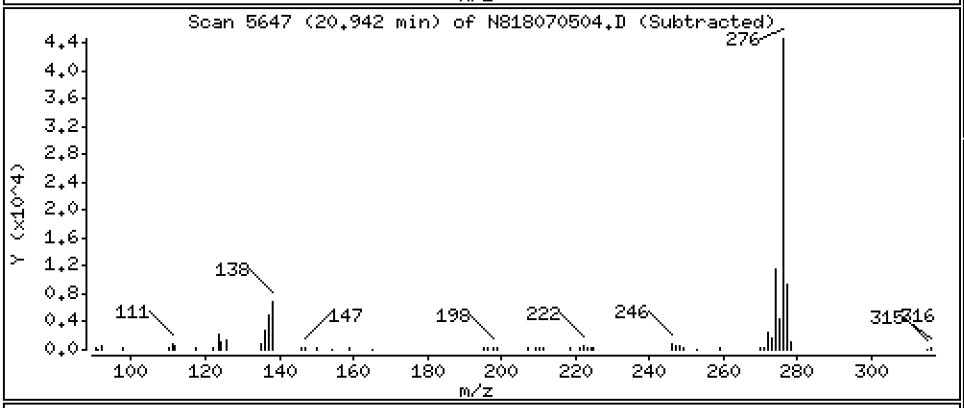
Column diameter: 0.25

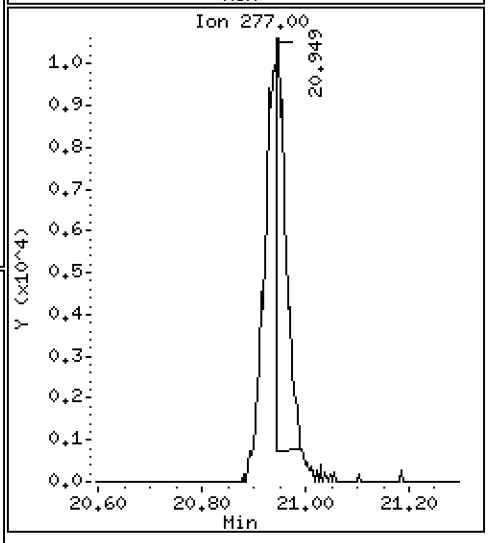
39 Benzo(g,h,i)perylene

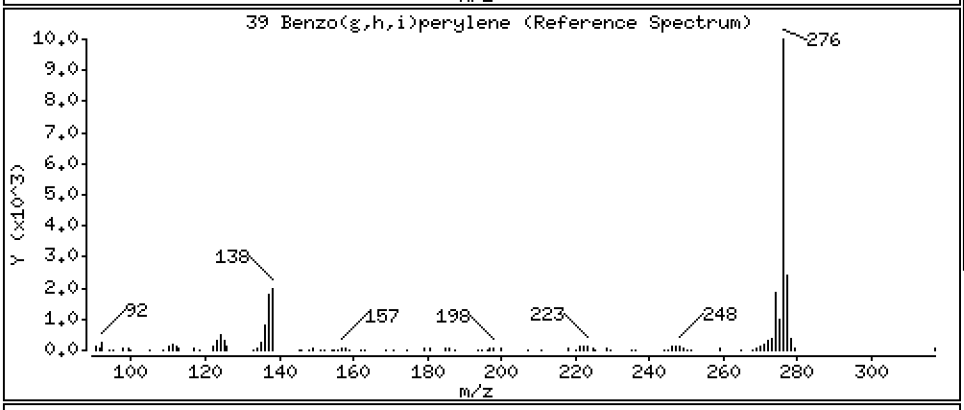
Concentration: 2.434 ug/mL

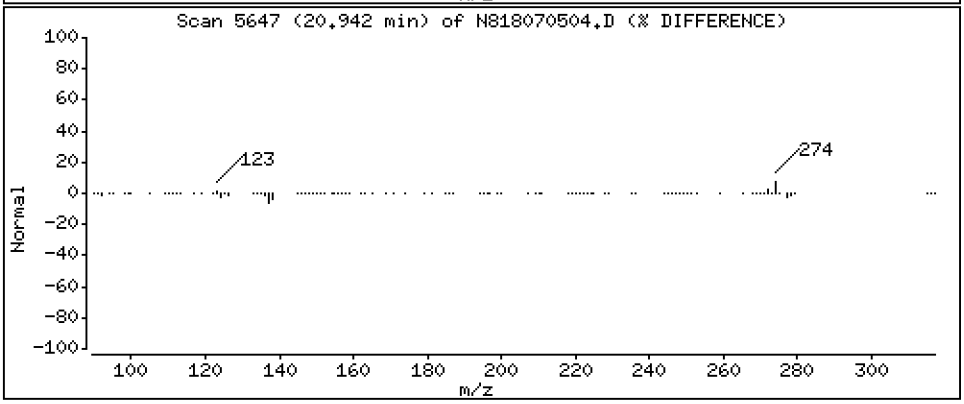












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070504.D

Date : 05-JUL-2018 17:36

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-BS1,

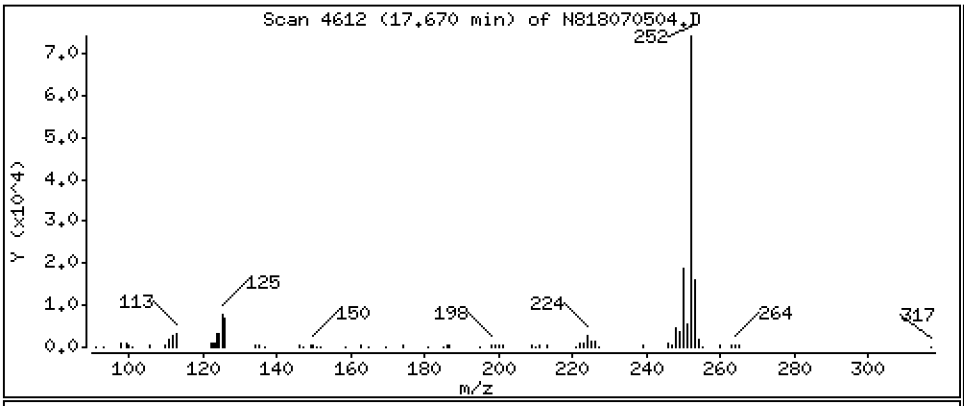
Operator: JZ

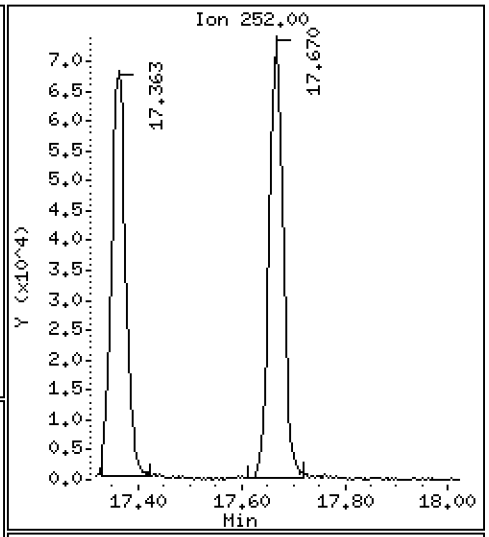
Column phase: Rxi-17sil

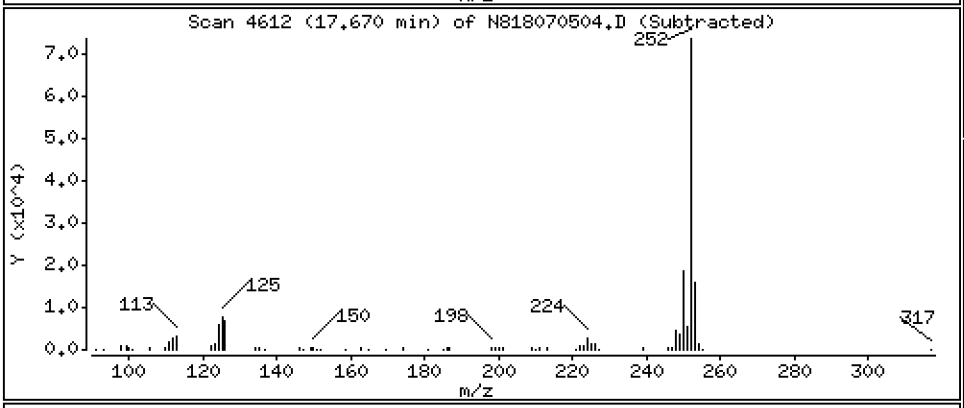
Column diameter: 0.25

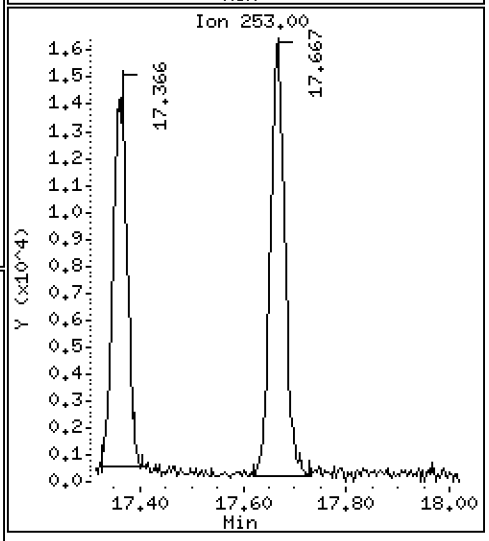
35 Perylene

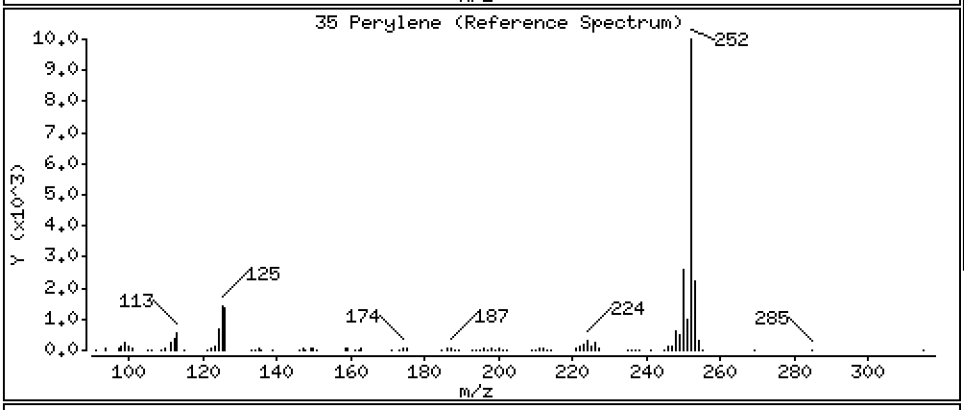
Concentration: 2.020 ug/mL

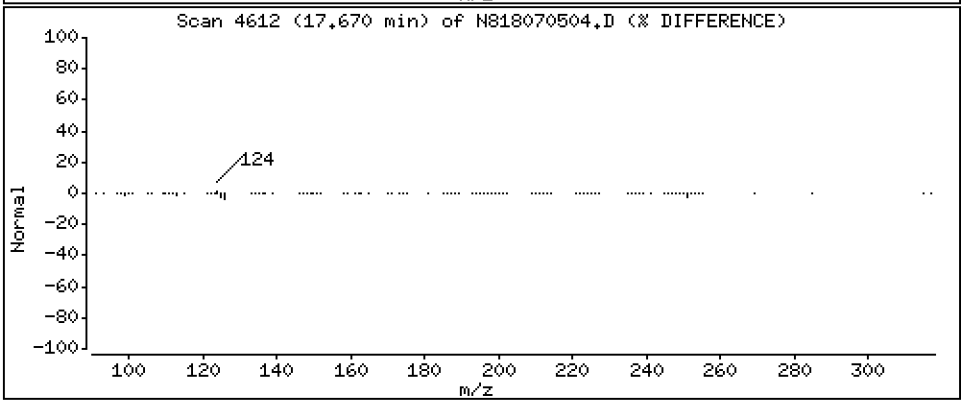












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070504.D
Lab Smp Id: BGF0721-BS1
Inj Date : 05-JUL-2018 17:36
Operator : JZ Inst ID: nt8.i
Smp Info : BGF0721-BS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.737	4.743	(1.000)	95143	2.00000	
	2 Naphthalene	128	4.765	4.775	(1.006)	73364	1.37483	1.375
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	52458	1.50100	1.501
	4 2-Methylnaphthalene	141	5.512	5.515	(1.164)	45121	1.45463	1.455
	5 1-methylnaphthalene	141	5.711	5.711	(1.206)	44390	1.42975	1.430
	9 Acenaphthylene	152	6.900	6.903	(0.984)	79191	1.44012	1.440
*	10 Acenaphthene-d10	164	7.010	7.013	(1.000)	54321	2.00000	
	11 Acenaphthene	153	7.061	7.061	(1.007)	57220	1.47564	1.476
	12 Dibenzofuran	168	7.206	7.209	(1.028)	80574	1.47949	1.479
	14 Fluorene	166	7.681	7.681	(1.096)	68929	1.58872	1.589
*	15 Phenanthrene-d10	188	9.028	9.031	(1.000)	114551	2.00000	
	16 Phenanthrene	178	9.062	9.065	(1.004)	112217	1.76566	1.766
	17 Anthracene	178	9.100	9.100	(1.008)	105942	1.72094	1.721
	22 Fluoranthene	202	10.773	10.773	(1.193)	150838	2.02914	2.029
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	153432	2.09068	2.091
	23 Pyrene	202	11.266	11.266	(0.817)	152385	2.03797	2.038
	24 Benzo(a)anthracene	228	13.663	13.663	(0.991)	156195	2.09898	2.099
*	25 Chrysene-d12	240	13.790	13.786	(1.000)	129107	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	154798	2.10688	2.107
	28 Benzo(b)fluoranthene	252	16.332	16.335	(0.928)	154155	2.14378	2.144
	29 Benzo(k)fluoranthene	252	16.392	16.389	(0.932)	158301	2.16982	2.170
	30 Benzo(j)fluoranthene	252	16.477	16.474	(0.937)	154499	2.14135	2.141
	31 Total Benzofluoranthenes	252	16.392	16.335	(0.932)	463140	6.45864	6.459(M)
	32 Benzo(a)pyrene	252	17.363	17.366	(0.987)	133057	2.08054	2.081
*	33 Perylene-d12	264	17.593	17.593	(1.000)	114975	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.978	19.981	(1.136)	152840	2.17764	2.178
$	36 Dibenzo(a,h)anthracene-d14	292	19.876	19.876	(1.130)	128718	2.43050	2.430
	38 Dibenzo(a,h)anthracene	278	19.978	19.974	(1.136)	135653	2.23320	2.233
	39 Benzo(g,h,i)perylene	276	20.942	20.945	(1.190)	130401	2.43422	2.434
	35 Perylene	252	17.669	17.669	(1.004)	140759	2.01978	2.020

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070504.D
Lab Smp Id: BGF0721-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	95143	-2.85
10 Acenaphthene-d10	54983	27492	109966	54321	-1.20
15 Phenanthrene-d10	115816	57908	231632	114551	-1.09
25 Chrysene-d12	129167	64584	258334	129107	-0.05
33 Perylene-d12	111506	55753	223012	114975	3.11

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	-0.13
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	-0.04
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	-0.03
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.02
33 Perylene-d12	17.59	17.09	18.09	17.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070504.D

Lab ID: BGF0721-BS1
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 17:36

RT	CO-ELUTION COMPOUNDS
19.978	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
19.978	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

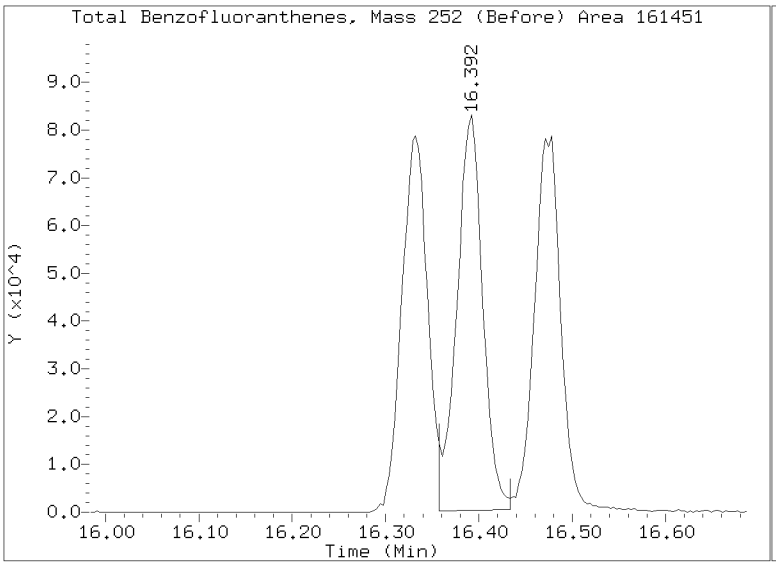
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

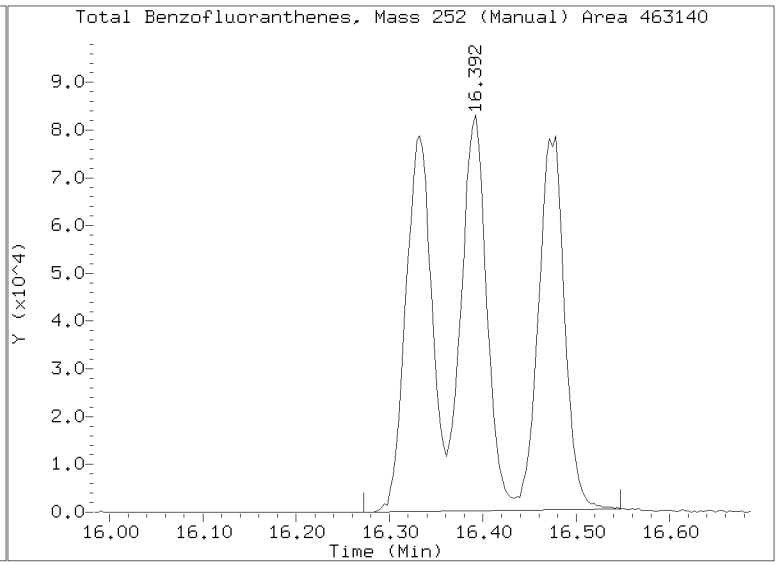
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070504.D
Injection Date: 05-JUL-2018 17:36
Lab ID:BGF0721-BS1 Client ID:
Report Date: 07/09/2018 10:17





LDW18-S1-CLWB-Comp1

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/07/18 15:14
Batch:	BGF0719	Laboratory ID:	BGF0719-MS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike
Initial/Final:	10 g / 1 mL	Source Sample:	LDW18-S1-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	Q	MS CONCENTRATION (ug/kg)	Q	MS % REC. #	QC LIMITS REC.
Tributyltin Ion	44.6	6.19		34.0		62.4	20 - 130

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

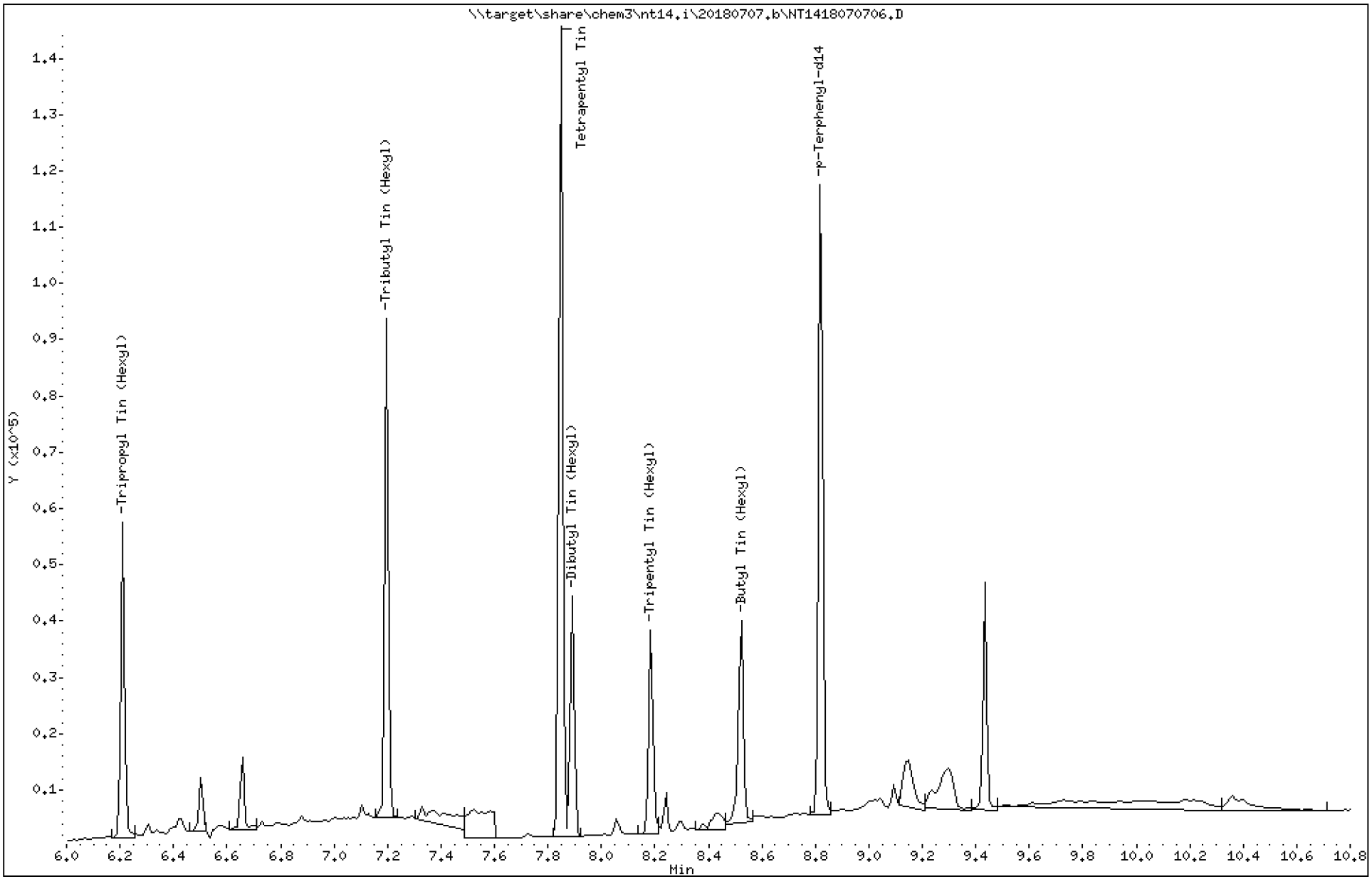
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/07/18 15:28
Batch:	BGF0719	Laboratory ID:	BGF0719-MSD1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike Dup
Initial/Final:	10.04 g / 1 mL	Source Sample:	LDW18-S1-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Tributyltin Ion	44.4	45.8		89.2	29.5	35	20 - 130

* Values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070706.D
Date : 07-JUL-2018 15:14
Client ID:
Sample Info: BGF0719-MS1

Instrument: nt14.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



18F0364 CLPLIKE (Rev0) - Page 1589 of 2472

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070706.D

Date : 07-JUL-2018 15:14

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MS1

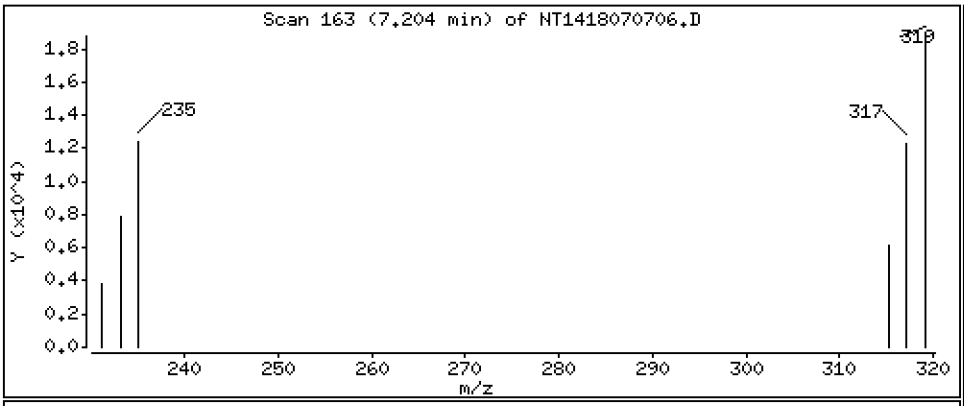
Operator: VTS

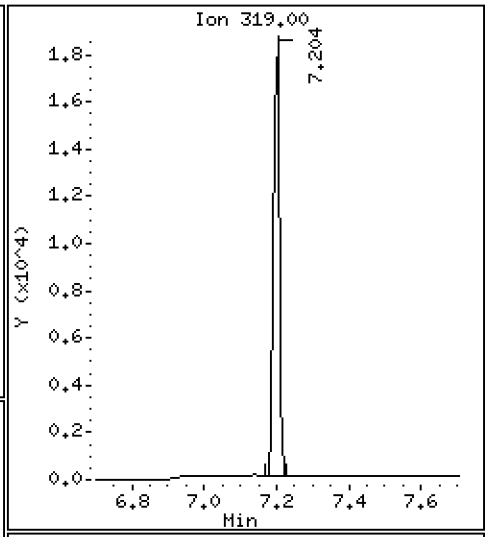
Column phase: ZB-5msi

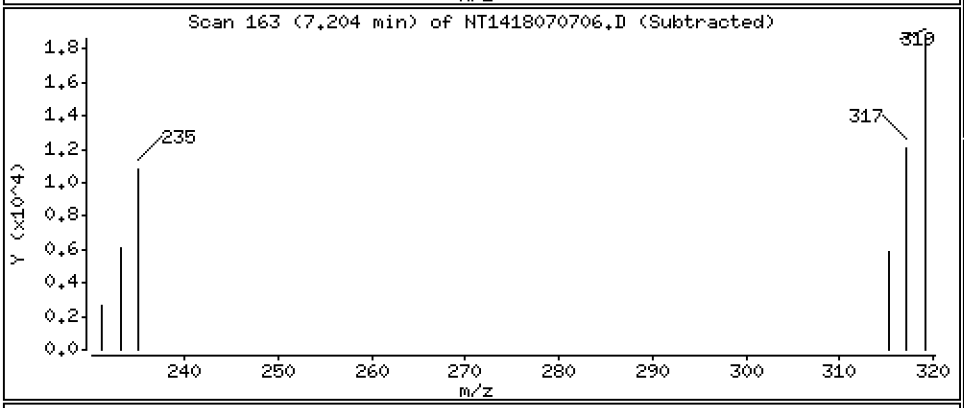
Column diameter: 0.25

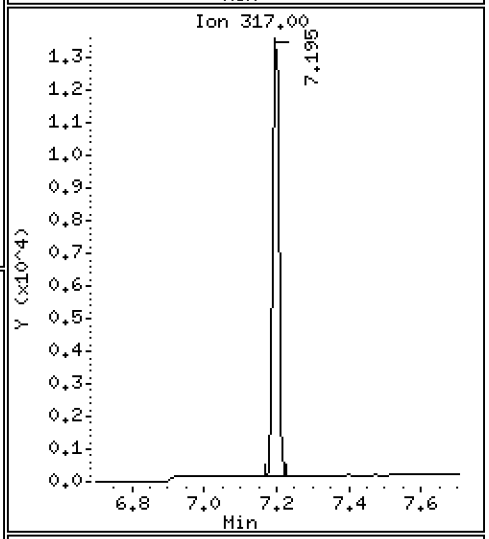
3 Tributyl Tin (Hexyl)

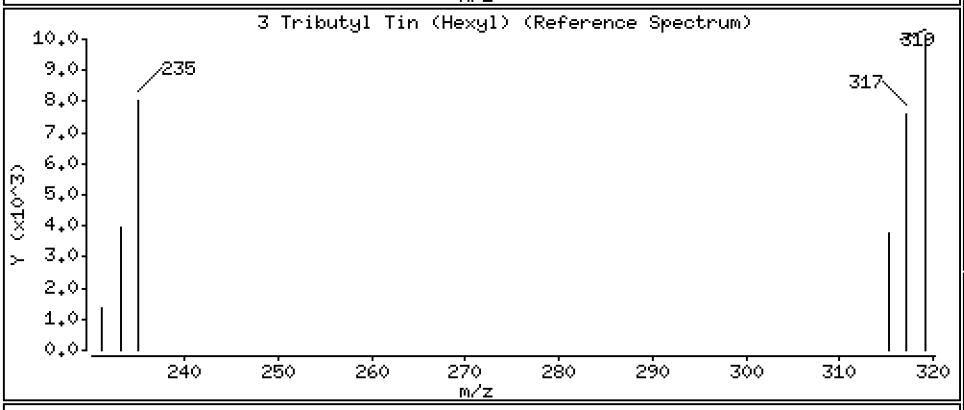
Concentration: 0.4398 ug/mL

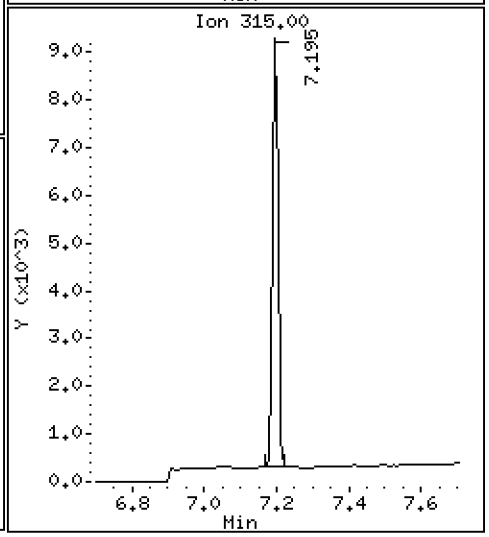


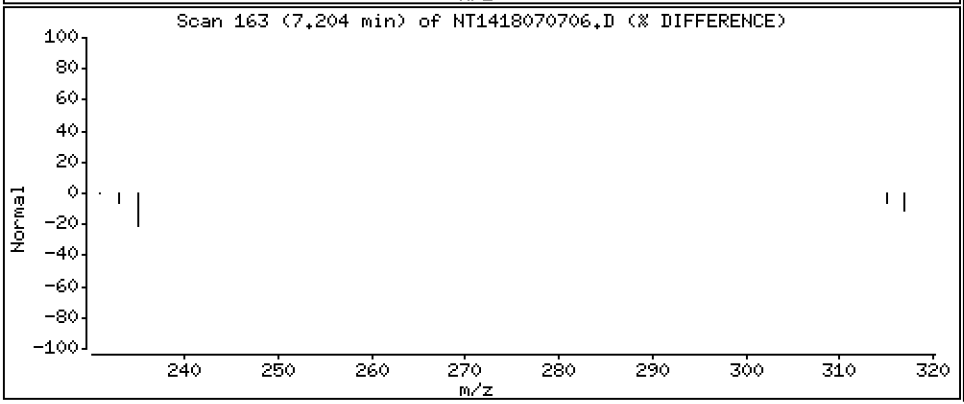












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070706.D

Date : 07-JUL-2018 15:14

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MS1

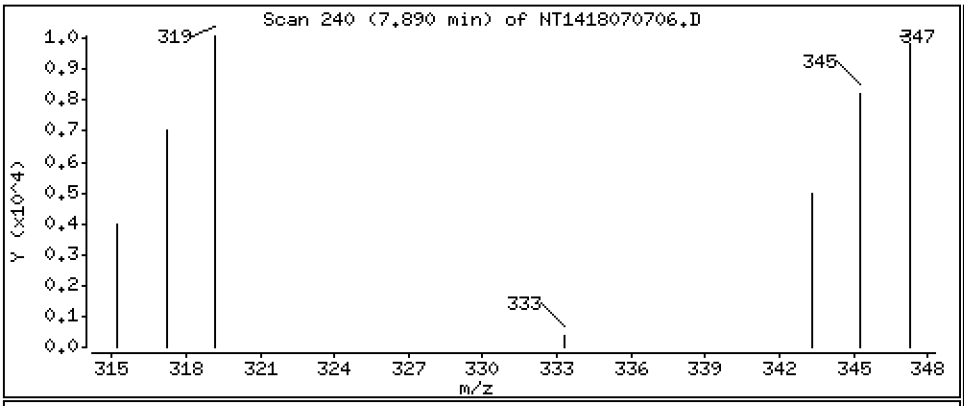
Operator: VTS

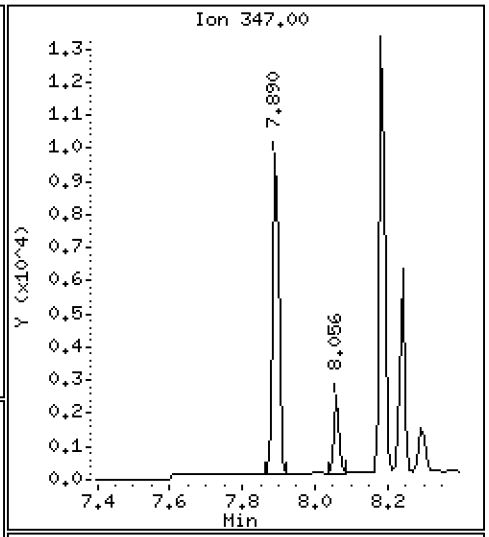
Column phase: ZB-5msi

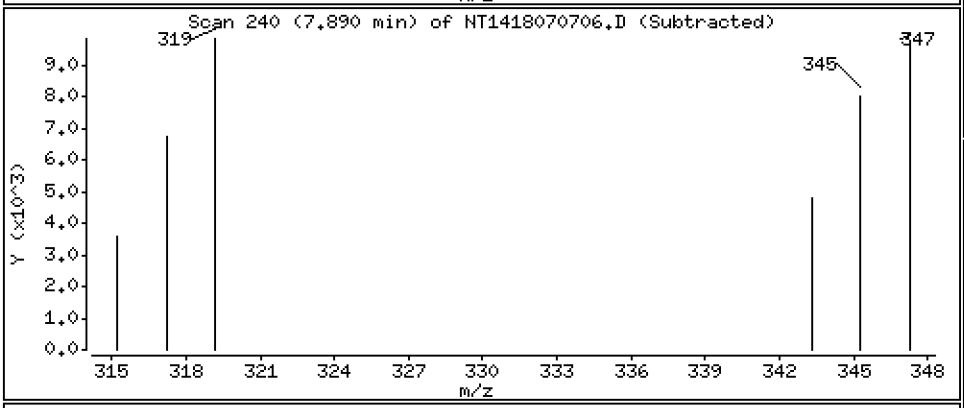
Column diameter: 0.25

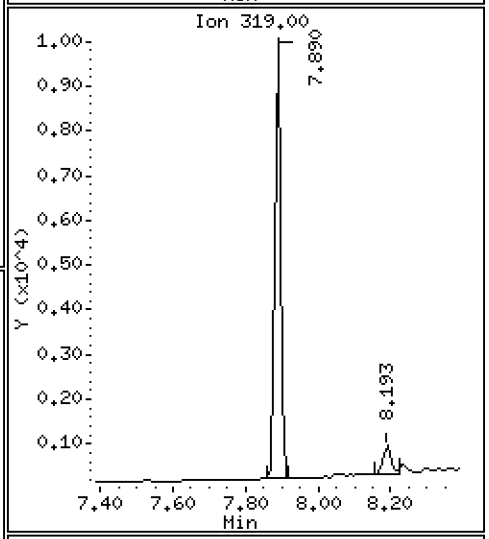
5 Dibutyl Tin (Hexyl)

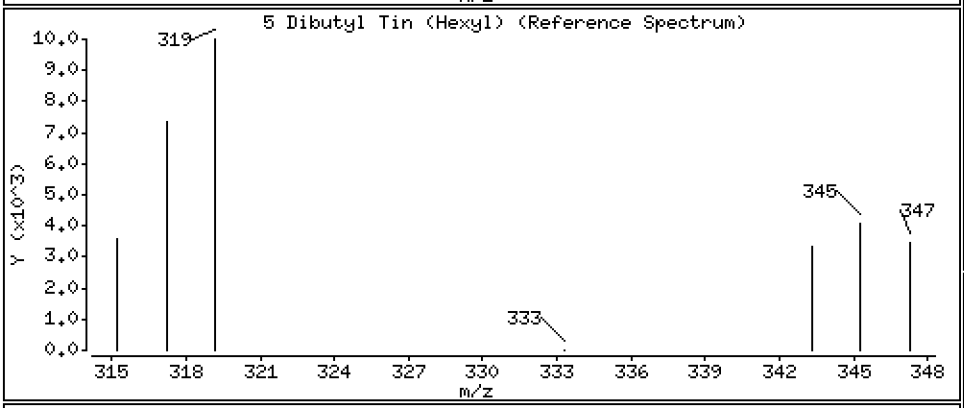
Concentration: 0.3491 ug/mL

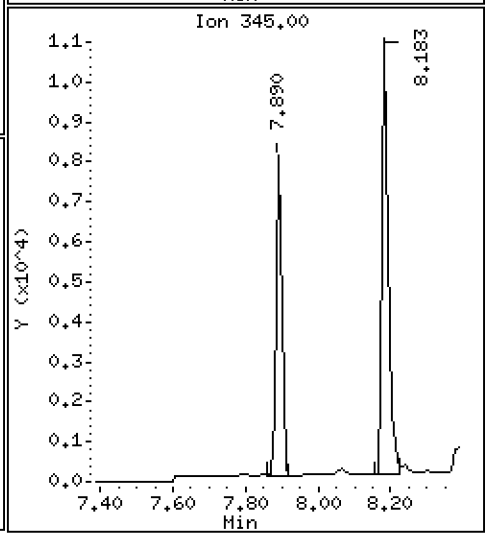


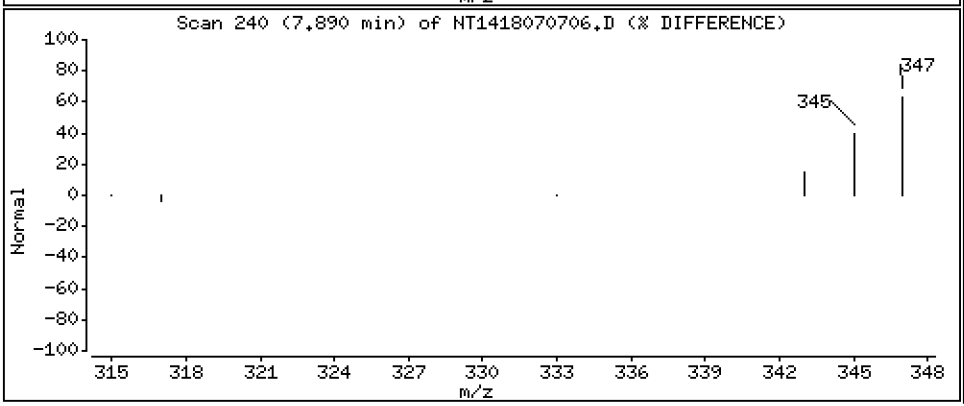












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070706.D

Date : 07-JUL-2018 15:14

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MS1

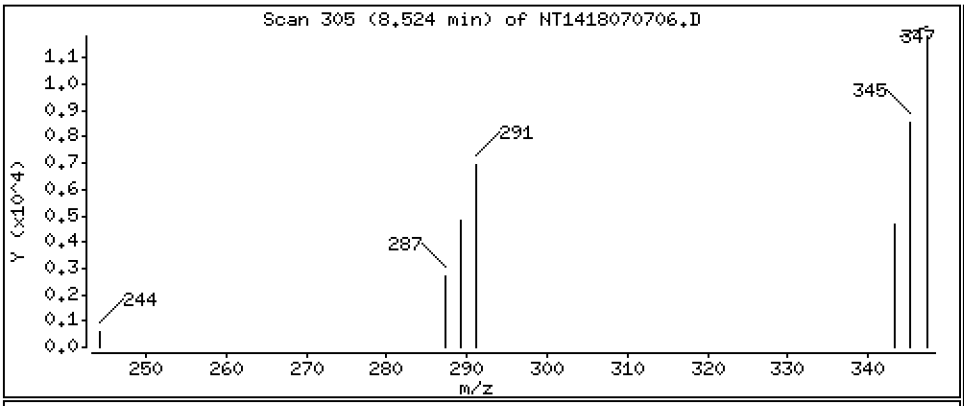
Operator: VTS

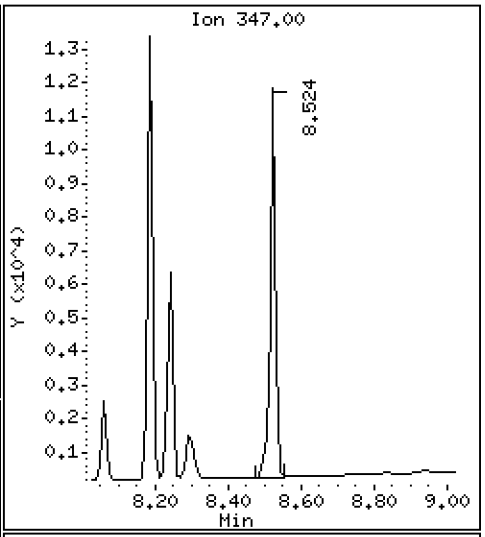
Column phase: ZB-5msi

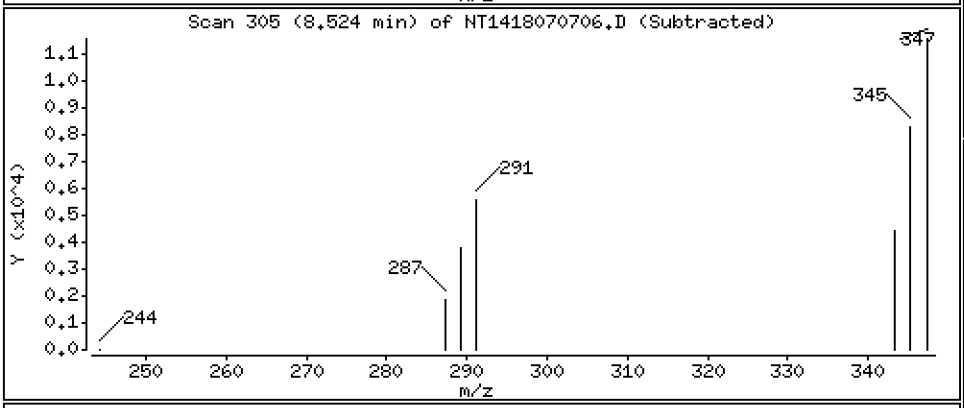
Column diameter: 0.25

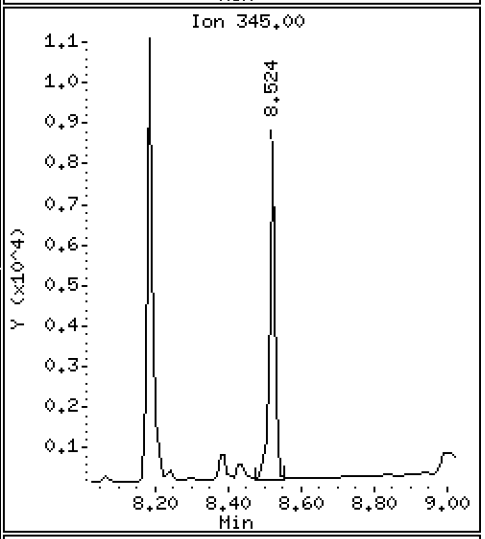
7 Butyl Tin (Hexyl)

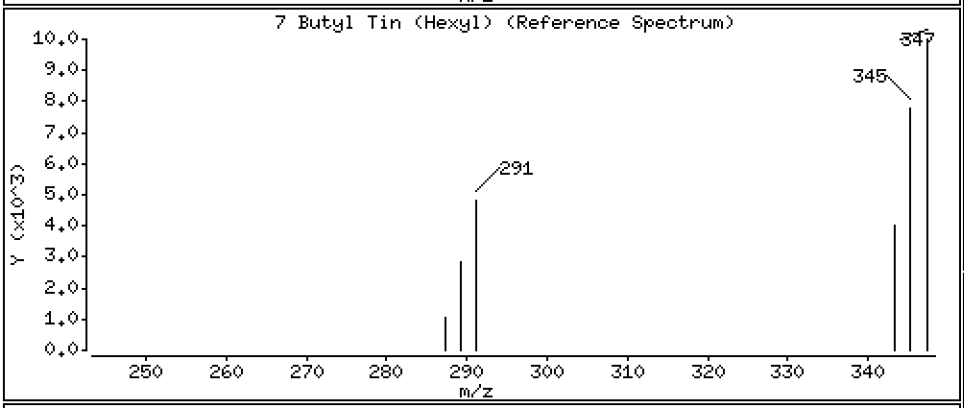
Concentration: 0.2543 ug/mL

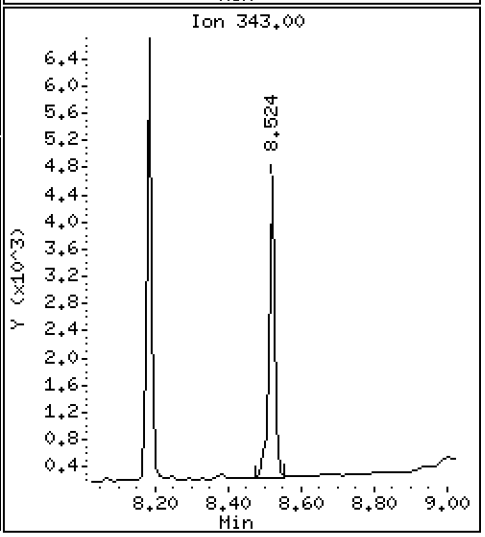


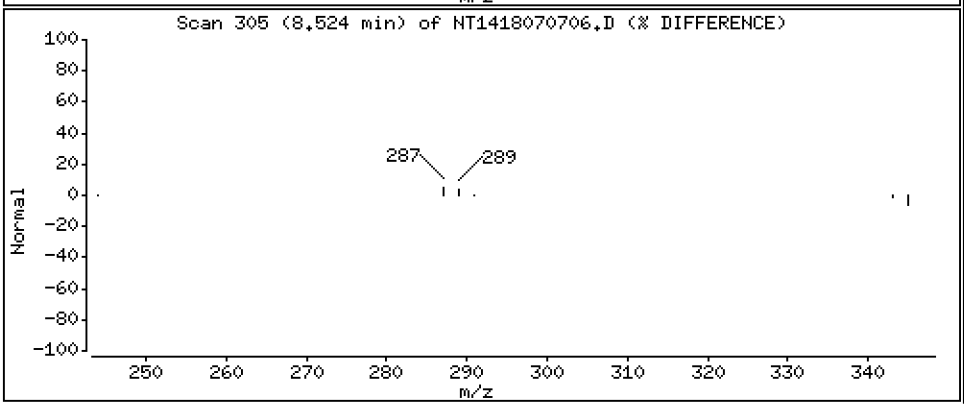












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070706.D
Lab Smp Id: BGF0719-MS1
Inj Date : 07-JUL-2018 15:14
Operator : VTS Inst ID: nt14.i
Smp Info : BGF0719-MS1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	24206	0.41338	0.4134
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	19948	0.43979	0.4398
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	145382	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.890	7.900	(0.895)	10746	0.34915	0.3491
$	6 Tripentyl Tin (Hexyl)	347	8.182	8.183	(0.928)	14831	0.32519	0.3252
	7 Butyl Tin (Hexyl)	347	8.524	8.524	(0.967)	12672	0.25430	0.2543
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	121354	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070706.D
Lab Smp Id: BGF0719-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	145382	-4.06
8 p-Terphenyl-d14	129365	64683	258730	121354	-6.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070706.D

Lab ID: BGF0719-MS1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 15:14

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070707.D

Date : 07-JUL-2018 15:28

Client ID:

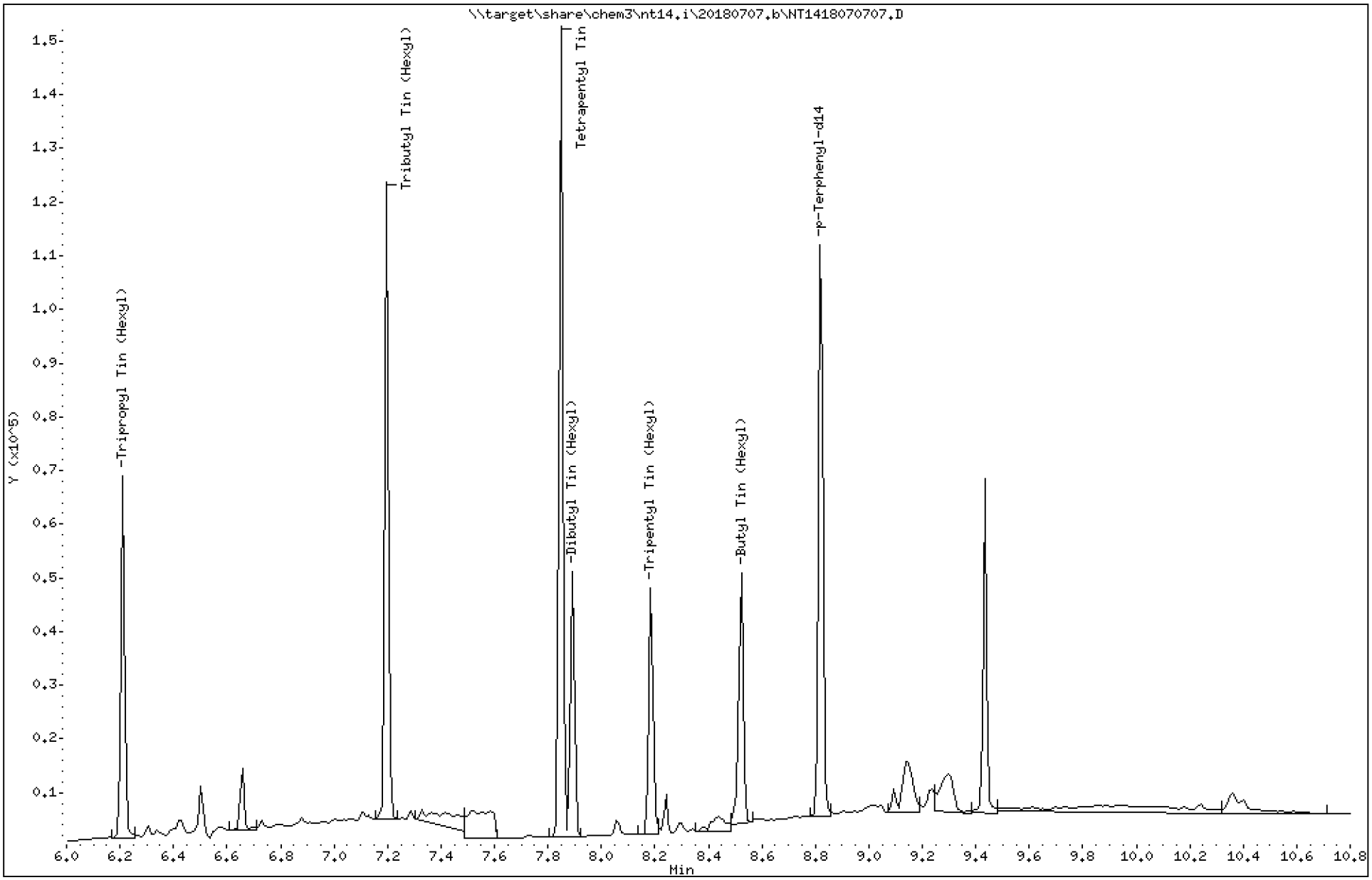
Instrument: nt14.i

Sample Info: BGF0719-MSD1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070707.D

Date : 07-JUL-2018 15:28

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MSD1

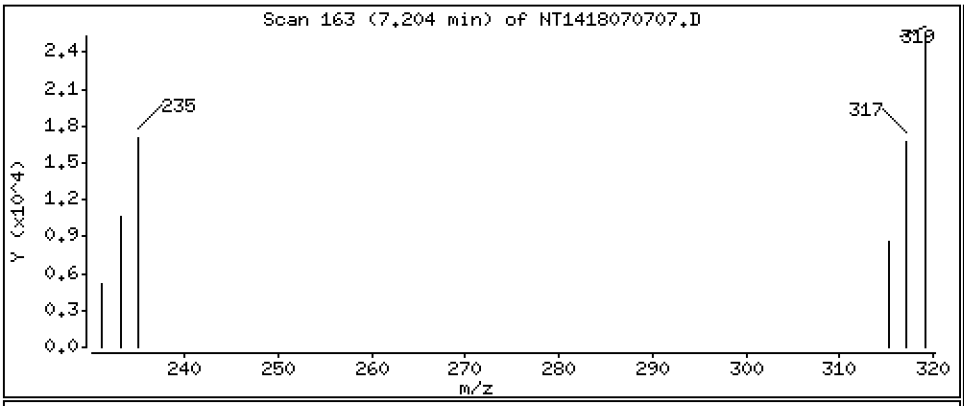
Operator: VTS

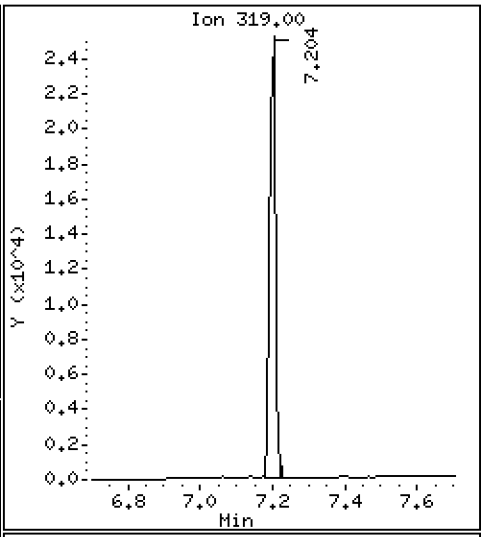
Column phase: ZB-5msi

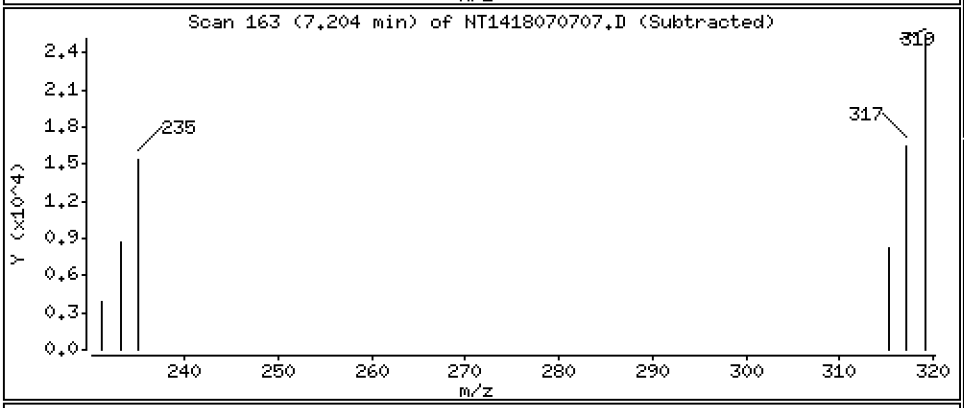
Column diameter: 0.25

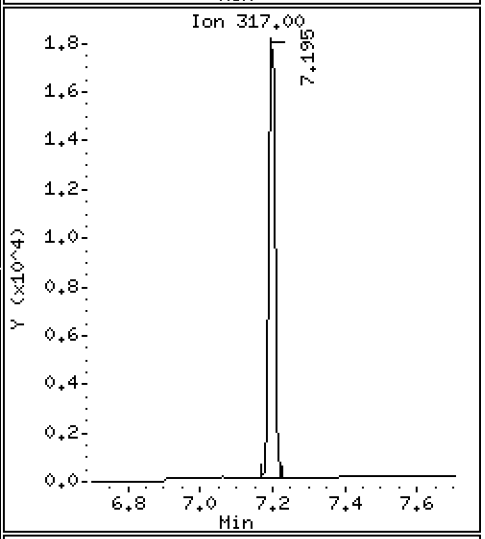
3 Tributyl Tin (Hexyl)

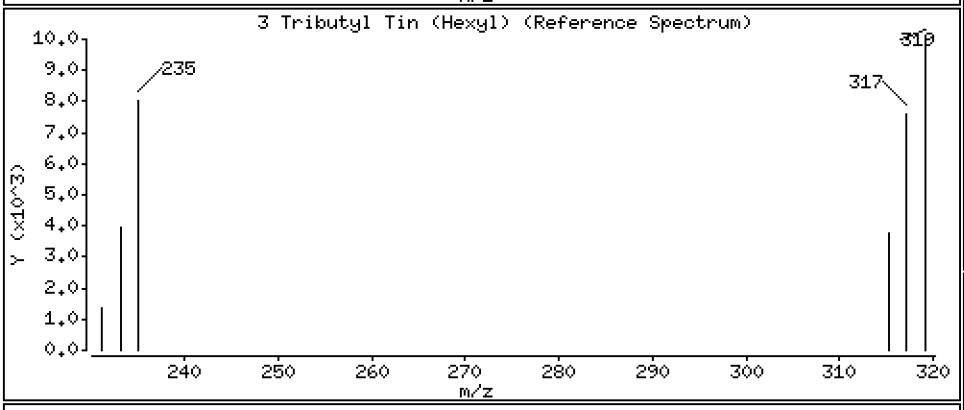
Concentration: 0.5944 ug/mL

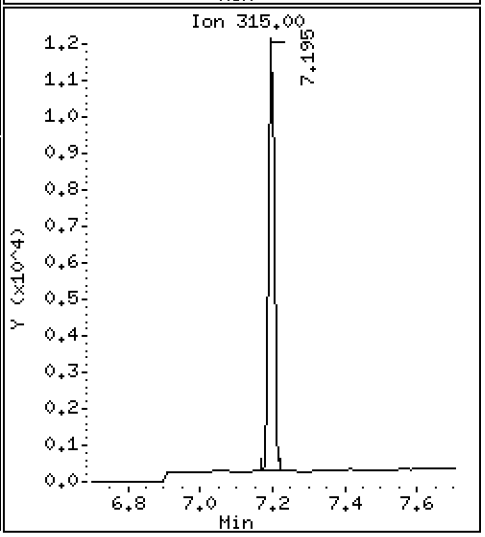


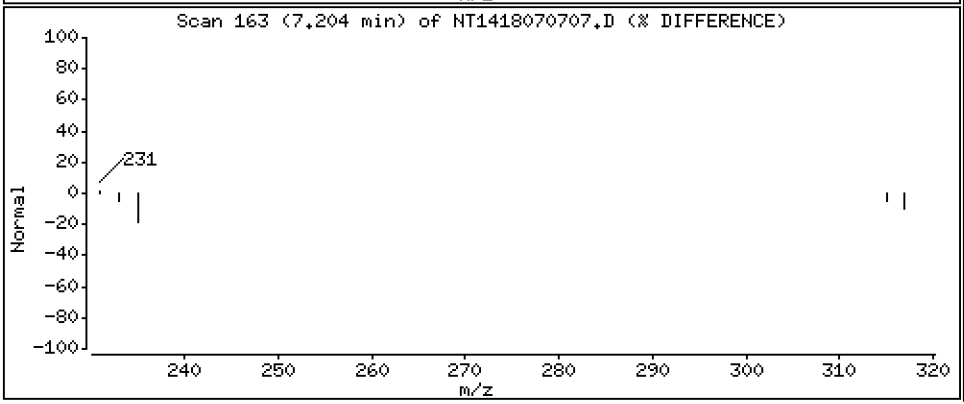












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070707.D

Date : 07-JUL-2018 15:28

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MSD1

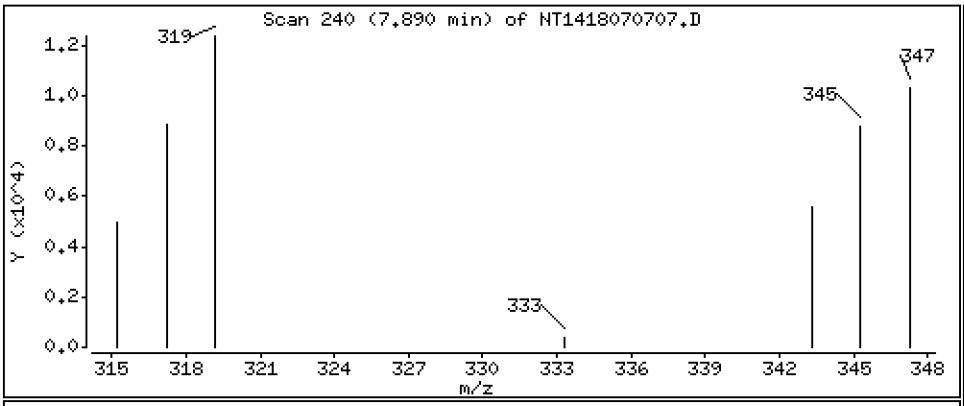
Operator: VTS

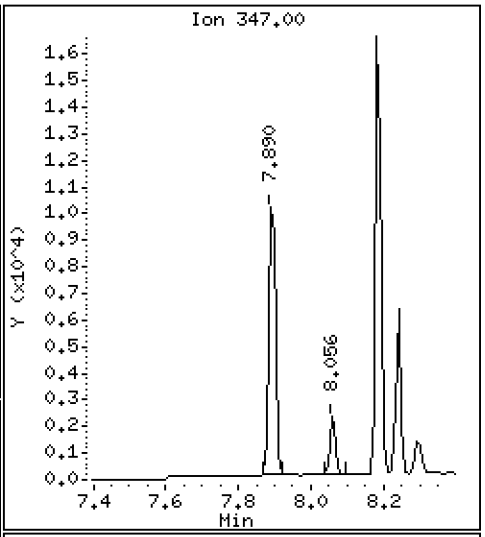
Column phase: ZB-5msi

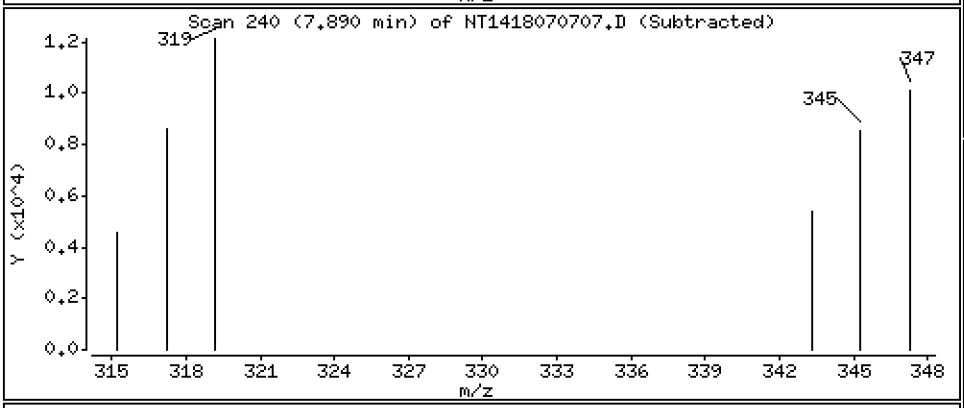
Column diameter: 0.25

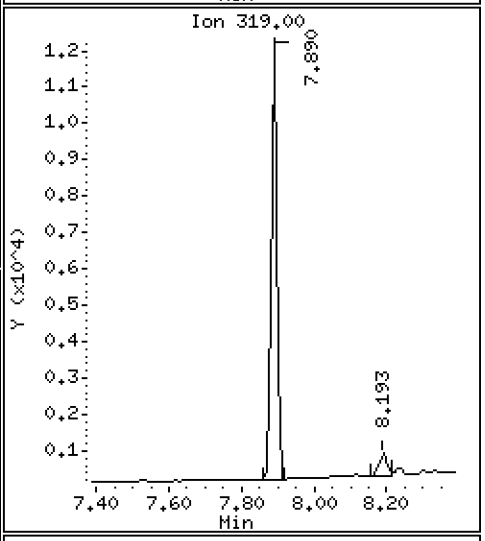
5 Dibutyl Tin (Hexyl)

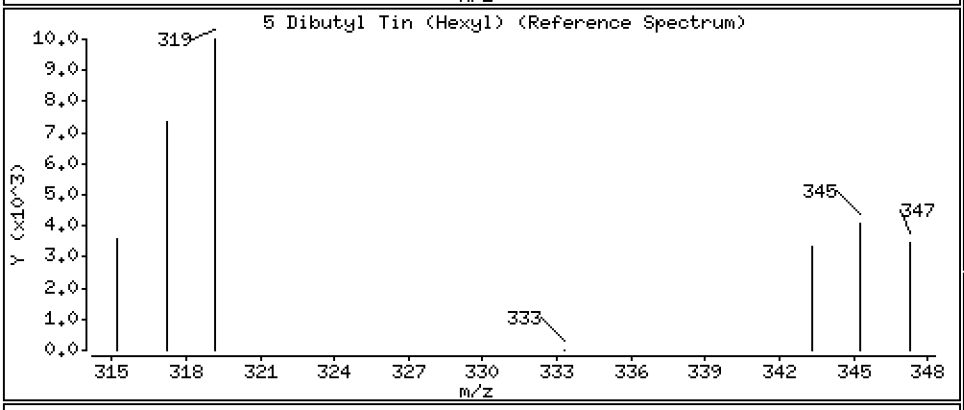
Concentration: 0.3996 ug/mL

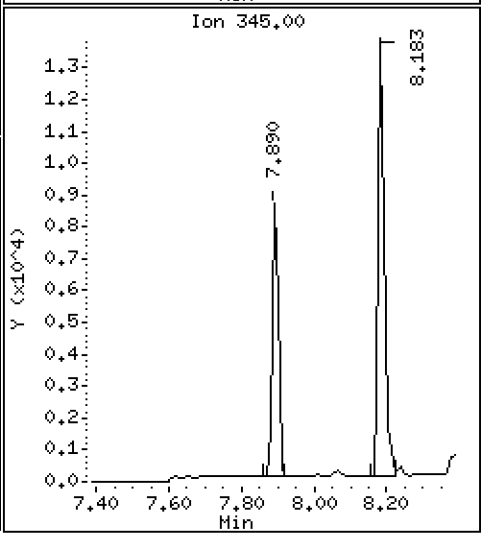


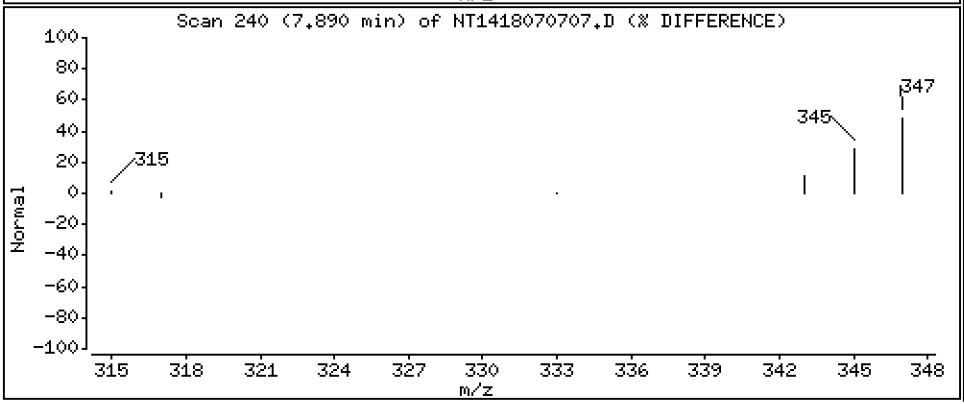












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070707.D

Date : 07-JUL-2018 15:28

Client ID:

Instrument: nt14.i

Sample Info: BGF0719-MSD1

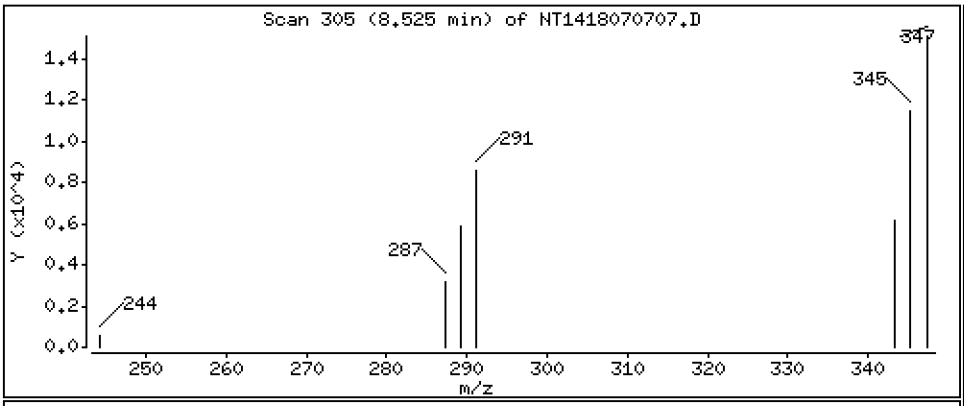
Operator: VTS

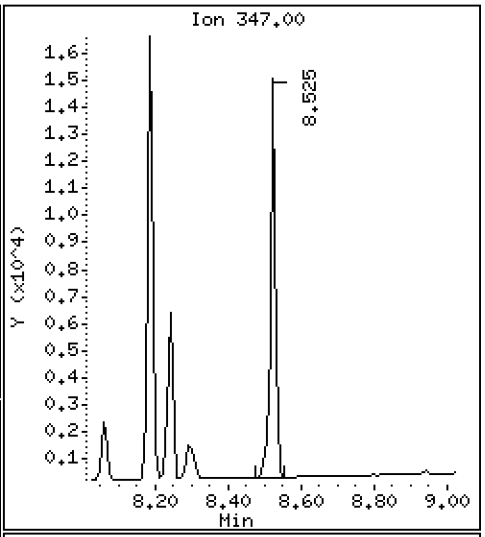
Column phase: ZB-5msi

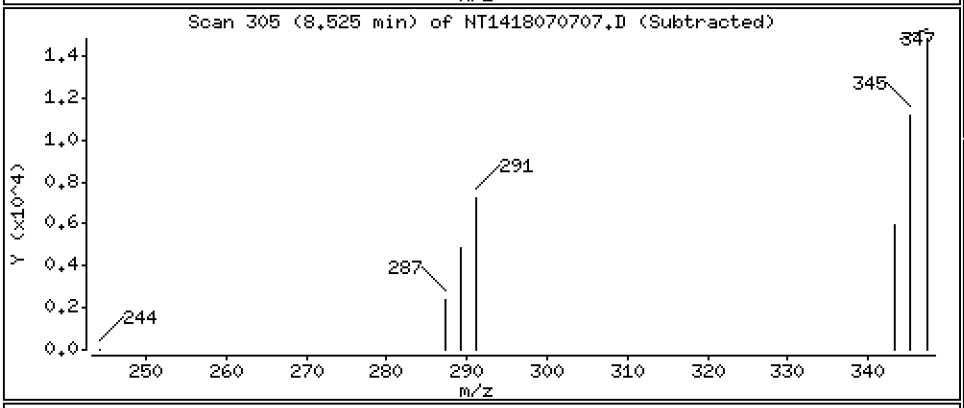
Column diameter: 0.25

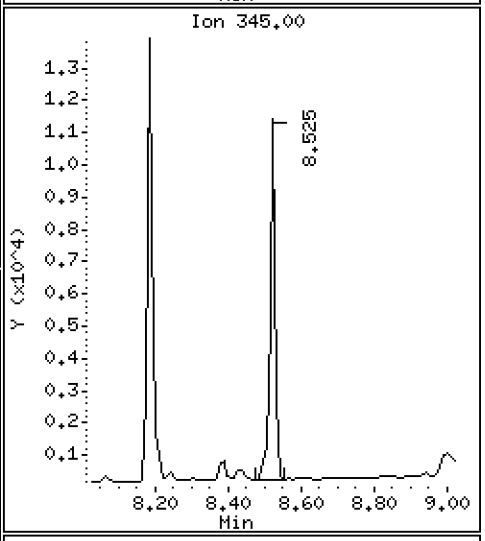
7 Butyl Tin (Hexyl)

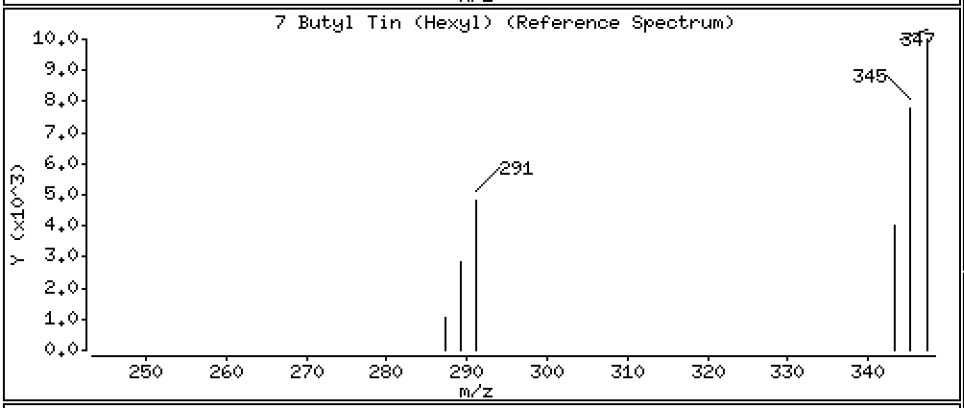
Concentration: 0.3103 ug/mL

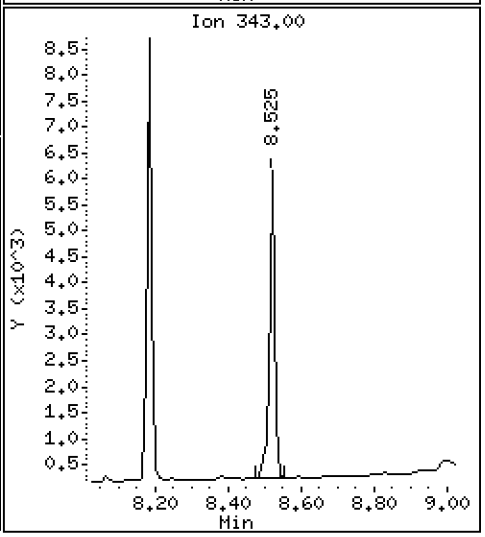


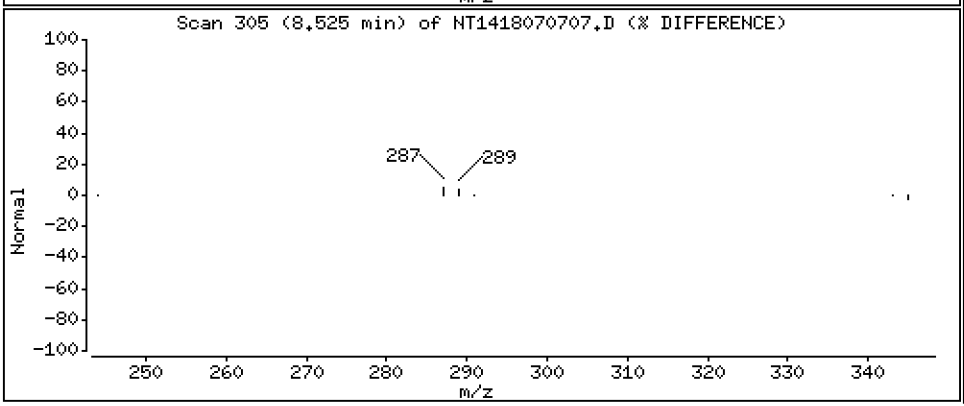












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070707.D
Lab Smp Id: BGF0719-MSD1
Inj Date : 07-JUL-2018 15:28
Operator : VTS Inst ID: nt14.i
Smp Info : BGF0719-MSD1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	29678	0.50825	0.5083
	2 Tetrabutyl Tin	289	Compound Not Detected.					
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	26887	0.59444	0.5944
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	144976	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.890	7.900	(0.895)	12310	0.39961	0.3996
$	6 Tripentyl Tin (Hexyl)	347	8.183	8.183	(0.928)	18964	0.41545	0.4154
	7 Butyl Tin (Hexyl)	347	8.524	8.524	(0.967)	15475	0.31028	0.3103
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	121460	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070707.D
Lab Smp Id: BGF0719-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	144976	-4.33
8 p-Terphenyl-d14	129365	64683	258730	121460	-6.11

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070707.D

Lab ID: BGF0719-MSD1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 15:28

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 18:30
Batch:	BGF0721	Laboratory ID:	BGF0721-MS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike
Initial/Final:	10.04 g / 0.5 mL	Source Sample:	LDW18-C01-CLWB-Comp2

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	Q	MS CONCENTRATION (ug/kg)	Q	MS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	149	4.29	J	110		70.9	20 - 130
Chrysene	149	5.61		111		70.6	20 - 130
Benzo(b)fluoranthene	149	2.86	J	107		69.4	20 - 130
Benzo(k)fluoranthene	149	1.94	J	105		68.8	20 - 130
Benzo(a)pyrene	149	ND	U	105		70.5	20 - 130
Indeno(1,2,3-cd)pyrene	149	ND	U	115		76.7	20 - 130
Dibenzo(a,h)anthracene	149	11.1		112		67.2	20 - 130

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/05/18 18:57
Batch:	BGF0721	Laboratory ID:	BGF0721-MSD1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike Dup
Initial/Final:	10.03 g / 0.5 mL	Source Sample:	LDW18-C01-CLWB-Comp2

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)anthracene	150	104		66.8	5.60	35	20 - 130
Chrysene	150	103		65.1	7.61	35	20 - 130
Benzo(b)fluoranthene	150	102		66.5	4.06	35	20 - 130
Benzo(k)fluoranthene	150	99.9		65.5	4.71	35	20 - 130
Benzo(a)pyrene	150	99.8		66.7	5.37	35	20 - 130
Indeno(1,2,3-cd)pyrene	150	109		72.7	5.27	35	20 - 130
Dibenzo(a,h)anthracene	150	103		61.4	8.02	35	20 - 130

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

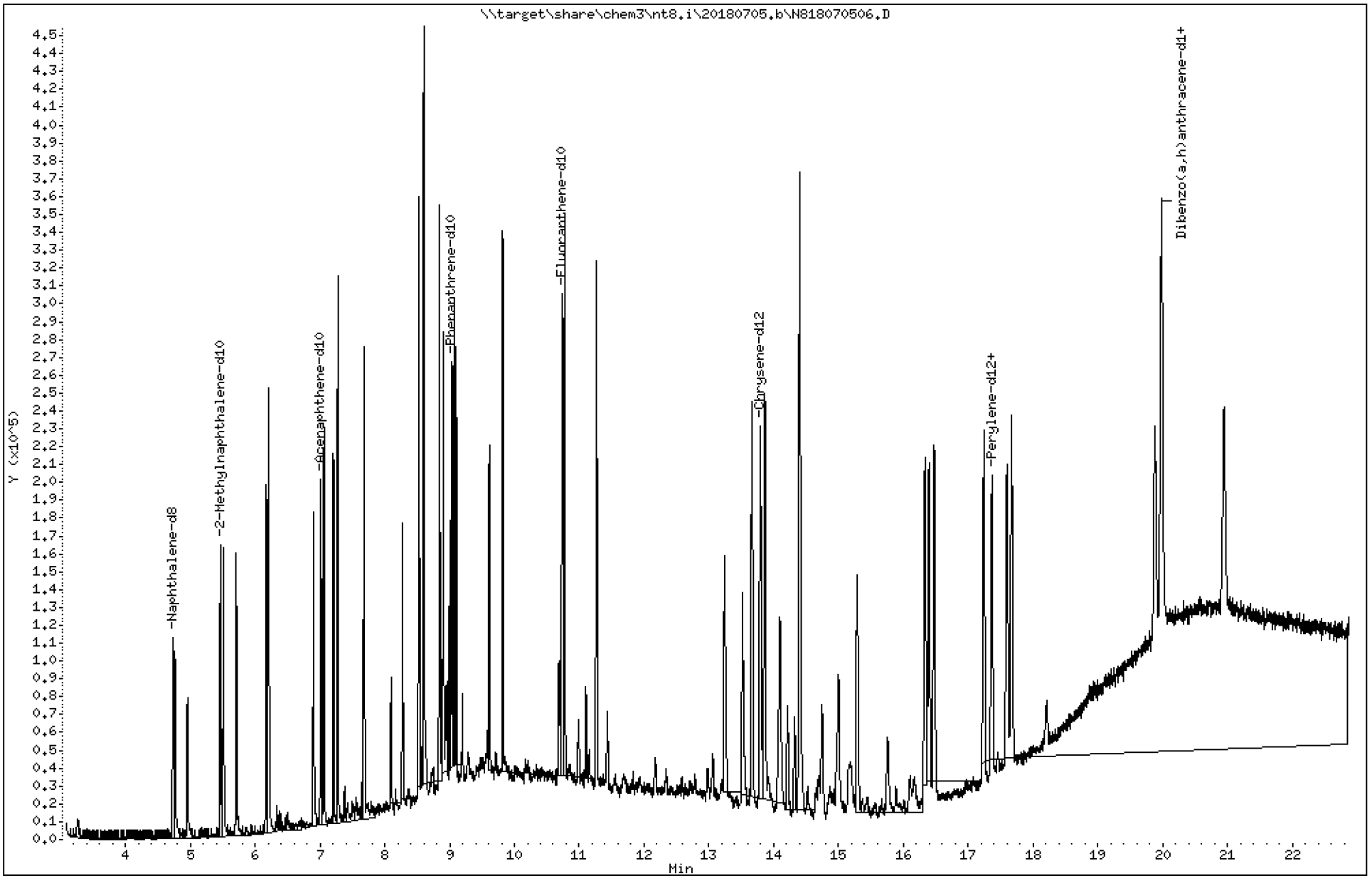
Instrument: nt8.i

Sample Info: BGF0721-MS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

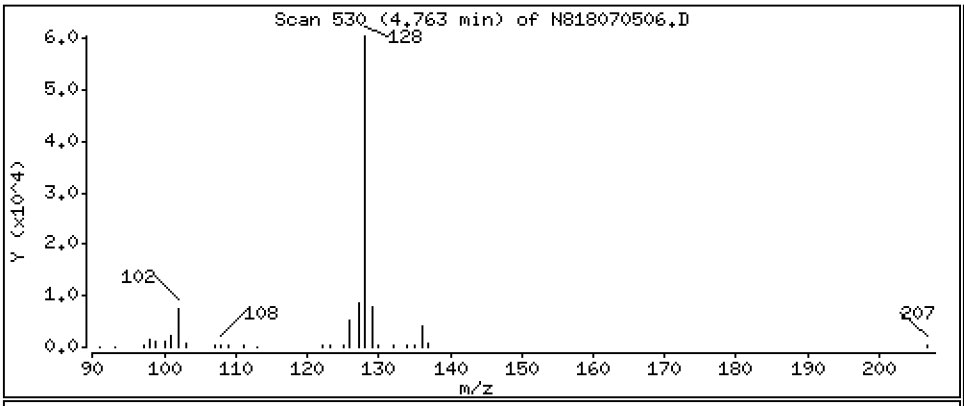
Operator: JZ

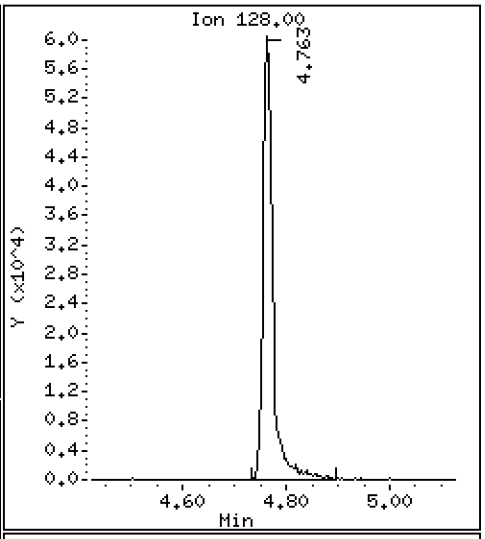
Column phase: Rxi-17sil

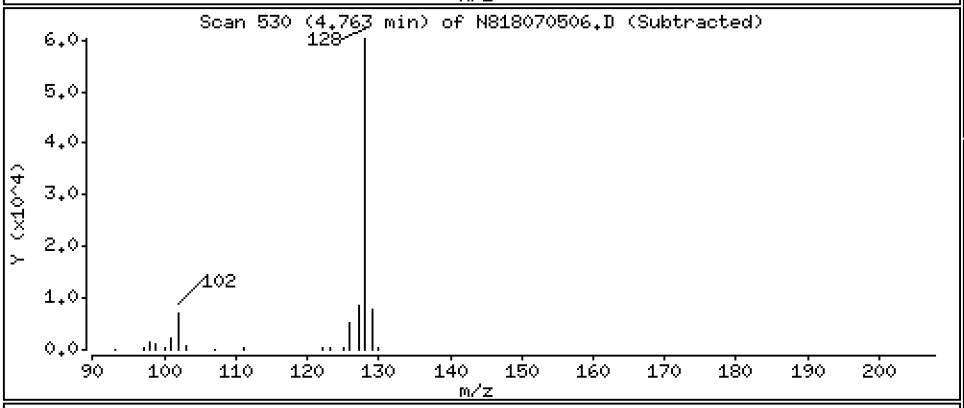
Column diameter: 0.25

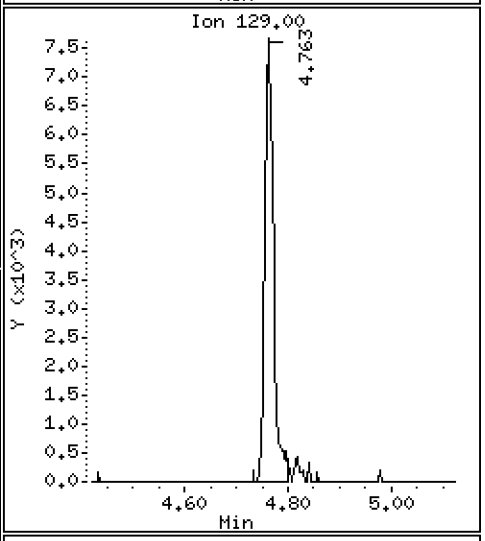
2 Naphthalene

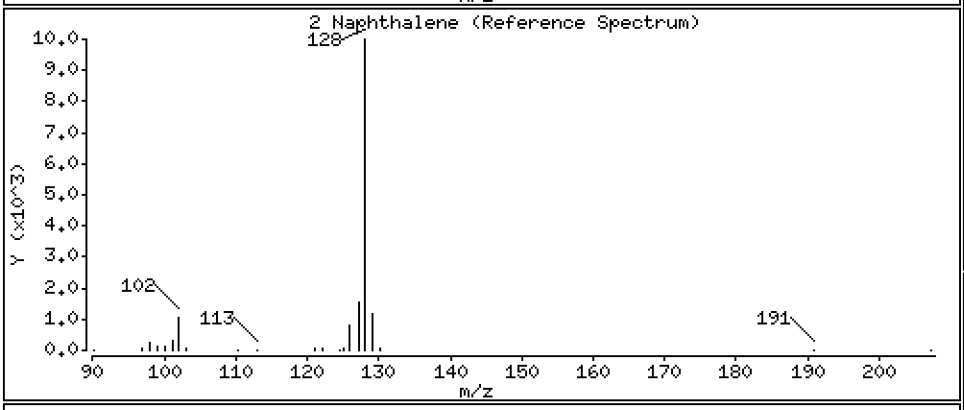
Concentration: 1.612 ug/mL

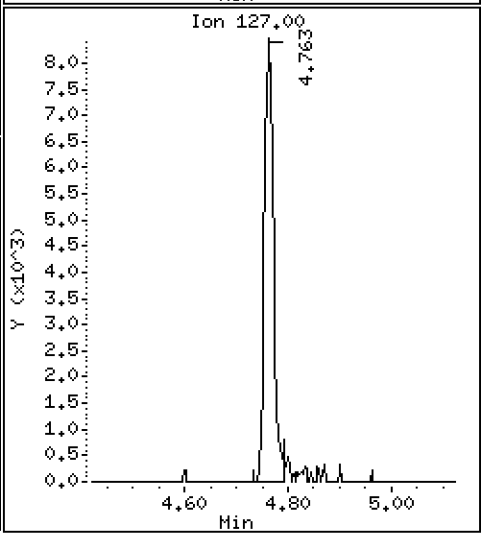


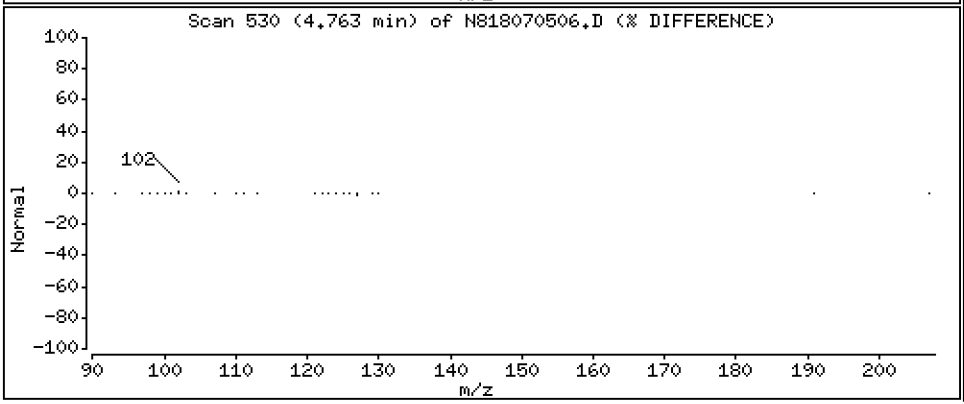












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

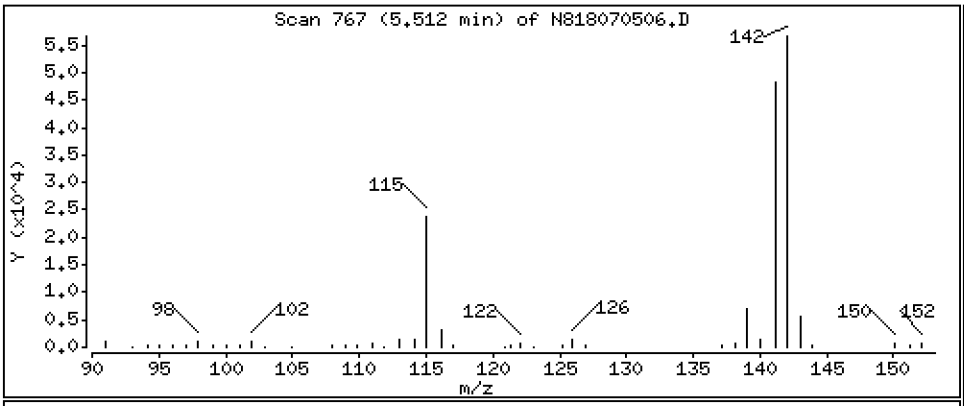
Operator: JZ

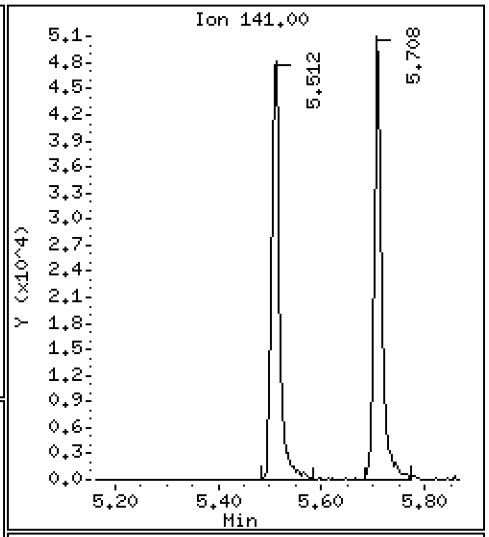
Column phase: Rxi-17sil

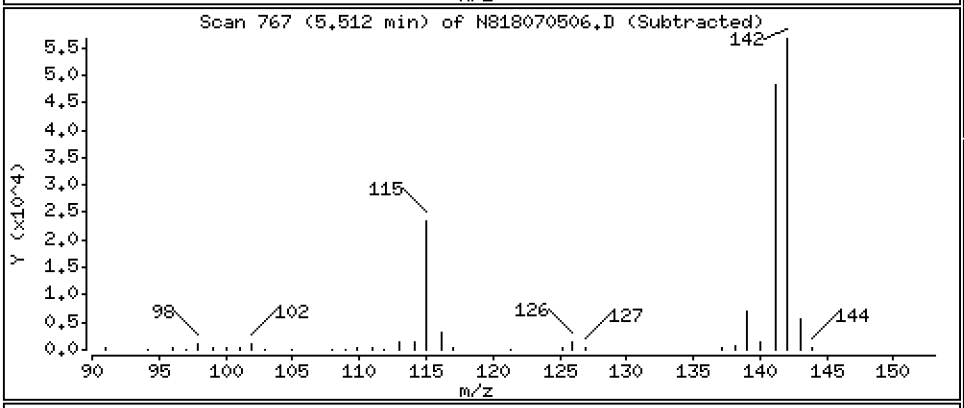
Column diameter: 0.25

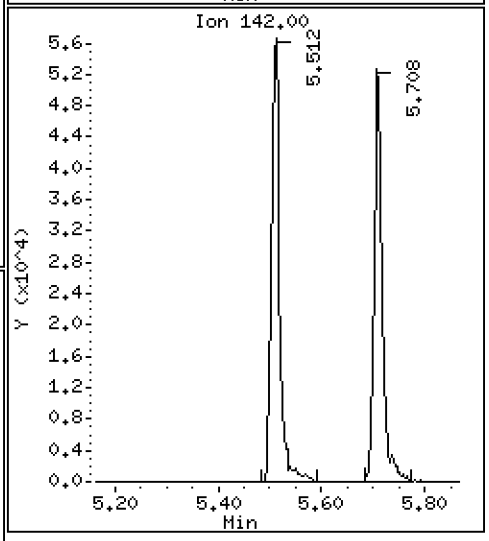
4 2-Methylnaphthalene

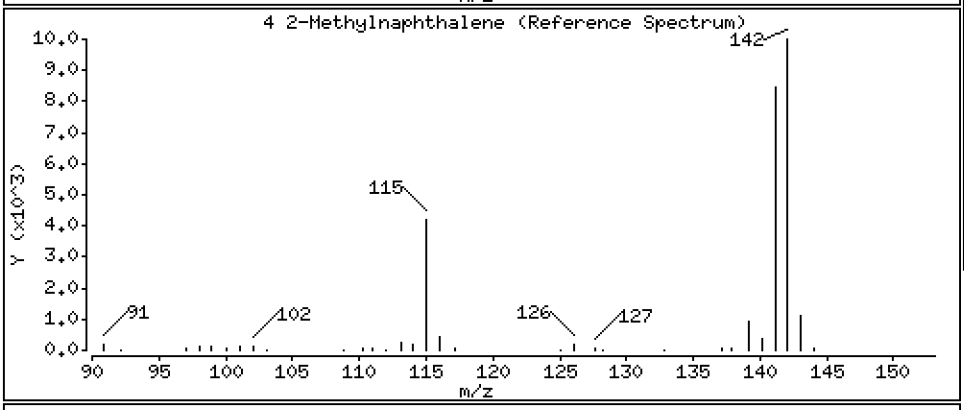
Concentration: 1.847 ug/mL

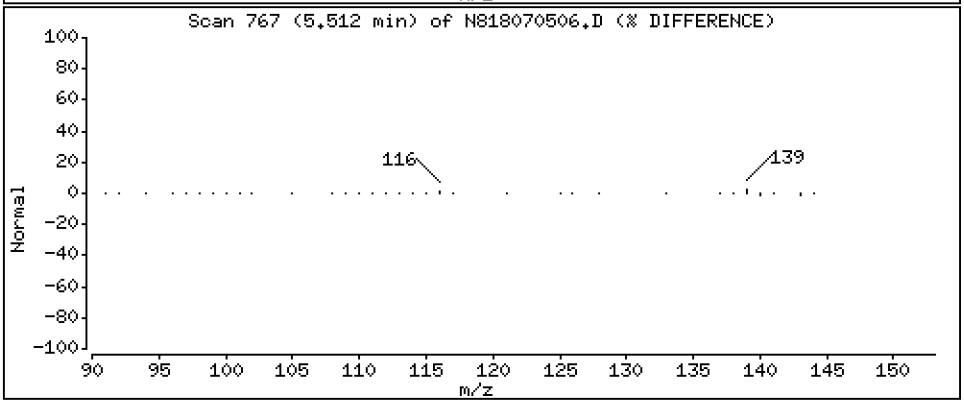












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

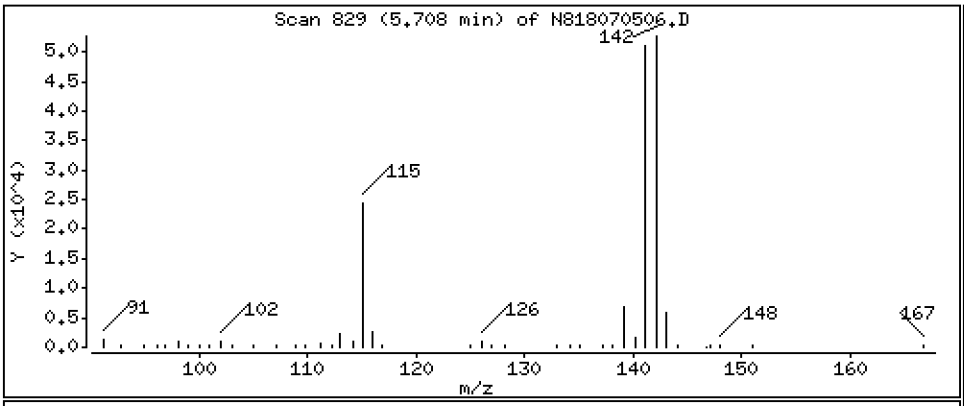
Operator: JZ

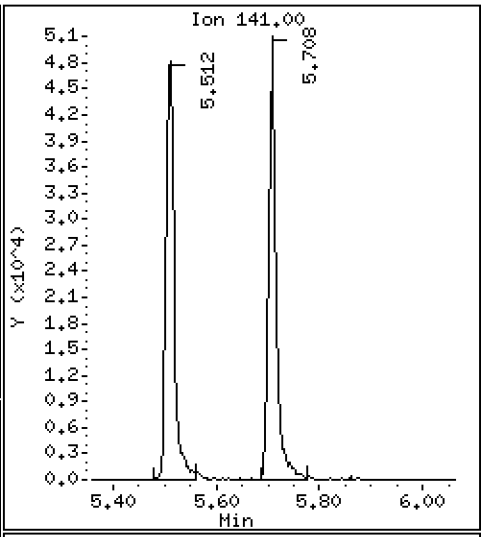
Column phase: Rxi-17sil

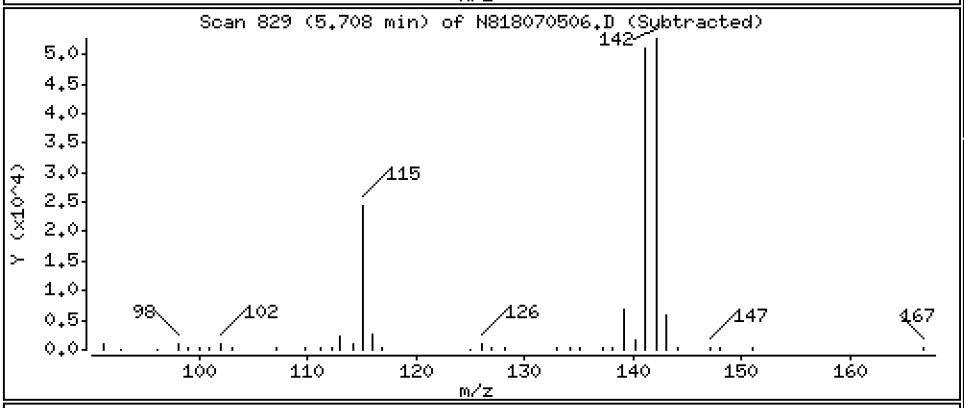
Column diameter: 0.25

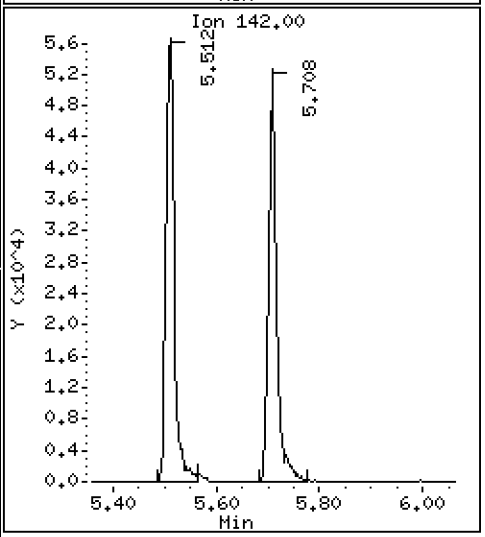
5 1-methylnaphthalene

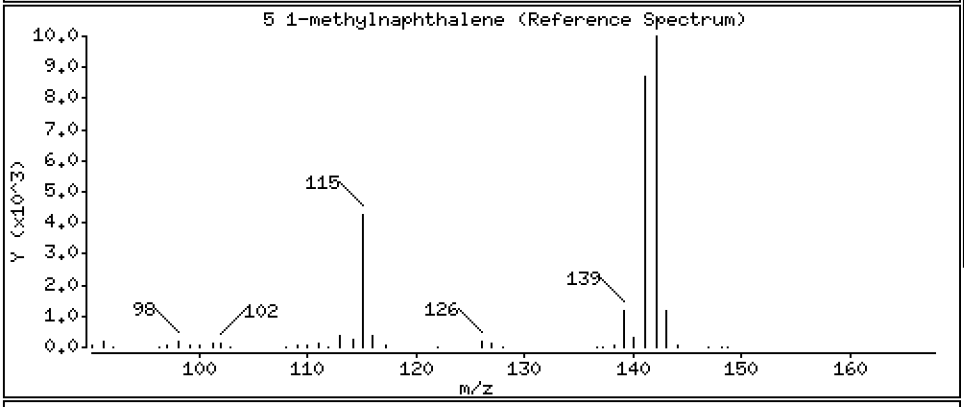
Concentration: 1.857 ug/mL

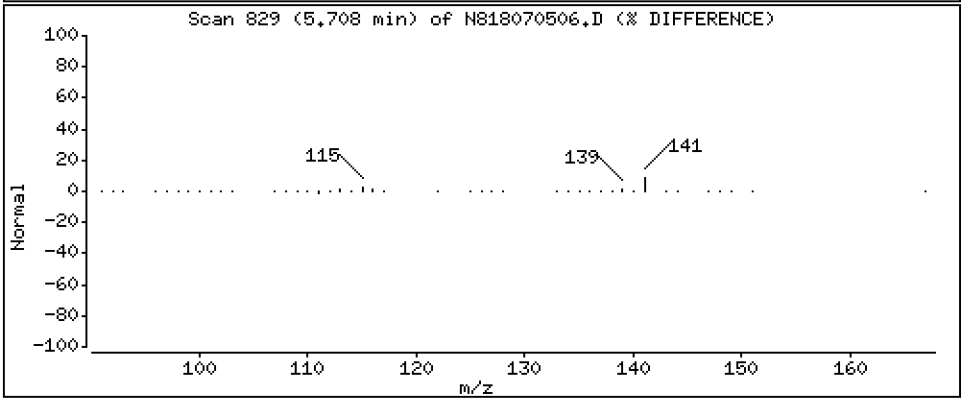












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

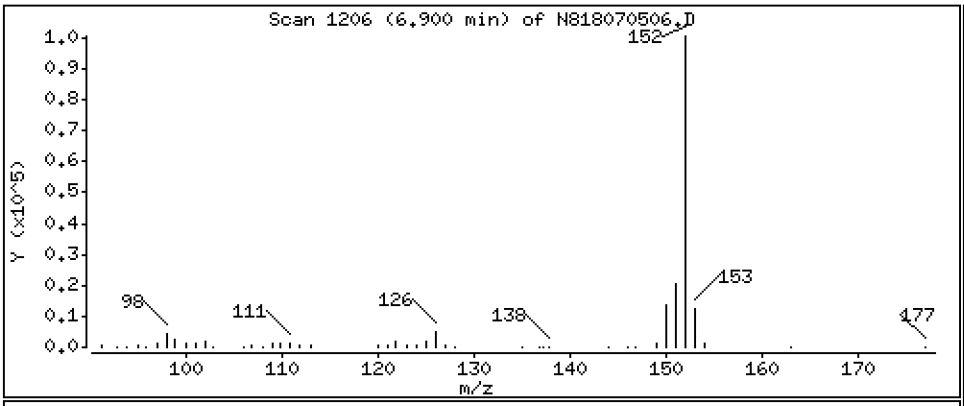
Operator: JZ

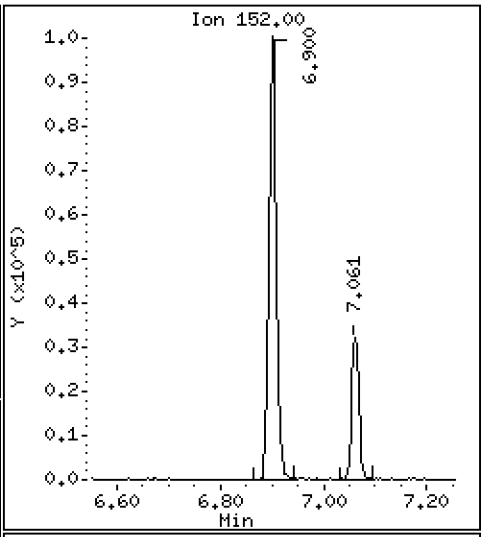
Column phase: Rxi-17sil

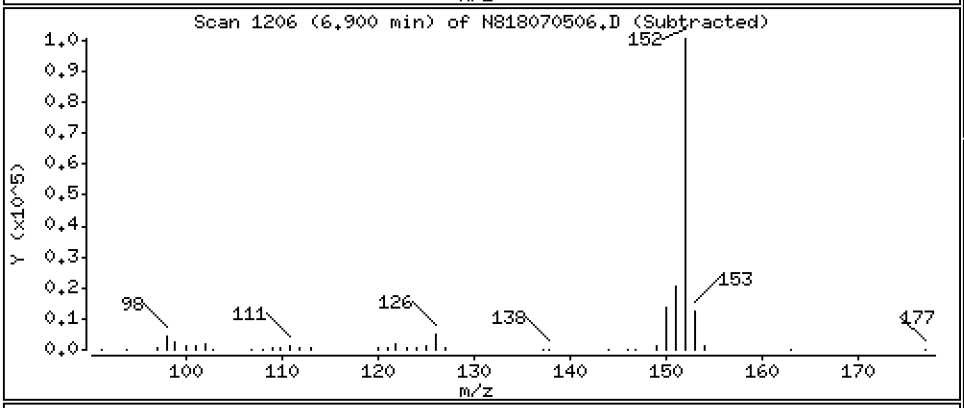
Column diameter: 0.25

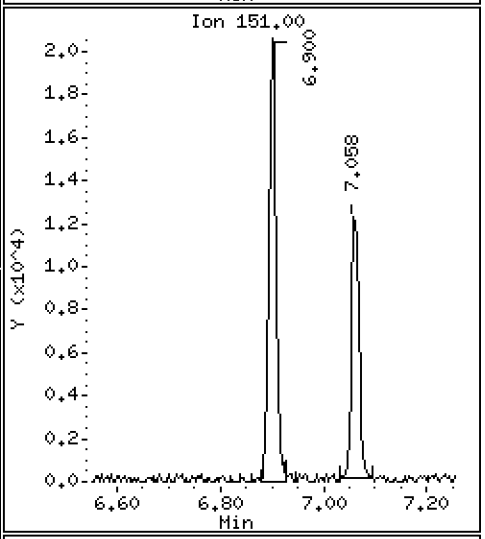
9 Acenaphthylene

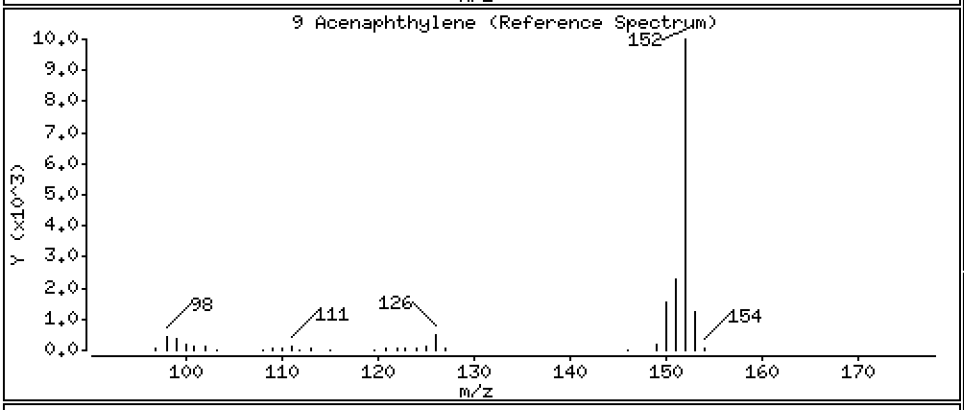
Concentration: 1.931 ug/mL

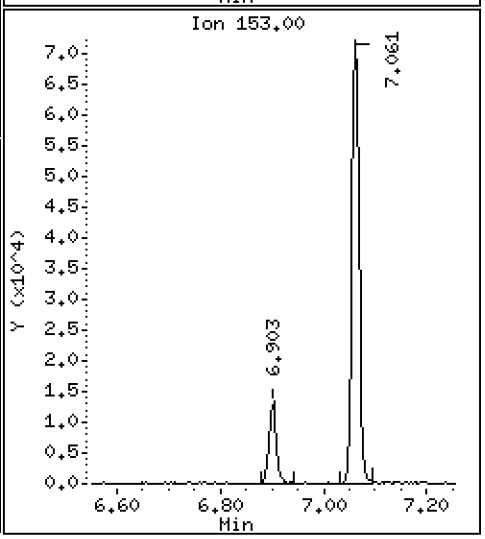


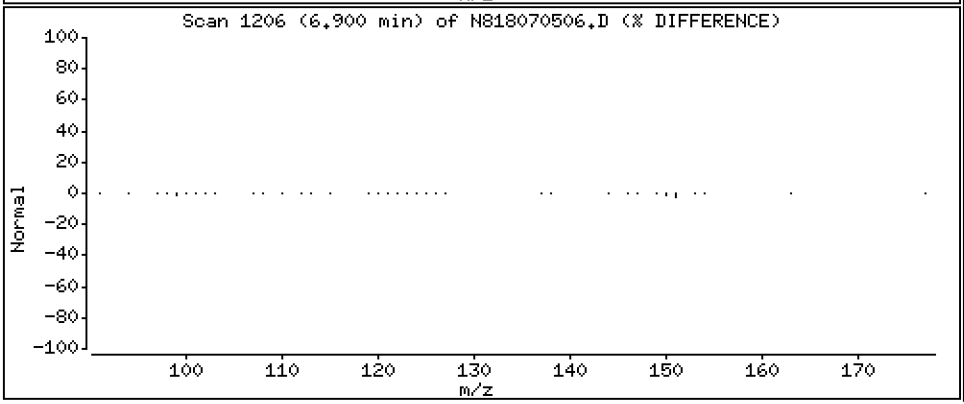












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

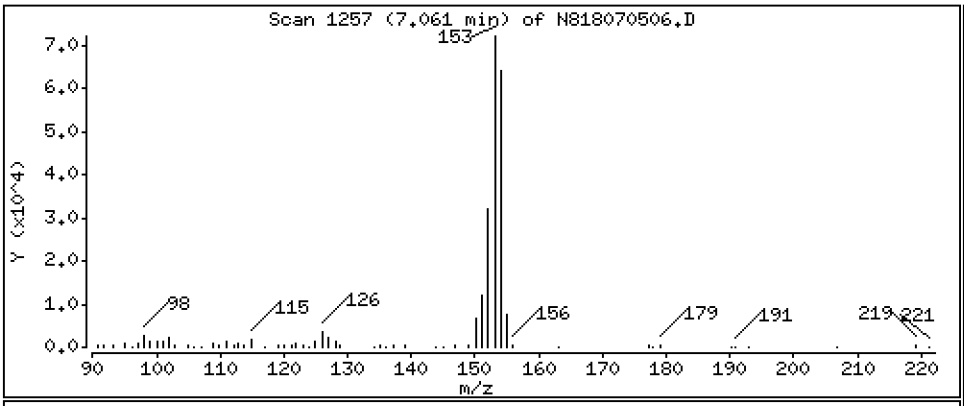
Operator: JZ

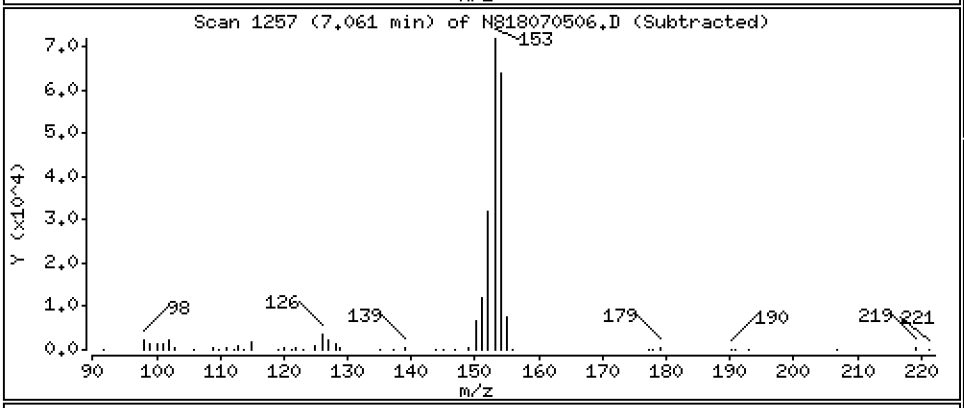
Column phase: Rxi-17sil

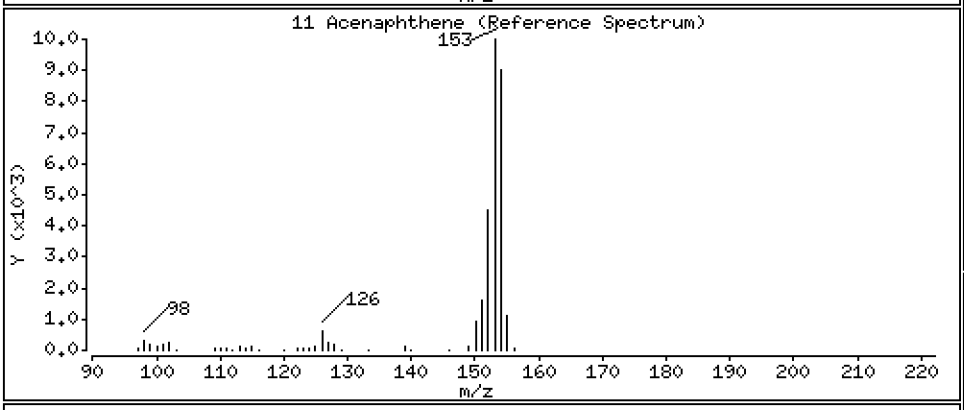
Column diameter: 0.25

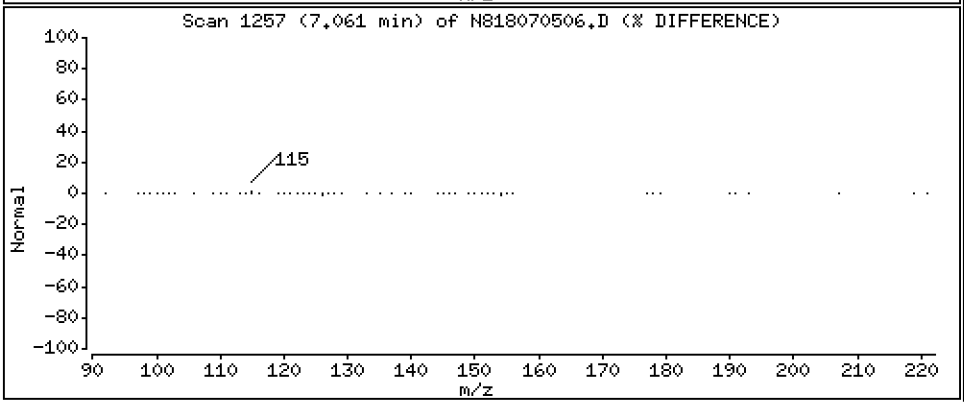
11 Acenaphthene

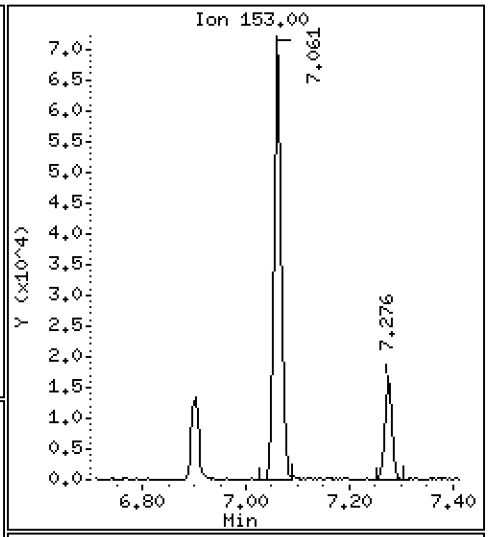
Concentration: 1.906 ug/mL

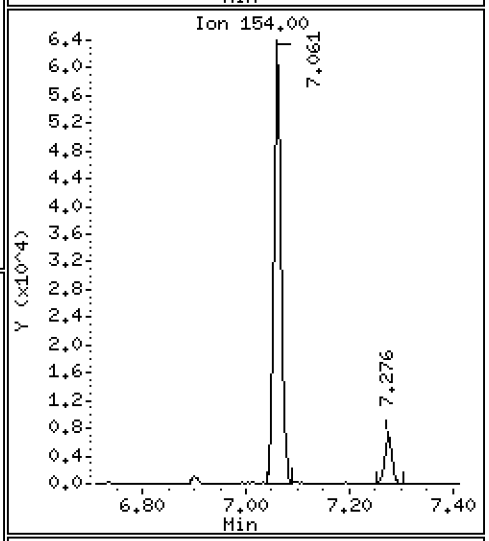


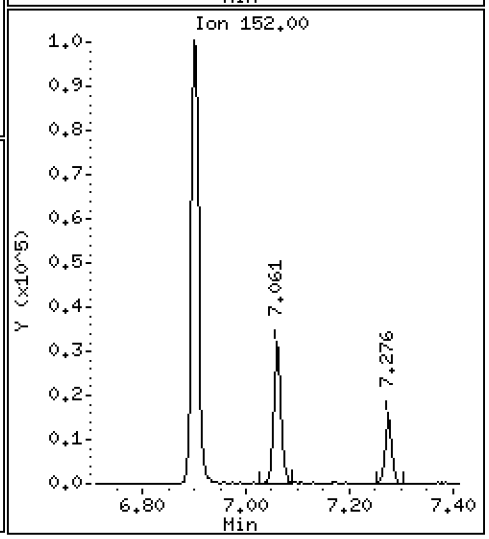












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

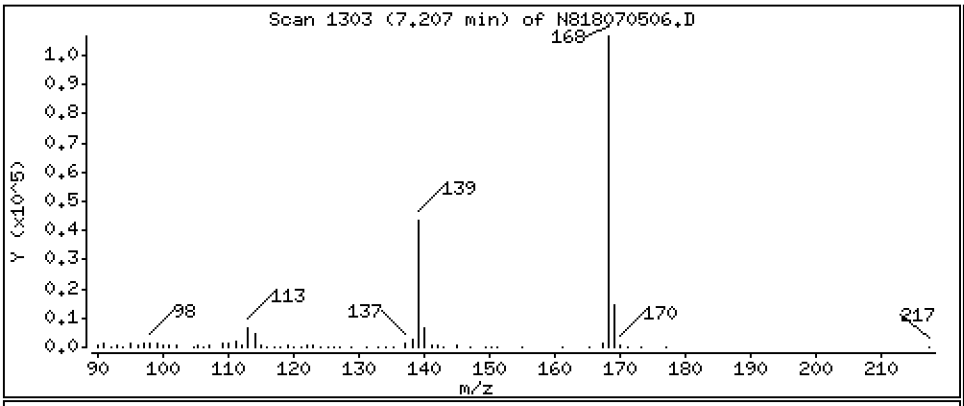
Operator: JZ

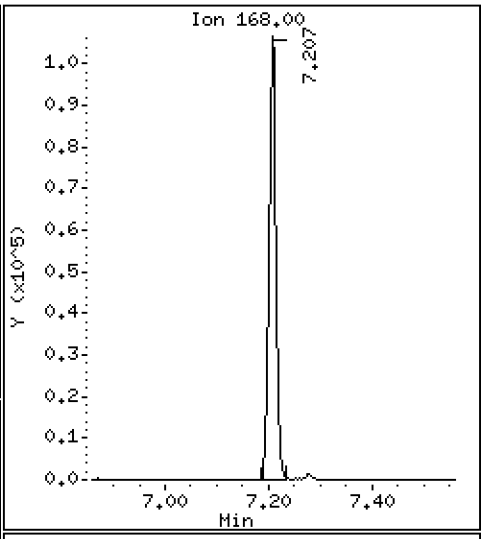
Column phase: Rxi-17sil

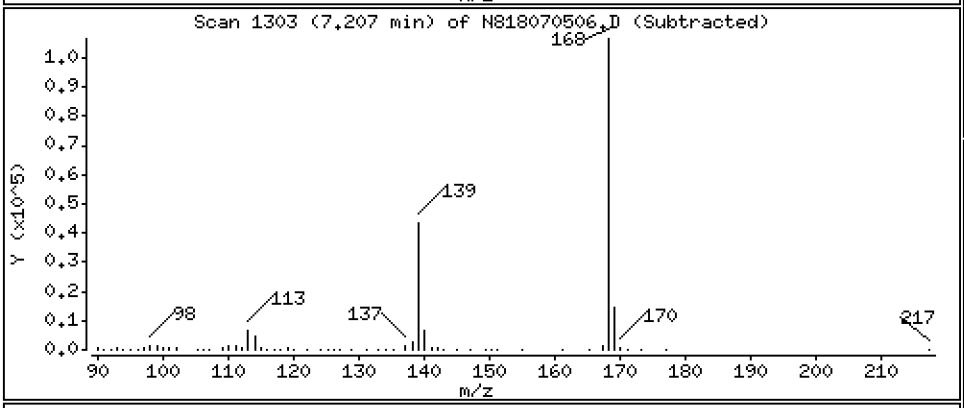
Column diameter: 0.25

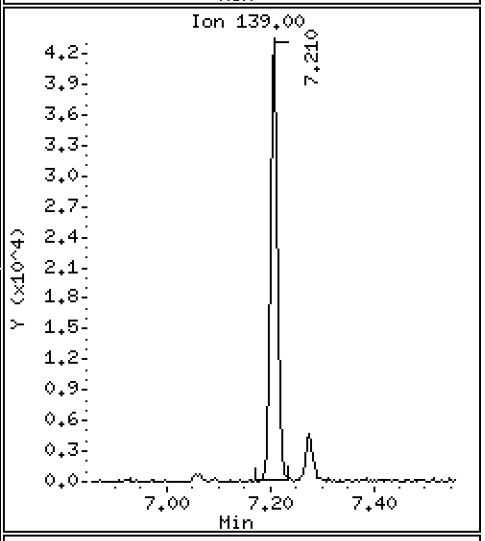
12 Dibenzofuran

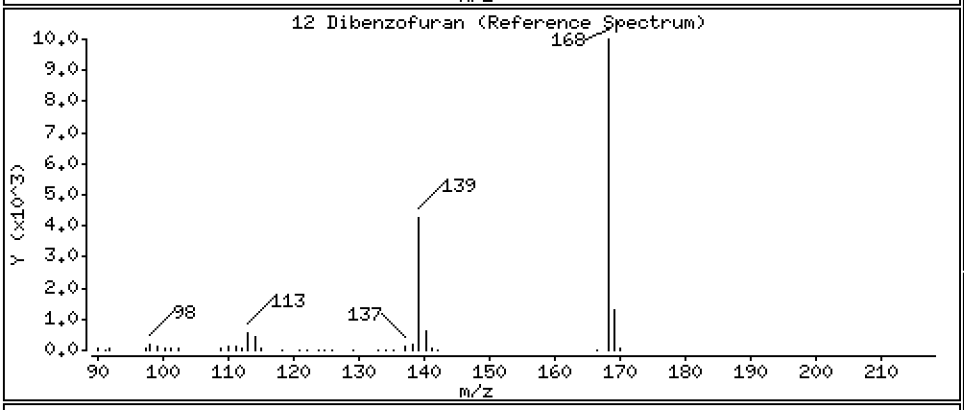
Concentration: 1.924 ug/mL

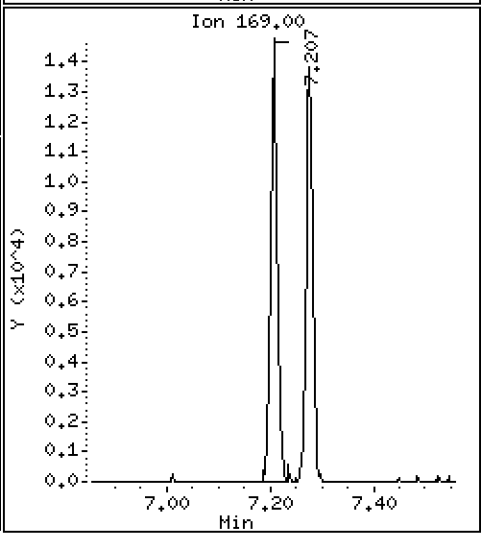


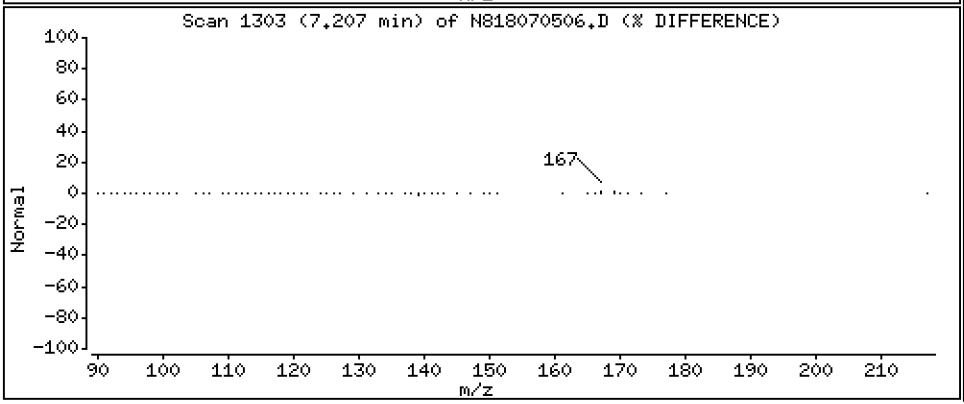












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

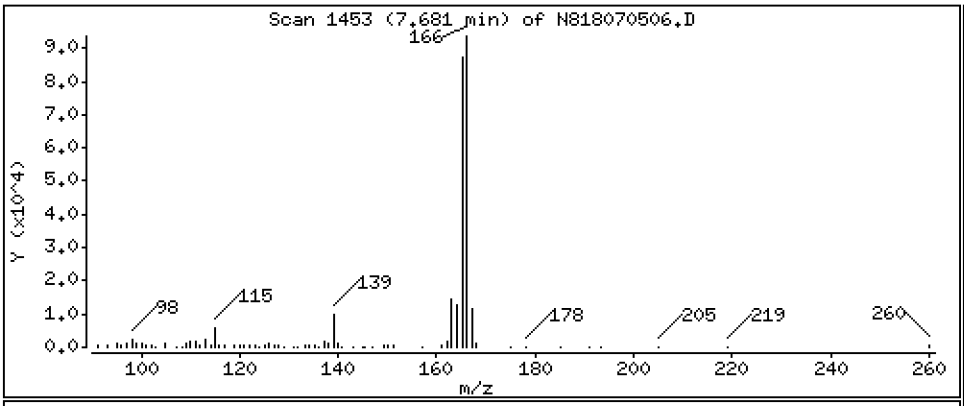
Operator: JZ

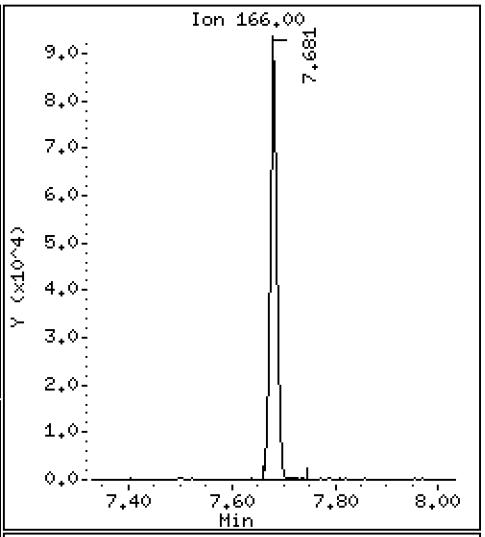
Column phase: Rxi-17sil

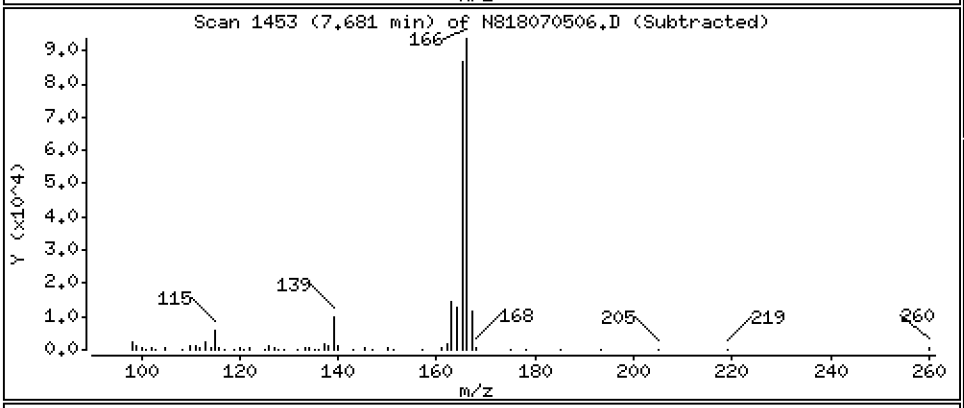
Column diameter: 0.25

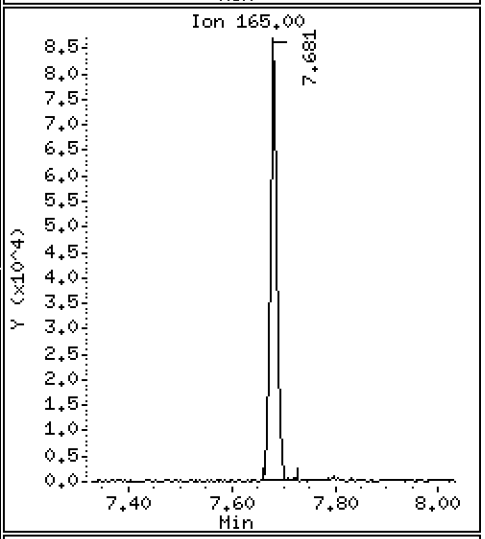
14 Fluorene

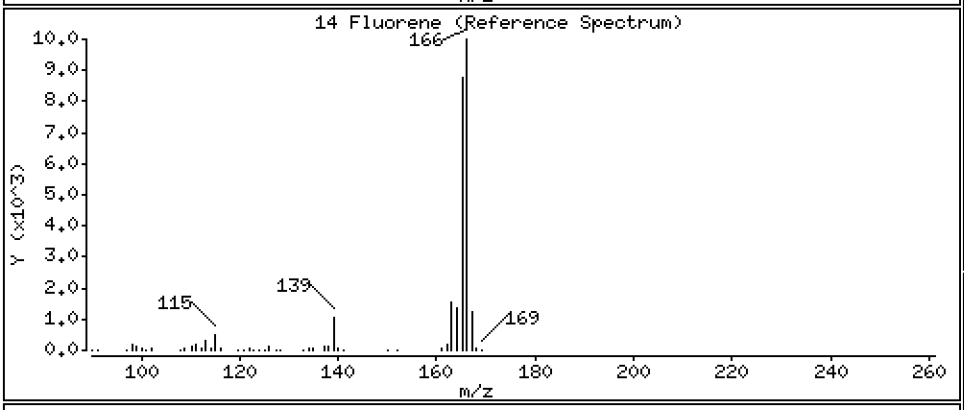
Concentration: 2.056 ug/mL

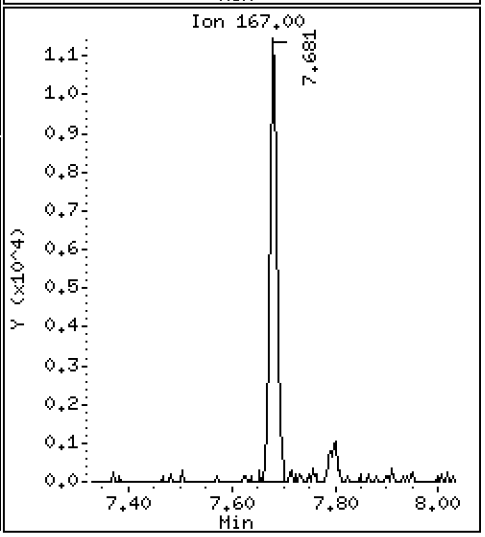


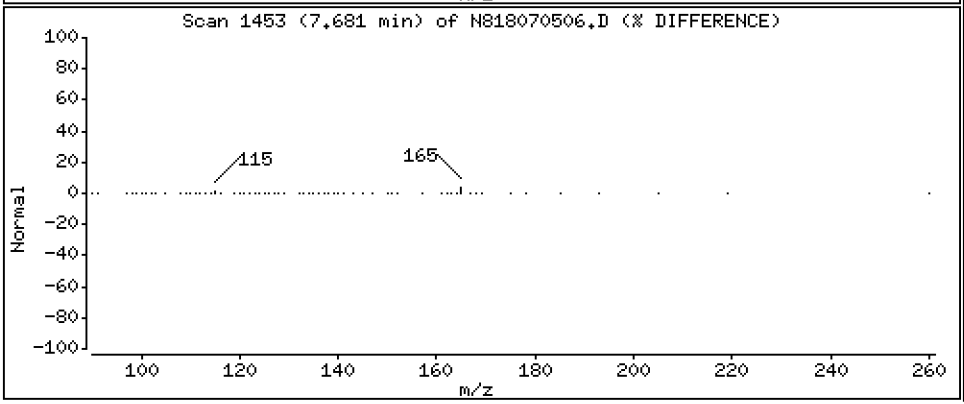












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

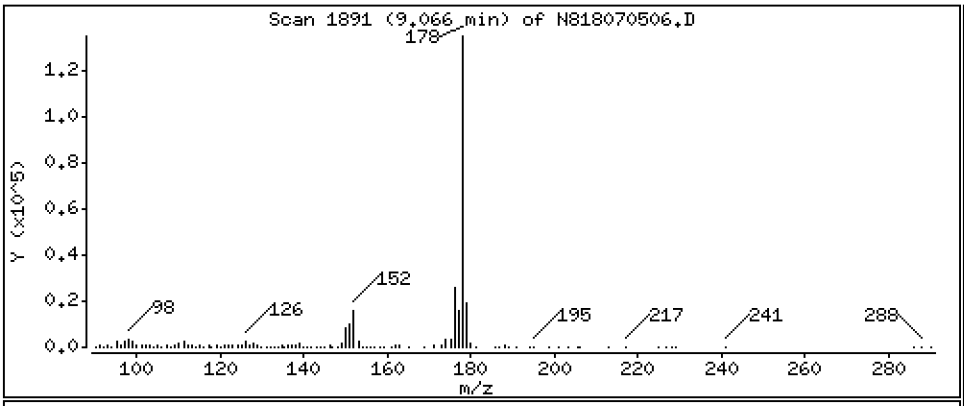
Operator: JZ

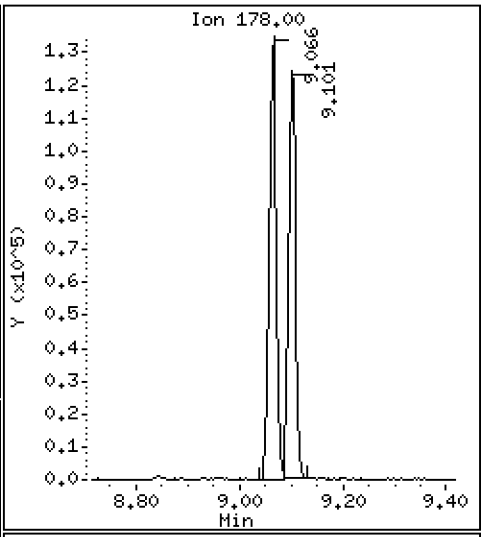
Column phase: Rxi-17sil

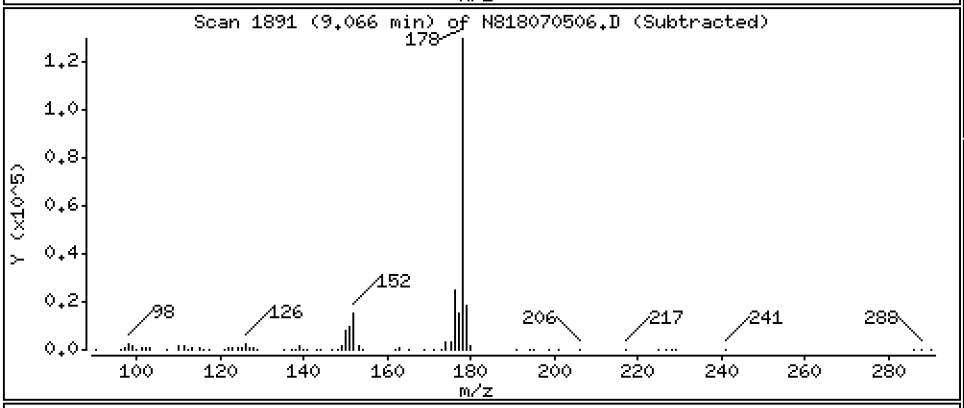
Column diameter: 0.25

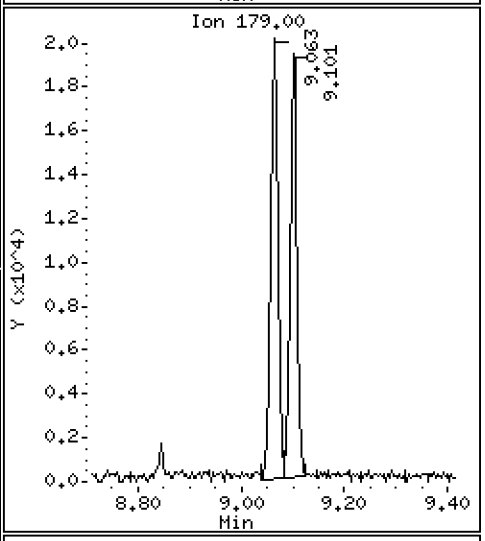
16 Phenanthrene

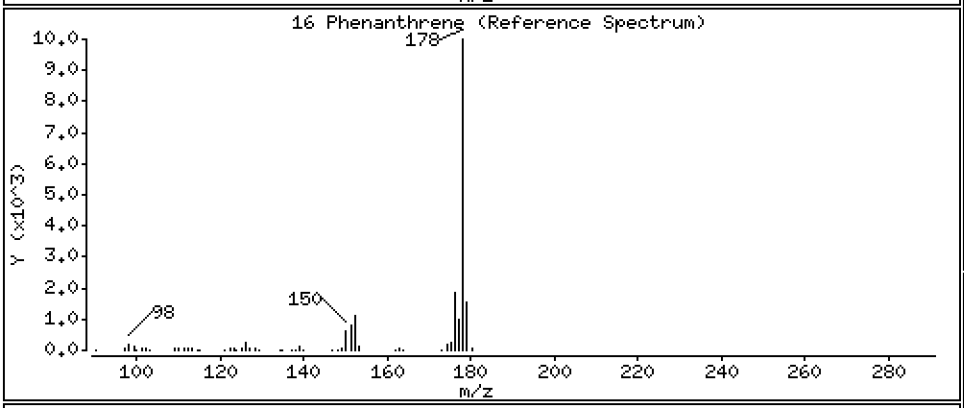
Concentration: 2.213 ug/mL

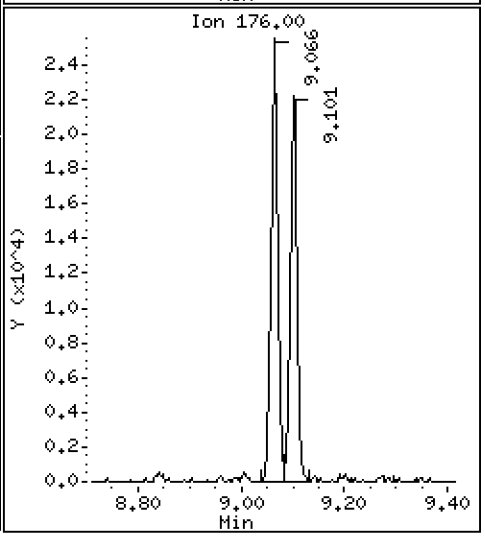


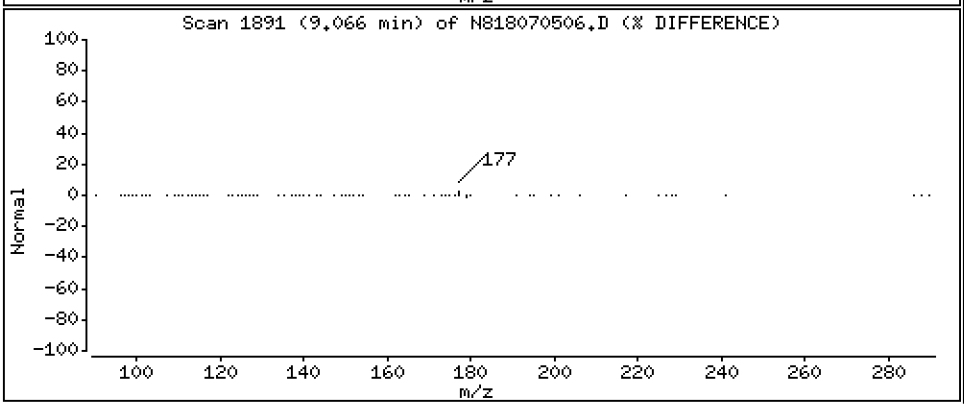












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

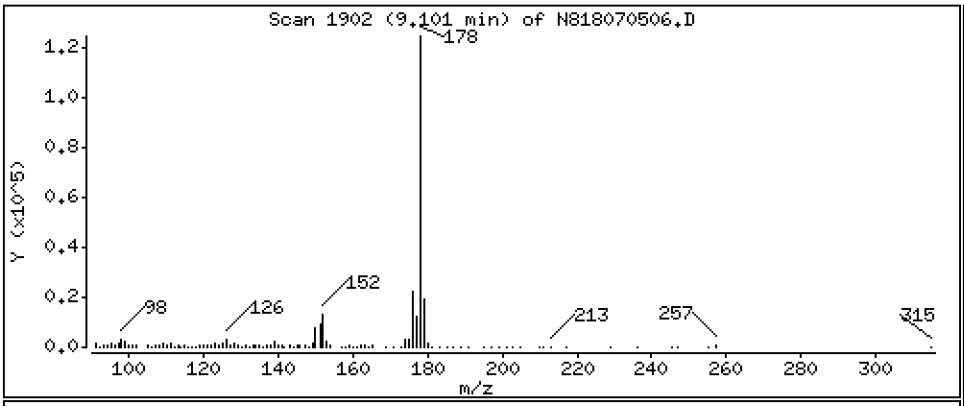
Operator: JZ

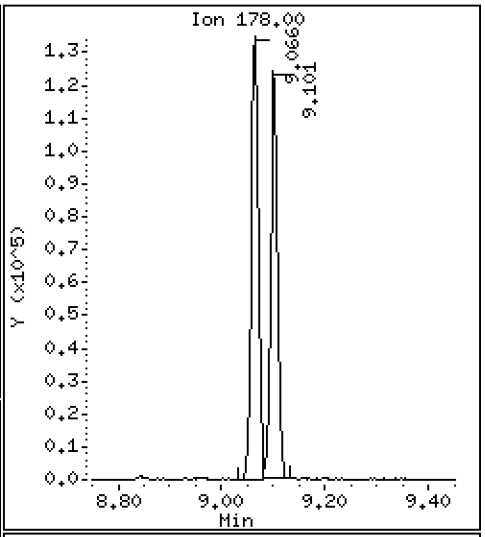
Column phase: Rxi-17sil

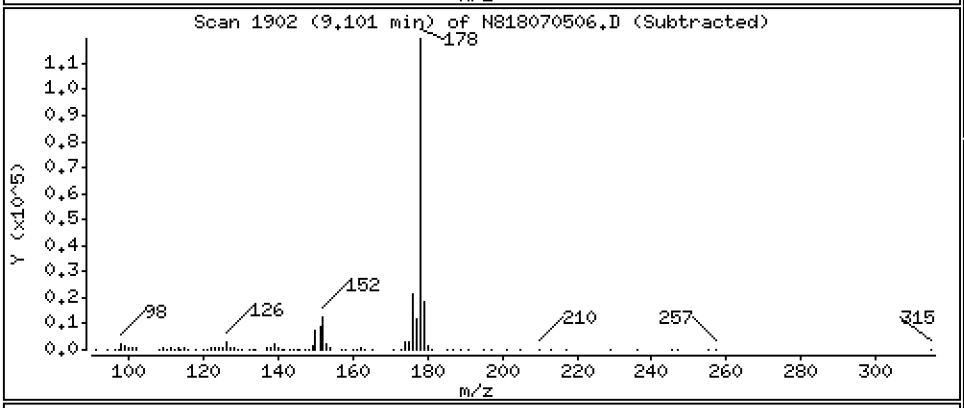
Column diameter: 0.25

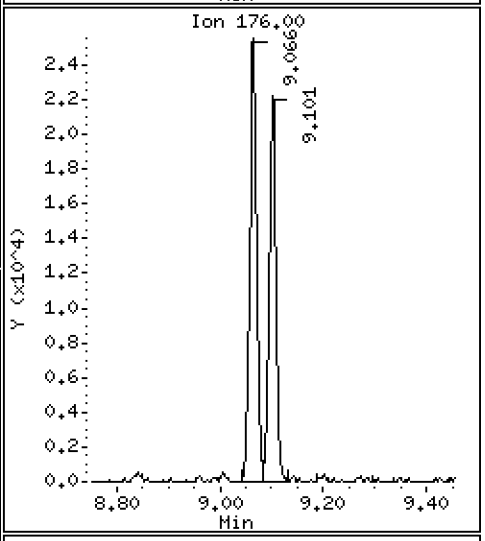
17 Anthracene

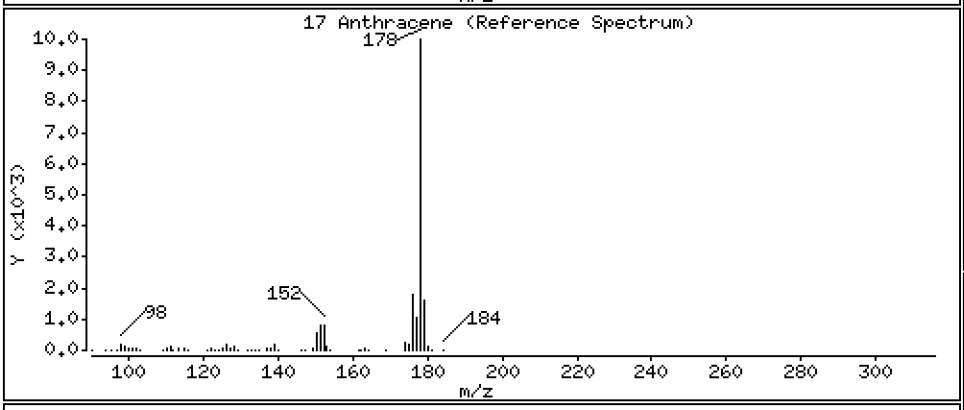
Concentration: 2.037 ug/mL

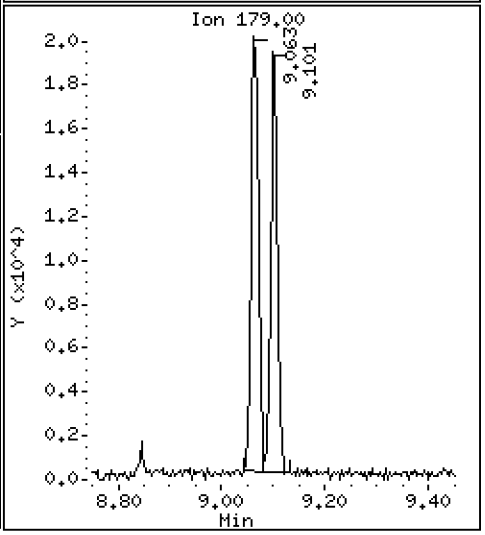


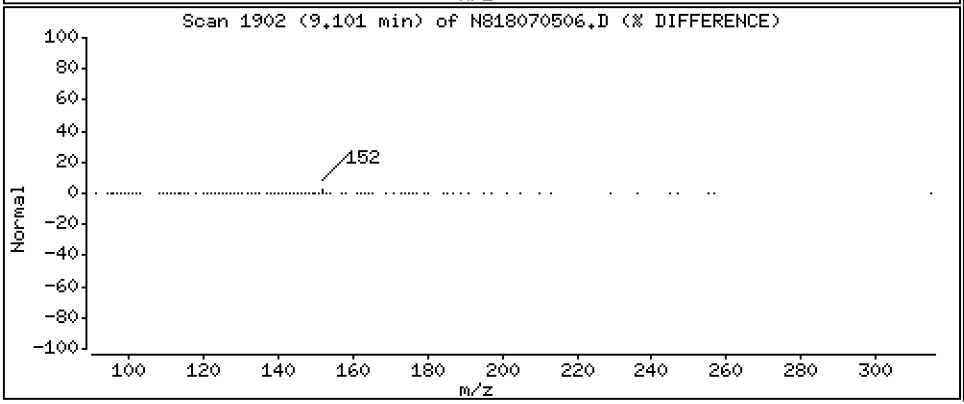












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

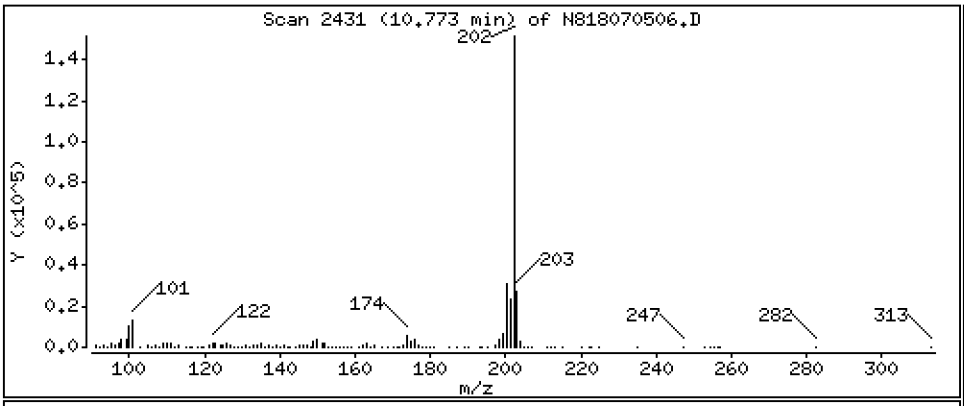
Operator: JZ

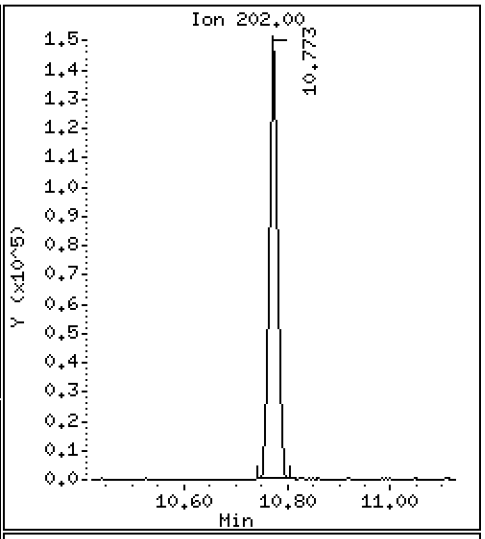
Column phase: Rxi-17sil

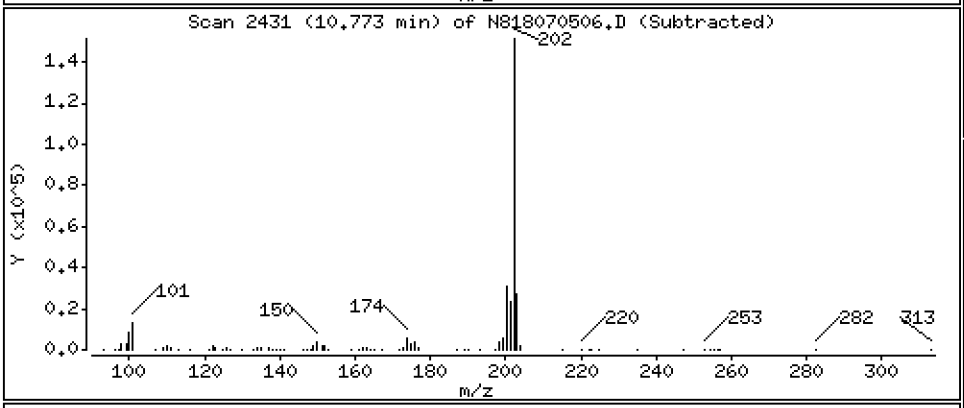
Column diameter: 0.25

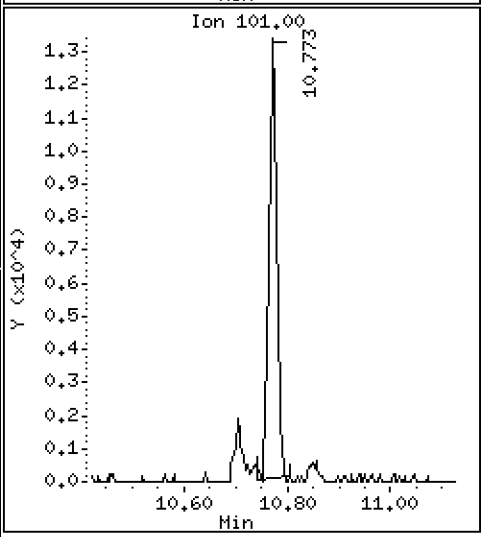
22 Fluoranthene

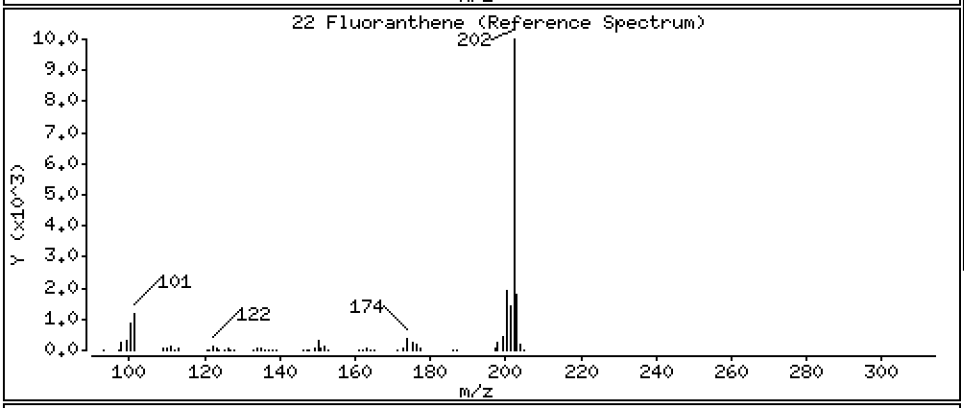
Concentration: 2.514 ug/mL

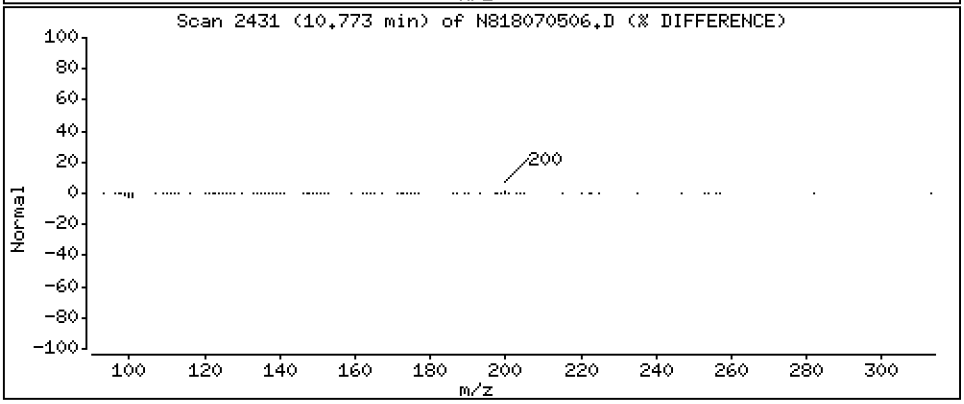












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

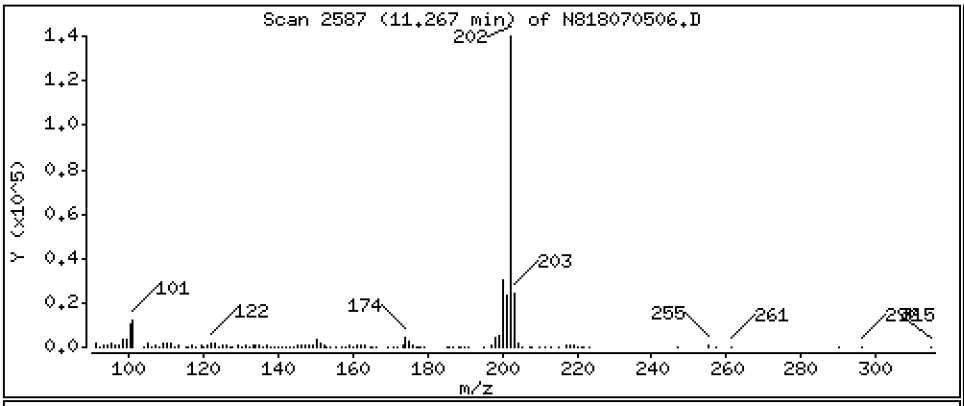
Operator: JZ

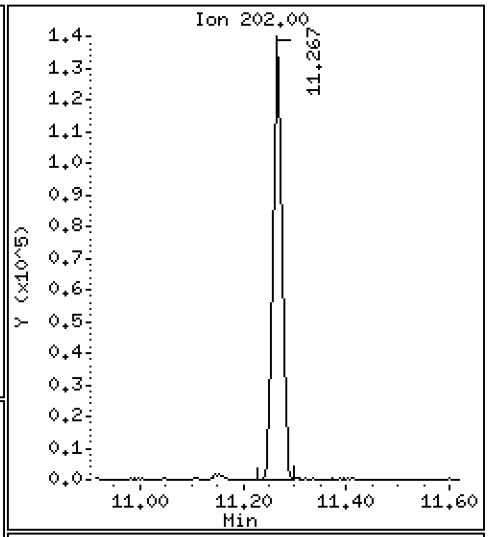
Column phase: Rxi-17sil

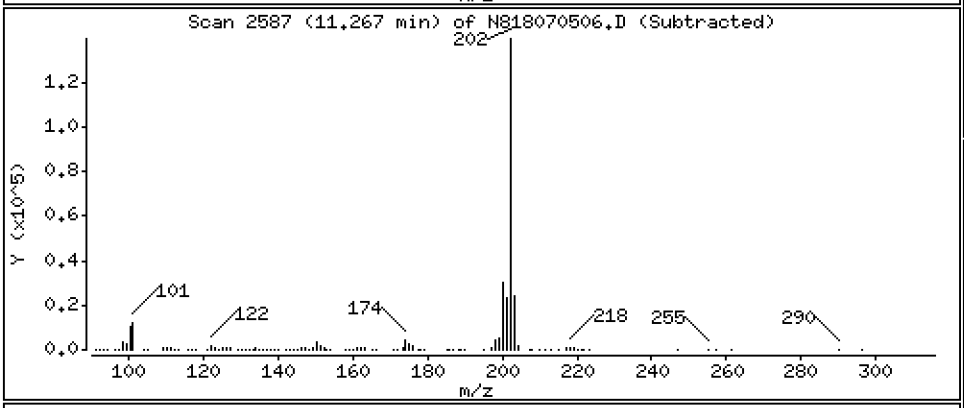
Column diameter: 0.25

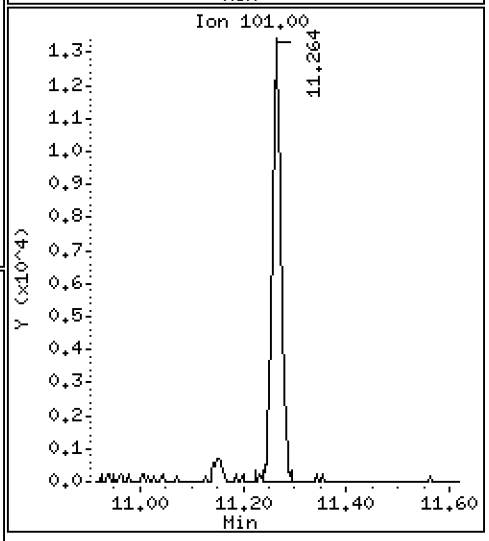
23 Pyrene

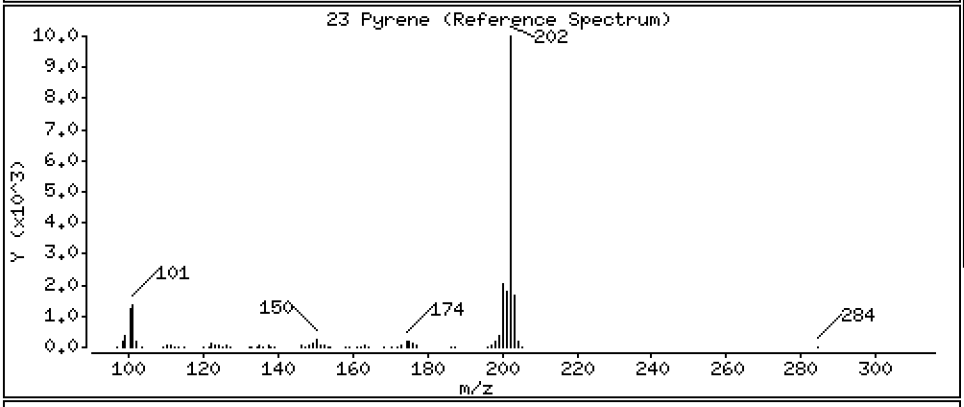
Concentration: 2.388 ug/mL

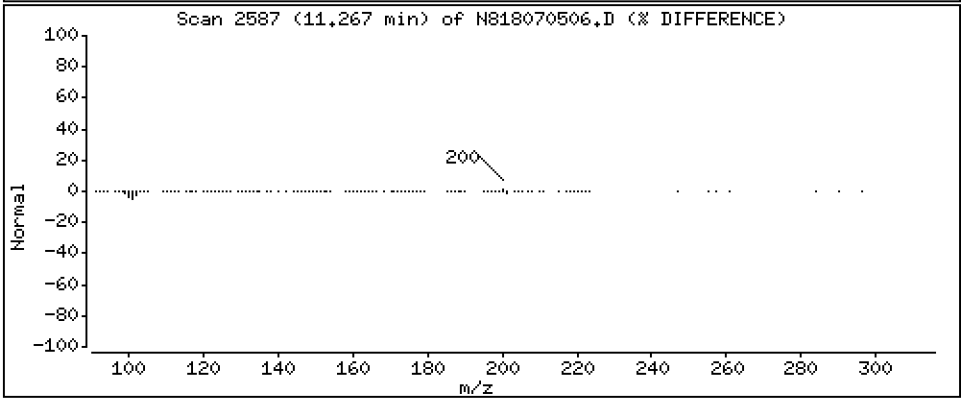












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

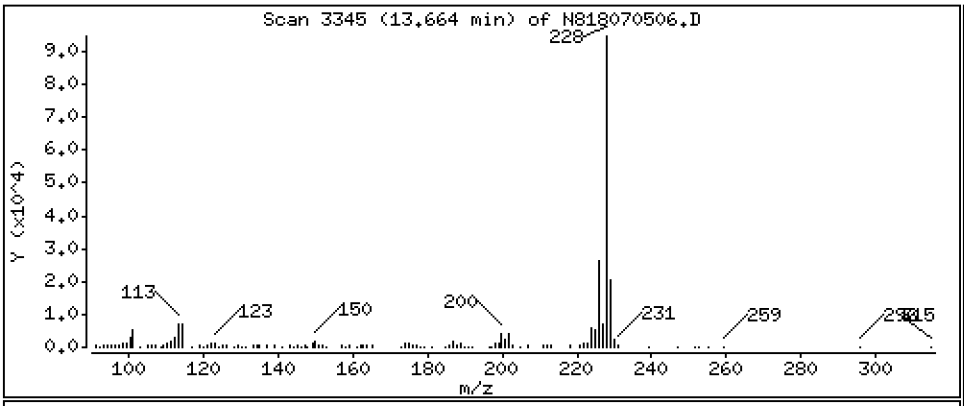
Operator: JZ

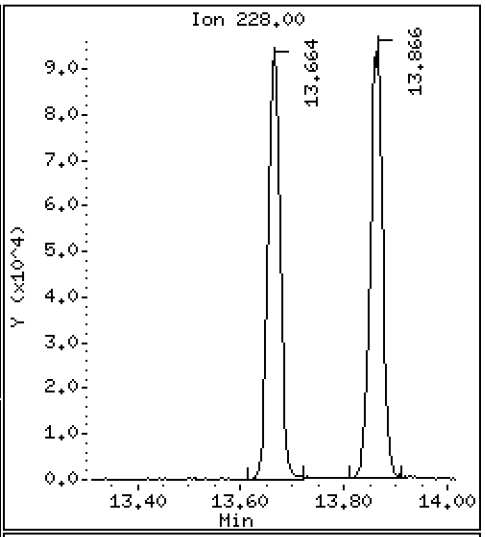
Column phase: Rxi-17sil

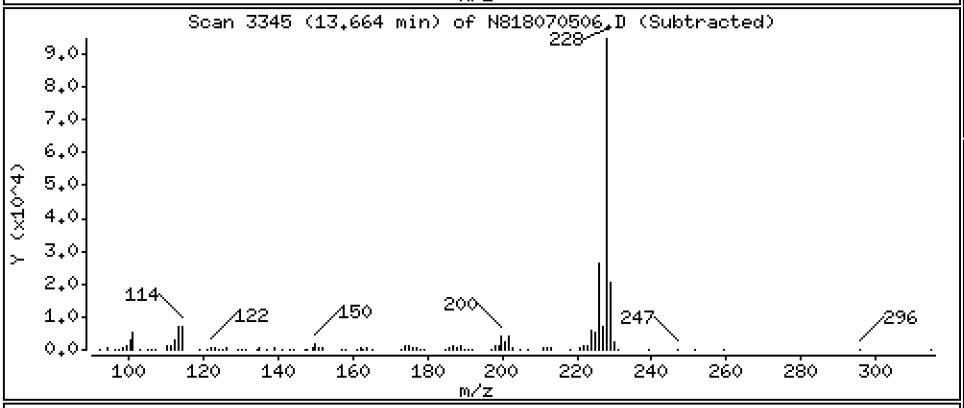
Column diameter: 0.25

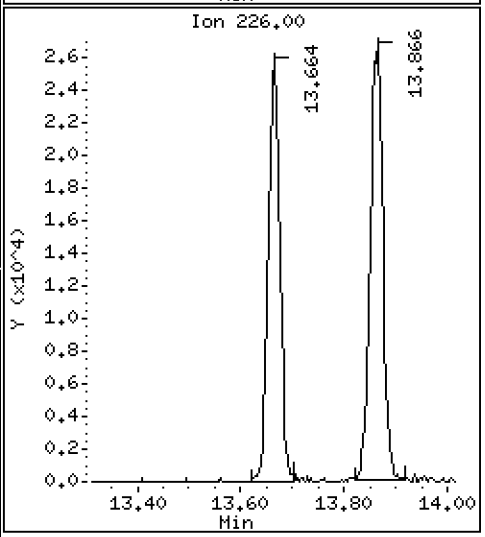
24 Benzo(a)anthracene

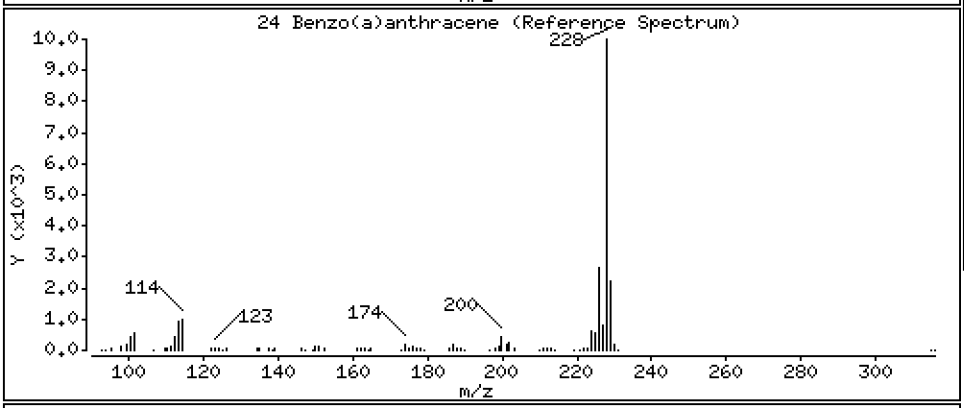
Concentration: 2.212 ug/mL

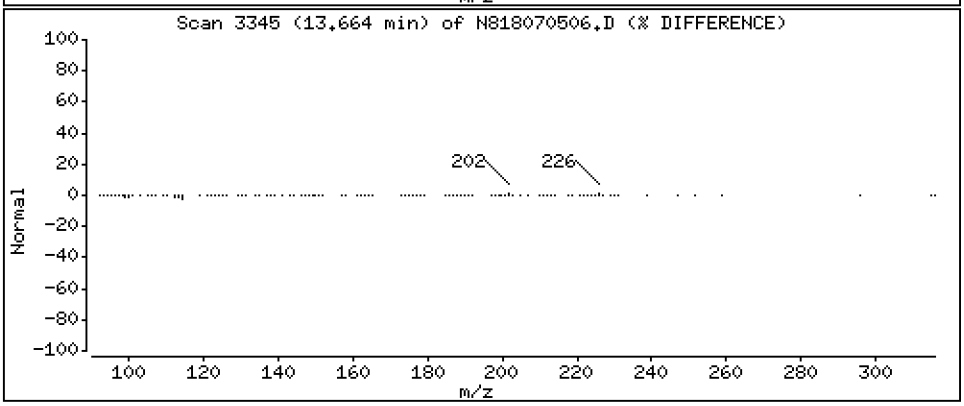












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

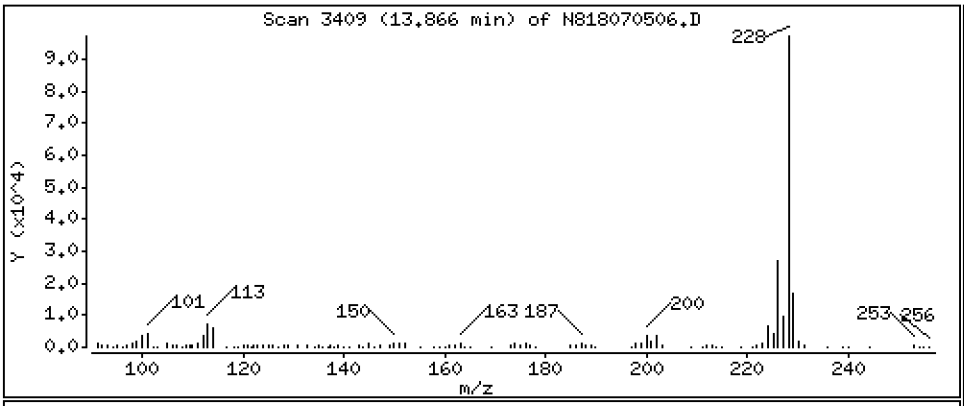
Operator: JZ

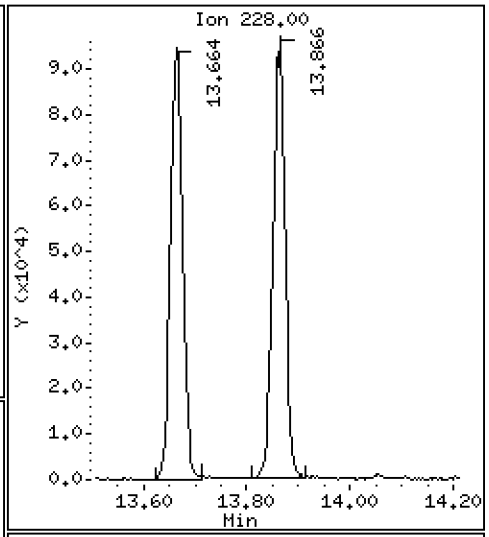
Column phase: Rxi-17sil

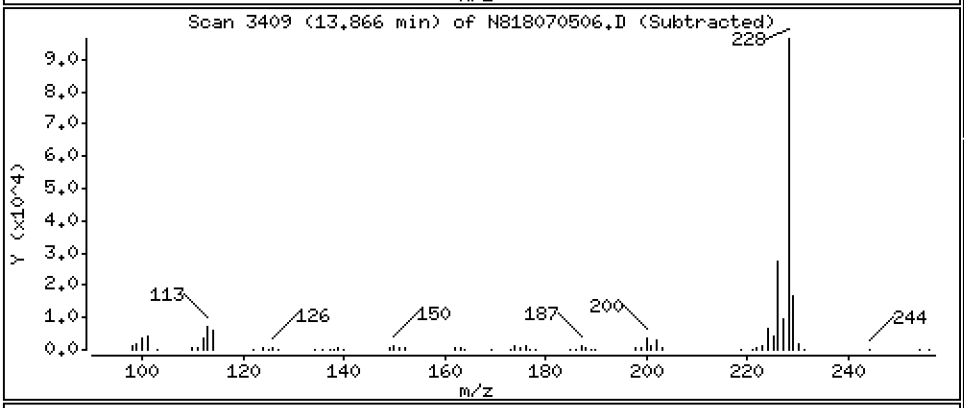
Column diameter: 0.25

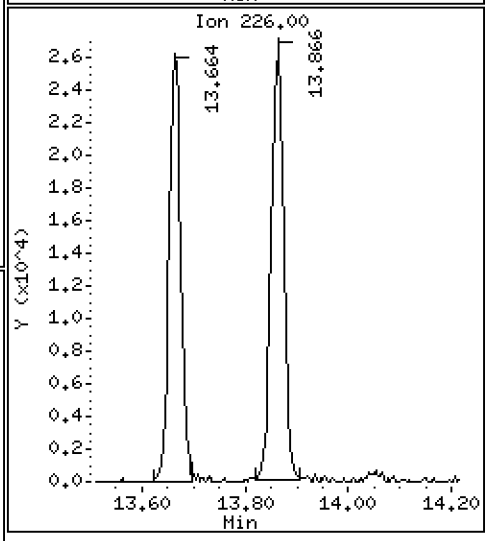
27 Chrysene

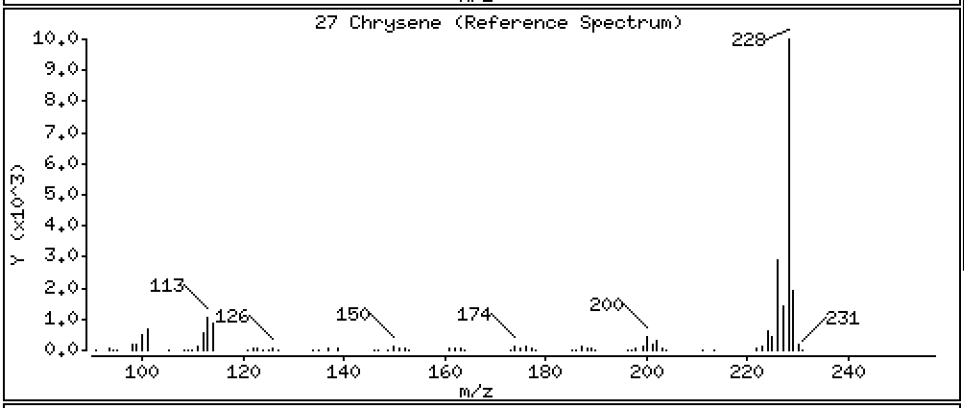
Concentration: 2.232 ug/mL

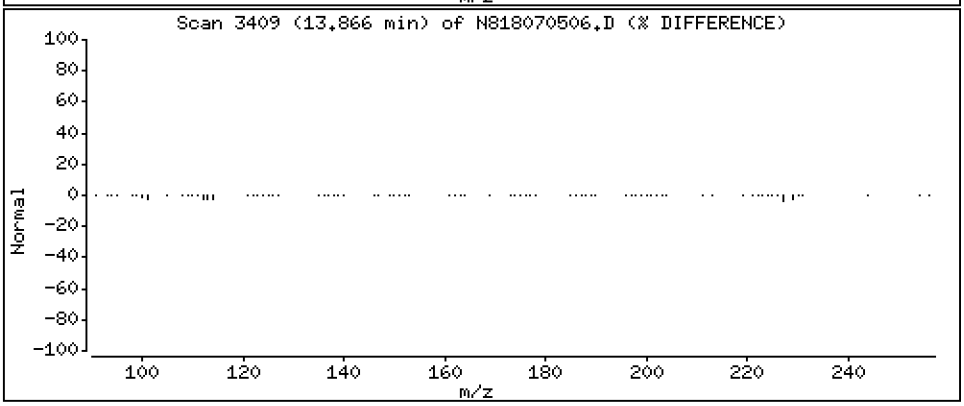












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

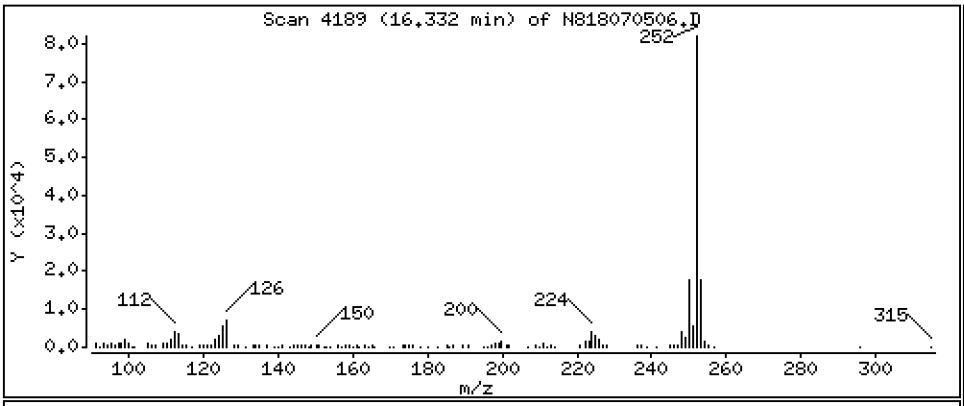
Operator: JZ

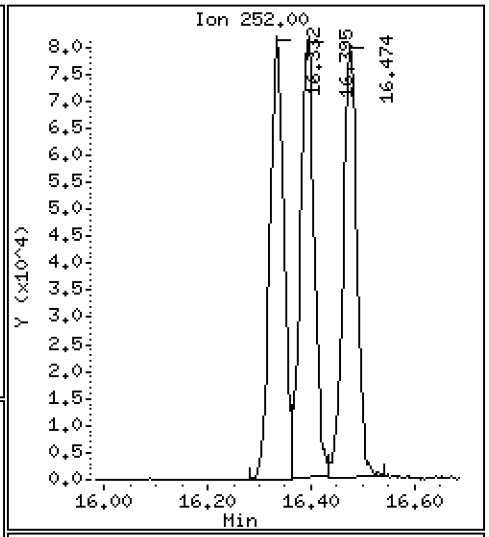
Column phase: Rxi-17sil

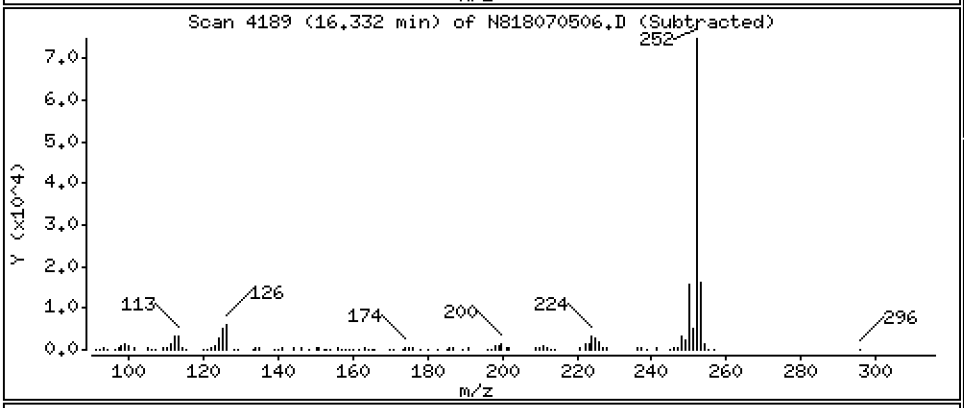
Column diameter: 0.25

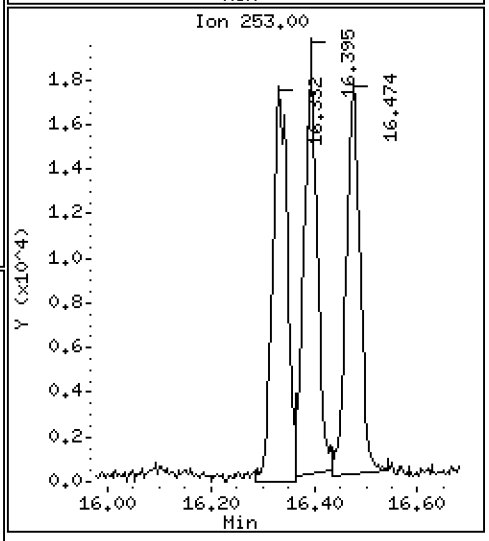
28 Benzo(b)fluoranthene

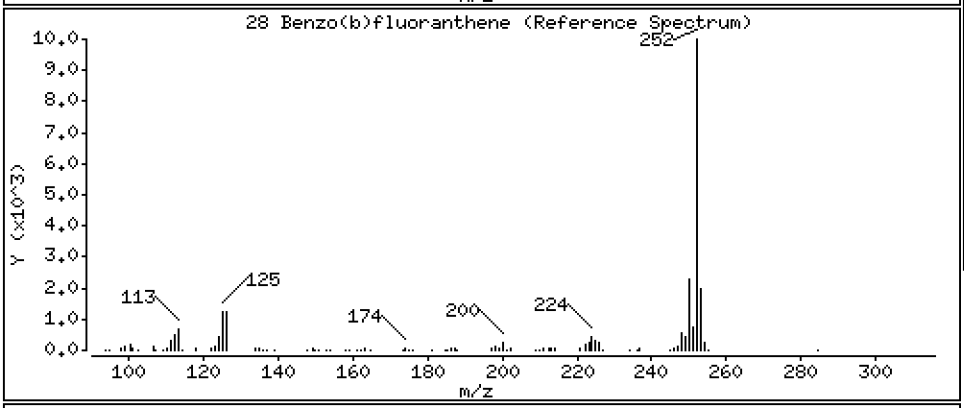
Concentration: 2.141 ug/mL

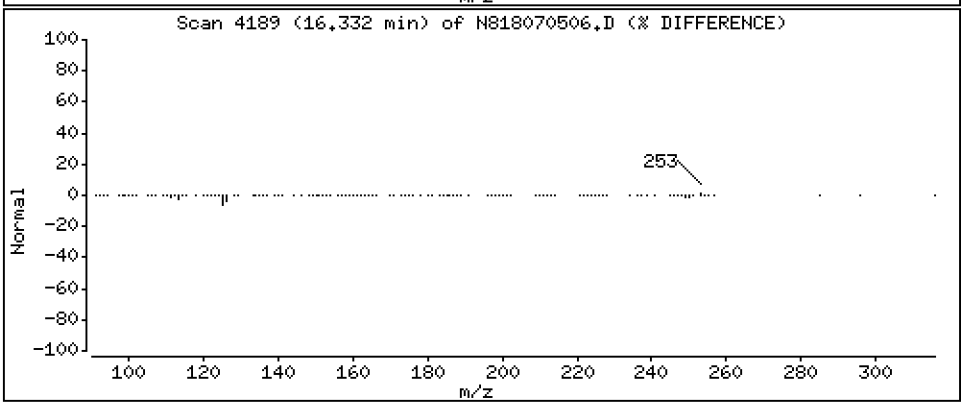












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

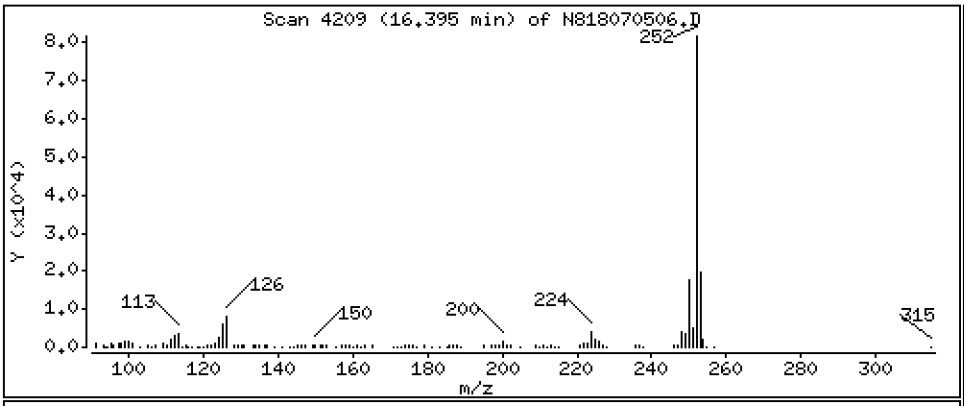
Operator: JZ

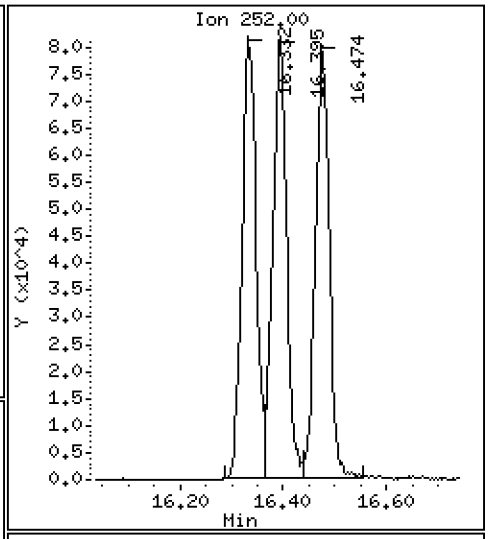
Column phase: Rxi-17sil

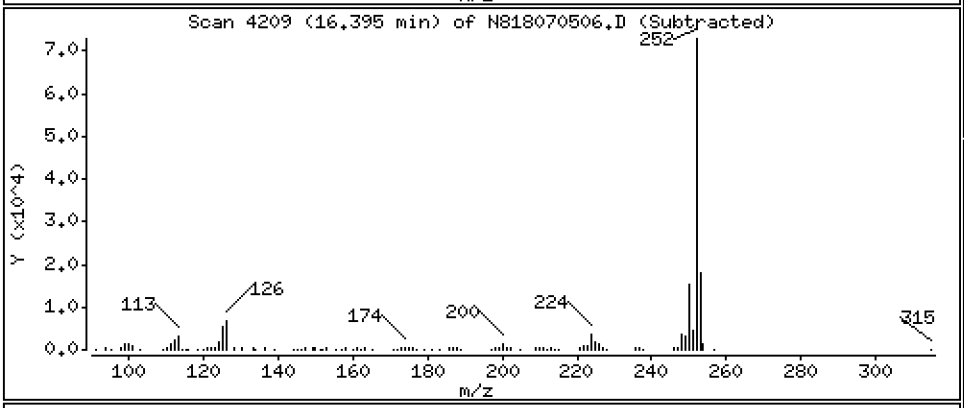
Column diameter: 0.25

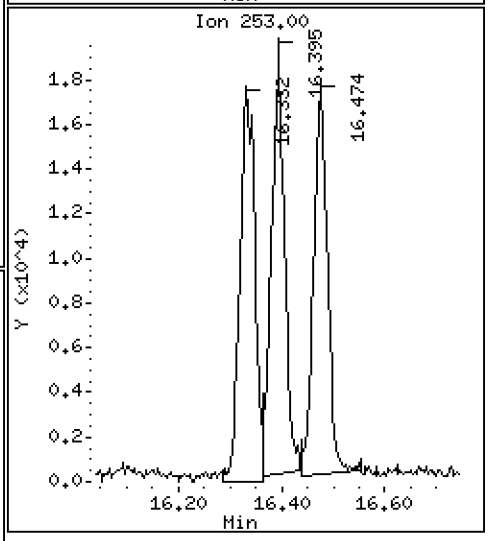
29 Benzo(k)fluoranthene

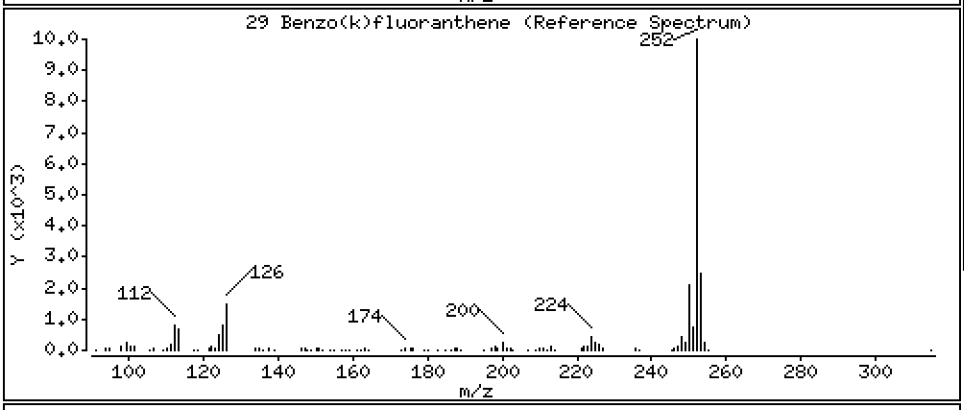
Concentration: 2.102 ug/mL

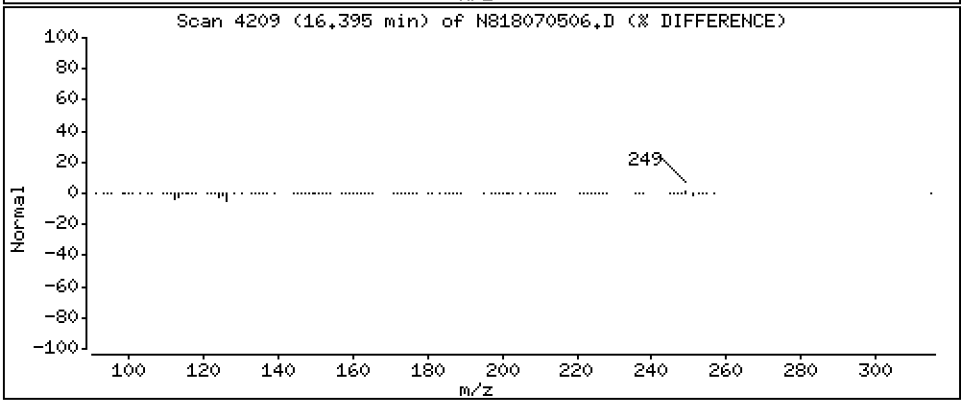












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

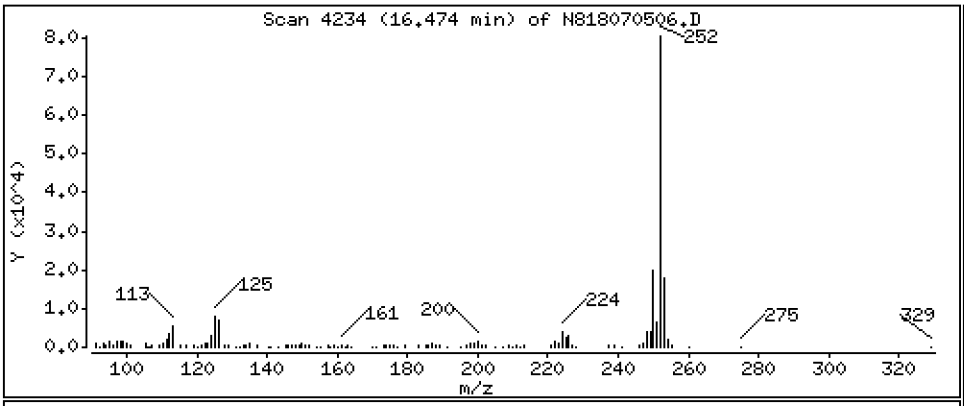
Operator: JZ

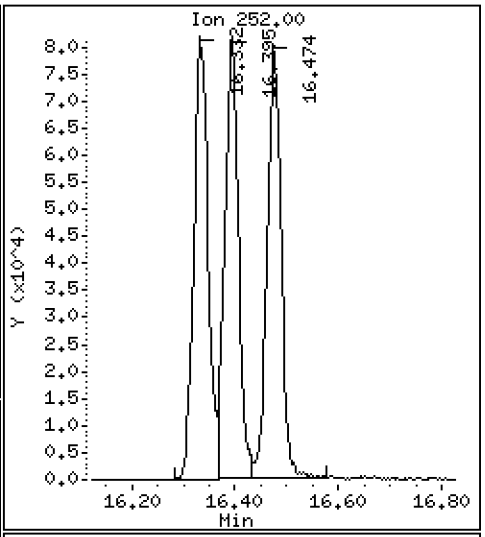
Column phase: Rxi-17sil

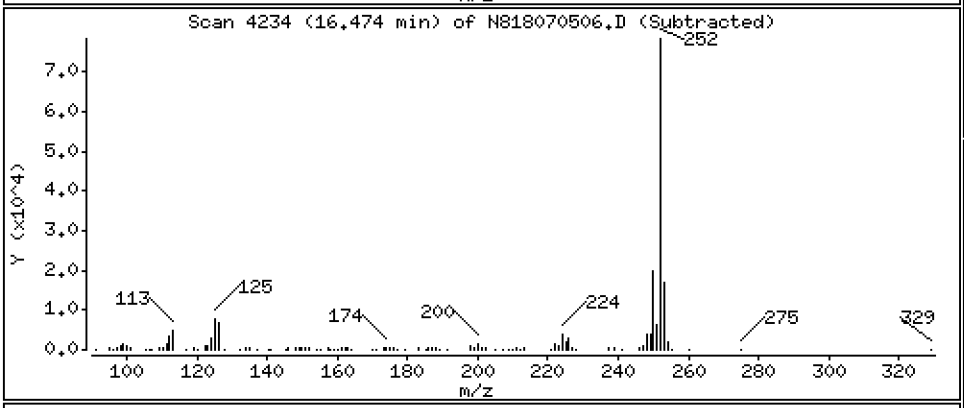
Column diameter: 0.25

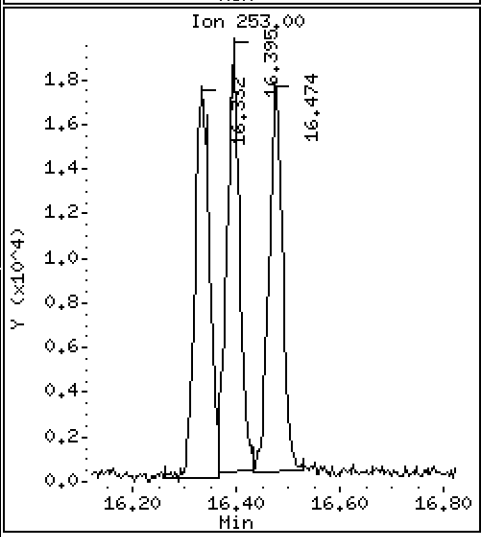
30 Benzo(j)fluoranthene

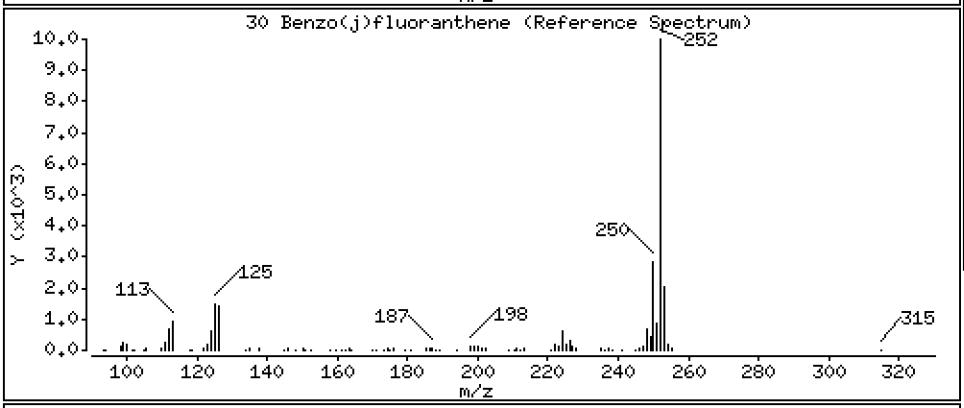
Concentration: 2.080 ug/mL

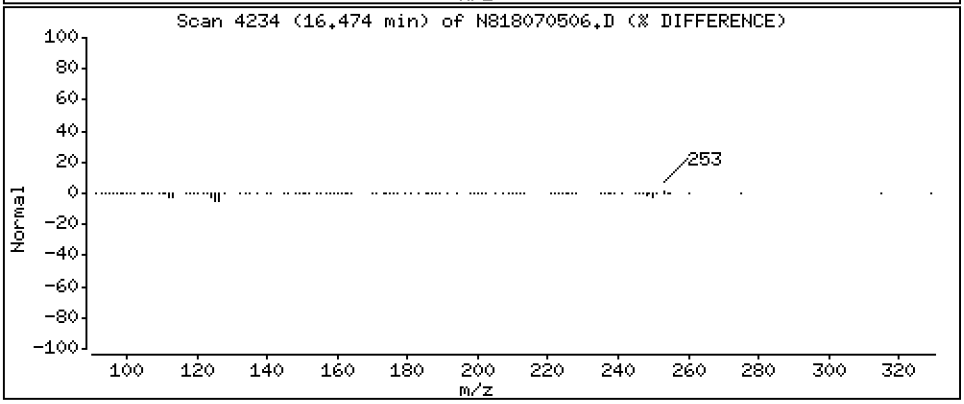












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

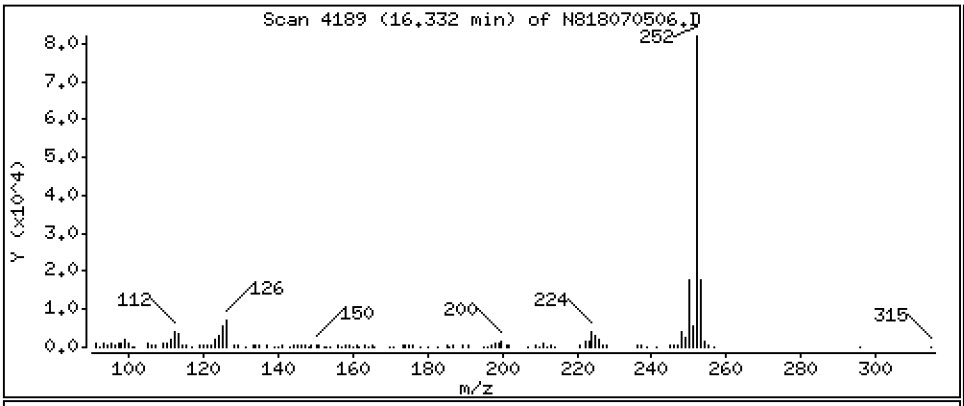
Operator: JZ

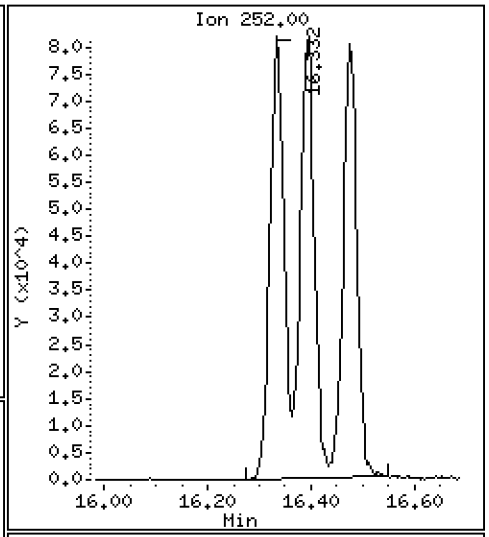
Column phase: Rxi-17sil

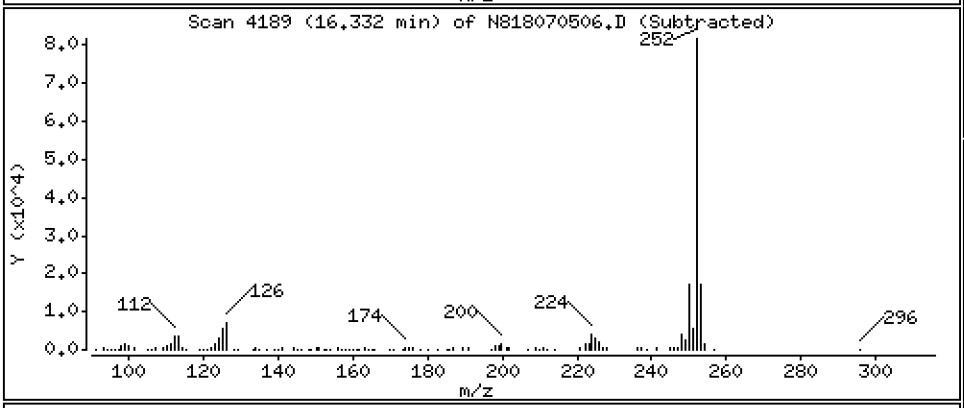
Column diameter: 0.25

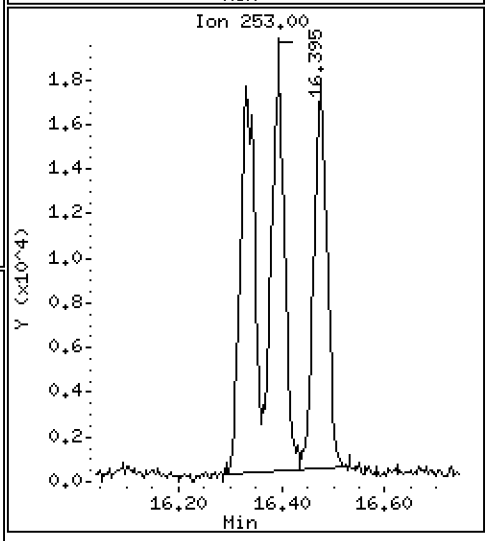
31 Total Benzofluoranthenes

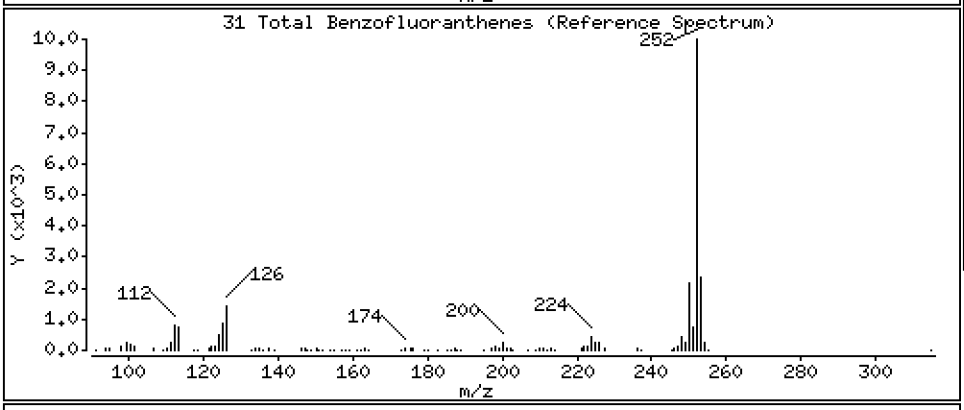
Concentration: 6.304 ug/mL

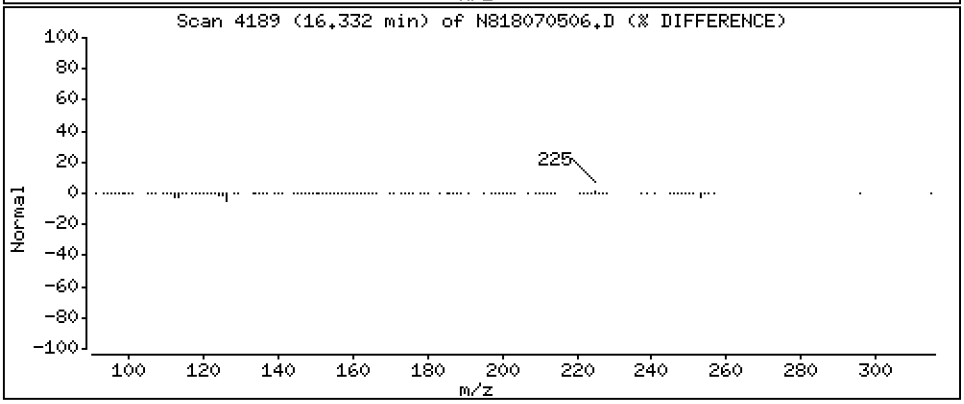












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

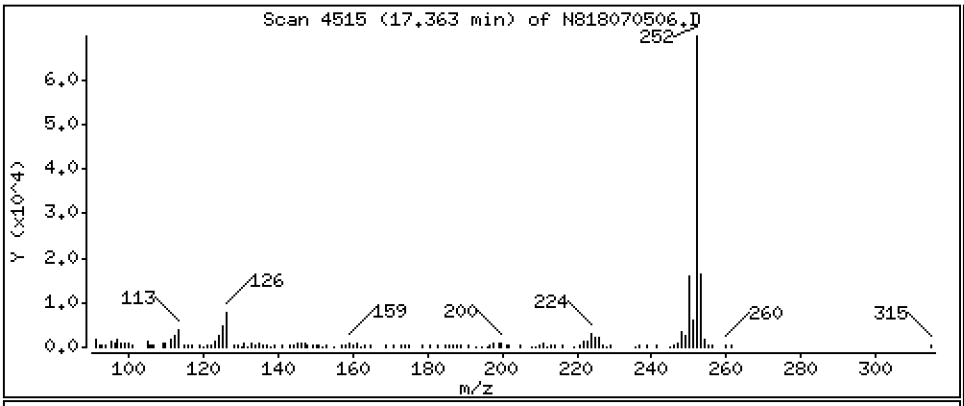
Operator: JZ

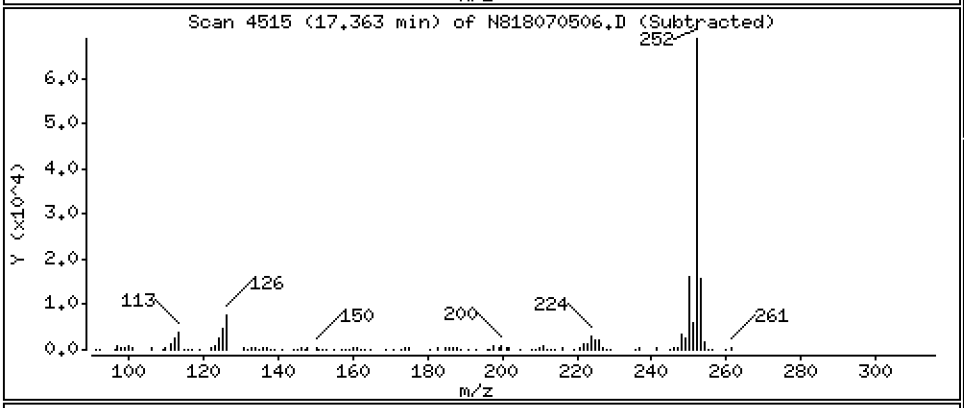
Column phase: Rxi-17sil

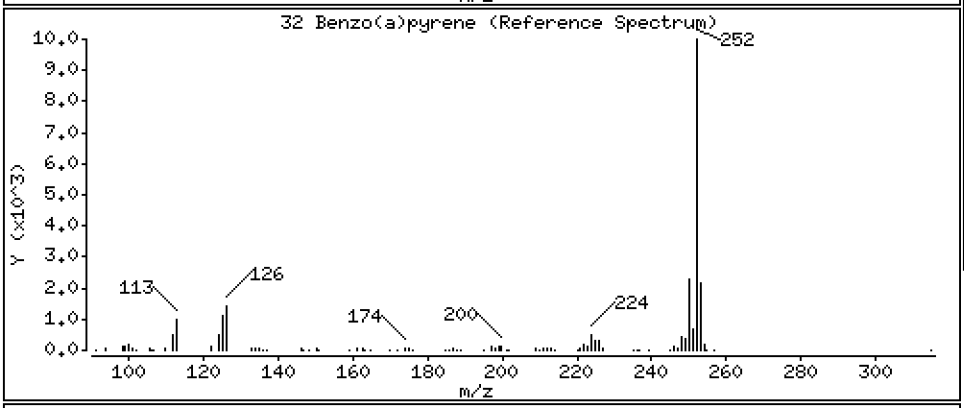
Column diameter: 0.25

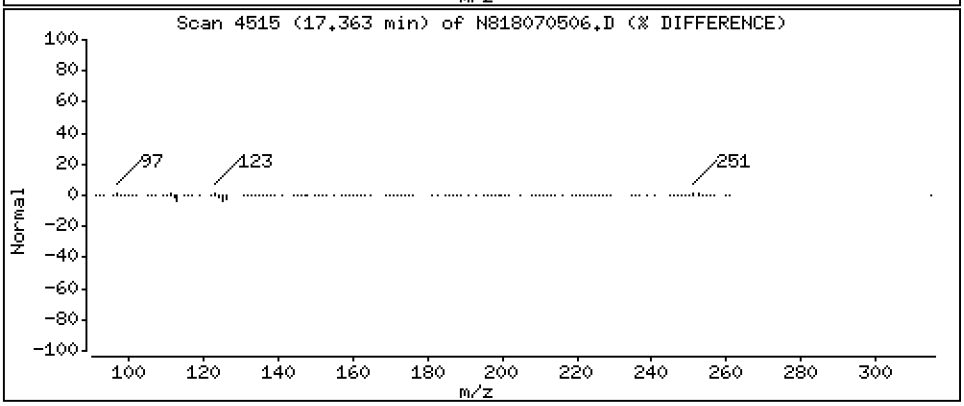
32 Benzo(a)pyrene

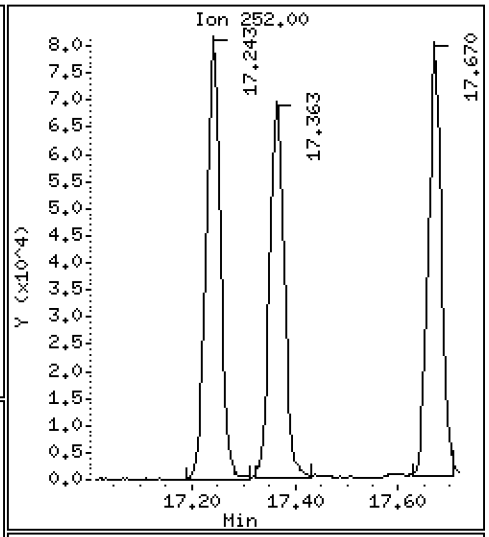
Concentration: 2.114 ug/mL

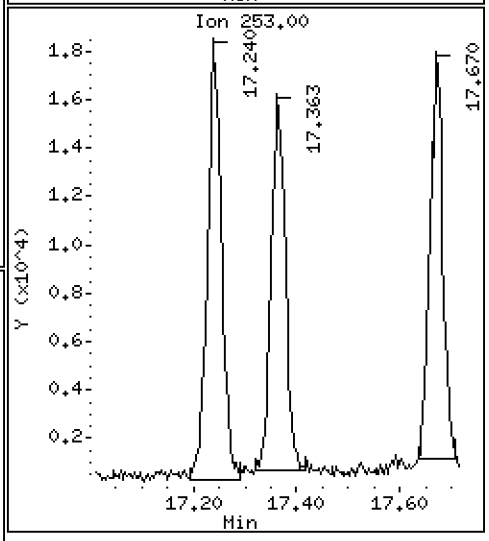












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

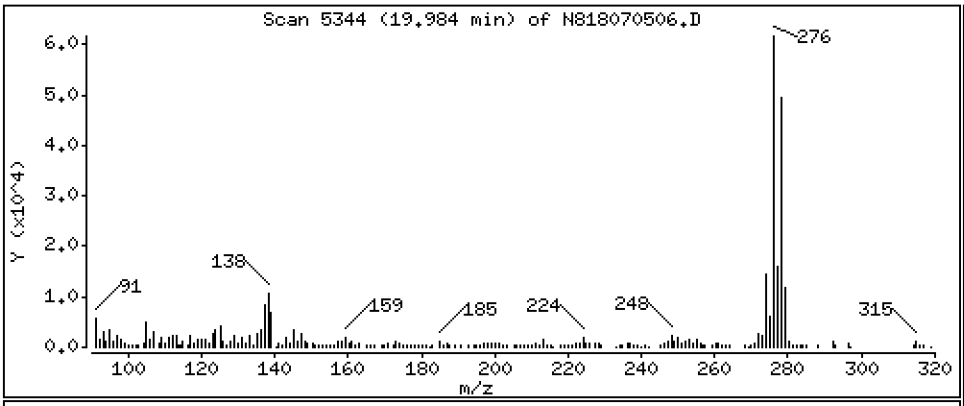
Operator: JZ

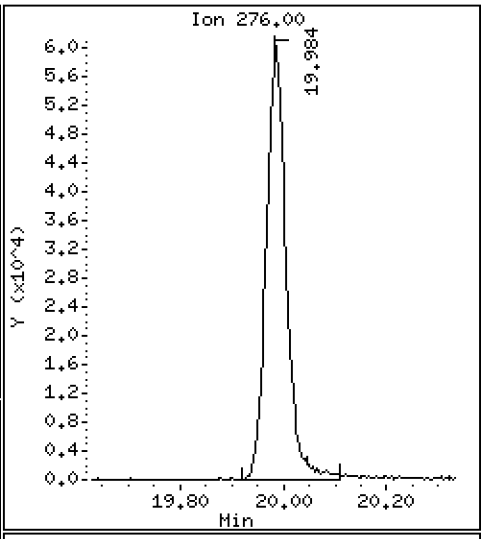
Column phase: Rxi-17sil

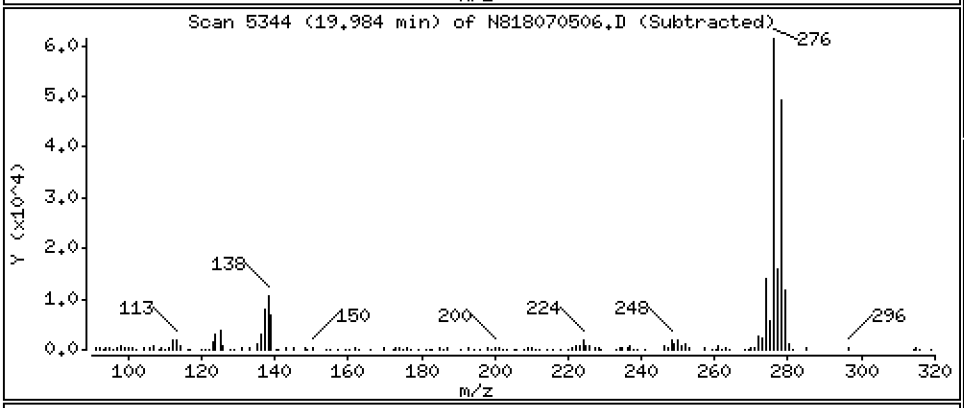
Column diameter: 0.25

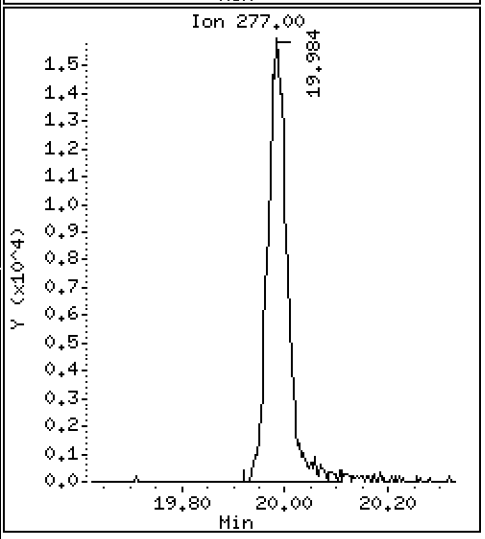
37 Indeno(1,2,3-cd)pyrene

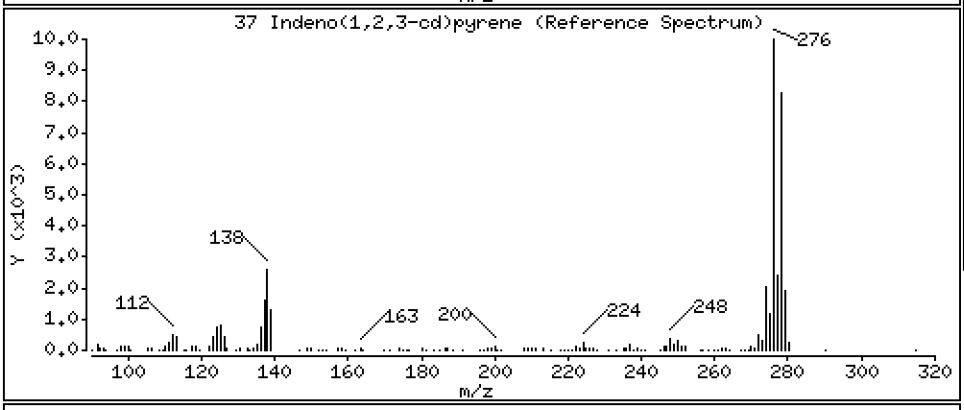
Concentration: 2.302 ug/mL

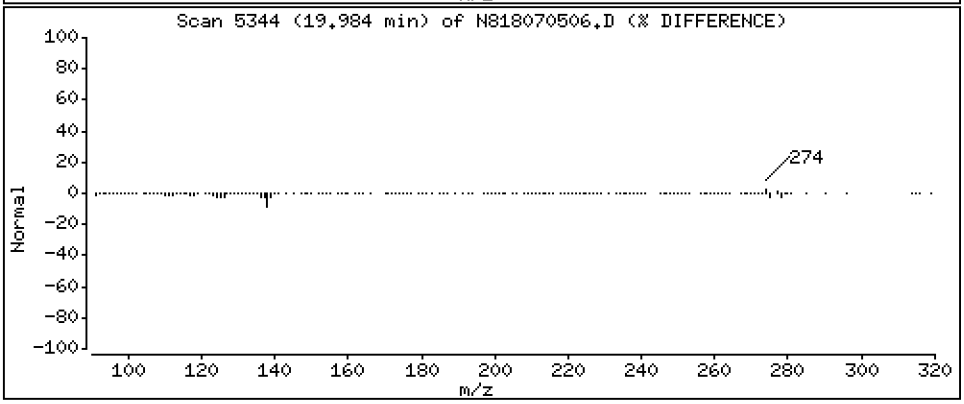












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

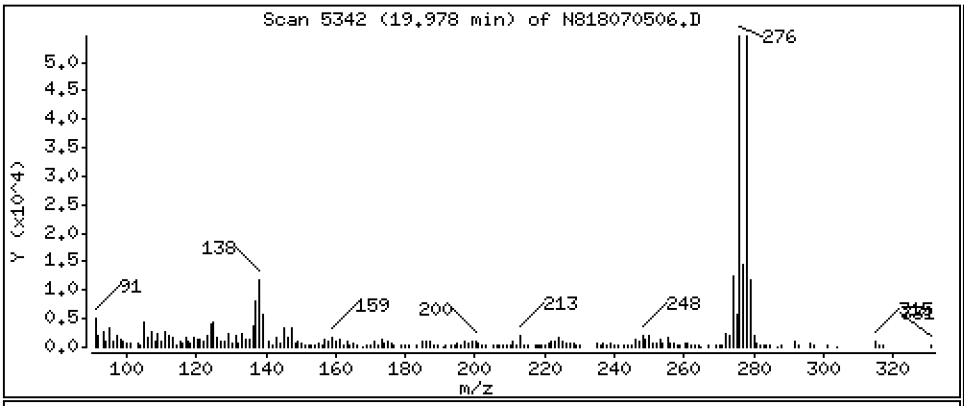
Operator: JZ

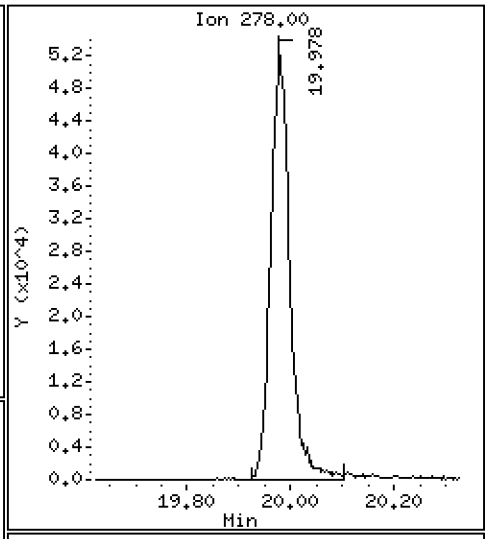
Column phase: Rxi-17sil

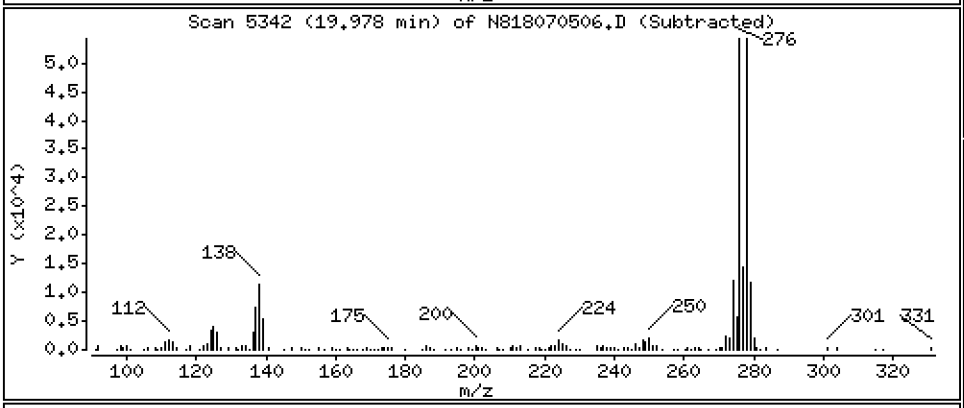
Column diameter: 0.25

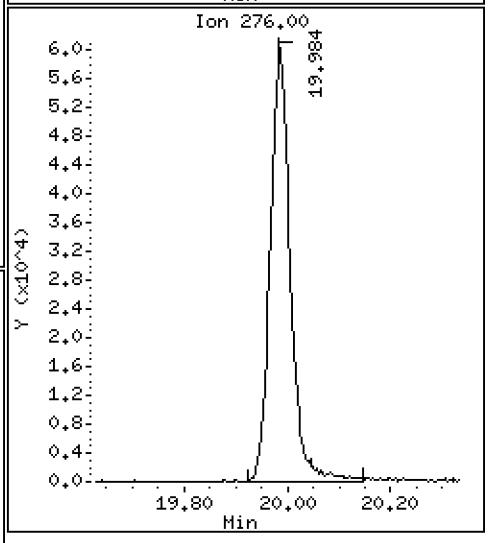
38 Dibenzo(a,h)anthracene

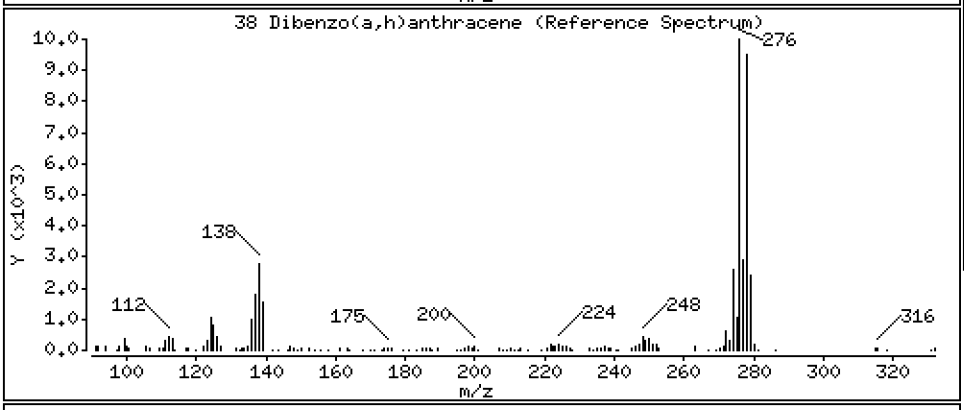
Concentration: 2.239 ug/mL

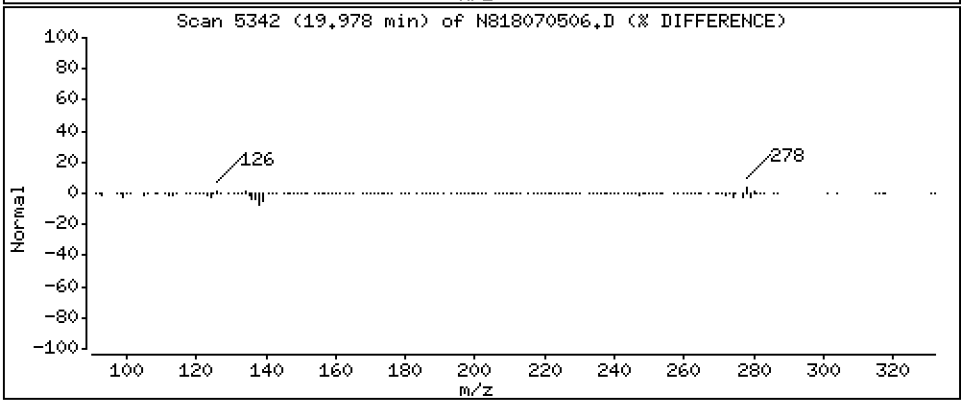












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

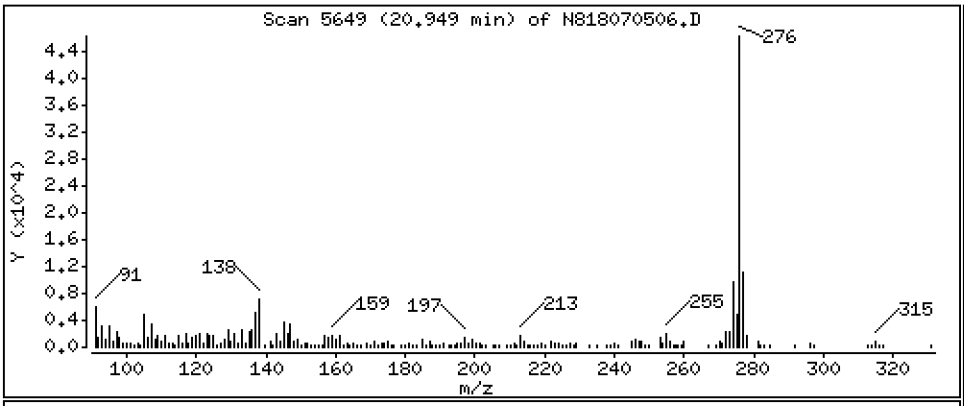
Operator: JZ

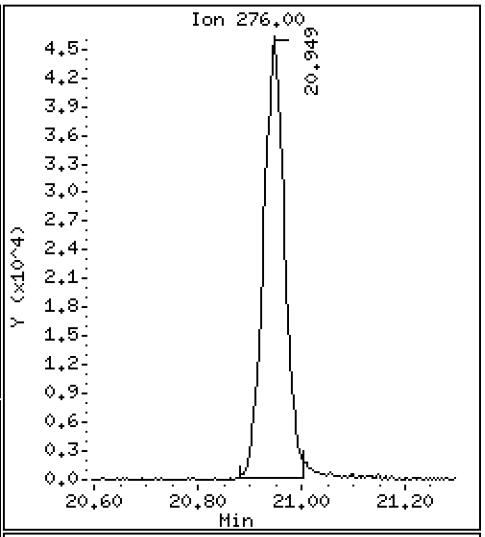
Column phase: Rxi-17sil

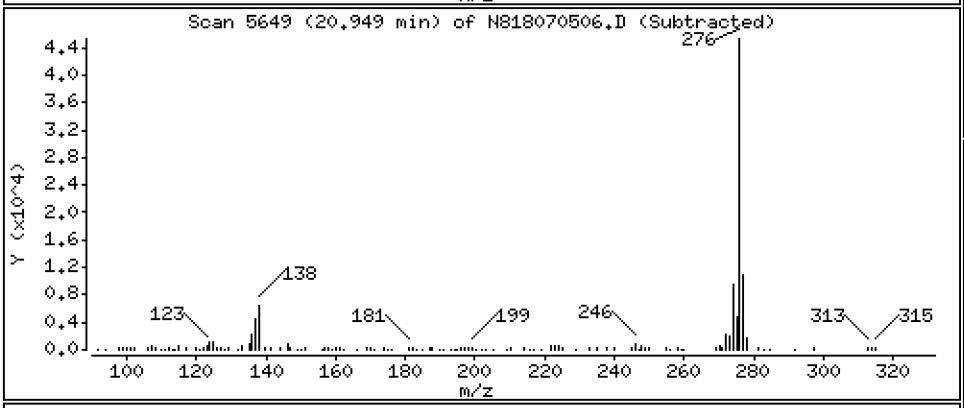
Column diameter: 0.25

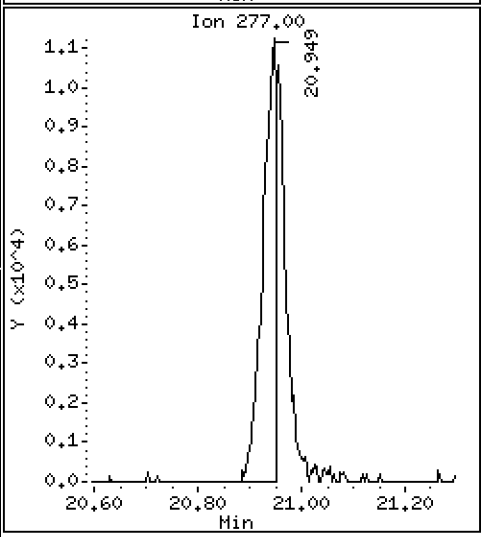
39 Benzo(g,h,i)perylene

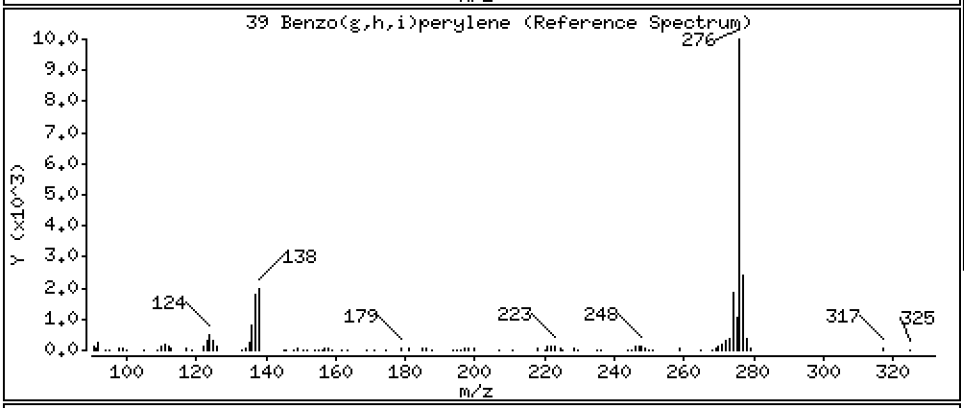
Concentration: 2.428 ug/mL

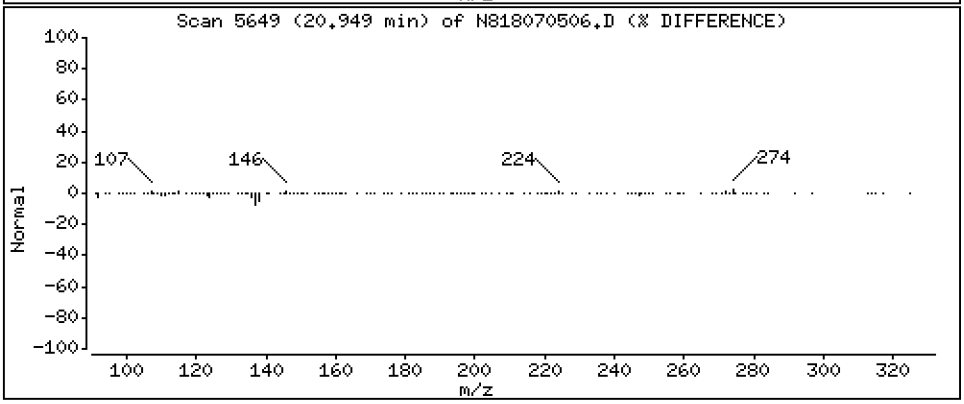












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070506.D

Date : 05-JUL-2018 18:30

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MS1,

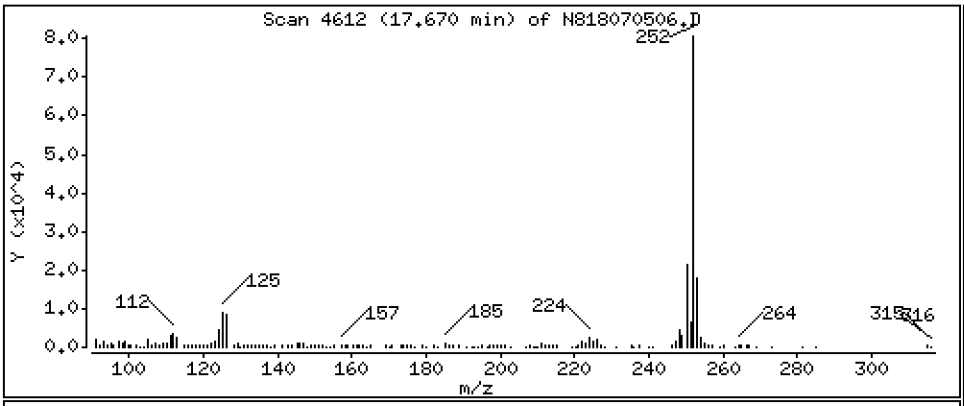
Operator: JZ

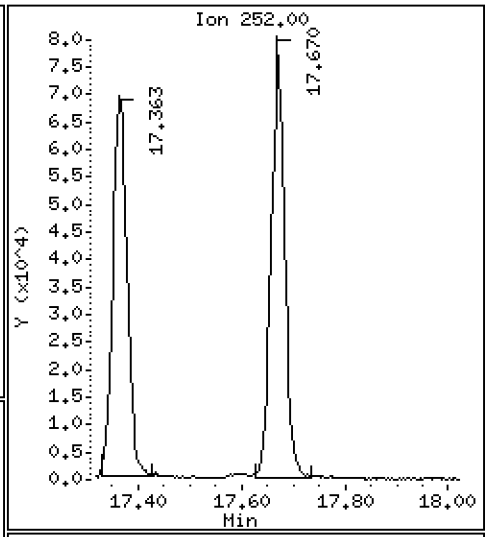
Column phase: Rxi-17sil

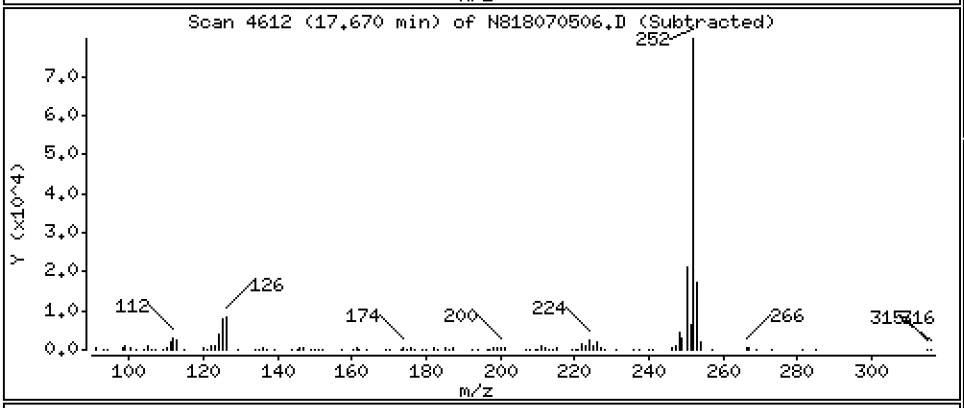
Column diameter: 0.25

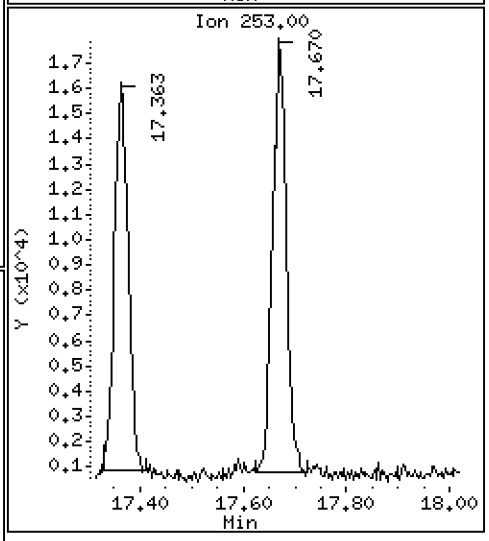
35 Perylene

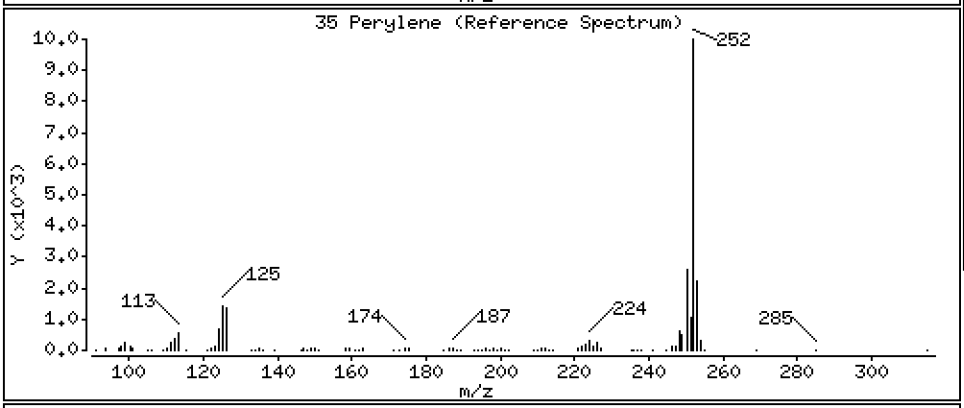
Concentration: 2.039 ug/mL

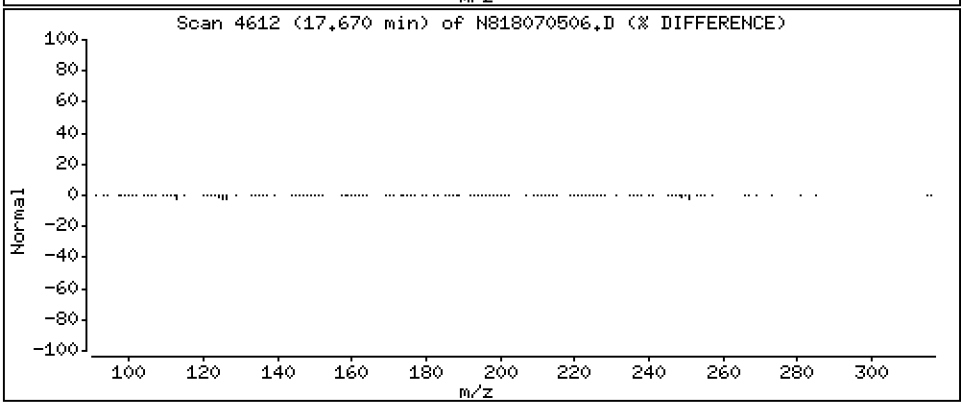












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070506.D
Lab Smp Id: BGF0721-MS1
Inj Date : 05-JUL-2018 18:30
Operator : JZ Inst ID: nt8.i
Smp Info : BGF0721-MS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.734	4.743	(1.000)	87478	2.00000	
	2 Naphthalene	128	4.762	4.775	(1.006)	79074	1.61168	1.612
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	58992	1.83586	1.836
	4 2-Methylnaphthalene	141	5.511	5.515	(1.164)	52679	1.84710	1.847
	5 1-methylnaphthalene	141	5.707	5.711	(1.206)	53005	1.85682	1.857
	9 Acenaphthylene	152	6.900	6.903	(0.984)	101799	1.93103	1.931
*	10 Acenaphthene-d10	164	7.010	7.013	(1.000)	52077	2.00000	
	11 Acenaphthene	153	7.061	7.061	(1.007)	70849	1.90585	1.906
	12 Dibenzofuran	168	7.206	7.209	(1.028)	100448	1.92389	1.924
	14 Fluorene	166	7.681	7.681	(1.096)	85526	2.05621	2.056
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	104303	2.00000	
	16 Phenanthrene	178	9.066	9.065	(1.004)	128078	2.21322	2.213
	17 Anthracene	178	9.100	9.100	(1.008)	114191	2.03719	2.037
	22 Fluoranthene	202	10.773	10.773	(1.193)	170140	2.51368	2.514
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	143677	2.15012	2.150
	23 Pyrene	202	11.266	11.266	(0.817)	170998	2.38757	2.388
	24 Benzo(a)anthracene	228	13.663	13.663	(0.991)	157659	2.21193	2.212
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	123663	2.00000	
	27 Chrysene	228	13.865	13.859	(1.005)	157069	2.23190	2.232
	28 Benzo(b)fluoranthene	252	16.332	16.335	(0.928)	155869	2.14061	2.141
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.932)	155282	2.10191	2.102
	30 Benzo(j)fluoranthene	252	16.474	16.474	(0.936)	151944	2.07969	2.080
	31 Total Benzofluoranthenes	252	16.332	16.335	(0.928)	457738	6.30375	6.304(M)
	32 Benzo(a)pyrene	252	17.363	17.366	(0.987)	136916	2.11420	2.114
*	33 Perylene-d12	264	17.596	17.593	(1.000)	116426	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.984	19.981	(1.136)	164459	2.30179	2.302
$	36 Dibenzo(a,h)anthracene-d14	292	19.879	19.876	(1.130)	125776	2.35315	2.353
	38 Dibenzo(a,h)anthracene	278	19.977	19.974	(1.135)	137790	2.23947	2.239
	39 Benzo(g,h,i)perylene	276	20.948	20.945	(1.190)	131696	2.42776	2.428
	35 Perylene	252	17.669	17.669	(1.004)	143902	2.03915	2.039

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070506.D
Lab Smp Id: BGF0721-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	87478	-10.68
10 Acenaphthene-d10	54983	27492	109966	52077	-5.29
15 Phenanthrene-d10	115816	57908	231632	104303	-9.94
25 Chrysene-d12	129167	64584	258334	123663	-4.26
33 Perylene-d12	111506	55753	223012	116426	4.41

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.20
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	-0.04
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070506.D

Lab ID: BGF0721-MS1
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 18:30

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

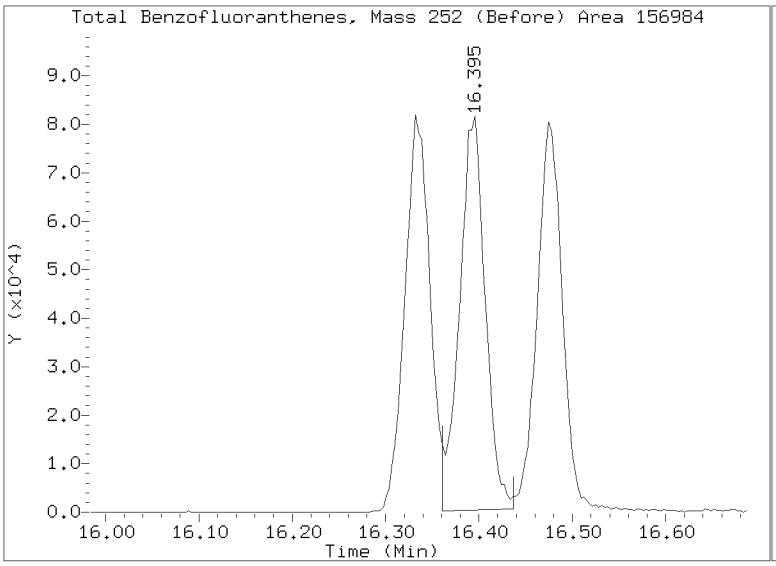
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

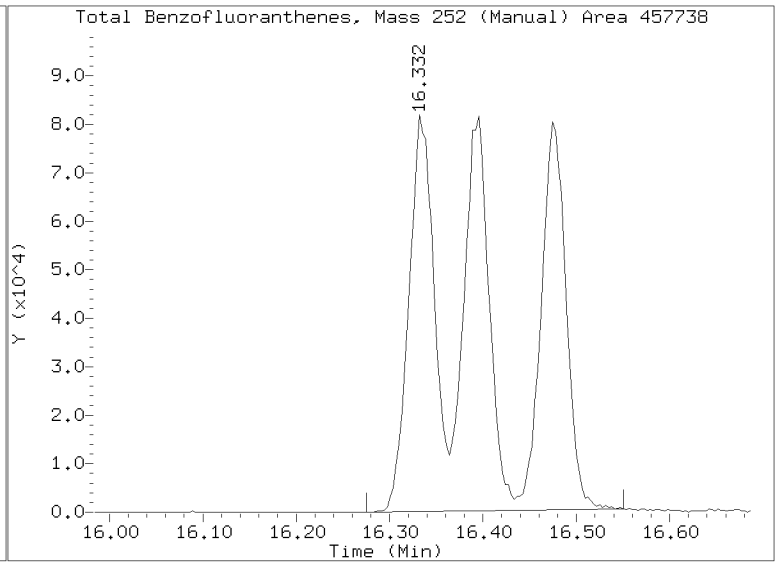
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070506.D
Injection Date: 05-JUL-2018 18:30
Lab ID:BGF0721-MS1 Client ID:
Report Date: 07/09/2018 10:17





Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

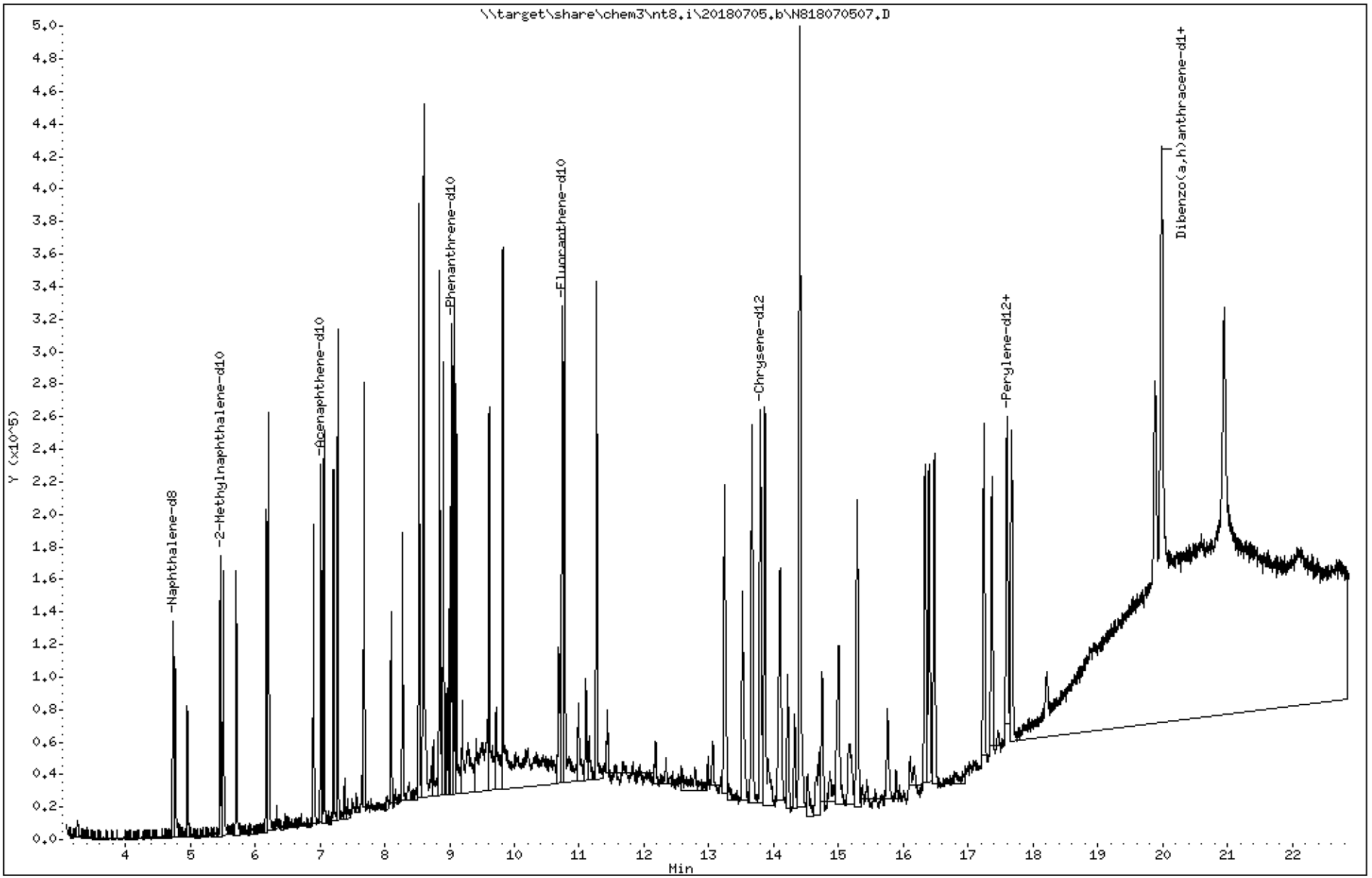
Instrument: nt8.i

Sample Info: BGF0721-MSD1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

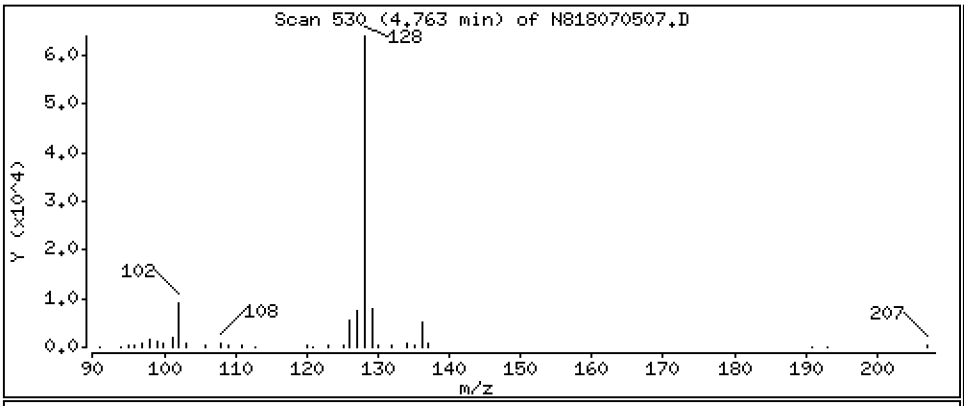
Operator: JZ

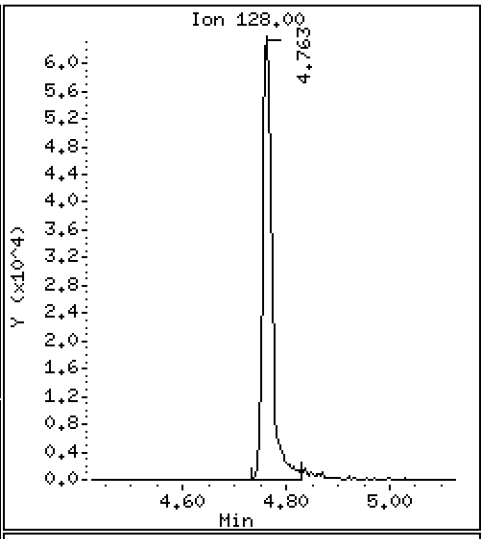
Column phase: Rxi-17sil

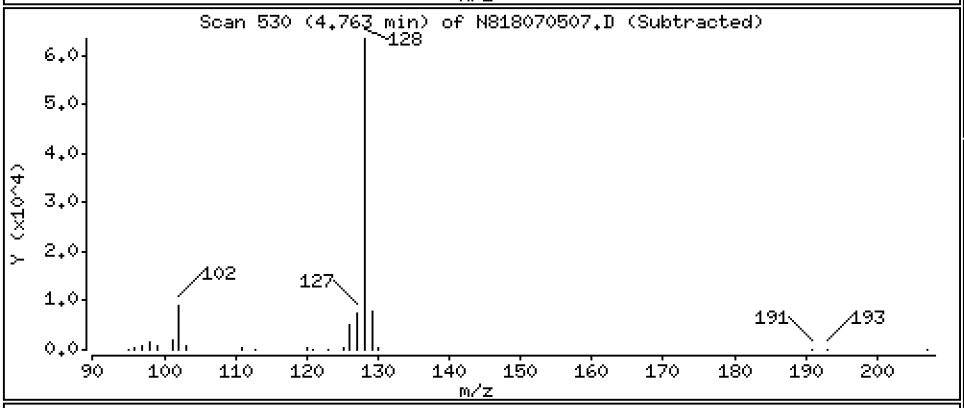
Column diameter: 0.25

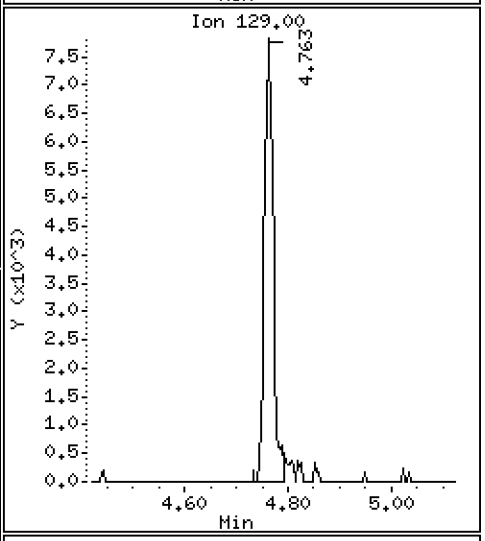
2 Naphthalene

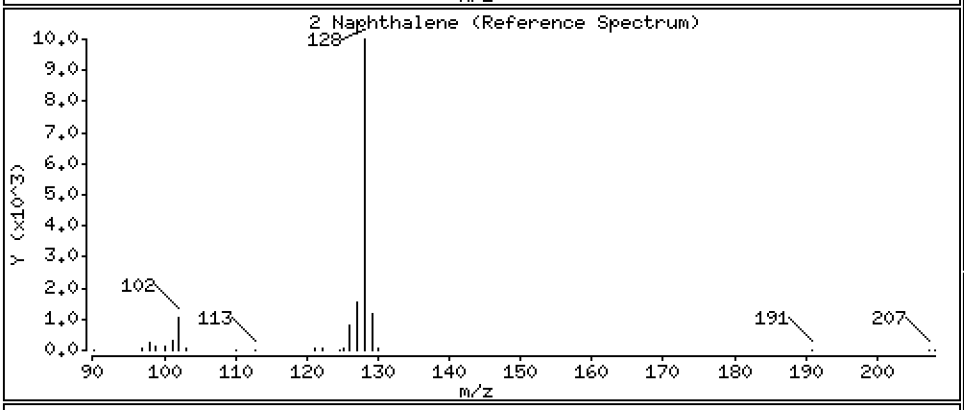
Concentration: 1.391 ug/mL

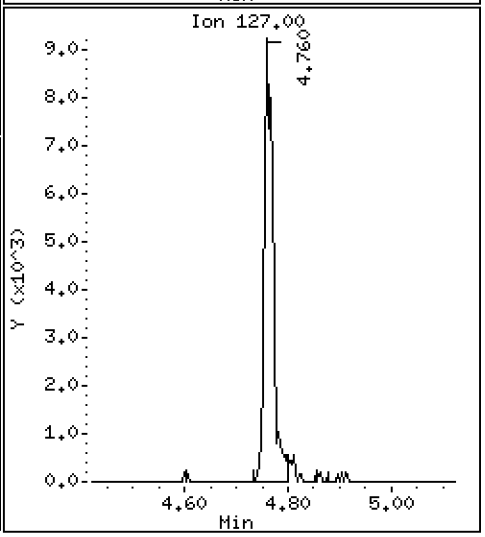


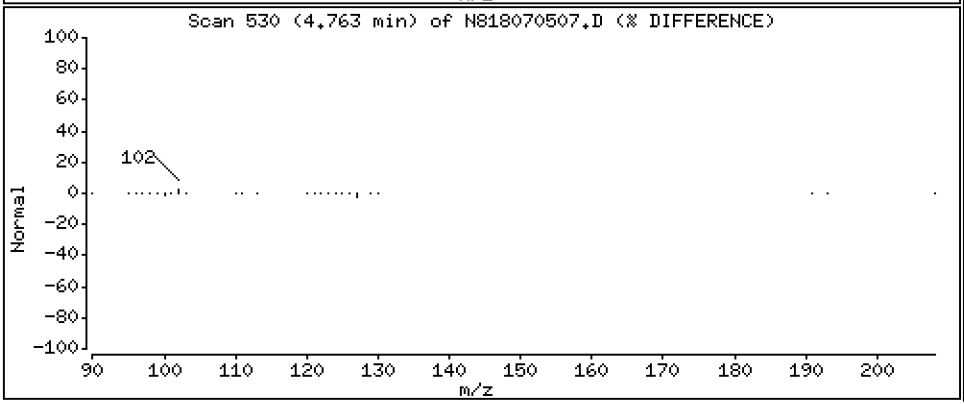












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

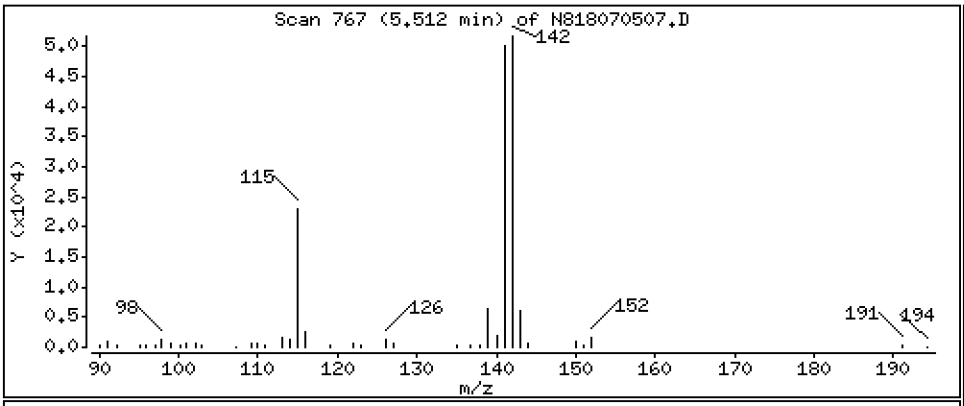
Operator: JZ

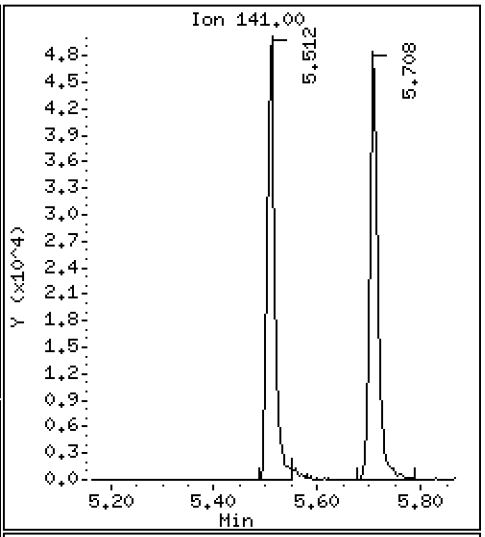
Column phase: Rxi-17sil

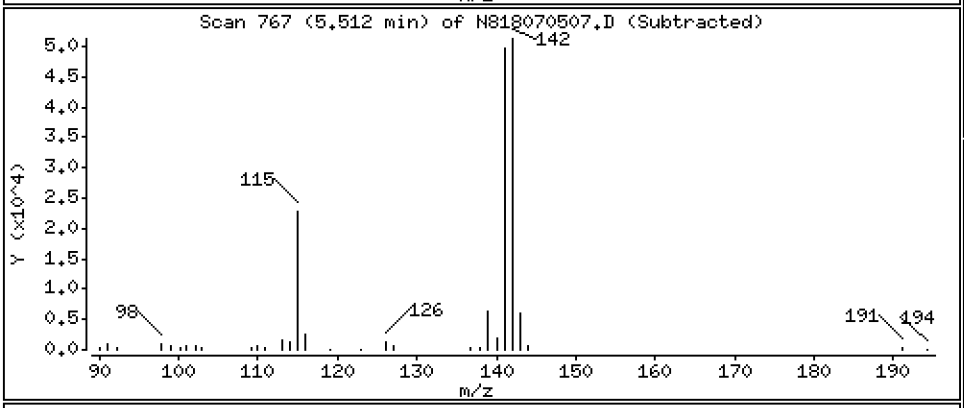
Column diameter: 0.25

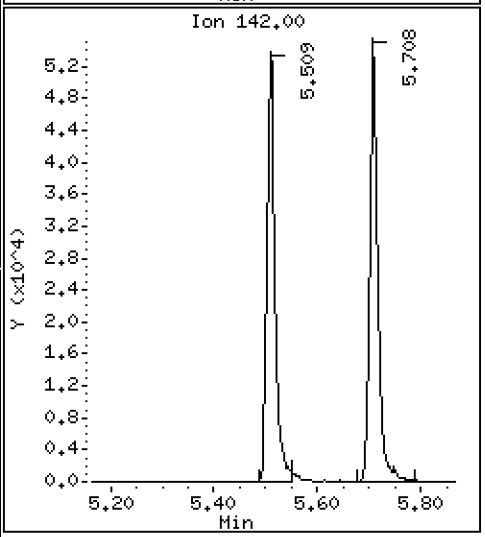
4 2-Methylnaphthalene

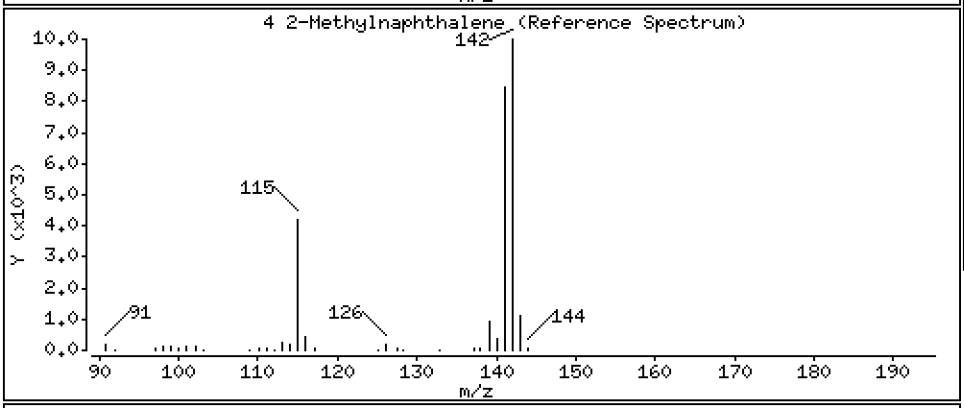
Concentration: 1.564 ug/mL

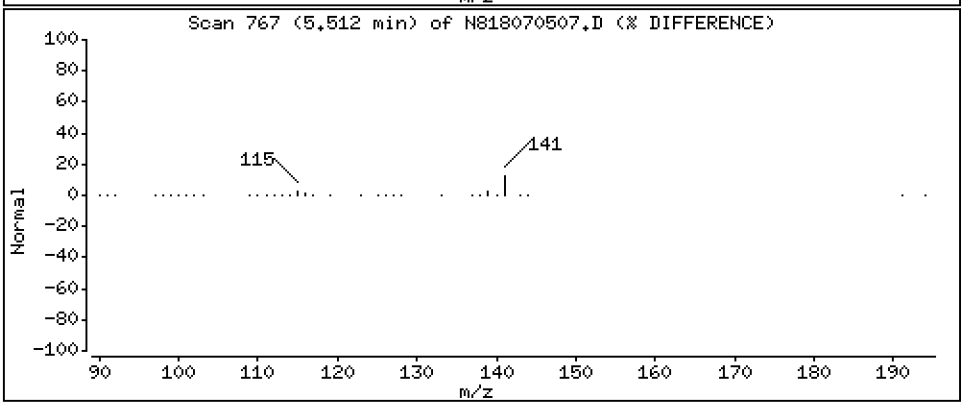












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

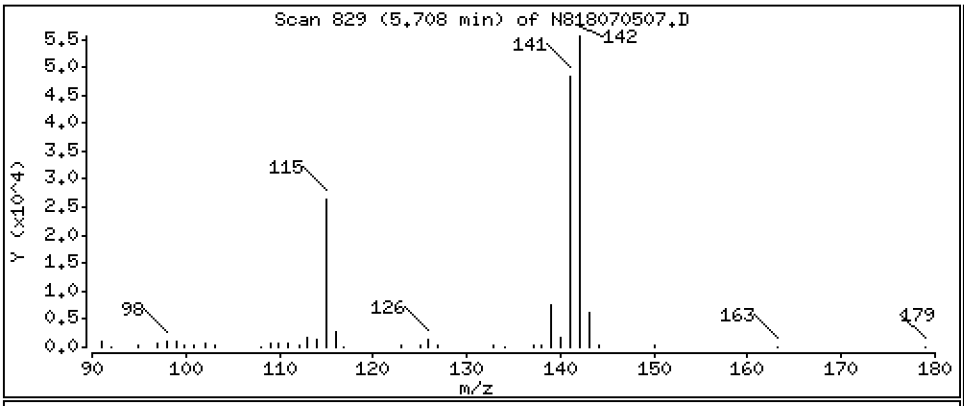
Operator: JZ

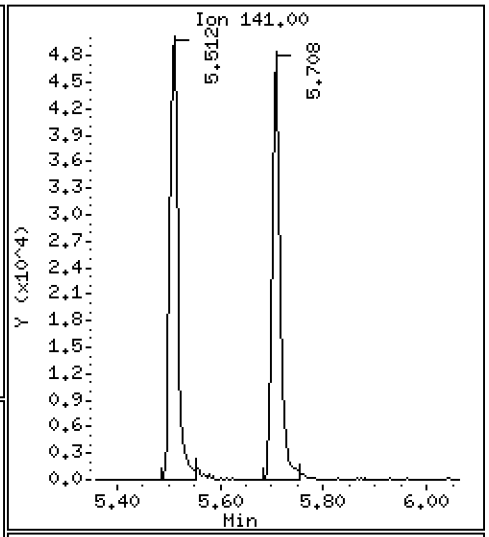
Column phase: Rxi-17sil

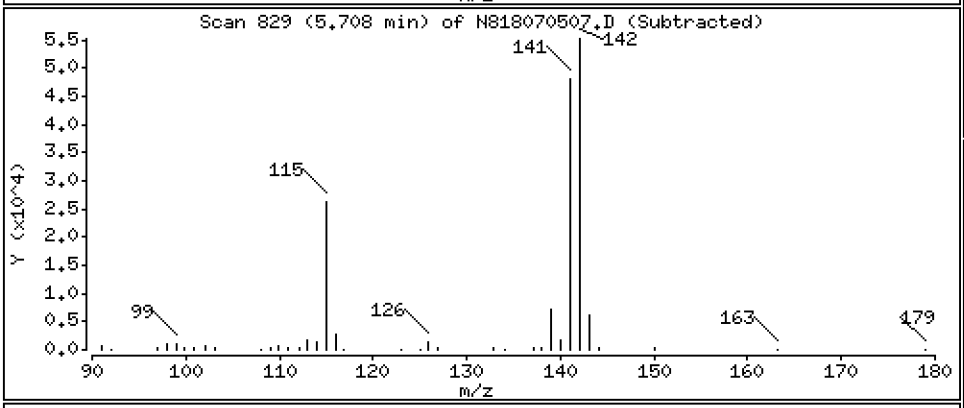
Column diameter: 0.25

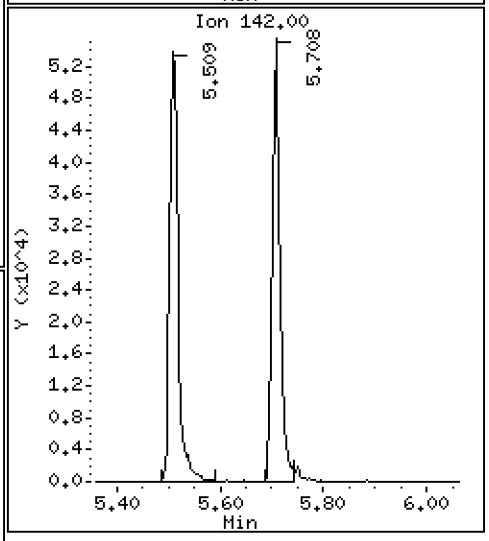
5 1-methylnaphthalene

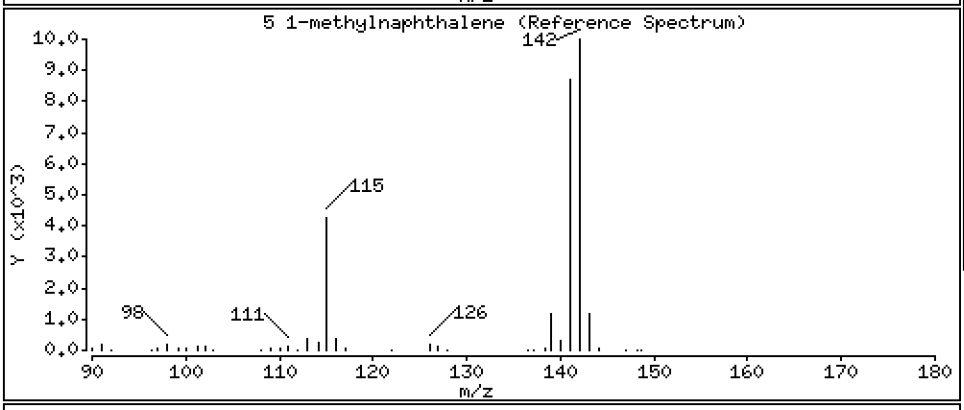
Concentration: 1.586 ug/mL

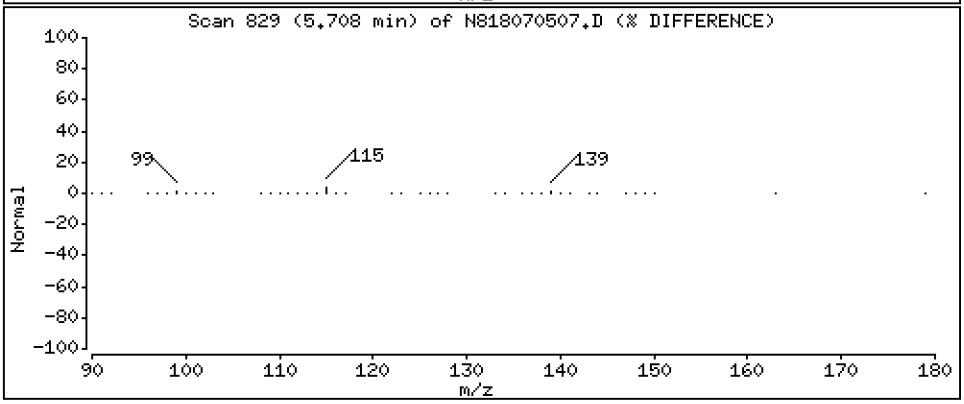












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

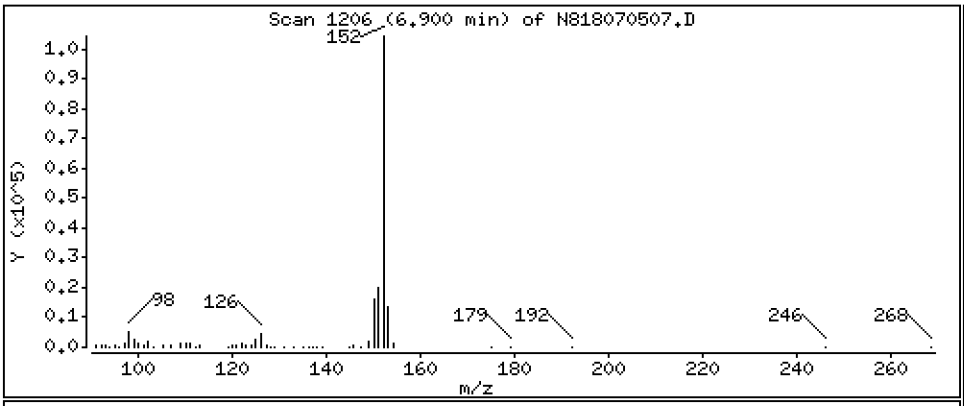
Operator: JZ

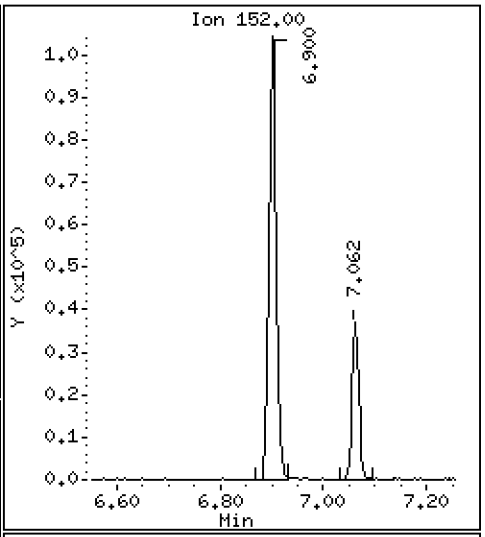
Column phase: Rxi-17sil

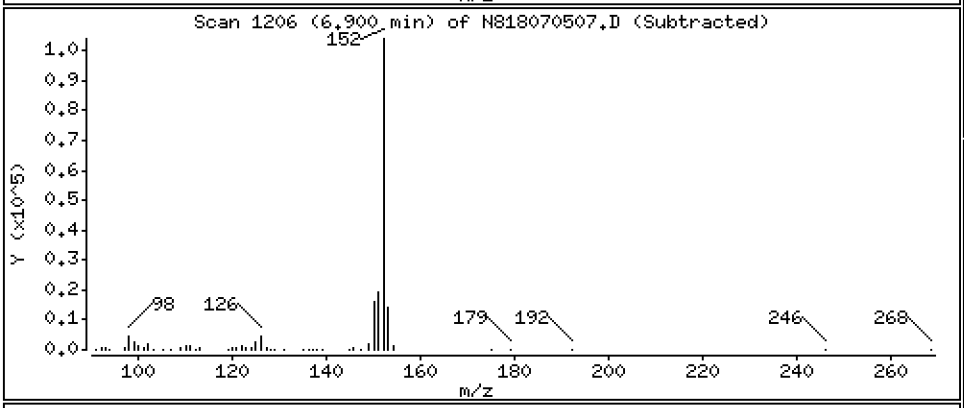
Column diameter: 0.25

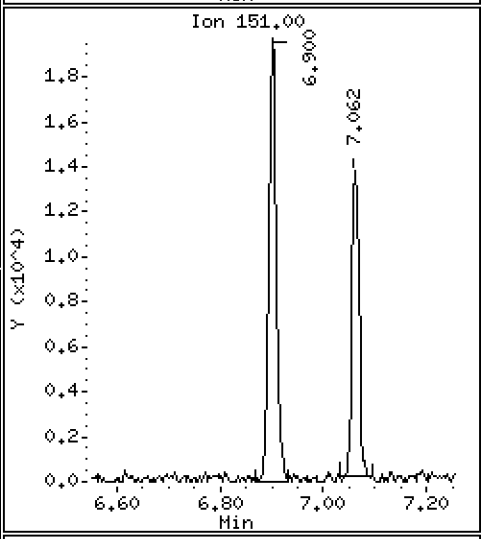
9 Acenaphthylene

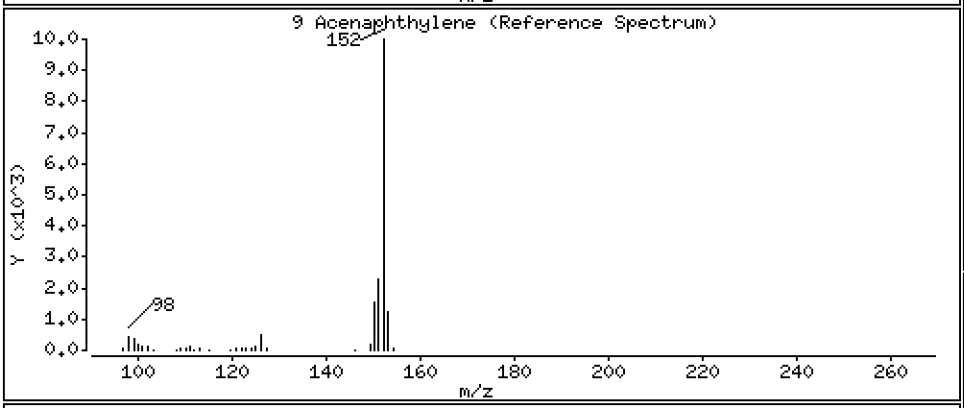
Concentration: 1.774 ug/mL

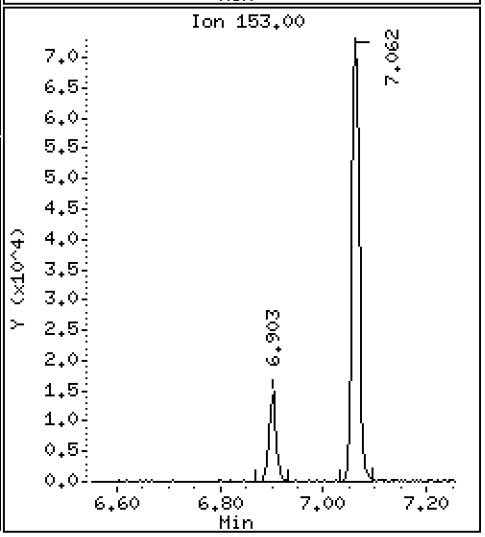


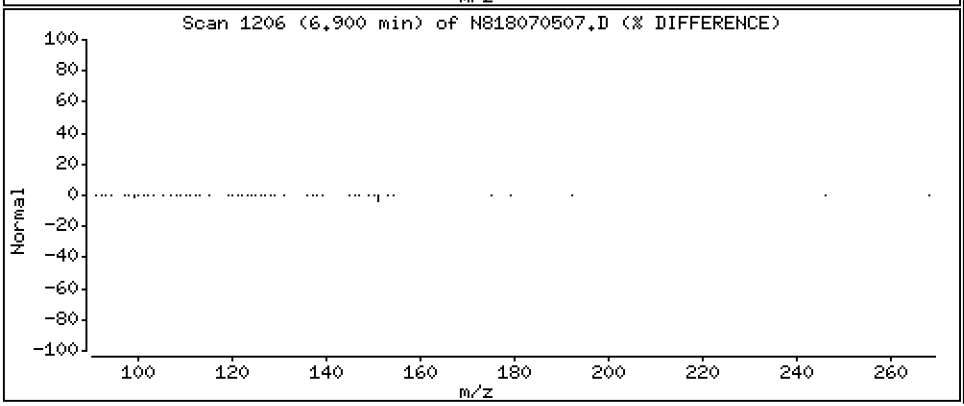












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

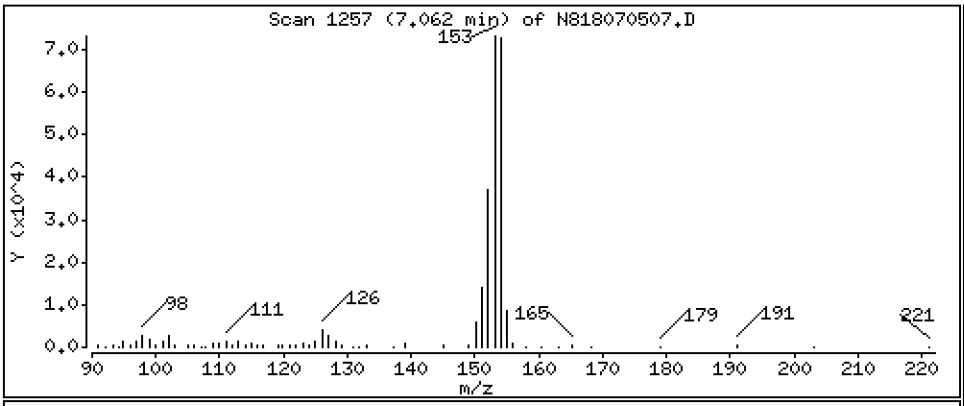
Operator: JZ

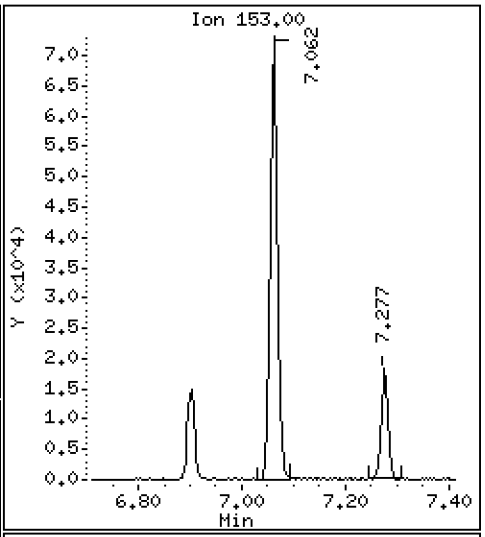
Column phase: Rxi-17sil

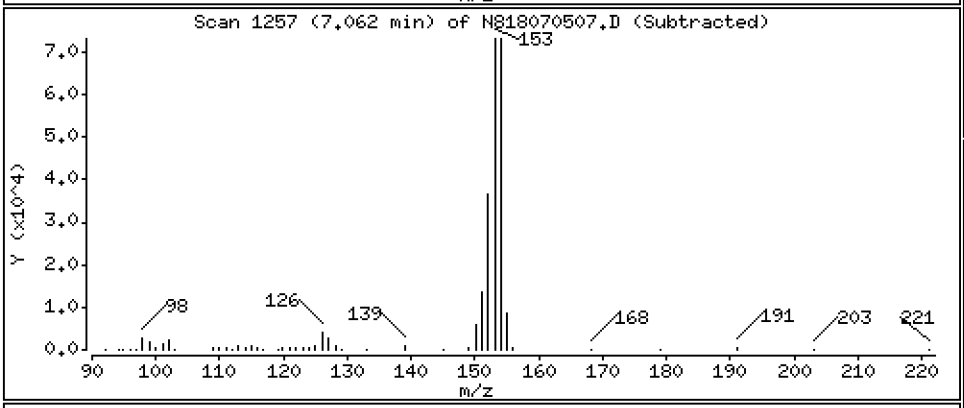
Column diameter: 0.25

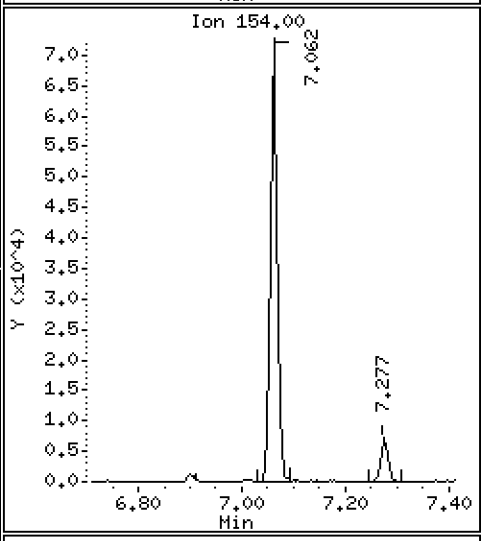
11 Acenaphthene

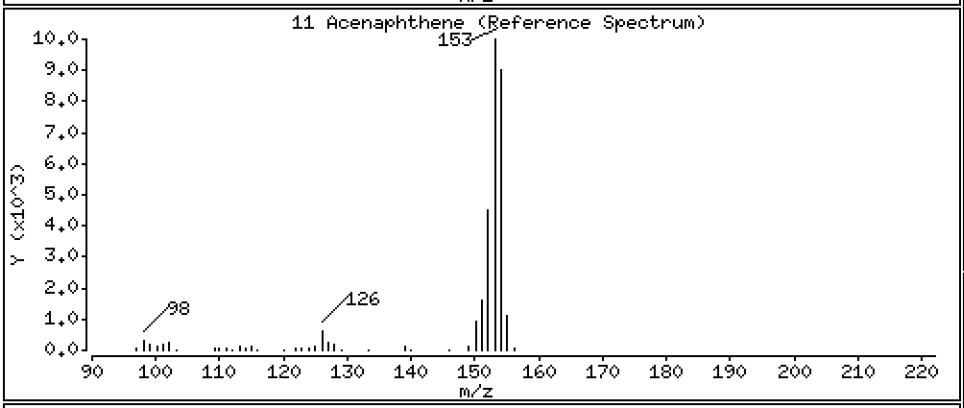
Concentration: 1.768 ug/mL

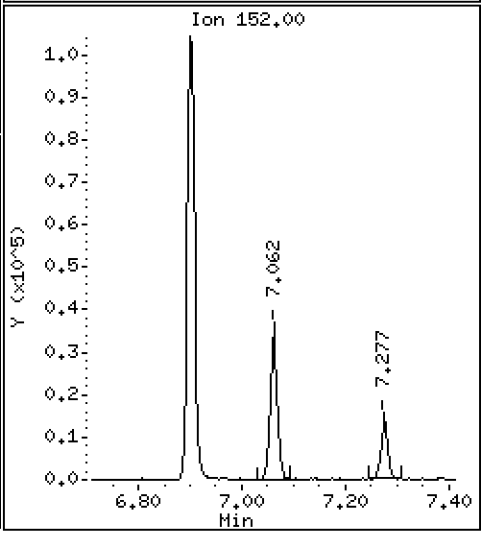


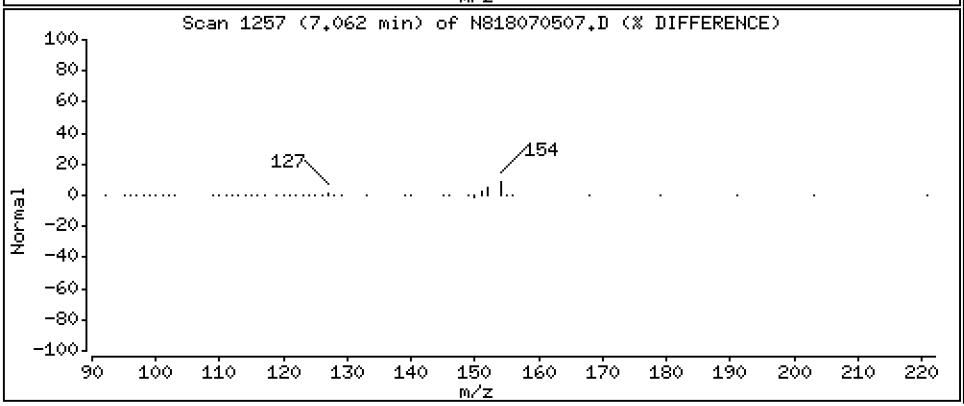












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

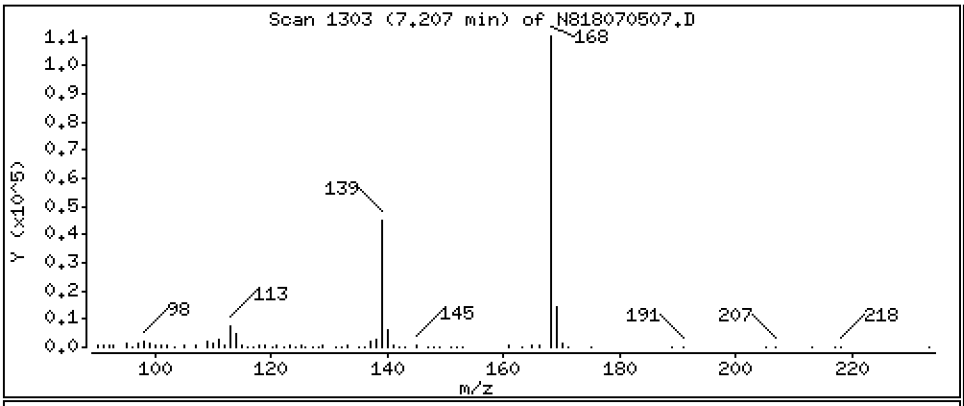
Operator: JZ

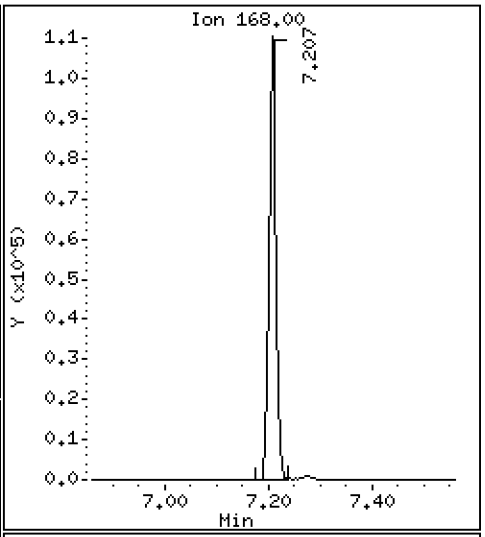
Column phase: Rxi-17sil

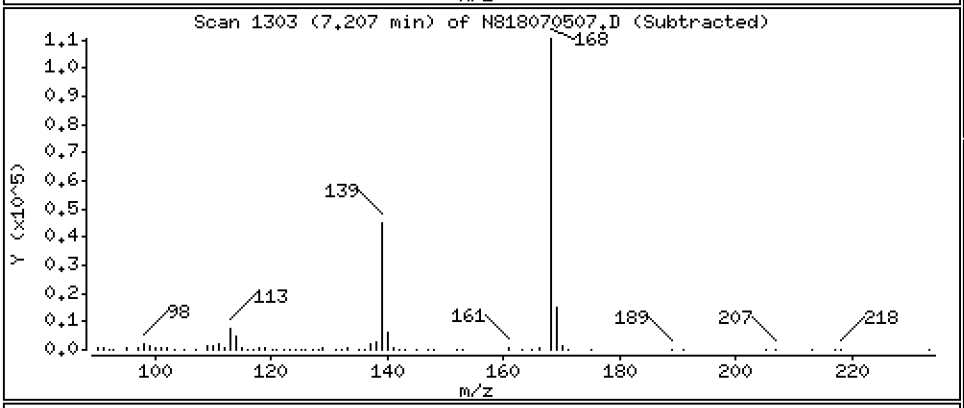
Column diameter: 0.25

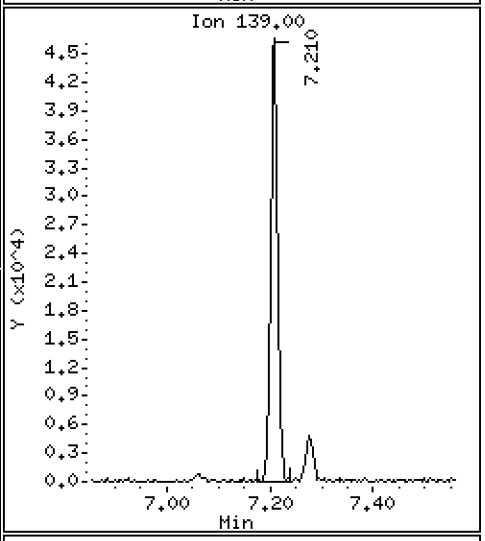
12 Dibenzofuran

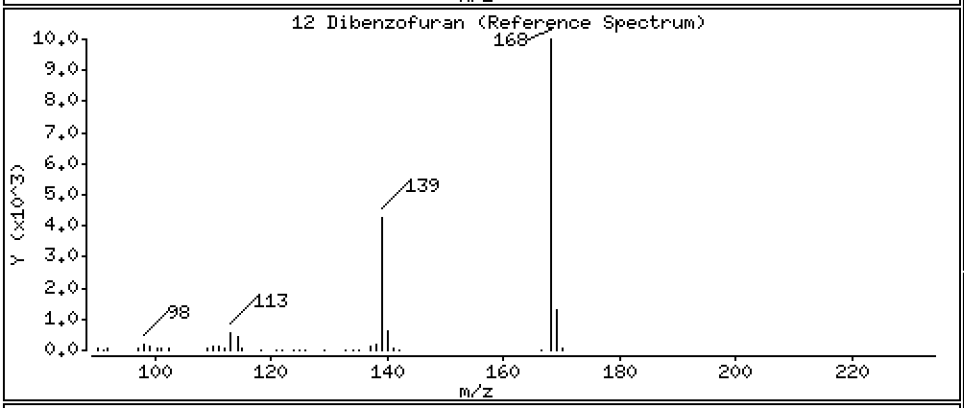
Concentration: 1.780 ug/mL

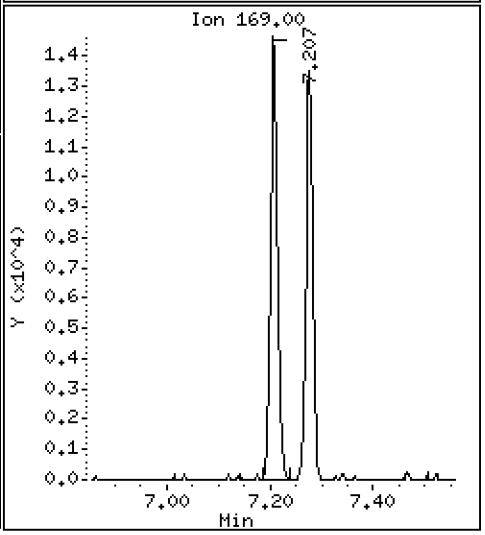


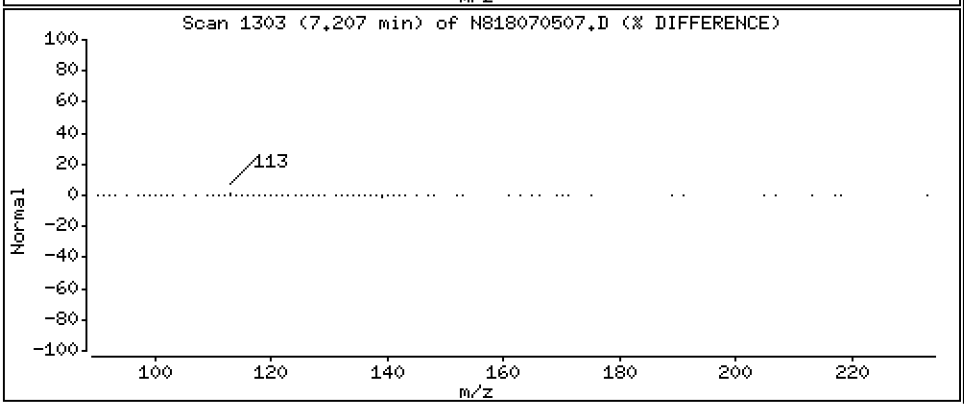












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

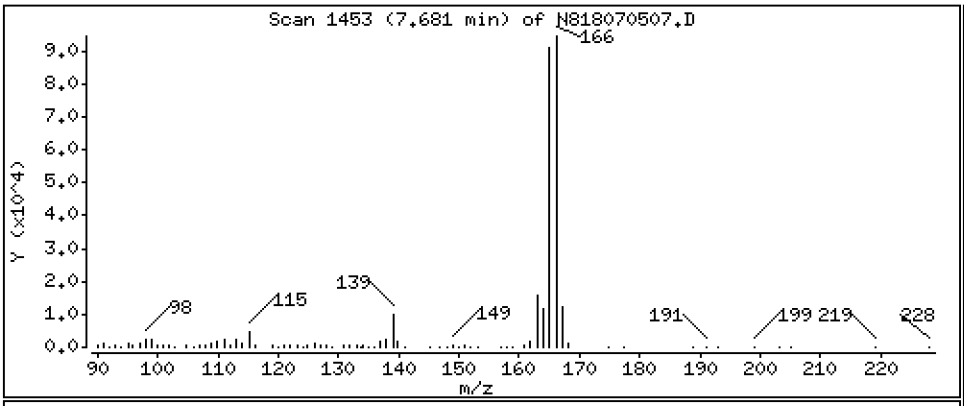
Operator: JZ

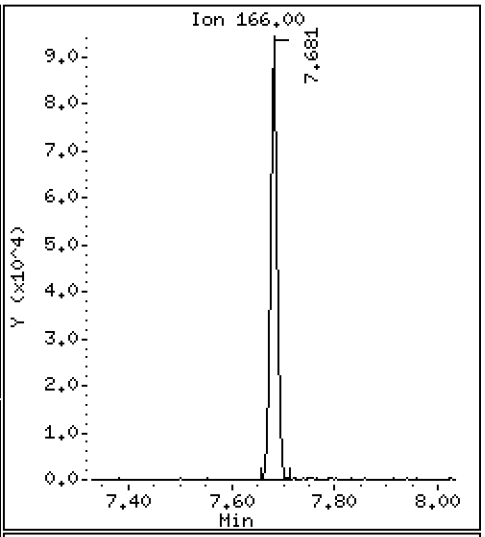
Column phase: Rxi-17sil

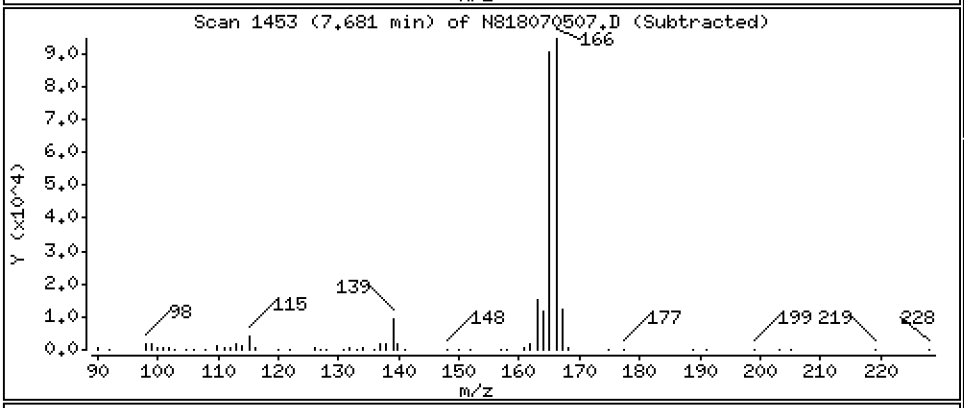
Column diameter: 0.25

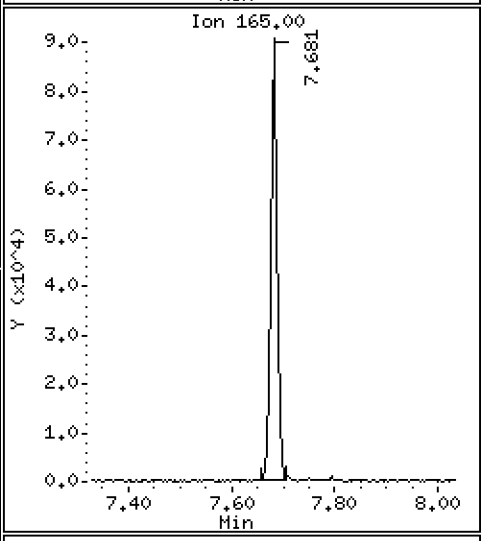
14 Fluorene

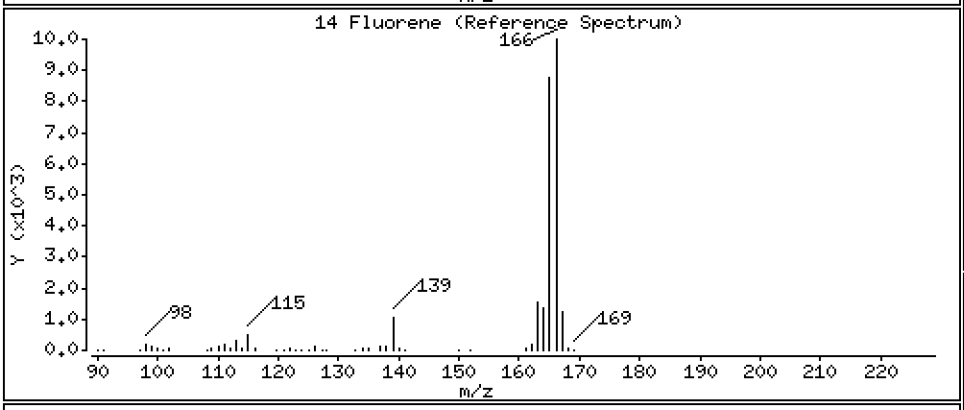
Concentration: 1.881 ug/mL

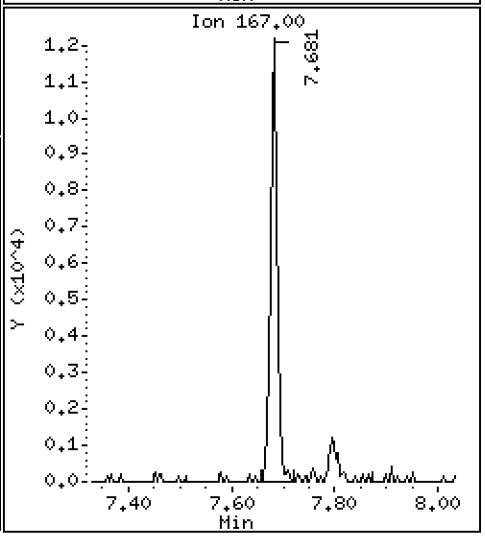


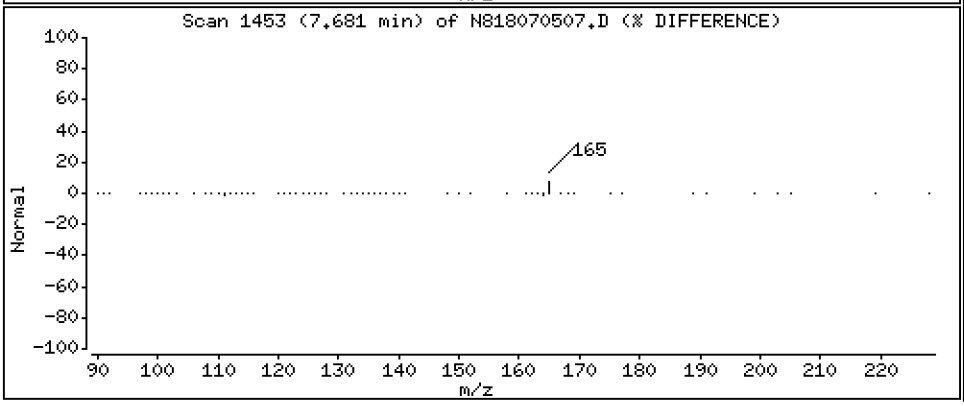












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

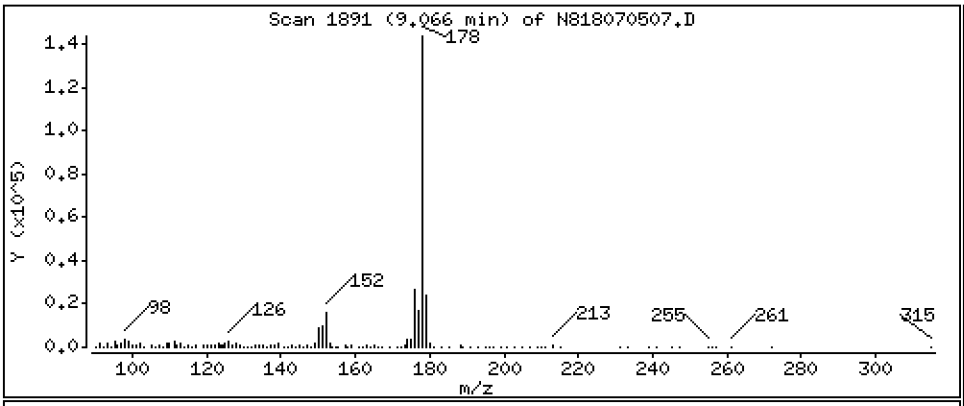
Operator: JZ

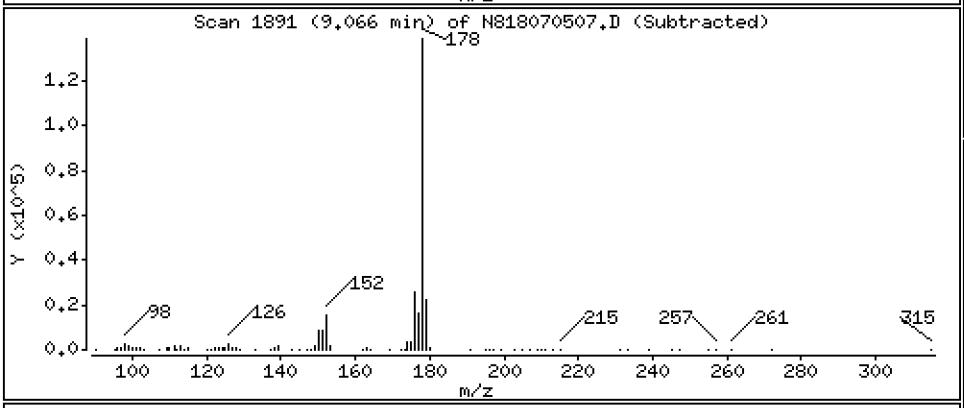
Column phase: Rxi-17sil

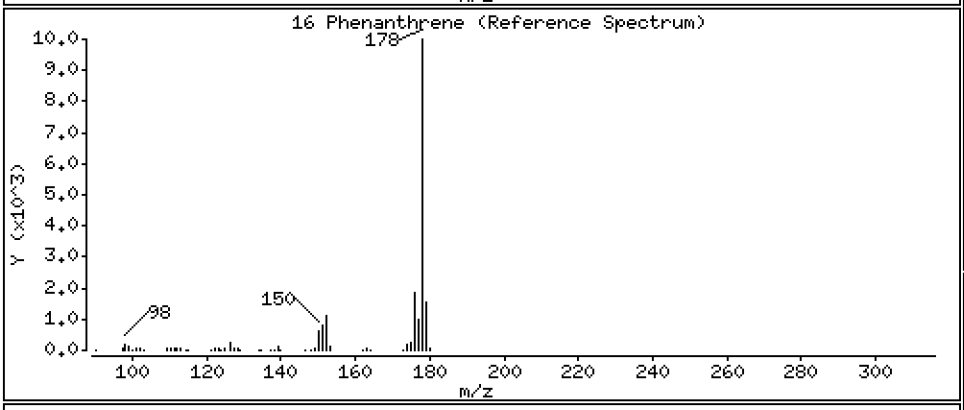
Column diameter: 0.25

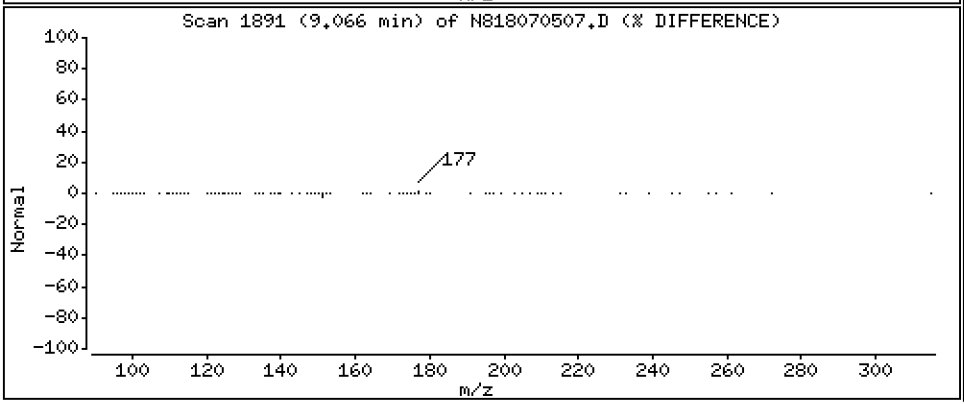
16 Phenanthrene

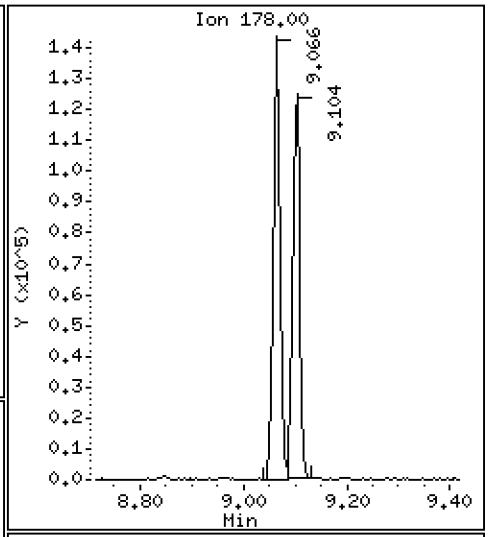
Concentration: 2.061 ug/mL

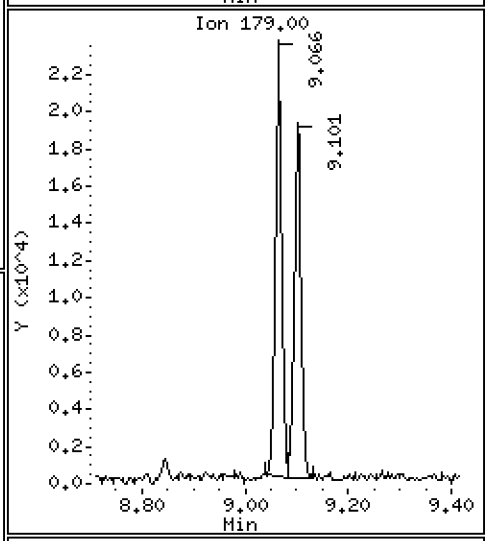


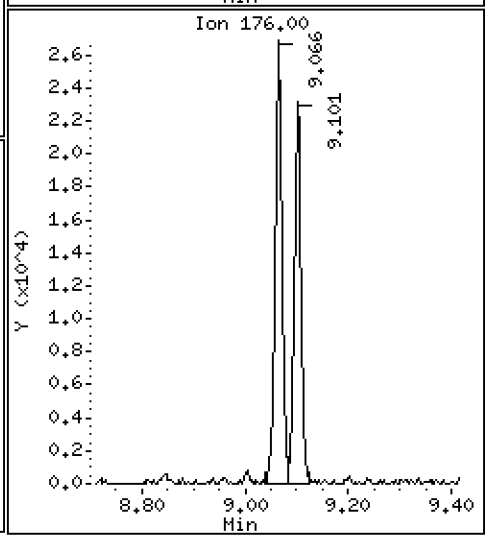












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

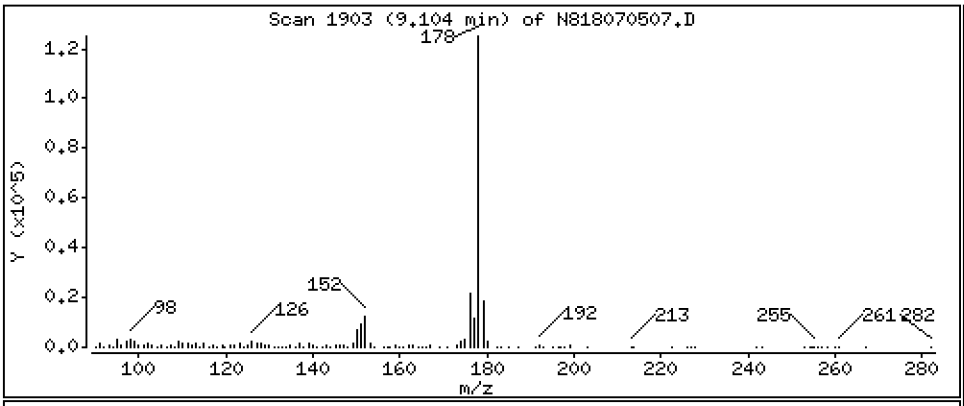
Operator: JZ

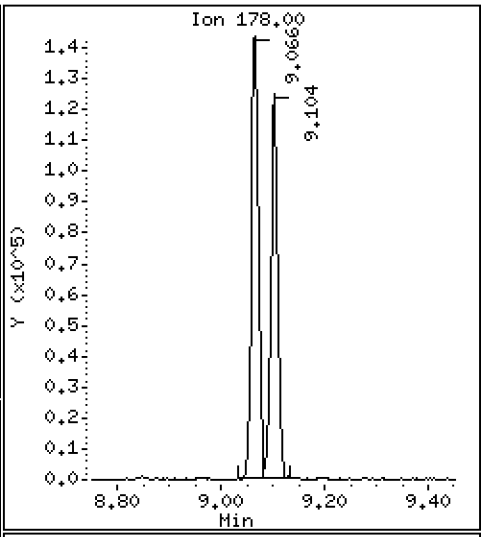
Column phase: Rxi-17sil

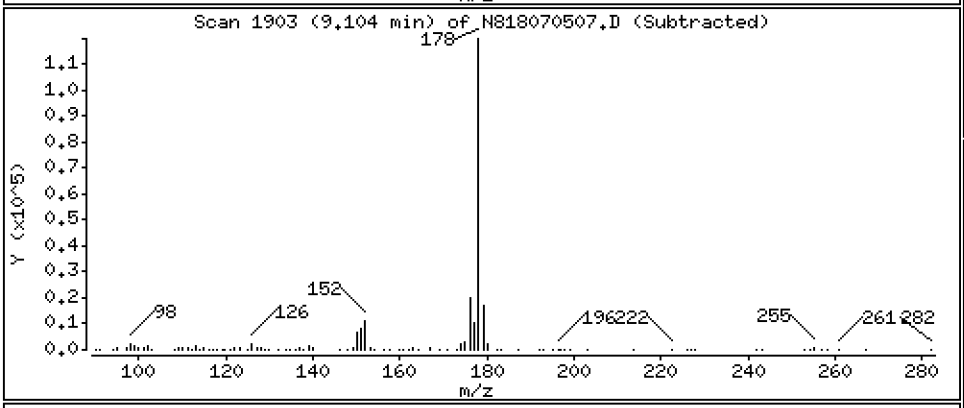
Column diameter: 0.25

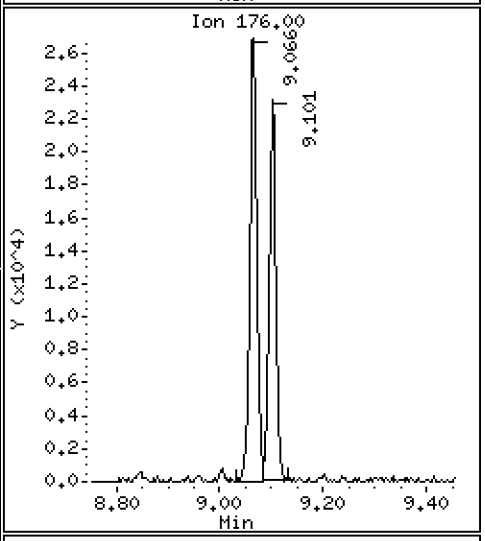
17 Anthracene

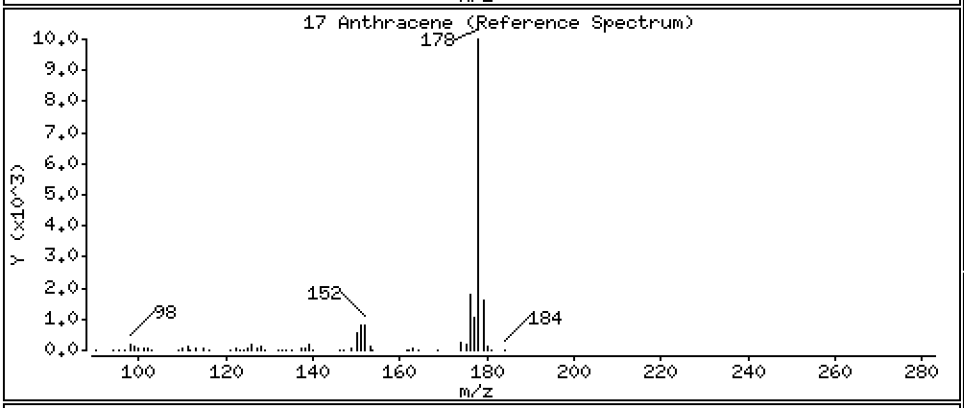
Concentration: 1.811 ug/mL

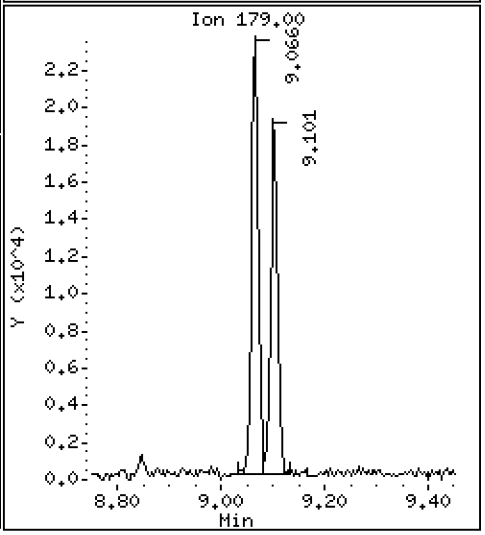


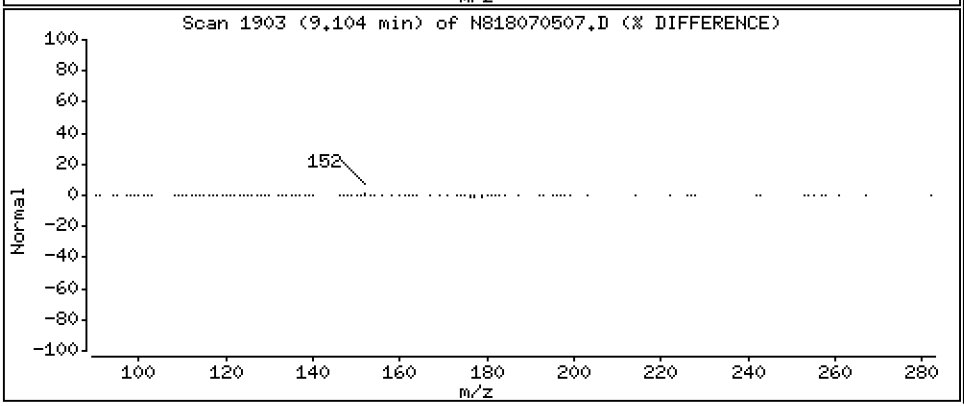












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

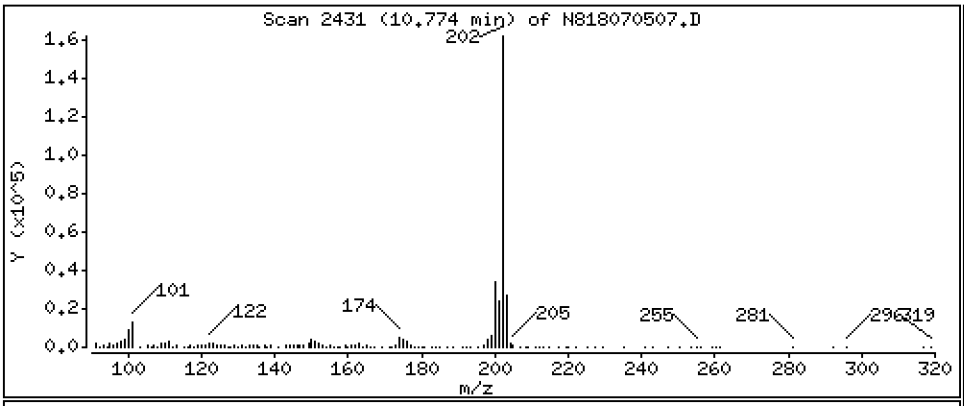
Operator: JZ

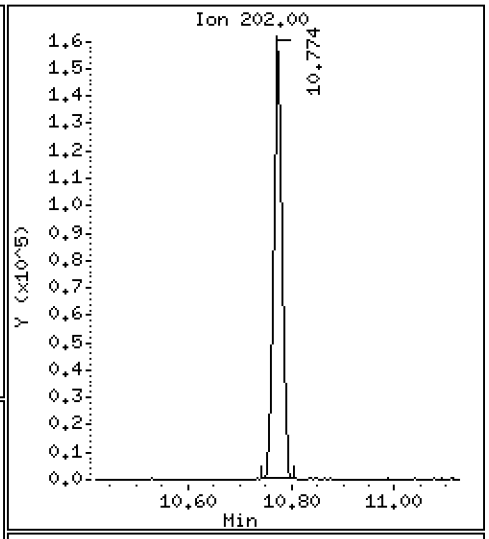
Column phase: Rxi-17sil

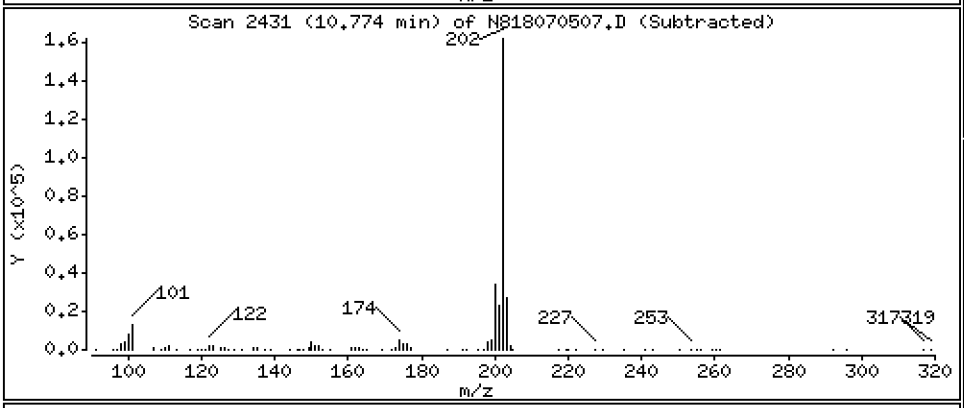
Column diameter: 0.25

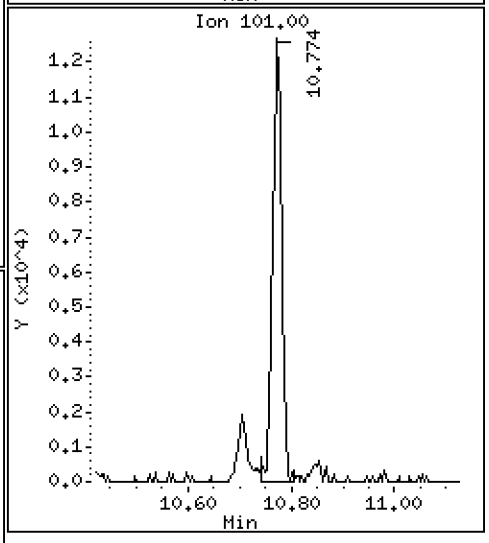
22 Fluoranthene

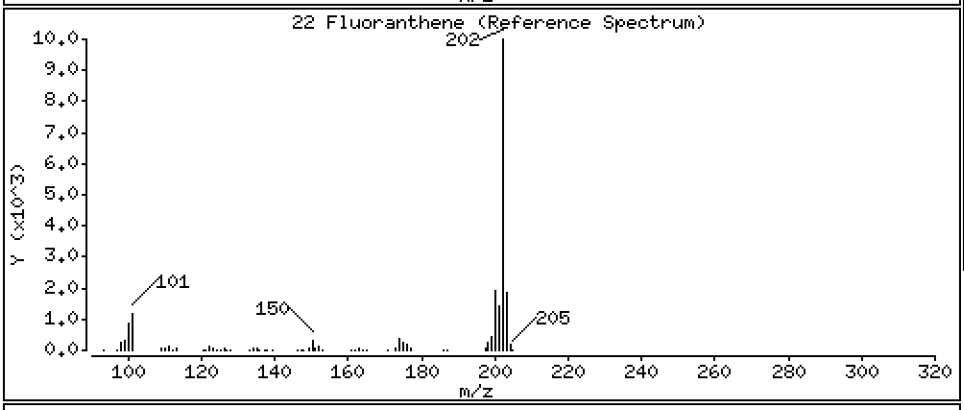
Concentration: 2.369 ug/mL

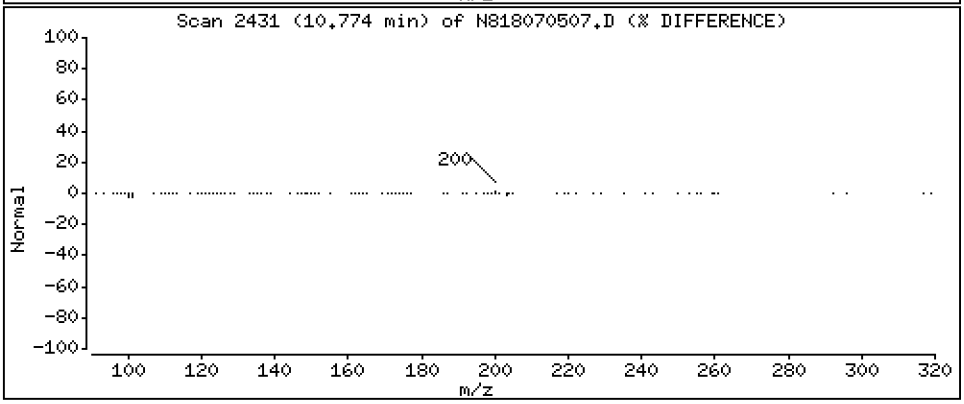












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

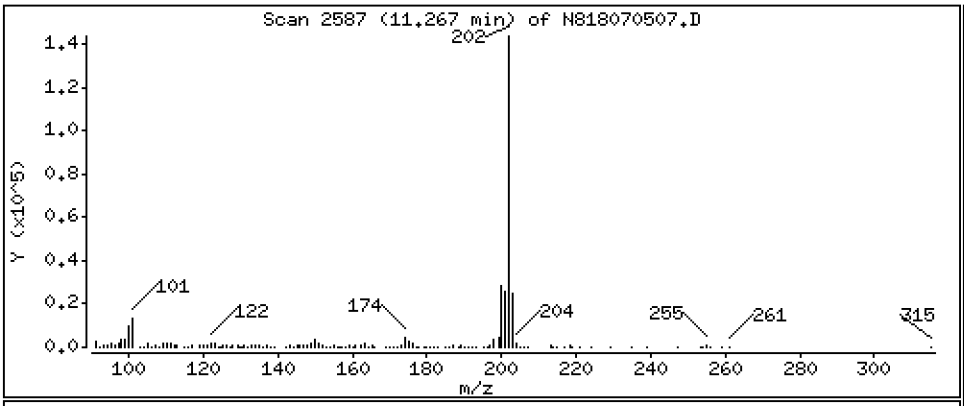
Operator: JZ

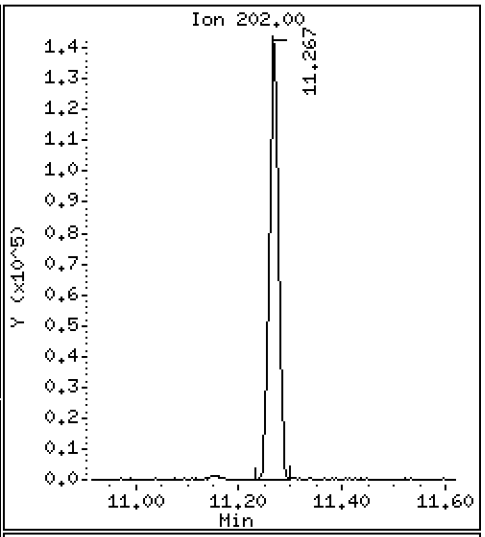
Column phase: Rxi-17sil

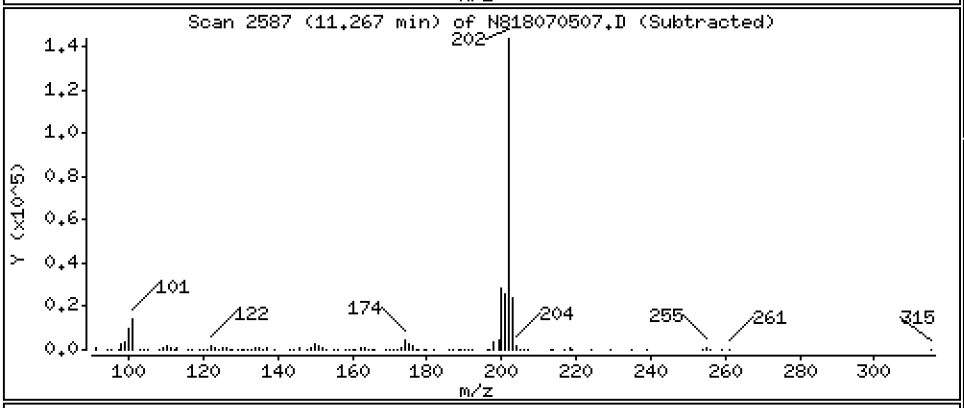
Column diameter: 0.25

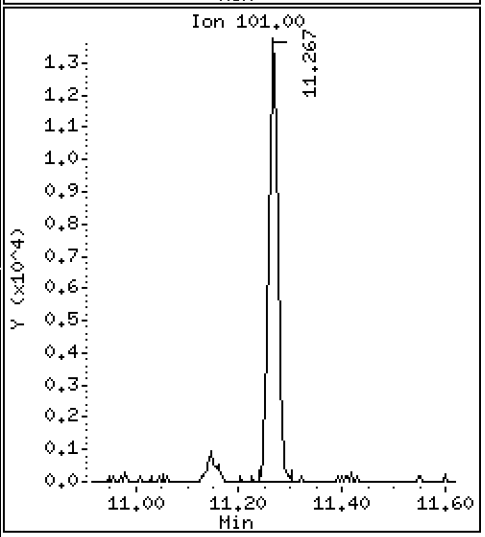
23 Pyrene

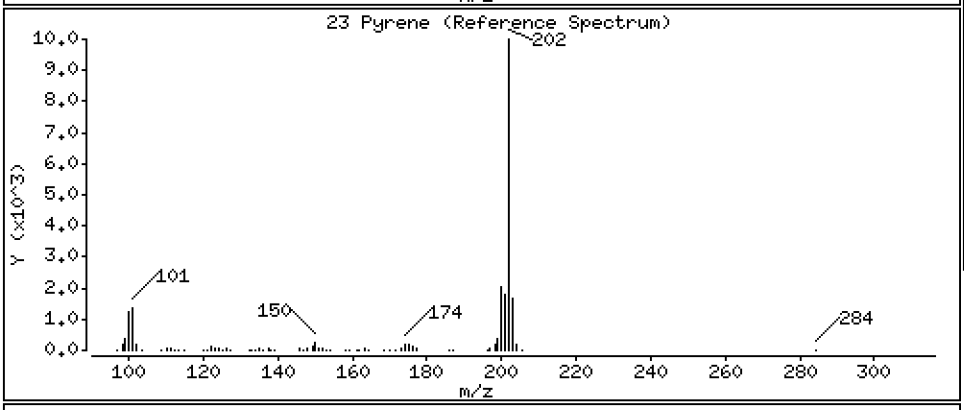
Concentration: 2.211 ug/mL

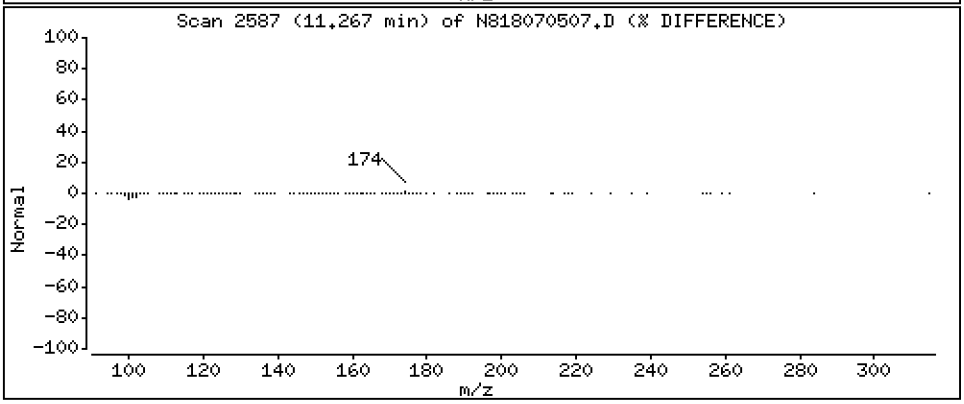












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

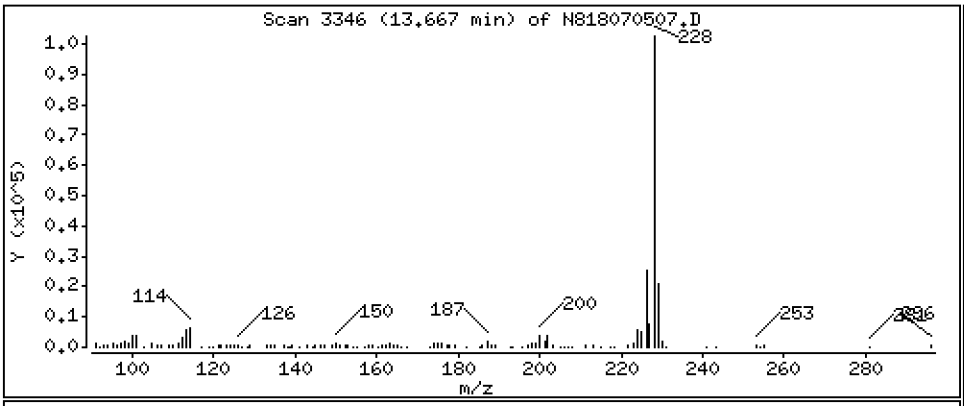
Operator: JZ

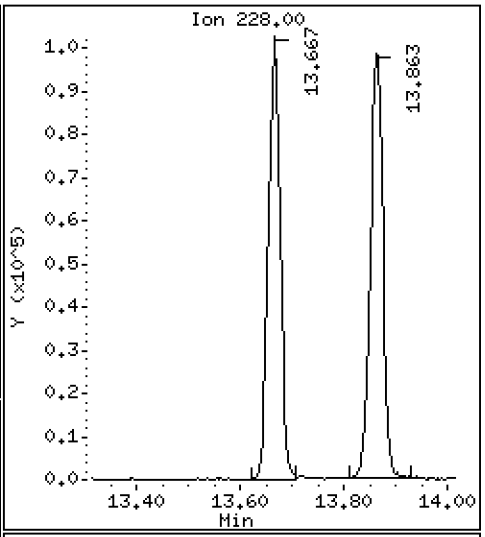
Column phase: Rxi-17sil

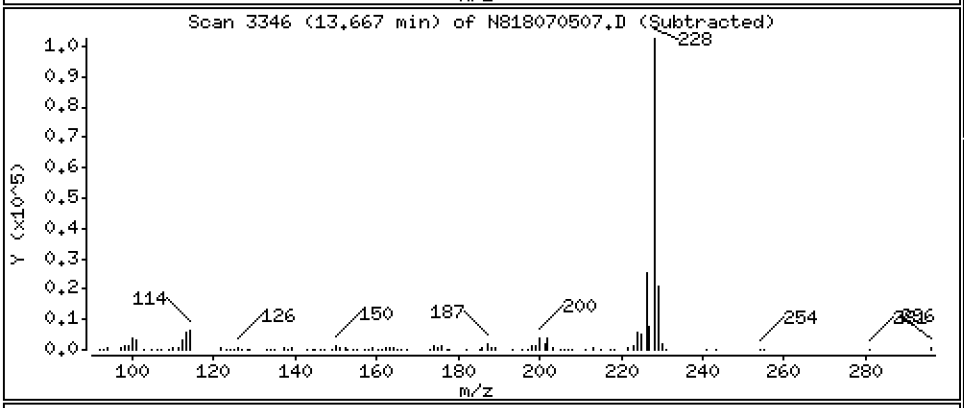
Column diameter: 0.25

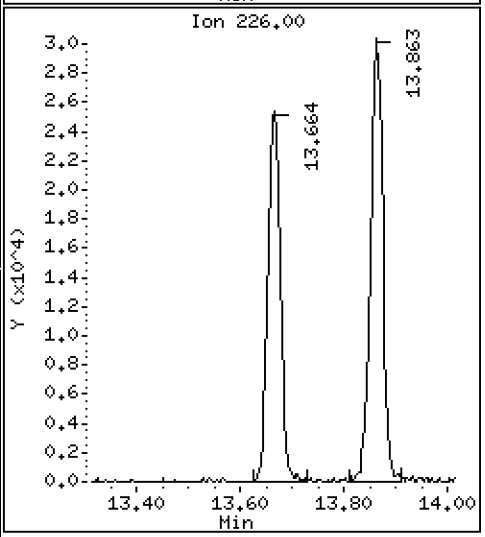
24 Benzo(a)anthracene

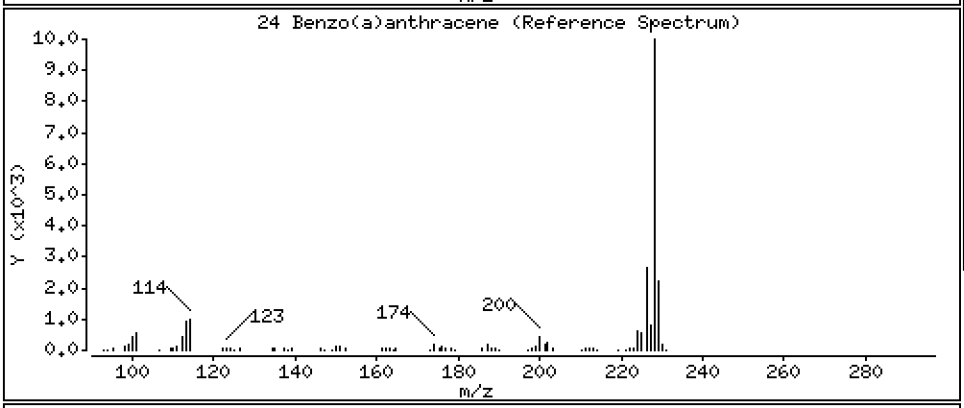
Concentration: 2.089 ug/mL

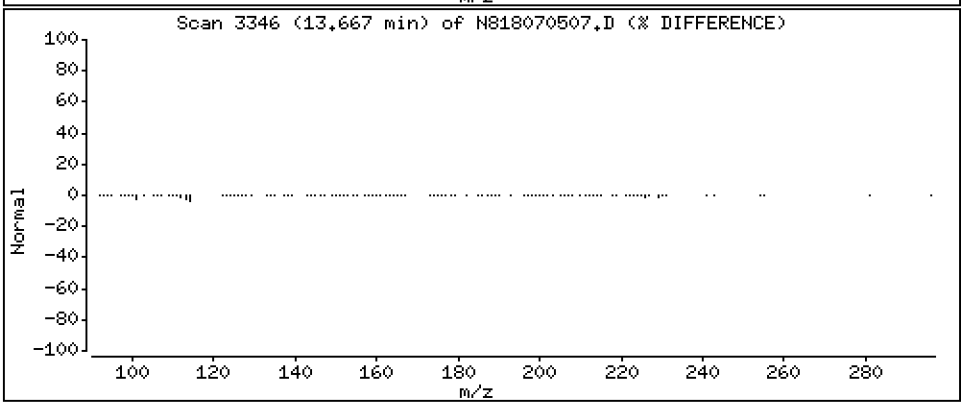












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

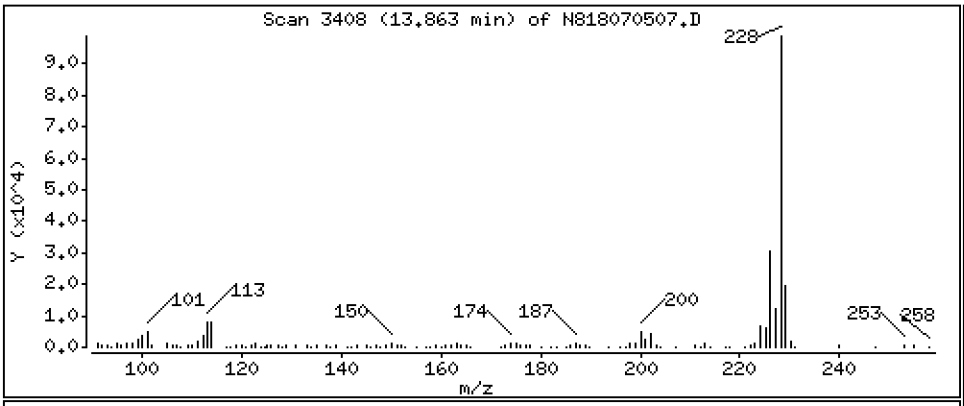
Operator: JZ

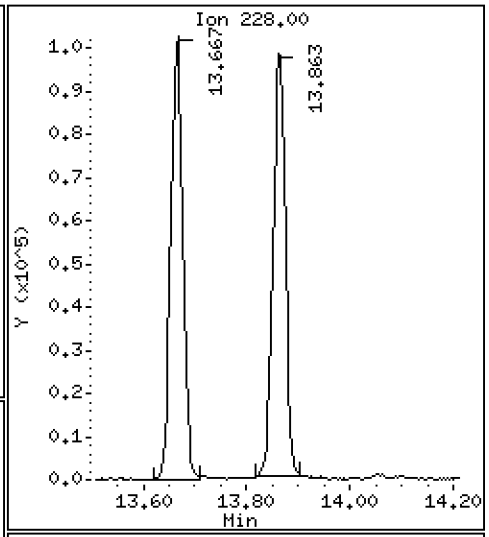
Column phase: Rxi-17sil

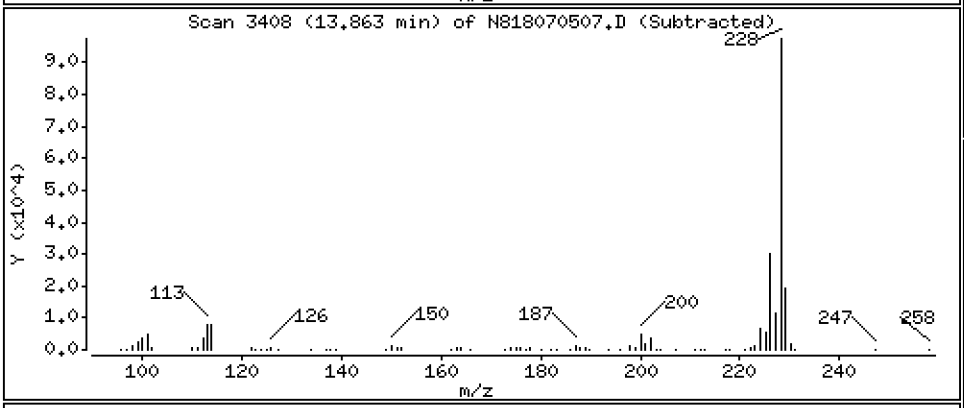
Column diameter: 0.25

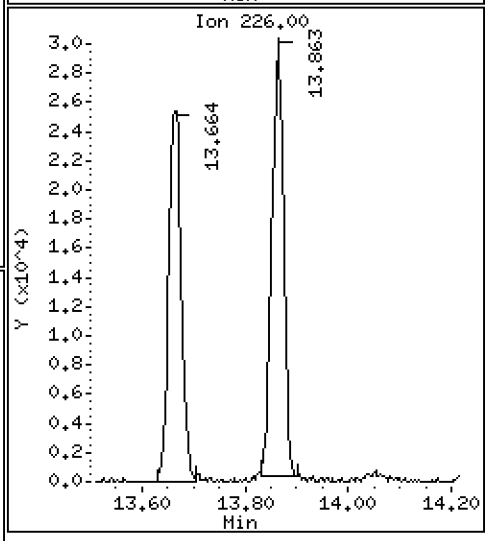
27 Chrysene

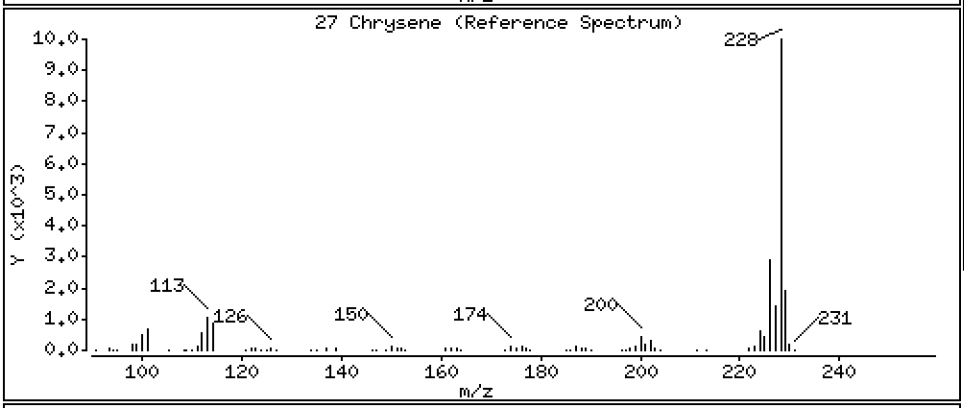
Concentration: 2.066 ug/mL

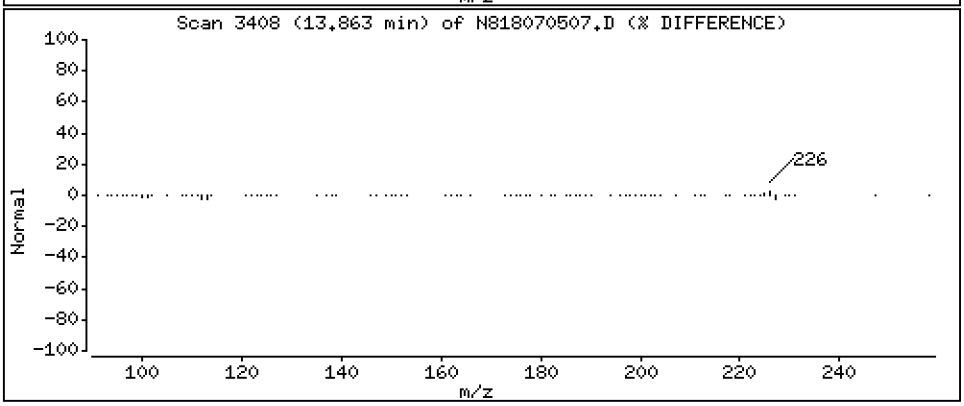












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

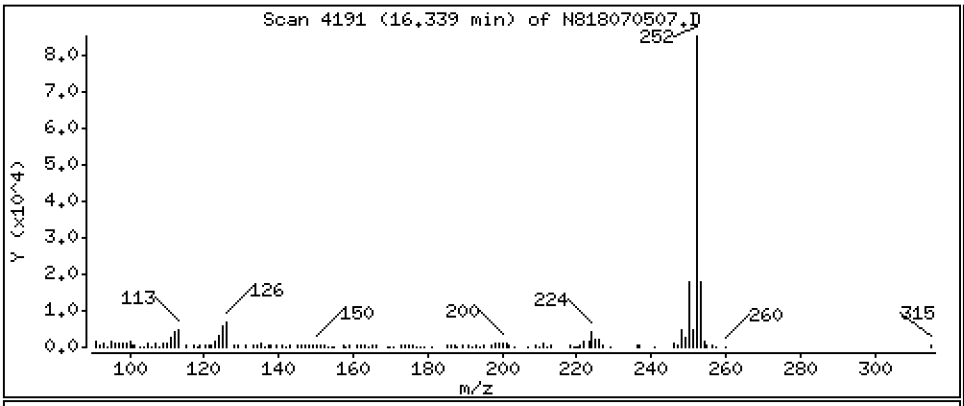
Operator: JZ

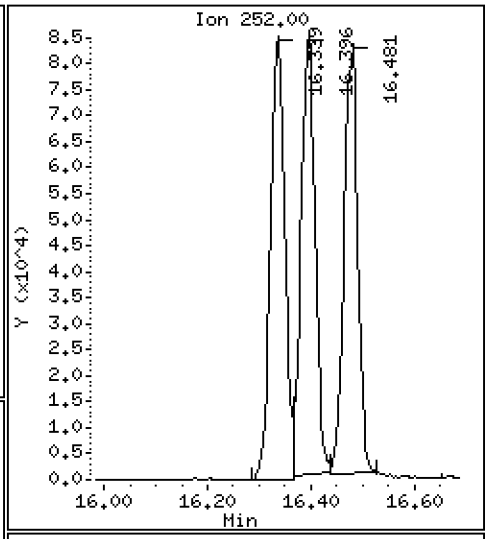
Column phase: Rxi-17sil

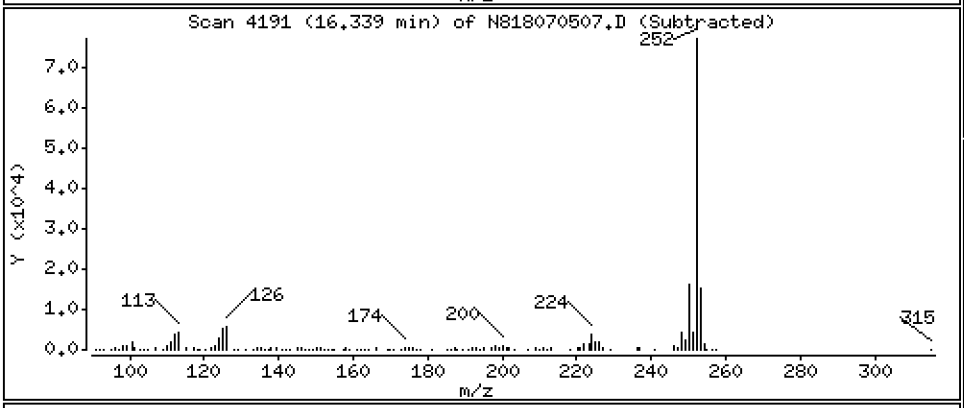
Column diameter: 0.25

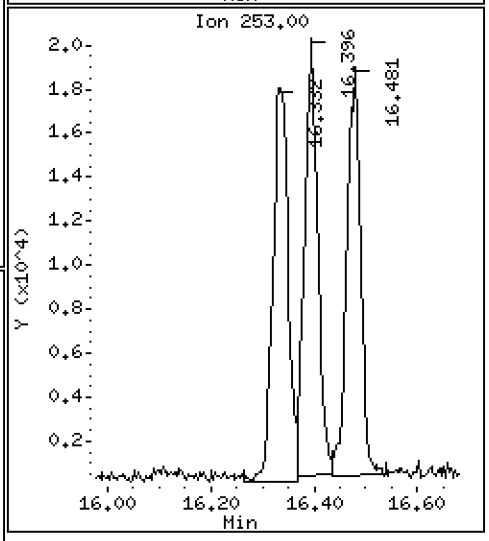
28 Benzo(b)fluoranthene

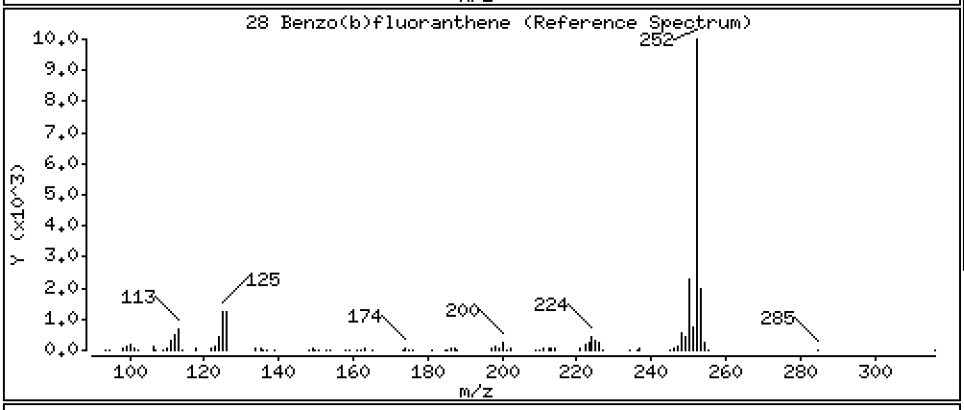
Concentration: 2.053 ug/mL

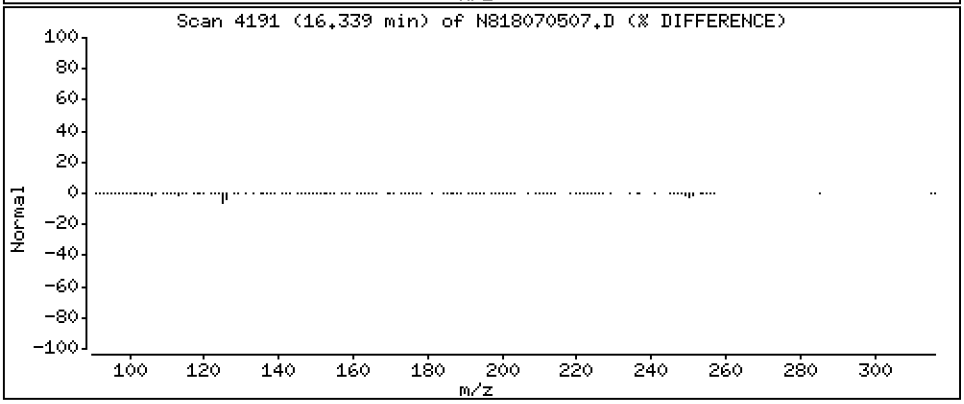












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

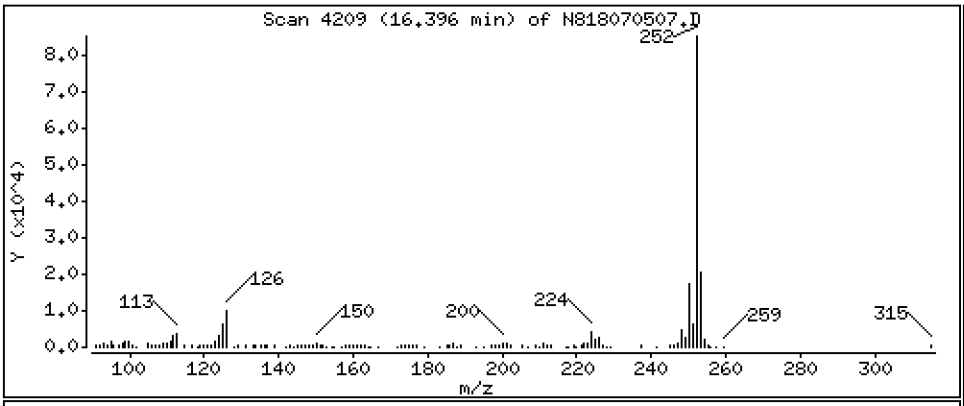
Operator: JZ

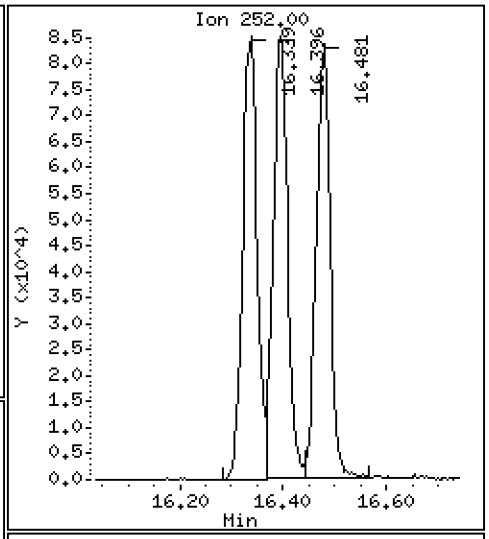
Column phase: Rxi-17sil

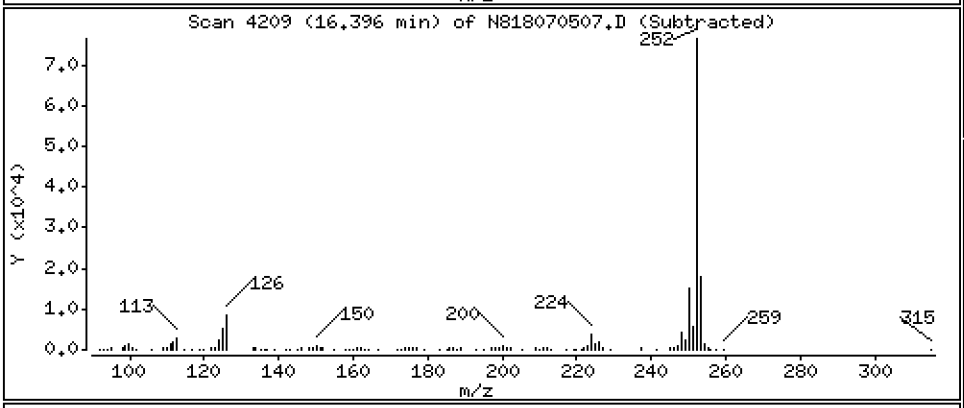
Column diameter: 0.25

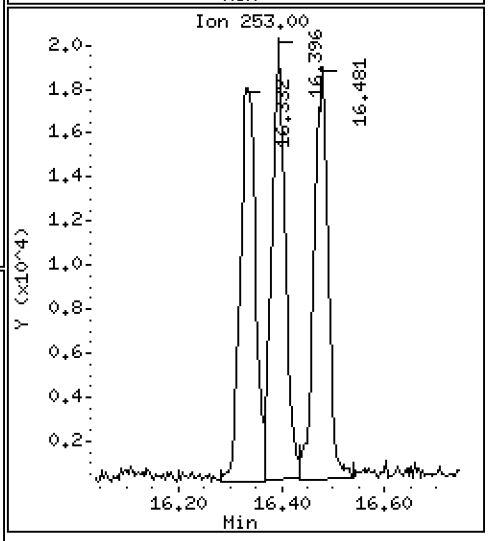
29 Benzo(k)fluoranthene

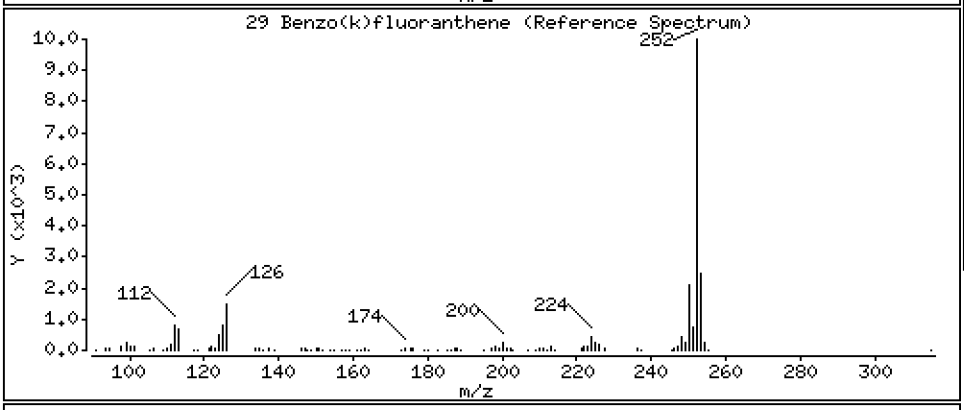
Concentration: 2.003 ug/mL

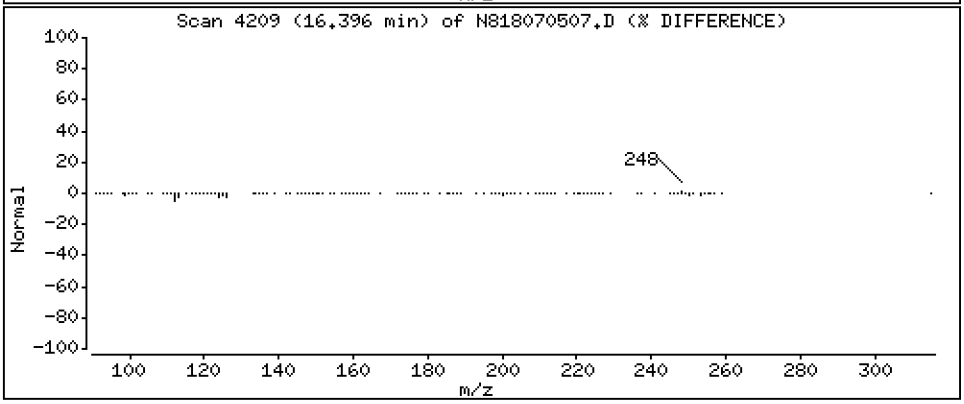












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

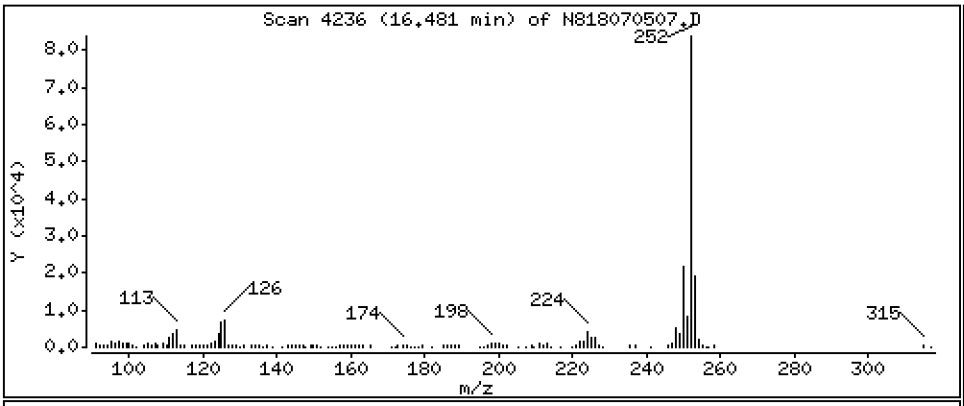
Operator: JZ

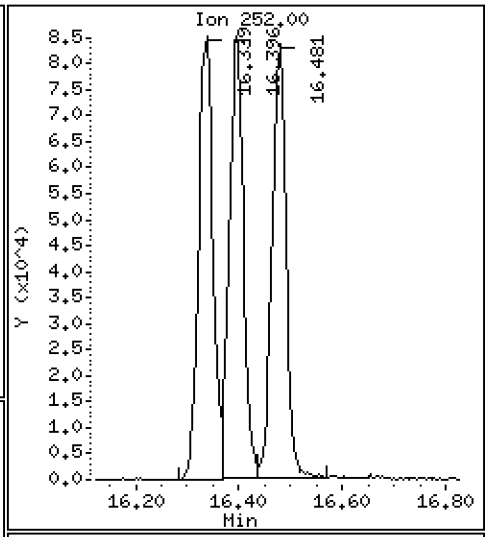
Column phase: Rxi-17sil

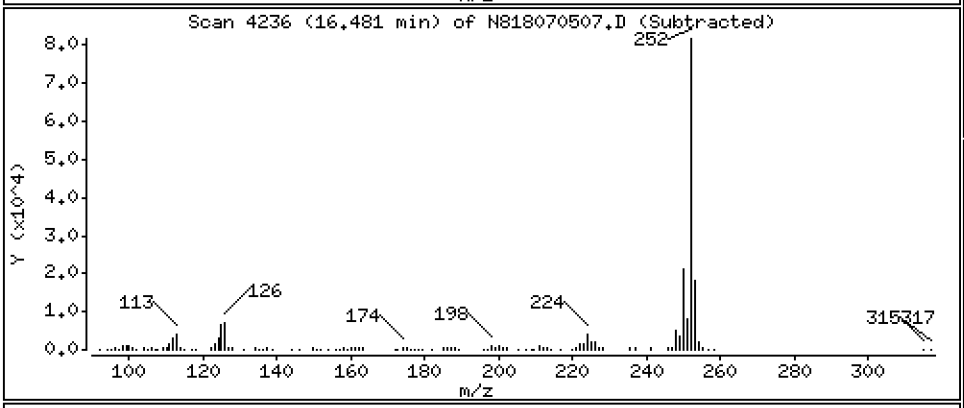
Column diameter: 0.25

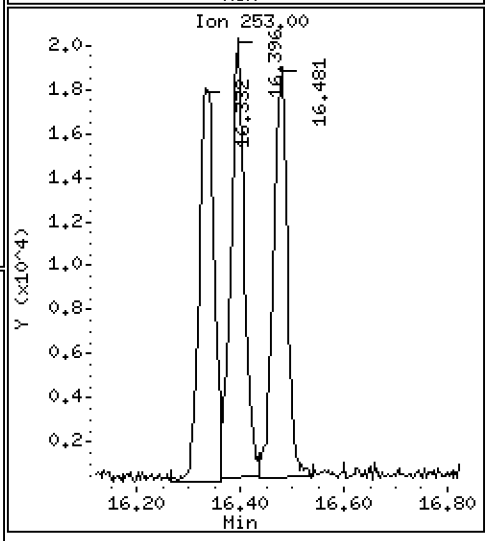
30 Benzo(j)fluoranthene

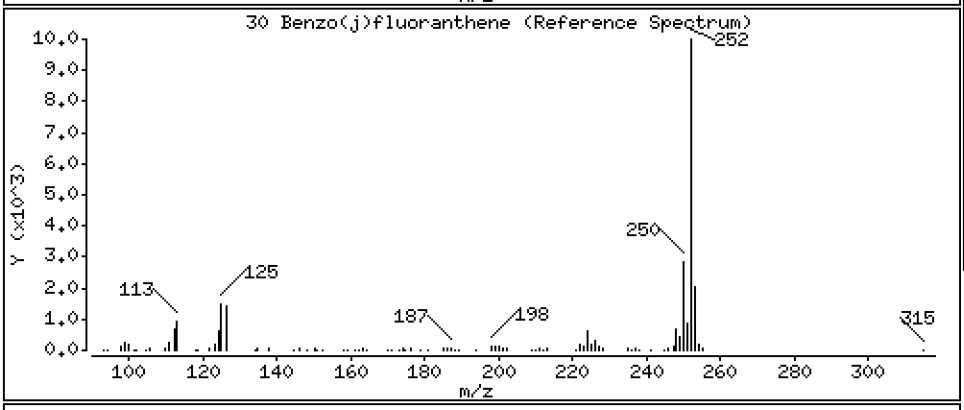
Concentration: 1.946 ug/mL

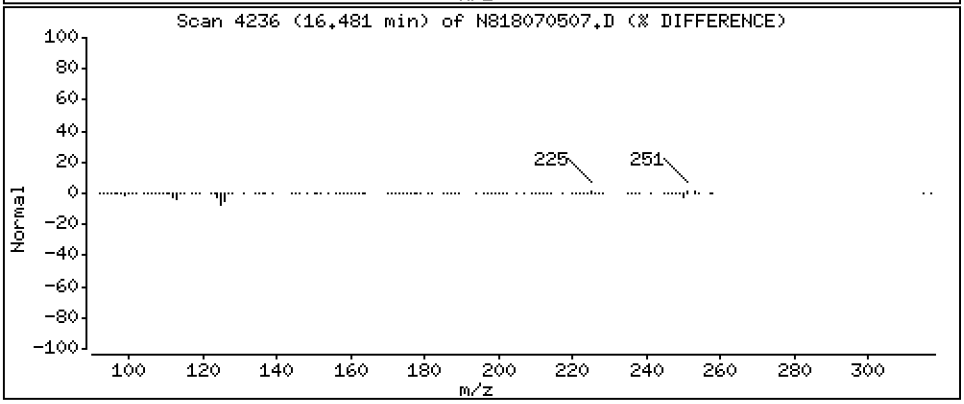












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

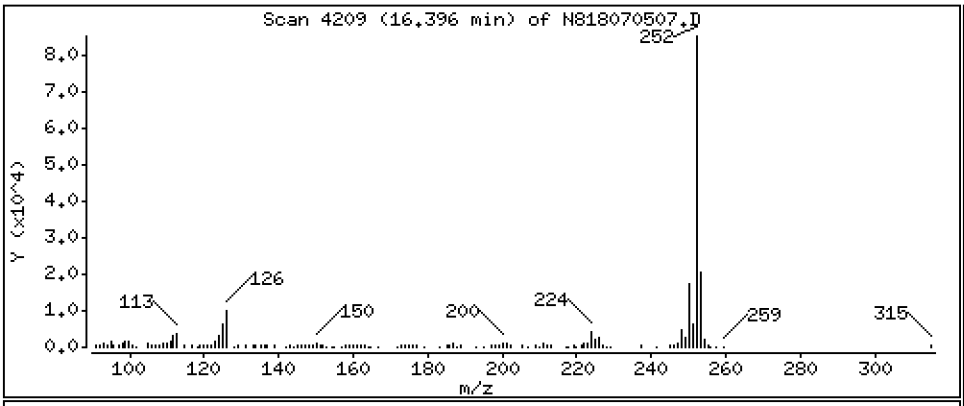
Operator: JZ

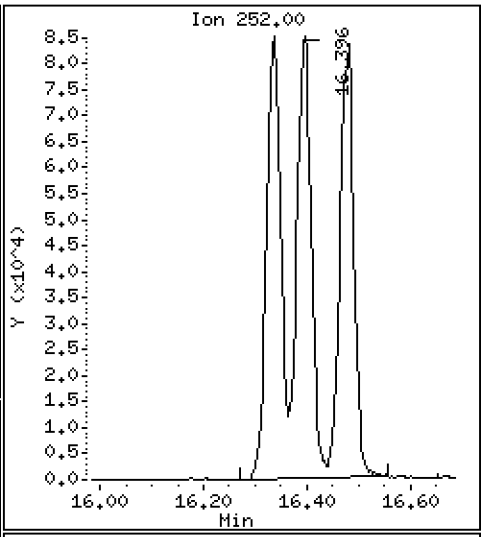
Column phase: Rxi-17sil

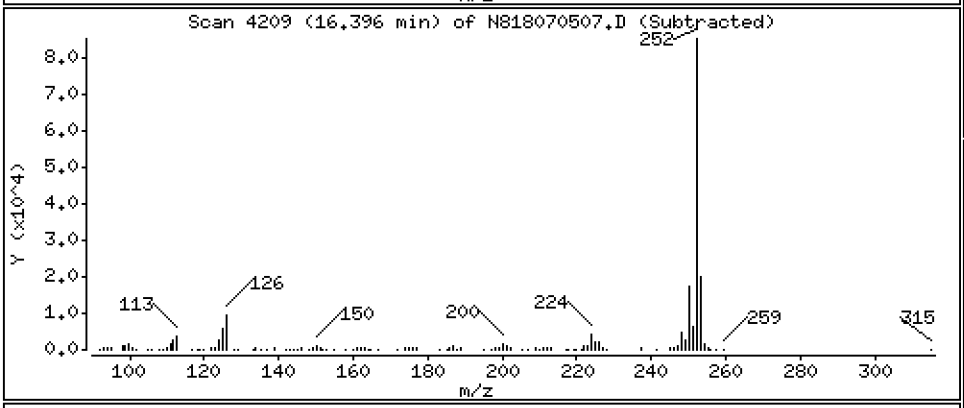
Column diameter: 0.25

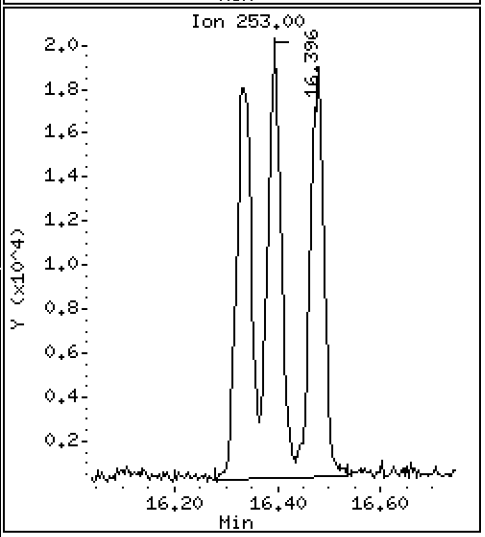
31 Total Benzofluoranthenes

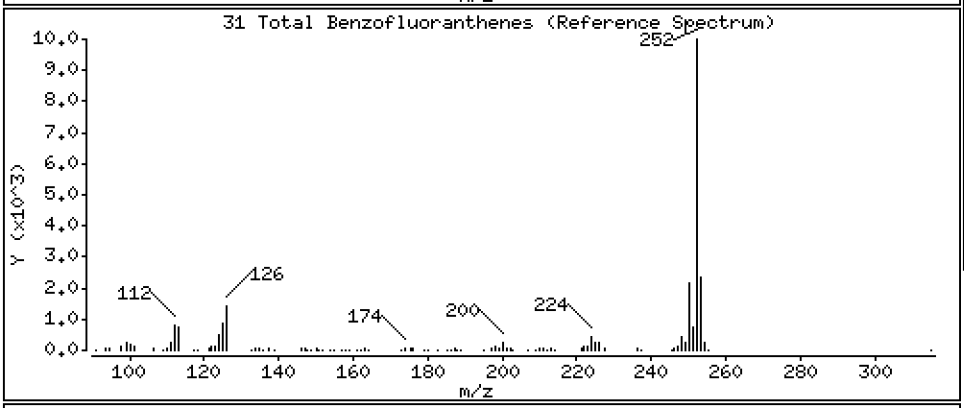
Concentration: 5.974 ug/mL

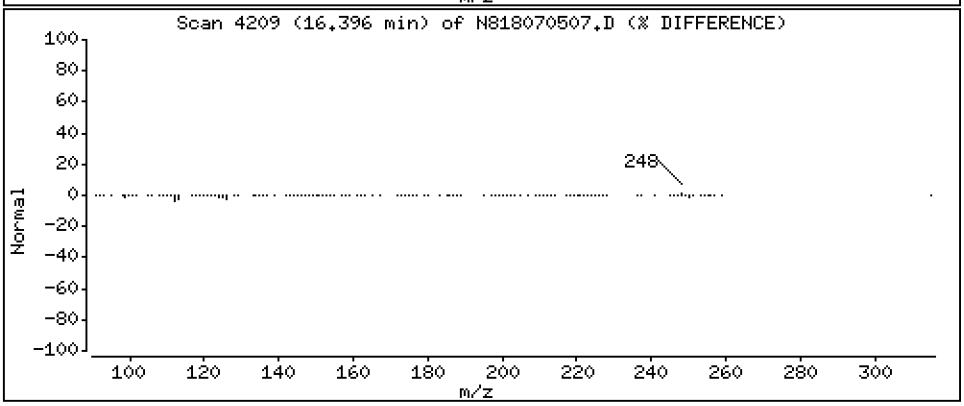












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

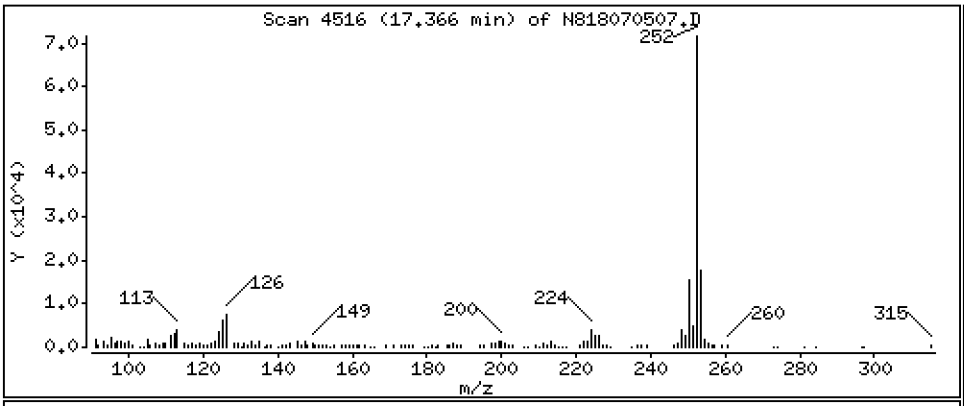
Operator: JZ

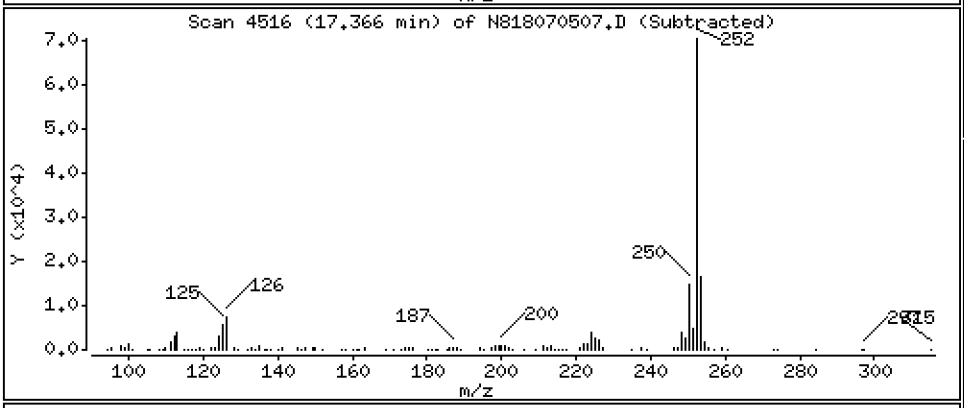
Column phase: Rxi-17sil

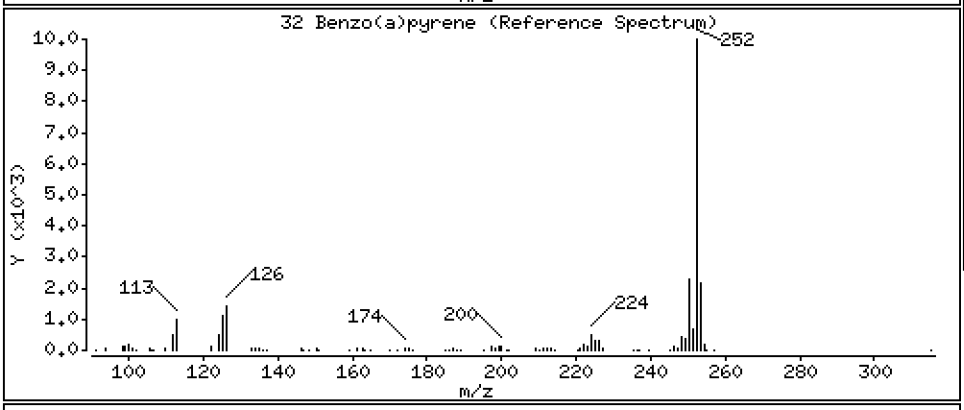
Column diameter: 0.25

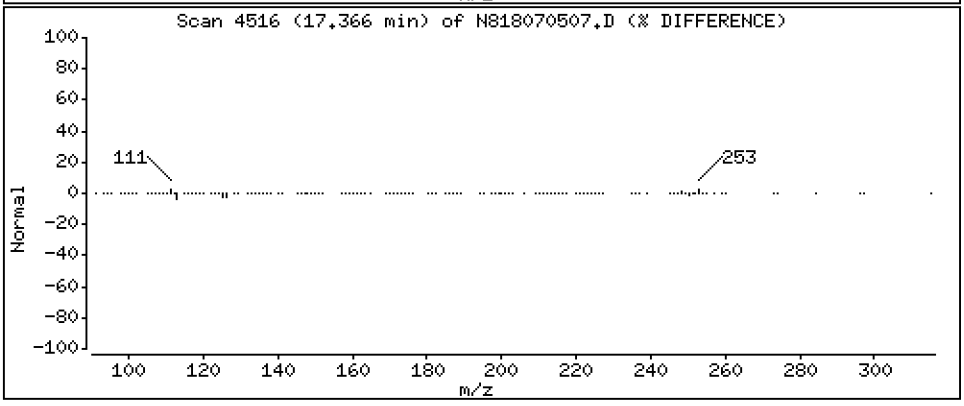
32 Benzo(a)pyrene

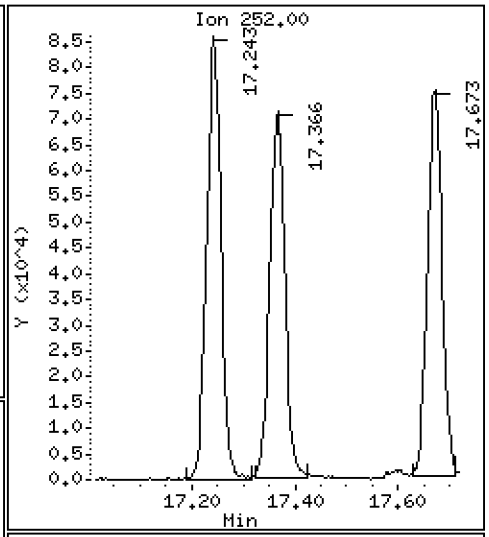
Concentration: 2.002 ug/mL

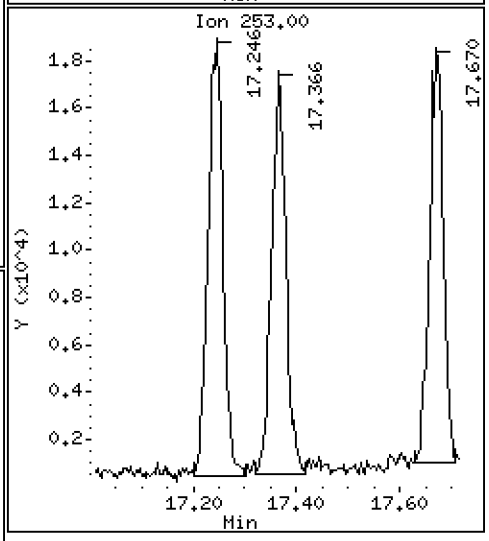












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

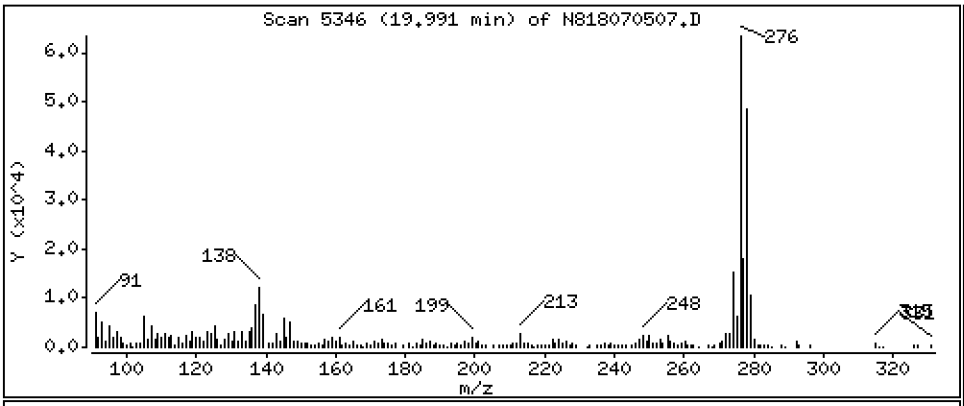
Operator: JZ

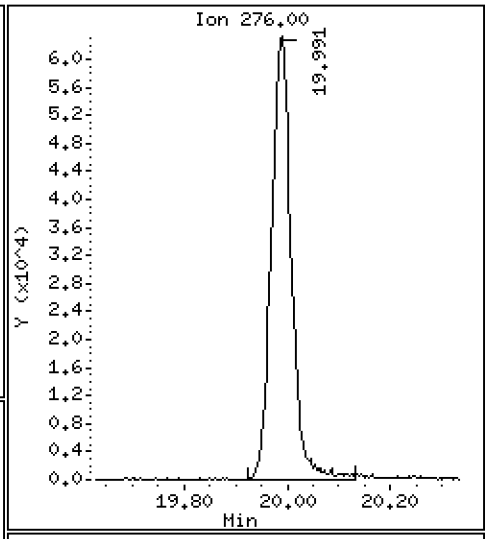
Column phase: Rxi-17sil

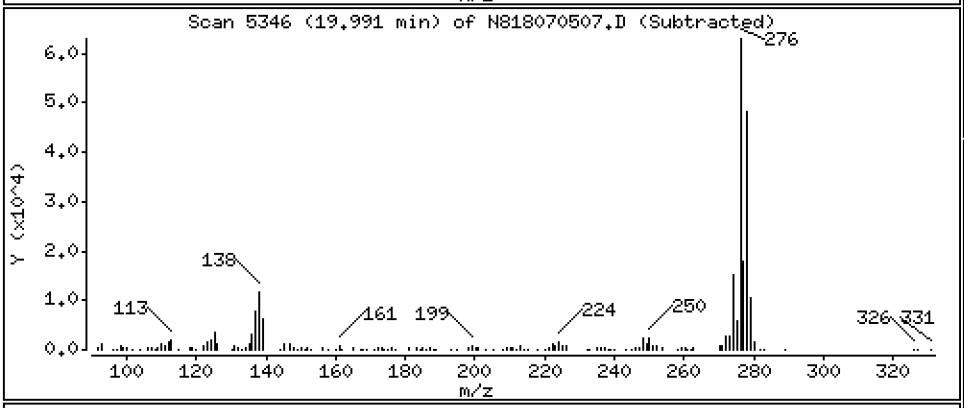
Column diameter: 0.25

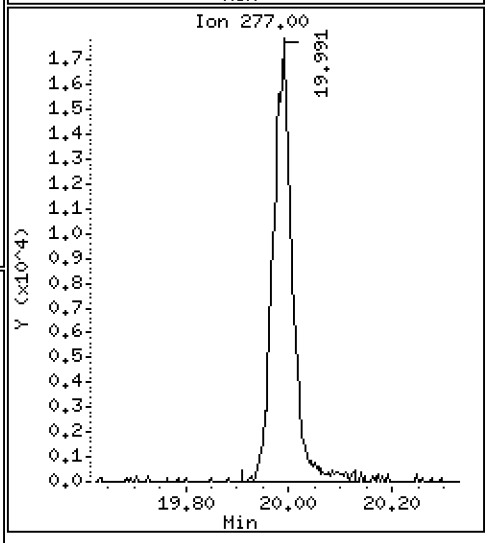
37 Indeno(1,2,3-cd)pyrene

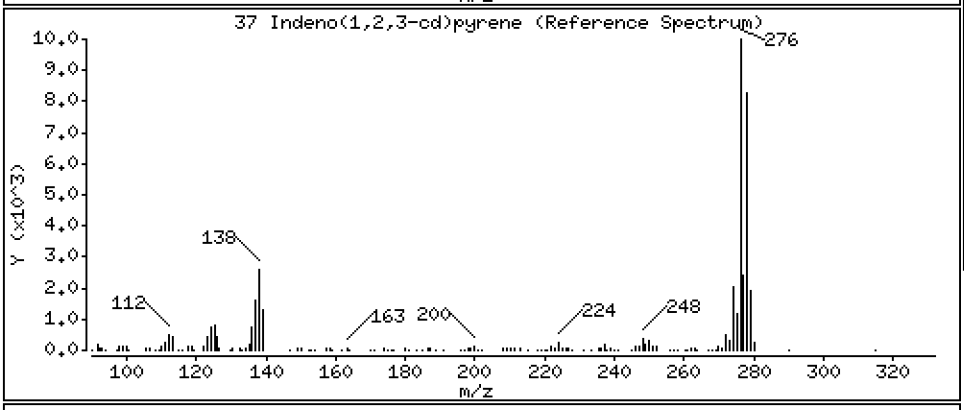
Concentration: 2.182 ug/mL

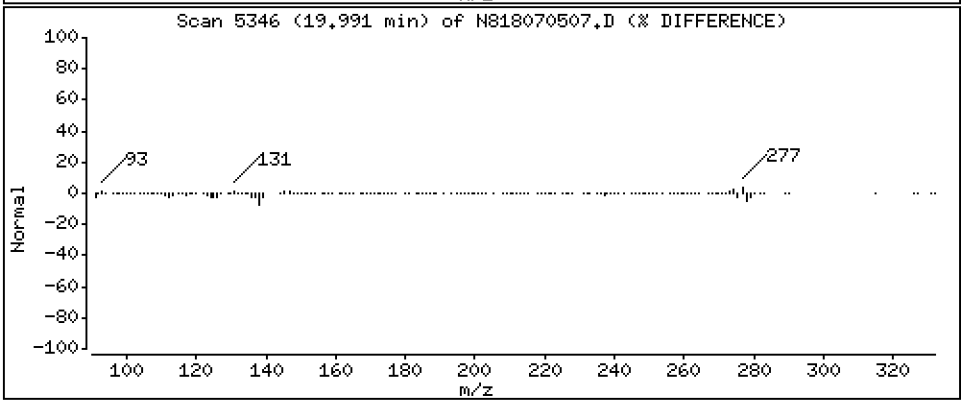












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

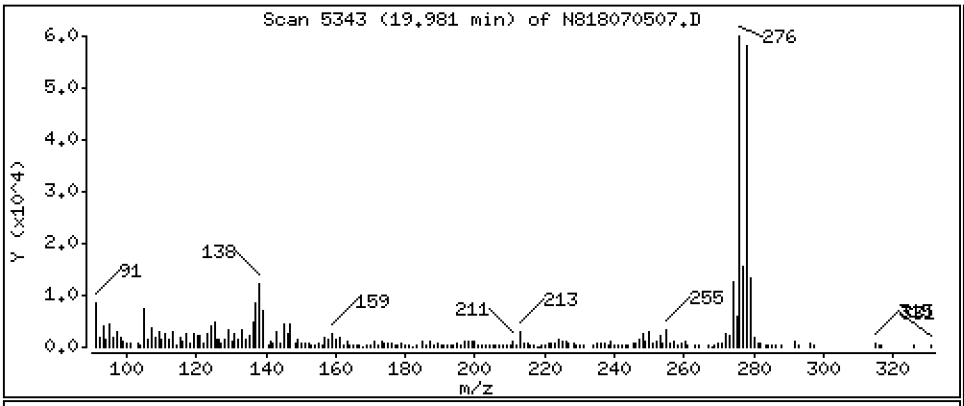
Operator: JZ

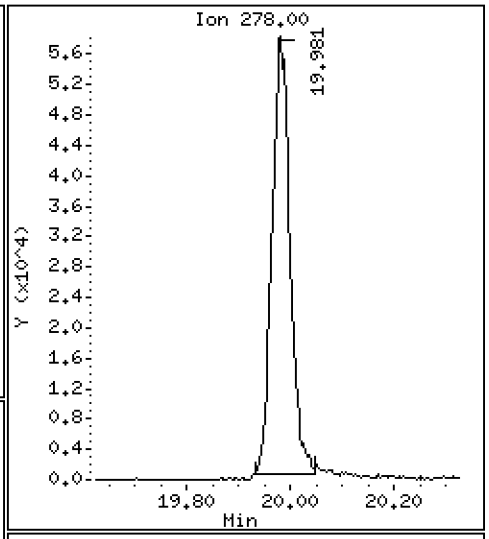
Column phase: Rxi-17sil

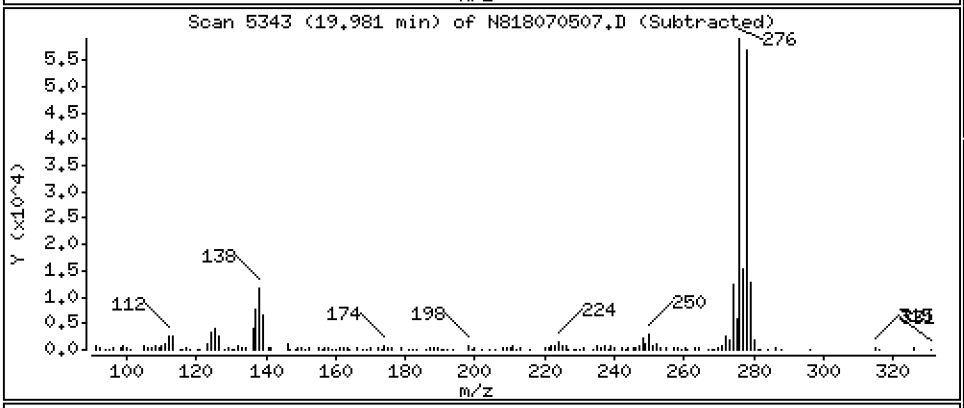
Column diameter: 0.25

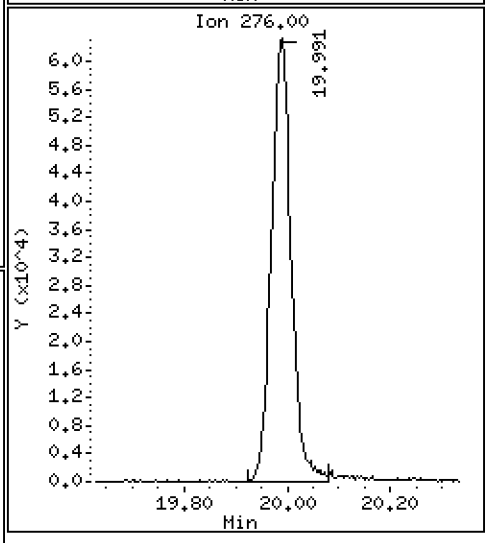
38 Dibenzo(a,h)anthracene

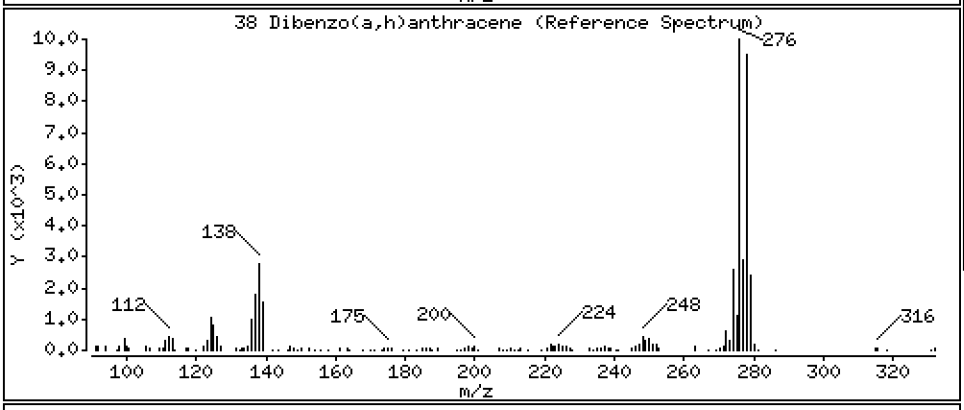
Concentration: 2.065 ug/mL

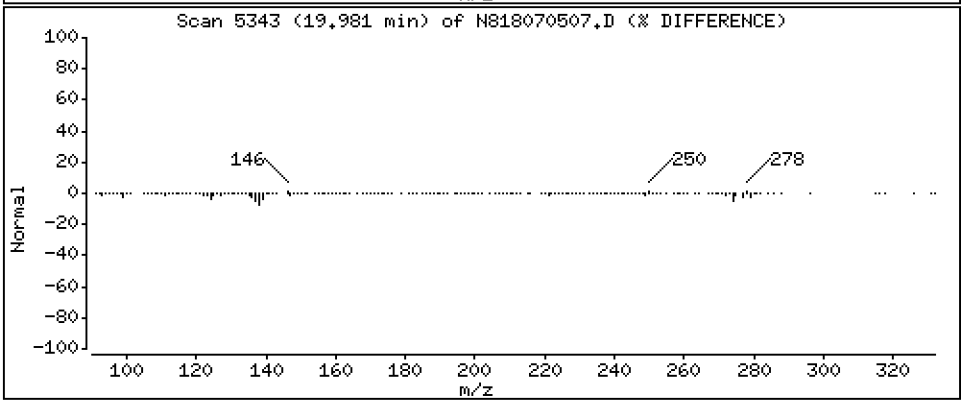












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

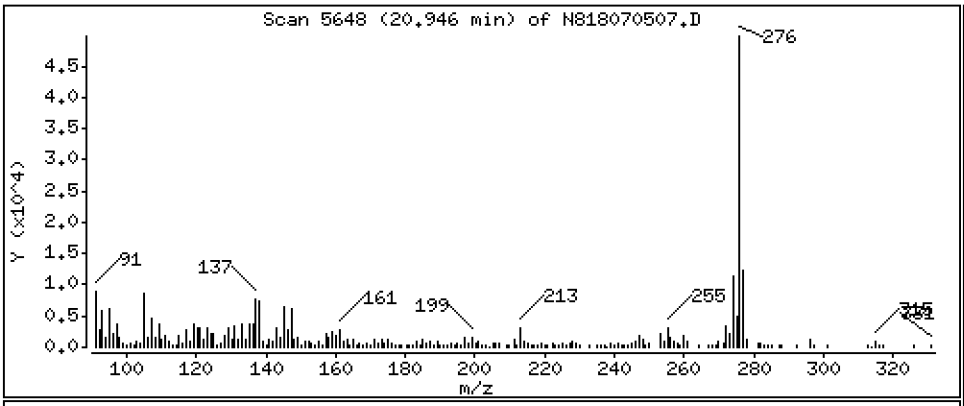
Operator: JZ

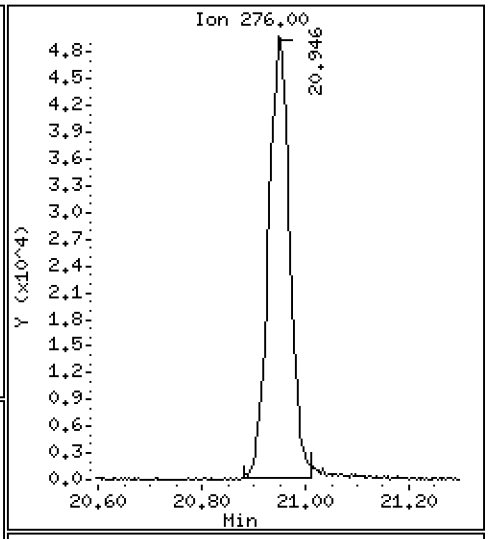
Column phase: Rxi-17sil

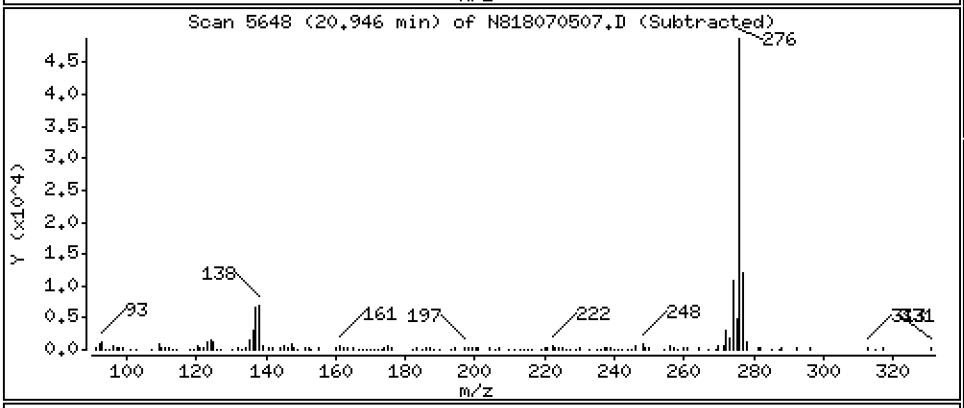
Column diameter: 0.25

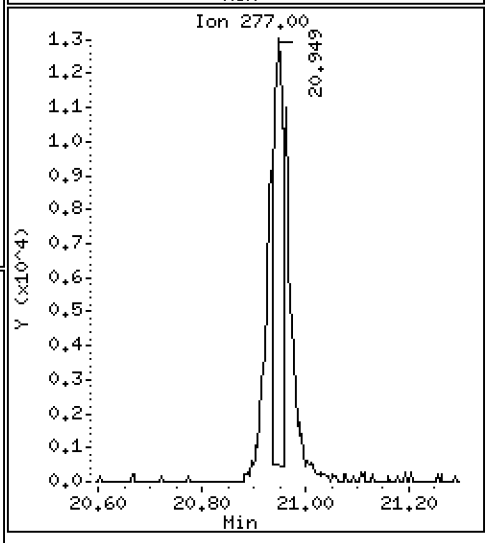
39 Benzo(g,h,i)perylene

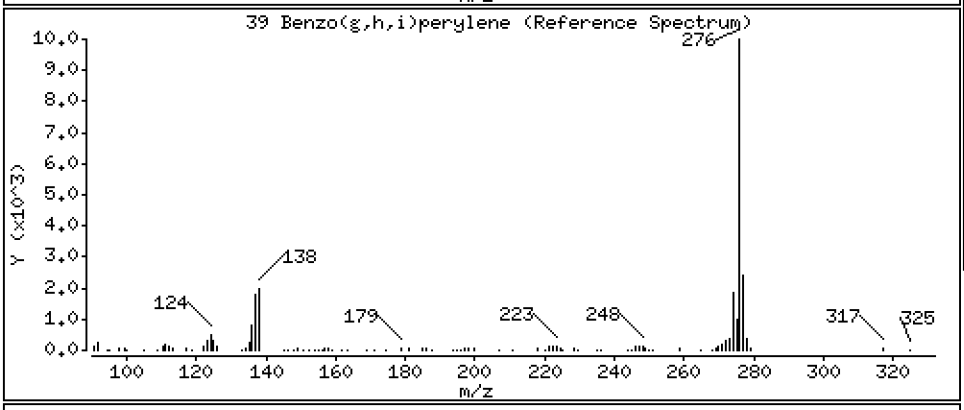
Concentration: 2.345 ug/mL

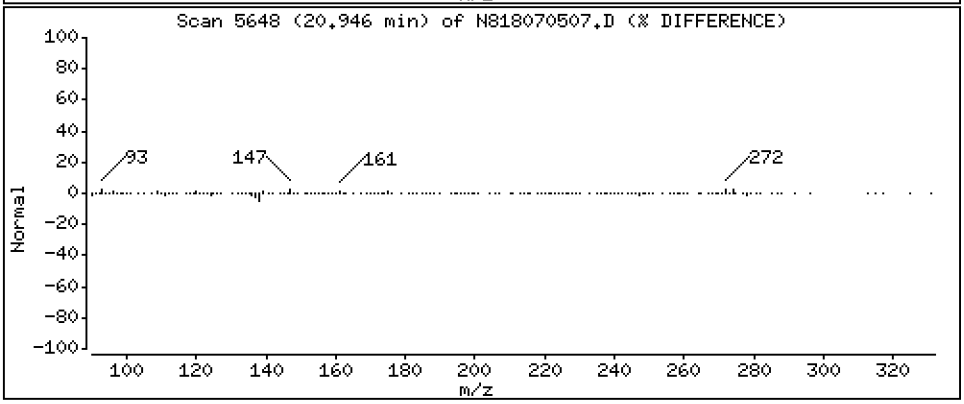












Data File: \\target\share\chem3\nt8.i\20180705.b\N818070507.D

Date : 05-JUL-2018 18:57

Client ID:

Instrument: nt8.i

Sample Info: BGF0721-MSD1,

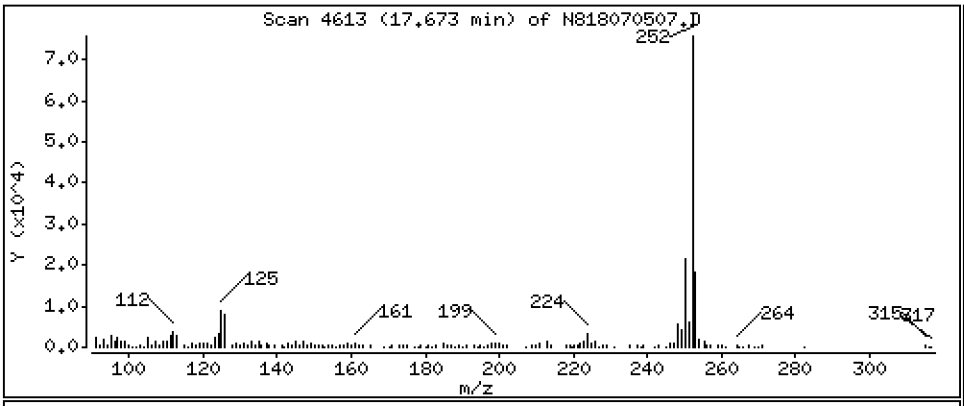
Operator: JZ

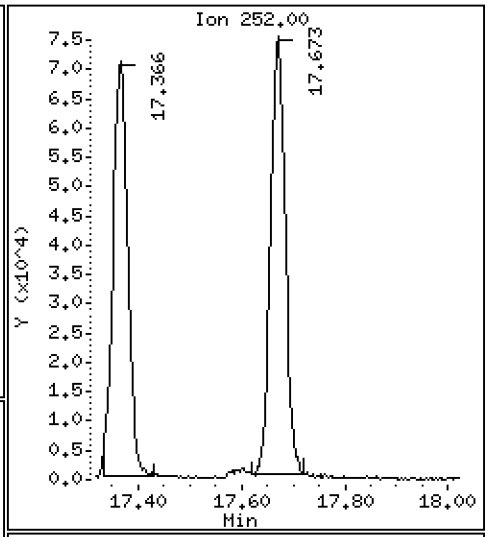
Column phase: Rxi-17sil

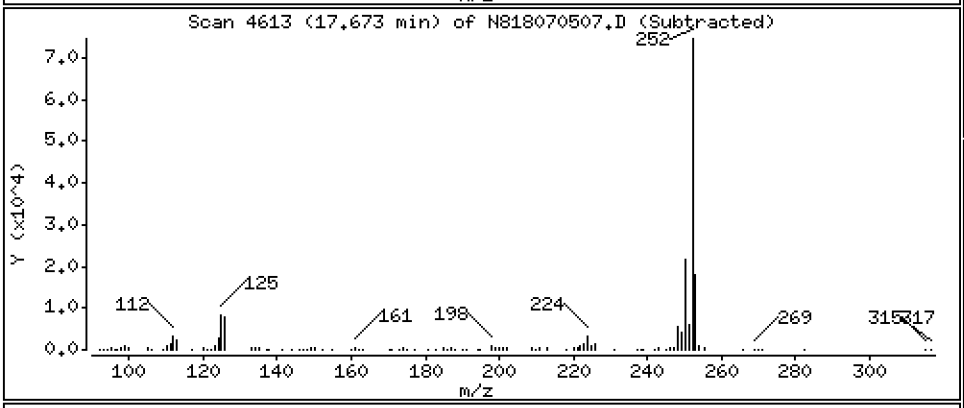
Column diameter: 0.25

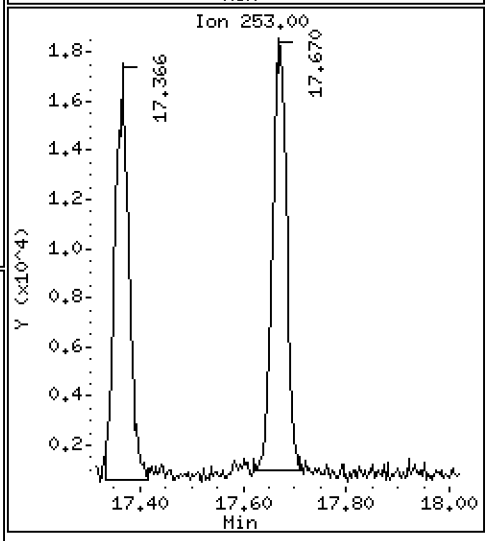
35 Perylene

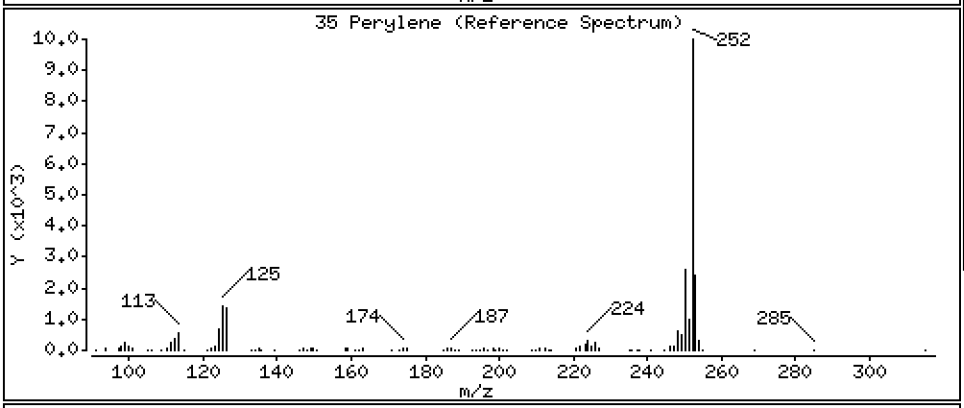
Concentration: 1.901 ug/mL

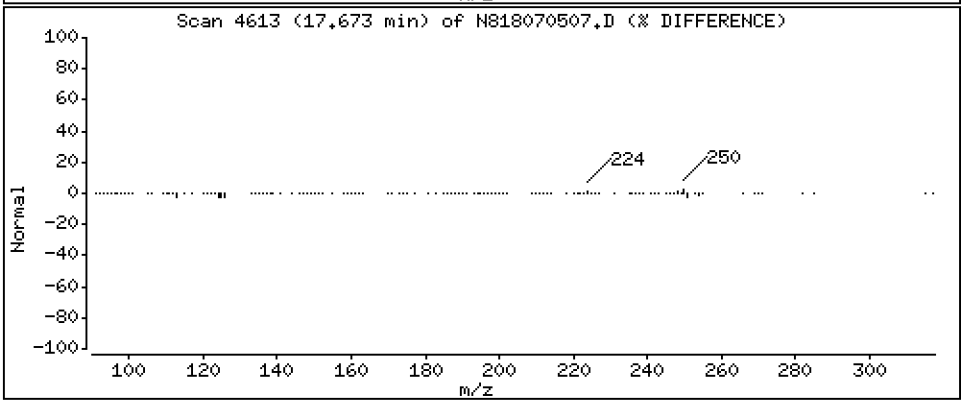












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070507.D
Lab Smp Id: BGF0721-MSD1
Inj Date : 05-JUL-2018 18:57
Operator : JZ Inst ID: nt8.i
Smp Info : BGF0721-MSD1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.734	4.743	(1.000)	104201	2.00000	
	2 Naphthalene	128	4.762	4.775	(1.006)	81271	1.39061	1.391
$	3 2-Methylnaphthalene-d10	152	5.464	5.470	(1.154)	60899	1.59105	1.591
	4 2-Methylnaphthalene	141	5.512	5.515	(1.164)	53140	1.56423	1.564
	5 1-methylnaphthalene	141	5.708	5.711	(1.206)	53929	1.58600	1.586
	9 Acenaphthylene	152	6.900	6.903	(0.984)	104097	1.77444	1.774
*	10 Acenaphthene-d10	164	7.014	7.013	(1.000)	57952	2.00000	
	11 Acenaphthene	153	7.061	7.061	(1.007)	73120	1.76754	1.768
	12 Dibenzofuran	168	7.206	7.209	(1.027)	103414	1.77990	1.780
	14 Fluorene	166	7.681	7.681	(1.095)	87083	1.88139	1.881
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	118102	2.00000	
	16 Phenanthrene	178	9.066	9.065	(1.004)	135028	2.06069	2.061
	17 Anthracene	178	9.104	9.100	(1.008)	114916	1.81059	1.811
	22 Fluoranthene	202	10.773	10.773	(1.193)	181552	2.36889	2.369
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	155735	2.05826	2.058
	23 Pyrene	202	11.266	11.266	(0.817)	177376	2.21149	2.211
	24 Benzo(a)anthracene	228	13.666	13.663	(0.991)	166778	2.08937	2.089
*	25 Chrysene-d12	240	13.793	13.786	(1.000)	138489	2.00000	
	27 Chrysene	228	13.862	13.859	(1.005)	162839	2.06618	2.066
	28 Benzo(b)fluoranthene	252	16.338	16.335	(0.928)	167248	2.05338	2.053
	29 Benzo(k)fluoranthene	252	16.395	16.389	(0.932)	165540	2.00322	2.003
	30 Benzo(j)fluoranthene	252	16.481	16.474	(0.936)	159002	1.94559	1.946
	31 Total Benzofluoranthenes	252	16.395	16.335	(0.932)	485220	5.97383	5.974(M)
	32 Benzo(a)pyrene	252	17.366	17.366	(0.987)	144999	2.00166	2.002
*	33 Perylene-d12	264	17.600	17.593	(1.000)	130232	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.990	19.981	(1.136)	173461	2.18153	2.182
$	36 Dibenzo(a,h)anthracene-d14	292	19.883	19.876	(1.130)	136085	2.28341	2.283
	38 Dibenzo(a,h)anthracene	278	19.981	19.974	(1.135)	140878	2.06482	2.065
	39 Benzo(g,h,i)perylene	276	20.945	20.945	(1.190)	142264	2.34455	2.345
	35 Perylene	252	17.673	17.669	(1.004)	150037	1.90070	1.901

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070507.D
Lab Smp Id: BGF0721-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 11:28
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	104201	6.40
10 Acenaphthene-d10	54983	27492	109966	57952	5.40
15 Phenanthrene-d10	115816	57908	231632	118102	1.97
25 Chrysene-d12	129167	64584	258334	138489	7.22
33 Perylene-d12	111506	55753	223012	130232	16.79

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.73	-0.19
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.05
33 Perylene-d12	17.59	17.09	18.09	17.60	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070507.D

Lab ID: BGF0721-MSD1
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 18:57

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

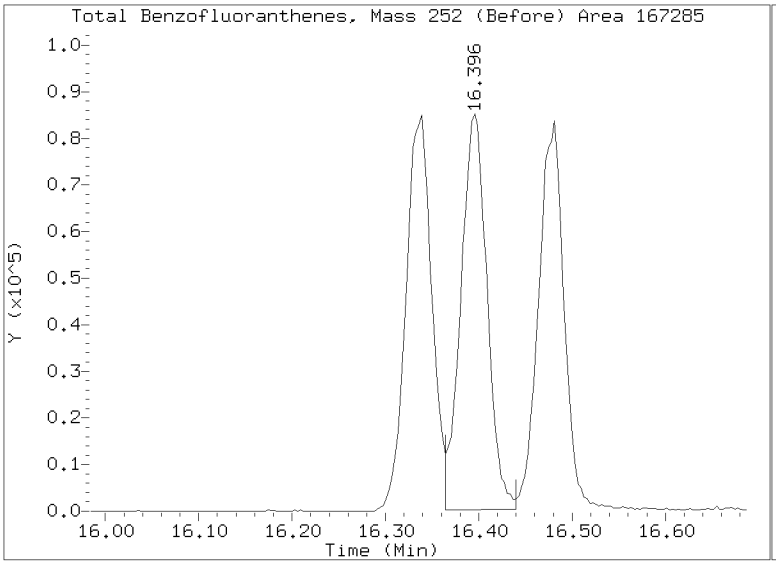
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, pnax.sub = 0.0500

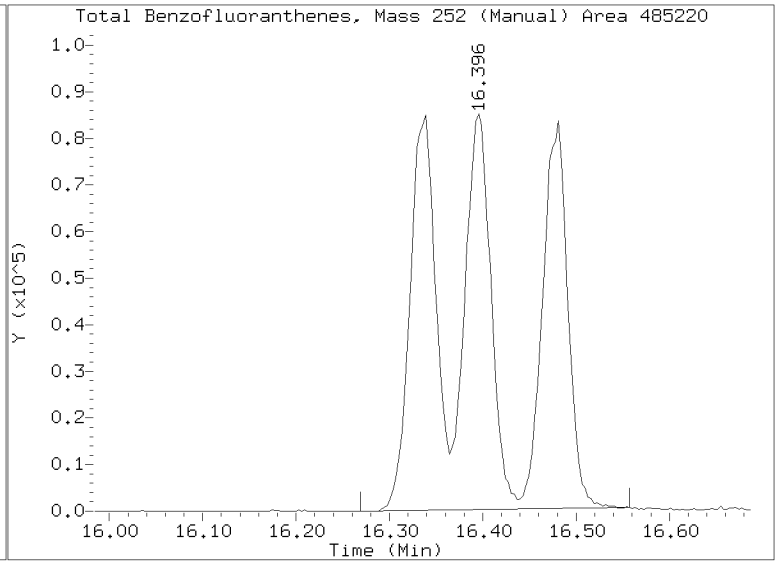
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070507.D
Injection Date: 05-JUL-2018 18:57
Lab ID:BGF0721-MSD1 Client ID:
Report Date: 07/09/2018 10:17





Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

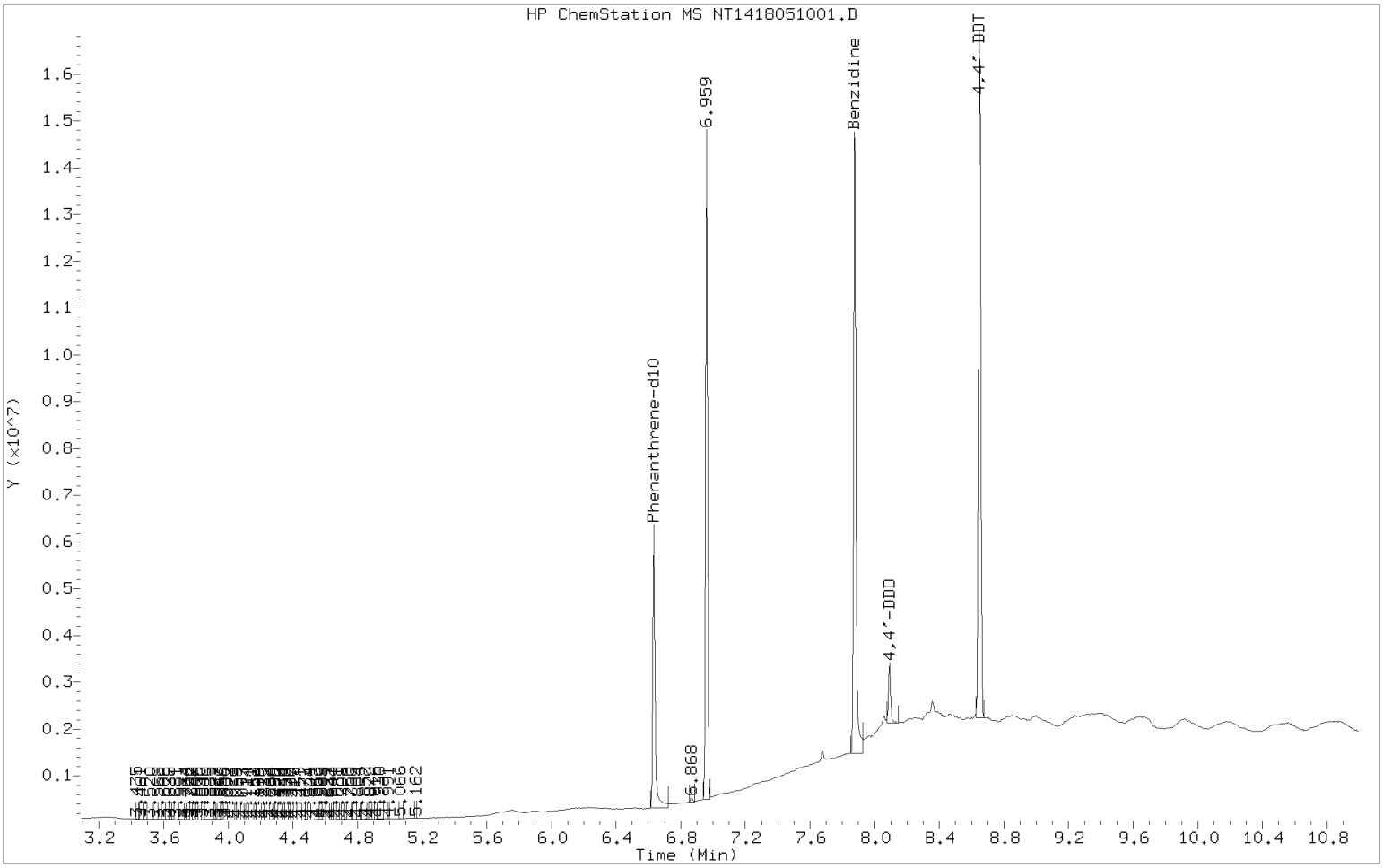
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1418051001.D	Injection Date:	05/10/18
Instrument ID:	NT14	Injection Time:	07:47
Sequence:	SGE0153	Lab Sample ID:	SGE0153-TUN1

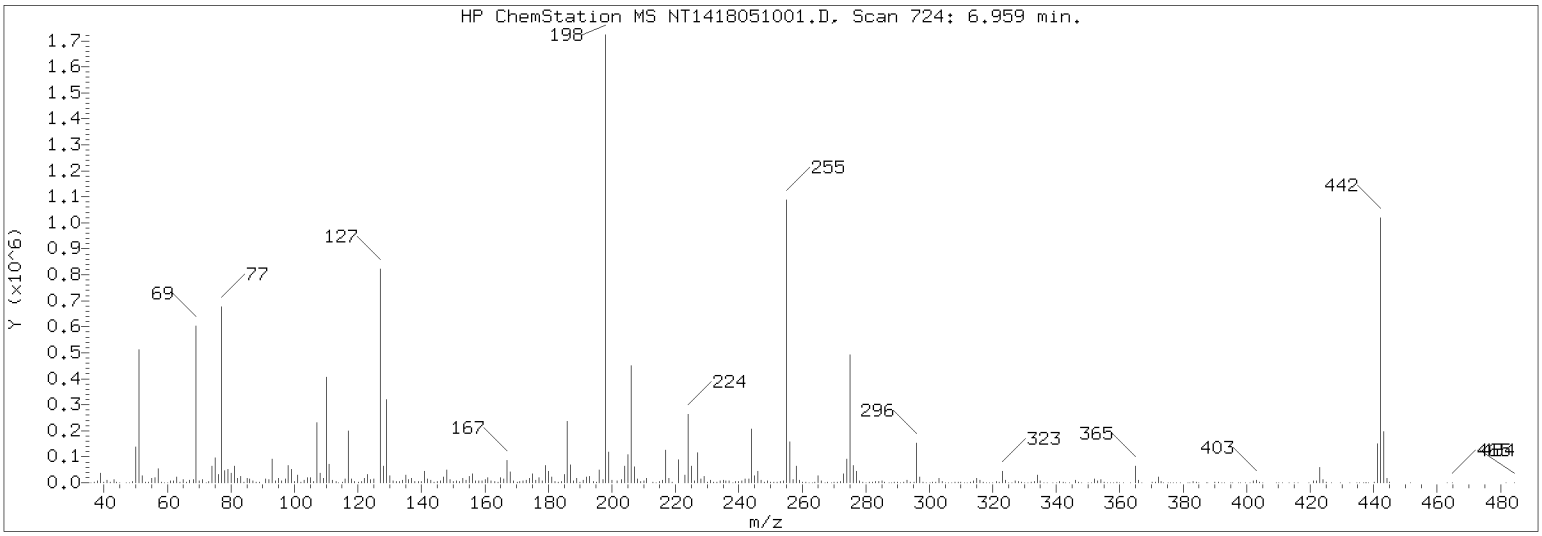
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	30	PASS
68	Less than 2% of 69	1.58	PASS
69	Less than 100% of 198	34.2	PASS
70	Less than 2% of 69	0.563	PASS
127	10 - 80% of 198	47.3	PASS
197	Less than 2% of 198	0.547	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.82	PASS
275	10 - 60% of 198	29.5	PASS
365	1 - 100% of 198	3.98	PASS
441	0.1 - 24% of 442	14.4	PASS
442	50 - 200% of 198	66.5	PASS
443	15 - 24% of 442	19.4	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGE0153-TUN1	NT1418051001.D	05/10/2018	7:47
Cal Standard	SGE0153-CAL4	NT1418051003.D	05/10/2018	8:26
Cal Standard	SGE0153-CAL6	NT1418051004.D	05/10/2018	8:40
Cal Standard	SGE0153-CAL1	NT1418051005.D	05/10/2018	8:53
Cal Standard	SGE0153-CAL5	NT1418051006.D	05/10/2018	9:07
Cal Standard	SGE0153-CAL2	NT1418051007.D	05/10/2018	9:20
Cal Standard	SGE0153-CAL3	NT1418051008.D	05/10/2018	9:34
Initial Cal Check	SGE0153-ICV1	NT1418051009.D	05/10/2018	9:47
Blank	BGE0111-BLK1	NT1418051010.D	05/10/2018	10:09
LCS	BGE0111-BS1	NT1418051011.D	05/10/2018	10:23
ZZZZZ	18D0363-01	NT1418051012.D	05/10/2018	10:36
ZZZZZ	18E0006-05	NT1418051013.D	05/10/2018	10:50
ZZZZZ	18E0006-06	NT1418051014.D	05/10/2018	11:03
ZZZZZ	18E0006-07	NT1418051017.D	05/10/2018	11:44
ZZZZZ	18E0009-01	NT1418051018.D	05/10/2018	11:57
ZZZZZ	18E0009-02	NT1418051019.D	05/10/2018	12:11
ZZZZZ	18E0009-03	NT1418051020.D	05/10/2018	12:24
ZZZZZ	18E0009-04	NT1418051021.D	05/10/2018	12:38
ZZZZZ	18E0009-06	NT1418051022.D	05/10/2018	12:52
Calibration Check	SGE0153-CCV1	NT1418051023.D	05/10/2018	13:05

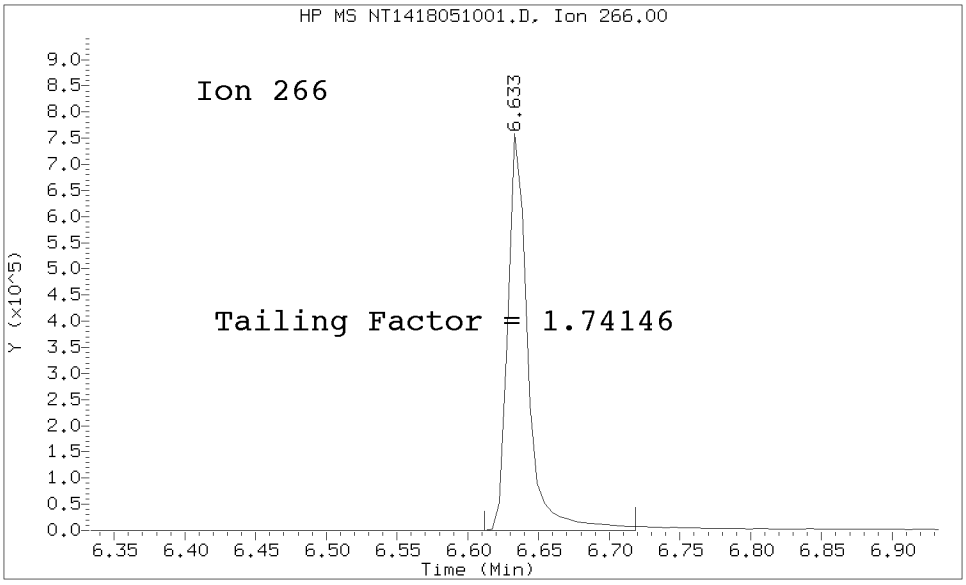
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180510.b/NT1418051001.D/NT1418051001.D
Method Used: \20180510.b\df8270.m Inst: nt14
Injection Date: 10-MAY-2018 07:47 Operator: VTS
Sample Info: SGE0153-TUN1 SGE0153-TUN1
Report Date: 05/10/2018 13:56



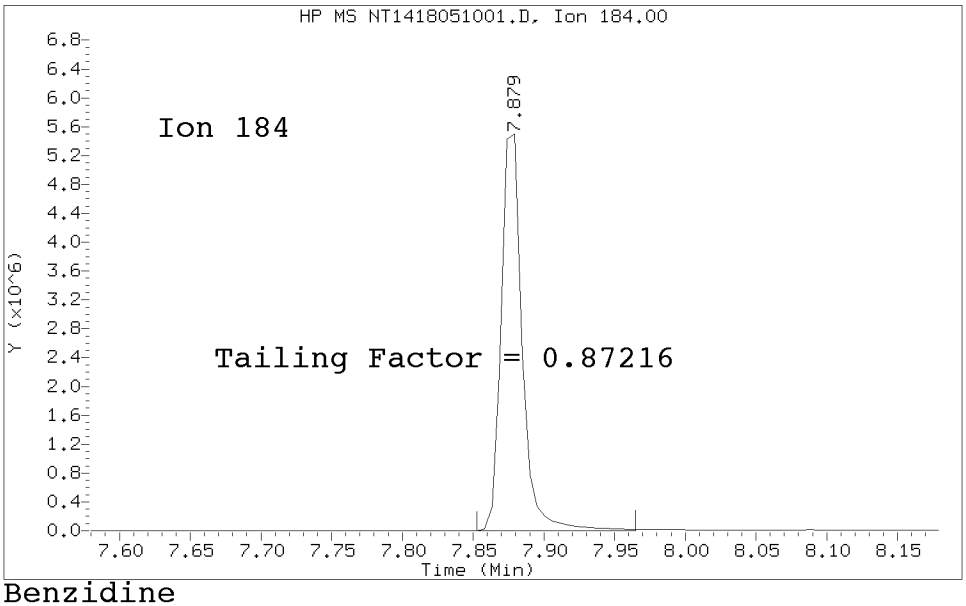


Datafile Analyzed: /20180510.b/NT1418051001.D/NT1418051001.D
Method Used: \20180510.b\df8270.m\sw846ddt.m Inst: nt14
Injection Date: 10-MAY-2018 07:47 Operator: VTS
Sample Info: SGE0153-TUN1
Report Date: 05/10/2018 13:56



Pentachlorophenol
==========
Exp. RT = 6.633
Found RT = 6.633

Tail Factor = 1.741 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.879
Found RT = 7.879

Tail Factor = 0.872 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.7414634	2.000	PASS
Benzidine	0.8721560	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2947001			N/A
4,4-DDE	21220	0.7	20.0	PASS
4,4-DDD	48993	1.6	20.0	PASS
4,4-DDD + DDE	70213	2.3	20.0	PASS

Tuning Sample, nt14.i/20180510.b/NT1418051001.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	30.02
68	Less than 2.00% of mass 69	0.54 (1.58)
69	Mass 69 relative abundance	34.22
70	Less than 2.00% of mass 69	0.19 (0.56)
127	10.00 - 80.00% of mass 198	47.25
197	Less than 2.00% of mass 198	0.55
199	5.00 - 9.00% of mass 198	6.82
275	10.00 - 60.00% of mass 198	29.55
365	Greater than 1.00% of mass 198	3.98
441	0.01 - 24.00% of mass 442	9.59 (14.43)
442	50.00 - 200.00% of mass 198	66.47
443	15.00 - 24.00% of mass 442	12.87 (19.36)

Data File: NT1418051001.D
Spectrum: Avg. Scans 723-725 (6.96), Background Scan 718
Location of Maximum: 198.00
Number of points: 393

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	221	139.00	1137	239.00	3379	341.00	3927
37.00	1457	140.00	2824	240.00	2691	342.00	1204
38.00	4335	141.00	30792	241.00	4861	343.00	67
39.00	27312	142.00	9921	242.00	10626	344.00	332
40.00	1268	143.00	6545	243.00	11121	345.00	54
42.00	252	144.00	1924	244.00	155008	346.00	8156
45.00	610	145.00	1688	245.00	20424	347.00	1313
46.00	73	146.00	5591	246.00	32480	348.00	132
48.00	291	147.00	16136	247.00	5664	349.00	59
49.00	2654	148.00	36336	248.00	1267	350.00	337
50.00	102976	149.00	7450	249.00	5249	351.00	662
51.00	382848	150.00	1812	250.00	880	352.00	10745
52.00	19480	151.00	3509	251.00	1311	353.00	6335
53.00	1153	152.00	1833	252.00	1423	354.00	9868
54.00	329	153.00	10468	253.00	3241	355.00	1676
55.00	1777	154.00	7273	254.00	5144	356.00	427
56.00	11173	155.00	17144	255.00	816064	357.00	50
57.00	25064	156.00	26232	256.00	117856	358.00	159
58.00	962	157.00	4338	257.00	8739	359.00	726
59.00	295	158.00	5805	258.00	50248	360.00	247
60.00	369	159.00	3977	259.00	7444	361.00	187
61.00	5053	160.00	9598	260.00	1233	362.00	88
62.00	6177	161.00	13711	261.00	1572	363.00	5
63.00	16271	162.00	4523	262.00	445	365.00	50800
64.00	2304	163.00	1102	263.00	995	366.00	7564
65.00	8009	164.00	1477	264.00	993	367.00	352
66.00	511	165.00	10992	265.00	20688	368.00	161
67.00	1148	166.00	9812	266.00	3018	370.00	916
68.00	6904	167.00	63648	267.00	493	371.00	2590
69.00	436480	168.00	31968	268.00	272	372.00	16616
70.00	2456	169.00	5231	270.00	791	373.00	4232
71.00	550	170.00	2229	271.00	1434	374.00	629
72.00	28	171.00	3055	272.00	2459	375.00	21
73.00	3021	172.00	5546	273.00	24760	376.00	249
74.00	47968	173.00	7289	274.00	67280	377.00	342
75.00	72416	174.00	13094	275.00	376832	378.00	105
76.00	24680	175.00	24672	276.00	49360	379.00	148
77.00	506560	176.00	6792	277.00	33968	382.00	187
78.00	34632	177.00	11965	278.00	5698	383.00	4107
79.00	33968	178.00	3861	279.00	955	384.00	1378
80.00	25880	179.00	47248	280.00	191	385.00	249
81.00	37624	180.00	33568	281.00	448	386.00	116
82.00	8932	181.00	15364	282.00	783	387.00	277
83.00	7630	182.00	2185	283.00	3542	388.00	50
84.00	852	183.00	1155	284.00	2764	389.00	111
85.00	6677	184.00	3314	285.00	5650	390.00	2164
86.00	9925	185.00	23312	286.00	956	391.00	1329
87.00	4808	186.00	177152	287.00	107	392.00	1015
88.00	1732	187.00	51936	288.00	331	393.00	95

89.00	818	188.00	5017	289.00	1512	395.00	342
90.00	173	189.00	11508	290.00	949	396.00	148
91.00	8134	190.00	1978	291.00	616	397.00	119
92.00	8784	191.00	5125	292.00	1314	398.00	93
93.00	62960	192.00	15512	293.00	7886	399.00	41
94.00	4037	193.00	16936	294.00	2082	401.00	1002
95.00	584	194.00	3288	295.00	2212	402.00	5611
96.00	1771	195.00	923	296.00	116096	403.00	8040
97.00	1643	196.00	35976	297.00	15722	404.00	2712
98.00	48328	197.00	6978	298.00	1020	405.00	582
99.00	36960	198.00	1275392	299.00	292	408.00	51
100.00	3083	199.00	86944	300.00	199	409.00	74
101.00	22080	200.00	6531	301.00	1275	410.00	238
102.00	1239	201.00	5304	302.00	2162	413.00	169
103.00	6414	203.00	9303	303.00	13294	415.00	396
104.00	13190	204.00	48584	304.00	3352	417.00	56
105.00	13020	205.00	80440	305.00	428	418.00	55
106.00	3576	206.00	335104	306.00	187	419.00	142
107.00	168064	207.00	43288	307.00	157	420.00	123
108.00	25920	208.00	11356	308.00	1777	421.00	6482
109.00	5510	209.00	3273	309.00	1416	422.00	6593
110.00	295552	210.00	4883	310.00	1410	423.00	47304
111.00	45856	211.00	12603	311.00	264	424.00	9380
112.00	5629	212.00	346	312.00	692	425.00	1068
113.00	1533	213.00	981	313.00	1035	429.00	182
114.00	73	214.00	177	314.00	5065	430.00	52
115.00	681	215.00	3704	315.00	12541	432.00	134
116.00	9393	216.00	7049	316.00	7033	435.00	262
117.00	147904	217.00	93096	317.00	1218	436.00	243
118.00	10462	218.00	11557	318.00	88	437.00	463
119.00	795	219.00	1034	319.00	84	438.00	502
120.00	2253	220.00	825	320.00	372	439.00	16
121.00	735	221.00	63016	321.00	3101	440.00	463
122.00	10809	222.00	2536	322.00	1694	441.00	122360
123.00	18352	223.00	20832	323.00	33392	442.00	847808
124.00	7908	224.00	197504	324.00	6624	443.00	164096
125.00	7894	225.00	49176	325.00	604	444.00	15011
126.00	1243	226.00	5331	326.00	545	445.00	855
127.00	602624	227.00	85768	327.00	6409	451.00	55
128.00	46128	228.00	11550	328.00	3595	452.00	55
129.00	236672	229.00	17200	329.00	756	453.00	55
130.00	19784	230.00	2182	330.00	457	463.00	63
131.00	4017	231.00	7069	332.00	2551	465.00	66
132.00	1754	232.00	1042	333.00	3045	473.00	51
133.00	922	233.00	1500	334.00	22968	481.00	62
134.00	6428	234.00	5028	335.00	5692	482.00	110
135.00	19336	235.00	6103	336.00	841	484.00	54
136.00	7535	236.00	4543	337.00	268		
137.00	10688	237.00	6257	339.00	747		
138.00	2160	238.00	847	340.00	633		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

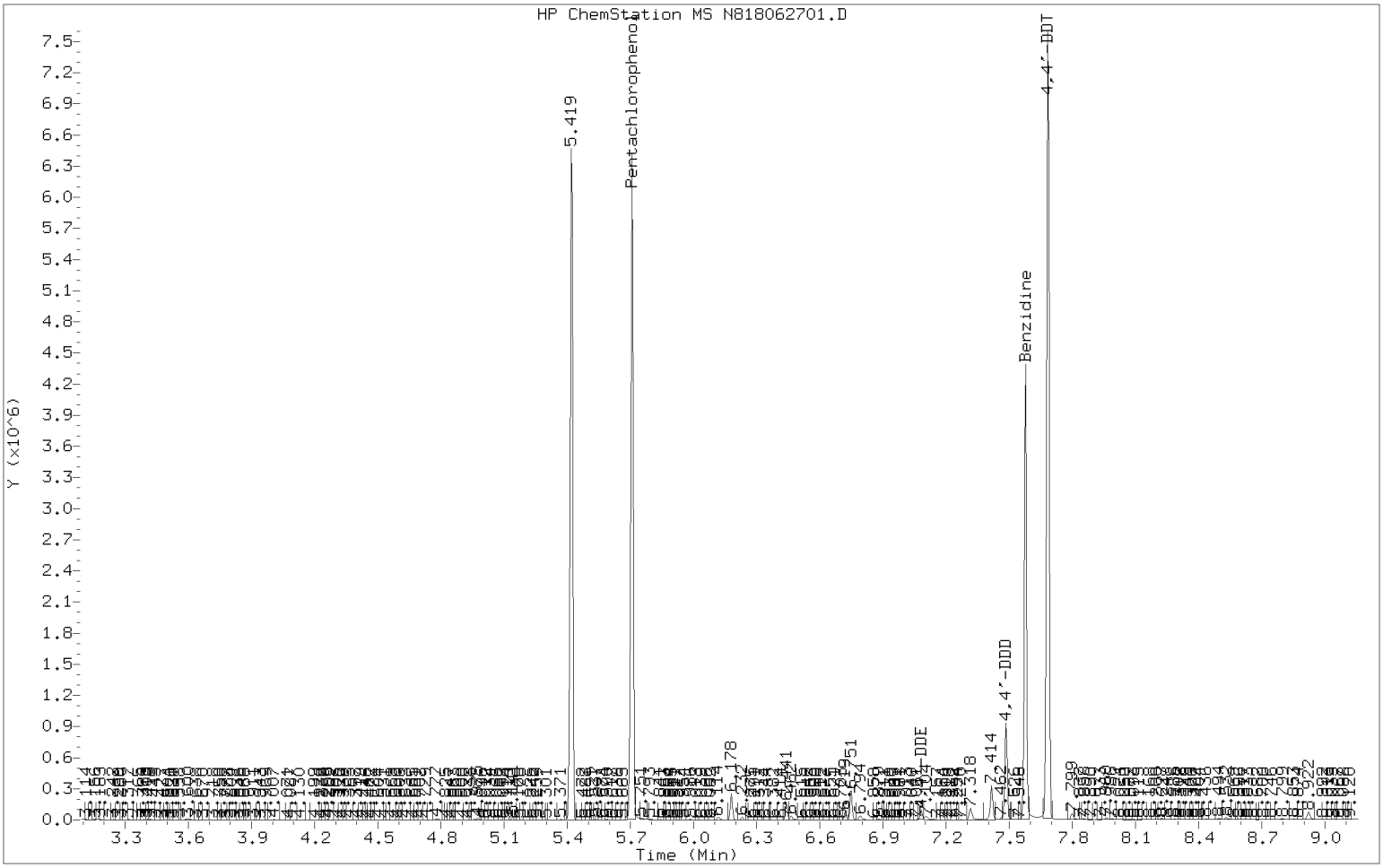
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	N818062701.D	Injection Date:	06/27/18
Instrument ID:	NT8	Injection Time:	16:02
Sequence:	SGF0354	Lab Sample ID:	SGF0354-TUN1

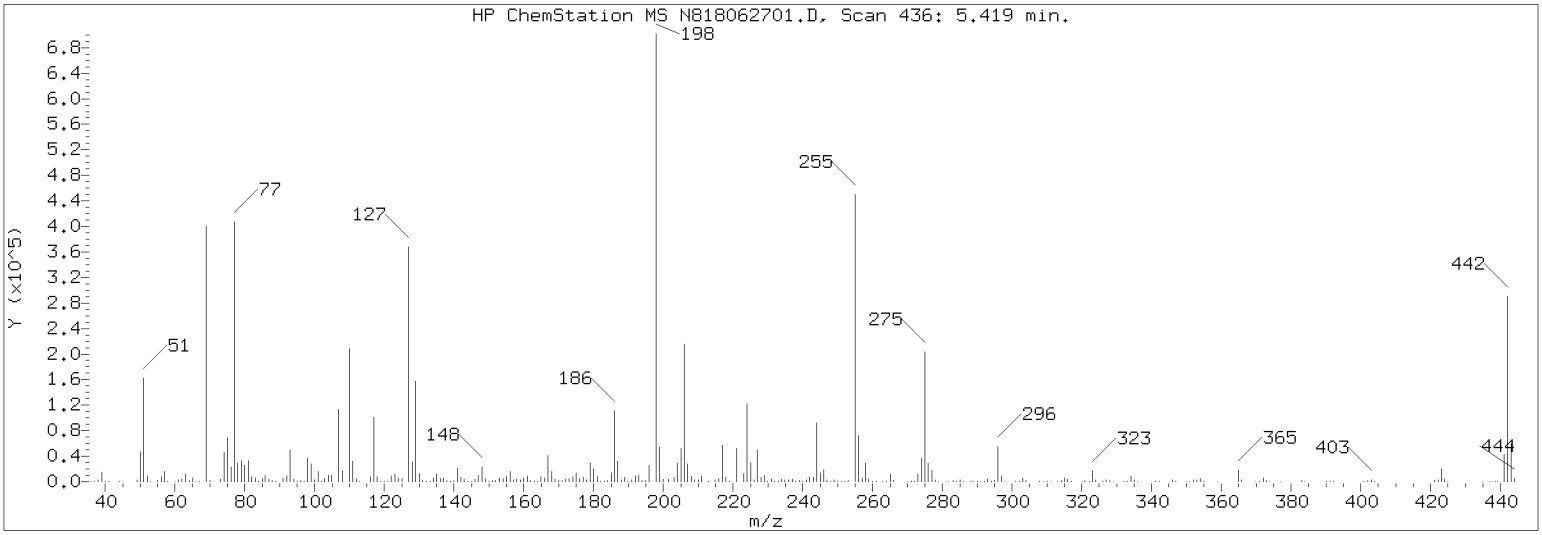
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	20.3	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	52.3	PASS
70	Less than 2% of 69	0.515	PASS
127	10 - 80% of 198	49.6	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.64	PASS
275	10 - 60% of 198	31.1	PASS
365	1 - 100% of 198	2.94	PASS
441	0.1 - 24% of 442	15	PASS
442	50 - 200% of 198	51.1	PASS
443	15 - 24% of 442	20.6	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0354-TUN1	N818062701.D	06/27/2018	16:02
Cal Standard	SGF0354-CAL4	N818062702.D	06/27/2018	16:15
Cal Standard	SGF0354-CAL1	N818062703.D	06/27/2018	16:42
Cal Standard	SGF0354-CAL2	N818062704.D	06/27/2018	17:09
Cal Standard	SGF0354-CAL3	N818062705.D	06/27/2018	17:36
Cal Standard	SGF0354-CAL5	N818062706.D	06/27/2018	18:02
Cal Standard	SGF0354-CAL6	N818062707.D	06/27/2018	18:29
Secondary Cal Check	SGF0354-SCV1	N818062708.D	06/27/2018	18:56

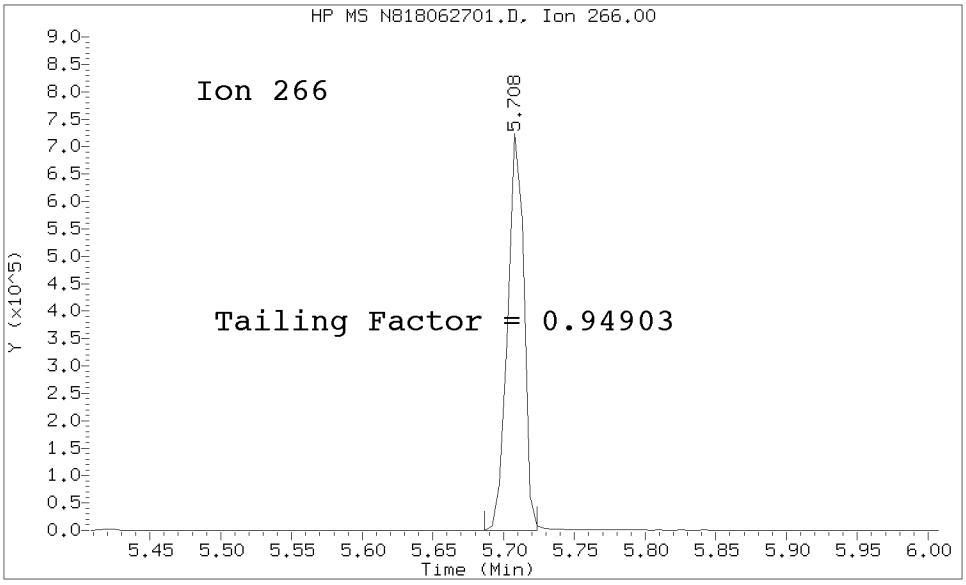
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180627.b/tune.b/N818062701.D/N818062701.D
Method Used: \20180627.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 27-JUN-2018 16:02 Operator: JZ
Sample Info: SGF0354-TUN1 DFTPP180627
Report Date: 06/28/2018 11:06



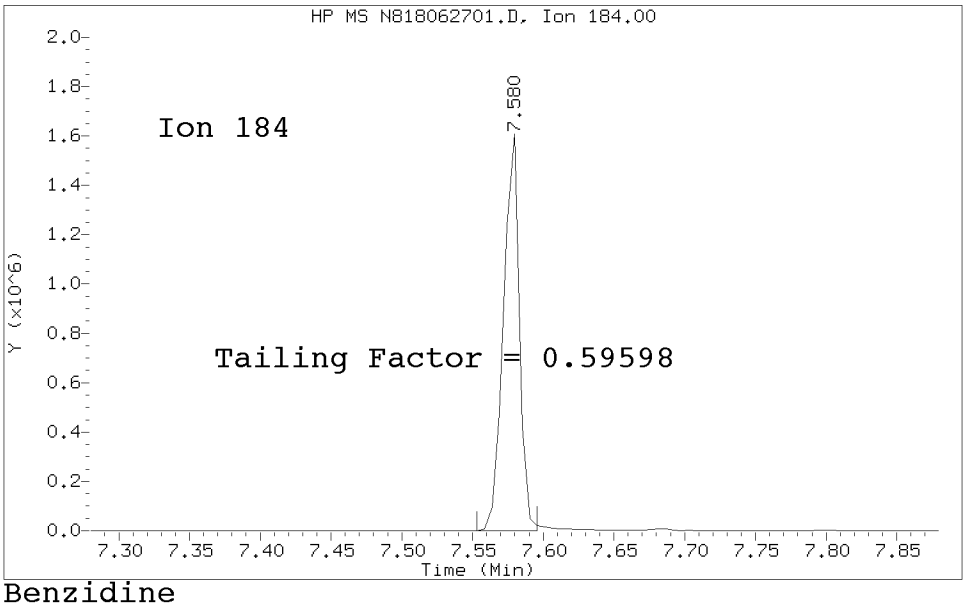


Datafile Analyzed: /20180627.b/tune.b/N818062701.D/N818062701.D
Method Used: \20180627.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 27-JUN-2018 16:02 Operator: JZ
Sample Info: DFTPP180627
Report Date: 06/28/2018 11:06



Pentachlorophenol
==========
Exp. RT = 5.660
Found RT = 5.708

Tail Factor = 0.949 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.526
Found RT = 7.580

Tail Factor = 0.596 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.9490255	2.000	PASS
Benzidine	0.5959821	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1084320			N/A
4,4-DDE	7723	0.7	20.0	PASS
4,4-DDD	137011	11.2	20.0	PASS
4,4-DDD + DDE	144734	11.8	20.0	PASS

Tuning Sample, /nt8.i/20180627.b/tune.b/N818062701.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	20.28
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	52.35
70	Less than 2.00% of mass 69	0.27 (0.52)
127	10.00 - 80.00% of mass 198	49.65
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.64
275	10.00 - 60.00% of mass 198	31.12
365	Greater than 1.00% of mass 198	2.94
441	0.01 - 24.00% of mass 442	7.66 (14.98)
442	50.00 - 200.00% of mass 198	51.11
443	15.00 - 24.00% of mass 442	10.51 (20.56)

Data File: N818062701.D
Spectrum: Avg. Scans 435-437 (5.42), Background Scan 430
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	100	129.00	120784	213.00	604	302.00	711
37.00	901	130.00	10450	214.00	101	303.00	5302
38.00	2426	131.00	1861	215.00	2151	304.00	1665
39.00	9979	132.00	1049	216.00	4101	305.00	95
40.00	453	133.00	423	217.00	44544	308.00	711
41.00	404	134.00	3989	218.00	6067	309.00	332
44.00	493	135.00	9328	219.00	546	310.00	773
45.00	164	136.00	3916	220.00	274	311.00	101
49.00	1607	137.00	4375	221.00	41888	313.00	300
50.00	32560	138.00	1254	222.00	4580	314.00	2195
51.00	112968	139.00	894	223.00	10951	315.00	5058
52.00	6151	140.00	1823	224.00	97944	316.00	2969
53.00	285	141.00	16089	225.00	25280	317.00	540
55.00	1244	142.00	5175	226.00	2726	320.00	100
56.00	5245	143.00	3477	227.00	42960	321.00	1537
57.00	11414	144.00	962	228.00	5794	322.00	811
58.00	549	145.00	812	229.00	8373	323.00	13983
60.00	206	146.00	3121	230.00	1344	324.00	2423
61.00	2748	147.00	7970	231.00	3169	325.00	100
62.00	3776	148.00	18696	232.00	513	326.00	303
63.00	9426	149.00	3391	233.00	877	327.00	2801
64.00	1476	150.00	951	234.00	3024	328.00	1300
65.00	4808	151.00	2169	235.00	2802	329.00	249
66.00	278	152.00	1419	236.00	2253	332.00	781
67.00	599	153.00	5087	237.00	3071	333.00	1284
69.00	291648	154.00	3739	238.00	609	334.00	8677
70.00	1503	155.00	7971	239.00	1865	335.00	2544
71.00	117	156.00	12523	240.00	1289	336.00	242
72.00	86	157.00	2391	241.00	2342	340.00	125
73.00	2836	158.00	3095	242.00	4846	341.00	1400
74.00	33272	159.00	2515	243.00	5581	342.00	421
75.00	48560	160.00	4715	244.00	75944	346.00	3001
76.00	17752	161.00	6907	245.00	10681	347.00	515
77.00	296960	162.00	1980	246.00	15956	348.00	84
78.00	20984	163.00	786	247.00	2999	350.00	89
79.00	24296	164.00	850	248.00	752	351.00	267
80.00	18168	165.00	6143	249.00	2517	352.00	3384
81.00	24008	166.00	4731	250.00	580	353.00	2915
82.00	5790	167.00	31136	251.00	435	354.00	4395
83.00	4086	168.00	13210	252.00	840	355.00	887
84.00	579	169.00	2295	253.00	1785	359.00	255
85.00	3799	170.00	1199	254.00	671	364.00	160
86.00	7625	171.00	1437	255.00	374080	365.00	16376
87.00	2926	172.00	3074	256.00	59264	366.00	2767
88.00	1371	173.00	4006	257.00	4467	370.00	283
89.00	663	174.00	6376	258.00	23352	371.00	831
91.00	4670	175.00	11376	259.00	3472	372.00	6363
92.00	6386	176.00	3493	260.00	723	373.00	1631
93.00	38152	177.00	6022	261.00	550	374.00	91

94.00	2948	178.00	1968	263.00	232	377.00	117
95.00	704	179.00	23512	264.00	701	383.00	1672
96.00	1653	180.00	15463	265.00	9394	384.00	313
97.00	937	181.00	6977	266.00	1820	390.00	931
98.00	29016	182.00	1218	270.00	370	391.00	607
99.00	21176	183.00	630	271.00	853	392.00	399
100.00	2034	184.00	2067	272.00	899	401.00	341
101.00	11920	185.00	11244	273.00	10838	402.00	2255
102.00	584	186.00	86848	274.00	31176	403.00	2876
103.00	3830	187.00	24904	275.00	173376	404.00	1016
104.00	8501	188.00	2342	276.00	24496	405.00	117
105.00	7319	189.00	6128	277.00	16289	415.00	111
106.00	1913	190.00	1241	278.00	2810	421.00	2562
107.00	86720	191.00	2513	279.00	559	422.00	2604
108.00	12910	192.00	7378	281.00	104	423.00	19296
110.00	155584	193.00	7905	282.00	293	424.00	3694
111.00	23392	194.00	1591	283.00	1699	425.00	263
112.00	3013	195.00	1149	284.00	1101	435.00	89
113.00	991	196.00	20160	285.00	2655	436.00	101
115.00	278	198.00	557120	286.00	310	437.00	389
116.00	5883	199.00	42552	288.00	104	438.00	299
117.00	79152	200.00	3208	289.00	809	439.00	863
118.00	5812	201.00	3374	290.00	449	440.00	136
119.00	546	203.00	5208	291.00	408	441.00	42648
120.00	1125	204.00	22856	292.00	675	442.00	284736
121.00	172	205.00	42024	293.00	3222	443.00	58536
122.00	6271	206.00	168832	294.00	951	444.00	5515
123.00	8866	207.00	21848	295.00	691	445.00	215
124.00	4097	208.00	6280	296.00	47408		
125.00	3765	209.00	1902	297.00	7525		
127.00	276608	210.00	1564	298.00	485		
128.00	23584	211.00	7018	301.00	623		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

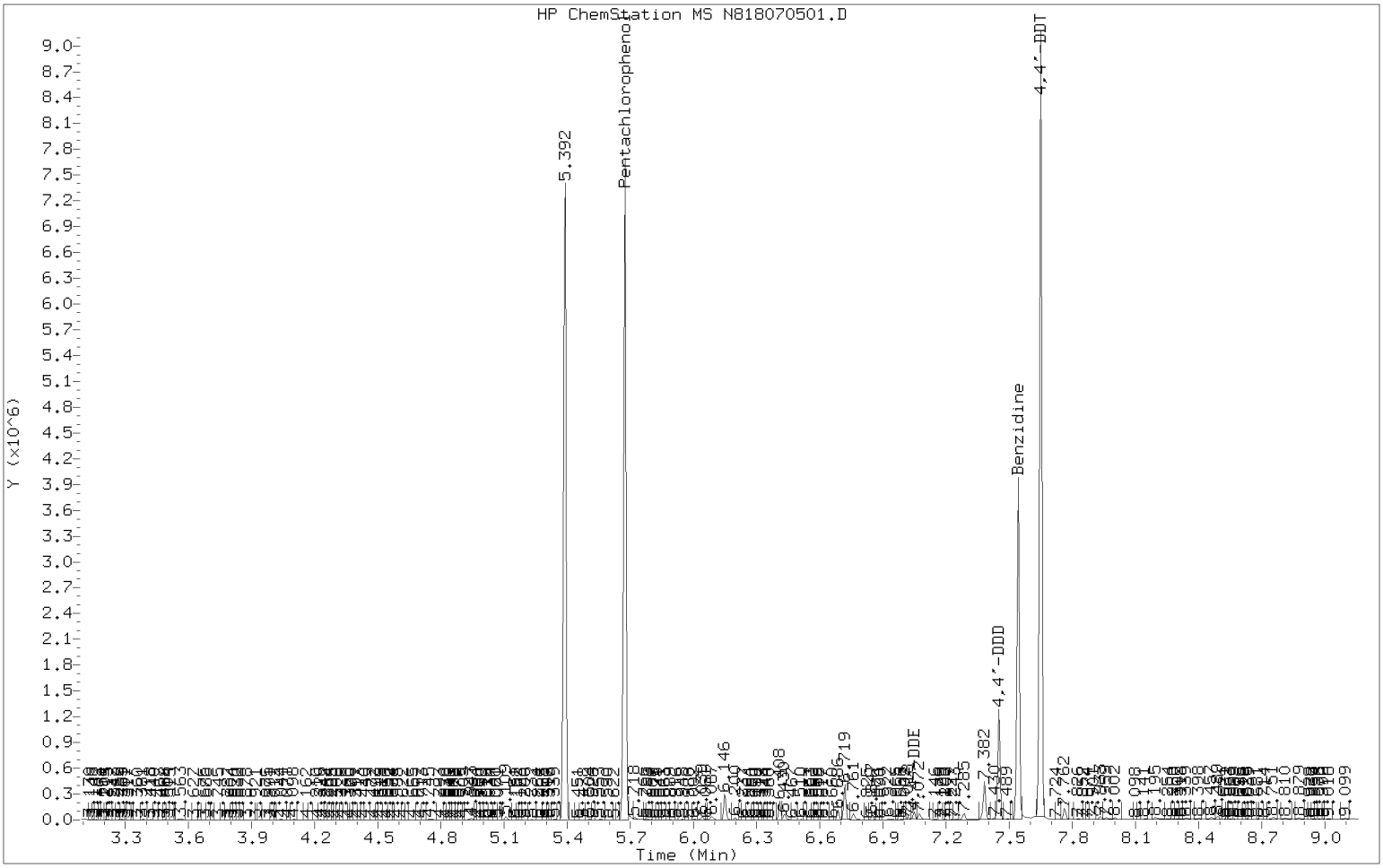
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	N818070501.D	Injection Date:	07/05/18
Instrument ID:	NT8	Injection Time:	11:15
Sequence:	SGG0053	Lab Sample ID:	SGG0053-TUN1

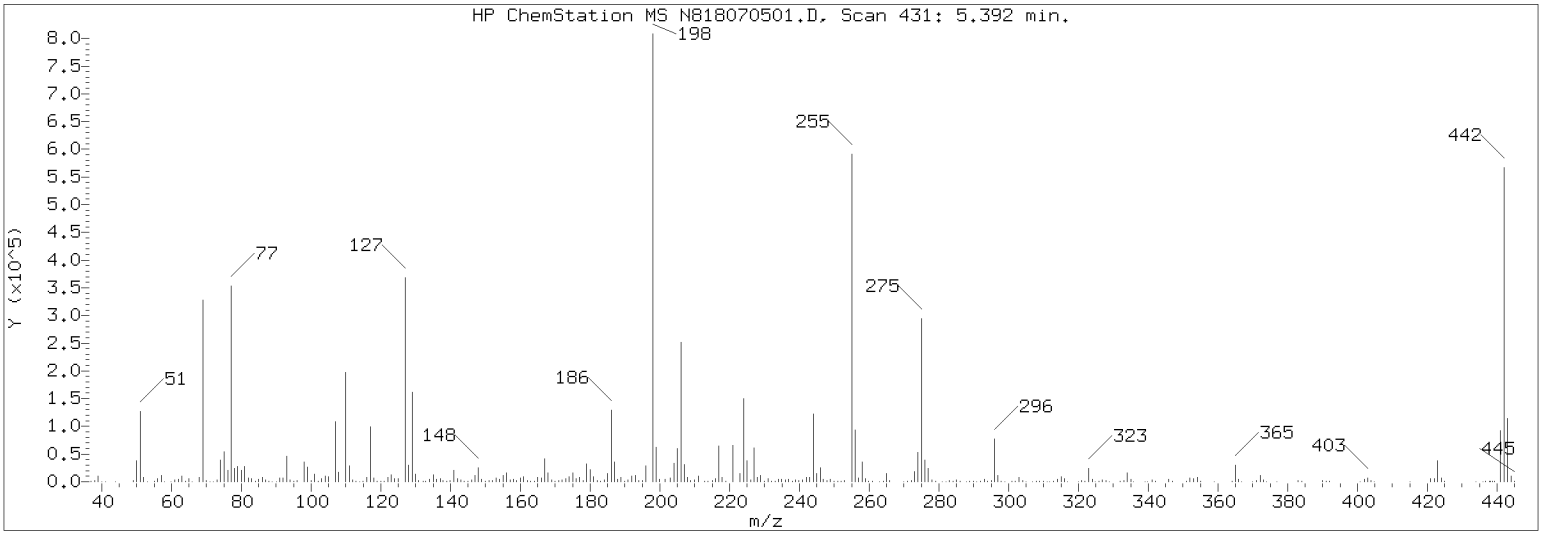
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	18.5	PASS
68	Less than 2% of 69	1.18	PASS
69	Less than 100% of 198	46.1	PASS
70	Less than 2% of 69	0.558	PASS
127	10 - 80% of 198	47.7	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.64	PASS
275	10 - 60% of 198	34.5	PASS
365	1 - 100% of 198	3.84	PASS
441	0.1 - 24% of 442	15.3	PASS
442	50 - 200% of 198	71	PASS
443	15 - 24% of 442	20	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGG0053-TUN1	N818070501.D	07/05/2018	11:15
Initial Cal Check	SGG0053-ICV1	N818070502.D	07/05/2018	11:28
Blank	BGF0721-BLK1	N818070503.D	07/05/2018	17:09
LCS	BGF0721-BS1	N818070504.D	07/05/2018	17:36
LDW18-C01-CLWB-Comp1	18F0364-01	N818070505.D	07/05/2018	18:03
Matrix Spike	BGF0721-MS1	N818070506.D	07/05/2018	18:30
Matrix Spike Dup	BGF0721-MSD1	N818070507.D	07/05/2018	18:57
LDW18-C02-CLWB-Comp1	18F0364-02	N818070508.D	07/05/2018	19:24
LDW18-C03-CLWB-Comp1	18F0364-03	N818070509.D	07/05/2018	19:51
LDW18-C04-CLWB-Comp1	18F0364-04	N818070510.D	07/05/2018	20:18
LDW18-C05-CLWB-Comp1	18F0364-05	N818070511.D	07/05/2018	20:44
LDW18-C06-CLWB-Comp1	18F0364-06	N818070512.D	07/05/2018	21:11
LDW18-C08-CLWB-Comp1	18F0364-07	N818070513.D	07/05/2018	21:38
LDW18-C10-CLWB-Comp1	18F0364-08	N818070514.D	07/05/2018	22:05
LDW18-C11-CLWB-Comp1	18F0364-09	N818070515.D	07/05/2018	22:32
Calibration Check	SGG0053-CCV1	N818070516.D	07/05/2018	22:59

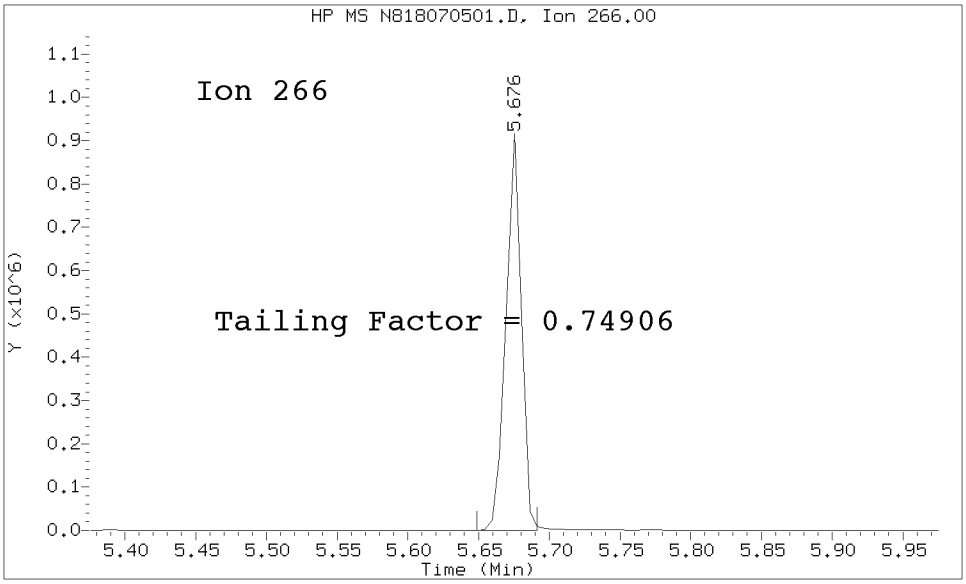
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180705.b/tune.b/N818070501.D/N818070501.D
Method Used: \20180705.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 05-JUL-2018 11:15 Operator: JZ
Sample Info: SGG0053-TUN1 DFTPP180705
Report Date: 07/09/2018 09:39



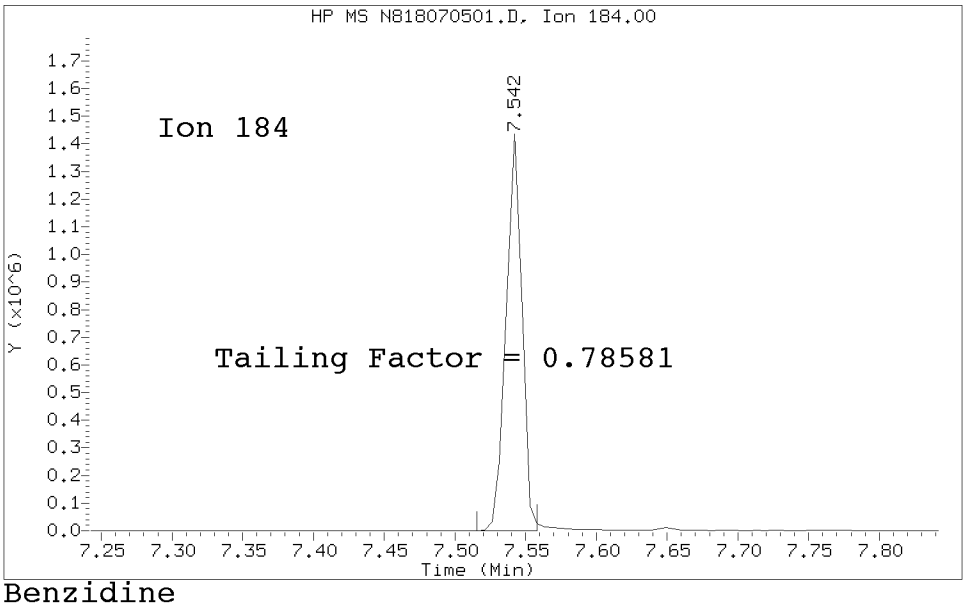


Datafile Analyzed: /20180705.b/tune.b/N818070501.D/N818070501.D
Method Used: \20180705.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 05-JUL-2018 11:15 Operator: JZ
Sample Info: DFTPP180705
Report Date: 07/09/2018 09:39



Pentachlorophenol
==========
Exp. RT = 5.660
Found RT = 5.676

Tail Factor = 0.749 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.526
Found RT = 7.542

Tail Factor = 0.786 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.7490637	2.000	PASS
Benzidine	0.7858065	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1183726			N/A
4,4-DDE	8787	0.7	20.0	PASS
4,4-DDD	177948	13.1	20.0	PASS
4,4-DDD + DDE	186735	13.6	20.0	PASS

Tuning Sample, /nt8.i/20180705.b/tune.b/N818070501.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	18.54
68	Less than 2.00% of mass 69	0.55 (1.18)
69	Mass 69 relative abundance	46.08
70	Less than 2.00% of mass 69	0.26 (0.56)
127	10.00 - 80.00% of mass 198	47.65
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.64
275	10.00 - 60.00% of mass 198	34.49
365	Greater than 1.00% of mass 198	3.84
441	0.01 - 24.00% of mass 442	10.84 (15.27)
442	50.00 - 200.00% of mass 198	70.95
443	15.00 - 24.00% of mass 442	14.17 (19.97)

Data File: N818070501.D
Spectrum: Avg. Scans 430-432 (5.39), Background Scan 424
Location of Maximum: 198.00
Number of points: 330

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	905	128.00	22704	213.00	505	302.00	782
38.00	2024	129.00	114928	214.00	347	303.00	6133
39.00	8906	130.00	10036	215.00	2092	304.00	1729
40.00	309	131.00	1782	216.00	4189	305.00	138
41.00	261	132.00	1020	217.00	44904	307.00	97
44.00	84	133.00	512	218.00	5678	308.00	698
45.00	244	134.00	3637	219.00	649	309.00	363
48.00	103	135.00	8478	220.00	134	310.00	684
49.00	706	136.00	3570	221.00	42864	311.00	180
50.00	29888	137.00	4056	222.00	552	312.00	276
51.00	103120	138.00	1198	223.00	11076	313.00	543
52.00	5695	139.00	746	224.00	100424	314.00	2719
53.00	280	140.00	1417	225.00	25792	315.00	6218
55.00	943	141.00	15070	226.00	2747	316.00	3505
56.00	4535	142.00	4732	227.00	42664	317.00	542
57.00	9611	143.00	3362	228.00	6094	320.00	184
58.00	525	144.00	1034	229.00	8317	321.00	1704
60.00	241	145.00	854	230.00	1185	322.00	1047
61.00	2821	146.00	2713	231.00	3552	323.00	16584
62.00	3490	147.00	7945	232.00	721	324.00	3086
63.00	8272	148.00	17904	233.00	743	325.00	312
64.00	1164	149.00	3157	234.00	3010	326.00	399
65.00	4682	150.00	941	235.00	3033	327.00	3236
66.00	315	151.00	2008	236.00	2167	328.00	1658
68.00	3033	152.00	1303	237.00	3141	329.00	226
69.00	256320	153.00	4980	238.00	517	332.00	1283
70.00	1431	154.00	3621	239.00	2140	333.00	1565
71.00	235	155.00	7811	240.00	1233	334.00	10740
72.00	201	156.00	12019	241.00	2605	335.00	3384
73.00	2743	157.00	2327	242.00	5442	336.00	300
74.00	29960	158.00	3101	243.00	6191	339.00	267
75.00	42216	159.00	2284	244.00	80696	340.00	220
76.00	16952	160.00	5138	245.00	10250	341.00	1872
77.00	270272	161.00	6601	246.00	17184	342.00	464
78.00	18696	162.00	1884	247.00	2883	346.00	3319
79.00	21712	163.00	651	248.00	893	347.00	567
80.00	15799	164.00	758	249.00	3358	351.00	315
81.00	21072	165.00	5902	250.00	478	352.00	4839
82.00	5352	166.00	4700	251.00	719	353.00	3311
83.00	4601	167.00	29504	252.00	1045	354.00	5057
84.00	460	168.00	12964	253.00	1822	355.00	1000
85.00	3752	169.00	2528	254.00	532	359.00	301
86.00	6228	170.00	970	255.00	393600	364.00	309
87.00	2697	171.00	1390	256.00	63304	365.00	21384
88.00	749	172.00	2665	257.00	4697	366.00	2844
89.00	384	173.00	4125	258.00	24680	367.00	140
90.00	85	174.00	6356	259.00	3746	370.00	339
91.00	5115	175.00	11289	260.00	629	371.00	1276
92.00	5868	176.00	3814	261.00	760	372.00	7967

93.00	33960	177.00	5846	263.00	109	373.00	2129
94.00	2578	178.00	2028	264.00	817	374.00	203
95.00	685	179.00	23184	265.00	10324	377.00	176
96.00	1575	180.00	15049	266.00	1459	383.00	1758
97.00	794	181.00	7248	267.00	165	384.00	555
98.00	26272	182.00	1260	270.00	436	390.00	1228
99.00	18536	183.00	675	271.00	995	391.00	665
100.00	1750	184.00	2101	272.00	1269	392.00	620
101.00	10376	185.00	10173	273.00	13103	401.00	394
102.00	579	186.00	88696	274.00	34968	402.00	2864
103.00	4270	187.00	24688	275.00	191872	403.00	4407
104.00	7521	188.00	3010	276.00	25536	404.00	1523
105.00	6766	189.00	5560	277.00	16872	405.00	118
106.00	1339	190.00	1056	278.00	2728	415.00	119
107.00	79896	191.00	2730	279.00	630	421.00	3274
108.00	12425	192.00	7560	281.00	89	422.00	3507
109.00	172	193.00	8096	282.00	369	423.00	25448
110.00	144512	194.00	1524	283.00	1675	424.00	4679
111.00	21832	195.00	1404	284.00	1192	425.00	420
112.00	2879	196.00	20056	285.00	2910	433.00	91
113.00	945	198.00	556288	286.00	475	434.00	136
114.00	258	199.00	42496	288.00	174	435.00	141
115.00	440	200.00	3186	289.00	644	436.00	154
116.00	6016	201.00	3072	290.00	564	437.00	490
117.00	72960	203.00	5074	291.00	362	438.00	1004
118.00	4965	204.00	23440	292.00	795	439.00	1920
119.00	531	205.00	40952	293.00	3538	440.00	499
120.00	1056	206.00	169216	294.00	971	441.00	60280
121.00	292	207.00	21240	295.00	976	442.00	394688
122.00	6172	208.00	5562	296.00	53816	443.00	78800
123.00	8965	209.00	1819	297.00	7626	444.00	7437
124.00	4626	210.00	2730	298.00	624	445.00	404
125.00	4006	211.00	7317	299.00	106		
127.00	265088	212.00	89	301.00	900		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

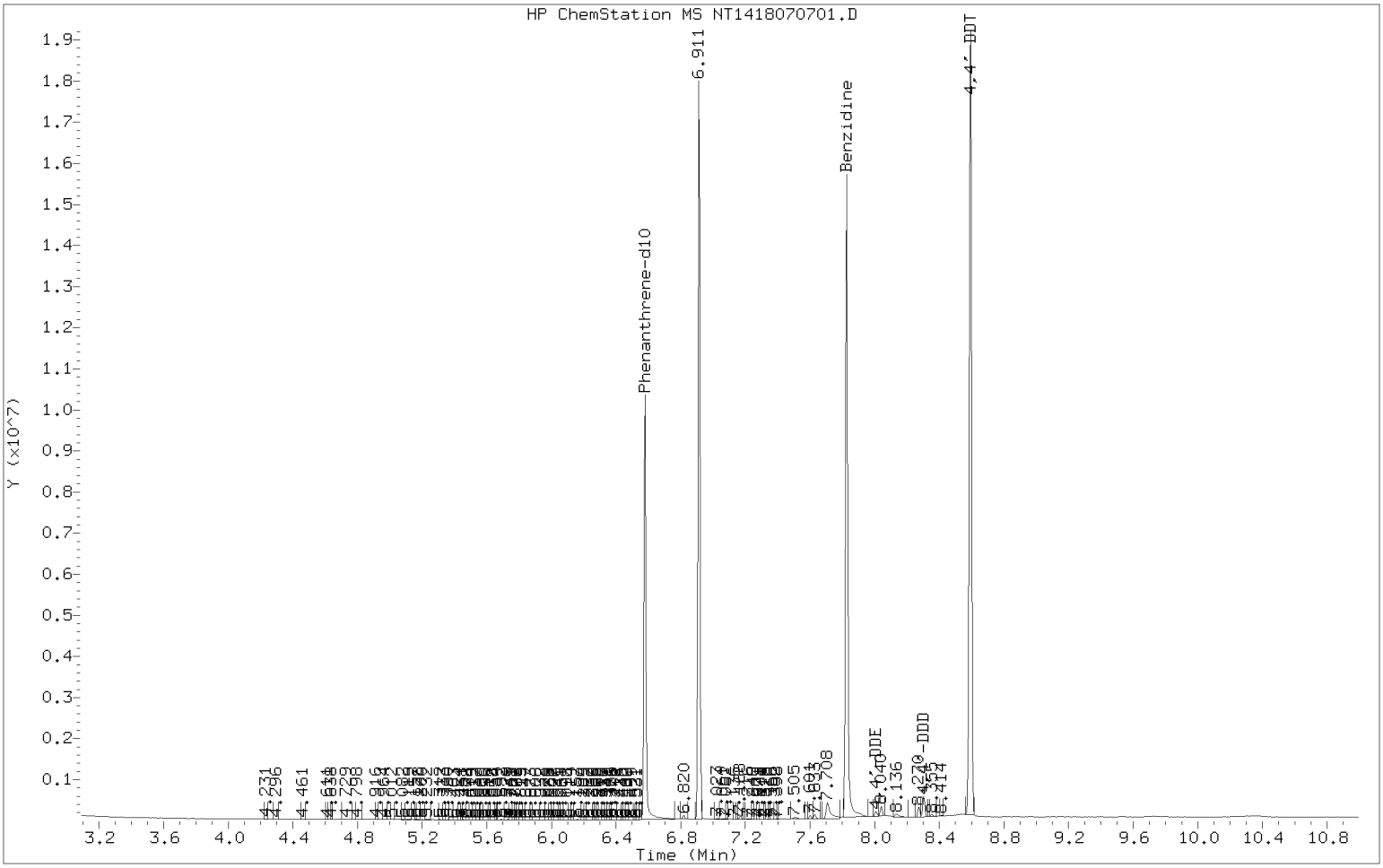
Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Lab File ID:	NT1418070701.D	Injection Date:	07/07/18
Instrument ID:	NT14	Injection Time:	13:44
Sequence:	SGG0077	Lab Sample ID:	SGG0077-TUN1

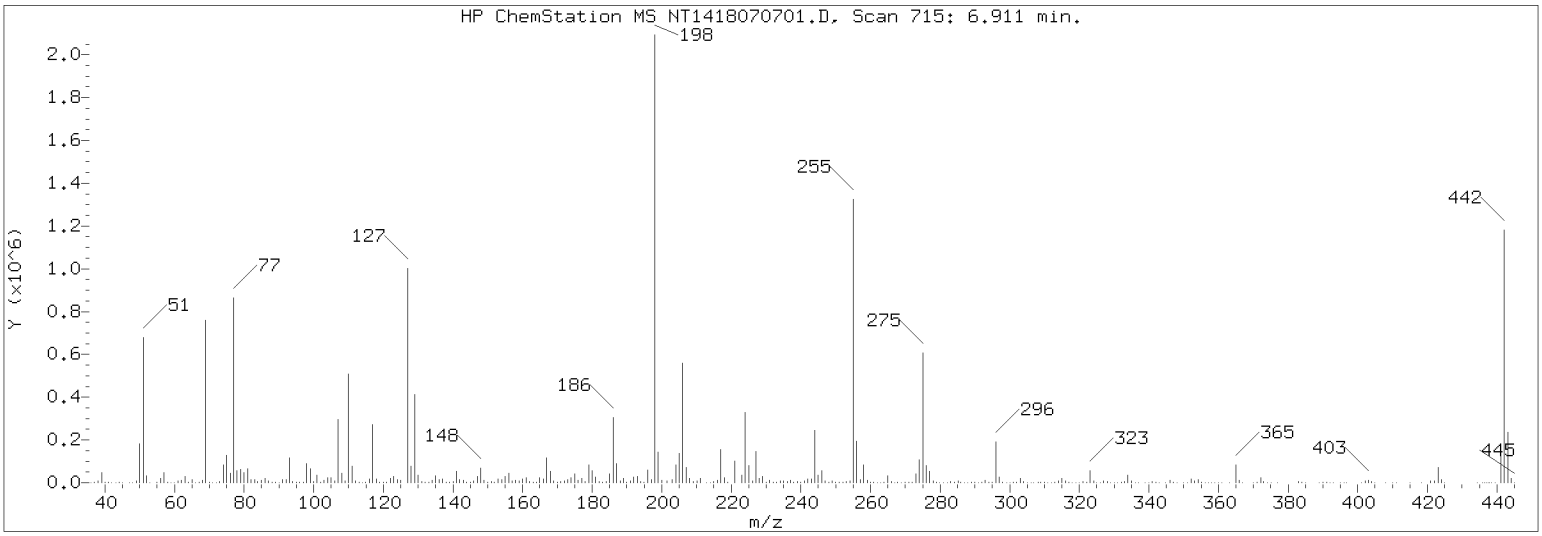
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	34.3	PASS
68	Less than 2% of 69	1.67	PASS
69	Less than 100% of 198	37.9	PASS
70	Less than 2% of 69	0.52	PASS
127	10 - 80% of 198	48.4	PASS
197	Less than 2% of 198	0.622	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.84	PASS
275	10 - 60% of 198	29.9	PASS
365	1 - 100% of 198	4.33	PASS
441	0.1 - 24% of 442	14.6	PASS
442	50 - 200% of 198	68.1	PASS
443	15 - 24% of 442	19.3	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGG0077-TUN1	NT1418070701.D	07/07/2018	13:44
Initial Cal Check	SGG0077-ICV1	NT1418070702.D	07/07/2018	13:58
Blank	BGF0719-BLK1	NT1418070703.D	07/07/2018	14:23
LCS	BGF0719-BS1	NT1418070704.D	07/07/2018	14:36
LDW18-S1-CLWB-Comp1	18F0364-10	NT1418070705.D	07/07/2018	15:00
Matrix Spike	BGF0719-MS1	NT1418070706.D	07/07/2018	15:14
Matrix Spike Dup	BGF0719-MSD1	NT1418070707.D	07/07/2018	15:28
LDW18-S2-CLWB-Comp1	18F0364-11	NT1418070708.D	07/07/2018	15:41
LDW18-S3-CLWB-Comp1	18F0364-12	NT1418070709.D	07/07/2018	15:55
Calibration Check	SGG0077-CCV1	NT1418070710.D	07/07/2018	16:08

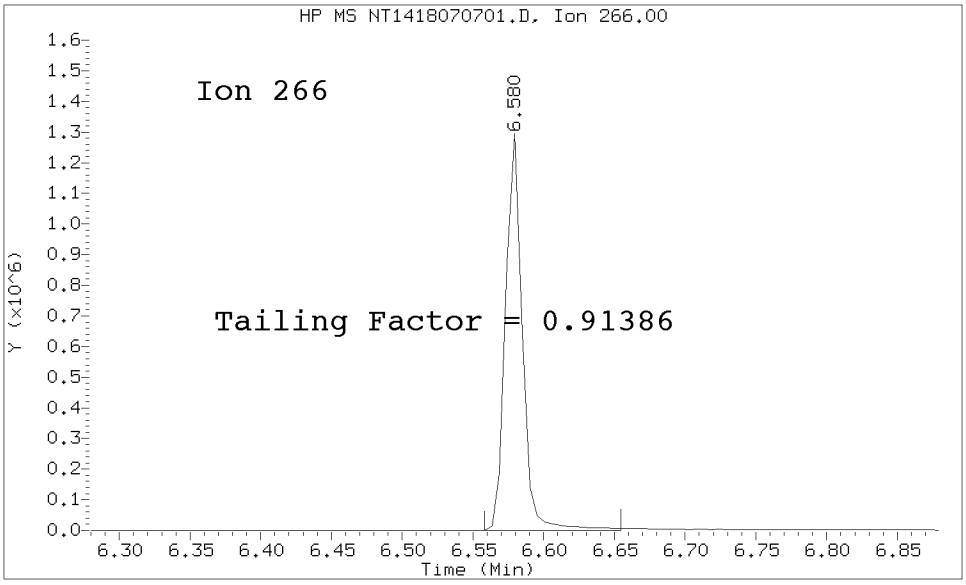
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180707.b/NT1418070701.D/NT1418070701.D
Method Used: \20180707.b\df8270.m Inst: nt14
Injection Date: 07-JUL-2018 13:44 Operator: VTS
Sample Info: SGG0077-TUN1 SGG0077-TUN1
Report Date: 07/10/2018 08:47



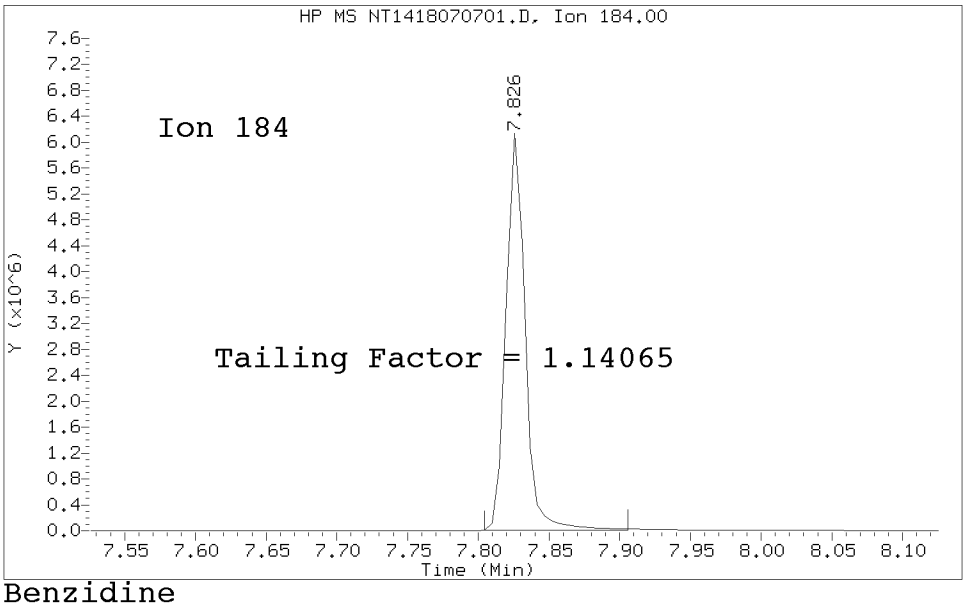


Datafile Analyzed: /20180707.b/NT1418070701.D/NT1418070701.D
Method Used: \20180707.b\df8270.m\sw846ddt.m Inst: nt14
Injection Date: 07-JUL-2018 13:44 Operator: VTS
Sample Info: SGG0077-TUN1
Report Date: 07/10/2018 08:47



Pentachlorophenol
==========
Exp. RT = 6.580
Found RT = 6.580

Tail Factor = 0.914 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.826
Found RT = 7.826

Tail Factor = 1.141 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.9138627	2.000	PASS
Benzidine	1.1406452	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	3603762			N/A
4,4-DDE	14860	0.4	20.0	PASS
4,4-DDD	88017	2.4	20.0	PASS
4,4-DDD + DDE	102877	2.8	20.0	PASS

Tuning Sample, nt14.i/20180707.b/NT1418070701.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	34.28
68	Less than 2.00% of mass 69	0.63 (1.67)
69	Mass 69 relative abundance	37.87
70	Less than 2.00% of mass 69	0.20 (0.52)
127	10.00 - 80.00% of mass 198	48.43
197	Less than 2.00% of mass 198	0.62
199	5.00 - 9.00% of mass 198	6.84
275	10.00 - 60.00% of mass 198	29.86
365	Greater than 1.00% of mass 198	4.33
441	0.01 - 24.00% of mass 442	9.92 (14.55)
442	50.00 - 200.00% of mass 198	68.14
443	15.00 - 24.00% of mass 442	13.16 (19.31)

Data File: NT1418070701.D
Spectrum: Avg. Scans 714-716 (6.91), Background Scan 710
Location of Maximum: 198.00
Number of points: 372

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	434	132.00	2337	229.00	20896	323.00	41920
37.00	2216	133.00	1048	230.00	3375	324.00	7814
38.00	6768	134.00	8889	231.00	8834	325.00	828
39.00	36136	135.00	23992	232.00	1469	326.00	909
40.00	1600	136.00	9641	233.00	1934	327.00	7913
41.00	914	137.00	12186	234.00	7668	328.00	4145
42.00	113	138.00	2161	235.00	7445	329.00	632
44.00	289	139.00	1597	236.00	5089	330.00	227
45.00	754	140.00	3829	237.00	8012	331.00	347
47.00	70	141.00	39384	238.00	1404	332.00	3264
48.00	130	142.00	11950	239.00	4308	333.00	3955
49.00	3764	143.00	8757	240.00	3055	334.00	26640
50.00	139072	144.00	2326	241.00	5882	335.00	7005
51.00	510720	145.00	1913	242.00	13268	336.00	891
52.00	25328	146.00	7425	243.00	13040	337.00	61
53.00	817	147.00	21136	244.00	181312	339.00	749
54.00	58	148.00	48960	245.00	24760	340.00	798
55.00	2673	149.00	9340	246.00	41096	341.00	4694
56.00	14886	150.00	2779	247.00	7802	342.00	1329
57.00	33624	151.00	5043	248.00	1913	343.00	195
58.00	1600	152.00	3044	249.00	6281	345.00	64
59.00	507	153.00	12089	250.00	1231	346.00	10003
60.00	177	154.00	10025	251.00	1687	347.00	1797
61.00	6837	155.00	21496	252.00	1879	348.00	279
62.00	8315	156.00	32688	253.00	4215	349.00	91
63.00	21968	157.00	6265	254.00	7067	350.00	293
64.00	3191	158.00	7579	255.00	969472	351.00	713
65.00	9995	159.00	5963	256.00	141056	352.00	13126
66.00	887	160.00	12457	257.00	10774	353.00	7950
67.00	799	161.00	18032	258.00	62536	354.00	11923
68.00	9450	162.00	5500	259.00	9661	355.00	2057
69.00	564224	163.00	1314	260.00	1799	356.00	152
70.00	2935	164.00	2015	261.00	1645	357.00	152
71.00	281	165.00	15345	262.00	245	358.00	195
72.00	243	166.00	12893	263.00	650	359.00	708
73.00	4508	167.00	83072	264.00	1530	360.00	187
74.00	62616	168.00	39360	265.00	25808	361.00	303
75.00	95400	169.00	6526	266.00	3684	363.00	158
76.00	32792	170.00	2644	267.00	574	365.00	64472
77.00	643968	171.00	3325	268.00	444	366.00	8534
78.00	42776	172.00	7644	269.00	275	367.00	705
79.00	46312	173.00	9542	270.00	1051	369.00	57
80.00	35272	174.00	17136	271.00	1982	370.00	1027
81.00	48464	175.00	31120	272.00	2799	371.00	3012
82.00	11504	176.00	8196	273.00	29760	372.00	20232
83.00	10362	177.00	14825	274.00	80736	373.00	4887
84.00	1200	178.00	4997	275.00	444928	374.00	701
85.00	8540	179.00	61072	276.00	59048	375.00	69
86.00	14277	180.00	41240	277.00	41704	377.00	417

87.00	6119	181.00	19112	278.00	7221	383.00	4813
88.00	2565	182.00	3572	279.00	1238	384.00	1417
89.00	1204	183.00	1512	280.00	289	385.00	438
90.00	316	184.00	5321	281.00	369	389.00	182
91.00	10761	185.00	29344	282.00	1081	390.00	2367
92.00	11784	186.00	218368	283.00	4915	391.00	1733
93.00	84008	187.00	63608	284.00	3050	392.00	1184
94.00	5335	188.00	6363	285.00	7413	393.00	165
95.00	852	189.00	14869	286.00	1389	395.00	237
96.00	3005	190.00	2668	287.00	161	396.00	64
97.00	1649	191.00	6305	288.00	472	397.00	170
98.00	65640	192.00	19152	289.00	1668	401.00	1019
99.00	47848	193.00	21536	290.00	1444	402.00	6590
100.00	4233	194.00	4384	291.00	1008	403.00	9775
101.00	26584	195.00	2325	292.00	1966	404.00	3539
102.00	1604	196.00	43544	293.00	9133	405.00	629
103.00	8909	197.00	9272	294.00	2088	408.00	70
104.00	17664	198.00	1489920	295.00	3015	410.00	204
105.00	17200	199.00	101864	296.00	144896	411.00	71
106.00	5413	200.00	7938	297.00	20080	415.00	507
107.00	216640	201.00	6531	298.00	1473	418.00	53
108.00	31896	203.00	11709	299.00	334	420.00	136
109.00	6142	204.00	59512	300.00	142	421.00	7961
110.00	366208	205.00	98288	301.00	1690	422.00	7418
111.00	57272	206.00	402304	302.00	2234	423.00	58464
112.00	6972	207.00	50984	303.00	16301	424.00	11786
113.00	2295	208.00	14742	304.00	4151	425.00	1111
114.00	553	209.00	4683	305.00	533	432.00	73
115.00	965	210.00	6273	306.00	174	433.00	50
116.00	11966	211.00	15802	307.00	207	434.00	69
117.00	202560	213.00	1065	308.00	1882	435.00	111
118.00	13967	214.00	378	309.00	1251	436.00	319
119.00	1410	215.00	4753	310.00	1771	437.00	184
120.00	2677	216.00	9434	311.00	328	438.00	934
121.00	974	217.00	114592	312.00	434	439.00	381
122.00	13915	218.00	15806	313.00	1395	440.00	129
123.00	22288	219.00	1326	314.00	6713	441.00	147776
124.00	10377	221.00	72832	315.00	15942	442.00	1015296
125.00	9407	222.00	8481	316.00	8061	443.00	196032
126.00	1040	223.00	25264	317.00	1366	444.00	18160
127.00	721536	224.00	239040	318.00	155	445.00	1033
128.00	55616	225.00	59216	319.00	345		
129.00	297472	226.00	6071	320.00	582		
130.00	25432	227.00	107616	321.00	4514		
131.00	5493	228.00	14812	322.00	1998		

INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00033	Instrument:	NT14
Calibration Date:	05/10/2018 0:00	Column (1):	ZB-5MS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Tributyltin Ion	0.03865	0.602964	0.1546	0.5111132	0.3865	0.6235191	0.773	0.7020153	1.546	0.6763479	3.092	0.6279012
Dibutyltin Ion	0.0578	5.107551E-02	0.2312	0.053178	0.578	5.270677E-02	1.156	5.266339E-02	2.312	5.552649E-02	4.624	3.919569E-02
Butyltin Ion	0.0408	0.082626	0.1632	0.0846232	0.408	8.485008E-02	0.816	8.629846E-02	1.632	8.960821E-02	3.264	0.0647444
Tetrabutyltin	0.05	0.7242513	0.2	0.6236307	0.5	0.7570633	1	0.8424554	2	0.8148361	4	0.7349582
Tripentyltin	0.07959	7.535517E-02	0.31836	7.739209E-02	0.7959	7.756451E-02	1.5918	7.801491E-02	3.1836	8.360021E-02	6.3672	5.905883E-02
Tripropyltin	0.037215	0.7723693	0.14886	0.6671972	0.37215	0.8047847	0.7443	0.8981378	1.4886	0.8791375	2.9772	0.8116312

INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BE00033	Instrument:	NT14
Calibration Date:	05/10/2018 0:00	Column (1):	ZB-5MS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Tributyltin Ion	0.6239768	10.6			RSD (15)	
Dibutyltin Ion	5.072431E-02	11.5			RSD (15)	
Butyltin Ion	8.212506E-02	10.7			RSD (15)	
Tetrabutyltin	0.7495325	10.3			RSD (15)	
Tripentyltin	7.516429E-02	11.1			RSD (15)	
Tripropyltin	0.805543	10.3			RSD (15)	

Printed: 5/10/2018 2:05:51PM

ANALYSIS SEQUENCE

SGE0153

Instrument: NT14 Element Column ID: G002876
Calibration ID: BE00033 Tune File: 180406.U
EM Voltage: 1800

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGE0153-TUN1	MS Tune	QC		1	F010239		
SGE0153-CAL4	TBT 1.0	QC		2	G004161	G004149	
SGE0153-CAL6	TBT 4.0	QC		3	G004163	G004149	
SGE0153-CAL1	TBT 0.05	QC		4	G004158	G004149	
SGE0153-CAL5	TBT 2.0	QC		5	G004162	G004149	
SGE0153-CAL2	TBT 0.2	QC		6	G004159	G004149	
SGE0153-CAL3	TBT 0.5	QC		7	G004160	G004149	
SGE0153-ICV1	TBT ICV 1.0	QC		8	G004161	G004149	
BGE0111-BLK1	Blank	QC		9		G004149	
BGE0111-BS1	LCS	QC		10		G004149	
18D0363-01	SPE073-30G	8270D-SIM Butyl Tins	A 01	11		G004149	
18E0006-05	T91-2018-SC02-0-1	8270D-SIM Butyl Tins	C 01	12		G004149	
18E0006-06	T91-2018-SC02-1-2	8270D-SIM Butyl Tins	C 01	13		G004149	
BGE0111-MS1	Matrix Spike	QC		14		G004149	
BGE0111-MSD1	Matrix Spike Dup	QC		15		G004149	
18E0006-07	T91-2018-SC02-2-4	8270D-SIM Butyl Tins	C 01	16		G004149	
18E0009-01	PDI-SMA2-SG106-180427	8270D-SIM Butyl Tins	A 01	17		G004149	
18E0009-02	PDI-SMA2-SG01-180427	8270D-SIM Butyl Tins	A 01	18		G004149	
18E0009-03	PDI-SMA2-SG03-180427	8270D-SIM Butyl Tins	A 01	19		G004149	
18E0009-04	PDI-SMA2-SG04-180427	8270D-SIM Butyl Tins	A 01	20		G004149	
18E0009-06	PDI-SMA2-SG06-180427	8270D-SIM Butyl Tins	A 01	21		G004149	
SGE0153-CCV1	TBT CCV 1.0	QC		22	G004161	G004149	

Printed: 5/10/2018 2:05:51PM

ANALYSIS SEQUENCE

SGE0153

Instrument: NT14 Element Column ID: G002876
Calibration ID: BE00033 Tune File: 180406.U
EM Voltage: 1800

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

	Time	Filename	LabID	ClientId	DF					
1	0747	NT1418051001.D	SGE0153-TUN1		1	NO ISTDS FOUND				
2	0801	NT1418051002.D	SGE0153-CAL4		1	7.90	138005	8.89	117009	
3	0826	NT1418051003.D	SGE0153-CAL4		1	7.91	151538	8.89	129365	
4	0840	NT1418051004.D	SGE0153-CAL6		1	7.90	168032	8.89	180967	
5	0853	NT1418051005.D	SGE0153-CAL1		1	7.90	161270	8.89	122407	
6	0907	NT1418051006.D	SGE0153-CAL5		1	7.90	154663	8.89	124401	
7	0920	NT1418051007.D	SGE0153-CAL2		1	7.90	198547	8.89	126951	
8	0934	NT1418051008.D	SGE0153-CAL3		1	7.90	158000	8.89	122489	
9	0947	NT1418051009.D	SGE0153-ICV1		1	7.90	148245	8.89	124358	
10	1009	NT1418051010.D	BGE0111-BLK1		1	7.90	134095	8.89	112195	
11	1023	NT1418051011.D	BGE0111-BS1		1	7.90	145678	8.88	122074	
12	1036	NT1418051012.D	18D0363-01		1	7.90	141079	8.88	116700	
13	1050	NT1418051013.D	18E0006-05		1	7.90	128986	8.88	100254	
14	1103	NT1418051014.D	18E0006-06		1	7.91	119988	8.89	99296	
15	1117	NT1418051015.D	BGE0111-MS1		1	7.91	119133	8.89	98063	
16	1130	NT1418051016.D	BGE0111-MSD1		1	7.91	118120	8.89	96061	
17	1144	NT1418051017.D	18E0006-07		1	7.91	133233	8.89	105841	
18	1157	NT1418051018.D	18E0009-01		1	7.90	145454	8.89	117203	
19	1211	NT1418051019.D	18E0009-02		1	7.90	145317	8.89	115144	
20	1224	NT1418051020.D	18E0009-03		1	7.90	140953	8.88	112886	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

	Time	Filename	LabID	ClientId	DF					
21	1238	NT1418051021.D	18E0009-04		1	7.90	135993	8.88	110204	
22	1252	NT1418051022.D	18E0009-06		1	7.90	133738	8.88	110592	
23	1305	NT1418051023.D	SGE0153-CCV1		1	7.90	155561	8.89	126301	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

Instrument: nt14.i Date: 10-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0747	NT1418051001.D	SGE0153-TUN1	1	NO MANUAL INTEGRATION
0801	NT1418051002.D	SGE0153-CAL4	1	p-Terphenyl-d14,
0826	NT1418051003.D	SGE0153-CAL4	1	NO MANUAL INTEGRATION
0840	NT1418051004.D	SGE0153-CAL6	1	NO MANUAL INTEGRATION
0853	NT1418051005.D	SGE0153-CAL1	1	NO MANUAL INTEGRATION
0907	NT1418051006.D	SGE0153-CAL5	1	NO MANUAL INTEGRATION
0920	NT1418051007.D	SGE0153-CAL2	1	NO MANUAL INTEGRATION
0934	NT1418051008.D	SGE0153-CAL3	1	NO MANUAL INTEGRATION
0947	NT1418051009.D	SGE0153-ICV1	1	NO MANUAL INTEGRATION
1009	NT1418051010.D	BGE0111-BLK1	1	NO MANUAL INTEGRATION
1023	NT1418051011.D	BGE0111-BS1	1	NO MANUAL INTEGRATION
1036	NT1418051012.D	18D0363-01	1	NO MANUAL INTEGRATION
1050	NT1418051013.D	18E0006-05	1	p-Terphenyl-d14,
1103	NT1418051014.D	18E0006-06	1	p-Terphenyl-d14,
1117	NT1418051015.D	BGE0111-MS1	1	NO MANUAL INTEGRATION
1130	NT1418051016.D	BGE0111-MSD1	1	p-Terphenyl-d14,
1144	NT1418051017.D	18E0006-07	1	p-Terphenyl-d14,

Instrument: nt14.i Date: 10-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
1157	NT1418051018.D	18E0009-01	1	p-Terphenyl-d14,
1211	NT1418051019.D	18E0009-02	1	p-Terphenyl-d14,
1224	NT1418051020.D	18E0009-03	1	NO MANUAL INTEGRATION
1238	NT1418051021.D	18E0009-04	1	p-Terphenyl-d14,
1252	NT1418051022.D	18E0009-06	1	p-Terphenyl-d14,
1305	NT1418051023.D	SGE0153-CCV1	1	p-Terphenyl-d14,

Security Status Report

Date: 10-May-2018 14:02

NT1418051001.D	Data Locked	van, 10-May-2018 14:02
NT1418051002.D	Data Locked	van, 10-May-2018 14:02
NT1418051003.D	Data Locked	van, 10-May-2018 14:02
NT1418051004.D	Data Locked	van, 10-May-2018 14:02
NT1418051005.D	Data Locked	van, 10-May-2018 14:02
NT1418051006.D	Data Locked	van, 10-May-2018 14:02
NT1418051007.D	Data Locked	van, 10-May-2018 14:02
NT1418051008.D	Data Locked	van, 10-May-2018 14:02
NT1418051009.D	Data Locked	van, 10-May-2018 14:02
NT1418051010.D	Data Locked	van, 10-May-2018 14:02
NT1418051011.D	Data Locked	van, 10-May-2018 14:02
NT1418051012.D	Data Locked	van, 10-May-2018 14:02
NT1418051013.D	Data Locked	van, 10-May-2018 14:02
NT1418051014.D	Data Locked	van, 10-May-2018 14:02
NT1418051015.D	Data Locked	van, 10-May-2018 14:02
NT1418051016.D	Data Locked	van, 10-May-2018 14:02
NT1418051017.D	Data Locked	van, 10-May-2018 14:02
NT1418051018.D	Data Locked	van, 10-May-2018 14:02
NT1418051019.D	Data Locked	van, 10-May-2018 14:02
NT1418051020.D	Data Locked	van, 10-May-2018 14:02
NT1418051021.D	Data Locked	van, 10-May-2018 14:02
NT1418051022.D	Data Locked	van, 10-May-2018 14:02
NT1418051023.D	Data Locked	van, 10-May-2018 14:02

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 10-MAY-2018 08:26
End Cal Date : 10-MAY-2018 09:34
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Last Edit : 10-May-2018 13:26 nt14.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem3\nt14.i\20180510.b\NT1418051005.D
Level 2: \\target\share\chem3\nt14.i\20180510.b\NT1418051007.D
Level 3: \\target\share\chem3\nt14.i\20180510.b\NT1418051008.D
Level 4: \\target\share\chem3\nt14.i\20180510.b\NT1418051003.D
Level 5: \\target\share\chem3\nt14.i\20180510.b\NT1418051006.D
Level 6: \\target\share\chem3\nt14.i\20180510.b\NT1418051004.D

Compound	0.05000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	4.000 Level 6	RRF	% RSD
2 Tetrabutyl Tin	0.72425	0.62363	0.75706	0.84246	0.81484	0.73496	0.74953	10.275
3 Tributyl Tin (Hexyl)	0.60296	0.51111	0.62352	0.70202	0.67635	0.62790	0.62398	10.637
5 Dibutyl Tin (Hexyl)	0.05108	0.05318	0.05271	0.05266	0.05553	0.03920	0.05072	11.489
7 Butyl Tin (Hexyl)	0.08263	0.08462	0.08485	0.08630	0.08961	0.06474	0.08213	10.746
$ 1 Tripropyl Tin (Hexyl)	0.77237	0.66720	0.80478	0.89814	0.87914	0.81163	0.80554	10.277
$ 6 Tripentyl Tin (Hexyl)	0.07536	0.07739	0.07756	0.07801	0.08360	0.05906	0.07516	11.122

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Batch File: \\target\share\chem3\nt14.i\20180510.b
Inst ID: nt14.i

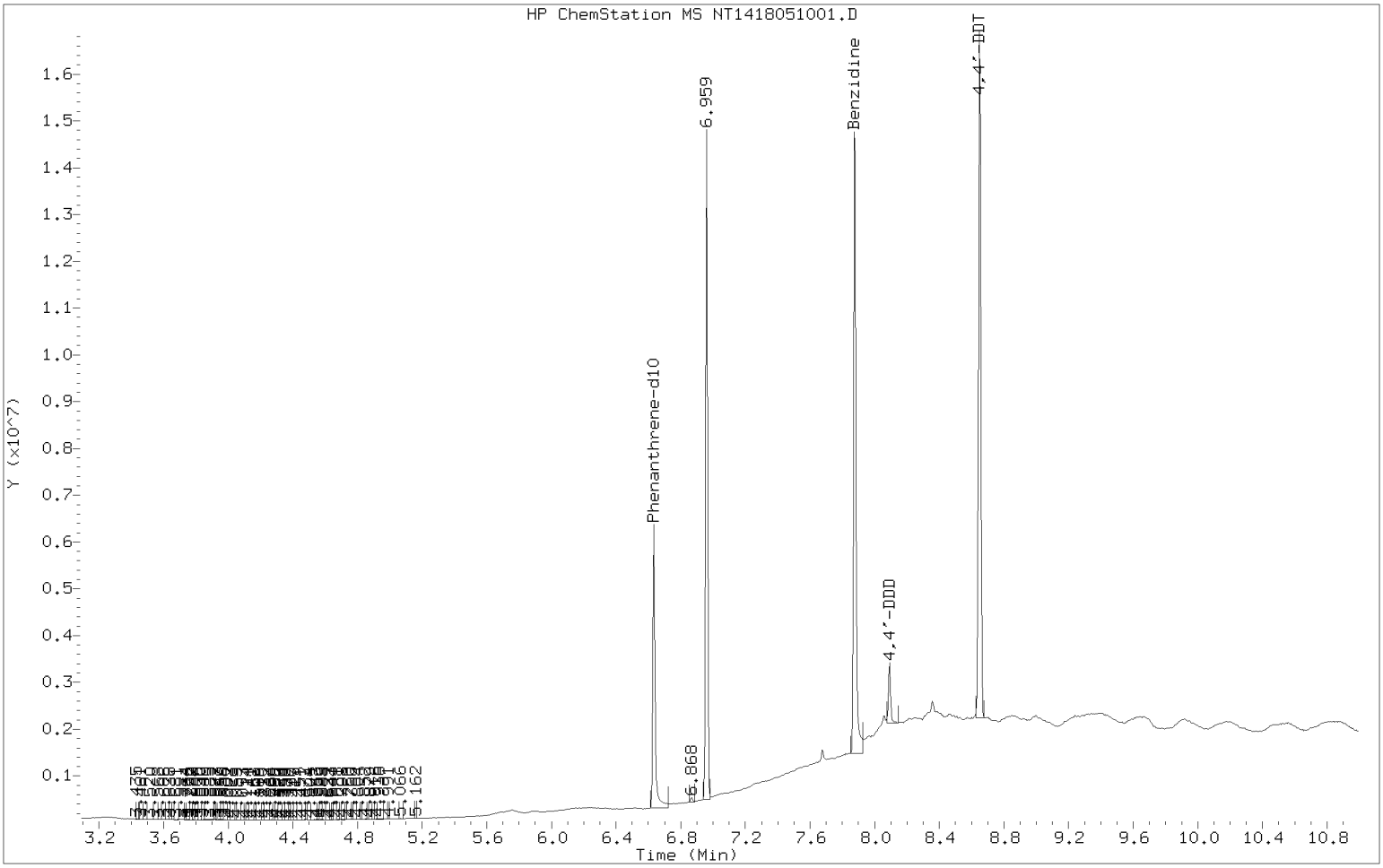
ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	NT1418051003	NT1418051004	NT1418051005	NT1418051006	NT1418051007	NT1418051008
INJ.DATE:	10-MAY-2018	10-MAY-2018	10-MAY-2018	10-MAY-2018	10-MAY-2018	10-MAY-2018
INJ.TIME:	08:26	08:40	08:53	09:07	09:20	09:34

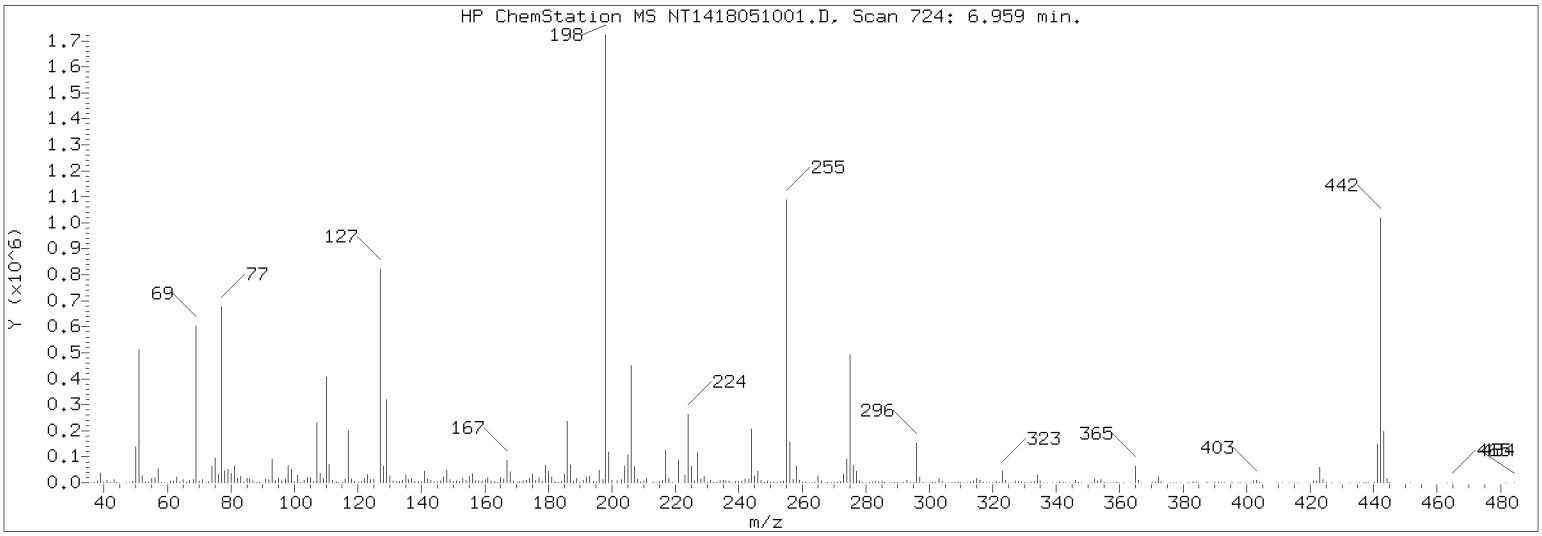
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
$ 1 Tripropyl Tin (Hexyl)	6.264	6.263	6.263	6.263	6.263	6.263	6.264	6.138-6.389	6.263	0.000
2 Tetrabutyl Tin	6.482	6.482	6.482	6.482	6.482	6.482	6.482	6.353-6.612	6.482	0.000
3 Tributyl Tin (Hexyl)	7.254	7.254	7.254	7.254	7.254	7.254	7.254	7.109-7.399	7.254	0.000
* 4 Tetrapentyl Tin	7.910	7.900	7.900	7.900	7.900	7.900	7.910	7.752-8.068	7.902	0.004
5 Dibutyl Tin (Hexyl)	7.949	7.949	7.949	7.949	7.949	7.949	7.949	7.790-8.108	7.949	0.000
$ 6 Tripentyl Tin (Hexyl)	8.242	8.241	8.241	8.241	8.241	8.241	8.242	8.077-8.406	8.241	0.000
7 Butyl Tin (Hexyl)	8.583	8.573	8.573	8.573	8.573	8.573	8.583	8.412-8.755	8.575	0.004
* 8 p-Terphenyl-d14	8.886	8.886	8.886	8.886	8.886	8.886	8.886	8.708-9.064	8.886	0.000

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

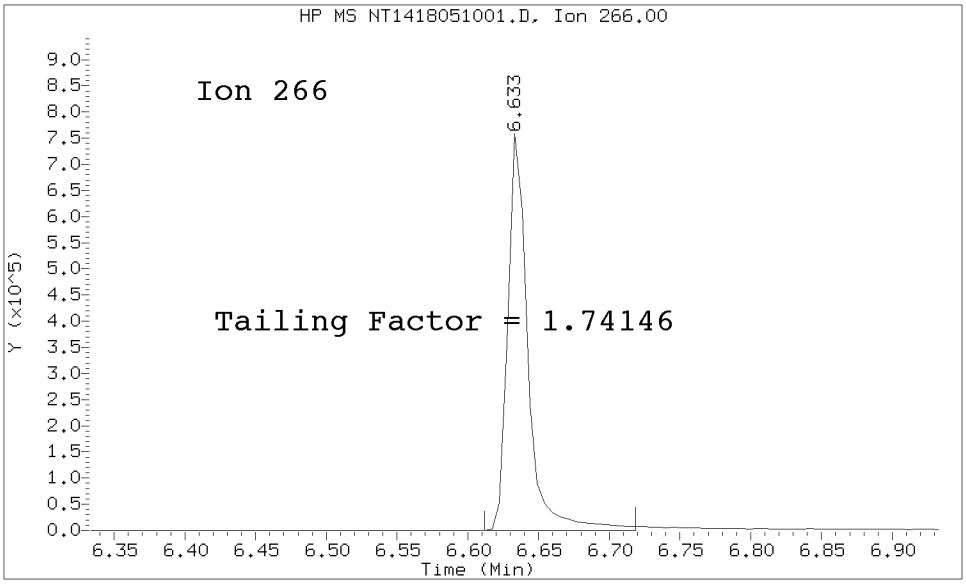
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180510.b/NT1418051001.D/NT1418051001.D
Method Used: \20180510.b\df8270.m Inst: nt14
Injection Date: 10-MAY-2018 07:47 Operator: VTS
Sample Info: SGE0153-TUN1 SGE0153-TUN1
Report Date: 05/10/2018 13:56



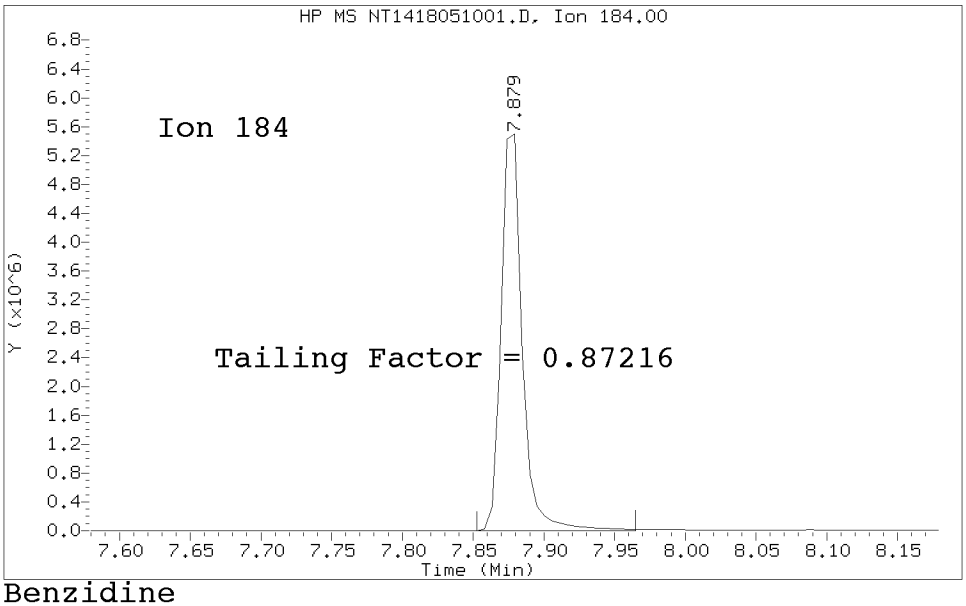


Datafile Analyzed: /20180510.b/NT1418051001.D/NT1418051001.D
Method Used: \20180510.b\df8270.m\sw846ddt.m Inst: nt14
Injection Date: 10-MAY-2018 07:47 Operator: VTS
Sample Info: SGE0153-TUN1
Report Date: 05/10/2018 13:56



Pentachlorophenol
==========
Exp. RT = 6.633
Found RT = 6.633

Tail Factor = 1.741 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.879
Found RT = 7.879

Tail Factor = 0.872 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.7414634	2.000	PASS
Benzidine	0.8721560	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2947001			N/A
4,4-DDE	21220	0.7	20.0	PASS
4,4-DDD	48993	1.6	20.0	PASS
4,4-DDD + DDE	70213	2.3	20.0	PASS

Tuning Sample, nt14.i/20180510.b/NT1418051001.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	30.02
68	Less than 2.00% of mass 69	0.54 (1.58)
69	Mass 69 relative abundance	34.22
70	Less than 2.00% of mass 69	0.19 (0.56)
127	10.00 - 80.00% of mass 198	47.25
197	Less than 2.00% of mass 198	0.55
199	5.00 - 9.00% of mass 198	6.82
275	10.00 - 60.00% of mass 198	29.55
365	Greater than 1.00% of mass 198	3.98
441	0.01 - 24.00% of mass 442	9.59 (14.43)
442	50.00 - 200.00% of mass 198	66.47
443	15.00 - 24.00% of mass 442	12.87 (19.36)

Data File: NT1418051001.D
Spectrum: Avg. Scans 723-725 (6.96), Background Scan 718
Location of Maximum: 198.00
Number of points: 393

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	221	139.00	1137	239.00	3379	341.00	3927
37.00	1457	140.00	2824	240.00	2691	342.00	1204
38.00	4335	141.00	30792	241.00	4861	343.00	67
39.00	27312	142.00	9921	242.00	10626	344.00	332
40.00	1268	143.00	6545	243.00	11121	345.00	54
42.00	252	144.00	1924	244.00	155008	346.00	8156
45.00	610	145.00	1688	245.00	20424	347.00	1313
46.00	73	146.00	5591	246.00	32480	348.00	132
48.00	291	147.00	16136	247.00	5664	349.00	59
49.00	2654	148.00	36336	248.00	1267	350.00	337
50.00	102976	149.00	7450	249.00	5249	351.00	662
51.00	382848	150.00	1812	250.00	880	352.00	10745
52.00	19480	151.00	3509	251.00	1311	353.00	6335
53.00	1153	152.00	1833	252.00	1423	354.00	9868
54.00	329	153.00	10468	253.00	3241	355.00	1676
55.00	1777	154.00	7273	254.00	5144	356.00	427
56.00	11173	155.00	17144	255.00	816064	357.00	50
57.00	25064	156.00	26232	256.00	117856	358.00	159
58.00	962	157.00	4338	257.00	8739	359.00	726
59.00	295	158.00	5805	258.00	50248	360.00	247
60.00	369	159.00	3977	259.00	7444	361.00	187
61.00	5053	160.00	9598	260.00	1233	362.00	88
62.00	6177	161.00	13711	261.00	1572	363.00	5
63.00	16271	162.00	4523	262.00	445	365.00	50800
64.00	2304	163.00	1102	263.00	995	366.00	7564
65.00	8009	164.00	1477	264.00	993	367.00	352
66.00	511	165.00	10992	265.00	20688	368.00	161
67.00	1148	166.00	9812	266.00	3018	370.00	916
68.00	6904	167.00	63648	267.00	493	371.00	2590
69.00	436480	168.00	31968	268.00	272	372.00	16616
70.00	2456	169.00	5231	270.00	791	373.00	4232
71.00	550	170.00	2229	271.00	1434	374.00	629
72.00	28	171.00	3055	272.00	2459	375.00	21
73.00	3021	172.00	5546	273.00	24760	376.00	249
74.00	47968	173.00	7289	274.00	67280	377.00	342
75.00	72416	174.00	13094	275.00	376832	378.00	105
76.00	24680	175.00	24672	276.00	49360	379.00	148
77.00	506560	176.00	6792	277.00	33968	382.00	187
78.00	34632	177.00	11965	278.00	5698	383.00	4107
79.00	33968	178.00	3861	279.00	955	384.00	1378
80.00	25880	179.00	47248	280.00	191	385.00	249
81.00	37624	180.00	33568	281.00	448	386.00	116
82.00	8932	181.00	15364	282.00	783	387.00	277
83.00	7630	182.00	2185	283.00	3542	388.00	50
84.00	852	183.00	1155	284.00	2764	389.00	111
85.00	6677	184.00	3314	285.00	5650	390.00	2164
86.00	9925	185.00	23312	286.00	956	391.00	1329
87.00	4808	186.00	177152	287.00	107	392.00	1015
88.00	1732	187.00	51936	288.00	331	393.00	95

89.00	818	188.00	5017	289.00	1512	395.00	342
90.00	173	189.00	11508	290.00	949	396.00	148
91.00	8134	190.00	1978	291.00	616	397.00	119
92.00	8784	191.00	5125	292.00	1314	398.00	93
93.00	62960	192.00	15512	293.00	7886	399.00	41
94.00	4037	193.00	16936	294.00	2082	401.00	1002
95.00	584	194.00	3288	295.00	2212	402.00	5611
96.00	1771	195.00	923	296.00	116096	403.00	8040
97.00	1643	196.00	35976	297.00	15722	404.00	2712
98.00	48328	197.00	6978	298.00	1020	405.00	582
99.00	36960	198.00	1275392	299.00	292	408.00	51
100.00	3083	199.00	86944	300.00	199	409.00	74
101.00	22080	200.00	6531	301.00	1275	410.00	238
102.00	1239	201.00	5304	302.00	2162	413.00	169
103.00	6414	203.00	9303	303.00	13294	415.00	396
104.00	13190	204.00	48584	304.00	3352	417.00	56
105.00	13020	205.00	80440	305.00	428	418.00	55
106.00	3576	206.00	335104	306.00	187	419.00	142
107.00	168064	207.00	43288	307.00	157	420.00	123
108.00	25920	208.00	11356	308.00	1777	421.00	6482
109.00	5510	209.00	3273	309.00	1416	422.00	6593
110.00	295552	210.00	4883	310.00	1410	423.00	47304
111.00	45856	211.00	12603	311.00	264	424.00	9380
112.00	5629	212.00	346	312.00	692	425.00	1068
113.00	1533	213.00	981	313.00	1035	429.00	182
114.00	73	214.00	177	314.00	5065	430.00	52
115.00	681	215.00	3704	315.00	12541	432.00	134
116.00	9393	216.00	7049	316.00	7033	435.00	262
117.00	147904	217.00	93096	317.00	1218	436.00	243
118.00	10462	218.00	11557	318.00	88	437.00	463
119.00	795	219.00	1034	319.00	84	438.00	502
120.00	2253	220.00	825	320.00	372	439.00	16
121.00	735	221.00	63016	321.00	3101	440.00	463
122.00	10809	222.00	2536	322.00	1694	441.00	122360
123.00	18352	223.00	20832	323.00	33392	442.00	847808
124.00	7908	224.00	197504	324.00	6624	443.00	164096
125.00	7894	225.00	49176	325.00	604	444.00	15011
126.00	1243	226.00	5331	326.00	545	445.00	855
127.00	602624	227.00	85768	327.00	6409	451.00	55
128.00	46128	228.00	11550	328.00	3595	452.00	55
129.00	236672	229.00	17200	329.00	756	453.00	55
130.00	19784	230.00	2182	330.00	457	463.00	63
131.00	4017	231.00	7069	332.00	2551	465.00	66
132.00	1754	232.00	1042	333.00	3045	473.00	51
133.00	922	233.00	1500	334.00	22968	481.00	62
134.00	6428	234.00	5028	335.00	5692	482.00	110
135.00	19336	235.00	6103	336.00	841	484.00	54
136.00	7535	236.00	4543	337.00	268		
137.00	10688	237.00	6257	339.00	747		
138.00	2160	238.00	847	340.00	633		

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051003.D

Date : 10-MAY-2018 08:26

Client ID:

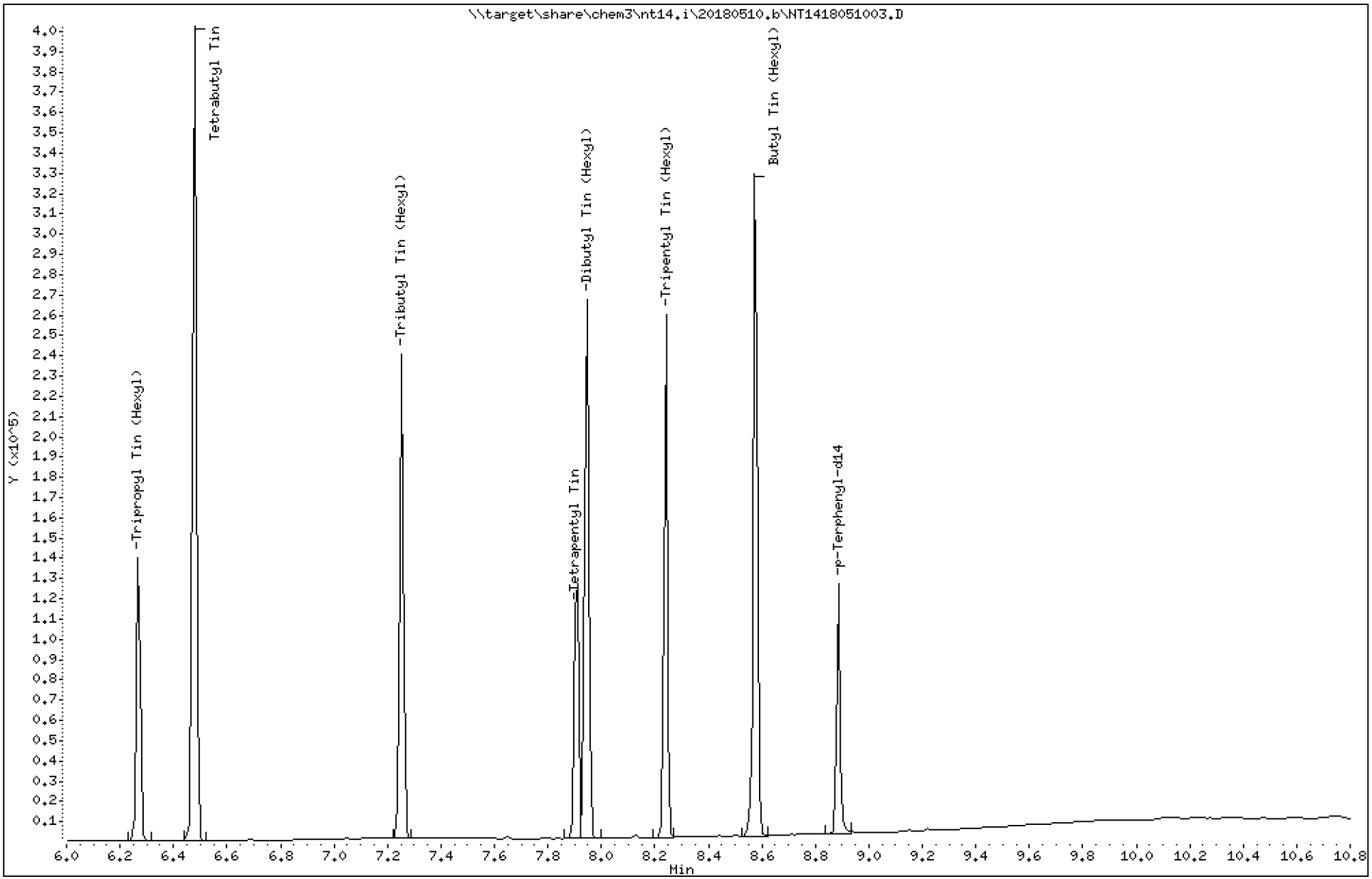
Instrument: nt14.i

Sample Info: SGE0153-CAL4

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051003.D
Lab Smp Id: SGE0153-CAL4
Inj Date : 10-MAY-2018 08:26
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL4
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 09-MAY-2018 14:35 Cal File: NT1418050907.D
Als bottle: 2 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.792)	68051	1.00000	1.115
	2 Tetrabutyl Tin	289	6.482	6.482	(0.819)	63832	1.00000	1.124
	3 Tributyl Tin (Hexyl)	319	7.254	7.253	(0.917)	53191	1.00000	1.125
*	4 Tetrapentyl Tin	333	7.909	7.900	(1.000)	151538	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	68128	2.00000	2.076
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	100924	2.00000	2.076
	7 Butyl Tin (Hexyl)	347	8.583	8.573	(0.966)	111640	2.00000	2.102
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	129365	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051003.D
Lab Smp Id: SGE0153-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	151538	0.00
8 p-Terphenyl-d14	129365	64683	258730	129365	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.91	0.13
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051003.D

Lab ID: SGE0153-CAL4
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 08:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

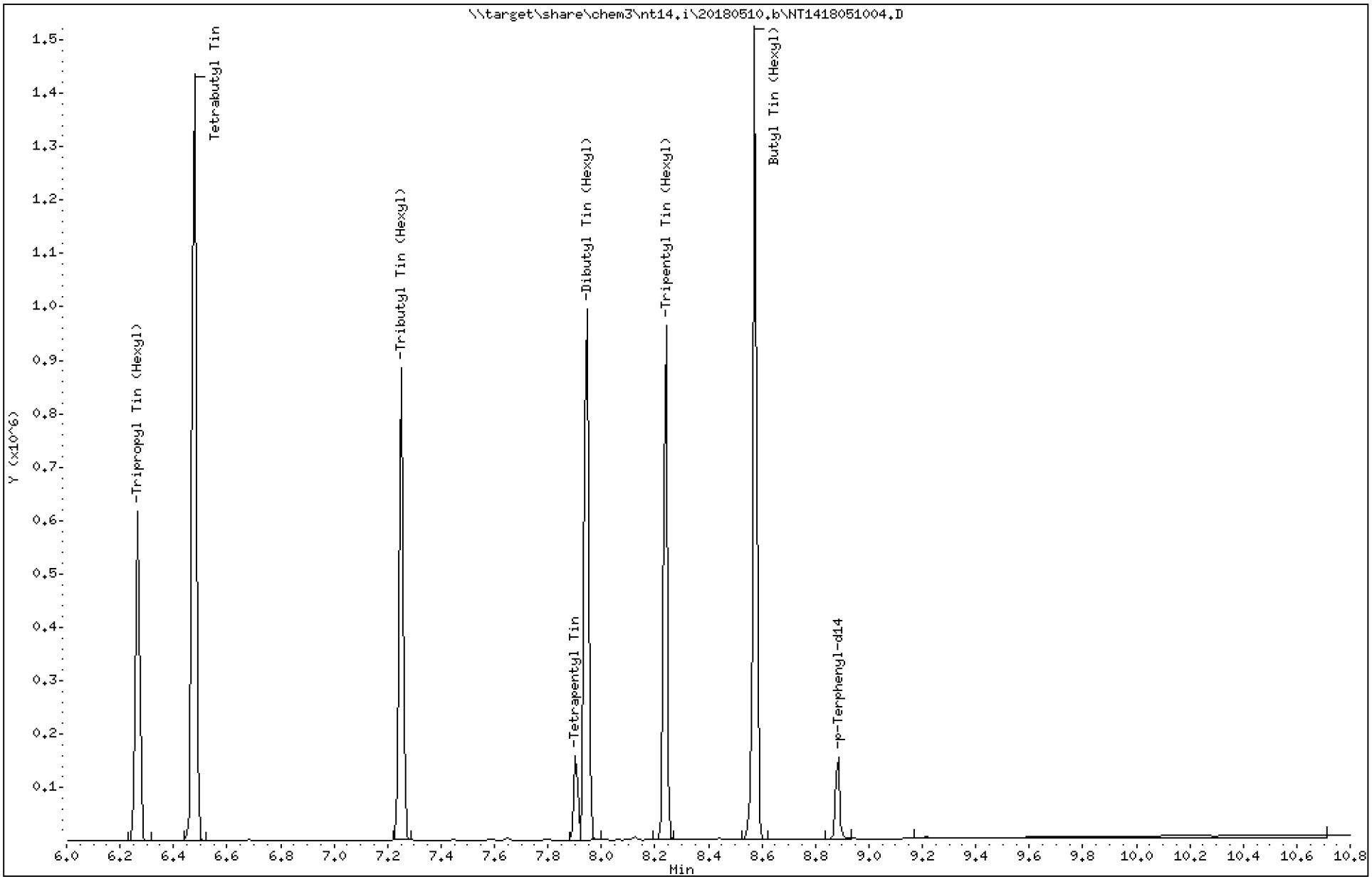
On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051004.D
Date : 10-MAY-2018 08:40
Client ID:
Sample Info: SGE0153-CAL6

Instrument: nt14.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



18F0364 CLPLIKE (Rev0) - Page 1710 of 2472

ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051004.D
Lab Smp Id: SGE0153-CAL6
Inj Date : 10-MAY-2018 08:40
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL6
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 09-MAY-2018 14:35 Cal File: NT1418050907.D
Als bottle: 3 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	272760	4.00000	4.030
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	246993	4.00000	3.922
	3 Tributyl Tin (Hexyl)	319	7.254	7.253	(0.918)	211015	4.00000	4.025
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	168032	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	283725	8.00000	6.182
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	427508	8.00000	6.286
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	468664	8.00000	6.307
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	180967	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051004.D
Lab Smp Id: SGE0153-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	168032	10.88
8 p-Terphenyl-d14	129365	64683	258730	180967	39.89

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051004.D

Lab ID: SGE0153-CAL6
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 08:40

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

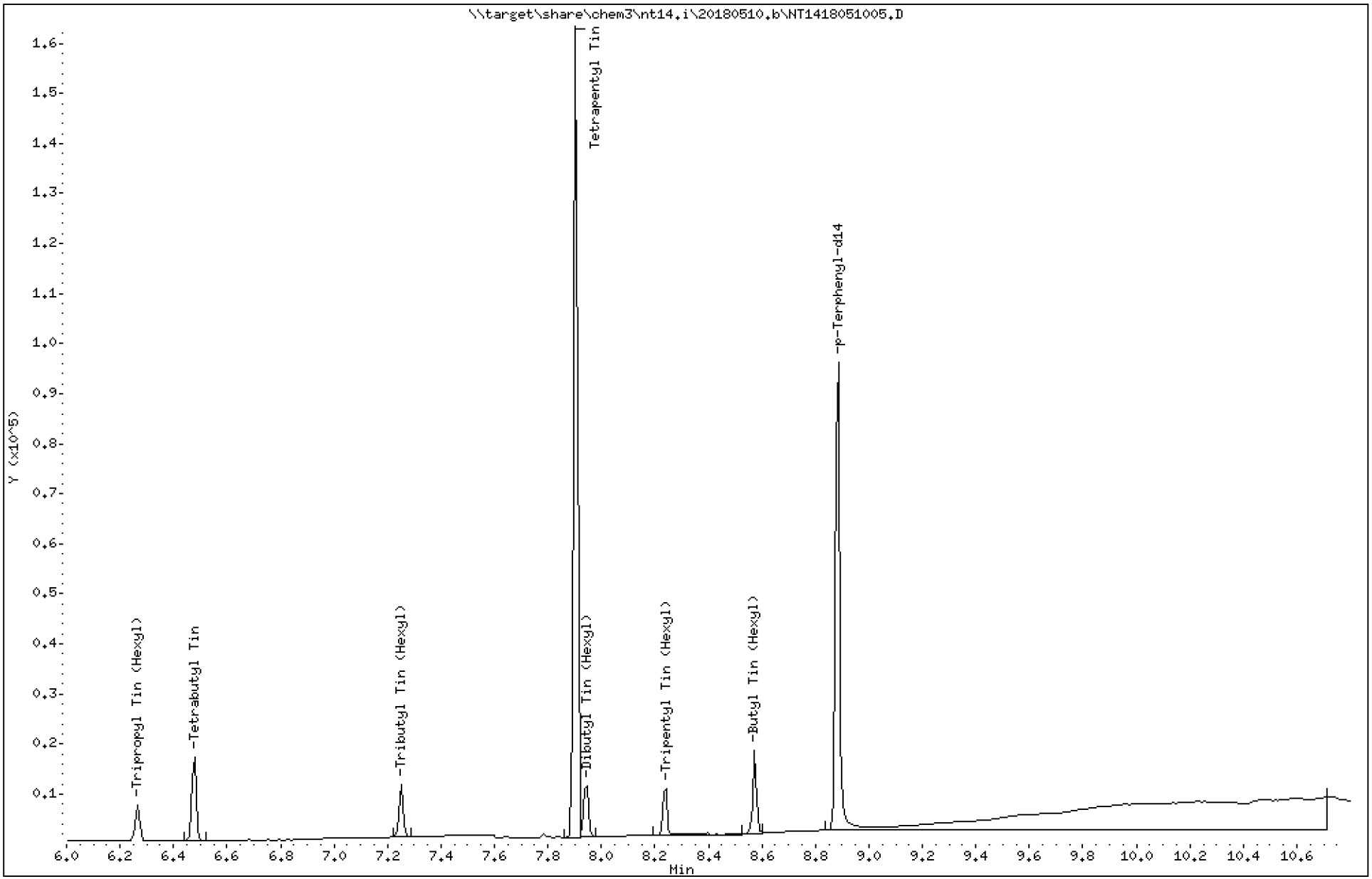
NONE

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051005.D
Date : 10-MAY-2018 08:53
Client ID:
Sample Info: SGE0153-CAL1

Instrument: nt14.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



18F0364 CLPLIKE (Rev0) - Page 1714 of 2472

ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051005.D
Lab Smp Id: SGE0153-CAL1
Inj Date : 10-MAY-2018 08:53
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 09-MAY-2018 14:35 Cal File: NT1418050907.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	3114	0.05000	0.04794
	2 Tetrabutyl Tin	289	6.481	6.482	(0.821)	2920	0.05000	0.04831
	3 Tributyl Tin (Hexyl)	319	7.253	7.253	(0.918)	2431	0.05000	0.04832
*	4 Tetrapentyl Tin	333	7.899	7.900	(1.000)	161270	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	3126	0.10000	0.1007
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	4612	0.10000	0.1003
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	5057	0.10000	0.1006
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	122407	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051005.D
Lab Smp Id: SGE0153-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	161270	6.42
8 p-Terphenyl-d14	129365	64683	258730	122407	-5.38

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	-0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051005.D

Lab ID: SGE0153-CAL1
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 08:53

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051006.D

Date : 10-MAY-2018 09:07

Client ID:

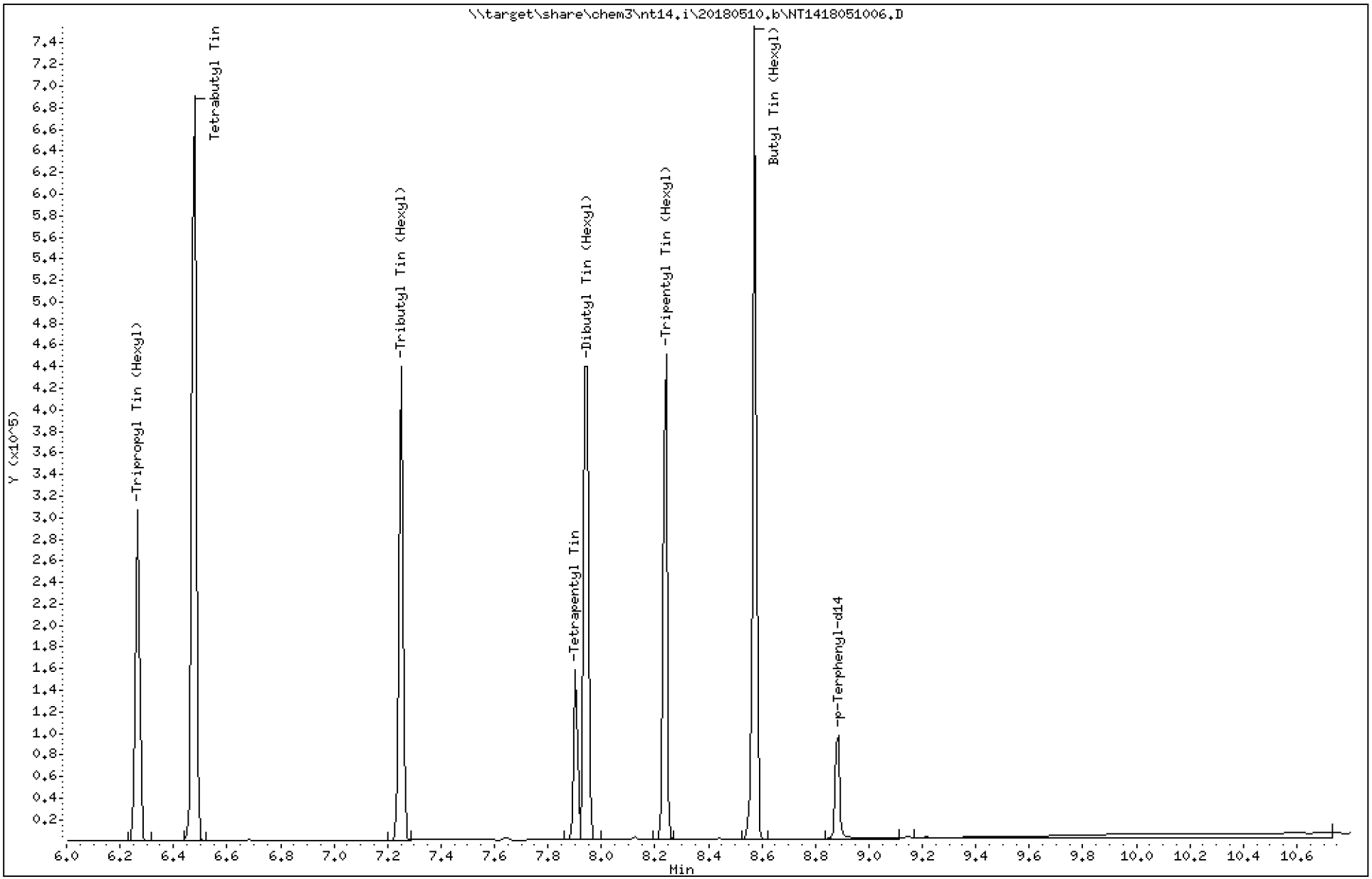
Instrument: nt14.i

Sample Info: SGE0153-CAL5

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051006.D
Lab Smp Id: SGE0153-CAL5
Inj Date : 10-MAY-2018 09:07
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL5
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 10-MAY-2018 09:07 Cal File: NT1418051006.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	135970	2.00000	2.183
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	126025	2.00000	2.174
	3 Tributyl Tin (Hexyl)	319	7.253	7.253	(0.918)	104606	2.00000	2.168
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	154663	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	138151	4.00000	4.379
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	207999	4.00000	4.449
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	222947	4.00000	4.364
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	124401	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051006.D
Lab Smp Id: SGE0153-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	154663	2.06
8 p-Terphenyl-d14	129365	64683	258730	124401	-3.84

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	-0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051006.D

Lab ID: SGE0153-CAL5
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 09:07

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051007.D

Date : 10-MAY-2018 09:20

Client ID:

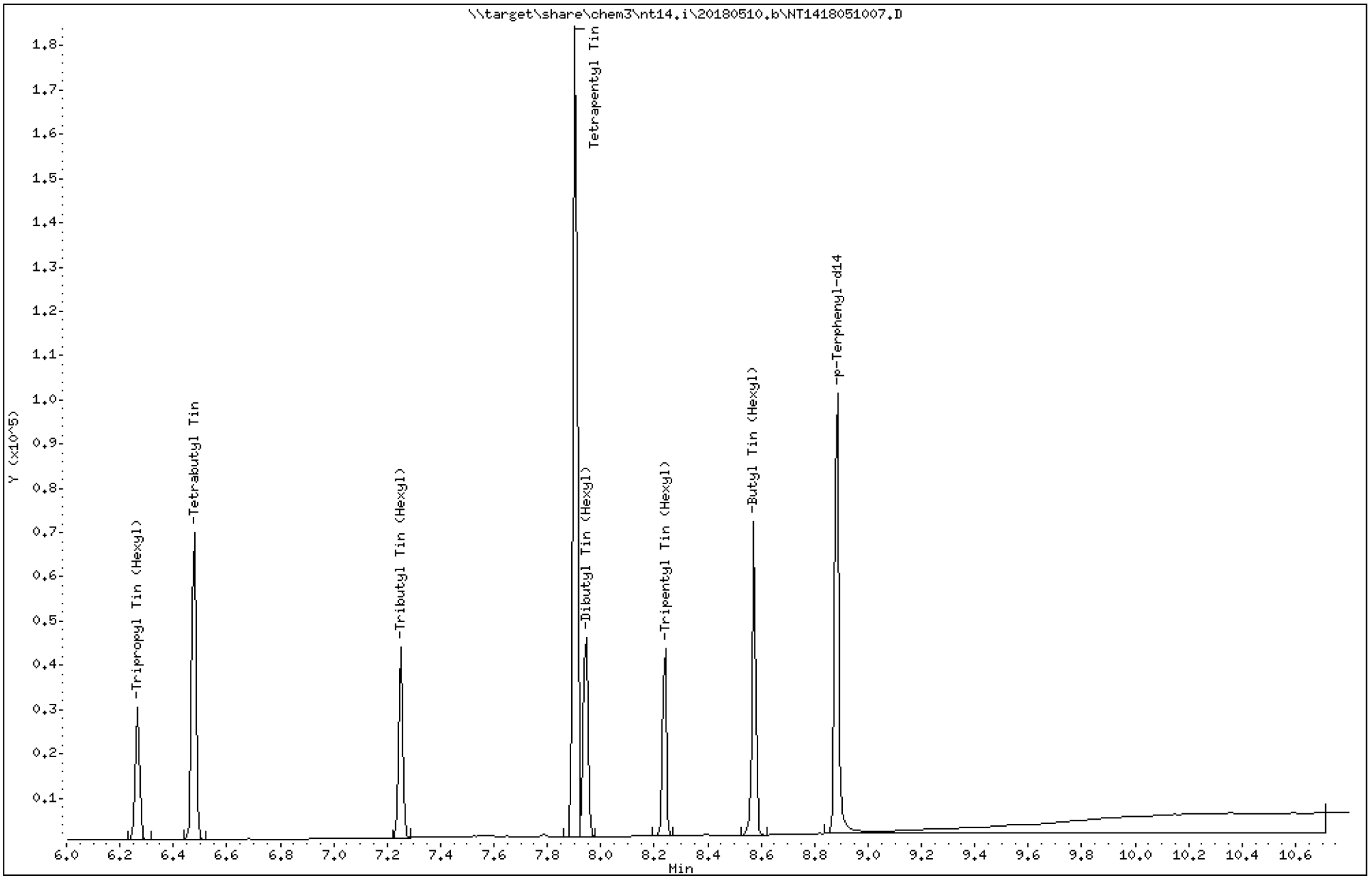
Instrument: nt14.i

Sample Info: SGE0153-CAL2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051007.D
Lab Smp Id: SGE0153-CAL2
Inj Date : 10-MAY-2018 09:20
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL2
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 10-MAY-2018 09:20 Cal File: NT1418051007.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	13247	0.20000	0.1657
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	12382	0.20000	0.1664
	3 Tributyl Tin (Hexyl)	319	7.253	7.253	(0.918)	10148	0.20000	0.1638
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	198547	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	13502	0.40000	0.4193
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	19650	0.40000	0.4119
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	21486	0.40000	0.4122
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	126951	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051007.D
Lab Smp Id: SGE0153-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	198547	31.02
8 p-Terphenyl-d14	129365	64683	258730	126951	-1.87

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	-0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051007.D

Lab ID: SGE0153-CAL2
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 09:20

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

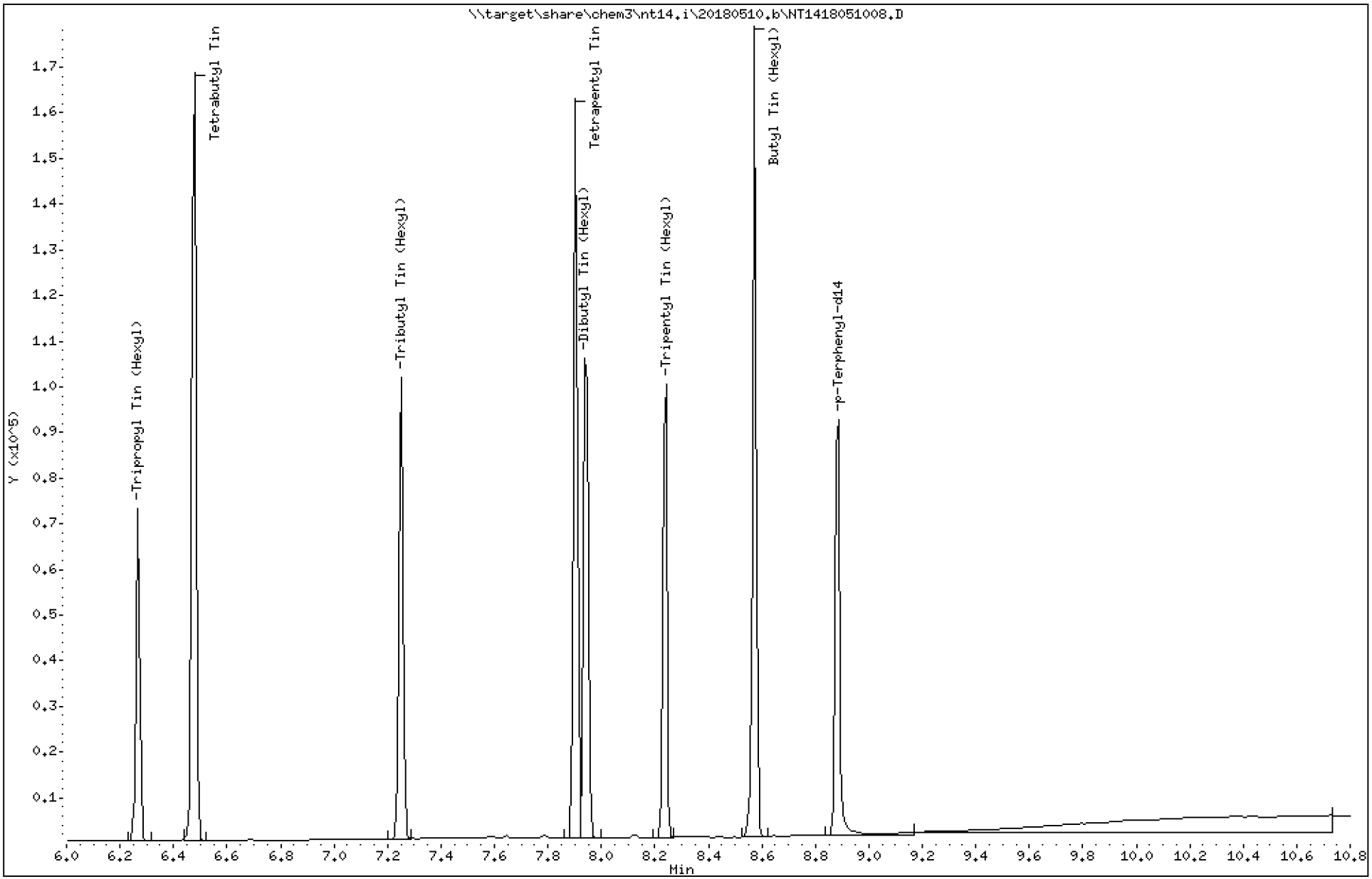
NONE

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051008.D
Date : 10-MAY-2018 09:34
Client ID:
Sample Info: SGE0153-CAL3

Instrument: nt14.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



18F0364 CLPLIKE (Rev0) - Page 1726 of 2472

ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051008.D
Lab Smp Id: SGE0153-CAL3
Inj Date : 10-MAY-2018 09:34
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CAL3
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	31789	0.50000	0.4995
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	29904	0.50000	0.5050
	3 Tributyl Tin (Hexyl)	319	7.254	7.253	(0.918)	24629	0.50000	0.4996
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	158000	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	32280	1.00000	1.039
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	47504	1.00000	1.032
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	51966	1.00000	1.033
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	122489	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051008.D
Lab Smp Id: SGE0153-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	158000	4.26
8 p-Terphenyl-d14	129365	64683	258730	122489	-5.32

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051008.D

Lab ID: SGE0153-CAL3
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 09:34

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BF00065	Instrument:	NT8
Calibration Date:	06/27/2018 16:00	Column (1):	RXI-17Sil ms

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Naphthalene	0.1	1.163045	0.5	1.15121	1	1.047707	2.5	1.18807	5	1.079735	10	1.100593
2-Methylnaphthalene	0.1	0.6659087	0.5	0.6654261	1	0.626952	2.5	0.6892104	5	0.6306461	10	0.6341356
1-Methylnaphthalene	0.1	0.6679949	0.5	0.6285541	1	0.6170387	2.5	0.7086188	5	0.6419146	10	0.651756
Acenaphthylene	0.1	1.902357	0.5	1.986243	1	1.898238	2.5	2.180281	5	2.064768	10	2.115698
Acenaphthene	0.1	1.503898	0.5	1.386895	1	1.330195	2.5	1.493698	5	1.414552	10	1.436819
Dibenzofuran	0.1	2.010726	0.5	2.060296	1	1.90267	2.5	2.091585	5	1.983773	10	1.981785
Fluorene	0.1	1.591625	0.5	1.575488	1	1.49467	2.5	1.67419	5	1.609264	10	1.639206
Phenanthrene	0.1	1.161179	0.5	1.096189	1	1.056033	2.5	1.181115	5	1.082363	10	1.080973
Anthracene	0.1	1.074069	0.5	1.044219	1	1.020192	2.5	1.160945	5	1.079045	10	1.070423
Fluoranthene	0.1	1.229634	0.5	1.308497	1	1.230592	2.5	1.426442	5	1.30292	10	1.289107
Pyrene	0.1	1.077319	0.5	1.076037	1	1.134531	2.5	1.284458	5	1.188012	10	1.189511
Benzo(a)anthracene	0.1	1.076145	0.5	1.089198	1	1.119195	2.5	1.267321	5	1.176179	10	1.188509
Chrysene	0.1	1.145147	0.5	1.083048	1	1.094215	2.5	1.2511	5	1.122884	10	1.132593
Benzo(b)fluoranthene	0.1	1.204737	0.5	1.128912	1	1.196167	2.5	1.36746	5	1.276763	10	1.331023
Benzo(k)fluoranthene	0.1	1.170305	0.5	1.170183	1	1.253824	2.5	1.404308	5	1.317124	10	1.298694
Benzo(j)fluoranthene	0.1	1.269628	0.5	1.158375	1	1.214468	2.5	1.368565	5	1.254099	10	1.265226
Benzo(a)pyrene	0.1	1.020281	0.5	0.9807216	1	1.06808	2.5	1.23334	5	1.167638	10	1.204751
Indeno(1,2,3-cd)pyrene	0.1	0.9080934	0.5	0.9036459	1	0.9856234	2.5	1.260431	5	1.209294	10	1.331699
Dibenzo(a,h)anthracene	0.1	0.6666919	0.5	0.7086406	1	0.8151652	2.5	1.088903	5	1.062981	10	1.152759
Benzo(g,h,i)perylene	0.1	0.9058231	0.5	0.7827168	1	0.827116	2.5	1.020458	5	0.9897325	10	1.065273
Benzofluoranthenes, Total	0.3	1.209656	1.5	1.185801	3	1.190236	7.5	1.365071	15	1.253388	30	1.280115
2-Methylnaphthalene-d10	0.1	0.7391336	0.5	0.740122	1	0.6937904	2.5	0.7814411	5	0.7227837	10	0.7306601
Dibenzo[a,h]anthracene-d14	0.1	0.5859094	0.5	0.607531	1	0.6987665	2.5	0.9376787	5	0.9149041	10	1.003559
Fluoranthene-d10	0.1	1.254963	0.5	1.235347	1	1.205178	2.5	1.393852	5	1.303603	10	1.294996

INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BF00065	Instrument:	NT8
Calibration Date:	06/27/2018 16:00	Column (1):	RXI-17Sil ms

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Naphthalene	1.121727	4.8			RSD (15)	
2-Methylnaphthalene	0.6520465	3.9			RSD (15)	
1-Methylnaphthalene	0.6526462	5.0			RSD (15)	
Acenaphthylene	2.024598	5.7			RSD (15)	
Acenaphthene	1.427676	4.6			RSD (15)	
Dibenzofuran	2.005139	3.3			RSD (15)	
Fluorene	1.597407	3.8			RSD (15)	
Phenanthrene	1.109642	4.5			RSD (15)	
Anthracene	1.074816	4.4			RSD (15)	
Fluoranthene	1.297865	5.5			RSD (15)	
Pyrene	1.158311	6.9			RSD (15)	
Benzo(a)anthracene	1.152758	6.3			RSD (15)	
Chrysene	1.138165	5.3			RSD (15)	
Benzo(b)fluoranthene	1.250844	7.2			RSD (15)	
Benzo(k)fluoranthene	1.269073	7.2			RSD (15)	
Benzo(j)fluoranthene	1.25506	5.5			RSD (15)	
Benzo(a)pyrene	1.112469	9.3			RSD (15)	
Indeno(1,2,3-cd)pyrene	1.099798	17.2	0.9963		LCOD (0.99)	
Dibenzo(a,h)anthracene	0.9158568	23.1	0.9965		LCOD (0.99)	
Benzo(g,h,i)perylene	0.9318532	12.0			RSD (15)	
Benzofluoranthenes, Total	1.247378	5.5			RSD (15)	
2-Methylnaphthalene-d10	0.7346551	3.9			RSD (15)	
Dibenzo[a,h]anthracene-d14	0.7913915	23.0	0.9958		LCOD (0.99)	
Fluoranthene-d10	1.281323	5.2			RSD (15)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 6/28/2018 11:45:54AM

ANALYSIS SEQUENCE

SGF0354

Instrument: NT8 Element Column ID: G005563
Calibration ID: BF00065 Tune File: 180627.U
EM Voltage: 1741

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGF0354-TUN1	MS Tune	QC		1	G000074		
SGF0354-CAL1	Cal Standard	QC		2	F010860	G003194	
SGF0354-CAL2	Cal Standard	QC		3	F010861	G003194	
SGF0354-CAL3	Cal Standard	QC		4	F010862	G003194	
SGF0354-CAL4	Cal Standard	QC		5	F010863	G003194	
SGF0354-CAL5	Cal Standard	QC		6	F010864	G003194	
SGF0354-CAL6	Cal Standard	QC		7	F010865	G003194	
SGF0354-SCV1	Secondary Cal Check	QC		8	G005878	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180627.b

	Time	Filename	LabID	ClientId	DF											
1	1602	N818062701.D	SGF0354-TUN1		1	NO ISTDS FOUND										
2	1615	N818062702.D	SGF0354-CAL4		1	4.78	97937	7.05	54983	9.07	115816	13.85	129167	17.67	111506	
3	1642	N818062703.D	SGF0354-CAL1		1	4.78	95869	7.05	54259	9.06	116864	13.84	136227	17.65	105716	
4	1709	N818062704.D	SGF0354-CAL2		1	4.78	92428	7.05	50882	9.06	111988	13.85	130081	17.66	105351	
5	1736	N818062705.D	SGF0354-CAL3		1	4.78	97848	7.05	54598	9.06	117966	13.84	131709	17.65	106771	
6	1802	N818062706.D	SGF0354-CAL5		1	4.78	99321	7.05	53712	9.06	117035	13.85	134971	17.66	117458	
7	1829	N818062707.D	SGF0354-CAL6		1	4.78	98806	7.05	53880	9.06	117039	13.85	134903	17.66	118680	
8	1856	N818062708.D	SGF0354-SCV1		1	4.78	95204	7.05	53385	9.06	114570	13.84	129633	17.66	107677	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180627.b

ARI Job No.: SGF0 Method: FSIMPNA180627.m Instrument: nt8.i Date: 27-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1615	N818062702.D	SGF0354-CAL4		1	Total Benzofluoranthenes,
1642	N818062703.D	SGF0354-CAL1		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1709	N818062704.D	SGF0354-CAL2		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1736	N818062705.D	SGF0354-CAL3		1	Total Benzofluoranthenes, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1802	N818062706.D	SGF0354-CAL5		1	Total Benzofluoranthenes,
1829	N818062707.D	SGF0354-CAL6		1	Total Benzofluoranthenes,
1856	N818062708.D	SGF0354-SCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 28-Jun-2018 11:51

N818062701.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062702.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062703.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062704.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062705.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062706.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062707.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062708.D	Data Locked	jianqing, 28-Jun-2018 11:50

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-JUN-2018 16:15
End Cal Date : 27-JUN-2018 18:29
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Last Edit : 28-Jun-2018 10:46 jianqing

Calibration File Names:
Level 1: \\target\share\chem3\nt8.i\20180627.b\N818062703.D
Level 2: \\target\share\chem3\nt8.i\20180627.b\N818062704.D
Level 3: \\target\share\chem3\nt8.i\20180627.b\N818062705.D
Level 4: \\target\share\chem3\nt8.i\20180627.b\N818062702.D
Level 5: \\target\share\chem3\nt8.i\20180627.b\N818062706.D
Level 6: \\target\share\chem3\nt8.i\20180627.b\N818062707.D

06/28/18

Compound	0.1000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
2 Naphthalene	1.16305	1.15121	1.04771	1.18807	1.07974	1.10059	AVRG		1.12173		4.82831
4 2-Methylnaphthalene	0.66591	0.66543	0.62695	0.68921	0.63065	0.63414	AVRG		0.65205		3.85601
5 1-methylnaphthalene	0.66799	0.62855	0.61704	0.70862	0.64191	0.65176	AVRG		0.65265		5.00397
6 2-Chloronaphthalene	0.73204	0.66374	0.65487	0.71247	0.66180	0.68063	AVRG		0.68426		4.56610
7 Biphenyl	1.86071	1.75693	1.67409	1.80882	1.74048	1.75916	AVRG		1.76670		3.58235
8 2,6-Dimethylnaphthalene	1.26910	1.29500	1.16763	1.35224	1.29488	1.31487	AVRG		1.28228		4.88226
9 Acenaphthylene	1.90236	1.98624	1.89824	2.18028	2.06477	2.11570	AVRG		2.02460		5.69754
11 Acenaphthene	1.50390	1.38690	1.33020	1.49370	1.41455	1.43682	AVRG		1.42768		4.60270
12 Dibenzofuran	2.01073	2.06030	1.90267	2.09158	1.98377	1.98179	AVRG		2.00514		3.31174
13 1,6,7-Trimethylnaphthalene	1.24993	1.27000	1.22649	1.34041	1.32268	1.33098	AVRG		1.29008		3.68949
14 Fluorene	1.59163	1.57549	1.49467	1.67419	1.60926	1.63921	AVRG		1.59741		3.84396
16 Phenanthrene	1.16118	1.09619	1.05603	1.18111	1.08236	1.08097	AVRG		1.10964		4.48525
17 Anthracene	1.07407	1.04422	1.02019	1.16094	1.07904	1.07042	AVRG		1.07482		4.43786
18 Dibenzothiophene	1.04121	1.03000	0.98645	1.11382	1.03980	1.03801	AVRG		1.04155		3.93712

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-JUN-2018 16:15
End Cal Date : 27-JUN-2018 18:29
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Last Edit : 28-Jun-2018 10:46 jianqing

Compound	0.1000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
19 Carbazole	0.85724	0.90617	0.87266	1.03020	0.95720	0.96660	AVRG		0.93168		6.99779
20 1-Methylphenanthrene	0.91799	0.83638	0.82142	0.96360	0.90548	0.90381	AVRG		0.89145		5.97755
22 Fluoranthene	1.22963	1.30850	1.23059	1.42644	1.30292	1.28911	AVRG		1.29787		5.54847
23 Pyrene	1.07732	1.07604	1.13453	1.28446	1.18801	1.18951	AVRG		1.15831		6.87011
24 Benzo(a)anthracene	1.07614	1.08920	1.11919	1.26732	1.17618	1.18851	AVRG		1.15276		6.25398
27 Chrysene	1.14515	1.08305	1.09422	1.25110	1.12288	1.13259	AVRG		1.13816		5.27706
28 Benzo(b)fluoranthene	1.20474	1.12891	1.19617	1.36746	1.27676	1.33102	AVRG		1.25084		7.21134
29 Benzo(k)fluoranthene	1.17031	1.17018	1.25382	1.40431	1.31712	1.29869	AVRG		1.26907		7.15643
30 Benzo(j)fluoranthene	1.26963	1.15838	1.21447	1.36856	1.25410	1.26523	AVRG		1.25506		5.54265
31 Total Benzofluoranthenes	1.20966	1.18580	1.19024	1.36507	1.25339	1.28012	AVRG		1.24738		5.48896
32 Benzo(a)pyrene	1.02028	0.98072	1.06808	1.23334	1.16764	1.20475	AVRG		1.11247		9.34129
34 Benzo(e)pyrene	1.24503	1.14239	1.19559	1.34462	1.24062	1.28886	AVRG		1.24285		5.66760
35 Perylene	1.22876	1.08878	1.14943	1.31548	1.22250	1.26864	AVRG		1.21227		6.74253
37 Indeno(1,2,3-cd)pyrene	4800	23800	52618	175682	355103	790230	LINR	0.09740	1.34084		0.99808
38 Dibenzo(a,h)anthracene	3524	18664	43518	151774	312139	684047	LINR	0.10406	1.16523		0.99859
39 Benzo(g,h,i)perylene	0.90582	0.78272	0.82712	1.02046	0.98973	1.06527	AVRG		0.93185		12.03541
$ 3 2-Methylnaphthalene-d10	0.73913	0.74012	0.69379	0.78144	0.72278	0.73066	AVRG		0.73466		3.88149
$ 21 Fluoranthene-d10	1.25496	1.23535	1.20518	1.39385	1.30360	1.29500	AVRG		1.28132		5.17134
$ 36 Dibenzo(a,h)anthracene-d14	3097	16001	37304	130696	268657	595512	LINR	0.11137	1.01418		0.99823

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-JUN-2018 16:15
End Cal Date : 27-JUN-2018 18:29
Quant Method : ISTD
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Last Edit : 28-Jun-2018 10:46 jianqing

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Batch File: \\target\share\chem3\nt8.i\20180627.b
Inst ID: nt8.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	N818062702	N818062703	N818062704	N818062705	N818062706	N818062707
INJ.DATE:	27-JUN-2018	27-JUN-2018	27-JUN-2018	27-JUN-2018	27-JUN-2018	27-JUN-2018
INJ.TIME:	16:15	16:42	17:09	17:36	18:02	18:29

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 1 Naphthalene-d8	4.785	4.782	4.782	4.785	4.782	4.785	4.785	1.785-7.785	4.783	0.002
2 Naphthalene	4.813	4.813	4.813	4.810	4.810	4.813	4.813	1.813-7.813	4.812	0.002
$ 3 2-Methylnaphthalene-d1	5.509	5.506	5.506	5.506	5.506	5.509	5.509	2.509-8.509	5.507	0.002
4 2-Methylnaphthalene	5.553	5.553	5.553	5.550	5.553	5.553	5.553	2.553-8.553	5.553	0.001
5 1-methylnaphthalene	5.752	5.746	5.749	5.749	5.749	5.752	5.752	2.752-8.752	5.750	0.002
6 2-Chloronaphthalene	6.236	6.230	6.233	6.233	6.236	6.236	6.236	3.236-9.236	6.234	0.003
7 Biphenyl	6.214	6.208	6.211	6.211	6.211	6.214	6.214	3.214-9.214	6.211	0.002
8 2,6-Dimethylnaphthalen	6.249	6.249	6.246	6.249	6.249	6.249	6.249	3.249-9.249	6.248	0.001
9 Acenaphthylene	6.941	6.938	6.938	6.938	6.938	6.941	6.941	3.941-9.941	6.939	0.002
* 10 Acenaphthene-d10	7.052	7.049	7.049	7.052	7.049	7.052	7.052	4.052-10.052	7.050	0.002
11 Acenaphthene	7.099	7.099	7.099	7.099	7.099	7.103	7.103	4.103-10.103	7.100	0.001
12 Dibenzofuran	7.245	7.245	7.242	7.245	7.245	7.248	7.248	4.248-10.248	7.245	0.002
13 1,6,7-Trimethylnaphtha	7.314	7.311	7.311	7.311	7.311	7.314	7.314	4.314-10.314	7.312	0.002
14 Fluorene	7.719	7.716	7.716	7.716	7.716	7.719	7.719	4.719-10.719	7.717	0.002
* 15 Phenanthrene-d10	9.066	9.063	9.063	9.063	9.063	9.063	9.063	6.063-12.063	9.063	0.001
16 Phenanthrene	9.101	9.098	9.098	9.098	9.101	9.101	9.101	6.101-12.101	9.099	0.002
17 Anthracene	9.139	9.132	9.136	9.136	9.139	9.139	9.139	6.139-12.139	9.137	0.003

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

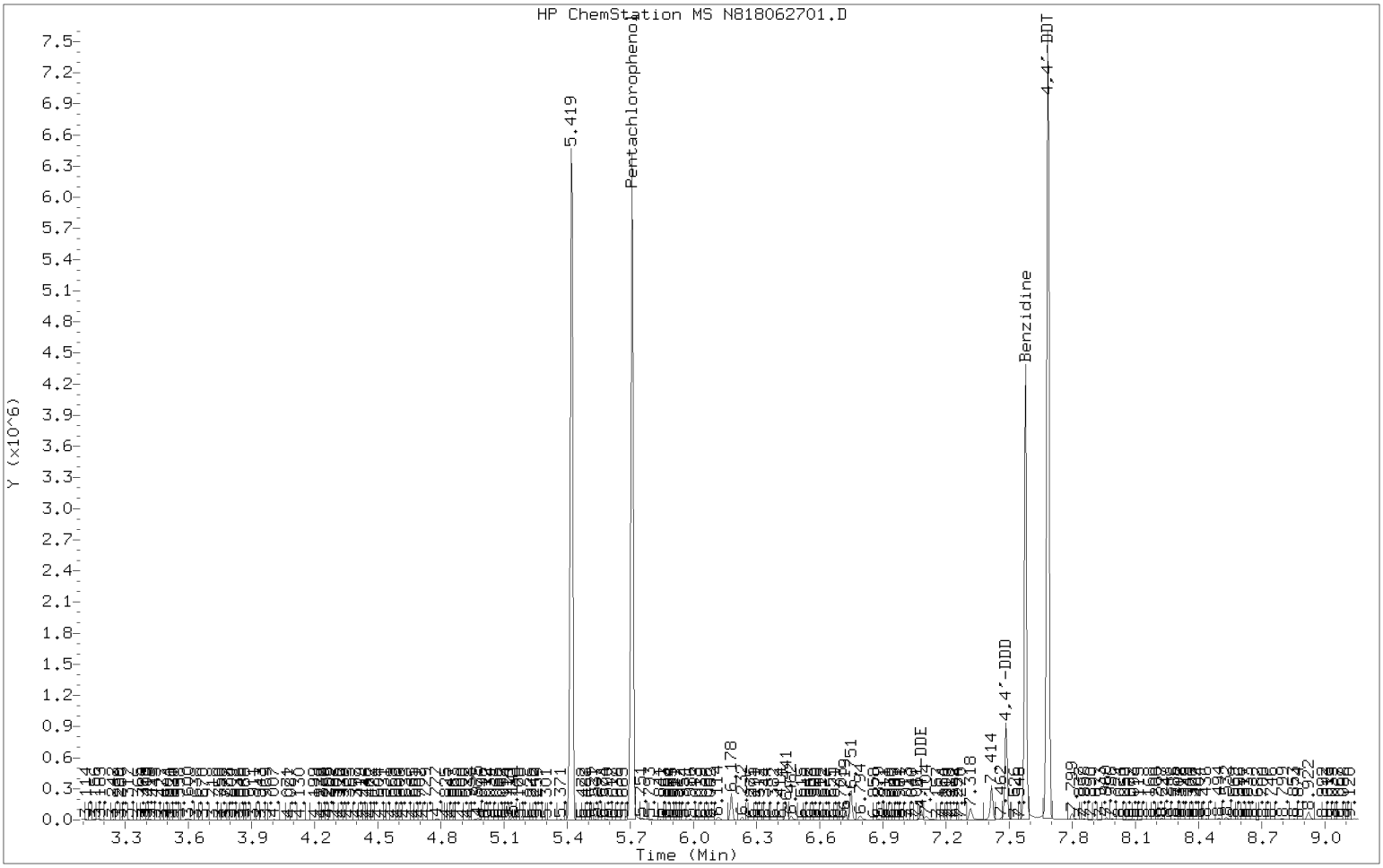
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

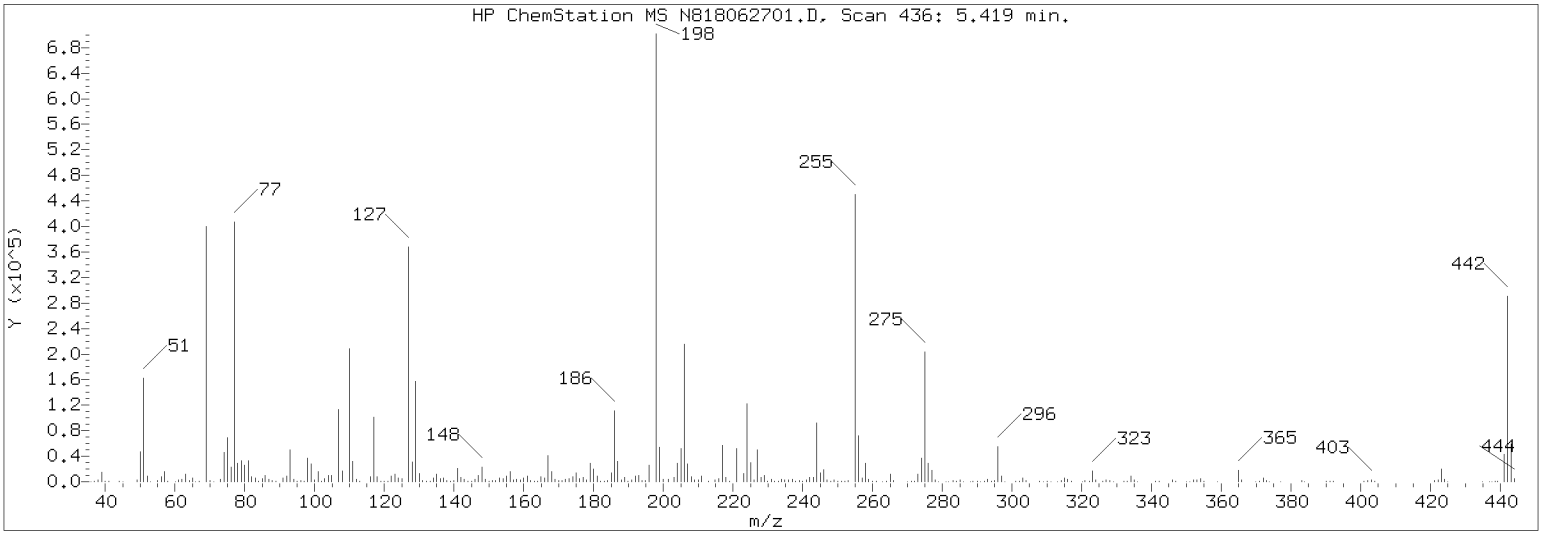
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Batch File: \\target\share\chem3\nt8.i\20180627.b
Inst ID: nt8.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 Dibenzothiophene	8.943	8.943	8.937	8.940	8.940	8.943	8.943	5.943-11.943	8.941	0.003
	19 Carbazole	9.648	9.648	9.648	9.645	9.648	9.651	9.651	6.651-12.651	9.648	0.002
	20 1-Methylphenanthrene	9.860	9.853	9.854	9.853	9.857	9.860	9.860	6.860-12.860	9.856	0.003
$	21 Fluoranthene-d10	10.783	10.777	10.777	10.777	10.780	10.786	10.786	7.786-13.786	10.780	0.004
	22 Fluoranthene	10.818	10.811	10.812	10.811	10.818	10.821	10.821	7.821-13.821	10.815	0.004
	23 Pyrene	11.314	11.311	11.311	11.311	11.311	11.317	11.317	8.317-14.317	11.313	0.003
	24 Benzo(a)anthracene	13.724	13.714	13.711	13.717	13.720	13.727	13.727	10.727-16.727	13.719	0.006
*	25 Chrysene-d12	13.853	13.841	13.847	13.844	13.847	13.847	13.847	10.847-16.847	13.846	0.004
*	26 Fluorene-d10	13.721	+++++	13.717	13.724	13.720	13.721	13.721	10.721-16.721	13.721	0.002
	27 Chrysene	13.923	13.910	13.910	13.913	13.920	13.926	13.926	10.926-16.926	13.917	0.007
	28 Benzo(b)fluoranthene	16.399	16.386	16.392	16.389	16.399	16.408	16.408	13.408-19.408	16.396	0.008
	29 Benzo(k)fluoranthene	16.459	16.443	16.449	16.449	16.456	16.468	16.468	13.468-19.468	16.454	0.009
	30 Benzo(j)fluoranthene	16.541	16.531	16.535	16.528	16.544	16.551	16.551	13.551-19.551	16.538	0.008
	31 Total Benzofluoranthen	16.399	16.443	16.449	16.449	16.456	16.551	16.551	13.551-19.551	16.458	0.050
	32 Benzo(a)pyrene	17.433	17.423	17.423	17.420	17.429	17.439	17.439	14.439-20.439	17.428	0.007
*	33 Perylene-d12	17.667	17.654	17.657	17.654	17.660	17.664	17.664	14.664-20.664	17.659	0.005
	34 Benzo(e)pyrene	17.309	17.300	17.297	17.300	17.309	17.316	17.316	14.316-20.316	17.305	0.007
	35 Perylene	17.739	17.727	17.730	17.730	17.733	17.746	17.746	14.746-20.746	17.734	0.007
$	36 Dibenzo(a,h)anthracene	19.962	19.950	19.947	19.946	19.959	19.978	19.978	16.978-22.978	19.957	0.012
	37 Indeno(1,2,3-cd)pyrene	20.067	20.054	20.048	20.054	20.070	20.086	20.086	17.086-23.086	20.063	0.014
	38 Dibenzo(a,h)anthracene	20.063	20.057	20.045	20.047	20.063	20.076	20.076	17.076-23.076	20.059	0.012
	39 Benzo(g,h,i)perylene	21.040	21.028	21.015	21.021	21.044	21.056	21.056	18.056-24.056	21.034	0.015

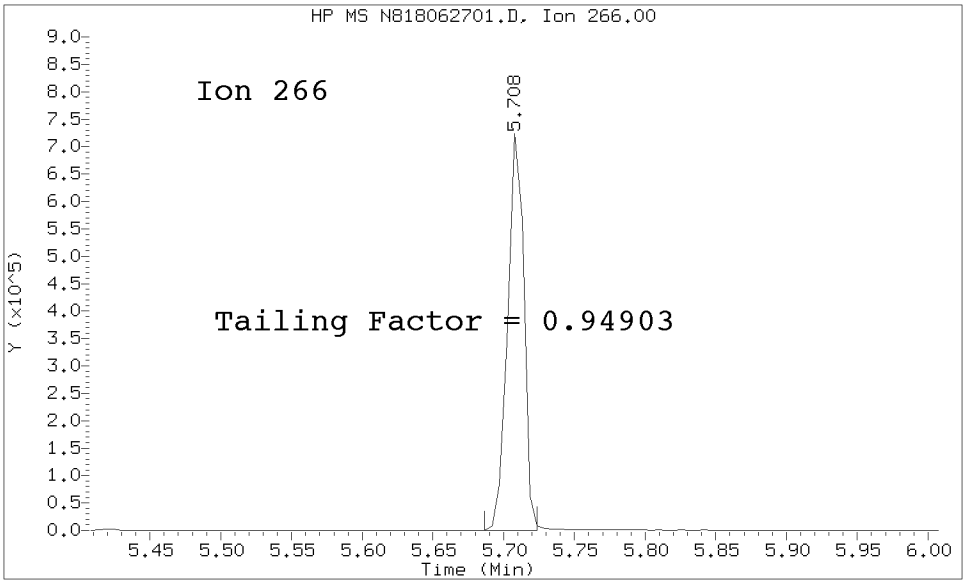
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180627.b/tune.b/N818062701.D/N818062701.D
Method Used: \20180627.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 27-JUN-2018 16:02 Operator: JZ
Sample Info: SGF0354-TUN1 DFTPP180627
Report Date: 06/28/2018 11:06



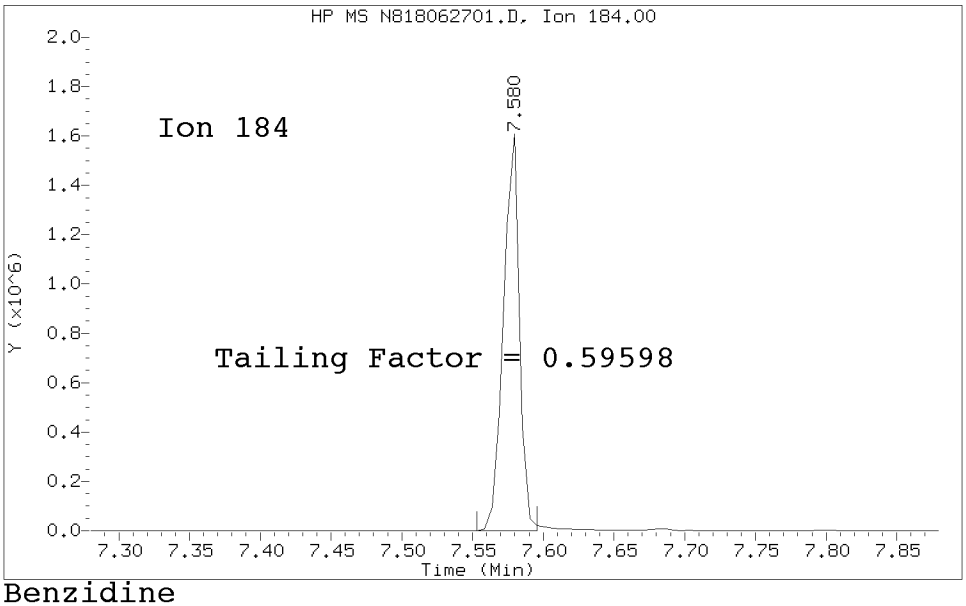


Datafile Analyzed: /20180627.b/tune.b/N818062701.D/N818062701.D
Method Used: \20180627.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 27-JUN-2018 16:02 Operator: JZ
Sample Info: DFTPP180627
Report Date: 06/28/2018 11:06



Pentachlorophenol
==========
Exp. RT = 5.660
Found RT = 5.708

Tail Factor = 0.949 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.526
Found RT = 7.580

Tail Factor = 0.596 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.9490255	2.000	PASS
Benzidine	0.5959821	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1084320			N/A
4,4-DDE	7723	0.7	20.0	PASS
4,4-DDD	137011	11.2	20.0	PASS
4,4-DDD + DDE	144734	11.8	20.0	PASS

Tuning Sample, /nt8.i/20180627.b/tune.b/N818062701.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	20.28
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	52.35
70	Less than 2.00% of mass 69	0.27 (0.52)
127	10.00 - 80.00% of mass 198	49.65
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.64
275	10.00 - 60.00% of mass 198	31.12
365	Greater than 1.00% of mass 198	2.94
441	0.01 - 24.00% of mass 442	7.66 (14.98)
442	50.00 - 200.00% of mass 198	51.11
443	15.00 - 24.00% of mass 442	10.51 (20.56)

Data File: N818062701.D
Spectrum: Avg. Scans 435-437 (5.42), Background Scan 430
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	100	129.00	120784	213.00	604	302.00	711
37.00	901	130.00	10450	214.00	101	303.00	5302
38.00	2426	131.00	1861	215.00	2151	304.00	1665
39.00	9979	132.00	1049	216.00	4101	305.00	95
40.00	453	133.00	423	217.00	44544	308.00	711
41.00	404	134.00	3989	218.00	6067	309.00	332
44.00	493	135.00	9328	219.00	546	310.00	773
45.00	164	136.00	3916	220.00	274	311.00	101
49.00	1607	137.00	4375	221.00	41888	313.00	300
50.00	32560	138.00	1254	222.00	4580	314.00	2195
51.00	112968	139.00	894	223.00	10951	315.00	5058
52.00	6151	140.00	1823	224.00	97944	316.00	2969
53.00	285	141.00	16089	225.00	25280	317.00	540
55.00	1244	142.00	5175	226.00	2726	320.00	100
56.00	5245	143.00	3477	227.00	42960	321.00	1537
57.00	11414	144.00	962	228.00	5794	322.00	811
58.00	549	145.00	812	229.00	8373	323.00	13983
60.00	206	146.00	3121	230.00	1344	324.00	2423
61.00	2748	147.00	7970	231.00	3169	325.00	100
62.00	3776	148.00	18696	232.00	513	326.00	303
63.00	9426	149.00	3391	233.00	877	327.00	2801
64.00	1476	150.00	951	234.00	3024	328.00	1300
65.00	4808	151.00	2169	235.00	2802	329.00	249
66.00	278	152.00	1419	236.00	2253	332.00	781
67.00	599	153.00	5087	237.00	3071	333.00	1284
69.00	291648	154.00	3739	238.00	609	334.00	8677
70.00	1503	155.00	7971	239.00	1865	335.00	2544
71.00	117	156.00	12523	240.00	1289	336.00	242
72.00	86	157.00	2391	241.00	2342	340.00	125
73.00	2836	158.00	3095	242.00	4846	341.00	1400
74.00	33272	159.00	2515	243.00	5581	342.00	421
75.00	48560	160.00	4715	244.00	75944	346.00	3001
76.00	17752	161.00	6907	245.00	10681	347.00	515
77.00	296960	162.00	1980	246.00	15956	348.00	84
78.00	20984	163.00	786	247.00	2999	350.00	89
79.00	24296	164.00	850	248.00	752	351.00	267
80.00	18168	165.00	6143	249.00	2517	352.00	3384
81.00	24008	166.00	4731	250.00	580	353.00	2915
82.00	5790	167.00	31136	251.00	435	354.00	4395
83.00	4086	168.00	13210	252.00	840	355.00	887
84.00	579	169.00	2295	253.00	1785	359.00	255
85.00	3799	170.00	1199	254.00	671	364.00	160
86.00	7625	171.00	1437	255.00	374080	365.00	16376
87.00	2926	172.00	3074	256.00	59264	366.00	2767
88.00	1371	173.00	4006	257.00	4467	370.00	283
89.00	663	174.00	6376	258.00	23352	371.00	831
91.00	4670	175.00	11376	259.00	3472	372.00	6363
92.00	6386	176.00	3493	260.00	723	373.00	1631
93.00	38152	177.00	6022	261.00	550	374.00	91

94.00	2948	178.00	1968	263.00	232	377.00	117
95.00	704	179.00	23512	264.00	701	383.00	1672
96.00	1653	180.00	15463	265.00	9394	384.00	313
97.00	937	181.00	6977	266.00	1820	390.00	931
98.00	29016	182.00	1218	270.00	370	391.00	607
99.00	21176	183.00	630	271.00	853	392.00	399
100.00	2034	184.00	2067	272.00	899	401.00	341
101.00	11920	185.00	11244	273.00	10838	402.00	2255
102.00	584	186.00	86848	274.00	31176	403.00	2876
103.00	3830	187.00	24904	275.00	173376	404.00	1016
104.00	8501	188.00	2342	276.00	24496	405.00	117
105.00	7319	189.00	6128	277.00	16289	415.00	111
106.00	1913	190.00	1241	278.00	2810	421.00	2562
107.00	86720	191.00	2513	279.00	559	422.00	2604
108.00	12910	192.00	7378	281.00	104	423.00	19296
110.00	155584	193.00	7905	282.00	293	424.00	3694
111.00	23392	194.00	1591	283.00	1699	425.00	263
112.00	3013	195.00	1149	284.00	1101	435.00	89
113.00	991	196.00	20160	285.00	2655	436.00	101
115.00	278	198.00	557120	286.00	310	437.00	389
116.00	5883	199.00	42552	288.00	104	438.00	299
117.00	79152	200.00	3208	289.00	809	439.00	863
118.00	5812	201.00	3374	290.00	449	440.00	136
119.00	546	203.00	5208	291.00	408	441.00	42648
120.00	1125	204.00	22856	292.00	675	442.00	284736
121.00	172	205.00	42024	293.00	3222	443.00	58536
122.00	6271	206.00	168832	294.00	951	444.00	5515
123.00	8866	207.00	21848	295.00	691	445.00	215
124.00	4097	208.00	6280	296.00	47408		
125.00	3765	209.00	1902	297.00	7525		
127.00	276608	210.00	1564	298.00	485		
128.00	23584	211.00	7018	301.00	623		

Data File: \\target\share\chem3\nt8.i\20180627.b\N818062702.D

Date : 27-JUN-2018 16:15

Client ID:

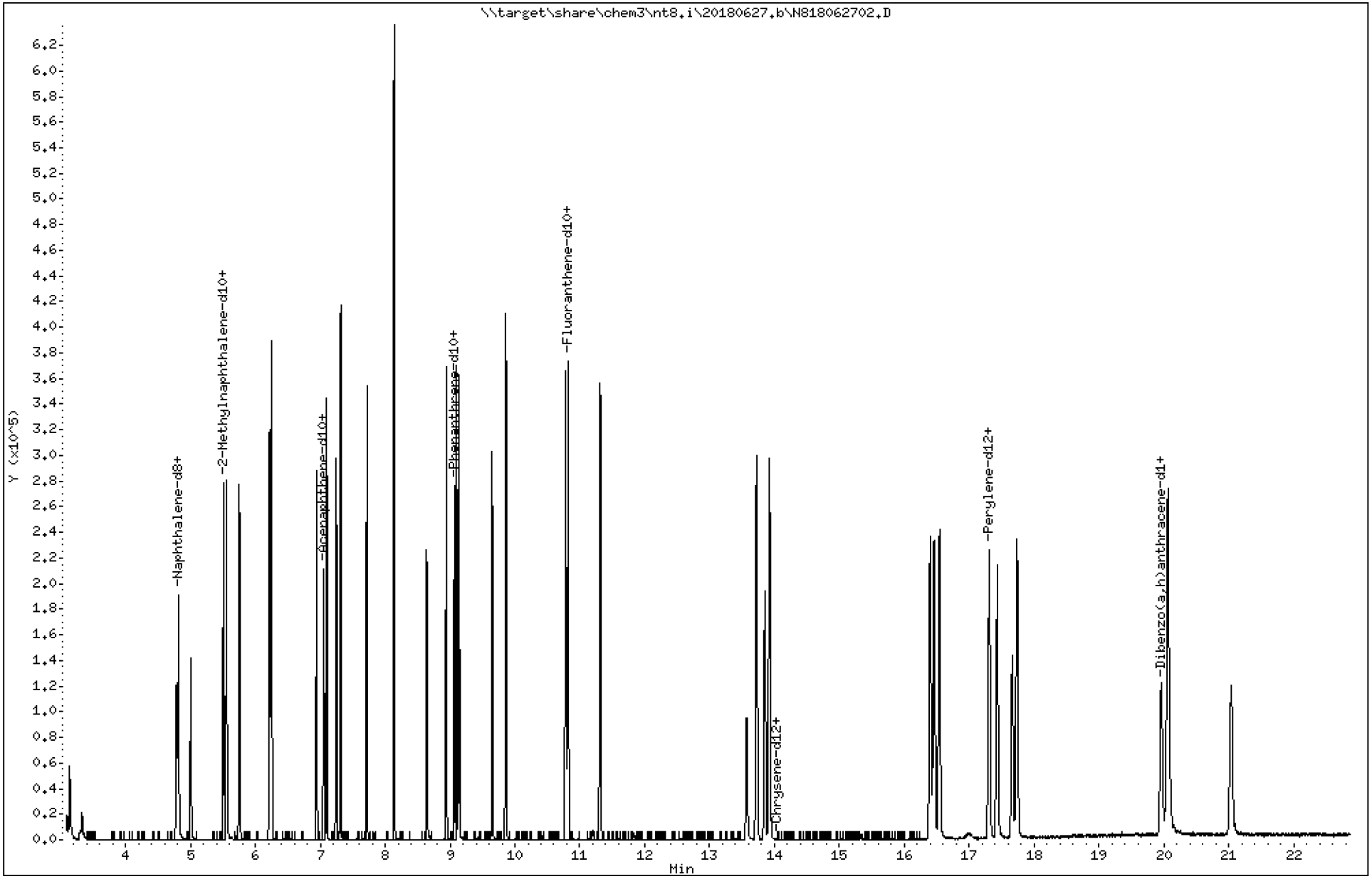
Instrument: nt8.i

Sample Info: IC25180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062702.D
Lab Smp Id: SGF0354-CAL4
Inj Date : 27-JUN-2018 16:15
Operator : JZ Inst ID: nt8.i
Smp Info : IC25180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 2 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.784	4.784	(1.000)	97937	2.00000	
	2 Naphthalene	128	4.813	4.813	(1.006)	145445	2.50000	2.648
$	3 2-Methylnaphthalene-d10	152	5.508	5.508	(1.151)	95665	2.50000	2.659
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	84374	2.50000	2.642
	5 1-methylnaphthalene	141	5.752	5.752	(1.202)	86750	2.50000	2.714
	6 2-Chloronaphthalene	162	6.236	6.236	(1.303)	87221	2.50000	2.603
	7 Biphenyl	154	6.214	6.214	(0.881)	124318	2.50000	2.560
	8 2,6-Dimethylnaphthalene	156	6.248	6.248	(0.886)	92938	2.50000	2.636
	9 Acenaphthylene	152	6.941	6.941	(0.984)	149848	2.50000	2.692
*	10 Acenaphthene-d10	164	7.051	7.051	(1.000)	54983	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	102660	2.50000	2.616
	12 Dibenzofuran	168	7.244	7.248	(1.027)	143752	2.50000	2.608
	13 1,6,7-Trimethylnaphthalene	170	7.314	7.314	(1.037)	92125	2.50000	2.598
	14 Fluorene	166	7.719	7.719	(1.095)	115065	2.50000	2.620
	18 Dibenzothiophene	184	8.942	8.942	(0.986)	161248	2.50000	2.673
*	15 Phenanthrene-d10	188	9.066	9.062	(1.000)	115816	2.00000	
	16 Phenanthrene	178	9.100	9.100	(1.004)	170990	2.50000	2.661
	17 Anthracene	178	9.138	9.138	(1.008)	168070	2.50000	2.700
	19 Carbazole	167	9.647	9.651	(1.064)	149142	2.50000	2.764
	20 1-Methylphenanthrene	192	9.859	9.859	(1.088)	139501	2.50000	2.702
	22 Fluoranthene	202	10.817	10.821	(1.193)	206506	2.50000	2.748
$	21 Fluoranthene-d10	212	10.783	10.786	(1.189)	201788	2.50000	2.720
	23 Pyrene	202	11.314	11.317	(0.817)	207387	2.50000	2.772
	24 Benzo(a)anthracene	228	13.723	13.726	(0.991)	204620	2.50000	2.748
*	25 Chrysene-d12	240	13.853	13.847	(1.000)	129167	2.00000	
	27 Chrysene	228	13.922	13.926	(1.005)	202001	2.50000	2.748
	28 Benzo(b)fluoranthene	252	16.398	16.408	(0.928)	190600	2.50000	2.733
	29 Benzo(k)fluoranthene	252	16.458	16.468	(0.932)	195736	2.50000	2.766
	30 Benzo(j)fluoranthene	252	16.541	16.550	(0.936)	190754	2.50000	2.726
	31 Total Benzofluoranthenes	252	16.398	16.550	(0.928)	570801	7.50000	8.208(M)
	34 Benzo(e)pyrene	252	17.309	17.315	(0.980)	187416	2.50000	2.705
	32 Benzo(a)pyrene	252	17.432	17.439	(0.987)	171906	2.50000	2.772
*	33 Perylene-d12	264	17.666	17.663	(1.000)	111506	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.739	17.745	(1.004)	183355	2.50000	2.713
$	36 Dibenzo(a,h)anthracene-d14	292	19.962	19.978	(1.130)	130696	2.50000	2.534
	37 Indeno(1,2,3-cd)pyrene	276	20.066	20.086	(1.136)	175682	2.50000	2.545
	38 Dibenzo(a,h)anthracene	278	20.063	20.076	(1.136)	151774	2.50000	2.544
	39 Benzo(g,h,i)perylene	276	21.040	21.056	(1.191)	142234	2.50000	2.738

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062702.D
Lab Smp Id: SGF0354-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	97937	0.00
10 Acenaphthene-d10	54983	27492	109966	54983	0.00
15 Phenanthrene-d10	115816	57908	231632	115816	0.00
25 Chrysene-d12	129167	64584	258334	129167	0.00
33 Perylene-d12	111506	55753	223012	111506	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	0.00
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	0.00
15 Phenanthrene-d10	9.07	8.57	9.57	9.07	0.00
25 Chrysene-d12	13.85	13.35	14.35	13.85	0.00
33 Perylene-d12	17.67	17.17	18.17	17.67	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062702.D

Lab ID: SGF0354-CAL4
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 16:15

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

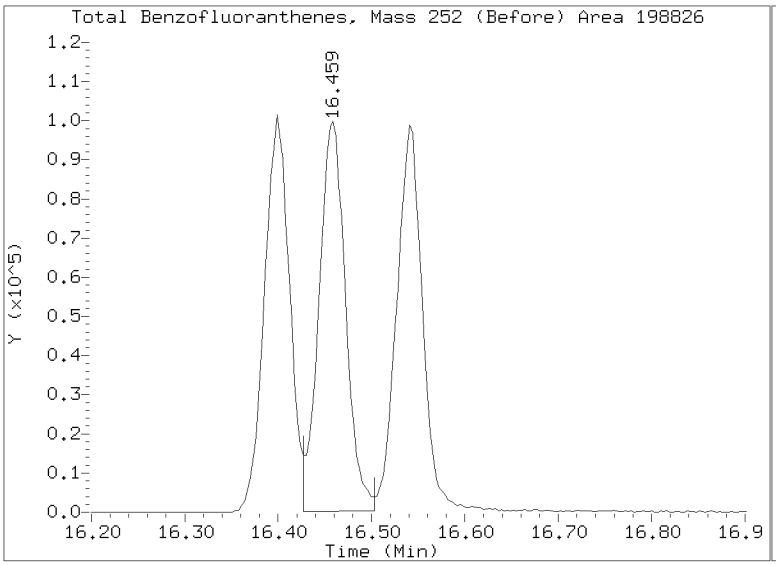
RRT	CCV RRT	DELTA	COMPOUND
NONE			

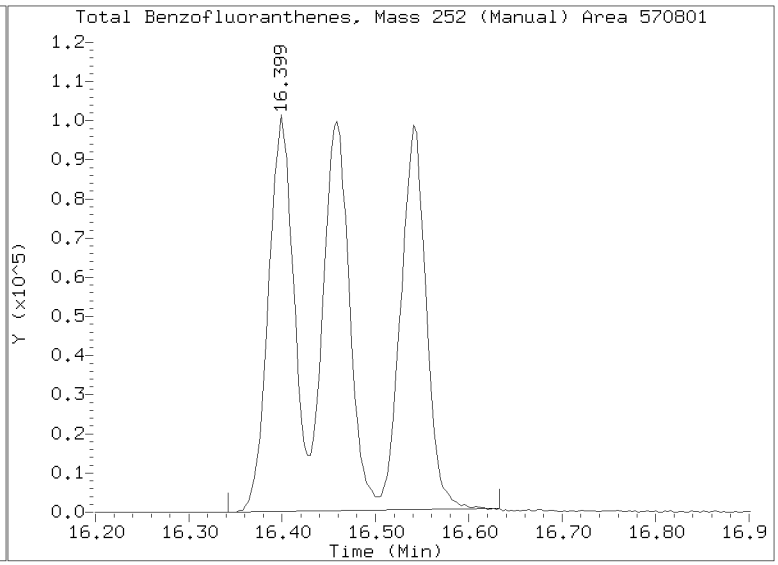
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062702.D
Injection Date: 27-JUN-2018 16:15
Lab ID:SGF0354-CAL4 Client ID:
Report Date: 06/28/2018 11:04





Data File: \\target\share\chem3\nt8.i\20180627.b\N818062703.D

Date : 27-JUN-2018 16:42

Client ID:

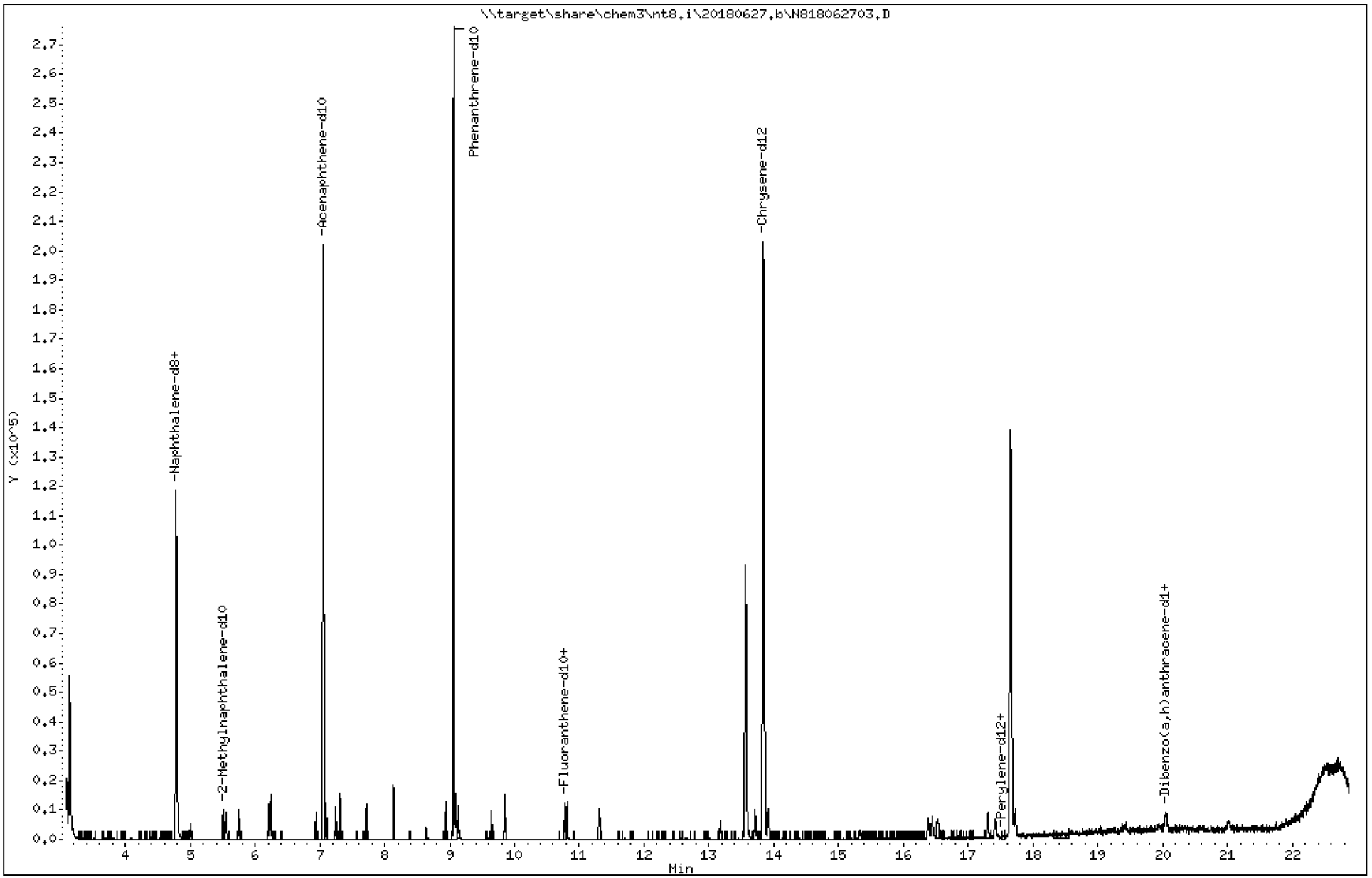
Instrument: nt8.i

Sample Info: IC01180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062703.D
Lab Smp Id: SGF0354-CAL1
Inj Date : 27-JUN-2018 16:42
Operator : JZ Inst ID: nt8.i
Smp Info : IC01180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	95869	2.00000	
	2 Naphthalene	128	4.813	4.813	(1.007)	5575	0.10000	0.1037
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	3543	0.10000	0.1006
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	3192	0.10000	0.1021
	5 1-methylnaphthalene	141	5.745	5.752	(1.202)	3202	0.10000	0.1024
	6 2-Chloronaphthalene	162	6.229	6.236	(1.303)	3509	0.10000	0.1070
	7 Biphenyl	154	6.207	6.214	(0.881)	5048	0.10000	0.1053
	8 2,6-Dimethylnaphthalene	156	6.248	6.248	(0.887)	3443	0.10000	0.09897
	9 Acenaphthylene	152	6.938	6.941	(0.984)	5161	0.10000	0.09396
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	54259	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	4080	0.10000	0.1053
	12 Dibenzofuran	168	7.244	7.248	(1.028)	5455	0.10000	0.1003
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	3391	0.10000	0.09689
	14 Fluorene	166	7.715	7.719	(1.095)	4318	0.10000	0.09964
	18 Dibenzothiophene	184	8.942	8.942	(0.987)	6084	0.10000	0.09997
*	15 Phenanthrene-d10	188	9.062	9.062	(1.000)	116864	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	6785	0.10000	0.1046
	17 Anthracene	178	9.132	9.138	(1.008)	6276	0.10000	0.09993
	19 Carbazole	167	9.647	9.651	(1.065)	5009	0.10000	0.09201
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	5364	0.10000	0.1030
	22 Fluoranthene	202	10.811	10.821	(1.193)	7185	0.10000	0.09474
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	7333	0.10000	0.09794
	23 Pyrene	202	11.311	11.317	(0.817)	7338	0.10000	0.09301
	24 Benzo(a)anthracene	228	13.714	13.726	(0.991)	7330	0.10000	0.09335
*	25 Chrysene-d12	240	13.840	13.847	(1.000)	136227	2.00000	
	27 Chrysene	228	13.910	13.926	(1.005)	7800	0.10000	0.1006
	28 Benzo(b)fluoranthene	252	16.385	16.408	(0.928)	6368	0.10000	0.09631
	29 Benzo(k)fluoranthene	252	16.442	16.468	(0.931)	6186	0.10000	0.09222
	30 Benzo(j)fluoranthene	252	16.531	16.550	(0.936)	6711	0.10000	0.1012
	31 Total Benzofluoranthenes	252	16.442	16.550	(0.931)	19182	0.30000	0.2909(M)
	34 Benzo(e)pyrene	252	17.299	17.315	(0.980)	6581	0.10000	0.1002
	32 Benzo(a)pyrene	252	17.423	17.439	(0.987)	5393	0.10000	0.09171
*	33 Perylene-d12	264	17.653	17.663	(1.000)	105716	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.726	17.745	(1.004)	6495	0.10000	0.1014
$	36 Dibenzo(a,h)anthracene-d14	292	19.949	19.978	(1.130)	3097	0.10000	0.2805(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.053	20.086	(1.136)	4800	0.10000	0.2625
	38 Dibenzo(a,h)anthracene	278	20.057	20.076	(1.136)	3524	0.10000	0.2653
	39 Benzo(g,h,i)perylene	276	21.027	21.056	(1.191)	4788	0.10000	0.09721

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062703.D
Lab Smp Id: SGF0354-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	95869	-2.11
10 Acenaphthene-d10	54983	27492	109966	54259	-1.32
15 Phenanthrene-d10	115816	57908	231632	116864	0.90
25 Chrysene-d12	129167	64584	258334	136227	5.47
33 Perylene-d12	111506	55753	223012	105716	-5.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.07
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.05
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.04
25 Chrysene-d12	13.85	13.35	14.35	13.84	-0.09
33 Perylene-d12	17.67	17.17	18.17	17.65	-0.07

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062703.D

Lab ID: SGF0354-CAL1
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 16:42

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

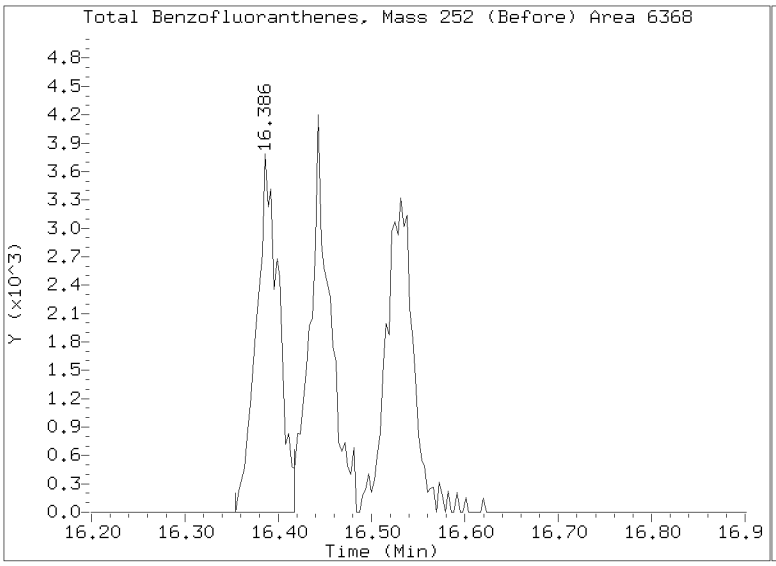
RRT	CCV RRT	DELTA	COMPOUND
NONE			

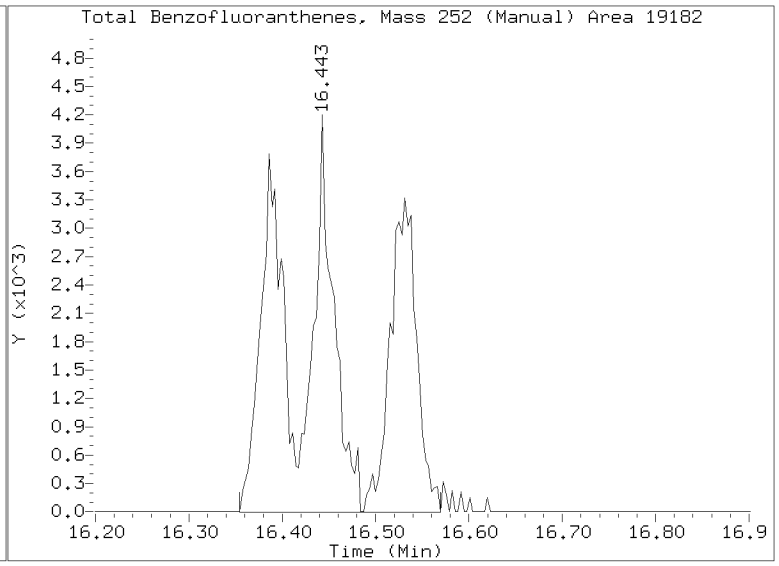
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

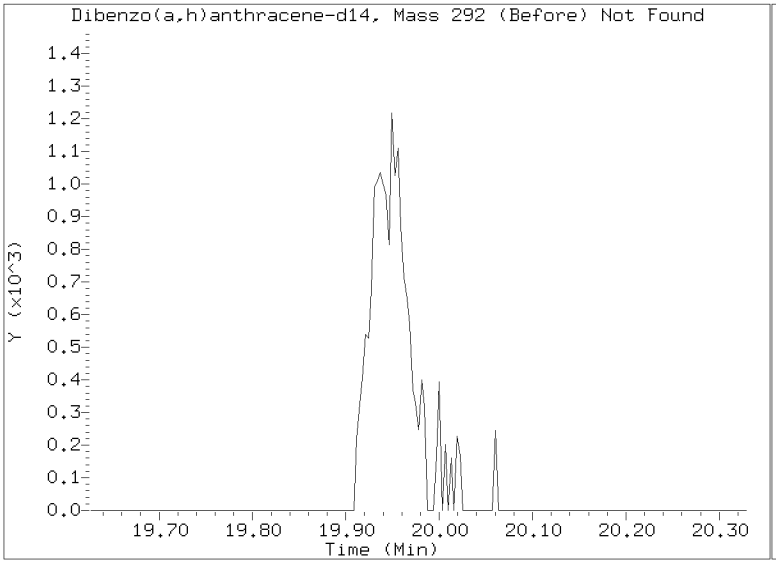
* Only compounds listed in the work order have been verified by the analyst *

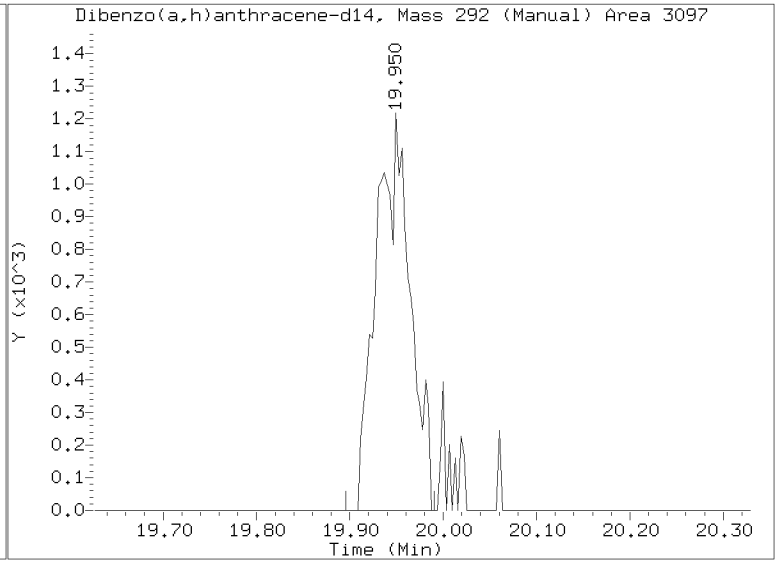
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062703.D
Injection Date: 27-JUN-2018 16:42
Lab ID:SGF0354-CAL1 Client ID:
Report Date: 06/28/2018 11:04









Data File: \\target\share\chem3\nt8.i\20180627.b\N818062704.D

Date : 27-JUN-2018 17:09

Client ID:

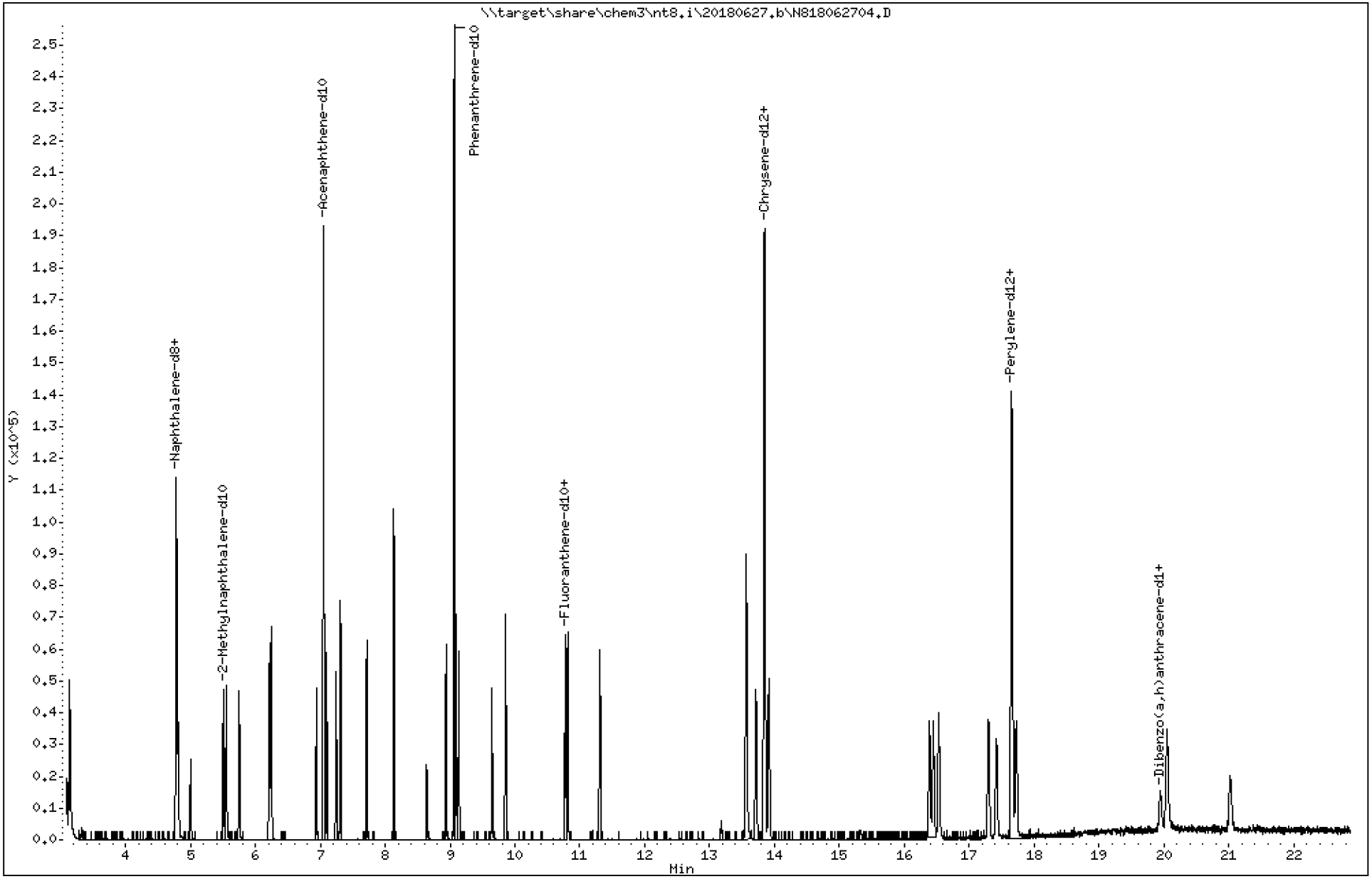
Instrument: nt8.i

Sample Info: IC05180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062704.D
Lab Smp Id: SGF0354-CAL2
Inj Date : 27-JUN-2018 17:09
Operator : JZ Inst ID: nt8.i
Smp Info : IC05180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	92428	2.00000	
	2 Naphthalene	128	4.813	4.813	(1.007)	26601	0.50000	0.5131
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	17102	0.50000	0.5037
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	15376	0.50000	0.5103
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	14524	0.50000	0.4815
	6 2-Chloronaphthalene	162	6.233	6.236	(1.304)	15337	0.50000	0.4850
	7 Biphenyl	154	6.210	6.214	(0.881)	22349	0.50000	0.4972
	8 2,6-Dimethylnaphthalene	156	6.245	6.248	(0.886)	16473	0.50000	0.5050
	9 Acenaphthylene	152	6.938	6.941	(0.984)	25266	0.50000	0.4905
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	50882	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	17642	0.50000	0.4857
	12 Dibenzofuran	168	7.241	7.248	(1.027)	26208	0.50000	0.5138
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	16155	0.50000	0.4922
	14 Fluorene	166	7.716	7.719	(1.095)	20041	0.50000	0.4931
	18 Dibenzothiophene	184	8.936	8.942	(0.986)	28837	0.50000	0.4945
*	15 Phenanthrene-d10	188	9.063	9.062	(1.000)	111988	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	30690	0.50000	0.4939
	17 Anthracene	178	9.135	9.138	(1.008)	29235	0.50000	0.4858
	19 Carbazole	167	9.647	9.651	(1.065)	25370	0.50000	0.4863
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	23416	0.50000	0.4691
	22 Fluoranthene	202	10.811	10.821	(1.193)	36634	0.50000	0.5041
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	34586	0.50000	0.4821
	23 Pyrene	202	11.311	11.317	(0.817)	34993	0.50000	0.4645
	24 Benzo(a)anthracene	228	13.711	13.726	(0.990)	35421	0.50000	0.4724
*	25 Chrysene-d12	240	13.847	13.847	(1.000)	130081	2.00000	
	27 Chrysene	228	13.910	13.926	(1.005)	35221	0.50000	0.4758
	28 Benzo(b)fluoranthene	252	16.392	16.408	(0.928)	29733	0.50000	0.4513
	29 Benzo(k)fluoranthene	252	16.449	16.468	(0.932)	30820	0.50000	0.4610
	30 Benzo(j)fluoranthene	252	16.534	16.550	(0.936)	30509	0.50000	0.4615
	31 Total Benzofluoranthenes	252	16.449	16.550	(0.932)	93694	1.50000	1.426(M)
	34 Benzo(e)pyrene	252	17.296	17.315	(0.980)	30088	0.50000	0.4596
	32 Benzo(a)pyrene	252	17.423	17.439	(0.987)	25830	0.50000	0.4408
*	33 Perylene-d12	264	17.657	17.663	(1.000)	105351	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.729	17.745	(1.004)	28676	0.50000	0.4491
$	36 Dibenzo(a,h)anthracene-d14	292	19.946	19.978	(1.130)	16001	0.50000	0.5223(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.047	20.086	(1.135)	23800	0.50000	0.5318
	38 Dibenzo(a,h)anthracene	278	20.044	20.076	(1.135)	18664	0.50000	0.5122(M)
	39 Benzo(g,h,i)perylene	276	21.015	21.056	(1.190)	20615	0.50000	0.4200

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062704.D
Lab Smp Id: SGF0354-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	92428	-5.63
10 Acenaphthene-d10	54983	27492	109966	50882	-7.46
15 Phenanthrene-d10	115816	57908	231632	111988	-3.31
25 Chrysene-d12	129167	64584	258334	130081	0.71
33 Perylene-d12	111506	55753	223012	105351	-5.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.06
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.04
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.03
25 Chrysene-d12	13.85	13.35	14.35	13.85	-0.04
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062704.D

Lab ID: SGF0354-CAL2
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 17:09

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

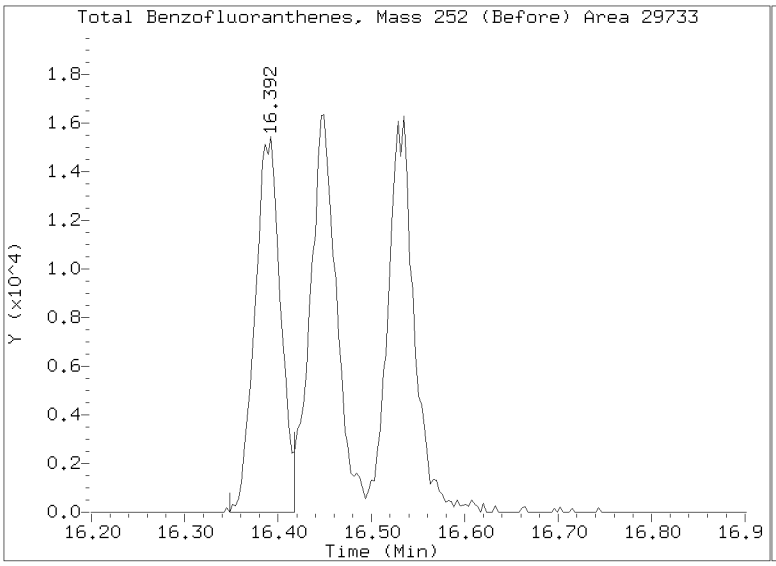
RRT	CCV RRT	DELTA	COMPOUND
NONE			

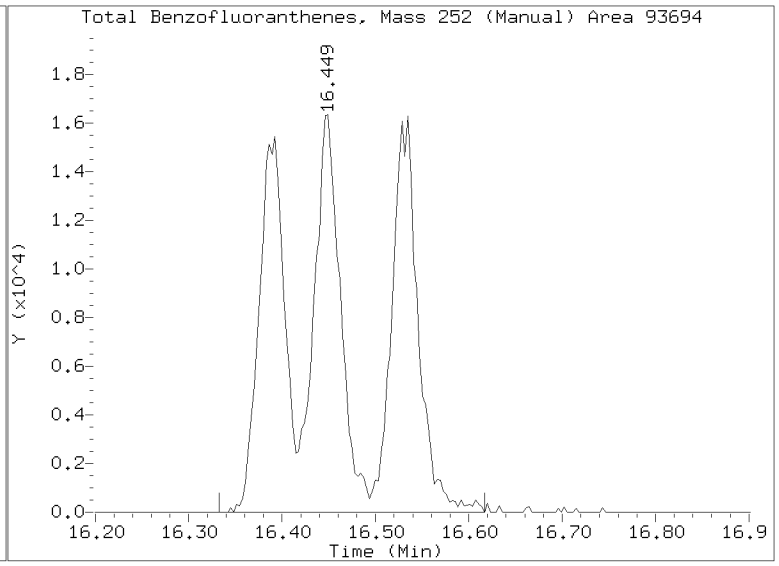
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

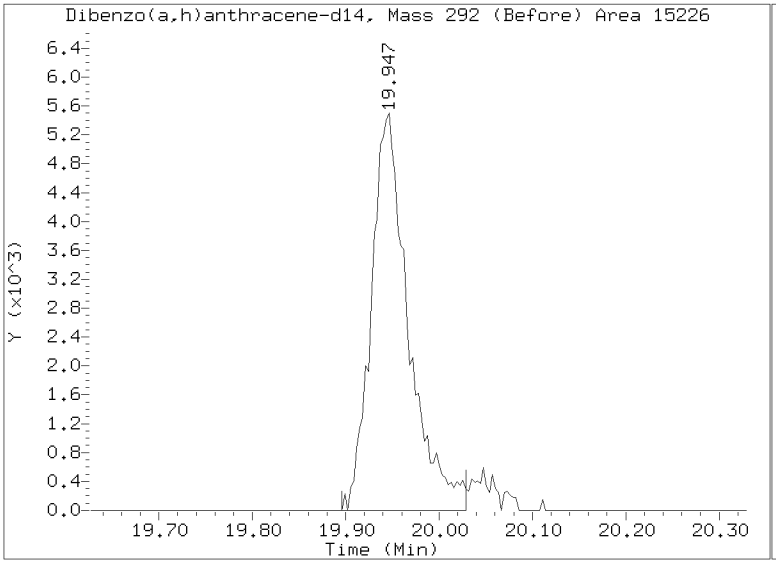
* Only compounds listed in the work order have been verified by the analyst *

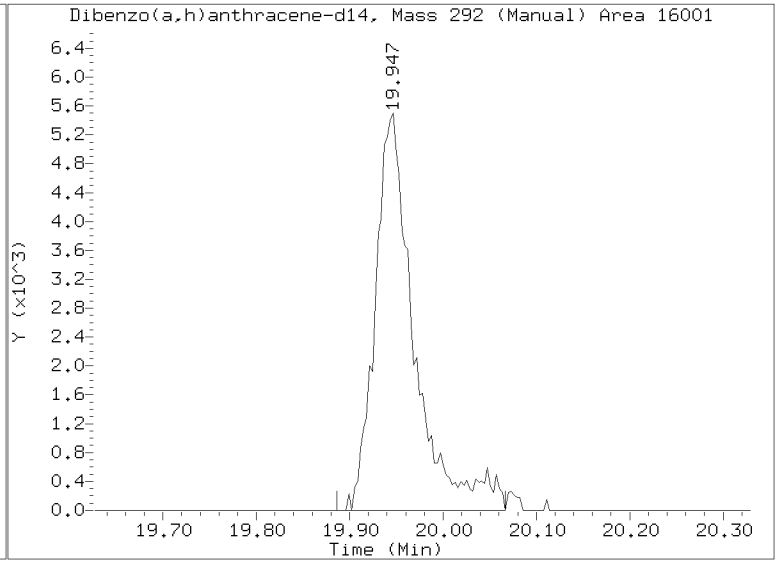
Quant Ion Manual Peak Adjustment Report

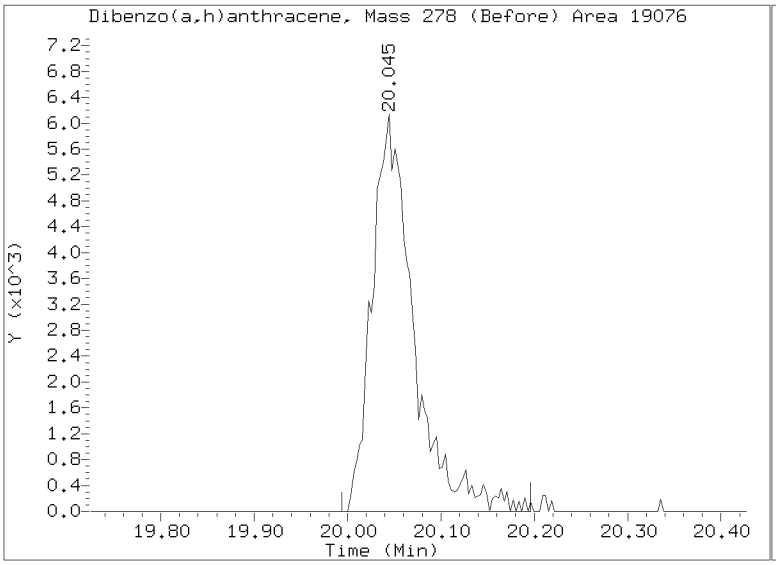
Datafile: //target/share/chem3/nt8.i/20180627.b/N818062704.D
Injection Date: 27-JUN-2018 17:09
Lab ID:SGF0354-CAL2 Client ID:
Report Date: 06/28/2018 11:04

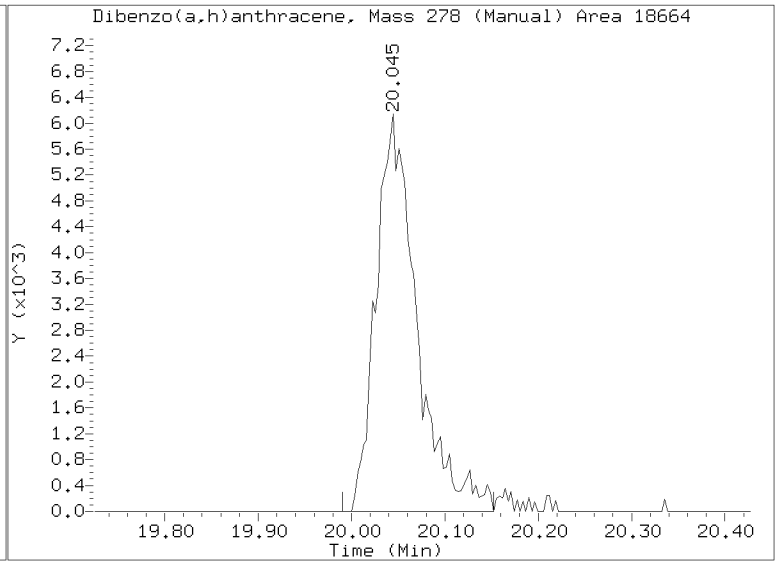












Data File: \\target\share\chem3\nt8.i\20180627.b\N818062705.D

Date : 27-JUN-2018 17:36

Client ID:

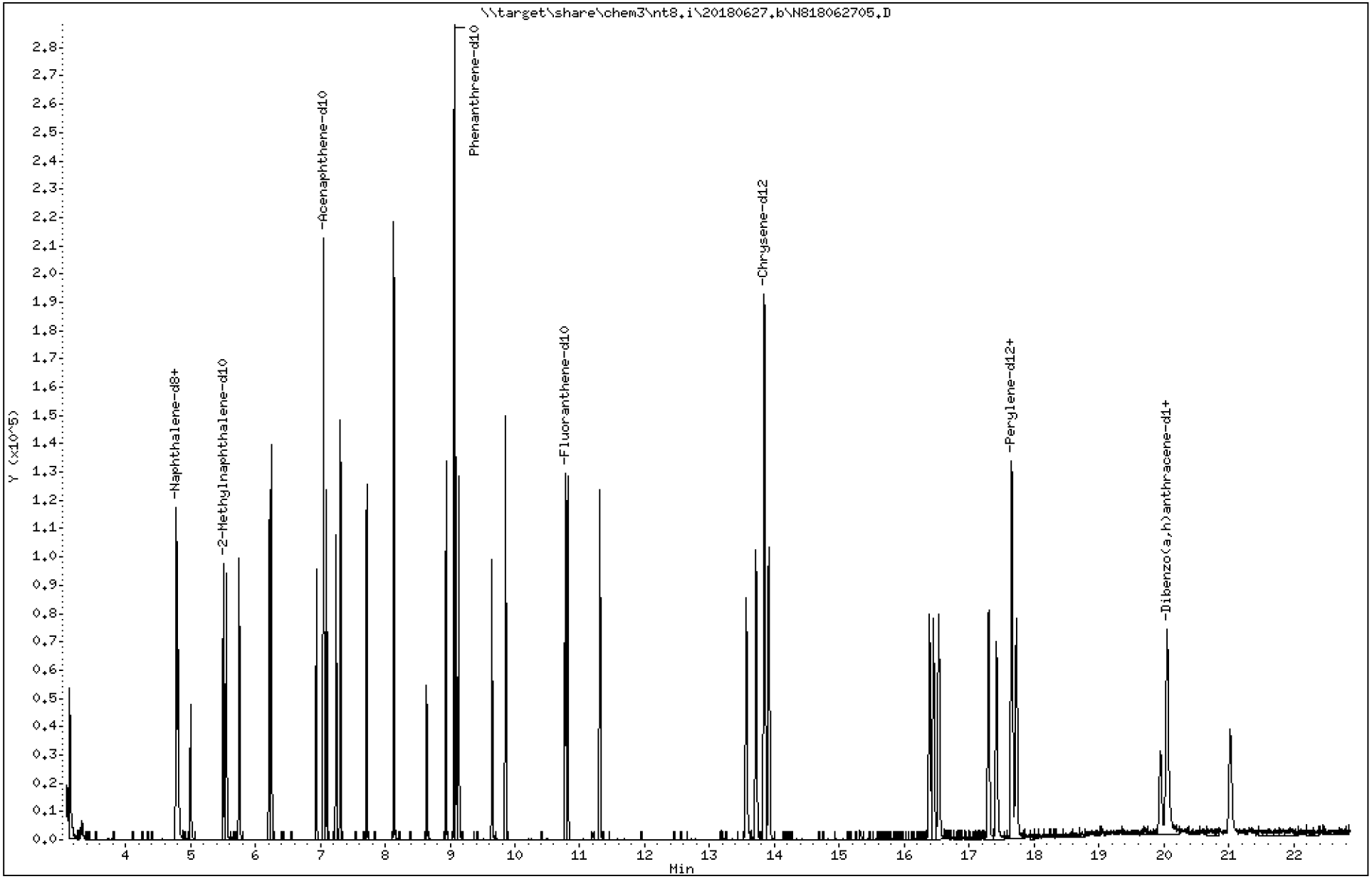
Instrument: nt8.i

Sample Info: IC1180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062705.D
Lab Smp Id: SGF0354-CAL3
Inj Date : 27-JUN-2018 17:36
Operator : JZ Inst ID: nt8.i
Smp Info : IC1180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.784	4.784	(1.000)	97848	2.00000	
	2 Naphthalene	128	4.809	4.813	(1.005)	51258	1.00000	0.9340
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	33943	1.00000	0.9444
	4 2-Methylnaphthalene	141	5.549	5.553	(1.160)	30673	1.00000	0.9615
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	30188	1.00000	0.9454
	6 2-Chloronaphthalene	162	6.232	6.236	(1.303)	32039	1.00000	0.9571
	7 Biphenyl	154	6.210	6.214	(0.881)	45701	1.00000	0.9476
	8 2,6-Dimethylnaphthalene	156	6.248	6.248	(0.886)	31875	1.00000	0.9106
	9 Acenaphthylene	152	6.937	6.941	(0.984)	51820	1.00000	0.9376
*	10 Acenaphthene-d10	164	7.051	7.051	(1.000)	54598	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	36313	1.00000	0.9317
	12 Dibenzofuran	168	7.244	7.248	(1.027)	51941	1.00000	0.9489
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	33482	1.00000	0.9507
	14 Fluorene	166	7.715	7.719	(1.094)	40803	1.00000	0.9357
	18 Dibenzothiophene	184	8.939	8.942	(0.986)	58184	1.00000	0.9471
*	15 Phenanthrene-d10	188	9.062	9.062	(1.000)	117966	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	62288	1.00000	0.9517
	17 Anthracene	178	9.135	9.138	(1.008)	60174	1.00000	0.9492
	19 Carbazole	167	9.644	9.651	(1.064)	51472	1.00000	0.9367
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	48450	1.00000	0.9214
	22 Fluoranthene	202	10.811	10.821	(1.193)	72584	1.00000	0.9482
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	71085	1.00000	0.9406
	23 Pyrene	202	11.310	11.317	(0.817)	74714	1.00000	0.9795
	24 Benzo(a)anthracene	228	13.717	13.726	(0.991)	73704	1.00000	0.9709
*	25 Chrysene-d12	240	13.843	13.847	(1.000)	131709	2.00000	
	27 Chrysene	228	13.913	13.926	(1.005)	72059	1.00000	0.9614
	28 Benzo(b)fluoranthene	252	16.389	16.408	(0.928)	63858	1.00000	0.9563
	29 Benzo(k)fluoranthene	252	16.449	16.468	(0.932)	66936	1.00000	0.9880
	30 Benzo(j)fluoranthene	252	16.528	16.550	(0.936)	64835	1.00000	0.9677
	31 Total Benzofluoranthenes	252	16.449	16.550	(0.932)	190624	3.00000	2.863(M)
	34 Benzo(e)pyrene	252	17.299	17.315	(0.980)	63827	1.00000	0.9620
	32 Benzo(a)pyrene	252	17.419	17.439	(0.987)	57020	1.00000	0.9601
*	33 Perylene-d12	264	17.653	17.663	(1.000)	106771	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.729	17.745	(1.004)	61363	1.00000	0.9482
$	36 Dibenzo(a,h)anthracene-d14	292	19.946	19.978	(1.130)	37304	1.00000	0.9117(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.053	20.086	(1.136)	52618	1.00000	0.9299(M)
	38 Dibenzo(a,h)anthracene	278	20.047	20.076	(1.136)	43518	1.00000	0.9077(M)
	39 Benzo(g,h,i)perylene	276	21.021	21.056	(1.191)	44156	1.00000	0.8876

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062705.D
Lab Smp Id: SGF0354-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	97848	-0.09
10 Acenaphthene-d10	54983	27492	109966	54598	-0.70
15 Phenanthrene-d10	115816	57908	231632	117966	1.86
25 Chrysene-d12	129167	64584	258334	131709	1.97
33 Perylene-d12	111506	55753	223012	106771	-4.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.00
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.00
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.04
25 Chrysene-d12	13.85	13.35	14.35	13.84	-0.07
33 Perylene-d12	17.67	17.17	18.17	17.65	-0.07

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062705.D

Lab ID: SGF0354-CAL3
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 17:36

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

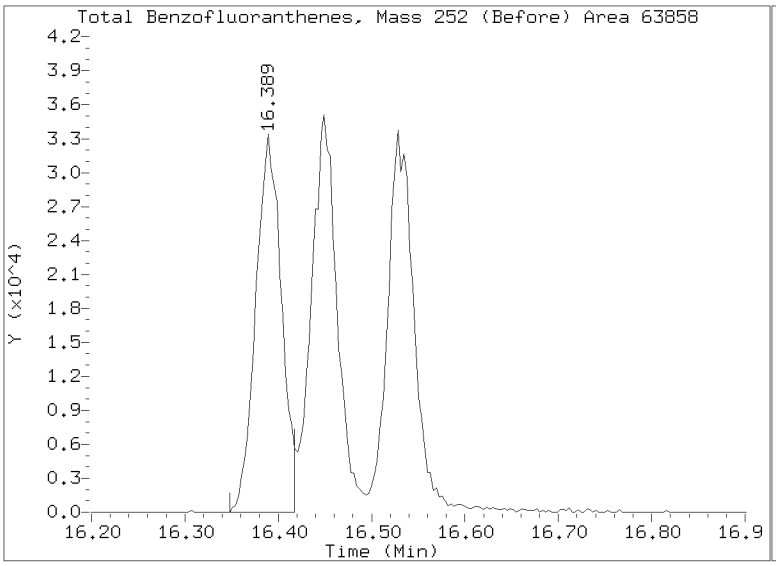
RRT	CCV RRT	DELTA	COMPOUND
NONE			

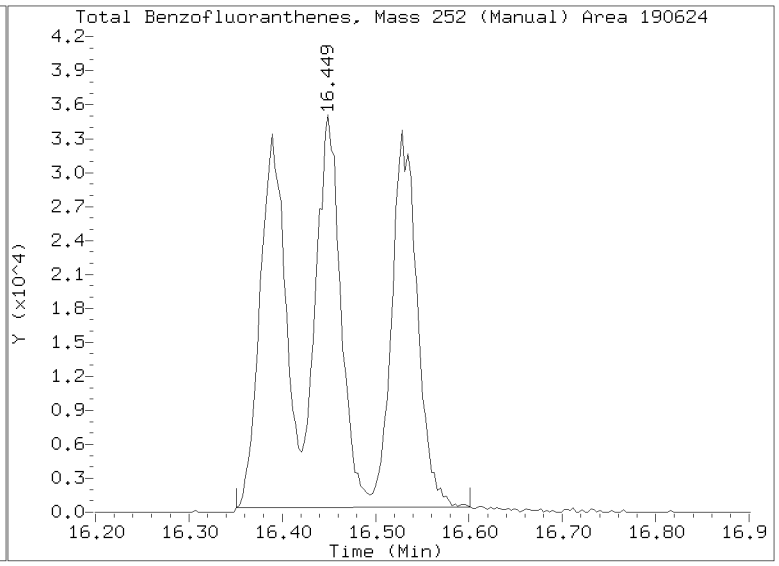
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

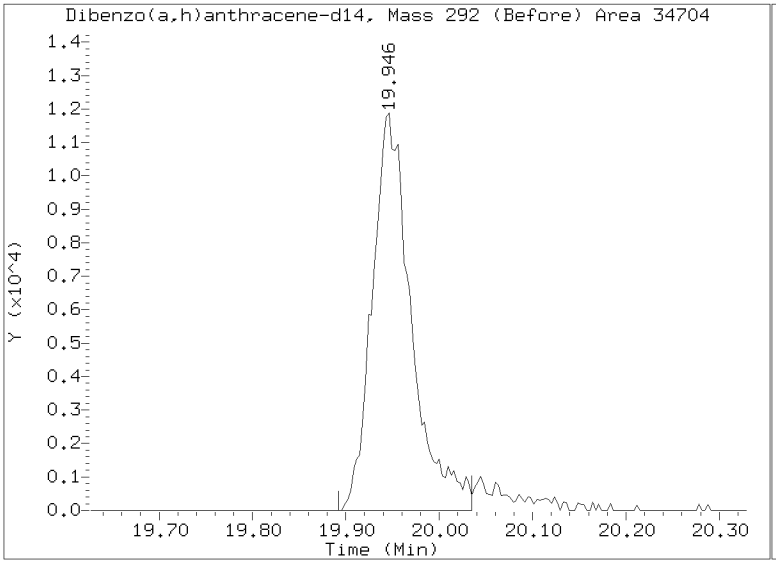
* Only compounds listed in the work order have been verified by the analyst *

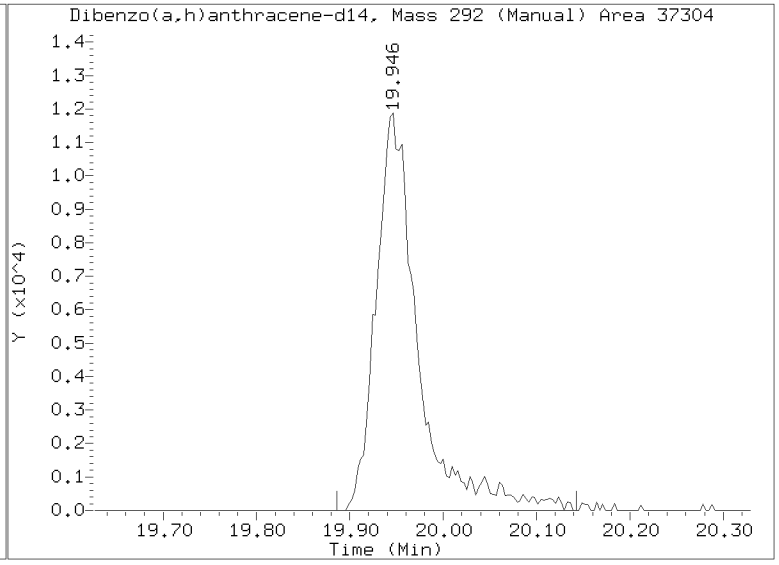
Quant Ion Manual Peak Adjustment Report

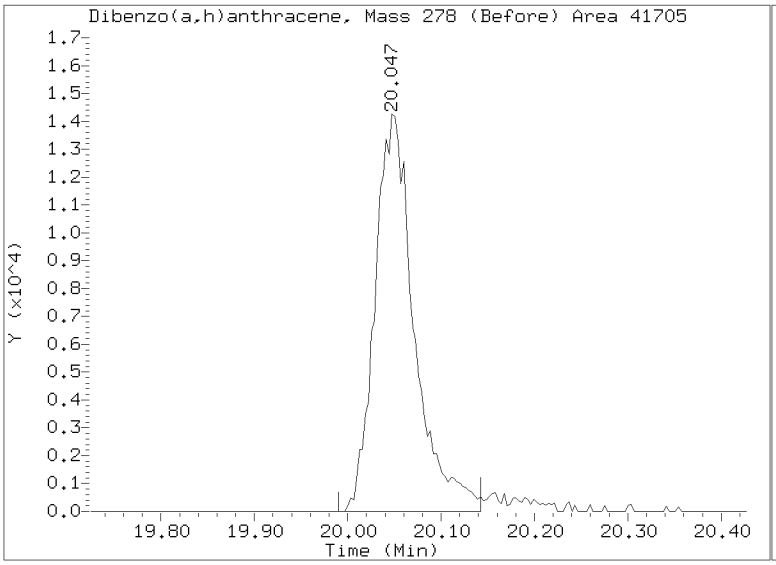
Datafile: //target/share/chem3/nt8.i/20180627.b/N818062705.D
Injection Date: 27-JUN-2018 17:36
Lab ID:SGF0354-CAL3 Client ID:
Report Date: 06/28/2018 11:04

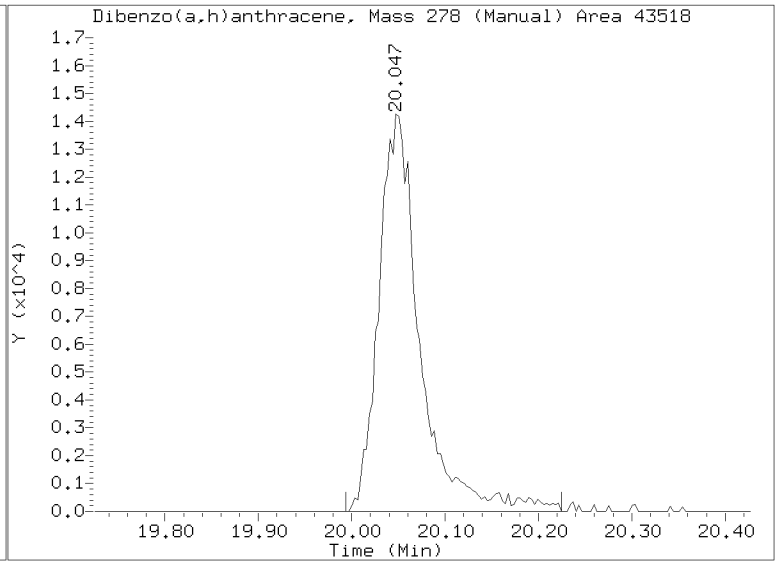






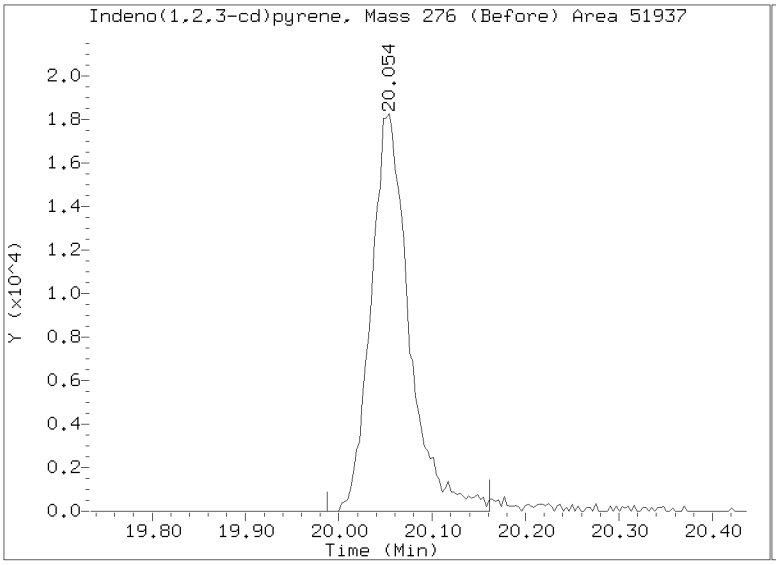


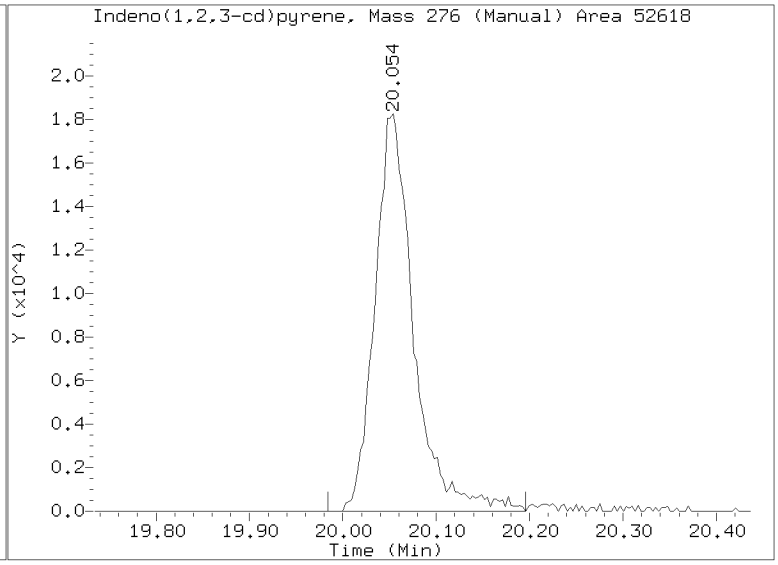




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062705.D
Injection Date: 27-JUN-2018 17:36
Lab ID:SGF0354-CAL3 Client ID:
Report Date: 06/28/2018 11:04





Data File: \\target\share\chem3\nt8.i\20180627.b\N818062706.D

Date : 27-JUN-2018 18:02

Client ID:

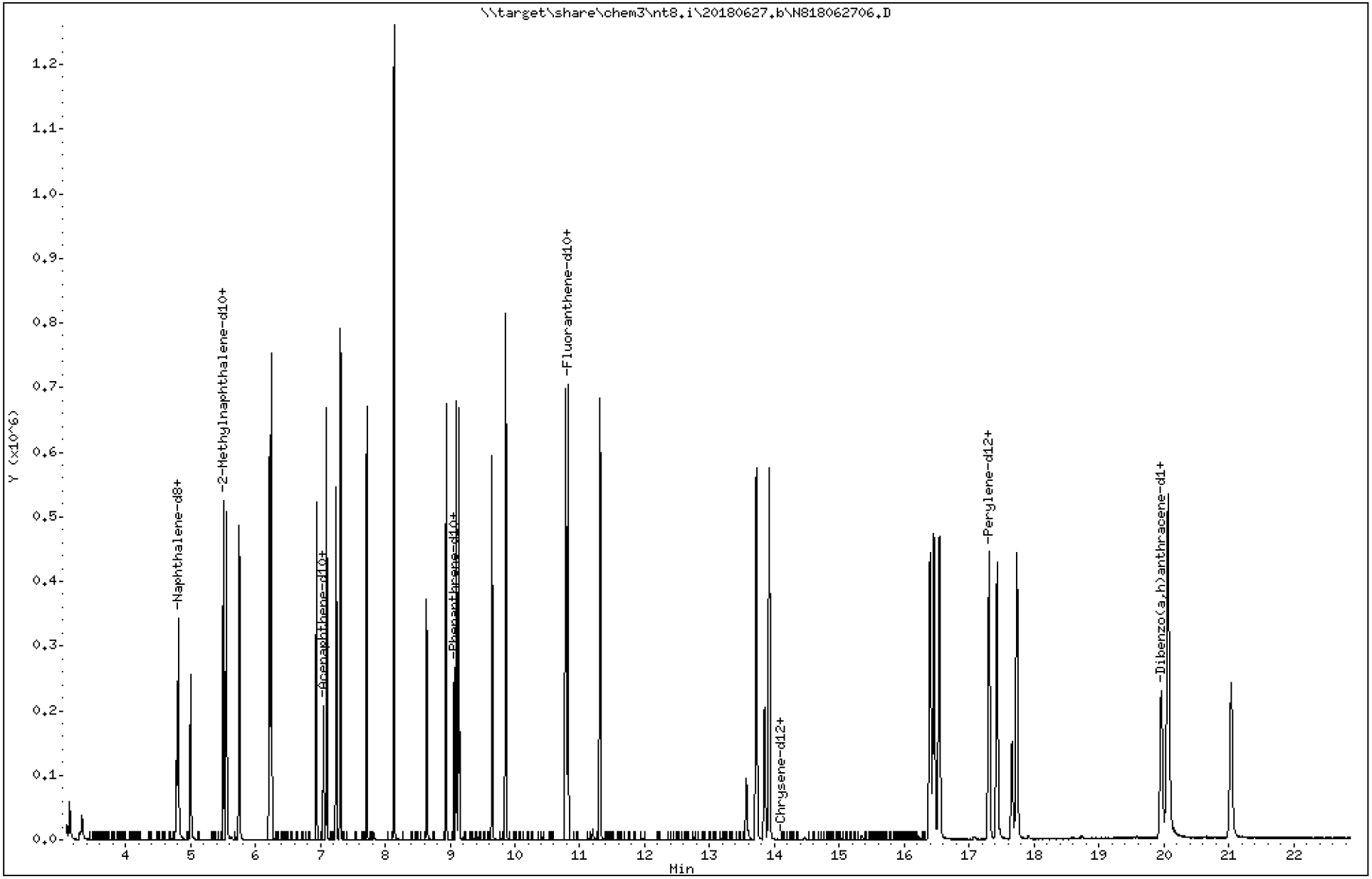
Instrument: nt8.i

Sample Info: IC5180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062706.D
Lab Smp Id: SGF0354-CAL5
Inj Date : 27-JUN-2018 18:02
Operator : JZ Inst ID: nt8.i
Smp Info : IC5180627,
Misc Info : 18-
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	99321	2.00000	
	2 Naphthalene	128	4.810	4.813	(1.006)	268101	5.00000	4.813
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	179469	5.00000	4.919
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	156591	5.00000	4.836
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	159389	5.00000	4.918
	6 2-Chloronaphthalene	162	6.236	6.236	(1.304)	164327	5.00000	4.836
	7 Biphenyl	154	6.210	6.214	(0.881)	233711	5.00000	4.926
	8 2,6-Dimethylnaphthalene	156	6.248	6.248	(0.887)	173876	5.00000	5.049
	9 Acenaphthylene	152	6.938	6.941	(0.984)	277257	5.00000	5.099
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	53712	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	189946	5.00000	4.954
	12 Dibenzofuran	168	7.244	7.248	(1.028)	266381	5.00000	4.947
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	177609	5.00000	5.126
	14 Fluorene	166	7.715	7.719	(1.095)	216092	5.00000	5.037
	18 Dibenzothiophene	184	8.939	8.942	(0.986)	304233	5.00000	4.992
*	15 Phenanthrene-d10	188	9.062	9.062	(1.000)	117035	2.00000	
	16 Phenanthrene	178	9.100	9.100	(1.004)	316686	5.00000	4.877
	17 Anthracene	178	9.138	9.138	(1.008)	315715	5.00000	5.020
	19 Carbazole	167	9.647	9.651	(1.065)	280065	5.00000	5.137
	20 1-Methylphenanthrene	192	9.856	9.859	(1.088)	264933	5.00000	5.079
	22 Fluoranthene	202	10.817	10.821	(1.194)	381218	5.00000	5.019
$	21 Fluoranthene-d10	212	10.779	10.786	(1.189)	381418	5.00000	5.087
	23 Pyrene	202	11.311	11.317	(0.817)	400868	5.00000	5.128
	24 Benzo(a)anthracene	228	13.720	13.726	(0.991)	396875	5.00000	5.102
*	25 Chrysene-d12	240	13.846	13.847	(1.000)	134971	2.00000	
	27 Chrysene	228	13.919	13.926	(1.005)	378892	5.00000	4.933
	28 Benzo(b)fluoranthene	252	16.398	16.408	(0.929)	374915	5.00000	5.104
	29 Benzo(k)fluoranthene	252	16.455	16.468	(0.932)	386767	5.00000	5.189
	30 Benzo(j)fluoranthene	252	16.544	16.550	(0.937)	368260	5.00000	4.996
	31 Total Benzofluoranthenes	252	16.455	16.550	(0.932)	1104153	15.0000	15.07(M)
	34 Benzo(e)pyrene	252	17.309	17.315	(0.980)	364303	5.00000	4.991
	32 Benzo(a)pyrene	252	17.429	17.439	(0.987)	342871	5.00000	5.248
*	33 Perylene-d12	264	17.660	17.663	(1.000)	117458	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.733	17.745	(1.004)	358982	5.00000	5.042
$	36 Dibenzo(a,h)anthracene-d14	292	19.959	19.978	(1.130)	268657	5.00000	4.733
	37 Indeno(1,2,3-cd)pyrene	276	20.069	20.086	(1.136)	355103	5.00000	4.704
	38 Dibenzo(a,h)anthracene	278	20.063	20.076	(1.136)	312139	5.00000	4.769
	39 Benzo(g,h,i)perylene	276	21.043	21.056	(1.192)	290630	5.00000	5.311

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062706.D
Lab Smp Id: SGF0354-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	99321	1.41
10 Acenaphthene-d10	54983	27492	109966	53712	-2.31
15 Phenanthrene-d10	115816	57908	231632	117035	1.05
25 Chrysene-d12	129167	64584	258334	134971	4.49
33 Perylene-d12	111506	55753	223012	117458	5.34

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.07
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.05
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.04
25 Chrysene-d12	13.85	13.35	14.35	13.85	-0.05
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062706.D

Lab ID: SGF0354-CAL5
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 18:02

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

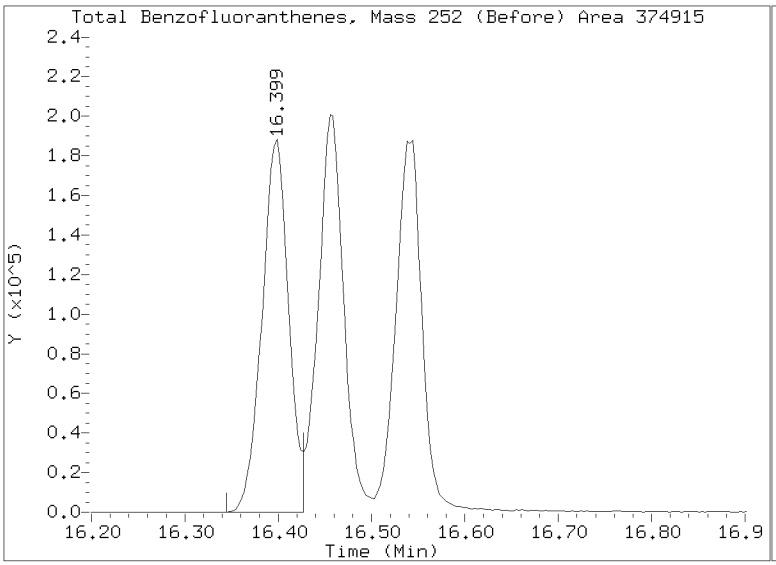
RRT	CCV RRT	DELTA	COMPOUND
NONE			

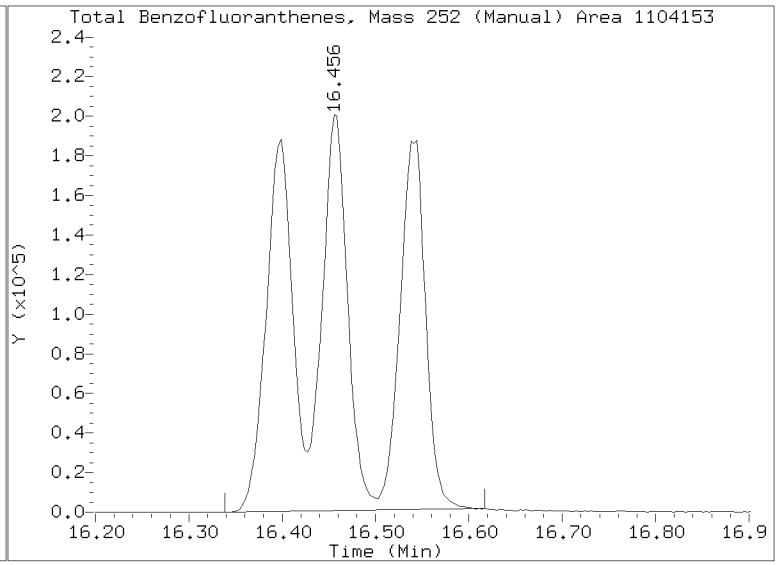
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062706.D
Injection Date: 27-JUN-2018 18:02
Lab ID:SGF0354-CAL5 Client ID:
Report Date: 06/28/2018 11:04





Data File: \\target\share\chem3\nt8.i\20180627.b\N818062707.D

Date : 27-JUN-2018 18:29

Client ID:

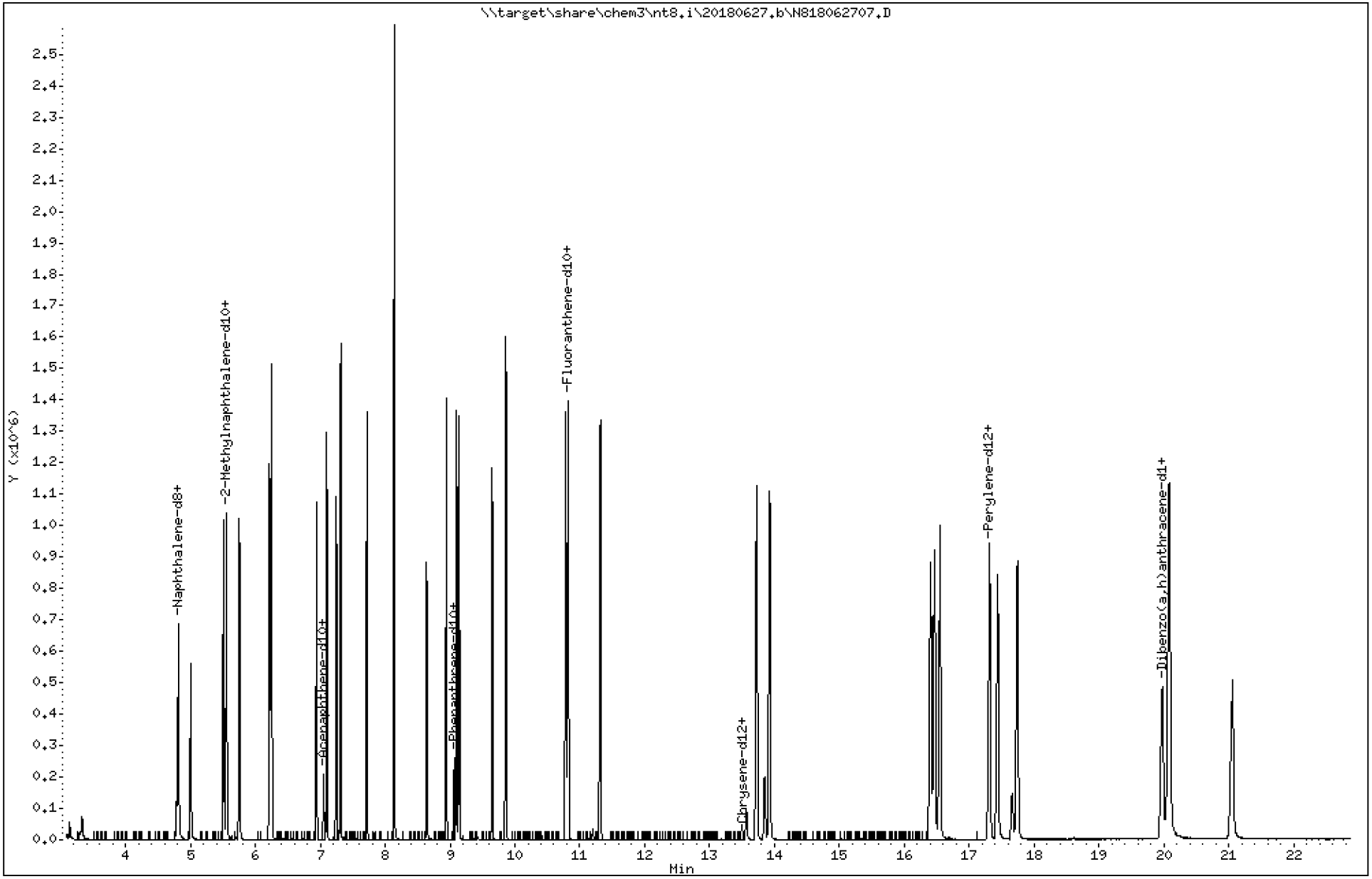
Instrument: nt8.i

Sample Info: IC10180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062707.D
Lab Smp Id: SGF0354-CAL6
Inj Date : 27-JUN-2018 18:29
Operator : JZ Inst ID: nt8.i
Smp Info : IC10180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.784	4.784	(1.000)	98806	2.00000	
	2 Naphthalene	128	4.813	4.813	(1.006)	543726	10.0000	9.812
$	3 2-Methylnaphthalene-d10	152	5.508	5.508	(1.151)	360968	10.0000	9.946
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	313282	10.0000	9.725
	5 1-methylnaphthalene	141	5.752	5.752	(1.202)	321987	10.0000	9.986
	6 2-Chloronaphthalene	162	6.236	6.236	(1.303)	336250	10.0000	9.947
	7 Biphenyl	154	6.214	6.214	(0.881)	473919	10.0000	9.957
	8 2,6-Dimethylnaphthalene	156	6.248	6.248	(0.886)	354225	10.0000	10.25
	9 Acenaphthylene	152	6.941	6.941	(0.984)	569969	10.0000	10.45
*	10 Acenaphthene-d10	164	7.051	7.051	(1.000)	53880	2.00000	
	11 Acenaphthene	153	7.102	7.102	(1.007)	387079	10.0000	10.06
	12 Dibenzofuran	168	7.248	7.248	(1.028)	533893	10.0000	9.884
	13 1,6,7-Trimethylnaphthalene	170	7.314	7.314	(1.037)	358566	10.0000	10.32
	14 Fluorene	166	7.719	7.719	(1.095)	441602	10.0000	10.26
	18 Dibenzothiophene	184	8.942	8.942	(0.987)	607436	10.0000	9.966
*	15 Phenanthrene-d10	188	9.062	9.062	(1.000)	117039	2.00000	
	16 Phenanthrene	178	9.100	9.100	(1.004)	632580	10.0000	9.742
	17 Anthracene	178	9.138	9.138	(1.008)	626406	10.0000	9.959
	19 Carbazole	167	9.651	9.651	(1.065)	565649	10.0000	10.37
	20 1-Methylphenanthrene	192	9.859	9.859	(1.088)	528907	10.0000	10.14
	22 Fluoranthene	202	10.821	10.821	(1.194)	754379	10.0000	9.933
$	21 Fluoranthene-d10	212	10.786	10.786	(1.190)	757825	10.0000	10.11
	23 Pyrene	202	11.317	11.317	(0.817)	802343	10.0000	10.27
	24 Benzo(a)anthracene	228	13.726	13.726	(0.991)	801667	10.0000	10.31
*	25 Chrysene-d12	240	13.847	13.847	(1.000)	134903	2.00000	
	27 Chrysene	228	13.926	13.926	(1.006)	763951	10.0000	9.951
	28 Benzo(b)fluoranthene	252	16.408	16.408	(0.929)	789829	10.0000	10.64
	29 Benzo(k)fluoranthene	252	16.468	16.468	(0.932)	770645	10.0000	10.23
	30 Benzo(j)fluoranthene	252	16.550	16.550	(0.937)	750785	10.0000	10.08
	31 Total Benzofluoranthenes	252	16.550	16.550	(0.937)	2278861	30.0000	30.79(M)
	34 Benzo(e)pyrene	252	17.315	17.315	(0.980)	764809	10.0000	10.37
	32 Benzo(a)pyrene	252	17.439	17.439	(0.987)	714899	10.0000	10.83
*	33 Perylene-d12	264	17.663	17.663	(1.000)	118680	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.745	17.745	(1.005)	752809	10.0000	10.47
$	36 Dibenzo(a,h)anthracene-d14	292	19.978	19.978	(1.131)	595512	10.0000	10.12
	37 Indeno(1,2,3-cd)pyrene	276	20.085	20.086	(1.137)	790230	10.0000	10.13
	38 Dibenzo(a,h)anthracene	278	20.076	20.076	(1.137)	684047	10.0000	10.10
	39 Benzo(g,h,i)perylene	276	21.056	21.056	(1.192)	632133	10.0000	11.43

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062707.D
Lab Smp Id: SGF0354-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	98806	0.89
10 Acenaphthene-d10	54983	27492	109966	53880	-2.01
15 Phenanthrene-d10	115816	57908	231632	117039	1.06
25 Chrysene-d12	129167	64584	258334	134903	4.44
33 Perylene-d12	111506	55753	223012	118680	6.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	0.00
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	0.00
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.03
25 Chrysene-d12	13.85	13.35	14.35	13.85	-0.05
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062707.D

Lab ID: SGF0354-CAL6
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 18:29

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

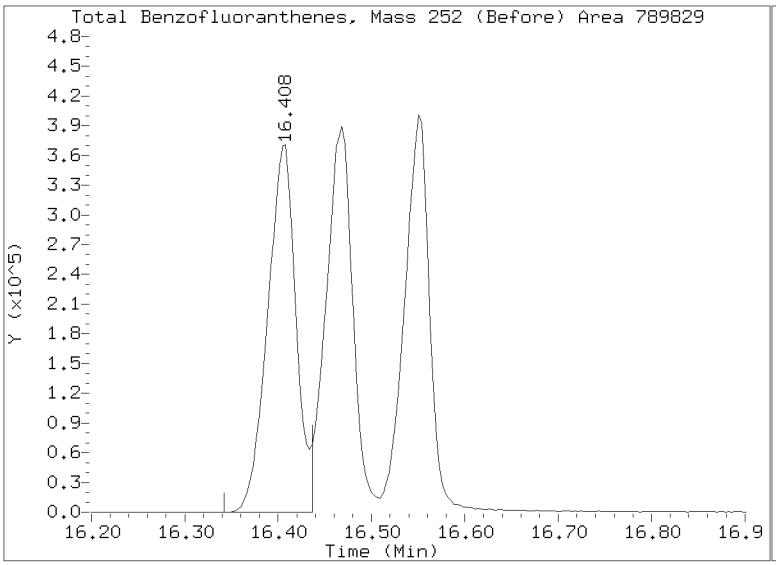
RRT	CCV RRT	DELTA	COMPOUND
NONE			

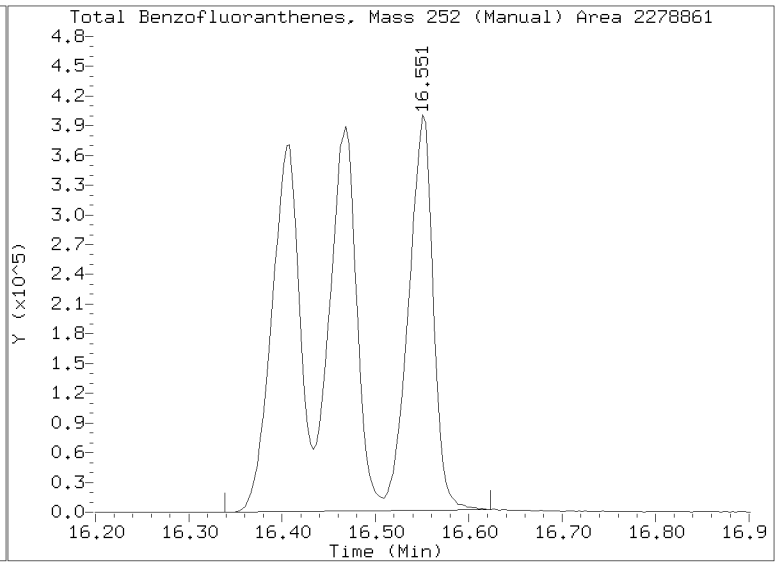
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062707.D
Injection Date: 27-JUN-2018 18:29
Lab ID:SGF0354-CAL6 Client ID:
Report Date: 06/28/2018 11:04





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BF00065
Laboratory ID: SGF0354-SCV1
Sequence: SGF0354
Sequence Name: Secondary Cal Check
Standard ID: G005878

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.31	-7.6	
2-Methylnaphthalene	2.5000	2.33	-6.6	
1-Methylnaphthalene	2.5000	2.36	-5.5	
Acenaphthylene	2.5000	2.37	-5.3	
Acenaphthene	2.5000	2.25	-9.8	
Dibenzofuran	2.5000	2.31	-7.5	
Fluorene	2.5000	2.29	-8.5	
Phenanthrene	2.5000	2.25	-9.8	
Anthracene	2.5000	2.30	-8.0	
Fluoranthene	2.5000	2.34	-6.4	
Pyrene	2.5000	2.36	-5.4	
Benzo(a)anthracene	2.5000	2.33	-7.0	
Chrysene	2.5000	2.30	-8.0	
Benzo(b)fluoranthene	2.5000	2.38	-4.9	
Benzo(k)fluoranthene	2.5000	2.44	-2.5	
Benzo(j)fluoranthene	2.5000	2.29	-8.4	
Benzo(a)pyrene	2.5000	2.38	-4.7	
Indeno(1,2,3-cd)pyrene	2.5000	2.08	-16.7	
Dibenzo(a,h)anthracene	2.5000	2.05	-17.9	
Benzo(g,h,i)perylene	2.5000	2.31	-7.8	
Benzofluoranthenes, Total	7.5000	7.04	-6.2	
2-Methylnaphthalene-d10	2.5000	2.23	-10.7	
Dibenzo[a,h]anthracene-d14	2.5000	2.04	-18.2	
Fluoranthene-d10	2.5000	2.23	-10.6	

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180627.b\N818062708.D

Date : 27-JUN-2018 18:56

Client ID:

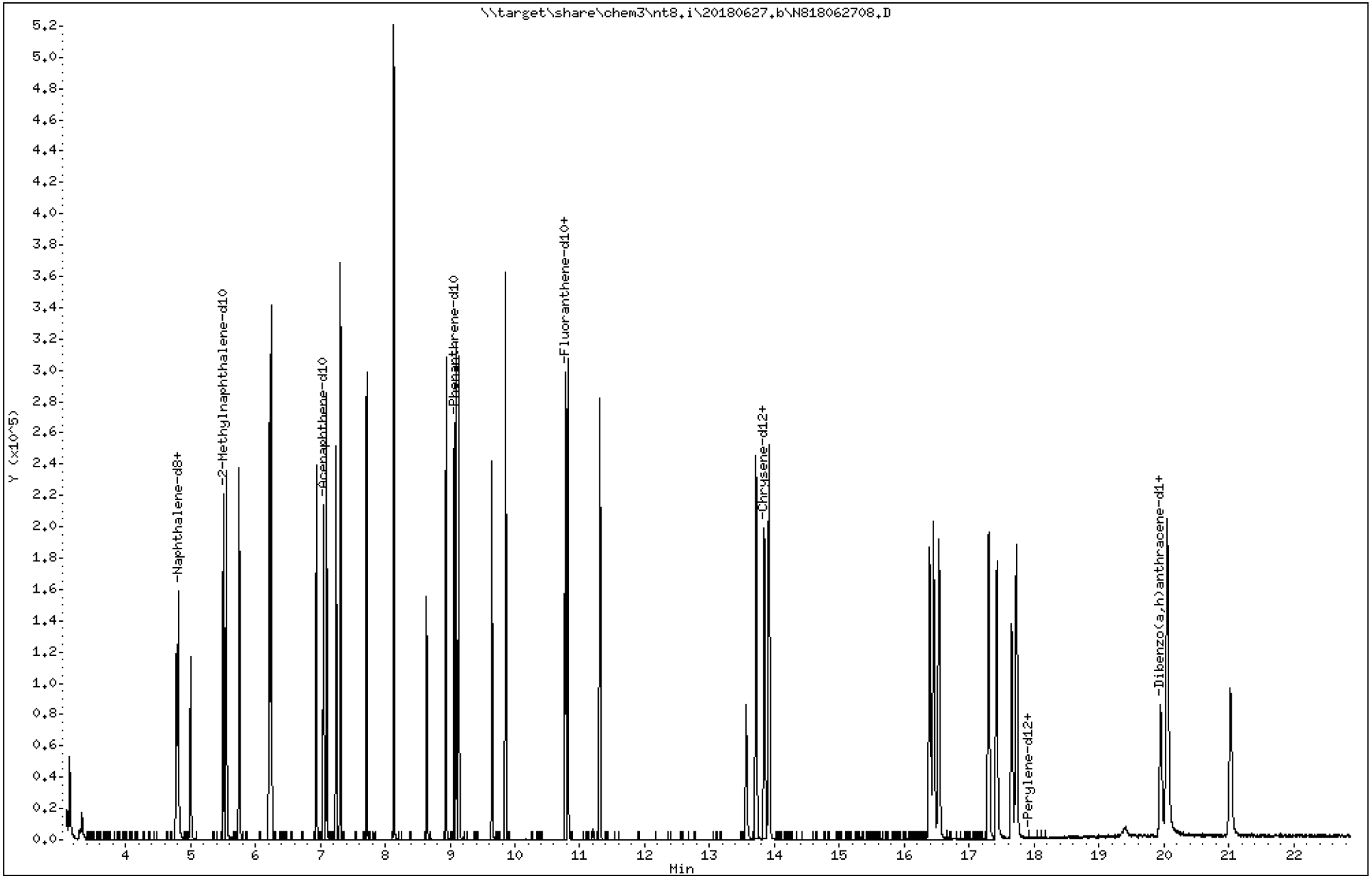
Instrument: nt8.i

Sample Info: SCV180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062708.D
Lab Smp Id: SGF0354-SCV1
Inj Date : 27-JUN-2018 18:56
Operator : JZ Inst ID: nt8.i
Smp Info : SCV180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 11:36 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	95204	2.00000	
	2 Naphthalene	128	4.810	4.813	(1.006)	123280	2.30877	2.309
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	78052	2.23190	2.232
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	72475	2.33499	2.335
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	73404	2.36274	2.363
	6 2-Chloronaphthalene	162	6.233	6.236	(1.304)	83623	2.56732	2.567
	7 Biphenyl	154	6.210	6.214	(0.881)	107209	2.27342	2.273
	8 2,6-Dimethylnaphthalene	156	6.245	6.248	(0.886)	80792	2.36045	2.360
	9 Acenaphthylene	152	6.938	6.941	(0.984)	127975	2.36808	2.368
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	53385	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	85902	2.25416	2.254
	12 Dibenzofuran	168	7.244	7.248	(1.028)	123745	2.31203	2.312
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	80587	2.34023	2.340
	14 Fluorene	166	7.716	7.719	(1.095)	97578	2.28848	2.288
	18 Dibenzothiophene	184	8.939	8.942	(0.986)	136210	2.28291	2.283
*	15 Phenanthrene-d10	188	9.063	9.062	(1.000)	114570	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	143334	2.25489	2.255
	17 Anthracene	178	9.135	9.138	(1.008)	141572	2.29934	2.299
	19 Carbazole	167	9.644	9.651	(1.064)	123818	2.31994	2.320
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	117305	2.29710	2.297
	22 Fluoranthene	202	10.814	10.821	(1.193)	174050	2.34101	2.341
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	163993	2.23422	2.234
	23 Pyrene	202	11.308	11.317	(0.817)	177473	2.36386	2.364
	24 Benzo(a)anthracene	228	13.717	13.726	(0.991)	173772	2.32571	2.326
*	25 Chrysene-d12	240	13.843	13.847	(1.000)	129633	2.00000	
	27 Chrysene	228	13.916	13.926	(1.005)	169605	2.29905	2.299
	28 Benzo(b)fluoranthene	252	16.392	16.408	(0.928)	160046	2.37656	2.377
	29 Benzo(k)fluoranthene	252	16.452	16.468	(0.932)	166553	2.43766	2.438
	30 Benzo(j)fluoranthene	252	16.531	16.550	(0.936)	154695	2.28938	2.289
	31 Total Benzofluoranthenes	252	16.452	16.550	(0.932)	472592	7.03713	7.037(M)
	34 Benzo(e)pyrene	252	17.303	17.315	(0.980)	158023	2.36161	2.362
	32 Benzo(a)pyrene	252	17.426	17.439	(0.987)	142750	2.38339	2.383
*	33 Perylene-d12	264	17.657	17.663	(1.000)	107677	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	35 Perylene	252	17.726	17.745	(1.004)	153379	2.35004	2.350
$	36 Dibenzo(a,h)anthracene-d14	292	19.946	19.978	(1.130)	99460	2.04429	2.044
	37 Indeno(1,2,3-cd)pyrene	276	20.054	20.086	(1.136)	136299	2.08290	2.083
	38 Dibenzo(a,h)anthracene	278	20.047	20.076	(1.135)	115689	2.05223	2.052
	39 Benzo(g,h,i)perylene	276	21.027	21.056	(1.191)	115696	2.30610	2.306

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062708.D
Lab Smp Id: SGF0354-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	95204	-2.79
10 Acenaphthene-d10	54983	27492	109966	53385	-2.91
15 Phenanthrene-d10	115816	57908	231632	114570	-1.08
25 Chrysene-d12	129167	64584	258334	129633	0.36
33 Perylene-d12	111506	55753	223012	107677	-3.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.06
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.04
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.03
25 Chrysene-d12	13.85	13.35	14.35	13.84	-0.07
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062708.D

Lab ID: SGF0354-SCV1
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 18:56

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

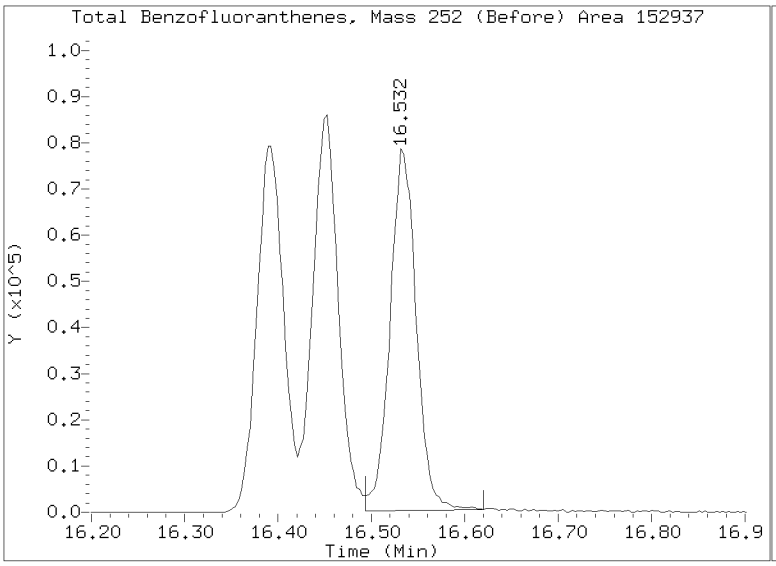
RRT	CCV RRT	DELTA	COMPOUND
NONE			

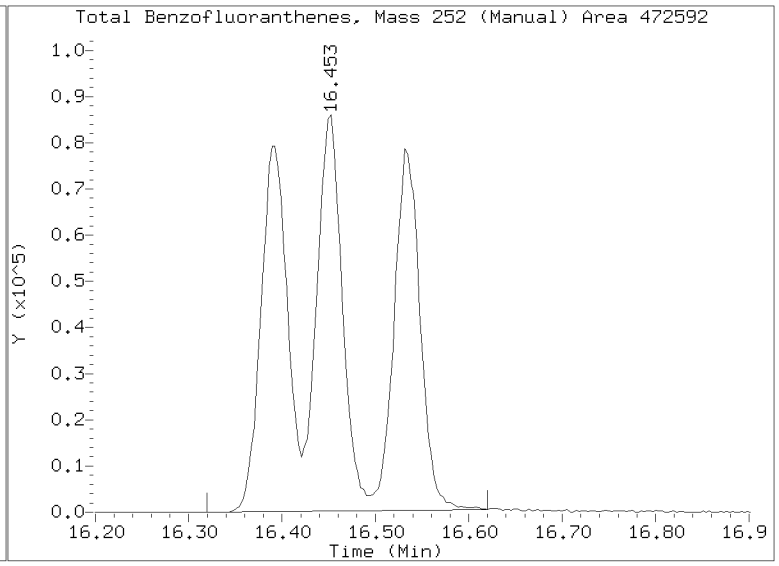
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062708.D
Injection Date: 27-JUN-2018 18:56
Lab ID:SGF0354-SCV1 Client ID:
Report Date: 06/28/2018 11:40





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BF00065
Laboratory ID: SGF0354-SCV1
Sequence: SGF0354
Standard ID: G005878

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.31	-7.6	
2-Methylnaphthalene	2.5000	2.33	-6.6	
1-Methylnaphthalene	2.5000	2.36	-5.5	
Acenaphthylene	2.5000	2.37	-5.3	
Acenaphthene	2.5000	2.25	-9.8	
Dibenzofuran	2.5000	2.31	-7.5	
Fluorene	2.5000	2.29	-8.5	
Phenanthrene	2.5000	2.25	-9.8	
Anthracene	2.5000	2.30	-8.0	
Fluoranthene	2.5000	2.34	-6.4	
Pyrene	2.5000	2.36	-5.4	
Benzo(a)anthracene	2.5000	2.33	-7.0	
Chrysene	2.5000	2.30	-8.0	
Benzo(b)fluoranthene	2.5000	2.38	-4.9	
Benzo(k)fluoranthene	2.5000	2.44	-2.5	
Benzo(j)fluoranthene	2.5000	2.29	-8.4	
Benzo(a)pyrene	2.5000	2.38	-4.7	
Indeno(1,2,3-cd)pyrene	2.5000	2.08	-16.7	
Dibenzo(a,h)anthracene	2.5000	2.05	-17.9	
Benzo(g,h,i)perylene	2.5000	2.31	-7.8	
Benzofluoranthenes, Total	7.5000	7.04	-6.2	
2-Methylnaphthalene-d10	2.5000	2.23	-10.7	
Dibenzo[a,h]anthracene-d14	2.5000	2.04	-18.2	
Fluoranthene-d10	2.5000	2.23	-10.6	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180627.b\N818062708.D

Date : 27-JUN-2018 18:56

Client ID:

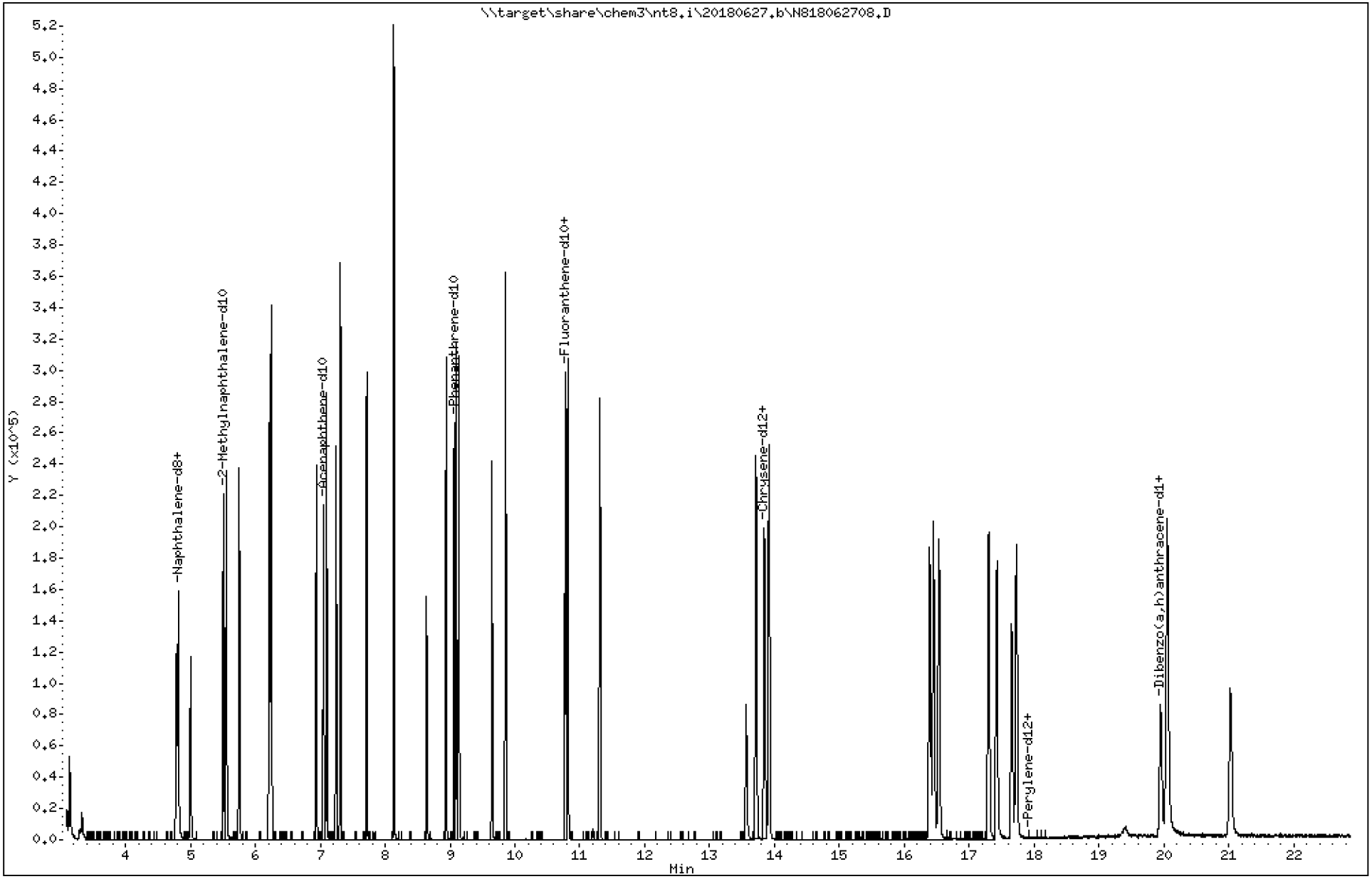
Instrument: nt8.i

Sample Info: SCV180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062708.D
Lab Smp Id: SGF0354-SCV1
Inj Date : 27-JUN-2018 18:56
Operator : JZ Inst ID: nt8.i
Smp Info : SCV180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 11:36 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	95204	2.00000	
	2 Naphthalene	128	4.810	4.813	(1.006)	123280	2.30877	2.309
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	78052	2.23190	2.232
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	72475	2.33499	2.335
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	73404	2.36274	2.363
	6 2-Chloronaphthalene	162	6.233	6.236	(1.304)	83623	2.56732	2.567
	7 Biphenyl	154	6.210	6.214	(0.881)	107209	2.27342	2.273
	8 2,6-Dimethylnaphthalene	156	6.245	6.248	(0.886)	80792	2.36045	2.360
	9 Acenaphthylene	152	6.938	6.941	(0.984)	127975	2.36808	2.368
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	53385	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	85902	2.25416	2.254
	12 Dibenzofuran	168	7.244	7.248	(1.028)	123745	2.31203	2.312
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	80587	2.34023	2.340
	14 Fluorene	166	7.716	7.719	(1.095)	97578	2.28848	2.288
	18 Dibenzothiophene	184	8.939	8.942	(0.986)	136210	2.28291	2.283
*	15 Phenanthrene-d10	188	9.063	9.062	(1.000)	114570	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	143334	2.25489	2.255
	17 Anthracene	178	9.135	9.138	(1.008)	141572	2.29934	2.299
	19 Carbazole	167	9.644	9.651	(1.064)	123818	2.31994	2.320
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	117305	2.29710	2.297
	22 Fluoranthene	202	10.814	10.821	(1.193)	174050	2.34101	2.341
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	163993	2.23422	2.234
	23 Pyrene	202	11.308	11.317	(0.817)	177473	2.36386	2.364
	24 Benzo(a)anthracene	228	13.717	13.726	(0.991)	173772	2.32571	2.326
*	25 Chrysene-d12	240	13.843	13.847	(1.000)	129633	2.00000	
	27 Chrysene	228	13.916	13.926	(1.005)	169605	2.29905	2.299
	28 Benzo(b)fluoranthene	252	16.392	16.408	(0.928)	160046	2.37656	2.377
	29 Benzo(k)fluoranthene	252	16.452	16.468	(0.932)	166553	2.43766	2.438
	30 Benzo(j)fluoranthene	252	16.531	16.550	(0.936)	154695	2.28938	2.289
	31 Total Benzofluoranthenes	252	16.452	16.550	(0.932)	472592	7.03713	7.037(M)
	34 Benzo(e)pyrene	252	17.303	17.315	(0.980)	158023	2.36161	2.362
	32 Benzo(a)pyrene	252	17.426	17.439	(0.987)	142750	2.38339	2.383
*	33 Perylene-d12	264	17.657	17.663	(1.000)	107677	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	35 Perylene	252	17.726	17.745	(1.004)	153379	2.35004	2.350
$	36 Dibenzo(a,h)anthracene-d14	292	19.946	19.978	(1.130)	99460	2.04429	2.044
	37 Indeno(1,2,3-cd)pyrene	276	20.054	20.086	(1.136)	136299	2.08290	2.083
	38 Dibenzo(a,h)anthracene	278	20.047	20.076	(1.135)	115689	2.05223	2.052
	39 Benzo(g,h,i)perylene	276	21.027	21.056	(1.191)	115696	2.30610	2.306

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062708.D
Lab Smp Id: SGF0354-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	95204	-2.79
10 Acenaphthene-d10	54983	27492	109966	53385	-2.91
15 Phenanthrene-d10	115816	57908	231632	114570	-1.08
25 Chrysene-d12	129167	64584	258334	129633	0.36
33 Perylene-d12	111506	55753	223012	107677	-3.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.06
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.04
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.03
25 Chrysene-d12	13.85	13.35	14.35	13.84	-0.07
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062708.D

Lab ID: SGF0354-SCV1
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 18:56

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

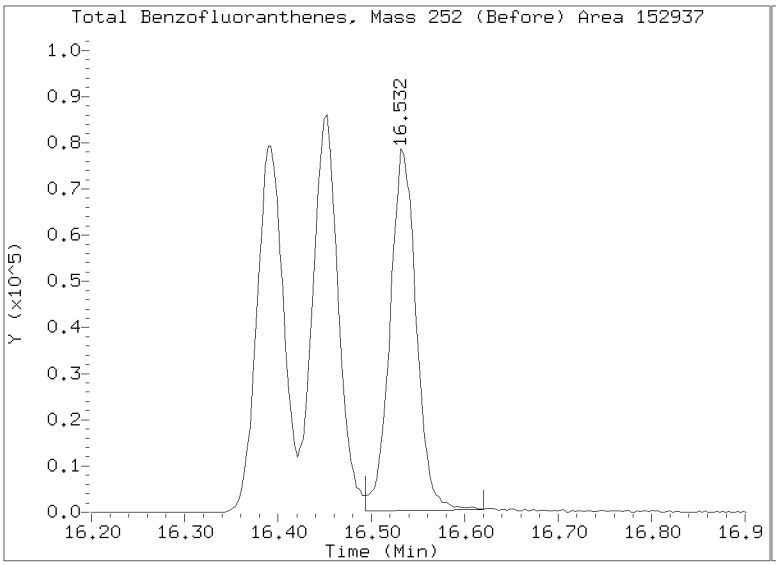
RRT	CCV RRT	DELTA	COMPOUND
NONE			

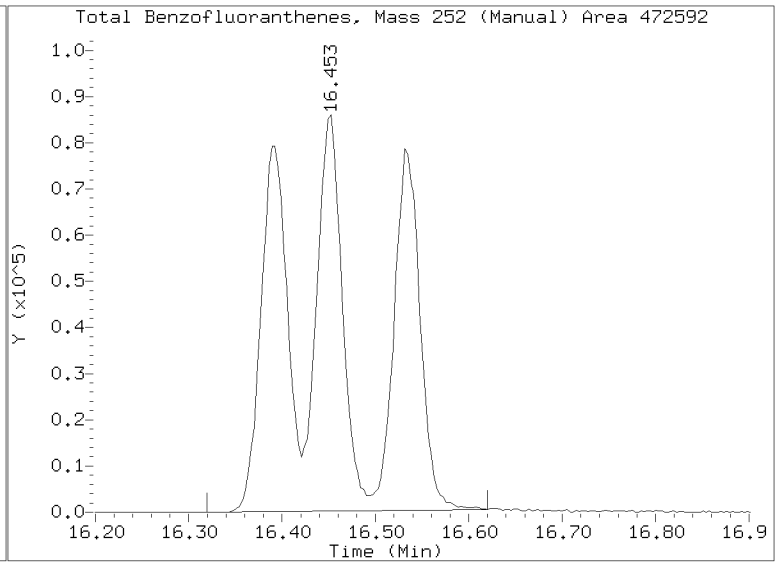
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062708.D
Injection Date: 27-JUN-2018 18:56
Lab ID:SGF0354-SCV1 Client ID:
Report Date: 06/28/2018 11:40





INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT14	Calibration:	BE00033
Lab File ID:	NT1418051009.D	Calibration Date:	05/10/18 00:00
Sequence:	SGE0153	Injection Date:	05/10/18
Lab Sample ID:	SGE0153-ICV1	Injection Time:	09:47
Sequence Name:	TBT ICV 1.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Tributyltin Ion	A	0.77300	0.840	0.6239768	0.6779857	0.01	8.7	20
Dibutyltin Ion	A	1.1560	1.23	0.0507243	0.0541469	0.01	6.8	20
Butyltin Ion	A	0.81600	0.868	0.0821251	0.0873607	0.01	6.4	20
Tetrabutyltin	A	1.0000	1.10	0.7495325	0.8204931	0.01	9.5	20
Tripentyltin	A	1.5918	1.70	0.0751643	0.0802361	0.01	6.8	20
Tripropyltin	A	0.74430	0.826	0.8055430	0.8940471	0.01	11.0	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051009.D

Page 1

Date : 10-MAY-2018 09:47

Client ID:

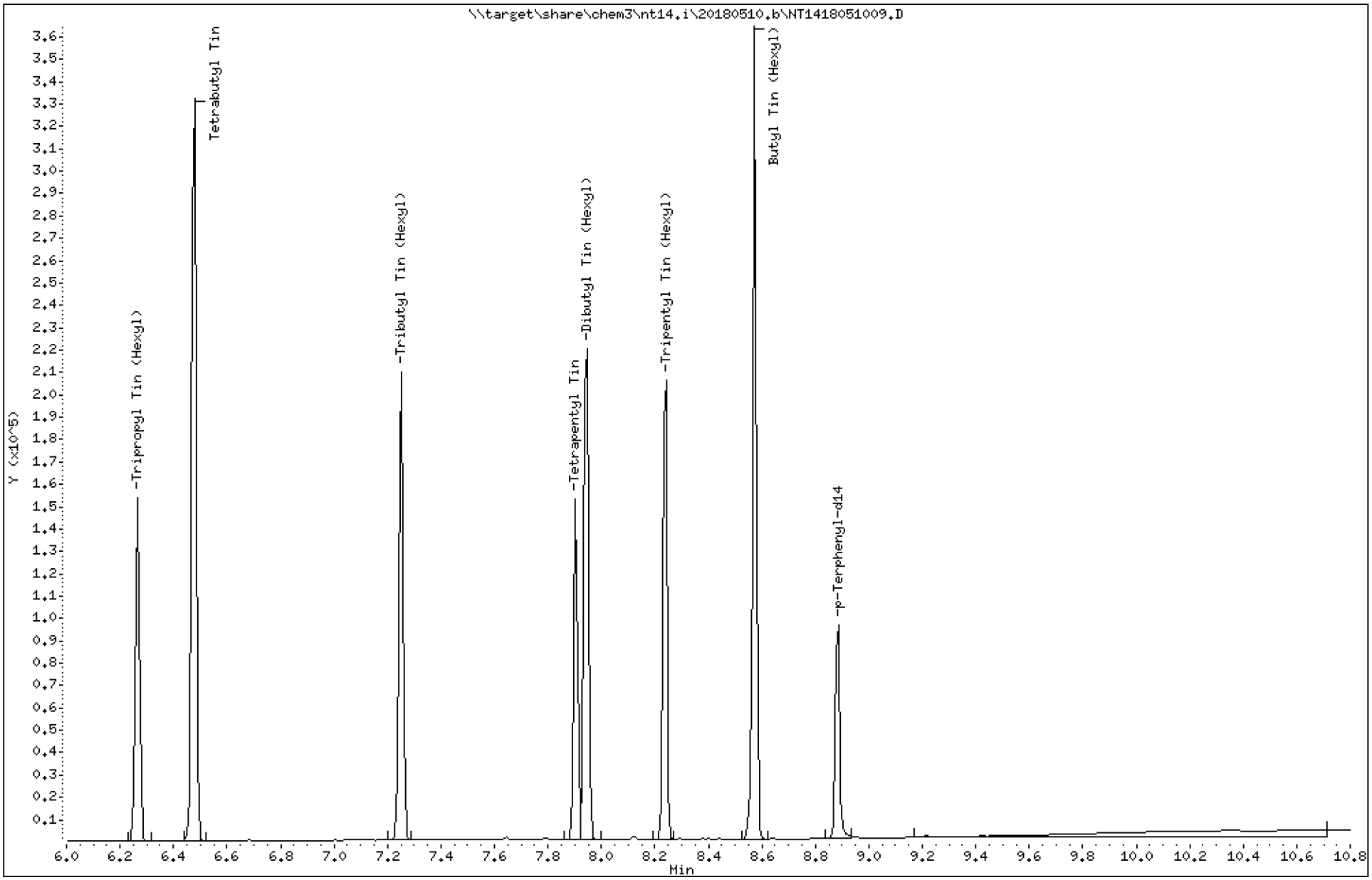
Instrument: nt14.i

Sample Info: SGE0153-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



18F0364 CLPLIKE (Rev0) - Page 1799 of 2472

ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051009.D
Lab Smp Id: SGE0153-ICV1
Inj Date : 10-MAY-2018 09:47
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-ICV1
Misc Info :
Comment   : 2 ul Injection
Method   : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	66269	1.00000	1.110
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	60817	1.00000	1.095
	3 Tributyl Tin (Hexyl)	319	7.253	7.253	(0.918)	50254	1.00000	1.087
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	148245	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	67336	2.00000	2.135
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	99780	2.00000	2.135
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	108640	2.00000	2.128
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	124358	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051009.D
Lab Smp Id: SGE0153-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 08:26
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	148245	-2.17
8 p-Terphenyl-d14	129365	64683	258730	124358	-3.87

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051009.D

Lab ID: SGE0153-ICV1
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 09:47

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

Instrument: nt14.i Date: 10-MAY-2018 Method: 20180510.b\BTS.m

INITIAL CAL: 10-MAY-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1418051009.D 10-MAY-2018 09:47

Compound	%D
NO Q-FLAGS	

INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT8	Calibration:	BF00065
Lab File ID:	N818070502.D	Calibration Date:	06/27/18 16:00
Sequence:	SGG0053	Injection Date:	07/05/18
Lab Sample ID:	SGG0053-ICV1	Injection Time:	11:28
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzo(a)anthracene	A	2.5000	2.66	1.1527580	1.2244510		6.2	20
Chrysene	A	2.5000	2.61	1.1381650	1.1900430		4.6	20
Benzo(b)fluoranthene	A	2.5000	2.67	1.2508440	1.3379160		7.0	20
Benzo(k)fluoranthene	A	2.5000	2.61	1.2690730	1.3258720		4.5	20
Benzo(a)pyrene	A	2.5000	2.70	1.1124690	1.2021090		8.0	20
Indeno(1,2,3-cd)pyrene	A	2.5000	2.76	1.0997980	1.3752		10.4	20
Dibenzo(a,h)anthracene	A	2.5000	2.62	0.9158568	1.1236300		4.8	20
2-Methylnaphthalene-d10	A	2.5000	2.66	0.7346551	0.7818215		6.4	20
Dibenzo[a,h]anthracene-d14	A	2.5000	2.82	0.7913915	1.0543950		12.9	20
Fluoranthene-d10	A	2.5000	2.60	1.2813230	1.3340140		4.1	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180705.b\N818070502.D

Date : 05-JUL-2018 11:28

Client ID:

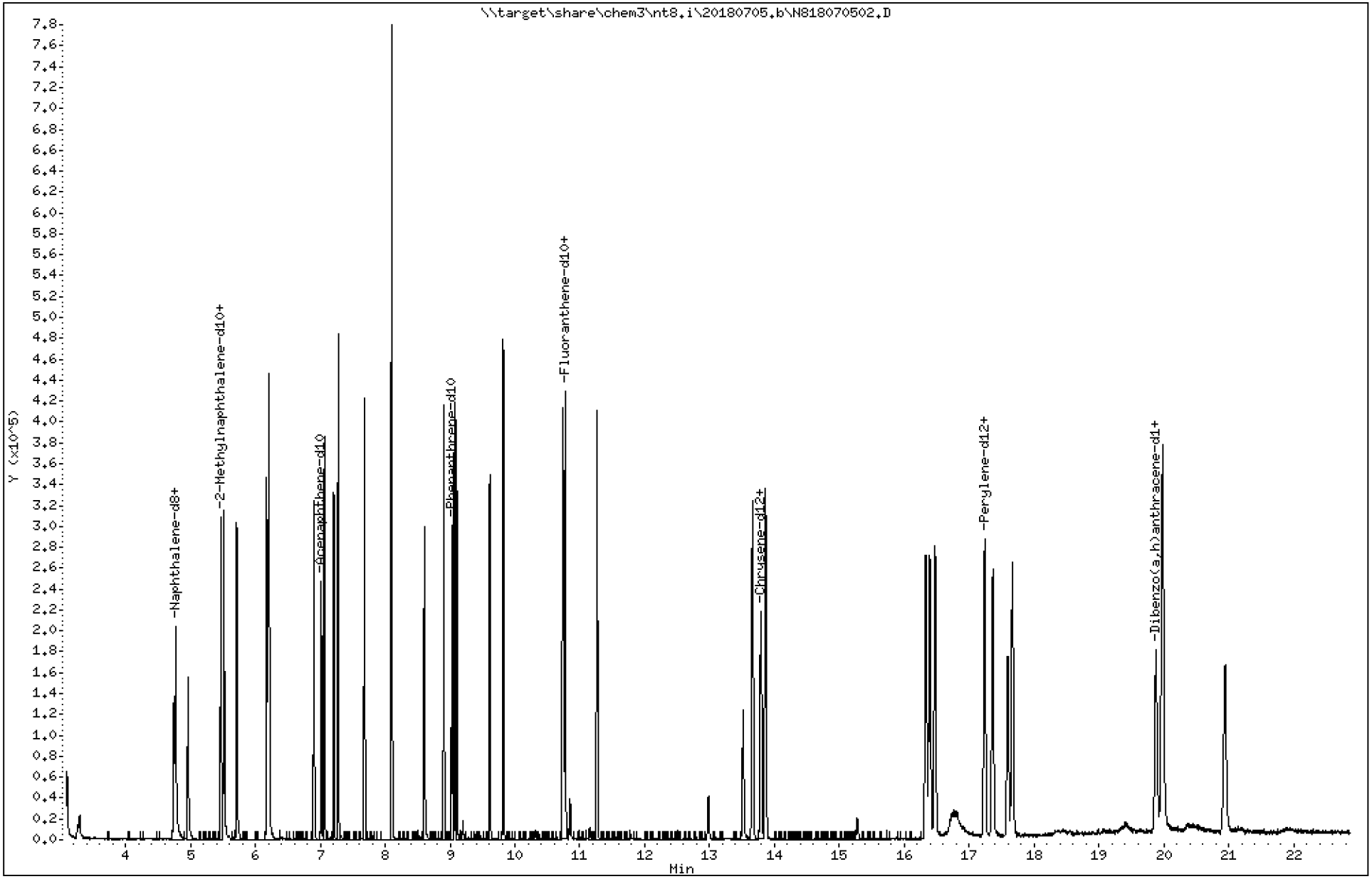
Instrument: nt8.i

Sample Info: ICV180705

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\N818070502.D
Lab Smp Id: SGG0053-ICV1
Inj Date : 05-JUL-2018 11:28
Operator : JZ Inst ID: nt8.i
Smp Info : ICV180705
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Meth Date : 09-Jul-2018 09:34 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.743	4.743	(1.000)	119394	2.00000	
	2 Naphthalene	128	4.775	4.775	(1.007)	175470	2.50000	2.620
$	3 2-Methylnaphthalene-d10	152	5.470	5.470	(1.153)	116681	2.50000	2.661
	4 2-Methylnaphthalene	141	5.515	5.515	(1.163)	102326	2.50000	2.629
	5 1-methylnaphthalene	141	5.711	5.711	(1.204)	103892	2.50000	2.667
	6 2-Chloronaphthalene	162	6.198	6.198	(1.307)	105266	2.50000	2.577
	7 Biphenyl	154	6.175	6.175	(0.881)	153985	2.50000	2.656
	8 2,6-Dimethylnaphthalene	156	6.210	6.210	(0.885)	112831	2.50000	2.682
	9 Acenaphthylene	152	6.903	6.903	(0.984)	180193	2.50000	2.712
*	10 Acenaphthene-d10	164	7.013	7.013	(1.000)	65629	2.00000	
	11 Acenaphthene	153	7.061	7.061	(1.007)	120553	2.50000	2.573
	12 Dibenzofuran	168	7.209	7.209	(1.028)	167696	2.50000	2.549
	13 1,6,7-Trimethylnaphthalene	170	7.276	7.276	(1.037)	110211	2.50000	2.603
	14 Fluorene	166	7.681	7.681	(1.095)	138127	2.50000	2.635
	18 Dibenzothiophene	184	8.904	8.904	(0.986)	185844	2.50000	2.647
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	134807	2.00000	
	16 Phenanthrene	178	9.065	9.065	(1.004)	195113	2.50000	2.609
	17 Anthracene	178	9.100	9.100	(1.008)	193087	2.50000	2.665
	19 Carbazole	167	9.612	9.612	(1.064)	173546	2.50000	2.764
	20 1-Methylphenanthrene	192	9.818	9.818	(1.087)	156721	2.50000	2.608
	22 Fluoranthene	202	10.773	10.773	(1.193)	228404	2.50000	2.611
$	21 Fluoranthene-d10	212	10.738	10.738	(1.189)	224793	2.50000	2.603
	23 Pyrene	202	11.266	11.266	(0.817)	239174	2.50000	2.741
	24 Benzo(a)anthracene	228	13.663	13.663	(0.991)	230630	2.50000	2.655
*	25 Chrysene-d12	240	13.786	13.786	(1.000)	150683	2.00000	
	27 Chrysene	228	13.859	13.859	(1.005)	224149	2.50000	2.614
	28 Benzo(b)fluoranthene	252	16.335	16.335	(0.928)	231600	2.50000	2.674
	29 Benzo(k)fluoranthene	252	16.389	16.389	(0.932)	229515	2.50000	2.612
	30 Benzo(j)fluoranthene	252	16.474	16.474	(0.936)	221579	2.50000	2.550
	31 Total Benzofluoranthenes	252	16.335	16.335	(0.928)	667878	7.50000	7.733(M)
	34 Benzo(e)pyrene	252	17.236	17.236	(0.980)	220971	2.50000	2.568
	32 Benzo(a)pyrene	252	17.366	17.366	(0.987)	208091	2.50000	2.701
*	33 Perylene-d12	264	17.593	17.593	(1.000)	138484	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.669	17.669	(1.004)	216389	2.50000	2.578
$	36 Dibenzo(a,h)anthracene-d14	292	19.876	19.876	(1.130)	182521	2.50000	2.822
	37 Indeno(1,2,3-cd)pyrene	276	19.981	19.981	(1.136)	238054	2.50000	2.759
	38 Dibenzo(a,h)anthracene	278	19.974	19.974	(1.135)	194506	2.50000	2.619
	39 Benzo(g,h,i)perylene	276	20.945	20.945	(1.191)	187746	2.50000	2.910

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070502.D
Lab Smp Id: SGG0053-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 05-JUL-2018
Calibration Time: 16:23
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	119394	21.91
10 Acenaphthene-d10	54983	27492	109966	65629	19.36
15 Phenanthrene-d10	115816	57908	231632	134807	16.40
25 Chrysene-d12	129167	64584	258334	150683	16.66
33 Perylene-d12	111506	55753	223012	138484	24.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	0.00
10 Acenaphthene-d10	7.01	6.51	7.51	7.01	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.79	13.29	14.29	13.79	0.00
33 Perylene-d12	17.59	17.09	18.09	17.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070502.D

Lab ID: SGG0053-ICV1
nt8.i, 20180705.b\FSIMPNA180627.m,   05-JUL-2018 11:28

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

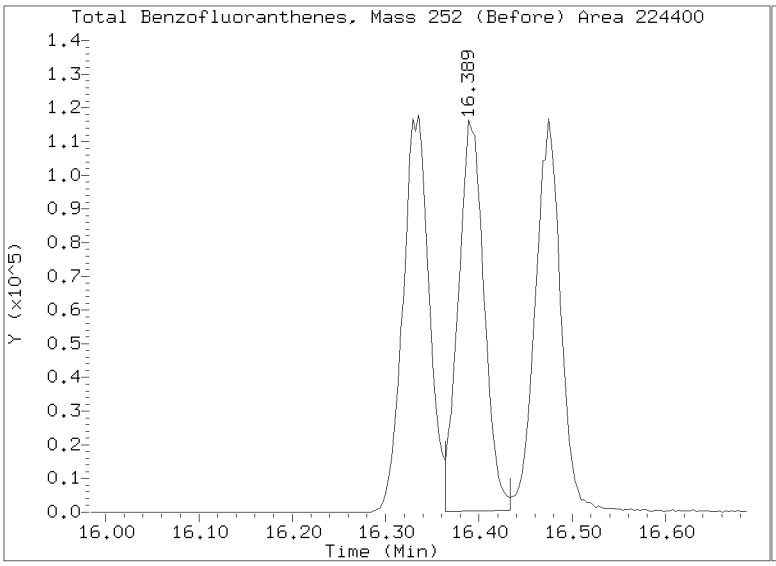
Quant Method: ICAL

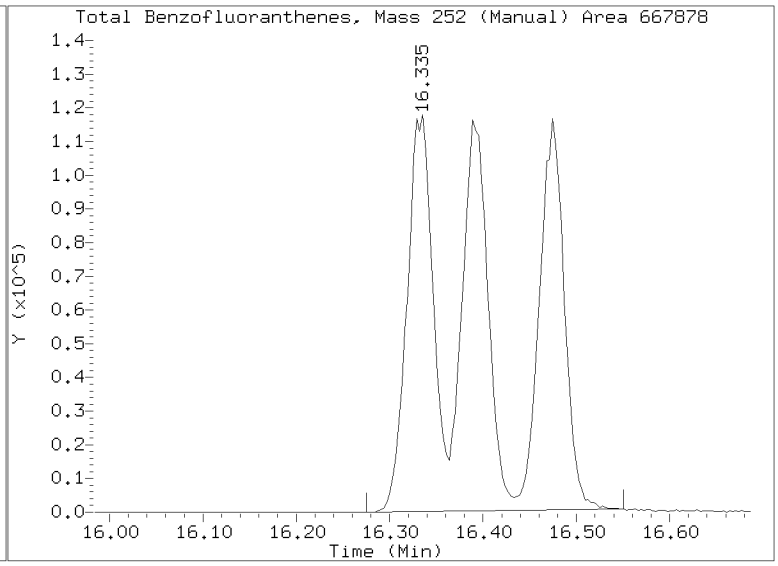
On Column LOD for nt8.i, 20180705.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/N818070502.D
Injection Date: 05-JUL-2018 11:28
Lab ID:SGG0053-ICV1 Client ID:
Report Date: 07/09/2018 09:34





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180705.b

Instrument: nt8.i Date: 05-JUL-2018 Method: 20180705.b\FSIMPNA180627.m

INITIAL CAL: 27-JUN-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: N818070502.D 05-JUL-2018 11:28

Compound	%D
NO Q-FLAGS	

INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT14	Calibration:	BE00033
Lab File ID:	NT1418070702.D	Calibration Date:	05/10/18 00:00
Sequence:	SGG0077	Injection Date:	07/07/18
Lab Sample ID:	SGG0077-ICV1	Injection Time:	13:58
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Tributyltin Ion	A	0.77300	0.860	0.6239768	0.6938145	0.01	11.2	20
Tripentyltin	A	1.5918	1.80	0.0751643	0.0850651	0.01	13.2	20
Tripropyltin	A	0.74430	0.836	0.8055430	0.9046687	0.01	12.3	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070702.D

Date : 07-JUL-2018 13:58

Client ID:

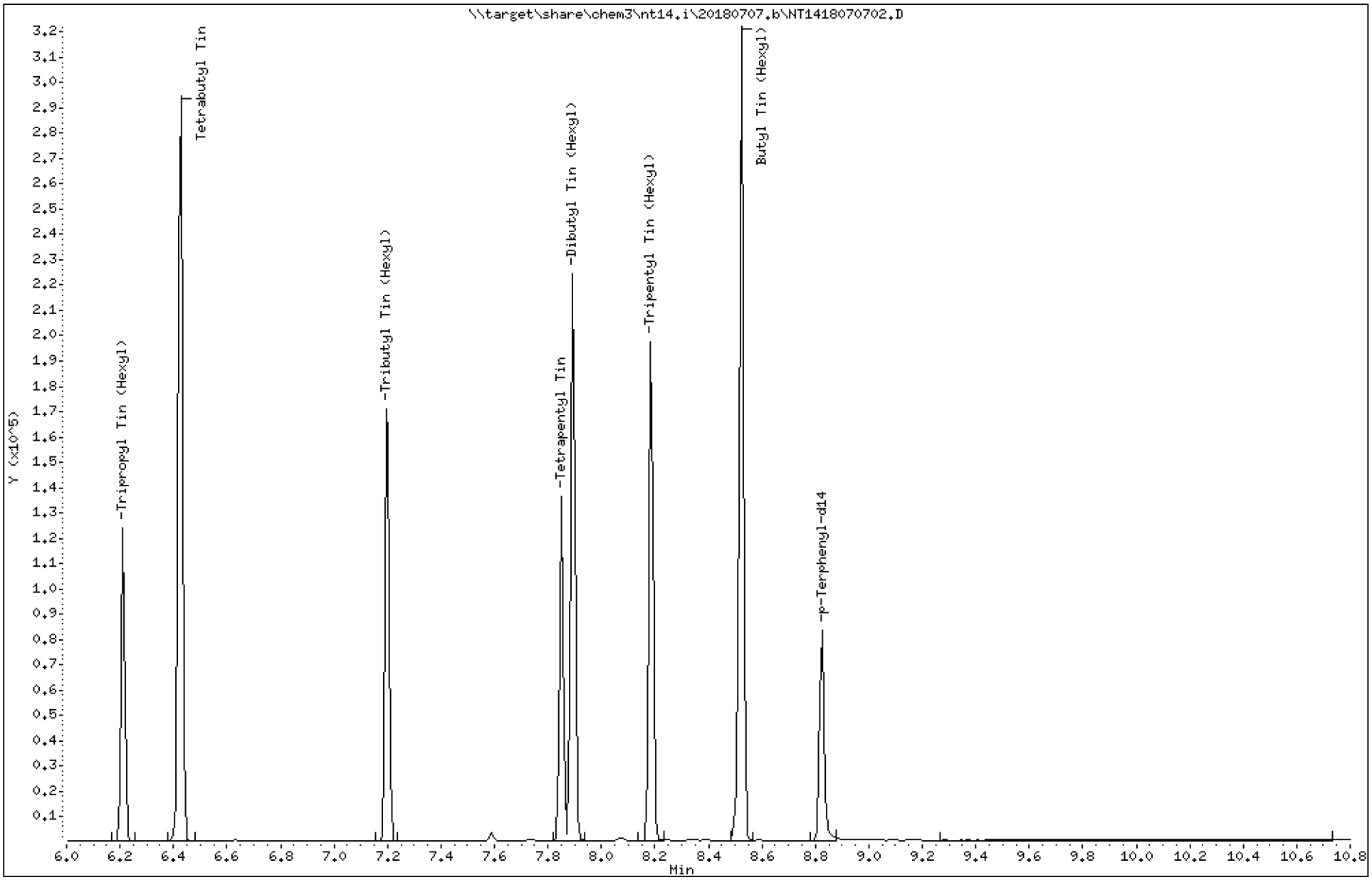
Instrument: nt14.i

Sample Info: SGG0077-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070702.D
Lab Smp Id: SGG0077-ICV1
Inj Date : 07-JUL-2018 13:58
Operator : VTS Inst ID: nt14.i
Smp Info : SGG0077-ICV1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	56184	1.00000	1.123
	2 Tetrabutyl Tin	289	6.430	6.430	(0.819)	52696	1.00000	1.132
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	43089	1.00000	1.112
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	124209	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.900	7.900	(0.895)	58814	2.00000	2.288
$	6 Tripentyl Tin (Hexyl)	347	8.183	8.183	(0.927)	86205	2.00000	2.263
	7 Butyl Tin (Hexyl)	347	8.524	8.524	(0.966)	94120	2.00000	2.262
*	8 p-Terphenyl-d14	244	8.827	8.827	(1.000)	101340	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070702.D
Lab Smp Id: SGG0077-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 11:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	124209	-18.03
8 p-Terphenyl-d14	129365	64683	258730	101340	-21.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.83	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070702.D

Lab ID: SGG0077-ICV1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 13:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180707.b

Instrument: nt14.i Date: 07-JUL-2018 Method: 20180707.b\BTS.m

INITIAL CAL: 10-MAY-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1418070702.D 07-JUL-2018 13:58

Compound	%D
NO Q-FLAGS	

CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT14	Calibration:	BE00033
Lab File ID:	NT1418051023.D	Calibration Date:	05/10/18 00:00
Sequence:	SGE0153	Injection Date:	05/10/18
Lab Sample ID:	SGE0153-CCV1	Injection Time:	13:05
Sequence Name:	TBT CCV 1.0		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Tributyltin Ion	A	0.77300	0.872	0.6239768	0.7038397	0.01	12.8	50
Dibutyltin Ion	A	1.1560	1.28	0.0507243	0.0563511	0.01	11.1	50
Butyltin Ion	A	0.81600	0.894	0.0821251	0.0899993	0.01	9.6	50
Tetrabutyltin	A	1.0000	1.12	0.7495325	0.8358393	0.01	11.5	50
Tripentyltin	A	1.5918	1.75	0.0751643	0.0825259	0.01	9.8	50
Tripropyltin	A	0.74430	0.831	0.8055430	0.8998657	0.01	11.7	50

* Values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D

Date : 10-MAY-2018 13:05

Client ID:

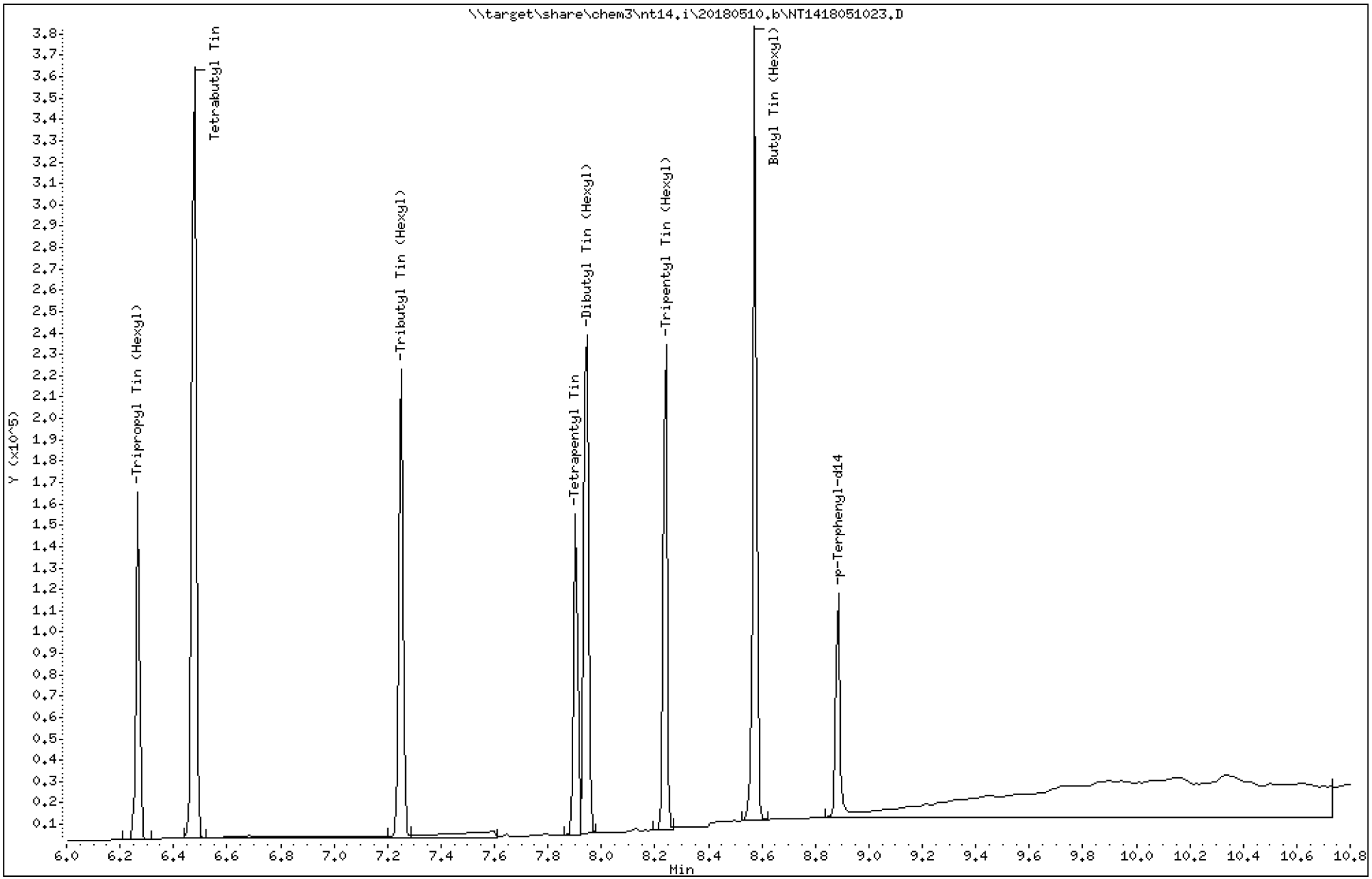
Instrument: nt14.i

Sample Info: SGE0153-CCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D

Date : 10-MAY-2018 13:05

Client ID:

Instrument: nt14.i

Sample Info: SGE0153-CCV1

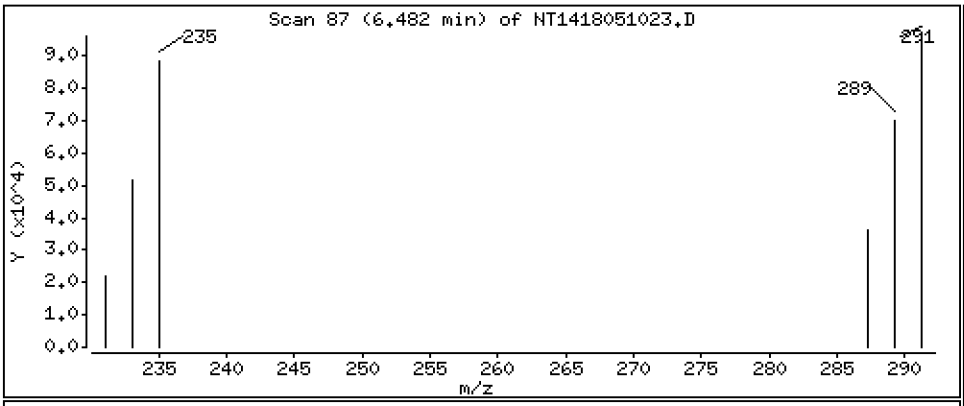
Operator: VTS

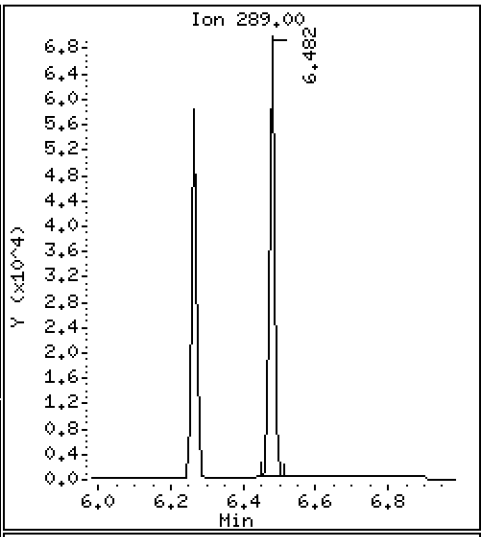
Column phase: ZB-5msi

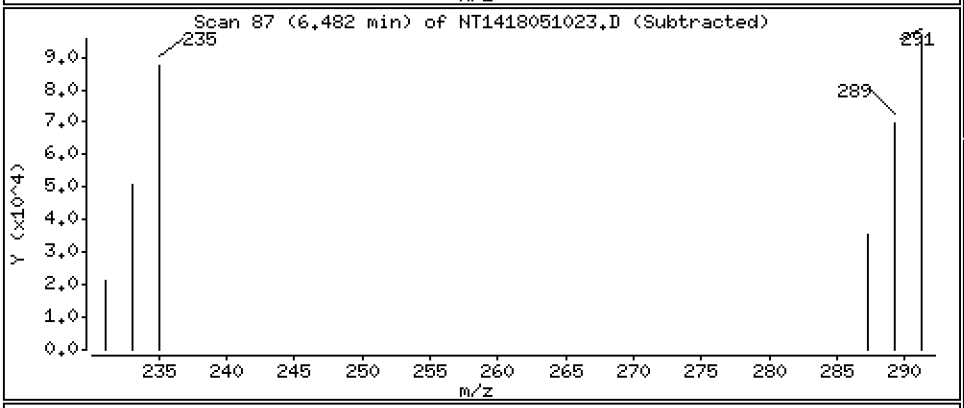
Column diameter: 0.25

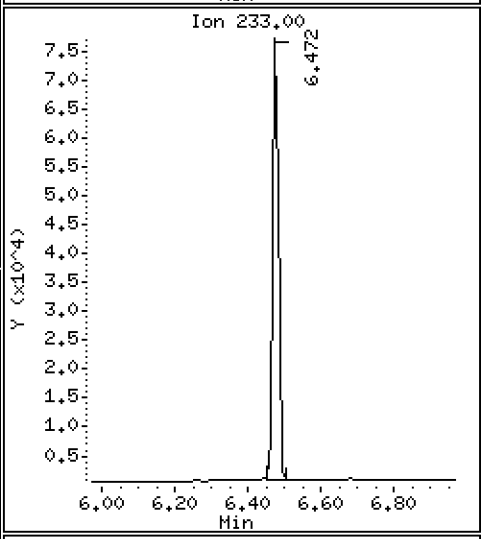
2 Tetrabutyl Tin

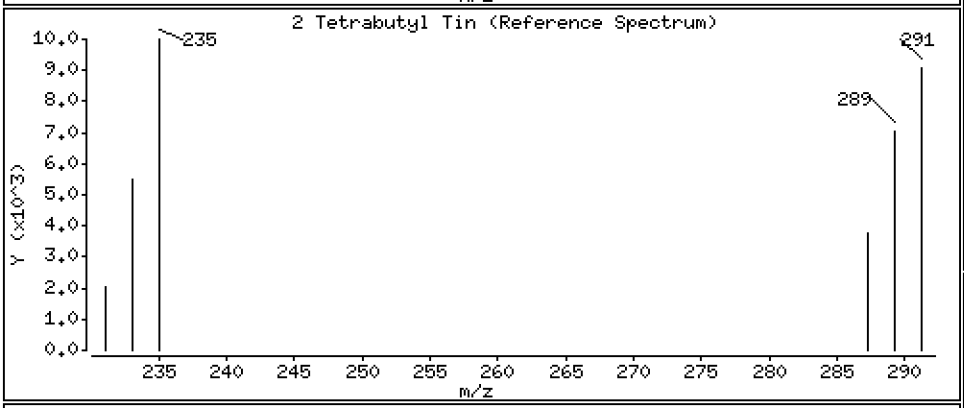
Concentration: 1.115 ug/mL

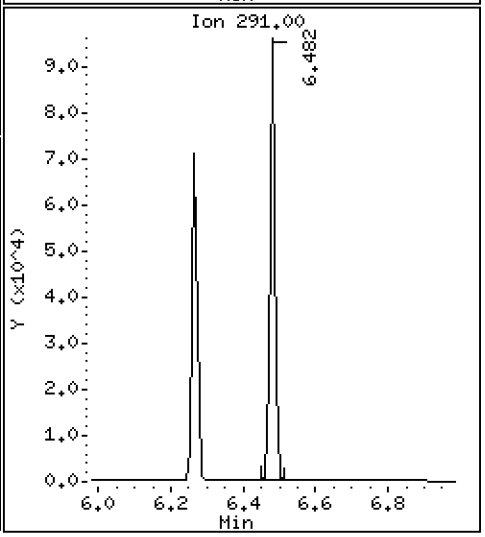


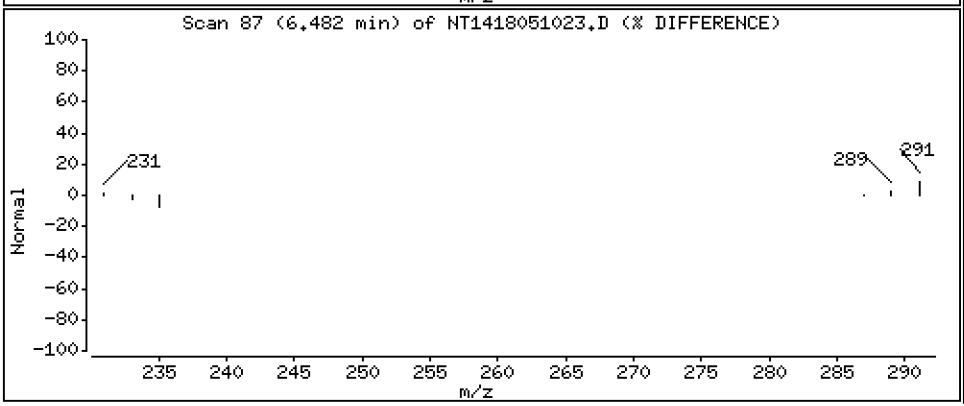












Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D

Date : 10-MAY-2018 13:05

Client ID:

Instrument: nt14.i

Sample Info: SGE0153-CCV1

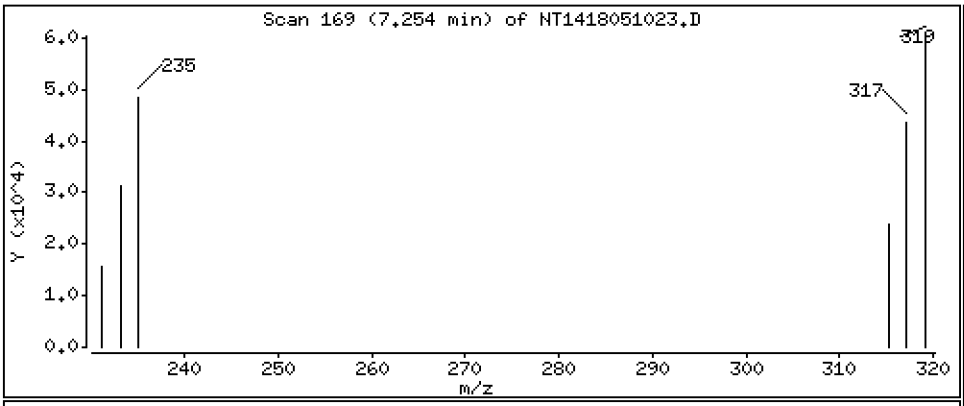
Operator: VTS

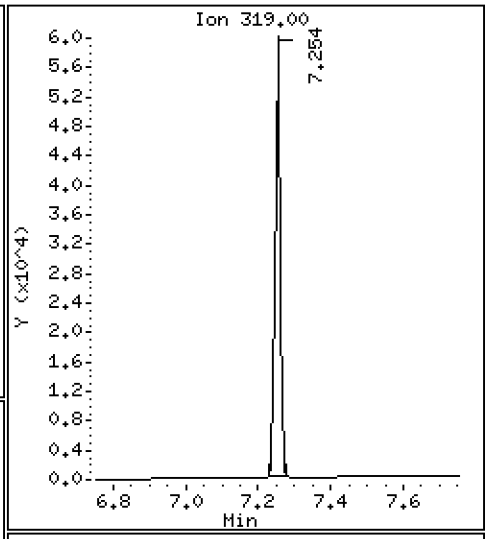
Column phase: ZB-5msi

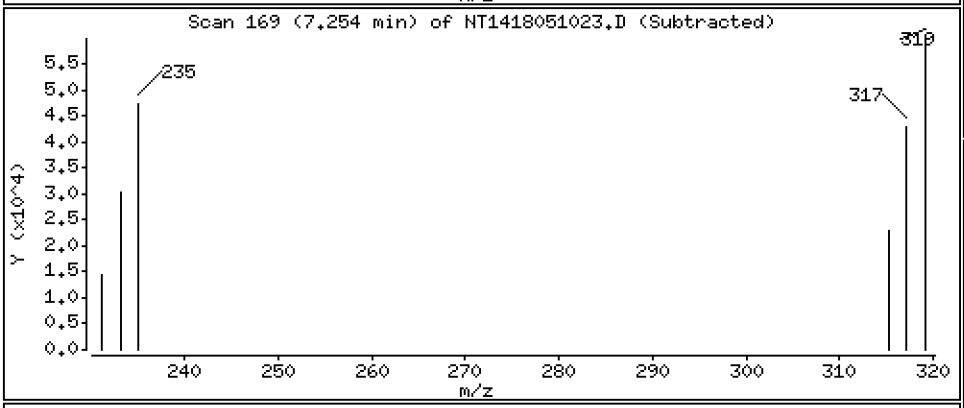
Column diameter: 0.25

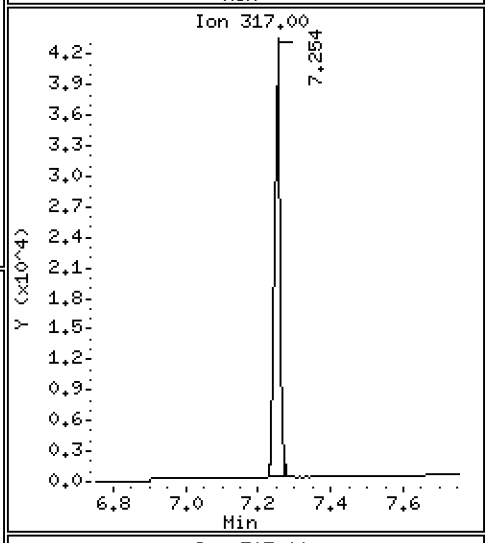
3 Tributyl Tin (Hexyl)

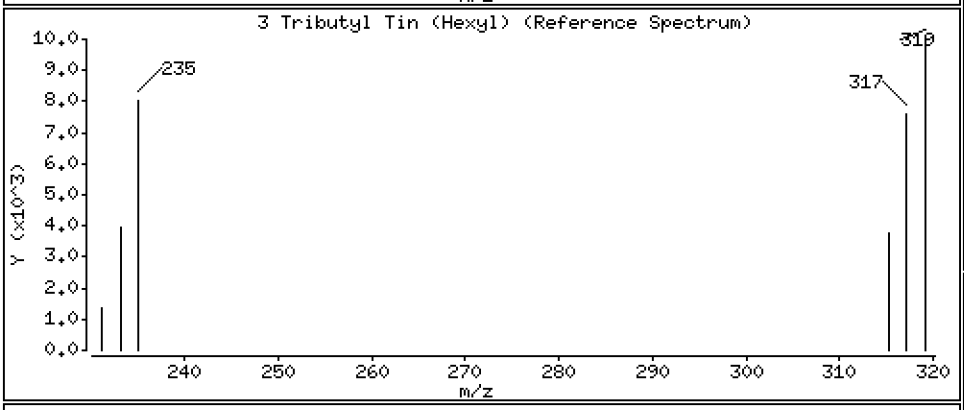
Concentration: 1.128 ug/mL

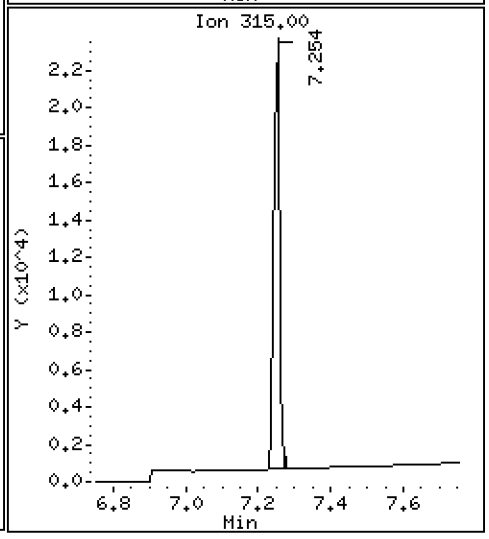


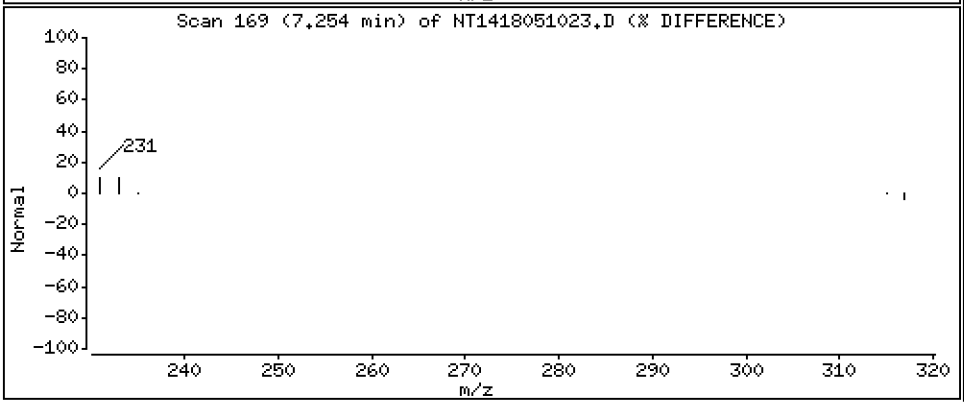












Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D

Date : 10-MAY-2018 13:05

Client ID:

Instrument: nt14.i

Sample Info: SGE0153-CCV1

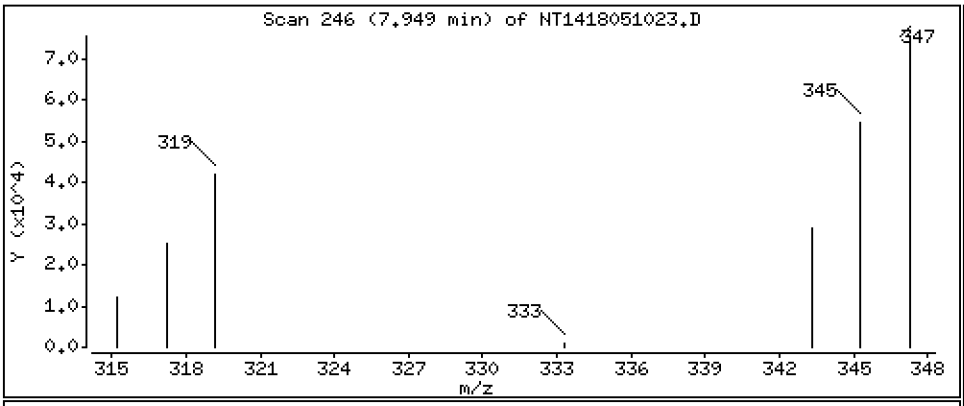
Operator: VTS

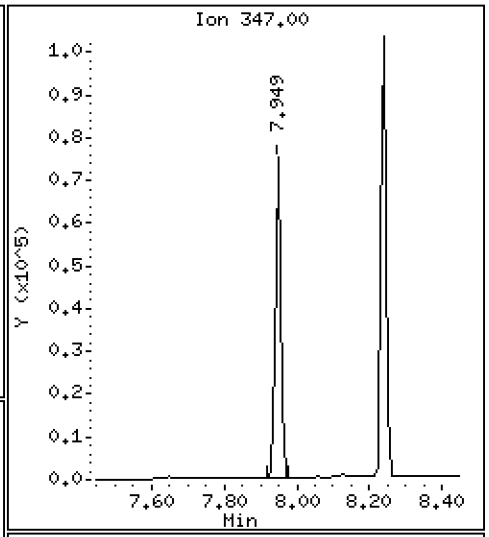
Column phase: ZB-5msi

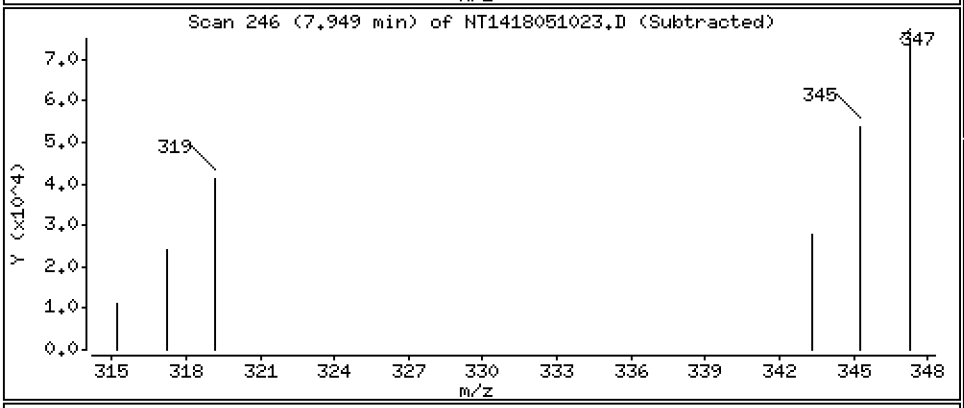
Column diameter: 0.25

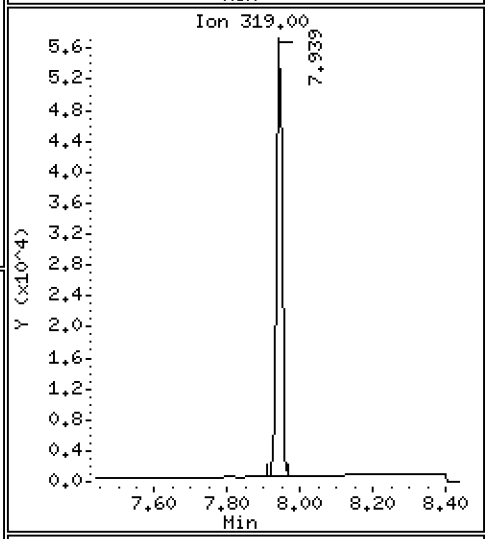
5 Dibutyl Tin (Hexyl)

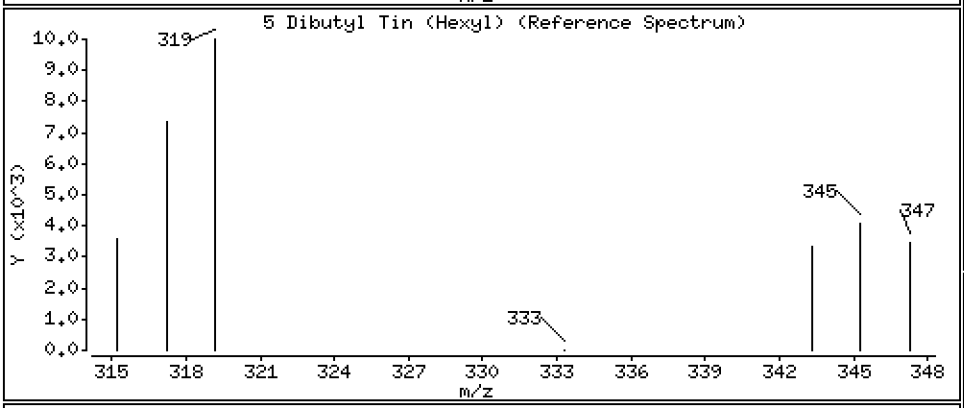
Concentration: 2.222 ug/mL

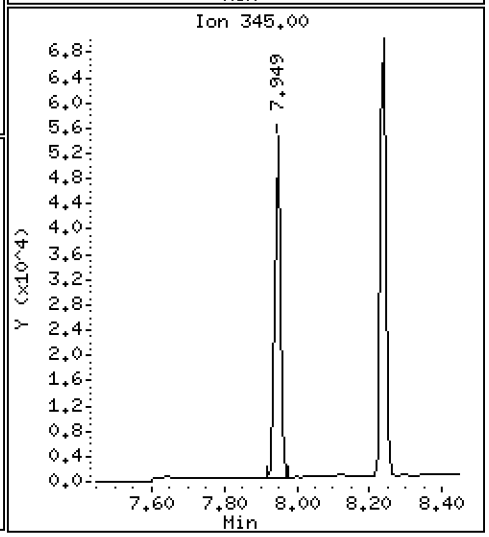


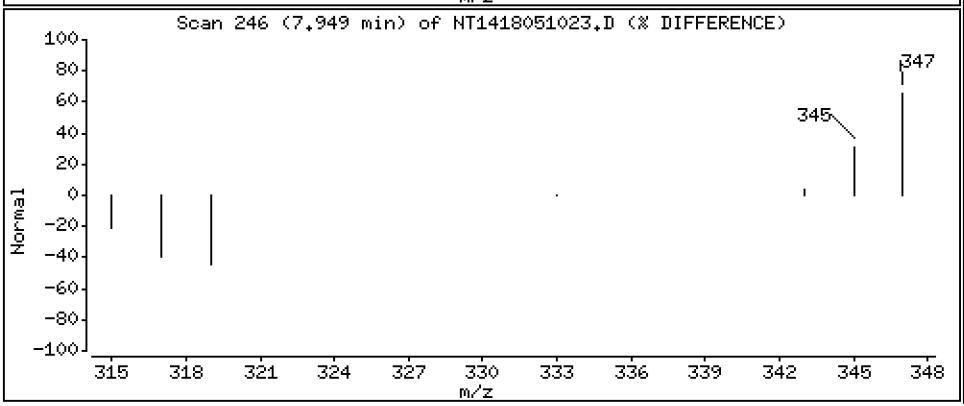












Data File: \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D

Date : 10-MAY-2018 13:05

Client ID:

Instrument: nt14.i

Sample Info: SGE0153-CCV1

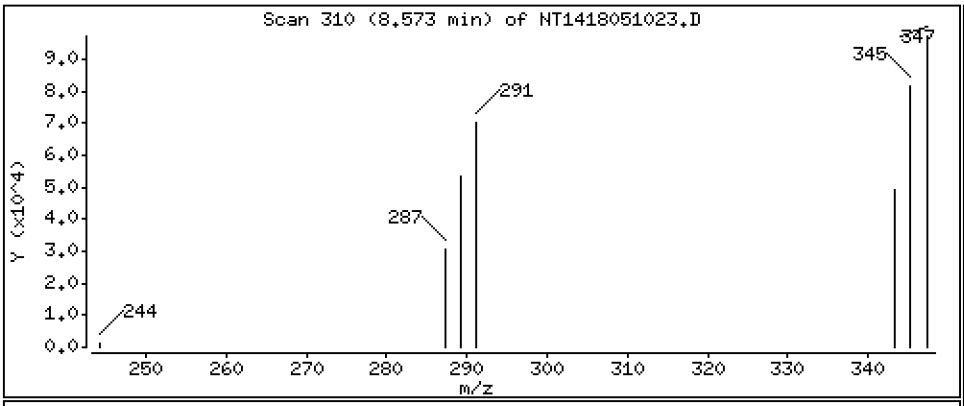
Operator: VTS

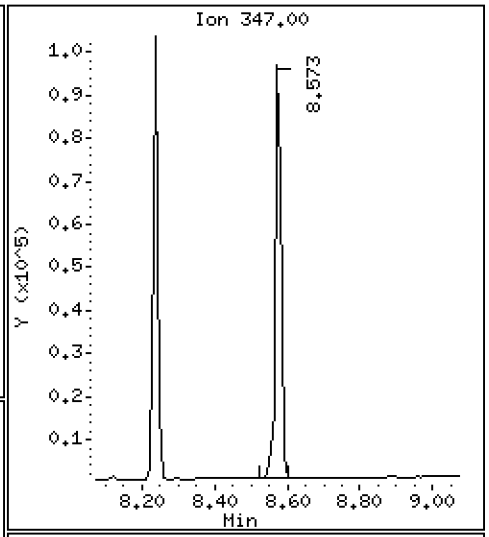
Column phase: ZB-5msi

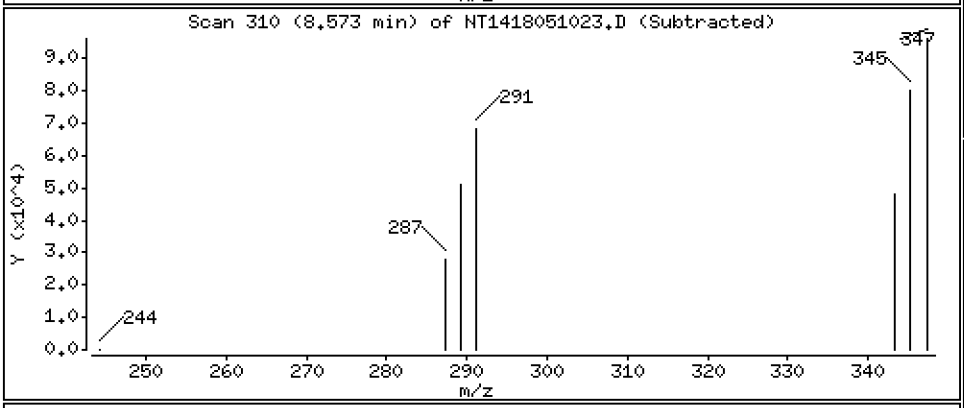
Column diameter: 0.25

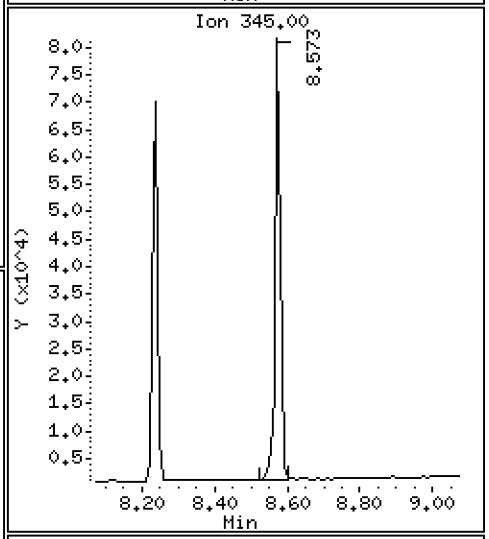
7 Butyl Tin (Hexyl)

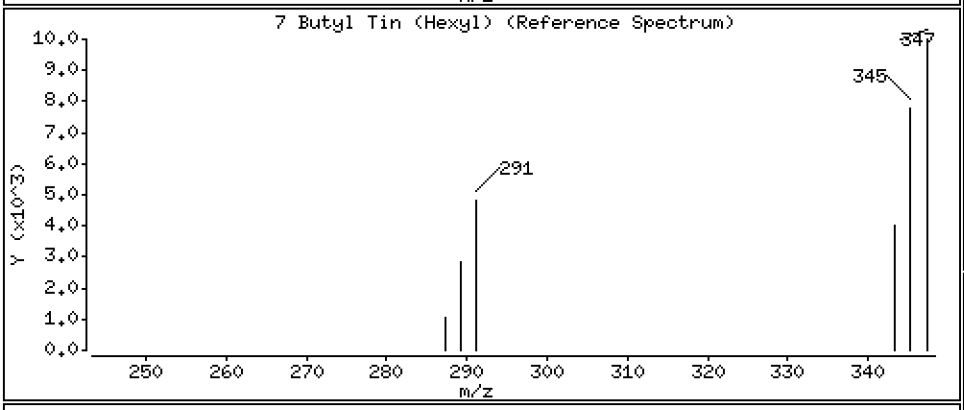
Concentration: 2.192 ug/mL

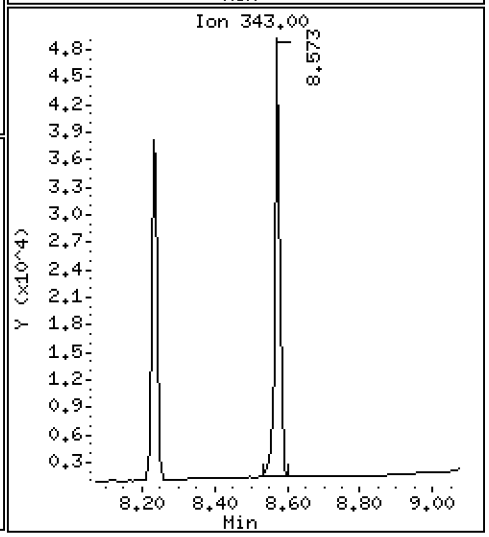


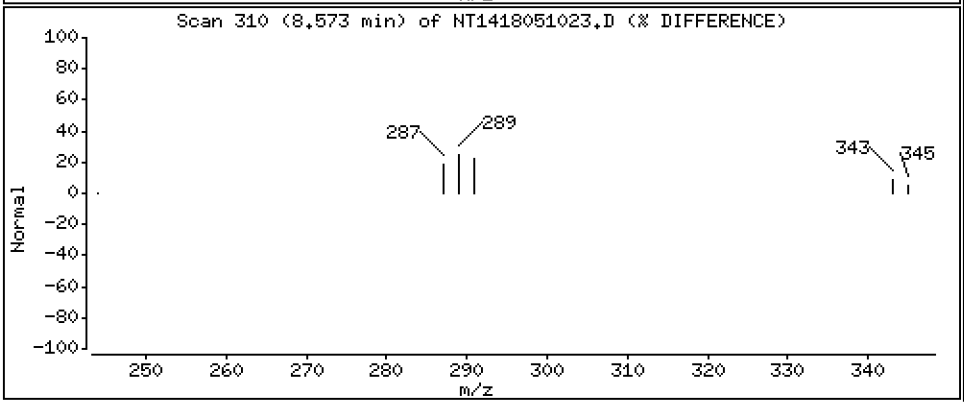












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180510.b\NT1418051023.D
Lab Smp Id: SGE0153-CCV1
Inj Date : 10-MAY-2018 13:05
Operator : VTS Inst ID: nt14.i
Smp Info : SGE0153-CCV1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180510.b\BTS.m
Meth Date : 10-May-2018 13:27 nt14.i Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.263	6.263	(0.793)	69992	1.11709	1.117
	2 Tetrabutyl Tin	289	6.482	6.482	(0.821)	65012	1.11515	1.115
	3 Tributyl Tin (Hexyl)	319	7.254	7.253	(0.918)	54745	1.12799	1.128
*	4 Tetrapentyl Tin	333	7.900	7.900	(1.000)	155561	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.948	7.948	(0.895)	71172	2.22186	2.222
$	6 Tripentyl Tin (Hexyl)	347	8.241	8.241	(0.927)	104231	2.19588	2.196
	7 Butyl Tin (Hexyl)	347	8.573	8.573	(0.965)	113670	2.19176	2.192
*	8 p-Terphenyl-d14	244	8.885	8.885	(1.000)	126301	0.20000	(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418051023.D
Lab Smp Id: SGE0153-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180510.b\BTS.m
Misc Info:

Calibration Date: 10-MAY-2018
Calibration Time: 09:47
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	155561	2.65
8 p-Terphenyl-d14	129365	64683	258730	126301	-2.37

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.90	7.40	8.40	7.90	0.00
8 p-Terphenyl-d14	8.89	8.39	9.39	8.89	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418051023.D

Lab ID: SGE0153-CCV1
nt14.i, 20180510.b\BTS.m,   10-MAY-2018 13:05

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

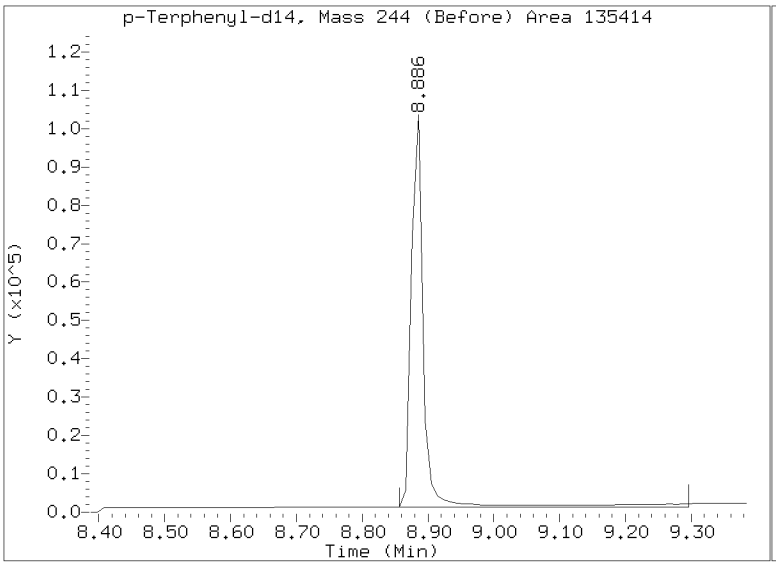
NONE

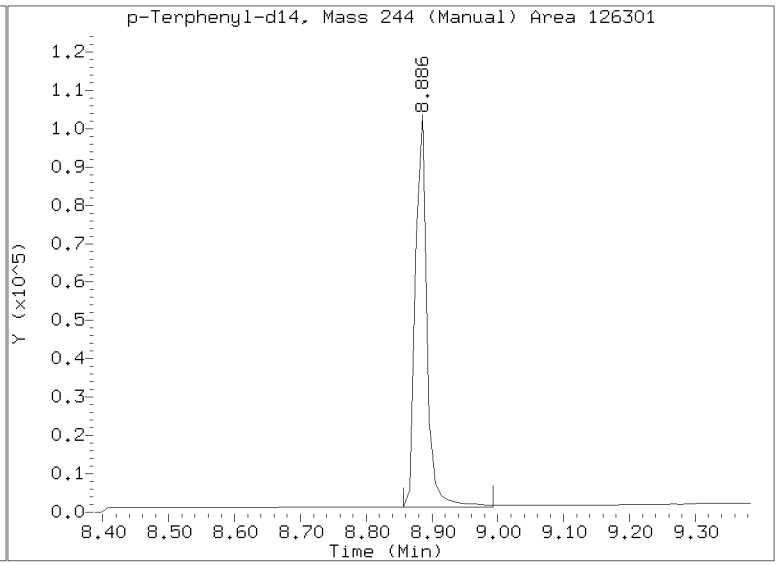
On Column LOD for nt14.i, 20180510.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt14.i/20180510.b/NT1418051023.D
Injection Date: 10-MAY-2018 13:05
Lab ID:SGE0153-CCV1 Client ID:
Report Date: 05/10/2018 13:57





Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT8	Calibration:	BF00065
Lab File ID:	N818062708.D	Calibration Date:	06/27/18 16:00
Sequence:	SGF0354	Injection Date:	06/27/18
Lab Sample ID:	SGF0354-SCV1	Injection Time:	18:56
Sequence Name:	Secondary Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	2.5000	2.31	1.1217270	1.0359230		-7.6	
2-Methylnaphthalene	A	2.5000	2.33	0.6520465	0.6090080		-6.6	
1-Methylnaphthalene	A	2.5000	2.36	0.6526462	0.6168144		-5.5	
Acenaphthylene	A	2.5000	2.37	2.0245980	1.9177670		-5.3	
Acenaphthene	A	2.5000	2.25	1.4276760	1.2872830		-9.8	
Dibenzofuran	A	2.5000	2.31	2.0051390	1.8543790		-7.5	
Fluorene	A	2.5000	2.29	1.5974070	1.4622530		-8.5	
Phenanthrene	A	2.5000	2.25	1.1096420	1.0008480		-9.8	
Anthracene	A	2.5000	2.30	1.0748160	0.9885450		-8.0	
Fluoranthene	A	2.5000	2.34	1.2978650	1.2153270		-6.4	
Pyrene	A	2.5000	2.36	1.1583110	1.0952330		-5.4	
Benzo(a)anthracene	A	2.5000	2.33	1.1527580	1.0723940		-7.0	
Chrysene	A	2.5000	2.30	1.1381650	1.0466780		-8.0	
Benzo(b)fluoranthene	A	2.5000	2.38	1.2508440	1.1890820		-4.9	
Benzo(k)fluoranthene	A	2.5000	2.44	1.2690730	1.2374270		-2.5	
Benzo(j)fluoranthene	A	2.5000	2.29	1.2550600	1.1493260		-8.4	
Benzofluoranthenes, Total	A	7.5000	7.04	1.2473780	1.1703940		-6.2	
Benzo(a)pyrene	A	2.5000	2.38	1.1124690	1.0605790		-4.7	
Indeno(1,2,3-cd)pyrene	A	2.5000	2.08	1.0997980	1.0126510		-16.7	
Dibenzo(a,h)anthracene	A	2.5000	2.05	0.9158568	0.8595262		-17.9	
Benzo(g,h,i)perylene	A	2.5000	2.31	0.9318532	0.8595782		-7.8	
2-Methylnaphthalene-d10	A	2.5000	2.23	0.7346551	0.6558716		-10.7	
Dibenzo[a,h]anthracene-d14	A	2.5000	2.04	0.7913915	0.7389508		-18.2	
Fluoranthene-d10	A	2.5000	2.23	1.2813230	1.1451030		-10.6	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180627.b\N818062708.D

Date : 27-JUN-2018 18:56

Client ID:

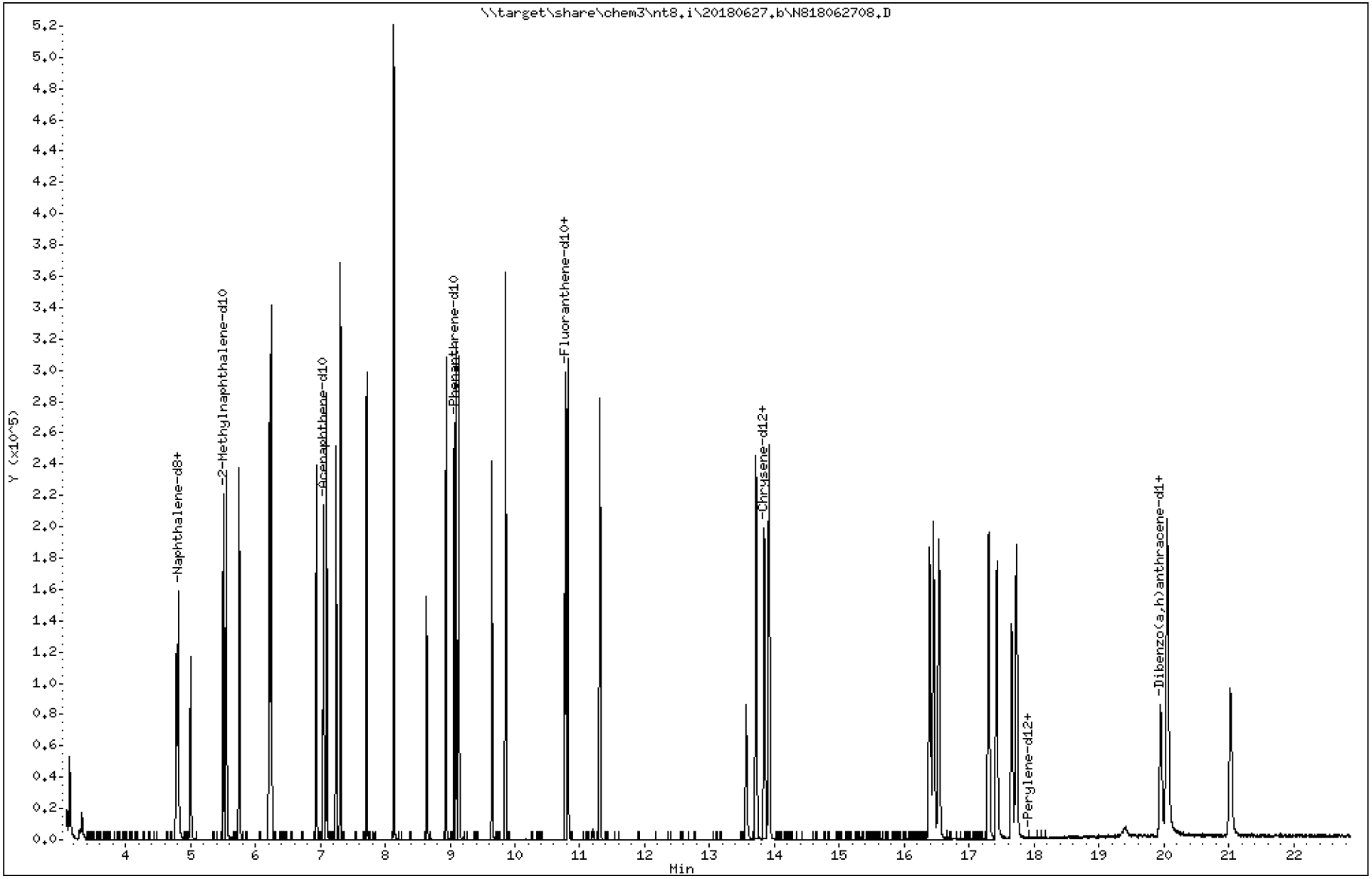
Instrument: nt8.i

Sample Info: SCV180627,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180627.b\N818062708.D
Lab Smp Id: SGF0354-SCV1
Inj Date : 27-JUN-2018 18:56
Operator : JZ Inst ID: nt8.i
Smp Info : SCV180627,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Meth Date : 28-Jun-2018 11:36 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.781	4.784	(1.000)	95204	2.00000	
	2 Naphthalene	128	4.810	4.813	(1.006)	123280	2.30877	2.309
$	3 2-Methylnaphthalene-d10	152	5.505	5.508	(1.151)	78052	2.23190	2.232
	4 2-Methylnaphthalene	141	5.553	5.553	(1.161)	72475	2.33499	2.335
	5 1-methylnaphthalene	141	5.749	5.752	(1.202)	73404	2.36274	2.363
	6 2-Chloronaphthalene	162	6.233	6.236	(1.304)	83623	2.56732	2.567
	7 Biphenyl	154	6.210	6.214	(0.881)	107209	2.27342	2.273
	8 2,6-Dimethylnaphthalene	156	6.245	6.248	(0.886)	80792	2.36045	2.360
	9 Acenaphthylene	152	6.938	6.941	(0.984)	127975	2.36808	2.368
*	10 Acenaphthene-d10	164	7.048	7.051	(1.000)	53385	2.00000	
	11 Acenaphthene	153	7.099	7.102	(1.007)	85902	2.25416	2.254
	12 Dibenzofuran	168	7.244	7.248	(1.028)	123745	2.31203	2.312
	13 1,6,7-Trimethylnaphthalene	170	7.311	7.314	(1.037)	80587	2.34023	2.340
	14 Fluorene	166	7.716	7.719	(1.095)	97578	2.28848	2.288
	18 Dibenzothiophene	184	8.939	8.942	(0.986)	136210	2.28291	2.283
*	15 Phenanthrene-d10	188	9.063	9.062	(1.000)	114570	2.00000	
	16 Phenanthrene	178	9.097	9.100	(1.004)	143334	2.25489	2.255
	17 Anthracene	178	9.135	9.138	(1.008)	141572	2.29934	2.299
	19 Carbazole	167	9.644	9.651	(1.064)	123818	2.31994	2.320
	20 1-Methylphenanthrene	192	9.853	9.859	(1.087)	117305	2.29710	2.297
	22 Fluoranthene	202	10.814	10.821	(1.193)	174050	2.34101	2.341
$	21 Fluoranthene-d10	212	10.776	10.786	(1.189)	163993	2.23422	2.234
	23 Pyrene	202	11.308	11.317	(0.817)	177473	2.36386	2.364
	24 Benzo(a)anthracene	228	13.717	13.726	(0.991)	173772	2.32571	2.326
*	25 Chrysene-d12	240	13.843	13.847	(1.000)	129633	2.00000	
	27 Chrysene	228	13.916	13.926	(1.005)	169605	2.29905	2.299
	28 Benzo(b)fluoranthene	252	16.392	16.408	(0.928)	160046	2.37656	2.377
	29 Benzo(k)fluoranthene	252	16.452	16.468	(0.932)	166553	2.43766	2.438
	30 Benzo(j)fluoranthene	252	16.531	16.550	(0.936)	154695	2.28938	2.289
	31 Total Benzofluoranthenes	252	16.452	16.550	(0.932)	472592	7.03713	7.037(M)
	34 Benzo(e)pyrene	252	17.303	17.315	(0.980)	158023	2.36161	2.362
	32 Benzo(a)pyrene	252	17.426	17.439	(0.987)	142750	2.38339	2.383
*	33 Perylene-d12	264	17.657	17.663	(1.000)	107677	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	35 Perylene	252	17.726	17.745	(1.004)	153379	2.35004	2.350
$	36 Dibenzo(a,h)anthracene-d14	292	19.946	19.978	(1.130)	99460	2.04429	2.044
	37 Indeno(1,2,3-cd)pyrene	276	20.054	20.086	(1.136)	136299	2.08290	2.083
	38 Dibenzo(a,h)anthracene	278	20.047	20.076	(1.135)	115689	2.05223	2.052
	39 Benzo(g,h,i)perylene	276	21.027	21.056	(1.191)	115696	2.30610	2.306

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818062708.D
Lab Smp Id: SGF0354-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180627.b\FSIMPNA180627.m
Misc Info: 18-

Calibration Date: 27-JUN-2018
Calibration Time: 16:15
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	95204	-2.79
10 Acenaphthene-d10	54983	27492	109966	53385	-2.91
15 Phenanthrene-d10	115816	57908	231632	114570	-1.08
25 Chrysene-d12	129167	64584	258334	129633	0.36
33 Perylene-d12	111506	55753	223012	107677	-3.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.78	4.28	5.28	4.78	-0.06
10 Acenaphthene-d10	7.05	6.55	7.55	7.05	-0.04
15 Phenanthrene-d10	9.07	8.57	9.57	9.06	-0.03
25 Chrysene-d12	13.85	13.35	14.35	13.84	-0.07
33 Perylene-d12	17.67	17.17	18.17	17.66	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818062708.D

Lab ID: SGF0354-SCV1
nt8.i, 20180627.b\FSIMPNA180627.m,   27-JUN-2018 18:56

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

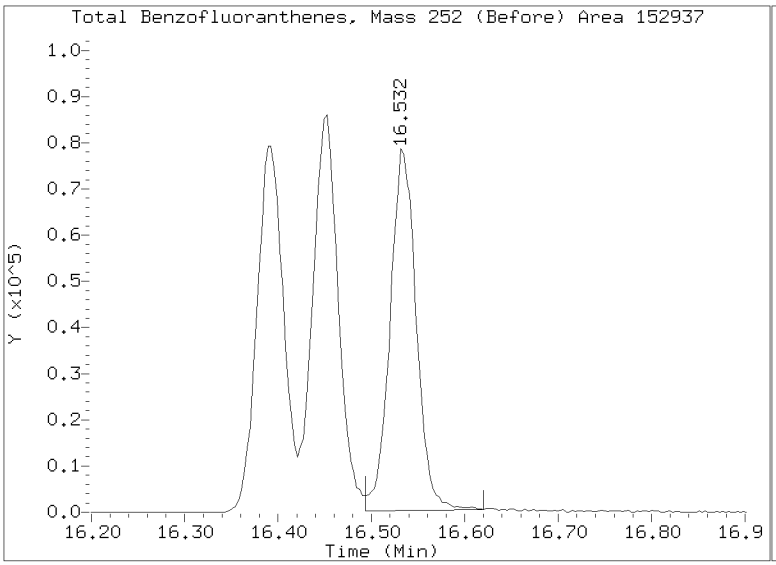
RRT	CCV RRT	DELTA	COMPOUND
NONE			

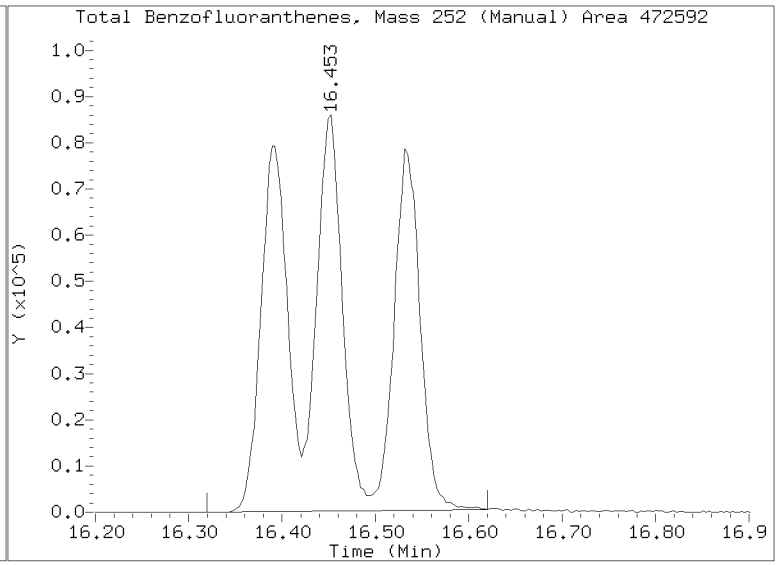
On Column LOD for nt8.i, 20180627.b\FSIMPNA180627.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180627.b/N818062708.D
Injection Date: 27-JUN-2018 18:56
Lab ID:SGF0354-SCV1 Client ID:
Report Date: 06/28/2018 11:40





CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT8	Calibration:	BF00065
Lab File ID:	N818070516.D	Calibration Date:	06/27/18 16:00
Sequence:	SGG0053	Injection Date:	07/05/18
Lab Sample ID:	SGG0053-CCV1	Injection Time:	22:59
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Benzo(a)anthracene	A	2.5000	2.70	1.1527580	1.2447600		8.0	50
Chrysene	A	2.5000	2.60	1.1381650	1.1835960		4.0	50
Benzo(b)fluoranthene	A	2.5000	2.55	1.2508440	1.2734570		1.8	50
Benzo(k)fluoranthene	A	2.5000	2.61	1.2690730	1.3236900		4.3	50
Benzo(a)pyrene	A	2.5000	2.70	1.1124690	1.2012160		8.0	50
Indeno(1,2,3-cd)pyrene	A	2.5000	2.80	1.0997980	1.3961980		11.9	50
Dibenzo(a,h)anthracene	A	2.5000	2.76	0.9158568	1.1904870		10.5	50
2-Methylnaphthalene-d10	A	2.5000	2.65	0.7346551	0.7783451		6.0	50
Dibenzo[a,h]anthracene-d14	A	2.5000	2.85	0.7913915	1.0665610		14.1	50
Fluoranthene-d10	A	2.5000	2.63	1.2813230	1.3466900		5.1	50

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180705.b\ccv.b\N818070516.D

Date : 05-JUL-2018 22:59

Client ID:

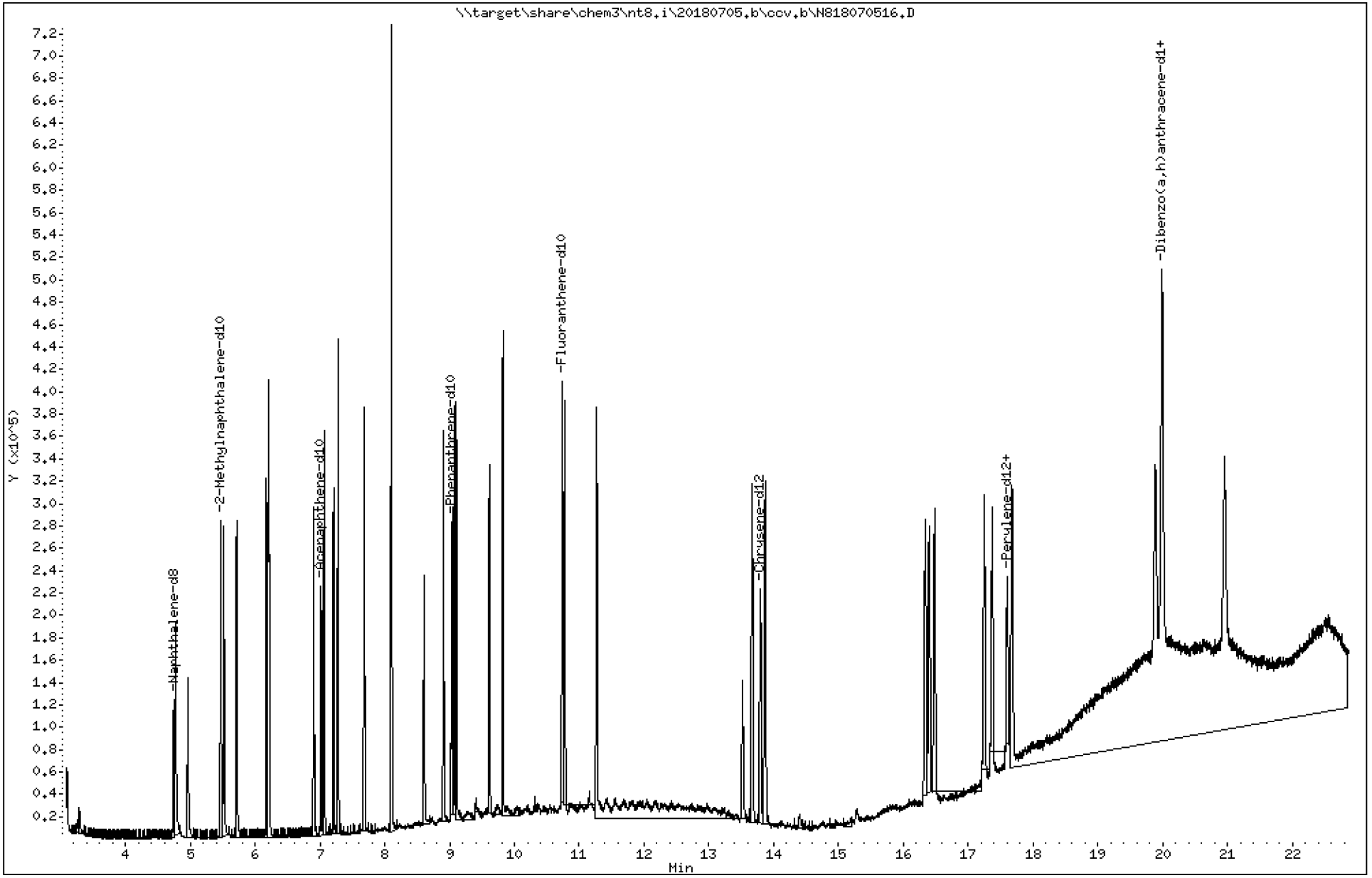
Instrument: nt8.i

Sample Info: CCV180705,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180705.b\ccv.b\N818070516.D
Lab Smp Id: SGG0053-CCV1
Inj Date : 05-JUL-2018 22:59
Operator : JZ Inst ID: nt8.i
Smp Info : CCV180705,
Misc Info : CCV
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180705.b\ccv.b\FSIMPNA180627C.m
Meth Date : 09-Jul-2018 09:36 jianqing Quant Type: ISTD
Cal Date : 27-JUN-2018 18:29 Cal File: N818062707.D
Als bottle: 16 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.743	4.743	(1.000)	106396	2.00000	
	2 Naphthalene	128	4.775	4.775	(1.007)	163127	2.50000	2.734
$	3 2-Methylnaphthalene-d10	152	5.470	5.470	(1.153)	103516	2.50000	2.649
	4 2-Methylnaphthalene	141	5.518	5.518	(1.163)	93600	2.50000	2.698
	5 1-methylnaphthalene	141	5.714	5.714	(1.205)	91242	2.50000	2.628
	6 2-Chloronaphthalene	162	6.198	6.198	(1.307)	94704	2.50000	2.602
	7 Biphenyl	154	6.176	6.176	(0.880)	136137	2.50000	2.603
	8 2,6-Dimethylnaphthalene	156	6.214	6.214	(0.886)	100772	2.50000	2.655
	9 Acenaphthylene	152	6.903	6.903	(0.984)	165815	2.50000	2.767
*	10 Acenaphthene-d10	164	7.017	7.017	(1.000)	59206	2.00000	
	11 Acenaphthene	153	7.064	7.064	(1.007)	111134	2.50000	2.630
	12 Dibenzofuran	168	7.210	7.210	(1.027)	150374	2.50000	2.533
	13 1,6,7-Trimethylnaphthalene	170	7.279	7.279	(1.037)	100248	2.50000	2.625
	14 Fluorene	166	7.684	7.684	(1.095)	124760	2.50000	2.638
	18 Dibenzothiophene	184	8.908	8.908	(0.986)	162544	2.50000	2.631
*	15 Phenanthrene-d10	188	9.031	9.031	(1.000)	118634	2.00000	
	16 Phenanthrene	178	9.066	9.066	(1.004)	173170	2.50000	2.631
	17 Anthracene	178	9.104	9.104	(1.008)	172676	2.50000	2.708
	19 Carbazole	167	9.613	9.613	(1.064)	153483	2.50000	2.777
	20 1-Methylphenanthrene	192	9.821	9.821	(1.088)	139478	2.50000	2.638
	22 Fluoranthene	202	10.776	10.776	(1.193)	199617	2.50000	2.593
$	21 Fluoranthene-d10	212	10.741	10.741	(1.189)	199704	2.50000	2.628
	23 Pyrene	202	11.270	11.270	(0.817)	212431	2.50000	2.722
	24 Benzo(a)anthracene	228	13.666	13.666	(0.991)	209697	2.50000	2.700
*	25 Chrysene-d12	240	13.796	13.796	(1.000)	134771	2.00000	
	27 Chrysene	228	13.866	13.866	(1.005)	199393	2.50000	2.600
	28 Benzo(b)fluoranthene	252	16.338	16.338	(0.928)	205345	2.50000	2.545
	29 Benzo(k)fluoranthene	252	16.398	16.398	(0.932)	213445	2.50000	2.608
	30 Benzo(j)fluoranthene	252	16.480	16.480	(0.936)	199682	2.50000	2.467
	31 Total Benzofluoranthenes	252	16.338	16.338	(0.928)	606878	7.50000	7.543(M)
	34 Benzo(e)pyrene	252	17.249	17.249	(0.980)	202734	2.50000	2.529
	32 Benzo(a)pyrene	252	17.369	17.369	(0.987)	193696	2.50000	2.699
*	33 Perylene-d12	264	17.603	17.603	(1.000)	129000	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.676	17.676	(1.004)	199081	2.50000	2.546
$	36 Dibenzo(a,h)anthracene-d14	292	19.889	19.889	(1.130)	171983	2.50000	2.852
	37 Indeno(1,2,3-cd)pyrene	276	19.993	19.993	(1.136)	225137	2.50000	2.798
	38 Dibenzo(a,h)anthracene	278	19.987	19.987	(1.135)	191966	2.50000	2.762
	39 Benzo(g,h,i)perylene	276	20.958	20.958	(1.191)	180776	2.50000	3.008

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818070516.D
Lab Smp Id: SGG0053-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180705.b\ccv.b\FSIMPNA180627C.m
Misc Info: CCV

Calibration Date: 04-JUL-2018
Calibration Time: 16:04
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	97937	48969	195874	106396	8.64
10 Acenaphthene-d10	54983	27492	109966	59206	7.68
15 Phenanthrene-d10	115816	57908	231632	118634	2.43
25 Chrysene-d12	129167	64584	258334	134771	4.34
33 Perylene-d12	111506	55753	223012	129000	15.69

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.74	4.24	5.24	4.74	0.00
10 Acenaphthene-d10	7.02	6.52	7.52	7.02	0.00
15 Phenanthrene-d10	9.03	8.53	9.53	9.03	0.00
25 Chrysene-d12	13.80	13.30	14.30	13.80	0.00
33 Perylene-d12	17.60	17.10	18.10	17.60	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818070516.D

Lab ID: SGG0053-CCV1
nt8.i, 20180705.b\ccv.b\FSIMPNA180627C.m,   05-JUL-2018 22:59

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

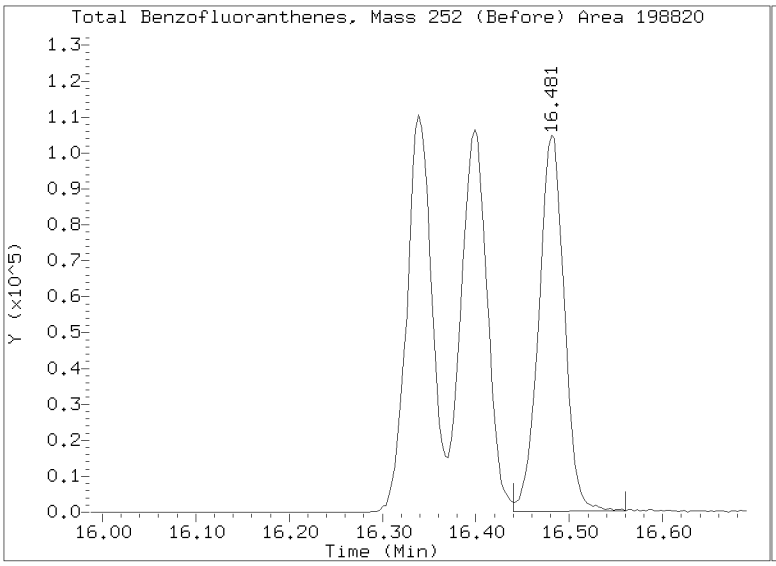
Quant Method: ICAL

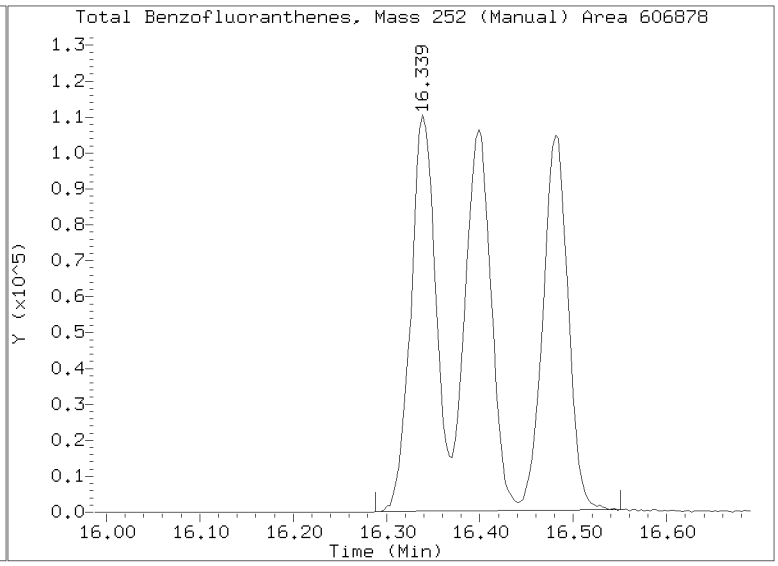
On Column LOD for nt8.i, 20180705.b\ccv.b\FSIMPNA180627C.m, FSIMPNAICL.sub = 0.

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180705.b/ccv.b/N818070516.D
Injection Date: 05-JUL-2018 22:59
Lab ID:SGG0053-CCV1 Client ID:
Report Date: 07/09/2018 09:36





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180705.b\ccv.b

Instrument: nt8.i Date: 05-JUL-2018 Method: 20180705.b\ccv.b\FSIMPNA180627C.

INITIAL CAL: 27-JUN-2018

Compound	%RSD or R^2
NO Q-FLAGS	

CONTINUING CAL: N818070516.D 05-JUL-2018 22:59

Compound	%D
NO Q-FLAGS	

CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	NT14	Calibration:	BE00033
Lab File ID:	NT1418070710.D	Calibration Date:	05/10/18 00:00
Sequence:	SGG0077	Injection Date:	07/07/18
Lab Sample ID:	SGG0077-CCV1	Injection Time:	16:08
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Tributyltin Ion	A	0.77300	0.882	0.6239768	0.7118642	0.01	14.1	50
Tripentyltin	A	1.5918	1.76	0.0751643	0.0832875	0.01	10.8	50
Tripropyltin	A	0.74430	0.838	0.8055430	0.9069317	0.01	12.6	50

* Values outside of QC limits

Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D

Date : 07-JUL-2018 16:08

Client ID:

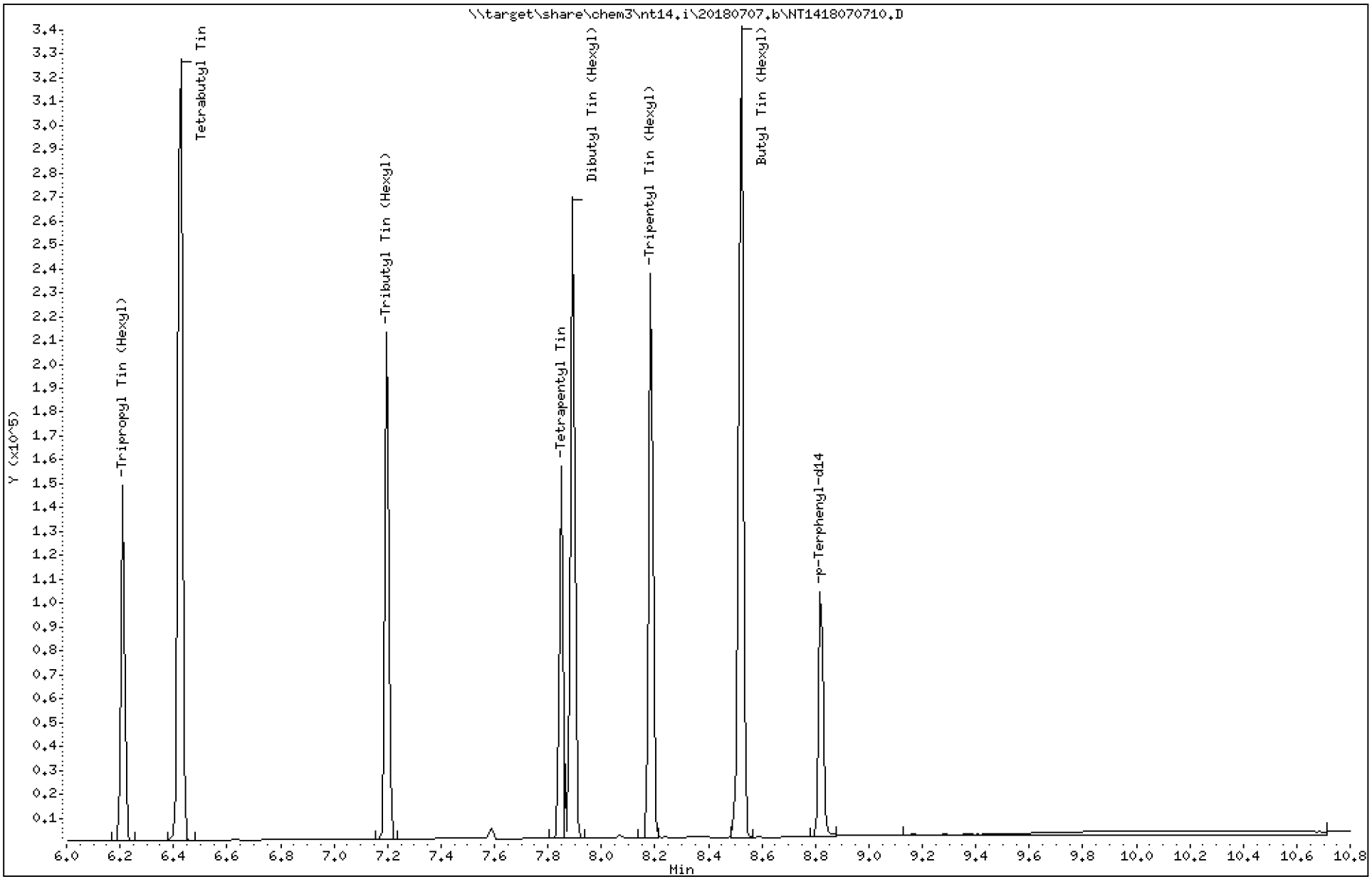
Instrument: nt14.i

Sample Info: SGG0077-CCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D

Date : 07-JUL-2018 16:08

Client ID:

Instrument: nt14.i

Sample Info: SGG0077-CCV1

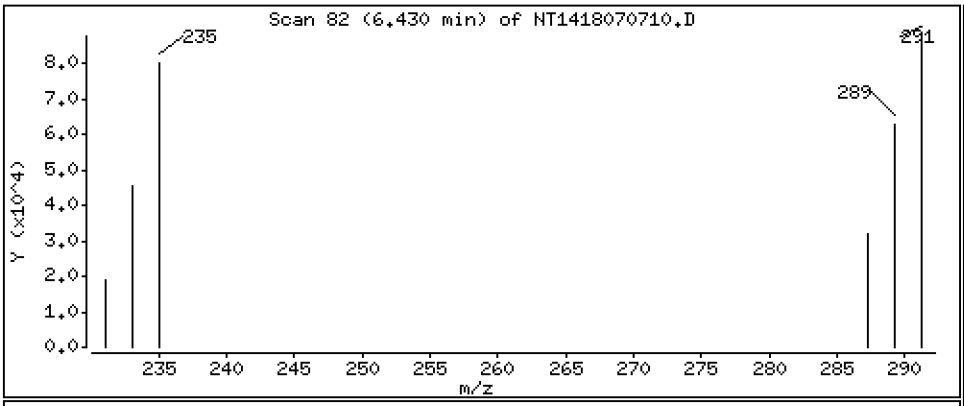
Operator: VTS

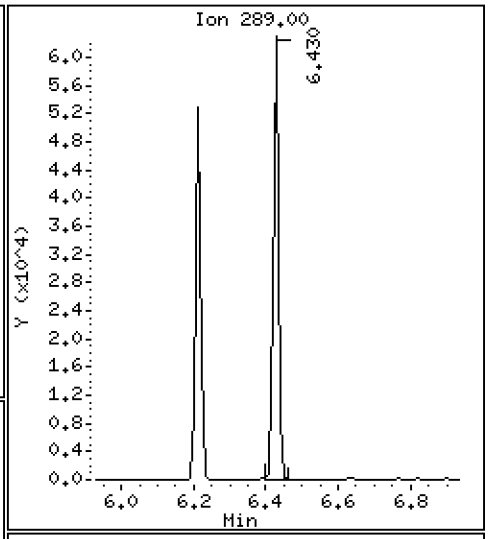
Column phase: ZB-5msi

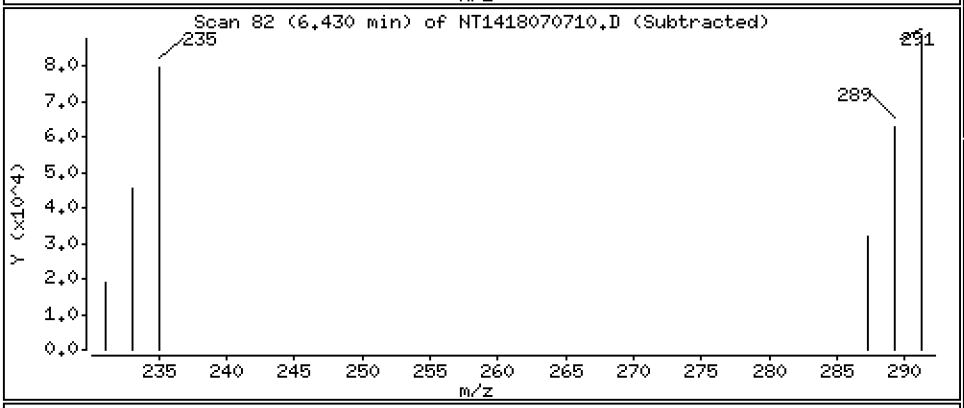
Column diameter: 0.25

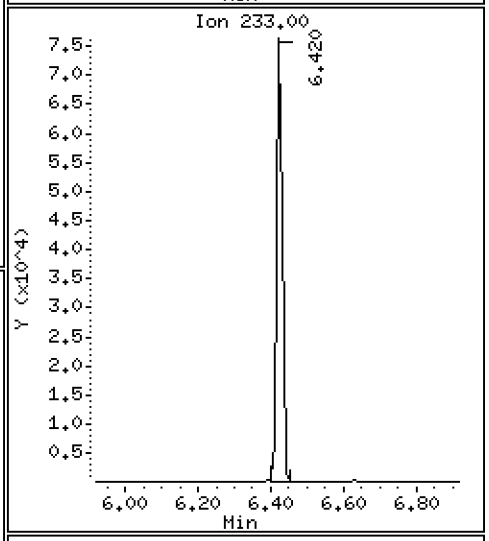
2 Tetrabutyl Tin

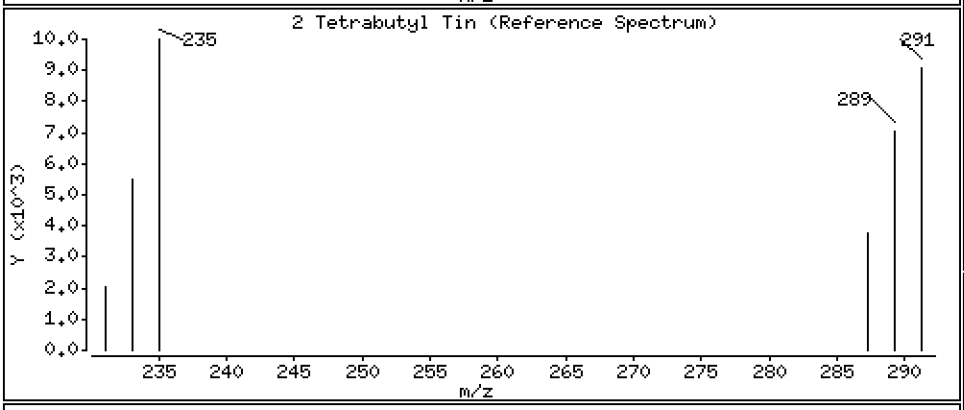
Concentration: 1.105 ug/mL

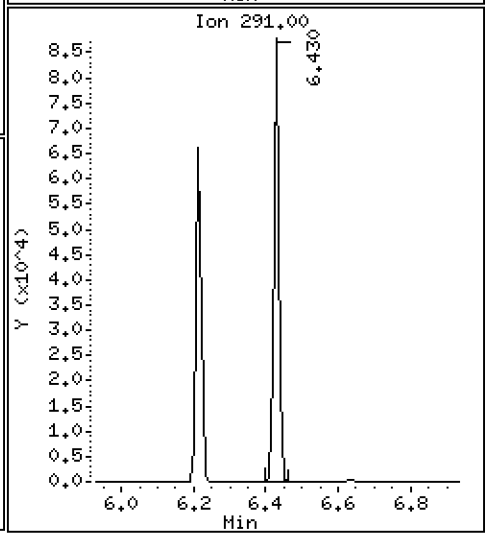


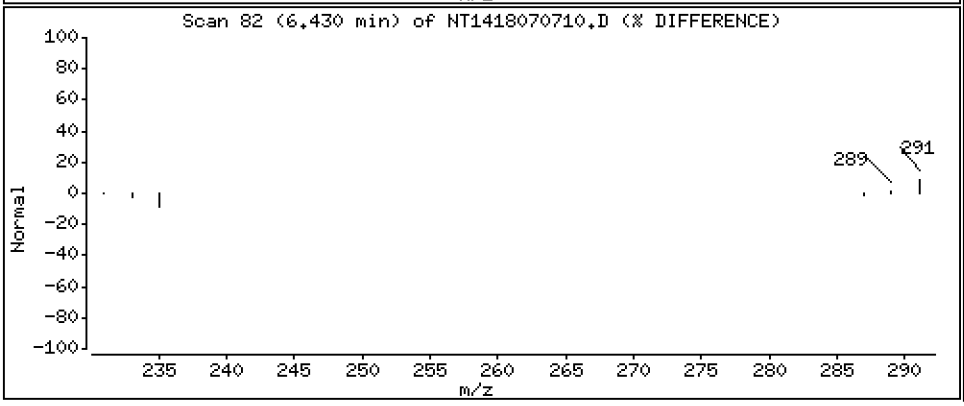












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D

Date : 07-JUL-2018 16:08

Client ID:

Instrument: nt14.i

Sample Info: SGG0077-CCV1

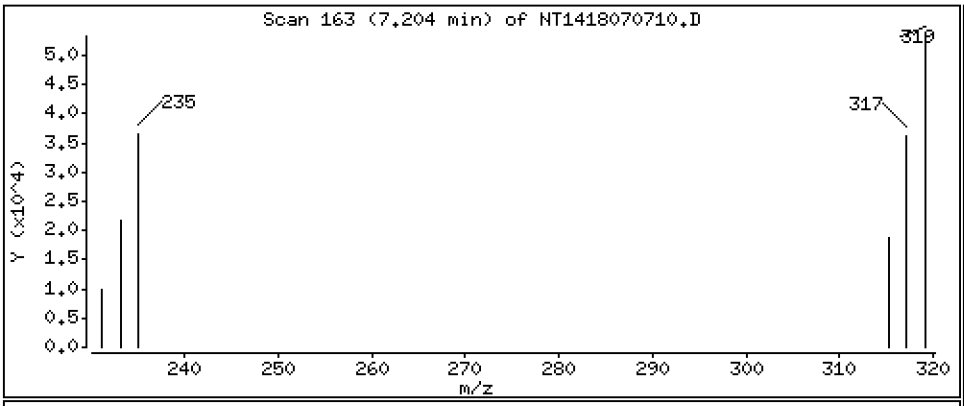
Operator: VTS

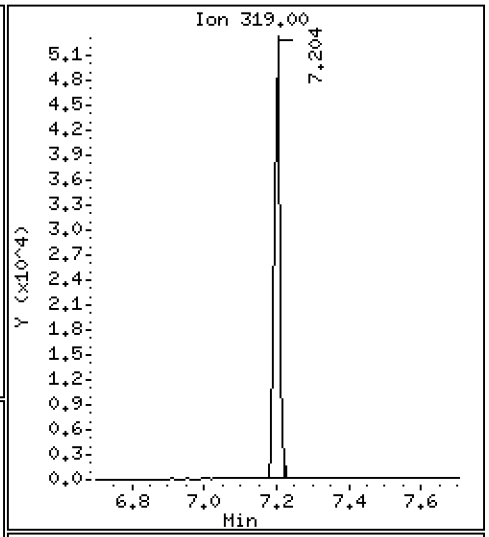
Column phase: ZB-5msi

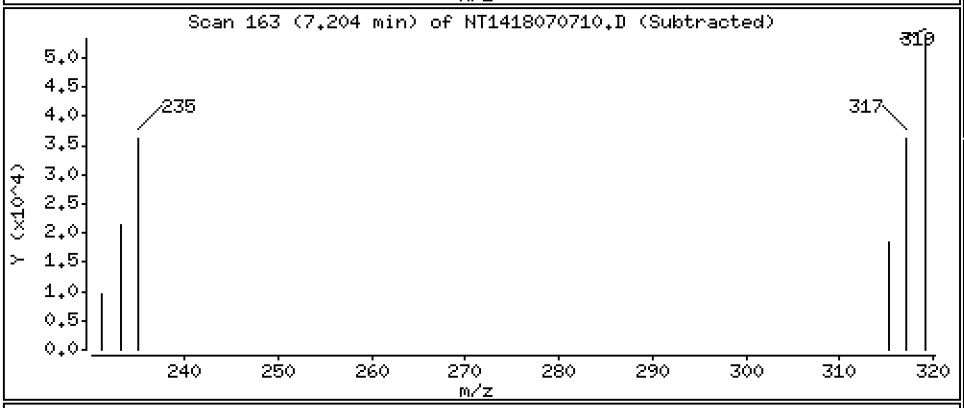
Column diameter: 0.25

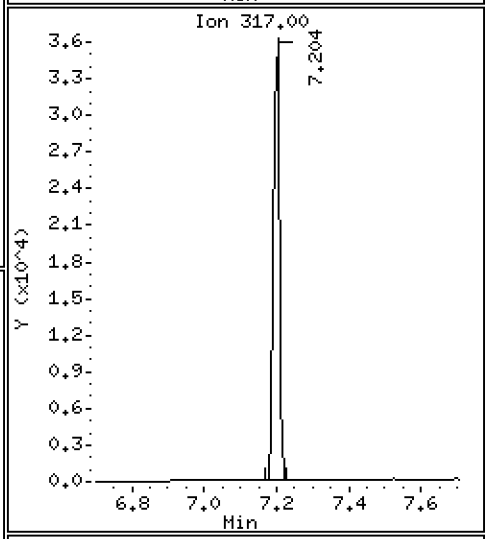
3 Tributyl Tin (Hexyl)

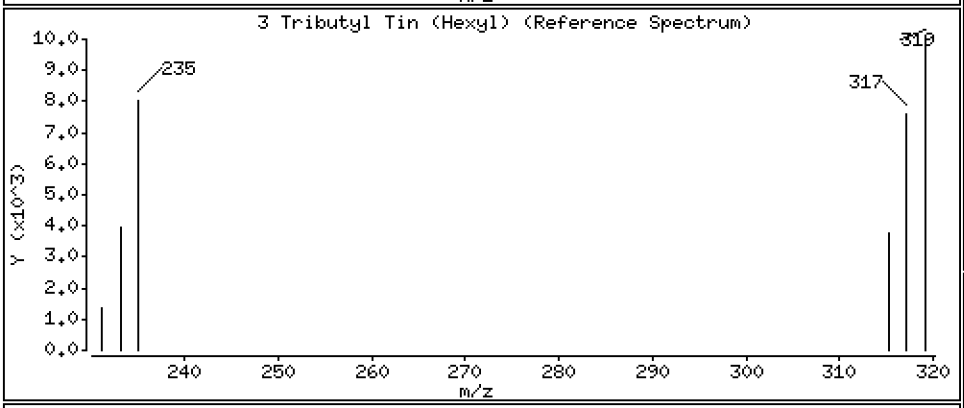
Concentration: 1.141 ug/mL

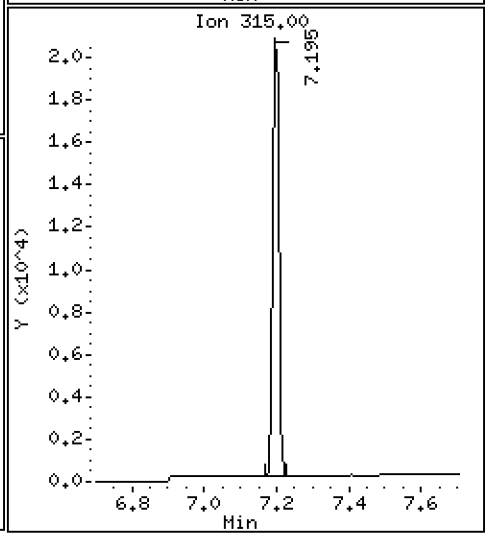


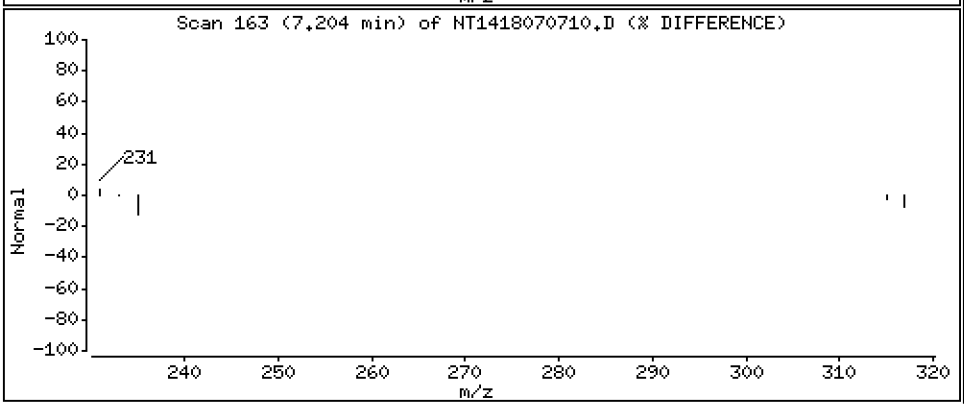












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D

Date : 07-JUL-2018 16:08

Client ID:

Instrument: nt14.i

Sample Info: SGG0077-CCV1

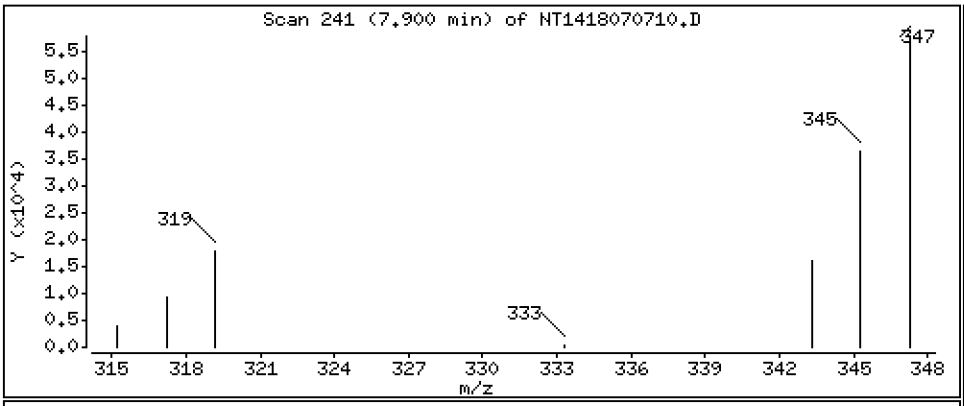
Operator: VTS

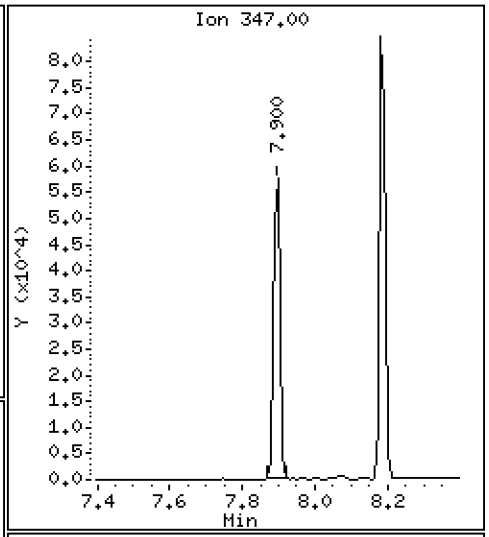
Column phase: ZB-5msi

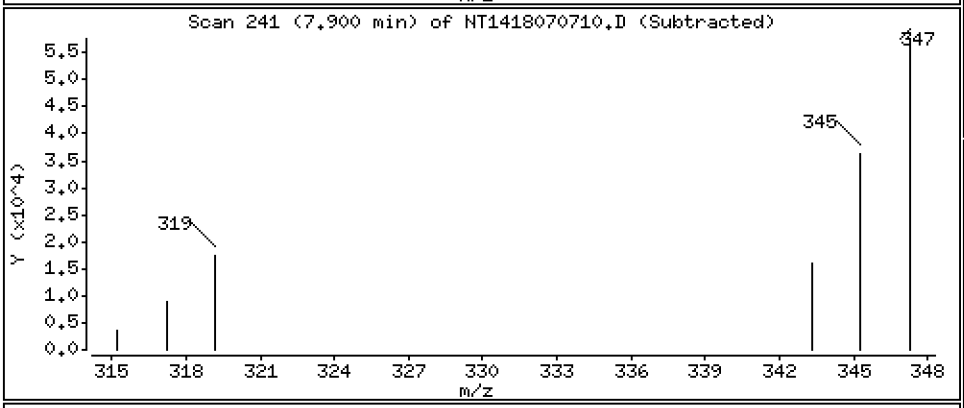
Column diameter: 0.25

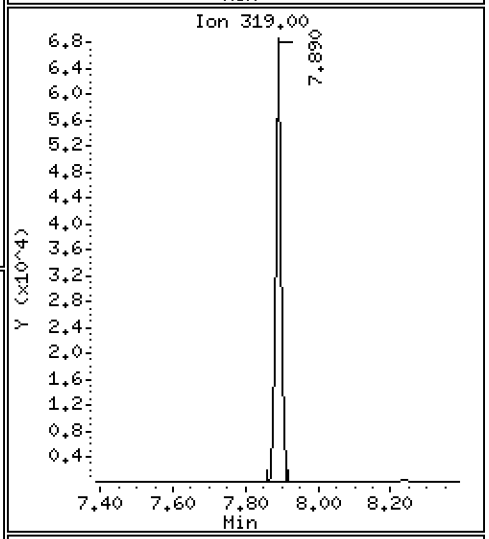
5 Dibutyl Tin (Hexyl)

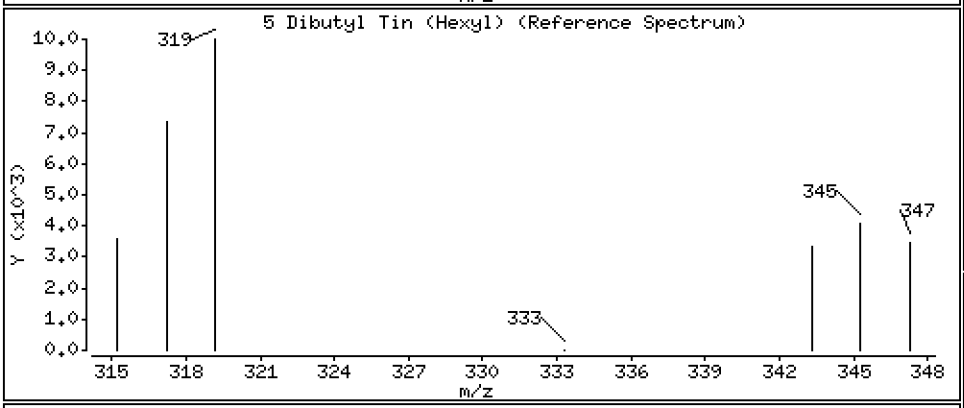
Concentration: 2.202 ug/mL

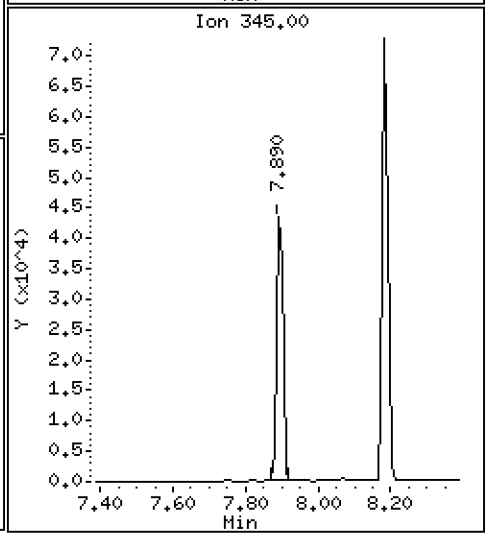


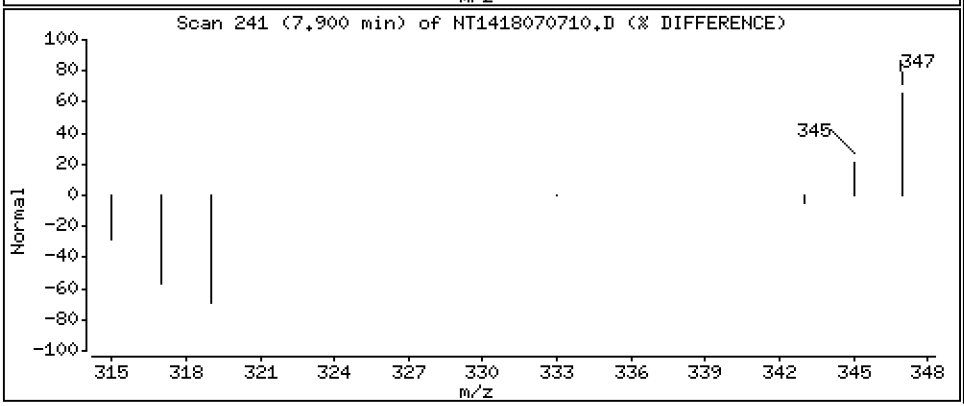












Data File: \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D

Date : 07-JUL-2018 16:08

Client ID:

Instrument: nt14.i

Sample Info: SGG0077-CCV1

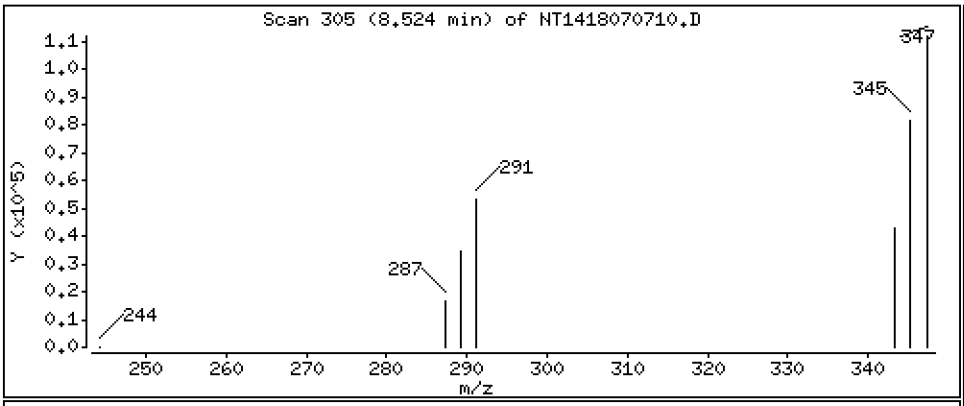
Operator: VTS

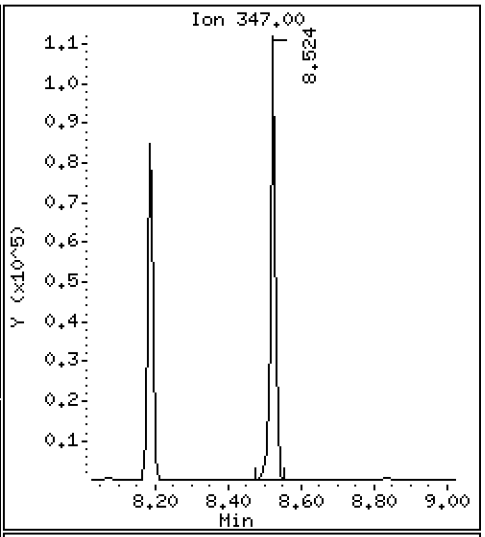
Column phase: ZB-5msi

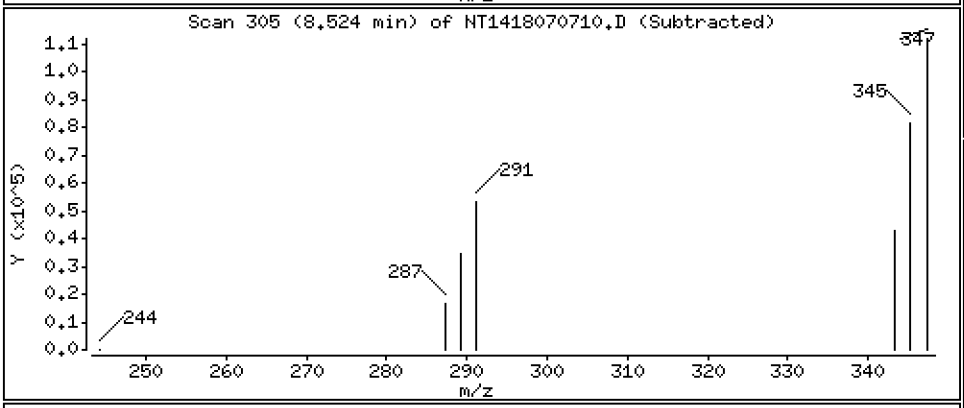
Column diameter: 0.25

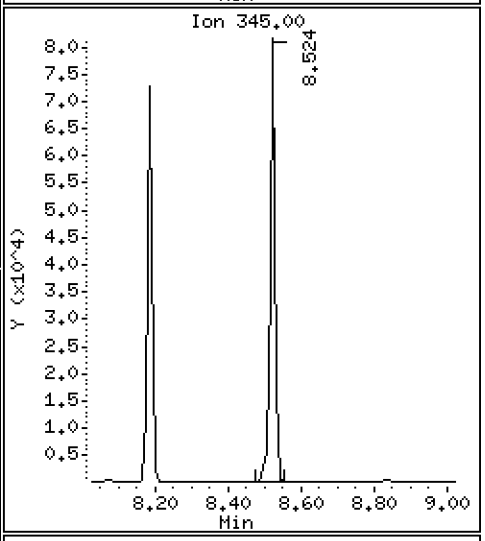
7 Butyl Tin (Hexyl)

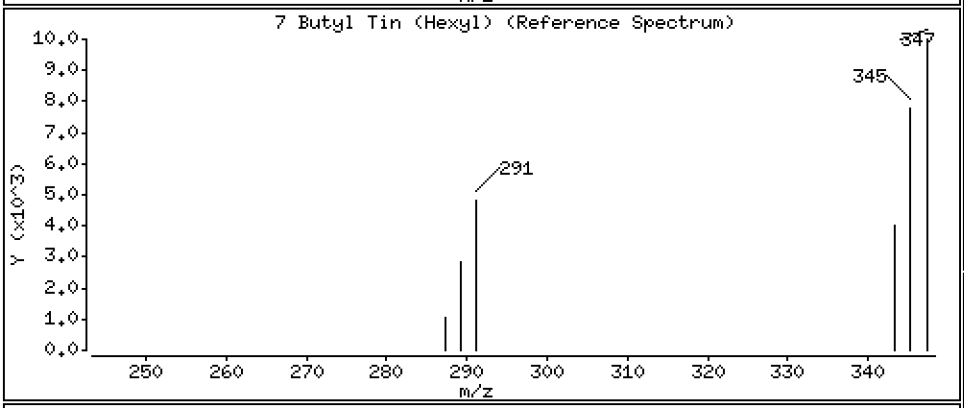
Concentration: 2.265 ug/mL

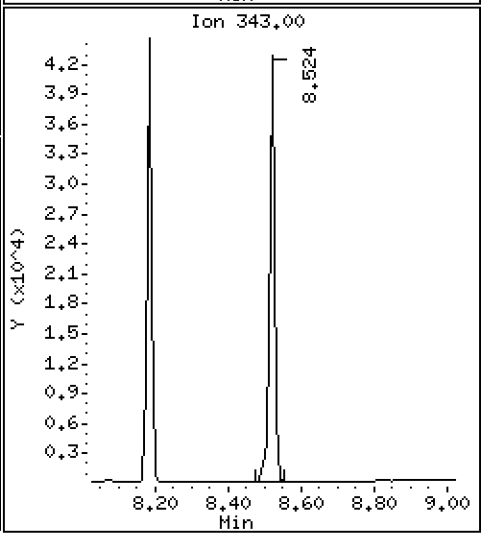


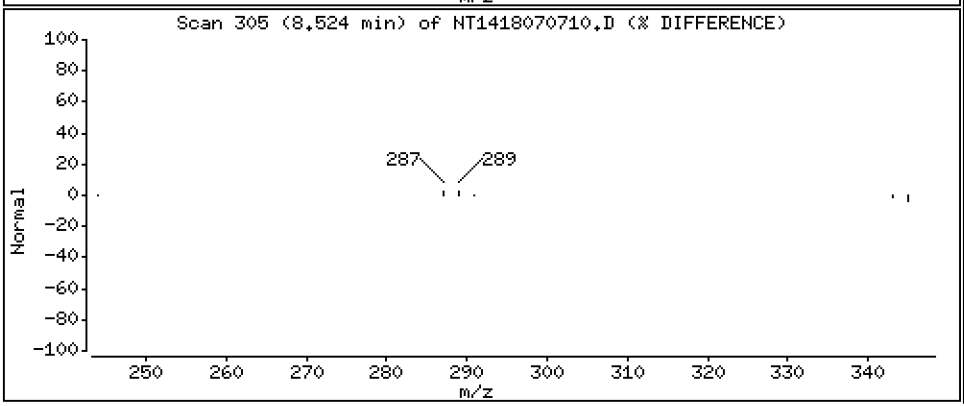












ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt14.i\20180707.b\NT1418070710.D
Lab Smp Id: SGG0077-CCV1
Inj Date : 07-JUL-2018 16:08
Operator : VTS Inst ID: nt14.i
Smp Info : SGG0077-CCV1
Misc Info :
Comment : 2 ul Injection
Method : \\target\share\chem3\nt14.i\20180707.b\BTS.m
Meth Date : 07-Jul-2018 14:17 van Quant Type: ISTD
Cal Date : 10-MAY-2018 09:34 Cal File: NT1418051008.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sed.sub
Target Version: 4.14
Processing Host: VANS

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$	1 Tripropyl Tin (Hexyl)	291	6.211	6.211	(0.791)	66211	1.12586	1.126
	2 Tetrabutyl Tin	289	6.430	6.430	(0.819)	60482	1.10530	1.105
	3 Tributyl Tin (Hexyl)	319	7.203	7.203	(0.917)	51970	1.14085	1.141
*	4 Tetrapentyl Tin	333	7.851	7.851	(1.000)	146011	2.00000	
	5 Dibutyl Tin (Hexyl)	347	7.900	7.900	(0.896)	66955	2.20206	2.202
$	6 Tripentyl Tin (Hexyl)	347	8.182	8.183	(0.928)	99850	2.21614	2.216
	7 Butyl Tin (Hexyl)	347	8.524	8.524	(0.967)	111516	2.26529	2.265
*	8 p-Terphenyl-d14	244	8.817	8.827	(1.000)	119886	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt14.i
Lab File ID: NT1418070710.D
Lab Smp Id: SGG0077-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt14.i\20180707.b\BTS.m
Misc Info:

Calibration Date: 07-JUL-2018
Calibration Time: 13:58
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	151538	75769	303076	146011	-3.65
8 p-Terphenyl-d14	129365	64683	258730	119886	-7.33

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
4 Tetrapentyl Tin	7.85	7.35	8.35	7.85	-0.00
8 p-Terphenyl-d14	8.83	8.33	9.33	8.82	-0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1418070710.D

Lab ID: SGG0077-CCV1
nt14.i, 20180707.b\BTS.m,   07-JUL-2018 16:08

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt14.i, 20180707.b\BTS.m, sed.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGE0153	Instrument:	NT14
		Calibration:	BE00033

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGE0153-TUN1	NT1418051001.D	NA	05/10/18 07:47
TBT 1.0	SGE0153-CAL4	NT1418051003.D	NA	05/10/18 08:26
TBT 4.0	SGE0153-CAL6	NT1418051004.D	NA	05/10/18 08:40
TBT 0.05	SGE0153-CAL1	NT1418051005.D	NA	05/10/18 08:53
TBT 2.0	SGE0153-CAL5	NT1418051006.D	NA	05/10/18 09:07
TBT 0.2	SGE0153-CAL2	NT1418051007.D	NA	05/10/18 09:20
TBT 0.5	SGE0153-CAL3	NT1418051008.D	NA	05/10/18 09:34
TBT ICV 1.0	SGE0153-ICV1	NT1418051009.D	NA	05/10/18 09:47
ZZZZZ	BGE0111-BLK1	NT1418051010.D	Solid	05/10/18 10:09
ZZZZZ	BGE0111-BS1	NT1418051011.D	Solid	05/10/18 10:23
ZZZZZ	18D0363-01	NT1418051012.D	Solid	05/10/18 10:36
ZZZZZ	18E0006-05	NT1418051013.D	Solid	05/10/18 10:50
ZZZZZ	18E0006-06	NT1418051014.D	Solid	05/10/18 11:03
ZZZZZ	18E0006-07	NT1418051017.D	Solid	05/10/18 11:44
ZZZZZ	18E0009-01	NT1418051018.D	Solid	05/10/18 11:57
ZZZZZ	18E0009-02	NT1418051019.D	Solid	05/10/18 12:11
ZZZZZ	18E0009-03	NT1418051020.D	Solid	05/10/18 12:24
ZZZZZ	18E0009-04	NT1418051021.D	Solid	05/10/18 12:38
ZZZZZ	18E0009-06	NT1418051022.D	Solid	05/10/18 12:52
TBT CCV 1.0	SGE0153-CCV1	NT1418051023.D	NA	05/10/18 13:05

Printed: 5/10/2018 2:05:51PM

ANALYSIS SEQUENCE

SGE0153

Instrument: NT14 Element Column ID: G002876
Calibration ID: BE00033 Tune File: 180406.U
EM Voltage: 1800

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGE0153-TUN1	MS Tune	QC		1	F010239		
SGE0153-CAL4	TBT 1.0	QC		2	G004161	G004149	
SGE0153-CAL6	TBT 4.0	QC		3	G004163	G004149	
SGE0153-CAL1	TBT 0.05	QC		4	G004158	G004149	
SGE0153-CAL5	TBT 2.0	QC		5	G004162	G004149	
SGE0153-CAL2	TBT 0.2	QC		6	G004159	G004149	
SGE0153-CAL3	TBT 0.5	QC		7	G004160	G004149	
SGE0153-ICV1	TBT ICV 1.0	QC		8	G004161	G004149	
BGE0111-BLK1	Blank	QC		9		G004149	
BGE0111-BS1	LCS	QC		10		G004149	
18D0363-01	SPE073-30G	8270D-SIM Butyl Tins	A 01	11		G004149	
18E0006-05	T91-2018-SC02-0-1	8270D-SIM Butyl Tins	C 01	12		G004149	
18E0006-06	T91-2018-SC02-1-2	8270D-SIM Butyl Tins	C 01	13		G004149	
BGE0111-MS1	Matrix Spike	QC		14		G004149	
BGE0111-MSD1	Matrix Spike Dup	QC		15		G004149	
18E0006-07	T91-2018-SC02-2-4	8270D-SIM Butyl Tins	C 01	16		G004149	
18E0009-01	PDI-SMA2-SG106-180427	8270D-SIM Butyl Tins	A 01	17		G004149	
18E0009-02	PDI-SMA2-SG01-180427	8270D-SIM Butyl Tins	A 01	18		G004149	
18E0009-03	PDI-SMA2-SG03-180427	8270D-SIM Butyl Tins	A 01	19		G004149	
18E0009-04	PDI-SMA2-SG04-180427	8270D-SIM Butyl Tins	A 01	20		G004149	
18E0009-06	PDI-SMA2-SG06-180427	8270D-SIM Butyl Tins	A 01	21		G004149	
SGE0153-CCV1	TBT CCV 1.0	QC		22	G004161	G004149	

Printed: 5/10/2018 2:05:51PM

ANALYSIS SEQUENCE

SGE0153

Instrument: NT14 Element Column ID: G002876
Calibration ID: BE00033 Tune File: 180406.U
EM Voltage: 1800

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

	Time	Filename	LabID	ClientId	DF					
1	0747	NT1418051001.D	SGE0153-TUN1		1	NO ISTDS FOUND				
2	0801	NT1418051002.D	SGE0153-CAL4		1	7.90	138005	8.89	117009	
3	0826	NT1418051003.D	SGE0153-CAL4		1	7.91	151538	8.89	129365	
4	0840	NT1418051004.D	SGE0153-CAL6		1	7.90	168032	8.89	180967	
5	0853	NT1418051005.D	SGE0153-CAL1		1	7.90	161270	8.89	122407	
6	0907	NT1418051006.D	SGE0153-CAL5		1	7.90	154663	8.89	124401	
7	0920	NT1418051007.D	SGE0153-CAL2		1	7.90	198547	8.89	126951	
8	0934	NT1418051008.D	SGE0153-CAL3		1	7.90	158000	8.89	122489	
9	0947	NT1418051009.D	SGE0153-ICV1		1	7.90	148245	8.89	124358	
10	1009	NT1418051010.D	BGE0111-BLK1		1	7.90	134095	8.89	112195	
11	1023	NT1418051011.D	BGE0111-BS1		1	7.90	145678	8.88	122074	
12	1036	NT1418051012.D	18D0363-01		1	7.90	141079	8.88	116700	
13	1050	NT1418051013.D	18E0006-05		1	7.90	128986	8.88	100254	
14	1103	NT1418051014.D	18E0006-06		1	7.91	119988	8.89	99296	
15	1117	NT1418051015.D	BGE0111-MS1		1	7.91	119133	8.89	98063	
16	1130	NT1418051016.D	BGE0111-MSD1		1	7.91	118120	8.89	96061	
17	1144	NT1418051017.D	18E0006-07		1	7.91	133233	8.89	105841	
18	1157	NT1418051018.D	18E0009-01		1	7.90	145454	8.89	117203	
19	1211	NT1418051019.D	18E0009-02		1	7.90	145317	8.89	115144	
20	1224	NT1418051020.D	18E0009-03		1	7.90	140953	8.88	112886	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

	Time	Filename	LabID	ClientId	DF					
21	1238	NT1418051021.D	18E0009-04		1	7.90	135993	8.88	110204	
22	1252	NT1418051022.D	18E0009-06		1	7.90	133738	8.88	110592	
23	1305	NT1418051023.D	SGE0153-CCV1		1	7.90	155561	8.89	126301	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180510.b

Instrument: nt14.i Date: 10-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
0747	NT1418051001.D	SGE0153-TUN1	1	NO MANUAL INTEGRATION
0801	NT1418051002.D	SGE0153-CAL4	1	p-Terphenyl-d14,
0826	NT1418051003.D	SGE0153-CAL4	1	NO MANUAL INTEGRATION
0840	NT1418051004.D	SGE0153-CAL6	1	NO MANUAL INTEGRATION
0853	NT1418051005.D	SGE0153-CAL1	1	NO MANUAL INTEGRATION
0907	NT1418051006.D	SGE0153-CAL5	1	NO MANUAL INTEGRATION
0920	NT1418051007.D	SGE0153-CAL2	1	NO MANUAL INTEGRATION
0934	NT1418051008.D	SGE0153-CAL3	1	NO MANUAL INTEGRATION
0947	NT1418051009.D	SGE0153-ICV1	1	NO MANUAL INTEGRATION
1009	NT1418051010.D	BGE0111-BLK1	1	NO MANUAL INTEGRATION
1023	NT1418051011.D	BGE0111-BS1	1	NO MANUAL INTEGRATION
1036	NT1418051012.D	18D0363-01	1	NO MANUAL INTEGRATION
1050	NT1418051013.D	18E0006-05	1	p-Terphenyl-d14,
1103	NT1418051014.D	18E0006-06	1	p-Terphenyl-d14,
1117	NT1418051015.D	BGE0111-MS1	1	NO MANUAL INTEGRATION
1130	NT1418051016.D	BGE0111-MSD1	1	p-Terphenyl-d14,
1144	NT1418051017.D	18E0006-07	1	p-Terphenyl-d14,

Instrument: nt14.i Date: 10-MAY-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
1157	NT1418051018.D	18E0009-01	1	p-Terphenyl-d14,
1211	NT1418051019.D	18E0009-02	1	p-Terphenyl-d14,
1224	NT1418051020.D	18E0009-03	1	NO MANUAL INTEGRATION
1238	NT1418051021.D	18E0009-04	1	p-Terphenyl-d14,
1252	NT1418051022.D	18E0009-06	1	p-Terphenyl-d14,
1305	NT1418051023.D	SGE0153-CCV1	1	p-Terphenyl-d14,

Security Status Report

Date: 10-May-2018 14:02

NT1418051001.D	Data Locked	van, 10-May-2018 14:02
NT1418051002.D	Data Locked	van, 10-May-2018 14:02
NT1418051003.D	Data Locked	van, 10-May-2018 14:02
NT1418051004.D	Data Locked	van, 10-May-2018 14:02
NT1418051005.D	Data Locked	van, 10-May-2018 14:02
NT1418051006.D	Data Locked	van, 10-May-2018 14:02
NT1418051007.D	Data Locked	van, 10-May-2018 14:02
NT1418051008.D	Data Locked	van, 10-May-2018 14:02
NT1418051009.D	Data Locked	van, 10-May-2018 14:02
NT1418051010.D	Data Locked	van, 10-May-2018 14:02
NT1418051011.D	Data Locked	van, 10-May-2018 14:02
NT1418051012.D	Data Locked	van, 10-May-2018 14:02
NT1418051013.D	Data Locked	van, 10-May-2018 14:02
NT1418051014.D	Data Locked	van, 10-May-2018 14:02
NT1418051015.D	Data Locked	van, 10-May-2018 14:02
NT1418051016.D	Data Locked	van, 10-May-2018 14:02
NT1418051017.D	Data Locked	van, 10-May-2018 14:02
NT1418051018.D	Data Locked	van, 10-May-2018 14:02
NT1418051019.D	Data Locked	van, 10-May-2018 14:02
NT1418051020.D	Data Locked	van, 10-May-2018 14:02
NT1418051021.D	Data Locked	van, 10-May-2018 14:02
NT1418051022.D	Data Locked	van, 10-May-2018 14:02
NT1418051023.D	Data Locked	van, 10-May-2018 14:02

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGF0354	Instrument:	NT8
		Calibration:	BF00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGF0354-TUN1	N818062701.D	NA	06/27/18 16:02
Cal Standard	SGF0354-CAL4	N818062702.D	NA	06/27/18 16:15
Cal Standard	SGF0354-CAL1	N818062703.D	NA	06/27/18 16:42
Cal Standard	SGF0354-CAL2	N818062704.D	NA	06/27/18 17:09
Cal Standard	SGF0354-CAL3	N818062705.D	NA	06/27/18 17:36
Cal Standard	SGF0354-CAL5	N818062706.D	NA	06/27/18 18:02
Cal Standard	SGF0354-CAL6	N818062707.D	NA	06/27/18 18:29
Secondary Cal Check	SGF0354-SCV1	N818062708.D	NA	06/27/18 18:56

Printed: 6/28/2018 11:45:54AM

ANALYSIS SEQUENCE

SGF0354

Instrument: NT8 Element Column ID: G005563
Calibration ID: BF00065 Tune File: 180627.U
EM Voltage: 1741

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGF0354-TUN1	MS Tune	QC		1	G000074		
SGF0354-CAL1	Cal Standard	QC		2	F010860	G003194	
SGF0354-CAL2	Cal Standard	QC		3	F010861	G003194	
SGF0354-CAL3	Cal Standard	QC		4	F010862	G003194	
SGF0354-CAL4	Cal Standard	QC		5	F010863	G003194	
SGF0354-CAL5	Cal Standard	QC		6	F010864	G003194	
SGF0354-CAL6	Cal Standard	QC		7	F010865	G003194	
SGF0354-SCV1	Secondary Cal Check	QC		8	G005878	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180627.b

	Time	Filename	LabID	ClientId	DF											
1	1602	N818062701.D	SGF0354-TUN1		1	NO ISTDS FOUND										
2	1615	N818062702.D	SGF0354-CAL4		1	4.78	97937	7.05	54983	9.07	115816	13.85	129167	17.67	111506	
3	1642	N818062703.D	SGF0354-CAL1		1	4.78	95869	7.05	54259	9.06	116864	13.84	136227	17.65	105716	
4	1709	N818062704.D	SGF0354-CAL2		1	4.78	92428	7.05	50882	9.06	111988	13.85	130081	17.66	105351	
5	1736	N818062705.D	SGF0354-CAL3		1	4.78	97848	7.05	54598	9.06	117966	13.84	131709	17.65	106771	
6	1802	N818062706.D	SGF0354-CAL5		1	4.78	99321	7.05	53712	9.06	117035	13.85	134971	17.66	117458	
7	1829	N818062707.D	SGF0354-CAL6		1	4.78	98806	7.05	53880	9.06	117039	13.85	134903	17.66	118680	
8	1856	N818062708.D	SGF0354-SCV1		1	4.78	95204	7.05	53385	9.06	114570	13.84	129633	17.66	107677	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180627.b

ARI Job No.: SGF0 Method: FSIMPNA180627.m Instrument: nt8.i Date: 27-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1615	N818062702.D	SGF0354-CAL4		1	Total Benzofluoranthenes,
1642	N818062703.D	SGF0354-CAL1		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1709	N818062704.D	SGF0354-CAL2		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1736	N818062705.D	SGF0354-CAL3		1	Total Benzofluoranthenes, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1802	N818062706.D	SGF0354-CAL5		1	Total Benzofluoranthenes,
1829	N818062707.D	SGF0354-CAL6		1	Total Benzofluoranthenes,
1856	N818062708.D	SGF0354-SCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 28-Jun-2018 11:51

N818062701.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062702.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062703.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062704.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062705.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062706.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062707.D	Data Locked	jianqing, 28-Jun-2018 11:50
N818062708.D	Data Locked	jianqing, 28-Jun-2018 11:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGG0053	Instrument:	NT8
		Calibration:	BF00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGG0053-TUN1	N818070501.D	NA	07/05/18 11:15
Initial Cal Verification	SGG0053-ICV1	N818070502.D	NA	07/05/18 11:28
Blank	BGF0721-BLK1	N818070503.D	Tissue	07/05/18 17:09
LCS	BGF0721-BS1	N818070504.D	Tissue	07/05/18 17:36
LDW18-C01-CLWB-Comp2	18F0364-01	N818070505.D	Tissue	07/05/18 18:03
LDW18-C01-CLWB-Comp2	BGF0721-MS1	N818070506.D	Tissue	07/05/18 18:30
LDW18-C01-CLWB-Comp2	BGF0721-MSD1	N818070507.D	Tissue	07/05/18 18:57
LDW18-C02-CLWB-Comp2	18F0364-02	N818070508.D	Tissue	07/05/18 19:24
LDW18-C03-CLWB-Comp2	18F0364-03	N818070509.D	Tissue	07/05/18 19:51
LDW18-C04-CLWB-Comp2	18F0364-04	N818070510.D	Tissue	07/05/18 20:18
LDW18-C05-CLWB-Comp2	18F0364-05	N818070511.D	Tissue	07/05/18 20:44
LDW18-C06-CLWB-Comp2	18F0364-06	N818070512.D	Tissue	07/05/18 21:11
LDW18-C08-CLWB-Comp2	18F0364-07	N818070513.D	Tissue	07/05/18 21:38
LDW18-C10-CLWB-Comp2	18F0364-08	N818070514.D	Tissue	07/05/18 22:05
LDW18-C11-CLWB-Comp2	18F0364-09	N818070515.D	Tissue	07/05/18 22:32
Calibration Check	SGG0053-CCV1	N818070516.D	NA	07/05/18 22:59

Printed: 7/9/2018 10:56:26AM

ANALYSIS SEQUENCE

SGG0053

Instrument: NT8 Element Column ID: G005563
Calibration ID: BF00065 Tune File: 180627.U
EM Voltage: 1741

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0053-TUN1	MS Tune	QC		1	G000074		
SGG0053-ICV1	Initial Cal Verification	QC		2	F010863	G003194	
BGF0721-BLK1	Blank	QC		3		G003194	
BGF0721-BS1	LCS	QC		4		G003194	
18F0364-01	LDW18-C01-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	5		G003194	
BGF0721-MS1	Matrix Spike	QC		6		G003194	
BGF0721-MSD1	Matrix Spike Dup	QC		7		G003194	
18F0364-02	LDW18-C02-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	8		G003194	
18F0364-03	LDW18-C03-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	9		G003194	
18F0364-04	LDW18-C04-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	10		G003194	
18F0364-05	LDW18-C05-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	11		G003194	
18F0364-06	LDW18-C06-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	12		G003194	
18F0364-07	LDW18-C08-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	13		G003194	
18F0364-08	LDW18-C10-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	14		G003194	
18F0364-09	LDW18-C11-CLWB-Comp2	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 03	15		G003194	
SGG0053-CCV1	Calibration Check	QC		16	F010863	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180705.b

	Time	Filename	LabID	ClientId	DF											
1	1115	N818070501.D	SGG0053-TUN1		1	NO ISTDS FOUND										
2	1128	N818070502.D	SGG0053-ICV1		1	4.74	119394	7.01	65629	9.03	134807	13.79	150683	17.59	138484	
3	1709	N818070503.D	BGF0721-BLK1		1	4.73	151126	7.02	88175	9.03	181039	13.80	200962	17.60	159144	
4	1736	N818070504.D	BGF0721-BS1		1	4.74	95143	7.01	54321	9.03	114551	13.79	129107	17.59	114975	
5	1803	N818070505.D	18F0364-01		1	4.73	106941	7.01	59414	9.03	119301	13.79	139867	17.59	129946	
6	1830	N818070506.D	BGF0721-MS1		1	4.73	87478	7.01	52077	9.03	104303	13.79	123663	17.60	116426	
7	1857	N818070507.D	BGF0721-MSD1		1	4.73	104201	7.01	57952	9.03	118102	13.79	138489	17.60	130232	
8	1924	N818070508.D	18F0364-02		1	4.74	100688	7.01	56252	9.03	115713	13.79	135355	17.60	127443	
9	1951	N818070509.D	18F0364-03		1	4.73	109482	7.01	62319	9.03	121285	13.79	142296	17.60	134497	
10	2018	N818070510.D	18F0364-04		1	4.74	106345	7.01	62869	9.03	122898	13.79	143088	17.60	134685	
11	2044	N818070511.D	18F0364-05		1	4.74	110968	7.01	60262	9.03	122891	13.80	143874	17.60	136740	
12	2111	N818070512.D	18F0364-06		1	4.73	113397	7.01	60825	9.03	123266	13.79	141363	17.60	135660	
13	2138	N818070513.D	18F0364-07		1	4.74	101600	7.01	57800	9.03	114274	13.79	136438	17.60	130742	
14	2205	N818070514.D	18F0364-08		1	4.74	110343	7.01	62349	9.03	122423	13.79	143251	17.60	136010	
15	2232	N818070515.D	18F0364-09		1	4.74	123337	7.01	67768	9.03	136695	13.80	159721	17.60	151369	
16	2259	N818070516.D	SGG0053-CCV1		1	4.74	106396	7.02	59206	9.03	118634	13.80	134771	17.60	129000	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180705.b

ARI Job No.: SGG0 Method: FSIMPNA180627.m Instrument: nt8.i Date: 05-JUL-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1128	N818070502.D	SGG0053-ICV1		1	Total Benzofluoranthenes,
1709	N818070503.D	BGF0721-BLK1		1	NO MANUAL INTEGRATION
1736	N818070504.D	BGF0721-BS1		1	Total Benzofluoranthenes,
1803	N818070505.D	18F0364-01		1	Total Benzofluoranthenes,
1830	N818070506.D	BGF0721-MS1		1	Total Benzofluoranthenes,
1857	N818070507.D	BGF0721-MSD1		1	Total Benzofluoranthenes,
1924	N818070508.D	18F0364-02		1	Benzo(j)fluoranthene, Total Benzofluoranthenes,
1951	N818070509.D	18F0364-03		1	Chrysene, Benzo(g,h,i)perylene, Total Benzofluoranthenes,
2018	N818070510.D	18F0364-04		1	Total Benzofluoranthenes,
2044	N818070511.D	18F0364-05		1	Total Benzofluoranthenes,
2111	N818070512.D	18F0364-06		1	Chrysene, Benzo(b)fluoranthene, Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene, Total Benzofluoranthenes,
2138	N818070513.D	18F0364-07		1	Chrysene, Indeno(1,2,3-cd)pyrene, Total Benzofluoranthenes,
2205	N818070514.D	18F0364-08		1	Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene, Total Benzofluoranthenes, Perylene,
2232	N818070515.D	18F0364-09		1	Chrysene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Total Benzofluoranthenes,
2259	N818070516.D	SGG0053-CCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 09-Jul-2018 11:40

N818070501.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070502.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070503.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070504.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070505.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070506.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070507.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070508.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070509.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070510.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070511.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070512.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070513.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070514.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070515.D	Data Locked	jianqing, 09-Jul-2018 11:40
N818070516.D	Data Locked	jianqing, 09-Jul-2018 11:40

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGG0077	Instrument:	NT14
		Calibration:	BE00033

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGG0077-TUN1	NT1418070701.D	NA	07/07/18 13:44
Initial Cal Check	SGG0077-ICV1	NT1418070702.D	NA	07/07/18 13:58
Blank	BGF0719-BLK1	NT1418070703.D	Tissue	07/07/18 14:23
LCS	BGF0719-BS1	NT1418070704.D	Tissue	07/07/18 14:36
LDW18-S1-CLWB-Comp1	18F0364-10	NT1418070705.D	Tissue	07/07/18 15:00
LDW18-S1-CLWB-Comp1	BGF0719-MS1	NT1418070706.D	Tissue	07/07/18 15:14
LDW18-S1-CLWB-Comp1	BGF0719-MSD1	NT1418070707.D	Tissue	07/07/18 15:28
LDW18-S2-CLWB-Comp1	18F0364-11	NT1418070708.D	Tissue	07/07/18 15:41
LDW18-S3-CLWB-Comp1	18F0364-12	NT1418070709.D	Tissue	07/07/18 15:55
Calibration Check	SGG0077-CCV1	NT1418070710.D	NA	07/07/18 16:08

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 7/10/2018 8:32:52AM

ANALYSIS SEQUENCE

SGG0077

Instrument: NT14 Element Column ID: G002876
Calibration ID: BE00033 Tune File: 180406.U
EM Voltage: 1800

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0077-TUN1	MS Tune	QC		1	F010239		
SGG0077-ICV1	Initial Cal Check	QC		2	G004161	G004149	
BGF0719-BLK1	Blank	QC		3		G004149	
BGF0719-BS1	LCS	QC		4		G004149	
18F0364-10	LDW18_S1-CLWB-Comp1	8270D-SIM Butyl Tins	A 01	5		G004149	
BGF0719-MS1	Matrix Spike	QC		6		G004149	
BGF0719-MSD1	Matrix Spike Dup	QC		7		G004149	
18F0364-11	LDW18_S2-CLWB-Comp1	8270D-SIM Butyl Tins	A 01	8		G004149	
18F0364-12	LDW18_S3-CLWB-Comp1	8270D-SIM Butyl Tins	A 01	9		G004149	
SGG0077-CCV1	Calibration Check	QC		10	G004161	G004149	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180707.b

	Time	Filename	LabID	ClientId	DF					
1	1344	NT1418070701.D	SGG0077-TUN1		1	NO ISTDS FOUND				
2	1358	NT1418070702.D	SGG0077-ICV1		1	7.85	124209	8.83	101340	
3	1423	NT1418070703.D	BGF0719-BLK1		1	7.85	145932	8.83	131916	
4	1436	NT1418070704.D	BGF0719-BS1		1	7.85	140243	8.82	112693	
5	1500	NT1418070705.D	18F0364-10		1	7.85	142010	8.83	119603	
6	1514	NT1418070706.D	BGF0719-MS1		1	7.85	145382	8.82	121354	
7	1528	NT1418070707.D	BGF0719-MSD1		1	7.85	144976	8.82	121460	
8	1541	NT1418070708.D	18F0364-11		1	7.85	145609	8.82	118632	
9	1555	NT1418070709.D	18F0364-12		1	7.85	145680	8.82	120039	
10	1608	NT1418070710.D	SGG0077-CCV1		1	7.85	146011	8.82	119886	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt14.i\20180707.b

Instrument: nt14.i Date: 07-JUL-2018

Time	Filename	LabID	DF	Manually Integrated Compounds
1344	NT1418070701.D	SGG0077-TUN1	1	NO MANUAL INTEGRATION
1358	NT1418070702.D	SGG0077-ICV1	1	NO MANUAL INTEGRATION
1423	NT1418070703.D	BGF0719-BLK1	1	NO MANUAL INTEGRATION
1436	NT1418070704.D	BGF0719-BS1	1	NO MANUAL INTEGRATION
1500	NT1418070705.D	18F0364-10	1	NO MANUAL INTEGRATION
1514	NT1418070706.D	BGF0719-MS1	1	NO MANUAL INTEGRATION
1528	NT1418070707.D	BGF0719-MSD1	1	NO MANUAL INTEGRATION
1541	NT1418070708.D	18F0364-11	1	NO MANUAL INTEGRATION
1555	NT1418070709.D	18F0364-12	1	NO MANUAL INTEGRATION
1608	NT1418070710.D	SGG0077-CCV1	1	NO MANUAL INTEGRATION

Security Status Report

Date: 10-Jul-2018 08:36

NT1418070701.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070702.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070703.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070704.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070705.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070706.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070707.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070708.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070709.D	Data Locked	van, 10-Jul-2018 08:36
NT1418070710.D	Data Locked	van, 10-Jul-2018 08:36

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGE0153	Instrument:	NT14
Calibration:	BE00033	Calibration Date:	05/10/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGE0153-ICV1 (Solid)			Lab File ID: NT1418051009.D			Analyzed: 05/10/18 09:47		
Tripentyltin	1.5918	107	80 - 120	8.241	8.241	0.0000	N/A	
Tripropyltin	0.74430	111	80 - 120	6.263	6.263	0.0000	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGF0354	Instrument:	NT8
Calibration:	BF00065	Calibration Date:	06/27/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0354-SCV1 (Water)			Lab File ID: N818062708.D				Analyzed: 06/27/18 18:56	
2-Methylnaphthalene-d10	2.5000	89.3	0 - 200	5.505	5.506	-0.0010	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	81.8	0 - 200	19.946	19.95667	-0.0107	N/A	
Fluoranthene-d10	2.5000	89.4	0 - 200	10.776	10.77933	-0.0033	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0053
Instrument: NT8
Calibration: BF00065
Calibration Date: 06/27/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0053-ICV1 (Tissue)				Lab File ID: N818070502.D			Analyzed: 07/05/18 11:28	
2-Methylnaphthalene-d10	2.5000	106	80 - 120	5.47	5.506	-0.0360	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	113	80 - 120	19.876	19.95667	-0.0807	N/A	
Fluoranthene-d10	2.5000	104	80 - 120	10.738	10.77933	-0.0413	N/A	
BGF0721-BLK1 (Tissue)				Lab File ID: N818070503.D			Analyzed: 07/05/18 17:09	
2-Methylnaphthalene-d10	150.00	44.5	20 - 130	5.467	5.506	-0.0390	N/A	
Dibenzo[a,h]anthracene-d14	150.00	58.8	20 - 130	19.886	19.95667	-0.0707	N/A	
Fluoranthene-d10	150.00	48.9	20 - 130	10.741	10.77933	-0.0383	N/A	
BGF0721-BS1 (Tissue)				Lab File ID: N818070504.D			Analyzed: 07/05/18 17:36	
2-Methylnaphthalene-d10	150.00	50.0	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	150.00	81.0	20 - 130	19.876	19.95667	-0.0807	N/A	
Fluoranthene-d10	150.00	69.7	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-01 (Tissue)				Lab File ID: N818070505.D			Analyzed: 07/05/18 18:03	
2-Methylnaphthalene-d10	149.25	51.0	20 - 130	5.461	5.506	-0.0450	N/A	
Dibenzo[a,h]anthracene-d14	149.25	68.5	20 - 130	19.87	19.95667	-0.0867	N/A	
Fluoranthene-d10	149.25	64.3	20 - 130	10.735	10.77933	-0.0443	N/A	
BGF0721-MS1 (Tissue)				Lab File ID: N818070506.D			Analyzed: 07/05/18 18:30	
2-Methylnaphthalene-d10	149.40	61.2	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	149.40	78.4	20 - 130	19.879	19.95667	-0.0777	N/A	
Fluoranthene-d10	149.40	71.7	20 - 130	10.738	10.77933	-0.0413	N/A	
BGF0721-MSD1 (Tissue)				Lab File ID: N818070507.D			Analyzed: 07/05/18 18:57	
2-Methylnaphthalene-d10	149.55	53.0	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	149.55	76.1	20 - 130	19.883	19.95667	-0.0737	N/A	
Fluoranthene-d10	149.55	68.6	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-02 (Tissue)				Lab File ID: N818070508.D			Analyzed: 07/05/18 19:24	
2-Methylnaphthalene-d10	148.96	56.5	20 - 130	5.467	5.506	-0.0390	N/A	
Dibenzo[a,h]anthracene-d14	148.96	78.4	20 - 130	19.883	19.95667	-0.0737	N/A	
Fluoranthene-d10	148.96	73.1	20 - 130	10.738	10.77933	-0.0413	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0053
Instrument: NT8
Calibration: BF00065
Calibration Date: 06/27/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18F0364-03 (Tissue)				Lab File ID: N818070509.D			Analyzed: 07/05/18 19:51	
2-Methylnaphthalene-d10	150.00	46.1	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	150.00	69.2	20 - 130	19.88	19.95667	-0.0767	N/A	
Fluoranthene-d10	150.00	64.5	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-04 (Tissue)				Lab File ID: N818070510.D			Analyzed: 07/05/18 20:18	
2-Methylnaphthalene-d10	149.70	42.5	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	149.70	62.5	20 - 130	19.88	19.95667	-0.0767	N/A	
Fluoranthene-d10	149.70	54.7	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-05 (Tissue)				Lab File ID: N818070511.D			Analyzed: 07/05/18 20:44	
2-Methylnaphthalene-d10	149.25	52.7	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	149.25	72.3	20 - 130	19.879	19.95667	-0.0777	N/A	
Fluoranthene-d10	149.25	68.6	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-06 (Tissue)				Lab File ID: N818070512.D			Analyzed: 07/05/18 21:11	
2-Methylnaphthalene-d10	148.96	47.8	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	148.96	63.6	20 - 130	19.883	19.95667	-0.0737	N/A	
Fluoranthene-d10	148.96	61.4	20 - 130	10.738	10.77933	-0.0413	N/A	
18F0364-07 (Tissue)				Lab File ID: N818070513.D			Analyzed: 07/05/18 21:38	
2-Methylnaphthalene-d10	148.96	48.5	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	148.96	68.7	20 - 130	19.886	19.95667	-0.0707	N/A	
Fluoranthene-d10	148.96	67.6	20 - 130	10.741	10.77933	-0.0383	N/A	
18F0364-08 (Tissue)				Lab File ID: N818070514.D			Analyzed: 07/05/18 22:05	
2-Methylnaphthalene-d10	150.00	51.0	20 - 130	5.464	5.506	-0.0420	N/A	
Dibenzo[a,h]anthracene-d14	150.00	71.8	20 - 130	19.886	19.95667	-0.0707	N/A	
Fluoranthene-d10	150.00	68.8	20 - 130	10.742	10.77933	-0.0373	N/A	
18F0364-09 (Tissue)				Lab File ID: N818070515.D			Analyzed: 07/05/18 22:32	
2-Methylnaphthalene-d10	149.25	43.4	20 - 130	5.467	5.506	-0.0390	N/A	
Dibenzo[a,h]anthracene-d14	149.25	62.9	20 - 130	19.886	19.95667	-0.0707	N/A	
Fluoranthene-d10	149.25	58.7	20 - 130	10.741	10.77933	-0.0383	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0077
Instrument: NT14
Calibration: BE00033
Calibration Date: 05/10/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0077-ICV1 (Tissue)			Lab File ID: NT1418070702.D			Analyzed: 07/07/18 13:58		
Tripentyltin	1.5918	113	80 - 120	8.183	8.241	-0.0580	N/A	
Tripropyltin	0.74430	112	80 - 120	6.211	6.263	-0.0520	N/A	
BGF0719-BLK1 (Tissue)			Lab File ID: NT1418070703.D			Analyzed: 07/07/18 14:23		
Tripentyltin	45.178	33.0	20 - 130	8.202	8.241	-0.0390	N/A	
Tripropyltin	43.746	137	20 - 130	6.211	6.263	-0.0520	N/A	*
BGF0719-BS1 (Tissue)			Lab File ID: NT1418070704.D			Analyzed: 07/07/18 14:36		
Tripentyltin	45.178	115	20 - 130	8.182	8.241	-0.0590	N/A	
Tripropyltin	43.746	121	20 - 130	6.211	6.263	-0.0520	N/A	
18F0364-10 (Tissue)			Lab File ID: NT1418070705.D			Analyzed: 07/07/18 15:00		
Tripentyltin	45.133	56.2	20 - 130	8.192	8.241	-0.0490	N/A	
Tripropyltin	43.702	75.6	20 - 130	6.211	6.263	-0.0520	N/A	
BGF0719-MS1 (Tissue)			Lab File ID: NT1418070706.D			Analyzed: 07/07/18 15:14		
Tripentyltin	45.178	57.3	20 - 130	8.182	8.241	-0.0590	N/A	
Tripropyltin	43.746	70.3	20 - 130	6.211	6.263	-0.0520	N/A	
BGF0719-MSD1 (Tissue)			Lab File ID: NT1418070707.D			Analyzed: 07/07/18 15:28		
Tripentyltin	44.998	73.2	20 - 130	8.183	8.241	-0.0580	N/A	
Tripropyltin	43.572	86.5	20 - 130	6.211	6.263	-0.0520	N/A	
18F0364-11 (Tissue)			Lab File ID: NT1418070708.D			Analyzed: 07/07/18 15:41		
Tripentyltin	44.953	71.1	20 - 130	8.182	8.241	-0.0590	N/A	
Tripropyltin	43.528	77.3	20 - 130	6.211	6.263	-0.0520	N/A	
18F0364-12 (Tissue)			Lab File ID: NT1418070709.D			Analyzed: 07/07/18 15:55		
Tripentyltin	45.178	46.9	20 - 130	8.183	8.241	-0.0580	N/A	
Tripropyltin	43.746	57.5	20 - 130	6.211	6.263	-0.0520	N/A	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGE0153	Instrument:	NT14
		Calibration:	BE00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGE0153-ICV1)		(Solid)		Lab File ID: NT1418051009.D			Analyzed: 05/10/18 09:47		
Tetrapentyltin	148245	7.9	151538	7.909	98	50 - 200	0.0090	+/-0.50	
p-Terphenyl-d14	124358	8.885	129365	8.885	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Sequence:	SGF0354	Instrument:	NT8
		Calibration:	BF00065

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGF0354-SCV1)		(Water)		Lab File ID: N818062708.D				Analyzed: 06/27/18 18:56	
Naphthalene-d8	95204	4.781	97937	4.784	97	50 - 200	0.0030	+/-0.50	
Acenaphthene-d10	53385	7.048	54983	7.051	97	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	114570	9.063	115816	9.066	99	50 - 200	0.0030	+/-0.50	
Chrysene-d12	129633	13.843	129167	13.853	100	50 - 200	0.0100	+/-0.50	
Perylene-d12	107677	17.657	111506	17.666	97	50 - 200	0.0090	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0053
Instrument: NT8
Calibration: BF00065

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGG0053-ICV1)		(Tissue)		Lab File ID: N818070502.D			Analyzed: 07/05/18 11:28		
Naphthalene-d8	119394	4.743	97937	4.743	122	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	65629	7.013	54983	7.013	119	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	134807	9.031	115816	9.031	116	50 - 200	0.0000	+/-0.50	
Chrysene-d12	150683	13.786	129167	13.786	117	50 - 200	0.0000	+/-0.50	
Perylene-d12	138484	17.593	111506	17.593	124	50 - 200	0.0000	+/-0.50	
Blank (BGF0721-BLK1)		(Tissue)		Lab File ID: N818070503.D			Analyzed: 07/05/18 17:09		
Naphthalene-d8	151126	4.734	97937	4.743	154	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	88175	7.017	54983	7.013	160	50 - 200	-0.0040	+/-0.50	
Phenanthrene-d10	181039	9.034	115816	9.031	156	50 - 200	-0.0030	+/-0.50	
Chrysene-d12	200962	13.799	129167	13.786	156	50 - 200	-0.0130	+/-0.50	
Perylene-d12	159144	17.6	111506	17.593	143	50 - 200	-0.0070	+/-0.50	
LCS (BGF0721-BS1)		(Tissue)		Lab File ID: N818070504.D			Analyzed: 07/05/18 17:36		
Naphthalene-d8	95143	4.737	97937	4.743	97	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	54321	7.01	54983	7.013	99	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	114551	9.028	115816	9.031	99	50 - 200	0.0030	+/-0.50	
Chrysene-d12	129107	13.79	129167	13.786	100	50 - 200	-0.0040	+/-0.50	
Perylene-d12	114975	17.593	111506	17.593	103	50 - 200	0.0000	+/-0.50	
LDW18-C01-CLWB-Comp2 (18F0364-01)		(Tissue)		Lab File ID: N818070505.D			Analyzed: 07/05/18 18:03		
Naphthalene-d8	106941	4.731	97937	4.743	109	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10	59414	7.014	54983	7.013	108	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	119301	9.028	115816	9.031	103	50 - 200	0.0030	+/-0.50	
Chrysene-d12	139867	13.786	129167	13.786	108	50 - 200	0.0000	+/-0.50	
Perylene-d12	129946	17.593	111506	17.593	117	50 - 200	0.0000	+/-0.50	
Matrix Spike (BGF0721-MS1)		(Tissue)		Lab File ID: N818070506.D			Analyzed: 07/05/18 18:30		
Naphthalene-d8	87478	4.734	97937	4.743	89	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	52077	7.01	54983	7.013	95	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	104303	9.031	115816	9.031	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12	123663	13.793	129167	13.786	96	50 - 200	-0.0070	+/-0.50	
Perylene-d12	116426	17.596	111506	17.593	104	50 - 200	-0.0030	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0053
Instrument: NT8
Calibration: BF00065

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (BGF0721-MSD1)		(Tissue)		Lab File ID: N818070507.D				Analyzed: 07/05/18 18:57	
Naphthalene-d8	104201	4.734	97937	4.743	106	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	57952	7.014	54983	7.013	105	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	118102	9.031	115816	9.031	102	50 - 200	0.0000	+/-0.50	
Chrysene-d12	138489	13.793	129167	13.786	107	50 - 200	-0.0070	+/-0.50	
Perylene-d12	130232	17.6	111506	17.593	117	50 - 200	-0.0070	+/-0.50	
LDW18-C02-CLWB-Comp2 (18F0364-02)		(Tissue)		Lab File ID: N818070508.D				Analyzed: 07/05/18 19:24	
Naphthalene-d8	100688	4.737	97937	4.743	103	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	56252	7.014	54983	7.013	102	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	115713	9.031	115816	9.031	100	50 - 200	0.0000	+/-0.50	
Chrysene-d12	135355	13.79	129167	13.786	105	50 - 200	-0.0040	+/-0.50	
Perylene-d12	127443	17.597	111506	17.593	114	50 - 200	-0.0040	+/-0.50	
LDW18-C03-CLWB-Comp2 (18F0364-03)		(Tissue)		Lab File ID: N818070509.D				Analyzed: 07/05/18 19:51	
Naphthalene-d8	109482	4.734	97937	4.743	112	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	62319	7.013	54983	7.013	113	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	121285	9.031	115816	9.031	105	50 - 200	0.0000	+/-0.50	
Chrysene-d12	142296	13.793	129167	13.786	110	50 - 200	-0.0070	+/-0.50	
Perylene-d12	134497	17.597	111506	17.593	121	50 - 200	-0.0040	+/-0.50	
LDW18-C04-CLWB-Comp2 (18F0364-04)		(Tissue)		Lab File ID: N818070510.D				Analyzed: 07/05/18 20:18	
Naphthalene-d8	106345	4.737	97937	4.743	109	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	62869	7.014	54983	7.013	114	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	122898	9.031	115816	9.031	106	50 - 200	0.0000	+/-0.50	
Chrysene-d12	143088	13.793	129167	13.786	111	50 - 200	-0.0070	+/-0.50	
Perylene-d12	134685	17.597	111506	17.593	121	50 - 200	-0.0040	+/-0.50	
LDW18-C05-CLWB-Comp2 (18F0364-05)		(Tissue)		Lab File ID: N818070511.D				Analyzed: 07/05/18 20:44	
Naphthalene-d8	110968	4.737	97937	4.743	113	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	60262	7.013	54983	7.013	110	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	122891	9.031	115816	9.031	106	50 - 200	0.0000	+/-0.50	
Chrysene-d12	143874	13.796	129167	13.786	111	50 - 200	-0.0100	+/-0.50	
Perylene-d12	136740	17.6	111506	17.593	123	50 - 200	-0.0070	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0053
Instrument: NT8
Calibration: BF00065

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-C06-CLWB-Comp2 (18F0364-06)		(Tissue)		Lab File ID: N818070512.D				Analyzed: 07/05/18 21:11	
Naphthalene-d8	113397	4.731	97937	4.743	116	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10	60825	7.014	54983	7.013	111	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	123266	9.031	115816	9.031	106	50 - 200	0.0000	+/-0.50	
Chrysene-d12	141363	13.793	129167	13.786	109	50 - 200	-0.0070	+/-0.50	
Perylene-d12	135660	17.603	111506	17.593	122	50 - 200	-0.0100	+/-0.50	
LDW18-C08-CLWB-Comp2 (18F0364-07)		(Tissue)		Lab File ID: N818070513.D				Analyzed: 07/05/18 21:38	
Naphthalene-d8	101600	4.737	97937	4.743	104	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	57800	7.013	54983	7.013	105	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	114274	9.031	115816	9.031	99	50 - 200	0.0000	+/-0.50	
Chrysene-d12	136438	13.793	129167	13.786	106	50 - 200	-0.0070	+/-0.50	
Perylene-d12	130742	17.6	111506	17.593	117	50 - 200	-0.0070	+/-0.50	
LDW18-C10-CLWB-Comp2 (18F0364-08)		(Tissue)		Lab File ID: N818070514.D				Analyzed: 07/05/18 22:05	
Naphthalene-d8	110343	4.737	97937	4.743	113	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	62349	7.01	54983	7.013	113	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	122423	9.031	115816	9.031	106	50 - 200	0.0000	+/-0.50	
Chrysene-d12	143251	13.793	129167	13.786	111	50 - 200	-0.0070	+/-0.50	
Perylene-d12	136010	17.603	111506	17.593	122	50 - 200	-0.0100	+/-0.50	
LDW18-C11-CLWB-Comp2 (18F0364-09)		(Tissue)		Lab File ID: N818070515.D				Analyzed: 07/05/18 22:32	
Naphthalene-d8	123337	4.737	97937	4.743	126	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	67768	7.013	54983	7.013	123	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	136695	9.031	115816	9.031	118	50 - 200	0.0000	+/-0.50	
Chrysene-d12	159721	13.796	129167	13.786	124	50 - 200	-0.0100	+/-0.50	
Perylene-d12	151369	17.603	111506	17.593	136	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0077
Instrument: NT14
Calibration: BE00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGG0077-ICV1)		(Tissue)	Lab File ID: NT1418070702.D				Analyzed: 07/07/18 13:58		
Tetrapentyltin	124209	7.851	151538	7.851	82	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	101340	8.827	129365	8.827	78	50 - 200	0.0000	+/-0.50	
Blank (BGF0719-BLK1)		(Tissue)	Lab File ID: NT1418070703.D				Analyzed: 07/07/18 14:23		
Tetrapentyltin	145932	7.851	151538	7.851	96	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	131916	8.827	129365	8.827	102	50 - 200	0.0000	+/-0.50	
LCS (BGF0719-BS1)		(Tissue)	Lab File ID: NT1418070704.D				Analyzed: 07/07/18 14:36		
Tetrapentyltin	140243	7.851	151538	7.851	93	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	112693	8.817	129365	8.827	87	50 - 200	0.0100	+/-0.50	
LDW18-S1-CLWB-Comp1 (18F0364-10)		(Tissue)	Lab File ID: NT1418070705.D				Analyzed: 07/07/18 15:00		
Tetrapentyltin	142010	7.851	151538	7.851	94	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	119603	8.827	129365	8.827	92	50 - 200	0.0000	+/-0.50	
Matrix Spike (BGF0719-MS1)		(Tissue)	Lab File ID: NT1418070706.D				Analyzed: 07/07/18 15:14		
Tetrapentyltin	145382	7.851	151538	7.851	96	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	121354	8.817	129365	8.827	94	50 - 200	0.0100	+/-0.50	
Matrix Spike Dup (BGF0719-MSD1)		(Tissue)	Lab File ID: NT1418070707.D				Analyzed: 07/07/18 15:28		
Tetrapentyltin	144976	7.851	151538	7.851	96	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	121460	8.817	129365	8.827	94	50 - 200	0.0100	+/-0.50	
LDW18-S2-CLWB-Comp1 (18F0364-11)		(Tissue)	Lab File ID: NT1418070708.D				Analyzed: 07/07/18 15:41		
Tetrapentyltin	145609	7.851	151538	7.851	96	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	118632	8.817	129365	8.827	92	50 - 200	0.0100	+/-0.50	
LDW18-S3-CLWB-Comp1 (18F0364-12)		(Tissue)	Lab File ID: NT1418070709.D				Analyzed: 07/07/18 15:55		
Tetrapentyltin	145680	7.851	151538	7.851	96	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14	120039	8.817	129365	8.827	93	50 - 200	0.0100	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-C01-CLWB-Comp2 18F0364-01	05/16/18 13:33	05/21/18 10:10	06/29/18 11:28	43	365	07/05/18 18:03	6	365	
LDW18-C02-CLWB-Comp2 18F0364-02	05/16/18 11:57	05/21/18 10:10	06/29/18 11:28	43	365	07/05/18 19:24	6	365	
LDW18-C03-CLWB-Comp2 18F0364-03	05/16/18 12:40	05/21/18 10:10	06/29/18 11:28	43	365	07/05/18 19:51	6	365	
LDW18-C04-CLWB-Comp2 18F0364-04	05/19/18 14:45	05/21/18 10:10	06/29/18 11:28	40	365	07/05/18 20:18	6	365	
LDW18-C05-CLWB-Comp2 18F0364-05	05/18/18 15:32	05/21/18 10:10	06/29/18 11:28	41	365	07/05/18 20:44	6	365	
LDW18-C06-CLWB-Comp2 18F0364-06	05/15/18 11:55	05/21/18 10:10	06/29/18 11:28	44	365	07/05/18 21:11	6	365	
LDW18-C08-CLWB-Comp2 18F0364-07	05/18/18 13:20	05/21/18 10:10	06/29/18 11:28	41	365	07/05/18 21:38	6	365	
LDW18-C10-CLWB-Comp2 18F0364-08	05/17/18 13:52	05/21/18 10:10	06/29/18 11:28	42	365	07/05/18 22:05	6	365	
LDW18-C11-CLWB-Comp2 18F0364-09	05/18/18 13:53	05/21/18 10:10	06/29/18 11:28	41	365	07/05/18 22:32	6	365	
LDW18-S1-CLWB-Comp1 18F0364-10	05/16/18 10:57	05/21/18 10:10	06/29/18 09:37	43	365	07/07/18 15:00	8	365	
LDW18-S2-CLWB-Comp1 18F0364-11	05/15/18 10:45	05/21/18 10:10	06/29/18 09:37	44	365	07/07/18 15:41	8	365	
LDW18-S3-CLWB-Comp1 18F0364-12	05/17/18 12:13	05/21/18 10:10	06/29/18 09:37	42	365	07/07/18 15:55	8	365	
Matrix Spike BGF0719-MS1	05/16/18 10:57	05/21/18 10:10	06/29/18 09:37	43	365	07/07/18 15:14	8	365	
Matrix Spike Dup BGF0719-MSD1	05/16/18 10:57	05/21/18 10:10	06/29/18 09:37	43	365	07/07/18 15:28	8	365	
Matrix Spike BGF0721-MS1	05/16/18 13:33	05/21/18 10:10	06/29/18 11:28	43	365	07/05/18 18:30	6	365	
Matrix Spike Dup BGF0721-MSD1	05/16/18 13:33	05/21/18 10:10	06/29/18 11:28	43	365	07/05/18 18:57	6	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Solid Instrument: NT14

Analyte	MDL	RL	Units
Tributyltin Ion	0.450	3.86	ug/kg
Dibutyltin Ion	1.73	5.78	ug/kg
Butyltin Ion	1.89	4.08	ug/kg
Tetrabutyltin	5.00	5.00	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Instrument: NT14

Analyte	MDL	RL	Units
Tributyltin Ion	0.450	3.86	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Tissue Instrument: NT8

Analyte	MDL	RL	Units
Benzo(a)anthracene	0.54	5.00	ug/kg
Chrysene	0.49	5.00	ug/kg
Benzo(b)fluoranthene	1.00	5.00	ug/kg
Benzo(k)fluoranthene	0.71	5.00	ug/kg
Benzo(a)pyrene	0.92	5.00	ug/kg
Indeno(1,2,3-cd)pyrene	0.58	5.00	ug/kg
Dibenzo(a,h)anthracene	1.53	5.00	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Water Instrument: NT8

Analyte	MDL	RL	Units
Naphthalene	0.02	0.10	ug/L
2-Methylnaphthalene	0.03	0.10	ug/L
1-Methylnaphthalene	0.02	0.10	ug/L
Acenaphthylene	0.02	0.10	ug/L
Acenaphthene	0.02	0.10	ug/L
Dibenzofuran	0.02	0.10	ug/L
Fluorene	0.02	0.10	ug/L
Phenanthrene	0.02	0.10	ug/L
Anthracene	0.02	0.10	ug/L
Fluoranthene	0.02	0.10	ug/L
Pyrene	0.03	0.10	ug/L
Benzo(a)anthracene	0.05	0.10	ug/L
Chrysene	0.06	0.10	ug/L
Benzo(b)fluoranthene	0.09	0.10	ug/L
Benzo(k)fluoranthene	0.09	0.10	ug/L
Benzo(j)fluoranthene	0.03	0.10	ug/L
Benzofluoranthenes, Total	0.19	0.20	ug/L
Benzo(a)pyrene	0.06	0.10	ug/L
Indeno(1,2,3-cd)pyrene	0.08	0.10	ug/L
Dibenzo(a,h)anthracene	0.09	0.10	ug/L
Benzo(g,h,i)perylene	0.07	0.10	ug/L

Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

B001537
Tripropyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

Tri-n-propyltin chloride, 95%

Stock Number: 41459
Lot Number: K21Q046

Analysis

Appearance	Clear oil
Purity (based on Sn analysis)	≥ 97 %
Sn_{Th}	41.88 %
Sn_{Ex}	40.75 %

Certified by:

Quality Control

Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

B001537
Tripropyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

Tri-n-propyltin chloride, 95%

Stock Number: 41459
Lot Number: K21Q046

Analysis

Appearance	Clear oil
Purity (based on Sn analysis)	≥ 97 %
Sn_{Th}	41.88 %
Sn_{Ex}	40.75 %

Certified by:

Quality Control

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: N-Butyltin-Chloride

Manufacturer: Alfa

Product #: C22E-on label

Lot #: NA

Purity: 95%

Analyst: VB

B001538
N-Butyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp. 2/19/2029
Location:

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: N-Butyltin-Chloride

Manufacturer: Alfa

Product #: C22E-on label

Lot #: NA

Purity: 95%

Analyst: VB

B001538
N-Butyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp. 2/19/2029
Location:

1539

Certificate of Analysis

SIGMA-ALDRICH

Product Name	Dibutyltin dichloride, 96%
Product Number	205494
Product Brand	ALDRICH
CAS Number	683-18-1
Molecular Formula	$(CH_3CH_2CH_2CH_2)_2SnCl_2$
Molecular Weight	303 84

TEST	SPECIFICATION	LOT 09116AN RESULTS
APPEARANCE	MOIST WHITE TO OFF-WHITE CRYSTALS	MOIST OFF-WHITE CRYSTALS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"
TITRATION	95 5%-104 5%(WITH AGNO3 AFTER O2 COMBUSTION)	100 8 % (WITH AGNO3 AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	95 5% (MINIMUM)	98 5 %

Barbara Rajzer

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait

B001539
Dibutyltin Dichloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

1539

Certificate of Analysis

SIGMA-ALDRICH

Product Name	Dibutyltin dichloride, 96%
Product Number	205494
Product Brand	ALDRICH
CAS Number	683-18-1
Molecular Formula	$(CH_3CH_2CH_2CH_2)_2SnCl_2$
Molecular Weight	303 84

TEST	SPECIFICATION	LOT 09116AN RESULTS
APPEARANCE	MOIST WHITE TO OFF-WHITE CRYSTALS	MOIST OFF-WHITE CRYSTALS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"
TITRATION	95 5%-104 5%(WITH AGNO3 AFTER O2 COMBUSTION)	100 8 % (WITH AGNO3 AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	95 5% (MINIMUM)	98 5 %

Barbara Rajzer

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait

B001539
Dibutyltin Dichloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyltin - Chloride

Manufacturer: Strem

Product #: 93-5056

Lot #: B1054021

Purity: 8/27/13 - 96%

Analyst: VP

B001540
Tributyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyltin - Chloride

Manufacturer: Strem

Product #: 93-5056

Lot #: B1054021

Purity: 8/27/13 - 96%

Analyst: VP

B001540
Tributyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

18F0364 CLPLIKE (Rev0) - Page 1899 of 2472

Subject: Re: CofA_Request - United States Product # 366676 Lot # 02027KX
From: CofAs <cofas@sial.com>
Date: 8/27/2013 4:45 AM
To: VAN@arilabs.com

Dear Customer,

This refers to your recent request of COA for the above mentioned product code lot #.

In this connection kindly note that we are unable to provide you COA as this is a discontinued product and the batch referenced was released over 15 years ago (1997).

We are not able to provide a COA as we would not be able to guarantee results obtained so many years ago.

We are extremely sorry for the inconvenience caused in this matter.

Thank you for your continued support of Sigma-Aldrich products and services.

Best regards,
M J Joseph

SIGMA-ALDRICH
Customer & Sales Services

Please respond to cofas@sial.com

B001542
Tetrapentyltin -NEAT
Solvent / Lot: na
Prep: 3/19/2013 by VS
Exp: 2/19/2029
Location:

Certificate of Analysis

SIGMA-ALDRICH

Product Name	*p*-Terphenyl-d_{14}, 98 atom % D, 98% (CP)
Product Number	364630
Product Brand	ALDRICH
CAS Number	1718-51-0
Molecular Formula	$C_6D_5C_6D_4C_6D_5$
Molecular Weight	244.39

D001113

TEST	**LOT EB2136V RESULTS**
HPLC: Minimum 98% chemical purity	98.5%
m.p.: Conforms with standard	Conforms with standard
1H-NMR (FT): Structure and purity verification	Meets requirement
1H-NMR (FT): Minimum 98 atom% D	98.1 atom% D
Appearance: White powder	White powder
Release Date:	2012/10/10

C. T. Tan, PhD, Scientist
Quality Control Laboratory
Isotec Stable Isotopes (Sigma-Aldrich)
Miamisburg, Ohio, USA

Certificate of Analysis

DESCRIPTION: TCL Hazardous Substances Mix 2

CATALOG NO.: 48908 MFG DATE: Jul-2015

LOT NO.: LC14707V EXPIRATION DATE: Jul-2018

SOLVENT: METHYLENE CHLORIDE

ANALYTE (1)	CAS NUMBER	PERCENT PURITY(2)	WEIGHT(3) CONCENTRATION	ANALYTICAL(4) CONCENTRATION		STD DEV	SUPELCO LOT NO
ANILINE	62-53-3	99.9	2000	2026	+/-	10.7	LA41596
BENZYL ALCOHOL	100-51-6	99.9	2002	2063	+/-	8.1	LB99705
DIBENZOFURAN	132-64-9	98.8	2000	2018	+/-	7.2	LB78814
2-METHYLNAPHTHALENE	91-57-6	98.8	2000	2005	+/-	1.6	LB97828
2-NITROANILINE	88-74-4	99.9	1998	2006	+/-	12.0	LC05068
3-NITROANILINE	99-09-2	99.9	2001	2031	+/-	15.4	LC09264
4-CHLOROANILINE	106-47-8	99.9	2000	2024	+/-	5.4	LC09711
4-NITROANILINE	100-01-6	99.9	2000	2047	+/-	15.6	LC11400

D004078
Recd
10/13/15

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, based upon balance and Class A volumetric glassware tolerances. Weights are corrected for analytes less than 98% pure.

(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.
Supelco is a Sigma-Aldrich Company.

SUPELCO®
Solutions within.™
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

TRIPLE ISO CERTIFICATION
ISO 17025 • ISO GUIDE 34 • ISO 9001

PAH Mixture

Product Number: US-106N **Page:** 1 of 1

Lot Number: CP-1227 **Lot Issue Date:** 22-Mar-2016 **Expiration Date:** 30-Apr-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
acenaphthene	000083-32-9	RM00070	1996 ± 10 µg/mL
acenaphthylene	000208-96-8	RM09993	1995 ± 10 µg/mL
anthracene	000120-12-7	RM03477	1997 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM06788	2001 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM09988	2004 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM10962	1997 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM09992	2009 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM06930	1995 ± 10 µg/mL
chrysene	000218-01-9	RM11308	2005 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	1996 ± 10 µg/mL
fluoranthene	000206-44-0	NT00940	1999 ± 10 µg/mL
fluorene	000086-73-7	RM09441	1997 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM03401	1999 ± 10 µg/mL
naphthalene	000091-20-3	RM10445	2007 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2002 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2004 ± 10 µg/mL

E00266 Recal 07/26/16

Matrix: methylene chloride/benzene (1:1)

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

William J. Leary
Quality Assurance Manager

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70476
Lot Number: 110316
Description: Benzo(j)fluoranthene

Expiration Date: 110321
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11

Solvent(s): **Lot#**
Methylene chloride 76782

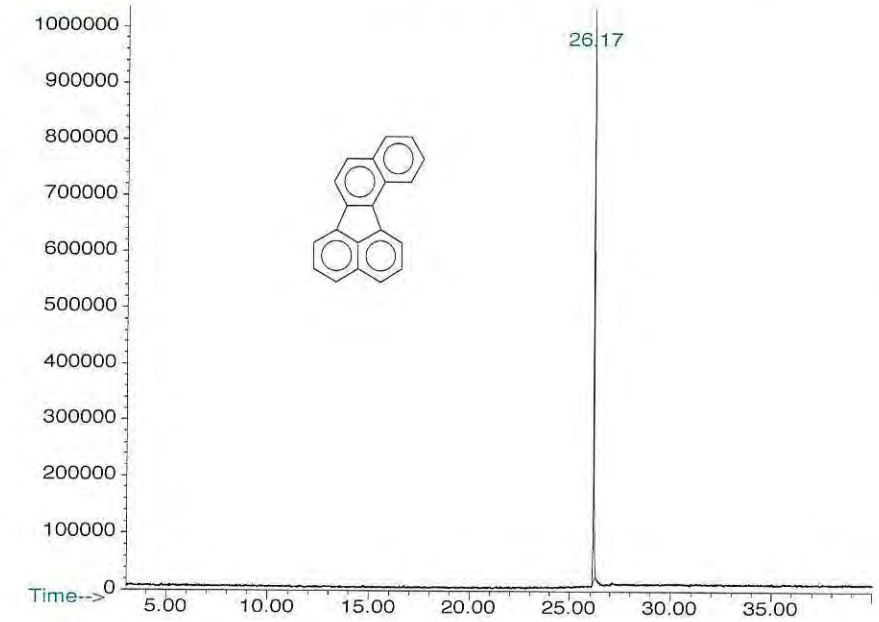
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Bryan Njeba	110316	
Formulated By:	Bryan Njeba	DATE
Pedro Rentas	110316	
Reviewed By:	Pedro L. Rentas	DATE

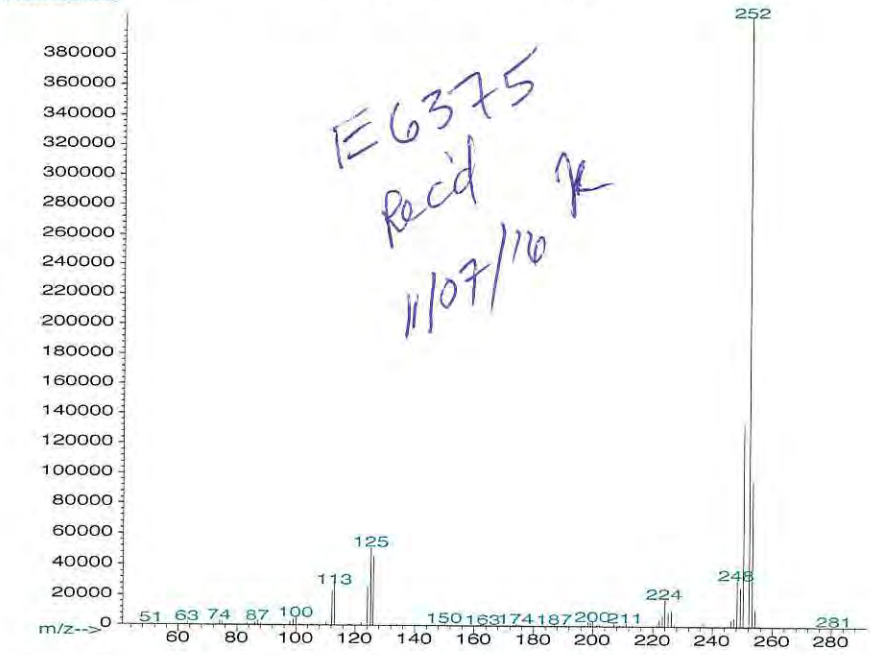
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	ER022108-01	1000	98	0.2	0.02551	0.02552	1000.5	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD-2.M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14 min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Gina McLane.

TIC: 70476.D



Scan 1744 (26.160 min): 70476.D



E6375
Rec'd
11/07/16 JK

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Cambridge Isotope Laboratories, Inc.

50 Frontage Road, Andover, MA 01810-5413 USA
800.322.1174 (N.AMERICA) 978.749.8000 (INTERNATIONAL)
www.isotope.com

CERTIFICATE OF ANALYSIS

Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 97%)

Lot Number: PR-14764/09163DA2

Catalog Number: DLM-677-0

I295

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	53-70-3
Molecular Weight:	292.5
Chemical Formula:	C22D14
Storage:	Store at room temperature away from light and moisture.
Stability:	Stable if stored under recommended conditions.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible.

Approved by: Deborah E. Costa

Deborah E. Costa, Quality Assurance

Quality Control Tests and Results

GC/MS for Chemical Purity	99.3%
GC/MS for Isotopic Enrichment	97.4%
Melting Point Range Determination	263-265°C
1H NMR for Chemical Purity	Pass

E006466

SVOA-d14-Dibenz(a,h)anthracene-NEAT
Solvent / Lot: NA
Prep: 11/9/2016 by VS
Exp: 5/8/2030
Location:

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0121299

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

TE 75,415
Rec'd
12/13/16

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,015.2 µg/mL	+/- 11.7165 µg/mL +/- 90.7658 µg/mL +/- 100.7159 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,018.8 µg/mL	+/- 11.7375 µg/mL +/- 90.9280 µg/mL +/- 100.8958 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-25444) **Purity** 99%	2,013.5 µg/mL	+/- 11.7067 µg/mL +/- 90.6892 µg/mL +/- 100.6309 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-23065) **Purity** 99%	2,019.9 µg/mL	+/- 11.7439 µg/mL +/- 90.9775 µg/mL +/- 100.9508 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-26994) **Purity** 98%	2,013.4 µg/mL	+/- 11.7061 µg/mL +/- 90.6852 µg/mL +/- 100.6264 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-24113) **Purity** 99%	2,013.2 µg/mL	+/- 11.7049 µg/mL +/- 90.6757 µg/mL +/- 100.6159 µg/mL	Gravimetric Unstressed Stressed

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Andrea L Gill
Andrea Gill, Certified Reference Materials Manager

F002713 AR
Recd. 03/29/17

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.952%
Acenaphthylene	208-96-8	1000	± 0.222%
Anthracene	120-12-7	1000	± 1.954%
Azobenzene	103-33-3	1000	± 2.059%
Benzo(a)anthracene	56-55-3	1000	± 1.913%
Benzo(b)fluoranthene	205-99-2	1000	± 1.914%
Benzo(k)fluoranthene	207-08-9	1000	± 2.093%
Benzo(g,h,i)perylene	191-24-2	1000	± 2.449%
Benzo(a)pyrene	50-32-8	1000	± 2.017%
Benzyl alcohol	100-51-6	1000	± 2.091%
Benzyl butyl phthalate	85-68-7	1000	± 2.388%
4-Bromophenyl phenyl ether	101-55-3	1000	± 2.102%
Carbazole	86-74-8	1000	± 2.095%
4-Chloroaniline	106-47-8	1000	± 1.935%
bis(2-Chloroethyl) ether	111-44-4	1000	± 1.874%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.386%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.556%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.313%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials
Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Chloronaphthalene	91-58-7	1000	± 2.040%
2-Chlorophenol	95-57-8	1000	± 1.794%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 2.769%
Chrysene	218-01-9	1000	± 1.760%
Dibenz(a,h)anthracene	53-70-3	1000	± 2.624%
Dibenzofuran	132-64-9	1000	± 1.209%
Di-n-butyl phthalate	84-74-2	1000	± 2.357%
1,2-Dichlorobenzene	95-50-1	1000	± 2.032%
1,3-Dichlorobenzene	541-73-1	1000	± 0.217%
1,4-Dichlorobenzene	106-46-7	1000	± 0.873%
2,4-Dichlorophenol	120-83-2	1000	± 2.249%
Diethyl phthalate	84-66-2	1000	± 2.181%
2,4-Dimethylphenol	105-67-9	1000	± 0.236%
Dimethyl phthalate	131-11-3	1000	± 2.339%
1,2-Dinitrobenzene	528-29-0	1000	± 0.295%
1,3-Dinitrobenzene	99-65-0	1000	± 0.217%
1,4-Dinitrobenzene	100-25-4	1000	± 2.670%
2,4-Dinitrophenol	51-28-5	1000	± 1.848%
2,4-Dinitrotoluene	121-14-2	1000	± 0.219%
2,6-Dinitrotoluene	606-20-2	1000	± 2.230%
Di-n-octyl phthalate	117-84-0	1000	± 1.803%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 2.228%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 1.937%
Fluoranthene	206-44-0	1000	± 2.052%
Fluorene	86-73-7	1000	± 3.234%
Hexachlorobenzene	118-74-1	1000	± 2.065%
Hexachlorobutadiene	87-68-3	1000	± 2.280%
Hexachlorocyclopentadiene	77-47-4	1000	± 1.896%
Hexachloroethane	67-72-1	1000	± 0.566%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 2.431%
Isophorone	78-59-1	1000	± 1.468%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 2.160%
1-Methylnaphthalene	90-12-0	1000	± 1.940%
2-Methylnaphthalene	91-57-6	1000	± 1.888%
2-Methylphenol	95-48-7	1000	± 2.054%
3-Methylphenol	108-39-4	500	± 0.573%
4-Methylphenol	106-44-5	500	± 0.573%
Naphthalene	91-20-3	1000	± 1.693%
2-Nitroaniline	88-74-4	1000	± 1.977%
3-Nitroaniline	99-09-2	1000	± 2.089%
4-Nitroaniline	100-01-6	1000	± 1.303%
Nitrobenzene	98-95-3	1000	± 2.254%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL11699
Certification Date: December 13, 2016
Expiration Date: March 31, 2018

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.994%
4-Nitrophenol	100-02-7	1000	± 2.305%
N-Nitrosodimethylamine	62-75-9	1000	± 0.448%
N-Nitrosodiphenylamine	86-30-6	1000	± 2.800%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.400%
Pentachlorophenol	87-86-5	1000	± 2.242%
Phenanthrene	85-01-8	1000	± 2.173%
Phenol	108-95-2	1000	± 1.954%
Pyrene	129-00-0	1000	± 1.999%
Pyridine	110-86-1	1000	± 0.934%
1,2,4-Trichlorobenzene	120-82-1	1000	± 2.120%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.630%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.418%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.978%
2,4,6-Trichlorophenol	88-06-2	1000	± 1.978%

Notes: The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®
Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: S-2520 **Lot No.** EN160615017

Description: 1-Methylnaphthalene

Matrix: Methanol (Purge & Trap Grade)

Ship Date: 10-19-2017
Expiration Date: 10-18-2020

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality contro standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTI and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1-Methylnaphthalene	90-12-0	1000 µg/mL	95%	999 µg/mL	± 26 µg/mL

F009969
Recd. GR
10/27/17

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 10-19-2017 Certifying Officer: Shannon Mone

©2016 SPEX CertiPrep, LLC

Report of Certification

Catalog Number: S-2520 **Lot No.** EN160615017

Description: 1-Methylnaphthalene

Matrix: Methanol (Purge & Trap Grade)

Ship Date: 10-19-2017

Expiration Date: 10-18-2020

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shippir conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applica only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve a one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that shoulc removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that cor in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identificati are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation h been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appe X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedur 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bott variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i, where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individu who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleg negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liab for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep®
Your Science is Our Passion.®

203 Norcross Ave. Metuchen, NJ 08840
www.spexcertiprep.com • E-mail: crmsales@spexcsp.com
Phone: 1-732-549-7144 • Fax 1-732-603-9647

Accredited to 17025 & Guide 34 ISO Certified to 9001

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 33913 **Lot No.:** A0131716

Description : SOM01.0 SIM Analysis Standard

SOM01.0 SIM Analysis Standard 2000µg/mL, Methylene chloride, 1mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Methylnaphthalene-d10 **CAS #** 7297-45-2 **Purity** 97%	(Lot AC-257)	2,000.1 µg/mL	+/- 11.8802 µg/mL +/- 90.1203 µg/mL +/- 99.9927 µg/mL		Gravimetric Unstressed Stressed
2	Fluoranthene-d10 **CAS #** 93951-69-0 **Purity** 98%	(Lot PR-20668)	2,001.2 µg/mL	+/- 11.8863 µg/mL +/- 90.1662 µg/mL +/- 100.0437 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

F010455
SOMO 1.0 SIM DMC
Solvent / Lot: METHYLENE CHLORIDE
Prep: 11/9/2017 by VS
Exp: 9/30/2023
Location:

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

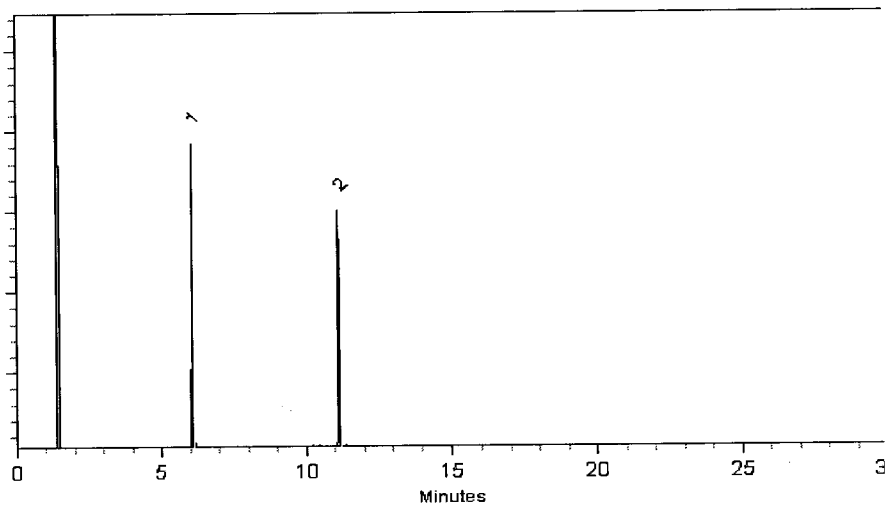
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Greg Dawson - Mix Technician

Date Mixed: 17-Oct-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 19-Oct-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

F010639
SVOA PAH STD-RMP-1000ug/ml
Solvent / Lot: DCM
Prep: 11/15/2017 by VS
Exp: 2/21/2022
Location:

RM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 934
Lot Number: 022117
Description: PAH Standard
30 components
Expiration Date: 022122
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11

Methylene chloride 76782

5E-05 Balance Uncertainty
0.002 Flask Uncertainty

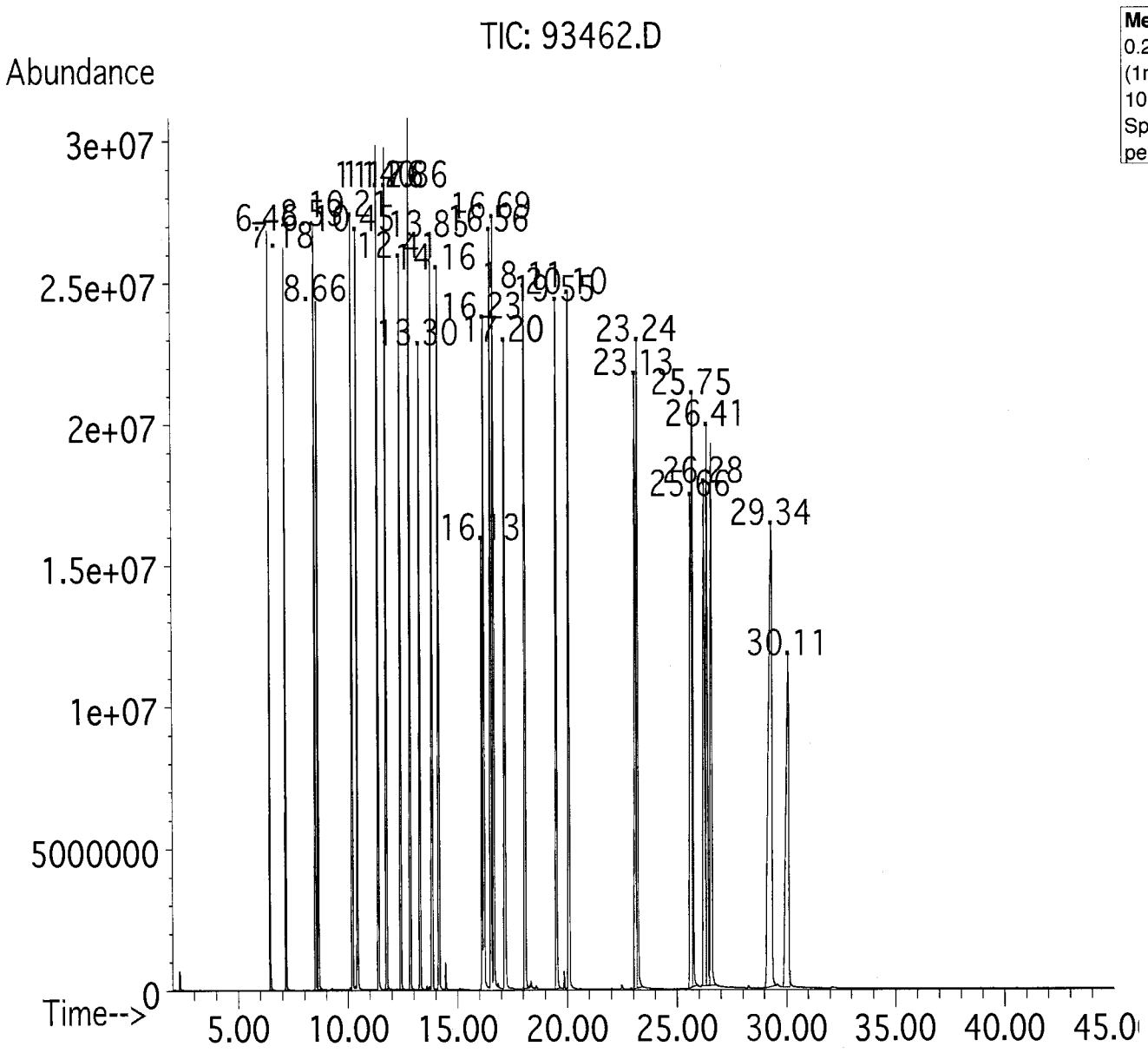
Volume(s) shown below were combined and diluted to (mL): 20.0

Gabriel Helland 022117
Formulated By: Gabriel Helland DATE

Pedro Rentas 022117
Reviewed By: Pedro L. Rentas DATE

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acenaphthene	10007	080116	0.50	10.00	0.006	2005.2	1003.3	4.2	83-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	10007	080116	0.50	10.00	0.006	2001.2	1001.4	4.2	208-96-8	N/A	N/A
3. Anthracene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	10007	080116	0.50	10.00	0.006	2001.2	1001.3	4.2	56-55-3	N/A	N/A
5. Benzo(a)pyrene	10007	080116	0.50	10.00	0.006	2001.9	1001.7	4.2	50-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	10007	080116	0.50	10.00	0.006	2000.2	1000.8	4.2	207-08-9	N/A	N/A
8. Benzo(g,h,i)perylene	10007	080116	0.50	10.00	0.006	2001.8	1001.6	4.2	191-24-2	N/A	N/A
9. Carbazole	10007	080116	0.50	10.00	0.006	2020.8	1011.2	4.3	86-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.3	218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	10007	080116	0.50	10.00	0.006	2001.5	1001.5	4.2	53-70-3	0.2mg/m3	N/A
12. Fluoranthene	10007	080116	0.50	10.00	0.006	2001.3	1001.4	4.3	206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	10007	080116	0.50	10.00	0.006	2001.7	1001.6	4.3	86-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	193-39-5	N/A	N/A
15. Naphthalene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	10007	080116	0.50	10.00	0.006	2001.4	1001.4	4.2	85-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	10007	080116	0.50	10.00	0.006	2000.5	1001.0	4.3	129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg
18. Benzo(e)pyrene	94851	031416	0.50	10.00	0.006	2001.9	1001.7	4.3	192-97-2	N/A	N/A
19. Biphenyl	94851	031416	0.50	10.00	0.006	2000.7	1001.1	4.3	92-52-4	0.2 ppm(1mg/m3/8H)	orl-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	91-17-8	N/A	N/A
21. Dibenzofuran	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-64-9	N/A	N/A
22. Dibenzothiophene	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-65-0	N/A	orl-mus 470 mg/kg
23. 2,6-Dimethylnaphthalene	94851	031416	0.50	10.00	0.006	2004.9	1003.2	4.4	581-42-0	N/A	N/A
24. 1-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2003.5	1002.5	4.4	90-12-0	N/A	orl-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2006.1	1003.8	4.4	91-57-6	N/A	orl-rat 1630mg/kg
26. 1-Methylphenanthrene	94851	031416	0.50	10.00	0.006	2004.4	1002.9	10.2	832-69-9	N/A	N/A
27. Pentachlorophenol	94851	031416	0.50	10.00	0.006	2006.6	1004.0	4.4	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg
28. Perylene	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	198-55-0	N/A	N/A
29. Thianaphthene	94851	031416	0.50	10.00	0.006	2003.9	1002.7	4.4	95-15-8	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	031416	0.50	10.00	0.006	2002.9	1002.2	4.5	2245-38-7	N/A	N/A

- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**



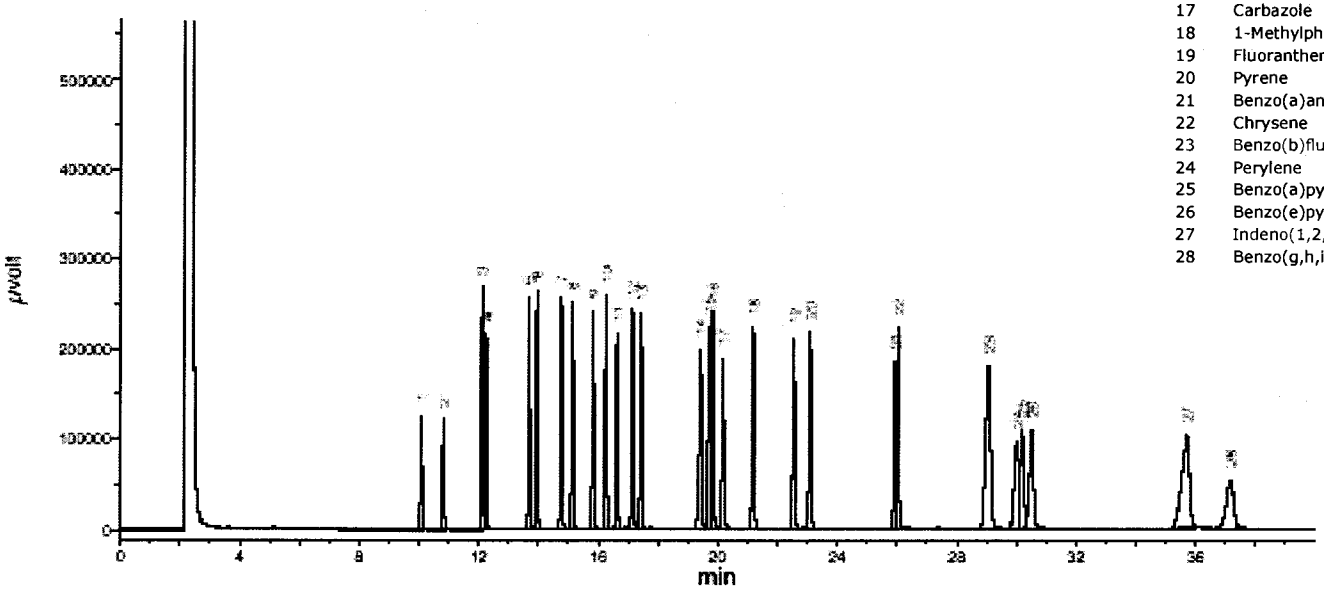
Method GC8MSD-2Long: Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

Retention Time (min.)	
Decahydronaphthalene (Decalin) (isomer)	6.46
Decahydronaphthalene (Decalin) (isomer)	7.18
Naphthalene	8.53
Thianaphthene	8.66
2-Methylnaphthalene	10.21
1-Methylnaphthalene	10.45
Biphenyl	11.4
2,6-Dimethylnaphthalene	11.76
Acenaphthylene	12.41
Acenaphthene	12.86
Dibenzofuran	13.3
2,3,5-Trimethylnaphthalene	13.85
Fluorene	14.16
Pentachlorophenol	16.13
Dibenzothiophene	16.23
Phenanthrene	16.56
Anthracene	16.69
Carbazole	17.2
1-Methylphenanthrene	18.11
Fluoranthene	19.55
Pyrene	20.1
Benzo(a)anthracene	23.13
Chrysene	23.24
Benzo(b)fluoranthene	25.66
Benzo(k)fluoranthene	25.75
Perylene	26.28
Benzo(a)pyrene	26.41
Benzo(e)pyrene	26.61
Indeno(1,2,3-cd)pyrene	29.34
Dibenzo(a,h)anthracene	29.34
Benzo(g,h,i)perylene	30.11

Run 28, "P93462 L022117 [1000µg/mL in MeCl2]"

Run Length: 40.00 min, 23998 points at 10 points/second.
Created: Thu, Mar 16, 2017 at 10:15:46 AM.
Sampled: Sequence "031517-GC4M2", Method "GC4-M2".
Analyzed using Method "GC4-M2".

Comments
GC4-M2 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) =360 mLOven Temp 1 = 50°C (1 min).
Rate = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes. Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673. Standard Injection = 0.5 uL, Range = 4



Peak No.	Name	FID RT (min.)
1	Decahydronaphthalene (Decalin) (isomer)	9.58
2	Decahydronaphthalene (Decalin) (isomer)	10.30
3	Naphthalene	11.58
4	Thianaphthene	11.71
5	2-Methylnaphthalene	13.14
6	1-Methylnaphthalene	13.39
7	Biphenyl	14.22
8	2,6-Dimethylnaphthalene	14.58
9	Acenaphthylene	15.24
10	Acenaphthene	15.67
11	Dibenzofuran	16.04
12	2,3,5-Trimethylnaphthalene	16.56
13	Fluorene	16.85
14	Pentachlorophenol/Dibenzothiophene	18.80
15	Phenanthrene	19.09
16	Anthracene	19.20
17	Carbazole	19.57
18	1-Methylphenanthrene	20.56
19	Fluoranthene	21.90
20	Pyrene	22.43
21	Benzo(a)anthracene	25.25
22	Chrysene	25.35
23	Benzo(b)fluoranthene/Benzo(k)fluoranthene	28.02
24	Perylene	28.82
25	Benzo(a)pyrene	28.99
26	Benzo(e)pyrene	29.26
27	Indeno(1,2,3-cd)pyrene/Dibenzo(a,h)anthracene	33.68
28	Benzo(g,h,i)perylene	34.92

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70476
Lot Number: 110316
Description: Benzo(j)fluoranthene

Solvent(s): **Lot#**
Methylene chloride 76782

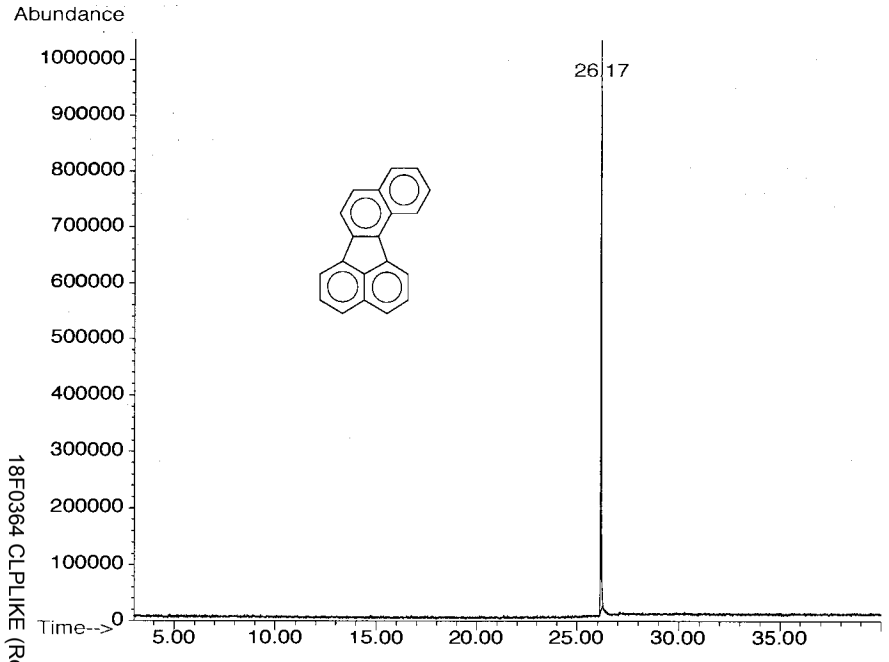
Expiration Date: 110321
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By:	Bryan Njeba	110316 DATE
Reviewed By:	Pedro L. Rentas	110316 DATE

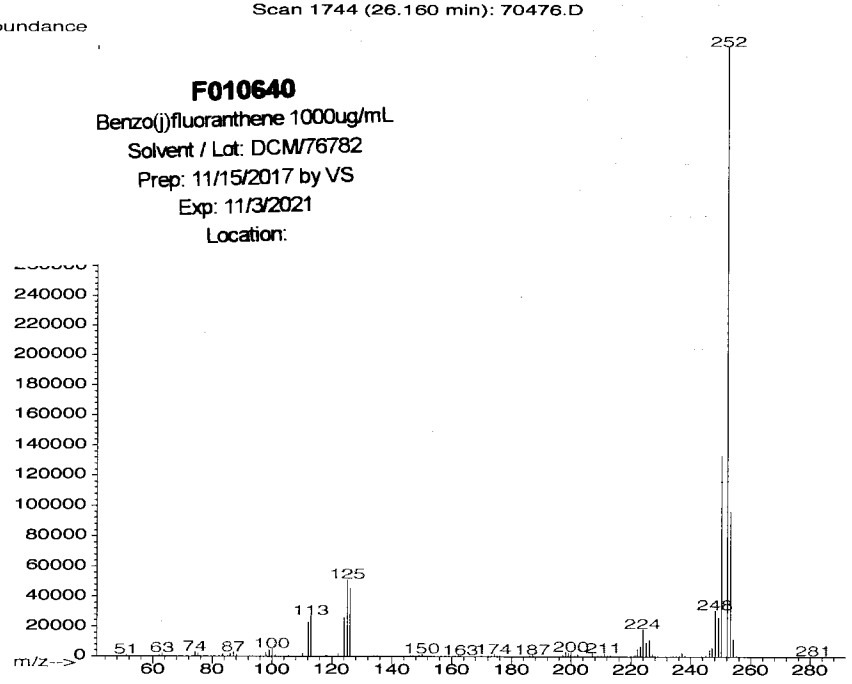
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	ER022108-01	1000	98	0.2	0.02551	0.02552	1000.5	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD-2.M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14 min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Gina McLane.

TIC: 70476.D



Scan 1744 (26.160 min): 70476.D

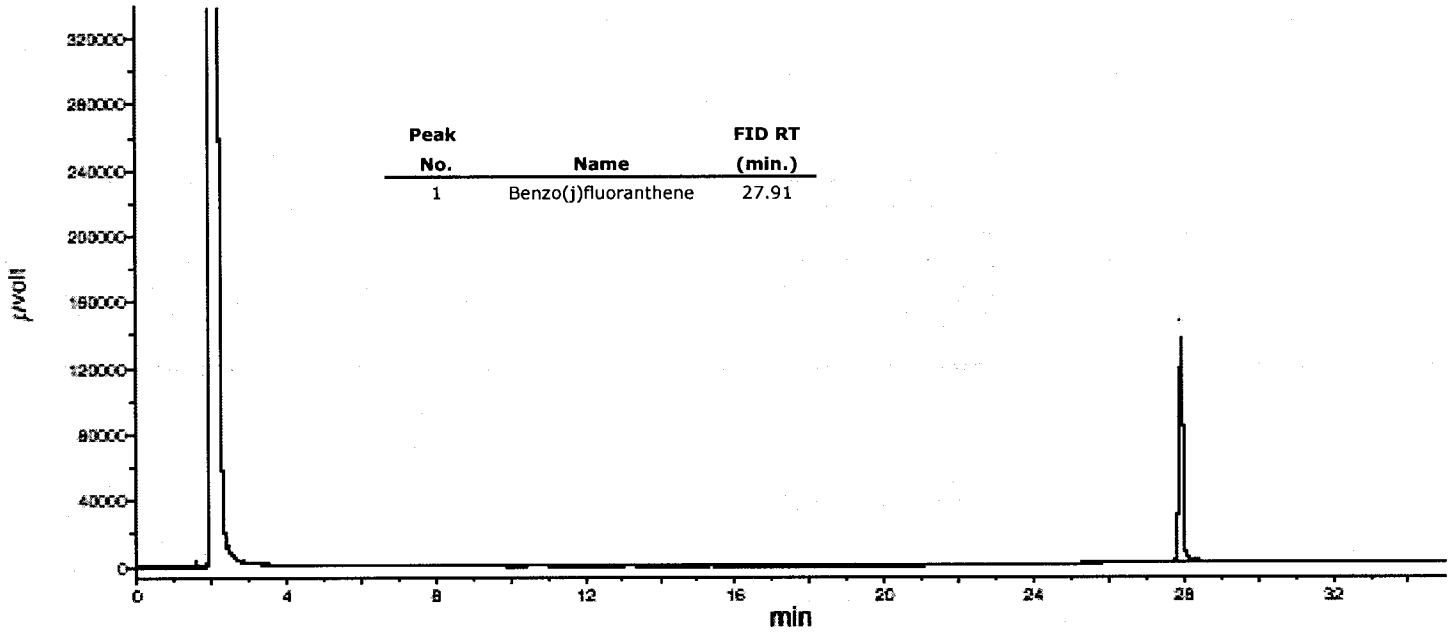


- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 18, "P70476 L110316 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Tue, Nov 8, 2016 at 2:59:30 AM.
Sampled: Sequence "110716-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments
GC4-M1 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min.)
1	Benzo(j)fluoranthene	27.91

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0131981

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

Read 4/04/17 JK

x 14

F010900

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBD7945V) **Purity** 99%	1,498.0 µg/mL	+/- 8.8977 µg/mL +/- 43.7545 µg/mL +/- 53.0797 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 (Lot PR-24670) **Purity** 99%	1,502.0 µg/mL	+/- 8.9214 µg/mL +/- 43.8714 µg/mL +/- 53.2214 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-20630) **Purity** 99%	1,500.0 µg/mL	+/- 8.9095 µg/mL +/- 43.8130 µg/mL +/- 53.1506 µg/mL	Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 (Lot M-1611) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 29.2086 µg/mL +/- 35.4337 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-25462) **Purity** 99%	996.0 µg/mL	+/- 7.0625 µg/mL +/- 29.3464 µg/mL +/- 35.5022 µg/mL	Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot Z20C043) **Purity** 99%	996.0 µg/mL	+/- 7.0625 µg/mL +/- 29.3464 µg/mL +/- 35.5022 µg/mL	Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	1,504.0 µg/mL	+/- 8.9333 µg/mL +/- 43.9298 µg/mL +/- 53.2923 µg/mL	Gravimetric Unstressed Stressed

8	p-Terphenyl-d14		1,002.0	µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)			+/- 29.2671	µg/mL	Unstressed
	Purity 99%				+/- 35.5046	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

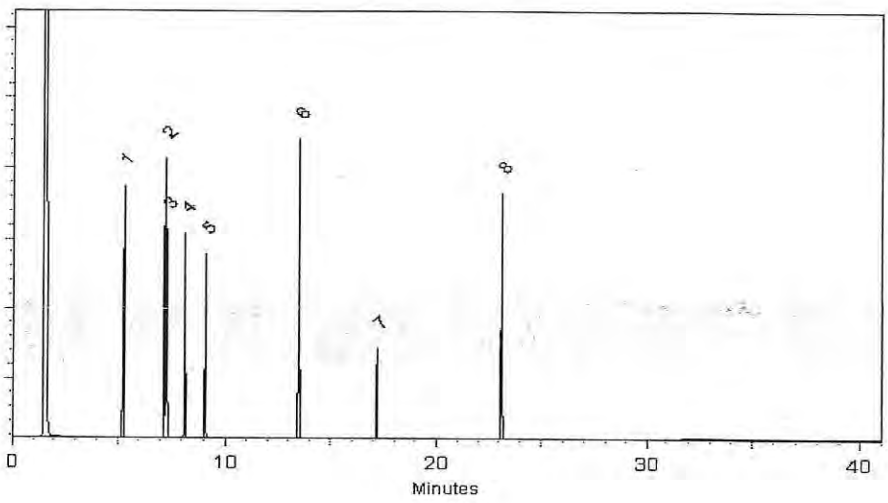
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Larry J. Moore - Mix Technician **Date Mixed:** 30-Oct-2017 **Balance:** 1128353505

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 01-Nov-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Certificate of Analysis

BNAs - Sandy Loam

Certified Reference Material

Product ID **CRM143-50G**
Lot **LRAB6640**
Expiration Date December 31, 2020
Storage Conditions Store at 2-8ºC

Analyte	*Units*	*Certified Value* [1,4]	*k* [5]	*Standard Deviation* [2]	*Acceptance Interval* [3]
1,3-Dichlorobenzene Dichlorobenzene, 1,3-	ug/Kg	5450 ± 743	2.00	1890	1670 to 9230
1,4-Dichlorobenzene Dichlorobenzene, 1,4-	ug/Kg	5630 ± 736	2.00	1880	1880 to 9380
Naphthalene	ug/Kg	4480 ± 598	2.00	1520	1430 to 7520
Nitrobenzene	ug/Kg	1550 ± 203	2.00	518	512 to 2590
Acenaphthene	ug/Kg	2350 ± 281	2.00	717	917 to 3780
Acenaphthylene	ug/Kg	1920 ± 227	2.00	579	762 to 3080
Anthracene	ug/Kg	2370 ± 251	2.00	601	1120 to 3630
Benzo(a)anthracene	ug/Kg	7700 ± 940	2.00	2250	3000 to 12400
Benzo(a)pyrene	ug/Kg	4550 ± 506	2.00	1290	1970 to 7130
Benzo(b)fluoranthene	ug/Kg	8170 ± 979	2.00	2350	3270 to 13100
Benzo(g,h,i)perylene	ug/Kg	8550 ± 897	2.00	2290	3980 to 13100
Benzo(k)fluoranthene	ug/Kg	1110 ± 168	2.00	323	420 to 1800
4-Bromophenyl phenyl ether Bromophenyl phenyl ether, 4-	ug/Kg	2070 ± 199	2.00	466	1090 to 3040
Butyl benzyl phthalate	ug/Kg	5970 ± 653	2.00	1670	2630 to 9300
4-Chloro-3-methylphenol Chloro-3-methylphenol, 4-	ug/Kg	6410 ± 400	2.00	1040	4330 to 8490
bis(2-Chloroethoxy)methane	ug/Kg	5010 ± 642	2.00	1540	1800 to 8210
bis(2-Chloroisopropyl) ether 2,2'-Oxybis(2-chloropropane)	ug/Kg	8260 ± 1260	2.00	2870	2240 to 14300
2-Chlorophenol Chlorophenol, 2-	ug/Kg	8140 ± 1180	2.00	3120	1920 to 14400
4-Chlorophenyl phenylether Chlorophenyl phenylether, 4-	ug/Kg	3580 ± 346	2.00	829	1850 to 5300
Chrysene	ug/Kg	5340 ± 682	2.00	1630	1930 to 8750
Dibenzo(a,h)anthracene	ug/Kg	2900 ± 319	2.00	765	1300 to 4500
Dibenzofuran	ug/Kg	6700 ± 714	2.00	1820	3060 to 10300

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

Diethyl phthalate	ug/Kg	7490 ± 641	2.00	1670	4160 to 10800
2,4-Dinitrophenol Dinitrophenol, 2,4-	ug/Kg	2180 ± 632	2.00	1330	0.00 to 5000
2,6-Dinitrotoluene (2,6-DNT) Dinitrotoluene, 2,6-	ug/Kg	5360 ± 525	2.00	1340	2680 to 8030
bis(2-Ethylhexyl) phthalate (DEHP)	ug/Kg	3520 ± 514	2.00	1230	948 to 6090
Fluoranthene	ug/Kg	4970 ± 482	2.00	1230	2510 to 7430
Fluorene	ug/Kg	7290 ± 714	2.00	1820	3640 to 10900
Hexachlorocyclopentadiene	ug/Kg	922 ± 385	2.00	567	70.0 to 2200
Indeno(1,2,3-cd) pyrene	ug/Kg	4940 ± 528	2.00	1350	2240 to 7630
Isophorone	ug/Kg	1890 ± 280	2.00	715	463 to 3320
2-Methyl-4,6-dinitrophenol Methyl-4,6-dinitrophenol, 2-	ug/Kg	4900 ± 1170	2.00	2610	0.00 to 10400
2-Methylnaphthalene Methylnaphthalene, 2-	ug/Kg	3860 ± 530	2.00	1410	1060 to 6660
2-Methylphenol (o-Cresol) Methylphenol, 2-	ug/Kg	8330 ± 1100	2.00	2860	2610 to 14000
4-Methylphenol (p-Cresol) Methylphenol, 4-	ug/Kg	3150 ± 744	2.00	1220	488 to 5800
3+4-Methylphenol (m+p-Cresol) Methylphenol , 3+4-	ug/Kg	3000 ± 426	2.00	874	1140 to 4860
2-Nitroaniline Nitroaniline, 2-	ug/Kg	4150 ± 449	2.00	1050	1950 to 6360
2-Nitrophenol Nitrophenol, 2-	ug/Kg	6050 ± 1080	2.00	2760	530 to 11600
4-Nitrophenol Nitrophenol, 4-	ug/Kg	5680 ± 1190	2.00	3050	0.00 to 11800
n-Nitrosodimethylamine	ug/Kg	4850 ± 1560	2.00	2990	0.00 to 11200
n-Nitrosodiphenylamine	ug/Kg	2800 ± 457	2.00	938	801 to 4800
Pentachlorophenol	ug/Kg	6660 ± 1020	2.00	2660	1340 to 12000
Phenanthrene	ug/Kg	3580 ± 323	2.00	823	1930 to 5220
Phenol	ug/Kg	4820 ± 691	2.00	1860	1100 to 8540
Pyrene	ug/Kg	6350 ± 626	2.00	1600	3160 to 9540
2,4,5-Trichlorophenol Trichlorophenol, 2,4,5-	ug/Kg	6210 ± 673	2.00	1780	2650 to 9760
2,4,6-Trichlorophenol Trichlorophenol, 2,4,6-	ug/Kg	8380 ± 859	2.00	2230	3920 to 12800

Sample Information

Certificate of Analysis

BNAs - Sandy Loam

Certified Reference Material

Product ID	**CRM143-50G**
Lot	**LRAB6640**
Expiration Date	December 31, 2020
Storage Conditions	Store at 2-8ºC

DESCRIPTION

The organic sample is a soil containing extractable BNAs for analysis by 8100, 8270, 8310 or equivalent methods.

This product consist of a 5 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested show homogeneity. Only one vial is need for test the remaining vials are to be used for multiple methods or routine testing.

The soil has been sterilized to minimize degradation of the sample.

The sample has been sized to 100 mesh.

Required storage condition is 4ºC.

The sample has been intentionally prepared with an apparent headspace.

STORAGE

The sample should be stored at 4ºC. It has been determined to be stable for the duration of the expiration date.

After sub-sampling replace cap securely and store remaining sample at 4ºC.

The shelf life of the product was determined by historic stability of similar CRM's. The expiration date may be extended based on stock and popularity upon successful stability testing by a 17025 accredited laboratory.

Stability and shelf life after opening must be determined by the user, taking into account sampling frequency/volume and all local conditions.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extraction solvent.

Assume a 10g sample size for all calculations.

Note: Sample extracts and calibration solutions should be in the same solvent.

Report all results on a wet weight basis, do not correct for moisture.

NOTE: For method 8100 and using a packed column gas chromatographic method or cannot adequately resolve the following may coelute in four pairs of compounds: anthracene and phenanthrene; chrysene and benzo(a)anthracene; benzo(b)fluoranthene and benzo(k)fluoranthene; and dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

SCOPE AND APPLICATION

The BNAs in Soil Certified Reference Material (CRM) consists of 5 10mL VOA vials, with a Teflon lined closures containing approximately 10 grams of soil, fortified with BNAs. Being a natural matrix waste sample the analyst is challenged by the same preparation problems, analytical interferences, etc. as is typical for similar matrices received by the laboratory for analysis. Rigorous analyses identified, quantified, and certified various aliphatic and aromatic banding which are listed on the enclosed Certificate of Analysis. The sample has been analyzed by a minimum of 12 independent laboratories in a round-robin to meet the requirements specified by the ISO Guides 34 and 35, and ISO 17025.

EVALUATION OF RESULTS

The Reference Value, 95% confidence interval(C.I.) for the Reference Value and 95% Prediction Interval (P.I.) around the Reference Value were obtained by the methods identified in the 'Scope and Application' section of this Certificate of Analysis. Samples were selected in a random fashion from the beginning to the end of the bottling sequence and sent for analysis by an independent laboratory round-robin. The data produced in the round-robin was used to calculate reference values by the USEPA EMSL-CINN's computer program “BIWEIGHT”.

The generated BIWEIGHT mean, BIWEIGHT standard deviation and BIWEIGHT standard deviation of the mean are used to calculate the 95% Confidence Interval (CI) for the mean and the 95% Prediction Interval (PI). For normally distributed data, the BIWEIGHT 95% CI compares well to the classical calculation method used to generate a 95% CI. For non-Gaussian data sets, the BIWEIGHT method is more robust in data treatment.

BIWEIGHT data are also used to calculate a 95% PI. The 95% PI compares well to a 95% tolerance limit calculated using classical

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

methods. For normally distributed data, the BIWEIGHT 95% PI typically represents approximately a ±2 BIWEIGHT standard deviation window around the BIWEIGHT mean. Again, the BIWEIGHT method is more robust than classical methods when handling non-Gaussian data sets.

Laboratories performing the same analytical procedures on a sample whose values have been determined by the BIWEIGHT method can assume that the true mean, as determined by the method, is within the 95% CI window. Laboratories analyzing the sample should have results within the 95% PI window 19 out of 20 analyses. Laboratories should use the PI as guidance for laboratory performance.

Additional information on the program may be obtained by referring to the reference or by downloading the program from the EMSL-CINN web site. Additionally contact SigmaAldrich for additional guidance - 1(307)742-5452 - RTCTechGRoup@sial.com - www.sigmaaldrich.com

HEALTH AND SAFETY INFORMATION

Certified Reference Materials are intended only for professional use by properly trained laboratory personnel. This CRM has been reviewed for both health and safety and shipping risks. It is classified as non hazardous and is not classified as hazardous goods for shipping by road, sea or air transport.

A full international MSDS as a downloadable pdf file is available at www.sigmaaldrich.com

1 Certified value - based on the robust mean of round robin, interlaboratory study and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2 The standard deviation is the robust statistical standard deviation from the round robin interlaboratory study.
3 Acceptance limits are based on Interlaboratory Study Results. These ranges are recommendations only.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{hom\ ogeneity}^2 + u_{stability}^2}$$

5 ***k*:** Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (ANAB Cert AT-1467) and ISO GUIDE 34:2009 (ANAB Cert AR-1470).

Robert O'Brien - QC Supervisor

Mark Pooler - QA Supervisor

Certification Date November 20, 2017
Version 305-11202017

LPTP13-S3

SIGMA-ALDRICH®

TO: ANALYTICAL RESOURCES

4611 S 134TH PLACE STE 100
TUKWILA, WA 98168-3240

PO: 60166

FROM: SIGMA-ALDRICH, INC.

6000 N. TEUTONIA AVE.
MILWAUKEE, WI 53209
414-438-3850 or 800-558-9160

DATE: 12/6/2017 TIME: 6:36:58PM

CARTON: 981002954

Sales Order No: 3019709914

Catalog No. - Unit	Description	Batch	Orig. Pkt Qty	Units Packed
CRM143-50G	BNAS - SANDY LOAM	LRAB6640	1	1

DELIVERY No.	SOLD TO ACCT.	SHIP TO No.	REQUESTED ROUTING TERMS-NET 30 DAYS F.O.B. PLANT
0858430079	49432933	49647437	R07P - RPS/FXG

All sales are expressly limited to and conditioned upon the terms and conditions appearing on the front and back of this form. Sigma-Aldrich brand products are sold exclusively through Sigma-Aldrich, Inc.

Hazardous materials are packed according to UN performance oriented packaging requirements for protection from breakage and/or leakage. Although not required, we follow similar processes for non-hazardous materials to prevent breakage and/or leakage.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31477 **Lot No.:** A0130846

Description : Tripentyltin Chloride Mixture

Tripentyltin Chloride Std 2000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Tripentyltin chloride	3342-67-4	99%	2,015.0 µg/mL	+/- 20.2986 µg/mL
Solvent:	Methylene chloride	75-09-2	99%		

F011670
Rec'd.

Specific Reference Material Notes:

Derivatization in the sample preparation of this standard is required for internal acceptance testing as a result the acceptance criteria is ±15%.

12/14/17 JR

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

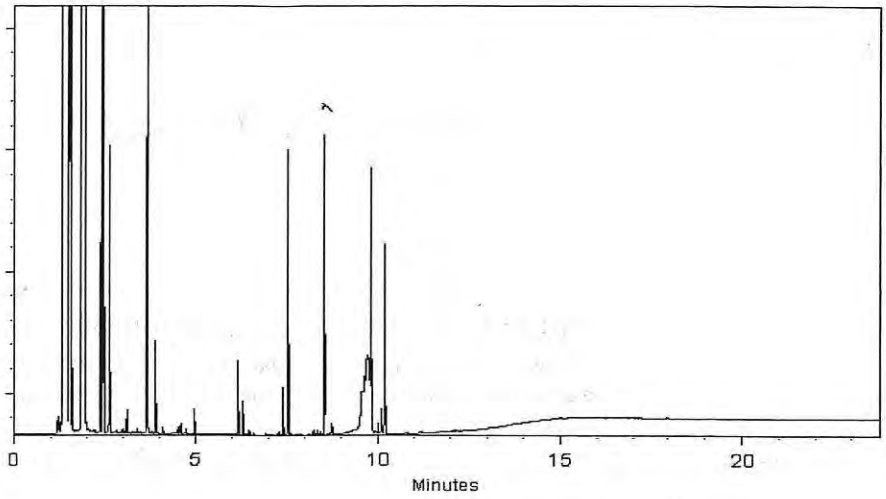
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 18-Sep-2017 **Balance:** B345965662

Amanda Miller - Operations Tech-ARM QC

Date Passed: 25-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

G001045 Reed. JR 02/02/18

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.669%
Acenaphthylene	208-96-8	1000	± 0.410%
Anthracene	120-12-7	1000	± 4.619%
Azobenzene	103-33-3	1000	± 2.728%
Benzo(a)anthracene	56-55-3	1000	± 4.049%
Benzo(a)pyrene	50-32-8	1000	± 4.027%
Benzo(b)fluoranthene	205-99-2	1000	± 2.358%
Benzo(k)fluoranthene	207-08-9	1000	± 2.305%
Benzo(g,h,i)perylene	191-24-2	1000	± 5.955%
Benzyl alcohol	100-51-6	1000	± 2.599%
Benzyl butyl phthalate	85-68-7	1000	± 6.331%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 1.443%
bis(2-Chloroethyl) ether	111-44-4	1000	± 2.590%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.536%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 5.547%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 5.525%
4-Bromophenyl phenyl ether	101-55-3	1000	± 2.987%
Carbazole	86-74-8	1000	± 5.570%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111106I3_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 1.342%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.206%
2-Chloronaphthalene	91-58-7	1000	± 1.240%
2-Chlorophenol	95-57-8	1000	± 2.640%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 2.399%
Chrysene	218-01-9	1000	± 3.792%
Dibenz(a,h)anthracene	53-70-3	1000	± 6.364%
Dibenzofuran	132-64-9	1000	± 0.296%
Di-n-butyl phthalate	84-74-2	1000	± 5.220%
1,2-Dichlorobenzene	95-50-1	1000	± 2.311%
1,3-Dichlorobenzene	541-73-1	1000	± 2.604%
1,4-Dichlorobenzene	106-46-7	1000	± 2.587%
2,4-Dichlorophenol	120-83-2	1000	± 1.841%
Diethyl phthalate	84-66-2	1000	± 3.162%
2,4-Dimethylphenol	105-67-9	1000	± 3.444%
Dimethyl phthalate	131-11-3	1000	± 2.543%
1,2-Dinitrobenzene	528-29-0	1000	± 0.295%
1,3-Dinitrobenzene	99-65-0	1000	± 2.277%
1,4-Dinitrobenzene	100-25-4	1000	± 2.532%
2,4-Dinitrophenol	51-28-5	1000	± 3.741%
2,4-Dinitrotoluene	121-14-2	1000	± 3.798%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111130613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 2.659%
Di-n-octyl phthalate	117-84-0	1000	± 3.976%
Fluoranthene	206-44-0	1000	± 6.133%
Fluorene	86-73-7	1000	± 0.239%
Hexachlorobenzene	118-74-1	1000	± 3.169%
Hexachlorobutadiene	87-68-3	1000	± 2.303%
Hexachlorocyclopentadiene	77-47-4	1000	± 2.394%
Hexachloroethane	67-72-1	1000	± 2.498%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 6.236%
Isophorone	78-59-1	1000	± 1.697%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 4.774%
1-Methylnaphthalene	90-12-0	1000	± 1.716%
2-Methylnaphthalene	91-57-6	1000	± 1.779%
2-Methylphenol	95-48-7	1000	± 2.628%
3-Methylphenol	108-39-4	500	± 3.497%
4-Methylphenol	106-44-5	500	± 3.497%
Naphthalene	91-20-3	1000	± 2.226%
2-Nitroaniline	88-74-4	1000	± 2.376%
3-Nitroaniline	99-09-2	1000	± 3.387%
4-Nitroaniline	100-01-6	1000	± 0.614%
Nitrobenzene	98-95-3	1000	± 2.608%

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova Certified Reference Materials
Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL12095
Certification Date: November 29, 2017
Expiration Date: February 28, 2019

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 2.508%
4-Nitrophenol	100-02-7	1000	± 3.759%
N-Nitrosodimethylamine	62-75-9	1000	± 4.339%
N-Nitrosodiphenylamine	86-30-6	1000	± 3.937%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 6.662%
Pentachlorophenol	87-86-5	1000	± 4.539%
Phenanthrene	85-01-8	1000	± 4.566%
Phenol	108-95-2	1000	± 2.905%
Pyrene	129-00-0	1000	± 6.164%
Pyridine	110-86-1	1000	± 1.952%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.126%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.361%
1,2,4-Trichlorobenzene	120-82-1	1000	± 1.390%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.249%
2,4,6-Trichlorophenol	88-06-2	1000	± 1.342%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova
Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA
ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL 111013_us

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0134523

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

G002461
Reed JL
03/21/19

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4		2,001.4 µg/mL	+/- 11.6363 µg/mL		Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)		+/- 90.1443 µg/mL		Unstressed
	Purity 99%			+/- 100.0262 µg/mL		Stressed
2	Naphthalene-d8		2,003.9 µg/mL	+/- 11.6508 µg/mL		Gravimetric
	CAS # 1146-65-2	(Lot M-1452)		+/- 90.2569 µg/mL		Unstressed
	Purity 99%			+/- 100.1511 µg/mL		Stressed
3	Acenaphthene-d10		2,005.7 µg/mL	+/- 11.6613 µg/mL		Gravimetric
	CAS # 15067-26-2	(Lot PR-25444)		+/- 90.3379 µg/mL		Unstressed
	Purity 99%			+/- 100.2411 µg/mL		Stressed
4	Phenanthrene-d10		2,018.9 µg/mL	+/- 11.7381 µg/mL		Gravimetric
	CAS # 1517-22-2	(Lot PR-23065)		+/- 90.9325 µg/mL		Unstressed
	Purity 99%			+/- 100.9008 µg/mL		Stressed
5	Chrysene-d12		2,013.3 µg/mL	+/- 11.7055 µg/mL		Gravimetric
	CAS # 1719-03-5	(Lot PR-27952)		+/- 90.6802 µg/mL		Unstressed
	Purity 99%			+/- 100.6209 µg/mL		Stressed
6	Perylene-d12		2,012.6 µg/mL	+/- 11.7014 µg/mL		Gravimetric
	CAS # 1520-96-3	(Lot PR-24113)		+/- 90.6487 µg/mL		Unstressed
	Purity 99%			+/- 100.5859 µg/mL		Stressed

LDW18-C01-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-01	File ID:	18070906ECD7.D
Sampled:	05/16/18 13:33	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 08:53
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.53 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	9.8	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.5	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9808*	*5.87*	*73.5*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9808*	*6.21*	*77.9*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9808*	*5.96*	*74.7*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9808*	*5.89*	*73.8*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070906ECD7.D
Data file 2: /20180709.b/20180709.b/18070906ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-01
Client ID:
Injection Date: 09-JUL-2018 08:53
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.733	-0.001	8787438	4.611	0.002	14043161	31.1	29.5	5.4	Tetrachloro-m-xylene
13.285	-0.003	5535260	13.464	0.005	7836856	29.4	29.9	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	77.9	73.8
Decachlorobiphenyl	73.5	74.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	24380457	-5.2
Hexabromobiphenyl	22585647	17746483	-21.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	44799399	12.5
Hexabromobiphenyl	22087957	22601484	2.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.478	-0.006	90923	14.0	1	6.493	0.040	1116920	70.3
Aroclor-1016	2	6.868	-0.025	942558	43.4	2	7.108	0.012	662142	21.6
Aroclor-1016	3	7.184	0.024	812941	140.2	3	7.486	0.006	47438	6.4
Aroclor-1016	4	7.919	0.032	8968029	1324.0	4	8.019	0.015	4370243	491.1
	Total Col1Ave (4 peaks):			380.4		Total Col2Ave (4 peaks):			147.4	RPD = 88*
	Corrected Ave (3 peaks):			65.8		Corrected Ave (3 peaks):			32.8	RPD = 67*
Aroclor-1221	1	3.560	0.004	498714	262.0	1	3.783	-0.043	62836	17.4
Aroclor-1221	2	5.322	-0.034	88350	39.8	2	5.366	-0.019	1394214	249.9
Aroclor-1221	3	5.457	-0.011	40867	6.1	3	5.789	0.027	843312	88.7
	Total Col1Ave (3 peaks):			102.6		Total Col2Ave (3 peaks):			118.6	RPD = 14
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.560	0.003	498714	431.4	1	3.783	-0.044	62836	29.0
Aroclor-1232	2	6.478	-0.018	90923	32.0	2	6.493	0.007	1116920	148.3
Aroclor-1232	3	6.868	-0.038	942558	98.7	3	7.108	-0.021	662142	50.2
Aroclor-1232	4	7.726	0.001	551473	175.8	4	8.878	-0.040	788005	162.3
	Total Col1Ave (4 peaks):			184.5		Total Col2Ave (4 peaks):			97.5	RPD = 62*
	Corrected Ave (3 peaks):			102.2		Corrected Ave (3 peaks):			75.8	RPD = 30
Aroclor-1242	1	6.478	-0.019	90923	17.4	1	6.493	0.004	1116920	90.2
Aroclor-1242	2	7.049	-0.012	124626	18.0	2	7.108	-0.025	662142	27.8
Aroclor-1242	3	8.264	-0.016	183785	31.2	3	8.604	0.027	292366	40.0
Aroclor-1242	4	8.558	-0.017	334240	53.8	4	8.878	-0.044	788005	93.0
	Total Col1Ave (4 peaks):			30.1		Total Col2Ave (4 peaks):			62.8	RPD = 70*
	Corrected Ave (3 peaks):			22.2		Corrected Ave (3 peaks):			32.7	RPD = 81*
Aroclor-1248	1	6.868	-0.020	942558	89.6	1	7.604	0.009	865626	83.8
Aroclor-1248	2	7.726	0.017	551473	64.7	2	8.019	0.015	4370243	402.7
Aroclor-1248	3	8.376	0.059	6198344	488.2	3	8.540	0.005	306061	26.1
Aroclor-1248	4	8.558	0.003	334240	35.2	4	8.878	-0.000	788005	57.8
	Total Col1Ave (4 peaks):			169.4		Total Col2Ave (4 peaks):			142.6	RPD = 17
	Corrected Ave (3 peaks):			63.2		Corrected Ave (3 peaks):			55.9	RPD = 12
Aroclor-1254	1	8.637	-0.007	3551492	217.0	1	8.785	0.007	973223	62.9
Aroclor-1254	2	8.720	0.000	204101	39.3	2	8.878	0.008	788005	104.4
Aroclor-1254	3	9.042	0.024	4891087	514.1	3	9.445	0.001	511834	20.7
Aroclor-1254	4	9.145	-0.011	797170	39.8	4	9.689	-0.011	1941912	78.3
Aroclor-1254	5	9.496	-0.010	615623	30.0	5	10.451	-0.005	633217	34.1
	Total Col1Ave (5 peaks):			168.0		Total Col2Ave (5 peaks):			60.1	RPD = 95*
	Corrected Ave (4 peaks):			81.5		Corrected Ave (4 peaks):			49.0	RPD = 50*
				36.36						
Aroclor-1260	1	10.471	0.043	391408	39.0	1	10.554	0.003	302969	23.3
Aroclor-1260	2	10.742	-0.004	153538	15.9	2	10.992	-0.001	361696	25.4
Aroclor-1260	3	11.149	0.031	271021	11.5	3	11.274	0.004	460672	14.7
Aroclor-1260	4	11.515	-0.005	105164	9.6	4	11.845	0.005	146837	6.9
Aroclor-1260	5	11.632	-0.005	56535	10.5	NS	---			----
	Total Col1Ave (5 peaks):			17.3		Total Col2Ave (4 peaks):			17.6	RPD = 2
	Corrected Ave (4 peaks):			11.9		Corrected Ave (3 peaks):			15.0	RPD = 23
Aroclor-1262	1	10.471	0.024	391408	27.2	1	10.634	0.038	240986	13.8
Aroclor-1262	2	11.149	0.011	271021	10.1	2	10.992	-0.048	361696	21.9
Aroclor-1262	3	11.515	-0.025	105164	12.7	3	11.274	-0.043	460672	13.7
Aroclor-1262	4	11.632	-0.025	56535	5.4	4	11.845	0.013	146837	10.5
	Total Col1Ave (4 peaks):			13.9		Total Col2Ave (4 peaks):			15.0	RPD = 8
	Corrected Ave (3 peaks):			9.4		Corrected Ave (3 peaks):			12.7	RPD = 29
Aroclor-1268	1	11.632	-0.026	56535	1.8	1	11.845	0.014	146837	3.8
Aroclor-1268	2	11.709	-0.019	49931	1.7	2	11.884	-0.013	78027	2.0
Aroclor-1268	3	12.146	0.030	96342	4.0	3	12.271	-0.016	23430	0.7
Aroclor-1268	4	12.860	-0.044	52847	0.7	4	13.147	0.041	280714	2.9
	Total Col1Ave (4 peaks):			2.1		Total Col2Ave (4 peaks):			2.4	RPD = 13

Corrected Ave (3 peaks): 1.4 Corrected Ave (3 peaks): 1.9 RPD = 28

Total PCB Area Col1 (4.834 - 13.187) = 77657698 Col1 Total PCB = 0.5 ppm*

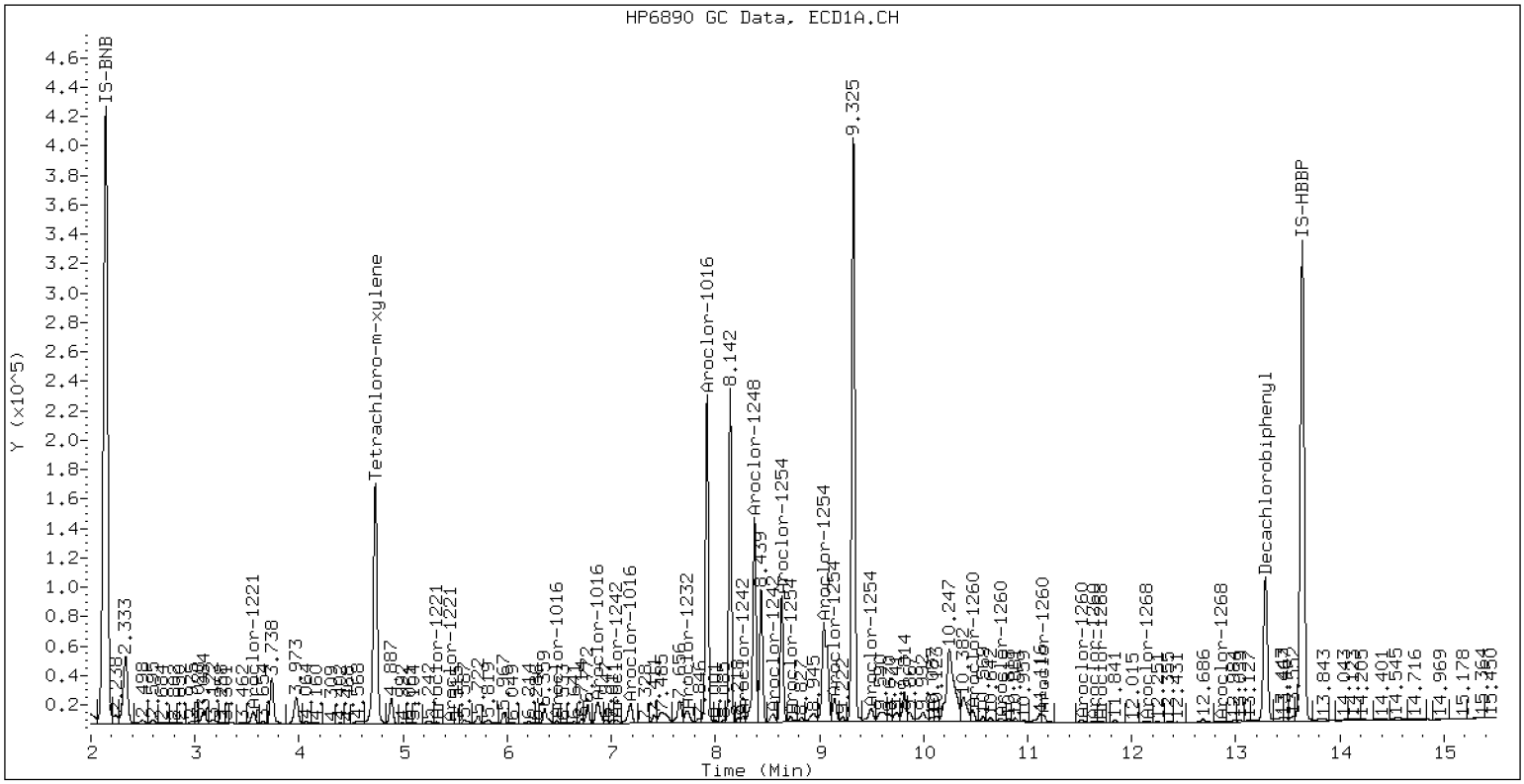
Total PCB Area Col2 (4.834 - 13.187) = 114557754 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

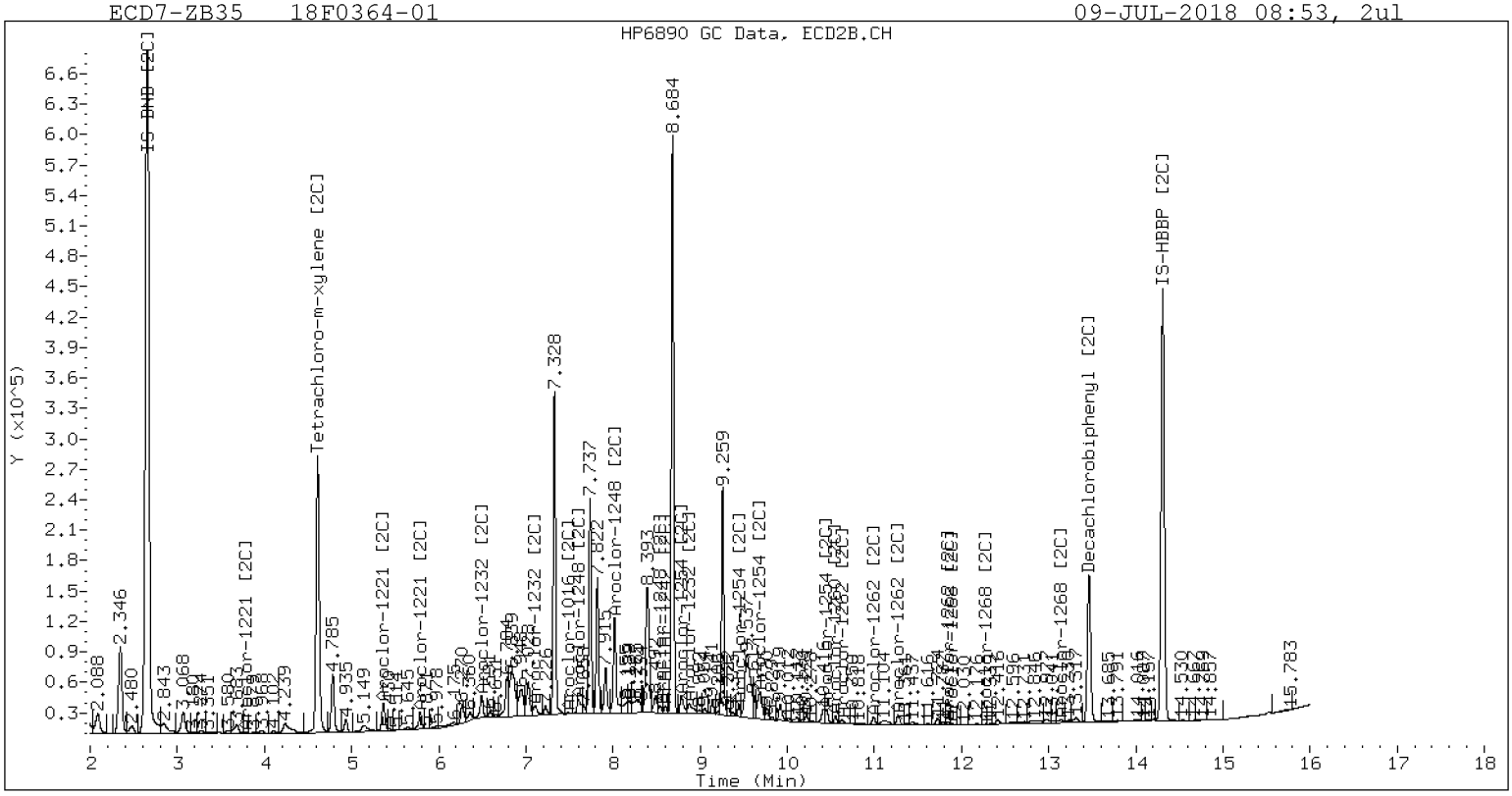
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-01 09-JUL-2018 08:53, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-01 09-JUL-2018 08:53, 2ul

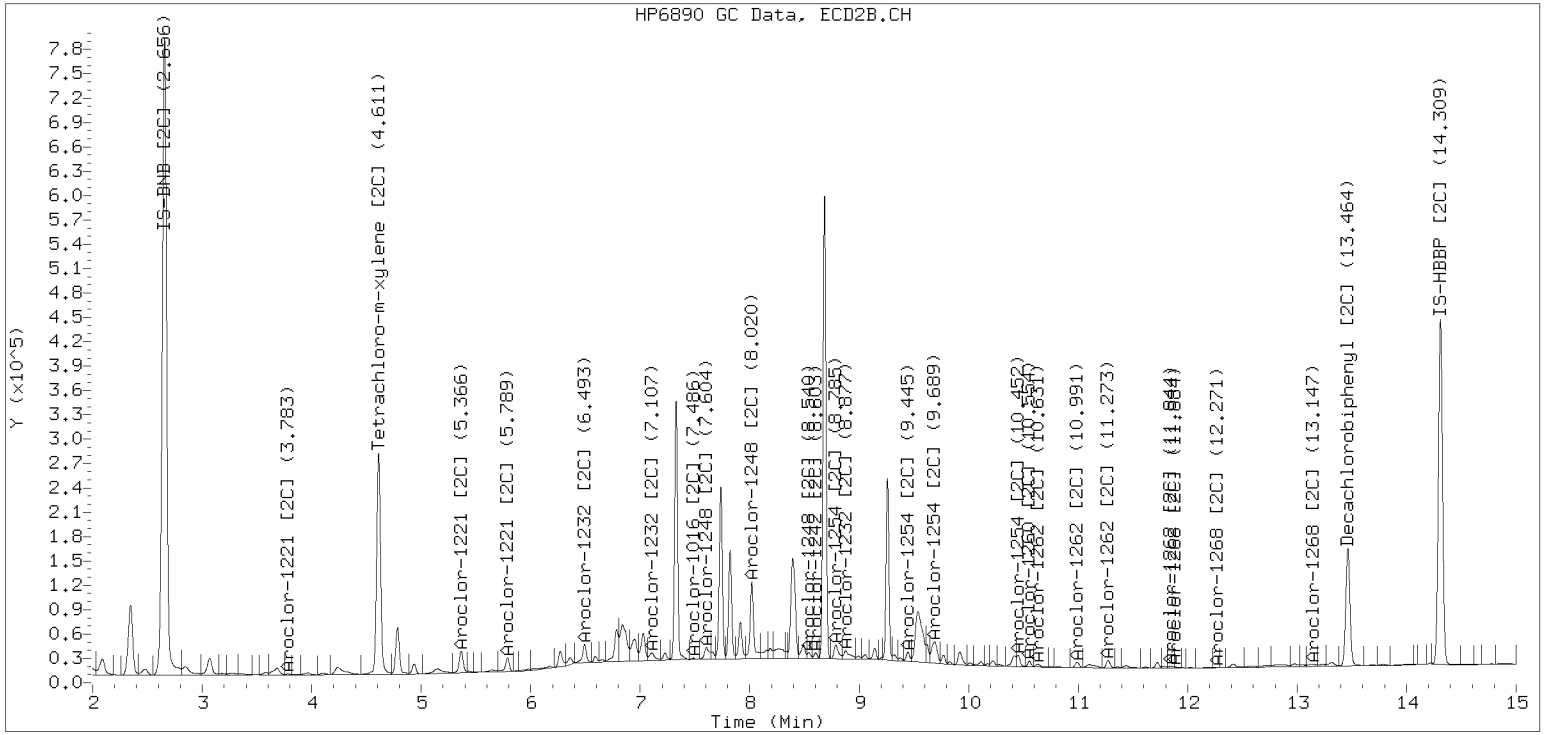


ZB-35 Manual Integration: YES

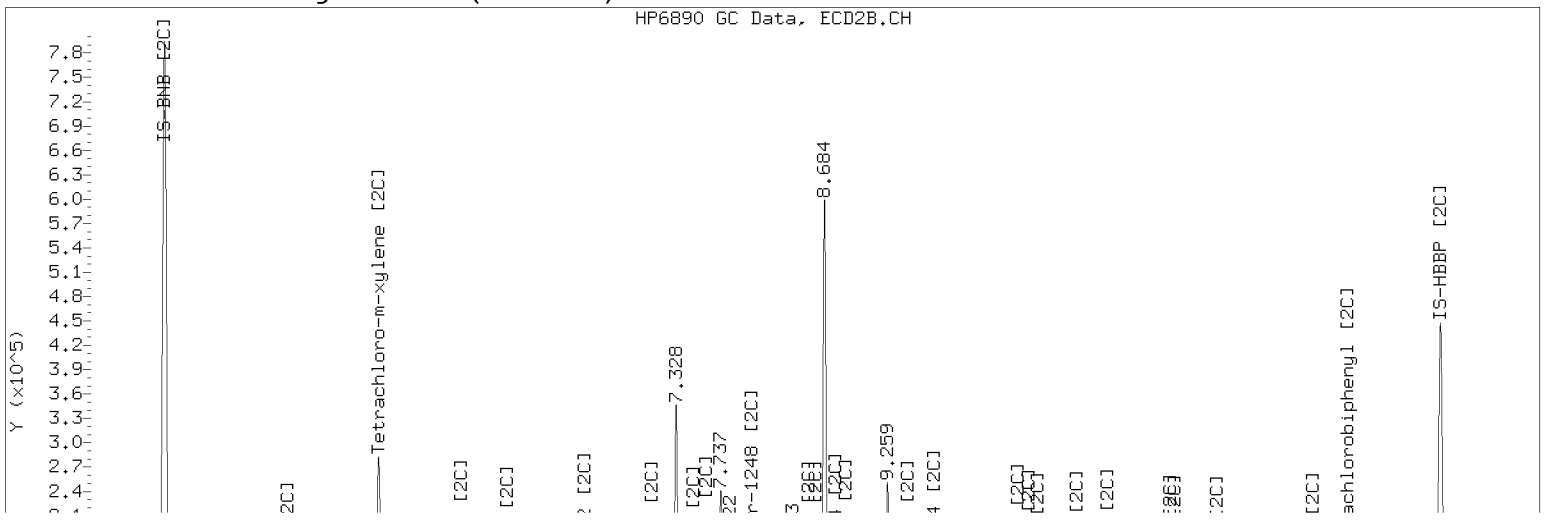
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070906.D Injection Date: 09-JUL-2018 08:53

Manual Integration (After)



Processed Integration (Before)



LDW18-C02-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-02	File ID:	18070909ECD7.D
Sampled:	05/16/18 11:57	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 09:59
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.55 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	1	1	7.6	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.7	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9681*	*5.56*	*69.8*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9681*	*5.71*	*71.7*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9681*	*5.41*	*67.9*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9681*	*5.53*	*69.4*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070909ECD7.D
Data file 2: /20180709.b/20180709.b/18070909ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-02
Client ID:
Injection Date: 09-JUL-2018 09:59
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.733	-0.001	8215942	4.612	0.003	14212624	28.7	27.8	3.3	Tetrachloro-m-xylene
13.282	-0.005	5929547	13.461	0.002	7795402	27.9	27.2	2.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	71.7	69.4
Decachlorobiphenyl	69.8	67.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	24750116	-3.8
Hexabromobiphenyl	22585647	20020276	-11.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	48234039	21.1
Hexabromobiphenyl	22087957	24712844	11.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.478	-0.006	88497	13.4	1	6.493	0.040	407961	23.9
Aroclor-1016	2	6.946	0.053	32047	1.5	2	7.106	0.010	440456	13.4
Aroclor-1016	3	7.185	0.024	249829	42.4	3	7.485	0.005	25801	3.2
Aroclor-1016	4	7.917	0.030	1937977	281.8	4	8.017	0.013	1021662	106.6
	Total Col1Ave (4 peaks):				84.8	Total Col2Ave (4 peaks):				36.8 RPD = 79*
	Corrected Ave (3 peaks):				19.1	Corrected Ave (3 peaks):				13.5 RPD = 34
Aroclor-1221	1	3.559	0.003	87404	45.2	1	3.783	-0.043	205758	52.8
Aroclor-1221	2	5.324	-0.033	67058	29.8	2	5.365	-0.021	1292523	215.2
Aroclor-1221	3	5.460	-0.008	13482	2.0	3	5.787	0.025	305146	29.8
	Total Col1Ave (3 peaks):				25.7	Total Col2Ave (3 peaks):				99.3 RPD = 118*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.559	0.002	87404	74.5	1	3.783	-0.044	205758	88.2
Aroclor-1232	2	6.478	-0.018	88497	30.7	2	6.493	0.008	407961	50.3
Aroclor-1232	3	6.946	0.040	32047	3.3	3	7.106	-0.024	440456	31.0
Aroclor-1232	4	7.745	0.019	426736	134.0	4	8.872	-0.045	736526	140.9
	Total Col1Ave (4 peaks):				60.6	Total Col2Ave (4 peaks):				77.6 RPD = 25
	Corrected Ave (3 peaks):				36.2	Corrected Ave (3 peaks):				56.5 RPD = 44*
Aroclor-1242	1	6.478	-0.019	88497	16.7	1	6.493	0.005	407961	30.6
Aroclor-1242	2	7.049	-0.013	82878	11.8	2	7.106	-0.027	440456	17.2
Aroclor-1242	3	8.264	-0.016	126205	21.1	3	8.601	0.024	319798	40.7
Aroclor-1242	4	8.558	-0.016	208047	33.0	4	8.872	-0.049	736526	80.7
	Total Col1Ave (4 peaks):				20.6	Total Col2Ave (4 peaks):				42.3 RPD = 69*
	Corrected Ave (3 peaks):				16.5	Corrected Ave (3 peaks):				29.5 RPD = 56*
Aroclor-1248	1	6.858	-0.030	618482	57.9	1	7.600	0.005	400683	36.0
Aroclor-1248	2	7.745	0.035	426736	49.3	2	8.017	0.012	1021662	87.4
Aroclor-1248	3	8.327	0.010	303632	23.6	3	8.539	0.003	275025	21.7
Aroclor-1248	4	8.558	0.004	208047	21.6	4	8.872	-0.006	736526	50.2
	Total Col1Ave (4 peaks):				38.1	Total Col2Ave (4 peaks):				48.9 RPD = 25
	Corrected Ave (3 peaks):				31.5	Corrected Ave (3 peaks):				36.0 RPD = 13
Aroclor-1254	1	8.637	-0.007	1085690	65.4	1	8.782	0.004	804559	48.3
Aroclor-1254	2	8.719	-0.001	184789	35.1	2	8.872	0.003	736526	90.7
Aroclor-1254	3	9.039	0.021	903433	93.5	3	9.443	-0.001	490479	18.4
Aroclor-1254	4	9.151	-0.005	525035	25.8	4	9.697	-0.003	1268966	47.5
Aroclor-1254	5	9.492	-0.014	564629	27.1	5	10.452	-0.005	679872	34.0
	Total Col1Ave (5 peaks):				49.4	Total Col2Ave (5 peaks):				47.8 RPD = 3
	Corrected Ave (4 peaks):				38.3	Corrected Ave (4 peaks):				37.1 RPD = 3
Aroclor-1260	1	10.482	0.054	164730	14.5	1	10.552	0.001	311639	21.9
Aroclor-1260	2	10.744	-0.002	106655	9.8	2	10.990	-0.003	386316	24.9
Aroclor-1260	3	11.114	-0.005	549599	20.8	3	11.271	0.001	582195	17.0
Aroclor-1260	4	11.516	-0.004	145164	11.8	4	11.840	-0.000	239478	10.4
Aroclor-1260	5	11.632	-0.004	77530	12.7	NS	---			----
	Total Col1Ave (5 peaks):				13.9	Total Col2Ave (4 peaks):				18.5 RPD = 28
	Corrected Ave (4 peaks):				12.2	Corrected Ave (3 peaks):				16.4 RPD = 30
Aroclor-1262	1	10.482	0.036	164730	10.1	1	10.627	0.031	195360	10.2
Aroclor-1262	2	11.114	-0.024	549599	18.2	2	10.990	-0.050	386316	21.4
Aroclor-1262	3	11.516	-0.024	145164	15.6	3	11.357	0.041	44377	1.2
Aroclor-1262	4	11.632	-0.025	77530	6.6	4	11.840	0.008	239478	15.7
	Total Col1Ave (4 peaks):				12.6	Total Col2Ave (4 peaks):				12.1 RPD = 4
	Corrected Ave (3 peaks):				10.8	Corrected Ave (3 peaks):				9.0 RPD = 18
Aroclor-1268	1	11.632	-0.026	77530	2.2	1	11.840	0.009	239478	5.7
Aroclor-1268	2	11.705	-0.022	85169	2.6	2	---			0.0
Aroclor-1268	3	12.144	0.028	93228	3.5	3	12.272	-0.014	6527	0.2
Aroclor-1268	4	12.861	-0.043	40704	0.5	4	13.146	0.040	161701	1.5
	Total Col1Ave (4 peaks):				2.2	Total Col2Ave (3 peaks):				2.5 RPD = 12

Corrected Ave (3 peaks): 1.8 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 28044559 Col1 Total PCB = 0.2 ppm*

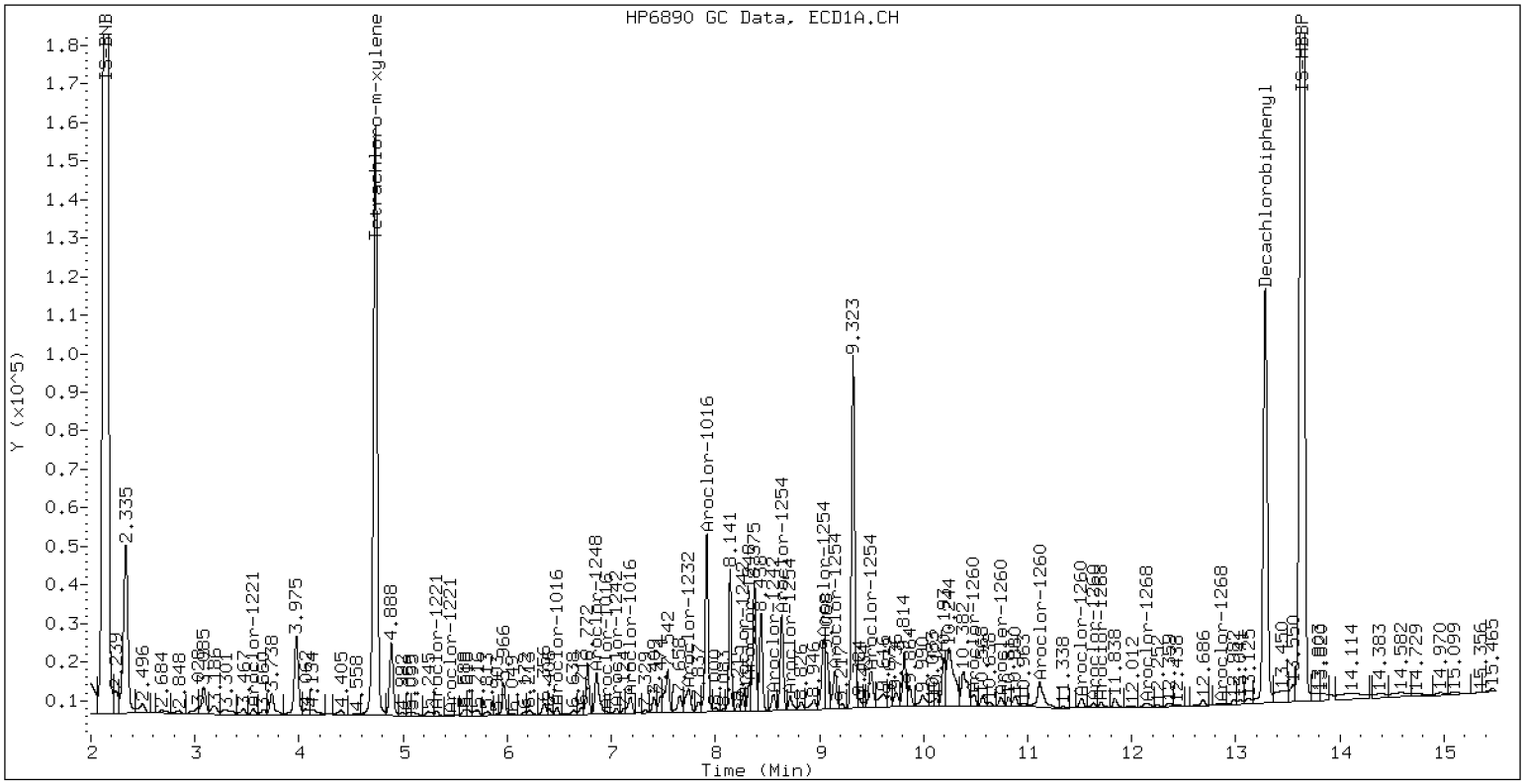
Total PCB Area Col2 (4.834 - 13.187) = 42670365 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

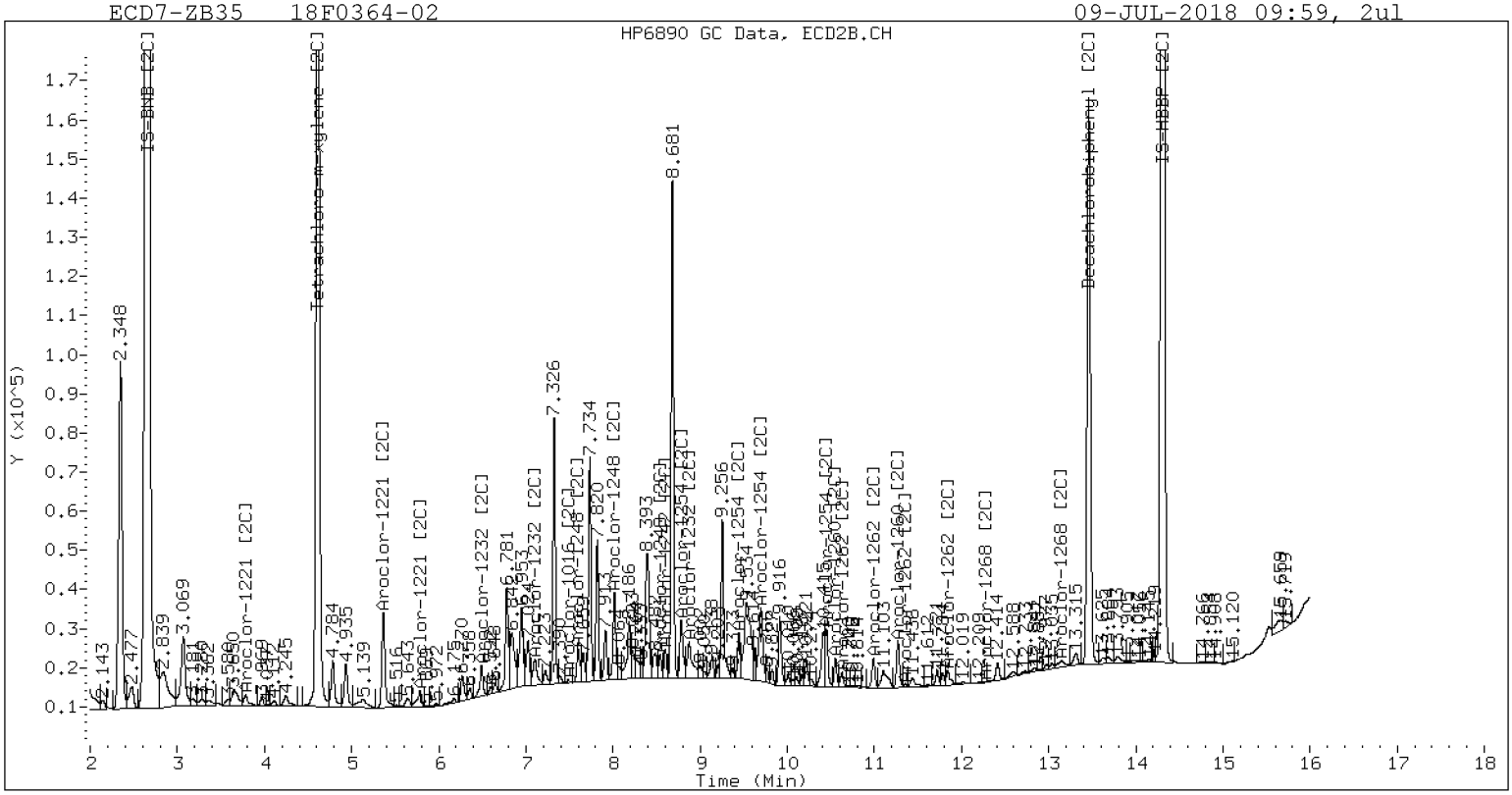
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-02 09-JUL-2018 09:59, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-02 09-JUL-2018 09:59, 2ul

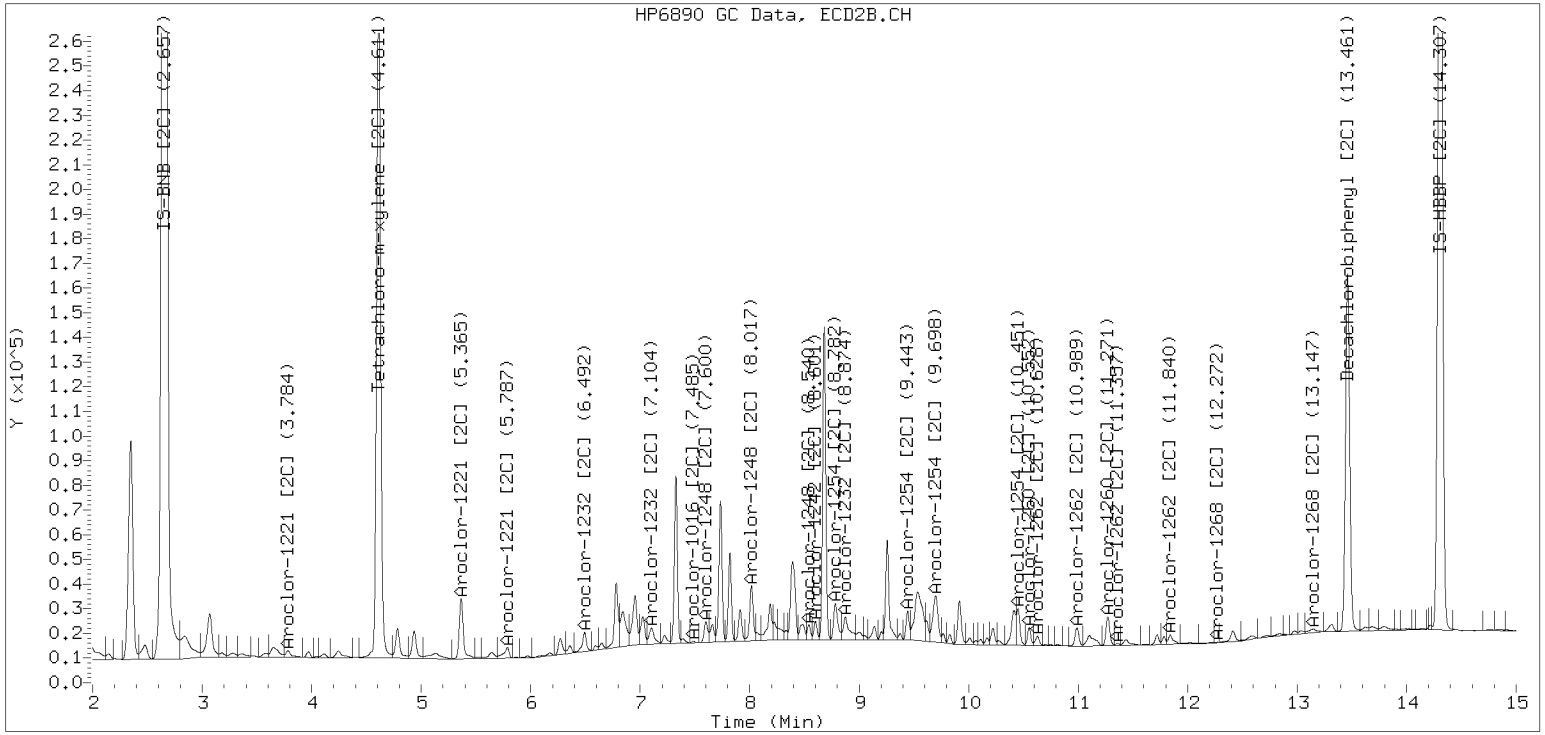


ZB-35 Manual Integration: YES

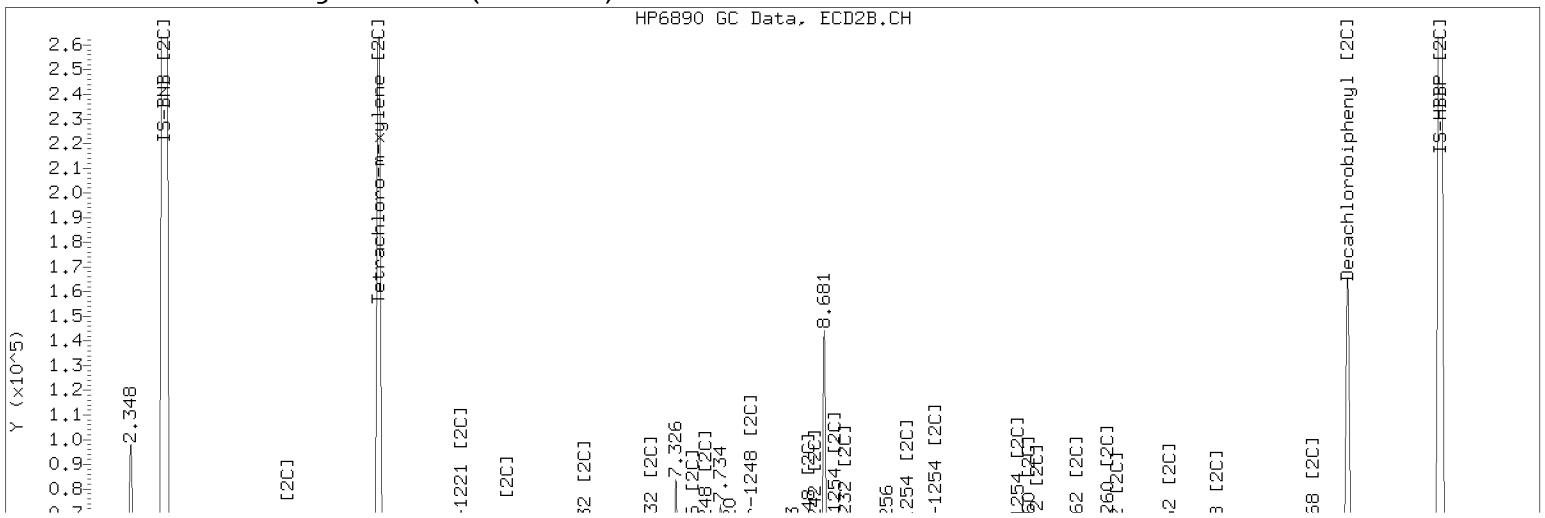
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070909.D Injection Date: 09-JUL-2018 09:59

Manual Integration (After)



Processed Integration (Before)



LDW18-C03-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-03	File ID:	18070910ECD7.D
Sampled:	05/16/18 12:40	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 10:22
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.56 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	8.0	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.6	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9618*	*5.27*	*66.2*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9618*	*5.53*	*69.4*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9618*	*5.44*	*68.4*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9618*	*5.57*	*70.0*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070910ECD7.D
Data file 2: /20180709.b/20180709.b/18070910ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-03
Client ID:
Injection Date: 09-JUL-2018 10:22
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.732	-0.002	8090836	4.611	0.002	14184244	27.8	28.0	0.8	Tetrachloro-m-xylene
13.283	-0.004	6435546	13.460	0.000	8541077	26.5	27.3	3.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	69.4	70.0
Decachlorobiphenyl	66.2	68.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	25180734	-2.1
Hexabromobiphenyl	22585647	22898445	1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47728035	19.8
Hexabromobiphenyl	22087957	26904438	21.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.477	-0.006	111310	16.6	1	6.491	0.039	742030	43.9
Aroclor-1016	2	6.857	-0.035	808817	36.0	2	7.104	0.008	313698	9.6
Aroclor-1016	3	7.185	0.024	208638	34.8	3	7.482	0.002	31896	4.1
Aroclor-1016	4	7.915	0.027	1184991	169.4	4	8.014	0.009	626970	66.1
	Total Col1Ave (4 peaks):				64.2	Total Col2Ave (4 peaks):				30.9 RPD = 70*
	Corrected Ave (3 peaks):				29.1	Corrected Ave (3 peaks):				19.2 RPD = 41*
Aroclor-1221	1	3.465	-0.091	310258	157.8	1	3.786	-0.041	370936	96.2
Aroclor-1221	2	5.325	-0.032	88201	38.5	2	5.371	-0.014	651273	109.6
Aroclor-1221	3	5.422	-0.046	25602	3.7	3	5.788	0.026	290721	28.7
	Total Col1Ave (3 peaks):				66.7	Total Col2Ave (3 peaks):				78.2 RPD = 16
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.465	-0.092	310258	259.9	1	3.786	-0.042	370936	160.7
Aroclor-1232	2	6.477	-0.018	111310	38.0	2	6.491	0.006	742030	92.5
Aroclor-1232	3	6.857	-0.049	808817	82.0	3	7.104	-0.025	313698	22.3
Aroclor-1232	4	7.724	-0.002	400628	123.6	4	8.871	-0.046	692144	133.8
	Total Col1Ave (4 peaks):				125.9	Total Col2Ave (4 peaks):				102.3 RPD = 21
	Corrected Ave (3 peaks):				81.2	Corrected Ave (3 peaks):				82.9 RPD = 2
Aroclor-1242	1	6.477	-0.020	111310	20.6	1	6.491	0.003	742030	56.2
Aroclor-1242	2	7.048	-0.014	56832	8.0	2	7.104	-0.028	313698	12.4
Aroclor-1242	3	8.261	-0.020	127651	21.0	3	8.600	0.023	309478	39.8
Aroclor-1242	4	8.557	-0.017	199775	31.1	4	8.871	-0.050	692144	76.7
	Total Col1Ave (4 peaks):				20.2	Total Col2Ave (4 peaks):				46.3 RPD = 79*
	Corrected Ave (3 peaks):				16.5	Corrected Ave (3 peaks):				36.1 RPD = 75*
Aroclor-1248	1	6.857	-0.031	808817	74.5	1	7.599	0.004	458964	41.7
Aroclor-1248	2	7.724	0.014	400628	45.5	2	8.014	0.009	626970	54.2
Aroclor-1248	3	8.326	0.009	321069	24.5	3	8.537	0.002	243765	19.5
Aroclor-1248	4	8.557	0.003	199775	20.4	4	8.871	-0.007	692144	47.7
	Total Col1Ave (4 peaks):				41.2	Total Col2Ave (4 peaks):				40.8 RPD = 1
	Corrected Ave (3 peaks):				30.1	Corrected Ave (3 peaks):				36.3 RPD = 19
Aroclor-1254	1	8.637	-0.006	922182	54.6	1	8.781	0.003	841539	51.0
Aroclor-1254	2	8.718	-0.002	209563	39.1	2	8.871	0.002	692144	86.1
Aroclor-1254	3	9.040	0.021	628350	63.9	3	9.441	-0.004	565704	21.4
Aroclor-1254	4	9.149	-0.007	531608	25.7	4	9.699	-0.002	1374441	52.0
Aroclor-1254	5	9.492	-0.013	560064	26.4	5	10.449	-0.008	701017	35.5
	Total Col1Ave (5 peaks):				41.9	Total Col2Ave (5 peaks):				49.2 RPD = 16
	Corrected Ave (4 peaks):				36.4	Corrected Ave (4 peaks):				40.0 RPD = 9
Aroclor-1260	1	10.421	-0.008	299573	23.1	1	10.551	-0.001	370851	23.9
Aroclor-1260	2	10.742	-0.004	105036	8.4	2	10.988	-0.005	389145	23.0
Aroclor-1260	3	11.113	-0.006	538035	17.8	3	11.270	-0.000	573664	15.4
Aroclor-1260	4	11.515	-0.005	122320	8.7	4	11.839	-0.001	236244	9.4
Aroclor-1260	5	11.633	-0.004	81060	11.6	NS	---			----
	Total Col1Ave (5 peaks):				13.9	Total Col2Ave (4 peaks):				17.9 RPD = 25
	Corrected Ave (4 peaks):				11.6	Corrected Ave (3 peaks):				15.9 RPD = 31
Aroclor-1262	1	10.421	-0.026	299573	16.1	1	10.625	0.029	187270	9.0
Aroclor-1262	2	11.113	-0.025	538035	15.6	2	10.988	-0.053	389145	19.8
Aroclor-1262	3	11.515	-0.026	122320	11.5	3	11.355	0.039	13106	0.3
Aroclor-1262	4	11.633	-0.025	81060	6.0	4	11.839	0.007	236244	14.2
	Total Col1Ave (4 peaks):				12.3	Total Col2Ave (4 peaks):				10.8 RPD = 13
	Corrected Ave (3 peaks):				11.0	Corrected Ave (3 peaks):				7.8 RPD = 34
Aroclor-1268	1	11.633	-0.026	81060	2.0	1	11.839	0.008	236244	5.2
Aroclor-1268	2	11.705	-0.023	79200	2.1	2	---			0.0
Aroclor-1268	3	12.148	0.032	84832	2.7	3	12.275	-0.012	22371	0.6
Aroclor-1268	4	12.856	-0.048	66139	0.7	4	13.150	0.044	72654	0.6
	Total Col1Ave (4 peaks):				1.9	Total Col2Ave (3 peaks):				2.1 RPD = 12

Corrected Ave (3 peaks): 1.6 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 26389936 Col1 Total PCB = 0.2 ppm*

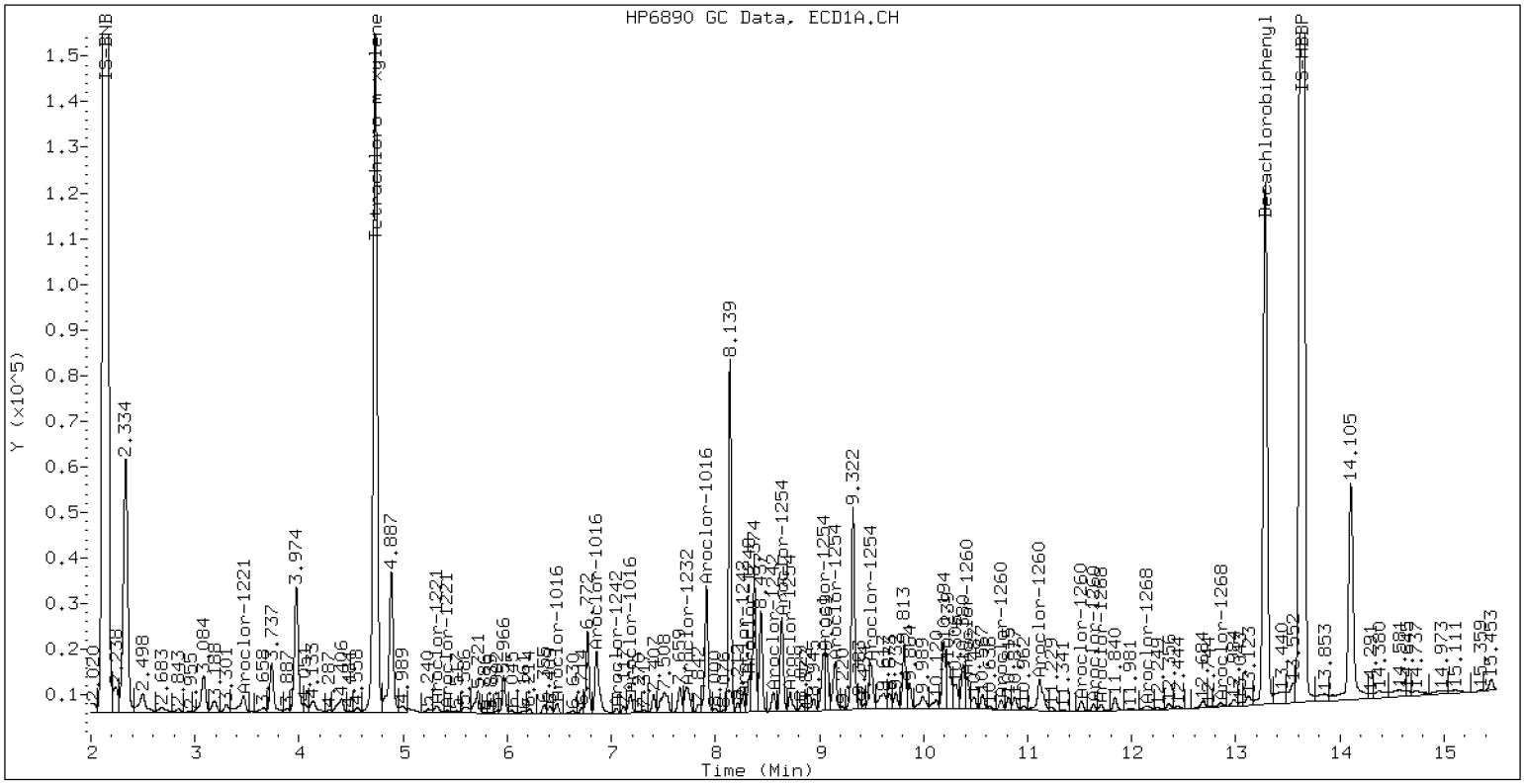
Total PCB Area Col2 (4.834 - 13.187) = 37221205 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

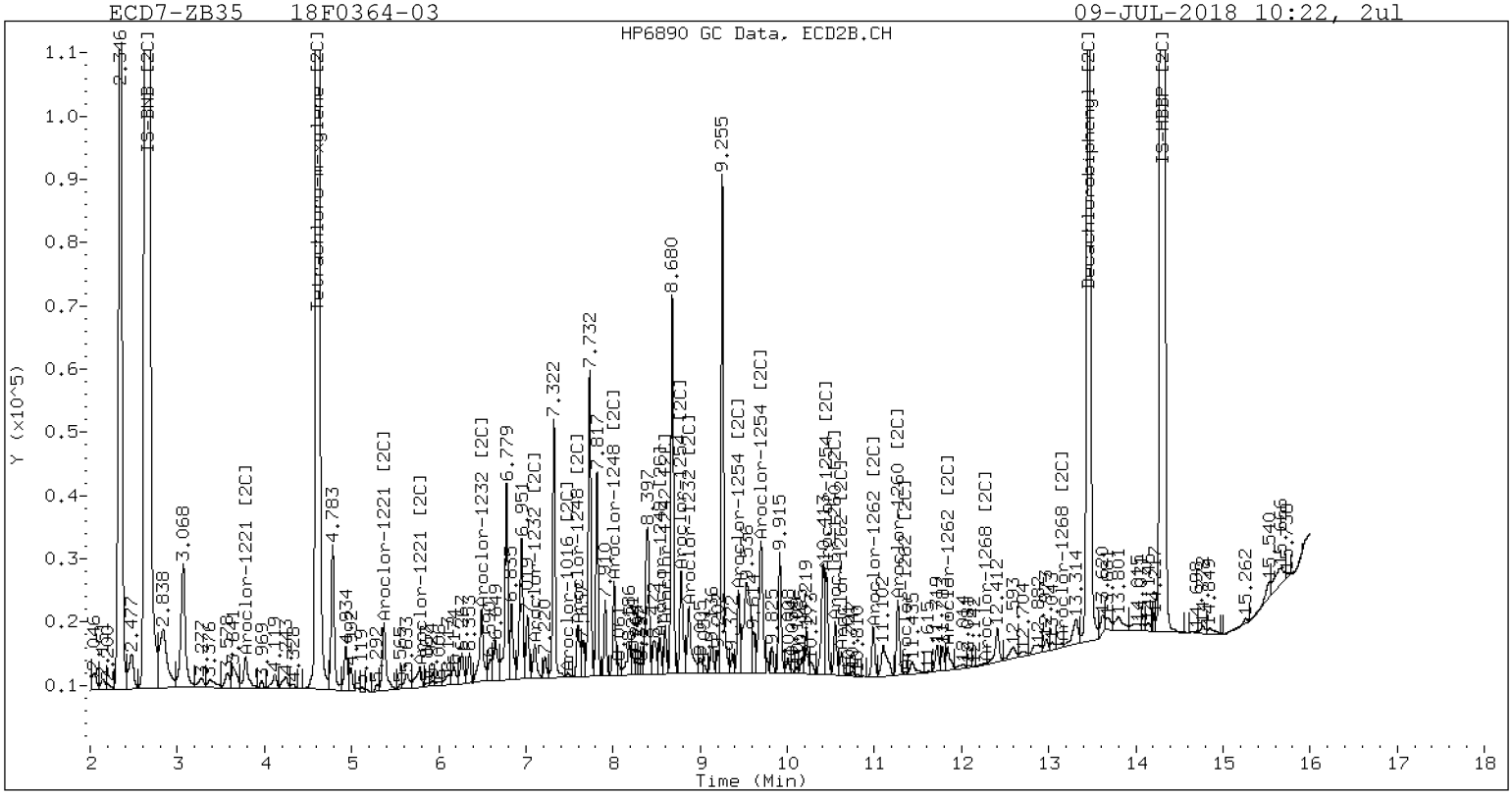
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-03 09-JUL-2018 10:22, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-03 09-JUL-2018 10:22, 2ul

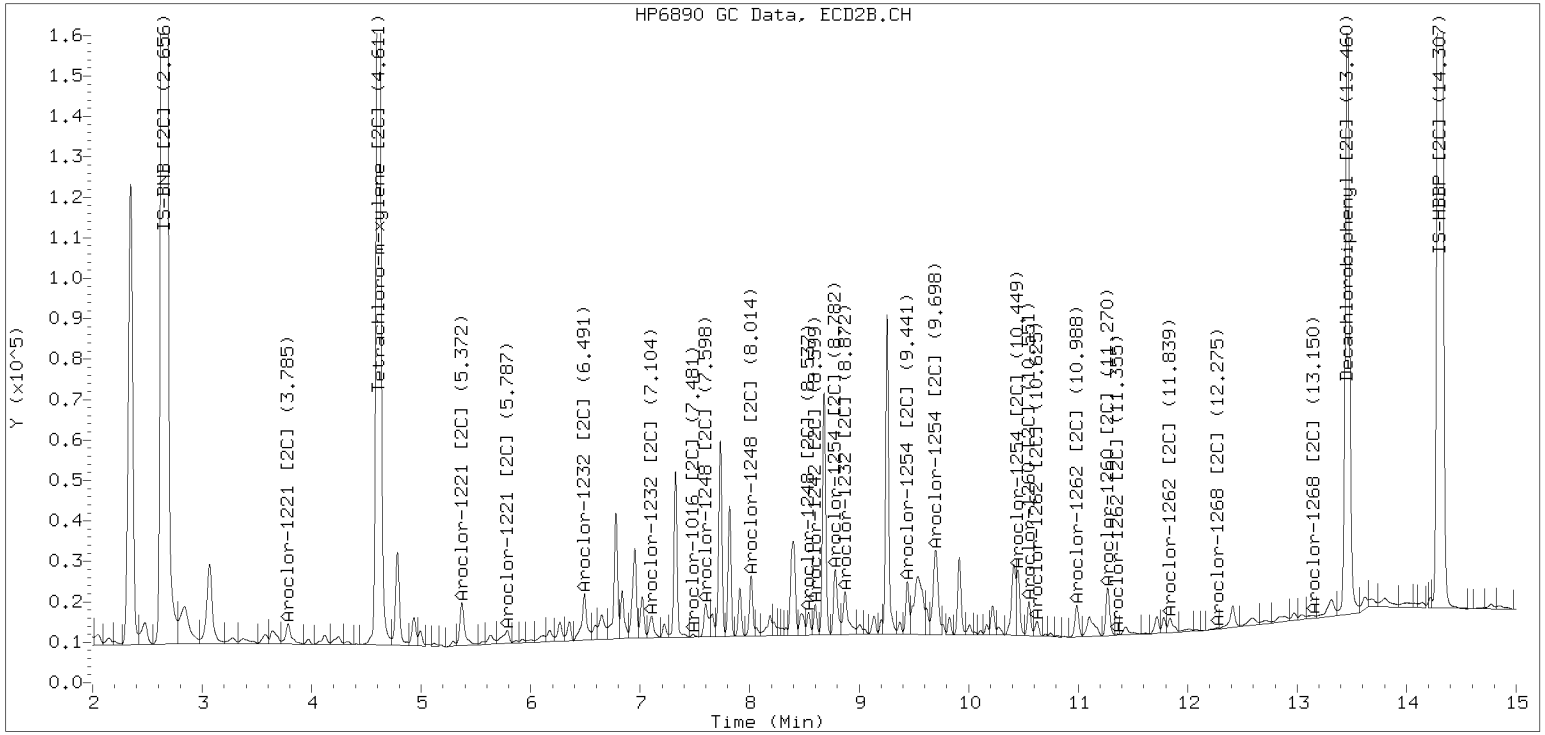


ZB-35 Manual Integration: YES

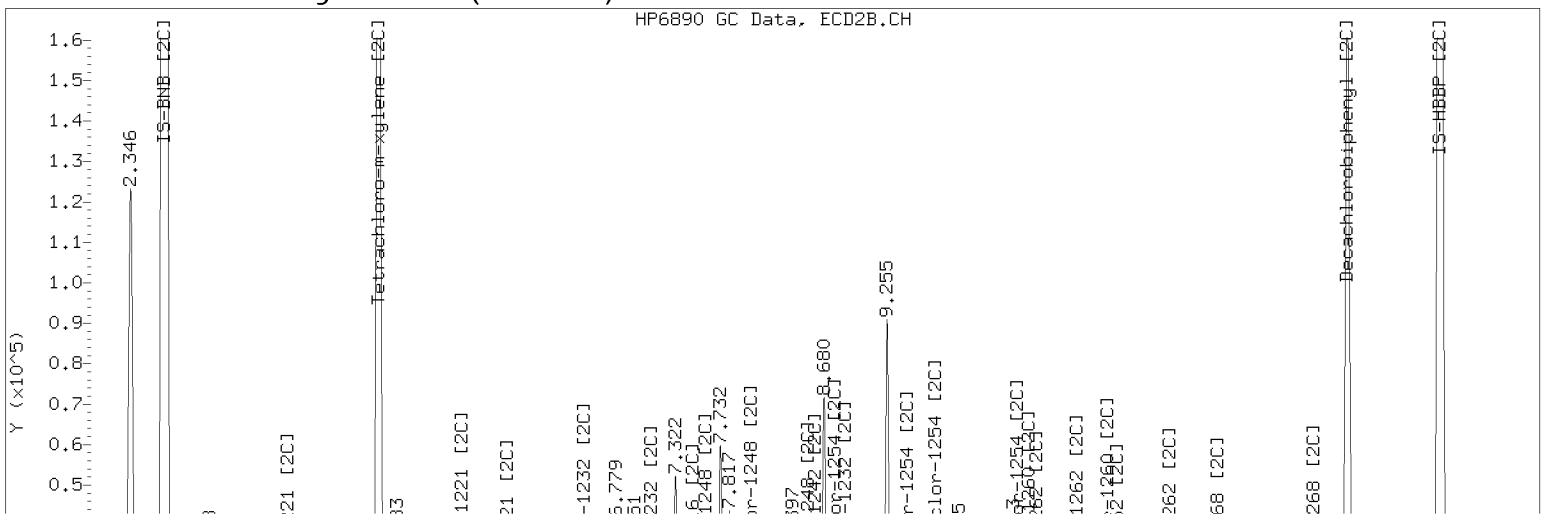
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070910.D Injection Date: 09-JUL-2018 10:22

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW18-C04-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-04	File ID:	18070911ECD7.D
Sampled:	05/19/18 14:45	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 10:44
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.58 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	13.8	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	5.8	1.1	4.0	

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9491*	*5.91*	*74.4*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9491*	*5.35*	*67.3*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9491*	*6.52*	*82.0*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9491*	*4.92*	*61.9*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070911ECD7.D
Data file 2: /20180709.b/20180709.b/18070911ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-04
Client ID:
Injection Date: 09-JUL-2018 10:44
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.732	-0.002	8794379	4.611	0.002	14598026	26.9	24.8	8.3	Tetrachloro-m-xylene
13.284	-0.004	6667363	13.460	0.001	10719796	29.7	32.8	9.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	67.3	61.9
Decachlorobiphenyl	74.4	82.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28236376	9.7
Hexabromobiphenyl	22585647	21127153	-6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	55532326	39.4
Hexabromobiphenyl	22087957	28149274	27.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1016	1	6.478	-0.006	191719	25.5	1	6.491	0.038	837261	42.5
Aroclor-1016	2	6.857	-0.036	1134580	45.1	2	7.105	0.009	720128	19.0
Aroclor-1016	3	7.186	0.025	301680	44.9	3	7.485	0.005	82701	9.0
Aroclor-1016	4	7.918	0.031	1559667	198.8	4	8.016	0.012	891030	80.8
	Total Col1Ave (4 peaks):				78.6		Total Col2Ave (4 peaks):			37.8 RPD = 70*
	Corrected Ave (3 peaks):				38.5		Corrected Ave (3 peaks):			23.5 RPD = 48*
Aroclor-1221	1	3.558	0.002	842539	382.2	1	3.784	-0.043	264201	58.9
Aroclor-1221	2	5.324	-0.033	95421	37.1	2	5.364	-0.022	2159351	312.2
Aroclor-1221	3	5.426	-0.042	13378	1.7	3	5.784	0.022	344215	29.2
	Total Col1Ave (3 peaks):				140.3		Total Col2Ave (3 peaks):			133.4 RPD = 5
	Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks			
Aroclor-1232	1	3.558	0.001	842539	629.3	1	3.784	-0.044	264201	98.4
Aroclor-1232	2	6.478	-0.018	191719	58.3	2	6.491	0.005	837261	89.7
Aroclor-1232	3	6.857	-0.049	1134580	102.6	3	7.105	-0.024	720128	44.1
Aroclor-1232	4	7.725	-0.001	526996	145.0	4	8.872	-0.045	1230197	204.5
	Total Col1Ave (4 peaks):				233.8		Total Col2Ave (4 peaks):			109.1 RPD = 73*
	Corrected Ave (3 peaks):				102.0		Corrected Ave (3 peaks):			77.4 RPD = 27
Aroclor-1242	1	6.478	-0.019	191719	31.7	1	6.491	0.002	837261	54.5
Aroclor-1242	2	7.046	-0.015	106139	13.3	2	7.105	-0.028	720128	24.4
Aroclor-1242	3	8.266	-0.015	203469	29.8	3	8.601	0.024	577845	63.9
Aroclor-1242	4	8.561	-0.014	342515	47.6	4	8.872	-0.049	1230197	117.1
	Total Col1Ave (4 peaks):				30.6		Total Col2Ave (4 peaks):			65.0 RPD = 72*
	Corrected Ave (3 peaks):				24.9		Corrected Ave (3 peaks):			47.6 RPD = 63*
Aroclor-1248	1	6.857	-0.031	1134580	93.2	1	7.601	0.006	677515	52.9
Aroclor-1248	2	7.725	0.015	526996	53.4	2	8.016	0.012	891030	66.2
Aroclor-1248	3	8.330	0.013	576743	39.2	3	8.541	0.005	416073	28.6
Aroclor-1248	4	8.561	0.006	342515	31.2	4	8.872	-0.006	1230197	72.9
	Total Col1Ave (4 peaks):				54.2		Total Col2Ave (4 peaks):			55.1 RPD = 2
	Corrected Ave (3 peaks):				41.3		Corrected Ave (3 peaks):			49.2 RPD = 18
Aroclor-1254	1	8.641	-0.003	1204543	63.6	1	8.782	0.004	1259474	65.6
Aroclor-1254	2	8.720	-0.000	340735	56.7	2	8.872	0.003	1230197	131.5
Aroclor-1254	3	9.041	0.023	1464648	132.9	3	9.442	-0.002	932426	30.4
Aroclor-1254	4	9.151	-0.005	769131	33.1	4	9.701	-0.000	2143202	69.7
Aroclor-1254	5	9.493	-0.013	832325	35.0	5	10.417	-0.039	2591956	112.7
	Total Col1Ave (5 peaks):				64.3		Total Col2Ave (5 peaks):			82.0 RPD = 24
	Corrected Ave (4 peaks):				47.1		Corrected Ave (4 peaks):			69.6 RPD = 39
Aroclor-1260	1	10.486	0.058	141968	11.9	1	10.552	0.001	517667	31.9
Aroclor-1260	2	10.740	-0.006	173498	15.1	2	10.990	-0.003	667520	37.7
Aroclor-1260	3	11.161	0.043	568529	20.3	3	11.290	0.020	1443084	37.0
Aroclor-1260	4	11.516	-0.005	220370	16.9	4	11.841	0.001	245496	9.3
Aroclor-1260	5	11.633	-0.003	115573	18.0	NS	---			----
	Total Col1Ave (5 peaks):				16.4		Total Col2Ave (4 peaks):			29.0 RPD = 55*
	Corrected Ave (4 peaks):				15.5		Corrected Ave (3 peaks):			26.1 RPD = 51*
Aroclor-1262	1	10.486	0.040	141968	8.3	1	10.626	0.030	452577	20.8
Aroclor-1262	2	11.114	-0.024	460988	14.5	2	10.990	-0.051	667520	32.5
Aroclor-1262	3	11.516	-0.025	220370	22.4	3	11.290	-0.027	1443084	34.5
Aroclor-1262	4	11.633	-0.024	115573	9.3	4	11.841	0.008	245496	14.1
	Total Col1Ave (4 peaks):				13.6		Total Col2Ave (4 peaks):			25.5 RPD = 61*
	Corrected Ave (3 peaks):				10.7		Corrected Ave (3 peaks):			22.5 RPD = 71*
Aroclor-1268	1	11.633	-0.025	115573	3.1	1	11.841	0.010	245496	5.1
Aroclor-1268	2	11.706	-0.021	81802	2.4	2	11.904	0.008	177563	3.6
Aroclor-1268	3	12.168	0.052	690763	24.3	3	12.259	-0.028	152040	3.9
Aroclor-1268	4	12.854	-0.050	54414	0.6	4	13.112	0.006	234861	1.9
	Total Col1Ave (4 peaks):				7.6		Total Col2Ave (4 peaks):			3.6 RPD = 70*

Corrected Ave (3 peaks): 2.0 Corrected Ave (3 peaks): 3.2 RPD = 44*

Total PCB Area Col1 (4.834 - 13.187) = 35772278 Col1 Total PCB = 0.2 ppm*

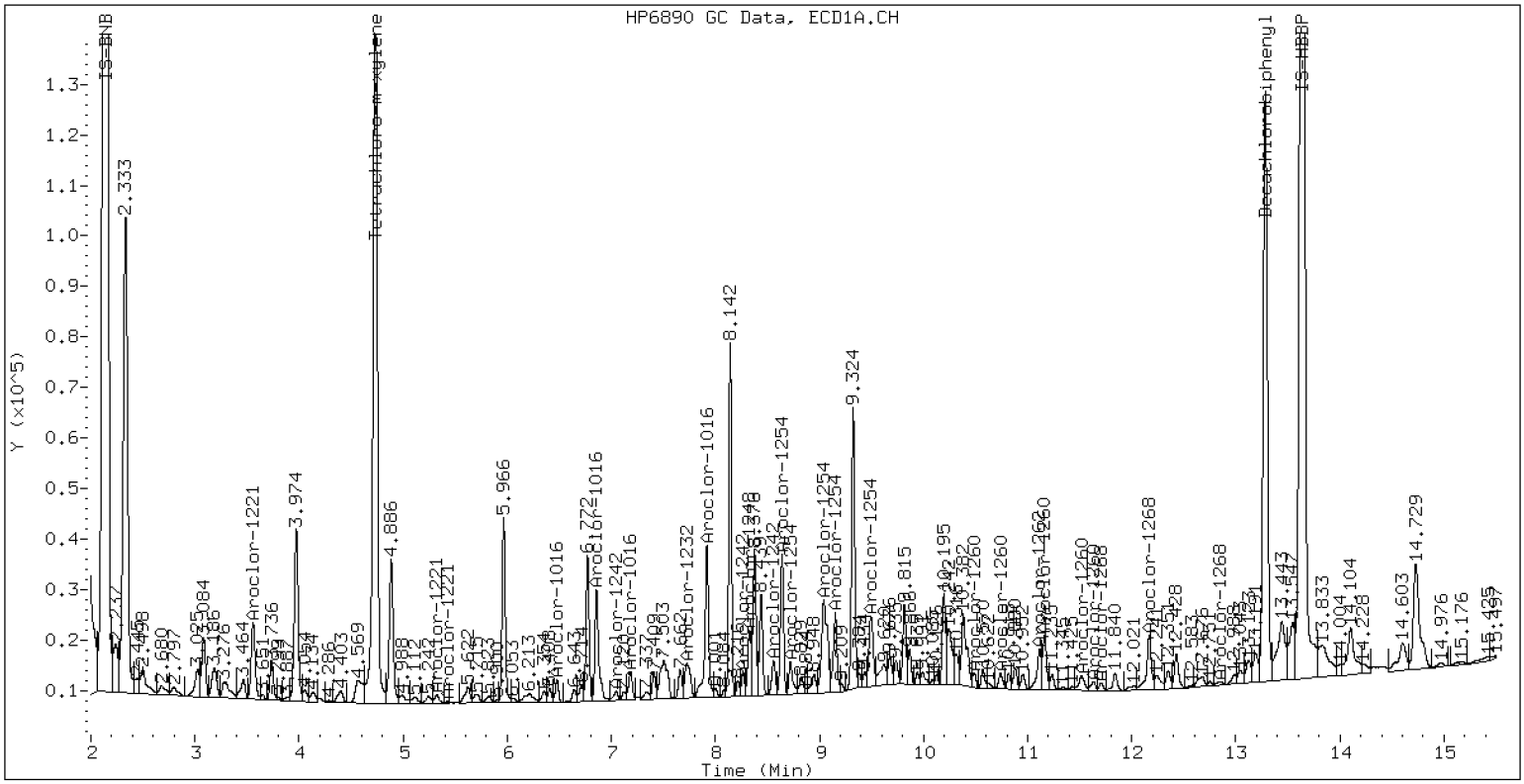
Total PCB Area Col2 (4.834 - 13.187) = 61553049 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

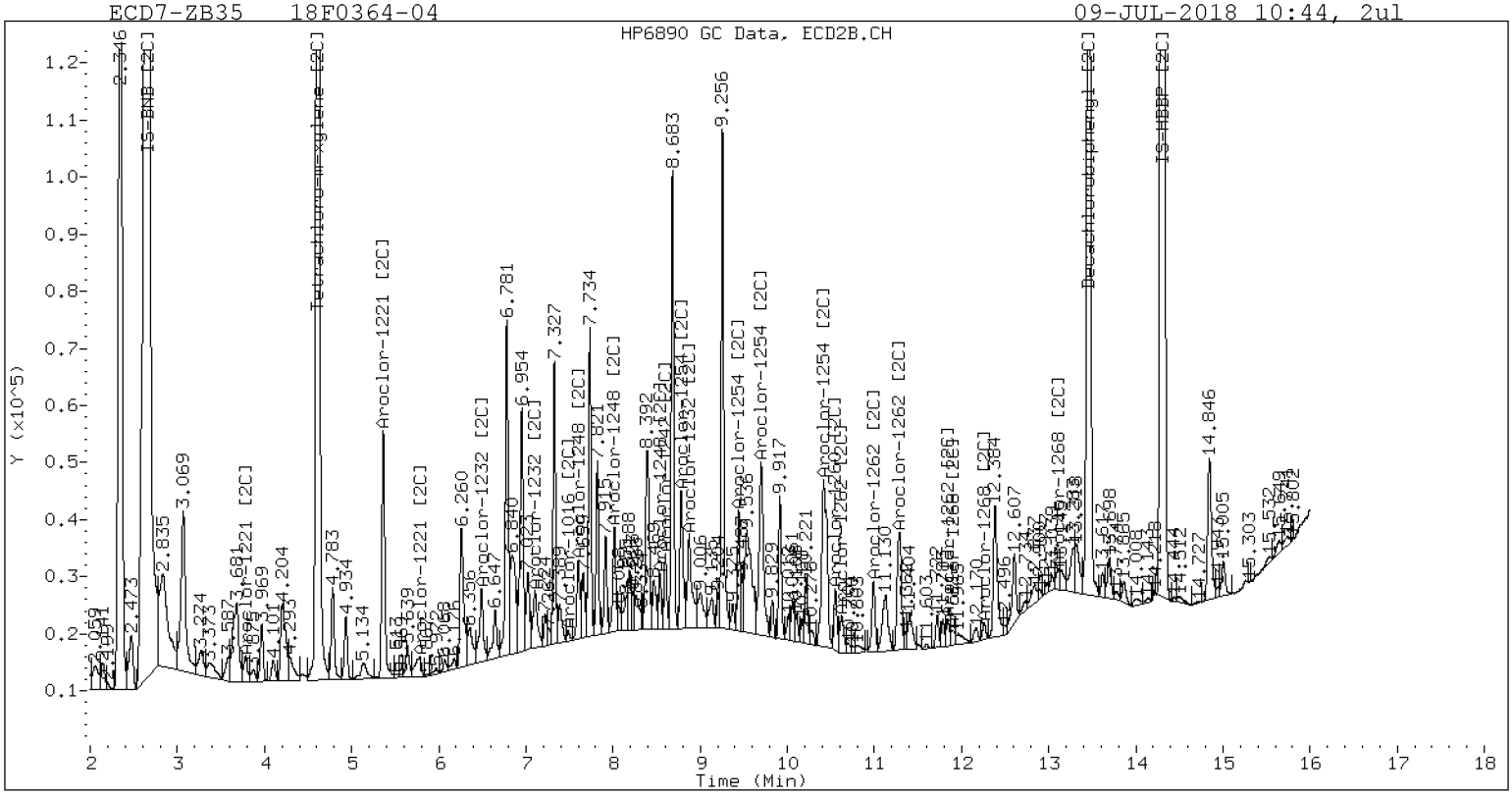
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-04 09-JUL-2018 10:44, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-04 09-JUL-2018 10:44, 2ul

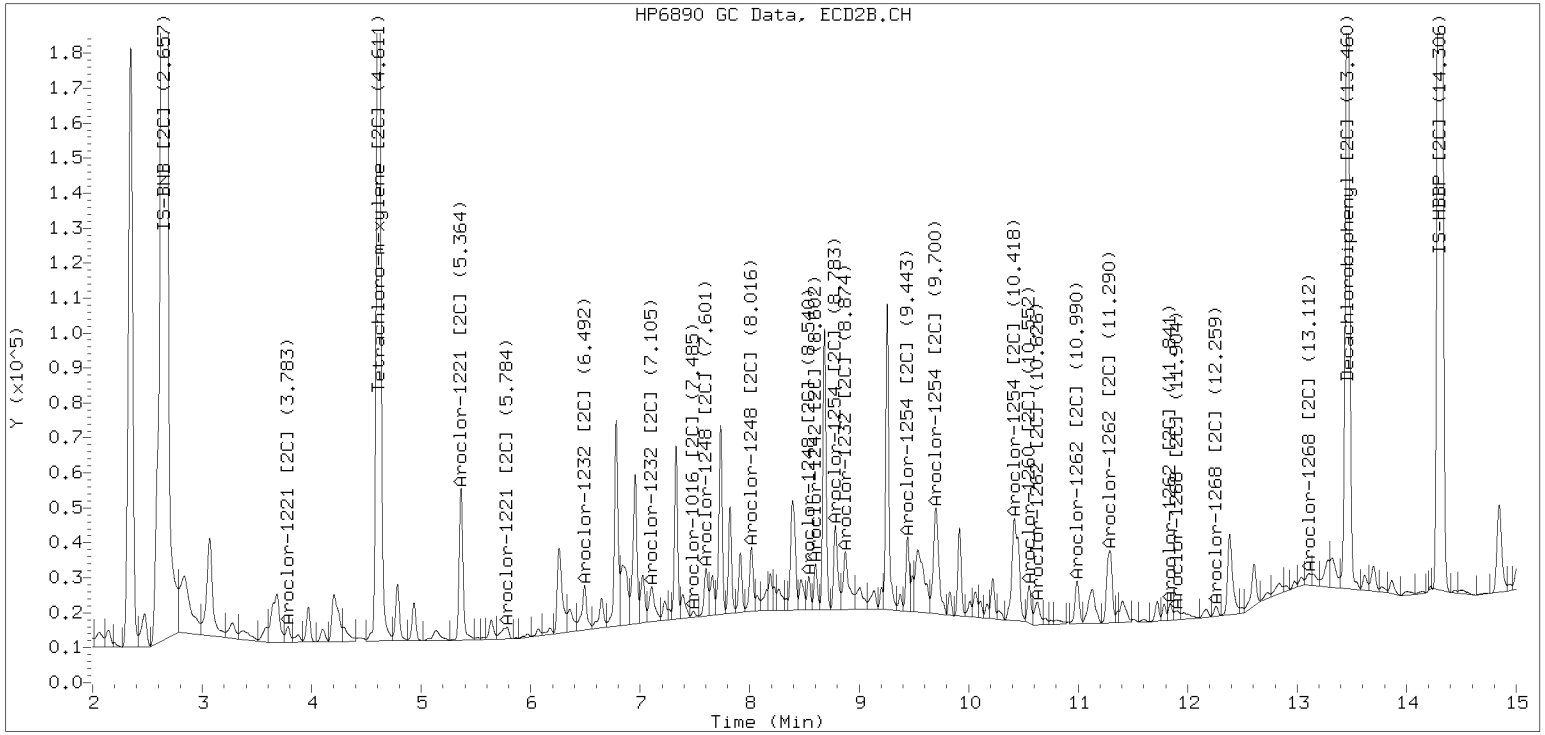


ZB-35 Manual Integration: YES

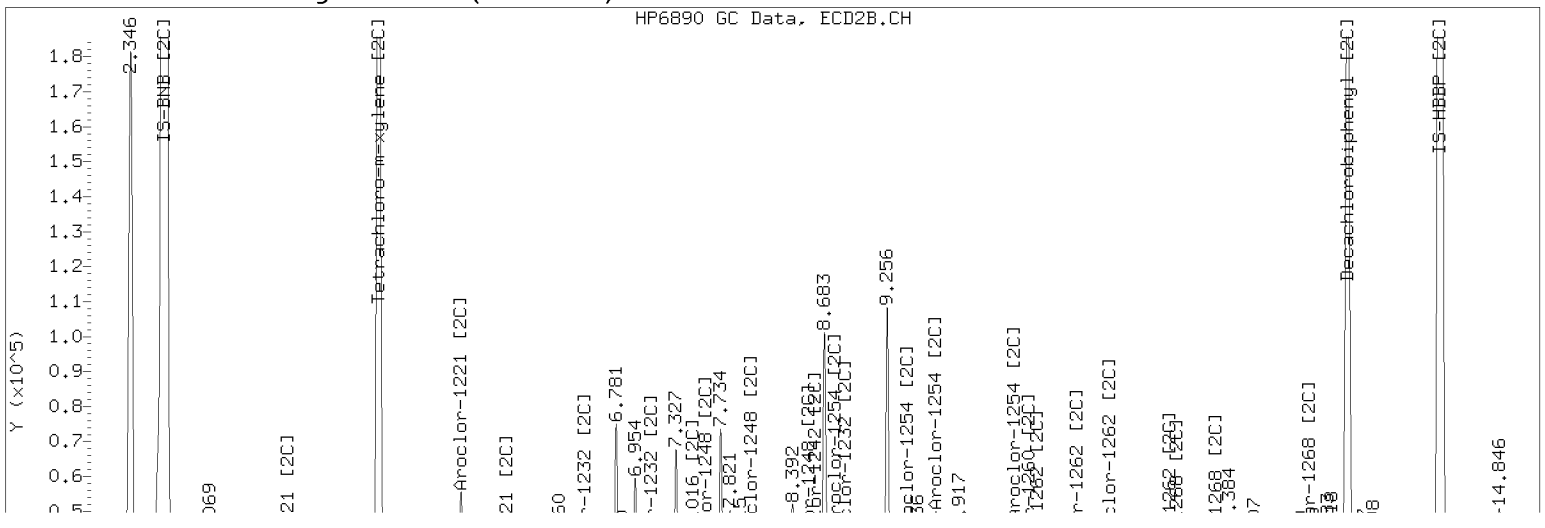
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070911.D Injection Date: 09-JUL-2018 10:44

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW18-C05-CLWB-Comp2

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-05	File ID:	18070912ECD7.D
Sampled:	05/18/18 15:32	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:06
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.57 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	10.4	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	4.6	1.1	4.0	

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9555*	*5.14*	*64.7*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9555*	*4.87*	*61.2*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9555*	*5.32*	*66.8*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9555*	*4.93*	*62.0*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070912ECD7.D
Data file 2: /20180709.b/20180709.b/18070912ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-05
Client ID:
Injection Date: 09-JUL-2018 11:06
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.731	-0.003	6766534	4.609	-0.000	12016898	24.5	24.8	1.3	Tetrachloro-m-xylene
13.282	-0.005	6039964	13.459	-0.000	8135219	25.9	26.7	3.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	61.2	62.0
Decachlorobiphenyl	64.7	66.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	23892062	-7.1
Hexabromobiphenyl	22585647	22009963	-2.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	45665034	14.6
Hexabromobiphenyl	22087957	26210177	18.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1016	1	6.477	-0.006	106381	16.7	1	6.490	0.037	503138	31.1
Aroclor-1016	2	6.857	-0.036	640440	30.1	2	7.100	0.005	412845	13.2
Aroclor-1016	3	7.185	0.025	158651	27.9	3	7.480	0.000	49182	6.5
Aroclor-1016	4	7.915	0.027	661077	99.6	4	8.010	0.005	448228	49.4
	Total Col1Ave (4 peaks):				43.6	Total Col2Ave (4 peaks):				25.1 RPD = 54*
	Corrected Ave (3 peaks):				24.9	Corrected Ave (3 peaks):				16.9 RPD = 38
Aroclor-1221	1	3.606	0.050	34055	18.3	1	3.783	-0.043	302012	81.9
Aroclor-1221	2	5.324	-0.033	136216	62.6	2	5.369	-0.017	910587	160.1
Aroclor-1221	3	---			0.0	3	5.756	-0.006	116763	12.0
	Col1Ave: <3 Quant Peaks					Col2Ave: 84.7				
Aroclor-1232	1	3.606	0.049	34055	30.1	1	3.783	-0.044	302012	136.8
Aroclor-1232	2	6.477	-0.018	106381	38.2	2	6.490	0.004	503138	65.5
Aroclor-1232	3	6.857	-0.049	640440	68.4	3	7.100	-0.029	412845	30.7
Aroclor-1232	4	7.714	-0.012	197866	64.4	4	8.953	0.036	59415	12.0
	Total Col1Ave (4 peaks):				50.3	Total Col2Ave (4 peaks):				61.3 RPD = 20
	Corrected Ave (3 peaks):				44.2	Corrected Ave (3 peaks):				36.1 RPD = 20
Aroclor-1242	1	6.477	-0.020	106381	20.8	1	6.490	0.001	503138	39.9
Aroclor-1242	2	7.046	-0.015	73175	10.8	2	7.100	-0.032	412845	17.0
Aroclor-1242	3	8.260	-0.020	192924	33.4	3	8.599	0.022	423777	56.9
Aroclor-1242	4	8.555	-0.019	284738	46.8	4	8.953	0.031	59415	6.9
	Total Col1Ave (4 peaks):				27.9	Total Col2Ave (4 peaks):				30.2 RPD = 8
	Corrected Ave (3 peaks):				21.6	Corrected Ave (3 peaks):				21.2 RPD = 2
Aroclor-1248	1	6.857	-0.031	640440	62.1	1	7.596	0.001	465479	44.2
Aroclor-1248	2	7.714	0.004	197866	23.7	2	8.010	0.005	448228	40.5
Aroclor-1248	3	8.324	0.007	533260	42.9	3	8.538	0.002	401477	33.5
Aroclor-1248	4	8.555	0.001	284738	30.6	4	8.871	-0.007	716725	51.6
	Total Col1Ave (4 peaks):				39.8	Total Col2Ave (4 peaks):				42.5 RPD = 6
	Corrected Ave (3 peaks):				32.4	Corrected Ave (3 peaks):				39.4 RPD = 20
Aroclor-1254	1	8.639	-0.005	753951	47.0	1	8.780	0.001	914954	58.0
Aroclor-1254	2	8.718	-0.002	237183	46.6	2	8.871	0.002	716725	93.2
Aroclor-1254	3	9.038	0.020	843788	90.5	3	9.441	-0.003	810180	32.1
Aroclor-1254	4	9.151	-0.005	687450	35.0	4	9.700	-0.001	1649653	65.2
Aroclor-1254	5	9.494	-0.012	790704	39.4	5	10.451	-0.005	1003259	53.1
	Total Col1Ave (5 peaks):				51.7	Total Col2Ave (5 peaks):				60.3 RPD = 15
	Corrected Ave (4 peaks):				42.0	Corrected Ave (4 peaks):				52.1 RPD = 21
Aroclor-1260	1	10.424	-0.004	332020	26.6	1	10.550	-0.001	451208	29.9
Aroclor-1260	2	10.741	-0.005	125532	10.5	2	10.987	-0.006	482285	29.3
Aroclor-1260	3	11.114	-0.005	750062	25.8	3	11.269	-0.001	745504	20.6
Aroclor-1260	4	11.515	-0.005	153301	11.3	4	11.839	-0.001	336727	13.7
Aroclor-1260	5	11.631	-0.005	97765	14.6	NS	---			----
	Total Col1Ave (5 peaks):				17.8	Total Col2Ave (4 peaks):				23.4 RPD = 27
	Corrected Ave (4 peaks):				15.5	Corrected Ave (3 peaks):				21.2 RPD = 31
Aroclor-1262	1	10.424	-0.023	332020	18.6	1	10.625	0.030	268392	13.2
Aroclor-1262	2	11.114	-0.025	750062	22.6	2	10.987	-0.053	482285	25.2
Aroclor-1262	3	11.515	-0.026	153301	15.0	3	11.355	0.038	29718	0.8
Aroclor-1262	4	11.631	-0.026	97765	7.5	4	11.839	0.007	336727	20.8
	Total Col1Ave (4 peaks):				15.9	Total Col2Ave (4 peaks):				15.0 RPD = 6
	Corrected Ave (3 peaks):				13.7	Corrected Ave (3 peaks):				11.6 RPD = 17
Aroclor-1268	1	11.631	-0.027	97765	2.5	1	11.839	0.008	336727	7.5
Aroclor-1268	2	11.704	-0.024	95820	2.7	2	---			0.0
Aroclor-1268	3	12.152	0.036	80450	2.7	3	12.332	0.045	37267	1.0
Aroclor-1268	4	12.866	-0.039	47888	0.5	4	13.138	0.032	38505	0.3
	Total Col1Ave (4 peaks):				2.1	Total Col2Ave (3 peaks):				3.0 RPD = 34
	Corrected Ave (3 peaks):				1.9	Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (4.834 - 13.187) = 29913150 Col1 Total PCB = 0.2 ppm*

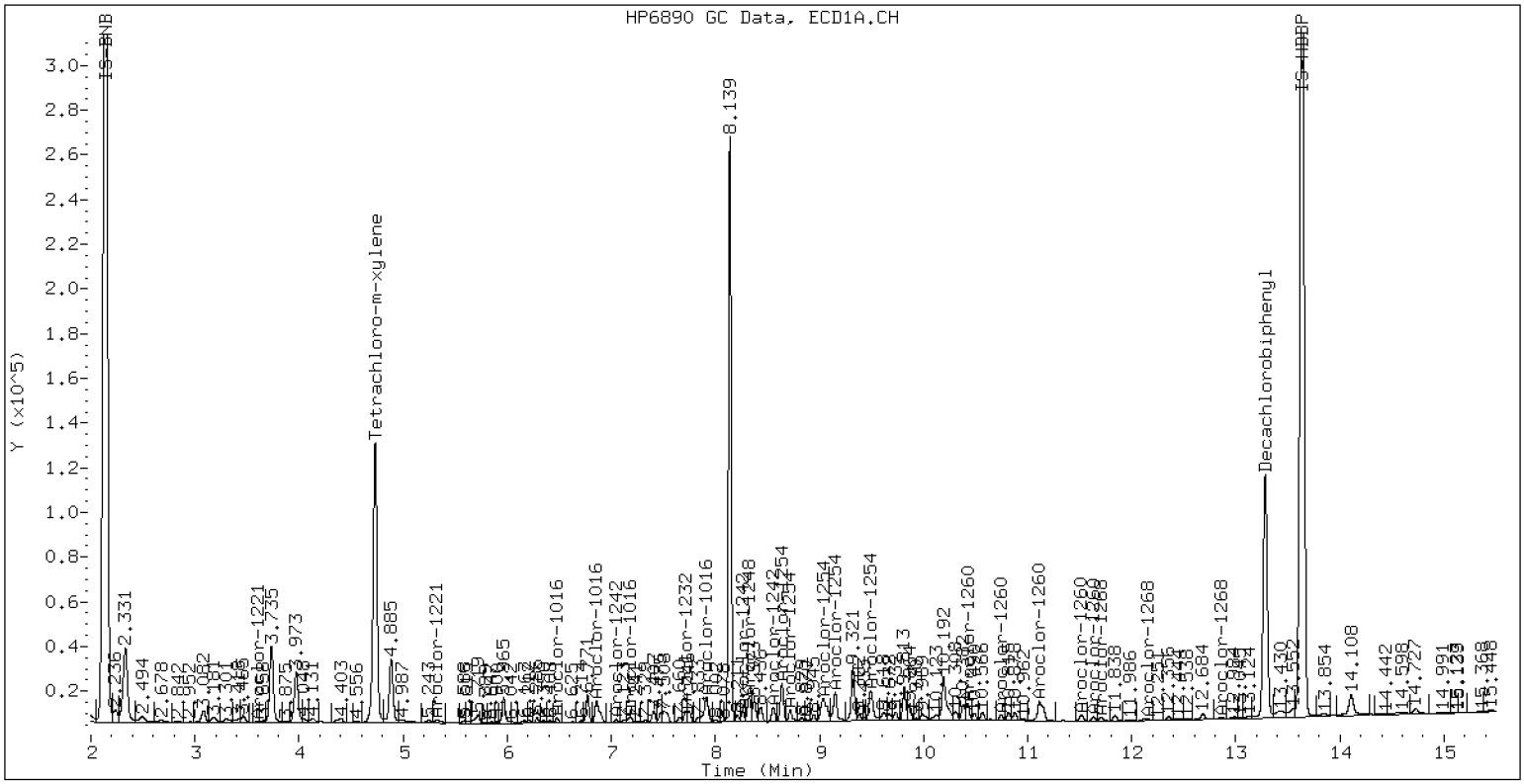
Total PCB Area Col2 (4.834 - 13.187) = 39570754 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

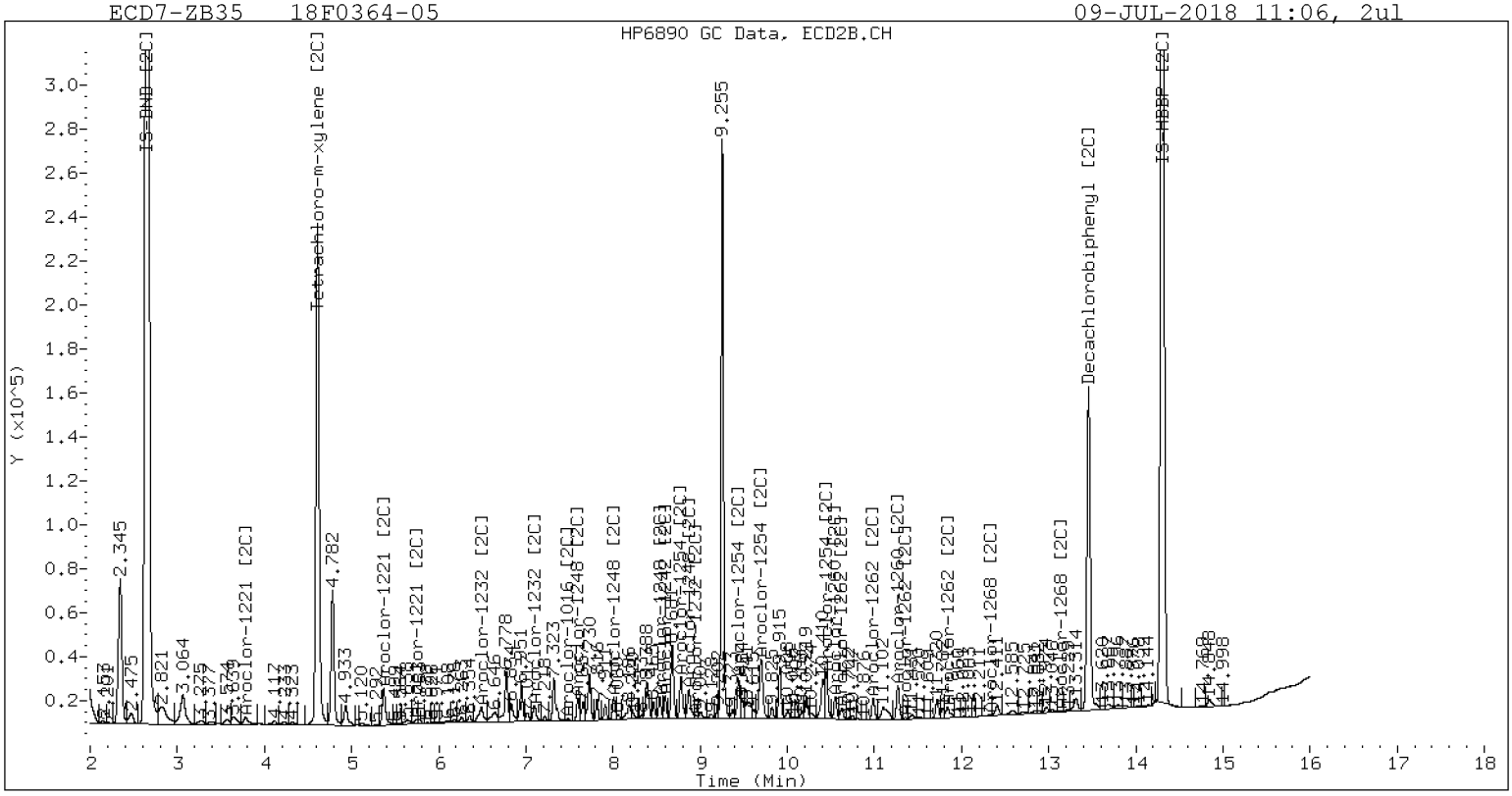
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-05 09-JUL-2018 11:06, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-05 09-JUL-2018 11:06, 2ul

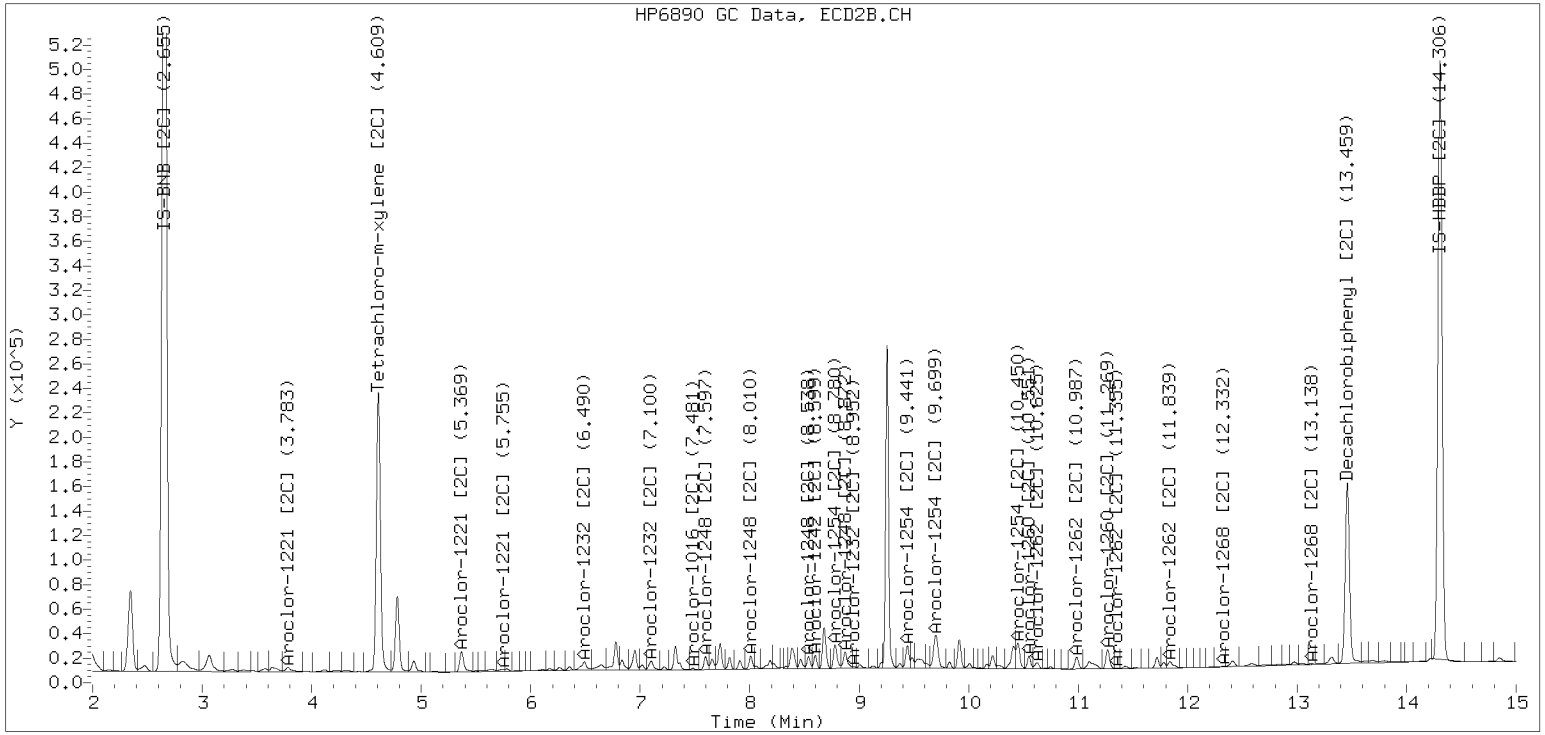


ZB-35 Manual Integration: YES

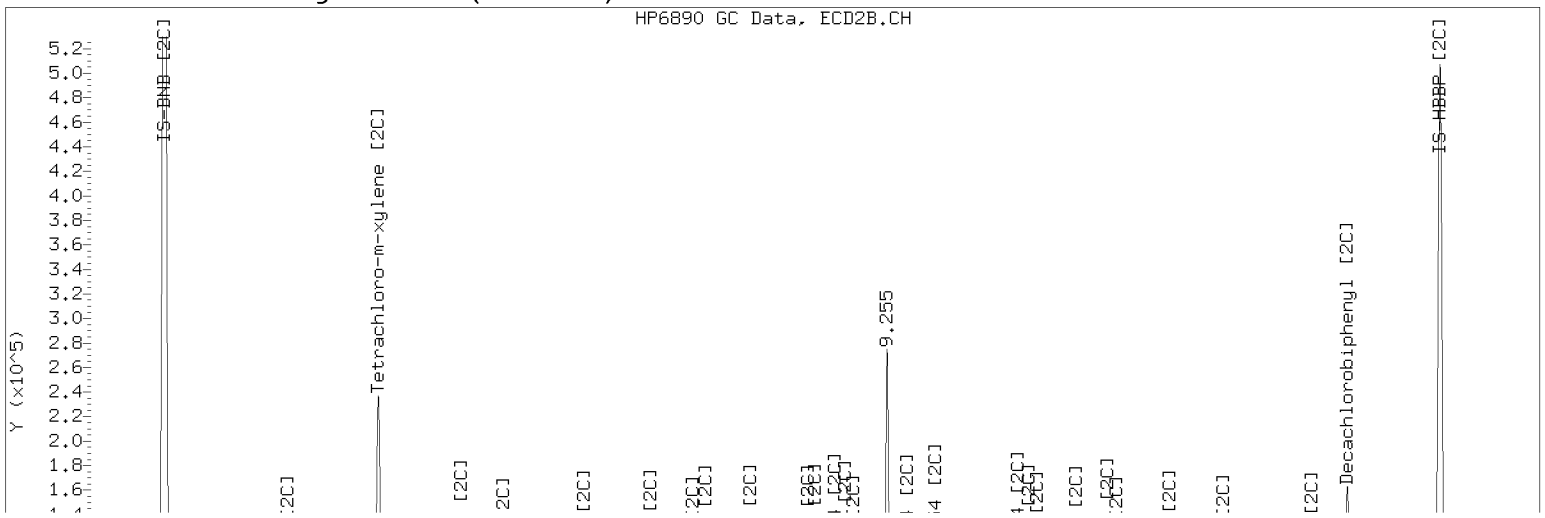
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070912.D Injection Date: 09-JUL-2018 11:06

Manual Integration (After)



Processed Integration (Before)



LDW18-C06-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-06	File ID:	18070913ECD7.D
Sampled:	05/15/18 11:55	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:28
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.54 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	9.2	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.1	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9745*	*4.91*	*61.5*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9745*	*5.09*	*63.9*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9745*	*5.02*	*63.0*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9745*	*5.18*	*64.9*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070913ECD7.D
Data file 2: /20180709.b/20180709.b/18070913ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-06
Client ID:
Injection Date: 09-JUL-2018 11:28
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.730	-0.004	7499875	4.609	-0.000	13312992	25.5	26.0	1.7	Tetrachloro-m-xylene
13.283	-0.005	6110444	13.458	-0.001	8193519	24.6	25.2	2.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.9	64.9
Decachlorobiphenyl	61.5	63.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	25367158	-1.4
Hexabromobiphenyl	22585647	23405504	3.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	48273295	21.2
Hexabromobiphenyl	22087957	28023420	26.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.477	-0.007	159215	23.5	1	6.490	0.037	704081	~~41.2~~
Aroclor-1016	2	6.857	-0.036	840586	37.2	2	7.102	0.006	304570	9.2
Aroclor-1016	3	7.184	0.023	177472	29.4	3	7.482	0.001	25939	3.3
Aroclor-1016	4	7.915	0.028	885518	~~125~~.6	4	8.011	0.007	510021	~~53.2~~
	Total Col1Ave (4 peaks):				53.9	Total Col2Ave (4 peaks):				26.7 RPD = 68*
	Corrected Ave (3 peaks):				30.0	Corrected Ave (3 peaks):				17.9 RPD = 51*
Aroclor-1221	1	3.465	-0.091	253204	~~127~~.8	1	3.784	-0.042	362758	93.0
Aroclor-1221	2	5.322	-0.035	82219	35.6	2	5.370	-0.016	771642	~~128.4~~
Aroclor-1221	3	5.431	-0.037	27547	3.9	3	5.786	0.023	228384	22.3
	Total Col1Ave (3 peaks):				55.8	Total Col2Ave (3 peaks):				81.2 RPD = 37
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.465	-0.092	253204	~~210~~.5	1	3.784	-0.044	362758	~~155.4~~
Aroclor-1232	2	6.477	-0.019	159215	53.9	2	6.490	0.005	704081	86.8
Aroclor-1232	3	6.857	-0.049	840586	84.6	3	7.102	-0.028	304570	21.4
Aroclor-1232	4	7.717	-0.008	374859	~~114.8~~	4	8.869	-0.048	751528	~~143.7~~
	Total Col1Ave (4 peaks):				116.0	Total Col2Ave (4 peaks):				101.8 RPD = 13
	Corrected Ave (3 peaks):				84.4	Corrected Ave (3 peaks):				84.0 RPD = 1
Aroclor-1242	1	6.477	-0.020	159215	~~29~~.3	1	6.490	0.001	704081	~~52.8~~
Aroclor-1242	2	7.047	-0.014	61393	8.5	2	7.102	-0.031	304570	11.9
Aroclor-1242	3	8.261	-0.020	157071	25.6	3	8.598	0.021	367569	46.7
Aroclor-1242	4	8.556	-0.019	254601	~~39.4~~	4	8.869	-0.053	751528	~~82.3~~
	Total Col1Ave (4 peaks):				25.7	Total Col2Ave (4 peaks):				48.4 RPD = 61*
	Corrected Ave (3 peaks):				21.1	Corrected Ave (3 peaks):				37.1 RPD = 55*
Aroclor-1248	1	6.857	-0.032	840586	~~76.8~~	1	7.598	0.003	552387	49.6
Aroclor-1248	2	7.717	0.008	374859	~~42.3~~	2	8.011	0.007	510021	43.6
Aroclor-1248	3	8.327	0.009	443773	33.6	3	8.537	0.002	256604	20.3
Aroclor-1248	4	8.556	0.001	254601	25.8	4	8.869	-0.009	751528	51.2
	Total Col1Ave (4 peaks):				44.6	Total Col2Ave (4 peaks):				41.2 RPD = 8
	Corrected Ave (3 peaks):				33.9	Corrected Ave (3 peaks):				37.8 RPD = 11
Aroclor-1254	1	8.638	-0.005	917827	53.9	1	8.781	0.002	965159	57.8
Aroclor-1254	2	8.717	-0.003	262512	48.6	2	8.869	-0.000	751528	~~92.4~~
Aroclor-1254	3	9.039	0.021	1129842	~~114.1~~	3	9.441	-0.004	743425	27.9
Aroclor-1254	4	9.152	-0.004	667338	32.0	4	9.699	-0.002	1633980	61.1
Aroclor-1254	5	9.492	-0.013	699697	32.8	5	10.449	-0.007	739685	37.0
	Total Col1Ave (5 peaks):				56.3	Total Col2Ave (5 peaks):				~~55.3~~ RPD = 2
	Corrected Ave (4 peaks):				41.8	Corrected Ave (4 peaks):				46.0 RPD = 9
Aroclor-1260	1	10.490	0.062	126868	9.6	1	10.550	-0.001	391585	~~24.2~~
Aroclor-1260	2	10.744	-0.002	119721	9.4	2	10.987	-0.006	400945	22.7
Aroclor-1260	3	11.115	-0.004	580333	18.8	3	11.269	-0.001	584893	15.1
Aroclor-1260	4	11.513	-0.007	134072	9.3	4	11.839	-0.001	249184	9.5
Aroclor-1260	5	11.633	-0.004	71669	10.0	NS	---			----
	Total Col1Ave (5 peaks):				11.4	Total Col2Ave (4 peaks):				~~17.8~~ RPD = 44*
	Corrected Ave (4 peaks):				9.6	Corrected Ave (3 peaks):				15.8 RPD = 49*
Aroclor-1262	1	10.490	0.043	126868	6.7	1	10.627	0.031	205540	9.5
Aroclor-1262	2	11.115	-0.024	580333	16.5	2	10.987	-0.053	400945	19.6
Aroclor-1262	3	11.513	-0.028	134072	12.3	3	11.353	0.037	21950	0.5
Aroclor-1262	4	11.633	-0.025	71669	5.2	4	11.839	0.006	249184	14.4
	Total Col1Ave (4 peaks):				10.2	Total Col2Ave (4 peaks):				11.0 RPD = 8
	Corrected Ave (3 peaks):				8.1	Corrected Ave (3 peaks):				8.1 RPD = 1
Aroclor-1268	1	11.633	-0.026	71669	1.7	1	11.839	0.008	249184	5.2
Aroclor-1268	2	11.704	-0.024	83188	2.2	2	---			0.0
Aroclor-1268	3	12.149	0.033	53127	1.7	3	12.267	-0.020	16776	0.4
Aroclor-1268	4	12.859	-0.045	53794	0.6	4	13.129	0.023	77109	0.6
	Total Col1Ave (4 peaks):				1.5	Total Col2Ave (3 peaks):				2.1 RPD = 31

Corrected Ave (3 peaks): 1.3 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 25801276 Col1 Total PCB = 0.2 ppm*

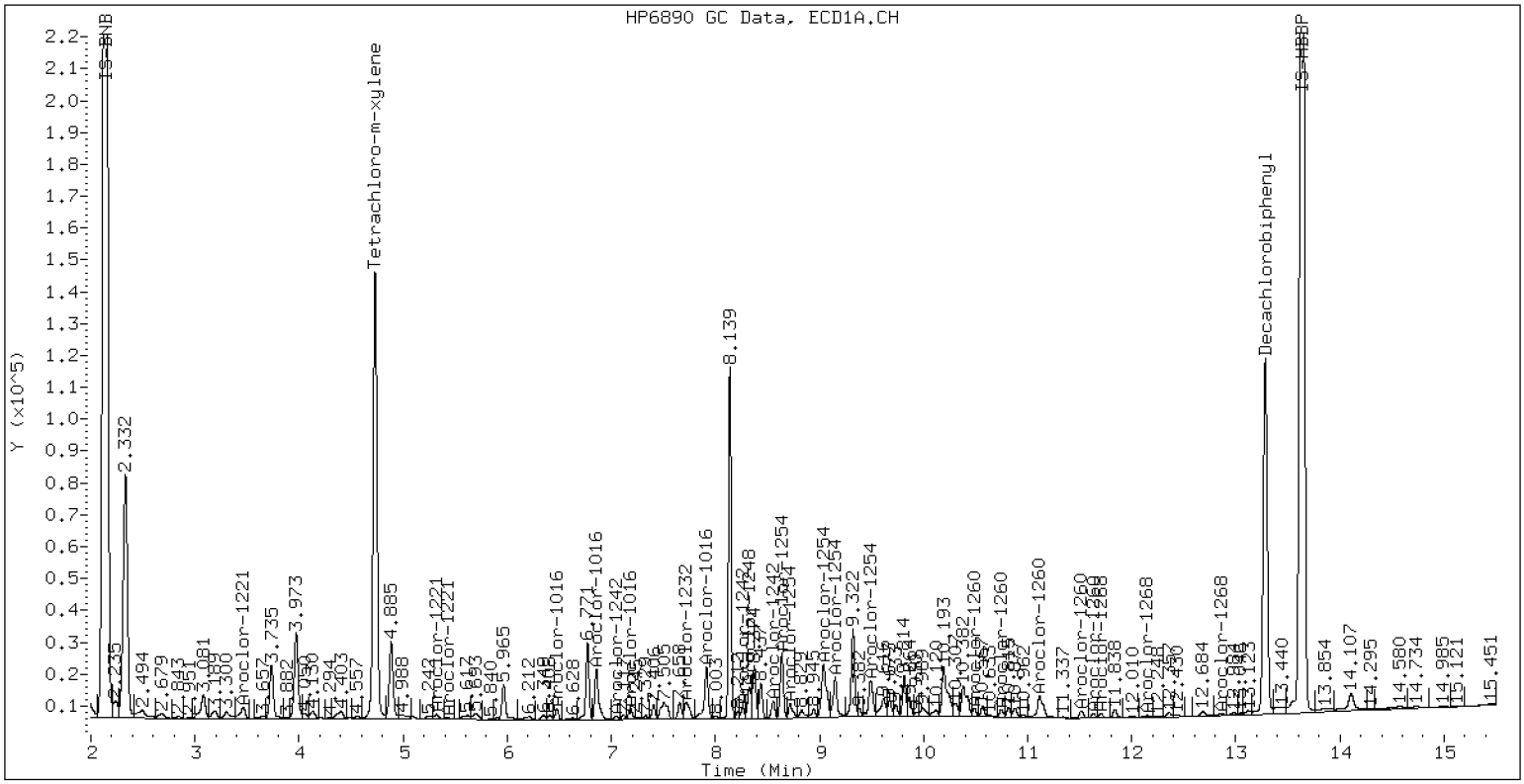
Total PCB Area Col2 (4.834 - 13.187) = 35641871 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

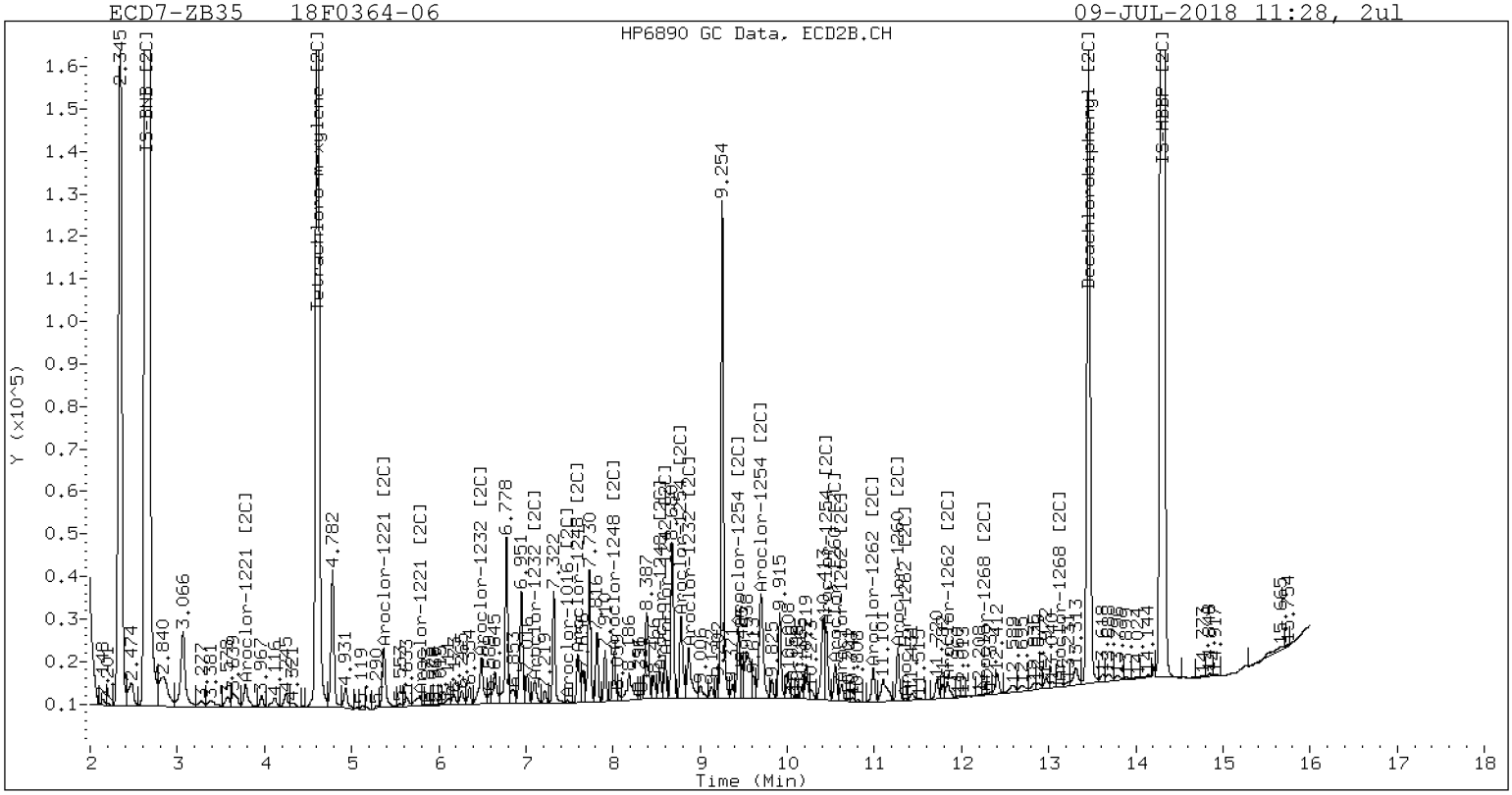
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-06 09-JUL-2018 11:28, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-06 09-JUL-2018 11:28, 2ul

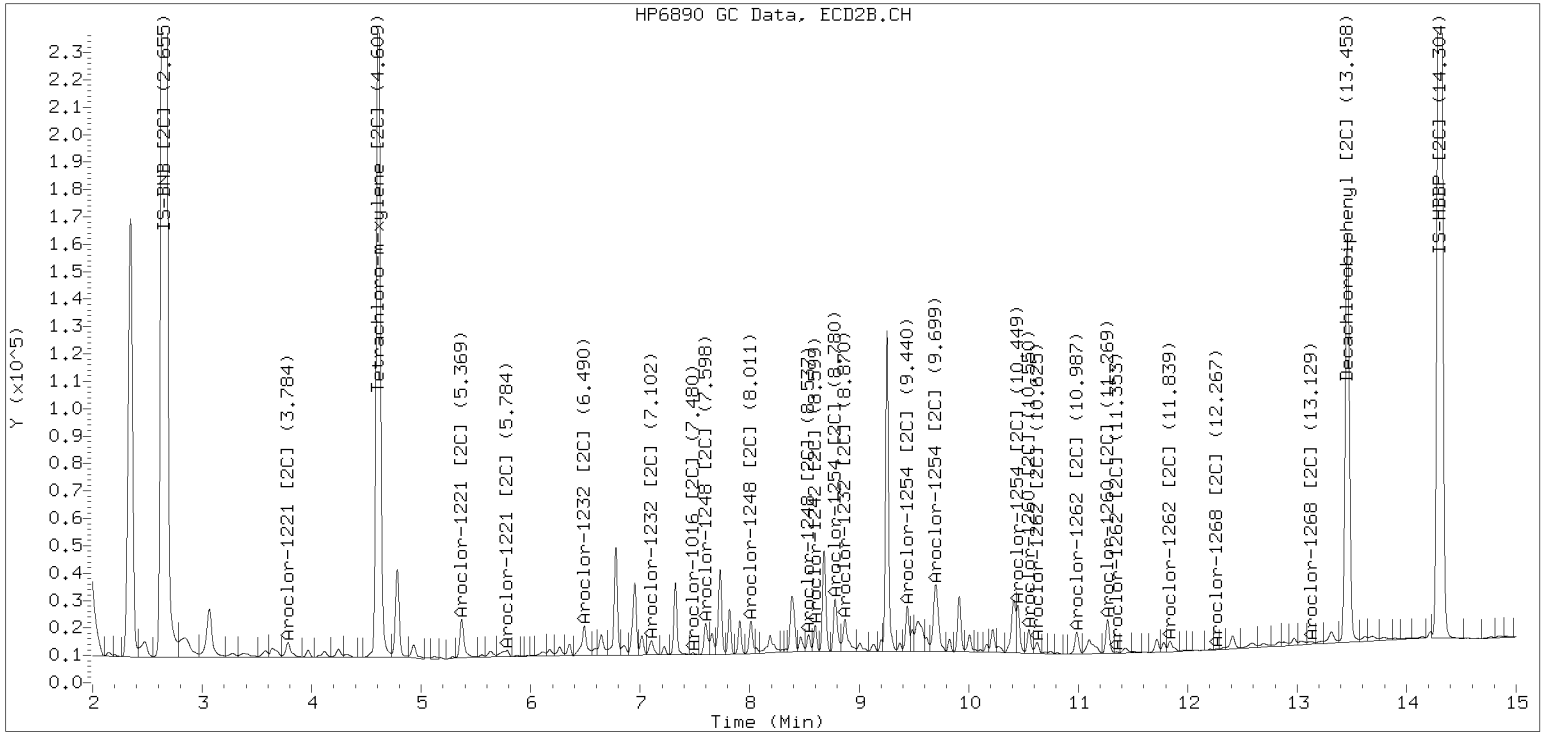


ZB-35 Manual Integration: YES

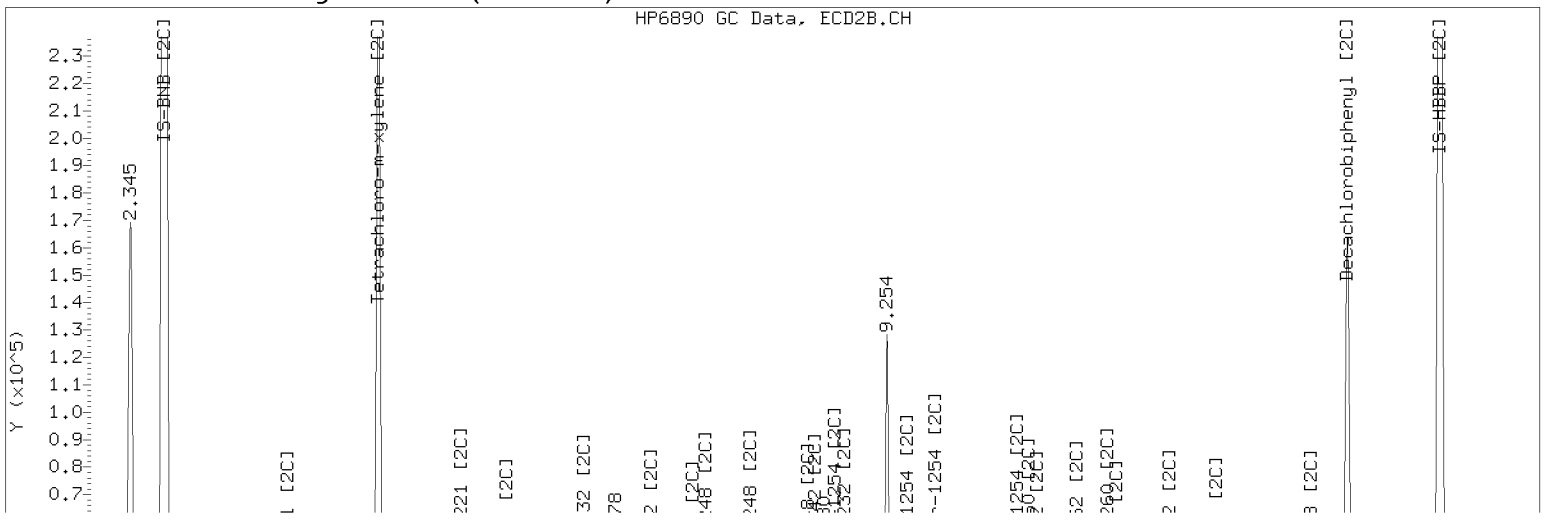
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070913.D Injection Date: 09-JUL-2018 11:28

Manual Integration (After)



Processed Integration (Before)



LDW18-C08-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-07	File ID:	18070914ECD7.D
Sampled:	05/18/18 13:20	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:50
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.53 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	10.4	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.4	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9808*	*5.57*	*69.8*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9808*	*5.47*	*68.6*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9808*	*5.36*	*67.2*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9808*	*5.63*	*70.6*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070914ECD7.D
Data file 2: /20180709.b/20180709.b/18070914ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-07
Client ID:
Injection Date: 09-JUL-2018 11:50
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.730	-0.005	7956443	4.608	-0.001	14210258	27.4	28.2	2.9	Tetrachloro-m-xylene
13.283	-0.004	6996983	13.458	-0.001	9077667	27.9	26.9	3.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	68.6	70.6
Decachlorobiphenyl	69.8	67.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	25069356	-2.6
Hexabromobiphenyl	22585647	23608935	4.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47424323	19.1
Hexabromobiphenyl	22087957	29080978	31.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.475	-0.008	118087	17.7	1	6.490	0.037	640611	38.1
Aroclor-1016	2	6.856	-0.037	818025	36.6	2	7.105	0.009	346783	10.7
Aroclor-1016	3	7.185	0.024	164406	27.6	3	7.481	0.001	28826	3.7
Aroclor-1016	4	7.915	0.028	1029155	147.8	4	8.013	0.008	518441	55.0
Total Col1Ave (4 peaks):					57.4	Total Col2Ave (4 peaks):				26.9 RPD = 72*
Corrected Ave (3 peaks):					27.3	Corrected Ave (3 peaks):				17.5 RPD = 44*
Aroclor-1221	1	3.598	0.042	184249	94.1	1	3.783	-0.044	363342	94.9
Aroclor-1221	2	5.322	-0.035	89566	39.2	2	5.370	-0.016	1135832	192.3
Aroclor-1221	3	5.432	-0.036	88391	12.8	3	5.784	0.021	253943	25.2
Total Col1Ave (3 peaks):					48.7	Total Col2Ave (3 peaks):				104.1 RPD = 73*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.598	0.041	184249	155.0	1	3.783	-0.045	363342	158.4
Aroclor-1232	2	6.475	-0.020	118087	40.5	2	6.490	0.004	640611	80.3
Aroclor-1232	3	6.856	-0.050	818025	83.3	3	7.105	-0.025	346783	24.8
Aroclor-1232	4	7.715	-0.011	342904	106.3	4	8.955	0.038	47084	9.2
Total Col1Ave (4 peaks):					96.3	Total Col2Ave (4 peaks):				68.2 RPD = 34
Corrected Ave (3 peaks):					76.7	Corrected Ave (3 peaks):				38.1 RPD = 67*
Aroclor-1242	1	6.475	-0.022	118087	22.0	1	6.490	0.001	640611	48.9
Aroclor-1242	2	7.049	-0.013	46891	6.6	2	7.105	-0.028	346783	13.8
Aroclor-1242	3	8.262	-0.018	124476	20.5	3	8.598	0.021	315193	40.8
Aroclor-1242	4	8.559	-0.016	255457	40.0	4	8.955	0.034	47084	5.3
Total Col1Ave (4 peaks):					22.3	Total Col2Ave (4 peaks):				27.2 RPD = 20
Corrected Ave (3 peaks):					16.4	Corrected Ave (3 peaks):				19.9 RPD = 20
Aroclor-1248	1	6.856	-0.032	818025	75.7	1	7.597	0.002	426459	39.0
Aroclor-1248	2	7.715	0.005	342904	39.1	2	8.013	0.008	518441	45.1
Aroclor-1248	3	8.327	0.010	347364	26.6	3	8.538	0.002	223844	18.0
Aroclor-1248	4	8.559	0.004	255457	26.2	4	8.869	-0.010	793288	55.0
Total Col1Ave (4 peaks):					41.9	Total Col2Ave (4 peaks):				39.3 RPD = 6
Corrected Ave (3 peaks):					30.6	Corrected Ave (3 peaks):				34.0 RPD = 10
Aroclor-1254	1	8.639	-0.005	795143	47.3	1	8.781	0.003	1096013	66.9
Aroclor-1254	2	8.718	-0.002	227964	42.7	2	8.869	-0.001	793288	99.3
Aroclor-1254	3	9.040	0.021	1321167	135.1	3	9.437	-0.007	998529	38.1
Aroclor-1254	4	9.150	-0.006	557733	27.1	4	9.698	-0.003	1835173	69.9
Aroclor-1254	5	9.492	-0.014	674115	32.0	5	10.446	-0.010	668061	34.0
Total Col1Ave (5 peaks):					56.8	Total Col2Ave (5 peaks):				61.6 RPD = 8
Corrected Ave (4 peaks):					37.2	Corrected Ave (4 peaks):				52.2 RPD = 33
Aroclor-1260	1	10.422	-0.006	318163	23.8	1	10.550	-0.002	447667	26.7
Aroclor-1260	2	10.745	-0.001	75465	5.9	2	10.986	-0.007	324638	17.7
Aroclor-1260	3	11.147	0.028	313821	10.1	3	11.269	-0.001	598257	14.9
Aroclor-1260	4	11.516	-0.005	177052	12.2	4	11.838	-0.002	222547	8.2
Aroclor-1260	5	11.633	-0.003	89336	12.4	NS	---			----
Total Col1Ave (5 peaks):					12.9	Total Col2Ave (4 peaks):				16.9 RPD = 27
Corrected Ave (4 peaks):					10.1	Corrected Ave (3 peaks):				13.6 RPD = 29
Aroclor-1262	1	10.422	-0.025	318163	16.6	1	10.625	0.029	184939	8.2
Aroclor-1262	2	11.147	0.009	313821	8.8	2	10.986	-0.054	324638	15.3
Aroclor-1262	3	11.516	-0.025	177052	16.1	3	11.352	0.036	24430	0.6
Aroclor-1262	4	11.633	-0.024	89336	6.4	4	11.838	0.005	222547	12.4
Total Col1Ave (4 peaks):					12.0	Total Col2Ave (4 peaks):				9.1 RPD = 27
Corrected Ave (3 peaks):					10.5	Corrected Ave (3 peaks):				7.1 RPD = 39
Aroclor-1268	1	11.633	-0.025	89336	2.1	1	11.838	0.007	222547	4.5
Aroclor-1268	2	11.705	-0.023	99482	2.6	2	---			0.0
Aroclor-1268	3	12.154	0.038	63580	2.0	3	12.268	-0.019	13465	0.3
Aroclor-1268	4	12.857	-0.047	62073	0.7	4	13.131	0.025	54089	0.4
Total Col1Ave (4 peaks):					1.8	Total Col2Ave (3 peaks):				1.8 RPD = 5

Corrected Ave (3 peaks): 1.6 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 34752506 Col1 Total PCB = 0.2 ppm*

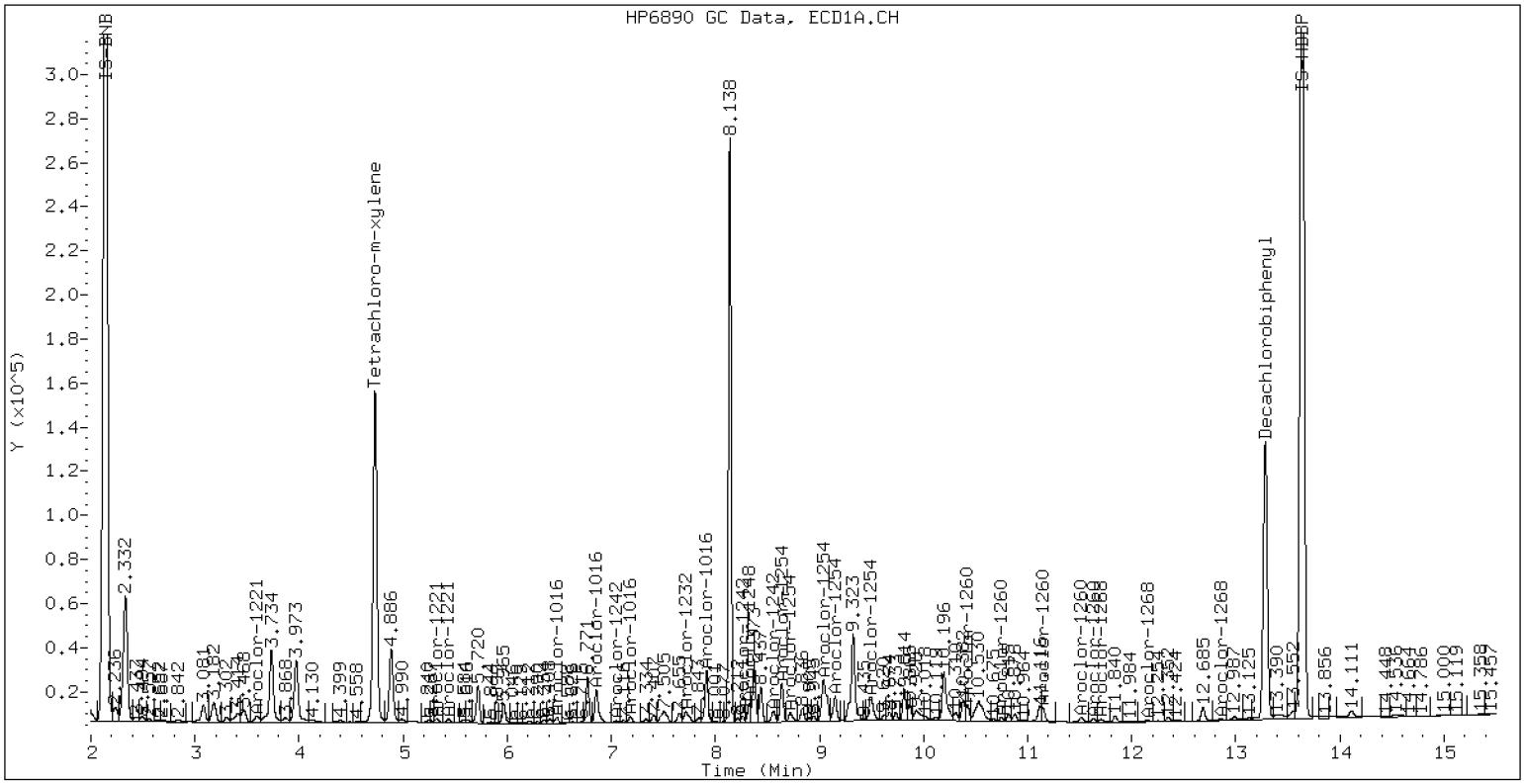
Total PCB Area Col2 (4.834 - 13.187) = 45980955 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

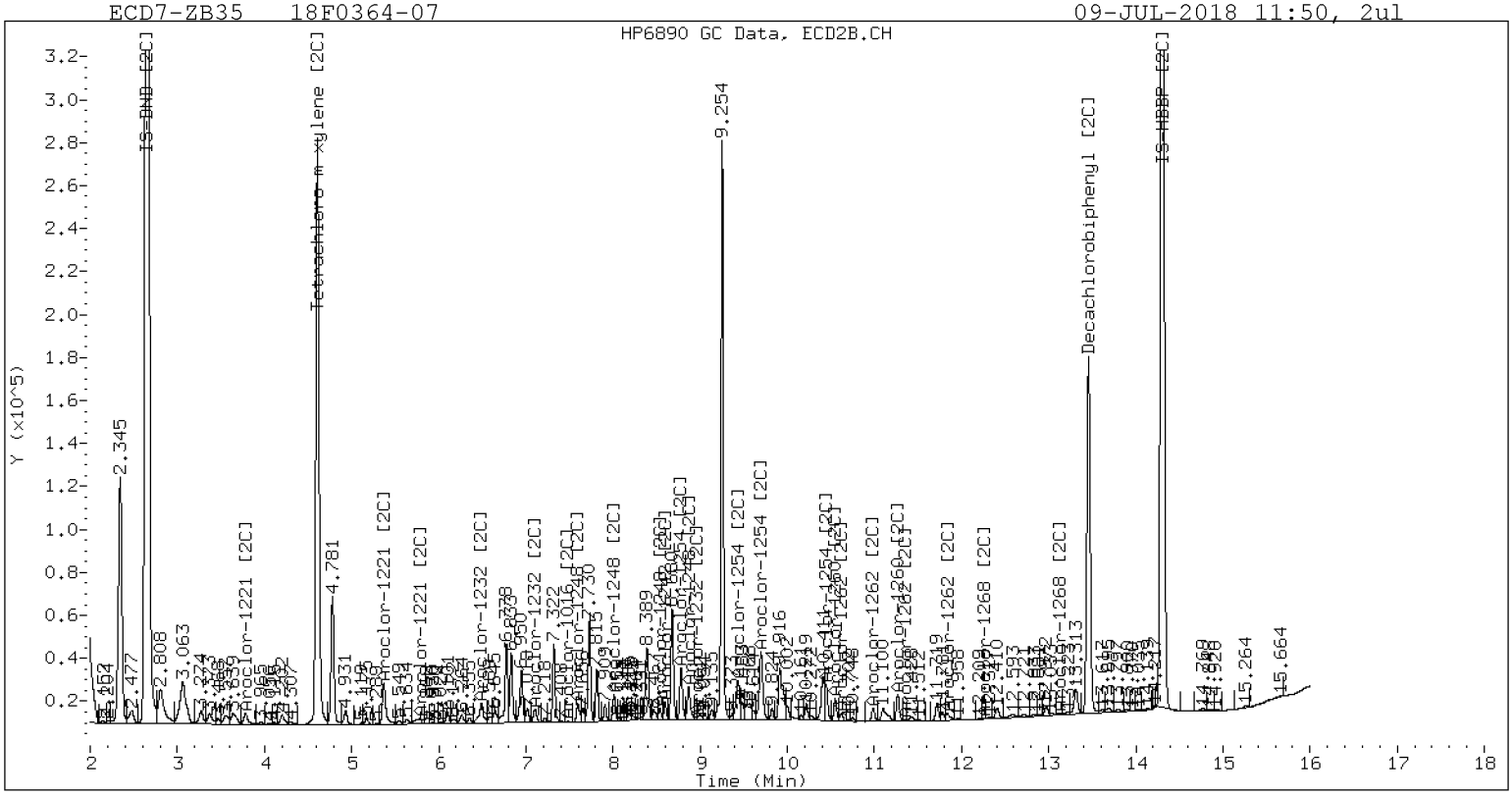
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-07 09-JUL-2018 11:50, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-07 09-JUL-2018 11:50, 2ul

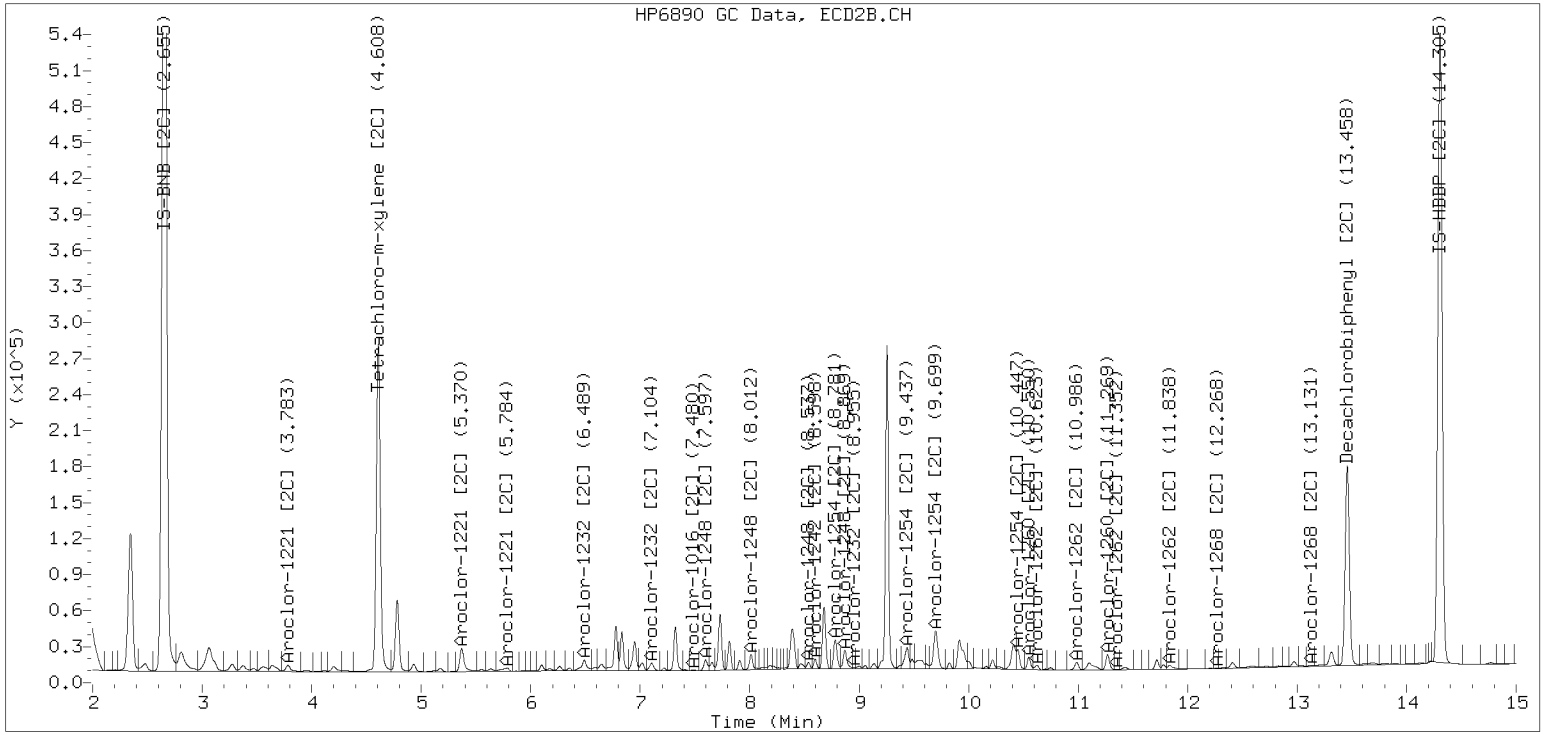


ZB-35 Manual Integration: YES

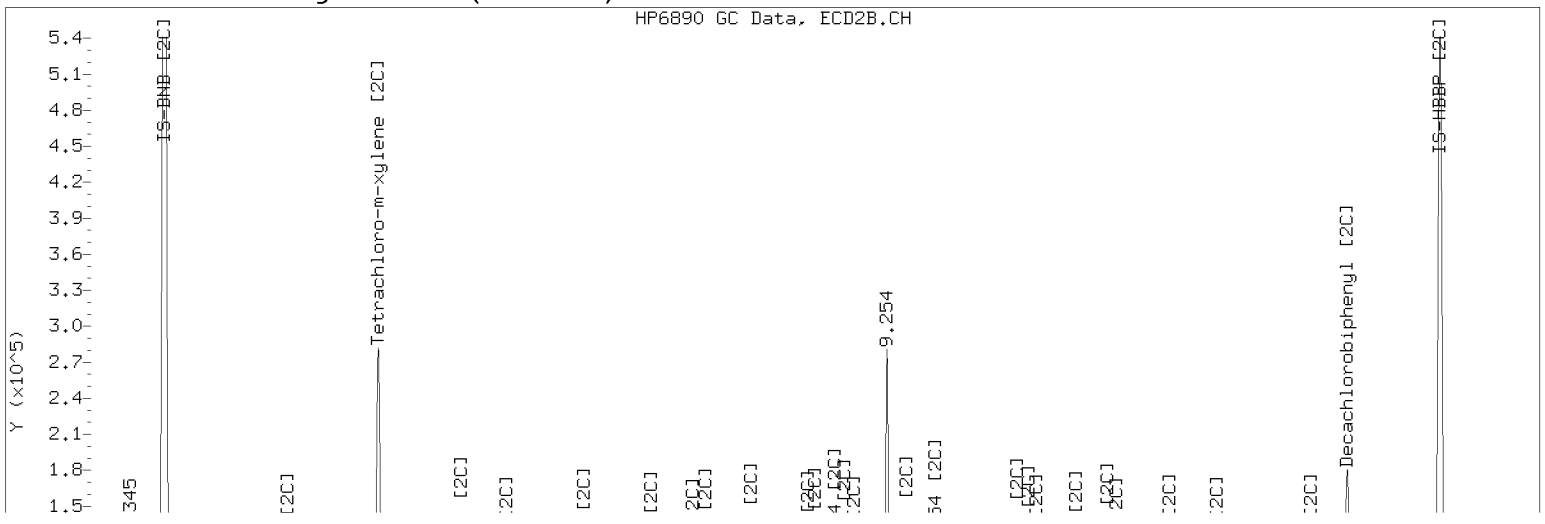
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070914.D Injection Date: 09-JUL-2018 11:50

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW18-C10-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-08	File ID:	18070915ECD7.D
Sampled:	05/17/18 13:52	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 12:12
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.54 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	8.0	2.4	4.0	
11096-82-5	Aroclor 1260	1	1	4.0	1.1	4.0	U

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9745*	*5.06*	*63.4*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9745*	*5.24*	*65.8*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9745*	*5.15*	*64.6*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9745*	*5.38*	*67.4*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070915ECD7.D
Data file 2: /20180709.b/20180709.b/18070915ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-08
Client ID:
Injection Date: 09-JUL-2018 12:12
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.731	-0.004	8094666	4.609	-0.000	14364329	26.3	27.0	2.5	Tetrachloro-m-xylene
13.283	-0.005	6543923	13.458	-0.001	8781017	25.4	25.8	1.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	65.8	67.4
Decachlorobiphenyl	63.4	64.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	26589888	3.3
Hexabromobiphenyl	22585647	24322554	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	50143901	25.9
Hexabromobiphenyl	22087957	29275134	32.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount	
Aroclor-1016	1	6.475	-0.009	135051	19.1	1	6.490	0.037	581715	32.7	
Aroclor-1016	2	6.856	-0.036	848879	35.8	2	7.103	0.007	255918	7.5	
Aroclor-1016	3	7.184	0.023	181129	28.6	3	7.479	-0.001	23864	2.9	
Aroclor-1016	4	7.914	0.027	1208118	163.5	4	8.012	0.007	563165	56.5	
	Total Col1Ave (4 peaks):				61.8	Total Col2Ave (4 peaks):				24.9	RPD = 85*
	Corrected Ave (3 peaks):				27.8	Corrected Ave (3 peaks):				14.4	RPD = 64*
Aroclor-1221	1	3.597	0.041	315410	151.9	1	3.786	-0.041	895624	221.1	
Aroclor-1221	2	5.321	-0.035	83198	34.4	2	5.371	-0.015	748477	119.9	
Aroclor-1221	3	5.433	-0.035	38826	5.3	3	5.786	0.023	225368	21.2	
	Total Col1Ave (3 peaks):				63.9	Total Col2Ave (3 peaks):				120.7	RPD = 62*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	3.597	0.040	315410	250.2	1	3.786	-0.042	895624	369.4	
Aroclor-1232	2	6.475	-0.021	135051	43.6	2	6.490	0.004	581715	69.0	
Aroclor-1232	3	6.856	-0.050	848879	81.5	3	7.103	-0.026	255918	17.3	
Aroclor-1232	4	7.714	-0.012	603531	176.4	4	8.946	0.029	50367	9.3	
	Total Col1Ave (4 peaks):				137.9	Total Col2Ave (4 peaks):				116.3	RPD = 17
	Corrected Ave (3 peaks):				100.5	Corrected Ave (3 peaks):				31.9	RPD = 104*
Aroclor-1242	1	6.475	-0.022	135051	23.7	1	6.490	0.001	581715	42.0	
Aroclor-1242	2	7.048	-0.014	44908	6.0	2	7.103	-0.029	255918	9.6	
Aroclor-1242	3	8.261	-0.019	110899	17.2	3	8.597	0.020	291210	35.6	
Aroclor-1242	4	8.557	-0.017	171770	25.4	4	8.946	0.025	50367	5.3	
	Total Col1Ave (4 peaks):				18.1	Total Col2Ave (4 peaks):				23.1	RPD = 25
	Corrected Ave (3 peaks):				15.6	Corrected Ave (3 peaks):				16.8	RPD = 8
Aroclor-1248	1	6.856	-0.032	848879	74.0	1	7.597	0.002	418136	36.1	
Aroclor-1248	2	7.714	0.004	603531	65.0	2	8.012	0.007	563165	46.4	
Aroclor-1248	3	8.329	0.012	282265	20.4	3	8.540	0.004	259113	19.7	
Aroclor-1248	4	8.557	0.003	171770	16.6	4	8.873	-0.005	663758	43.5	
	Total Col1Ave (4 peaks):				44.0	Total Col2Ave (4 peaks):				36.4	RPD = 19
	Corrected Ave (3 peaks):				34.0	Corrected Ave (3 peaks):				33.1	RPD = 3
Aroclor-1254	1	8.636	-0.007	689784	38.6	1	8.781	0.002	726183	41.9	
Aroclor-1254	2	8.717	-0.003	163655	28.9	2	8.873	0.004	663758	78.6	
Aroclor-1254	3	9.036	0.018	1433913	138.2	3	9.438	-0.006	692861	25.0	
Aroclor-1254	4	9.148	-0.008	554678	25.4	4	9.696	-0.005	1466524	52.8	
Aroclor-1254	5	9.491	-0.014	471605	21.1	5	10.415	-0.042	1473428	71.0	
	Total Col1Ave (5 peaks):				50.4	Total Col2Ave (5 peaks):				53.9	RPD = 7
	Corrected Ave (4 peaks):				28.5	Corrected Ave (4 peaks):				47.7	RPD = 50*
										39.9	
Aroclor-1260	1	10.481	0.053	97275	7.1	1	10.550	-0.002	246954	14.6	
Aroclor-1260	2	10.756	0.010	90113	6.8	2	10.986	-0.008	254008	13.8	
Aroclor-1260	3	11.112	-0.007	380847	11.8	3	11.268	-0.002	366934	9.1	
Aroclor-1260	4	11.515	-0.005	82789	5.5	4	11.838	-0.002	158919	5.8	
Aroclor-1260	5	11.631	-0.005	44771	6.0	NS	---			----	
	Total Col1Ave (5 peaks):				7.5	Total Col2Ave (4 peaks):				10.8	RPD = 37
	Corrected Ave (4 peaks):				6.4	Corrected Ave (3 peaks):				9.6	RPD = 40*
Aroclor-1262	1	10.481	0.035	97275	4.9	1	10.620	0.024	126540	5.6	
Aroclor-1262	2	11.112	-0.026	380847	10.4	2	10.986	-0.055	254008	11.9	
Aroclor-1262	3	11.515	-0.026	82789	7.3	3	11.353	0.036	22094	0.5	
Aroclor-1262	4	11.631	-0.026	44771	3.1	4	11.838	0.005	158919	8.8	
	Total Col1Ave (4 peaks):				6.4	Total Col2Ave (4 peaks):				6.7	RPD = 4
	Corrected Ave (3 peaks):				5.1	Corrected Ave (3 peaks):				5.0	RPD = 3
Aroclor-1268	1	11.631	-0.027	44771	1.0	1	11.838	0.007	158919	3.2	
Aroclor-1268	2	11.704	-0.024	44774	1.1	2	---			0.0	
Aroclor-1268	3	12.142	0.026	101365	3.1	3	12.327	0.040	34362	0.8	
Aroclor-1268	4	12.857	-0.047	36598	0.4	4	13.124	0.018	88744	0.7	
	Total Col1Ave (4 peaks):				1.4	Total Col2Ave (3 peaks):				1.6	RPD = 12

Corrected Ave (3 peaks): 0.8 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 32472997 Col1 Total PCB = 0.2 ppm*

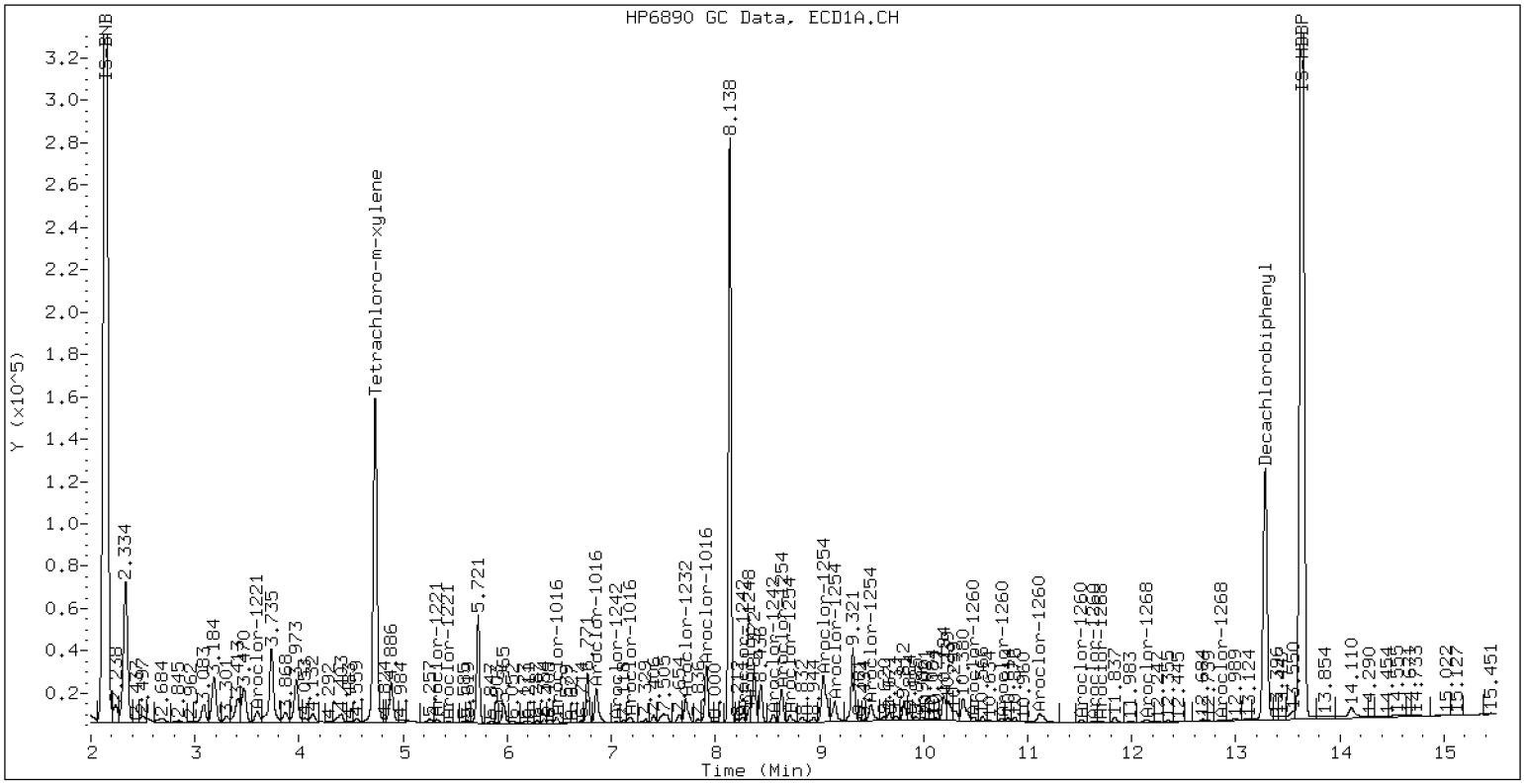
Total PCB Area Col2 (4.834 - 13.187) = 44389939 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

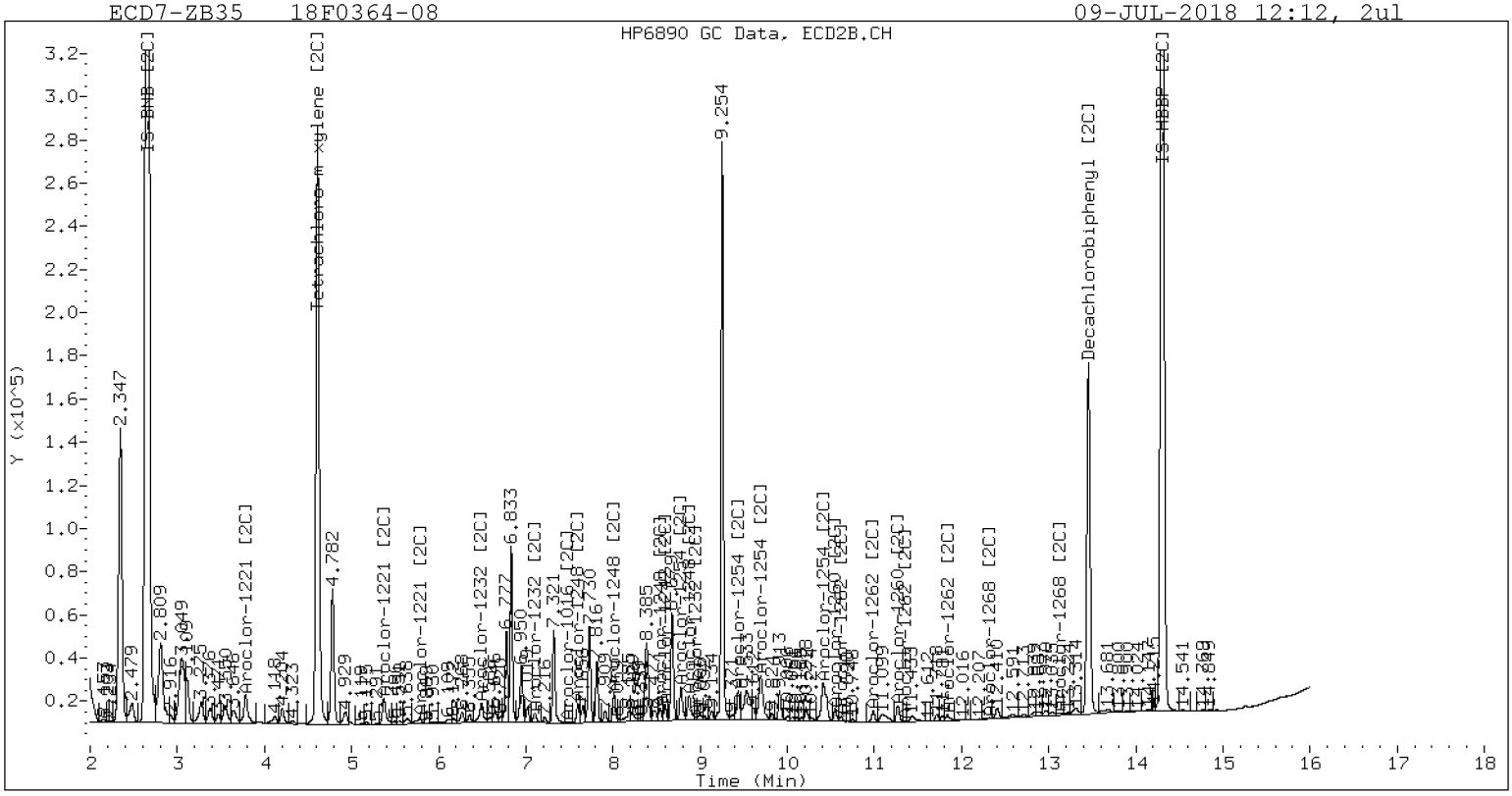
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-08 09-JUL-2018 12:12, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-08 09-JUL-2018 12:12, 2ul

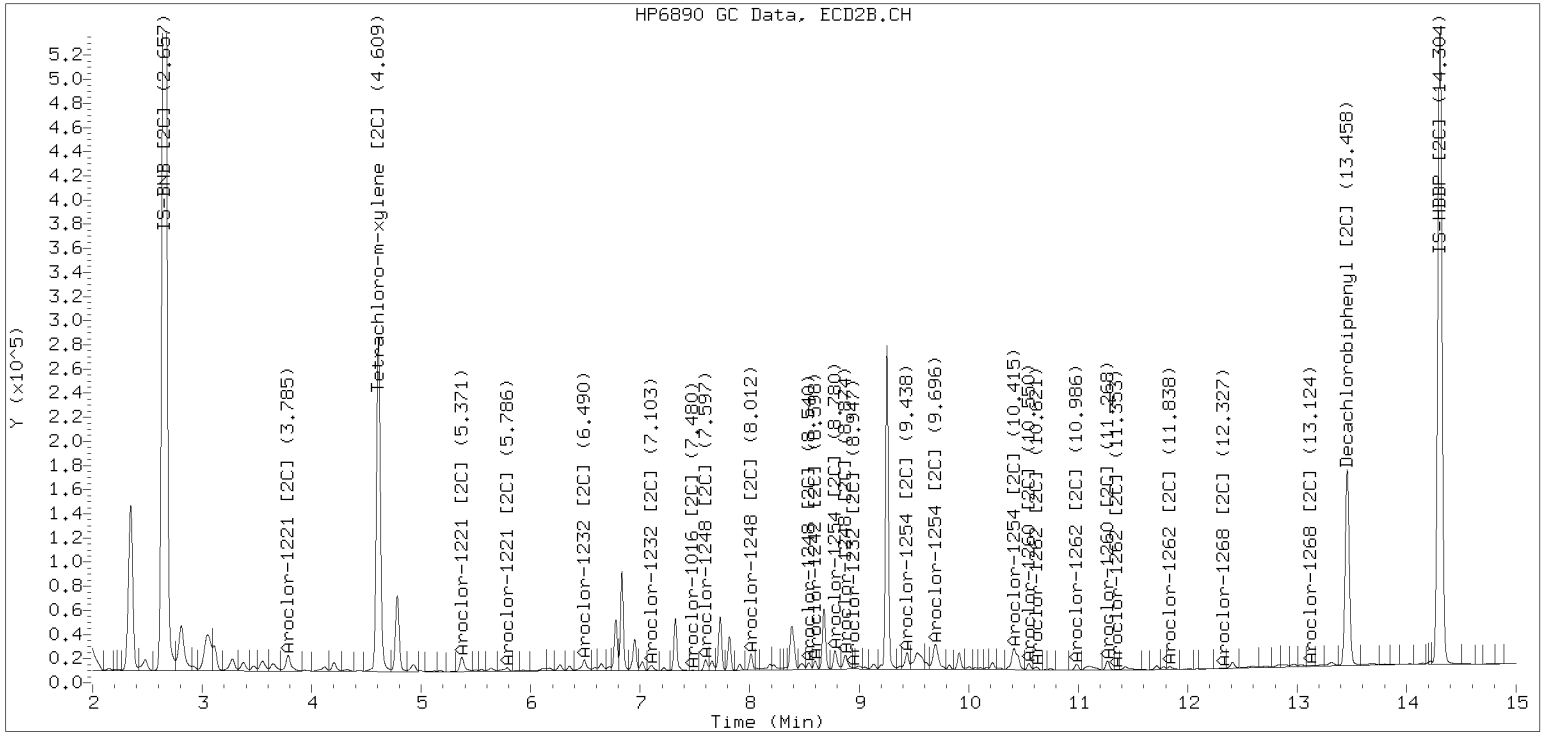


ZB-35 Manual Integration: YES

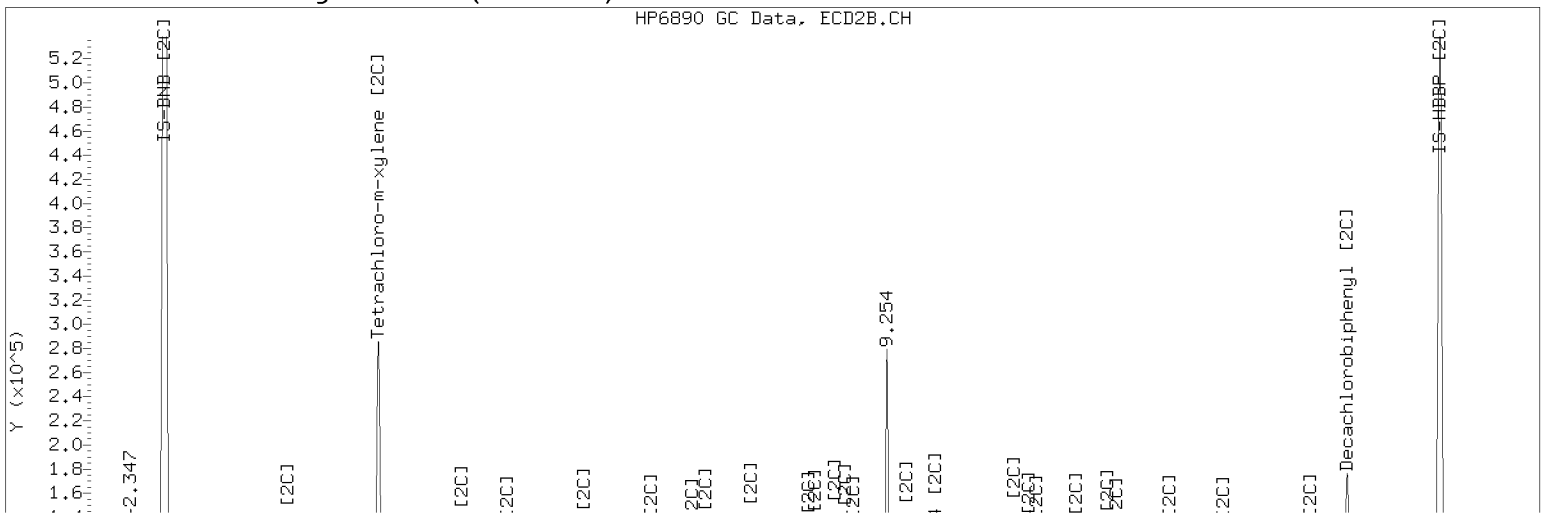
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070915.D Injection Date: 09-JUL-2018 12:12

Manual Integration (After)



Processed Integration (Before)



LDW18-C11-CLWB-Comp2

Dual Column

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-09	File ID:	18070916ECD7.D
Sampled:	05/18/18 13:53	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 12:34
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic)	Initial/Final:	12.53 g Wet / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg)	MDL	RL	Q
12674-11-2	Aroclor 1016	1	1	4.0	2.4	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	2.4	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	2.4	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	2.4	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	2.4	4.0	U
11097-69-1	Aroclor 1254	2	1	10.1	2.4	4.0	
11096-82-5	Aroclor 1260	2	1	3.1	1.1	4.0	J

SURROGATES	Col #	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9808*	*5.35*	*67.0*	*30 - 150*	
Tetrachlorometaxylene	*1*	*7.9808*	*5.56*	*69.7*	*30 - 150*	
Decachlorobiphenyl	*2*	*7.9808*	*5.37*	*67.2*	*30 - 150*	
Tetrachlorometaxylene	*2*	*7.9808*	*5.60*	*70.2*	*30 - 150*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070916ECD7.D
Data file 2: /20180709.b/20180709.b/18070916ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 18F0364-09
Client ID:
Injection Date: 09-JUL-2018 12:34
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.730	-0.004	8312060	4.608	-0.001	14512632	27.9	28.1	0.7	Tetrachloro-m-xylene
13.283	-0.005	6807637	13.457	-0.002	8930233	26.8	26.9	0.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	69.7	70.2
Decachlorobiphenyl	67.0	67.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	25760925	0.1
Hexabromobiphenyl	22585647	23949475	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	48695173	22.2
Hexabromobiphenyl	22087957	28601543	29.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1016	1	6.476	-0.008	149757	21.8	1	6.488	0.036	675650	~~39.1~~
Aroclor-1016	2	6.857	-0.036	926830	~~40.4~~	2	7.102	0.006	276932	8.3
Aroclor-1016	3	7.180	0.019	161523	26.4	3	7.481	0.001	22990	2.9
Aroclor-1016	4	7.914	0.027	690777	~~96.5~~	4	8.010	0.005	385477	~~39.~~8
	Total Col1Ave (4 peaks):			46.3		Total Col2Ave (4 peaks):			22.5	RPD = 69*
	Corrected Ave (3 peaks):			29.5		Corrected Ave (3 peaks):			16.8	RPD = 55*
Aroclor-1221	1	3.597	0.042	163057	~~81.1~~	1	3.783	-0.043	684857	17~~4.1~~
Aroclor-1221	2	5.322	-0.035	88338	37.7	2	5.369	-0.016	963318	158.8
Aroclor-1221	3	5.435	-0.033	31023	4.4	3	5.747	-0.016	113263	11.0
	Total Col1Ave (3 peaks):			41.0		Total Col2Ave (3 peaks):			114.6	RPD = 95*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.597	0.041	163057	~~133.~~5	1	3.783	-0.044	684857	2~~90.~~9
Aroclor-1232	2	6.476	-0.020	149757	49.9	2	6.488	0.003	675650	~~82.~~5
Aroclor-1232	3	6.857	-0.049	926830	~~91.~~8	3	7.102	-0.028	276932	19.3
Aroclor-1232	4	7.714	-0.011	828273	~~249.~~9	4	8.953	0.036	144716	27.4
	Total Col1Ave (4 peaks):			131.3		Total Col2Ave (4 peaks):			105.0	RPD = 22
	Corrected Ave (3 peaks):			91.8		Corrected Ave (3 peaks):			43.1	RPD = 72*
Aroclor-1242	1	6.476	-0.021	149757	27.1	1	6.488	-0.000	675650	~~50.~~2
Aroclor-1242	2	7.054	-0.008	110791	15.2	2	7.102	-0.031	276932	10.7
Aroclor-1242	3	8.259	-0.021	101361	16.3	3	8.597	0.020	447935	~~56.~~4
Aroclor-1242	4	8.558	-0.016	272951	~~41.6~~	4	8.953	0.032	144716	15.7
	Total Col1Ave (4 peaks):			25.0		Total Col2Ave (4 peaks):			33.3	RPD = 28
	Corrected Ave (3 peaks):			19.5		Corrected Ave (3 peaks):			25.5	RPD = 27
Aroclor-1248	1	6.857	-0.031	926830	~~83.4~~	1	7.596	0.001	411273	36.6
Aroclor-1248	2	7.714	0.004	828273	~~92.0~~	2	8.010	0.005	385477	32.7
Aroclor-1248	3	8.326	0.009	332059	24.8	3	8.537	0.002	331071	25.9
Aroclor-1248	4	8.558	0.004	272951	27.2	4	8.876	-0.003	1113205	~~75.2~~
	Total Col1Ave (4 peaks):			56.9		Total Col2Ave (4 peaks):			42.6	RPD = 29
	Corrected Ave (3 peaks):			45.1		Corrected Ave (3 peaks):			31.7	RPD = 35
Aroclor-1254	1	8.639	-0.005	650973	37.6	1	8.779	0.001	1082146	64.3
Aroclor-1254	2	8.717	-0.003	220738	40.2	2	8.876	0.006	1113205	13~~5.~~7
Aroclor-1254	3	9.037	0.019	995451	~~99.0~~	3	9.438	-0.006	850558	31.6
Aroclor-1254	4	9.152	-0.004	645112	30.4	4	9.697	-0.003	1607035	59.6
Aroclor-1254	5	9.492	-0.013	671756	31.0	5	10.444	-0.012	953986	47.3
	Total Col1Ave (5 peaks):			47.7		Total Col2Ave (5 peaks):			67.7	RPD = 35
	Corrected Ave (4 peaks):			34.8		Corrected Ave (4 peaks):			50.7	RPD = 37
Aroclor-1260	1	10.421	-0.007	226035	16.7	1	10.550	-0.001	343618	20.8
Aroclor-1260	2	10.746	-0.000	95140	7.3	2	10.985	-0.008	368021	20.5
Aroclor-1260	3	11.113	-0.006	482315	15.2	3	11.268	-0.002	508270	12.8
Aroclor-1260	4	11.515	-0.006	115381	7.8	4	11.838	-0.002	227387	8.5
Aroclor-1260	5	11.633	-0.004	63417	8.7	NS	---			----
	Total Col1Ave (5 peaks):			11.1		Total Col2Ave (4 peaks):			15.7	RPD = 34
	Corrected Ave (4 peaks):			9.8		Corrected Ave (3 peaks):			13.9	RPD = 35
Aroclor-1262	1	10.421	-0.026	226035	11.6	1	10.622	0.027	190554	8.6
Aroclor-1262	2	11.113	-0.025	482315	13.4	2	10.985	-0.055	368021	17.6
Aroclor-1262	3	11.515	-0.026	115381	10.4	3	11.354	0.037	28048	0.7
Aroclor-1262	4	11.633	-0.025	63417	4.5	4	11.838	0.006	227387	12.9
	Total Col1Ave (4 peaks):			10.0		Total Col2Ave (4 peaks):			9.9	RPD = 0
	Corrected Ave (3 peaks):			8.8		Corrected Ave (3 peaks):			7.4	RPD = 18
Aroclor-1268	1	11.633	-0.026	63417	1.5	1	11.838	0.007	227387	4.7
Aroclor-1268	2	11.706	-0.022	62636	1.6	2	---			0.0
Aroclor-1268	3	12.143	0.027	89787	2.8	3	12.325	0.039	35075	0.9
Aroclor-1268	4	12.863	-0.041	60238	0.6	4	13.133	0.027	18926	0.2
	Total Col1Ave (4 peaks):			1.6		Total Col2Ave (3 peaks):			1.9	RPD = 16

Corrected Ave (3 peaks): 1.2 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 267023065 Col1 Total PCB = 1.5 ppm*

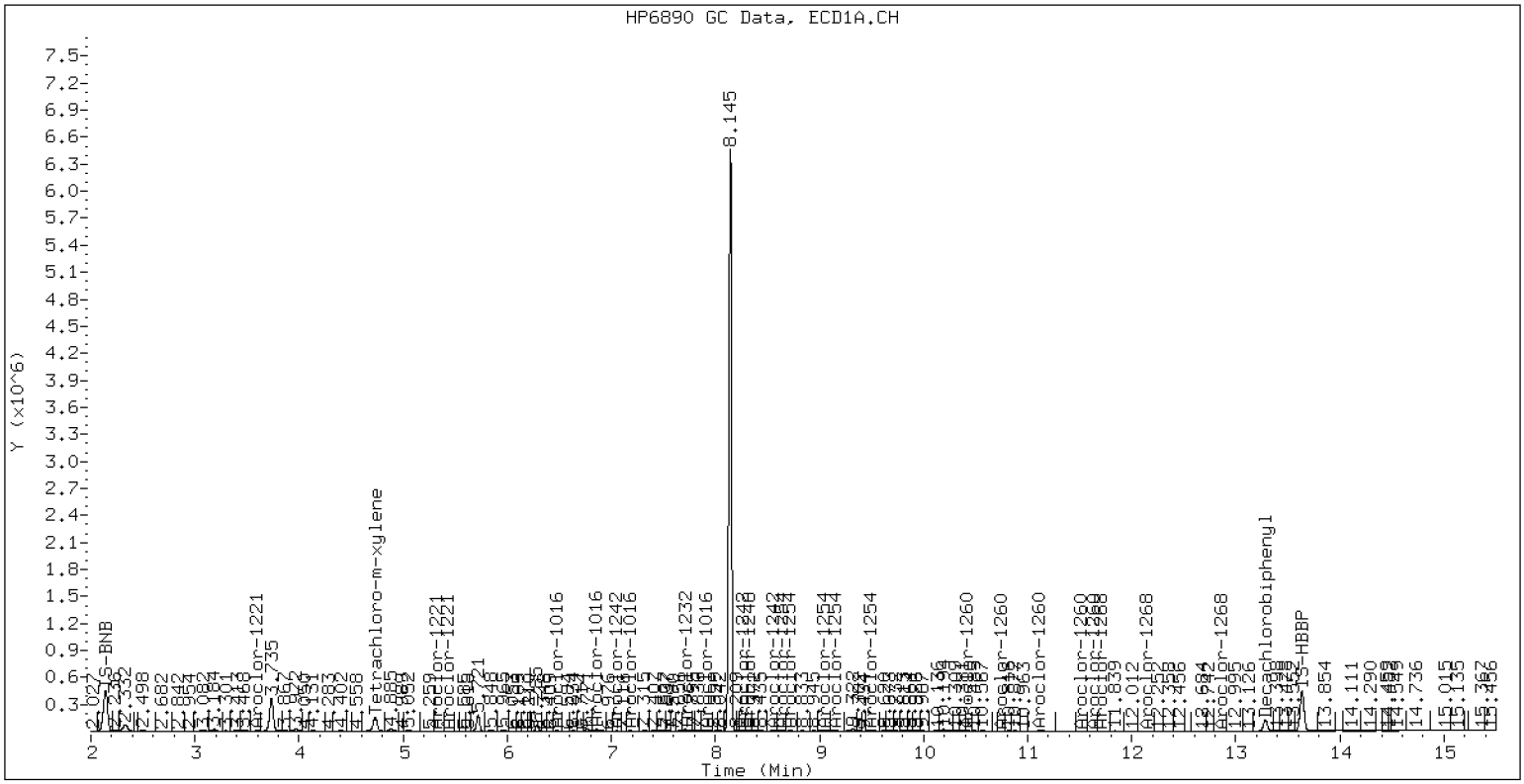
Total PCB Area Col2 (4.834 - 13.187) = 281037722 Col2 Total PCB = 1.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

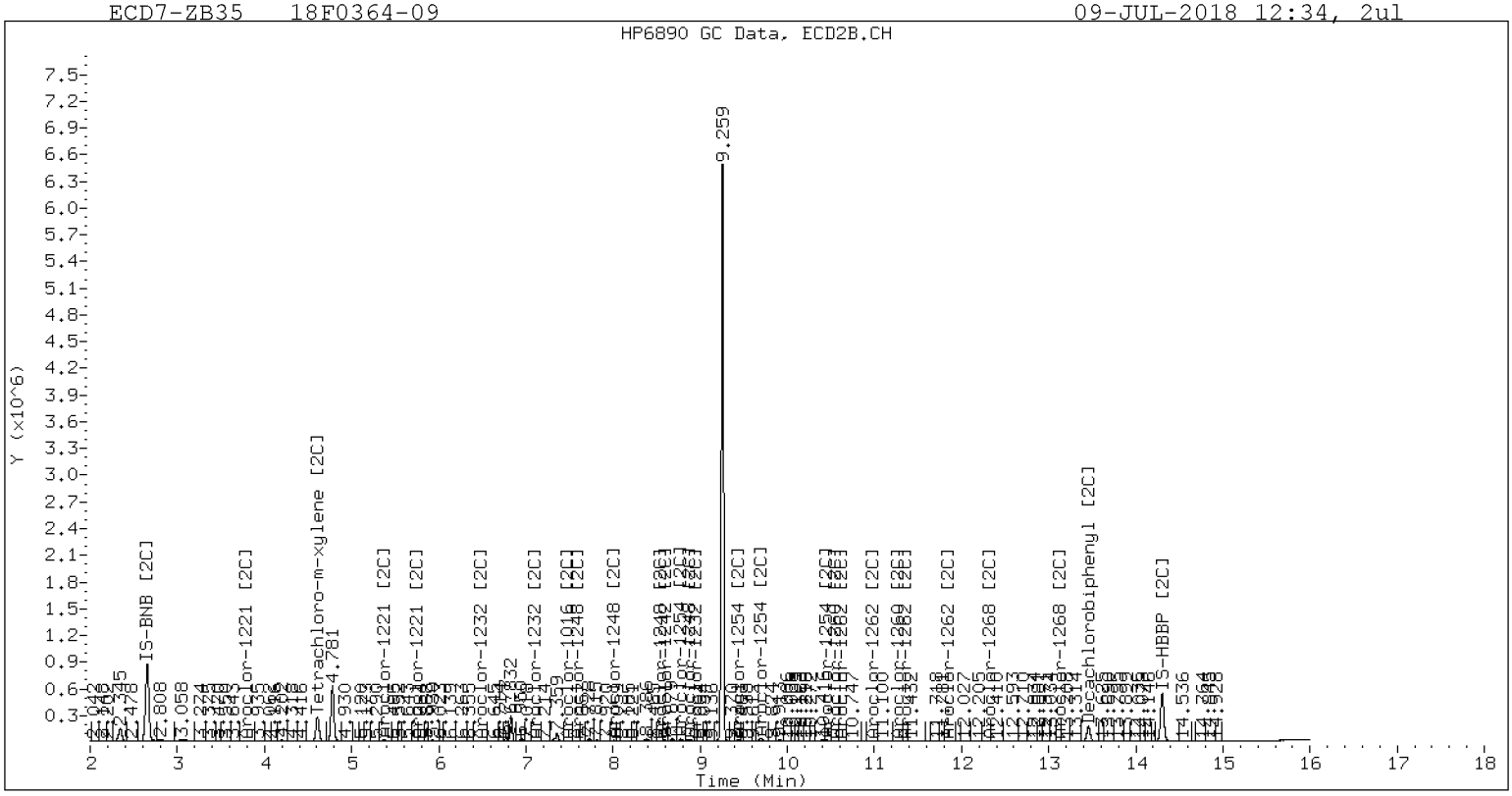
PCB Dual Column Chromatograms

ECD7-ZB5 18F0364-09 09-JUL-2018 12:34, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 18F0364-09 09-JUL-2018 12:34, 2ul

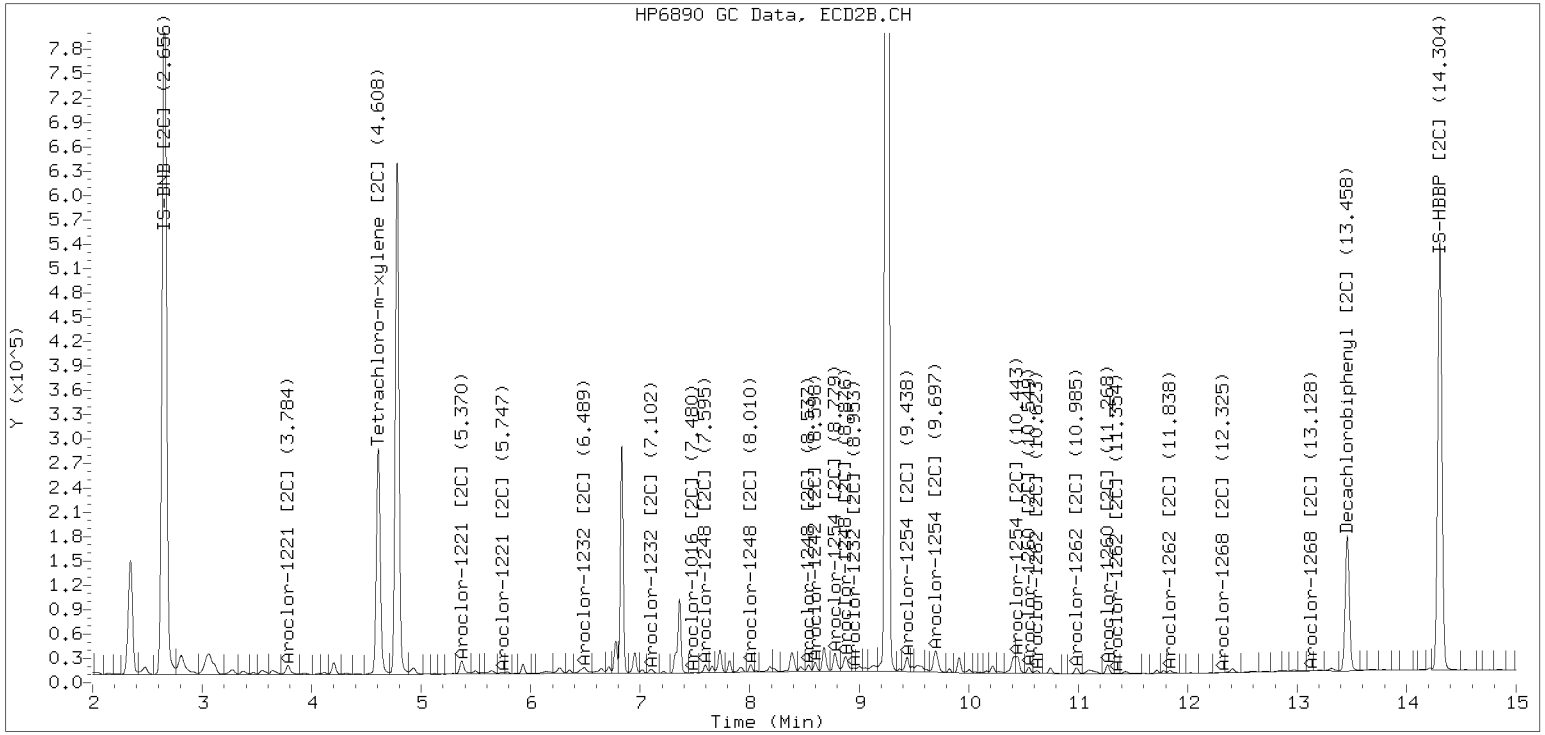


ZB-35 Manual Integration: YES

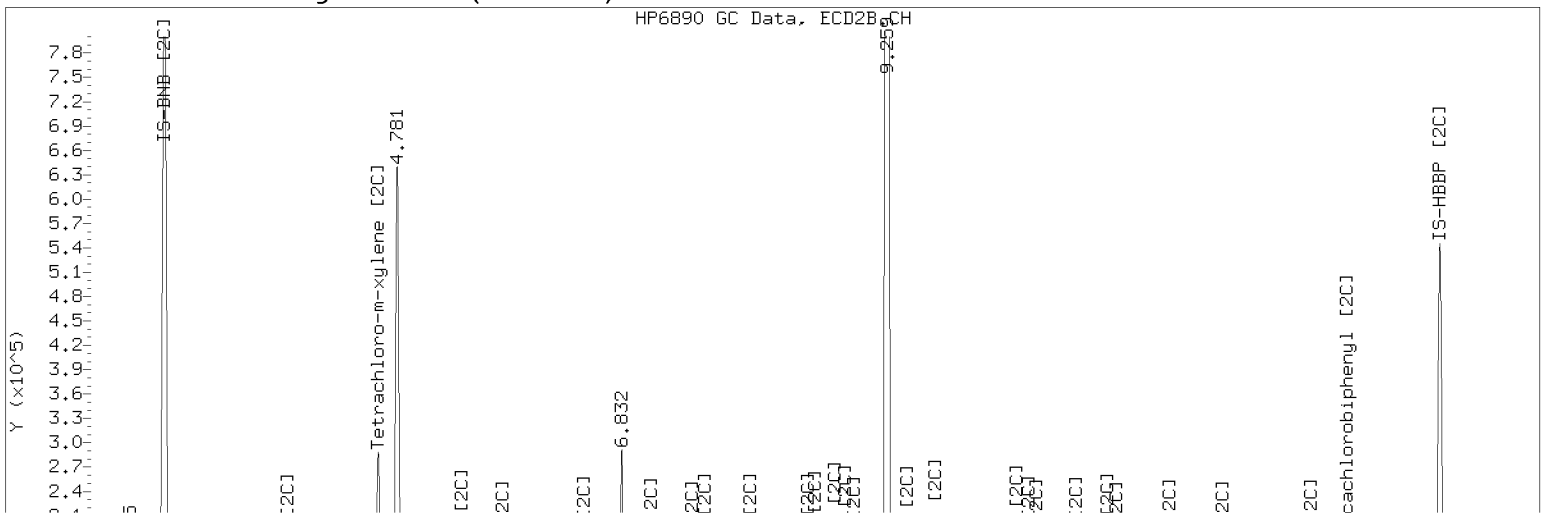
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070916.D Injection Date: 09-JUL-2018 12:34

Manual Integration (After)



Processed Integration (Before)



PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0717 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-C01-CLWB-Comp2	18F0364-01	18070906ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C02-CLWB-Comp2	18F0364-02	18070909ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C03-CLWB-Comp2	18F0364-03	18070910ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C04-CLWB-Comp2	18F0364-04	18070911ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C05-CLWB-Comp2	18F0364-05	18070912ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C06-CLWB-Comp2	18F0364-06	18070913ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C08-CLWB-Comp2	18F0364-07	18070914ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C10-CLWB-Comp2	18F0364-08	18070915ECD7.D	06/29/18 14:55	Report ND if one column < MDL
LDW18-C11-CLWB-Comp2	18F0364-09	18070916ECD7.D	06/29/18 14:55	Report ND if one column < MDL
Blank	BGF0717-BLK1	18070904ECD7.D	06/29/18 14:55	
LCS	BGF0717-BS1	18070905ECD7.D	06/29/18 14:55	
LDW18-C01-CLWB-Comp2	BGF0717-MS1	18070907ECD7.D	06/29/18 14:55	
LDW18-C01-CLWB-Comp2	BGF0717-MSD1	18070908ECD7.D	06/29/18 14:55	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0717

Prepared using: EPA 3550C-Mod (Ultrasonic)

8082A PCB Solid 4 in Tissue (Version:7 Aroclors)

Matrix: Tissue **Date Prepared:** 06/29/18 **Balance ID:** B14646264 **Set Up By:** CCT 6/29/18

The following standards may be missing from this batch!

Designator	Description
QLS 5	QLS Spike

Analysis: 8082A PCB Solid 4

Lab Number & Container	Initial (g) Target Dry: 12.5 (Wet) Actual	(REQ) GPC (2:5) 1 or (2)	(REQ) High Volume Acid C/U (1:1) xfer Rinse	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
18F0364-01 A	(12.500) 12.53	(2:5)	4 mL	2.5	1.0	
18F0364-02 A	(12.500) 12.55	(2:5)	4 mL	2.5	1.0	
18F0364-03 A	(12.500) 12.56	(2:5)	4 mL	2.5	1.0	
18F0364-04 A	(12.500) 12.58	(2:5)	4 mL	2.5	1.0	
18F0364-05 A	(12.500) 12.57	(2:5)	4 mL	2.5	1.0	
18F0364-06 A	(12.500) 12.54	(2:5)	4 mL	2.5	1.0	
18F0364-07 A	(12.500) 12.53	(2:5)	4 mL	2.5	1.0	
18F0364-08 A	(12.500) 12.54	(2:5)	4 mL	2.5	1.0	
18F0364-09 A	(12.500) 12.53	(2:5)	4 mL	2.5	1.0	

Batch QC

Lab Number	Initial (g) Target Dry: 12.5 (Wet) Actual	(REQ) GPC (2:5) 1 or (2)	(REQ) High Volume Acid C/U (1:1) xfer Rinse	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
BGF0717-BLK1	(12.500) 12.50	(2:5)	4 mL	2.5	1.0	
BGF0717-BS1	(12.500) 12.50	(2:5)	4 mL	2.5	1.0	
BGF0717-MS1	(12.500) 12.55	(2:5)	4 mL	2.5	1.0	Use 18F0364-01
BGF0717-MSD1	(12.500) 12.55	(2:5)	4 mL	2.5	1.0	Use 18F0364-01

MD 06/29/18
Client ID verified By Date

CCT 7/5/18
Preparation Reviewed By Date

06/29/18 14:55
Extraction Date and Time

Printed: 6/29/2018 8:13:32AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0717

Prepared using: EPA 3550C-Mod (Ultrasonic)

8082A PCB Solid 4 in Tissue (Version:7 Aroclors)

Prep Steps	Reagents Used		Surrogates & Spike Standards Used

TissueMizer
2X w/ 1:1 DCM/Acetone
1X w/ DCM only
CT/ME 6/30/18
Analyst/Date

KD 80 - 85°C
1 (2) 3 4 5 6
BH 7/2/18
Analyst/Date

TurboVap
(1) 2 3 4 5
CT 7/2/18
Analyst/Date

GPC Prep Filter
CT 7/2/18
Analyst/Date

Post GPC KD
80 - 85°C
Hexane Exchange
(2 X 20mL) 100°C
1 2 (3) 4 (5) 6
YM BH 7/3/18
Analyst/Date

TurboVap Pre-Acid Clean
(1) 2 3 4 5
CT 7/5/18
Analyst/Date

TurboVap Post-Acid Clean
(1) (2) 3 4 5
CT 7/5/18
Analyst/Date

Vialing
CT 7/5/18
Analyst/Date

Station/Reagent	Standard ID
TissueMizing Analyst: CT/ME Date: 6/30/18	
Anhydrous Sodium Sulfate	G00557
1:1 Methylene Chloride/Acetone	G00712
Methylene Chloride	G00858
Neutral Glass Wool	G03192
Pre GPC KD Analyst: BH Date: 7/2/18	
Neutral Glass Wool	N/A
Anhydrous Sodium Sulfate	N/A
Methylene Chloride	G005487
GPC Filter Prep Analyst: CT Date: 7/2/18	
Methylene Chloride	G005857
GPC Analyst: CT Date: 7/2/18	
Methylene Chloride	G005858
GPC Calibration File	CGF0164-GPC1
Post GPC KD Analyst: YM BH Date: 7/3/18	
Methylene Chloride	G00585
Hexane	G00 4645
Vialing Analyst: CT Date: 7/5/18	
Hexane	G004645
Concentrated Sulfuric Acid	G004410

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N F011~~14~~ Exp: 11/24/2018 G00572	50µL		CT
Spike 20µg/mL	1 G002066 Exp: 03/08/2019	63µL		CT

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB

Element Batch: BGF0717 Work Order(s): 18F0364

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Other (Details)= #1 – #9 = Tissue.	MJ 6/29/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y / N	MJ 6/29/18
☒ Multiple Jars Y / N	MJ 6/29/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0717

Prepared using: EPA 3550C-Mod (Ultrasonic)

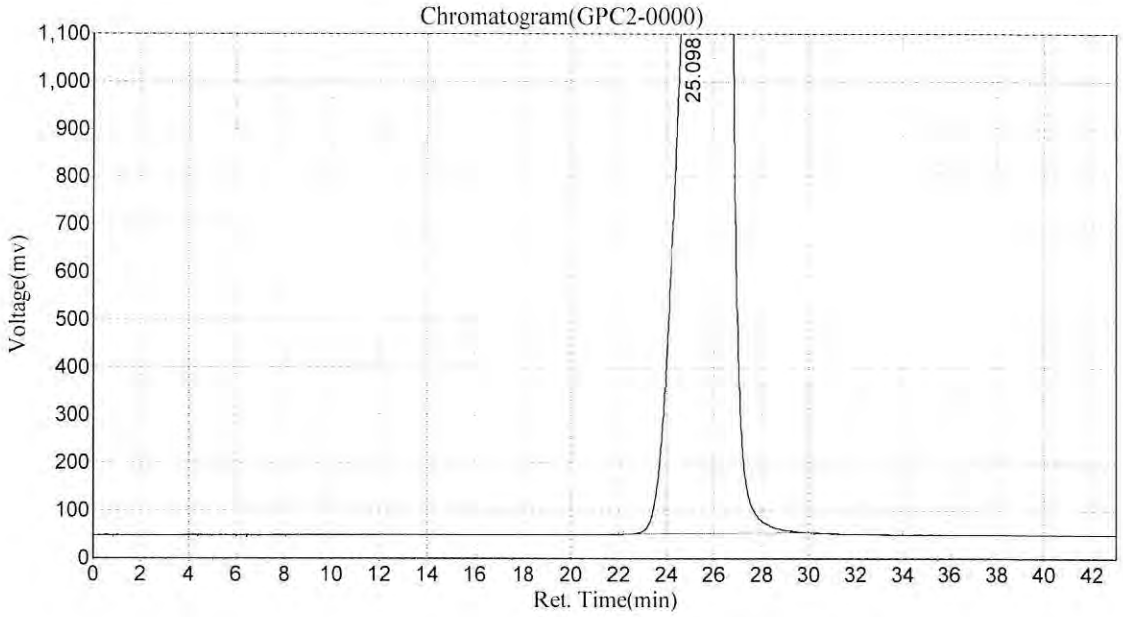
8082A PCB Solid 4 in Tissue (Version:7 Aroclors)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Add Sodium Sulfate just before tissuemizing. 2. Extract 2X with 1:1 DCM/Acetone + 1X DCM only. 3. Collect into 500mL E-Flask with 15-20g sodium sulfate in the bottom+large funnel with glasswool plug (NO SULFATE IN FUNNEL). 4. KD (Normal Drying Column) at 80-85°. 5. TurboVap to 5mL. 6. Filter 2mL (2:5) for GPC. 7. GPC Required. 8. KD (No drying column) at 80-85°. 9. Exchange (2 X with 20mL) to Hexane at 100°. 10. TurboVap. 11. High Volume Acid Clean Required (Repeat if necessary), with Transfer Rinse. 12. TurboVap. 13. Vial with Hexane at 1mL. 14. Post Screen. Freeze Y / N	

BGF0717 18F0364 PCB

Date:2018-07-02,5:31:10 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0000
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,5:31:10 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		25.098	1438161.875	232152640.000	100.0000
Total			1438161.875	232152640.000	100.000

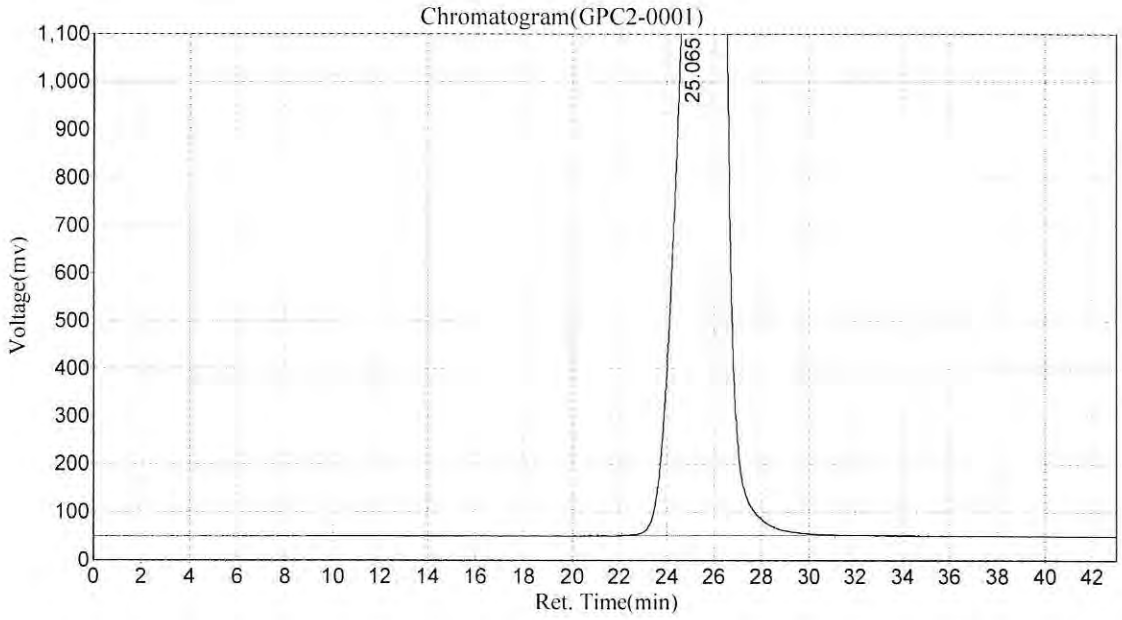
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-02,6:15:54 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0001
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,6:15:54 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		25.065	1437584.375	216041584.000	100.0000
Total			1437584.375	216041584.000	100.000

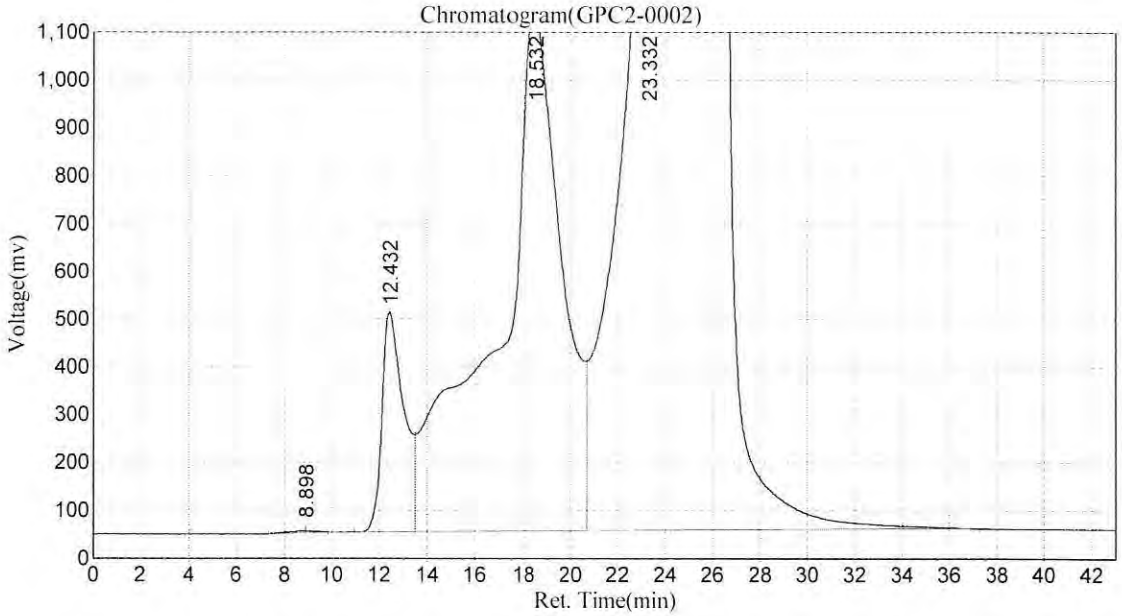
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-02,7:00:37 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0002
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,7:00:37 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		8.898	4600.586	388709.406	0.0564
2		12.432	459772.656	29222484.000	4.2374
3		18.532	1090888.375	207368240.000	30.0691
4		23.332	1431049.875	452659424.000	65.6372
Total			2986311.493	689638857.406	100.000

Ingredient Table

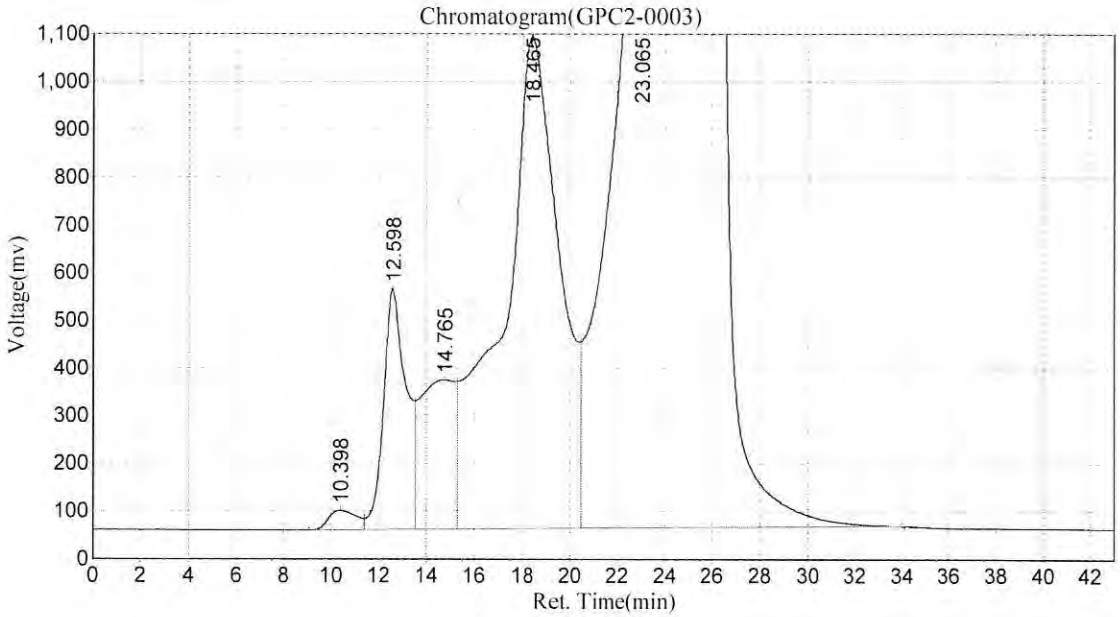
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

2018-07-02 **Analytical Resources, Inc.**

BGF0717 18F0364 PCB

Date:2018-07-02,7:45:21 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0003
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,7:45:21 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.398	41219.738	3363026.750	0.4763
2		12.598	505558.750	34031348.000	4.8194
3		14.765	313749.906	31866392.000	4.5128
4		18.465	1032804.125	173216400.000	24.5301
5		23.065	1424556.250	463660512.000	65.6615
Total			3317888.770	706137678.750	100.000

Ingredient Table

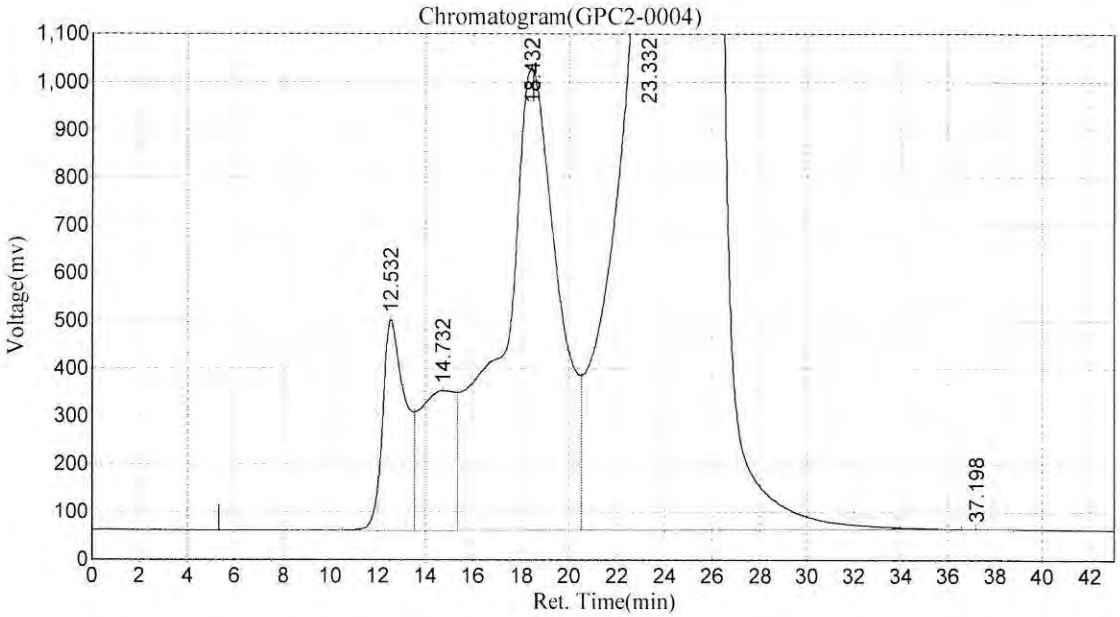
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

MSD

BGF0717 18F0364 PCB

Date:2018-07-02,8:30:03 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0004
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£°CCT
Date/Time2018-07-02,8:30:03 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.532	440511.188	29618846.000	4.5359
2		14.732	292012.531	30506872.000	4.6719
3		18.432	967537.500	157861584.000	24.1754
4		23.332	1426729.750	434870208.000	66.5974
5		37.198	1451.640	126432.000	0.0194
Total			3128242.609	652983942.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

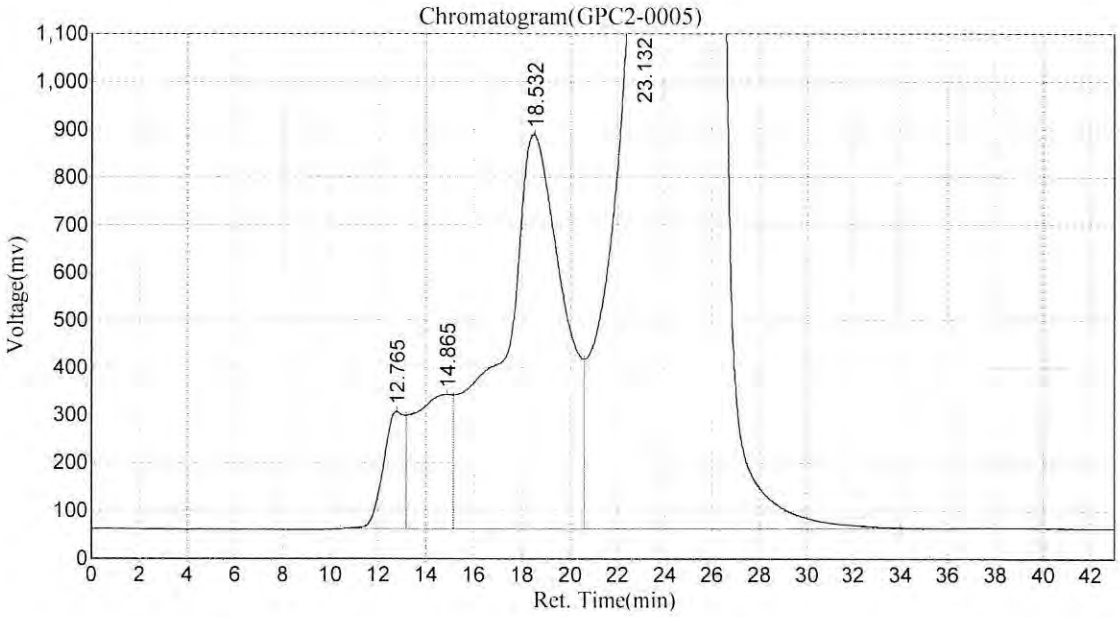
2018-07-02

Analytical Resources, Inc.

BGF0717 18F0364 PCB

Date:2018-07-02,9:14:47 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0005
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£°CCT
Date/Time2018-07-02,9:14:47 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.765	246558.172	15539956.000	2.3880
2		14.865	282208.875	31058146.000	4.7727
3		18.532	829898.500	154651440.000	23.7652
4		23.132	1427136.000	449497152.000	69.0741
Total			2785801.547	650746694.000	100.000

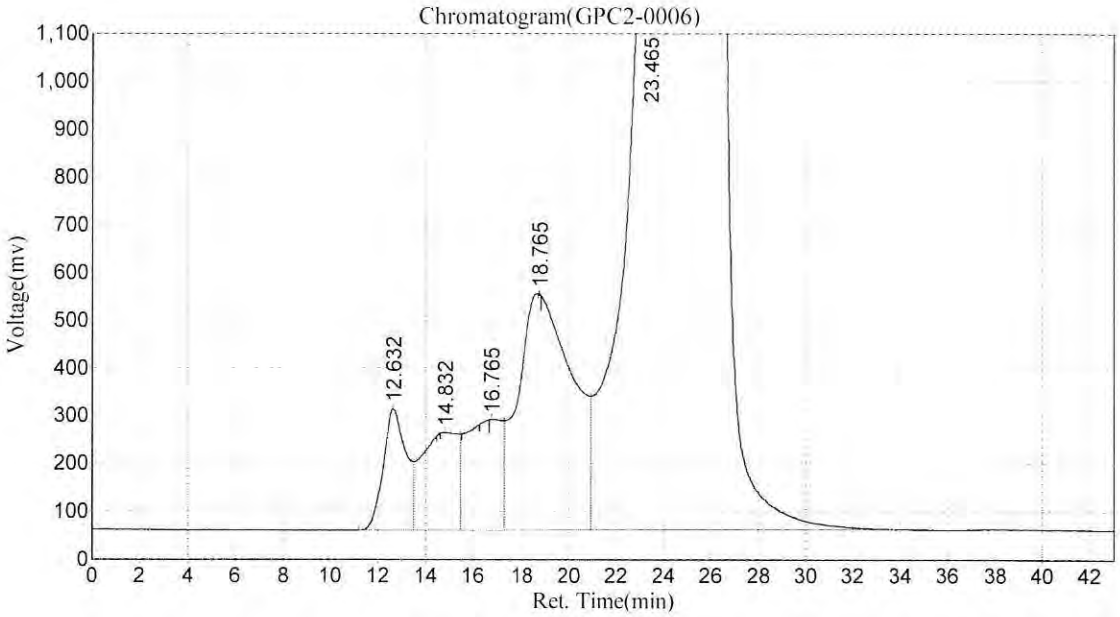
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-02,9:59:28 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0006
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,9:59:29 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.632	253904.578	16788682.000	3.0637
2		14.832	204066.281	22040554.000	4.0221
3		16.765	230846.188	23693366.000	4.3238
4		18.765	496604.563	79674520.000	14.5397
5		23.465	1427284.000	405782784.000	74.0507
Total			2612705.609	547979906.000	100.000

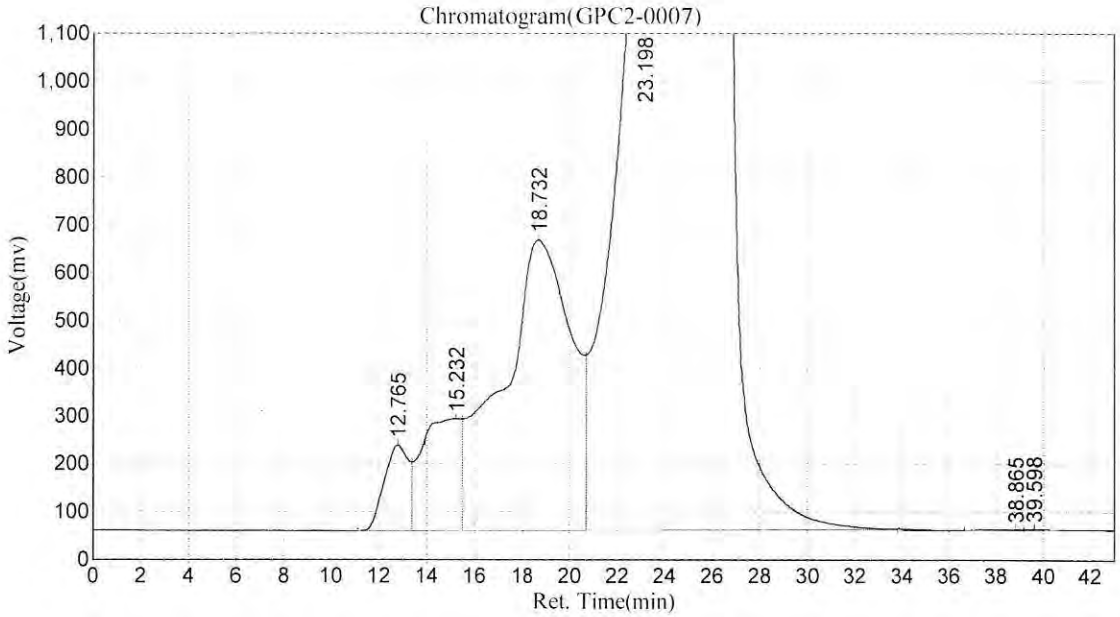
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-02,10:44:12 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0007
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,10:44:12 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.765	179203.953	12735378.000	1.9981
2		15.232	234287.594	26743046.000	4.1959
3		18.732	608006.875	123345936.000	19.3526
4		23.198	1427339.250	474228192.000	74.4049
5		38.865	1799.652	182097.813	0.0286
6		39.598	2039.870	126481.188	0.0198
Total			2452677.194	637361131.000	100.000

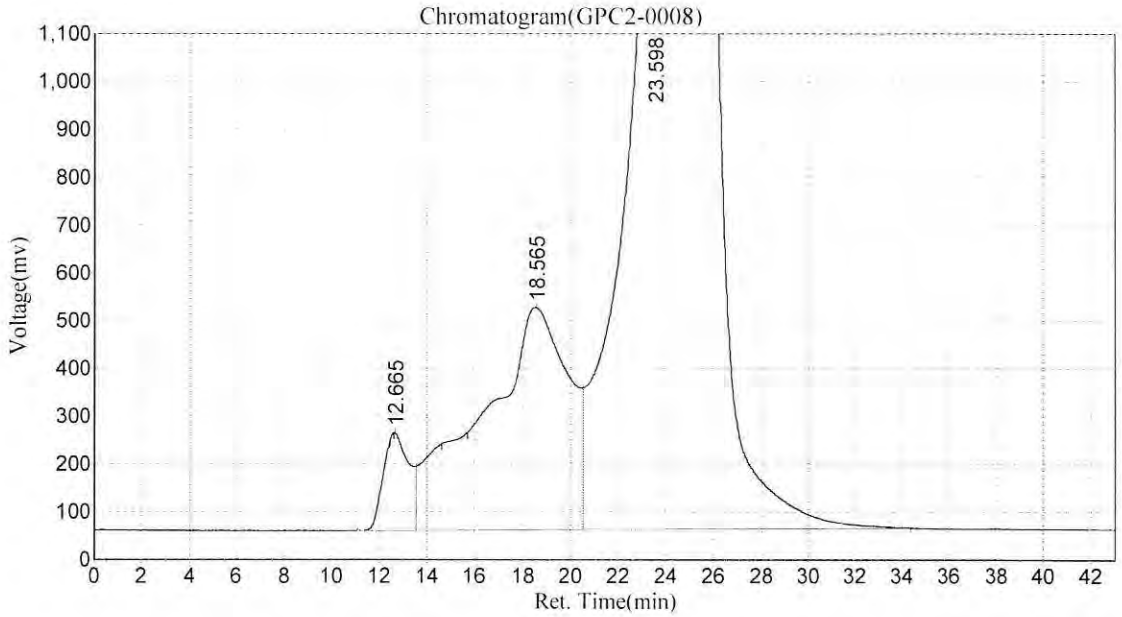
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-02,11:28:53 PM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0008
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-02,11:28:54 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.665	204118.250	15256820.000	2.8653
2		18.565	465274.656	117973664.000	22.1558
3		23.598	1425274.000	399241792.000	74.9789
Total			2094666.906	532472276.000	100.000

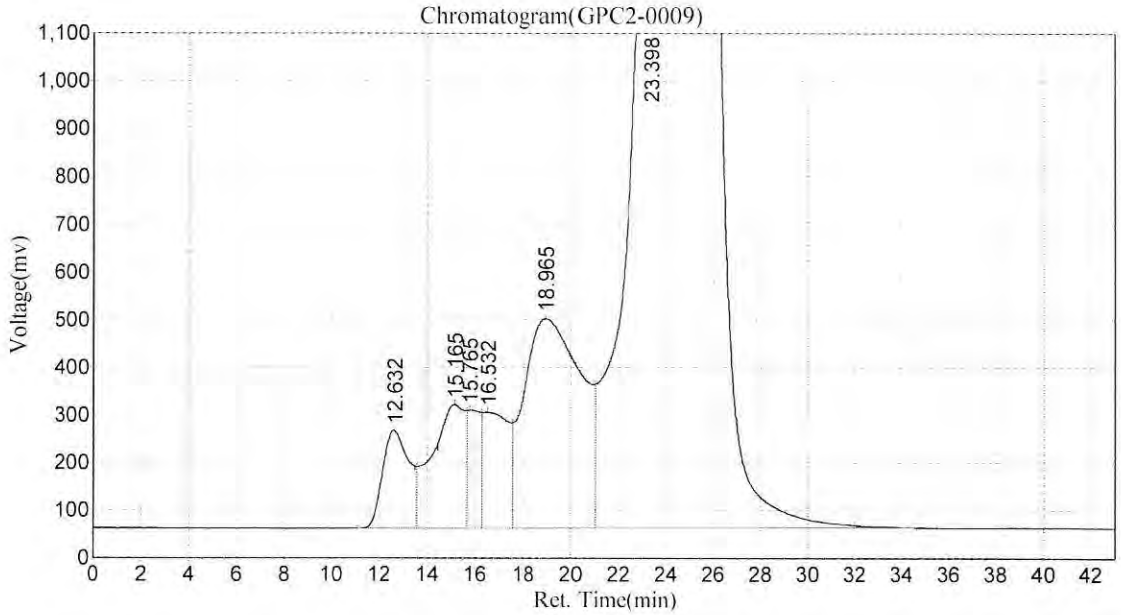
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-03,12:13:39 AM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0009
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-03,12:13:40 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.632	206695.016	16154364.000	3.0582
2		15.165	260682.578	25154072.000	4.7620
3		15.765	248387.188	8880331.000	1.6812
4		16.532	244390.953	17963924.000	3.4008
5		18.965	439971.406	73616456.000	13.9366
6		23.398	1426537.875	386454112.000	73.1611
Total			2826665.016	528223259.000	100.000

Ingredient Table

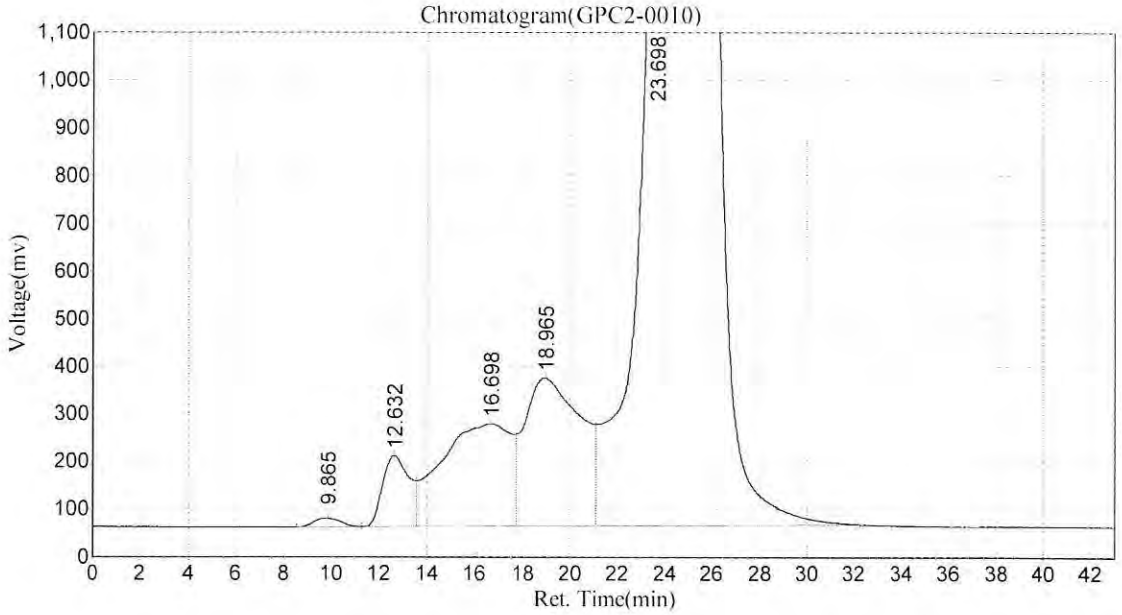
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

2018-07-03 *Analytical Resources, Inc.*

BGF0717 18F0364 PCB

Date:2018-07-03,12:58:22 AM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0010
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-03,12:58:22 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		9.865	18796.158	1502890.375	0.3362
2		12.632	149200.531	11595433.000	2.5941
3		16.698	215876.719	43089712.000	9.6401
4		18.965	311432.781	51973092.000	11.6275
5		23.698	1423488.000	338824320.000	75.8021
Total			2118794.189	446985447.375	100.000

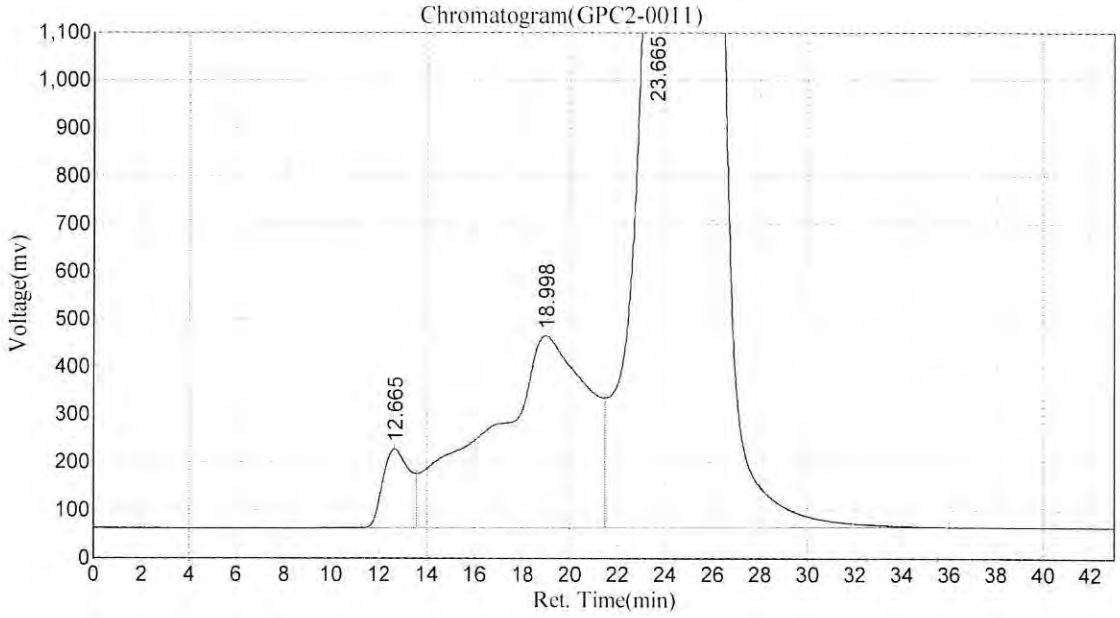
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-03,1:43:05 AM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0011
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-03,1:43:05 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.665	165075.484	13239845.000	2.6401
2		18.998	402590.469	116525256.000	23.2362
3		23.665	1426504.875	371716608.000	74.1237
Total			1994170.828	501481709.000	100.000

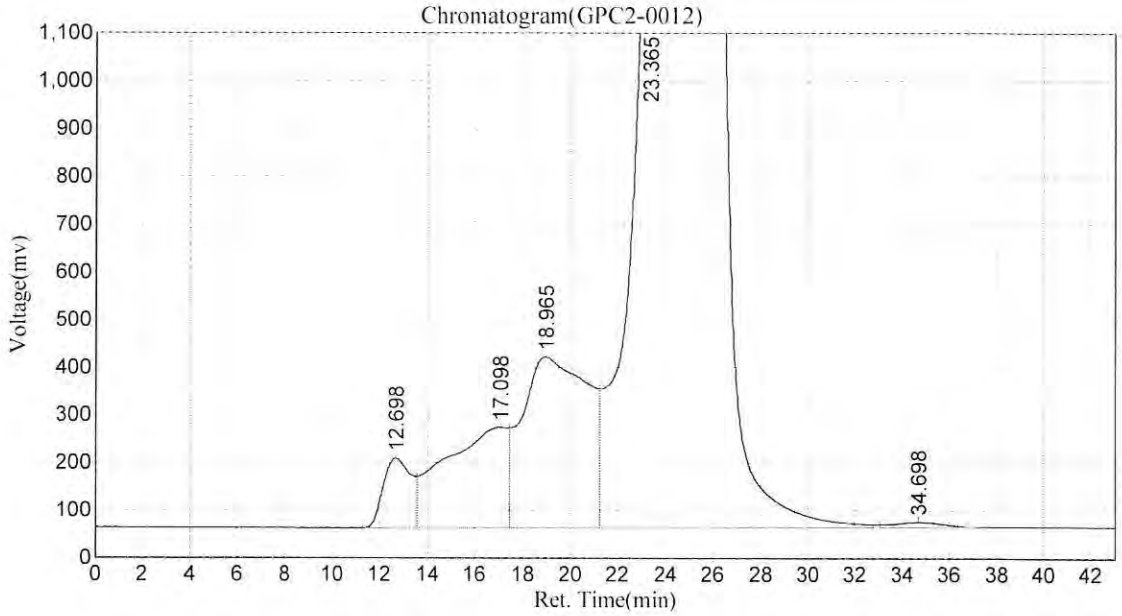
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

BGF0717 18F0364 PCB

Date:2018-07-03,2:27:48 AM
Data File:d:\n2000\data\gpc2\070218B\GPC2-0012
Method File:C:\N2000\GPC2_InHouse.mtd

Analyst£ºCCT
Date/Time2018-07-03,2:27:49 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.698	146738.141	11989774.000	2.3762
2		17.098	211482.609	38765504.000	7.6826
3		18.965	358702.375	69427880.000	13.7593
4		23.365	1425507.875	382814784.000	75.8669
5		34.698	11000.508	1589155.125	0.3149
Total			2153431.508	504587097.125	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	38.000	0.010	0.00E+000	0.00E+000	0.0000

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Cleanup Batch:	CGG0028	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-C10-CLWB-Comp2	18F0364-08	18070915ECD7.D	07/05/2018	
LDW18-C04-CLWB-Comp2	18F0364-04	18070911ECD7.D	07/05/2018	
LDW18-C01-CLWB-Comp2	18F0364-01	18070906ECD7.D	07/05/2018	
LDW18-C02-CLWB-Comp2	18F0364-02	18070909ECD7.D	07/05/2018	
LDW18-C03-CLWB-Comp2	18F0364-03	18070910ECD7.D	07/05/2018	
LDW18-C05-CLWB-Comp2	18F0364-05	18070912ECD7.D	07/05/2018	
LDW18-C08-CLWB-Comp2	18F0364-07	18070914ECD7.D	07/05/2018	
LDW18-C11-CLWB-Comp2	18F0364-09	18070916ECD7.D	07/05/2018	
LDW18-C06-CLWB-Comp2	18F0364-06	18070913ECD7.D	07/05/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGG0028

Matrix: Tissue **Cleanup using: Organics - EPA 3640A GPC Cleanup** **Printed: 7/5/2018 5:26:33PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18F0364-09	A	LDW18-C11-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-08	A	LDW18-C10-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-04	A	LDW18-C04-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-05	A	LDW18-C05-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-06	A	LDW18-C06-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-07	A	LDW18-C08-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-01	A	LDW18-C01-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-02	A	LDW18-C02-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-03	A	LDW18-C03-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
BGF0717-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-MS1	-	Matrix Spike	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-BS1	-	LCS	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-BLK1	-	Blank	-	2.5	2.5	-	7/5/2018	CCT	

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Cleanup Batch:	CGG0029	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-C05-CLWB-Comp2	18F0364-05	18070912ECD7.D	07/05/2018	
LDW18-C01-CLWB-Comp2	18F0364-01	18070906ECD7.D	07/05/2018	
LDW18-C02-CLWB-Comp2	18F0364-02	18070909ECD7.D	07/05/2018	
LDW18-C04-CLWB-Comp2	18F0364-04	18070911ECD7.D	07/05/2018	
LDW18-C06-CLWB-Comp2	18F0364-06	18070913ECD7.D	07/05/2018	
LDW18-C08-CLWB-Comp2	18F0364-07	18070914ECD7.D	07/05/2018	
LDW18-C10-CLWB-Comp2	18F0364-08	18070915ECD7.D	07/05/2018	
LDW18-C11-CLWB-Comp2	18F0364-09	18070916ECD7.D	07/05/2018	
LDW18-C03-CLWB-Comp2	18F0364-03	18070910ECD7.D	07/05/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGG0029

Matrix: Tissue **Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup** **Printed: 7/5/2018 5:27:09PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18F0364-09	A	LDW18-C11-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-08	A	LDW18-C10-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-04	A	LDW18-C04-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-05	A	LDW18-C05-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-06	A	LDW18-C06-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-07	A	LDW18-C08-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-01	A	LDW18-C01-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-02	A	LDW18-C02-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
18F0364-03	A	LDW18-C03-CLWB-Comp2	A 02	2.5	2.5	8082A PCB Solid 4	7/5/2018	CCT	
BGF0717-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-MS1	-	Matrix Spike	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-BS1	-	LCS	-	2.5	2.5	-	7/5/2018	CCT	
BGF0717-BLK1	-	Blank	-	2.5	2.5	-	7/5/2018	CCT	

Cleanup Reviewed By Date

Form I

METHOD BLANK DATA SHEET

EPA 8082A

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	BGF0717-BLK1	File ID:	18070904ECD7.D
Sampled:	N/A	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 08:09
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	12.5 g / 2.5 mL
Batch:	BGF0717	Sequence:	SGG0118	Calibration:	BG00027
Instrument:	ECD7	Column:	ZB5	Cleanups:	GPC, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
12674-11-2	Aroclor 1016	1	4.0	U	2.4	4.0
11104-28-2	Aroclor 1221	1	4.0	U	2.4	4.0
11141-16-5	Aroclor 1232	1	4.0	U	2.4	4.0
53469-21-9	Aroclor 1242	1	4.0	U	2.4	4.0
12672-29-6	Aroclor 1248	1	4.0	U	2.4	4.0
11097-69-1	Aroclor 1254	1	4.0	U	2.4	4.0
11096-82-5	Aroclor 1260	1	4.0	U	1.1	4.0

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	6.21	77.6	30 - 150	
Tetrachlorometaxylene	8.0000	5.19	64.9	30 - 150	
Decachlorobiphenyl [2C]	8.0000	6.16	77.0	30 - 150	
Tetrachlorometaxylene [2C]	8.0000	5.40	67.5	30 - 150	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070904ECD7.D
Data file 2: /20180709.b/20180709.b/18070904ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BGF0717-BLK1
Client ID:
Injection Date: 09-JUL-2018 08:09
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.731	-0.003	8417647	4.610	0.001	13601469	26.0	27.0	3.9	Tetrachloro-m-xylene
13.286	-0.001	8801514	13.467	0.008	9646385	31.1	30.8	0.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	64.9	67.5
Decachlorobiphenyl	77.6	77.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28009464	8.9
Hexabromobiphenyl	22585647	26718424	18.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47419939	19.0
Hexabromobiphenyl	22087957	26978627	22.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1016	1	6.478	-0.005	1570865	210.4	1	6.494	0.041	2051136	122.0
Aroclor-1016	2	6.857	-0.036	5287365	211.8	2	7.116	0.021	931371	28.7
Aroclor-1016	3	7.198	0.037	208309	31.3	3	7.491	0.010	26980	3.5
Aroclor-1016	4	7.849	-0.038	175187	22.5	4	8.002	-0.003	17105	1.8
Total Col1Ave (4 peaks):					119.0	Total Col2Ave (4 peaks):				39.0 RPD = 101*
Corrected Ave (3 peaks):					88.0	Corrected Ave (3 peaks):				11.3 RPD = 154*
Aroclor-1221	1	3.467	-0.088	71573	32.7	1	3.872	0.046	18115	4.7
Aroclor-1221	2	5.322	-0.035	247589	97.1	2	5.366	-0.019	208199	35.3
Aroclor-1221	3	5.435	-0.033	389702	50.5	3	5.772	0.010	103307	10.3
Total Col1Ave (3 peaks):					60.1	Total Col2Ave (3 peaks):				16.7 RPD = 113*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.467	-0.089	71573	53.9	1	3.872	0.045	18115	7.9
Aroclor-1232	2	6.478	-0.017	1570865	481.7	2	6.494	0.009	2051136	257.3
Aroclor-1232	3	6.857	-0.049	5287365	481.9	3	7.116	-0.013	931371	66.7
Aroclor-1232	4	7.725	-0.001	96986	26.9	4	8.896	-0.021	31972	6.2
Total Col1Ave (4 peaks):					261.1	Total Col2Ave (4 peaks):				84.5 RPD = 102*
Corrected Ave (3 peaks):					187.5	Corrected Ave (3 peaks):				27.0 RPD = 150*
Aroclor-1242	1	6.478	-0.019	1570865	261.5	1	6.494	0.005	2051136	156.4
Aroclor-1242	2	7.046	-0.016	344324	43.3	2	7.116	-0.016	931371	-37.0
Aroclor-1242	3	8.246	-0.035	70792	10.4	3	8.670	0.093	103434	13.4
Aroclor-1242	4	8.647	0.073	80267	11.2	4	8.896	-0.025	31972	3.6
Total Col1Ave (4 peaks):					81.6	Total Col2Ave (4 peaks):				52.6 RPD = 43*
Corrected Ave (3 peaks):					21.7	Corrected Ave (3 peaks):				18.0 RPD = 19
Aroclor-1248	1	6.857	-0.031	5287365	437.7	1	7.585	-0.010	257556	23.5
Aroclor-1248	2	7.725	0.015	96986	9.9	2	8.002	-0.003	17105	1.5
Aroclor-1248	3	8.338	0.021	72907	5.0	3	8.484	-0.052	84785	6.8
Aroclor-1248	4	8.647	0.093	80267	7.4	4	8.896	0.018	31972	2.2
Total Col1Ave (4 peaks):					115.0	Total Col2Ave (4 peaks):				8.5 RPD = 172*
Corrected Ave (3 peaks):					7.4	Corrected Ave (3 peaks):				3.5 RPD = 72*
Aroclor-1254	1	8.647	0.004	80267	4.3	1	8.792	0.014	51850	3.2
Aroclor-1254	2	---			0.0	2	8.848	-0.021	100506	12.6
Aroclor-1254	3	9.101	0.083	132714	12.1	3	9.463	0.019	78356	3.0
Aroclor-1254	4	---			0.0	4	9.676	-0.025	120125	4.6
Aroclor-1254	5	9.589	0.083	93480	4.0	5	10.426	-0.031	2681591	136.6
Total Col1Ave (3 peaks):					6.8	Total Col2Ave (5 peaks):				32.0 RPD = 130*
Corrected Ave: < 3 Peaks						Corrected Ave (4 peaks):				5.8
Aroclor-1260	1	10.386	-0.042	3176727	210.0	1	10.612	0.061	275649	17.7
Aroclor-1260	2	10.692	-0.054	89392	6.1	2	11.041	0.047	107899	6.4
Aroclor-1260	3	11.162	0.043	70547	2.0	3	11.270	-0.000	22298	0.6
Aroclor-1260	4	---			0.0	4	11.792	-0.048	128870	5.1
Aroclor-1260	5	11.669	0.032	86808	10.7	NS	---			----
Total Col1Ave (4 peaks):					57.2	Total Col2Ave (4 peaks):				7.4 RPD = 154*
Corrected Ave (3 peaks):					6.3	Corrected Ave (3 peaks):				4.0 RPD = 44*
Aroclor-1262	1	10.386	-0.060	3176727	146.6	1	10.612	0.016	275649	13.2
Aroclor-1262	2	11.162	0.024	70547	1.8	2	11.041	0.000	107899	5.5
Aroclor-1262	3	---			0.0	3	11.270	-0.047	22298	0.6
Aroclor-1262	4	11.669	0.012	86808	5.5	4	11.792	-0.041	128870	7.7
Total Col1Ave (3 peaks):					51.3	Total Col2Ave (4 peaks):				6.7 RPD = 154*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				4.6
Aroclor-1268	1	11.669	0.011	86808	1.8	1	11.792	-0.039	128870	2.8
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	12.866	-0.039	99784	0.9	4	13.159	0.053	74913	0.6
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (4.834 - 13.187) = 36904201 Col1 Total PCB = 0.2 ppm*

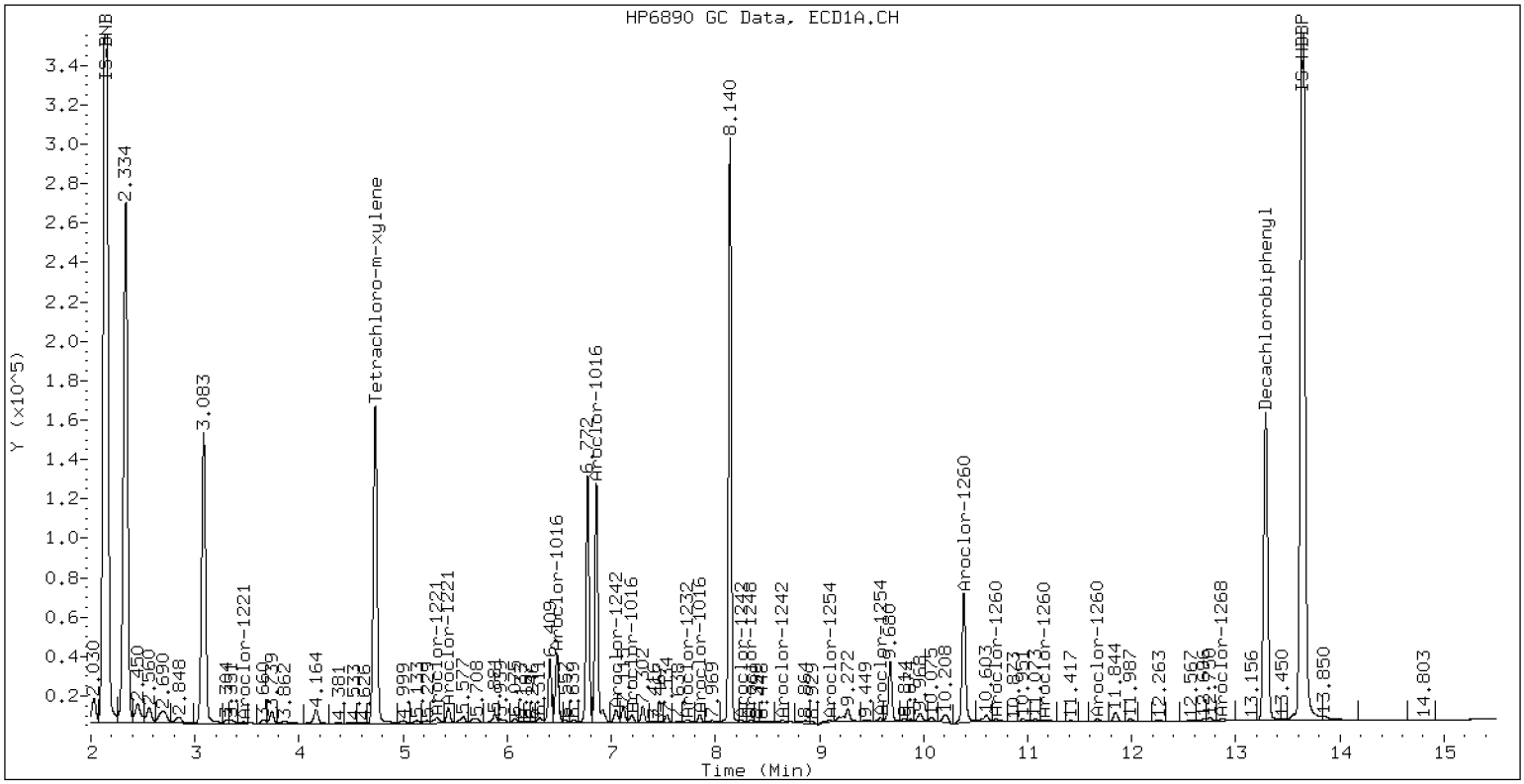
Total PCB Area Col2 (4.834 - 13.187) = 40574710 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

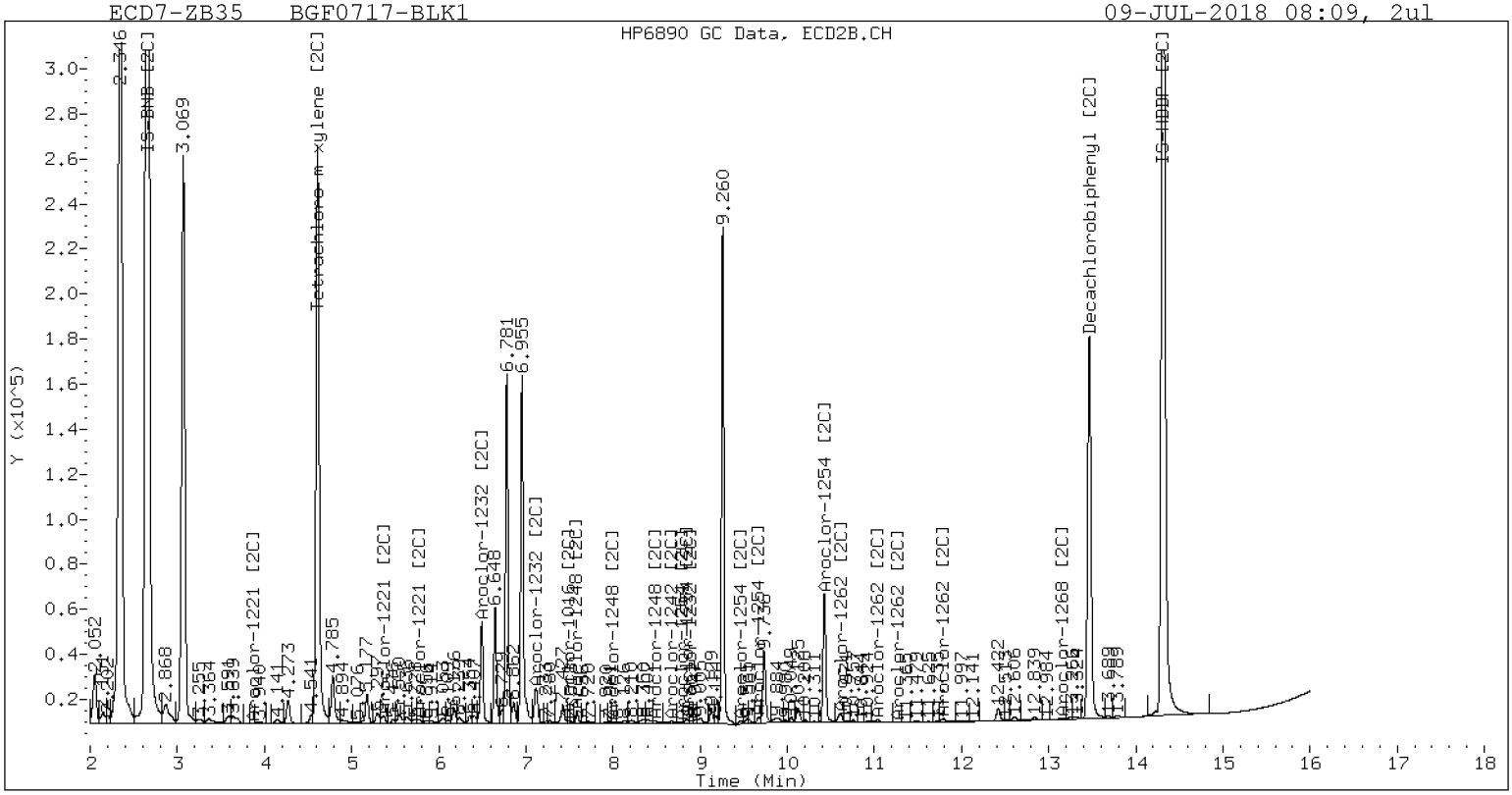
PCB Dual Column Chromatograms

ECD7-ZB5 BGF0717-BLK1 09-JUL-2018 08:09, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 BGF0717-BLK1 09-JUL-2018 08:09, 2ul

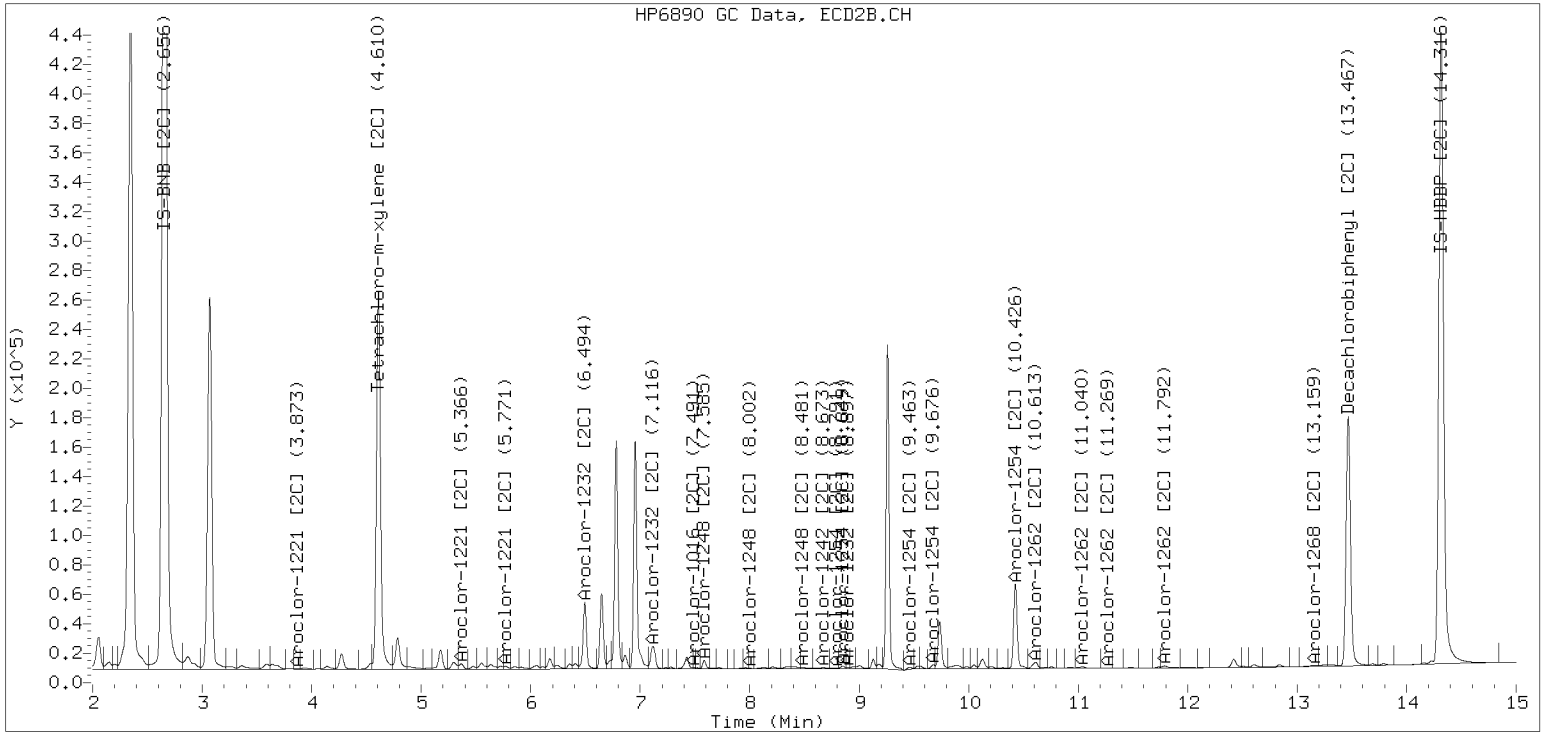


ZB-35 Manual Integration: YES

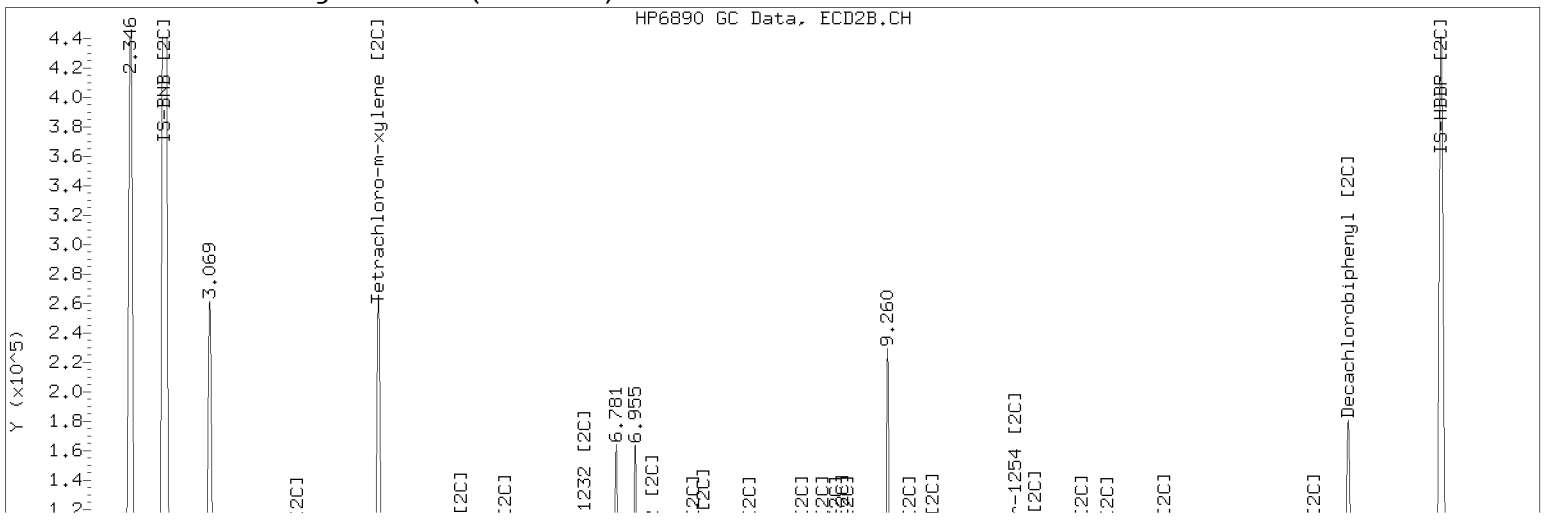
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070904.D Injection Date: 09-JUL-2018 08:09

Manual Integration (After)



Processed Integration (Before)



LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/09/18 08:31
Batch:	BGF0717	Laboratory ID:	BGF0717-BS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	LCS
Initial/Final:	12.5 g / 2.5 mL		

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	101	98.9		98.1	30 - 150
Aroclor 1260	101	89.4		88.7	30 - 150

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070905ECD7.D
Data file 2: /20180709.b/20180709.b/18070905ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BGF0717-BS1
Client ID:
Injection Date: 09-JUL-2018 08:31
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.733	-0.001	9216968	4.611	0.002	14906379	28.3	29.7	4.8	Tetrachloro-m-xylene
13.287	-0.001	9288176	13.466	0.007	10369380	32.4	33.1	2.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	70.7	74.2
Decachlorobiphenyl	81.0	82.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28149340	9.4
Hexabromobiphenyl	22585647	27018779	19.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47291059	18.7
Hexabromobiphenyl	22087957	26974793	22.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.483	-0.001	3707892	494.1	1	6.456	0.003	8036365	479.5
Aroclor-1016	2	6.894	0.002	13710105	546.4	2	7.100	0.004	14190798	438.9
Aroclor-1016	3	7.161	0.000	3171271	473.7	3	7.485	0.004	3417296	438.4
Aroclor-1016	4	7.887	-0.000	3625283	463.6	4	8.009	0.005	4161267	442.9
Total Col1Ave (4 peaks):					494.4	Total Col2Ave (4 peaks):				449.9 RPD = 9
Corrected Ave (3 peaks):					477.1	Corrected Ave (3 peaks):				440.1 RPD = 8
Aroclor-1221	1	3.540	-0.016	33867	15.4	1	3.797	-0.029	27786	7.3
Aroclor-1221	2	5.345	-0.012	523797	204.3	2	5.357	-0.028	771102	130.9
Aroclor-1221	3	5.457	-0.011	2096228	270.0	3	5.733	-0.030	2864550	285.4
Total Col1Ave (3 peaks):					163.3	Total Col2Ave (3 peaks):				141.2 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.540	-0.017	33867	25.4	1	3.797	-0.030	27786	12.2
Aroclor-1232	2	6.483	-0.013	3707892	1131.5	2	6.456	-0.029	8036365	1010.8
Aroclor-1232	3	6.894	-0.012	13710105	1243.4	3	7.100	-0.030	14190798	1019.7
Aroclor-1232	4	7.712	-0.014	3178813	877.6	4	8.883	-0.034	392781	76.7
Total Col1Ave (4 peaks):					819.5	Total Col2Ave (4 peaks):				529.8 RPD = 43*
Corrected Ave (3 peaks):					678.1	Corrected Ave (3 peaks):				366.5 RPD = 60*
Aroclor-1242	1	6.483	-0.014	3707892	614.2	1	6.456	-0.032	8036365	614.6
Aroclor-1242	2	7.048	-0.014	4404675	551.8	2	7.100	-0.033	14190798	564.6
Aroclor-1242	3	8.264	-0.017	547784	80.4	3	8.603	0.026	2565542	332.9
Aroclor-1242	4	8.564	-0.011	405288	56.5	4	8.883	-0.039	392781	43.9
Total Col1Ave (4 peaks):					325.7	Total Col2Ave (4 peaks):				389.0 RPD = 18
Corrected Ave (3 peaks):					229.6	Corrected Ave (3 peaks):				313.8 RPD = 31
Aroclor-1248	1	6.894	0.006	13710105	1129.2	1	7.599	0.004	4054921	371.7
Aroclor-1248	2	7.712	0.002	3178813	323.2	2	8.009	0.004	4161267	363.2
Aroclor-1248	3	8.330	0.013	2432633	165.9	3	8.541	0.005	558635	45.1
Aroclor-1248	4	8.564	0.009	405288	37.0	4	8.883	0.005	392781	27.3
Total Col1Ave (4 peaks):					413.8	Total Col2Ave (4 peaks):				201.8 RPD = 69*
Corrected Ave (3 peaks):					175.4	Corrected Ave (3 peaks):				145.2 RPD = 19
Aroclor-1254	1	8.645	0.002	2493476	132.0	1	8.783	0.004	2831748	173.3
Aroclor-1254	2	8.828	0.108	33806	5.6	2	8.883	0.013	392781	49.3
Aroclor-1254	3	9.019	0.001	297877	27.1	3	9.489	0.045	5915665	226.3
Aroclor-1254	4	9.153	-0.003	2407378	104.0	4	9.713	0.012	8784703	335.4
Aroclor-1254	5	9.489	-0.017	7582932	320.3	5	10.458	0.001	8180626	417.8
Total Col1Ave (5 peaks):					117.8	Total Col2Ave (5 peaks):				240.4 RPD = 68*
Corrected Ave (4 peaks):					67.2	Corrected Ave (4 peaks):				196.1 RPD = 98*
Aroclor-1260	1	10.427	-0.001	8104427	529.7	1	10.556	0.005	6743589	433.8
Aroclor-1260	2	10.746	0.000	6300897	428.2	2	10.999	0.006	7554939	445.2
Aroclor-1260	3	11.117	-0.002	15331558	429.1	3	11.275	0.006	15606584	418.1
Aroclor-1260	4	11.517	-0.004	7148399	429.4	4	11.846	0.006	10759242	426.2
Aroclor-1260	5	11.634	-0.002	3439563	417.8	NS	---			----
Total Col1Ave (5 peaks):					446.9	Total Col2Ave (4 peaks):				430.9 RPD = 4
Corrected Ave (4 peaks):					426.1	Corrected Ave (3 peaks):				426.1 RPD = 0
Aroclor-1262	1	10.427	-0.020	8104427	369.8	1	10.633	0.037	4019543	192.6
Aroclor-1262	2	11.117	-0.022	15331558	376.8	2	10.999	-0.041	7554939	383.8
Aroclor-1262	3	11.517	-0.024	7148399	568.4	3	11.354	0.037	755455	18.8
Aroclor-1262	4	11.634	-0.023	3439563	216.1	4	11.846	0.014	10759242	644.8
Total Col1Ave (4 peaks):					382.8	Total Col2Ave (4 peaks):				310.0 RPD = 21
Corrected Ave (3 peaks):					320.9	Corrected Ave (3 peaks):				198.4 RPD = 47*
Aroclor-1268	1	11.634	-0.024	3439563	71.0	1	11.846	0.015	10759242	234.3
Aroclor-1268	2	11.709	-0.019	4018369	91.1	2	---			0.0
Aroclor-1268	3	12.109	-0.007	1659045	45.6	3	12.245	-0.042	194216	5.2
Aroclor-1268	4	12.879	-0.025	930749	8.6	4	13.061	-0.045	1055639	9.1
Total Col1Ave (4 peaks):					54.1	Total Col2Ave (3 peaks):				82.9 RPD = 42*

Corrected Ave (3 peaks): 41.7 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 182920554 Col1 Total PCB = 1.0 ppm*

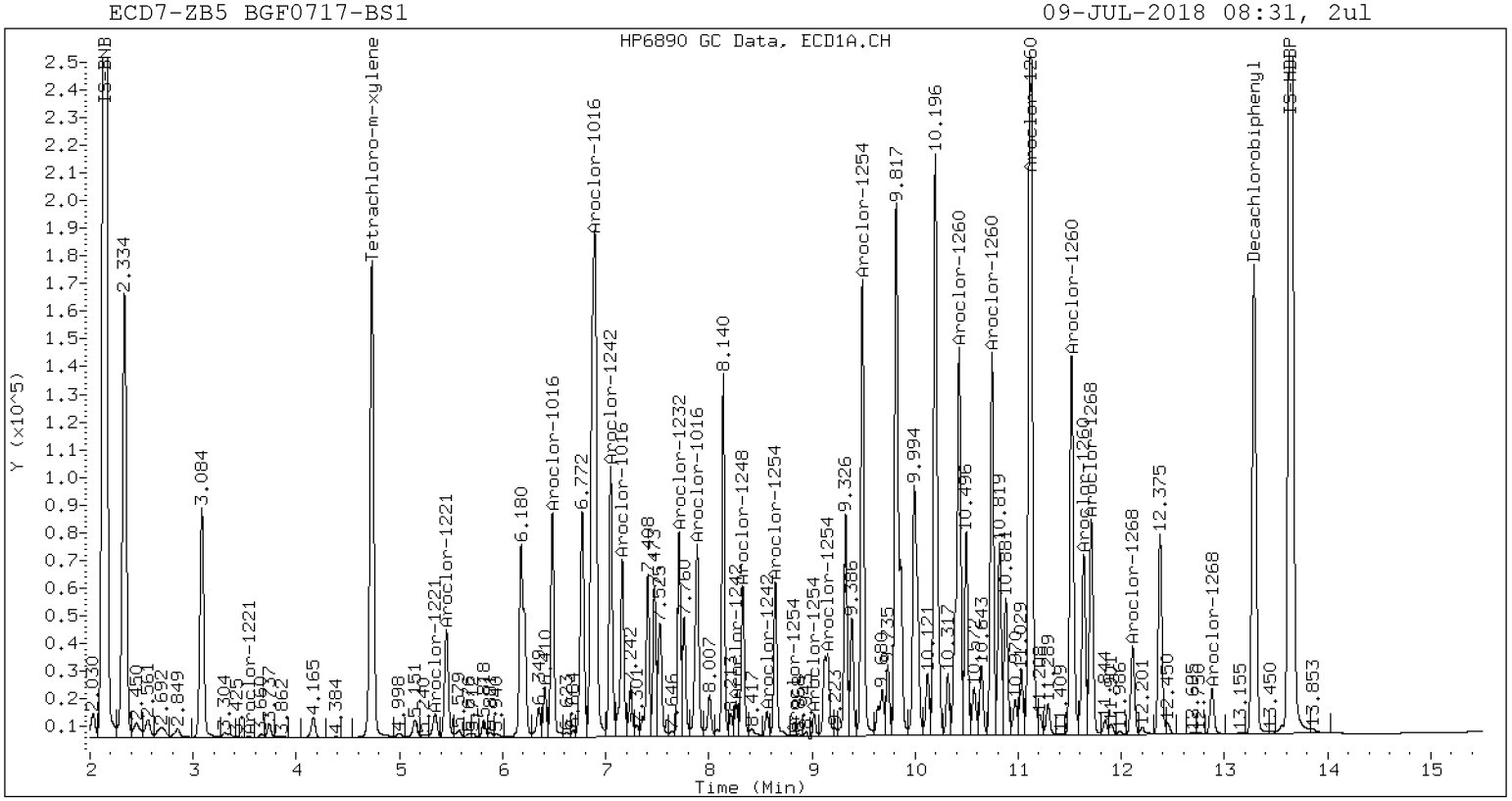
Total PCB Area Col2 (4.834 - 13.187) = 211477936 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

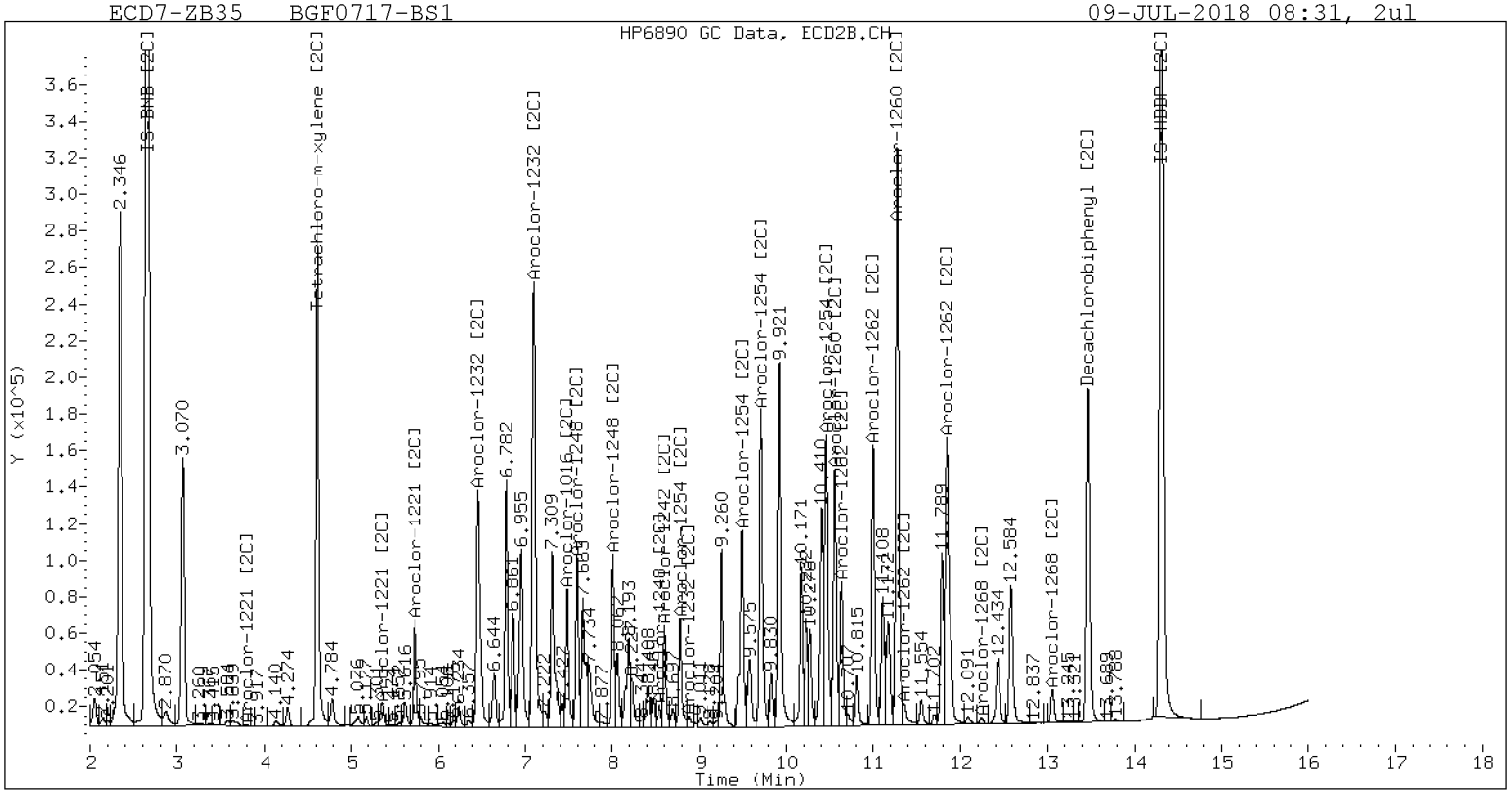
PCB Dual Column Chromatograms

ECD7-ZB5 BGF0717-BS1 09-JUL-2018 08:31, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 BGF0717-BS1 09-JUL-2018 08:31, 2ul



ZB-35 Manual Integration: NO

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/09/18 09:15
Batch:	BGF0717	Laboratory ID:	BGF0717-MS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike
Initial/Final:	12.55 g / 2.5 mL	Source Sample:	LDW18-C01-CLWB-Comp2

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	Q	MS CONCENTRATION (ug/kg)	Q	MS % REC. #	QC LIMITS REC.
Aroclor 1016	100	ND	U	74.0		74.0	30 - 150
Aroclor 1260 [2C]	100	3.5	J	79.2		75.7	30 - 150

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/09/18 09:37
Batch:	BGF0717	Laboratory ID:	BGF0717-MSD1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike Dup
Initial/Final:	12.55 g / 2.5 mL	Source Sample:	LDW18-C01-CLWB-Comp2

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor 1016	100	68.7		68.7	7.34	35	30 - 150
Aroclor 1260 [2C]	100	77.4		73.9	2.22	30	30 - 150

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070907ECD7.D
Data file 2: /20180709.b/20180709.b/18070907ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BGF0717-MS1
Client ID:
Injection Date: 09-JUL-2018 09:15
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.731	-0.004	8328942	4.610	0.001	13467703	29.0	26.6	8.7	Tetrachloro-m-xylene
13.284	-0.004	5953265	13.462	0.003	7951999	28.2	28.9	2.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	72.4	66.4
Decachlorobiphenyl	70.5	72.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	24838208	-3.5
Hexabromobiphenyl	22585647	19888866	-11.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47754378	19.9
Hexabromobiphenyl	22087957	23713057	7.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.481	-0.002	2241822	338.6	1	6.456	0.003	5973376	352.9
Aroclor-1016	2	6.889	-0.003	8342344	376.8	2	7.101	0.005	11016999	337.4
Aroclor-1016	3	7.161	0.000	2355506	398.7	3	7.484	0.004	2285159	290.3
Aroclor-1016	4	7.917	0.030	10135037	~~1468~~.7	4	8.014	0.010	6314909	~~665.~~7
Total Col1Ave (4 peaks):					645.7	Total Col2Ave (4 peaks):				411.6 RPD = 44*
Corrected Ave (3 peaks):					371.3	Corrected Ave (3 peaks):				326.9 RPD = 13
Aroclor-1221	1	3.556	-0.000	156938	80.9	1	3.783	-0.044	191203	49.6
Aroclor-1221	2	5.344	-0.012	328957	145.4	2	5.361	-0.024	1481148	249.0
Aroclor-1221	3	5.454	-0.014	1438996	210.1	3	5.787	0.025	806406	79.6
Total Col1Ave (3 peaks):					145.5	Total Col2Ave (3 peaks):				126.1 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.556	-0.001	156938	133.3	1	3.783	-0.045	191203	82.8
Aroclor-1232	2	6.481	-0.014	2241822	775.3	2	6.456	-0.029	5973376	744.0
Aroclor-1232	3	6.889	-0.016	8342344	857.4	3	7.101	-0.028	11016999	784.0
Aroclor-1232	4	7.713	-0.013	2223915	695.8	4	8.879	-0.038	733611	141.8
Total Col1Ave (4 peaks):					615.5	Total Col2Ave (4 peaks):				438.1 RPD = 34
Corrected Ave (3 peaks):					534.8	Corrected Ave (3 peaks):				322.9 RPD = 49*
Aroclor-1242	1	6.481	-0.016	2241822	420.9	1	6.456	-0.032	5973376	452.4
Aroclor-1242	2	7.046	-0.016	2790175	396.1	2	7.101	-0.031	11016999	434.0
Aroclor-1242	3	8.264	-0.017	454034	75.5	3	8.603	0.026	1695337	217.8
Aroclor-1242	4	8.561	-0.013	450643	71.2	4	8.879	-0.042	733611	81.2
Total Col1Ave (4 peaks):					240.9	Total Col2Ave (4 peaks):				296.4 RPD = 21
Corrected Ave (3 peaks):					181.0	Corrected Ave (3 peaks):				244.4 RPD = 30
Aroclor-1248	1	6.889	0.001	8342344	778.7	1	7.600	0.005	3132423	284.4
Aroclor-1248	2	7.713	0.003	2223915	256.2	2	8.014	0.010	6314909	545.9
Aroclor-1248	3	8.329	0.012	1609282	124.4	3	8.539	0.003	488785	39.0
Aroclor-1248	4	8.561	0.007	450643	46.6	4	8.879	0.001	733611	50.5
Total Col1Ave (4 peaks):					301.5	Total Col2Ave (4 peaks):				229.9 RPD = 27
Corrected Ave (3 peaks):					142.4	Corrected Ave (3 peaks):				124.6 RPD = 13
Aroclor-1254	1	8.639	-0.004	4134426	248.0	1	8.783	0.004	2449378	148.4
Aroclor-1254	2	8.721	0.001	229677	43.4	2	8.879	0.010	733611	91.2
Aroclor-1254	3	9.042	0.024	4415334	455.6	3	9.445	0.001	1131186	42.9
Aroclor-1254	4	9.149	-0.007	2021911	99.0	4	9.709	0.009	7102182	268.6
Aroclor-1254	5	9.487	-0.019	4767483	228.2	5	10.455	-0.001	6387813	323.0
Total Col1Ave (5 peaks):					214.8	Total Col2Ave (5 peaks):				174.8 RPD = 21
Corrected Ave (4 peaks):					154.7	Corrected Ave (4 peaks):				137.8 RPD = 12
Aroclor-1260	1	10.424	-0.004	4973246	441.6	1	10.554	0.003	5017813	367.2
Aroclor-1260	2	10.743	-0.003	3634608	335.6	2	10.996	0.003	6219256	416.9
Aroclor-1260	3	11.115	-0.003	9516363	361.8	3	11.273	0.003	13675281	416.8
Aroclor-1260	4	11.515	-0.005	4102312	334.7	4	11.844	0.003	8619041	388.4
Aroclor-1260	5	11.632	-0.004	1886988	311.4	NS	---			----
Total Col1Ave (5 peaks):					357.0	Total Col2Ave (4 peaks):				397.3 RPD = 11
Corrected Ave (4 peaks):					335.9	Corrected Ave (3 peaks):				390.8 RPD = 15
Aroclor-1262	1	10.424	-0.023	4973246	308.2	1	10.633	0.037	2855192	155.7
Aroclor-1262	2	11.115	-0.023	9516363	317.7	2	10.996	-0.044	6219256	359.4
Aroclor-1262	3	11.515	-0.025	4102312	443.2	3	11.358	0.041	366406	10.4
Aroclor-1262	4	11.632	-0.025	1886988	161.0	4	11.844	0.011	8619041	587.6
Total Col1Ave (4 peaks):					307.5	Total Col2Ave (4 peaks):				278.3 RPD = 10
Corrected Ave (3 peaks):					262.3	Corrected Ave (3 peaks):				175.1 RPD = 40
Aroclor-1268	1	11.632	-0.026	1886988	53.0	1	11.844	0.012	8619041	213.6
Aroclor-1268	2	11.706	-0.022	2216650	68.3	2	---			0.0
Aroclor-1268	3	12.107	-0.009	966728	36.1	3	12.243	-0.044	113800	3.5
Aroclor-1268	4	12.876	-0.028	507451	6.4	4	13.151	0.045	167286	1.6
Total Col1Ave (4 peaks):					40.9	Total Col2Ave (3 peaks):				72.9 RPD = 56*

Corrected Ave (3 peaks): 31.8 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 171782104 Col1 Total PCB = 1.0 ppm*

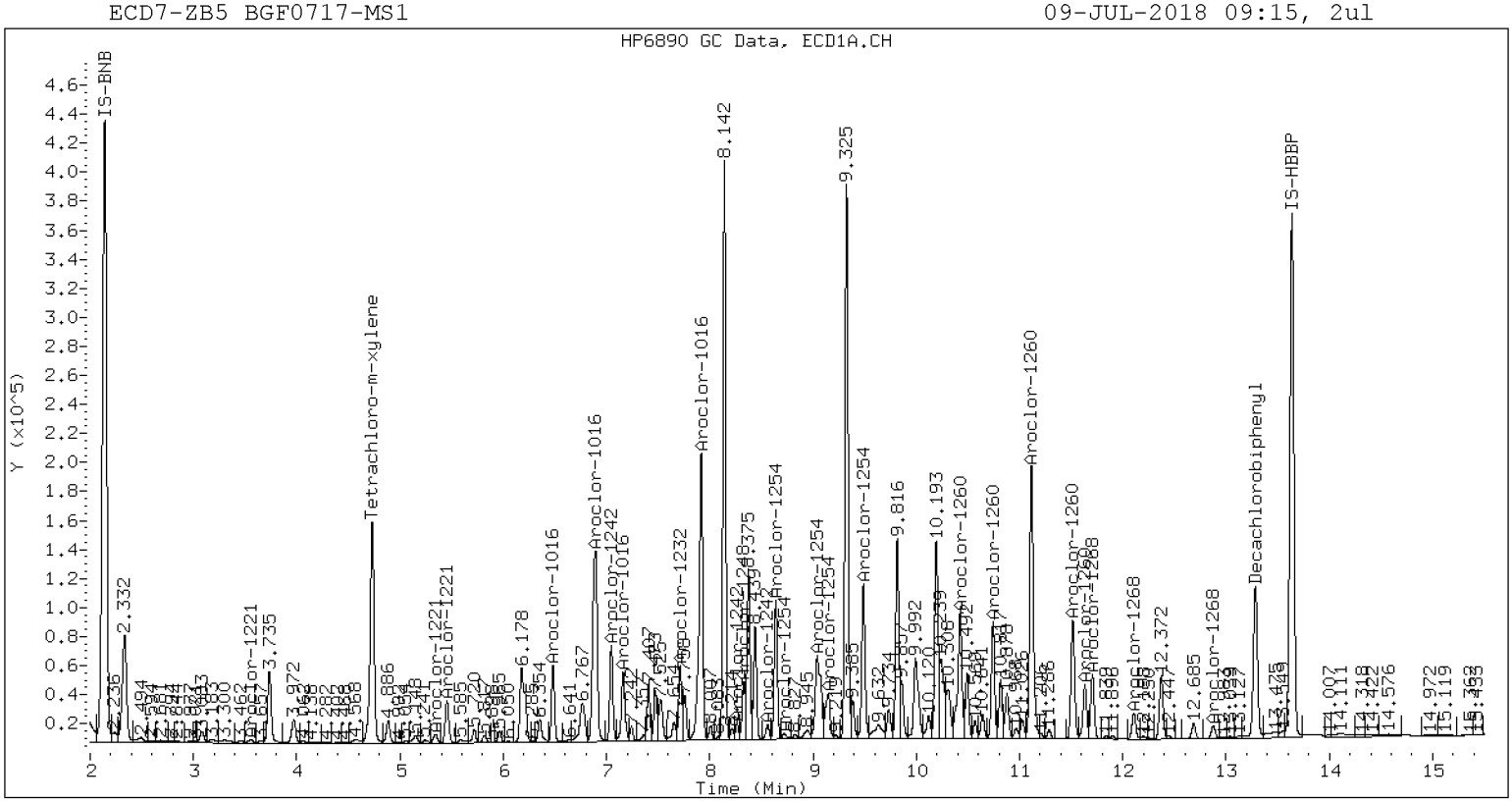
Total PCB Area Col2 (4.834 - 13.187) = 232435919 Col2 Total PCB = 1.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

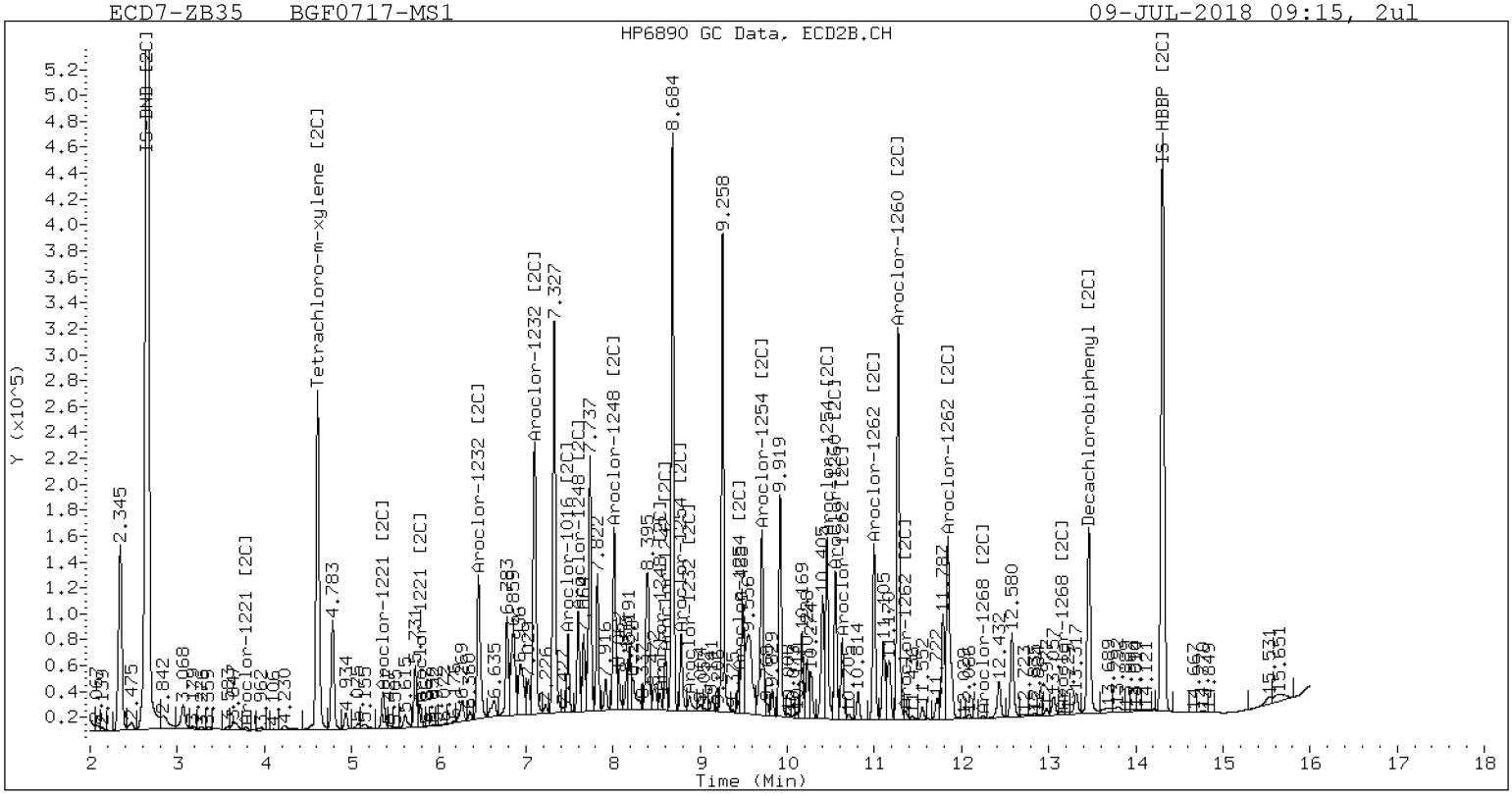
PCB Dual Column Chromatograms

ECD7-ZB5 BGF0717-MS1 09-JUL-2018 09:15, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 BGF0717-MS1 09-JUL-2018 09:15, 2ul



ZB-35 Manual Integration: YES

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070908ECD7.D
Data file 2: /20180709.b/20180709.b/18070908ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BGF0717-MSD1
Client ID:
Injection Date: 09-JUL-2018 09:37
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.733	-0.002	7834822	4.612	0.003	12823724	28.3	25.6	10.0	Tetrachloro-m-xylene
13.283	-0.005	5362895	13.460	0.001	7401043	28.3	27.8	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	70.8	64.1
Decachlorobiphenyl	70.6	69.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	23896541	-7.1
Hexabromobiphenyl	22585647	17889123	-20.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47126790	18.3
Hexabromobiphenyl	22087957	22928260	3.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.483	-0.001	2059133	323.2	1	6.456	0.003	5532140	331.2
Aroclor-1016	2	6.894	0.001	7736734	363.2	2	7.100	0.005	10712340	332.4
Aroclor-1016	3	7.160	-0.001	1981823	348.7	3	7.484	0.004	2252569	290.0
Aroclor-1016	4	7.916	0.029	4809195	724.4	4	8.012	0.007	4380476	467.9
Total Col1Ave (4 peaks):					439.9	Total Col2Ave (4 peaks):				355.4 RPD = 21
Corrected Ave (3 peaks):					345.0	Corrected Ave (3 peaks):				317.9 RPD = 8
Aroclor-1221	1	3.559	0.003	370285	198.5	1	3.784	-0.042	73992	19.4
Aroclor-1221	2	5.346	-0.011	309624	142.3	2	5.362	-0.023	1492084	254.2
Aroclor-1221	3	5.456	-0.012	1367148	207.5	3	5.790	0.028	355069	35.5
Total Col1Ave (3 peaks):					182.7	Total Col2Ave (3 peaks):				103.1 RPD = 56*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.559	0.002	370285	326.8	1	3.784	-0.043	73992	32.5
Aroclor-1232	2	6.483	-0.013	2059133	740.2	2	6.456	-0.029	5532140	698.2
Aroclor-1232	3	6.894	-0.012	7736734	826.5	3	7.100	-0.029	10712340	772.4
Aroclor-1232	4	7.713	-0.013	2095734	681.6	4	8.878	-0.040	810664	158.8
Total Col1Ave (4 peaks):					643.8	Total Col2Ave (4 peaks):				415.5 RPD = 43*
Corrected Ave (3 peaks):					582.8	Corrected Ave (3 peaks):				296.5 RPD = 65*
Aroclor-1242	1	6.483	-0.014	2059133	401.8	1	6.456	-0.033	5532140	424.6
Aroclor-1242	2	7.048	-0.014	2653040	391.5	2	7.100	-0.032	10712340	427.7
Aroclor-1242	3	8.264	-0.017	411889	71.2	3	8.603	0.026	1779090	231.7
Aroclor-1242	4	8.560	-0.014	426900	70.1	4	8.878	-0.044	810664	91.0
Total Col1Ave (4 peaks):					233.7	Total Col2Ave (4 peaks):				293.7 RPD = 23
Corrected Ave (3 peaks):					177.6	Corrected Ave (3 peaks):				249.1 RPD = 33
Aroclor-1248	1	6.894	0.005	7736734	750.6	1	7.600	0.005	2949133	271.3
Aroclor-1248	2	7.713	0.003	2095734	251.0	2	8.012	0.007	4380476	383.7
Aroclor-1248	3	8.328	0.011	1636642	131.5	3	8.539	0.004	585034	47.4
Aroclor-1248	4	8.560	0.006	426900	45.9	4	8.878	-0.001	810664	56.6
Total Col1Ave (4 peaks):					294.8	Total Col2Ave (4 peaks):				189.7 RPD = 43*
Corrected Ave (3 peaks):					142.8	Corrected Ave (3 peaks):				125.1 RPD = 13
Aroclor-1254	1	8.641	-0.003	2483409	154.8	1	8.782	0.003	2409910	148.0
Aroclor-1254	2	8.722	0.002	208805	41.0	2	8.878	0.008	810664	102.1
Aroclor-1254	3	9.039	0.021	1787969	191.7	3	9.445	0.001	1075344	41.3
Aroclor-1254	4	9.151	-0.005	1723312	87.7	4	9.709	0.008	6434273	246.5
Aroclor-1254	5	9.488	-0.018	4601378	229.0	5	10.455	-0.001	6083372	311.7
Total Col1Ave (5 peaks):					140.8	Total Col2Ave (5 peaks):				169.9 RPD = 19
Corrected Ave (4 peaks):					118.8	Corrected Ave (4 peaks):				134.5 RPD = 12
Aroclor-1260	1	10.424	-0.004	4269001	421.4	1	10.554	0.002	4776949	361.5
Aroclor-1260	2	10.741	-0.005	3413905	350.4	2	10.994	0.001	5877041	407.5
Aroclor-1260	3	11.116	-0.003	8595061	363.3	3	11.273	0.003	12877790	405.9
Aroclor-1260	4	11.515	-0.005	3842906	348.6	4	11.843	0.002	8143543	379.6
Aroclor-1260	5	11.634	-0.002	1790656	328.5	NS	---			----
Total Col1Ave (5 peaks):					362.5	Total Col2Ave (4 peaks):				388.6 RPD = 7
Corrected Ave (4 peaks):					347.7	Corrected Ave (3 peaks):				382.3 RPD = 9
Aroclor-1262	1	10.424	-0.022	4269001	294.2	1	10.632	0.036	2722752	153.5
Aroclor-1262	2	11.116	-0.022	8595061	319.0	2	10.994	-0.046	5877041	351.2
Aroclor-1262	3	11.515	-0.026	3842906	461.5	3	11.357	0.041	345029	10.1
Aroclor-1262	4	11.634	-0.023	1790656	169.9	4	11.843	0.010	8143543	574.2
Total Col1Ave (4 peaks):					311.2	Total Col2Ave (4 peaks):				272.3 RPD = 13
Corrected Ave (3 peaks):					261.0	Corrected Ave (3 peaks):				171.6 RPD = 41*
Aroclor-1268	1	11.634	-0.024	1790656	55.9	1	11.843	0.011	8143543	208.7
Aroclor-1268	2	11.705	-0.023	2076757	71.1	2	---			0.0
Aroclor-1268	3	12.107	-0.009	875931	36.3	3	12.243	-0.044	104098	3.3
Aroclor-1268	4	12.876	-0.028	471988	6.6	4	13.145	0.039	82285	0.8
Total Col1Ave (4 peaks):					42.5	Total Col2Ave (3 peaks):				70.9 RPD = 50*

Corrected Ave (3 peaks): 32.9 Corrected Ave: < 3 Peaks

Total PCB Area Col1 (4.834 - 13.187) = 129466231 Col1 Total PCB = 0.8 ppm*

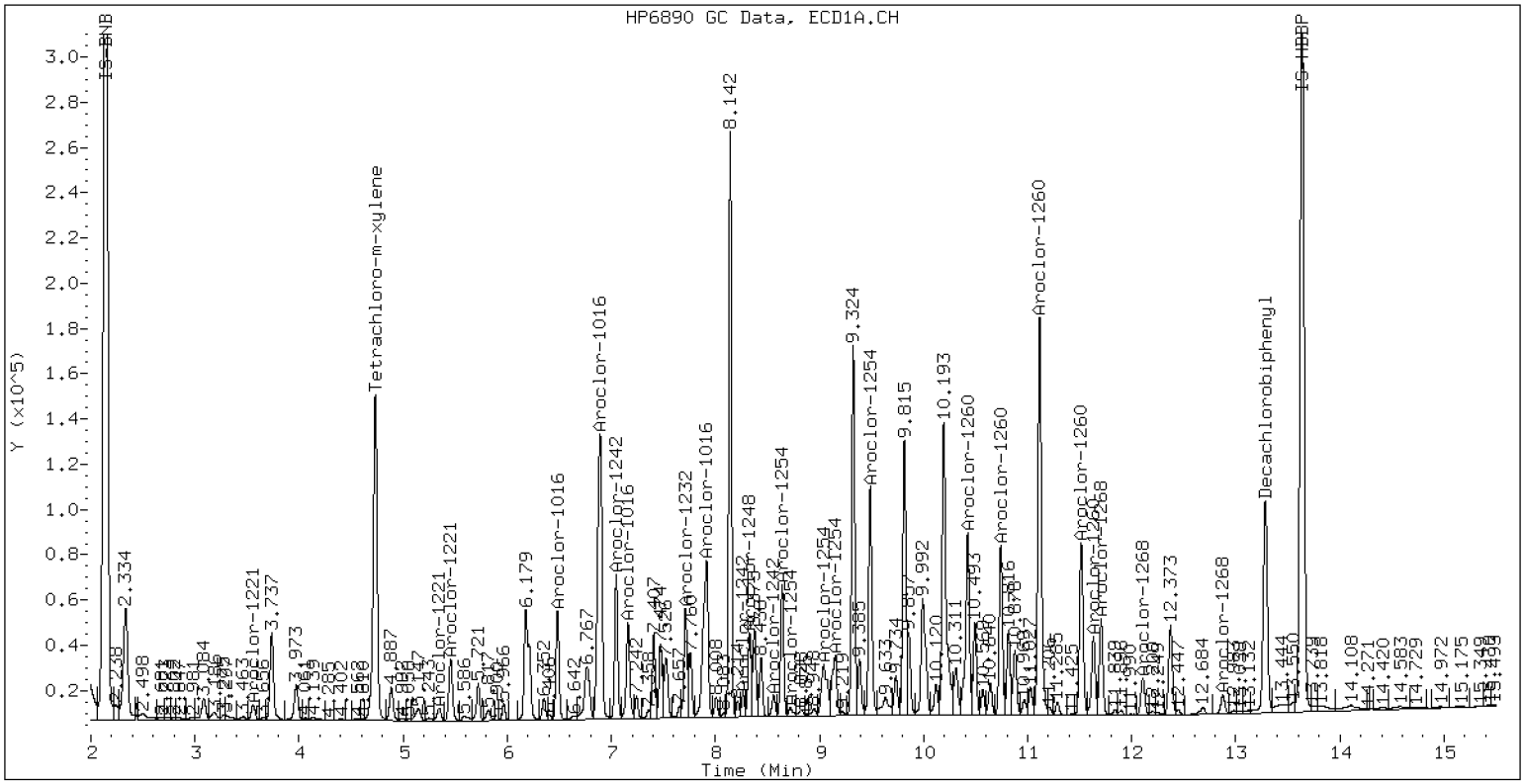
Total PCB Area Col2 (4.834 - 13.187) = 183426441 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

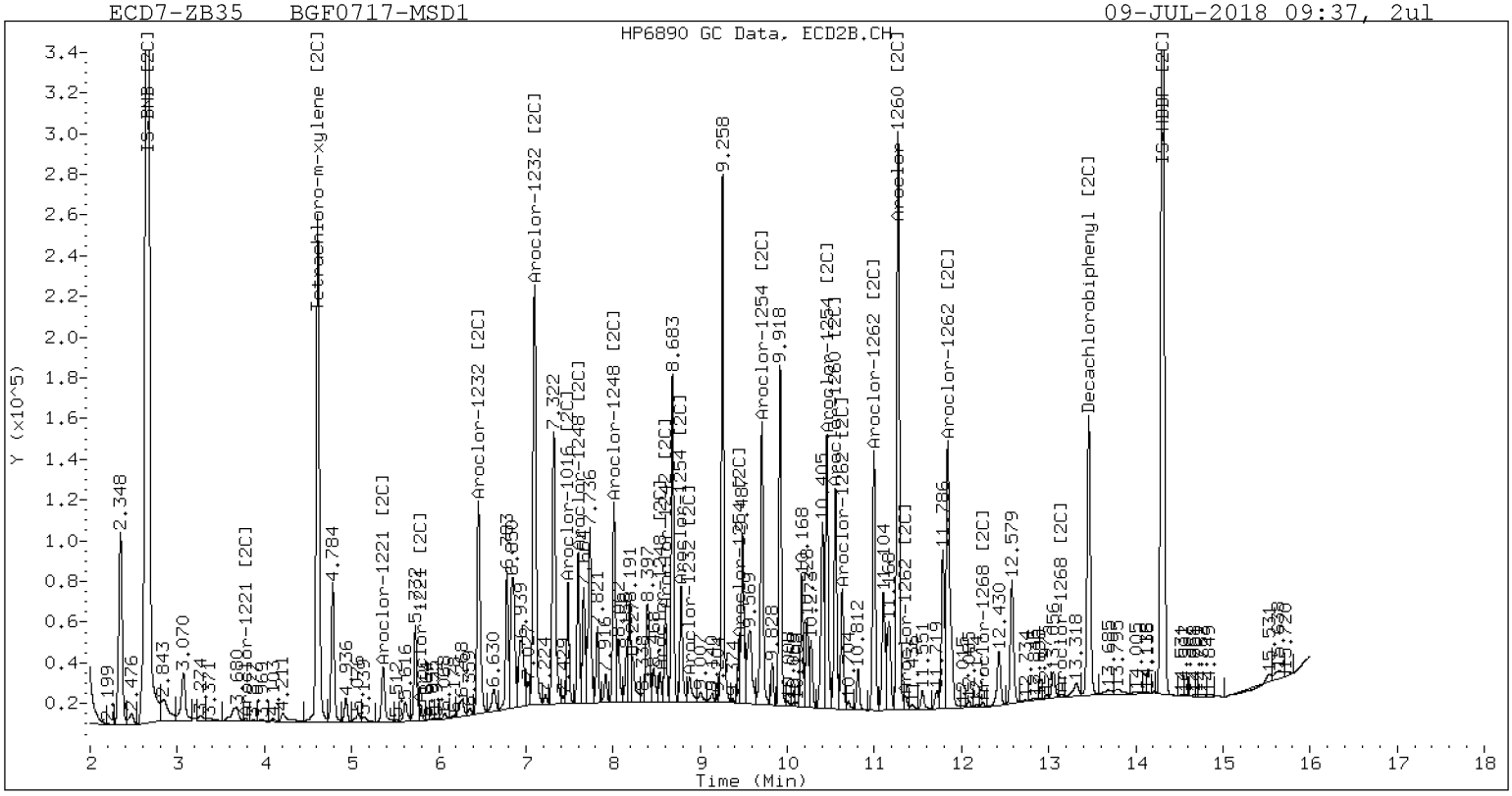
PCB Dual Column Chromatograms

ECD7-ZB5 BGF0717-MSD1 09-JUL-2018 09:37, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 BGF0717-MSD1 09-JUL-2018 09:37, 2ul

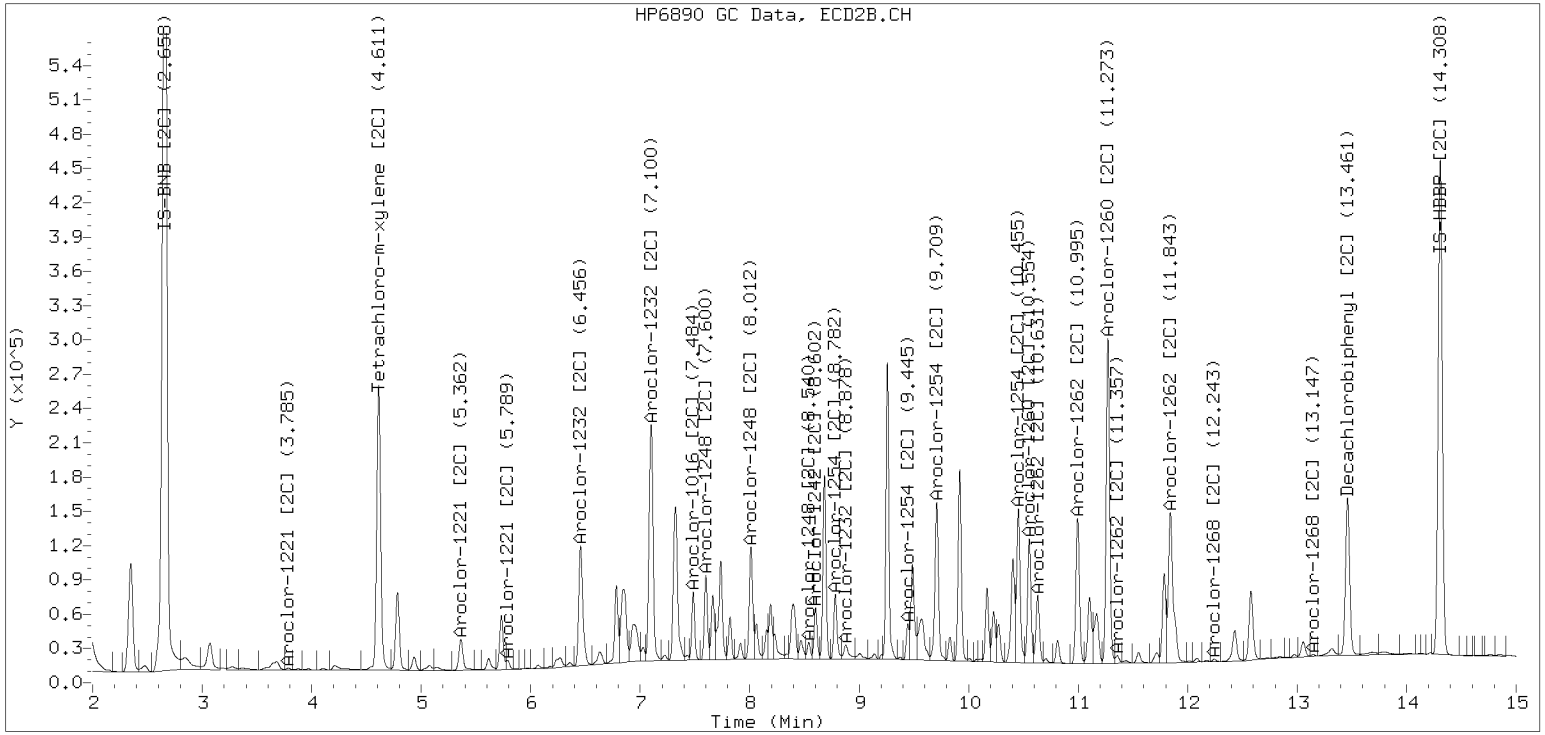


ZB-35 Manual Integration: YES

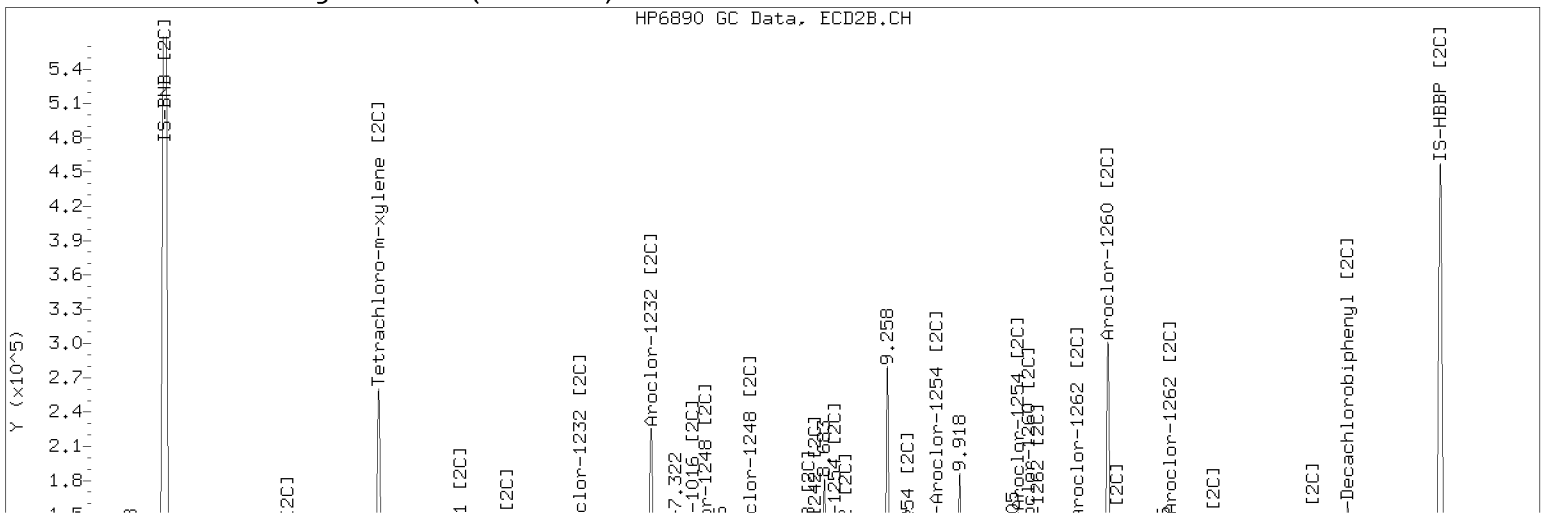
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/20180709.b/20180709.b/18070908.D Injection Date: 09-JUL-2018 09:37

Manual Integration (After)



Processed Integration (Before)



INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Aroclor 1016	250	3.434346E-02	20	3.118724E-02	50	3.412609E-02	1000	3.224331E-02	100	3.451655E-02	500	0.0344282
Aroclor-1016 (1)	250	2.177207E-02	20	2.043543E-02	50	2.176971E-02	1000	2.052772E-02	100	2.200827E-02	500	2.145363E-02
Aroclor-1016 (2)	250	7.322051E-02	20	6.670972E-02	50	7.277779E-02	1000	6.742869E-02	100	7.392705E-02	500	7.382549E-02
Aroclor-1016 (3)	250	1.945389E-02	20	1.748069E-02	50	1.925537E-02	1000	1.905163E-02	100	1.945344E-02	500	1.947409E-02
Aroclor-1016 (4)	250	2.292737E-02	20	2.012311E-02	50	2.270148E-02	1000	2.196515E-02	100	2.267742E-02	500	0.0229596
Aroclor 1260	250	5.437671E-02	20	0.0506279	50	5.421934E-02	1000	5.339635E-02	100	5.406397E-02	500	5.530471E-02
Aroclor-1260 (1)	250	4.587717E-02	20	4.286916E-02	50	4.608749E-02	1000	4.463816E-02	100	4.591864E-02	500	4.639923E-02
Aroclor-1260 (2)	250	0.0442342	20	4.097364E-02	50	4.386637E-02	1000	4.345533E-02	100	0.0439326	500	4.494147E-02
Aroclor-1260 (3)	250	0.1070511	20	9.970892E-02	50	0.1070928	1000	0.1056421	100	0.1058066	500	0.109432
Aroclor-1260 (4)	250	5.014507E-02	20	4.616236E-02	50	4.898975E-02	1000	4.964857E-02	100	4.974905E-02	500	5.107328E-02
Aroclor-1260 (5)	250	2.457602E-02	20	0.0234254	50	2.506025E-02	1000	2.359757E-02	100	2.491296E-02	500	2.467763E-02
Decachlorobiphenyl	40	0.8303654	3.2	0.906309	8	0.8680887	160	0.8019697	16	0.8534915	80	0.8321687
Tetrachlorometaxylene	40	0.9884032	3.2	0.7778436	8	0.8884738	160	0.9691751	16	0.9376816	80	0.9931438

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Aroclor-1221 (1)							250	6.245995E-03				
Aroclor-1221 (2)							250	7.284844E-03				
Aroclor-1221 (3)							250	2.206153E-02				
Aroclor 1232									250	1.368441E-02		
Aroclor-1232 (1)									250	3.793031E-03		
Aroclor-1232 (2)									250	9.313302E-03		
Aroclor-1232 (3)									250	3.133712E-02		
Aroclor-1232 (4)									250	1.029418E-02		
Aroclor 1242	250	1.989573E-02										
Aroclor-1242 (1)	250	1.715661E-02										
Aroclor-1242 (2)	250	2.268751E-02										
Aroclor-1242 (3)	250	1.935803E-02										
Aroclor-1242 (4)	250	2.038076E-02										
Aroclor 1248			250	3.381349E-02								
Aroclor-1248 (1)			250	0.0345048								
Aroclor-1248 (2)			250	2.795302E-02								
Aroclor-1248 (3)			250	4.166437E-02								
Aroclor-1248 (4)			250	3.113179E-02								
Aroclor 1254					250	4.700616E-02						
Aroclor-1254 (1)					250	5.369952E-02						
Aroclor-1254 (2)					250	1.703907E-02						
Aroclor-1254 (3)					250	3.121721E-02						
Aroclor-1254 (4)					250	6.579402E-02						
Aroclor-1254 (5)					250	6.728094E-02						
Aroclor 1262							250	6.743889E-02				
Aroclor-1262 (1)							250	6.489791E-02				
Aroclor-1262 (2)							250	0.1204851				
Aroclor-1262 (3)							250	0.0372351				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Aroclor-1262 (4)							250	4.713747E-02				
Aroclor 1268									250	0.1757286		
Aroclor-1268 (1)									250	0.1433448		
Aroclor-1268 (2)									250	0.1306359		
Aroclor-1268 (3)									250	0.1078058		
Aroclor-1268 (4)									250	0.321128		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (1):	ZB5

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	3.347414E-02	4.2			RSD (20)	
Aroclor-1016 (1)	2.132781E-02	3.2			RSD (20)	
Aroclor-1016 (2)	7.131488E-02	4.7			RSD (20)	
Aroclor-1016 (3)	1.902818E-02	4.1			RSD (20)	
Aroclor-1016 (4)	2.222569E-02	4.9			RSD (20)	
Aroclor-1221 (1)	6.245995E-03	0.0			RSD (20)	
Aroclor-1221 (2)	7.284844E-03	0.0			RSD (20)	
Aroclor-1221 (3)	2.206153E-02	0.0			RSD (20)	
Aroclor 1232	1.368441E-02	0.0			RSD (20)	
Aroclor-1232 (1)	3.793031E-03	0.0			RSD (20)	
Aroclor-1232 (2)	9.313302E-03	0.0			RSD (20)	
Aroclor-1232 (3)	3.133712E-02	0.0			RSD (20)	
Aroclor-1232 (4)	1.029418E-02	0.0			RSD (20)	
Aroclor 1242	1.989573E-02	0.0			RSD (20)	
Aroclor-1242 (1)	1.715661E-02	0.0			RSD (20)	
Aroclor-1242 (2)	2.268751E-02	0.0			RSD (20)	
Aroclor-1242 (3)	1.935803E-02	0.0			RSD (20)	
Aroclor-1242 (4)	2.038076E-02	0.0			RSD (20)	
Aroclor 1248	3.381349E-02	0.0			RSD (20)	
Aroclor-1248 (1)	0.0345048	0.0			RSD (20)	
Aroclor-1248 (2)	2.795302E-02	0.0			RSD (20)	
Aroclor-1248 (3)	4.166437E-02	0.0			RSD (20)	
Aroclor-1248 (4)	3.113179E-02	0.0			RSD (20)	
Aroclor 1254	4.700616E-02	0.0			RSD (20)	
Aroclor-1254 (1)	5.369952E-02	0.0			RSD (20)	
Aroclor-1254 (2)	1.703907E-02	0.0			RSD (20)	
Aroclor-1254 (3)	3.121721E-02	0.0			RSD (20)	
Aroclor-1254 (4)	6.579402E-02	0.0			RSD (20)	
Aroclor-1254 (5)	6.728094E-02	0.0			RSD (20)	
Aroclor 1260	5.366483E-02	3.0			RSD (20)	
Aroclor-1260 (1)	4.529831E-02	2.9			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (1):	ZB5

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (2)	4.356727E-02	3.1			RSD (20)	
Aroclor-1260 (3)	0.1057889	3.1			RSD (20)	
Aroclor-1260 (4)	4.929468E-02	3.4			RSD (20)	
Aroclor-1260 (5)	2.437497E-02	2.8			RSD (20)	
Aroclor 1262	6.743889E-02	0.0			RSD (20)	
Aroclor-1262 (1)	6.489791E-02	0.0			RSD (20)	
Aroclor-1262 (2)	0.1204851	0.0			RSD (20)	
Aroclor-1262 (3)	0.0372351	0.0			RSD (20)	
Aroclor-1262 (4)	4.713747E-02	0.0			RSD (20)	
Aroclor 1268	0.1757286	0.0			RSD (20)	
Aroclor-1268 (1)	0.1433448	0.0			RSD (20)	
Aroclor-1268 (2)	0.1306359	0.0			RSD (20)	
Aroclor-1268 (3)	0.1078058	0.0			RSD (20)	
Aroclor-1268 (4)	0.321128	0.0			RSD (20)	
Decachlorobiphenyl	0.8487322	4.3			RSD (20)	
Tetrachlorometaxylene	0.9257869	8.9			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Aroclor 1016 [2C]	250	2.780877E-02	20	2.757406E-02	50	2.930826E-02	1000	2.705149E-02	100	2.880673E-02	500	2.764972E-02
Aroclor-1016 (1) [2C]	250	2.791604E-02	20	2.878251E-02	50	3.054107E-02	1000	2.611671E-02	100	2.966573E-02	500	2.709806E-02
Aroclor-1016 (2) [2C]	250	5.395479E-02	20	5.332399E-02	50	5.664665E-02	1000	0.054228	100	5.493052E-02	500	5.511279E-02
Aroclor-1016 (3) [2C]	250	1.335384E-02	20	1.264548E-02	50	1.345333E-02	1000	1.272256E-02	100	1.392245E-02	500	0.0130265
Aroclor-1016 (4) [2C]	250	1.601043E-02	20	1.554424E-02	50	1.659198E-02	1000	1.513871E-02	100	1.670825E-02	500	1.536153E-02
Aroclor 1260 [2C]	250	6.929512E-02	20	6.926025E-02	50	0.0751883	1000	6.650507E-02	100	7.367165E-02	500	6.905286E-02
Aroclor-1260 (1) [2C]	250	4.479301E-02	20	4.698366E-02	50	0.0501893	1000	4.170849E-02	100	0.0489214	500	4.400485E-02
Aroclor-1260 (2) [2C]	250	4.943689E-02	20	4.940092E-02	50	5.420121E-02	1000	4.713144E-02	100	5.280608E-02	500	4.897296E-02
Aroclor-1260 (3) [2C]	250	0.1091741	20	0.1081575	50	0.1159112	1000	0.1070926	100	0.1137171	500	0.1101205
Aroclor-1260 (4) [2C]	250	7.377643E-02	20	7.249893E-02	50	8.045138E-02	1000	7.008775E-02	100	0.079242	500	7.311322E-02
Decachlorobiphenyl [2C]	40	0.8965236	3.2	1.028833	8	0.9559713	160	0.8691383	16	0.9307934	80	0.8922143
Tetrachlorometaxylene [2C]	40	0.8694416	3.2	0.7841021	8	0.8409961	160	0.8689502	16	0.8601797	80	0.8729159

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Aroclor-1221 (1) [2C]							250	6.461837E-03				
Aroclor-1221 (2) [2C]							250	9.963261E-03				
Aroclor-1221 (3) [2C]							250	1.697998E-02				
Aroclor 1232 [2C]									250	1.238194E-02		
Aroclor-1232 (1) [2C]									250	3.868232E-03		
Aroclor-1232 (2) [2C]									250	1.344949E-02		
Aroclor-1232 (3) [2C]									250	2.354215E-02		
Aroclor-1232 (4) [2C]									250	8.667861E-03		
Aroclor 1242 [2C]	250	2.320141E-02										
Aroclor-1242 (1) [2C]	250	2.211824E-02										
Aroclor-1242 (2) [2C]	250	4.252212E-02										
Aroclor-1242 (3) [2C]	250	1.303721E-02										
Aroclor-1242 (4) [2C]	250	1.512807E-02										
Aroclor 1248 [2C]			250	2.078351E-02								
Aroclor-1248 (1) [2C]			250	1.845412E-02								
Aroclor-1248 (2) [2C]			250	1.938036E-02								
Aroclor-1248 (3) [2C]			250	2.097322E-02								
Aroclor-1248 (4) [2C]			250	2.432633E-02								
Aroclor 1254 [2C]					250	3.255383E-02						
Aroclor-1254 (1) [2C]					250	2.764905E-02						
Aroclor-1254 (2) [2C]					250	1.347503E-02						
Aroclor-1254 (3) [2C]					250	4.421695E-02						
Aroclor-1254 (4) [2C]					250	4.430153E-02						
Aroclor-1254 (5) [2C]					250	3.312662E-02						
Aroclor 1262 [2C]							250	7.218977E-02				
Aroclor-1262 (1) [2C]							250	6.187894E-02				
Aroclor-1262 (2) [2C]							250	5.838368E-02				
Aroclor-1262 (3) [2C]							250	0.1190102				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Aroclor-1262 (4) [2C]							250	4.948623E-02				
Aroclor 1268 [2C]									250	0.1824744		
Aroclor-1268 (1) [2C]									250	0.1361608		
Aroclor-1268 (2) [2C]									250	0.1394644		
Aroclor-1268 (3) [2C]									250	0.1108003		
Aroclor-1268 (4) [2C]									250	0.3434723		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (2):	ZB35

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	2.803317E-02	3.0			RSD (20)	
Aroclor-1016 (1) [2C]	2.835335E-02	5.8			RSD (20)	
Aroclor-1016 (2) [2C]	5.469946E-02	2.1			RSD (20)	
Aroclor-1016 (3) [2C]	1.318736E-02	3.7			RSD (20)	
Aroclor-1016 (4) [2C]	1.589252E-02	4.1			RSD (20)	
Aroclor-1221 (1) [2C]	6.461837E-03	0.0			RSD (20)	
Aroclor-1221 (2) [2C]	9.963261E-03	0.0			RSD (20)	
Aroclor-1221 (3) [2C]	1.697998E-02	0.0			RSD (20)	
Aroclor 1232 [2C]	1.238194E-02	0.0			RSD (20)	
Aroclor-1232 (1) [2C]	3.868232E-03	0.0			RSD (20)	
Aroclor-1232 (2) [2C]	1.344949E-02	0.0			RSD (20)	
Aroclor-1232 (3) [2C]	2.354215E-02	0.0			RSD (20)	
Aroclor-1232 (4) [2C]	8.667861E-03	0.0			RSD (20)	
Aroclor 1242 [2C]	2.320141E-02	0.0			RSD (20)	
Aroclor-1242 (1) [2C]	2.211824E-02	0.0			RSD (20)	
Aroclor-1242 (2) [2C]	4.252212E-02	0.0			RSD (20)	
Aroclor-1242 (3) [2C]	1.303721E-02	0.0			RSD (20)	
Aroclor-1242 (4) [2C]	1.512807E-02	0.0			RSD (20)	
Aroclor 1248 [2C]	2.078351E-02	0.0			RSD (20)	
Aroclor-1248 (1) [2C]	1.845412E-02	0.0			RSD (20)	
Aroclor-1248 (2) [2C]	1.938036E-02	0.0			RSD (20)	
Aroclor-1248 (3) [2C]	2.097322E-02	0.0			RSD (20)	
Aroclor-1248 (4) [2C]	2.432633E-02	0.0			RSD (20)	
Aroclor 1254 [2C]	3.255383E-02	0.0			RSD (20)	
Aroclor-1254 (1) [2C]	2.764905E-02	0.0			RSD (20)	
Aroclor-1254 (2) [2C]	1.347503E-02	0.0			RSD (20)	
Aroclor-1254 (3) [2C]	4.421695E-02	0.0			RSD (20)	
Aroclor-1254 (4) [2C]	4.430153E-02	0.0			RSD (20)	
Aroclor-1254 (5) [2C]	3.312662E-02	0.0			RSD (20)	
Aroclor 1260 [2C]	7.049554E-02	4.6			RSD (20)	
Aroclor-1260 (1) [2C]	4.610012E-02	6.9			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00027	Instrument:	ECD7
Calibration Date:	06/22/2018 0:00	Column (2):	ZB35

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (2) [2C]	5.032492E-02	5.2			RSD (20)	
Aroclor-1260 (3) [2C]	0.1106955	3.1			RSD (20)	
Aroclor-1260 (4) [2C]	7.486162E-02	5.4			RSD (20)	
Aroclor 1262 [2C]	7.218977E-02	0.0			RSD (20)	
Aroclor-1262 (1) [2C]	6.187894E-02	0.0			RSD (20)	
Aroclor-1262 (2) [2C]	5.838368E-02	0.0			RSD (20)	
Aroclor-1262 (3) [2C]	0.1190102	0.0			RSD (20)	
Aroclor-1262 (4) [2C]	4.948623E-02	0.0			RSD (20)	
Aroclor 1268 [2C]	0.1824744	0.0			RSD (20)	
Aroclor-1268 (1) [2C]	0.1361608	0.0			RSD (20)	
Aroclor-1268 (2) [2C]	0.1394644	0.0			RSD (20)	
Aroclor-1268 (3) [2C]	0.1108003	0.0			RSD (20)	
Aroclor-1268 (4) [2C]	0.3434723	0.0			RSD (20)	
Decachlorobiphenyl [2C]	0.9289123	6.2			RSD (20)	
Tetrachlorometaxylene [2C]	0.8494309	4.0			RSD (20)	

Printed: 7/9/2018 1:12:25PM

ANALYSIS SEQUENCE

SGG0057

Instrument: ECD7 Element Column ID: f3874f3873
Calibration ID: BG00027

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0057-CAL1	0.25PPM AR1660	QC		1	F011204	G002633	
SGG0057-CAL2	0.02PPM AR1660	QC		2	F011207	G002633	
SGG0057-CAL3	0.05PPM AR1660	QC		3	F011206	G002633	
SGG0057-CAL4	1.0PPM AR1660	QC		4	F010993	G002633	
SGG0057-CAL5	0.1PPM AR1660	QC		5	F011205	G002633	
SGG0057-CAL6	0.5PPM AR1660	QC		6	F011203	G002633	
SGG0057-CAL7	0.25PPM AR1242	QC		7	F011118	G002633	
SGG0057-CAL8	0.25PPM AR1248	QC		8	G000809	G002633	
SGG0057-CAL9	0.25PPM AR1254	QC		9	F011624	G002633	
SGG0057-CALA	0.25PPM AR2162	QC		10	G002629	G002633	
SGG0057-CALB	0.25PPM AR3268	QC		11	F011625	G002633	
SGG0057-SCV1	AR1660SCV1	QC		12	G003406	G002633	
SGG0057-SCV2	AR1242SCV2	QC		13	G003409	G002633	
SGG0057-SCV3	AR1248SCV3	QC		14	G003410	G002633	
SGG0057-SCV4	AR1254SCV4	QC		15	G003411	G002633	
SGG0057-SCV5	AR2162SCV5	QC		16	G003407	G002633	
SGG0057-SCV6	AR3268SCV6	QC		17	G003408	G002633	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	22-JUN-2018 16:31	18062201.D	1	RINSE	
2	22-JUN-2018 16:53	18062202.D	1	RINSE	
3	22-JUN-2018 17:16	18062203.D	1	RINSE	
4	22-JUN-2018 17:38	18062204.D	1	RINSE	
5	22-JUN-2018 18:00	18062205.D	1	RINSE	
6	22-JUN-2018 18:22	18062206.D	1	RINSE	
7	22-JUN-2018 18:44	18062207.D	1	RINSE	
8	22-JUN-2018 19:06	18062208.D	1	RINSE	
9	22-JUN-2018 19:28	18062209.D	1	RINSE	
10	22-JUN-2018 19:50	18062210.D	1	RINSE	
11	22-JUN-2018 20:12	18062211.D	1	RINSE	
12	22-JUN-2018 20:34	18062212.D	1	RINSE	
13	22-JUN-2018 20:57	18062213.D	1	RINSE	
14	22-JUN-2018 21:19	18062214.D	1	RINSE	
15	22-JUN-2018 21:41	18062215.D	1	RINSE	
16	22-JUN-2018 22:03	18062216.D	1	IB	
17	22-JUN-2018 22:25	18062217.D	1	0.25PPMAR1660	
18	22-JUN-2018 22:47	18062218.D	1	0.02PPMAR1660	
19	22-JUN-2018 23:09	18062219.D	1	0.05PPMAR1660	
20	22-JUN-2018 23:31	18062220.D	1	1PPMAR1660	
21	22-JUN-2018 23:53	18062221.D	1	0.1PPMAR1660	
22	23-JUN-2018 00:15	18062222.D	1	0.5PPMAR1660	
23	23-JUN-2018 00:37	18062223.D	1	AR1242	
24	23-JUN-2018 00:59	18062224.D	1	AR1248	
25	23-JUN-2018 01:21	18062225.D	1	AR1254	
26	23-JUN-2018 01:43	18062226.D	1	AR2162	
27	23-JUN-2018 02:05	18062227.D	1	AR3268	
28	23-JUN-2018 02:27	18062228.D	1	AR1660SCV1	
29	23-JUN-2018 02:49	18062229.D	1	AR1242SCV2	
30	23-JUN-2018 03:11	18062230.D	1	AR1248SCV3	
31	23-JUN-2018 03:33	18062231.D	1	AR1254SCV4	
32	23-JUN-2018 03:55	18062232.D	1	AR2162SCV5	
33	23-JUN-2018 04:17	18062233.D	1	AR3268SCV6	
34	23-JUN-2018 04:39	18062234.D	1	0.1PPMDDTS	
35	23-JUN-2018 05:01	18062235.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 22-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1631	18062201.D	RINSE		1	NO MANUAL INTEGRATION
1653	18062202.D	RINSE		1	NO MANUAL INTEGRATION
1716	18062203.D	RINSE		1	NO MANUAL INTEGRATION
1738	18062204.D	RINSE		1	NO MANUAL INTEGRATION
1800	18062205.D	RINSE		1	NO MANUAL INTEGRATION
1822	18062206.D	RINSE		1	NO MANUAL INTEGRATION
1844	18062207.D	RINSE		1	NO MANUAL INTEGRATION
1906	18062208.D	RINSE		1	NO MANUAL INTEGRATION
1928	18062209.D	RINSE		1	NO MANUAL INTEGRATION
1950	18062210.D	RINSE		1	NO MANUAL INTEGRATION
2012	18062211.D	RINSE		1	NO MANUAL INTEGRATION
2034	18062212.D	RINSE		1	NO MANUAL INTEGRATION
2057	18062213.D	RINSE		1	NO MANUAL INTEGRATION
2119	18062214.D	RINSE		1	NO MANUAL INTEGRATION
2141	18062215.D	RINSE		1	NO MANUAL INTEGRATION
2203	18062216.D	IB		1	NO MANUAL INTEGRATION
2225	18062217.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2247	18062218.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2309	18062219.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2331	18062220.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2353	18062221.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0015	18062222.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0037	18062223.D	AR1242		1	NO MANUAL INTEGRATION
0059	18062224.D	AR1248		1	NO MANUAL INTEGRATION
0121	18062225.D	AR1254		1	NO MANUAL INTEGRATION
0143	18062226.D	AR2162		1	NO MANUAL INTEGRATION
0205	18062227.D	AR3268		1	NO MANUAL INTEGRATION
0227	18062228.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0249	18062229.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0311	18062230.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0333	18062231.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0355	18062232.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0417	18062233.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0439	18062234.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0501	18062235.D	DDT BD		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1631	18062201.D	RINSE		1	NO MANUAL INTEGRATION
1653	18062202.D	RINSE		1	NO MANUAL INTEGRATION
1716	18062203.D	RINSE		1	NO MANUAL INTEGRATION
1738	18062204.D	RINSE		1	NO MANUAL INTEGRATION
1800	18062205.D	RINSE		1	NO MANUAL INTEGRATION
1822	18062206.D	RINSE		1	NO MANUAL INTEGRATION
1844	18062207.D	RINSE		1	NO MANUAL INTEGRATION
1906	18062208.D	RINSE		1	NO MANUAL INTEGRATION
1928	18062209.D	RINSE		1	NO MANUAL INTEGRATION
1950	18062210.D	RINSE		1	NO MANUAL INTEGRATION
2012	18062211.D	RINSE		1	NO MANUAL INTEGRATION
2034	18062212.D	RINSE		1	NO MANUAL INTEGRATION
2057	18062213.D	RINSE		1	NO MANUAL INTEGRATION
2119	18062214.D	RINSE		1	NO MANUAL INTEGRATION
2141	18062215.D	RINSE		1	NO MANUAL INTEGRATION
2203	18062216.D	IB		1	NO MANUAL INTEGRATION
2225	18062217.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2247	18062218.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2309	18062219.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2331	18062220.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2353	18062221.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0015	18062222.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0037	18062223.D	AR1242		1	NO MANUAL INTEGRATION
0059	18062224.D	AR1248		1	NO MANUAL INTEGRATION
0121	18062225.D	AR1254		1	NO MANUAL INTEGRATION
0143	18062226.D	AR2162		1	NO MANUAL INTEGRATION
0205	18062227.D	AR3268		1	NO MANUAL INTEGRATION
0227	18062228.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0249	18062229.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0311	18062230.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0333	18062231.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0355	18062232.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0417	18062233.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0439	18062234.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0501	18062235.D	DDT BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 09-Jul-2018 12:36

18062201.D	Data Locked	jrains, 09-Jul-2018 12:36
18062202.D	Data Locked	jrains, 09-Jul-2018 12:36
18062203.D	Data Locked	jrains, 09-Jul-2018 12:36
18062204.D	Data Locked	jrains, 09-Jul-2018 12:36
18062205.D	Data Locked	jrains, 09-Jul-2018 12:36
18062206.D	Data Locked	jrains, 09-Jul-2018 12:36
18062207.D	Data Locked	jrains, 09-Jul-2018 12:36
18062208.D	Data Locked	jrains, 09-Jul-2018 12:36
18062209.D	Data Locked	jrains, 09-Jul-2018 12:36
18062210.D	Data Locked	jrains, 09-Jul-2018 12:36
18062211.D	Data Locked	jrains, 09-Jul-2018 12:36
18062212.D	Data Locked	jrains, 09-Jul-2018 12:36
18062213.D	Data Locked	jrains, 09-Jul-2018 12:36
18062214.D	Data Locked	jrains, 09-Jul-2018 12:36
18062215.D	Data Locked	jrains, 09-Jul-2018 12:36
18062216.D	Data Locked	jrains, 09-Jul-2018 12:36
18062217.D	Data Locked	jrains, 09-Jul-2018 12:36
18062218.D	Data Locked	jrains, 09-Jul-2018 12:36
18062219.D	Data Locked	jrains, 09-Jul-2018 12:36
18062220.D	Data Locked	jrains, 09-Jul-2018 12:36
18062221.D	Data Locked	jrains, 09-Jul-2018 12:36
18062222.D	Data Locked	jrains, 09-Jul-2018 12:36
18062223.D	Data Locked	jrains, 09-Jul-2018 12:36
18062224.D	Data Locked	jrains, 09-Jul-2018 12:36
18062225.D	Data Locked	jrains, 09-Jul-2018 12:36
18062226.D	Data Locked	jrains, 09-Jul-2018 12:36
18062227.D	Data Locked	jrains, 09-Jul-2018 12:36
18062228.D	Data Locked	jrains, 09-Jul-2018 12:36
18062229.D	Data Locked	jrains, 09-Jul-2018 12:36
18062230.D	Data Locked	jrains, 09-Jul-2018 12:36
18062231.D	Data Locked	jrains, 09-Jul-2018 12:36
18062232.D	Data Locked	jrains, 09-Jul-2018 12:36
18062233.D	Data Locked	jrains, 09-Jul-2018 12:36
18062234.D	Data Locked	jrains, 09-Jul-2018 12:36
18062235.D	Data Locked	jrains, 09-Jul-2018 12:36

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Last Edit : 09-Jul-2018 12:27 jrains
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\20180622.b\18062218.D
Level 2: \\target\share\chem4\ecd7.i\20180622.b\18062219.D
Level 3: \\target\share\chem4\ecd7.i\20180622.b\18062221.D
Level 4: \\target\share\chem4\ecd7.i\20180622.b\18062217.D
Level 5: \\target\share\chem4\ecd7.i\20180622.b\18062222.D
Level 6: \\target\share\chem4\ecd7.i\20180622.b\18062220.D
Level 7: \\target\share\chem4\ecd7.i\20180622.b\18062227.D
Level 8: \\target\share\chem4\ecd7.i\20180622.b\18062234.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00625	+++++	0.00625	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.00728	+++++	0.00728	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02206	+++++	0.02206	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.01716	+++++	0.01716	0.000

(2)	+++++	+++++	+++++	+++++	+++++	+++++			
	0.02269	+++++					0.02269	0.000	
(3)	+++++	+++++	+++++	+++++	+++++	+++++			
	0.01936	+++++					0.01936	0.000	
(4)	+++++	+++++	+++++	+++++	+++++	+++++			
	0.02038	+++++					0.02038	0.000	
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++			
	0.00379	+++++					0.00379	0.000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Last Edit : 09-Jul-2018 12:27 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00931	+++++					0.00931	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03134	+++++					0.03134	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01029	+++++					0.01029	0.000
7 Aroclor-1016(1)	0.02044	0.02177	0.02201	0.02177	0.02145	0.02053		
	+++++	+++++					0.02133	3.186
(2)	0.06671	0.07278	0.07393	0.07322	0.07383	0.06743		
	+++++	+++++					0.07131	4.659
(3)	0.01748	0.01926	0.01945	0.01945	0.01947	0.01905		
	+++++	+++++					0.01903	4.076
(4)	0.02012	0.02270	0.02268	0.02293	0.02296	0.02197		
	+++++	+++++					0.02223	4.908
6 Aroclor-1248(1)	+++++	+++++	+++++	+++++	+++++	+++++		

	0.03450	+++++				0.03450	0.000	
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02795	+++++				0.02795	0.000	
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04166	+++++				0.04166	0.000	
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03113	+++++				0.03113	0.000	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Last Edit : 09-Jul-2018 12:27 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05370	+++++					0.05370	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01704	+++++					0.01704	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03122	+++++					0.03122	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06579	+++++					0.06579	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06728	+++++					0.06728	0.000
9 Aroclor-1260(1)	0.04287	0.04609	0.04592	0.04588	0.04640	0.04464		
	+++++	+++++					0.04530	2.944
(2)	0.04097	0.04387	0.04393	0.04423	0.04494	0.04346		
	+++++	+++++					0.04357	3.130
(3)	0.09971	0.10709	0.10581	0.10705	0.10943	0.10564		

	+++++	+++++					0.10579	3.094
(4)	0.04616	0.04899	0.04975	0.05015	0.05107	0.04965		
	+++++	+++++					0.04929	3.409
(5)	0.02343	0.02506	0.02491	0.02458	0.02468	0.02360		
	+++++	+++++					0.02437	2.841
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.06490	+++++					0.06490	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Last Edit : 09-Jul-2018 12:27 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.12049	+++++	0.12049	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.03724	+++++	0.03724	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04714	+++++	0.04714	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.14334	+++++	0.14334	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.13064	+++++	0.13064	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.10781	+++++	0.10781	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.32113	+++++	0.32113	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++				

	+++++	657					657	0.000
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	638					638	0.000
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	764					764	0.000
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	1095					1095	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Last Edit : 09-Jul-2018 12:27 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	895	895	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	982	982	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	0.77784	0.88847	0.93768	0.98840	0.99314	0.96918	+++++	+++++	0.92579	8.876
$ 13 Decachlorobiphenyl	0.90631	0.86809	0.85349	0.83037	0.83217	0.80197	+++++	+++++	0.84873	4.252

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Last Edit : 06-Jul-2018 10:35 jrains
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062218.D
Level 2: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062219.D
Level 3: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062221.D
Level 4: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062217.D
Level 5: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062222.D
Level 6: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062220.D
Level 7: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062227.D
Level 8: \\target\share\chem4\ecd7.i\20180622.b\20180622.b\18062234.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00646	+++++	0.00646	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.00996	+++++	0.00996	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.01698	+++++	0.01698	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00387	+++++	0.00387	0.000

	(2)	+++++	+++++	+++++	+++++	+++++	+++++		
		0.01345	+++++					0.01345	0.000
	(3)	+++++	+++++	+++++	+++++	+++++	+++++		
		0.02354	+++++					0.02354	0.000
	(4)	+++++	+++++	+++++	+++++	+++++	+++++		
		0.00867	+++++					0.00867	0.000
3	Aroclor-1242 [2C]	(1)	+++++	+++++	+++++	+++++	+++++	+++++		
			0.02212	+++++					0.02212	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Last Edit : 06-Jul-2018 10:35 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04252	+++++					0.04252	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01304	+++++					0.01304	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01513	+++++					0.01513	0.000
6 Aroclor-1248 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01845	+++++					0.01845	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01938	+++++					0.01938	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02097	+++++					0.02097	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02433	+++++					0.02433	0.000
7 Aroclor-1016 [2C](1)	0.02878	0.03054	0.02967	0.02792	0.02710	0.02612		

	+++++	+++++				0.02835	5.787	
(2)	0.05332	0.05665	0.05493	0.05395	0.05511	0.05423		
	+++++	+++++				0.05470	2.114	
(3)	0.01265	0.01345	0.01392	0.01335	0.01303	0.01272		
	+++++	+++++				0.01319	3.675	
(4)	0.01554	0.01659	0.01671	0.01601	0.01536	0.01514		
	+++++	+++++				0.01589	4.117	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Last Edit : 06-Jul-2018 10:35 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
8 Aroclor-1254 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.02765	+++++	0.02765	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01348	+++++	0.01348	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04422	+++++	0.04422	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04430	+++++	0.04430	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++	0.03313	+++++	0.03313	0.000
10 Aroclor-1262 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.06188	+++++	0.06188	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.05838	+++++	0.05838	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++				

	0.11901	+++++					0.11901	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04949	+++++					0.04949	0.000
9 Aroclor-1260 [2C] (1)	0.04698	0.05019	0.04892	0.04479	0.04400	0.04171		
	+++++	+++++					0.04610	6.917
(2)	0.04940	0.05420	0.05281	0.04944	0.04897	0.04713		
	+++++	+++++					0.05032	5.246

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Last Edit : 06-Jul-2018 10:35 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
(3)	0.10816	0.11591	0.11372	0.10917	0.11012	0.10709	+++++	+++++	0.11070	3.087
(4)	0.07250	0.08045	0.07924	0.07378	0.07311	0.07009	+++++	+++++	0.07486	5.444
11 Aroclor-1268 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.13616	+++++	0.13616	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.13946	+++++	0.13946	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.11080	+++++	0.11080	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.34347	+++++	0.34347	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	723	723	0.000
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++				

	+++++	458					458	0.000
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	408					408	0.000
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	189					189	0.000
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	549					549	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUN-2018 22:25
End Cal Date : 23-JUN-2018 04:39
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Last Edit : 06-Jul-2018 10:35 jrains
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	0.000e+00 Level 8	___ RRF	% RSD
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	0.78410	0.84100	0.86018	0.86944	0.87292	0.86895	+++++	+++++	0.84943	4.005
$ 13 Decachlorobiphenyl [2C]	1.02883	0.95597	0.93079	0.89652	0.89221	0.86914	+++++	+++++	0.92891	6.219

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\20180622.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	18062217	18062218	18062219	18062220	18062221	18062222
INJ.DATE:	22-JUN-2018	22-JUN-2018	22-JUN-2018	22-JUN-2018	22-JUN-2018	23-JUN-2018
INJ.TIME:	22:25	22:47	23:09	23:31	23:53	00:15

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.149	2.160	2.149	2.150	2.160	2.161	2.143	2.043-2.243	2.155	0.006
$ 1 Tetrachloro-m-xylene	4.743	4.745	4.741	4.743	4.744	4.745	4.743	4.643-4.843	4.744	0.002
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	3.556	3.456-3.656	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.497	6.397-6.597	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	3.557	3.457-3.657	+++++	+++++
7 Aroclor-1016	6.498	6.499	6.496	6.496	6.497	6.497	6.497	6.397-6.597	6.497	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	6.901	6.801-7.001	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.659	8.559-8.759	+++++	+++++
9 Aroclor-1260	10.451	10.453	10.450	10.449	10.450	10.448	10.448	10.348-10.548	10.450	0.002
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.447	10.347-10.547	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.658	11.558-11.758	+++++	+++++
$ 13 Decachlorobiphenyl	13.318	13.318	13.317	13.316	13.317	13.314	13.312	13.212-13.412	13.317	0.001
* 12 IS-HBBP	13.675	13.673	13.674	13.674	13.674	13.672	13.665	13.565-13.765	13.674	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.625	8.575-8.675	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.180	9.130-9.230	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.687	9.637-9.737	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.059	8.959-9.159	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\20180622.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.636	9.536-9.736	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.153	10.053-10.253	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\20180622.b\20180622.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	18062217	18062218	18062219	18062220	18062221	18062222
INJ.DATE:	22-JUN-2018	22-JUN-2018	22-JUN-2018	22-JUN-2018	22-JUN-2018	23-JUN-2018
INJ.TIME:	22:25	22:47	23:09	23:31	23:53	00:15

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	2.680	2.687	2.679	2.680	2.685	2.685	2.670	2.570-2.770	2.683	0.004
$ 2 Tetrachloro-m-xylene [	4.643	4.646	4.641	4.643	4.643	4.643	4.640	4.540-4.740	4.643	0.001
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	3.827	3.727-3.927	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	3.828	3.728-3.928	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	6.489	6.389-6.589	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	7.631	7.531-7.731	+++++	+++++
7 Aroclor-1016 [2C]	6.492	6.493	6.491	6.490	6.490	6.489	6.489	6.389-6.589	6.491	0.002
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.816	8.716-8.916	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.596	10.496-10.696	+++++	+++++
9 Aroclor-1260 [2C]	10.606	10.605	10.604	10.601	10.601	10.600	10.600	10.500-10.700	10.603	0.002
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.831	11.731-11.931	+++++	+++++
$ 13 Decachlorobiphenyl [2C	13.527	13.525	13.524	13.522	13.521	13.519	13.511	13.411-13.611	13.523	0.003
* 12 IS-HBBP [2C]	14.379	14.377	14.376	14.375	14.372	14.372	14.354	14.254-14.454	14.375	0.003
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.282	9.232-9.332	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.892	8.842-8.942	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.575	9.475-9.675	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.010	9.910-10.110	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\20180622.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\20180622.b\20180622.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.475	10.375-10.575	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062216.D
Data file 2: /20180622.b/20180622.b/18062216.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 22-JUN-2018 22:03
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	12123926	4.644	0.004	16654470	44.5	42.8	3.9	Tetrachloro-m-xylene
13.319	0.008	8778435	13.527	0.016	9338839	39.5	39.1	1.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	111.3	107.0
Decachlorobiphenyl	98.7	97.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	23542415	-8.5
Hexabromobiphenyl	22585647	20962474	-7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	36656003	-8.0
Hexabromobiphenyl	22087957	20586852	-6.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	5.408	0.022	174776	38.3
Aroclor-1221	3	---			0.0	3	5.772	0.010	31979	4.1
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	8.970	-0.065	23846	2.6	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	9.529	0.007	25101	1.3	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	10.850	0.083	20127	1.8	2	---			0.0
Aroclor-1260	3	11.190	0.049	13440	0.5	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.126	0.010	11792	0.4	3	---			0.0
Aroclor-1268	4	12.897	-0.007	95932	1.1	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 832561 Col1 Total PCB = 0.0 ppm*

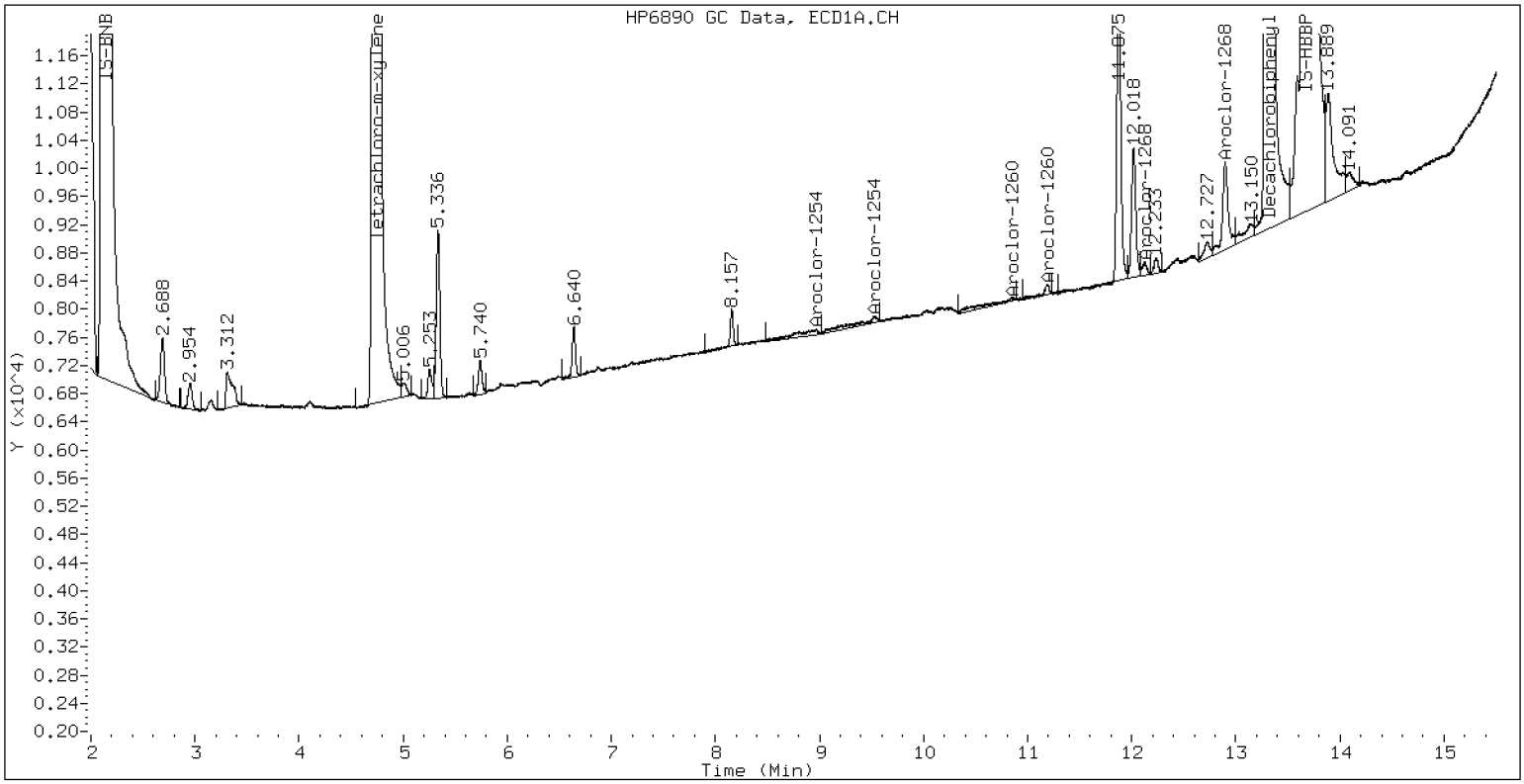
Total PCB Area Col2 (4.843 - 13.212) = 783057 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

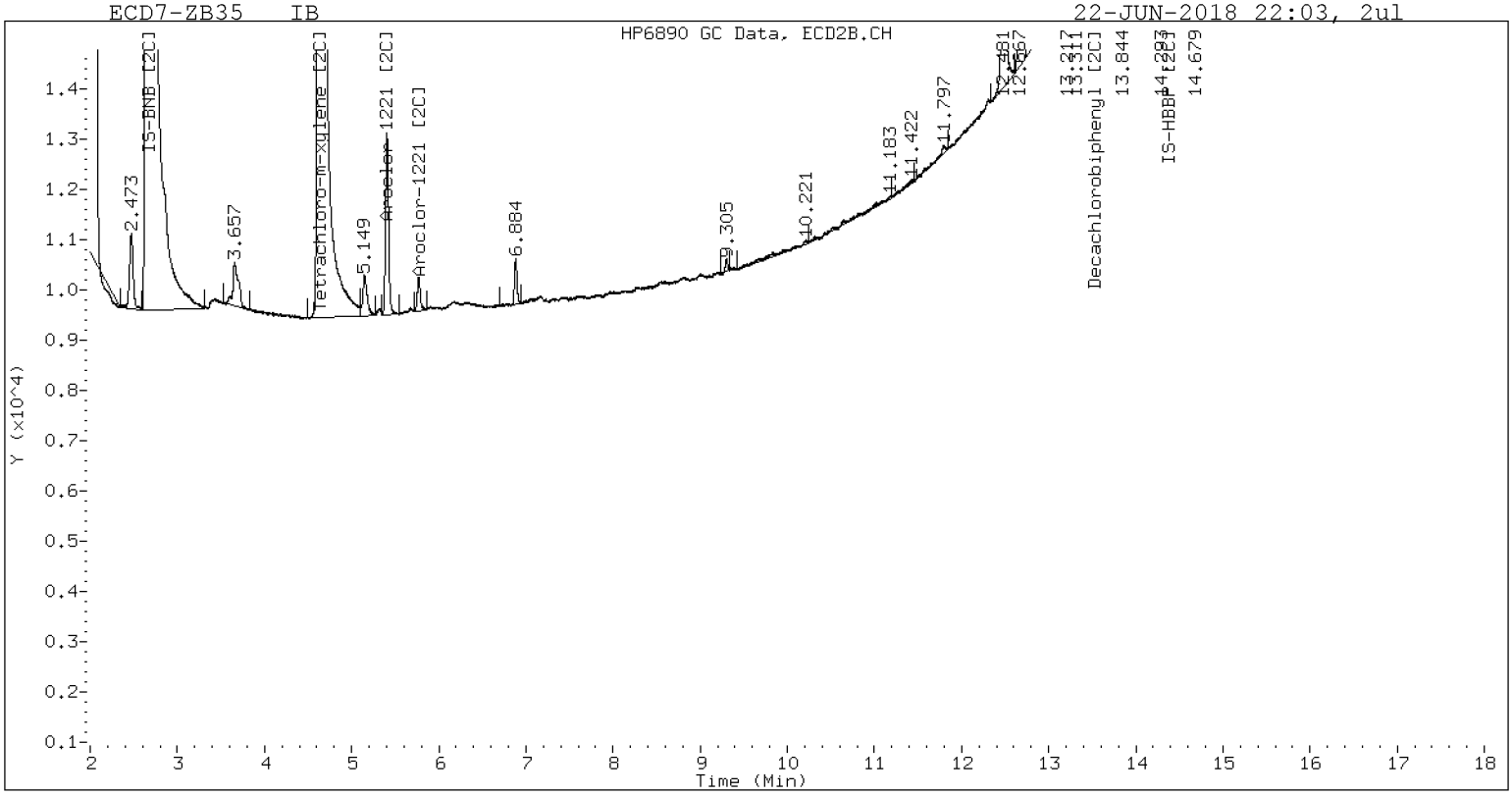
PCB Dual Column Chromatograms

ECD7-ZB5 IB 22-JUN-2018 22:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB 22-JUN-2018 22:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062217.D
Data file 2: /20180622.b/20180622.b/18062217.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 22-JUN-2018 22:25
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.001	12716402	4.643	0.003	17317131	42.7	40.9	4.2	Tetrachloro-m-xylene
13.318	0.007	9377171	13.527	0.016	9901189	39.1	38.6	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.8	102.4
Decachlorobiphenyl	97.8	96.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	25731201	0.0
Hexabromobiphenyl	22585647	22585647	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	39835060	0.0
Hexabromobiphenyl	22087957	22087957	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.498	0.001	1750692	255.2	1	6.492	0.003	3475116	246.1
Aroclor-1016	2	6.909	0.002	5887661	256.7	2	7.137	0.004	6716539	246.6
Aroclor-1016	3	7.177	0.002	1564287	255.6	3	7.522	0.004	1662347	253.2
Aroclor-1016	4	7.905	0.002	1843590	257.9	4	8.049	0.004	1993051	251.9
Total Col1Ave (4 peaks):					256.3	Total Col2Ave (4 peaks):				249.4 RPD = 3
Corrected Ave (3 peaks):					255.8	Corrected Ave (3 peaks):				248.2 RPD = 3
CalAmt %D:					2.5	CalAmt %D:				-0.2
Aroclor-1260	1	10.451	0.003	3238018	253.2	1	10.606	0.006	3091832	242.9
Aroclor-1260	2	10.770	0.003	3122057	253.8	2	11.050	0.007	3412375	245.6
Aroclor-1260	3	11.144	0.003	7555683	253.0	3	11.328	0.007	7535732	246.6
Aroclor-1260	4	11.545	0.003	3539247	254.3	4	11.901	0.007	5092409	246.4
Aroclor-1260	5	11.662	0.002	1734579	252.1	NS	---			----
Total Col1Ave (5 peaks):					253.3	Total Col2Ave (4 peaks):				245.4 RPD = 3
Corrected Ave (4 peaks):					253.0	Corrected Ave (3 peaks):				245.0 RPD = 3
CalAmt %D:					1.3	CalAmt %D:				-1.9

Total PCB Area Col1 (4.843 - 13.212) = 86128609 Col1 Total PCB = 0.5 ppm*

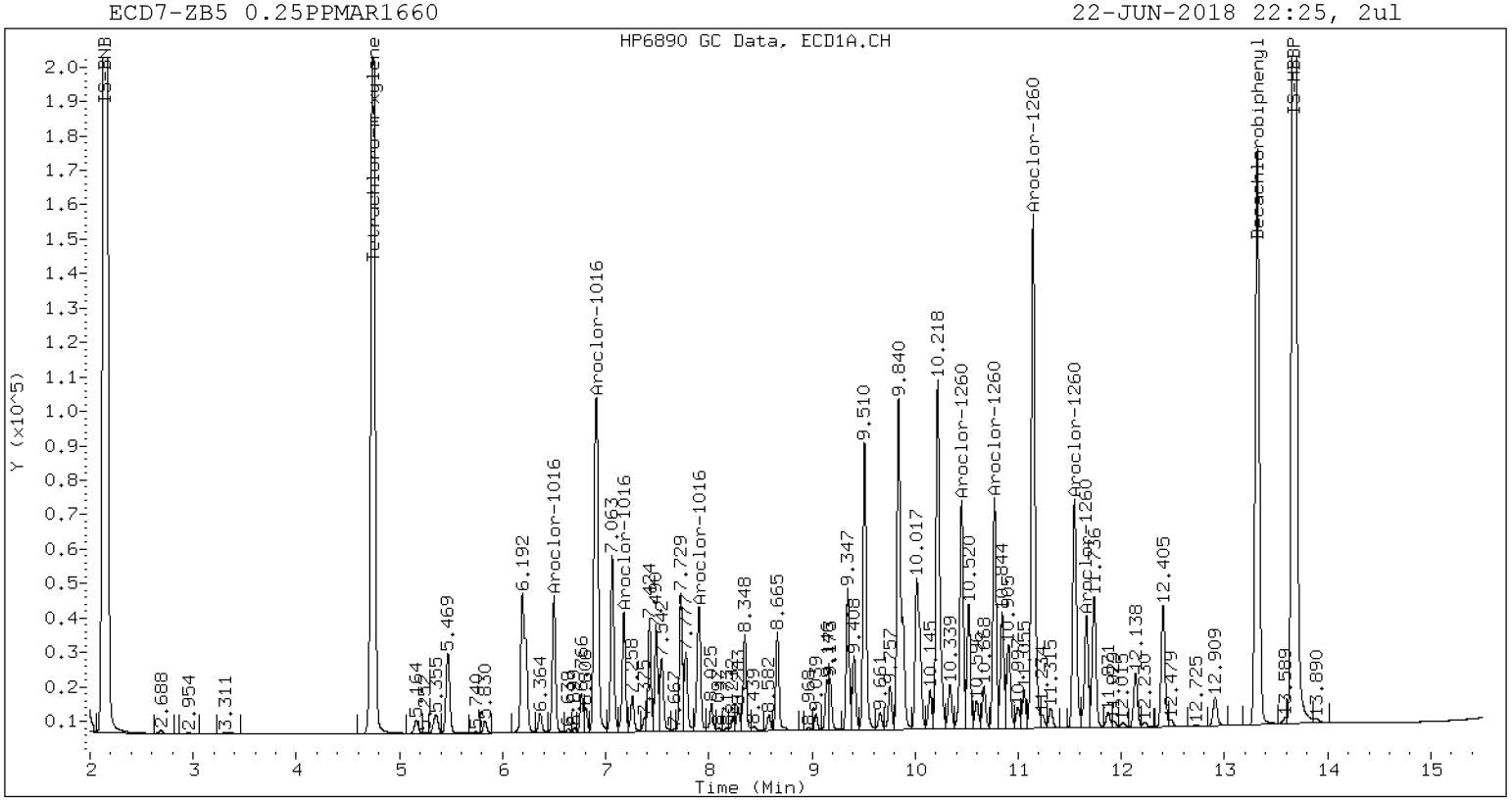
Total PCB Area Col2 (4.843 - 13.212) = 90199710 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

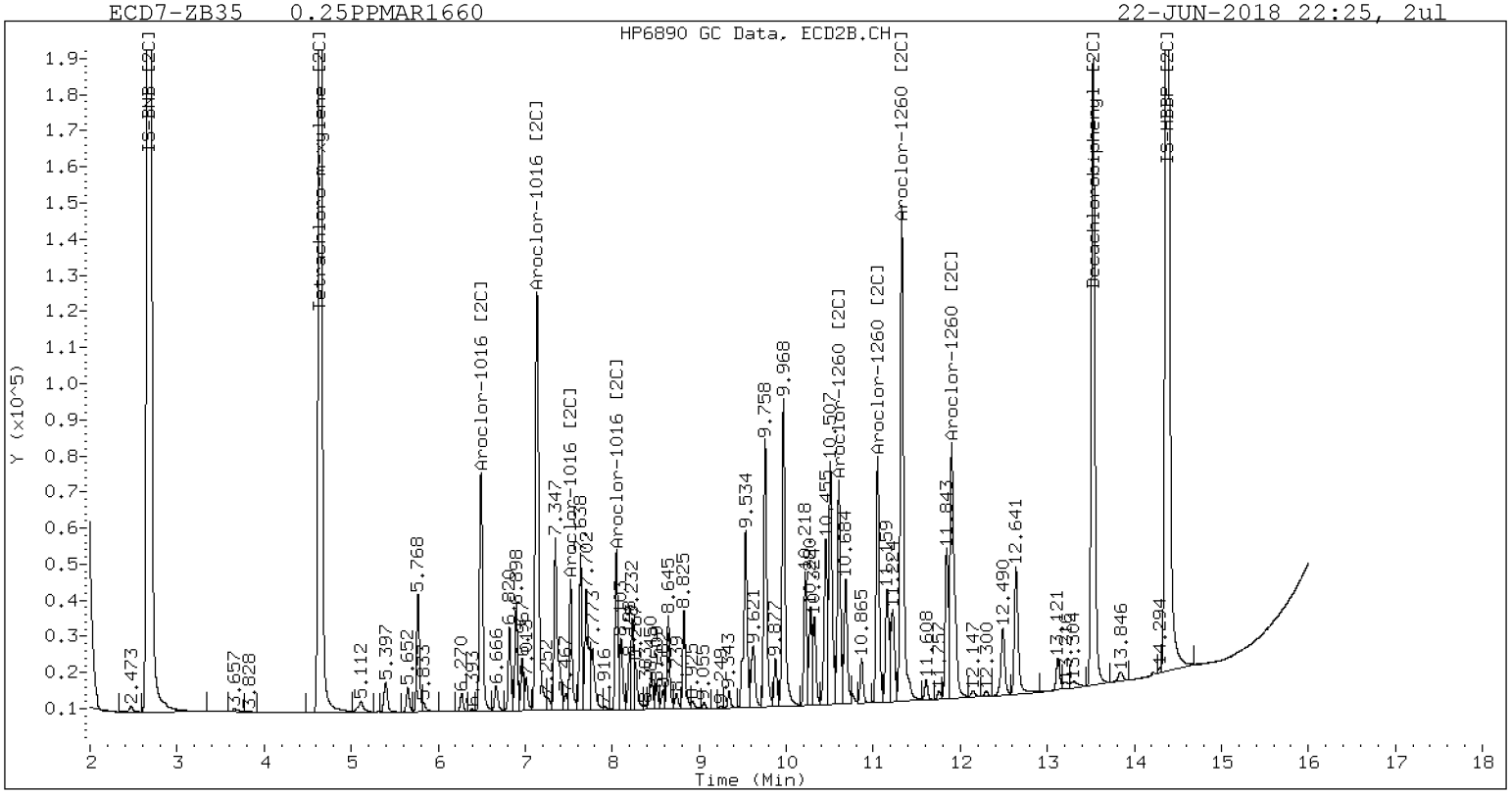
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660 22-JUN-2018 22:25, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660 22-JUN-2018 22:25, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062218.D
Data file 2: /20180622.b/20180622.b/18062218.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 22-JUN-2018 22:47
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.745	0.003	847969	4.646	0.006	1310669	2.7	3.0	9.4	Tetrachloro-m-xylene
13.318	0.006	851378	13.525	0.014	947598	3.4	3.5	3.7	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	6.7	7.4
Decachlorobiphenyl	8.5	8.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27253842	5.9
Hexabromobiphenyl	22585647	23484756	4.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	41788849	4.9
Hexabromobiphenyl	22087957	23026049	4.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.499	0.002	139236	19.2	1	6.493	0.004	300697	20.3
Aroclor-1016	2	6.910	0.003	454524	18.7	2	7.137	0.004	557087	19.5
Aroclor-1016	3	7.177	0.002	119104	18.4	3	7.523	0.005	132110	19.2
Aroclor-1016	4	7.904	0.002	137108	18.1	4	8.050	0.005	162394	19.6
Total Col1Ave (4 peaks):					18.6	Total Col2Ave (4 peaks):				19.6 RPD = 5
Corrected Ave (3 peaks):					18.4	Corrected Ave (3 peaks):				19.4 RPD = 5
CalAmt %D:					-7.1	CalAmt %D:				-1.8
Aroclor-1260	1	10.453	0.005	251693	18.9	1	10.605	0.006	270462	20.4
Aroclor-1260	2	10.770	0.003	240564	18.8	2	11.050	0.007	284377	19.6
Aroclor-1260	3	11.145	0.004	585410	18.9	3	11.328	0.007	622610	19.5
Aroclor-1260	4	11.547	0.005	271028	18.7	4	11.901	0.007	417341	19.4
Aroclor-1260	5	11.663	0.003	137535	19.2	NS	---			----
Total Col1Ave (5 peaks):					18.9	Total Col2Ave (4 peaks):				19.7 RPD = 4
Corrected Ave (4 peaks):					18.8	Corrected Ave (3 peaks):				19.5 RPD = 4
CalAmt %D:					-5.5	CalAmt %D:				-1.3

Total PCB Area Col1 (4.843 - 13.212) = 6967365 Col1 Total PCB = 0.0 ppm*

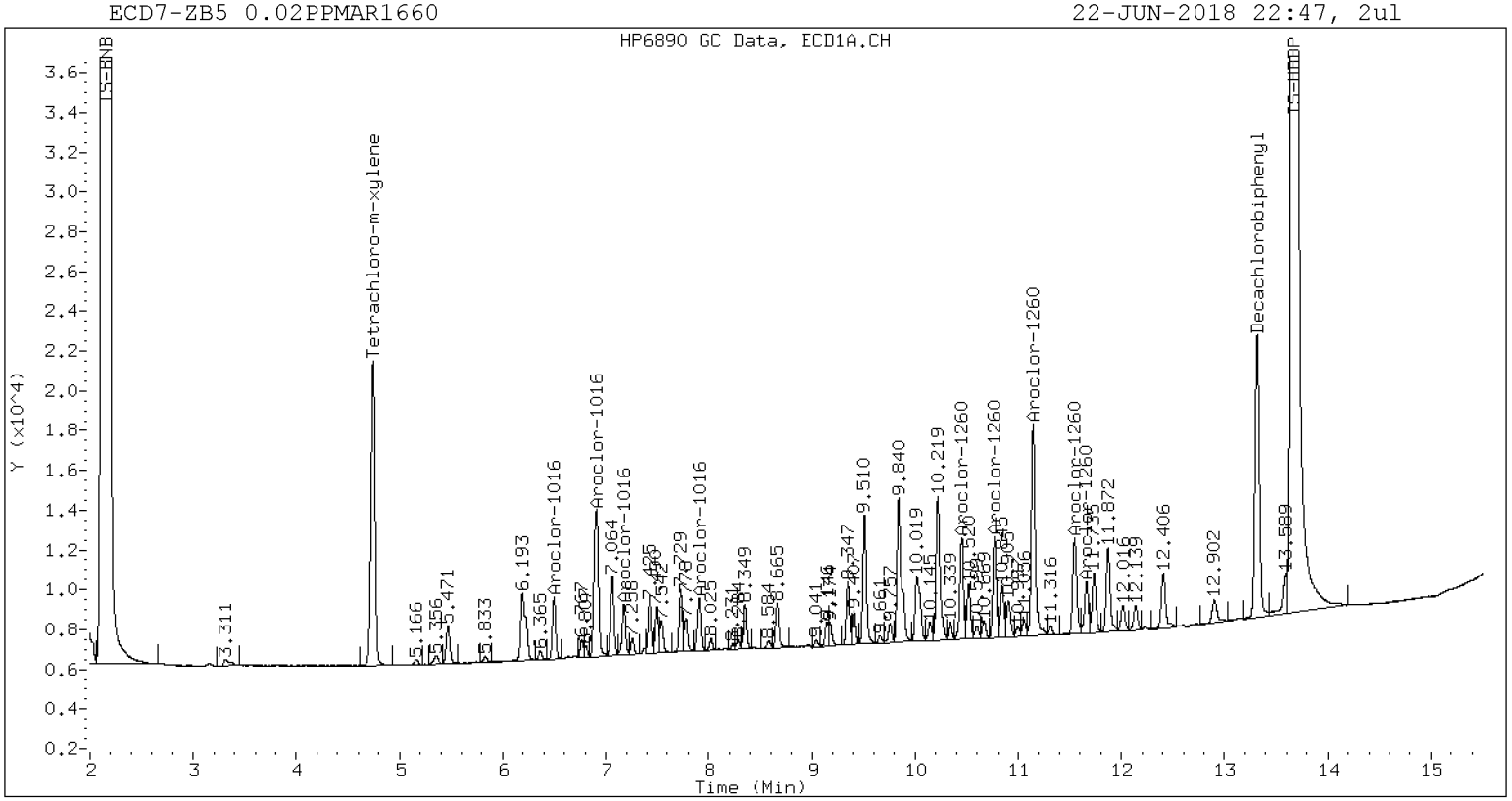
Total PCB Area Col2 (4.843 - 13.212) = 7781062 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

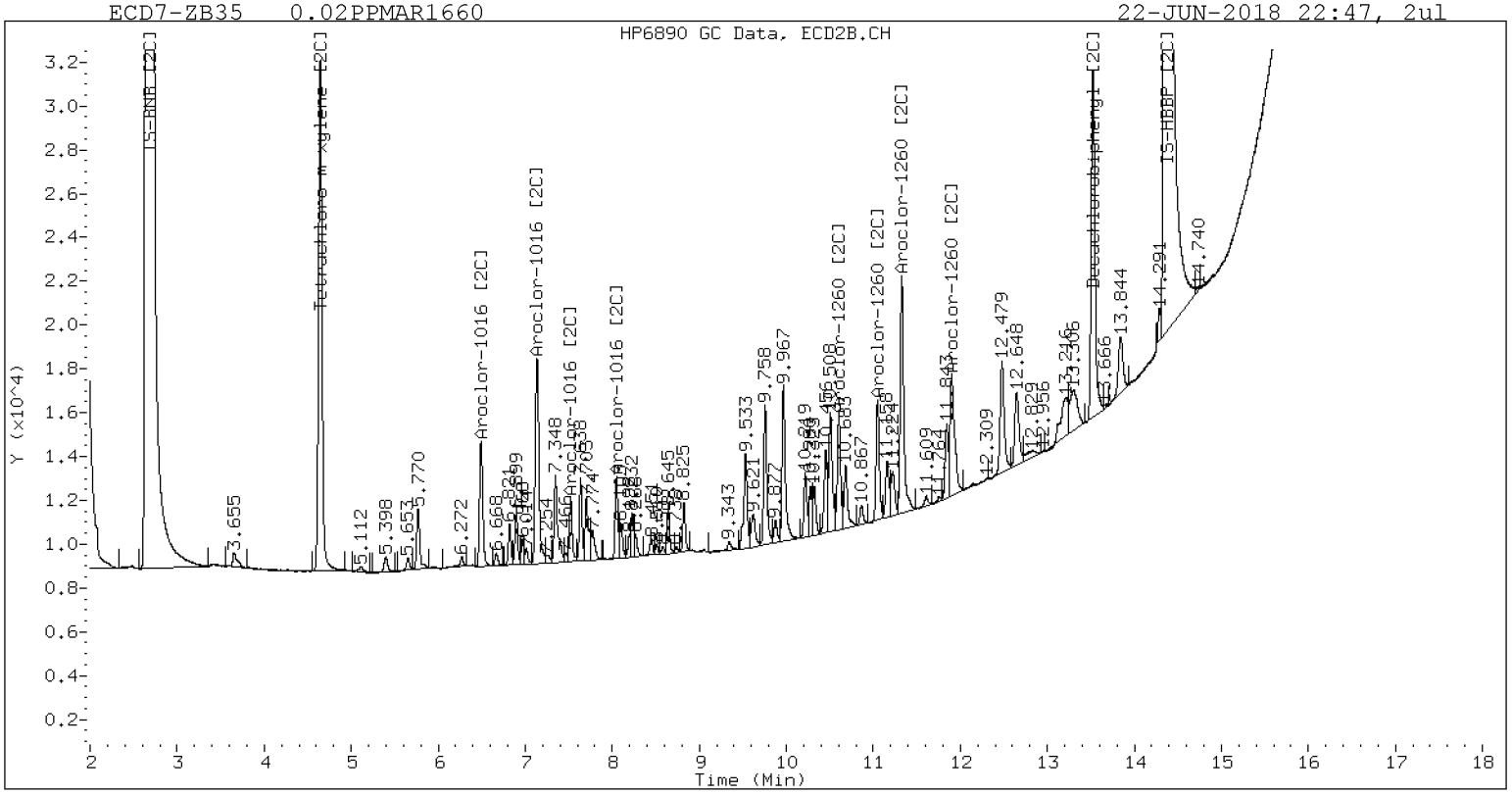
PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660 22-JUN-2018 22:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660 22-JUN-2018 22:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062219.D
Data file 2: /20180622.b/20180622.b/18062219.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 22-JUN-2018 23:09
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.002	2350277	4.641	0.002	3450829	7.7	7.9	3.1	Tetrachloro-m-xylene
13.317	0.005	2015076	13.524	0.013	2170053	8.2	8.2	0.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	19.2	19.8
Decachlorobiphenyl	20.5	20.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	26452974	2.8
Hexabromobiphenyl	22585647	23212789	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	41032645	3.0
Hexabromobiphenyl	22087957	22699979	2.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.496	-0.000	359921	51.0	1	6.491	0.001	783238	53.9
Aroclor-1016	2	6.907	-0.000	1203243	51.0	2	7.135	0.002	1452726	51.8
Aroclor-1016	3	7.175	0.000	318351	50.6	3	7.521	0.003	345016	51.0
Aroclor-1016	4	7.904	0.001	375326	51.1	4	8.048	0.003	425508	52.2
Total Col1Ave (4 peaks):					50.9	Total Col2Ave (4 peaks):				52.2 RPD = 2
Corrected Ave (3 peaks):					50.9	Corrected Ave (3 peaks):				51.7 RPD = 2
CalAmt %D:					1.9	CalAmt %D:				4.4
Aroclor-1260	1	10.450	0.002	668637	50.9	1	10.604	0.004	712060	54.4
Aroclor-1260	2	10.770	0.003	636413	50.3	2	11.048	0.005	768979	53.9
Aroclor-1260	3	11.142	0.002	1553702	50.6	3	11.326	0.004	1644489	52.4
Aroclor-1260	4	11.545	0.003	710743	49.7	4	11.899	0.005	1141403	53.7
Aroclor-1260	5	11.662	0.002	363574	51.4	NS	---			----
Total Col1Ave (5 peaks):					50.6	Total Col2Ave (4 peaks):				53.6 RPD = 6
Corrected Ave (4 peaks):					50.4	Corrected Ave (3 peaks):				53.3 RPD = 6
CalAmt %D:					1.2	CalAmt %D:				7.2

Total PCB Area Col1 (4.843 - 13.212) = 18033095 Col1 Total PCB = 0.1 ppm*

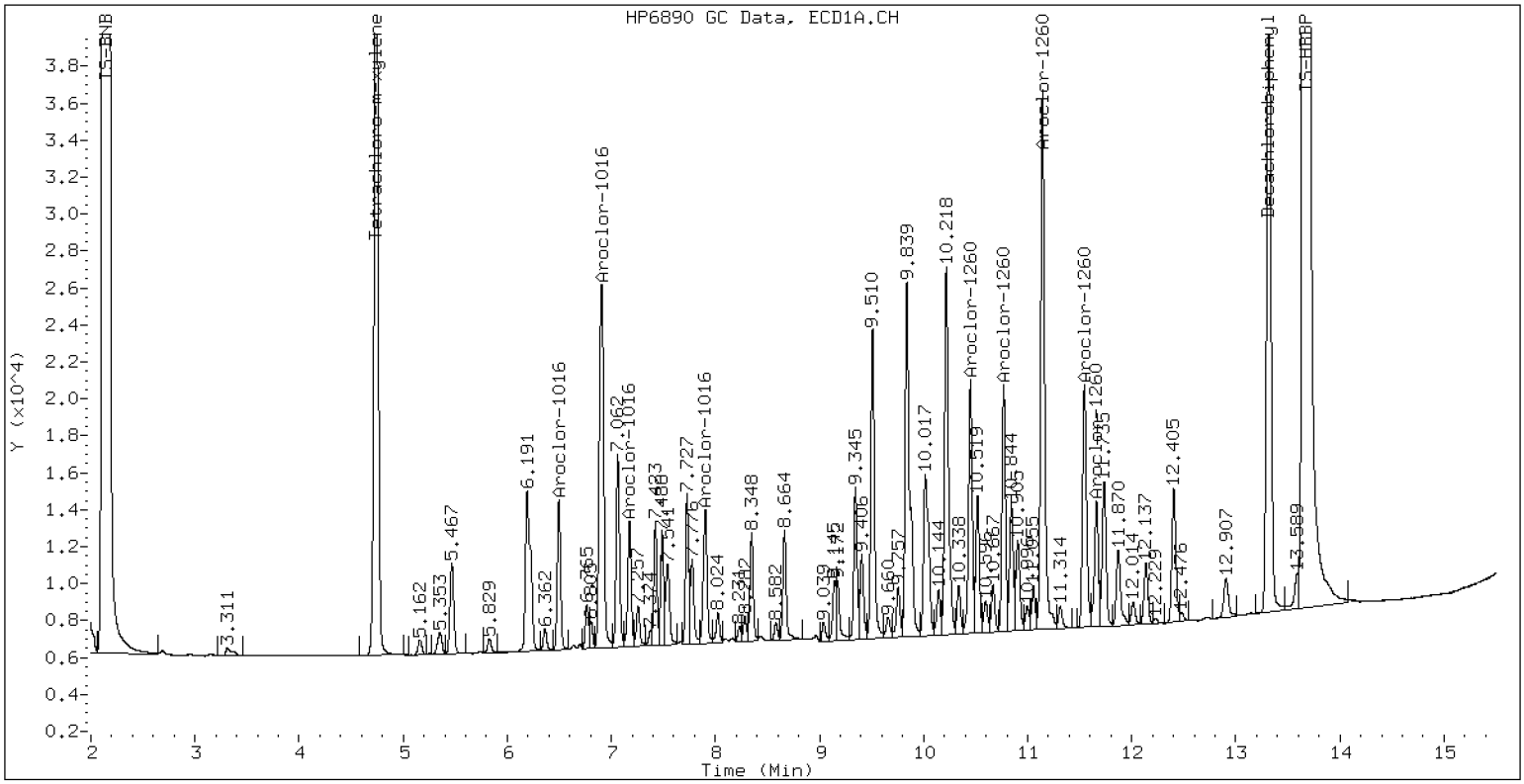
Total PCB Area Col2 (4.843 - 13.212) = 20224179 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

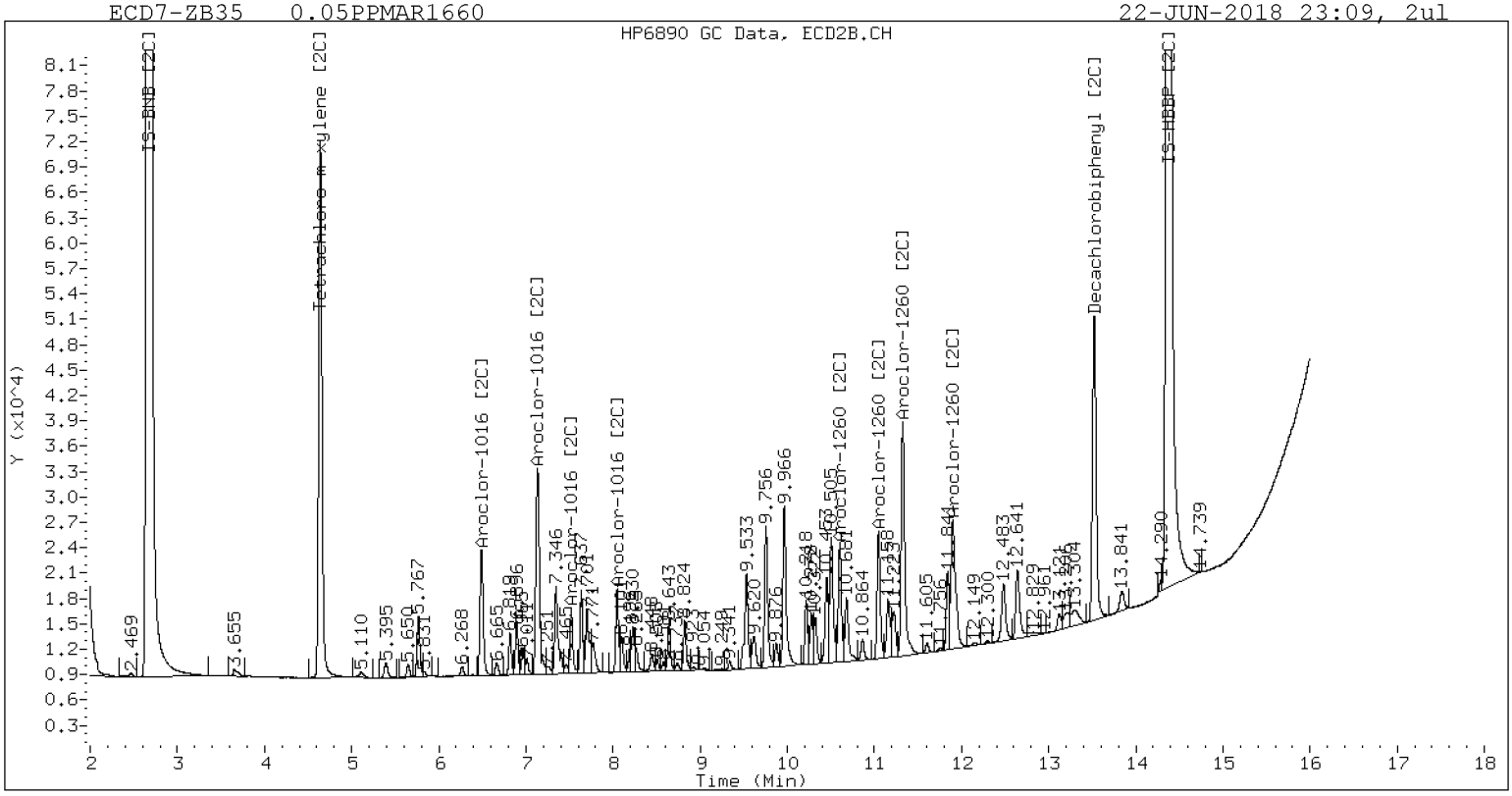
PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660 22-JUN-2018 23:09, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660 22-JUN-2018 23:09, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062220.D
Data file 2: /20180622.b/20180622.b/18062220.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1PPMAR1660
Client ID:
Injection Date: 22-JUN-2018 23:31
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	50935580	4.643	0.003	70994844	167.5	163.7	2.3	Tetrachloro-m-xylene
13.316	0.004	36496364	13.522	0.011	39208603	151.2	149.7	1.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	418.7	409.2
Decachlorobiphenyl	378.0	374.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	26277801	2.1
Hexabromobiphenyl	22585647	22754196	0.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	40850926	2.6
Hexabromobiphenyl	22087957	22556023	2.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.496	-0.000	6742790	962.5	1	6.490	0.001	13336147	921.1
Aroclor-1016	2	6.908	0.000	22148471	945.5	2	7.134	0.001	27690800	991.4
Aroclor-1016	3	7.175	0.000	6257937	1001.2	3	7.520	0.002	6496604	964.8
Aroclor-1016	4	7.902	-0.000	7214947	988.3	4	8.046	0.001	7730380	952.6
Total Col1Ave (4 peaks):					974.4	Total Col2Ave (4 peaks):				957.5 RPD = 2
Corrected Ave (3 peaks):					965.4	Corrected Ave (3 peaks):				946.1 RPD = 2
CalAmt %D:					-2.6	CalAmt %D:				-4.3
Aroclor-1260	1	10.449	0.001	12696321	985.4	1	10.601	0.002	11759724	904.7
Aroclor-1260	2	10.768	0.001	12359893	997.4	2	11.046	0.003	13288717	936.5
Aroclor-1260	3	11.142	0.002	30047525	998.6	3	11.324	0.002	30194784	967.5
Aroclor-1260	4	11.544	0.001	14121418	1007.2	4	11.896	0.002	19761261	936.2
Aroclor-1260	5	11.661	0.001	6711799	968.1	NS	---			----
Total Col1Ave (5 peaks):					991.4	Total Col2Ave (4 peaks):				936.2 RPD = 6
Corrected Ave (4 peaks):					987.4	Corrected Ave (3 peaks):				925.8 RPD = 6
CalAmt %D:					-0.9	CalAmt %D:				-6.4

Total PCB Area Col1 (4.843 - 13.212) = 335532704 Col1 Total PCB = 1.9 ppm*

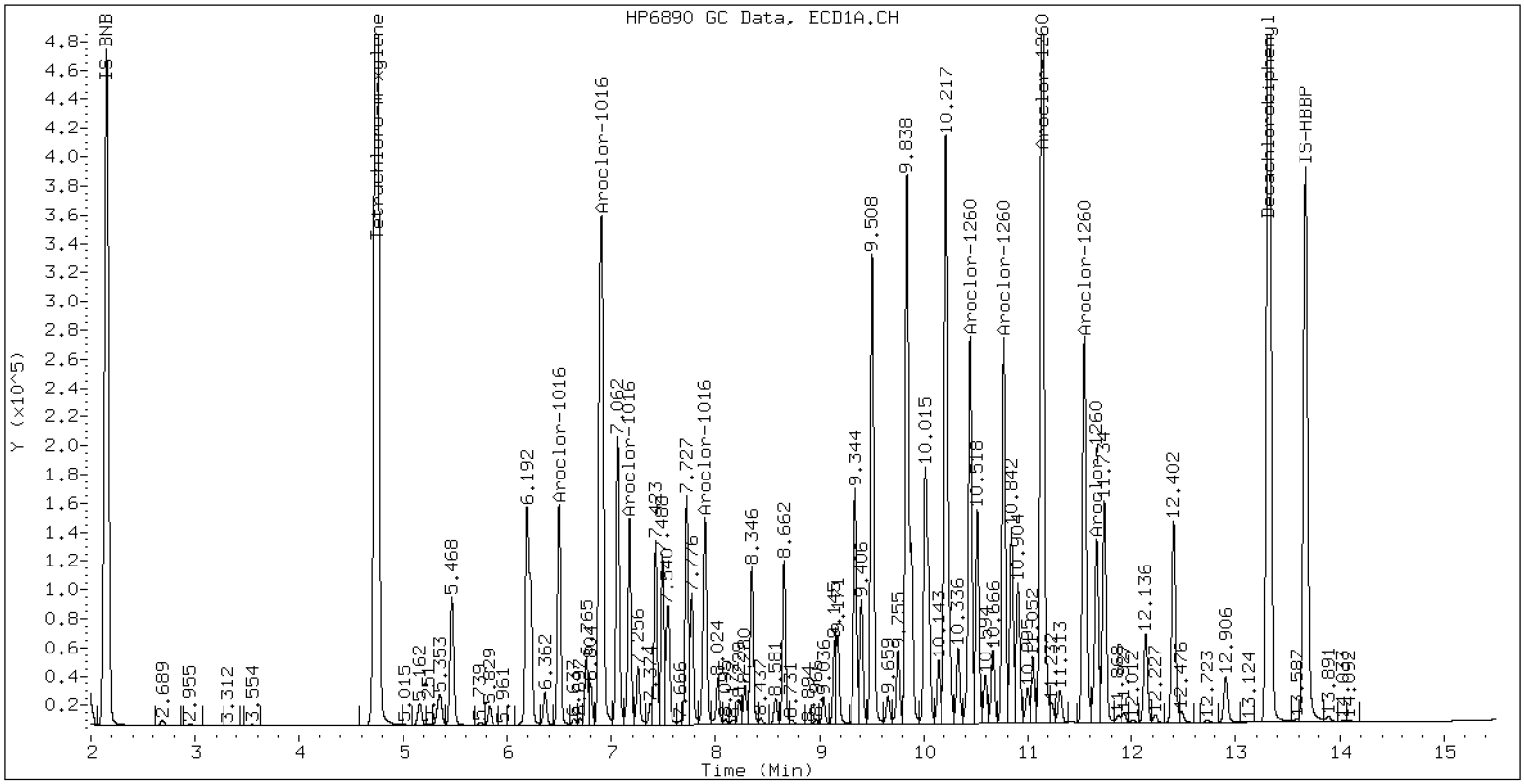
Total PCB Area Col2 (4.843 - 13.212) = 346284703 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

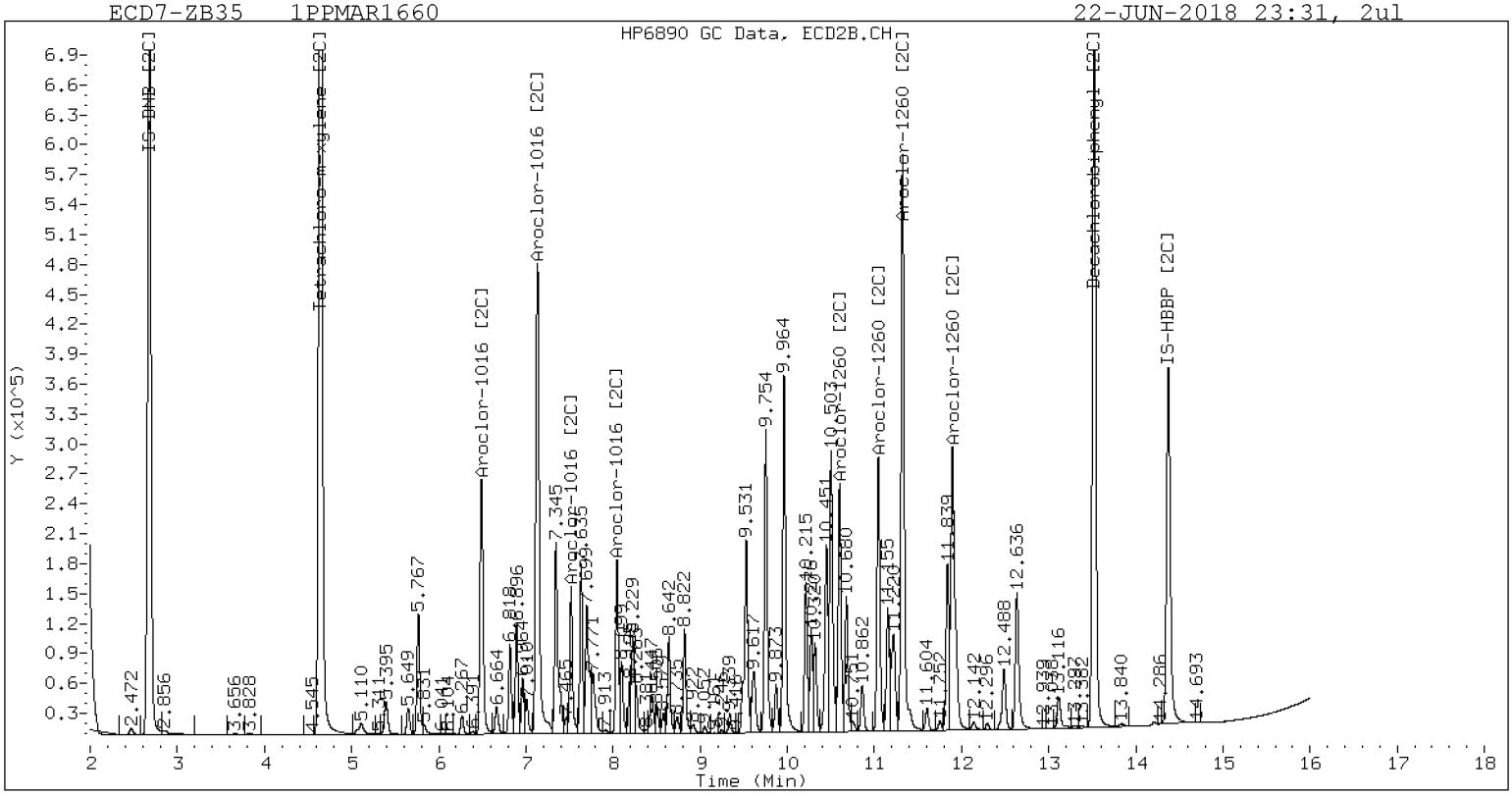
PCB Dual Column Chromatograms

ECD7-ZB5 1PPMAR1660 22-JUN-2018 23:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 1PPMAR1660 22-JUN-2018 23:31, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062221.D
Data file 2: /20180622.b/20180622.b/18062221.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 22-JUN-2018 23:53
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.744	0.001	5191298	4.643	0.004	7504369	16.2	16.2	0.0	Tetrachloro-m-xylene
13.317	0.005	4105948	13.521	0.010	4412964	16.1	16.0	0.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	40.5	40.5
Decachlorobiphenyl	40.2	40.1

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27681555	7.6
Hexabromobiphenyl	22585647	24053832	6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	43620939	9.5
Hexabromobiphenyl	22087957	23705393	7.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.497	0.000	761529	103.2	1	6.490	0.001	1617559	104.6
Aroclor-1016	2	6.908	0.001	2558020	103.7	2	7.134	0.001	2995151	100.4
Aroclor-1016	3	7.175	0.001	673127	102.2	3	7.520	0.002	759138	105.6
Aroclor-1016	4	7.904	0.001	784683	102.0	4	8.046	0.001	911037	105.1
	Total Col1Ave (4 peaks):				102.8	Total Col2Ave (4 peaks):				103.9 RPD = 1
	Corrected Ave (3 peaks):				102.5	Corrected Ave (3 peaks):				103.4 RPD = 1
		CalAmt %D:			2.8		CalAmt %D:			3.9
Aroclor-1260	1	10.450	0.002	1380649	101.4	1	10.601	0.001	1449626	106.1
Aroclor-1260	2	10.768	0.001	1320934	100.8	2	11.045	0.002	1564736	104.9
Aroclor-1260	3	11.142	0.001	3181318	100.0	3	11.323	0.002	3369636	102.7
Aroclor-1260	4	11.544	0.002	1495819	100.9	4	11.897	0.002	2348078	105.9
Aroclor-1260	5	11.661	0.001	749065	102.2	NS	---			----
	Total Col1Ave (5 peaks):				101.1	Total Col2Ave (4 peaks):				104.9 RPD = 4
	Corrected Ave (4 peaks):				100.8	Corrected Ave (3 peaks):				104.5 RPD = 4
		CalAmt %D:			1.1		CalAmt %D:			4.9

Total PCB Area Col1 (4.843 - 13.212) = 36948105 Col1 Total PCB = 0.2 ppm*

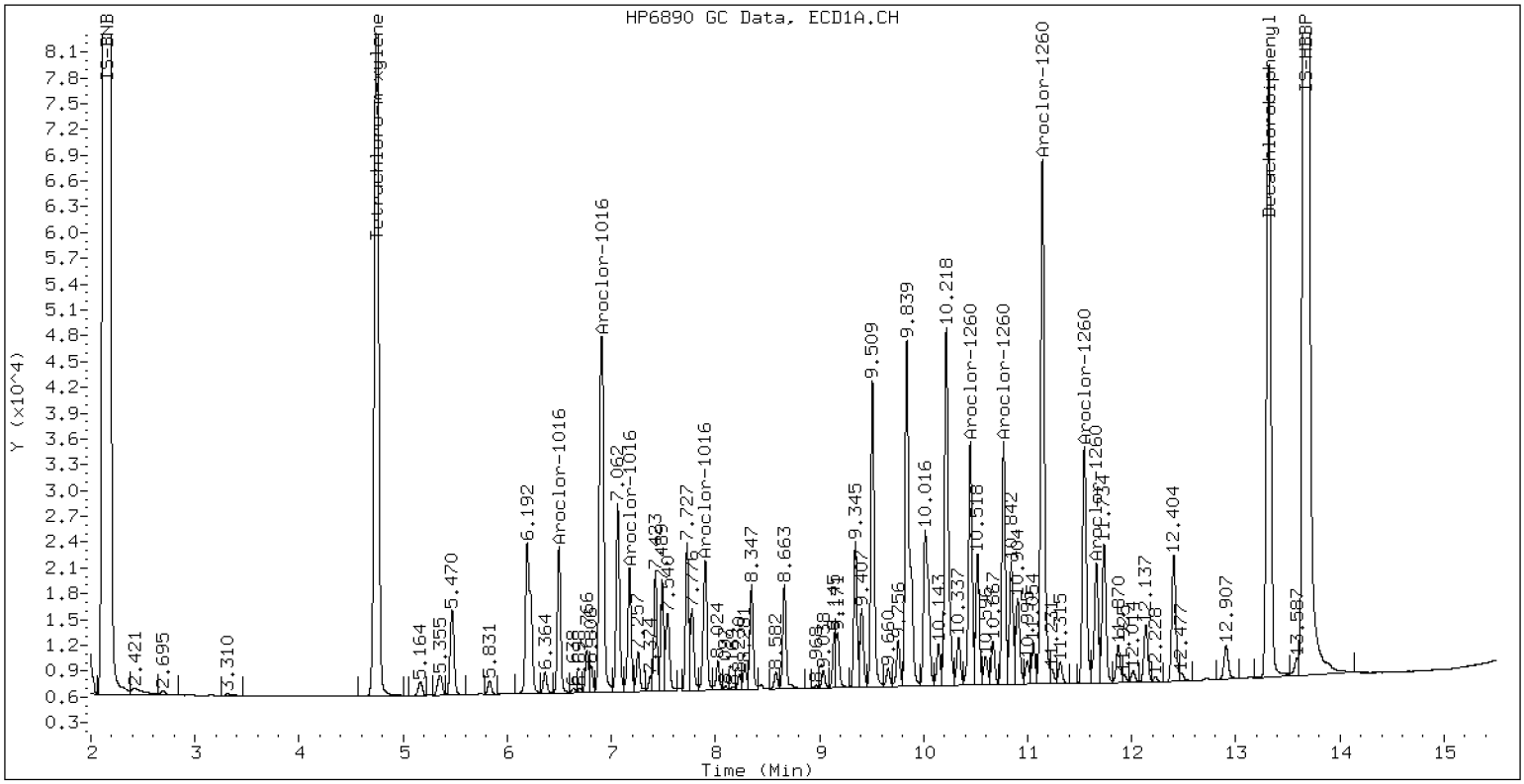
Total PCB Area Col2 (4.843 - 13.212) = 41784116 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

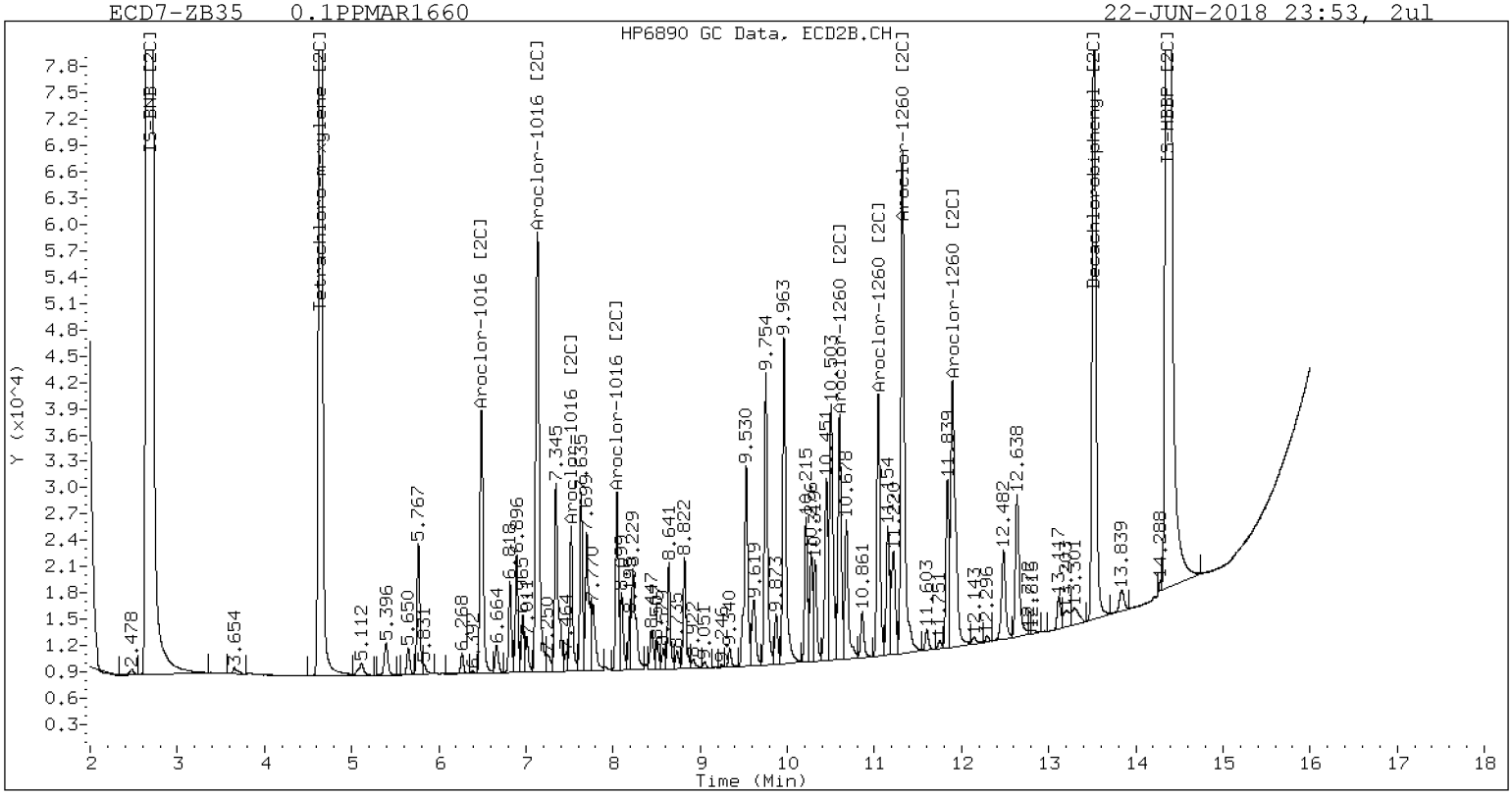
PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660 22-JUN-2018 23:53, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660 22-JUN-2018 23:53, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062222.D
Data file 2: /20180622.b/20180622.b/18062222.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 23-JUN-2018 00:15
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.745	0.003	27219467	4.643	0.004	37886573	85.8	82.2	4.3	Tetrachloro-m-xylene
13.314	0.003	19406990	13.519	0.008	20779103	78.4	76.8	2.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	214.6	205.5
Decachlorobiphenyl	196.1	192.1

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27407377	6.5
Hexabromobiphenyl	22585647	23320978	3.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	43402308	9.0
Hexabromobiphenyl	22087957	23289360	5.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.497	0.000	3674923	502.9	1	6.489	0.000	7350741	477.9
Aroclor-1016	2	6.907	0.000	12646024	517.6	2	7.133	0.000	14950141	503.8
Aroclor-1016	3	7.175	0.000	3335836	511.7	3	7.518	0.000	3533627	493.9
Aroclor-1016	4	7.903	0.000	3932890	516.5	4	8.045	0.000	4167038	483.3
Total Col1Ave (4 peaks):					512.2	Total Col2Ave (4 peaks):				489.7 RPD = 4
Corrected Ave (3 peaks):					510.4	Corrected Ave (3 peaks):				485.0 RPD = 5
CalAmt %D:					2.4	CalAmt %D:				-2.1
Aroclor-1260	1	10.448	0.000	6762972	512.2	1	10.600	0.000	6405280	477.3
Aroclor-1260	2	10.767	0.000	6550494	515.8	2	11.043	0.000	7128431	486.6
Aroclor-1260	3	11.140	0.000	15950376	517.2	3	11.321	0.000	16028973	497.4
Aroclor-1260	4	11.542	0.000	7444244	518.0	4	11.894	0.000	10642254	488.3
Aroclor-1260	5	11.660	0.000	3596915	506.2	NS	---			----
Total Col1Ave (5 peaks):					513.9	Total Col2Ave (4 peaks):				487.4 RPD = 5
Corrected Ave (4 peaks):					512.8	Corrected Ave (3 peaks):				484.1 RPD = 6
CalAmt %D:					2.8	CalAmt %D:				-2.5

Total PCB Area Col1 (4.843 - 13.212) = 180218175 Col1 Total PCB = 1.0 ppm*

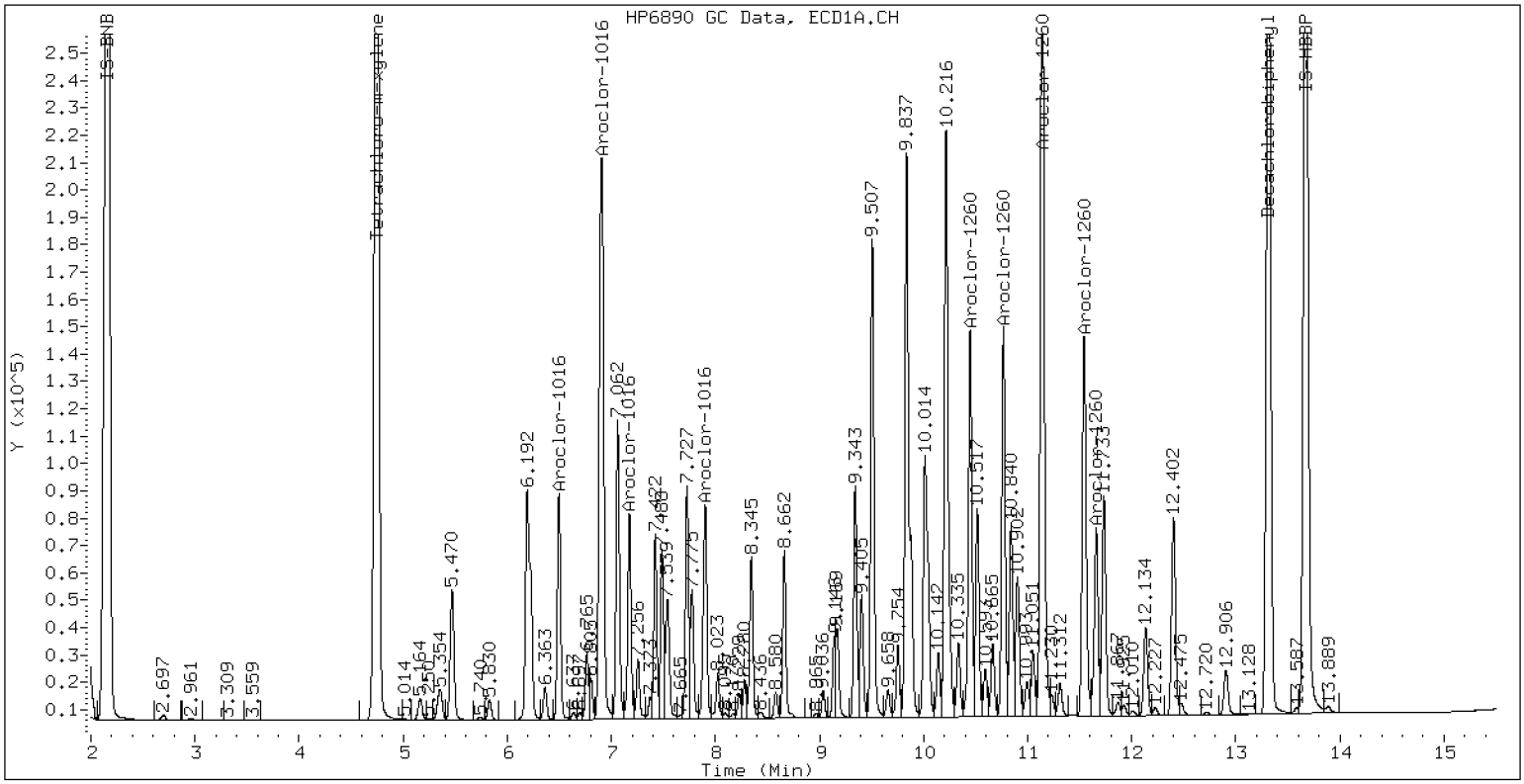
Total PCB Area Col2 (4.843 - 13.212) = 188935967 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

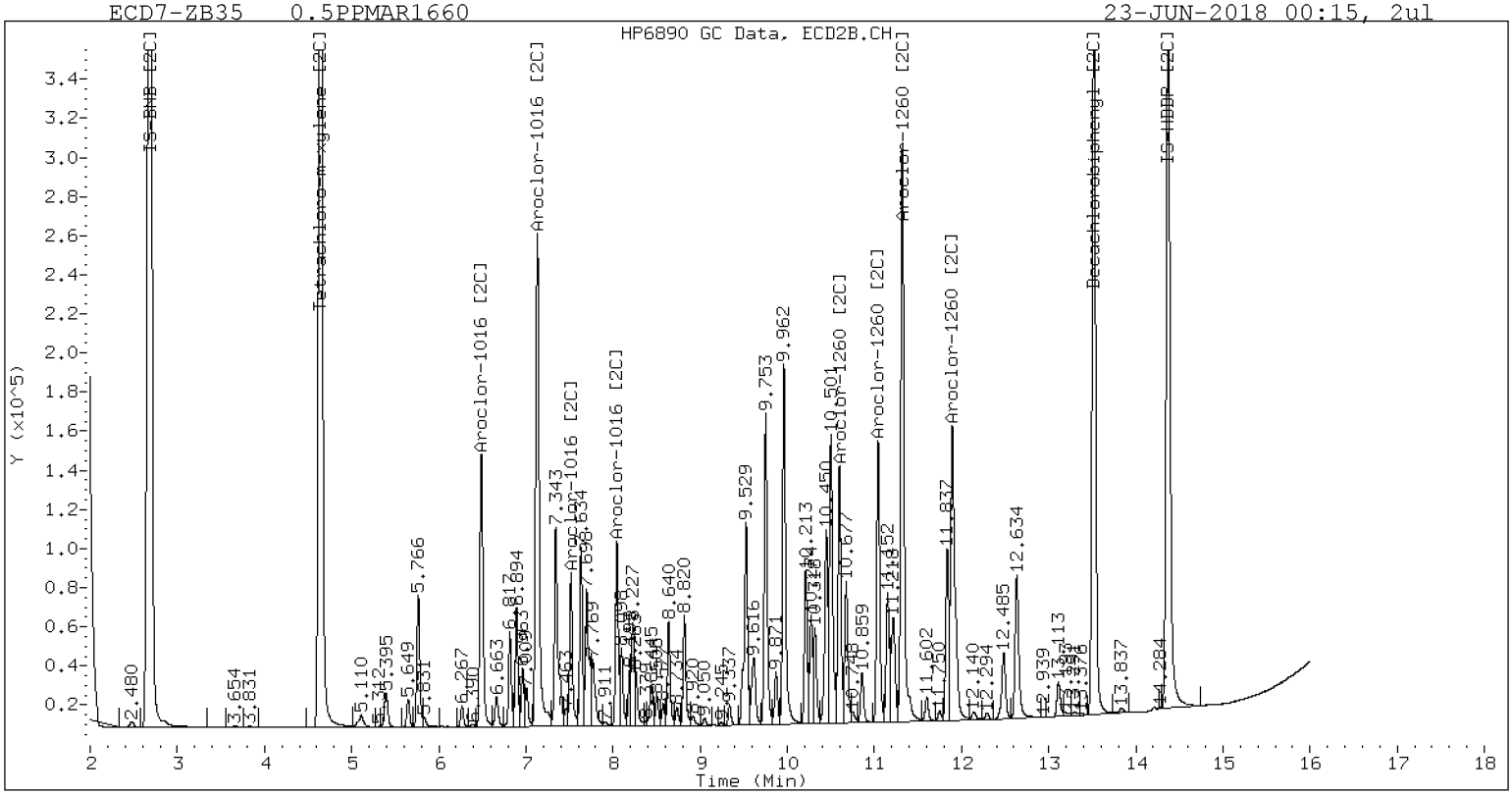
PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660 23-JUN-2018 00:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660 23-JUN-2018 00:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062223.D
Data file 2: /20180622.b/20180622.b/18062223.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 23-JUN-2018 00:37
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.744	0.002	11958025	4.642	0.003	17093531	37.5	36.7	2.2	Tetrachloro-m-xylene
13.315	0.004	8577789	13.517	0.006	9220437	34.2	33.5	2.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	93.8	91.7
Decachlorobiphenyl	85.6	83.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27549810	7.1
Hexabromobiphenyl	22585647	23625644	4.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	43867437	10.1
Hexabromobiphenyl	22087957	23719600	7.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	6.497	0.000	1477067	250.0	1	6.489	0.000	3032095	250.0
Aroclor-1242	2	7.062	0.000	1953239	250.0	2	7.132	0.000	5829177	250.0
Aroclor-1242	3	8.280	0.000	1666594	250.0	3	8.577	0.000	1787216	250.0
Aroclor-1242	4	8.574	0.000	1754644	250.0	4	8.922	0.000	2073843	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 35186946 Col1 Total PCB = 0.2 ppm*

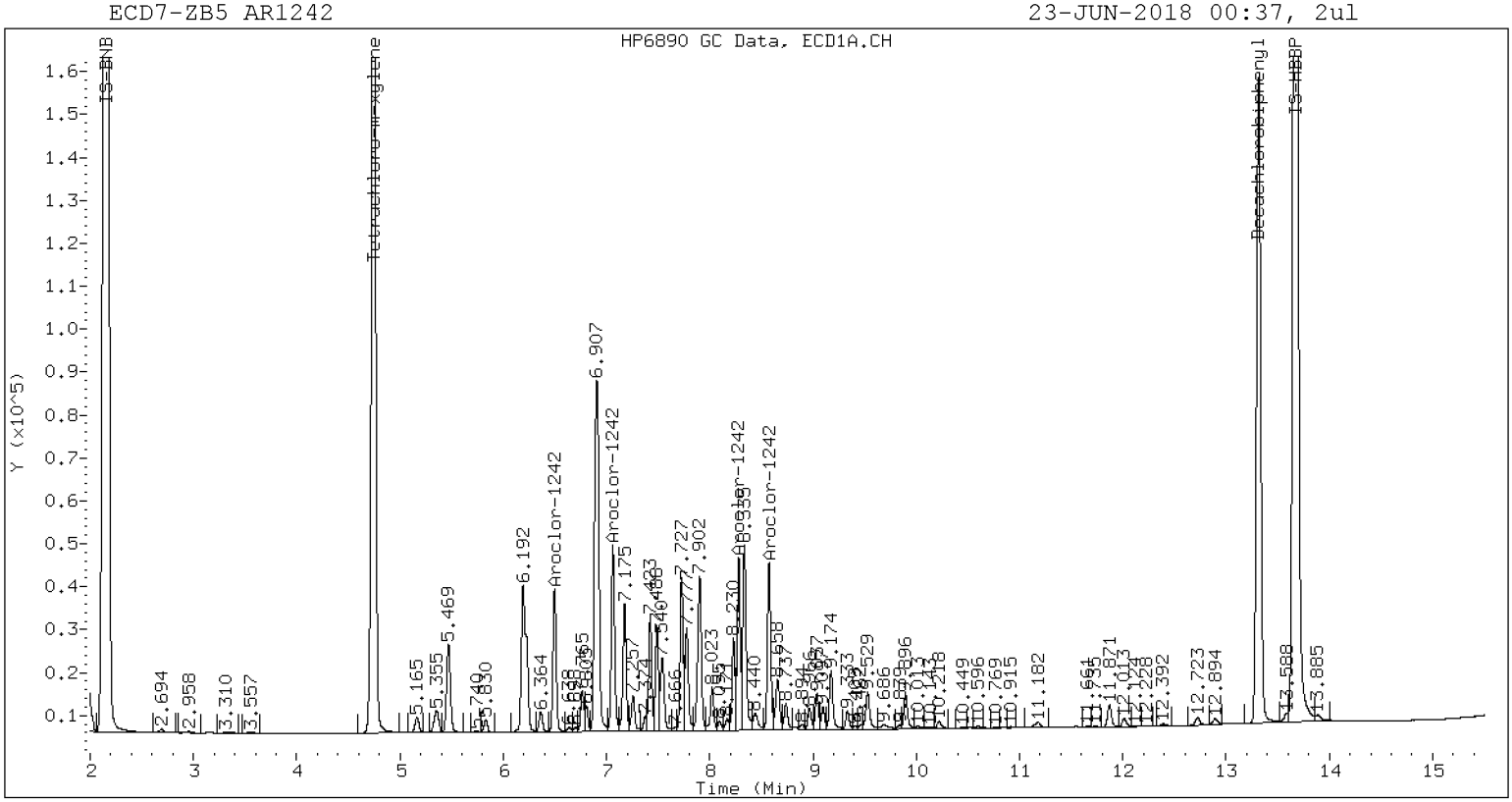
Total PCB Area Col2 (4.843 - 13.212) = 41787244 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

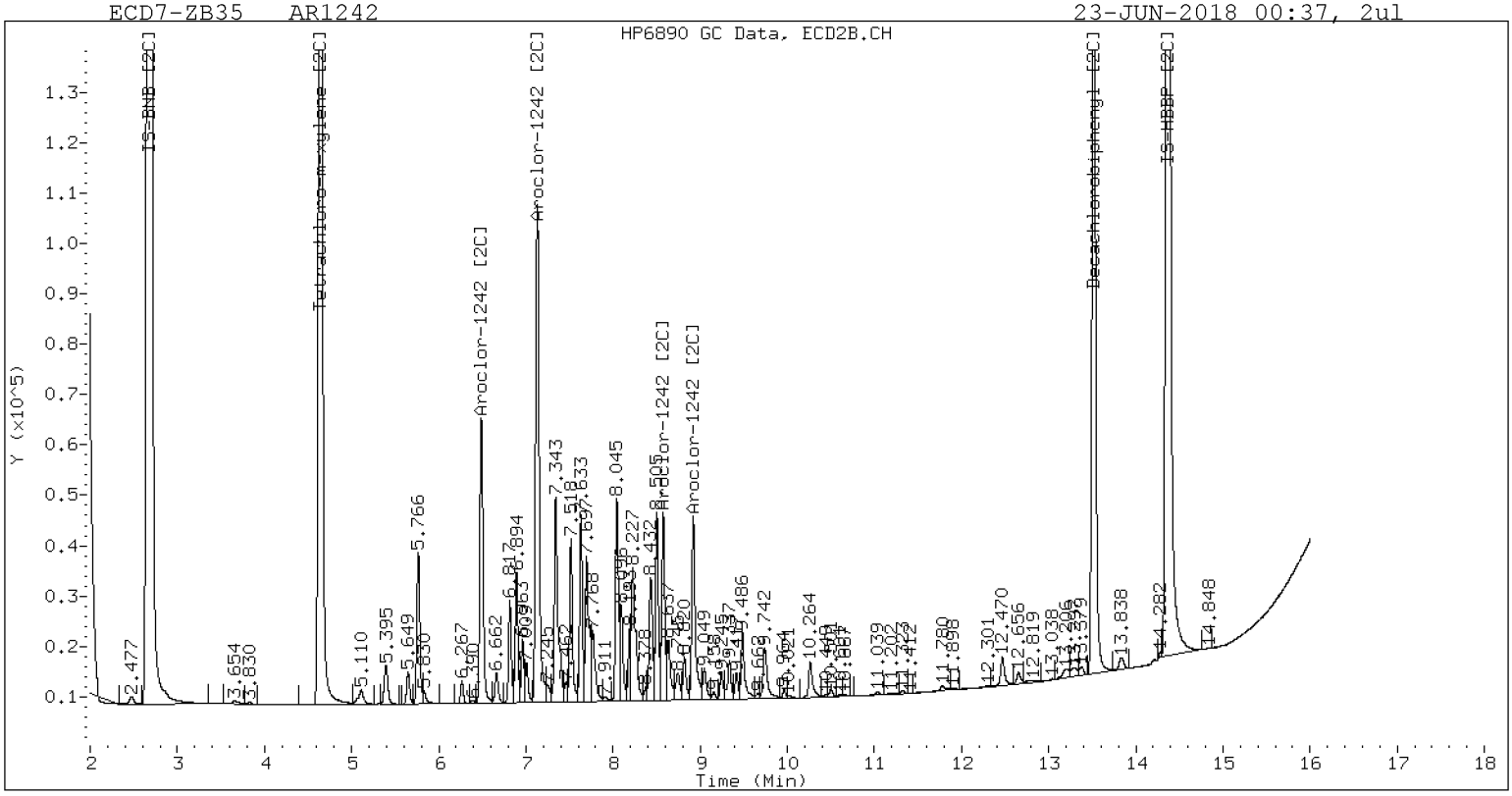
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242 23-JUN-2018 00:37, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242 23-JUN-2018 00:37, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062224.D
Data file 2: /20180622.b/20180622.b/18062224.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 23-JUN-2018 00:59
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.002	11980608	4.638	-0.002	17347887	37.7	37.0	1.8	Tetrachloro-m-xylene
13.313	0.002	10119754	13.515	0.004	10962343	39.9	39.2	1.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	94.3	92.6
Decachlorobiphenyl	99.9	98.1

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27452184	6.7
Hexabromobiphenyl	22585647	23881231	5.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	44107063	10.7
Hexabromobiphenyl	22087957	24070029	9.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	6.901	0.000	2960100	250.0	1	7.631	0.000	2543616	250.0
Aroclor-1248	2	7.726	0.000	2398035	250.0	2	8.042	0.000	2671283	250.0
Aroclor-1248	3	8.335	0.000	3574306	250.0	3	8.502	0.000	2890835	250.0
Aroclor-1248	4	8.573	0.000	2670736	250.0	4	8.918	0.000	3353009	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):			250.0	RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):			250.0	RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 41913303 Col1 Total PCB = 0.2 ppm*

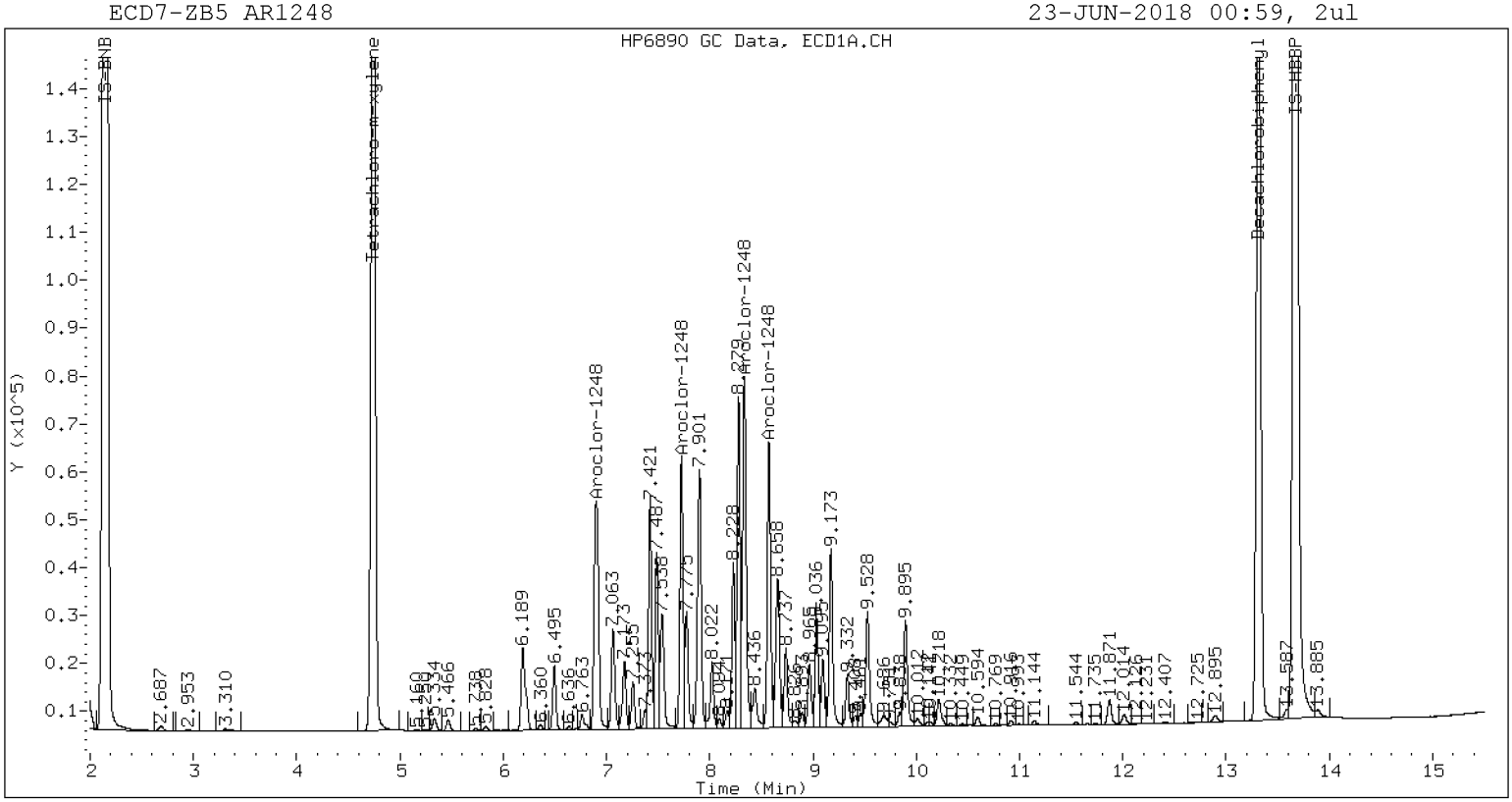
Total PCB Area Col2 (4.843 - 13.212) = 47290683 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

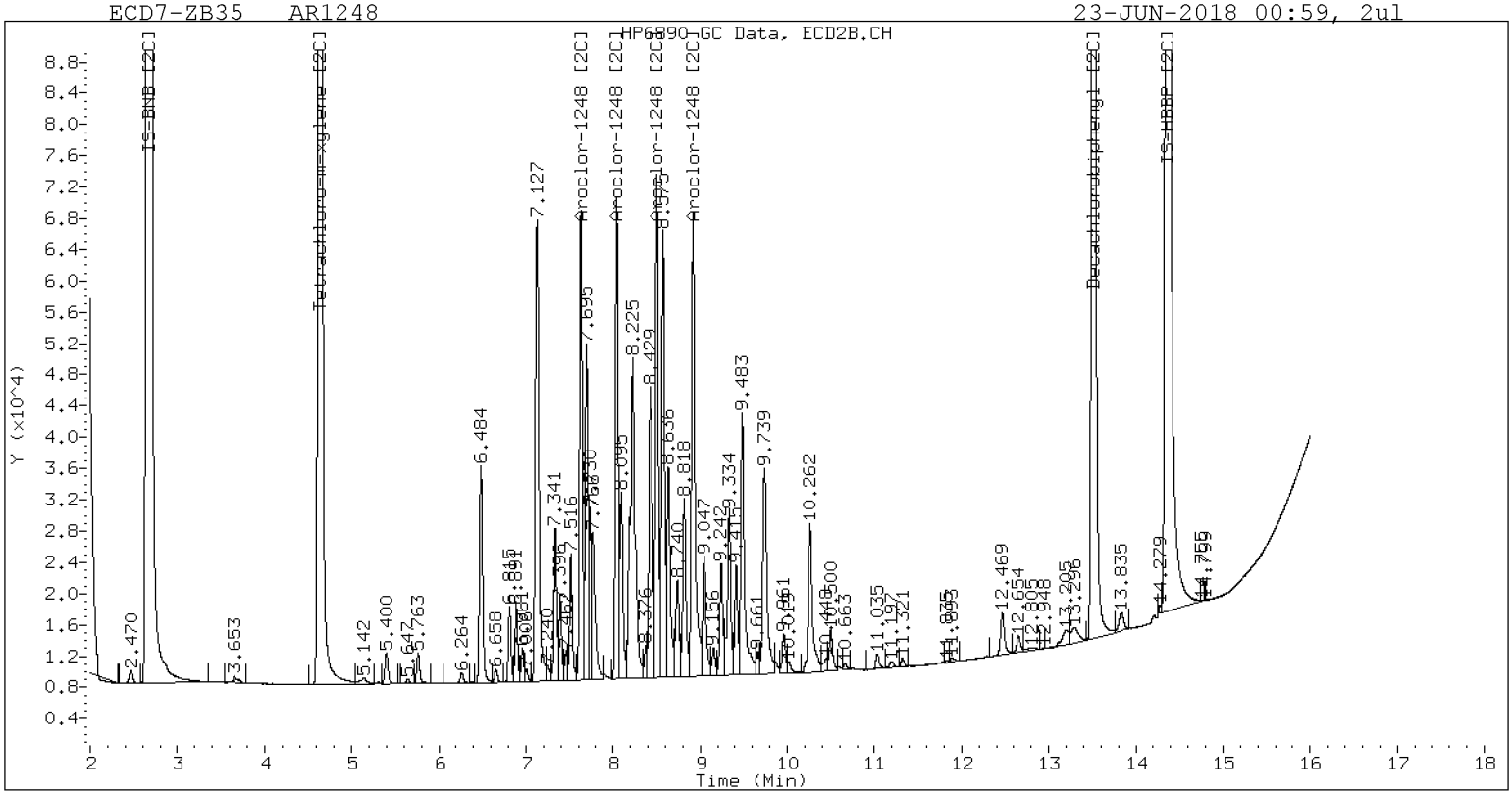
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248 23-JUN-2018 00:59, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248 23-JUN-2018 00:59, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062225.D
Data file 2: /20180622.b/20180622.b/18062225.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 23-JUN-2018 01:21
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.740	-0.003	13556020	4.638	-0.002	19528883	41.7	40.9	1.8	Tetrachloro-m-xylene
13.313	0.001	9998613	13.515	0.004	10815199	39.1	38.2	2.2	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.1	102.3
Decachlorobiphenyl	97.7	95.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28123236	9.3
Hexabromobiphenyl	22585647	24127062	6.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	44962731	12.9
Hexabromobiphenyl	22087957	24387330	10.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.659	0.000	4719389	250.0	1	8.816	0.000	3884927	250.0
Aroclor-1254	2	8.736	0.000	1497481	250.0	2	8.907	0.000	1893357	250.0
Aroclor-1254	3	9.035	0.000	2743528	250.0	3	9.483	0.000	6212858	250.0
Aroclor-1254	4	9.171	0.000	5782316	250.0	4	9.740	0.000	6224742	250.0
Aroclor-1254	5	9.521	0.000	5912994	250.0	5	10.498	0.000	4654573	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 57677872 Col1 Total PCB = 0.3 ppm*

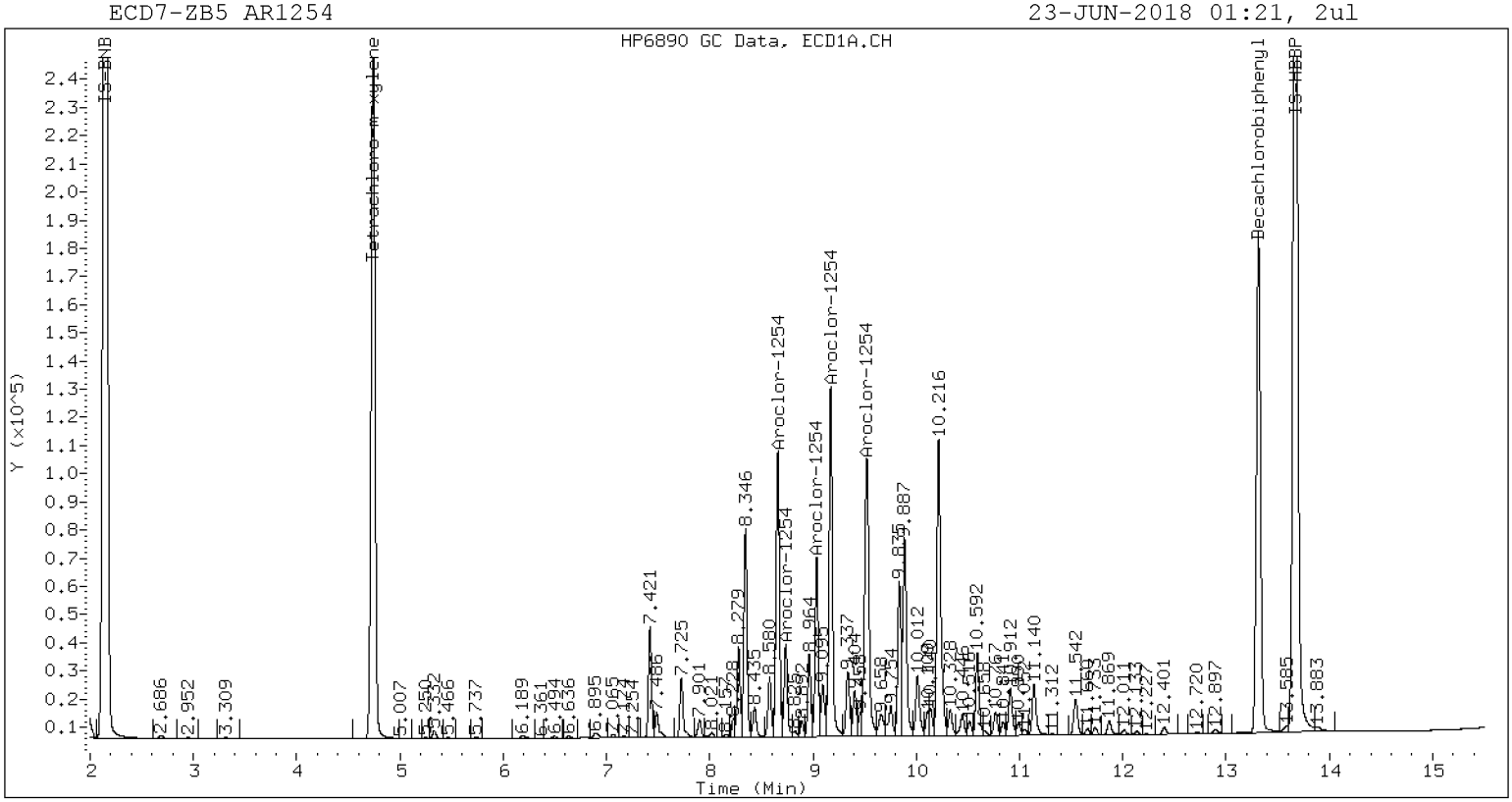
Total PCB Area Col2 (4.843 - 13.212) = 60997356 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

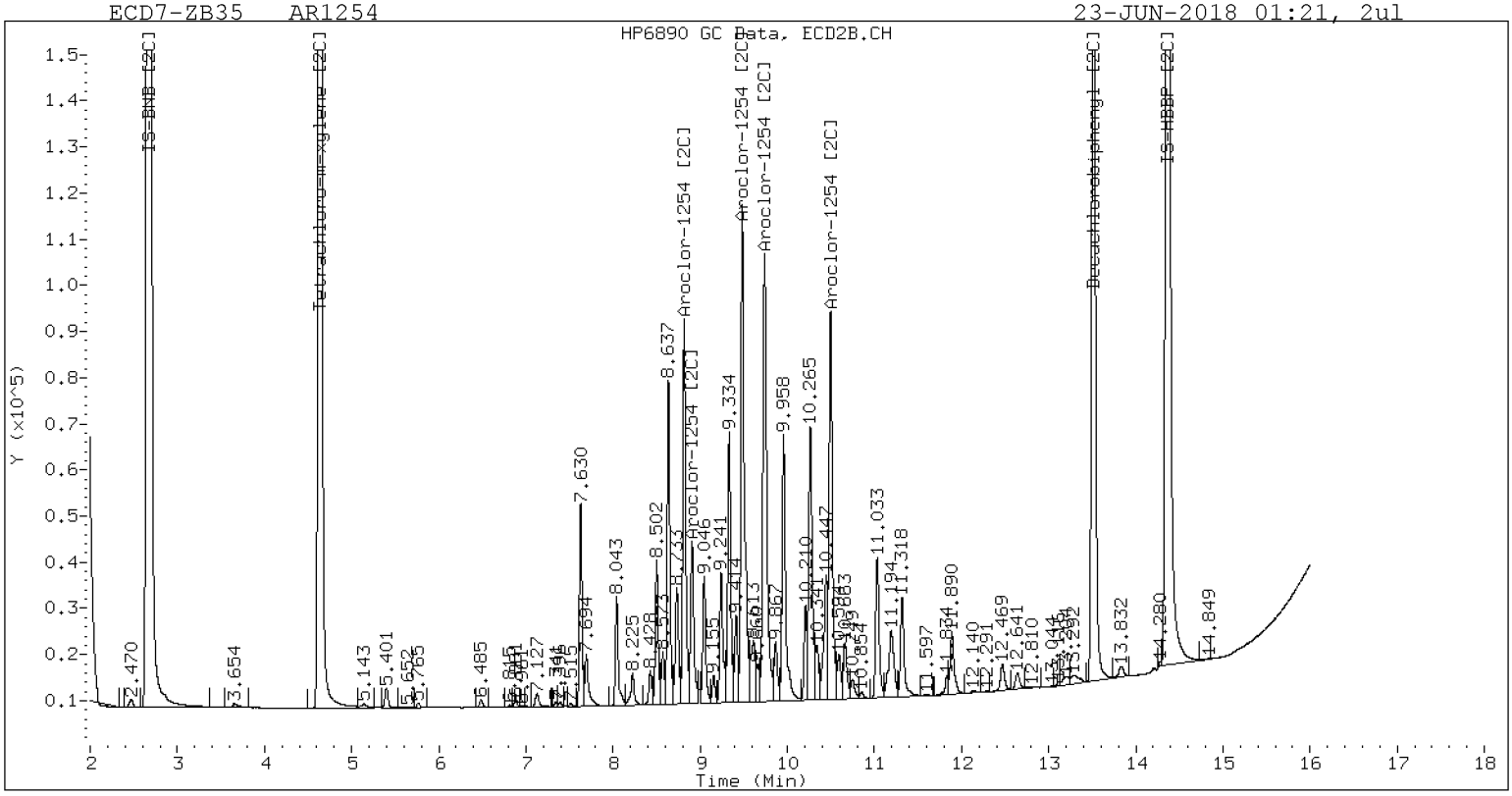
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254 23-JUN-2018 01:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254 23-JUN-2018 01:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062226.D
Data file 2: /20180622.b/20180622.b/18062226.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 23-JUN-2018 01:43
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.001	13786969	4.639	-0.000	19789214	42.3	41.7	1.2	Tetrachloro-m-xylene
13.311	-0.000	10263907	13.514	0.003	11108899	39.4	38.5	2.3	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.6	104.4
Decachlorobiphenyl	98.6	96.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28196141	9.6
Hexabromobiphenyl	22585647	24533155	8.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	44645432	12.1
Hexabromobiphenyl	22087957	24825383	12.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1221	1	3.556	0.000	550353	250.0	1	3.827	0.000	901536	250.0
Aroclor-1221	2	5.357	0.000	641889	250.0	2	5.386	0.000	1390044	250.0
Aroclor-1221	3	5.468	0.000	1943906	250.0	3	5.762	0.000	2368995	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.447	0.000	4975471	250.0	1	10.596	0.000	4800526	250.0
Aroclor-1262	2	11.138	0.000	9237124	250.0	2	11.040	0.000	4529366	250.0
Aroclor-1262	3	11.541	0.000	2854671	250.0	3	11.317	0.000	9232731	250.0
Aroclor-1262	4	11.657	0.000	3613847	250.0	4	11.833	0.000	3839108	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 68677063 Col1 Total PCB = 0.4 ppm*

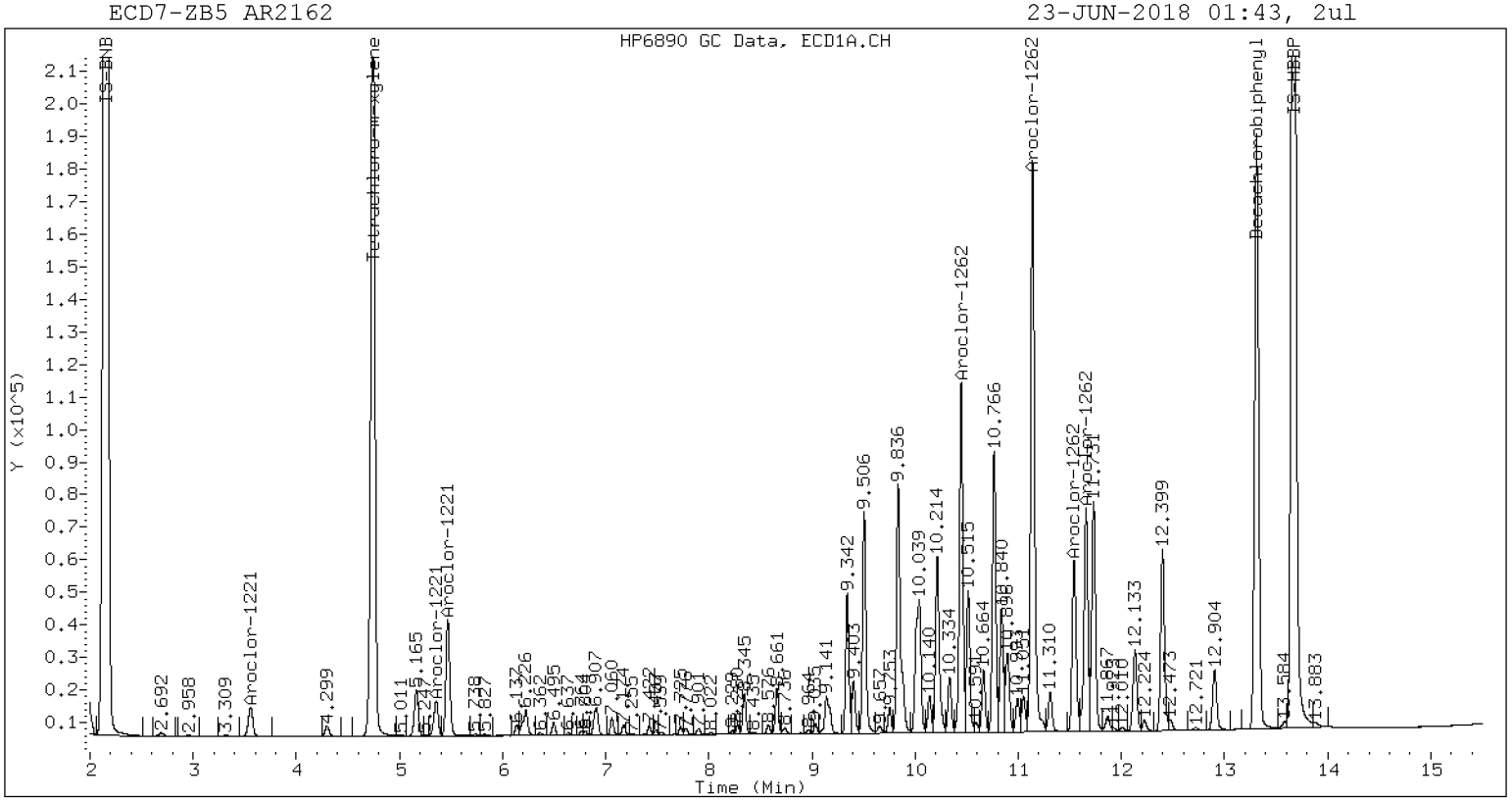
Total PCB Area Col2 (4.843 - 13.212) = 73592090 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

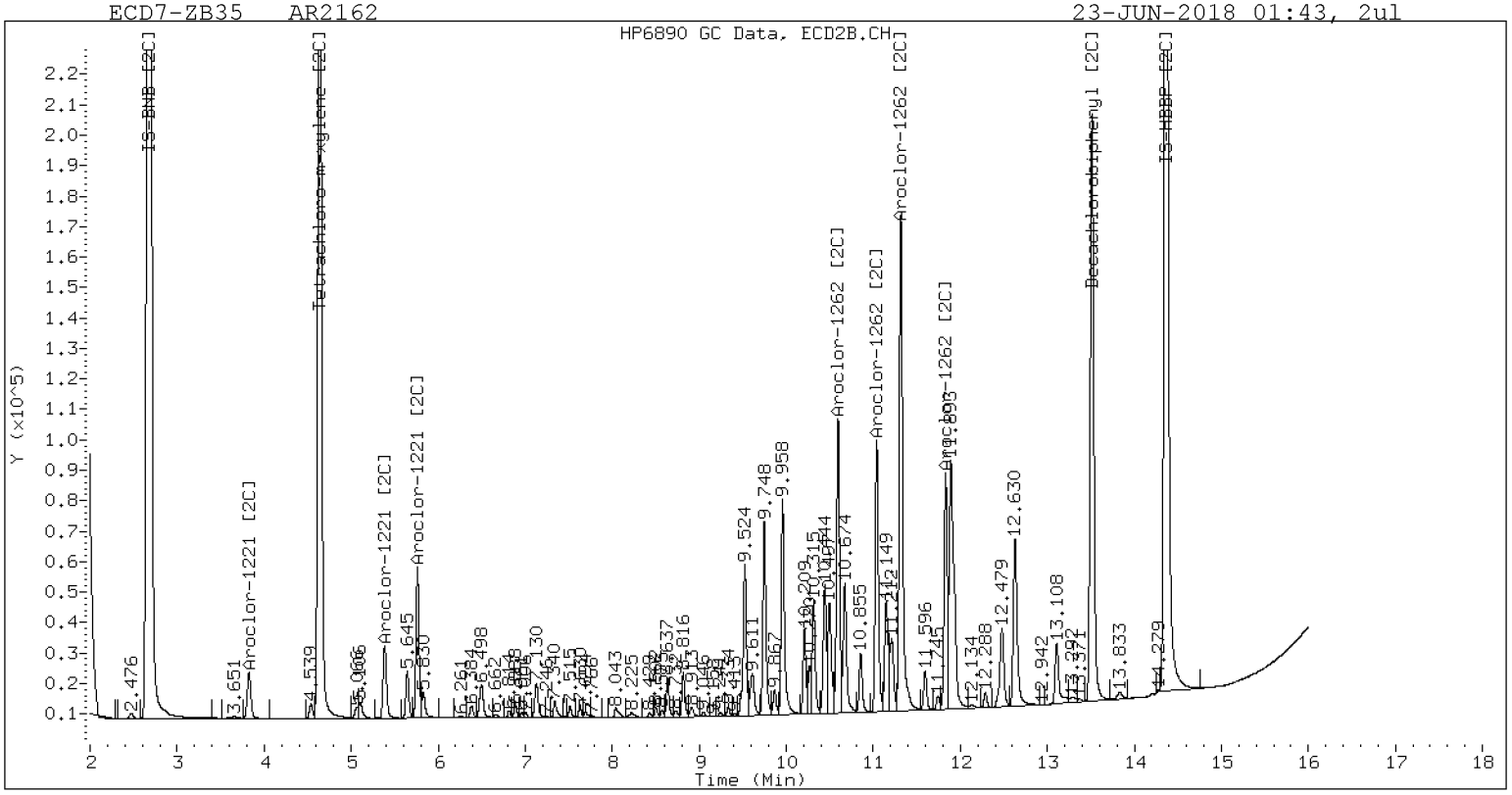
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162 23-JUN-2018 01:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162 23-JUN-2018 01:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062227.D
Data file 2: /20180622.b/20180622.b/18062227.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 23-JUN-2018 02:05
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	13699085	4.640	0.000	19928710	42.3	41.7	1.4	Tetrachloro-m-xylene
13.312	0.000	14736104	13.511	0.000	16040630	57.1	56.0	2.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.7	104.3
Decachlorobiphenyl	142.7	139.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	27989182	8.8
Hexabromobiphenyl	22585647	24328594	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	44995352	13.0
Hexabromobiphenyl	22087957	24681602	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	3.557	0.000	331762	250.0	1	3.828	0.000	543914	250.0
Aroclor-1232	2	6.495	0.000	814599	250.0	2	6.485	0.000	1891139	250.0
Aroclor-1232	3	6.906	0.000	2740938	250.0	3	7.129	0.000	3310273	250.0
Aroclor-1232	4	7.725	0.000	900393	250.0	4	8.917	0.000	1218792	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0
Aroclor-1268	1	11.658	0.000	10898045	250.0	1	11.831	0.000	10502078	250.0
Aroclor-1268	2	11.728	0.000	9931834	250.0	2	11.897	0.000	10756890	250.0
Aroclor-1268	3	12.116	0.000	8196136	250.0	3	12.287	0.000	8546028	250.0
Aroclor-1268	4	12.904	0.000	24414350	250.0	4	13.106	0.000	26492017	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 89492626 Col1 Total PCB = 0.5 ppm*

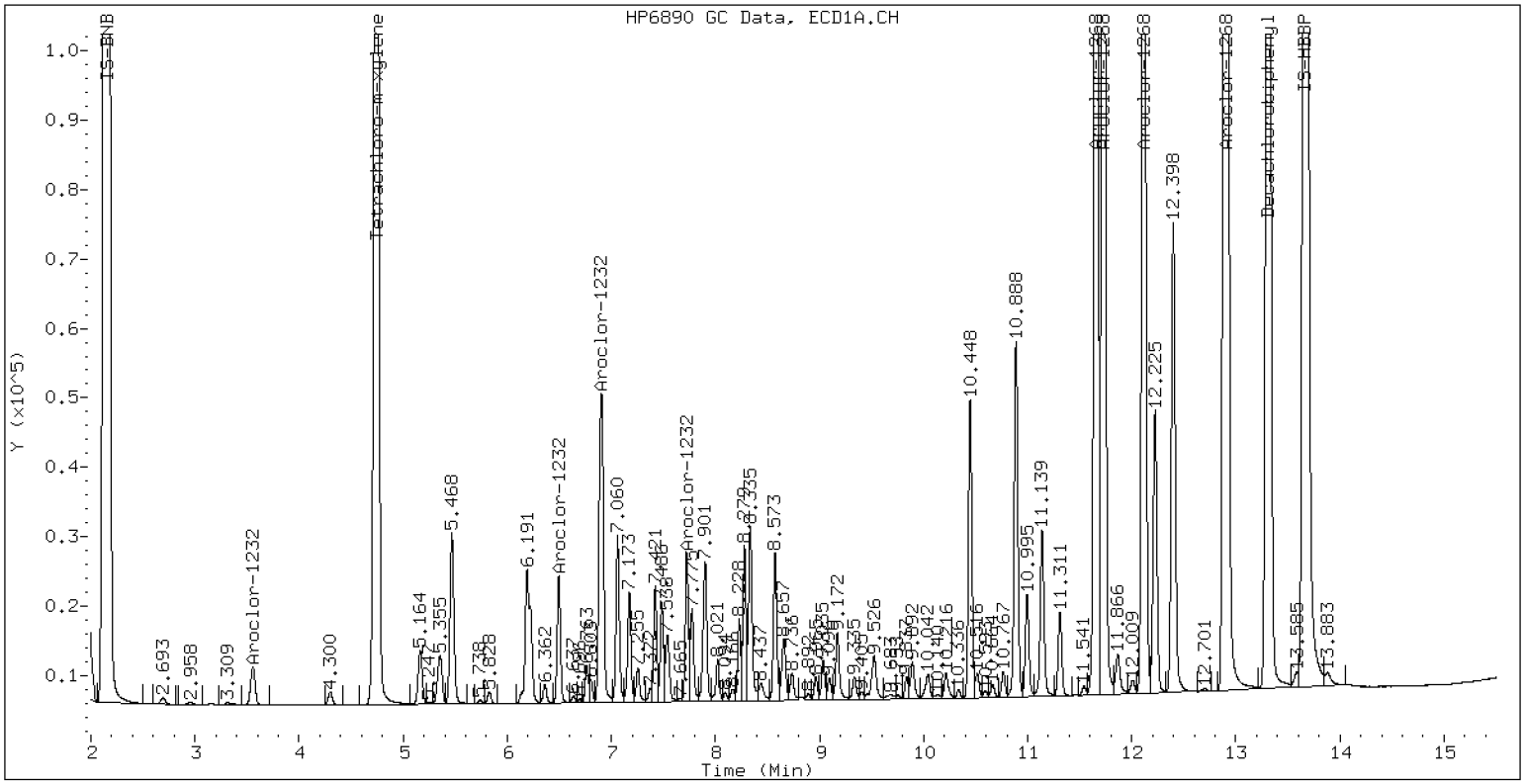
Total PCB Area Col2 (4.843 - 13.212) = 99101603 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

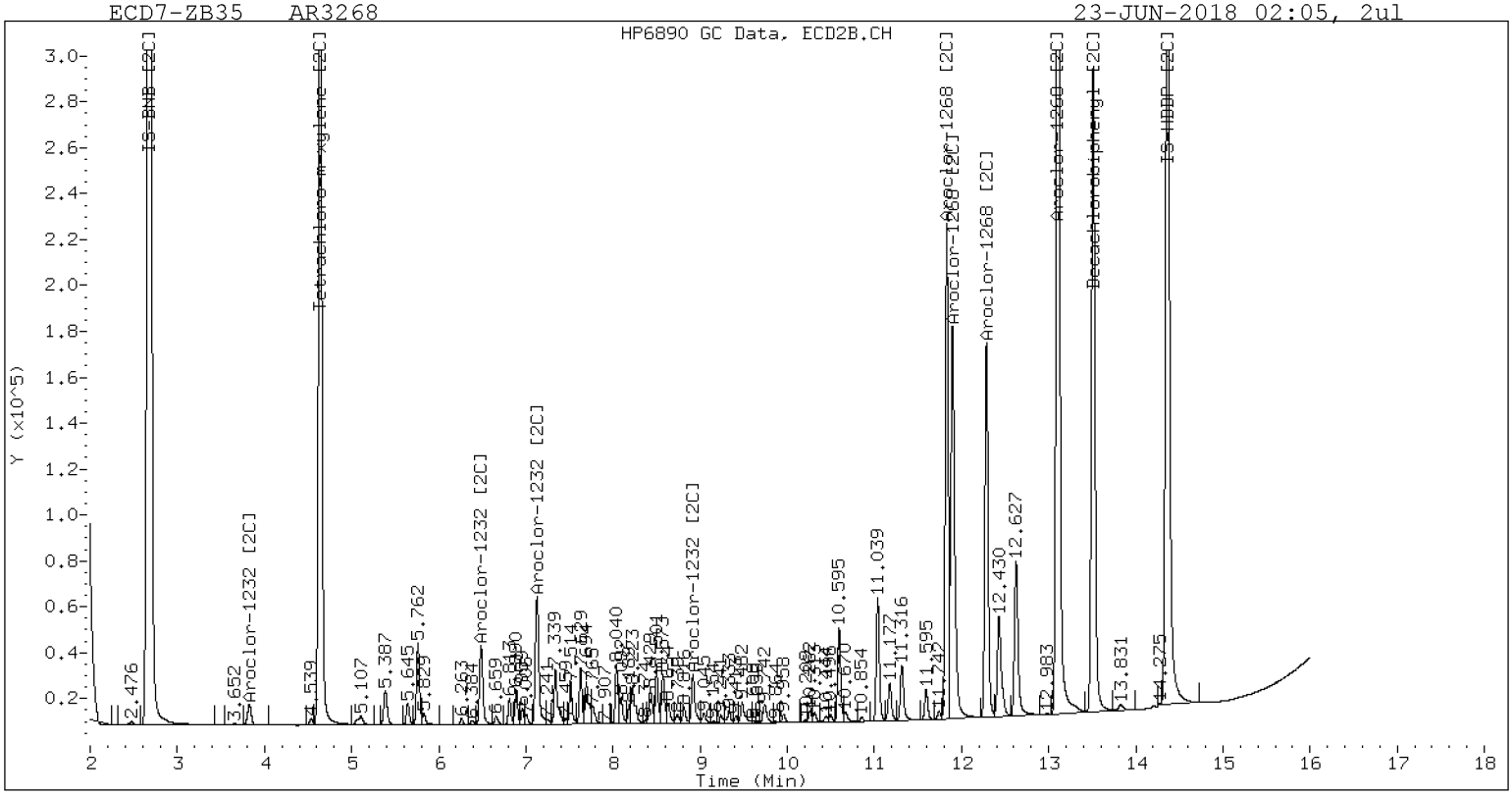
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268 23-JUN-2018 02:05, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268 23-JUN-2018 02:05, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062228.D
Data file 2: /20180622.b/20180622.b/18062228.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 23-JUN-2018 02:27
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.739	-0.003	14049135	4.636	-0.004	20582507	42.7	42.0	1.8	Tetrachloro-m-xylene
13.311	-0.000	10358667	13.511	-0.000	11307994	40.0	39.3	1.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.8	104.9
Decachlorobiphenyl	99.9	98.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28418174	10.4
Hexabromobiphenyl	22585647	24424270	8.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46199350	16.0
Hexabromobiphenyl	22087957	24801137	12.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.494	-0.003	1967112	259.6	1	6.483	-0.006	4163042	254.2
Aroclor-1016	2	6.904	-0.003	6653598	262.6	2	7.127	-0.006	8236931	260.8
Aroclor-1016	3	7.172	-0.002	1756416	259.9	3	7.513	-0.005	1989799	261.3
Aroclor-1016	4	7.901	-0.002	2315380	293.3	4	8.039	-0.006	2418947	263.6
Total Col1Ave (4 peaks):		268.9				Total Col2Ave (4 peaks):		260.0	RPD = 3	
Corrected Ave (3 peaks):		260.7				Corrected Ave (3 peaks):		258.8	RPD = 1	
Aroclor-1221	1	3.552	-0.004	16093	7.3	1	3.823	-0.003	30734	8.2
Aroclor-1221	2	5.351	-0.006	417252	161.2	2	5.387	0.002	620114	107.8
Aroclor-1221	3	5.465	-0.003	1434753	183.1	3	5.760	-0.002	1953074	199.2
Total Col1Ave (3 peaks):		117.2				Total Col2Ave (3 peaks):		105.1	RPD = 11	
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.552	-0.005	16093	11.9	1	3.823	-0.004	30734	13.8
Aroclor-1232	2	6.494	-0.002	1967112	594.6	2	6.483	-0.002	4163042	536.0
Aroclor-1232	3	6.904	-0.002	6653598	597.7	3	7.127	-0.002	8236931	605.9
Aroclor-1232	4	7.724	-0.001	1921587	525.5	4	8.914	-0.003	158992	31.8
Total Col1Ave (4 peaks):		432.4				Total Col2Ave (4 peaks):		296.8	RPD = 37	
Corrected Ave (3 peaks):		377.3				Corrected Ave (3 peaks):		193.8	RPD = 64*	
Aroclor-1242	1	6.494	-0.003	1967112	322.8	1	6.483	-0.006	4163042	325.9
Aroclor-1242	2	7.059	-0.003	2602995	323.0	2	7.127	-0.005	8236931	335.4
Aroclor-1242	3	8.278	-0.003	367910	53.5	3	8.571	-0.006	321723	42.7
Aroclor-1242	4	8.578	0.004	200494	27.7	4	8.914	-0.008	158992	18.2
Total Col1Ave (4 peaks):		181.7				Total Col2Ave (4 peaks):		180.6	RPD = 1	
Corrected Ave (3 peaks):		134.7				Corrected Ave (3 peaks):		129.0	RPD = 4	
Aroclor-1248	1	6.904	0.003	6653598	542.8	1	7.628	-0.003	2237332	209.9
Aroclor-1248	2	7.724	-0.001	1921587	193.5	2	8.039	-0.003	2418947	216.1
Aroclor-1248	3	8.343	0.009	1431679	96.7	3	8.499	-0.003	464071	38.3
Aroclor-1248	4	8.578	0.005	200494	18.1	4	8.914	-0.004	158992	11.3
Total Col1Ave (4 peaks):		212.8				Total Col2Ave (4 peaks):		118.9	RPD = 57*	
Corrected Ave (3 peaks):		102.8				Corrected Ave (3 peaks):		86.5	RPD = 17	
Aroclor-1254	1	8.660	0.000	1339788	70.2	1	8.814	-0.002	1432152	89.7
Aroclor-1254	2	---			0.0	2	8.914	0.007	158992	20.4
Aroclor-1254	3	9.034	-0.001	163991	14.8	3	9.522	0.039	3285355	128.7
Aroclor-1254	4	9.167	-0.004	551685	23.6	4	9.746	0.006	4394093	171.8
Aroclor-1254	5	9.505	-0.016	4381536	183.3	5	10.495	-0.003	4286678	224.1
Total Col1Ave (4 peaks):		73.0				Total Col2Ave (5 peaks):		126.9	RPD = 54*	
Corrected Ave (3 peaks):		36.2				Corrected Ave (4 peaks):		102.6	RPD = 96*	
Aroclor-1260	1	10.446	-0.001	3815996	275.9	1	10.593	-0.007	3824892	267.6
Aroclor-1260	2	10.766	-0.002	3744227	281.5	2	11.038	-0.006	4186833	268.4
Aroclor-1260	3	11.139	-0.001	9079399	281.1	3	11.315	-0.007	9483430	276.3
Aroclor-1260	4	11.541	-0.002	4279158	284.3	4	11.887	-0.007	6306563	271.7
Aroclor-1260	5	11.657	-0.002	1908325	256.4	NS	---			----
Total Col1Ave (5 peaks):		275.9				Total Col2Ave (4 peaks):		271.0	RPD = 2	
Corrected Ave (4 peaks):		273.7				Corrected Ave (3 peaks):		269.2	RPD = 2	
Aroclor-1262	1	10.446	-0.000	3815996	192.6	1	10.593	-0.003	3824892	199.4
Aroclor-1262	2	11.139	0.001	9079399	246.8	2	11.038	-0.003	4186833	231.3
Aroclor-1262	3	11.541	-0.000	4279158	376.4	3	11.315	-0.002	9483430	257.0
Aroclor-1262	4	11.657	0.000	1908325	132.6	4	11.830	-0.003	2322250	151.4
Total Col1Ave (4 peaks):		237.1				Total Col2Ave (4 peaks):		209.8	RPD = 12	
Corrected Ave (3 peaks):		190.7				Corrected Ave (3 peaks):		194.0	RPD = 2	
Aroclor-1268	1	11.657	-0.001	1908325	43.6	1	11.830	-0.001	2322250	55.0
Aroclor-1268	2	11.731	0.003	2284706	57.3	2	11.887	-0.009	6306563	145.9
Aroclor-1268	3	12.133	0.017	958869	29.1	3	12.287	0.000	82617	2.4
Aroclor-1268	4	12.904	-0.001	452755	4.6	4	13.107	0.001	459069	4.3
Total Col1Ave (4 peaks):		33.7				Total Col2Ave (4 peaks):		51.9	RPD = 43*	

Corrected Ave (3 peaks): 25.8 Corrected Ave (3 peaks): 20.6 RPD = 22

Total PCB Area Col1 (4.843 - 13.212) = 99226432 Col1 Total PCB = 0.5 ppm*

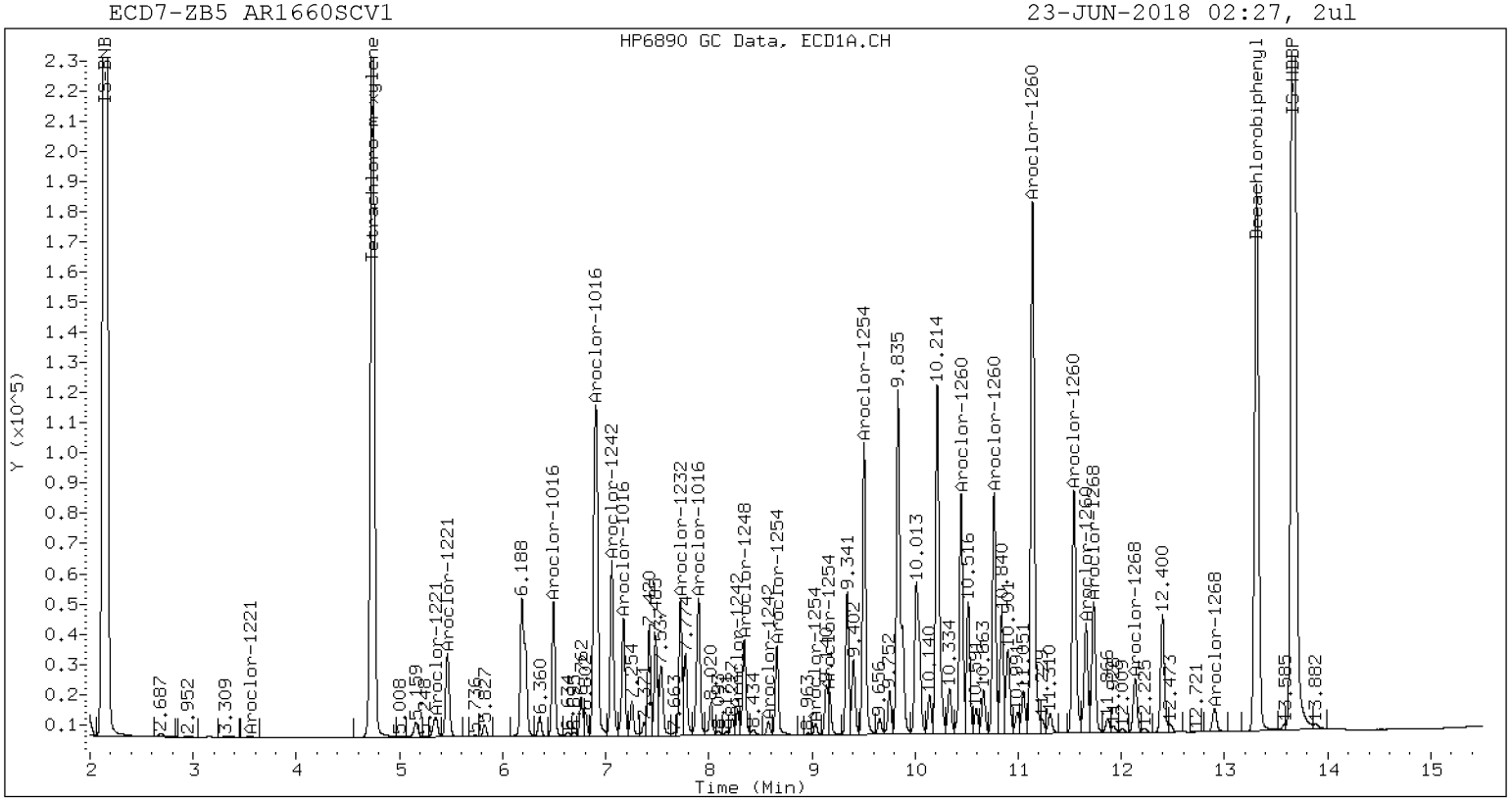
Total PCB Area Col2 (4.843 - 13.212) = 110201386 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

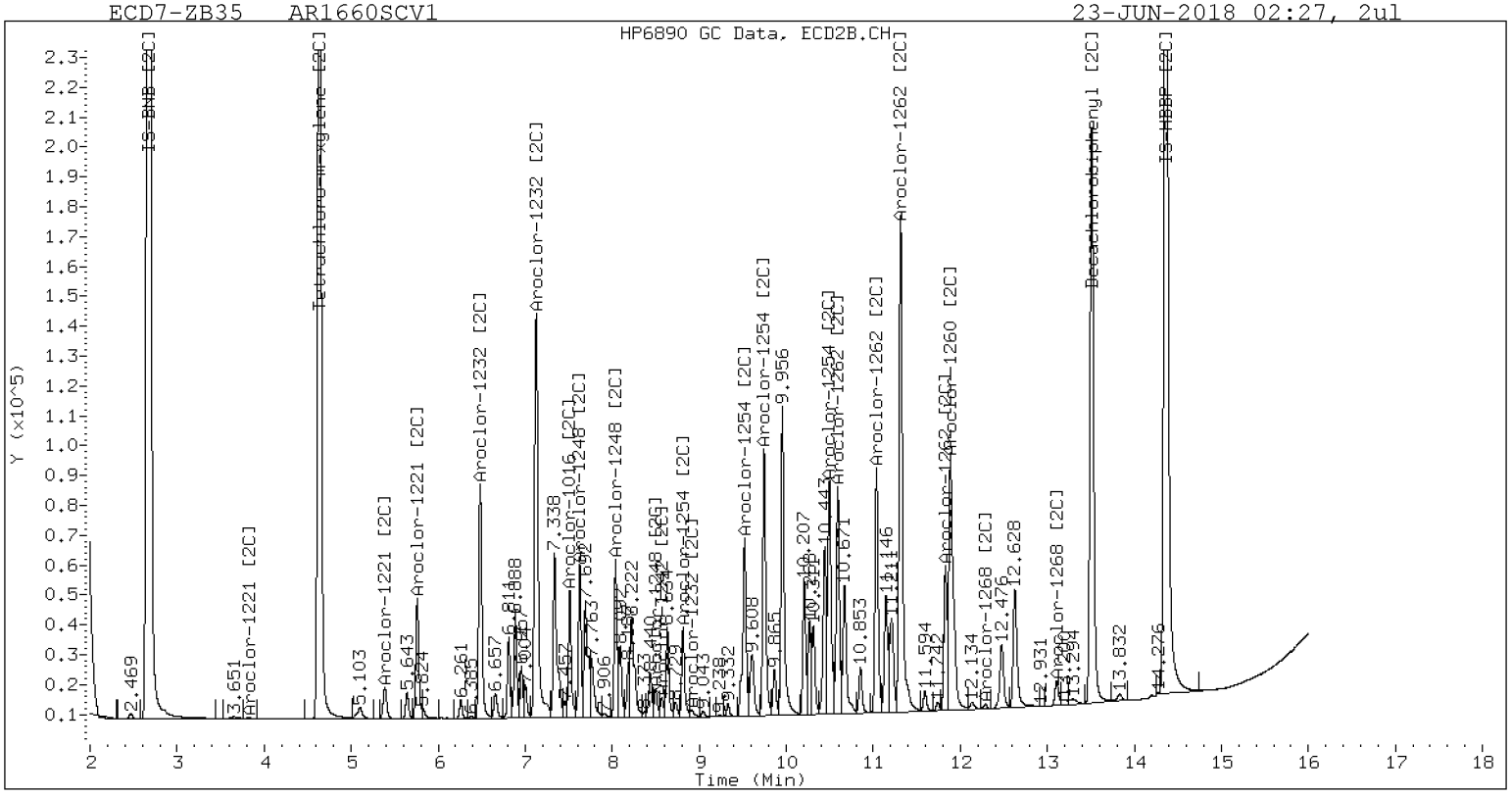
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062229.D
Data file 2: /20180622.b/20180622.b/18062229.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 23-JUN-2018 02:49
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.742	-0.001	13518454	4.638	-0.001	19961438	41.3	40.5	2.0	Tetrachloro-m-xylene
13.311	-0.001	9355334	13.511	-0.000	10264113	35.7	35.2	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	103.3	101.2
Decachlorobiphenyl	89.2	87.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28271451	9.9
Hexabromobiphenyl	22585647	24709108	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46425085	16.5
Hexabromobiphenyl	22087957	25130811	13.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	1529830	203.0	1	6.483	-0.006	3276115	199.1
Aroclor-1016	2	6.906	-0.002	4927126	195.5	2	7.128	-0.005	6172696	194.5
Aroclor-1016	3	7.172	-0.002	1358126	202.0	3	7.513	-0.005	1547639	202.2
Aroclor-1016	4	7.900	-0.003	1869028	238.0	4	8.039	-0.006	2019182	218.9
Total Col1Ave (4 peaks):					209.6	Total Col2Ave (4 peaks):				203.7 RPD = 3
Corrected Ave (3 peaks):					200.1	Corrected Ave (3 peaks):				198.6 RPD = 1
Aroclor-1221	1	3.556	-0.000	11516	5.2	1	3.825	-0.002	21644	5.8
Aroclor-1221	2	5.352	-0.005	339633	131.9	2	5.390	0.005	519612	89.9
Aroclor-1221	3	5.467	-0.001	1089482	139.7	3	5.761	-0.002	1503296	152.6
Total Col1Ave (3 peaks):					92.3	Total Col2Ave (3 peaks):				82.7 RPD = 11
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.556	-0.001	11516	8.6	1	3.825	-0.003	21644	9.6
Aroclor-1232	2	6.495	-0.001	1529830	464.8	2	6.483	-0.002	3276115	419.7
Aroclor-1232	3	6.906	-0.000	4927126	444.9	3	7.128	-0.002	6172696	451.8
Aroclor-1232	4	7.725	-0.001	1544951	424.7	4	8.916	-0.001	2127100	422.9
Total Col1Ave (4 peaks):					335.8	Total Col2Ave (4 peaks):				326.0 RPD = 3
Corrected Ave (3 peaks):					292.7	Corrected Ave (3 peaks):				284.1 RPD = 3
Aroclor-1242	1	6.495	-0.002	1529830	252.3	1	6.483	-0.005	3276115	255.2
Aroclor-1242	2	7.059	-0.003	2017314	251.6	2	7.128	-0.005	6172696	250.1
Aroclor-1242	3	8.278	-0.002	1645992	240.6	3	8.572	-0.005	1769177	233.8
Aroclor-1242	4	8.572	-0.003	1684905	233.9	4	8.916	-0.006	2127100	242.3
Total Col1Ave (4 peaks):					244.6	Total Col2Ave (4 peaks):				245.4 RPD = 0
Corrected Ave (3 peaks):					242.1	Corrected Ave (3 peaks):				242.1 RPD = 0
Aroclor-1248	1	6.906	0.005	4927126	404.1	1	7.628	-0.003	1829869	170.9
Aroclor-1248	2	7.725	-0.001	1544951	156.4	2	8.039	-0.003	2019182	179.5
Aroclor-1248	3	8.333	-0.002	2156207	146.4	3	8.499	-0.003	1763648	144.9
Aroclor-1248	4	8.572	-0.001	1684905	153.1	4	8.916	-0.002	2127100	150.7
Total Col1Ave (4 peaks):					215.0	Total Col2Ave (4 peaks):				161.5 RPD = 28
Corrected Ave (3 peaks):					152.0	Corrected Ave (3 peaks):				155.5 RPD = 2
Aroclor-1254	1	8.657	-0.002	893015	47.1	1	8.814	-0.002	697764	43.5
Aroclor-1254	2	8.735	-0.001	399428	66.3	2	8.916	0.009	2127100	272.0
Aroclor-1254	3	9.034	-0.000	512955	46.5	3	9.480	-0.003	1147989	44.7
Aroclor-1254	4	9.171	-0.000	924765	39.8	4	9.737	-0.003	1012984	39.4
Aroclor-1254	5	9.526	0.004	751506	31.6	5	10.496	-0.002	342541	17.8
Total Col1Ave (5 peaks):					46.3	Total Col2Ave (5 peaks):				83.5 RPD = 57*
Corrected Ave (4 peaks):					41.2	Corrected Ave (4 peaks):				36.4 RPD = 13
Aroclor-1260	1	10.445	-0.003	17671	1.3	1	10.659	0.059	35256	2.4
Aroclor-1260	2	10.766	-0.001	14353	1.1	2	11.030	-0.014	99340	6.3
Aroclor-1260	3	11.140	-0.000	36890	1.1	3	11.316	-0.005	46386	1.3
Aroclor-1260	4	11.541	-0.001	31896	2.1	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks):					1.4	Total Col2Ave (3 peaks):				3.4 RPD = 83*
Corrected Ave (3 peaks):					1.2	Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.445	-0.002	17671	0.9	1	10.659	0.063	35256	1.8
Aroclor-1262	2	11.140	0.002	36890	1.0	2	11.030	-0.011	99340	5.4
Aroclor-1262	3	11.541	0.000	31896	2.8	3	11.316	-0.001	46386	1.2
Aroclor-1262	4	---			0.0	4	---			0.0
Total Col1Ave (3 peaks):					1.5	Total Col2Ave (3 peaks):				2.8 RPD = 58*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.120	0.004	11056	0.3	3	---			0.0
Aroclor-1268	4	12.894	-0.010	61780	0.6	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 37725675 Col1 Total PCB = 0.2 ppm*

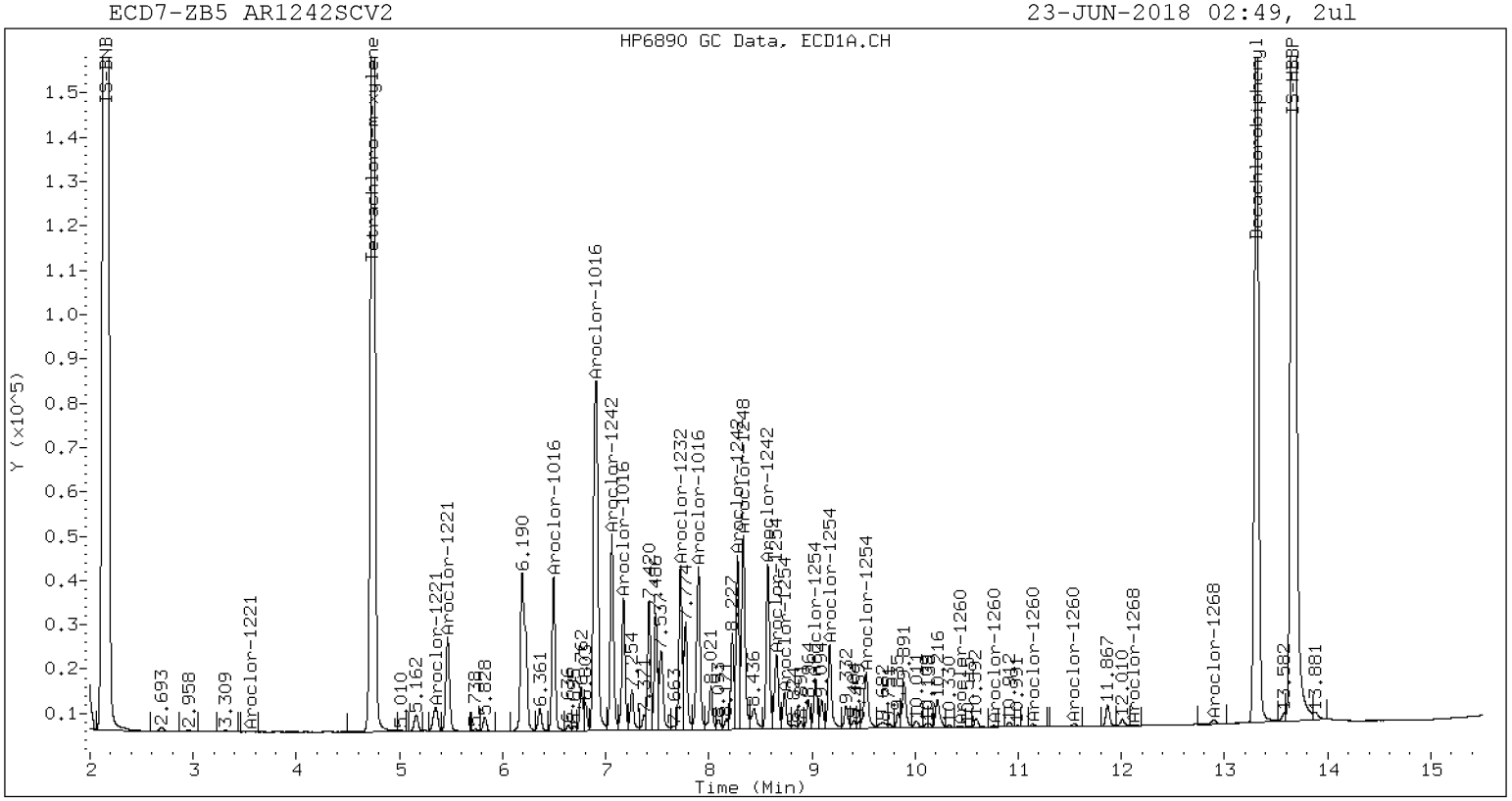
Total PCB Area Col2 (4.843 - 13.212) = 46287036 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

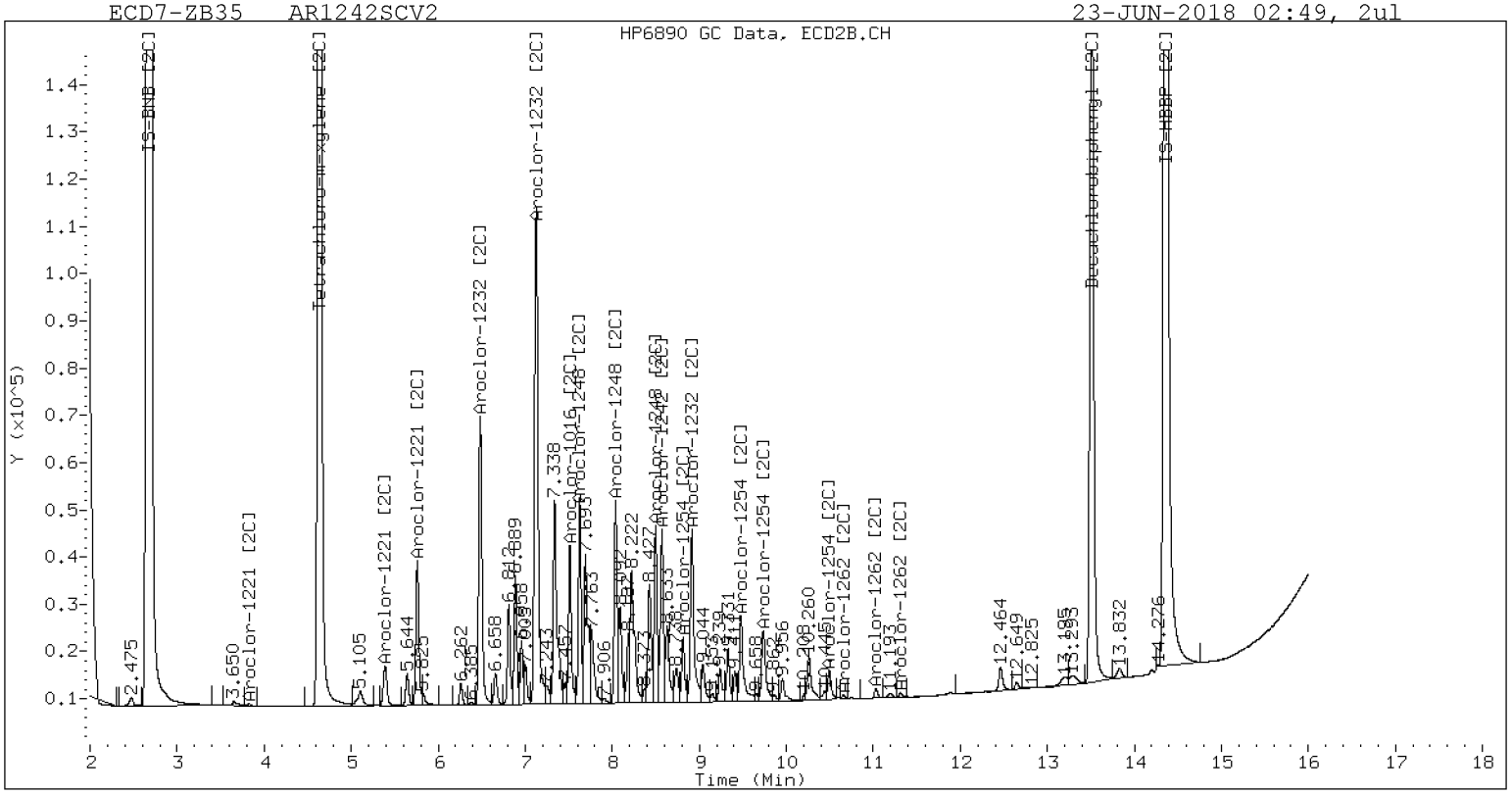
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062230.D
Data file 2: /20180622.b/20180622.b/18062230.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 23-JUN-2018 03:11
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	13888402	4.638	-0.002	20704237	42.7	42.2	1.1	Tetrachloro-m-xylene
13.311	-0.001	9921712	13.510	-0.001	10952151	38.2	37.7	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.7	105.5
Decachlorobiphenyl	95.6	94.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28129829	9.3
Hexabromobiphenyl	22585647	24453050	8.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46218355	16.0
Hexabromobiphenyl	22087957	25004834	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.494	-0.003	750016	100.0	1	6.482	-0.007	1780869	108.7
Aroclor-1016	2	6.900	-0.007	3354425	133.8	2	7.125	-0.009	4199617	132.9
Aroclor-1016	3	7.172	-0.002	816715	122.1	3	7.513	-0.005	896852	117.7
Aroclor-1016	4	7.900	-0.003	2860090	366.0	4	8.039	-0.006	3003880	327.2
Total Col1Ave (4 peaks):		180.5				Total Col2Ave (4 peaks):			171.6	RPD = 5
Corrected Ave (3 peaks):		118.6				Corrected Ave (3 peaks):			119.8	RPD = 1
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.336	-0.021	171044	66.8	2	5.397	0.012	279007	48.5
Aroclor-1221	3	5.467	-0.001	224782	29.0	3	5.761	-0.002	384609	39.2
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.494	-0.001	750016	229.0	2	6.482	-0.003	1780869	229.2
Aroclor-1232	3	6.900	-0.006	3354425	304.4	3	7.125	-0.005	4199617	308.8
Aroclor-1232	4	7.725	-0.001	2636690	728.4	4	8.914	-0.003	3640295	726.9
Total Col1Ave (3 peaks):		420.6				Total Col2Ave (3 peaks):			421.6	RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.494	-0.003	750016	124.3	1	6.482	-0.006	1780869	139.4
Aroclor-1242	2	7.061	-0.001	1216034	152.4	2	7.125	-0.008	4199617	171.0
Aroclor-1242	3	8.278	-0.003	3087950	453.7	3	8.571	-0.006	2948423	391.5
Aroclor-1242	4	8.572	-0.003	2820835	393.6	4	8.914	-0.007	3640295	416.5
Total Col1Ave (4 peaks):		281.0				Total Col2Ave (4 peaks):			279.6	RPD = 1
Corrected Ave (3 peaks):		223.5				Corrected Ave (3 peaks):			233.9	RPD = 5
Aroclor-1248	1	6.900	-0.000	3354425	276.5	1	7.627	-0.004	2872572	269.4
Aroclor-1248	2	7.725	-0.001	2636690	268.3	2	8.039	-0.003	3003880	268.3
Aroclor-1248	3	8.333	-0.002	3827071	261.2	3	8.498	-0.004	3170007	261.6
Aroclor-1248	4	8.572	-0.001	2820835	257.7	4	8.914	-0.004	3640295	259.0
Total Col1Ave (4 peaks):		265.9				Total Col2Ave (4 peaks):			264.6	RPD = 0
Corrected Ave (3 peaks):		262.4				Corrected Ave (3 peaks):			263.0	RPD = 0
Aroclor-1254	1	8.656	-0.003	1796679	95.2	1	8.813	-0.003	1323122	82.8
Aroclor-1254	2	8.735	-0.001	838243	139.9	2	8.914	0.007	3640295	467.6
Aroclor-1254	3	9.033	-0.002	1086672	99.0	3	9.479	-0.004	2257052	88.4
Aroclor-1254	4	9.171	-0.001	1903011	82.3	4	9.736	-0.004	1982302	77.5
Aroclor-1254	5	9.525	0.004	1399038	59.1	5	10.494	-0.003	339560	17.7
Total Col1Ave (5 peaks):		95.1				Total Col2Ave (5 peaks):			146.8	RPD = 43*
Corrected Ave (4 peaks):		83.9				Corrected Ave (4 peaks):			66.6	RPD = 23
Aroclor-1260	1	10.446	-0.002	61904	4.5	1	10.592	-0.007	63869	4.4
Aroclor-1260	2	10.766	-0.002	45344	3.4	2	11.031	-0.012	151206	9.6
Aroclor-1260	3	11.139	-0.001	103267	3.2	3	11.315	-0.006	129221	3.7
Aroclor-1260	4	11.542	-0.000	39450	2.6	4	11.890	-0.004	80608	3.4
Aroclor-1260	5	11.657	-0.003	36837	4.9	NS	---			----
Total Col1Ave (5 peaks):		3.7				Total Col2Ave (4 peaks):			5.3	RPD = 35
Corrected Ave (4 peaks):		3.4				Corrected Ave (3 peaks):			3.9	RPD = 12
Aroclor-1262	1	10.446	-0.001	61904	3.1	1	10.592	-0.004	63869	3.3
Aroclor-1262	2	11.139	0.001	103267	2.8	2	11.031	-0.009	151206	8.3
Aroclor-1262	3	11.542	0.001	39450	3.5	3	11.315	-0.002	129221	3.5
Aroclor-1262	4	11.657	-0.000	36837	2.6	4	11.830	-0.002	46590	3.0
Total Col1Ave (4 peaks):		3.0				Total Col2Ave (4 peaks):			4.5	RPD = 41*
Corrected Ave (3 peaks):		2.8				Corrected Ave (3 peaks):			3.3	RPD = 14
Aroclor-1268	1	11.657	-0.001	36837	0.8	1	11.830	-0.001	46590	1.1
Aroclor-1268	2	11.730	0.002	37295	0.9	2	11.890	-0.006	80608	1.8
Aroclor-1268	3	12.126	0.010	22097	0.7	3	12.287	0.000	8314	0.2
Aroclor-1268	4	12.896	-0.008	67630	0.7	4	13.201	0.095	179150	1.7
Total Col1Ave (4 peaks):		0.8				Total Col2Ave (4 peaks):			1.2	RPD = 43*
Corrected Ave (3 peaks):		0.7				Corrected Ave (3 peaks):			1.0	RPD = 31

Total PCB Area Col1 (4.843 - 13.212) = 46229204 Col1 Total PCB = 0.2 ppm*

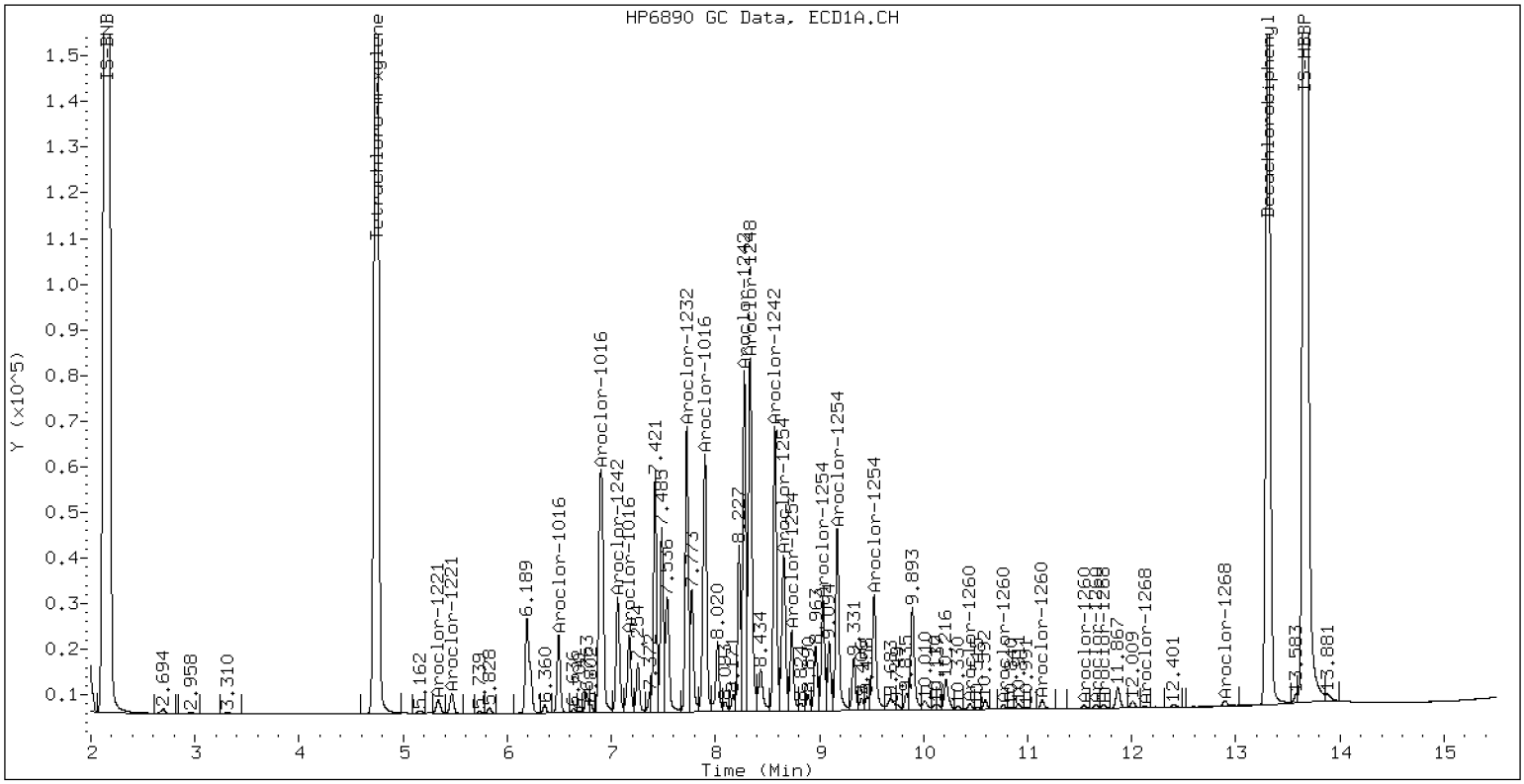
Total PCB Area Col2 (4.843 - 13.212) = 54034292 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

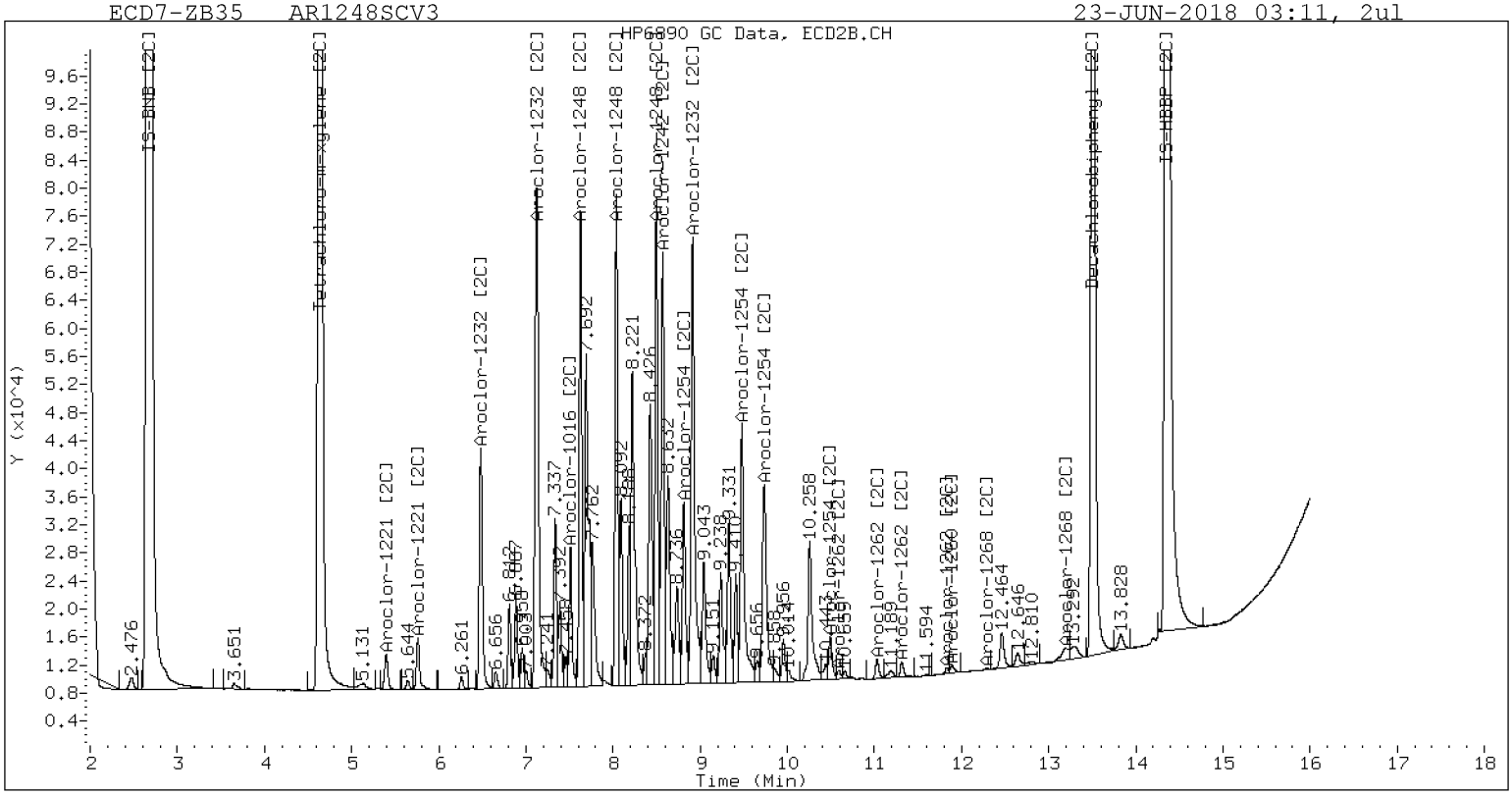
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062231.D
Data file 2: /20180622.b/20180622.b/18062231.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 23-JUN-2018 03:33
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.742	-0.001	13672488	4.637	-0.003	20562251	41.8	41.3	1.4	Tetrachloro-m-xylene
13.310	-0.002	10092871	13.507	-0.004	11174745	38.5	37.9	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	103.2
Decachlorobiphenyl	96.2	94.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28238436	9.7
Hexabromobiphenyl	22585647	24730502	9.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46920543	17.8
Hexabromobiphenyl	22087957	25421102	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	20857	2.8	1	6.481	-0.008	53800	3.2
Aroclor-1016	2	6.895	-0.012	102969	4.1	2	7.120	-0.013	146764	4.6
Aroclor-1016	3	7.173	-0.002	20538	3.1	3	7.512	-0.006	19868	2.6
Aroclor-1016	4	7.900	-0.002	400500	51.1	4	8.038	-0.007	1219973	130.9
	Total Col1Ave (4 peaks):				15.2	Total Col2Ave (4 peaks):				35.3 RPD = 79*
	Corrected Ave (3 peaks):				3.3	Corrected Ave (3 peaks):				3.5 RPD = 5
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.334	-0.023	138055	53.7	2	5.398	0.012	229833	39.3
Aroclor-1221	3	5.467	-0.002	12698	1.6	3	5.761	-0.001	60534	6.1
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.495	-0.000	20857	6.3	2	6.481	-0.004	53800	6.8
Aroclor-1232	3	6.895	-0.011	102969	9.3	3	7.120	-0.009	146764	10.6
Aroclor-1232	4	7.724	-0.002	1007708	277.3	4	8.903	-0.014	2237594	440.1
	Total Col1Ave (3 peaks):				97.7	Total Col2Ave (3 peaks):				152.5 RPD = 44*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.495	-0.002	20857	3.4	1	6.481	-0.007	53800	4.1
Aroclor-1242	2	7.068	0.006	57297	7.2	2	7.120	-0.012	146764	5.9
Aroclor-1242	3	8.277	-0.003	1475711	216.0	3	8.568	-0.009	640906	83.8
Aroclor-1242	4	8.578	0.003	1013203	140.8	4	8.903	-0.019	2237594	252.2
	Total Col1Ave (4 peaks):				91.9	Total Col2Ave (4 peaks):				86.5 RPD = 6
	Corrected Ave (3 peaks):				50.5	Corrected Ave (3 peaks):				31.3 RPD = 47*
Aroclor-1248	1	6.895	-0.005	102969	8.5	1	7.625	-0.006	1919057	177.3
Aroclor-1248	2	7.724	-0.002	1007708	102.1	2	8.038	-0.004	1219973	107.3
Aroclor-1248	3	8.343	0.009	3446020	234.3	3	8.498	-0.005	1552857	126.2
Aroclor-1248	4	8.578	0.005	1013203	92.2	4	8.903	-0.015	2237594	156.8
	Total Col1Ave (4 peaks):				109.3	Total Col2Ave (4 peaks):				141.9 RPD = 26
	Corrected Ave (3 peaks):				67.6	Corrected Ave (3 peaks):				130.1 RPD = 63*
Aroclor-1254	1	8.657	-0.002	4956595	261.5	1	8.812	-0.004	4142123	255.4
Aroclor-1254	2	8.735	-0.001	1720169	286.0	2	8.903	-0.004	2237594	283.1
Aroclor-1254	3	9.033	-0.002	2981119	270.5	3	9.478	-0.005	6466571	249.4
Aroclor-1254	4	9.170	-0.001	5927620	255.2	4	9.735	-0.006	6674107	256.9
Aroclor-1254	5	9.521	-0.001	6135314	258.3	5	10.493	-0.005	4906816	252.6
	Total Col1Ave (5 peaks):				266.3	Total Col2Ave (5 peaks):				259.5 RPD = 3
	Corrected Ave (4 peaks):				261.4	Corrected Ave (4 peaks):				253.5 RPD = 3
Aroclor-1260	1	10.444	-0.004	282919	20.2	1	10.587	-0.013	356373	24.3
Aroclor-1260	2	10.765	-0.002	300377	22.3	2	11.027	-0.017	1672794	104.6
Aroclor-1260	3	11.138	-0.002	628215	19.2	3	11.311	-0.010	1057899	30.1
Aroclor-1260	4	11.539	-0.003	605486	39.7	4	11.883	-0.012	656098	27.6
Aroclor-1260	5	11.656	-0.004	24114	3.2	NS	---			----
	Total Col1Ave (5 peaks):				20.9	Total Col2Ave (4 peaks):				46.6 RPD = 76*
	Corrected Ave (4 peaks):				16.2	Corrected Ave (3 peaks):				27.3 RPD = 51*
Aroclor-1262	1	10.444	-0.003	282919	14.1	1	10.587	-0.009	356373	18.1
Aroclor-1262	2	11.138	-0.000	628215	16.9	2	11.027	-0.014	1672794	90.2
Aroclor-1262	3	11.539	-0.002	605486	52.6	3	11.311	-0.005	1057899	28.0
Aroclor-1262	4	11.656	-0.002	24114	1.7	4	11.830	-0.003	76430	4.9
	Total Col1Ave (4 peaks):				21.3	Total Col2Ave (4 peaks):				35.3 RPD = 49*
	Corrected Ave (3 peaks):				10.9	Corrected Ave (3 peaks):				17.0 RPD = 44*
Aroclor-1268	1	11.656	-0.003	24114	0.5	1	11.830	-0.001	76430	1.8
Aroclor-1268	2	11.730	0.002	28044	0.7	2	11.883	-0.014	656098	14.8
Aroclor-1268	3	12.129	0.013	22568	0.7	3	---			0.0
Aroclor-1268	4	12.893	-0.011	52575	0.5	4	13.203	0.096	171416	1.6
	Total Col1Ave (4 peaks):				0.6	Total Col2Ave (3 peaks):				6.0 RPD = 163*
	Corrected Ave (3 peaks):				0.6	Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 59050043 Col1 Total PCB = 0.3 ppm*

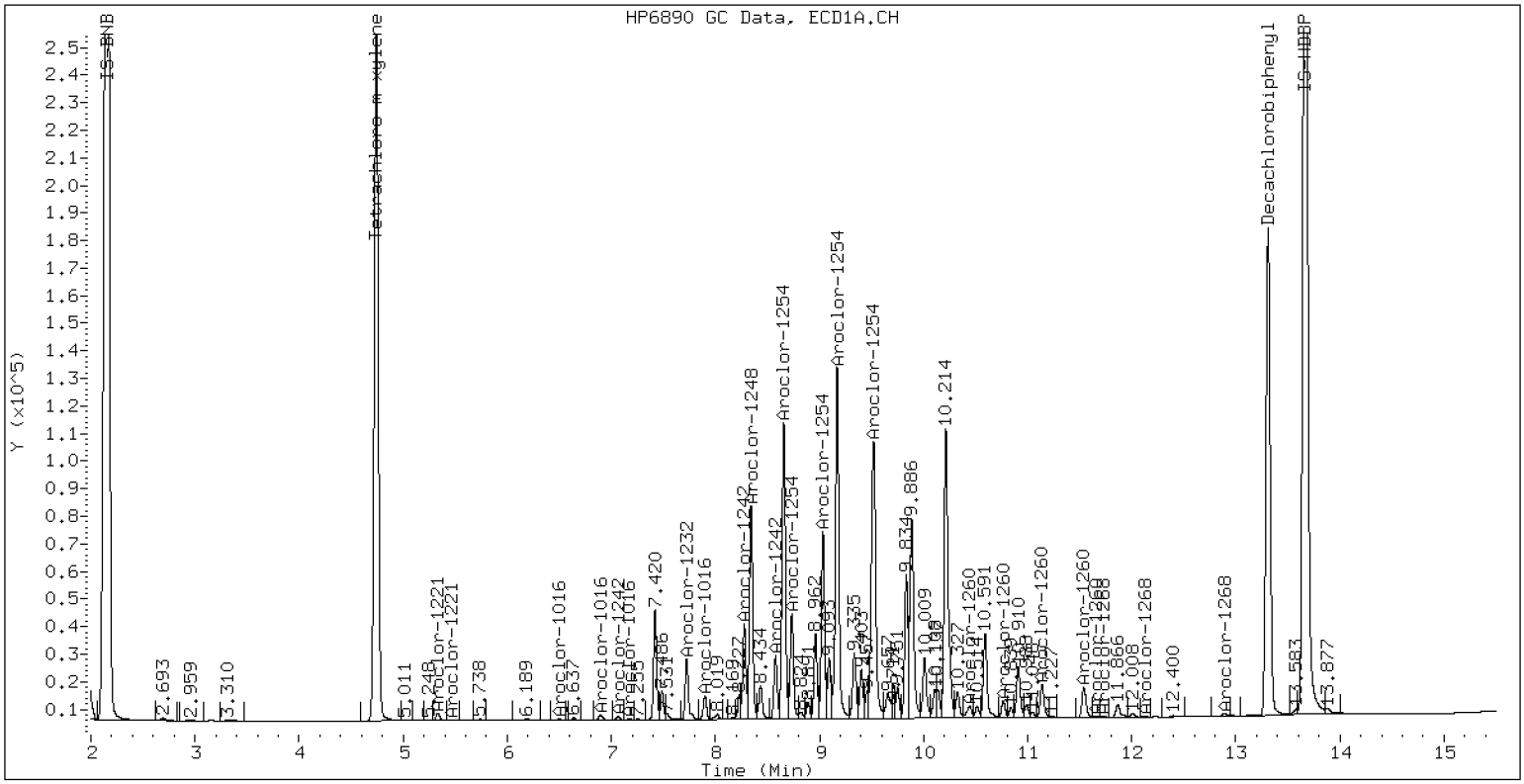
Total PCB Area Col2 (4.843 - 13.212) = 64437574 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

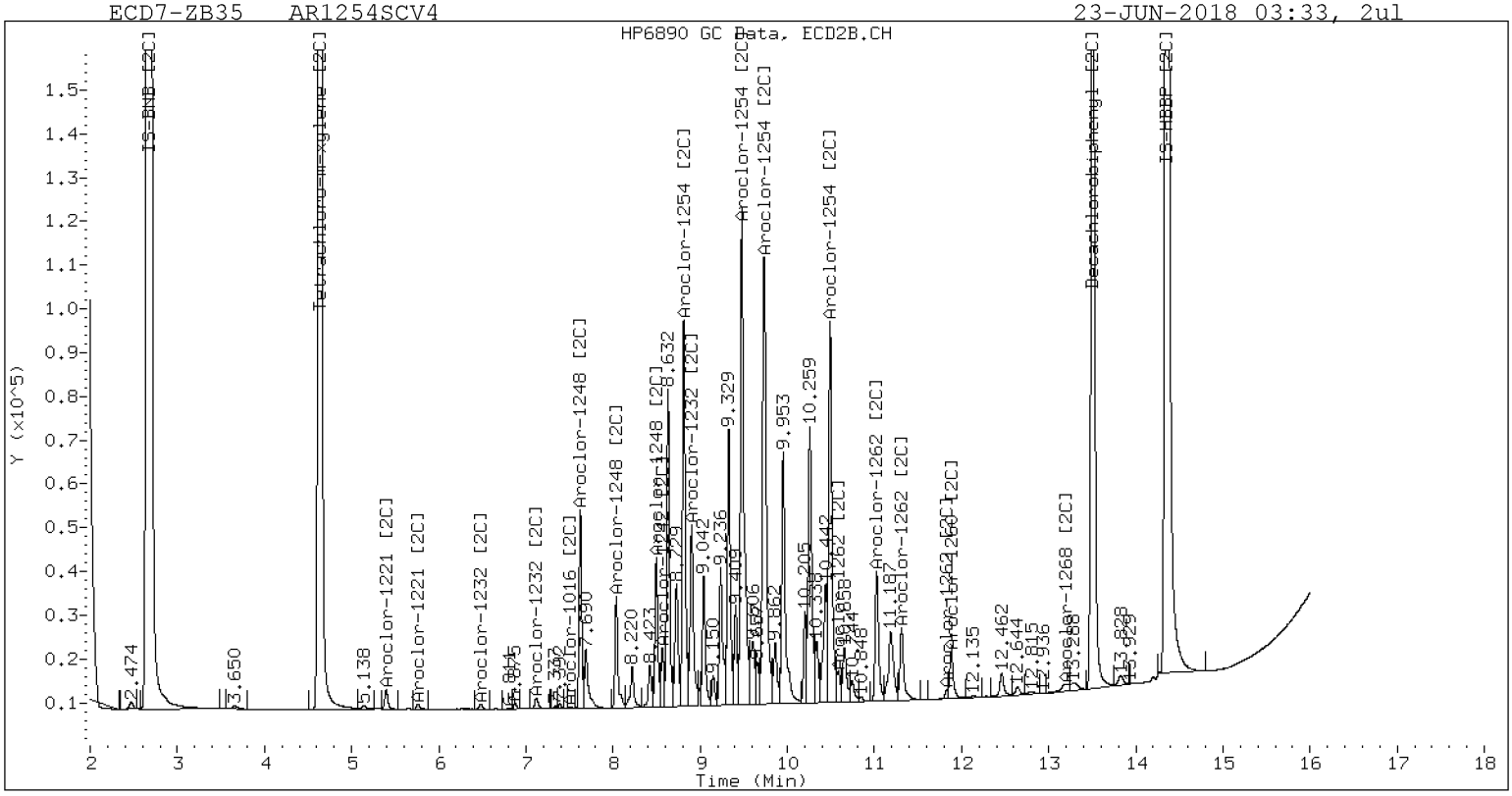
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062232.D
Data file 2: /20180622.b/20180622.b/18062232.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 23-JUN-2018 03:55
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.001	14301381	4.635	-0.005	21362263	43.6	43.9	0.8	Tetrachloro-m-xylene
13.309	-0.003	9903292	13.506	-0.005	11031423	37.9	37.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	109.0	109.9
Decachlorobiphenyl	94.8	93.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28352322	10.2
Hexabromobiphenyl	22585647	24612870	9.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	45786011	14.9
Hexabromobiphenyl	22087957	25429054	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	186571	24.7	1	6.494	0.004	764918	47.1
Aroclor-1016	2	6.906	-0.002	533580	21.1	2	7.126	-0.008	745418	23.8
Aroclor-1016	3	7.172	-0.002	149730	22.2	3	7.510	-0.008	191417	25.4
Aroclor-1016	4	7.899	-0.003	99041	12.6	4	8.037	-0.008	240493	26.4
	Total Col1Ave (4 peaks):				20.1	Total Col2Ave (4 peaks):				30.7 RPD = 41*
	Corrected Ave (3 peaks):				18.6	Corrected Ave (3 peaks):				25.2 RPD = 30
Aroclor-1221	1	3.554	-0.001	570864	257.9	1	3.823	-0.003	946759	256.0
Aroclor-1221	2	5.355	-0.002	668592	259.0	2	5.381	-0.005	1504081	263.8
Aroclor-1221	3	5.466	-0.002	2015761	257.8	3	5.758	-0.005	2543924	261.8
	Total Col1Ave (3 peaks):				258.2	Total Col2Ave (3 peaks):				260.5 RPD = 1
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.554	-0.002	570864	424.7	1	3.823	-0.004	946759	427.6
Aroclor-1232	2	6.493	-0.002	186571	56.5	2	6.494	0.008	764918	99.4
Aroclor-1232	3	6.906	-0.000	533580	48.0	3	7.126	-0.004	745418	55.3
Aroclor-1232	4	7.724	-0.002	106270	29.1	4	8.908	-0.010	228702	46.1
	Total Col1Ave (4 peaks):				139.6	Total Col2Ave (4 peaks):				157.1 RPD = 12
	Corrected Ave (3 peaks):				44.6	Corrected Ave (3 peaks):				66.9 RPD = 40*
Aroclor-1242	1	6.493	-0.004	186571	30.7	1	6.494	0.005	764918	60.4
Aroclor-1242	2	7.058	-0.003	245503	30.5	2	7.126	-0.007	745418	30.6
Aroclor-1242	3	8.278	-0.002	130137	19.0	3	8.569	-0.008	110020	14.7
Aroclor-1242	4	8.576	0.001	139247	19.3	4	8.908	-0.014	228702	26.4
	Total Col1Ave (4 peaks):				24.9	Total Col2Ave (4 peaks):				33.1 RPD = 28
	Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				23.9 RPD = 4
Aroclor-1248	1	6.906	0.005	533580	43.6	1	7.624	-0.007	191796	18.2
Aroclor-1248	2	7.724	-0.002	106270	10.7	2	8.037	-0.005	240493	21.7
Aroclor-1248	3	8.343	0.008	607663	41.2	3	8.497	-0.006	152085	12.7
Aroclor-1248	4	8.576	0.003	139247	12.6	4	8.908	-0.011	228702	16.4
	Total Col1Ave (4 peaks):				27.0	Total Col2Ave (4 peaks):				17.2 RPD = 44*
	Corrected Ave (3 peaks):				21.5	Corrected Ave (3 peaks):				15.8 RPD = 31
Aroclor-1254	1	8.659	-0.001	672600	35.3	1	8.811	-0.005	755572	47.7
Aroclor-1254	2	8.734	-0.002	90190	14.9	2	8.908	0.000	228702	29.7
Aroclor-1254	3	9.034	-0.001	133157	12.0	3	9.518	0.035	2949013	116.5
Aroclor-1254	4	9.139	-0.033	895787	38.4	4	9.742	0.002	3608952	142.3
Aroclor-1254	5	9.504	-0.018	3481042	146.0	5	10.490	-0.007	2268427	119.6
	Total Col1Ave (5 peaks):				49.3	Total Col2Ave (5 peaks):				91.2 RPD = 60*
	Corrected Ave (4 peaks):				25.2	Corrected Ave (4 peaks):				78.4 RPD = 103*
Aroclor-1260	1	10.444	-0.004	5454901	391.4	1	10.588	-0.011	5409700	369.2
Aroclor-1260	2	10.763	-0.004	4433030	330.7	2	11.033	-0.010	5135853	321.1
Aroclor-1260	3	11.136	-0.004	10110565	310.6	3	11.310	-0.011	10409494	295.8
Aroclor-1260	4	11.539	-0.003	3121815	205.8	4	11.886	-0.008	7250232	304.7
Aroclor-1260	5	11.655	-0.004	4003542	533.9	NS	---			----
	Total Col1Ave (5 peaks):				354.5	Total Col2Ave (4 peaks):				322.7 RPD = 9
	Corrected Ave (4 peaks):				309.7	Corrected Ave (3 peaks):				307.2 RPD = 1
Aroclor-1262	1	10.444	-0.003	5454901	273.2	1	10.588	-0.008	5409700	275.0
Aroclor-1262	2	11.136	-0.002	10110565	272.8	2	11.033	-0.007	5135853	276.7
Aroclor-1262	3	11.539	-0.002	3121815	272.5	3	11.310	-0.007	10409494	275.2
Aroclor-1262	4	11.655	-0.002	4003542	276.1	4	11.825	-0.007	4301114	273.4
	Total Col1Ave (4 peaks):				273.6	Total Col2Ave (4 peaks):				275.1 RPD = 1
	Corrected Ave (3 peaks):				272.8	Corrected Ave (3 peaks):				274.5 RPD = 1
Aroclor-1268	1	11.655	-0.003	4003542	90.8	1	11.825	-0.006	4301114	99.4
Aroclor-1268	2	11.729	0.001	4085195	101.6	2	11.886	-0.010	7250232	163.5
Aroclor-1268	3	12.129	0.013	1507238	45.4	3	12.282	-0.005	291515	8.3
Aroclor-1268	4	12.902	-0.002	1160147	11.7	4	13.100	-0.006	1463948	13.4
	Total Col1Ave (4 peaks):				62.4	Total Col2Ave (4 peaks):				71.2 RPD = 13

Corrected Ave (3 peaks): 49.3 Corrected Ave (3 peaks): 40.4 RPD = 20

Total PCB Area Col1 (4.843 - 13.212) = 74940188 Col1 Total PCB = 0.4 ppm*

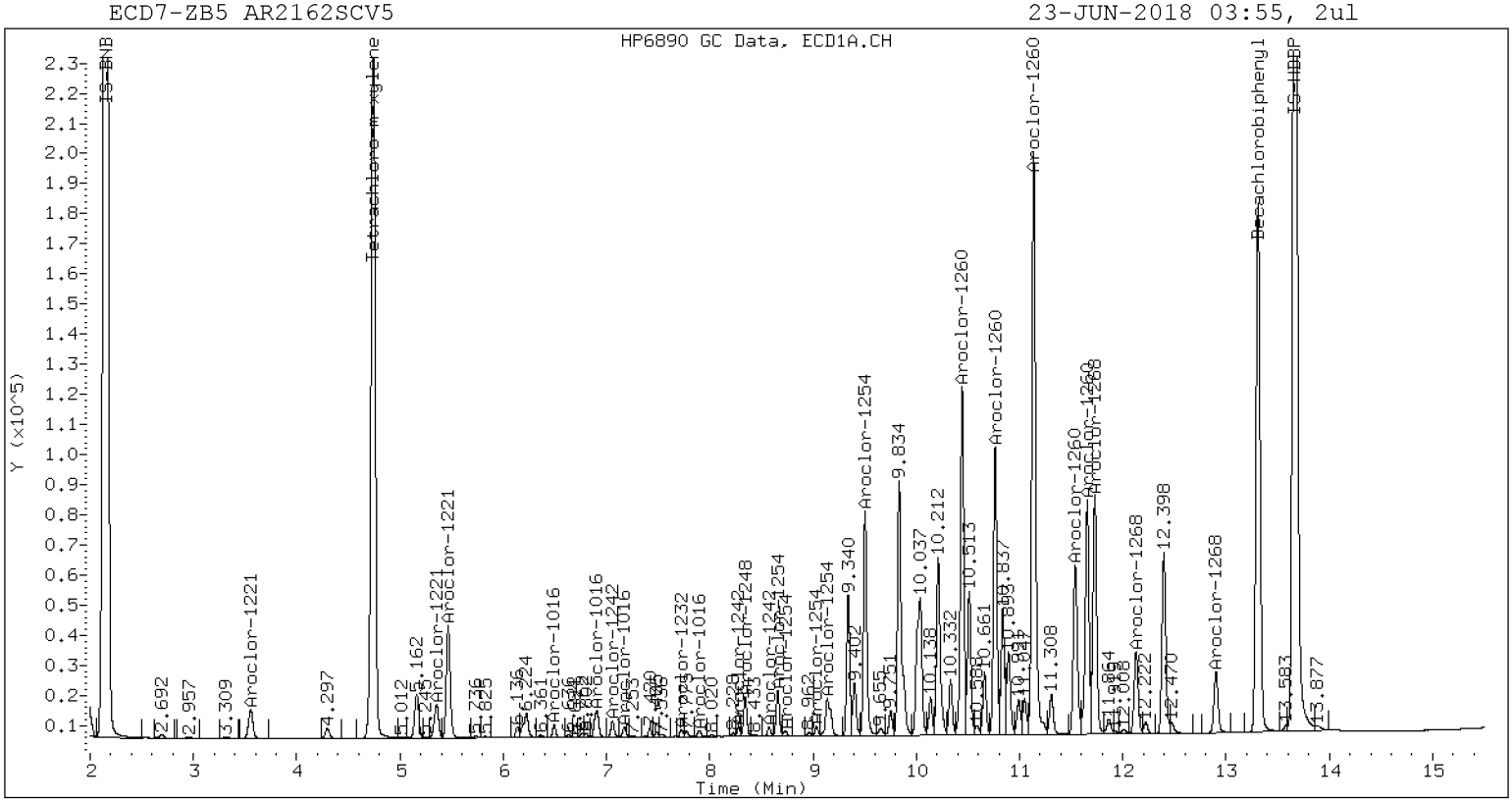
Total PCB Area Col2 (4.843 - 13.212) = 82544545 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

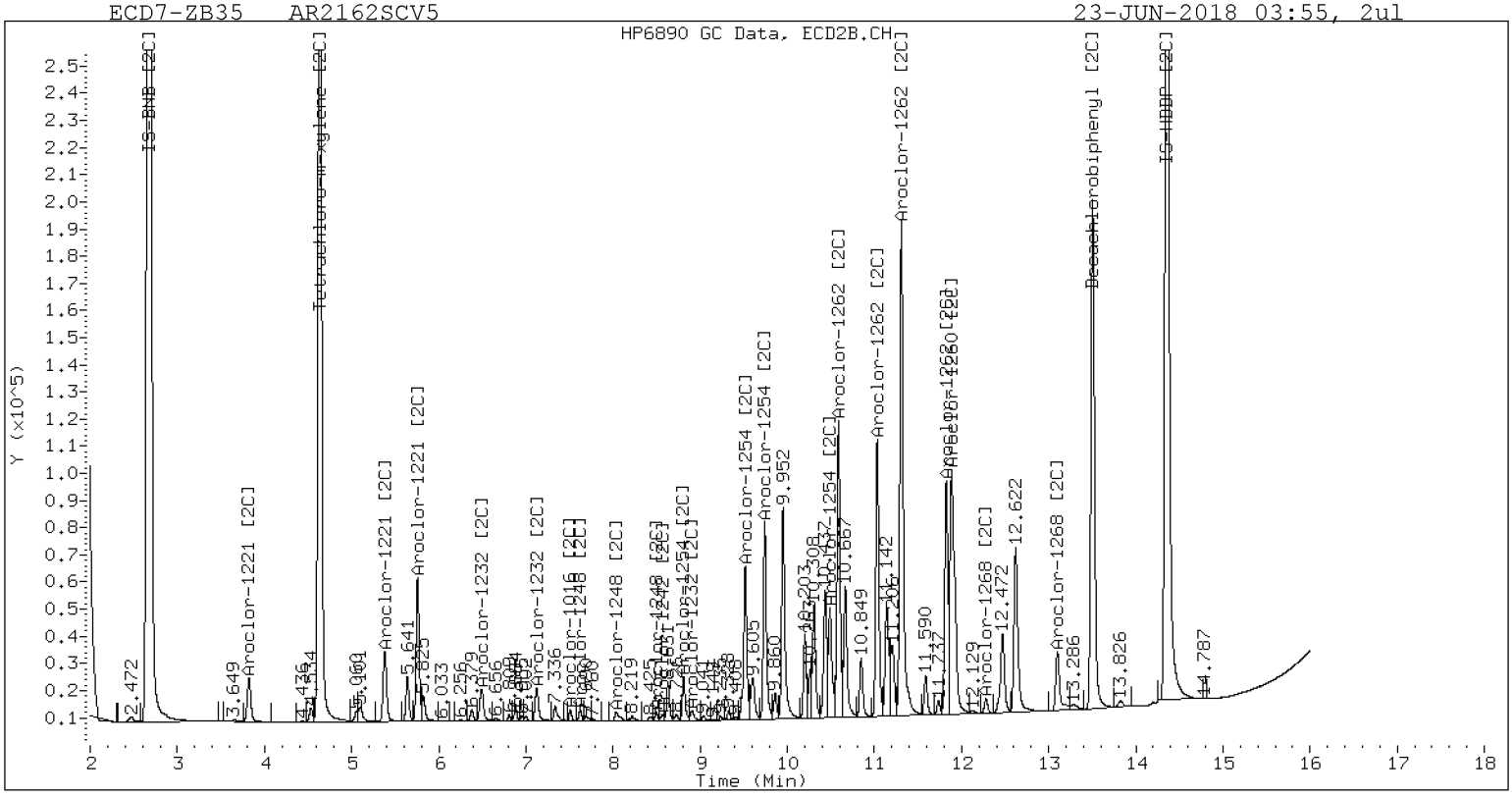
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062233.D
Data file 2: /20180622.b/20180622.b/18062233.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 23-JUN-2018 04:17
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.002	14345375	4.634	-0.005	21590451	43.0	42.9	0.3	Tetrachloro-m-xylene
13.309	-0.002	13856672	13.503	-0.008	15457031	52.2	51.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.6	107.3
Decachlorobiphenyl	130.5	128.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28808016	12.0
Hexabromobiphenyl	22585647	25026377	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47376069	18.9
Hexabromobiphenyl	22087957	25894541	17.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	917688	119.5	1	6.480	-0.010	2161604	128.7
Aroclor-1016	2	6.905	-0.003	2775773	108.1	2	7.123	-0.010	3737561	115.4
Aroclor-1016	3	7.172	-0.003	807157	117.8	3	7.509	-0.009	964403	123.5
Aroclor-1016	4	7.899	-0.003	967455	120.9	4	8.035	-0.010	1162650	123.5
Total Col1Ave (4 peaks):		116.6				Total Col2Ave (4 peaks):			122.8	RPD = 5
Corrected Ave (3 peaks):		115.1				Corrected Ave (3 peaks):			120.8	RPD = 5
Aroclor-1221	1	3.555	-0.001	329614	146.5	1	3.822	-0.004	549814	143.7
Aroclor-1221	2	5.353	-0.003	497244	189.6	2	5.381	-0.005	996532	168.9
Aroclor-1221	3	5.466	-0.002	1568890	197.5	3	5.757	-0.005	2001084	199.0
Total Col1Ave (3 peaks):		177.9				Total Col2Ave (3 peaks):			170.5	RPD = 4
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.555	-0.002	329614	241.3	1	3.822	-0.005	549814	240.0
Aroclor-1232	2	6.493	-0.002	917688	273.6	2	6.480	-0.006	2161604	271.4
Aroclor-1232	3	6.905	-0.001	2775773	246.0	3	7.123	-0.006	3737561	268.1
Aroclor-1232	4	7.723	-0.002	826941	223.1	4	8.912	-0.005	1132314	220.6
Total Col1Ave (4 peaks):		246.0				Total Col2Ave (4 peaks):			250.0	RPD = 2
Corrected Ave (3 peaks):		236.8				Corrected Ave (3 peaks):			242.9	RPD = 3
Aroclor-1242	1	6.493	-0.004	917688	148.5	1	6.480	-0.009	2161604	165.0
Aroclor-1242	2	7.058	-0.004	1191681	145.9	2	7.123	-0.009	3737561	148.4
Aroclor-1242	3	8.277	-0.003	870335	124.9	3	8.568	-0.009	1018107	131.9
Aroclor-1242	4	8.572	-0.003	892785	121.6	4	8.912	-0.009	1132314	126.4
Total Col1Ave (4 peaks):		135.2				Total Col2Ave (4 peaks):			142.9	RPD = 6
Corrected Ave (3 peaks):		130.8				Corrected Ave (3 peaks):			135.6	RPD = 4
Aroclor-1248	1	6.905	0.004	2775773	223.4	1	7.624	-0.007	999028	91.4
Aroclor-1248	2	7.723	-0.002	826941	82.2	2	8.035	-0.007	1162650	101.3
Aroclor-1248	3	8.332	-0.002	1096577	73.1	3	8.495	-0.008	997628	80.3
Aroclor-1248	4	8.572	-0.001	892785	79.6	4	8.912	-0.006	1132314	78.6
Total Col1Ave (4 peaks):		114.6				Total Col2Ave (4 peaks):			87.9	RPD = 26
Corrected Ave (3 peaks):		78.3				Corrected Ave (3 peaks):			83.4	RPD = 6
Aroclor-1254	1	8.656	-0.004	351670	18.2	1	8.809	-0.007	261143	15.9
Aroclor-1254	2	8.734	-0.001	157695	25.7	2	8.912	0.005	1132314	141.9
Aroclor-1254	3	9.034	-0.000	172901	15.4	3	9.475	-0.008	446003	17.0
Aroclor-1254	4	9.171	-0.000	350767	14.8	4	9.736	-0.004	359169	13.7
Aroclor-1254	5	9.523	0.002	296454	12.2	5	10.490	-0.008	97906	5.0
Total Col1Ave (5 peaks):		17.3				Total Col2Ave (5 peaks):			38.7	RPD = 77*
Corrected Ave (4 peaks):		15.2				Corrected Ave (4 peaks):			12.9	RPD = 16
Aroclor-1260	1	10.445	-0.003	2768640	195.4	1	10.587	-0.012	2878433	192.9
Aroclor-1260	2	10.763	-0.004	247620	18.2	2	11.032	-0.011	3297997	202.5
Aroclor-1260	3	11.136	-0.004	1730504	52.3	3	11.308	-0.013	1904555	53.2
Aroclor-1260	4	11.540	-0.002	51646	3.3	4	11.890	-0.005	13172401	543.6
Aroclor-1260	5	11.655	-0.004	11789428	1546.1	NS	---			----
Total Col1Ave (5 peaks):		363.1				Total Col2Ave (4 peaks):			248.0	RPD = 38
Corrected Ave (4 peaks):		67.3				Corrected Ave (3 peaks):			149.5	RPD = 76*
Aroclor-1262	1	10.445	-0.002	2768640	136.4	1	10.587	-0.009	2878433	143.7
Aroclor-1262	2	11.136	-0.002	1730504	45.9	2	11.032	-0.008	3297997	174.5
Aroclor-1262	3	11.540	-0.001	51646	4.4	3	11.308	-0.008	1904555	49.4
Aroclor-1262	4	11.655	-0.002	11789428	799.5	4	11.824	-0.009	11625381	725.8
Total Col1Ave (4 peaks):		246.6				Total Col2Ave (4 peaks):			273.4	RPD = 10
Corrected Ave (3 peaks):		62.2				Corrected Ave (3 peaks):			122.6	RPD = 65*
Aroclor-1268	1	11.655	-0.003	11789428	262.9	1	11.824	-0.008	11625381	263.8
Aroclor-1268	2	11.727	-0.001	11881947	290.7	2	11.890	-0.007	13172401	291.8
Aroclor-1268	3	12.115	-0.002	7926179	235.0	3	12.280	-0.007	8448823	235.6
Aroclor-1268	4	12.901	-0.003	22145205	220.4	4	13.098	-0.008	24536256	220.7
Total Col1Ave (4 peaks):		252.3				Total Col2Ave (4 peaks):			253.0	RPD = 0

Corrected Ave (3 peaks): 239.5 Corrected Ave (3 peaks): 240.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 92214681 Col1 Total PCB = 0.5 ppm*

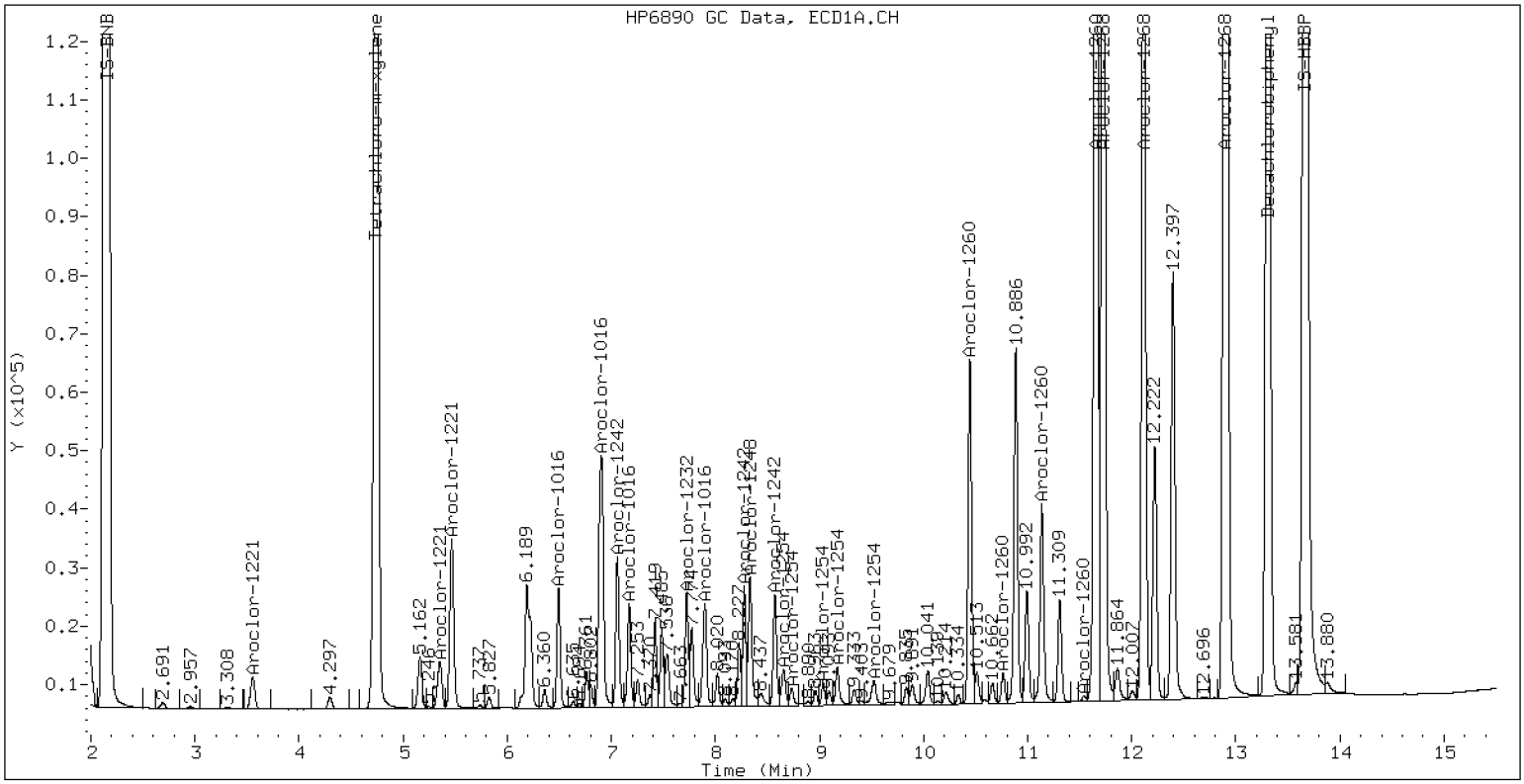
Total PCB Area Col2 (4.843 - 13.212) = 104791358 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

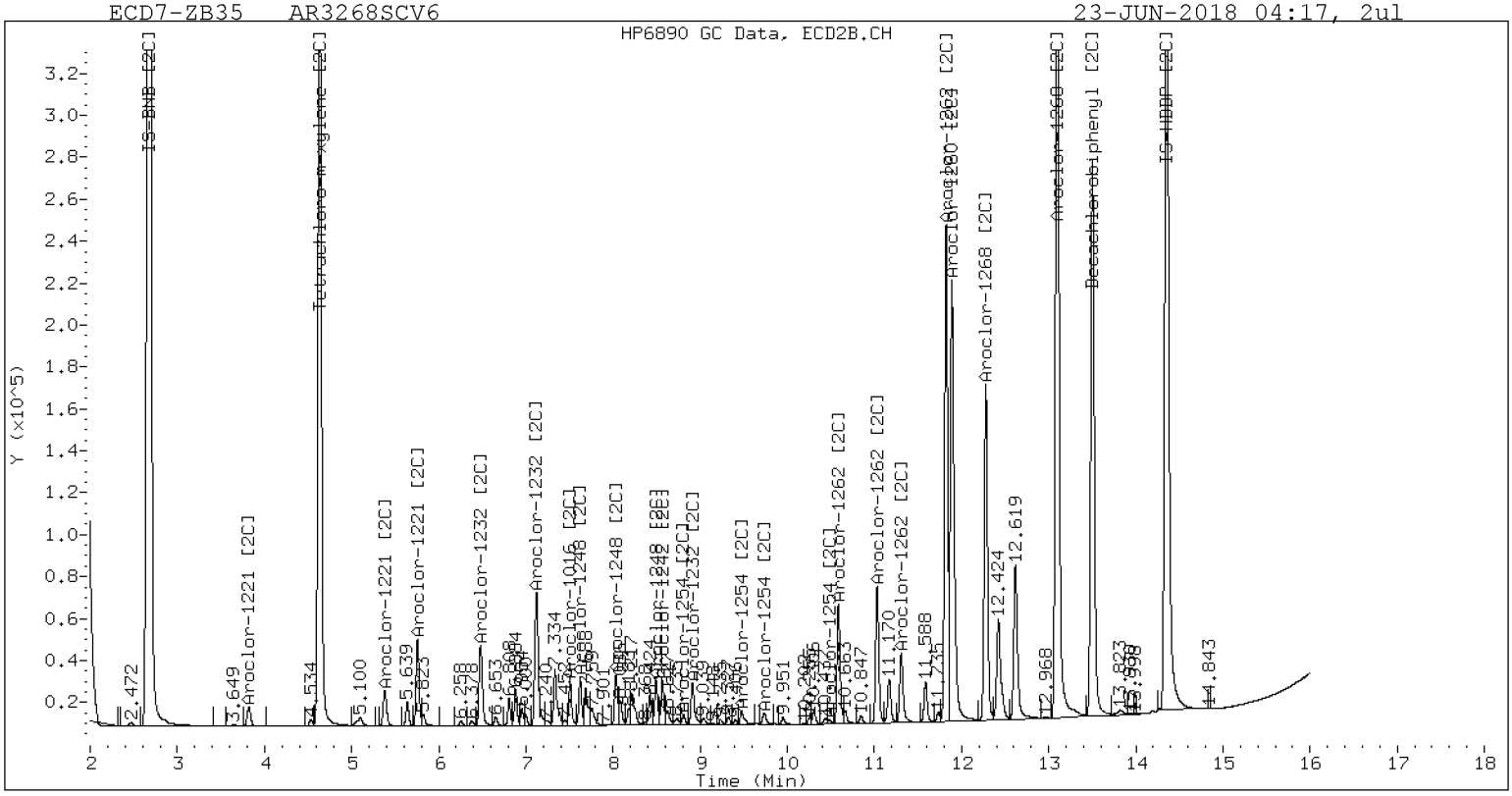
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20180622.b/18062234.D ARI ID: 0.1PPMDDTS

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
8.625	0.000	24206745	0.000	-9.282	0	0.100	0.000	----	2,4-DDE
9.687	0.000	28126634	0.000	-10.010	0	0.100	0.000#	----	2,4-DDT
9.059	0.000	40346468	0.000	-9.575	0	0.100	0.000	----	4,4-DDE
9.636	0.000	32966910	0.000	-10.010	0	0.100	0.000#	----	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20180622.b/18062235.D ARI ID: DDT BD

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
8.658	0.033	32451	9.284	0.001	352385	0.000	0.001	141.7*	2,4-DDE
9.638	-0.049	173837	10.057	0.047	1016566	0.001	0.009#	173.4*	2,4-DDT
9.062	0.002	274821	9.582	0.007	9797	0.001	0.000	178.5*	4,4-DDE
9.687	0.051	174813	10.057	0.047	1016566	0.001	0.009#	177.0*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV1
Sequence: SGG0057
Sequence Name: AR1660SCV1
Standard ID: G003406

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	269	7.5	20.00
Aroclor 1016 [2C]	250.00	260	4.0	20.00
Aroclor 1260	250.00	276	10.3	20.00
Aroclor 1260 [2C]	250.00	271	8.4	20.00
Decachlorobiphenyl	40.000	40.0	-0.06	20.00
Tetrachlorometaxylene	40.000	42.7	6.8	20.00
Decachlorobiphenyl [2C]	40.000	39.3	-1.8	20.00
Tetrachlorometaxylene [2C]	40.000	42.0	4.9	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062228.D
Data file 2: /20180622.b/20180622.b/18062228.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 23-JUN-2018 02:27
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.739	-0.003	14049135	4.636	-0.004	20582507	42.7	42.0	1.8	Tetrachloro-m-xylene
13.311	-0.000	10358667	13.511	-0.000	11307994	40.0	39.3	1.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.8	104.9
Decachlorobiphenyl	99.9	98.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28418174	10.4
Hexabromobiphenyl	22585647	24424270	8.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46199350	16.0
Hexabromobiphenyl	22087957	24801137	12.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.494	-0.003	1967112	259.6	1	6.483	-0.006	4163042	254.2
Aroclor-1016	2	6.904	-0.003	6653598	262.6	2	7.127	-0.006	8236931	260.8
Aroclor-1016	3	7.172	-0.002	1756416	259.9	3	7.513	-0.005	1989799	261.3
Aroclor-1016	4	7.901	-0.002	2315380	293.3	4	8.039	-0.006	2418947	263.6
Total Col1Ave (4 peaks):		268.9				Total Col2Ave (4 peaks):		260.0	RPD = 3	
Corrected Ave (3 peaks):		260.7				Corrected Ave (3 peaks):		258.8	RPD = 1	
Aroclor-1221	1	3.552	-0.004	16093	7.3	1	3.823	-0.003	30734	8.2
Aroclor-1221	2	5.351	-0.006	417252	161.2	2	5.387	0.002	620114	107.8
Aroclor-1221	3	5.465	-0.003	1434753	183.1	3	5.760	-0.002	1953074	199.2
Total Col1Ave (3 peaks):		117.2				Total Col2Ave (3 peaks):		105.1	RPD = 11	
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.552	-0.005	16093	11.9	1	3.823	-0.004	30734	13.8
Aroclor-1232	2	6.494	-0.002	1967112	594.6	2	6.483	-0.002	4163042	536.0
Aroclor-1232	3	6.904	-0.002	6653598	597.7	3	7.127	-0.002	8236931	605.9
Aroclor-1232	4	7.724	-0.001	1921587	525.5	4	8.914	-0.003	158992	31.8
Total Col1Ave (4 peaks):		432.4				Total Col2Ave (4 peaks):		296.8	RPD = 37	
Corrected Ave (3 peaks):		377.3				Corrected Ave (3 peaks):		193.8	RPD = 64*	
Aroclor-1242	1	6.494	-0.003	1967112	322.8	1	6.483	-0.006	4163042	325.9
Aroclor-1242	2	7.059	-0.003	2602995	323.0	2	7.127	-0.005	8236931	335.4
Aroclor-1242	3	8.278	-0.003	367910	53.5	3	8.571	-0.006	321723	42.7
Aroclor-1242	4	8.578	0.004	200494	27.7	4	8.914	-0.008	158992	18.2
Total Col1Ave (4 peaks):		181.7				Total Col2Ave (4 peaks):		180.6	RPD = 1	
Corrected Ave (3 peaks):		134.7				Corrected Ave (3 peaks):		129.0	RPD = 4	
Aroclor-1248	1	6.904	0.003	6653598	542.8	1	7.628	-0.003	2237332	209.9
Aroclor-1248	2	7.724	-0.001	1921587	193.5	2	8.039	-0.003	2418947	216.1
Aroclor-1248	3	8.343	0.009	1431679	96.7	3	8.499	-0.003	464071	38.3
Aroclor-1248	4	8.578	0.005	200494	18.1	4	8.914	-0.004	158992	11.3
Total Col1Ave (4 peaks):		212.8				Total Col2Ave (4 peaks):		118.9	RPD = 57*	
Corrected Ave (3 peaks):		102.8				Corrected Ave (3 peaks):		86.5	RPD = 17	
Aroclor-1254	1	8.660	0.000	1339788	70.2	1	8.814	-0.002	1432152	89.7
Aroclor-1254	2	---			0.0	2	8.914	0.007	158992	20.4
Aroclor-1254	3	9.034	-0.001	163991	14.8	3	9.522	0.039	3285355	128.7
Aroclor-1254	4	9.167	-0.004	551685	23.6	4	9.746	0.006	4394093	171.8
Aroclor-1254	5	9.505	-0.016	4381536	183.3	5	10.495	-0.003	4286678	224.1
Total Col1Ave (4 peaks):		73.0				Total Col2Ave (5 peaks):		126.9	RPD = 54*	
Corrected Ave (3 peaks):		36.2				Corrected Ave (4 peaks):		102.6	RPD = 96*	
Aroclor-1260	1	10.446	-0.001	3815996	275.9	1	10.593	-0.007	3824892	267.6
Aroclor-1260	2	10.766	-0.002	3744227	281.5	2	11.038	-0.006	4186833	268.4
Aroclor-1260	3	11.139	-0.001	9079399	281.1	3	11.315	-0.007	9483430	276.3
Aroclor-1260	4	11.541	-0.002	4279158	284.3	4	11.887	-0.007	6306563	271.7
Aroclor-1260	5	11.657	-0.002	1908325	256.4	NS	---			----
Total Col1Ave (5 peaks):		275.9				Total Col2Ave (4 peaks):		271.0	RPD = 2	
Corrected Ave (4 peaks):		273.7				Corrected Ave (3 peaks):		269.2	RPD = 2	
Aroclor-1262	1	10.446	-0.000	3815996	192.6	1	10.593	-0.003	3824892	199.4
Aroclor-1262	2	11.139	0.001	9079399	246.8	2	11.038	-0.003	4186833	231.3
Aroclor-1262	3	11.541	-0.000	4279158	376.4	3	11.315	-0.002	9483430	257.0
Aroclor-1262	4	11.657	0.000	1908325	132.6	4	11.830	-0.003	2322250	151.4
Total Col1Ave (4 peaks):		237.1				Total Col2Ave (4 peaks):		209.8	RPD = 12	
Corrected Ave (3 peaks):		190.7				Corrected Ave (3 peaks):		194.0	RPD = 2	
Aroclor-1268	1	11.657	-0.001	1908325	43.6	1	11.830	-0.001	2322250	55.0
Aroclor-1268	2	11.731	0.003	2284706	57.3	2	11.887	-0.009	6306563	145.9
Aroclor-1268	3	12.133	0.017	958869	29.1	3	12.287	0.000	82617	2.4
Aroclor-1268	4	12.904	-0.001	452755	4.6	4	13.107	0.001	459069	4.3
Total Col1Ave (4 peaks):		33.7				Total Col2Ave (4 peaks):		51.9	RPD = 43*	

Corrected Ave (3 peaks): 25.8 Corrected Ave (3 peaks): 20.6 RPD = 22

Total PCB Area Col1 (4.843 - 13.212) = 99226432 Col1 Total PCB = 0.5 ppm*

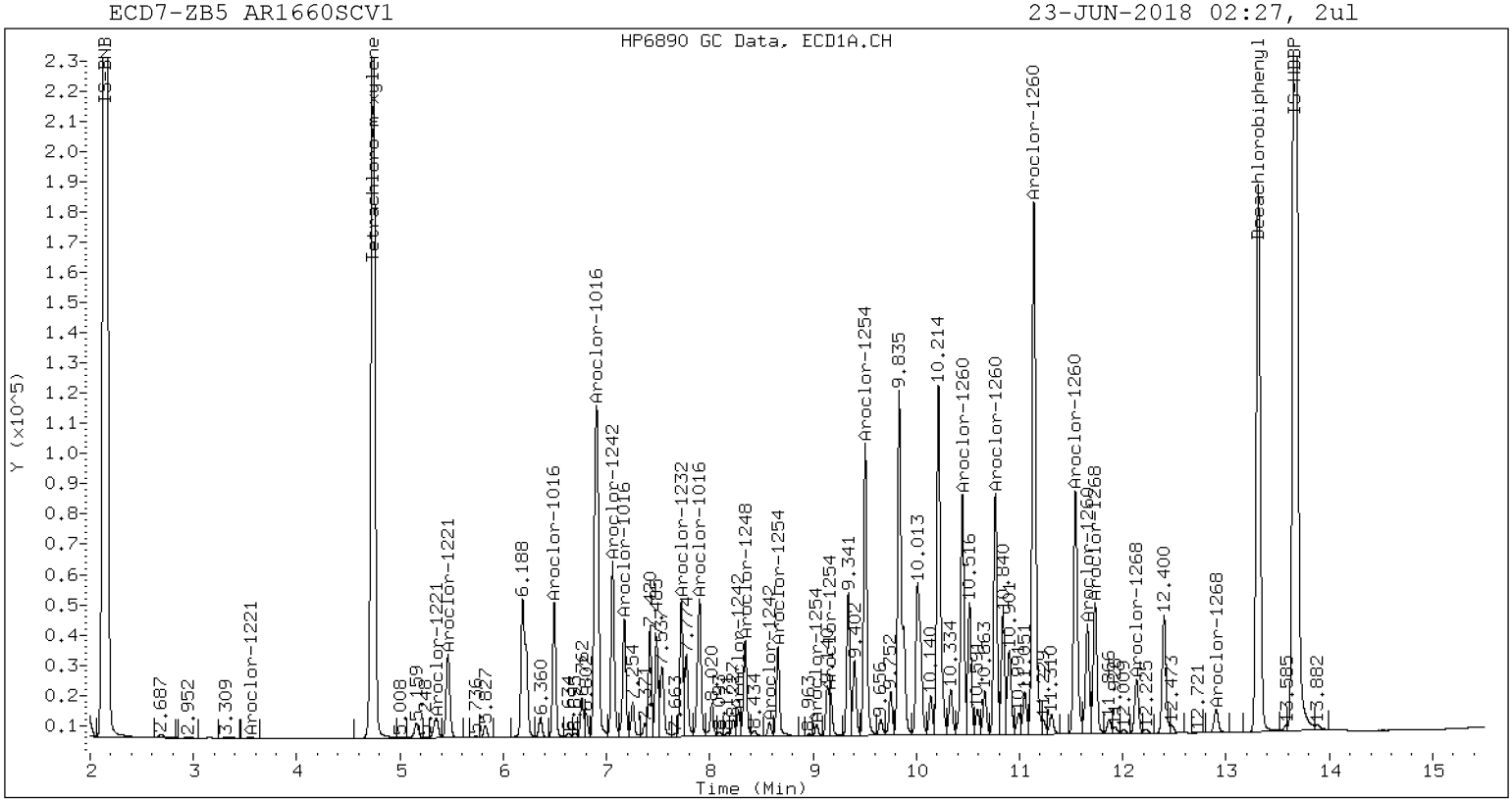
Total PCB Area Col2 (4.843 - 13.212) = 110201386 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

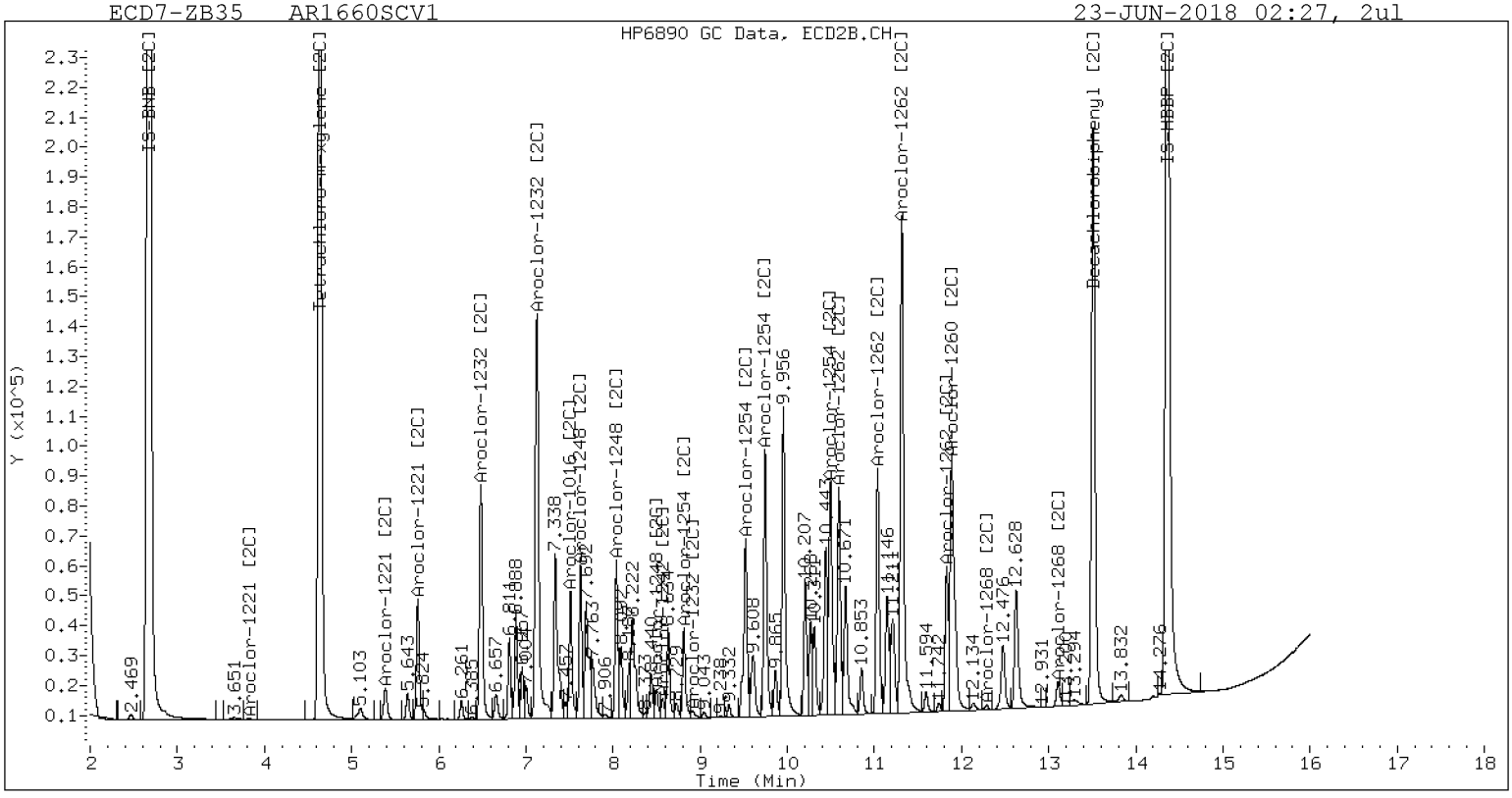
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV2
Sequence: SGG0057
Sequence Name: AR1242SCV2
Standard ID: G003409

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	245	-2.2	20.00
Aroclor 1242 [2C]	250.00	245	-1.8	20.00
Decachlorobiphenyl	40.000	35.7	-10.8	20.00
Tetrachlorometaxylene	40.000	41.3	3.3	20.00
Decachlorobiphenyl [2C]	40.000	35.2	-12.1	20.00
Tetrachlorometaxylene [2C]	40.000	40.5	1.2	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062229.D
Data file 2: /20180622.b/20180622.b/18062229.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 23-JUN-2018 02:49
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.742	-0.001	13518454	4.638	-0.001	19961438	41.3	40.5	2.0	Tetrachloro-m-xylene
13.311	-0.001	9355334	13.511	-0.000	10264113	35.7	35.2	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	103.3	101.2
Decachlorobiphenyl	89.2	87.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28271451	9.9
Hexabromobiphenyl	22585647	24709108	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46425085	16.5
Hexabromobiphenyl	22087957	25130811	13.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	1529830	203.0	1	6.483	-0.006	3276115	199.1
Aroclor-1016	2	6.906	-0.002	4927126	195.5	2	7.128	-0.005	6172696	194.5
Aroclor-1016	3	7.172	-0.002	1358126	202.0	3	7.513	-0.005	1547639	202.2
Aroclor-1016	4	7.900	-0.003	1869028	238.0	4	8.039	-0.006	2019182	218.9
	Total Col1Ave (4 peaks):				209.6	Total Col2Ave (4 peaks):				203.7 RPD = 3
	Corrected Ave (3 peaks):				200.1	Corrected Ave (3 peaks):				198.6 RPD = 1
Aroclor-1221	1	3.556	-0.000	11516	5.2	1	3.825	-0.002	21644	5.8
Aroclor-1221	2	5.352	-0.005	339633	131.9	2	5.390	0.005	519612	89.9
Aroclor-1221	3	5.467	-0.001	1089482	139.7	3	5.761	-0.002	1503296	152.6
	Total Col1Ave (3 peaks):				92.3	Total Col2Ave (3 peaks):				82.7 RPD = 11
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.556	-0.001	11516	8.6	1	3.825	-0.003	21644	9.6
Aroclor-1232	2	6.495	-0.001	1529830	464.8	2	6.483	-0.002	3276115	419.7
Aroclor-1232	3	6.906	-0.000	4927126	444.9	3	7.128	-0.002	6172696	451.8
Aroclor-1232	4	7.725	-0.001	1544951	424.7	4	8.916	-0.001	2127100	422.9
	Total Col1Ave (4 peaks):				335.8	Total Col2Ave (4 peaks):				326.0 RPD = 3
	Corrected Ave (3 peaks):				292.7	Corrected Ave (3 peaks):				284.1 RPD = 3
Aroclor-1242	1	6.495	-0.002	1529830	252.3	1	6.483	-0.005	3276115	255.2
Aroclor-1242	2	7.059	-0.003	2017314	251.6	2	7.128	-0.005	6172696	250.1
Aroclor-1242	3	8.278	-0.002	1645992	240.6	3	8.572	-0.005	1769177	233.8
Aroclor-1242	4	8.572	-0.003	1684905	233.9	4	8.916	-0.006	2127100	242.3
	Total Col1Ave (4 peaks):				244.6	Total Col2Ave (4 peaks):				245.4 RPD = 0
	Corrected Ave (3 peaks):				242.1	Corrected Ave (3 peaks):				242.1 RPD = 0
Aroclor-1248	1	6.906	0.005	4927126	404.1	1	7.628	-0.003	1829869	170.9
Aroclor-1248	2	7.725	-0.001	1544951	156.4	2	8.039	-0.003	2019182	179.5
Aroclor-1248	3	8.333	-0.002	2156207	146.4	3	8.499	-0.003	1763648	144.9
Aroclor-1248	4	8.572	-0.001	1684905	153.1	4	8.916	-0.002	2127100	150.7
	Total Col1Ave (4 peaks):				215.0	Total Col2Ave (4 peaks):				161.5 RPD = 28
	Corrected Ave (3 peaks):				152.0	Corrected Ave (3 peaks):				155.5 RPD = 2
Aroclor-1254	1	8.657	-0.002	893015	47.1	1	8.814	-0.002	697764	43.5
Aroclor-1254	2	8.735	-0.001	399428	66.3	2	8.916	0.009	2127100	272.0
Aroclor-1254	3	9.034	-0.000	512955	46.5	3	9.480	-0.003	1147989	44.7
Aroclor-1254	4	9.171	-0.000	924765	39.8	4	9.737	-0.003	1012984	39.4
Aroclor-1254	5	9.526	0.004	751506	31.6	5	10.496	-0.002	342541	17.8
	Total Col1Ave (5 peaks):				46.3	Total Col2Ave (5 peaks):				83.5 RPD = 57*
	Corrected Ave (4 peaks):				41.2	Corrected Ave (4 peaks):				36.4 RPD = 13
Aroclor-1260	1	10.445	-0.003	17671	1.3	1	10.659	0.059	35256	2.4
Aroclor-1260	2	10.766	-0.001	14353	1.1	2	11.030	-0.014	99340	6.3
Aroclor-1260	3	11.140	-0.000	36890	1.1	3	11.316	-0.005	46386	1.3
Aroclor-1260	4	11.541	-0.001	31896	2.1	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Total Col1Ave (4 peaks):				1.4	Total Col2Ave (3 peaks):				3.4 RPD = 83*
	Corrected Ave (3 peaks):				1.2	Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.445	-0.002	17671	0.9	1	10.659	0.063	35256	1.8
Aroclor-1262	2	11.140	0.002	36890	1.0	2	11.030	-0.011	99340	5.4
Aroclor-1262	3	11.541	0.000	31896	2.8	3	11.316	-0.001	46386	1.2
Aroclor-1262	4	---			0.0	4	---			0.0
	Total Col1Ave (3 peaks):				1.5	Total Col2Ave (3 peaks):				2.8 RPD = 58*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.120	0.004	11056	0.3	3	---			0.0
Aroclor-1268	4	12.894	-0.010	61780	0.6	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 37725675 Col1 Total PCB = 0.2 ppm*

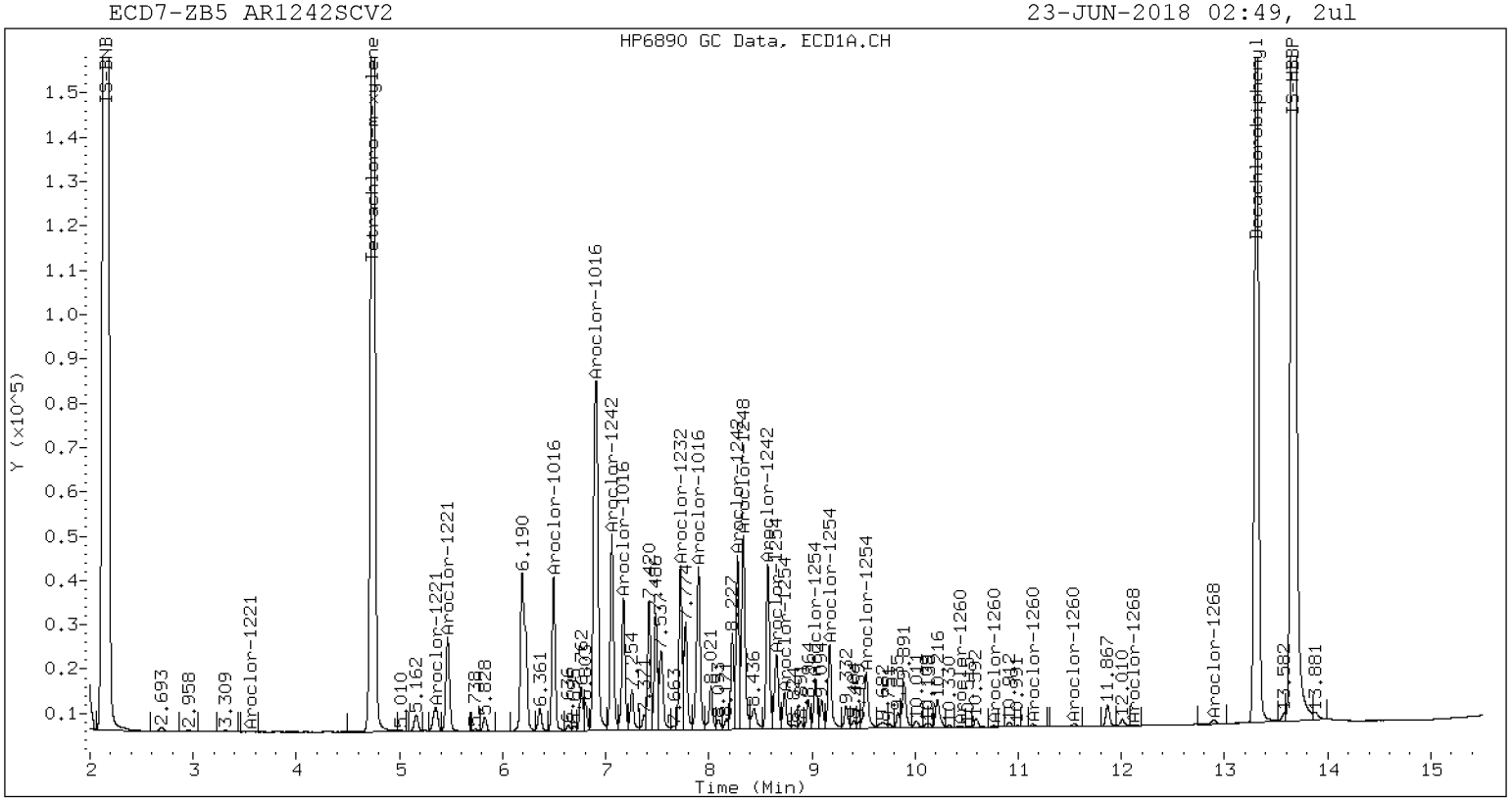
Total PCB Area Col2 (4.843 - 13.212) = 46287036 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

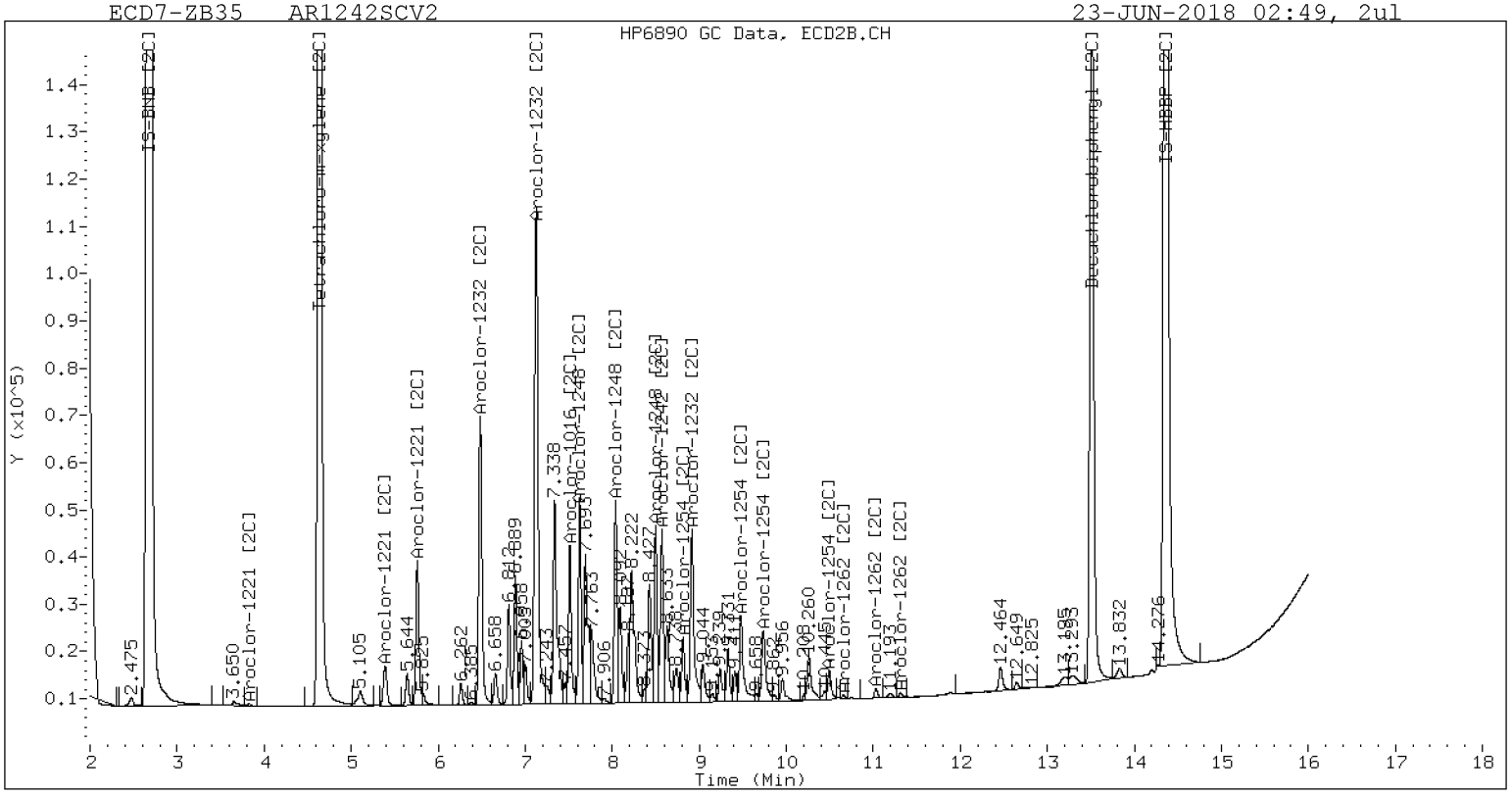
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV3
Sequence: SGG0057
Sequence Name: AR1248SCV3
Standard ID: G003410

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	266	6.4	20.00
Aroclor 1248 [2C]	250.00	265	5.8	20.00
Decachlorobiphenyl	40.000	38.2	-4.4	20.00
Tetrachlorometaxylene	40.000	42.7	6.7	20.00
Decachlorobiphenyl [2C]	40.000	37.7	-5.7	20.00
Tetrachlorometaxylene [2C]	40.000	42.2	5.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062230.D
Data file 2: /20180622.b/20180622.b/18062230.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 23-JUN-2018 03:11
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	13888402	4.638	-0.002	20704237	42.7	42.2	1.1	Tetrachloro-m-xylene
13.311	-0.001	9921712	13.510	-0.001	10952151	38.2	37.7	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.7	105.5
Decachlorobiphenyl	95.6	94.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28129829	9.3
Hexabromobiphenyl	22585647	24453050	8.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46218355	16.0
Hexabromobiphenyl	22087957	25004834	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.494	-0.003	750016	100.0	1	6.482	-0.007	1780869	108.7
Aroclor-1016	2	6.900	-0.007	3354425	133.8	2	7.125	-0.009	4199617	132.9
Aroclor-1016	3	7.172	-0.002	816715	122.1	3	7.513	-0.005	896852	117.7
Aroclor-1016	4	7.900	-0.003	2860090	366.0	4	8.039	-0.006	3003880	327.2
Total Col1Ave (4 peaks):		180.5				Total Col2Ave (4 peaks):			171.6	RPD = 5
Corrected Ave (3 peaks):		118.6				Corrected Ave (3 peaks):			119.8	RPD = 1
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.336	-0.021	171044	66.8	2	5.397	0.012	279007	48.5
Aroclor-1221	3	5.467	-0.001	224782	29.0	3	5.761	-0.002	384609	39.2
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.494	-0.001	750016	229.0	2	6.482	-0.003	1780869	229.2
Aroclor-1232	3	6.900	-0.006	3354425	304.4	3	7.125	-0.005	4199617	308.8
Aroclor-1232	4	7.725	-0.001	2636690	728.4	4	8.914	-0.003	3640295	726.9
Total Col1Ave (3 peaks):		420.6				Total Col2Ave (3 peaks):			421.6	RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.494	-0.003	750016	124.3	1	6.482	-0.006	1780869	139.4
Aroclor-1242	2	7.061	-0.001	1216034	152.4	2	7.125	-0.008	4199617	171.0
Aroclor-1242	3	8.278	-0.003	3087950	453.7	3	8.571	-0.006	2948423	391.5
Aroclor-1242	4	8.572	-0.003	2820835	393.6	4	8.914	-0.007	3640295	416.5
Total Col1Ave (4 peaks):		281.0				Total Col2Ave (4 peaks):			279.6	RPD = 1
Corrected Ave (3 peaks):		223.5				Corrected Ave (3 peaks):			233.9	RPD = 5
Aroclor-1248	1	6.900	-0.000	3354425	276.5	1	7.627	-0.004	2872572	269.4
Aroclor-1248	2	7.725	-0.001	2636690	268.3	2	8.039	-0.003	3003880	268.3
Aroclor-1248	3	8.333	-0.002	3827071	261.2	3	8.498	-0.004	3170007	261.6
Aroclor-1248	4	8.572	-0.001	2820835	257.7	4	8.914	-0.004	3640295	259.0
Total Col1Ave (4 peaks):		265.9				Total Col2Ave (4 peaks):			264.6	RPD = 0
Corrected Ave (3 peaks):		262.4				Corrected Ave (3 peaks):			263.0	RPD = 0
Aroclor-1254	1	8.656	-0.003	1796679	95.2	1	8.813	-0.003	1323122	82.8
Aroclor-1254	2	8.735	-0.001	838243	139.9	2	8.914	0.007	3640295	467.6
Aroclor-1254	3	9.033	-0.002	1086672	99.0	3	9.479	-0.004	2257052	88.4
Aroclor-1254	4	9.171	-0.001	1903011	82.3	4	9.736	-0.004	1982302	77.5
Aroclor-1254	5	9.525	0.004	1399038	59.1	5	10.494	-0.003	339560	17.7
Total Col1Ave (5 peaks):		95.1				Total Col2Ave (5 peaks):			146.8	RPD = 43*
Corrected Ave (4 peaks):		83.9				Corrected Ave (4 peaks):			66.6	RPD = 23
Aroclor-1260	1	10.446	-0.002	61904	4.5	1	10.592	-0.007	63869	4.4
Aroclor-1260	2	10.766	-0.002	45344	3.4	2	11.031	-0.012	151206	9.6
Aroclor-1260	3	11.139	-0.001	103267	3.2	3	11.315	-0.006	129221	3.7
Aroclor-1260	4	11.542	-0.000	39450	2.6	4	11.890	-0.004	80608	3.4
Aroclor-1260	5	11.657	-0.003	36837	4.9	NS	---			----
Total Col1Ave (5 peaks):		3.7				Total Col2Ave (4 peaks):			5.3	RPD = 35
Corrected Ave (4 peaks):		3.4				Corrected Ave (3 peaks):			3.9	RPD = 12
Aroclor-1262	1	10.446	-0.001	61904	3.1	1	10.592	-0.004	63869	3.3
Aroclor-1262	2	11.139	0.001	103267	2.8	2	11.031	-0.009	151206	8.3
Aroclor-1262	3	11.542	0.001	39450	3.5	3	11.315	-0.002	129221	3.5
Aroclor-1262	4	11.657	-0.000	36837	2.6	4	11.830	-0.002	46590	3.0
Total Col1Ave (4 peaks):		3.0				Total Col2Ave (4 peaks):			4.5	RPD = 41*
Corrected Ave (3 peaks):		2.8				Corrected Ave (3 peaks):			3.3	RPD = 14
Aroclor-1268	1	11.657	-0.001	36837	0.8	1	11.830	-0.001	46590	1.1
Aroclor-1268	2	11.730	0.002	37295	0.9	2	11.890	-0.006	80608	1.8
Aroclor-1268	3	12.126	0.010	22097	0.7	3	12.287	0.000	8314	0.2
Aroclor-1268	4	12.896	-0.008	67630	0.7	4	13.201	0.095	179150	1.7
Total Col1Ave (4 peaks):		0.8				Total Col2Ave (4 peaks):			1.2	RPD = 43*
Corrected Ave (3 peaks):		0.7				Corrected Ave (3 peaks):			1.0	RPD = 31

Total PCB Area Col1 (4.843 - 13.212) = 46229204 Col1 Total PCB = 0.2 ppm*

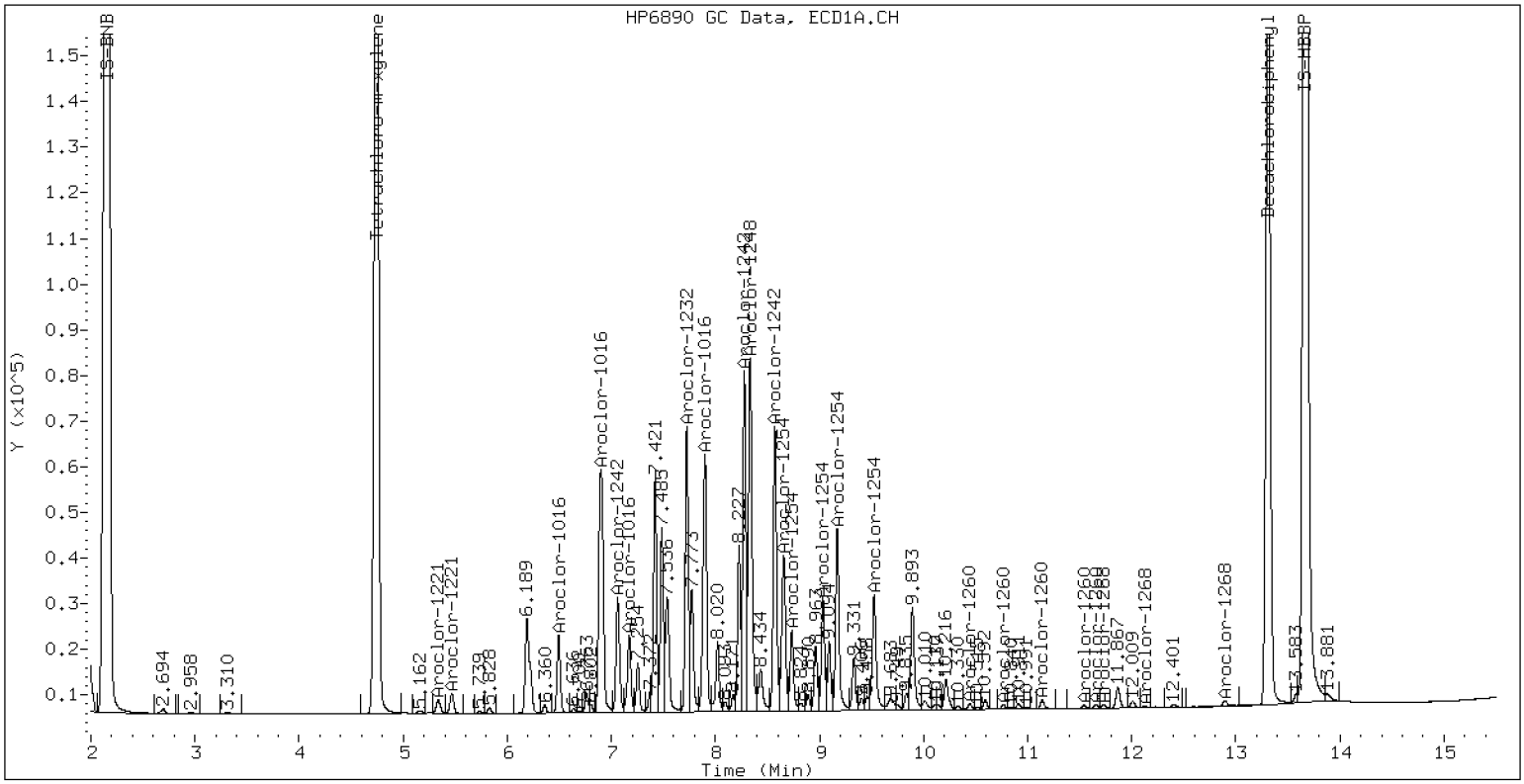
Total PCB Area Col2 (4.843 - 13.212) = 54034292 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

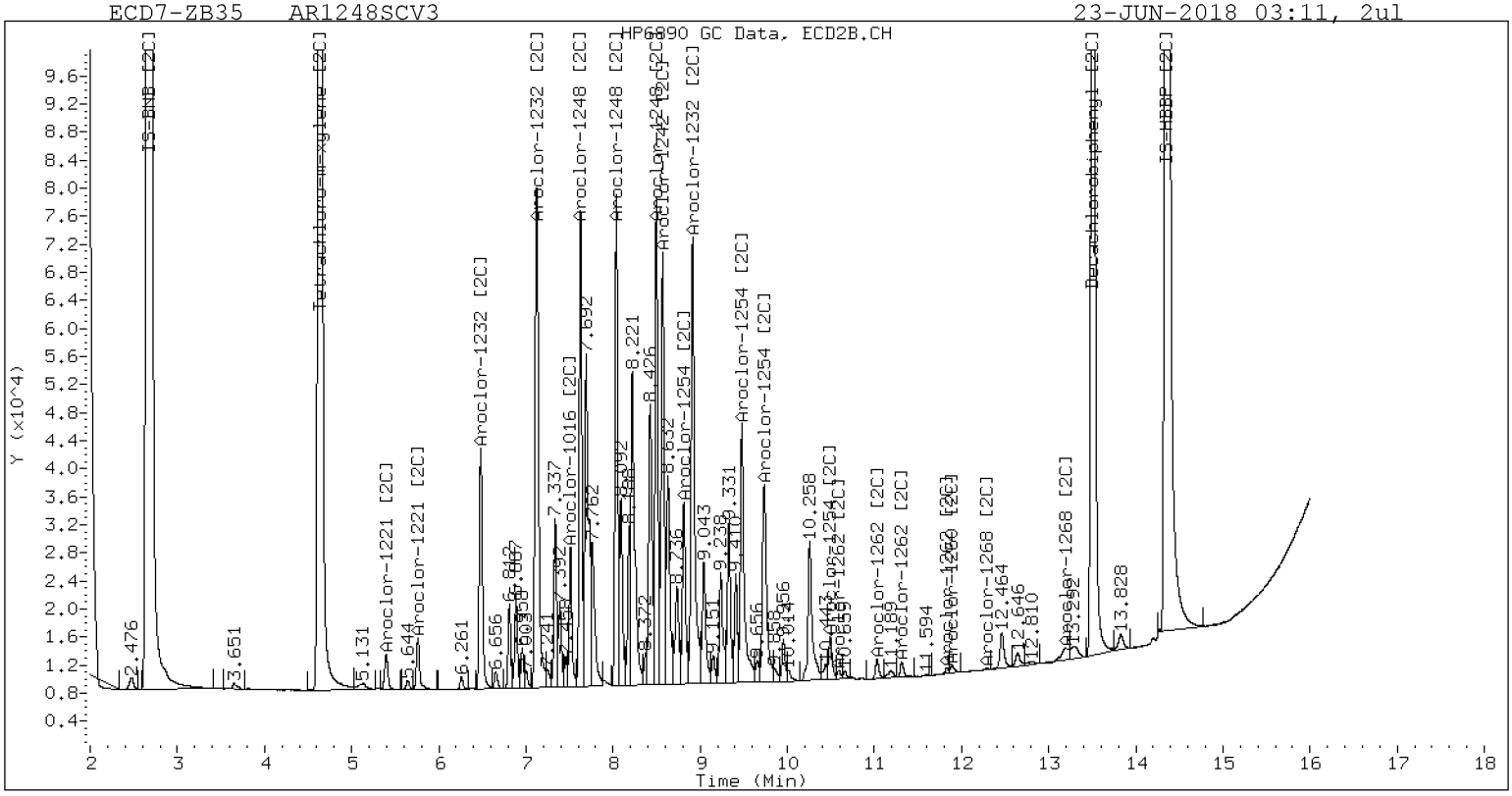
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV4
Sequence: SGG0057
Sequence Name: AR1254SCV4
Standard ID: G003411

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	266	6.5	20.00
Aroclor 1254 [2C]	250.00	259	3.8	20.00
Decachlorobiphenyl	40.000	38.5	-3.8	20.00
Tetrachlorometaxylene	40.000	41.8	4.6	20.00
Decachlorobiphenyl [2C]	40.000	37.9	-5.4	20.00
Tetrachlorometaxylene [2C]	40.000	41.3	3.2	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062231.D
Data file 2: /20180622.b/20180622.b/18062231.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 23-JUN-2018 03:33
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.742	-0.001	13672488	4.637	-0.003	20562251	41.8	41.3	1.4	Tetrachloro-m-xylene
13.310	-0.002	10092871	13.507	-0.004	11174745	38.5	37.9	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	103.2
Decachlorobiphenyl	96.2	94.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28238436	9.7
Hexabromobiphenyl	22585647	24730502	9.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46920543	17.8
Hexabromobiphenyl	22087957	25421102	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	20857	2.8	1	6.481	-0.008	53800	3.2
Aroclor-1016	2	6.895	-0.012	102969	4.1	2	7.120	-0.013	146764	4.6
Aroclor-1016	3	7.173	-0.002	20538	3.1	3	7.512	-0.006	19868	2.6
Aroclor-1016	4	7.900	-0.002	400500	51.1	4	8.038	-0.007	1219973	130.9
	Total Col1Ave (4 peaks):				15.2	Total Col2Ave (4 peaks):				35.3 RPD = 79*
	Corrected Ave (3 peaks):				3.3	Corrected Ave (3 peaks):				3.5 RPD = 5
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.334	-0.023	138055	53.7	2	5.398	0.012	229833	39.3
Aroclor-1221	3	5.467	-0.002	12698	1.6	3	5.761	-0.001	60534	6.1
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.495	-0.000	20857	6.3	2	6.481	-0.004	53800	6.8
Aroclor-1232	3	6.895	-0.011	102969	9.3	3	7.120	-0.009	146764	10.6
Aroclor-1232	4	7.724	-0.002	1007708	277.3	4	8.903	-0.014	2237594	440.1
	Total Col1Ave (3 peaks):				97.7	Total Col2Ave (3 peaks):				152.5 RPD = 44*
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.495	-0.002	20857	3.4	1	6.481	-0.007	53800	4.1
Aroclor-1242	2	7.068	0.006	57297	7.2	2	7.120	-0.012	146764	5.9
Aroclor-1242	3	8.277	-0.003	1475711	216.0	3	8.568	-0.009	640906	83.8
Aroclor-1242	4	8.578	0.003	1013203	140.8	4	8.903	-0.019	2237594	252.2
	Total Col1Ave (4 peaks):				91.9	Total Col2Ave (4 peaks):				86.5 RPD = 6
	Corrected Ave (3 peaks):				50.5	Corrected Ave (3 peaks):				31.3 RPD = 47*
Aroclor-1248	1	6.895	-0.005	102969	8.5	1	7.625	-0.006	1919057	177.3
Aroclor-1248	2	7.724	-0.002	1007708	102.1	2	8.038	-0.004	1219973	107.3
Aroclor-1248	3	8.343	0.009	3446020	234.3	3	8.498	-0.005	1552857	126.2
Aroclor-1248	4	8.578	0.005	1013203	92.2	4	8.903	-0.015	2237594	156.8
	Total Col1Ave (4 peaks):				109.3	Total Col2Ave (4 peaks):				141.9 RPD = 26
	Corrected Ave (3 peaks):				67.6	Corrected Ave (3 peaks):				130.1 RPD = 63*
Aroclor-1254	1	8.657	-0.002	4956595	261.5	1	8.812	-0.004	4142123	255.4
Aroclor-1254	2	8.735	-0.001	1720169	286.0	2	8.903	-0.004	2237594	283.1
Aroclor-1254	3	9.033	-0.002	2981119	270.5	3	9.478	-0.005	6466571	249.4
Aroclor-1254	4	9.170	-0.001	5927620	255.2	4	9.735	-0.006	6674107	256.9
Aroclor-1254	5	9.521	-0.001	6135314	258.3	5	10.493	-0.005	4906816	252.6
	Total Col1Ave (5 peaks):				266.3	Total Col2Ave (5 peaks):				259.5 RPD = 3
	Corrected Ave (4 peaks):				261.4	Corrected Ave (4 peaks):				253.5 RPD = 3
Aroclor-1260	1	10.444	-0.004	282919	20.2	1	10.587	-0.013	356373	24.3
Aroclor-1260	2	10.765	-0.002	300377	22.3	2	11.027	-0.017	1672794	104.6
Aroclor-1260	3	11.138	-0.002	628215	19.2	3	11.311	-0.010	1057899	30.1
Aroclor-1260	4	11.539	-0.003	605486	39.7	4	11.883	-0.012	656098	27.6
Aroclor-1260	5	11.656	-0.004	24114	3.2	NS	---			----
	Total Col1Ave (5 peaks):				20.9	Total Col2Ave (4 peaks):				46.6 RPD = 76*
	Corrected Ave (4 peaks):				16.2	Corrected Ave (3 peaks):				27.3 RPD = 51*
Aroclor-1262	1	10.444	-0.003	282919	14.1	1	10.587	-0.009	356373	18.1
Aroclor-1262	2	11.138	-0.000	628215	16.9	2	11.027	-0.014	1672794	90.2
Aroclor-1262	3	11.539	-0.002	605486	52.6	3	11.311	-0.005	1057899	28.0
Aroclor-1262	4	11.656	-0.002	24114	1.7	4	11.830	-0.003	76430	4.9
	Total Col1Ave (4 peaks):				21.3	Total Col2Ave (4 peaks):				35.3 RPD = 49*
	Corrected Ave (3 peaks):				10.9	Corrected Ave (3 peaks):				17.0 RPD = 44*
Aroclor-1268	1	11.656	-0.003	24114	0.5	1	11.830	-0.001	76430	1.8
Aroclor-1268	2	11.730	0.002	28044	0.7	2	11.883	-0.014	656098	14.8
Aroclor-1268	3	12.129	0.013	22568	0.7	3	---			0.0
Aroclor-1268	4	12.893	-0.011	52575	0.5	4	13.203	0.096	171416	1.6
	Total Col1Ave (4 peaks):				0.6	Total Col2Ave (3 peaks):				6.0 RPD = 163*
	Corrected Ave (3 peaks):				0.6	Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 59050043 Col1 Total PCB = 0.3 ppm*

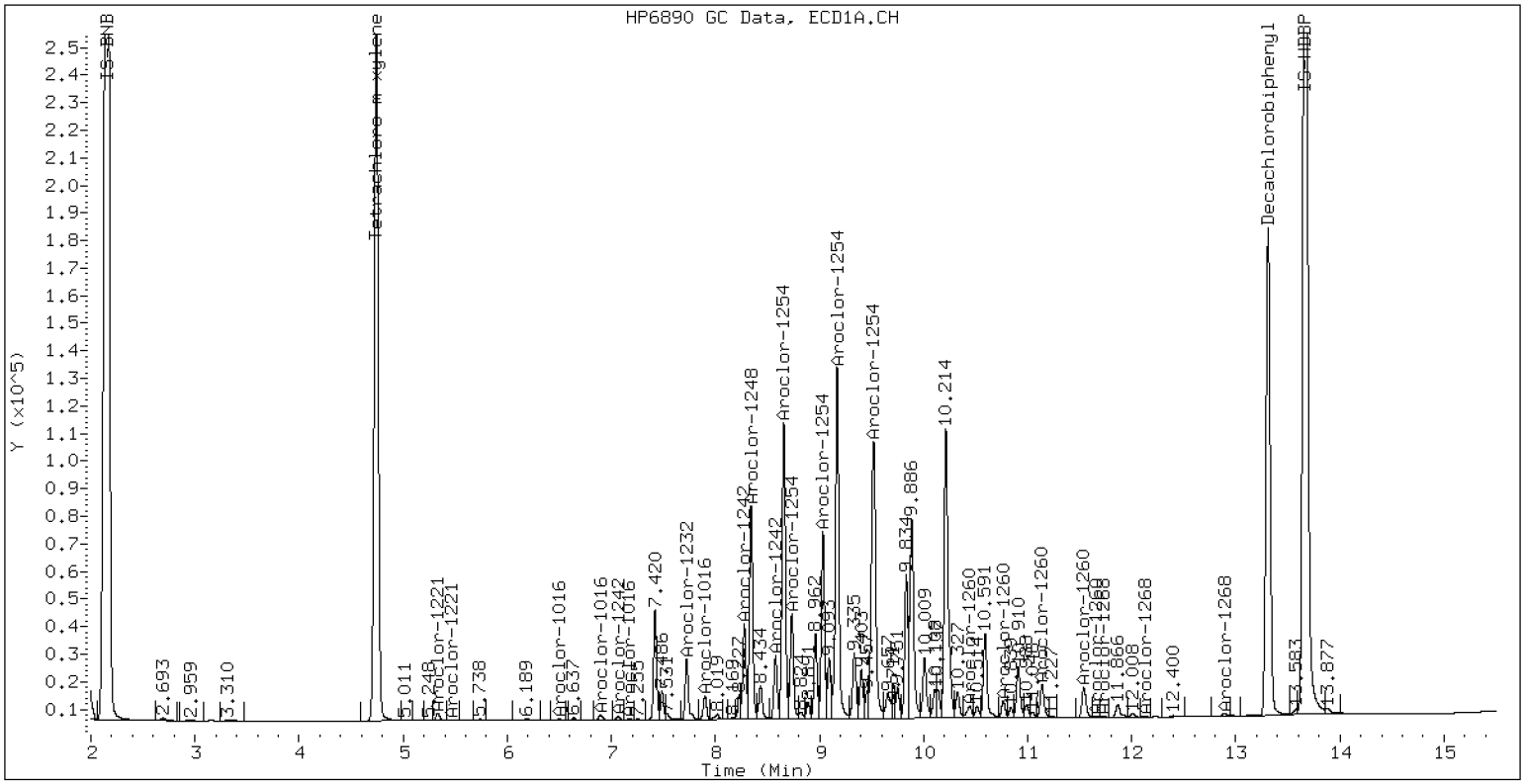
Total PCB Area Col2 (4.843 - 13.212) = 64437574 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

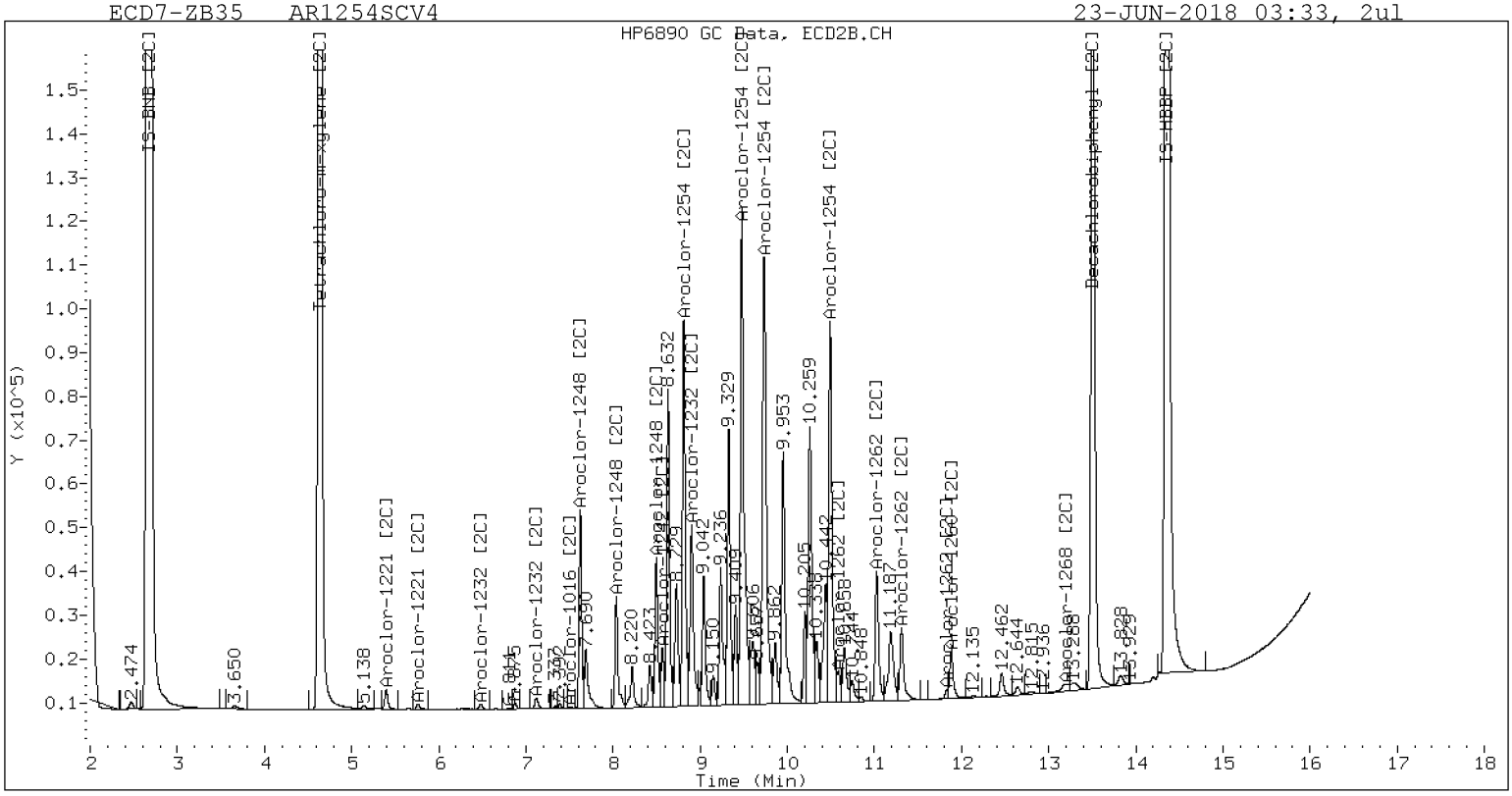
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV5
Sequence: SGG0057
Sequence Name: AR2162SCV5
Standard ID: G003407

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	258	3.3	20.00
Aroclor 1221 [2C]	250.00	261	4.2	20.00
Aroclor 1262	250.00	274	9.5	20.00
Aroclor 1262 [2C]	250.00	275	10.0	20.00
Decachlorobiphenyl	40.000	37.9	-5.2	20.00
Tetrachlorometaxylene	40.000	43.6	9.0	20.00
Decachlorobiphenyl [2C]	40.000	37.4	-6.6	20.00
Tetrachlorometaxylene [2C]	40.000	43.9	9.9	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062232.D
Data file 2: /20180622.b/20180622.b/18062232.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 23-JUN-2018 03:55
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.001	14301381	4.635	-0.005	21362263	43.6	43.9	0.8	Tetrachloro-m-xylene
13.309	-0.003	9903292	13.506	-0.005	11031423	37.9	37.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	109.0	109.9
Decachlorobiphenyl	94.8	93.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28352322	10.2
Hexabromobiphenyl	22585647	24612870	9.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	45786011	14.9
Hexabromobiphenyl	22087957	25429054	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	186571	24.7	1	6.494	0.004	764918	47.1
Aroclor-1016	2	6.906	-0.002	533580	21.1	2	7.126	-0.008	745418	23.8
Aroclor-1016	3	7.172	-0.002	149730	22.2	3	7.510	-0.008	191417	25.4
Aroclor-1016	4	7.899	-0.003	99041	12.6	4	8.037	-0.008	240493	26.4
	Total Col1Ave (4 peaks):				20.1	Total Col2Ave (4 peaks):				30.7 RPD = 41*
	Corrected Ave (3 peaks):				18.6	Corrected Ave (3 peaks):				25.2 RPD = 30
Aroclor-1221	1	3.554	-0.001	570864	257.9	1	3.823	-0.003	946759	256.0
Aroclor-1221	2	5.355	-0.002	668592	259.0	2	5.381	-0.005	1504081	263.8
Aroclor-1221	3	5.466	-0.002	2015761	257.8	3	5.758	-0.005	2543924	261.8
	Total Col1Ave (3 peaks):				258.2	Total Col2Ave (3 peaks):				260.5 RPD = 1
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.554	-0.002	570864	424.7	1	3.823	-0.004	946759	427.6
Aroclor-1232	2	6.493	-0.002	186571	56.5	2	6.494	0.008	764918	99.4
Aroclor-1232	3	6.906	-0.000	533580	48.0	3	7.126	-0.004	745418	55.3
Aroclor-1232	4	7.724	-0.002	106270	29.1	4	8.908	-0.010	228702	46.1
	Total Col1Ave (4 peaks):				139.6	Total Col2Ave (4 peaks):				157.1 RPD = 12
	Corrected Ave (3 peaks):				44.6	Corrected Ave (3 peaks):				66.9 RPD = 40*
Aroclor-1242	1	6.493	-0.004	186571	30.7	1	6.494	0.005	764918	60.4
Aroclor-1242	2	7.058	-0.003	245503	30.5	2	7.126	-0.007	745418	30.6
Aroclor-1242	3	8.278	-0.002	130137	19.0	3	8.569	-0.008	110020	14.7
Aroclor-1242	4	8.576	0.001	139247	19.3	4	8.908	-0.014	228702	26.4
	Total Col1Ave (4 peaks):				24.9	Total Col2Ave (4 peaks):				33.1 RPD = 28
	Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				23.9 RPD = 4
Aroclor-1248	1	6.906	0.005	533580	43.6	1	7.624	-0.007	191796	18.2
Aroclor-1248	2	7.724	-0.002	106270	10.7	2	8.037	-0.005	240493	21.7
Aroclor-1248	3	8.343	0.008	607663	41.2	3	8.497	-0.006	152085	12.7
Aroclor-1248	4	8.576	0.003	139247	12.6	4	8.908	-0.011	228702	16.4
	Total Col1Ave (4 peaks):				27.0	Total Col2Ave (4 peaks):				17.2 RPD = 44*
	Corrected Ave (3 peaks):				21.5	Corrected Ave (3 peaks):				15.8 RPD = 31
Aroclor-1254	1	8.659	-0.001	672600	35.3	1	8.811	-0.005	755572	47.7
Aroclor-1254	2	8.734	-0.002	90190	14.9	2	8.908	0.000	228702	29.7
Aroclor-1254	3	9.034	-0.001	133157	12.0	3	9.518	0.035	2949013	116.5
Aroclor-1254	4	9.139	-0.033	895787	38.4	4	9.742	0.002	3608952	142.3
Aroclor-1254	5	9.504	-0.018	3481042	146.0	5	10.490	-0.007	2268427	119.6
	Total Col1Ave (5 peaks):				49.3	Total Col2Ave (5 peaks):				91.2 RPD = 60*
	Corrected Ave (4 peaks):				25.2	Corrected Ave (4 peaks):				78.4 RPD = 103*
Aroclor-1260	1	10.444	-0.004	5454901	391.4	1	10.588	-0.011	5409700	369.2
Aroclor-1260	2	10.763	-0.004	4433030	330.7	2	11.033	-0.010	5135853	321.1
Aroclor-1260	3	11.136	-0.004	10110565	310.6	3	11.310	-0.011	10409494	295.8
Aroclor-1260	4	11.539	-0.003	3121815	205.8	4	11.886	-0.008	7250232	304.7
Aroclor-1260	5	11.655	-0.004	4003542	533.9	NS	---			----
	Total Col1Ave (5 peaks):				354.5	Total Col2Ave (4 peaks):				322.7 RPD = 9
	Corrected Ave (4 peaks):				309.7	Corrected Ave (3 peaks):				307.2 RPD = 1
Aroclor-1262	1	10.444	-0.003	5454901	273.2	1	10.588	-0.008	5409700	275.0
Aroclor-1262	2	11.136	-0.002	10110565	272.8	2	11.033	-0.007	5135853	276.7
Aroclor-1262	3	11.539	-0.002	3121815	272.5	3	11.310	-0.007	10409494	275.2
Aroclor-1262	4	11.655	-0.002	4003542	276.1	4	11.825	-0.007	4301114	273.4
	Total Col1Ave (4 peaks):				273.6	Total Col2Ave (4 peaks):				275.1 RPD = 1
	Corrected Ave (3 peaks):				272.8	Corrected Ave (3 peaks):				274.5 RPD = 1
Aroclor-1268	1	11.655	-0.003	4003542	90.8	1	11.825	-0.006	4301114	99.4
Aroclor-1268	2	11.729	0.001	4085195	101.6	2	11.886	-0.010	7250232	163.5
Aroclor-1268	3	12.129	0.013	1507238	45.4	3	12.282	-0.005	291515	8.3
Aroclor-1268	4	12.902	-0.002	1160147	11.7	4	13.100	-0.006	1463948	13.4
	Total Col1Ave (4 peaks):				62.4	Total Col2Ave (4 peaks):				71.2 RPD = 13

Corrected Ave (3 peaks): 49.3 Corrected Ave (3 peaks): 40.4 RPD = 20

Total PCB Area Col1 (4.843 - 13.212) = 74940188 Col1 Total PCB = 0.4 ppm*

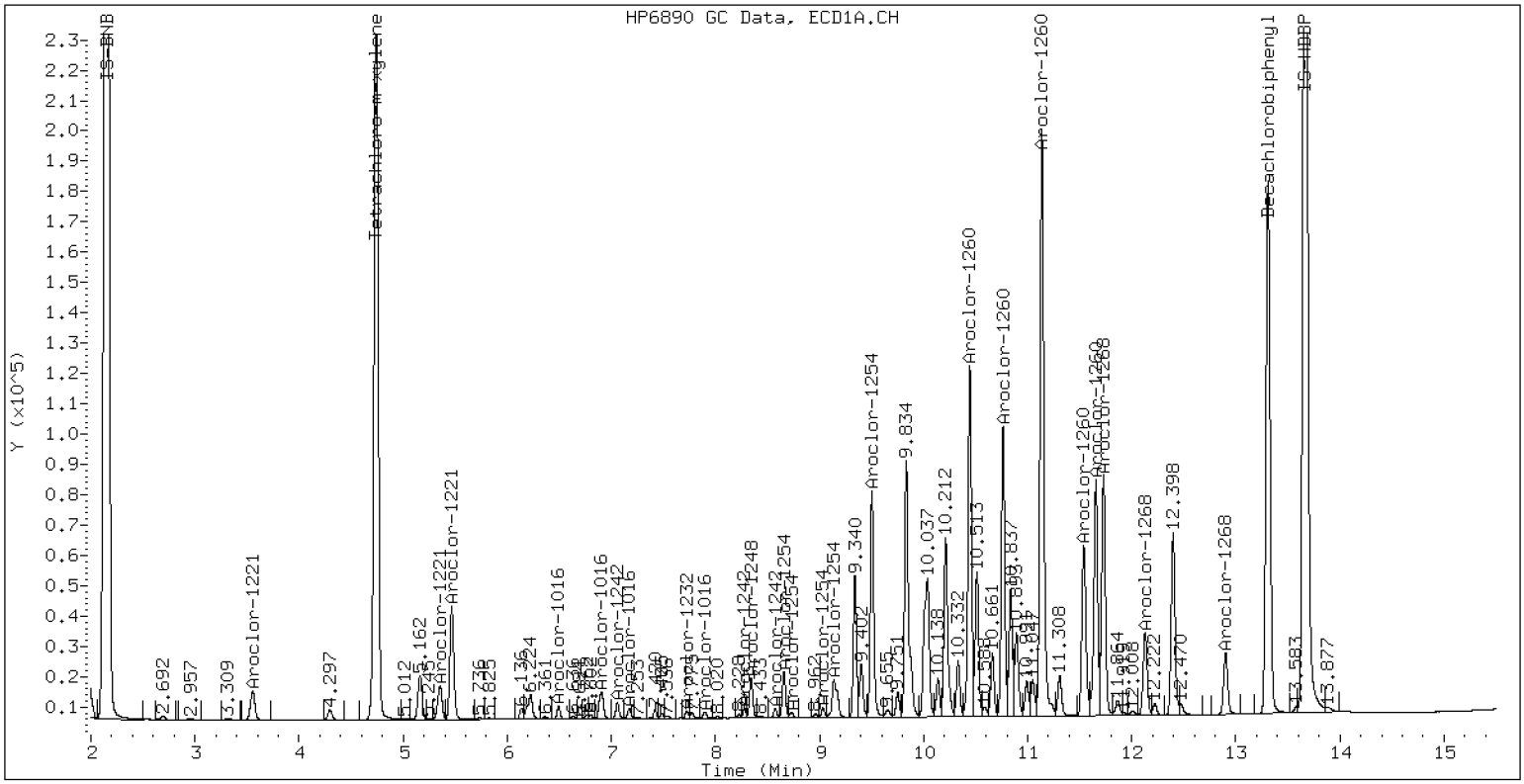
Total PCB Area Col2 (4.843 - 13.212) = 82544545 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

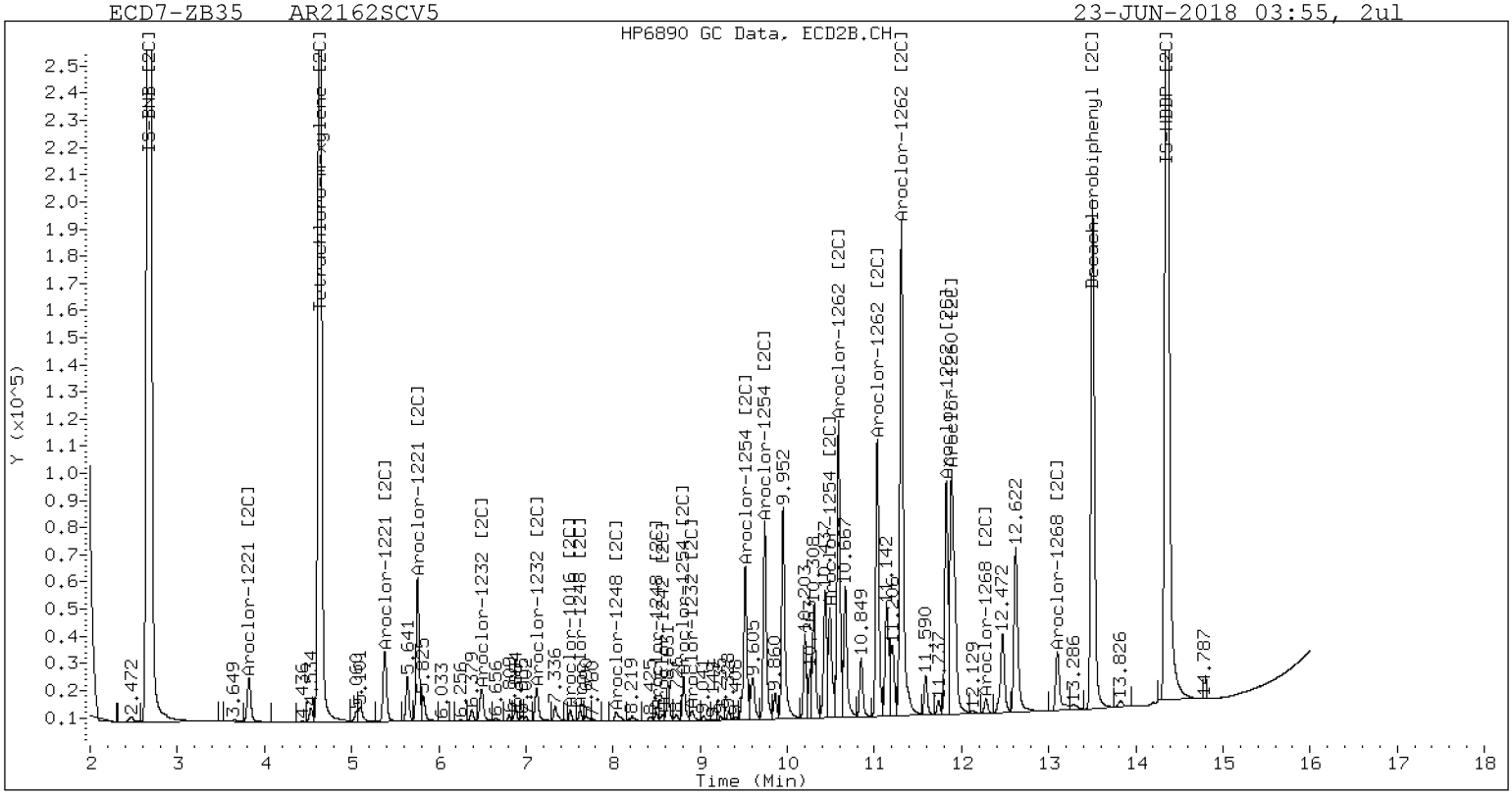
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00027
Laboratory ID: SGG0057-SCV6
Sequence: SGG0057
Sequence Name: AR3268SCV6
Standard ID: G003408

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	246	-1.6	20.00
Aroclor 1232 [2C]	250.00	250	0.008	20.00
Aroclor 1268	250.00	252	0.9	20.00
Aroclor 1268 [2C]	250.00	253	1.2	20.00
Decachlorobiphenyl	40.000	52.2	30.5	20.00
Tetrachlorometaxylene	40.000	43.0	7.6	20.00
Decachlorobiphenyl [2C]	40.000	51.4	28.5	20.00
Tetrachlorometaxylene [2C]	40.000	42.9	7.3	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062233.D
Data file 2: /20180622.b/20180622.b/18062233.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 23-JUN-2018 04:17
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.741	-0.002	14345375	4.634	-0.005	21590451	43.0	42.9	0.3	Tetrachloro-m-xylene
13.309	-0.002	13856672	13.503	-0.008	15457031	52.2	51.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.6	107.3
Decachlorobiphenyl	130.5	128.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28808016	12.0
Hexabromobiphenyl	22585647	25026377	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47376069	18.9
Hexabromobiphenyl	22087957	25894541	17.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	917688	119.5	1	6.480	-0.010	2161604	128.7
Aroclor-1016	2	6.905	-0.003	2775773	108.1	2	7.123	-0.010	3737561	115.4
Aroclor-1016	3	7.172	-0.003	807157	117.8	3	7.509	-0.009	964403	123.5
Aroclor-1016	4	7.899	-0.003	967455	120.9	4	8.035	-0.010	1162650	123.5
Total Col1Ave (4 peaks):		116.6				Total Col2Ave (4 peaks):			122.8	RPD = 5
Corrected Ave (3 peaks):		115.1				Corrected Ave (3 peaks):			120.8	RPD = 5
Aroclor-1221	1	3.555	-0.001	329614	146.5	1	3.822	-0.004	549814	143.7
Aroclor-1221	2	5.353	-0.003	497244	189.6	2	5.381	-0.005	996532	168.9
Aroclor-1221	3	5.466	-0.002	1568890	197.5	3	5.757	-0.005	2001084	199.0
Total Col1Ave (3 peaks):		177.9				Total Col2Ave (3 peaks):			170.5	RPD = 4
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.555	-0.002	329614	241.3	1	3.822	-0.005	549814	240.0
Aroclor-1232	2	6.493	-0.002	917688	273.6	2	6.480	-0.006	2161604	271.4
Aroclor-1232	3	6.905	-0.001	2775773	246.0	3	7.123	-0.006	3737561	268.1
Aroclor-1232	4	7.723	-0.002	826941	223.1	4	8.912	-0.005	1132314	220.6
Total Col1Ave (4 peaks):		246.0				Total Col2Ave (4 peaks):			250.0	RPD = 2
Corrected Ave (3 peaks):		236.8				Corrected Ave (3 peaks):			242.9	RPD = 3
Aroclor-1242	1	6.493	-0.004	917688	148.5	1	6.480	-0.009	2161604	165.0
Aroclor-1242	2	7.058	-0.004	1191681	145.9	2	7.123	-0.009	3737561	148.4
Aroclor-1242	3	8.277	-0.003	870335	124.9	3	8.568	-0.009	1018107	131.9
Aroclor-1242	4	8.572	-0.003	892785	121.6	4	8.912	-0.009	1132314	126.4
Total Col1Ave (4 peaks):		135.2				Total Col2Ave (4 peaks):			142.9	RPD = 6
Corrected Ave (3 peaks):		130.8				Corrected Ave (3 peaks):			135.6	RPD = 4
Aroclor-1248	1	6.905	0.004	2775773	223.4	1	7.624	-0.007	999028	91.4
Aroclor-1248	2	7.723	-0.002	826941	82.2	2	8.035	-0.007	1162650	101.3
Aroclor-1248	3	8.332	-0.002	1096577	73.1	3	8.495	-0.008	997628	80.3
Aroclor-1248	4	8.572	-0.001	892785	79.6	4	8.912	-0.006	1132314	78.6
Total Col1Ave (4 peaks):		114.6				Total Col2Ave (4 peaks):			87.9	RPD = 26
Corrected Ave (3 peaks):		78.3				Corrected Ave (3 peaks):			83.4	RPD = 6
Aroclor-1254	1	8.656	-0.004	351670	18.2	1	8.809	-0.007	261143	15.9
Aroclor-1254	2	8.734	-0.001	157695	25.7	2	8.912	0.005	1132314	141.9
Aroclor-1254	3	9.034	-0.000	172901	15.4	3	9.475	-0.008	446003	17.0
Aroclor-1254	4	9.171	-0.000	350767	14.8	4	9.736	-0.004	359169	13.7
Aroclor-1254	5	9.523	0.002	296454	12.2	5	10.490	-0.008	97906	5.0
Total Col1Ave (5 peaks):		17.3				Total Col2Ave (5 peaks):			38.7	RPD = 77*
Corrected Ave (4 peaks):		15.2				Corrected Ave (4 peaks):			12.9	RPD = 16
Aroclor-1260	1	10.445	-0.003	2768640	195.4	1	10.587	-0.012	2878433	192.9
Aroclor-1260	2	10.763	-0.004	247620	18.2	2	11.032	-0.011	3297997	202.5
Aroclor-1260	3	11.136	-0.004	1730504	52.3	3	11.308	-0.013	1904555	53.2
Aroclor-1260	4	11.540	-0.002	51646	3.3	4	11.890	-0.005	13172401	543.6
Aroclor-1260	5	11.655	-0.004	11789428	1546.1	NS	---			----
Total Col1Ave (5 peaks):		363.1				Total Col2Ave (4 peaks):			248.0	RPD = 38
Corrected Ave (4 peaks):		67.3				Corrected Ave (3 peaks):			149.5	RPD = 76*
Aroclor-1262	1	10.445	-0.002	2768640	136.4	1	10.587	-0.009	2878433	143.7
Aroclor-1262	2	11.136	-0.002	1730504	45.9	2	11.032	-0.008	3297997	174.5
Aroclor-1262	3	11.540	-0.001	51646	4.4	3	11.308	-0.008	1904555	49.4
Aroclor-1262	4	11.655	-0.002	11789428	799.5	4	11.824	-0.009	11625381	725.8
Total Col1Ave (4 peaks):		246.6				Total Col2Ave (4 peaks):			273.4	RPD = 10
Corrected Ave (3 peaks):		62.2				Corrected Ave (3 peaks):			122.6	RPD = 65*
Aroclor-1268	1	11.655	-0.003	11789428	262.9	1	11.824	-0.008	11625381	263.8
Aroclor-1268	2	11.727	-0.001	11881947	290.7	2	11.890	-0.007	13172401	291.8
Aroclor-1268	3	12.115	-0.002	7926179	235.0	3	12.280	-0.007	8448823	235.6
Aroclor-1268	4	12.901	-0.003	22145205	220.4	4	13.098	-0.008	24536256	220.7
Total Col1Ave (4 peaks):		252.3				Total Col2Ave (4 peaks):			253.0	RPD = 0

Corrected Ave (3 peaks): 239.5 Corrected Ave (3 peaks): 240.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 92214681 Col1 Total PCB = 0.5 ppm*

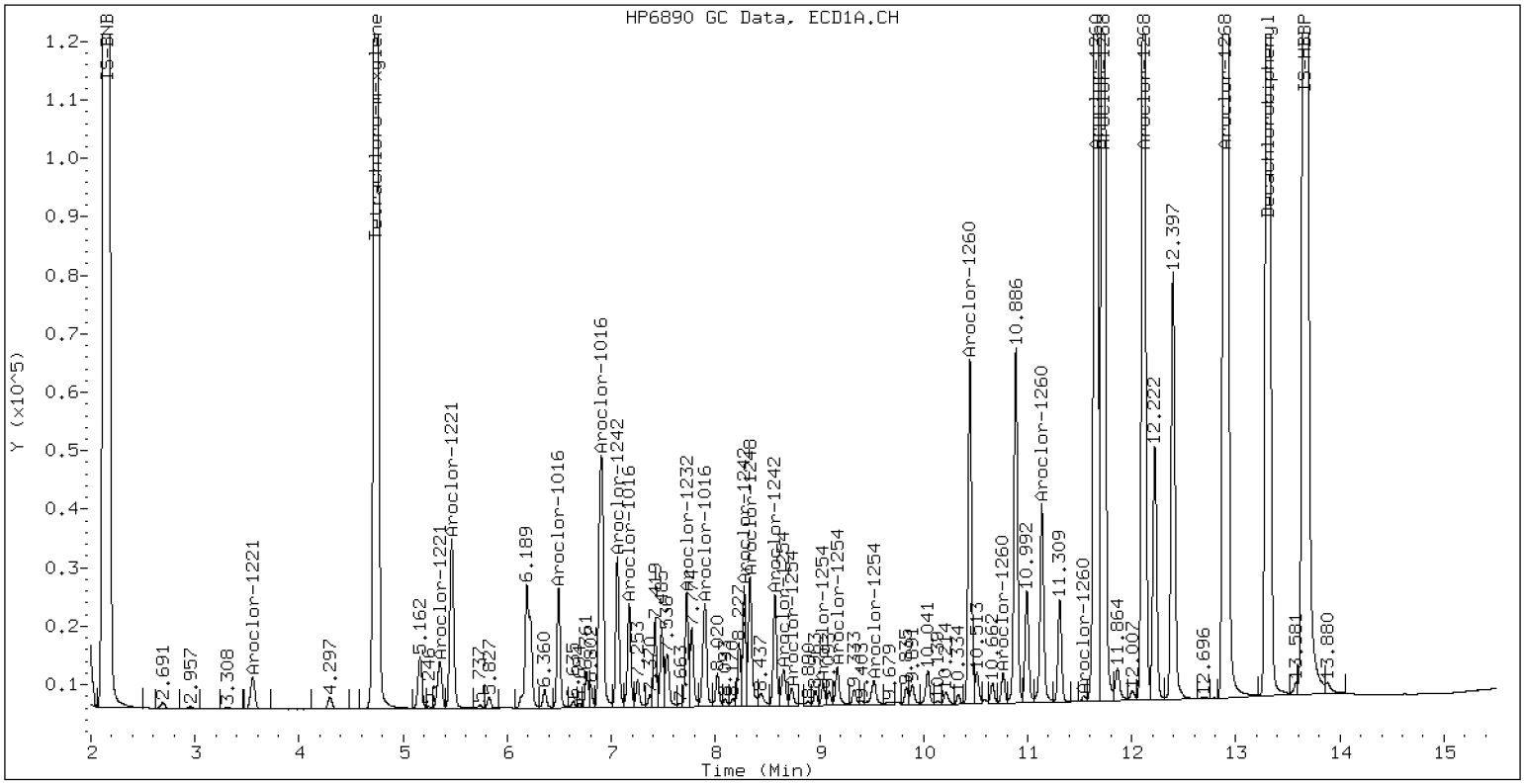
Total PCB Area Col2 (4.843 - 13.212) = 104791358 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

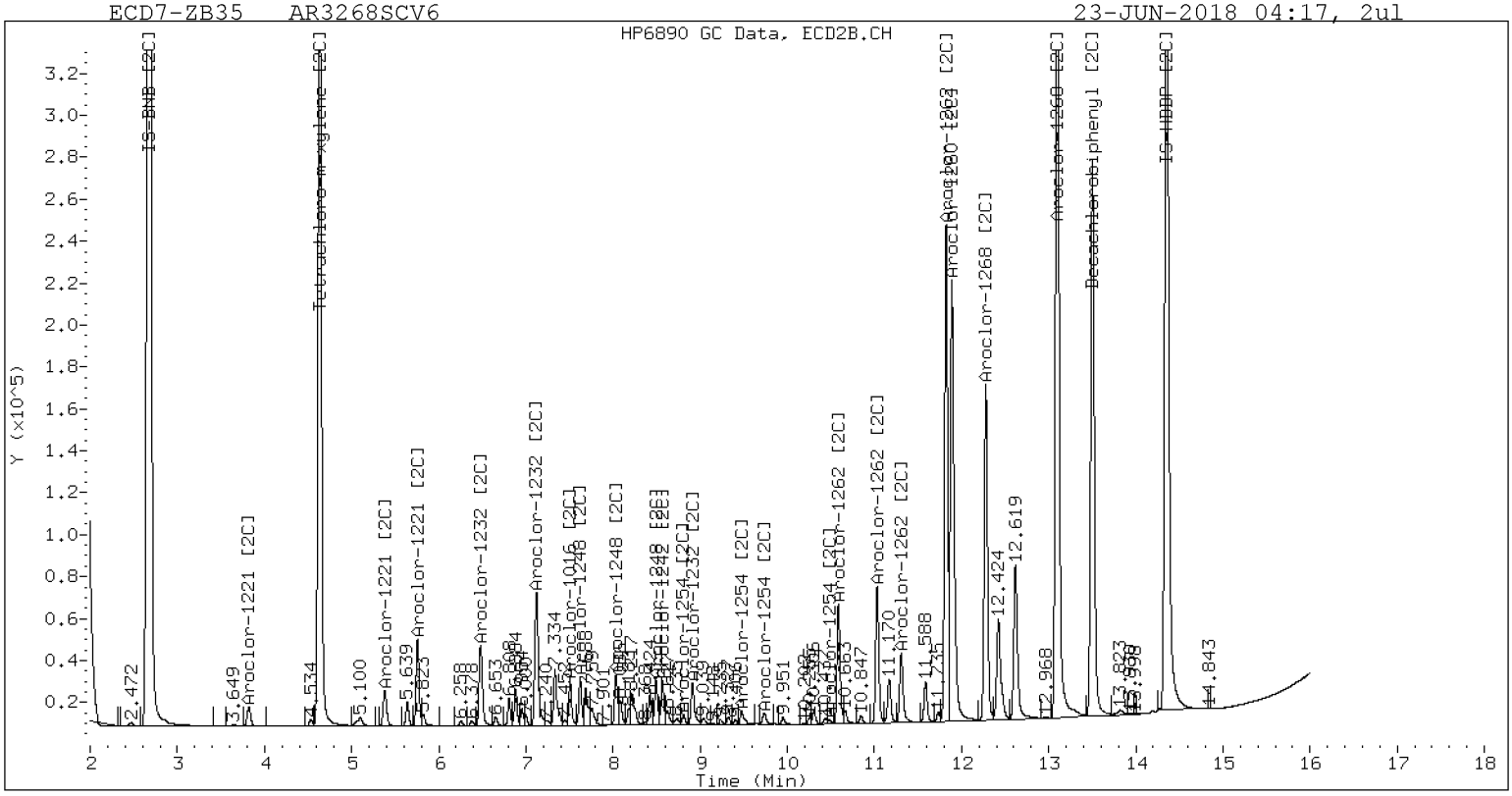
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-35 Manual Integration: NO

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18070902ECD7.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0118	Injection Date:	07/09/18
Lab Sample ID:	SGG0118-ICV1	Injection Time:	07:24
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	271	0.0470062	0.0508640		8.3	
Aroclor-1254 (1)	A	250.00	271	0.0536995	0.0582743			
Aroclor-1254 (2)	A	250.00	271	0.0170391	0.0184895			
Aroclor-1254 (3)	A	250.00	272	0.0312172	0.0340284			
Aroclor-1254 (4)	A	250.00	273	0.0657940	0.0717642			
Aroclor-1254 (5)	A	250.00	267	0.0672809	0.0717637			
Aroclor 1254 [2C]	A	250.00	270	0.0325538	0.0347889		7.8	
Aroclor-1254 (1) [2C]	A	250.00	270	0.0276491	0.0298609			
Aroclor-1254 (2) [2C]	A	250.00	286	0.0134750	0.0153905			
Aroclor-1254 (3) [2C]	A	250.00	269	0.0442170	0.0475348			
Aroclor-1254 (4) [2C]	A	250.00	263	0.0443015	0.0466403			
Aroclor-1254 (5) [2C]	A	250.00	260	0.0331266	0.0345182			
Decachlorobiphenyl	A	40.000	42.2	0.8487322	0.8964508		5.5	
Tetrachlorometaxylene	A	40.000	44.9	0.9257869	1.0392400		12.3	
Decachlorobiphenyl [2C]	A	40.000	42.3	0.9289123	0.9824746		5.8	
Tetrachlorometaxylene [2C]	A	40.000	46.9	0.8494309	0.9963820		17.3	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070902ECD7.D
Data file 2: /20180709.b/20180709.b/18070902ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 09-JUL-2018 07:24
Report Date: 07/10/2018 12:51
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.734	-0.001	16678291	4.606	-0.003	25474072	44.9	46.9	4.4	Tetrachloro-m-xylene
13.289	0.002	12172172	13.467	0.008	12731541	42.2	42.3	0.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	112.3	117.3
Decachlorobiphenyl	105.6	105.8

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	32097094	24.7
Hexabromobiphenyl	22585647	27156364	20.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	51133136	28.4
Hexabromobiphenyl	22087957	25917290	17.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.644	0.000	5845109	271.3	1	8.779	0.000	4771501	270.0
Aroclor-1254	2	8.720	0.000	1854557	271.3	2	8.869	0.000	2459261	285.5
Aroclor-1254	3	9.018	0.000	3413164	272.5	3	9.444	0.000	7595642	268.8
Aroclor-1254	4	9.156	0.000	7198193	272.7	4	9.701	0.000	7452706	263.2
Aroclor-1254	5	9.506	0.000	7198147	266.7	5	10.456	0.000	5515700	260.5

Total Col1Ave (5 peaks): 270.9 Total Col2Ave (5 peaks): 269.6 RPD = 0

Corrected Ave (4 peaks): 270.4 Corrected Ave (4 peaks): 265.6 RPD = 2

CalAmt %D: 8.4 CalAmt %D: 7.8

Total PCB Area Col1 (4.834 - 13.187) = 71143406 Col1 Total PCB = 0.3 ppm*

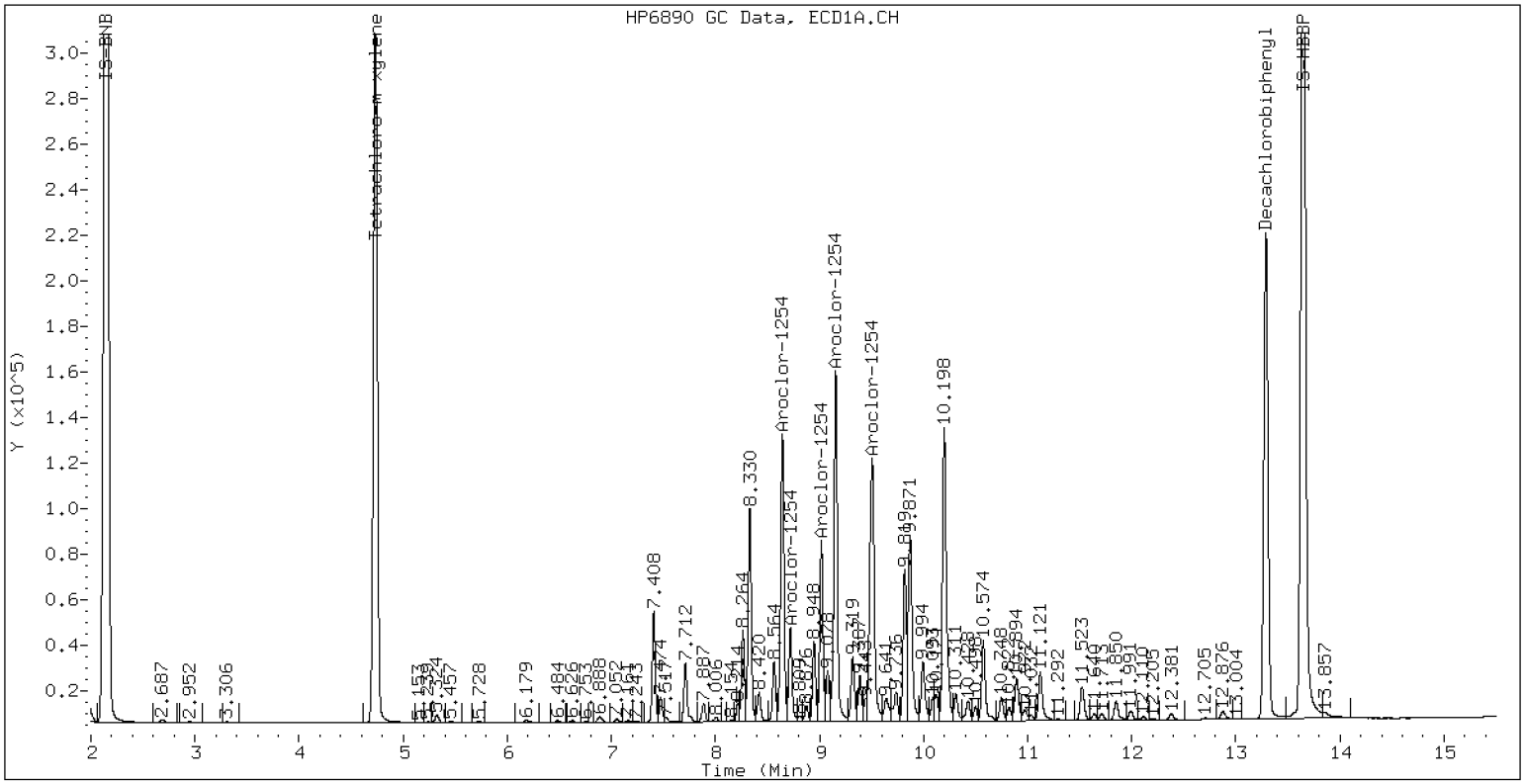
Total PCB Area Col2 (4.834 - 13.187) = 74366573 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

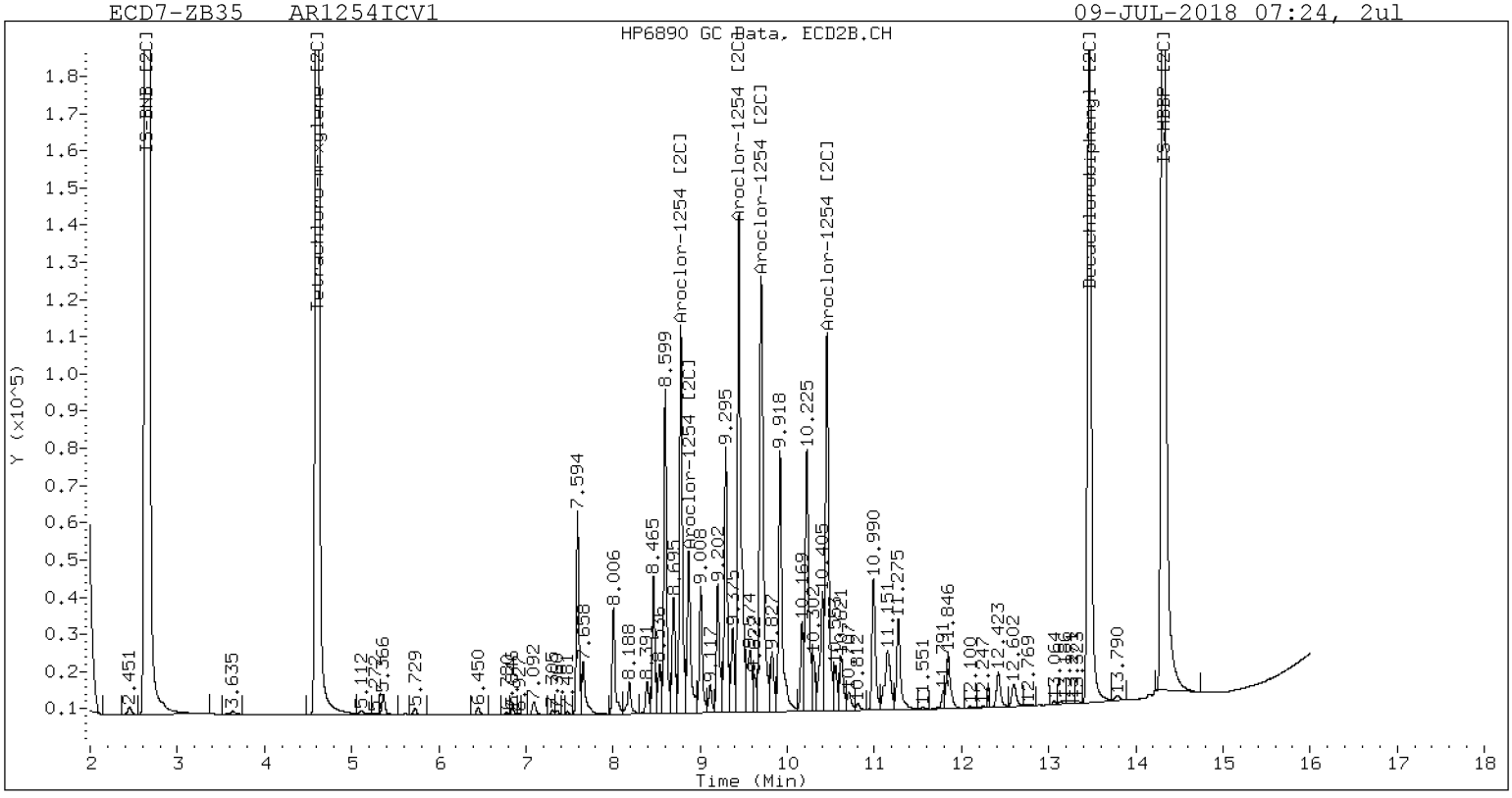
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 09-JUL-2018 07:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 09-JUL-2018 07:24, 2ul



ZB-35 Manual Integration: NO

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18070903ECD7.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0118	Injection Date:	07/09/18
Lab Sample ID:	SGG0118-ICV2	Injection Time:	07:47
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	292	0.0334741	0.0394922		16.9	
Aroclor-1016 (1)	A	250.00	288	0.0213278	0.0246096		15.2	
Aroclor-1016 (2)	A	250.00	299	0.0713149	0.0853282		19.6	
Aroclor-1016 (3)	A	250.00	292	0.0190282	0.0222501		16.8	
Aroclor-1016 (4)	A	250.00	290	0.0222257	0.0257810		16.0	
Aroclor 1016 [2C]	A	250.00	289	0.0280332	0.0323323		15.6	
Aroclor-1016 (1) [2C]	A	250.00	295	0.0283534	0.0334880		18.0	
Aroclor-1016 (2) [2C]	A	250.00	285	0.0546995	0.0623697		14.0	
Aroclor-1016 (3) [2C]	A	250.00	293	0.0131874	0.0154589		17.2	
Aroclor-1016 (4) [2C]	A	250.00	283	0.0158925	0.0180125		13.2	
Aroclor 1260	A	250.00	285	0.0536648	0.0612833		14.0	
Aroclor-1260 (1)	A	250.00	286	0.0452983	0.0519125		14.4	
Aroclor-1260 (2)	A	250.00	286	0.0435673	0.0497726		14.4	
Aroclor-1260 (3)	A	250.00	287	0.1057889	0.1212873		14.8	
Aroclor-1260 (4)	A	250.00	283	0.0492947	0.0558228		13.2	
Aroclor-1260 (5)	A	250.00	283	0.0243750	0.0276211		13.2	
Aroclor 1260 [2C]	A	250.00	292	0.0704955	0.0821169		16.6	
Aroclor-1260 (1) [2C]	A	250.00	295	0.0461001	0.0544036		18.0	
Aroclor-1260 (2) [2C]	A	250.00	292	0.0503249	0.0587985		16.8	
Aroclor-1260 (3) [2C]	A	250.00	290	0.1106955	0.1286685		16.0	
Aroclor-1260 (4) [2C]	A	250.00	289	0.0748616	0.0865970		15.6	
Decachlorobiphenyl	A	40.000	43.9	0.8487322	0.9318926		9.8	
Tetrachlorometaxylene	A	40.000	47.4	0.9257869	1.0974840		18.5	
Decachlorobiphenyl [2C]	A	40.000	44.4	0.9289123	1.0312310		11.0	
Tetrachlorometaxylene [2C]	A	40.000	49.6	0.8494309	1.0538330		24.0	*

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070903ECD7.D
Data file 2: /20180709.b/20180709.b/18070903ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 09-JUL-2018 07:47
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.734	0.000	16180753	4.612	0.003	25336558	47.4	49.6	4.5	Tetrachloro-m-xylene
13.287	0.000	11895596	13.469	0.009	12898736	43.9	44.4	1.1	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	118.5	124.1
Decachlorobiphenyl	109.8	111.0

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	29486983	14.6
Hexabromobiphenyl	22585647	25529980	13.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	48084556	20.7
Hexabromobiphenyl	22087957	25016202	13.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.483	0.000	2267694	288.5	1	6.455	0.002	5032053	295.3
Aroclor-1016	2	6.893	0.000	7862718	299.1	2	7.098	0.003	9371936	285.1
Aroclor-1016	3	7.161	0.000	2050275	292.3	3	7.484	0.004	2322926	293.1
Aroclor-1016	4	7.887	0.000	2375640	290.0	4	8.008	0.004	2706636	283.3
	Total Col1Ave (4 peaks):				292.5	Total Col2Ave (4 peaks):				289.2 RPD = 1
	Corrected Ave (3 peaks):				290.3	Corrected Ave (3 peaks):				287.2 RPD = 1
	CalAmt %D:				17.0	CalAmt %D:				15.7
Aroclor-1260	1	10.428	0.000	4141643	286.5	1	10.556	0.005	4253036	295.0
Aroclor-1260	2	10.746	0.000	3970917	285.6	2	10.999	0.006	4596608	292.1
Aroclor-1260	3	11.119	0.000	9676444	286.6	3	11.277	0.007	10058737	290.6
Aroclor-1260	4	11.521	0.000	4453608	283.1	4	11.849	0.009	6769773	289.2
Aroclor-1260	5	11.636	0.000	2203643	283.3	NS	---			----
	Total Col1Ave (5 peaks):				285.0	Total Col2Ave (4 peaks):				291.7 RPD = 2
	Corrected Ave (4 peaks):				284.6	Corrected Ave (3 peaks):				290.6 RPD = 2
	CalAmt %D:				14.0	CalAmt %D:				16.7

Total PCB Area Col1 (4.834 - 13.187) = 110908787 Col1 Total PCB = 0.6 ppm*

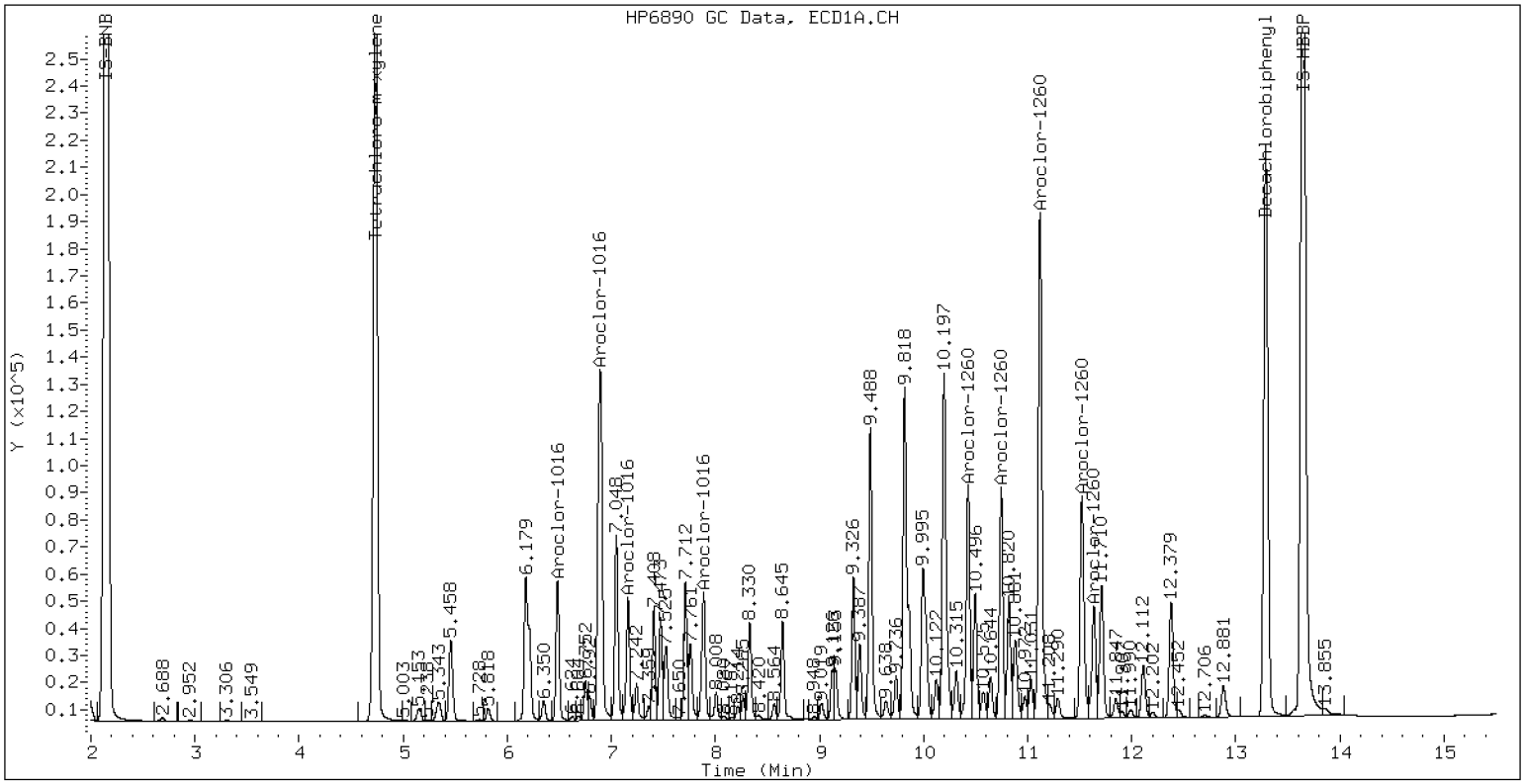
Total PCB Area Col2 (4.834 - 13.187) = 124982085 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

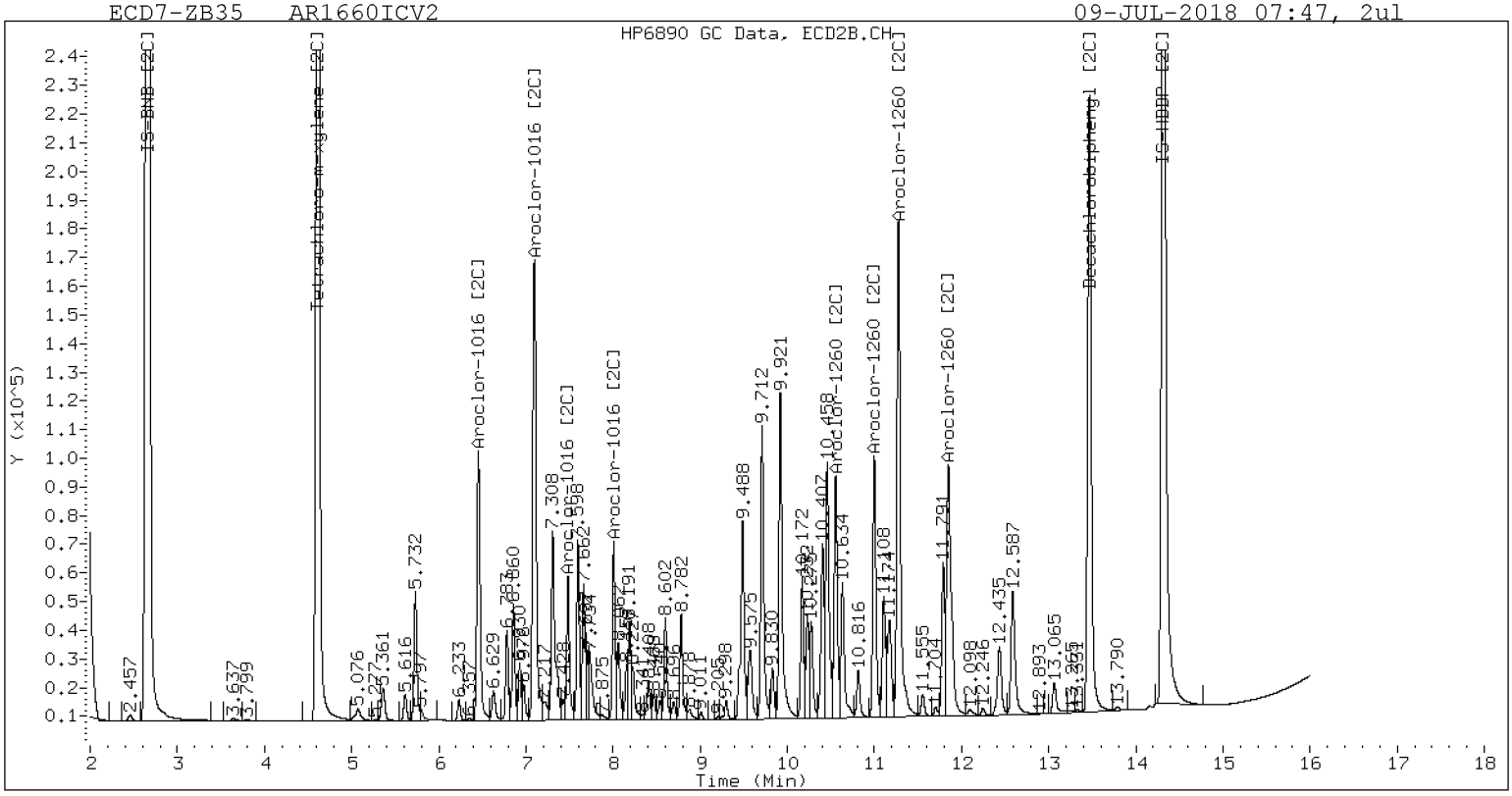
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 09-JUL-2018 07:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 09-JUL-2018 07:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062228.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV1	Injection Time:	02:27
Sequence Name:	AR1660SCV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	269	0.0334741	0.0357307		7.5	20
Aroclor 1016 [2C]	A	250.00	260	0.0280332	0.0291064		4.0	20
Aroclor 1260	A	250.00	276	0.0536648	0.0598149		10.3	20
Aroclor 1260 [2C]	A	250.00	271	0.0704955	0.0767762		8.4	20
Decachlorobiphenyl	A	40.000	40.0	0.8487322	0.8482276		-0.06	20
Tetrachlorometaxylene	A	40.000	42.7	0.9257869	0.9887435		6.8	20
Decachlorobiphenyl [2C]	A	40.000	39.3	0.9289123	0.9118928		-1.8	20
Tetrachlorometaxylene [2C]	A	40.000	42.0	0.8494309	0.8910303		4.9	20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062228.D
Data file 2: /20180622.b/20180622.b/18062228.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 23-JUN-2018 02:27
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.739	-0.003	14049135	4.636	-0.004	20582507	42.7	42.0	1.8	Tetrachloro-m-xylene
13.311	-0.000	10358667	13.511	-0.000	11307994	40.0	39.3	1.8	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.8	104.9
Decachlorobiphenyl	99.9	98.2

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28418174	10.4
Hexabromobiphenyl	22585647	24424270	8.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46199350	16.0
Hexabromobiphenyl	22087957	24801137	12.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.494	-0.003	1967112	259.6	1	6.483	-0.006	4163042	254.2
Aroclor-1016	2	6.904	-0.003	6653598	262.6	2	7.127	-0.006	8236931	260.8
Aroclor-1016	3	7.172	-0.002	1756416	259.9	3	7.513	-0.005	1989799	261.3
Aroclor-1016	4	7.901	-0.002	2315380	293.3	4	8.039	-0.006	2418947	263.6
	Total Col1Ave (4 peaks):				268.9	Total Col2Ave (4 peaks):				260.0 RPD = 3
	Corrected Ave (3 peaks):				260.7	Corrected Ave (3 peaks):				258.8 RPD = 1
Aroclor-1221	1	3.552	-0.004	16093	7.3	1	3.823	-0.003	30734	8.2
Aroclor-1221	2	5.351	-0.006	417252	161.2	2	5.387	0.002	620114	107.8
Aroclor-1221	3	5.465	-0.003	1434753	183.1	3	5.760	-0.002	1953074	199.2
	Total Col1Ave (3 peaks):				117.2	Total Col2Ave (3 peaks):				105.1 RPD = 11
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.552	-0.005	16093	11.9	1	3.823	-0.004	30734	13.8
Aroclor-1232	2	6.494	-0.002	1967112	594.6	2	6.483	-0.002	4163042	536.0
Aroclor-1232	3	6.904	-0.002	6653598	597.7	3	7.127	-0.002	8236931	605.9
Aroclor-1232	4	7.724	-0.001	1921587	525.5	4	8.914	-0.003	158992	31.8
	Total Col1Ave (4 peaks):				432.4	Total Col2Ave (4 peaks):				296.8 RPD = 37
	Corrected Ave (3 peaks):				377.3	Corrected Ave (3 peaks):				193.8 RPD = 64*
Aroclor-1242	1	6.494	-0.003	1967112	322.8	1	6.483	-0.006	4163042	325.9
Aroclor-1242	2	7.059	-0.003	2602995	323.0	2	7.127	-0.005	8236931	335.4
Aroclor-1242	3	8.278	-0.003	367910	53.5	3	8.571	-0.006	321723	42.7
Aroclor-1242	4	8.578	0.004	200494	27.7	4	8.914	-0.008	158992	18.2
	Total Col1Ave (4 peaks):				181.7	Total Col2Ave (4 peaks):				180.6 RPD = 1
	Corrected Ave (3 peaks):				134.7	Corrected Ave (3 peaks):				129.0 RPD = 4
Aroclor-1248	1	6.904	0.003	6653598	542.8	1	7.628	-0.003	2237332	209.9
Aroclor-1248	2	7.724	-0.001	1921587	193.5	2	8.039	-0.003	2418947	216.1
Aroclor-1248	3	8.343	0.009	1431679	96.7	3	8.499	-0.003	464071	38.3
Aroclor-1248	4	8.578	0.005	200494	18.1	4	8.914	-0.004	158992	11.3
	Total Col1Ave (4 peaks):				212.8	Total Col2Ave (4 peaks):				118.9 RPD = 57*
	Corrected Ave (3 peaks):				102.8	Corrected Ave (3 peaks):				86.5 RPD = 17
Aroclor-1254	1	8.660	0.000	1339788	70.2	1	8.814	-0.002	1432152	89.7
Aroclor-1254	2	---			0.0	2	8.914	0.007	158992	20.4
Aroclor-1254	3	9.034	-0.001	163991	14.8	3	9.522	0.039	3285355	128.7
Aroclor-1254	4	9.167	-0.004	551685	23.6	4	9.746	0.006	4394093	171.8
Aroclor-1254	5	9.505	-0.016	4381536	183.3	5	10.495	-0.003	4286678	224.1
	Total Col1Ave (4 peaks):				73.0	Total Col2Ave (5 peaks):				126.9 RPD = 54*
	Corrected Ave (3 peaks):				36.2	Corrected Ave (4 peaks):				102.6 RPD = 96*
Aroclor-1260	1	10.446	-0.001	3815996	275.9	1	10.593	-0.007	3824892	267.6
Aroclor-1260	2	10.766	-0.002	3744227	281.5	2	11.038	-0.006	4186833	268.4
Aroclor-1260	3	11.139	-0.001	9079399	281.1	3	11.315	-0.007	9483430	276.3
Aroclor-1260	4	11.541	-0.002	4279158	284.3	4	11.887	-0.007	6306563	271.7
Aroclor-1260	5	11.657	-0.002	1908325	256.4	NS	---			----
	Total Col1Ave (5 peaks):				275.9	Total Col2Ave (4 peaks):				271.0 RPD = 2
	Corrected Ave (4 peaks):				273.7	Corrected Ave (3 peaks):				269.2 RPD = 2
Aroclor-1262	1	10.446	-0.000	3815996	192.6	1	10.593	-0.003	3824892	199.4
Aroclor-1262	2	11.139	0.001	9079399	246.8	2	11.038	-0.003	4186833	231.3
Aroclor-1262	3	11.541	-0.000	4279158	376.4	3	11.315	-0.002	9483430	257.0
Aroclor-1262	4	11.657	0.000	1908325	132.6	4	11.830	-0.003	2322250	151.4
	Total Col1Ave (4 peaks):				237.1	Total Col2Ave (4 peaks):				209.8 RPD = 12
	Corrected Ave (3 peaks):				190.7	Corrected Ave (3 peaks):				194.0 RPD = 2
Aroclor-1268	1	11.657	-0.001	1908325	43.6	1	11.830	-0.001	2322250	55.0
Aroclor-1268	2	11.731	0.003	2284706	57.3	2	11.887	-0.009	6306563	145.9
Aroclor-1268	3	12.133	0.017	958869	29.1	3	12.287	0.000	82617	2.4
Aroclor-1268	4	12.904	-0.001	452755	4.6	4	13.107	0.001	459069	4.3
	Total Col1Ave (4 peaks):				33.7	Total Col2Ave (4 peaks):				51.9 RPD = 43*

Corrected Ave (3 peaks): 25.8 Corrected Ave (3 peaks): 20.6 RPD = 22

Total PCB Area Col1 (4.843 - 13.212) = 99226432 Col1 Total PCB = 0.5 ppm*

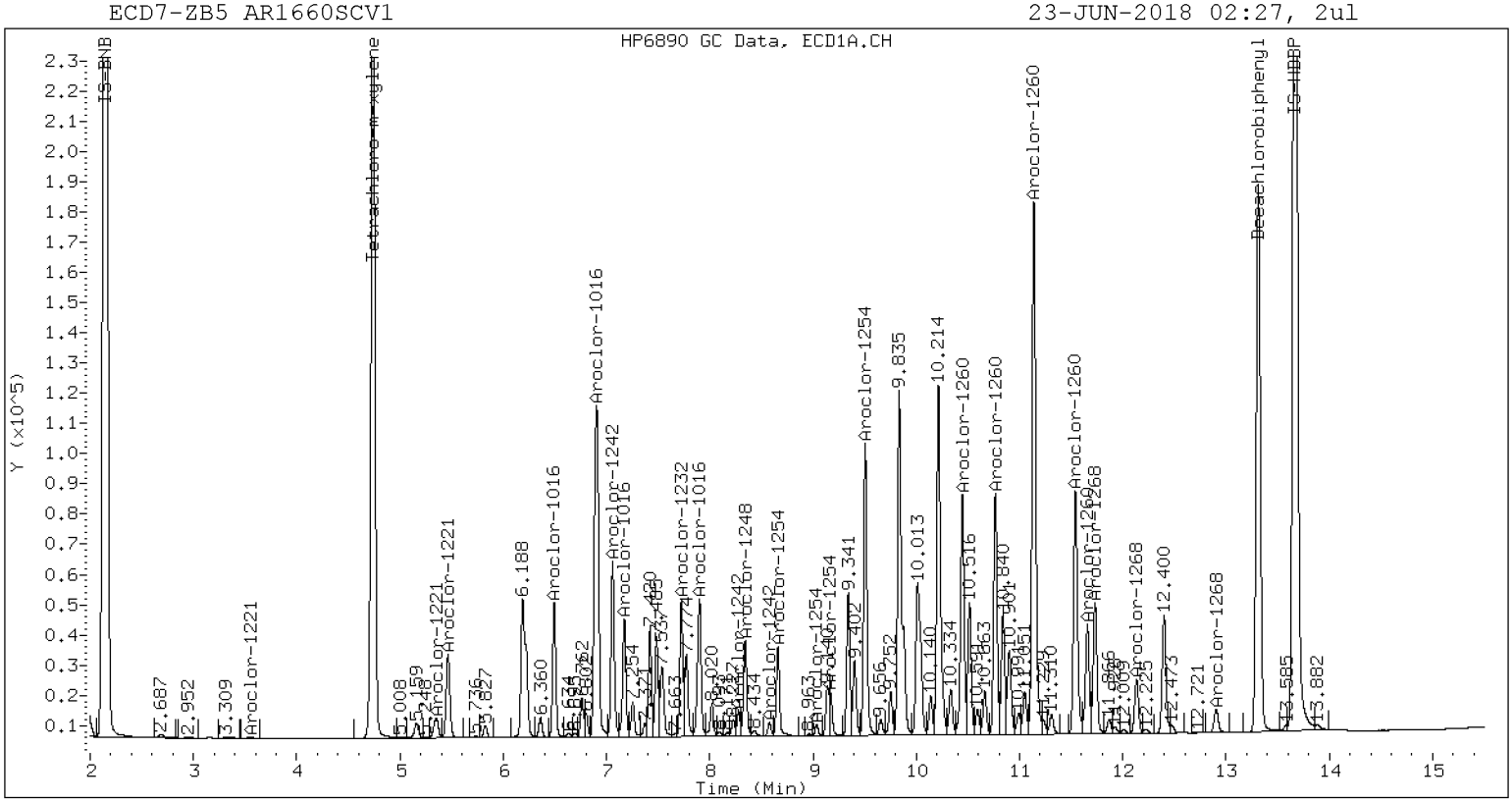
Total PCB Area Col2 (4.843 - 13.212) = 110201386 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

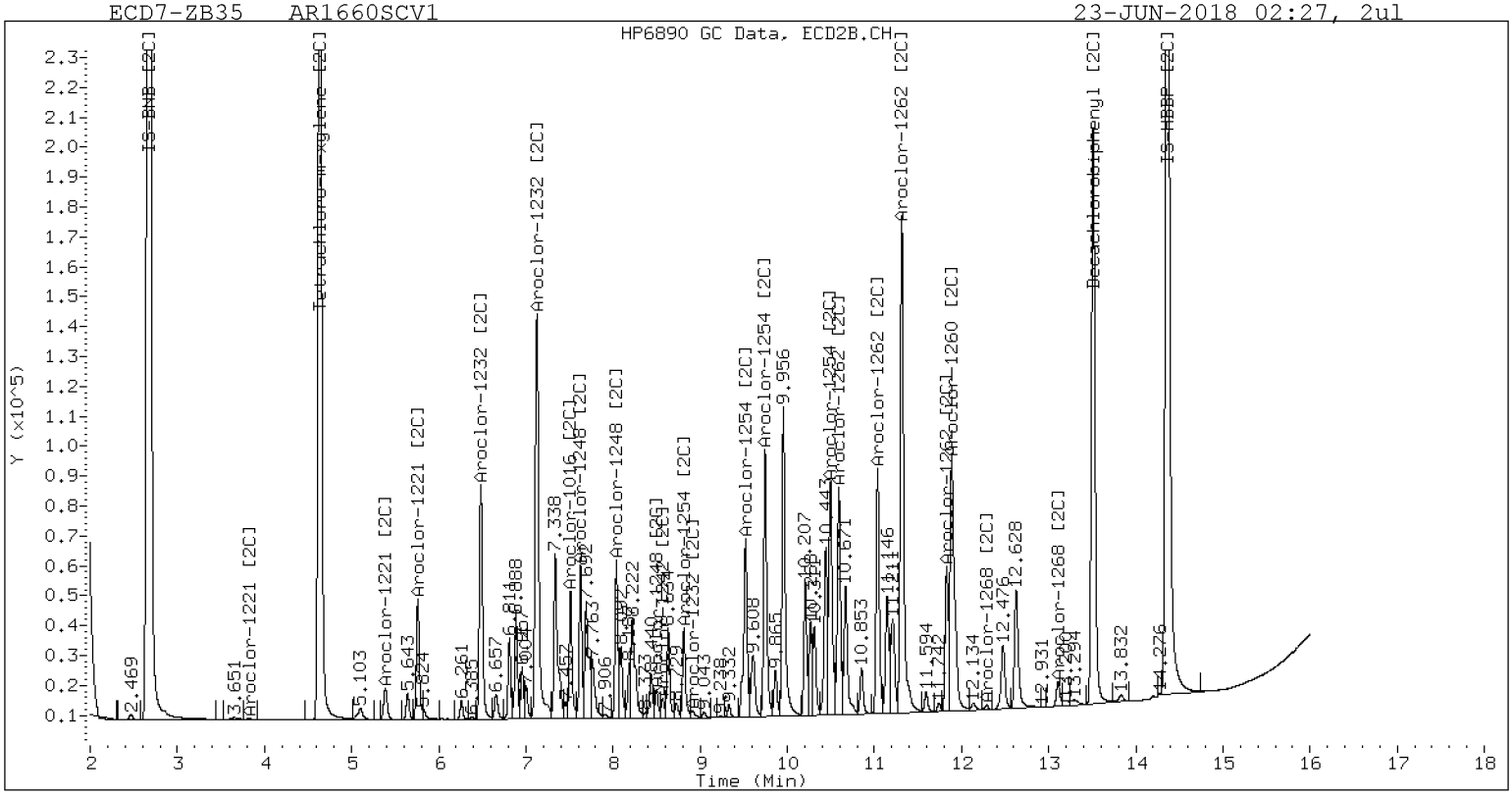
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV1 23-JUN-2018 02:27, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062229.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV2	Injection Time:	02:49
Sequence Name:	AR1242SCV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	245	0.0198957	0.0194629		-2.2	20
Aroclor 1242 [2C]	A	250.00	245	0.0232014	0.0229963		-1.8	20
Decachlorobiphenyl	A	40.000	35.7	0.8487322	0.7572376		-10.8	20
Tetrachlorometaxylene	A	40.000	41.3	0.9257869	0.9563323		3.3	20
Decachlorobiphenyl [2C]	A	40.000	35.2	0.9289123	0.8168547		-12.1	20
Tetrachlorometaxylene [2C]	A	40.000	40.5	0.8494309	0.8599421		1.2	20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062229.D
Data file 2: /20180622.b/20180622.b/18062229.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 23-JUN-2018 02:49
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.742	-0.001	13518454	4.638	-0.001	19961438	41.3	40.5	2.0	Tetrachloro-m-xylene
13.311	-0.001	9355334	13.511	-0.000	10264113	35.7	35.2	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	103.3	101.2
Decachlorobiphenyl	89.2	87.9

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28271451	9.9
Hexabromobiphenyl	22585647	24709108	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46425085	16.5
Hexabromobiphenyl	22087957	25130811	13.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	1529830	203.0	1	6.483	-0.006	3276115	199.1
Aroclor-1016	2	6.906	-0.002	4927126	195.5	2	7.128	-0.005	6172696	194.5
Aroclor-1016	3	7.172	-0.002	1358126	202.0	3	7.513	-0.005	1547639	202.2
Aroclor-1016	4	7.900	-0.003	1869028	238.0	4	8.039	-0.006	2019182	218.9
Total Col1Ave (4 peaks):					209.6	Total Col2Ave (4 peaks):				203.7 RPD = 3
Corrected Ave (3 peaks):					200.1	Corrected Ave (3 peaks):				198.6 RPD = 1
Aroclor-1221	1	3.556	-0.000	11516	5.2	1	3.825	-0.002	21644	5.8
Aroclor-1221	2	5.352	-0.005	339633	131.9	2	5.390	0.005	519612	89.9
Aroclor-1221	3	5.467	-0.001	1089482	139.7	3	5.761	-0.002	1503296	152.6
Total Col1Ave (3 peaks):					92.3	Total Col2Ave (3 peaks):				82.7 RPD = 11
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.556	-0.001	11516	8.6	1	3.825	-0.003	21644	9.6
Aroclor-1232	2	6.495	-0.001	1529830	464.8	2	6.483	-0.002	3276115	419.7
Aroclor-1232	3	6.906	-0.000	4927126	444.9	3	7.128	-0.002	6172696	451.8
Aroclor-1232	4	7.725	-0.001	1544951	424.7	4	8.916	-0.001	2127100	422.9
Total Col1Ave (4 peaks):					335.8	Total Col2Ave (4 peaks):				326.0 RPD = 3
Corrected Ave (3 peaks):					292.7	Corrected Ave (3 peaks):				284.1 RPD = 3
Aroclor-1242	1	6.495	-0.002	1529830	252.3	1	6.483	-0.005	3276115	255.2
Aroclor-1242	2	7.059	-0.003	2017314	251.6	2	7.128	-0.005	6172696	250.1
Aroclor-1242	3	8.278	-0.002	1645992	240.6	3	8.572	-0.005	1769177	233.8
Aroclor-1242	4	8.572	-0.003	1684905	233.9	4	8.916	-0.006	2127100	242.3
Total Col1Ave (4 peaks):					244.6	Total Col2Ave (4 peaks):				245.4 RPD = 0
Corrected Ave (3 peaks):					242.1	Corrected Ave (3 peaks):				242.1 RPD = 0
Aroclor-1248	1	6.906	0.005	4927126	404.1	1	7.628	-0.003	1829869	170.9
Aroclor-1248	2	7.725	-0.001	1544951	156.4	2	8.039	-0.003	2019182	179.5
Aroclor-1248	3	8.333	-0.002	2156207	146.4	3	8.499	-0.003	1763648	144.9
Aroclor-1248	4	8.572	-0.001	1684905	153.1	4	8.916	-0.002	2127100	150.7
Total Col1Ave (4 peaks):					215.0	Total Col2Ave (4 peaks):				161.5 RPD = 28
Corrected Ave (3 peaks):					152.0	Corrected Ave (3 peaks):				155.5 RPD = 2
Aroclor-1254	1	8.657	-0.002	893015	47.1	1	8.814	-0.002	697764	43.5
Aroclor-1254	2	8.735	-0.001	399428	66.3	2	8.916	0.009	2127100	272.0
Aroclor-1254	3	9.034	-0.000	512955	46.5	3	9.480	-0.003	1147989	44.7
Aroclor-1254	4	9.171	-0.000	924765	39.8	4	9.737	-0.003	1012984	39.4
Aroclor-1254	5	9.526	0.004	751506	31.6	5	10.496	-0.002	342541	17.8
Total Col1Ave (5 peaks):					46.3	Total Col2Ave (5 peaks):				83.5 RPD = 57*
Corrected Ave (4 peaks):					41.2	Corrected Ave (4 peaks):				36.4 RPD = 13
Aroclor-1260	1	10.445	-0.003	17671	1.3	1	10.659	0.059	35256	2.4
Aroclor-1260	2	10.766	-0.001	14353	1.1	2	11.030	-0.014	99340	6.3
Aroclor-1260	3	11.140	-0.000	36890	1.1	3	11.316	-0.005	46386	1.3
Aroclor-1260	4	11.541	-0.001	31896	2.1	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks):					1.4	Total Col2Ave (3 peaks):				3.4 RPD = 83*
Corrected Ave (3 peaks):					1.2	Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.445	-0.002	17671	0.9	1	10.659	0.063	35256	1.8
Aroclor-1262	2	11.140	0.002	36890	1.0	2	11.030	-0.011	99340	5.4
Aroclor-1262	3	11.541	0.000	31896	2.8	3	11.316	-0.001	46386	1.2
Aroclor-1262	4	---			0.0	4	---			0.0
Total Col1Ave (3 peaks):					1.5	Total Col2Ave (3 peaks):				2.8 RPD = 58*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.120	0.004	11056	0.3	3	---			0.0
Aroclor-1268	4	12.894	-0.010	61780	0.6	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (4.843 - 13.212) = 37725675 Col1 Total PCB = 0.2 ppm*

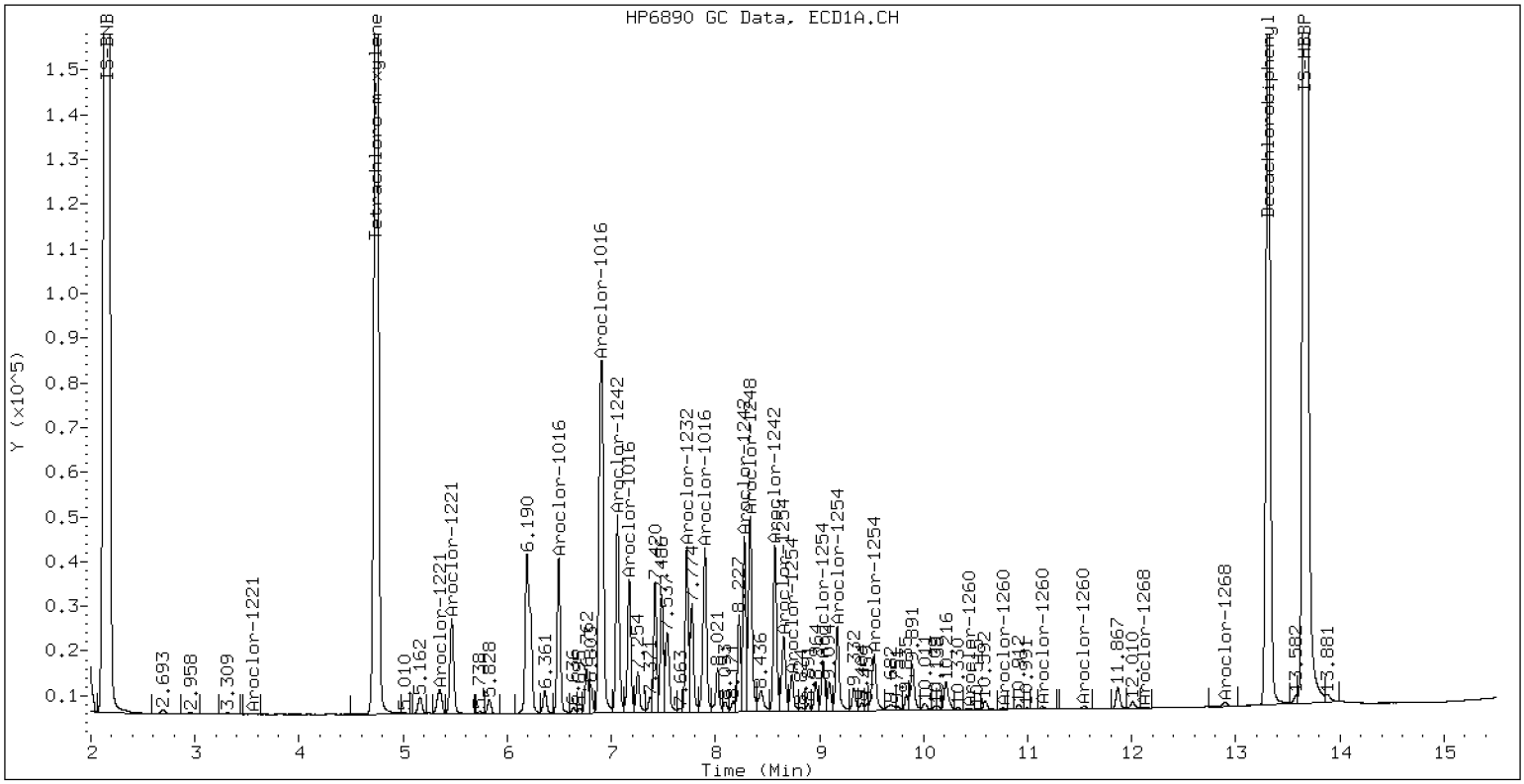
Total PCB Area Col2 (4.843 - 13.212) = 46287036 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

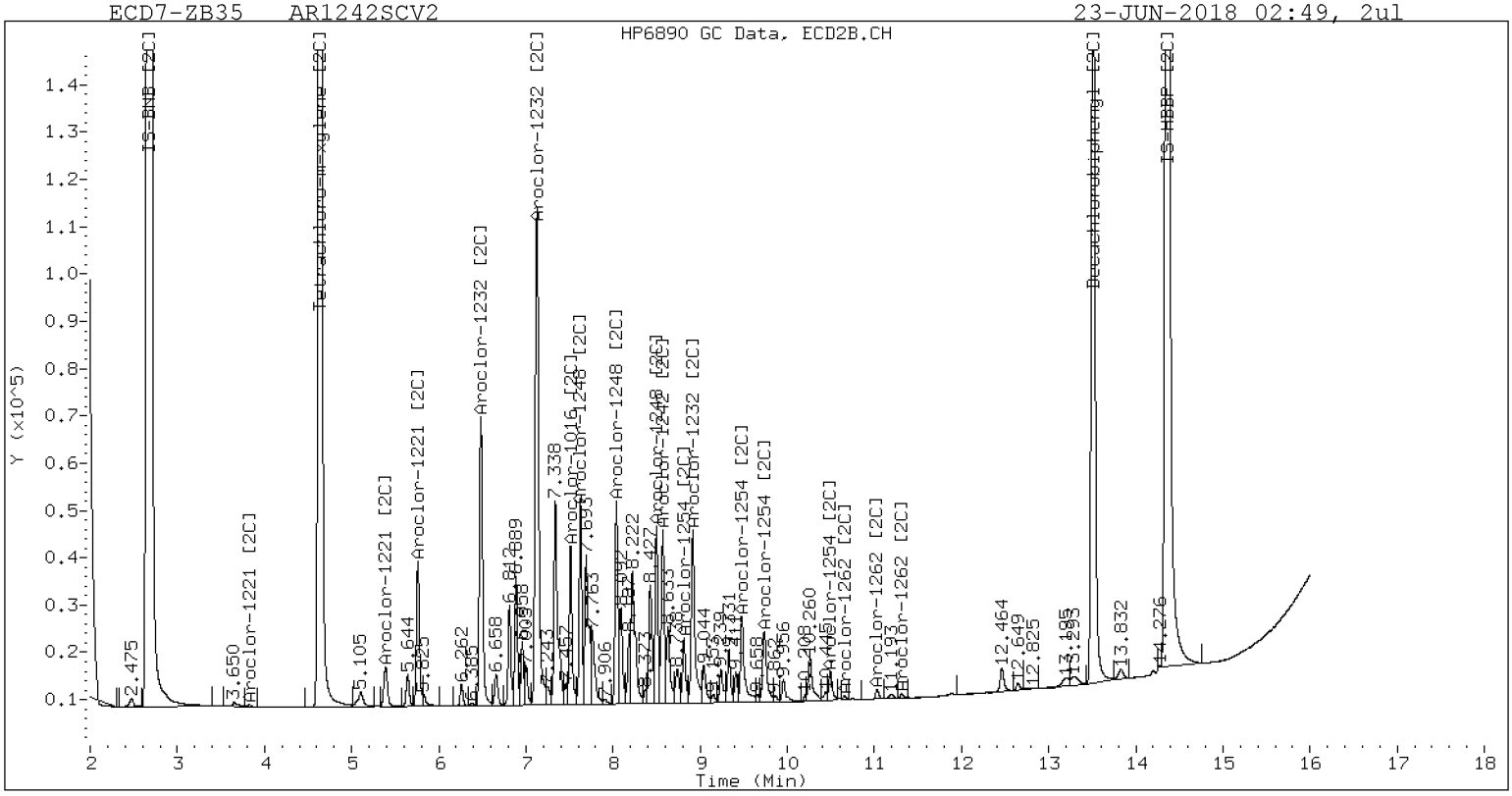
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV2 23-JUN-2018 02:49, 2ul



ZB-35 Manual Integration: NO

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062230.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV3	Injection Time:	03:11
Sequence Name:	AR1248SCV3		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	266	0.0338135	0.0359448		6.4	20
Aroclor 1248 [2C]	A	250.00	265	0.0207835	0.0219597		5.8	20
Decachlorobiphenyl	A	40.000	38.2	0.8487322	0.8114908		-4.4	20
Tetrachlorometaxylene	A	40.000	42.7	0.9257869	0.9874500		6.7	20
Decachlorobiphenyl [2C]	A	40.000	37.7	0.9289123	0.8760028		-5.7	20
Tetrachlorometaxylene [2C]	A	40.000	42.2	0.8494309	0.8959314		5.5	20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062230.D
Data file 2: /20180622.b/20180622.b/18062230.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 23-JUN-2018 03:11
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.743	0.000	13888402	4.638	-0.002	20704237	42.7	42.2	1.1	Tetrachloro-m-xylene
13.311	-0.001	9921712	13.510	-0.001	10952151	38.2	37.7	1.4	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	106.7	105.5
Decachlorobiphenyl	95.6	94.3

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28129829	9.3
Hexabromobiphenyl	22585647	24453050	8.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46218355	16.0
Hexabromobiphenyl	22087957	25004834	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.494	-0.003	750016	100.0	1	6.482	-0.007	1780869	108.7
Aroclor-1016	2	6.900	-0.007	3354425	133.8	2	7.125	-0.009	4199617	132.9
Aroclor-1016	3	7.172	-0.002	816715	122.1	3	7.513	-0.005	896852	117.7
Aroclor-1016	4	7.900	-0.003	2860090	366.0	4	8.039	-0.006	3003880	327.2
	Total Col1Ave (4 peaks):				180.5	Total Col2Ave (4 peaks):				171.6 RPD = 5
	Corrected Ave (3 peaks):				118.6	Corrected Ave (3 peaks):				119.8 RPD = 1
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.336	-0.021	171044	66.8	2	5.397	0.012	279007	48.5
Aroclor-1221	3	5.467	-0.001	224782	29.0	3	5.761	-0.002	384609	39.2
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.494	-0.001	750016	229.0	2	6.482	-0.003	1780869	229.2
Aroclor-1232	3	6.900	-0.006	3354425	304.4	3	7.125	-0.005	4199617	308.8
Aroclor-1232	4	7.725	-0.001	2636690	728.4	4	8.914	-0.003	3640295	726.9
	Total Col1Ave (3 peaks):				420.6	Total Col2Ave (3 peaks):				421.6 RPD = 0
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.494	-0.003	750016	124.3	1	6.482	-0.006	1780869	139.4
Aroclor-1242	2	7.061	-0.001	1216034	152.4	2	7.125	-0.008	4199617	171.0
Aroclor-1242	3	8.278	-0.003	3087950	453.7	3	8.571	-0.006	2948423	391.5
Aroclor-1242	4	8.572	-0.003	2820835	393.6	4	8.914	-0.007	3640295	416.5
	Total Col1Ave (4 peaks):				281.0	Total Col2Ave (4 peaks):				279.6 RPD = 1
	Corrected Ave (3 peaks):				223.5	Corrected Ave (3 peaks):				233.9 RPD = 5
Aroclor-1248	1	6.900	-0.000	3354425	276.5	1	7.627	-0.004	2872572	269.4
Aroclor-1248	2	7.725	-0.001	2636690	268.3	2	8.039	-0.003	3003880	268.3
Aroclor-1248	3	8.333	-0.002	3827071	261.2	3	8.498	-0.004	3170007	261.6
Aroclor-1248	4	8.572	-0.001	2820835	257.7	4	8.914	-0.004	3640295	259.0
	Total Col1Ave (4 peaks):				265.9	Total Col2Ave (4 peaks):				264.6 RPD = 0
	Corrected Ave (3 peaks):				262.4	Corrected Ave (3 peaks):				263.0 RPD = 0
Aroclor-1254	1	8.656	-0.003	1796679	95.2	1	8.813	-0.003	1323122	82.8
Aroclor-1254	2	8.735	-0.001	838243	139.9	2	8.914	0.007	3640295	467.6
Aroclor-1254	3	9.033	-0.002	1086672	99.0	3	9.479	-0.004	2257052	88.4
Aroclor-1254	4	9.171	-0.001	1903011	82.3	4	9.736	-0.004	1982302	77.5
Aroclor-1254	5	9.525	0.004	1399038	59.1	5	10.494	-0.003	339560	17.7
	Total Col1Ave (5 peaks):				95.1	Total Col2Ave (5 peaks):				146.8 RPD = 43*
	Corrected Ave (4 peaks):				83.9	Corrected Ave (4 peaks):				66.6 RPD = 23
Aroclor-1260	1	10.446	-0.002	61904	4.5	1	10.592	-0.007	63869	4.4
Aroclor-1260	2	10.766	-0.002	45344	3.4	2	11.031	-0.012	151206	9.6
Aroclor-1260	3	11.139	-0.001	103267	3.2	3	11.315	-0.006	129221	3.7
Aroclor-1260	4	11.542	-0.000	39450	2.6	4	11.890	-0.004	80608	3.4
Aroclor-1260	5	11.657	-0.003	36837	4.9	NS	---			----
	Total Col1Ave (5 peaks):				3.7	Total Col2Ave (4 peaks):				5.3 RPD = 35
	Corrected Ave (4 peaks):				3.4	Corrected Ave (3 peaks):				3.9 RPD = 12
Aroclor-1262	1	10.446	-0.001	61904	3.1	1	10.592	-0.004	63869	3.3
Aroclor-1262	2	11.139	0.001	103267	2.8	2	11.031	-0.009	151206	8.3
Aroclor-1262	3	11.542	0.001	39450	3.5	3	11.315	-0.002	129221	3.5
Aroclor-1262	4	11.657	-0.000	36837	2.6	4	11.830	-0.002	46590	3.0
	Total Col1Ave (4 peaks):				3.0	Total Col2Ave (4 peaks):				4.5 RPD = 41*
	Corrected Ave (3 peaks):				2.8	Corrected Ave (3 peaks):				3.3 RPD = 14
Aroclor-1268	1	11.657	-0.001	36837	0.8	1	11.830	-0.001	46590	1.1
Aroclor-1268	2	11.730	0.002	37295	0.9	2	11.890	-0.006	80608	1.8
Aroclor-1268	3	12.126	0.010	22097	0.7	3	12.287	0.000	8314	0.2
Aroclor-1268	4	12.896	-0.008	67630	0.7	4	13.201	0.095	179150	1.7
	Total Col1Ave (4 peaks):				0.8	Total Col2Ave (4 peaks):				1.2 RPD = 43*
	Corrected Ave (3 peaks):				0.7	Corrected Ave (3 peaks):				1.0 RPD = 31

Total PCB Area Col1 (4.843 - 13.212) = 46229204 Col1 Total PCB = 0.2 ppm*

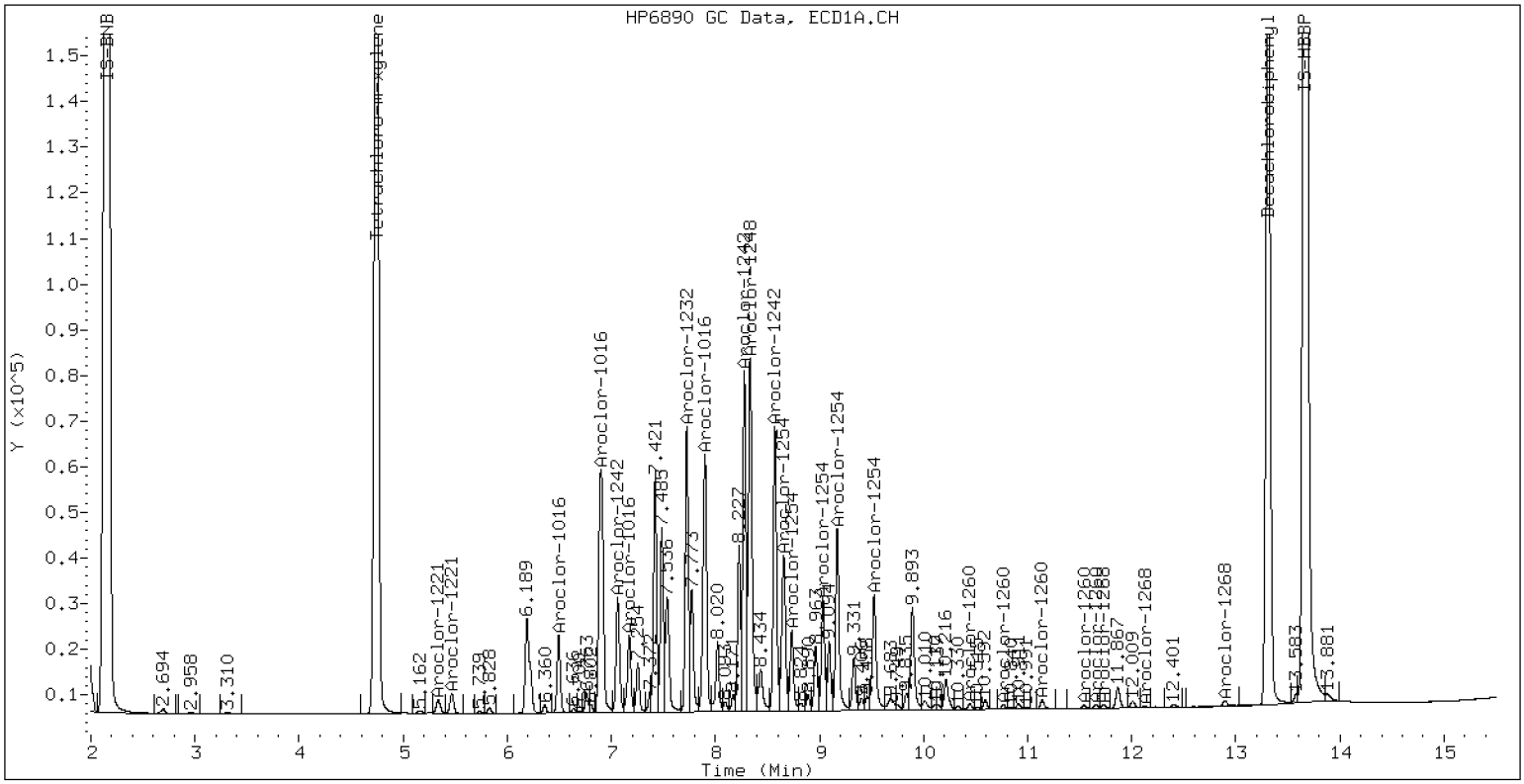
Total PCB Area Col2 (4.843 - 13.212) = 54034292 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

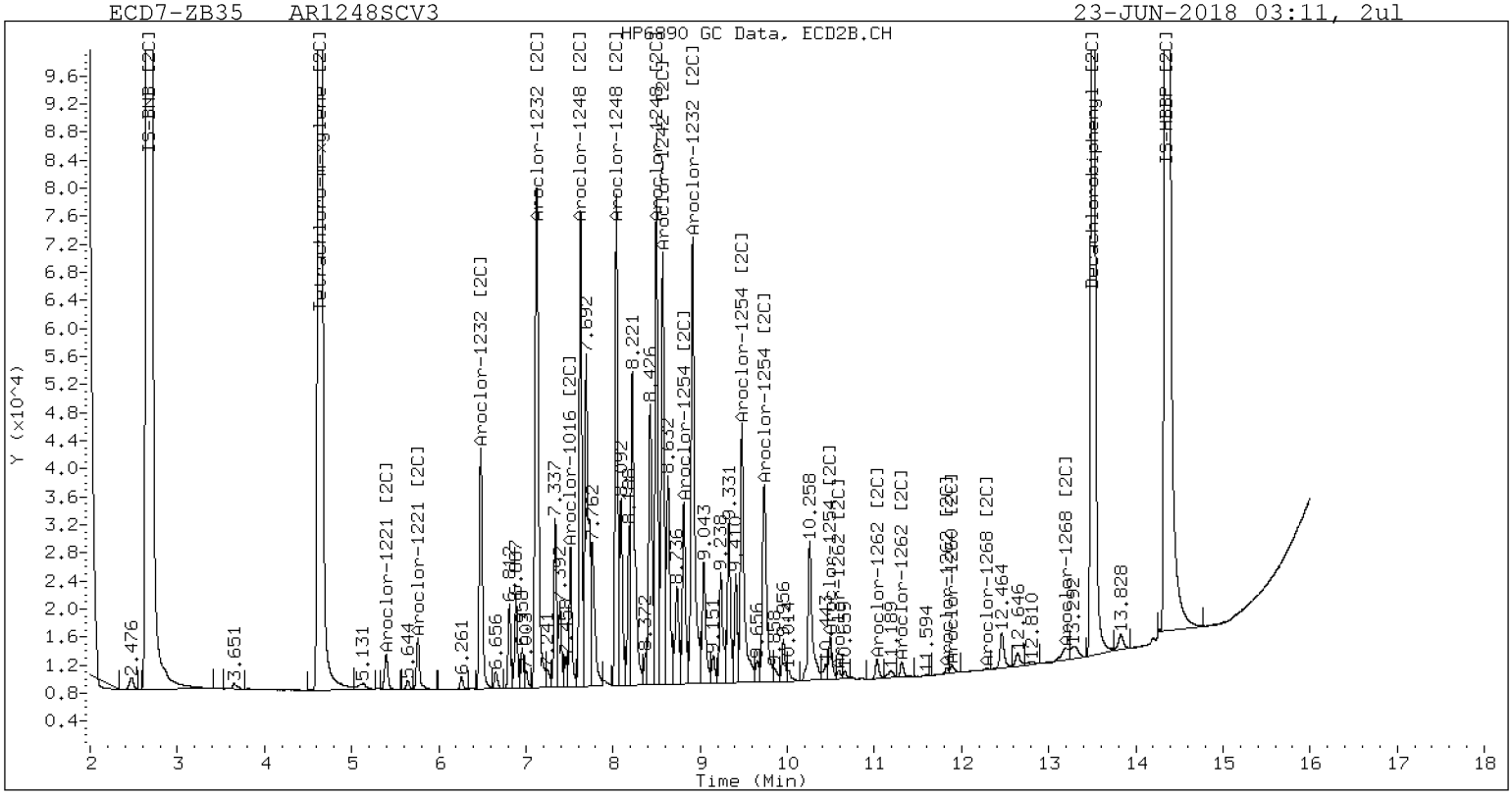
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV3 23-JUN-2018 03:11, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062231.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV4	Injection Time:	03:33
Sequence Name:	AR1254SCV4		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	266	0.0470062	0.0492284		6.5	20
Aroclor 1254 [2C]	A	250.00	259	0.0325538	0.0333189		3.8	20
Decachlorobiphenyl	A	40.000	38.5	0.8487322	0.8162285		-3.8	20
Tetrachlorometaxylene	A	40.000	41.8	0.9257869	0.9683602		4.6	20
Decachlorobiphenyl [2C]	A	40.000	37.9	0.9289123	0.8791712		-5.4	20
Tetrachlorometaxylene [2C]	A	40.000	41.3	0.8494309	0.8764712		3.2	20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062231.D
Data file 2: /20180622.b/20180622.b/18062231.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 23-JUN-2018 03:33
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
4.742	-0.001	13672488	4.637	-0.003	20562251	41.8	41.3	1.4	Tetrachloro-m-xylene
13.310	-0.002	10092871	13.507	-0.004	11174745	38.5	37.9	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	103.2
Decachlorobiphenyl	96.2	94.6

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28238436	9.7
Hexabromobiphenyl	22585647	24730502	9.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	46920543	17.8
Hexabromobiphenyl	22087957	25421102	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.495	-0.002	20857	2.8	1	6.481	-0.008	53800	3.2
Aroclor-1016	2	6.895	-0.012	102969	4.1	2	7.120	-0.013	146764	4.6
Aroclor-1016	3	7.173	-0.002	20538	3.1	3	7.512	-0.006	19868	2.6
Aroclor-1016	4	7.900	-0.002	400500	51.1	4	8.038	-0.007	1219973	130.9
Total Col1Ave (4 peaks):		15.2			Total Col2Ave (4 peaks):		35.3	RPD = 79*		
Corrected Ave (3 peaks):		3.3			Corrected Ave (3 peaks):		3.5	RPD = 5		
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.334	-0.023	138055	53.7	2	5.398	0.012	229833	39.3
Aroclor-1221	3	5.467	-0.002	12698	1.6	3	5.761	-0.001	60534	6.1
Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks					
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.495	-0.000	20857	6.3	2	6.481	-0.004	53800	6.8
Aroclor-1232	3	6.895	-0.011	102969	9.3	3	7.120	-0.009	146764	10.6
Aroclor-1232	4	7.724	-0.002	1007708	277.3	4	8.903	-0.014	2237594	440.1
Total Col1Ave (3 peaks):		97.7			Total Col2Ave (3 peaks):		152.5	RPD = 44*		
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1242	1	6.495	-0.002	20857	3.4	1	6.481	-0.007	53800	4.1
Aroclor-1242	2	7.068	0.006	57297	7.2	2	7.120	-0.012	146764	5.9
Aroclor-1242	3	8.277	-0.003	1475711	216.0	3	8.568	-0.009	640906	83.8
Aroclor-1242	4	8.578	0.003	1013203	140.8	4	8.903	-0.019	2237594	252.2
Total Col1Ave (4 peaks):		91.9			Total Col2Ave (4 peaks):		86.5	RPD = 6		
Corrected Ave (3 peaks):		50.5			Corrected Ave (3 peaks):		31.3	RPD = 47*		
Aroclor-1248	1	6.895	-0.005	102969	8.5	1	7.625	-0.006	1919057	177.3
Aroclor-1248	2	7.724	-0.002	1007708	102.1	2	8.038	-0.004	1219973	107.3
Aroclor-1248	3	8.343	0.009	3446020	234.3	3	8.498	-0.005	1552857	126.2
Aroclor-1248	4	8.578	0.005	1013203	92.2	4	8.903	-0.015	2237594	156.8
Total Col1Ave (4 peaks):		109.3			Total Col2Ave (4 peaks):		141.9	RPD = 26		
Corrected Ave (3 peaks):		67.6			Corrected Ave (3 peaks):		130.1	RPD = 63*		
Aroclor-1254	1	8.657	-0.002	4956595	261.5	1	8.812	-0.004	4142123	255.4
Aroclor-1254	2	8.735	-0.001	1720169	286.0	2	8.903	-0.004	2237594	283.1
Aroclor-1254	3	9.033	-0.002	2981119	270.5	3	9.478	-0.005	6466571	249.4
Aroclor-1254	4	9.170	-0.001	5927620	255.2	4	9.735	-0.006	6674107	256.9
Aroclor-1254	5	9.521	-0.001	6135314	258.3	5	10.493	-0.005	4906816	252.6
Total Col1Ave (5 peaks):		266.3			Total Col2Ave (5 peaks):		259.5	RPD = 3		
Corrected Ave (4 peaks):		261.4			Corrected Ave (4 peaks):		253.5	RPD = 3		
Aroclor-1260	1	10.444	-0.004	282919	20.2	1	10.587	-0.013	356373	24.3
Aroclor-1260	2	10.765	-0.002	300377	22.3	2	11.027	-0.017	1672794	104.6
Aroclor-1260	3	11.138	-0.002	628215	19.2	3	11.311	-0.010	1057899	30.1
Aroclor-1260	4	11.539	-0.003	605486	39.7	4	11.883	-0.012	656098	27.6
Aroclor-1260	5	11.656	-0.004	24114	3.2	NS	---			----
Total Col1Ave (5 peaks):		20.9			Total Col2Ave (4 peaks):		46.6	RPD = 76*		
Corrected Ave (4 peaks):		16.2			Corrected Ave (3 peaks):		27.3	RPD = 51*		
Aroclor-1262	1	10.444	-0.003	282919	14.1	1	10.587	-0.009	356373	18.1
Aroclor-1262	2	11.138	-0.000	628215	16.9	2	11.027	-0.014	1672794	90.2
Aroclor-1262	3	11.539	-0.002	605486	52.6	3	11.311	-0.005	1057899	28.0
Aroclor-1262	4	11.656	-0.002	24114	1.7	4	11.830	-0.003	76430	4.9
Total Col1Ave (4 peaks):		21.3			Total Col2Ave (4 peaks):		35.3	RPD = 49*		
Corrected Ave (3 peaks):		10.9			Corrected Ave (3 peaks):		17.0	RPD = 44*		
Aroclor-1268	1	11.656	-0.003	24114	0.5	1	11.830	-0.001	76430	1.8
Aroclor-1268	2	11.730	0.002	28044	0.7	2	11.883	-0.014	656098	14.8
Aroclor-1268	3	12.129	0.013	22568	0.7	3	---			0.0
Aroclor-1268	4	12.893	-0.011	52575	0.5	4	13.203	0.096	171416	1.6
Total Col1Ave (4 peaks):		0.6			Total Col2Ave (3 peaks):		6.0	RPD = 163*		
Corrected Ave (3 peaks):		0.6			Corrected Ave: < 3 Peaks					

Total PCB Area Col1 (4.843 - 13.212) = 59050043 Col1 Total PCB = 0.3 ppm*

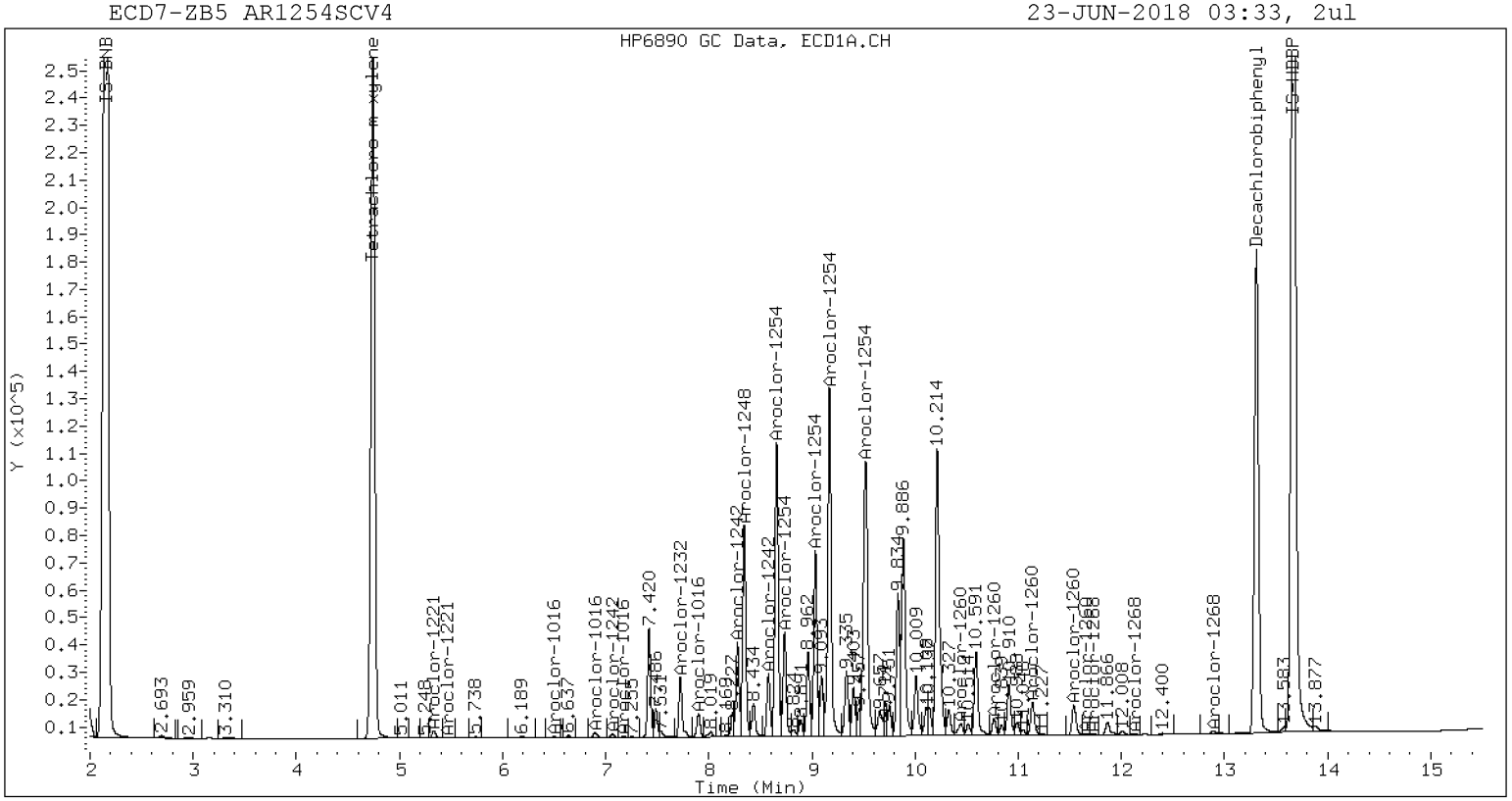
Total PCB Area Col2 (4.843 - 13.212) = 64437574 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

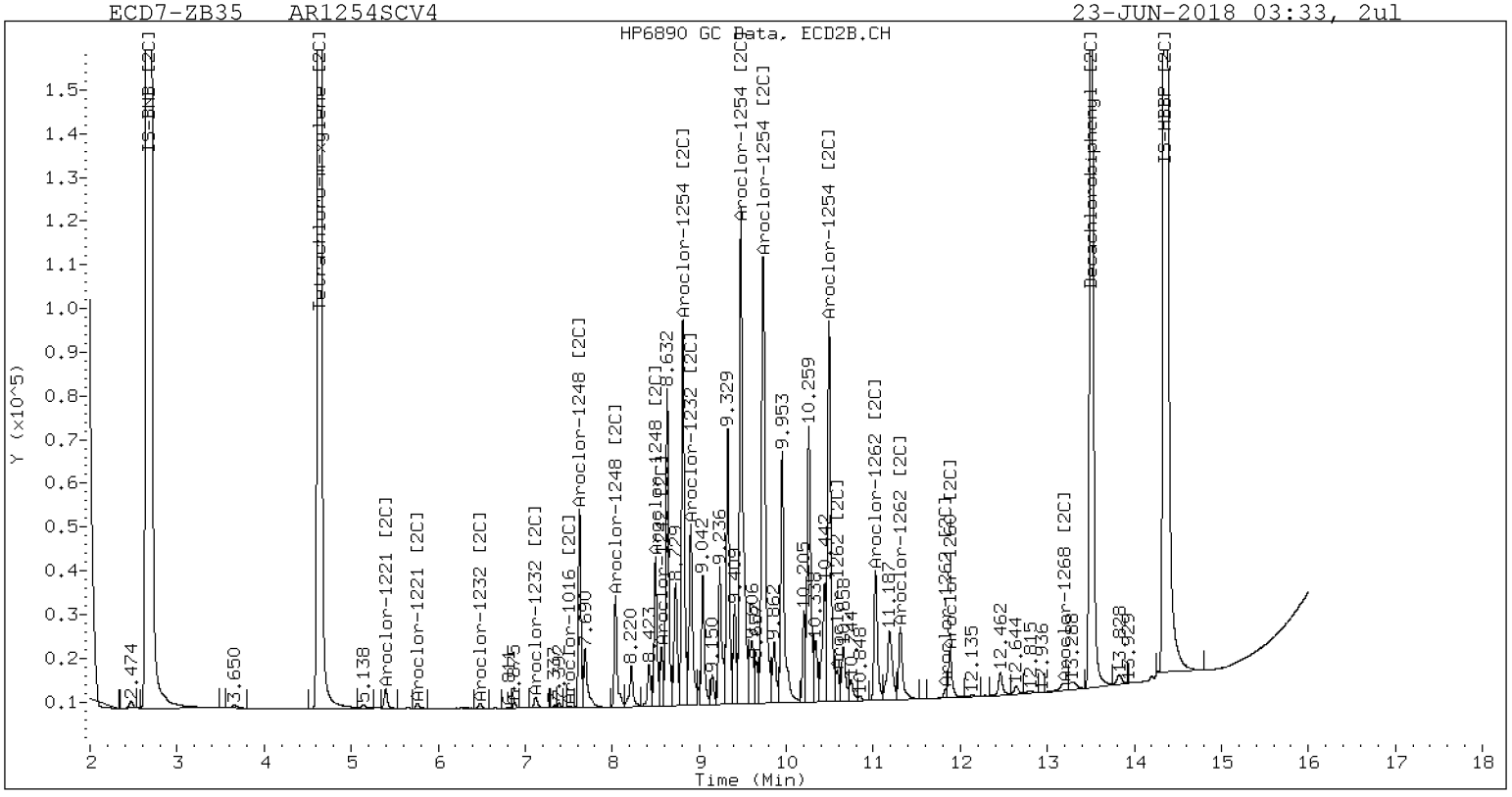
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV4 23-JUN-2018 03:33, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062232.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV5	Injection Time:	03:55
Sequence Name:	AR2162SCV5		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1262	A	250.00	274	0.0674389	0.0737527		9.5	20
Aroclor 1262 [2C]	A	250.00	275	0.0721898	0.0794561		10.0	20
Decachlorobiphenyl	A	40.000	37.9	0.8487322	0.8047247		-5.2	20
Tetrachlorometaxylene	A	40.000	43.6	0.9257869	1.0088330		9.0	20
Decachlorobiphenyl [2C]	A	40.000	37.4	0.9289123	0.8676234		-6.6	20
Tetrachlorometaxylene [2C]	A	40.000	43.9	0.8494309	0.9331348		9.9	20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062232.D
Data file 2: /20180622.b/20180622.b/18062232.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 23-JUN-2018 03:55
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.001	14301381	4.635	-0.005	21362263	43.6	43.9	0.8	Tetrachloro-m-xylene
13.309	-0.003	9903292	13.506	-0.005	11031423	37.9	37.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	109.0	109.9
Decachlorobiphenyl	94.8	93.4

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28352322	10.2
Hexabromobiphenyl	22585647	24612870	9.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	45786011	14.9
Hexabromobiphenyl	22087957	25429054	15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	186571	24.7	1	6.494	0.004	764918	47.1
Aroclor-1016	2	6.906	-0.002	533580	21.1	2	7.126	-0.008	745418	23.8
Aroclor-1016	3	7.172	-0.002	149730	22.2	3	7.510	-0.008	191417	25.4
Aroclor-1016	4	7.899	-0.003	99041	12.6	4	8.037	-0.008	240493	26.4
Total Col1Ave (4 peaks):					20.1	Total Col2Ave (4 peaks):				30.7 RPD = 41*
Corrected Ave (3 peaks):					18.6	Corrected Ave (3 peaks):				25.2 RPD = 30
Aroclor-1221	1	3.554	-0.001	570864	257.9	1	3.823	-0.003	946759	256.0
Aroclor-1221	2	5.355	-0.002	668592	259.0	2	5.381	-0.005	1504081	263.8
Aroclor-1221	3	5.466	-0.002	2015761	257.8	3	5.758	-0.005	2543924	261.8
Total Col1Ave (3 peaks):					258.2	Total Col2Ave (3 peaks):				260.5 RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.554	-0.002	570864	424.7	1	3.823	-0.004	946759	427.6
Aroclor-1232	2	6.493	-0.002	186571	56.5	2	6.494	0.008	764918	99.4
Aroclor-1232	3	6.906	-0.000	533580	48.0	3	7.126	-0.004	745418	55.3
Aroclor-1232	4	7.724	-0.002	106270	29.1	4	8.908	-0.010	228702	46.1
Total Col1Ave (4 peaks):					139.6	Total Col2Ave (4 peaks):				157.1 RPD = 12
Corrected Ave (3 peaks):					44.6	Corrected Ave (3 peaks):				66.9 RPD = 40*
Aroclor-1242	1	6.493	-0.004	186571	30.7	1	6.494	0.005	764918	60.4
Aroclor-1242	2	7.058	-0.003	245503	30.5	2	7.126	-0.007	745418	30.6
Aroclor-1242	3	8.278	-0.002	130137	19.0	3	8.569	-0.008	110020	14.7
Aroclor-1242	4	8.576	0.001	139247	19.3	4	8.908	-0.014	228702	26.4
Total Col1Ave (4 peaks):					24.9	Total Col2Ave (4 peaks):				33.1 RPD = 28
Corrected Ave (3 peaks):					22.9	Corrected Ave (3 peaks):				23.9 RPD = 4
Aroclor-1248	1	6.906	0.005	533580	43.6	1	7.624	-0.007	191796	18.2
Aroclor-1248	2	7.724	-0.002	106270	10.7	2	8.037	-0.005	240493	21.7
Aroclor-1248	3	8.343	0.008	607663	41.2	3	8.497	-0.006	152085	12.7
Aroclor-1248	4	8.576	0.003	139247	12.6	4	8.908	-0.011	228702	16.4
Total Col1Ave (4 peaks):					27.0	Total Col2Ave (4 peaks):				17.2 RPD = 44*
Corrected Ave (3 peaks):					21.5	Corrected Ave (3 peaks):				15.8 RPD = 31
Aroclor-1254	1	8.659	-0.001	672600	35.3	1	8.811	-0.005	755572	47.7
Aroclor-1254	2	8.734	-0.002	90190	14.9	2	8.908	0.000	228702	29.7
Aroclor-1254	3	9.034	-0.001	133157	12.0	3	9.518	0.035	2949013	116.5
Aroclor-1254	4	9.139	-0.033	895787	38.4	4	9.742	0.002	3608952	142.3
Aroclor-1254	5	9.504	-0.018	3481042	146.0	5	10.490	-0.007	2268427	119.6
Total Col1Ave (5 peaks):					49.3	Total Col2Ave (5 peaks):				91.2 RPD = 60*
Corrected Ave (4 peaks):					25.2	Corrected Ave (4 peaks):				78.4 RPD = 103*
Aroclor-1260	1	10.444	-0.004	5454901	391.4	1	10.588	-0.011	5409700	369.2
Aroclor-1260	2	10.763	-0.004	4433030	330.7	2	11.033	-0.010	5135853	321.1
Aroclor-1260	3	11.136	-0.004	10110565	310.6	3	11.310	-0.011	10409494	295.8
Aroclor-1260	4	11.539	-0.003	3121815	205.8	4	11.886	-0.008	7250232	304.7
Aroclor-1260	5	11.655	-0.004	4003542	533.9	NS	---			----
Total Col1Ave (5 peaks):					354.5	Total Col2Ave (4 peaks):				322.7 RPD = 9
Corrected Ave (4 peaks):					309.7	Corrected Ave (3 peaks):				307.2 RPD = 1
Aroclor-1262	1	10.444	-0.003	5454901	273.2	1	10.588	-0.008	5409700	275.0
Aroclor-1262	2	11.136	-0.002	10110565	272.8	2	11.033	-0.007	5135853	276.7
Aroclor-1262	3	11.539	-0.002	3121815	272.5	3	11.310	-0.007	10409494	275.2
Aroclor-1262	4	11.655	-0.002	4003542	276.1	4	11.825	-0.007	4301114	273.4
Total Col1Ave (4 peaks):					273.6	Total Col2Ave (4 peaks):				275.1 RPD = 1
Corrected Ave (3 peaks):					272.8	Corrected Ave (3 peaks):				274.5 RPD = 1
Aroclor-1268	1	11.655	-0.003	4003542	90.8	1	11.825	-0.006	4301114	99.4
Aroclor-1268	2	11.729	0.001	4085195	101.6	2	11.886	-0.010	7250232	163.5
Aroclor-1268	3	12.129	0.013	1507238	45.4	3	12.282	-0.005	291515	8.3
Aroclor-1268	4	12.902	-0.002	1160147	11.7	4	13.100	-0.006	1463948	13.4
Total Col1Ave (4 peaks):					62.4	Total Col2Ave (4 peaks):				71.2 RPD = 13

Corrected Ave (3 peaks): 49.3 Corrected Ave (3 peaks): 40.4 RPD = 20

Total PCB Area Col1 (4.843 - 13.212) = 74940188 Col1 Total PCB = 0.4 ppm*

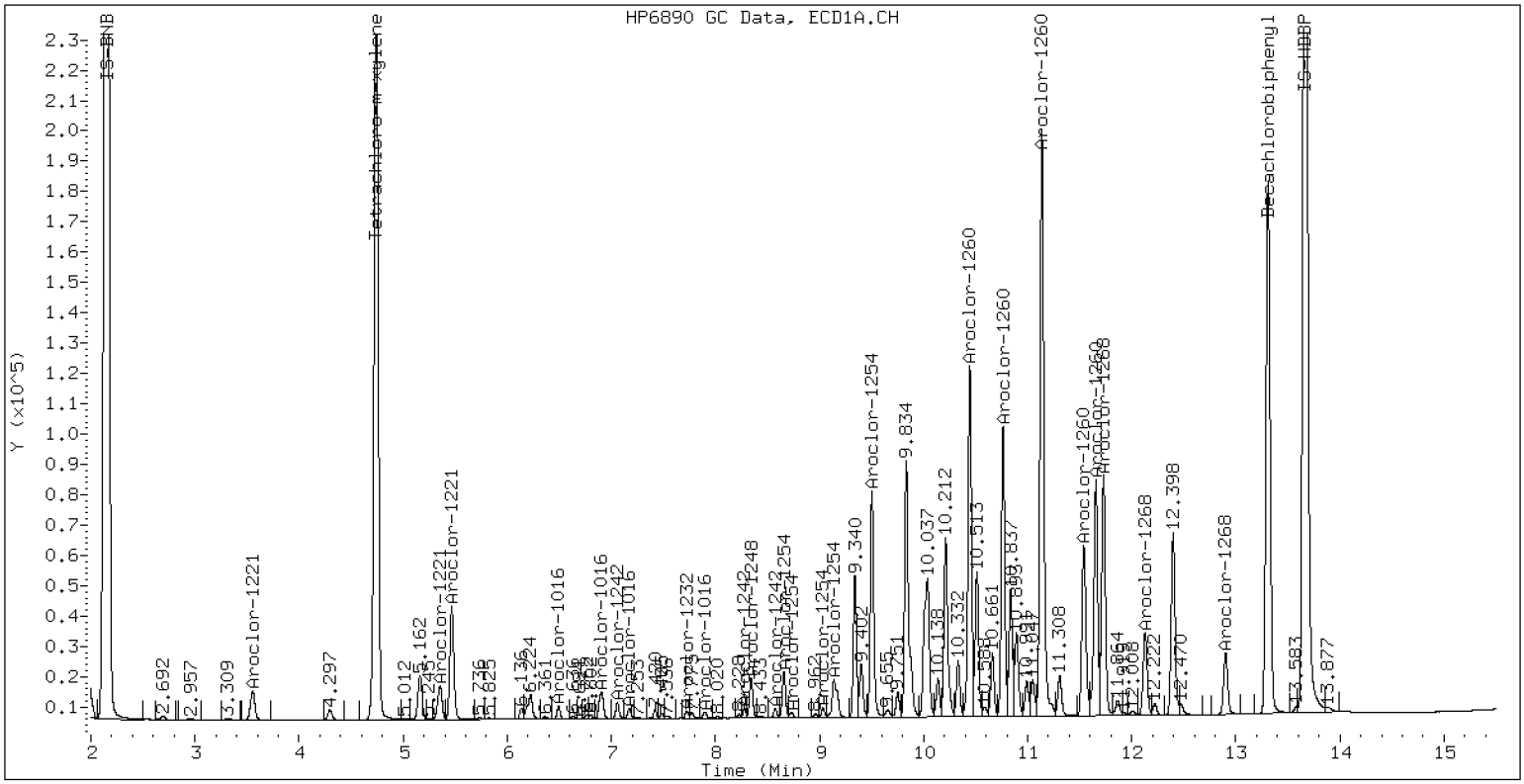
Total PCB Area Col2 (4.843 - 13.212) = 82544545 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

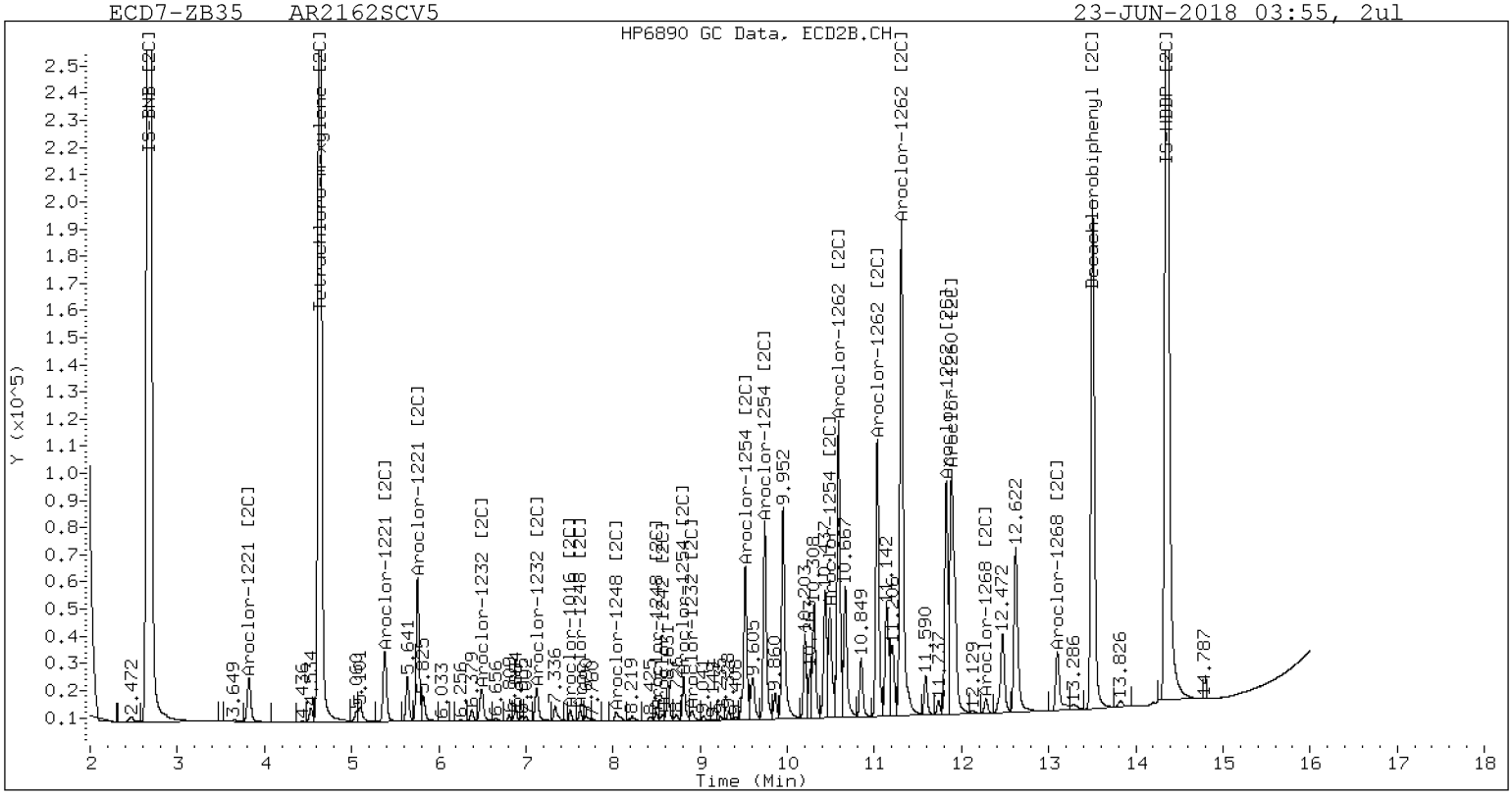
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV5 23-JUN-2018 03:55, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18062233.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0057	Injection Date:	06/23/18
Lab Sample ID:	SGG0057-SCV6	Injection Time:	04:17
Sequence Name:	AR3268SCV6		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	246	0.0136844	0.0134685		-1.6	20
Aroclor 1232 [2C]	A	250.00	250	0.0123819	0.0128019		0.008	20
Aroclor 1268	A	250.00	252	0.1757286	0.1717956		0.9	20
Aroclor 1268 [2C]	A	250.00	253	0.1824744	0.1785176		1.2	20
Decachlorobiphenyl	A	40.000	52.2	0.8487322	1.1073650		30.5	20
Tetrachlorometaxylene	A	40.000	43.0	0.9257869	0.9959296		7.6	20
Decachlorobiphenyl [2C]	A	40.000	51.4	0.9289123	1.1938450		28.5	20
Tetrachlorometaxylene [2C]	A	40.000	42.9	0.8494309	0.9114496		7.3	20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180622.b/18062233.D
Data file 2: /20180622.b/20180622.b/18062233.D
Method: \\target\share\chem4\ecd7.i\20180622.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 23-JUN-2018 04:17
Report Date: 07/09/2018 12:33
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.741	-0.002	14345375	4.634	-0.005	21590451	43.0	42.9	0.3	Tetrachloro-m-xylene
13.309	-0.002	13856672	13.503	-0.008	15457031	52.2	51.4	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.6	107.3
Decachlorobiphenyl	130.5	128.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28808016	12.0
Hexabromobiphenyl	22585647	25026377	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	47376069	18.9
Hexabromobiphenyl	22087957	25894541	17.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.493	-0.003	917688	119.5	1	6.480	-0.010	2161604	128.7
Aroclor-1016	2	6.905	-0.003	2775773	108.1	2	7.123	-0.010	3737561	115.4
Aroclor-1016	3	7.172	-0.003	807157	117.8	3	7.509	-0.009	964403	123.5
Aroclor-1016	4	7.899	-0.003	967455	120.9	4	8.035	-0.010	1162650	123.5
Total Col1Ave (4 peaks):		116.6				Total Col2Ave (4 peaks):			122.8	RPD = 5
Corrected Ave (3 peaks):		115.1				Corrected Ave (3 peaks):			120.8	RPD = 5
Aroclor-1221	1	3.555	-0.001	329614	146.5	1	3.822	-0.004	549814	143.7
Aroclor-1221	2	5.353	-0.003	497244	189.6	2	5.381	-0.005	996532	168.9
Aroclor-1221	3	5.466	-0.002	1568890	197.5	3	5.757	-0.005	2001084	199.0
Total Col1Ave (3 peaks):		177.9				Total Col2Ave (3 peaks):			170.5	RPD = 4
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	3.555	-0.002	329614	241.3	1	3.822	-0.005	549814	240.0
Aroclor-1232	2	6.493	-0.002	917688	273.6	2	6.480	-0.006	2161604	271.4
Aroclor-1232	3	6.905	-0.001	2775773	246.0	3	7.123	-0.006	3737561	268.1
Aroclor-1232	4	7.723	-0.002	826941	223.1	4	8.912	-0.005	1132314	220.6
Total Col1Ave (4 peaks):		246.0				Total Col2Ave (4 peaks):			250.0	RPD = 2
Corrected Ave (3 peaks):		236.8				Corrected Ave (3 peaks):			242.9	RPD = 3
Aroclor-1242	1	6.493	-0.004	917688	148.5	1	6.480	-0.009	2161604	165.0
Aroclor-1242	2	7.058	-0.004	1191681	145.9	2	7.123	-0.009	3737561	148.4
Aroclor-1242	3	8.277	-0.003	870335	124.9	3	8.568	-0.009	1018107	131.9
Aroclor-1242	4	8.572	-0.003	892785	121.6	4	8.912	-0.009	1132314	126.4
Total Col1Ave (4 peaks):		135.2				Total Col2Ave (4 peaks):			142.9	RPD = 6
Corrected Ave (3 peaks):		130.8				Corrected Ave (3 peaks):			135.6	RPD = 4
Aroclor-1248	1	6.905	0.004	2775773	223.4	1	7.624	-0.007	999028	91.4
Aroclor-1248	2	7.723	-0.002	826941	82.2	2	8.035	-0.007	1162650	101.3
Aroclor-1248	3	8.332	-0.002	1096577	73.1	3	8.495	-0.008	997628	80.3
Aroclor-1248	4	8.572	-0.001	892785	79.6	4	8.912	-0.006	1132314	78.6
Total Col1Ave (4 peaks):		114.6				Total Col2Ave (4 peaks):			87.9	RPD = 26
Corrected Ave (3 peaks):		78.3				Corrected Ave (3 peaks):			83.4	RPD = 6
Aroclor-1254	1	8.656	-0.004	351670	18.2	1	8.809	-0.007	261143	15.9
Aroclor-1254	2	8.734	-0.001	157695	25.7	2	8.912	0.005	1132314	141.9
Aroclor-1254	3	9.034	-0.000	172901	15.4	3	9.475	-0.008	446003	17.0
Aroclor-1254	4	9.171	-0.000	350767	14.8	4	9.736	-0.004	359169	13.7
Aroclor-1254	5	9.523	0.002	296454	12.2	5	10.490	-0.008	97906	5.0
Total Col1Ave (5 peaks):		17.3				Total Col2Ave (5 peaks):			38.7	RPD = 77*
Corrected Ave (4 peaks):		15.2				Corrected Ave (4 peaks):			12.9	RPD = 16
Aroclor-1260	1	10.445	-0.003	2768640	195.4	1	10.587	-0.012	2878433	192.9
Aroclor-1260	2	10.763	-0.004	247620	18.2	2	11.032	-0.011	3297997	202.5
Aroclor-1260	3	11.136	-0.004	1730504	52.3	3	11.308	-0.013	1904555	53.2
Aroclor-1260	4	11.540	-0.002	51646	3.3	4	11.890	-0.005	13172401	543.6
Aroclor-1260	5	11.655	-0.004	11789428	1546.1	NS	---			----
Total Col1Ave (5 peaks):		363.1				Total Col2Ave (4 peaks):			248.0	RPD = 38
Corrected Ave (4 peaks):		67.3				Corrected Ave (3 peaks):			149.5	RPD = 76*
Aroclor-1262	1	10.445	-0.002	2768640	136.4	1	10.587	-0.009	2878433	143.7
Aroclor-1262	2	11.136	-0.002	1730504	45.9	2	11.032	-0.008	3297997	174.5
Aroclor-1262	3	11.540	-0.001	51646	4.4	3	11.308	-0.008	1904555	49.4
Aroclor-1262	4	11.655	-0.002	11789428	799.5	4	11.824	-0.009	11625381	725.8
Total Col1Ave (4 peaks):		246.6				Total Col2Ave (4 peaks):			273.4	RPD = 10
Corrected Ave (3 peaks):		62.2				Corrected Ave (3 peaks):			122.6	RPD = 65*
Aroclor-1268	1	11.655	-0.003	11789428	262.9	1	11.824	-0.008	11625381	263.8
Aroclor-1268	2	11.727	-0.001	11881947	290.7	2	11.890	-0.007	13172401	291.8
Aroclor-1268	3	12.115	-0.002	7926179	235.0	3	12.280	-0.007	8448823	235.6
Aroclor-1268	4	12.901	-0.003	22145205	220.4	4	13.098	-0.008	24536256	220.7
Total Col1Ave (4 peaks):		252.3				Total Col2Ave (4 peaks):			253.0	RPD = 0

Corrected Ave (3 peaks): 239.5 Corrected Ave (3 peaks): 240.0 RPD = 0

Total PCB Area Col1 (4.843 - 13.212) = 92214681 Col1 Total PCB = 0.5 ppm*

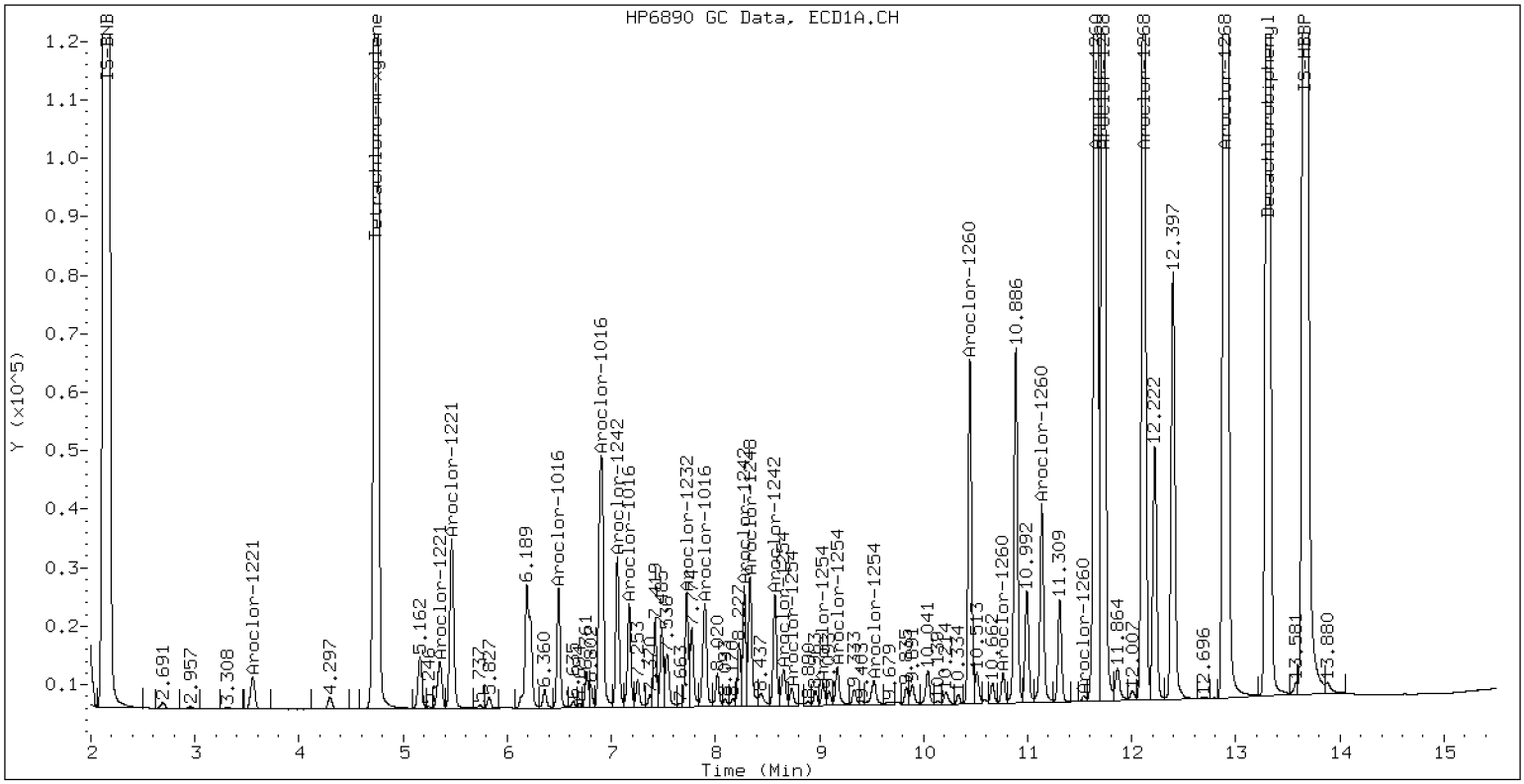
Total PCB Area Col2 (4.843 - 13.212) = 104791358 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

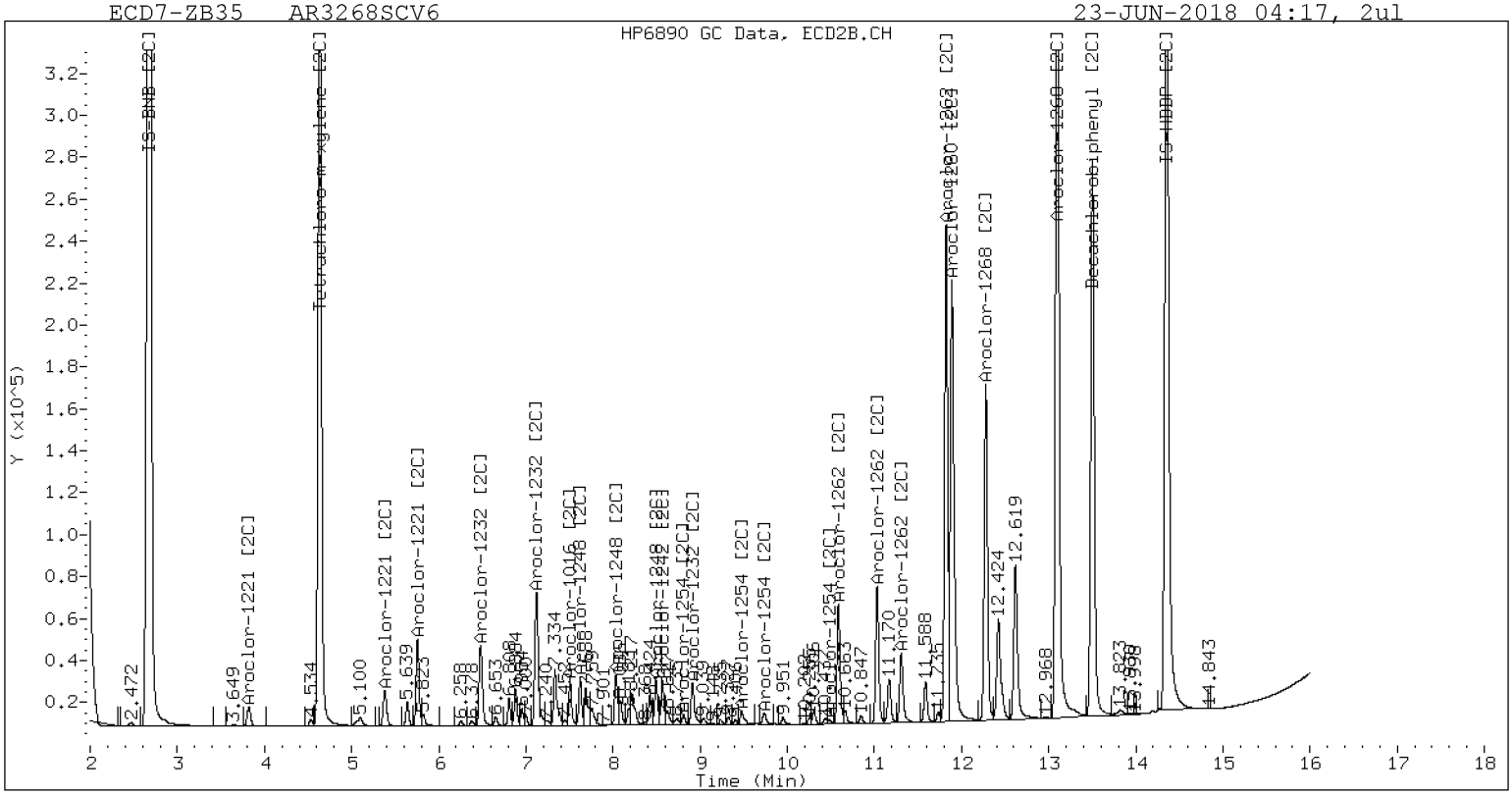
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV6 23-JUN-2018 04:17, 2ul



ZB-35 Manual Integration: NO

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18070917ECD7.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0118	Injection Date:	07/09/18
Lab Sample ID:	SGG0118-CCV1	Injection Time:	12:56
Sequence Name:	AR1248CCV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	259	0.0338135	0.0349666		3.7	
Aroclor-1248 (1)	A	250.00	274		0.0378070			
Aroclor-1248 (2)	A	250.00	255		0.0284754			
Aroclor-1248 (3)	A	250.00	247		0.0411185			
Aroclor-1248 (4)	A	250.00	261		0.0324654			
Aroclor 1248 [2C]	A	250.00	268	0.0207835	0.0222630		7.1	
Aroclor-1248 (1) [2C]	A	250.00	271		0.0200322			
Aroclor-1248 (2) [2C]	A	250.00	274		0.0212560			
Aroclor-1248 (3) [2C]	A	250.00	256		0.0214923			
Aroclor-1248 (4) [2C]	A	250.00	270		0.0262715			
Decachlorobiphenyl	A	40.000	40.6	0.8487322	0.8609495		1.5	
Tetrachlorometaxylene	A	40.000	38.8	0.9257869	0.8973583		-3.0	
Decachlorobiphenyl [2C]	A	40.000	40.2	0.9289123	0.9336597		0.5	
Tetrachlorometaxylene [2C]	A	40.000	40.2	0.8494309	0.8537750		0.5	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070917ECD7.D
Data file 2: /20180709.b/20180709.b/18070917ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 09-JUL-2018 12:56
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.732	-0.002	11851028	4.609	0.000	21460600	38.8	40.2	3.6	Tetrachloro-m-xylene
13.283	-0.004	10247825	13.459	-0.000	12523279	40.6	40.2	0.9	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.9	100.5
Decachlorobiphenyl	101.4	100.5

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	26413151	2.7
Hexabromobiphenyl	22585647	23805884	5.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	50272260	26.2
Hexabromobiphenyl	22087957	26826217	21.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	6.888	0.000	3120627	273.9	1	7.595	0.000	3147079	271.4
Aroclor-1248	2	7.710	0.000	2350392	254.7	2	8.005	0.000	3339340	274.2
Aroclor-1248	3	8.317	0.000	3393964	246.7	3	8.536	0.000	3376459	256.2
Aroclor-1248	4	8.554	0.000	2679730	260.7	4	8.878	0.000	4127274	270.0
Total Col1Ave (4 peaks):					259.0	Total Col2Ave (4 peaks):				267.9 RPD = 3
Corrected Ave (3 peaks):					254.0	Corrected Ave (3 peaks):				265.9 RPD = 5
CalAmt %D:					3.6	CalAmt %D:				7.2

Total PCB Area Col1 (4.834 - 13.187) = 47303876 Col1 Total PCB = 0.3 ppm*

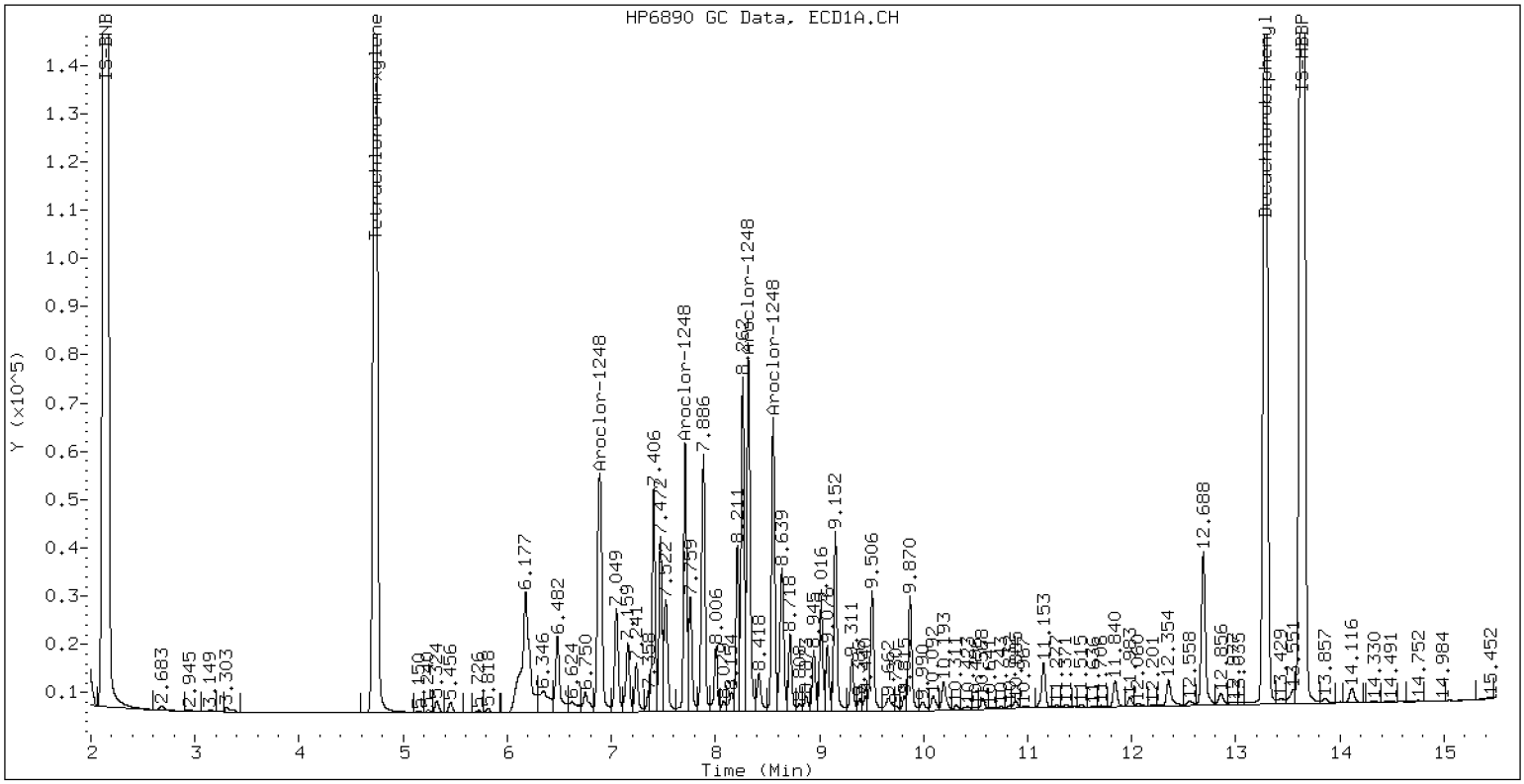
Total PCB Area Col2 (4.834 - 13.187) = 58431624 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

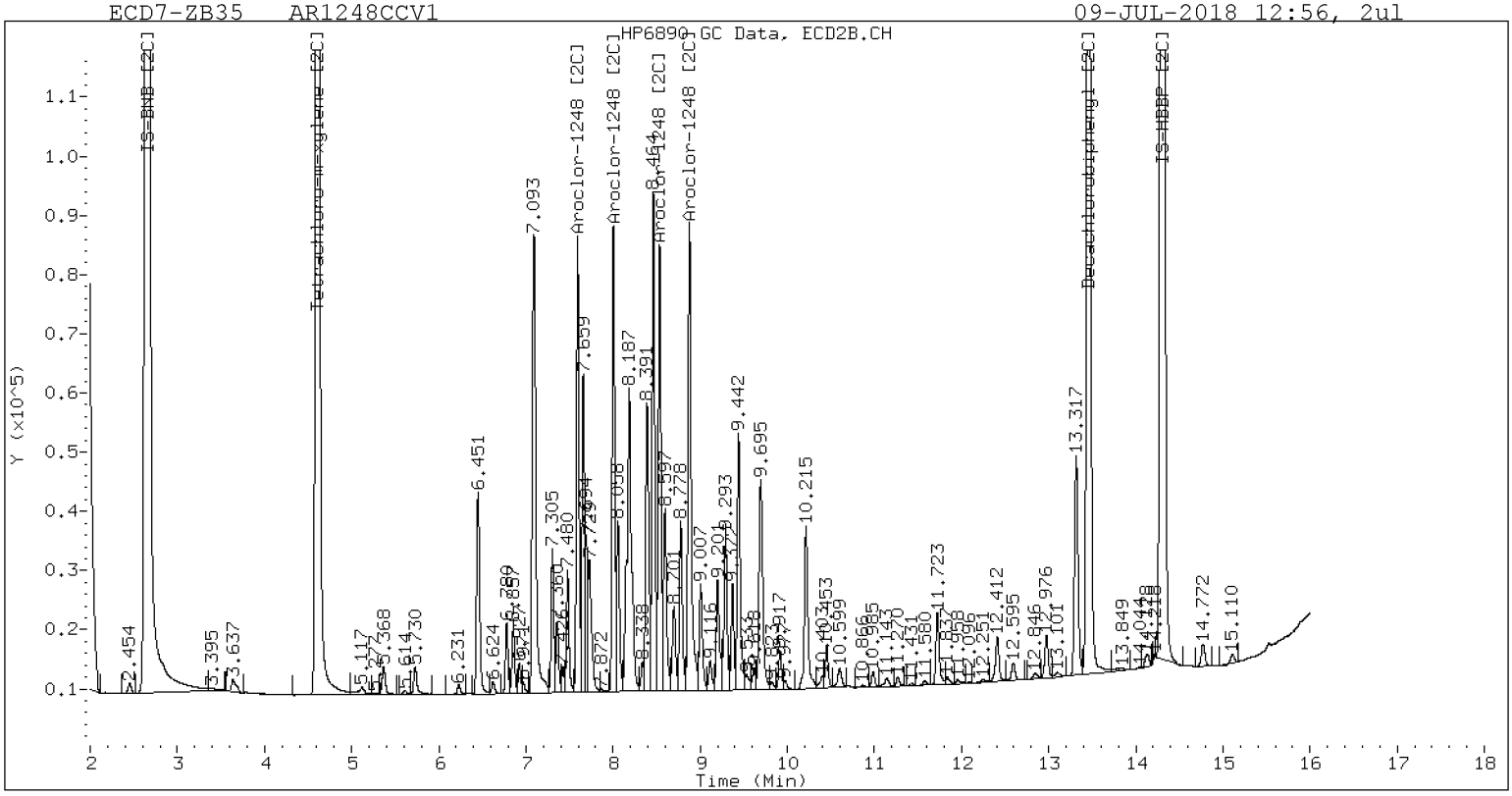
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 09-JUL-2018 12:56, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1 09-JUL-2018 12:56, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Instrument ID:	ECD7	Calibration:	BG00027
Lab File ID:	18070918ECD7.D	Calibration Date:	06/22/18 00:00
Sequence:	SGG0118	Injection Date:	07/09/18
Lab Sample ID:	SGG0118-CCV2	Injection Time:	13:18
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	287	0.0334741	0.0389819		14.7	
Aroclor-1016 (1)	A	250.00	284	0.0213278	0.0242212		13.6	
Aroclor-1016 (2)	A	250.00	299	0.0713149	0.0852520		19.6	
Aroclor-1016 (3)	A	250.00	285	0.0190282	0.0216850		14.0	
Aroclor-1016 (4)	A	250.00	279	0.0222257	0.0247695		11.6	
Aroclor 1016 [2C]	A	250.00	308	0.0280332	0.0346886		23.3	*
Aroclor-1016 (1) [2C]	A	250.00	304	0.0283534	0.0344688		21.6	*
Aroclor-1016 (2) [2C]	A	250.00	313	0.0546995	0.0684580		25.2	*
Aroclor-1016 (3) [2C]	A	250.00	308	0.0131874	0.0162432		23.2	*
Aroclor-1016 (4) [2C]	A	250.00	308	0.0158925	0.0195844		23.2	*
Aroclor 1260	A	250.00	265	0.0536648	0.0570601		5.9	
Aroclor-1260 (1)	A	250.00	263	0.0452983	0.0476276		5.2	
Aroclor-1260 (2)	A	250.00	264	0.0435673	0.0459227		5.6	
Aroclor-1260 (3)	A	250.00	268	0.1057889	0.1133696		7.2	
Aroclor-1260 (4)	A	250.00	269	0.0492947	0.0530191		7.6	
Aroclor-1260 (5)	A	250.00	260	0.0243750	0.0253617		4.0	
Aroclor 1260 [2C]	A	250.00	280	0.0704955	0.0786701		11.9	
Aroclor-1260 (1) [2C]	A	250.00	279	0.0461001	0.0515178		11.6	
Aroclor-1260 (2) [2C]	A	250.00	286	0.0503249	0.0576246		14.4	
Aroclor-1260 (3) [2C]	A	250.00	275	0.1106955	0.1219132		10.0	
Aroclor-1260 (4) [2C]	A	250.00	279	0.0748616	0.0836250		11.6	
Decachlorobiphenyl	A	40.000	42.7	0.8487322	0.9063668		6.8	
Tetrachlorometaxylene	A	40.000	47.5	0.9257869	1.0990320		18.8	
Decachlorobiphenyl [2C]	A	40.000	41.9	0.9289123	0.9726960		4.8	
Tetrachlorometaxylene [2C]	A	40.000	50.5	0.8494309	1.0726480		26.3	*

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /20180709.b/18070918ECD7.D
Data file 2: /20180709.b/20180709.b/18070918ECD7.D
Method: \\target\share\chem4\ecd7.i\20180709.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 09-JUL-2018 13:18
Report Date: 07/10/2018 12:52
Matrix: NONE
Dilution Factor: 1.000

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.732	-0.002	15641244	4.609	0.000	28247351	47.5	50.5	6.2	Tetrachloro-m-xylene
13.284	-0.003	11683917	13.459	0.000	14420858	42.7	41.9	2.0	Decachlorobiphenyl

* Indicates RPD > 40%
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	118.7	126.3
Decachlorobiphenyl	106.8	104.7

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	25731201	28463672	10.6
Hexabromobiphenyl	22585647	25781879	14.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	39835060	52668454	32.2
Hexabromobiphenyl	22087957	29651317	34.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 22-JUN-2018
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.482	-0.001	2154452	283.9	1	6.453	0.000	5673188	303.9
Aroclor-1016	2	6.892	-0.001	7583074	298.9	2	7.096	0.000	11267430	312.9
Aroclor-1016	3	7.159	-0.002	1928855	284.9	3	7.480	0.000	2673449	307.9
Aroclor-1016	4	7.885	-0.002	2203217	278.6	4	8.005	0.000	3223375	308.1
Total Col1Ave (4 peaks):					286.6	Total Col2Ave (4 peaks):				308.2 RPD = 7
Corrected Ave (3 peaks):					282.5	Corrected Ave (3 peaks):				306.6 RPD = 8
CalAmt %D:					14.6	CalAmt %D:				23.3
Aroclor-1260	1	10.425	-0.003	3837279	262.9	1	10.551	0.000	4773661	279.4
Aroclor-1260	2	10.743	-0.003	3699917	263.5	2	10.993	0.000	5339518	286.3
Aroclor-1260	3	11.115	-0.004	9134007	267.9	3	11.270	0.000	11296516	275.3
Aroclor-1260	4	11.516	-0.005	4271662	268.9	4	11.840	0.000	7748719	279.3
Aroclor-1260	5	11.633	-0.004	2043350	260.1	NS	---			----
Total Col1Ave (5 peaks):					264.7	Total Col2Ave (4 peaks):				280.1 RPD = 6
Corrected Ave (4 peaks):					263.6	Corrected Ave (3 peaks):				278.0 RPD = 5
CalAmt %D:					5.9	CalAmt %D:				12.0

Total PCB Area Col1 (4.834 - 13.187) = 103208914 Col1 Total PCB = 0.5 ppm*

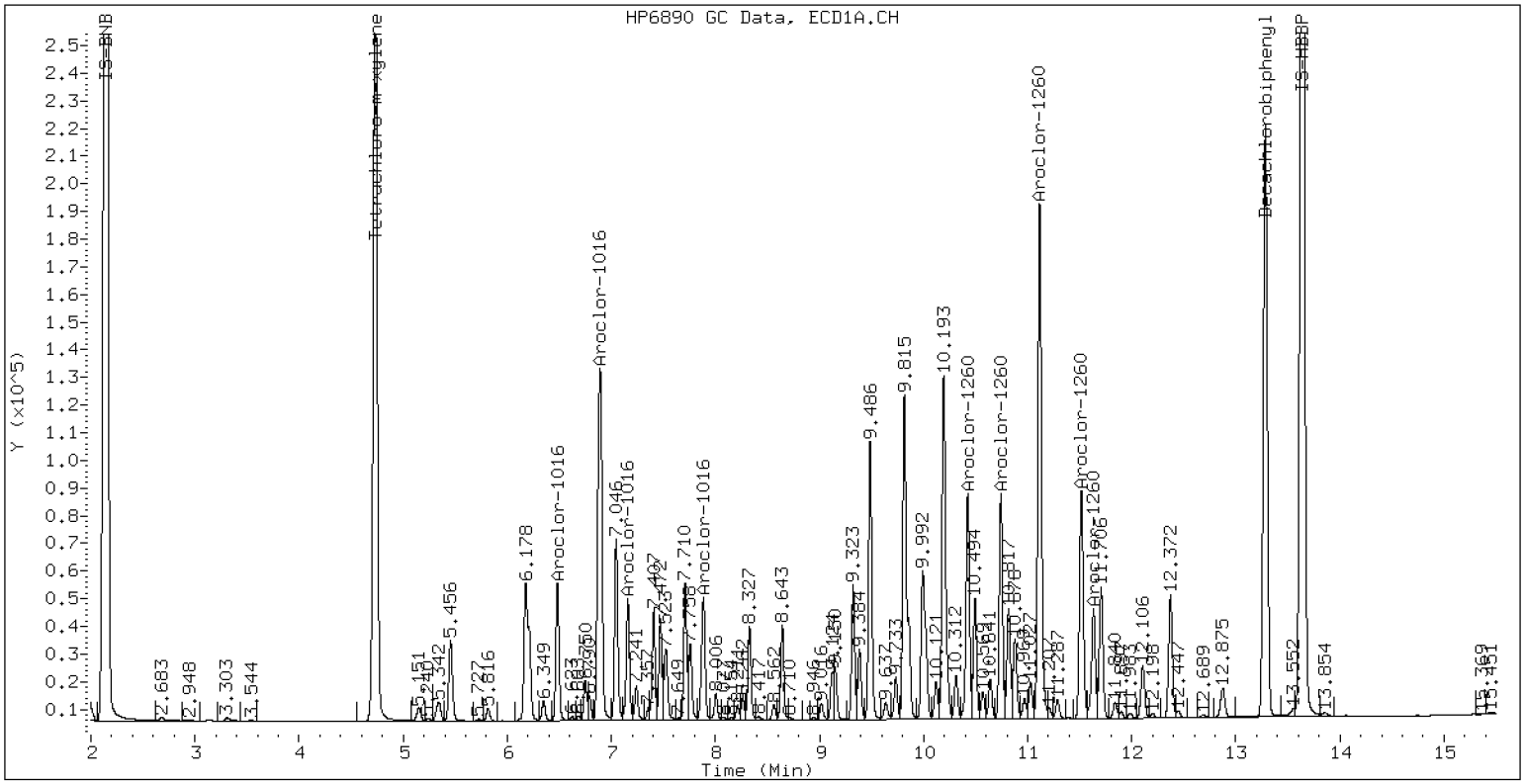
Total PCB Area Col2 (4.834 - 13.187) = 142332763 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

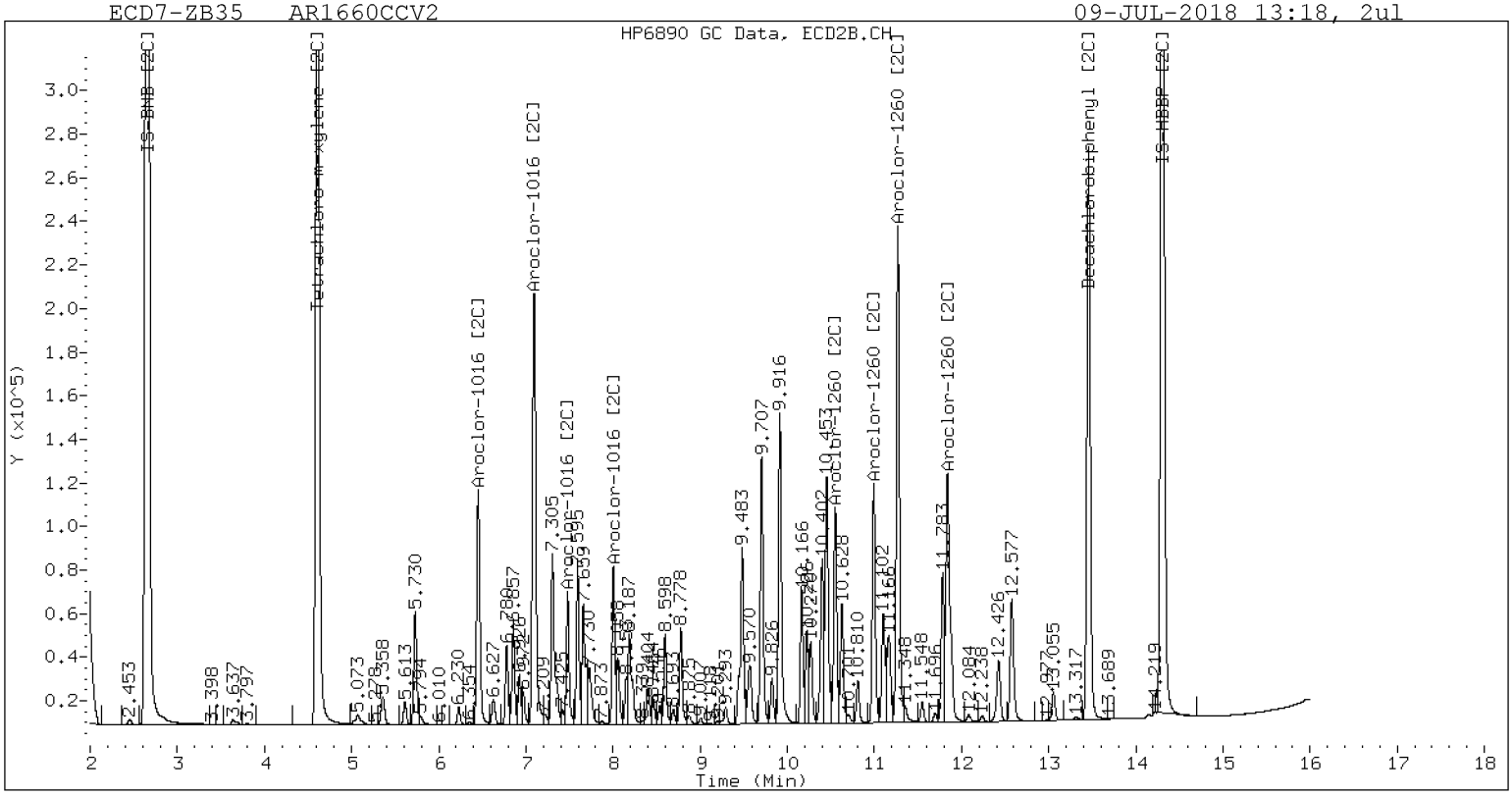
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 09-JUL-2018 13:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 09-JUL-2018 13:18, 2ul



ZB-35 Manual Integration: NO

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0057
Instrument: ECD7
Calibration: BG00027

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SGG0057-CAL1	18062217.D	18062217.D	NA	06/22/18 22:25
Cal Standard	SGG0057-CAL2	18062218.D	18062218.D	NA	06/22/18 22:47
Cal Standard	SGG0057-CAL3	18062219.D	18062219.D	NA	06/22/18 23:09
Cal Standard	SGG0057-CAL4	18062220.D	18062220.D	NA	06/22/18 23:31
Cal Standard	SGG0057-CAL5	18062221.D	18062221.D	NA	06/22/18 23:53
Cal Standard	SGG0057-CAL6	18062222.D	18062222.D	NA	06/23/18 00:15
Cal Standard	SGG0057-CAL7	18062223.D	18062223.D	NA	06/23/18 00:37
Cal Standard	SGG0057-CAL8	18062224.D	18062224.D	NA	06/23/18 00:59
Cal Standard	SGG0057-CAL9	18062225.D	18062225.D	NA	06/23/18 01:21
Cal Standard	SGG0057-CALA	18062226.D	18062226.D	NA	06/23/18 01:43
Cal Standard	SGG0057-CALB	18062227.D	18062227.D	NA	06/23/18 02:05
Secondary Cal Check	SGG0057-SCV1	18062228.D	18062228.D	NA	06/23/18 02:27
Secondary Cal Check	SGG0057-SCV2	18062229.D	18062229.D	NA	06/23/18 02:49
Secondary Cal Check	SGG0057-SCV3	18062230.D	18062230.D	NA	06/23/18 03:11
Secondary Cal Check	SGG0057-SCV4	18062231.D	18062231.D	NA	06/23/18 03:33
Secondary Cal Check	SGG0057-SCV5	18062232.D	18062232.D	NA	06/23/18 03:55
Secondary Cal Check	SGG0057-SCV6	18062233.D	18062233.D	NA	06/23/18 04:17

Printed: 7/9/2018 1:12:25PM

ANALYSIS SEQUENCE

SGG0057

Instrument: ECD7 Element Column ID: f3874f3873
Calibration ID: BG00027

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0057-CAL1	0.25PPM AR1660	QC		1	F011204	G002633	
SGG0057-CAL2	0.02PPM AR1660	QC		2	F011207	G002633	
SGG0057-CAL3	0.05PPM AR1660	QC		3	F011206	G002633	
SGG0057-CAL4	1.0PPM AR1660	QC		4	F010993	G002633	
SGG0057-CAL5	0.1PPM AR1660	QC		5	F011205	G002633	
SGG0057-CAL6	0.5PPM AR1660	QC		6	F011203	G002633	
SGG0057-CAL7	0.25PPM AR1242	QC		7	F011118	G002633	
SGG0057-CAL8	0.25PPM AR1248	QC		8	G000809	G002633	
SGG0057-CAL9	0.25PPM AR1254	QC		9	F011624	G002633	
SGG0057-CALA	0.25PPM AR2162	QC		10	G002629	G002633	
SGG0057-CALB	0.25PPM AR3268	QC		11	F011625	G002633	
SGG0057-SCV1	AR1660SCV1	QC		12	G003406	G002633	
SGG0057-SCV2	AR1242SCV2	QC		13	G003409	G002633	
SGG0057-SCV3	AR1248SCV3	QC		14	G003410	G002633	
SGG0057-SCV4	AR1254SCV4	QC		15	G003411	G002633	
SGG0057-SCV5	AR2162SCV5	QC		16	G003407	G002633	
SGG0057-SCV6	AR3268SCV6	QC		17	G003408	G002633	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	22-JUN-2018 16:31	18062201.D	1	RINSE	
2	22-JUN-2018 16:53	18062202.D	1	RINSE	
3	22-JUN-2018 17:16	18062203.D	1	RINSE	
4	22-JUN-2018 17:38	18062204.D	1	RINSE	
5	22-JUN-2018 18:00	18062205.D	1	RINSE	
6	22-JUN-2018 18:22	18062206.D	1	RINSE	
7	22-JUN-2018 18:44	18062207.D	1	RINSE	
8	22-JUN-2018 19:06	18062208.D	1	RINSE	
9	22-JUN-2018 19:28	18062209.D	1	RINSE	
10	22-JUN-2018 19:50	18062210.D	1	RINSE	
11	22-JUN-2018 20:12	18062211.D	1	RINSE	
12	22-JUN-2018 20:34	18062212.D	1	RINSE	
13	22-JUN-2018 20:57	18062213.D	1	RINSE	
14	22-JUN-2018 21:19	18062214.D	1	RINSE	
15	22-JUN-2018 21:41	18062215.D	1	RINSE	
16	22-JUN-2018 22:03	18062216.D	1	IB	
17	22-JUN-2018 22:25	18062217.D	1	0.25PPMAR1660	
18	22-JUN-2018 22:47	18062218.D	1	0.02PPMAR1660	
19	22-JUN-2018 23:09	18062219.D	1	0.05PPMAR1660	
20	22-JUN-2018 23:31	18062220.D	1	1PPMAR1660	
21	22-JUN-2018 23:53	18062221.D	1	0.1PPMAR1660	
22	23-JUN-2018 00:15	18062222.D	1	0.5PPMAR1660	
23	23-JUN-2018 00:37	18062223.D	1	AR1242	
24	23-JUN-2018 00:59	18062224.D	1	AR1248	
25	23-JUN-2018 01:21	18062225.D	1	AR1254	
26	23-JUN-2018 01:43	18062226.D	1	AR2162	
27	23-JUN-2018 02:05	18062227.D	1	AR3268	
28	23-JUN-2018 02:27	18062228.D	1	AR1660SCV1	
29	23-JUN-2018 02:49	18062229.D	1	AR1242SCV2	
30	23-JUN-2018 03:11	18062230.D	1	AR1248SCV3	
31	23-JUN-2018 03:33	18062231.D	1	AR1254SCV4	
32	23-JUN-2018 03:55	18062232.D	1	AR2162SCV5	
33	23-JUN-2018 04:17	18062233.D	1	AR3268SCV6	
34	23-JUN-2018 04:39	18062234.D	1	0.1PPMDDTS	
35	23-JUN-2018 05:01	18062235.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 22-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1631	18062201.D	RINSE		1	NO MANUAL INTEGRATION
1653	18062202.D	RINSE		1	NO MANUAL INTEGRATION
1716	18062203.D	RINSE		1	NO MANUAL INTEGRATION
1738	18062204.D	RINSE		1	NO MANUAL INTEGRATION
1800	18062205.D	RINSE		1	NO MANUAL INTEGRATION
1822	18062206.D	RINSE		1	NO MANUAL INTEGRATION
1844	18062207.D	RINSE		1	NO MANUAL INTEGRATION
1906	18062208.D	RINSE		1	NO MANUAL INTEGRATION
1928	18062209.D	RINSE		1	NO MANUAL INTEGRATION
1950	18062210.D	RINSE		1	NO MANUAL INTEGRATION
2012	18062211.D	RINSE		1	NO MANUAL INTEGRATION
2034	18062212.D	RINSE		1	NO MANUAL INTEGRATION
2057	18062213.D	RINSE		1	NO MANUAL INTEGRATION
2119	18062214.D	RINSE		1	NO MANUAL INTEGRATION
2141	18062215.D	RINSE		1	NO MANUAL INTEGRATION
2203	18062216.D	IB		1	NO MANUAL INTEGRATION
2225	18062217.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2247	18062218.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2309	18062219.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2331	18062220.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2353	18062221.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0015	18062222.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0037	18062223.D	AR1242		1	NO MANUAL INTEGRATION
0059	18062224.D	AR1248		1	NO MANUAL INTEGRATION
0121	18062225.D	AR1254		1	NO MANUAL INTEGRATION
0143	18062226.D	AR2162		1	NO MANUAL INTEGRATION
0205	18062227.D	AR3268		1	NO MANUAL INTEGRATION
0227	18062228.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0249	18062229.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0311	18062230.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0333	18062231.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0355	18062232.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0417	18062233.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0439	18062234.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0501	18062235.D	DDT BD		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1631	18062201.D	RINSE		1	NO MANUAL INTEGRATION
1653	18062202.D	RINSE		1	NO MANUAL INTEGRATION
1716	18062203.D	RINSE		1	NO MANUAL INTEGRATION
1738	18062204.D	RINSE		1	NO MANUAL INTEGRATION
1800	18062205.D	RINSE		1	NO MANUAL INTEGRATION
1822	18062206.D	RINSE		1	NO MANUAL INTEGRATION
1844	18062207.D	RINSE		1	NO MANUAL INTEGRATION
1906	18062208.D	RINSE		1	NO MANUAL INTEGRATION
1928	18062209.D	RINSE		1	NO MANUAL INTEGRATION
1950	18062210.D	RINSE		1	NO MANUAL INTEGRATION
2012	18062211.D	RINSE		1	NO MANUAL INTEGRATION
2034	18062212.D	RINSE		1	NO MANUAL INTEGRATION
2057	18062213.D	RINSE		1	NO MANUAL INTEGRATION
2119	18062214.D	RINSE		1	NO MANUAL INTEGRATION
2141	18062215.D	RINSE		1	NO MANUAL INTEGRATION
2203	18062216.D	IB		1	NO MANUAL INTEGRATION
2225	18062217.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2247	18062218.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180622.b\20180622.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2309	18062219.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2331	18062220.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2353	18062221.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
0015	18062222.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
0037	18062223.D	AR1242		1	NO MANUAL INTEGRATION
0059	18062224.D	AR1248		1	NO MANUAL INTEGRATION
0121	18062225.D	AR1254		1	NO MANUAL INTEGRATION
0143	18062226.D	AR2162		1	NO MANUAL INTEGRATION
0205	18062227.D	AR3268		1	NO MANUAL INTEGRATION
0227	18062228.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0249	18062229.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0311	18062230.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0333	18062231.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0355	18062232.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0417	18062233.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0439	18062234.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0501	18062235.D	DDT BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 09-Jul-2018 12:36

18062201.D	Data Locked	jrains, 09-Jul-2018 12:36
18062202.D	Data Locked	jrains, 09-Jul-2018 12:36
18062203.D	Data Locked	jrains, 09-Jul-2018 12:36
18062204.D	Data Locked	jrains, 09-Jul-2018 12:36
18062205.D	Data Locked	jrains, 09-Jul-2018 12:36
18062206.D	Data Locked	jrains, 09-Jul-2018 12:36
18062207.D	Data Locked	jrains, 09-Jul-2018 12:36
18062208.D	Data Locked	jrains, 09-Jul-2018 12:36
18062209.D	Data Locked	jrains, 09-Jul-2018 12:36
18062210.D	Data Locked	jrains, 09-Jul-2018 12:36
18062211.D	Data Locked	jrains, 09-Jul-2018 12:36
18062212.D	Data Locked	jrains, 09-Jul-2018 12:36
18062213.D	Data Locked	jrains, 09-Jul-2018 12:36
18062214.D	Data Locked	jrains, 09-Jul-2018 12:36
18062215.D	Data Locked	jrains, 09-Jul-2018 12:36
18062216.D	Data Locked	jrains, 09-Jul-2018 12:36
18062217.D	Data Locked	jrains, 09-Jul-2018 12:36
18062218.D	Data Locked	jrains, 09-Jul-2018 12:36
18062219.D	Data Locked	jrains, 09-Jul-2018 12:36
18062220.D	Data Locked	jrains, 09-Jul-2018 12:36
18062221.D	Data Locked	jrains, 09-Jul-2018 12:36
18062222.D	Data Locked	jrains, 09-Jul-2018 12:36
18062223.D	Data Locked	jrains, 09-Jul-2018 12:36
18062224.D	Data Locked	jrains, 09-Jul-2018 12:36
18062225.D	Data Locked	jrains, 09-Jul-2018 12:36
18062226.D	Data Locked	jrains, 09-Jul-2018 12:36
18062227.D	Data Locked	jrains, 09-Jul-2018 12:36
18062228.D	Data Locked	jrains, 09-Jul-2018 12:36
18062229.D	Data Locked	jrains, 09-Jul-2018 12:36
18062230.D	Data Locked	jrains, 09-Jul-2018 12:36
18062231.D	Data Locked	jrains, 09-Jul-2018 12:36
18062232.D	Data Locked	jrains, 09-Jul-2018 12:36
18062233.D	Data Locked	jrains, 09-Jul-2018 12:36
18062234.D	Data Locked	jrains, 09-Jul-2018 12:36
18062235.D	Data Locked	jrains, 09-Jul-2018 12:36

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SGG0118-ICV1	18070902ECD7.D	18070902ECD7.D	NA	07/09/18 07:24
Initial Cal Check	SGG0118-ICV2	18070903ECD7.D	18070903ECD7.D	NA	07/09/18 07:47
Blank	BGF0717-BLK1	18070904ECD7.D	18070904ECD7.D	Tissue	07/09/18 08:09
LCS	BGF0717-BS1	18070905ECD7.D	18070905ECD7.D	Tissue	07/09/18 08:31
LDW18-C01-CLWB-Comp2	18F0364-01	18070906ECD7.D	18070906ECD7.D	Tissue	07/09/18 08:53
LDW18-C01-CLWB-Comp2	BGF0717-MS1	18070907ECD7.D	18070907ECD7.D	Tissue	07/09/18 09:15
LDW18-C01-CLWB-Comp2	BGF0717-MSD1	18070908ECD7.D	18070908ECD7.D	Tissue	07/09/18 09:37
LDW18-C02-CLWB-Comp2	18F0364-02	18070909ECD7.D	18070909ECD7.D	Tissue	07/09/18 09:59
LDW18-C03-CLWB-Comp2	18F0364-03	18070910ECD7.D	18070910ECD7.D	Tissue	07/09/18 10:22
LDW18-C04-CLWB-Comp2	18F0364-04	18070911ECD7.D	18070911ECD7.D	Tissue	07/09/18 10:44
LDW18-C05-CLWB-Comp2	18F0364-05	18070912ECD7.D	18070912ECD7.D	Tissue	07/09/18 11:06
LDW18-C06-CLWB-Comp2	18F0364-06	18070913ECD7.D	18070913ECD7.D	Tissue	07/09/18 11:28
LDW18-C08-CLWB-Comp2	18F0364-07	18070914ECD7.D	18070914ECD7.D	Tissue	07/09/18 11:50
LDW18-C10-CLWB-Comp2	18F0364-08	18070915ECD7.D	18070915ECD7.D	Tissue	07/09/18 12:12
LDW18-C11-CLWB-Comp2	18F0364-09	18070916ECD7.D	18070916ECD7.D	Tissue	07/09/18 12:34
Calibration Check	SGG0118-CCV1	18070917ECD7.D	18070917ECD7.D	NA	07/09/18 12:56
Calibration Check	SGG0118-CCV2	18070918ECD7.D	18070918ECD7.D	NA	07/09/18 13:18

Printed: 7/10/2018 1:42:43PM

ANALYSIS SEQUENCE

SGG0118

Instrument: ECD7 Element Column ID: f3874f3873
Calibration ID: BG00027

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGG0118-ICV1	AR1254ICV1	QC		1	F011624	G002633	
SGG0118-ICV2	AR1660ICV2	QC		2	F011204	G002633	
BGF0717-BLK1	Blank	QC		3		G002633	
BGF0717-BS1	LCS	QC		4		G002633	
BGF0717-MS1	Matrix Spike	QC		5		G002633	
BGF0717-MSD1	Matrix Spike Dup	QC		6		G002633	
18F0364-01	LDW18-C01-CLWB-Comp2	8082A PCB Solid 4	A 02	7		G002633	Report ND if one column < MDL
18F0364-02	LDW18-C02-CLWB-Comp2	8082A PCB Solid 4	A 02	8		G002633	Report ND if one column < MDL
18F0364-03	LDW18-C03-CLWB-Comp2	8082A PCB Solid 4	A 02	9		G002633	Report ND if one column < MDL
18F0364-04	LDW18-C04-CLWB-Comp2	8082A PCB Solid 4	A 02	10		G002633	Report ND if one column < MDL
18F0364-05	LDW18-C05-CLWB-Comp2	8082A PCB Solid 4	A 02	11		G002633	Report ND if one column < MDL
18F0364-06	LDW18-C06-CLWB-Comp2	8082A PCB Solid 4	A 02	12		G002633	Report ND if one column < MDL
18F0364-07	LDW18-C08-CLWB-Comp2	8082A PCB Solid 4	A 02	13		G002633	Report ND if one column < MDL
18F0364-08	LDW18-C10-CLWB-Comp2	8082A PCB Solid 4	A 02	14		G002633	Report ND if one column < MDL
18F0364-09	LDW18-C11-CLWB-Comp2	8082A PCB Solid 4	A 02	15		G002633	Report ND if one column < MDL
SGG0118-CCV1	AR1248CCV1	QC		16	G000809	G002633	
SGG0118-CCV2	AR1660CCV2	QC		17	F011204	G002633	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180709.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	09-JUL-2018 07:02	18070901.D	1	0.1PPMDDTS	
2	09-JUL-2018 07:24	18070902.D	1	AR1254ICV1	
3	09-JUL-2018 07:47	18070903.D	1	AR1660ICV2	
4	09-JUL-2018 08:09	18070904.D	1	BGF0717-BLK1	
5	09-JUL-2018 08:31	18070905.D	1	BGF0717-BS1	
6	09-JUL-2018 08:53	18070906.D	1	18F0364-01	
7	09-JUL-2018 09:15	18070907.D	1	BGF0717-MS1	
8	09-JUL-2018 09:37	18070908.D	1	BGF0717-MSD1	
9	09-JUL-2018 09:59	18070909.D	1	18F0364-02	
10	09-JUL-2018 10:22	18070910.D	1	18F0364-03	
11	09-JUL-2018 10:44	18070911.D	1	18F0364-04	
12	09-JUL-2018 11:06	18070912.D	1	18F0364-05	
13	09-JUL-2018 11:28	18070913.D	1	18F0364-06	
14	09-JUL-2018 11:50	18070914.D	1	18F0364-07	
15	09-JUL-2018 12:12	18070915.D	1	18F0364-08	
16	09-JUL-2018 12:34	18070916.D	1	18F0364-09	
17	09-JUL-2018 12:56	18070917.D	1	AR1248CCV1	
18	09-JUL-2018 13:18	18070918.D	1	AR1660CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180709.b

ARI Job No.: 0.1P Method: PCB.m Instrument: ecd7.i Date: 09-JUL-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0702	18070901.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0724	18070902.D	AR1254ICV1		1	NO MANUAL INTEGRATION
0747	18070903.D	AR1660ICV2		1	NO MANUAL INTEGRATION
0809	18070904.D	BGF0717-BLK1		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Tetrachloro-m-xylene,
0831	18070905.D	BGF0717-BS1		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Tetrachloro-m-xylene,
0853	18070906.D	18F0364-01		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
0915	18070907.D	BGF0717-MS1		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
0937	18070908.D	BGF0717-MSD1		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
0959	18070909.D	18F0364-02		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
1022	18070910.D	18F0364-03		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,
1044	18070911.D	18F0364-04		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-BNB,
1106	18070912.D	18F0364-05		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
1128	18070913.D	18F0364-06		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Tetrachloro-m-xylene,
1150	18070914.D	18F0364-07		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Tetrachloro-m-xylene,
1212	18070915.D	18F0364-08		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,

1234	18070916.D 18F0364-09	1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, IS-BNB, Tetrachloro-m-xylene,
1256	18070917.D AR1248CCV1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180709.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1318	18070918.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0702	18070901.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0724	18070902.D	AR1254ICV1		1	NO MANUAL INTEGRATION
0747	18070903.D	AR1660ICV2		1	NO MANUAL INTEGRATION
0809	18070904.D	BGF0717-BLK1		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C],
0831	18070905.D	BGF0717-BS1		1	NO MANUAL INTEGRATION
0853	18070906.D	18F0364-01		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-HBBP [2C],
0915	18070907.D	BGF0717-MS1		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], IS-HBBP [2C],
0937	18070908.D	BGF0717-MSD1		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],
0959	18070909.D	18F0364-02		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],
1022	18070910.D	18F0364-03		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], IS-HBBP [2C],
1044	18070911.D	18F0364-04		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1268 [2C], IS-BNB [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],
1106	18070912.D	18F0364-05		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C],
1128	18070913.D	18F0364-06		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C],
1150	18070914.D	18F0364-07		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C],
1212	18070915.D	18F0364-08		1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C],

1234	18070916.D	18F0364-09	1	Aroclor-1016 [2C], Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C], IS-BNB [2C], IS-HBBP [2C], Tetrachloro-m-xylene [2C], Decachlorobiphenyl [2C],
1256	18070917.D	AR1248CCV1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\20180709.b\20180709.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1318	18070918.D	AR1660CCV2		1	NO MANUAL INTEGRATION

Security Status Report

Date: 10-Jul-2018 13:38

18070901ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070902ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070903ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070904ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070905ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070906ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070907ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070908ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070909ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070910ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070911ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070912ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070913ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070914ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070915ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070916ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070917ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38
18070918ECD7.D	Data Locked	jrains, 10-Jul-2018 13:38

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0057
Instrument: ECD7
Calibration: BG00027
Calibration Date: 06/23/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0057-SCV1 (Water)				Lab File ID: 18062228.D			Analyzed: 06/23/18 02:27	
Decachlorobiphenyl	40.000	99.9	80 - 120	13.311	13.316	-0.0050	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	4.739	4.743167	-0.0042	N/A	
Decachlorobiphenyl [2C]	40.000	98.2	80 - 120	13.51	13.5225	-0.0125	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	4.635	4.643	-0.0080	N/A	
SGG0057-SCV2 (Water)				Lab File ID: 18062229.D			Analyzed: 06/23/18 02:49	
Decachlorobiphenyl	40.000	89.2	80 - 120	13.31	13.316	-0.0060	N/A	
Tetrachlorometaxylene	40.000	103	80 - 120	4.741	4.743167	-0.0022	N/A	
Decachlorobiphenyl [2C]	40.000	87.9	80 - 120	13.51	13.5225	-0.0125	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	4.638	4.643	-0.0050	N/A	
SGG0057-SCV3 (Water)				Lab File ID: 18062230.D			Analyzed: 06/23/18 03:11	
Decachlorobiphenyl	40.000	95.6	80 - 120	13.31	13.316	-0.0060	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	4.742	4.743167	-0.0012	N/A	
Decachlorobiphenyl [2C]	40.000	94.3	80 - 120	13.509	13.5225	-0.0135	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	4.637	4.643	-0.0060	N/A	
SGG0057-SCV4 (Water)				Lab File ID: 18062231.D			Analyzed: 06/23/18 03:33	
Decachlorobiphenyl	40.000	96.2	80 - 120	13.309	13.316	-0.0070	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	4.741	4.743167	-0.0022	N/A	
Decachlorobiphenyl [2C]	40.000	94.6	80 - 120	13.507	13.5225	-0.0155	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	4.636	4.643	-0.0070	N/A	
SGG0057-SCV5 (Water)				Lab File ID: 18062232.D			Analyzed: 06/23/18 03:55	
Decachlorobiphenyl	40.000	94.8	80 - 120	13.308	13.316	-0.0080	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	4.741	4.743167	-0.0022	N/A	
Decachlorobiphenyl [2C]	40.000	93.4	80 - 120	13.505	13.5225	-0.0175	N/A	
Tetrachlorometaxylene [2C]	40.000	110	80 - 120	4.634	4.643	-0.0090	N/A	
SGG0057-SCV6 (Water)				Lab File ID: 18062233.D			Analyzed: 06/23/18 04:17	
Decachlorobiphenyl	40.000	130	80 - 200	13.309	13.316	-0.0070	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	4.741	4.743167	-0.0022	N/A	
Decachlorobiphenyl [2C]	40.000	129	80 - 200	13.503	13.5225	-0.0195	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	4.634	4.643	-0.0090	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027
Calibration Date: 06/23/2018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGG0118-ICV1 (Tissue)			Lab File ID: 18070902ECD7.D			Analyzed: 07/09/18 07:24		
Decachlorobiphenyl	40.000	106	80 - 120	13.289	13.316	-0.0270	N/A	
Tetrachlorometaxylene	40.000	112	80 - 120	4.733	4.743167	-0.0102	N/A	
Decachlorobiphenyl [2C]	40.000	106	80 - 120	13.467	13.5225	-0.0555	N/A	
Tetrachlorometaxylene [2C]	40.000	117	80 - 120	4.606	4.643	-0.0370	N/A	
SGG0118-ICV2 (Tissue)			Lab File ID: 18070903ECD7.D			Analyzed: 07/09/18 07:47		
Decachlorobiphenyl	40.000	110	80 - 120	13.287	13.316	-0.0290	N/A	
Tetrachlorometaxylene	40.000	119	80 - 120	4.734	4.743167	-0.0092	N/A	
Decachlorobiphenyl [2C]	40.000	111	80 - 120	13.468	13.5225	-0.0545	N/A	
Tetrachlorometaxylene [2C]	40.000	124	80 - 120	4.611	4.643	-0.0320	N/A	*
BGF0717-BLK1 (Tissue)			Lab File ID: 18070904ECD7.D			Analyzed: 07/09/18 08:09		
Decachlorobiphenyl	8.0000	77.6	30 - 150	13.286	13.316	-0.0300	N/A	
Tetrachlorometaxylene	8.0000	64.9	30 - 150	4.731	4.743167	-0.0122	N/A	
Decachlorobiphenyl [2C]	8.0000	77.0	30 - 150	13.467	13.5225	-0.0555	N/A	
Tetrachlorometaxylene [2C]	8.0000	67.5	30 - 150	4.609	4.643	-0.0340	N/A	
BGF0717-BS1 (Tissue)			Lab File ID: 18070905ECD7.D			Analyzed: 07/09/18 08:31		
Decachlorobiphenyl	8.0000	81.0	30 - 150	13.286	13.316	-0.0300	N/A	
Tetrachlorometaxylene	8.0000	70.7	30 - 150	4.732	4.743167	-0.0112	N/A	
Decachlorobiphenyl [2C]	8.0000	82.8	30 - 150	13.466	13.5225	-0.0565	N/A	
Tetrachlorometaxylene [2C]	8.0000	74.2	30 - 150	4.61	4.643	-0.0330	N/A	
18F0364-01 (Tissue)			Lab File ID: 18070906ECD7.D			Analyzed: 07/09/18 08:53		
Decachlorobiphenyl	7.9808	73.5	30 - 150	13.284	13.316	-0.0320	N/A	
Tetrachlorometaxylene	7.9808	77.9	30 - 150	4.732	4.743167	-0.0112	N/A	
Decachlorobiphenyl [2C]	7.9808	74.7	30 - 150	13.464	13.5225	-0.0585	N/A	
Tetrachlorometaxylene [2C]	7.9808	73.8	30 - 150	4.61	4.643	-0.0330	N/A	
BGF0717-MS1 (Tissue)			Lab File ID: 18070907ECD7.D			Analyzed: 07/09/18 09:15		
Decachlorobiphenyl	7.9681	70.5	30 - 150	13.283	13.316	-0.0330	N/A	
Tetrachlorometaxylene	7.9681	72.4	30 - 150	4.73	4.743167	-0.0132	N/A	
Decachlorobiphenyl [2C]	7.9681	72.2	30 - 150	13.462	13.5225	-0.0605	N/A	
Tetrachlorometaxylene [2C]	7.9681	66.4	30 - 150	4.61	4.643	-0.0330	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027
Calibration Date: 06/23/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BGF0717-MSD1 (Tissue)			Lab File ID: 18070908ECD7.D			Analyzed: 07/09/18 09:37		
Decachlorobiphenyl	7.9681	70.6	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9681	70.8	30 - 150	4.732	4.743167	-0.0112	N/A	
Decachlorobiphenyl [2C]	7.9681	69.5	30 - 150	13.46	13.5225	-0.0625	N/A	
Tetrachlorometaxylene [2C]	7.9681	64.1	30 - 150	4.611	4.643	-0.0320	N/A	
18F0364-02 (Tissue)			Lab File ID: 18070909ECD7.D			Analyzed: 07/09/18 09:59		
Decachlorobiphenyl	7.9681	69.8	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9681	71.7	30 - 150	4.733	4.743167	-0.0102	N/A	
Decachlorobiphenyl [2C]	7.9681	67.9	30 - 150	13.46	13.5225	-0.0625	N/A	
Tetrachlorometaxylene [2C]	7.9681	69.4	30 - 150	4.611	4.643	-0.0320	N/A	
18F0364-03 (Tissue)			Lab File ID: 18070910ECD7.D			Analyzed: 07/09/18 10:22		
Decachlorobiphenyl	7.9618	66.2	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9618	69.4	30 - 150	4.732	4.743167	-0.0112	N/A	
Decachlorobiphenyl [2C]	7.9618	68.4	30 - 150	13.459	13.5225	-0.0635	N/A	
Tetrachlorometaxylene [2C]	7.9618	70.0	30 - 150	4.61	4.643	-0.0330	N/A	
18F0364-04 (Tissue)			Lab File ID: 18070911ECD7.D			Analyzed: 07/09/18 10:44		
Decachlorobiphenyl	7.9491	74.4	30 - 150	13.283	13.316	-0.0330	N/A	
Tetrachlorometaxylene	7.9491	67.3	30 - 150	4.732	4.743167	-0.0112	N/A	
Decachlorobiphenyl [2C]	7.9491	82.0	30 - 150	13.459	13.5225	-0.0635	N/A	
Tetrachlorometaxylene [2C]	7.9491	61.9	30 - 150	4.61	4.643	-0.0330	N/A	
18F0364-05 (Tissue)			Lab File ID: 18070912ECD7.D			Analyzed: 07/09/18 11:06		
Decachlorobiphenyl	7.9555	64.7	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9555	61.2	30 - 150	4.731	4.743167	-0.0122	N/A	
Decachlorobiphenyl [2C]	7.9555	66.8	30 - 150	13.459	13.5225	-0.0635	N/A	
Tetrachlorometaxylene [2C]	7.9555	62.0	30 - 150	4.608	4.643	-0.0350	N/A	
18F0364-06 (Tissue)			Lab File ID: 18070913ECD7.D			Analyzed: 07/09/18 11:28		
Decachlorobiphenyl	7.9745	61.5	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9745	63.9	30 - 150	4.729	4.743167	-0.0142	N/A	
Decachlorobiphenyl [2C]	7.9745	63.0	30 - 150	13.458	13.5225	-0.0645	N/A	
Tetrachlorometaxylene [2C]	7.9745	64.9	30 - 150	4.609	4.643	-0.0340	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG/WO: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027
Calibration Date: 06/23/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18F0364-07 (Tissue)			Lab File ID: 18070914ECD7.D			Analyzed: 07/09/18 11:50		
Decachlorobiphenyl	7.9808	69.8	30 - 150	13.283	13.316	-0.0330	N/A	
Tetrachlorometaxylene	7.9808	68.6	30 - 150	4.729	4.743167	-0.0142	N/A	
Decachlorobiphenyl [2C]	7.9808	67.2	30 - 150	13.458	13.5225	-0.0645	N/A	
Tetrachlorometaxylene [2C]	7.9808	70.6	30 - 150	4.608	4.643	-0.0350	N/A	
18F0364-08 (Tissue)			Lab File ID: 18070915ECD7.D			Analyzed: 07/09/18 12:12		
Decachlorobiphenyl	7.9745	63.4	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9745	65.8	30 - 150	4.73	4.743167	-0.0132	N/A	
Decachlorobiphenyl [2C]	7.9745	64.6	30 - 150	13.457	13.5225	-0.0655	N/A	
Tetrachlorometaxylene [2C]	7.9745	67.4	30 - 150	4.608	4.643	-0.0350	N/A	
18F0364-09 (Tissue)			Lab File ID: 18070916ECD7.D			Analyzed: 07/09/18 12:34		
Decachlorobiphenyl	7.9808	67.0	30 - 150	13.282	13.316	-0.0340	N/A	
Tetrachlorometaxylene	7.9808	69.7	30 - 150	4.729	4.743167	-0.0142	N/A	
Decachlorobiphenyl [2C]	7.9808	67.2	30 - 150	13.457	13.5225	-0.0655	N/A	
Tetrachlorometaxylene [2C]	7.9808	70.2	30 - 150	4.608	4.643	-0.0350	N/A	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0057
Instrument: ECD7
Calibration: BG00027

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGG0057-SCV1)		(Water)		Lab File ID: 18062228.D			Analyzed: 06/23/18 02:27		
1-Bromo-2-Nitrobenzene	28418170	2.147	2.57312E+07	2.149	110	50 - 200	0.0020	+/-0.50	
Hexabromobiphenyl	24424270	13.668	2.258565E+07	13.674	108	50 - 200	0.0060	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	46199350	2.675	3.983506E+07	2.679	116	50 - 200	0.0040	+/-0.50	
Hexabromobiphenyl [2C]	24801140	14.363	2.208796E+07	14.378	112	50 - 200	0.0150	+/-0.50	
Secondary Cal Check (SGG0057-SCV2)		(Water)		Lab File ID: 18062229.D			Analyzed: 06/23/18 02:49		
1-Bromo-2-Nitrobenzene	28271450	2.156	2.57312E+07	2.149	110	50 - 200	-0.0070	+/-0.50	
Hexabromobiphenyl	24709110	13.667	2.258565E+07	13.674	109	50 - 200	0.0070	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	46425080	2.681	3.983506E+07	2.679	117	50 - 200	-0.0020	+/-0.50	
Hexabromobiphenyl [2C]	25130810	14.361	2.208796E+07	14.378	114	50 - 200	0.0170	+/-0.50	
Secondary Cal Check (SGG0057-SCV3)		(Water)		Lab File ID: 18062230.D			Analyzed: 06/23/18 03:11		
1-Bromo-2-Nitrobenzene	28129830	2.157	2.57312E+07	2.149	109	50 - 200	-0.0080	+/-0.50	
Hexabromobiphenyl	24453050	13.667	2.258565E+07	13.674	108	50 - 200	0.0070	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	46218360	2.681	3.983506E+07	2.679	116	50 - 200	-0.0020	+/-0.50	
Hexabromobiphenyl [2C]	25004830	14.359	2.208796E+07	14.378	113	50 - 200	0.0190	+/-0.50	
Secondary Cal Check (SGG0057-SCV4)		(Water)		Lab File ID: 18062231.D			Analyzed: 06/23/18 03:33		
1-Bromo-2-Nitrobenzene	28238440	2.155	2.57312E+07	2.149	110	50 - 200	-0.0060	+/-0.50	
Hexabromobiphenyl	24730500	13.666	2.258565E+07	13.674	109	50 - 200	0.0080	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	46920540	2.679	3.983506E+07	2.679	118	50 - 200	0.0000	+/-0.50	
Hexabromobiphenyl [2C]	25421100	14.358	2.208796E+07	14.378	115	50 - 200	0.0200	+/-0.50	
Secondary Cal Check (SGG0057-SCV5)		(Water)		Lab File ID: 18062232.D			Analyzed: 06/23/18 03:55		
1-Bromo-2-Nitrobenzene	28352320	2.153	2.57312E+07	2.149	110	50 - 200	-0.0040	+/-0.50	
Hexabromobiphenyl	24612870	13.666	2.258565E+07	13.674	109	50 - 200	0.0080	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	45786010	2.678	3.983506E+07	2.679	115	50 - 200	0.0010	+/-0.50	
Hexabromobiphenyl [2C]	25429050	14.356	2.208796E+07	14.378	115	50 - 200	0.0220	+/-0.50	
Secondary Cal Check (SGG0057-SCV6)		(Water)		Lab File ID: 18062233.D			Analyzed: 06/23/18 04:17		
1-Bromo-2-Nitrobenzene	28808020	2.154	2.57312E+07	2.149	112	50 - 200	-0.0050	+/-0.50	
Hexabromobiphenyl	25026380	13.667	2.258565E+07	13.674	111	50 - 200	0.0070	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47376070	2.678	3.983506E+07	2.679	119	50 - 200	0.0010	+/-0.50	
Hexabromobiphenyl [2C]	25894540	14.355	2.208796E+07	14.378	117	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGG0118-ICV1)		(Tissue)	Lab File ID: 18070902ECD7.D				Analyzed: 07/09/18 07:24		
1-Bromo-2-Nitrobenzene	32097090	2.148	2.57312E+07	2.148	125	50 - 200	0.0000	+/-0.50	
Hexabromobiphenyl	27156360	13.646	2.258565E+07	13.646	120	50 - 200	0.0000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	51133140	2.655	3.983506E+07	2.655	128	50 - 200	0.0000	+/-0.50	
Hexabromobiphenyl [2C]	25917290	14.316	2.208796E+07	14.316	117	50 - 200	0.0000	+/-0.50	
Initial Cal Check (SGG0118-ICV2)		(Tissue)	Lab File ID: 18070903ECD7.D				Analyzed: 07/09/18 07:47		
1-Bromo-2-Nitrobenzene	29486980	2.149	2.57312E+07	2.148	115	50 - 200	-0.0010	+/-0.50	
Hexabromobiphenyl	25529980	13.646	2.258565E+07	13.646	113	50 - 200	0.0000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	48084560	2.661	3.983506E+07	2.655	121	50 - 200	-0.0060	+/-0.50	
Hexabromobiphenyl [2C]	25016200	14.317	2.208796E+07	14.316	113	50 - 200	-0.0010	+/-0.50	
Blank (BGF0717-BLK1)		(Tissue)	Lab File ID: 18070904ECD7.D				Analyzed: 07/09/18 08:09		
1-Bromo-2-Nitrobenzene	28009460	2.143	2.57312E+07	2.149	109	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl	26718420	13.642	2.258565E+07	13.646	118	50 - 200	0.0040	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47419940	2.656	3.983506E+07	2.661	119	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl [2C]	26978630	14.315	2.208796E+07	14.317	122	50 - 200	0.0020	+/-0.50	
LCS (BGF0717-BS1)		(Tissue)	Lab File ID: 18070905ECD7.D				Analyzed: 07/09/18 08:31		
1-Bromo-2-Nitrobenzene	28149340	2.144	2.57312E+07	2.149	109	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl	27018780	13.642	2.258565E+07	13.646	120	50 - 200	0.0040	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47291060	2.657	3.983506E+07	2.661	119	50 - 200	0.0040	+/-0.50	
Hexabromobiphenyl [2C]	26974790	14.314	2.208796E+07	14.317	122	50 - 200	0.0030	+/-0.50	
LDW18-C01-CLWB-Comp2 (18F0364-01)		(Tissue)	Lab File ID: 18070906ECD7.D				Analyzed: 07/09/18 08:53		
1-Bromo-2-Nitrobenzene	24380460	2.142	2.57312E+07	2.149	95	50 - 200	0.0070	+/-0.50	
Hexabromobiphenyl	17746480	13.638	2.258565E+07	13.646	79	50 - 200	0.0080	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	44799400	2.656	3.983506E+07	2.661	112	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl [2C]	22601480	14.309	2.208796E+07	14.317	102	50 - 200	0.0080	+/-0.50	
Matrix Spike (BGF0717-MS1)		(Tissue)	Lab File ID: 18070907ECD7.D				Analyzed: 07/09/18 09:15		
1-Bromo-2-Nitrobenzene	24838210	2.141	2.57312E+07	2.149	97	50 - 200	0.0080	+/-0.50	
Hexabromobiphenyl	19888870	13.637	2.258565E+07	13.646	88	50 - 200	0.0090	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47754380	2.655	3.983506E+07	2.661	120	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl [2C]	23713060	14.308	2.208796E+07	14.317	107	50 - 200	0.0090	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (BGF0717-MSD1)		(Tissue)	Lab File ID: 18070908ECD7.D				Analyzed: 07/09/18 09:37		
1-Bromo-2-Nitrobenzene	23896540	2.143	2.57312E+07	2.149	93	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl	17889120	13.636	2.258565E+07	13.646	79	50 - 200	0.0100	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47126790	2.656	3.983506E+07	2.661	118	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl [2C]	22928260	14.308	2.208796E+07	14.317	104	50 - 200	0.0090	+/-0.50	
LDW18-C02-CLWB-Comp2 (18F0364-02)		(Tissue)	Lab File ID: 18070909ECD7.D				Analyzed: 07/09/18 09:59		
1-Bromo-2-Nitrobenzene	24750120	2.144	2.57312E+07	2.149	96	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl	20020280	13.637	2.258565E+07	13.646	89	50 - 200	0.0090	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	48234040	2.657	3.983506E+07	2.661	121	50 - 200	0.0040	+/-0.50	
Hexabromobiphenyl [2C]	24712840	14.307	2.208796E+07	14.317	112	50 - 200	0.0100	+/-0.50	
LDW18-C03-CLWB-Comp2 (18F0364-03)		(Tissue)	Lab File ID: 18070910ECD7.D				Analyzed: 07/09/18 10:22		
1-Bromo-2-Nitrobenzene	25180730	2.143	2.57312E+07	2.149	98	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl	22898440	13.637	2.258565E+07	13.646	101	50 - 200	0.0090	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47728040	2.656	3.983506E+07	2.661	120	50 - 200	0.0050	+/-0.50	
Hexabromobiphenyl [2C]	26904440	14.307	2.208796E+07	14.317	122	50 - 200	0.0100	+/-0.50	
LDW18-C04-CLWB-Comp2 (18F0364-04)		(Tissue)	Lab File ID: 18070911ECD7.D				Analyzed: 07/09/18 10:44		
1-Bromo-2-Nitrobenzene	28236380	2.141	2.57312E+07	2.149	110	50 - 200	0.0080	+/-0.50	
Hexabromobiphenyl	21127150	13.637	2.258565E+07	13.646	94	50 - 200	0.0090	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	55532330	2.657	3.983506E+07	2.661	139	50 - 200	0.0040	+/-0.50	
Hexabromobiphenyl [2C]	28149270	14.306	2.208796E+07	14.317	127	50 - 200	0.0110	+/-0.50	
LDW18-C05-CLWB-Comp2 (18F0364-05)		(Tissue)	Lab File ID: 18070912ECD7.D				Analyzed: 07/09/18 11:06		
1-Bromo-2-Nitrobenzene	23892060	2.14	2.57312E+07	2.149	93	50 - 200	0.0090	+/-0.50	
Hexabromobiphenyl	22009960	13.636	2.258565E+07	13.646	97	50 - 200	0.0100	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	45665030	2.654	3.983506E+07	2.661	115	50 - 200	0.0070	+/-0.50	
Hexabromobiphenyl [2C]	26210180	14.305	2.208796E+07	14.317	119	50 - 200	0.0120	+/-0.50	
LDW18-C06-CLWB-Comp2 (18F0364-06)		(Tissue)	Lab File ID: 18070913ECD7.D				Analyzed: 07/09/18 11:28		
1-Bromo-2-Nitrobenzene	25367160	2.14	2.57312E+07	2.149	99	50 - 200	0.0090	+/-0.50	
Hexabromobiphenyl	23405500	13.635	2.258565E+07	13.646	104	50 - 200	0.0110	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	48273300	2.654	3.983506E+07	2.661	121	50 - 200	0.0070	+/-0.50	
Hexabromobiphenyl [2C]	28023420	14.304	2.208796E+07	14.317	127	50 - 200	0.0130	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0118
Instrument: ECD7
Calibration: BG00027

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-C08-CLWB-Comp2 (18F0364-07)		(Tissue)		Lab File ID: 18070914ECD7.D				Analyzed: 07/09/18 11:50	
1-Bromo-2-Nitrobenzene	25069360	2.141	2.57312E+07	2.149	97	50 - 200	0.0080	+/-0.50	
Hexabromobiphenyl	23608940	13.637	2.258565E+07	13.646	105	50 - 200	0.0090	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	47424320	2.654	3.983506E+07	2.661	119	50 - 200	0.0070	+/-0.50	
Hexabromobiphenyl [2C]	29080980	14.305	2.208796E+07	14.317	132	50 - 200	0.0120	+/-0.50	
LDW18-C10-CLWB-Comp2 (18F0364-08)		(Tissue)		Lab File ID: 18070915ECD7.D				Analyzed: 07/09/18 12:12	
1-Bromo-2-Nitrobenzene	26589890	2.143	2.57312E+07	2.149	103	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl	24322550	13.635	2.258565E+07	13.646	108	50 - 200	0.0110	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	50143900	2.657	3.983506E+07	2.661	126	50 - 200	0.0040	+/-0.50	
Hexabromobiphenyl [2C]	29275130	14.303	2.208796E+07	14.317	133	50 - 200	0.0140	+/-0.50	
LDW18-C11-CLWB-Comp2 (18F0364-09)		(Tissue)		Lab File ID: 18070916ECD7.D				Analyzed: 07/09/18 12:34	
1-Bromo-2-Nitrobenzene	25760920	2.142	2.57312E+07	2.149	100	50 - 200	0.0070	+/-0.50	
Hexabromobiphenyl	23949480	13.636	2.258565E+07	13.646	106	50 - 200	0.0100	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	48695170	2.655	3.983506E+07	2.661	122	50 - 200	0.0060	+/-0.50	
Hexabromobiphenyl [2C]	28601540	14.304	2.208796E+07	14.317	129	50 - 200	0.0130	+/-0.50	

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-01	File ID:	18070906ECD7.D
Sampled:	05/16/18 13:33	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 08:53
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.496	9.521	0.025	2011895	7.3	34.2
Aroclor 1254	* 2	10.451	10.497	0.046	969638.2	9.8	
Aroclor 1260	1	11.631	11.6605	0.0295	195533.2	2.4	45.8
Aroclor 1260	* 2	11.845	11.89783	0.0528	318043.5	3.5	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-02	File ID:	18070909ECD7.D
Sampled:	05/16/18 11:57	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 09:59
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	* 1	9.491	9.521	0.03	652715.2	7.6	2.7
Aroclor 1254	2	10.451	10.497	0.046	796080.4	7.4	
Aroclor 1260	1	11.632	11.6605	0.0285	208735.6	2.8	32.1
Aroclor 1260	* 2	11.84	11.89783	0.0578	379907	3.7	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-03	File ID:	18070910ECD7.D
Sampled:	05/16/18 12:40	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 10:22
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.492	9.521	0.029	570353.4	7.2	11.1
Aroclor 1254	* 2	10.448	10.497	0.049	834969	8.0	
Aroclor 1260	1	11.632	11.6605	0.0285	229204.8	2.8	28.6
Aroclor 1260	* 2	11.839	11.89783	0.0588	392476	3.6	

* Column used for quantitation

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-04	File ID:	18070911ECD7.D
Sampled:	05/19/18 14:45	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 10:44
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.493	9.521	0.028	922276.4	9.4	46.8
Aroclor 1254	* 2	10.417	10.497	0.08	1631451	13.8	
Aroclor 1260	1	11.633	11.6605	0.0275	243987.6	3.3	75.8
Aroclor 1260	* 2	11.84	11.89783	0.0578	718441.8	5.8	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-05	File ID:	18070912ECD7.D
Sampled:	05/18/18 15:32	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:06
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.493	9.521	0.028	662615.2	8.4	23.8
Aroclor 1254	* 2	10.451	10.497	0.046	1018954	10.4	
Aroclor 1260	1	11.631	11.6605	0.0295	291736	3.5	31.4
Aroclor 1260	* 2	11.839	11.89783	0.0588	503931	4.6	

* Column used for quantitation

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-06	File ID:	18070913ECD7.D
Sampled:	05/15/18 11:55	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:28
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.492	9.521	0.029	735443.2	8.3	10.8
Aroclor 1254	* 2	10.449	10.497	0.048	966755.4	9.2	
Aroclor 1260	1	11.632	11.6605	0.0285	206532.6	2.3	34.8
Aroclor 1260	* 2	11.838	11.89783	0.0598	406651.8	3.1	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-07	File ID:	18070914ECD7.D
Sampled:	05/18/18 13:20	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 11:50
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.492	9.521	0.029	715224.4	7.4	40.5
Aroclor 1254	* 2	10.446	10.497	0.051	1078213	10.4	
Aroclor 1260	1	11.633	11.6605	0.0275	194767.4	2.6	30.8
Aroclor 1260	* 2	11.837	11.89783	0.0608	398277.3	3.4	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-08	File ID:	18070915ECD7.D
Sampled:	05/17/18 13:52	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 12:12
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.491	9.521	0.03	662727	5.7	40.4
Aroclor 1254	* 2	10.414	10.497	0.083	1004551	8.0	

* Column used for quantitation

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	18F0364-09	File ID:	18070916ECD7.D
Sampled:	05/18/18 13:53	Prepared:	06/29/18 14:55	Analyzed:	07/09/18 12:34
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Instrument:	ECD7
Batch:	BGF0717	Sequence:	SGG0118		
GC Column(1):				GC Column(2):	

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	%D
Aroclor 1254	1	9.492	9.521	0.029	636806	6.9	46.4
Aroclor 1254	* 2	10.444	10.497	0.053	1121386	10.1	
Aroclor 1260	1	11.632	11.6605	0.0285	196457.6	2.2	40.9
Aroclor 1260	* 2	11.838	11.89783	0.0598	361824	3.1	

* Column used for quantitation

HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-C01-CLWB-Comp2 18F0364-01	05/16/18 13:33	05/21/18 10:10	06/29/18 14:55	44	365	07/09/18 08:53	10	365	
LDW18-C02-CLWB-Comp2 18F0364-02	05/16/18 11:57	05/21/18 10:10	06/29/18 14:55	44	365	07/09/18 09:59	10	365	
LDW18-C03-CLWB-Comp2 18F0364-03	05/16/18 12:40	05/21/18 10:10	06/29/18 14:55	44	365	07/09/18 10:22	10	365	
LDW18-C04-CLWB-Comp2 18F0364-04	05/19/18 14:45	05/21/18 10:10	06/29/18 14:55	41	365	07/09/18 10:44	10	365	
LDW18-C05-CLWB-Comp2 18F0364-05	05/18/18 15:32	05/21/18 10:10	06/29/18 14:55	41	365	07/09/18 11:06	10	365	
LDW18-C06-CLWB-Comp2 18F0364-06	05/15/18 11:55	05/21/18 10:10	06/29/18 14:55	45	365	07/09/18 11:28	10	365	
LDW18-C08-CLWB-Comp2 18F0364-07	05/18/18 13:20	05/21/18 10:10	06/29/18 14:55	42	365	07/09/18 11:50	10	365	
LDW18-C10-CLWB-Comp2 18F0364-08	05/17/18 13:52	05/21/18 10:10	06/29/18 14:55	43	365	07/09/18 12:12	10	365	
LDW18-C11-CLWB-Comp2 18F0364-09	05/18/18 13:53	05/21/18 10:10	06/29/18 14:55	42	365	07/09/18 12:34	10	365	
Matrix Spike BGF0717-MS1	05/16/18 13:33	05/21/18 10:10	06/29/18 14:55	44	365	07/09/18 09:15	10	365	
Matrix Spike Dup BGF0717-MSD1	05/16/18 13:33	05/21/18 10:10	06/29/18 14:55	44	365	07/09/18 09:37	10	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Tissue Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	2.4	4.0	ug/kg
Aroclor 1016 [2C]	2.4	4.0	ug/kg
Aroclor 1221	2.4	4.0	ug/kg
Aroclor 1221 [2C]	2.4	4.0	ug/kg
Aroclor 1232	2.4	4.0	ug/kg
Aroclor 1232 [2C]	2.4	4.0	ug/kg
Aroclor 1242	2.4	4.0	ug/kg
Aroclor 1242 [2C]	2.4	4.0	ug/kg
Aroclor 1248	2.4	4.0	ug/kg
Aroclor 1248 [2C]	2.4	4.0	ug/kg
Aroclor 1254	2.4	4.0	ug/kg
Aroclor 1254 [2C]	2.4	4.0	ug/kg
Aroclor 1260	1.1	4.0	ug/kg
Aroclor 1260 [2C]	1.1	4.0	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Matrix: Water Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.56	4.00	ug/kg
Aroclor 1016 [2C]	1.56	4.00	ug/kg
Aroclor 1221	1.56	4.00	ug/kg
Aroclor 1221 [2C]	1.56	4.00	ug/kg
Aroclor 1232	1.56	4.00	ug/kg
Aroclor 1232 [2C]	1.56	4.00	ug/kg
Aroclor 1242	1.56	4.00	ug/kg
Aroclor 1242 [2C]	1.56	4.00	ug/kg
Aroclor 1248	1.56	4.00	ug/kg
Aroclor 1248 [2C]	1.56	4.00	ug/kg
Aroclor 1254	1.56	4.00	ug/kg
Aroclor 1254 [2C]	1.56	4.00	ug/kg
Aroclor 1260	0.589	4.00	ug/kg
Aroclor 1260 [2C]	0.589	4.00	ug/kg
Aroclor 1262	0.589	4.00	ug/kg
Aroclor 1262 [2C]	0.589	4.00	ug/kg
Aroclor 1268	0.589	4.00	ug/kg
Aroclor 1268 [2C]	0.589	4.00	ug/kg

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: S-279N
DESCRIPTION: Volatile Organic Compound (TCMx)
LOT #: 0052481B-1
SOLVENT: N/A

EXPIRATION: July 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1]	Certified Analyte Concentration[2]
Tetrachloro-meta-xylene (TCMX)	877-09-8	96.0	N/A	N/A

Te

* I1769A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *k where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified ~ 4-6-09 (8)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000147 **Printed: 4/23/2015 11:52:09AM**

Description:	tetrachlormetaxylene	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	n/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:01 by JGR
Vendor:	Accustandard	Lot #:	0052481b-1
Vendor Catalog #:			

Comments

see I1769a
updated for calibration TCX DCBP 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Tetrachlorometaxylene [2C]	877-09-8	1000000	ug/mL
Tetrachlorometaxylene	877-09-8	1000000	ug/mL
TCX 1660 [2C]	877-09-8	1000000	ug/mL
TCX 1660	877-09-8	1000000	ug/mL
TCX [2C]	877-09-8	1000000	ug/mL
TCX (A) [2C]	877-09-8	1000000	ug/mL
TCX (A)	877-09-8	1000000	ug/mL
TCX	877-09-8	1000000	ug/mL

Reviewed By Date

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N **EXPIRATION:** Jul 28, 2015
DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
LOT #: 990521LB-AC
SOLVENT: N/A

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1]	Certified Analyte Concentration[2]
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

2,

* I176 8A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 JS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000148 **Printed: 4/23/2015 11:54:44AM**

Description:	decachlorbiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	990521lb-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By Date

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION — ISO 17025 • ISO GUIDE 34 • ISO 9001 — ULTRA

2,2',4,4',5,5'-Hexabromobiphenyl Solution

Product Number: RBF-094S **Page:** 1 of 1

Lot Number: CM-1050 **Lot Issue Date:** 04-Mar-2015 **Expiration Date:** 30-Apr-2019

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2,2',4,4',5,5'-hexabromobiphenyl	059080-40-9	RM00534	100.3 ± 0.5 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15-30°C).

D 4715
Recd.
12/01/15

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED
ISO 17025:2005 Accredited A2LA Cert. No. 0851-01
ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrasci.com

William J. Leary
Quality Assurance Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO®
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1016, 1x1ml, 1000µg/ml in isooctane

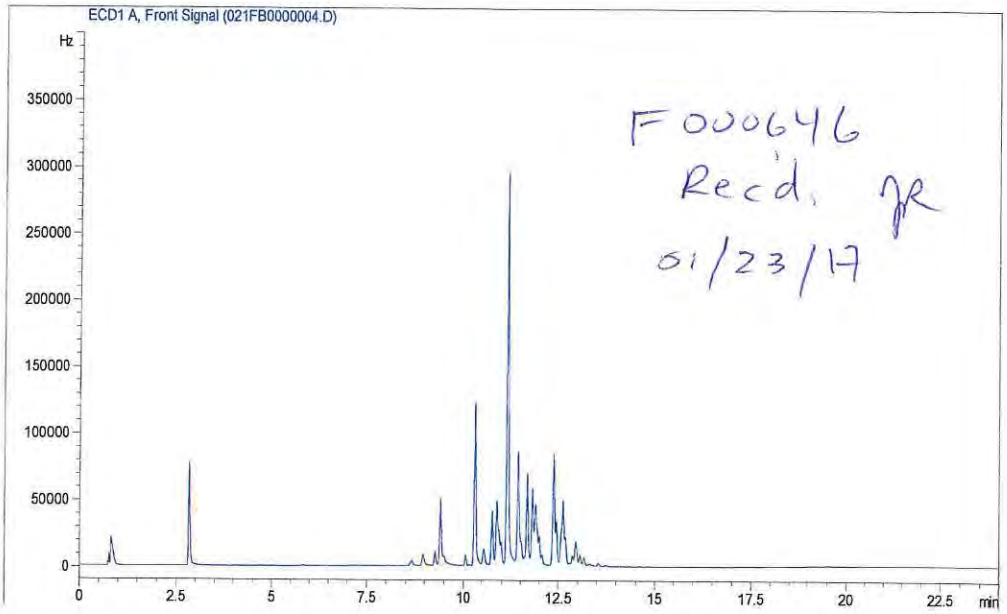
Part Number: 48097

Lot Number: XA23753V

Expiration Date: November 2019

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x 0.5µm df
100°C to 290°C for 5 min at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1 µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Ucrm µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1016	LA39061	12674-11-2	N/A	1000.2	±170	982.4

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

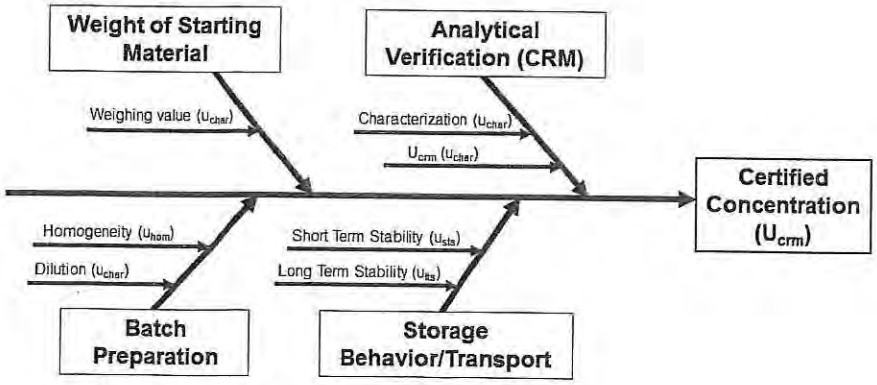
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: November 09, 2016
Form: 48097

Duane Funk

Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1262, 1x1.0ml, 1000µg/ml in isooctane

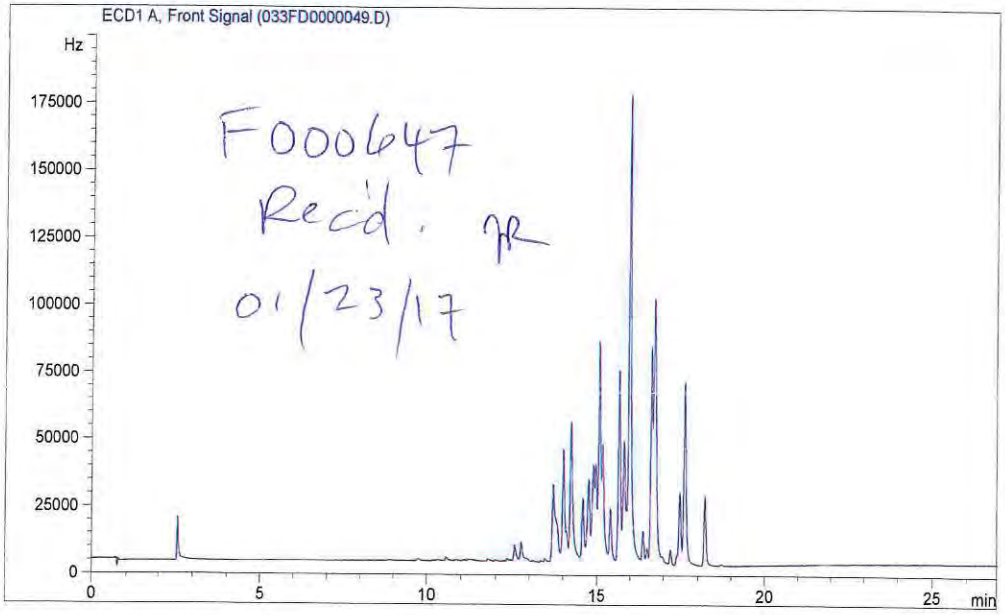
Part Number: 44810

Lot Number: XA21355V

Expiration Date: June 2019

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x .5µm df
100°C to 290°C (5min) at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1ul



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1262	LA39280	37324-23-5	N/A	999.0	±62	998.1

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

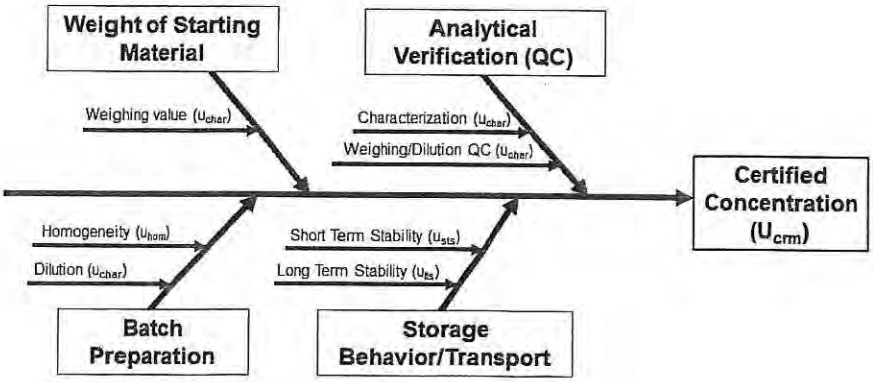
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independently prepared Quality Control Standard. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: July 05, 2016
Form: 44810

Duane Funk
Duane Funk
QC Manager

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfilling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1016, 1x1ml, 1000µg/ml in isooctane

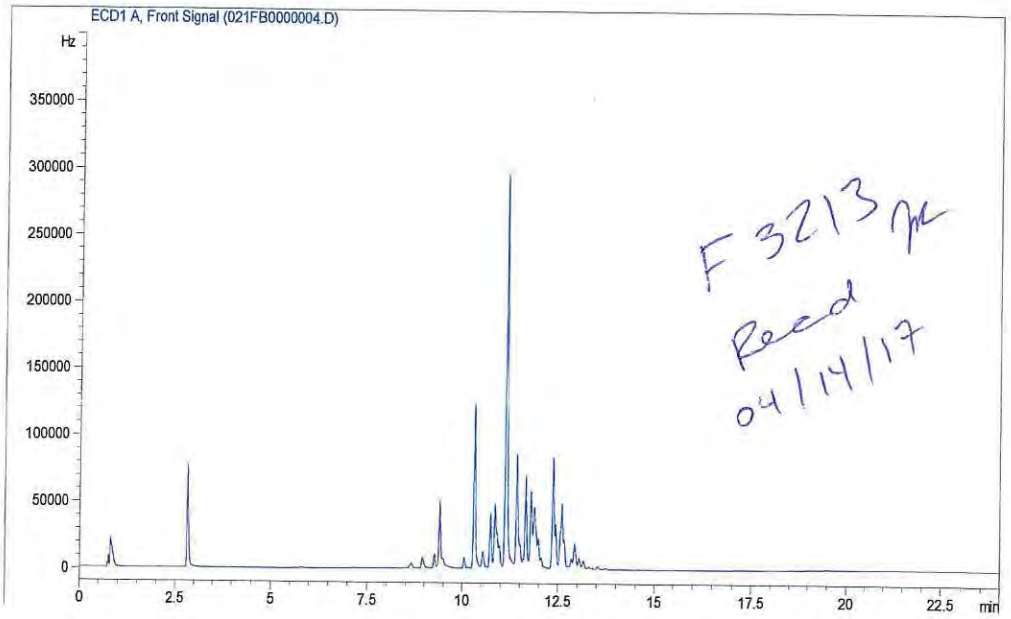
Part Number: 48097

Lot Number: XA23753V

Expiration Date: November 2019

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x 0.5µm df
100°C to 290°C for 5 min at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1 µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Ucrm µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1016	LA39061	12674-11-2	N/A	1000.2	±170	982.4

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

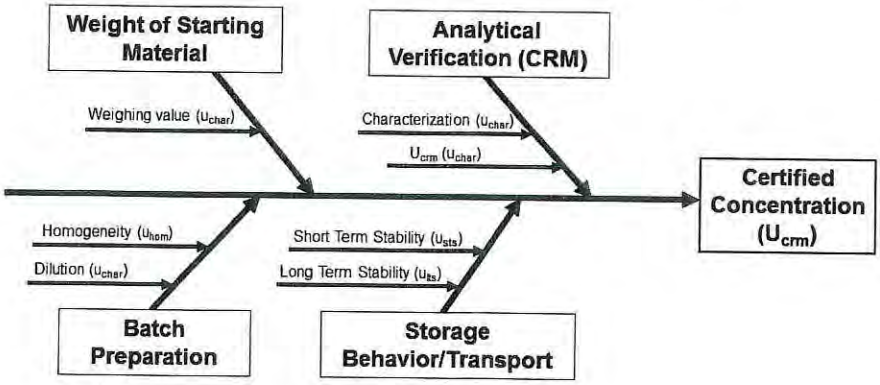
• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

F3213

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: November 09, 2016
Form: 48097

Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1260, 1x1mL, 1000µg/mL in isooctane

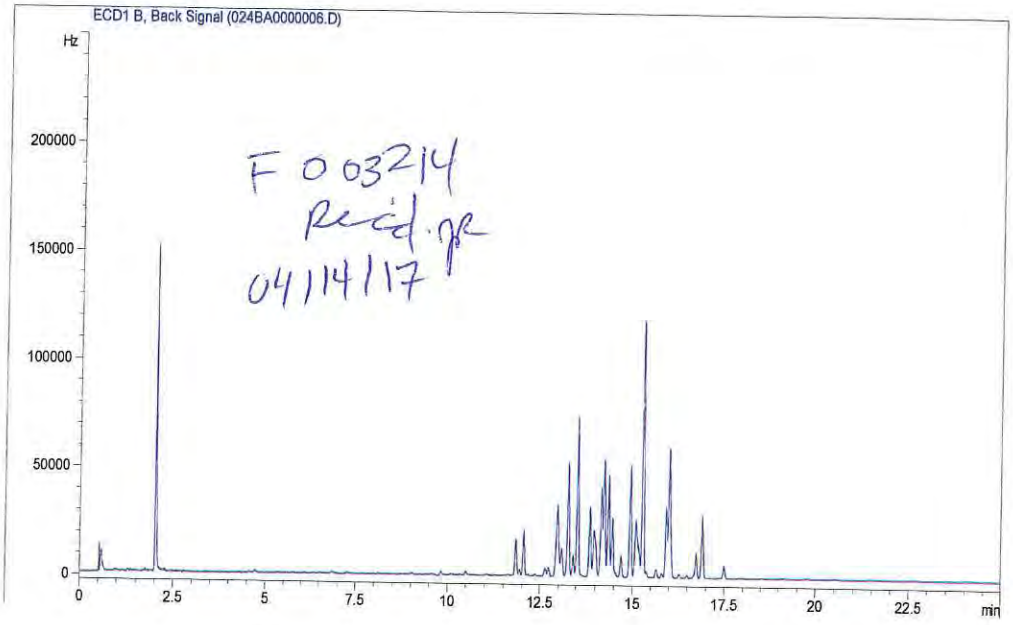
Part Number: 44809

Lot Number: XA25133V

Expiration Date: February 2020

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x 0.5µm df
100°C to 290°C (6 min) at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1µl



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Ucrm µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1260	LC11406	11096-82-5	N/A	1000.0	±270	1081.9

ANAB ACCREDITED TESTING LABORATORY
Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

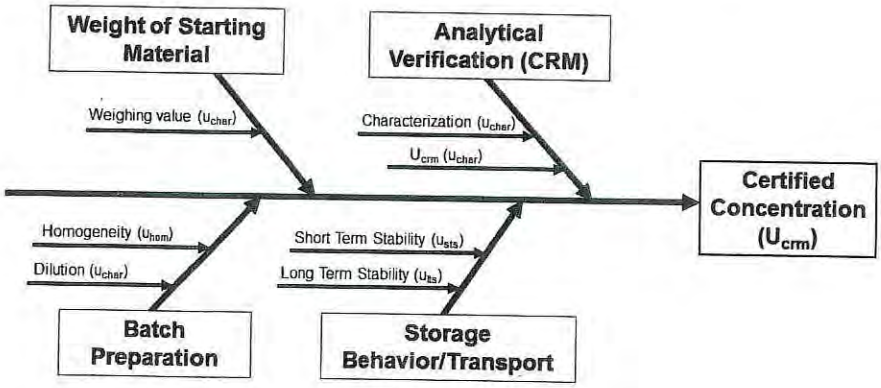
• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

F3214

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: February 21, 2017
Form: 44809

Duane Funk

Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO®
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1232, 1x1ml, 200µg/ml in methanol

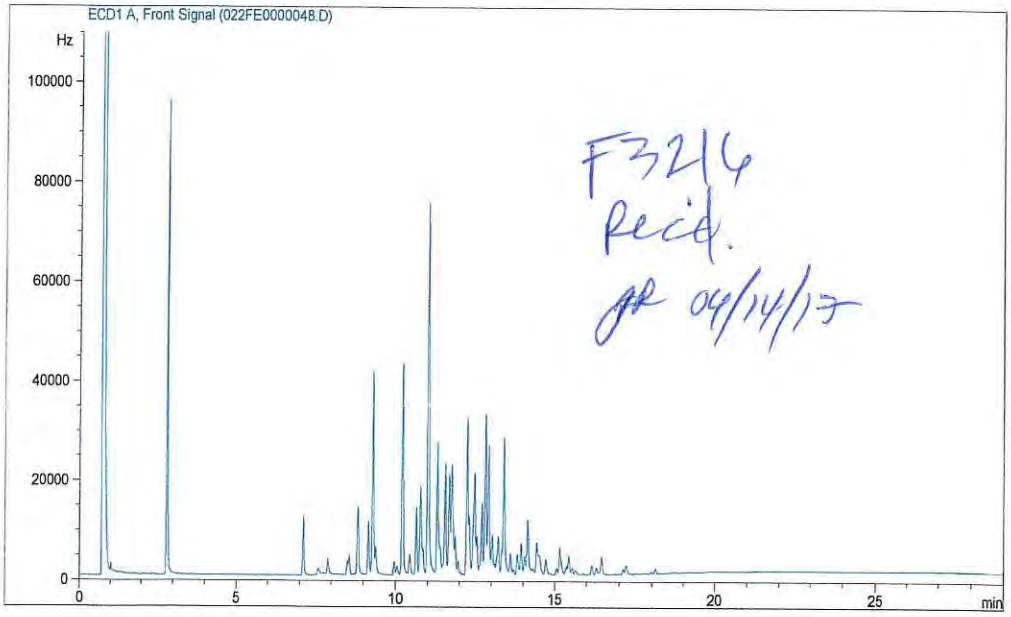
Part Number: 48702

Lot Number: XA16630V

Expiration Date: October 2020

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x 0.5µm
100°C to 290°C (10 min) at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1232	LA38829	11141-16-5	N/A	200.4	±21	194.7

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

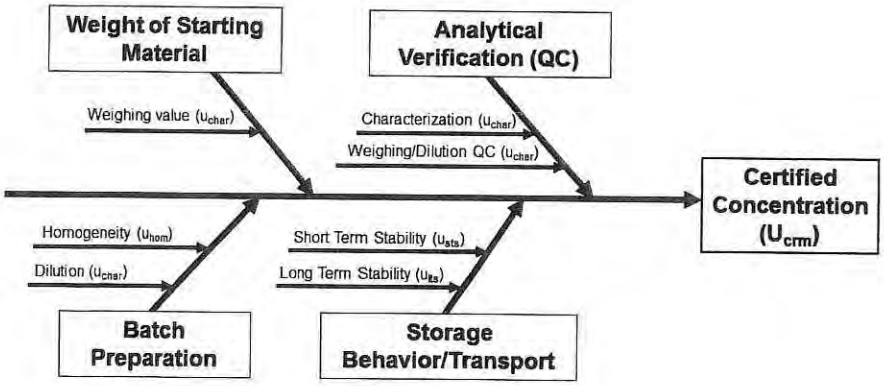
• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independently prepared Quality Control Standard. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

F3216

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: October 26, 2015
Form: 48702

Duane Funk
Duane Funk
QC Manager

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfilling ISO/IEC 17025 and ISO Guide 34

SIGMA-ALDRICH

TraceCERT®
Traceable Certified Reference Materials

SUPELCO®
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1254, 1x1ml, 200µg/ml in methanol

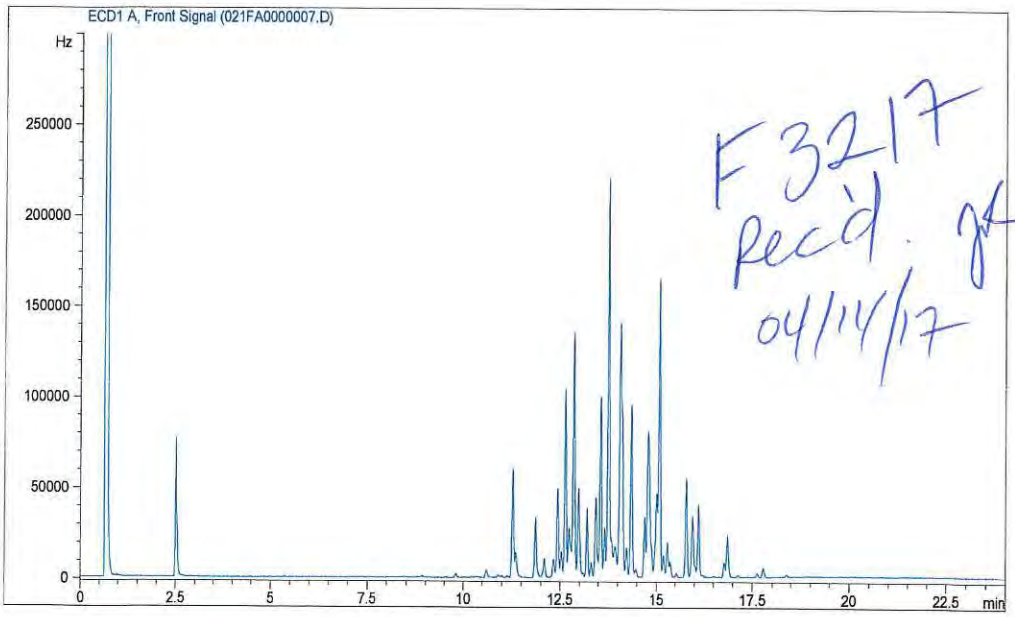
Part Number: 48707

Lot Number: XA14566V

Expiration Date: June 2020

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x .5µm df
100°C to 290°C (5min) at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1µl



F3217
Recd. gf
04/14/17

Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1254	LA39006	11097-69-1	N/A	200.8	±12	192.2

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

- NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

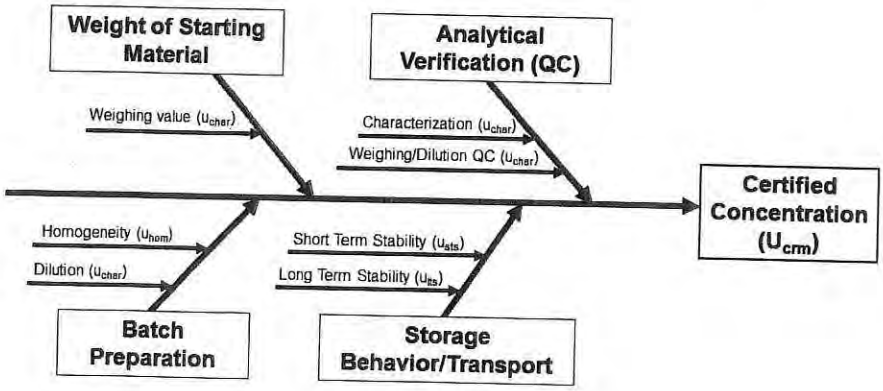
- Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independently prepared Quality Control Standard. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

- Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

- Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

F3217

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: December 15, 2015
Form: 48707

Duane Funk
Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO®
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1268, 1x1.0ml, 1000µg/ml in iso-octane

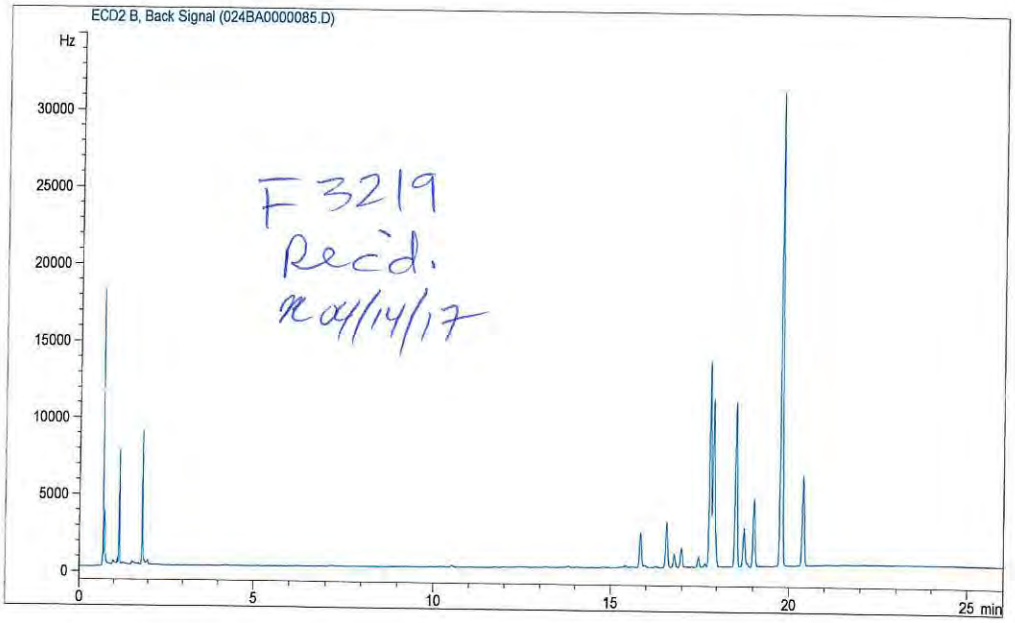
Part Number: 502146

Lot Number: XA16893V

Expiration Date: October 2018

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x .5µm df
120°C to 290°C (5 min) at 8°C/min
Detector: ECD, 300°C
Injection Volume: 1 µl



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Arochlor 1268	LC08045	11100-14-4	N/A	1000.0	±110	1016.2

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.

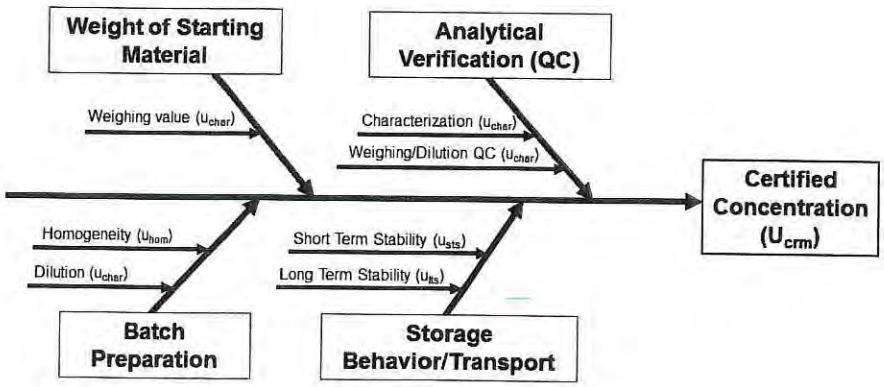
• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independently prepared Quality Control Standard. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

F3219

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: October 23, 2015
Form: 502146

Duane Funk

Duane Funk
QC Manager

TraceCERT®
Traceable Certified Reference Materials

SUPELCO
Solutions within.™
595 North Harrison Road · Bellefonte, PA
16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: Aroclor 1242, 1x1.0ml, 1000µg/ml in isooctane

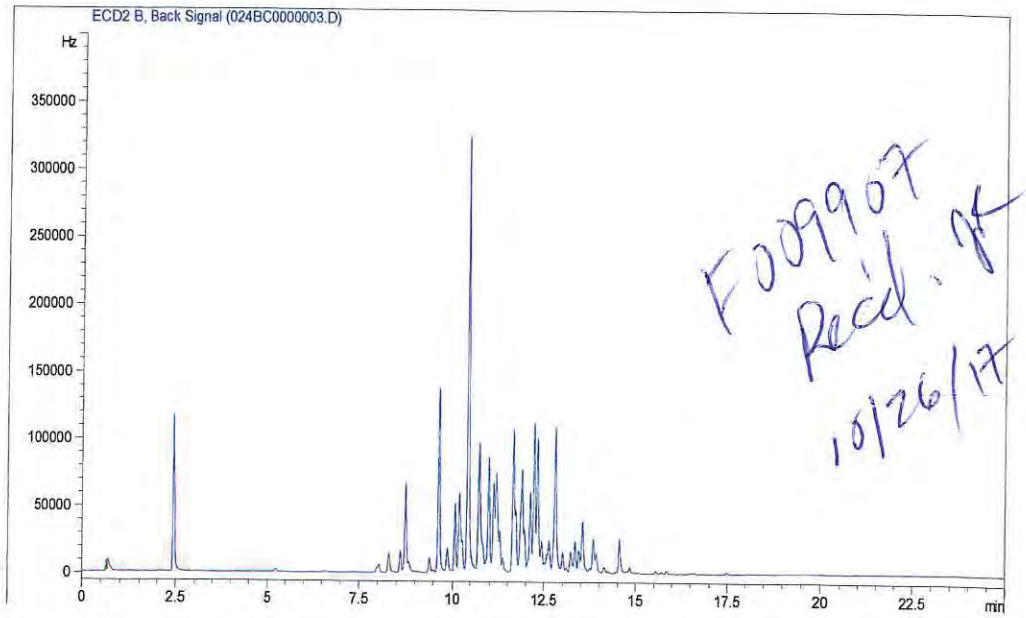
Part Number: 44806

Lot Number: XA26286V

Expiration Date: April 2020

Storage: Room Temperature

Analytical Method Parameters:
Column: SPB-608 30m x 0.53mm x 0.5µm df
100°C to 290°C for 6 min at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1µL



F009907
Recd. 9f
10/26/17

Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Ucrm µg/ml	Analytical Conc. µg/ml
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
2.	Aroclor 1242	LA39419	53469-21-9	N/A	1000.1	±110	979.4

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfulling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

Notes:

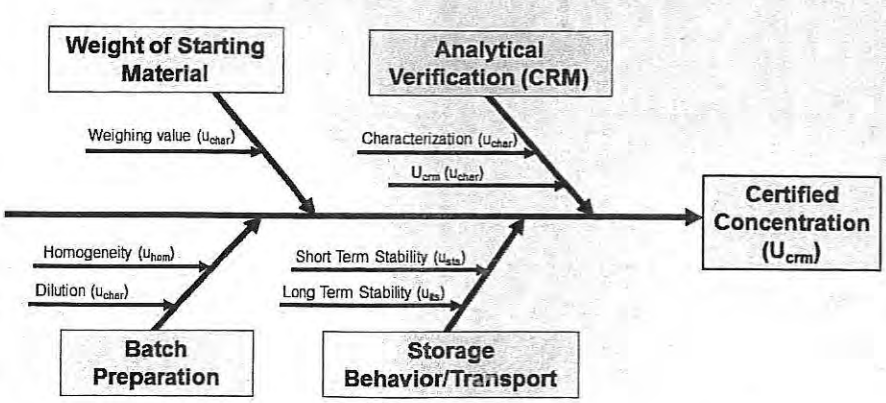
• NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/mL.

• Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k = 2. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.

• Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

• Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: May 21, 2015
Form: 48907

Duane Funk
QC Manager

Cert# AT-1607

Cert# AR-1606

Produced in double accredited laboratory fulfilling
ISO/IEC 17025 and
ISO Guide 34

SIGMA-ALDRICH®

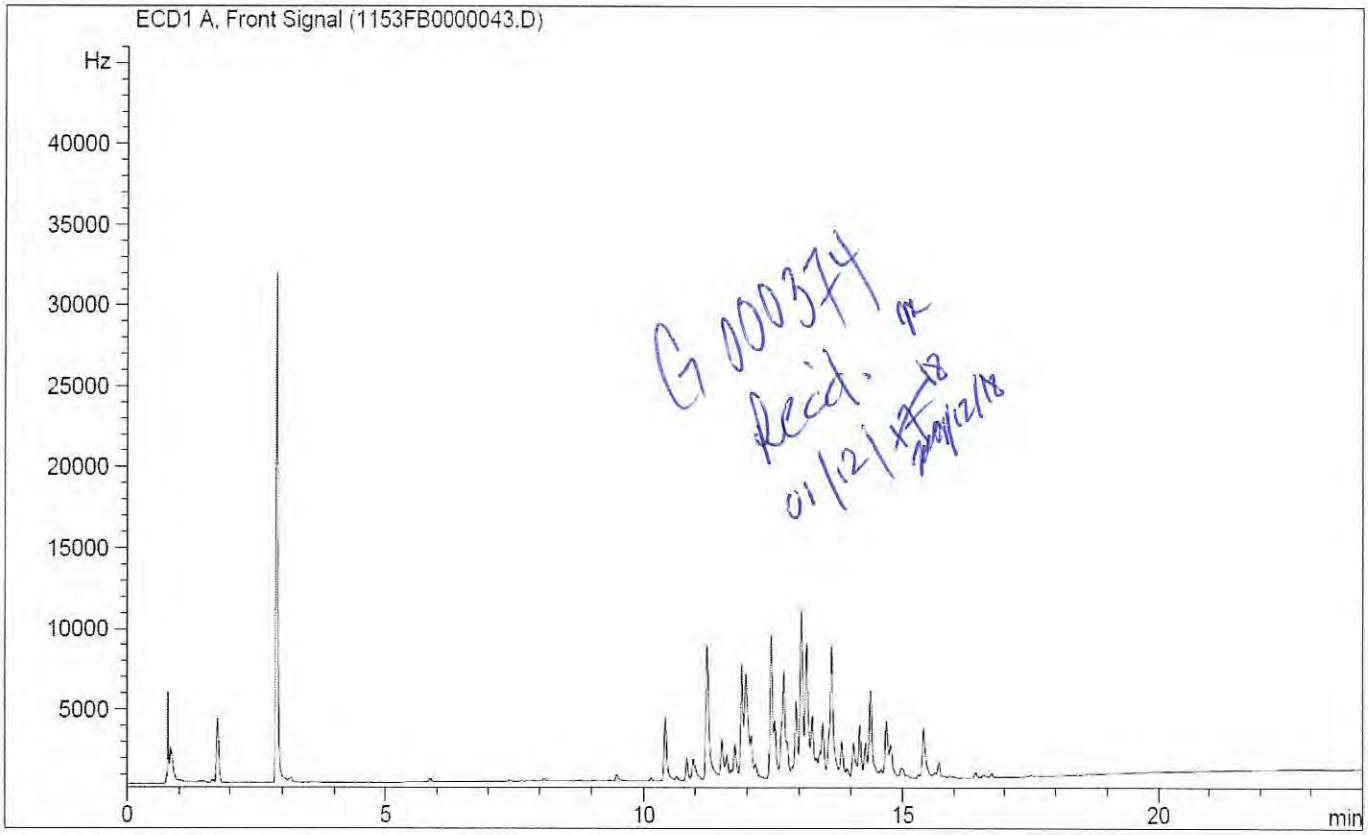
Certificate of Analysis

AROCLOR 1248,1X1ML,1000UG/ML

Certified Reference Material

Product ID 44807
Lot LRAB7117
Expiration Date December 2020
Storage Conditions ROOM TEMPERATURE
Solvent/Matrix ISOOCTANE

Analyte	*Units*	*Certified Value* [1,4]	*k* [5]	*Raw Material Purity*	*CAS*
Aroclor 1248	µg/mL	1000 ± 58	2.00	99.9%	12672-29-6



G 000374 Recd. 01/12/18

Analytical Method Parameters:

Column: SPB-608 30m x 0.53mm x .5µm df
100°C to 290°C (5min) at 10°C/min
Detector: ECD, 310°C
Injection Volume: 1µl

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SIGMA-ALDRICH
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

Lot **LRAB7117**
Expiration Date December 2020
Storage Conditions ROOM TEMPERATURE
Solvent/Matrix ISOOCTANE

1 Certified value - based on the robust mean of round robin, interlaboratory study and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2 The standard deviation is the robust statistical standard deviation from the round robin interlaboratory study.
3 Acceptance limits are based on Interlaboratory Study Results. These ranges are recommendations only.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u^2_{char} + u^2_{bom\ ogeneity} + u^2_{stability}}$$

5 *k*: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (ANAB Cert AT-1467) and ISO GUIDE 34:2009 (ANAB Cert AR-1470).

Robert O'Brien - QC Supervisor

Mark Pooler - QA Supervisor

Certification Date January 11, 2018
Version 30555-1112018

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0130784

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1-Bromo-2-nitrobenzene		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 577-19-5	(Lot 643872/1)		+/- 56.0822	µg/mL	Unstressed
	Purity 99%			+/- 57.3938	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

G002423
Recd. JF
03/27/18

Certificate of Analysis

Aroclor 1242 Solution

Product Number: PP-312 **Page:** 1 of 1

Lot Number: CL-3393A **Lot Issue Date:** 23-Oct-2017 **Expiration Date:** 30-Nov-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1242	053469-21-9	NT01020	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G003496
Recd JL
3/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

Certificate of Analysis

Aroclor 1016 Solution

Product Number: PP-282 **Page:** 1 of 1

Lot Number: CR-0761 **Lot Issue Date:** 28-Feb-2017 **Expiration Date:** 31-Mar-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1016	012674-11-2	NT01016	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

3397
G003~~346~~ R 04/19/18
Recd. JF
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

Certificate of Analysis

Aroclor 1221 Solution

Product Number: PP-292 **Page:** 1 of 1

Lot Number: CR-0211 **Lot Issue Date:** 24-Jan-2017 **Expiration Date:** 28-Feb-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1221	011104-28-2	NT01017	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G003398
Rec'd JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

Certificate of Analysis

Aroclor 1232 Solution

Product Number: PP-302 **Page:** 1 of 1

Lot Number: CF-2197A **Lot Issue Date:** 05-Jul-2016 **Expiration Date:** 31-Aug-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G0033 99
Recd JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001 Registered Quality System – TUV USA

Certificate of Analysis

Aroclor 1248 Solution

Product Number: PP-342 **Page:** 1 of 1

Lot Number: CP-4307 **Lot Issue Date:** 22-Aug-2016 **Expiration Date:** 30-Sep-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1248	012672-29-6	NT01718	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G003400
Recd JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

Certificate of Analysis

Aroclor 1254 Solution

Product Number PP-352 **Page:** 1 of 1

Lot Number: CK-4255 **Lot Issue Date:** 31-Dec-2013 **Expiration Date:** 31-Jan-2022

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15-30°C).

G003401
Recd. JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
Registered
TUV USA, Inc.

William J. Leahy
Quality Assurance Manager

Certificate of Analysis

Aroclor 1260 Solution

Product Number: PP-362 **Page:** 1 of 1

Lot Number: CP-3739 **Lot Issue Date:** 02-Aug-2016 **Expiration Date:** 30-Sep-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1260	011096-82-5	NT01023	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G003402
Read JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ISO 9001 Registered Quality System – TUV USA

Certificate of Analysis

Aroclor 1262 Solution

Product Number PP-372 **Page:** 1 of 1

Lot Number: CJ-0264Z **Lot Issue Date:** 12-May-2017 **Expiration Date:** 30-Jun-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	NT01025-03	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

G00 3403
Rec'd JR
04/19/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001 Registered TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

Certificate of Analysis

Aroclor 1268 Solution

Product Number PP-382 **Page:** 1 of 1

Lot Number: CE-0585A **Lot Issue Date:** 16-Apr-2015 **Expiration Date:** 31-May-2022

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1268	011100-14-4	E-0988	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15-30°C).

G003404
Recd.
04119/18

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
Registered
TUV USA, Inc.

William J. Leahy
Quality Assurance Manager

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020A

Total Metals

LDW18-S1-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-10	SDG:	18F0364
Sampled:	05/16/18 10:57	Prepared:	07/03/18 13:19	File ID:	XDT_m2180706-097
% Solids:	0.00	Preparation:	FRN Tissue Digestion ICP ICP-MS	Analyzed:	07/06/18 19:19
Batch:	BGF0737	Sequence:	SGG0085	Initial/Final:	2.55 g Wet / 50 mL
Instrument:	ICPMS2			Calibration:	BG00024

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-62-2	Vanadium	1.23	20	0.0080	0.0784	D

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020A

Total Metals

LDW18-S2-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-11	SDG:	18F0364
Sampled:	05/15/18 10:45	Prepared:	07/03/18 13:19	File ID:	XDT_m2180706-098
% Solids:	0.00	Preparation:	FRN Tissue Digestion ICP ICP-MS	Analyzed:	07/06/18 19:24
Batch:	BGF0737	Sequence:	SGG0085	Initial/Final:	2.539 g Wet / 50 mL
Instrument:	ICPMS2			Calibration:	BG00024

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-62-2	Vanadium	1.38	20	0.0080	0.0788	D

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020A

Total Metals

LDW18-S3-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-12	SDG:	18F0364
Sampled:	05/17/18 12:13	Prepared:	07/03/18 13:19	File ID:	XDT_m2180706-099
% Solids:	0.00	Preparation:	FRN Tissue Digestion ICP ICP-MS	Analyzed:	07/06/18 19:28
Batch:	BGF0737	Sequence:	SGG0085	Initial/Final:	2.545 g Wet / 50 mL
Instrument:	ICPMS2			Calibration:	BG00024

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-62-2	Vanadium	1.17	20	0.0080	0.0786	D

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0737 Batch Matrix: Tissue Preparation: FRN Tissue Digestion ICP ICP-MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-S1-CLWB-Comp1	18F0364-10	XDT_m2180706-097	07/03/18 13:19	
LDW18-S2-CLWB-Comp1	18F0364-11	XDT_m2180706-098	07/03/18 13:19	
LDW18-S3-CLWB-Comp1	18F0364-12	XDT_m2180706-099	07/03/18 13:19	
Blank	BGF0737-BLK1	XDT_m2180706-093	06/29/18 14:33	
LCS	BGF0737-BS1	XDT_m2180706-094	06/29/18 14:33	
LDW18-S3-CLWB-Comp1	BGF0737-DUP1	XDT_m2180706-100	06/29/18 14:33	
LDW18-S3-CLWB-Comp1	BGF0737-MS1	XDT_m2180706-101	06/29/18 14:33	
LDW18-S3-CLWB-Comp1	BGF0737-MSD1	XDT_m2180706-102	06/29/18 14:33	

BGF0737

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: SM Date: 7/3/18 Time: 1400

Matrix: tissue Block ID: #4 Block Temp: 93°C Thermometer: 20-4

ARI Sample ID	Btl #	pH<2	Prep Code: FRN Initial Wt (g) Vol (mL)	Prep Code: FRN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
18F0364-10	A		2.550	50.0			
" -11	↓		2.539	↓			
" -12	A		2.545				
BGF737-BLK1	-		—				
" -BS1	-		—				
" -DUP1	-		2.543				18F364-12
" -MS1	-		2.541				↓
" -MSD1	-		2.549	50.0			

SM 7/3/18

Chemical/Reagent ID:

HNO_3: _____ HCl: _____ H_2O_2: _____ Tube Lot #: _____

Form I

METHOD BLANK DATA SHEET

EPA 6020A

Total Metals

Blank

Batch: BGF0737 Laboratory ID: BGF0737-BLK1 Prepared: 06/29/18 14:33

Matrix: Tissue Preparation: FRN Tissue Digestion ICP Analyzed: 07/06/18 19:01

Sequence: SGG0085 Calibration: BG00024 Instrument: ICPMS2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-62-2	Vanadium-51a	ND	20	0.0081	0.0800	U
7440-62-2	Vanadium-51b	ND	20	0.0081	0.0800	U

LDW18-S3-CLWB-Comp1

DUPLICATES

EPA 6020A

Total Metals

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Laboratory ID: BGF0737-DUP1
Batch: BGF0737
Lab Source ID: 18F0364-12
Preparation: FRN Tissue Digestion ICP ICP-MS
Initial/Final: 2.543 g / 50 mL
Source Sample Name: LDW18-S3-CLWB-Comp1
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Vanadium-51a	20	1.17	1.51	25.2	*

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Analytical Resources, Inc.
Client: Windward Environmental, LLC
Instrument ID: ICPMS2
Sequence: SGG0085

SDG: 18F0364
Project: AOC3 Clam Collection
Calibration: BG00024
Date Analyzed: 07/06/18 12:15

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SGG0085-IBL1	Vanadium-51a	-0.00400	0.04	0.200	ug/L	
SGG0085-IBL1	Vanadium-51b	0.00	0.016	0.200	ug/L	
SGG0085-ICB1	Vanadium-51a	-0.00500	0.04	0.200	ug/L	
SGG0085-ICB1	Vanadium-51b	-0.00100	0.016	0.200	ug/L	
SGG0085-CCB1	Vanadium-51a	-0.00900	0.04	0.200	ug/L	
SGG0085-CCB1	Vanadium-51b	0.00300	0.016	0.200	ug/L	
SGG0085-IBL2	Vanadium-51a	0.00200	0.04	0.200	ug/L	
SGG0085-IBL2	Vanadium-51b	0.0130	0.016	0.200	ug/L	
SGG0085-IBL3	Vanadium-51a	0.00	0.04	0.200	ug/L	
SGG0085-IBL3	Vanadium-51b	0.0110	0.016	0.200	ug/L	
SGG0085-CCB2	Vanadium-51a	0.00	0.04	0.200	ug/L	
SGG0085-CCB2	Vanadium-51b	0.00800	0.016	0.200	ug/L	
SGG0085-CCB3	Vanadium-51a	0.00200	0.04	0.200	ug/L	
SGG0085-CCB3	Vanadium-51b	0.00100	0.016	0.200	ug/L	
SGG0085-CCB4	Vanadium-51a	-0.00400	0.04	0.200	ug/L	
SGG0085-CCB4	Vanadium-51b	-0.00300	0.016	0.200	ug/L	
SGG0085-CCB5	Vanadium-51a	0.00400	0.04	0.200	ug/L	
SGG0085-CCB5	Vanadium-51b	0.0110	0.016	0.200	ug/L	
SGG0085-CCB6	Vanadium-51a	-0.0100	0.04	0.200	ug/L	
SGG0085-CCB6	Vanadium-51b	0.00200	0.016	0.200	ug/L	
SGG0085-CCB7	Vanadium-51a	-0.00700	0.04	0.200	ug/L	
SGG0085-CCB7	Vanadium-51b	-0.00200	0.016	0.200	ug/L	
SGG0085-CCB8	Vanadium-51a	-0.00100	0.04	0.200	ug/L	
SGG0085-CCB8	Vanadium-51b	-0.00500	0.016	0.200	ug/L	
SGG0085-CCB9	Vanadium-51a	-0.00400	0.04	0.200	ug/L	
SGG0085-CCB9	Vanadium-51b	-0.00400	0.016	0.200	ug/L	
SGG0085-CCBA	Vanadium-51a	-0.00500	0.04	0.200	ug/L	
SGG0085-CCBA	Vanadium-51b	-0.00500	0.016	0.200	ug/L	

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Total Metals

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/06/18 19:05
Batch:	BGF0737	Laboratory ID:	BGF0737-BS1
Preparation:	FRN Tissue Digestion ICP ICP-MS	Sequence Name:	LCS
Initial/Final:	2.5 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	Q	LCS % REC. #	QC LIMITS REC.
Vanadium-51a	10.0	10.0	D	100	80 - 120
Vanadium-51b	10.0	10.0	D	100	80 - 120

* Indicates values outside of QC limits

LDW18-S3-CLWB-Comp1

MS / MS DUPLICATE RECOVERY

EPA 6020A

Total Metals

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/06/18 19:37
Batch:	BGF0737	Laboratory ID:	BGF0737-MS1
Preparation:	FRN Tissue Digestion ICP ICP-MS	Sequence Name:	Matrix Spike
Initial/Final:	2.541 g / 50 mL	Source Sample:	LDW18-S3-CLWB-Comp1

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	Q	MS CONCENTRATION (mg/kg)	Q	MS % REC. #	QC LIMITS REC.
Vanadium-51a	9.84	1.17	D	11.3	D	103	75 - 125

* Values outside of QC limits

LDW18-S3-CLWB-Comp1

MS / MS DUPLICATE RECOVERY

EPA 6020A

Total Metals

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Matrix:	Tissue	Analyzed:	07/06/18 19:41
Batch:	BGF0737	Laboratory ID:	BGF0737-MSD1
Preparation:	FRN Tissue Digestion ICP ICP-MS	Sequence Name:	Matrix Spike Dup
Initial/Final:	2.549 g / 50 mL	Source Sample:	LDW18-S3-CLWB-Comp1

COMPOUND	SPIKE ADDED (mg/kg)	MSD CONCENTRATION (mg/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Vanadium-51a	9.81	11.1	D	101	1.88	20	75 - 125

* Values outside of QC limits

INITIAL CALIBRATION DATA

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00024
Instrument: ICPMS2
Calibration Date: 07/06/2018 11:43

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Vanadium-51a	0	0	0.2	66225	10	30543.4	20	29707.4	50	27592.2	100	27305.23
Vanadium-51b	0	0	0.2	31895	10	30305.7	20	29836.85	50	27989	100	27472.51

INITIAL CALIBRATION DATA

EPA 6020A

Laboratory:	Analytical Resources, Inc.	SDG:	18F0364
Client:	Windward Environmental, LLC	Project:	AOC3 Clam Collection
Calibration:	BG00024	Instrument:	ICPMS2
Calibration Date:	07/06/2018 11:43		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Vanadium-51a	30228.87	69.8	0.9997		0.998	
Vanadium-51b	24583.18	49.4	0.9997		0.998	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 81DN1050201

Analysis Date: 7/6/18 **Analyst:** MB/AH **Sequence:** SG160085

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ- CAL1	G5961		
		- CAL2	G6086		
		- CAL3	G5956		
		- CAL4	G5957		
		- CAL5	G6079		
		- CAL6	G5958		
		- IBL1	—		
		- ICV1	G5703		
		- ICB1	G5961		
		- CCV1	G6079		
		- CCB1	G5961		
		- CRL1	G6086		
		- IFA1	G5699		V-1, Cr^{53} ↑
	✓	- IFB1	—		In^{-1} no.3y
		- IFB1	G5697		V-1, Cr^{53} ↑
	✓	- HCV1	—		Cal. cleared ↓
	✓	- HCV2	—		
		- HCV1	G5700		
		- HCV2	G5701		
		- IBL2/3	—		
		- CCV2			
		- CCB2			
		- CAL1			
		- CCV3			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 81DN1050201

Analysis Date: 7/6/18 **Analyst:** MB/AH **Sequence:** —

All corrections made by analyst unless otherwise noted. MB 7/6/18

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB3			
		BGGØØ87-BLK1	REN		
		↓ -BS1	↓		
		BGGØØ86-BLK1	SWN	20	
		↓ -BS1			
		18GØØ27-Ø1			Cr, Cu, Zn, Pb ↑ -NR
		-Ø3			Cr, Cu, Zn, Cd, Pb ↑ -NR
		-Ø4			Cr, Cu, Zn, Pb ↑ -NR
	✓	-Ø2			↓ ↓
	✓	BGGØØ86-DUP1			
	✓	↓ -MS1	↓	↓	↓ ↓
		SEQ-CCV4			
		↓ -CCB4			
	✓	BGGØØ88-BLK1	REN		Mn>RL
		↓ -BS1			
		18GØØ41-Ø1			
		18FØ332-Ø2RE1			Mn only
		18GØØ27-Ø1RE1	SWN	400	Cr, Cu, Zn, Pb only
		-Ø3RE1		200	Cr, Cu, Zn, Cd, Pb only
		-Ø4RE1		↓	Cr, Cu, Zn, Pb only
No RE1		-Ø2RE1		400	Cu ↑ ~~Cu~~ NR
2→1		BGGØØ86-DUP2 1			↓ Cd, Pb XPDT (EZ)
↓		-MS2 1	↓	↓	↓ All STL ↓
		SEQ-CCV5			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 81DN1050201

Analysis Date: 7/6/18 **Analyst:** MB/JH **Sequence:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB5			
		BGGØØ88-BLK1	REN		
		18GØØØ7-Ø2			
		↓ -Ø1			
		BGGØØ87-DUP1			
		↓ -MS1			
	✓	18GØØ13-Ø4			As noisy
		↓ -Ø6			
		↓ -Ø2			Mn7LR Lo Mn
		BGGØØ88-DUP1			↓ ↓
		↓ -MS1	↓		
		SEQ-CCV6			
		↓ -CCB6			
		BGFØ687-BLK1	SWN	20	
		↓ -BS1	↓	↓	
		18FØ363-Ø1			
		↓ -Ø2	↓	↓	
		18FØ335-Ø2RE1	REN		Mn only
		↓ -Ø4RE1	↓		↓
		↓ -Ø6RE1	↓		
		18GØØ27-Ø2RE1	SWN	1000	Cu only
		BGGØØ86-DUP2	↓	↓	↓ Cu TPLS (EZ)
		↓ -MS2	↓	↓	Cu STR
		SEQ-CCV7			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 81DN1050201

Analysis Date: 7/6/18 **Analyst:** MB/AH **Sequence:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB7			
		18FΦ363-Φ3	SWN	20	
		-Φ4	↓	↓	
		-Φ5			
		-Φ7			
		-Φ8			
		-Φ9			
		-Φ6			
		BGFΦ687-DUP1			
		-MS1			
		-MSD1	↓	↓	Tb Sl. noisy Tl OK
		SEQ-CCV8			
		↓ -CCB8			
		BGFΦ737-BLK1	FRN	20	
		↓ -BS1	↓		
		18FΦ363-1Φ	SWN		
		↓ -11	↓		
		18FΦ364-1Φ	FRN		
		-11			
		-12			
		BGFΦ737-DUP1			V RPD * (EZ)
		-MS1			
		-MSD1	↓	↓	
		SEQ-CCV9			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 81DN1050201

Analysis Date: 7/6/18 **Analyst:** MS **Sequence:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB9			
		18F0363-12	SWN	20	
		↓ -13	↓	↓	
		SEQ-CCVA			
		↓ -CCBA			
		Rinse/DI			

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Friday, July 06, 2018 10:46:44
Sample Description:
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\STD Performance Check.mth
Dataset File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\DataSet\Default\STD Performance Check.15317
MassCal File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Conditions File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	4405.9	4398.260	39.005	0.9	Standard
	In	114.9	60118.8	-646491.199	592.026	0.1	Standard
	U	238.1	36298.9	36298.868	606.545	1.7	Standard
⌈	CeO	155.9	1061.0	0.016	0.000	1.5	Standard
| >	Ce	139.9	64645.9	64645.885	697.452	1.1	Standard
⌊	Ce++	70.0	513.5	0.008	0.000	3.4	Standard
	Bkgd	220.0	0.0	0.000	0.000		Standard

Current Conditions File Data

Current Value	Description
0.92	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-12.00	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1300.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-9.00	Cell Rod Offset STD [CRO]
7.00	Discriminator Threshold
-3.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.25	RPq
0.92	DRC Mode NEB
-10.00	DRC Mode QRO
-3.00	DRC Mode CRO
-7.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
250.00	Axial Field Voltage
-13.00	KED Mode CRO
-12.00	KED Mode QRO
-5.00	KED Mode Cell Entrance Voltage
-24.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
0.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Wizard\SmartTune\ARIdaily_UCT.swz

Start Time: 7/6/2018 10:46:41 AM
End Time: 7/6/2018 10:58:41 AM

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 4405.88
Obtained Intensity (In 115): 60118.78
Obtained Intensity (U 238): 36298.87
Obtained Intensity (Bkgd 220): 0.00
Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=513.48 / 64645.88)
Obtained Formula (CeO 156 / Ce 140): 0.016 (=1060.97 / 64645.88)

Torch Alignment - [Passed]

Vertical	Horizontal	Intensity
0.15 mm	0.11 mm	63084.98

Nebulizer Gas Flow STD/KED [NEB] - [Passed] Optimum value(s): 0.94
Obtained Intensity (In 115): 80471.01
Obtained Formula (CeO 156 / Ce 140): 0.0224 (=1829.12 / 81494.79)

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.694)
Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.702)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.715)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.716)

QID STD/DRC - Optimum value(s): Correlation Coefficient = 0.998; Intercept = -11.51

KED Mode QID - Optimum value(s): Correlation Coefficient = 0.990; Intercept = -10.90

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Wizard\SmartTune\ARIdaily_UCT.swz

Optimization Status

Start Time: 7/6/2018 10:46:41 AM

STD Performance Check
	Optimization Settings:
		Method: STD Performance Check.mth.
		Intensity Criterion: Be 9 > 2000
		Intensity Criterion: In 115 > 40000
		Intensity Criterion: U 238 > 30000
		Intensity Criterion: Bkgd 220 <= 1
		Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
		Formula Criterion: CeO 156 / Ce 140 <= 0.025

	Optimization Results:
	Initial Try
		Obtained Intensity (Be 9): 4405.88
		Obtained Intensity (In 115): 60118.78
		Obtained Intensity (U 238): 36298.87
		Obtained Intensity (Bkgd 220): 0.00
		Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=513.48 / 64645.88)
		Obtained Formula (CeO 156 / Ce 140): 0.016 (=1060.97 / 64645.88)

[Passed] Optimum value(s): N/A

Torch Alignment
	Optimization Settings:
		Method: Torch Alignment.mth.
		Intensity Criterion: In 115 Maximum

	Optimization Results:
		Vertical	Horizontal	Intensity
[Passed]	0.15 mm	0.11 mm	63084.98

Nebulizer Gas Flow STD/KED [NEB]
	Optimization Settings:
		Method: Optimize.mth.
			Initial Try - Start/End/Step: 0.88/1.1/0.02.
		Intensity Criterion: In 115 Maximum
		Formula Criterion: CeO 156 / Ce 140 <= 0.025

	Optimization Results:
	Initial Try

		Obtained Intensity (In 115): 80471.01
		Obtained Formula (CeO 156 / Ce 140): 0.0224 (=1829.12 / 81494.79)
[Passed] Optimum value(s): 0.94

Mass Calibration and Resolution
	Optimization Settings:
		Method: Tuning.mth.
		MassCal File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
		Iterations: 6
		Target accuracy (+/- amu): 0.05 for Mass Cal. and 0.03 for Resolution

```
                Peak height (%) for Res. Opt.: 10

        Optimization Results:
        Initial Try
                Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.694)
                Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.702)
                Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.715)
                Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.716)
[Passed]  Optimum value(s): N/A

QID STD/DRC
        Optimization Settings:
                Method: QID Calibration.mth.
                        Initial Try - Start/End/Step: -16/0/0.5.

        Optimization Results:
        Initial Try

  Optimum value(s): Correlation Coefficient = 0.998; Intercept = -11.51

        Analyte      Mass    Points       DAC   MaxIntensity

             Li         7        33     -11.5        24060.2
             Mg        24        33       -11        35624.4
             In       115        33      -7.5        84356.3
             Ce       140        33      -6.5        91065.3
             Pb       208        33      -5.5        29386.2
              U       238        33        -4        48241.3

KED Mode QID
        Optimization Settings:
                Method: QID Calibration.mth.
                        Initial Try - Start/End/Step: -20/0/0.5.

        Optimization Results:
        Initial Try

  Optimum value(s): Correlation Coefficient = 0.990; Intercept = -10.90

        Analyte      Mass    Points       DAC   MaxIntensity

             Li         7        41       -11        19673.5
             Mg        24        41     -11.5        25582.9
             In       115        41        -7        67864.8
             Ce       140        41        -7        68451.6
             Pb       208        41      -3.5          22694
              U       238        41        -2        51934.2

End Time: 7/6/2018 10:58:41 AM
```

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Friday, July 06, 2018 11:00:29
Sample Description:
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\STD Performance Check.mth
Dataset File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\DataSet\Default\STD Performance Check.15324
MassCal File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Conditions File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6275.9	6275.912	99.748	1.6	Standard
	In	114.9	81482.1	81482.103	1394.753	1.7	Standard
	U	238.1	46612.5	46612.533	631.099	1.4	Standard
⌈	CeO	155.9	1799.7	0.021	0.001	4.3	Standard
| >	Ce	139.9	86576.2	86576.231	764.333	0.9	Standard
⌊	Ce++	70.0	1171.0	0.014	0.001	5.3	Standard
	Bkgd	220.0	0.1	0.100	0.091	91.3	Standard

Current Conditions File Data

Current Value	Description
0.94	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-12.00	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1300.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-9.00	Cell Rod Offset STD [CRO]
7.00	Discriminator Threshold
-3.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.25	RPq
0.94	DRC Mode NEB
-10.00	DRC Mode QRO
-3.00	DRC Mode CRO
-7.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
250.00	Axial Field Voltage
-13.00	KED Mode CRO
-12.00	KED Mode QRO
-5.00	KED Mode Cell Entrance Voltage
-24.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
0.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Wizard\SmartTune\ARIdaily_UCT.swz

Start Time: 7/6/2018 10:58:59 AM
End Time: 7/6/2018 11:02:34 AM

KED Mode QID - Optimum value(s): Correlation Coefficient = 0.996; Intercept = -11.15

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 6275.91
Obtained Intensity (In 115): 81482.10
Obtained Intensity (U 238): 46612.53
Obtained Intensity (Bkgd 220): 0.10
Obtained Formula (Ce++ 70 / Ce 140): 0.014 (=1171.05 / 86576.23)
Obtained Formula (CeO 156 / Ce 140): 0.021 (=1799.71 / 86576.23)

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Wizard\SmartTune\ARIdaily_UCT.swz

Optimization Status

Start Time: 7/6/2018 10:58:59 AM

KED Mode QID

Optimization Settings:

Method: QID Calibration.mth.

Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:

Initial Try

Optimum value(s): Correlation Coefficient = 0.996; Intercept = -11.15

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-11	19725.6
Mg	24	41	-11	24617.2
In	115	41	-7.5	66490.4
Ce	140	41	-7	64457.1
Pb	208	41	-3	21728.5
U	238	41	-2	53431.7

STD Performance Check

Optimization Settings:

Method: STD Performance Check.mth.

Intensity Criterion: Be 9 > 2000

Intensity Criterion: In 115 > 40000

Intensity Criterion: U 238 > 30000

Intensity Criterion: Bkgd 220 <= 1

Formula Criterion: Ce++ 70 / Ce 140 <= 0.03

Formula Criterion: CeO 156 / Ce 140 <= 0.025

Optimization Results:

Initial Try

Obtained Intensity (Be 9): 6275.91

Obtained Intensity (In 115): 81482.10

Obtained Intensity (U 238): 46612.53

Obtained Intensity (Bkgd 220): 0.10

Obtained Formula (Ce++ 70 / Ce 140): 0.014 (=1171.05 / 86576.23)

Obtained Formula (CeO 156 / Ce 140): 0.021 (=1799.71 / 86576.23)

[Passed] Optimum value(s): N/A

End Time: 7/6/2018 11:02:34 AM

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 11:43:27
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				20244	2	Standard
	Cl	**37**		ug/L				6774986	0	Standard
⌈>	**Sc**	**45**		ug/L				1377961	0	Standard
|	**V**	**51**		ug/L				7309	3	Standard
|	**V-1**	**51**		ug/L				318	4	Standard
|	**Cr**	**52**		ug/L				21559	3	Standard
|	**Cr**	**53**		ug/L				200	1	Standard
⌊	**Mn**	**55**		ug/L				640	5	Standard
⌈>	**Ge-1**	**72**		ug/L				97238	2	KED
|	**Ni**	**60**		ug/L				6	62	KED
|	**Ni**	**62**		ug/L				2	43	KED
|	**Cu**	**63**		ug/L				42	32	KED
|	**Cu**	**65**		ug/L				21	13	KED
|	**Zn**	**66**		ug/L				46	22	KED
|	**Zn**	**67**		ug/L				9	72	KED
⌊	**As**	**75**		ug/L				6	4	KED
	Y	**89**		ug/L				781271	6	Standard
	Kr	**83**		ug/L				53	25	Standard
⌈>	**In-1**	**115**		ug/L				45472	2	KED
|	**Cd**	**111**		ug/L				2	33	KED
⌊	**Cd**	**114**		ug/L				2	46	KED
⌈>	**Tb**	**159**		ug/L				1153345	0	Standard
|	**Tl**	**205**		ug/L				196	3	Standard
⌊	**Pb**	**208**		ug/L				318	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 11:47:56
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	19618	4	Standard
	Cl	**37**		ug/L			6774986	6653982	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1397705	3	Standard
|	**V**	**51**	**0.200**	ug/L	0.025	12	7309	13245	3	Standard
|	**V-1**	**51**	**0.200**	ug/L	0.012	5	318	6379	2	Standard
|	**Cr**	**52**	**0.500**	ug/L	0.058	11	21559	34247	3	Standard
|	**Cr**	**53**	**0.500**	ug/L	0.018	3	200	1674	0	Standard
⌊	**Mn**	**55**	**0.500**	ug/L	0.037	7	640	19187	3	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	94989	1	KED
|	**Ni**	**60**	**0.500**	ug/L	0.029	5	6	777	4	KED
|	**Ni**	**62**	**0.500**	ug/L	0.024	4	2	107	6	KED
|	**Cu**	**63**	**0.500**	ug/L	0.005	1	42	2207	0	KED
|	**Cu**	**65**	**0.500**	ug/L	0.033	6	21	1082	5	KED
|	**Zn**	**66**	**4.000**	ug/L	0.059	1	46	2364	1	KED
|	**Zn**	**67**	**4.000**	ug/L	0.217	5	9	377	5	KED
⌊	**As**	**75**	**0.200**	ug/L	0.024	11	6	84	11	KED
	Y	**89**		ug/L			781271	806835	2	Standard
	Kr	**83**		ug/L			53	46	6	Standard
⌈>	**In-1**	**115**		ug/L			45472	44616	1	KED
|	**Cd**	**111**	**0.100**	ug/L	0.015	14	2	60	12	KED
⌊	**Cd**	**114**	**0.100**	ug/L	0.011	11	2	140	9	KED
⌈>	**Tb**	**159**		ug/L			1153345	1132374	1	Standard
|	**Tl**	**205**	**0.200**	ug/L	0.008	4	196	5991	4	Standard
⌊	**Pb**	**208**	**0.100**	ug/L	0.003	3	318	4092	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 11:52:24
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	24726	1	Standard
	Cl	**37**		ug/L			6774986	6870383	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1383894	1	Standard
|	**V**	**51**	**10.000**	ug/L	0.153	1	7309	305434	0	Standard
|	**V-1**	**51**	**10.000**	ug/L	0.168	1	318	303057	1	Standard
|	**Cr**	**52**	**10.001**	ug/L	0.171	1	21559	275207	0	Standard
|	**Cr**	**53**	**10.001**	ug/L	0.190	1	200	30338	0	Standard
⌊	**Mn**	**55**	**10.000**	ug/L	0.210	2	640	371711	1	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	95177	2	KED
|	**Ni**	**60**	**10.001**	ug/L	0.061	0	6	15851	2	KED
|	**Ni**	**62**	**10.004**	ug/L	0.815	8	2	2508	5	KED
|	**Cu**	**63**	**10.000**	ug/L	0.085	0	42	43034	1	KED
|	**Cu**	**65**	**9.999**	ug/L	0.334	3	21	20712	5	KED
|	**Zn**	**66**	**10.055**	ug/L	0.115	1	46	6093	1	KED
|	**Zn**	**67**	**10.106**	ug/L	0.649	6	9	1005	3	KED
⌊	**As**	**75**	**10.000**	ug/L	0.266	2	6	3878	1	KED
	Y	**89**		ug/L			781271	793343	0	Standard
	Kr	**83**		ug/L			53	51	11	Standard
⌈>	**In-1**	**115**		ug/L			45472	45089	0	KED
|	**Cd**	**111**	**10.000**	ug/L	0.182	1	2	5559	1	KED
⌊	**Cd**	**114**	**10.000**	ug/L	0.124	1	2	14110	0	KED
⌈>	**Tb**	**159**		ug/L			1153345	1135828	1	Standard
|	**Tl**	**205**	**10.000**	ug/L	0.285	2	196	296044	2	Standard
⌊	**Pb**	**208**	**10.000**	ug/L	0.346	3	318	376124	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 11:57:07
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	23360	2	Standard
	Cl	**37**		ug/L			6774986	6839454	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1338720	1	Standard
|	**V**	**51**	**20.070**	ug/L	0.102	0	7309	594148	1	Standard
|	**V-1**	**51**	**20.072**	ug/L	0.105	0	318	596737	1	Standard
|	**Cr**	**52**	**20.029**	ug/L	0.098	0	21559	515077	1	Standard
|	**Cr**	**53**	**20.036**	ug/L	0.114	0	200	59031	1	Standard
⌊	**Mn**	**55**	**19.960**	ug/L	0.558	2	640	711417	2	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	94715	0	KED
|	**Ni**	**60**	**20.097**	ug/L	0.608	3	6	32320	3	KED
|	**Ni**	**62**	**20.011**	ug/L	0.652	3	2	5007	2	KED
|	**Cu**	**63**	**19.846**	ug/L	0.193	0	42	82439	0	KED
|	**Cu**	**65**	**19.953**	ug/L	0.579	2	21	40723	3	KED
|	**Zn**	**66**	**19.828**	ug/L	0.356	1	46	11574	1	KED
|	**Zn**	**67**	**19.840**	ug/L	0.815	4	9	1904	3	KED
⌊	**As**	**75**	**20.044**	ug/L	0.242	1	6	7801	1	KED
	Y	**89**		ug/L			781271	789071	2	Standard
	Kr	**83**		ug/L			53	50	35	Standard
⌈>	**In-1**	**115**		ug/L			45472	44536	0	KED
|	**Cd**	**111**	**20.037**	ug/L	0.354	1	2	11083	1	KED
⌊	**Cd**	**114**	**19.963**	ug/L	0.190	0	2	27614	0	KED
⌈>	**Tb**	**159**		ug/L			1153345	1102498	2	Standard
|	**Tl**	**205**	**20.051**	ug/L	0.480	2	196	581765	2	Standard
⌊	**Pb**	**208**	**20.004**	ug/L	0.840	4	318	730292	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:02:00
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	19689	2	Standard
	Cl	**37**		ug/L			6774986	6837415	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1317466	2	Standard
|	**V**	**51**	**49.604**	ug/L	1.968	3	7309	1379610	1	Standard
|	**V-1**	**51**	**49.633**	ug/L	1.905	3	318	1399450	1	Standard
|	**Cr**	**52**	**49.626**	ug/L	0.646	1	21559	1181858	1	Standard
|	**Cr**	**53**	**49.717**	ug/L	0.536	1	200	139894	1	Standard
⌊	**Mn**	**55**	**49.649**	ug/L	1.125	2	640	1681064	0	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	89428	1	KED
|	**Ni**	**60**	**49.794**	ug/L	1.266	2	6	74074	2	KED
|	**Ni**	**62**	**49.933**	ug/L	1.134	2	2	11713	1	KED
|	**Cu**	**63**	**49.917**	ug/L	0.947	1	42	194074	0	KED
|	**Cu**	**65**	**49.993**	ug/L	0.255	0	21	96229	0	KED
|	**Zn**	**66**	**49.744**	ug/L	1.921	3	46	26682	2	KED
|	**Zn**	**67**	**49.785**	ug/L	1.585	3	9	4406	2	KED
⌊	**As**	**75**	**50.042**	ug/L	1.150	2	6	18453	1	KED
	Y	**89**		ug/L			781271	763888	1	Standard
	Kr	**83**		ug/L			53	65	26	Standard
⌈>	**In-1**	**115**		ug/L			45472	43157	1	KED
|	**Cd**	**111**	**49.817**	ug/L	0.597	1	2	26215	1	KED
⌊	**Cd**	**114**	**49.719**	ug/L	1.262	2	2	64801	0	KED
⌈>	**Tb**	**159**		ug/L			1153345	1096146	1	Standard
|	**Tl**	**205**	**49.407**	ug/L	0.141	0	196	1345585	1	Standard
⌊	**Pb**	**208**	**49.677**	ug/L	0.745	1	318	1747521	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL6
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:08:29
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	20996	2	Standard
	Cl	**37**		ug/L			6774986	6775092	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1271698	1	Standard
|	**V**	**51**	**100.439**	ug/L	2.857	2	7309	2730523	1	Standard
|	**V-1**	**51**	**100.208**	ug/L	2.359	2	318	2747251	1	Standard
|	**Cr**	**52**	**100.361**	ug/L	1.733	1	21559	2314492	0	Standard
|	**Cr**	**53**	**99.606**	ug/L	2.421	2	200	266887	2	Standard
⌊	**Mn**	**55**	**100.116**	ug/L	0.789	0	640	3285217	0	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	86374	1	KED
|	**Ni**	**60**	**100.108**	ug/L	2.546	2	6	144315	1	KED
|	**Ni**	**62**	**99.026**	ug/L	2.551	2	2	21726	0	KED
|	**Cu**	**63**	**99.065**	ug/L	2.248	2	42	360683	0	KED
|	**Cu**	**65**	**99.265**	ug/L	0.747	0	21	180108	1	KED
|	**Zn**	**66**	**99.597**	ug/L	4.022	4	46	50873	2	KED
|	**Zn**	**67**	**99.118**	ug/L	4.719	4	9	8222	3	KED
⌊	**As**	**75**	**99.835**	ug/L	2.111	2	6	35360	1	KED
	Y	**89**		ug/L			781271	738045	3	Standard
	Kr	**83**		ug/L			53	76	17	Standard
⌈>	**In-1**	**115**		ug/L			45472	41415	1	KED
|	**Cd**	**111**	**99.426**	ug/L	1.355	1	2	49263	0	KED
⌊	**Cd**	**114**	**99.858**	ug/L	2.260	2	2	124328	1	KED
⌈>	**Tb**	**159**		ug/L			1153345	1064063	0	Standard
|	**Tl**	**205**	**99.338**	ug/L	1.114	1	196	2569380	0	Standard
⌊	**Pb**	**208**	**99.032**	ug/L	1.946	1	318	3275924	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:15:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18613	1	Standard
	Cl	**37**		ug/L			6774986	6747565	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1348042	1	Standard
|	**V**	**51**	**-0.004**	ug/L	0.007	154	7309	7027	1	Standard
|	**V-1**	**51**	**-0.000**	ug/L	0.000	60	318	302	1	Standard
|	**Cr**	**52**	**-0.019**	ug/L	0.021	112	21559	20637	1	Standard
|	**Cr**	**53**	**-0.005**	ug/L	0.001	19	200	181	2	Standard
⌊	**Mn**	**55**	**0.000**	ug/L	0.000	415	640	629	2	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	91194	1	KED
|	**Ni**	**60**	**0.006**	ug/L	0.004	59	6	15	37	KED
|	**Ni**	**62**	**0.006**	ug/L	0.000	3	2	3	0	KED
|	**Cu**	**63**	**0.004**	ug/L	0.002	50	42	55	15	KED
|	**Cu**	**65**	**0.003**	ug/L	0.005	187	21	25	36	KED
|	**Zn**	**66**	**-0.025**	ug/L	0.005	18	46	29	9	KED
|	**Zn**	**67**	**-0.087**	ug/L	0.013	14	9	1	86	KED
⌊	**As**	**75**	**0.003**	ug/L	0.010	324	6	7	54	KED
	Y	**89**		ug/L			781271	748057	2	Standard
	Kr	**83**		ug/L			53	47	6	Standard
⌈>	**In-1**	**115**		ug/L			45472	43353	1	KED
|	**Cd**	**111**	**0.005**	ug/L	0.003	53	2	5	26	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.003	69	2	8	49	KED
⌈>	**Tb**	**159**		ug/L			1153345	1074620	1	Standard
|	**Tl**	**205**	**0.008**	ug/L	0.000	5	196	389	2	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	2	318	316	1	Standard

Sample Information

Sample Date/Time: Friday, July 06, 2018 12:08:29
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_
Mass Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Conditions File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

Calibration

Analyte	Mass	**r Corr Coef**	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
C	13							
Cl	37							
Sc	45							
V	51	**0.9999**	0.021	0.20	10	20	50	100
V-1	51	**1.0000**	0.022	0.20	10	20	50	100
Cr	52	**0.9999**	0.018	0.50	10	20	50	100
Cr	53	**1.0000**	0.002	0.50	10	20	50	100
Mn	55	**1.0000**	0.026	0.50	10	20	50	100
Ge-1	72							
Ni	60	**1.0000**	0.017	0.50	10	20	50	100
Ni	62	**0.9998**	0.003	0.50	10	20	50	100
Cu	63	**0.9998**	0.042	0.50	10	20	50	100
Cu	65	**0.9999**	0.021	0.50	10	20	50	100
Zn	66	**1.0000**	0.006	4.00	10	20	50	100
Zn	67	**0.9999**	0.001	4.00	10	20	50	100
As	75	**1.0000**	0.004	0.20	10	20	50	100
Y	89							
Kr	83							
In-1	115							
Cd	111	**0.9999**	0.012	0.10	10	20	50	100
Cd	114	**1.0000**	0.030	0.10	10	20	50	100
Tb	159							
Tl	205	**0.9998**	0.024	0.20	10	20	50	100
Pb	208	**0.9998**	0.031	0.10	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:22:45
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	20223	1	Standard
	Cl	**37**		ug/L			6774986	6845822	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1307013	0	Standard
|	**V**	**51**	**49.552**	ug/L	0.401	0	7309	1388369	0	Standard
|	**V-1**	**51**	**49.726**	ug/L	0.455	0	318	1401526	0	Standard
|	**Cr**	**52**	**49.789**	ug/L	0.513	1	21559	1190640	1	Standard
|	**Cr**	**53**	**50.350**	ug/L	0.718	1	200	138749	1	Standard
⌊	**Mn**	**55**	**49.651**	ug/L	1.184	2	640	1675103	3	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	90056	0	KED
|	**Ni**	**60**	**48.753**	ug/L	0.509	1	6	73296	0	KED
|	**Ni**	**62**	**50.627**	ug/L	1.781	3	2	11583	2	KED
|	**Cu**	**63**	**50.758**	ug/L	1.292	2	42	192744	2	KED
|	**Cu**	**65**	**49.072**	ug/L	0.224	0	21	92847	0	KED
|	**Zn**	**66**	**48.871**	ug/L	0.170	0	46	26060	1	KED
|	**Zn**	**67**	**50.134**	ug/L	1.391	2	9	4343	3	KED
⌊	**As**	**75**	**49.399**	ug/L	0.254	0	6	18248	1	KED
	Y	**89**		ug/L			781271	770727	0	Standard
	Kr	**83**		ug/L			53	54	21	Standard
⌈>	**In-1**	**115**		ug/L			45472	43118	1	KED
|	**Cd**	**111**	**48.834**	ug/L	0.889	1	2	25191	0	KED
⌊	**Cd**	**114**	**49.798**	ug/L	0.920	1	2	64553	1	KED
⌈>	**Tb**	**159**		ug/L			1153345	1085156	1	Standard
|	**Tl**	**205**	**50.306**	ug/L	1.655	3	196	1326775	2	Standard
⌊	**Pb**	**208**	**49.852**	ug/L	0.785	1	318	1681695	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:29:58
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18081	2	Standard
	Cl	**37**		ug/L			6774986	6794238	0	Standard
⎡>	**Sc**	**45**		ug/L			1377961	1322247	1	Standard
⎢	**V**	**51**	**-0.005**	ug/L	0.010	175	7309	6858	2	Standard
⎢	**V-1**	**51**	**-0.001**	ug/L	0.001	132	318	285	8	Standard
⎢	**Cr**	**52**	**-0.014**	ug/L	0.031	214	21559	20341	2	Standard
⎢	**Cr**	**53**	**0.002**	ug/L	0.002	101	200	196	1	Standard
⎣	**Mn**	**55**	**0.000**	ug/L	0.001	161	640	626	4	Standard
⎡>	**Ge-1**	**72**		ug/L			97238	92812	2	KED
⎢	**Ni**	**60**	**0.009**	ug/L	0.004	42	6	20	27	KED
⎢	**Ni**	**62**	**0.011**	ug/L	0.012	109	2	5	57	KED
⎢	**Cu**	**63**	**0.005**	ug/L	0.001	11	42	59	5	KED
⎢	**Cu**	**65**	**-0.000**	ug/L	0.002	2220	21	20	19	KED
⎢	**Zn**	**66**	**-0.041**	ug/L	0.004	10	46	21	10	KED
⎢	**Zn**	**67**	**-0.059**	ug/L	0.074	124	9	3	173	KED
⎣	**As**	**75**	**0.001**	ug/L	0.007	943	6	6	43	KED
	Y	**89**		ug/L			781271	772086	1	Standard
	Kr	**83**		ug/L			53	54	11	Standard
⎡>	**In-1**	**115**		ug/L			45472	43953	2	KED
⎢	**Cd**	**111**	**0.003**	ug/L	0.002	84	2	4	26	KED
⎣	**Cd**	**114**	**0.005**	ug/L	0.004	71	2	9	55	KED
⎡>	**Tb**	**159**		ug/L			1153345	1059325	2	Standard
⎢	**Tl**	**205**	**0.010**	ug/L	0.001	5	196	439	3	Standard
⎣	**Pb**	**208**	**0.000**	ug/L	0.000	118	318	303	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:34:26
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18640	1	Standard
	Cl	**37**		ug/L			6774986	6797111	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1288119	1	Standard
|	**V**	**51**	**48.870**	ug/L	0.431	0	7309	1349455	0	Standard
|	**V-1**	**51**	**49.376**	ug/L	0.169	0	318	1371549	0	Standard
|	**Cr**	**52**	**49.682**	ug/L	1.683	3	21559	1170590	2	Standard
|	**Cr**	**53**	**51.312**	ug/L	0.806	1	200	139342	0	Standard
⌊	**Mn**	**55**	**50.063**	ug/L	0.638	1	640	1664339	1	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	88910	1	KED
|	**Ni**	**60**	**48.821**	ug/L	0.648	1	6	72463	1	KED
|	**Ni**	**62**	**51.394**	ug/L	0.982	1	2	11609	1	KED
|	**Cu**	**63**	**50.986**	ug/L	1.040	2	42	191109	0	KED
|	**Cu**	**65**	**50.558**	ug/L	1.441	2	21	94412	1	KED
|	**Zn**	**66**	**50.202**	ug/L	0.692	1	46	26423	0	KED
|	**Zn**	**67**	**51.042**	ug/L	3.316	6	9	4361	4	KED
⌊	**As**	**75**	**49.738**	ug/L	0.984	1	6	18135	0	KED
	Y	**89**		ug/L			781271	759883	2	Standard
	Kr	**83**		ug/L			53	63	13	Standard
⌈>	**In-1**	**115**		ug/L			45472	42692	1	KED
|	**Cd**	**111**	**49.591**	ug/L	0.578	1	2	25331	1	KED
⌊	**Cd**	**114**	**50.392**	ug/L	1.849	3	2	64671	2	KED
⌈>	**Tb**	**159**		ug/L			1153345	1045889	0	Standard
|	**Tl**	**205**	**51.267**	ug/L	0.698	1	196	1303576	2	Standard
⌊	**Pb**	**208**	**51.537**	ug/L	0.394	0	318	1675932	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:41:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18190	1	Standard
	Cl	**37**		ug/L			6774986	6744414	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1324604	2	Standard
|	**V**	**51**	**-0.009**	ug/L	0.009	95	7309	6759	2	Standard
|	**V-1**	**51**	**0.003**	ug/L	0.005	158	318	389	35	Standard
|	**Cr**	**52**	**-0.039**	ug/L	0.029	74	21559	19785	1	Standard
|	**Cr**	**53**	**0.002**	ug/L	0.007	311	200	198	11	Standard
⌊	**Mn**	**55**	**0.002**	ug/L	0.003	147	640	692	17	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	88689	4	KED
|	**Ni**	**60**	**0.006**	ug/L	0.003	53	6	14	27	KED
|	**Ni**	**62**	**0.009**	ug/L	0.021	232	2	4	107	KED
|	**Cu**	**63**	**0.003**	ug/L	0.001	36	42	51	7	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.002	74	21	15	18	KED
|	**Zn**	**66**	**-0.024**	ug/L	0.013	55	46	29	22	KED
|	**Zn**	**67**	**-0.080**	ug/L	0.001	1	9	1		KED
⌊	**As**	**75**	**0.004**	ug/L	0.002	53	6	7	11	KED
	Y	**89**		ug/L			781271	762445	4	Standard
	Kr	**83**		ug/L			53	41	39	Standard
⌈>	**In-1**	**115**		ug/L			45472	43790	1	KED
|	**Cd**	**111**	**0.003**	ug/L	0.004	113	2	4	44	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.002	47	2	7	35	KED
⌈>	**Tb**	**159**		ug/L			1153345	1062835	2	Standard
|	**Tl**	**205**	**0.012**	ug/L	0.005	37	196	490	24	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.007	163	318	429	52	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:45:53
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18748	3	Standard
	Cl	**37**		ug/L			6774986	6828795	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1318813	3	Standard
|	**V**	**51**	**0.215**	ug/L	0.035	16	7309	13015	4	Standard
|	**V-1**	**51**	**0.216**	ug/L	0.013	5	318	6446	2	Standard
|	**Cr**	**52**	**0.523**	ug/L	0.118	22	21559	32979	5	Standard
|	**Cr**	**53**	**0.517**	ug/L	0.040	7	200	1626	3	Standard
⌊	**Mn**	**55**	**0.538**	ug/L	0.042	7	640	18887	4	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	90717	1	KED
|	**Ni**	**60**	**0.502**	ug/L	0.030	5	6	767	6	KED
|	**Ni**	**62**	**0.521**	ug/L	0.137	26	2	122	26	KED
|	**Cu**	**63**	**0.538**	ug/L	0.013	2	42	2096	1	KED
|	**Cu**	**65**	**0.510**	ug/L	0.021	4	21	991	4	KED
|	**Zn**	**66**	**4.249**	ug/L	0.062	1	46	2322	2	KED
|	**Zn**	**67**	**3.928**	ug/L	0.375	9	9	351	10	KED
⌊	**As**	**75**	**0.194**	ug/L	0.022	11	6	78	10	KED
	Y	**89**		ug/L			781271	753132	1	Standard
	Kr	**83**		ug/L			53	43	13	Standard
⌈>	**In-1**	**115**		ug/L			45472	43476	1	KED
|	**Cd**	**111**	**0.108**	ug/L	0.002	1	2	58	0	KED
⌊	**Cd**	**114**	**0.109**	ug/L	0.013	11	2	145	12	KED
⌈>	**Tb**	**159**		ug/L			1153345	1054786	1	Standard
|	**Tl**	**205**	**0.229**	ug/L	0.011	4	196	6043	3	Standard
⌊	**Pb**	**208**	**0.121**	ug/L	0.008	6	318	4264	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFA1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:51:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	137509	1	Standard
	Cl	**37**		ug/L			6774986	16061952	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1474263	0	Standard
|	**V**	**51**	**0.031**	ug/L	0.033	105	7309	8801	12	Standard
|	**V-1**	**51**	**1.322**	ug/L	0.034	2	318	42368	1	Standard
|	**Cr**	**52**	**0.555**	ug/L	0.047	8	21559	37761	2	Standard
|	**Cr**	**53**	**4.765**	ug/L	0.188	3	200	15001	3	Standard
⌊	**Mn**	**55**	**0.071**	ug/L	0.001	1	640	3394	2	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	94128	0	KED
|	**Ni**	**60**	**0.044**	ug/L	0.010	22	6	74	20	KED
|	**Ni**	**62**	**0.117**	ug/L	0.017	14	2	30	12	KED
|	**Cu**	**63**	**0.036**	ug/L	0.001	1	42	184	1	KED
|	**Cu**	**65**	**0.035**	ug/L	0.008	22	21	89	17	KED
|	**Zn**	**66**	**0.205**	ug/L	0.023	11	46	158	7	KED
|	**Zn**	**67**	**0.158**	ug/L	0.042	26	9	23	16	KED
⌊	**As**	**75**	**0.033**	ug/L	0.006	19	6	19	12	KED
	Y	**89**		ug/L			781271	808872	0	Standard
	Kr	**83**		ug/L			53	159	6	Standard
⌈>	**In-1**	**115**		ug/L			45472	44150	1	KED
|	**Cd**	**111**	**0.105**	ug/L	0.004	3	2	58	4	KED
⌊	**Cd**	**114**	**0.073**	ug/L	0.010	13	2	98	12	KED
⌈>	**Tb**	**159**		ug/L			1153345	1214406	2	Standard
|	**Tl**	**205**	**0.125**	ug/L	0.008	6	196	3881	4	Standard
⌊	**Pb**	**208**	**0.031**	ug/L	0.002	6	318	1507	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 12:55:33

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			20244	134926	2	Standard
	Cl	37		ug/L			6774986	16300465	2	Standard
>	Sc	45		ug/L			1377961	1470427	2	Standard
	V	51	-0.350	ug/L	0.327	93	7309	-3074	334	Standard
	V-1	51	1.365	ug/L	0.035	2	318	43608	1	Standard
	Cr	52	19.339	ug/L	0.253	1	21559	534270	1	Standard
	Cr	53	24.266	ug/L	1.307	5	200	75301	4	Standard
	Mn	55	19.100	ug/L	0.395	2	640	725214	2	Standard
>	Ge-1	72		ug/L			97238	94173	0	KED
	Ni	60	20.209	ug/L	0.440	2	6	31778	2	KED
	Ni	62	20.582	ug/L	0.427	2	2	4926	1	KED
	Cu	63	20.171	ug/L	0.236	1	42	80130	1	KED
	Cu	65	19.959	ug/L	0.592	2	21	39504	3	KED
	Zn	66	19.235	ug/L	0.451	2	46	10751	1	KED
	Zn	67	17.773	ug/L	0.653	3	9	1615	4	KED
	As	75	19.732	ug/L	0.115	0	6	7625	0	KED
	Y	89		ug/L			781271	788148	1	Standard
	Kr	83		ug/L			53	163	7	Standard
>	In-1	115		ug/L			45472	41960	7	KED
	Cd	111	20.932	ug/L	1.870	8	2	10465	1	KED
	Cd	114	21.123	ug/L	1.872	8	2	26535	1	KED
>	Tb	159		ug/L			1153345	1220438	1	Standard
	Tl	205	0.014	ug/L	0.003	18	196	622	10	Standard
	Pb	208	0.025	ug/L	0.003	10	318	1278	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:01:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	136833	2	Standard
	Cl	**37**		ug/L			6774986	15897679	1	Standard
>	**Sc**	**45**		ug/L			1377961	1467984	3	Standard
	V	**51**	**-0.240**	ug/L	0.089	36	7309	234	1191	Standard
	V-1	**51**	**1.444**	ug/L	0.066	4	318	45994	1	Standard
	Cr	**52**	**19.353**	ug/L	0.924	4	21559	533213	0	Standard
	Cr	**53**	**24.183**	ug/L	0.988	4	200	74887	1	Standard
	Mn	**55**	**19.091**	ug/L	0.912	4	640	722938	2	Standard
>	**Ge-1**	**72**		ug/L			97238	93145	1	KED
	Ni	**60**	**20.134**	ug/L	0.370	1	6	31309	1	KED
	Ni	**62**	**20.647**	ug/L	0.650	3	2	4889	4	KED
	Cu	**63**	**20.282**	ug/L	0.177	0	42	79683	0	KED
	Cu	**65**	**19.847**	ug/L	0.658	3	21	38845	2	KED
	Zn	**66**	**19.500**	ug/L	0.314	1	46	10782	2	KED
	Zn	**67**	**17.910**	ug/L	0.516	2	9	1610	4	KED
	As	**75**	**19.581**	ug/L	0.276	1	6	7484	1	KED
	Y	**89**		ug/L			781271	771392	4	Standard
	Kr	**83**		ug/L			53	173	20	Standard
>	**In-1**	**115**		ug/L			45472	43389	1	KED
	Cd	**111**	**19.614**	ug/L	0.368	1	2	10182	0	KED
	Cd	**114**	**20.085**	ug/L	0.158	0	2	26205	2	KED
>	**Tb**	**159**		ug/L			1153345	1239319	3	Standard
	Tl	**205**	**0.007**	ug/L	0.001	15	196	433	4	Standard
	Pb	**208**	**0.022**	ug/L	0.002	7	318	1174	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:07:40

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			0	23619	0	Standard
	Cl	**37**		ug/L			0	7408062	1	Standard
⌈>	**Sc**	**45**		ug/L			0	1300649	2	Standard
|	**V**	**51**		ug/L			0	5622048	1	Standard
|	**V-1**	**51**		ug/L			0	5695252	0	Standard
|	**Cr**	**52**		ug/L			0	4714763	0	Standard
|	**Cr**	**53**		ug/L			0	556178	0	Standard
⌊	**Mn**	**55**		ug/L			0	6774525	1	Standard
⌈>	**Ge-1**	**72**		ug/L			0	87687	2	KED
|	**Ni**	**60**		ug/L			0	292056	2	KED
|	**Ni**	**62**		ug/L			0	46048	1	KED
|	**Cu**	**63**		ug/L			0	736099	1	KED
|	**Cu**	**65**		ug/L			0	367442	2	KED
|	**Zn**	**66**		ug/L			0	100539	0	KED
|	**Zn**	**67**		ug/L			0	16725	1	KED
⌊	**As**	**75**		ug/L			0	72514	1	KED
	Y	**89**		ug/L			0	746930	3	Standard
	Kr	**83**		ug/L			0	145	4	Standard
⌈>	**In-1**	**115**		ug/L			0	41057	1	KED
|	**Cd**	**111**		ug/L			0	100338	1	KED
⌊	**Cd**	**114**		ug/L			0	252617	1	KED
⌈>	**Tb**	**159**		ug/L			0	1129424	2	Standard
|	**Tl**	**205**		ug/L			0	5396207	0	Standard
⌊	**Pb**	**208**		ug/L			0	6890493	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:12:07

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			0	24452	1	Standard
	Cl	**37**		ug/L			0	7206490	0	Standard
⌈>	**Sc**	**45**		ug/L			0	1263995	1	Standard
|	**V**	**51**		ug/L			0	8335272	1	Standard
|	**V-1**	**51**		ug/L			0	8348148	0	Standard
|	**Cr**	**52**		ug/L			0	6828283	0	Standard
|	**Cr**	**53**		ug/L			0	775713	0	Standard
⌊	**Mn**	**55**		ug/L			0	9605777	2	Standard
⌈>	**Ge-1**	**72**		ug/L			0	82620	4	KED
|	**Ni**	**60**		ug/L			0	408449	0	KED
|	**Ni**	**62**		ug/L			0	63442	0	KED
|	**Cu**	**63**		ug/L			0	1007265	1	KED
|	**Cu**	**65**		ug/L			0	495464	1	KED
|	**Zn**	**66**		ug/L			0	139414	1	KED
|	**Zn**	**67**		ug/L			0	22772	1	KED
⌊	**As**	**75**		ug/L			0	101115	0	KED
	Y	**89**		ug/L			0	727184	3	Standard
	Kr	**83**		ug/L			0	246	13	Standard
⌈>	**In-1**	**115**		ug/L			0	40063	8	KED
|	**Cd**	**111**		ug/L			0	138431	2	KED
⌊	**Cd**	**114**		ug/L			0	349011	3	KED
⌈>	**Tb**	**159**		ug/L			0	1069536	2	Standard
|	**Tl**	**205**		ug/L			0	7693912	1	Standard
⌊	**Pb**	**208**		ug/L			0	9590614	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:19:19
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	21788	2	Standard
	Cl	**37**		ug/L			6774986	7183028	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1258896	1	Standard
|	**V**	**51**	**205.349**	ug/L	1.886	0	7309	5520383	0	Standard
|	**V-1**	**51**	**204.754**	ug/L	2.408	1	318	5557330	0	Standard
|	**Cr**	**52**	**202.893**	ug/L	2.251	1	21559	4612195	0	Standard
|	**Cr**	**53**	**201.029**	ug/L	3.591	1	200	532993	0	Standard
⌊	**Mn**	**55**	**198.875**	ug/L	2.841	1	640	6460168	1	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	84531	1	KED
|	**Ni**	**60**	**195.668**	ug/L	6.999	3	6	276042	2	KED
|	**Ni**	**62**	**201.966**	ug/L	4.752	2	2	43368	1	KED
|	**Cu**	**63**	**195.627**	ug/L	2.410	1	42	697146	0	KED
|	**Cu**	**65**	**193.427**	ug/L	2.283	1	21	343453	0	KED
|	**Zn**	**66**	**194.350**	ug/L	2.935	1	46	97167	2	KED
|	**Zn**	**67**	**194.684**	ug/L	3.624	1	9	15803	0	KED
⌊	**As**	**75**	**198.585**	ug/L	2.131	1	6	68834	0	KED
	Y	**89**		ug/L			781271	724015	1	Standard
	Kr	**83**		ug/L			53	149	22	Standard
⌈>	**In-1**	**115**		ug/L			45472	39990	1	KED
|	**Cd**	**111**	**198.956**	ug/L	5.097	2	2	95173	1	KED
⌊	**Cd**	**114**	**199.798**	ug/L	3.663	1	2	240208	1	KED
⌈>	**Tb**	**159**		ug/L			1153345	1063751	1	Standard
|	**Tl**	**205**	**201.034**	ug/L	4.910	2	196	5196763	0	Standard
⌊	**Pb**	**208**	**195.312**	ug/L	3.866	1	318	6457851	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:23:47
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	23164	4	Standard
	Cl	**37**		ug/L			6774986	7159897	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1229146	2	Standard
|	**V**	**51**	**307.634**	ug/L	6.052	1	7309	8069730	0	Standard
|	**V-1**	**51**	**307.774**	ug/L	8.194	2	318	8153612	0	Standard
|	**Cr**	**52**	**301.074**	ug/L	1.947	0	21559	6673415	2	Standard
|	**Cr**	**53**	**301.763**	ug/L	7.329	2	200	780921	0	Standard
⌊	**Mn**	**55**	**296.424**	ug/L	1.354	0	640	9401128	2	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	81273	1	KED
|	**Ni**	**60**	**284.453**	ug/L	5.872	2	6	385888	1	KED
|	**Ni**	**62**	**295.312**	ug/L	6.500	2	2	60970	1	KED
|	**Cu**	**63**	**289.958**	ug/L	5.102	1	42	993659	2	KED
|	**Cu**	**65**	**286.247**	ug/L	7.604	2	21	488645	2	KED
|	**Zn**	**66**	**280.227**	ug/L	4.193	1	46	134659	1	KED
|	**Zn**	**67**	**288.966**	ug/L	5.643	1	9	22549	1	KED
⌊	**As**	**75**	**297.338**	ug/L	4.344	1	6	99090	0	KED
	Y	**89**		ug/L			781271	726674	1	Standard
	Kr	**83**		ug/L			53	233	9	Standard
⌈>	**In-1**	**115**		ug/L			45472	38697	1	KED
|	**Cd**	**111**	**293.188**	ug/L	5.244	1	2	135724	0	KED
⌊	**Cd**	**114**	**298.896**	ug/L	5.402	1	2	347710	0	KED
⌈>	**Tb**	**159**		ug/L			1153345	1025111	1	Standard
|	**Tl**	**205**	**290.977**	ug/L	9.226	3	196	7249016	2	Standard
⌊	**Pb**	**208**	**287.858**	ug/L	3.940	1	318	9173768	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:30:59
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	20904	2	Standard
	Cl	**37**		ug/L			6774986	7048149	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1295981	2	Standard
|	**V**	**51**	**0.002**	ug/L	0.009	585	7309	6916	3	Standard
|	**V-1**	**51**	**0.013**	ug/L	0.001	4	318	651	4	Standard
|	**Cr**	**52**	**0.002**	ug/L	0.027	1181	21559	20325	3	Standard
|	**Cr**	**53**	**0.038**	ug/L	0.005	13	200	293	7	Standard
⌊	**Mn**	**55**	**0.005**	ug/L	0.001	19	640	774	6	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	91212	0	KED
|	**Ni**	**60**	**0.006**	ug/L	0.001	20	6	15	12	KED
|	**Ni**	**62**	**0.020**	ug/L	0.005	24	2	6	15	KED
|	**Cu**	**63**	**0.005**	ug/L	0.002	41	42	59	14	KED
|	**Cu**	**65**	**0.003**	ug/L	0.002	56	21	26	14	KED
|	**Zn**	**66**	**0.088**	ug/L	0.013	14	46	90	7	KED
|	**Zn**	**67**	**0.072**	ug/L	0.064	89	9	15	37	KED
⌊	**As**	**75**	**0.009**	ug/L	0.007	80	6	9	29	KED
	Y	**89**		ug/L			781271	752075	3	Standard
	Kr	**83**		ug/L			53	42	13	Standard
⌈>	**In-1**	**115**		ug/L			45472	42052	3	KED
|	**Cd**	**111**	**0.005**	ug/L	0.001	28	2	5	10	KED
⌊	**Cd**	**114**	**0.012**	ug/L	0.006	49	2	17	44	KED
⌈>	**Tb**	**159**		ug/L			1153345	1064002	2	Standard
|	**Tl**	**205**	**0.061**	ug/L	0.003	4	196	1762	2	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.001	20	318	468	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:37:22
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	19947	2	Standard
	Cl	**37**		ug/L			6774986	7006839	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1288657	1	Standard
|	**V**	**51**	**0.000**	ug/L	0.002	464	7309	6848	2	Standard
|	**V-1**	**51**	**0.011**	ug/L	0.001	6	318	599	3	Standard
|	**Cr**	**52**	**0.008**	ug/L	0.006	71	21559	20350	2	Standard
|	**Cr**	**53**	**0.042**	ug/L	0.001	2	200	301	2	Standard
⌊	**Mn**	**55**	**0.005**	ug/L	0.001	24	640	759	6	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	83742	9	KED
|	**Ni**	**60**	**0.030**	ug/L	0.039	133	6	48	123	KED
|	**Ni**	**62**	**0.037**	ug/L	0.047	127	2	9	91	KED
|	**Cu**	**63**	**0.028**	ug/L	0.032	114	42	139	90	KED
|	**Cu**	**65**	**0.026**	ug/L	0.029	112	21	66	86	KED
|	**Zn**	**66**	**0.114**	ug/L	0.068	59	46	98	43	KED
|	**Zn**	**67**	**0.124**	ug/L	0.071	57	9	18	36	KED
⌊	**As**	**75**	**0.033**	ug/L	0.052	157	6	17	112	KED
	Y	**89**		ug/L			781271	751851	2	Standard
	Kr	**83**		ug/L			53	52	27	Standard
⌈>	**In-1**	**115**		ug/L			45472	43284	1	KED
|	**Cd**	**111**	**0.005**	ug/L	0.004	85	2	5	39	KED
⌊	**Cd**	**114**	**0.006**	ug/L	0.002	33	2	10	27	KED
⌈>	**Tb**	**159**		ug/L			1153345	1051276	1	Standard
|	**Tl**	**205**	**0.035**	ug/L	0.004	12	196	1075	9	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.001	19	318	481	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:43:46
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	19715	3	Standard
	Cl	**37**		ug/L			6774986	7250912	1	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1282085	2	Standard
|	**V**	**51**	**50.637**	ug/L	1.382	2	7309	1390924	0	Standard
|	**V-1**	**51**	**50.955**	ug/L	1.350	2	318	1408202	0	Standard
|	**Cr**	**52**	**50.560**	ug/L	1.791	3	21559	1185003	1	Standard
|	**Cr**	**53**	**51.604**	ug/L	1.795	3	200	139431	2	Standard
⌊	**Mn**	**55**	**50.202**	ug/L	1.419	2	640	1660440	1	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	89664	1	KED
|	**Ni**	**60**	**49.236**	ug/L	1.600	3	6	73686	2	KED
|	**Ni**	**62**	**49.874**	ug/L	1.478	2	2	11360	1	KED
|	**Cu**	**63**	**50.336**	ug/L	0.466	0	42	190302	0	KED
|	**Cu**	**65**	**48.605**	ug/L	0.594	1	21	91555	0	KED
|	**Zn**	**66**	**49.881**	ug/L	0.570	1	46	26479	0	KED
|	**Zn**	**67**	**50.139**	ug/L	2.330	4	9	4323	4	KED
⌊	**As**	**75**	**49.082**	ug/L	0.929	1	6	18049	0	KED
	Y	**89**		ug/L			781271	746091	2	Standard
	Kr	**83**		ug/L			53	54	17	Standard
⌈>	**In-1**	**115**		ug/L			45472	43022	1	KED
|	**Cd**	**111**	**48.854**	ug/L	0.636	1	2	25145	0	KED
⌊	**Cd**	**114**	**49.638**	ug/L	1.418	2	2	64188	1	KED
⌈>	**Tb**	**159**		ug/L			1153345	1056488	3	Standard
|	**Tl**	**205**	**49.676**	ug/L	0.181	0	196	1275768	2	Standard
⌊	**Pb**	**208**	**51.742**	ug/L	2.015	3	318	1698391	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:50:59
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			20244	18945	3	Standard
	Cl	**37**		ug/L			6774986	7088466	0	Standard
⌈>	**Sc**	**45**		ug/L			1377961	1281610	0	Standard
|	**V**	**51**	**0.000**	ug/L	0.005	1029	7309	6811	2	Standard
|	**V-1**	**51**	**0.008**	ug/L	0.000	6	318	506	2	Standard
|	**Cr**	**52**	**-0.002**	ug/L	0.017	985	21559	20012	2	Standard
|	**Cr**	**53**	**0.022**	ug/L	0.007	33	200	245	7	Standard
⌊	**Mn**	**55**	**0.003**	ug/L	0.000	4	640	701	1	Standard
⌈>	**Ge-1**	**72**		ug/L			97238	91525	1	KED
|	**Ni**	**60**	**0.009**	ug/L	0.004	40	6	20	28	KED
|	**Ni**	**62**	**0.014**	ug/L	0.014	99	2	5	57	KED
|	**Cu**	**63**	**0.002**	ug/L	0.002	106	42	48	18	KED
|	**Cu**	**65**	**0.000**	ug/L	0.005	12463	21	20	44	KED
|	**Zn**	**66**	**-0.028**	ug/L	0.012	44	46	28	24	KED
|	**Zn**	**67**	**-0.059**	ug/L	0.001	1	9	3	0	KED
⌊	**As**	**75**	**0.005**	ug/L	0.005	105	6	7	27	KED
	Y	**89**		ug/L			781271	747424	1	Standard
	Kr	**83**		ug/L			53	59	17	Standard
⌈>	**In-1**	**115**		ug/L			45472	42687	1	KED
|	**Cd**	**111**	**0.007**	ug/L	0.004	60	2	6	32	KED
⌊	**Cd**	**114**	**0.005**	ug/L	0.004	98	2	8	71	KED
⌈>	**Tb**	**159**		ug/L			1153345	1061490	1	Standard
|	**Tl**	**205**	**0.027**	ug/L	0.001	2	196	887	2	Standard
⌊	**Pb**	**208**	**0.003**	ug/L	0.001	41	318	400	11	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 13:58:32
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				18887	3	Standard
	Cl	**37**		ug/L				7022462	1	Standard
⌈>	**Sc**	**45**		ug/L				1325921	2	Standard
|	**V**	**51**		ug/L				6809	3	Standard
|	**V-1**	**51**		ug/L				436	8	Standard
|	**Cr**	**52**		ug/L				20151	3	Standard
|	**Cr**	**53**		ug/L				239	3	Standard
⌊	**Mn**	**55**		ug/L				676	0	Standard
⌈>	**Ge-1**	**72**		ug/L				90111	0	KED
|	**Ni**	**60**		ug/L				15	30	KED
|	**Ni**	**62**		ug/L				5	33	KED
|	**Cu**	**63**		ug/L				57	20	KED
|	**Cu**	**65**		ug/L				26	37	KED
|	**Zn**	**66**		ug/L				29	13	KED
|	**Zn**	**67**		ug/L				5	57	KED
⌊	**As**	**75**		ug/L				6	35	KED
	Y	**89**		ug/L				753655	3	Standard
	Kr	**83**		ug/L				50	17	Standard
⌈>	**In-1**	**115**		ug/L				43083	2	KED
|	**Cd**	**111**		ug/L				5	21	KED
⌊	**Cd**	**114**		ug/L				6	63	KED
⌈>	**Tb**	**159**		ug/L				1051890	0	Standard
|	**Tl**	**205**		ug/L				703	2	Standard
⌊	**Pb**	**208**		ug/L				405	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 14:03:01
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	19176	1	Standard
	Cl	**37**		ug/L			7022462	7195699	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1316076	1	Standard
|	**V**	**51**	**49.292**	ug/L	0.806	1	6809	1390292	0	Standard
|	**V-1**	**51**	**49.394**	ug/L	0.894	1	436	1401766	0	Standard
|	**Cr**	**52**	**48.835**	ug/L	1.140	2	20151	1175456	1	Standard
|	**Cr**	**53**	**49.184**	ug/L	1.704	3	239	136495	2	Standard
⌊	**Mn**	**55**	**48.898**	ug/L	1.720	3	676	1660863	3	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	88547	2	KED
|	**Ni**	**60**	**49.369**	ug/L	1.934	3	15	72966	3	KED
|	**Ni**	**62**	**51.125**	ug/L	1.667	3	5	11501	1	KED
|	**Cu**	**63**	**50.619**	ug/L	1.594	3	57	188957	1	KED
|	**Cu**	**65**	**51.423**	ug/L	1.604	3	26	95633	1	KED
|	**Zn**	**66**	**50.234**	ug/L	1.169	2	29	26322	2	KED
|	**Zn**	**67**	**51.877**	ug/L	2.416	4	5	4412	3	KED
⌊	**As**	**75**	**49.652**	ug/L	1.407	2	6	18028	1	KED
	Y	**89**		ug/L			753655	758711	1	Standard
	Kr	**83**		ug/L			50	64	8	Standard
⌈>	**In-1**	**115**		ug/L			43083	42355	1	KED
|	**Cd**	**111**	**50.607**	ug/L	1.872	3	5	25639	2	KED
⌊	**Cd**	**114**	**51.350**	ug/L	2.464	4	6	65357	2	KED
⌈>	**Tb**	**159**		ug/L			1051890	1065359	0	Standard
|	**Tl**	**205**	**50.167**	ug/L	2.000	3	703	1299636	3	Standard
⌊	**Pb**	**208**	**50.368**	ug/L	0.084	0	405	1668540	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 14:07:29
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18521	1	Standard
	Cl	**37**		ug/L			7022462	7261200	1	Standard
⎡>	**Sc**	**45**		ug/L			1325921	1350227	1	Standard
⎢	**V**	**51**	**0.002**	ug/L	0.002	140	6809	6985	0	Standard
⎢	**V-1**	**51**	**0.001**	ug/L	0.002	244	436	463	9	Standard
⎢	**Cr**	**52**	**-0.002**	ug/L	0.010	429	20151	20464	0	Standard
⎢	**Cr**	**53**	**-0.006**	ug/L	0.005	78	239	226	4	Standard
⎣	**Mn**	**55**	**0.000**	ug/L	0.002	20467	676	688	6	Standard
⎡>	**Ge-1**	**72**		ug/L			90111	89123	1	KED
⎢	**Ni**	**60**	**0.003**	ug/L	0.003	116	15	19	24	KED
⎢	**Ni**	**62**	**-0.008**	ug/L	0.008	102	5	3	50	KED
⎢	**Cu**	**63**	**-0.000**	ug/L	0.002	459	57	55	9	KED
⎢	**Cu**	**65**	**0.002**	ug/L	0.005	210	26	30	28	KED
⎢	**Zn**	**66**	**0.004**	ug/L	0.016	397	29	31	28	KED
⎢	**Zn**	**67**	**0.023**	ug/L	0.012	52	5	6	15	KED
⎣	**As**	**75**	**-0.000**	ug/L	0.007	4363	6	6	39	KED
	Y	**89**		ug/L			753655	751559	1	Standard
	Kr	**83**		ug/L			50	54	14	Standard
⎡>	**In-1**	**115**		ug/L			43083	42877	1	KED
⎢	**Cd**	**111**	**0.001**	ug/L	0.005	681	5	5	44	KED
⎣	**Cd**	**114**	**0.005**	ug/L	0.003	66	6	12	32	KED
⎡>	**Tb**	**159**		ug/L			1051890	1053380	3	Standard
⎢	**Tl**	**205**	**0.002**	ug/L	0.002	110	703	751	8	Standard
⎣	**Pb**	**208**	**0.001**	ug/L	0.002	192	405	434	15	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0087-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 14:11:57
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	25960	0	Standard
	Cl	37		ug/L			7022462	7235950	0	Standard
>	Sc	45		ug/L			1325921	1343430	1	Standard
	V	51	0.008	ug/L	0.004	48	6809	7132	2	Standard
	V-1	51	0.002	ug/L	0.000	12	436	498	1	Standard
	Cr	52	0.037	ug/L	0.017	46	20151	21312	2	Standard
	Cr	53	0.016	ug/L	0.004	23	239	286	3	Standard
	Mn	55	0.070	ug/L	0.001	1	676	3104	0	Standard
>	Ge-1	72		ug/L			90111	92491	0	KED
	Ni	60	0.016	ug/L	0.005	31	15	41	19	KED
	Ni	62	0.013	ug/L	0.009	73	5	8	24	KED
	Cu	63	0.034	ug/L	0.005	13	57	190	9	KED
	Cu	65	0.036	ug/L	0.003	9	26	97	6	KED
	Zn	66	0.252	ug/L	0.023	9	29	168	8	KED
	Zn	67	0.206	ug/L	0.065	31	5	23	24	KED
	As	75	-0.000	ug/L	0.007	1614	6	6	40	KED
	Y	89		ug/L			753655	770176	0	Standard
	Kr	83		ug/L			50	47	10	Standard
>	In-1	115		ug/L			43083	44458	1	KED
	Cd	111	0.000	ug/L	0.004	1275	5	5	36	KED
	Cd	114	0.002	ug/L	0.002	109	6	9	35	KED
>	Tb	159		ug/L			1051890	1084417	1	Standard
	Tl	205	0.027	ug/L	0.005	18	703	1440	9	Standard
	Pb	208	0.001	ug/L	0.001	75	405	444	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0087-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 14:16:25
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	28108	1	Standard
	Cl	37		ug/L			7022462	7227860	0	Standard
>	Sc	45		ug/L			1325921	1335459	2	Standard
	V	51	25.539	ug/L	0.832	3	6809	734068	2	Standard
	V-1	51	25.489	ug/L	0.888	3	436	734000	2	Standard
	Cr	52	25.901	ug/L	0.731	2	20151	642055	2	Standard
	Cr	53	25.721	ug/L	0.927	3	239	72530	2	Standard
	Mn	55	26.273	ug/L	0.265	1	676	905836	2	Standard
>	Ge-1	72		ug/L			90111	92574	3	KED
	Ni	60	25.299	ug/L	1.650	6	15	39048	2	KED
	Ni	62	26.319	ug/L	1.033	3	5	6189	1	KED
	Cu	63	27.000	ug/L	0.436	1	57	105389	2	KED
	Cu	65	25.722	ug/L	1.316	5	26	49980	1	KED
	Zn	66	77.333	ug/L	4.223	5	29	42291	1	KED
	Zn	67	74.615	ug/L	1.204	1	5	6633	2	KED
	As	75	23.981	ug/L	1.231	5	6	9098	1	KED
	Y	89		ug/L			753655	763185	5	Standard
	Kr	83		ug/L			50	57	7	Standard
>	In-1	115		ug/L			43083	44063	2	KED
	Cd	111	25.321	ug/L	0.264	1	5	13352	1	KED
	Cd	114	25.497	ug/L	0.430	1	6	33777	0	KED
>	Tb	159		ug/L			1051890	1110804	3	Standard
	Tl	205	26.041	ug/L	0.429	1	703	703590	1	Standard
	Pb	208	25.970	ug/L	0.824	3	405	896546	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:21:17
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	23016	1	Standard
	Cl	37		ug/L			7022462	7252302	0	Standard
>	Sc	45		ug/L			1325921	1339732	1	Standard
	V	51	-0.001	ug/L	0.005	649	6809	6858	2	Standard
	V-1	51	-0.000	ug/L	0.001	2740	436	440	4	Standard
	Cr	52	0.007	ug/L	0.017	261	20151	20516	1	Standard
	Cr	53	0.009	ug/L	0.005	52	239	266	3	Standard
	Mn	55	0.093	ug/L	0.002	2	676	3881	2	Standard
>	Ge-1	72		ug/L			90111	92457	2	KED
	Ni	60	0.000	ug/L	0.005	2199	15	16	40	KED
	Ni	62	-0.006	ug/L	0.026	449	5	4	137	KED
	Cu	63	0.005	ug/L	0.003	50	57	78	12	KED
	Cu	65	0.002	ug/L	0.006	364	26	30	38	KED
	Zn	66	0.175	ug/L	0.009	5	29	126	6	KED
	Zn	67	0.135	ug/L	0.059	43	5	17	29	KED
	As	75	0.004	ug/L	0.003	62	6	8	11	KED
	Y	89		ug/L			753655	780072	3	Standard
	Kr	83		ug/L			50	41	21	Standard
>	In-1	115		ug/L			43083	44116	0	KED
	Cd	111	-0.001	ug/L	0.005	377	5	4	65	KED
	Cd	114	0.004	ug/L	0.007	186	6	11	84	KED
>	Tb	159		ug/L			1051890	1088874	2	Standard
	Tl	205	-0.008	ug/L	0.002	26	703	511	9	Standard
	Pb	208	0.034	ug/L	0.001	2	405	1558	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:25:45
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	21118	2	Standard
	Cl	37		ug/L			7022462	7325190	0	Standard
>	Sc	45		ug/L			1325921	1351777	0	Standard
	V	51	23.149	ug/L	0.378	1	6809	674367	1	Standard
	V-1	51	23.150	ug/L	0.297	1	436	675142	0	Standard
	Cr	52	23.402	ug/L	0.205	0	20151	589362	0	Standard
	Cr	53	23.399	ug/L	0.387	1	239	66845	1	Standard
	Mn	55	23.783	ug/L	0.412	1	676	830141	1	Standard
>	Ge-1	72		ug/L			90111	92805	1	KED
	Ni	60	23.035	ug/L	0.177	0	15	35706	2	KED
	Ni	62	23.631	ug/L	0.514	2	5	5576	0	KED
	Cu	63	24.471	ug/L	0.773	3	57	95777	2	KED
	Cu	65	23.287	ug/L	0.502	2	26	45432	3	KED
	Zn	66	72.353	ug/L	0.533	0	29	39721	0	KED
	Zn	67	69.604	ug/L	1.978	2	5	6204	1	KED
	As	75	21.862	ug/L	0.228	1	6	8326	2	KED
	Y	89		ug/L			753655	781789	1	Standard
	Kr	83		ug/L			50	45	14	Standard
>	In-1	115		ug/L			43083	44503	2	KED
	Cd	111	23.057	ug/L	0.288	1	5	12279	1	KED
	Cd	114	22.870	ug/L	0.013	0	6	30607	2	KED
>	Tb	159		ug/L			1051890	1083915	2	Standard
	Tl	205	24.471	ug/L	0.707	2	703	645251	2	Standard
	Pb	208	25.241	ug/L	1.325	5	405	850406	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:30:37
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	105056	3	Standard
	Cl	37		ug/L			7022462	7331546	1	Standard
>	Sc	45		ug/L			1325921	1388940	1	Standard
	V	51	46.740	ug/L	2.133	4	6809	1391974	4	Standard
	V-1	51	48.429	ug/L	1.193	2	436	1450418	1	Standard
	Cr	52	368.398	ug/L	5.437	1	20151	9221013	0	Standard
	Cr	53	362.670	ug/L	10.179	2	239	1060664	1	Standard
	Mn	55	4056.876	ug/L	65.507	1	676	145388996	2	Standard
>	Ge-1	72		ug/L			90111	88390	0	KED
	Ni	60	222.747	ug/L	3.926	1	15	328677	1	KED
	Ni	62	233.493	ug/L	3.233	1	5	52441	1	KED
	Cu	63	2261.264	ug/L	23.698	1	57	8426375	0	KED
	Cu	65	2211.508	ug/L	29.860	1	26	4106265	1	KED
	Zn	66	3046.257	ug/L	96.701	3	29	1591492	2	KED
	Zn	67	2925.429	ug/L	33.625	1	5	248210	0	KED
	As	75	52.939	ug/L	0.540	1	6	19193	0	KED
	Y	89		ug/L			753655	1001539	1	Standard
	Kr	83		ug/L			50	146	11	Standard
>	In-1	115		ug/L			43083	42009	2	KED
	Cd	111	252.354	ug/L	8.423	3	5	126777	1	KED
	Cd	114	258.771	ug/L	5.306	2	6	326757	0	KED
>	Tb	159		ug/L			1051890	1066144	1	Standard
	Tl	205	0.085	ug/L	0.008	9	703	2912	7	Standard
	Pb	208	813.564	ug/L	11.573	1	405	26963465	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:35:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	79969	2	Standard
	Cl	37		ug/L			7022462	7287177	0	Standard
>	Sc	45		ug/L			1325921	1368588	0	Standard
	V	51	101.970	ug/L	3.585	3	6809	2983166	2	Standard
	V-1	51	102.616	ug/L	2.574	2	436	3027974	1	Standard
	Cr	52	352.974	ug/L	7.042	1	20151	8706334	1	Standard
	Cr	53	346.304	ug/L	3.442	0	239	998145	0	Standard
	Mn	55	1434.841	ug/L	11.506	0	676	50664250	0	Standard
>	Ge-1	72		ug/L			90111	88473	0	KED
	Ni	60	187.064	ug/L	4.741	2	15	276262	1	KED
	Ni	62	194.391	ug/L	1.722	0	5	43697	0	KED
	Cu	63	959.528	ug/L	25.623	2	57	3578508	1	KED
	Cu	65	910.784	ug/L	4.179	0	26	1692636	0	KED
	Zn	66	1724.517	ug/L	22.564	1	29	901877	0	KED
	Zn	67	1642.858	ug/L	10.744	0	5	139521	0	KED
	As	75	46.922	ug/L	0.328	0	6	17029	0	KED
	Y	89		ug/L			753655	905623	1	Standard
	Kr	83		ug/L			50	175	15	Standard
>	In-1	115		ug/L			43083	41117	1	KED
	Cd	111	528.800	ug/L	3.070	0	5	260126	0	KED
	Cd	114	529.533	ug/L	7.249	1	6	654629	1	KED
>	Tb	159		ug/L			1051890	1069439	0	Standard
	Tl	205	0.058	ug/L	0.001	1	703	2216	1	Standard
	Pb	208	514.561	ug/L	10.838	2	405	17105577	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:39:33
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	71352	1	Standard
	Cl	37		ug/L			7022462	7280650	0	Standard
>	Sc	45		ug/L			1325921	1377944	1	Standard
	V	51	35.259	ug/L	3.340	9	6809	1043758	9	Standard
	V-1	51	33.081	ug/L	0.377	1	436	983178	0	Standard
	Cr	52	663.792	ug/L	7.233	1	20151	16467231	0	Standard
	Cr	53	634.659	ug/L	12.202	1	239	1841423	0	Standard
	Mn	55	2018.127	ug/L	28.046	1	676	71749818	1	Standard
>	Ge-1	72		ug/L			90111	84898	1	KED
	Ni	60	77.514	ug/L	2.170	2	15	109841	1	KED
	Ni	62	78.541	ug/L	2.124	2	5	16942	1	KED
	Cu	63	356.689	ug/L	2.794	0	57	1276623	1	KED
	Cu	65	356.556	ug/L	6.706	1	26	635784	1	KED
	Zn	66	1526.556	ug/L	32.483	2	29	765963	0	KED
	Zn	67	1410.160	ug/L	38.982	2	5	114895	1	KED
	As	75	9.833	ug/L	0.132	1	6	3428	0	KED
	Y	89		ug/L			753655	1007018	1	Standard
	Kr	83		ug/L			50	115	8	Standard
>	In-1	115		ug/L			43083	41883	1	KED
	Cd	111	21.550	ug/L	0.262	1	5	10802	0	KED
	Cd	114	22.163	ug/L	0.290	1	6	27914	1	KED
>	Tb	159		ug/L			1051890	1109956	1	Standard
	Tl	205	0.140	ug/L	0.001	0	703	4530	2	Standard
	Pb	208	423.978	ug/L	11.702	2	405	14625746	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:44:01 DEL
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	66677	1	Standard
	Cl	37		ug/L			7022462	7112907	1	Standard
>	Sc	45		ug/L			1325921	1294869	1	Standard
	V	51	489.829	ug/L	9.480	1	6809	13532356	0	Standard
	V-1	51	492.572	ug/L	16.853	3	436	13747500	2	Standard
	Cr	52	936.464	ug/L	7.404	0	20151	21822438	1	Standard
	Cr	53	929.814	ug/L	36.482	3	239	2534737	3	Standard
	Mn	55	1978.495	ug/L	30.831	1	676	66092422	1	Standard
>	Ge-1	72		ug/L			90111	82695	0	KED
	Ni	60	232.650	ug/L	4.569	1	15	321178	1	KED
	Ni	62	248.097	ug/L	5.346	2	5	52126	1	KED
	Cu	63	4500.889	ug/L	125.633	2	57	15690347	2	KED
	Cu	65	4319.499	ug/L	20.055	0	26	7503379	0	KED
	Zn	66	3329.034	ug/L	41.363	1	29	1627347	0	KED
	Zn	67	3211.742	ug/L	60.948	1	5	254938	1	KED
	As	75	50.787	ug/L	0.928	1	6	17226	1	KED
	Y	89		ug/L			753655	1090296	5	Standard
	Kr	83		ug/L			50	169	12	Standard
>	In-1	115		ug/L			43083	38342	2	KED
	Cd	111	96.665	ug/L	2.203	2	5	44331	0	KED
	Cd	114	98.016	ug/L	3.216	3	6	112940	0	KED
>	Tb	159		ug/L			1051890	997549	2	Standard
	Tl	205	0.092	ug/L	0.002	1	703	2887	2	Standard
	Pb	208	1202.780	ug/L	46.120	3	405	37274145	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:48:28

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	71374	2	Standard
	Cl	37		ug/L			7022462	7171814	0	Standard
>	Sc	45		ug/L			1325921	1292906	1	Standard
	V	51	275.017	ug/L	7.385	2	6809	7589828	2	Standard
	V-1	51	284.291	ug/L	2.983	1	436	7924905	1	Standard
	Cr	52	1139.853	ug/L	16.032	1	20151	26516963	0	Standard
	Cr	53	1139.948	ug/L	16.873	1	239	3103573	1	Standard
	Mn	55	1789.243	ug/L	25.307	1	676	59679466	0	Standard
>	Ge-1	72		ug/L			90111	83730	1	KED
	Ni	60	296.919	ug/L	0.998	0	15	415056	1	KED
	Ni	62	308.049	ug/L	7.469	2	5	65520	1	KED
	Cu	63	3021.665	ug/L	38.801	1	57	10665154	0	KED
	Cu	65	2905.359	ug/L	78.158	2	26	5108645	1	KED
	Zn	66	3292.276	ug/L	51.505	1	29	1629430	1	KED
	Zn	67	3099.556	ug/L	82.174	2	5	249064	1	KED
	As	75	53.954	ug/L	0.721	1	6	18528	0	KED
	Y	89		ug/L			753655	912615	3	Standard
	Kr	83		ug/L			50	148	10	Standard
>	In-1	115		ug/L			43083	38025	1	KED
	Cd	111	172.234	ug/L	1.927	1	5	78352	1	KED
	Cd	114	172.788	ug/L	4.403	2	6	197489	1	KED
>	Tb	159		ug/L			1051890	1010627	0	Standard
	Tl	205	0.072	ug/L	0.007	9	703	2443	6	Standard
	Pb	208	956.916	ug/L	20.612	2	405	30060753	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 14:52:56

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	76236	1	Standard
	Cl	**37**		ug/L			7022462	7024131	0	Standard
>	**Sc**	**45**		ug/L			1325921	1273954	0	Standard
	V	**51**	**380.685**	ug/L	7.392	1	6809	10349803	1	Standard
	V-1	**51**	**396.917**	ug/L	4.470	1	436	10901762	0	Standard
	Cr	**52**	**1181.154**	ug/L	4.515	0	20151	27076160	0	Standard
	Cr	**53**	**1206.288**	ug/L	13.649	1	239	3236120	1	Standard
	Mn	**55**	**1863.791**	ug/L	71.345	3	676	61246661	2	Standard
>	**Ge-1**	**72**		ug/L			90111	80918	1	KED
	Ni	**60**	**411.984**	ug/L	11.839	2	15	556383	1	KED
	Ni	**62**	**430.283**	ug/L	5.243	1	5	88453	0	KED
	Cu	**63**	**2889.446**	ug/L	59.184	2	57	9855463	0	KED
	Cu	**65**	**2832.442**	ug/L	51.164	1	26	4813648	0	KED
	Zn	**66**	**3960.490**	ug/L	46.976	1	29	1894342	1	KED
	Zn	**67**	**3880.619**	ug/L	86.931	2	5	301362	0	KED
	As	**75**	**79.114**	ug/L	1.168	1	6	26253	0	KED
	Y	**89**		ug/L			753655	898920	2	Standard
	Kr	**83**		ug/L			50	163	1	Standard
>	**In-1**	**115**		ug/L			43083	38168	1	KED
	Cd	**111**	**302.685**	ug/L	8.563	2	5	138181	1	KED
	Cd	**114**	**302.199**	ug/L	6.576	2	6	346741	1	KED
>	**Tb**	**159**		ug/L			1051890	1016466	2	Standard
	Tl	**205**	**24.133**	ug/L	0.748	3	703	596687	0	Standard
	Pb	**208**	**1354.308**	ug/L	42.084	3	405	42780762	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 14:58:28
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	19427	2	Standard
	Cl	**37**		ug/L			7022462	7044733	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1230134	1	Standard
|	**V**	**51**	**49.909**	ug/L	0.645	1	6809	1315835	1	Standard
|	**V-1**	**51**	**50.168**	ug/L	0.501	0	436	1330911	1	Standard
|	**Cr**	**52**	**49.683**	ug/L	1.081	2	20151	1117502	1	Standard
|	**Cr**	**53**	**50.538**	ug/L	1.124	2	239	131098	0	Standard
⌊	**Mn**	**55**	**50.209**	ug/L	1.422	2	676	1593818	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	80729	1	KED
|	**Ni**	**60**	**51.472**	ug/L	0.798	1	15	69376	0	KED
|	**Ni**	**62**	**51.544**	ug/L	1.434	2	5	10575	2	KED
|	**Cu**	**63**	**52.010**	ug/L	0.313	0	57	177060	0	KED
|	**Cu**	**65**	**51.188**	ug/L	1.269	2	26	86814	1	KED
|	**Zn**	**66**	**53.101**	ug/L	1.476	2	29	25364	2	KED
|	**Zn**	**67**	**52.857**	ug/L	0.720	1	5	4100	2	KED
⌊	**As**	**75**	**50.287**	ug/L	0.758	1	6	16651	0	KED
	Y	**89**		ug/L			753655	713790	1	Standard
	Kr	**83**		ug/L			50	82	27	Standard
⌈>	**In-1**	**115**		ug/L			43083	39572	1	KED
|	**Cd**	**111**	**50.245**	ug/L	0.575	1	5	23791	0	KED
⌊	**Cd**	**114**	**51.155**	ug/L	0.513	1	6	60865	0	KED
⌈>	**Tb**	**159**		ug/L			1051890	1006447	1	Standard
|	**Tl**	**205**	**52.939**	ug/L	0.710	1	703	1295613	1	Standard
⌊	**Pb**	**208**	**53.563**	ug/L	1.428	2	405	1675692	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:05:41
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18306	3	Standard
	Cl	**37**		ug/L			7022462	6964324	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1241547	1	Standard
|	**V**	**51**	**-0.004**	ug/L	0.004	80	6809	6257	1	Standard
|	**V-1**	**51**	**-0.003**	ug/L	0.001	15	436	316	3	Standard
|	**Cr**	**52**	**-0.025**	ug/L	0.006	25	20151	18315	1	Standard
|	**Cr**	**53**	**-0.021**	ug/L	0.006	30	239	169	9	Standard
⌊	**Mn**	**55**	**0.012**	ug/L	0.000	1	676	1003	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	82654	1	KED
|	**Ni**	**60**	**-0.000**	ug/L	0.001	340	15	13	15	KED
|	**Ni**	**62**	**0.005**	ug/L	0.023	432	5	6	75	KED
|	**Cu**	**63**	**0.023**	ug/L	0.004	16	57	132	11	KED
|	**Cu**	**65**	**0.027**	ug/L	0.008	29	26	71	18	KED
|	**Zn**	**66**	**0.019**	ug/L	0.010	51	29	36	11	KED
|	**Zn**	**67**	**0.005**	ug/L	0.037	712	5	5	57	KED
⌊	**As**	**75**	**0.003**	ug/L	0.009	275	6	7	44	KED
	Y	**89**		ug/L			753655	718837	1	Standard
	Kr	**83**		ug/L			50	61	25	Standard
⌈>	**In-1**	**115**		ug/L			43083	39303	2	KED
|	**Cd**	**111**	**0.008**	ug/L	0.011	136	5	8	58	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.006	193	6	9	74	KED
⌈>	**Tb**	**159**		ug/L			1051890	1004498	0	Standard
|	**Tl**	**205**	**-0.009**	ug/L	0.001	6	703	461	2	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.002	27	405	559	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0088-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:10:34

DEL

Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	26769	4	Standard
	Cl	37		ug/L			7022462	6997001	0	Standard
>	Sc	45		ug/L			1325921	1265840	1	Standard
	V	51	0.073	ug/L	0.015	20	6809	8472	3	Standard
	V-1	51	0.070	ug/L	0.005	7	436	2322	5	Standard
	Cr	52	0.229	ug/L	0.040	17	20151	24442	2	Standard
	Cr	53	0.213	ug/L	0.006	2	239	795	3	Standard
	Mn	55	0.690	ug/L	0.019	2	676	23162	1	Standard
>	Ge-1	72		ug/L			90111	83367	1	KED
	Ni	60	0.015	ug/L	0.004	28	15	36	15	KED
	Ni	62	0.008	ug/L	0.019	235	5	6	56	KED
	Cu	63	0.105	ug/L	0.025	24	57	420	19	KED
	Cu	65	0.092	ug/L	0.027	28	26	185	24	KED
	Zn	66	0.791	ug/L	0.027	3	29	417	1	KED
	Zn	67	0.679	ug/L	0.106	15	5	59	14	KED
	As	75	-0.002	ug/L	0.006	275	6	5	35	KED
	Y	89		ug/L			753655	716755	3	Standard
	Kr	83		ug/L			50	51	9	Standard
>	In-1	115		ug/L			43083	39342	0	KED
	Cd	111	0.038	ug/L	0.011	30	5	22	24	KED
	Cd	114	0.050	ug/L	0.005	9	6	64	9	KED
>	Tb	159		ug/L			1051890	1013777	2	Standard
	Tl	205	0.010	ug/L	0.003	29	703	914	5	Standard
	Pb	208	0.250	ug/L	0.006	2	405	8273	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0088-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:15:01
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	26869	2	Standard
	Cl	**37**		ug/L			7022462	7049499	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1257332	3	Standard
|	**V**	**51**	**25.276**	ug/L	1.252	4	6809	683626	1	Standard
|	**V-1**	**51**	**25.342**	ug/L	0.974	3	436	686815	1	Standard
|	**Cr**	**52**	**25.279**	ug/L	1.397	5	20151	589930	2	Standard
|	**Cr**	**53**	**25.492**	ug/L	0.595	2	239	67682	1	Standard
⌊	**Mn**	**55**	**25.747**	ug/L	0.596	2	676	835444	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	84484	3	KED
|	**Ni**	**60**	**25.390**	ug/L	1.277	5	15	35777	1	KED
|	**Ni**	**62**	**25.230**	ug/L	1.186	4	5	5414	1	KED
|	**Cu**	**63**	**27.169**	ug/L	0.879	3	57	96752	1	KED
|	**Cu**	**65**	**26.404**	ug/L	1.743	6	26	46806	3	KED
|	**Zn**	**66**	**79.088**	ug/L	5.687	7	29	39457	3	KED
|	**Zn**	**67**	**73.719**	ug/L	3.164	4	5	5976	0	KED
⌊	**As**	**75**	**23.510**	ug/L	0.749	3	6	8144	0	KED
	Y	**89**		ug/L			753655	718629	3	Standard
	Kr	**83**		ug/L			50	59	5	Standard
⌈>	**In-1**	**115**		ug/L			43083	38800	3	KED
|	**Cd**	**111**	**25.987**	ug/L	1.900	7	5	12045	3	KED
⌊	**Cd**	**114**	**26.435**	ug/L	1.546	5	6	30797	1	KED
⌈>	**Tb**	**159**		ug/L			1051890	1031401	1	Standard
|	**Tl**	**205**	**27.602**	ug/L	0.794	2	703	692598	2	Standard
⌊	**Pb**	**208**	**27.636**	ug/L	0.818	2	405	886239	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0041-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:19:29
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	853196	1	Standard
	Cl	37		ug/L			7022462	8757588	2	Standard
>	Sc	45		ug/L			1325921	1334149	1	Standard
	V	51	0.705	ug/L	0.062	8	6809	26940	7	Standard
	V-1	51	0.354	ug/L	0.010	2	436	10611	1	Standard
	Cr	52	7.782	ug/L	0.049	0	20151	206983	1	Standard
	Cr	53	6.383	ug/L	0.214	3	239	18167	1	Standard
	Mn	55	0.628	ug/L	0.008	1	676	22298	0	Standard
>	Ge-1	72		ug/L			90111	73636	2	KED
	Ni	60	8.692	ug/L	0.531	6	15	10689	4	KED
	Ni	62	8.951	ug/L	0.582	6	5	1678	5	KED
	Cu	63	1.244	ug/L	0.030	2	57	3908	0	KED
	Cu	65	1.189	ug/L	0.067	5	26	1860	4	KED
	Zn	66	3.036	ug/L	0.107	3	29	1345	1	KED
	Zn	67	5.308	ug/L	0.366	6	5	379	8	KED
	As	75	0.506	ug/L	0.035	6	6	158	8	KED
	Y	89		ug/L			753655	677075	3	Standard
	Kr	83		ug/L			50	95	11	Standard
>	In-1	115		ug/L			43083	35961	1	KED
	Cd	111	0.035	ug/L	0.002	6	5	19	5	KED
	Cd	114	0.041	ug/L	0.020	48	6	50	44	KED
>	Tb	159		ug/L			1051890	1101895	1	Standard
	Tl	205	0.189	ug/L	0.008	4	703	5800	3	Standard
	Pb	208	0.019	ug/L	0.003	17	405	1085	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0332-02RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:23:56
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	43142	3	Standard
	Cl	**37**		ug/L			7022462	9727142	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1360130	1	Standard
|	**V**	**51**	**1.444**	ug/L	0.023	1	6809	48881	2	Standard
|	**V-1**	**51**	**1.929**	ug/L	0.039	2	436	57007	1	Standard
|	**Cr**	**52**	**2.184**	ug/L	0.019	0	20151	74088	1	Standard
|	**Cr**	**53**	**3.747**	ug/L	0.156	4	239	10970	2	Standard
⌊	**Mn**	**55**	**0.274**	ug/L	0.013	4	676	10318	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	75706	1	KED
|	**Ni**	**60**	**0.605**	ug/L	0.010	1	15	777	2	KED
|	**Ni**	**62**	**0.573**	ug/L	0.031	5	5	114	4	KED
|	**Cu**	**63**	**1.138**	ug/L	0.019	1	57	3679	1	KED
|	**Cu**	**65**	**1.096**	ug/L	0.035	3	26	1764	3	KED
|	**Zn**	**66**	**2.952**	ug/L	0.078	2	29	1346	3	KED
|	**Zn**	**67**	**13.101**	ug/L	0.190	1	5	956	0	KED
⌊	**As**	**75**	**0.610**	ug/L	0.007	1	6	195	0	KED
	Y	**89**		ug/L			753655	690764	1	Standard
	Kr	**83**		ug/L			50	62	6	Standard
⌈>	**In-1**	**115**		ug/L			43083	35812	1	KED
|	**Cd**	**111**	**0.012**	ug/L	0.004	31	5	9	15	KED
⌊	**Cd**	**114**	**0.012**	ug/L	0.009	77	6	17	56	KED
⌈>	**Tb**	**159**		ug/L			1051890	1013832	1	Standard
|	**Tl**	**205**	**0.046**	ug/L	0.004	8	703	1810	5	Standard
⌊	**Pb**	**208**	**0.878**	ug/L	0.020	2	405	28045	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-01RE1
Sample Dil Factor: 400
Comments:
Sample Date/Time: Friday, July 06, 2018 15:28:24
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	25743	2	Standard
	Cl	37		ug/L			7022462	7104314	0	Standard
>	Sc	45		ug/L			1325921	1254875	0	Standard
	V	51	2.256	ug/L	0.076	3	6809	66827	2	Standard
	V-1	51	2.458	ug/L	0.079	3	436	66908	2	Standard
	Cr	52	18.167	ug/L	0.113	0	20151	428990	0	Standard
	Cr	53	18.271	ug/L	0.176	0	239	48501	0	Standard
	Mn	55	198.559	ug/L	3.729	1	676	6428994	1	Standard
>	Ge-1	72		ug/L			90111	83531	0	KED
	Ni	60	10.831	ug/L	0.147	1	15	15118	1	KED
	Ni	62	11.629	ug/L	0.172	1	5	2473	1	KED
	Cu	63	114.742	ug/L	1.960	1	57	404109	1	KED
	Cu	65	112.060	ug/L	2.895	2	26	196644	2	KED
	Zn	66	158.709	ug/L	2.683	1	29	78398	1	KED
	Zn	67	149.865	ug/L	5.542	3	5	12019	3	KED
	As	75	2.600	ug/L	0.014	0	6	897	1	KED
	Y	89		ug/L			753655	724063	1	Standard
	Kr	83		ug/L			50	52	14	Standard
>	In-1	115		ug/L			43083	39605	0	KED
	Cd	111	12.643	ug/L	0.205	1	5	5995	2	KED
	Cd	114	12.901	ug/L	0.291	2	6	15367	1	KED
>	Tb	159		ug/L			1051890	998943	2	Standard
	Tl	205	-0.012	ug/L	0.000	3	703	377	4	Standard
	Pb	208	39.981	ug/L	0.716	1	405	1241671	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-03RE1
Sample Dil Factor: 200
Comments:
Sample Date/Time: Friday, July 06, 2018 15:32:52
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	25413	1	Standard
	Cl	37		ug/L			7022462	7071942	1	Standard
>	Sc	45		ug/L			1325921	1240098	1	Standard
	V	51	9.847	ug/L	0.142	1	6809	266827	1	Standard
	V-1	51	10.055	ug/L	0.229	2	436	269271	3	Standard
	Cr	52	35.871	ug/L	0.341	0	20151	818696	0	Standard
	Cr	53	35.640	ug/L	0.719	2	239	93294	2	Standard
	Mn	55	145.076	ug/L	2.893	1	676	4643084	3	Standard
>	Ge-1	72		ug/L			90111	83540	1	KED
	Ni	60	19.660	ug/L	0.474	2	15	27425	0	KED
	Ni	62	20.415	ug/L	0.759	3	5	4337	3	KED
	Cu	63	101.169	ug/L	1.824	1	57	356326	1	KED
	Cu	65	98.438	ug/L	2.587	2	26	172770	3	KED
	Zn	66	192.464	ug/L	4.688	2	29	95059	2	KED
	Zn	67	180.639	ug/L	4.226	2	5	14487	1	KED
	As	75	4.921	ug/L	0.138	2	6	1691	2	KED
	Y	89		ug/L			753655	723409	0	Standard
	Kr	83		ug/L			50	45	29	Standard
>	In-1	115		ug/L			43083	39057	0	KED
	Cd	111	55.353	ug/L	1.066	1	5	25870	2	KED
	Cd	114	56.344	ug/L	0.591	1	6	66173	1	KED
>	Tb	159		ug/L			1051890	1015415	3	Standard
	Tl	205	-0.012	ug/L	0.002	19	703	392	11	Standard
	Pb	208	49.843	ug/L	1.044	2	405	1573051	1	Standard

Cu65
TH
07-09-18

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-04RE1
Sample Dil Factor: 200
Comments:
Sample Date/Time: Friday, July 06, 2018 15:37:19
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	24808	2	Standard
	Cl	37		ug/L			7022462	7039383	1	Standard
>	Sc	45		ug/L			1325921	1252063	1	Standard
	V	51	2.634	ug/L	0.767	29	6809	76884	27	Standard
	V-1	51	3.797	ug/L	0.154	4	436	102894	2	Standard
	Cr	52	74.300	ug/L	0.790	1	20151	1691718	0	Standard
	Cr	53	75.601	ug/L	3.074	4	239	199482	3	Standard
	Mn	55	233.875	ug/L	9.200	3	676	7553474	2	Standard
>	Ge-1	72		ug/L			90111	85325	1	KED
	Ni	60	8.073	ug/L	0.092	1	15	11512	0	KED
	Ni	62	8.228	ug/L	0.357	4	5	1788	2	KED
	Cu	63	38.630	ug/L	1.875	4	57	138942	3	KED
	Cu	65	38.486	ug/L	1.683	4	26	68965	2	KED
	Zn	66	164.057	ug/L	6.583	4	29	82756	3	KED
	Zn	67	153.724	ug/L	5.834	3	5	12589	2	KED
	As	75	0.944	ug/L	0.052	5	6	336	3	KED
	Y	89		ug/L			753655	747168	2	Standard
	Kr	83		ug/L			50	45	12	Standard
>	In-1	115		ug/L			43083	39916	1	KED
	Cd	111	2.405	ug/L	0.128	5	5	1153	6	KED
	Cd	114	2.489	ug/L	0.015	0	6	2993	2	KED
>	Tb	159		ug/L			1051890	995576	0	Standard
	Tl	205	-0.001	ug/L	0.000	41	703	640	0	Standard
	Pb	208	47.557	ug/L	0.437	0	405	1472231	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-02~~RE1~~
Sample Dil Factor: 400
Comments:
Sample Date/Time: Friday, July 06, 2018 15:41:47 MB 7/6/18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	21823	3	Standard
	Cl	37		ug/L			7022462	7071637	0	Standard
>	Sc	45		ug/L			1325921	1243180	0	Standard
	V	51	29.931	ug/L	0.569	1	6809	800034	1	Standard
	V-1	51	30.738	ug/L	0.450	1	436	824266	1	Standard
	Cr	52	57.351	ug/L	1.219	2	20151	1300851	1	Standard
	Cr	53	59.033	ug/L	0.822	1	239	154745	0	Standard
	Mn	55	124.167	ug/L	3.719	2	676	3983133	2	Standard
>	Ge-1	72		ug/L			90111	83802	1	KED
	Ni	60	15.417	ug/L	0.216	1	15	21580	0	KED
	Ni	62	15.921	ug/L	0.543	3	5	3394	2	KED
	Cu	63	293.425	ug/L	7.729	2	57	1036695	2	KED
	Cu	65	287.713	ug/L	2.178	0	26	506477	0	KED
	Zn	66	230.622	ug/L	3.603	1	29	114261	0	KED
	Zn	67	218.532	ug/L	4.973	2	5	17582	1	KED
	As	75	3.207	ug/L	0.149	4	6	1107	3	KED
	Y	89		ug/L			753655	735597	1	Standard
	Kr	83		ug/L			50	48	22	Standard
>	In-1	115		ug/L			43083	39961	1	KED
	Cd	111	6.204	ug/L	0.281	4	5	2970	4	KED
	Cd	114	6.182	ug/L	0.196	3	6	7431	1	KED
>	Tb	159		ug/L			1051890	1004875	2	Standard
	Tl	205	-0.015	ug/L	0.000	0	703	308	1	Standard
	Pb	208	70.305	ug/L	1.709	2	405	2195851	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-~~DUP2~~ DUP1
Sample Dil Factor: 400
Comments:
Sample Date/Time: Friday, July 06, 2018 15:46:14
MB 7/6/18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	21309	1	Standard
	Cl	37		ug/L			7022462	7039926	0	Standard
>	Sc	45		ug/L			1325921	1234891	1	Standard
	V	51	14.544	ug/L	0.530	3	6809	389368	3	Standard
	V-1	51	15.450	ug/L	0.305	1	436	411664	0	Standard
	Cr	52	60.786	ug/L	1.351	2	20151	1368245	1	Standard
	Cr	53	62.135	ug/L	1.576	2	239	161741	1	Standard
	Mn	55	99.631	ug/L	3.587	3	676	3173763	2	Standard
>	Ge-1	72		ug/L			90111	83235	0	KED
	Ni	60	16.602	ug/L	0.455	2	15	23085	3	KED
	Ni	62	17.295	ug/L	0.800	4	5	3662	4	KED
	Cu	63	177.799	ug/L	0.897	0	57	623961	0	KED
	Cu	65	175.612	ug/L	3.458	1	26	307099	2	KED
	Zn	66	201.075	ug/L	6.390	3	29	98962	3	KED
	Zn	67	186.159	ug/L	0.780	0	5	14878	0	KED
	As	75	3.004	ug/L	0.064	2	6	1031	1	KED
	Y	89		ug/L			753655	731857	3	Standard
	Kr	83		ug/L			50	48	6	Standard
>	In-1	115		ug/L			43083	39410	1	KED
	Cd	111	9.672	ug/L	0.384	3	5	4564	3	KED
	Cd	114	~~9.826~~	ug/L	0.159	1	6	11647	0	KED
>	Tb	159		ug/L			1051890	1000274	1	Standard
	Tl	205	~~-0.016~~	ug/L	0.001	6	703	285	9	Standard
	Pb	208	49.495	ug/L	0.309	0	405	1539428	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-~~MS2~~ MS1
Sample Dil Factor: 400
Comments:
Sample Date/Time: Friday, July 06, 2018 15:50:42 MB 7/6/18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units		Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L				18887	21485	0	Standard
	Cl	37		ug/L				7022462	7076470	0	Standard
⌈>	Sc	45		ug/L				1325921	1272081	1	Standard
|	V	51	19.399	ug/L		0.407	2	6809	532764	0	Standard
|	V-1	51	20.107	ug/L		0.218	1	436	551846	1	Standard
|	Cr	52	60.646	ug/L	STL	1.543	2	20151	1406162	0	Standard
|	Cr	53	61.521	ug/L		0.958	1	239	164998	1	Standard
⌊	Mn	55	96.755	ug/L		2.320	2	676	3175646	1	Standard
⌈>	Ge-1	72		ug/L				90111	84004	2	KED
|	Ni	60	22.070	ug/L	STL	0.479	2	15	30956	1	KED
|	Ni	62	23.395	ug/L		0.608	2	5	4997	2	KED
|	Cu	63	159.439	ug/L		4.031	2	57	564539	1	KED
|	Cu	65	157.719	ug/L		1.867	1	26	278299	2	KED
|	Zn	66	238.438	ug/L		5.727	2	29	118397	1	KED
|	Zn	67	228.530	ug/L	STL	3.279	1	5	18429	1	KED
⌊	As	75	4.317	ug/L		0.048	1	6	1493	2	KED
	Y	89		ug/L				753655	732301	0	Standard
	Kr	83		ug/L				50	41	19	Standard
⌈>	In-1	115		ug/L				43083	39238	2	KED
|	Cd	111	16.871	ug/L	STL	0.331	1	5	7922	0	KED
⌊	Cd	114	17.041	ug/L		0.215	1	6	20106	1	KED
⌈>	Tb	159		ug/L				1051890	1002202	0	Standard
|	Tl	205	1.245	ug/L		0.040	3	703	31005	3	Standard
⌊	Pb	208	70.665	ug/L	STL	0.825	1	405	2201974	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 15:56:15
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18988	2	Standard
	Cl	**37**		ug/L			7022462	6984701	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1243697	1	Standard
|	**V**	**51**	**49.057**	ug/L	1.075	2	6809	1307502	1	Standard
|	**V-1**	**51**	**49.466**	ug/L	0.717	1	436	1326608	0	Standard
|	**Cr**	**52**	**49.209**	ug/L	1.625	3	20151	1119013	1	Standard
|	**Cr**	**53**	**50.542**	ug/L	0.809	1	239	132558	0	Standard
⌊	**Mn**	**55**	**50.271**	ug/L	1.877	3	676	1613174	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	81764	2	KED
|	**Ni**	**60**	**50.407**	ug/L	1.549	3	15	68787	0	KED
|	**Ni**	**62**	**50.663**	ug/L	1.694	3	5	10524	1	KED
|	**Cu**	**63**	**51.148**	ug/L	1.553	3	57	176329	2	KED
|	**Cu**	**65**	**51.322**	ug/L	1.621	3	26	88140	2	KED
|	**Zn**	**66**	**51.326**	ug/L	0.324	0	29	24832	1	KED
|	**Zn**	**67**	**52.128**	ug/L	1.282	2	5	4094	0	KED
⌊	**As**	**75**	**50.076**	ug/L	1.217	2	6	16791	1	KED
	Y	**89**		ug/L			753655	738937	2	Standard
	Kr	**83**		ug/L			50	56	31	Standard
⌈>	**In-1**	**115**		ug/L			43083	38324	1	KED
|	**Cd**	**111**	**51.514**	ug/L	1.079	2	5	23618	0	KED
⌊	**Cd**	**114**	**52.878**	ug/L	1.013	1	6	60920	0	KED
⌈>	**Tb**	**159**		ug/L			1051890	987397	1	Standard
|	**Tl**	**205**	**51.707**	ug/L	2.188	4	703	1241307	3	Standard
⌊	**Pb**	**208**	**52.580**	ug/L	1.685	3	405	1613963	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:03:27
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	15985	3	Standard
	Cl	**37**		ug/L			7022462	7003489	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1241932	1	Standard
|	**V**	**51**	**0.004**	ug/L	0.027	673	6809	6486	11	Standard
|	**V-1**	**51**	**0.011**	ug/L	0.025	226	436	710	96	Standard
|	**Cr**	**52**	**-0.024**	ug/L	0.028	115	20151	18338	4	Standard
|	**Cr**	**53**	**0.000**	ug/L	0.024	7472	239	225	28	Standard
⌊	**Mn**	**55**	**0.021**	ug/L	0.035	165	676	1308	85	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	82602	4	KED
|	**Ni**	**60**	**-0.004**	ug/L	0.002	46	15	9	20	KED
|	**Ni**	**62**	**-0.010**	ug/L	0.014	152	5	3	91	KED
|	**Cu**	**63**	**-0.004**	ug/L	0.003	68	57	39	26	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.002	61	26	18	21	KED
|	**Zn**	**66**	**0.018**	ug/L	0.029	164	29	35	34	KED
|	**Zn**	**67**	**0.031**	ug/L	0.055	178	5	6	56	KED
⌊	**As**	**75**	**-0.002**	ug/L	0.001	47	6	5	0	KED
	Y	**89**		ug/L			753655	715142	3	Standard
	Kr	**83**		ug/L			50	45	7	Standard
⌈>	**In-1**	**115**		ug/L			43083	39821	0	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.003	94	5	3	45	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.005	162	6	9	61	KED
⌈>	**Tb**	**159**		ug/L			1051890	985447	1	Standard
|	**Tl**	**205**	**-0.005**	ug/L	0.019	399	703	546	81	Standard
⌊	**Pb**	**208**	**0.018**	ug/L	0.030	169	405	914	98	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0088-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:07:55
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	25785	1	Standard
	Cl	**37**		ug/L			7022462	7069850	1	Standard
>	**Sc**	**45**		ug/L			1325921	1288896	0	Standard
	V	**51**	**0.005**	ug/L	0.008	166	6809	6748	3	Standard
	V-1	**51**	**0.000**	ug/L	0.001	217	436	435	5	Standard
	Cr	**52**	**0.011**	ug/L	0.026	232	20151	19851	3	Standard
	Cr	**53**	**-0.003**	ug/L	0.001	49	239	224	1	Standard
	Mn	**55**	**0.117**	ug/L	0.002	1	676	4541	1	Standard
>	**Ge-1**	**72**		ug/L			90111	86261	2	KED
	Ni	**60**	**0.018**	ug/L	0.004	22	15	40	13	KED
	Ni	**62**	**-0.013**	ug/L	0.010	76	5	2	86	KED
	Cu	**63**	**0.083**	ug/L	0.005	6	57	356	4	KED
	Cu	**65**	**0.084**	ug/L	0.012	14	26	177	11	KED
	Zn	**66**	**0.849**	ug/L	0.004	0	29	461	2	KED
	Zn	**67**	**0.724**	ug/L	0.058	7	5	64	5	KED
	As	**75**	**-0.002**	ug/L	0.006	248	6	5	33	KED
	Y	**89**		ug/L			753655	723603	0	Standard
	Kr	**83**		ug/L			50	44	12	Standard
>	**In-1**	**115**		ug/L			43083	40415	2	KED
	Cd	**111**	**0.000**	ug/L	0.004	6855	5	4	34	KED
	Cd	**114**	**0.004**	ug/L	0.006	154	6	10	68	KED
>	**Tb**	**159**		ug/L			1051890	1012033	1	Standard
	Tl	**205**	**-0.012**	ug/L	0.001	11	703	386	7	Standard
	Pb	**208**	**0.008**	ug/L	0.001	12	405	627	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0007-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:12:23
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	43109	1	Standard
	Cl	37		ug/L			7022462	7433590	1	Standard
>	Sc	45		ug/L			1325921	1338098	1	Standard
	V	51	1.165	ug/L	0.505	43	6809	39981	34	Standard
	V-1	51	1.783	ug/L	0.047	2	436	51886	2	Standard
	Cr	52	43.730	ug/L	1.110	2	20151	1072270	1	Standard
	Cr	53	44.266	ug/L	0.488	1	239	124973	2	Standard
	Mn	55	24.713	ug/L	0.125	0	676	853839	1	Standard
>	Ge-1	72		ug/L			90111	75349	0	KED
	Ni	60	3.918	ug/L	0.049	1	15	4942	1	KED
	Ni	62	4.112	ug/L	0.166	4	5	791	3	KED
	Cu	63	8.825	ug/L	0.324	3	57	28080	3	KED
	Cu	65	8.634	ug/L	0.157	1	26	13688	1	KED
	Zn	66	3.601	ug/L	0.181	5	29	1629	5	KED
	Zn	67	3.620	ug/L	0.115	3	5	266	2	KED
	As	75	0.075	ug/L	0.016	20	6	28	16	KED
	Y	89		ug/L			753655	702626	0	Standard
	Kr	83		ug/L			50	69	21	Standard
>	In-1	115		ug/L			43083	34904	2	KED
	Cd	111	0.011	ug/L	0.007	60	5	8	32	KED
	Cd	114	0.006	ug/L	0.007	113	6	11	60	KED
>	Tb	159		ug/L			1051890	1054569	1	Standard
	Tl	205	0.033	ug/L	0.005	14	703	1537	6	Standard
	Pb	208	0.041	ug/L	0.002	5	405	1744	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0007-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:16:50
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	40606	1	Standard
	Cl	37		ug/L			7022462	7287786	1	Standard
>	Sc	45		ug/L			1325921	1316934	1	Standard
	V	51	0.334	ug/L	0.212	63	6809	16139	36	Standard
	V-1	51	1.108	ug/L	0.041	3	436	31878	3	Standard
	Cr	52	35.244	ug/L	1.139	3	20151	854499	2	Standard
	Cr	53	36.554	ug/L	0.557	1	239	101591	1	Standard
	Mn	55	21.407	ug/L	0.259	1	676	727991	1	Standard
>	Ge-1	72		ug/L			90111	75466	2	KED
	Ni	60	1.934	ug/L	0.086	4	15	2448	2	KED
	Ni	62	2.062	ug/L	0.182	8	5	400	8	KED
	Cu	63	7.951	ug/L	0.222	2	57	25345	3	KED
	Cu	65	7.782	ug/L	0.095	1	26	12356	1	KED
	Zn	66	3.611	ug/L	0.173	4	29	1635	2	KED
	Zn	67	3.479	ug/L	0.288	8	5	256	9	KED
	As	75	0.046	ug/L	0.009	18	6	20	11	KED
	Y	89		ug/L			753655	697384	3	Standard
	Kr	83		ug/L			50	71	25	Standard
>	In-1	115		ug/L			43083	36420	1	KED
	Cd	111	0.001	ug/L	0.010	817	5	4	87	KED
	Cd	114	0.013	ug/L	0.007	55	6	19	41	KED
>	Tb	159		ug/L			1051890	1040721	0	Standard
	Tl	205	0.006	ug/L	0.003	46	703	843	8	Standard
	Pb	208	0.047	ug/L	0.002	3	405	1934	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0087-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:21:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	42932	2	Standard
	Cl	37		ug/L			7022462	7295002	0	Standard
>	Sc	45		ug/L			1325921	1294827	1	Standard
	V	51	0.627	ug/L	0.276	43	6809	23913	31	Standard
	V-1	51	1.130	ug/L	0.040	3	436	31956	1	Standard
	Cr	52	36.204	ug/L	0.743	2	20151	862410	0	Standard
	Cr	53	36.606	ug/L	1.027	2	239	100024	2	Standard
	Mn	55	21.845	ug/L	0.540	2	676	730236	1	Standard
>	Ge-1	72		ug/L			90111	75443	1	KED
	Ni	60	1.918	ug/L	0.055	2	15	2429	4	KED
	Ni	62	2.096	ug/L	0.242	11	5	406	11	KED
	Cu	63	7.695	ug/L	0.158	2	57	24525	3	KED
	Cu	65	7.665	ug/L	0.202	2	26	12167	2	KED
	Zn	66	3.658	ug/L	0.122	3	29	1656	4	KED
	Zn	67	3.320	ug/L	0.320	9	5	244	8	KED
	As	75	0.051	ug/L	0.006	11	6	21	8	KED
	Y	89		ug/L			753655	708911	0	Standard
	Kr	83		ug/L			50	52	9	Standard
>	In-1	115		ug/L			43083	36489	2	KED
	Cd	111	0.015	ug/L	0.009	58	5	10	35	KED
	Cd	114	0.010	ug/L	0.008	76	6	16	53	KED
>	Tb	159		ug/L			1051890	1062107	2	Standard
	Tl	205	-0.003	ug/L	0.001	39	703	641	5	Standard
	Pb	208	0.049	ug/L	0.003	5	405	2013	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0087-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:25:46
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	43765	2	Standard
	Cl	37		ug/L			7022462	7426744	1	Standard
>	Sc	45		ug/L			1325921	1315109	1	Standard
	V	51	24.170	ug/L	0.690	2	6809	684569	1	Standard
	V-1	51	25.024	ug/L	0.370	1	436	709876	0	Standard
	Cr	52	56.972	ug/L	0.645	1	20151	1367082	0	Standard
	Cr	53	58.620	ug/L	0.560	0	239	162573	2	Standard
	Mn	55	43.314	ug/L	0.697	1	676	1470197	1	Standard
>	Ge-1	72		ug/L			90111	76848	0	KED
	Ni	60	27.083	ug/L	0.288	1	15	34758	1	KED
	Ni	62	27.192	ug/L	0.388	1	5	5314	1	KED
	Cu	63	32.524	ug/L	0.367	1	57	105421	1	KED
	Cu	65	32.335	ug/L	0.683	2	26	52220	2	KED
	Zn	66	74.436	ug/L	0.997	1	29	33840	1	KED
	Zn	67	70.619	ug/L	0.565	0	5	5213	0	KED
	As	75	24.020	ug/L	0.220	0	6	7575	1	KED
	Y	89		ug/L			753655	704523	3	Standard
	Kr	83		ug/L			50	74	5	Standard
>	In-1	115		ug/L			43083	36308	1	KED
	Cd	111	23.435	ug/L	0.426	1	5	10183	1	KED
	Cd	114	23.780	ug/L	0.344	1	6	25967	2	KED
>	Tb	159		ug/L			1051890	1049789	1	Standard
	Tl	205	25.229	ug/L	1.003	3	703	644165	2	Standard
	Pb	208	25.058	ug/L	0.279	1	405	818081	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0013-04
Sample Dil Factor: DEL
Comments:
Sample Date/Time: Friday, July 06, 2018 16:30:13
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	49356	0	Standard
	Cl	**37**		ug/L			7022462	7880744	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1437353	2	Standard
|	**V**	**51**	**5.093**	ug/L	0.056	1	6809	163495	1	Standard
|	**V-1**	**51**	**5.195**	ug/L	0.056	1	436	161438	1	Standard
|	**Cr**	**52**	**0.675**	ug/L	0.023	3	20151	39289	1	Standard
|	**Cr**	**53**	**1.164**	ug/L	0.032	2	239	3781	2	Standard
⌊	**Mn**	**55**	**1080.418**	ug/L	22.298	2	676	40055425	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	73649	2	KED
|	**Ni**	**60**	**2.212**	ug/L	0.108	4	15	2730	2	KED
|	**Ni**	**62**	**2.304**	ug/L	0.211	9	5	436	10	KED
|	**Cu**	**63**	**0.111**	ug/L	0.003	2	57	391	1	KED
|	**Cu**	**65**	**0.106**	ug/L	0.008	7	26	185	4	KED
|	**Zn**	**66**	**1.643**	ug/L	0.030	1	29	739	1	KED
|	**Zn**	**67**	**3.802**	ug/L	0.153	4	5	273	5	KED
⌊	**As**	**75**	**1.866**	ug/L	0.497	26	6	566	23	KED
	Y	**89**		ug/L			753655	677844	1	Standard
	Kr	**83**		ug/L			50	88	12	Standard
⌈>	**In-1**	**115**		ug/L			43083	35475	0	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.004	448	5	3	43	KED
⌊	**Cd**	**114**	**0.005**	ug/L	0.005	85	6	10	45	KED
⌈>	**Tb**	**159**		ug/L			1051890	1066793	2	Standard
|	**Tl**	**205**	**-0.009**	ug/L	0.001	6	703	471	5	Standard
⌊	**Pb**	**208**	**0.012**	ug/L	0.001	9	405	793	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0013-06
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:34:41
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	29923	2	Standard
	Cl	**37**		ug/L			7022462	7199963	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1290156	1	Standard
|	**V**	**51**	**0.028**	ug/L	0.001	4	6809	7398	1	Standard
|	**V-1**	**51**	**0.033**	ug/L	0.002	5	436	1352	4	Standard
|	**Cr**	**52**	**0.139**	ug/L	0.016	11	20151	22838	0	Standard
|	**Cr**	**53**	**0.153**	ug/L	0.014	9	239	647	4	Standard
⌊	**Mn**	**55**	**0.217**	ug/L	0.003	1	676	7864	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87762	1	KED
|	**Ni**	**60**	**0.015**	ug/L	0.002	12	15	38	8	KED
|	**Ni**	**62**	**0.018**	ug/L	0.009	49	5	9	20	KED
|	**Cu**	**63**	**0.560**	ug/L	0.018	3	57	2127	1	KED
|	**Cu**	**65**	**0.571**	ug/L	0.040	7	26	1077	6	KED
|	**Zn**	**66**	**1.245**	ug/L	0.070	5	29	674	5	KED
|	**Zn**	**67**	**1.058**	ug/L	0.206	19	5	93	17	KED
⌊	**As**	**75**	**0.003**	ug/L	0.003	106	6	7	15	KED
	Y	**89**		ug/L			753655	730108	3	Standard
	Kr	**83**		ug/L			50	39	24	Standard
⌈>	**In-1**	**115**		ug/L			43083	42097	1	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.007	237	5	3	103	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.002	106	6	3	93	KED
⌈>	**Tb**	**159**		ug/L			1051890	1067009	3	Standard
|	**Tl**	**205**	**-0.020**	ug/L	0.001	2	703	205	9	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.001	14	405	580	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0013-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:39:09
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	51400	2	Standard
	Cl	**37**		ug/L			7022462	7766466	0	Standard
>	**Sc**	**45**		ug/L			1325921	1414231	2	Standard
	V	**51**	**5.029**	ug/L	0.223	4	6809	158866	1	Standard
	V-1	**51**	**5.135**	ug/L	0.211	4	436	156931	1	Standard
	Cr	**52**	**0.684**	ug/L	0.039	5	20151	38878	0	Standard
	Cr	**53**	**1.182**	ug/L	0.018	1	239	3774	1	Standard
	Mn	**55**	**1089.727**	ug/L	23.918	2	676	39749032	1	Standard
>	**Ge-1**	**72**		ug/L			90111	75010	0	KED
	Ni	**60**	**2.177**	ug/L	0.081	3	15	2739	4	KED
	Ni	**62**	**2.131**	ug/L	0.106	4	5	410	4	KED
	Cu	**63**	**0.129**	ug/L	0.013	9	57	455	8	KED
	Cu	**65**	**0.143**	ug/L	0.009	6	26	247	6	KED
	Zn	**66**	**1.574**	ug/L	0.155	9	29	722	9	KED
	Zn	**67**	**4.026**	ug/L	0.488	12	5	293	11	KED
	As	**75**	**1.656**	ug/L	0.081	4	6	514	4	KED
	Y	**89**		ug/L			753655	695620	1	Standard
	Kr	**83**		ug/L			50	95	10	Standard
>	**In-1**	**115**		ug/L			43083	34957	2	KED
	Cd	**111**	**-0.004**	ug/L	0.001	38	5	2	21	KED
	Cd	**114**	**0.001**	ug/L	0.003	301	6	6	49	KED
>	**Tb**	**159**		ug/L			1051890	1074642	2	Standard
	Tl	**205**	**-0.013**	ug/L	0.000	0	703	382	2	Standard
	Pb	**208**	**0.008**	ug/L	0.001	9	405	691	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0088-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:43:36
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	52338	1	Standard
	Cl	**37**		ug/L			7022462	7955870	2	Standard
>	**Sc**	**45**		ug/L			1325921	1466775	0	Standard
	V	**51**	**5.063**	ug/L	0.050	0	6809	165933	0	Standard
	V-1	**51**	**5.175**	ug/L	0.054	1	436	164121	0	Standard
	Cr	**52**	**0.681**	ug/L	0.025	3	20151	40242	0	Standard
	Cr	**53**	**1.199**	ug/L	0.039	3	239	3968	2	Standard
	Mn	**55**	**1094.133**	ug/L	33.990	3	676	41399348	2	Standard
>	**Ge-1**	**72**		ug/L			90111	74354	0	KED
	Ni	**60**	**2.292**	ug/L	0.060	2	15	2858	3	KED
	Ni	**62**	**2.388**	ug/L	0.096	4	5	455	4	KED
	Cu	**63**	**0.152**	ug/L	0.013	8	57	522	8	KED
	Cu	**65**	**0.154**	ug/L	0.013	8	26	262	8	KED
	Zn	**66**	**1.660**	ug/L	0.064	3	29	754	3	KED
	Zn	**67**	**3.812**	ug/L	0.207	5	5	276	4	KED
	As	**75**	**1.732**	ug/L	0.055	3	6	533	3	KED
	Y	**89**		ug/L			753655	712857	0	Standard
	Kr	**83**		ug/L			50	100	8	Standard
>	**In-1**	**115**		ug/L			43083	36192	1	KED
	Cd	**111**	**-0.000**	ug/L	0.005	1476	5	4	58	KED
	Cd	**114**	**0.009**	ug/L	0.004	44	6	14	27	KED
>	**Tb**	**159**		ug/L			1051890	1089689	2	Standard
	Tl	**205**	**-0.014**	ug/L	0.001	3	703	352	3	Standard
	Pb	**208**	**0.011**	ug/L	0.002	18	405	779	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0088-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:48:04
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	49367	0	Standard
	Cl	37		ug/L			7022462	8035100	2	Standard
>	Sc	45		ug/L			1325921	1499921	0	Standard
	V	51	26.735	ug/L	0.324	1	6809	863022	0	Standard
	V-1	51	26.889	ug/L	0.293	1	436	870011	0	Standard
	Cr	52	21.136	ug/L	0.150	0	20151	592852	0	Standard
	Cr	53	21.834	ug/L	0.284	1	239	69227	1	Standard
	Mn	55	1068.414	ug/L	21.020	1	676	41344429	1	Standard
>	Ge-1	72		ug/L			90111	75389	1	KED
	Ni	60	26.916	ug/L	0.774	2	15	33881	2	KED
	Ni	62	27.893	ug/L	0.927	3	5	5345	2	KED
	Cu	63	25.038	ug/L	0.913	3	57	79600	2	KED
	Cu	65	24.114	ug/L	0.610	2	26	38204	1	KED
	Zn	66	72.634	ug/L	0.349	0	29	32395	1	KED
	Zn	67	70.968	ug/L	1.053	1	5	5139	0	KED
	As	75	26.654	ug/L	0.321	1	6	8244	0	KED
	Y	89		ug/L			753655	721298	2	Standard
	Kr	83		ug/L			50	113	11	Standard
>	In-1	115		ug/L			43083	36512	1	KED
	Cd	111	22.902	ug/L	0.142	0	5	10008	1	KED
	Cd	114	23.068	ug/L	0.299	1	6	25327	1	KED
>	Tb	159		ug/L			1051890	1073714	3	Standard
	Tl	205	24.566	ug/L	1.028	4	703	641252	0	Standard
	Pb	208	24.200	ug/L	0.616	2	405	807688	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 16:53:36
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	20616	2	Standard
	Cl	**37**		ug/L			7022462	7261637	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1286938	1	Standard
|	**V**	**51**	**49.848**	ug/L	0.565	1	6809	1374876	1	Standard
|	**V-1**	**51**	**49.627**	ug/L	0.460	0	436	1377326	0	Standard
|	**Cr**	**52**	**49.728**	ug/L	0.660	1	20151	1170254	1	Standard
|	**Cr**	**53**	**49.010**	ug/L	0.971	1	239	133022	1	Standard
⌊	**Mn**	**55**	**50.446**	ug/L	1.296	2	676	1675295	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	86087	0	KED
|	**Ni**	**60**	**48.808**	ug/L	0.776	1	15	70154	1	KED
|	**Ni**	**62**	**49.362**	ug/L	2.006	4	5	10800	3	KED
|	**Cu**	**63**	**51.579**	ug/L	0.751	1	57	187270	2	KED
|	**Cu**	**65**	**50.051**	ug/L	0.414	0	26	90532	1	KED
|	**Zn**	**66**	**50.651**	ug/L	1.179	2	29	25801	1	KED
|	**Zn**	**67**	**51.407**	ug/L	1.190	2	5	4252	2	KED
⌊	**As**	**75**	**48.861**	ug/L	0.129	0	6	17254	0	KED
	Y	**89**		ug/L			753655	730074	2	Standard
	Kr	**83**		ug/L			50	54	15	Standard
⌈>	**In-1**	**115**		ug/L			43083	40498	1	KED
|	**Cd**	**111**	**51.557**	ug/L	0.495	0	5	24985	1	KED
⌊	**Cd**	**114**	**52.111**	ug/L	0.830	1	6	63451	0	KED
⌈>	**Tb**	**159**		ug/L			1051890	1056518	1	Standard
|	**Tl**	**205**	**51.369**	ug/L	0.204	0	703	1319933	2	Standard
⌊	**Pb**	**208**	**52.329**	ug/L	1.427	2	405	1718620	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:00:48
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	16965	0	Standard
	Cl	**37**		ug/L			7022462	7214991	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1283296	1	Standard
|	**V**	**51**	**-0.010**	ug/L	0.001	14	6809	6323	1	Standard
|	**V-1**	**51**	**0.002**	ug/L	0.001	65	436	472	5	Standard
|	**Cr**	**52**	**-0.037**	ug/L	0.002	5	20151	18646	1	Standard
|	**Cr**	**53**	**0.002**	ug/L	0.002	143	239	235	3	Standard
⌊	**Mn**	**55**	**0.007**	ug/L	0.001	17	676	872	4	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87770	0	KED
|	**Ni**	**60**	**0.001**	ug/L	0.002	220	15	17	22	KED
|	**Ni**	**62**	**0.029**	ug/L	0.026	89	5	12	48	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.003	53	57	38	25	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.002	121	26	23	12	KED
|	**Zn**	**66**	**0.031**	ug/L	0.011	36	29	45	12	KED
|	**Zn**	**67**	**0.009**	ug/L	0.045	504	5	5	66	KED
⌊	**As**	**75**	**-0.002**	ug/L	0.004	211	6	6	22	KED
	Y	**89**		ug/L			753655	745242	2	Standard
	Kr	**83**		ug/L			50	46	6	Standard
⌈>	**In-1**	**115**		ug/L			43083	41682	3	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.007	294	5	3	86	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	2236	6	6	46	KED
⌈>	**Tb**	**159**		ug/L			1051890	1017535	1	Standard
|	**Tl**	**205**	**-0.015**	ug/L	0.001	5	703	309	6	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.001	116	405	406	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0687-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 17:06:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	22193	2	Standard
	Cl	**37**		ug/L			7022462	7121527	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1309658	1	Standard
|	**V**	**51**	**0.027**	ug/L	0.009	32	6809	7484	2	Standard
|	**V-1**	**51**	**0.030**	ug/L	0.001	4	436	1288	4	Standard
|	**Cr**	**52**	**0.011**	ug/L	0.030	277	20151	20150	2	Standard
|	**Cr**	**53**	**0.022**	ug/L	0.004	19	239	295	3	Standard
⌊	**Mn**	**55**	**0.059**	ug/L	0.001	1	676	2658	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	88391	2	KED
|	**Ni**	**60**	**0.004**	ug/L	0.002	46	15	21	13	KED
|	**Ni**	**62**	**0.023**	ug/L	0.009	39	5	10	20	KED
|	**Cu**	**63**	**0.094**	ug/L	0.007	7	57	406	8	KED
|	**Cu**	**65**	**0.092**	ug/L	0.016	17	26	196	13	KED
|	**Zn**	**66**	**0.290**	ug/L	0.045	15	29	180	13	KED
|	**Zn**	**67**	**0.308**	ug/L	0.034	10	5	31	9	KED
⌊	**As**	**75**	**0.015**	ug/L	0.008	52	6	12	25	KED
	Y	**89**		ug/L			753655	736837	1	Standard
	Kr	**83**		ug/L			50	46	6	Standard
⌈>	**In-1**	**115**		ug/L			43083	41730	2	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.006	200	5	3	83	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.004	125	6	9	48	KED
⌈>	**Tb**	**159**		ug/L			1051890	1054008	2	Standard
|	**Tl**	**205**	**-0.018**	ug/L	0.001	3	703	244	5	Standard
⌊	**Pb**	**208**	**0.038**	ug/L	0.002	4	405	1662	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0687-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 17:10:45
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	21322	0	Standard
	Cl	37		ug/L			7022462	7163737	0	Standard
⌈>	Sc	45		ug/L			1325921	1275226	1	Standard
|	V	51	24.017	ug/L	0.260	1	6809	659808	1	Standard
|	V-1	51	24.198	ug/L	0.115	0	436	665741	1	Standard
|	Cr	52	24.223	ug/L	0.522	2	20151	574769	1	Standard
|	Cr	53	24.807	ug/L	0.550	2	239	66846	2	Standard
⌊	Mn	55	24.590	ug/L	0.575	2	676	809548	1	Standard
⌈>	Ge-1	72		ug/L			90111	85396	0	KED
|	Ni	60	24.346	ug/L	0.535	2	15	34720	1	KED
|	Ni	62	24.565	ug/L	0.084	0	5	5334	0	KED
|	Cu	63	25.161	ug/L	0.863	3	57	90643	3	KED
|	Cu	65	24.804	ug/L	0.414	1	26	44516	1	KED
|	Zn	66	77.093	ug/L	2.098	2	29	38941	2	KED
|	Zn	67	71.512	ug/L	3.116	4	5	5865	3	KED
⌊	As	75	22.522	ug/L	0.541	2	6	7892	1	KED
	Y	89		ug/L			753655	729716	1	Standard
	Kr	83		ug/L			50	58	12	Standard
⌈>	In-1	115		ug/L			43083	41198	0	KED
|	Cd	111	23.318	ug/L	0.405	1	5	11497	1	KED
⌊	Cd	114	24.421	ug/L	0.440	1	6	30256	2	KED
⌈>	Tb	159		ug/L			1051890	997468	1	Standard
|	Tl	205	26.059	ug/L	0.590	2	703	632508	2	Standard
⌊	Pb	208	26.393	ug/L	0.665	2	405	818653	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 17:15:12
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	30142	2	Standard
	Cl	37		ug/L			7022462	7009407	1	Standard
>	Sc	45		ug/L			1325921	1468408	1	Standard
	V	51	41.544	ug/L	0.223	0	6809	1308734	1	Standard
	V-1	51	41.488	ug/L	0.335	0	436	1313892	0	Standard
	Cr	52	30.518	ug/L	0.727	2	20151	828031	1	Standard
	Cr	53	30.722	ug/L	1.253	4	239	95217	2	Standard
	Mn	55	242.686	ug/L	5.007	2	676	9193445	1	Standard
>	Ge-1	72		ug/L			90111	84631	2	KED
	Ni	60	28.680	ug/L	1.118	3	15	40504	1	KED
	Ni	62	29.515	ug/L	0.508	1	5	6349	1	KED
	Cu	63	64.168	ug/L	1.720	2	57	228883	0	KED
	Cu	65	62.848	ug/L	1.478	2	26	111708	1	KED
	Zn	66	238.574	ug/L	7.666	3	29	119308	0	KED
	Zn	67	239.891	ug/L	8.744	3	5	19479	0	KED
	As	75	5.543	ug/L	0.043	0	6	1929	2	KED
	Y	89		ug/L			753655	1094393	0	Standard
	Kr	83		ug/L			50	123	25	Standard
>	In-1	115		ug/L			43083	41540	2	KED
	Cd	111	0.848	ug/L	0.073	8	5	425	6	KED
	Cd	114	0.857	ug/L	0.092	10	6	1075	8	KED
>	Tb	159		ug/L			1051890	1083059	3	Standard
	Tl	205	0.064	ug/L	0.004	6	703	2404	4	Standard
	Pb	208	176.311	ug/L	5.865	3	405	5932710	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 17:19:39
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	28289	2	Standard
	Cl	**37**		ug/L			7022462	7200943	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1458079	0	Standard
|	**V**	**51**	**33.784**	ug/L	0.891	2	6809	1058166	2	Standard
|	**V-1**	**51**	**33.607**	ug/L	0.867	2	436	1056954	2	Standard
|	**Cr**	**52**	**15.555**	ug/L	0.258	1	20151	429960	1	Standard
|	**Cr**	**53**	**15.614**	ug/L	0.238	1	239	48198	1	Standard
⌊	**Mn**	**55**	**200.261**	ug/L	5.561	2	676	7534266	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87042	1	KED
|	**Ni**	**60**	**16.399**	ug/L	0.284	1	15	23840	0	KED
|	**Ni**	**62**	**17.619**	ug/L	1.224	6	5	3899	5	KED
|	**Cu**	**63**	**15.909**	ug/L	0.887	5	57	58417	4	KED
|	**Cu**	**65**	**15.269**	ug/L	0.307	2	26	27947	3	KED
|	**Zn**	**66**	**92.722**	ug/L	0.573	0	29	47734	0	KED
|	**Zn**	**67**	**92.715**	ug/L	3.837	4	5	7748	2	KED
⌊	**As**	**75**	**2.520**	ug/L	0.034	1	6	906	2	KED
	Y	**89**		ug/L			753655	1024258	1	Standard
	Kr	**83**		ug/L			50	114	5	Standard
⌈>	**In-1**	**115**		ug/L			43083	40967	0	KED
|	**Cd**	**111**	**0.074**	ug/L	0.016	21	5	41	19	KED
⌊	**Cd**	**114**	**0.078**	ug/L	0.008	9	6	101	9	KED
⌈>	**Tb**	**159**		ug/L			1051890	1080795	0	Standard
|	**Tl**	**205**	**0.025**	ug/L	0.001	4	703	1373	2	Standard
⌊	**Pb**	**208**	**3.875**	ug/L	0.035	0	405	130592	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0335-02RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:24:07
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	35817	1	Standard
	Cl	**37**		ug/L			7022462	7337385	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1382983	0	Standard
|	**V**	**51**	**1.133**	ug/L	0.014	1	6809	40535	1	Standard
|	**V-1**	**51**	**1.235**	ug/L	0.017	1	436	37267	1	Standard
|	**Cr**	**52**	**0.702**	ug/L	0.022	3	20151	38466	1	Standard
|	**Cr**	**53**	**1.048**	ug/L	0.032	3	239	3301	2	Standard
⌊	**Mn**	**55**	**0.145**	ug/L	0.004	2	676	5892	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	75344	1	KED
|	**Ni**	**60**	**1.477**	ug/L	0.020	1	15	1870	1	KED
|	**Ni**	**62**	**1.368**	ug/L	0.067	4	5	266	5	KED
|	**Cu**	**63**	**1.526**	ug/L	0.059	3	57	4893	3	KED
|	**Cu**	**65**	**1.515**	ug/L	0.047	3	26	2419	2	KED
|	**Zn**	**66**	**1.025**	ug/L	0.102	9	29	481	9	KED
|	**Zn**	**67**	**6.950**	ug/L	0.668	9	5	506	8	KED
⌊	**As**	**75**	**1.171**	ug/L	0.026	2	6	367	1	KED
	Y	**89**		ug/L			753655	703714	2	Standard
	Kr	**83**		ug/L			50	88	23	Standard
⌈>	**In-1**	**115**		ug/L			43083	36699	0	KED
|	**Cd**	**111**	**0.075**	ug/L	0.009	12	5	37	11	KED
⌊	**Cd**	**114**	**0.117**	ug/L	0.021	17	6	133	16	KED
⌈>	**Tb**	**159**		ug/L			1051890	1055497	0	Standard
|	**Tl**	**205**	**0.006**	ug/L	0.002	29	703	855	4	Standard
⌊	**Pb**	**208**	**0.008**	ug/L	0.000	1	405	677	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0335-04RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:28:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	33259	1	Standard
	Cl	**37**		ug/L			7022462	7153582	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1280747	8	Standard
|	**V**	**51**	**1.426**	ug/L	0.153	10	6809	45304	0	Standard
|	**V-1**	**51**	**1.450**	ug/L	0.140	9	436	40255	1	Standard
|	**Cr**	**52**	**0.473**	ug/L	0.106	22	20151	30229	0	Standard
|	**Cr**	**53**	**0.586**	ug/L	0.066	11	239	1801	2	Standard
⌊	**Mn**	**55**	**19.329**	ug/L	1.879	9	676	635894	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	78354	0	KED
|	**Ni**	**60**	**2.054**	ug/L	0.094	4	15	2699	3	KED
|	**Ni**	**62**	**2.141**	ug/L	0.168	7	5	431	7	KED
|	**Cu**	**63**	**0.768**	ug/L	0.003	0	57	2584	0	KED
|	**Cu**	**65**	**0.744**	ug/L	0.012	1	26	1248	2	KED
|	**Zn**	**66**	**1.290**	ug/L	0.056	4	29	623	3	KED
|	**Zn**	**67**	**5.396**	ug/L	0.187	3	5	410	2	KED
⌊	**As**	**75**	**1.538**	ug/L	0.039	2	6	500	2	KED
	Y	**89**		ug/L			753655	674714	10	Standard
	Kr	**83**		ug/L			50	69	15	Standard
⌈>	**In-1**	**115**		ug/L			43083	37765	1	KED
|	**Cd**	**111**	**0.065**	ug/L	0.010	15	5	33	11	KED
⌊	**Cd**	**114**	**0.060**	ug/L	0.006	9	6	73	10	KED
⌈>	**Tb**	**159**		ug/L			1051890	1014983	10	Standard
|	**Tl**	**205**	**-0.002**	ug/L	0.004	165	703	619	2	Standard
⌊	**Pb**	**208**	**0.032**	ug/L	0.004	13	405	1387	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0335-06RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:33:02
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	34209	0	Standard
	Cl	**37**		ug/L			7022462	7145267	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1347376	2	Standard
|	**V**	**51**	**0.894**	ug/L	0.011	1	6809	32608	1	Standard
|	**V-1**	**51**	**0.959**	ug/L	0.022	2	436	28296	1	Standard
|	**Cr**	**52**	**0.617**	ug/L	0.008	1	20151	35427	2	Standard
|	**Cr**	**53**	**0.840**	ug/L	0.032	3	239	2624	1	Standard
⌊	**Mn**	**55**	**0.313**	ug/L	0.035	11	676	11565	10	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	76965	0	KED
|	**Ni**	**60**	**0.990**	ug/L	0.009	0	15	1285	0	KED
|	**Ni**	**62**	**0.875**	ug/L	0.109	12	5	175	11	KED
|	**Cu**	**63**	**0.741**	ug/L	0.018	2	57	2454	2	KED
|	**Cu**	**65**	**0.755**	ug/L	0.016	2	26	1243	1	KED
|	**Zn**	**66**	**1.187**	ug/L	0.059	4	29	565	4	KED
|	**Zn**	**67**	**4.307**	ug/L	0.419	9	5	322	9	KED
⌊	**As**	**75**	**1.184**	ug/L	0.018	1	6	379	1	KED
	Y	**89**		ug/L			753655	696436	4	Standard
	Kr	**83**		ug/L			50	57	8	Standard
⌈>	**In-1**	**115**		ug/L			43083	36457	0	KED
|	**Cd**	**111**	**0.039**	ug/L	0.009	23	5	21	18	KED
⌊	**Cd**	**114**	**0.035**	ug/L	0.005	15	6	43	14	KED
⌈>	**Tb**	**159**		ug/L			1051890	1050596	1	Standard
|	**Tl**	**205**	**-0.010**	ug/L	0.002	15	703	436	8	Standard
⌊	**Pb**	**208**	**0.017**	ug/L	0.012	72	405	953	40	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18G0027-02RE1
Sample Dil Factor: 1000
Comments:
Sample Date/Time: Friday, July 06, 2018 17:37:30
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	19626	2	Standard
	Cl	**37**		ug/L			7022462	7171946	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1265544	1	Standard
|	**V**	**51**	**9.616**	ug/L	0.058	0	6809	266077	1	Standard
|	**V-1**	**51**	**9.832**	ug/L	0.142	1	436	268658	0	Standard
|	**Cr**	**52**	**18.233**	ug/L	0.141	0	20151	434117	1	Standard
|	**Cr**	**53**	**18.638**	ug/L	0.443	2	239	49880	0	Standard
⌊	**Mn**	**55**	**38.791**	ug/L	0.465	1	676	1267222	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	83915	1	KED
|	**Ni**	**60**	**4.809**	ug/L	0.227	4	15	6747	3	KED
|	**Ni**	**62**	**4.904**	ug/L	0.245	5	5	1050	3	KED
|	**Cu**	**63**	**94.352**	ug/L	2.376	2	57	333767	1	KED
|	**Cu**	**65**	**92.722**	ug/L	1.123	1	26	163447	0	KED
|	**Zn**	**66**	**77.167**	ug/L	1.961	2	29	38296	1	KED
|	**Zn**	**67**	**70.731**	ug/L	3.273	4	5	5699	3	KED
⌊	**As**	**75**	**1.049**	ug/L	0.024	2	6	367	0	KED
	Y	**89**		ug/L			753655	726769	0	Standard
	Kr	**83**		ug/L			50	40	28	Standard
⌈>	**In-1**	**115**		ug/L			43083	41365	3	KED
|	**Cd**	**111**	**1.942**	ug/L	0.092	4	5	965	1	KED
⌊	**Cd**	**114**	**1.908**	ug/L	0.036	1	6	2378	1	KED
⌈>	**Tb**	**159**		ug/L			1051890	1048655	1	Standard
|	**Tl**	**205**	**-0.018**	ug/L	0.002	9	703	243	19	Standard
⌊	**Pb**	**208**	**23.039**	ug/L	0.364	1	405	751546	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-DUP2
Sample Dil Factor: 1000
Comments:
Sample Date/Time: Friday, July 06, 2018 17:41:57
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	20095	2	Standard
	Cl	**37**		ug/L			7022462	7232547	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1315957	1	Standard
|	**V**	**51**	**5.193**	ug/L	0.087	1	6809	152532	2	Standard
|	**V-1**	**51**	**5.381**	ug/L	0.068	1	436	153094	1	Standard
|	**Cr**	**52**	**22.067**	ug/L	0.183	0	20151	542144	1	Standard
|	**Cr**	**53**	**22.090**	ug/L	0.315	1	239	61442	0	Standard
⌊	**Mn**	**55**	**34.238**	ug/L	0.333	0	676	1163107	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	86979	0	KED
|	**Ni**	**60**	**6.203**	ug/L	0.209	3	15	9021	2	KED
|	**Ni**	**62**	**6.271**	ug/L	0.496	7	5	1391	7	KED
|	**Cu**	**63**	**62.732**	ug/L	1.329	2	57	230083	1	KED
|	**Cu**	**65**	**62.284**	ug/L	0.452	0	26	113825	1	KED
|	**Zn**	**66**	**74.023**	ug/L	1.985	2	29	38089	2	KED
|	**Zn**	**67**	**67.299**	ug/L	0.803	1	5	5623	1	KED
⌊	**As**	**75**	**1.109**	ug/L	0.055	4	6	401	4	KED
	Y	**89**		ug/L			753655	736590	1	Standard
	Kr	**83**		ug/L			50	43	27	Standard
⌈>	**In-1**	**115**		ug/L			43083	41525	1	KED
|	**Cd**	**111**	**3.453**	ug/L	0.068	1	5	1720	2	KED
⌊	**Cd**	**114**	**3.449**	ug/L	0.094	2	6	4311	1	KED
⌈>	**Tb**	**159**		ug/L			1051890	1047610	1	Standard
|	**Tl**	**205**	**-0.020**	ug/L	0.001	4	703	196	12	Standard
⌊	**Pb**	**208**	**17.978**	ug/L	0.462	2	405	585729	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGG0086-MS2
Sample Dil Factor: 1000
Comments:
Sample Date/Time: Friday, July 06, 2018 17:46:25
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units		Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				18887	19834	4	Standard
	Cl	**37**		ug/L				7022462	7183651	2	Standard
>	**Sc**	**45**		ug/L				1325921	1288057	4	Standard
	V	**51**	**7.506**	ug/L		0.140	1	6809	212792	3	Standard
	V-1	**51**	**7.650**	ug/L		0.252	3	436	212819	4	Standard
	Cr	**52**	**23.371**	ug/L		0.927	3	20151	560374	1	Standard
	Cr	**53**	**23.289**	ug/L		1.195	5	239	63330	3	Standard
	Mn	**55**	**36.838**	ug/L		1.563	4	676	1223522	1	Standard
>	**Ge-1**	**72**		ug/L				90111	88516	3	KED
	Ni	**60**	**8.428**	ug/L		0.221	2	15	12463	1	KED
	Ni	**62**	**8.684**	ug/L		0.722	8	5	1955	5	KED
	Cu	**63**	**60.530**	ug/L	STL	1.022	1	57	225858	1	KED
	Cu	**65**	**58.953**	ug/L		0.950	1	26	109604	1	KED
	Zn	**66**	**91.083**	ug/L		0.942	1	29	47678	2	KED
	Zn	**67**	**84.679**	ug/L		3.968	4	5	7192	1	KED
	As	**75**	**1.551**	ug/L		0.044	2	6	569	0	KED
	Y	**89**		ug/L				753655	745624	3	Standard
	Kr	**83**		ug/L				50	50	9	Standard
>	**In-1**	**115**		ug/L				43083	41533	1	KED
	Cd	**111**	**6.039**	ug/L		0.037	0	5	3006	2	KED
	Cd	**114**	**6.176**	ug/L		0.095	1	6	7720	3	KED
>	**Tb**	**159**		ug/L				1051890	1042986	4	Standard
	Tl	**205**	**0.443**	ug/L		0.028	6	703	11920	2	Standard
	Pb	**208**	**25.950**	ug/L		1.154	4	405	840749	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:51:57
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	19046	0	Standard
	Cl	**37**		ug/L			7022462	7165710	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1305010	1	Standard
|	**V**	**51**	**48.052**	ug/L	1.509	3	6809	1343736	1	Standard
|	**V-1**	**51**	**48.237**	ug/L	1.186	2	436	1357238	0	Standard
|	**Cr**	**52**	**48.011**	ug/L	1.074	2	20151	1146160	0	Standard
|	**Cr**	**53**	**48.618**	ug/L	0.529	1	239	133834	2	Standard
⌊	**Mn**	**55**	**48.096**	ug/L	1.000	2	676	1619993	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	84365	1	KED
|	**Ni**	**60**	**48.832**	ug/L	0.865	1	15	68783	1	KED
|	**Ni**	**62**	**51.259**	ug/L	1.887	3	5	10989	2	KED
|	**Cu**	**63**	**51.212**	ug/L	0.923	1	57	182201	2	KED
|	**Cu**	**65**	**49.662**	ug/L	1.917	3	26	88003	2	KED
|	**Zn**	**66**	**50.787**	ug/L	1.223	2	29	25350	1	KED
|	**Zn**	**67**	**51.799**	ug/L	1.247	2	5	4198	1	KED
⌊	**As**	**75**	**49.439**	ug/L	0.766	1	6	17107	0	KED
	Y	**89**		ug/L			753655	753621	1	Standard
	Kr	**83**		ug/L			50	60	37	Standard
⌈>	**In-1**	**115**		ug/L			43083	40982	2	KED
|	**Cd**	**111**	**49.419**	ug/L	1.036	2	5	24228	0	KED
⌊	**Cd**	**114**	**50.507**	ug/L	1.572	3	6	62220	2	KED
⌈>	**Tb**	**159**		ug/L			1051890	1014752	1	Standard
|	**Tl**	**205**	**51.648**	ug/L	2.586	5	703	1274038	3	Standard
⌊	**Pb**	**208**	**52.471**	ug/L	0.113	0	405	1655577	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 17:59:09
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	16471	2	Standard
	Cl	**37**		ug/L			7022462	7091537	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1277782	0	Standard
|	**V**	**51**	**-0.007**	ug/L	0.007	91	6809	6358	2	Standard
|	**V-1**	**51**	**-0.002**	ug/L	0.000	5	436	359	1	Standard
|	**Cr**	**52**	**-0.030**	ug/L	0.018	61	20151	18723	1	Standard
|	**Cr**	**53**	**-0.012**	ug/L	0.004	36	239	197	6	Standard
⌊	**Mn**	**55**	**0.000**	ug/L	0.000	3303	676	652	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	86587	1	KED
|	**Ni**	**60**	**-0.001**	ug/L	0.002	182	15	13	24	KED
|	**Ni**	**62**	**-0.002**	ug/L	0.025	1498	5	5	108	KED
|	**Cu**	**63**	**-0.007**	ug/L	0.002	33	57	27	32	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.003	109	26	20	24	KED
|	**Zn**	**66**	**0.025**	ug/L	0.013	52	29	41	14	KED
|	**Zn**	**67**	**0.033**	ug/L	0.040	121	5	7	43	KED
⌊	**As**	**75**	**0.001**	ug/L	0.005	664	6	6	26	KED
	Y	**89**		ug/L			753655	734306	2	Standard
	Kr	**83**		ug/L			50	65	21	Standard
⌈>	**In-1**	**115**		ug/L			43083	41330	0	KED
|	**Cd**	**111**	**-0.000**	ug/L	0.004	1753	5	4	40	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.003	156	6	3	108	KED
⌈>	**Tb**	**159**		ug/L			1051890	1017754	2	Standard
|	**Tl**	**205**	**-0.016**	ug/L	0.001	5	703	277	9	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.001	147	405	375	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:03:38
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	24999	3	Standard
	Cl	37		ug/L			7022462	7174952	0	Standard
>	Sc	45		ug/L			1325921	1476796	2	Standard
	V	51	35.261	ug/L	1.115	3	6809	1117722	0	Standard
	V-1	51	35.063	ug/L	1.091	3	436	1116327	0	Standard
	Cr	52	14.803	ug/L	0.386	2	20151	415365	0	Standard
	Cr	53	14.871	ug/L	0.328	2	239	46490	0	Standard
	Mn	55	214.379	ug/L	7.177	3	676	8164536	1	Standard
>	Ge-1	72		ug/L			90111	86338	1	KED
	Ni	60	18.712	ug/L	0.414	2	15	26984	2	KED
	Ni	62	19.892	ug/L	0.537	2	5	4368	2	KED
	Cu	63	15.109	ug/L	0.127	0	57	55046	0	KED
	Cu	65	14.912	ug/L	0.248	1	26	27067	1	KED
	Zn	66	81.663	ug/L	1.670	2	29	41702	1	KED
	Zn	67	81.485	ug/L	0.414	0	5	6758	1	KED
	As	75	2.591	ug/L	0.060	2	6	923	1	KED
	Y	89		ug/L			753655	1021729	2	Standard
	Kr	83		ug/L			50	111	12	Standard
>	In-1	115		ug/L			43083	41897	1	KED
	Cd	111	0.066	ug/L	0.018	27	5	38	24	KED
	Cd	114	0.075	ug/L	0.019	25	6	100	22	KED
>	Tb	159		ug/L			1051890	1071513	1	Standard
	Tl	205	0.022	ug/L	0.000	1	703	1285	1	Standard
	Pb	208	3.176	ug/L	0.088	2	405	106189	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:08:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	27280	3	Standard
	Cl	**37**		ug/L			7022462	7244609	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1482866	0	Standard
|	**V**	**51**	**36.493**	ug/L	0.563	1	6809	1161941	2	Standard
|	**V-1**	**51**	**36.623**	ug/L	0.461	1	436	1171425	1	Standard
|	**Cr**	**52**	**27.997**	ug/L	0.486	1	20151	768996	1	Standard
|	**Cr**	**53**	**28.719**	ug/L	0.706	2	239	89929	1	Standard
⌊	**Mn**	**55**	**331.771**	ug/L	13.326	4	676	12692039	3	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87764	2	KED
|	**Ni**	**60**	**34.084**	ug/L	1.453	4	15	49934	3	KED
|	**Ni**	**62**	**35.285**	ug/L	1.323	3	5	7868	1	KED
|	**Cu**	**63**	**23.572**	ug/L	0.269	1	57	87280	3	KED
|	**Cu**	**65**	**23.388**	ug/L	0.586	2	26	43127	1	KED
|	**Zn**	**66**	**47.055**	ug/L	1.127	2	29	24432	0	KED
|	**Zn**	**67**	**48.796**	ug/L	1.708	3	5	4114	2	KED
⌊	**As**	**75**	**3.467**	ug/L	0.125	3	6	1253	2	KED
	Y	**89**		ug/L			753655	1068057	1	Standard
	Kr	**83**		ug/L			50	111	12	Standard
⌈>	**In-1**	**115**		ug/L			43083	41661	0	KED
|	**Cd**	**111**	**0.146**	ug/L	0.023	15	5	77	14	KED
⌊	**Cd**	**114**	**0.156**	ug/L	0.014	8	6	201	8	KED
⌈>	**Tb**	**159**		ug/L			1051890	1081552	2	Standard
|	**Tl**	**205**	**0.030**	ug/L	0.003	9	703	1506	4	Standard
⌊	**Pb**	**208**	**13.714**	ug/L	0.209	1	405	461426	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:12:32
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	29617	2	Standard
	Cl	37		ug/L			7022462	7338272	1	Standard
>	Sc	45		ug/L			1325921	1499625	2	Standard
	V	51	38.056	ug/L	1.703	4	6809	1224217	2	Standard
	V-1	51	37.879	ug/L	1.688	4	436	1224418	2	Standard
	Cr	52	17.557	ug/L	0.333	1	20151	496115	1	Standard
	Cr	53	17.695	ug/L	0.363	2	239	56125	0	Standard
	Mn	55	230.028	ug/L	5.070	2	676	8897674	0	Standard
>	Ge-1	72		ug/L			90111	87164	1	KED
	Ni	60	19.908	ug/L	0.271	1	15	28982	1	KED
	Ni	62	20.546	ug/L	0.241	1	5	4555	0	KED
	Cu	63	20.997	ug/L	0.226	1	57	77218	1	KED
	Cu	65	21.047	ug/L	0.702	3	26	38552	2	KED
	Zn	66	192.922	ug/L	3.283	1	29	99446	2	KED
	Zn	67	184.358	ug/L	4.807	2	5	15431	3	KED
	As	75	3.166	ug/L	0.110	3	6	1138	3	KED
	Y	89		ug/L			753655	1029673	0	Standard
	Kr	83		ug/L			50	116	13	Standard
>	In-1	115		ug/L			43083	34786	19	KED
	Cd	111	0.555	ug/L	0.121	21	5	228	2	KED
	Cd	114	0.584	ug/L	0.147	25	6	595	3	KED
>	Tb	159		ug/L			1051890	1107305	0	Standard
	Tl	205	0.026	ug/L	0.003	11	703	1432	6	Standard
	Pb	208	7.422	ug/L	0.169	2	405	255888	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-07
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:17:00
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	23886	5	Standard
	Cl	**37**		ug/L			7022462	7191886	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1481443	1	Standard
|	**V**	**51**	**38.572**	ug/L	0.324	0	6809	1226466	1	Standard
|	**V-1**	**51**	**38.441**	ug/L	0.352	0	436	1228334	2	Standard
|	**Cr**	**52**	**19.463**	ug/L	0.198	1	20151	540966	1	Standard
|	**Cr**	**53**	**19.701**	ug/L	0.281	1	239	61726	2	Standard
⌊	**Mn**	**55**	**230.374**	ug/L	8.721	3	676	8802653	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	89968	1	KED
|	**Ni**	**60**	**19.076**	ug/L	0.444	2	15	28660	1	KED
|	**Ni**	**62**	**19.595**	ug/L	0.321	1	5	4484	2	KED
|	**Cu**	**63**	**20.437**	ug/L	0.530	2	57	77564	2	KED
|	**Cu**	**65**	**20.413**	ug/L	0.431	2	26	38598	1	KED
|	**Zn**	**66**	**34.118**	ug/L	0.986	2	29	18170	1	KED
|	**Zn**	**67**	**37.119**	ug/L	1.884	5	5	3209	3	KED
⌊	**As**	**75**	**4.560**	ug/L	0.091	1	6	1688	2	KED
	Y	**89**		ug/L			753655	1067136	2	Standard
	Kr	**83**		ug/L			50	128	3	Standard
⌈>	**In-1**	**115**		ug/L			43083	43074	2	KED
|	**Cd**	**111**	**0.056**	ug/L	0.009	16	5	33	11	KED
⌊	**Cd**	**114**	**0.059**	ug/L	0.009	15	6	83	16	KED
⌈>	**Tb**	**159**		ug/L			1051890	1072720	1	Standard
|	**Tl**	**205**	**0.070**	ug/L	0.001	1	703	2550	0	Standard
⌊	**Pb**	**208**	**2.795**	ug/L	0.081	2	405	93604	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:21:27
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	23640	1	Standard
	Cl	37		ug/L			7022462	7296512	1	Standard
>	Sc	45		ug/L			1325921	1501178	1	Standard
	V	51	36.233	ug/L	0.551	1	6809	1167830	1	Standard
	V-1	51	36.220	ug/L	0.553	1	436	1172720	1	Standard
	Cr	52	23.976	ug/L	0.324	1	20151	669956	0	Standard
	Cr	53	24.361	ug/L	0.276	1	239	77268	0	Standard
	Mn	55	286.835	ug/L	4.245	1	676	11109748	1	Standard
>	Ge-1	72		ug/L			90111	87511	2	KED
	Ni	60	30.912	ug/L	0.921	2	15	45153	0	KED
	Ni	62	31.804	ug/L	1.036	3	5	7072	0	KED
	Cu	63	34.402	ug/L	1.015	2	57	126925	1	KED
	Cu	65	33.164	ug/L	0.556	1	26	60972	0	KED
	Zn	66	34.268	ug/L	1.790	5	29	17741	2	KED
	Zn	67	36.056	ug/L	1.322	3	5	3032	2	KED
	As	75	4.320	ug/L	0.095	2	6	1556	0	KED
	Y	89		ug/L			753655	1088401	2	Standard
	Kr	83		ug/L			50	117	13	Standard
>	In-1	115		ug/L			43083	41415	1	KED
	Cd	111	0.186	ug/L	0.018	9	5	96	7	KED
	Cd	114	0.174	ug/L	0.014	8	6	223	9	KED
>	Tb	159		ug/L			1051890	1058192	0	Standard
	Tl	205	0.030	ug/L	0.003	8	703	1477	4	Standard
	Pb	208	6.463	ug/L	0.044	0	405	212994	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:25:55
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	26596	2	Standard
	Cl	37		ug/L			7022462	7160321	0	Standard
>	Sc	45		ug/L			1325921	1473731	2	Standard
	V	51	43.710	ug/L	0.966	2	6809	1381131	0	Standard
	V-1	51	43.530	ug/L	0.822	1	436	1383238	0	Standard
	Cr	52	23.593	ug/L	0.811	3	20151	647297	1	Standard
	Cr	53	23.707	ug/L	0.337	1	239	73818	1	Standard
	Mn	55	272.203	ug/L	8.187	3	676	10346660	1	Standard
>	Ge-1	72		ug/L			90111	86659	1	KED
	Ni	60	17.899	ug/L	0.146	0	15	25909	1	KED
	Ni	62	18.223	ug/L	0.604	3	5	4017	2	KED
	Cu	63	26.137	ug/L	0.247	0	57	95554	2	KED
	Cu	65	25.880	ug/L	0.291	1	26	47130	0	KED
	Zn	66	37.922	ug/L	0.927	2	29	19452	1	KED
	Zn	67	40.042	ug/L	1.291	3	5	3334	2	KED
	As	75	3.327	ug/L	0.080	2	6	1188	1	KED
	Y	89		ug/L			753655	1089698	0	Standard
	Kr	83		ug/L			50	127	16	Standard
>	In-1	115		ug/L			43083	41150	1	KED
	Cd	111	0.055	ug/L	0.006	11	5	32	8	KED
	Cd	114	0.047	ug/L	0.006	11	6	64	12	KED
>	Tb	159		ug/L			1051890	1070899	0	Standard
	Tl	205	0.029	ug/L	0.002	7	703	1461	3	Standard
	Pb	208	3.708	ug/L	0.041	1	405	123840	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:30:22
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	27299	1	Standard
	Cl	37		ug/L			7022462	7116376	0	Standard
>	Sc	45		ug/L			1325921	1492827	2	Standard
	V	51	39.776	ug/L	1.218	3	6809	1273544	0	Standard
	V-1	51	39.574	ug/L	1.231	3	436	1273519	0	Standard
	Cr	52	23.136	ug/L	0.488	2	20151	643499	0	Standard
	Cr	53	23.055	ug/L	0.611	2	239	72707	1	Standard
	Mn	55	213.091	ug/L	10.017	4	676	8201552	2	Standard
>	Ge-1	72		ug/L			90111	88482	2	KED
	Ni	60	23.700	ug/L	0.892	3	15	35006	2	KED
	Ni	62	25.417	ug/L	1.460	5	5	5714	3	KED
	Cu	63	19.843	ug/L	0.422	2	57	74088	3	KED
	Cu	65	19.858	ug/L	1.179	5	26	36905	3	KED
	Zn	66	39.691	ug/L	1.938	4	29	20775	2	KED
	Zn	67	42.662	ug/L	1.686	3	5	3626	1	KED
	As	75	3.159	ug/L	0.094	2	6	1152	2	KED
	Y	89		ug/L			753655	1084584	2	Standard
	Kr	83		ug/L			50	123	0	Standard
>	In-1	115		ug/L			43083	41537	1	KED
	Cd	111	0.073	ug/L	0.007	9	5	40	9	KED
	Cd	114	0.076	ug/L	0.010	12	6	100	11	KED
>	Tb	159		ug/L			1051890	1082614	1	Standard
	Tl	205	0.033	ug/L	0.001	3	703	1597	2	Standard
	Pb	208	4.251	ug/L	0.121	2	405	143455	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0687-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:34:50
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	27648	2	Standard
	Cl	37		ug/L			7022462	7102209	0	Standard
>	Sc	45		ug/L			1325921	1490389	1	Standard
	V	51	39.343	ug/L	0.726	1	6809	1258103	0	Standard
	V-1	51	39.182	ug/L	0.732	1	436	1259287	0	Standard
	Cr	52	22.564	ug/L	0.462	2	20151	627297	2	Standard
	Cr	53	22.625	ug/L	0.421	1	239	71263	1	Standard
	Mn	55	215.820	ug/L	2.349	1	676	8298596	0	Standard
>	Ge-1	72		ug/L			90111	85801	2	KED
	Ni	60	25.589	ug/L	0.327	1	15	36661	1	KED
	Ni	62	26.527	ug/L	0.482	1	5	5786	1	KED
	Cu	63	20.815	ug/L	0.324	1	57	75332	0	KED
	Cu	65	20.045	ug/L	0.502	2	26	36144	2	KED
	Zn	66	42.378	ug/L	1.939	4	29	21509	2	KED
	Zn	67	47.592	ug/L	2.259	4	5	3921	2	KED
	As	75	3.278	ug/L	0.108	3	6	1159	1	KED
	Y	89		ug/L			753655	1051204	2	Standard
	Kr	83		ug/L			50	127	12	Standard
>	In-1	115		ug/L			43083	41428	1	KED
	Cd	111	0.086	ug/L	0.014	16	5	47	13	KED
	Cd	114	0.093	ug/L	0.018	19	6	121	17	KED
>	Tb	159		ug/L			1051890	1045133	3	Standard
	Tl	205	0.035	ug/L	0.003	7	703	1580	1	Standard
	Pb	208	5.566	ug/L	0.107	1	405	181190	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0687-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:39:17
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	26516	2	Standard
	Cl	37		ug/L			7022462	7138355	1	Standard
>	Sc	45		ug/L			1325921	1486816	1	Standard
	V	51	63.642	ug/L	3.155	4	6809	2024935	3	Standard
	V-1	51	63.615	ug/L	3.226	5	436	2038716	3	Standard
	Cr	52	47.526	ug/L	0.963	2	20151	1293027	1	Standard
	Cr	53	48.003	ug/L	0.941	1	239	150519	0	Standard
	Mn	55	242.160	ug/L	6.099	2	676	9287905	1	Standard
>	Ge-1	72		ug/L			90111	86092	0	KED
	Ni	60	51.059	ug/L	1.002	1	15	73395	1	KED
	Ni	62	52.709	ug/L	0.383	0	5	11534	1	KED
	Cu	63	46.238	ug/L	1.528	3	57	167863	2	KED
	Cu	65	44.741	ug/L	0.527	1	26	80939	1	KED
	Zn	66	118.537	ug/L	1.451	1	29	60357	1	KED
	Zn	67	117.232	ug/L	2.783	2	5	9692	1	KED
	As	75	25.650	ug/L	0.310	1	6	9061	0	KED
	Y	89		ug/L			753655	1067568	1	Standard
	Kr	83		ug/L			50	146	5	Standard
>	In-1	115		ug/L			43083	41253	1	KED
	Cd	111	24.262	ug/L	0.050	0	5	11979	1	KED
	Cd	114	24.792	ug/L	0.793	3	6	30744	1	KED
>	Tb	159		ug/L			1051890	1044386	1	Standard
	Tl	205	25.579	ug/L	0.444	1	703	650050	2	Standard
	Pb	208	30.823	ug/L	0.724	2	405	1000900	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0687-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 18:44:09
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	25640	4	Standard
	Cl	**37**		ug/L			7022462	7130120	1	Standard
>	**Sc**	**45**		ug/L			1325921	1448775	6	Standard
	V	**51**	**67.860**	ug/L	3.635	5	6809	2099923	1	Standard
	V-1	**51**	**67.718**	ug/L	3.605	5	436	2111121	1	Standard
	Cr	**52**	**49.867**	ug/L	2.810	5	20151	1318114	1	Standard
	Cr	**53**	**50.033**	ug/L	2.873	5	239	152528	1	Standard
	Mn	**55**	**247.844**	ug/L	13.622	5	676	9244408	1	Standard
>	**Ge-1**	**72**		ug/L			90111	85794	1	KED
	Ni	**60**	**49.013**	ug/L	2.085	4	15	70179	2	KED
	Ni	**62**	**52.142**	ug/L	1.270	2	5	11369	2	KED
	Cu	**63**	**45.539**	ug/L	1.680	3	57	164700	1	KED
	Cu	**65**	**45.003**	ug/L	1.631	3	26	81100	2	KED
	Zn	**66**	**117.576**	ug/L	7.863	6	29	59618	5	KED
	Zn	**67**	**116.361**	ug/L	5.042	4	5	9584	3	KED
	As	**75**	**25.863**	ug/L	1.252	4	6	9100	3	KED
	Y	**89**		ug/L			753655	1057210	4	Standard
	Kr	**83**		ug/L			50	146	2	Standard
>	**In-1**	**115**		ug/L			43083	41477	1	KED
	Cd	**111**	**24.709**	ug/L	0.152	0	5	12265	1	KED
	Cd	**114**	**25.004**	ug/L	0.447	1	6	31182	0	KED
>	**Tb**	**159**		ug/L			1051890	997872	8	Standard
	Tl	**205**	**27.455**	ug/L	3.209	11	703	662574	4	Standard
	Pb	**208**	**33.796**	ug/L	2.217	6	405	1045014	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 18:49:41
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18093	2	Standard
	Cl	**37**		ug/L			7022462	7157660	0	Standard
>	**Sc**	**45**		ug/L			1325921	1280258	0	Standard
	V	**51**	**48.466**	ug/L	1.111	2	6809	1329978	1	Standard
	V-1	**51**	**48.819**	ug/L	0.936	1	436	1347880	1	Standard
	Cr	**52**	**47.683**	ug/L	1.274	2	20151	1117159	2	Standard
	Cr	**53**	**48.868**	ug/L	0.349	0	239	131964	0	Standard
	Mn	**55**	**47.797**	ug/L	0.952	1	676	1579453	2	Standard
>	**Ge-1**	**72**		ug/L			90111	84968	2	KED
	Ni	**60**	**48.443**	ug/L	1.255	2	15	68694	0	KED
	Ni	**62**	**49.765**	ug/L	0.799	1	5	10747	3	KED
	Cu	**63**	**49.902**	ug/L	1.282	2	57	178730	1	KED
	Cu	**65**	**49.776**	ug/L	1.040	2	26	88865	3	KED
	Zn	**66**	**50.912**	ug/L	2.455	4	29	25577	2	KED
	Zn	**67**	**49.115**	ug/L	1.828	3	5	4009	3	KED
	As	**75**	**49.078**	ug/L	1.456	2	6	17096	0	KED
	Y	**89**		ug/L			753655	759817	1	Standard
	Kr	**83**		ug/L			50	59	18	Standard
>	**In-1**	**115**		ug/L			43083	39953	2	KED
	Cd	**111**	**49.820**	ug/L	0.750	1	5	23814	0	KED
	Cd	**114**	**50.182**	ug/L	1.102	2	6	60267	0	KED
>	**Tb**	**159**		ug/L			1051890	992515	0	Standard
	Tl	**205**	**51.814**	ug/L	0.467	0	703	1250650	0	Standard
	Pb	**208**	**52.647**	ug/L	0.363	0	405	1624754	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 18:56:53
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	16090	1	Standard
	Cl	**37**		ug/L			7022462	6905854	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1230847	1	Standard
|	**V**	**51**	**-0.001**	ug/L	0.011	1714	6809	6302	2	Standard
|	**V-1**	**51**	**-0.005**	ug/L	0.001	25	436	274	11	Standard
|	**Cr**	**52**	**-0.004**	ug/L	0.037	992	20151	18614	2	Standard
|	**Cr**	**53**	**-0.018**	ug/L	0.005	27	239	175	6	Standard
⌊	**Mn**	**55**	**0.001**	ug/L	0.001	159	676	654	5	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	85824	0	KED
|	**Ni**	**60**	**-0.003**	ug/L	0.006	240	15	11	76	KED
|	**Ni**	**62**	**-0.010**	ug/L	0.013	126	5	3	91	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.003	68	57	37	31	KED
|	**Cu**	**65**	**-0.006**	ug/L	0.002	31	26	15	21	KED
|	**Zn**	**66**	**0.013**	ug/L	0.003	21	29	34	3	KED
|	**Zn**	**67**	**0.011**	ug/L	0.024	219	5	5	33	KED
⌊	**As**	**75**	**0.001**	ug/L	0.007	543	6	6	37	KED
	Y	**89**		ug/L			753655	723950	1	Standard
	Kr	**83**		ug/L			50	48	21	Standard
⌈>	**In-1**	**115**		ug/L			43083	40455	5	KED
|	**Cd**	**111**	**0.007**	ug/L	0.003	38	5	7	13	KED
⌊	**Cd**	**114**	**0.008**	ug/L	0.009	109	6	15	72	KED
⌈>	**Tb**	**159**		ug/L			1051890	986544	1	Standard
|	**Tl**	**205**	**-0.016**	ug/L	0.001	4	703	267	7	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.001	46	405	336	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0737-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:01:22
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	23559	2	Standard
	Cl	**37**		ug/L			7022462	6891846	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1300644	2	Standard
|	**V**	**51**	**0.009**	ug/L	0.009	95	6809	6929	1	Standard
|	**V-1**	**51**	**-0.005**	ug/L	0.001	15	436	298	4	Standard
|	**Cr**	**52**	**0.033**	ug/L	0.025	74	20151	20538	0	Standard
|	**Cr**	**53**	**-0.013**	ug/L	0.003	25	239	200	6	Standard
⌊	**Mn**	**55**	**0.019**	ug/L	0.002	9	676	1301	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87607	1	KED
|	**Ni**	**60**	**0.001**	ug/L	0.002	177	15	17	19	KED
|	**Ni**	**62**	**-0.002**	ug/L	0.010	486	5	5	43	KED
|	**Cu**	**63**	**0.003**	ug/L	0.005	185	57	64	25	KED
|	**Cu**	**65**	**0.000**	ug/L	0.003	672	26	26	18	KED
|	**Zn**	**66**	**0.185**	ug/L	0.029	15	29	125	13	KED
|	**Zn**	**67**	**0.184**	ug/L	0.105	57	5	20	42	KED
⌊	**As**	**75**	**0.003**	ug/L	0.006	212	6	7	28	KED
	Y	**89**		ug/L			753655	752504	1	Standard
	Kr	**83**		ug/L			50	45	13	Standard
⌈>	**In-1**	**115**		ug/L			43083	41238	2	KED
|	**Cd**	**111**	**0.001**	ug/L	0.002	193	5	5	20	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.002	255	6	6	32	KED
⌈>	**Tb**	**159**		ug/L			1051890	1007468	1	Standard
|	**Tl**	**205**	**-0.017**	ug/L	0.001	4	703	247	7	Standard
⌊	**Pb**	**208**	**0.016**	ug/L	0.000	2	405	880	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0737-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:05:49
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	22924	2	Standard
	Cl	**37**		ug/L			7022462	6970176	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1314893	1	Standard
|	**V**	**51**	**25.048**	ug/L	0.660	2	6809	709180	2	Standard
|	**V-1**	**51**	**25.057**	ug/L	0.482	1	436	710733	1	Standard
|	**Cr**	**52**	**25.113**	ug/L	0.910	3	20151	613601	2	Standard
|	**Cr**	**53**	**25.139**	ug/L	0.201	0	239	69833	0	Standard
⌊	**Mn**	**55**	**25.757**	ug/L	0.337	1	676	874406	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87881	1	KED
|	**Ni**	**60**	**24.624**	ug/L	0.442	1	15	36140	2	KED
|	**Ni**	**62**	**25.005**	ug/L	1.154	4	5	5590	6	KED
|	**Cu**	**63**	**25.852**	ug/L	0.667	2	57	95810	1	KED
|	**Cu**	**65**	**24.922**	ug/L	0.112	0	26	46030	1	KED
|	**Zn**	**66**	**75.454**	ug/L	1.642	2	29	39227	2	KED
|	**Zn**	**67**	**70.824**	ug/L	0.799	1	5	5979	1	KED
⌊	**As**	**75**	**22.810**	ug/L	0.235	1	6	8227	2	KED
	Y	**89**		ug/L			753655	748131	1	Standard
	Kr	**83**		ug/L			50	59	14	Standard
⌈>	**In-1**	**115**		ug/L			43083	41062	2	KED
|	**Cd**	**111**	**24.997**	ug/L	0.761	3	5	12278	0	KED
⌊	**Cd**	**114**	**24.907**	ug/L	0.925	3	6	30735	1	KED
⌈>	**Tb**	**159**		ug/L			1051890	1009226	1	Standard
|	**Tl**	**205**	**26.714**	ug/L	0.544	2	703	655874	0	Standard
⌊	**Pb**	**208**	**27.744**	ug/L	0.747	2	405	870634	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-10
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:10:41
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	22031	5	Standard
	Cl	37		ug/L			7022462	7072842	1	Standard
>	Sc	45		ug/L			1325921	1431325	2	Standard
	V	51	47.906	ug/L	1.108	2	6809	1469451	0	Standard
	V-1	51	47.747	ug/L	1.206	2	436	1473424	0	Standard
	Cr	52	27.476	ug/L	0.294	1	20151	728808	1	Standard
	Cr	53	27.671	ug/L	0.630	2	239	83625	0	Standard
	Mn	55	411.058	ug/L	13.577	3	676	15173574	1	Standard
>	Ge-1	72		ug/L			90111	85855	0	KED
	Ni	60	32.147	ug/L	0.530	1	15	46092	2	KED
	Ni	62	33.802	ug/L	0.064	0	5	7378	0	KED
	Cu	63	35.136	ug/L	0.219	0	57	127235	1	KED
	Cu	65	34.156	ug/L	0.978	2	26	61617	2	KED
	Zn	66	35.489	ug/L	0.511	1	29	18039	1	KED
	Zn	67	37.674	ug/L	1.134	3	5	3109	2	KED
	As	75	2.436	ug/L	0.048	1	6	863	1	KED
	Y	89		ug/L			753655	1087640	1	Standard
	Kr	83		ug/L			50	131	31	Standard
>	In-1	115		ug/L			43083	40245	2	KED
	Cd	111	0.053	ug/L	0.011	20	5	30	19	KED
	Cd	114	0.066	ug/L	0.005	7	6	85	7	KED
>	Tb	159		ug/L			1051890	1031971	2	Standard
	Tl	205	0.025	ug/L	0.001	2	703	1319	1	Standard
	Pb	208	2.262	ug/L	0.040	1	405	72947	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-11
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:15:08
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	24891	3	Standard
	Cl	**37**		ug/L			7022462	6853700	1	Standard
>	**Sc**	**45**		ug/L			1325921	1430872	0	Standard
	V	**51**	**38.189**	ug/L	0.730	1	6809	1172918	2	Standard
	V-1	**51**	**37.977**	ug/L	0.799	2	436	1172074	2	Standard
	Cr	**52**	**21.007**	ug/L	0.162	0	20151	562230	0	Standard
	Cr	**53**	**20.912**	ug/L	0.287	1	239	63261	1	Standard
	Mn	**55**	**196.461**	ug/L	1.225	0	676	7253663	1	Standard
>	**Ge-1**	**72**		ug/L			90111	85191	2	KED
	Ni	**60**	**21.538**	ug/L	0.332	1	15	30641	1	KED
	Ni	**62**	**22.635**	ug/L	0.676	2	5	4903	2	KED
	Cu	**63**	**18.711**	ug/L	0.234	1	57	67246	1	KED
	Cu	**65**	**18.861**	ug/L	0.611	3	26	33761	1	KED
	Zn	**66**	**37.280**	ug/L	0.916	2	29	18795	0	KED
	Zn	**67**	**39.925**	ug/L	1.626	4	5	3271	6	KED
	As	**75**	**3.603**	ug/L	0.078	2	6	1264	1	KED
	Y	**89**		ug/L			753655	1001207	1	Standard
	Kr	**83**		ug/L			50	120	8	Standard
>	**In-1**	**115**		ug/L			43083	40736	2	KED
	Cd	**111**	**0.081**	ug/L	0.004	4	5	44	2	KED
	Cd	**114**	**0.089**	ug/L	0.007	7	6	114	9	KED
>	**Tb**	**159**		ug/L			1051890	1008931	1	Standard
	Tl	**205**	**0.031**	ug/L	0.002	8	703	1426	3	Standard
	Pb	**208**	**4.917**	ug/L	0.106	2	405	154576	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0364-10
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:19:36
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	139362	2	Standard
	Cl	**37**		ug/L			7022462	7241485	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1325695	2	Standard
|	**V**	**51**	**3.133**	ug/L	0.089	2	6809	95374	1	Standard
|	**V-1**	**51**	**3.057**	ug/L	0.084	2	436	87770	1	Standard
|	**Cr**	**52**	**1.867**	ug/L	0.062	3	20151	64642	1	Standard
|	**Cr**	**53**	**1.661**	ug/L	0.045	2	239	4872	0	Standard
⌊	**Mn**	**55**	**47.523**	ug/L	1.204	2	676	1625415	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	83289	2	KED
|	**Ni**	**60**	**0.868**	ug/L	0.064	7	15	1220	5	KED
|	**Ni**	**62**	**0.971**	ug/L	0.191	19	5	210	16	KED
|	**Cu**	**63**	**8.764**	ug/L	0.070	0	57	30824	1	KED
|	**Cu**	**65**	**8.785**	ug/L	0.328	3	26	15385	1	KED
|	**Zn**	**66**	**41.595**	ug/L	3.136	7	29	20480	4	KED
|	**Zn**	**67**	**37.887**	ug/L	3.622	9	5	3028	6	KED
⌊	**As**	**75**	**4.254**	ug/L	0.145	3	6	1458	0	KED
	Y	**89**		ug/L			753655	781225	3	Standard
	Kr	**83**		ug/L			50	53	21	Standard
⌈>	**In-1**	**115**		ug/L			43083	41576	2	KED
|	**Cd**	**111**	**0.160**	ug/L	0.025	15	5	84	13	KED
⌊	**Cd**	**114**	**0.157**	ug/L	0.007	4	6	202	5	KED
⌈>	**Tb**	**159**		ug/L			1051890	1026483	1	Standard
|	**Tl**	**205**	**-0.010**	ug/L	0.002	22	703	442	11	Standard
⌊	**Pb**	**208**	**2.187**	ug/L	0.030	1	405	70173	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0364-11
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:24:03
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	121196	2	Standard
	Cl	**37**		ug/L			7022462	7216023	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1314453	1	Standard
|	**V**	**51**	**3.514**	ug/L	0.082	2	6809	105262	1	Standard
|	**V-1**	**51**	**3.444**	ug/L	0.065	1	436	98024	1	Standard
|	**Cr**	**52**	**1.967**	ug/L	0.065	3	20151	66452	1	Standard
|	**Cr**	**53**	**1.791**	ug/L	0.008	0	239	5194	1	Standard
⌊	**Mn**	**55**	**141.440**	ug/L	1.294	0	676	4797235	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	84077	0	KED
|	**Ni**	**60**	**0.972**	ug/L	0.023	2	15	1379	2	KED
|	**Ni**	**62**	**1.013**	ug/L	0.090	8	5	221	8	KED
|	**Cu**	**63**	**9.671**	ug/L	0.275	2	57	34332	2	KED
|	**Cu**	**65**	**9.580**	ug/L	0.115	1	26	16944	0	KED
|	**Zn**	**66**	**44.809**	ug/L	1.322	2	29	22300	3	KED
|	**Zn**	**67**	**40.833**	ug/L	0.506	1	5	3300	0	KED
⌊	**As**	**75**	**8.724**	ug/L	0.094	1	6	3013	1	KED
	Y	**89**		ug/L			753655	794369	2	Standard
	Kr	**83**		ug/L			50	45	17	Standard
⌈>	**In-1**	**115**		ug/L			43083	41177	0	KED
|	**Cd**	**111**	**0.165**	ug/L	0.013	8	5	86	7	KED
⌊	**Cd**	**114**	**0.161**	ug/L	0.017	10	6	204	10	KED
⌈>	**Tb**	**159**		ug/L			1051890	1039417	1	Standard
|	**Tl**	**205**	**-0.012**	ug/L	0.000	1	703	399	0	Standard
⌊	**Pb**	**208**	**5.233**	ug/L	0.085	1	405	169476	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0364-12
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:28:31
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	117229	0	Standard
	Cl	**37**		ug/L			7022462	7329878	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1340047	0	Standard
|	**V**	**51**	**2.978**	ug/L	0.067	2	6809	92014	3	Standard
|	**V-1**	**51**	**2.916**	ug/L	0.079	2	436	84701	3	Standard
|	**Cr**	**52**	**0.953**	ug/L	0.043	4	20151	43327	1	Standard
|	**Cr**	**53**	**0.821**	ug/L	0.001	0	239	2557	0	Standard
⌊	**Mn**	**55**	**161.695**	ug/L	1.634	1	676	5590772	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87804	1	KED
|	**Ni**	**60**	**0.744**	ug/L	0.042	5	15	1105	4	KED
|	**Ni**	**62**	**0.809**	ug/L	0.052	6	5	186	5	KED
|	**Cu**	**63**	**5.215**	ug/L	0.137	2	57	19363	3	KED
|	**Cu**	**65**	**5.051**	ug/L	0.091	1	26	9341	1	KED
|	**Zn**	**66**	**29.755**	ug/L	0.698	2	29	15472	2	KED
|	**Zn**	**67**	**28.352**	ug/L	1.607	5	5	2393	4	KED
⌊	**As**	**75**	**47.164**	ug/L	0.613	1	6	16986	0	KED
	Y	**89**		ug/L			753655	791396	4	Standard
	Kr	**83**		ug/L			50	54	23	Standard
⌈>	**In-1**	**115**		ug/L			43083	41290	1	KED
|	**Cd**	**111**	**0.168**	ug/L	0.008	4	5	87	5	KED
⌊	**Cd**	**114**	**0.178**	ug/L	0.014	7	6	226	9	KED
⌈>	**Tb**	**159**		ug/L			1051890	1057238	2	Standard
|	**Tl**	**205**	**-0.014**	ug/L	0.001	8	703	350	11	Standard
⌊	**Pb**	**208**	**2.540**	ug/L	0.071	2	405	83841	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0737-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:32:58
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	121679	1	Standard
	Cl	**37**		ug/L			7022462	7321338	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1338759	1	Standard
|	**V**	**51**	**3.835**	ug/L	0.092	2	6809	116380	1	Standard
|	**V-1**	**51**	**3.751**	ug/L	0.068	1	436	108686	0	Standard
|	**Cr**	**52**	**1.225**	ug/L	0.051	4	20151	49822	1	Standard
|	**Cr**	**53**	**1.039**	ug/L	0.036	3	239	3169	3	Standard
⌊	**Mn**	**55**	**182.891**	ug/L	4.519	2	676	6317693	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	88430	1	KED
|	**Ni**	**60**	**0.877**	ug/L	0.041	4	15	1310	3	KED
|	**Ni**	**62**	**0.972**	ug/L	0.125	12	5	224	13	KED
|	**Cu**	**63**	**6.483**	ug/L	0.175	2	57	24230	3	KED
|	**Cu**	**65**	**6.108**	ug/L	0.159	2	26	11369	1	KED
|	**Zn**	**66**	**37.643**	ug/L	0.699	1	29	19705	1	KED
|	**Zn**	**67**	**35.318**	ug/L	1.382	3	5	3002	2	KED
⌊	**As**	**75**	**60.086**	ug/L	0.237	0	6	21794	0	KED
	Y	**89**		ug/L			753655	777670	3	Standard
	Kr	**83**		ug/L			50	55	7	Standard
⌈>	**In-1**	**115**		ug/L			43083	40774	3	KED
|	**Cd**	**111**	**0.194**	ug/L	0.010	5	5	99	8	KED
⌊	**Cd**	**114**	**0.207**	ug/L	0.031	15	6	258	12	KED
⌈>	**Tb**	**159**		ug/L			1051890	1027970	3	Standard
|	**Tl**	**205**	**-0.013**	ug/L	0.001	7	703	358	4	Standard
⌊	**Pb**	**208**	**3.537**	ug/L	0.127	3	405	113342	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0737-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:37:26
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	104765	4	Standard
	Cl	**37**		ug/L			7022462	7466902	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1362503	0	Standard
|	**V**	**51**	**28.679**	ug/L	0.680	2	6809	840505	2	Standard
|	**V-1**	**51**	**28.441**	ug/L	0.574	2	436	835965	2	Standard
|	**Cr**	**52**	**26.091**	ug/L	0.814	3	20151	659934	3	Standard
|	**Cr**	**53**	**25.402**	ug/L	0.188	0	239	73120	0	Standard
⌊	**Mn**	**55**	**212.110**	ug/L	3.762	1	676	7456895	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	88675	0	KED
|	**Ni**	**60**	**25.469**	ug/L	0.749	2	15	37720	3	KED
|	**Ni**	**62**	**25.277**	ug/L	1.203	4	5	5700	5	KED
|	**Cu**	**63**	**31.068**	ug/L	0.235	0	57	116204	0	KED
|	**Cu**	**65**	**30.410**	ug/L	0.848	2	26	56667	2	KED
|	**Zn**	**66**	**109.450**	ug/L	1.268	1	29	57403	1	KED
|	**Zn**	**67**	**104.453**	ug/L	4.784	4	5	8896	4	KED
⌊	**As**	**75**	**82.472**	ug/L	0.398	0	6	29995	0	KED
	Y	**89**		ug/L			753655	801424	4	Standard
	Kr	**83**		ug/L			50	62	22	Standard
⌈>	**In-1**	**115**		ug/L			43083	41116	1	KED
|	**Cd**	**111**	**24.647**	ug/L	0.595	2	5	12127	1	KED
⌊	**Cd**	**114**	**25.128**	ug/L	0.560	2	6	31067	2	KED
⌈>	**Tb**	**159**		ug/L			1051890	1046083	2	Standard
|	**Tl**	**205**	**25.782**	ug/L	0.613	2	703	656052	1	Standard
⌊	**Pb**	**208**	**29.416**	ug/L	0.820	2	405	956577	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BGF0737-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:41:54
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	103983	1	Standard
	Cl	**37**		ug/L			7022462	7419237	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1316500	0	Standard
|	**V**	**51**	**28.233**	ug/L	0.252	0	6809	799541	0	Standard
|	**V-1**	**51**	**28.258**	ug/L	0.251	0	436	802487	0	Standard
|	**Cr**	**52**	**25.822**	ug/L	0.069	0	20151	631276	0	Standard
|	**Cr**	**53**	**25.989**	ug/L	0.537	2	239	72276	1	Standard
⌊	**Mn**	**55**	**221.464**	ug/L	2.740	1	676	7523127	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	87967	1	KED
|	**Ni**	**60**	**24.151**	ug/L	0.841	3	15	35472	2	KED
|	**Ni**	**62**	**25.398**	ug/L	2.110	8	5	5679	7	KED
|	**Cu**	**63**	**30.000**	ug/L	1.355	4	57	111307	4	KED
|	**Cu**	**65**	**29.551**	ug/L	1.488	5	26	54611	3	KED
|	**Zn**	**66**	**107.354**	ug/L	2.429	2	29	55845	1	KED
|	**Zn**	**67**	**101.020**	ug/L	4.166	4	5	8532	3	KED
⌊	**As**	**75**	**82.005**	ug/L	3.126	3	6	29579	2	KED
	Y	**89**		ug/L			753655	801870	3	Standard
	Kr	**83**		ug/L			50	54	11	Standard
⌈>	**In-1**	**115**		ug/L			43083	41078	1	KED
|	**Cd**	**111**	**23.846**	ug/L	0.185	0	5	11723	1	KED
⌊	**Cd**	**114**	**24.198**	ug/L	0.331	1	6	29894	2	KED
⌈>	**Tb**	**159**		ug/L			1051890	1039922	1	Standard
|	**Tl**	**205**	**26.027**	ug/L	0.530	2	703	658495	1	Standard
⌊	**Pb**	**208**	**29.096**	ug/L	0.844	2	405	940767	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV9
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 19:47:26
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18968	2	Standard
	Cl	**37**		ug/L			7022462	7302060	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1252958	1	Standard
|	**V**	**51**	**48.664**	ug/L	0.312	0	6809	1307071	1	Standard
|	**V-1**	**51**	**48.787**	ug/L	0.081	0	436	1318358	1	Standard
|	**Cr**	**52**	**49.280**	ug/L	0.353	0	20151	1129300	0	Standard
|	**Cr**	**53**	**49.660**	ug/L	1.102	2	239	131220	1	Standard
⌊	**Mn**	**55**	**49.531**	ug/L	0.835	1	676	1601617	0	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	83409	2	KED
|	**Ni**	**60**	**49.422**	ug/L	2.563	5	15	68777	2	KED
|	**Ni**	**62**	**50.461**	ug/L	3.387	6	5	10688	4	KED
|	**Cu**	**63**	**51.732**	ug/L	0.670	1	57	181978	2	KED
|	**Cu**	**65**	**50.097**	ug/L	1.171	2	26	87791	2	KED
|	**Zn**	**66**	**50.805**	ug/L	1.870	3	29	25063	1	KED
|	**Zn**	**67**	**52.754**	ug/L	2.609	4	5	4225	2	KED
⌊	**As**	**75**	**49.726**	ug/L	0.967	1	6	17009	0	KED
	Y	**89**		ug/L			753655	750100	1	Standard
	Kr	**83**		ug/L			50	52	14	Standard
⌈>	**In-1**	**115**		ug/L			43083	40076	1	KED
|	**Cd**	**111**	**49.892**	ug/L	0.485	0	5	23925	0	KED
⌊	**Cd**	**114**	**50.593**	ug/L	1.011	1	6	60961	1	KED
⌈>	**Tb**	**159**		ug/L			1051890	993159	1	Standard
|	**Tl**	**205**	**51.875**	ug/L	0.972	1	703	1253246	3	Standard
⌊	**Pb**	**208**	**51.880**	ug/L	0.295	0	405	1602096	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB9
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 19:54:38
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	16484	1	Standard
	Cl	**37**		ug/L			7022462	7067930	0	Standard
⎡>	**Sc**	**45**		ug/L			1325921	1279041	4	Standard
⎢	**V**	**51**	**-0.004**	ug/L	0.012	306	6809	6452	2	Standard
⎢	**V-1**	**51**	**-0.004**	ug/L	0.000	12	436	321	2	Standard
⎢	**Cr**	**52**	**-0.016**	ug/L	0.038	240	20151	19048	2	Standard
⎢	**Cr**	**53**	**-0.014**	ug/L	0.004	24	239	191	8	Standard
⎣	**Mn**	**55**	**0.002**	ug/L	0.001	62	676	721	3	Standard
⎡>	**Ge-1**	**72**		ug/L			90111	88472	5	KED
⎢	**Ni**	**60**	**-0.005**	ug/L	0.002	33	15	8	35	KED
⎢	**Ni**	**62**	**-0.005**	ug/L	0.020	382	5	4	98	KED
⎢	**Cu**	**63**	**-0.005**	ug/L	0.003	56	57	36	34	KED
⎢	**Cu**	**65**	**-0.006**	ug/L	0.003	55	26	15	45	KED
⎢	**Zn**	**66**	**0.025**	ug/L	0.020	81	29	42	28	KED
⎢	**Zn**	**67**	**0.055**	ug/L	0.062	112	5	9	52	KED
⎣	**As**	**75**	**-0.000**	ug/L	0.006	2132	6	6	37	KED
	Y	**89**		ug/L			753655	747710	4	Standard
	Kr	**83**		ug/L			50	34	25	Standard
⎡>	**In-1**	**115**		ug/L			43083	39826	2	KED
⎢	**Cd**	**111**	**0.002**	ug/L	0.008	365	5	5	66	KED
⎣	**Cd**	**114**	**-0.002**	ug/L	0.003	158	6	3	91	KED
⎡>	**Tb**	**159**		ug/L			1051890	992541	6	Standard
⎢	**Tl**	**205**	**-0.003**	ug/L	0.003	90	703	580	6	Standard
⎣	**Pb**	**208**	**-0.001**	ug/L	0.002	159	405	350	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-12
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 19:59:06
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	27062	3	Standard
	Cl	**37**		ug/L			7022462	7144592	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1439638	2	Standard
|	**V**	**51**	**39.478**	ug/L	1.416	3	6809	1219039	1	Standard
|	**V-1**	**51**	**39.386**	ug/L	1.394	3	436	1222347	1	Standard
|	**Cr**	**52**	**23.721**	ug/L	0.781	3	20151	635648	1	Standard
|	**Cr**	**53**	**23.971**	ug/L	0.753	3	239	72886	0	Standard
⌊	**Mn**	**55**	**279.496**	ug/L	3.645	1	676	10380134	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	86265	1	KED
|	**Ni**	**60**	**30.815**	ug/L	0.915	2	15	44380	2	KED
|	**Ni**	**62**	**33.199**	ug/L	1.045	3	5	7279	2	KED
|	**Cu**	**63**	**23.661**	ug/L	0.305	1	57	86119	3	KED
|	**Cu**	**65**	**22.994**	ug/L	0.597	2	26	41684	2	KED
|	**Zn**	**66**	**47.787**	ug/L	1.904	3	29	24385	2	KED
|	**Zn**	**67**	**49.200**	ug/L	1.265	2	5	4078	1	KED
⌊	**As**	**75**	**3.311**	ug/L	0.109	3	6	1177	2	KED
	Y	**89**		ug/L			753655	1058225	2	Standard
	Kr	**83**		ug/L			50	106	10	Standard
⌈>	**In-1**	**115**		ug/L			43083	40947	3	KED
|	**Cd**	**111**	**0.357**	ug/L	0.050	14	5	179	12	KED
⌊	**Cd**	**114**	**0.357**	ug/L	0.016	4	6	445	3	KED
⌈>	**Tb**	**159**		ug/L			1051890	1040984	0	Standard
|	**Tl**	**205**	**0.055**	ug/L	0.006	11	703	2080	6	Standard
⌊	**Pb**	**208**	**19.323**	ug/L	0.114	0	405	625692	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 18F0363-13
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, July 06, 2018 20:03:34
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			18887	25203	3	Standard
	Cl	37		ug/L			7022462	7155131	0	Standard
>	Sc	45		ug/L			1325921	1481016	2	Standard
	V	51	38.723	ug/L	0.741	1	6809	1230604	1	Standard
	V-1	51	38.538	ug/L	0.597	1	436	1230824	1	Standard
	Cr	52	18.694	ug/L	0.513	2	20151	520163	1	Standard
	Cr	53	18.789	ug/L	0.341	1	239	58848	1	Standard
	Mn	55	276.814	ug/L	9.720	3	676	10573808	2	Standard
>	Ge-1	72		ug/L			90111	85181	1	KED
	Ni	60	20.565	ug/L	0.466	2	15	29253	1	KED
	Ni	62	21.369	ug/L	0.432	2	5	4629	1	KED
	Cu	63	18.202	ug/L	0.679	3	57	65398	2	KED
	Cu	65	17.886	ug/L	0.395	2	26	32025	1	KED
	Zn	66	45.912	ug/L	2.002	4	29	23138	3	KED
	Zn	67	48.862	ug/L	1.322	2	5	3999	1	KED
	As	75	3.657	ug/L	0.092	2	6	1283	2	KED
	Y	89		ug/L			753655	1099519	0	Standard
	Kr	83		ug/L			50	127	15	Standard
>	In-1	115		ug/L			43083	40762	1	KED
	Cd	111	0.055	ug/L	0.010	17	5	31	13	KED
	Cd	114	0.037	ug/L	0.009	23	6	50	19	KED
>	Tb	159		ug/L			1051890	1055571	1	Standard
	Tl	205	0.043	ug/L	0.004	9	703	1814	6	Standard
	Pb	208	18.102	ug/L	0.243	1	405	594323	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:09:06
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18361	2	Standard
	Cl	**37**		ug/L			7022462	7206358	0	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1296693	2	Standard
|	**V**	**51**	**47.770**	ug/L	2.639	5	6809	1326778	3	Standard
|	**V-1**	**51**	**48.296**	ug/L	2.599	5	436	1349525	3	Standard
|	**Cr**	**52**	**48.367**	ug/L	2.187	4	20151	1146628	2	Standard
|	**Cr**	**53**	**50.070**	ug/L	2.240	4	239	136843	2	Standard
⌊	**Mn**	**55**	**48.955**	ug/L	0.799	1	676	1637977	1	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	85161	1	KED
|	**Ni**	**60**	**49.769**	ug/L	1.703	3	15	70761	3	KED
|	**Ni**	**62**	**49.761**	ug/L	0.468	0	5	10772	2	KED
|	**Cu**	**63**	**49.684**	ug/L	0.178	0	57	178430	1	KED
|	**Cu**	**65**	**49.791**	ug/L	1.831	3	26	89066	2	KED
|	**Zn**	**66**	**49.894**	ug/L	1.245	2	29	25138	0	KED
|	**Zn**	**67**	**50.088**	ug/L	0.959	1	5	4100	3	KED
⌊	**As**	**75**	**48.365**	ug/L	0.877	1	6	16893	1	KED
	Y	**89**		ug/L			753655	746072	4	Standard
	Kr	**83**		ug/L			50	62	21	Standard
⌈>	**In-1**	**115**		ug/L			43083	39897	1	KED
|	**Cd**	**111**	**50.442**	ug/L	1.176	2	5	24077	1	KED
⌊	**Cd**	**114**	**50.771**	ug/L	2.362	4	6	60884	3	KED
⌈>	**Tb**	**159**		ug/L			1051890	1018205	1	Standard
|	**Tl**	**205**	**50.199**	ug/L	1.837	3	703	1242661	2	Standard
⌊	**Pb**	**208**	**51.331**	ug/L	1.343	2	405	1624822	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:16:18
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	16395	5	Standard
	Cl	**37**		ug/L			7022462	7000046	1	Standard
⎡>	**Sc**	**45**		ug/L			1325921	1279991	1	Standard
⎢	**V**	**51**	**-0.005**	ug/L	0.007	144	6809	6437	1	Standard
⎢	**V-1**	**51**	**-0.005**	ug/L	0.000	7	436	280	4	Standard
⎢	**Cr**	**52**	**-0.019**	ug/L	0.029	152	20151	19016	2	Standard
⎢	**Cr**	**53**	**-0.019**	ug/L	0.005	25	239	180	6	Standard
⎣	**Mn**	**55**	**-0.000**	ug/L	0.001	407	676	647	3	Standard
⎡>	**Ge-1**	**72**		ug/L			90111	85652	0	KED
⎢	**Ni**	**60**	**0.002**	ug/L	0.011	577	15	17	86	KED
⎢	**Ni**	**62**	**-0.007**	ug/L	0.015	200	5	3	86	KED
⎢	**Cu**	**63**	**0.001**	ug/L	0.012	936	57	59	73	KED
⎢	**Cu**	**65**	**0.005**	ug/L	0.007	151	26	33	37	KED
⎢	**Zn**	**66**	**0.032**	ug/L	0.006	18	29	44	6	KED
⎢	**Zn**	**67**	**0.003**	ug/L	0.027	866	5	5	43	KED
⎣	**As**	**75**	**0.008**	ug/L	0.005	65	6	9	20	KED
	Y	**89**		ug/L			753655	734399	2	Standard
	Kr	**83**		ug/L			50	41	13	Standard
⎡>	**In-1**	**115**		ug/L			43083	40311	3	KED
⎢	**Cd**	**111**	**-0.002**	ug/L	0.006	241	5	3	78	KED
⎣	**Cd**	**114**	**-0.001**	ug/L	0.001	83	6	4	27	KED
⎡>	**Tb**	**159**		ug/L			1051890	963454	1	Standard
⎢	**Tl**	**205**	**-0.012**	ug/L	0.001	10	703	363	7	Standard
⎣	**Pb**	**208**	**-0.001**	ug/L	0.000	9	405	333	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:20:46
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	22966	2	Standard
	Cl	**37**		ug/L			7022462	7239194	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1515089	2	Standard
|	**V**	**51**	**-0.008**	ug/L	0.004	45	6809	7520	2	Standard
|	**V-1**	**51**	**-0.006**	ug/L	0.000	7	436	289	2	Standard
|	**Cr**	**52**	**-0.034**	ug/L	0.010	28	20151	22106	2	Standard
|	**Cr**	**53**	**-0.027**	ug/L	0.006	21	239	185	7	Standard
⌊	**Mn**	**55**	**0.028**	ug/L	0.000	1	676	1866	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	92671	2	KED
|	**Ni**	**60**	**-0.002**	ug/L	0.002	119	15	13	20	KED
|	**Ni**	**62**	**-0.012**	ug/L	0.012	104	5	3	91	KED
|	**Cu**	**63**	**0.002**	ug/L	0.006	321	57	66	36	KED
|	**Cu**	**65**	**0.005**	ug/L	0.005	97	26	36	24	KED
|	**Zn**	**66**	**0.030**	ug/L	0.012	39	29	46	15	KED
|	**Zn**	**67**	**0.041**	ug/L	0.023	56	5	8	24	KED
⌊	**As**	**75**	**0.003**	ug/L	0.010	304	6	8	46	KED
	Y	**89**		ug/L			753655	848665	2	Standard
	Kr	**83**		ug/L			50	45	19	Standard
⌈>	**In-1**	**115**		ug/L			43083	44967	2	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.004	135	5	3	50	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	103	6	8	25	KED
⌈>	**Tb**	**159**		ug/L			1051890	1110684	2	Standard
|	**Tl**	**205**	**0.054**	ug/L	0.002	3	703	2196	3	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	6	405	310	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:25:14
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	23271	0	Standard
	Cl	**37**		ug/L			7022462	7262947	1	Standard
⎡>	**Sc**	**45**		ug/L			1325921	1474919	0	Standard
⎢	**V**	**51**	**0.001**	ug/L	0.003	201	6809	7621	1	Standard
⎢	**V-1**	**51**	**-0.007**	ug/L	0.000	6	436	268	5	Standard
⎢	**Cr**	**52**	**0.003**	ug/L	0.011	347	20151	22498	1	Standard
⎢	**Cr**	**53**	**-0.024**	ug/L	0.002	7	239	190	3	Standard
⎣	**Mn**	**55**	**0.030**	ug/L	0.002	6	676	1882	4	Standard
⎡>	**Ge-1**	**72**		ug/L			90111	94880	2	KED
⎢	**Ni**	**60**	**-0.001**	ug/L	0.000	88	15	15	6	KED
⎢	**Ni**	**62**	**-0.006**	ug/L	0.012	188	5	4	65	KED
⎢	**Cu**	**63**	**-0.002**	ug/L	0.003	117	57	50	21	KED
⎢	**Cu**	**65**	**-0.005**	ug/L	0.004	73	26	17	40	KED
⎢	**Zn**	**66**	**0.005**	ug/L	0.006	118	29	34	11	KED
⎢	**Zn**	**67**	**-0.038**	ug/L	0.020	53	5	1	100	KED
⎣	**As**	**75**	**-0.002**	ug/L	0.005	248	6	6	33	KED
	Y	**89**		ug/L			753655	852123	3	Standard
	Kr	**83**		ug/L			50	53	18	Standard
⎡>	**In-1**	**115**		ug/L			43083	45793	0	KED
⎢	**Cd**	**111**	**-0.004**	ug/L	0.002	48	5	3	34	KED
⎣	**Cd**	**114**	**-0.001**	ug/L	0.004	317	6	4	110	KED
⎡>	**Tb**	**159**		ug/L			1051890	1153564	2	Standard
⎢	**Tl**	**205**	**0.017**	ug/L	0.001	8	703	1253	5	Standard
⎣	**Pb**	**208**	**-0.004**	ug/L	0.001	17	405	306	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:29:42
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	22834	2	Standard
	Cl	**37**		ug/L			7022462	7283880	0	Standard
⎡>	**Sc**	**45**		ug/L			1325921	1478950	2	Standard
⎢	**V**	**51**	**-0.004**	ug/L	0.009	222	6809	7470	3	Standard
⎢	**V-1**	**51**	**-0.006**	ug/L	0.001	18	436	280	12	Standard
⎢	**Cr**	**52**	**-0.013**	ug/L	0.031	244	20151	22137	3	Standard
⎢	**Cr**	**53**	**-0.021**	ug/L	0.005	23	239	202	6	Standard
⎣	**Mn**	**55**	**0.029**	ug/L	0.001	5	676	1847	1	Standard
⎡>	**Ge-1**	**72**		ug/L			90111	94843	2	KED
⎢	**Ni**	**60**	**-0.003**	ug/L	0.001	54	15	12	17	KED
⎢	**Ni**	**62**	**-0.017**	ug/L	0.000	1	5	1		KED
⎢	**Cu**	**63**	**-0.000**	ug/L	0.006	1359	57	58	38	KED
⎢	**Cu**	**65**	**-0.001**	ug/L	0.003	271	26	26	22	KED
⎢	**Zn**	**66**	**0.011**	ug/L	0.012	107	29	37	15	KED
⎢	**Zn**	**67**	**0.033**	ug/L	0.076	229	5	8	81	KED
⎣	**As**	**75**	**-0.005**	ug/L	0.004	89	6	5	31	KED
	Y	**89**		ug/L			753655	834036	3	Standard
	Kr	**83**		ug/L			50	46	2	Standard
⎡>	**In-1**	**115**		ug/L			43083	45686	0	KED
⎢	**Cd**	**111**	**-0.001**	ug/L	0.004	638	5	5	39	KED
⎣	**Cd**	**114**	**-0.000**	ug/L	0.001	212	6	6	19	KED
⎡>	**Tb**	**159**		ug/L			1051890	1140429	1	Standard
⎢	**Tl**	**205**	**0.006**	ug/L	0.001	17	703	939	2	Standard
⎣	**Pb**	**208**	**-0.004**	ug/L	0.001	30	405	309	11	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:34:09
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18330	3	Standard
	Cl	**37**		ug/L			7022462	6647931	1	Standard
>	**Sc**	**45**		ug/L			1325921	1198990	1	Standard
	V	**51**	**-0.003**	ug/L	0.006	227	6809	6086	1	Standard
	V-1	**51**	**-0.004**	ug/L	0.002	58	436	291	19	Standard
	Cr	**52**	**-0.015**	ug/L	0.019	131	20151	17899	1	Standard
	Cr	**53**	**-0.018**	ug/L	0.005	25	239	169	5	Standard
	Mn	**55**	**-0.003**	ug/L	0.012	455	676	524	70	Standard
>	**Ge-1**	**72**		ug/L			90111	83908	1	KED
	Ni	**60**	**-0.005**	ug/L	0.005	115	15	8	93	KED
	Ni	**62**	**-0.001**	ug/L	0.005	443	5	5	21	KED
	Cu	**63**	**-0.008**	ug/L	0.002	18	57	23	24	KED
	Cu	**65**	**-0.008**	ug/L	0.002	26	26	10	39	KED
	Zn	**66**	**-0.001**	ug/L	0.015	1536	29	27	28	KED
	Zn	**67**	**0.005**	ug/L	0.060	1268	5	5	94	KED
	As	**75**	**0.002**	ug/L	0.004	164	6	7	17	KED
	Y	**89**		ug/L			753655	684350	1	Standard
	Kr	**83**		ug/L			50	48	37	Standard
>	**In-1**	**115**		ug/L			43083	36261	16	KED
	Cd	**111**	**0.005**	ug/L	0.014	271	5	6	86	KED
	Cd	**114**	**0.003**	ug/L	0.007	223	6	8	87	KED
>	**Tb**	**159**		ug/L			1051890	922835	2	Standard
	Tl	**205**	**-0.006**	ug/L	0.005	79	703	485	19	Standard
	Pb	**208**	**-0.004**	ug/L	0.002	50	405	246	19	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:38:37
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18197	3	Standard
	Cl	**37**		ug/L			7022462	6578128	0	Standard
>	**Sc**	**45**		ug/L			1325921	1185391	4	Standard
	V	**51**	**-0.003**	ug/L	0.004	119	6809	6007	2	Standard
	V-1	**51**	**-0.005**	ug/L	0.001	13	436	256	2	Standard
	Cr	**52**	**-0.006**	ug/L	0.016	243	20151	17870	2	Standard
	Cr	**53**	**-0.013**	ug/L	0.006	46	239	180	5	Standard
	Mn	**55**	**-0.010**	ug/L	0.001	12	676	310	8	Standard
>	**Ge-1**	**72**		ug/L			90111	80319	3	KED
	Ni	**60**	**-0.006**	ug/L	0.003	42	15	5	57	KED
	Ni	**62**	**-0.006**	ug/L	0.016	263	5	3	86	KED
	Cu	**63**	**-0.007**	ug/L	0.002	28	57	27	21	KED
	Cu	**65**	**-0.010**	ug/L	0.003	30	26	7	66	KED
	Zn	**66**	**-0.026**	ug/L	0.013	49	29	13	41	KED
	Zn	**67**	**-0.002**	ug/L	0.027	1649	5	4	49	KED
	As	**75**	**0.005**	ug/L	0.010	211	6	7	40	KED
	Y	**89**		ug/L			753655	693850	1	Standard
	Kr	**83**		ug/L			50	45	24	Standard
>	**In-1**	**115**		ug/L			43083	38893	2	KED
	Cd	**111**	**-0.002**	ug/L	0.000	10	5	3	0	KED
	Cd	**114**	**0.001**	ug/L	0.003	332	6	6	59	KED
>	**Tb**	**159**		ug/L			1051890	904342	1	Standard
	Tl	**205**	**-0.015**	ug/L	0.000	3	703	285	5	Standard
	Pb	**208**	**-0.005**	ug/L	0.001	9	405	198	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, July 06, 2018 20:43:05
Number of Replicates: 3
Method File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Method\200.8nomin_KED_UCT_VMed1.mth
Tuning File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\MassCal\Default.tun
Optimization File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\Conditions\Default.dac
Calibration File: C:\Users\metals\Documents\PerkinElmer Syngistix\ICPMS_metals\System\070618.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			18887	18047	5	Standard
	Cl	**37**		ug/L			7022462	6539731	1	Standard
⌈>	**Sc**	**45**		ug/L			1325921	1173202	2	Standard
|	**V**	**51**	**-0.001**	ug/L	0.007	508	6809	5989	2	Standard
|	**V-1**	**51**	**-0.005**	ug/L	0.000	4	436	247	4	Standard
|	**Cr**	**52**	**-0.006**	ug/L	0.018	318	20151	17708	1	Standard
|	**Cr**	**53**	**-0.019**	ug/L	0.008	41	239	164	12	Standard
⌊	**Mn**	**55**	**-0.009**	ug/L	0.000	3	676	318	2	Standard
⌈>	**Ge-1**	**72**		ug/L			90111	79611	0	KED
|	**Ni**	**60**	**-0.007**	ug/L	0.004	60	15	5	108	KED
|	**Ni**	**62**	**0.006**	ug/L	0.006	88	5	6	17	KED
|	**Cu**	**63**	**-0.007**	ug/L	0.002	24	57	27	20	KED
|	**Cu**	**65**	**-0.010**	ug/L	0.002	23	26	6	56	KED
|	**Zn**	**66**	**-0.001**	ug/L	0.011	1543	29	26	21	KED
|	**Zn**	**67**	**0.008**	ug/L	0.063	786	5	5	94	KED
⌊	**As**	**75**	**0.003**	ug/L	0.010	298	6	7	46	KED
	Y	**89**		ug/L			753655	689595	1	Standard
	Kr	**83**		ug/L			50	34	31	Standard
⌈>	**In-1**	**115**		ug/L			43083	37972	1	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.000	2	5	2	0	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.003	113	6	8	35	KED
⌈>	**Tb**	**159**		ug/L			1051890	910163	3	Standard
|	**Tl**	**205**	**-0.016**	ug/L	0.001	6	703	256	6	Standard
⌊	**Pb**	**208**	**-0.005**	ug/L	0.001	13	405	206	12	Standard

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Instrument ID: ICPMS2
Calibration: BG00024
Control Limt: +/- 10.00%
Sequence: SGG0085

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SGG0085-ICV1	Vanadium-51a	50.000	49.6	99.1	ug/L	EPA 6020A
	Vanadium-51b	50.000	49.7	99.5	ug/L	EPA 6020A
SGG0085-CCV1	Vanadium-51a	50.000	48.9	97.7	ug/L	EPA 6020A
	Vanadium-51b	50.000	49.4	98.8	ug/L	EPA 6020A
SGG0085-CCV2	Vanadium-51a	50.000	50.6	101	ug/L	EPA 6020A
	Vanadium-51b	50.000	51.0	102	ug/L	EPA 6020A
SGG0085-CCV3	Vanadium-51a	50.000	49.3	98.6	ug/L	EPA 6020A
	Vanadium-51b	50.000	49.4	98.8	ug/L	EPA 6020A
SGG0085-CCV4	Vanadium-51a	50.000	49.9	99.8	ug/L	EPA 6020A
	Vanadium-51b	50.000	50.2	100	ug/L	EPA 6020A
SGG0085-CCV5	Vanadium-51a	50.000	49.1	98.1	ug/L	EPA 6020A
	Vanadium-51b	50.000	49.5	98.9	ug/L	EPA 6020A
SGG0085-CCV6	Vanadium-51a	50.000	49.8	99.7	ug/L	EPA 6020A
	Vanadium-51b	50.000	49.6	99.3	ug/L	EPA 6020A
SGG0085-CCV7	Vanadium-51a	50.000	48.1	96.1	ug/L	EPA 6020A
	Vanadium-51b	50.000	48.2	96.5	ug/L	EPA 6020A
SGG0085-CCV8	Vanadium-51a	50.000	48.5	96.9	ug/L	EPA 6020A
	Vanadium-51b	50.000	48.8	97.6	ug/L	EPA 6020A
SGG0085-CCV9	Vanadium-51a	50.000	48.7	97.3	ug/L	EPA 6020A
	Vanadium-51b	50.000	48.8	97.6	ug/L	EPA 6020A
SGG0085-CCVA	Vanadium-51a	50.000	47.8	95.5	ug/L	EPA 6020A
	Vanadium-51b	50.000	48.3	96.6	ug/L	EPA 6020A

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0085
Instrument: ICPMS2
Calibration: BG00024

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SGG0085-CAL1	XDT_m2180706-006	NA	07/06/18 11:43
CAL 1 - LOW CHECK	SGG0085-CAL2	XDT_m2180706-007	NA	07/06/18 11:47
CAL 2	SGG0085-CAL3	XDT_m2180706-008	NA	07/06/18 11:52
CAL 3	SGG0085-CAL4	XDT_m2180706-009	NA	07/06/18 11:57
CAL 4	SGG0085-CAL5	XDT_m2180706-010	NA	07/06/18 12:02
CAL 5	SGG0085-CAL6	XDT_m2180706-011	NA	07/06/18 12:08
RINSE	SGG0085-IBL1	XDT_m2180706-012	NA	07/06/18 12:15
Initial Cal Check	SGG0085-ICV1	XDT_m2180706-014	NA	07/06/18 12:22
Initial Cal Blank	SGG0085-ICB1	XDT_m2180706-015	NA	07/06/18 12:29
Calibration Check	SGG0085-CCV1	XDT_m2180706-016	NA	07/06/18 12:34
Calibration Blank	SGG0085-CCB1	XDT_m2180706-017	NA	07/06/18 12:41
Instrument RL Check	SGG0085-CRL1	XDT_m2180706-018	NA	07/06/18 12:45
Interference Check A	SGG0085-IFA1	XDT_m2180706-019	NA	07/06/18 12:51
Interference Check B	SGG0085-IFB1	XDT_m2180706-021	NA	07/06/18 13:01
LR200	SGG0085-HCV1	XDT_m2180706-024	NA	07/06/18 13:19
LR300	SGG0085-HCV2	XDT_m2180706-025	NA	07/06/18 13:23
Instrument Blank	SGG0085-IBL2	XDT_m2180706-026	NA	07/06/18 13:30
Instrument Blank	SGG0085-IBL3	XDT_m2180706-027	NA	07/06/18 13:37
Calibration Check	SGG0085-CCV2	XDT_m2180706-028	NA	07/06/18 13:43
Calibration Blank	SGG0085-CCB2	XDT_m2180706-029	NA	07/06/18 13:50
Calibration Check	SGG0085-CCV3	XDT_m2180706-031	NA	07/06/18 14:03
Calibration Blank	SGG0085-CCB3	XDT_m2180706-032	NA	07/06/18 14:07
Calibration Check	SGG0085-CCV4	XDT_m2180706-043	NA	07/06/18 14:58
Calibration Blank	SGG0085-CCB4	XDT_m2180706-044	NA	07/06/18 15:05
Calibration Check	SGG0085-CCV5	XDT_m2180706-055	NA	07/06/18 15:56
Calibration Blank	SGG0085-CCB5	XDT_m2180706-056	NA	07/06/18 16:03
ZZZZZ	18G0013-06	XDT_m2180706-063	Water	07/06/18 16:34
ZZZZZ	18G0013-02	XDT_m2180706-064	Water	07/06/18 16:39
Calibration Check	SGG0085-CCV6	XDT_m2180706-067	NA	07/06/18 16:53
Calibration Blank	SGG0085-CCB6	XDT_m2180706-068	NA	07/06/18 17:00

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sequence: SGG0085
Instrument: ICPMS2
Calibration: BG00024

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	18F0363-01	XDT_m2180706-071	Solid	07/06/18 17:15
ZZZZZ	18F0363-02	XDT_m2180706-072	Solid	07/06/18 17:19
Calibration Check	SGG0085-CCV7	XDT_m2180706-079	NA	07/06/18 17:51
Calibration Blank	SGG0085-CCB7	XDT_m2180706-080	NA	07/06/18 17:59
ZZZZZ	18F0363-03	XDT_m2180706-081	Solid	07/06/18 18:03
ZZZZZ	18F0363-04	XDT_m2180706-082	Solid	07/06/18 18:08
ZZZZZ	18F0363-05	XDT_m2180706-083	Solid	07/06/18 18:12
ZZZZZ	18F0363-07	XDT_m2180706-084	Solid	07/06/18 18:17
ZZZZZ	18F0363-08	XDT_m2180706-085	Solid	07/06/18 18:21
ZZZZZ	18F0363-09	XDT_m2180706-086	Solid	07/06/18 18:25
ZZZZZ	18F0363-06	XDT_m2180706-087	Solid	07/06/18 18:30
Calibration Check	SGG0085-CCV8	XDT_m2180706-091	NA	07/06/18 18:49
Calibration Blank	SGG0085-CCB8	XDT_m2180706-092	NA	07/06/18 18:56
Blank	BGF0737-BLK1	XDT_m2180706-093	Tissue	07/06/18 19:01
LCS	BGF0737-BS1	XDT_m2180706-094	Tissue	07/06/18 19:05
ZZZZZ	18F0363-10	XDT_m2180706-095	Solid	07/06/18 19:10
ZZZZZ	18F0363-11	XDT_m2180706-096	Solid	07/06/18 19:15
LDW18-S1-CLWB-Comp1	18F0364-10	XDT_m2180706-097	Tissue	07/06/18 19:19
LDW18-S2-CLWB-Comp1	18F0364-11	XDT_m2180706-098	Tissue	07/06/18 19:24
LDW18-S3-CLWB-Comp1	18F0364-12	XDT_m2180706-099	Tissue	07/06/18 19:28
LDW18-S3-CLWB-Comp1	BGF0737-DUP1	XDT_m2180706-100	Tissue	07/06/18 19:32
LDW18-S3-CLWB-Comp1	BGF0737-MS1	XDT_m2180706-101	Tissue	07/06/18 19:37
LDW18-S3-CLWB-Comp1	BGF0737-MSD1	XDT_m2180706-102	Tissue	07/06/18 19:41
Calibration Check	SGG0085-CCV9	XDT_m2180706-103	NA	07/06/18 19:47
Calibration Blank	SGG0085-CCB9	XDT_m2180706-104	NA	07/06/18 19:54
ZZZZZ	18F0363-12	XDT_m2180706-105	Solid	07/06/18 19:59
ZZZZZ	18F0363-13	XDT_m2180706-106	Solid	07/06/18 20:03
Calibration Check	SGG0085-CCVA	XDT_m2180706-107	NA	07/06/18 20:09
Calibration Blank	SGG0085-CCBA	XDT_m2180706-108	NA	07/06/18 20:16

ICP INTERFERENCE CHECK SAMPLE

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Instrument ID: ICPMS2
Calibration: BG00024
Sequence: SGG0085
Standard ID: G005699

Lab Sample ID	Analyte	True	Found	%R	Units
SGG0085-IFA1	Vanadium-51a	0	0.0310		ug/L
	Vanadium-51b	0	1.3220		ug/L

* Indicates %R outside of QC limits
NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

ICP INTERFERENCE CHECK SAMPLE

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Instrument ID: ICPMS2
Calibration: BG00024
Sequence: SGG0085
Standard ID: G005699

Lab Sample ID	Analyte	True	Found	%R	Units
SGG0085-IFB1	Vanadium-51a	0	-0.2400		ug/L
	Vanadium-51b	0	1.4440		ug/L

* Indicates %R outside of QC limits
NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

DETECTION LEVEL STANDARD
EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Instrument ID: ICPMS2
Calibration: BG00024
Sequence: SGG0085
Lab Sample ID: SGG0085-CRL1

Analyte	True	Found	%R	Units	QC Limts
Vanadium-51a	0.20000	0.215	108	ug/L	50 - 150
Vanadium-51b	0.20000	0.216	108	ug/L	50 - 150

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00024
Laboratory ID: SGG0085-HCV1
Sequence: SGG0085
Standard ID: G005700

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Vanadium-51a	200.00	205	2.7	10.00
Vanadium-51b	200.00	205	2.4	10.00

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Calibration: BG00024
Laboratory ID: SGG0085-HCV2
Sequence: SGG0085
Standard ID: G005701

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Vanadium-51a	300.00	308	2.5	10.00
Vanadium-51b	300.00	308	2.6	10.00

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 6020A

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-S1-CLWB-Comp1 18F0364-10	05/16/18 10:57	05/21/18 10:10	07/03/18 13:19	48	180	07/06/18 19:19	51	180	
LDW18-S2-CLWB-Comp1 18F0364-11	05/15/18 10:45	05/21/18 10:10	07/03/18 13:19	49	180	07/06/18 19:24	52	180	
LDW18-S3-CLWB-Comp1 18F0364-12	05/17/18 12:13	05/21/18 10:10	07/03/18 13:19	47	180	07/06/18 19:28	50	180	
Duplicate BGF0737-DUP1	05/17/18 12:13	05/21/18 10:10	06/29/18 14:33	43	180	07/06/18 19:32	50	180	
Matrix Spike BGF0737-MS1	05/17/18 12:13	05/21/18 10:10	06/29/18 14:33	43	180	07/06/18 19:37	50	180	
Matrix Spike Dup BGF0737-MSD1	05/17/18 12:13	05/21/18 10:10	06/29/18 14:33	43	180	07/06/18 19:41	50	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Instrument: ICPMS2

Analyte	MDL	RL	Units
Vanadium-51a	0.0004	0.0040	mg/kg
Vanadium-51b	0.0004	0.0040	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Water
Instrument: ICPMS2

Analyte	MDL	RL	Units
Vanadium-51a	0.0400	0.200	ug/L
Vanadium-51b	0.0160	0.200	ug/L

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV10
Lot Number:	M2-V655653
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Vanadium
Starting Material:	V2O5
Starting Material Lot#:	1782
Starting Material Purity:	99.9931%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10010 ± 28 µg/mL

Certified Density: 1.105 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **9993 ± 44 µg/mL**
ICP Assay NIST SRM 3165 Lot Number: 992706

Assay Method #2 **10019 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001011	M	Eu	<	0.000101	O	Na		0.072598	M	Se	<	0.007079	O	Zn	<	0.005525
M	Al		0.074535	O	Fe		0.354042	M	Nb	<	0.002427	O	Si		0.210392	M	Zr	<	0.002427
M	As	<	0.002326	M	Ga		0.004652	M	Nd	<	0.000101	M	Sm	<	0.000101				
M	Au	<	0.000606	M	Gd	<	0.000101	M	Ni	<	0.005461	M	Sn	<	0.002629				
M	B	<	0.018507	M	Ge	<	0.000606	n	Os	<		O	Sr		0.001215				
M	Ba		0.001314	M	Hf	<	0.000101	O	P	<	0.055250	M	Ta	<	0.000101				
M	Be	<	0.000101	M	Hg	<	0.001416	M	Pb		0.001011	M	Tb	<	0.000101				
M	Bi	<	0.000202	M	Ho	<	0.000101	M	Pd	<	0.000101	M	Te	<	0.011023				
O	Ca		0.092599	M	In	<	0.000101	M	Pr	<	0.000101	M	Th	<	0.000202				
M	Cd	<	0.000202	M	Ir	<	0.000101	M	Pt	<	0.000101	O	Ti		0.014696				
M	Ce	<	0.000101	M	K		0.086671	M	Rb	<	0.000404	M	Tl	<	0.000202				
O	Co	<	0.009945	M	La	<	0.000202	M	Re	<	0.000101	M	Tm	<	0.000101				
O	Cr		0.158899	O	Li	<	0.002099	M	Rh	<	0.000101	M	U	<	0.000202				
M	Cs		0.006877	M	Lu	<	0.000101	M	Ru	<	0.000101	s	V	<					
M	Cu	<	0.000606	M	Mg		0.010113	n	S	<		M	W		0.001112				
M	Dy	<	0.000101	M	Mn		0.007382	M	Sb		0.075951	M	Y	<	0.000202				
M	Er	<	0.000101	O	Mo		0.072709	M	Sc	<	0.000202	M	Yb	<	0.000101				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 H2V10O284-
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4, HF, H3PO4 and strong basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na2CO3 / KNO3); Oxides (V2O3 - use HCl, V2O4 - use HCl or HNO3, V2O5 - use concentrated acids); Ores (Na2CO3 / KNO3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V2O5 above) .
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 06, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 06, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-3
Lot Number:	N2-MEB668116
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	250 µg/mL ea:

Aluminum,	Calcium,	Iron,
Potassium,	Magnesium,	Sodium,

4 µg/mL ea:
Selenium,

2.5 µg/mL ea:

Thorium,	Thallium,	Uranium,
Vanadium,	Zinc,	Manganese,
Cadmium,	Cobalt,	Chromium,
Copper,	Arsenic,	Barium,
Beryllium,	Nickel,	Lead,
Silver		

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	250.0 ± 0.9 µg/mL	Arsenic, As	2.501 ± 0.022 µg/mL
Barium, Ba	2.501 ± 0.014 µg/mL	Beryllium, Be	2.500 ± 0.016 µg/mL
Cadmium, Cd	2.500 ± 0.019 µg/mL	Calcium, Ca	250.0 ± 1.3 µg/mL
Chromium, Cr	2.500 ± 0.017 µg/mL	Cobalt, Co	2.500 ± 0.014 µg/mL
Copper, Cu	2.500 ± 0.012 µg/mL	Iron, Fe	250.1 ± 1.0 µg/mL
Lead, Pb	2.501 ± 0.013 µg/mL	Magnesium, Mg	250.0 ± 1.3 µg/mL
Manganese, Mn	2.500 ± 0.012 µg/mL	Nickel, Ni	2.500 ± 0.013 µg/mL
Potassium, K	250.0 ± 1.2 µg/mL	Selenium, Se	4.000 ± 0.020 µg/mL
Silver, Ag	2.500 ± 0.020 µg/mL	Sodium, Na	250.0 ± 1.2 µg/mL
Thallium, Tl	2.499 ± 0.017 µg/mL	Thorium, Th	2.500 ± 0.014 µg/mL
Uranium, U	2.501 ± 0.020 µg/mL	Vanadium, V	2.500 ± 0.013 µg/mL
Zinc, Zn	2.501 ± 0.013 µg/mL		

Density: 1.044 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	891509
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.29 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains “LOW” levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 17, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 17, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C01-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-01	SDG:	18F0364
Sampled:	05/16/18 13:33	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.53 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.63	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C02-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-02	SDG:	18F0364
Sampled:	05/16/18 11:57	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.55 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.53	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C03-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-03	SDG:	18F0364
Sampled:	05/16/18 12:40	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.56 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.36	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C04-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-04	SDG:	18F0364
Sampled:	05/19/18 14:45	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.58 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.52	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C05-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-05	SDG:	18F0364
Sampled:	05/18/18 15:32	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.57 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.50	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C06-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-06	SDG:	18F0364
Sampled:	05/15/18 11:55	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.54 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.38	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C08-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-07	SDG:	18F0364
Sampled:	05/18/18 13:20	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.53 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.34	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C10-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-08	SDG:	18F0364
Sampled:	05/17/18 13:52	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.54 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.30	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-C11-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-09	SDG:	18F0364
Sampled:	05/18/18 13:53	Prepared:	06/28/18 11:05	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	07/03/18 09:30
Batch:	BGF0693	Sequence:		Initial/Final:	12.53 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.35	1	0.010	0.010	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0693 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-C01-CLWB-Comp2	18F0364-01		06/28/18 11:05	
LDW18-C02-CLWB-Comp2	18F0364-02		06/28/18 11:05	
LDW18-C03-CLWB-Comp2	18F0364-03		06/28/18 11:05	
LDW18-C04-CLWB-Comp2	18F0364-04		06/28/18 11:05	
LDW18-C05-CLWB-Comp2	18F0364-05		06/28/18 11:05	
LDW18-C06-CLWB-Comp2	18F0364-06		06/28/18 11:05	
LDW18-C08-CLWB-Comp2	18F0364-07		06/28/18 11:05	
LDW18-C10-CLWB-Comp2	18F0364-08		06/28/18 11:05	
LDW18-C11-CLWB-Comp2	18F0364-09		06/28/18 11:05	
Blank	BGF0693-BLK1		06/28/18 11:05	
LDW18-C01-CLWB-Comp2	BGF0693-DUP1		06/28/18 11:05	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0693

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Matrix: Tissue **Date Prepared:** 6/29/18 **Balance ID:** B14646261Y **Set Up By:** CCT 6/29/18

Analysis: Lipids, Percent

Lab Number & Container	Initial (g) Target Dry: 5 (Wet) Actual	(split aliquot) (Y) N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18F0364-01 A	~~(5.00)~~ 12.53	(1mL) (Y) N	(1000 µL)	1.1110	1.1269	5	NA	
18F0364-02 A	~~(5.00)~~ 12.55	(1mL) (Y) N	(1000 µL)	1.0960	1.1092	5	NA	
18F0364-03 A	~~(5.00)~~ 12.56	(1mL) (Y) N	(1000 µL)	1.0865	1.0955	5	NA	
18F0364-04 A	~~(5.00)~~ 12.58	(1mL) (Y) N	(1000 µL)	1.1133	1.1265	5	NA	
18F0364-05 A	~~(5.00)~~ 12.57	(1mL) (Y) N	(1000 µL)	1.0953	1.1078	5	NA	
18F0364-06 A	~~(5.00)~~ 12.54	(1mL) (Y) N	(1000 µL)	1.0834	1.0929	5	NA	
18F0364-07 A	~~(5.00)~~ 12.53	(1mL) (Y) N	(1000 µL)	1.1182	1.1267	5	NA	
18F0364-08 A	~~(5.00)~~ 12.54	(1mL) (Y) N	(1000 µL)	1.0751	1.0837	5	NA	
18F0364-09 A	~~(5.00)~~ 12.53	(1mL) (Y) N	(1000 µL)	1.1099	1.1186	5	NA	

Batch QC

Lab Number	Initial (g) Target Dry: 5 (Wet) Actual	(split aliquot) (Y) N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGF0693-BLK1	(5.00) 12.50	(1mL) (Y) N	(1000 µL)	1.0848	1.0855	5	NA	
BGF0693-DUP1	(5.00) 12.55	(1mL) (Y) N	(1000 µL)	1.0972	1.1134	5	NA	Use 18F0364-01 Use BGF0717-MS

yc 06/29/18
Client ID Verified By Date

CC 7/3/18
Preparation Reviewed By Date

06/29/18 14:55
Extraction Date and Time

Printed: 6/29/2018 8:27:26AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0693

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Steps

KD 100°C

0
1 (2) 3 4 5 6
BH 7/2/18
Analyst/Date

TurboVap

(1) 2 3 4 5
CCT 7/2/18
Analyst/Date

Vialing

CCT 7/2/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: CT/YL Date: 6/30/18	
Anhydrous Sodium Sulfate	6005573
1:1 Methylene Chloride/Acetone	6005712
Methylene Chloride	6005858
Neutral Glass Wool	6003192
KD Analyst: BH Date: 7/2/18	
Anhydrous Sodium Sulfate	N/A
Neutral Glass Wool	N/A
Methylene Chloride	6005487
Vialing Analyst: CCT Date: 7/2/18	
Methylene Chloride	6005858

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

ORGANICS PREPARATION BENCH SHEET

Batch: BGF0693

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizzing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 100°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: LIPIDS

Element Batch: BGF0693 Work Order(s): 18F0364

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☑ No Anomalies (standard soil/wet sediment/sand/gravel)= Tissue	CAS 7/3/18
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Sample ID	Sample Weight(g)	Split Taken (mL)	FEV (mL)	Tare Weight(g)	Tare+Sample(g)	% Lipids
BGF0693-BLK1	12.5000	1.0000	5.0000	1.0848	1.0855	0.0280%
BGF0693-DUP1	12.5500	1.0000	5.0000	1.0972	1.1134	0.6454%
18F0364-01	12.5300	1.0000	5.0000	1.1110	1.1269	0.6345%
18F0364-02	12.5500	1.0000	5.0000	1.0960	1.1092	0.5259%
18F0364-03	12.5600	1.0000	5.0000	1.0865	1.0955	0.3583%
18F0364-04	12.5800	1.0000	5.0000	1.1133	1.1265	0.5246%
18F0364-05	12.5700	1.0000	5.0000	1.0953	1.1078	0.4972%
18F0364-06	12.5400	1.0000	5.0000	1.0834	1.0929	0.3788%
18F0364-07	12.5300	1.0000	5.0000	1.1182	1.1267	0.3392%
18F0364-08	12.5400	1.0000	5.0000	1.0761	1.0837	0.3030%
18F0364-09	12.5300	1.0000	5.0000	1.1099	1.1186	0.3472%

Lipids=(((FinalWeight__g -TareWeight__g) * (ExtractVolume_mL / AliquotVolume__mL)) / SampleAmount__g)*100

Form I

METHOD BLANK DATA SHEET

Bligh & Dyer (Mod)

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18F0364
Client:	Windward Environmental, LLC			Project:	AOC3 Clam Collection
Matrix:	Tissue	Laboratory ID:	BGF0693-BLK1	File ID:	
Sampled:	N/A	Prepared:	06/28/18 11:05	Analyzed:	07/03/18 09:30
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	12.5 g / 5 mL
Batch:	BGF0693	Sequence:		Calibration:	
Instrument:	Inst	Column:			

CAS NO.	COMPOUND	DILUTION	CONC. (%)	Q	DL	RL
	Percent Lipids	1	0.028		0.010	0.010

LDW18-C01-CLWB-Comp2

DUPLICATES

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Laboratory ID: BGF0693-DUP1
Batch: BGF0693
Lab Source ID: 18F0364-01
Preparation: EPA 3550C-Mod (Ultrasonic)
Initial/Final: 12.55 g / 5 mL
Source Sample Name: LDW18-C01-CLWB-Comp2
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Percent Lipids	30	0.63	0.65	1.70	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-C01-CLWB-Comp2 18F0364-01	05/16/18 13:33	05/21/18 10:10	06/28/18 11:05	42	365	07/03/18 09:30	48	365	
LDW18-C02-CLWB-Comp2 18F0364-02	05/16/18 11:57	05/21/18 10:10	06/28/18 11:05	42	365	07/03/18 09:30	48	365	
LDW18-C03-CLWB-Comp2 18F0364-03	05/16/18 12:40	05/21/18 10:10	06/28/18 11:05	42	365	07/03/18 09:30	48	365	
LDW18-C04-CLWB-Comp2 18F0364-04	05/19/18 14:45	05/21/18 10:10	06/28/18 11:05	39	365	07/03/18 09:30	45	365	
LDW18-C05-CLWB-Comp2 18F0364-05	05/18/18 15:32	05/21/18 10:10	06/28/18 11:05	40	365	07/03/18 09:30	46	365	
LDW18-C06-CLWB-Comp2 18F0364-06	05/15/18 11:55	05/21/18 10:10	06/28/18 11:05	43	365	07/03/18 09:30	49	365	
LDW18-C08-CLWB-Comp2 18F0364-07	05/18/18 13:20	05/21/18 10:10	06/28/18 11:05	40	365	07/03/18 09:30	46	365	
LDW18-C10-CLWB-Comp2 18F0364-08	05/17/18 13:52	05/21/18 10:10	06/28/18 11:05	41	365	07/03/18 09:30	47	365	
LDW18-C11-CLWB-Comp2 18F0364-09	05/18/18 13:53	05/21/18 10:10	06/28/18 11:05	40	365	07/03/18 09:30	46	365	
Duplicate BGF0693-DUP1	05/16/18 13:33	05/21/18 10:10	06/28/18 11:05	42	365	07/03/18 09:30	48	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Percent Lipids	0.010	0.010	%

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C01-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-01	SDG:	18F0364
Sampled:	05/16/18 13:33	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.44	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C02-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-02	SDG:	18F0364
Sampled:	05/16/18 11:57	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	10.0	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C03-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-03	SDG:	18F0364
Sampled:	05/16/18 12:40	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.49	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C04-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-04	SDG:	18F0364
Sampled:	05/19/18 14:45	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.46	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C05-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-05	SDG:	18F0364
Sampled:	05/18/18 15:32	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.03	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C06-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-06	SDG:	18F0364
Sampled:	05/15/18 11:55	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.12	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C08-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-07	SDG:	18F0364
Sampled:	05/18/18 13:20	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	6.44	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C10-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-08	SDG:	18F0364
Sampled:	05/17/18 13:52	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.61	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-C11-CLWB-Comp2

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	AOC3 Clam Collection				
Matrix:	Tissue	Laboratory ID:	18F0364-09	SDG:	18F0364
Sampled:	05/18/18 13:53	Prepared:	06/29/18 08:30	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/29/18 08:32
Batch:	BGF0718	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.12	1	0.0400	0.0400	

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-C01-CLWB-Comp2 18F0364-01	05/16/18 13:33	05/21/18 10:10	06/29/18 08:30	43	365	06/29/18 08:32	44	365	
LDW18-C02-CLWB-Comp2 18F0364-02	05/16/18 11:57	05/21/18 10:10	06/29/18 08:30	43	365	06/29/18 08:32	44	365	
LDW18-C03-CLWB-Comp2 18F0364-03	05/16/18 12:40	05/21/18 10:10	06/29/18 08:30	43	365	06/29/18 08:32	44	365	
LDW18-C04-CLWB-Comp2 18F0364-04	05/19/18 14:45	05/21/18 10:10	06/29/18 08:30	40	365	06/29/18 08:32	41	365	
LDW18-C05-CLWB-Comp2 18F0364-05	05/18/18 15:32	05/21/18 10:10	06/29/18 08:30	41	365	06/29/18 08:32	42	365	
LDW18-C06-CLWB-Comp2 18F0364-06	05/15/18 11:55	05/21/18 10:10	06/29/18 08:30	44	365	06/29/18 08:32	45	365	
LDW18-C08-CLWB-Comp2 18F0364-07	05/18/18 13:20	05/21/18 10:10	06/29/18 08:30	41	365	06/29/18 08:32	42	365	
LDW18-C10-CLWB-Comp2 18F0364-08	05/17/18 13:52	05/21/18 10:10	06/29/18 08:30	42	365	06/29/18 08:32	43	365	
LDW18-C11-CLWB-Comp2 18F0364-09	05/18/18 13:53	05/21/18 10:10	06/29/18 08:30	41	365	06/29/18 08:32	42	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18F0364
Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.0400	0.0400	%

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18F0364

Client: Windward Environmental, LLC Project: AOC3 Clam Collection

Batch: BGF0718 Batch Matrix: Tissue Preparation: No Prep-Organics

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-C01-CLWB-Comp2	18F0364-01		06/29/18 08:30	
LDW18-C02-CLWB-Comp2	18F0364-02		06/29/18 08:30	
LDW18-C03-CLWB-Comp2	18F0364-03		06/29/18 08:30	
LDW18-C04-CLWB-Comp2	18F0364-04		06/29/18 08:30	
LDW18-C05-CLWB-Comp2	18F0364-05		06/29/18 08:30	
LDW18-C06-CLWB-Comp2	18F0364-06		06/29/18 08:30	
LDW18-C08-CLWB-Comp2	18F0364-07		06/29/18 08:30	
LDW18-C10-CLWB-Comp2	18F0364-08		06/29/18 08:30	
LDW18-C11-CLWB-Comp2	18F0364-09		06/29/18 08:30	

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGF0718
Date:	6/29/2018 8:32
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B146462614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	6/29/2018 11:00	
date/time out:	7/2/2018 7:35	
elapsed hrs:	68.6	> 24 hr

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0364-01	1.1200	12.0300	2.1500	1.03	**9.44%**	No
18F0364-02	1.0900	12.4600	2.2300	1.14	**10.03%**	No
18F0364-03	1.0900	12.0400	2.0200	0.93	**8.49%**	No
18F0364-04	1.0800	11.9700	2.1100	1.03	**9.46%**	No
18F0364-05	1.1300	12.5400	2.1600	1.03	**9.03%**	No
18F0364-06	1.0800	12.0400	1.9700	0.89	**8.12%**	No
18F0364-07	1.1000	12.1300	1.8100	0.71	**6.44%**	No
18F0364-08	1.1000	12.0000	1.9300	0.83	**7.61%**	No
18F0364-09	1.1100	12.0700	2.0000	0.89	**8.12%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Batch:	BGF0718
Date:	6/29/2018 8:32
Analyst:	[illegible]
Drying Oven:	DCF
Analytical Balance:	B14646264

Instrumentation

Batch drying time	
record times as mm/dd/yy hh:mm	
date/time in oven:	06/29/18 11:40
date/time out:	7/2/18 0735
elapsed hrs:	0.0

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18F0364-01	1.12	12.03	2.15			No
18F0364-02	1.09	12.46	2.23			No
18F0364-03	1.09	12.04	2.02			No
18F0364-04	1.08	11.97	2.11			No
18F0364-05	1.13	12.54	2.16			No
18F0364-06	1.08	12.04	1.97			No
18F0364-07	1.10	12.13	1.81			No
18F0364-08	1.14	12.04	1.93			No
18F0364-09	1.11	12.07	2.00			No

IN Dessicator @ 0735 7/2/18 SF

out of dessicator @ 0845 7/2/18 SF

Daily Balance Check

Laboratory Section: Organics Extractions
Balance Manufacturer: Mettler Toledo
Model Number: MS403S/03
Serial Number: B146462614

Weights: B537421071 (200g) & B537421064 (5g) Cali due 9/23/2020

Mass:	5.0 gram	200 grams		
Tolerance:	± 0.001 grams	± 0.2 grams		
Date	Measured Mass	Measured Mass	Corrective Action	Initials
6/4/18	5.00	200.00		BH
6/5/18	5.00	200.00		BH
6/6/18	5.00	200.00		BH
6/8/18	5.00	200.00		SP
6/9/18	5.00	200.00		JL
6/11/18	5.00	200.00		BH
6/12/18	5.00	200.00		BH
6/13/18	5.00	200.00		BH
6/14/18	5.00	200.00		BH
6/15/18	5.00	200.00		BH
6/16/18	5.00	200.00		SP
6/18/18	5.00	200.00		BH
6/19/18	5.00	200.00		BH
6/20/18	5.00	200.00		BH
6/21/18	5.00	200.00		BH
6/22/18	5.00	200.00		BH
6/23/18	5.00	200.00		JL
6/25/18	5.00	200.00		SP
6/26/18	5.00	200.00		BH
6/27/18	5.00	200.00		BH
6/28/18	5.00	200.00		BH
6/29/18	5.00	200.00		BH
7/2/18	5.00	200.00		BH
7/3/18	5.00	200.00		BH

Supervisor Review: CAS Date: 7/2/18

Form 5029F

Version 006
10/1/15

Daily Balance Check

Laboratory Section: Organics Extractions
Balance Manufacturer: Mettler Toledo
Model Number: MS403S/03
Serial Number: B146462614

Weights: B537421071 (200g) & B537421064 (5g) Cali due 9/23/2020

Mass:	5.0 gram	200 grams		
Tolerance:	± 0.001 grams	± 0.2 grams		
Date	Measured Mass	Measured Mass	Corrective Action	Initials
7/4/18	5.00	200.00		YL
7/5/18	5.00	200.00		SP
7/6/18	5.00	200.00		SP
7/7/18	5.00	200.00		YL
7/9/18	5.00	200.00		SP
7/10/18	5.00	200.00		SP
7/11/18	5.00	200.00		BH
7/12/18	5.00	199.99		BH
7/13/18	5.00	200.00		SP
7/14/18	5.00	200.00		CT
7/17/18	5.00	200.00		SP

Supervisor Review:_____ Date:_____

Form 5029F

Version 006
10/1/15

Analytical Resources, Incorporated
Analytical Chemists and Consultants

22 June 2018

Amara Vandervort
Windward Environmental, LLC
200 West Mercer Street, Suite 401
Seattle, WA 98119-3958

RE: LDW AOC3 Task 4

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
18E0389	18E0231
18E0309	18E0231
18E0282	18E0231
18E0262	18E0231
18E0243	18E0231
18E0231	18E0231

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cert# 100006-011

PJLA Testing
Accreditation # 66169

1 of 1 1860231

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3043

Project/Client Name: LDW AOC 3
Project Number: task 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dunihoo
Shipper: hand-delivered.
Form filled out by: S. Replinger

Shipping Date: 5.15.2018
Airbill Number: —
Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): TOC / TS (circle)	cPAHs	black carbon	ex situ cPAH	tipsts / percent solids			Comments / Instructions [Jar tag number(s)]
5.15.2018	1108	LDW18-C06-CL04	1	tissue		x			x			Comp ID: LDW18-A11-CLWB-Comp01
↓	1123	↓ ↓ -CL05	1	↓		x			x			
	1138	↓ ↓ -CL20	1	↓		x			x			
	1201	LDW18-SSCL-A11	4	Sediment	x	x	x	x				Hold 32oz jar for cPAH ex situ evaluation.
↓	1201	LDW18-SSCL-A11-FD	3	Sediment	x	x	x					
		Total Number of Containers		Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Jacobs/Gate	Print name:	
Signature:	Company: ARI 3.1°C/5.8°C	Signature:	Company:
Company: WindWard Env.		Company:	
Date/Time: 5.15.2018/1632	Date/Time: 05/15/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

WindWard environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 2 18E0231

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3045

Project/Client Name: LDW A003
Project Number: task 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dunihoo
Shipper: hand delivered
Form filled out by: S. Replinger

Shipping Date: 5.16.2018
Airbill Number: —
Turnaround requested: Std.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) TOC / Solids	cPAHs	black carbon	ex situ cPAHs	lipids / % solids			Comments / Instructions [Jar tag number(s)]
5.16.2018	1400	LDW18-SSCL-A01	4	sediment	x	x	x	x				Hold 32 oz jar for cPAH ex situ (Jose)
	1400	-A02	4	sediment	x	x	x	x				
	1320	-A03	4	sediment	x	x	x	x				
	1300	-A05	4	sediment	x	x	x	x				
	1232	-A04	4	sediment	x	x	x	x				
	1207	-A06	4	sediment	x	x	x	x				
	1318	LDW18-C01-CL05	1	tissue		x			x			Comp ID: LDW18-SSCL-A01-Comp1
	1346	-CL12	1			x			x			
	1338	-CL22	1			x			x			
	1302	LDW18-C01-CL08	1			x			x			Comp ID: LDW18-SSCL-A02-Comp1
	1315	-CL09	1			x			x			
	1303	-CL13	1			x			x			
		Total Number of Containers	30	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger	Print name: Jacob Hale	Print name:	
Signature:	Company: ARI 2.3/4.18	Signature:	Company:
Company: Windward Env.		Company:	
Date/Time: 05.16.18 / 1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

WindWard environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2 1860243 **CHAIN-OF-CUSTODY/TEST REQUEST FORM** № 3046

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: Amara Vandervort
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dunihoo
Shipper: hand del'd
Form filled out by: S. Replinger

Shipping Date: 05.16.18
Airbill Number:
Turnaround requested: 8d.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) cPAHs	Lipids / % solids						Comments / Instructions [Jar tag number(s)]
5.16.208	1115	LDW18-CØ2-CLØ3	1	tissue	x	x						Comp ID:
	1139	-CL19	1		x	x						LDW18-SSCL-AØ6-Comp1
	1129	-CL21	1		x	x						
	1115	LDW18-CØ2-CL13	1		x	x						Comp ID
	1124	-CL23	1		x	x						LDW18-SSCL-AØ4-Comp1
	1120	-CL24	1		x	x						
	1105	LDW18-CØ3-CLØ1	1		x	x						Comp ID
	1127	-CLØ2	1		x	x						LDW18-SSCL-AØ3-Comp1
	1212	-CLØ3	1		x	x						
	1245	LDW18-CØ3-CL21	1		x	x						Comp ID
	1254	-CL22	1		x	x						LDW18-SSCL-AØ5-Comp1
	1250	-CL23	1		x	x						
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Suzanne Replinger		Print name:	
Signature:	Company: ARI 2.3/4.8	Signature:	Company:
Company: Wind Ward Env.		Company:	
Date/Time: 05-16-18/1625	Date/Time: 05/16/18 1625	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

1 of 1 18E0262

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3096

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: Amena Vandervort
Sampled By: S Replinger

Ship to: ARI
Attn: Sue Dannibo
Shipper: hand del'd
Form filled out by: S Replinger

Shipping Date: 05.17.18
Airbill Number: ——
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) TOC/%TS	CPAHs	Black Carbon	ex-situ cPAH	Lipids/% solids			Comments / Instructions [Jar tag number(s)]
05.17.18	1320	LDW18-SSCL-A13	4	SEDIMENT	x	x	x	x				7 Hold 3802 jar for
	1404	LDW18-SSCL-A19	4	↓	x	x	x	x				5 cPAH ex situ eval.
		~~LDW18-SSCL-CLD~~	~~DO~~									
	1218	LDW18-C10-CL15	1	TISSUE		x			x			Comp ID
	1213	↓ ↓ -CL16	1	↓		x			x			LDW18-A10-CLWB-
↓	1226	↓ ↓ -CL17	1	↓		x			x			Comp 01
		Total Number of Containers	11	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacob Smelter	Print name:	
Signature:	Company: ARI 5.4°C	Signature:	Company:
Company: WINDWARD ENV.		Company:	
Date/Time: 05.17.18 / 1632	Date/Time: 05/17/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

18E0282

№ 3097

Project/Client Name: LDW NOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. REPLINGER

Ship to: ARI
Attn: SUE DUMITHO
Shipper: HAND DELD
Form filled out by: S. REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) TOC/TS %	cPAHs	Black Carbon	Ex-situ cPAH	Lipids/ %Solids			Comments / Instructions (Jar tag number(s))
5.18.2018	1330	LDW18-SSCL-A12	4	sediment	X	X	X	X				
	1336	-A17	4		X	X	X	X				
	1357	-A18	4		X	X	X	X				
	1528	-A09	4		X	X	X	X				
	1505	-A10	4		X	X	X	X				
	1232	LDW18-C08-CL11	1	tissue		X			X			Comp: LDW18-A12-CLWB-Comp1
	1240	-CL18	1			X			X			
	1241	-CL21	1			X			X			
	1452	LDW18-C05-CL08	1			X			X			Comp: LDW18-A09-CLWB-Comp1
	1520	-CL11	1			X			X			
	1523	-CL12	1			X			X			
	1505	LDW18-C05-CL20	1			X			X			(A10)
		Total Number of Containers	27	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER		Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WindWard ENV		Company:	
Date/Time: 05-18-18 / 1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2

CHAIN-OF-CUSTODY/TEST REQUEST FORM

18E0282

№ 3099

Project/Client Name: UDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S. REPLINGER

Ship to: ARI
Attn: SUE DUNNIVER
Shipper: HAND DELD
Form filled out by: S. REPLINGER

Shipping Date: 05.18.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) cPAHs	LPAHs / HPAHs						Comments / Instructions (Jar tag number(s))
5.18.2018	1501	LDW18-C05-CL21	1	tissue	X	X						Comp: LDW18-A10-CLWB-Comp1
	1502	↓ ↓ -CL22	1		X	X						
	1231	LDW18-C11-CL08	1		X	X						Comp: LDW18-A18-CLWB-Comp1
	1239	↓ ↓ -CL09	1		X	X						
	1313	↓ ↓ -CL15	1		X	X						
	1225	LDW18-C11-CL10	1		X	X						Comp: LDW18-A17-CLWB-Comp1
	1241	↓ ↓ -CL11	1		X	X						
↓	1256	↓ ↓ -CL12	1	↓	X	X						
		Total Number of Containers	8	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobsen Lee	Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.18.18/ 1735	Date/Time: 05/18/18 1735	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 1 — 18E0309

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3101

Project/Client Name: LDW AOC 3
Project Number: Task 4
Contact Name: Amara Vanderwart
Sampled By: S. Replinger

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: hand-delivered
Form filled out by: S. Replinger

Shipping Date: 5.21.2018
Airbill Number:
Turnaround requested: STD.

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): TOC/TS %	cPAHs	black carbon	ex situ cPAH	lipids/% solids			Comments / Instructions [Jar tag number(s)]
5.19.2018	1435	LDW18-SSCL-A07	4	sediment	x	x	x	x				
	1500	↓ ↓ -A08	4	sediment	x	x	x	x				
	1430	LDW18-C04-CL05	1	tissue		x			x			Comp: LDW18-A07-CLAMS-Comp1
	1250	↓ ↓ -CL19	1	↓		x			x			
	1428	↓ ↓ -CL22	1			x			x			
	1315	LDW18-C04-CL12	1			x			x			Comp: LDW18-A08-CLAMS-Comp1
	1310	↓ ↓ -CL13	1			x			x			
↓	1309	↓ ↓ -CL14	1	↓		x			x			
		Total Number of Containers	14	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Aaron Ede Scott Replinger	Brandon Fisk	Print name:	
Signature:		Signature:	
Company: WindWard	Company: ARI	Company:	Company:
Date/Time: 5.21.2018 / 1010	Date/Time: 5/21/18 1010	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

WindWard environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

1 of 2 18E0389

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3073

Project/Client Name: LDW AOC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: ~~SUE~~ ARI
Attn: SUE DUNNIHOO
Shipper: HAND DEL'D
Form filled out by: S REDLINGER

Shipping Date: 05.17.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) HOLD FOR 837 (PENDING CONFIRMATION INSTRUCTIONS)							Comments / Instructions [Jar tag number(s)]
05.17.18	1213	LDW18-C10-CL01	1	TISSUE	X							
	1331	-CL02	1		X							
	1420	-CL03	1		X							
	1339	-CL04	1		X							
	1228	-CL05	1		X							
	1352	-CL06	1		X							
	1259	-CL07	1		X							
	1342	-CL08	1		X							
	1307	-CL09	1		X							
	1346	-CL10	1		X							
	1321	-CL11	1		X							
	1335	-CL12	1		X							
		Total Number of Containers	12	Purchase Order / Statement of Work #								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobs Eng Hel	Print name:	
Signature:	Company: ARI 5.4°C	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.17.18/ 1632	Date/Time: 05/17/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

2 of 2 18E0389

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3074

Project/Client Name: LDW ADC3
Project Number: TASK 4
Contact Name: AMARA VANDERVORT
Sampled By: S REPLINGER

Ship to: APL
Attn: SE DUNNHOO
Shipper: HAND DELD
Form filled out by: S REPLINGER

Shipping Date: 05.17.18
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required): HOLD FROZEN (FREEZER COMPOSITE)	Comments / Instructions [Jar tag number(s)]
05.17.18	1335	LDW18-C10-CL12	1	TISSUE	X	
	1339	-CL13	1		X	
	1322	-CL14	1		X	
	1257	-CL18	1		X	
	1304	-CL19	1		X	
	1230	LDW18-C09-CL01	1		X	
	1220	-CL02	1		X	CL02, CL03, CL04 are possible cPAH comp clams for A13. Hold.
	1209	-CL03	1		X	
	1148	-CL04	1		X	
	1335	-CL05	1		X	
	1200	-CL06	1		X	
	1305	-CL07	1		X	
		Total Number of Containers	12	Purchase Order / Statement of Work #		

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: SUZANNE REPLINGER	Jacobi Wolfe	Print name:	
Signature:	Company: ARI, 5.4°C	Signature:	Company:
Company: WINDWARD ENV		Company:	
Date/Time: 05.17.18 / 1632	Date/Time: 05/17/18 1632	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

L CORRECT ID 04/21/18 18E0231 ETAL

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A01-CLWB-Comp1	A1	LDW18-C01-CL05 LDW18-C01-CL12 LDW18-C01-CL22	5/16/2018	LDW18-SSCL-A01-Comp1 18E0243-07
LDW18-A02-CLWB-Comp1	A2	LDW18-C01-CL08 LDW18-C01-CL09 LDW18-C01-CL13	5/16/2018	LDW18-SSCL-A02-Comp1 18E0243-08
LDW18-A03-CLWB-Comp1	A3	LDW18-C03-CL01 LDW18-C03-CL02 LDW18-C03-CL03	5/16/2018	LDW18-SSCL-A03-Comp1 18E0243-11
LDW18-A04-CLWB-Comp1	A4	LDW18-C02-CL13 LDW18-C02-CL23 LDW18-C02-CL24	5/16/2018	LDW18-SSCL-A04-Comp1 18E0243-10
LDW18-A05-CLWB-Comp1	A5	LDW18-C03-CL21 LDW18-C03-CL22 LDW18-C03-CL23	5/16/2018	LDW18-SSCL-A05-Comp1 18E0243-12
LDW18-A06-CLWB-Comp1	A6	LDW18-C02-CL03 LDW18-C02-CL19 LDW18-C02-CL21	5/16/2018	LDW18-SSCL-A06-Comp1 18E0243-09
LDW18-A07-CLWB-Comp1	A7	LDW18-C04-CL05 LDW18-C04-CL19 LDW18-C04-CL22	5/19/2018	LDW18-A07-CLWB-Comp1
LDW18-A08-CLWB-Comp1	A8	LDW18-C04-CL12 LDW18-C04-CL13 LDW18-C04-CL14	5/19/2018	LDW18-A08-CLWB-Comp1
LDW18-A09-CLWB-Comp1	A9	LDW18-C05-CL08 LDW18-C05-CL11 LDW18-C05-CL12	5/18/2018	LDW18-A09-CLWB-Comp1
LDW18-A10-CLWB-Comp1	A10	LDW18-C05-CL20 LDW18-C05-CL21 LDW18-C05-CL22	5/18/2018	LDW18-A10-CLWB-Comp1
LDW18-A11-CLWB-Comp1	A11	LDW18-C06-CL04 LDW18-C06-CL05 LDW18-C06-CL20	5/15/2018	LDW18-A11-CLWB-Comp01 18E0231-01

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A12-CLWB-Comp1	A12	LDW18-C08-CL11	5/18/2018	LDW18-A12-CLWB-Comp1
		LDW18-C08-CL18		
		LDW18-C08-CL21		
LDW18-A13-CLWB-Comp1	A13	LDW18-C09-CL02	5/17/18 (these are listed on a separate COC from the sediments)	LDW18-A13-CLWB-Comp1
		LDW18-C09-CL03		
		LDW18-C09-CL04		
LDW18-A17-CLWB-Comp1	A17	LDW18-C11-CL10	5/18/2018	LDW18-A17-CLWB-Comp1
		LDW18-C11-CL11		
		LDW18-C11-CL12		
LDW18-A18-CLWB-Comp1	A18	LDW18-C11-CL08	5/18/2018	LDW18-A18-CLWB-Comp1
		LDW18-C11-CL09		
		LDW18-C11-CL15		
LDW18-A19-CLWB-Comp1	A19	LDW18-C10-CL15	5/17/2018 (these are listed as comp A10 on the COC but should be labeled A19)	LDW18-A19-CLWB-Comp01 18E0262-03
		LDW18-C10-CL16		
		LDW18-C10-CL17		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: 18E0231 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.8°C
Time: 1637

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00526

Cooler Accepted by: JBW Date: 05/15/18 Time: 1630

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? (YES) NO

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? JBW (YES) (NO)

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO

Were all VOC vials free of air bubbles? (NA) YES NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI.... (NA) _____

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JBW Date: 05/16/18 Time: 1055

** *Notify Project Manager of discrepancies or concerns* **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
LDW18-SCL-4	LDW18-SCL-4		

Additional Notes, Discrepancies, & Resolutions:
only the 4oz Jar has discrepancy. marked with a star

By: JBW Date: 05/16/18

Small Air Bubbles < 2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• •	• • •	● ● ●

Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

L CORRECT ID 04/21/18 18E0231 ETAL

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A01-CLWB-Comp1	A1	LDW18-C01-CL05	5/16/2018	LDW18-SSCL-A01-Comp1 18E0243-07
		LDW18-C01-CL12		
		LDW18-C01-CL22		
LDW18-A02-CLWB-Comp1	A2	LDW18-C01-CL08	5/16/2018	LDW18-SSCL-A02-Comp1 18E0243-08
		LDW18-C01-CL09		
		LDW18-C01-CL13		
LDW18-A03-CLWB-Comp1	A3	LDW18-C03-CL01	5/16/2018	LDW18-SSCL-A03-Comp1 18E0243-11
		LDW18-C03-CL02		
		LDW18-C03-CL03		
LDW18-A04-CLWB-Comp1	A4	LDW18-C02-CL13	5/16/2018	LDW18-SSCL-A04-Comp1 18E0243-10
		LDW18-C02-CL23		
		LDW18-C02-CL24		
LDW18-A05-CLWB-Comp1	A5	LDW18-C03-CL21	5/16/2018	LDW18-SSCL-A05-Comp1 18E0243-12
		LDW18-C03-CL22		
		LDW18-C03-CL23		
LDW18-A06-CLWB-Comp1	A6	LDW18-C02-CL03	5/16/2018	LDW18-SSCL-A06-Comp1 18E0243-09
		LDW18-C02-CL19		
		LDW18-C02-CL21		
LDW18-A07-CLWB-Comp1	A7	LDW18-C04-CL05	5/19/2018	LDW18-A07-CLWB-Comp1
		LDW18-C04-CL19		
		LDW18-C04-CL22		
LDW18-A08-CLWB-Comp1	A8	LDW18-C04-CL12	5/19/2018	LDW18-A08-CLWB-Comp1
		LDW18-C04-CL13		
		LDW18-C04-CL14		
LDW18-A09-CLWB-Comp1	A9	LDW18-C05-CL08	5/18/2018	LDW18-A09-CLWB-Comp1
		LDW18-C05-CL11		
		LDW18-C05-CL12		
LDW18-A10-CLWB-Comp1	A10	LDW18-C05-CL20	5/18/2018	LDW18-A10-CLWB-Comp1
		LDW18-C05-CL21		
		LDW18-C05-CL22		
LDW18-A11-CLWB-Comp1	A11	LDW18-C06-CL04	5/15/2018	LDW18-A11-CLWB-Comp01 18E0231-01
		LDW18-C06-CL05		
		LDW18-C06-CL20		

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A12-CLWB-Comp1	A12	LDW18-C08-CL11	5/18/2018	LDW18-A12-CLWB-Comp1
		LDW18-C08-CL18		
		LDW18-C08-CL21		
LDW18-A13-CLWB-Comp1	A13	LDW18-C09-CL02	5/17/18 (these are listed on a separate COC from the sediments)	LDW18-A13-CLWB-Comp1
		LDW18-C09-CL03		
		LDW18-C09-CL04		
LDW18-A17-CLWB-Comp1	A17	LDW18-C11-CL10	5/18/2018	LDW18-A17-CLWB-Comp1
		LDW18-C11-CL11		
		LDW18-C11-CL12		
LDW18-A18-CLWB-Comp1	A18	LDW18-C11-CL08	5/18/2018	LDW18-A18-CLWB-Comp1
		LDW18-C11-CL09		
		LDW18-C11-CL15		
LDW18-A19-CLWB-Comp1	A19	LDW18-C10-CL15	5/17/2018 (these are listed as comp A10 on the COC but should be labeled A19)	LDW18-A19-CLWB-Comp01 18E0262-03
		LDW18-C10-CL16		
		LDW18-C10-CL17		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hubward Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18E0231 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 2.3°C 4.8°C ___ ___ ___

Time: 1625

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D0052206

Cooler Accepted by: JBW Date: 05/16/18 Time: 1625

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

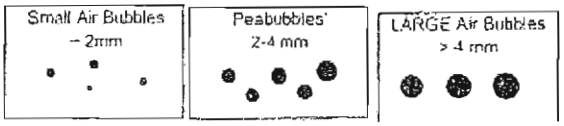
Samples Logged by: JBW Date: 05/16/18 Time: 1656

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

L CORRECT ID 04/21/18 18E0231 ETAL

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A01-CLWB-Comp1	A1	LDW18-C01-CL05	5/16/2018	LDW18-SSCL-A01-Comp1 18E0243-07
		LDW18-C01-CL12		
		LDW18-C01-CL22		
LDW18-A02-CLWB-Comp1	A2	LDW18-C01-CL08	5/16/2018	LDW18-SSCL-A02-Comp1 18E0243-08
		LDW18-C01-CL09		
		LDW18-C01-CL13		
LDW18-A03-CLWB-Comp1	A3	LDW18-C03-CL01	5/16/2018	LDW18-SSCL-A03-Comp1 18E0243-11
		LDW18-C03-CL02		
		LDW18-C03-CL03		
LDW18-A04-CLWB-Comp1	A4	LDW18-C02-CL13	5/16/2018	LDW18-SSCL-A04-Comp1 18E0243-10
		LDW18-C02-CL23		
		LDW18-C02-CL24		
LDW18-A05-CLWB-Comp1	A5	LDW18-C03-CL21	5/16/2018	LDW18-SSCL-A05-Comp1 18E0243-12
		LDW18-C03-CL22		
		LDW18-C03-CL23		
LDW18-A06-CLWB-Comp1	A6	LDW18-C02-CL03	5/16/2018	LDW18-SSCL-A06-Comp1 18E0243-09
		LDW18-C02-CL19		
		LDW18-C02-CL21		
LDW18-A07-CLWB-Comp1	A7	LDW18-C04-CL05	5/19/2018	LDW18-A07-CLWB-Comp1
		LDW18-C04-CL19		
		LDW18-C04-CL22		
LDW18-A08-CLWB-Comp1	A8	LDW18-C04-CL12	5/19/2018	LDW18-A08-CLWB-Comp1
		LDW18-C04-CL13		
		LDW18-C04-CL14		
LDW18-A09-CLWB-Comp1	A9	LDW18-C05-CL08	5/18/2018	LDW18-A09-CLWB-Comp1
		LDW18-C05-CL11		
		LDW18-C05-CL12		
LDW18-A10-CLWB-Comp1	A10	LDW18-C05-CL20	5/18/2018	LDW18-A10-CLWB-Comp1
		LDW18-C05-CL21		
		LDW18-C05-CL22		
LDW18-A11-CLWB-Comp1	A11	LDW18-C06-CL04	5/15/2018	LDW18-A11-CLWB-Comp01 18E0231-01
		LDW18-C06-CL05		
		LDW18-C06-CL20		

Composite ID	cPAH Sample Area	Individual Speciman ID	Collection Date	on COC:
LDW18-A12-CLWB-Comp1	A12	LDW18-C08-CL11	5/18/2018	LDW18-A12-CLWB-Comp1
		LDW18-C08-CL18		
		LDW18-C08-CL21		
LDW18-A13-CLWB-Comp1	A13	LDW18-C09-CL02	5/17/18 (these are listed on a separate COC from the sediments)	LDW18-A13-CLWB-Comp1
		LDW18-C09-CL03		
		LDW18-C09-CL04		
LDW18-A17-CLWB-Comp1	A17	LDW18-C11-CL10	5/18/2018	LDW18-A17-CLWB-Comp1
		LDW18-C11-CL11		
		LDW18-C11-CL12		
LDW18-A18-CLWB-Comp1	A18	LDW18-C11-CL08	5/18/2018	LDW18-A18-CLWB-Comp1
		LDW18-C11-CL09		
		LDW18-C11-CL15		
LDW18-A19-CLWB-Comp1	A19	LDW18-C10-CL15	5/17/2018 (these are listed as comp A10 on the COC but should be labeled A19)	LDW18-A19-CLWB-Comp01 18E0262-03
		LDW18-C10-CL16		
		LDW18-C10-CL17		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18E0231

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.4°C

Time: 1632

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D0005206

Cooler Accepted by: JBW Date: 05/17/18 Time: 1632

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? (YES) NO

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO

Were all VOC vials free of air bubbles? (NA) YES NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI... (NA) _____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

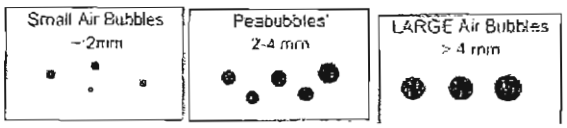
Samples Logged by: JBW Date: 05/17/18 Time: 1658

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: 18E0282

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.4°C 1.7°C 2.8°C
Time: 1735 (cooler # 1 2 3)

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520G

Cooler Accepted by: JLW Date: 05/18/18 Time: 1735

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		YES	(NO)
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: BF Date: 5/21/18 Time: 926

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
LDW18-SSCL-A	LDW18-SSCL-A09		

402

Additional Notes, Discrepancies, & Resolutions:

Three composites labeled only with Area # not Full ID

By: BF Date: 5/21/18

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• •	• • •	• • •

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18E0309 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.9

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: IR00265

Cooler Accepted by: BF Date: 5/21/18 Time: 1010

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? (YES) NO

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO

Were all VOC vials free of air bubbles? (NA) YES NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI... (NA) _____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

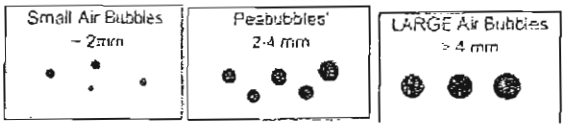
Samples Logged by: BF Date: 5/22/18 Time: 1135

** *Notify Project Manager of discrepancies or concerns* **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18E0388

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 5.4°C
Time: 1632

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D00506

Cooler Accepted by: JBW Date: 05/17/18 Time: 1632

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

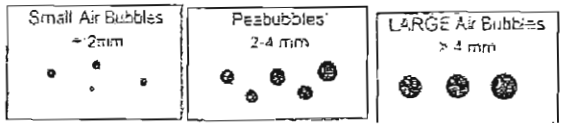
Samples Logged by: JBW Date: 05/29/18 Time: 1457

** *Notify Project Manager of discrepancies or concerns* **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle WA, 98119-3958	Project Manager: Amara Vandervort	22-Jun-2018 15:20

Case Narrative

Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Work Order: 18E0231

Sample receipt

Samples as listed on the preceding pages were received under multiple workorders. For details regarding sample receipt, please refer to the Cooler Receipt Forms.

On 06/21/18, revisions to sample IDs were received. A copy of the corrected names is included here.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, with tissues stored frozen until processed and/or extracted.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

The SRM recoveries were within limits with the exception of Benzo(k)fluoranthene at 69.9% (limit 70-130). Calculations were check and integration between the benzofluoranthenes was confirmed. The outlier has been flagged on the summary form and no further action was taken.

A portion of each extract before cleanup was used for determination of percent lipids.

Wet Chemistry

The samples were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The matrix QC in batch SGE0487 had high RPD for the duplicate and low recovery for the matrix spike. QC samples were reanalyzed, with similar results. Outliers are attributed to sample matrix. Results have been flagged on the summary sheets.

In batch SGF0001, the method blank showed response above criteria and low recovery for the matrix spike. Both were reanalyzed, using a large sample volume for the matrix spike. Both showed acceptable results and have been reported.

SRM recoveries were within limits.

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0231-01	LDW18-A11-CLWB-Comp1	Tissue	05/15/18 11:38	05/15/18 16:32
18E0231-02	LDW18-SSCL-A11	Solid	05/15/18 12:01	05/15/18 16:32
18E0231-03	LDW18-SSCL-A11-FD	Solid	05/15/18 12:01	05/15/18 16:32

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0243-01	LDW18-SSCL-A01	Solid	05/16/18 14:00	05/16/18 16:25
18E0243-02	LDW18-SSCL-A02	Solid	05/16/18 14:00	05/16/18 16:25
18E0243-03	LDW18-SSCL-A03	Solid	05/16/18 13:20	05/16/18 16:25
18E0243-04	LDW18-SSCL-A05	Solid	05/16/18 13:00	05/16/18 16:25
18E0243-05	LDW18-SSCL-A04	Solid	05/16/18 12:32	05/16/18 16:25
18E0243-06	LDW18-SSCL-A06	Solid	05/16/18 12:07	05/16/18 16:25
18E0243-07	LDW18-A01-CLWB-Comp1	Tissue	05/16/18 13:38	05/16/18 16:25
18E0243-08	LDW18-A02-CLWB-Comp1	Tissue	05/16/18 13:15	05/16/18 16:25
18E0243-09	LDW18-A06-CLWB-Comp1	Tissue	05/16/18 11:39	05/16/18 16:25
18E0243-10	LDW18-A04-CLWB-Comp1	Tissue	05/16/18 11:24	05/16/18 16:25
18E0243-11	LDW18-A03-CLWB-Comp1	Tissue	05/16/18 12:12	05/16/18 16:25
18E0243-12	LDW18-A05-CLWB-Comp1	Tissue	05/16/18 12:54	05/16/18 16:25

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0262-01	LDW18-SSCL-A13	Solid	05/17/18 13:20	05/17/18 16:32
18E0262-02	LDW18-SSCL-A19	Solid	05/17/18 14:04	05/17/18 16:32
18E0262-03	LDW18-A19-CLWB-Comp1	Tissue	05/17/18 12:26	05/17/18 16:32

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0282-01	LDW18-SSCL-A12	Solid	05/18/18 13:30	05/18/18 17:35
18E0282-02	LDW18-SSCL-A17	Solid	05/18/18 13:36	05/18/18 17:35
18E0282-03	LDW18-SSCL-A18	Solid	05/18/18 13:57	05/18/18 17:35
18E0282-04	LDW18-SSCL-A09	Solid	05/18/18 15:28	05/18/18 17:35
18E0282-05	LDW18-SSCL-A10	Solid	05/18/18 15:05	05/18/18 17:35
18E0282-06	LDW18-A12-CLWB-Comp1	Tissue	05/18/18 12:41	05/18/18 17:35
18E0282-07	LDW18-A09-CLWB-Comp1	Tissue	05/18/18 15:23	05/18/18 17:35
18E0282-08	LDW18-A10-CLWB-Comp1	Tissue	05/18/18 15:05	05/18/18 17:35
18E0282-09	LDW18-A18-CLWB-Comp1	Tissue	05/18/18 13:13	05/18/18 17:35
18E0282-10	LDW18-A17-CLWB-Comp1	Tissue	05/18/18 12:56	05/18/18 17:35

Windward Environmental, LLC	Project: LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number: [none]	**Reported:**
Seattle, WA 98119-3958	Project Manager: Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0309-01	LDW18-SSCL-A07	Solid	05/19/18 14:35	05/21/18 10:10
18E0309-02	LDW18-SSCL-A08	Solid	05/19/18 15:00	05/21/18 10:10
18E0309-03	LDW18-A07-CLWB-Comp1	Tissue	05/19/18 14:50	05/21/18 10:10
18E0309-04	LDW18-A08-CLWB-Comp1	Tissue	05/19/18 13:15	05/21/18 10:10

Windward Environmental, LLC	Project:	LDW AOC3 Task 4	
200 West Mercer Street, Suite 401	Project Number:	[none]	**Reported:**
Seattle, WA 98119-3958	Project Manager:	Amara Vandervort	06/22/2018 14:42

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
18E0389-01	LDW18-A13-CLWB-Comp1	Tissue	05/17/18 12:20	05/17/18 16:32

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0231

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0231-01 (LDW18-A11-CLWB-Comp1) Sampled 05/15/2018 11:38

Current Status	*Out*	*Location*	*In*
18E0231-01 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.450348ug/kg];Fluoranthene [10.37686ug/kg];Pyrene*	
Sample Receiving	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:19 by JBW	***START***	05/16/2018 11:19 by JBW
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0231

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0231-01 (LDW18-A11-CLWB-Comp1) Sampled 05/15/2018 11:38

Current Status	*Out*	*Location*	*In*
18E0231-01 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.450348ug/kg];Fluoranthene [10.37686ug/kg];Pyrene*	
Sample Receiving	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 11:23 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0231-02 (LDW18-SSCL-A11) Sampled 05/15/2018 12:01

Current Status	*Out*	*Location*	*In*
18E0231-02 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [6.122915ug/kg];Acenaphthene [9.528485ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0231

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0231-02 (LDW18-SSCL-A11) Sampled 05/15/2018 12:01

Current Status	*Out*	*Location*	*In*
18E0231-02 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [6.122915ug/kg];Acenaphthene [9.528485ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
18E0231-02 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [6.122915ug/kg];Acenaphthene [9.528485ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

18E0231-03 (LDW18-SSCL-A11-FD) Sampled 05/15/2018 12:01

Current Status	*Out*	*Location*	*In*
18E0231-03 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [4.664762ug/kg];Acenaphthene [7.777675ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0231

Client:	Windward Environmental, LLC	Received:	18-May-2018 17:35
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	3.40

18E0231-03 (LDW18-SSCL-A11-FD) Sampled 05/15/2018 12:01

Current Status	*Out*	*Location*	*In*
18E0231-03 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [4.664762ug/kg];Acenaphthene [7.777675ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
18E0231-03 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [4.664762ug/kg];Acenaphthene [7.777675ug/kg];Fluo*	
Sample Receiving	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
	05/16/2018 11:21 by JBW	***START***	05/16/2018 11:21 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-01 (LDW18-SSCL-A01) Sampled 05/16/2018 14:00

Current Status	*Out*	*Location*	*In*
18E0243-01 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [92.56109ug/kg];Acenaphthene [18.50153ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-01 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [92.56109ug/kg];Acenaphthene [18.50153ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-02 (LDW18-SSCL-A02) Sampled 05/16/2018 14:00

Current Status	*Out*	*Location*	*In*
18E0243-02 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [3.527033ug/kg];Acenaphthene [3.073659ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-02 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [3.527033ug/kg];Acenaphthene [3.073659ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-03 (LDW18-SSCL-A03) Sampled 05/16/2018 13:20

Current Status	*Out*	*Location*	*In*
18E0243-03 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [1240.123ug/kg];Acenaphthene [627.0309ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-03 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [1240.123ug/kg];Acenaphthene [627.0309ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-04 (LDW18-SSCL-A05) Sampled 05/16/2018 13:00

Current Status	*Out*	*Location*	*In*
18E0243-04 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [10.54758ug/kg];Acenaphthene [4.429557ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-04 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [10.54758ug/kg];Acenaphthene [4.429557ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-05 (LDW18-SSCL-A04) Sampled 05/16/2018 12:32

Current Status	*Out*	*Location*	*In*
18E0243-05 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [3.741826ug/kg];Phenanthrene [34.84599ug/kg];Anth*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-05 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [3.741826ug/kg];Phenanthrene [34.84599ug/kg];Anth*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-06 (LDW18-SSCL-A06) Sampled 05/16/2018 12:07

Current Status	*Out*	*Location*	*In*
18E0243-06 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [5.224011ug/kg];Acenaphthene [2.419633ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
Extractions	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/17/2018 09:49 by CT	Organic Extractions	05/17/2018 12:51 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0243-06 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [5.224011ug/kg];Acenaphthene [2.419633ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW
	05/16/2018 17:00 by JBW	***START***	05/16/2018 17:00 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-07 (LDW18-A01-CLWB-Comp1) Sampled 05/16/2018 13:38

Current Status	*Out*	*Location*	*In*
18E0243-07 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.8625ug/kg];Fluoranthene [13.708ug/kg];Pyrene [13.*	
Sample Receiving	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0243-07 (LDW18-A01-CLWB-Comp1) Sampled 05/16/2018 13:38

Current Status	*Out*	*Location*	*In*
18E0243-07 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.8625ug/kg];Fluoranthene [13.708ug/kg];Pyrene [13.*	
Sample Receiving	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0243-08 (LDW18-A02-CLWB-Comp1) Sampled 05/16/2018 13:15

Current Status	*Out*	*Location*	*In*
18E0243-08 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.036427ug/kg];Fluoranthene [11.44212ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-08 (LDW18-A02-CLWB-Comp1) Sampled 05/16/2018 13:15

Current Status	*Out*	*Location*	*In*
18E0243-08 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.036427ug/kg];Fluoranthene [11.44212ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:02 by JBW	***START***	05/16/2018 17:02 by JBW
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0243-08 (LDW18-A02-CLWB-Comp1) Sampled 05/16/2018 13:15

Current Status	*Out*	*Location*	*In*
18E0243-08 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.036427ug/kg];Fluoranthene [11.44212ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0243-09 (LDW18-A06-CLWB-Comp1) Sampled 05/16/2018 11:39

Current Status	*Out*	*Location*	*In*
18E0243-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.35992ug/kg];Fluoranthene [11.43868ug/kg];Pyrene [*	
Sample Receiving	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW
	05/16/2018 17:05 by JBW	***START***	05/16/2018 17:05 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-09 (LDW18-A06-CLWB-Comp1) Sampled 05/16/2018 11:39

Current Status	*Out*	*Location*	*In*
18E0243-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.35992ug/kg];Fluoranthene [11.43868ug/kg];Pyrene [*	
Sample Receiving	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0243-09 (LDW18-A06-CLWB-Comp1) Sampled 05/16/2018 11:39

Current Status	*Out*	*Location*	*In*
18E0243-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.35992ug/kg];Fluoranthene [11.43868ug/kg];Pyrene [*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0243-10 (LDW18-A04-CLWB-Comp1) Sampled 05/16/2018 11:24

Current Status	*Out*	*Location*	*In*
18E0243-10 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.53426ug/kg];Fluoranthene [9.784012ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:06 by JBW	***START***	05/16/2018 17:06 by JBW
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-10 (LDW18-A04-CLWB-Comp1) Sampled 05/16/2018 11:24

Current Status	*Out*	*Location*	*In*
18E0243-10 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.53426ug/kg];Fluoranthene [9.784012ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0243-11 (LDW18-A03-CLWB-Comp1) Sampled 05/16/2018 12:12

Current Status	*Out*	*Location*	*In*
18E0243-11 A [Ziploc Bag, Gallon]		*Hazard Info:Acenaphthylene [4.564115ug/kg];Acenaphthene [3.426441ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	LDW AOC3 Task 4	Received By:	Brandon Fisk
Number:	[none]	Temp (°C):	5.90

18E0243-11 (LDW18-A03-CLWB-Comp1) Sampled 05/16/2018 12:12

Current Status	*Out*	*Location*	*In*
18E0243-11 A [Ziploc Bag, Gallon]		*Hazard Info:Acenaphthylene [4.564115ug/kg];Acenaphthene [3.426441ug/kg];Fluo*	
Sample Receiving	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-11 (LDW18-A03-CLWB-Comp1) Sampled 05/16/2018 12:12

Current Status	*Out*	*Location*	*In*
18E0243-11 A [Ziploc Bag, Gallon]		*Hazard Info:Acenaphthylene [4.564115ug/kg];Acenaphthene [3.426441ug/kg];Fluo*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0243-12 (LDW18-A05-CLWB-Comp1) Sampled 05/16/2018 12:54

Current Status	*Out*	*Location*	*In*
18E0243-12 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.964497ug/kg];Fluoranthene [7.325444ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	LDW AOC3 Task 4	Received By:	Brandon Fisk
Number:	[none]	Temp (°C):	5.90

18E0243-12 (LDW18-A05-CLWB-Comp1) Sampled 05/16/2018 12:54

Current Status	*Out*	*Location*	*In*
18E0243-12 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.964497ug/kg];Fluoranthene [7.325444ug/kg];Pyrene*	
Sample Receiving	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:07 by JBW	***START***	05/16/2018 17:07 by JBW
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
	05/16/2018 17:14 by JBW	F-05 09	06/01/2018 10:00 by CT
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0243

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0243-12 (LDW18-A05-CLWB-Comp1) Sampled 05/16/2018 12:54

Current Status	*Out*	*Location*	*In*
18E0243-12 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.964497ug/kg];Fluoranthene [7.325444ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0262

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0262-01 (LDW18-SSCL-A13) Sampled 05/17/2018 13:20

Current Status	*Out*	*Location*	*In*
18E0262-01 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [5.682699ug/kg];Acenaphthene [3.059842ug/kg];Fluo*	
Sample Receiving	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0262-01 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [5.682699ug/kg];Acenaphthene [3.059842ug/kg];Fluo*	
Sample Receiving	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0262

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0262-02 (LDW18-SSCL-A19) Sampled 05/17/2018 14:04

Current Status	*Out*	*Location*	*In*
18E0262-02 A [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthene [3.171685ug/kg];Fluorene [4.567869ug/kg];Phenanthre*	
Sample Receiving	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
18E0262-02 B [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthene [3.171685ug/kg];Fluorene [4.567869ug/kg];Phenanthre*	
Sample Receiving	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW
	05/17/2018 17:01 by JBW	***START***	05/17/2018 17:01 by JBW

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0262

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0262-03 (LDW18-A19-CLWB-Comp1) Sampled 05/17/2018 12:26

Current Status	*Out*	*Location*	*In*
18E0262-03 A [Ziploc Bag, Gallon]		*Hazard Info:Fluoranthene [5.253246ug/kg];Pyrene [5.104396ug/kg];Benzo(b)fluor*	
Sample Receiving	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
	05/17/2018 17:03 by JBW	***START***	05/17/2018 17:03 by JBW
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0262

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0262-03 (LDW18-A19-CLWB-Comp1) Sampled 05/17/2018 12:26

Current Status	*Out*	*Location*	*In*
18E0262-03 A [Ziploc Bag, Gallon]		*Hazard Info:Fluoranthene [5.253246ug/kg];Pyrene [5.104396ug/kg];Benzo(b)fluor*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-01 (LDW18-SSCL-A12) Sampled 05/18/2018 13:30

Current Status	*Out*	*Location*	*In*
18E0282-01 A [Glass WM, Clear, 4 oz]		*Hazard Info:Phenanthrene [16.90949ug/kg];Anthracene [6.578553ug/kg];Fluorant*	
Sample Receiving	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
18E0282-01 B [Glass WM, Clear, 8 oz]		*Hazard Info:Phenanthrene [16.90949ug/kg];Anthracene [6.578553ug/kg];Fluorant*	
Sample Receiving	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-02 (LDW18-SSCL-A17) Sampled 05/18/2018 13:36

Current Status	*Out*	*Location*	*In*
18E0282-02 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [5.694659ug/kg];Acenaphthene [15.03982ug/kg];Fluo*	
Sample Receiving	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
18E0282-02 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [5.694659ug/kg];Acenaphthene [15.03982ug/kg];Fluo*	
Sample Receiving	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
	05/21/2018 09:36 by BF	***START***	05/21/2018 09:36 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-03 (LDW18-SSCL-A18) Sampled 05/18/2018 13:57

Current Status	*Out*	*Location*	*In*
18E0282-03 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthene [29.29187ug/kg];Fluorene [30.40842ug/kg];Phenanthre*	
Sample Receiving	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
18E0282-03 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthene [29.29187ug/kg];Fluorene [30.40842ug/kg];Phenanthre*	
Sample Receiving	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-04 (LDW18-SSCL-A09) Sampled 05/18/2018 15:28

Current Status	*Out*	*Location*	*In*
18E0282-04 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [2.969301ug/kg];Acenaphthene [4.927252ug/kg];Fluo*	
Sample Receiving	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
18E0282-04 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [2.969301ug/kg];Acenaphthene [4.927252ug/kg];Fluo*	
Sample Receiving	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
	05/21/2018 09:38 by BF	***START***	05/21/2018 09:38 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-05 (LDW18-SSCL-A10) Sampled 05/18/2018 15:05

Current Status	*Out*	*Location*	*In*
18E0282-05 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [3.607052ug/kg];Phenanthrene [20.36247ug/kg];Anth*	
Sample Receiving	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
18E0282-05 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [3.607052ug/kg];Phenanthrene [20.36247ug/kg];Anth*	
Sample Receiving	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
	05/21/2018 09:39 by BF	***START***	05/21/2018 09:39 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-06 (LDW18-A12-CLWB-Comp1) Sampled 05/18/2018 12:41

Current Status	*Out*	*Location*	*In*
18E0282-06 A [Ziploc Bag, Gallon]		*Hazard Info:Fluoranthene [4.800995ug/kg];Pyrene [4.718408ug/kg]*	
Sample Receiving	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
	05/21/2018 09:43 by BF	***START***	05/21/2018 09:43 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0282-06 (LDW18-A12-CLWB-Comp1) Sampled 05/18/2018 12:41

Current Status	*Out*	*Location*	*In*
18E0282-06 A [Ziploc Bag, Gallon]		*Hazard Info:Fluoranthene [4.800995ug/kg];Pyrene [4.718408ug/kg]*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0282-07 (LDW18-A09-CLWB-Comp1) Sampled 05/18/2018 15:23

Current Status	*Out*	*Location*	*In*
18E0282-07 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [3.828869ug/kg];Fluoranthene [9.716766ug/kg];Pyrene*	
Sample Receiving	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
	05/21/2018 09:44 by BF	***START***	05/21/2018 09:44 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-07 (LDW18-A09-CLWB-Comp1) Sampled 05/18/2018 15:23

Current Status	*Out*	*Location*	*In*
18E0282-07 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [3.828869ug/kg];Fluoranthene [9.716766ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0282-08 (LDW18-A10-CLWB-Comp1) Sampled 05/18/2018 15:05

Current Status	*Out*	*Location*	*In*
18E0282-08 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.30997ug/kg];Fluoranthene [13.36624ug/kg];Pyrene*	
Sample Receiving	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
	05/21/2018 09:46 by BF	***START***	05/21/2018 09:46 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	21-May-2018 10:10
Project:	LDW AOC3 Task 4	Received By:	Brandon Fisk
Number:	[none]	Temp (°C):	5.90

18E0282-08 (LDW18-A10-CLWB-Comp1) Sampled 05/18/2018 15:05

Current Status	*Out*	*Location*	*In*
18E0282-08 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [5.30997ug/kg];Fluoranthene [13.36624ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0282-09 (LDW18-A18-CLWB-Comp1) Sampled 05/18/2018 13:13

Current Status	*Out*	*Location*	*In*
18E0282-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.680376ug/kg];Fluoranthene [11.4004ug/kg];Pyrene [*	
Sample Receiving	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0282-09 (LDW18-A18-CLWB-Comp1) Sampled 05/18/2018 13:13

Current Status	*Out*	*Location*	*In*
18E0282-09 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.680376ug/kg];Fluoranthene [11.4004ug/kg];Pyrene [*	
Sample Receiving	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
	05/21/2018 09:48 by BF	***START***	05/21/2018 09:48 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0282-10 (LDW18-A17-CLWB-Comp1) Sampled 05/18/2018 12:56

Current Status	*Out*	*Location*	*In*
18E0282-10 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.910448ug/kg];Fluoranthene [7.634328ug/kg];Pyrene*	
Sample Receiving	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0282

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0282-10 (LDW18-A17-CLWB-Comp1) Sampled 05/18/2018 12:56

Current Status	*Out*	*Location*	*In*
18E0282-10 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.910448ug/kg];Fluoranthene [7.634328ug/kg];Pyrene*	
Sample Receiving	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
	05/21/2018 09:49 by BF	***START***	05/21/2018 09:49 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0309

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0309-01 (LDW18-SSCL-A07) Sampled 05/19/2018 14:35

Current Status	*Out*	*Location*	*In*
18E0309-01 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [25.06195ug/kg];Fluorene [5.482115ug/kg];Phenanth*	
Sample Receiving	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
18E0309-01 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [25.06195ug/kg];Fluorene [5.482115ug/kg];Phenanth*	
Sample Receiving	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0309

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0309-02 (LDW18-SSCL-A08) Sampled 05/19/2018 15:00

Current Status	*Out*	*Location*	*In*
18E0309-02 A [Glass WM, Clear, 4 oz]		*Hazard Info:Acenaphthylene [46.71955ug/kg];Acenaphthene [12.21023ug/kg];Fluo*	
Sample Receiving	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
18E0309-02 B [Glass WM, Clear, 8 oz]		*Hazard Info:Acenaphthylene [46.71955ug/kg];Acenaphthene [12.21023ug/kg];Fluo*	
Sample Receiving	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
	05/22/2018 11:40 by BF	***START***	05/22/2018 11:40 by BF
Extractions	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/22/2018 13:55 by CT	Organic Extractions	05/22/2018 16:42 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 09:02 by CT	Organic Extractions	05/24/2018 11:34 by CT
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by
	05/24/2018 11:34 by CT	F-51 N3-2	by

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0309

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0309-03 (LDW18-A07-CLWB-Comp1) Sampled 05/19/2018 14:50

Current Status	*Out*	*Location*	*In*
18E0309-03 A [Ziploc Bag, Gallon]		*Hazard Info:Fluorene [2.560277ug/kg];Phenanthrene [6.822135ug/kg];Fluoranthe*	
Sample Receiving	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
	05/22/2018 11:53 by BF	***START***	05/22/2018 11:53 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0309

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0309-03 (LDW18-A07-CLWB-Comp1) Sampled 05/19/2018 14:50

Current Status	*Out*	*Location*	*In*
18E0309-03 A [Ziploc Bag, Gallon]		*Hazard Info:Fluorene [2.560277ug/kg];Phenanthrene [6.822135ug/kg];Fluoranthe*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

18E0309-04 (LDW18-A08-CLWB-Comp1) Sampled 05/19/2018 13:15

Current Status	*Out*	*Location*	*In*
18E0309-04 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.411823ug/kg];Fluoranthene [8.751725ug/kg];Pyrene*	
Sample Receiving	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
	05/22/2018 12:00 by BF	***START***	05/22/2018 12:00 by BF
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0309

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0309-04 (LDW18-A08-CLWB-Comp1) Sampled 05/19/2018 13:15

Current Status	*Out*	*Location*	*In*
18E0309-04 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [4.411823ug/kg];Fluoranthene [8.751725ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0389

Client:	Windward Environmental, LLC	Received:	15-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.80

18E0389-01 (LDW18-A13-CLWB-Comp1) Sampled 05/17/2018 12:20

Current Status	*Out*	*Location*	*In*
18E0389-01 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.876355ug/kg];Fluoranthene [6.97734ug/kg];Pyrene*	
Sample Receiving	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
	05/29/2018 15:00 by JBW	***START***	05/29/2018 15:00 by JBW
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

INTERNAL CHAIN OF CUSTODY

Work Order: 18E0389

Client:	Windward Environmental, LLC	Received:	17-May-2018 16:32
Project:	LDW AOC3 Task 4	Received By:	Jacob Walter
Number:	[none]	Temp (°C):	5.40

18E0389-01 (LDW18-A13-CLWB-Comp1) Sampled 05/17/2018 12:20

Current Status	*Out*	*Location*	*In*
18E0389-01 A [Ziploc Bag, Gallon]		*Hazard Info:Phenanthrene [2.876355ug/kg];Fluoranthene [6.97734ug/kg];Pyrene*	
Extractions	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL
	06/01/2018 10:00 by CT	Organic Extractions	06/01/2018 15:38 by YQL

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D1	Surrogate was not detected due to sample extract dilution
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

LDW18-A11-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0231-01	SDG:	18E0231
Sampled:	05/15/18 11:38	Prepared:	06/05/18 12:40	File ID:	N818061220.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 23:00
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.07 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.68	J	0.53	4.97
218-01-9	Chrysene	1	6.38		0.48	4.97
205-99-2	Benzo(b)fluoranthene	1	2.47	J	1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	1.53	J	0.71	4.97
50-32-8	Benzo(a)pyrene	1	4.97	U	0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.97	U	0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	4.97	U	1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.96	68.9	46.2	20 - 130	
Dibenzo[a,h]anthracene-d14	148.96	103	68.9	20 - 130	
Fluoranthene-d10	148.96	87.0	58.4	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

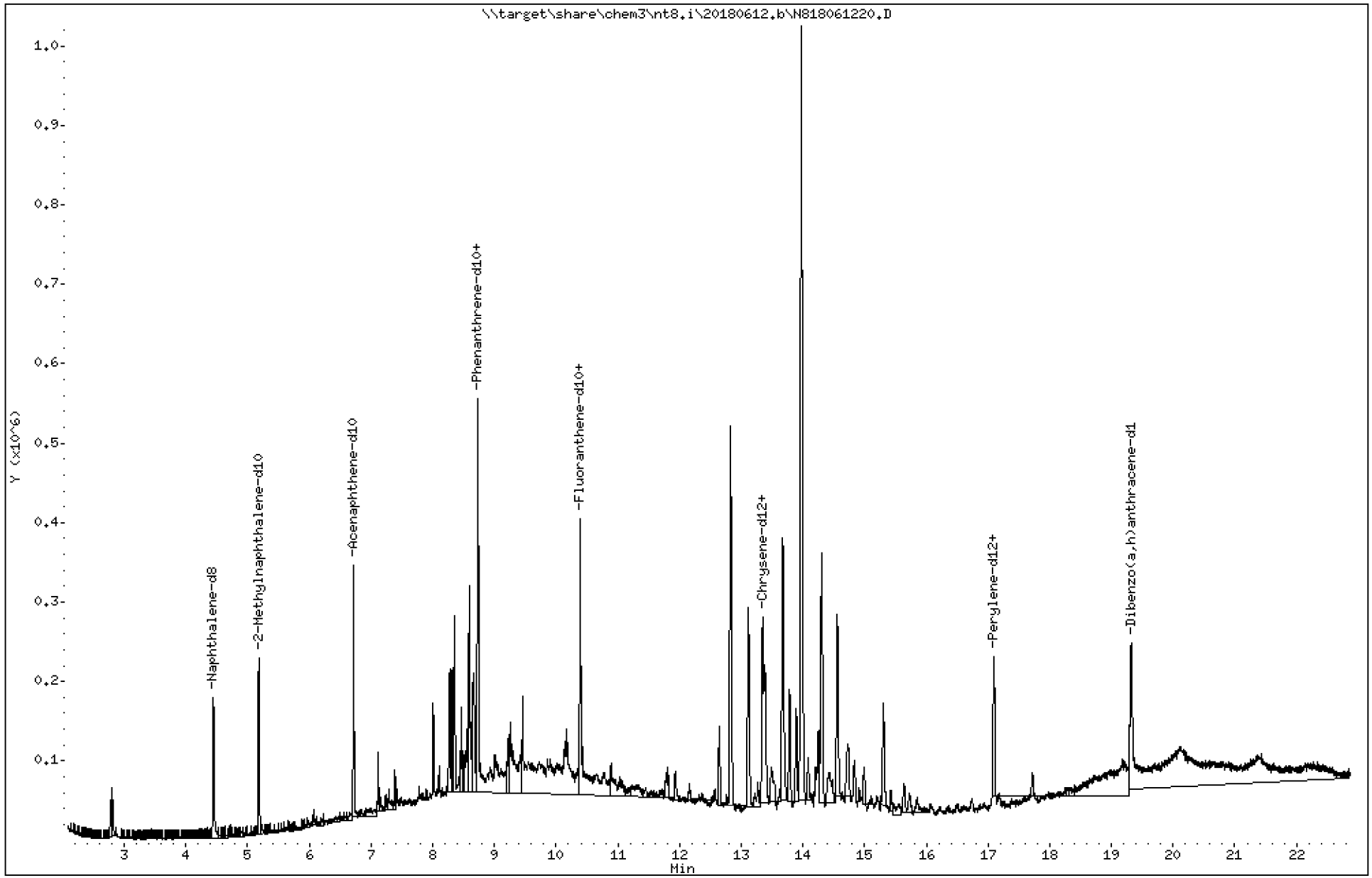
Instrument: nt8.i

Sample Info: 18E0231-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

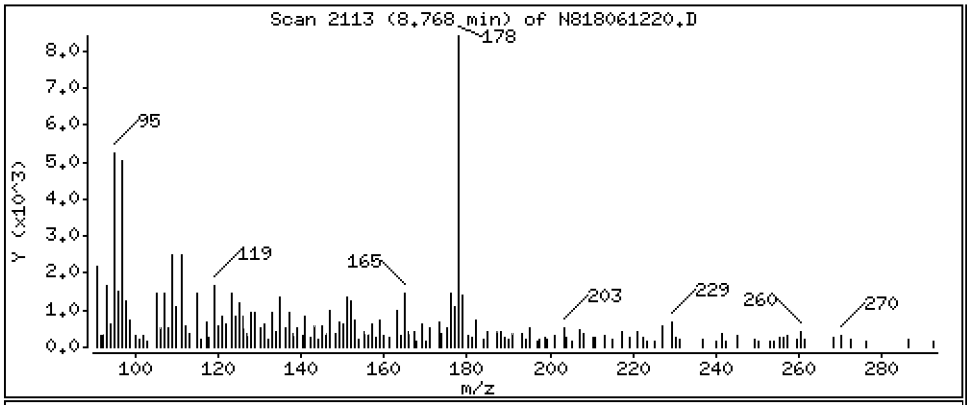
Operator: JZ

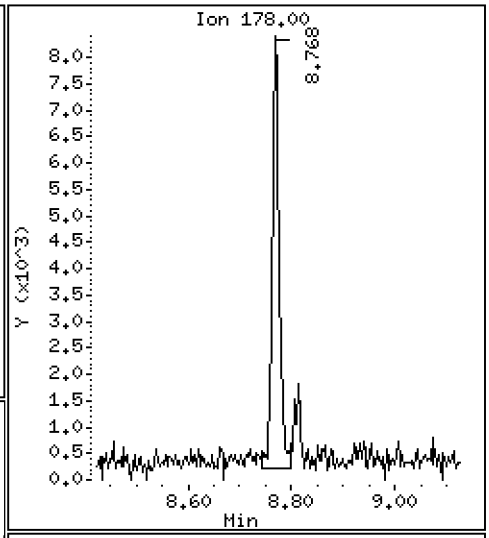
Column phase: Rxi-17sil

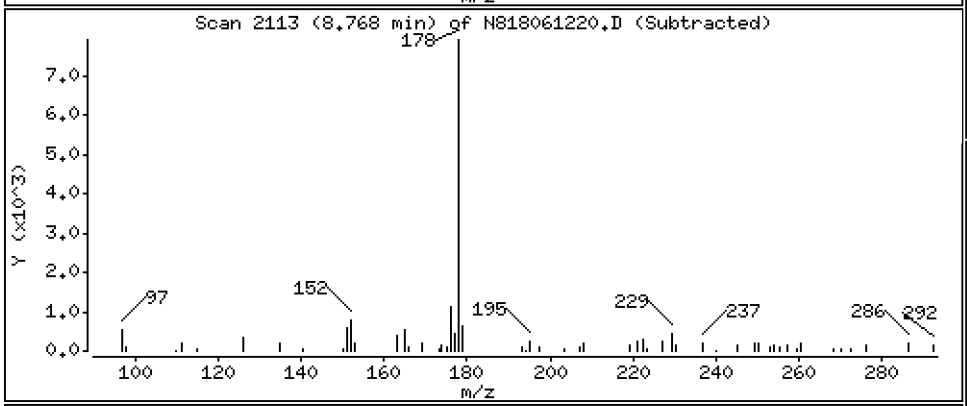
Column diameter: 0.25

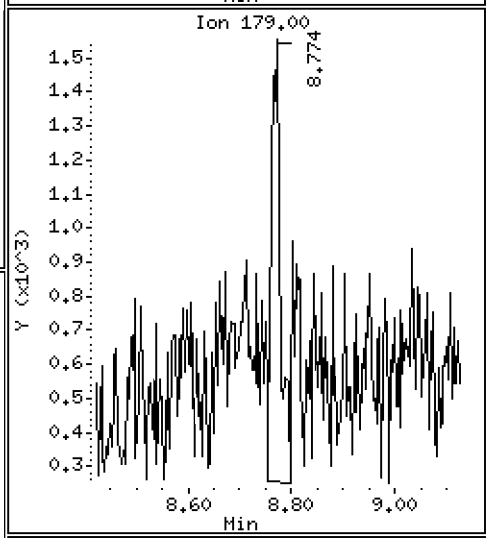
16 Phenanthrene

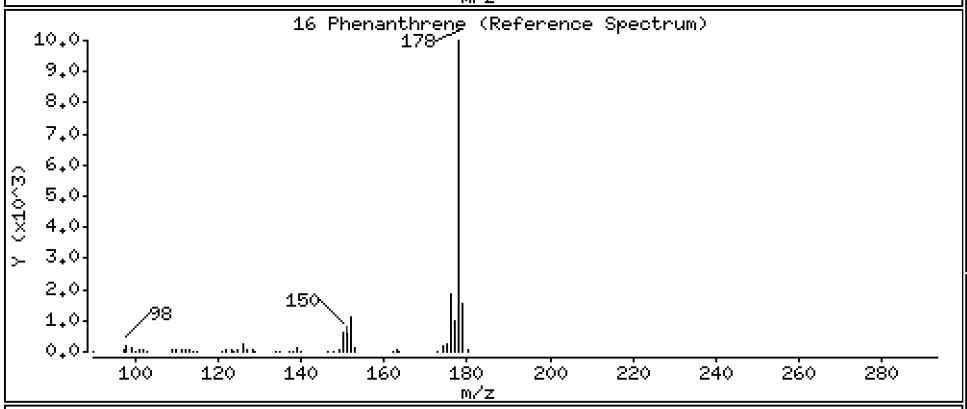
Concentration: 0.08963 ug/mL

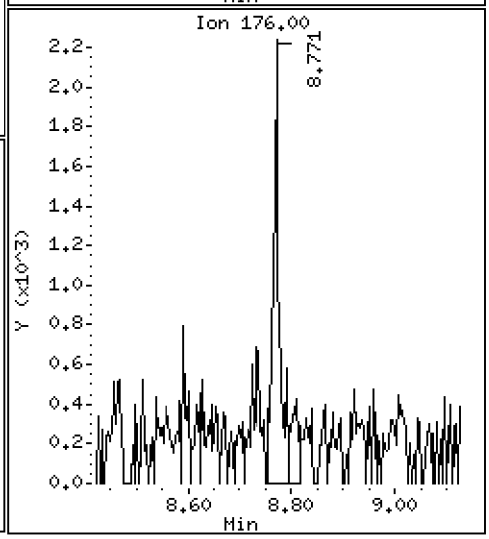


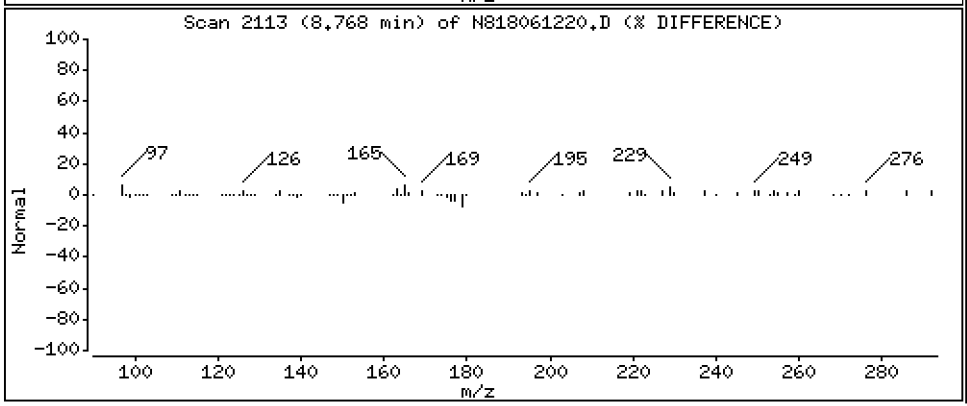












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

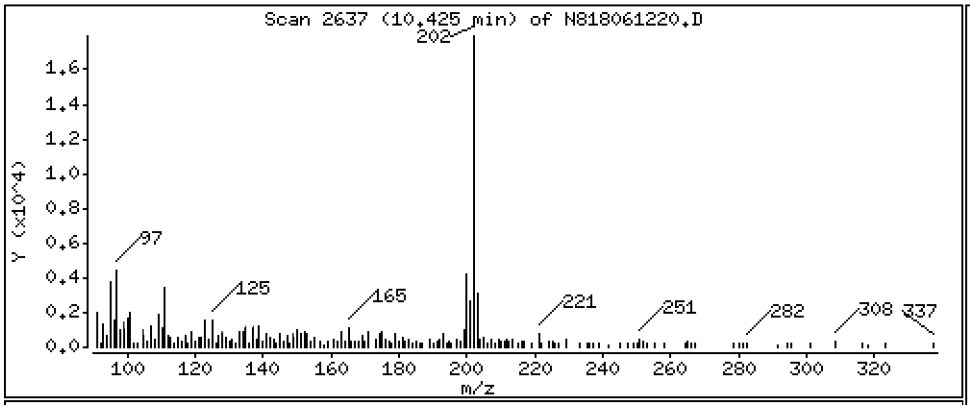
Operator: JZ

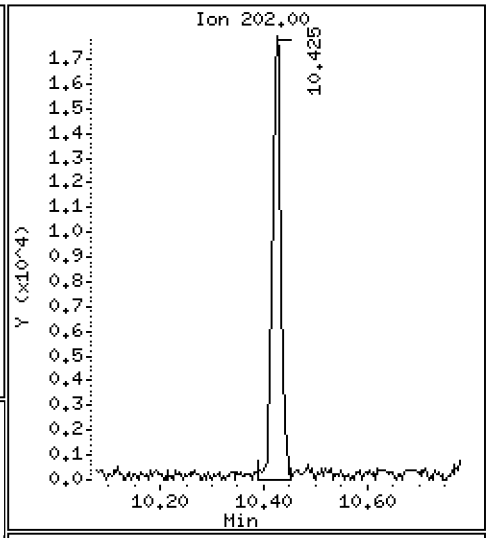
Column phase: Rxi-17sil

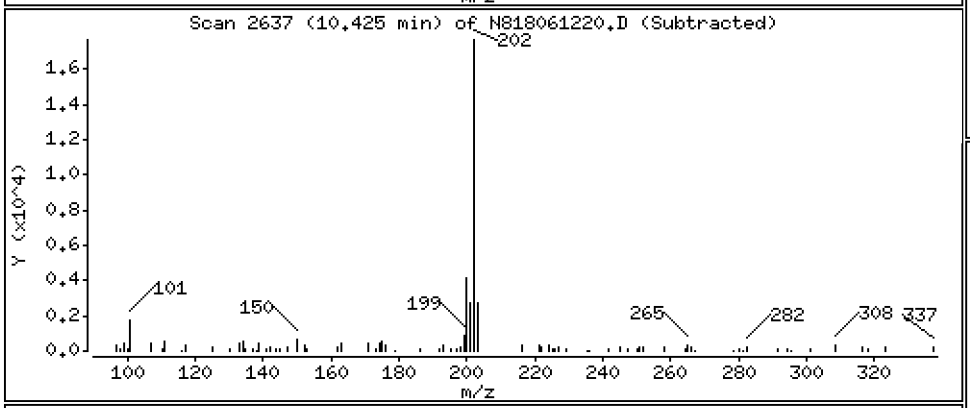
Column diameter: 0.25

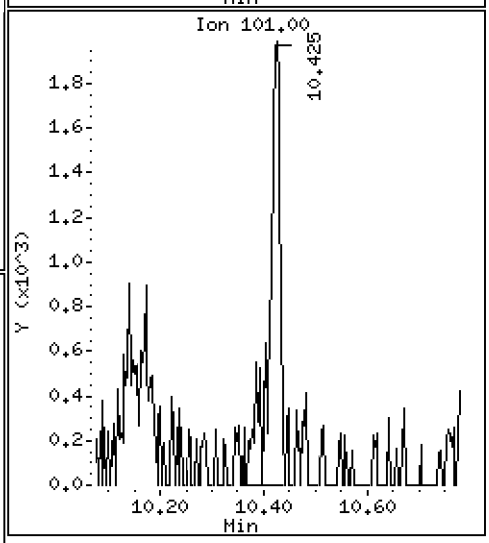
22 Fluoranthene

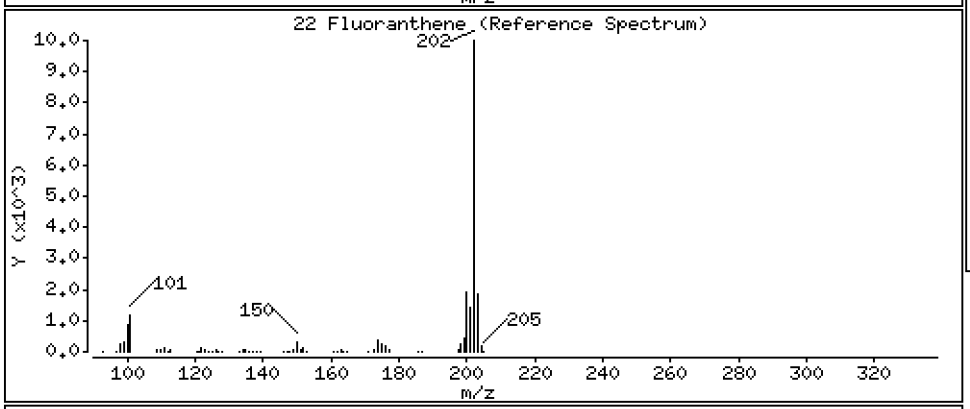
Concentration: 0.2090 ug/mL

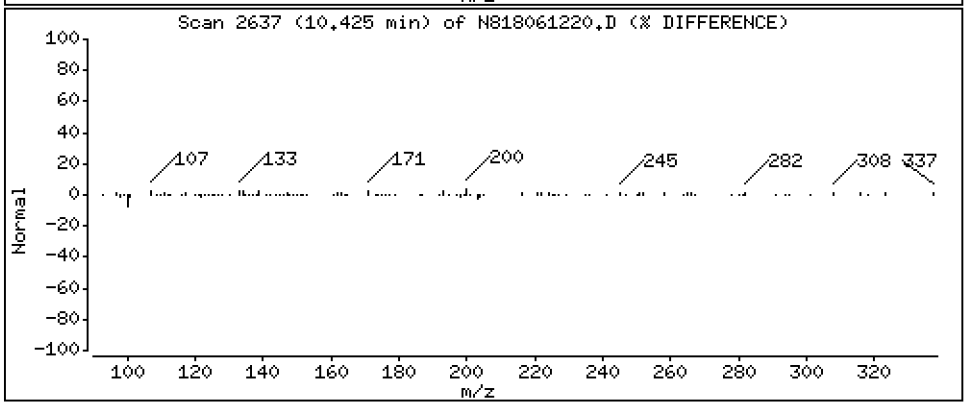












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

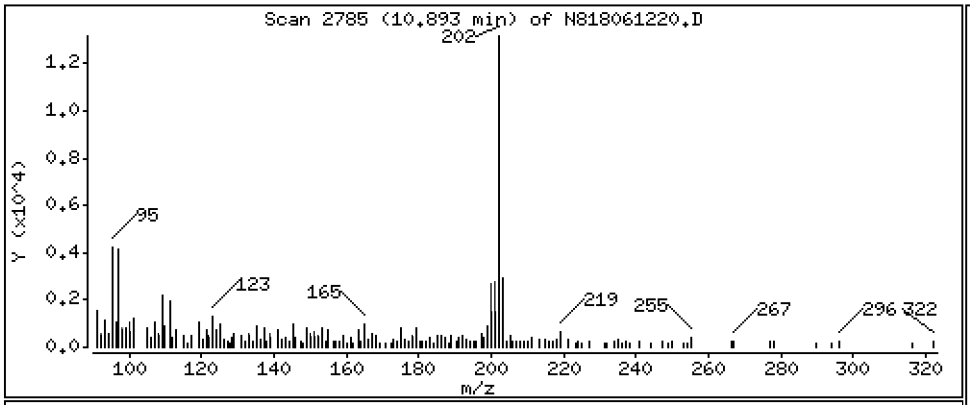
Operator: JZ

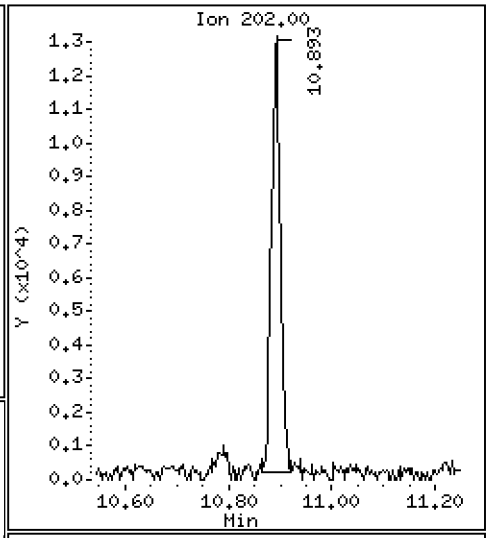
Column phase: Rxi-17sil

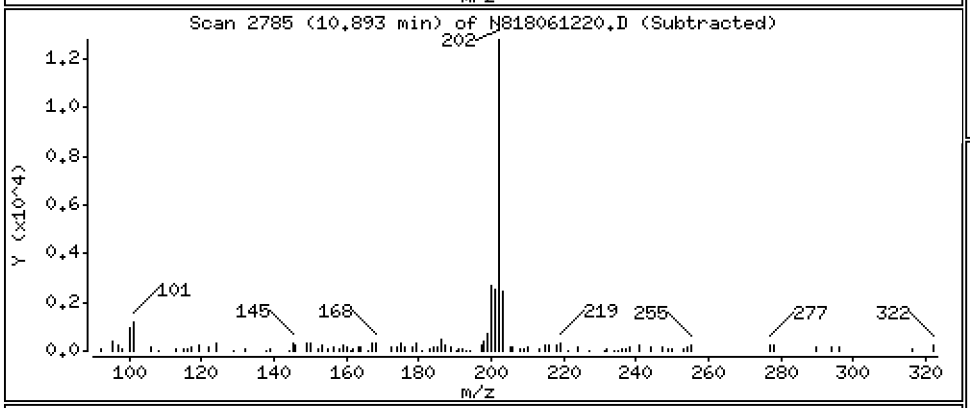
Column diameter: 0.25

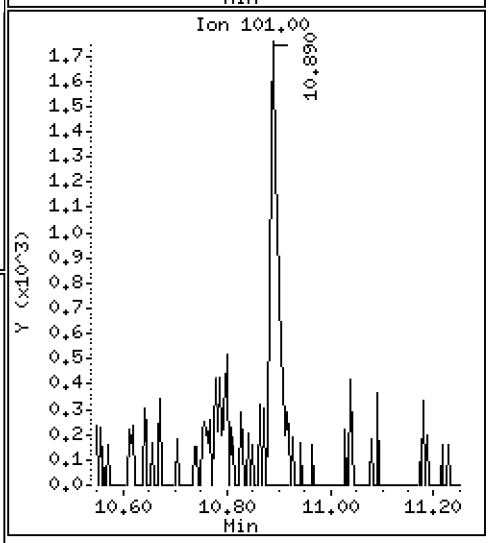
23 Pyrene

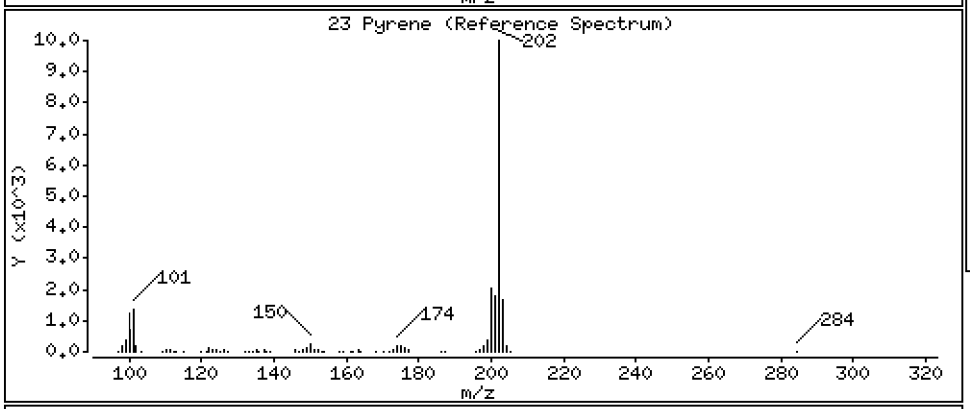
Concentration: 0.1753 ug/mL

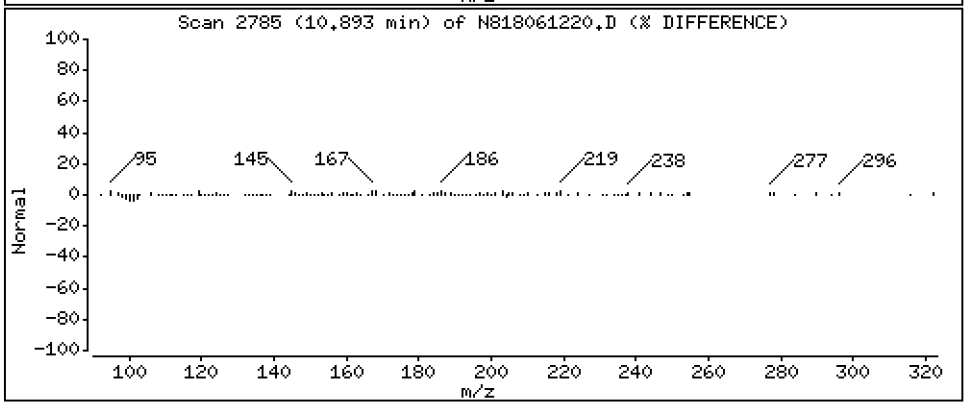












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

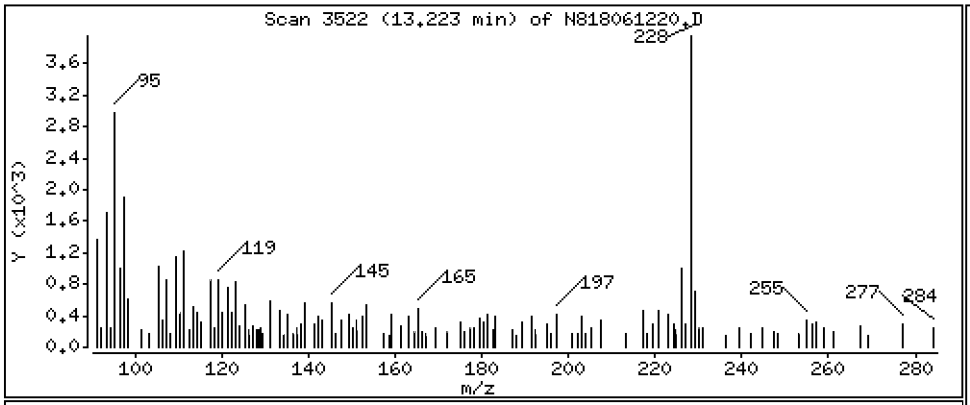
Operator: JZ

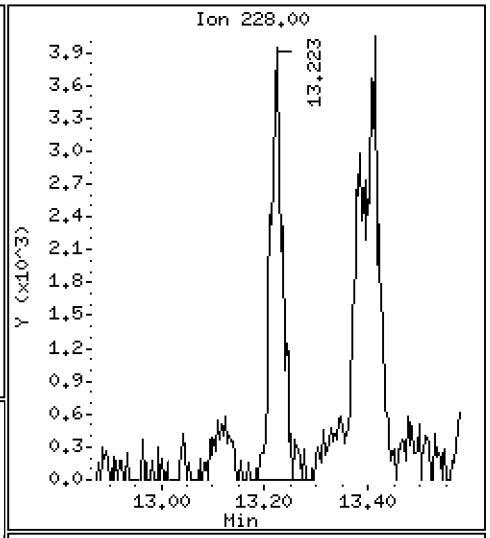
Column phase: Rxi-17sil

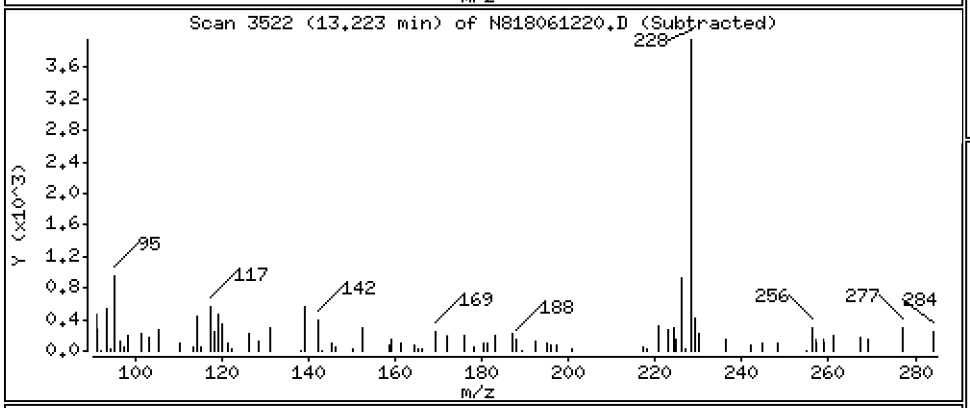
Column diameter: 0.25

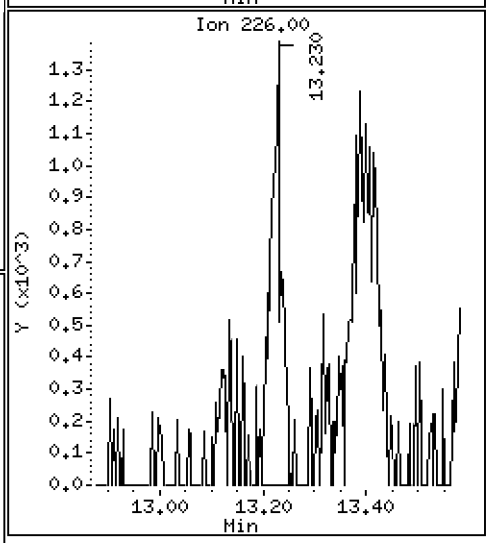
24 Benzo(a)anthracene

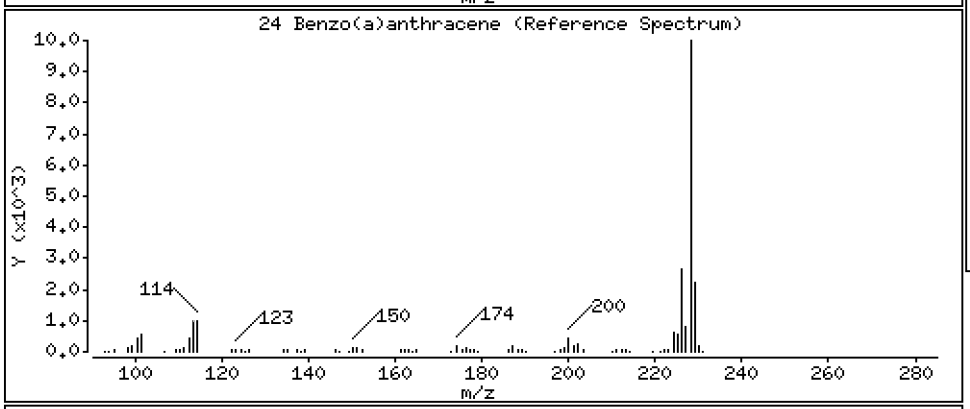
Concentration: 0.07406 ug/mL

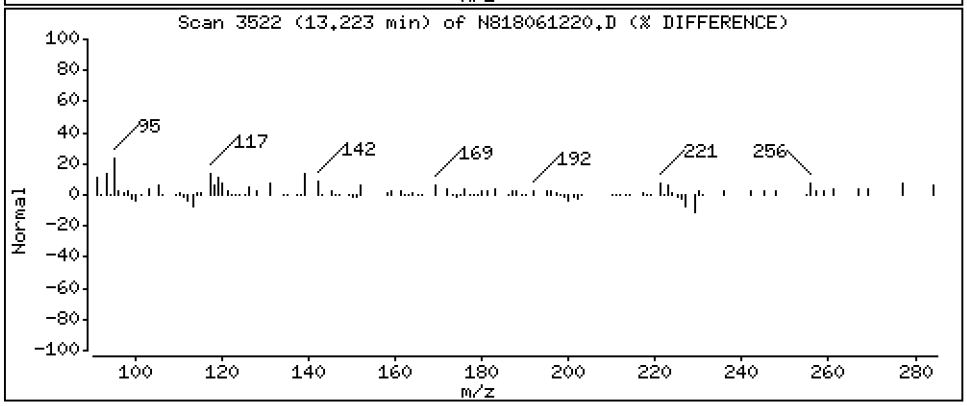












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

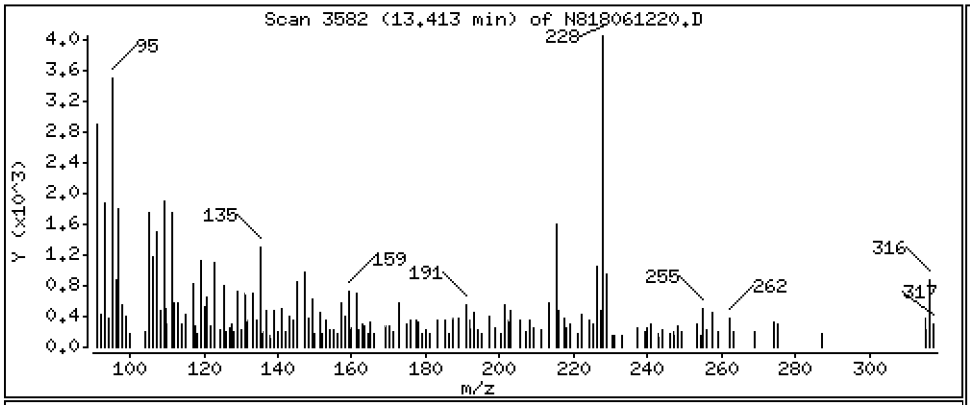
Operator: JZ

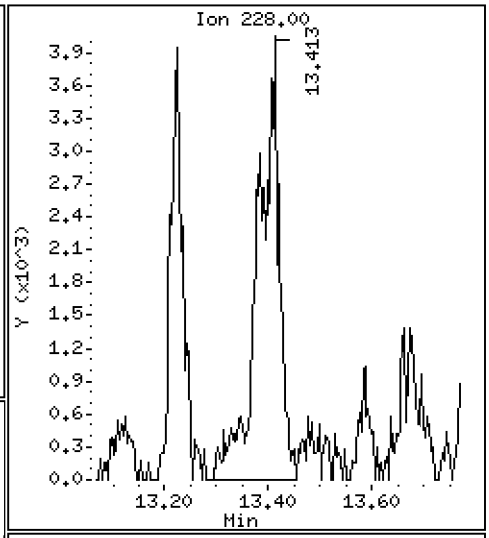
Column phase: Rxi-17sil

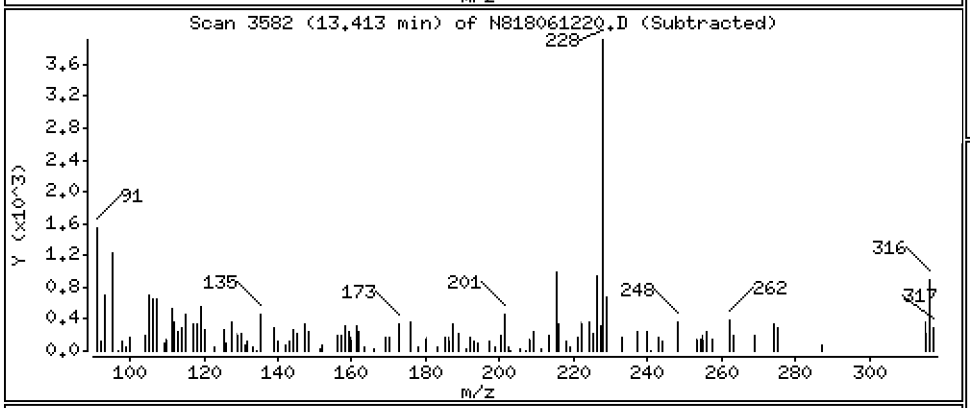
Column diameter: 0.25

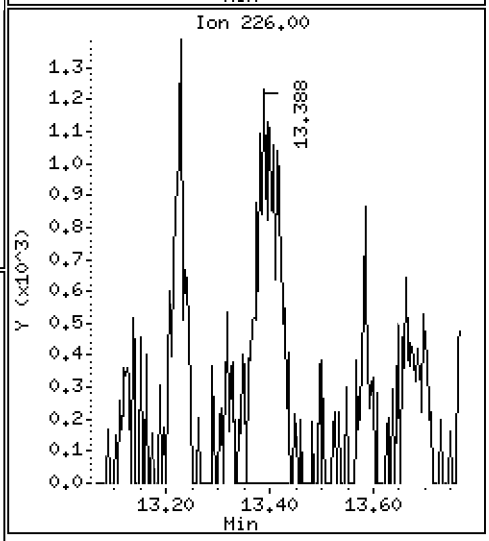
27 Chrysene

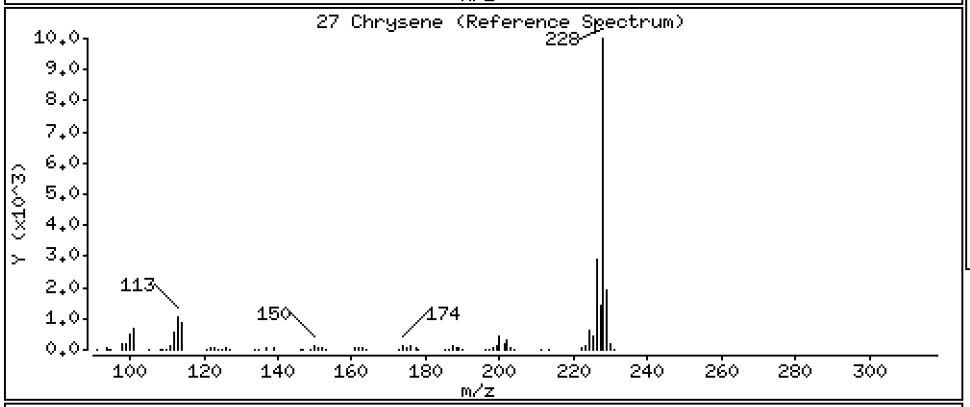
Concentration: 0.1285 ug/mL

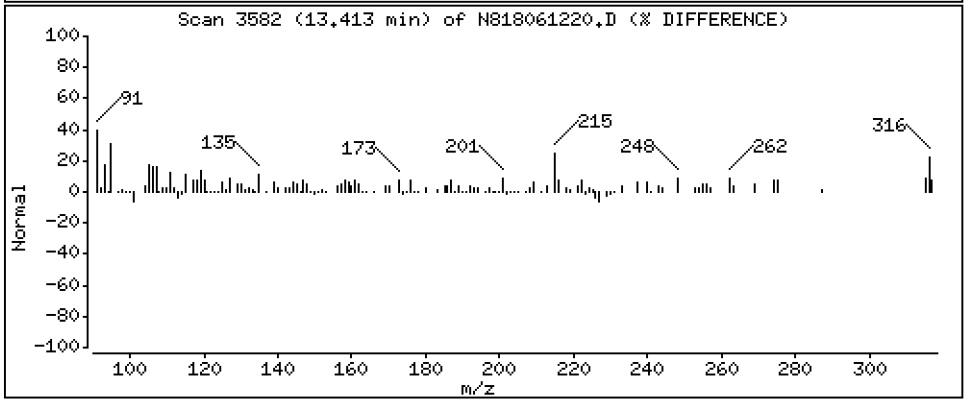












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

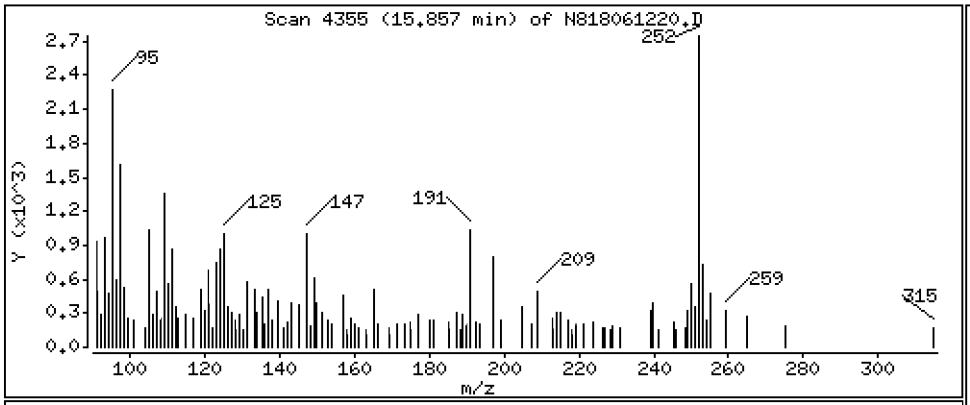
Operator: JZ

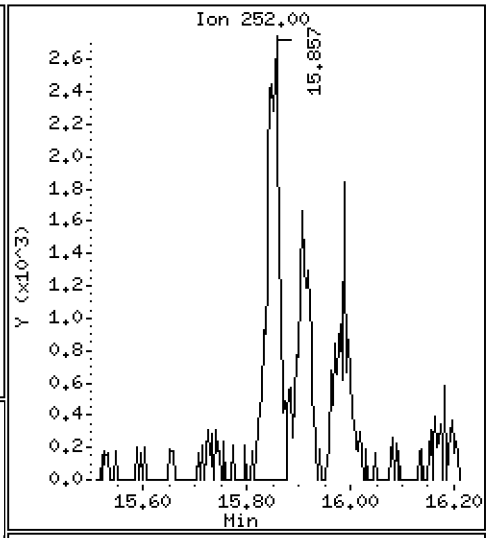
Column phase: Rxi-17sil

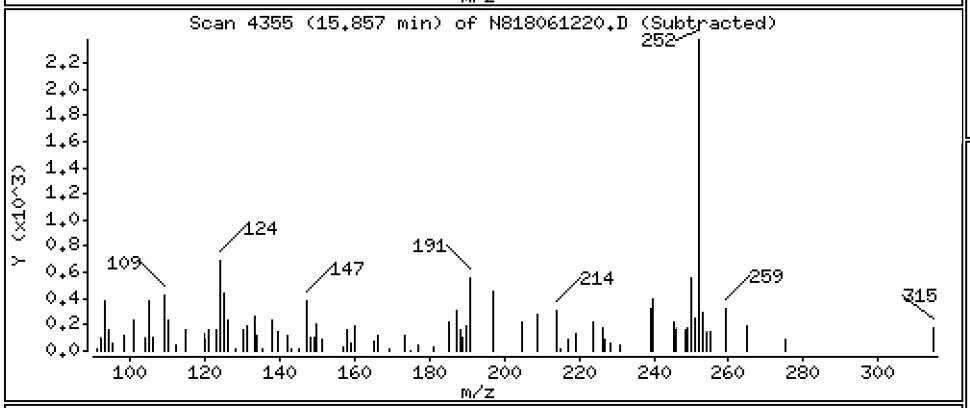
Column diameter: 0.25

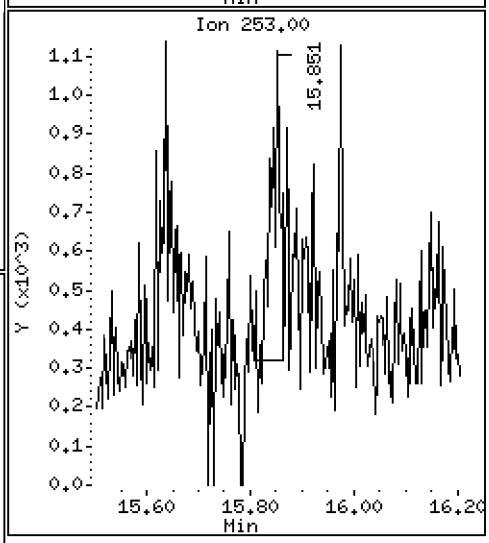
28 Benzo(b)fluoranthene

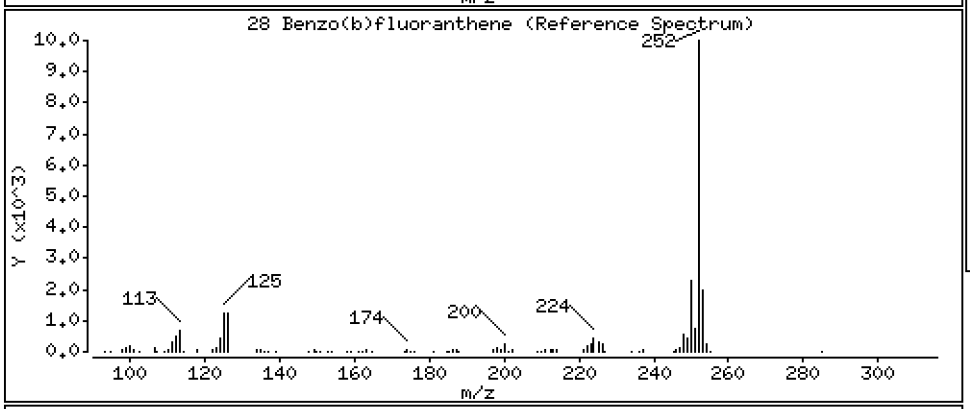
Concentration: 0.04968 ug/mL

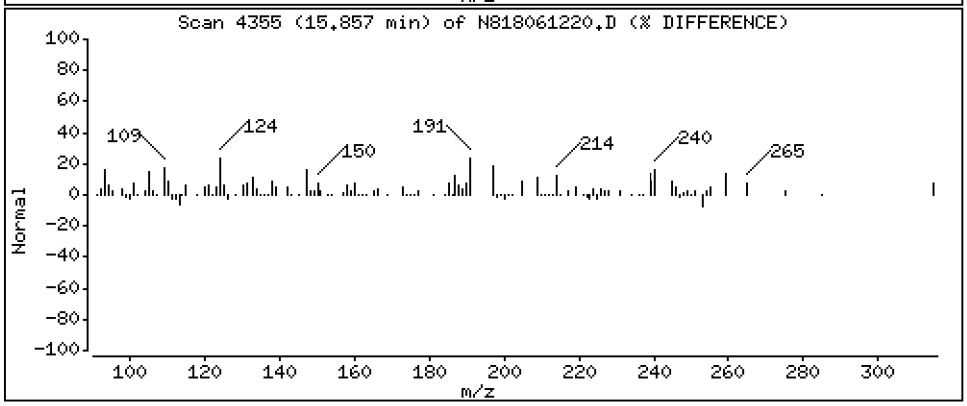












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

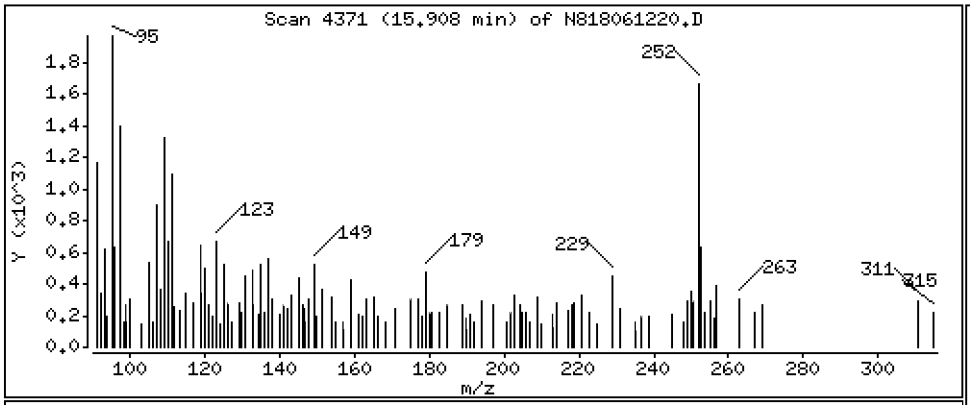
Operator: JZ

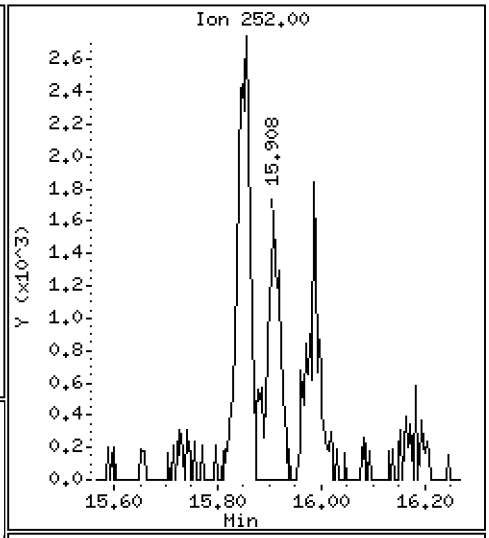
Column phase: Rxi-17sil

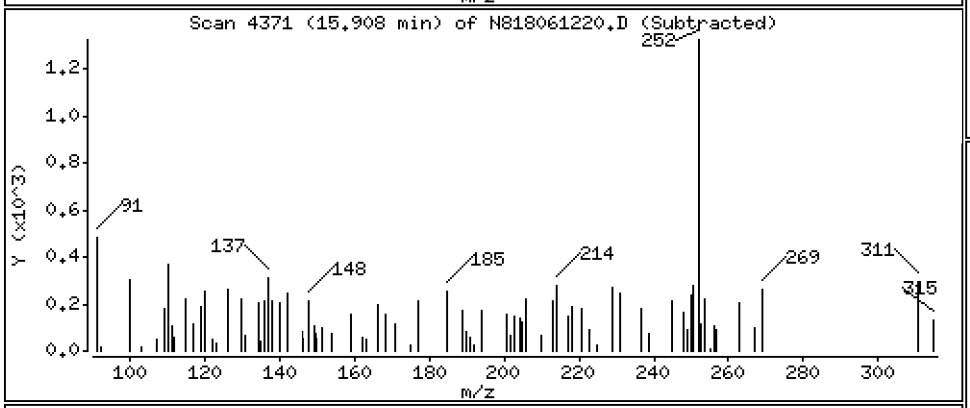
Column diameter: 0.25

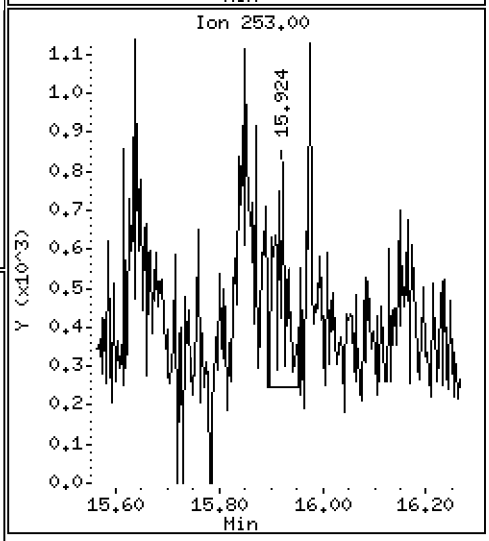
29 Benzo(k)fluoranthene

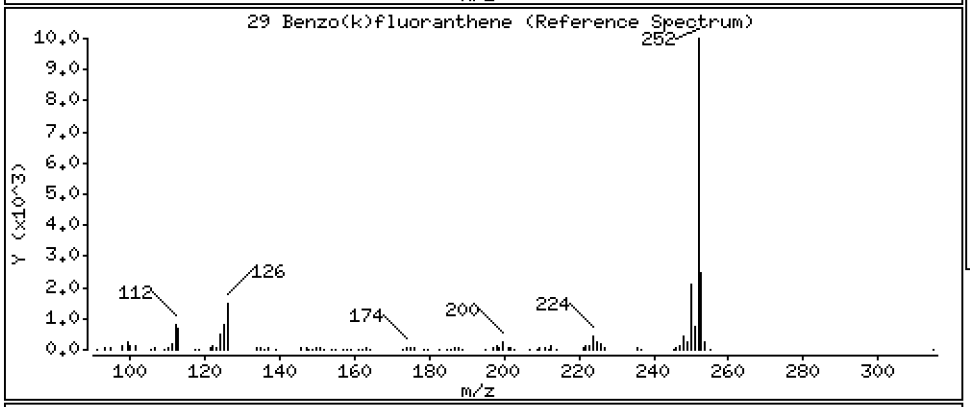
Concentration: 0.03088 ug/mL

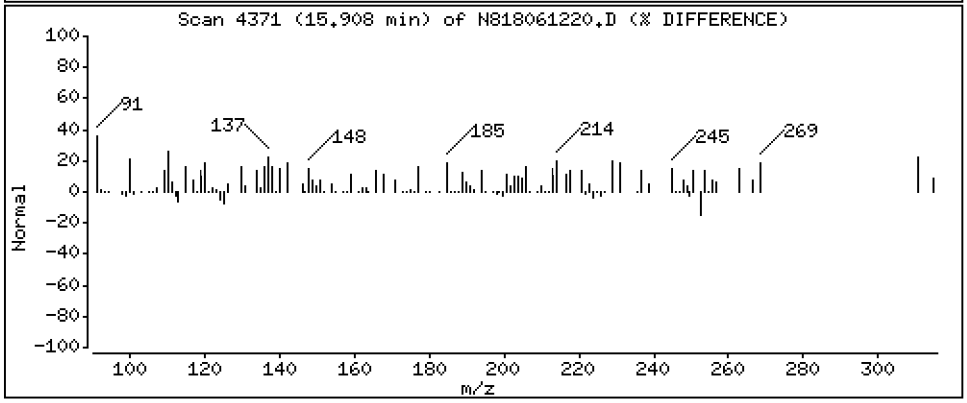












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

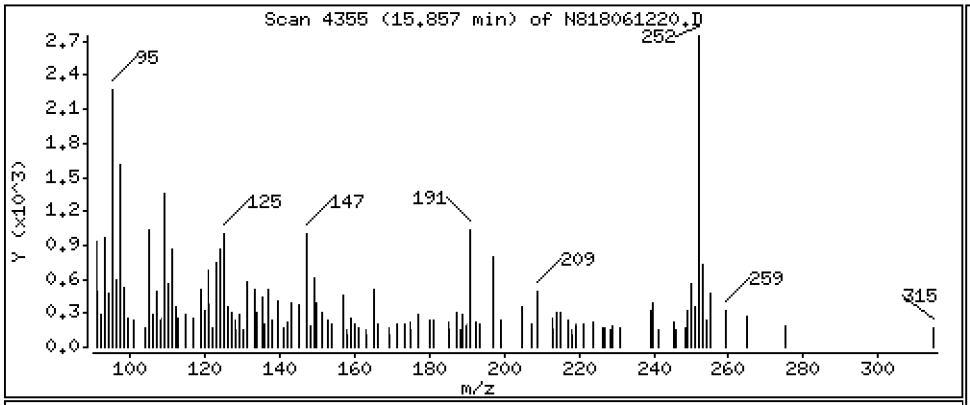
Operator: JZ

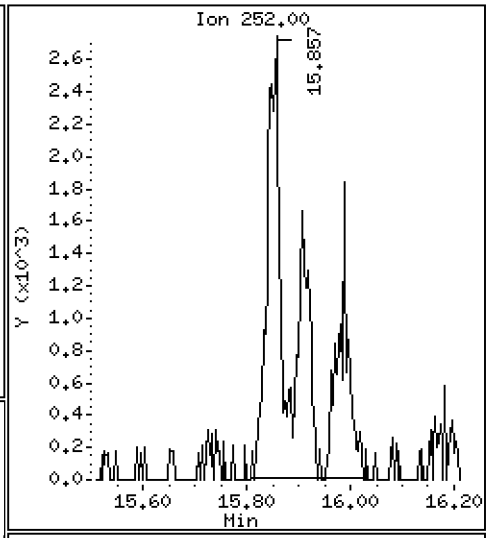
Column phase: Rxi-17sil

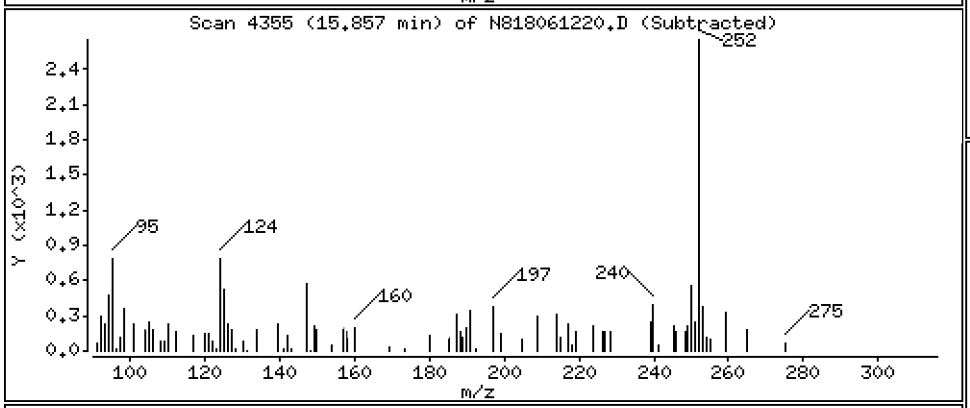
Column diameter: 0.25

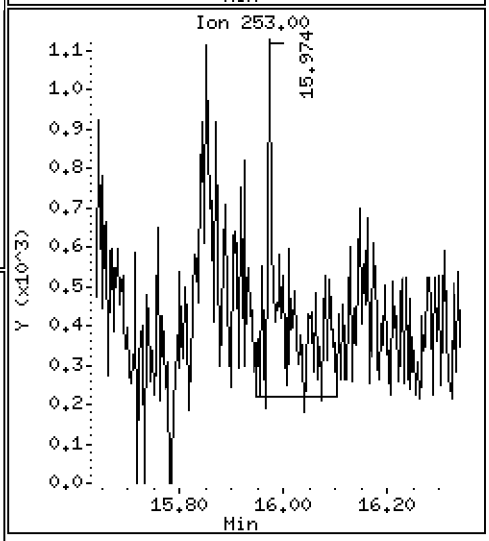
31 Total Benzofluoranthenes

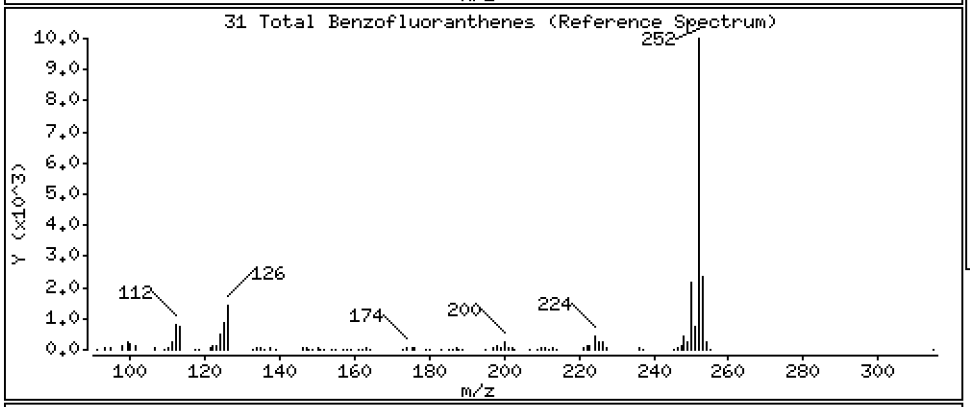
Concentration: 0.1069 ug/mL

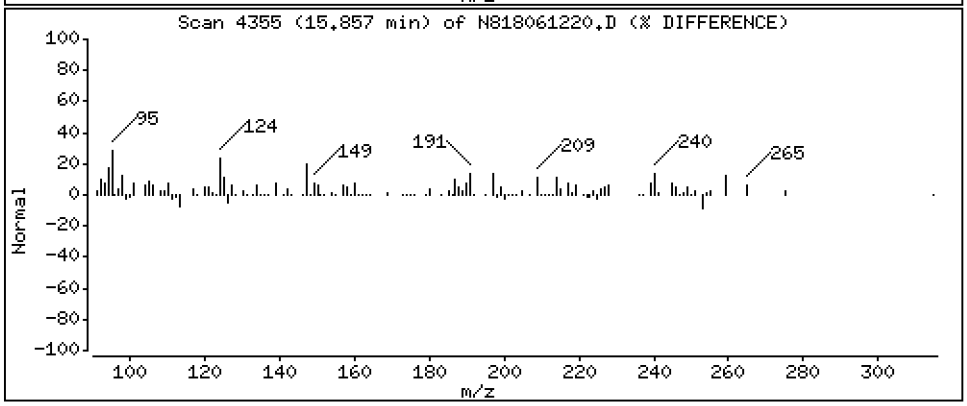












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061220.D

Date : 12-JUN-2018 23:00

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-01

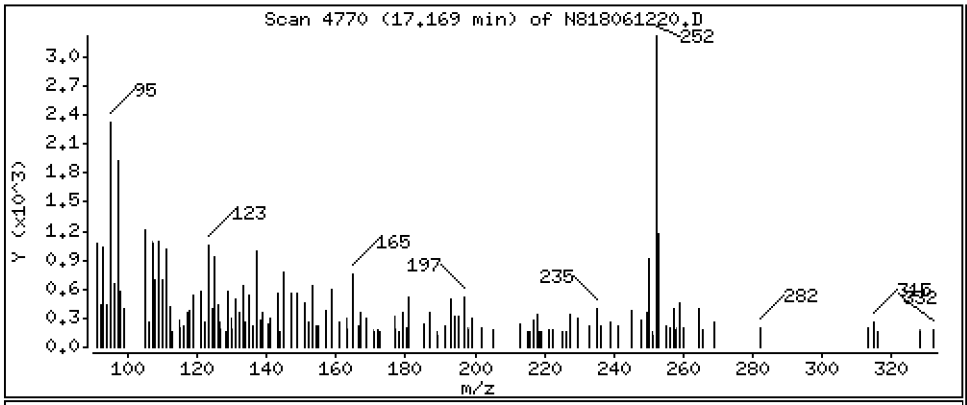
Operator: JZ

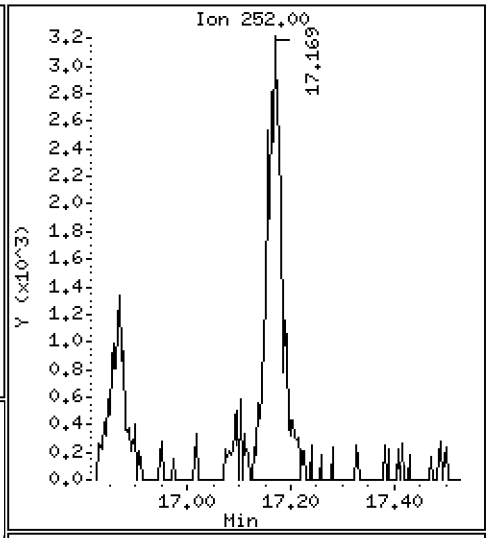
Column phase: Rxi-17sil

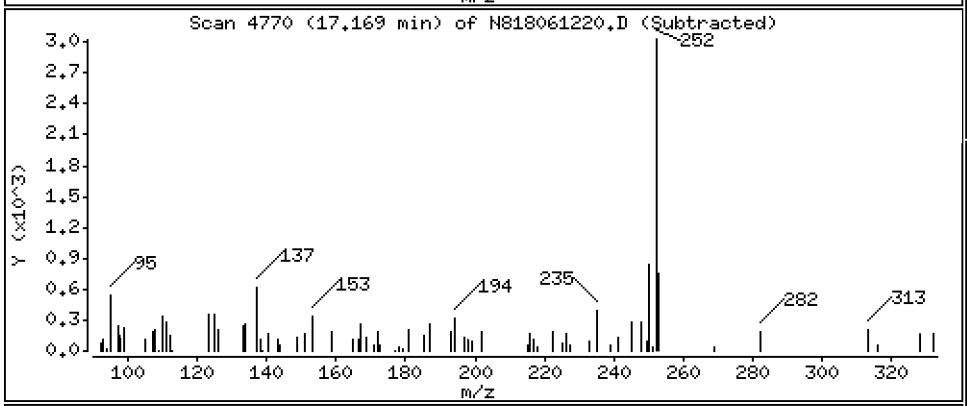
Column diameter: 0.25

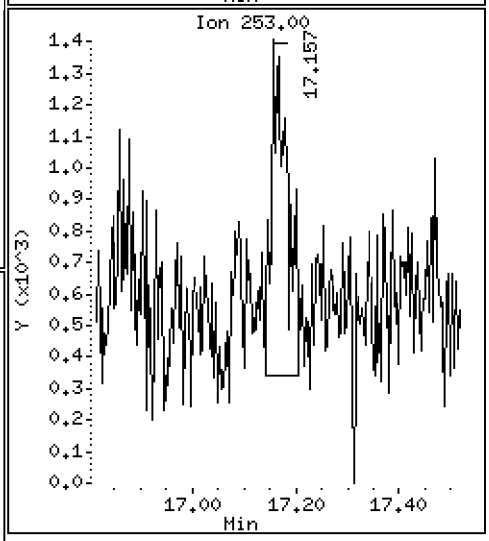
35 Perylene

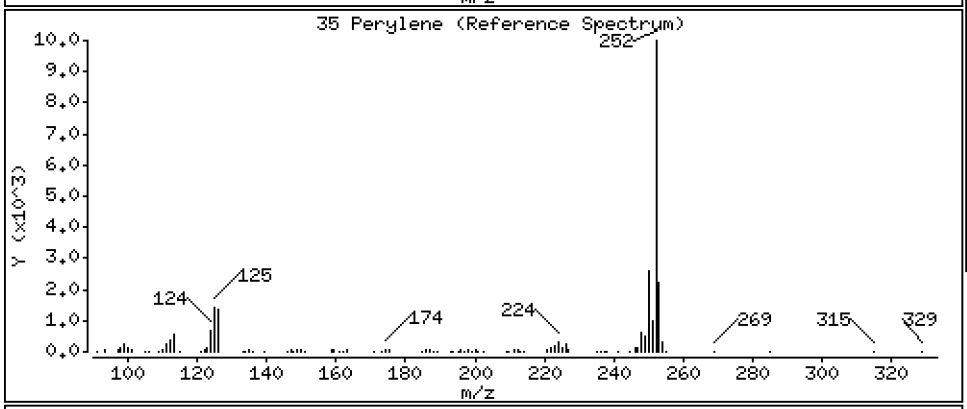
Concentration: 0.07303 ug/mL

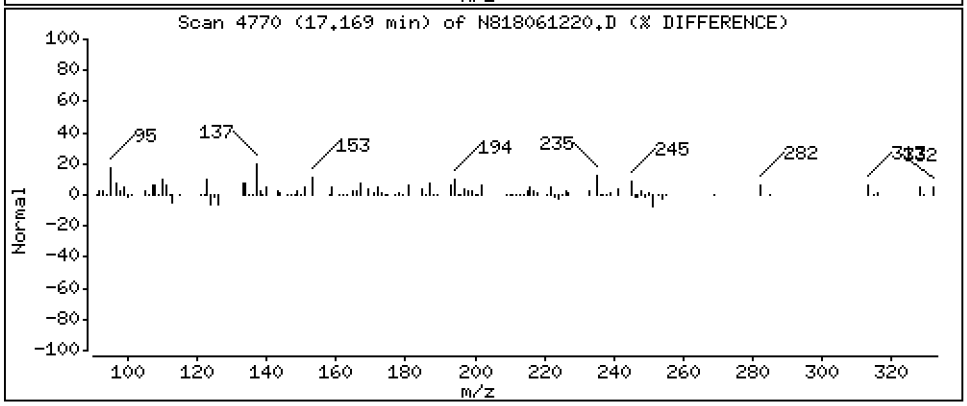












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061220.D
Lab Smp Id: 18E0231-01
Inj Date : 12-JUN-2018 23:00
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0231-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	159361	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.166)	80628	1.38695	1.387
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	83363	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	145655	2.00000	
	16 Phenanthrene	178	8.768	8.774	(1.004)	8002	0.08963	0.08963
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	21027	0.20899	0.2090
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	167015	1.75148	1.751
	23 Pyrene	202	10.892	10.896	(0.816)	15923	0.17529	0.1753
	24 Benzo(a)anthracene	228	13.223	13.226	(0.991)	6504	0.07406	0.07406(M)
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	151153	2.00000	
	27 Chrysene	228	13.412	13.419	(1.005)	11364	0.12855	0.1285(M)
	28 Benzo(b)fluoranthene	252	15.857	15.860	(0.928)	4741	0.04968	0.04968
	29 Benzo(k)fluoranthene	252	15.907	15.917	(0.931)	2898	0.03088	0.03088(M)
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.857	15.860	(0.928)	9953	0.10695	0.1069(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	150149	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	145333	2.06648	2.066
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	17.169	17.175	(1.004)	6632	0.07303	0.07303(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061220.D
Lab Smp Id: 18E0231-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	159361	30.42
10 Acenaphthene-d10	65789	32895	131578	83363	26.71
15 Phenanthrene-d10	128644	64322	257288	145655	13.22
25 Chrysene-d12	166669	83335	333338	151153	-9.31
33 Perylene-d12	140483	70242	280966	150149	6.88

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.29
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061220.D

Lab ID: 18E0231-01
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 23:00

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

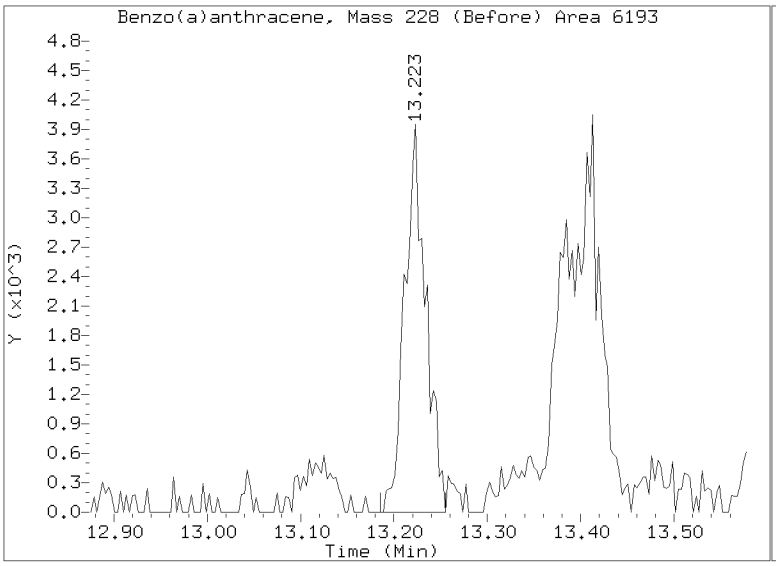
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

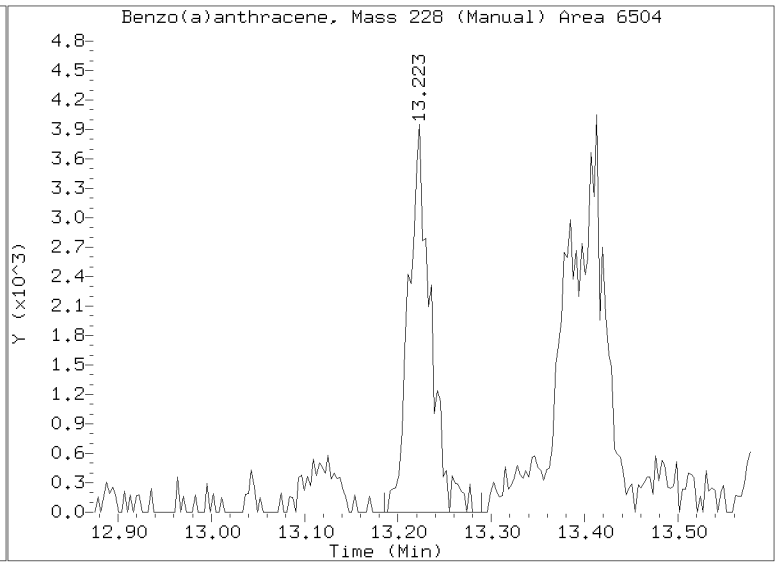
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

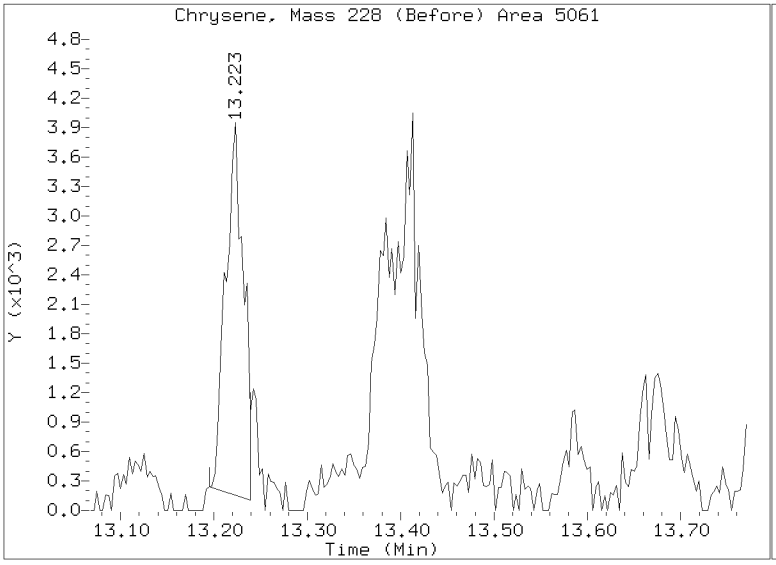
* Only compounds listed in the work order have been verified by the analyst *

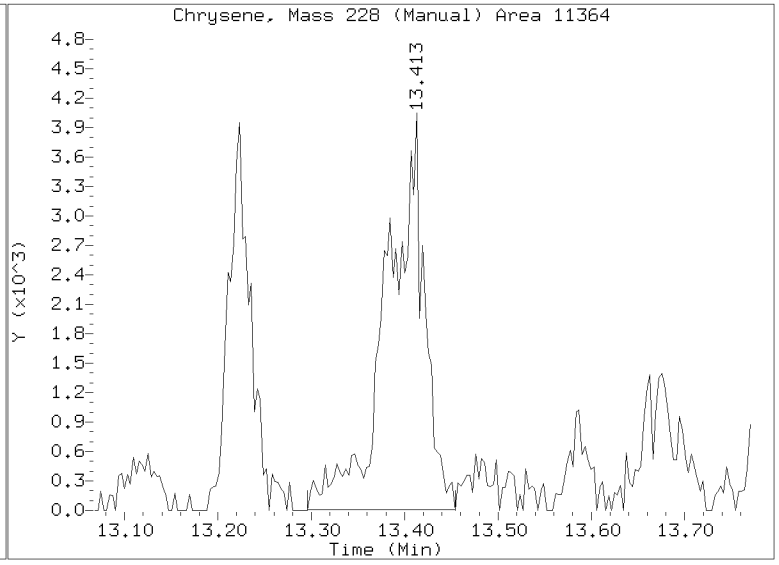
Quant Ion Manual Peak Adjustment Report

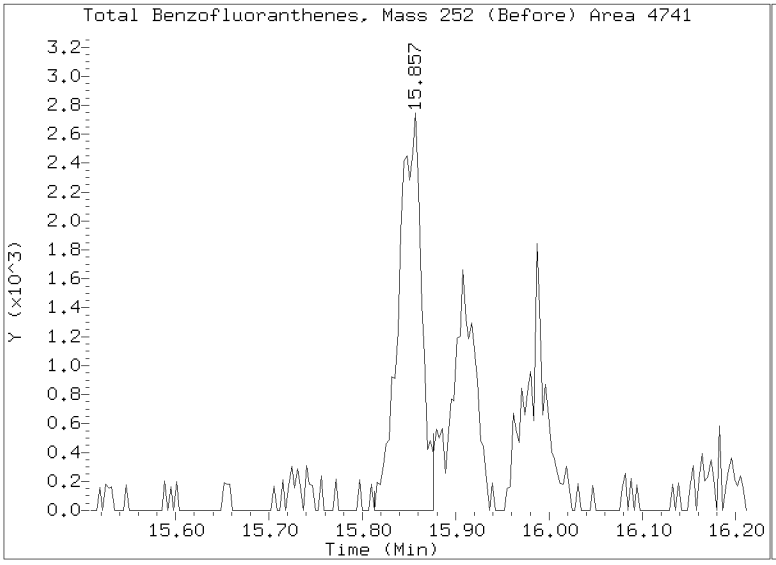
Datafile: //target/share/chem3/nt8.i/20180612.b/N818061220.D
Injection Date: 12-JUN-2018 23:00
Lab ID:18E0231-01 Client ID:
Report Date: 06/13/2018 13:52

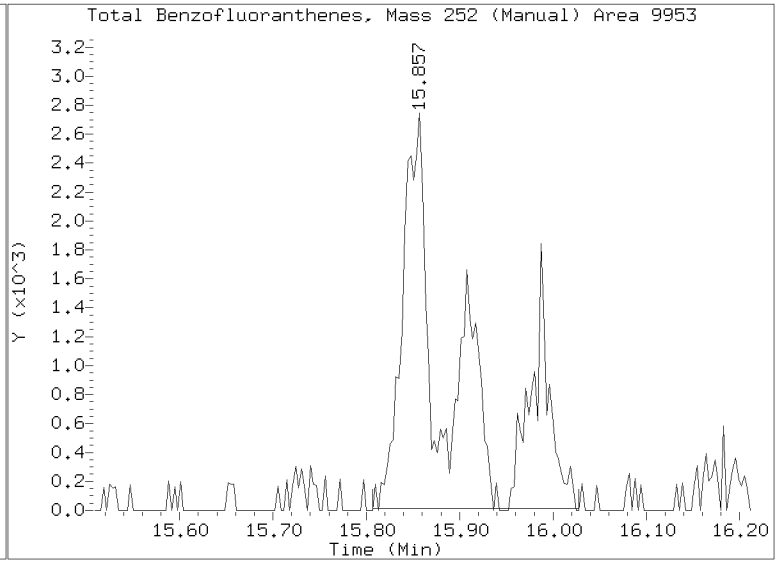






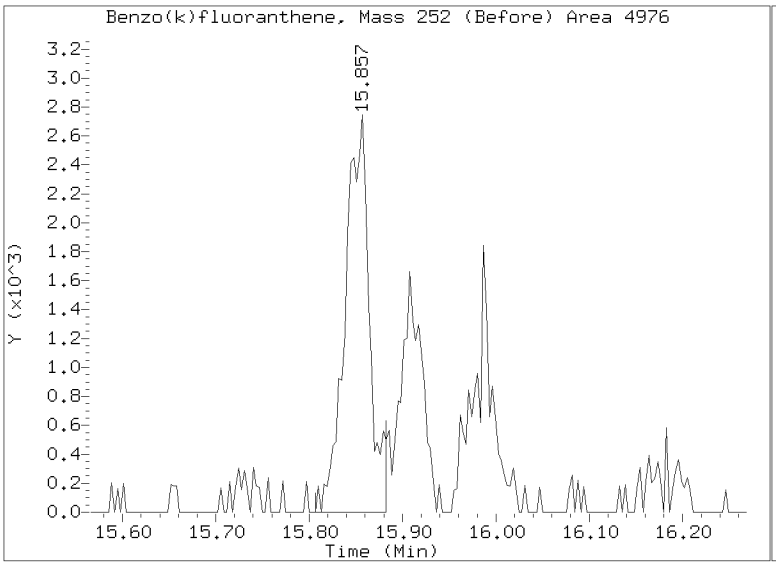


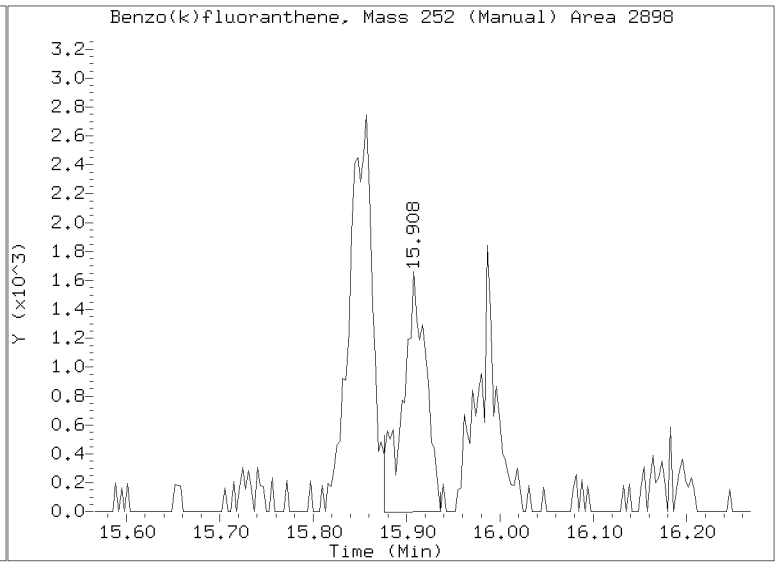


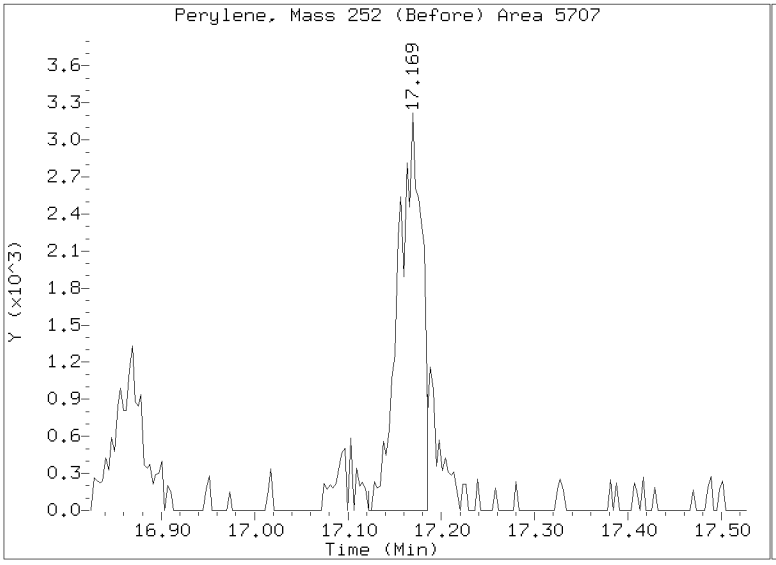


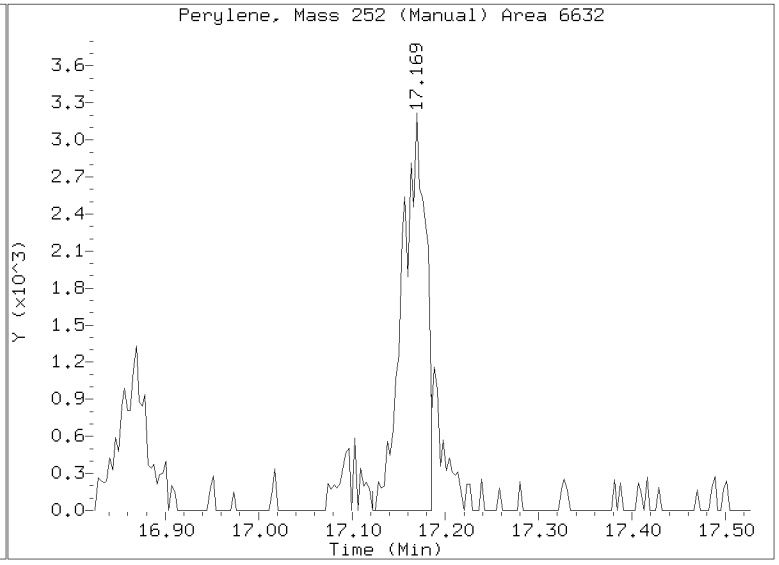
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061220.D
Injection Date: 12-JUN-2018 23:00
Lab ID:18E0231-01 Client ID:
Report Date: 06/13/2018 13:52









LDW18-SSCL-A11

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-02	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/24/18 10:50	File ID:	N818060106.D
% Solids:	60.35	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 16:37
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	17.01 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	54.8		0.80	4.87
218-01-9	Chrysene	1	83.1		1.03	4.87
205-99-2	Benzo(b)fluoranthene	1	72.9		1.34	4.87
207-08-9	Benzo(k)fluoranthene	1	36.4		0.74	4.87
50-32-8	Benzo(a)pyrene	1	63.4		0.60	4.87
193-39-5	Indeno(1,2,3-cd)pyrene	1	46.0		1.02	4.87
53-70-3	Dibenzo(a,h)anthracene	1	12.2		0.87	4.87

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	146.12	62.5	42.8	32 - 120	
Dibenzo[a,h]anthracene-d14	146.12	102	69.7	21 - 133	
Fluoranthene-d10	146.12	94.3	64.6	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

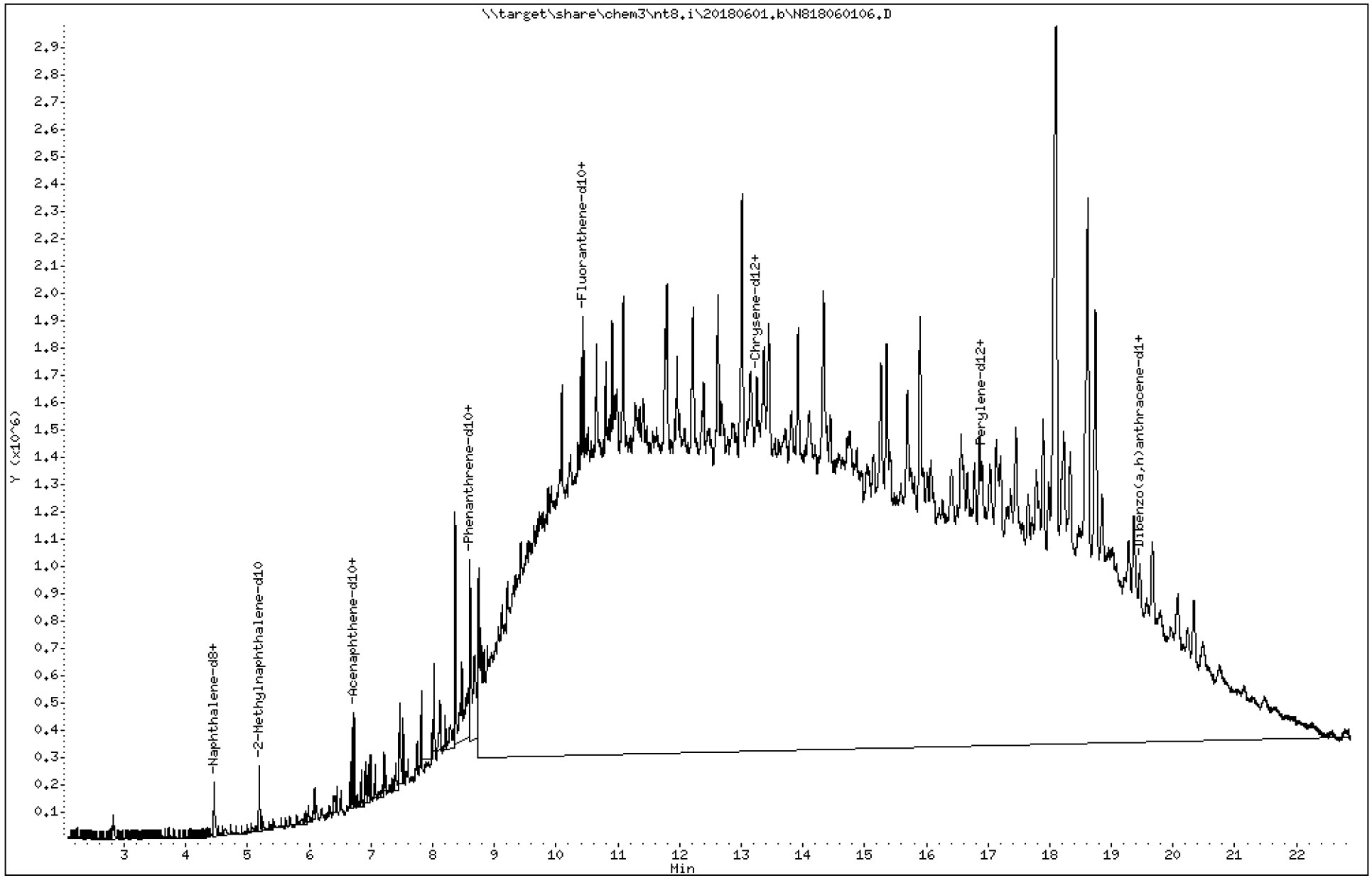
Instrument: nt8.i

Sample Info: 18E0231-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

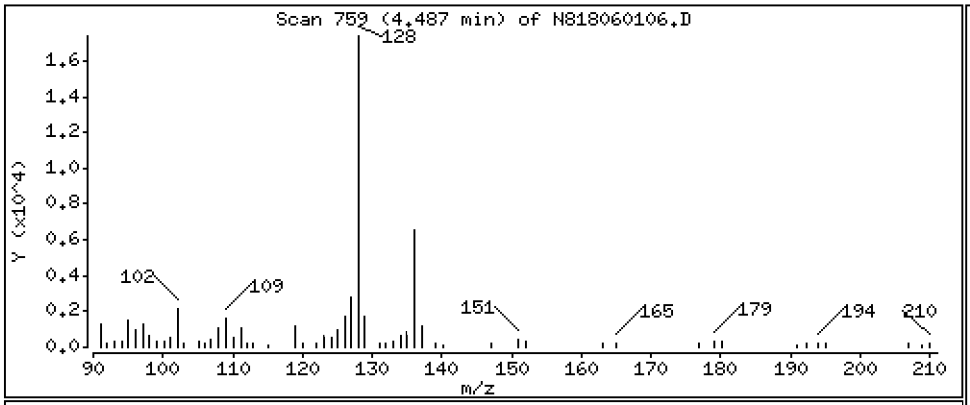
Operator: JZ

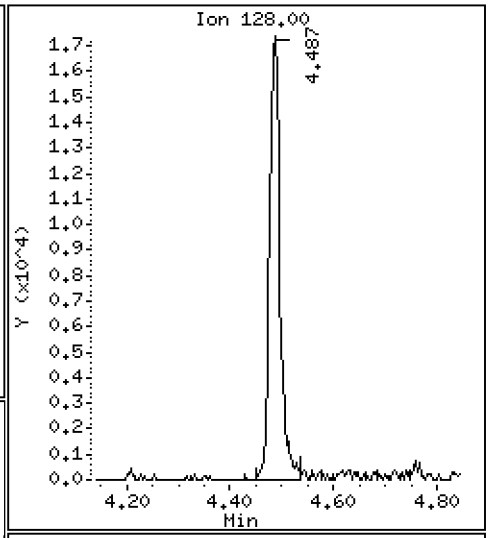
Column phase: Rxi-17sil

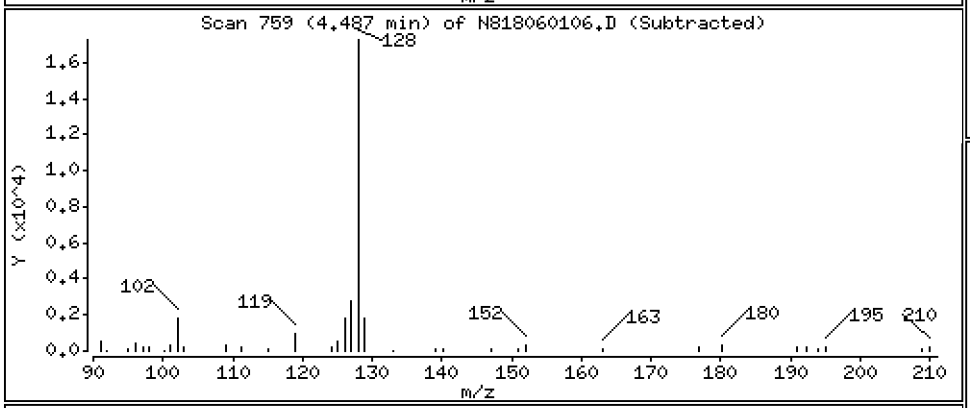
Column diameter: 0.25

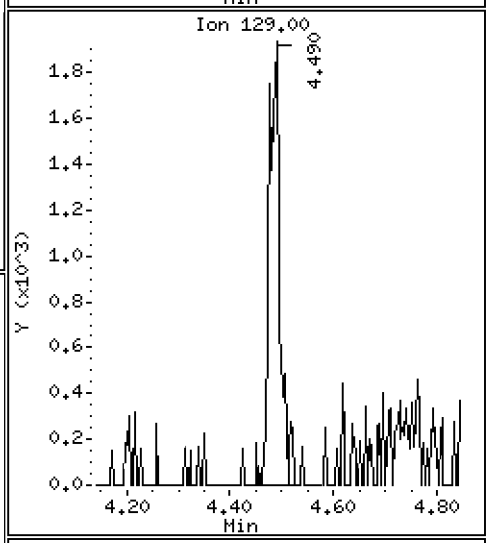
2 Naphthalene

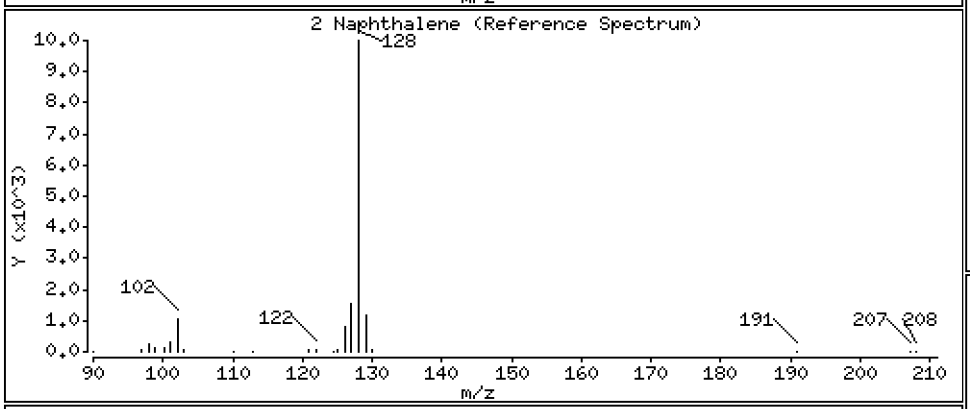
Concentration: 0.2483 ug/mL

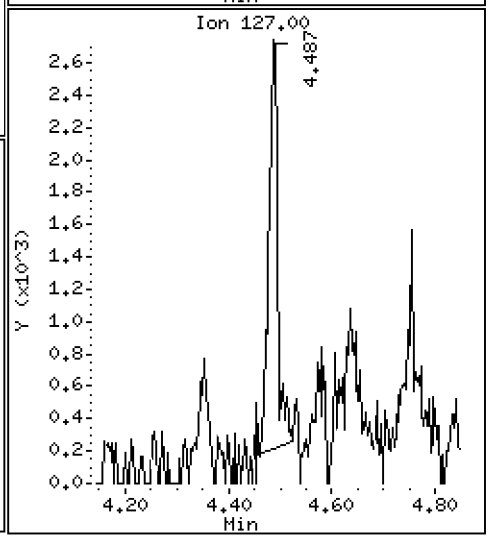


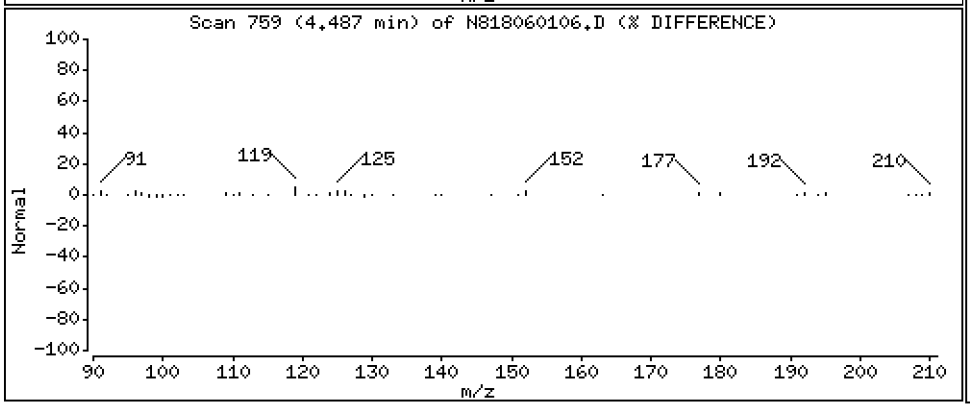












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

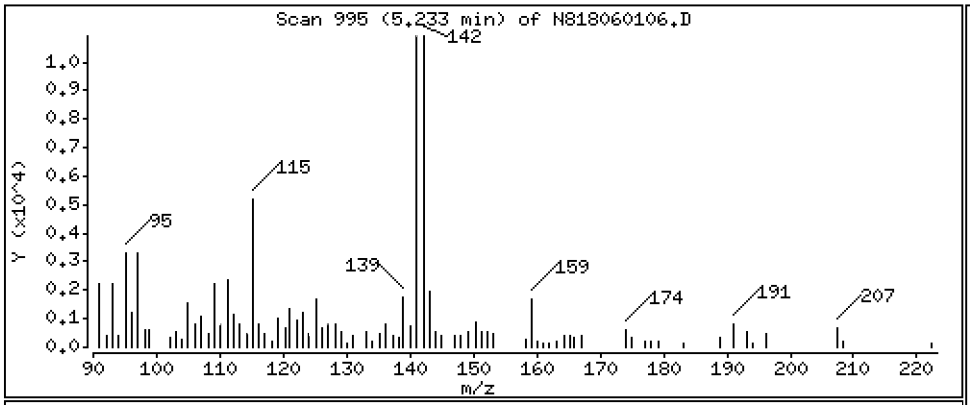
Operator: JZ

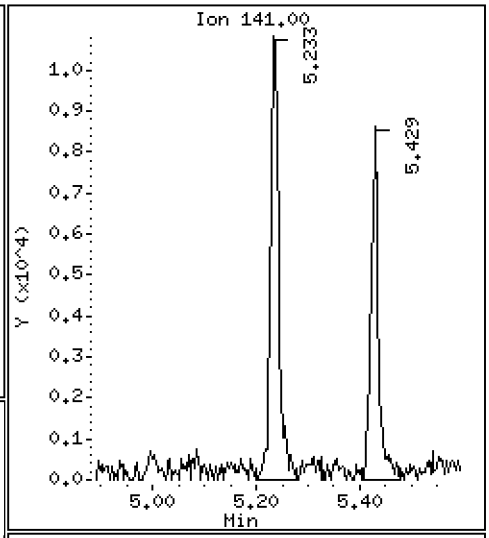
Column phase: Rxi-17sil

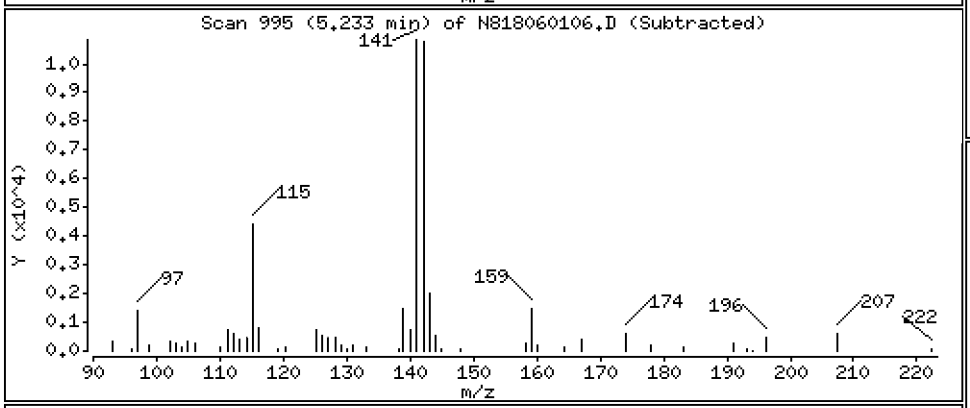
Column diameter: 0.25

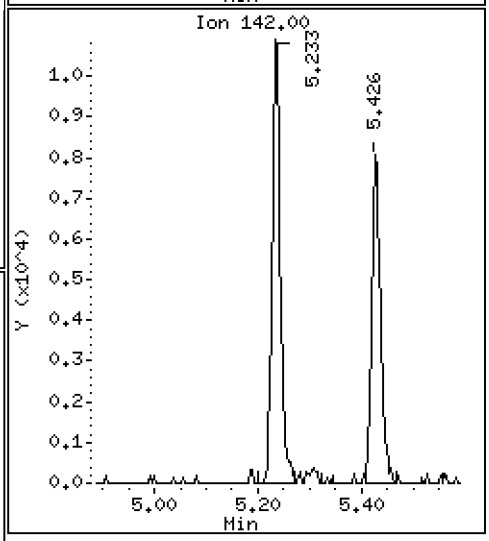
4 2-Methylnaphthalene

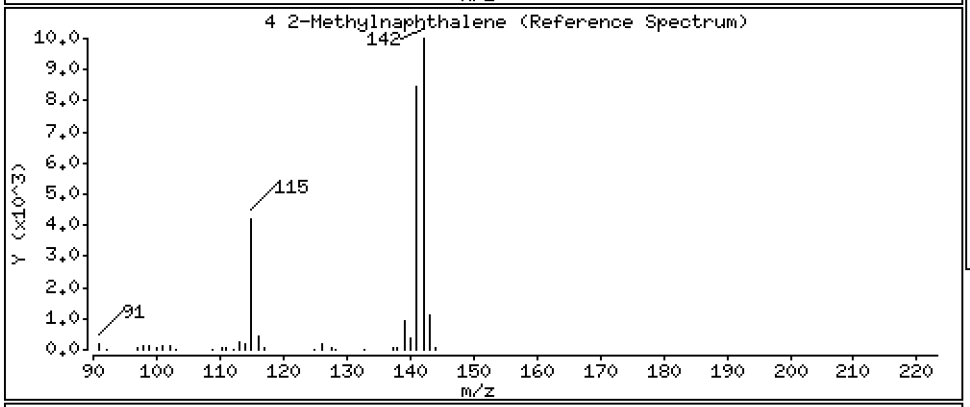
Concentration: 0.2116 ug/mL

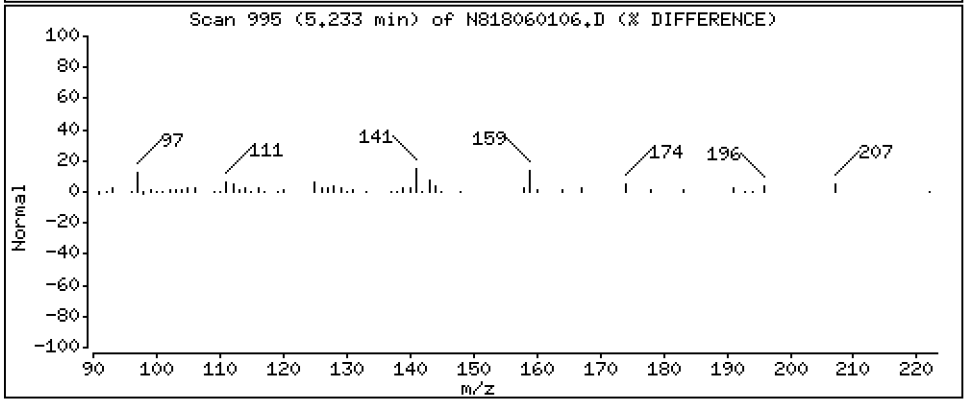












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

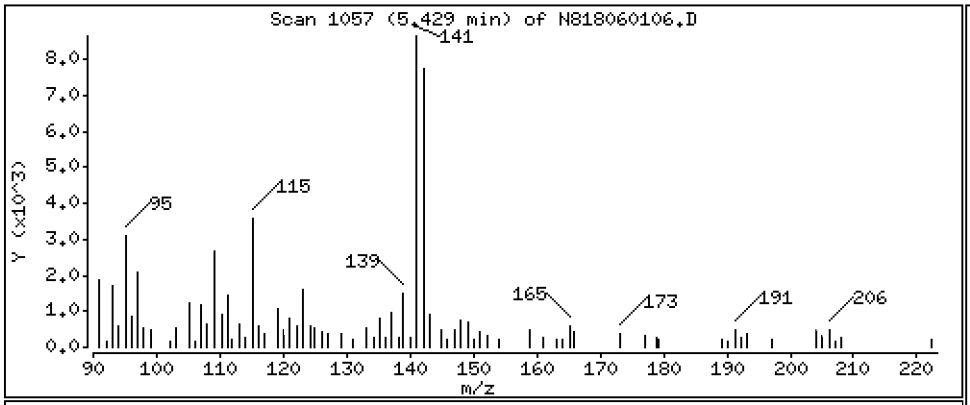
Operator: JZ

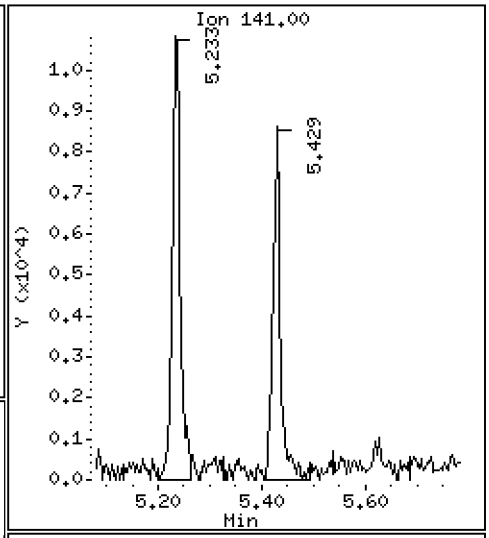
Column phase: Rxi-17sil

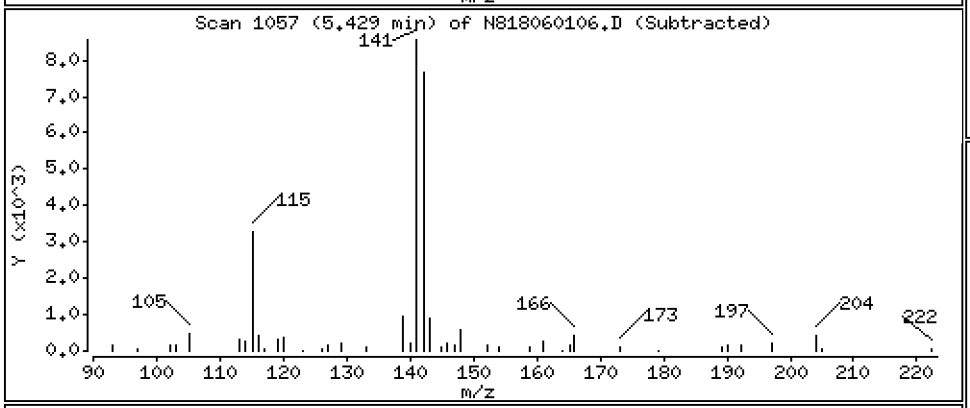
Column diameter: 0.25

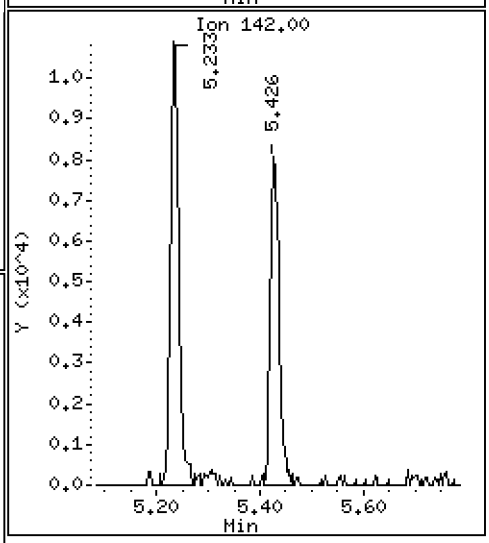
5 1-methylnaphthalene

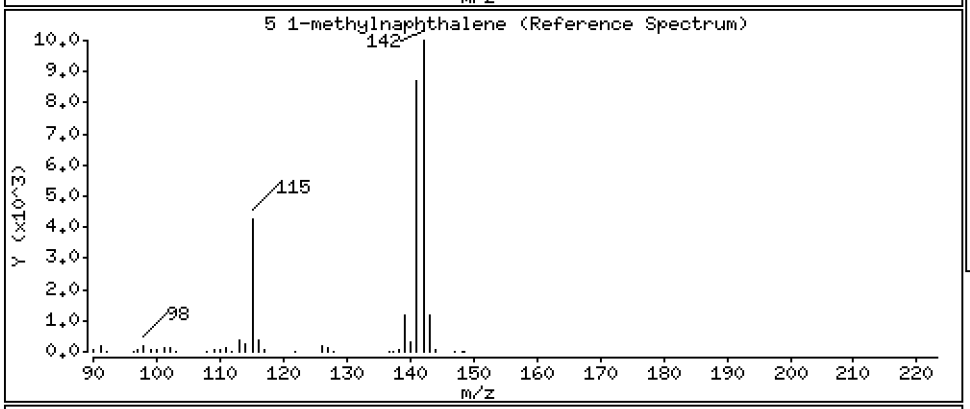
Concentration: 0.1540 ug/mL

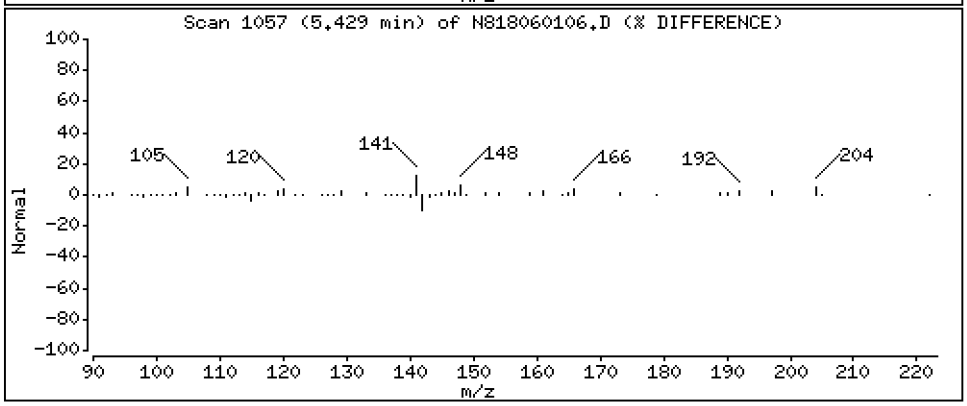












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

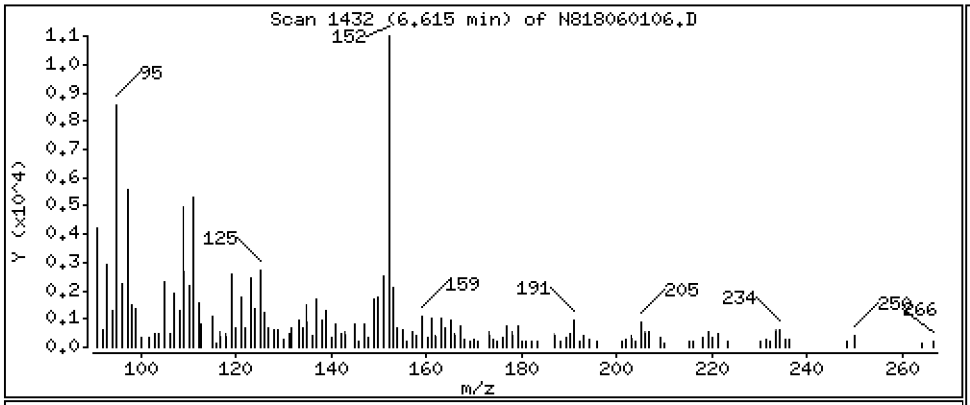
Operator: JZ

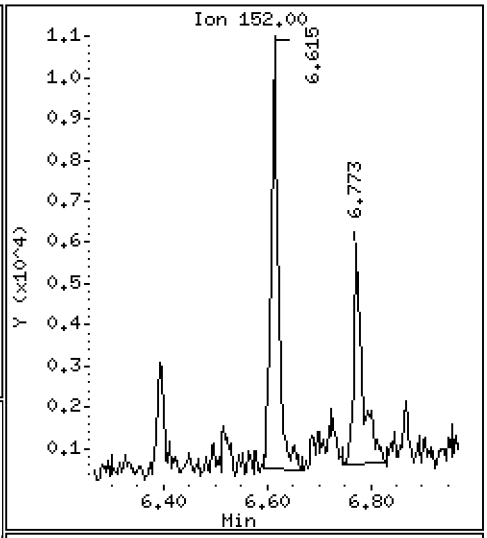
Column phase: Rxi-17sil

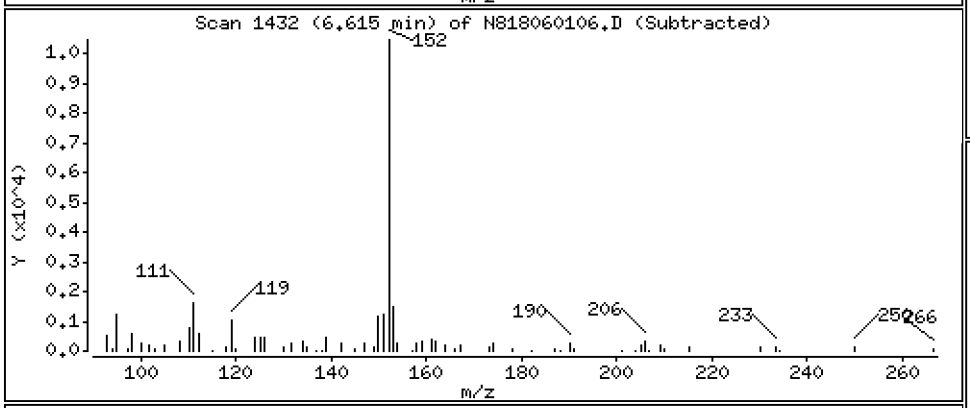
Column diameter: 0.25

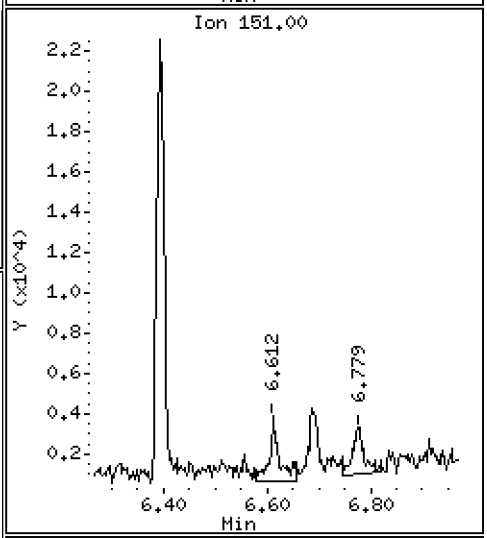
9 Acenaphthylene

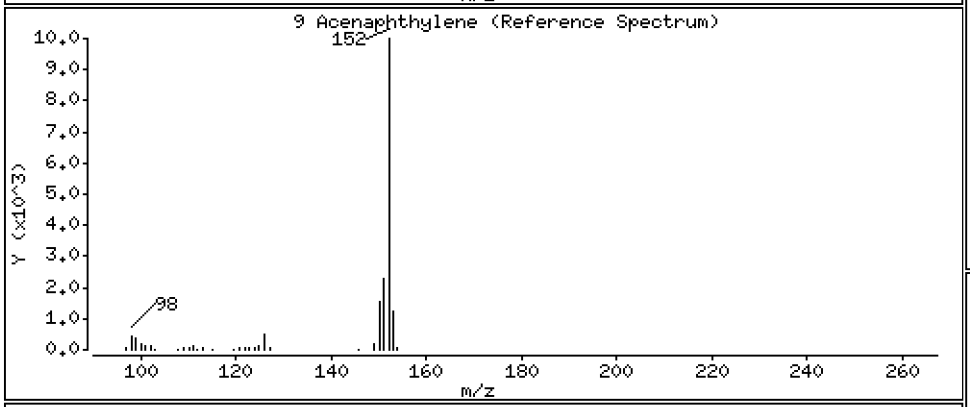
Concentration: 0.1257 ug/mL

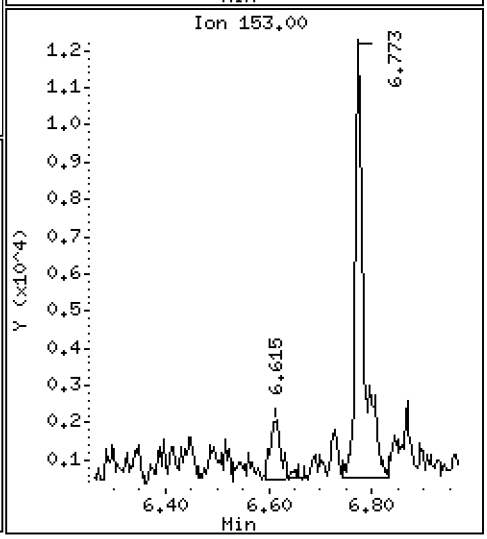


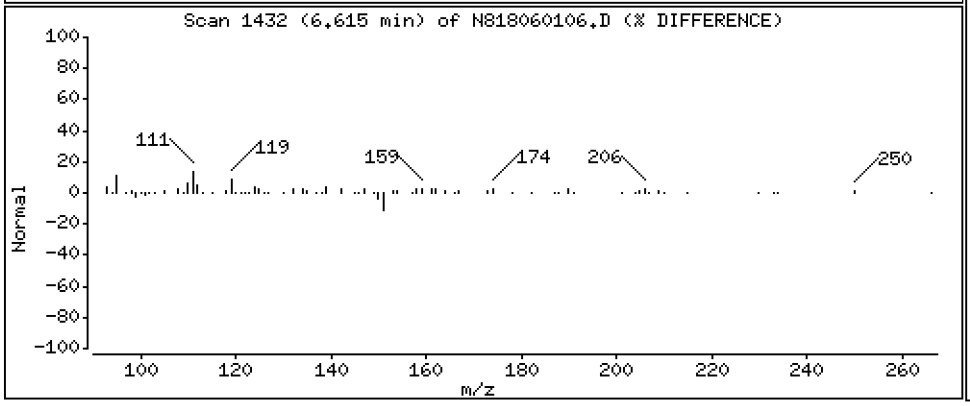












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

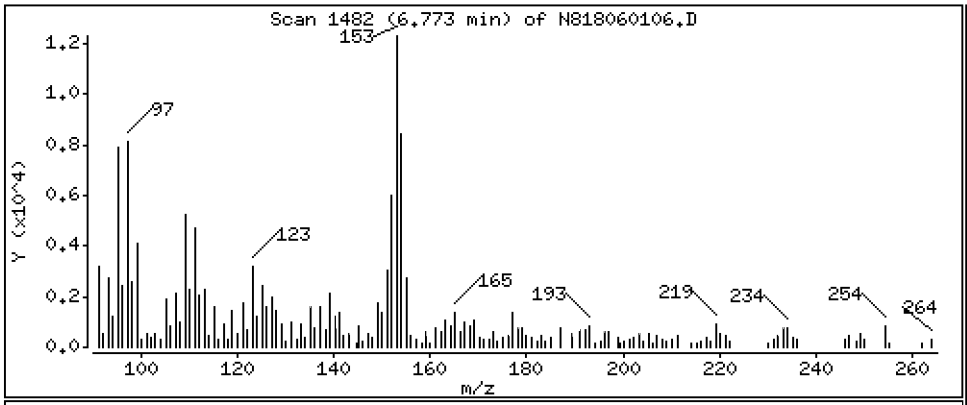
Operator: JZ

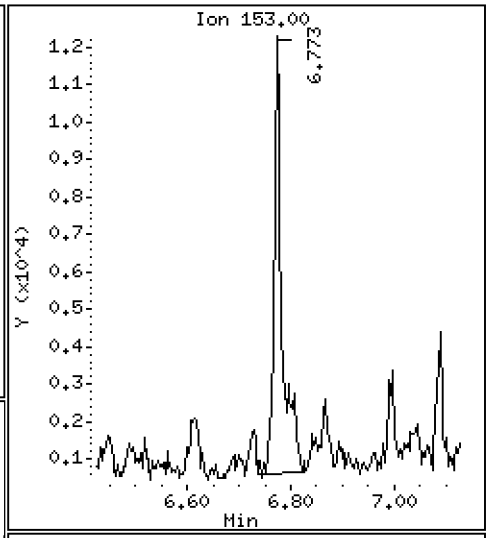
Column phase: Rxi-17sil

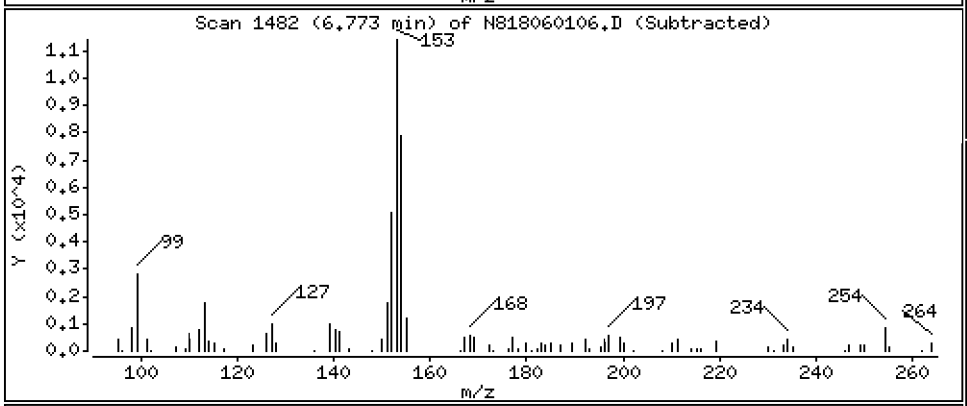
Column diameter: 0.25

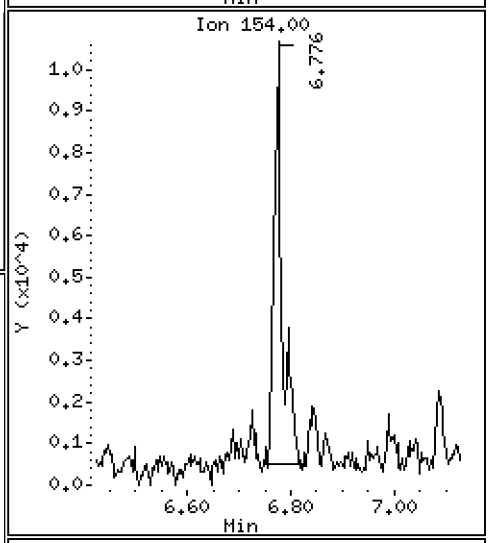
11 Acenaphthene

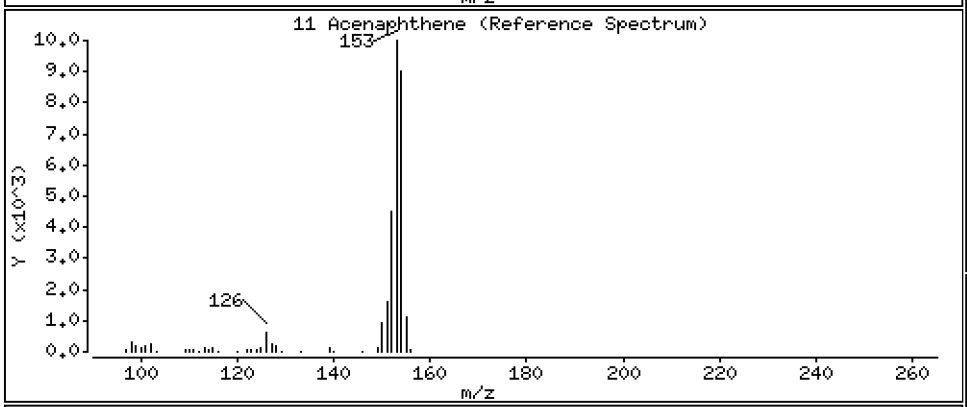
Concentration: 0.1956 ug/mL

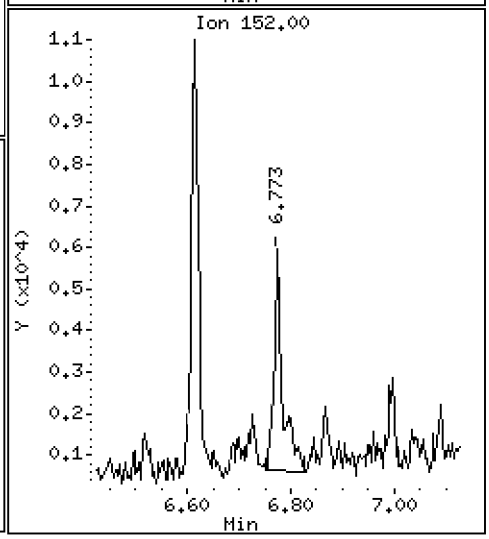


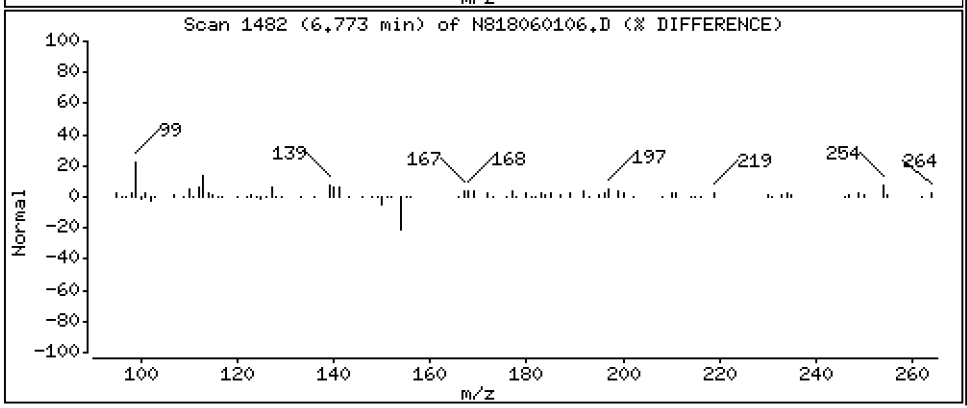












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

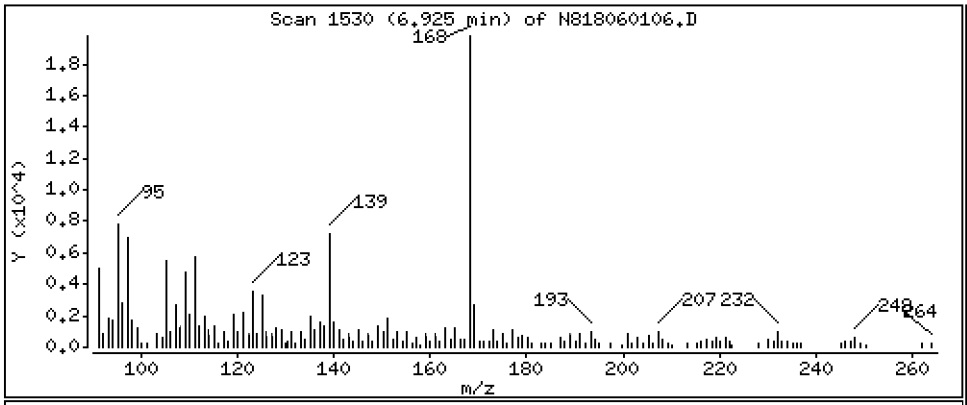
Operator: JZ

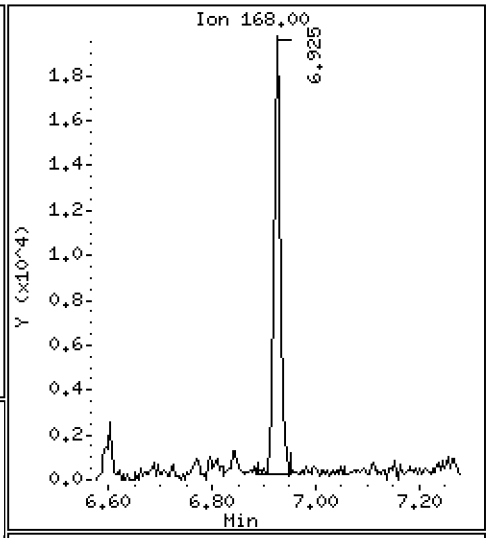
Column phase: Rxi-17sil

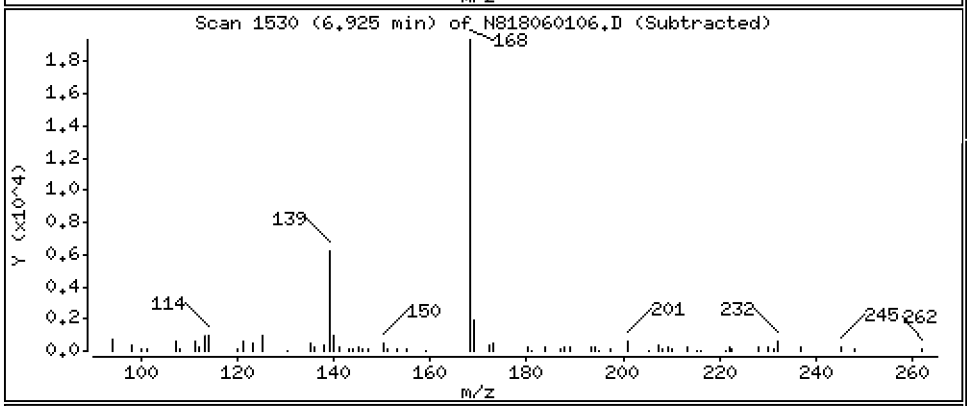
Column diameter: 0.25

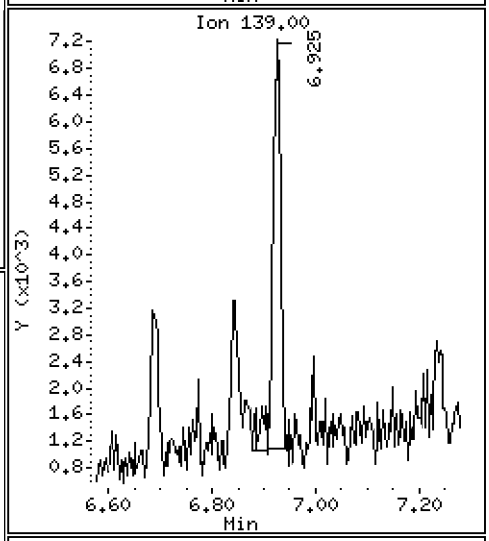
12 Dibenzofuran

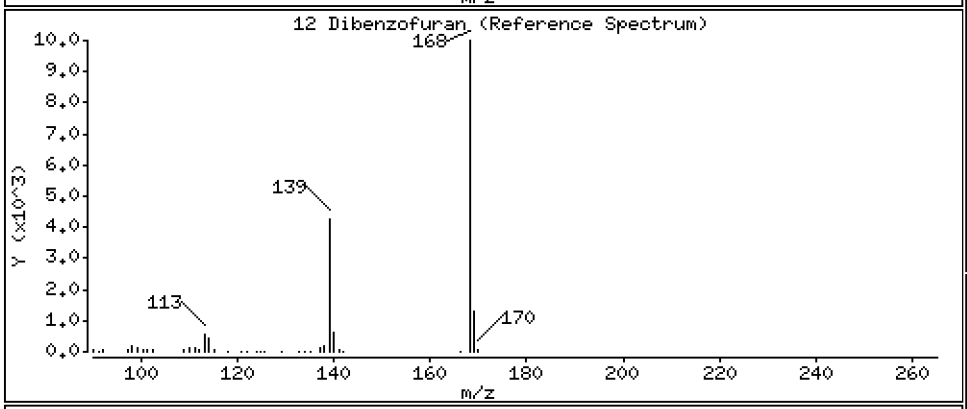
Concentration: 0.1976 ug/mL

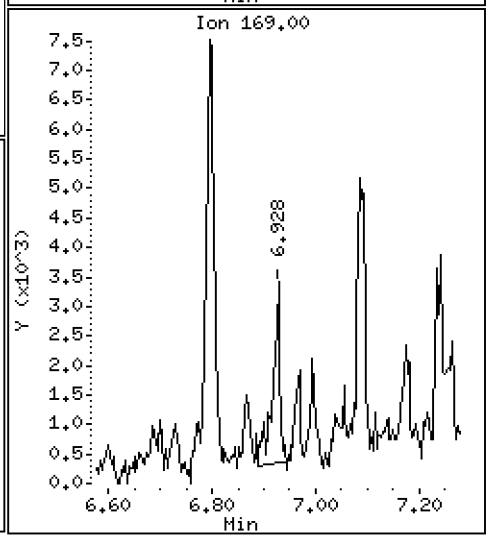


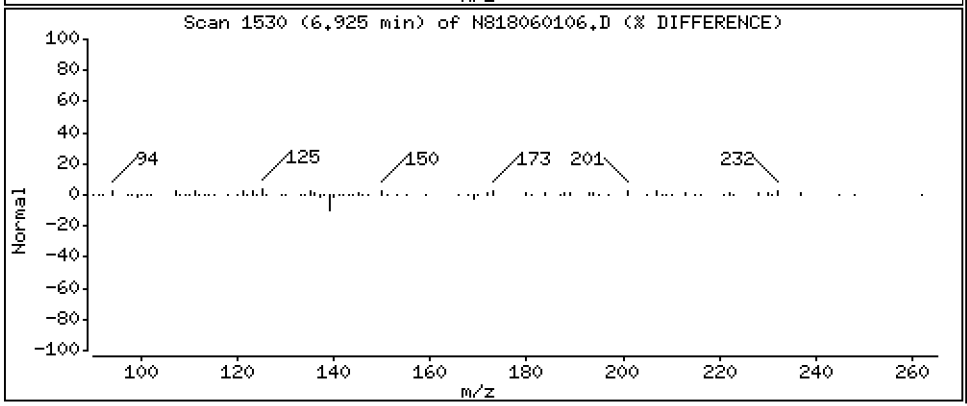












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

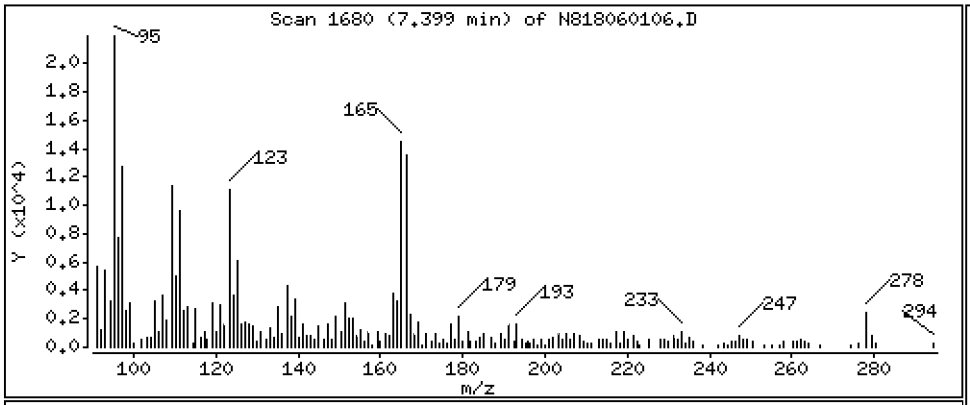
Operator: JZ

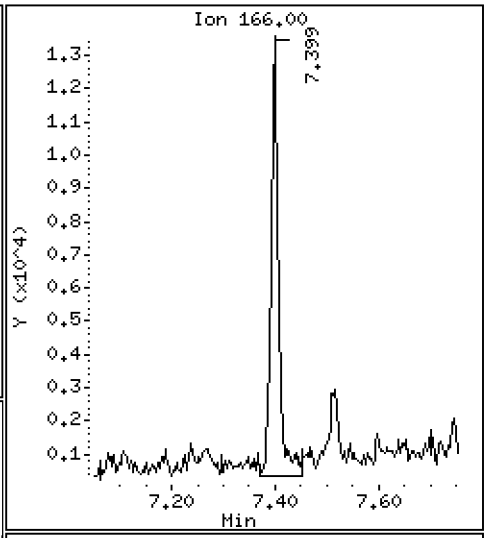
Column phase: Rxi-17sil

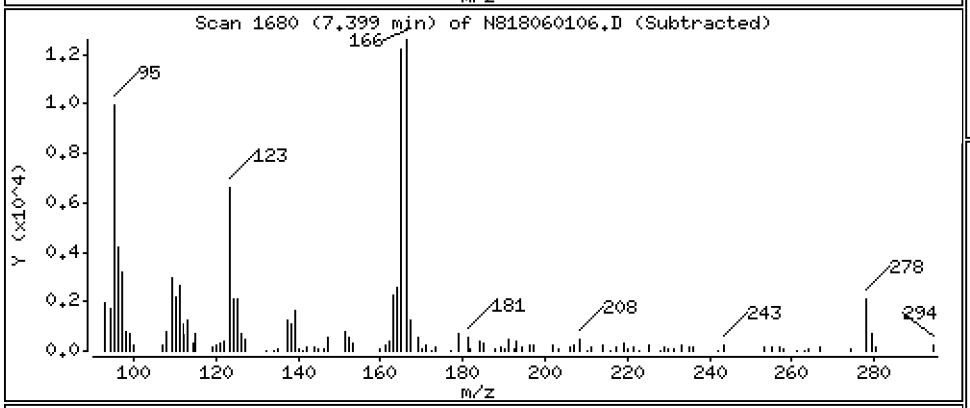
Column diameter: 0.25

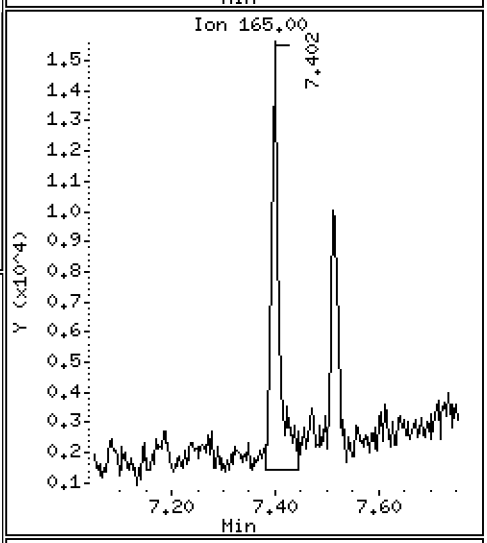
14 Fluorene

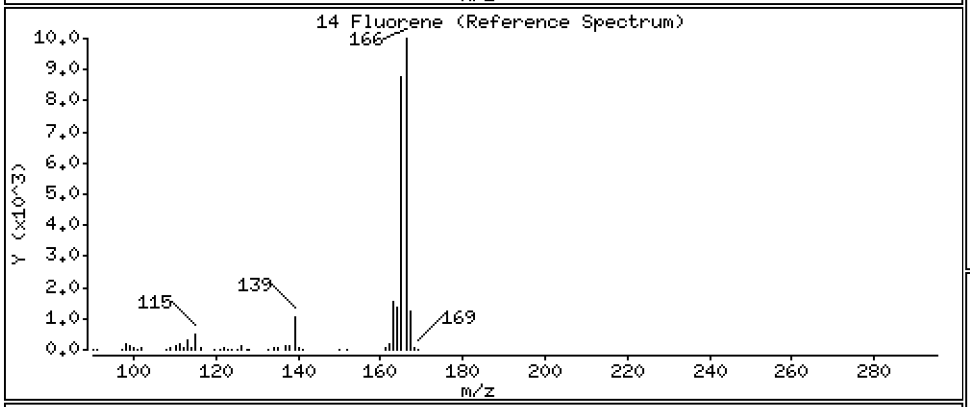
Concentration: 0.2052 ug/mL

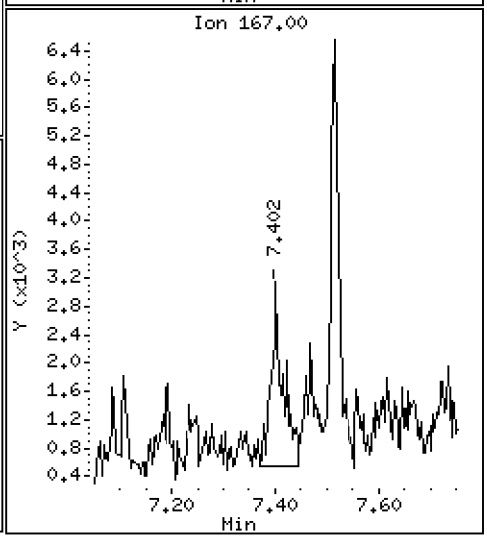


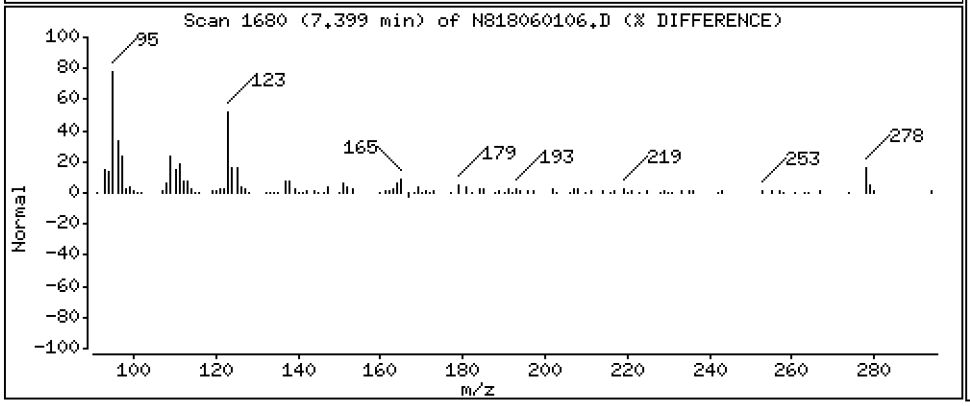












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

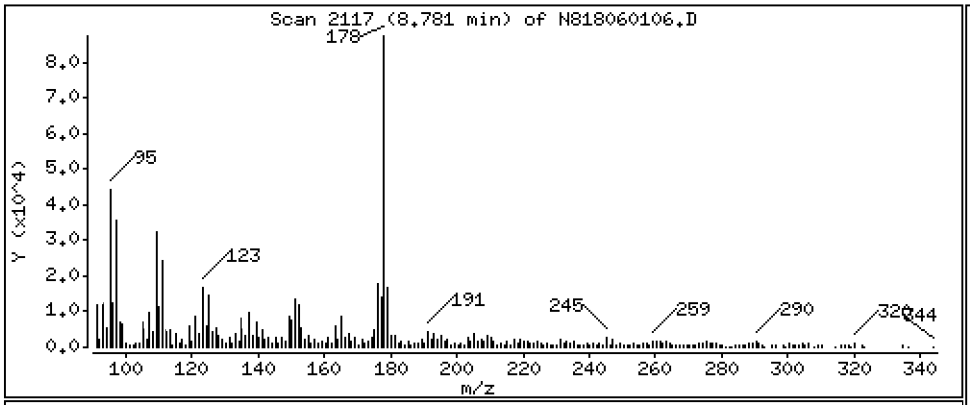
Operator: JZ

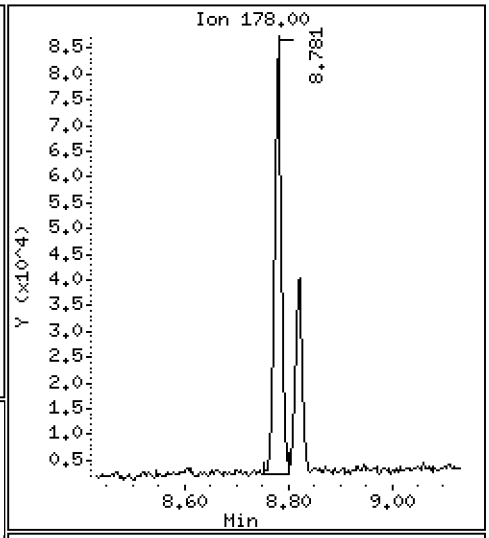
Column phase: Rxi-17sil

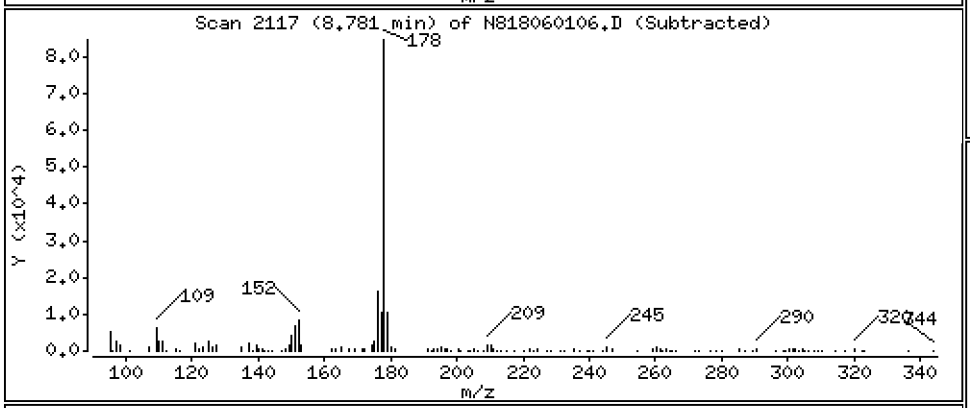
Column diameter: 0.25

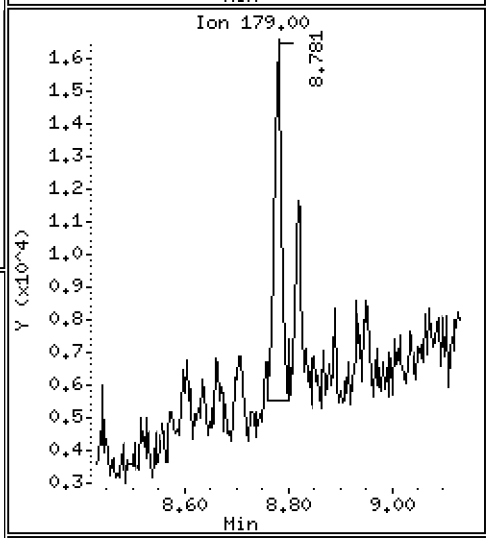
16 Phenanthrene

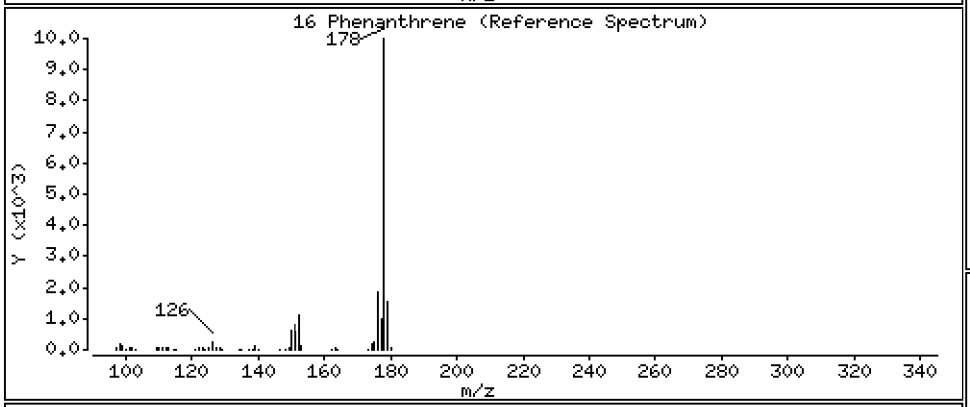
Concentration: 0.7981 ug/mL

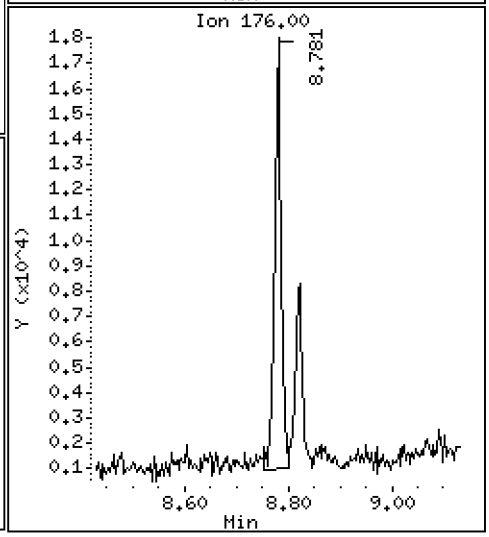


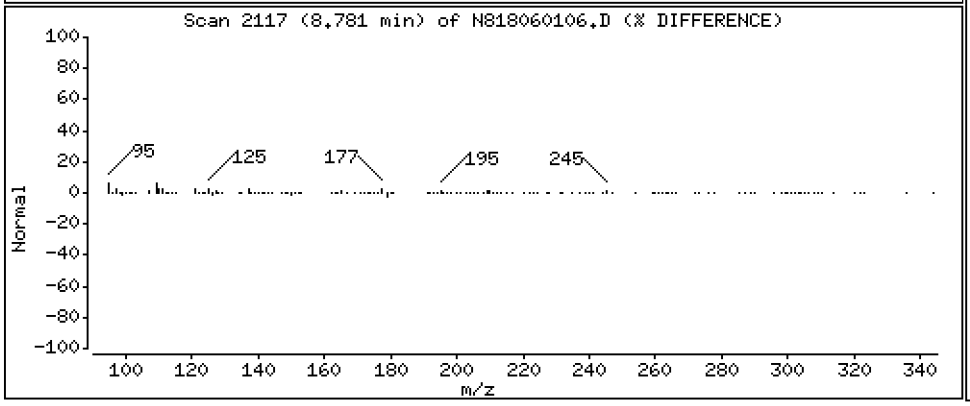












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

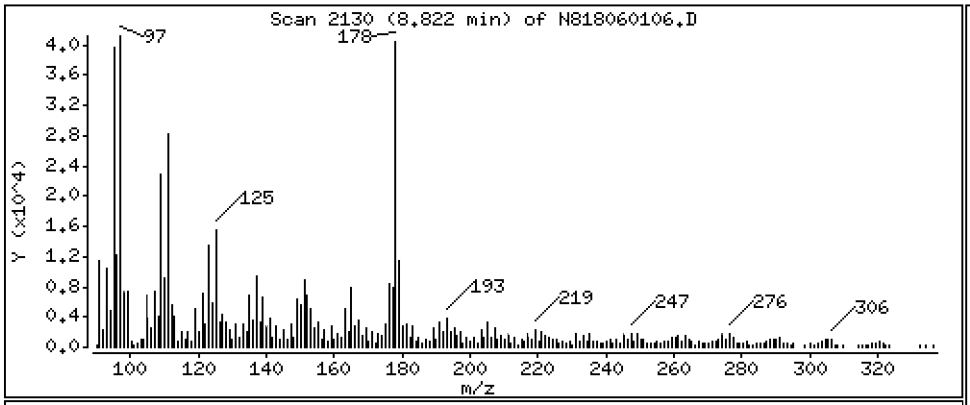
Operator: JZ

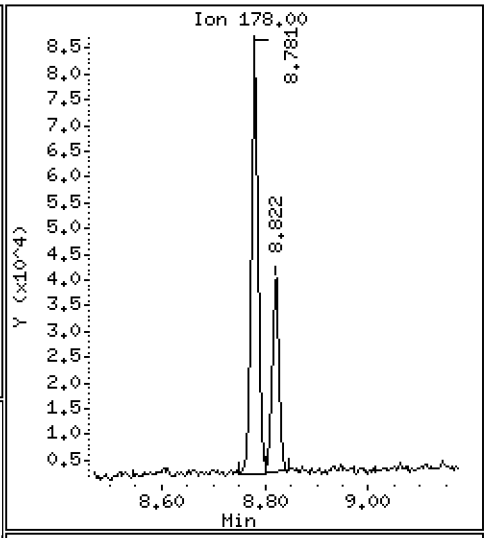
Column phase: Rxi-17sil

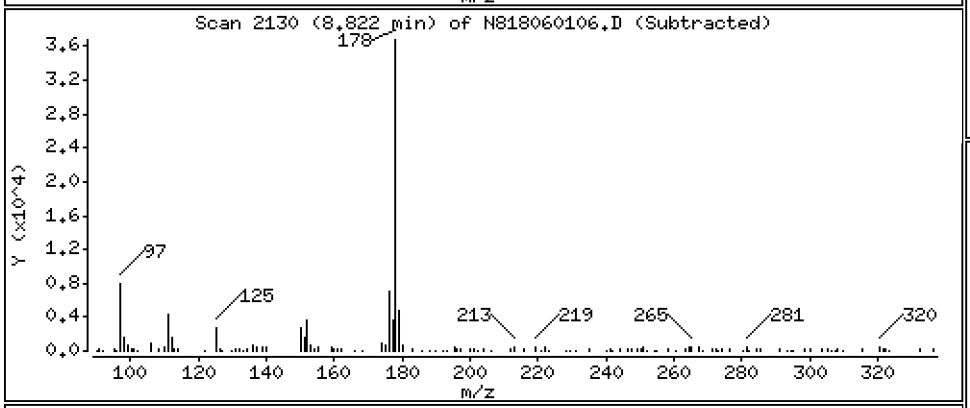
Column diameter: 0.25

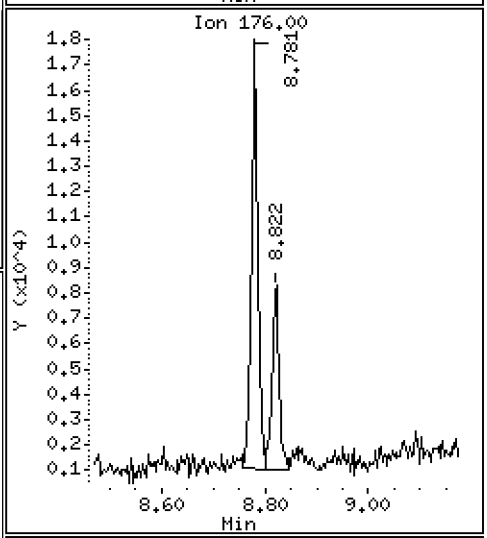
17 Anthracene

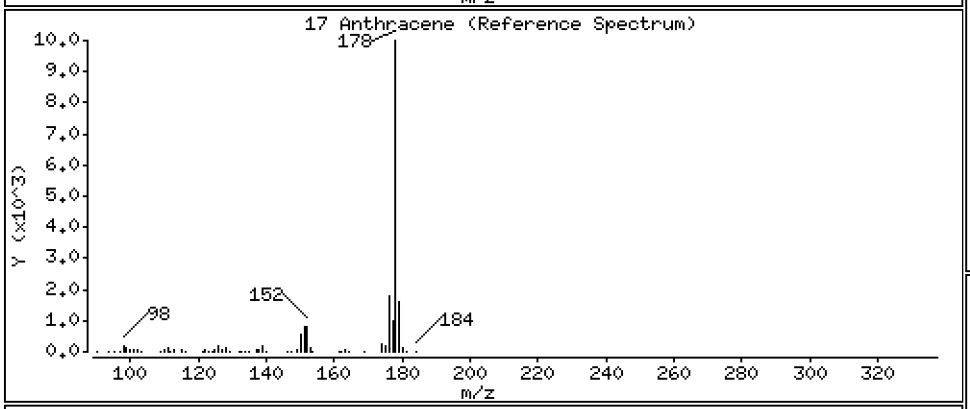
Concentration: 0.3975 ug/mL

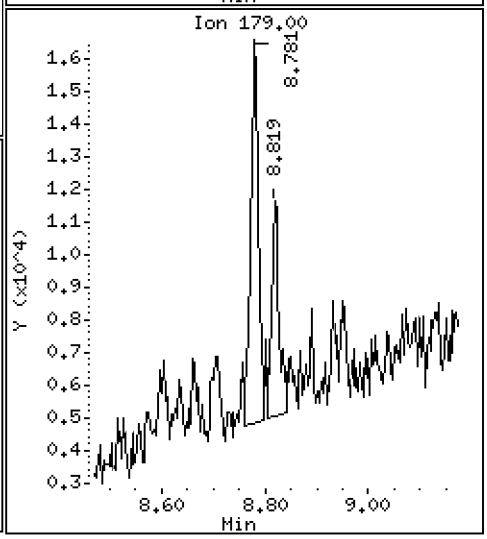


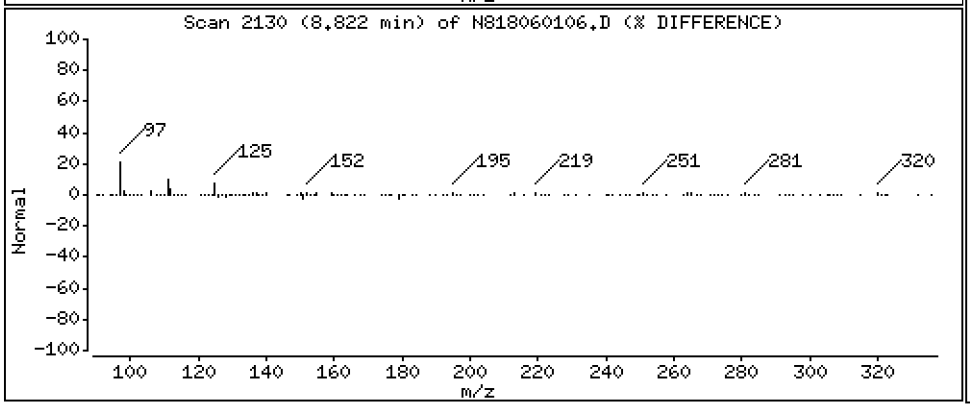












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

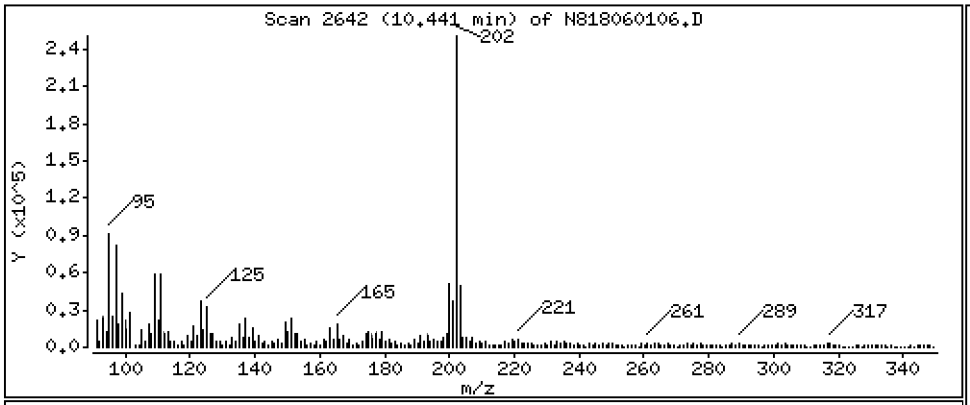
Operator: JZ

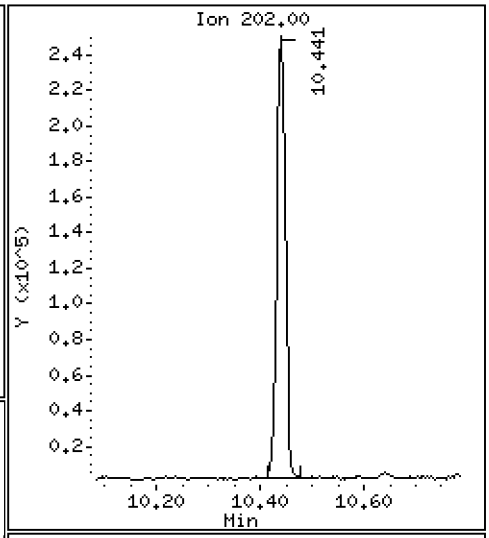
Column phase: Rxi-17sil

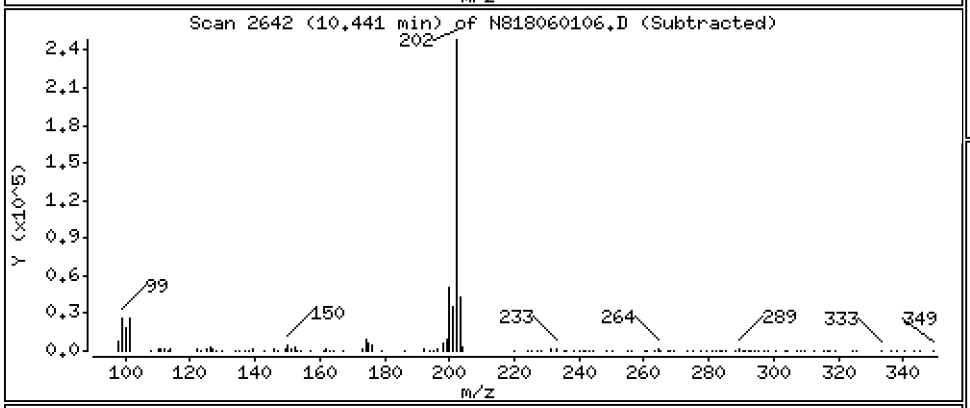
Column diameter: 0.25

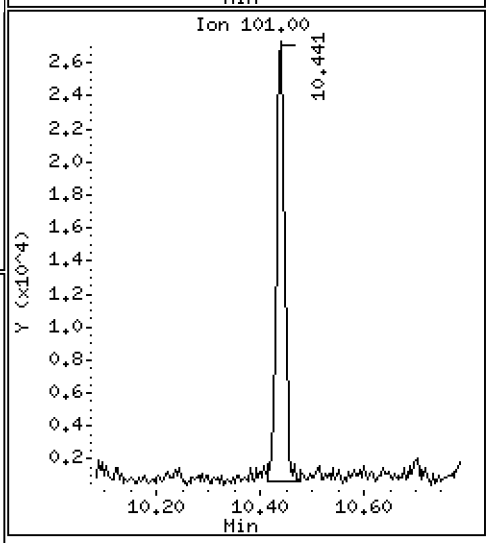
22 Fluoranthene

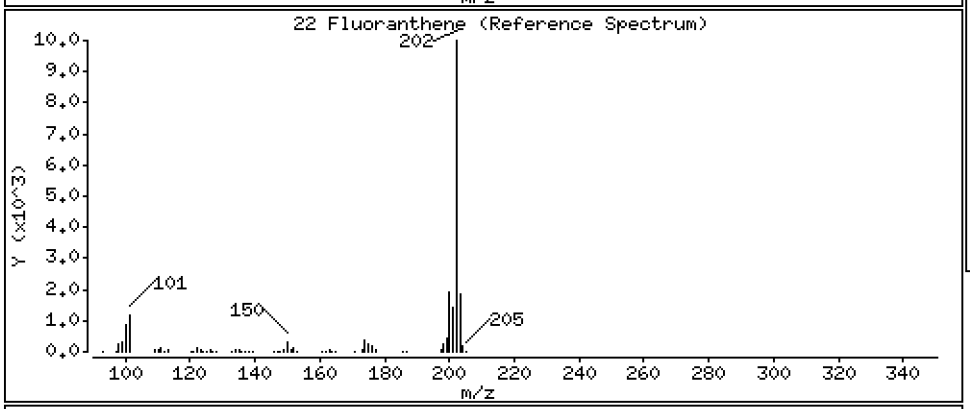
Concentration: 2.530 ug/mL

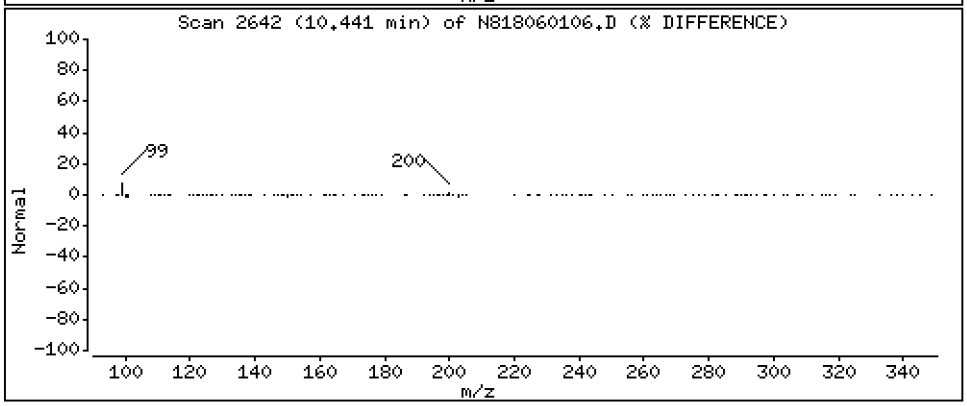












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

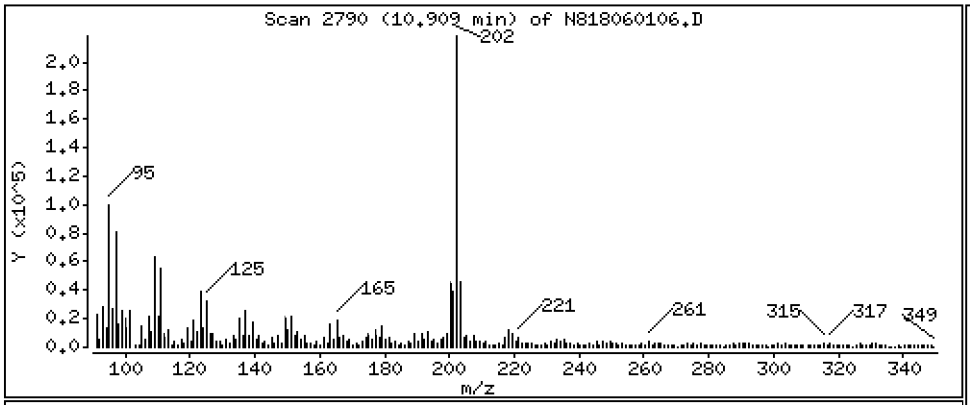
Operator: JZ

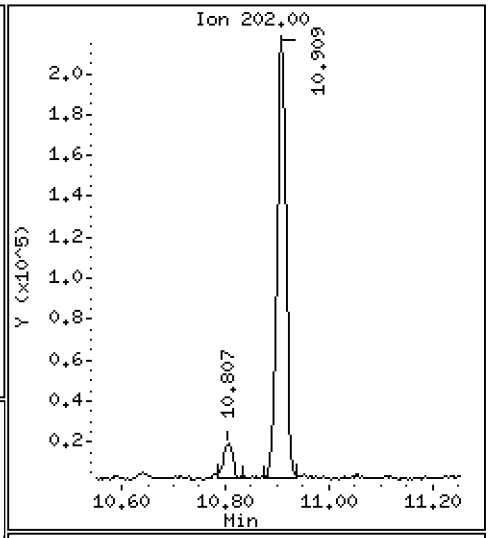
Column phase: Rxi-17sil

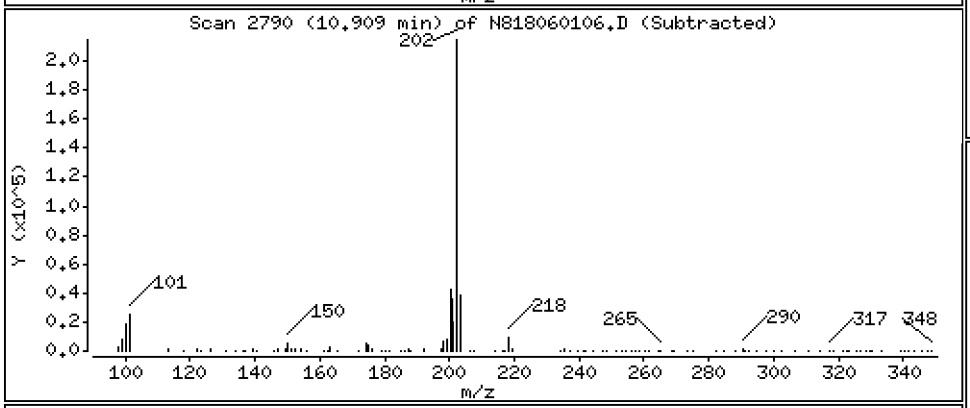
Column diameter: 0.25

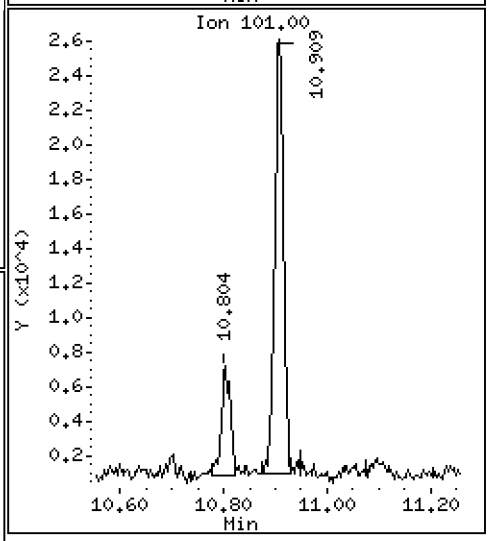
23 Pyrene

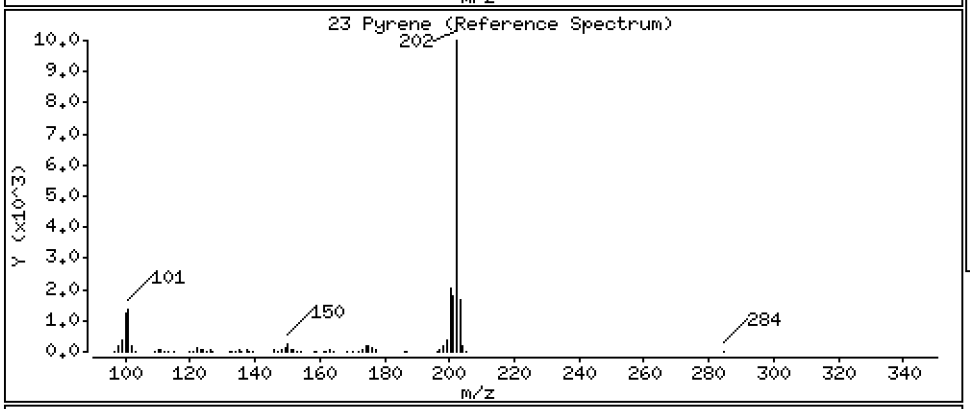
Concentration: 2.126 ug/mL

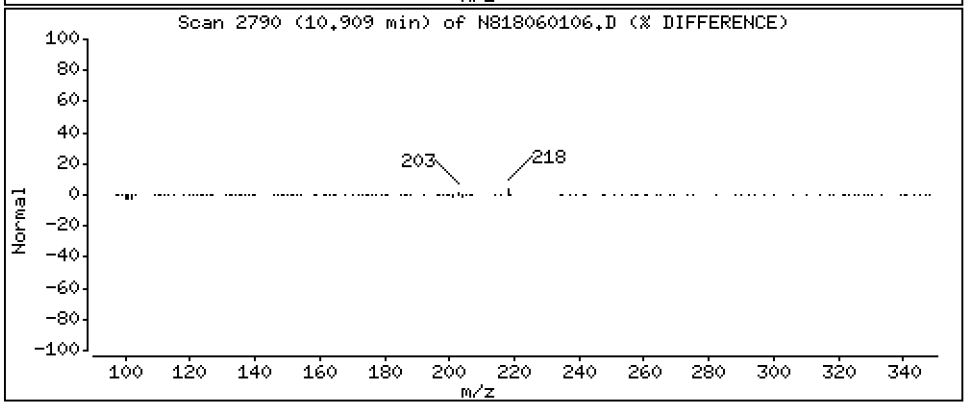












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

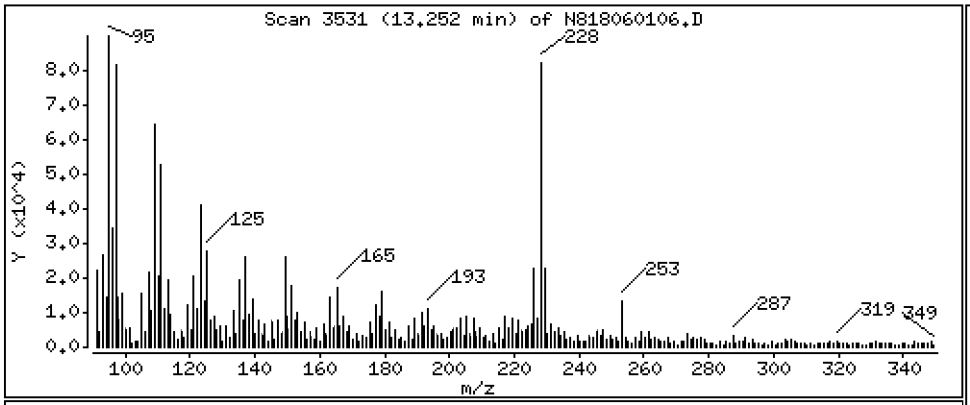
Operator: JZ

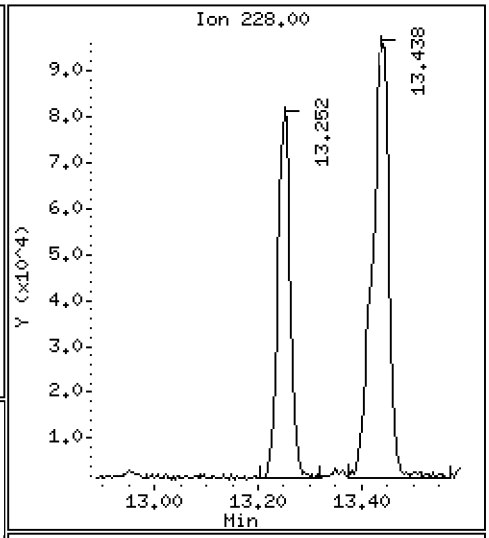
Column phase: Rxi-17sil

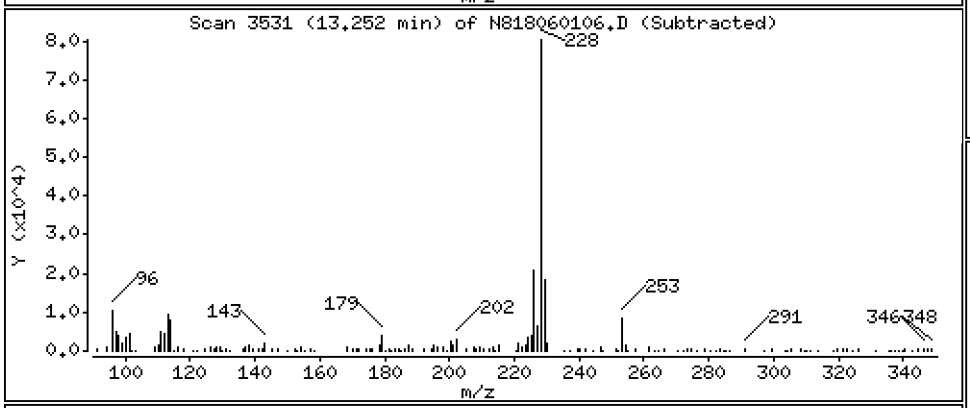
Column diameter: 0.25

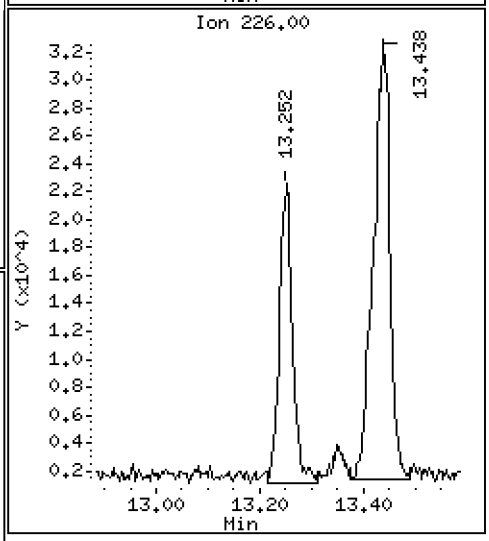
24 Benzo(a)anthracene

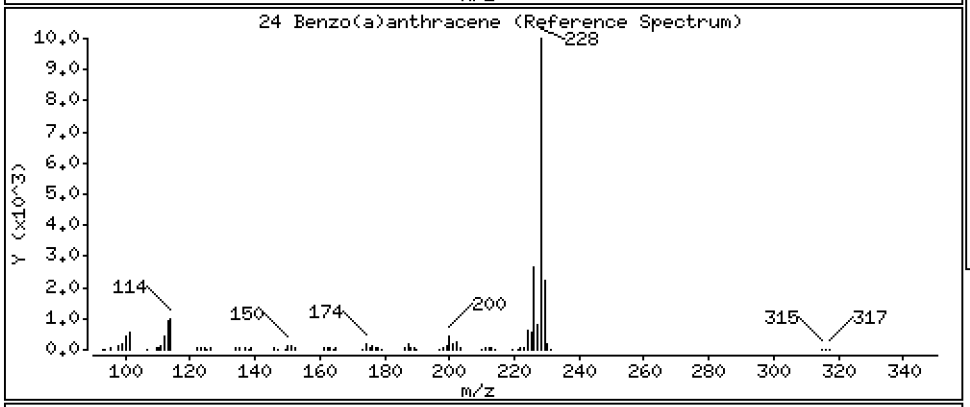
Concentration: 1.125 ug/mL

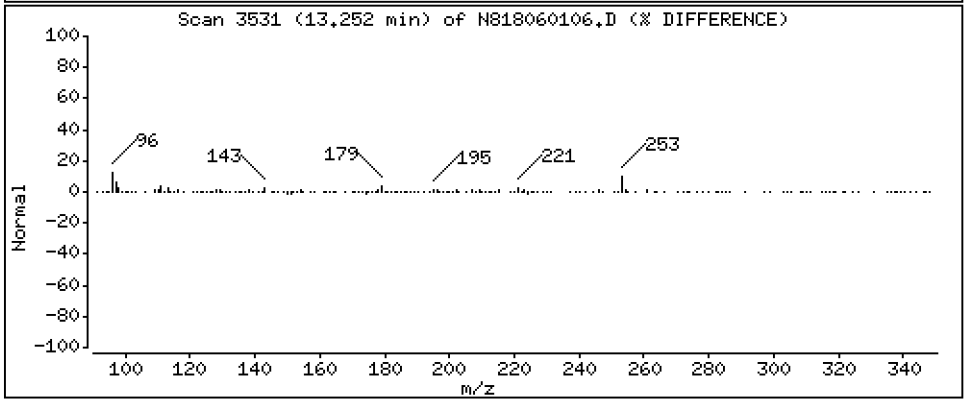












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

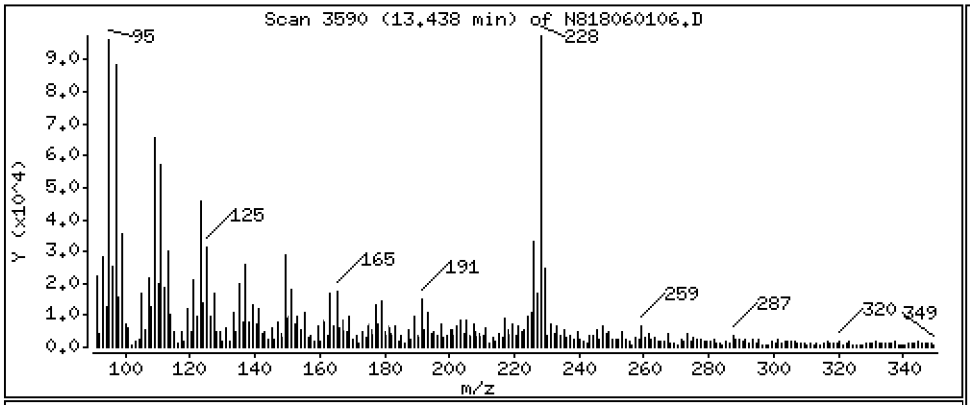
Operator: JZ

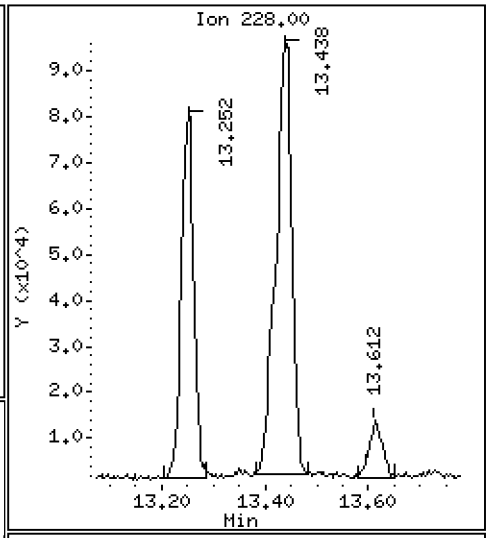
Column phase: Rxi-17sil

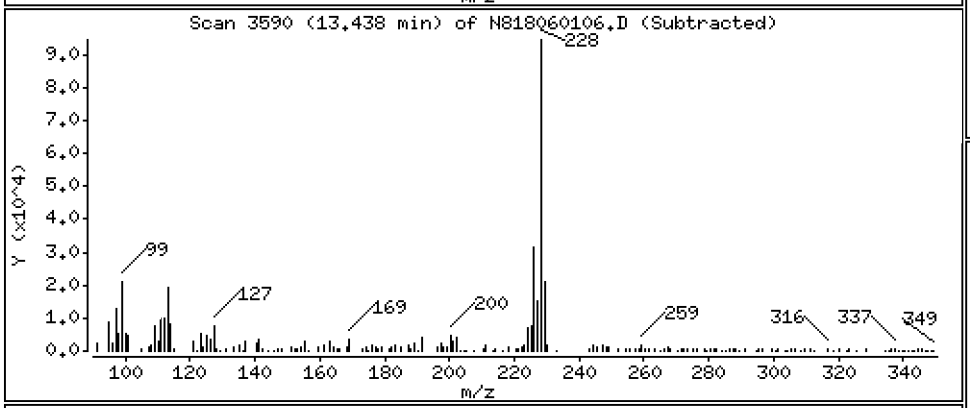
Column diameter: 0.25

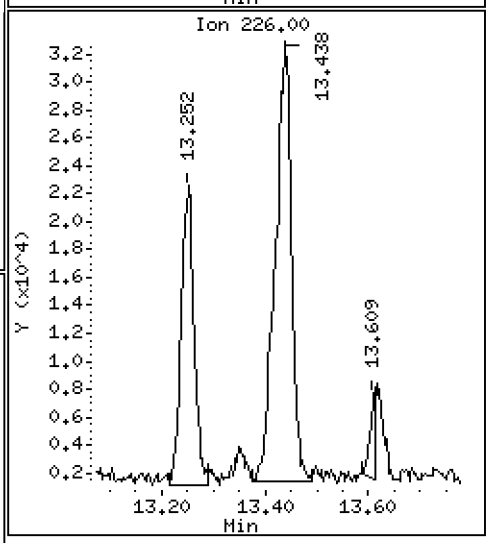
27 Chrysene

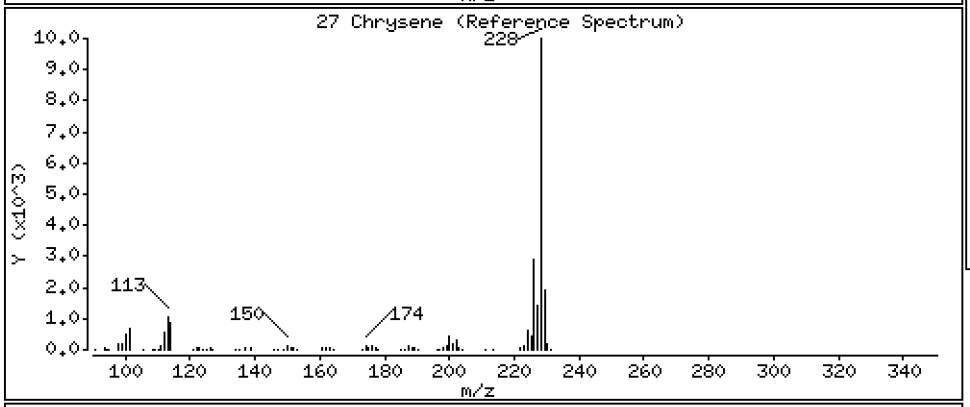
Concentration: 1.706 ug/mL

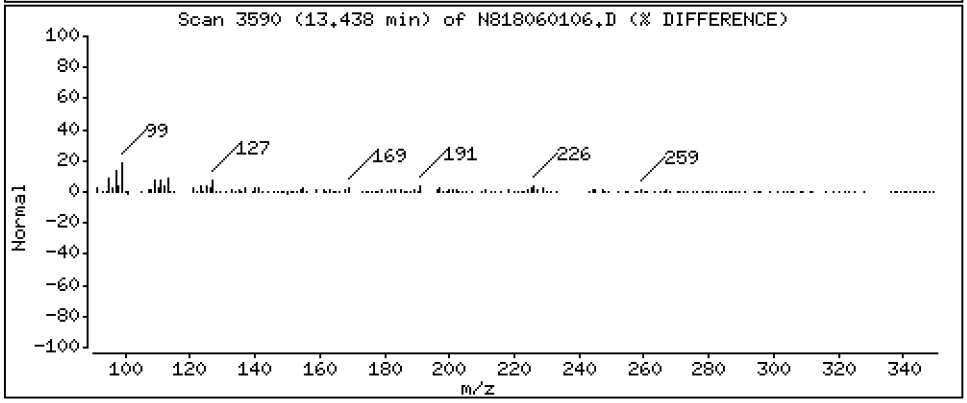












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

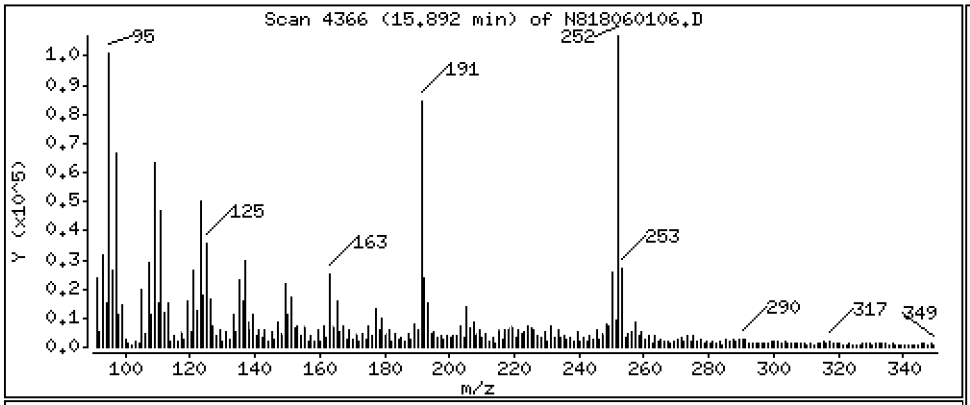
Operator: JZ

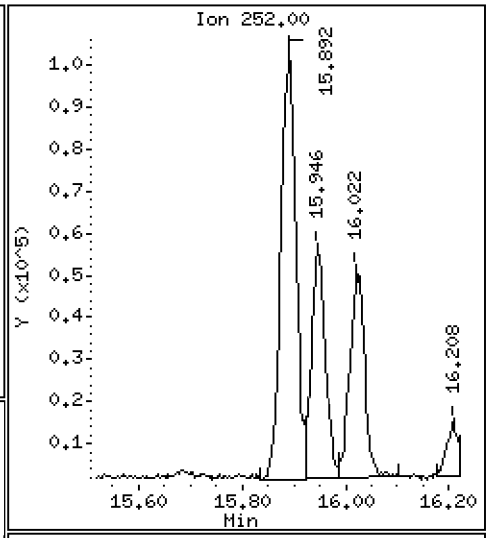
Column phase: Rxi-17sil

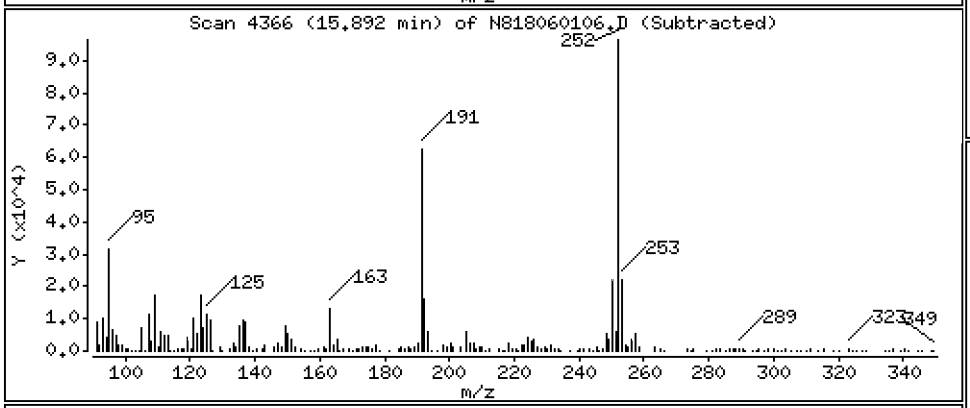
Column diameter: 0.25

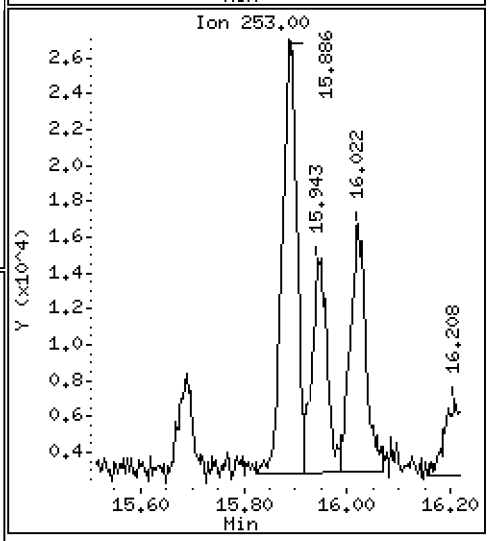
28 Benzo(b)fluoranthene

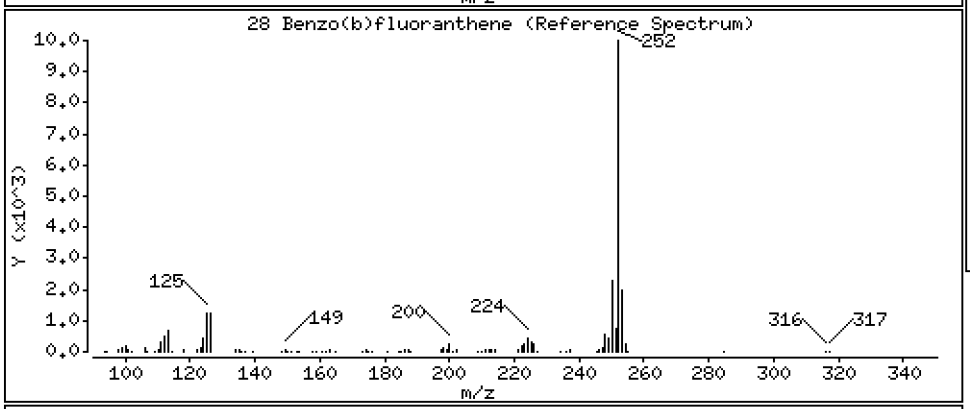
Concentration: 1.497 ug/mL

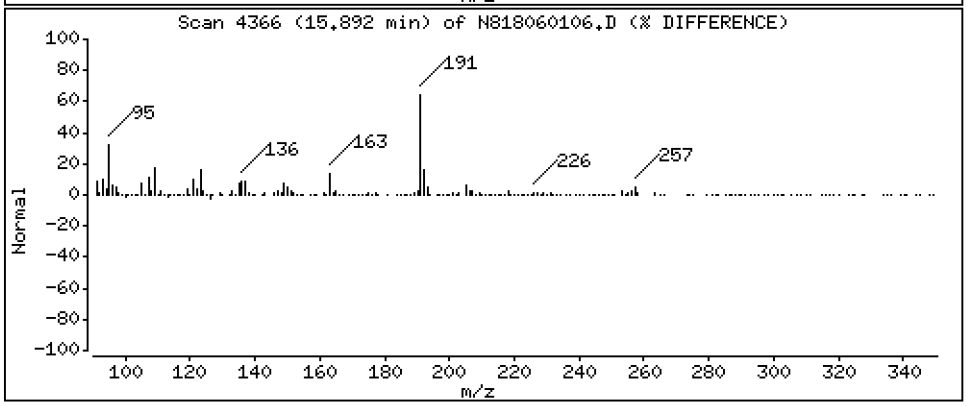












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

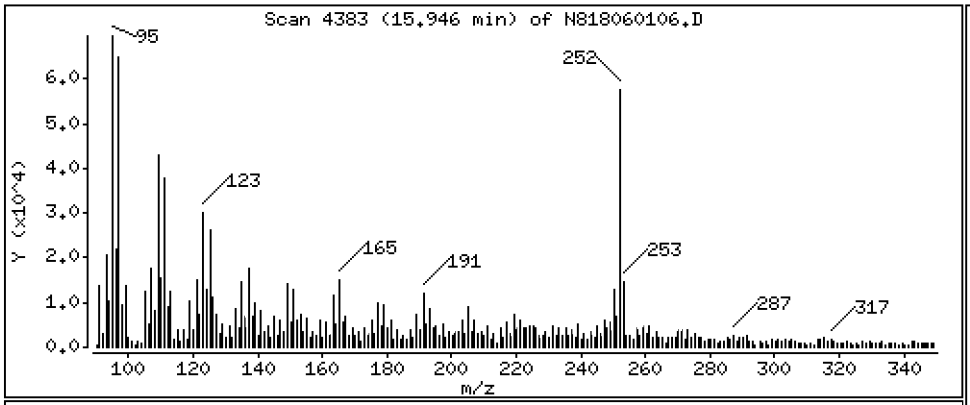
Operator: JZ

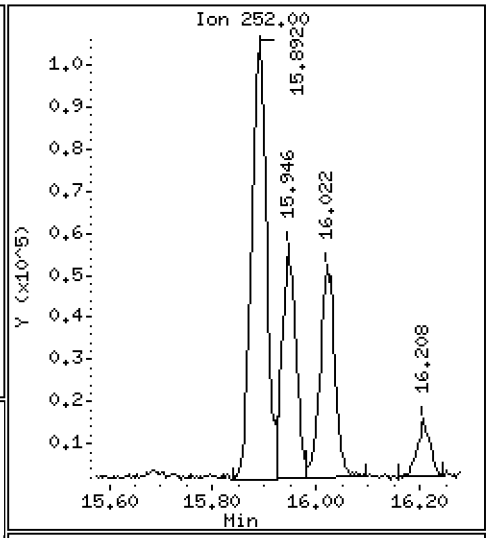
Column phase: Rxi-17sil

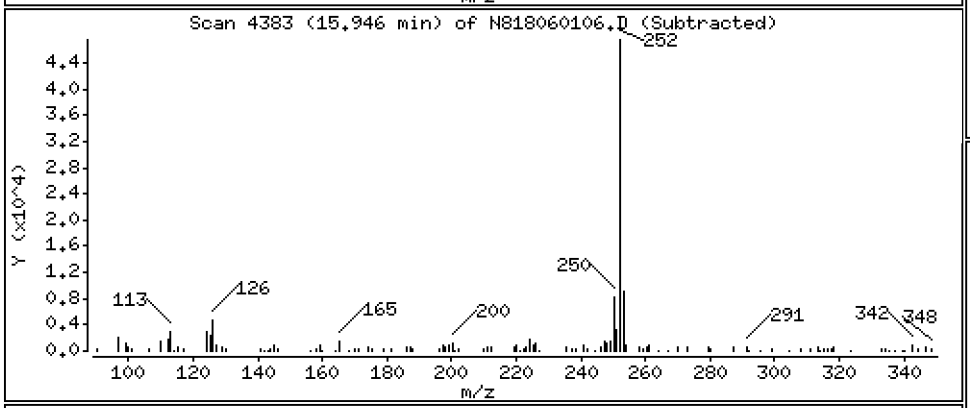
Column diameter: 0.25

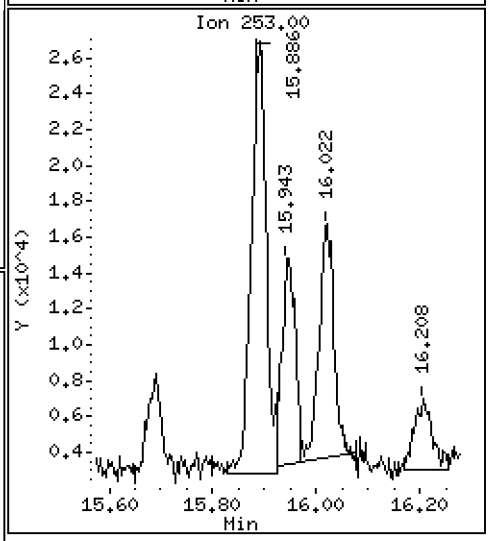
29 Benzo(k)fluoranthene

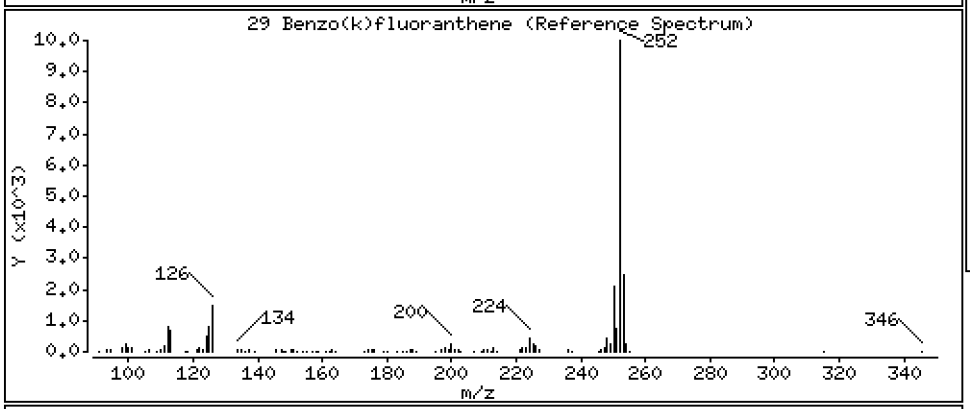
Concentration: 0.7481 ug/mL

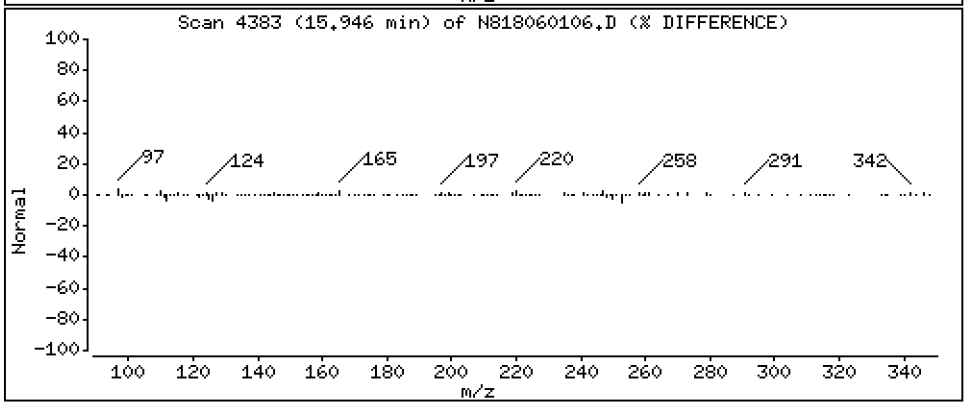












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

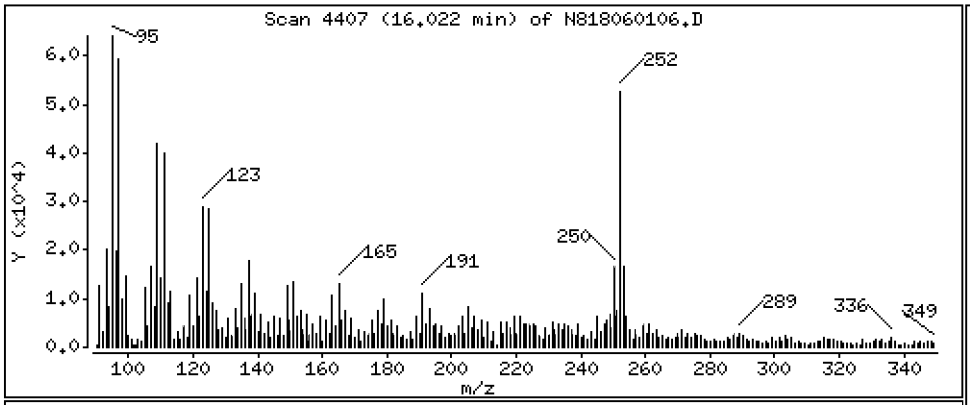
Operator: JZ

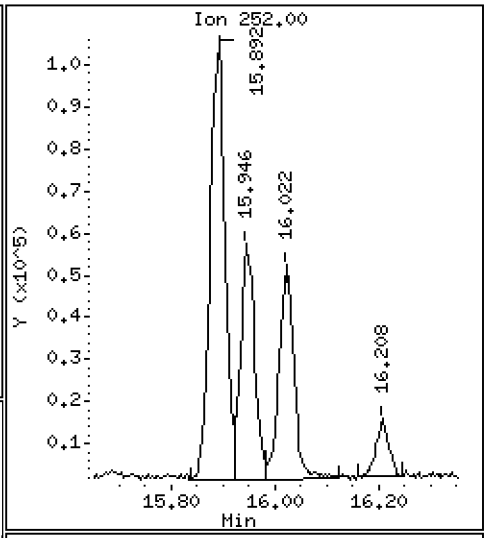
Column phase: Rxi-17sil

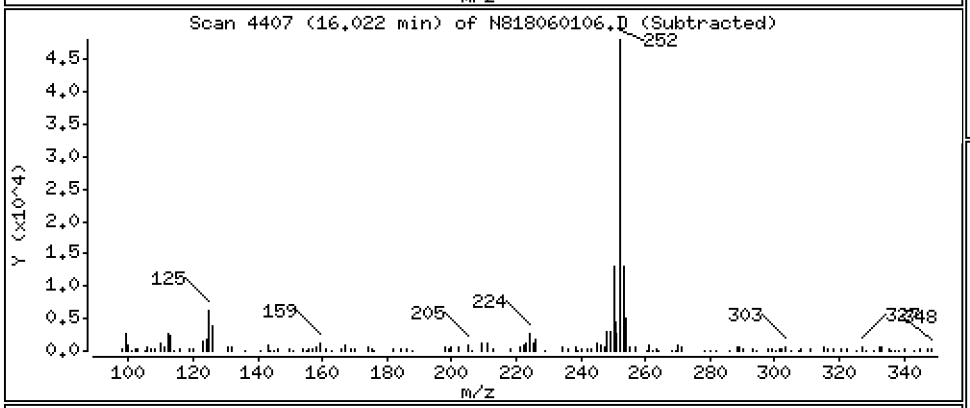
Column diameter: 0.25

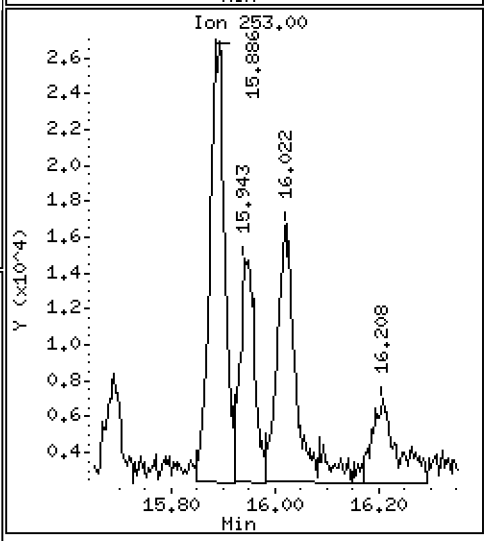
30 Benzo(j)fluoranthene

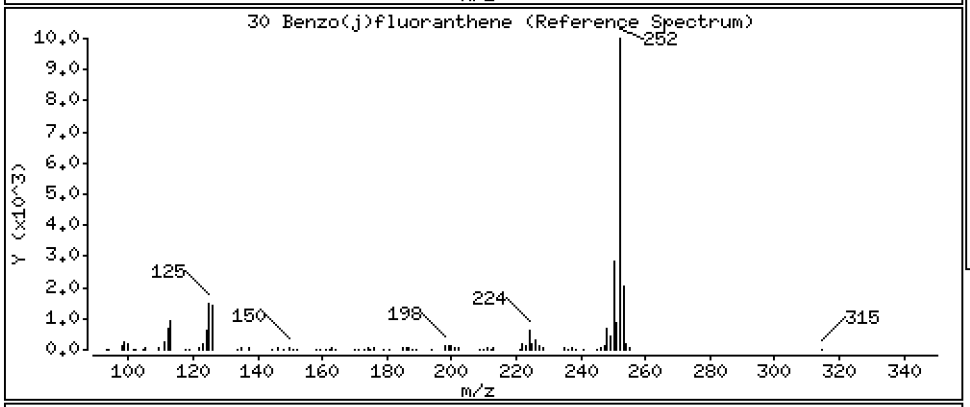
Concentration: 0.7571 ug/mL

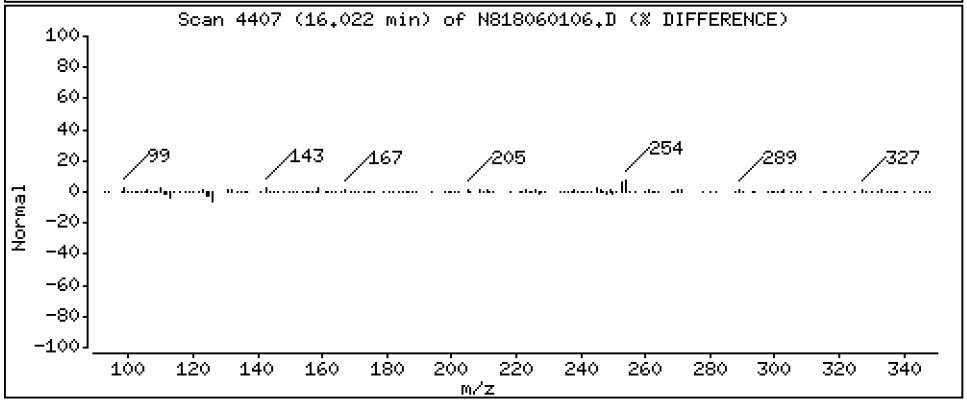












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

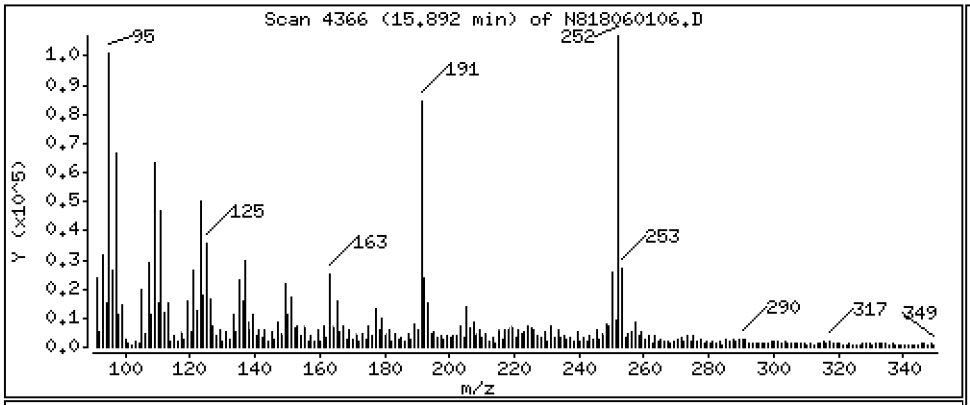
Operator: JZ

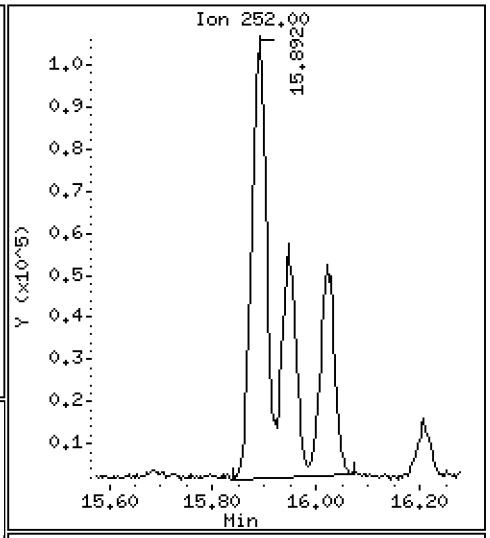
Column phase: Rxi-17sil

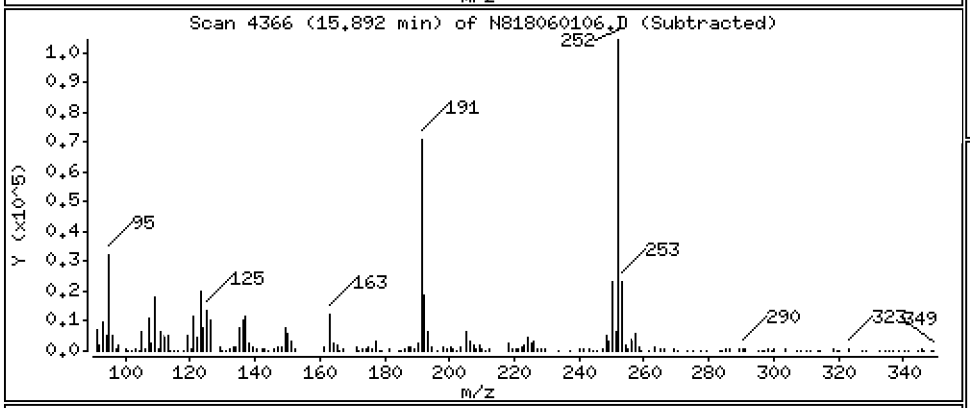
Column diameter: 0.25

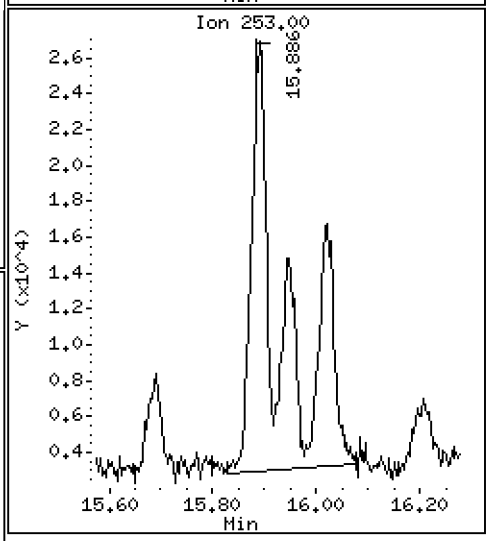
31 Total Benzofluoranthenes

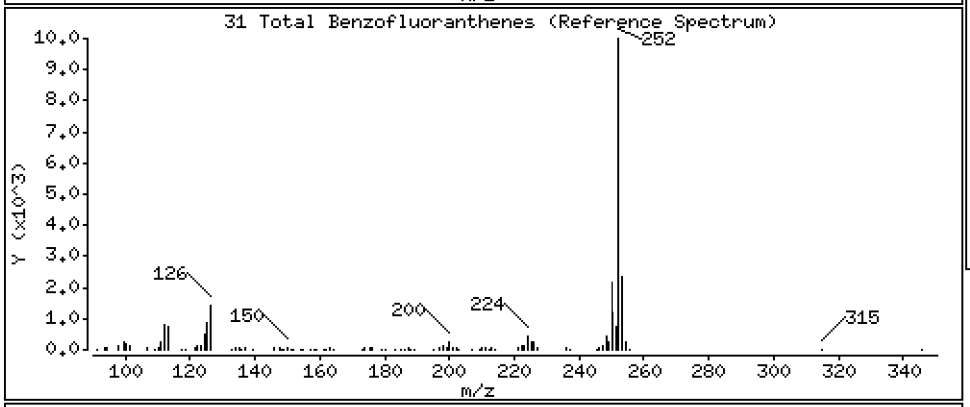
Concentration: 2.967 ug/mL

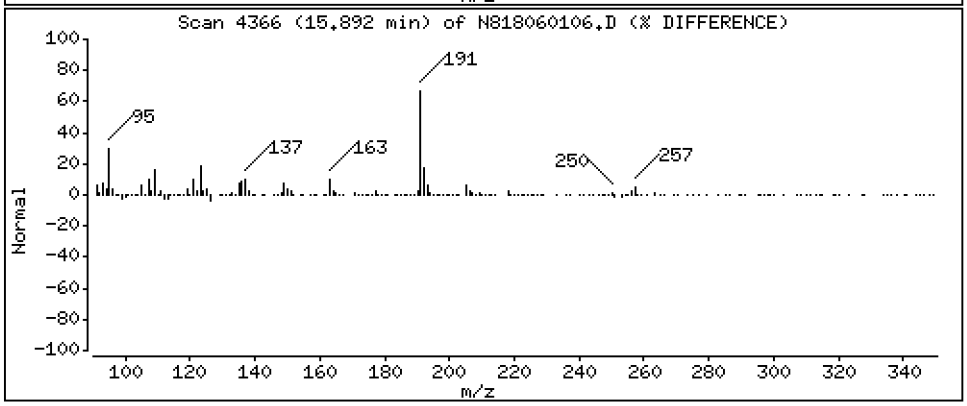












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

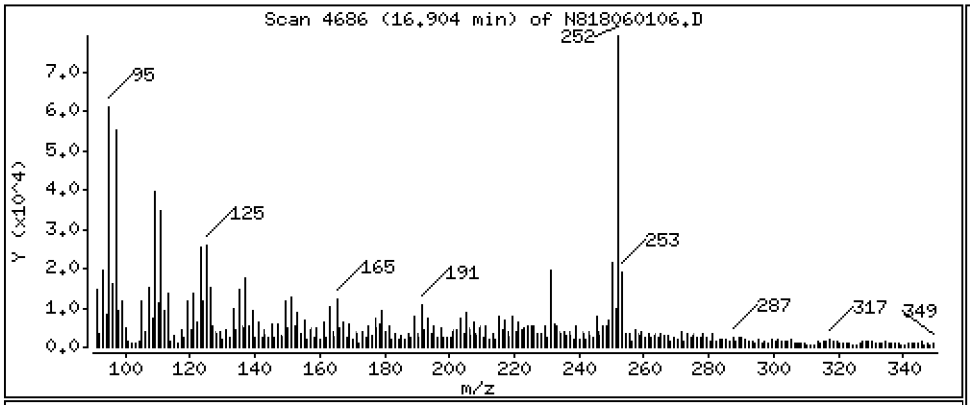
Operator: JZ

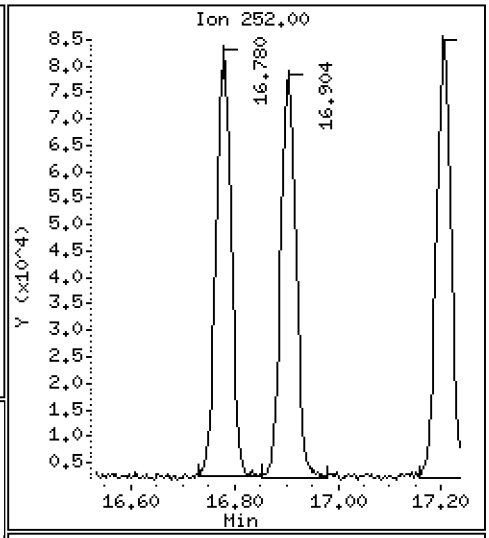
Column phase: Rxi-17sil

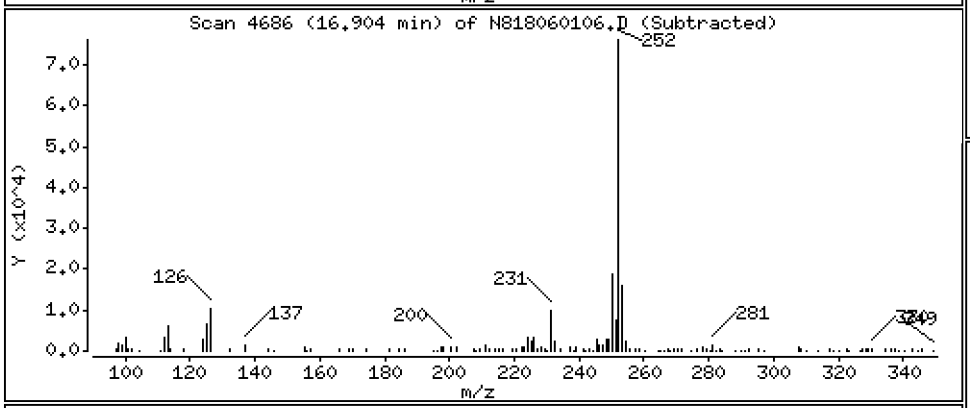
Column diameter: 0.25

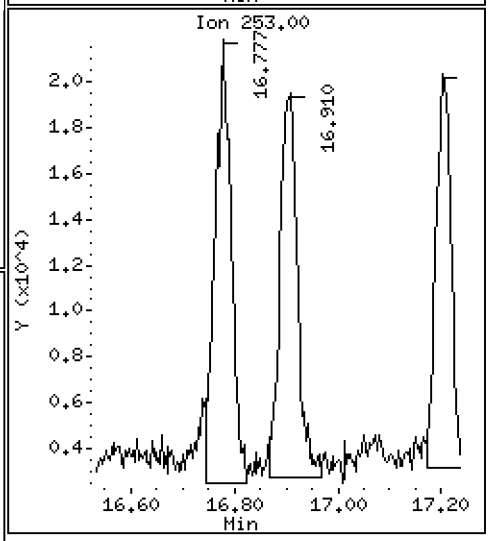
32 Benzo(a)pyrene

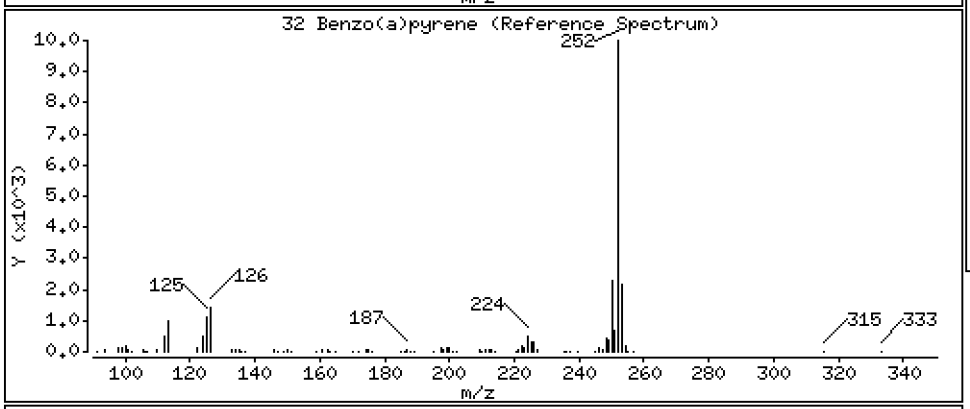
Concentration: 1.302 ug/mL

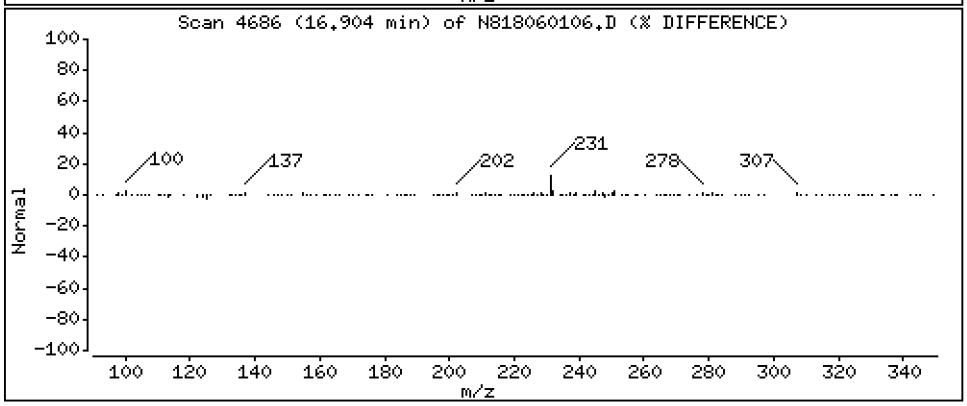












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

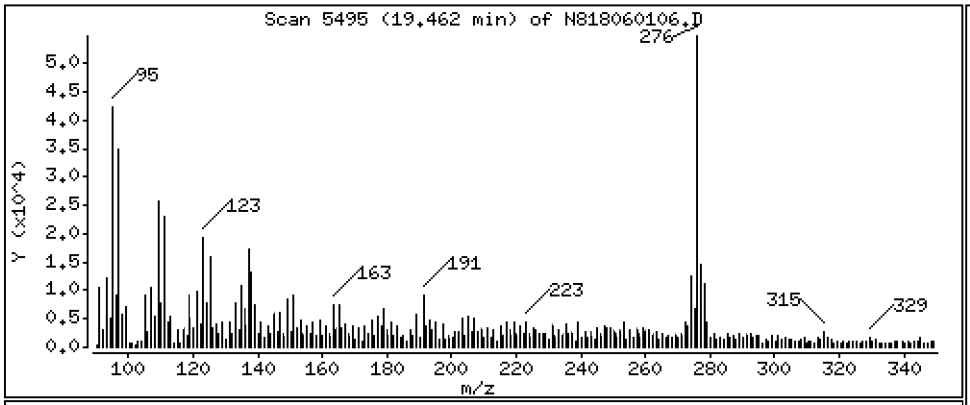
Operator: JZ

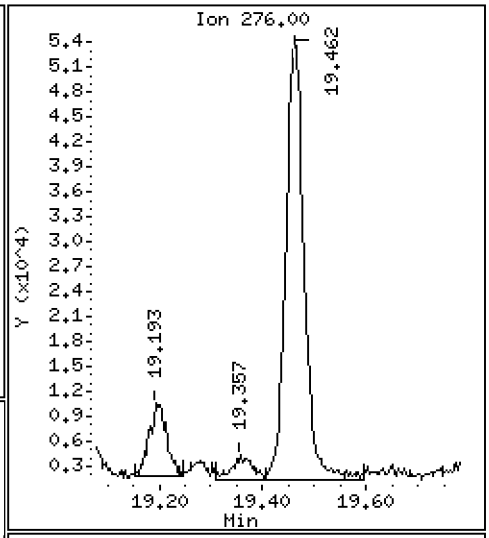
Column phase: Rxi-17sil

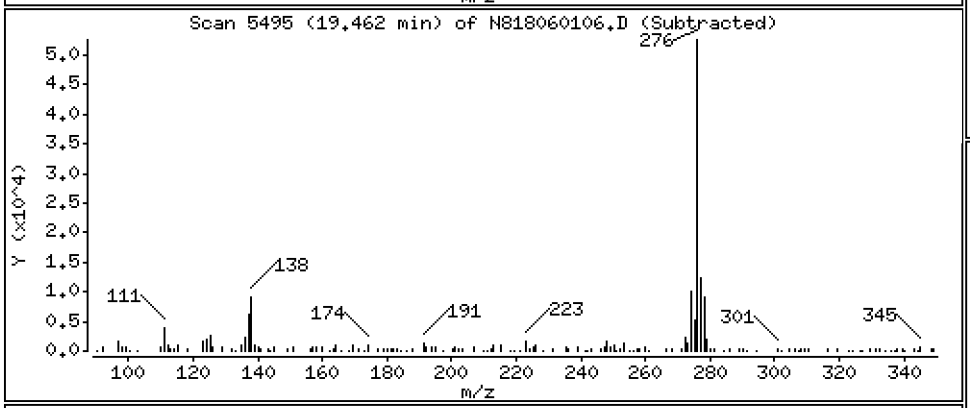
Column diameter: 0.25

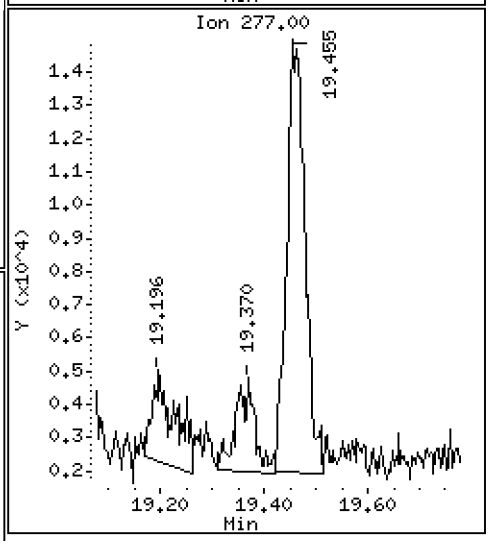
37 Indeno(1,2,3-cd)pyrene

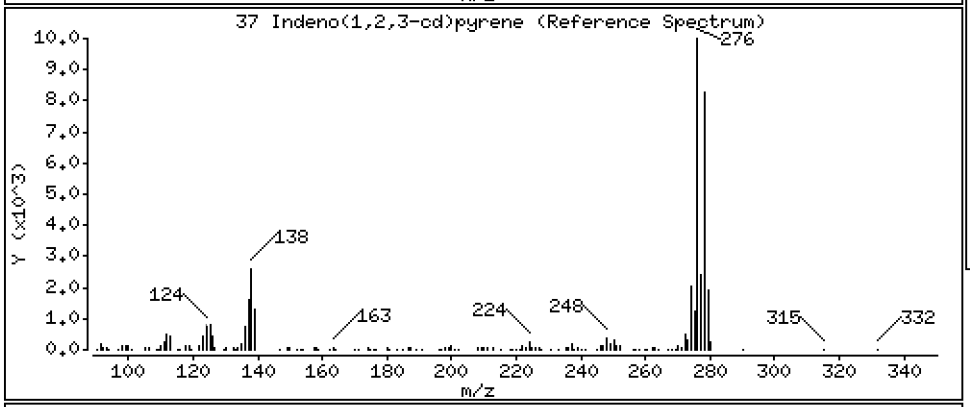
Concentration: 0.9441 ug/mL

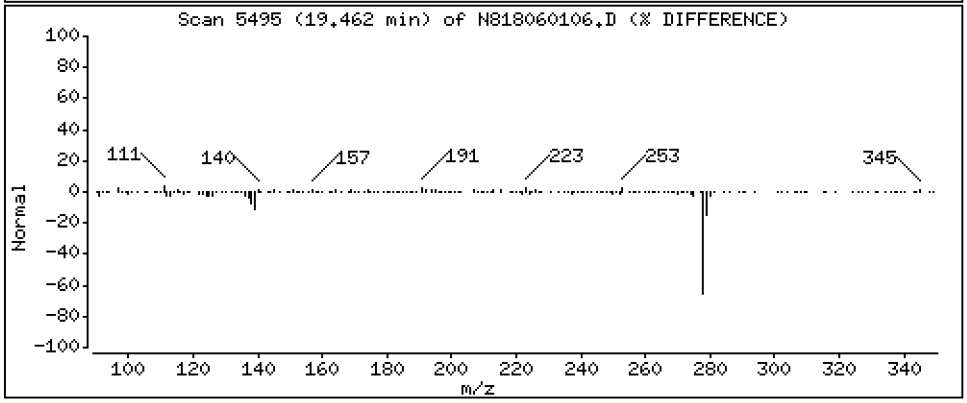












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

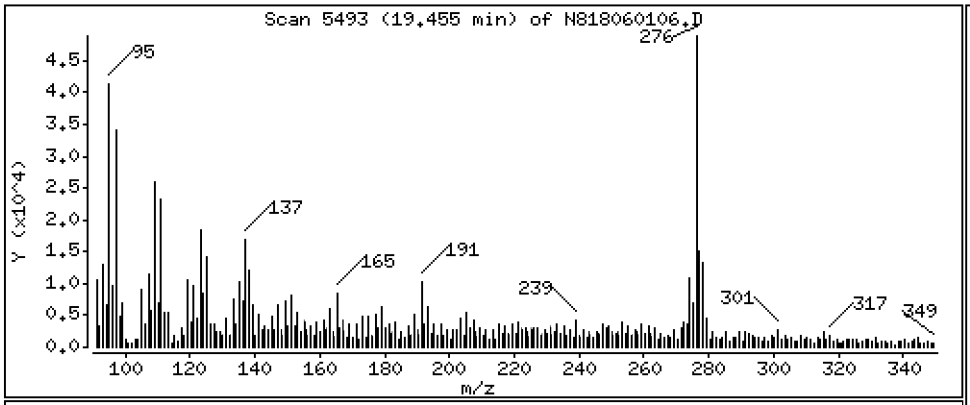
Operator: JZ

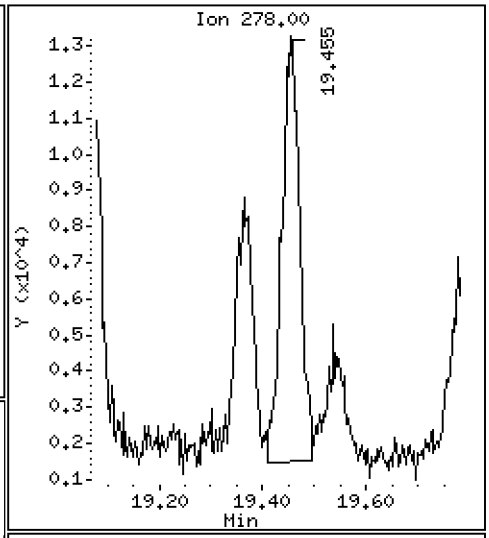
Column phase: Rxi-17sil

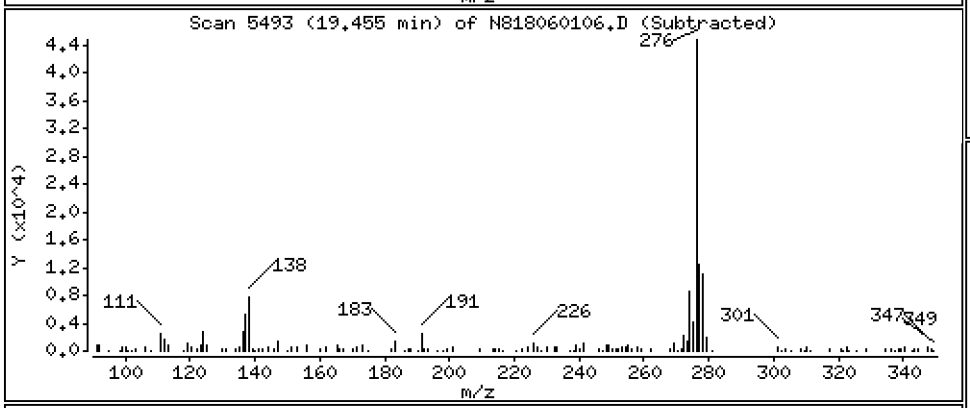
Column diameter: 0.25

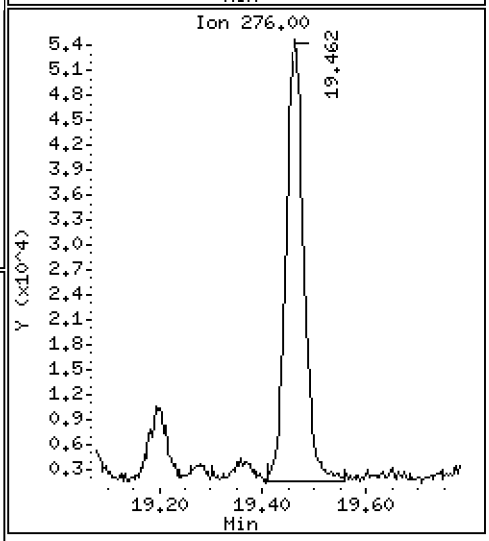
38 Dibenzo(a,h)anthracene

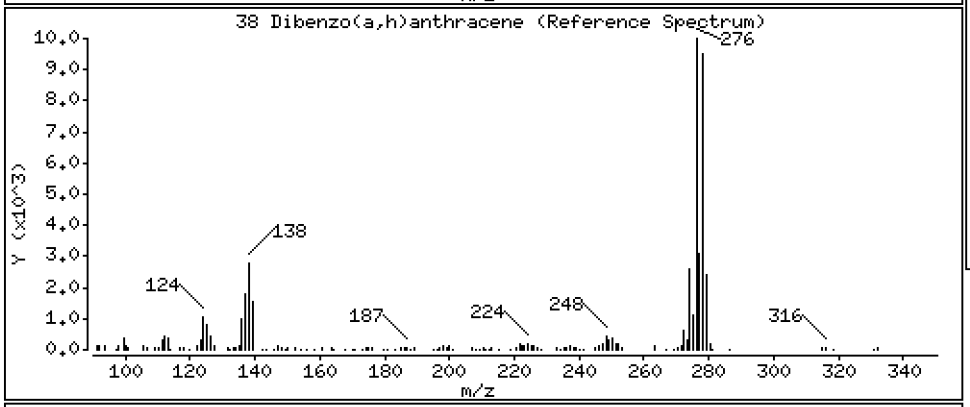
Concentration: 0.2495 ug/mL

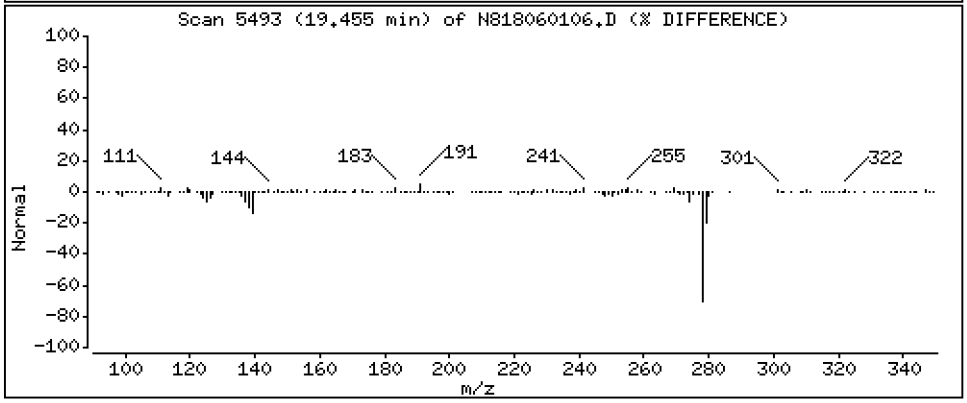












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

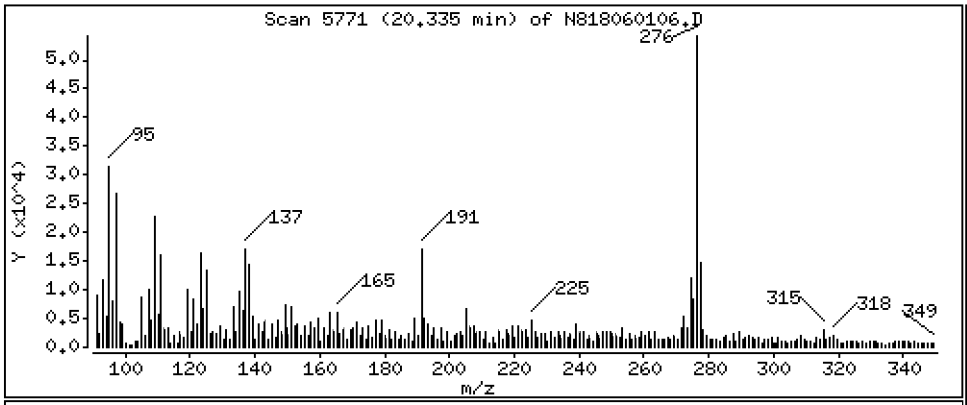
Operator: JZ

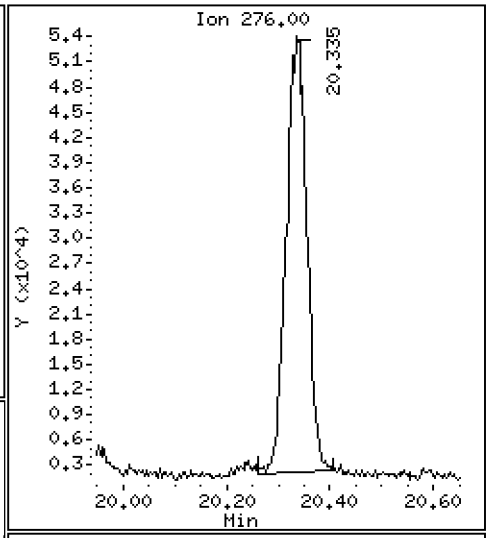
Column phase: Rxi-17sil

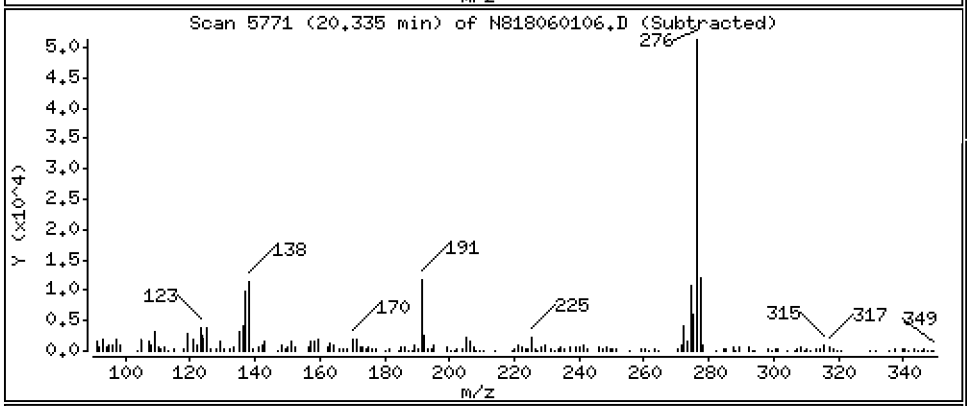
Column diameter: 0.25

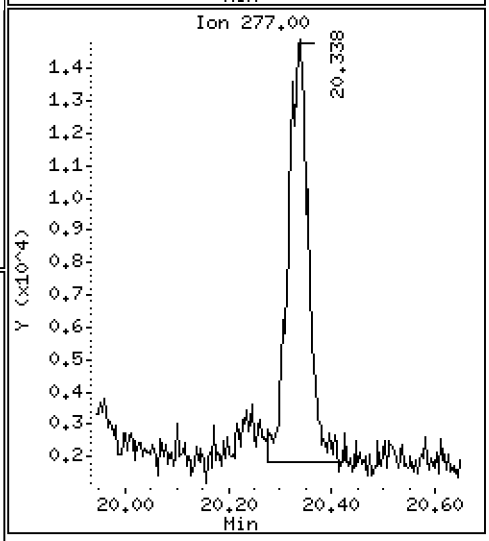
39 Benzo(g,h,i)perylene

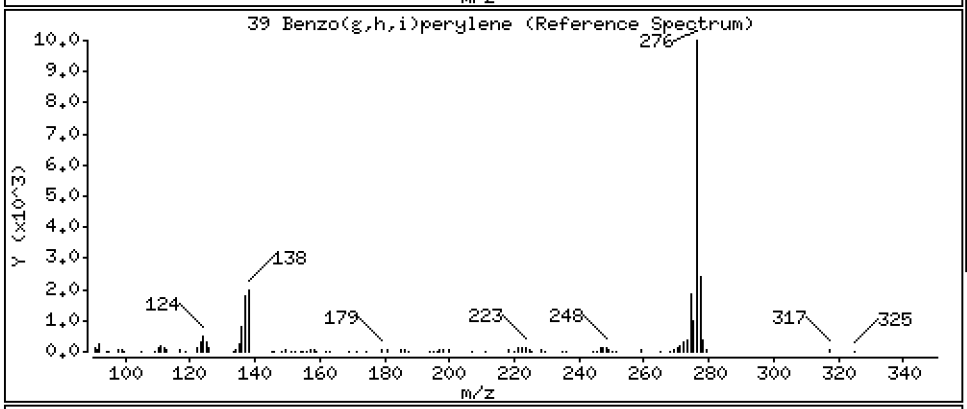
Concentration: 1.172 ug/mL

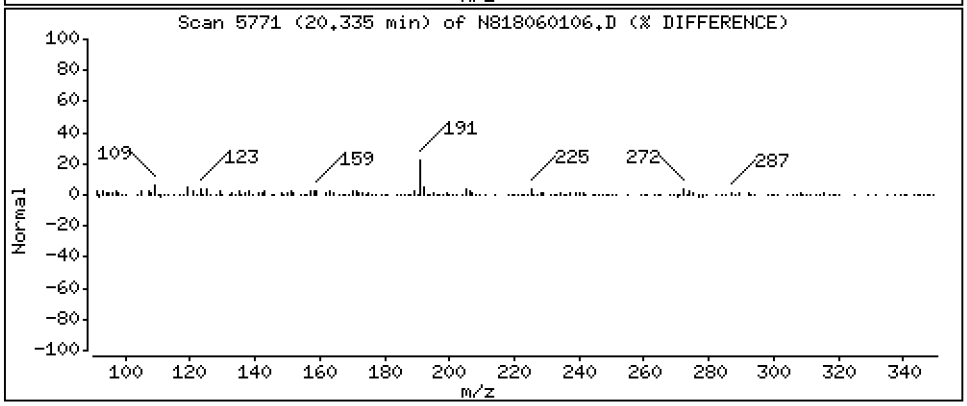












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060106.D

Date : 01-JUN-2018 16:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-02

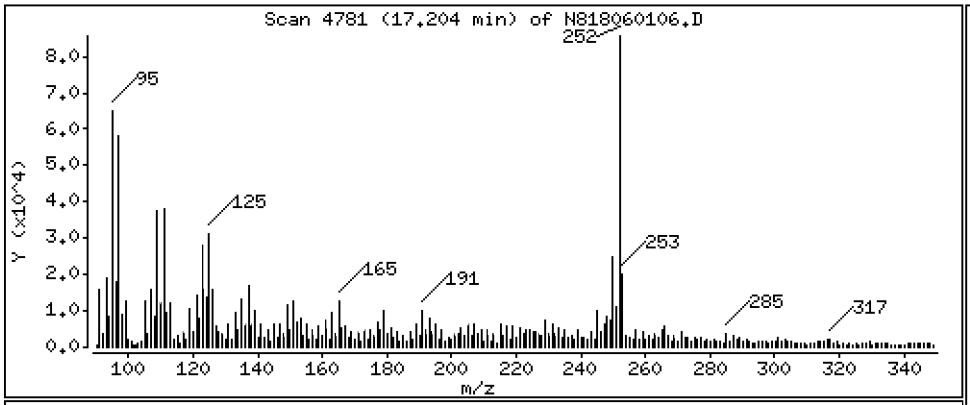
Operator: JZ

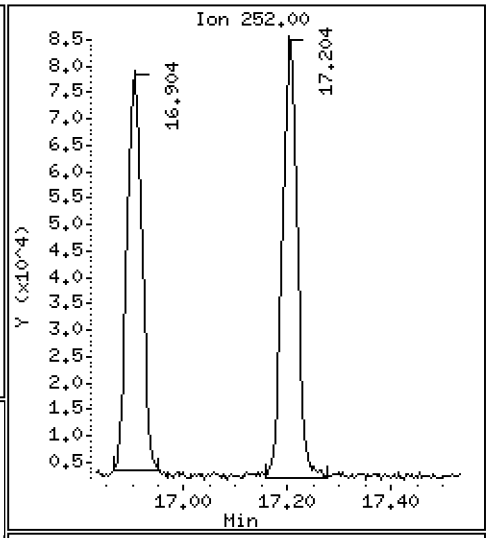
Column phase: Rxi-17sil

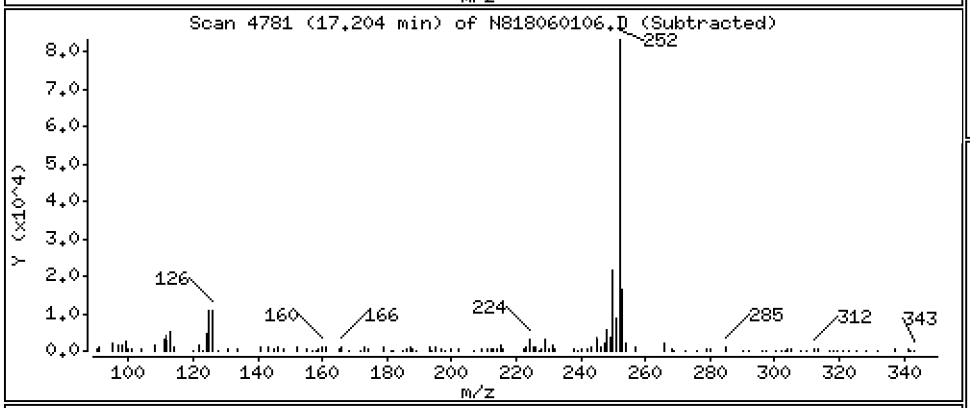
Column diameter: 0.25

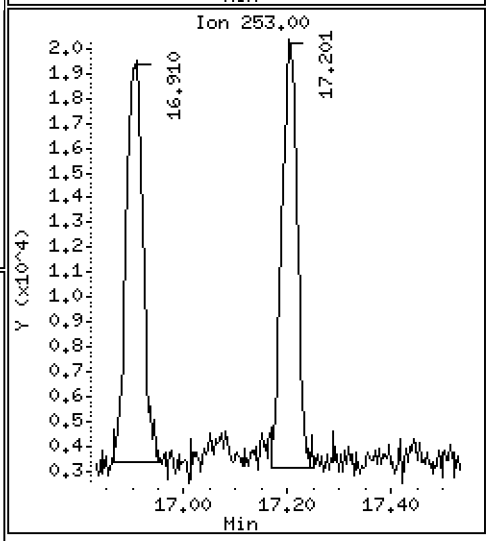
35 Perylene

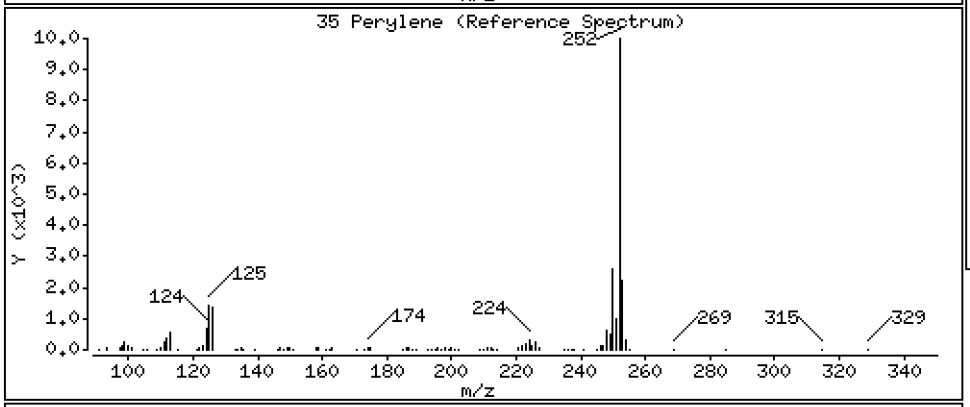
Concentration: 1.253 ug/mL

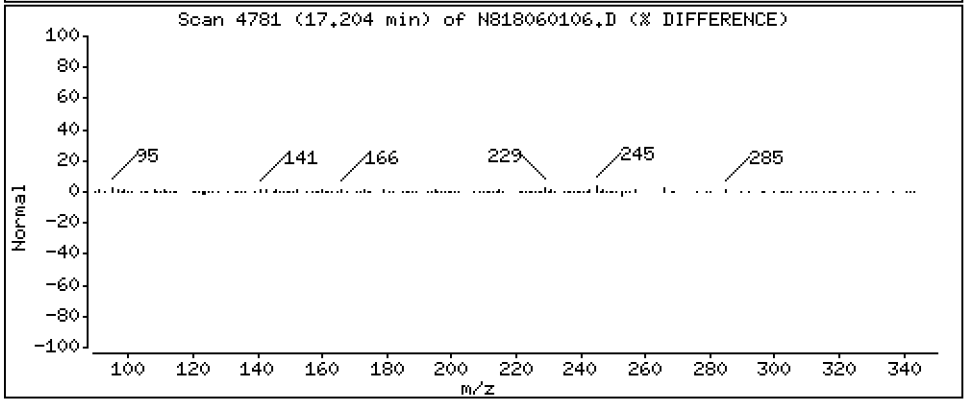












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060106.D
Lab Smp Id: 18E0231-02
Inj Date : 01-JUN-2018 16:37
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0231-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.458	4.464	(1.000)	169357	2.00000	
	2 Naphthalene	128	4.486	4.492	(1.006)	24440	0.24831	0.2483
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.164)	79270	1.28311	1.283
	4 2-Methylnaphthalene	141	5.232	5.242	(1.174)	11728	0.21156	0.2116
	5 1-methylnaphthalene	141	5.428	5.432	(1.218)	8787	0.15399	0.1540
	9 Acenaphthylene	152	6.614	6.617	(0.984)	10698	0.12571	0.1257
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	85711	2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.007)	12762	0.19563	0.1956
	12 Dibenzofuran	168	6.924	6.927	(1.030)	17336	0.19764	0.1976
	14 Fluorene	166	7.398	7.402	(1.100)	13905	0.20516	0.2052
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	162513	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	79494	0.79809	0.7981
	17 Anthracene	178	8.821	8.821	(1.009)	36071	0.39746	0.3975
	22 Fluoranthene	202	10.440	10.434	(1.194)	284059	2.53046	2.530
$	21 Fluoranthene-d10	212	10.405	10.402	(1.190)	206058	1.93676	1.937
	23 Pyrene	202	10.908	10.902	(0.816)	262876	2.12610	2.126
	24 Benzo(a)anthracene	228	13.251	13.239	(0.991)	134514	1.12527	1.125
*	25 Chrysene-d12	240	13.368	13.356	(1.000)	205743	2.00000	
	27 Chrysene	228	13.438	13.425	(1.005)	205239	1.70561	1.706
	28 Benzo(b)fluoranthene	252	15.891	15.869	(0.927)	208744	1.49711	1.497
	29 Benzo(k)fluoranthene	252	15.945	15.926	(0.931)	102569	0.74810	0.7481
	30 Benzo(j)fluoranthene	252	16.021	16.002	(0.935)	103939	0.75712	0.7571
	31 Total Benzofluoranthenes	252	15.891	15.926	(0.927)	403471	2.96710	2.967(M)
	32 Benzo(a)pyrene	252	16.903	16.884	(0.987)	159121	1.30207	1.302
*	33 Perylene-d12	264	17.134	17.112	(1.000)	219394	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.461	19.430	(1.136)	132088	0.94411	0.9441
$	36 Dibenzo(a,h)anthracene-d14	292	19.363	19.338	(1.130)	214935	2.09157	2.092
	38 Dibenzo(a,h)anthracene	278	19.455	19.430	(1.135)	28790	0.24946	0.2495
	39 Benzo(g,h,i)perylene	276	20.334	20.299	(1.187)	143276	1.17173	1.172
	35 Perylene	252	17.204	17.181	(1.004)	166317	1.25339	1.253

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060106.D
Lab Smp Id: 18E0231-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	169357	38.60
10 Acenaphthene-d10	65789	32895	131578	85711	30.28
15 Phenanthrene-d10	128644	64322	257288	162513	26.33
25 Chrysene-d12	166669	83335	333338	205743	23.44
33 Perylene-d12	140483	70242	280966	219394	56.17

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.14
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.09
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060106.D

Lab ID: 18E0231-02
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 16:37

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

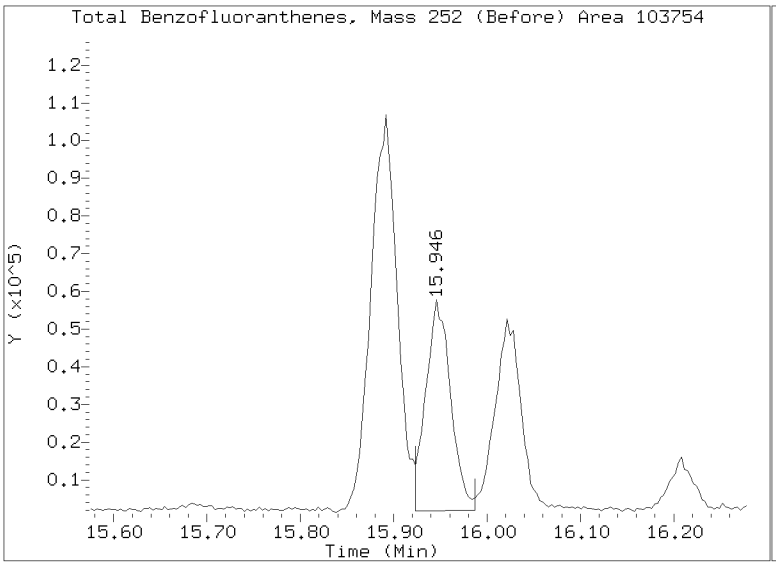
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

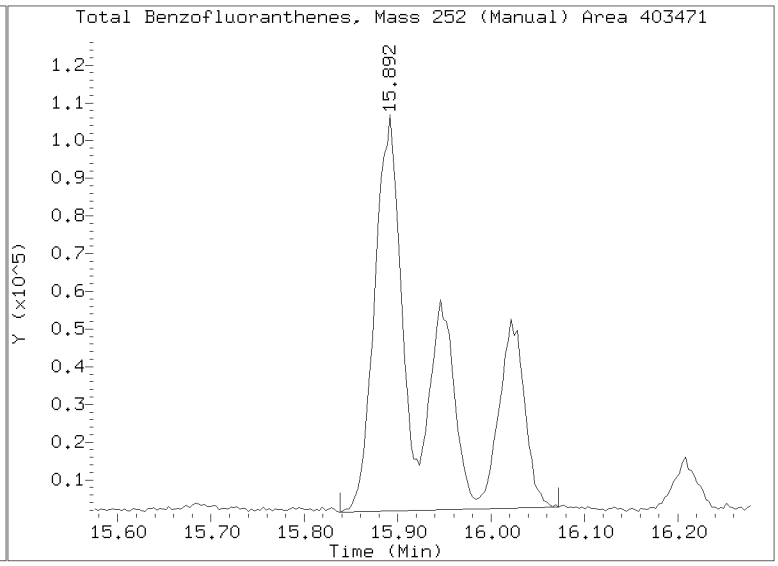
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060106.D
Injection Date: 01-JUN-2018 16:37
Lab ID:18E0231-02 Client ID:
Report Date: 06/01/2018 17:26





LDW18-SSCL-A11-FD

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-03	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/24/18 10:50	File ID:	N818060107.D
% Solids:	60.24	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 17:04
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	17.11 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	38.3		0.80	4.85
218-01-9	Chrysene	1	60.6		1.02	4.85
205-99-2	Benzo(b)fluoranthene	1	55.5		1.33	4.85
207-08-9	Benzo(k)fluoranthene	1	25.8		0.74	4.85
50-32-8	Benzo(a)pyrene	1	45.0		0.60	4.85
193-39-5	Indeno(1,2,3-cd)pyrene	1	32.3		1.02	4.85
53-70-3	Dibenzo(a,h)anthracene	1	8.88		0.86	4.85

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	145.53	54.7	37.6	32 - 120	
Dibenzo[a,h]anthracene-d14	145.53	88.6	60.9	21 - 133	
Fluoranthene-d10	145.53	76.3	52.4	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

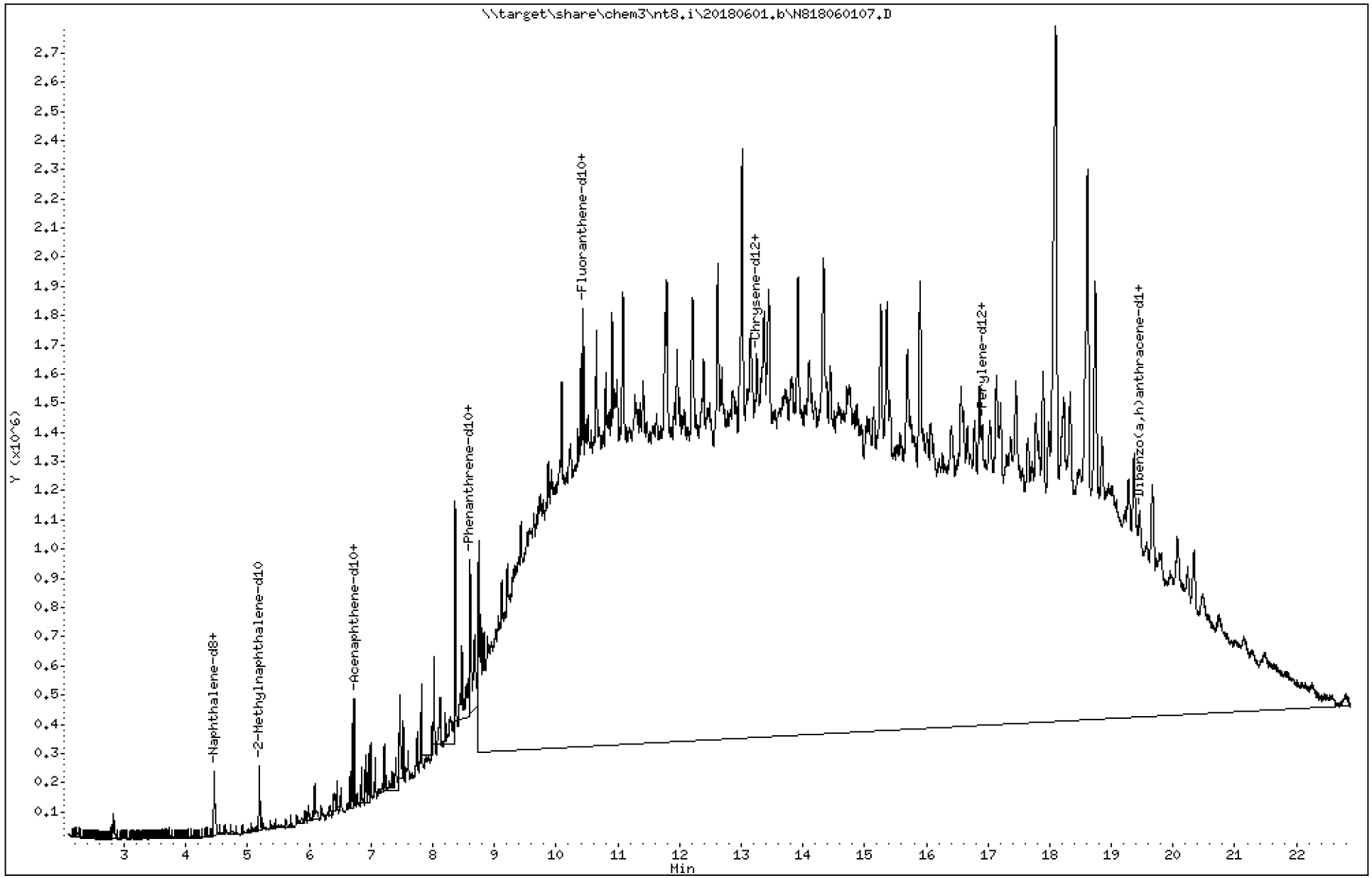
Instrument: nt8.i

Sample Info: 18E0231-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

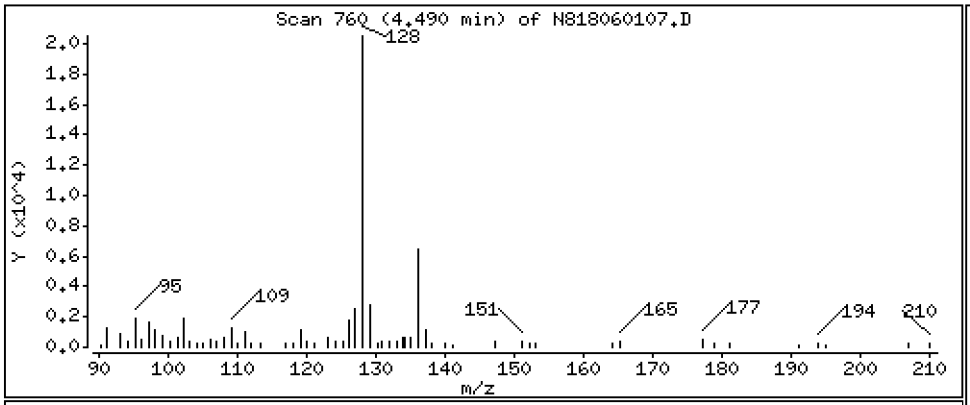
Operator: JZ

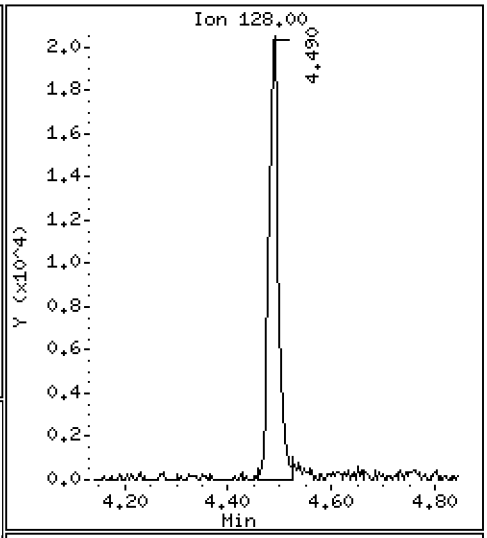
Column phase: Rxi-17sil

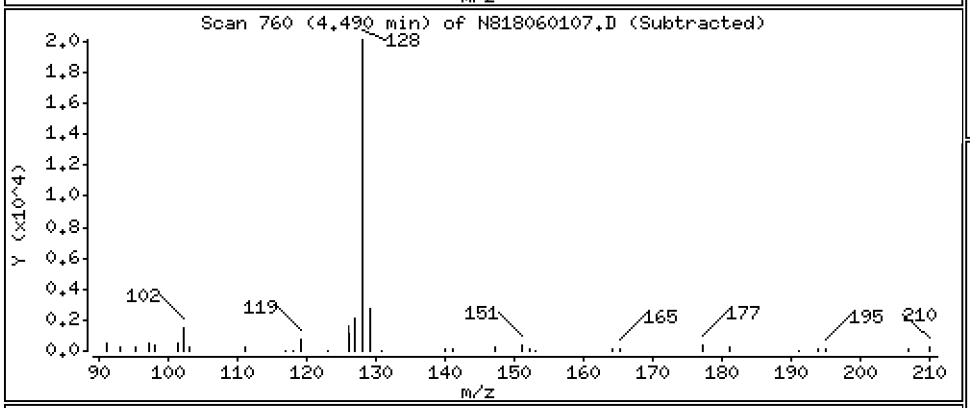
Column diameter: 0.25

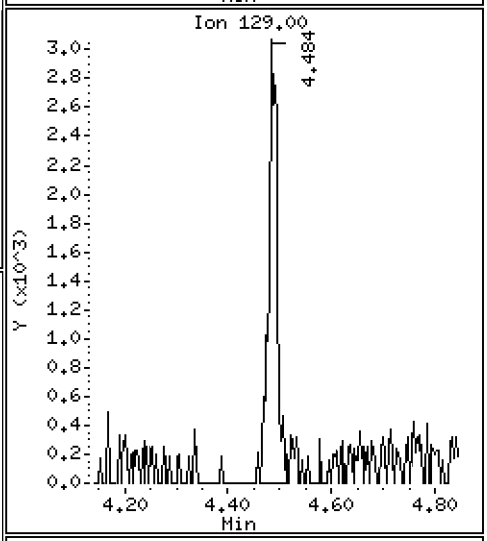
2 Naphthalene

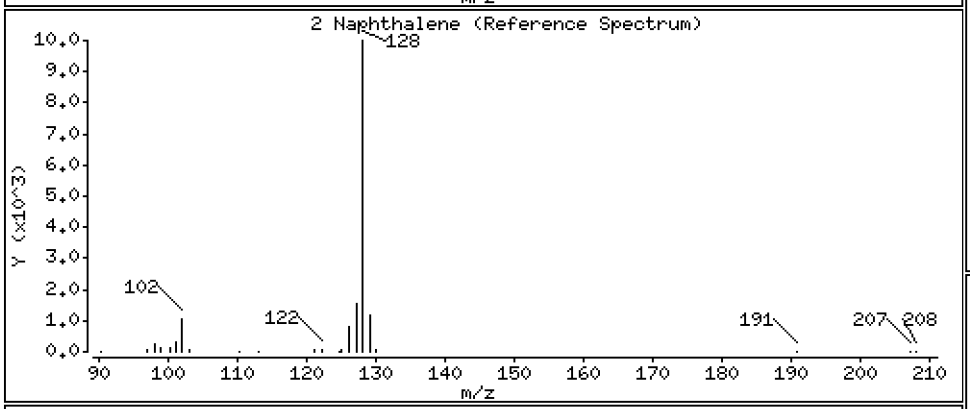
Concentration: 0.2334 ug/mL

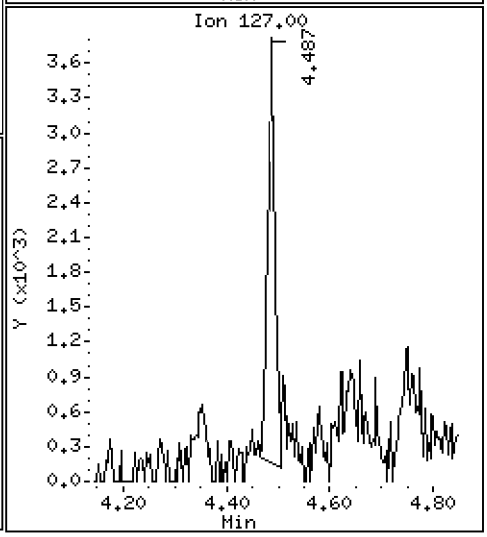


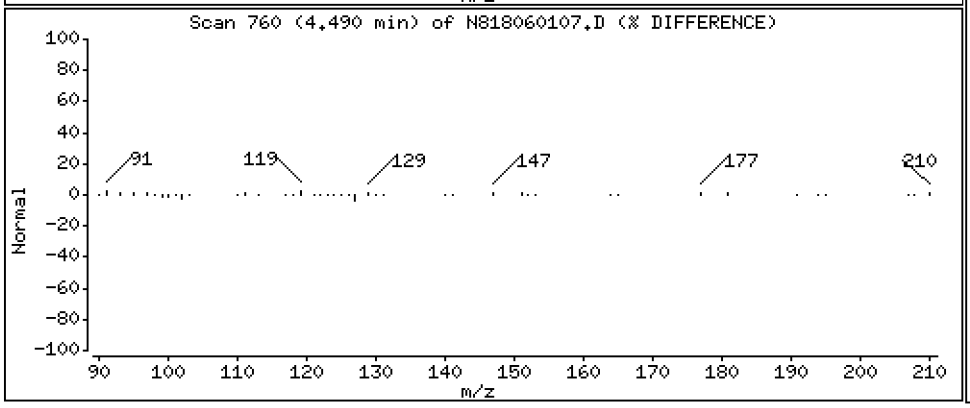












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

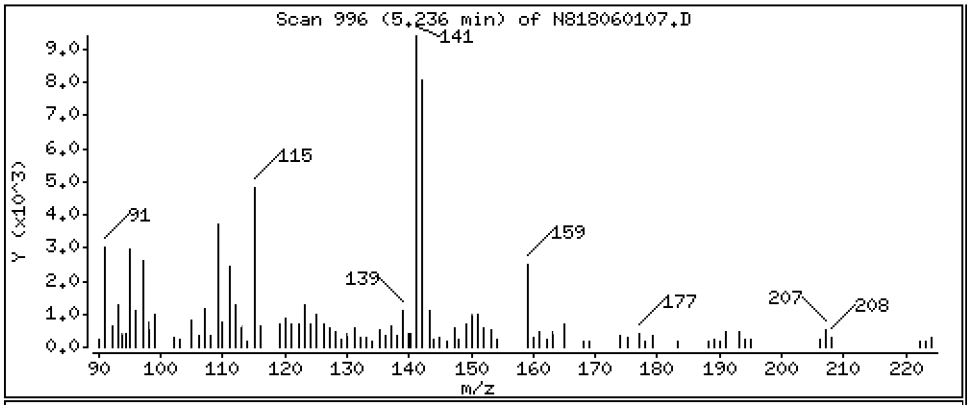
Operator: JZ

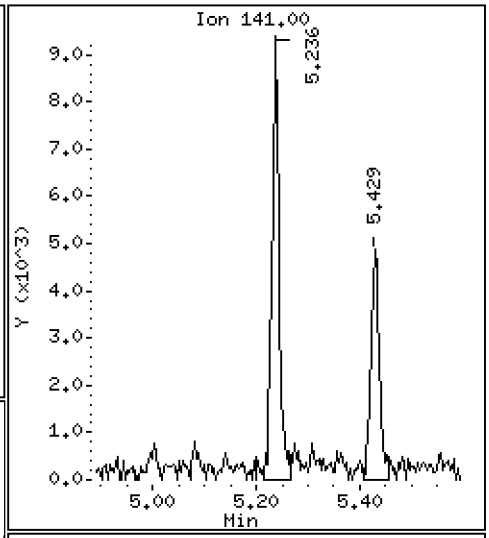
Column phase: Rxi-17sil

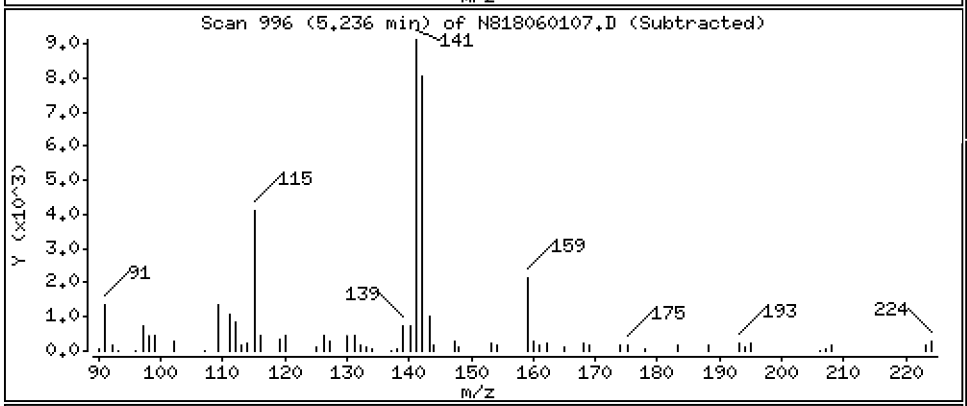
Column diameter: 0.25

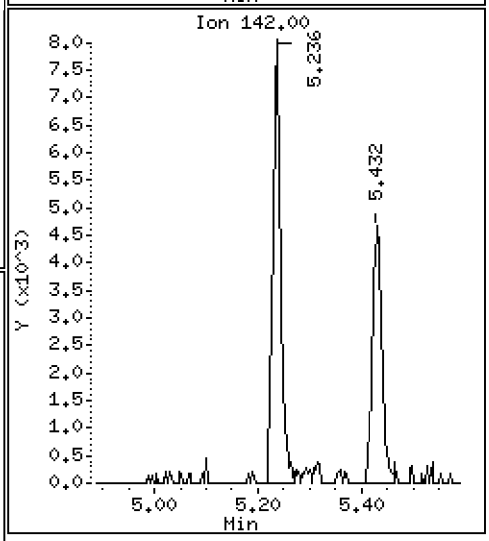
4 2-Methylnaphthalene

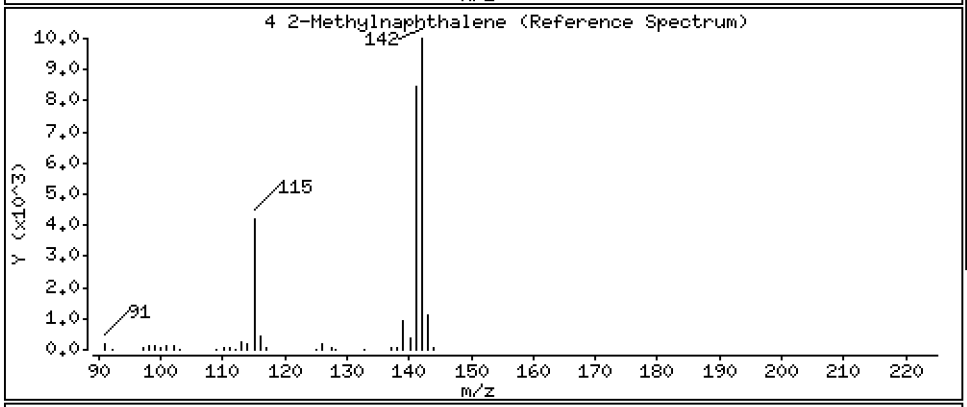
Concentration: 0.1380 ug/mL

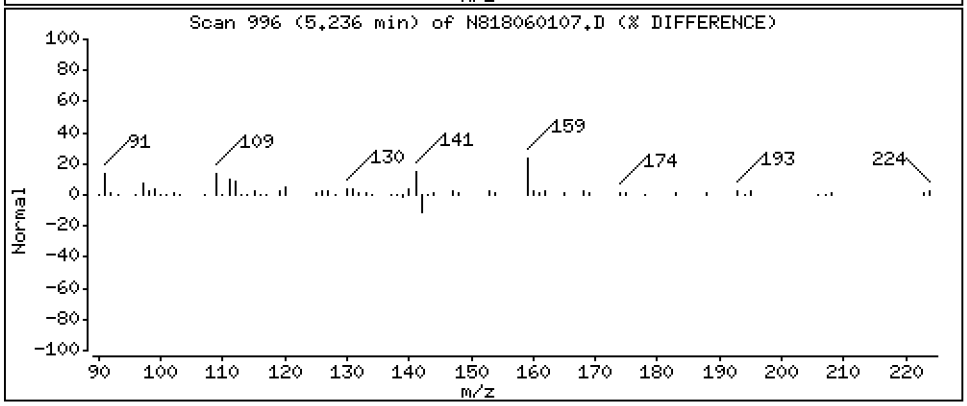












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

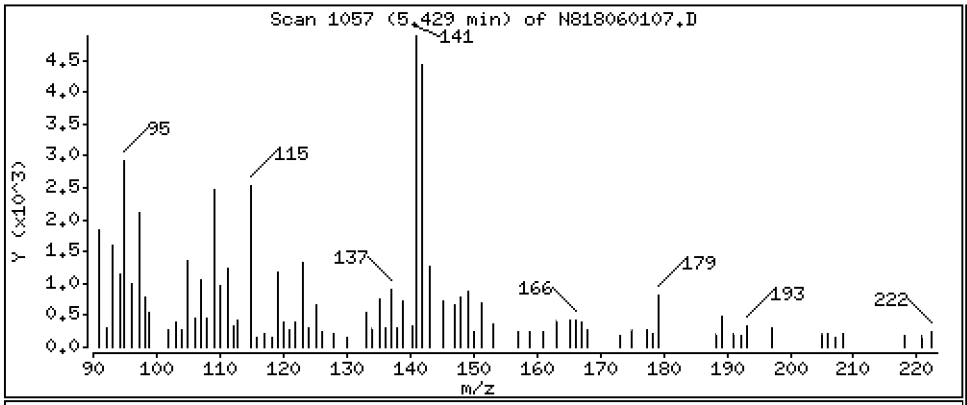
Operator: JZ

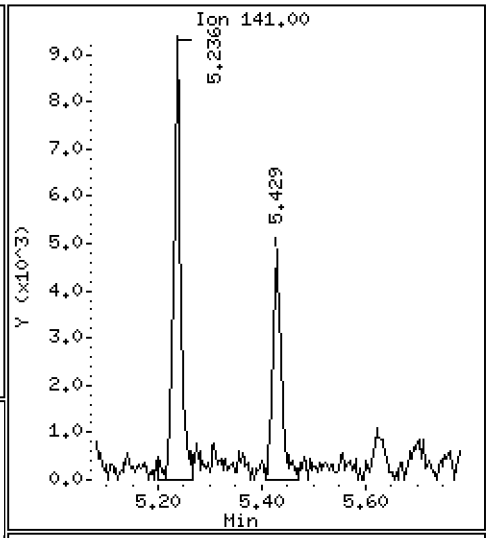
Column phase: Rxi-17sil

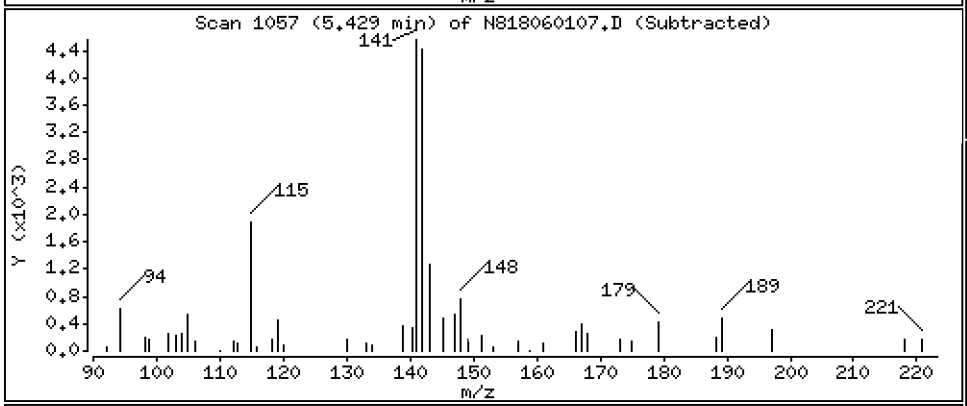
Column diameter: 0.25

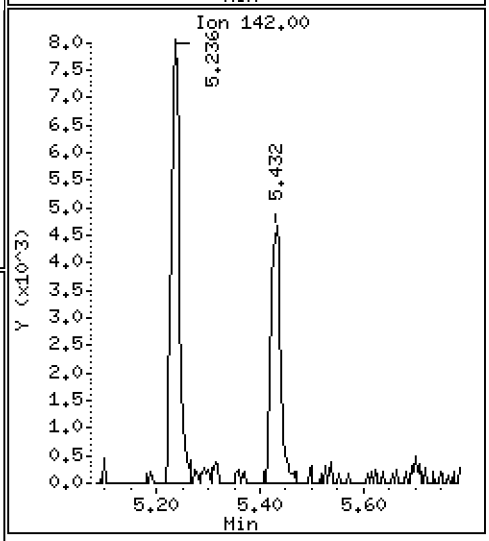
5 1-methylnaphthalene

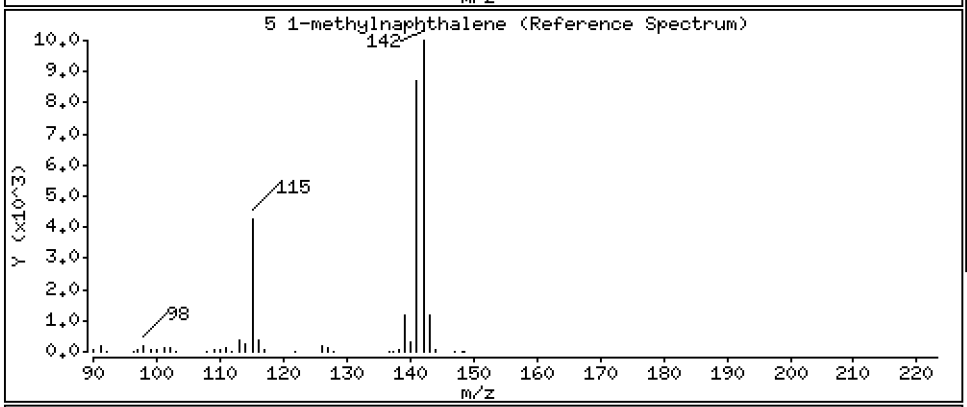
Concentration: 0.08804 ug/mL

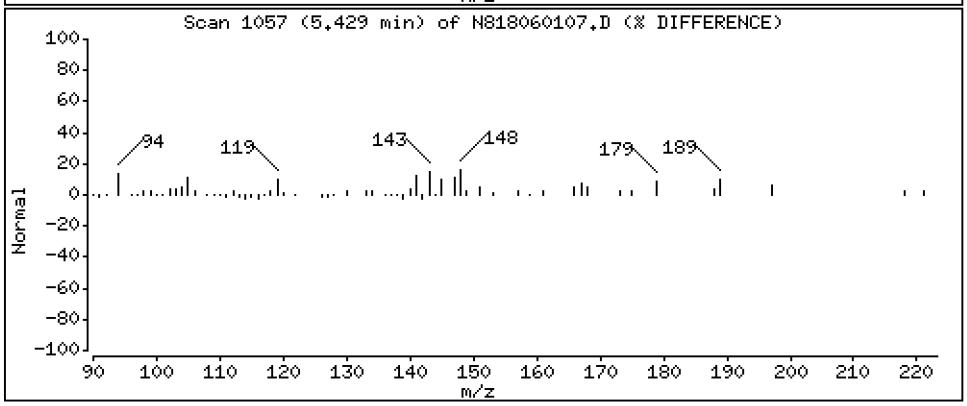












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

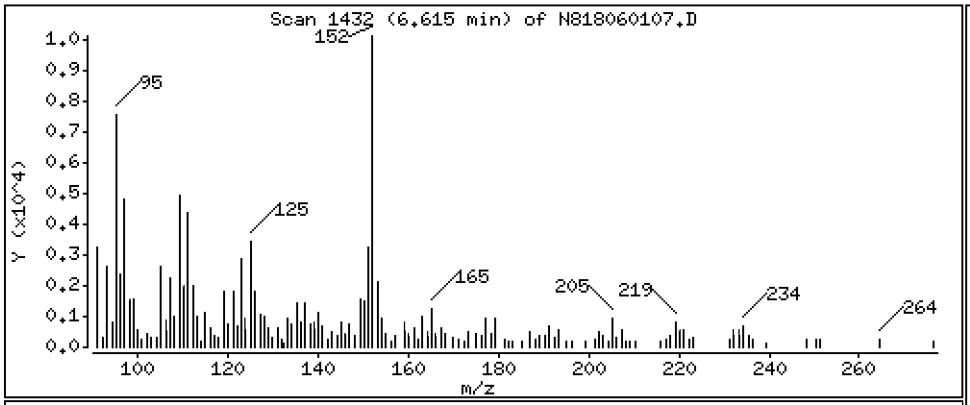
Operator: JZ

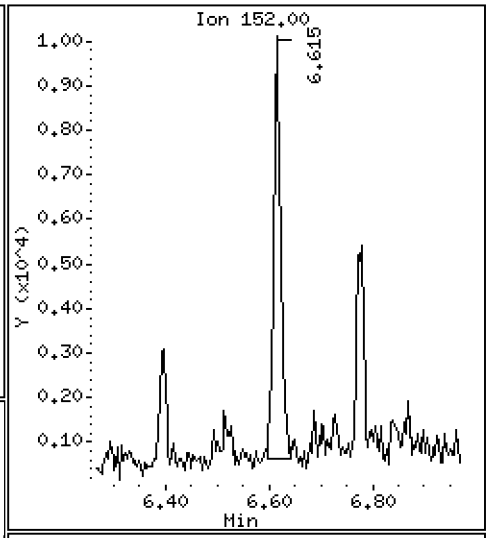
Column phase: Rxi-17sil

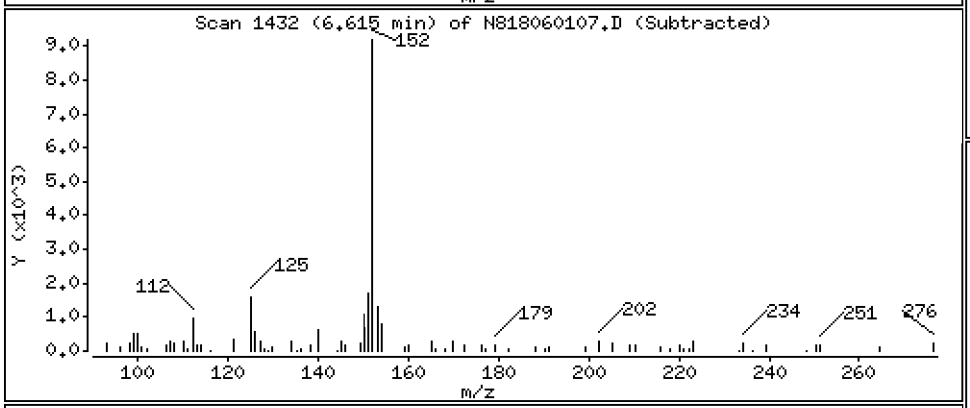
Column diameter: 0.25

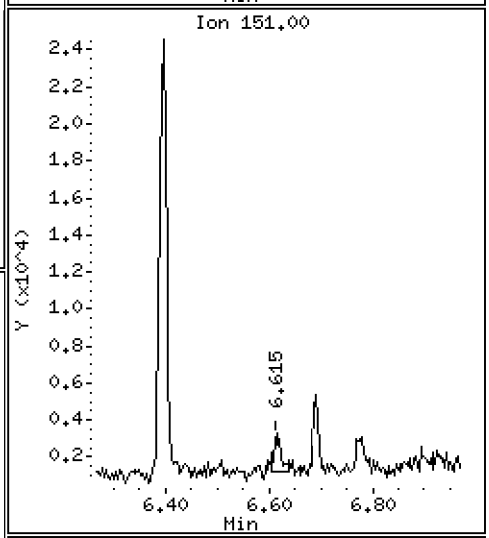
9 Acenaphthylene

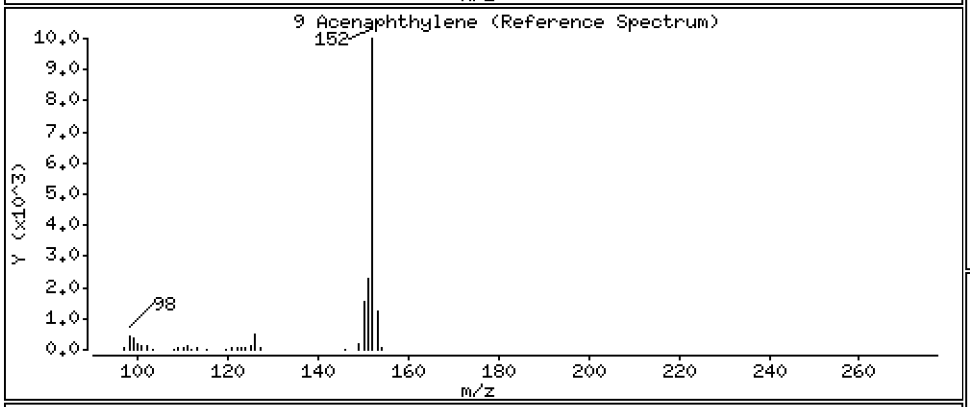
Concentration: 0.09616 ug/mL

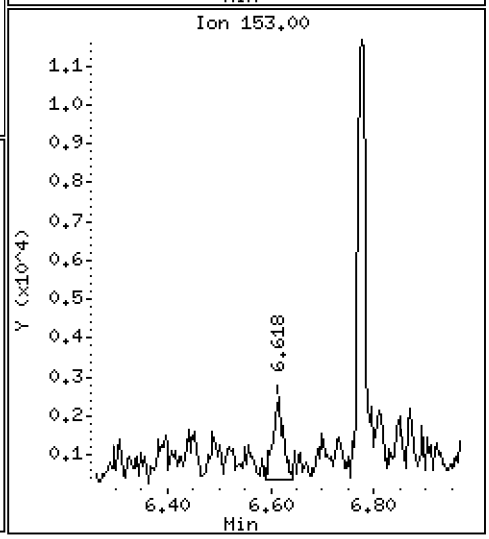


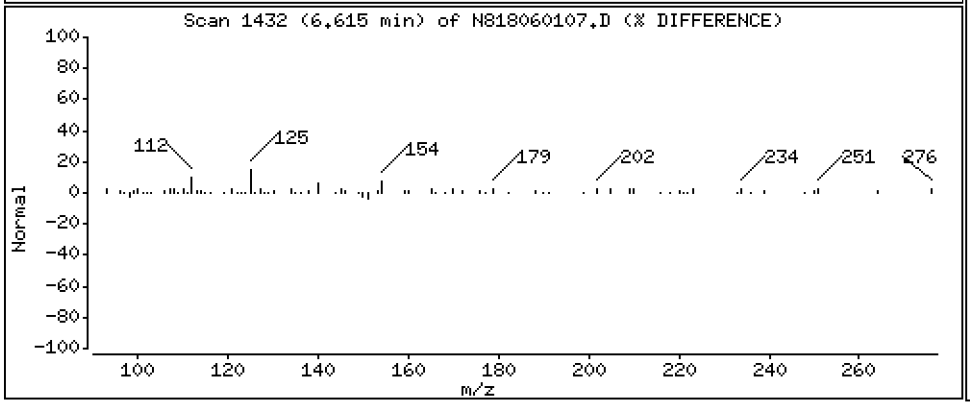












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

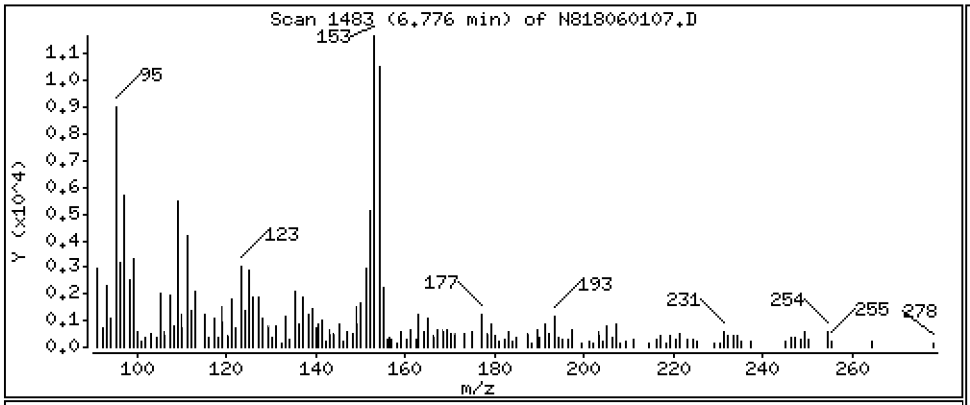
Operator: JZ

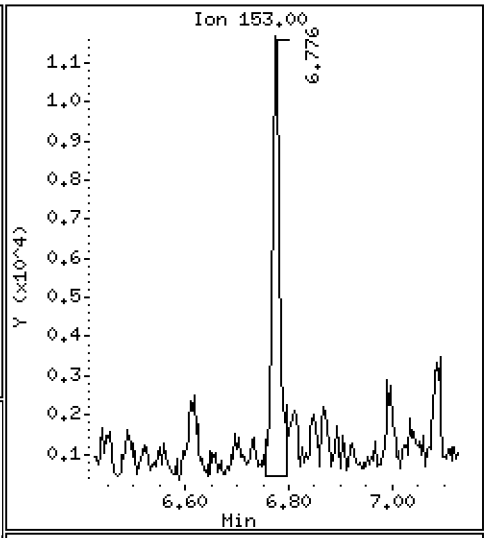
Column phase: Rxi-17sil

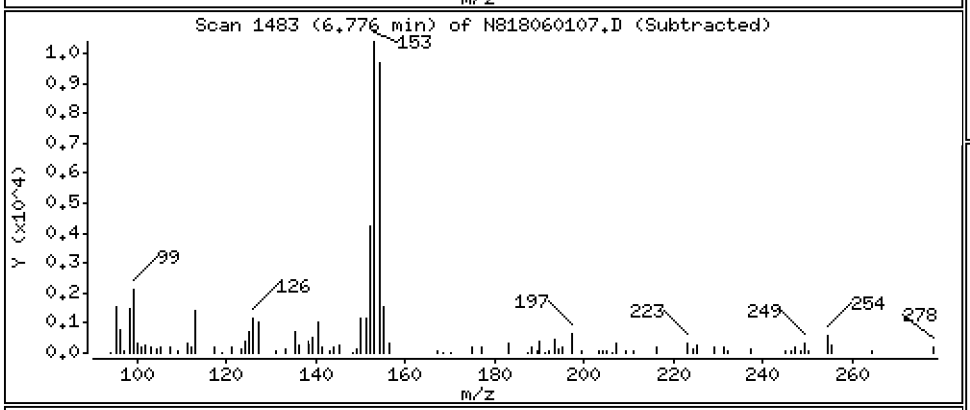
Column diameter: 0.25

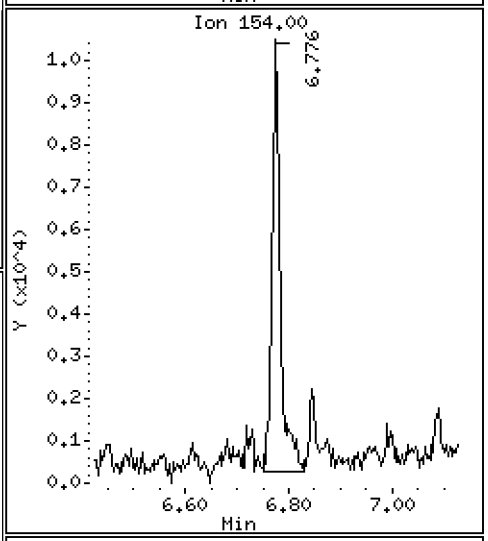
11 Acenaphthene

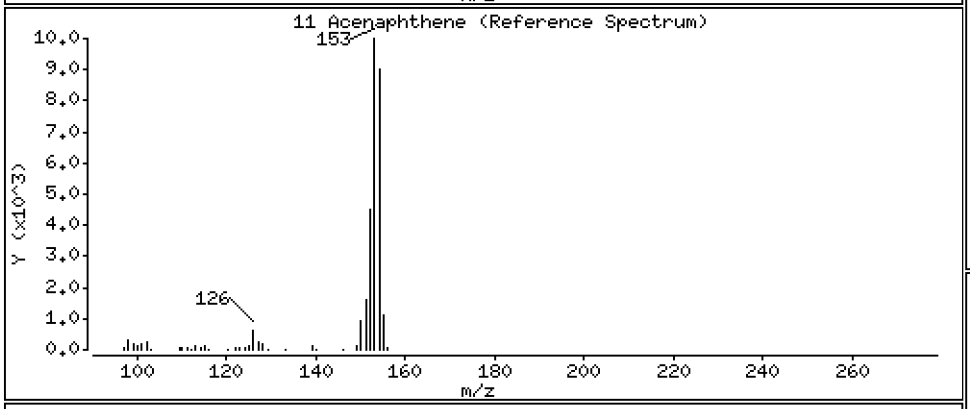
Concentration: 0.1603 ug/mL

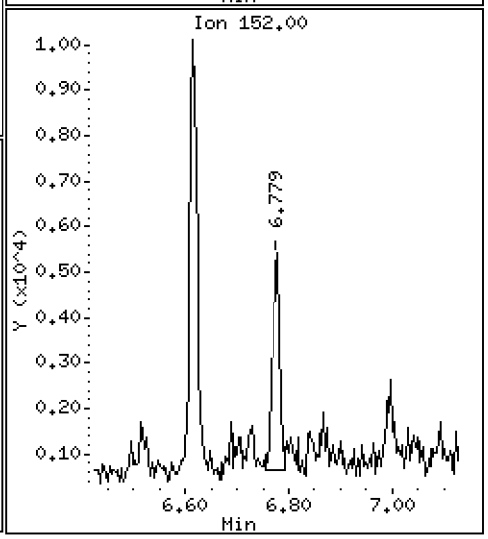


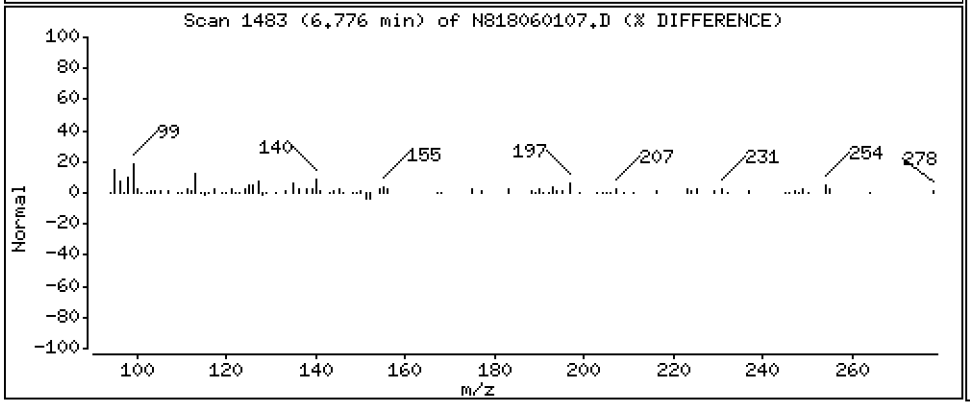












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

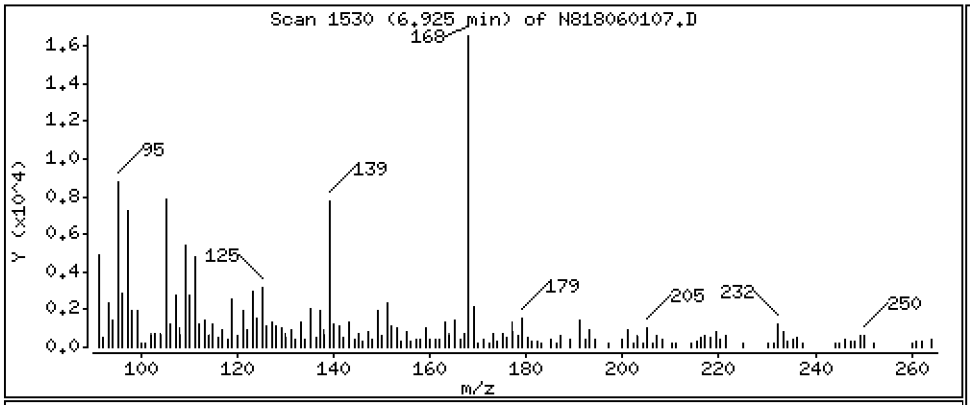
Operator: JZ

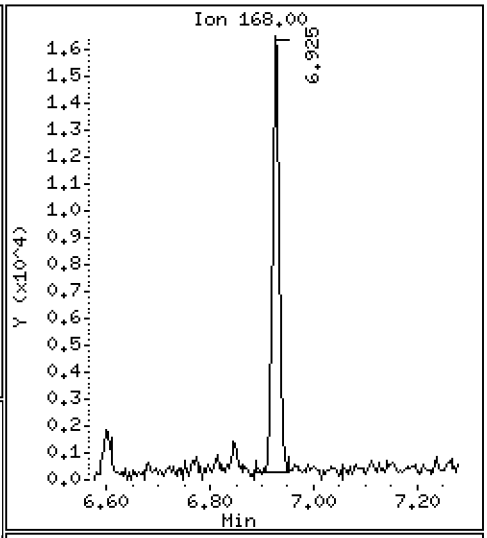
Column phase: Rxi-17sil

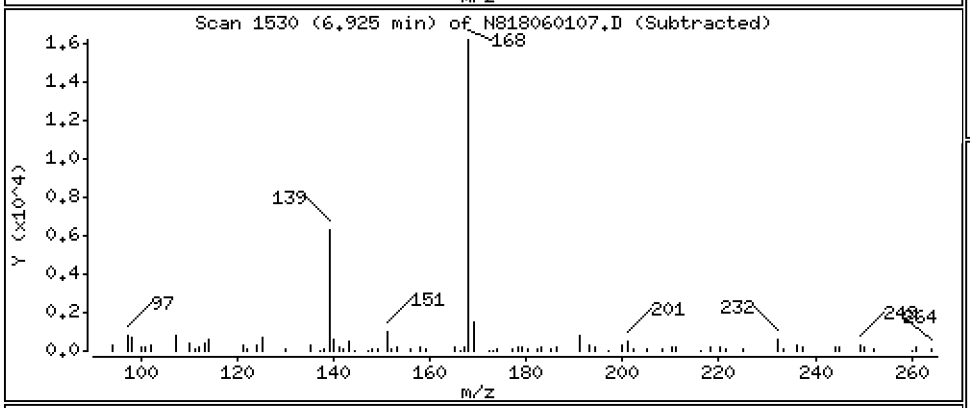
Column diameter: 0.25

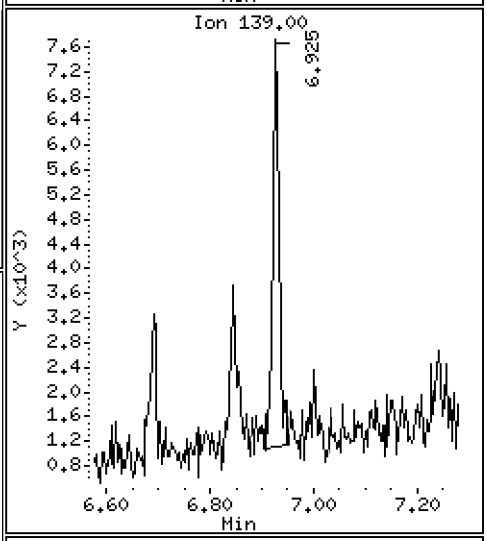
12 Dibenzofuran

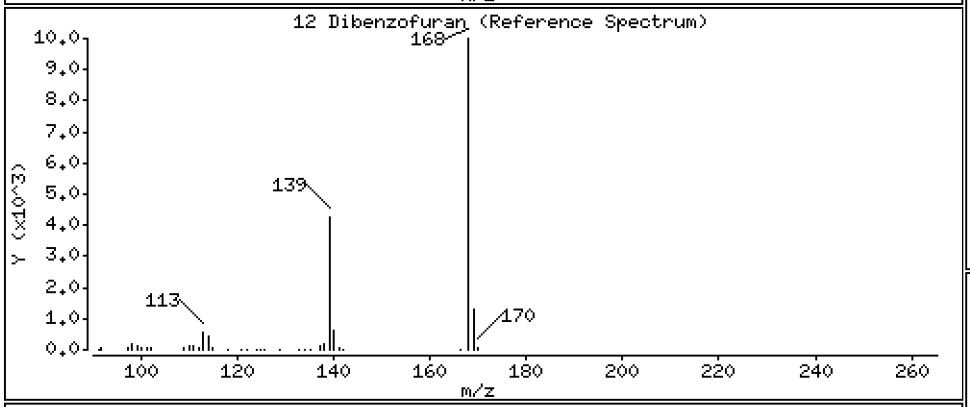
Concentration: 0.1511 ug/mL

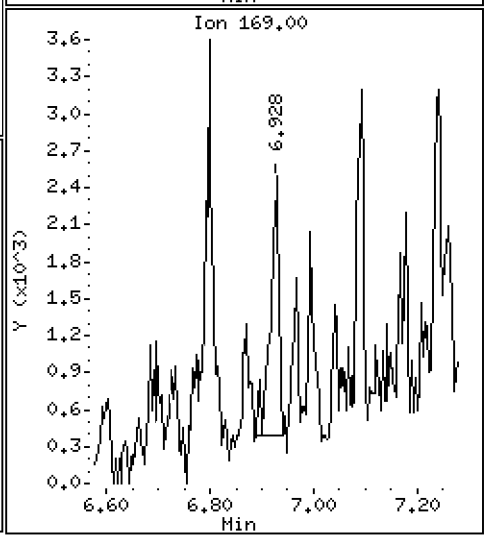


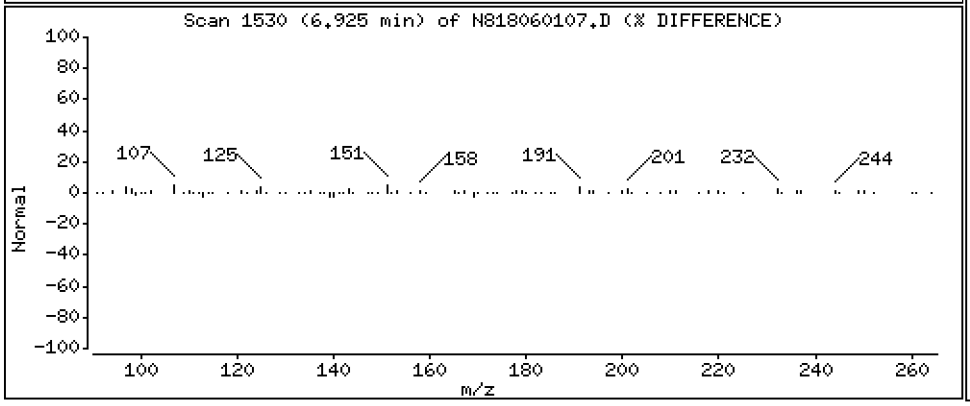












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

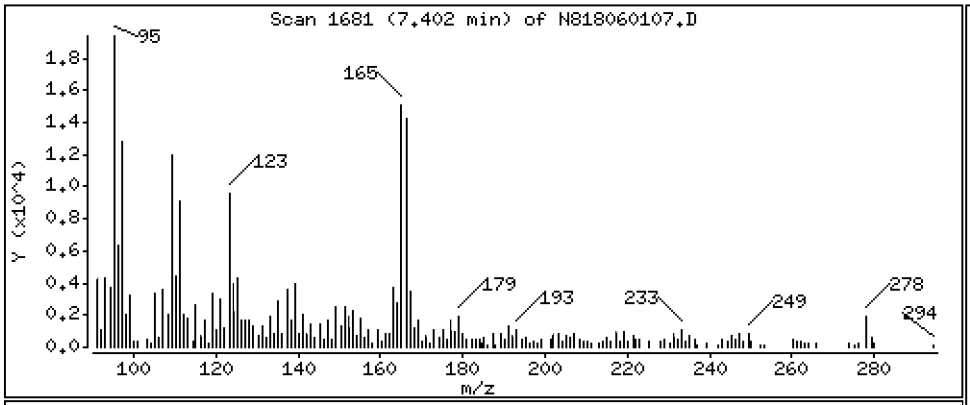
Operator: JZ

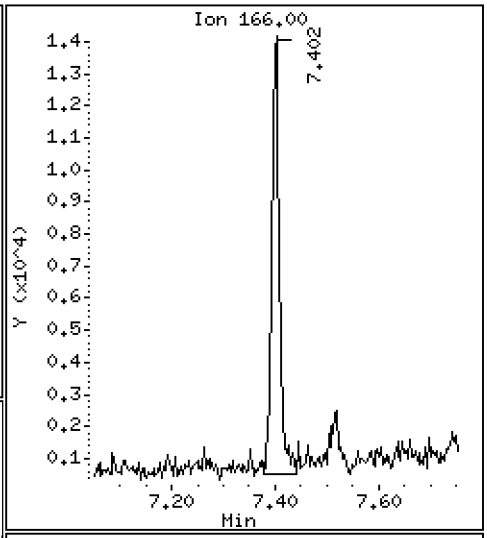
Column phase: Rxi-17sil

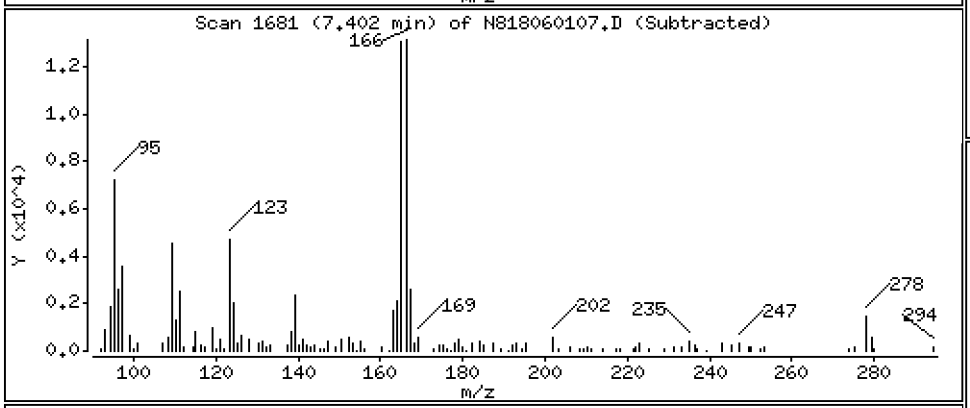
Column diameter: 0.25

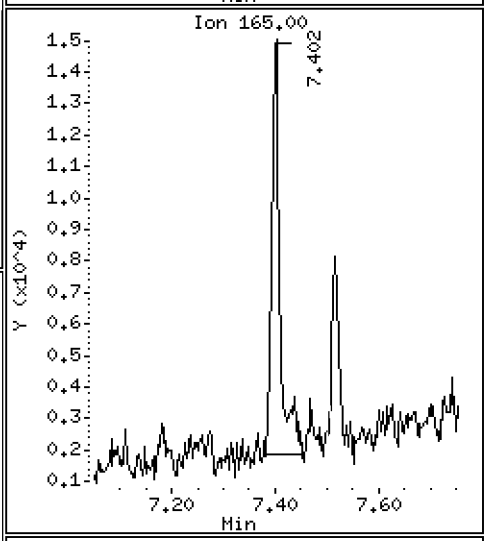
14 Fluorene

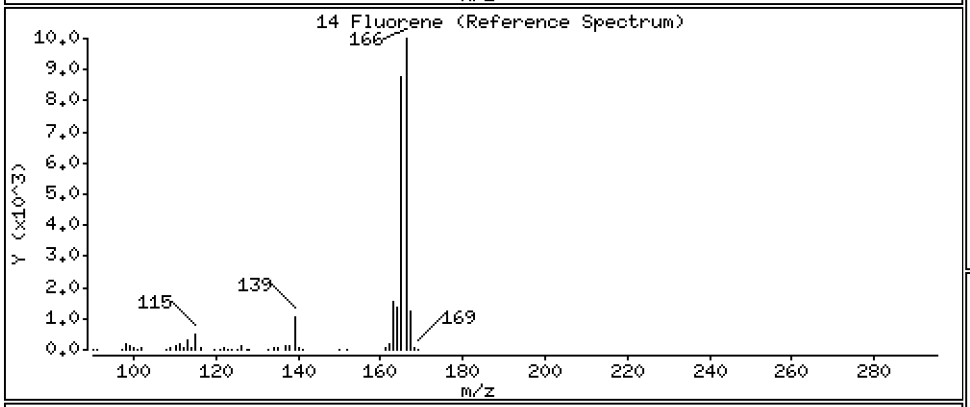
Concentration: 0.1840 ug/mL

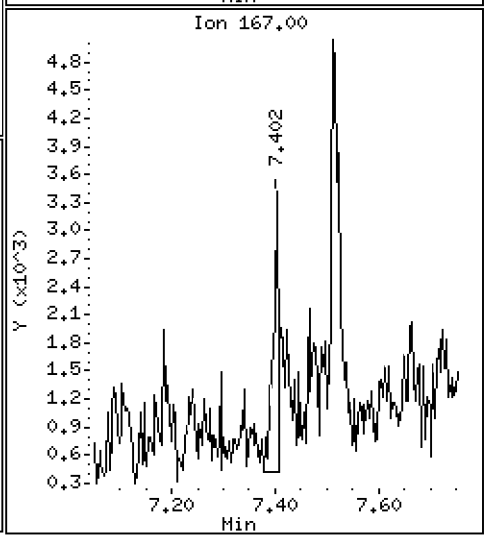


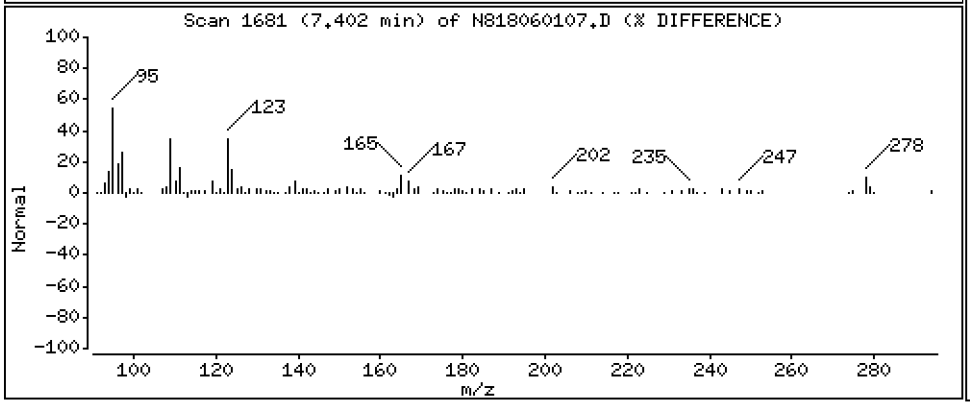












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

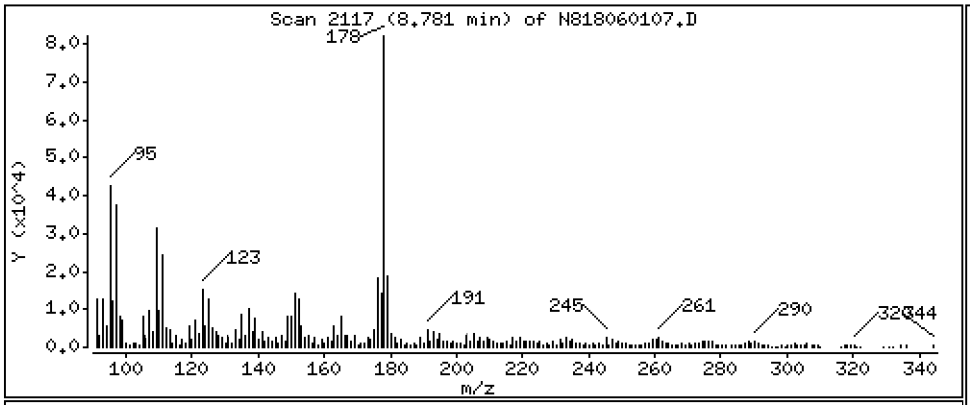
Operator: JZ

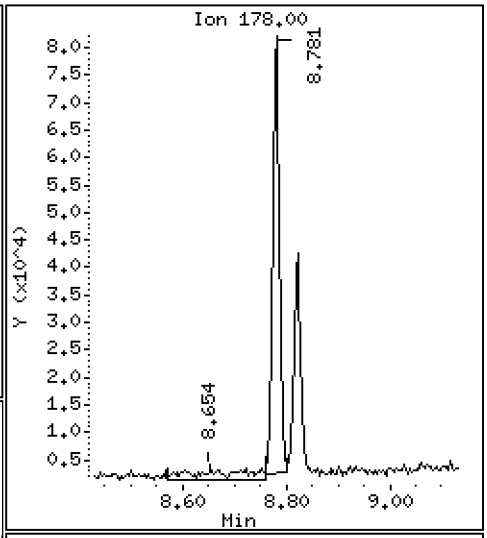
Column phase: Rxi-17sil

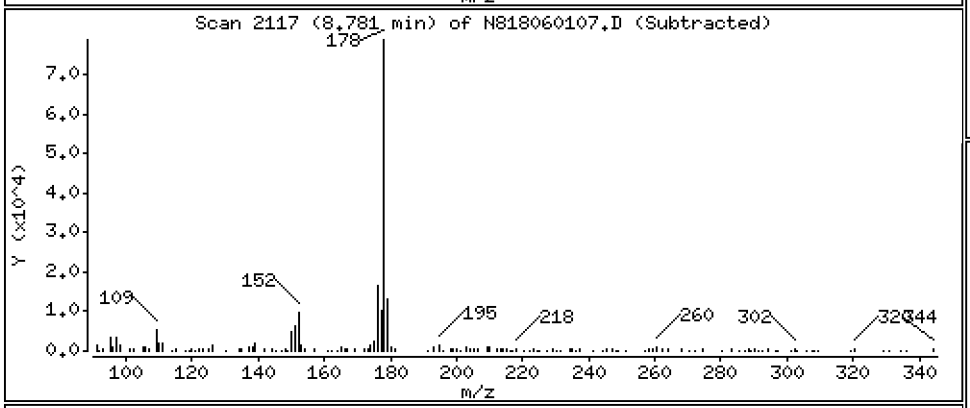
Column diameter: 0.25

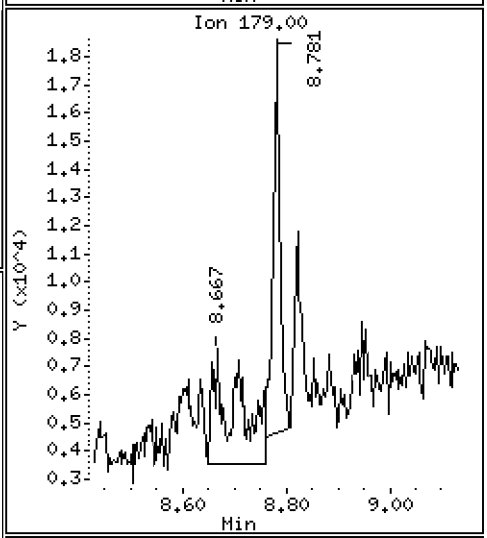
16 Phenanthrene

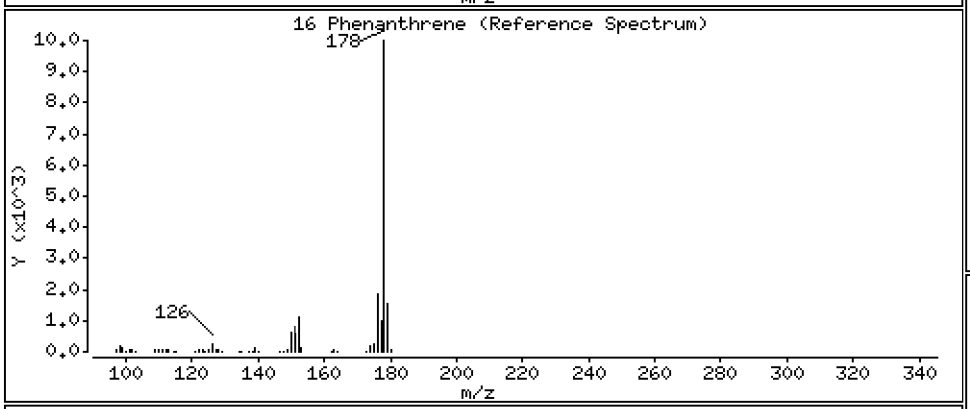
Concentration: 0.6650 ug/mL

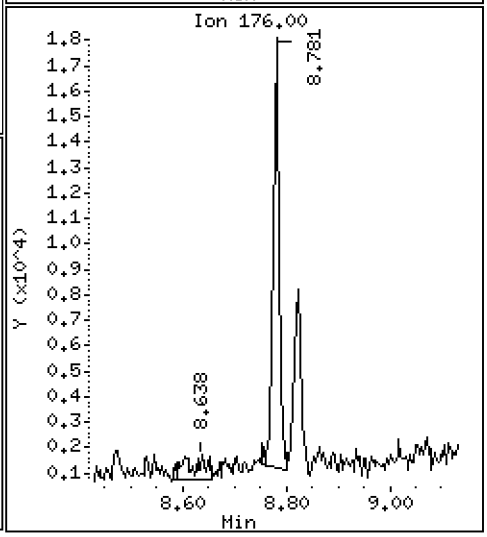


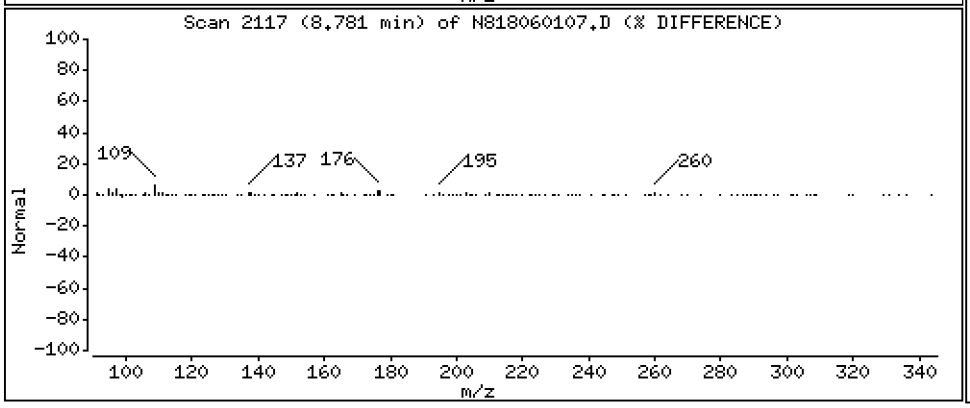












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

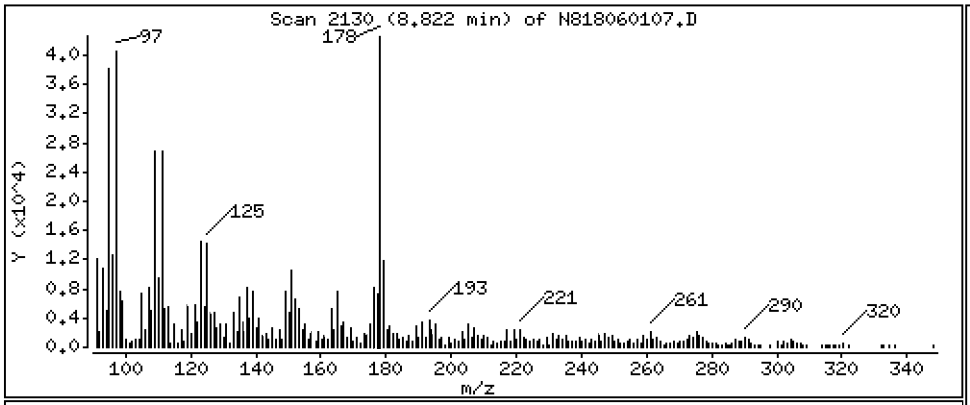
Operator: JZ

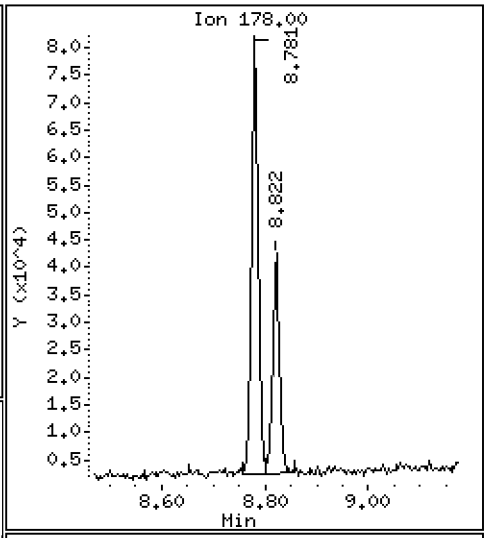
Column phase: Rxi-17sil

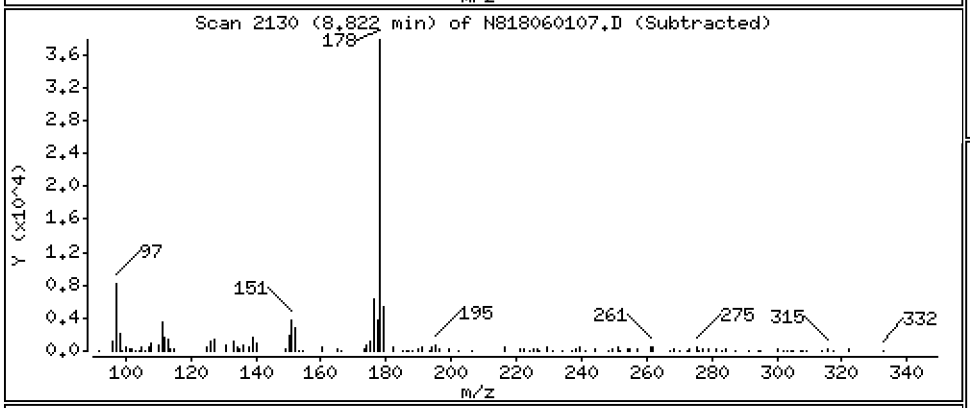
Column diameter: 0.25

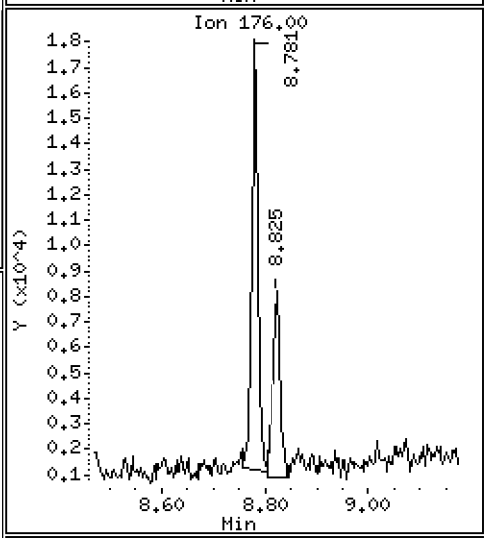
17 Anthracene

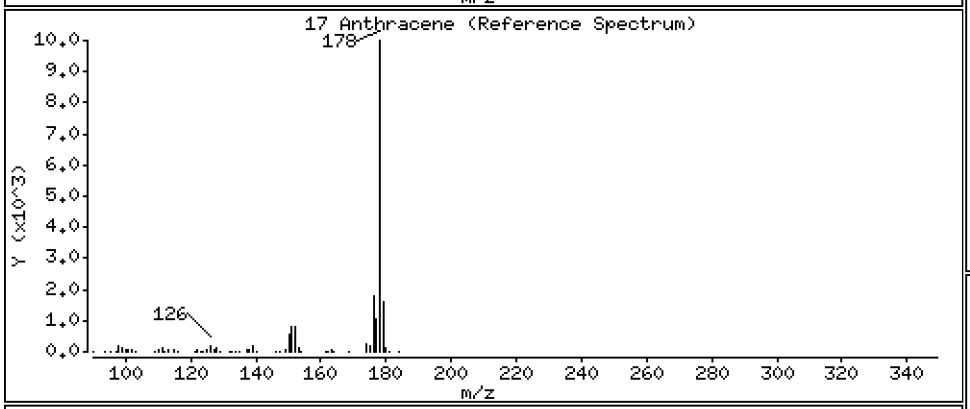
Concentration: 0.3711 ug/mL

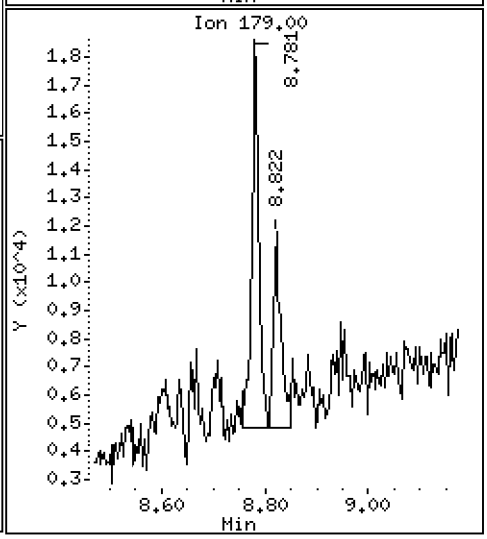


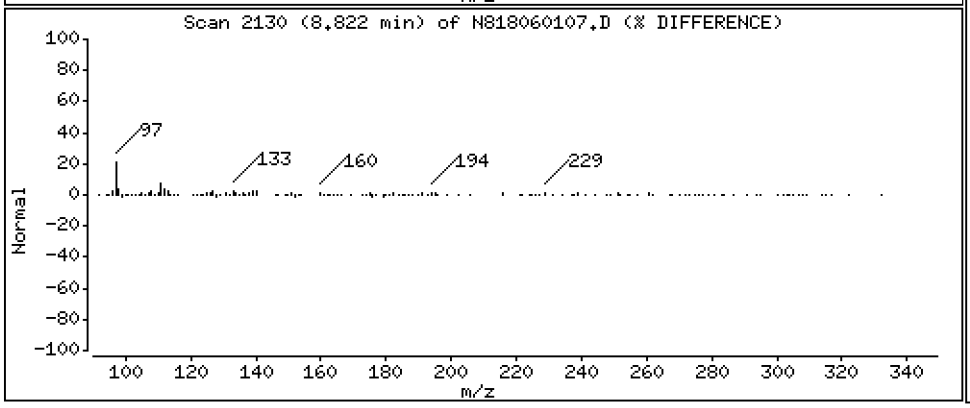












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

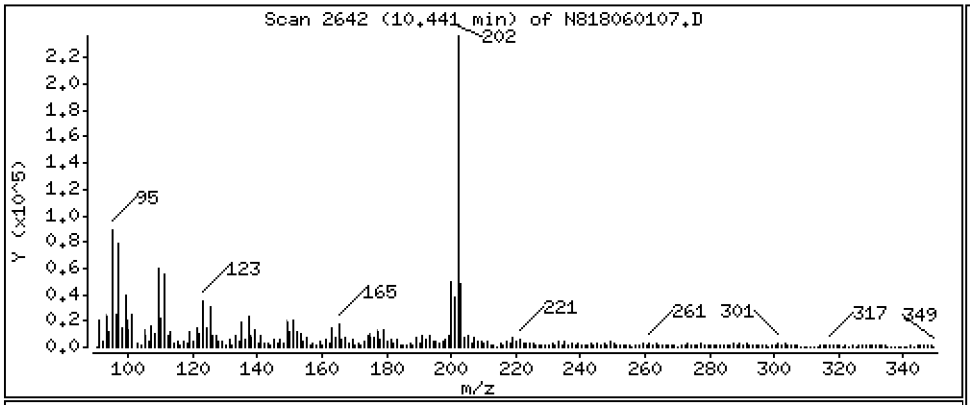
Operator: JZ

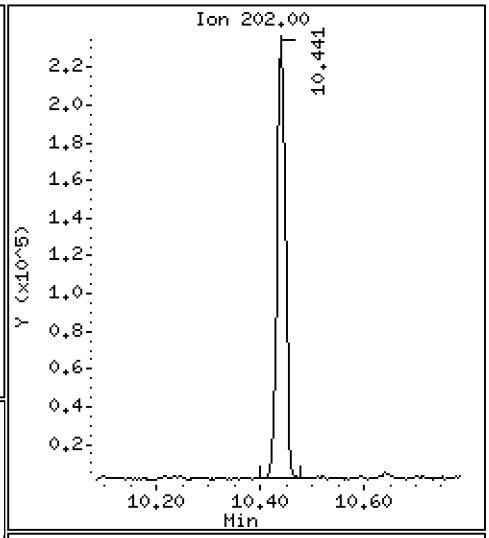
Column phase: Rxi-17sil

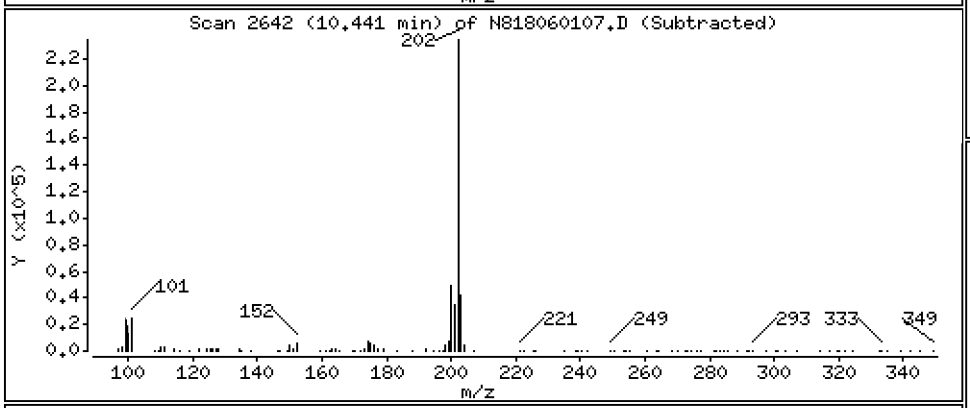
Column diameter: 0.25

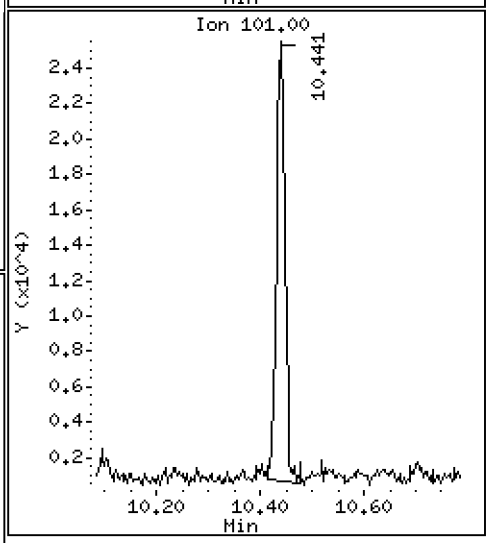
22 Fluoranthene

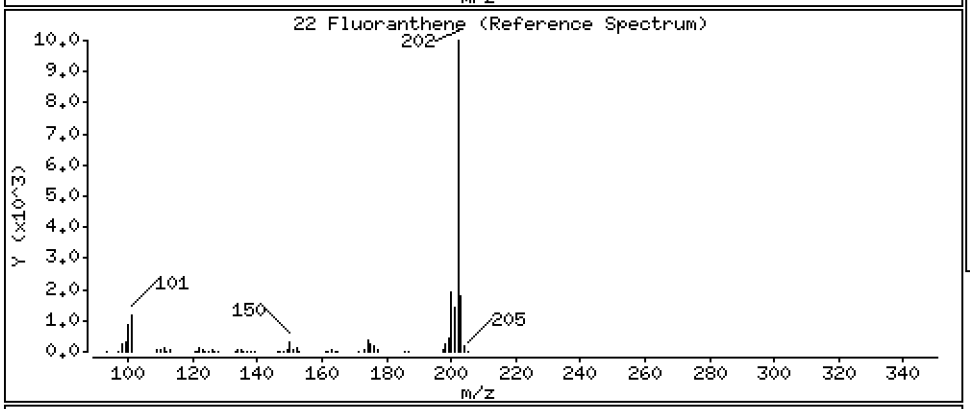
Concentration: 2.053 ug/mL

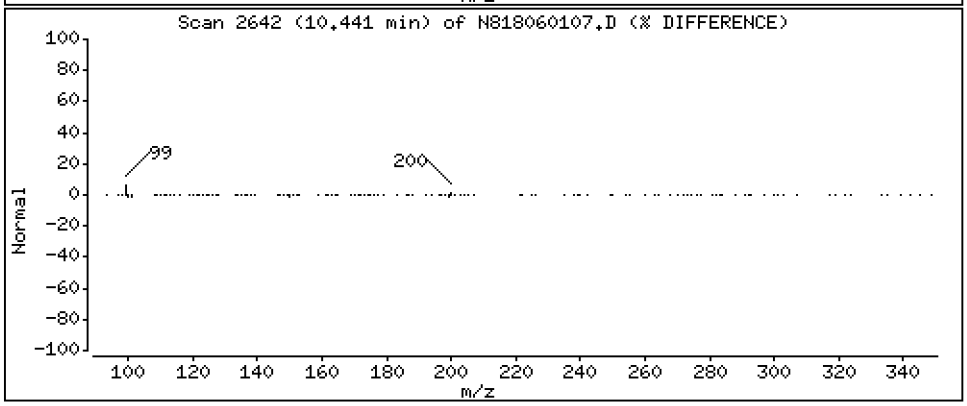












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

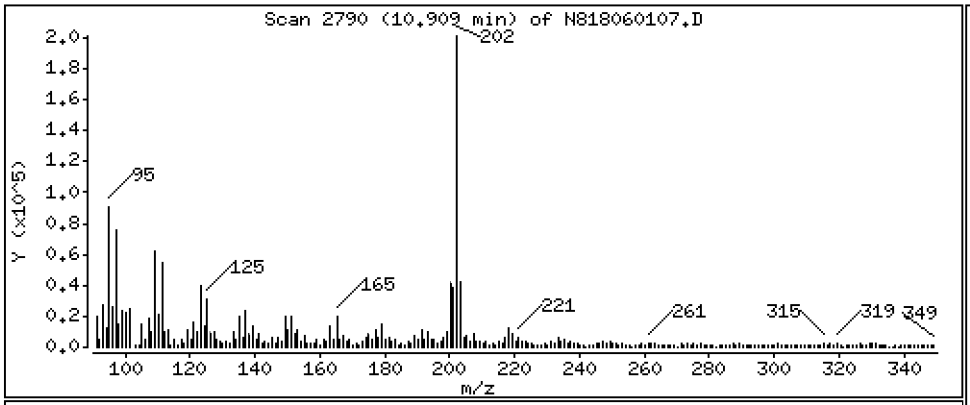
Operator: JZ

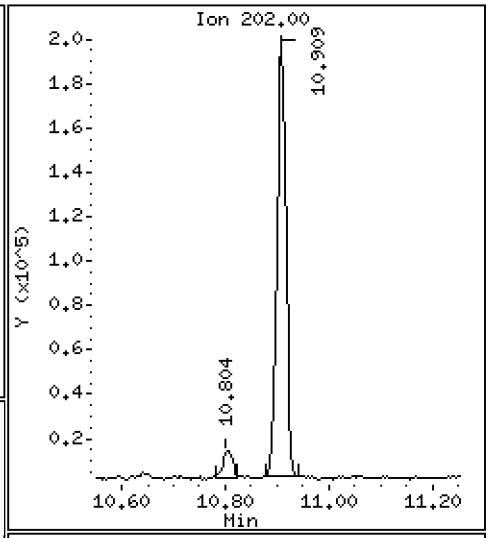
Column phase: Rxi-17sil

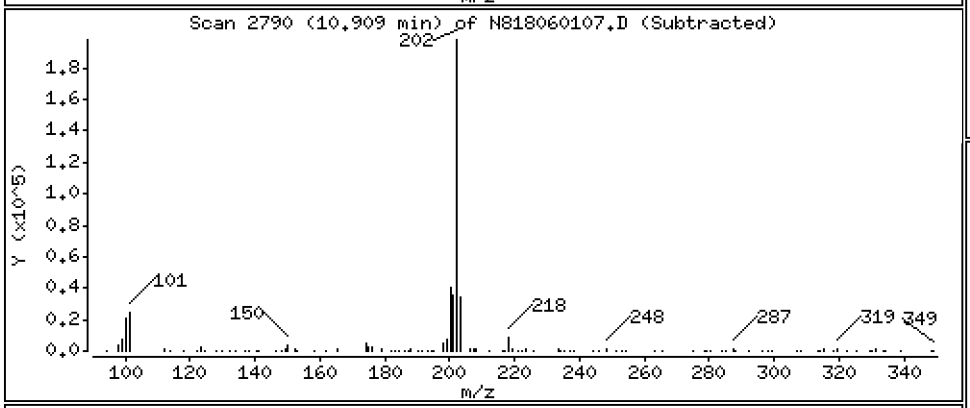
Column diameter: 0.25

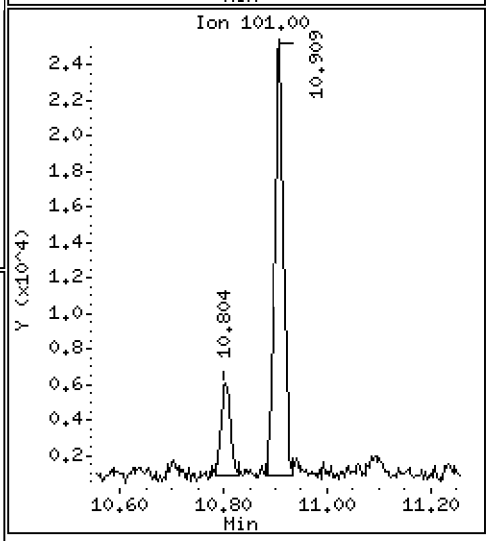
23 Pyrene

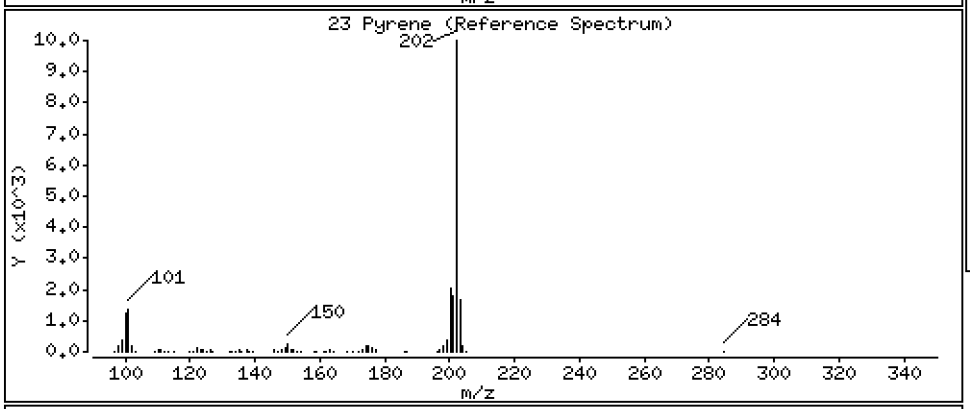
Concentration: 1.804 ug/mL

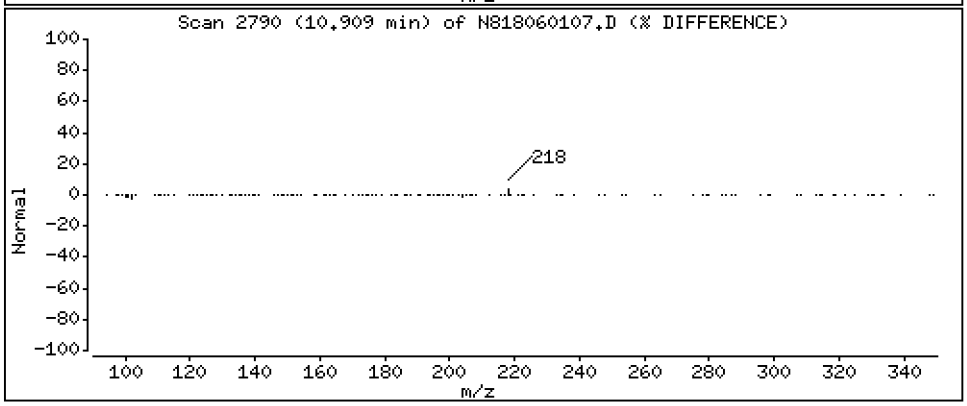












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

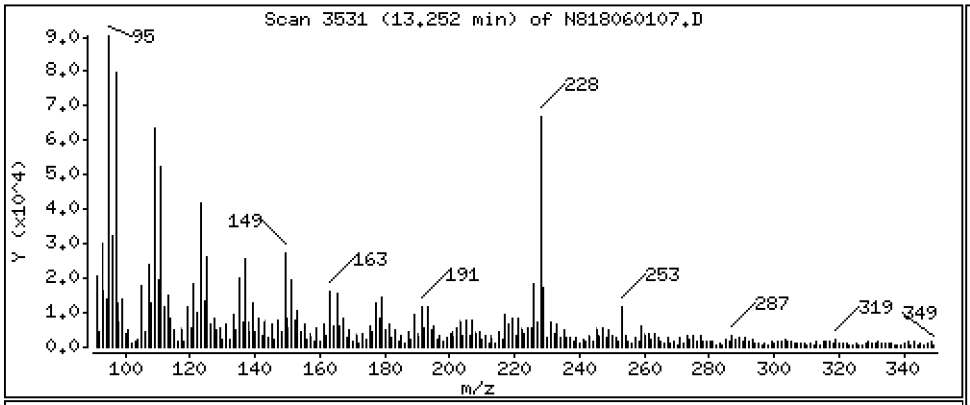
Operator: JZ

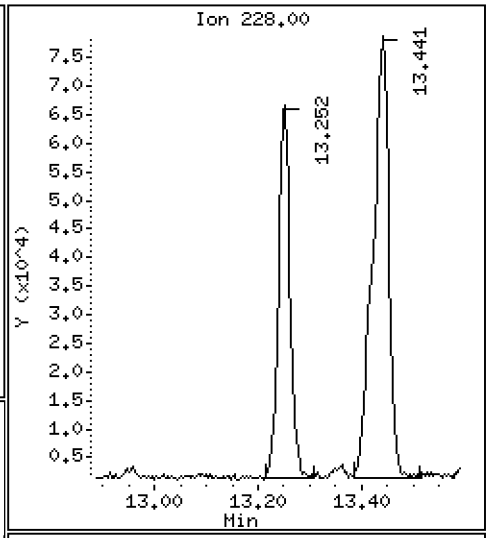
Column phase: Rxi-17sil

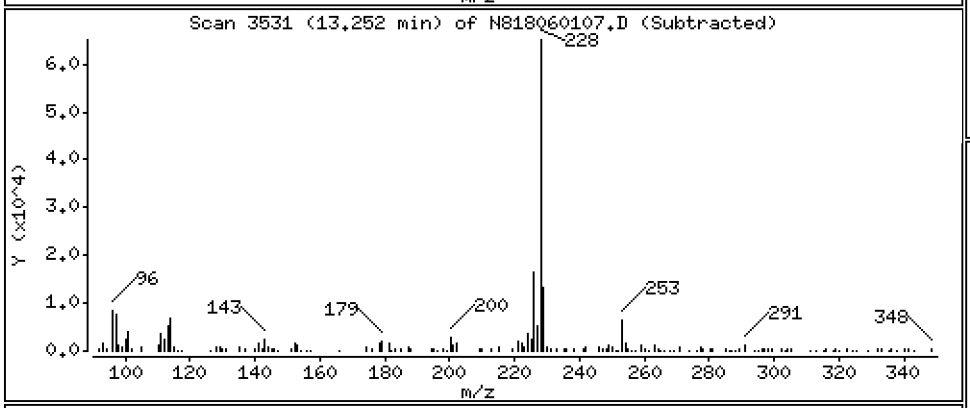
Column diameter: 0.25

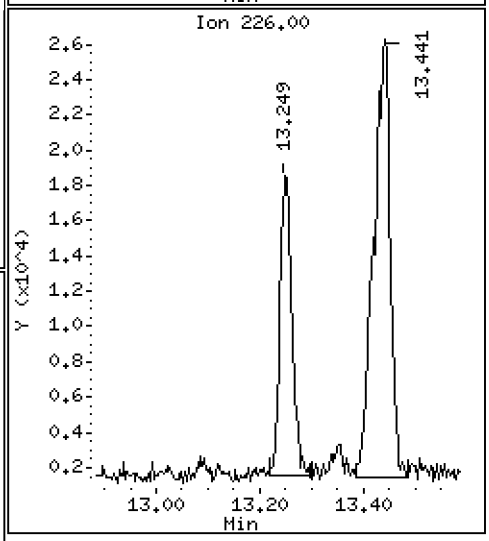
24 Benzo(a)anthracene

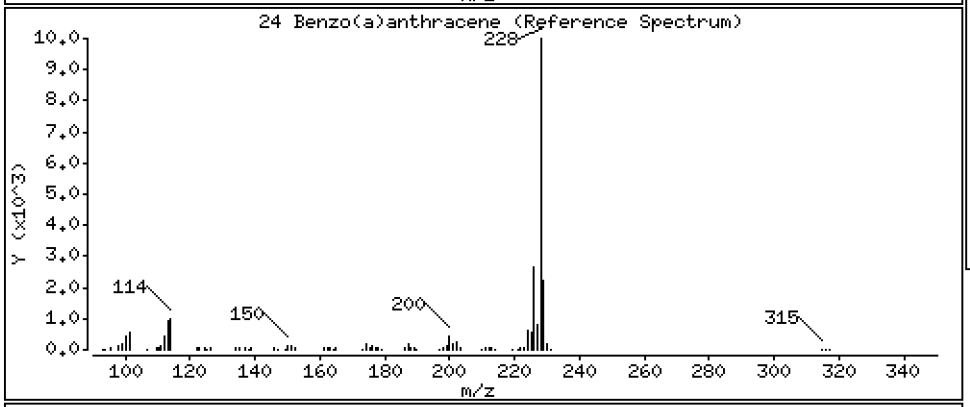
Concentration: 0.7904 ug/mL

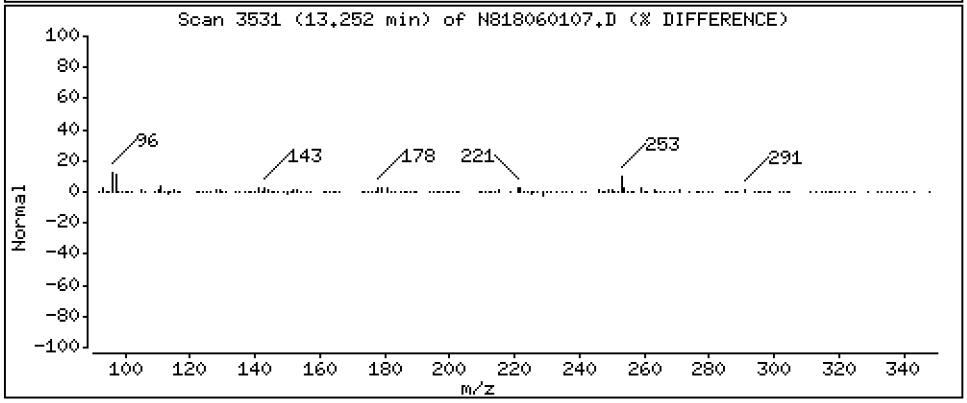












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

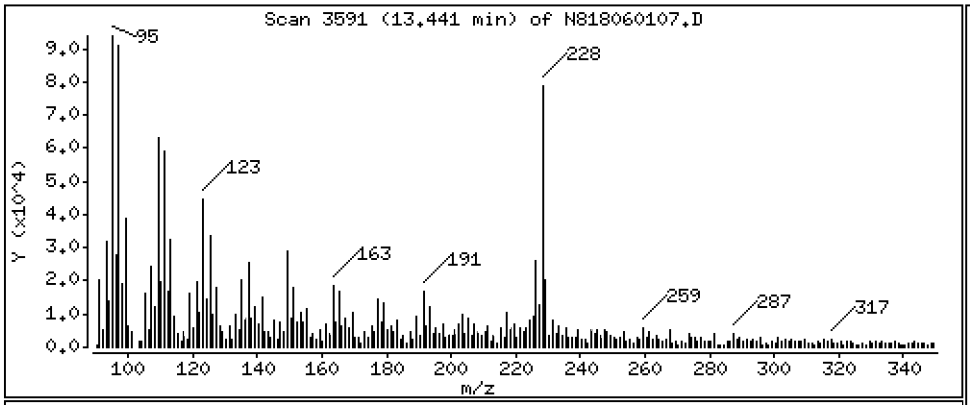
Operator: JZ

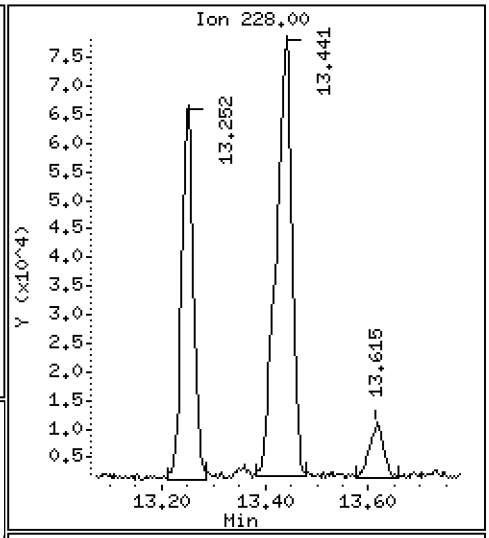
Column phase: Rxi-17sil

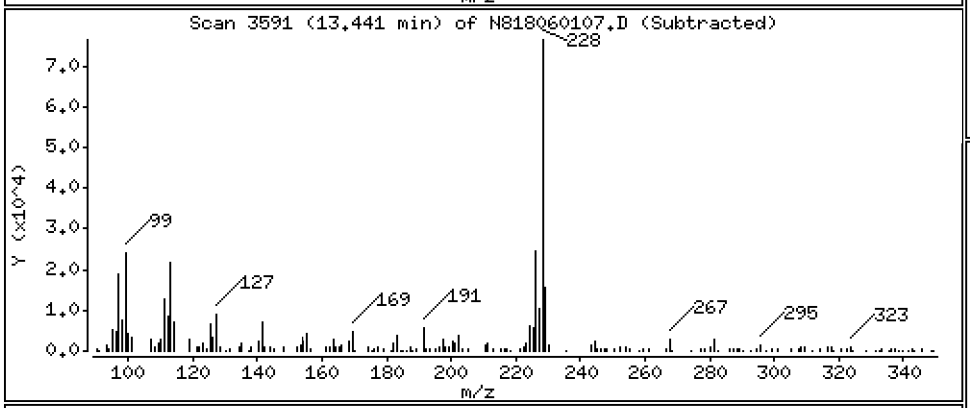
Column diameter: 0.25

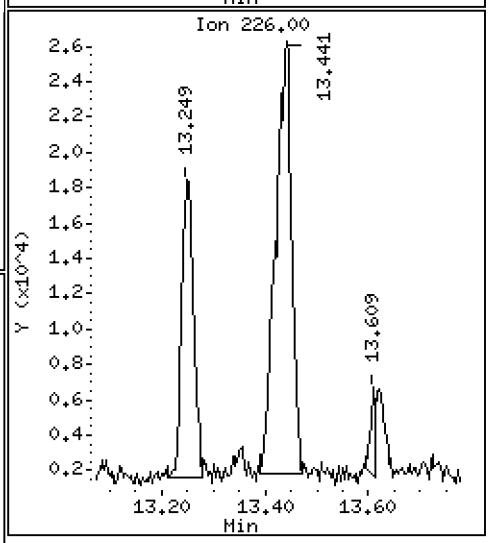
27 Chrysene

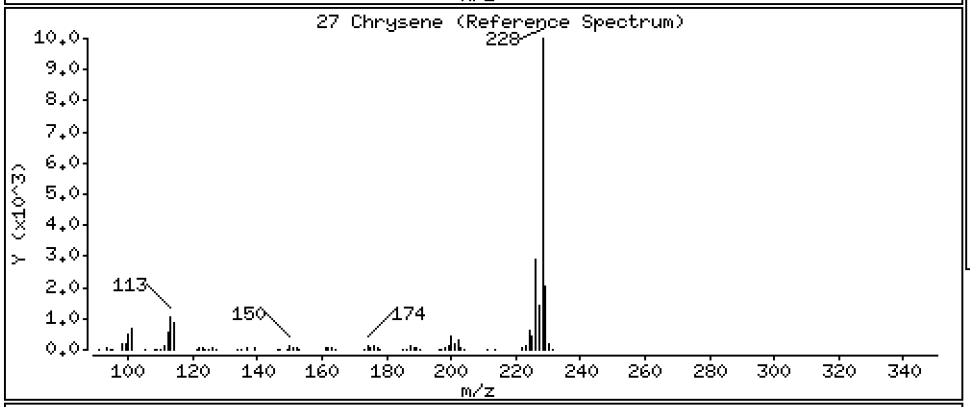
Concentration: 1.249 ug/mL

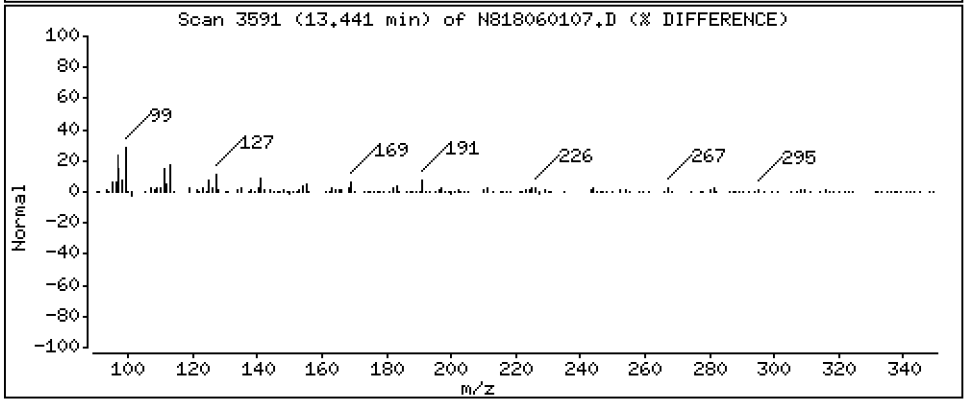












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

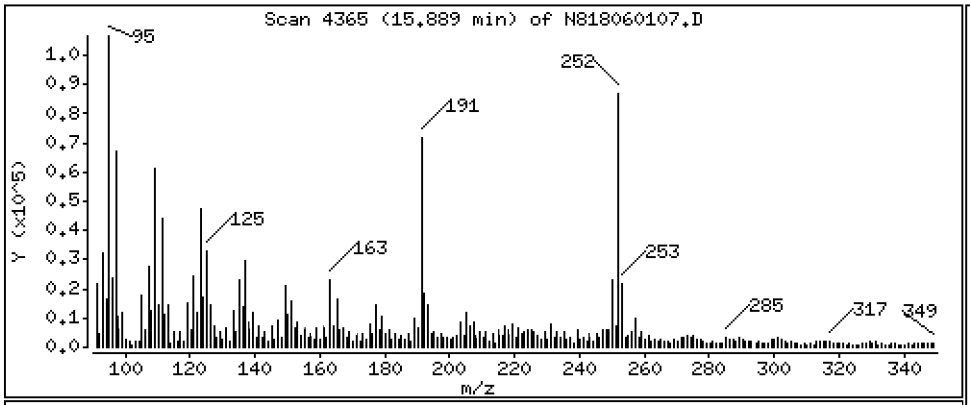
Operator: JZ

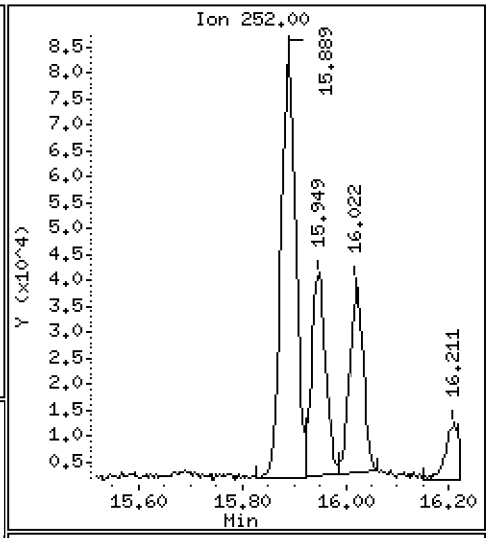
Column phase: Rxi-17sil

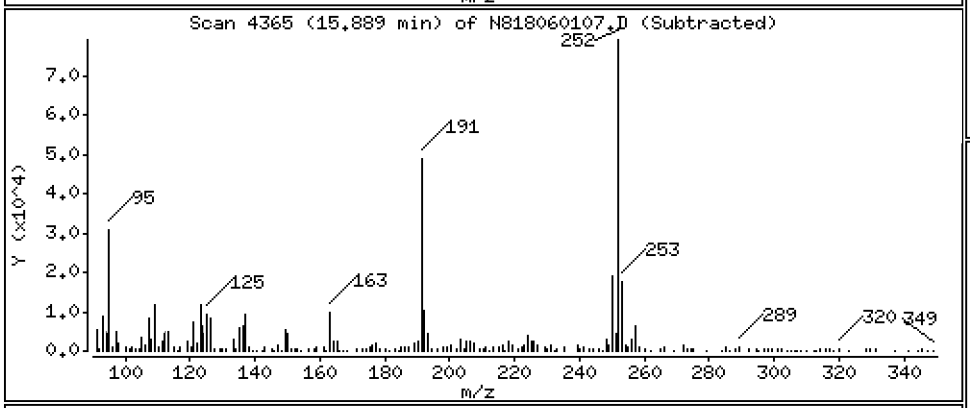
Column diameter: 0.25

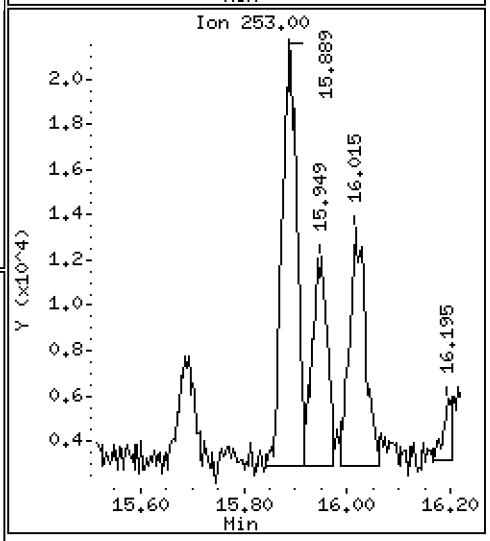
28 Benzo(b)fluoranthene

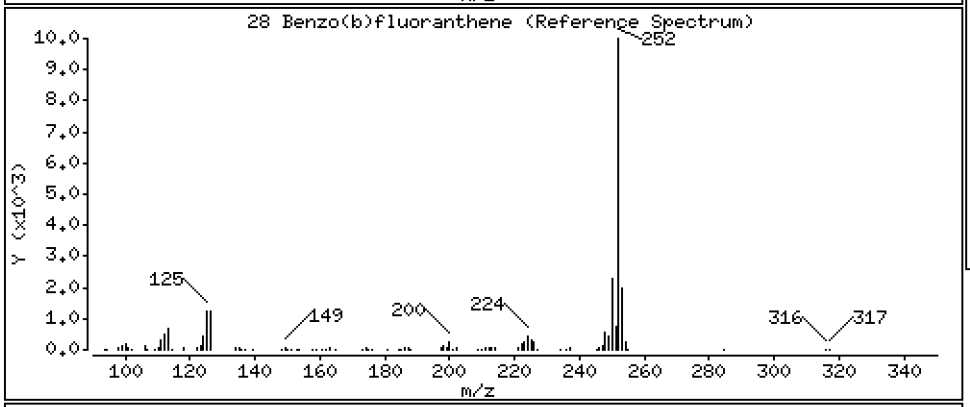
Concentration: 1.144 ug/mL

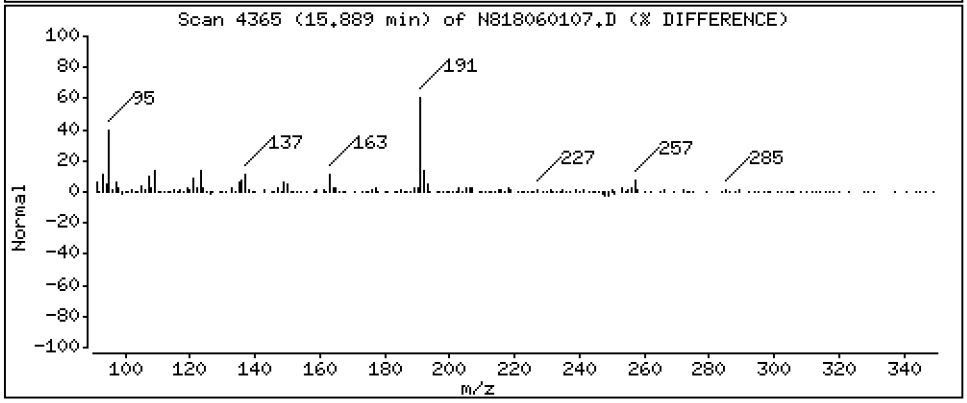












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

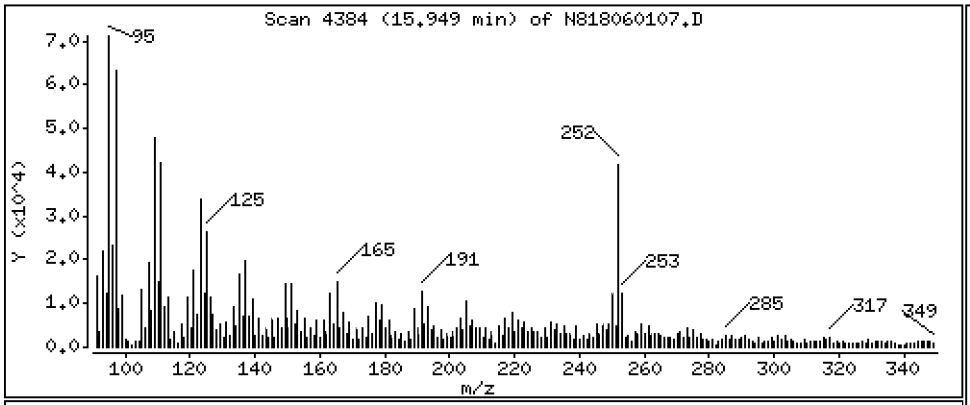
Operator: JZ

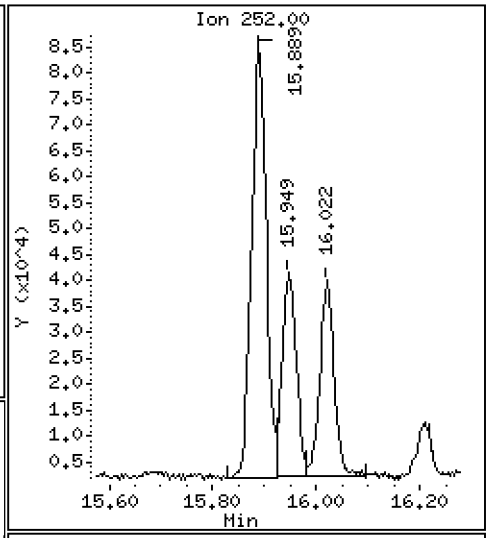
Column phase: Rxi-17sil

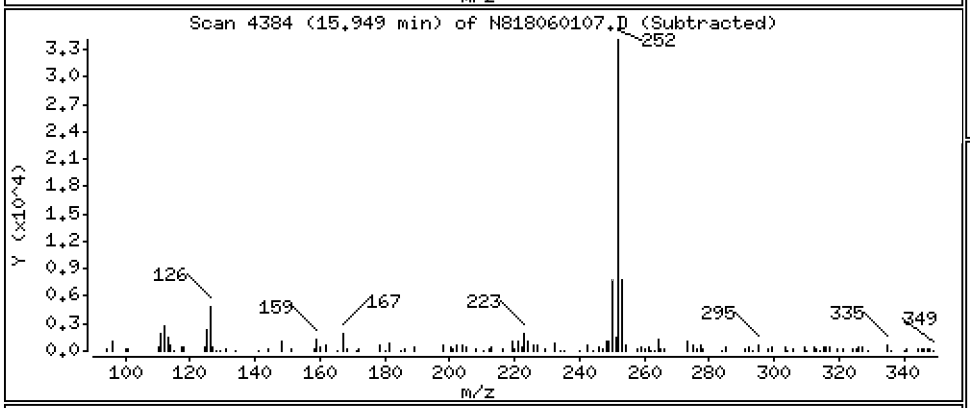
Column diameter: 0.25

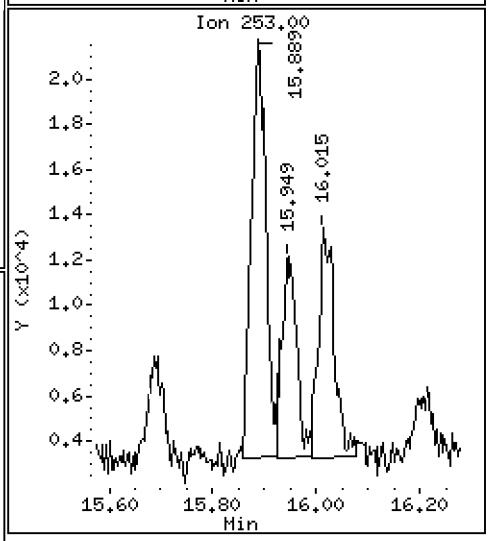
29 Benzo(k)fluoranthene

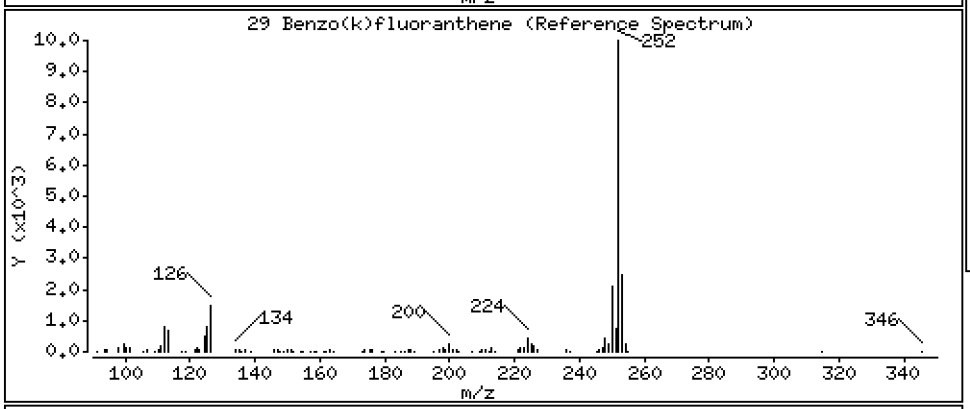
Concentration: 0.5320 ug/mL

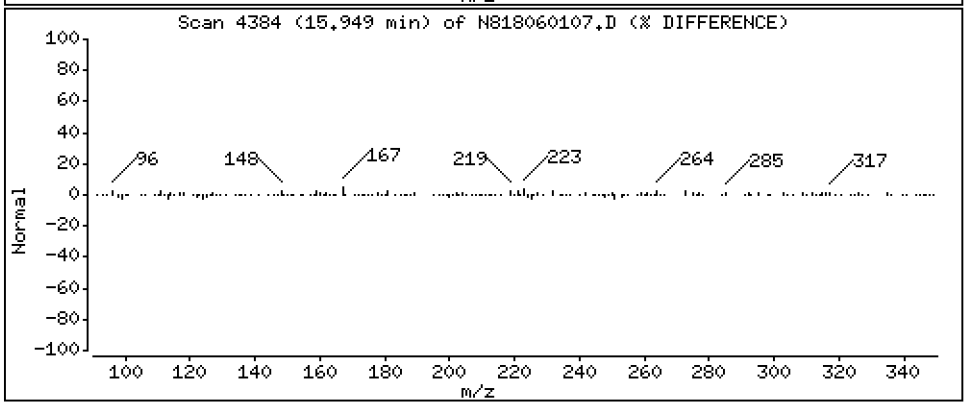












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

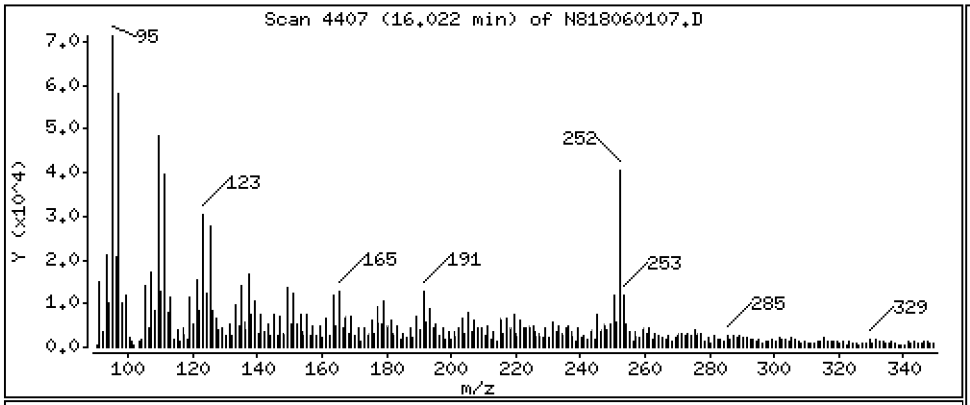
Operator: JZ

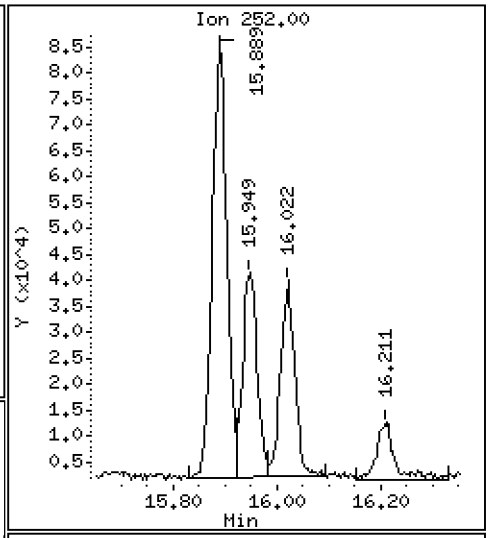
Column phase: Rxi-17sil

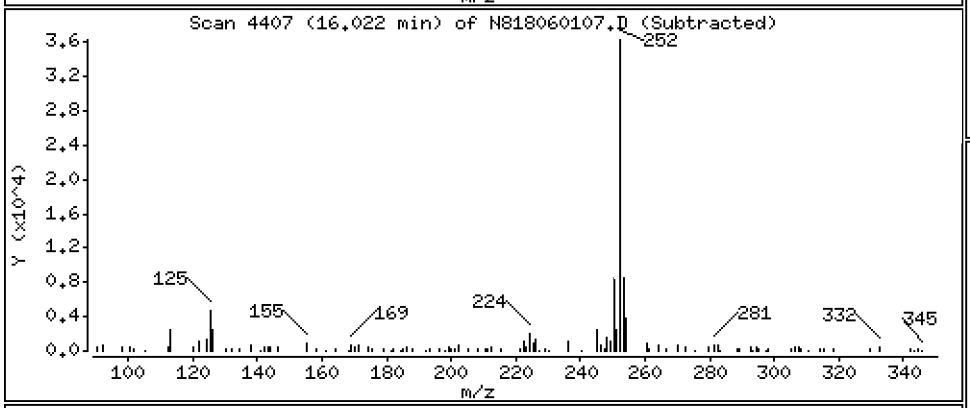
Column diameter: 0.25

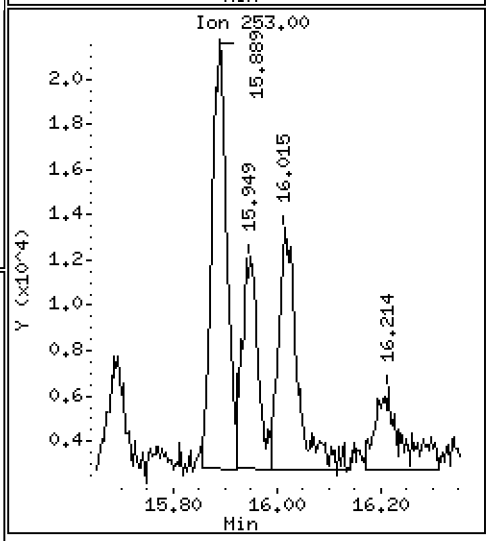
30 Benzo(j)fluoranthene

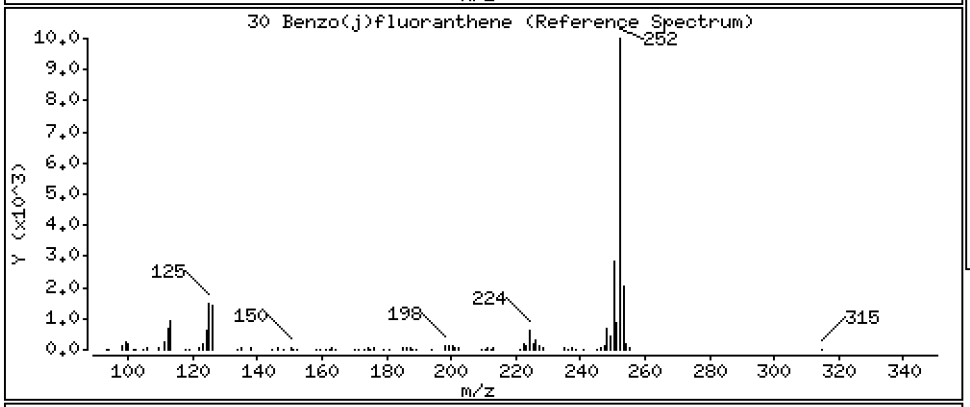
Concentration: 0.5065 ug/mL

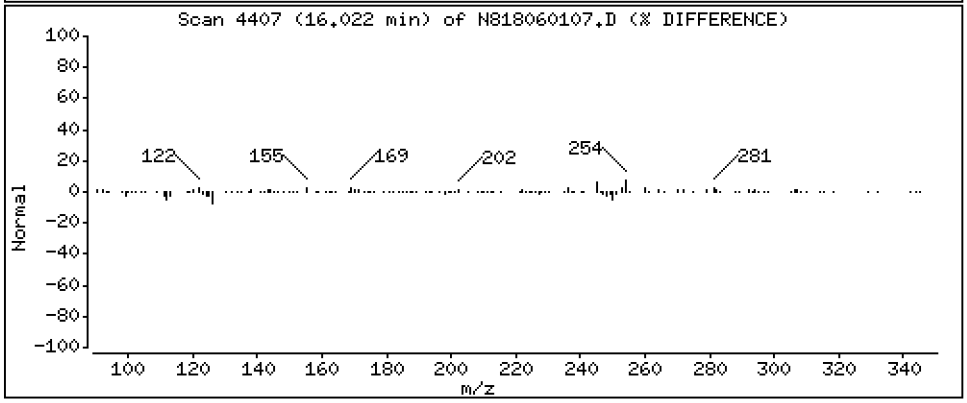












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

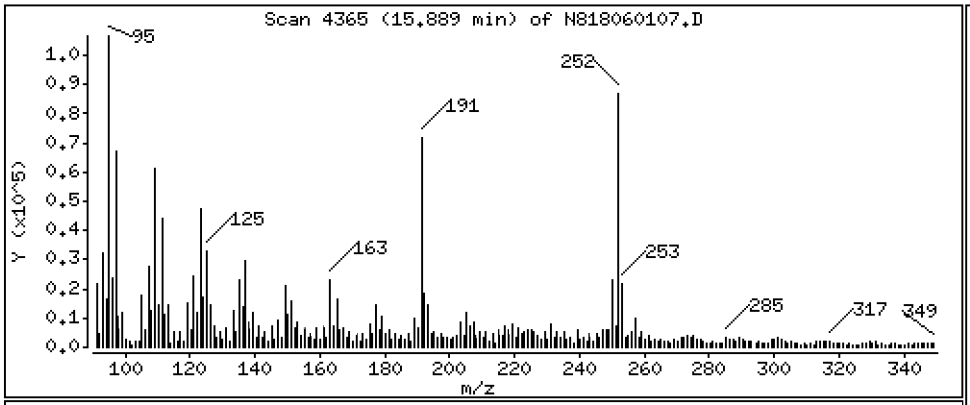
Operator: JZ

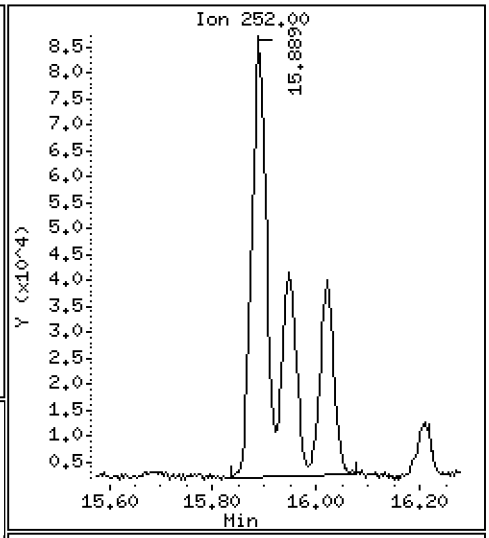
Column phase: Rxi-17sil

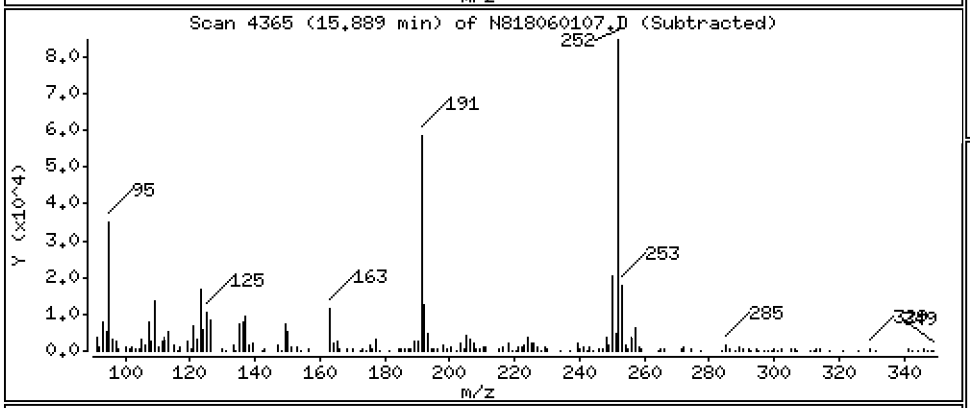
Column diameter: 0.25

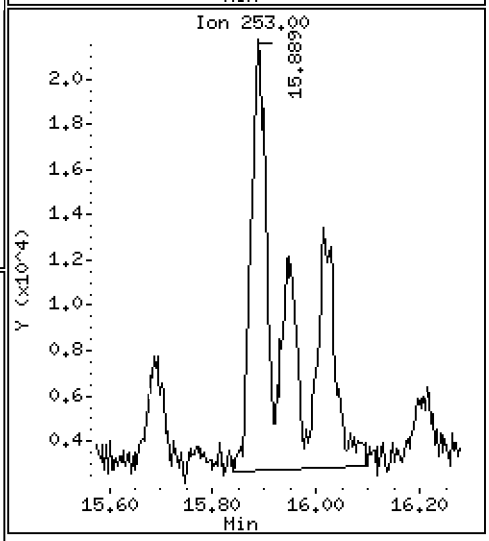
31 Total Benzofluoranthenes

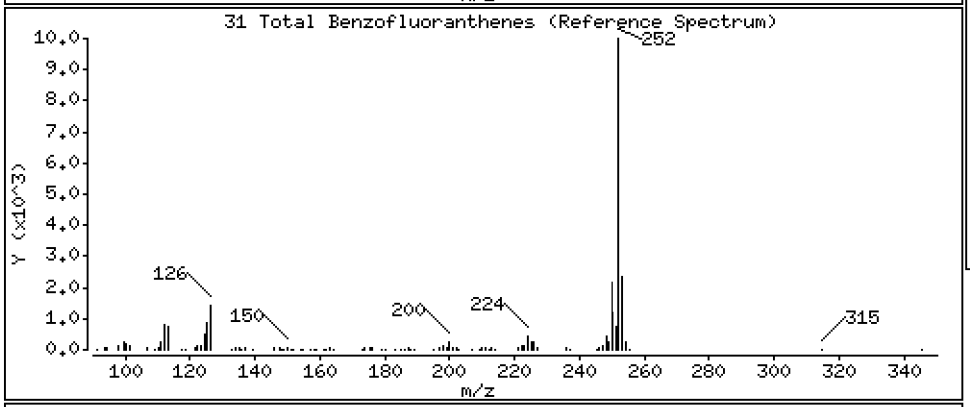
Concentration: 2.171 ug/mL

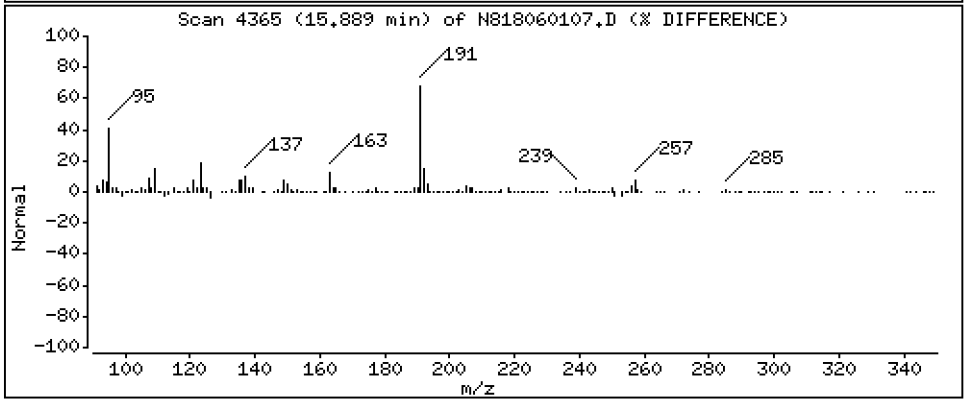












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

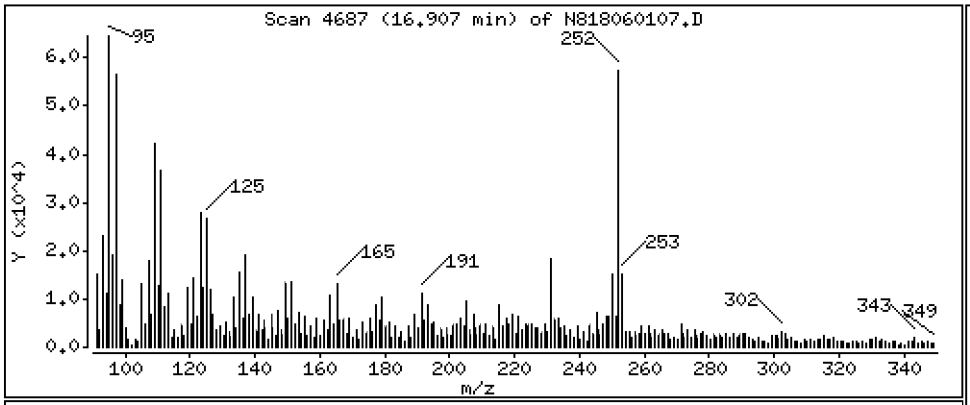
Operator: JZ

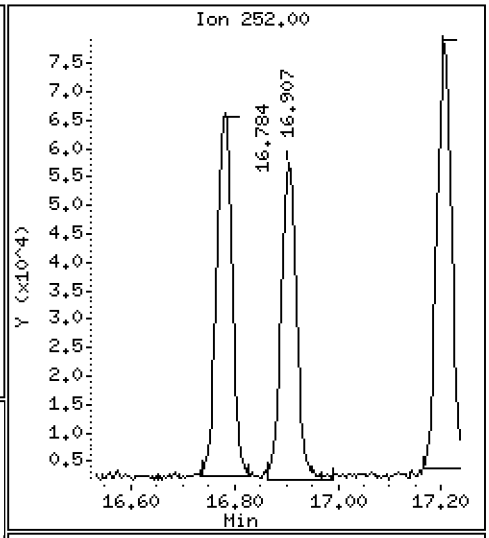
Column phase: Rxi-17sil

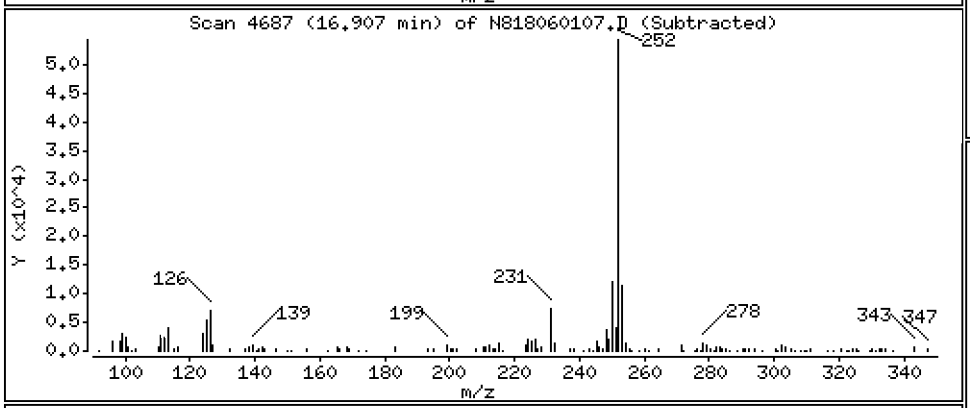
Column diameter: 0.25

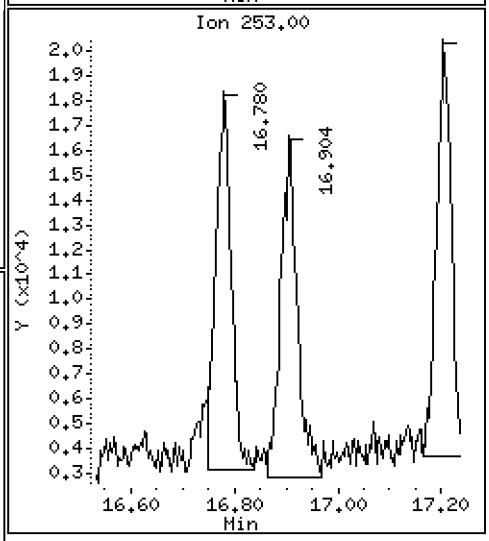
32 Benzo(a)pyrene

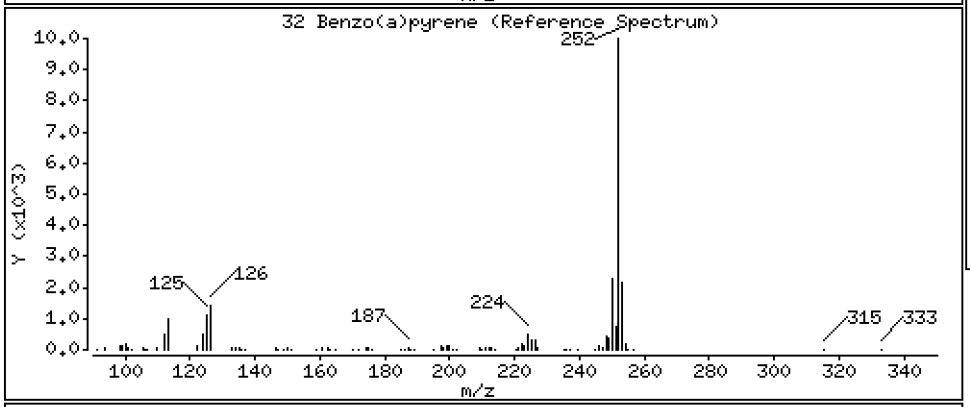
Concentration: 0.9280 ug/mL

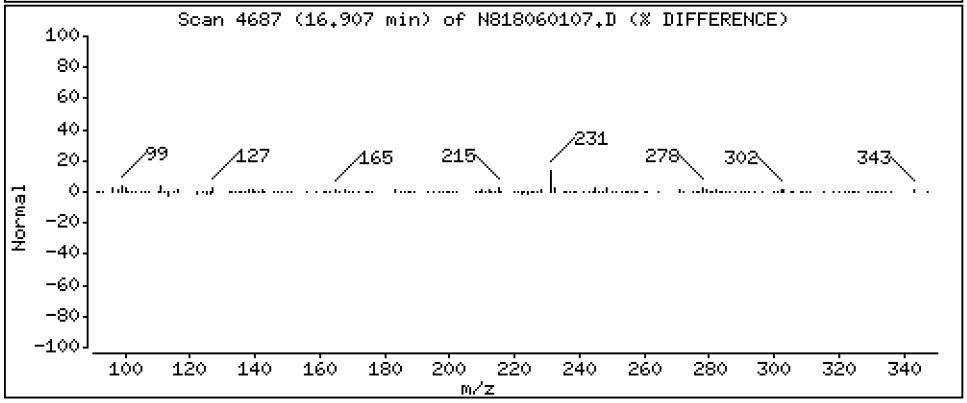












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

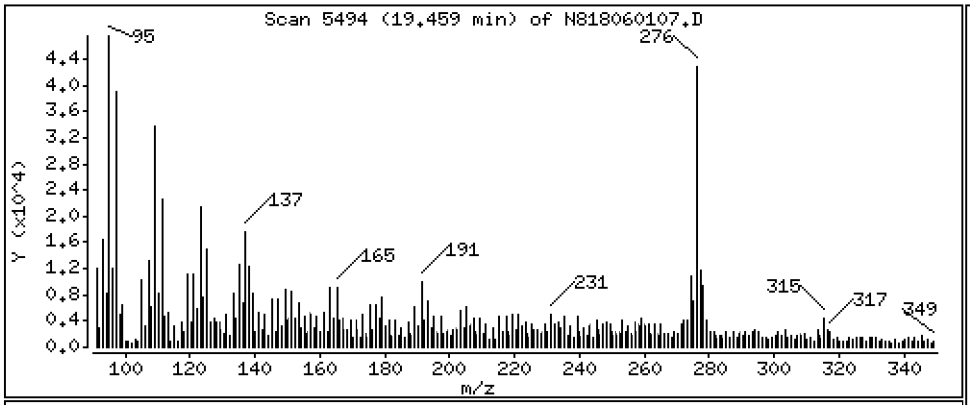
Operator: JZ

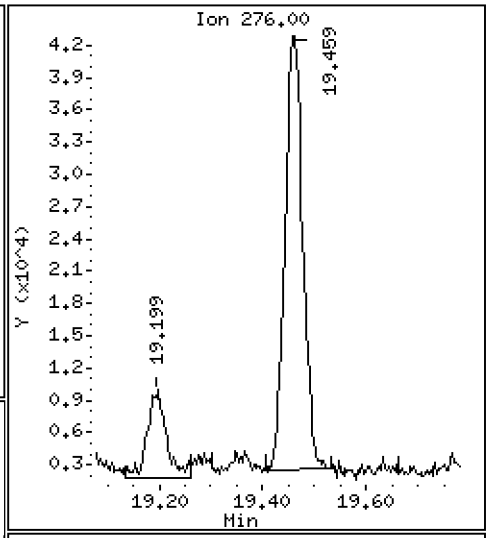
Column phase: Rxi-17sil

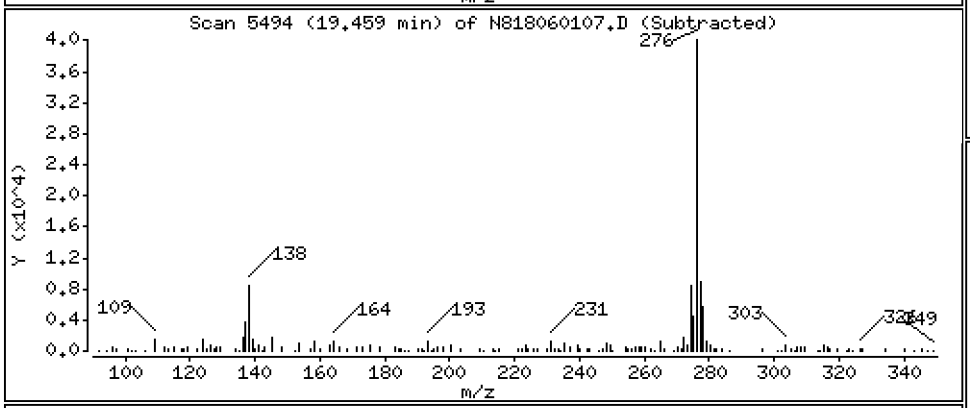
Column diameter: 0.25

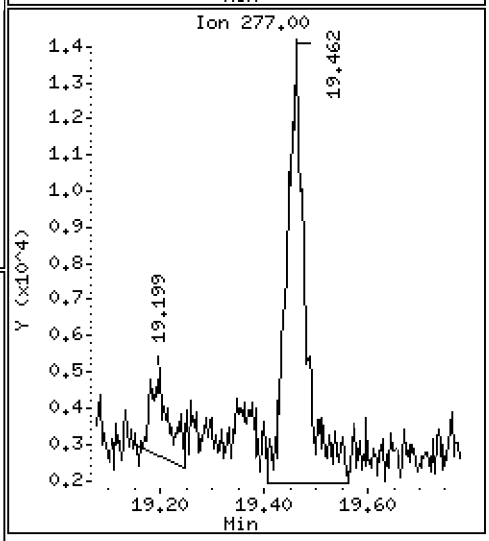
37 Indeno(1,2,3-cd)pyrene

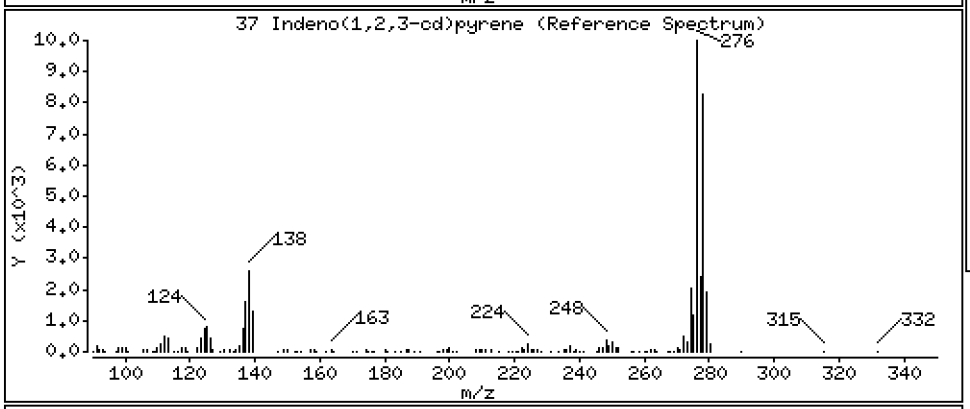
Concentration: 0.6656 ug/mL

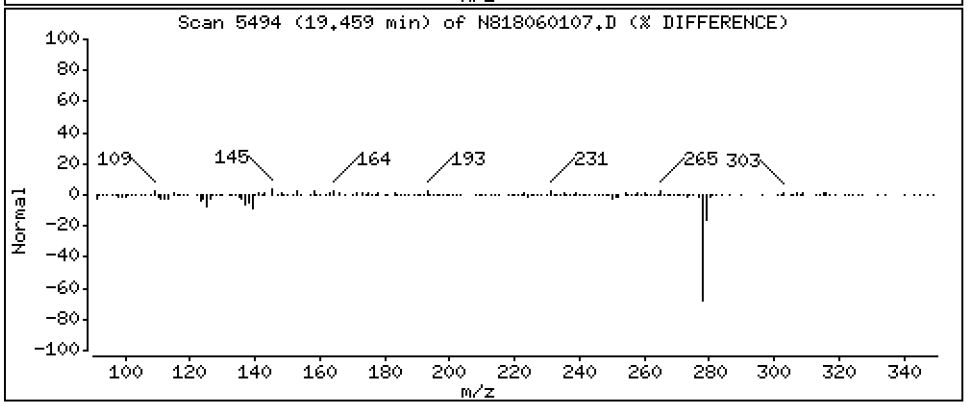












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

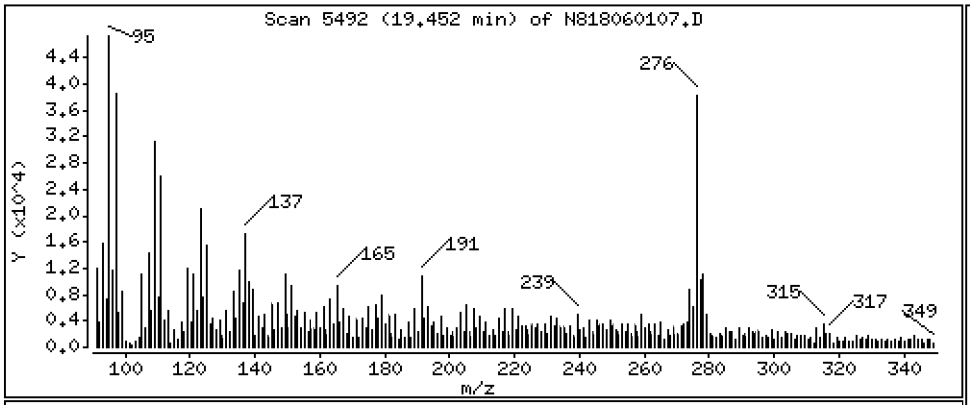
Operator: JZ

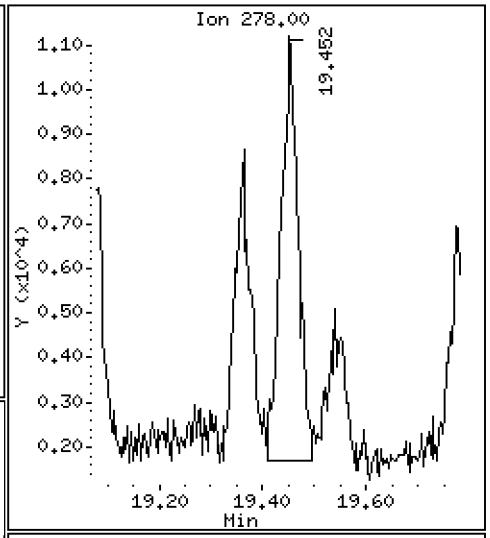
Column phase: Rxi-17sil

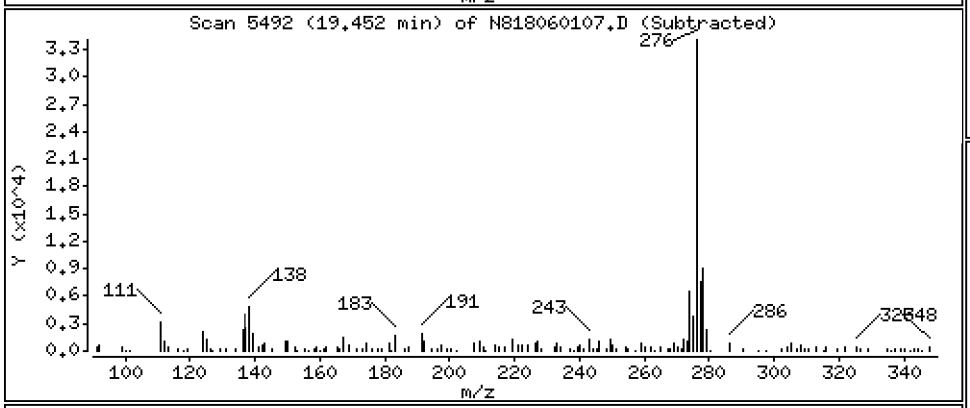
Column diameter: 0.25

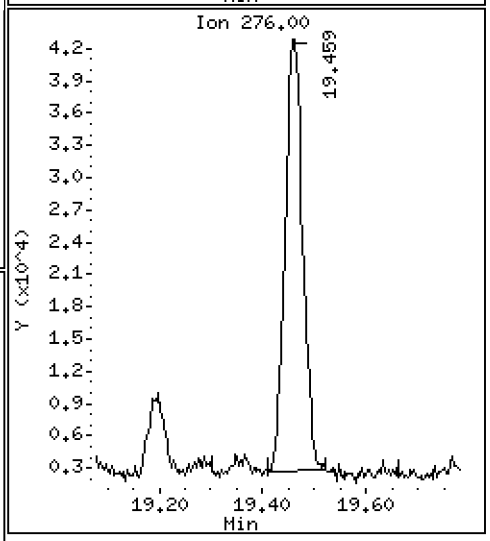
38 Dibenzo(a,h)anthracene

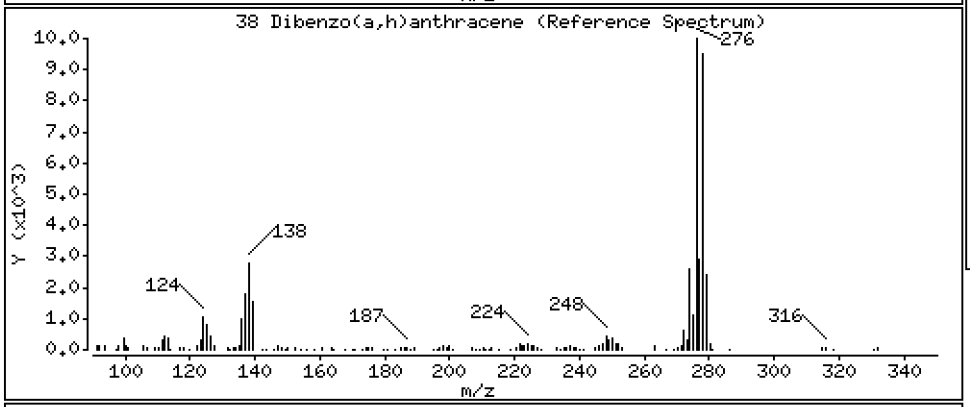
Concentration: 0.1830 ug/mL

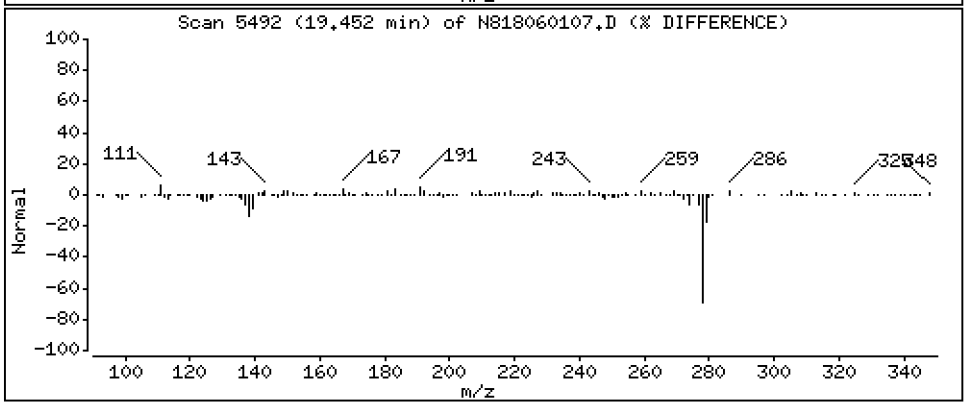












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

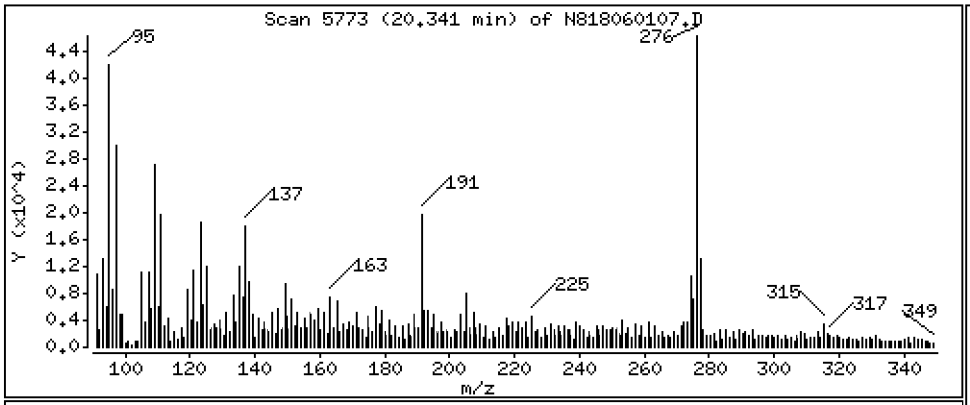
Operator: JZ

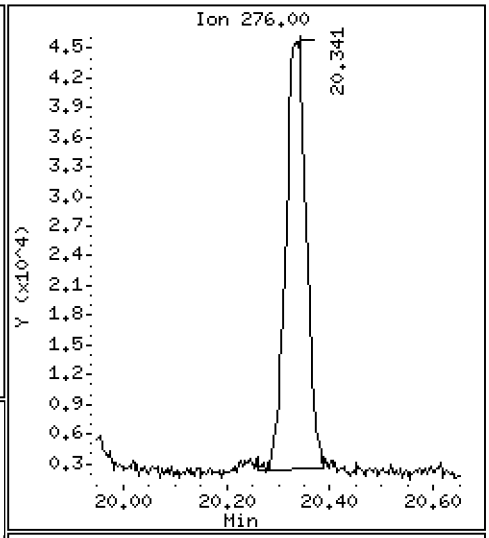
Column phase: Rxi-17sil

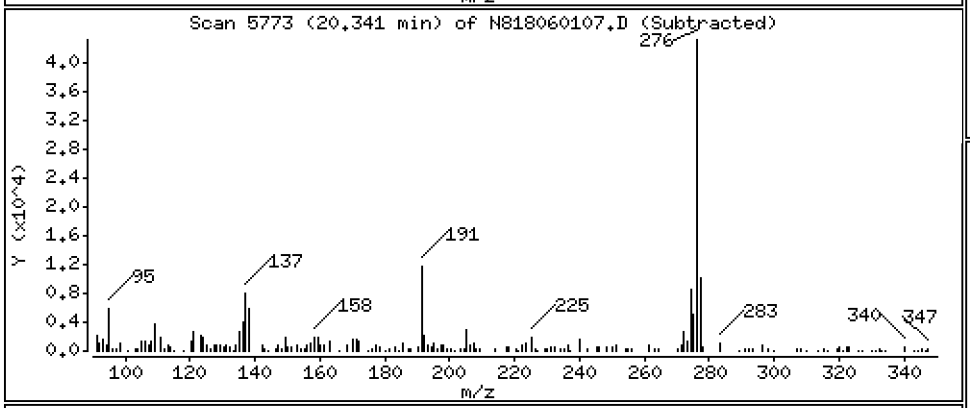
Column diameter: 0.25

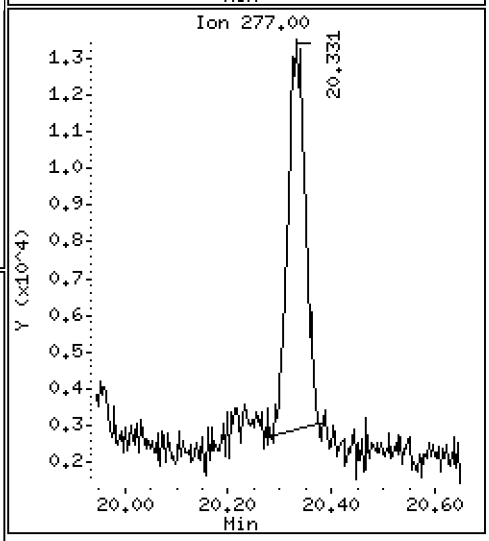
39 Benzo(g,h,i)perylene

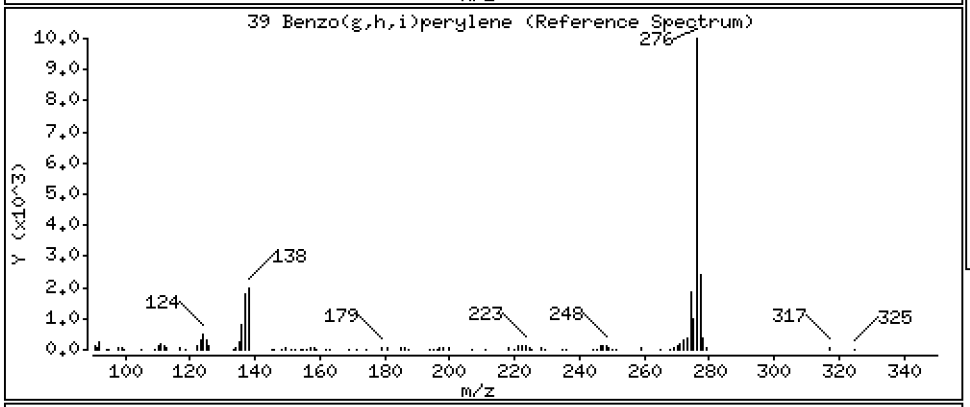
Concentration: 0.9503 ug/mL

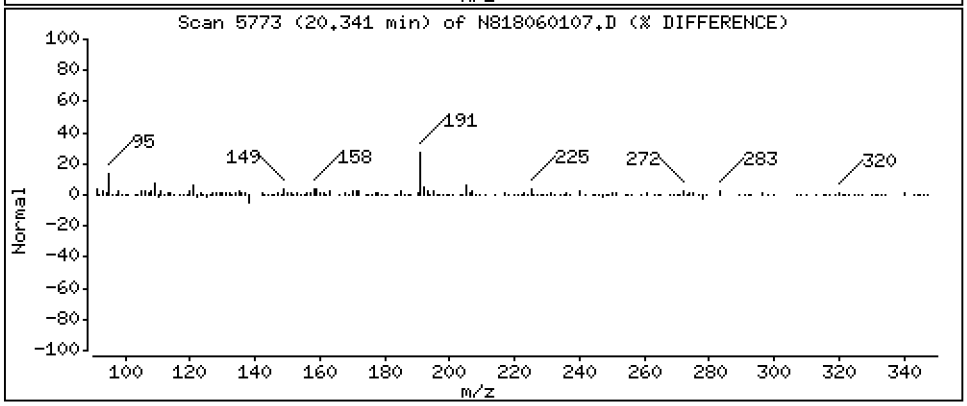












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060107.D

Date : 01-JUN-2018 17:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0231-03

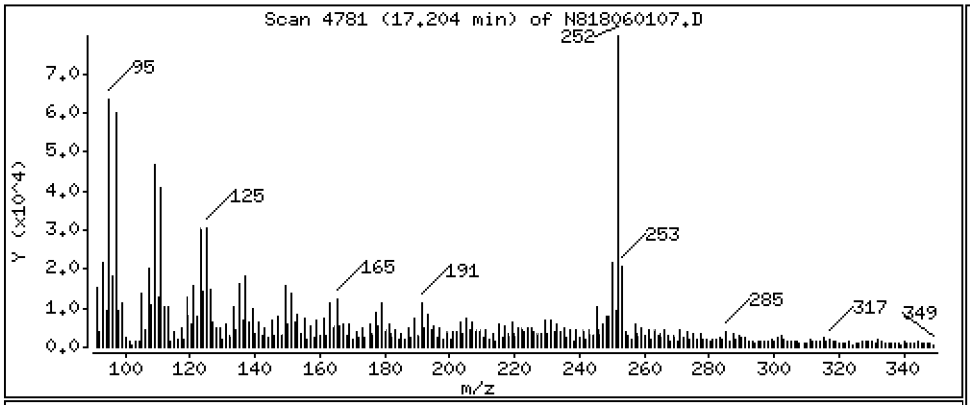
Operator: JZ

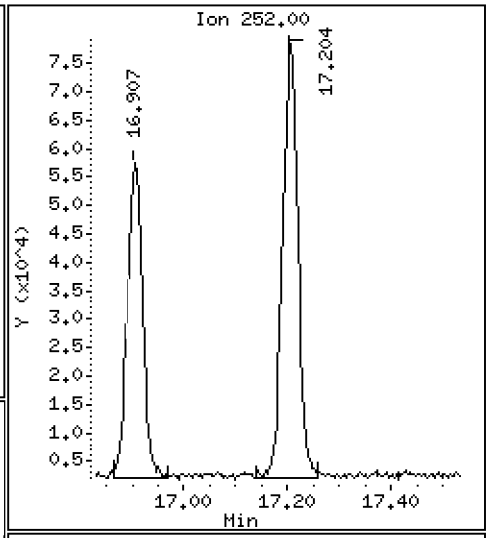
Column phase: Rxi-17sil

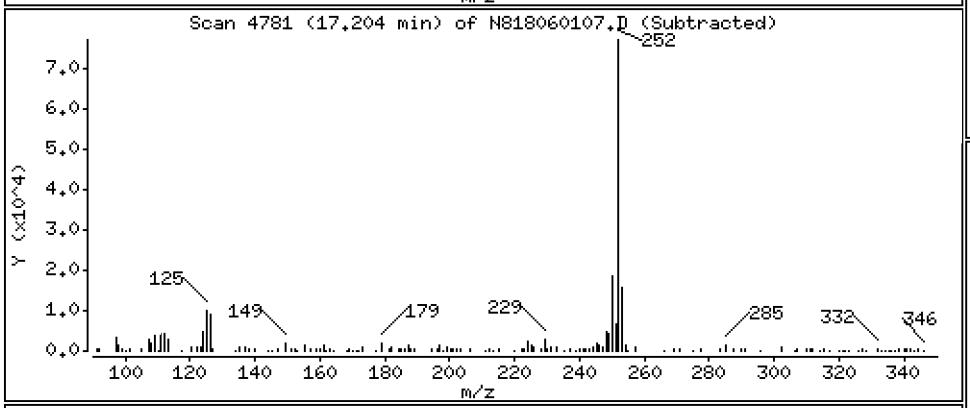
Column diameter: 0.25

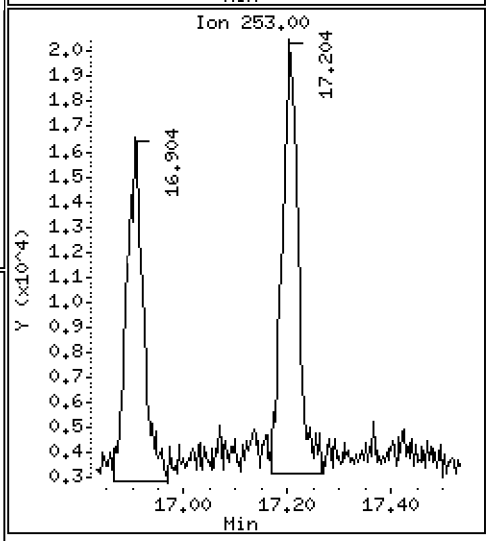
35 Perylene

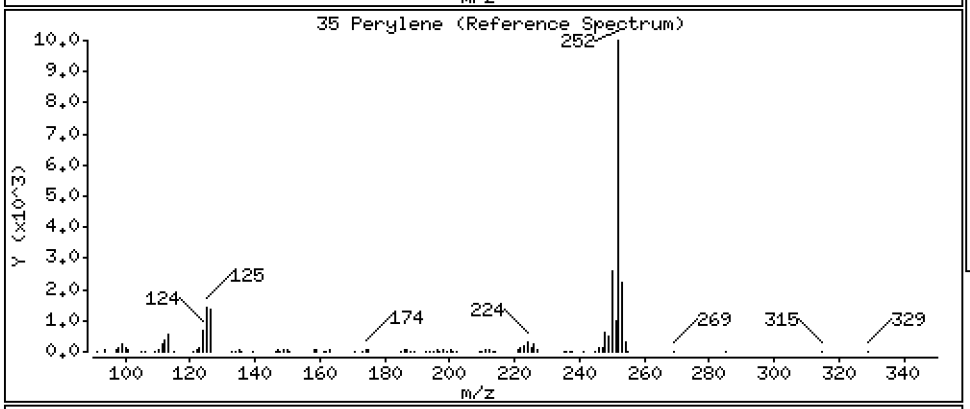
Concentration: 1.142 ug/mL

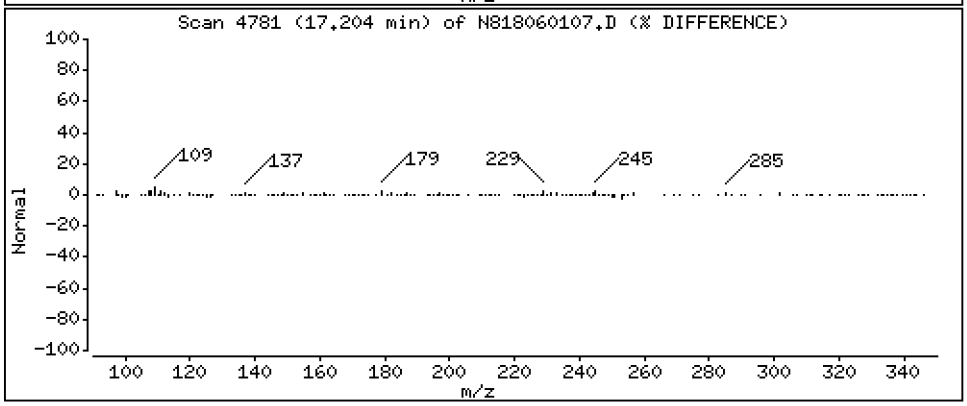












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060107.D
Lab Smp Id: 18E0231-03
Inj Date : 01-JUN-2018 17:04
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0231-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.461	4.464	(1.000)	195224	2.00000	
	2 Naphthalene	128	4.489	4.492	(1.006)	26482	0.23341	0.2334
$	3 2-Methylnaphthalene-d10	152	5.191	5.191	(1.164)	80347	1.12822	1.128
	4 2-Methylnaphthalene	141	5.236	5.242	(1.174)	8816	0.13796	0.1380
	5 1-methylnaphthalene	141	5.428	5.432	(1.217)	5791	0.08804	0.08804
	9 Acenaphthylene	152	6.614	6.617	(0.984)	9391	0.09616	0.09616
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	98366	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.008)	12004	0.16033	0.1603
	12 Dibenzofuran	168	6.924	6.927	(1.030)	15206	0.15105	0.1511
	14 Fluorene	166	7.402	7.402	(1.101)	14314	0.18402	0.1840
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	182108	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	74219	0.66495	0.6650
	17 Anthracene	178	8.821	8.821	(1.009)	37744	0.37114	0.3711
	22 Fluoranthene	202	10.440	10.434	(1.194)	258262	2.05311	2.053
$	21 Fluoranthene-d10	212	10.405	10.402	(1.190)	187436	1.57217	1.572
	23 Pyrene	202	10.908	10.902	(0.816)	241882	1.80366	1.804
	24 Benzo(a)anthracene	228	13.251	13.239	(0.991)	102483	0.79042	0.7904
*	25 Chrysene-d12	240	13.371	13.356	(1.000)	223155	2.00000	
	27 Chrysene	228	13.441	13.425	(1.005)	163065	1.24939	1.249
	28 Benzo(b)fluoranthene	252	15.888	15.869	(0.927)	165409	1.14394	1.144
	29 Benzo(k)fluoranthene	252	15.948	15.926	(0.931)	75635	0.53195	0.5320
	30 Benzo(j)fluoranthene	252	16.021	16.002	(0.935)	72116	0.50655	0.5065
	31 Total Benzofluoranthenes	252	15.888	15.926	(0.927)	306140	2.17092	2.171(M)
	32 Benzo(a)pyrene	252	16.906	16.884	(0.987)	117611	0.92803	0.9280
*	33 Perylene-d12	264	17.134	17.112	(1.000)	227520	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.458	19.430	(1.136)	96571	0.66559	0.6656
$	36 Dibenzo(a,h)anthracene-d14	292	19.363	19.338	(1.130)	194576	1.82583	1.826
	38 Dibenzo(a,h)anthracene	278	19.452	19.430	(1.135)	21901	0.18299	0.1830
	39 Benzo(g,h,i)perylene	276	20.340	20.299	(1.187)	120499	0.95026	0.9503
	35 Perylene	252	17.204	17.181	(1.004)	157163	1.14210	1.142

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060107.D
Lab Smp Id: 18E0231-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	195224	59.77
10 Acenaphthene-d10	65789	32895	131578	98366	49.52
15 Phenanthrene-d10	128644	64322	257288	182108	41.56
25 Chrysene-d12	166669	83335	333338	223155	33.89
33 Perylene-d12	140483	70242	280966	227520	61.96

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.07
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.12
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060107.D

Lab ID: 18E0231-03
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 17:04

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

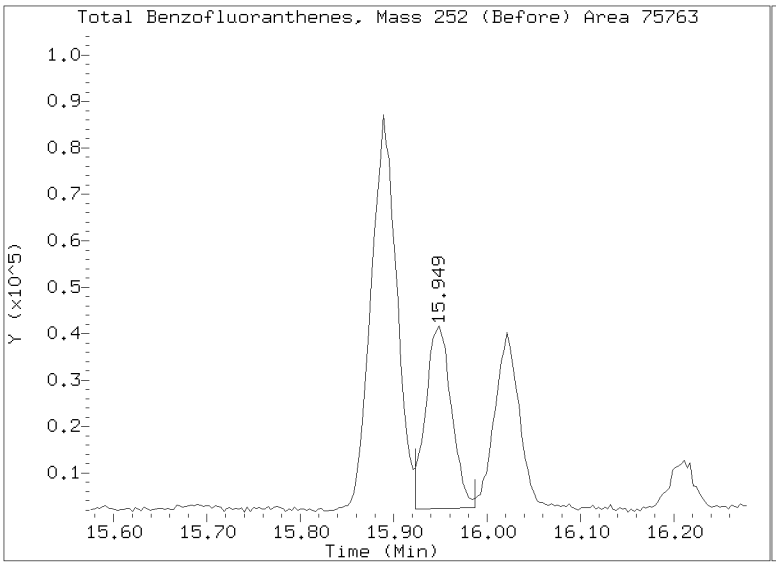
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

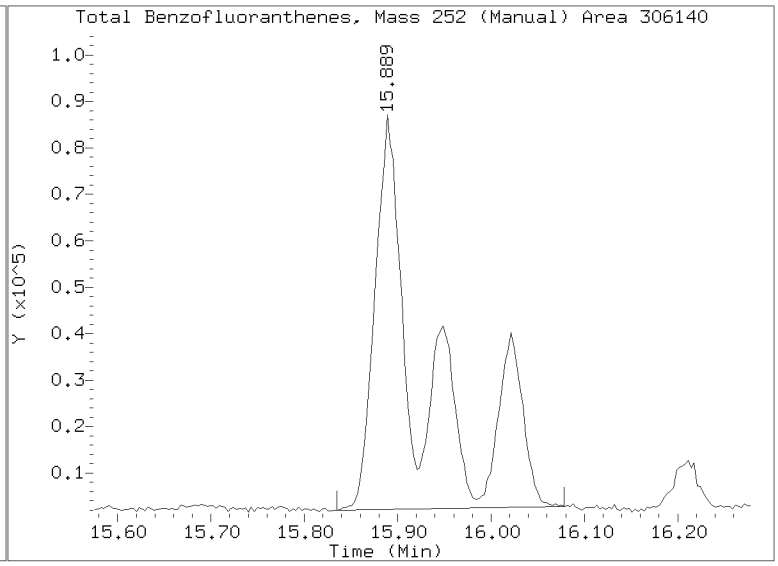
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060107.D
Injection Date: 01-JUN-2018 17:04
Lab ID:18E0231-03 Client ID:
Report Date: 06/01/2018 17:32





LDW18-SSCL-A01

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-01	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/24/18 10:50	File ID:	N818060108.D
% Solids:	77.44	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 17:31
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	13.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	541	E	0.82	4.95
218-01-9	Chrysene	1	555	E	1.04	4.95
205-99-2	Benzo(b)fluoranthene	1	365		1.36	4.95
207-08-9	Benzo(k)fluoranthene	1	236		0.75	4.95
50-32-8	Benzo(a)pyrene	1	567	E	0.61	4.95
193-39-5	Indeno(1,2,3-cd)pyrene	1	306		1.04	4.95
53-70-3	Dibenzo(a,h)anthracene	1	101		0.88	4.95

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.43	63.9	43.1	32 - 120	
Dibenzo[a,h]anthracene-d14	148.43	114	77.1	21 - 133	
Fluoranthene-d10	148.43	88.6	59.7	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

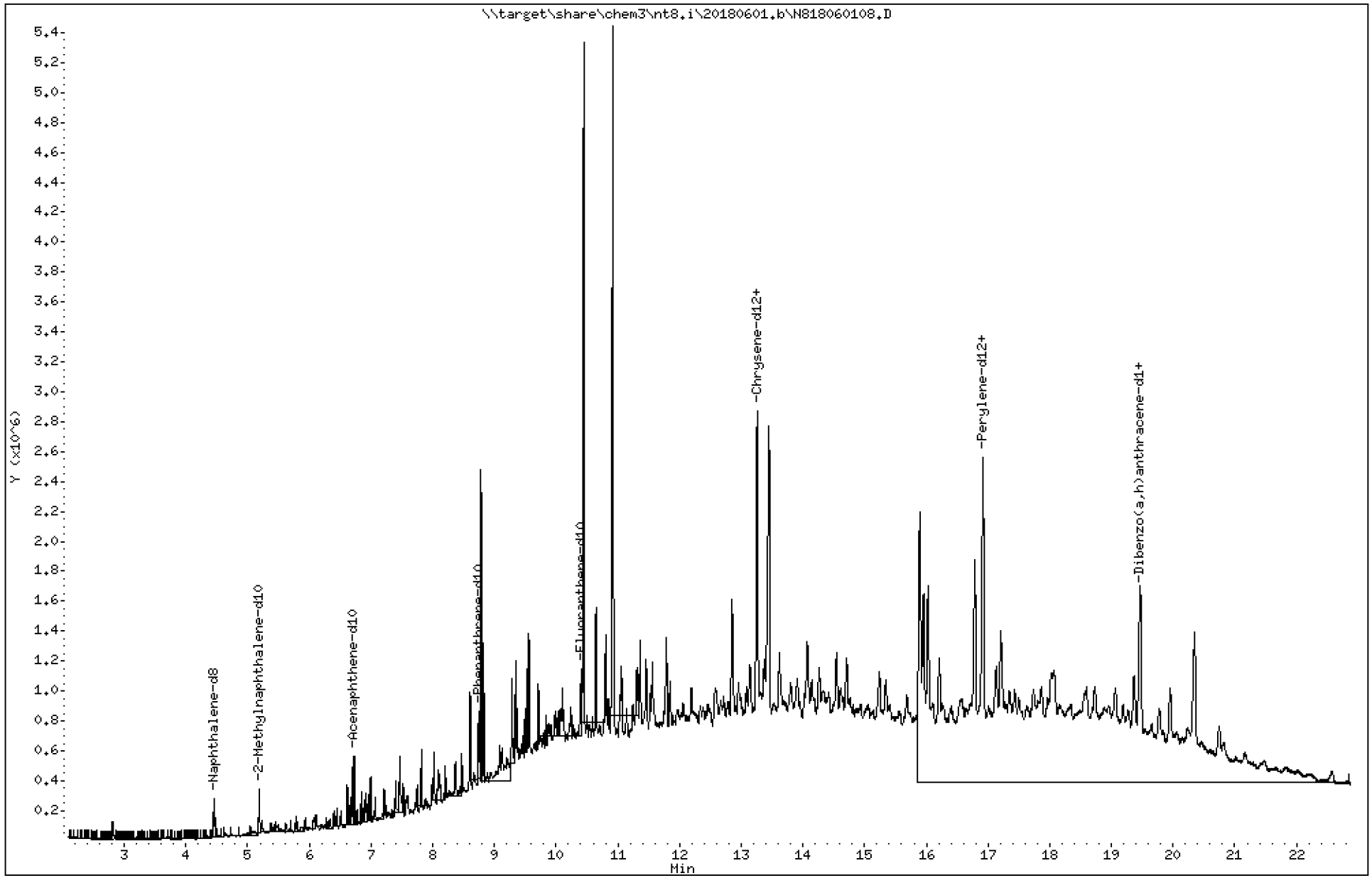
Instrument: nt8.i

Sample Info: 18E0243-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

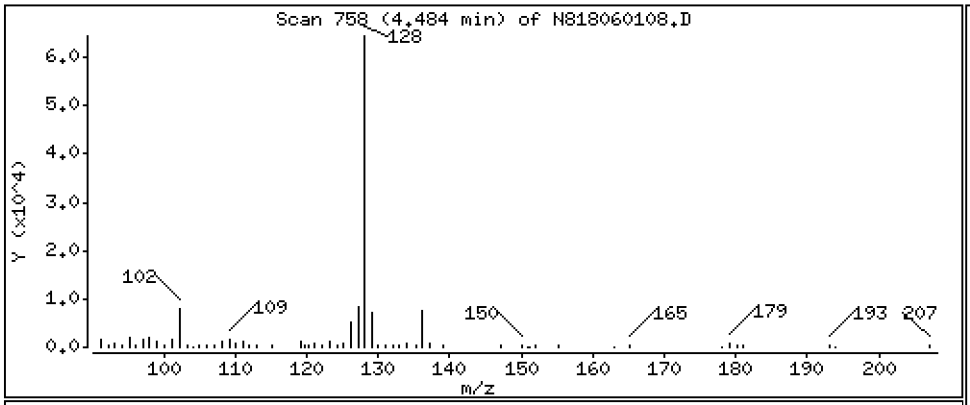
Operator: JZ

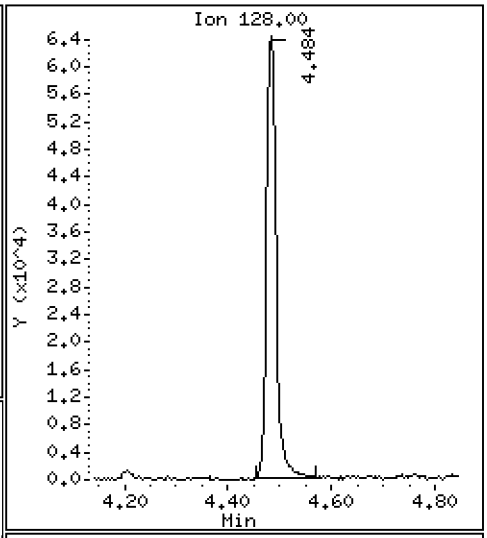
Column phase: Rxi-17sil

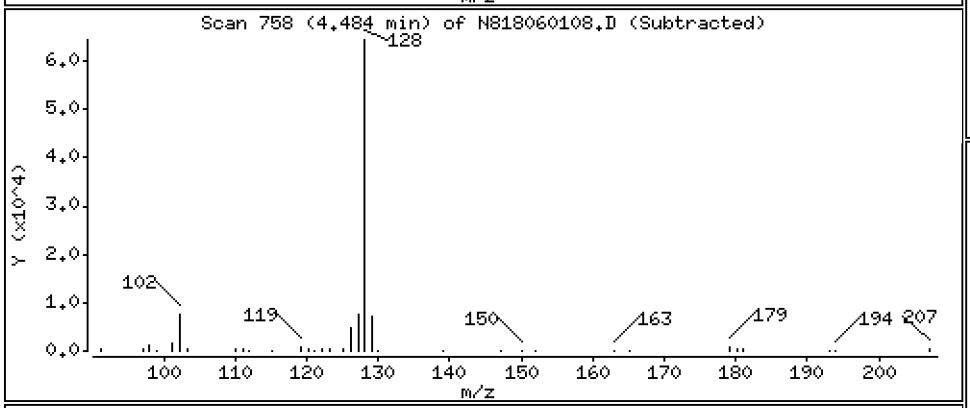
Column diameter: 0.25

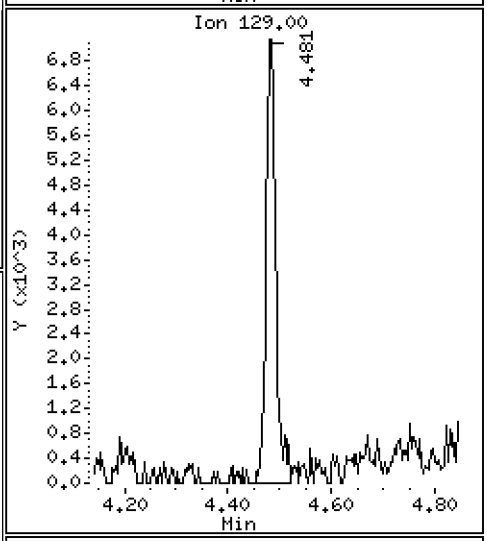
2 Naphthalene

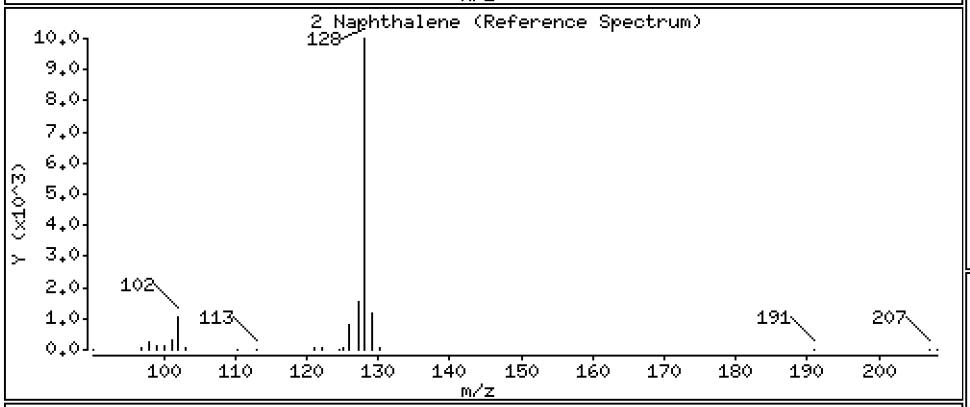
Concentration: 0.6700 ug/mL

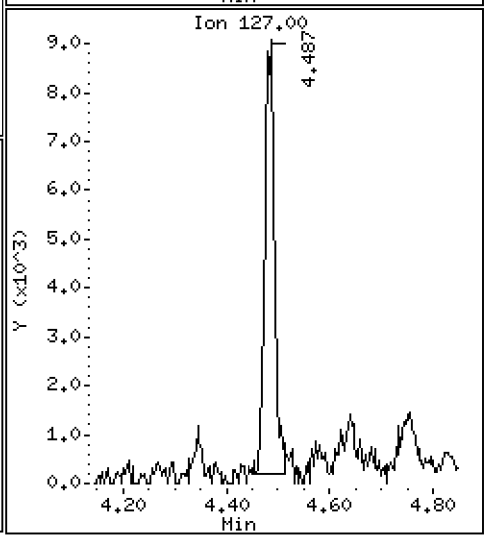


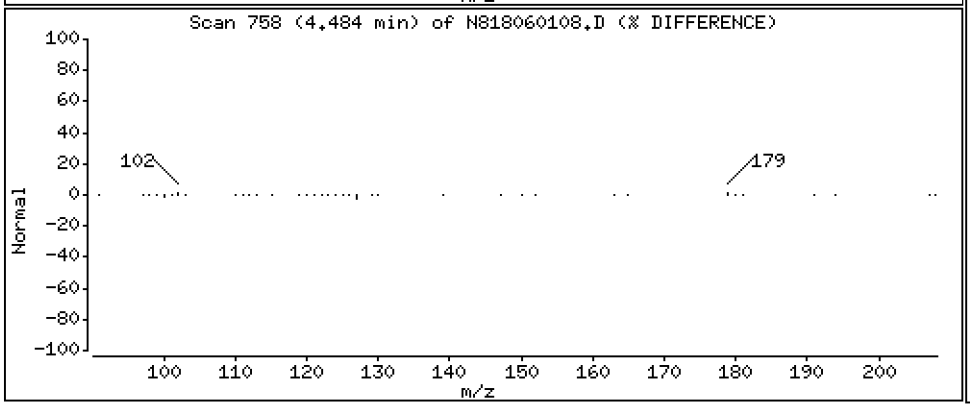












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

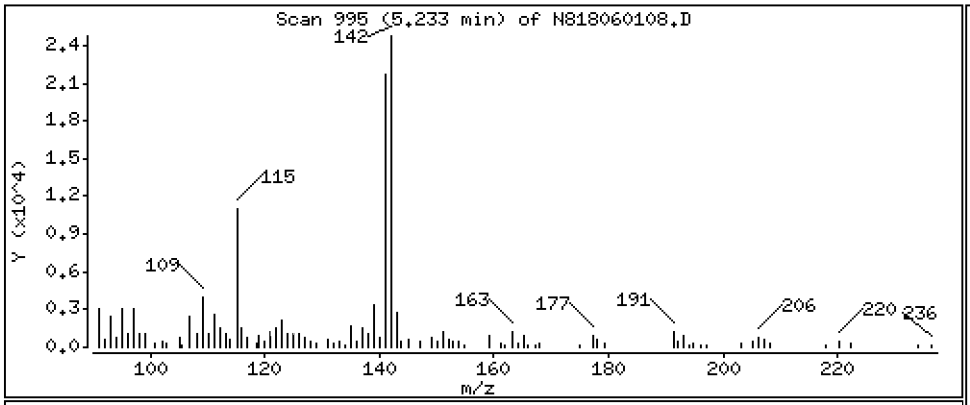
Operator: JZ

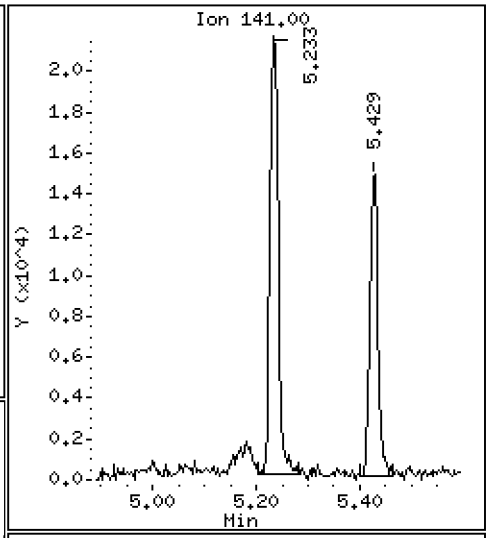
Column phase: Rxi-17sil

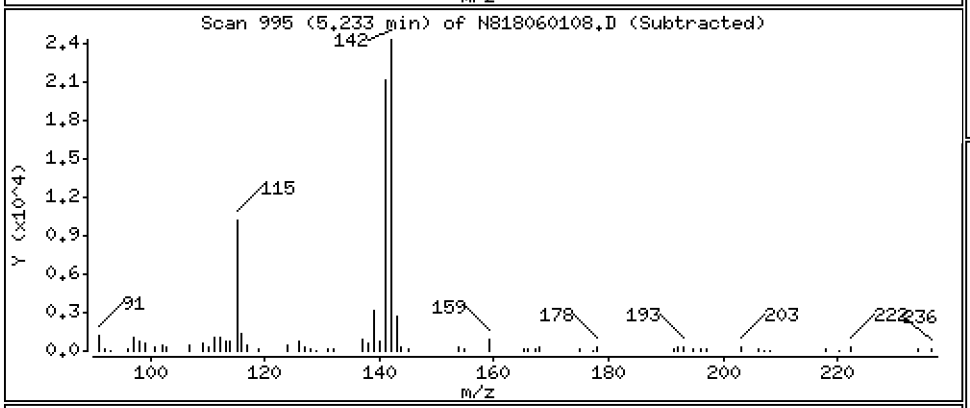
Column diameter: 0.25

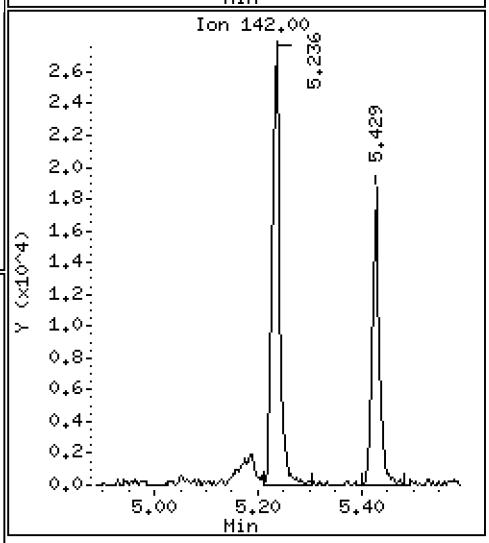
4 2-Methylnaphthalene

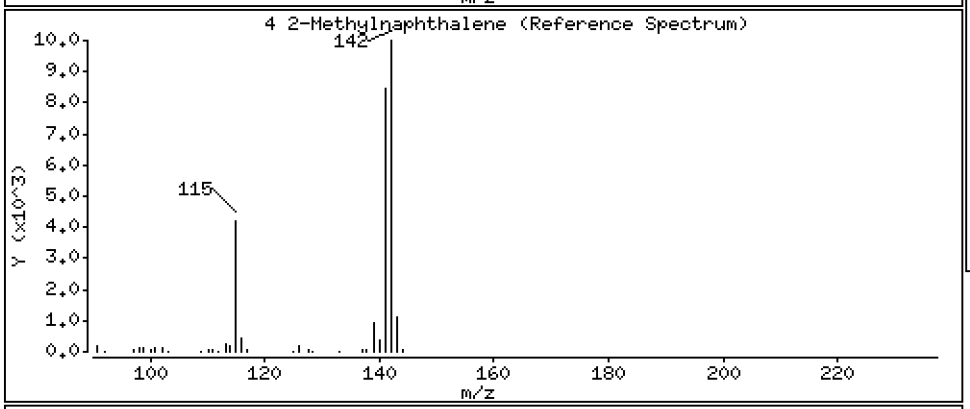
Concentration: 0.3419 ug/mL

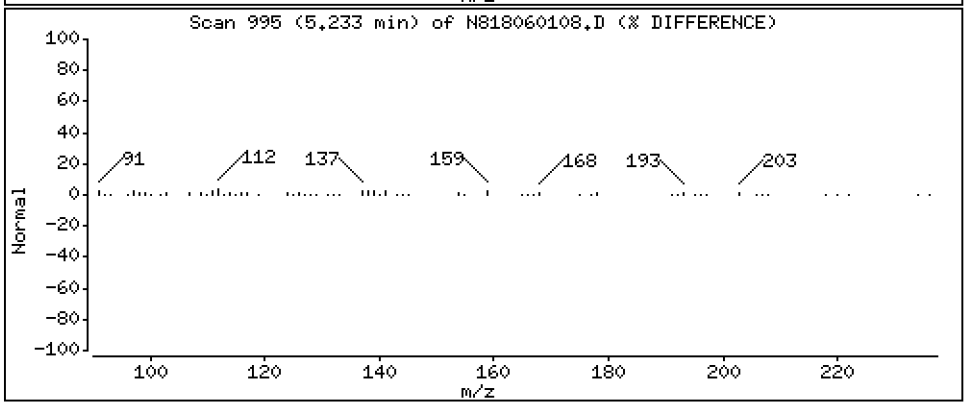












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

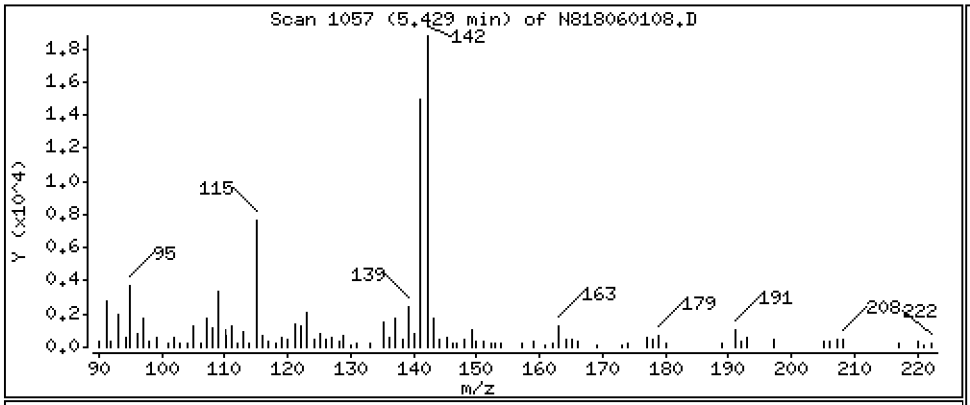
Operator: JZ

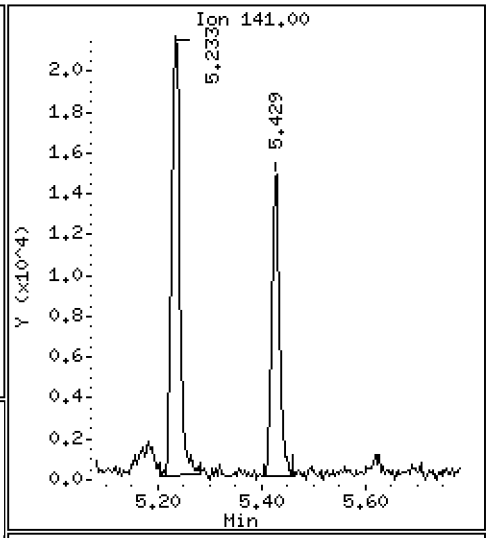
Column phase: Rxi-17sil

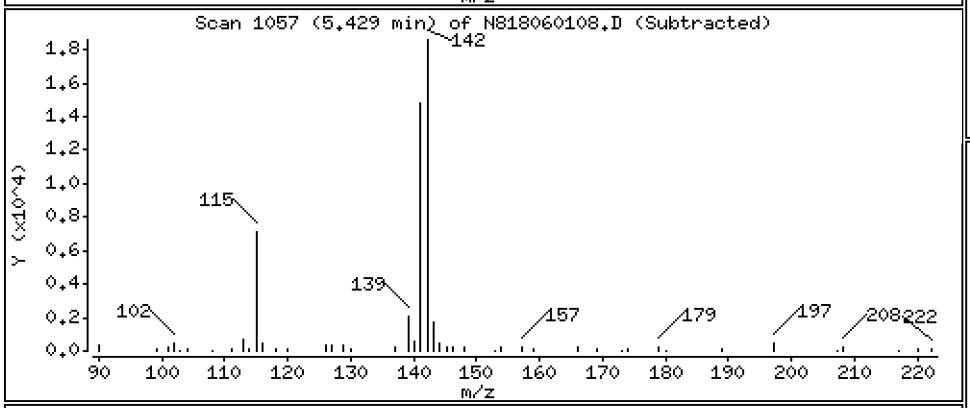
Column diameter: 0.25

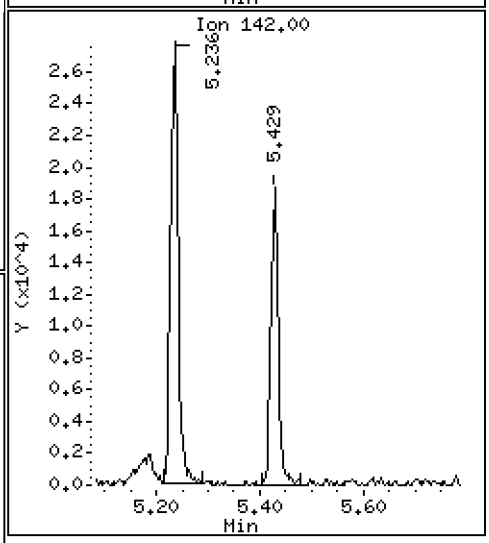
5 1-methylnaphthalene

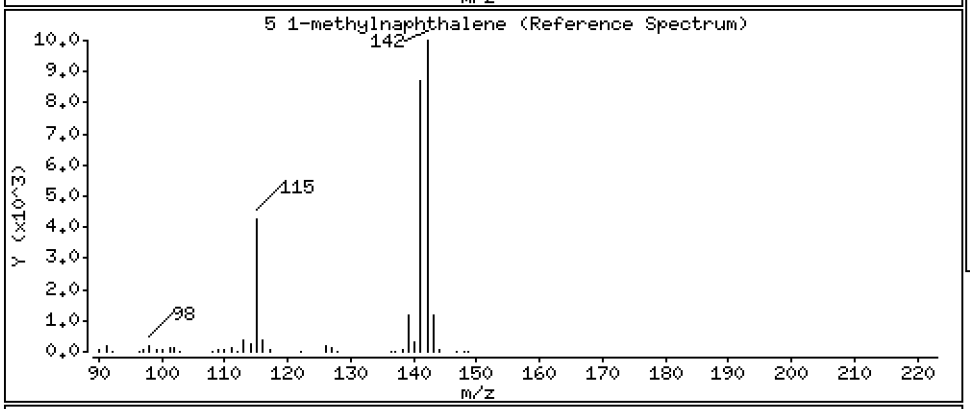
Concentration: 0.2264 ug/mL

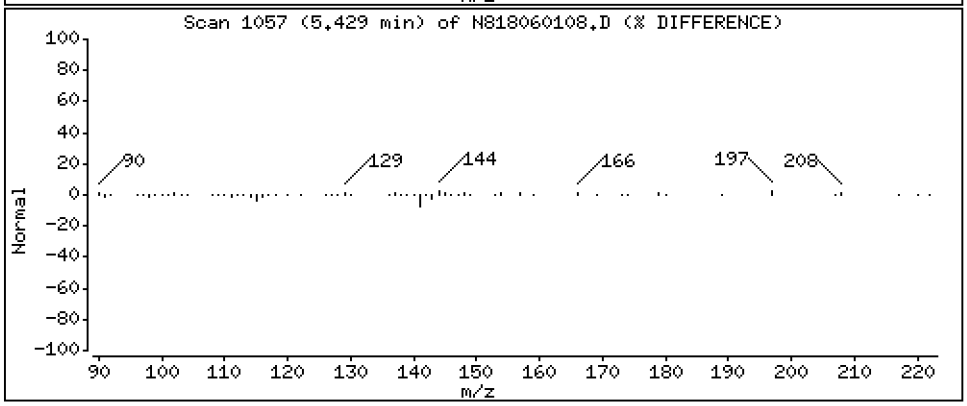












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

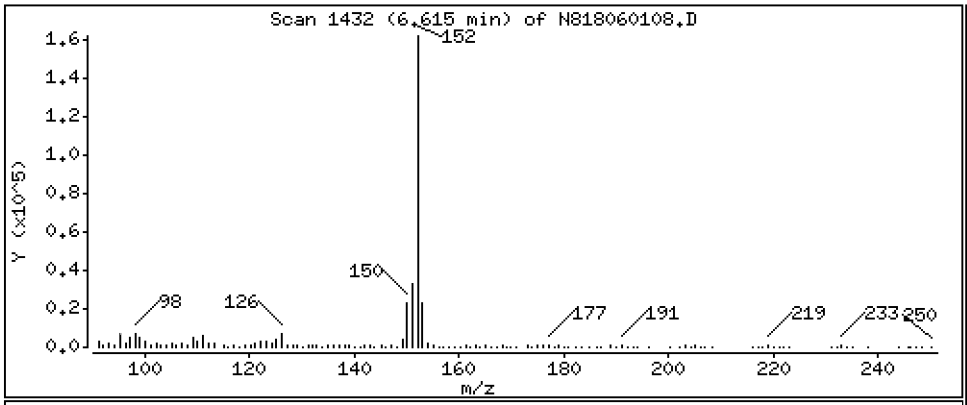
Operator: JZ

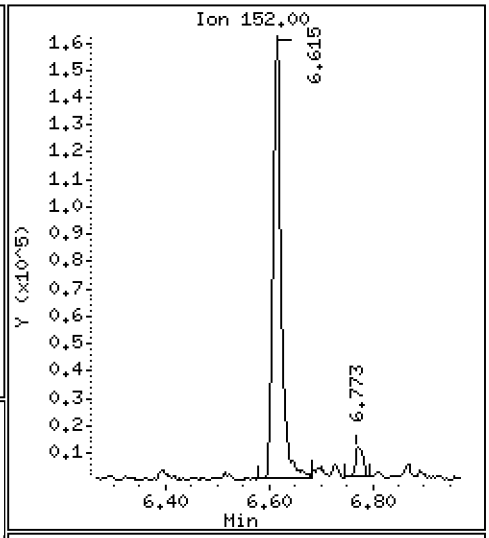
Column phase: Rxi-17sil

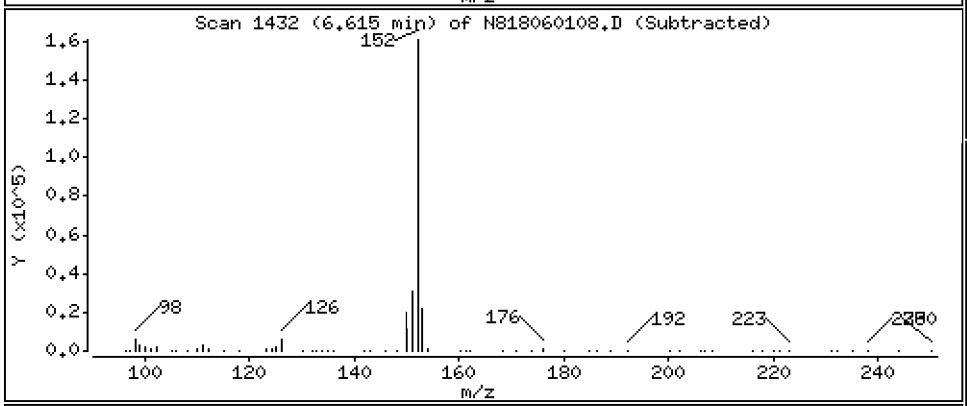
Column diameter: 0.25

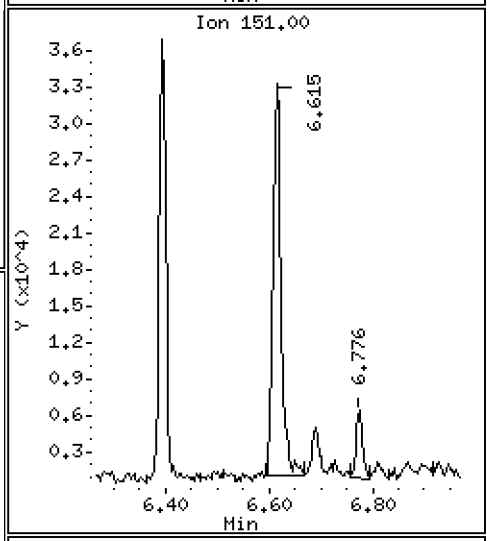
9 Acenaphthylene

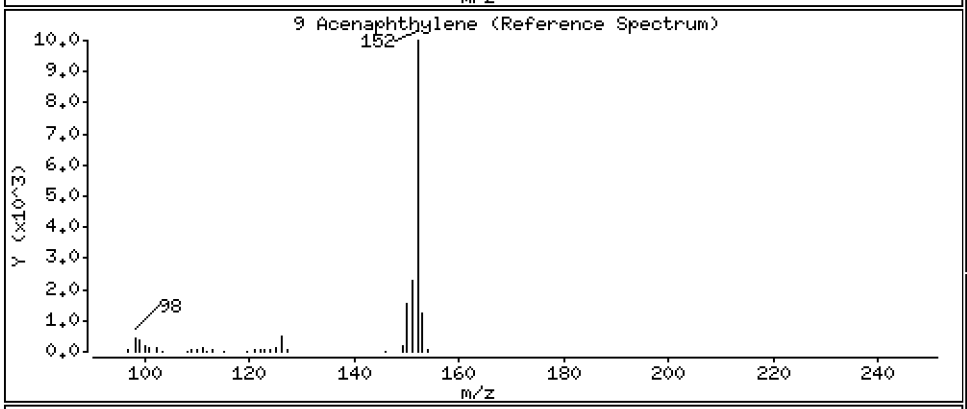
Concentration: 1.696 ug/mL

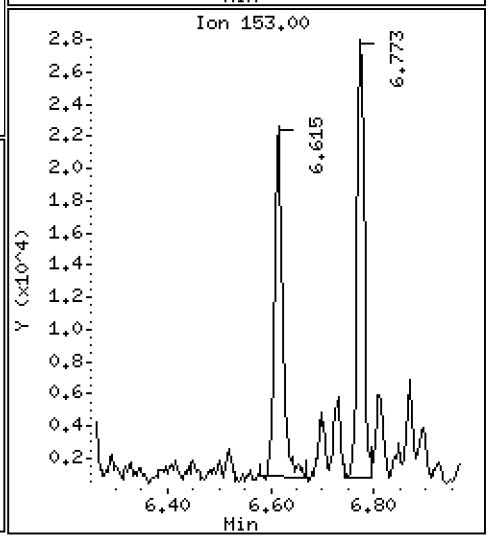


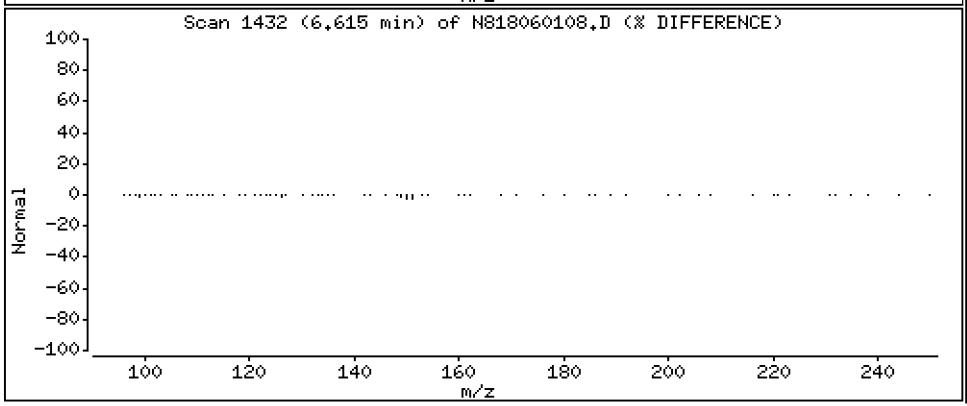












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

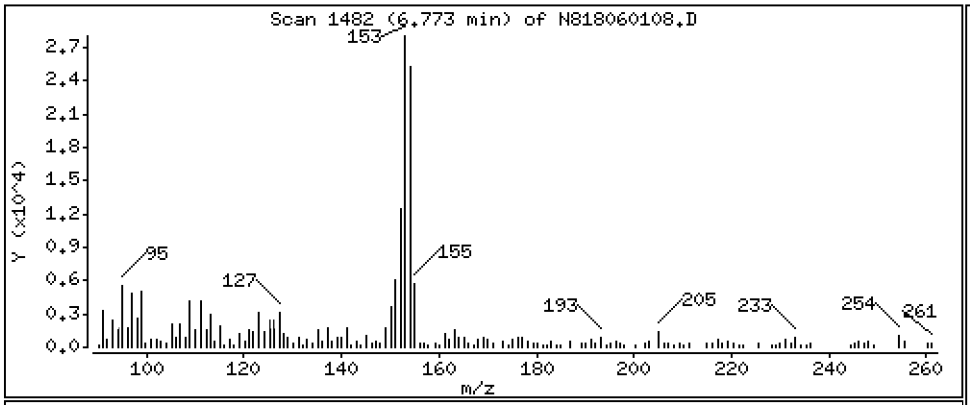
Operator: JZ

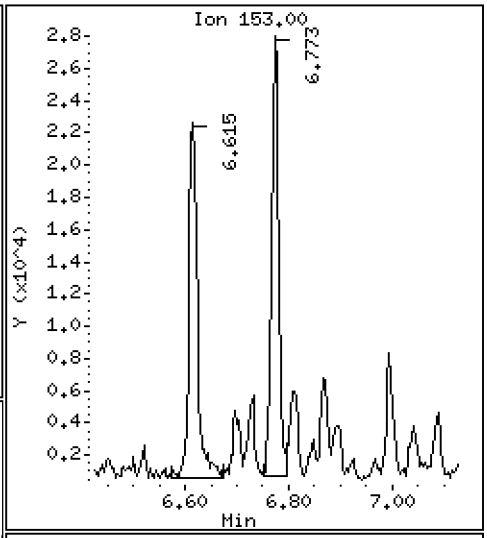
Column phase: Rxi-17sil

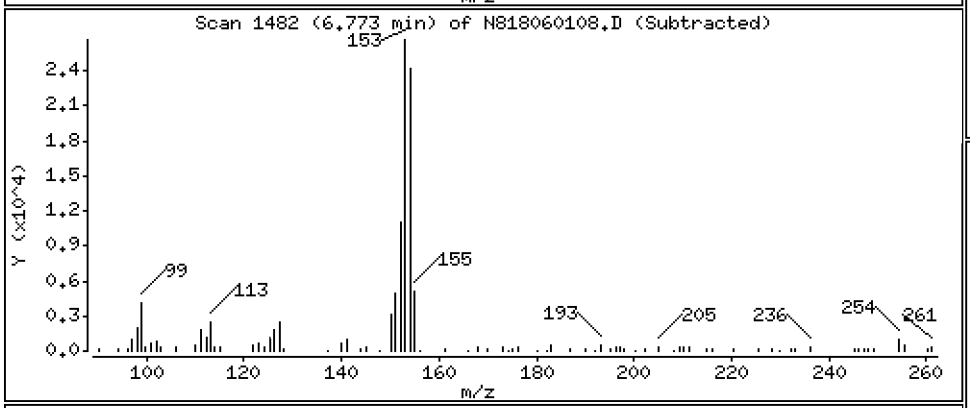
Column diameter: 0.25

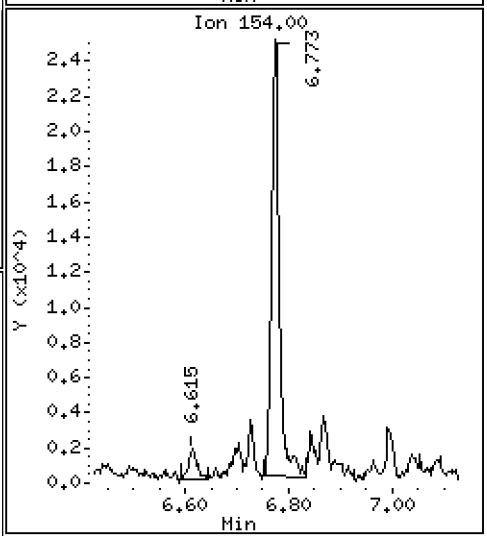
11 Acenaphthene

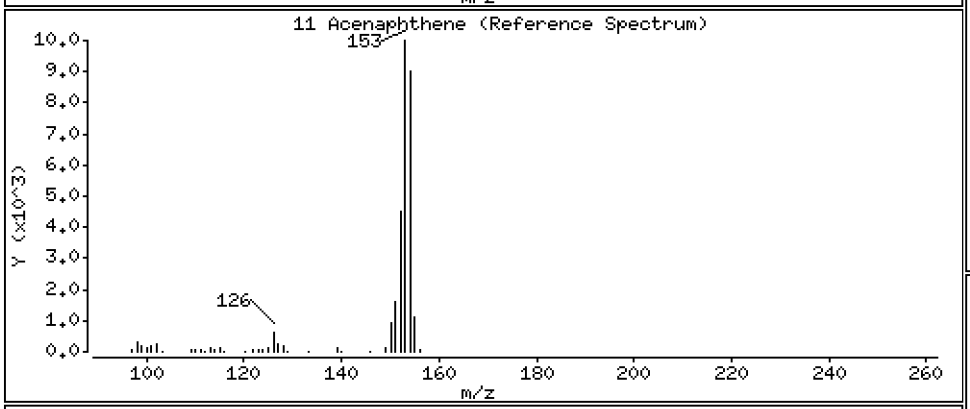
Concentration: 0.3276 ug/mL

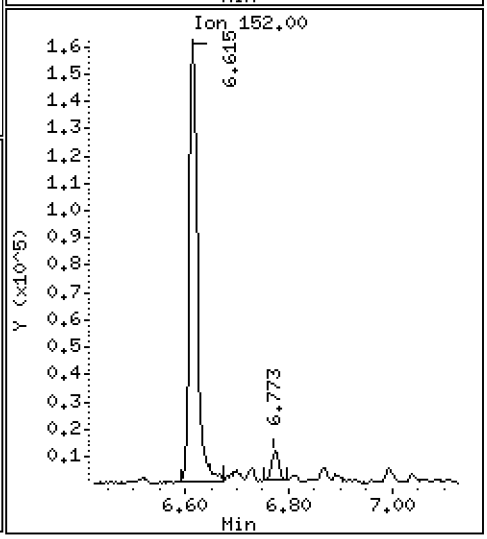


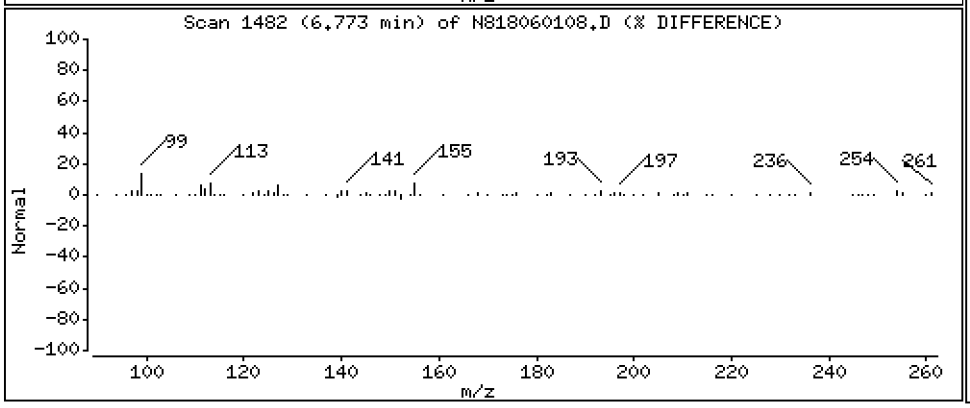












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

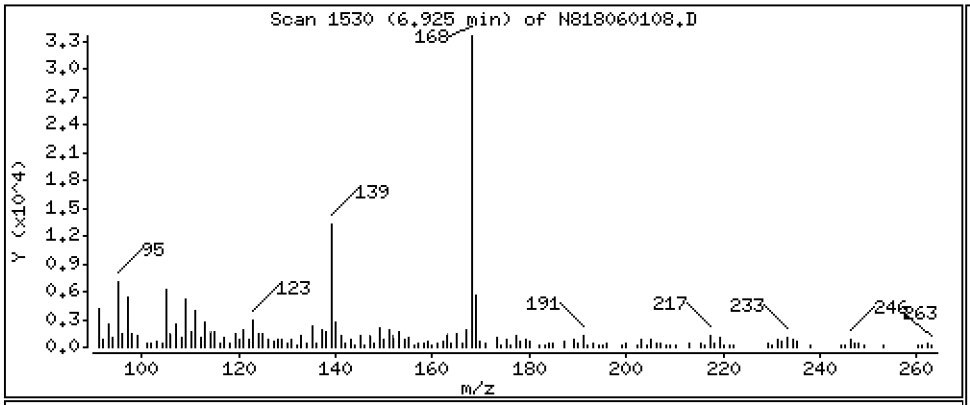
Operator: JZ

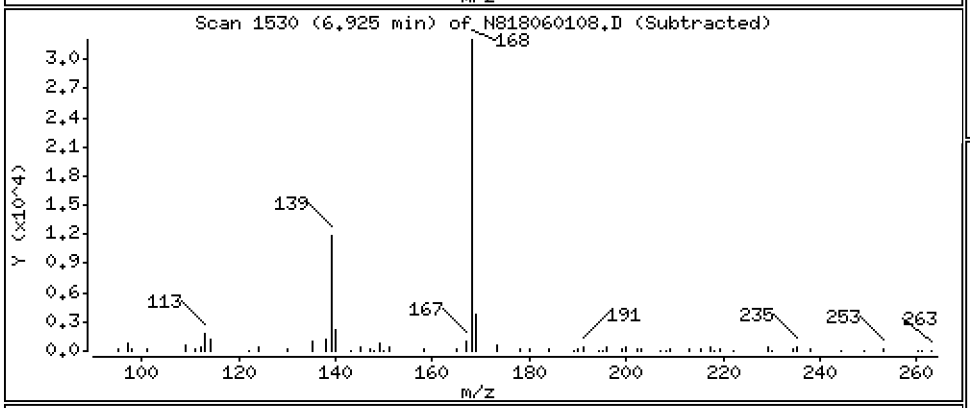
Column phase: Rxi-17sil

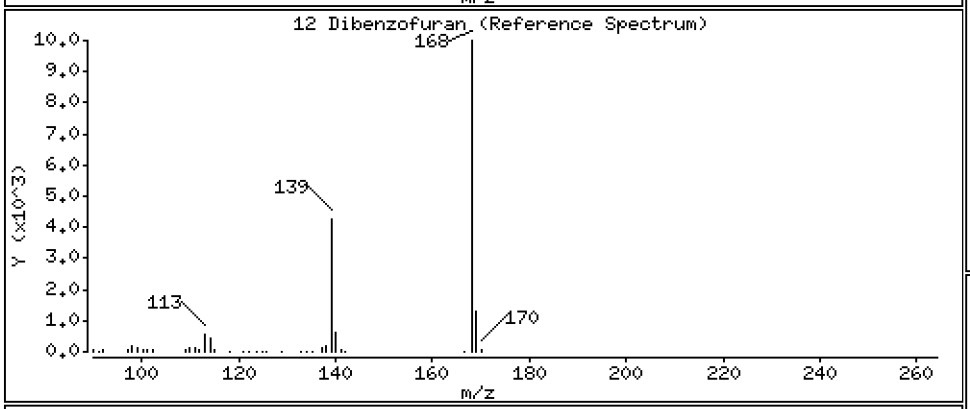
Column diameter: 0.25

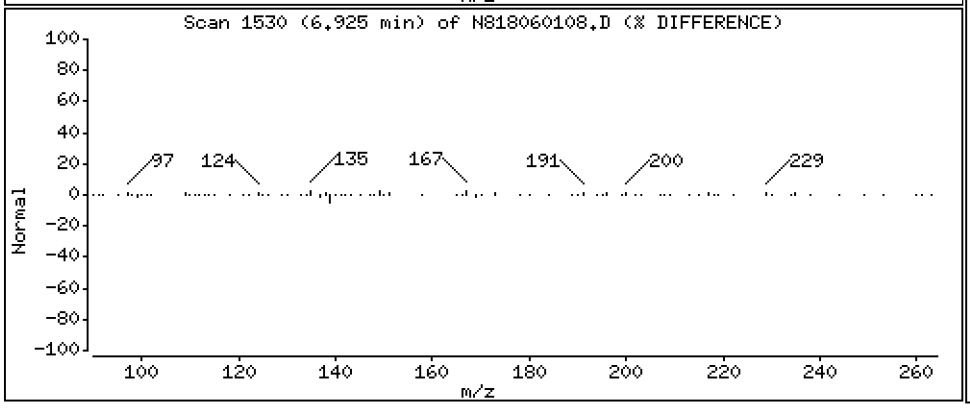
12 Dibenzofuran

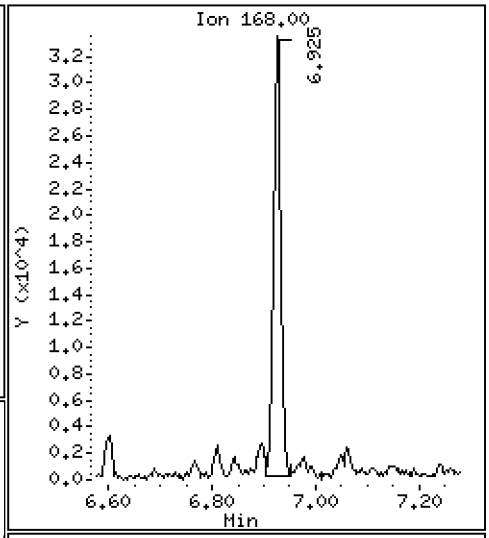
Concentration: 0.3026 ug/mL

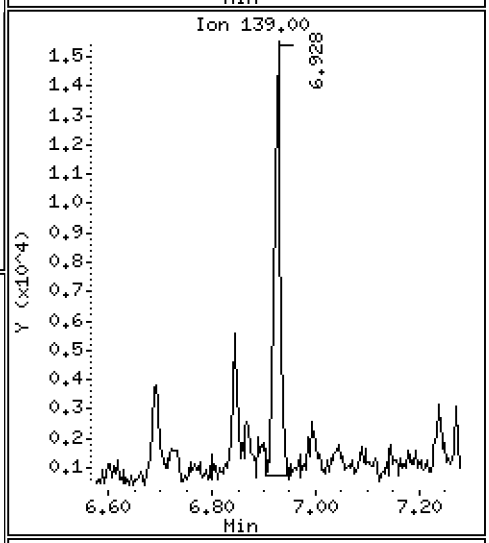


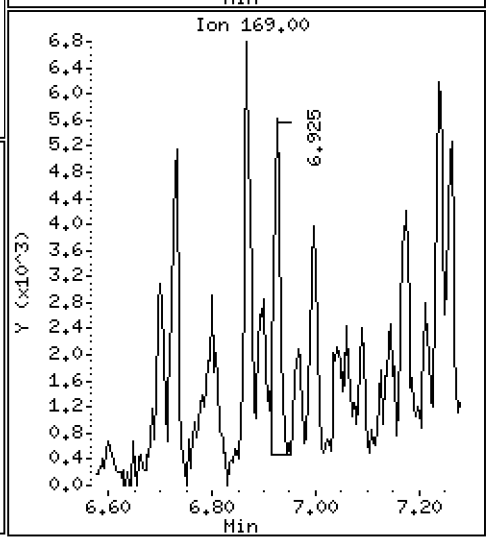












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

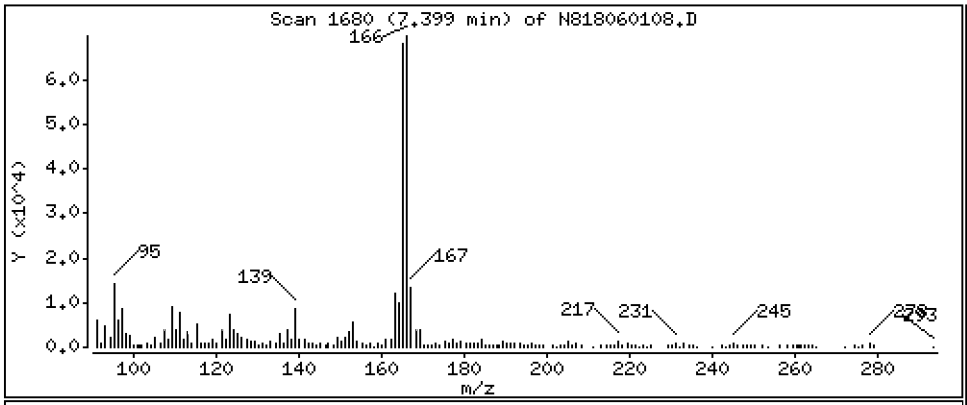
Operator: JZ

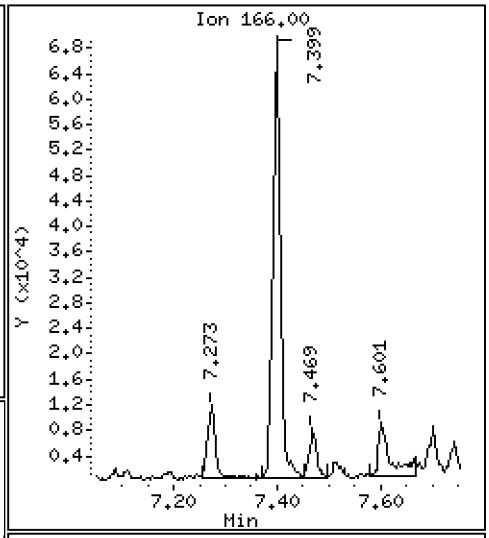
Column phase: Rxi-17sil

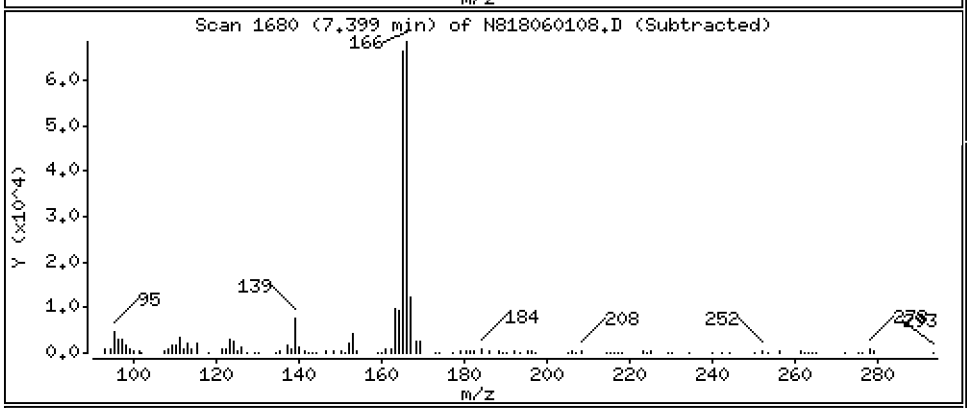
Column diameter: 0.25

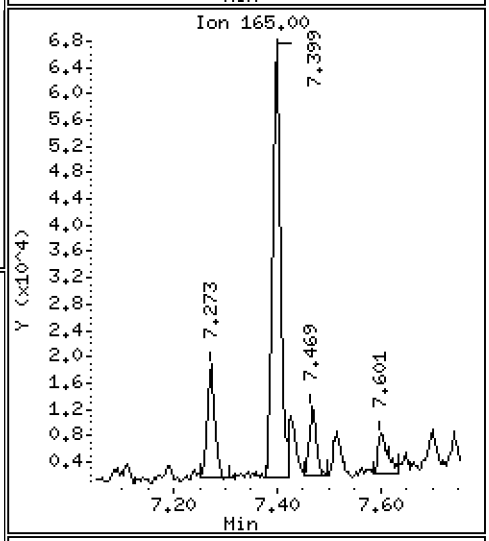
14 Fluorene

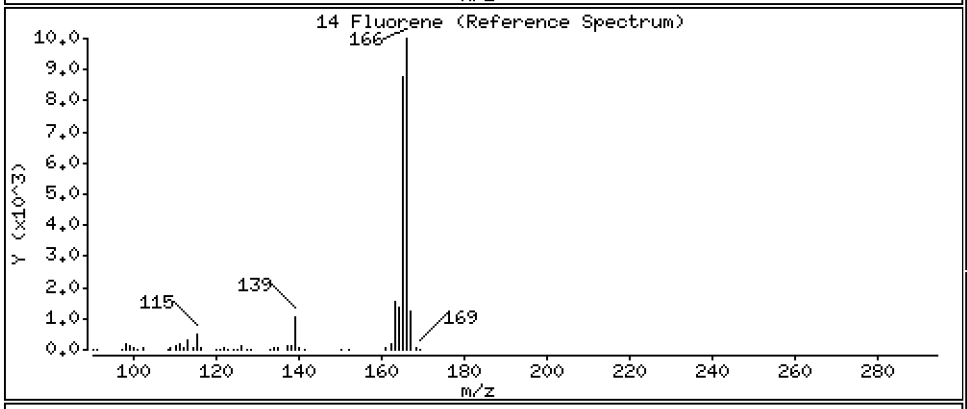
Concentration: 0.8801 ug/mL

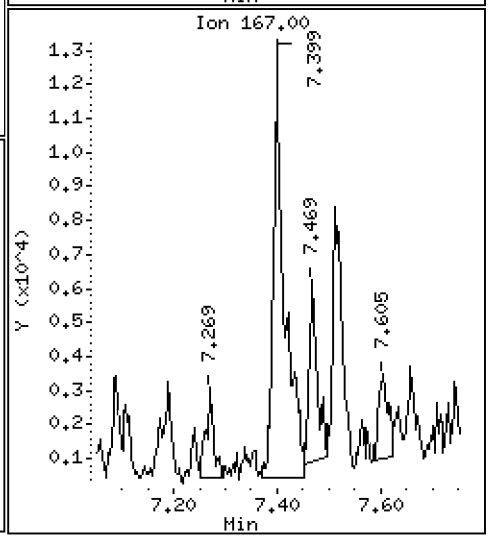


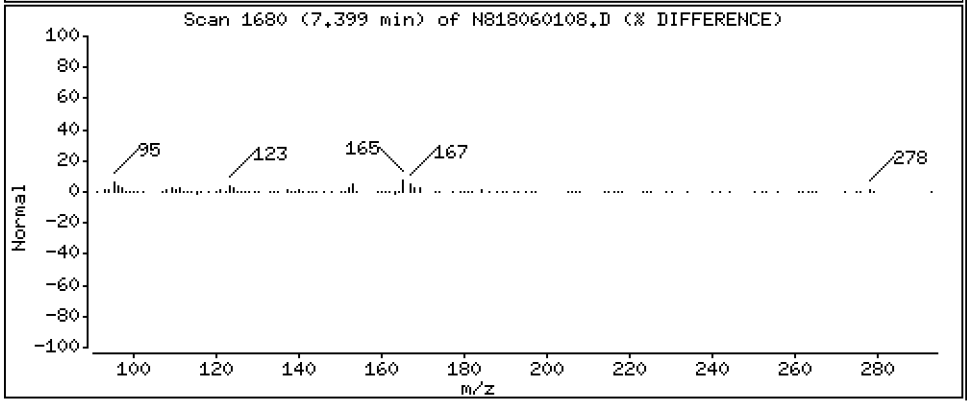












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

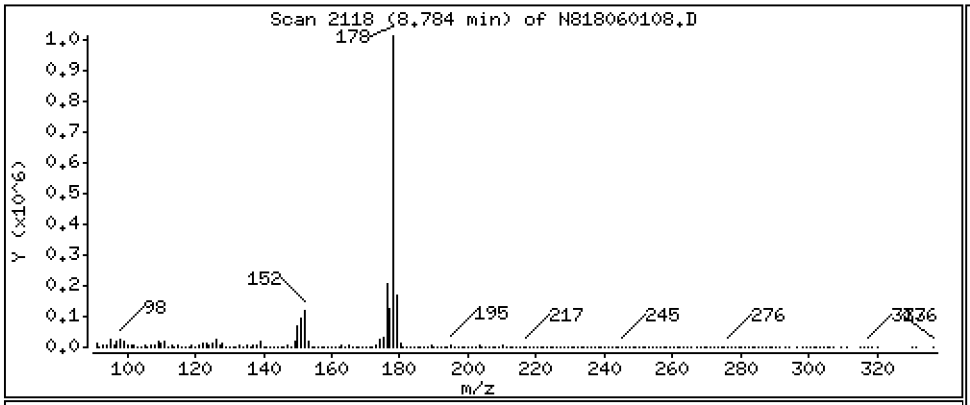
Operator: JZ

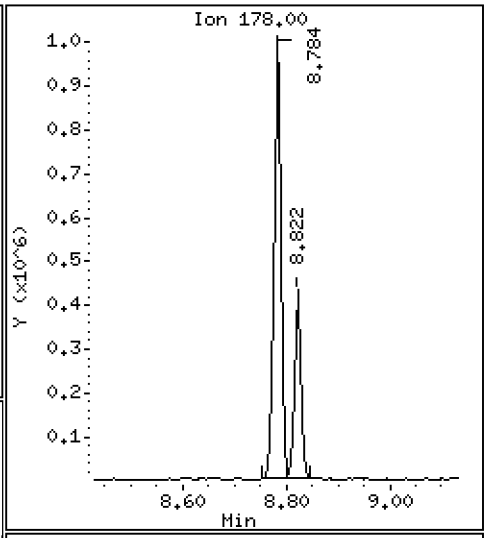
Column phase: Rxi-17sil

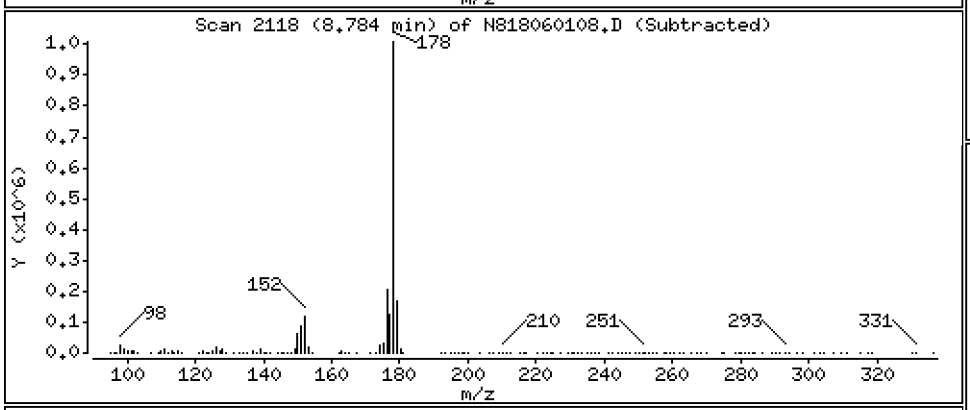
Column diameter: 0.25

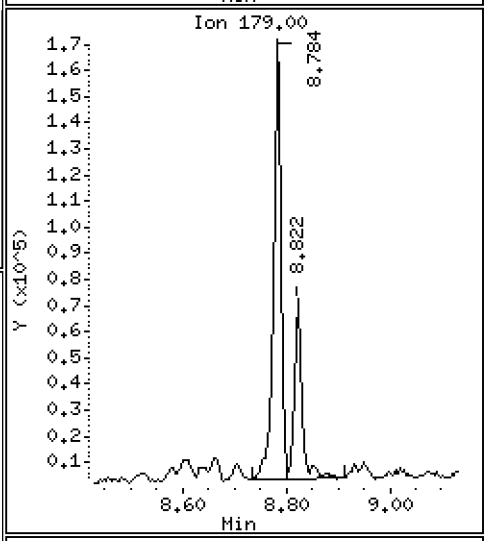
16 Phenanthrene

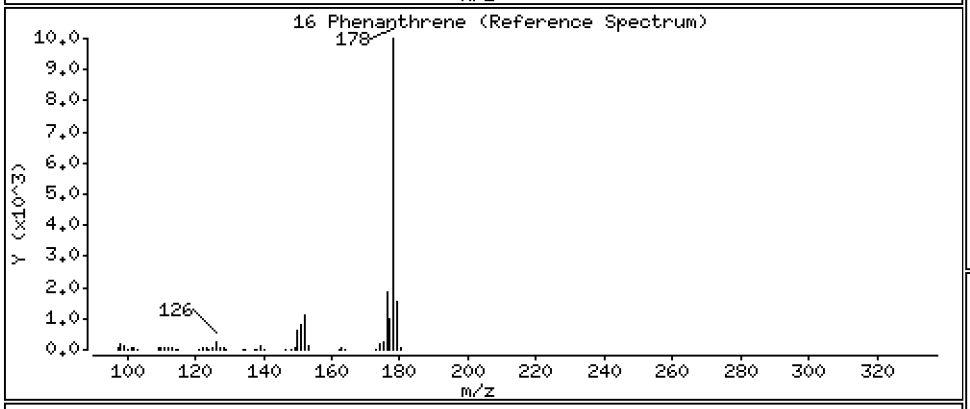
Concentration: 8.104 ug/mL

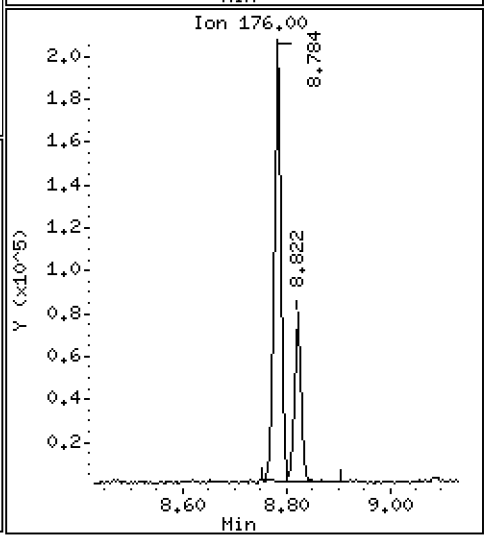


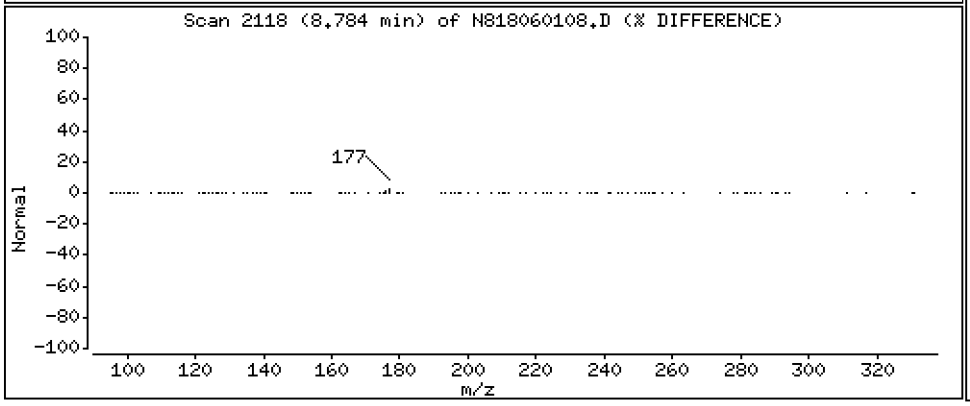












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

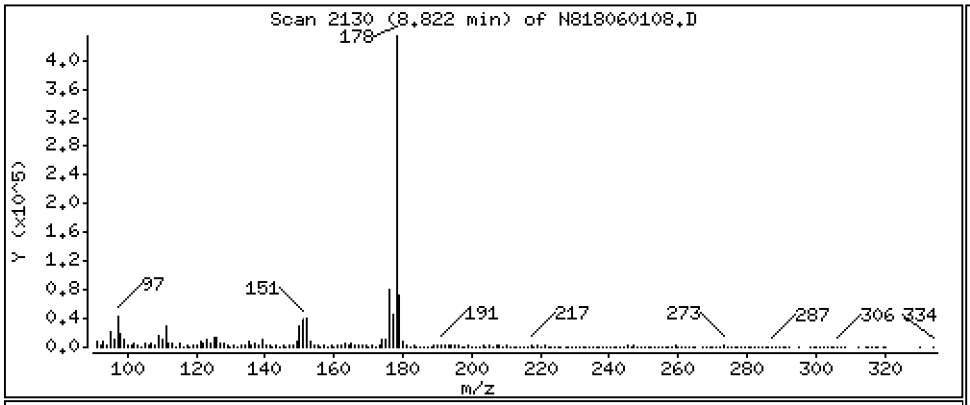
Operator: JZ

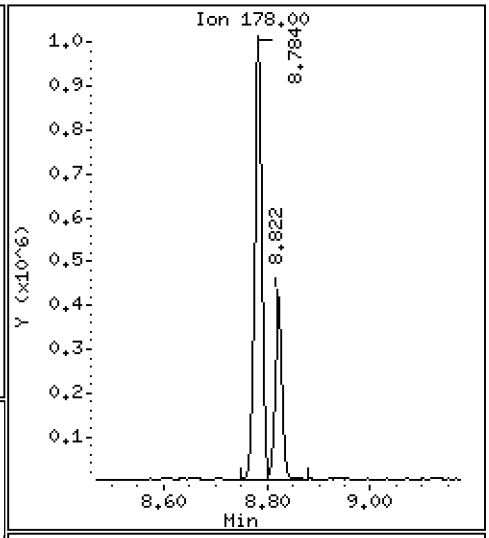
Column phase: Rxi-17sil

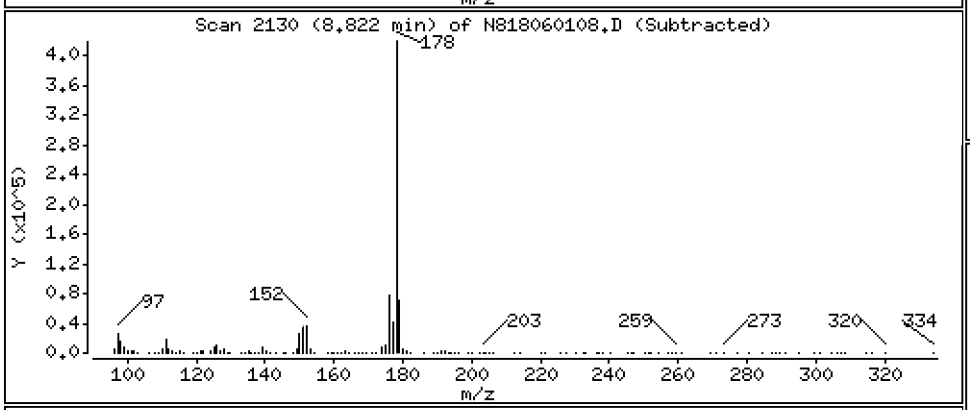
Column diameter: 0.25

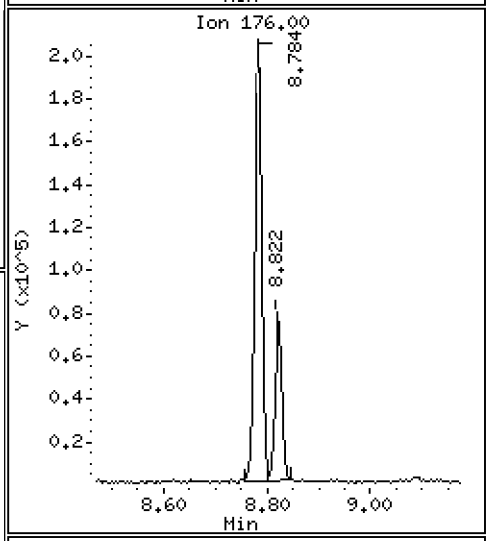
17 Anthracene

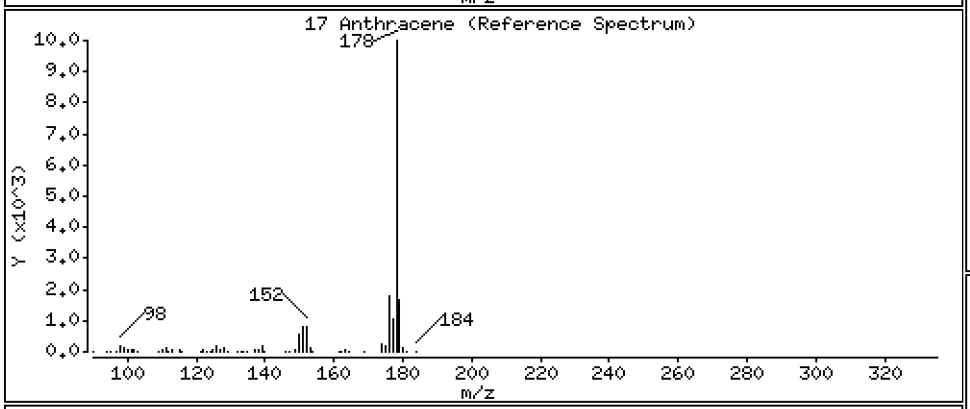
Concentration: 3.651 ug/mL

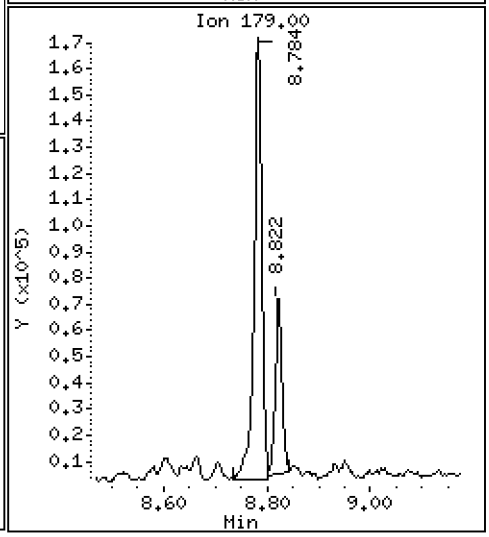


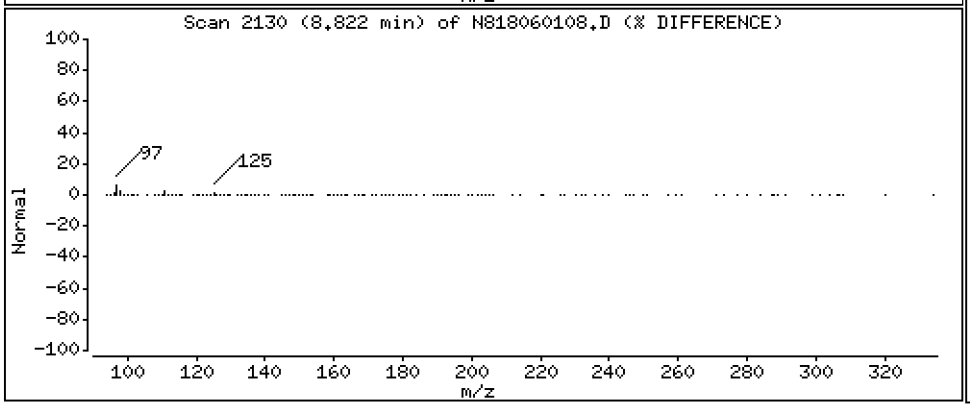












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

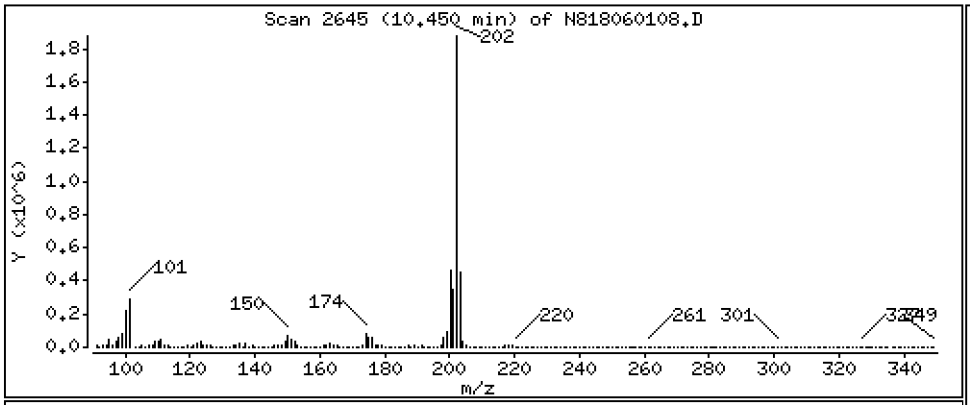
Operator: JZ

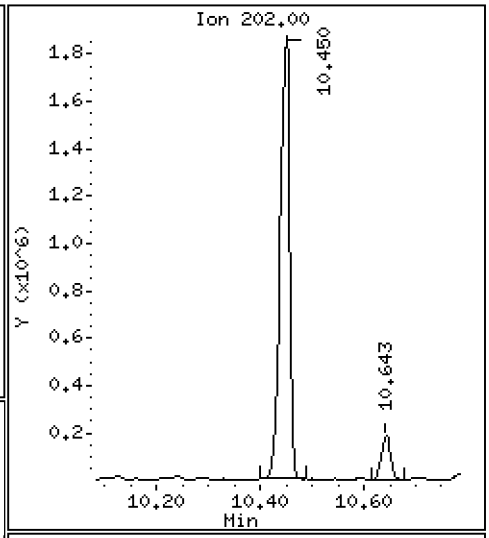
Column phase: Rxi-17sil

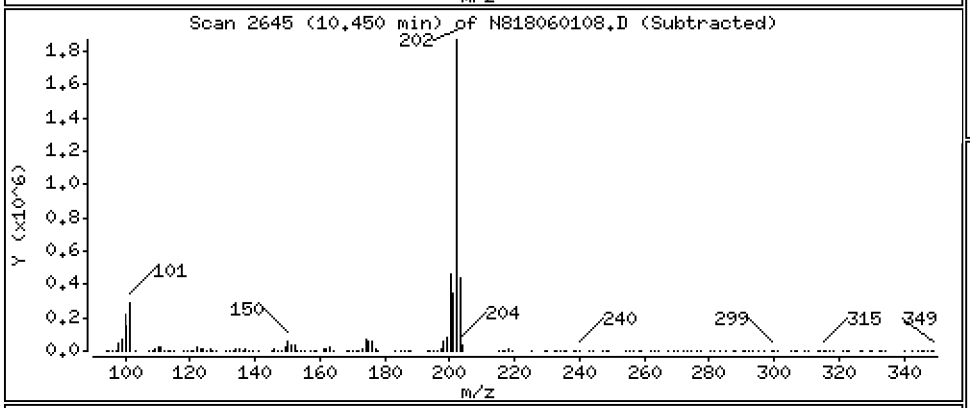
Column diameter: 0.25

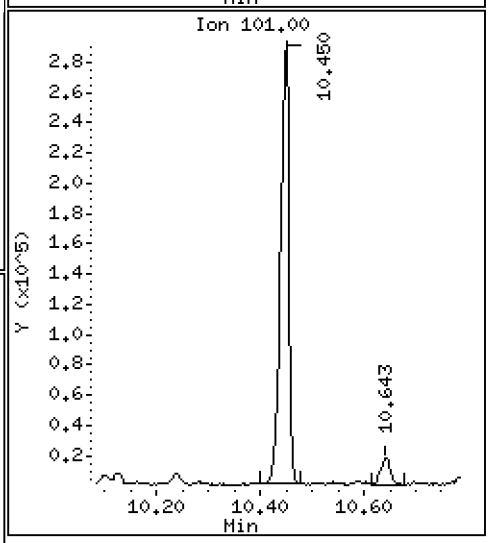
22 Fluoranthene

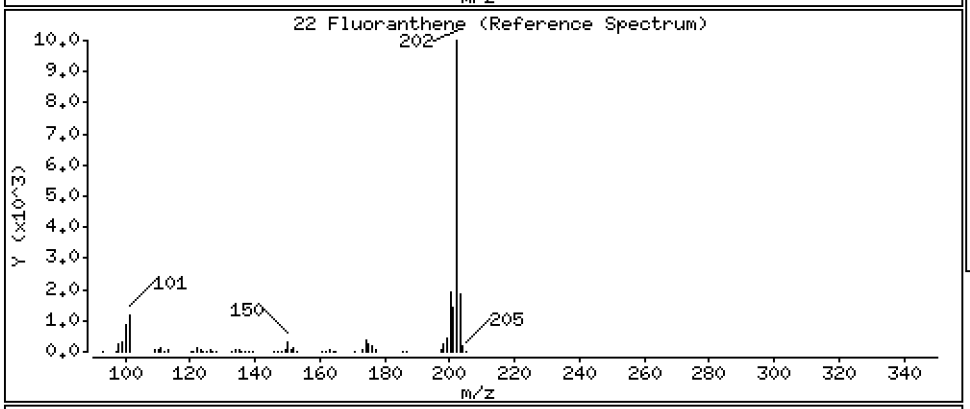
Concentration: 18.32 ug/mL

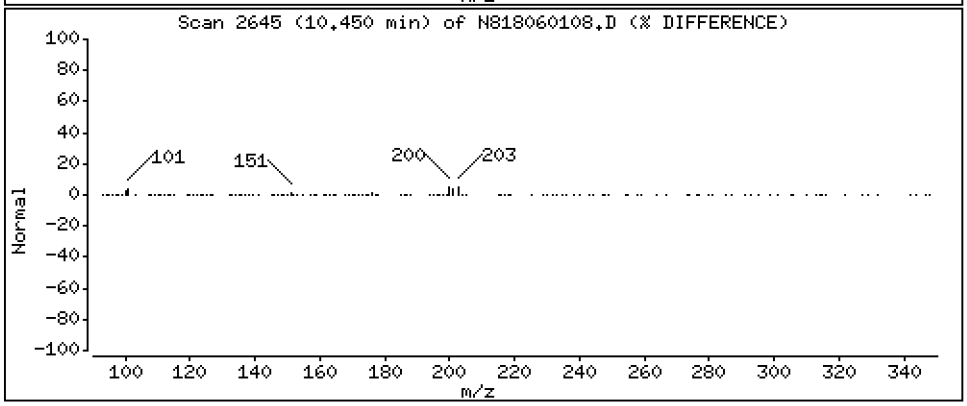












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

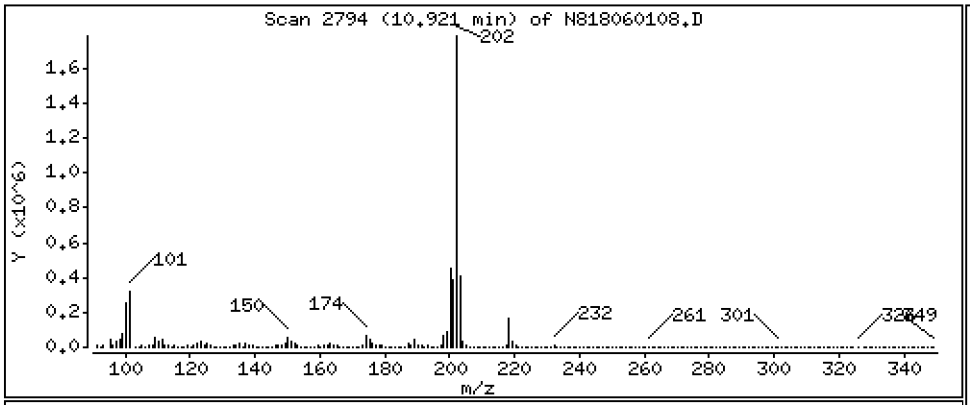
Operator: JZ

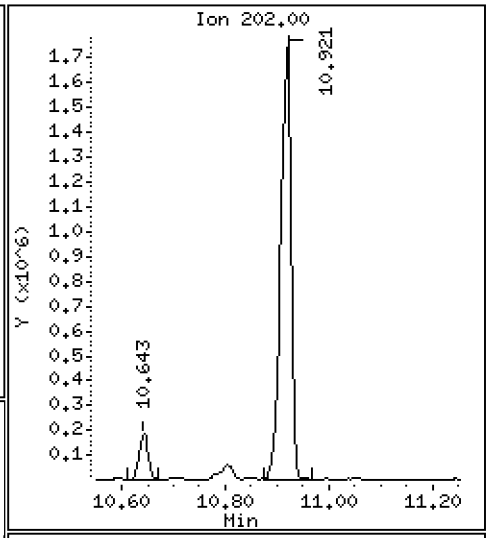
Column phase: Rxi-17sil

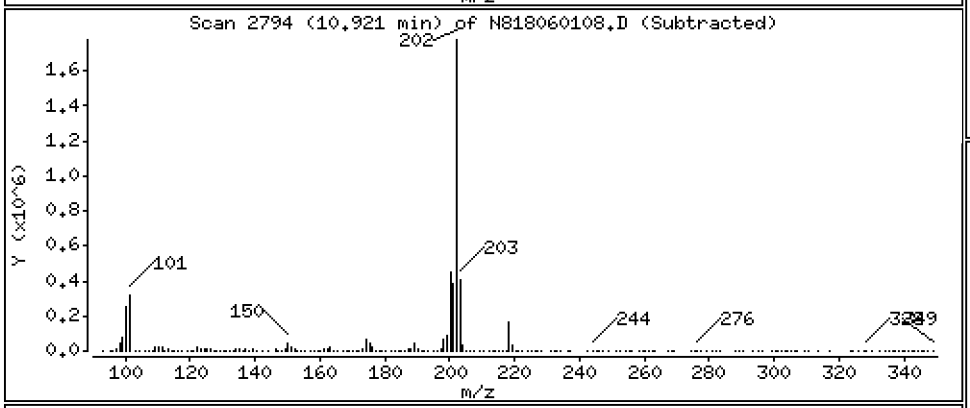
Column diameter: 0.25

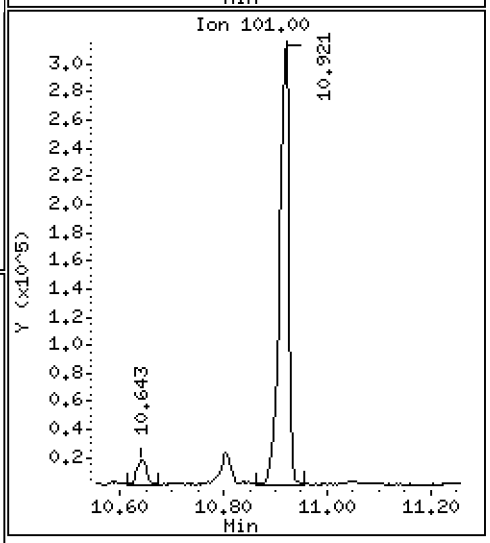
23 Pyrene

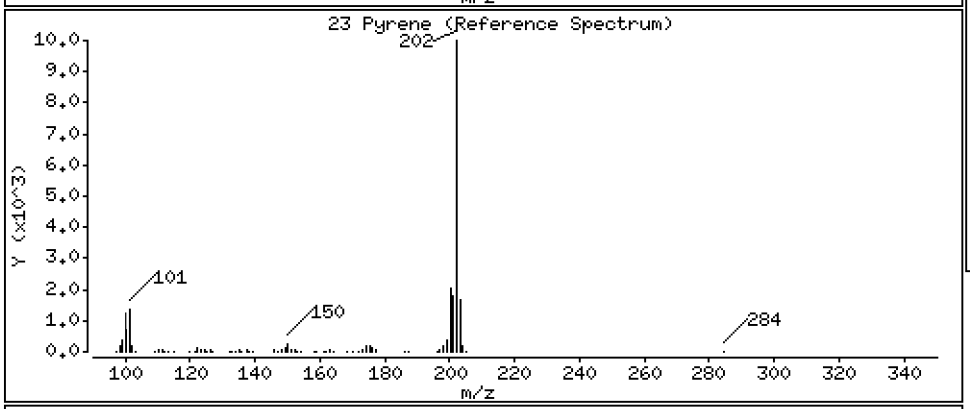
Concentration: 19.12 ug/mL

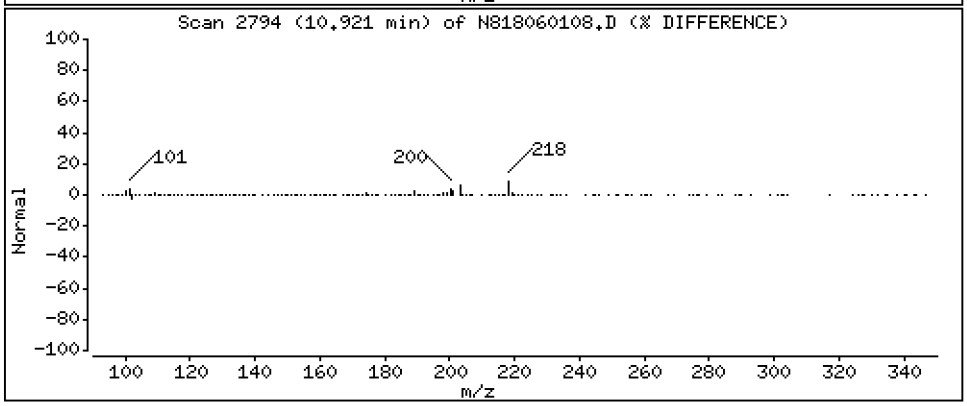












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

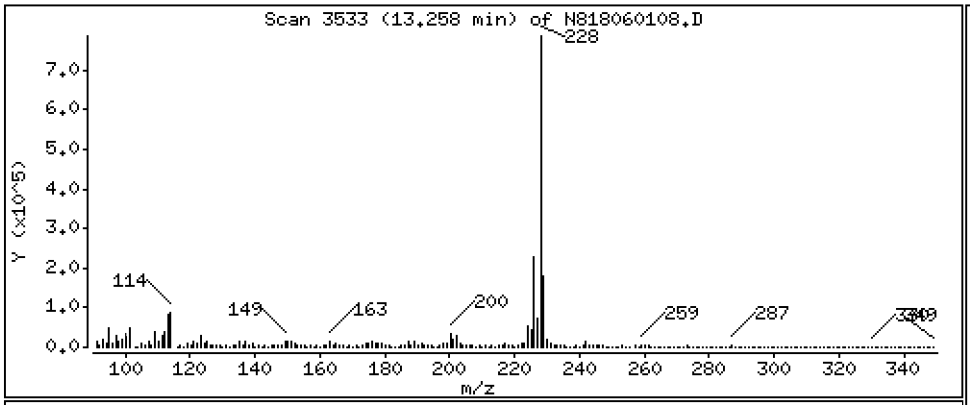
Operator: JZ

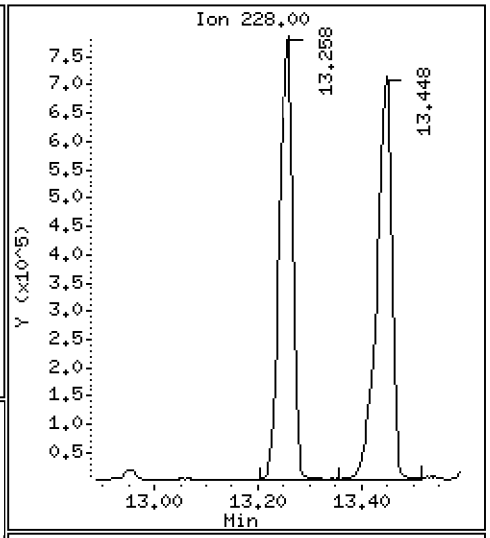
Column phase: Rxi-17sil

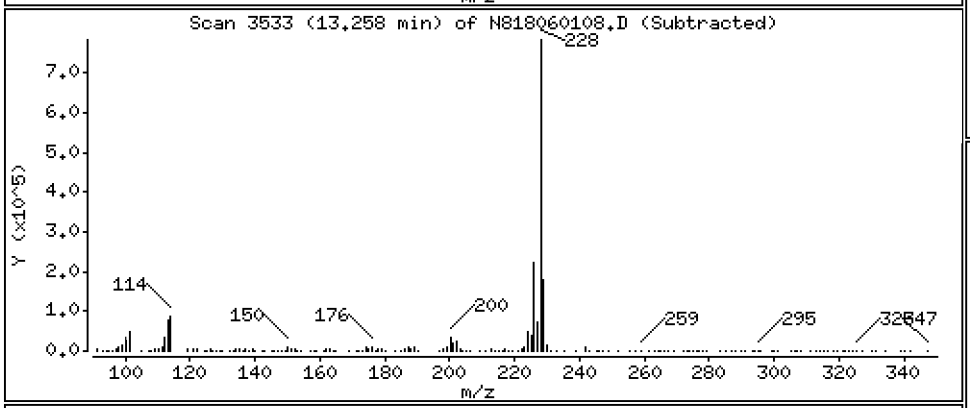
Column diameter: 0.25

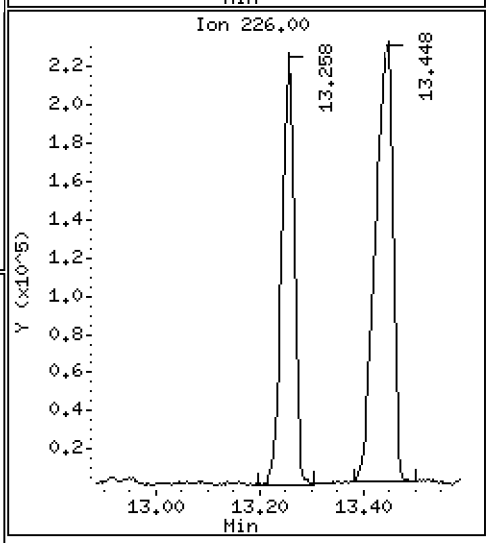
24 Benzo(a)anthracene

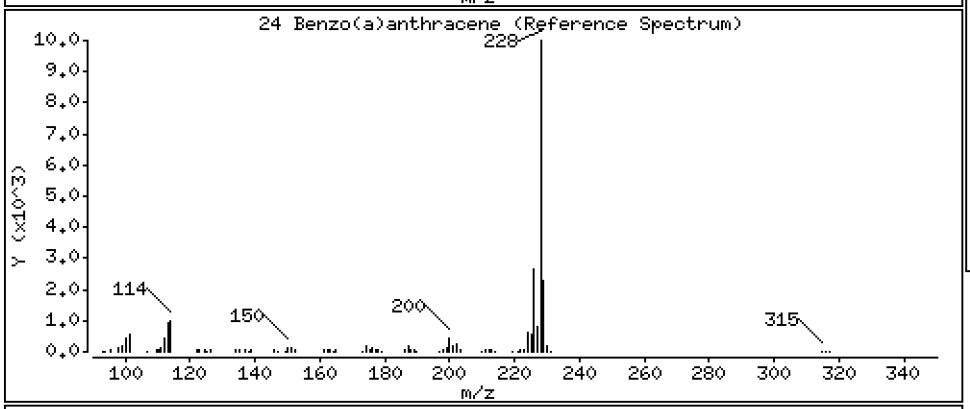
Concentration: 10.93 ug/mL

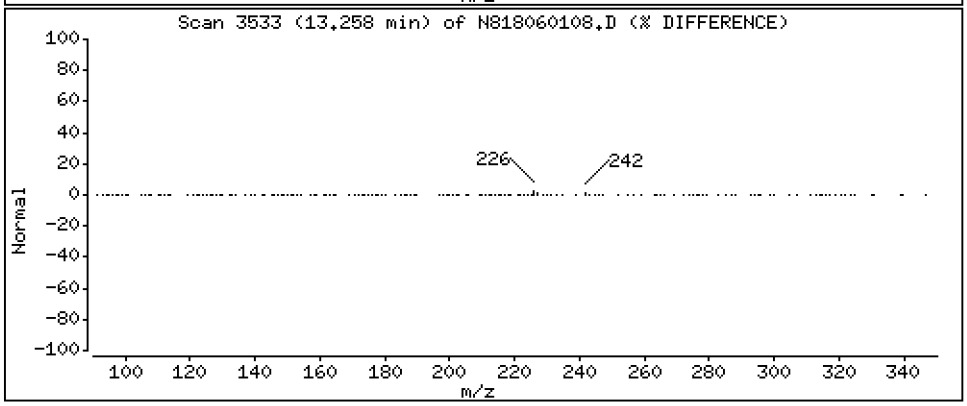












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

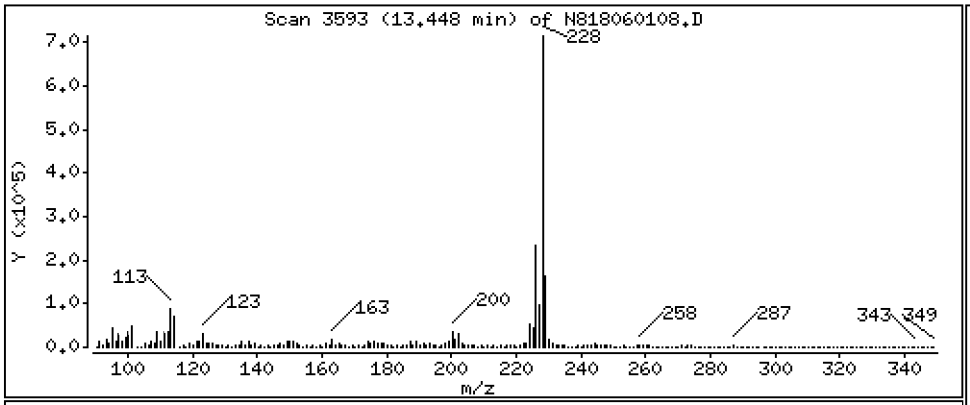
Operator: JZ

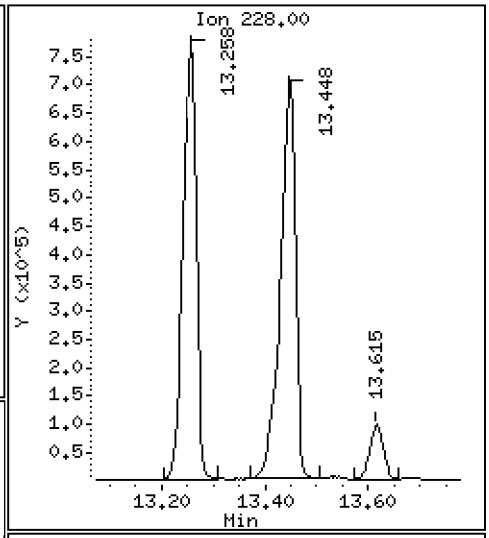
Column phase: Rxi-17sil

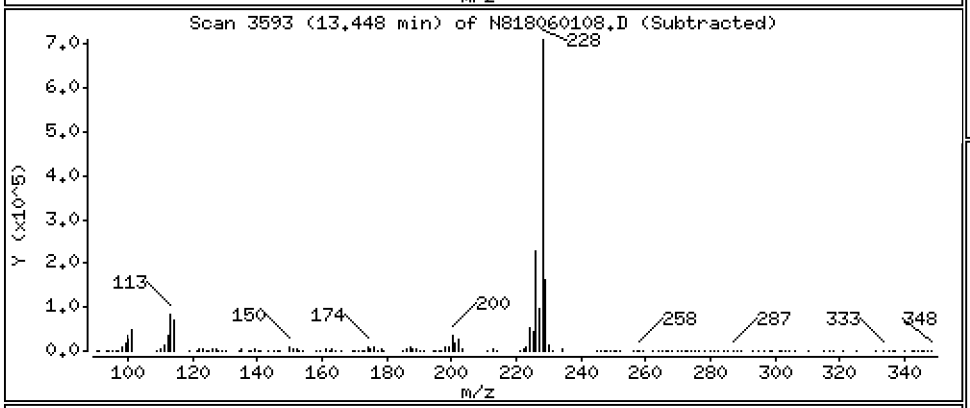
Column diameter: 0.25

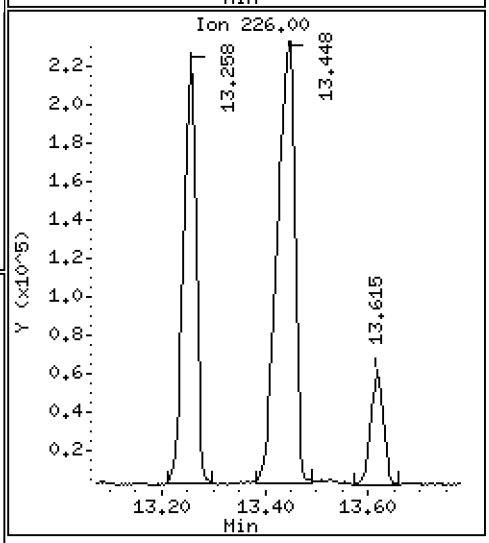
27 Chrysene

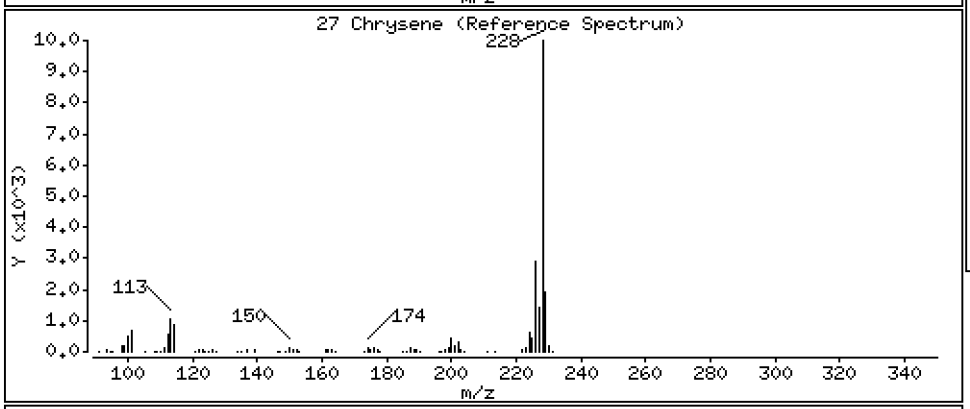
Concentration: 11.21 ug/mL

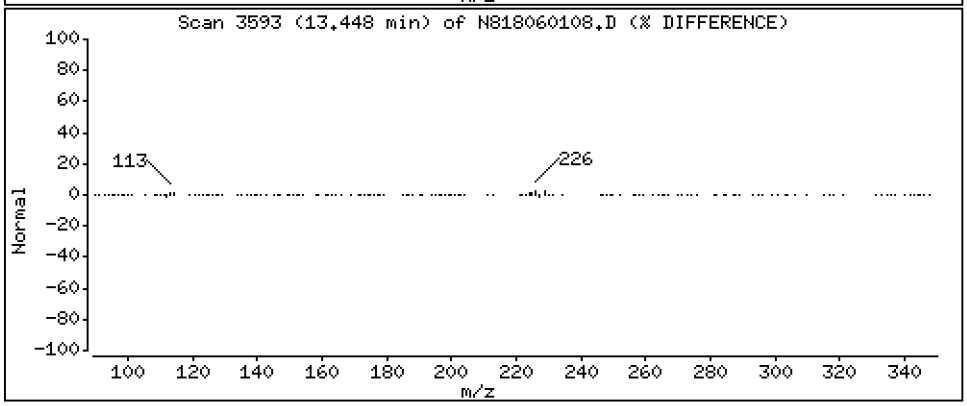












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

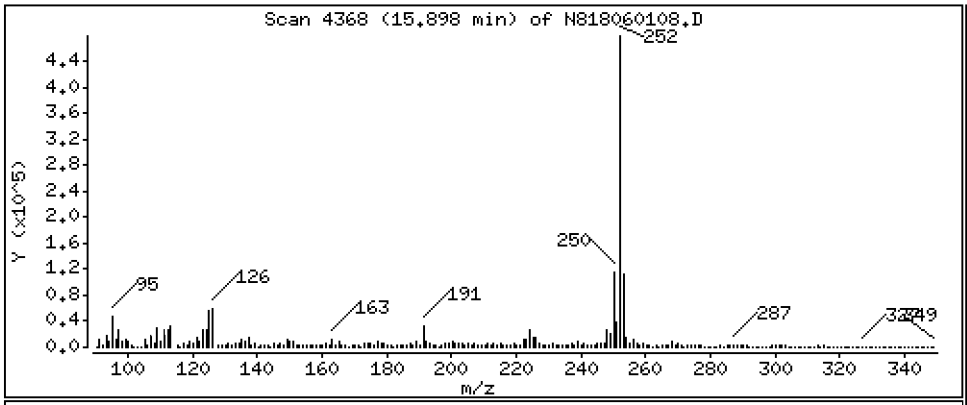
Operator: JZ

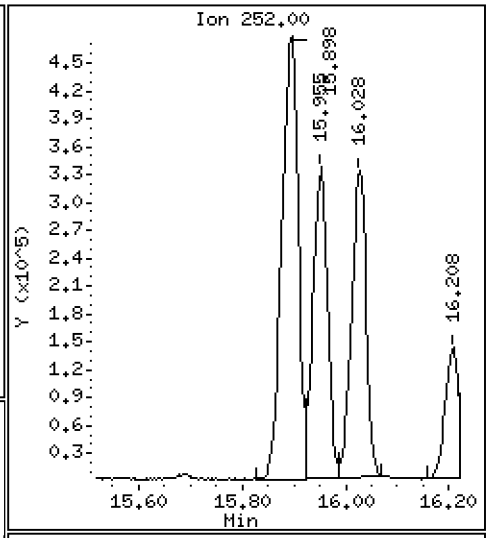
Column phase: Rxi-17sil

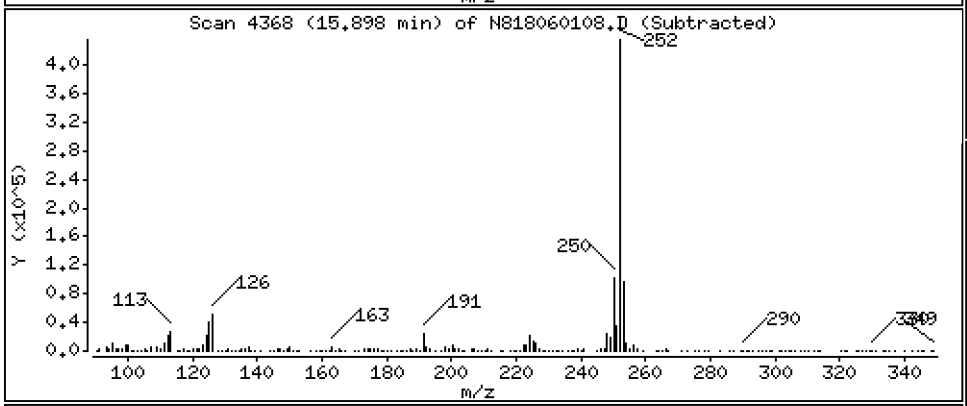
Column diameter: 0.25

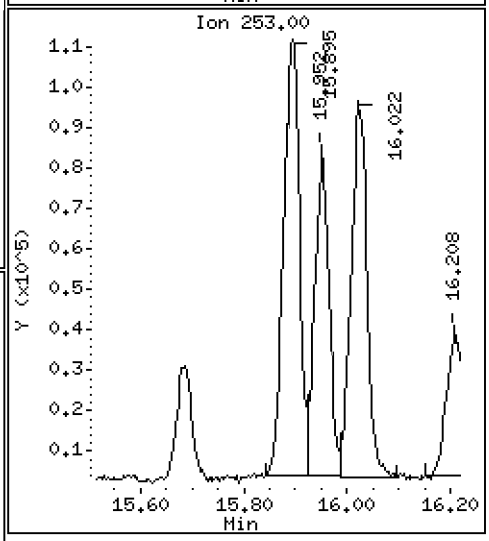
28 Benzo(b)fluoranthene

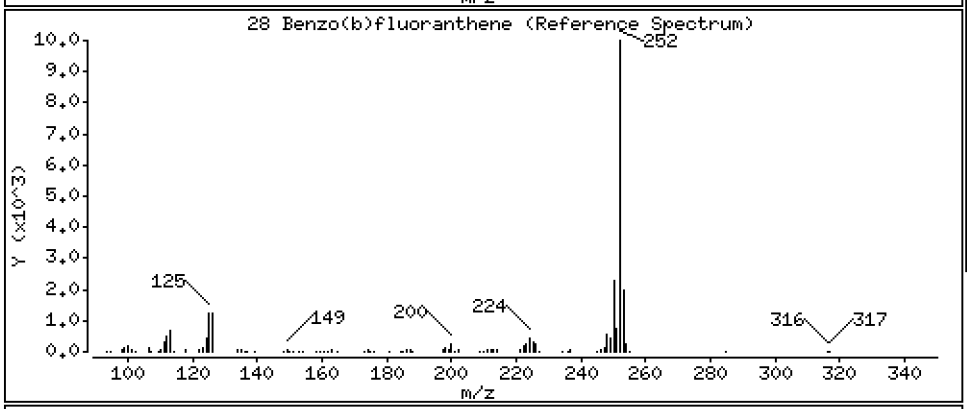
Concentration: 7.372 ug/mL

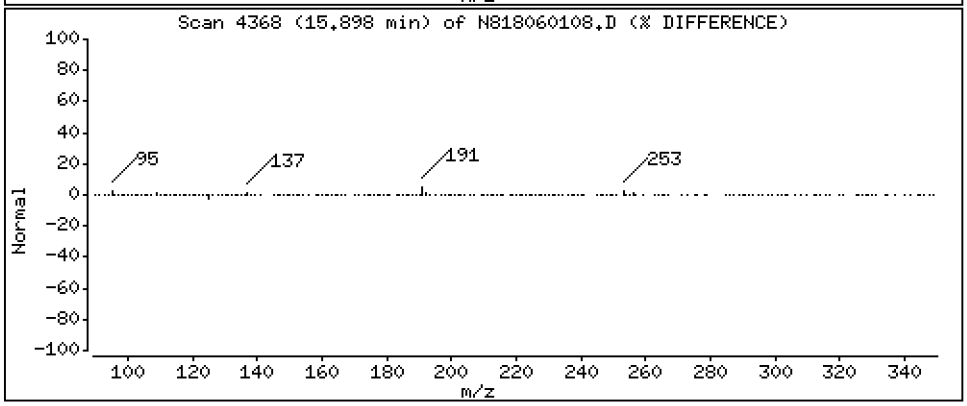












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

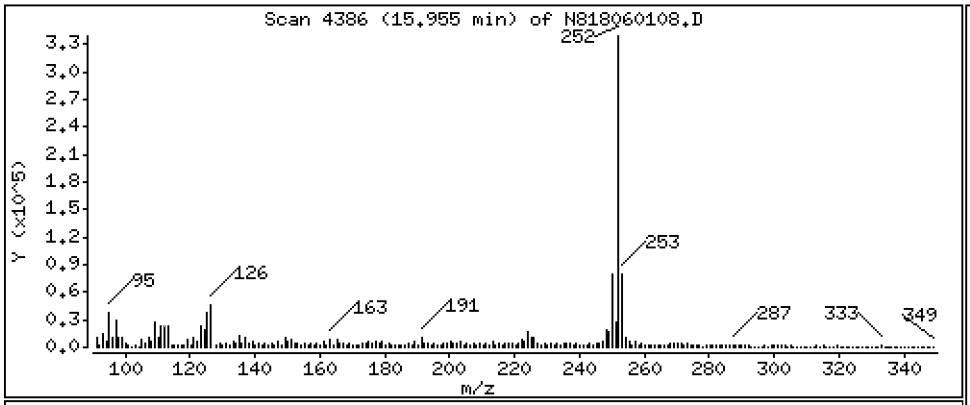
Operator: JZ

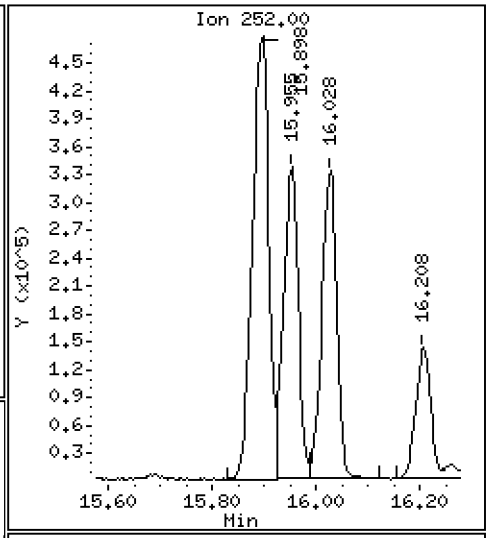
Column phase: Rxi-17sil

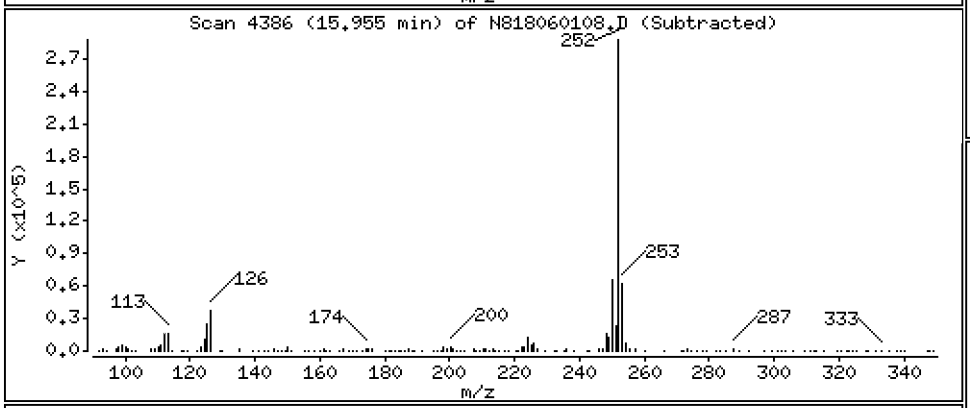
Column diameter: 0.25

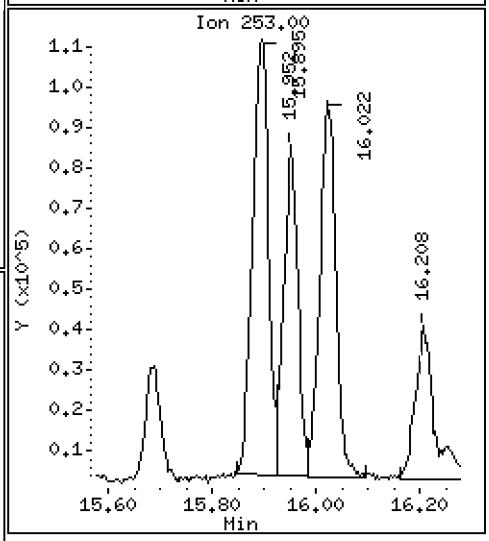
29 Benzo(k)fluoranthene

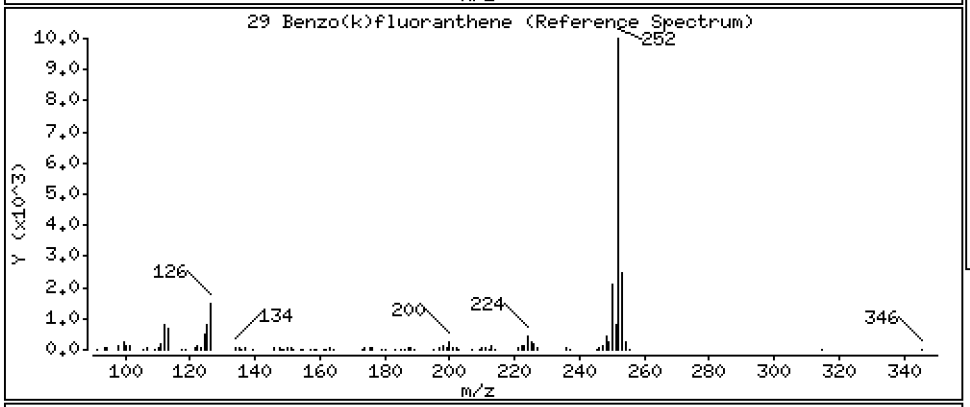
Concentration: 4.777 ug/mL

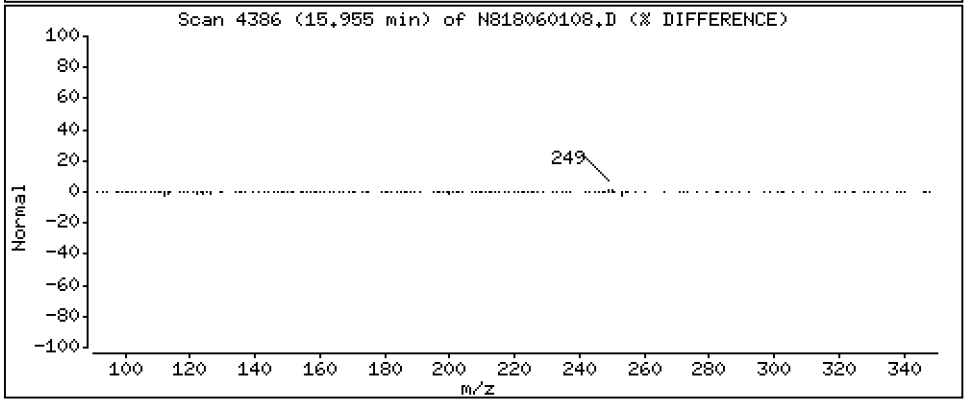












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

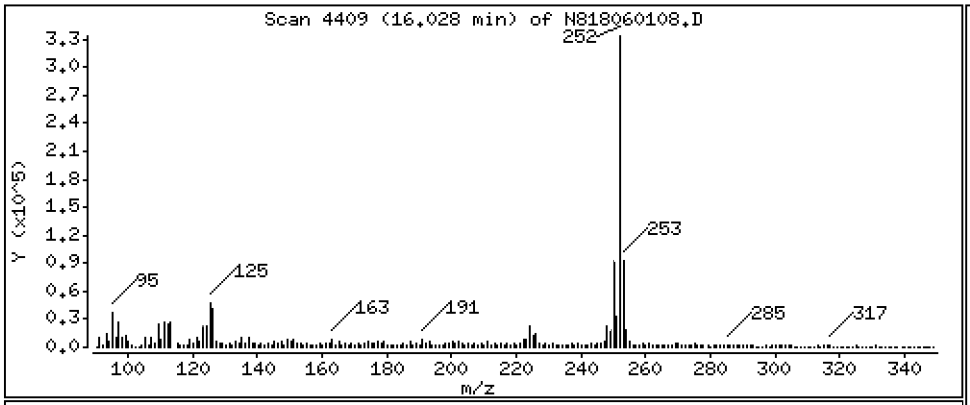
Operator: JZ

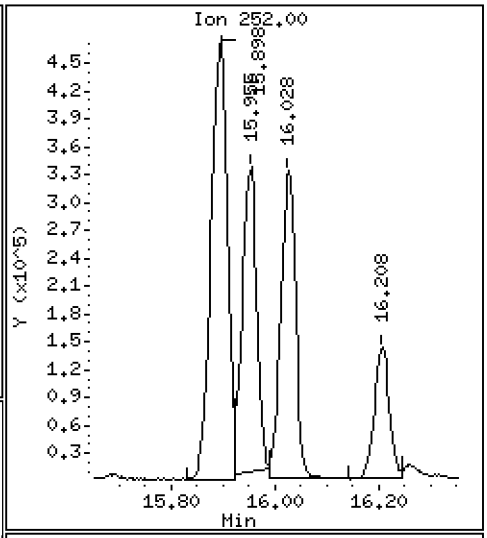
Column phase: Rxi-17sil

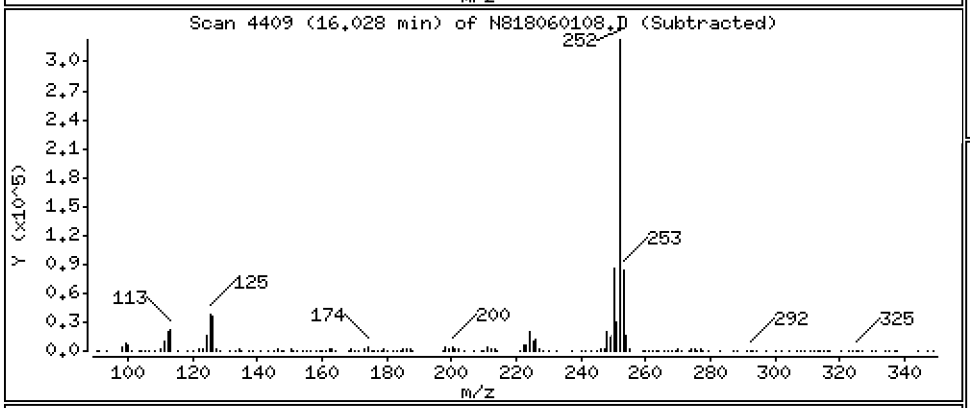
Column diameter: 0.25

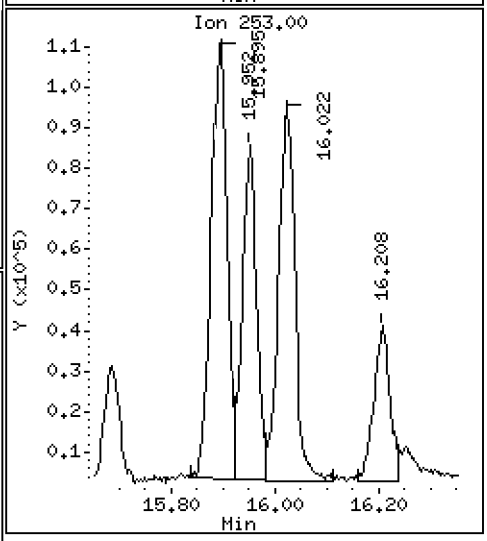
30 Benzo(j)fluoranthene

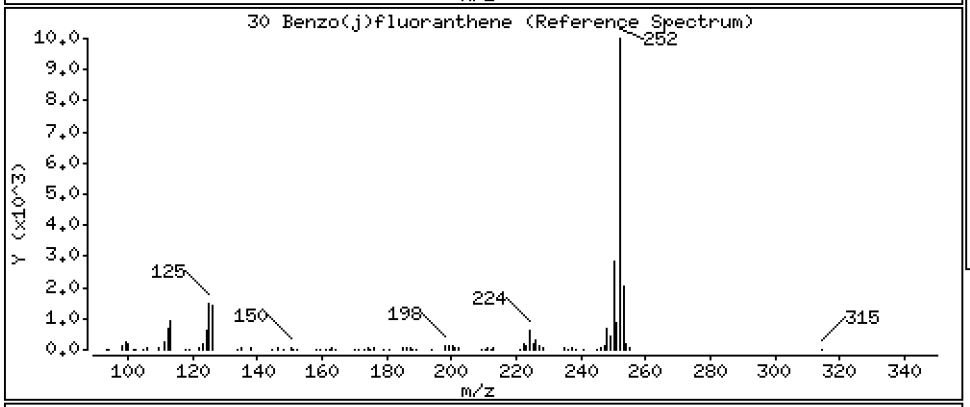
Concentration: 4.755 ug/mL

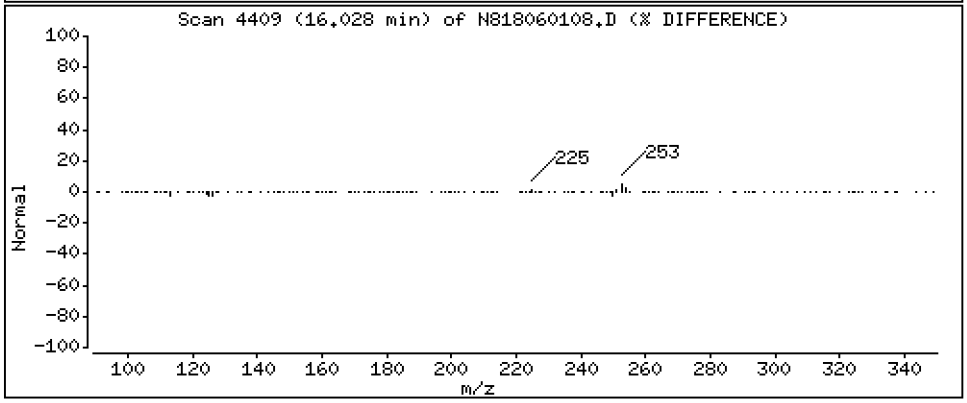












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

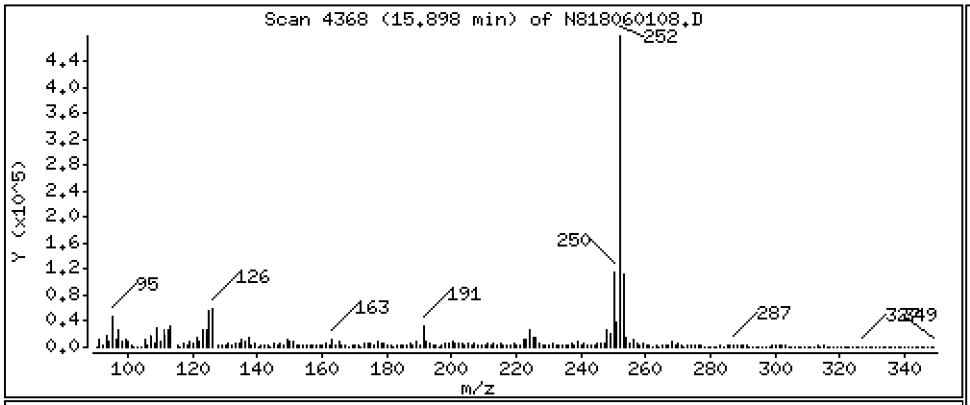
Operator: JZ

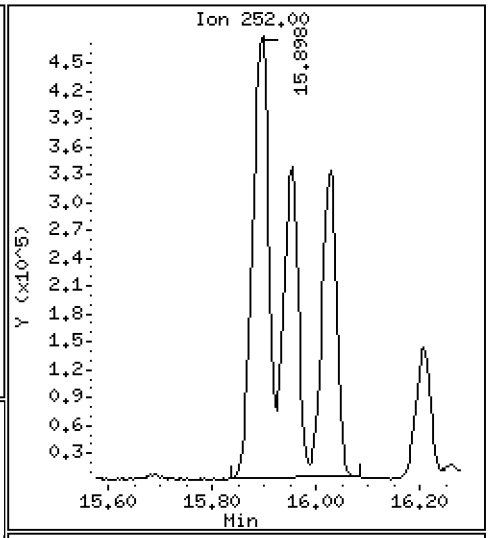
Column phase: Rxi-17sil

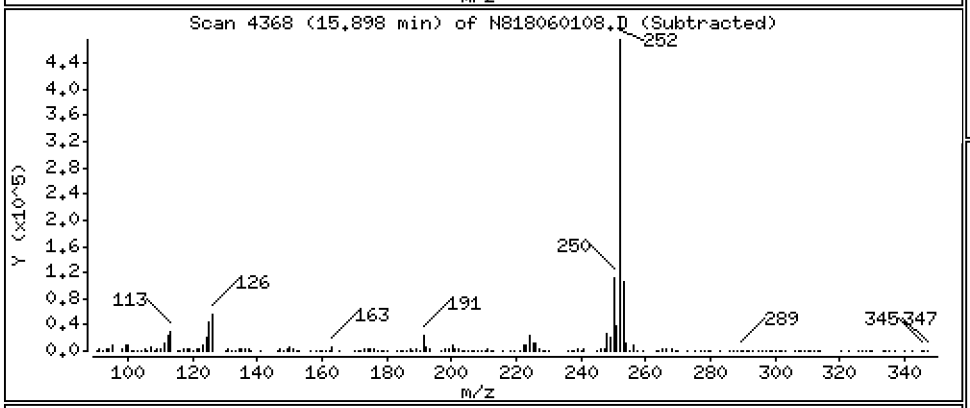
Column diameter: 0.25

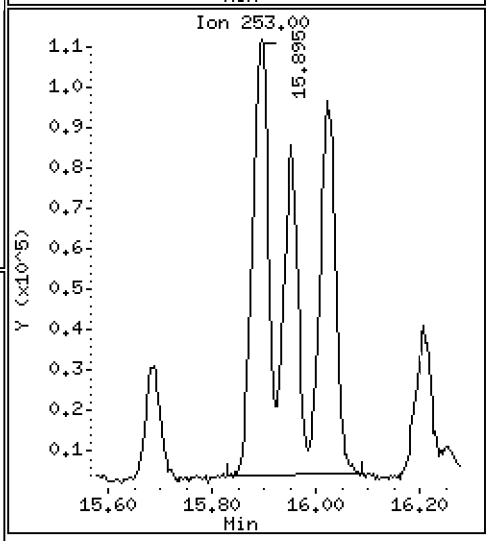
31 Total Benzofluoranthenes

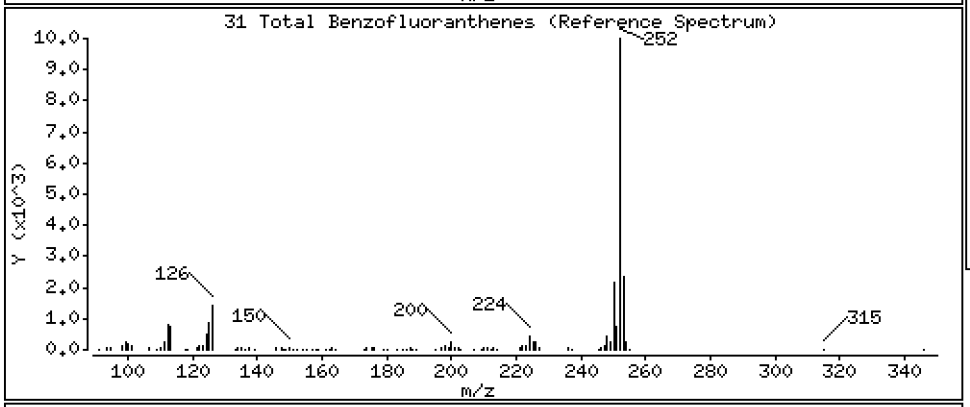
Concentration: 16.90 ug/mL

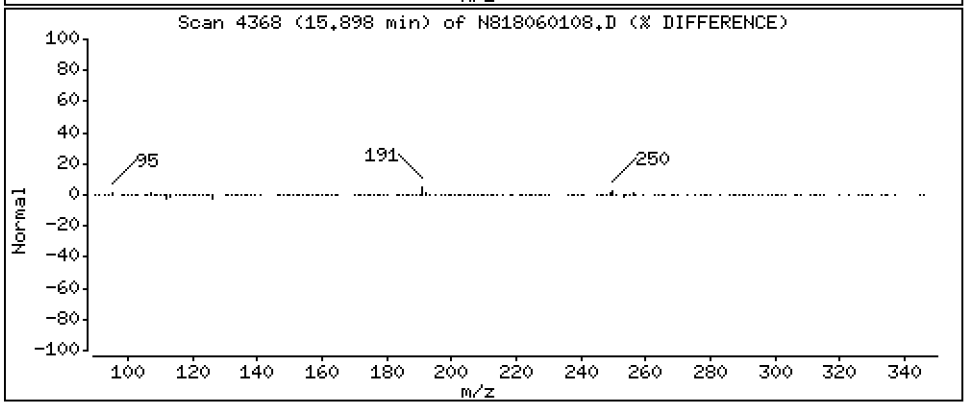












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

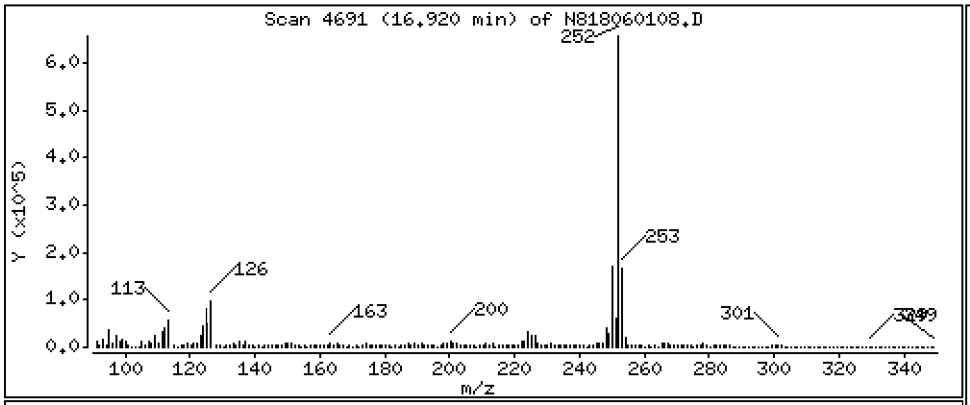
Operator: JZ

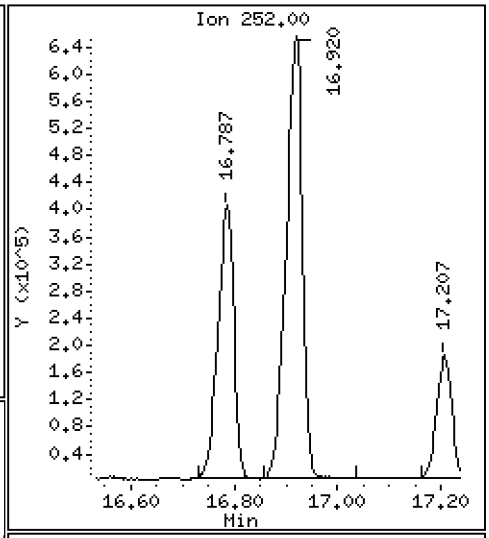
Column phase: Rxi-17sil

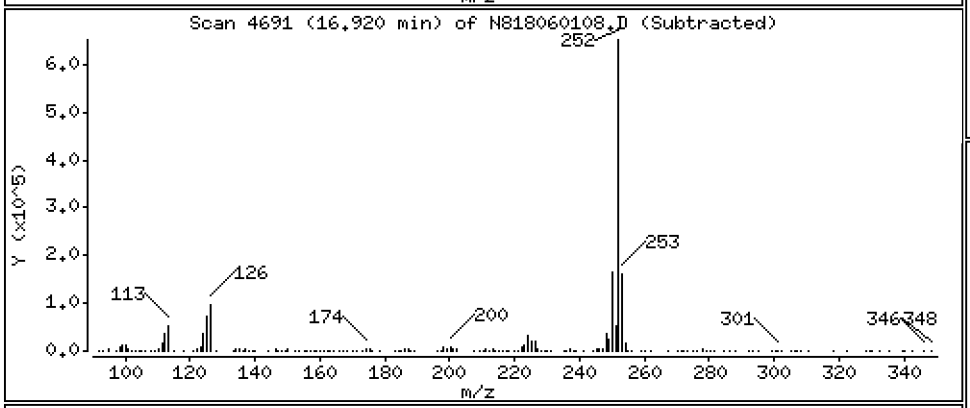
Column diameter: 0.25

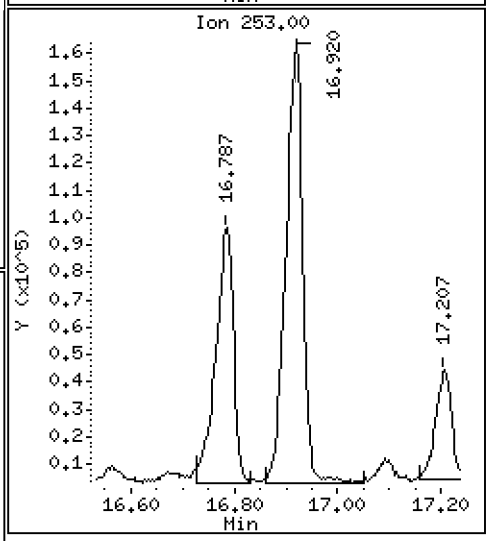
32 Benzo(a)pyrene

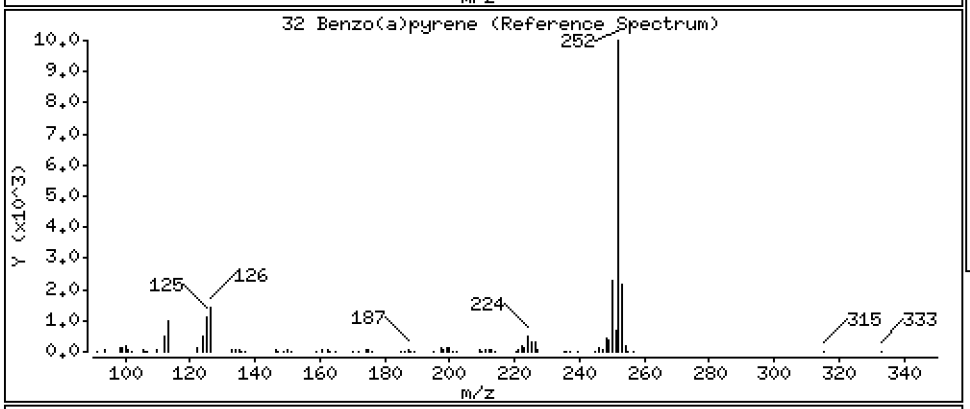
Concentration: 11.45 ug/mL

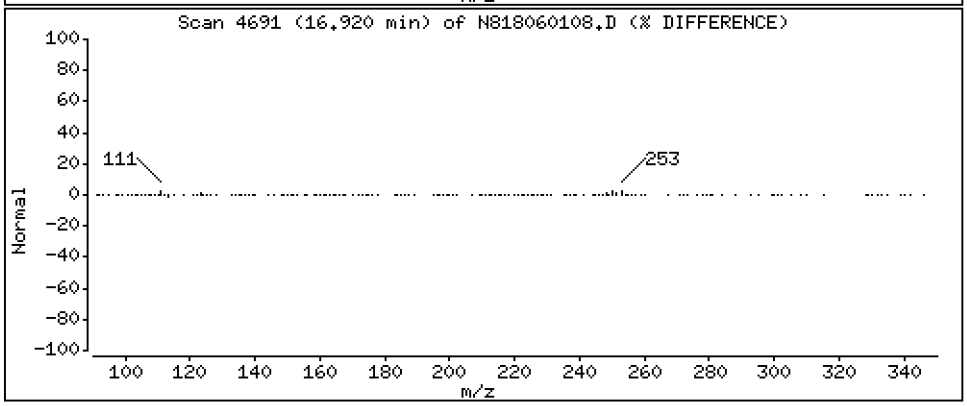












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

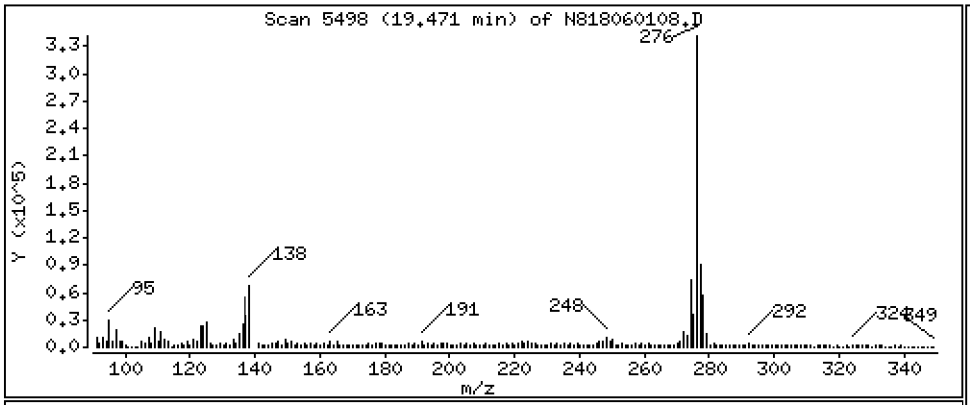
Operator: JZ

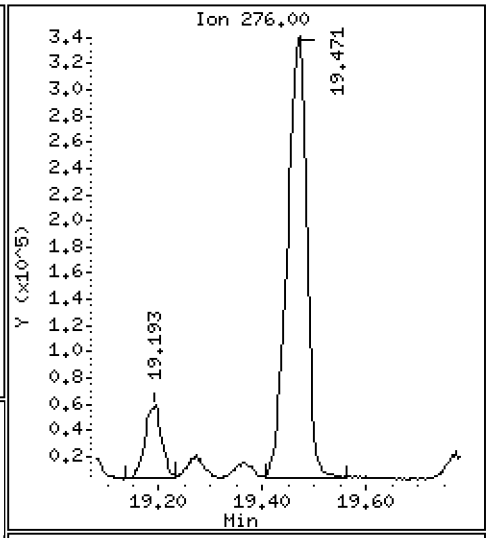
Column phase: Rxi-17sil

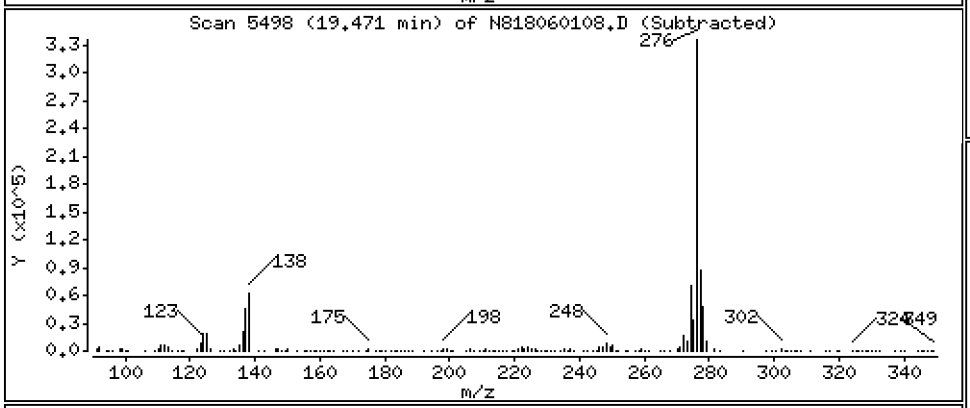
Column diameter: 0.25

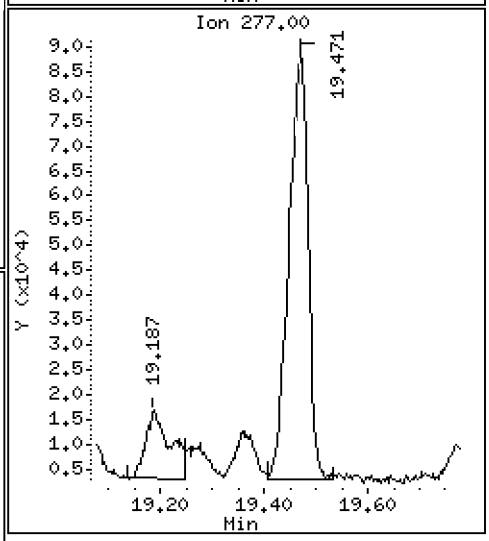
37 Indeno(1,2,3-cd)pyrene

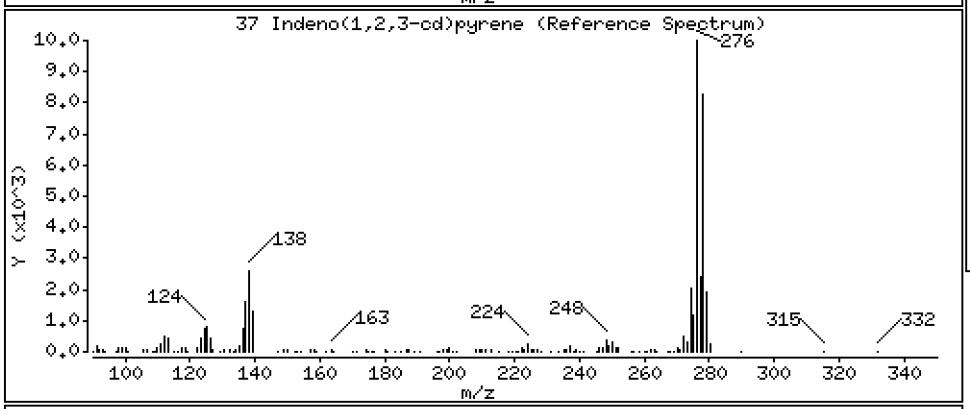
Concentration: 6.192 ug/mL

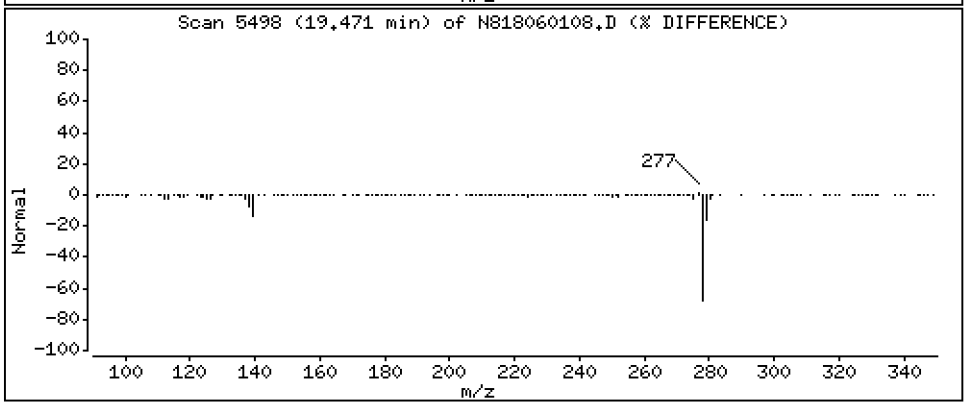












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

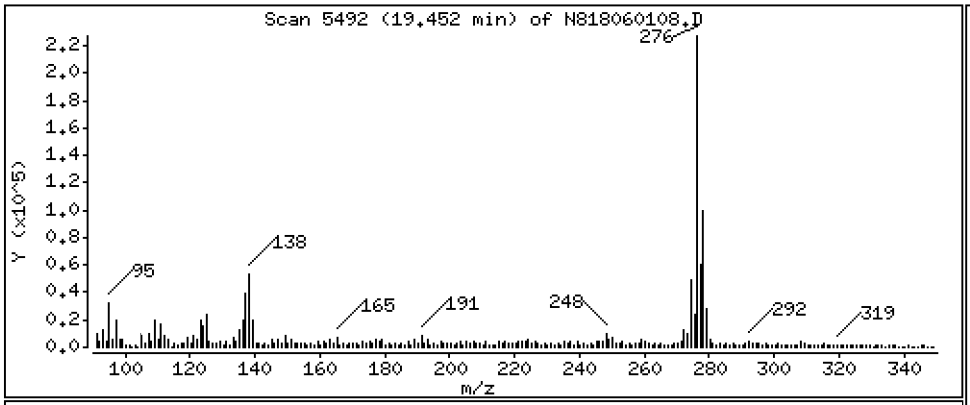
Operator: JZ

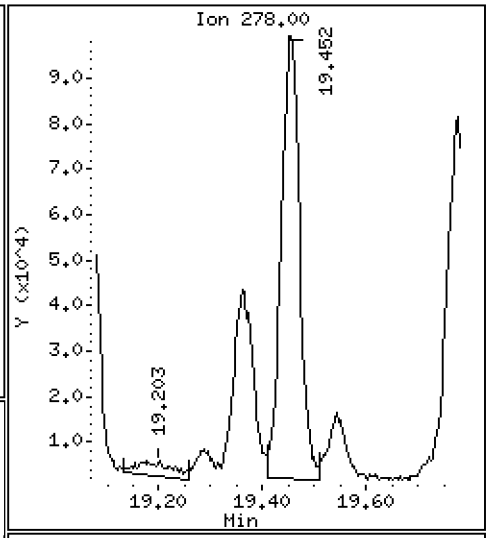
Column phase: Rxi-17sil

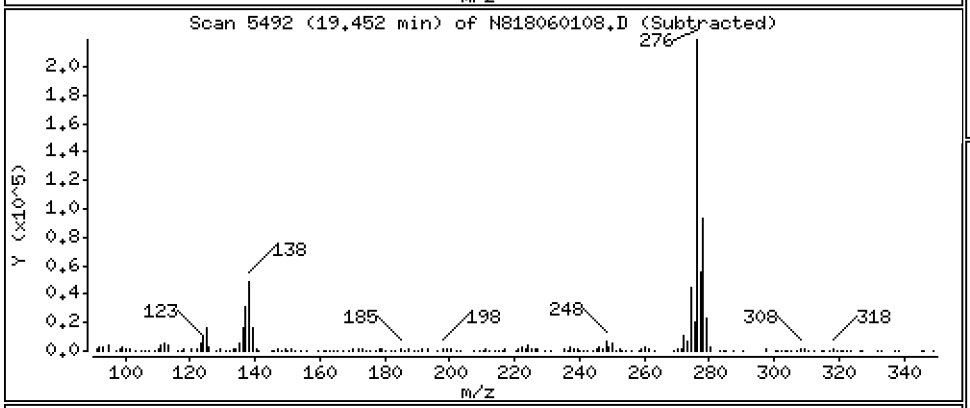
Column diameter: 0.25

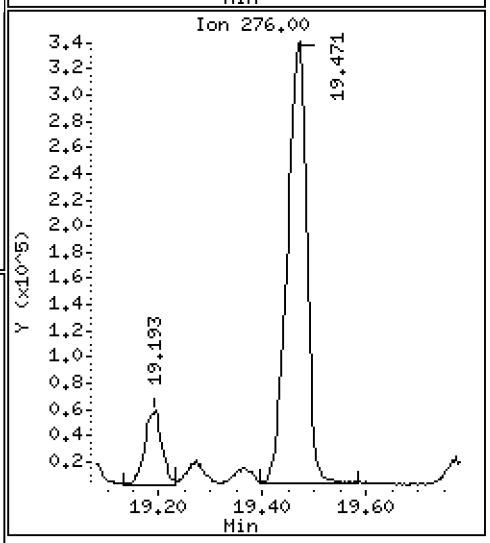
38 Dibenzo(a,h)anthracene

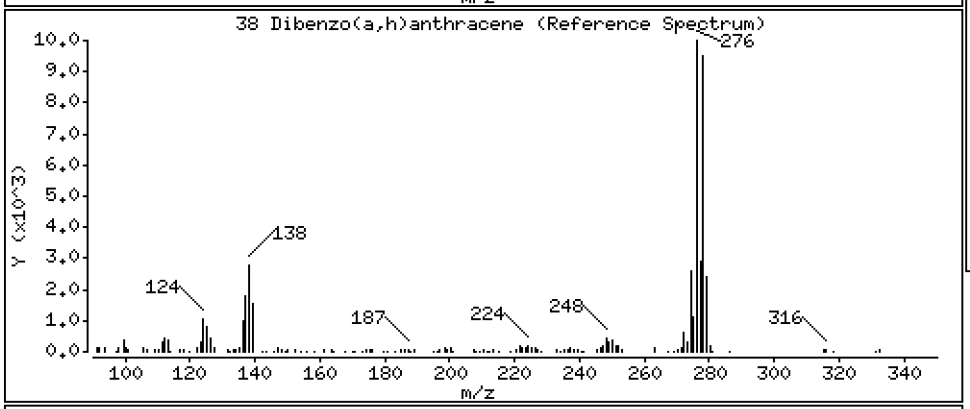
Concentration: 2.043 ug/mL

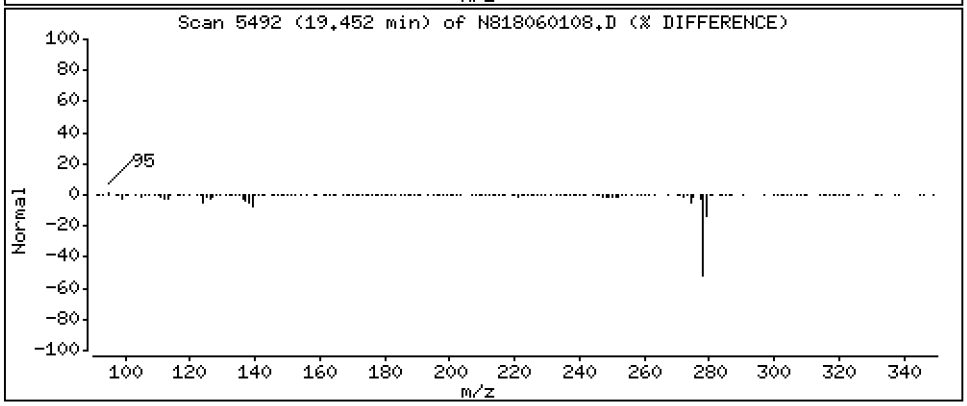












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

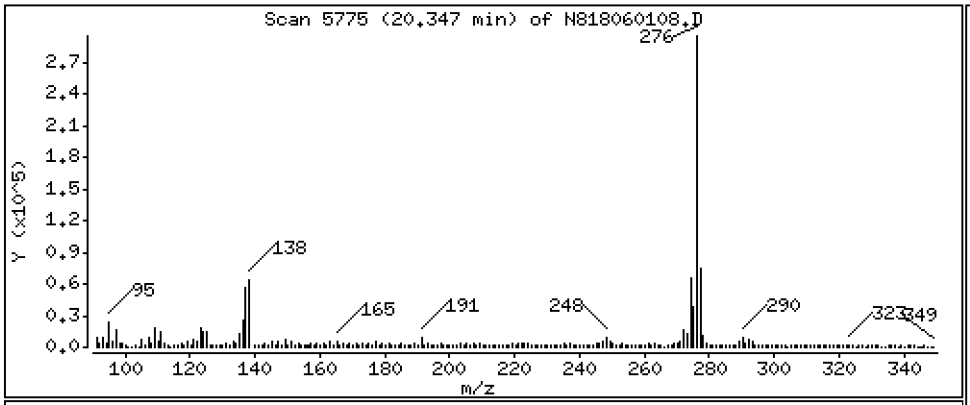
Operator: JZ

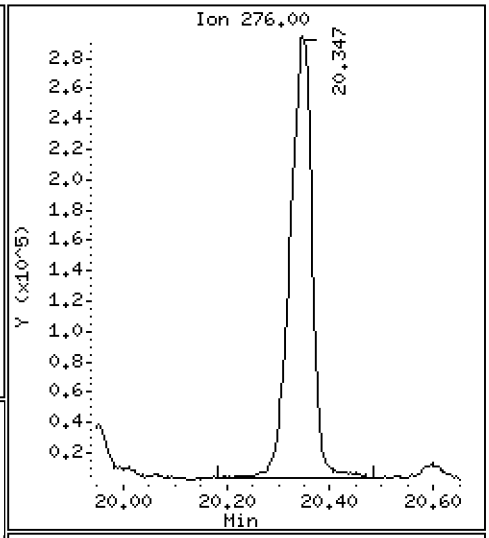
Column phase: Rxi-17sil

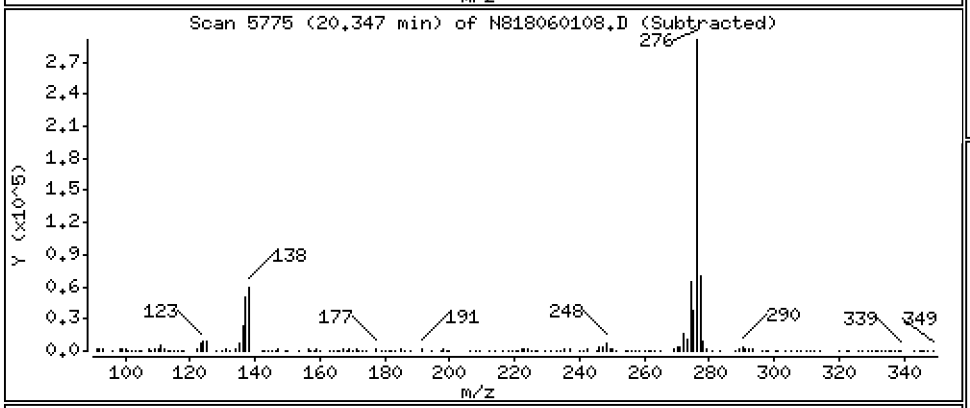
Column diameter: 0.25

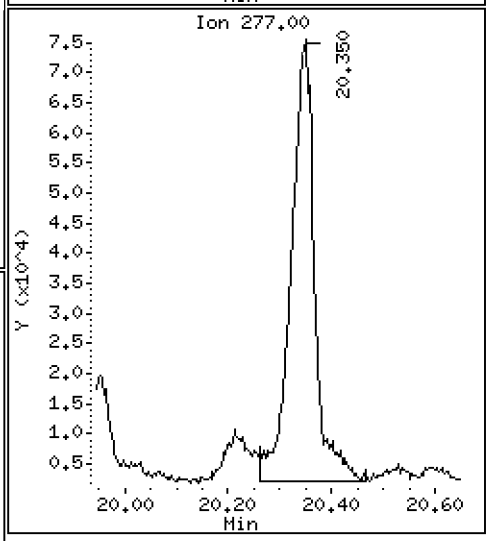
39 Benzo(g,h,i)perylene

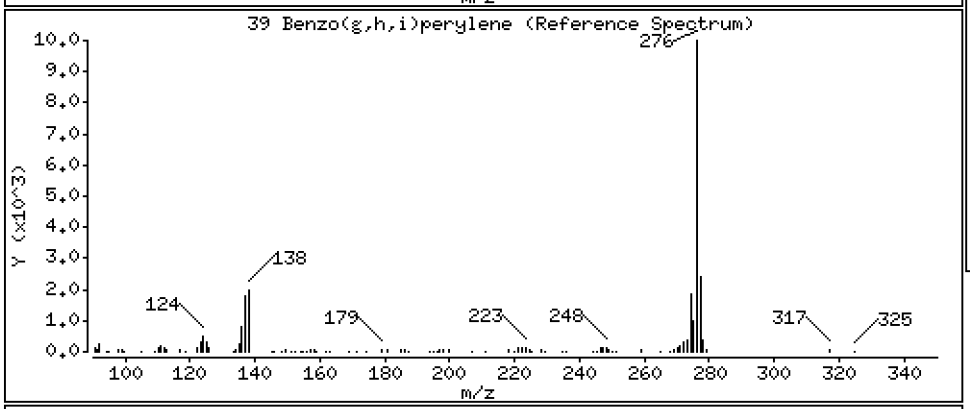
Concentration: 7.012 ug/mL

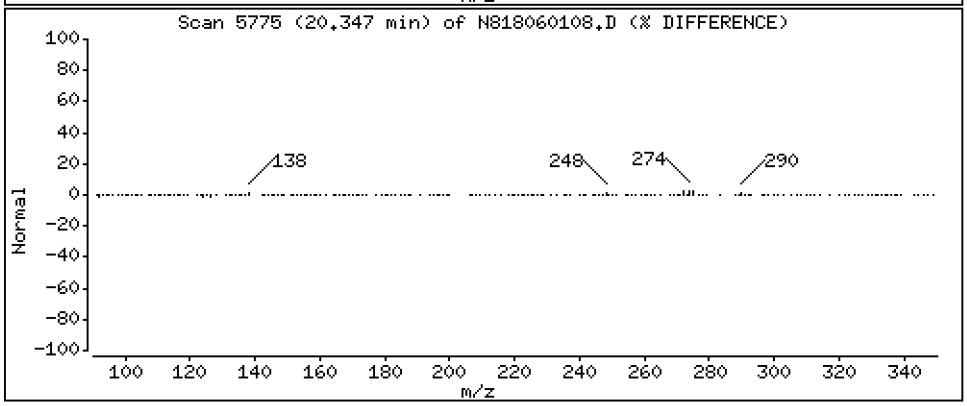












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060108.D

Date : 01-JUN-2018 17:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01

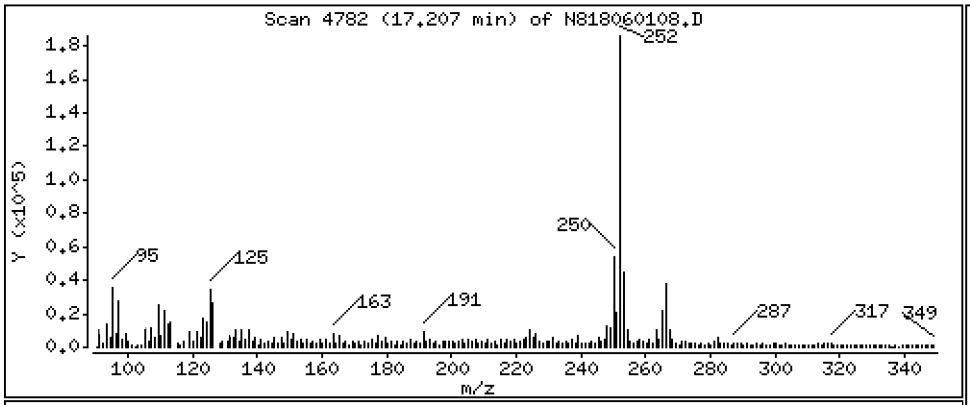
Operator: JZ

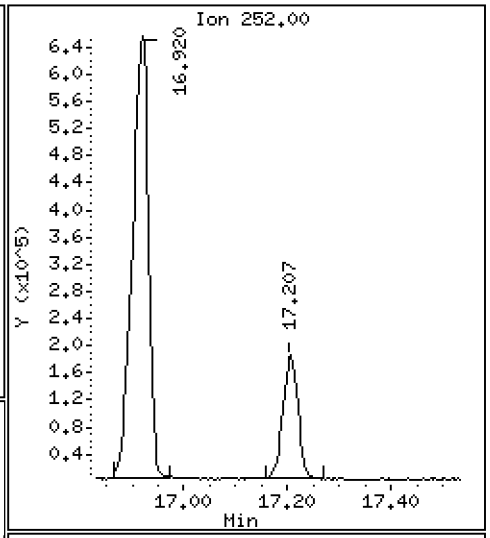
Column phase: Rxi-17sil

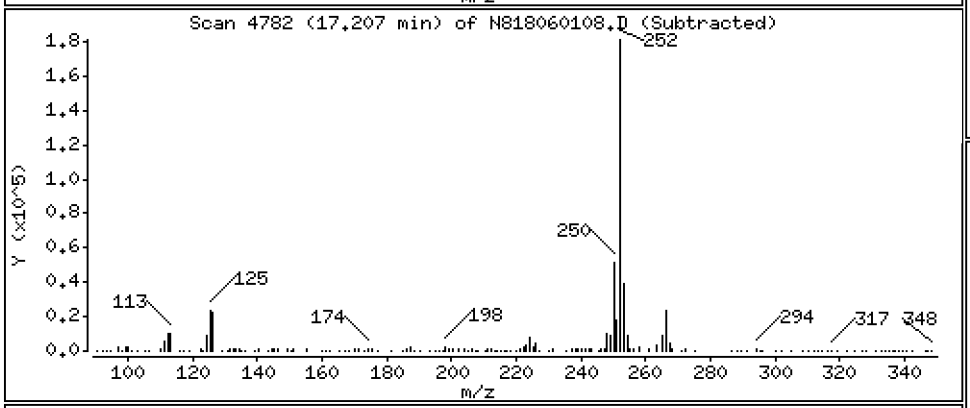
Column diameter: 0.25

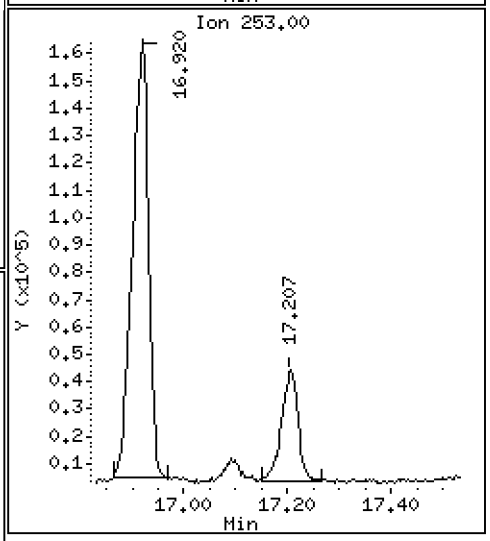
35 Perylene

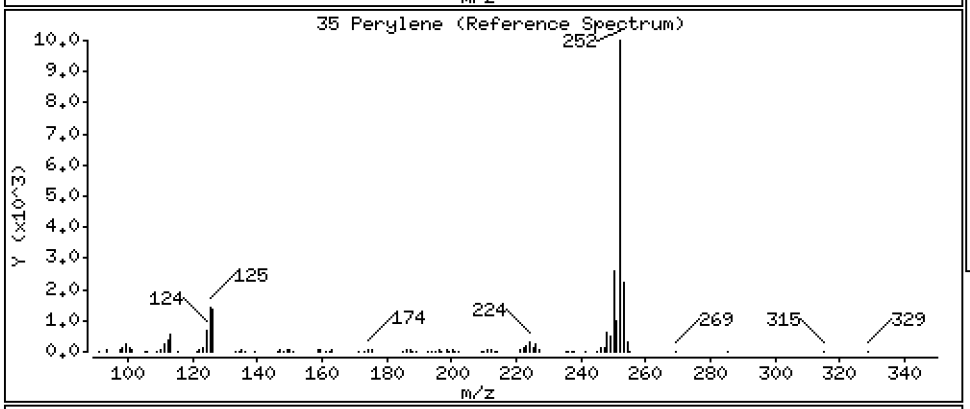
Concentration: 2.730 ug/mL

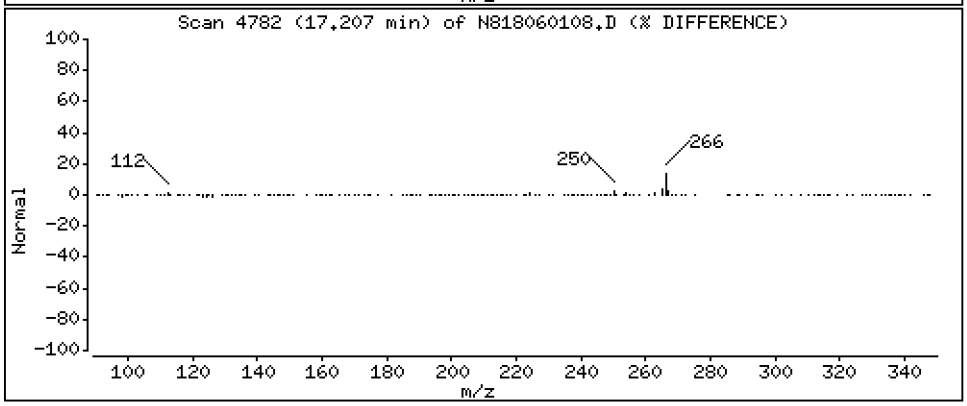












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060108.D
Lab Smp Id: 18E0243-01
Inj Date : 01-JUN-2018 17:31
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	210470		2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	81955		0.67002	0.6700
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	99205		1.29212	1.292
	4 2-Methylnaphthalene	141	5.233	5.242	(1.175)	23553		0.34187	0.3419
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	16058		0.22644	0.2264
	9 Acenaphthylene	152	6.614	6.617	(0.984)	179361		1.69578	1.696
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	106530		2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.007)	26565		0.32763	0.3276
	12 Dibenzofuran	168	6.924	6.927	(1.030)	32985		0.30256	0.3026
	14 Fluorene	166	7.399	7.402	(1.100)	74136		0.88006	0.8801
*	15 Phenanthrene-d10	188	8.746	8.745	(1.000)	194755		2.00000	
	16 Phenanthrene	178	8.783	8.780	(1.004)	967328		8.10381	8.104
	17 Anthracene	178	8.821	8.821	(1.009)	397036		3.65060	3.651
	22 Fluoranthene	202	10.450	10.434	(1.195)	2464853		18.3224	18.32
$	21 Fluoranthene-d10	212	10.409	10.402	(1.190)	228430		1.79160	1.792
	23 Pyrene	202	10.921	10.902	(0.817)	2539043		19.1191	19.12
	24 Benzo(a)anthracene	228	13.258	13.239	(0.992)	1403256		10.9292	10.93
*	25 Chrysene-d12	240	13.368	13.356	(1.000)	220984		2.00000	
	27 Chrysene	228	13.447	13.425	(1.006)	1449205		11.2128	11.21
	28 Benzo(b)fluoranthene	252	15.898	15.869	(0.928)	1050339		7.37197	7.372
	29 Benzo(k)fluoranthene	252	15.955	15.926	(0.931)	669269		4.77706	4.777
	30 Benzo(j)fluoranthene	252	16.028	16.002	(0.935)	667032		4.75495	4.755
	31 Total Benzofluoranthenes	252	15.898	15.926	(0.928)	2347741		16.8960	16.90(M)
	32 Benzo(a)pyrene	252	16.919	16.884	(0.987)	1430090		11.4521	11.45
*	33 Perylene-d12	264	17.134	17.112	(1.000)	224187		2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.471	19.430	(1.136)	885301		6.19246	6.192
$	36 Dibenzo(a,h)anthracene-d14	292	19.367	19.338	(1.130)	242729		2.31154	2.312
	38 Dibenzo(a,h)anthracene	278	19.452	19.430	(1.135)	240938		2.04305	2.043
	39 Benzo(g,h,i)perylene	276	20.347	20.299	(1.187)	876108		7.01173	7.012
	35 Perylene	252	17.207	17.181	(1.004)	370150		2.72986	2.730

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060108.D
Lab Smp Id: 18E0243-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	210470	72.25
10 Acenaphthene-d10	65789	32895	131578	106530	61.93
15 Phenanthrene-d10	128644	64322	257288	194755	51.39
25 Chrysene-d12	166669	83335	333338	220984	32.59
33 Perylene-d12	140483	70242	280966	224187	59.58

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.04
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.10
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060108.D

Lab ID: 18E0243-01
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 17:31

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

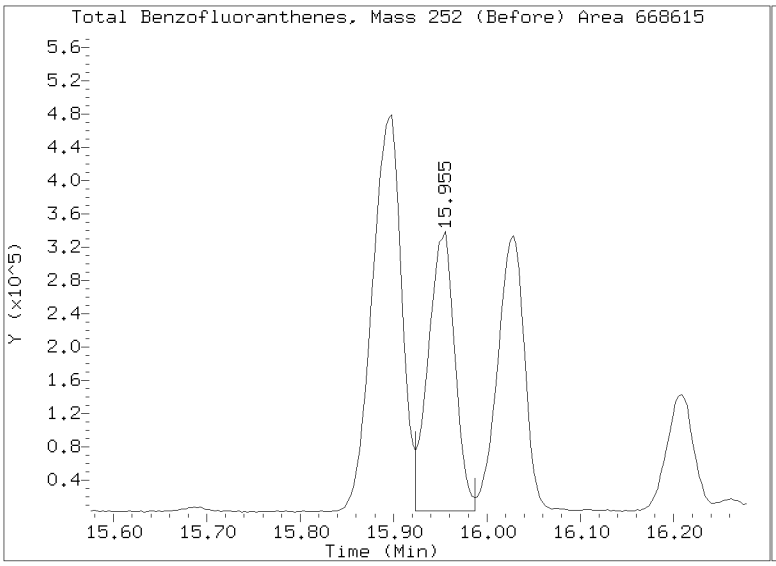
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

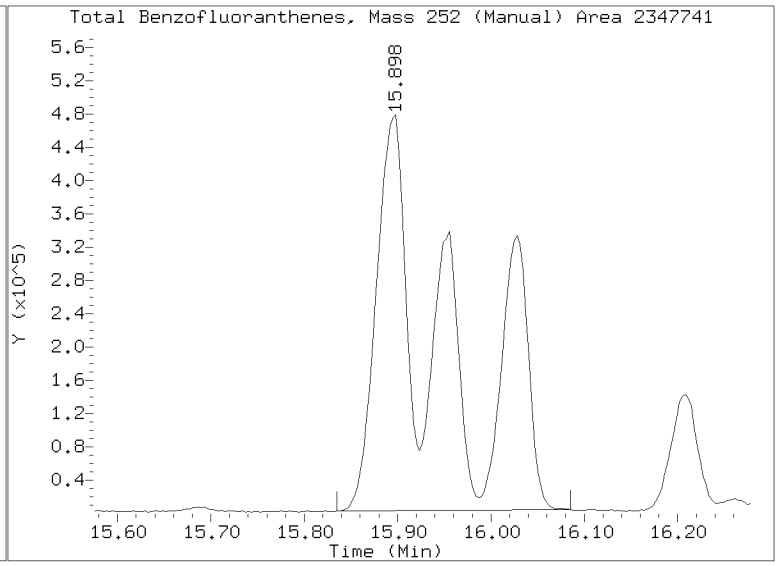
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060108.D
Injection Date: 01-JUN-2018 17:31
Lab ID:18E0243-01 Client ID:
Report Date: 06/01/2018 18:06





LDW18-SSCL-A01

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-01RE1	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/24/18 10:50	File ID:	N818060114.D
% Solids:	77.44	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 20:12
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	13.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	3	610	D	2.45	14.8
218-01-9	Chrysene	3	598	D	3.13	14.8
205-99-2	Benzo(b)fluoranthene	3	402	D	4.07	14.8
207-08-9	Benzo(k)fluoranthene	3	248	D	2.26	14.8
50-32-8	Benzo(a)pyrene	3	613	D	1.82	14.8
193-39-5	Indeno(1,2,3-cd)pyrene	3	332	D	3.12	14.8
53-70-3	Dibenzo(a,h)anthracene	3	107	D	2.64	14.8

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.43	71.1	47.9	32 - 120	
Dibenzo[a,h]anthracene-d14	148.43	120	81.0	21 - 133	
Fluoranthene-d10	148.43	92.4	62.2	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

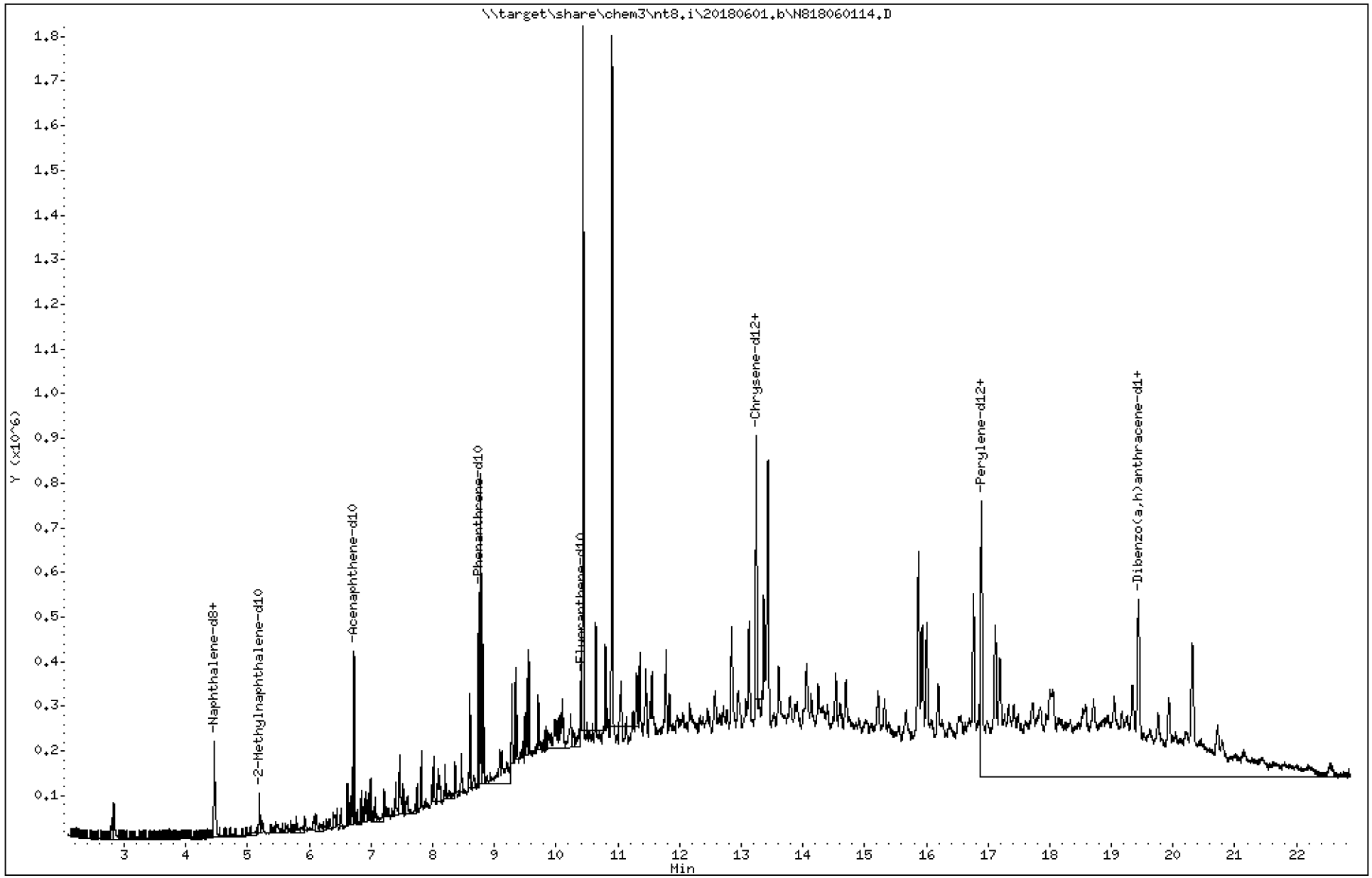
Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

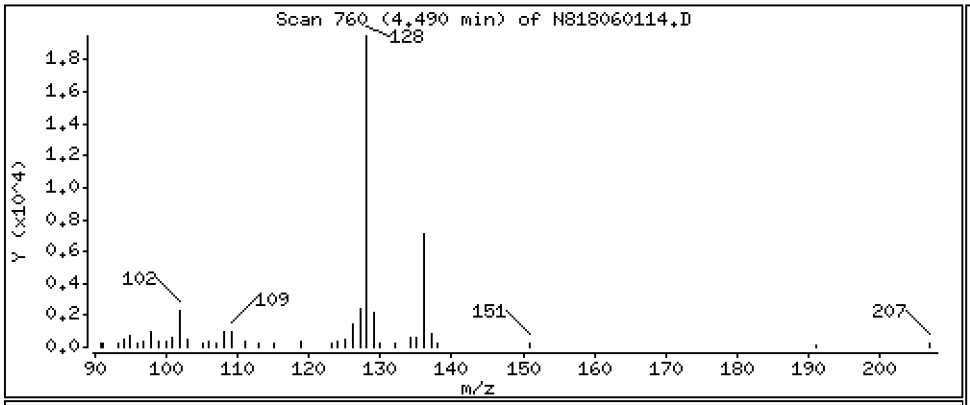
Operator: JZ

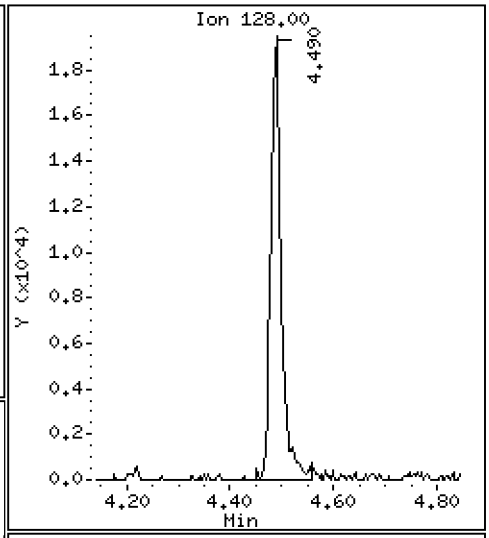
Column phase: Rxi-17sil

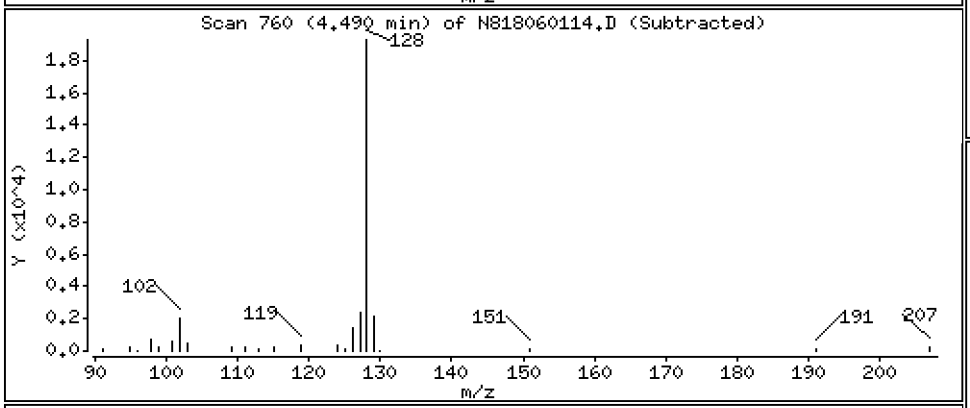
Column diameter: 0.25

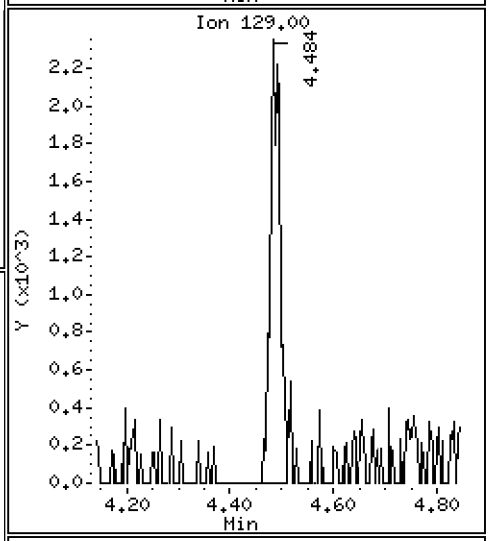
2 Naphthalene

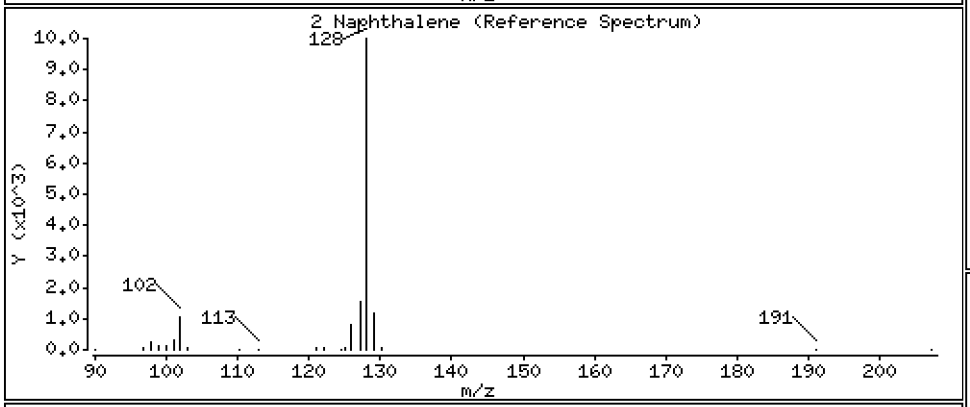
Concentration: 0.7606 ug/mL

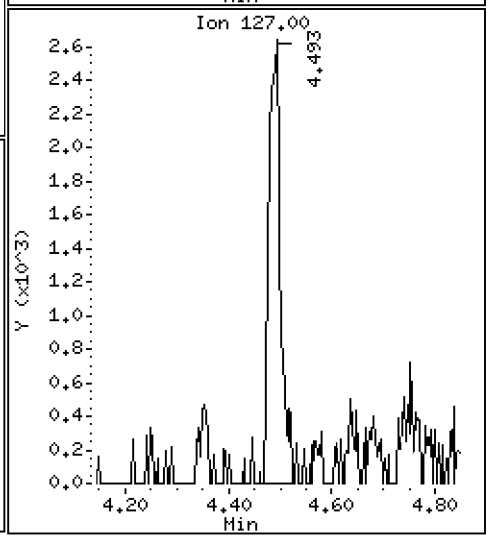


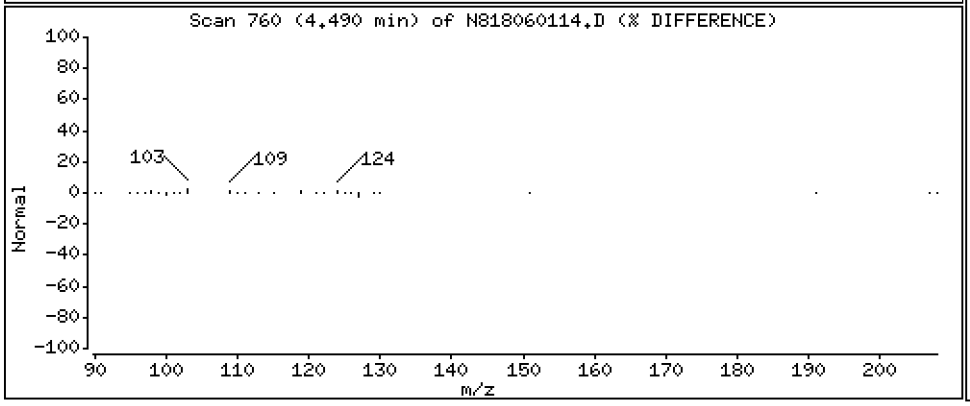












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

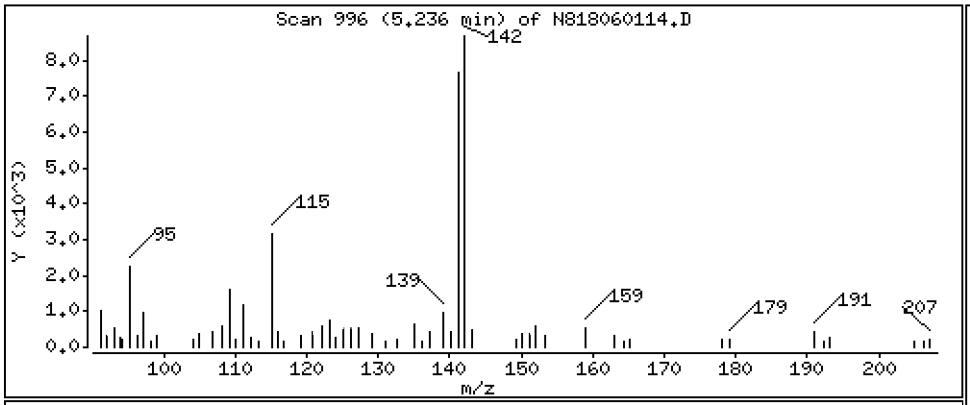
Operator: JZ

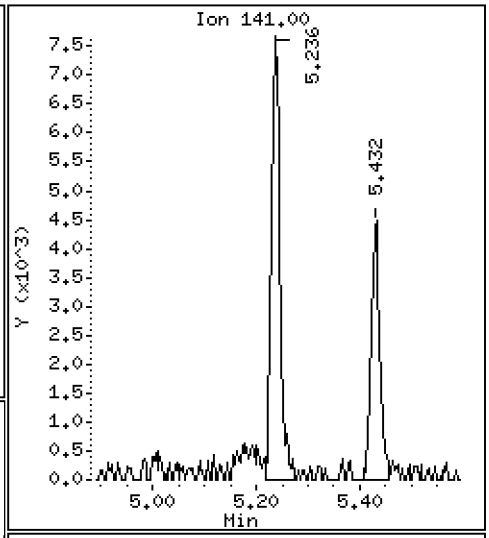
Column phase: Rxi-17sil

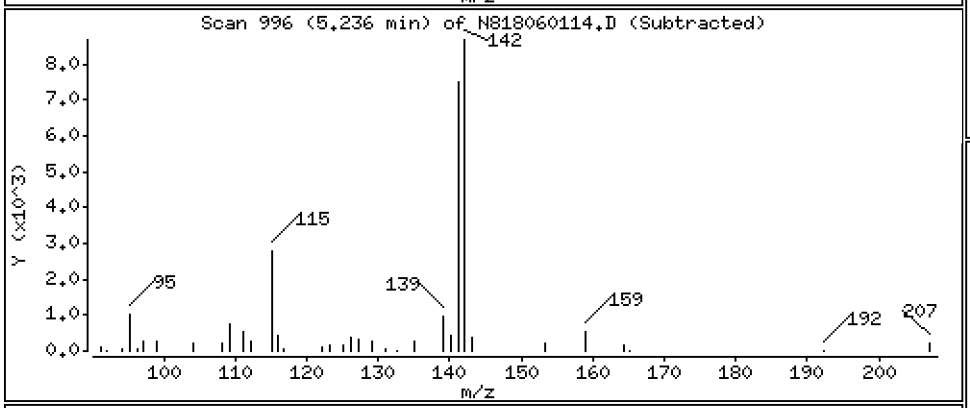
Column diameter: 0.25

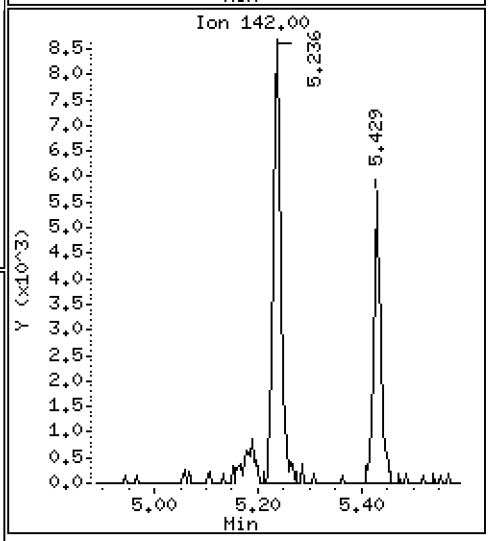
4 2-Methylnaphthalene

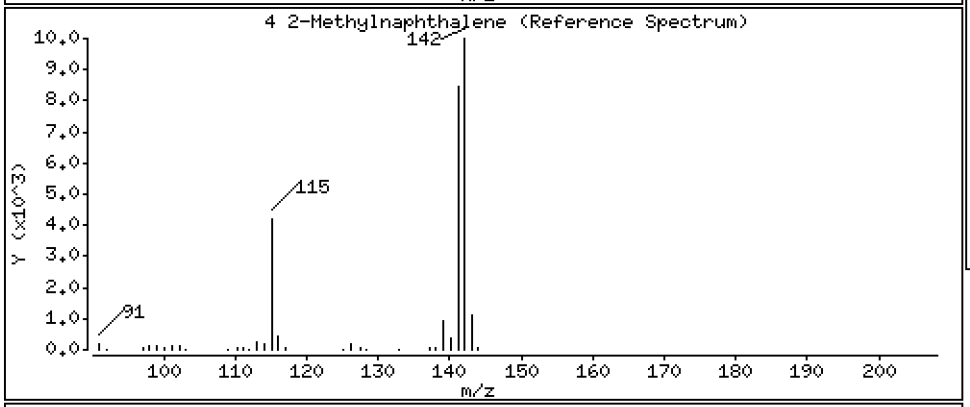
Concentration: 0.4216 ug/mL

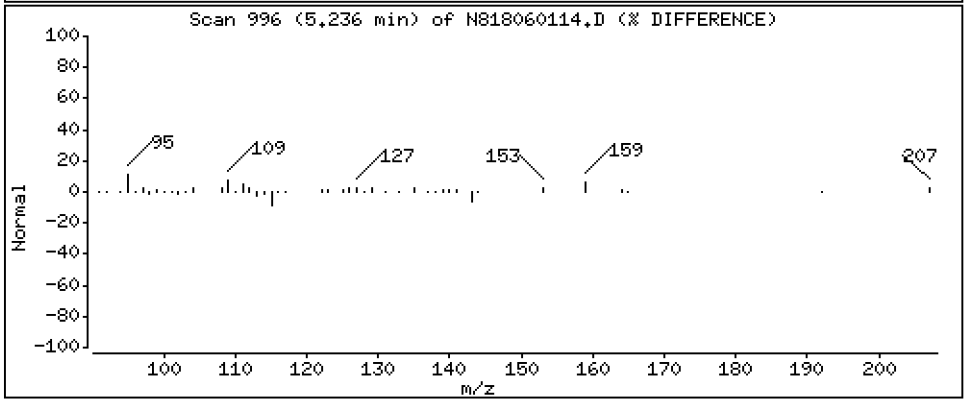












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

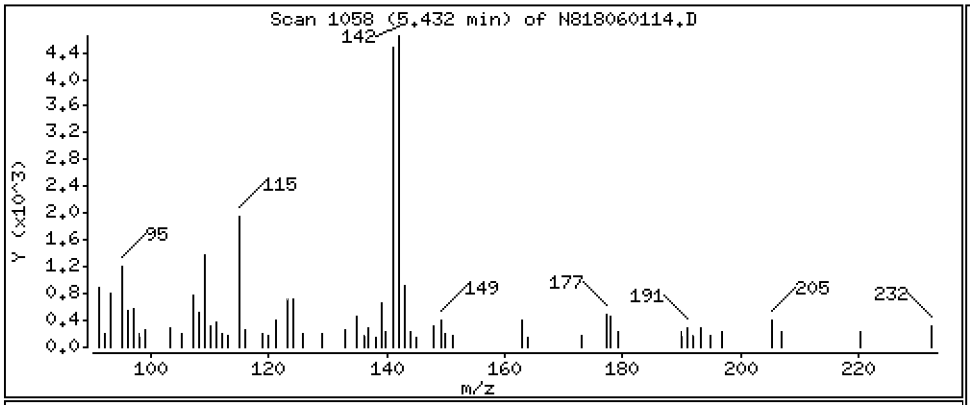
Operator: JZ

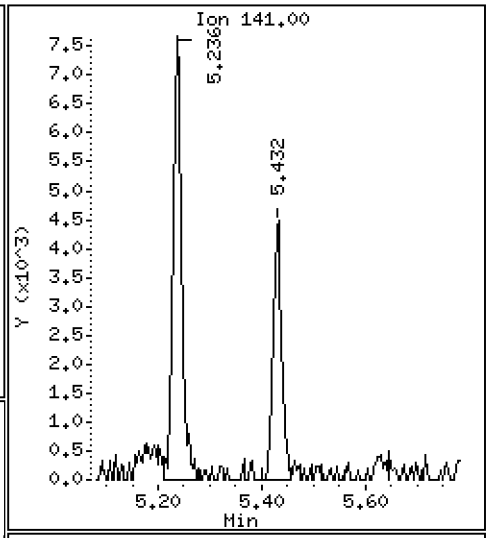
Column phase: Rxi-17sil

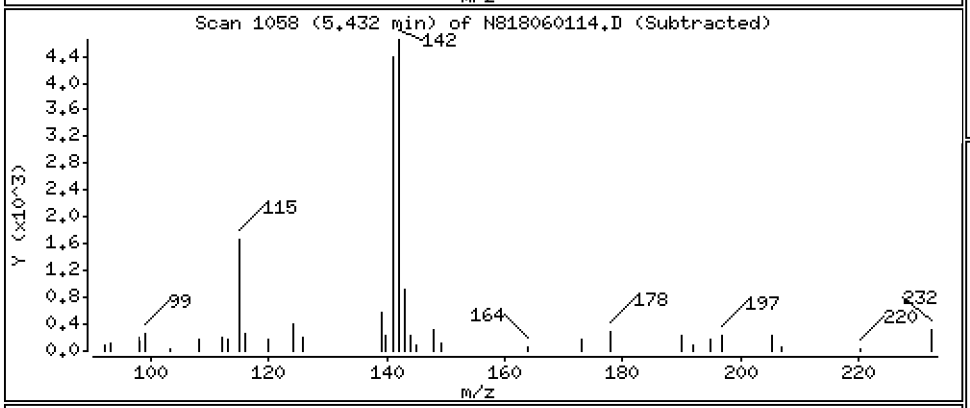
Column diameter: 0.25

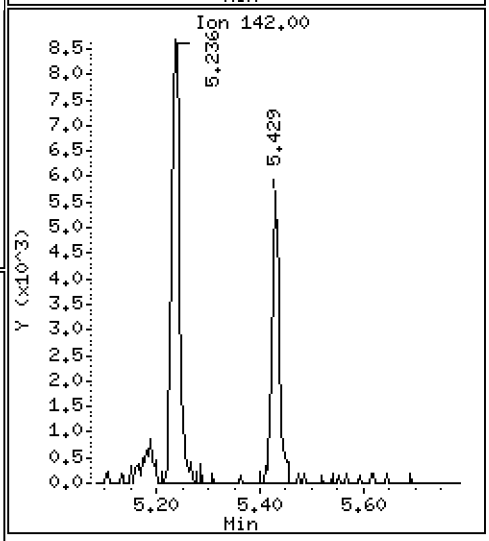
5 1-methylnaphthalene

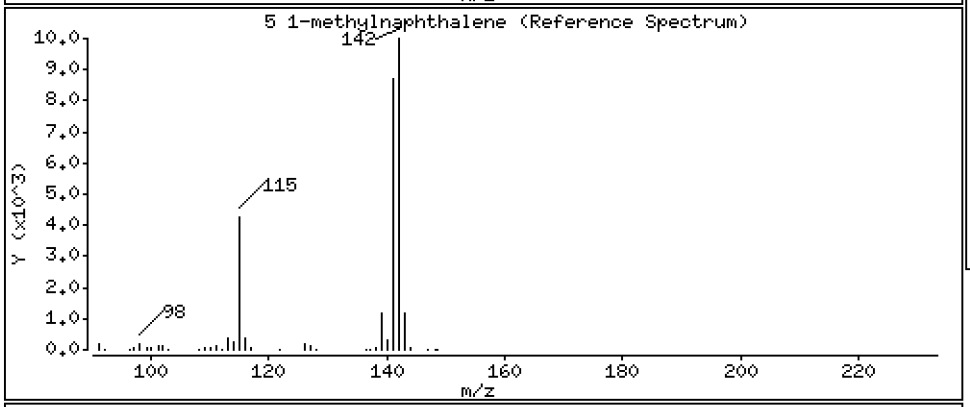
Concentration: 0.2421 ug/mL

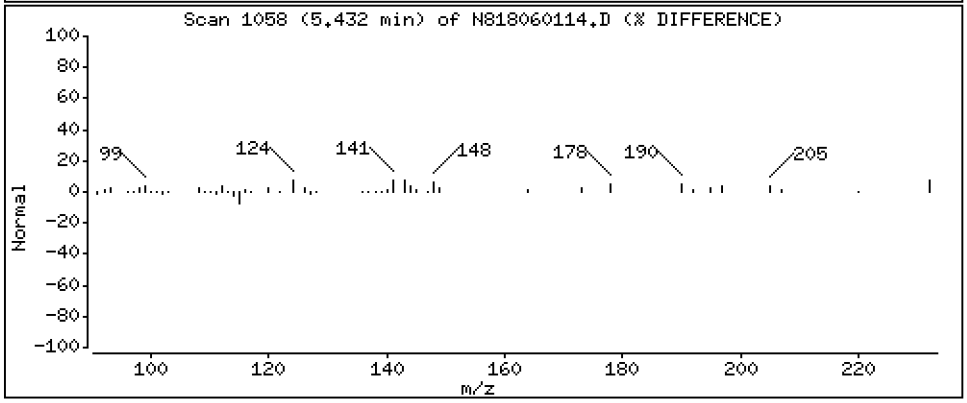












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

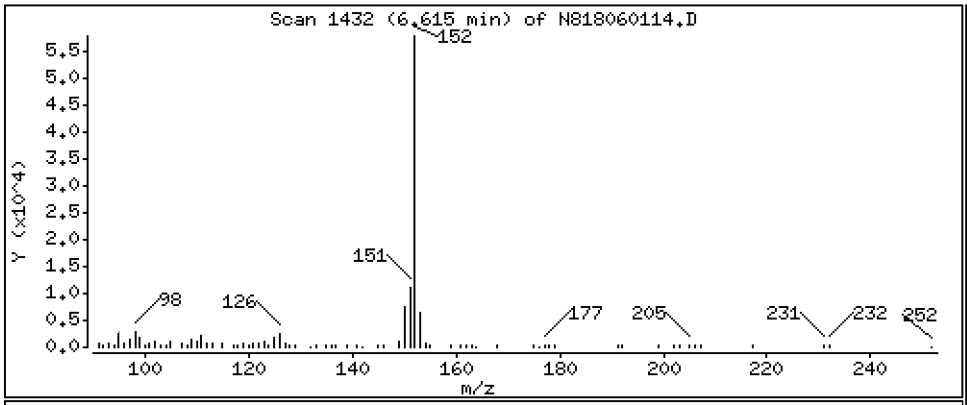
Operator: JZ

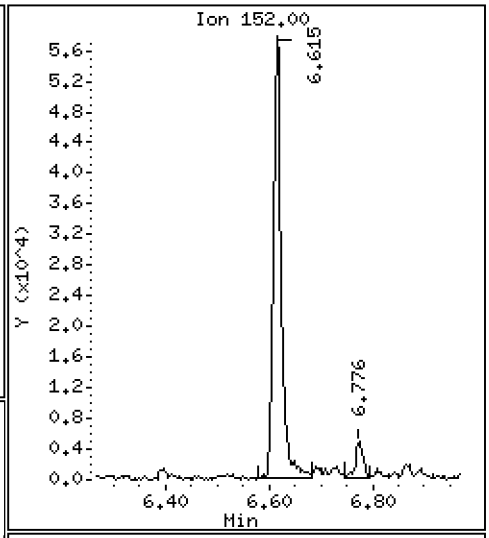
Column phase: Rxi-17sil

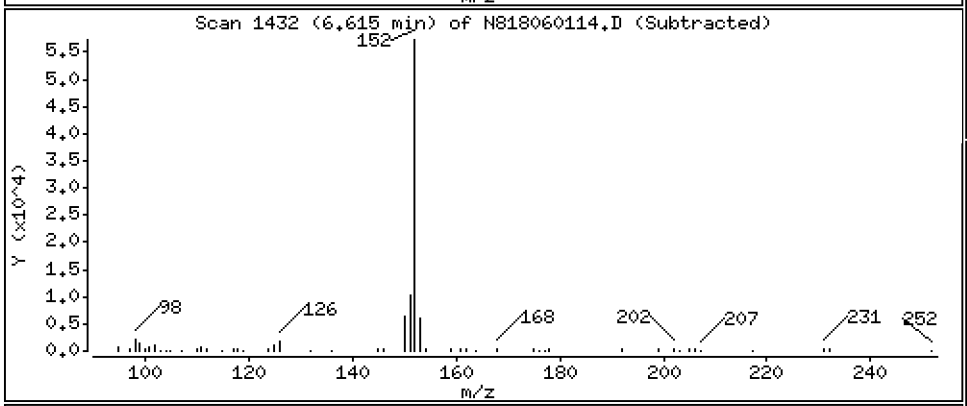
Column diameter: 0.25

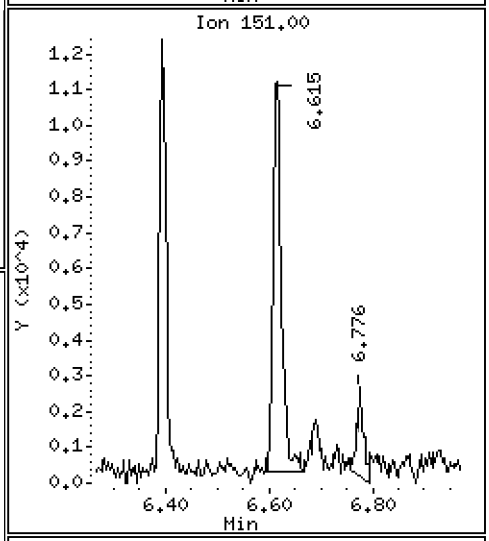
9 Acenaphthylene

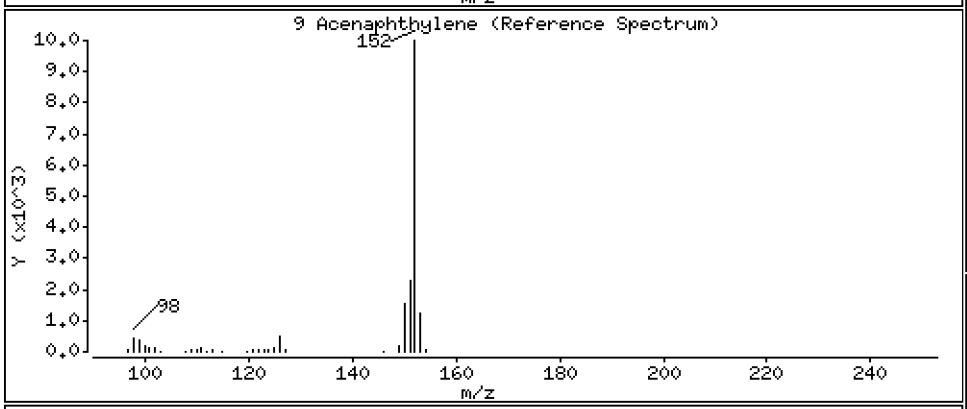
Concentration: 1.871 ug/mL

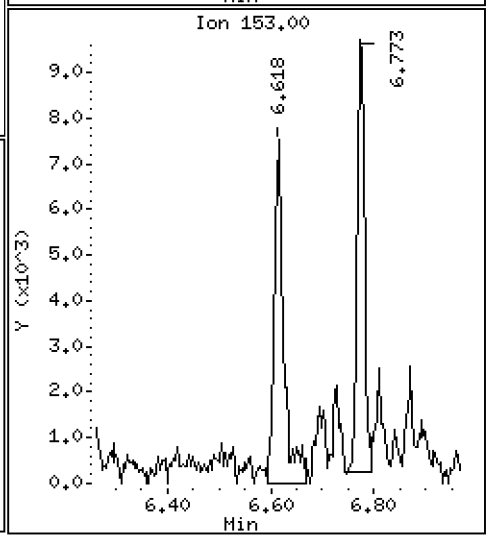


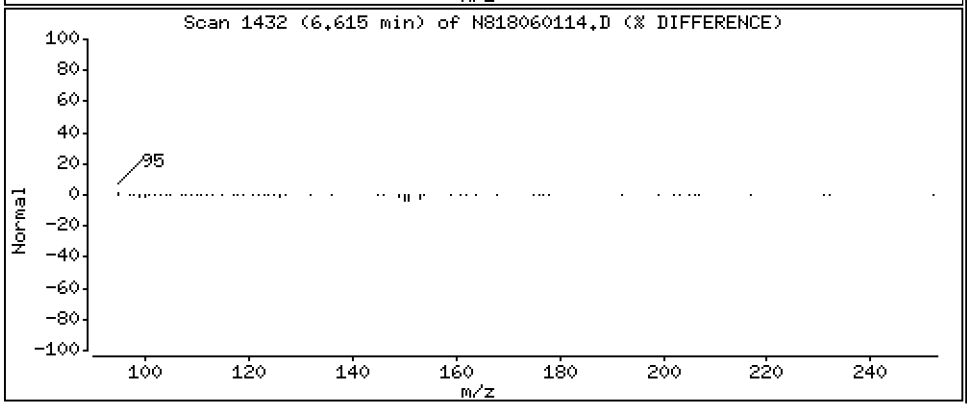












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

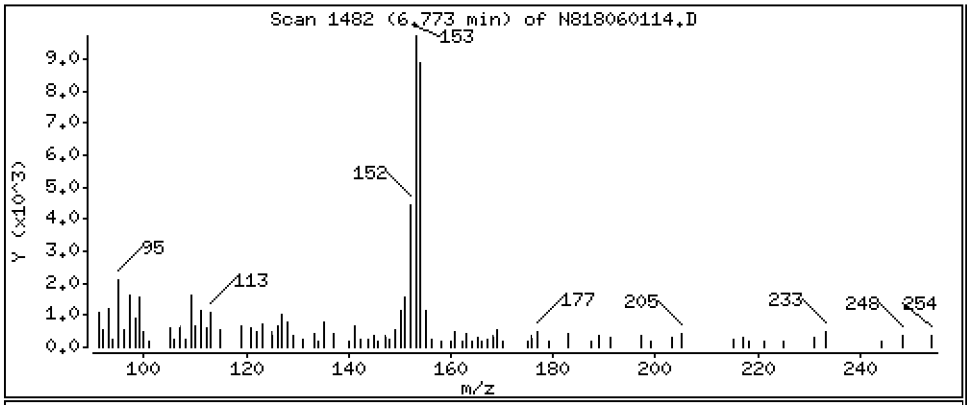
Operator: JZ

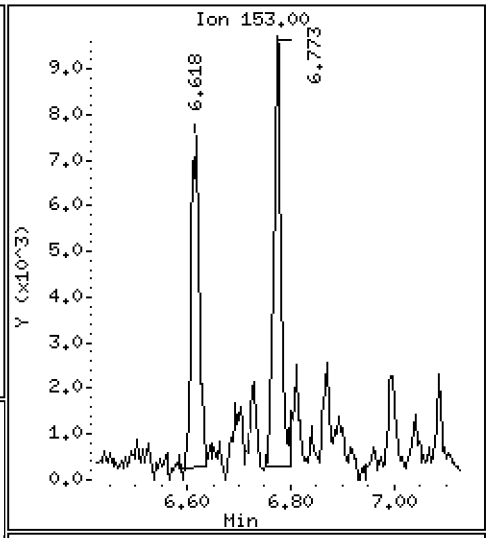
Column phase: Rxi-17sil

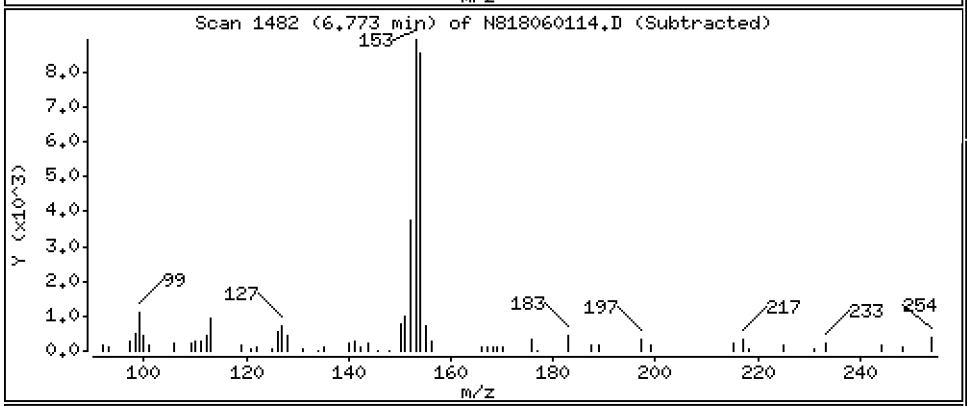
Column diameter: 0.25

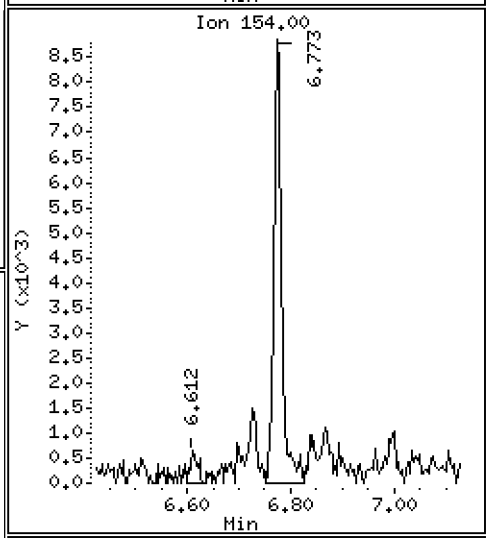
11 Acenaphthene

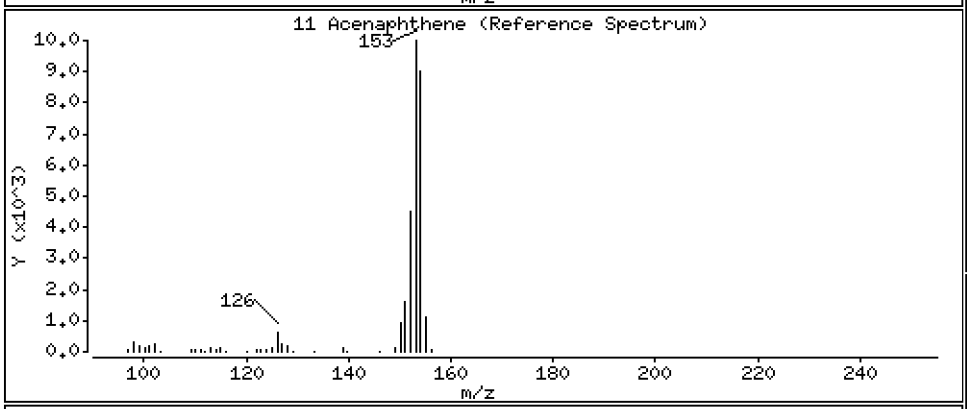
Concentration: 0.3740 ug/mL

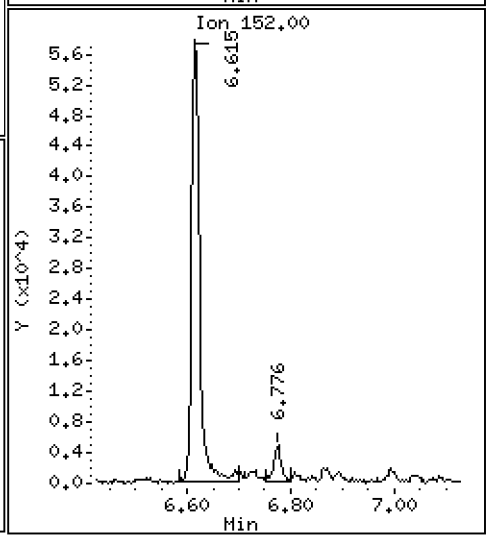


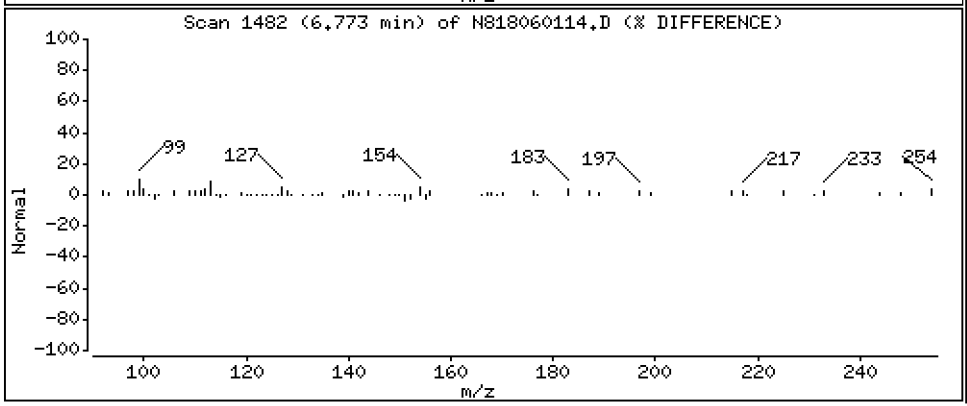












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

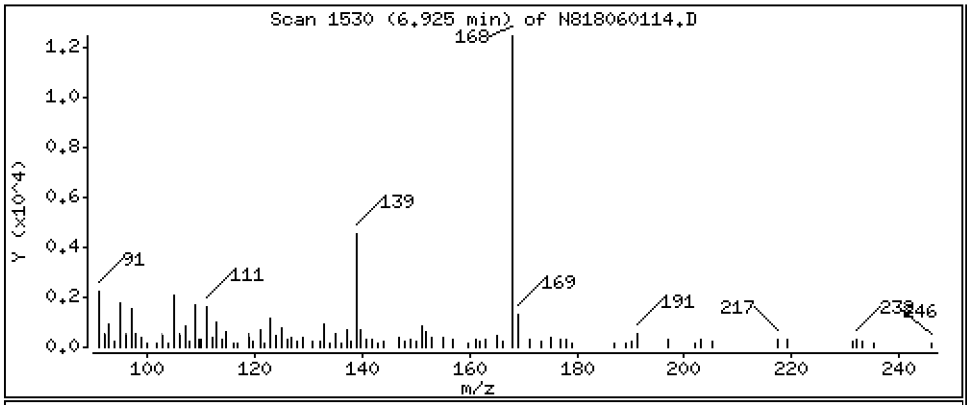
Operator: JZ

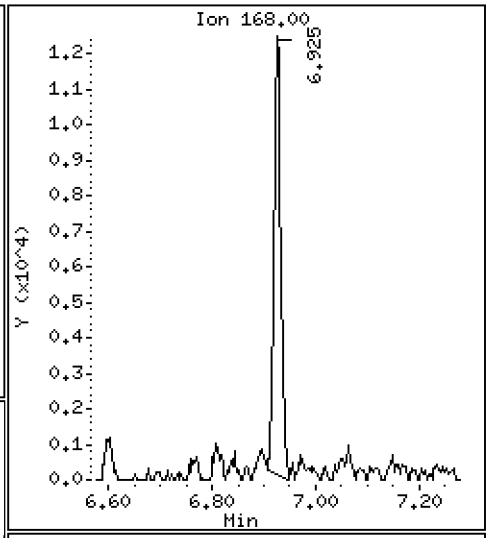
Column phase: Rxi-17sil

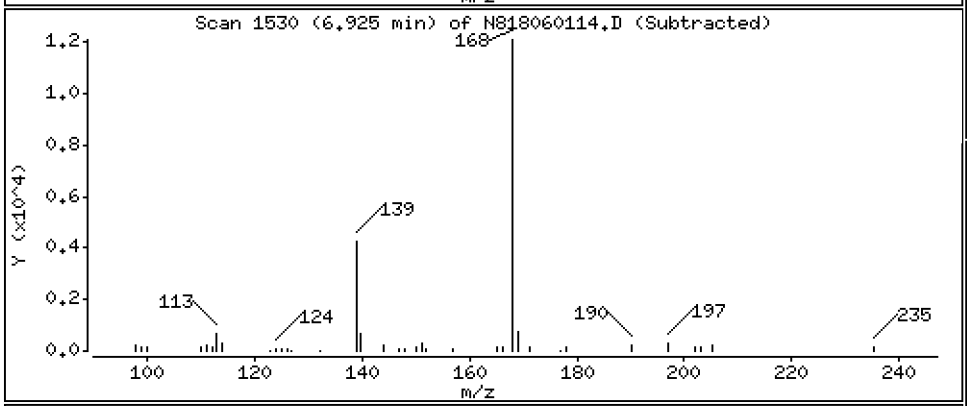
Column diameter: 0.25

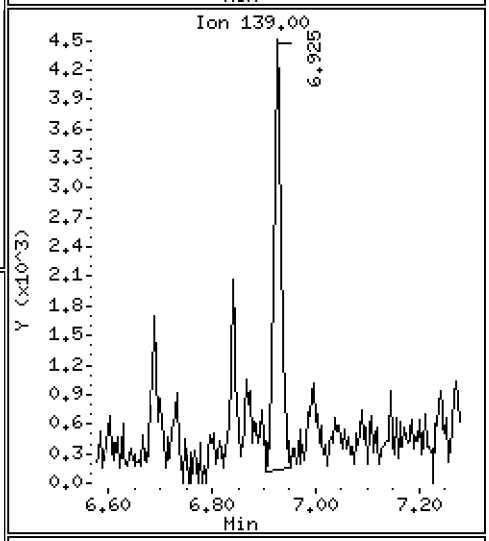
12 Dibenzofuran

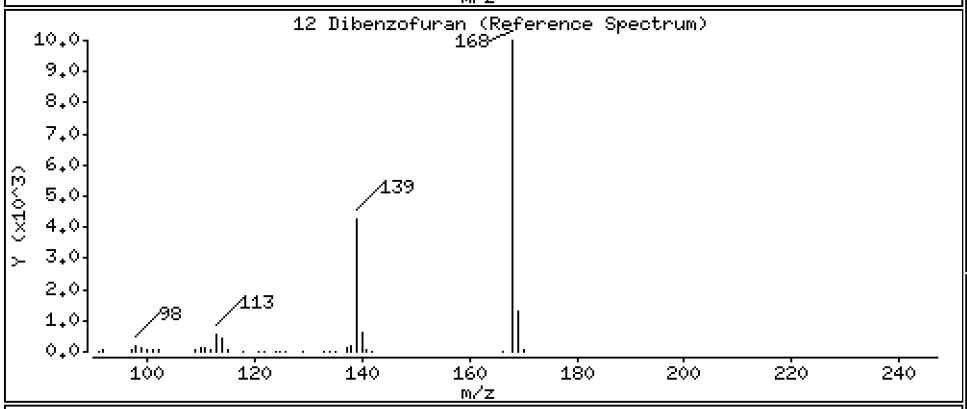
Concentration: 0.3380 ug/mL

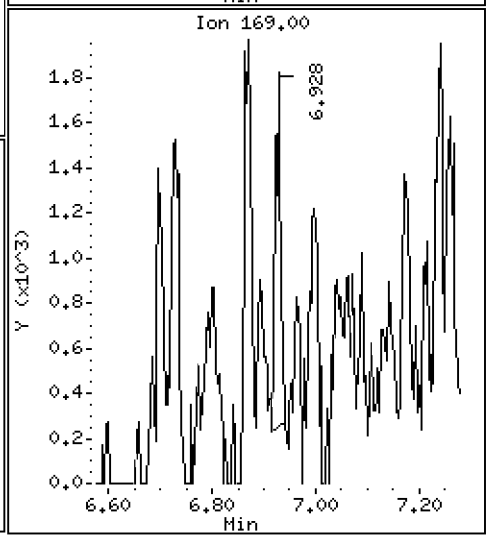


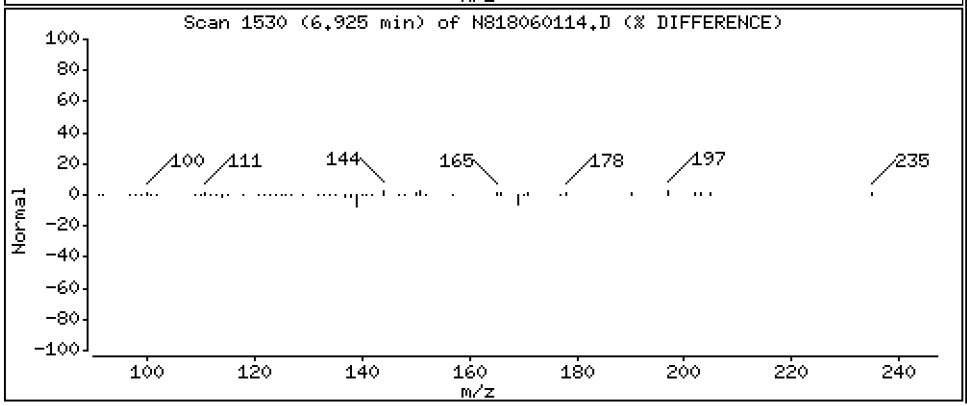












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

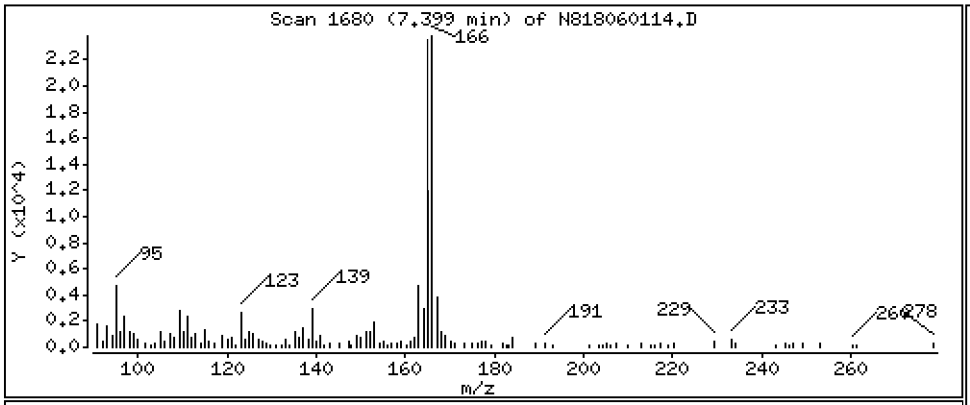
Operator: JZ

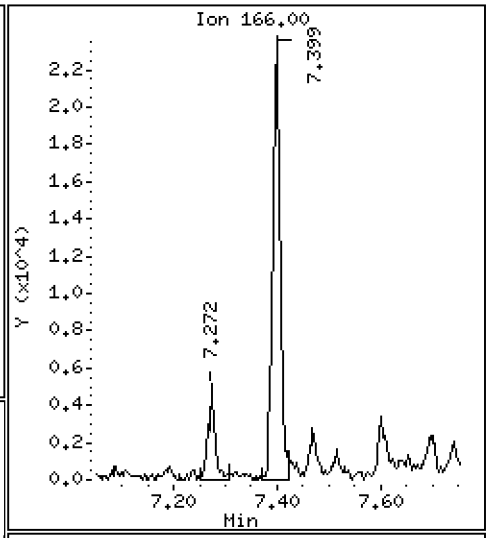
Column phase: Rxi-17sil

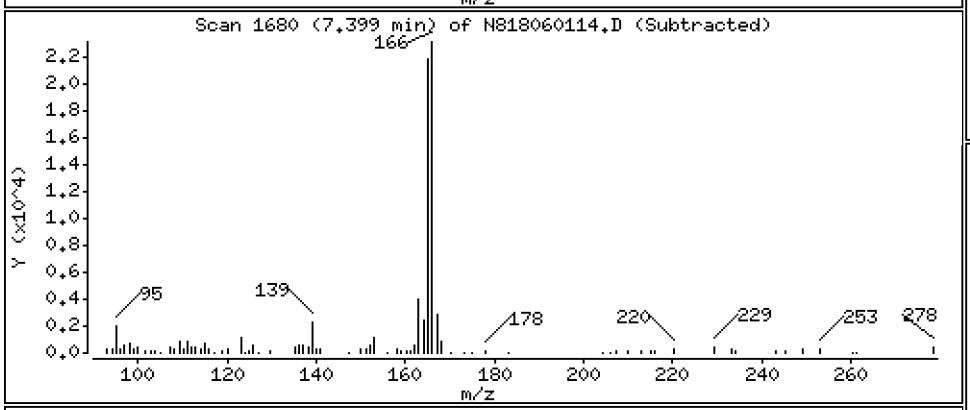
Column diameter: 0.25

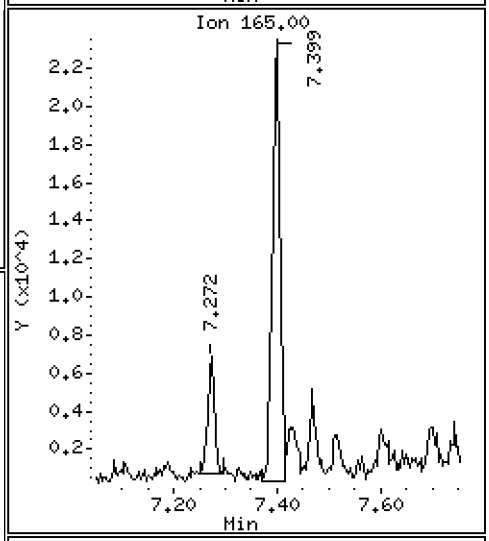
14 Fluorene

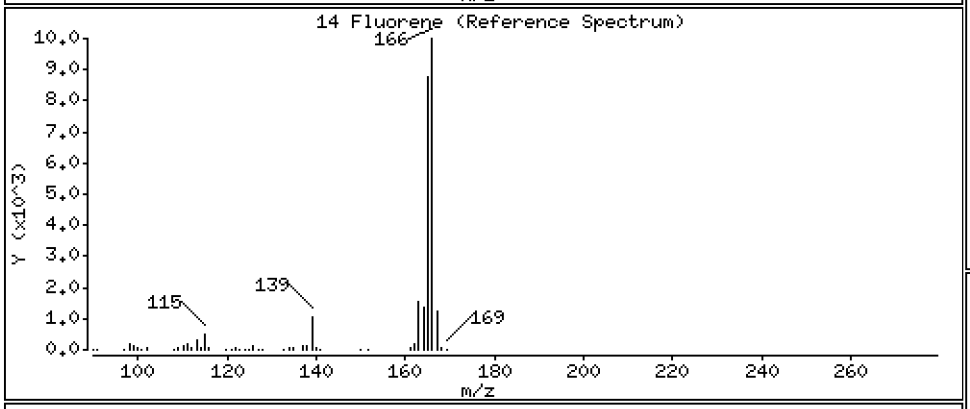
Concentration: 0.9410 ug/mL

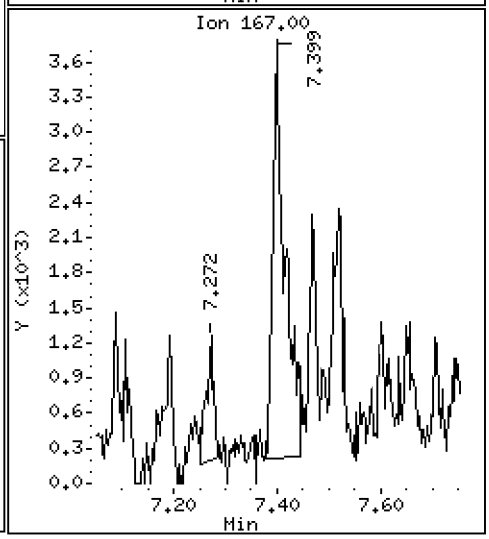


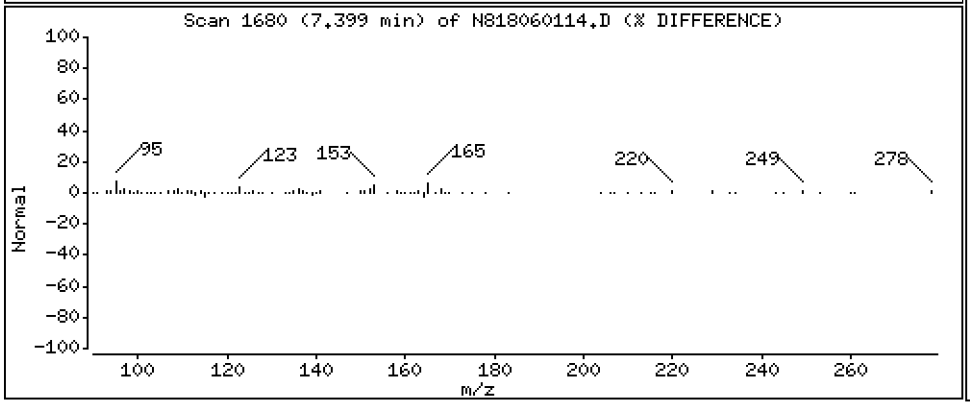












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

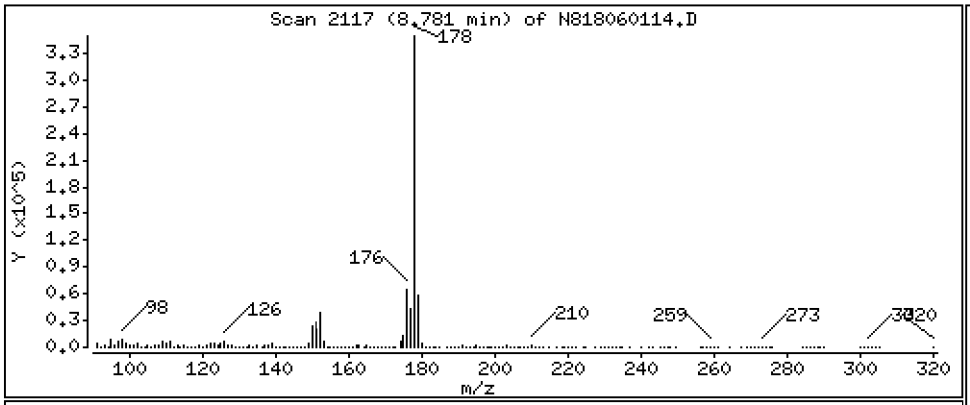
Operator: JZ

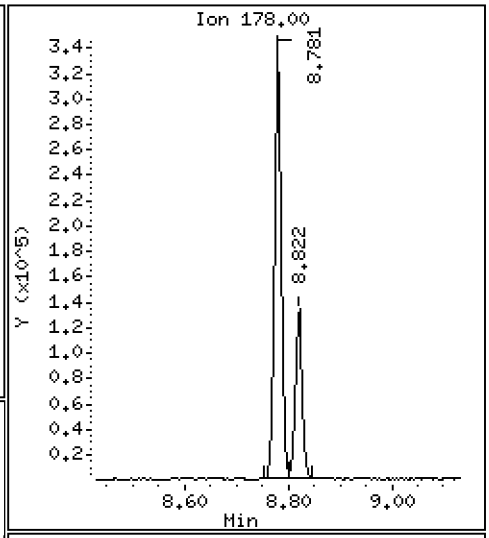
Column phase: Rxi-17sil

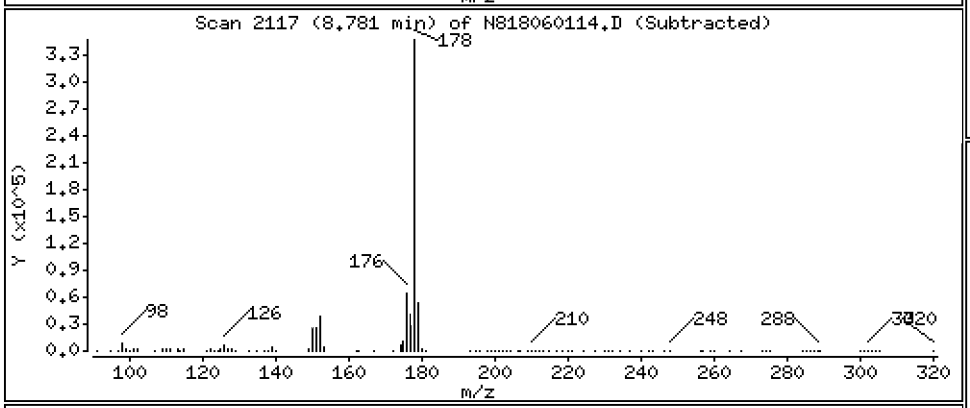
Column diameter: 0.25

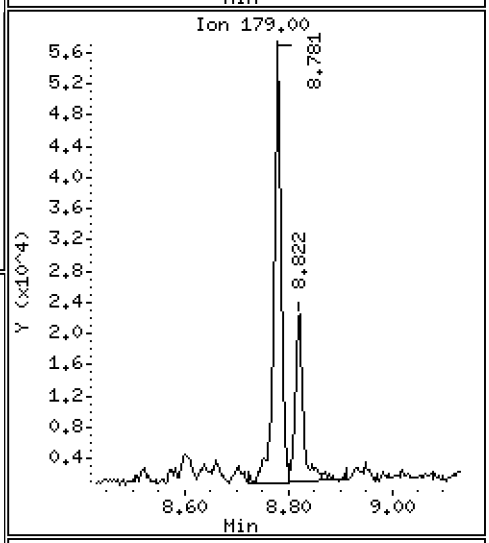
16 Phenanthrene

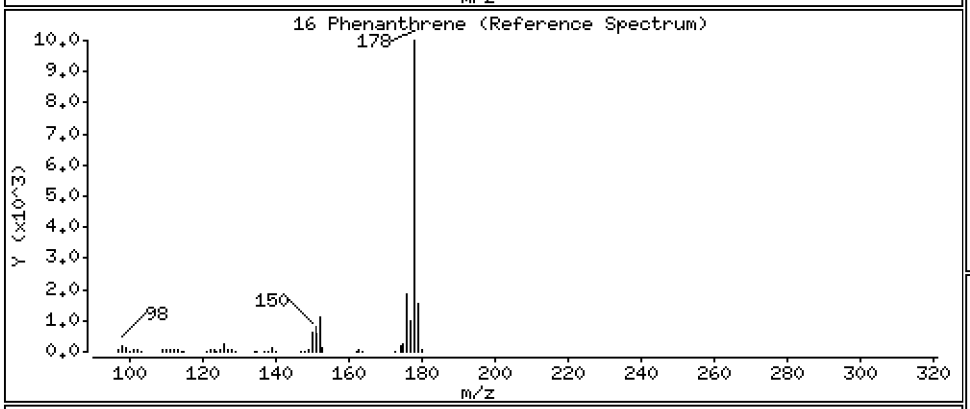
Concentration: 8.809 ug/mL

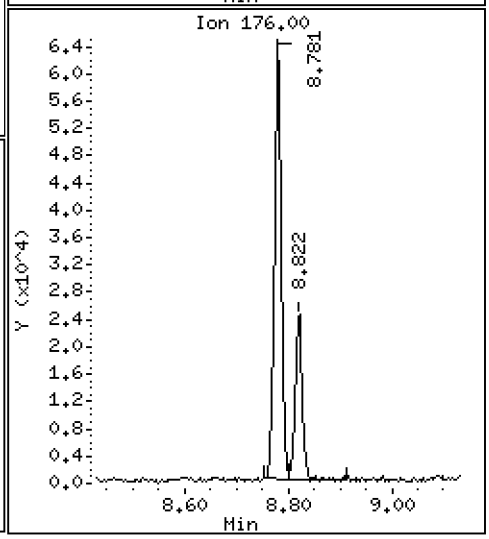


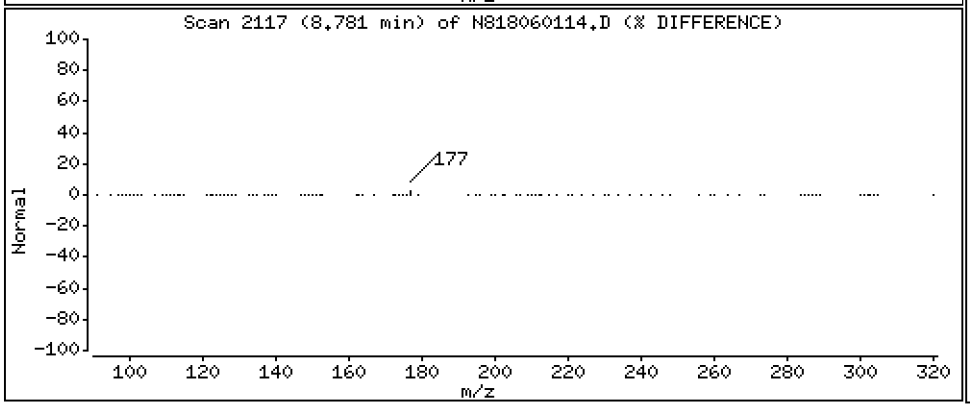












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

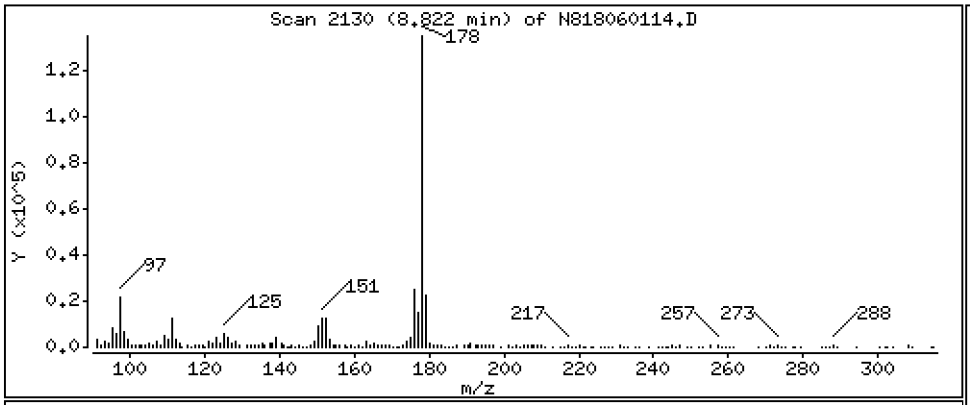
Operator: JZ

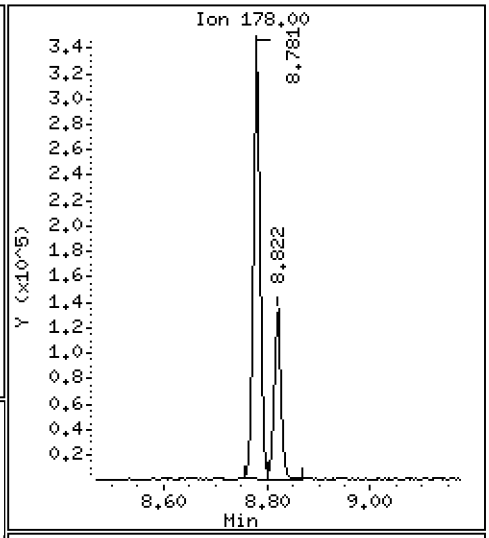
Column phase: Rxi-17sil

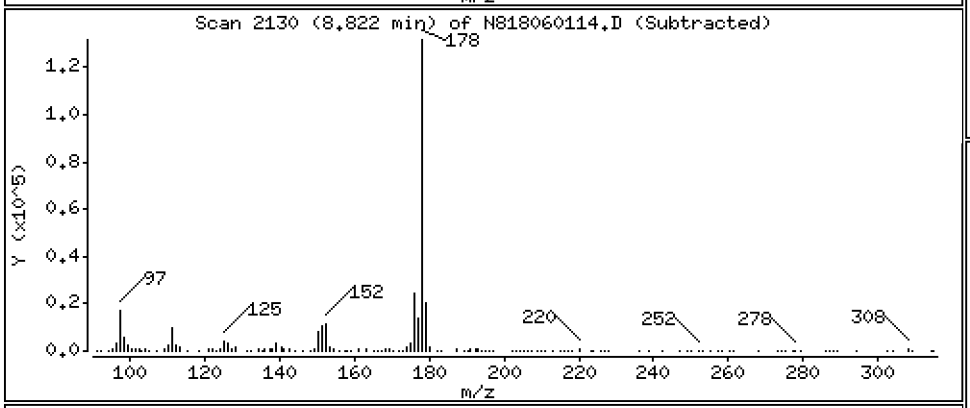
Column diameter: 0.25

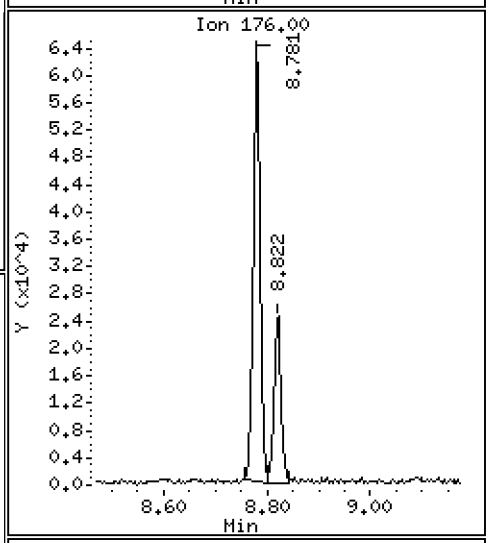
17 Anthracene

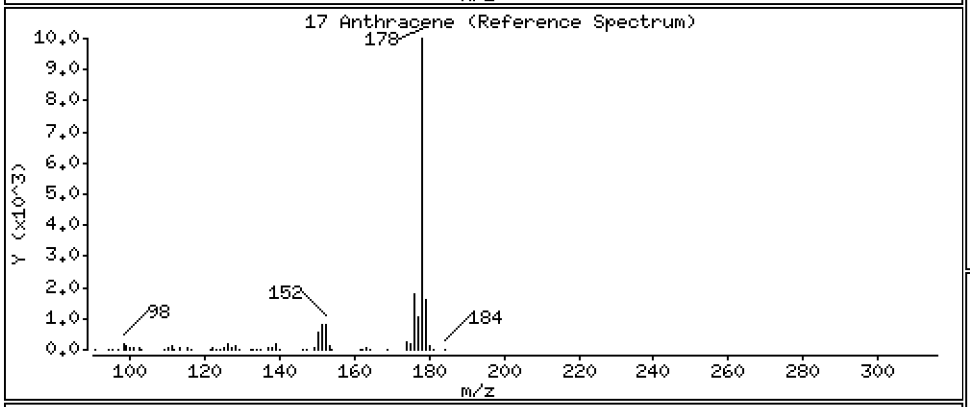
Concentration: 3.857 ug/mL

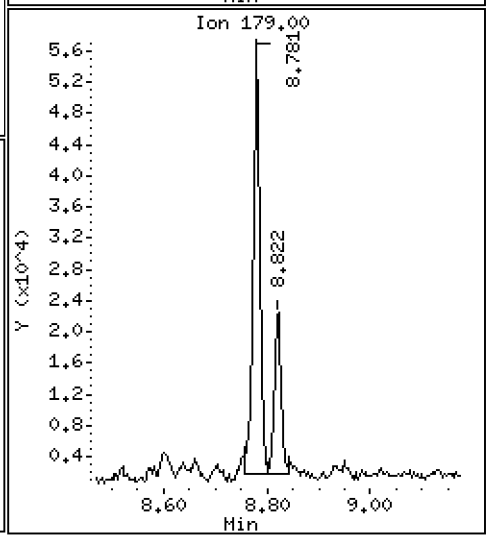


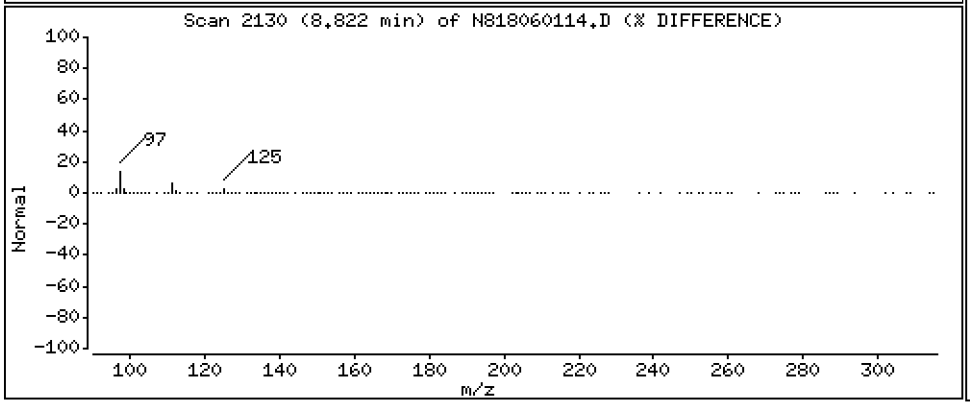












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

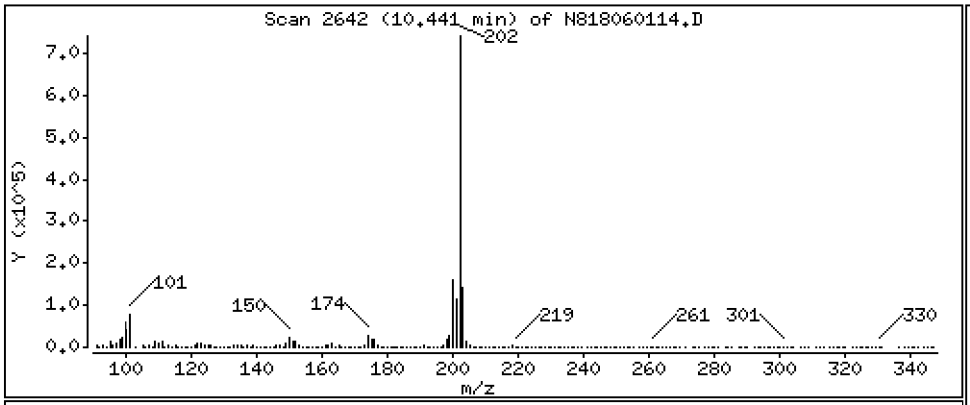
Operator: JZ

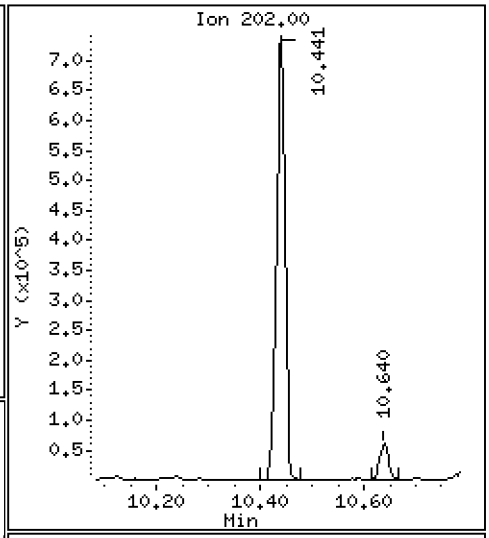
Column phase: Rxi-17sil

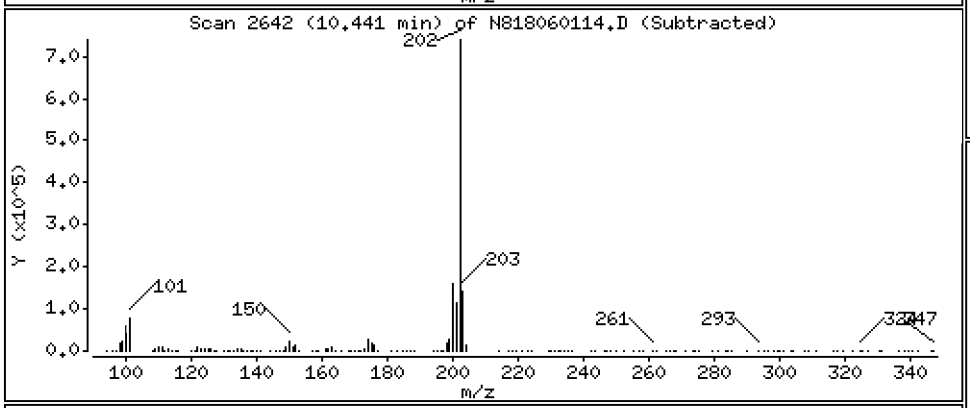
Column diameter: 0.25

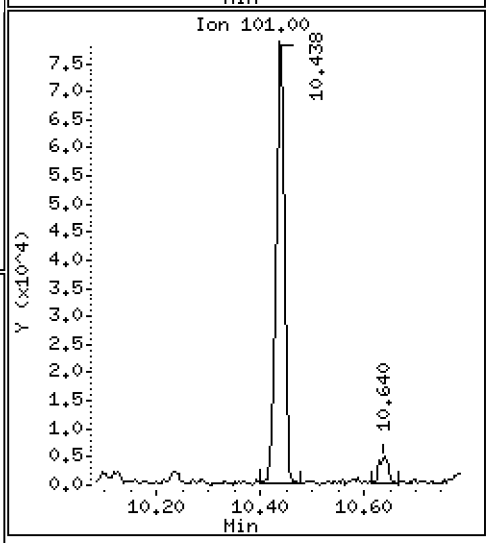
22 Fluoranthene

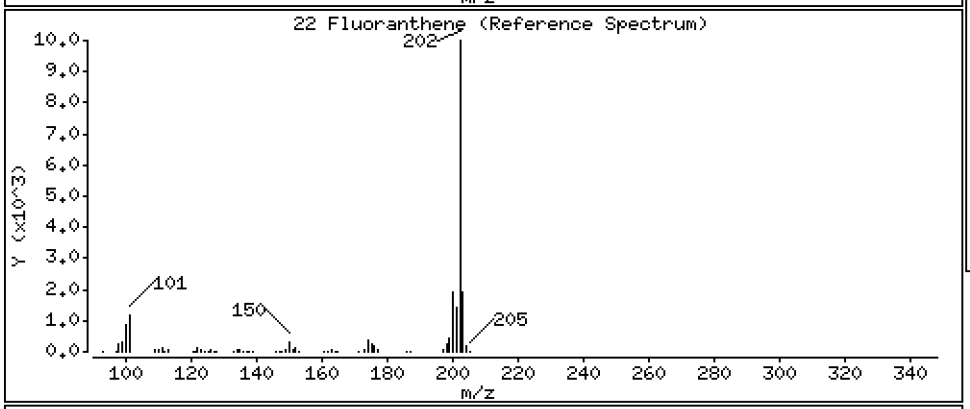
Concentration: 20.97 ug/mL

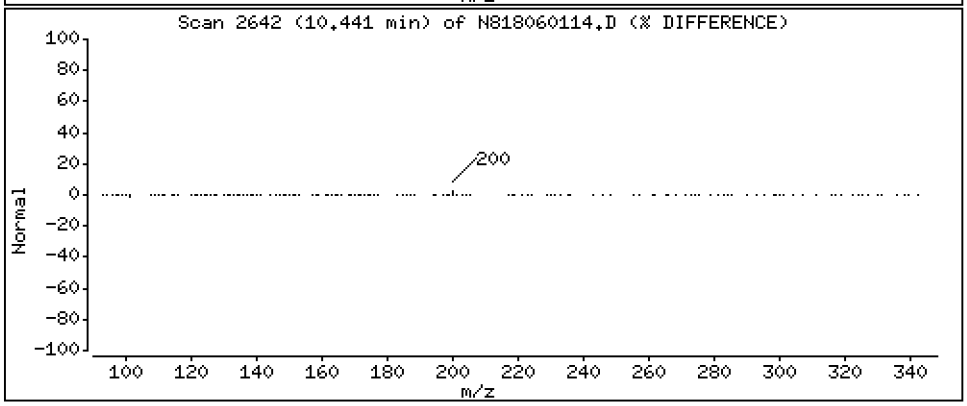












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

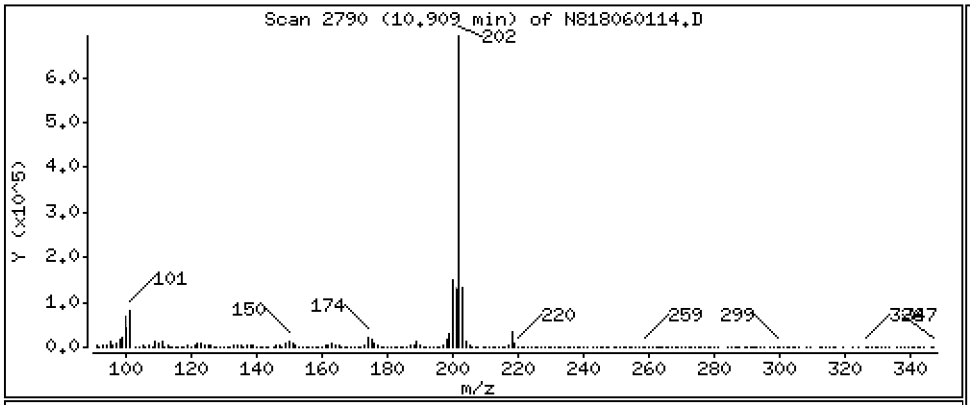
Operator: JZ

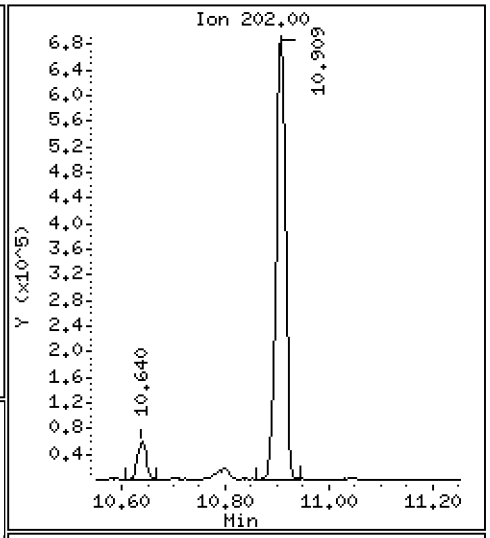
Column phase: Rxi-17sil

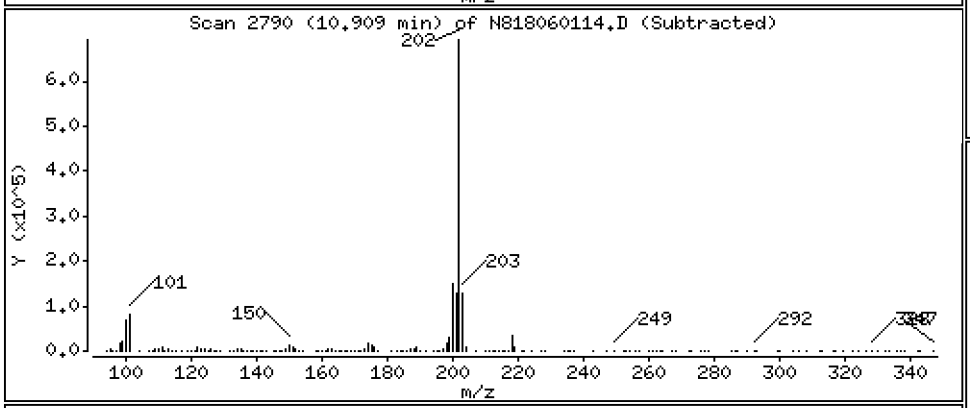
Column diameter: 0.25

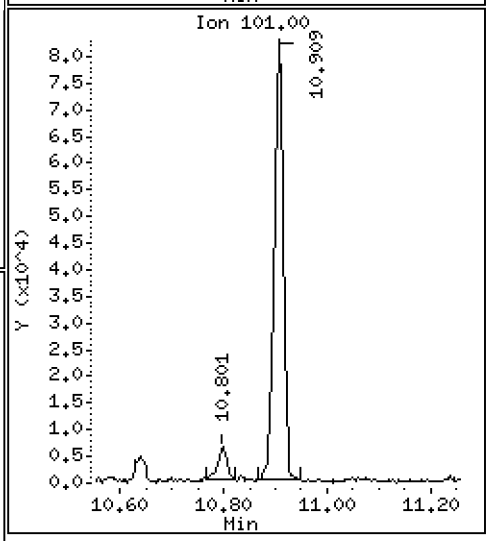
23 Pyrene

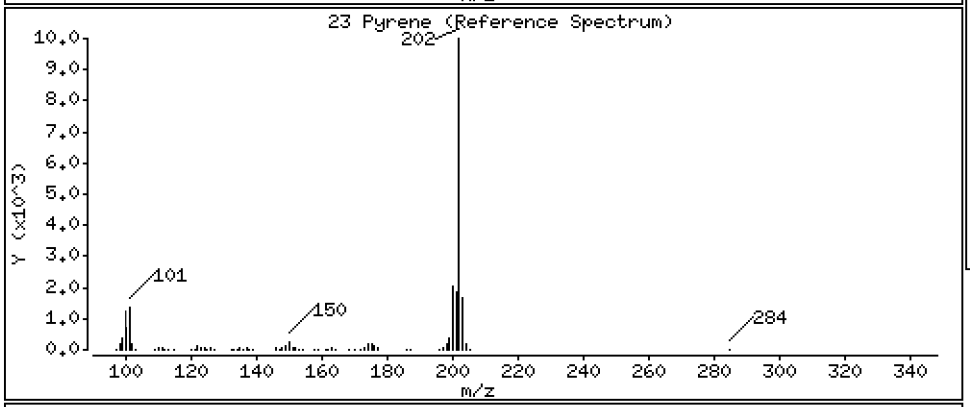
Concentration: 23.21 ug/mL

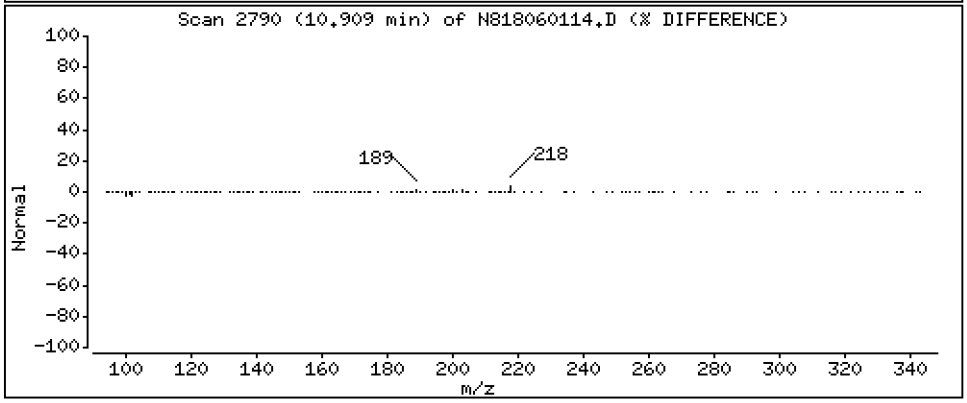












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

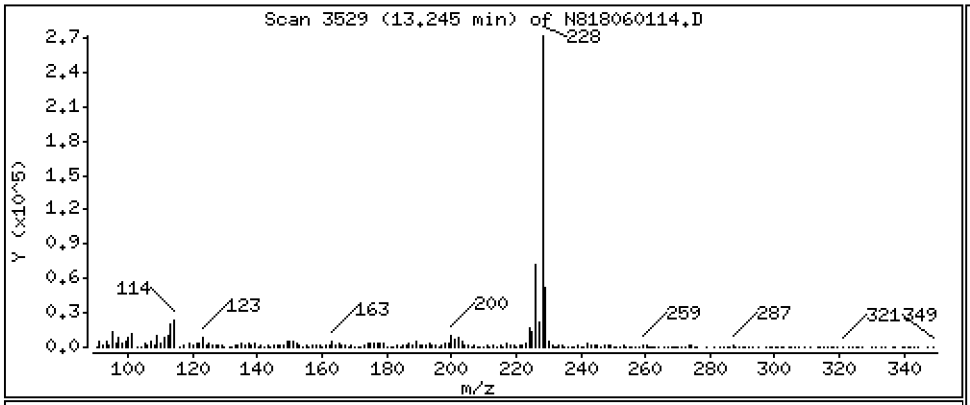
Operator: JZ

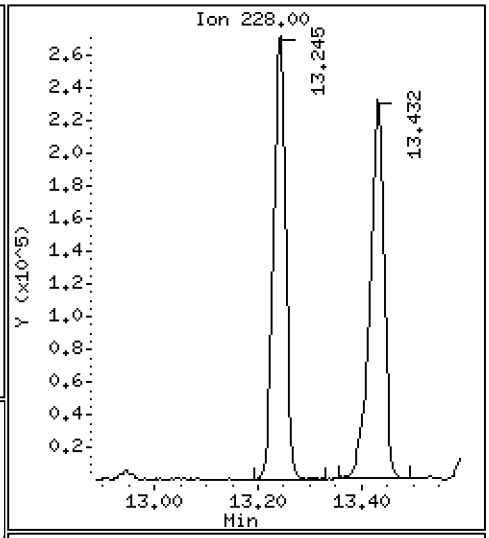
Column phase: Rxi-17sil

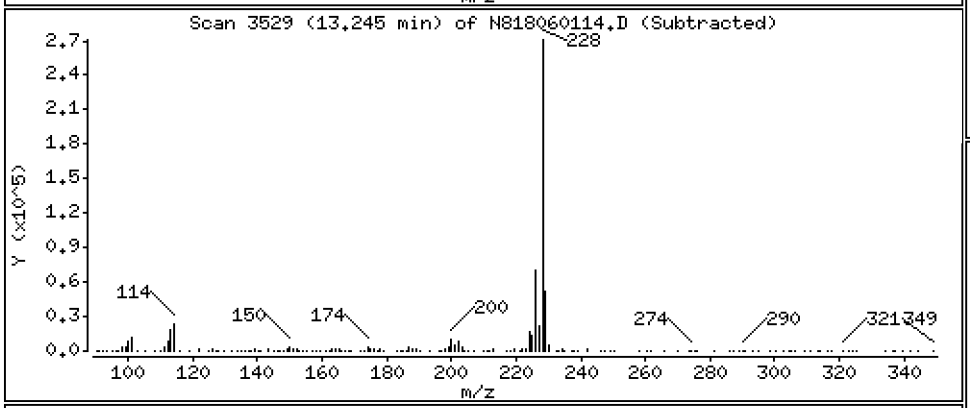
Column diameter: 0.25

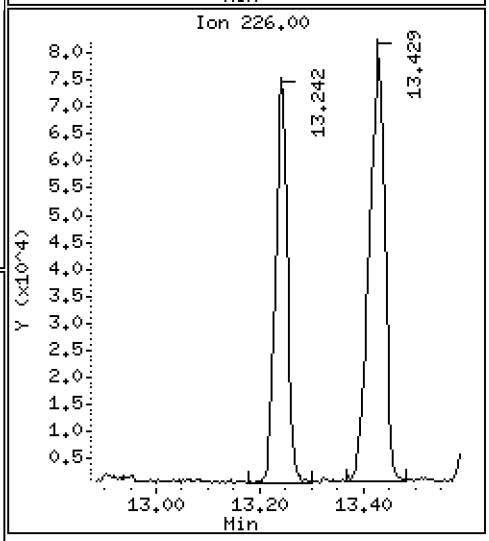
24 Benzo(a)anthracene

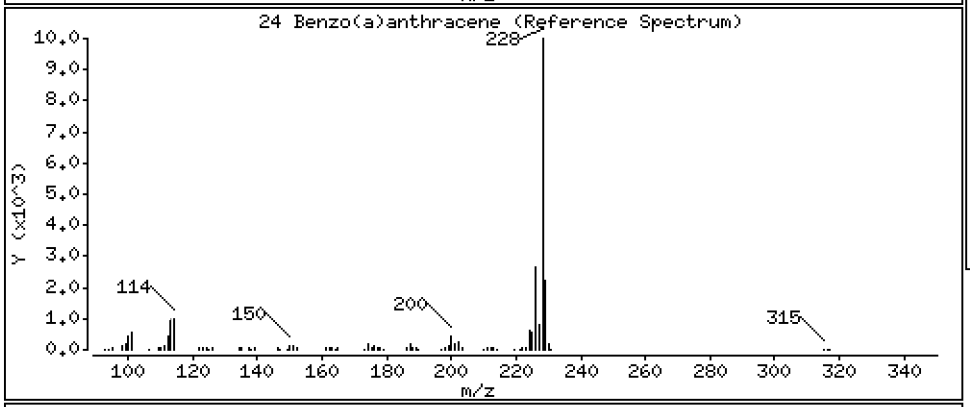
Concentration: 12.34 ug/mL

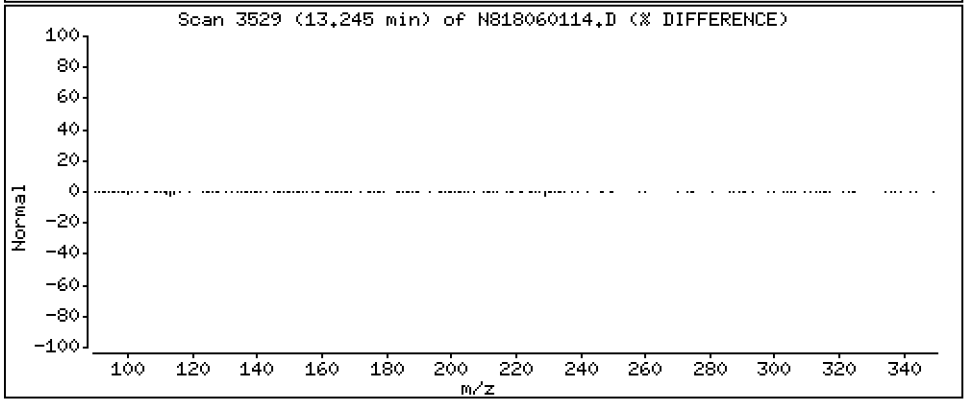












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

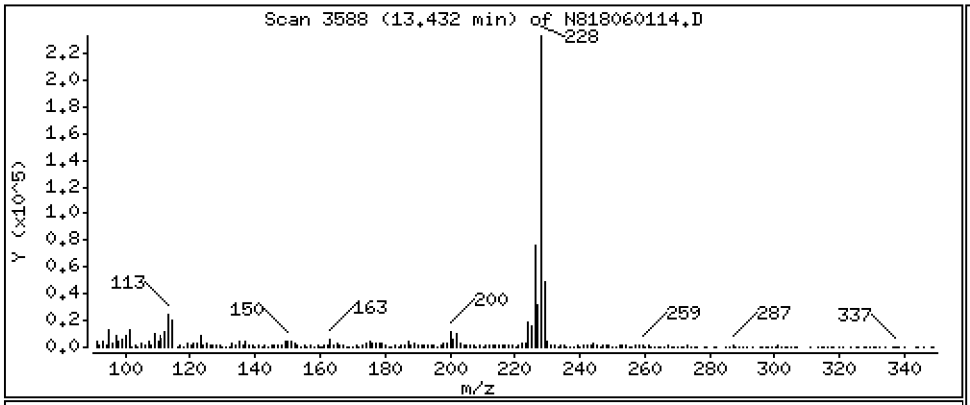
Operator: JZ

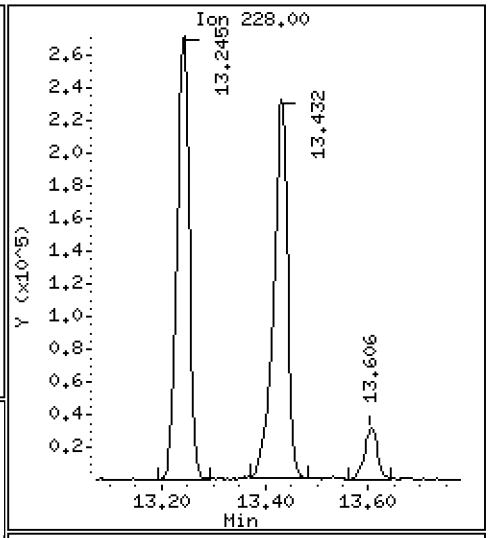
Column phase: Rxi-17sil

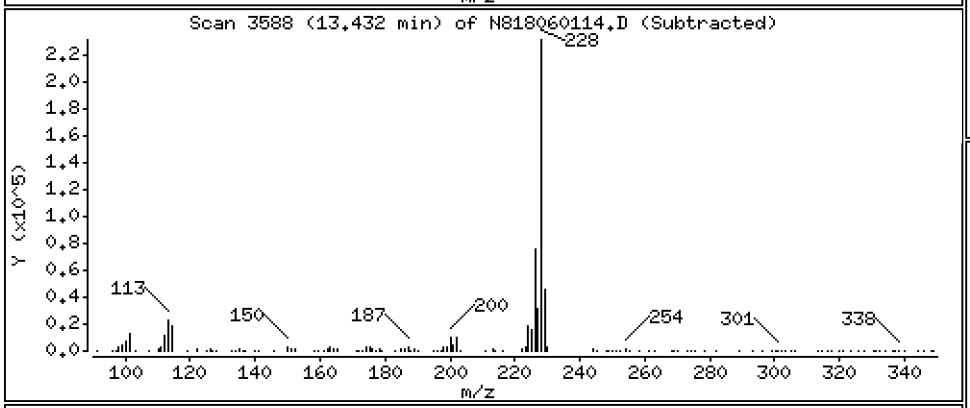
Column diameter: 0.25

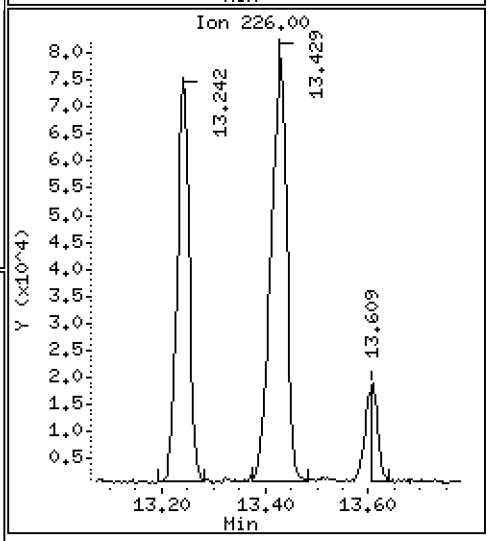
27 Chrysene

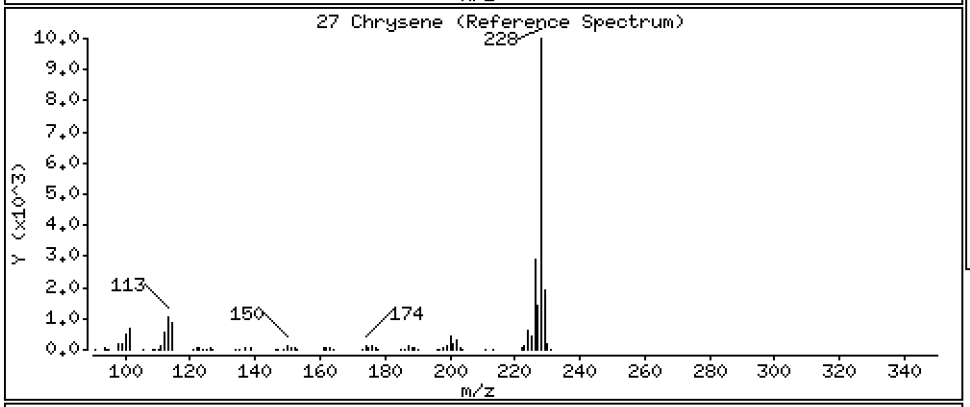
Concentration: 12.09 ug/mL

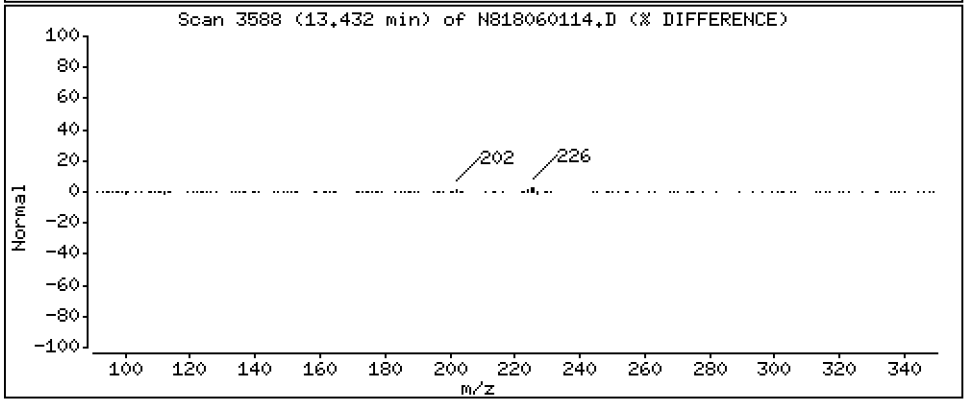












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

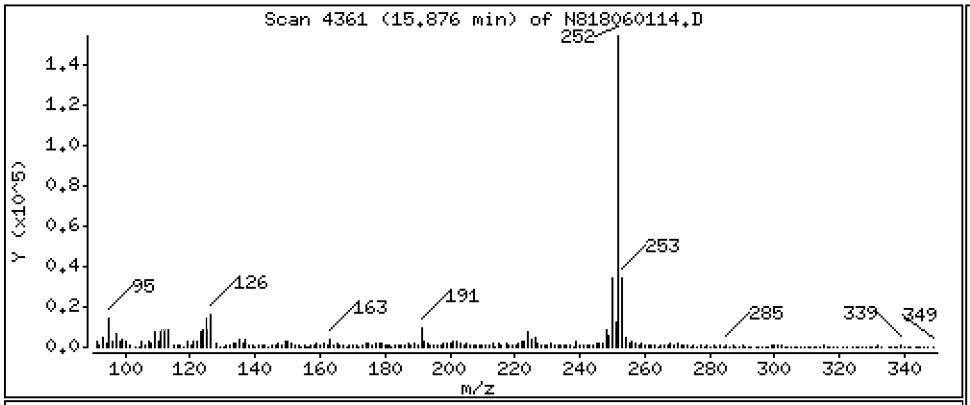
Operator: JZ

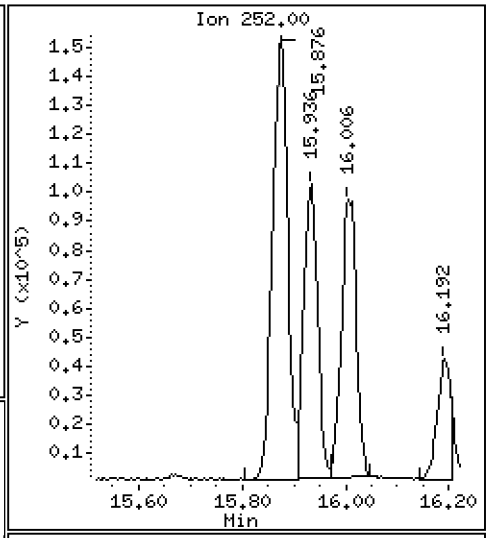
Column phase: Rxi-17sil

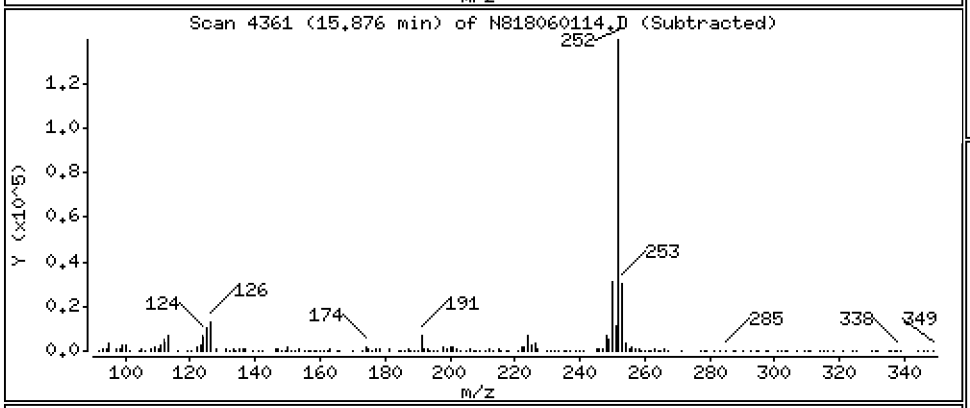
Column diameter: 0.25

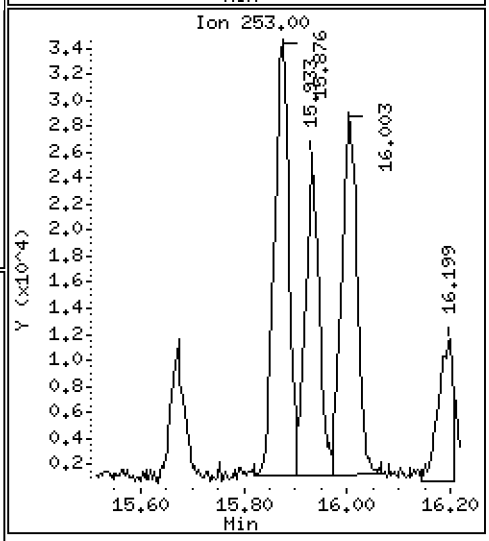
28 Benzo(b)fluoranthene

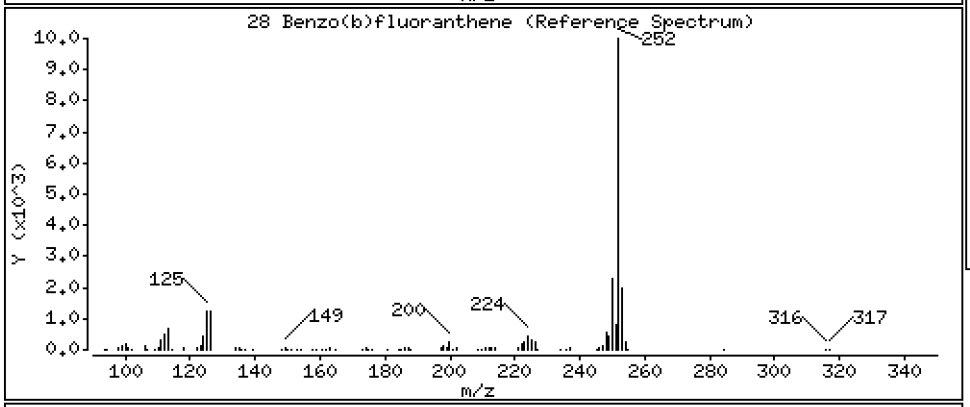
Concentration: 8.116 ug/mL

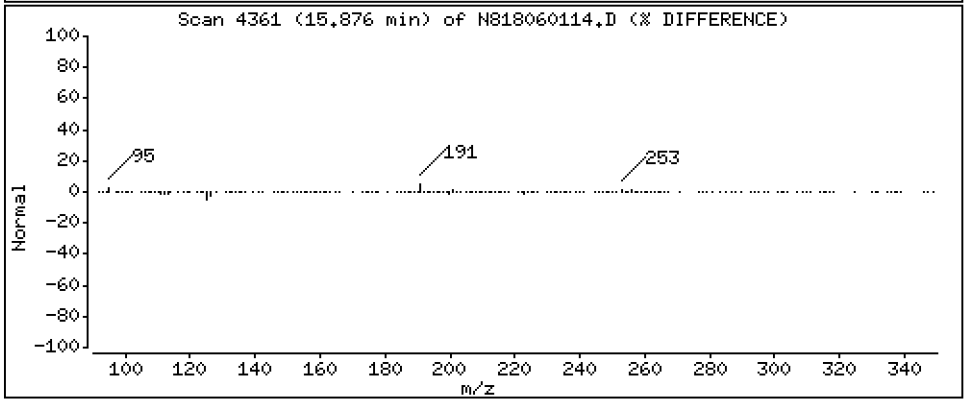












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

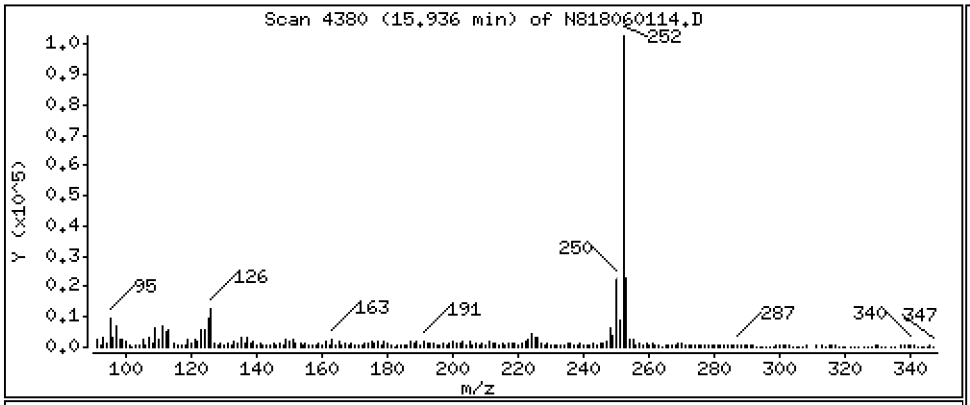
Operator: JZ

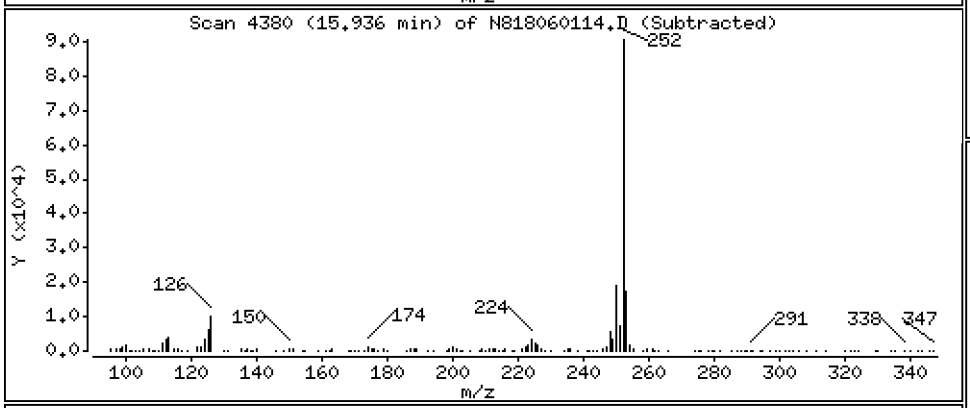
Column phase: Rxi-17sil

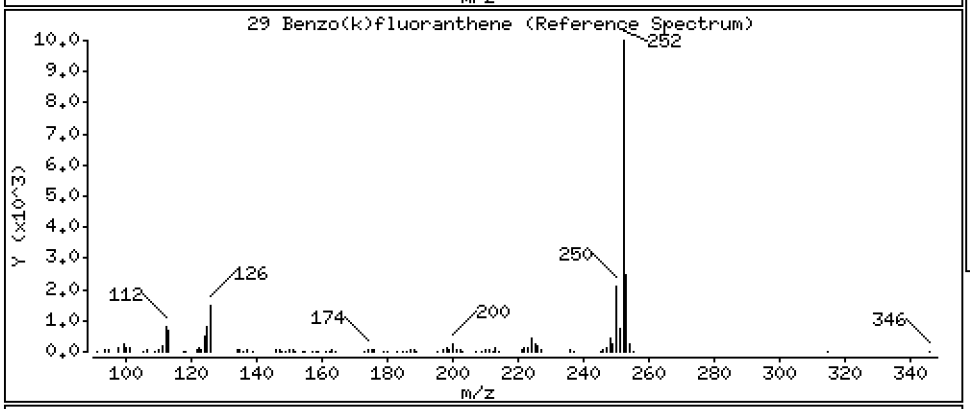
Column diameter: 0.25

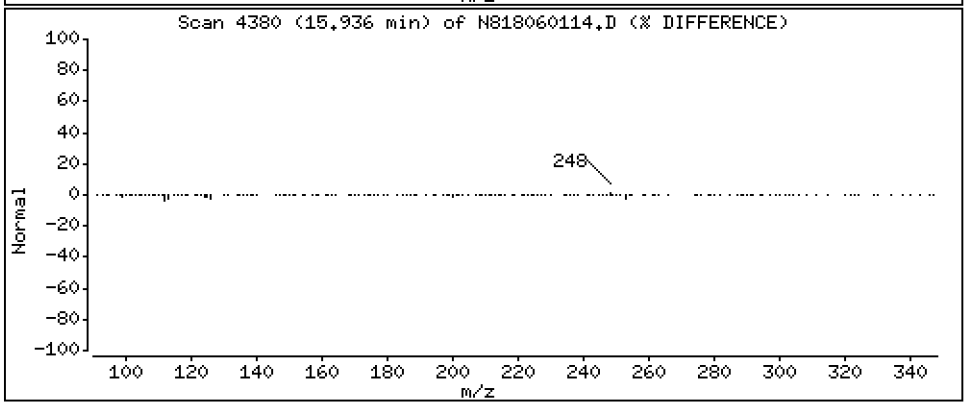
29 Benzo(k)fluoranthene

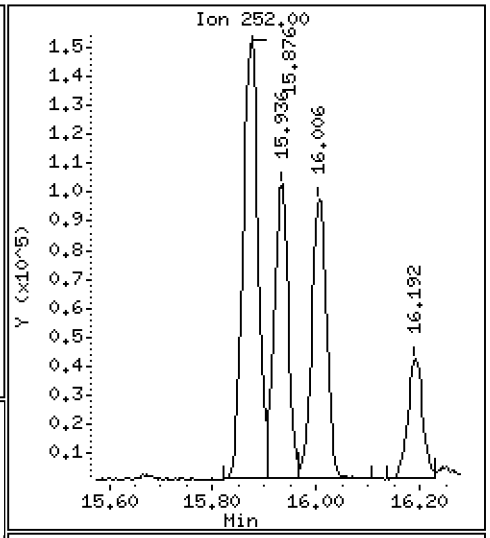
Concentration: 5.004 ug/mL

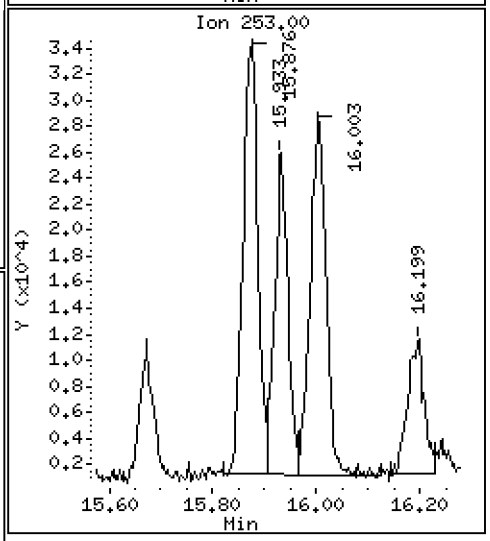












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

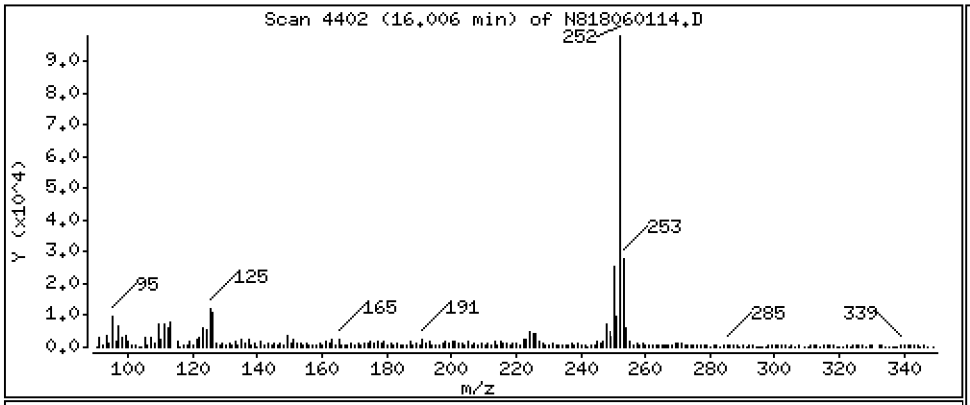
Operator: JZ

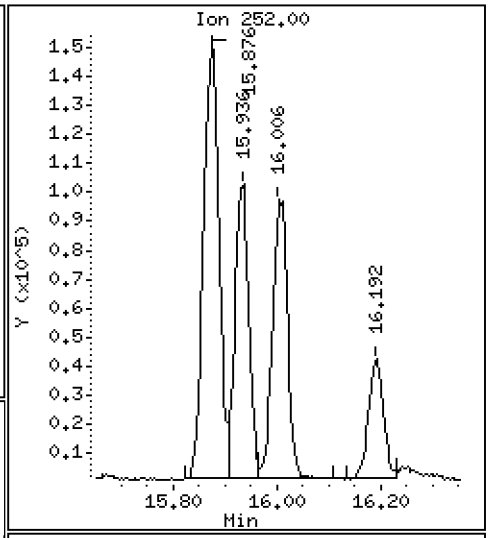
Column phase: Rxi-17sil

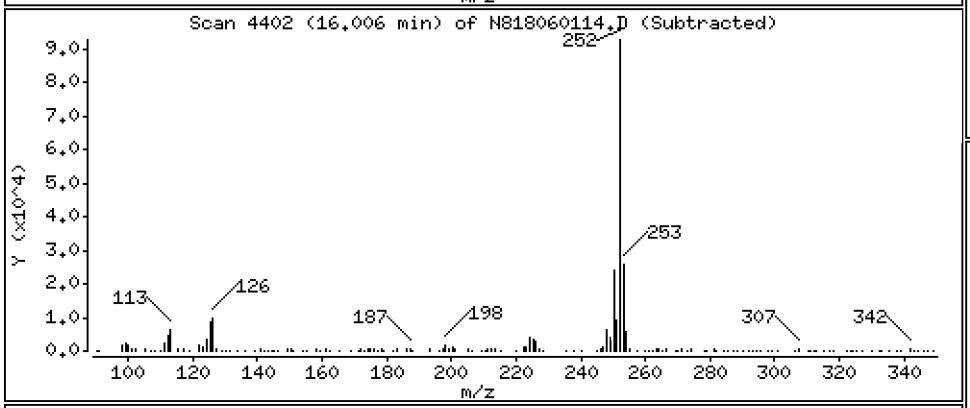
Column diameter: 0.25

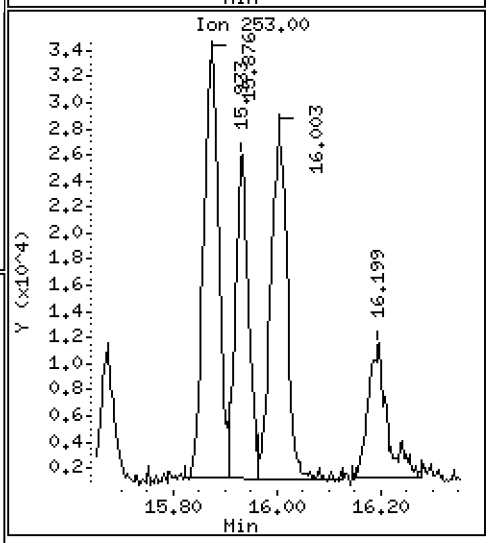
30 Benzo(j)fluoranthene

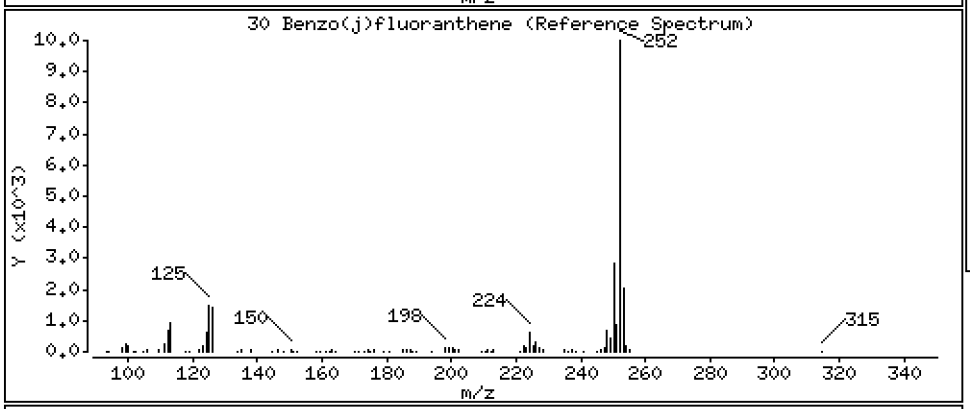
Concentration: 5.160 ug/mL

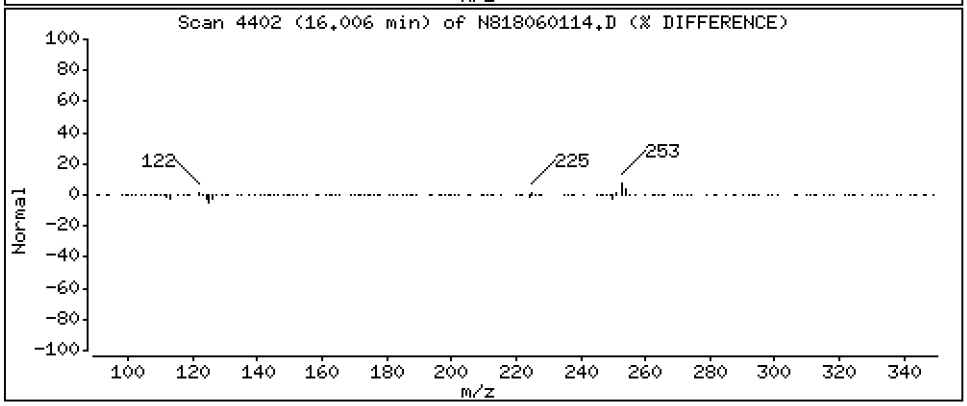












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

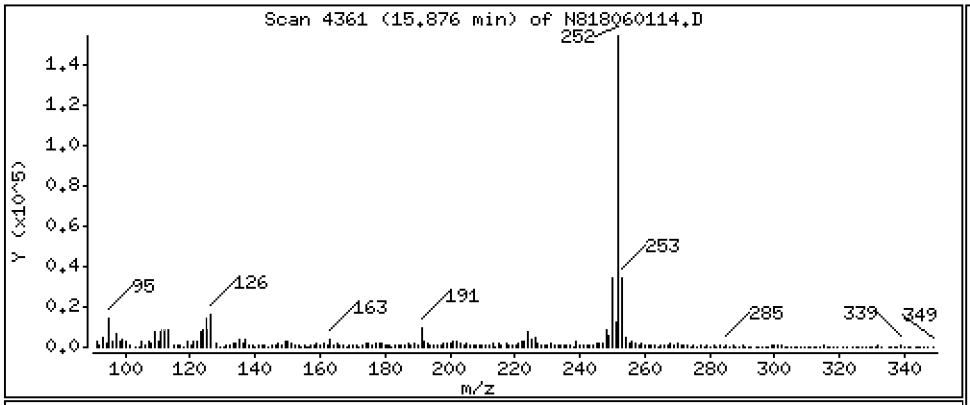
Operator: JZ

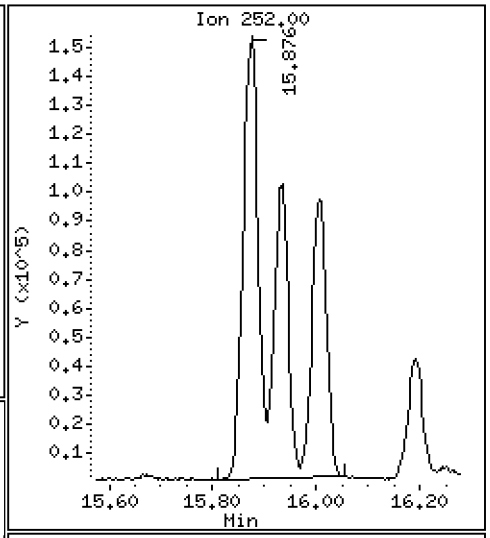
Column phase: Rxi-17sil

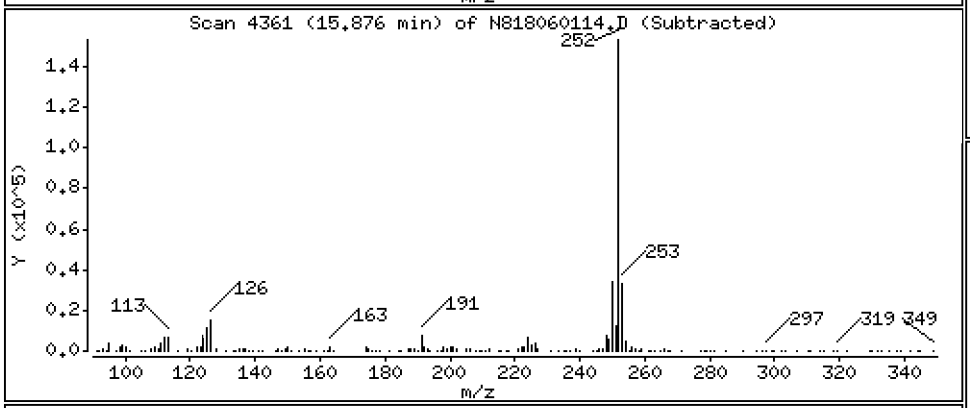
Column diameter: 0.25

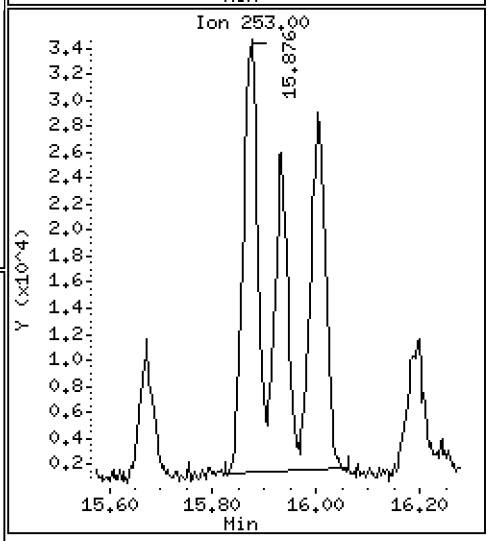
31 Total Benzofluoranthenes

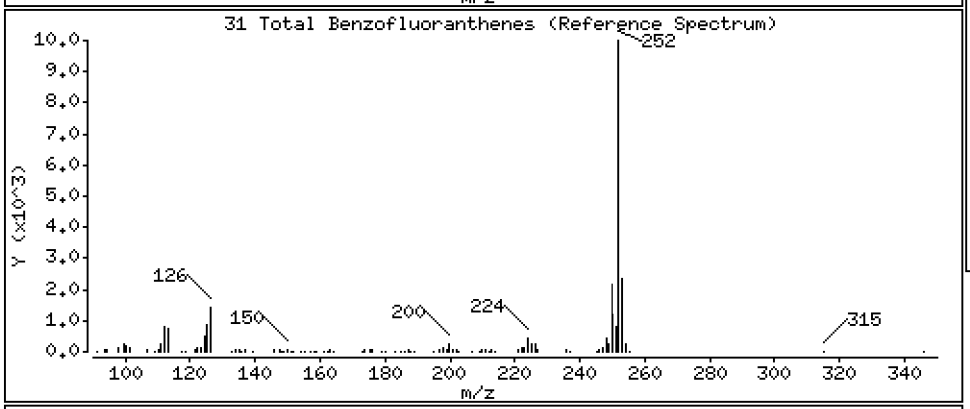
Concentration: 18.18 ug/mL

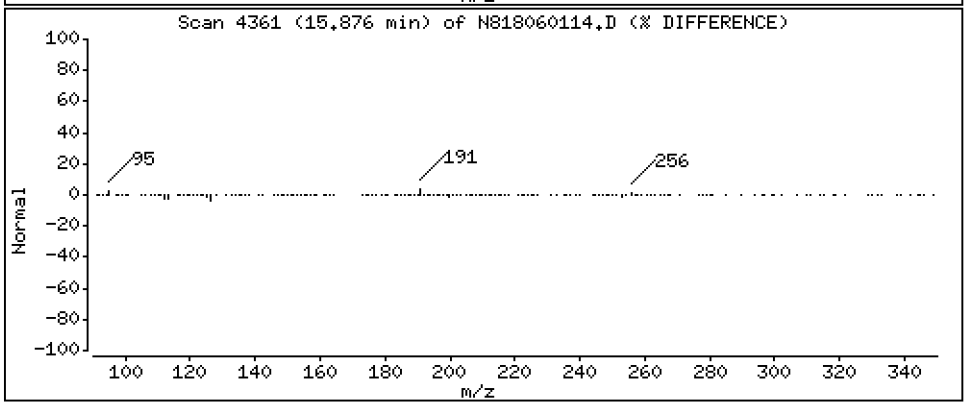












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

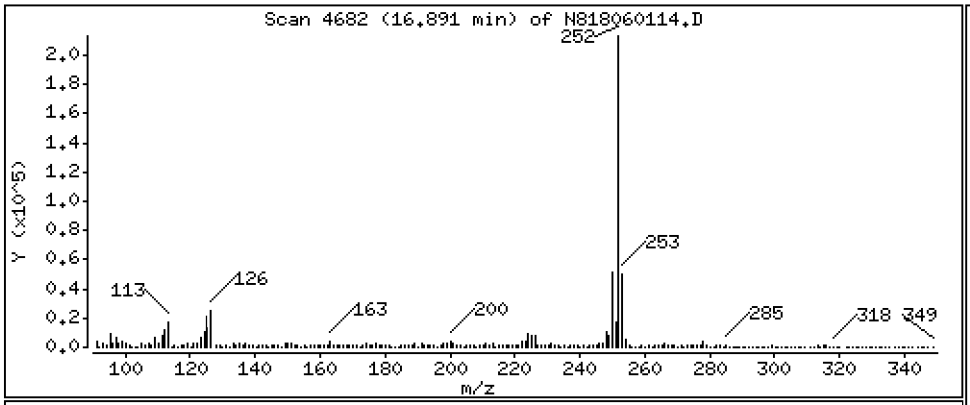
Operator: JZ

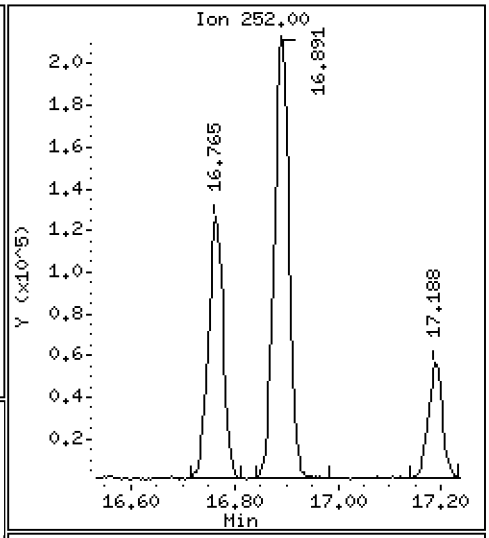
Column phase: Rxi-17sil

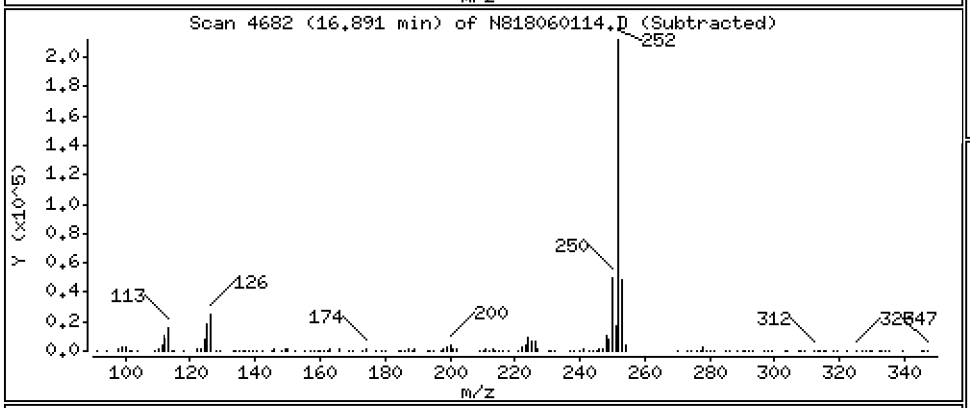
Column diameter: 0.25

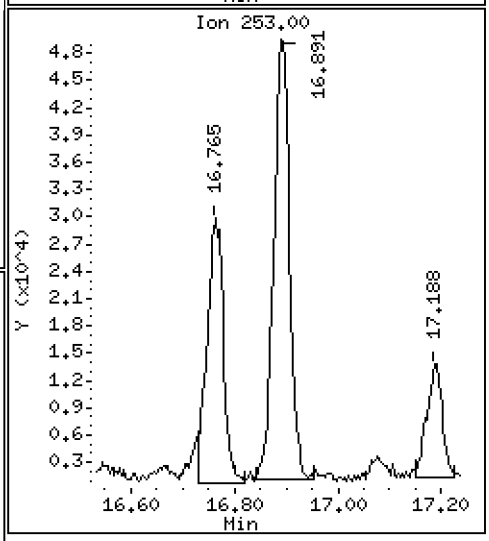
32 Benzo(a)pyrene

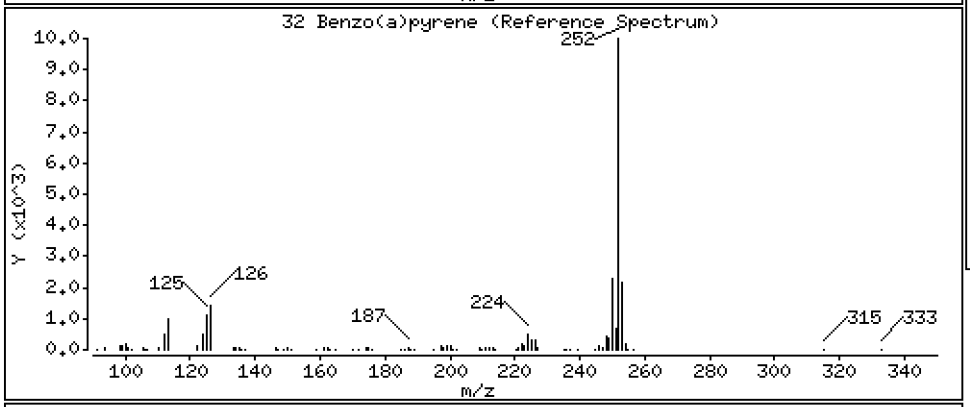
Concentration: 12.39 ug/mL

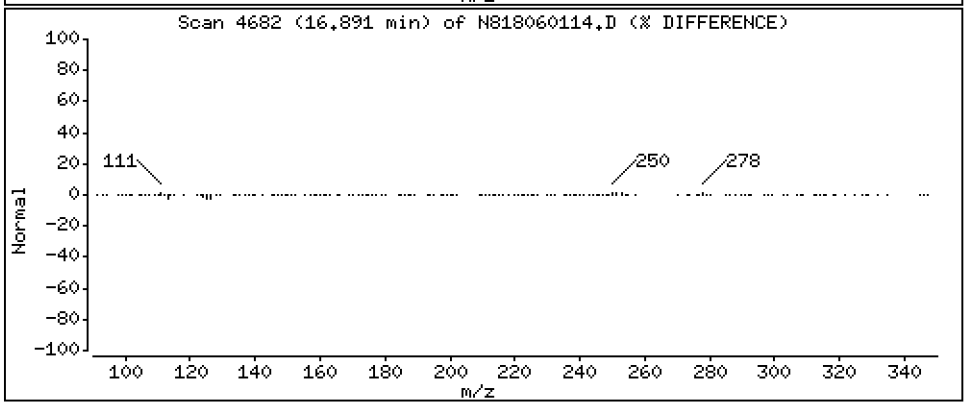












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

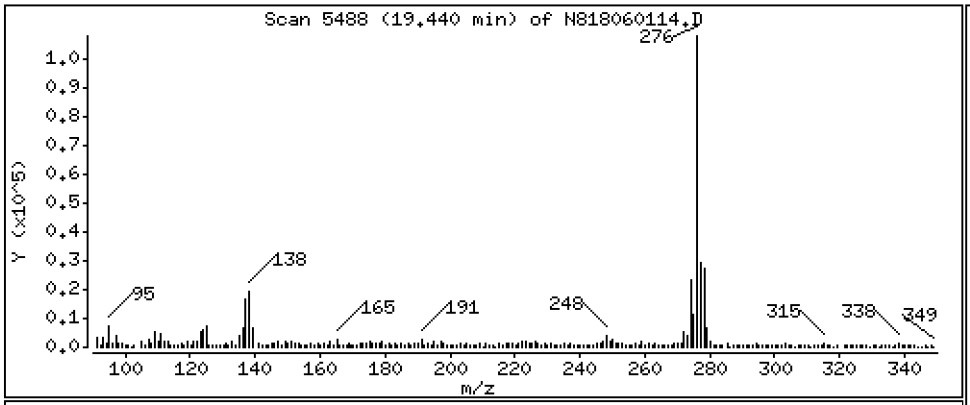
Operator: JZ

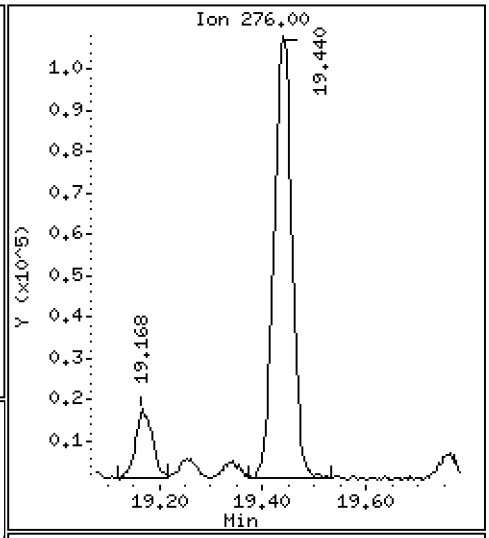
Column phase: Rxi-17sil

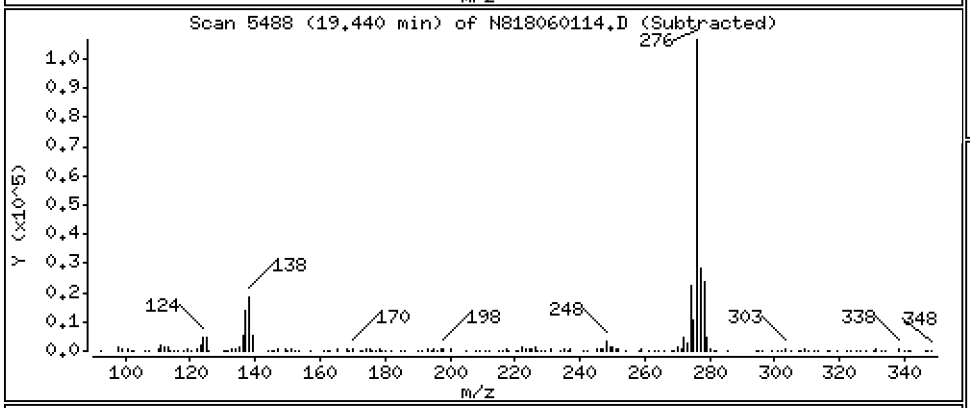
Column diameter: 0.25

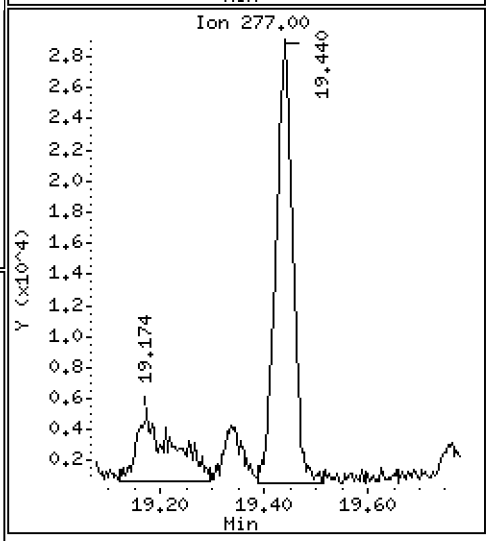
37 Indeno(1,2,3-cd)pyrene

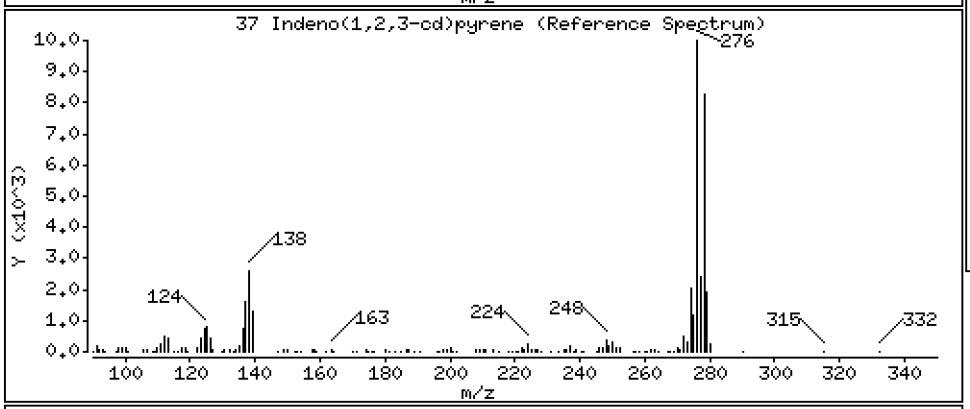
Concentration: 6.711 ug/mL

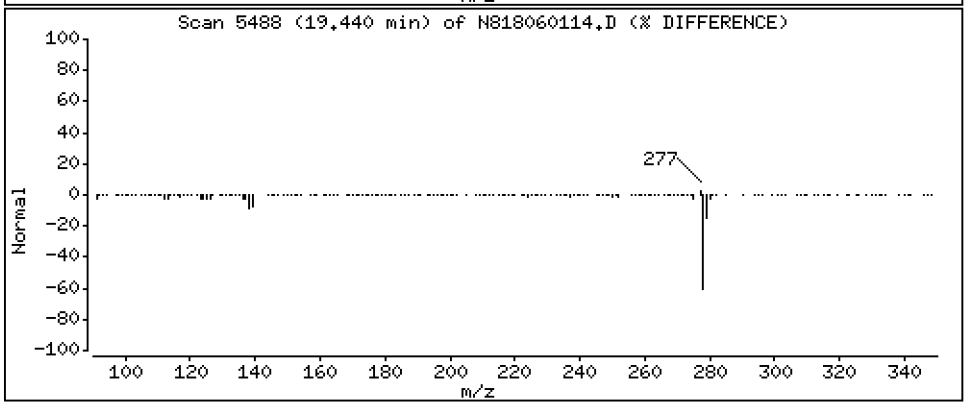












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

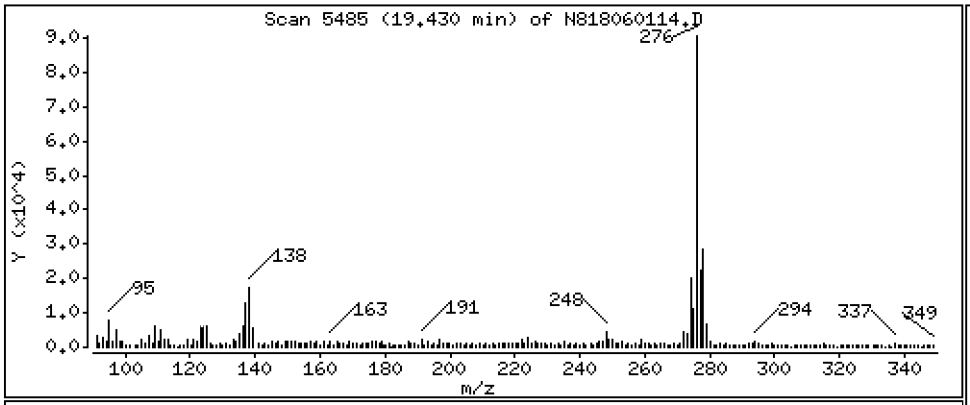
Operator: JZ

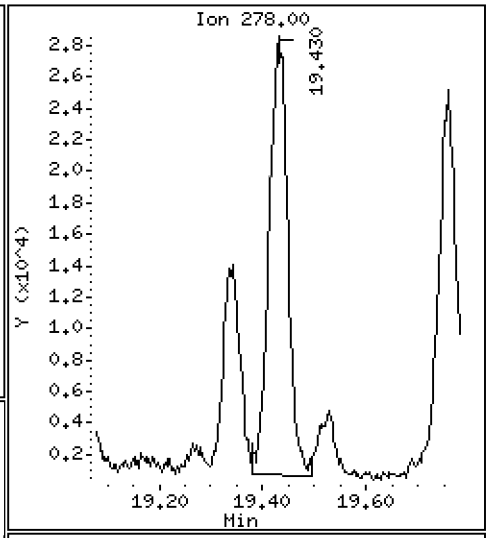
Column phase: Rxi-17sil

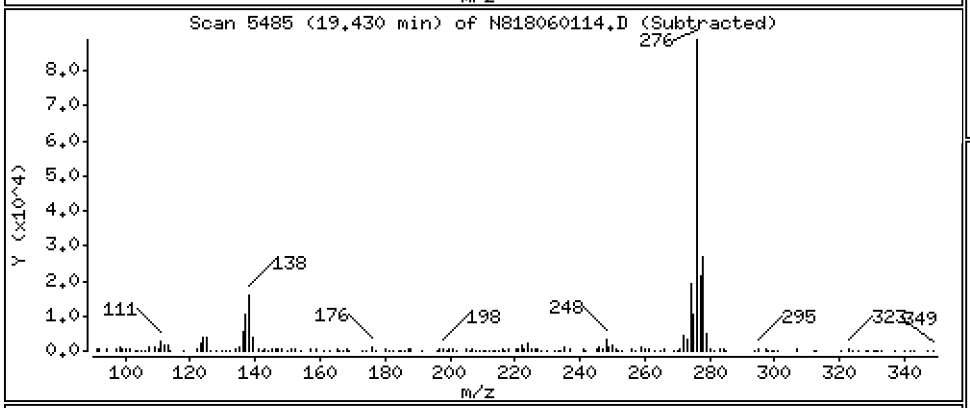
Column diameter: 0.25

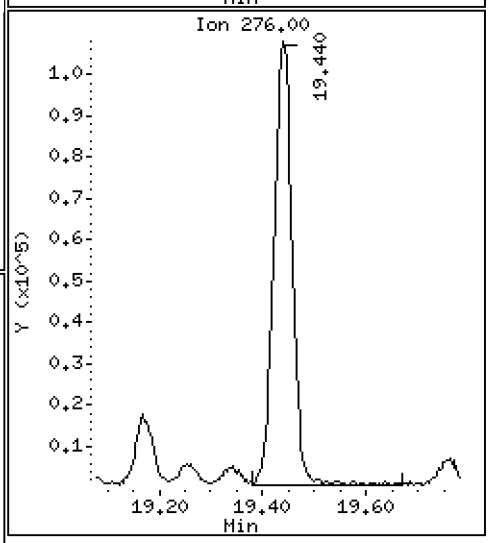
38 Dibenzo(a,h)anthracene

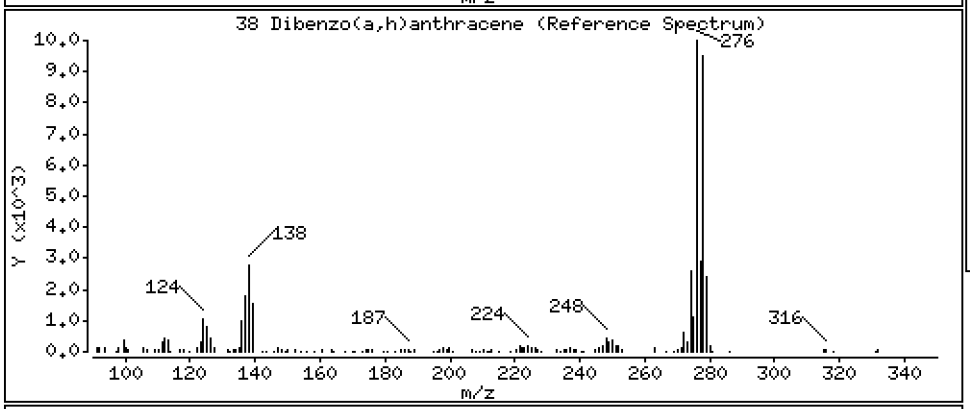
Concentration: 2.171 ug/mL

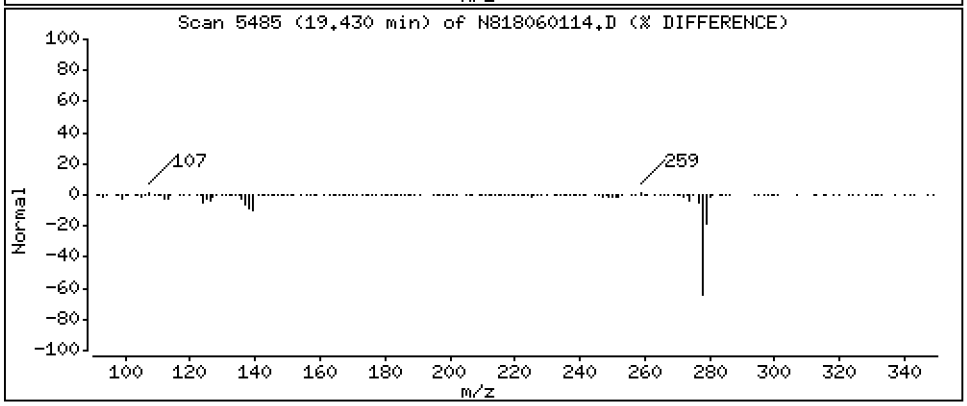












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

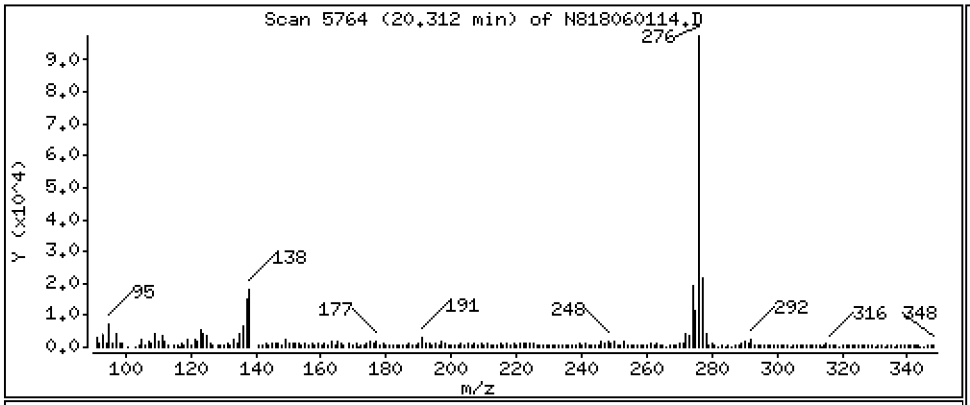
Operator: JZ

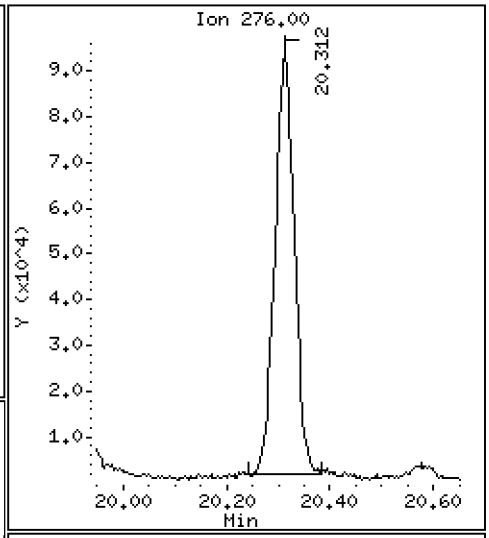
Column phase: Rxi-17sil

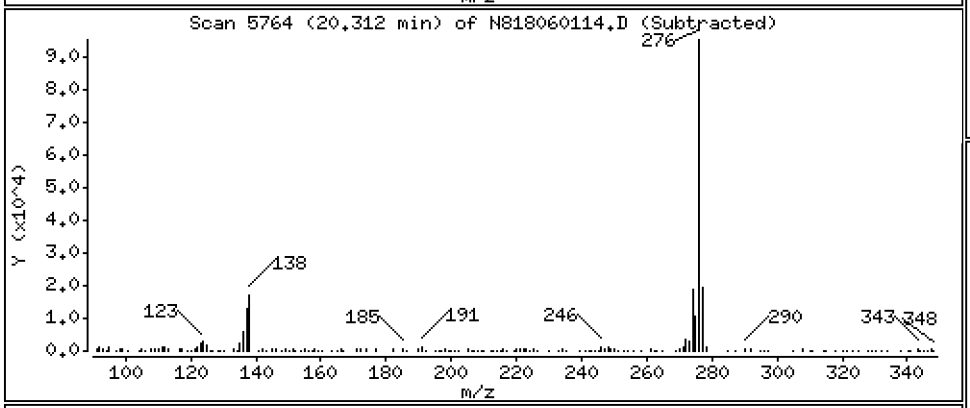
Column diameter: 0.25

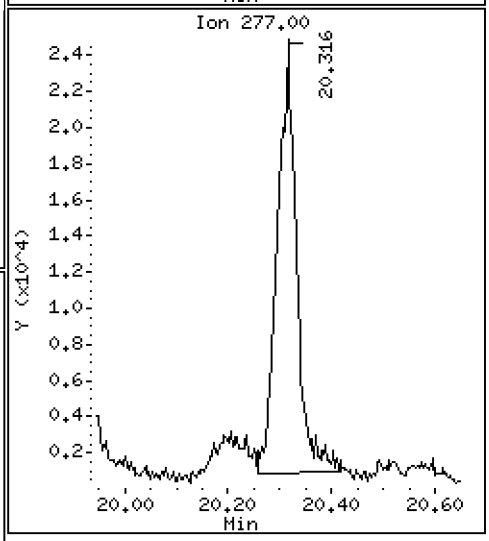
39 Benzo(g,h,i)perylene

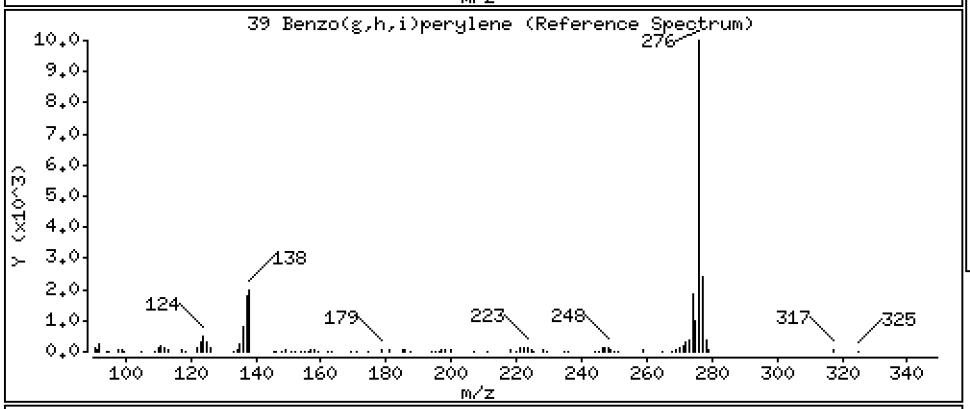
Concentration: 7.041 ug/mL

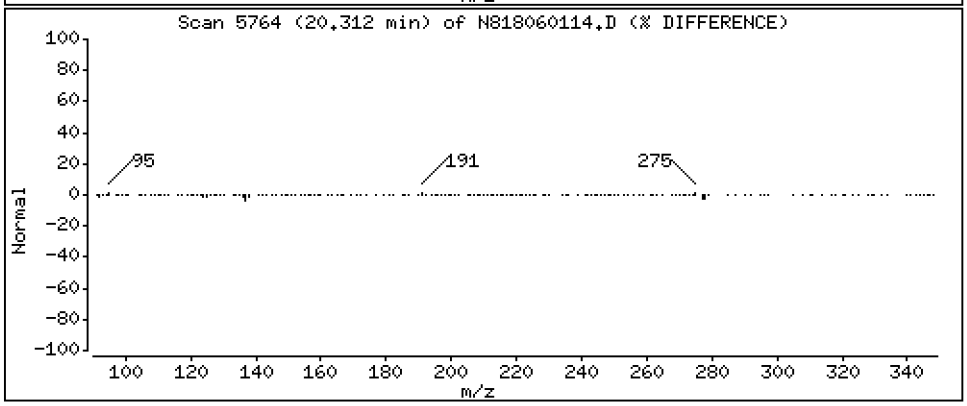












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060114.D

Date : 01-JUN-2018 20:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-01RE1,3

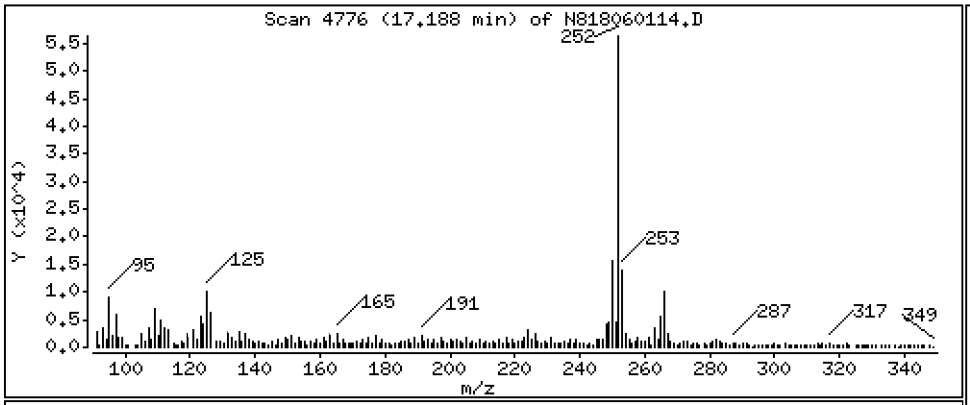
Operator: JZ

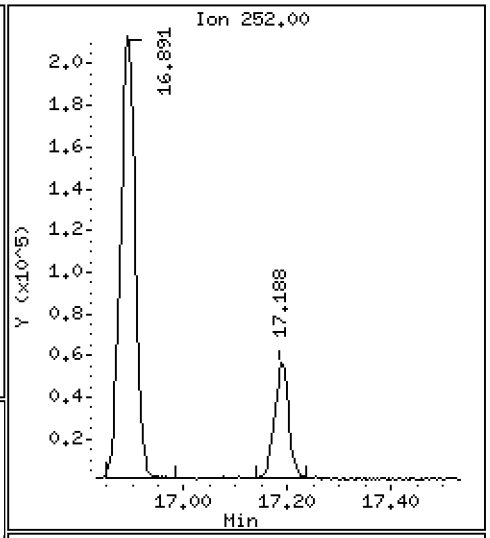
Column phase: Rxi-17sil

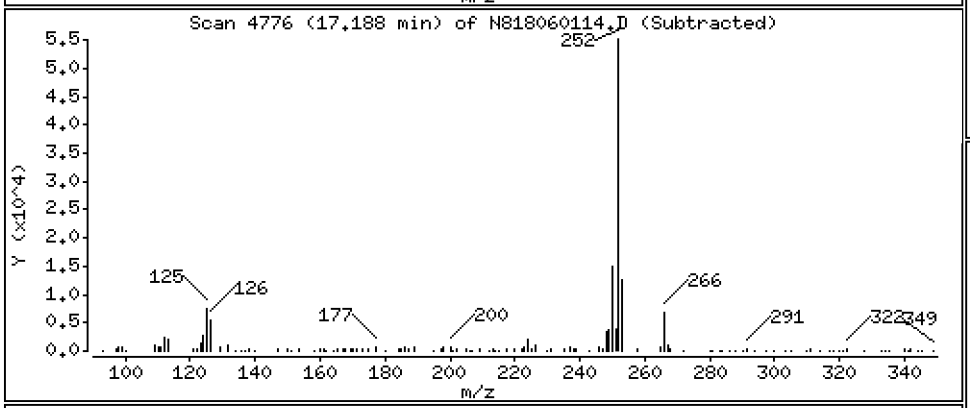
Column diameter: 0.25

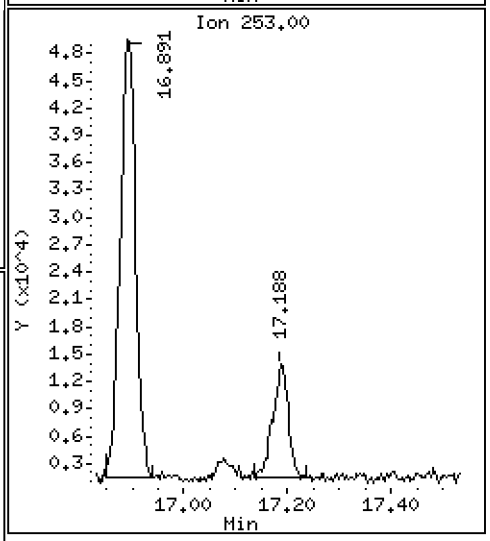
35 Perylene

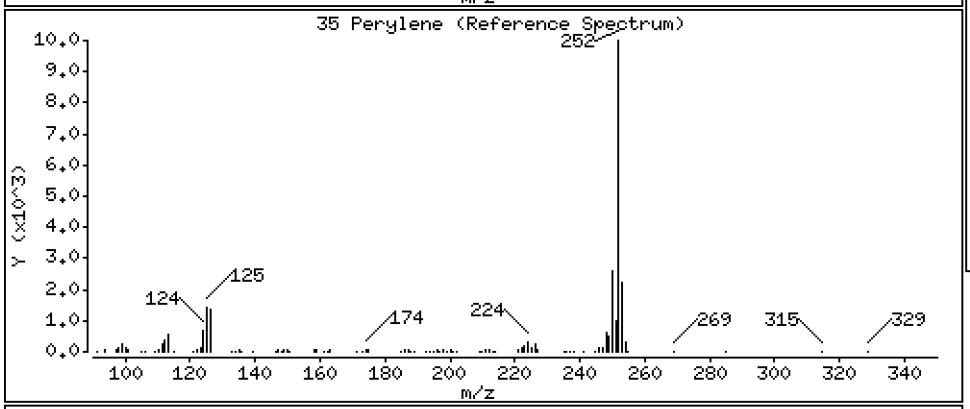
Concentration: 2.882 ug/mL

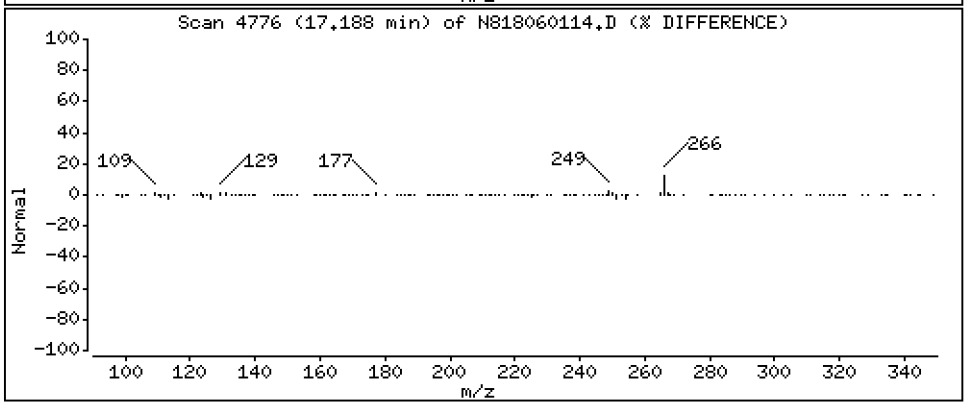












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060114.D
Lab Smp Id: 18E0243-01RE1
Inj Date : 01-JUN-2018 20:12
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-01RE1,3
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 14
Dil Factor: 3.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.461	4.464	(1.000)	192239	2.00000	
	2 Naphthalene	128	4.489	4.492	(1.006)	28325	0.25353	0.7606
$	3 2-Methylnaphthalene-d10	152	5.191	5.191	(1.164)	33575	0.47878	1.436
	4 2-Methylnaphthalene	141	5.236	5.242	(1.174)	8843	0.14053	0.4216
	5 1-methylnaphthalene	141	5.432	5.432	(1.218)	5228	0.08071	0.2421
	9 Acenaphthylene	152	6.614	6.617	(0.984)	62028	0.62361	1.871
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	100182	2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.007)	9505	0.12465	0.3740
	12 Dibenzofuran	168	6.924	6.927	(1.030)	11552	0.11268	0.3380(M)
	14 Fluorene	166	7.398	7.402	(1.100)	24848	0.31366	0.9410
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	178300	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	320879	2.93626	8.809
	17 Anthracene	178	8.821	8.821	(1.009)	128020	1.28573	3.857
	22 Fluoranthene	202	10.440	10.434	(1.194)	861065	6.99140	20.97
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	72644	0.62233	1.867
	23 Pyrene	202	10.908	10.902	(0.816)	866406	7.73706	23.21
	24 Benzo(a)anthracene	228	13.245	13.239	(0.991)	445236	4.11245	12.34
*	25 Chrysene-d12	240	13.362	13.356	(1.000)	186339	2.00000	
	27 Chrysene	228	13.431	13.425	(1.005)	439181	4.02980	12.09
	28 Benzo(b)fluoranthene	252	15.876	15.869	(0.927)	317773	2.70542	8.116
	29 Benzo(k)fluoranthene	252	15.936	15.926	(0.931)	192657	1.66805	5.004
	30 Benzo(j)fluoranthene	252	16.005	16.002	(0.935)	198917	1.72002	5.160
	31 Total Benzofluoranthenes	252	15.876	15.926	(0.927)	694326	6.06123	18.18(M)
	32 Benzo(a)pyrene	252	16.891	16.884	(0.987)	425311	4.13135	12.39
*	33 Perylene-d12	264	17.118	17.112	(1.000)	184819	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.439	19.430	(1.136)	263645	2.23695	6.711
$	36 Dibenzo(a,h)anthracene-d14	292	19.341	19.338	(1.130)	70101	0.80978	2.429
	38 Dibenzo(a,h)anthracene	278	19.430	19.430	(1.135)	70356	0.72367	2.171
	39 Benzo(g,h,i)perylene	276	20.312	20.299	(1.187)	241769	2.34710	7.041
	35 Perylene	252	17.188	17.181	(1.004)	107391	0.96072	2.882

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060114.D
Lab Smp Id: 18E0243-01RE1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	192239	57.33
10 Acenaphthene-d10	65789	32895	131578	100182	52.28
15 Phenanthrene-d10	128644	64322	257288	178300	38.60
25 Chrysene-d12	166669	83335	333338	186339	11.80
33 Perylene-d12	140483	70242	280966	184819	31.56

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.07
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.05
33 Perylene-d12	17.11	16.61	17.61	17.12	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060114.D

Lab ID: 18E0243-01RE1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 20:12

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

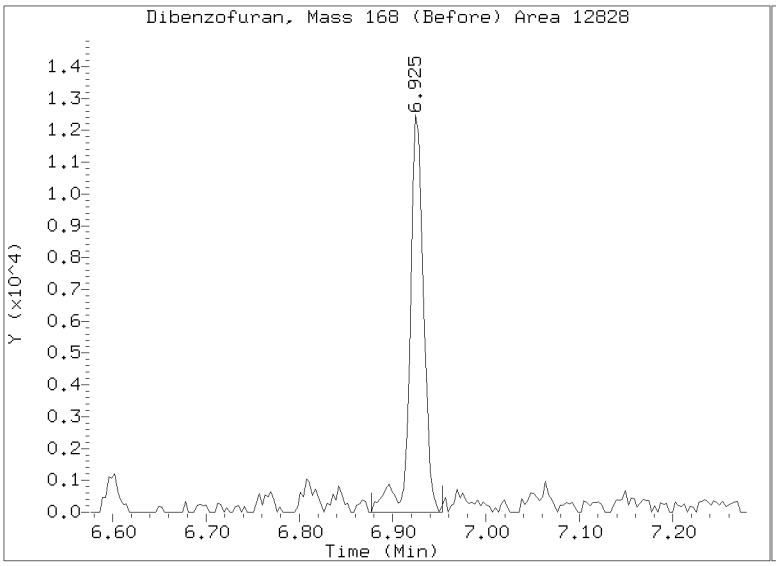
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

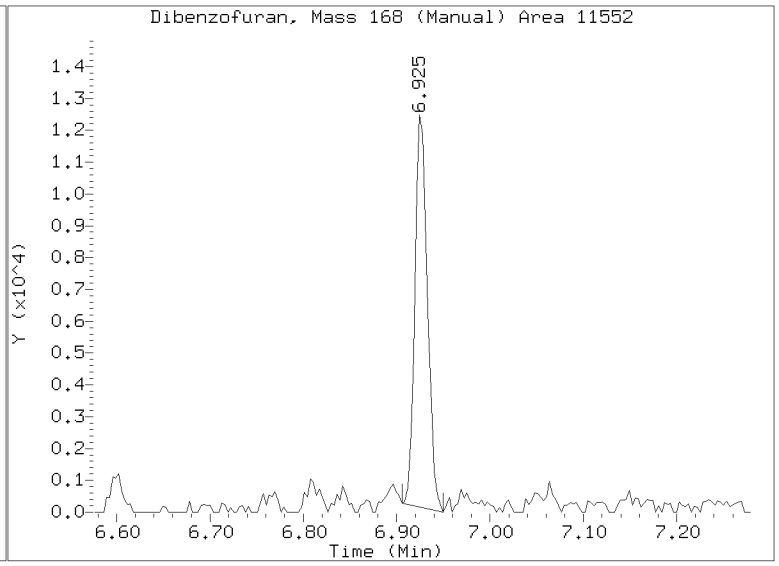
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

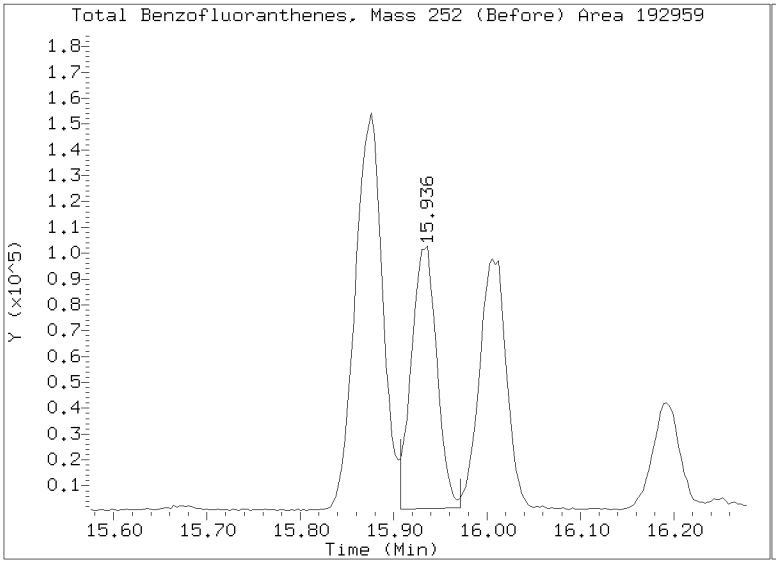
* Only compounds listed in the work order have been verified by the analyst *

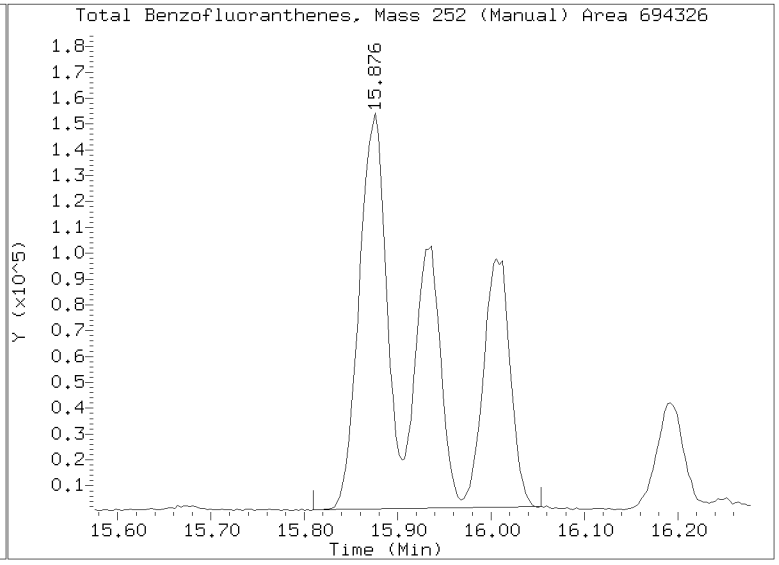
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060114.D
Injection Date: 01-JUN-2018 20:12
Lab ID:18E0243-01RE1 Client ID:
Report Date: 06/04/2018 10:24









LDW18-SSCL-A02

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-02	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/24/18 10:50	File ID:	N818060109.D
% Solids:	69.33	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 17:58
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	15.08 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	7.69		0.79	4.78
218-01-9	Chrysene	1	8.00		1.01	4.78
205-99-2	Benzo(b)fluoranthene	1	6.54		1.31	4.78
207-08-9	Benzo(k)fluoranthene	1	3.13	J	0.73	4.78
50-32-8	Benzo(a)pyrene	1	6.78		0.59	4.78
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.94		1.00	4.78
53-70-3	Dibenzo(a,h)anthracene	1	4.78	U	0.85	4.78

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.47	50.8	35.4	32 - 120	
Dibenzo[a,h]anthracene-d14	143.47	89.4	62.3	21 - 133	
Fluoranthene-d10	143.47	73.2	51.0	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

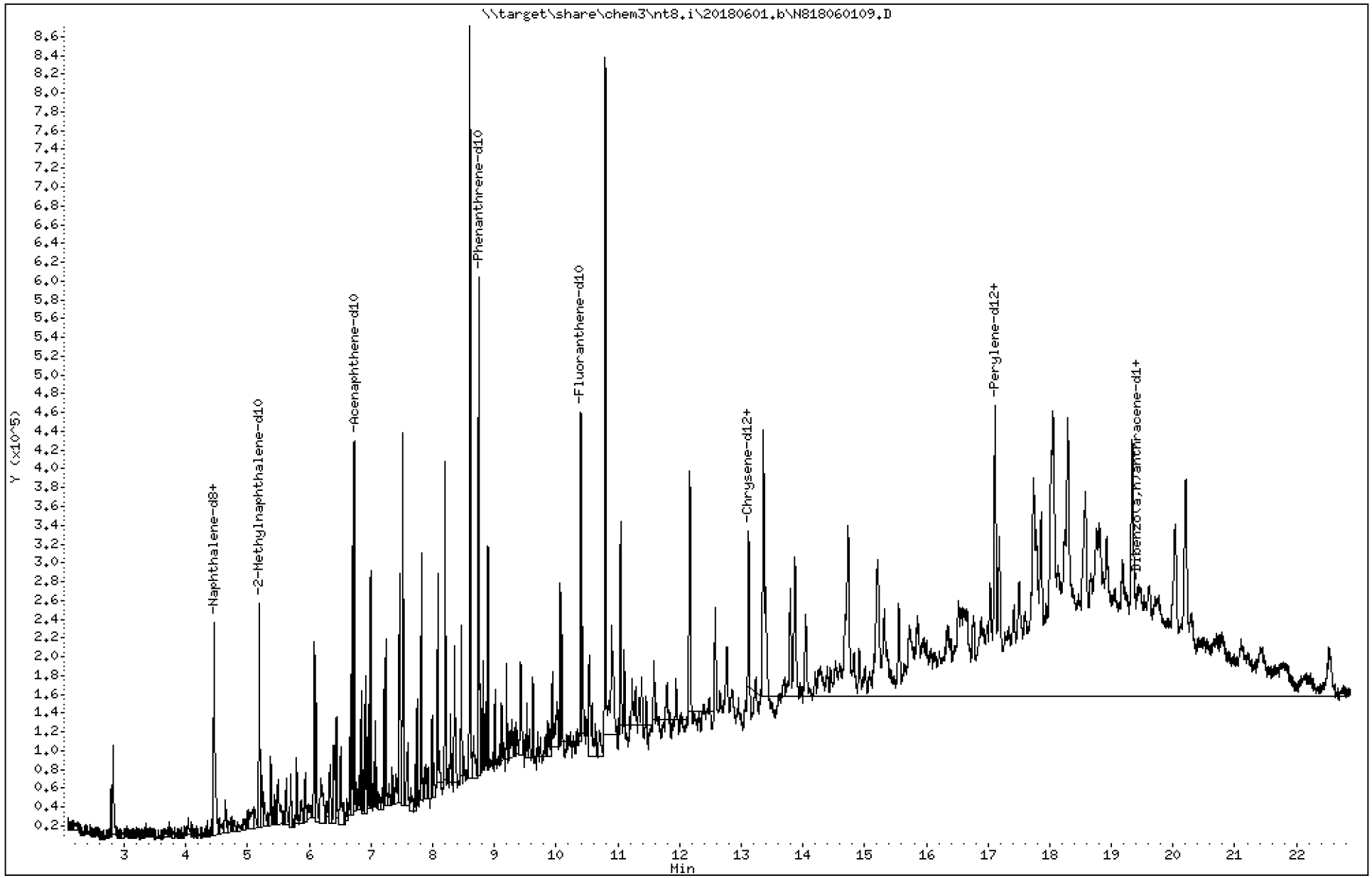
Instrument: nt8.i

Sample Info: 18E0243-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

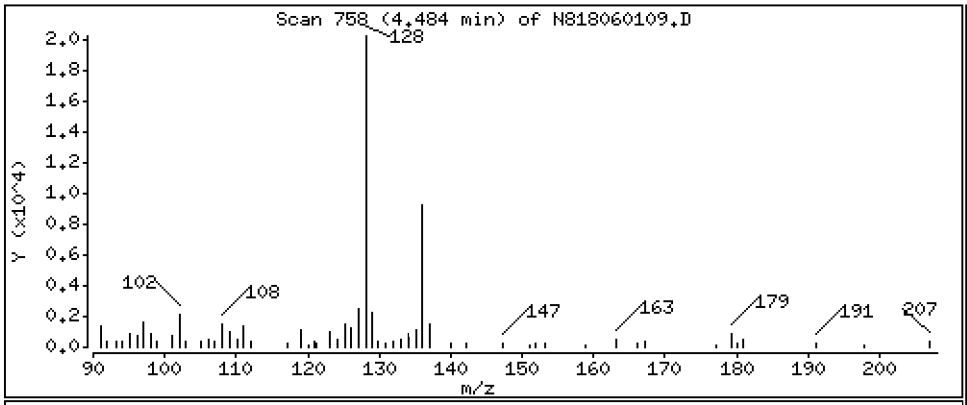
Operator: JZ

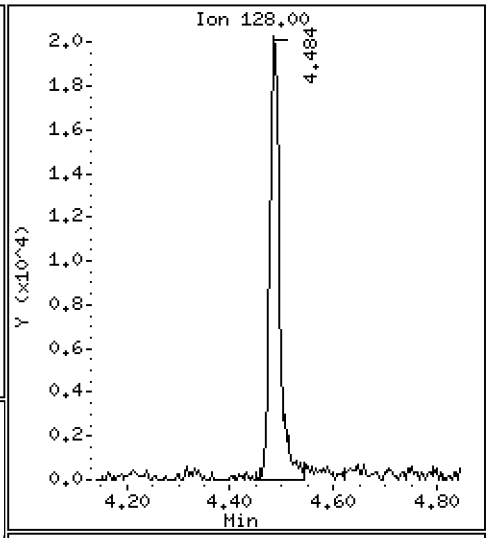
Column phase: Rxi-17sil

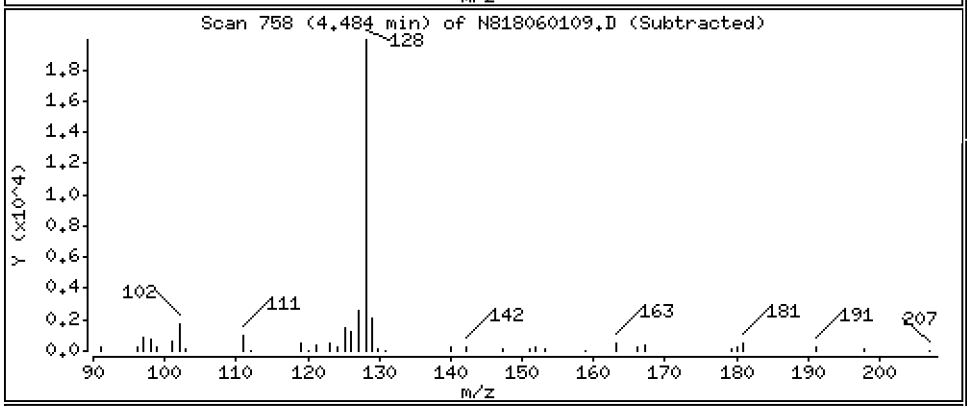
Column diameter: 0.25

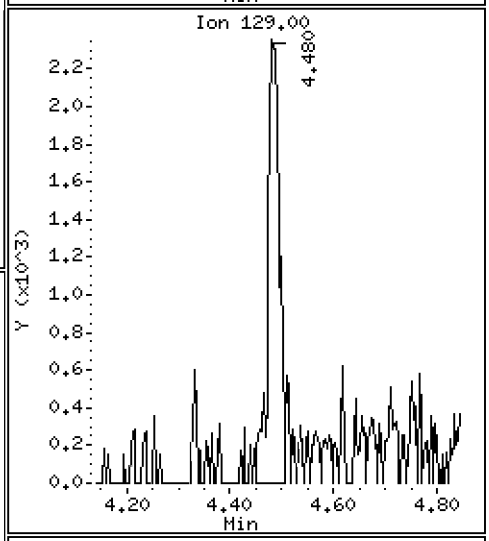
2 Naphthalene

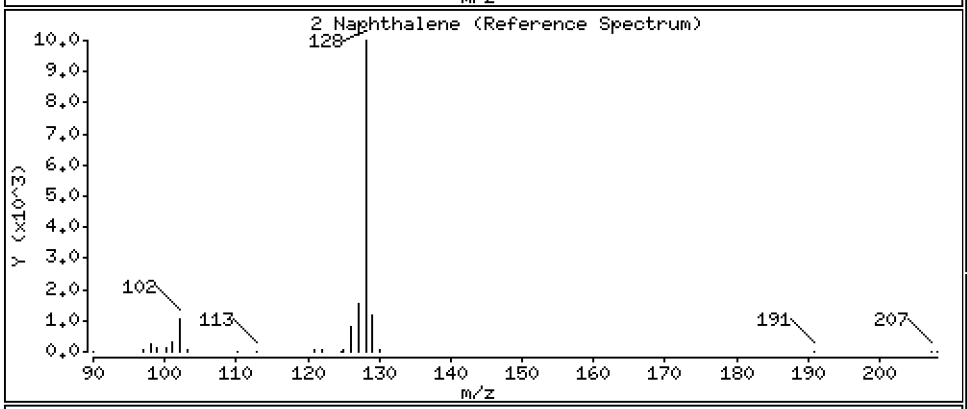
Concentration: 0.2338 ug/mL

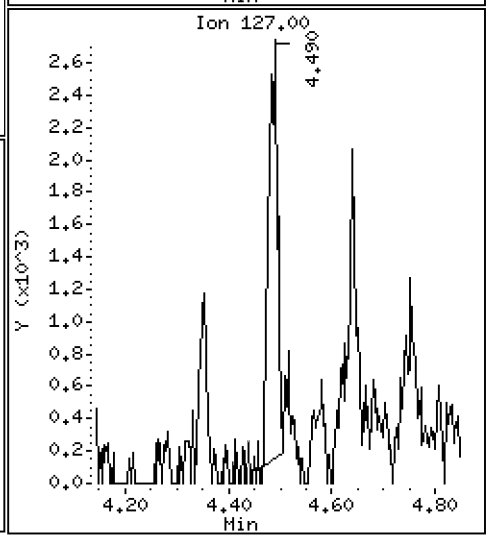


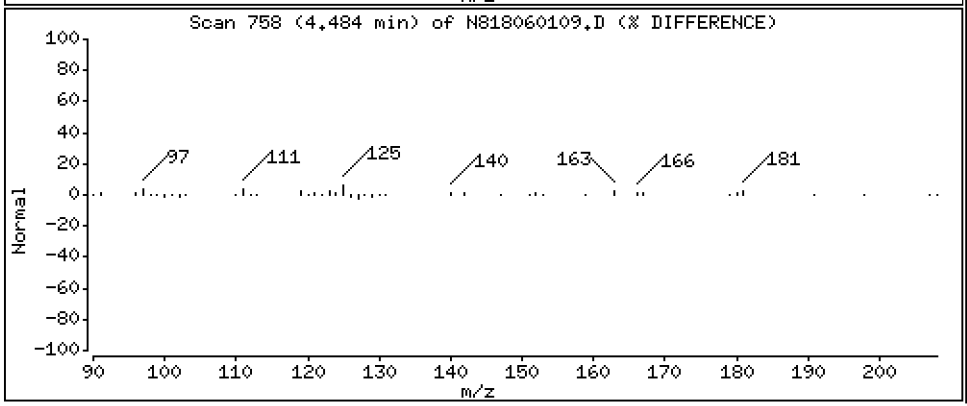












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

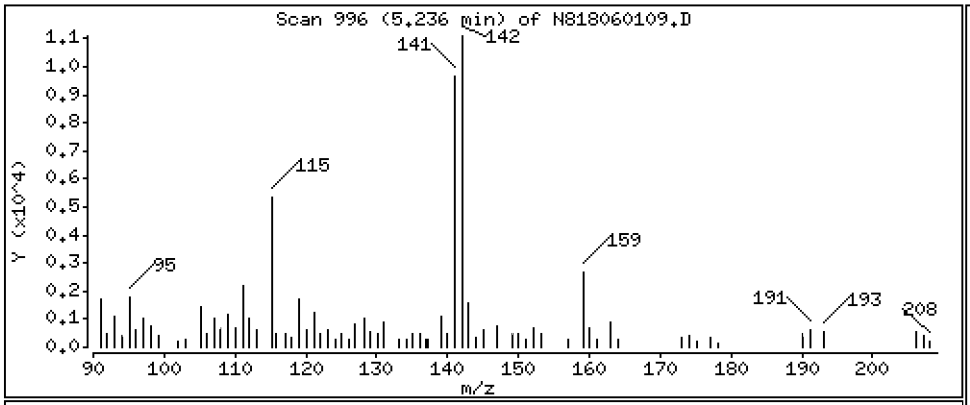
Operator: JZ

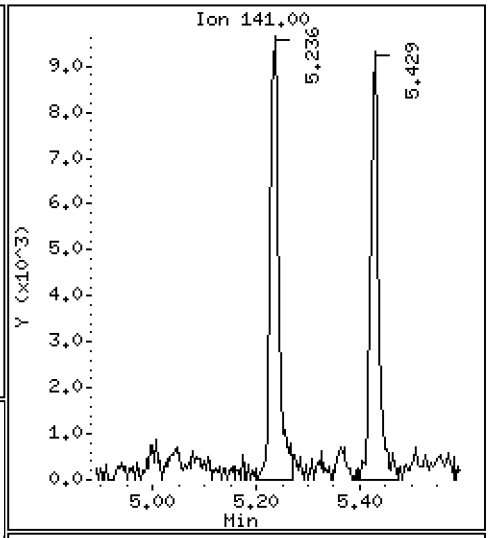
Column phase: Rxi-17sil

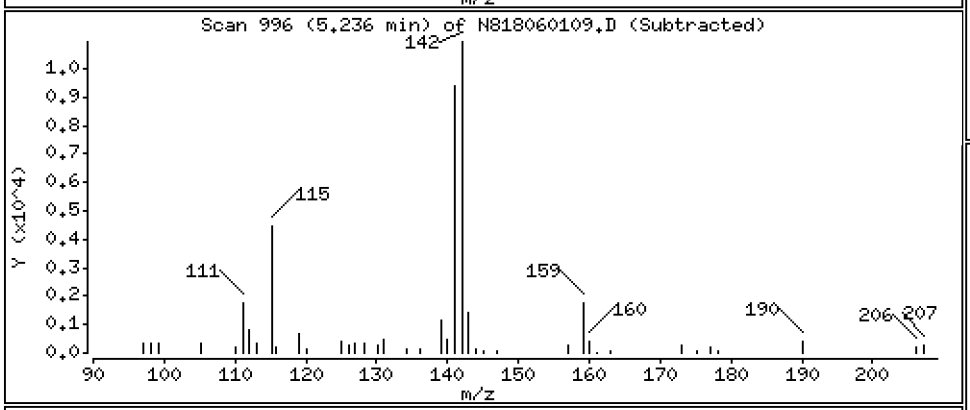
Column diameter: 0.25

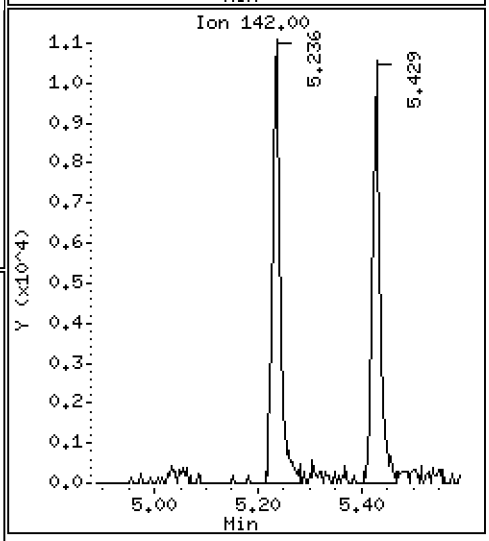
4 2-Methylnaphthalene

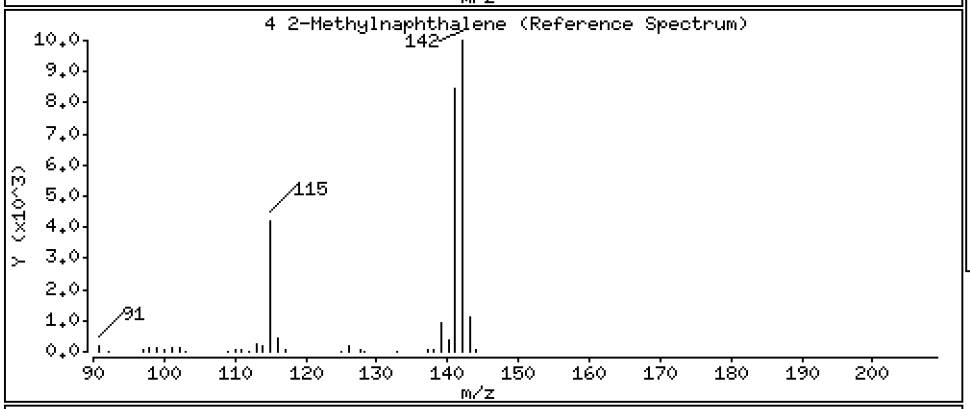
Concentration: 0.1776 ug/mL

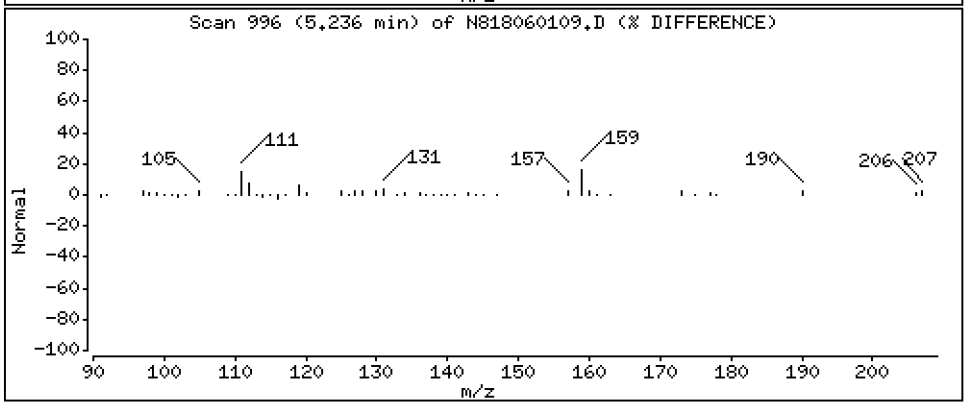












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

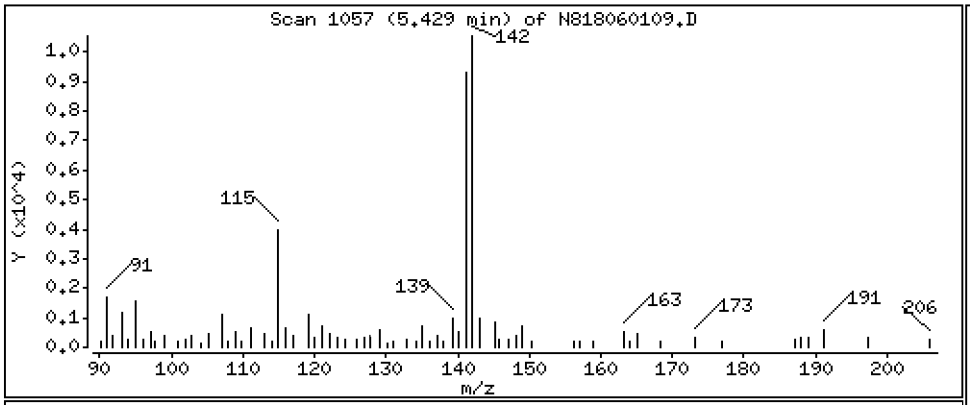
Operator: JZ

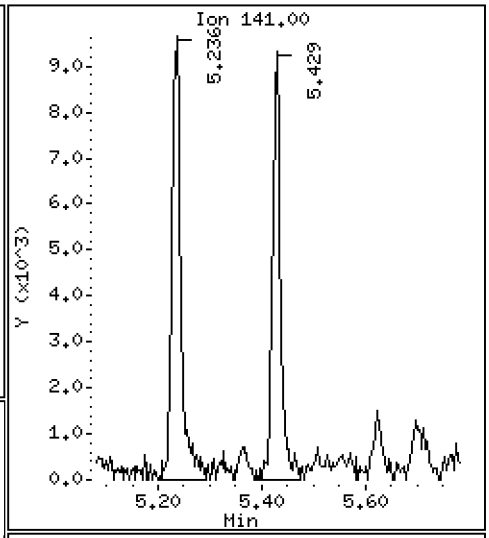
Column phase: Rxi-17sil

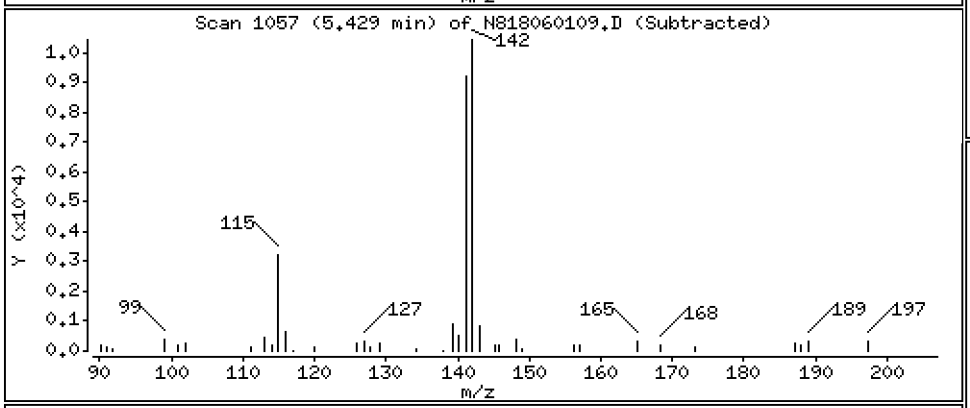
Column diameter: 0.25

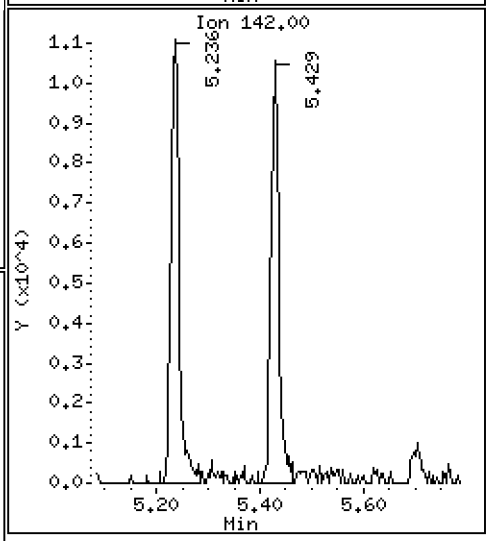
5 1-methylnaphthalene

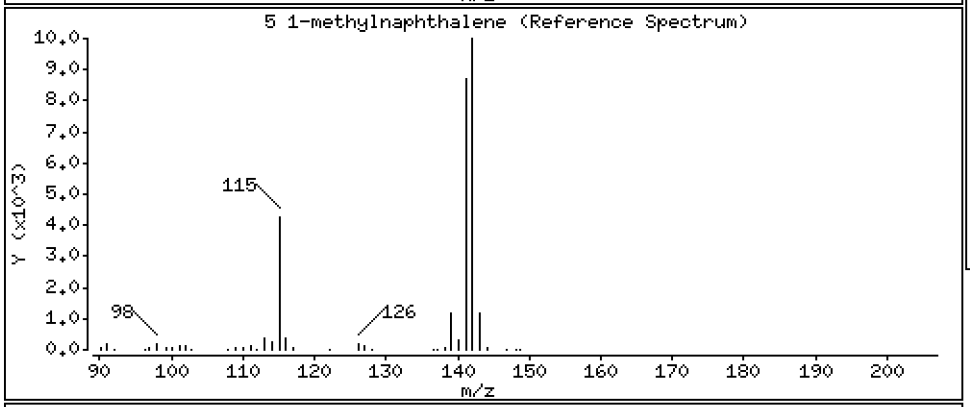
Concentration: 0.1518 ug/mL

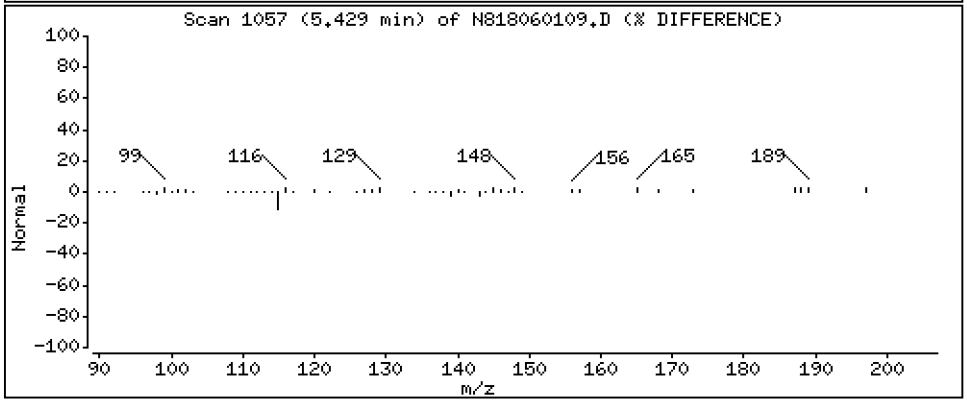












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

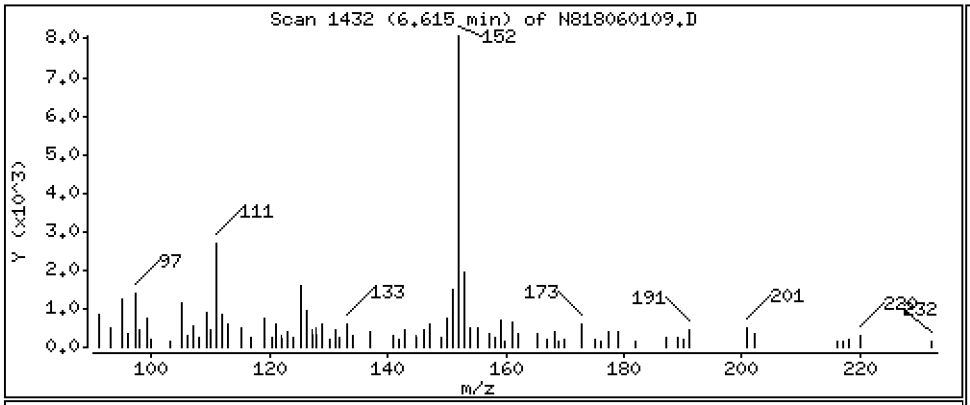
Operator: JZ

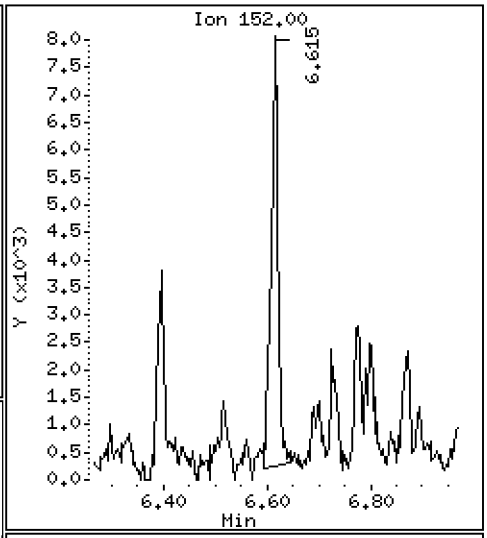
Column phase: Rxi-17sil

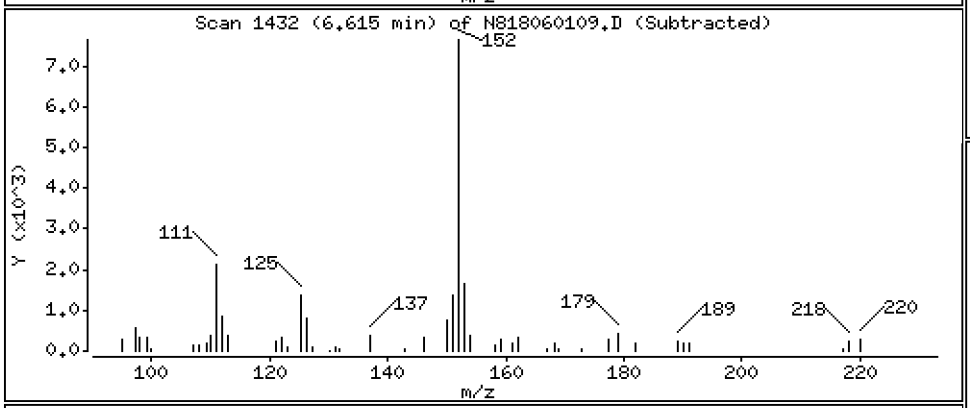
Column diameter: 0.25

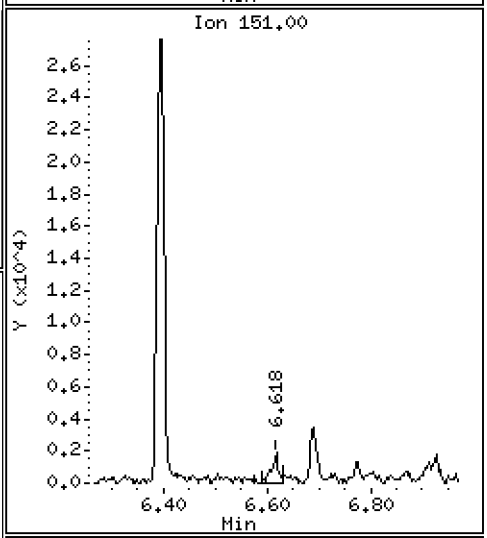
9 Acenaphthylene

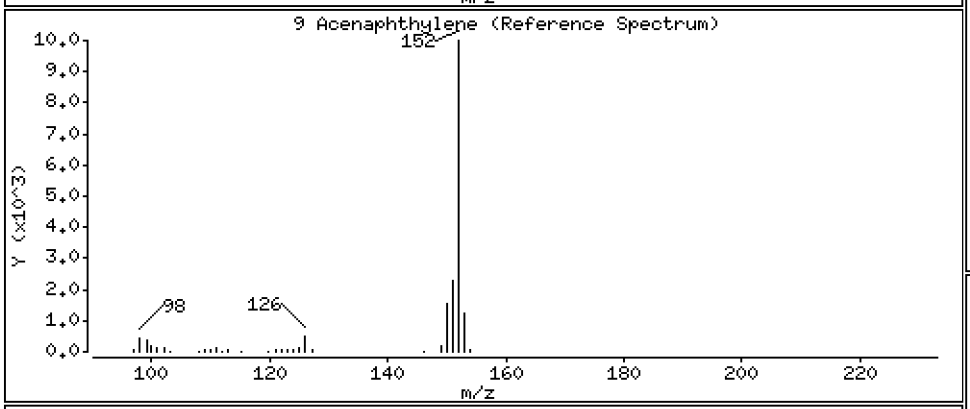
Concentration: 0.07375 ug/mL

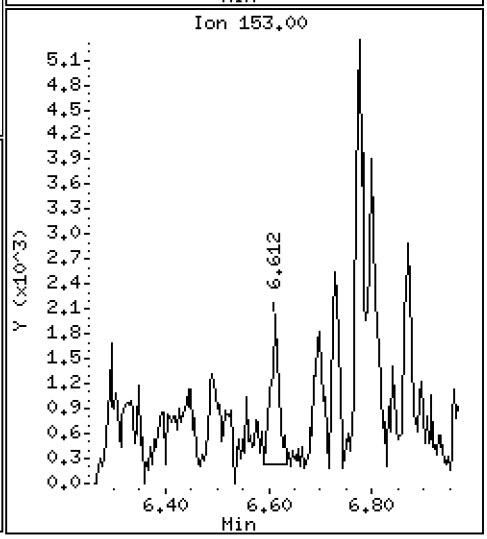


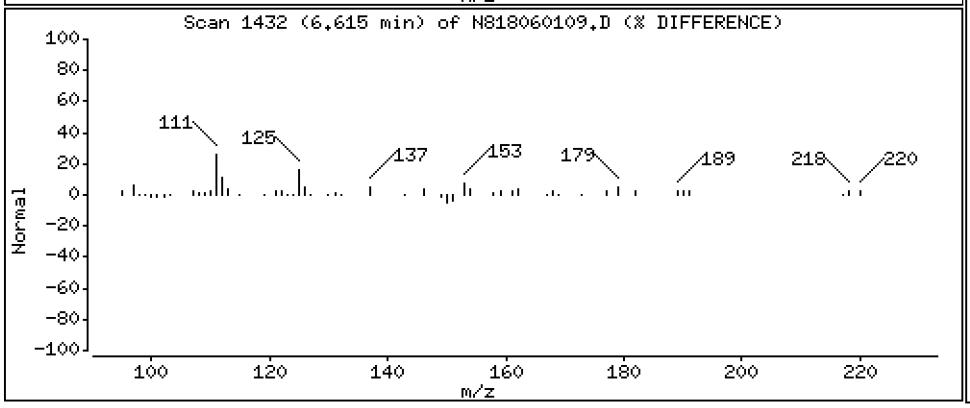












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

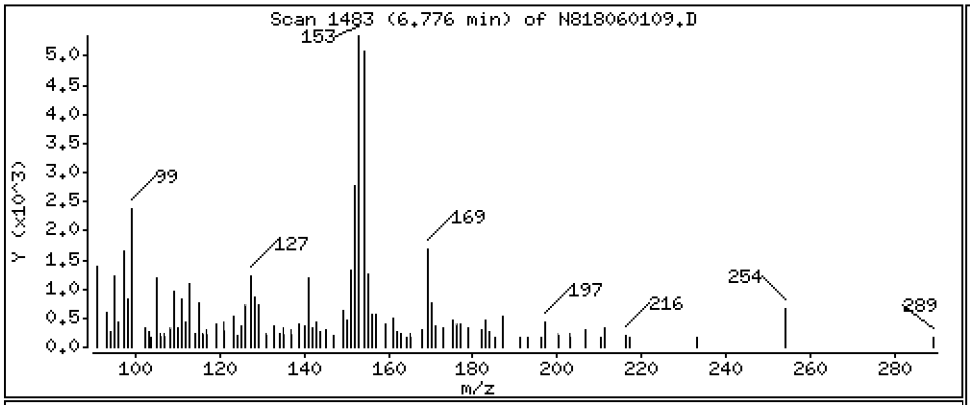
Operator: JZ

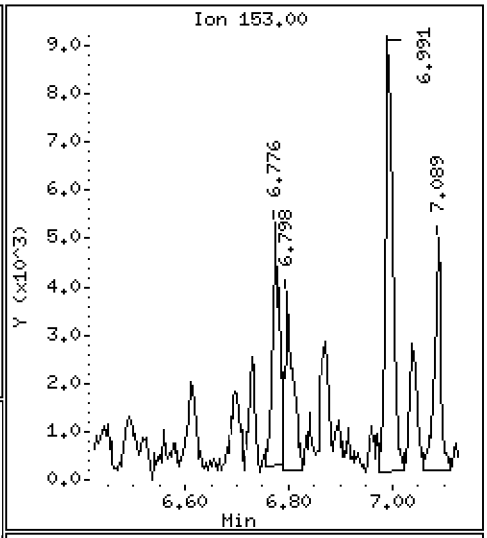
Column phase: Rxi-17sil

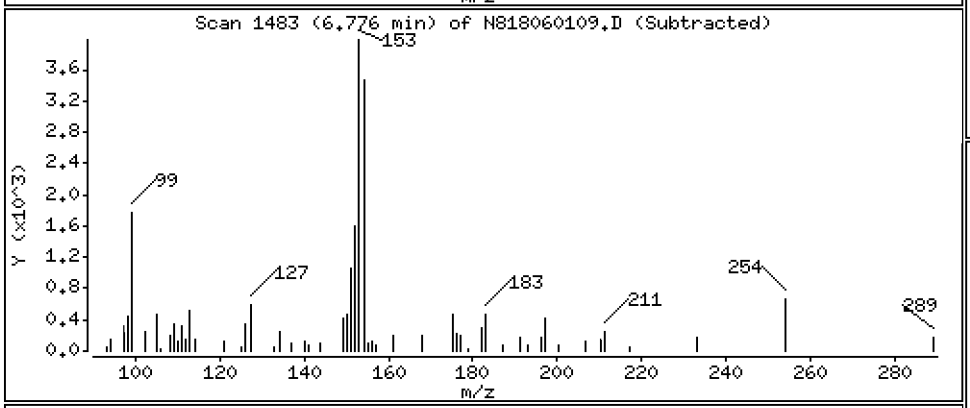
Column diameter: 0.25

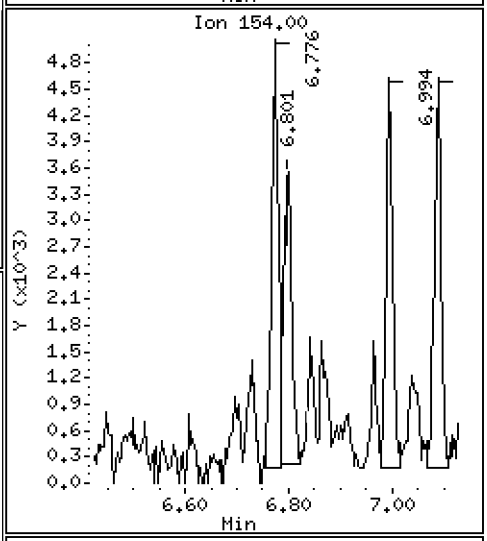
11 Acenaphthene

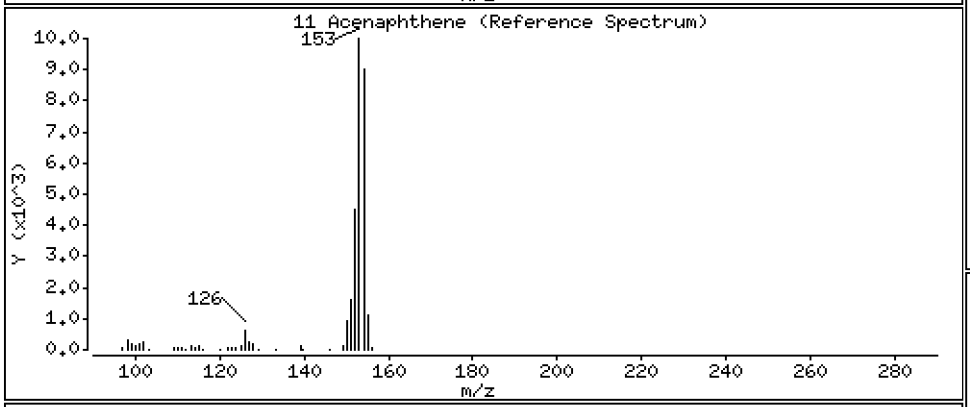
Concentration: 0.06427 ug/mL

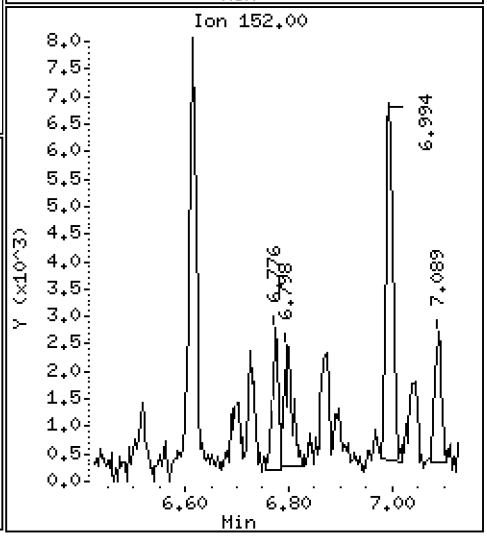


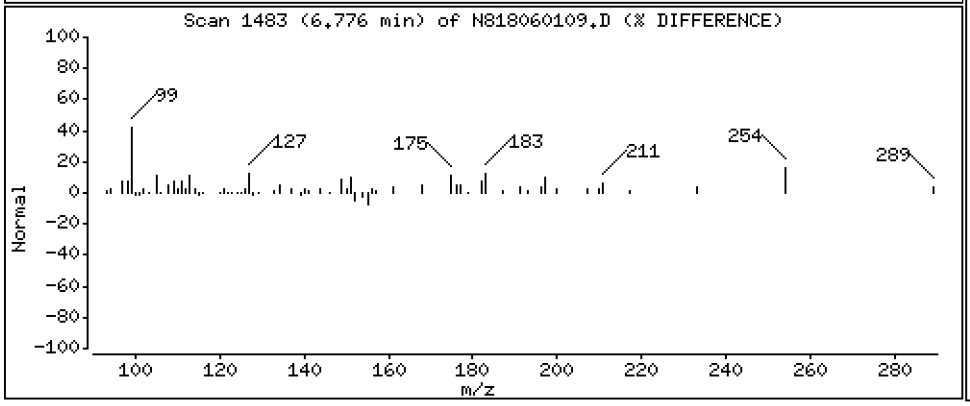












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

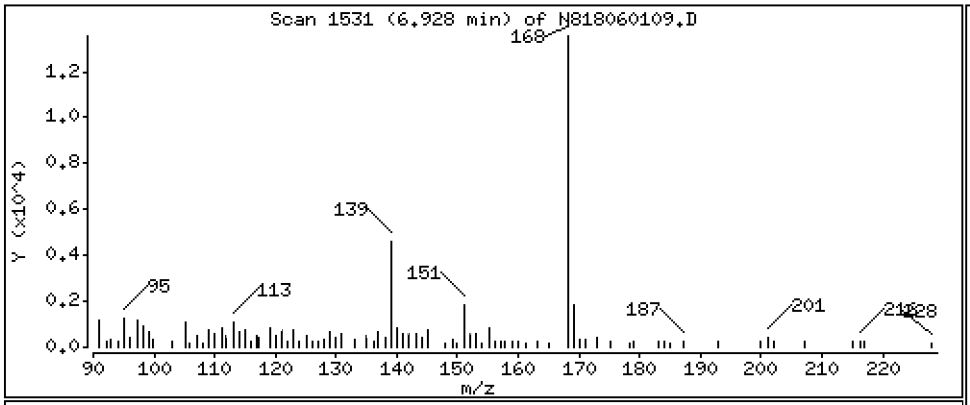
Operator: JZ

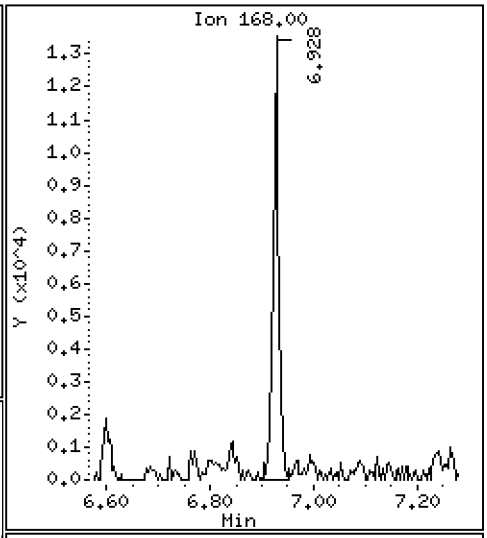
Column phase: Rxi-17sil

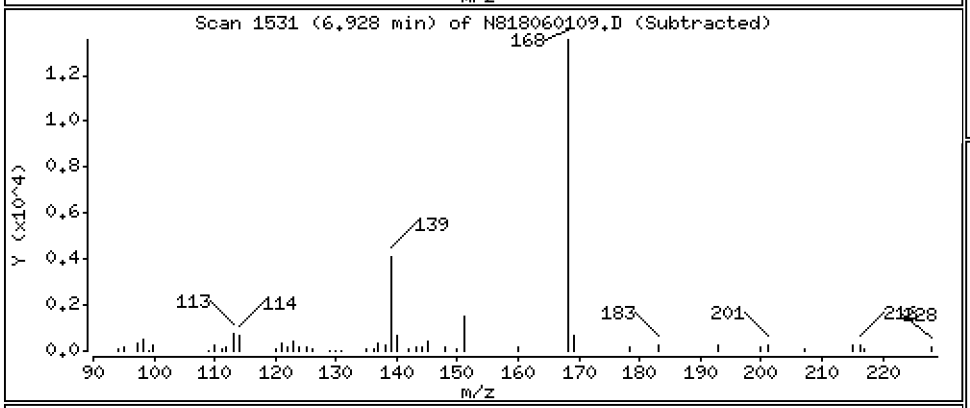
Column diameter: 0.25

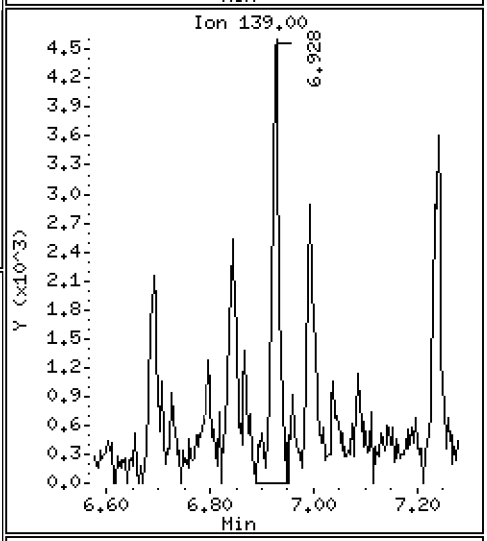
12 Dibenzofuran

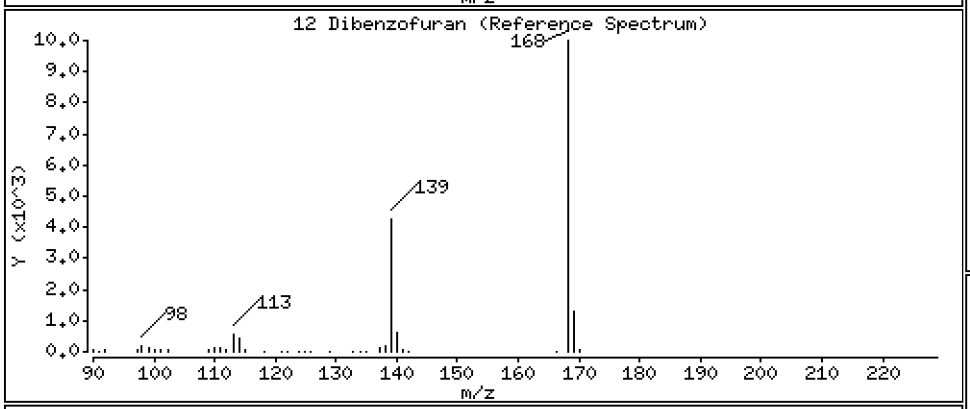
Concentration: 0.1021 ug/mL

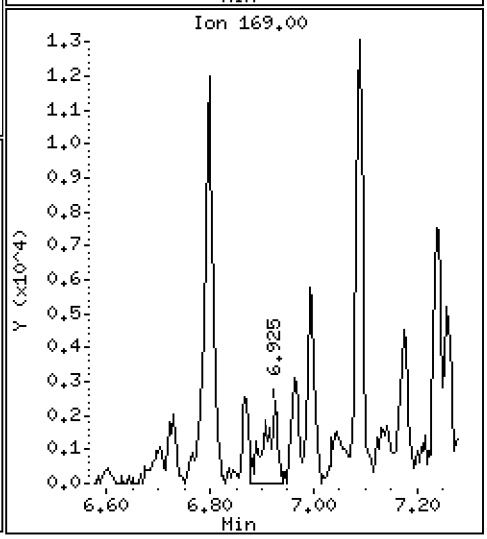


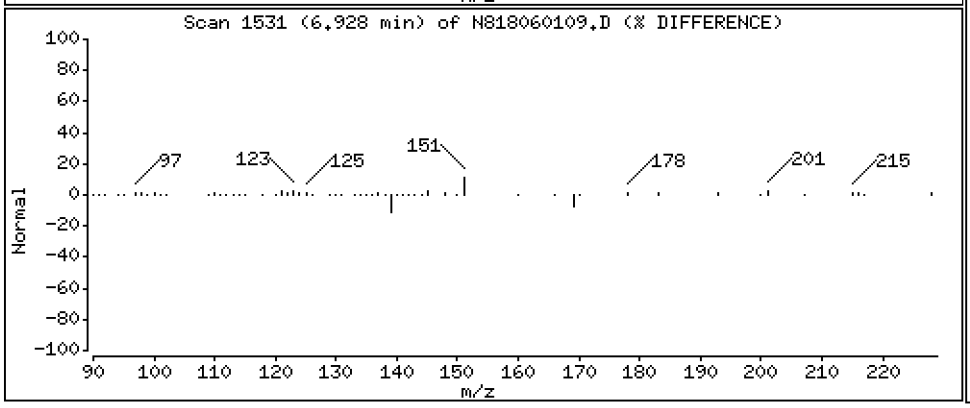












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

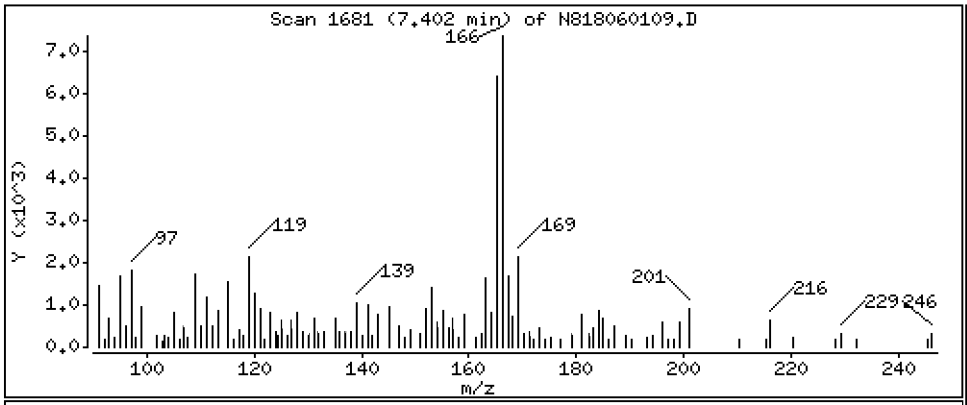
Operator: JZ

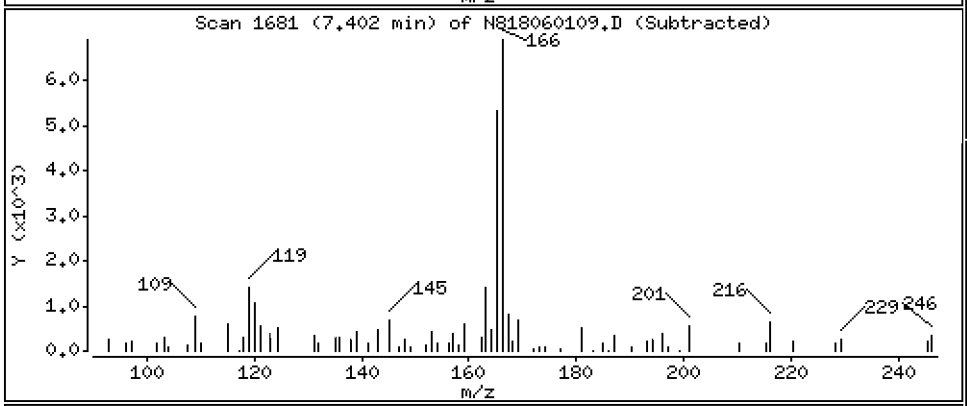
Column phase: Rxi-17sil

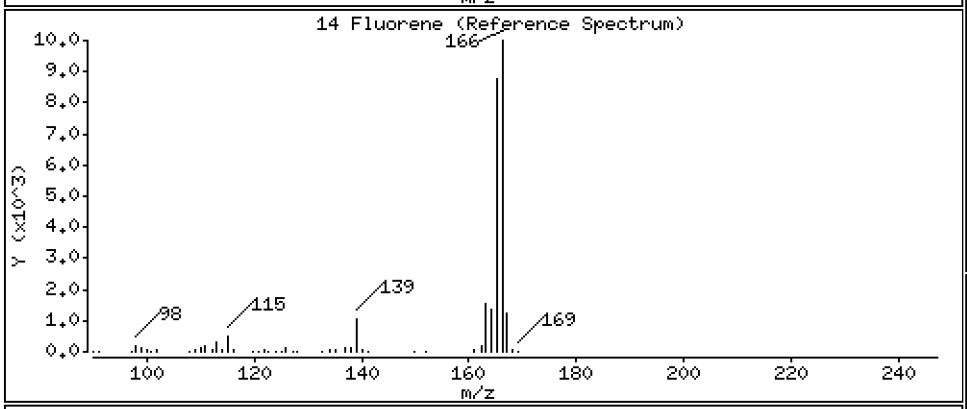
Column diameter: 0.25

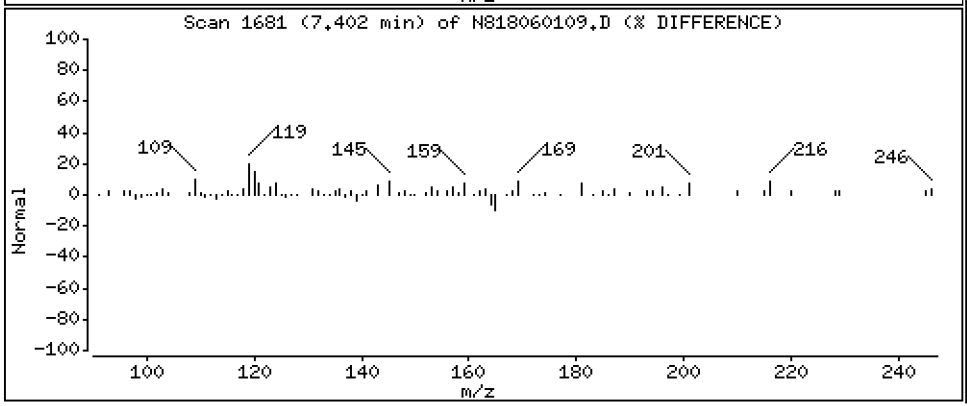
14 Fluorene

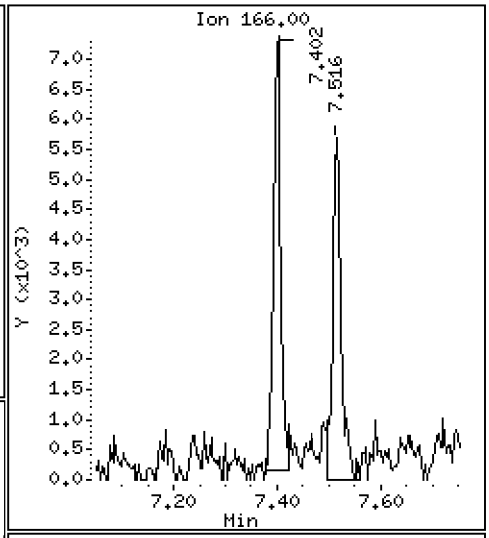
Concentration: 0.09034 ug/mL

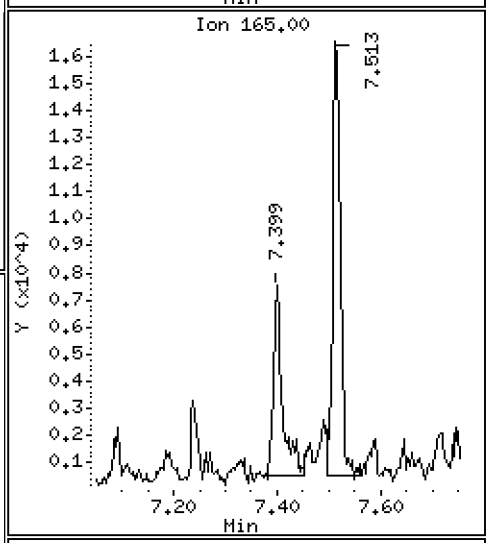


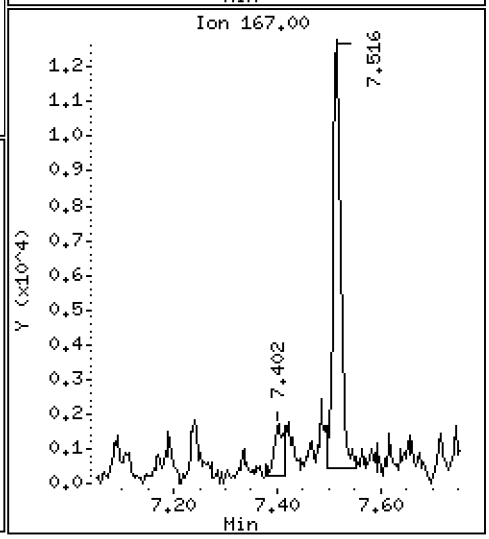












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

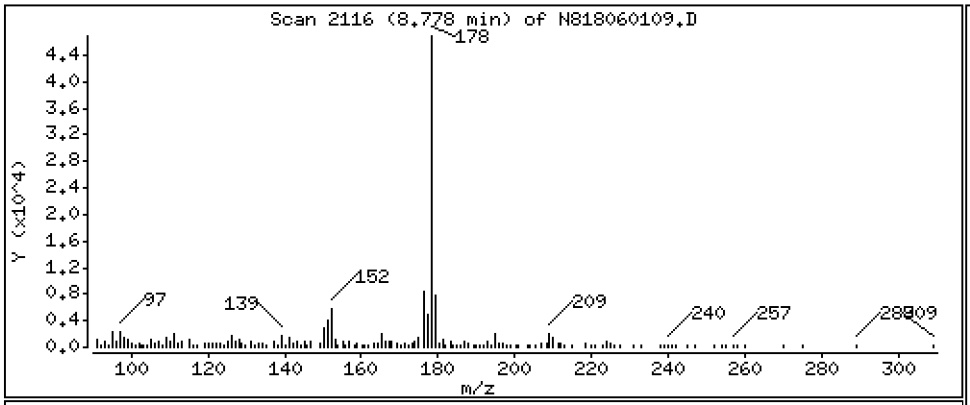
Operator: JZ

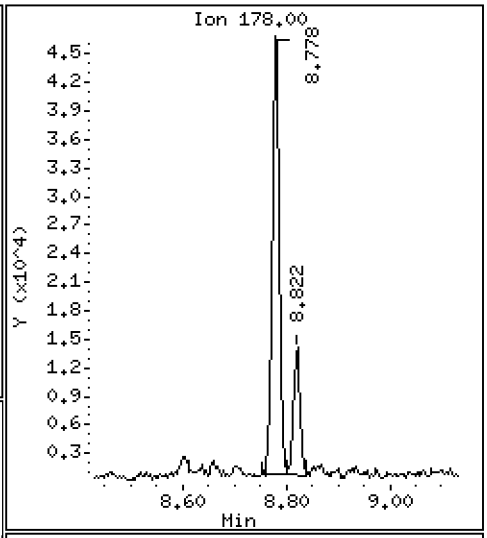
Column phase: Rxi-17sil

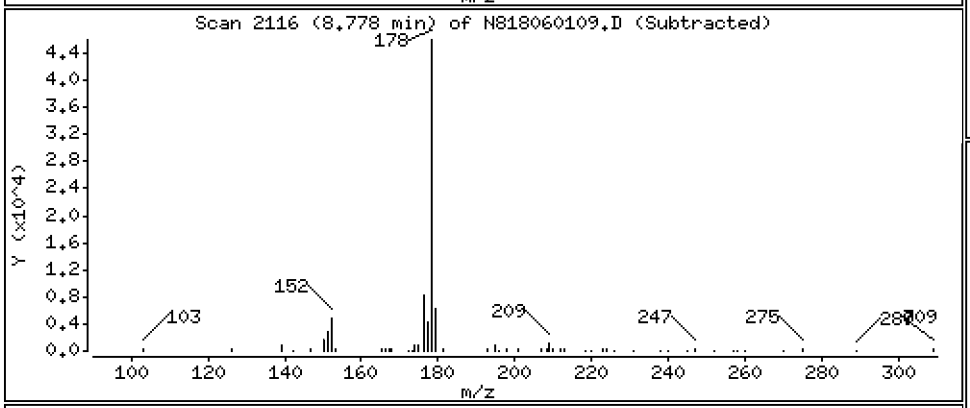
Column diameter: 0.25

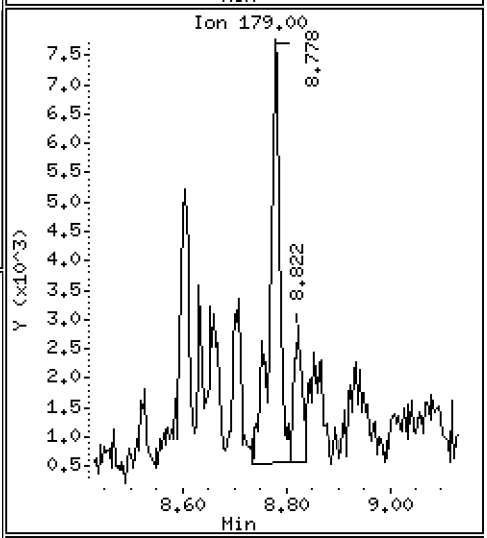
16 Phenanthrene

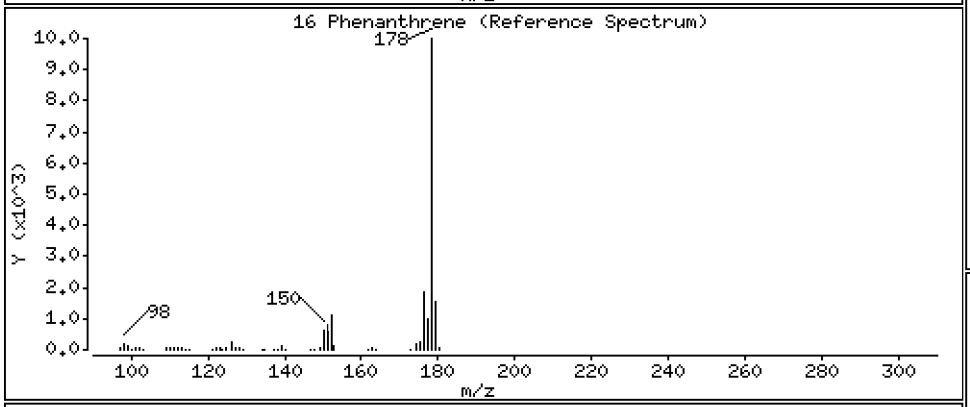
Concentration: 0.4065 ug/mL

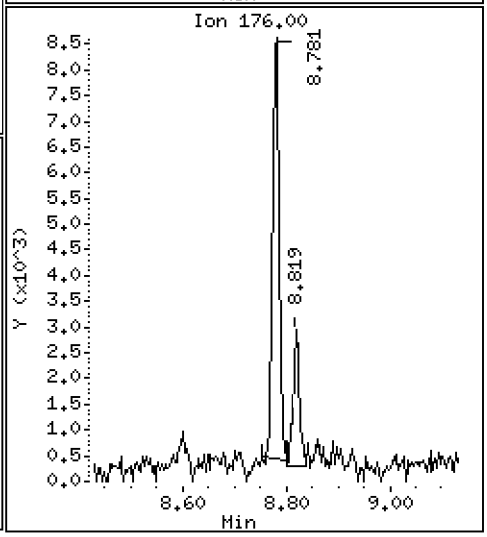


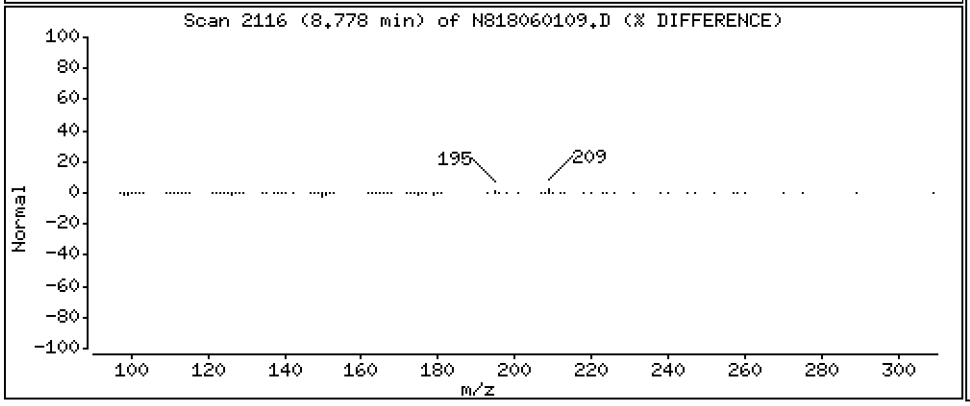












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

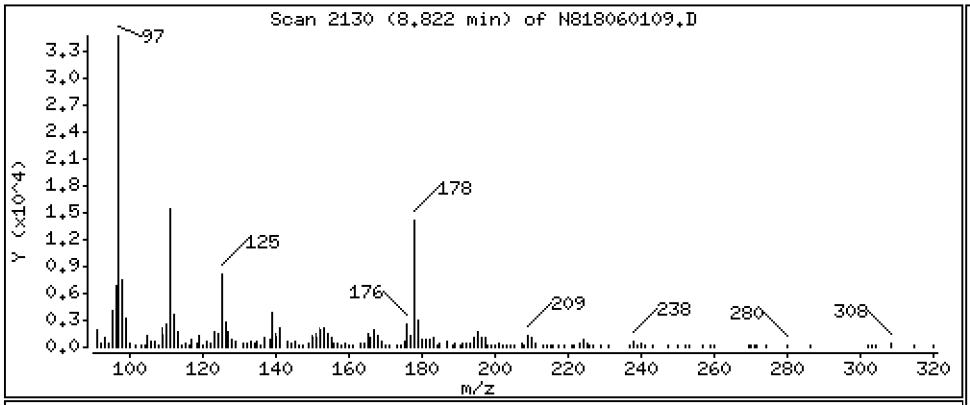
Operator: JZ

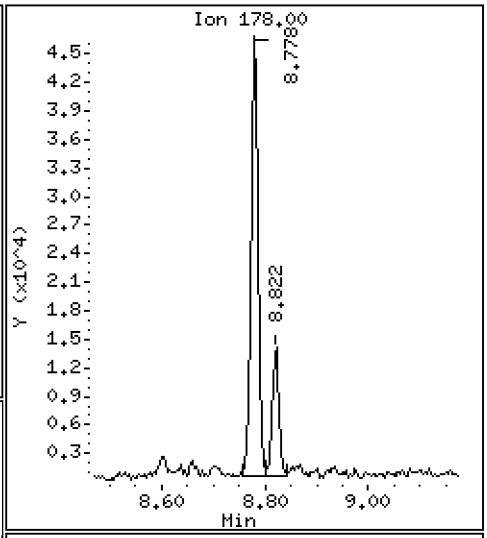
Column phase: Rxi-17sil

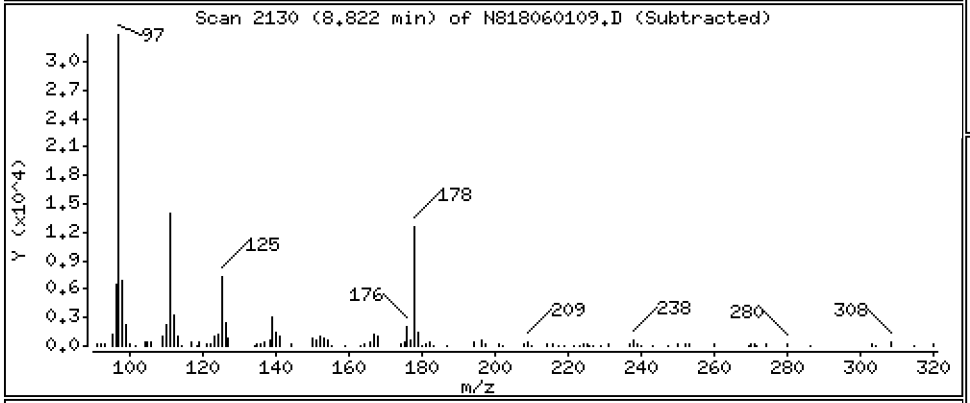
Column diameter: 0.25

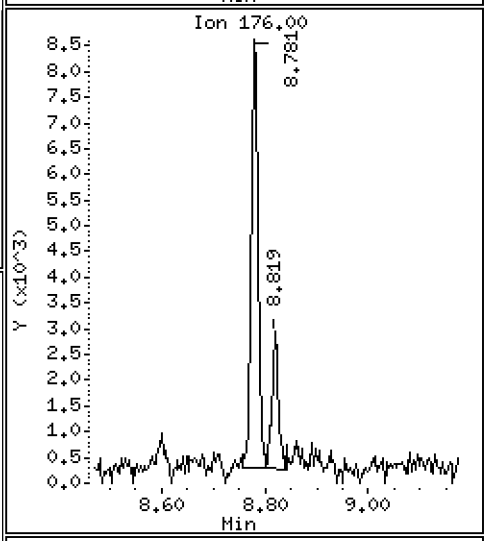
17 Anthracene

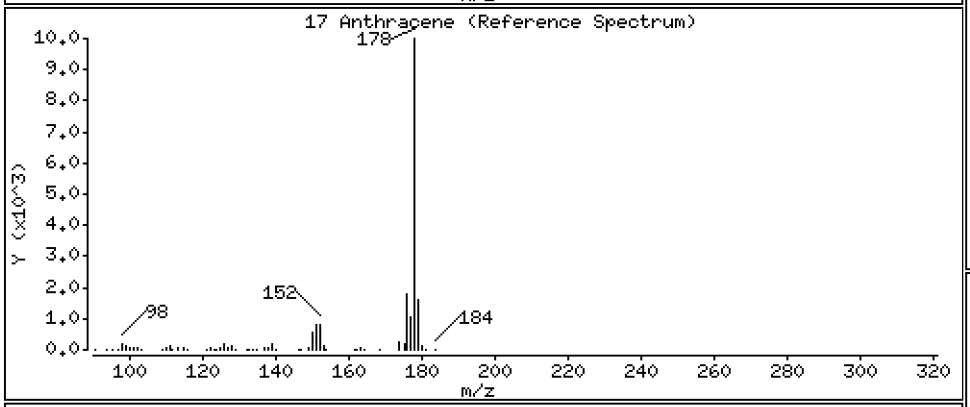
Concentration: 0.1265 ug/mL

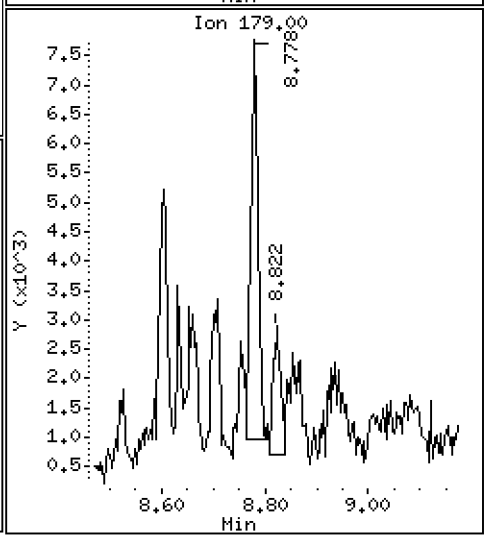


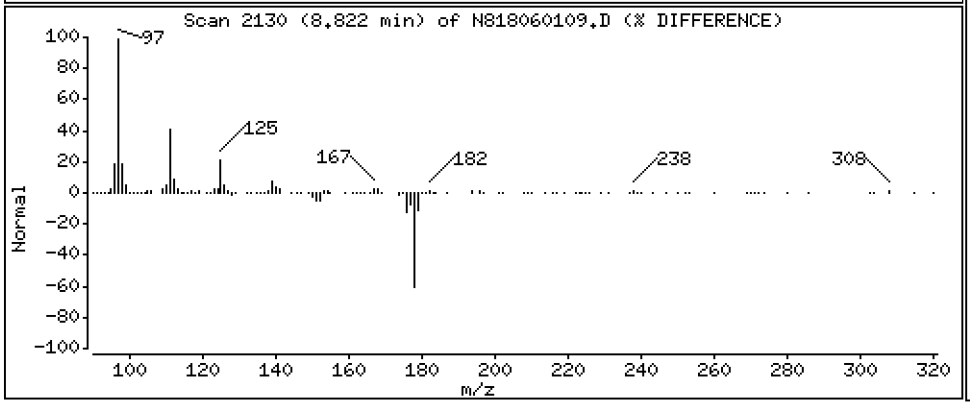












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

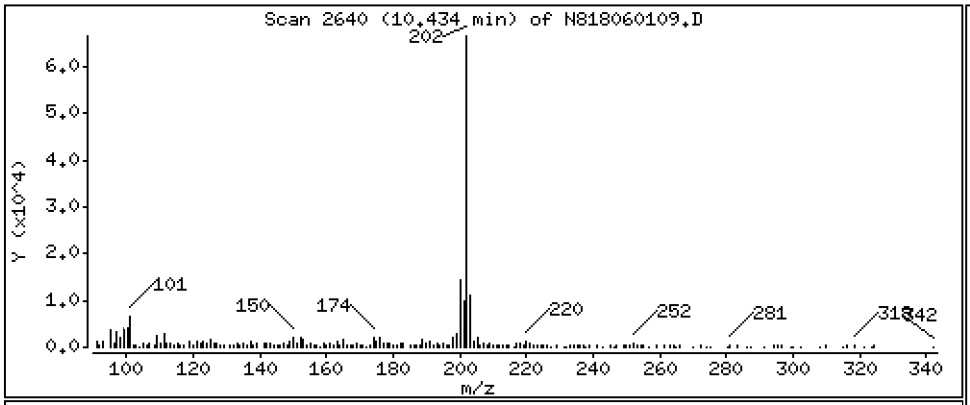
Operator: JZ

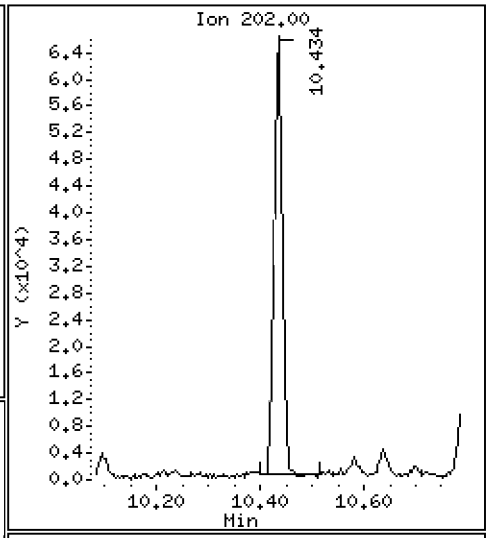
Column phase: Rxi-17sil

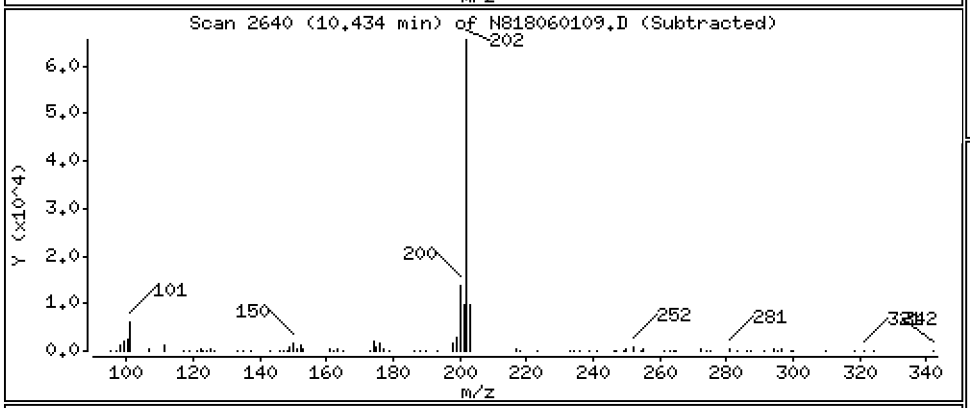
Column diameter: 0.25

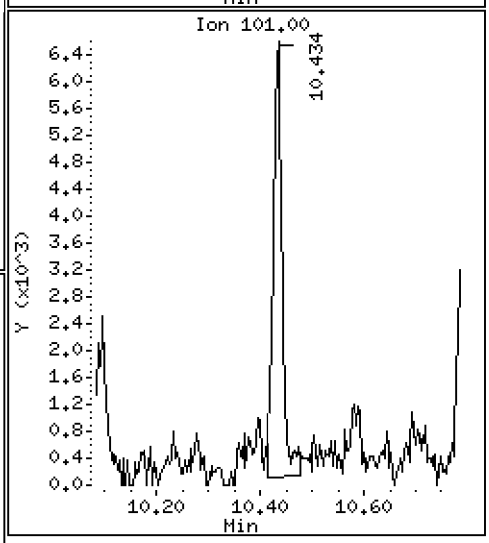
22 Fluoranthene

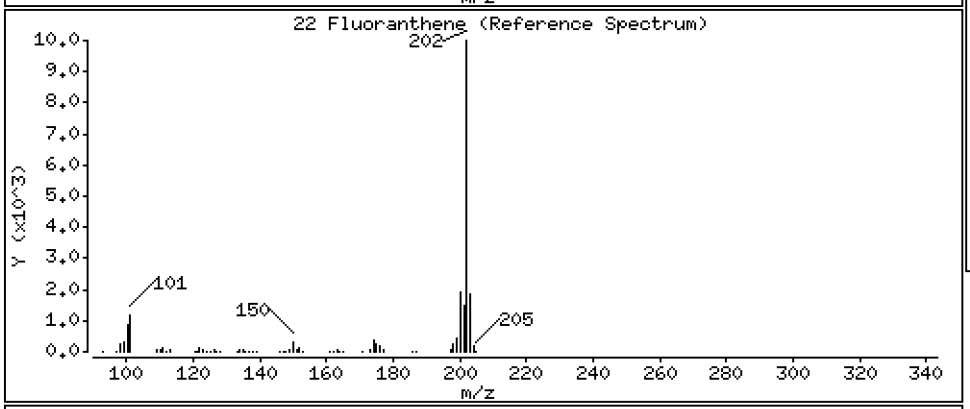
Concentration: 0.5887 ug/mL

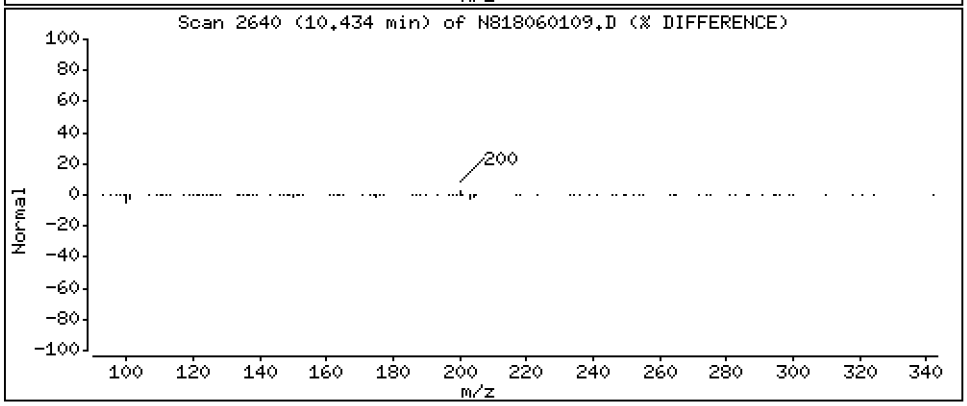












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

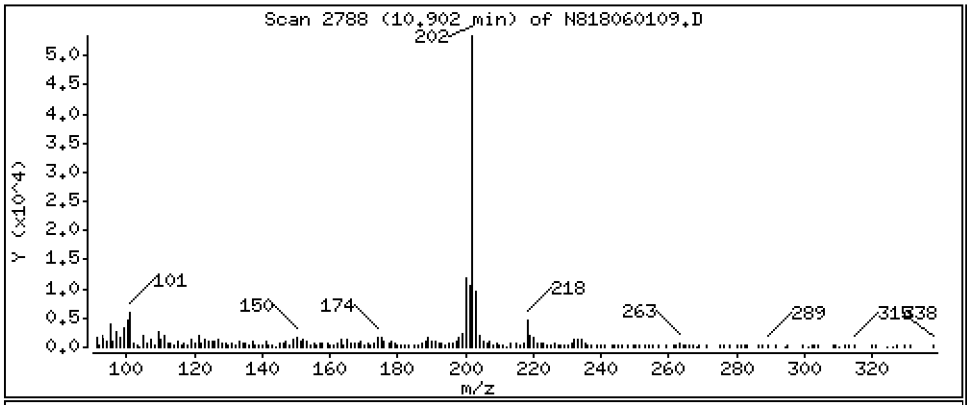
Operator: JZ

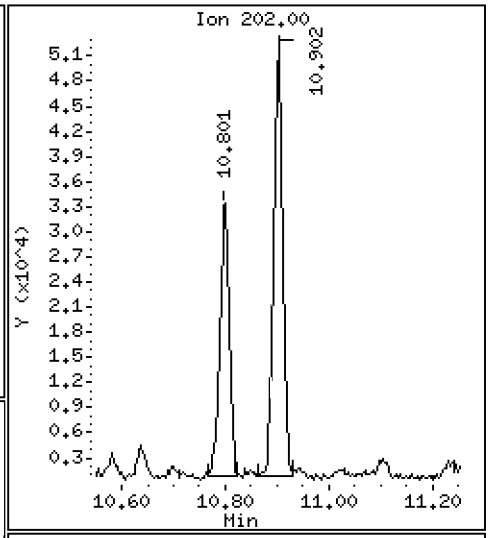
Column phase: Rxi-17sil

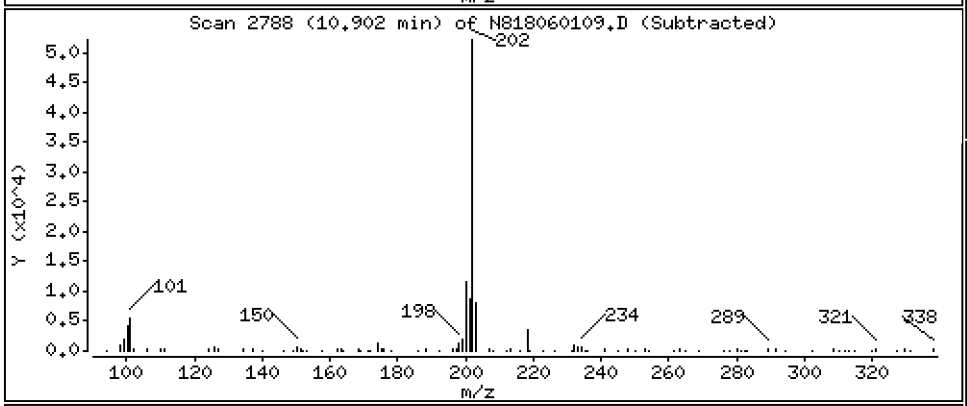
Column diameter: 0.25

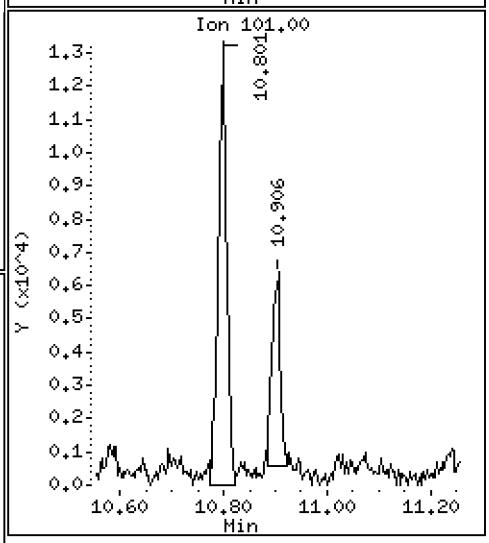
23 Pyrene

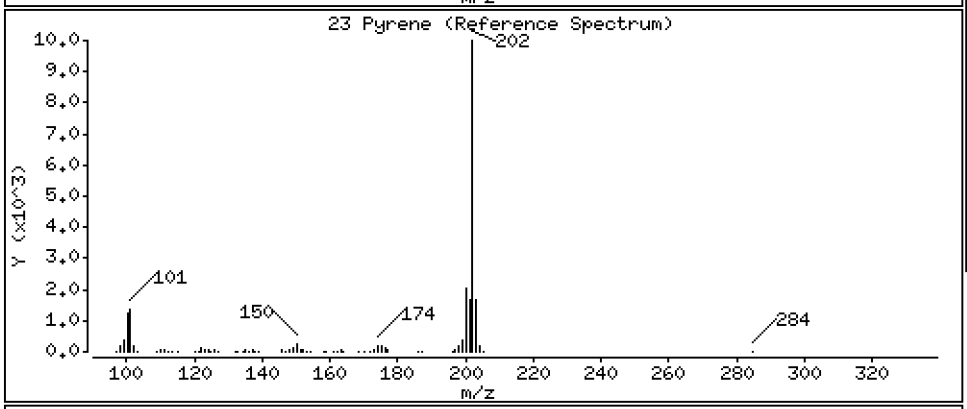
Concentration: 0.5438 ug/mL

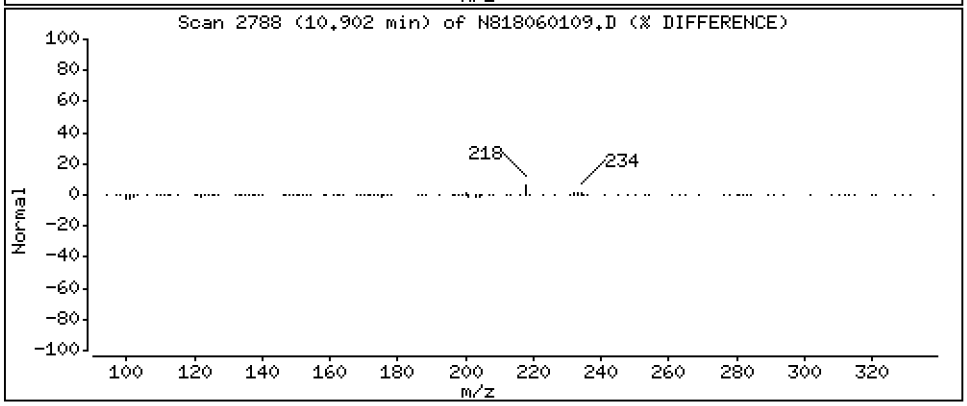












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

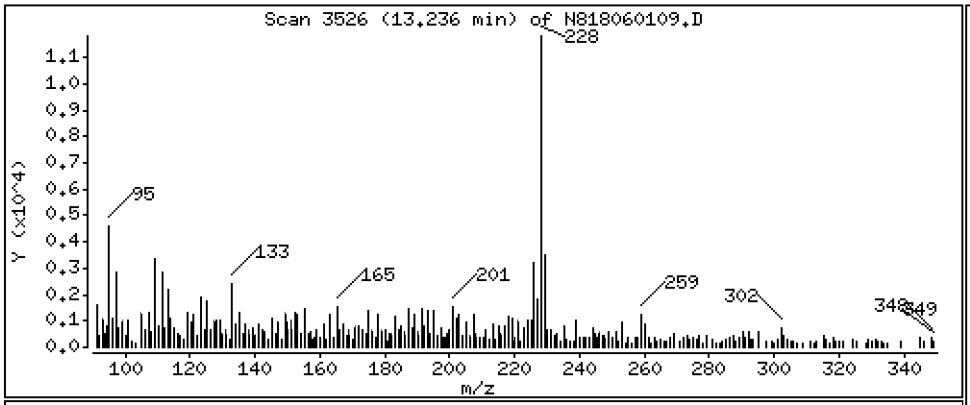
Operator: JZ

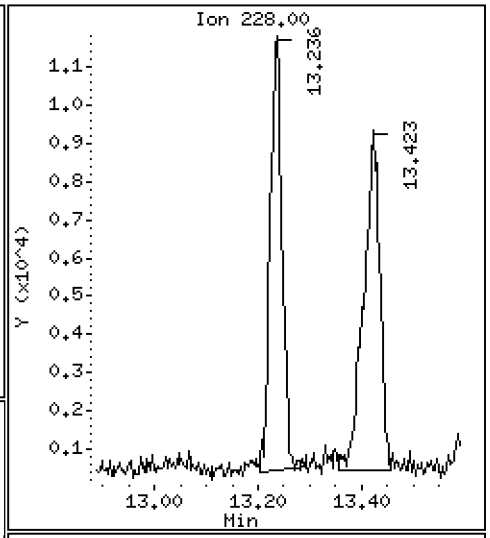
Column phase: Rxi-17sil

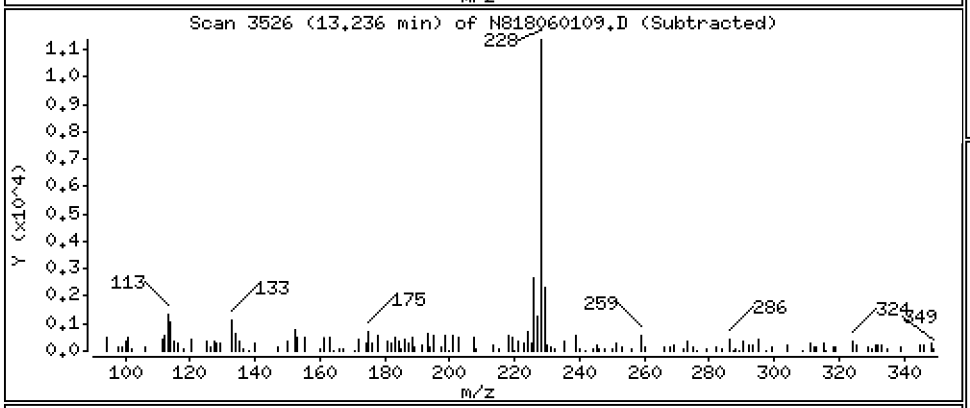
Column diameter: 0.25

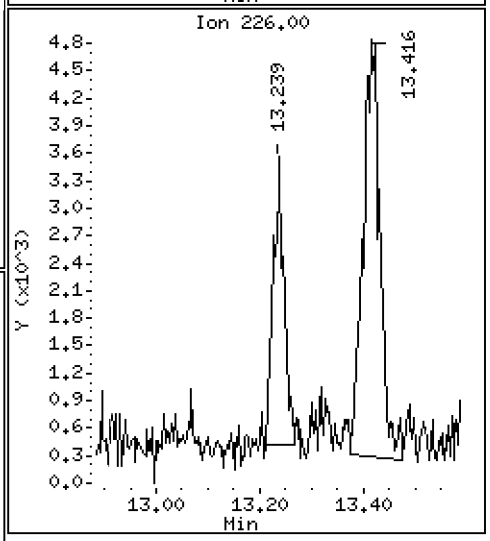
24 Benzo(a)anthracene

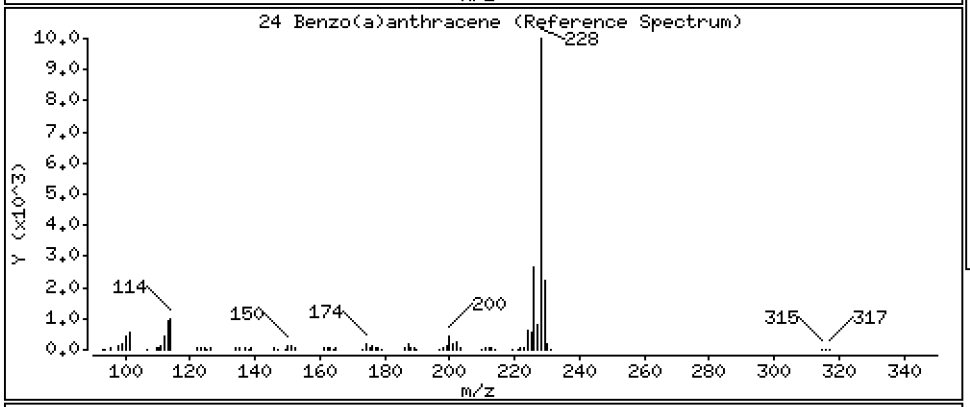
Concentration: 0.1608 ug/mL

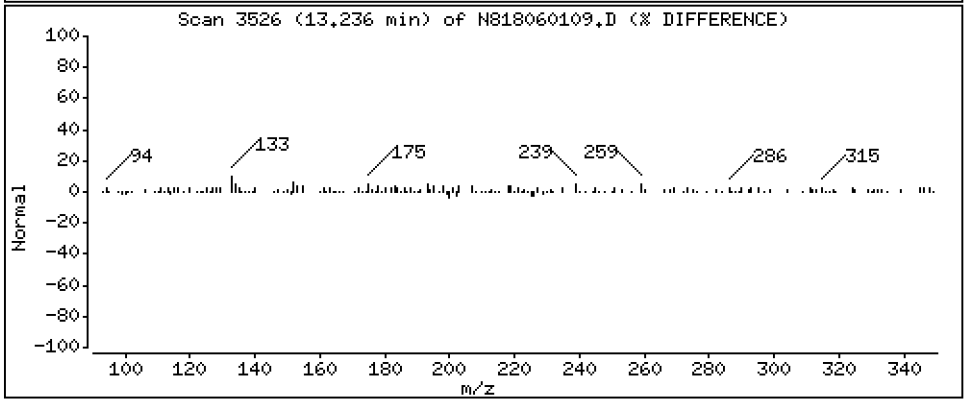












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

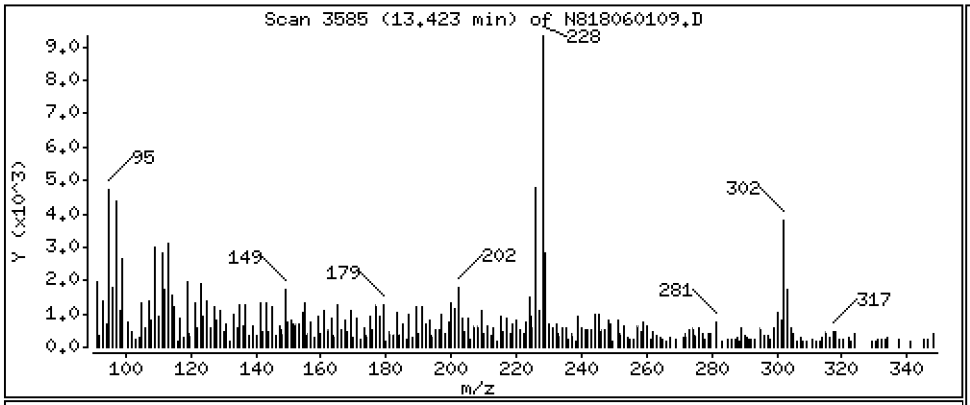
Operator: JZ

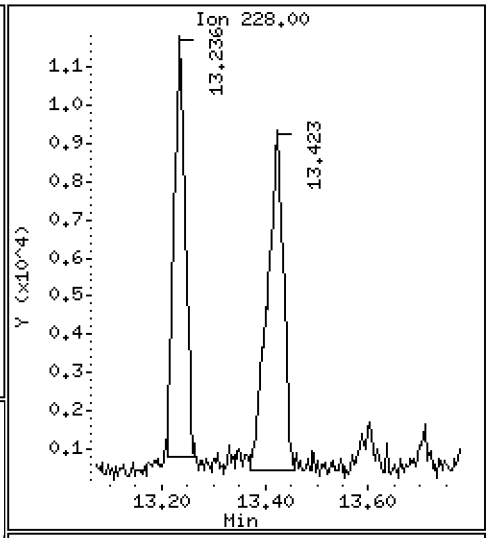
Column phase: Rxi-17sil

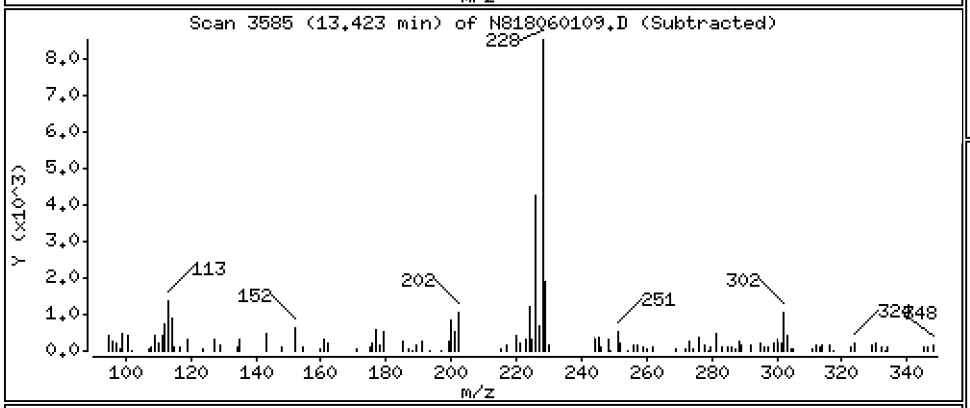
Column diameter: 0.25

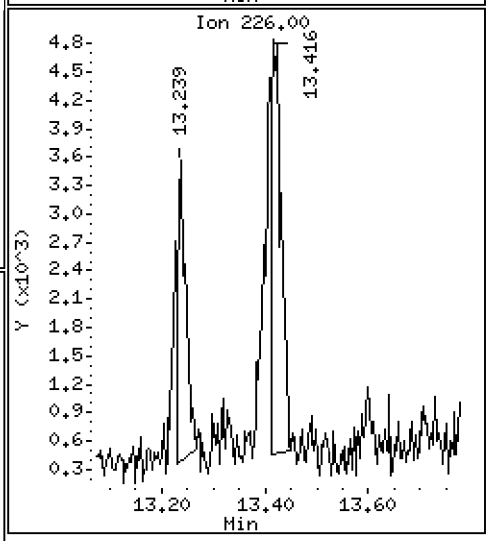
27 Chrysene

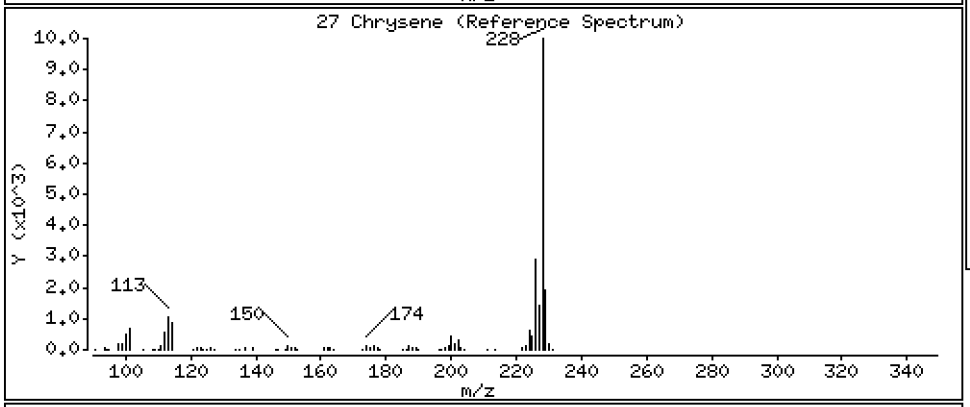
Concentration: 0.1672 ug/mL

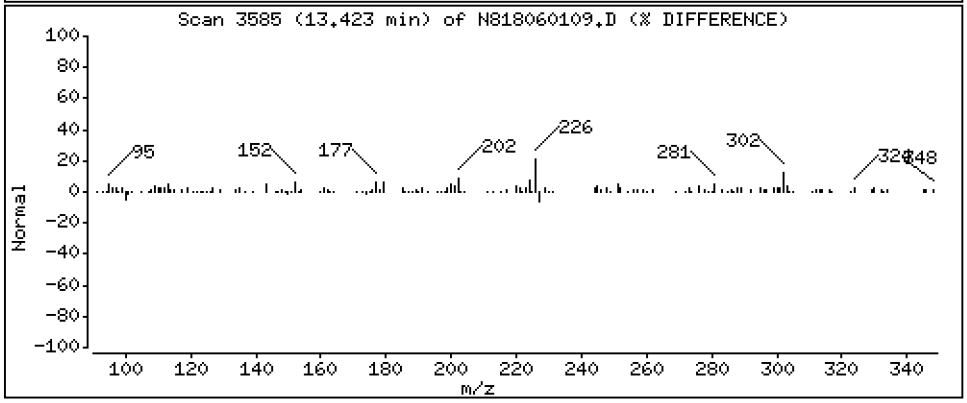












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

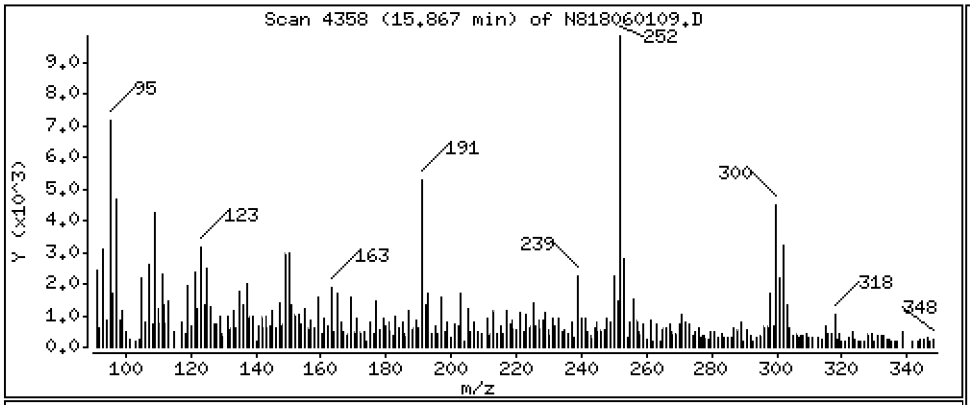
Operator: JZ

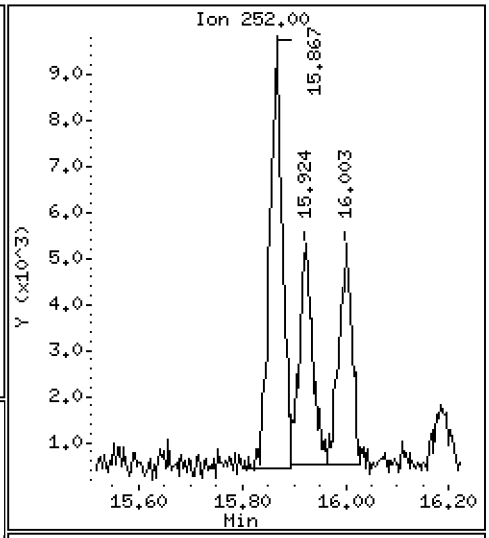
Column phase: Rxi-17sil

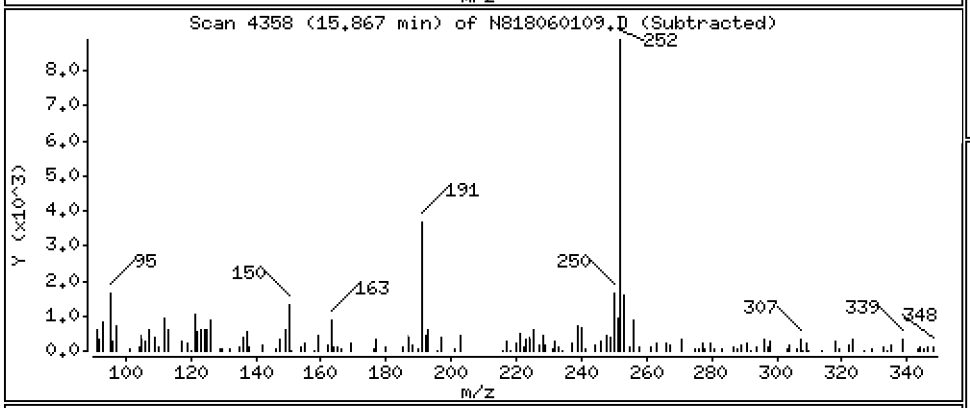
Column diameter: 0.25

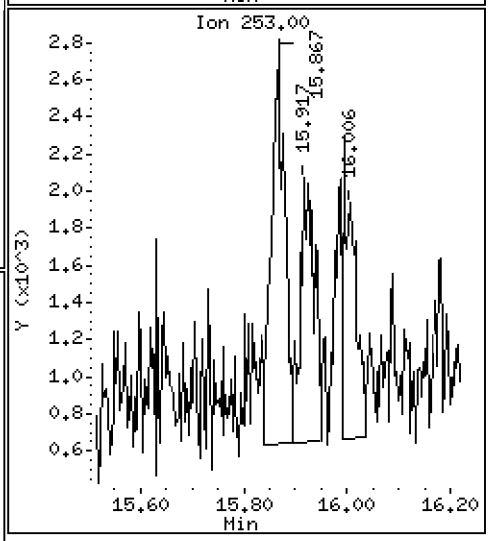
28 Benzo(b)fluoranthene

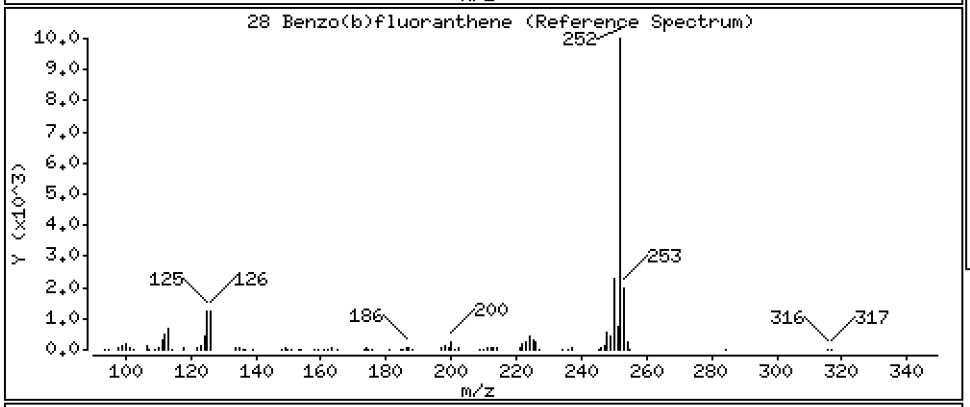
Concentration: 0.1368 ug/mL

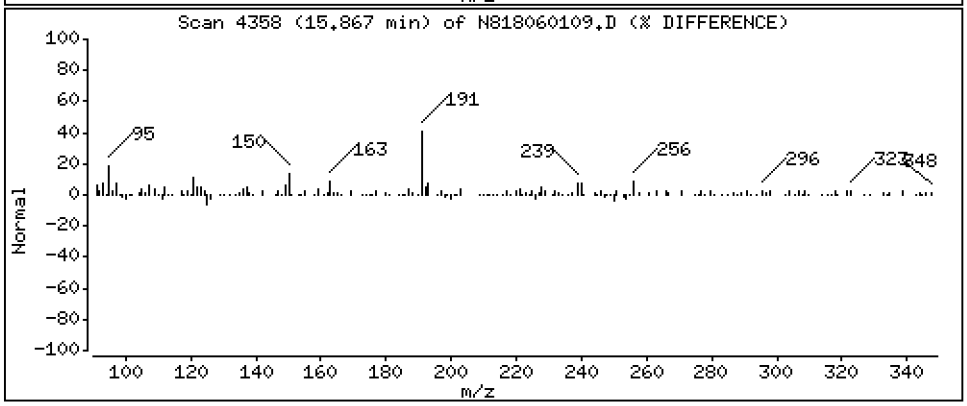












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

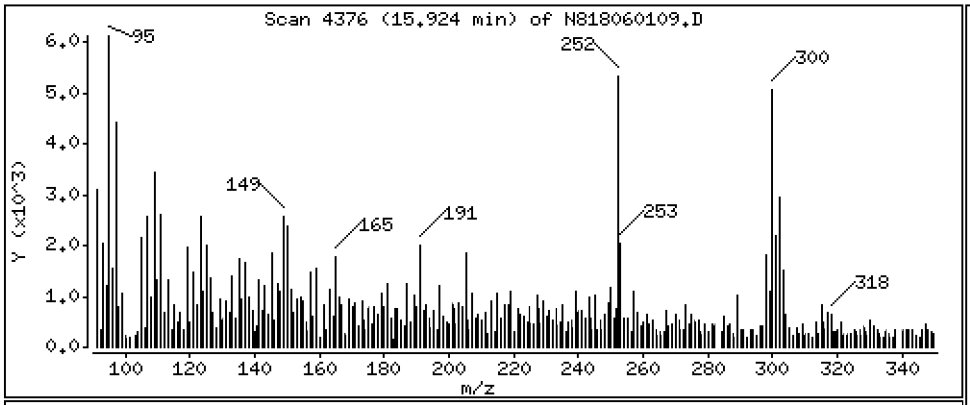
Operator: JZ

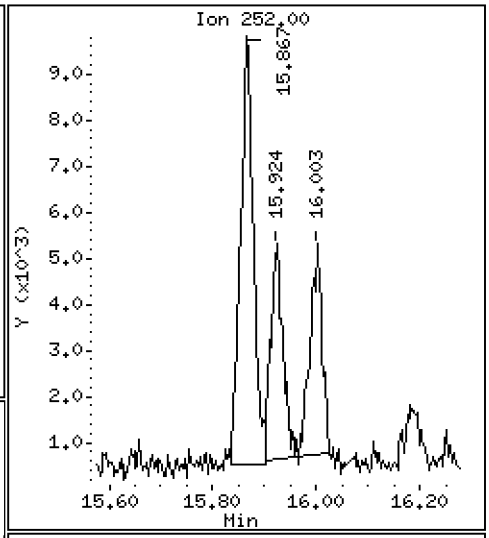
Column phase: Rxi-17sil

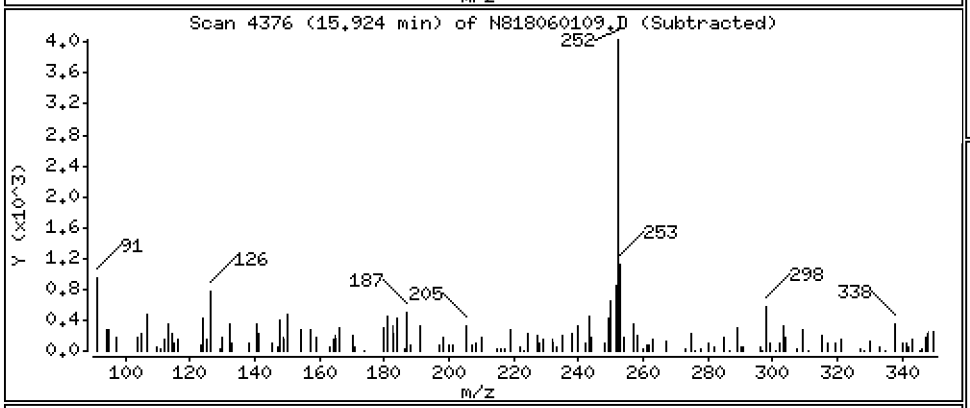
Column diameter: 0.25

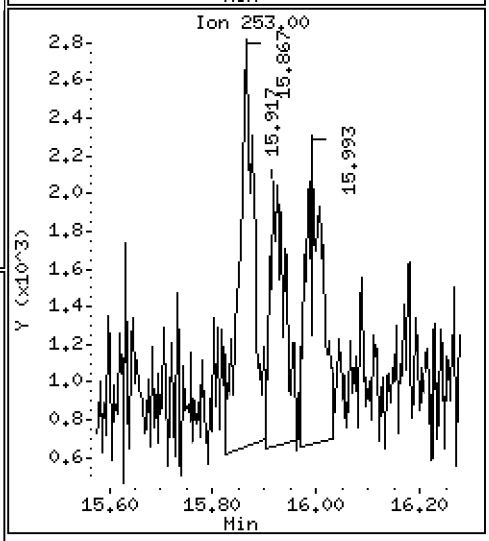
29 Benzo(k)fluoranthene

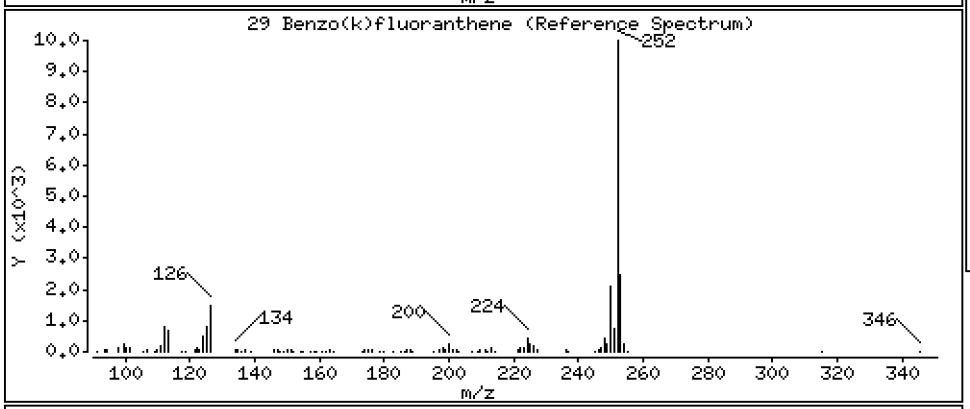
Concentration: 0.06554 ug/mL

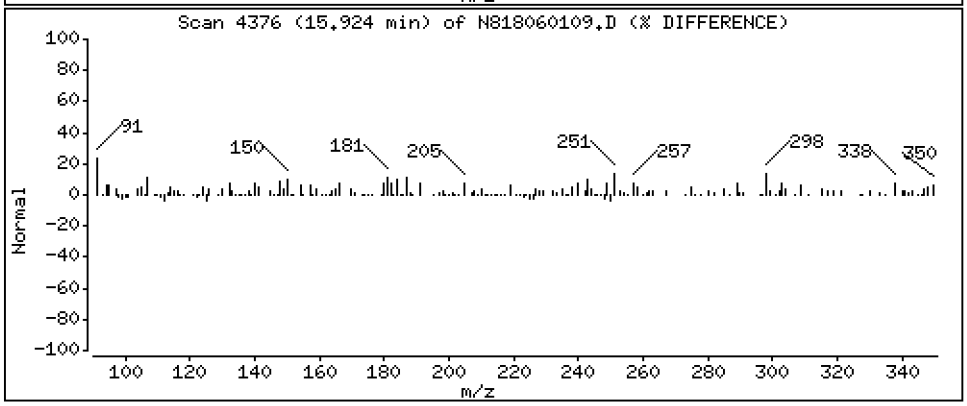












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

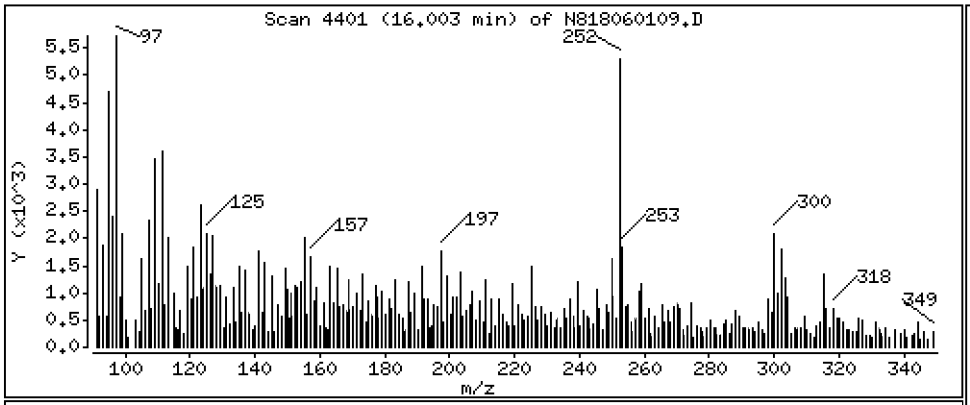
Operator: JZ

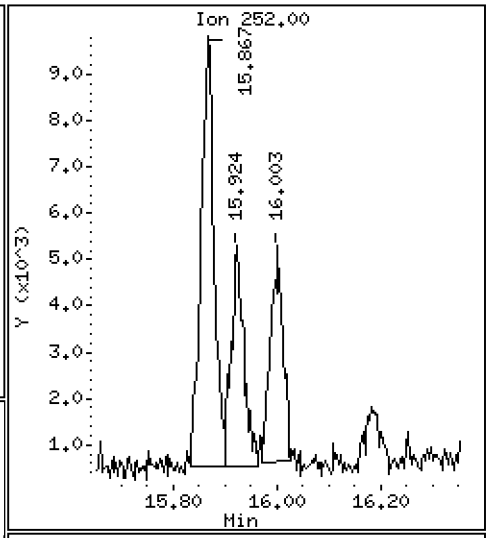
Column phase: Rxi-17sil

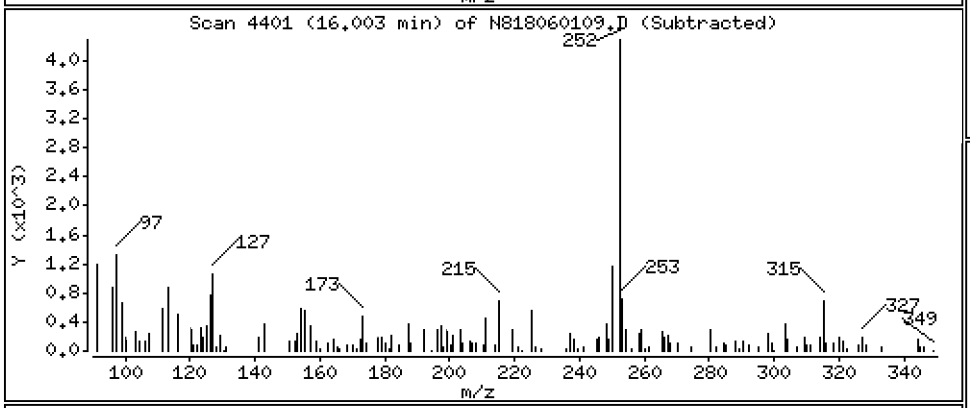
Column diameter: 0.25

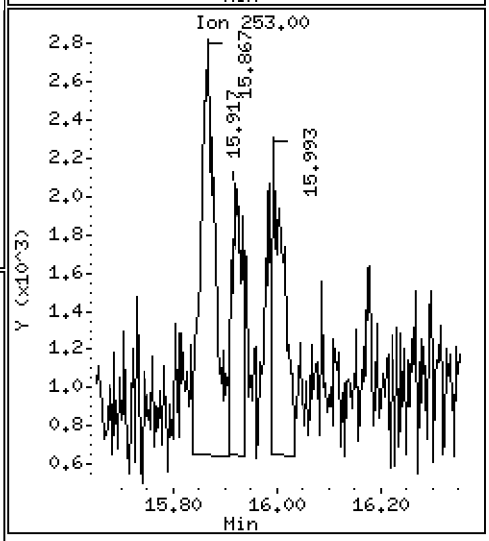
30 Benzo(j)fluoranthene

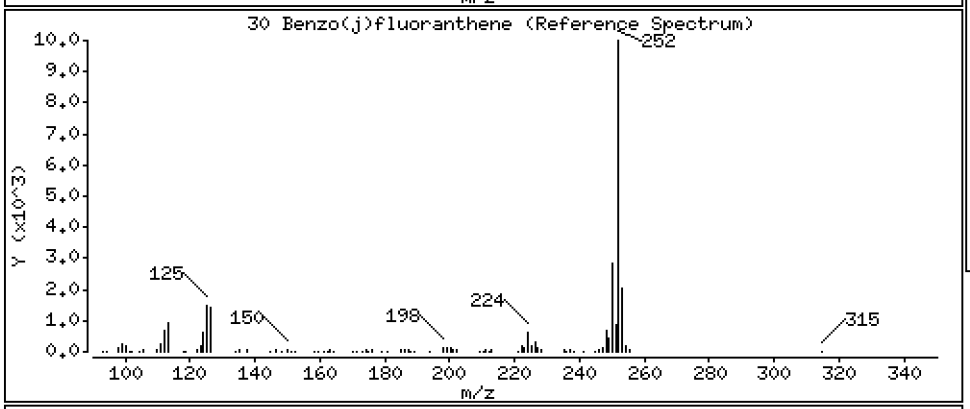
Concentration: 0.06565 ug/mL

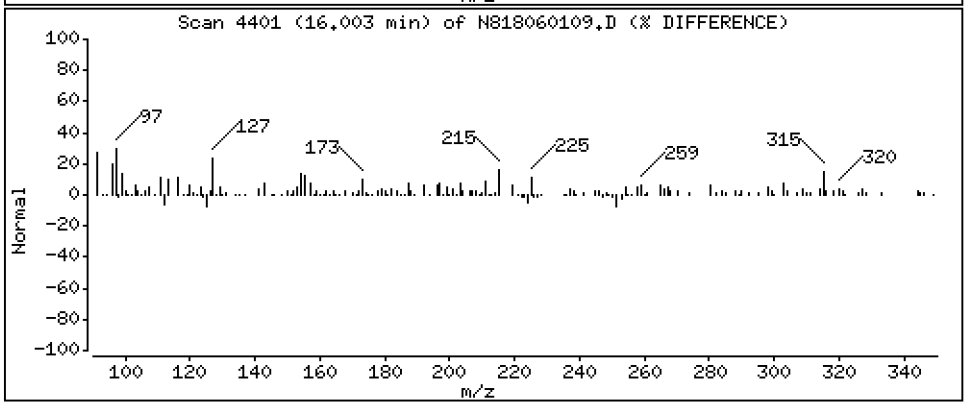












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

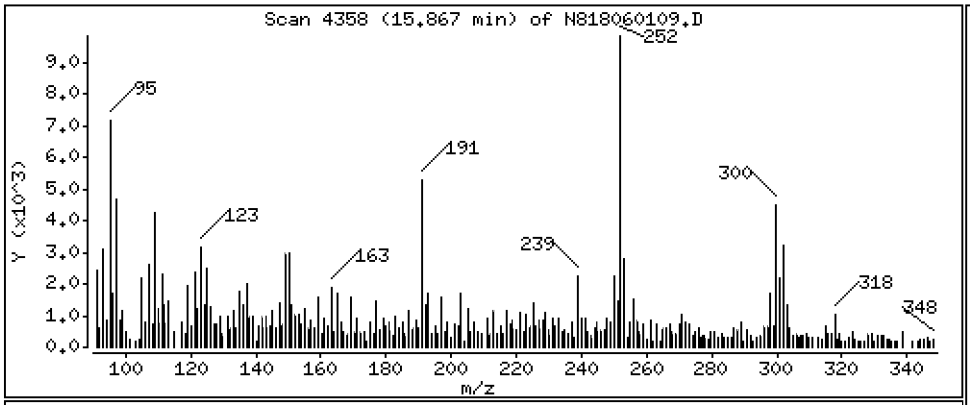
Operator: JZ

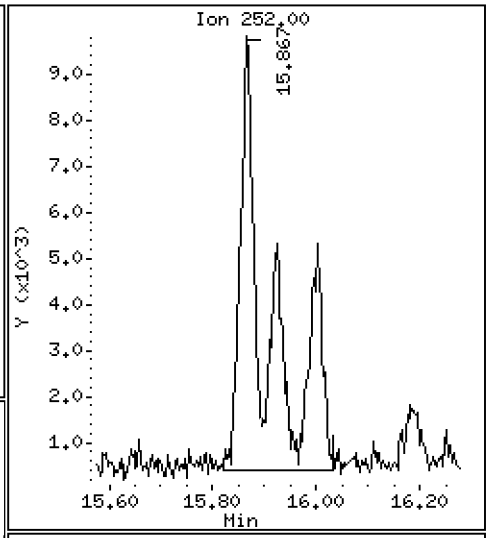
Column phase: Rxi-17sil

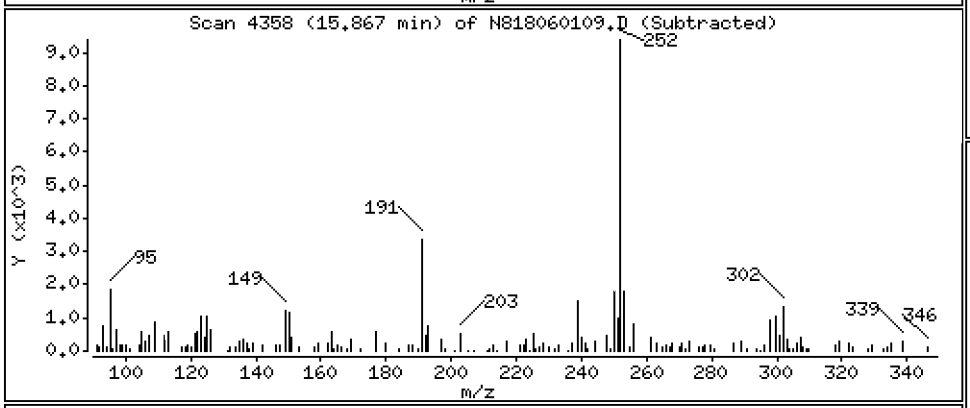
Column diameter: 0.25

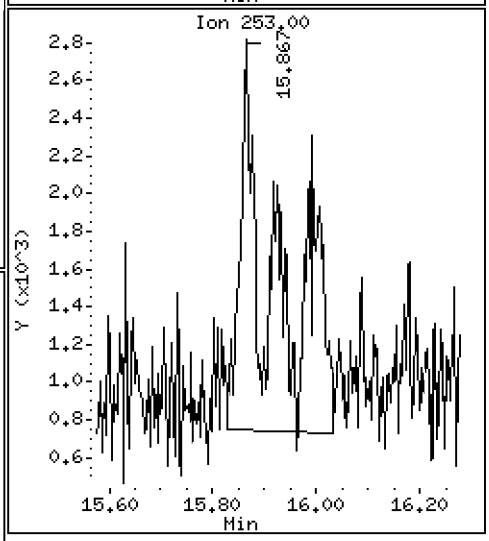
31 Total Benzofluoranthenes

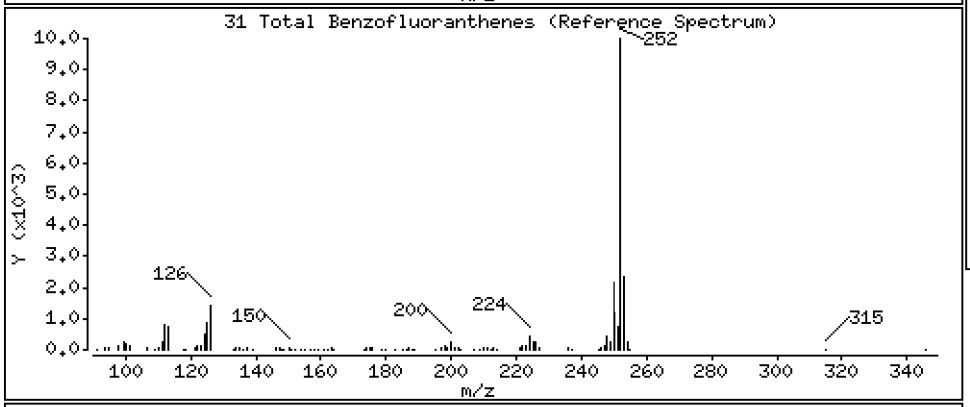
Concentration: 0.2960 ug/mL

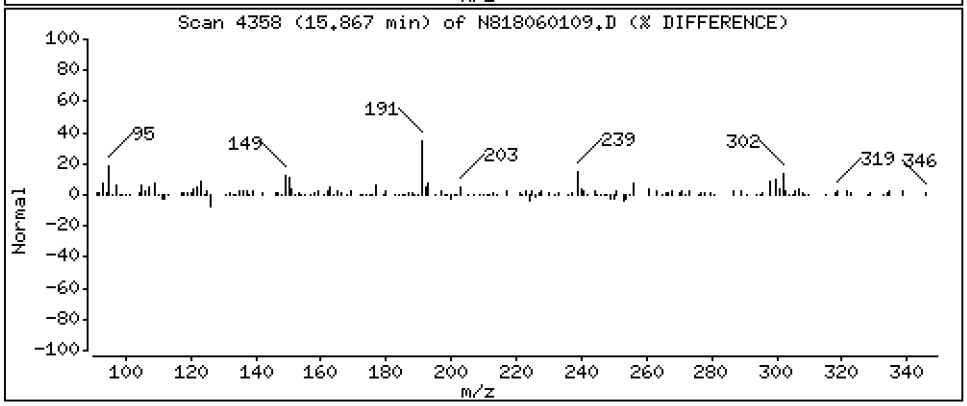












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

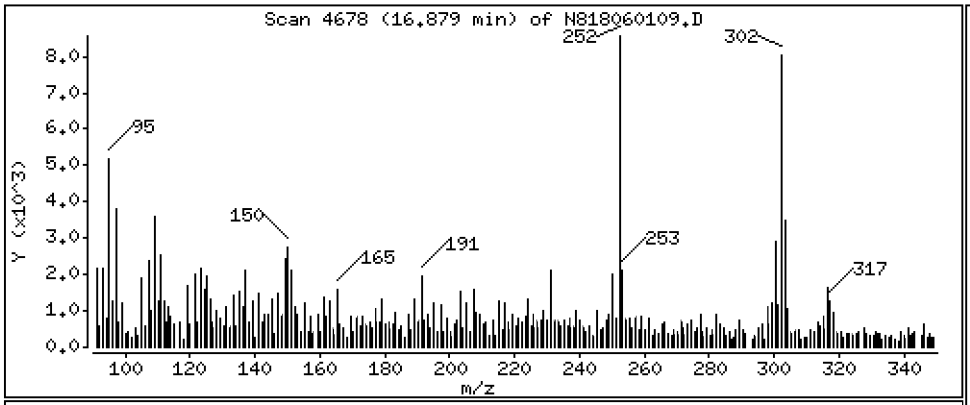
Operator: JZ

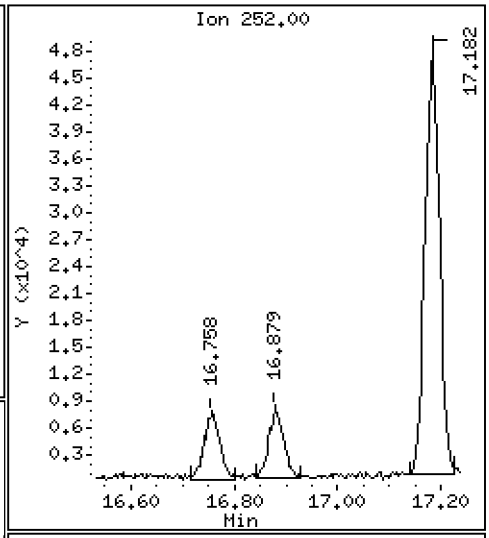
Column phase: Rxi-17sil

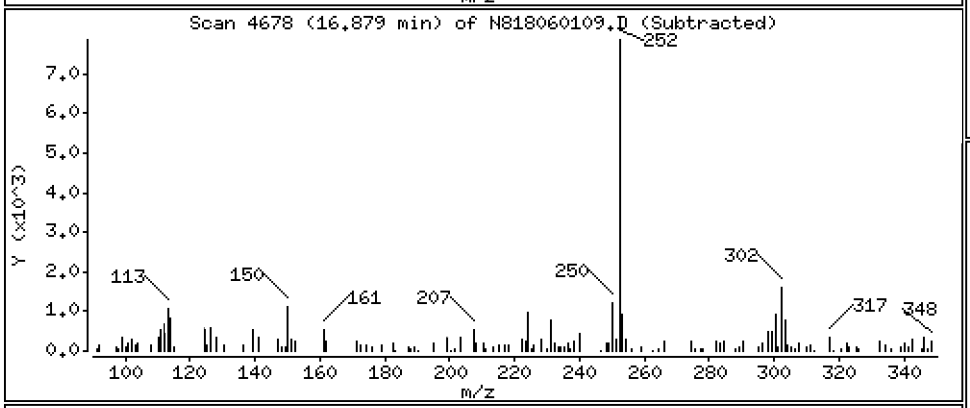
Column diameter: 0.25

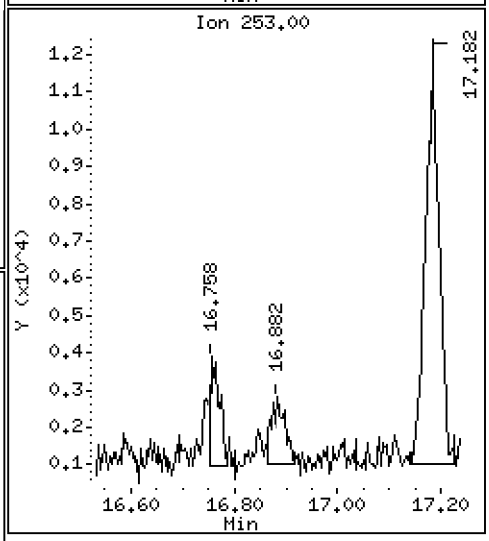
32 Benzo(a)pyrene

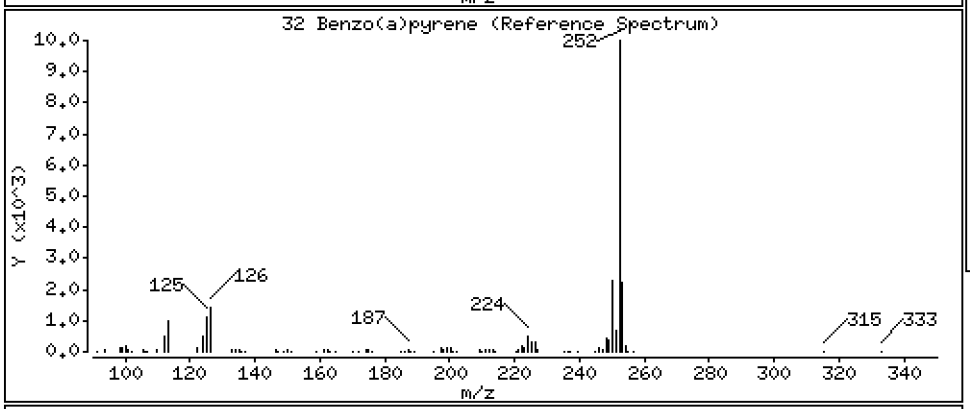
Concentration: 0.1417 ug/mL

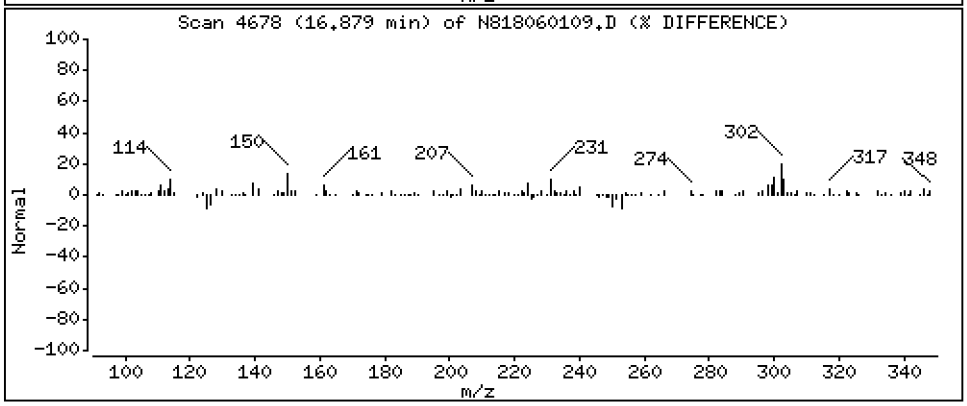












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

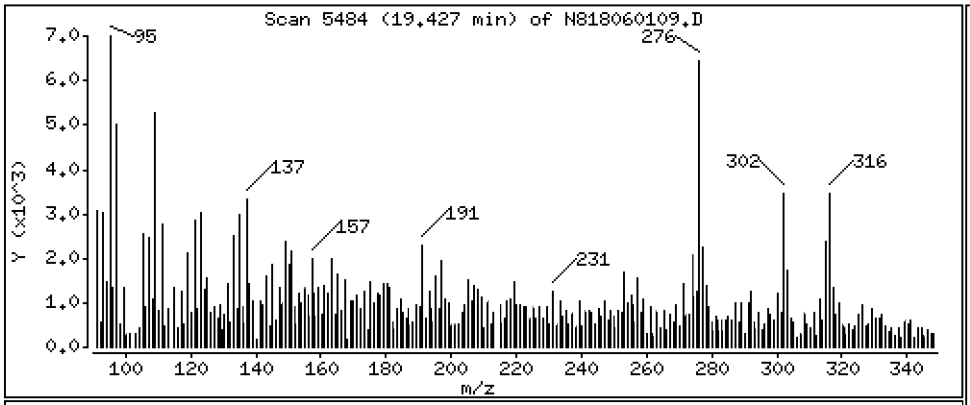
Operator: JZ

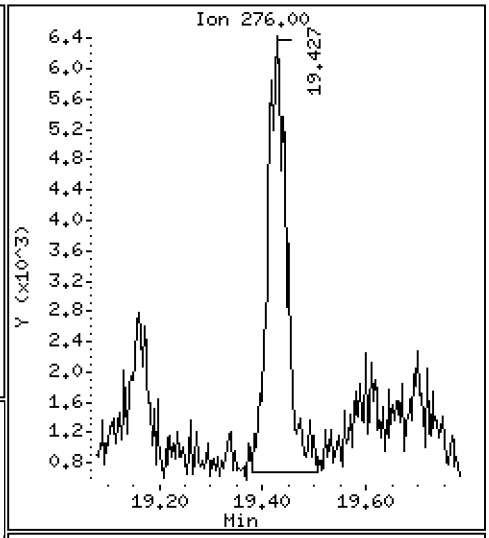
Column phase: Rxi-17sil

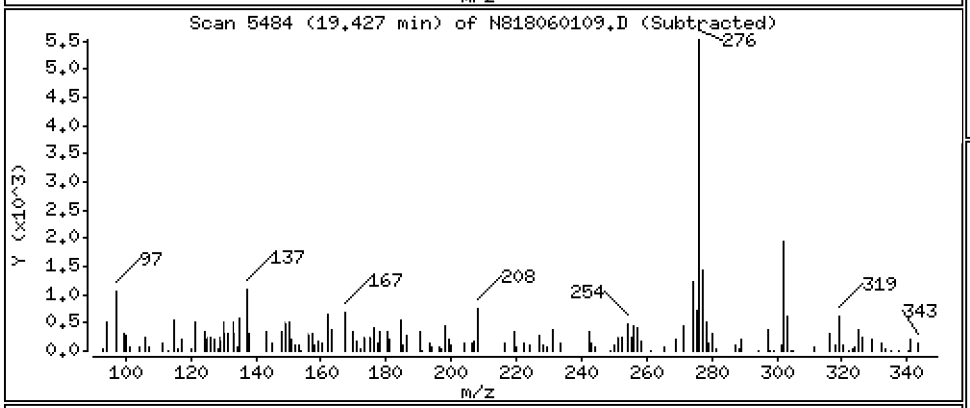
Column diameter: 0.25

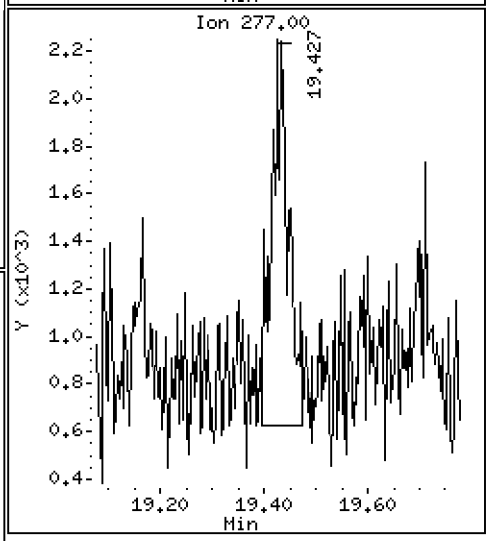
37 Indeno(1,2,3-cd)pyrene

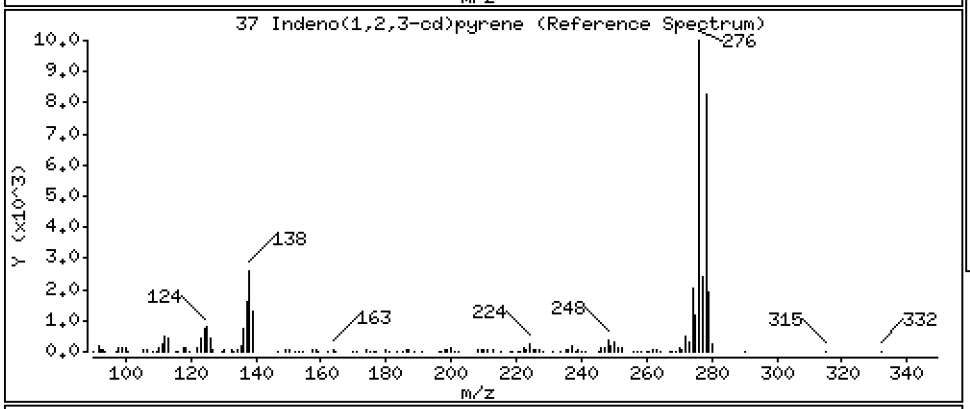
Concentration: 0.1243 ug/mL

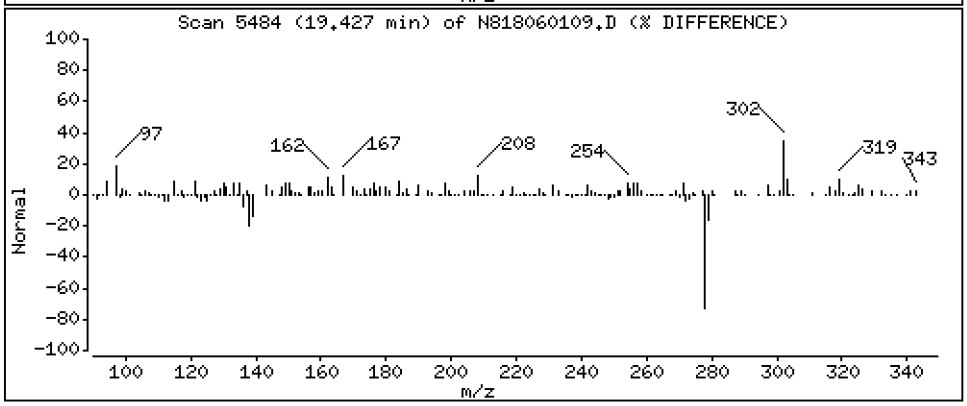












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

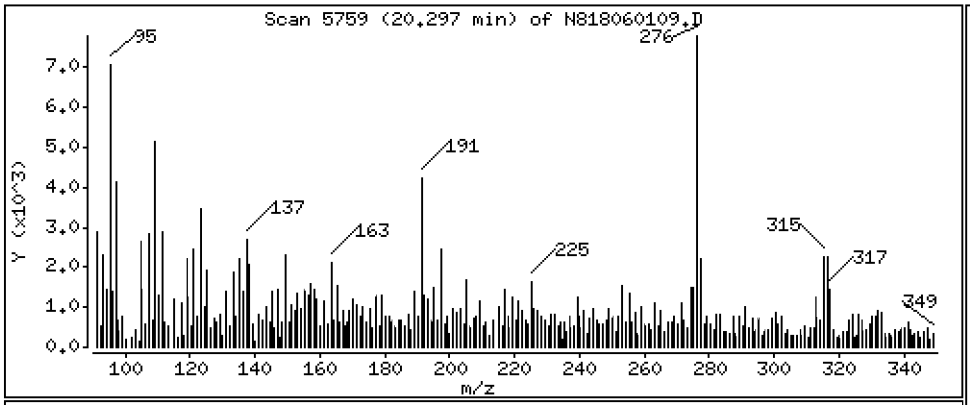
Operator: JZ

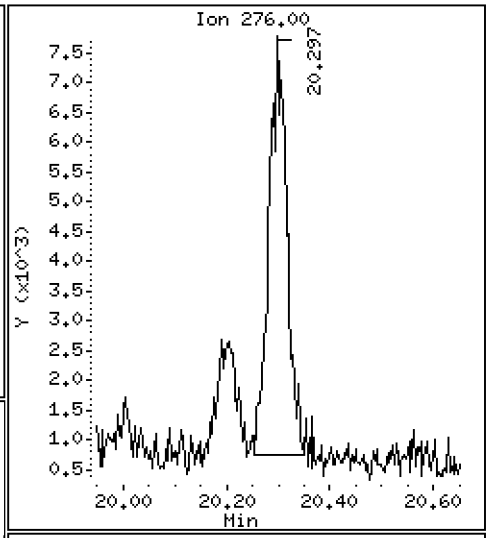
Column phase: Rxi-17sil

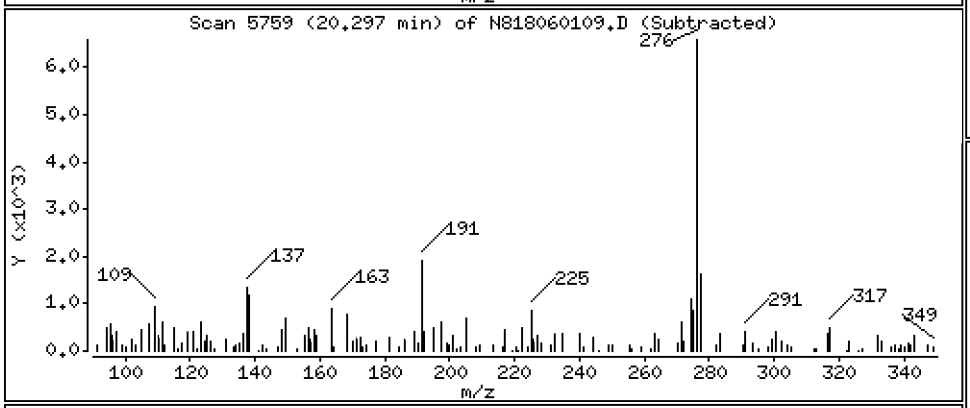
Column diameter: 0.25

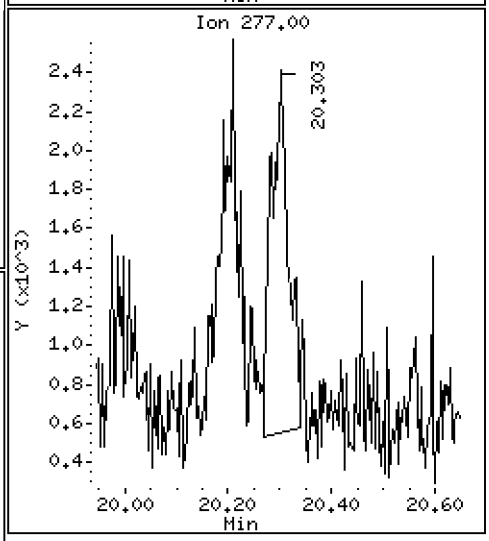
39 Benzo(g,h,i)perylene

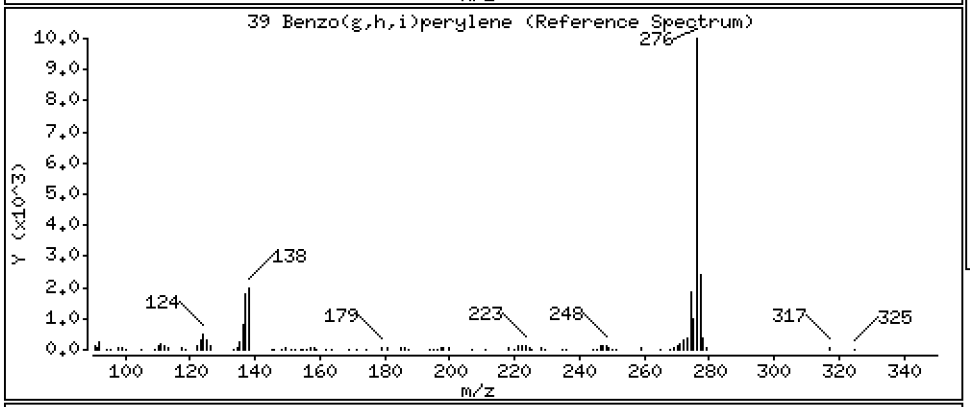
Concentration: 0.1614 ug/mL

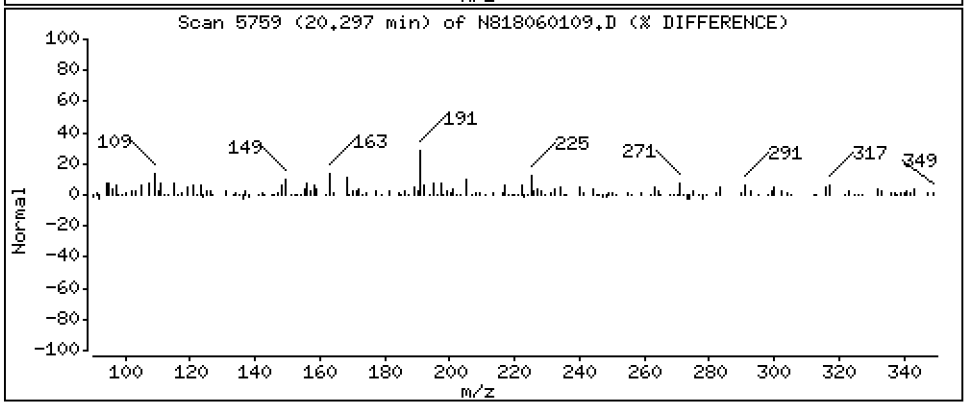












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060109.D

Date : 01-JUN-2018 17:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-02

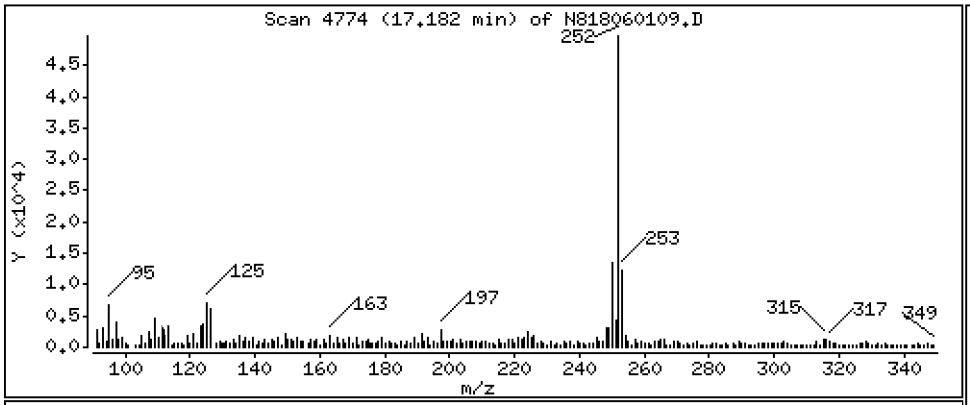
Operator: JZ

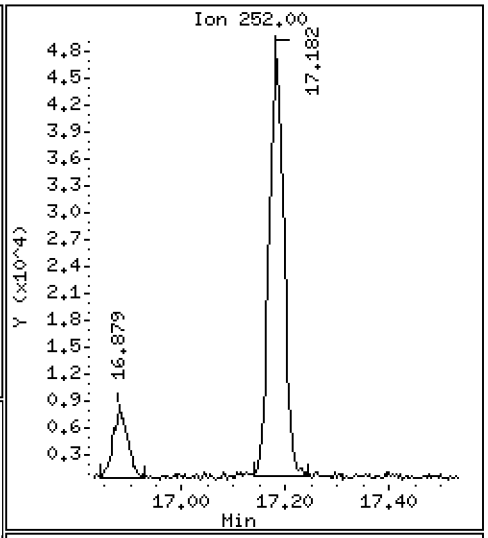
Column phase: Rxi-17sil

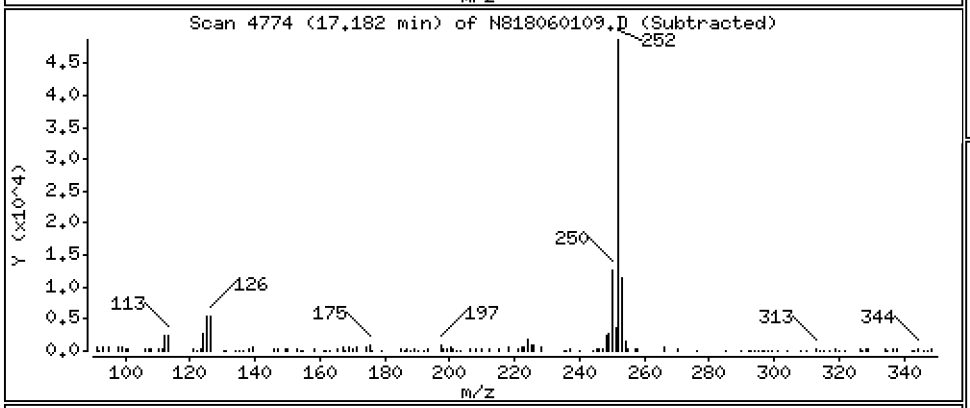
Column diameter: 0.25

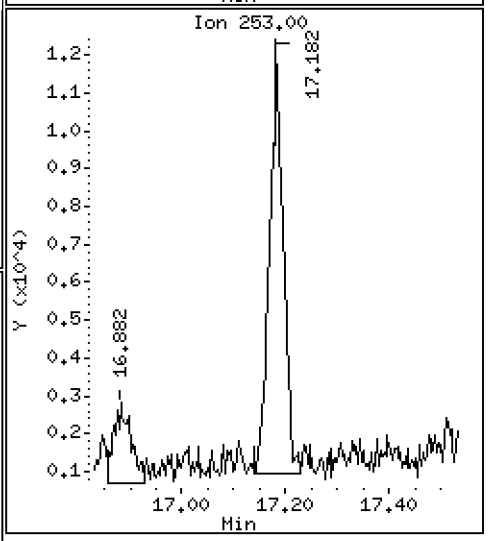
35 Perylene

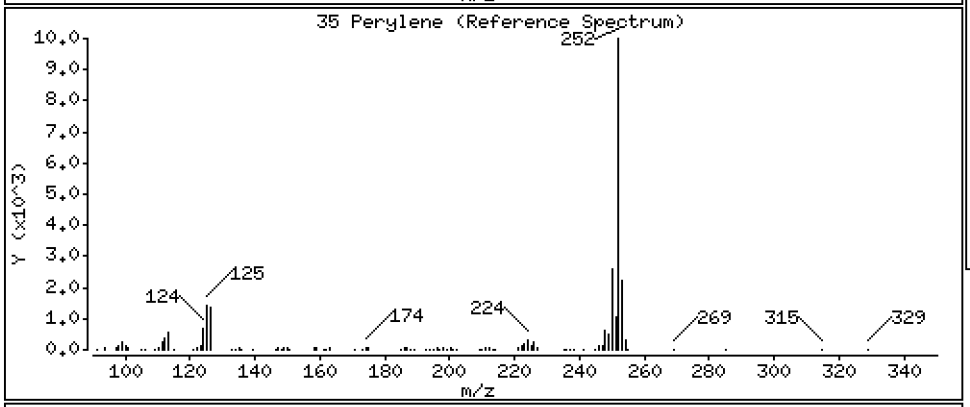
Concentration: 0.8219 ug/mL

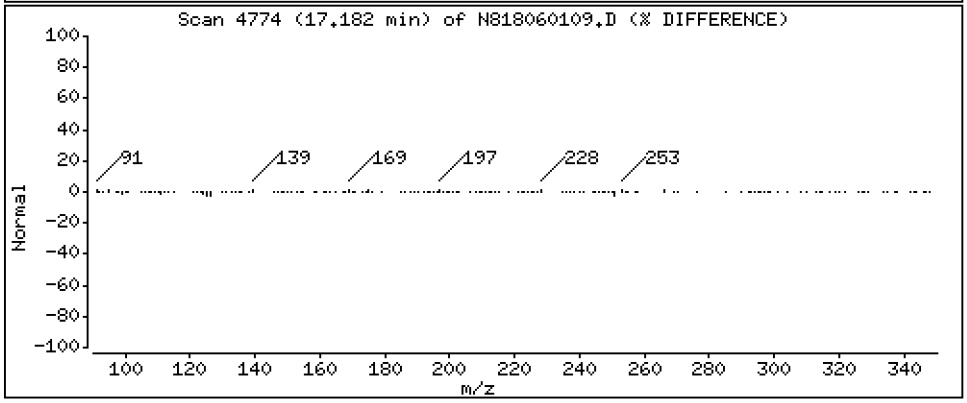












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060109.D
Lab Smp Id: 18E0243-02
Inj Date : 01-JUN-2018 17:58
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.458	4.464	(1.000)	197235	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	26796	0.23377	0.2338
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.164)	76374	1.06150	1.061
	4 2-Methylnaphthalene	141	5.236	5.242	(1.174)	11469	0.17764	0.1776
	5 1-methylnaphthalene	141	5.429	5.432	(1.218)	10085	0.15175	0.1518
	9 Acenaphthylene	152	6.614	6.617	(0.984)	7300	0.07375	0.07375
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	99695	2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.008)	4877	0.06427	0.06427
	12 Dibenzofuran	168	6.927	6.927	(1.030)	10421	0.10214	0.1021
	14 Fluorene	166	7.402	7.402	(1.101)	7122	0.09034	0.09034
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	180950	2.00000	
	16 Phenanthrene	178	8.777	8.780	(1.004)	45087	0.40653	0.4065
	17 Anthracene	178	8.821	8.821	(1.009)	12784	0.12651	0.1265
	22 Fluoranthene	202	10.434	10.434	(1.193)	73585	0.58872	0.5887
$	21 Fluoranthene-d10	212	10.399	10.402	(1.189)	181268	1.53016	1.530
	23 Pyrene	202	10.902	10.902	(0.816)	63833	0.54384	0.5438
	24 Benzo(a)anthracene	228	13.235	13.239	(0.991)	18253	0.16085	0.1608
*	25 Chrysene-d12	240	13.356	13.356	(1.000)	195315	2.00000	
	27 Chrysene	228	13.422	13.425	(1.005)	19101	0.16721	0.1672
	28 Benzo(b)fluoranthene	252	15.866	15.869	(0.927)	16390	0.13678	0.1368
	29 Benzo(k)fluoranthene	252	15.923	15.926	(0.931)	7723	0.06554	0.06554
	30 Benzo(j)fluoranthene	252	16.002	16.002	(0.935)	7745	0.06565	0.06565
	31 Total Benzofluoranthenes	252	15.866	15.926	(0.927)	34596	0.29604	0.2960(M)
	32 Benzo(a)pyrene	252	16.878	16.884	(0.986)	14879	0.14167	0.1417
*	33 Perylene-d12	264	17.112	17.112	(1.000)	188548	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.427	19.430	(1.135)	14943	0.12428	0.1243
$	36 Dibenzo(a,h)anthracene-d14	292	19.341	19.338	(1.130)	165089	1.86933	1.869
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.296	20.299	(1.186)	16964	0.16143	0.1614
	35 Perylene	252	17.182	17.181	(1.004)	93723	0.82186	0.8219

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060109.D
Lab Smp Id: 18E0243-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	197235	61.42
10 Acenaphthene-d10	65789	32895	131578	99695	51.54
15 Phenanthrene-d10	128644	64322	257288	180950	40.66
25 Chrysene-d12	166669	83335	333338	195315	17.19
33 Perylene-d12	140483	70242	280966	188548	34.21

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.14
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.00
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060109.D

Lab ID: 18E0243-02
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 17:58

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

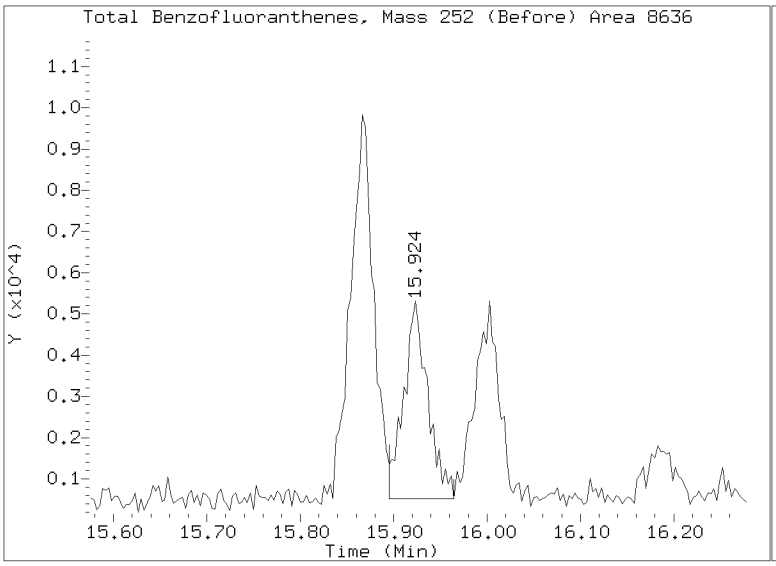
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

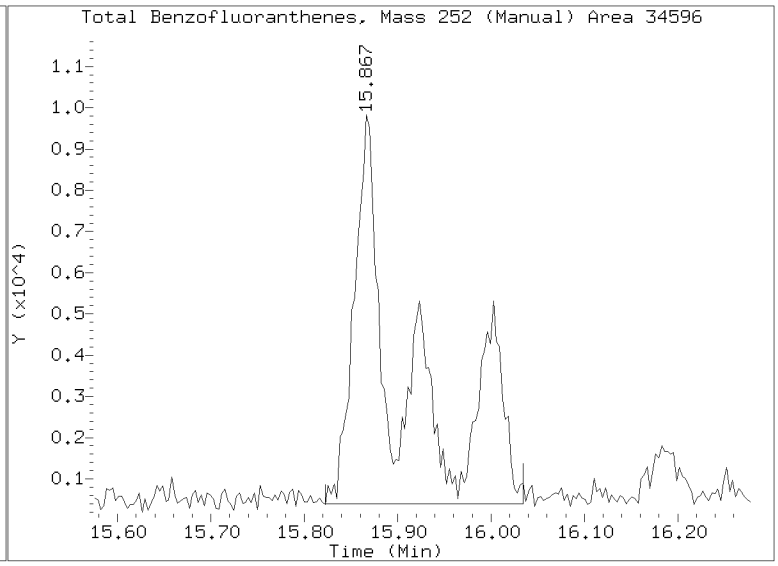
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060109.D
Injection Date: 01-JUN-2018 17:58
Lab ID:18E0243-02 Client ID:
Report Date: 06/04/2018 10:25





LDW18-SSCL-A03

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-03	SDG:	18E0231
Sampled:	05/16/18 13:20	Prepared:	05/24/18 10:50	File ID:	N818060115.D
% Solids:	62.91	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 20:39
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	16.08 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	10	8850	D, E	8.15	49.4
218-01-9	Chrysene	10	8830	D, E	10.4	49.4
205-99-2	Benzo(b)fluoranthene	10	5030	D, E	13.6	49.4
207-08-9	Benzo(k)fluoranthene	10	3290	D	7.51	49.4
50-32-8	Benzo(a)pyrene	10	8900	D, E	6.07	49.4
193-39-5	Indeno(1,2,3-cd)pyrene	10	4360	D	10.4	49.4
53-70-3	Dibenzo(a,h)anthracene	10	1480	D	8.81	49.4

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.28	75.5	50.9	32 - 120	
Dibenzo[a,h]anthracene-d14	148.28	77.9	52.5	21 - 133	
Fluoranthene-d10	148.28	88.0	59.3	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

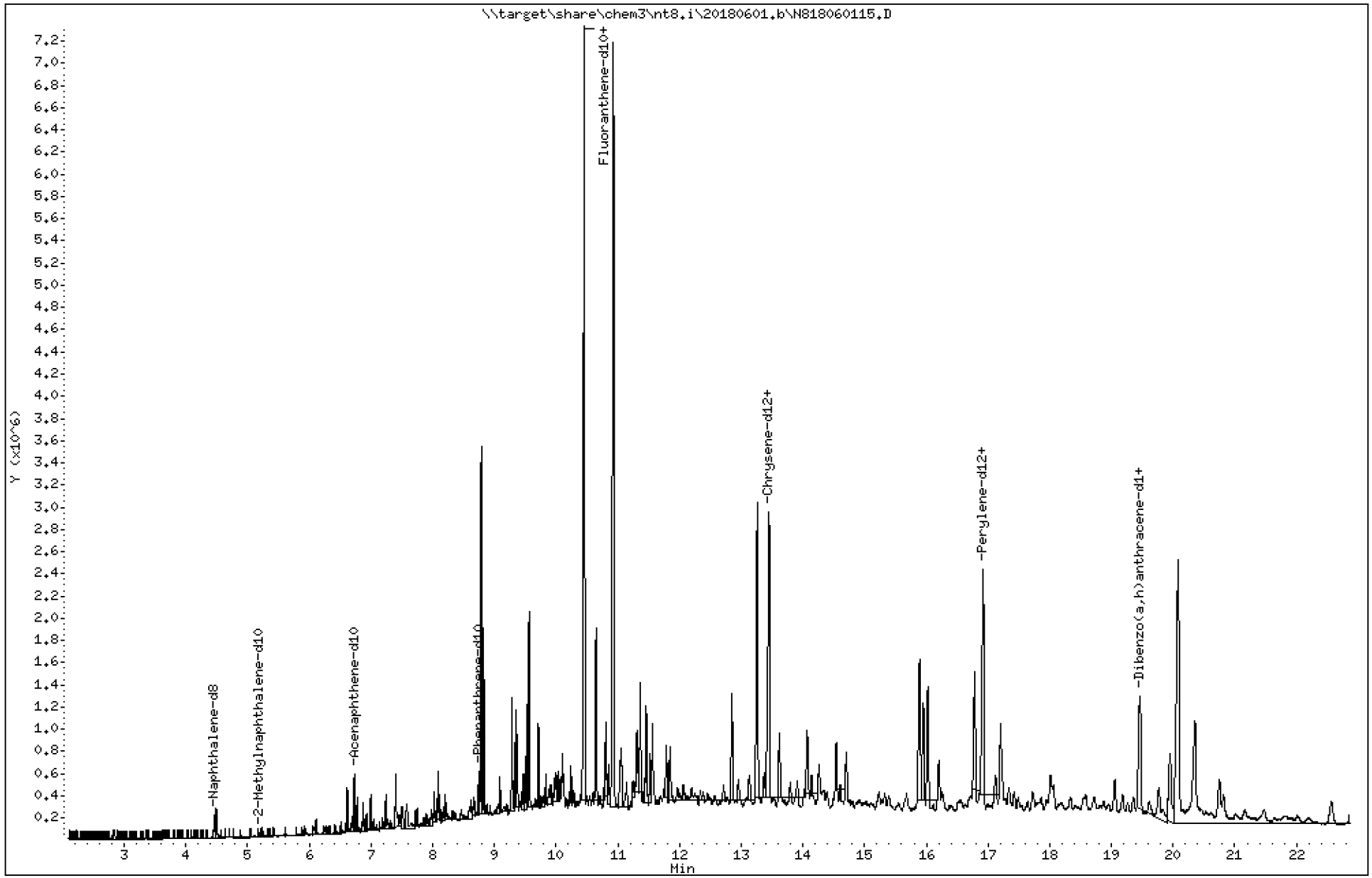
Instrument: nt8.i

Sample Info: 18E0243-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

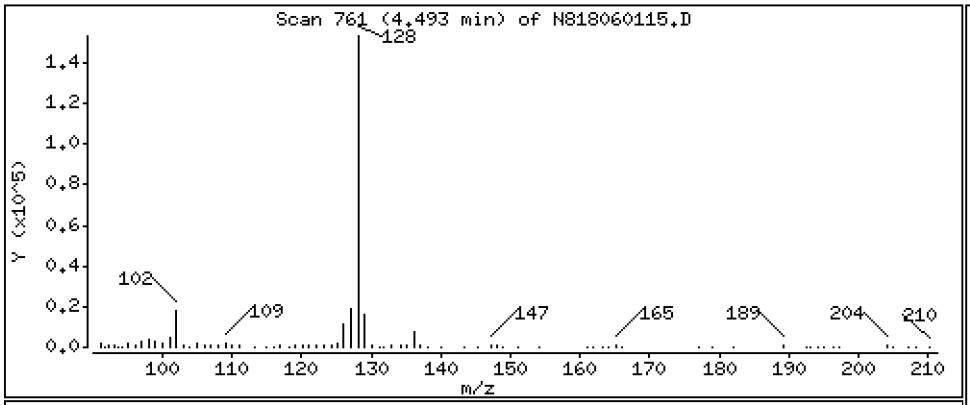
Operator: JZ

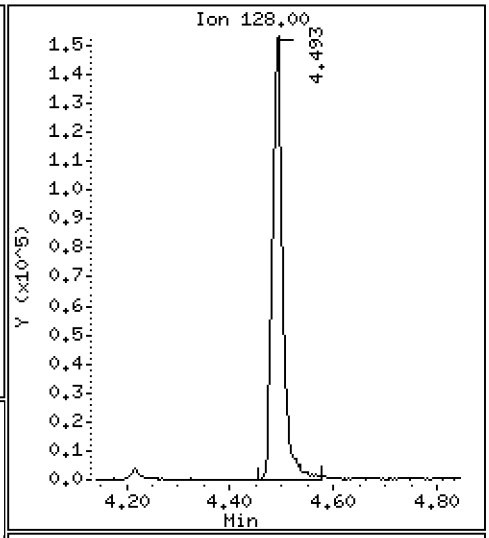
Column phase: Rxi-17sil

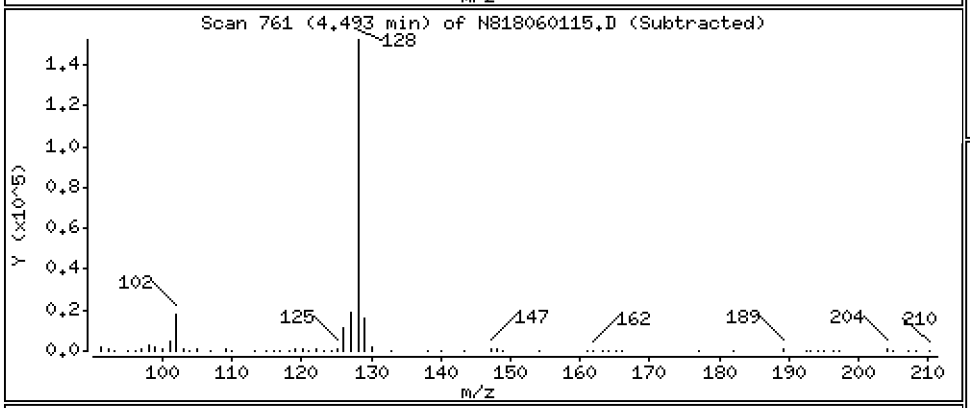
Column diameter: 0.25

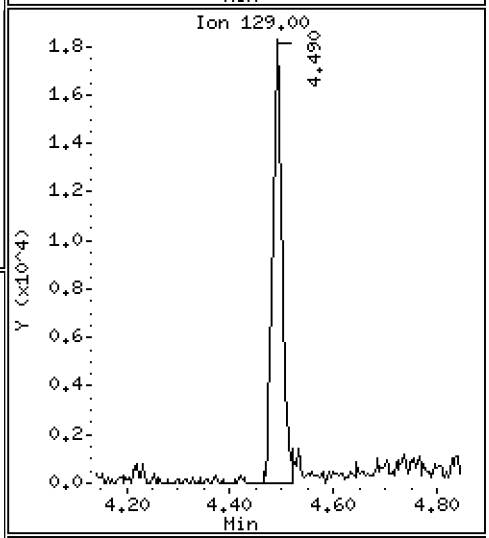
2 Naphthalene

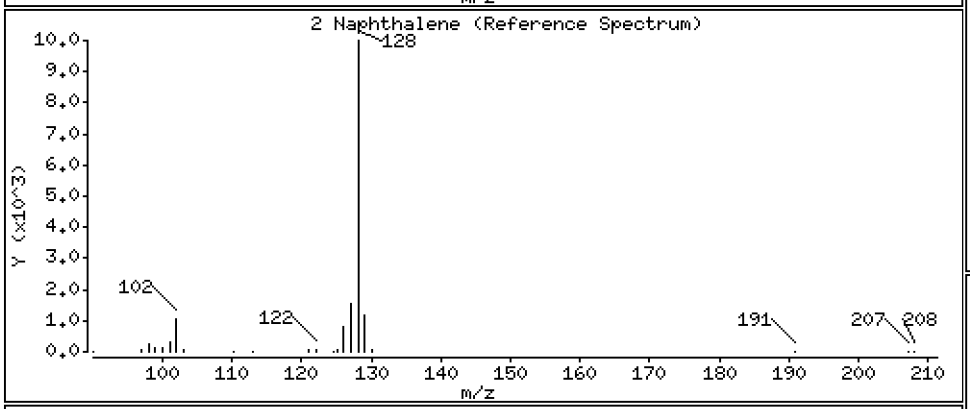
Concentration: 20.41 ug/mL

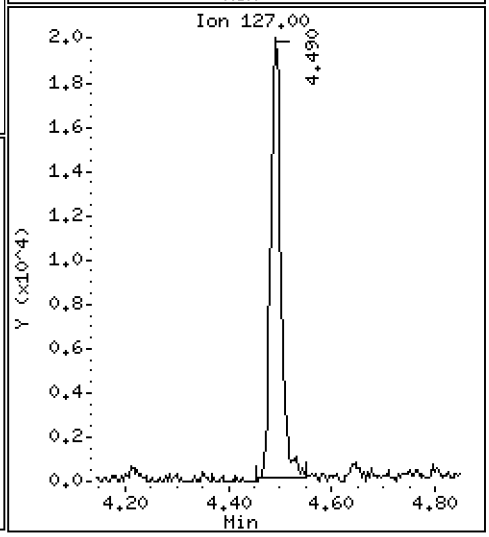


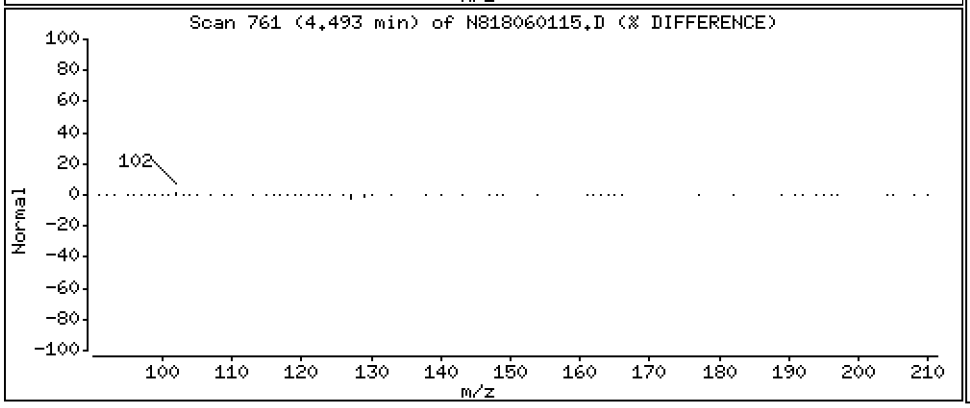












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

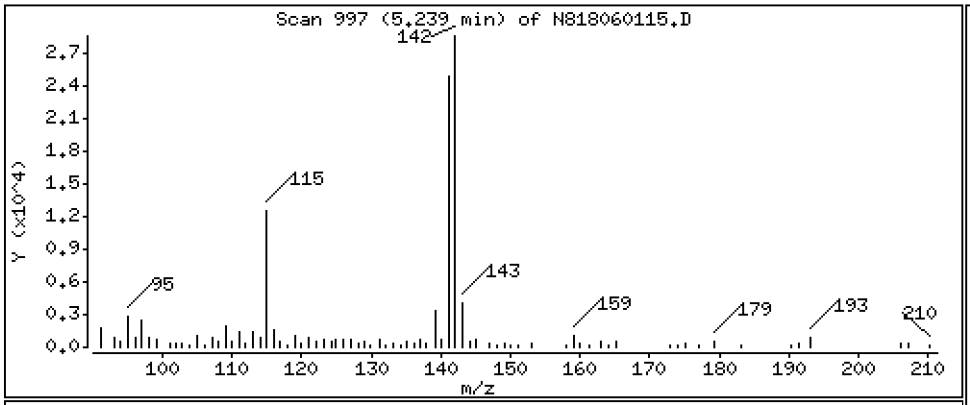
Operator: JZ

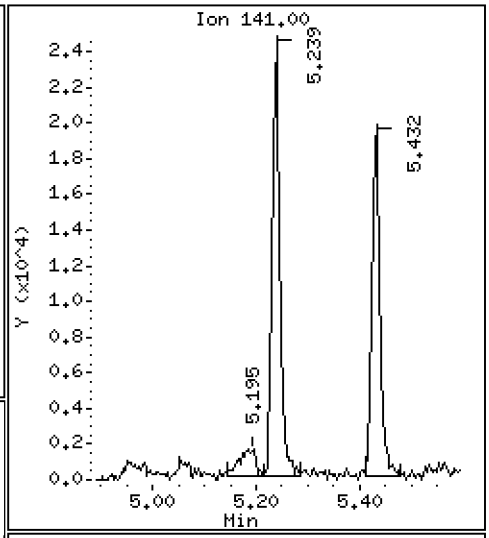
Column phase: Rxi-17sil

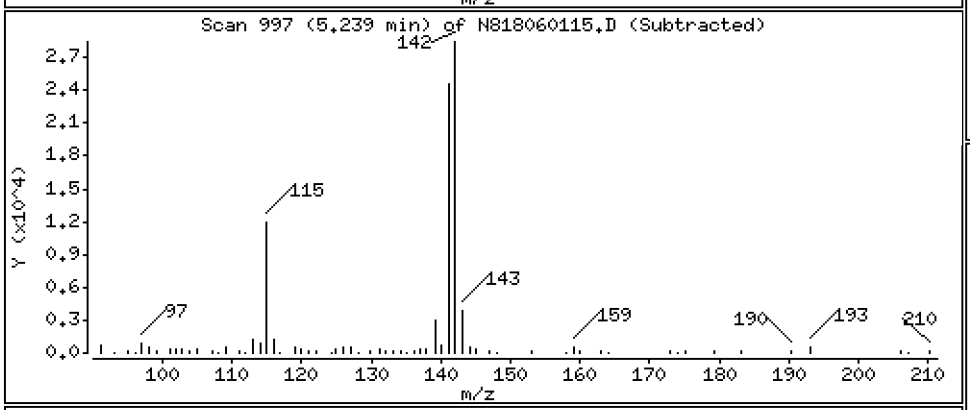
Column diameter: 0.25

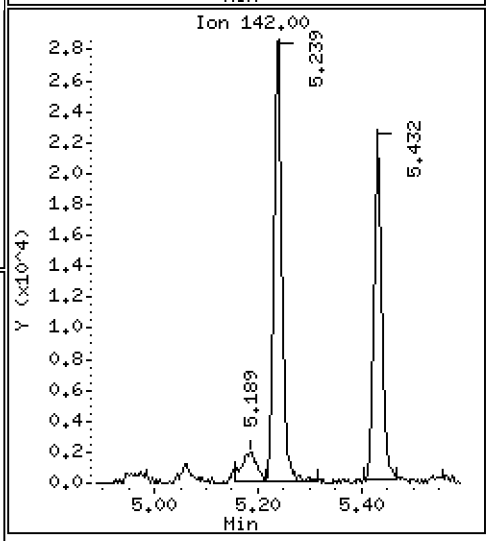
4 2-Methylnaphthalene

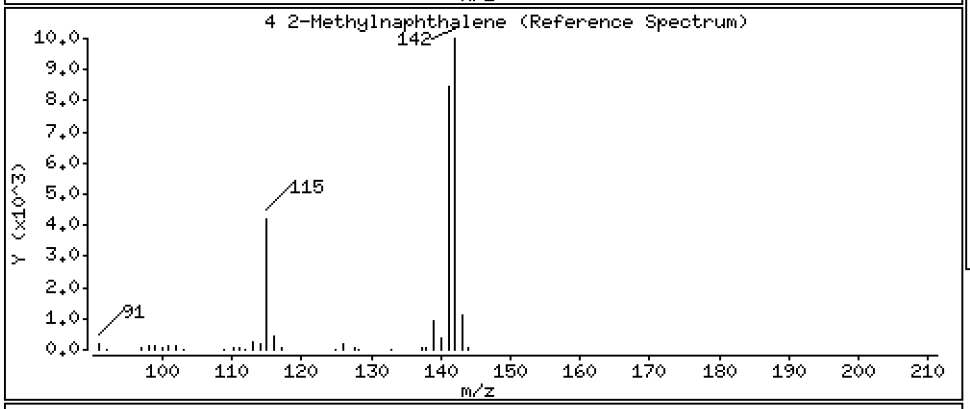
Concentration: 4.450 ug/mL

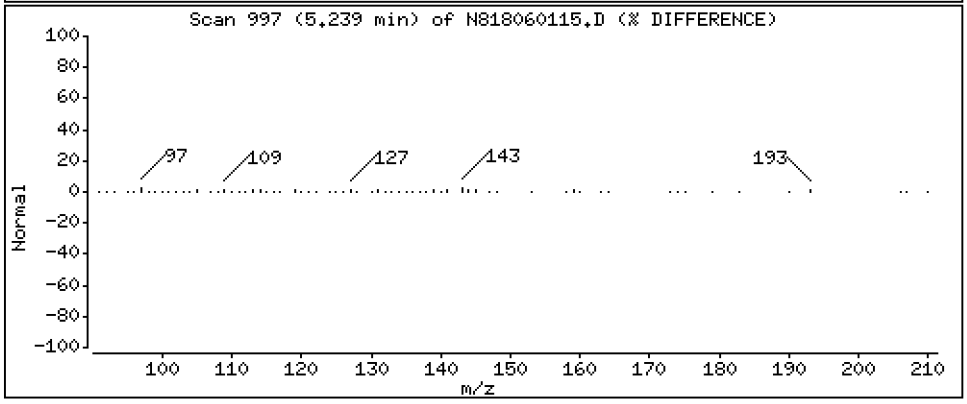












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

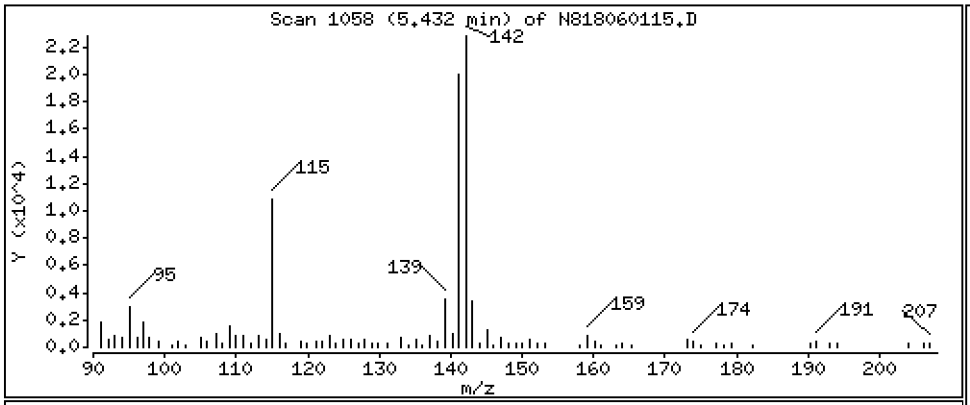
Operator: JZ

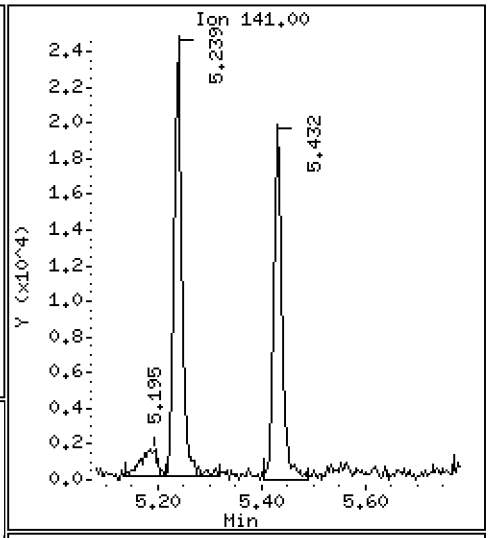
Column phase: Rxi-17sil

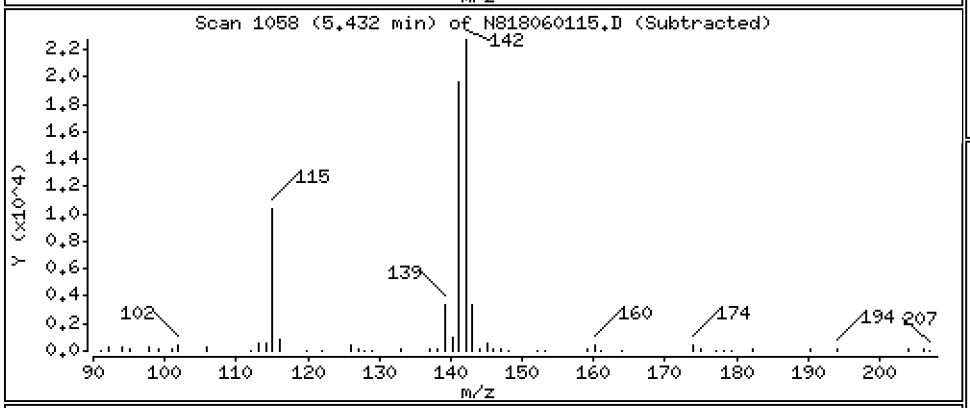
Column diameter: 0.25

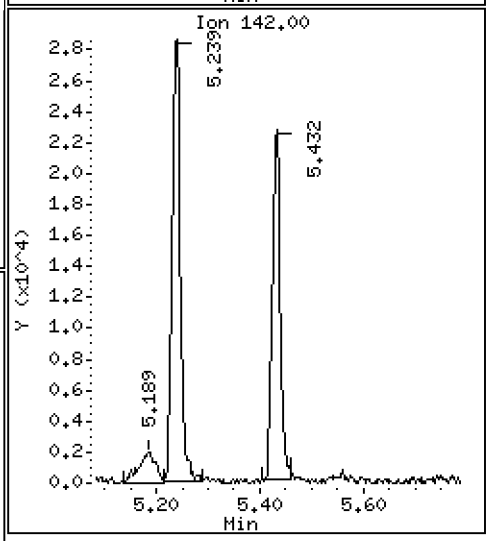
5 1-methylnaphthalene

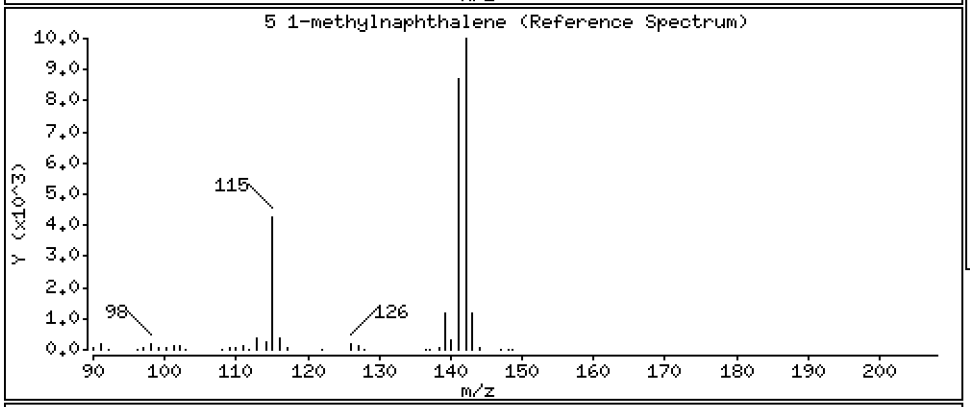
Concentration: 3.778 ug/mL

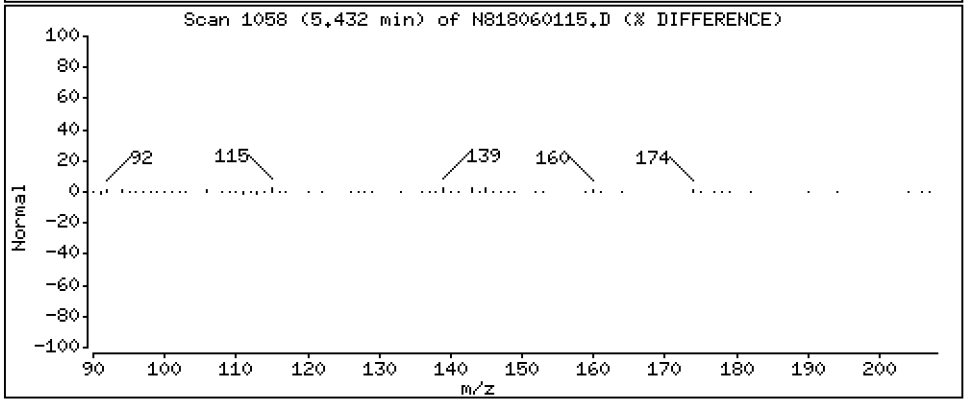












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

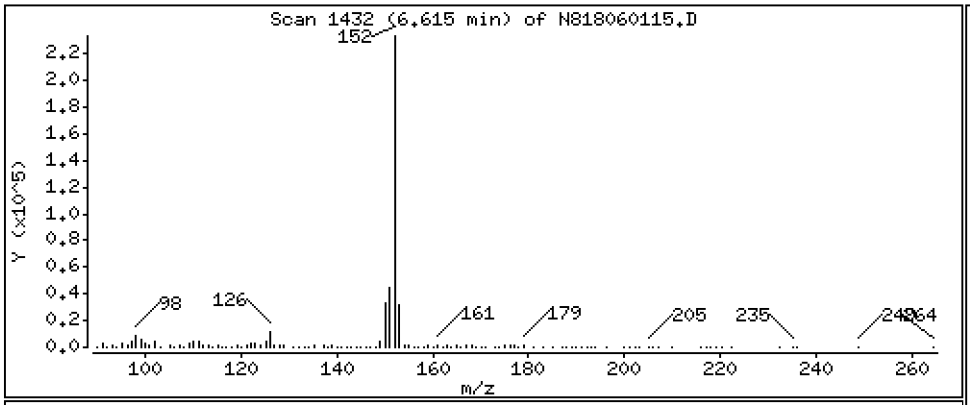
Operator: JZ

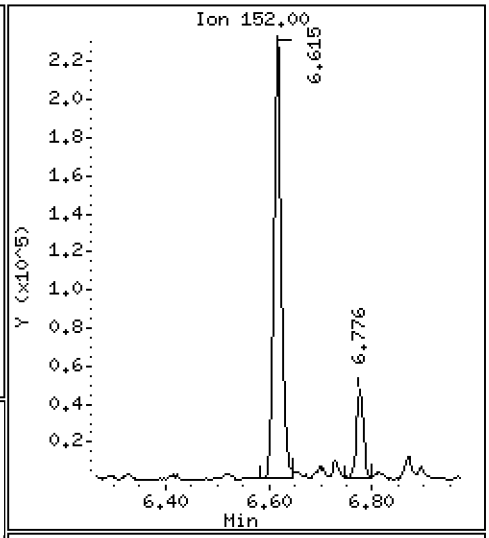
Column phase: Rxi-17sil

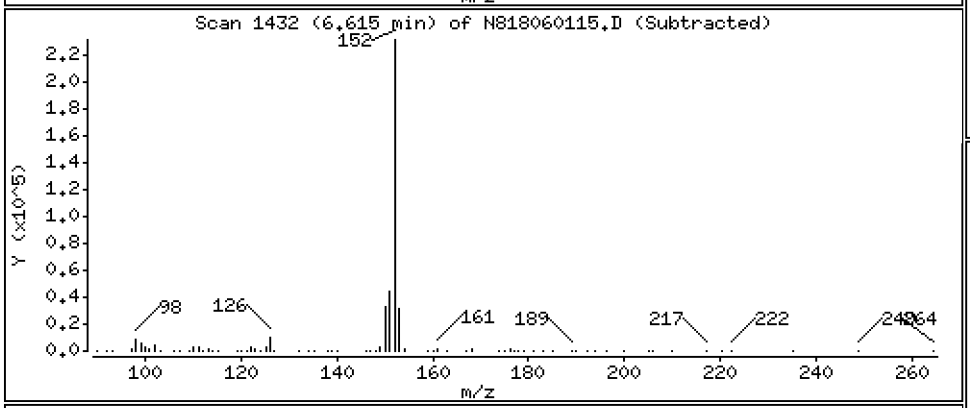
Column diameter: 0.25

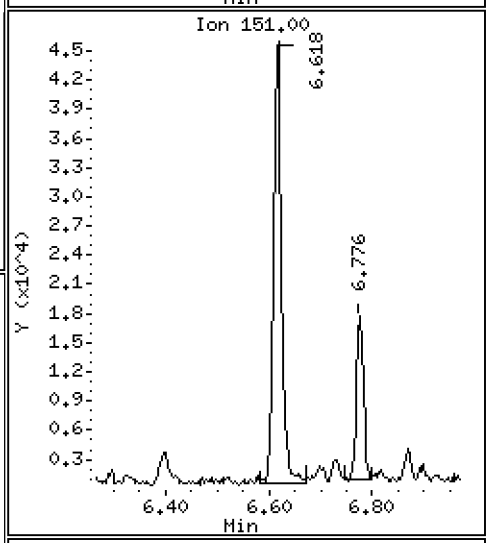
9 Acenaphthylene

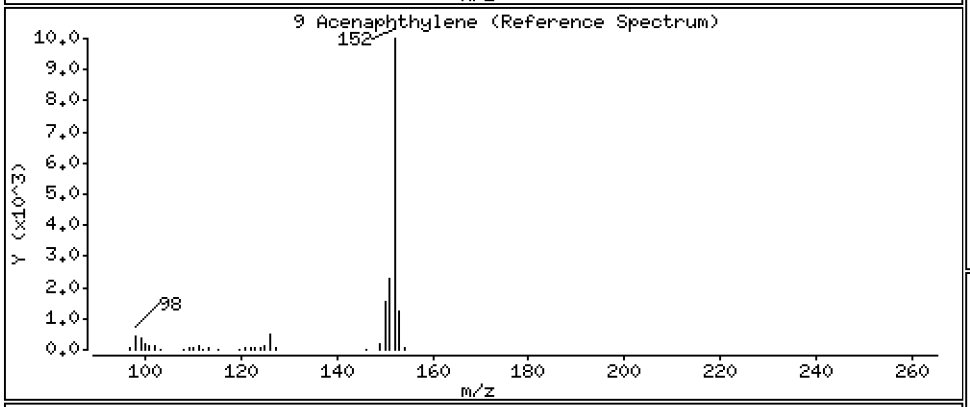
Concentration: 25.91 ug/mL

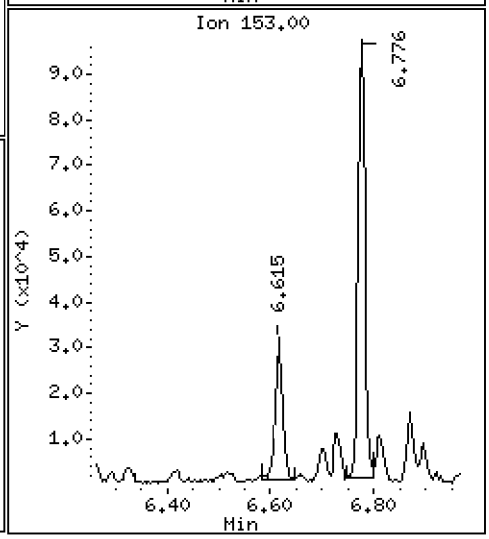


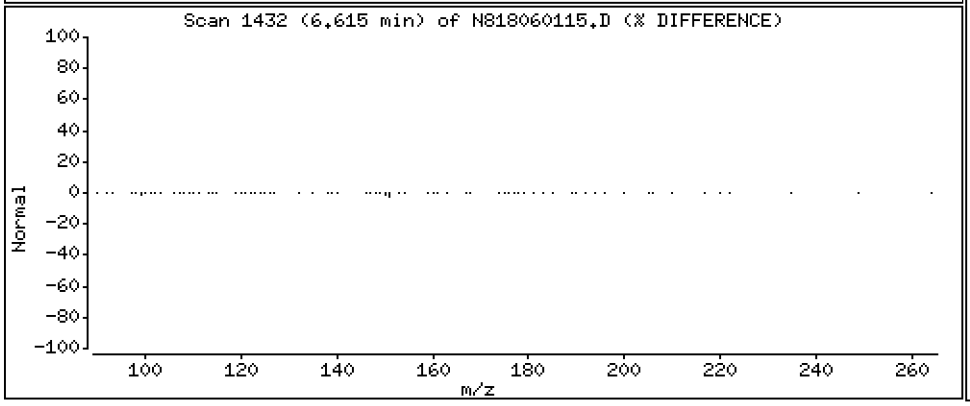












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

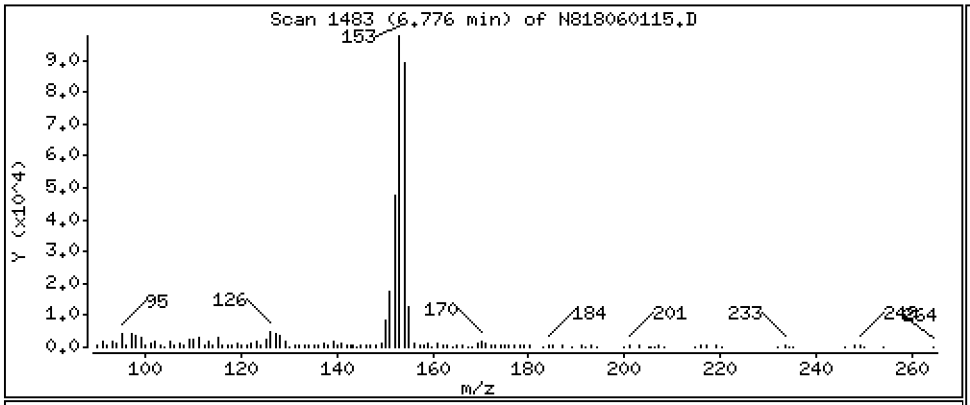
Operator: JZ

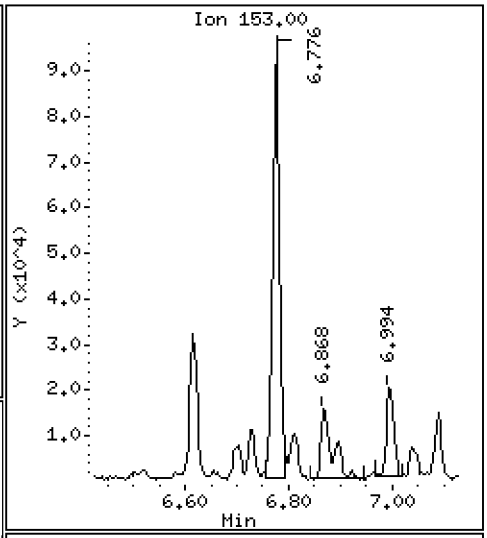
Column phase: Rxi-17sil

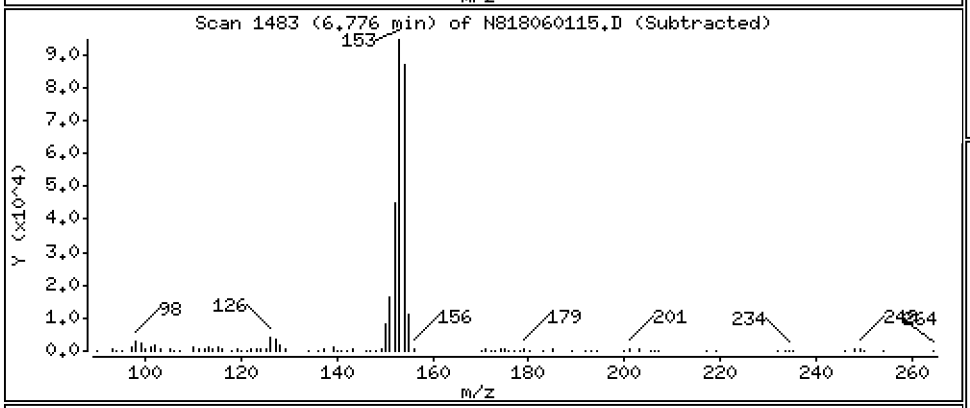
Column diameter: 0.25

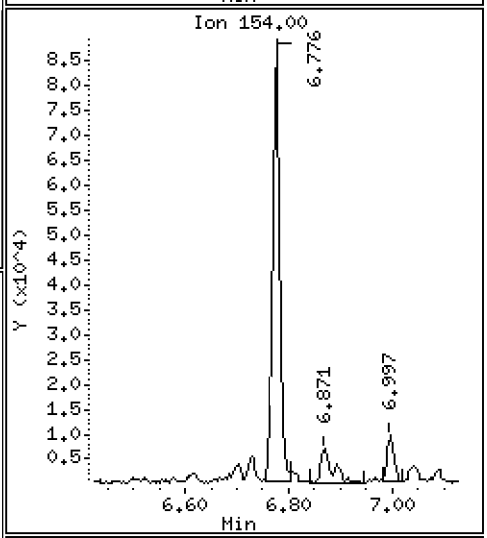
11 Acenaphthene

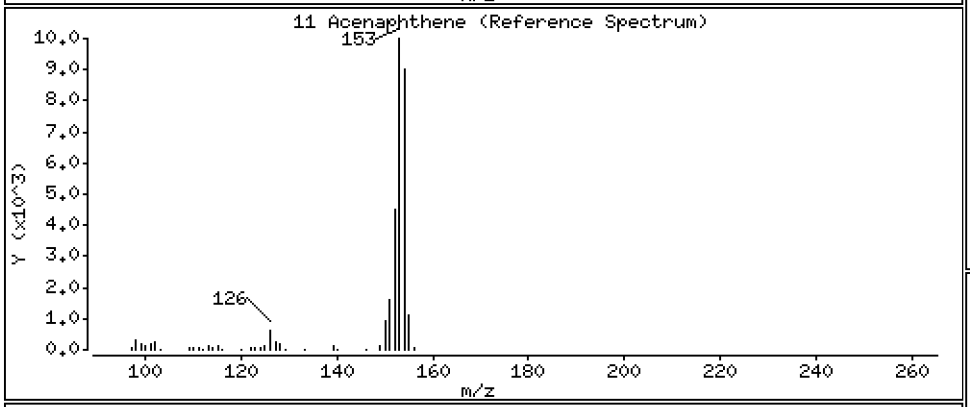
Concentration: 12.89 ug/mL

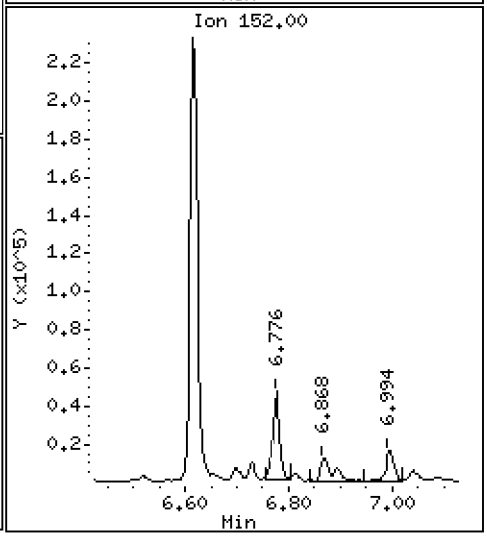


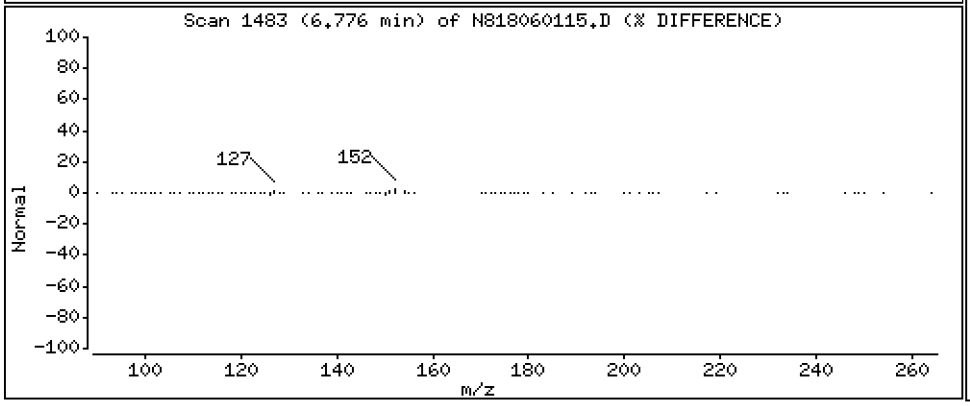












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

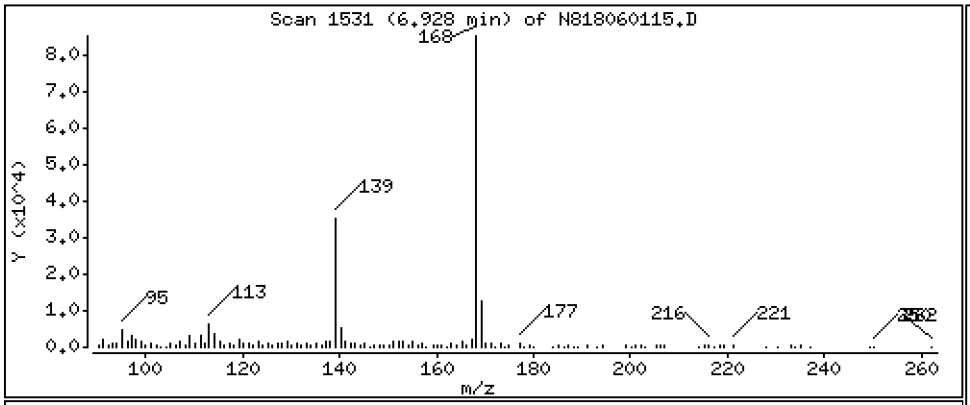
Operator: JZ

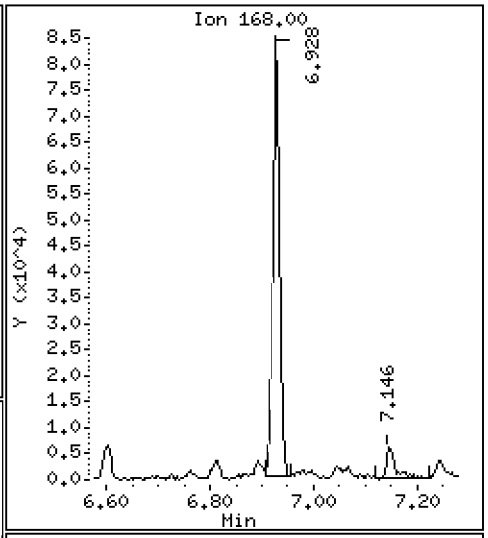
Column phase: Rxi-17sil

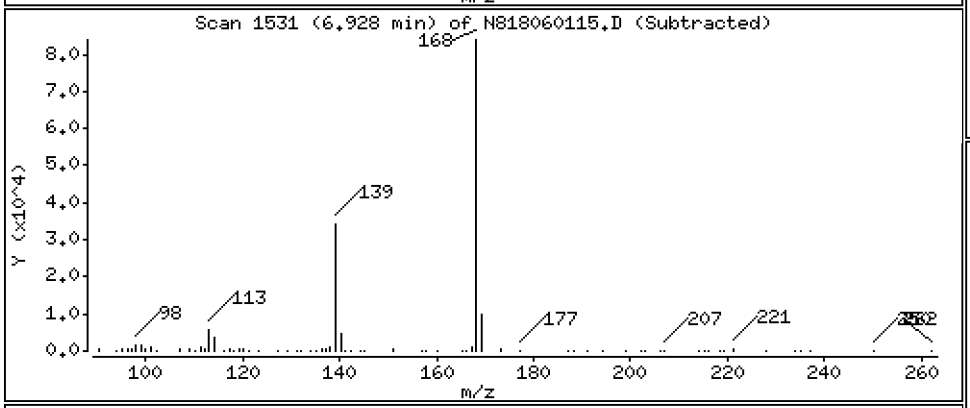
Column diameter: 0.25

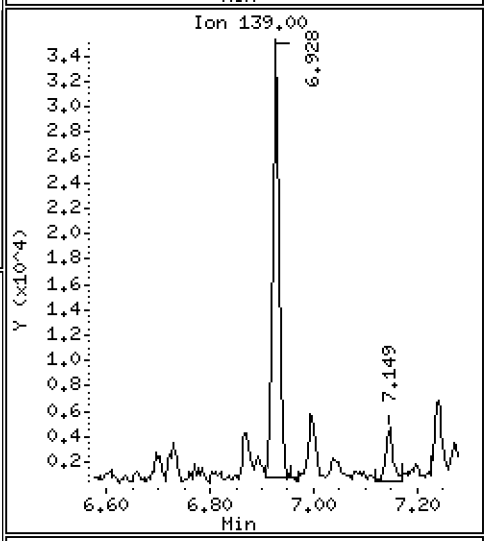
12 Dibenzofuran

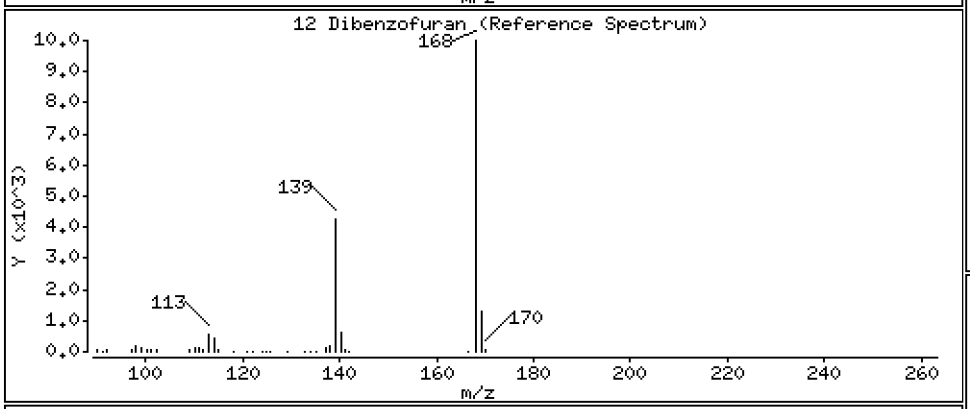
Concentration: 8.357 ug/mL

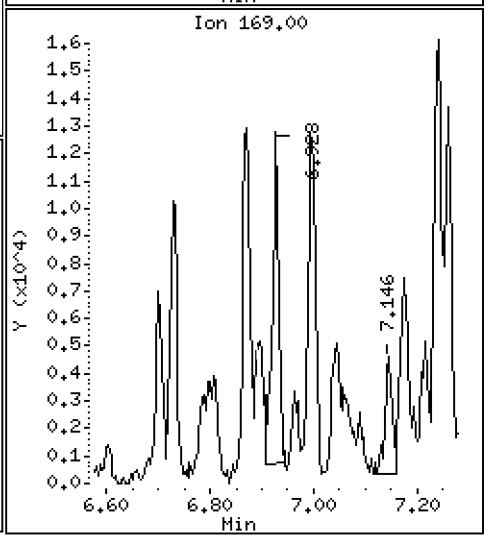


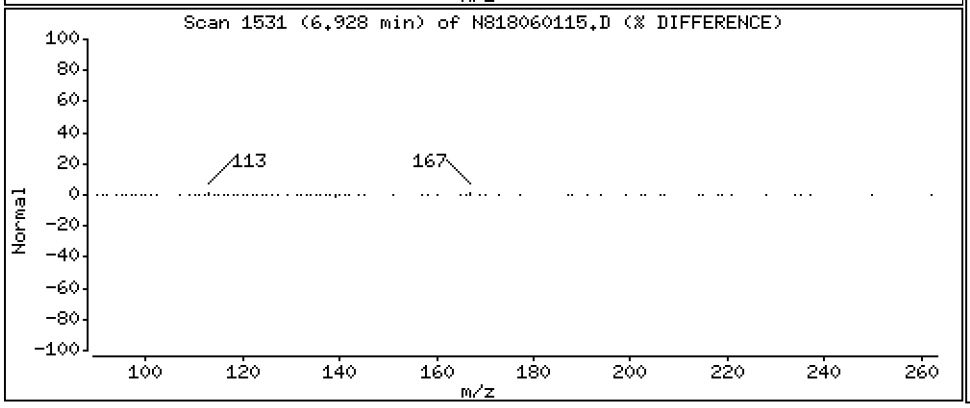












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

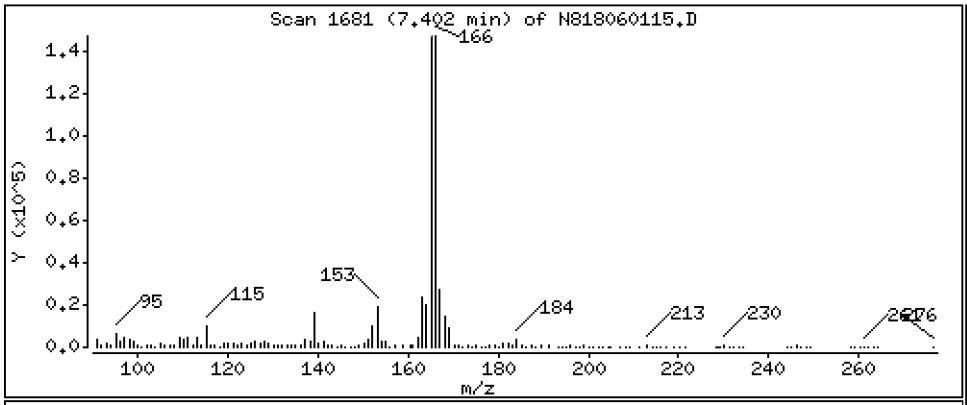
Operator: JZ

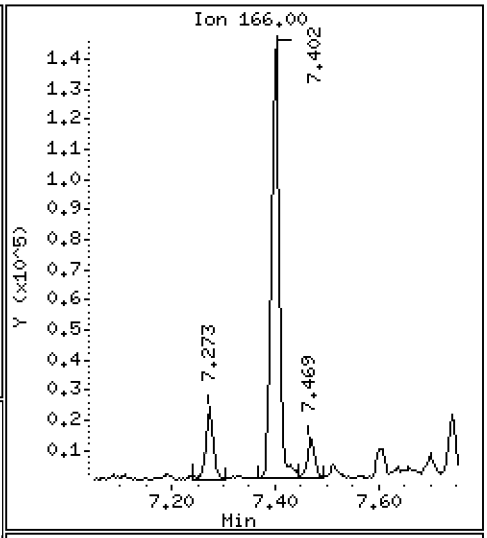
Column phase: Rxi-17sil

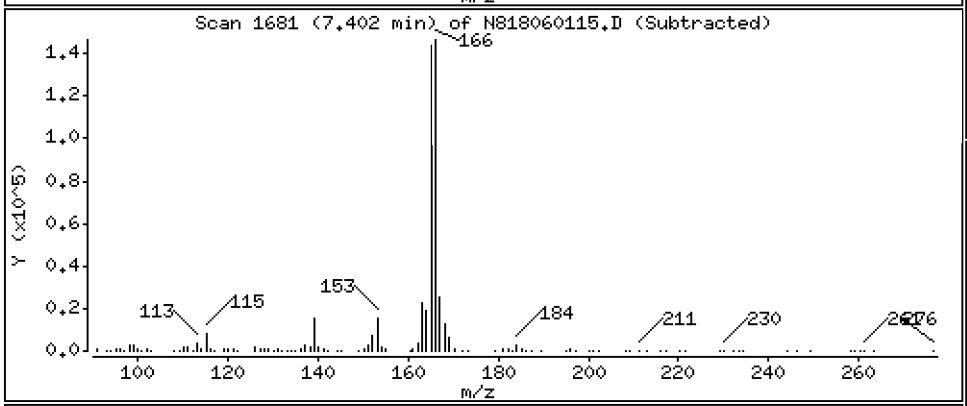
Column diameter: 0.25

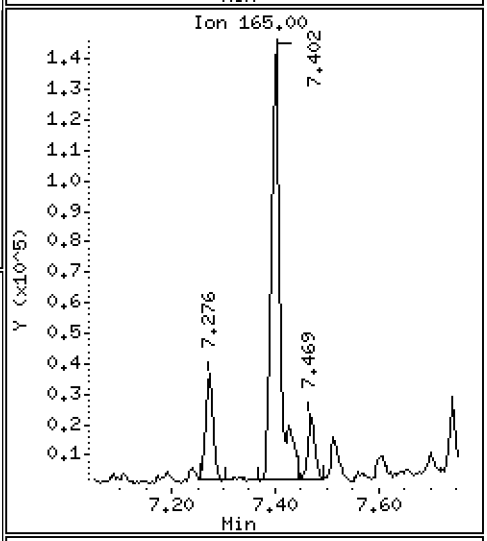
14 Fluorene

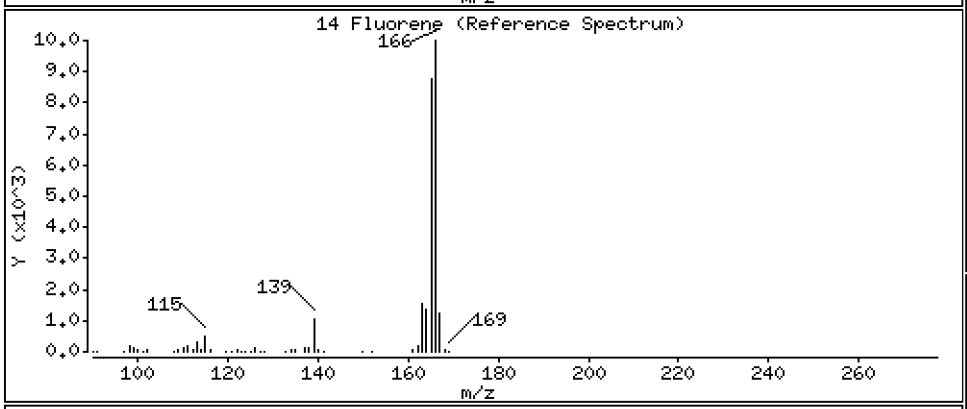
Concentration: 21.53 ug/mL

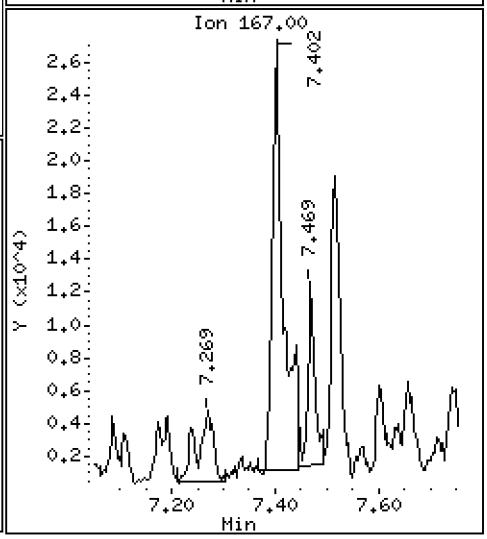


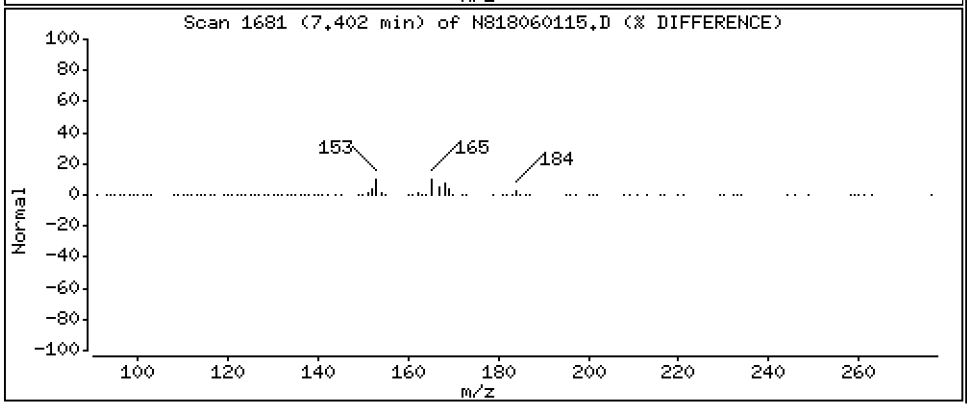












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

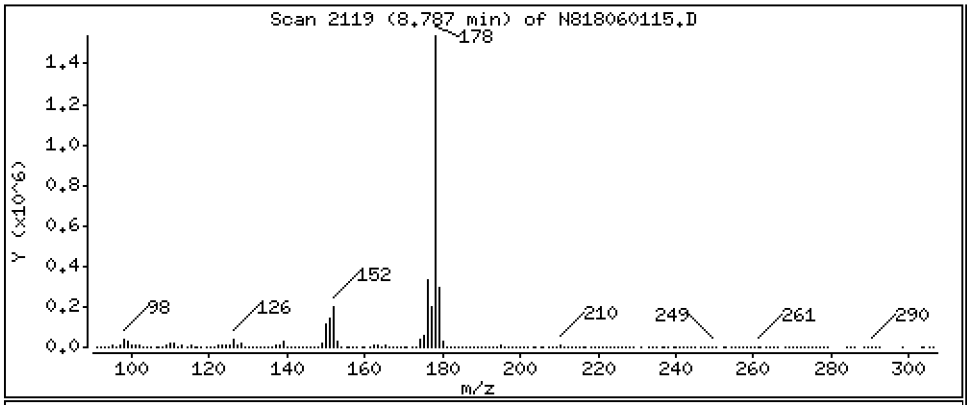
Operator: JZ

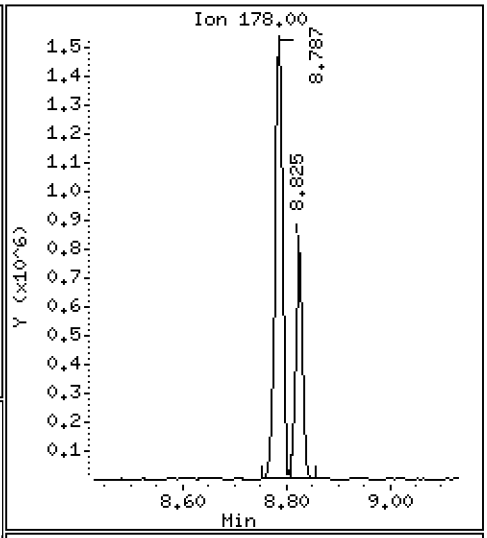
Column phase: Rxi-17sil

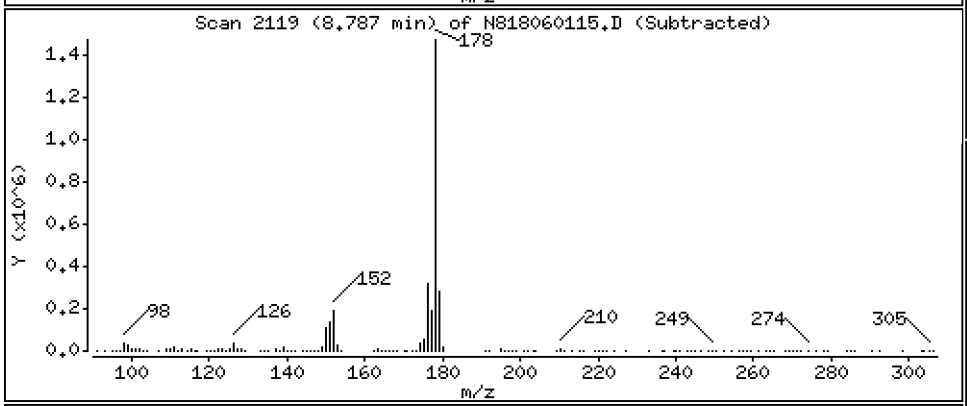
Column diameter: 0.25

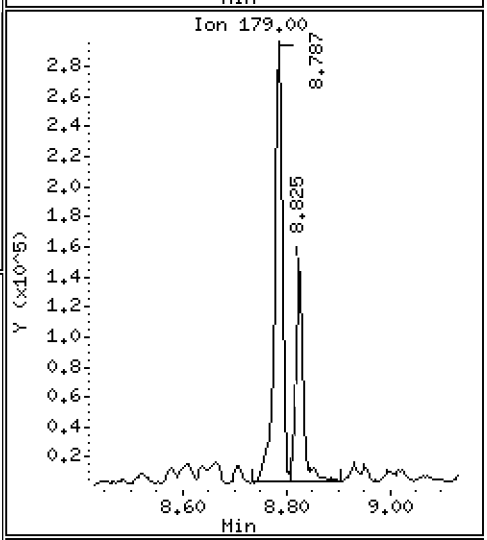
16 Phenanthrene

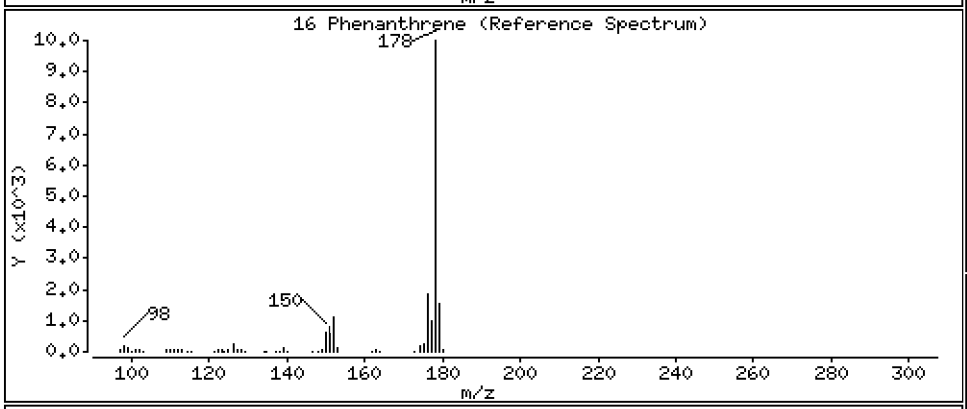
Concentration: 146.9 ug/mL

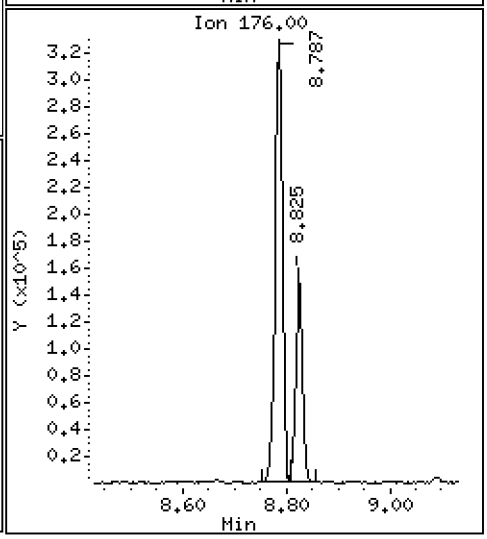


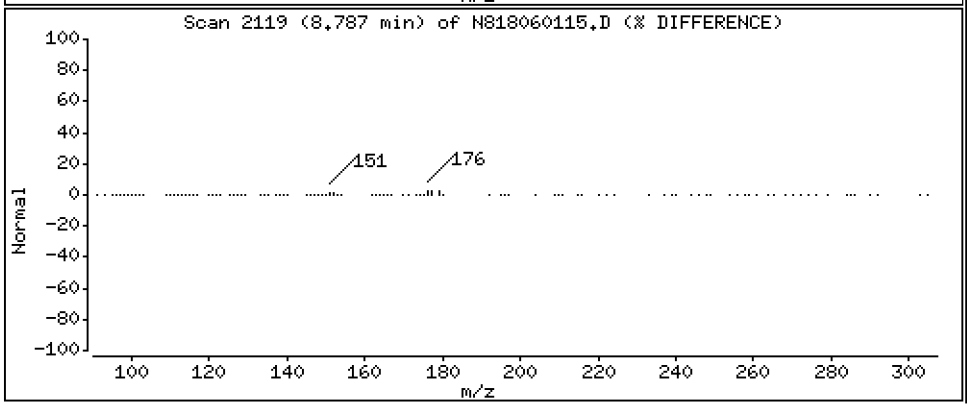












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

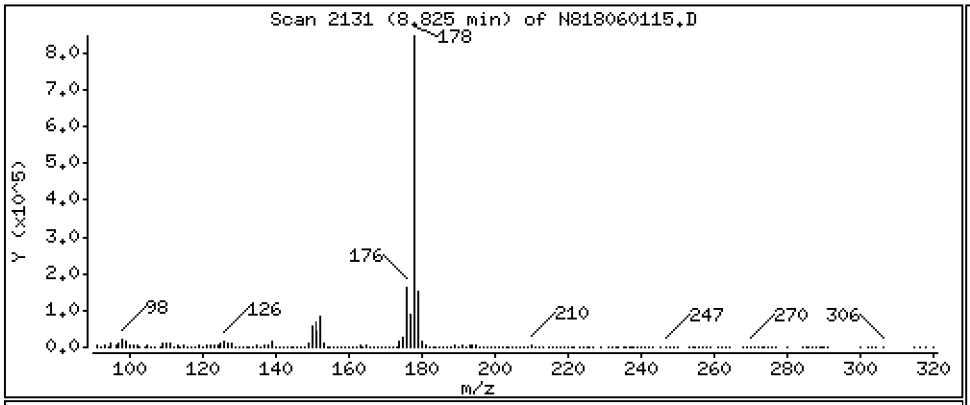
Operator: JZ

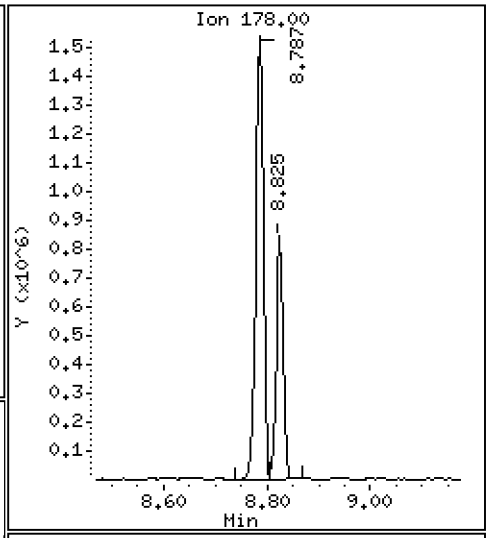
Column phase: Rxi-17sil

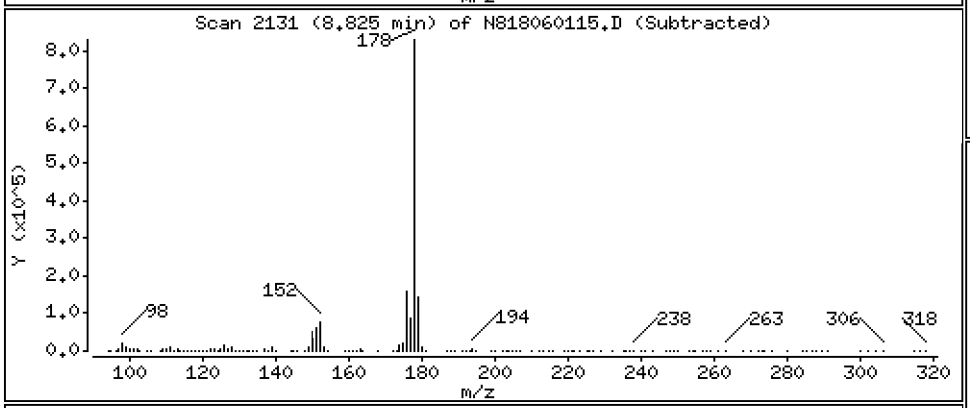
Column diameter: 0.25

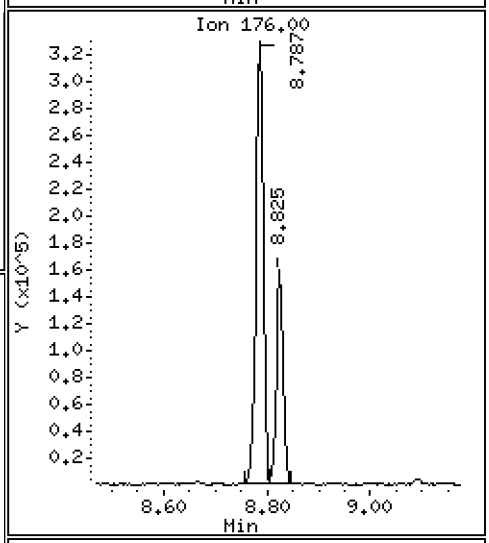
17 Anthracene

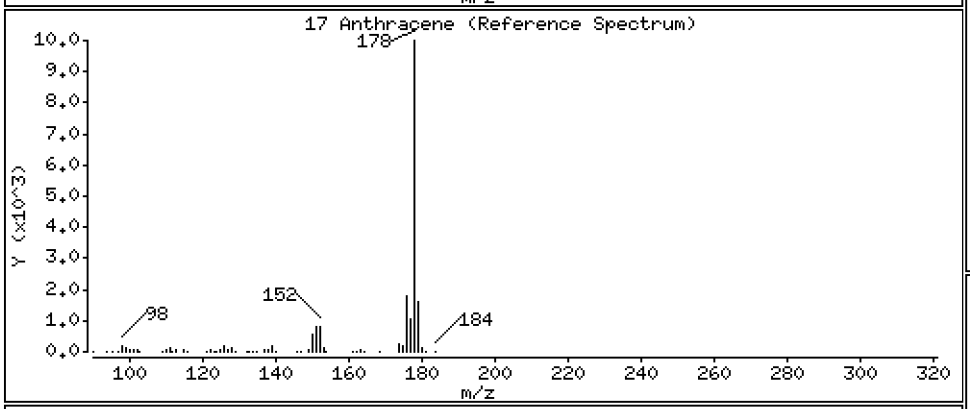
Concentration: 80.76 ug/mL

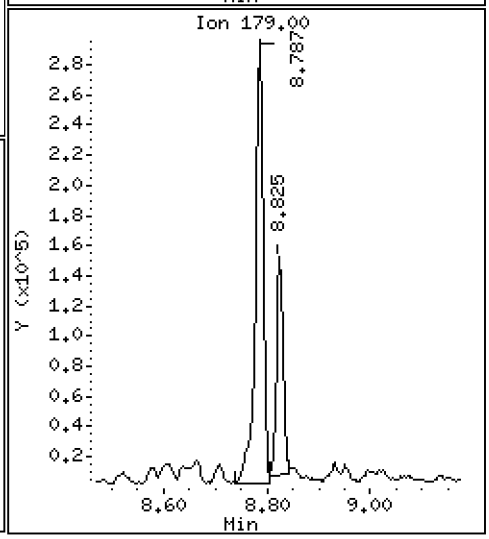


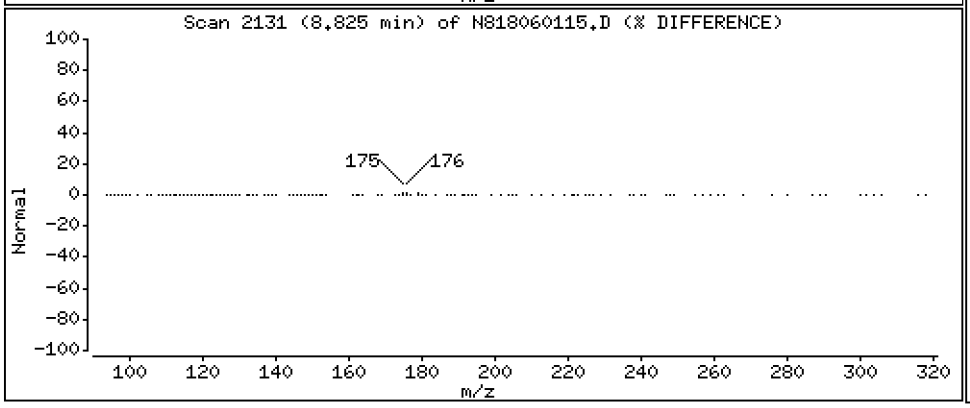












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

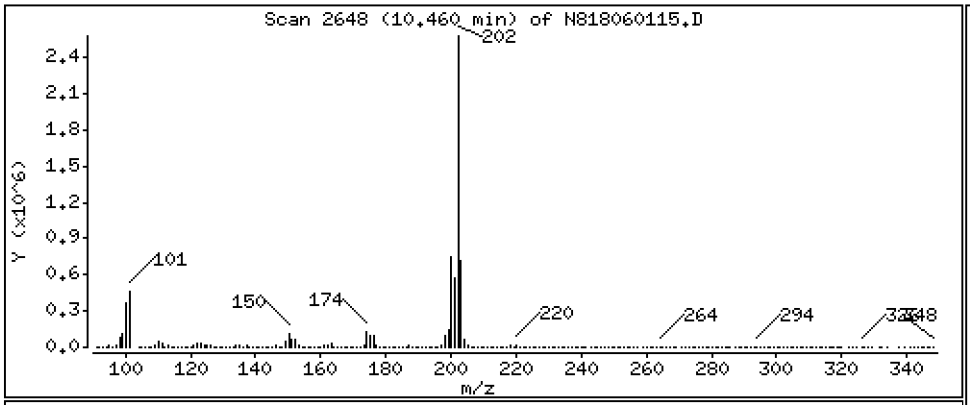
Operator: JZ

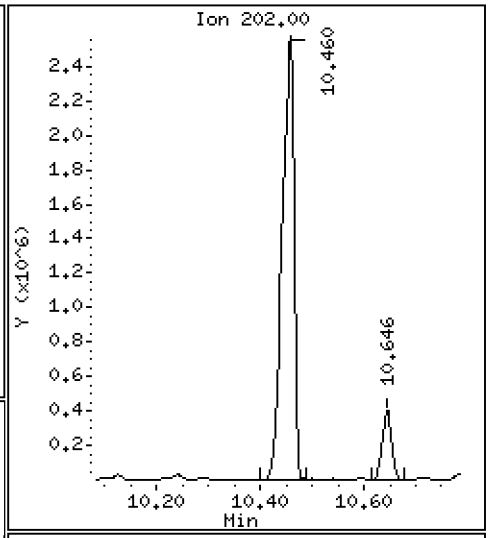
Column phase: Rxi-17sil

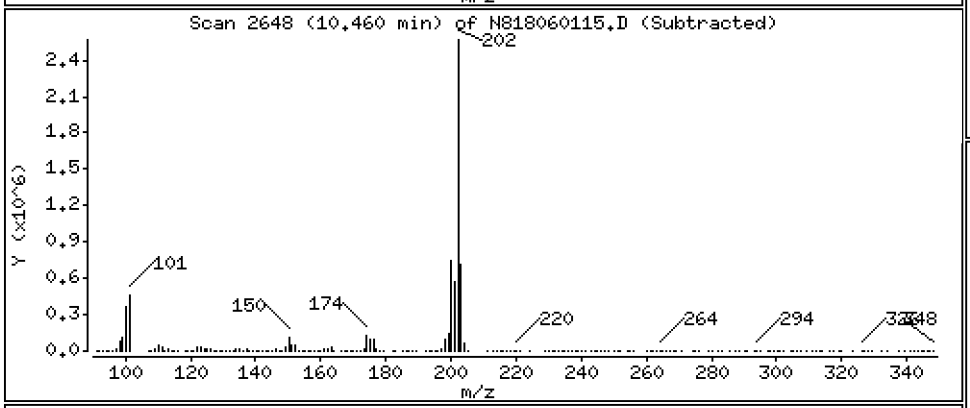
Column diameter: 0.25

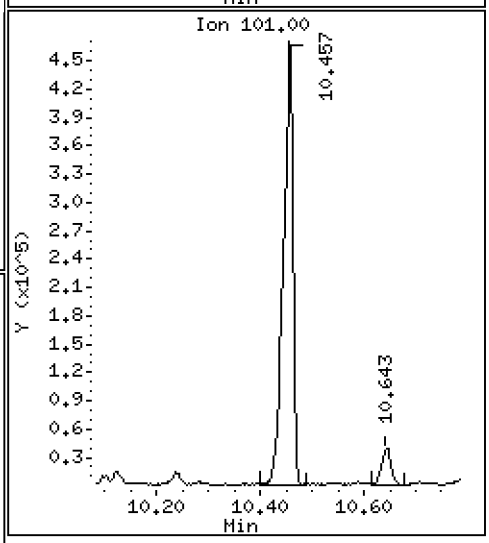
22 Fluoranthene

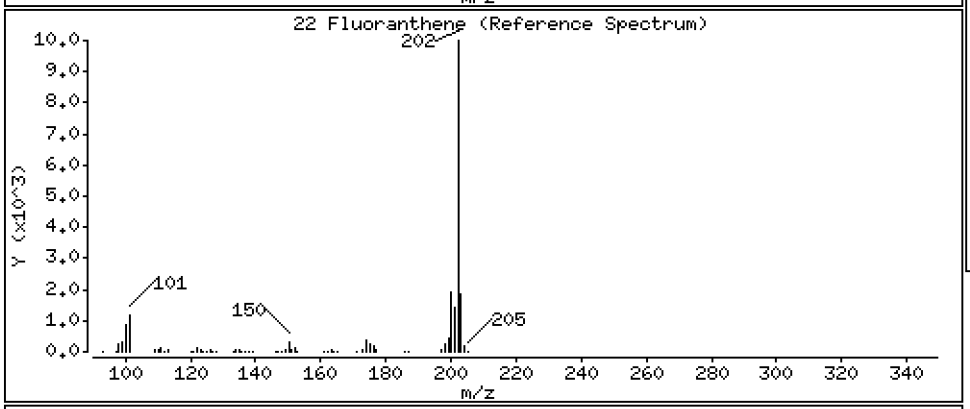
Concentration: 349.4 ug/mL

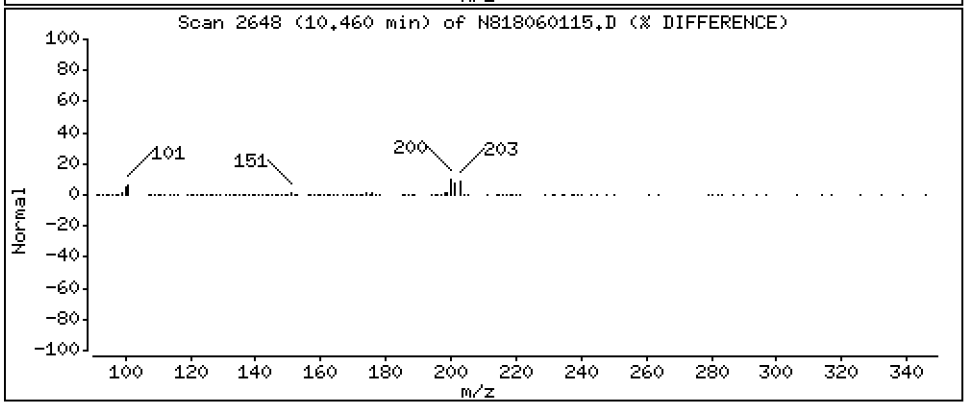












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

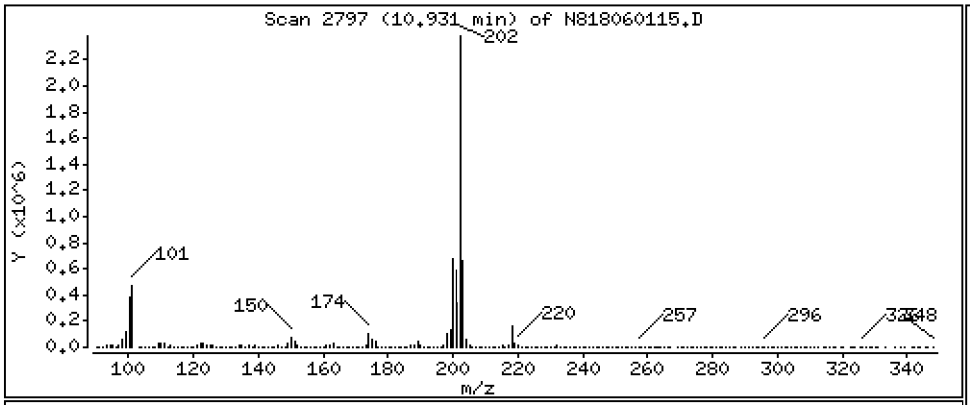
Operator: JZ

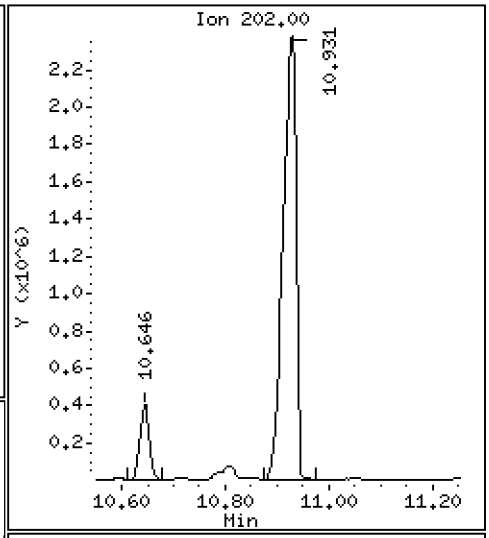
Column phase: Rxi-17sil

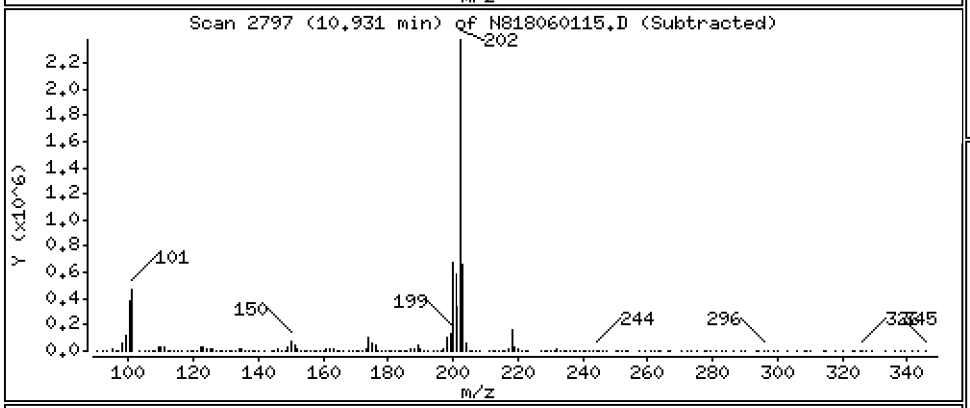
Column diameter: 0.25

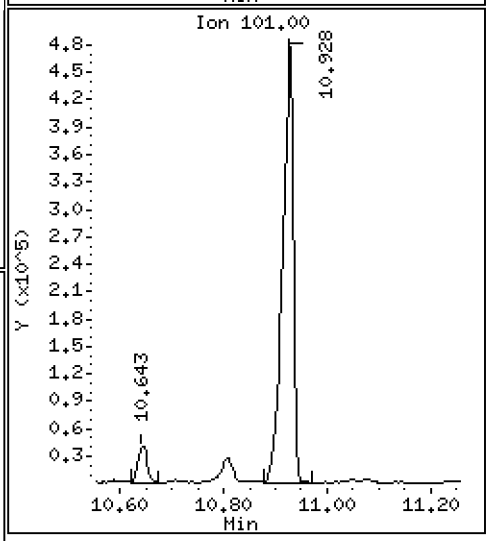
23 Pyrene

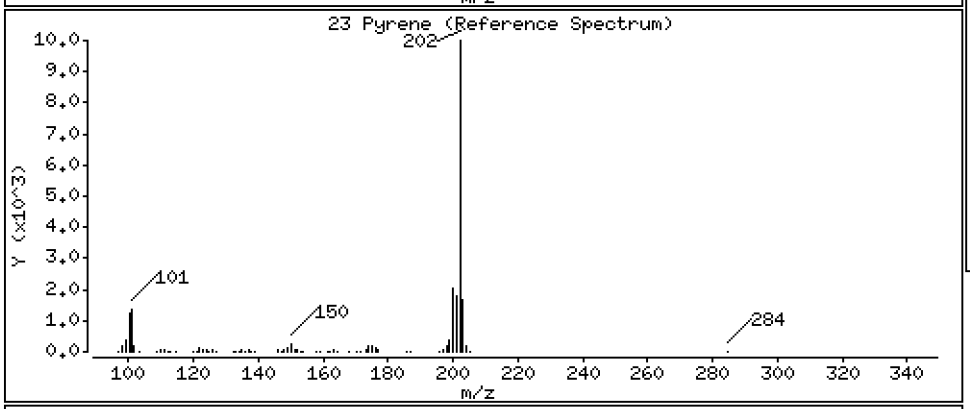
Concentration: 370.9 ug/mL

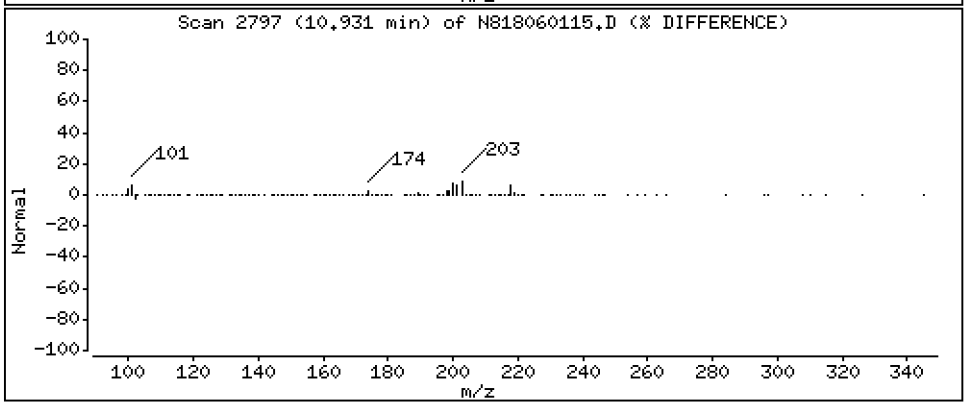












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

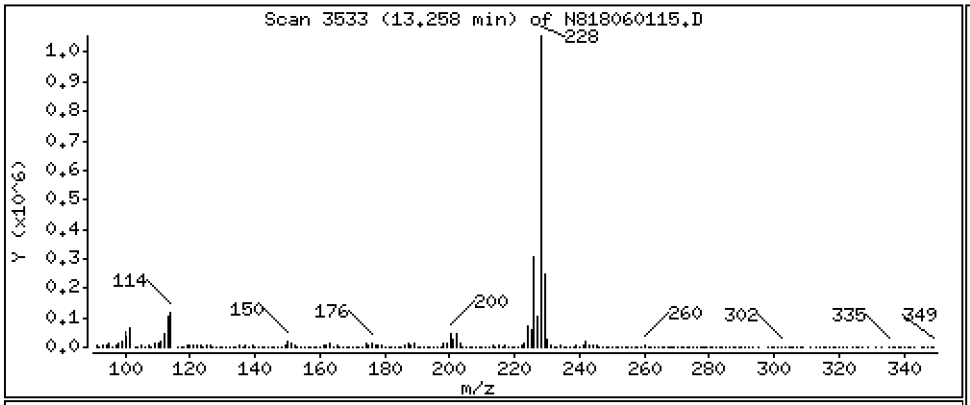
Operator: JZ

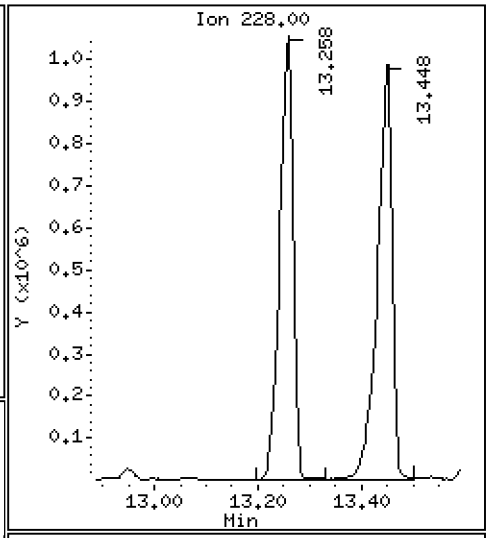
Column phase: Rxi-17sil

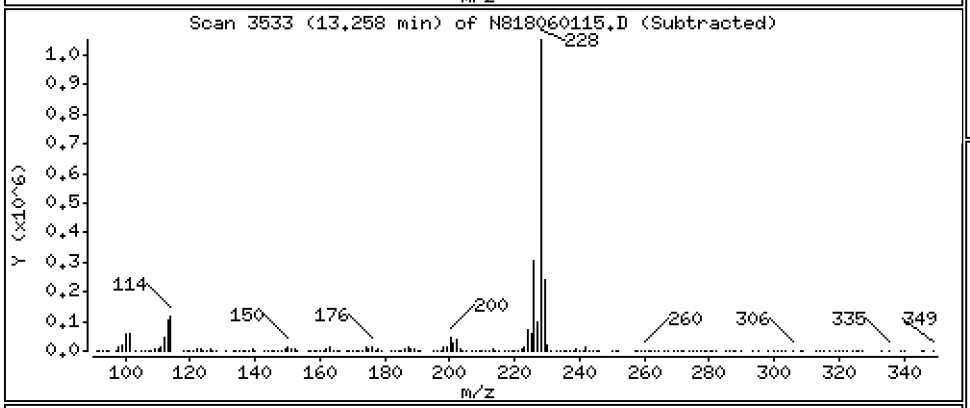
Column diameter: 0.25

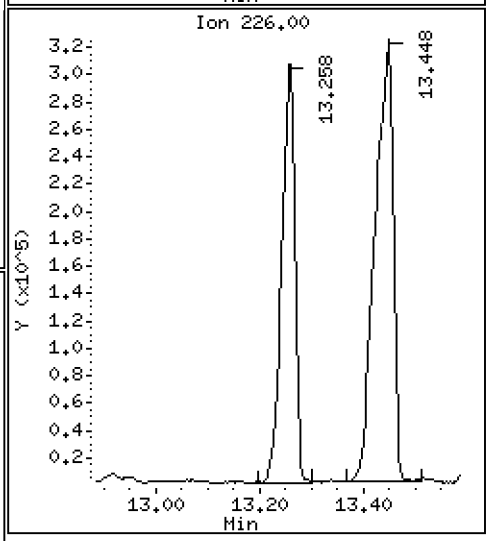
24 Benzo(a)anthracene

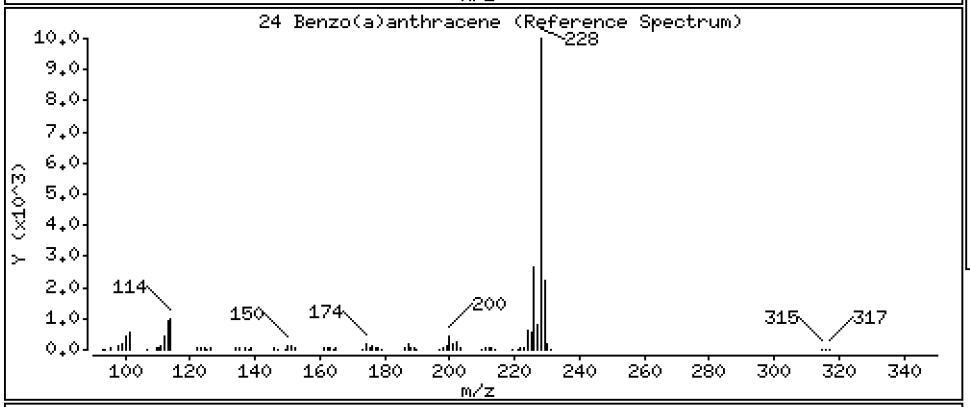
Concentration: 179.0 ug/mL

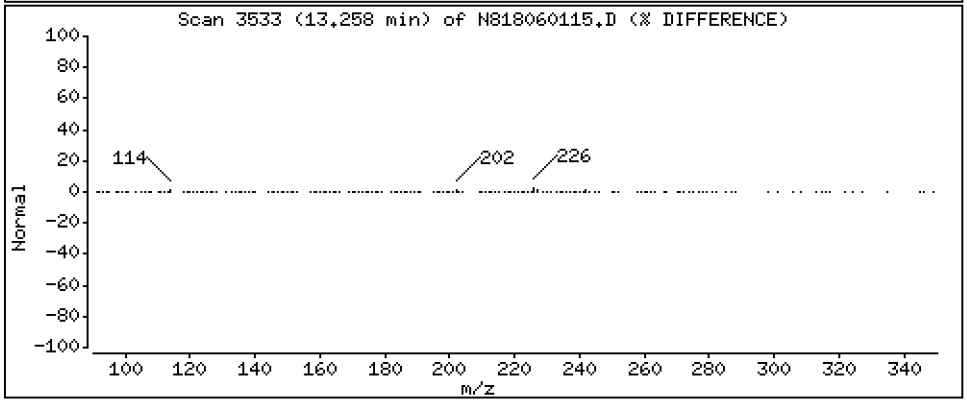












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

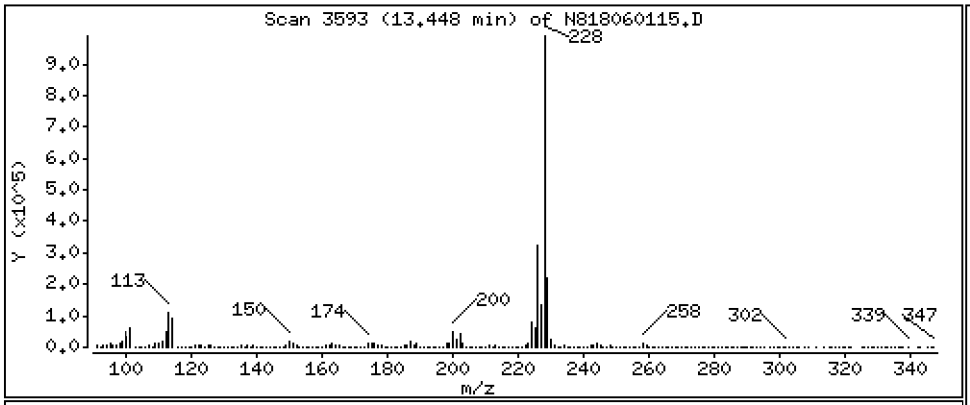
Operator: JZ

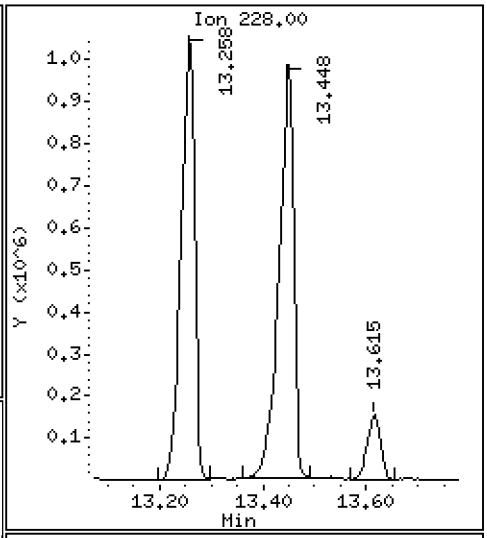
Column phase: Rxi-17sil

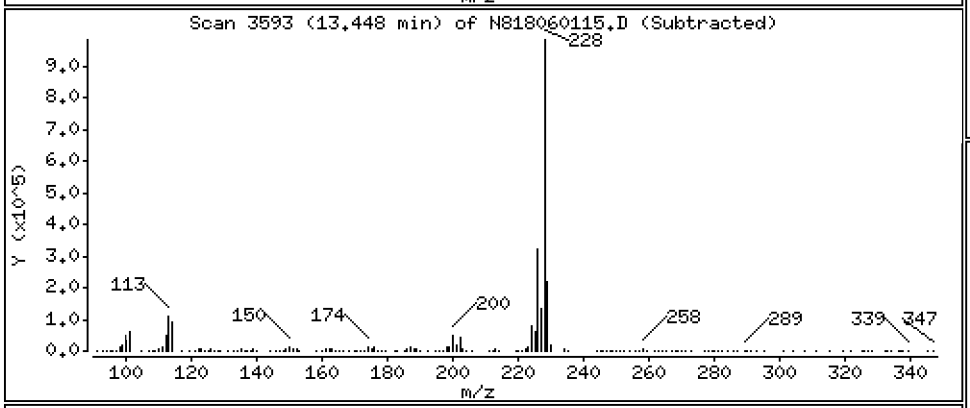
Column diameter: 0.25

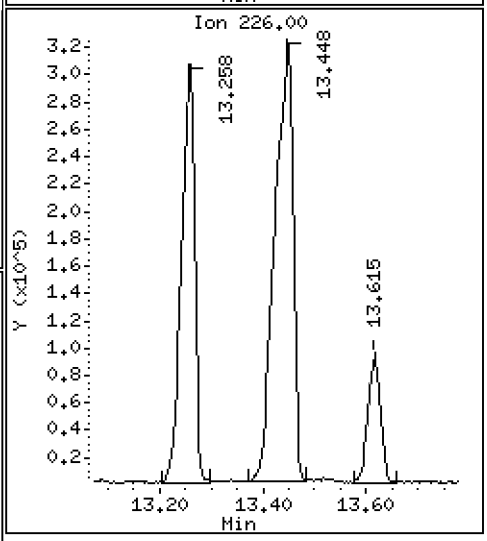
27 Chrysene

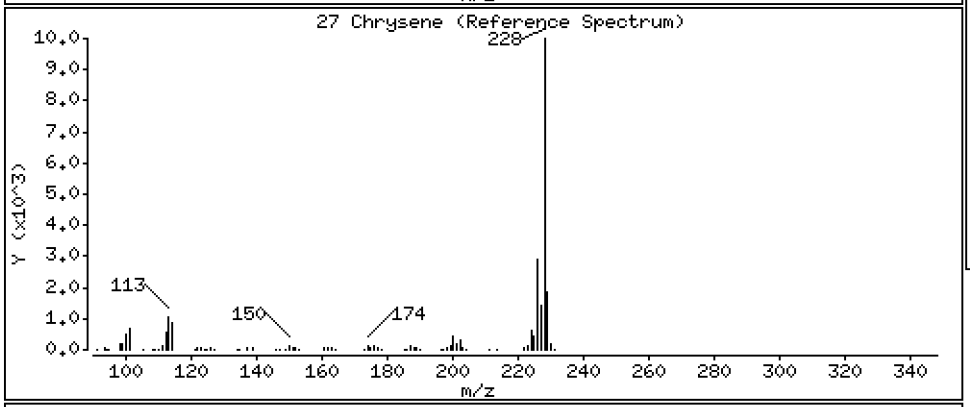
Concentration: 178.7 ug/mL

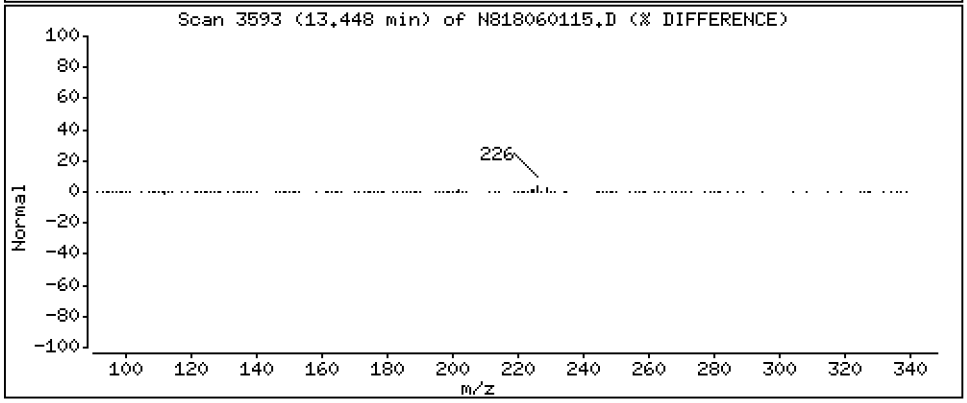












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

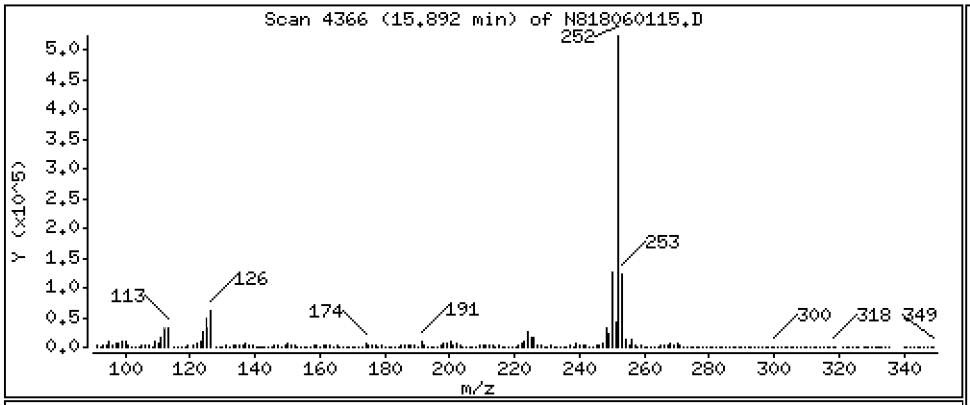
Operator: JZ

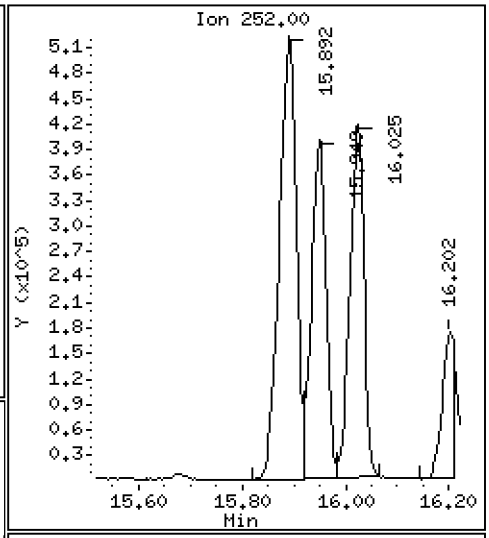
Column phase: Rxi-17sil

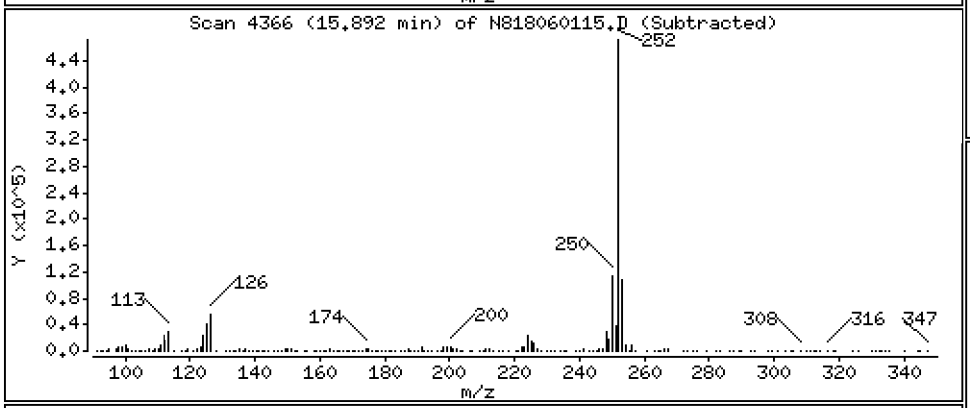
Column diameter: 0.25

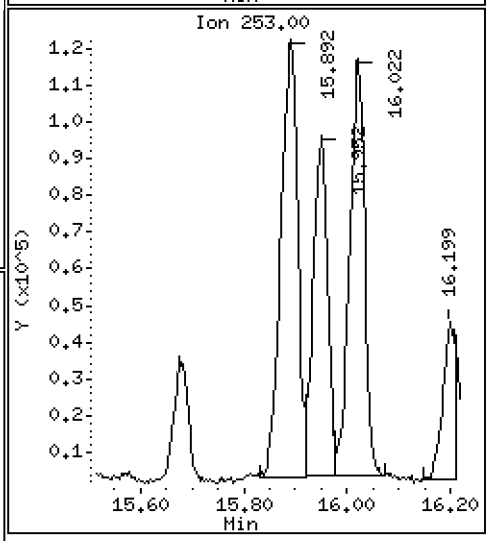
28 Benzo(b)fluoranthene

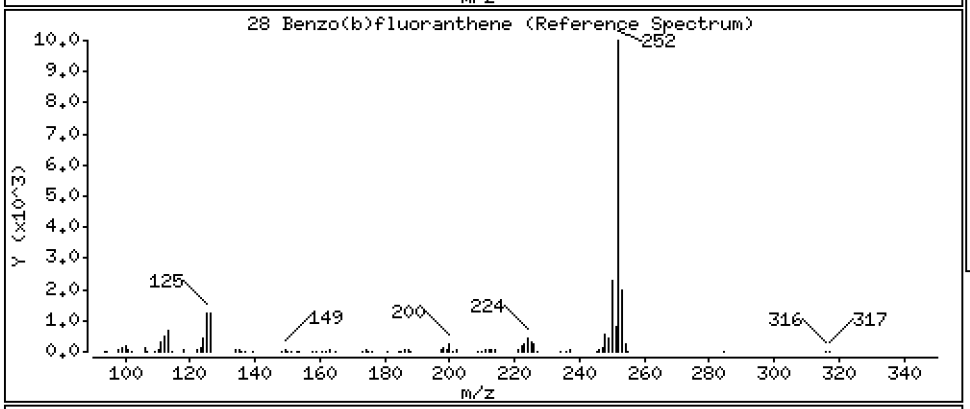
Concentration: 101.7 ug/mL

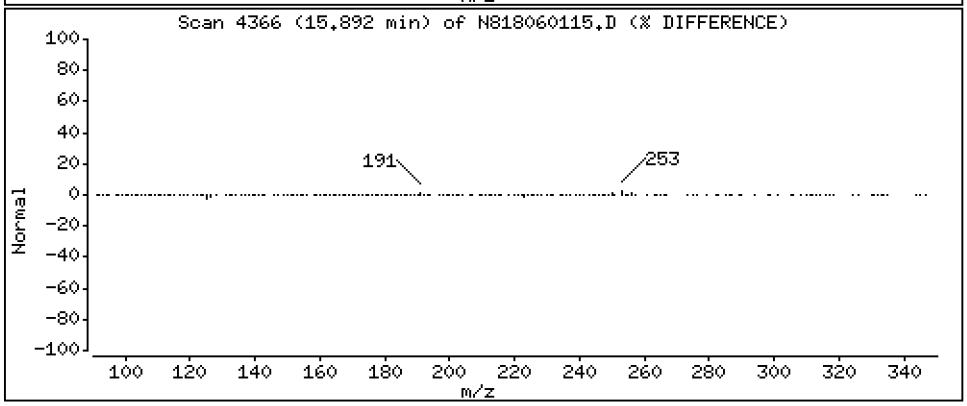












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

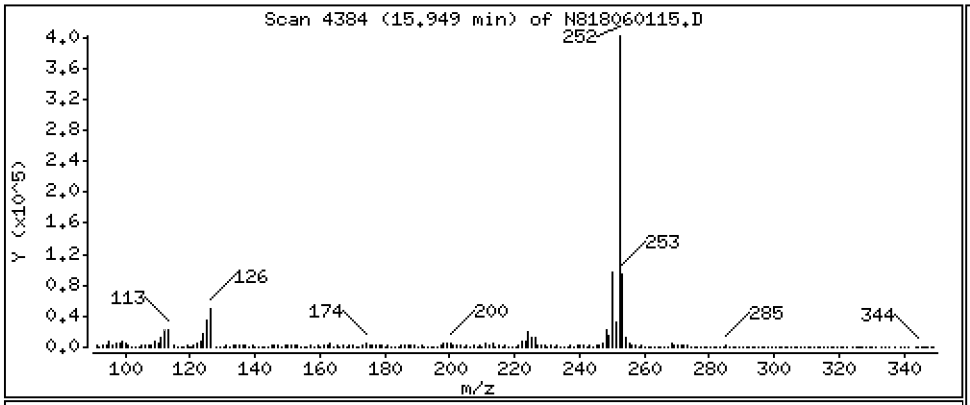
Operator: JZ

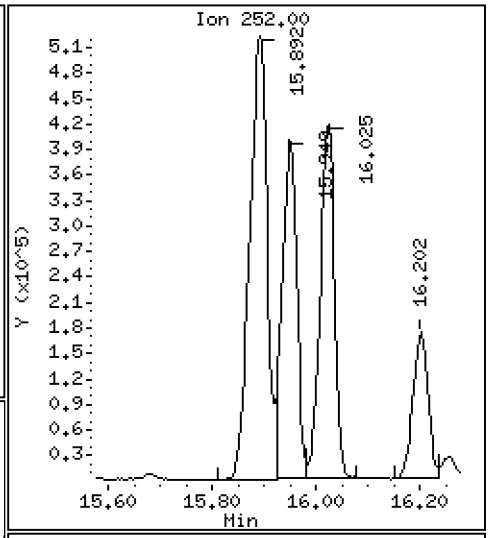
Column phase: Rxi-17sil

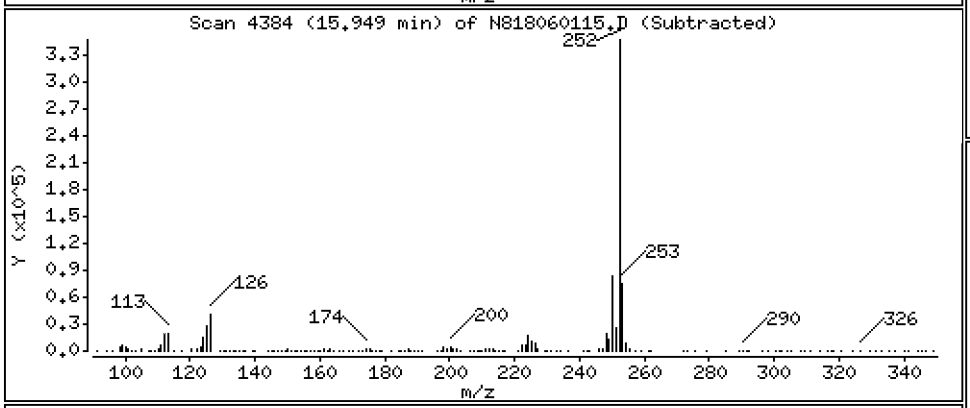
Column diameter: 0.25

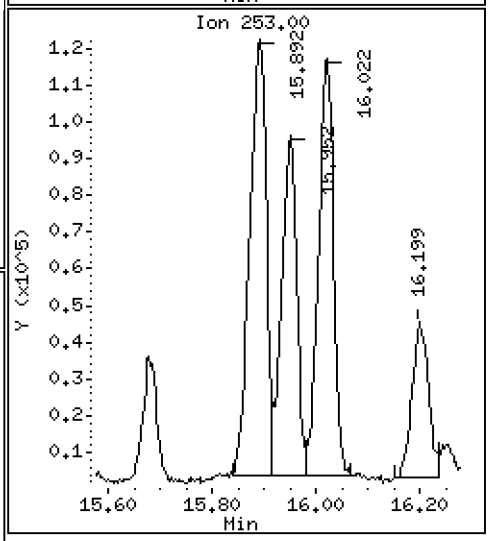
29 Benzo(k)fluoranthene

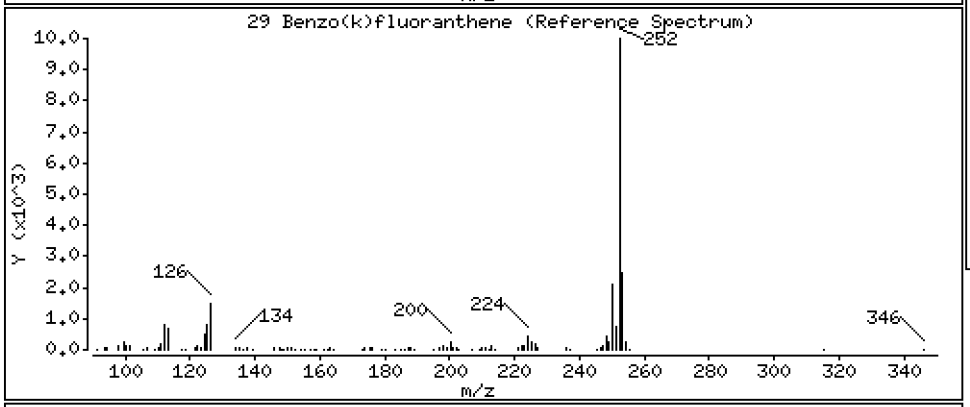
Concentration: 66.54 ug/mL

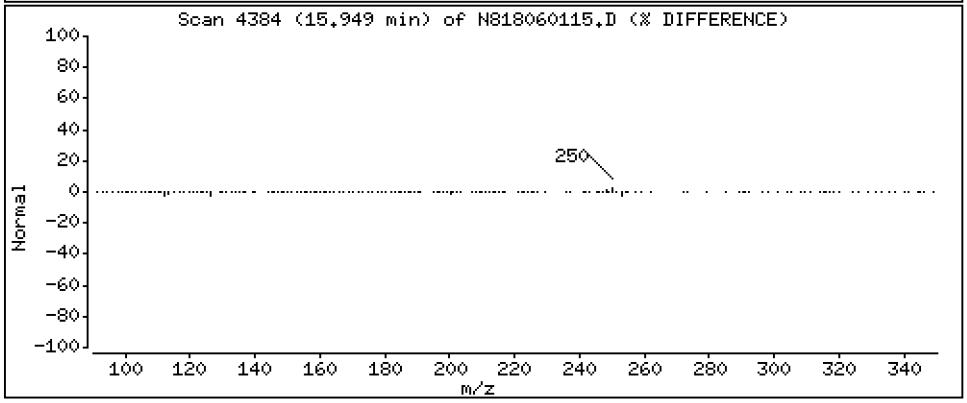












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

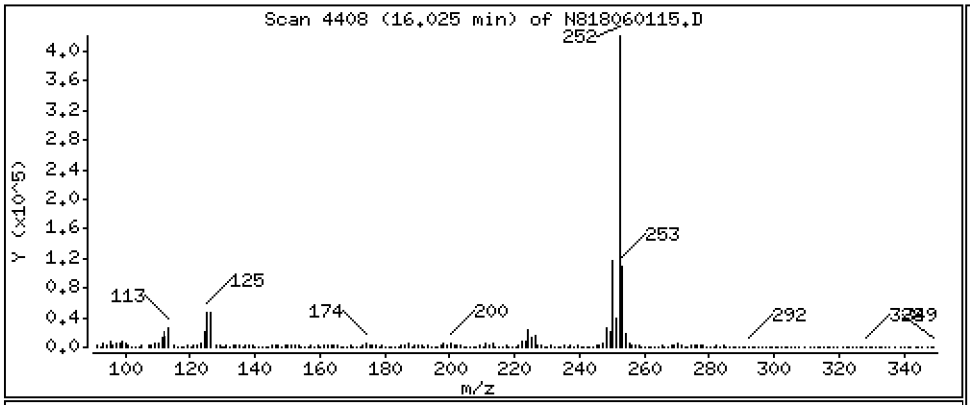
Operator: JZ

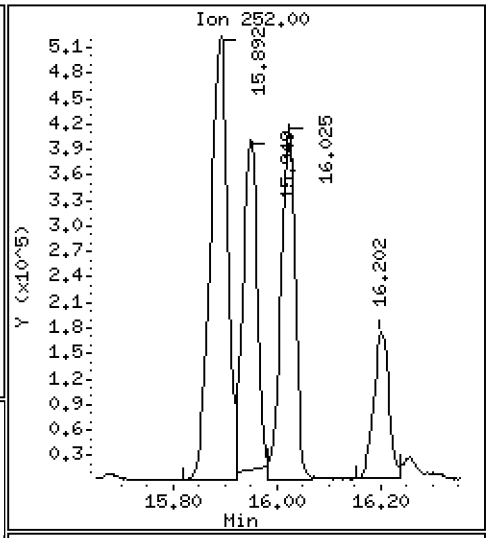
Column phase: Rxi-17sil

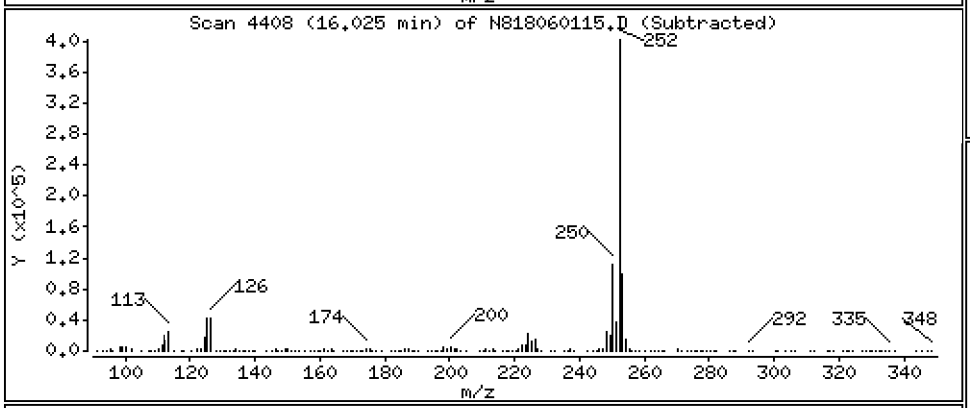
Column diameter: 0.25

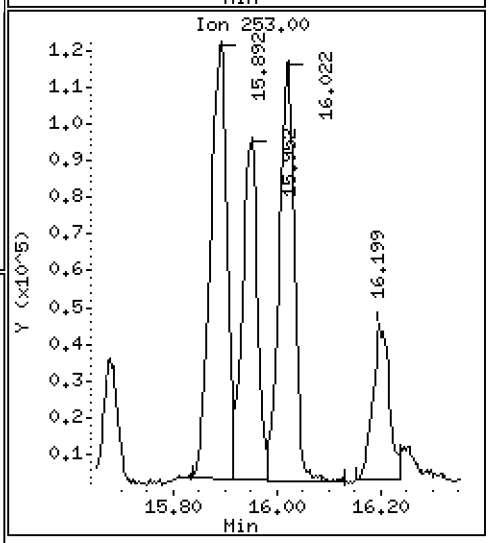
30 Benzo(j)fluoranthene

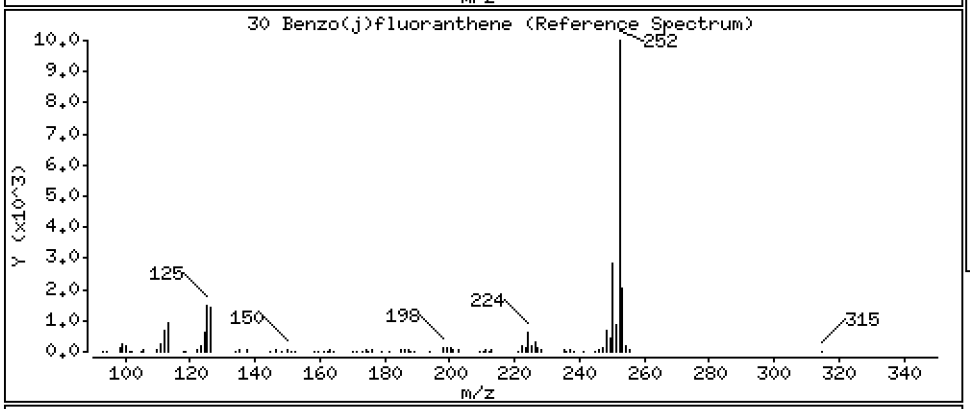
Concentration: 69.35 ug/mL

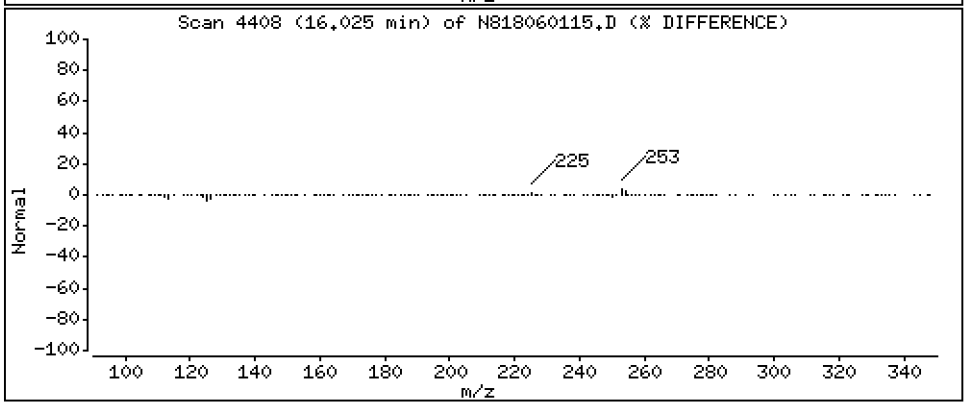












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

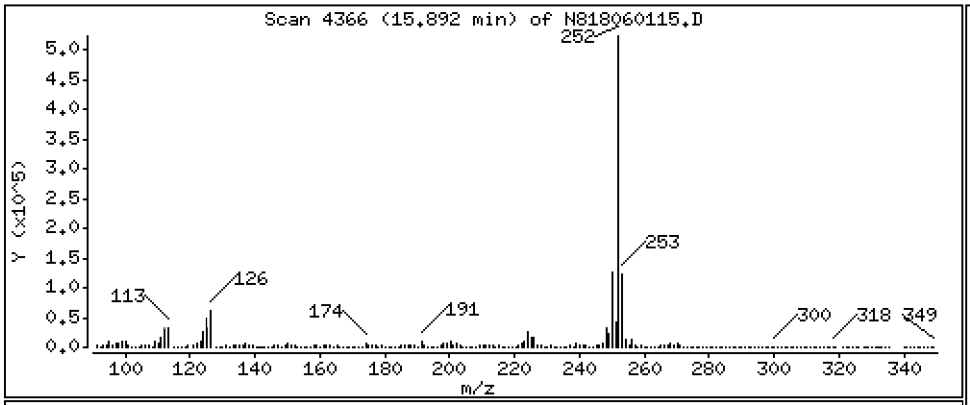
Operator: JZ

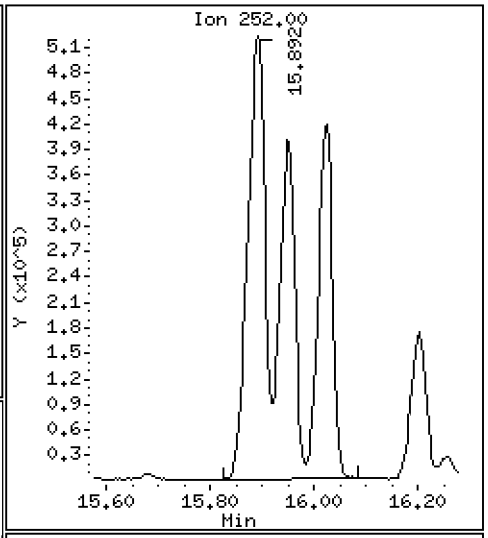
Column phase: Rxi-17sil

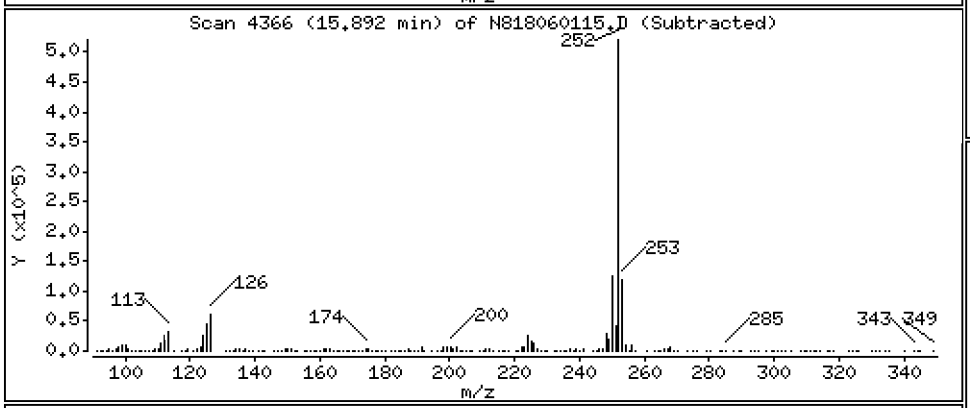
Column diameter: 0.25

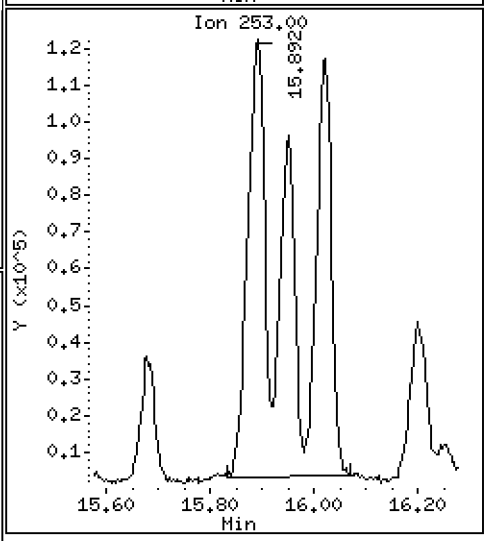
31 Total Benzofluoranthenes

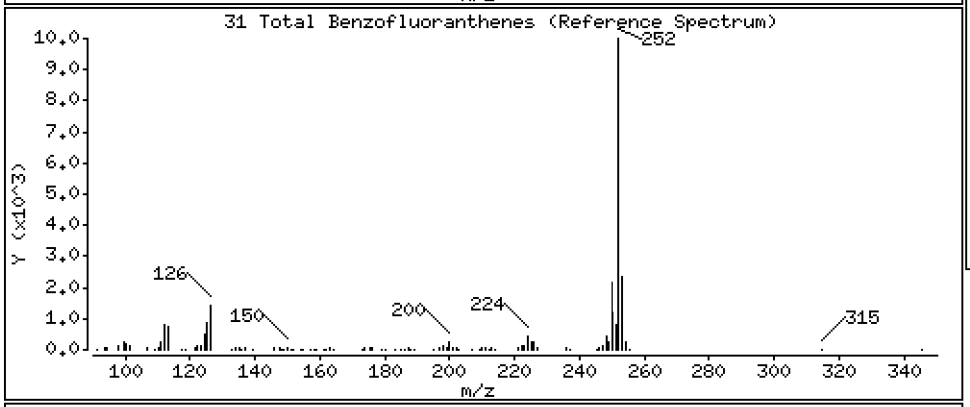
Concentration: 239.9 ug/mL

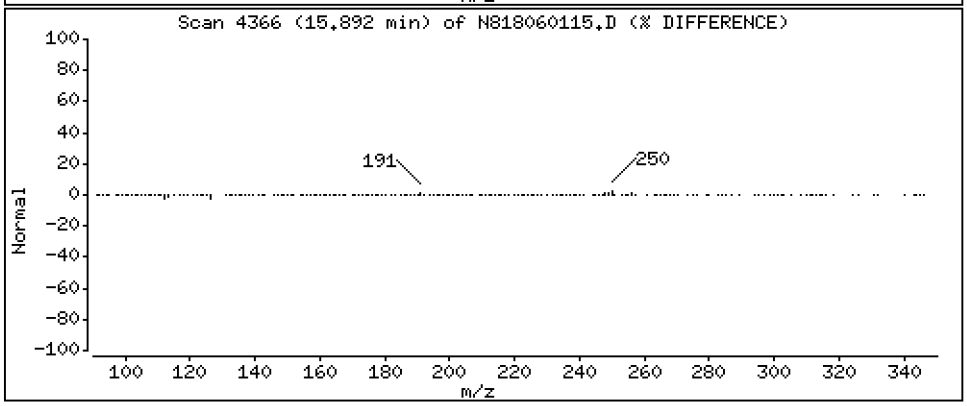












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

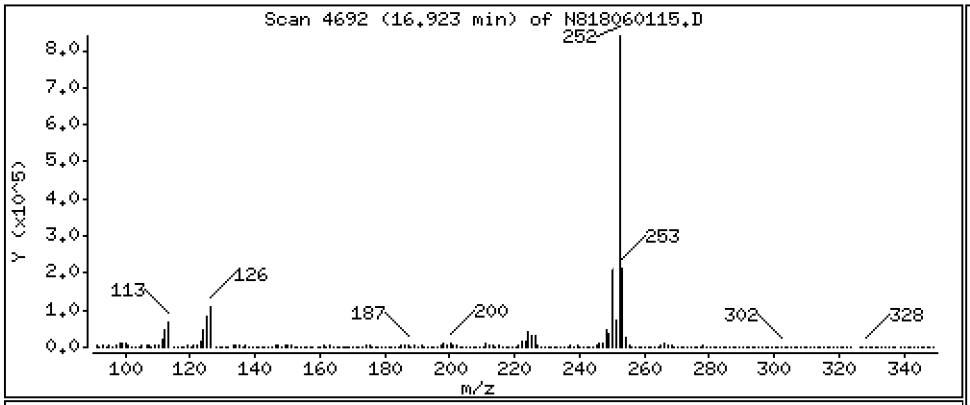
Operator: JZ

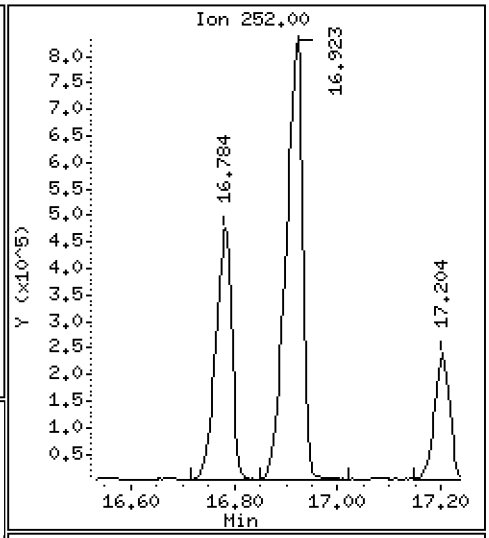
Column phase: Rxi-17sil

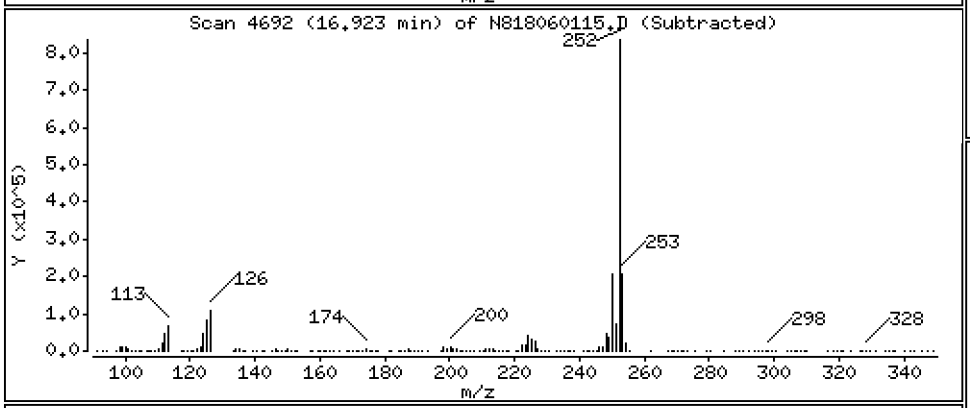
Column diameter: 0.25

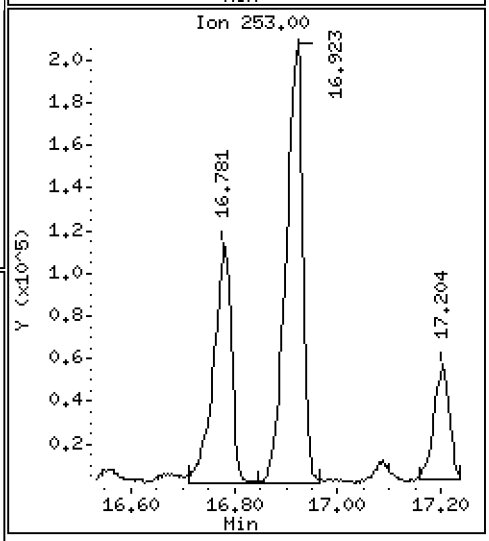
32 Benzo(a)pyrene

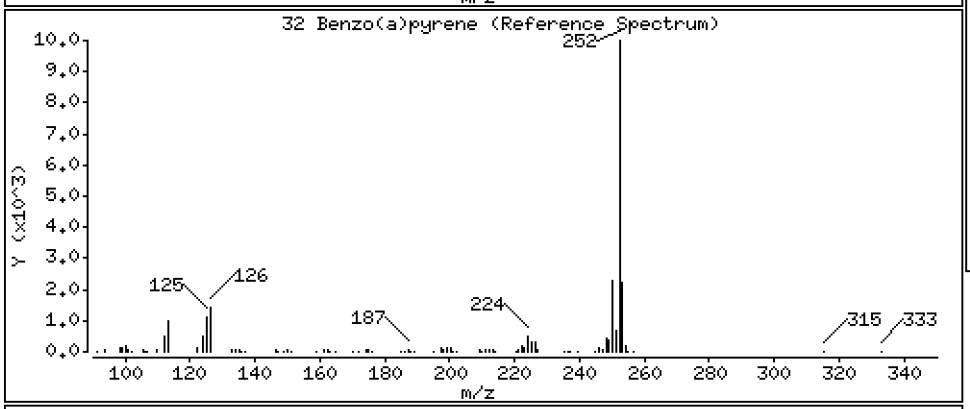
Concentration: 180.1 ug/mL

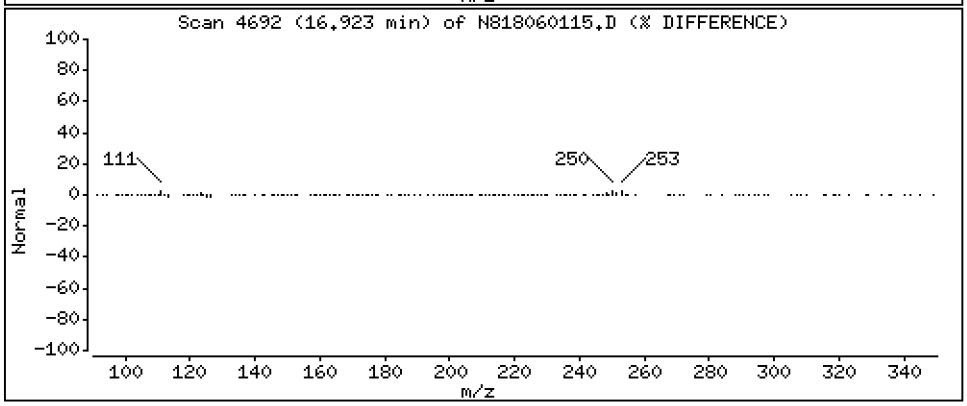












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

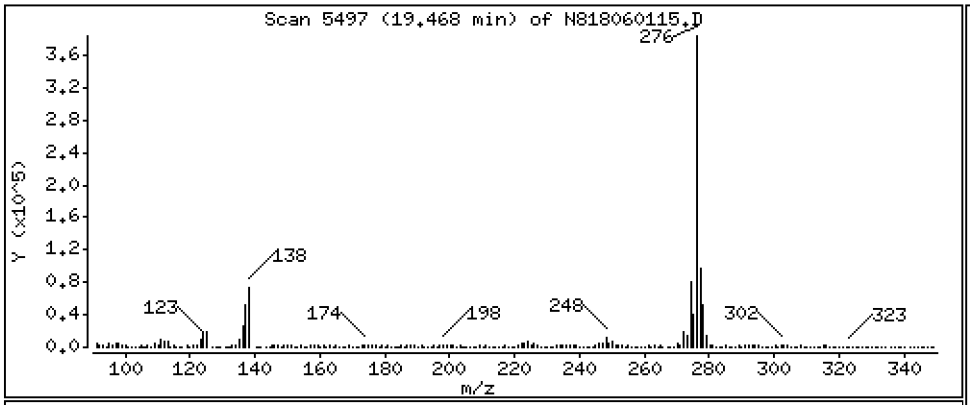
Operator: JZ

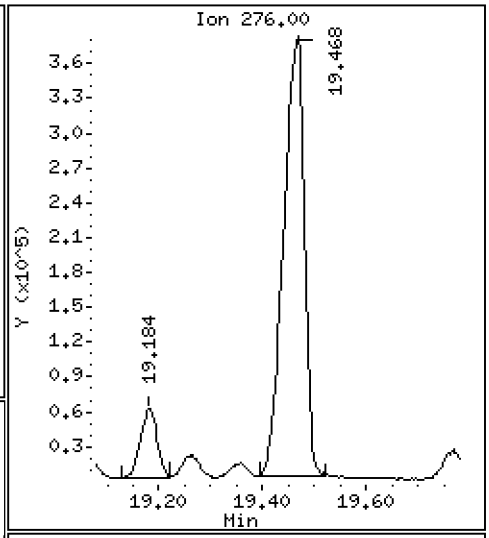
Column phase: Rxi-17sil

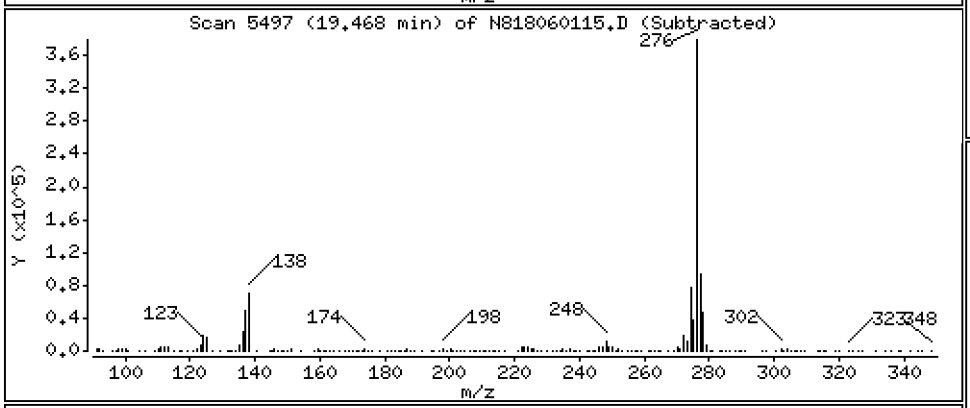
Column diameter: 0.25

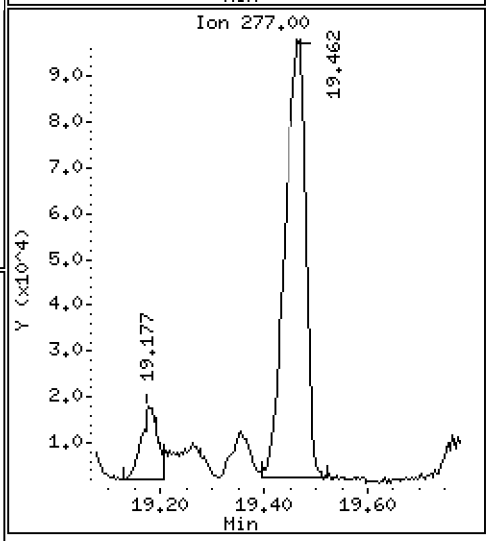
37 Indeno(1,2,3-cd)pyrene

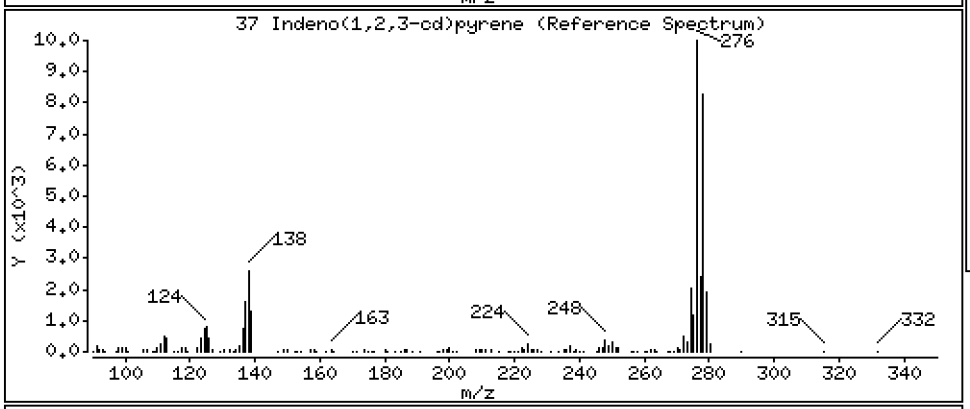
Concentration: 88.28 ug/mL

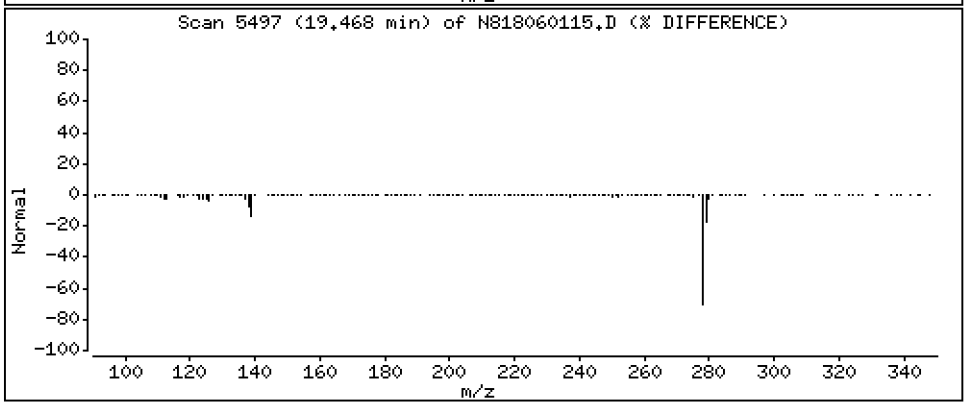












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

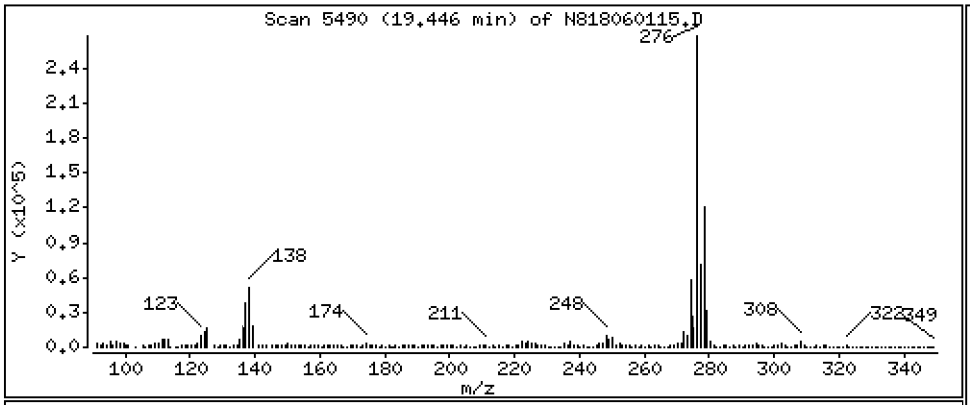
Operator: JZ

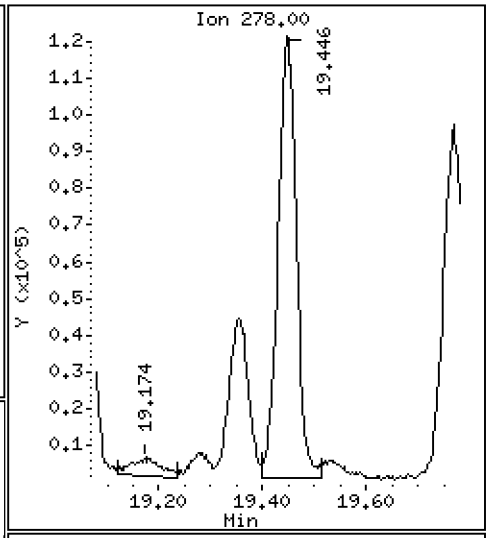
Column phase: Rxi-17sil

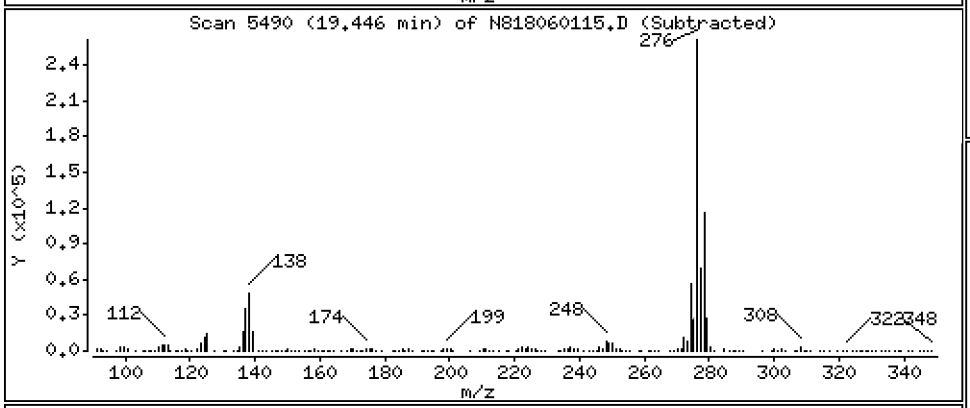
Column diameter: 0.25

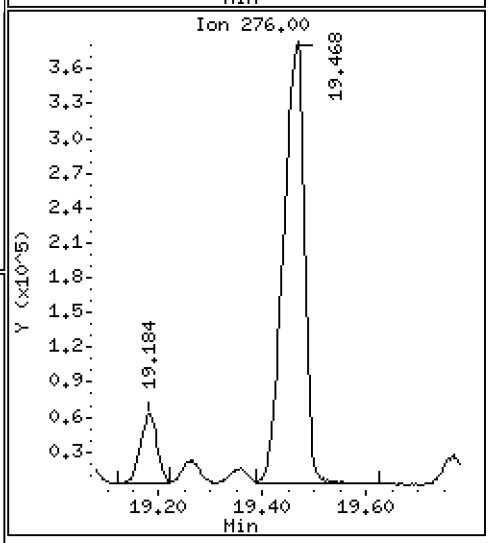
38 Dibenzo(a,h)anthracene

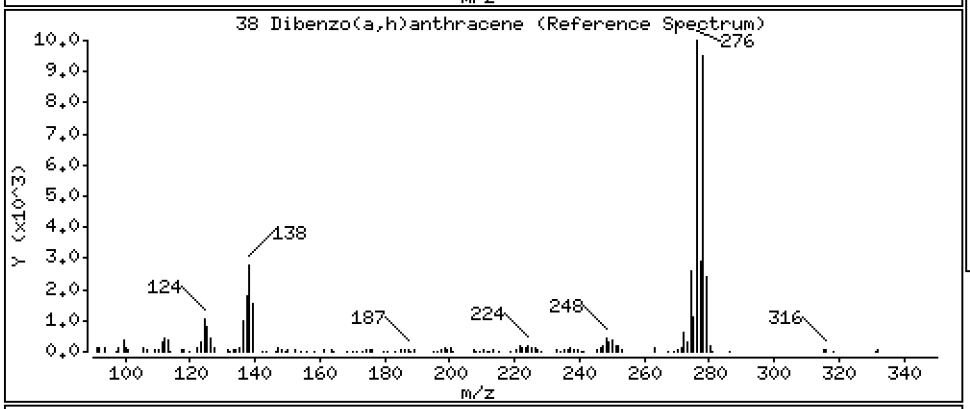
Concentration: 29.88 ug/mL

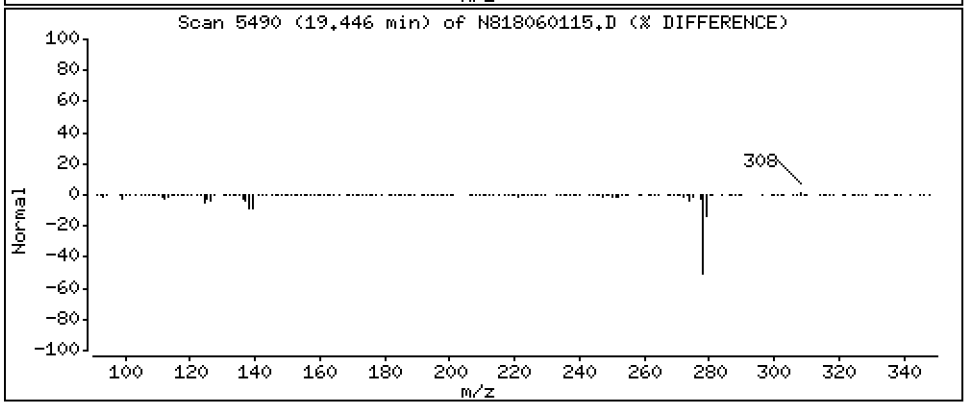












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

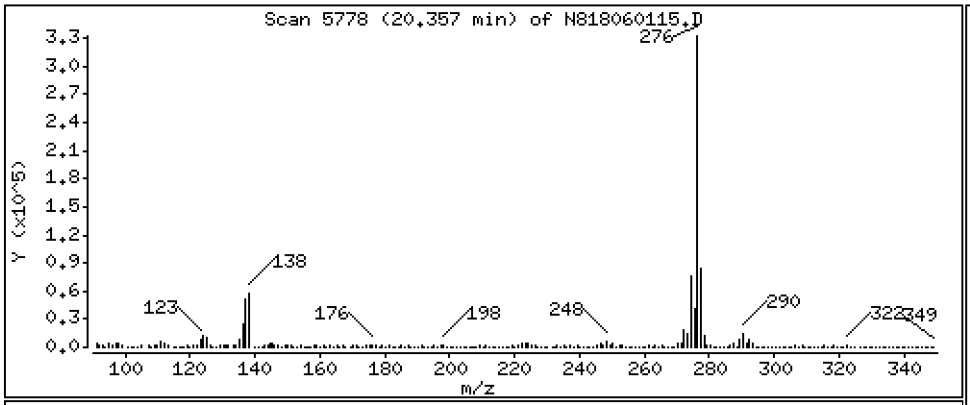
Operator: JZ

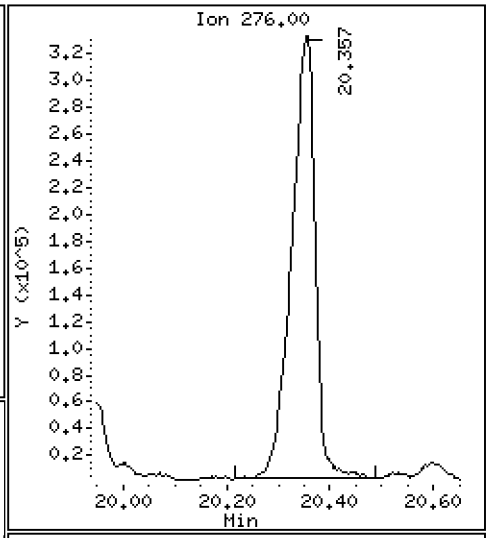
Column phase: Rxi-17sil

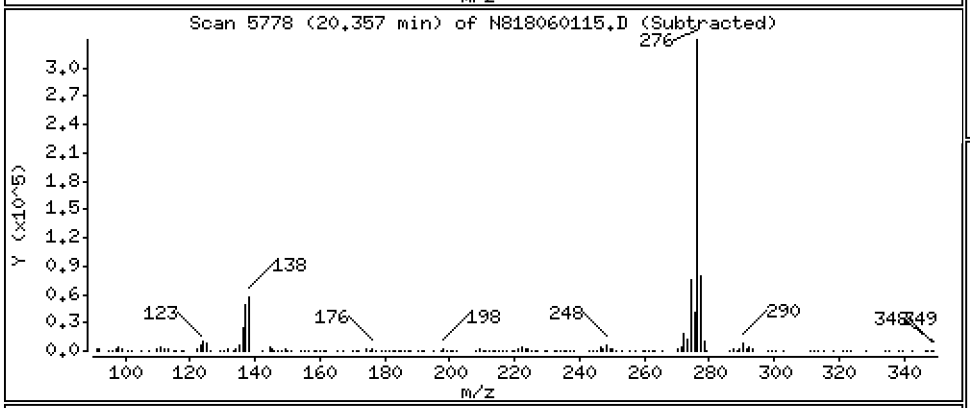
Column diameter: 0.25

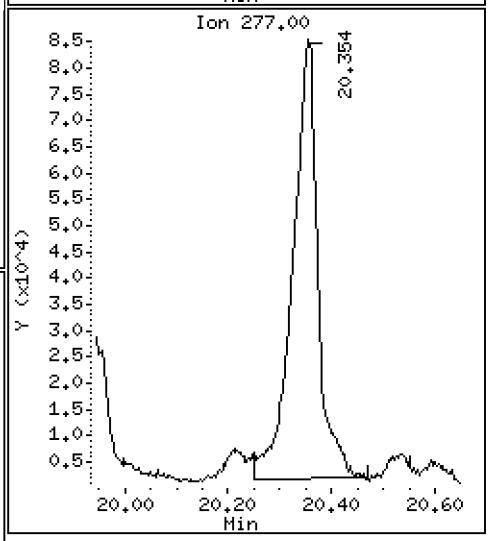
39 Benzo(g,h,i)perylene

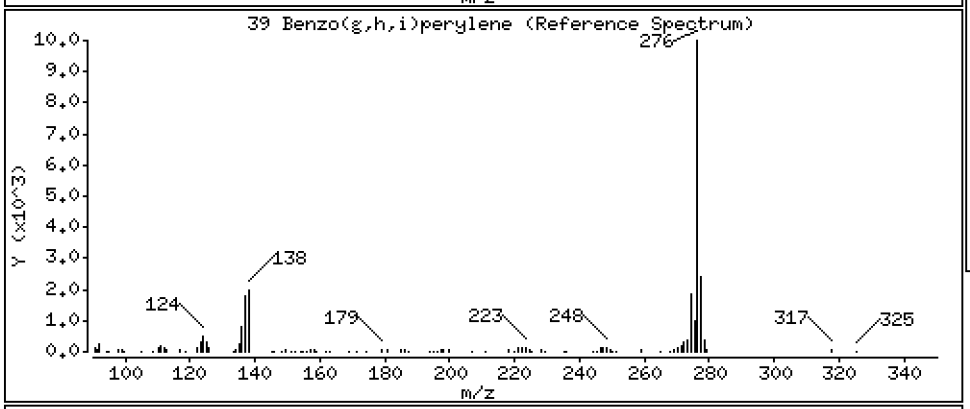
Concentration: 101.1 ug/mL

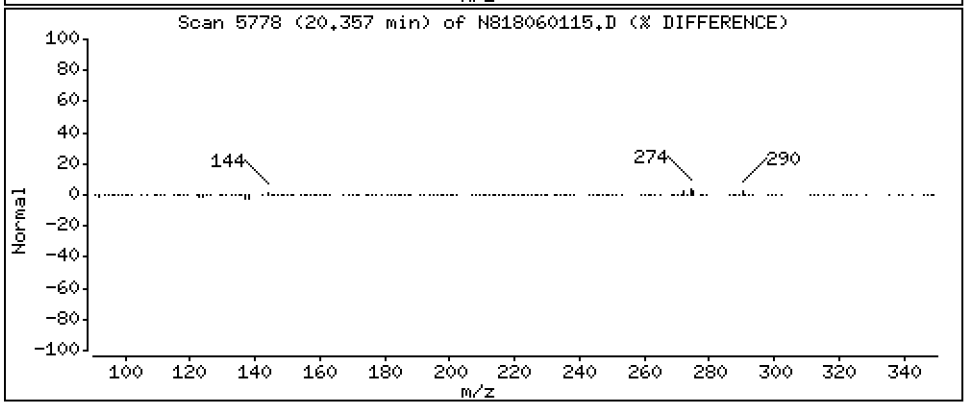












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060115.D

Date : 01-JUN-2018 20:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03

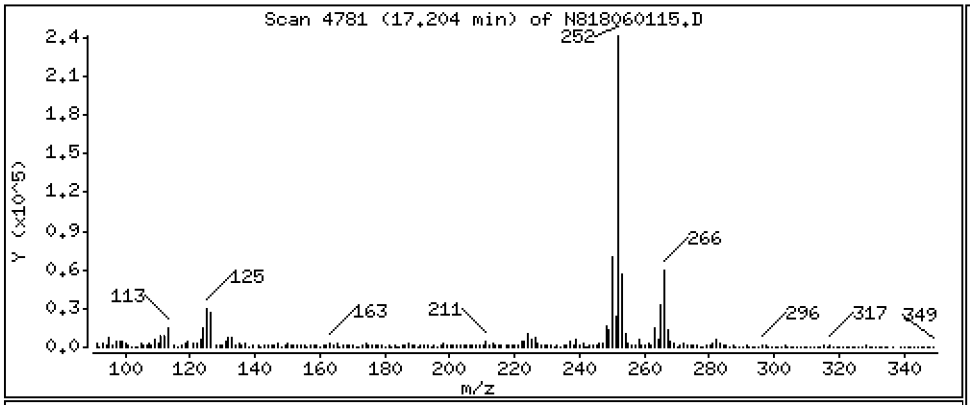
Operator: JZ

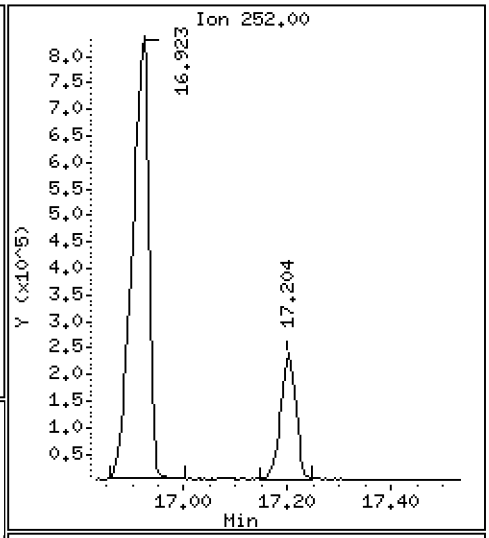
Column phase: Rxi-17sil

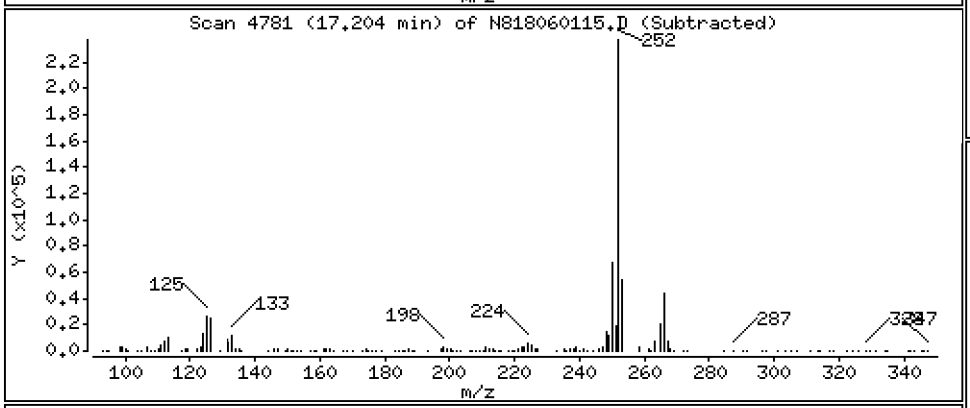
Column diameter: 0.25

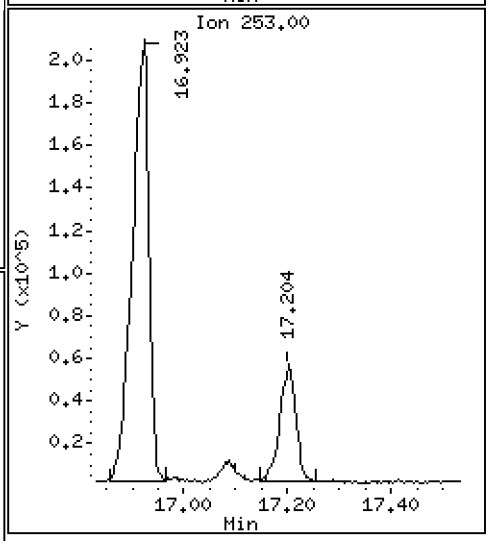
35 Perylene

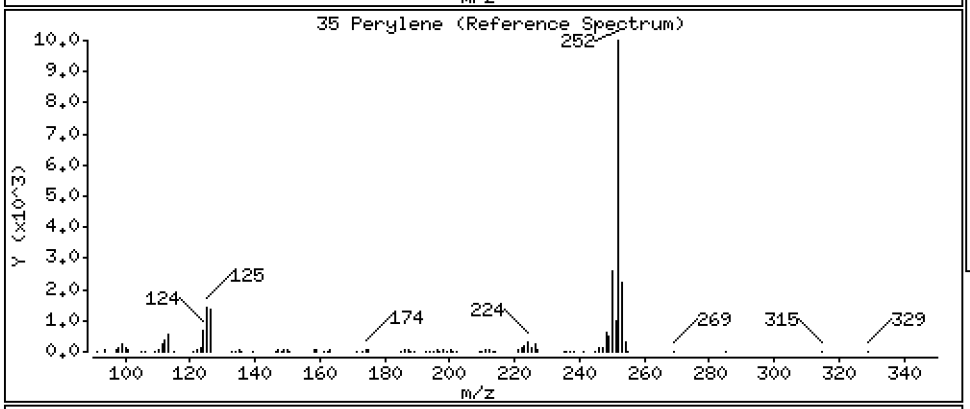
Concentration: 42.82 ug/mL

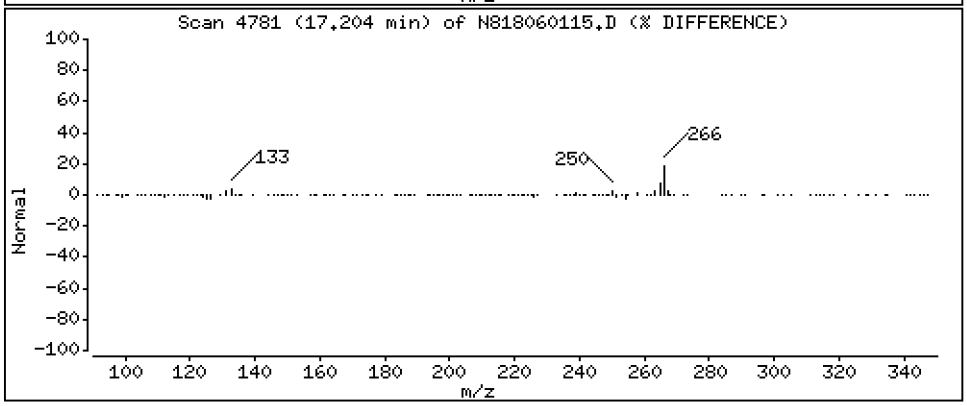












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060115.D
Lab Smp Id: 18E0243-03
Inj Date : 01-JUN-2018 20:39
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 15
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.464	4.464	(1.000)	181133	2.00000	
	2	Naphthalene	128	4.493	4.492	(1.006)	214856	2.04105	20.41
$	3	2-Methylnaphthalene-d10	152	5.191	5.191	(1.163)	10099	0.15284	1.528
	4	2-Methylnaphthalene	141	5.239	5.242	(1.174)	26383	0.44497	4.450
	5	1-methylnaphthalene	141	5.432	5.432	(1.217)	23057	0.37779	3.778
	9	Acenaphthylene	152	6.614	6.617	(0.983)	235702	2.59058	25.91
*	10	Acenaphthene-d10	164	6.728	6.728	(1.000)	91639	2.00000	
	11	Acenaphthene	153	6.776	6.775	(1.007)	89918	1.28917	12.89
	12	Dibenzofuran	168	6.927	6.927	(1.030)	78372	0.83568	8.357
	14	Fluorene	166	7.402	7.402	(1.100)	156024	2.15312	21.53
*	15	Phenanthrene-d10	188	8.746	8.745	(1.000)	169530	2.00000	
	16	Phenanthrene	178	8.787	8.780	(1.005)	1526705	14.6931	146.9
	17	Anthracene	178	8.825	8.821	(1.009)	764567	8.07591	80.76
	22	Fluoranthene	202	10.459	10.434	(1.196)	4091042	34.9355	349.4
$	21	Fluoranthene-d10	212	10.406	10.402	(1.190)	19759	0.17803	1.780
	23	Pyrene	202	10.930	10.902	(0.818)	4151936	37.0894	370.9
	24	Benzo(a)anthracene	228	13.258	13.239	(0.992)	1936783	17.8951	179.0
*	25	Chrysene-d12	240	13.368	13.356	(1.000)	186277	2.00000	
	27	Chrysene	228	13.447	13.425	(1.006)	1946974	17.8708	178.7
	28	Benzo(b)fluoranthene	252	15.892	15.869	(0.928)	1210165	10.1747	101.7
	29	Benzo(k)fluoranthene	252	15.949	15.926	(0.931)	778212	6.65400	66.54
	30	Benzo(j)fluoranthene	252	16.024	16.002	(0.936)	812172	6.93541	69.35
	31	Total Benzofluoranthenes	252	15.892	15.926	(0.928)	2782198	23.9854	239.9(M)
	32	Benzo(a)pyrene	252	16.922	16.884	(0.988)	1877414	18.0097	180.1
*	33	Perylene-d12	264	17.125	17.112	(1.000)	187148	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	19.468	19.430	(1.137)	1053545	8.82777	88.28
$	36	Dibenzo(a,h)anthracene-d14	292	19.360	19.338	(1.131)	13809	0.15753	1.575
	38	Dibenzo(a,h)anthracene	278	19.446	19.430	(1.136)	294182	2.98824	29.88
	39	Benzo(g,h,i)perylene	276	20.356	20.299	(1.189)	1054280	10.1076	101.1
	35	Perylene	252	17.204	17.181	(1.005)	484649	4.28170	42.82

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060115.D
Lab Smp Id: 18E0243-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	181133	48.24
10 Acenaphthene-d10	65789	32895	131578	91639	39.29
15 Phenanthrene-d10	128644	64322	257288	169530	31.78
25 Chrysene-d12	166669	83335	333338	186277	11.76
33 Perylene-d12	140483	70242	280966	187148	33.22

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.10
33 Perylene-d12	17.11	16.61	17.61	17.13	0.08

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060115.D

Lab ID: 18E0243-03
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 20:39

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

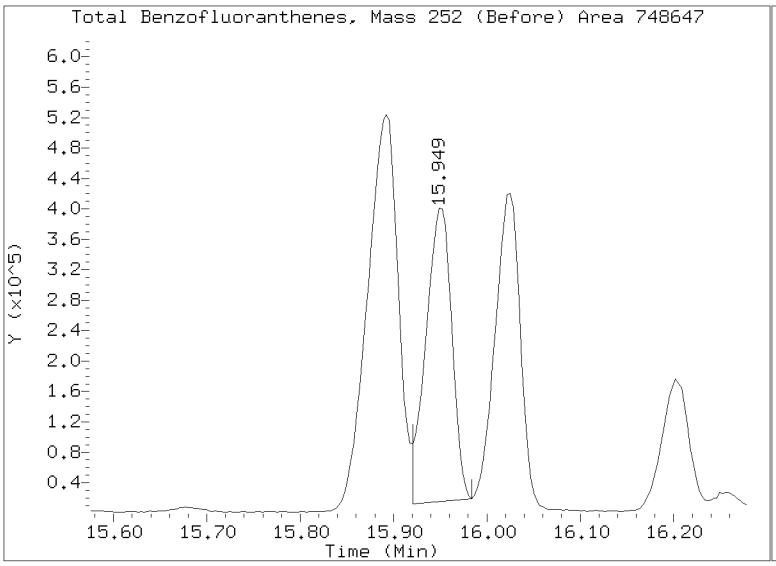
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

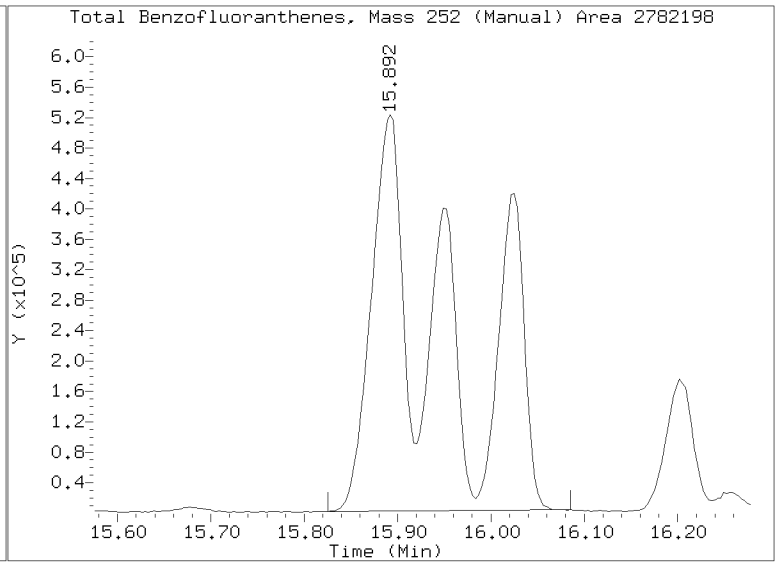
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060115.D
Injection Date: 01-JUN-2018 20:39
Lab ID:18E0243-03 Client ID:
Report Date: 06/04/2018 10:35





LDW18-SSCL-A03

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-03RE1	SDG:	18E0231
Sampled:	05/16/18 13:20	Prepared:	05/24/18 10:50	File ID:	N818060116.D
% Solids:	62.91	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 21:06
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	16.08 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	100	8960	D	81.5	494
218-01-9	Chrysene	100	8830	D	104	494
205-99-2	Benzo(b)fluoranthene	100	5030	D	136	494
207-08-9	Benzo(k)fluoranthene	100	3330	D	75.1	494
50-32-8	Benzo(a)pyrene	100	8790	D	60.7	494
193-39-5	Indeno(1,2,3-cd)pyrene	100	4210	D	104	494
53-70-3	Dibenzo(a,h)anthracene	100	1350	D	88.1	494

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.28	0.00		32 - 120	D1
Dibenzo[a,h]anthracene-d14	148.28	0.00		21 - 133	D1
Fluoranthene-d10	148.28	0.00		36 - 134	D1

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

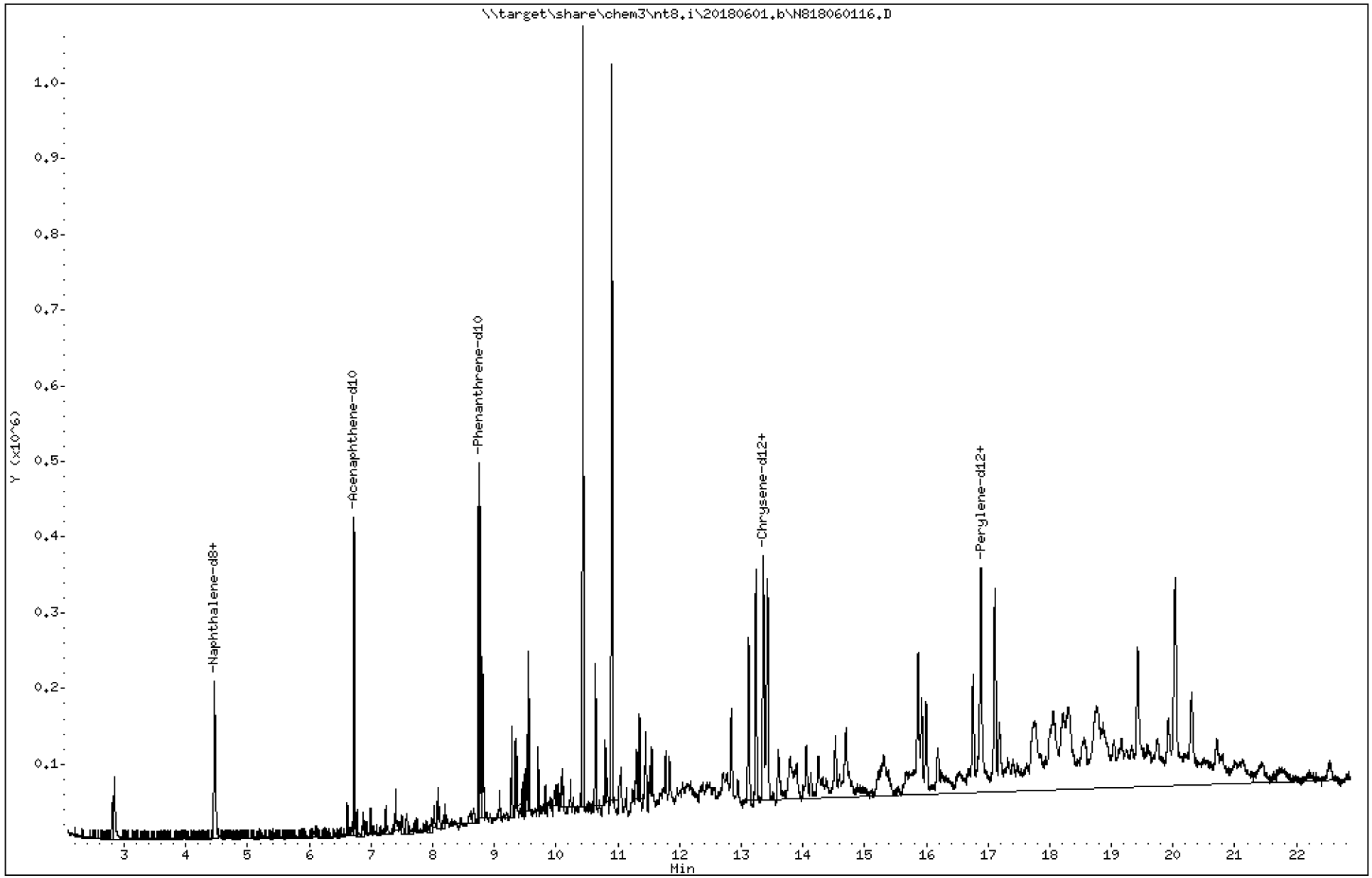
Instrument: nt8.i

Sample Info: 18E0243-03RE1

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

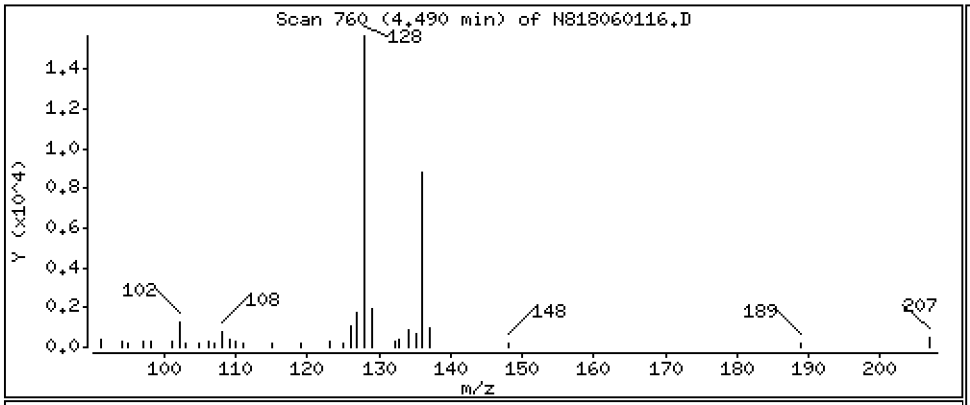
Operator: JZ

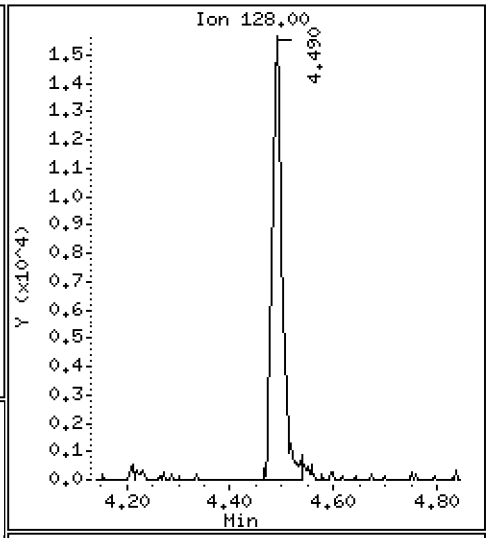
Column phase: Rxi-17sil

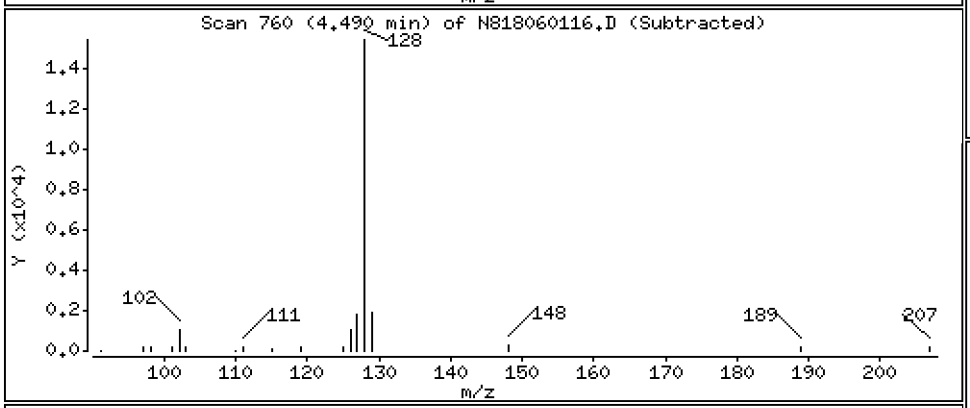
Column diameter: 0.25

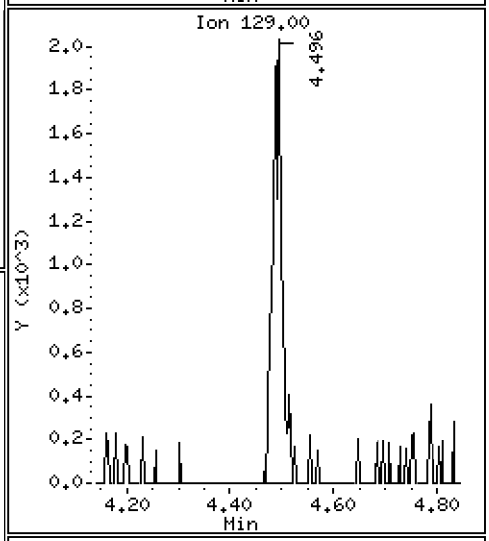
2 Naphthalene

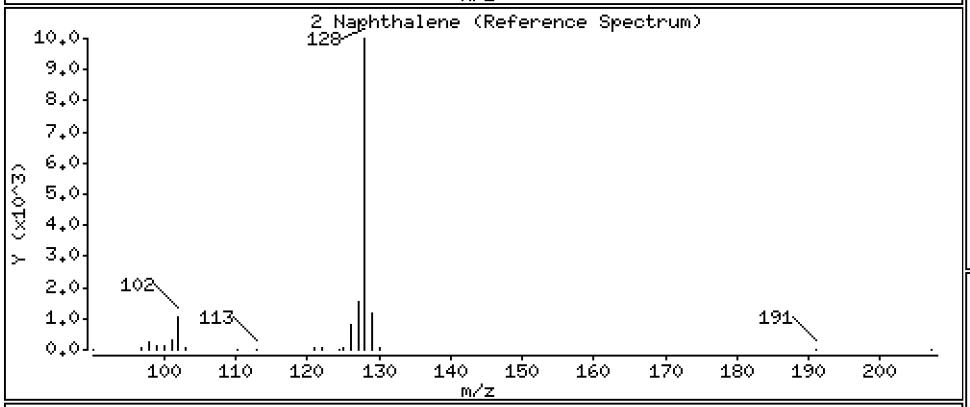
Concentration: 18.93 ug/mL

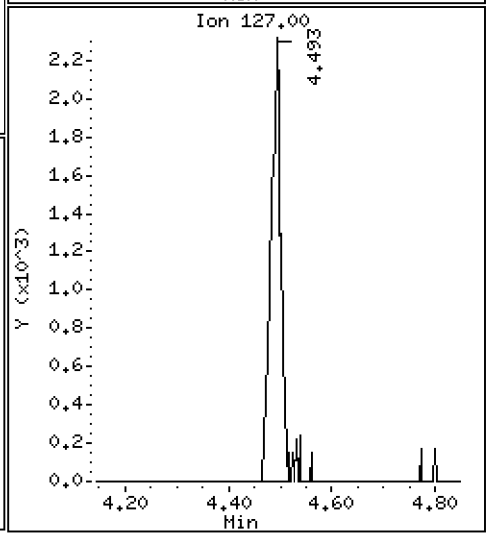


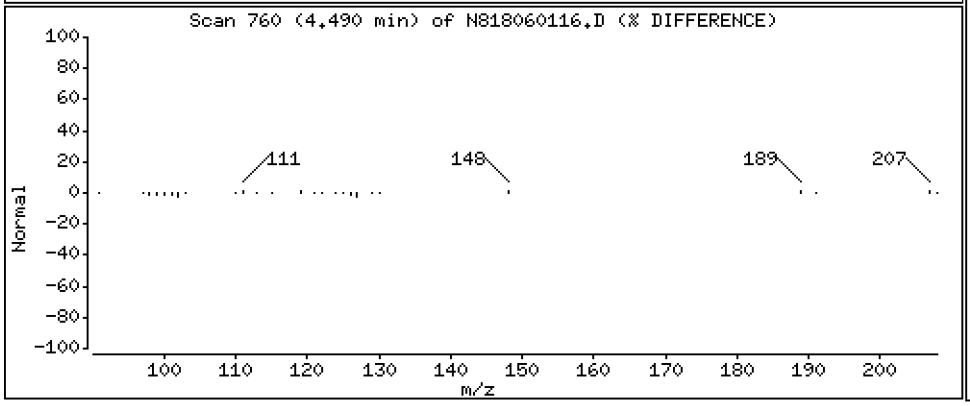












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

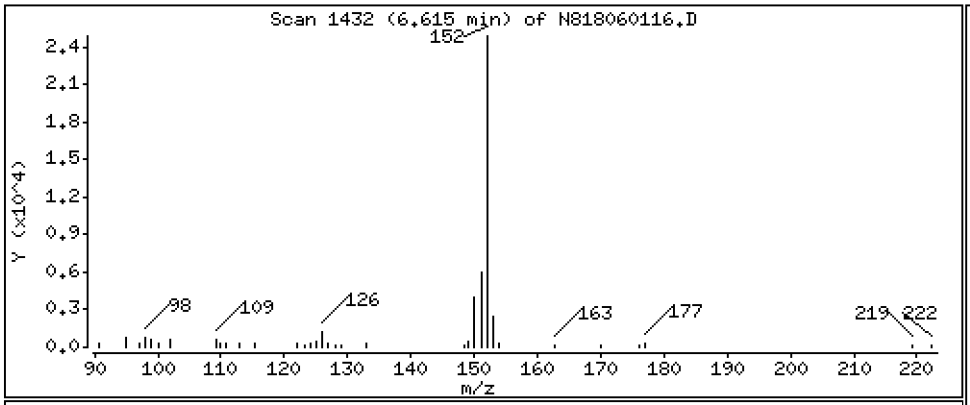
Operator: JZ

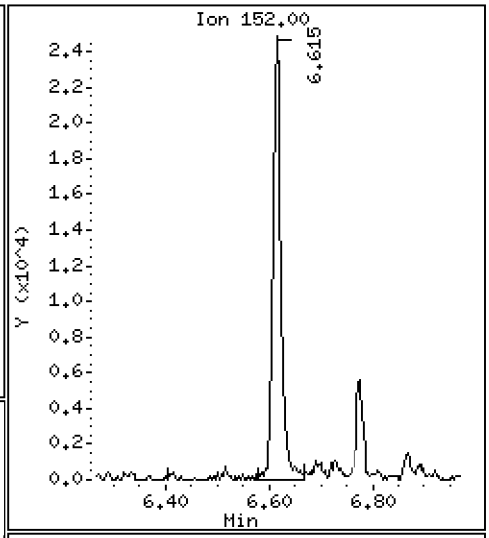
Column phase: Rxi-17sil

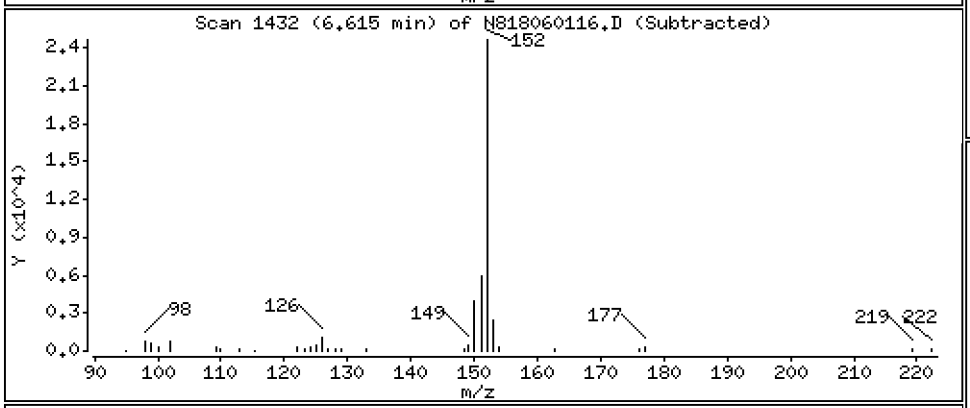
Column diameter: 0.25

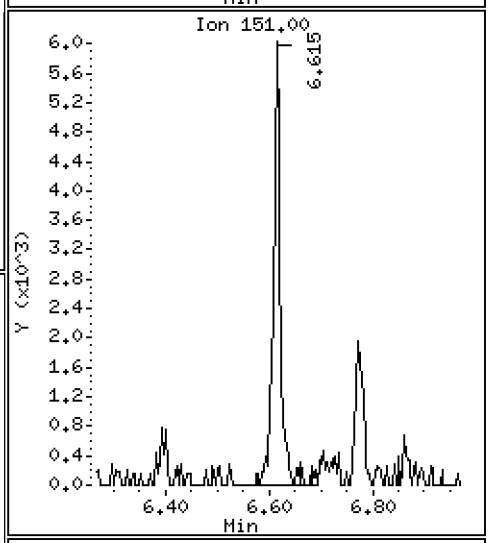
9 Acenaphthylene

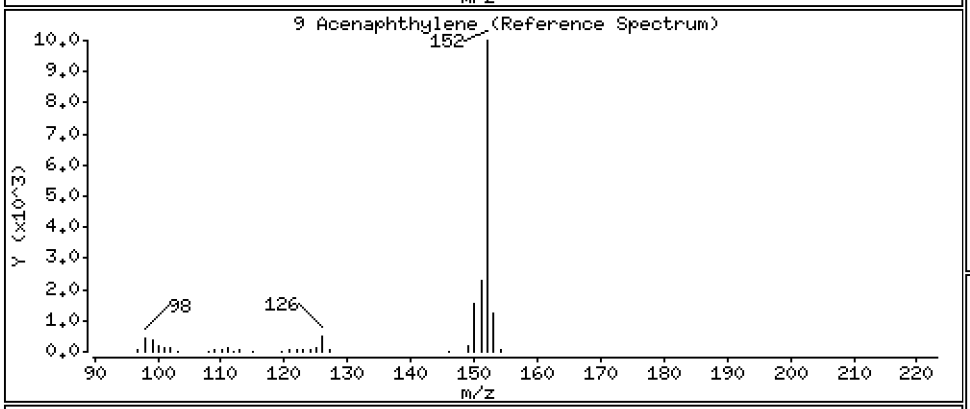
Concentration: 25.09 ug/mL

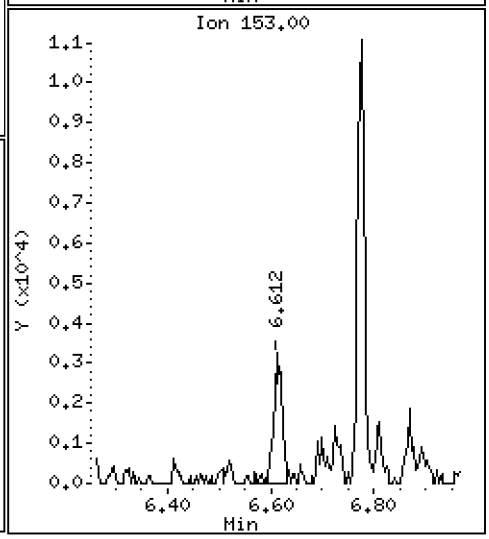


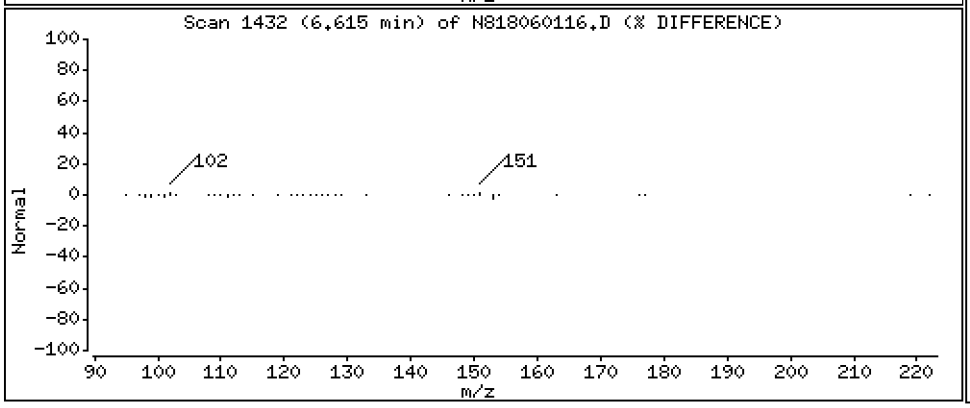












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

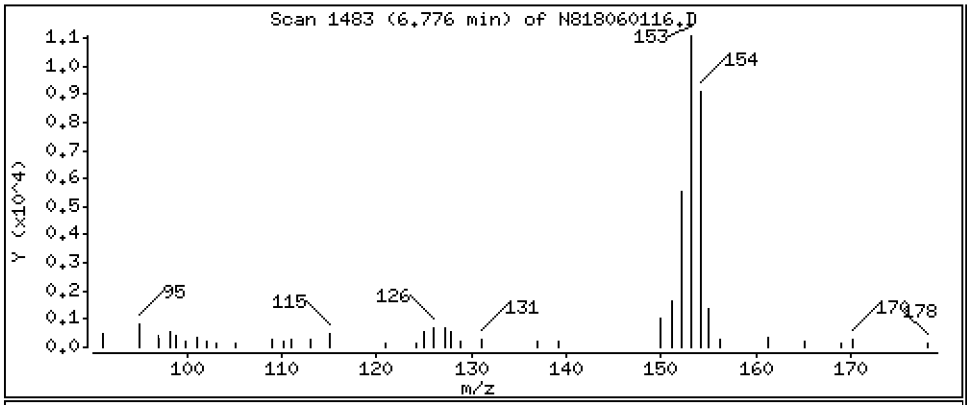
Operator: JZ

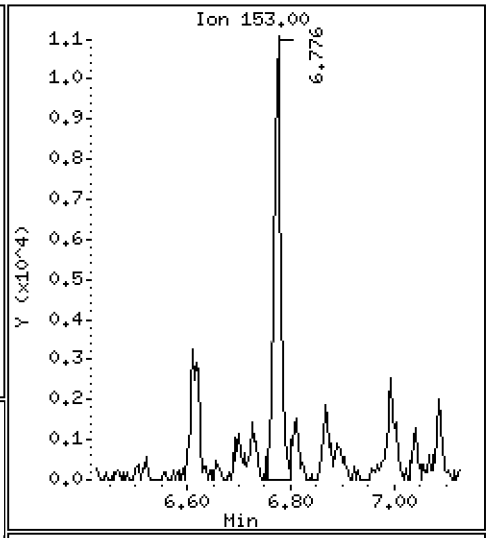
Column phase: Rxi-17sil

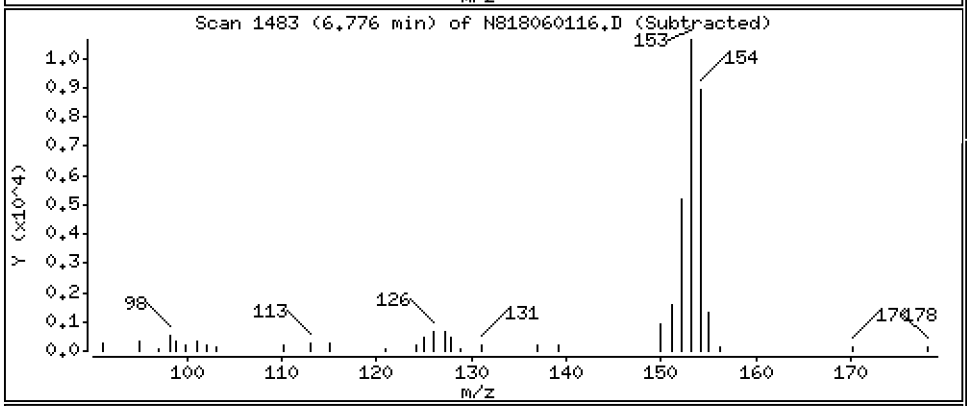
Column diameter: 0.25

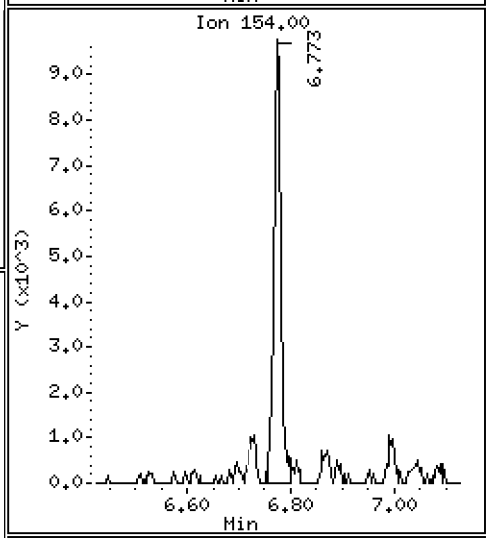
11 Acenaphthene

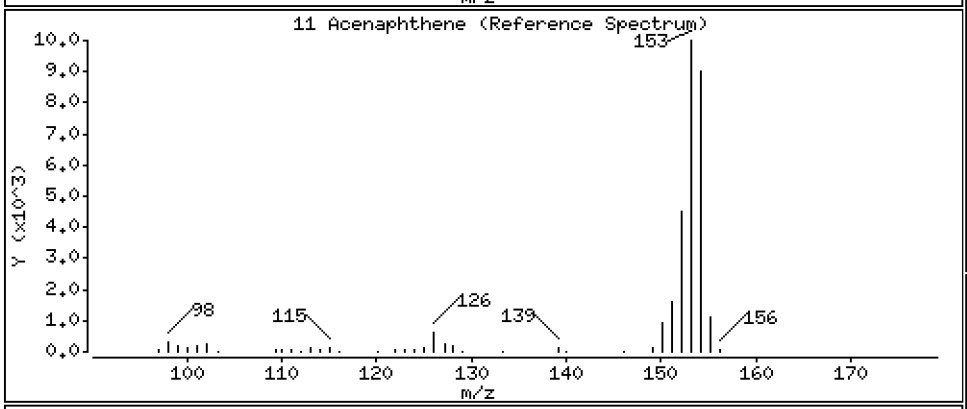
Concentration: 12.69 ug/mL

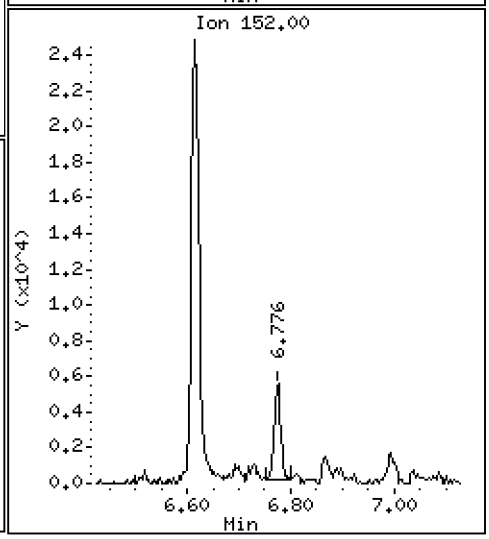


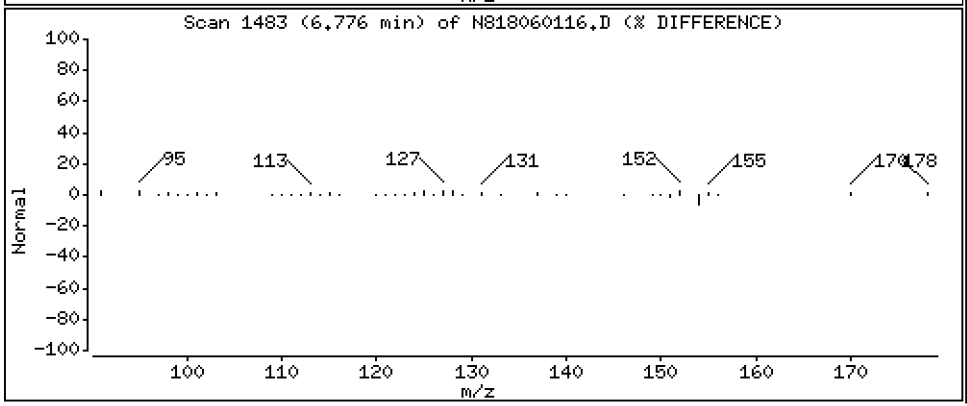












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

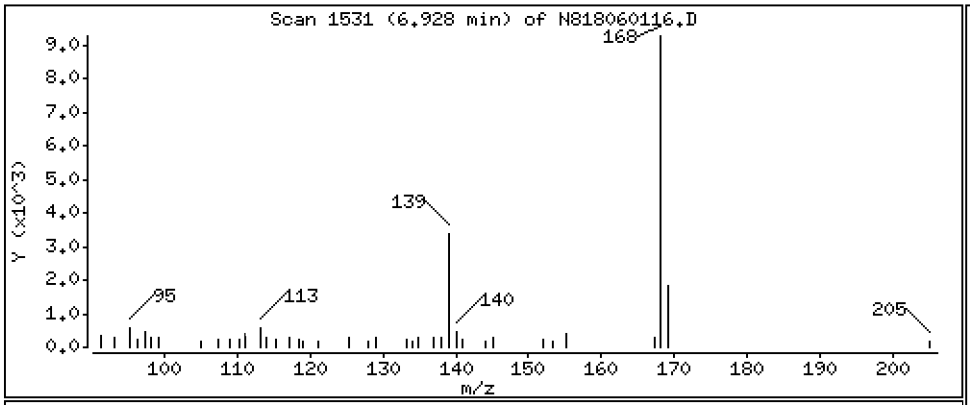
Operator: JZ

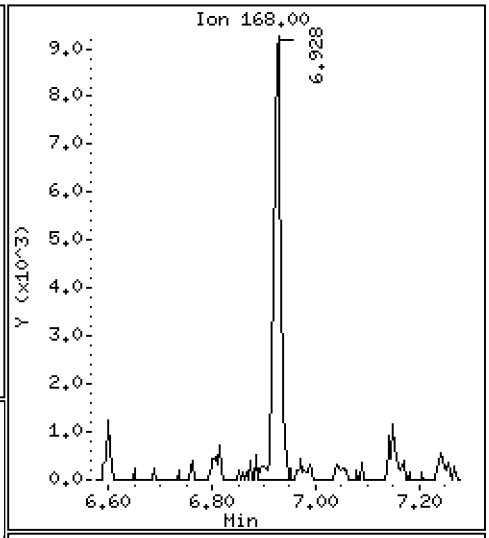
Column phase: Rxi-17sil

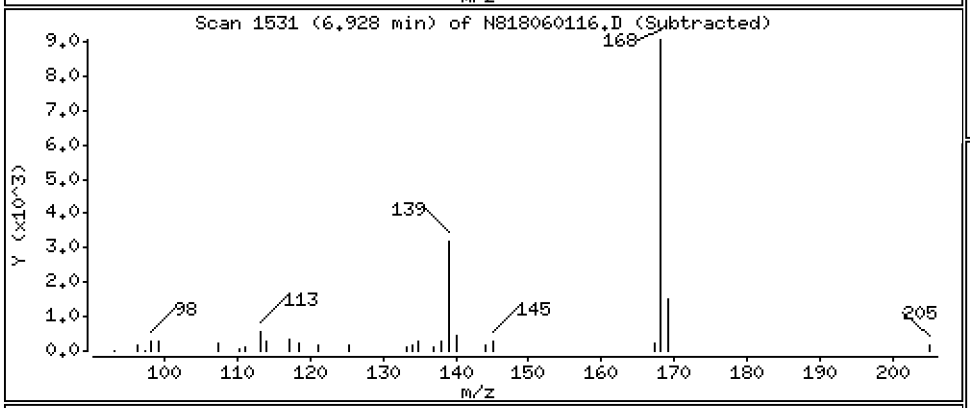
Column diameter: 0.25

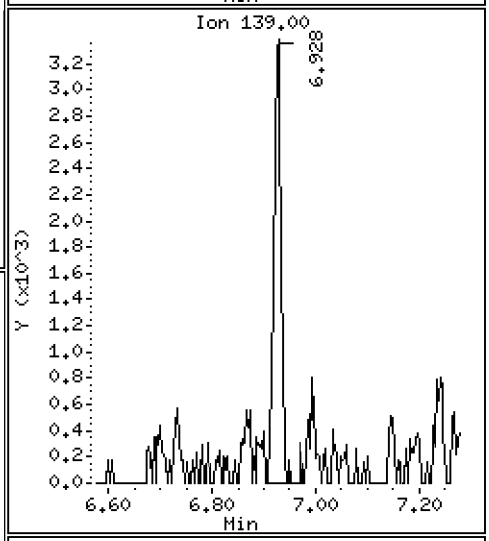
12 Dibenzofuran

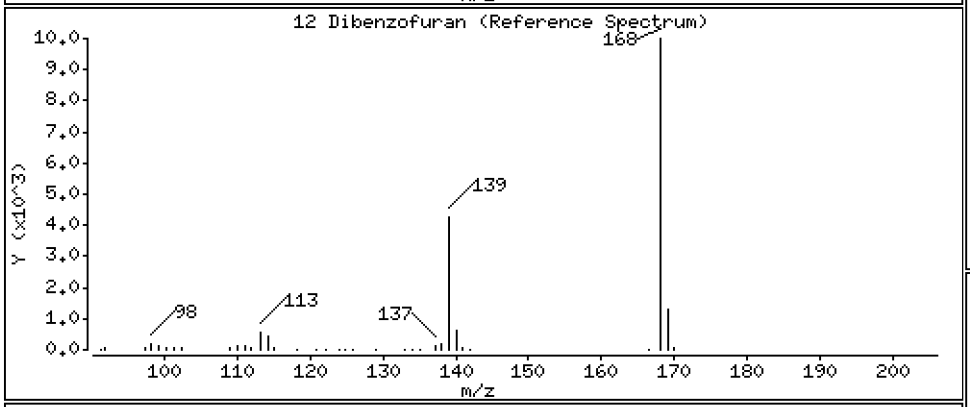
Concentration: 8.074 ug/mL

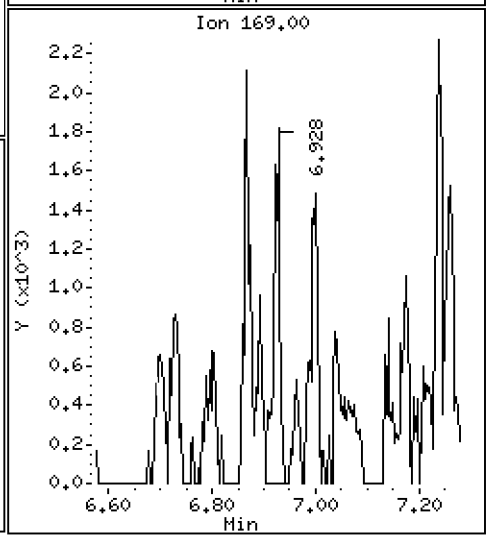


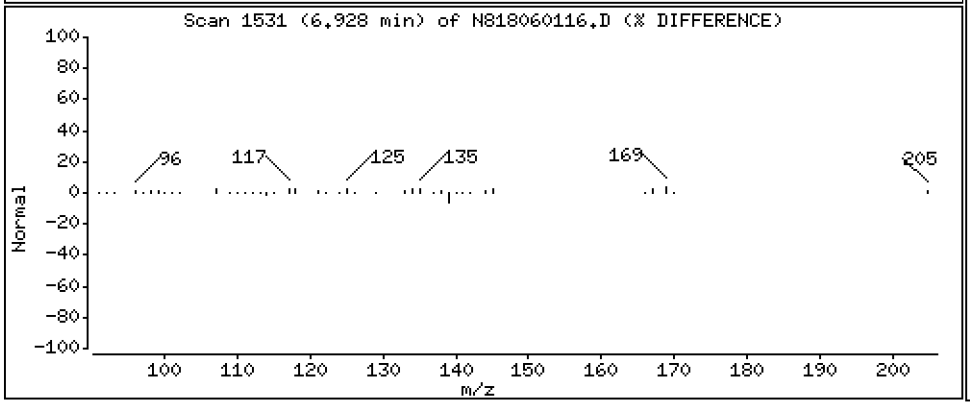












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

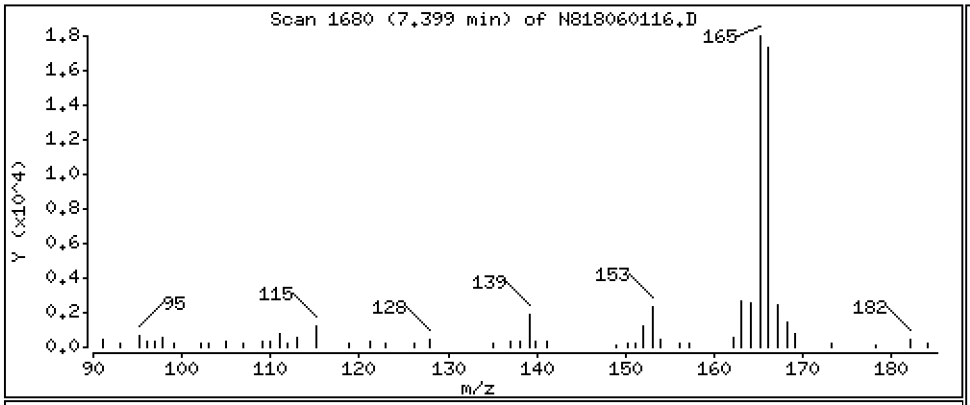
Operator: JZ

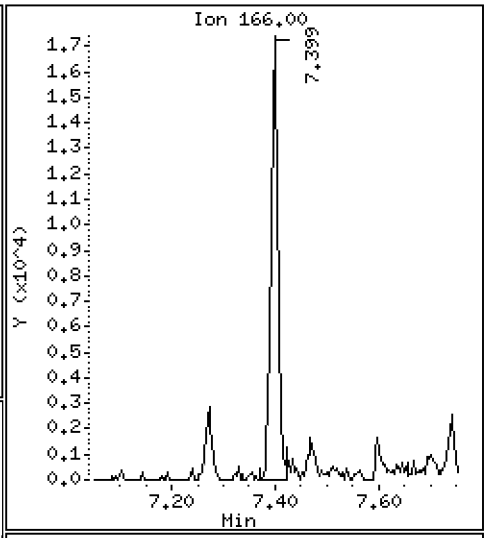
Column phase: Rxi-17sil

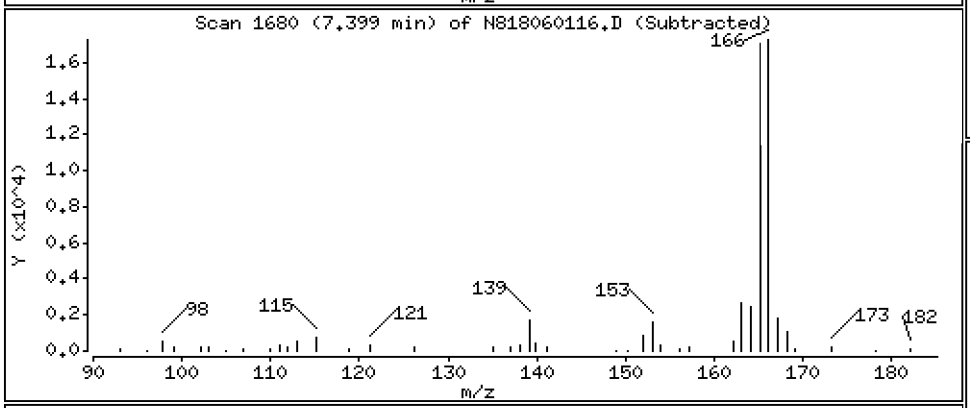
Column diameter: 0.25

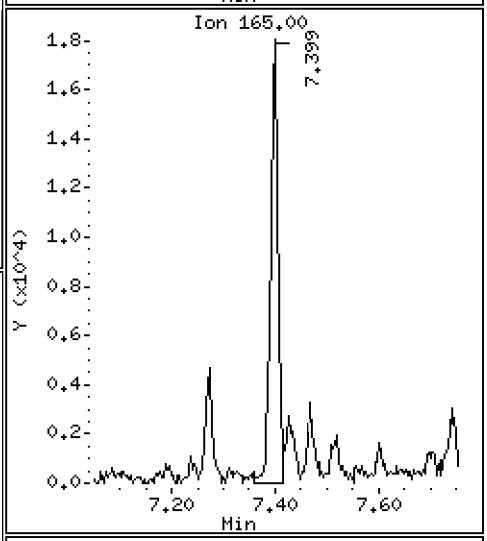
14 Fluorene

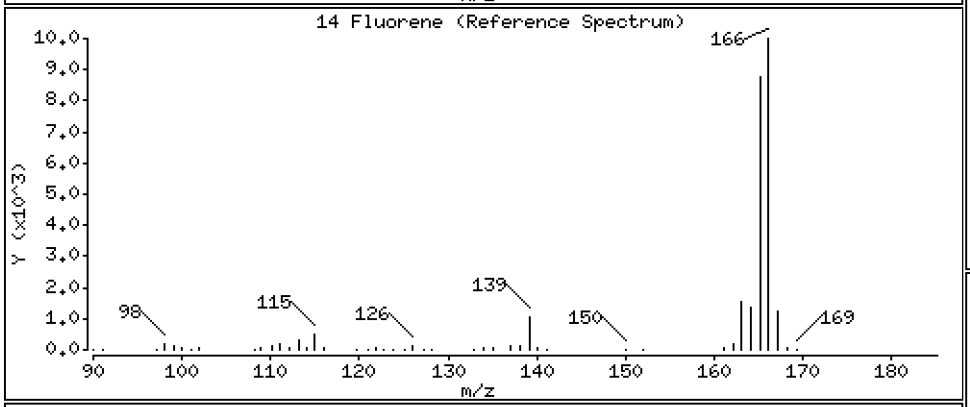
Concentration: 19.91 ug/mL

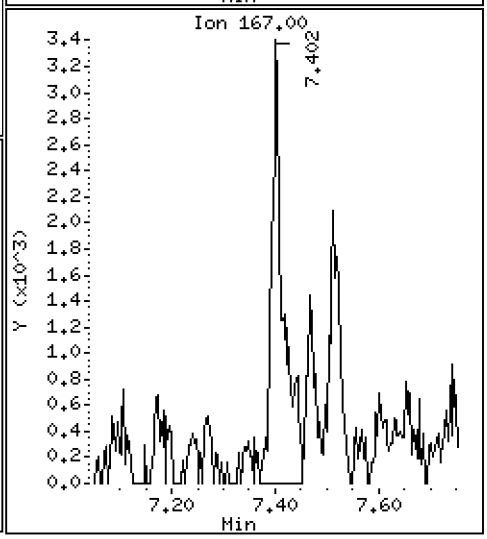


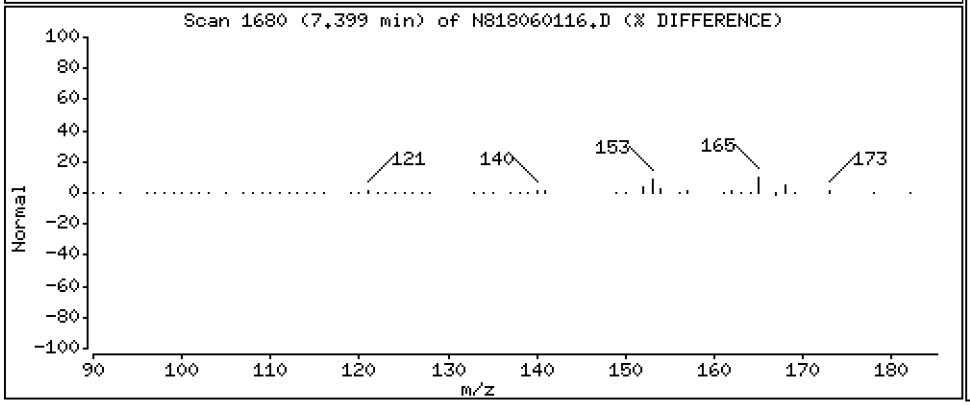












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

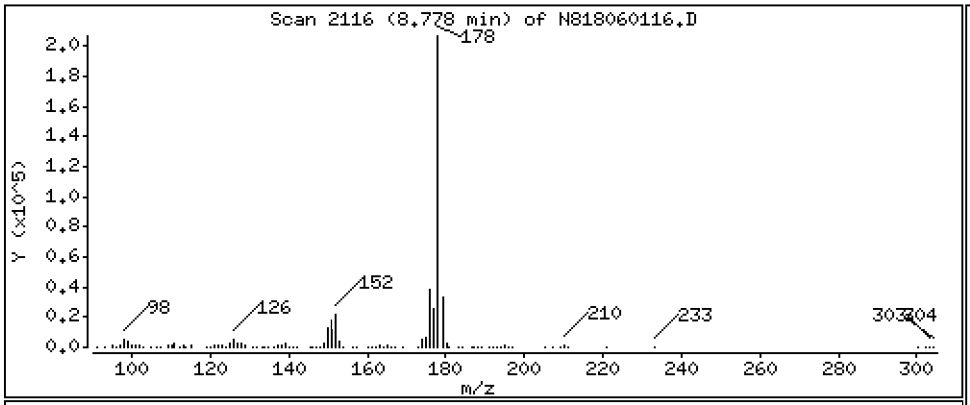
Operator: JZ

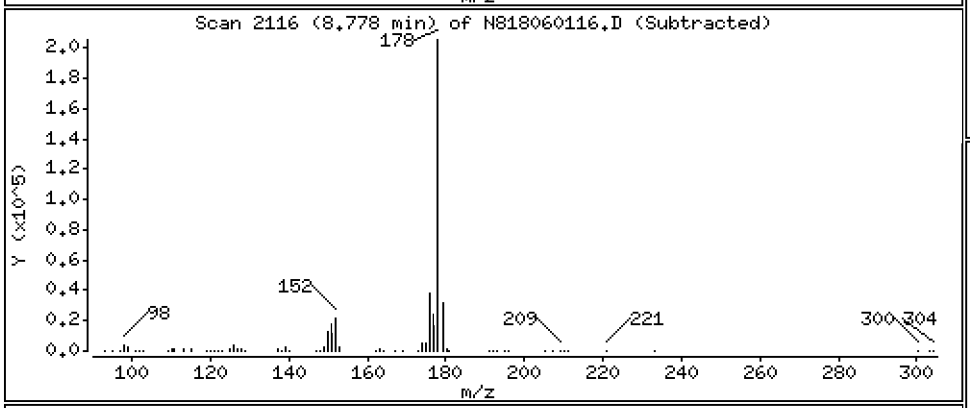
Column phase: Rxi-17sil

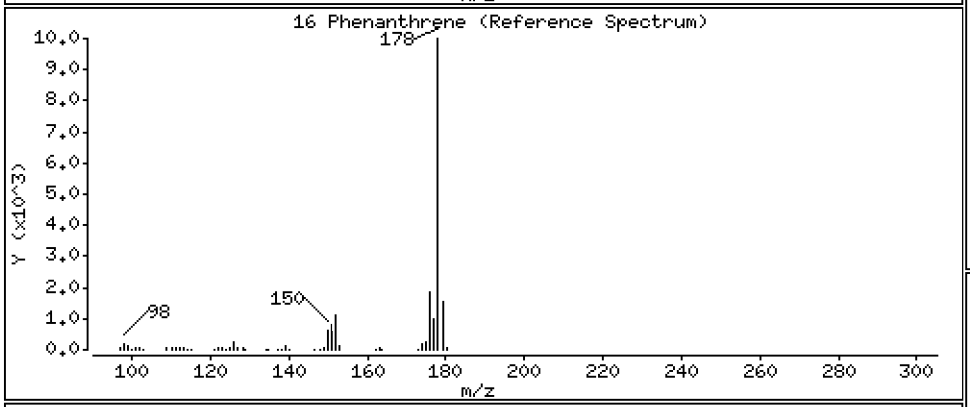
Column diameter: 0.25

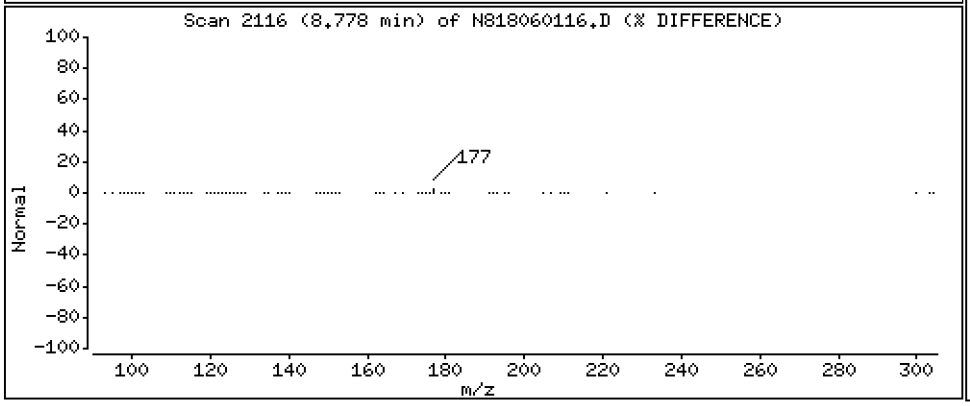
16 Phenanthrene

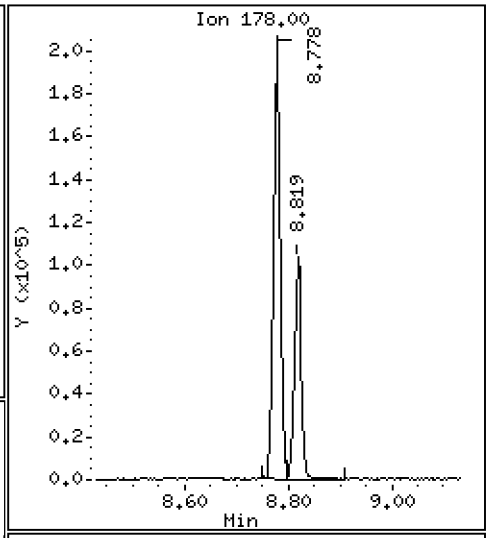
Concentration: 153.1 ug/mL

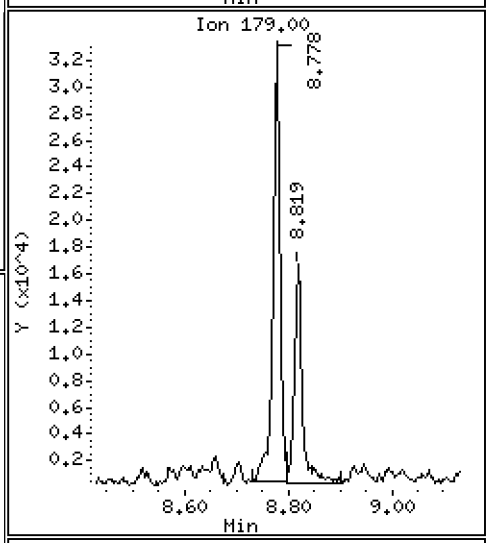


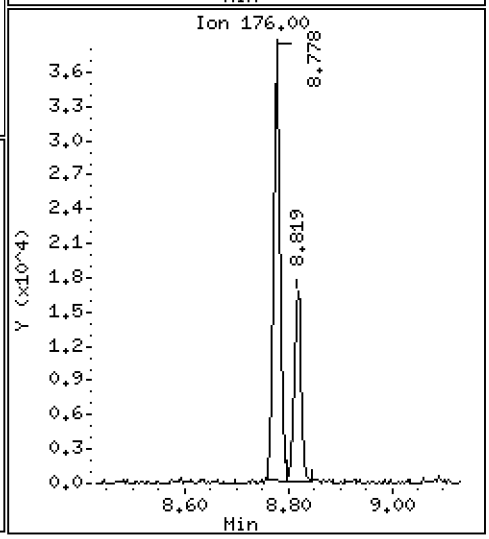












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

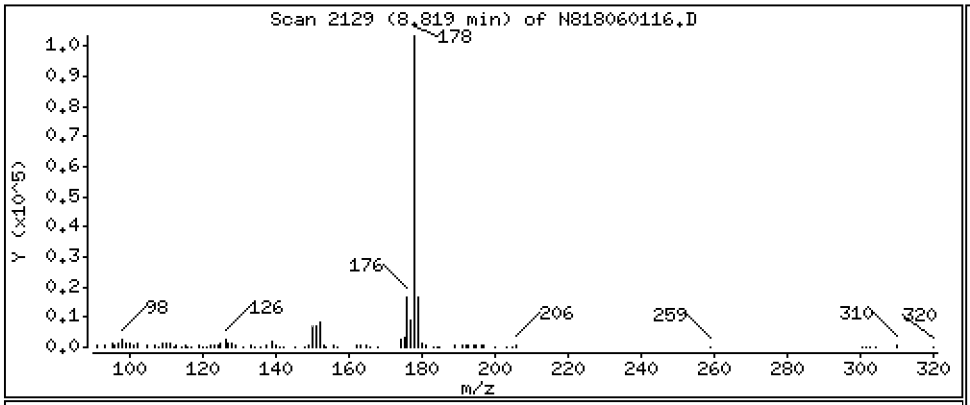
Operator: JZ

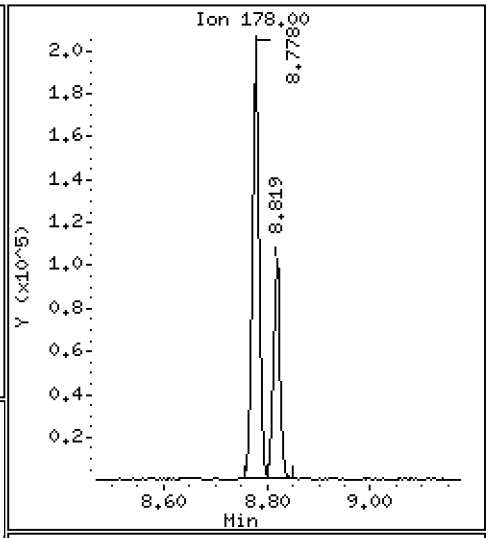
Column phase: Rxi-17sil

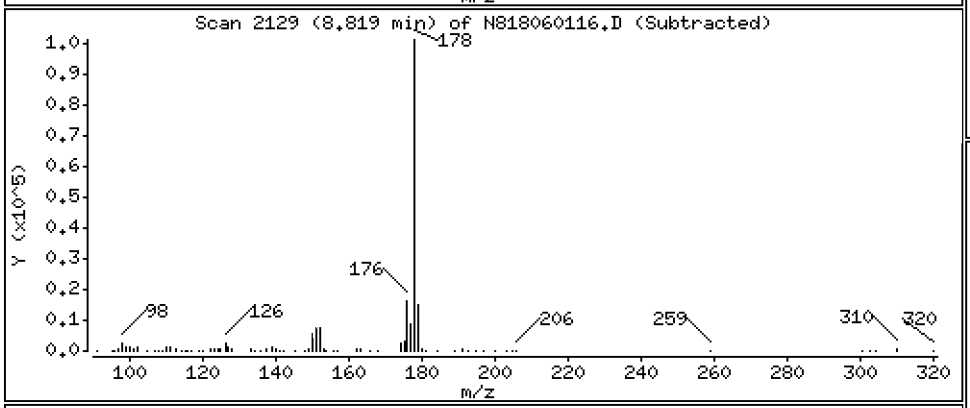
Column diameter: 0.25

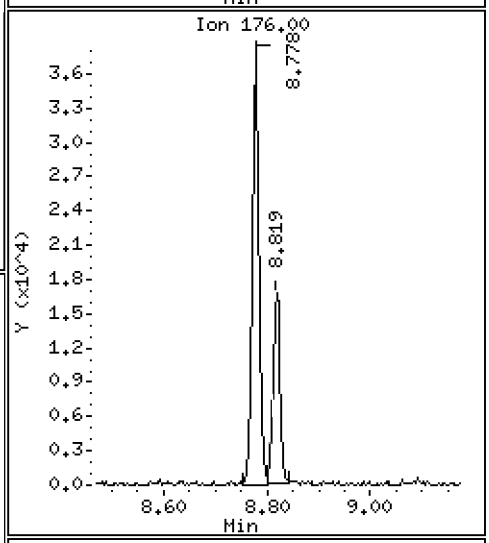
17 Anthracene

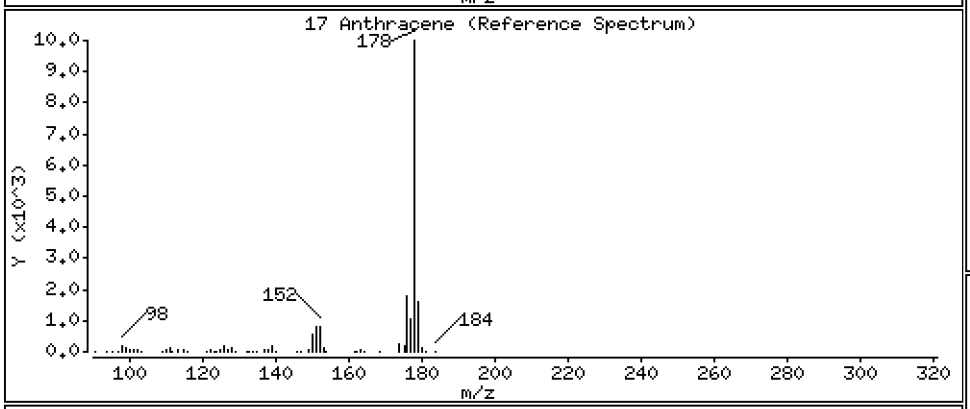
Concentration: 81.13 ug/mL

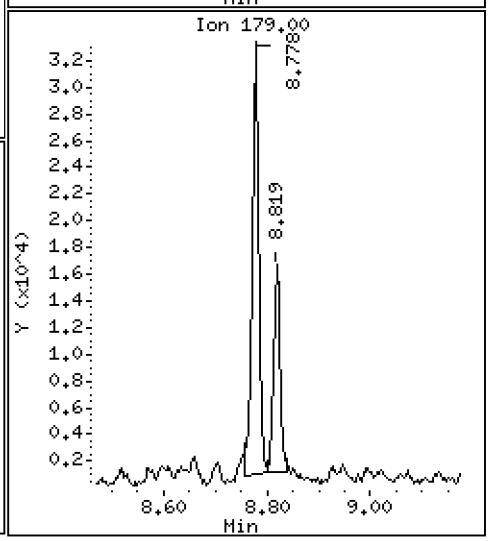


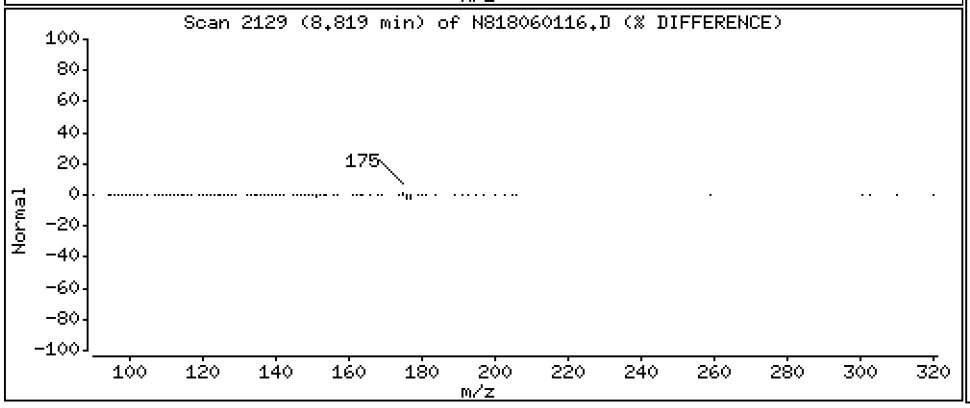












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

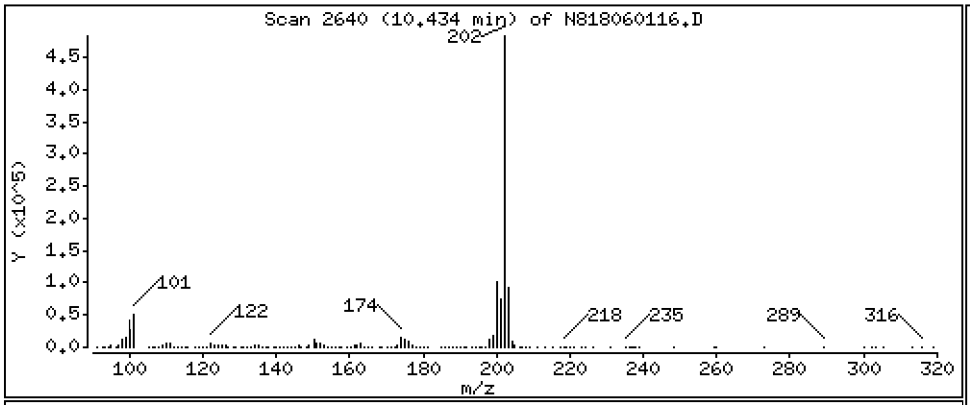
Operator: JZ

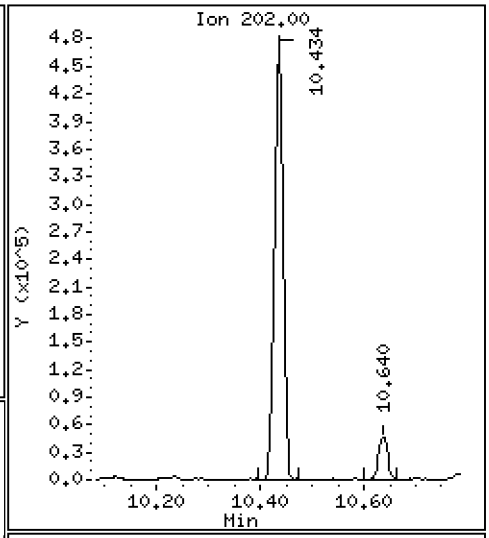
Column phase: Rxi-17sil

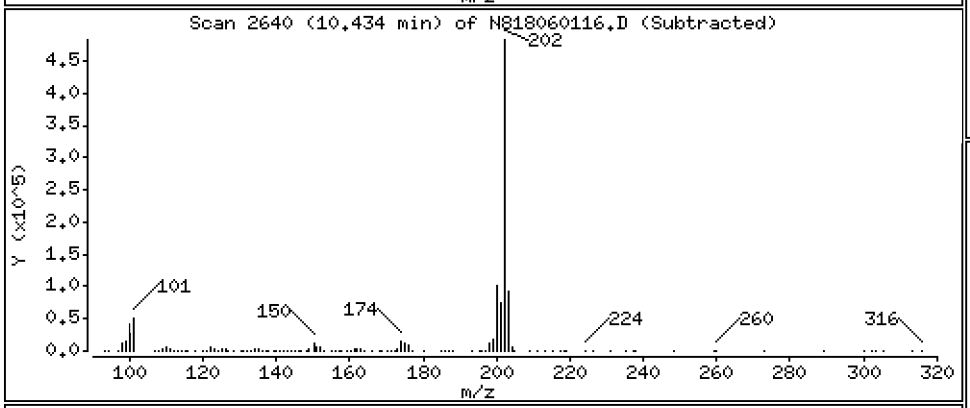
Column diameter: 0.25

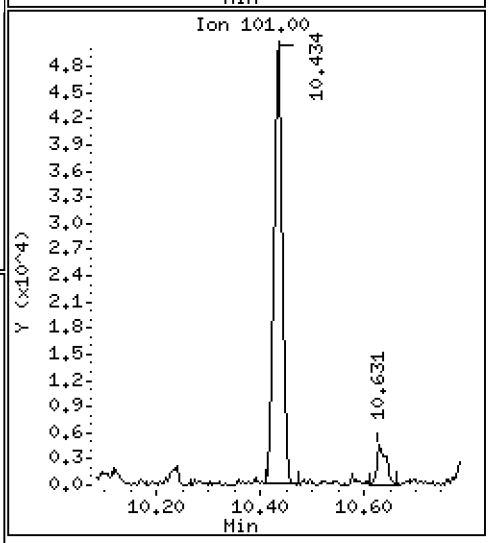
22 Fluoranthene

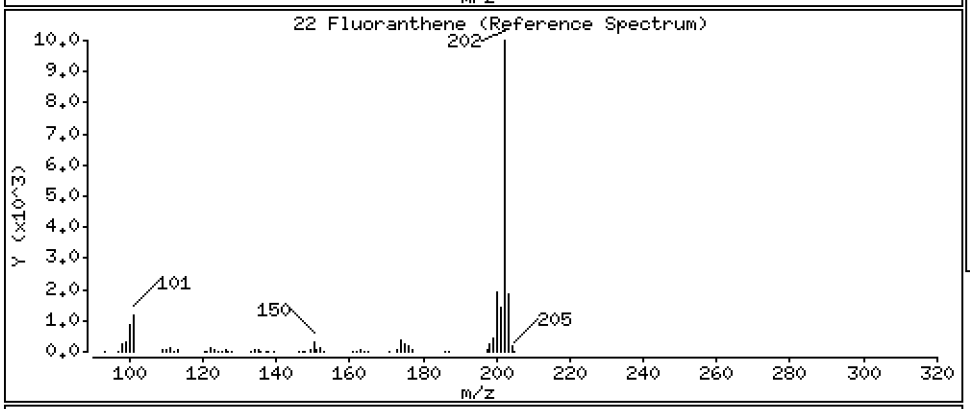
Concentration: 401.6 ug/mL

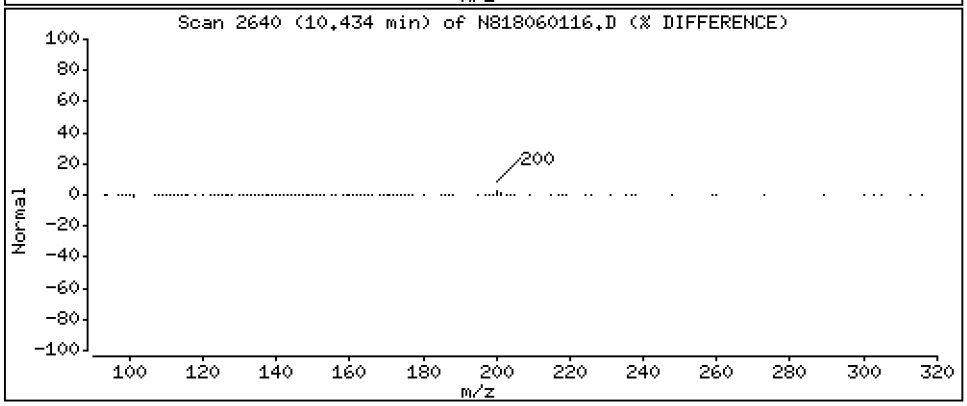












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

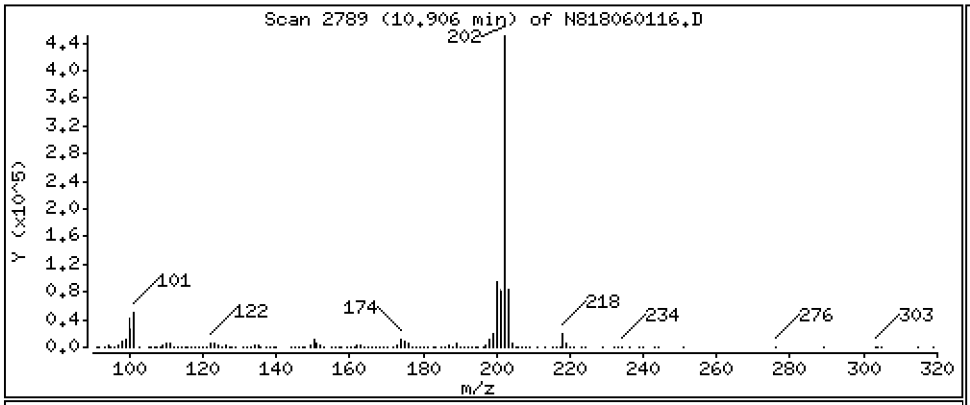
Operator: JZ

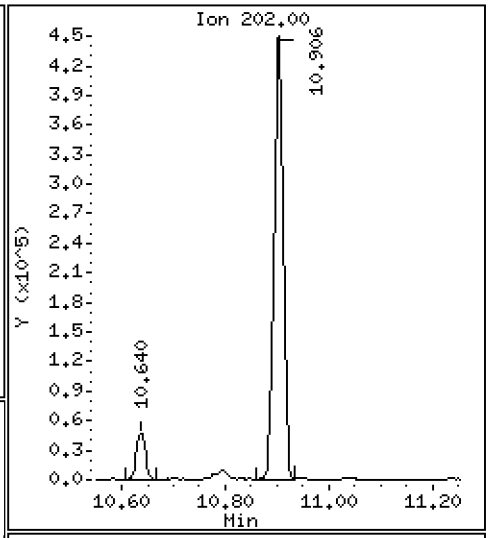
Column phase: Rxi-17sil

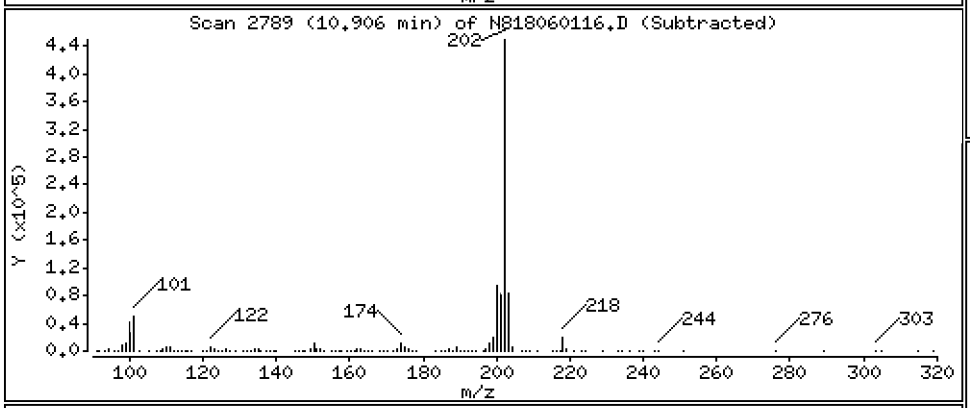
Column diameter: 0.25

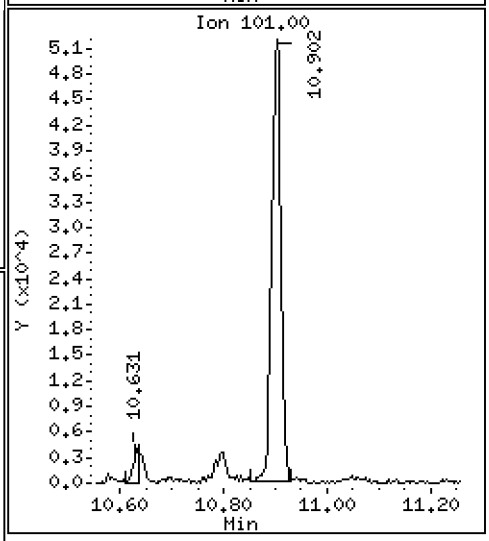
23 Pyrene

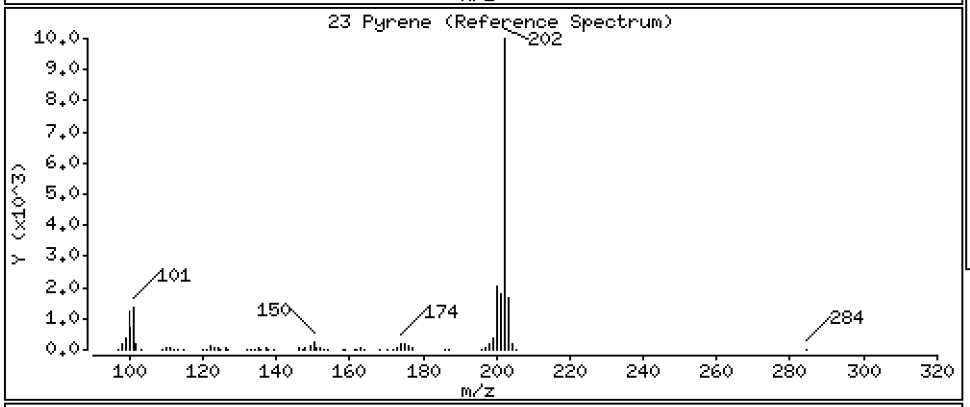
Concentration: 445.4 ug/mL

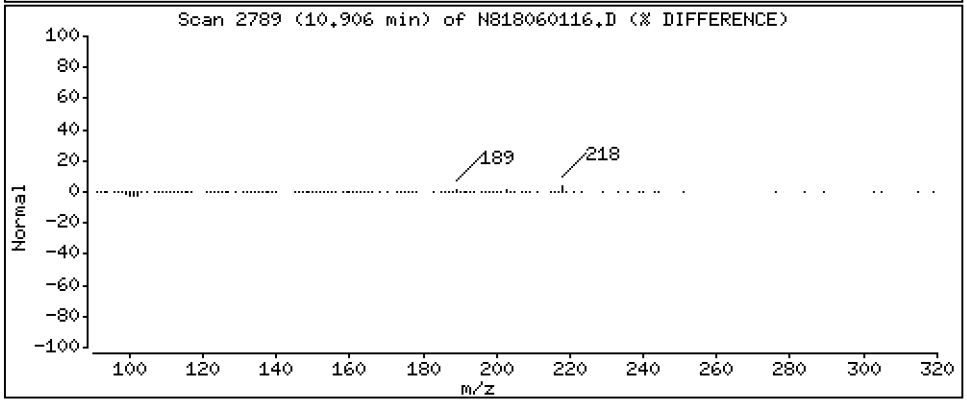












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

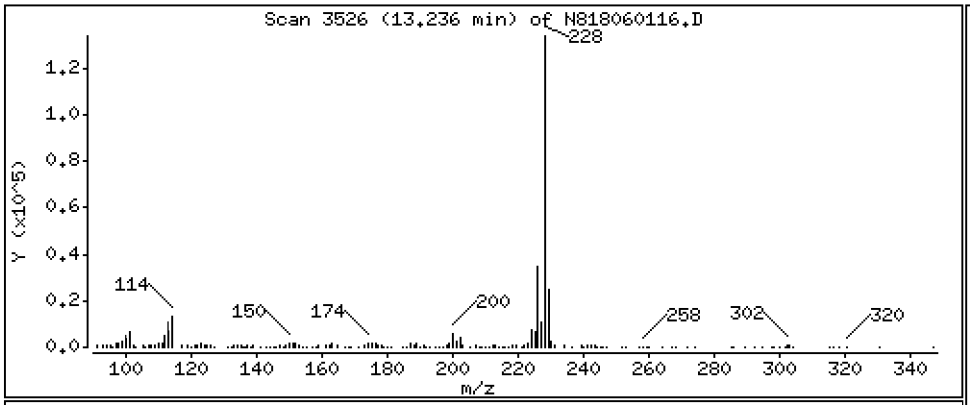
Operator: JZ

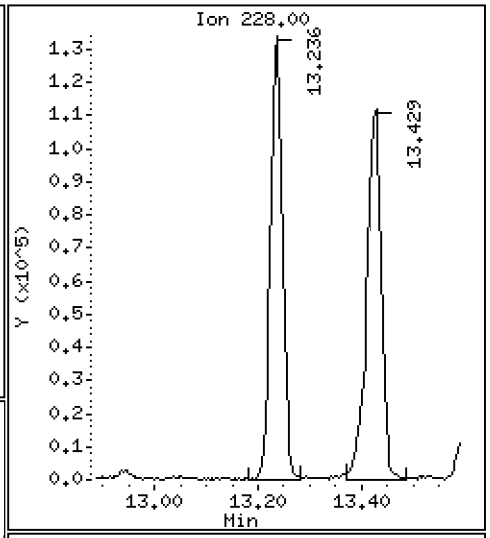
Column phase: Rxi-17sil

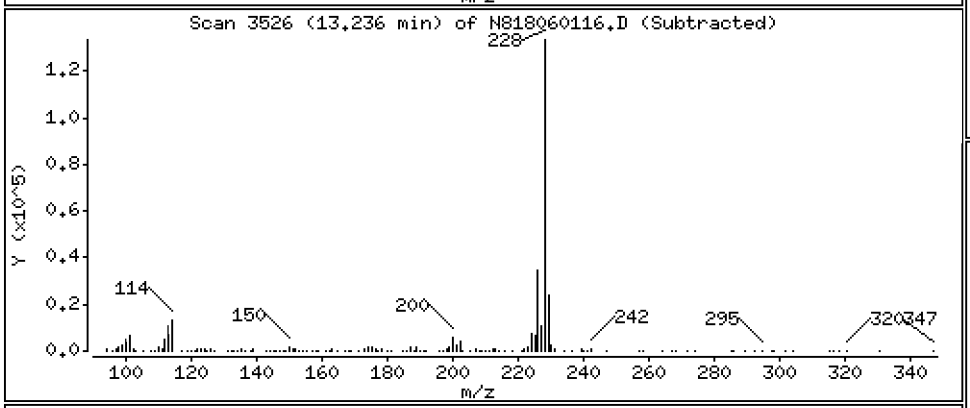
Column diameter: 0.25

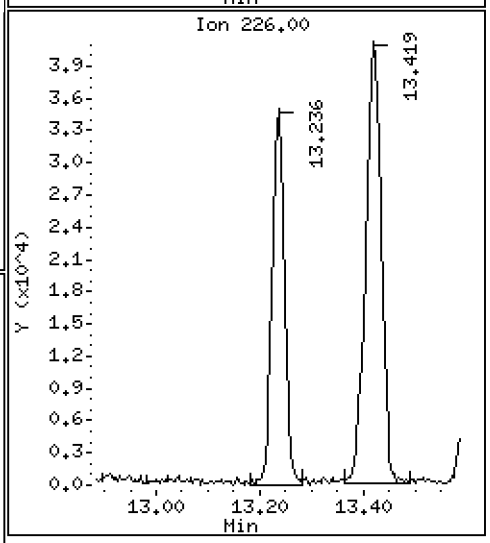
24 Benzo(a)anthracene

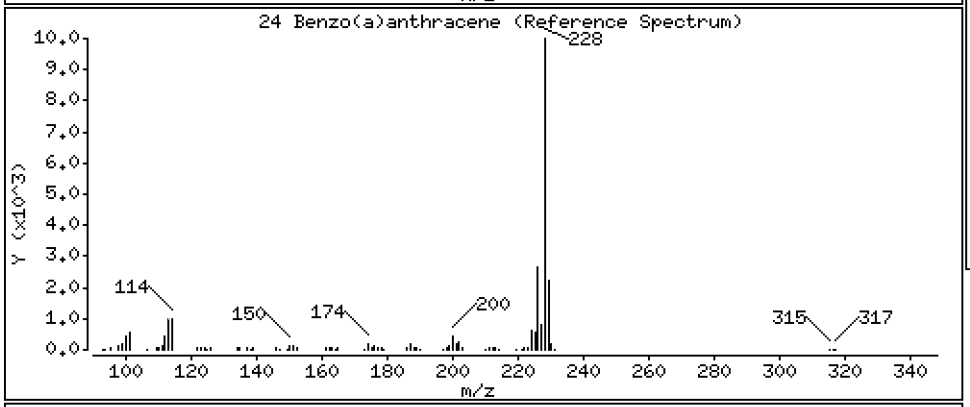
Concentration: 181.3 ug/mL

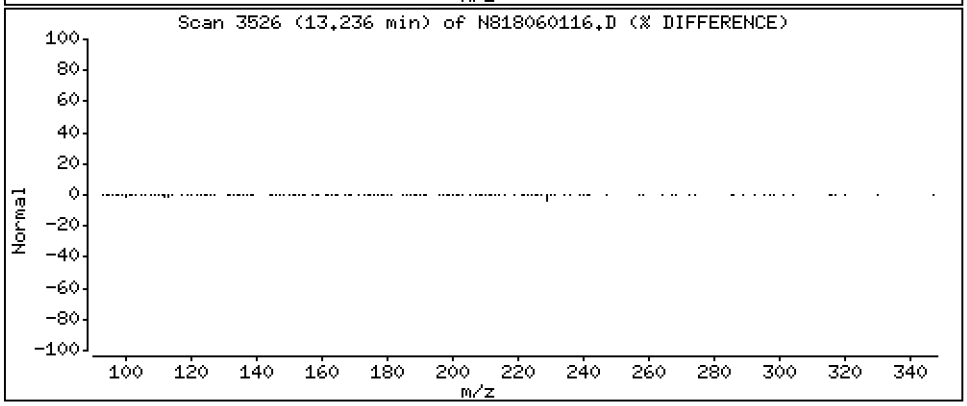












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

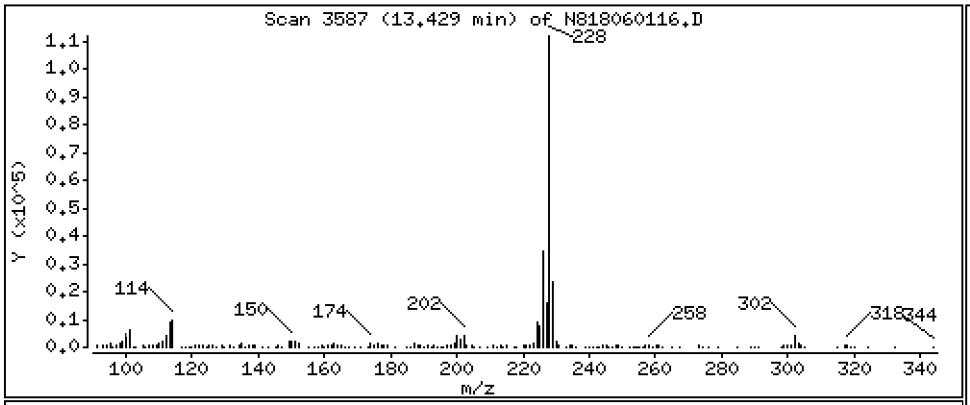
Operator: JZ

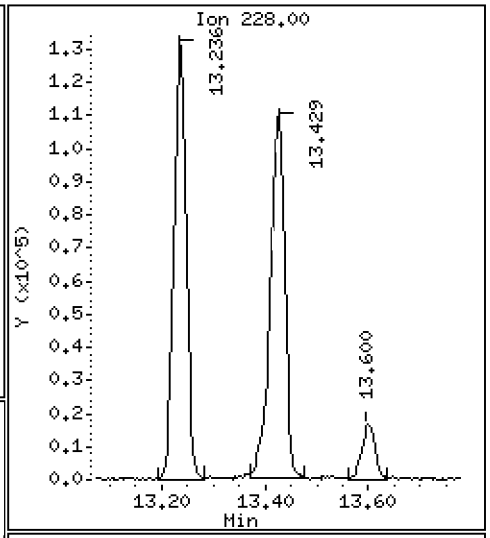
Column phase: Rxi-17sil

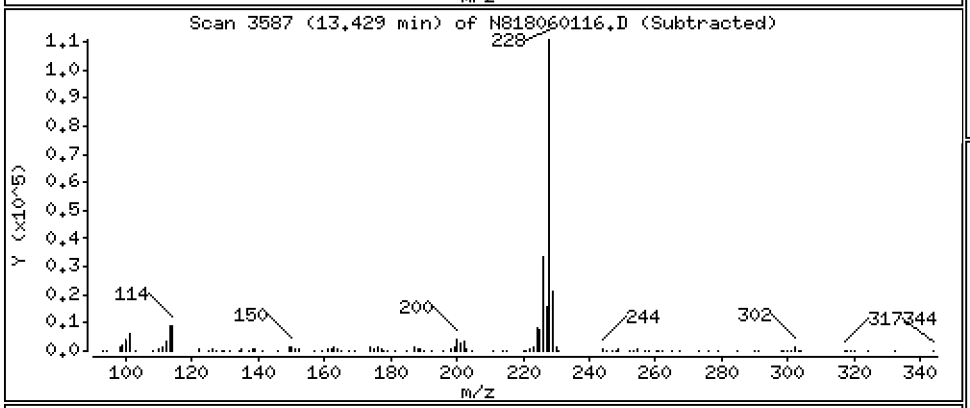
Column diameter: 0.25

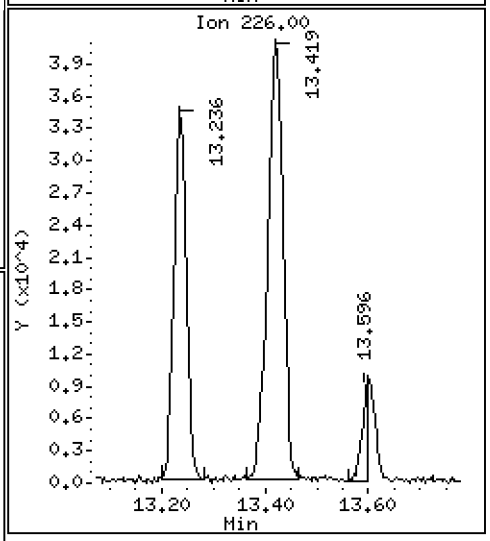
27 Chrysene

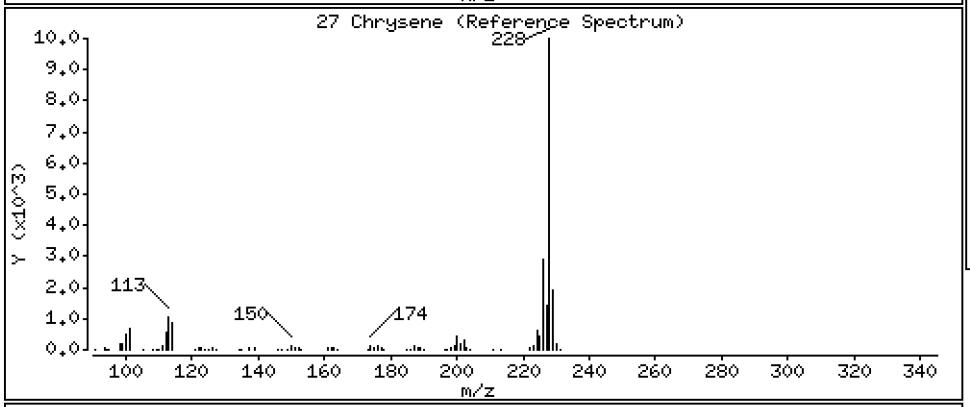
Concentration: 178.7 ug/mL

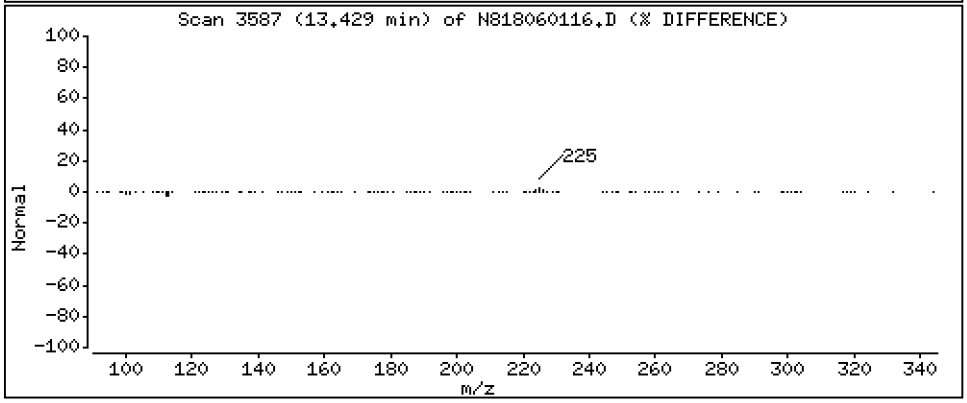












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

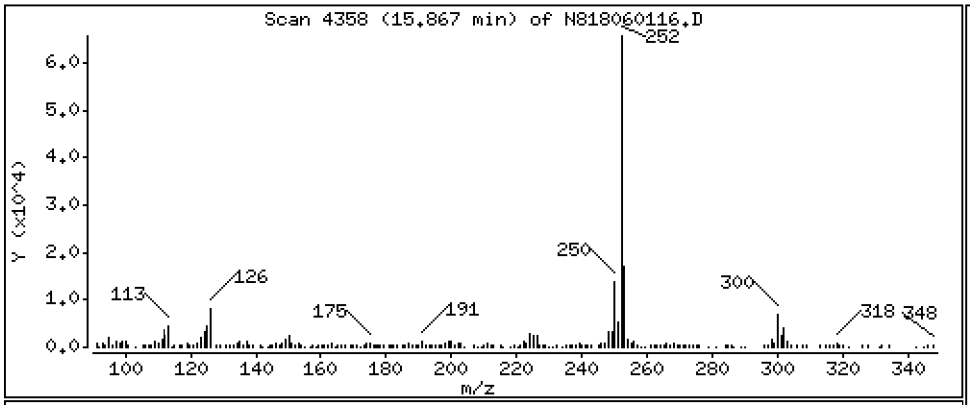
Operator: JZ

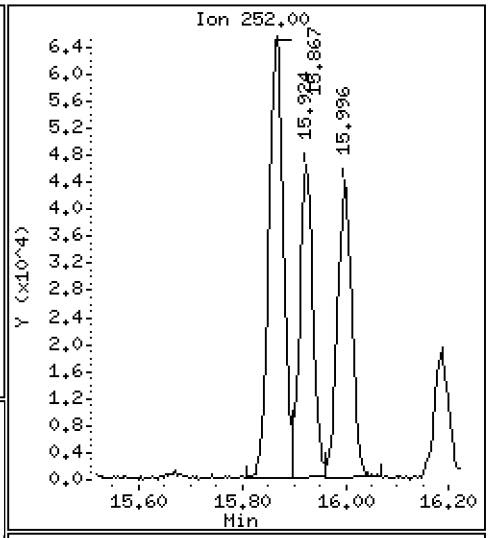
Column phase: Rxi-17sil

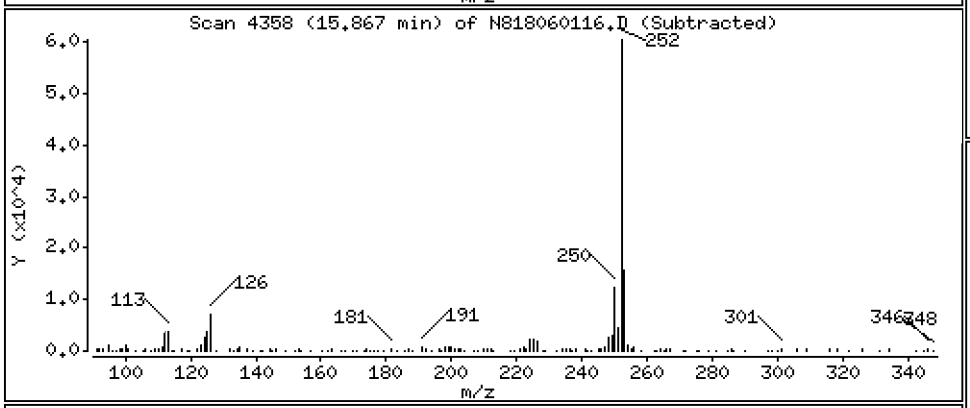
Column diameter: 0.25

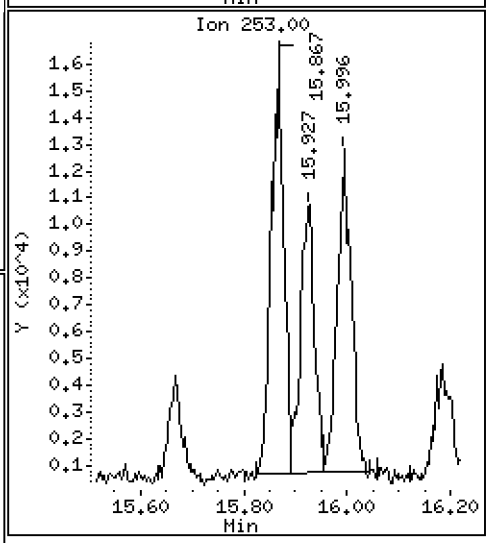
28 Benzo(b)fluoranthene

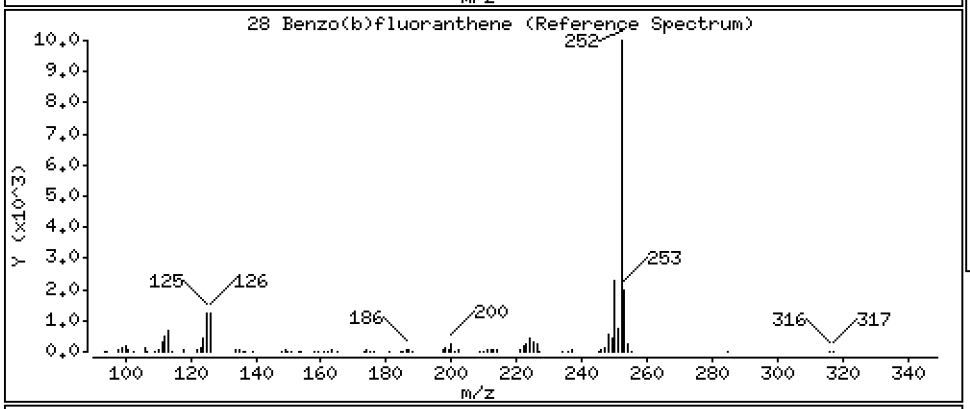
Concentration: 101.8 ug/mL

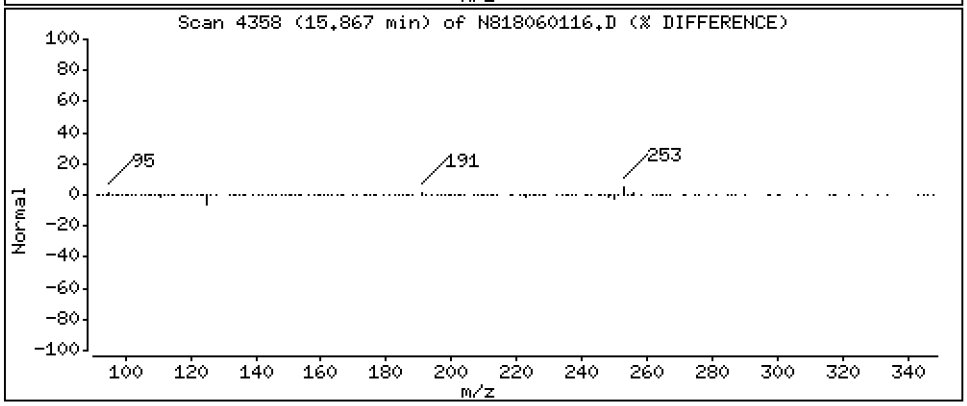












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

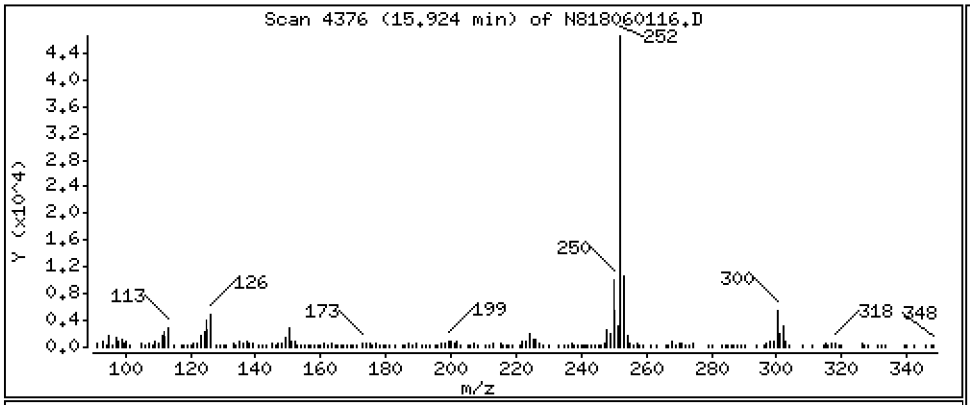
Operator: JZ

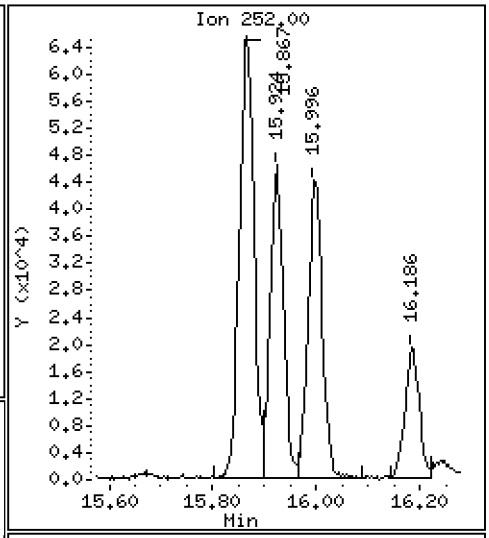
Column phase: Rxi-17sil

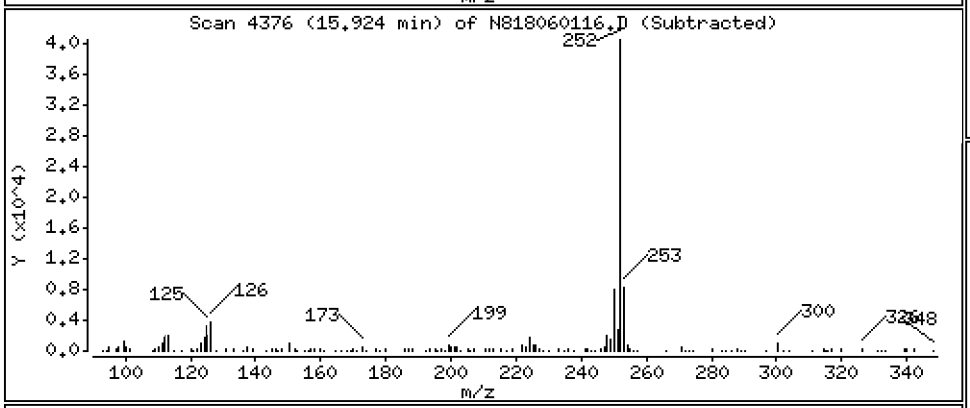
Column diameter: 0.25

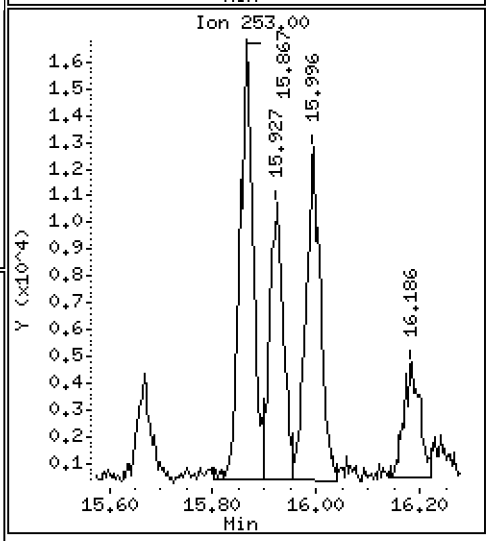
29 Benzo(k)fluoranthene

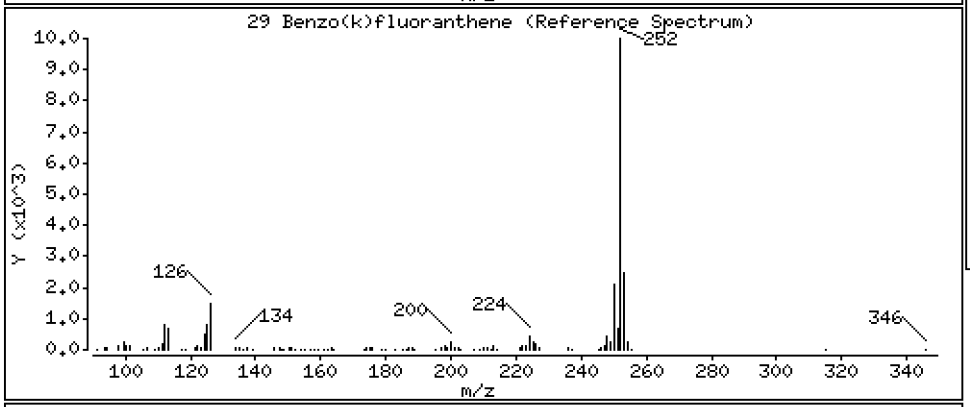
Concentration: 67.30 ug/mL

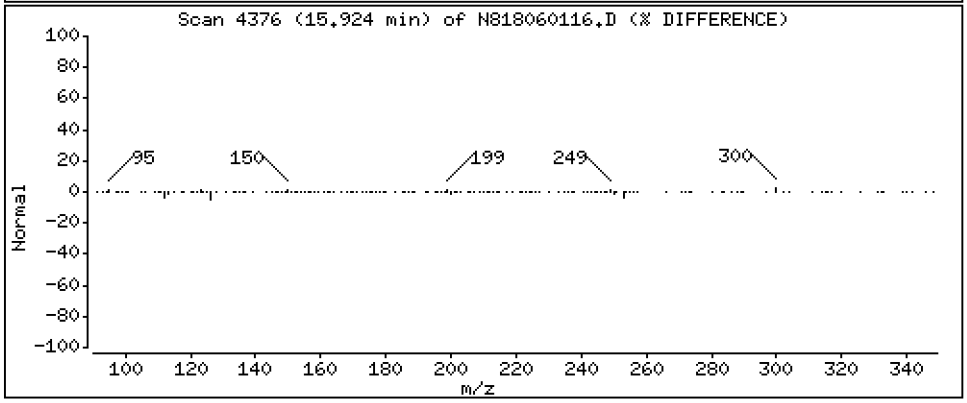












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

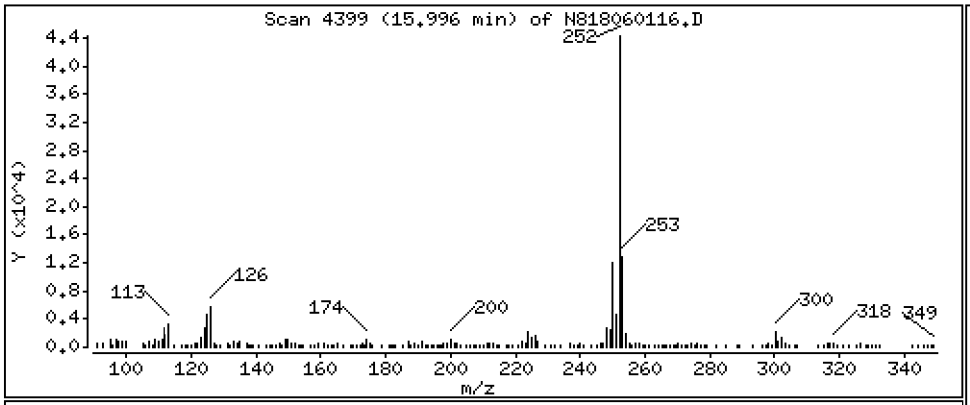
Operator: JZ

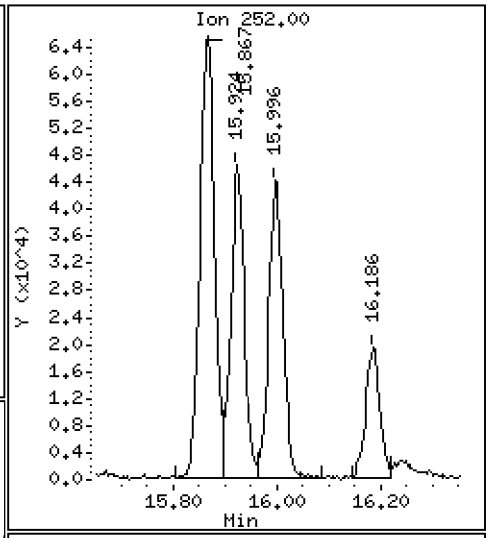
Column phase: Rxi-17sil

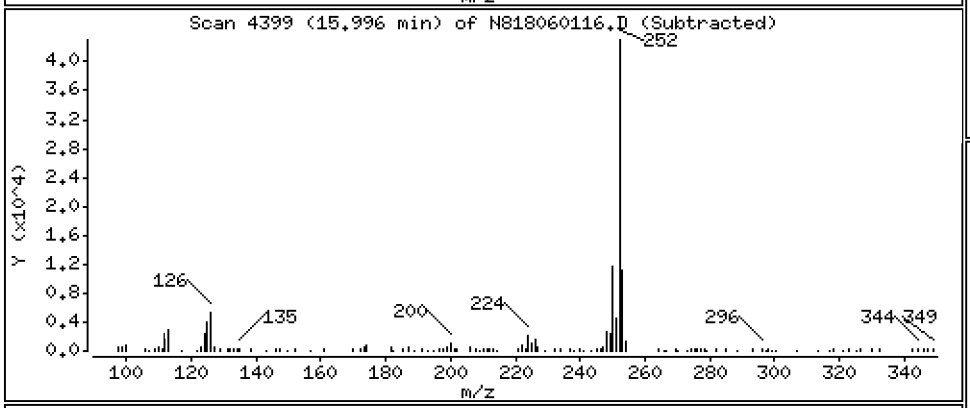
Column diameter: 0.25

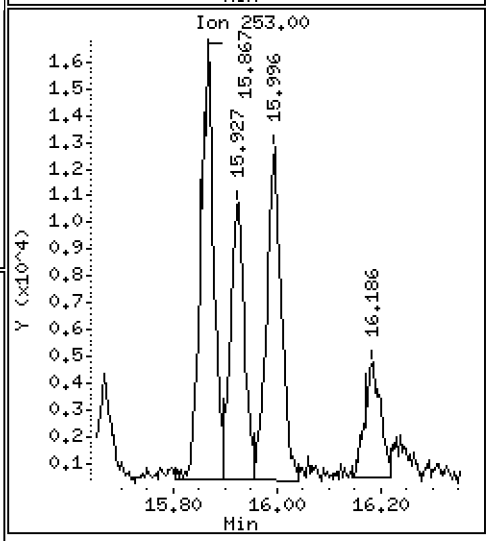
30 Benzo(j)fluoranthene

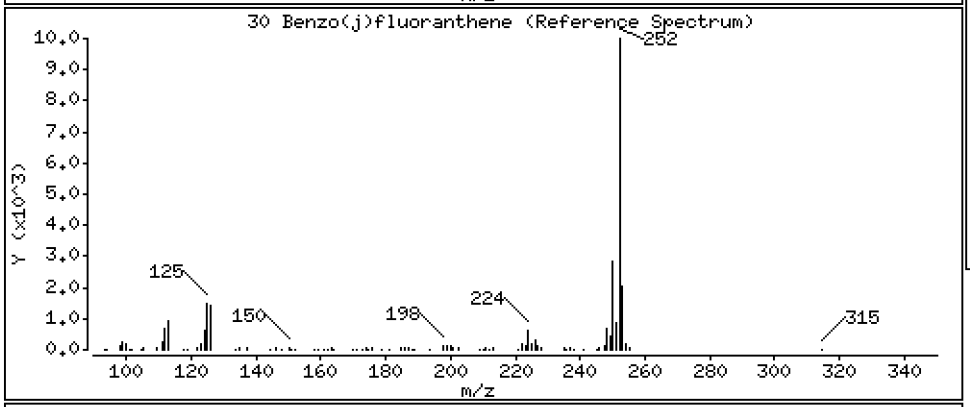
Concentration: 68.10 ug/mL

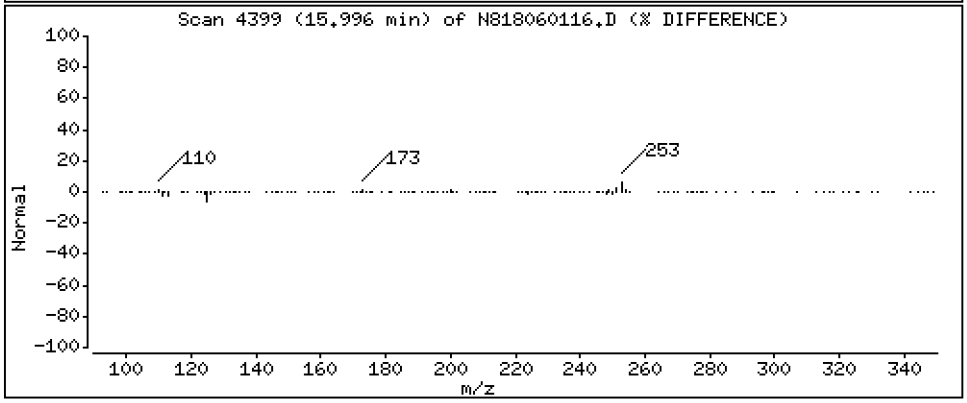












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

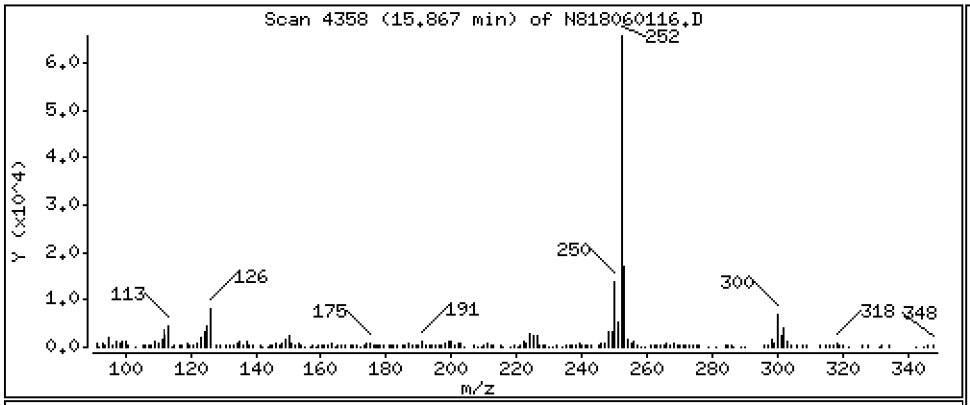
Operator: JZ

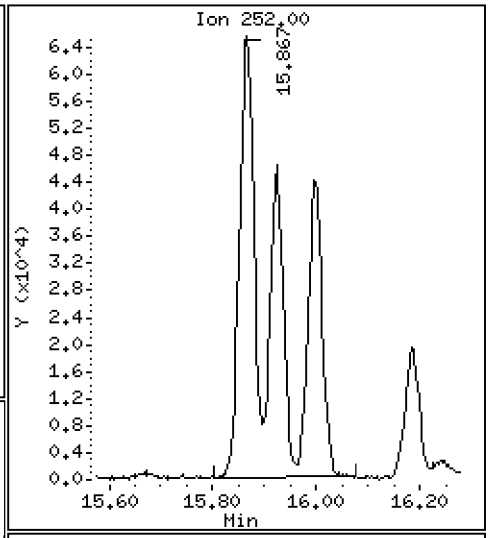
Column phase: Rxi-17sil

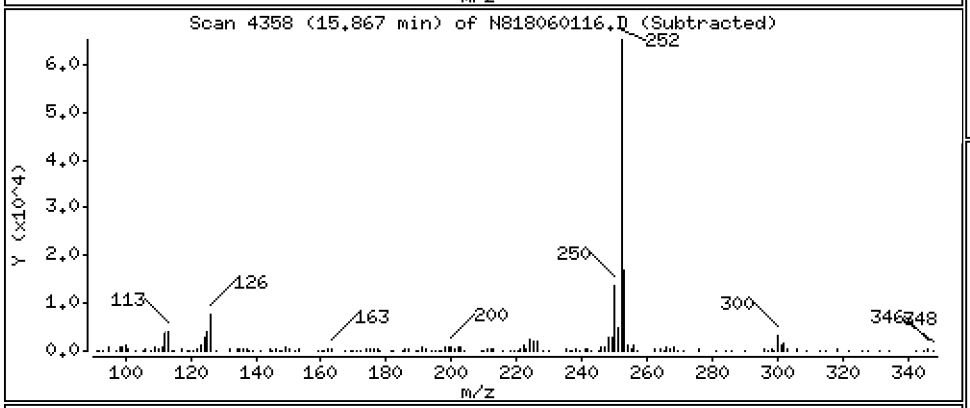
Column diameter: 0.25

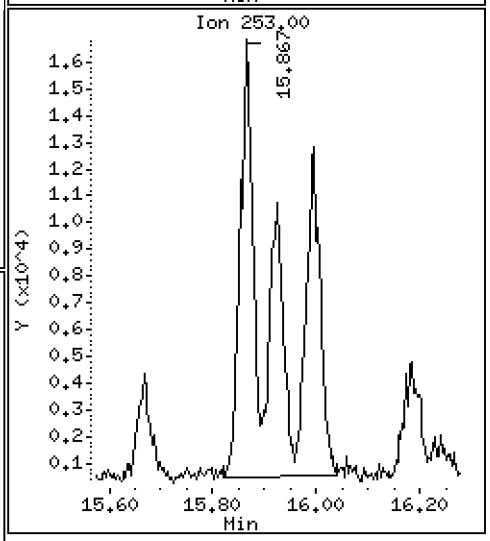
31 Total Benzofluoranthenes

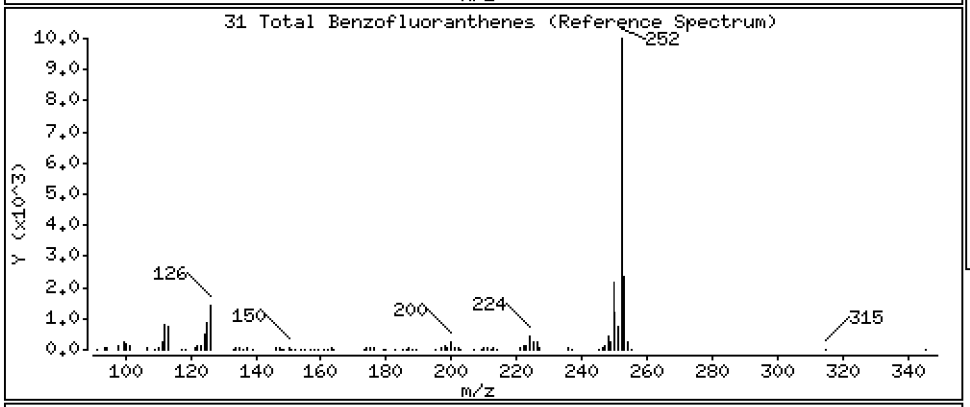
Concentration: 238.4 ug/mL

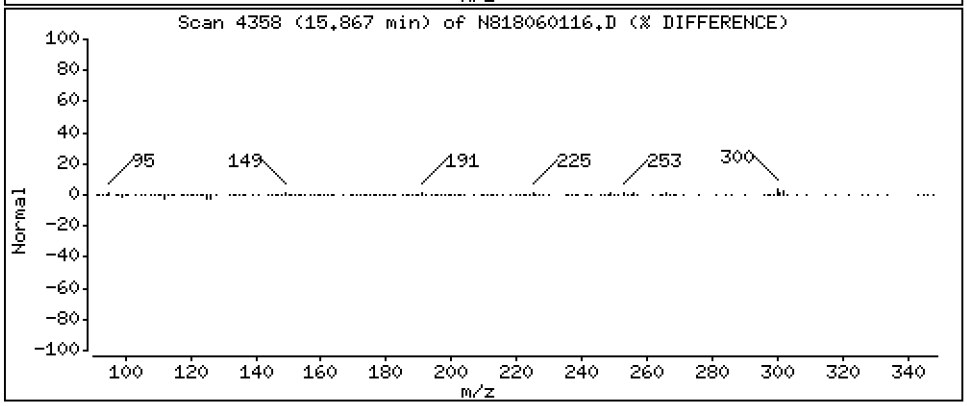












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

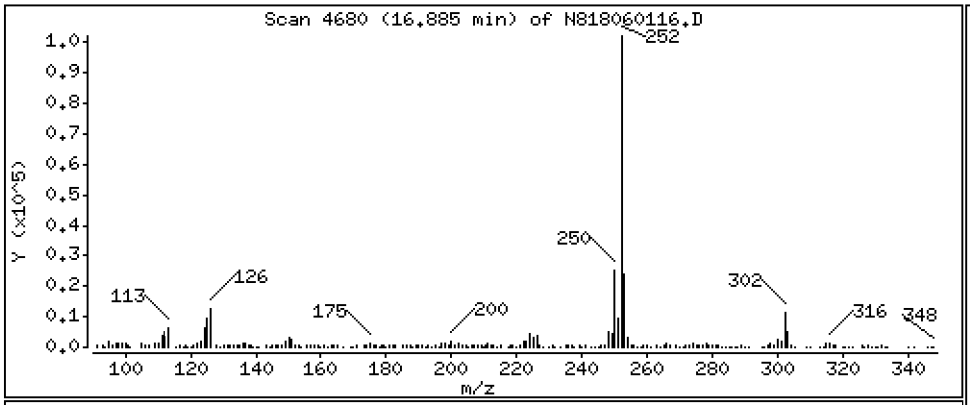
Operator: JZ

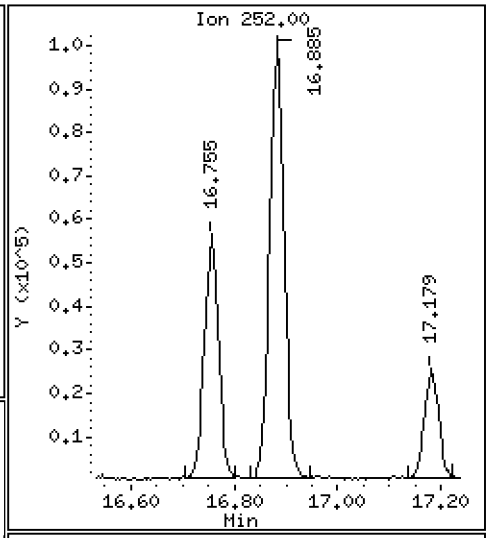
Column phase: Rxi-17sil

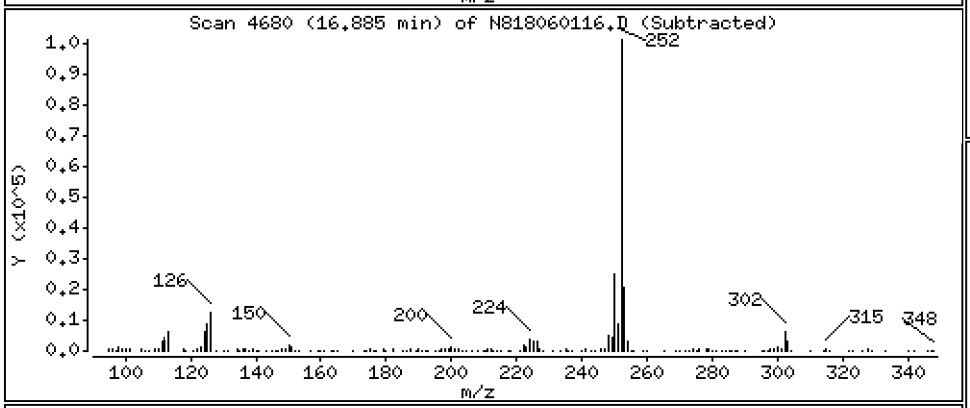
Column diameter: 0.25

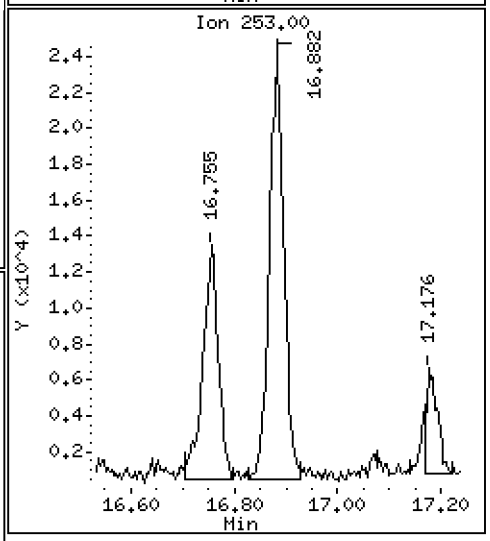
32 Benzo(a)pyrene

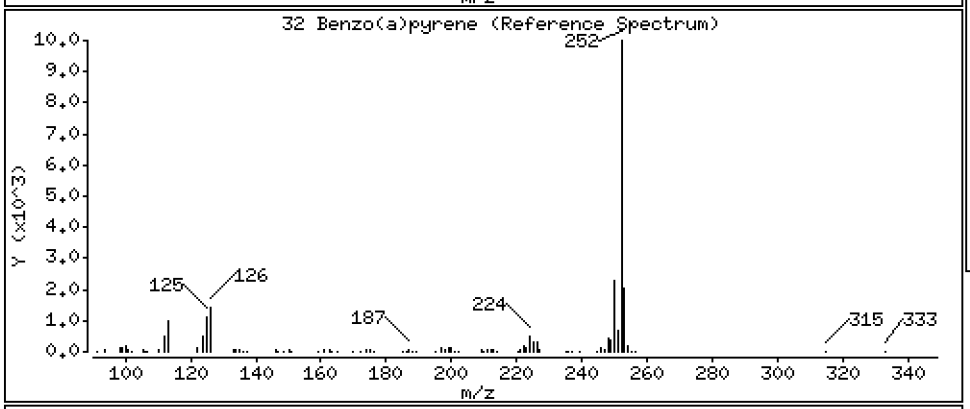
Concentration: 177.8 ug/mL

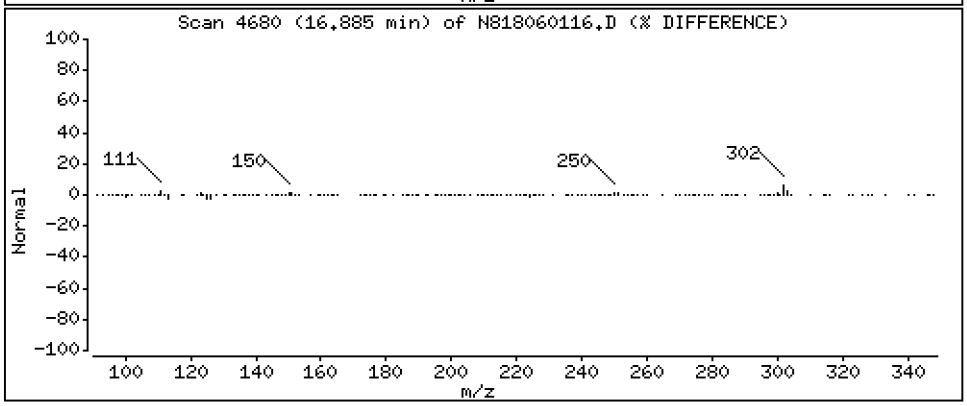












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

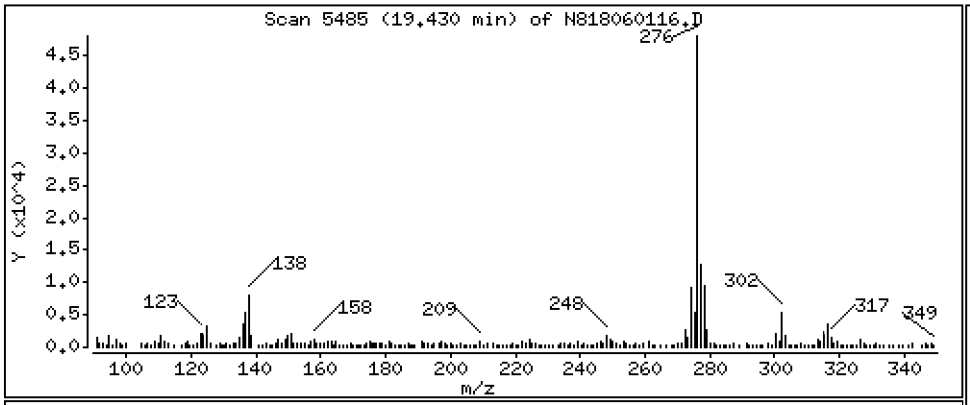
Operator: JZ

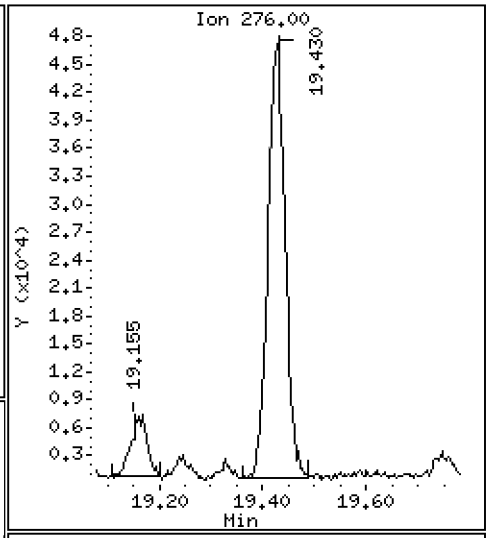
Column phase: Rxi-17sil

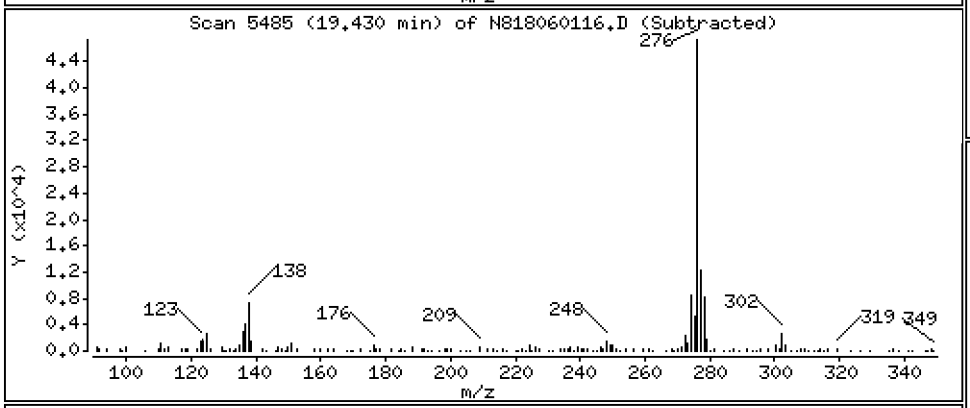
Column diameter: 0.25

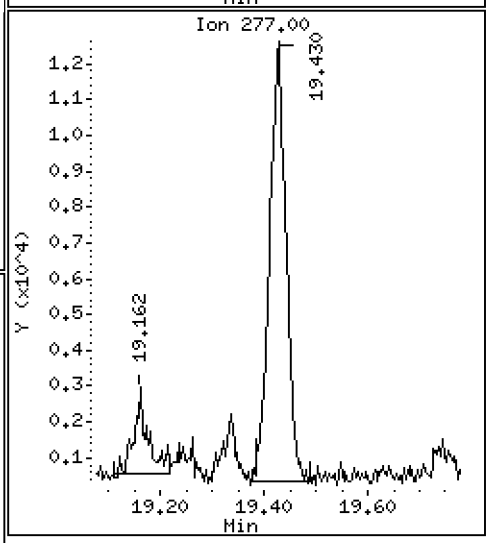
37 Indeno(1,2,3-cd)pyrene

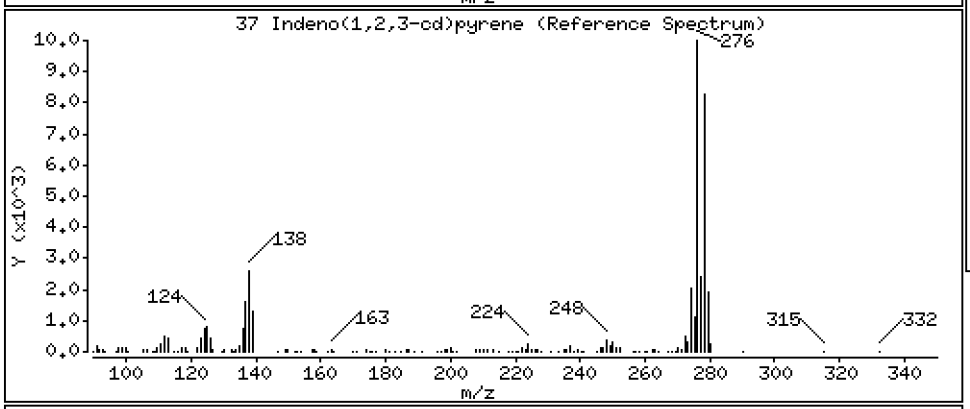
Concentration: 85.22 ug/mL

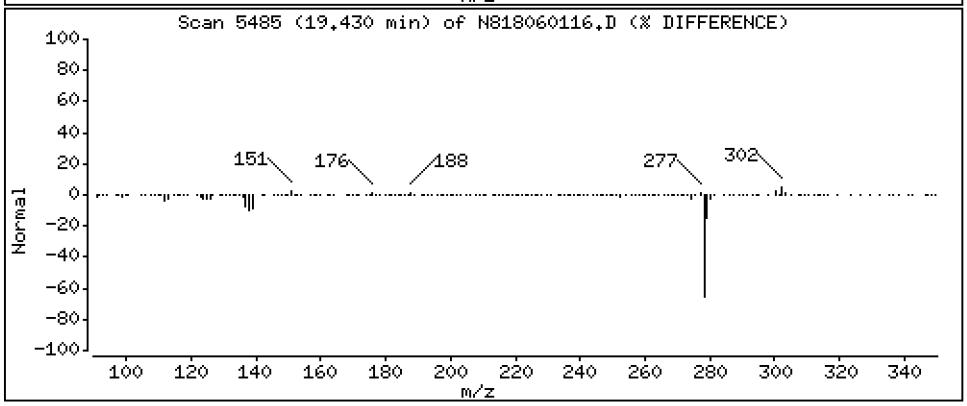












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

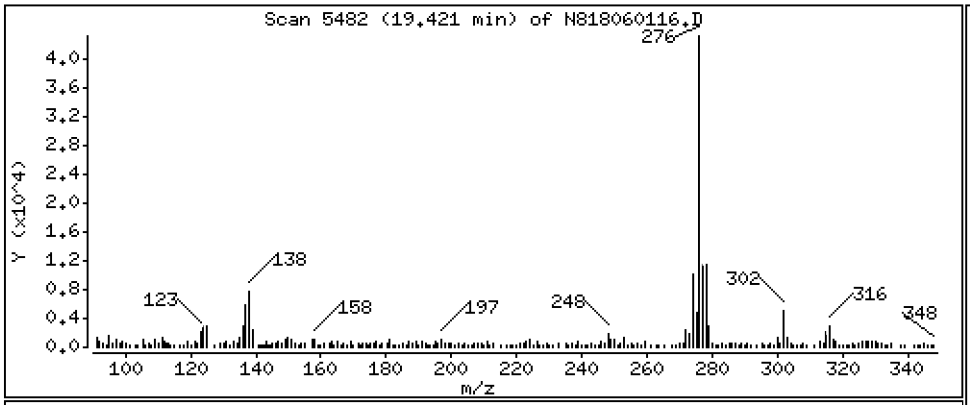
Operator: JZ

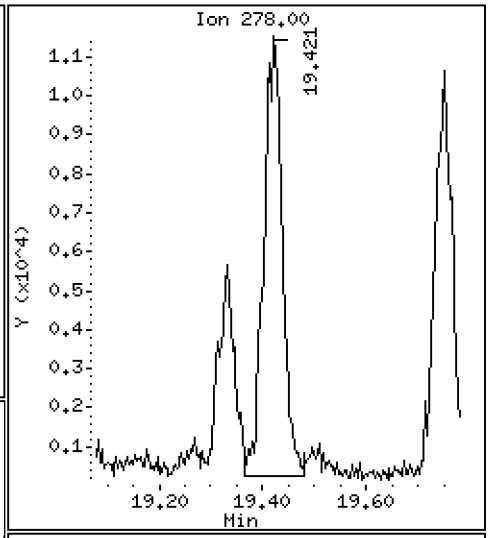
Column phase: Rxi-17sil

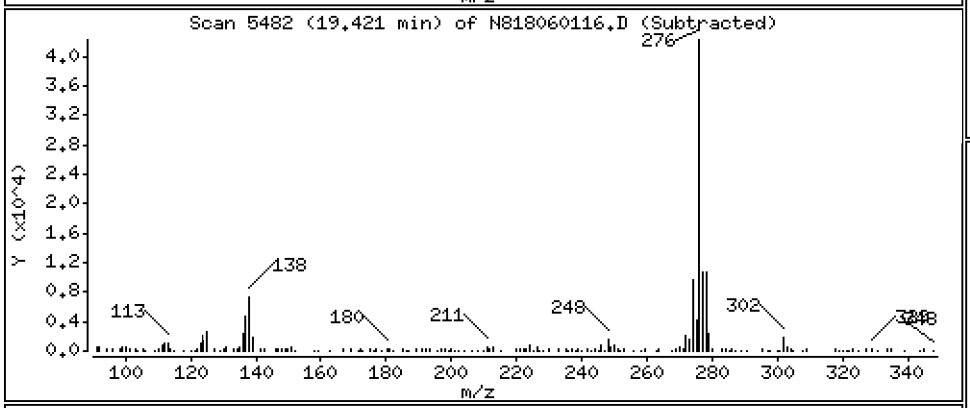
Column diameter: 0.25

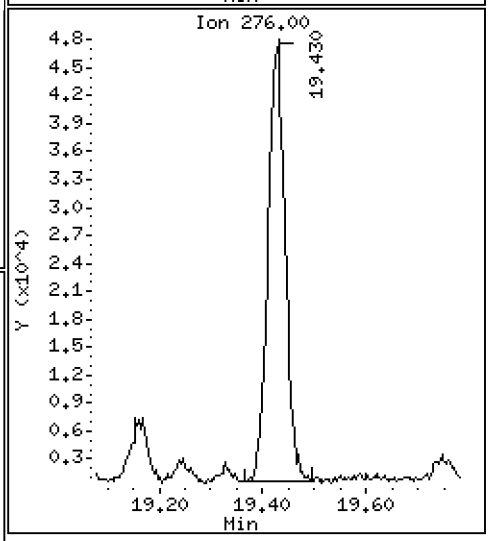
38 Dibenzo(a,h)anthracene

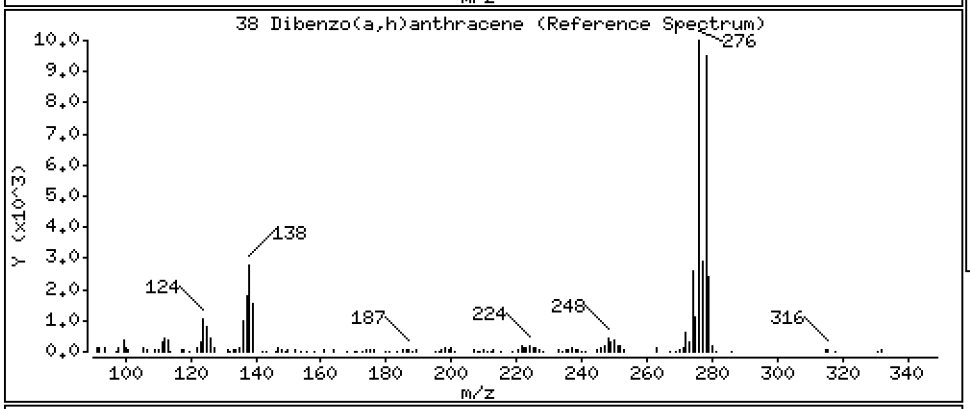
Concentration: 27.23 ug/mL

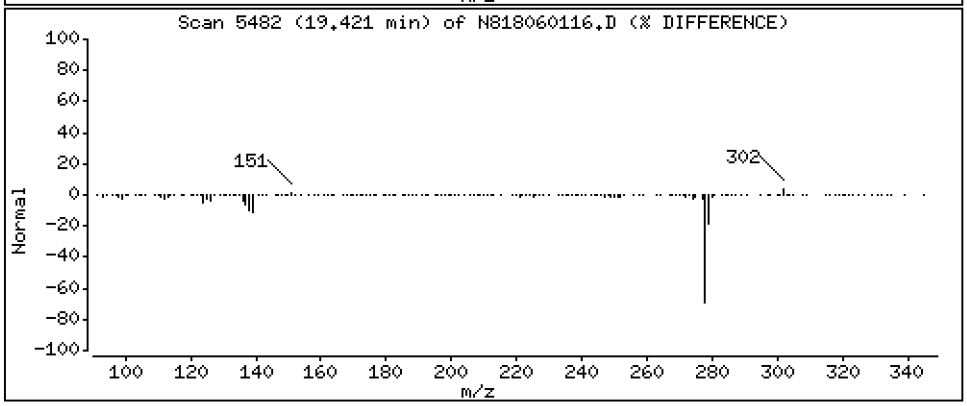












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

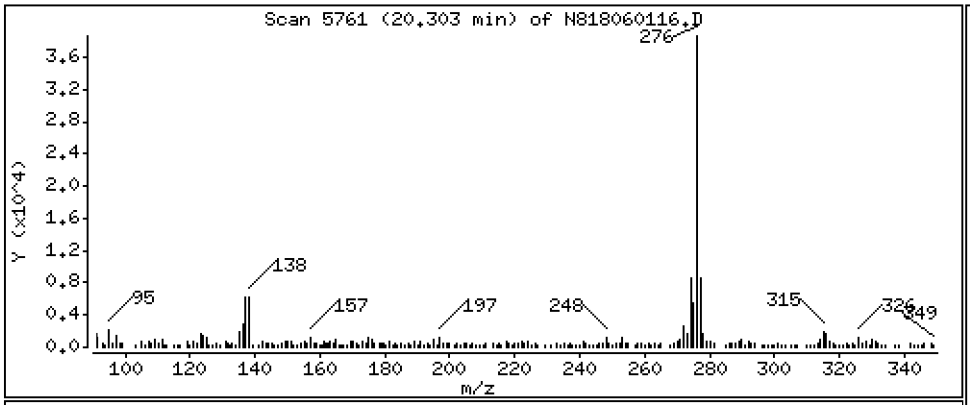
Operator: JZ

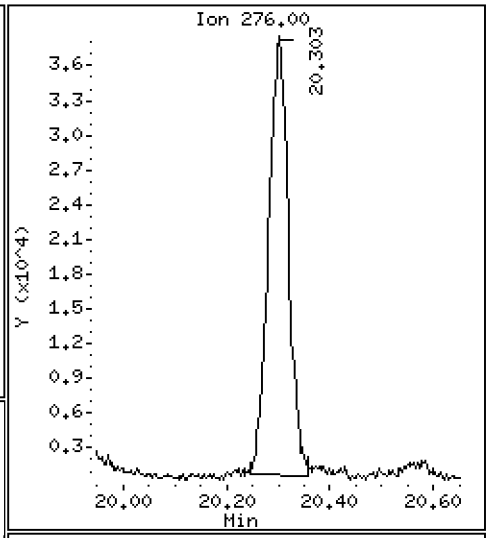
Column phase: Rxi-17sil

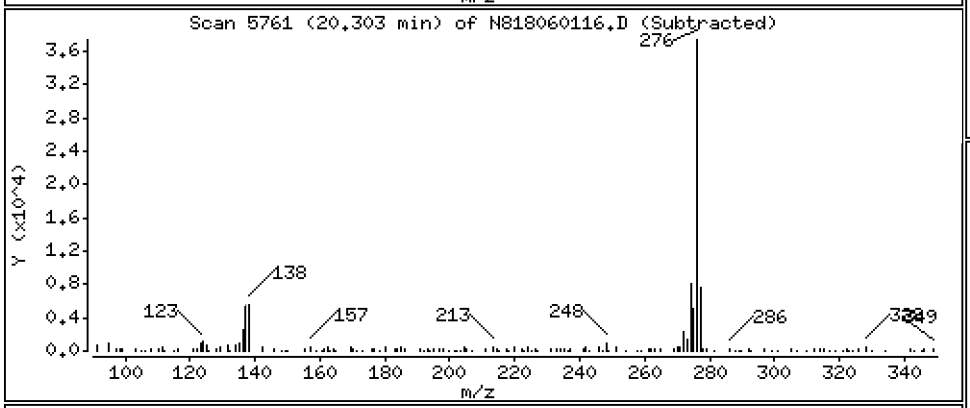
Column diameter: 0.25

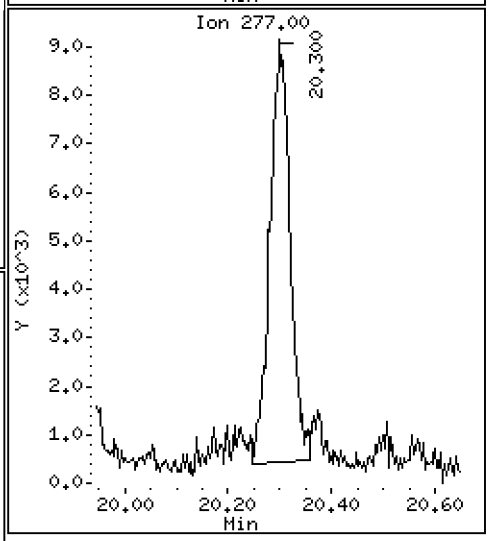
39 Benzo(g,h,i)perylene

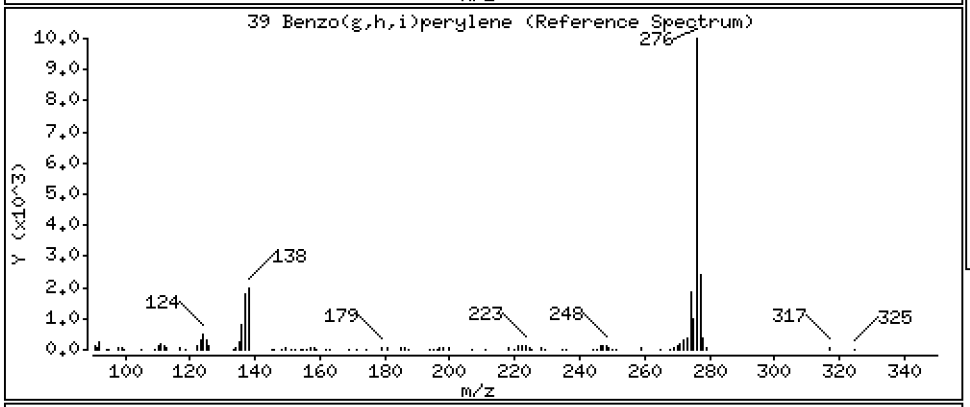
Concentration: 91.38 ug/mL

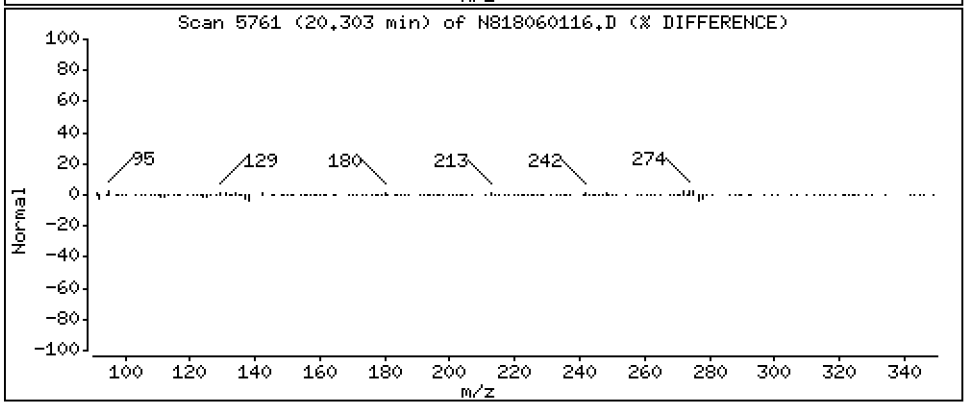












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060116.D

Date : 01-JUN-2018 21:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-03RE1

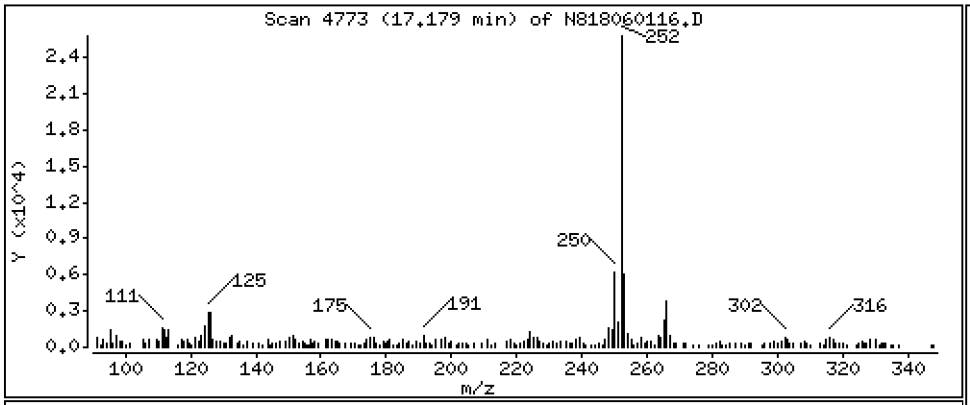
Operator: JZ

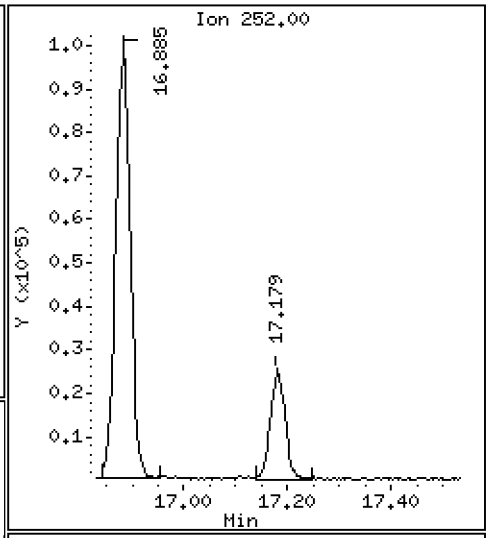
Column phase: Rxi-17sil

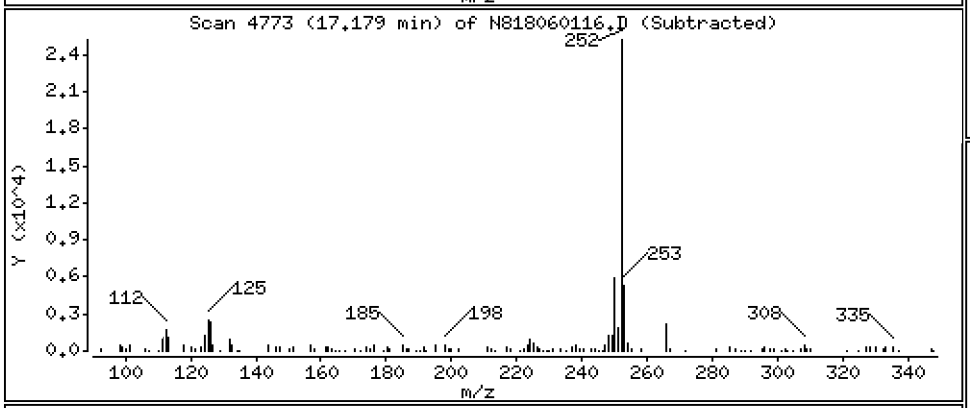
Column diameter: 0.25

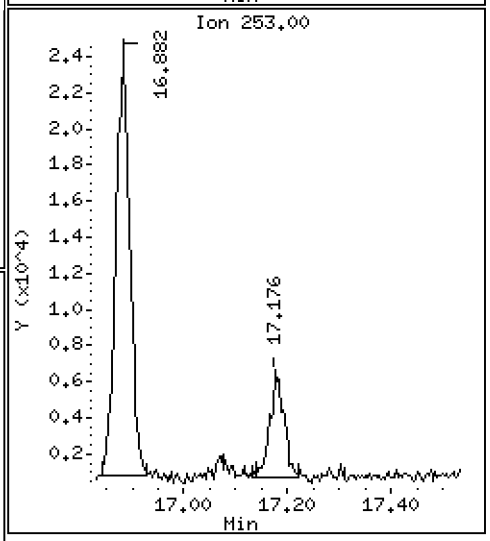
35 Perylene

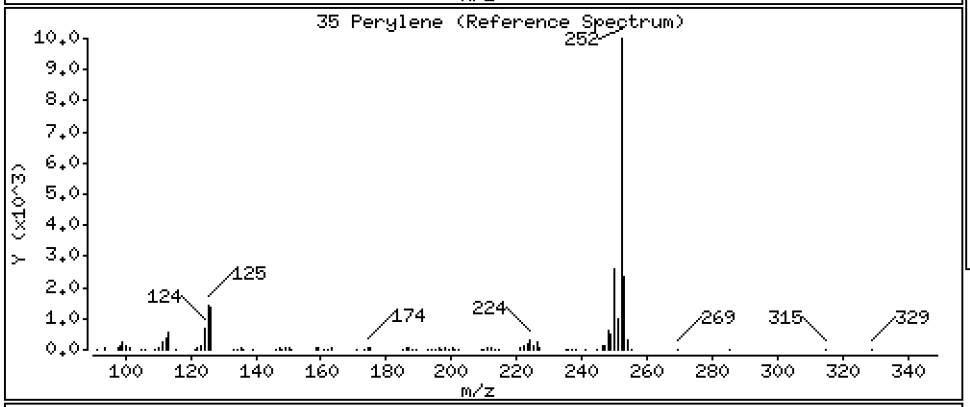
Concentration: 41.48 ug/mL

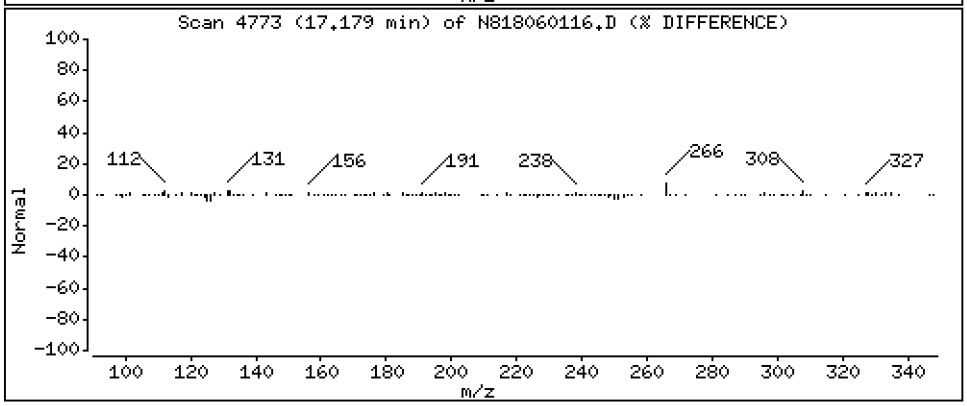












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060116.D
Lab Smp Id: 18E0243-03RE1
Inj Date : 01-JUN-2018 21:06
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-03RE1
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 16
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.464	4.464	(1.000)	198694	2.00000	
	2 Naphthalene	128	4.489	4.492	(1.006)	21855	0.18927	18.93
$	3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	6.614	6.617	(0.984)	27190	0.25090	25.09
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	109149	2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.008)	10539	0.12686	12.69
	12 Dibenzofuran	168	6.927	6.927	(1.030)	9019	0.08074	8.074
	14 Fluorene	166	7.398	7.402	(1.100)	17183	0.19908	19.91
*	15 Phenanthrene-d10	188	8.742	8.745	(1.000)	204659	2.00000	
	16 Phenanthrene	178	8.777	8.780	(1.004)	192100	1.53144	153.1
	17 Anthracene	178	8.818	8.821	(1.009)	92722	0.81129	81.13
	22 Fluoranthene	202	10.434	10.434	(1.193)	567729	4.01597	401.6
$	21 Fluoranthene-d10	212	Compound Not Detected.					
	23 Pyrene	202	10.905	10.902	(0.816)	559276	4.45364	445.4
	24 Benzo(a)anthracene	228	13.235	13.239	(0.991)	220131	1.81312	181.3
*	25 Chrysene-d12	240	13.359	13.356	(1.000)	208963	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	218359	1.78668	178.7
	28 Benzo(b)fluoranthene	252	15.866	15.869	(0.927)	128768	1.01780	101.8
	29 Benzo(k)fluoranthene	252	15.923	15.926	(0.931)	83722	0.67298	67.30
	30 Benzo(j)fluoranthene	252	15.996	16.002	(0.935)	84832	0.68102	68.10
	31 Total Benzofluoranthenes	252	15.866	15.926	(0.927)	294113	2.38368	238.4(M)
	32 Benzo(a)pyrene	252	16.884	16.884	(0.987)	197105	1.77754	177.8
*	33 Perylene-d12	264	17.109	17.112	(1.000)	199072	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.430	19.430	(1.136)	108188	0.85222	85.22
$	36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	19.420	19.430	(1.135)	28518	0.27233	27.23
	39 Benzo(g,h,i)perylene	276	20.302	20.299	(1.187)	101388	0.91381	91.38
	35 Perylene	252	17.178	17.181	(1.004)	49940	0.41477	41.48

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060116.D
Lab Smp Id: 18E0243-03RE1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	198694	62.61
10 Acenaphthene-d10	65789	32895	131578	109149	65.91
15 Phenanthrene-d10	128644	64322	257288	204659	59.09
25 Chrysene-d12	166669	83335	333338	208963	25.38
33 Perylene-d12	140483	70242	280966	199072	41.71

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.74	-0.03
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.02
33 Perylene-d12	17.11	16.61	17.61	17.11	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060116.D

Lab ID: 18E0243-03RE1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 21:06

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

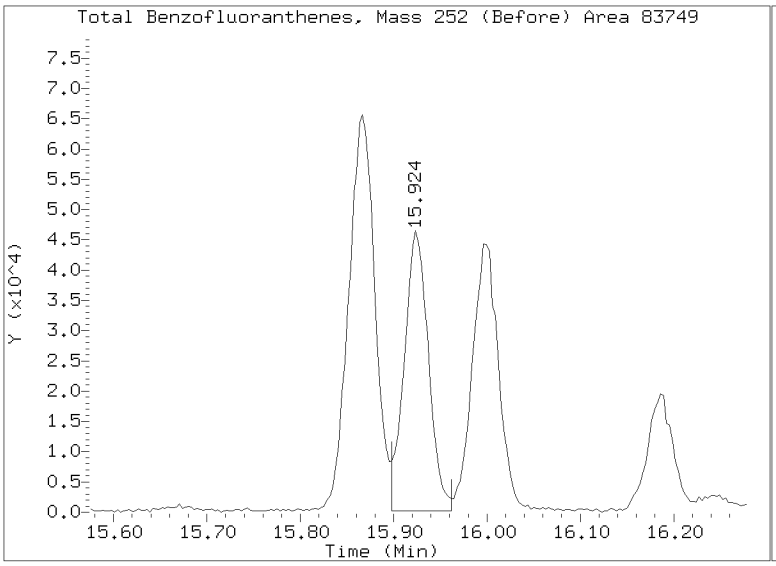
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

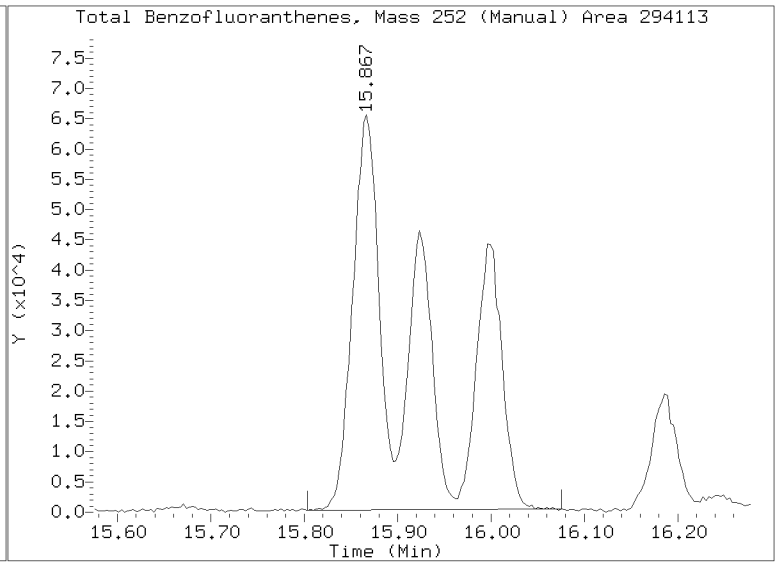
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060116.D
Injection Date: 01-JUN-2018 21:06
Lab ID:18E0243-03RE1 Client ID:
Report Date: 06/04/2018 10:35





LDW18-SSCL-A05

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-04	SDG:	18E0231
Sampled:	05/16/18 13:00	Prepared:	05/24/18 10:50	File ID:	N818060111.D
% Solids:	65.89	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 18:52
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	15.24 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	56.4		0.82	4.98
218-01-9	Chrysene	1	116		1.05	4.98
205-99-2	Benzo(b)fluoranthene	1	92.5		1.37	4.98
207-08-9	Benzo(k)fluoranthene	1	45.9		0.76	4.98
50-32-8	Benzo(a)pyrene	1	76.2		0.61	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	51.2		1.05	4.98
53-70-3	Dibenzo(a,h)anthracene	1	12.8		0.89	4.98

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.38	65.0	43.5	32 - 120	
Dibenzo[a,h]anthracene-d14	149.38	103	69.0	21 - 133	
Fluoranthene-d10	149.38	87.5	58.6	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

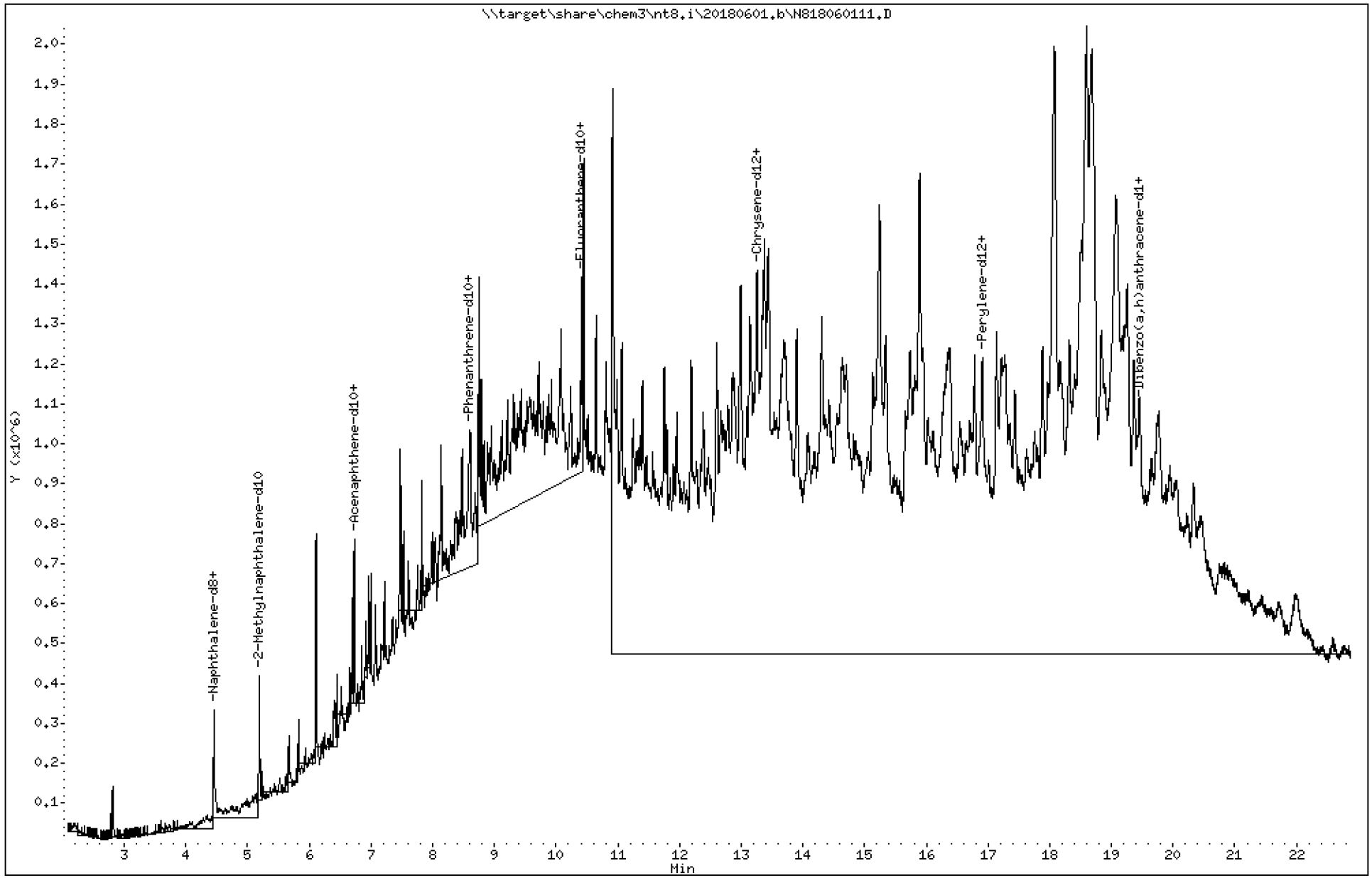
Instrument: nt8.i

Sample Info: 18E0243-04

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

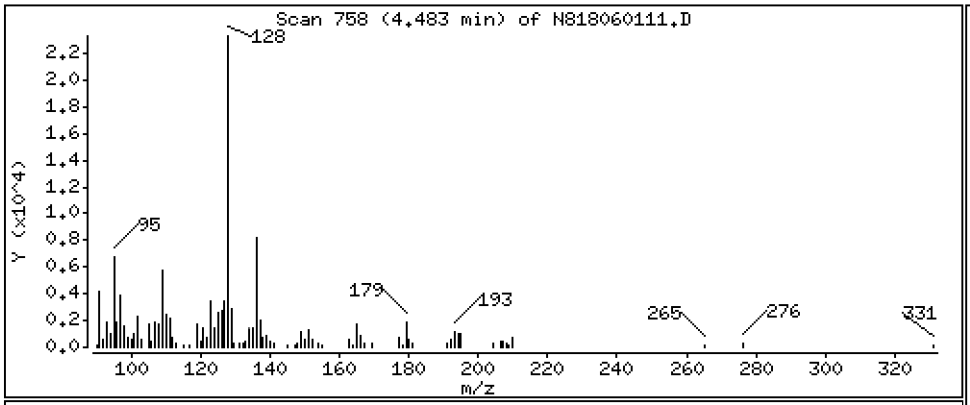
Operator: JZ

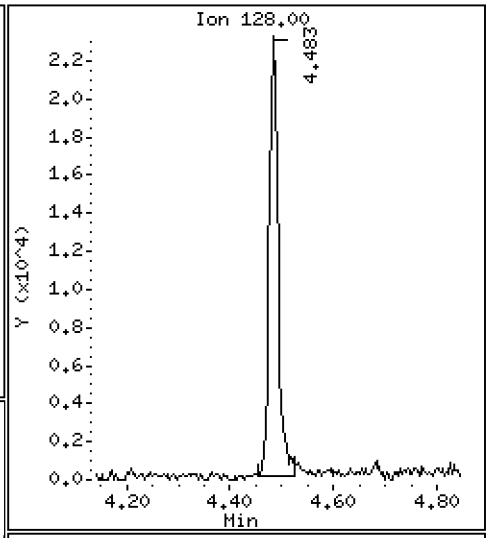
Column phase: Rxi-17sil

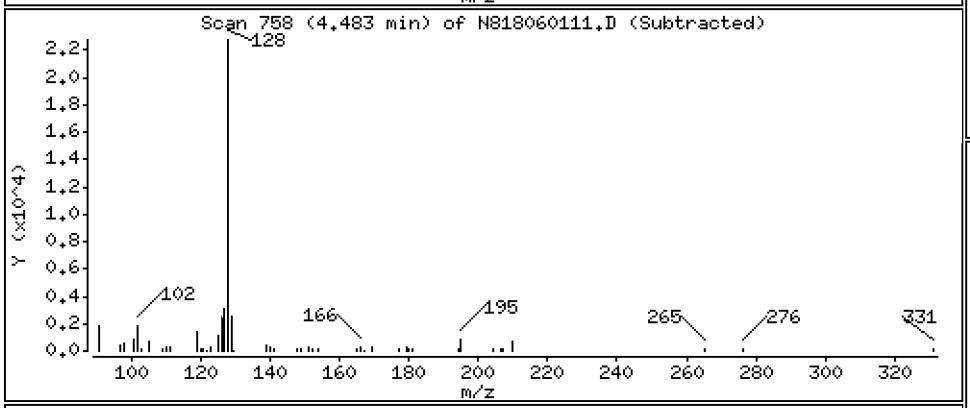
Column diameter: 0.25

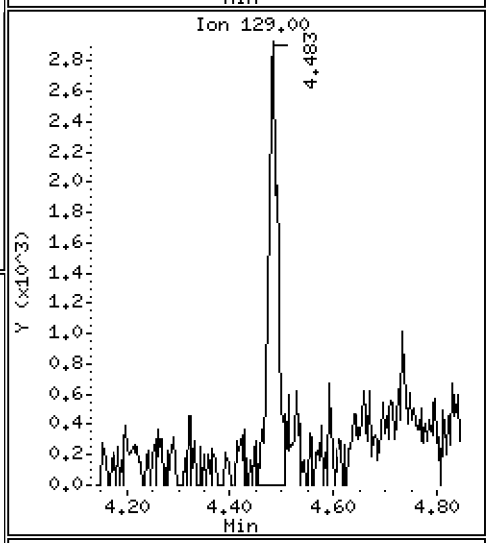
2 Naphthalene

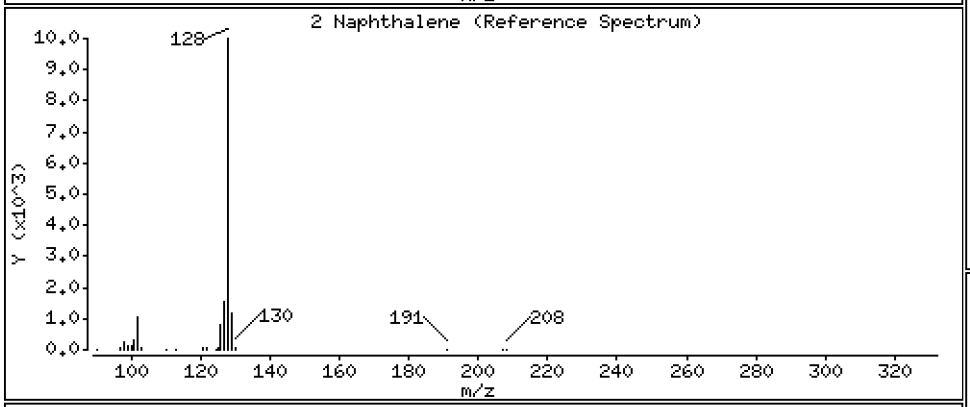
Concentration: 0.2148 ug/mL

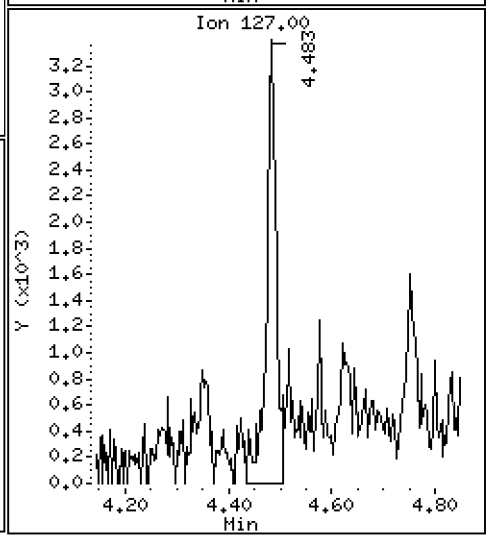


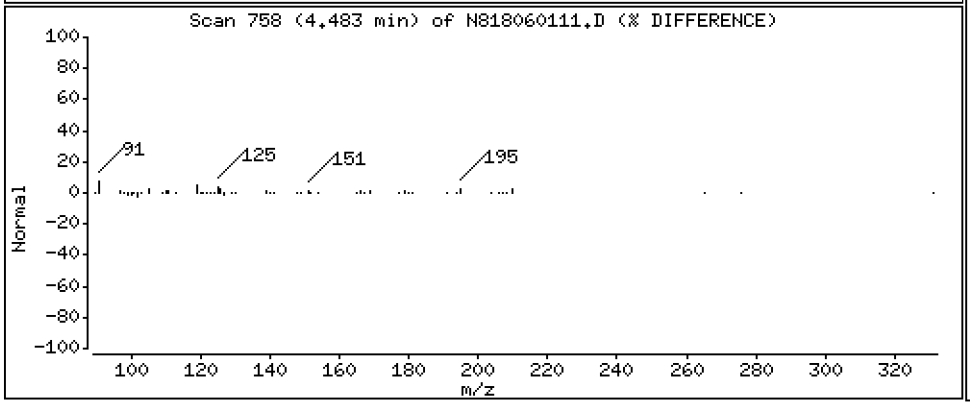












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

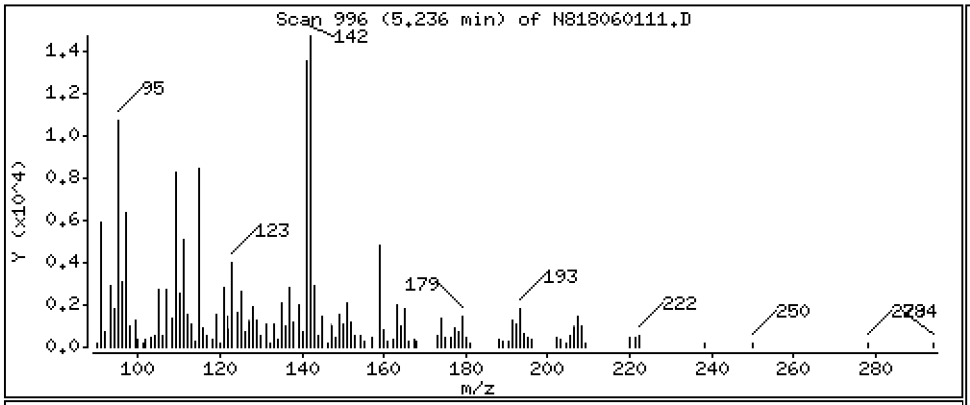
Operator: JZ

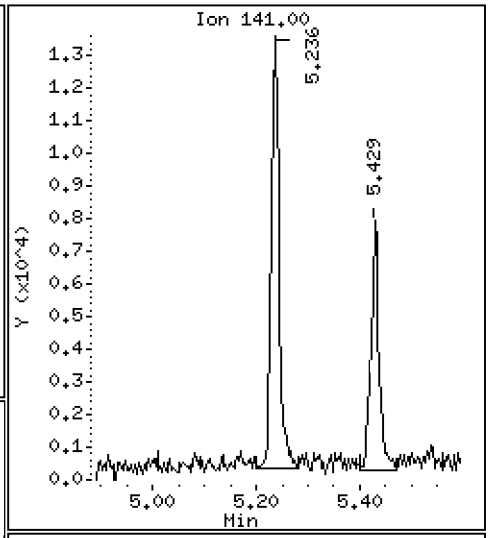
Column phase: Rxi-17sil

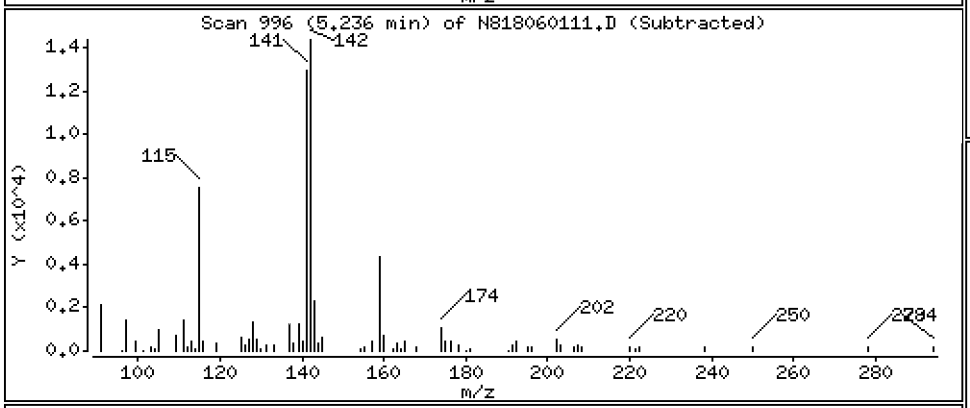
Column diameter: 0.25

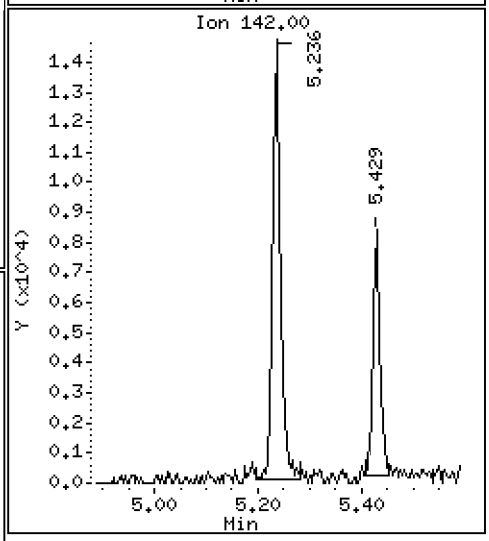
4 2-Methylnaphthalene

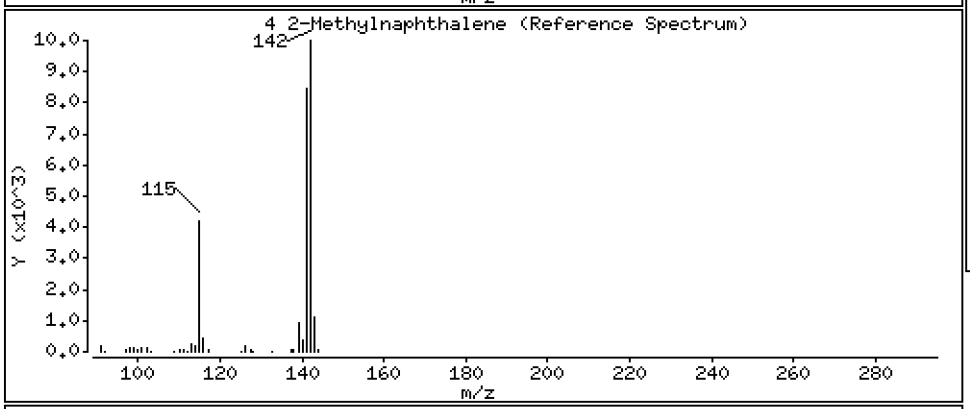
Concentration: 0.1918 ug/mL

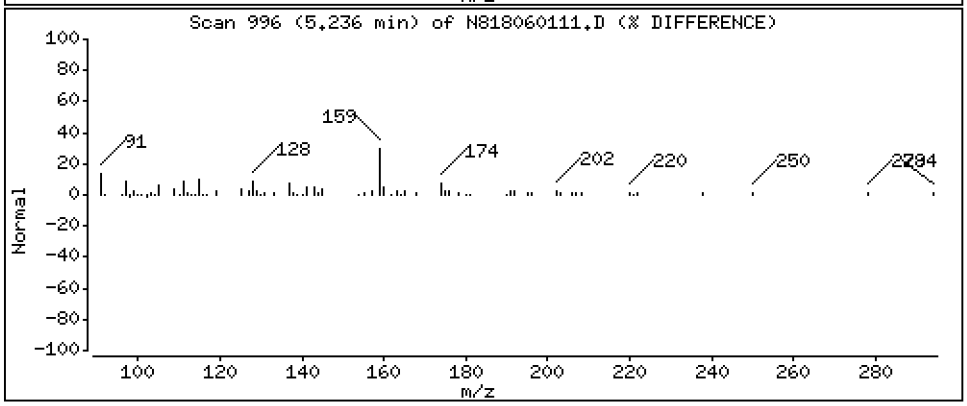












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

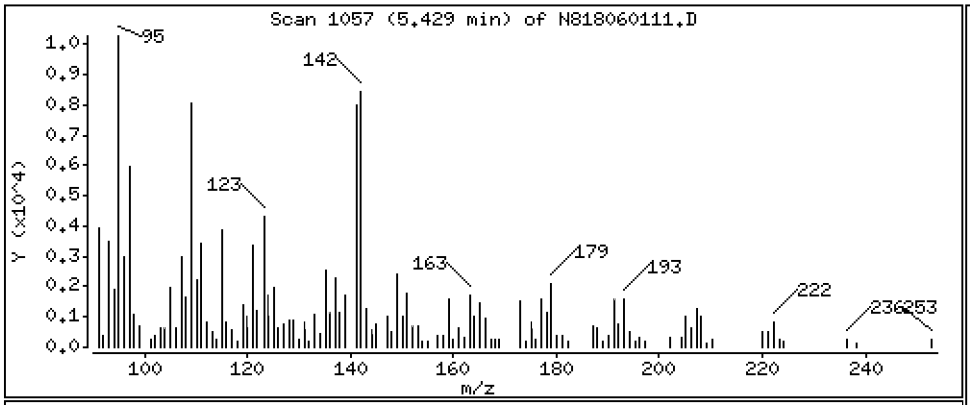
Operator: JZ

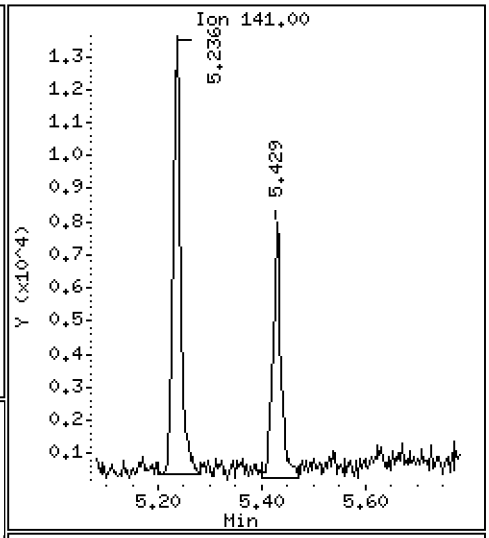
Column phase: Rxi-17sil

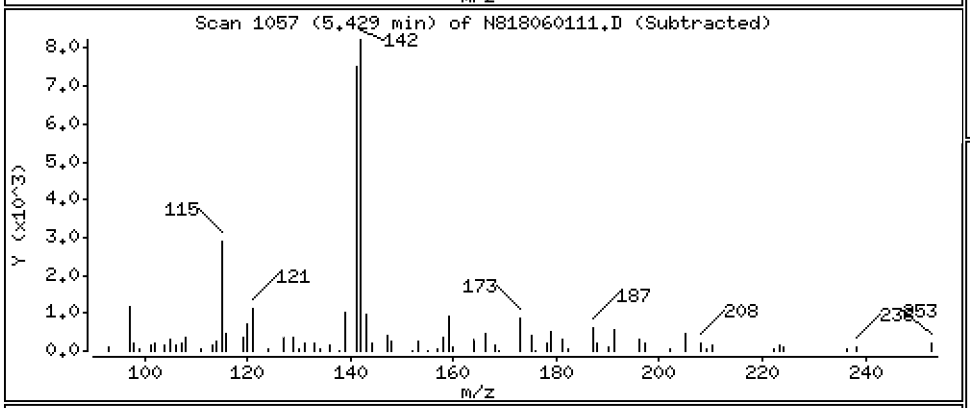
Column diameter: 0.25

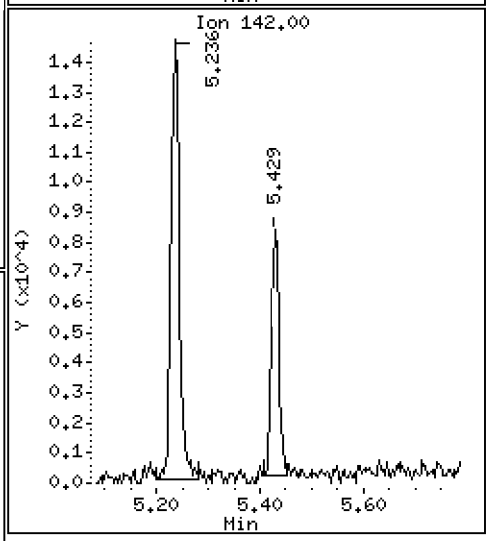
5 1-methylnaphthalene

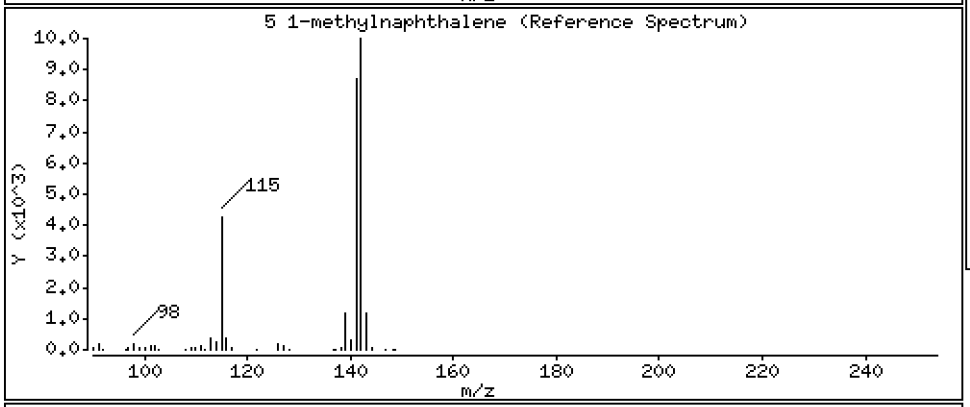
Concentration: 0.1154 ug/mL

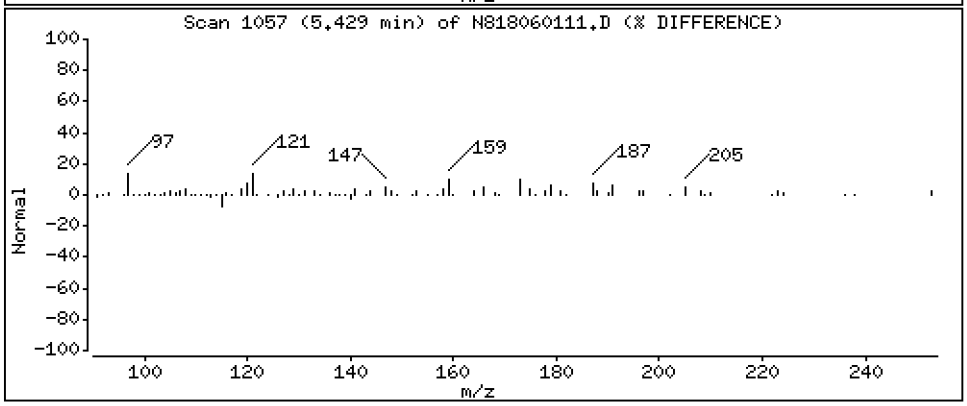












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

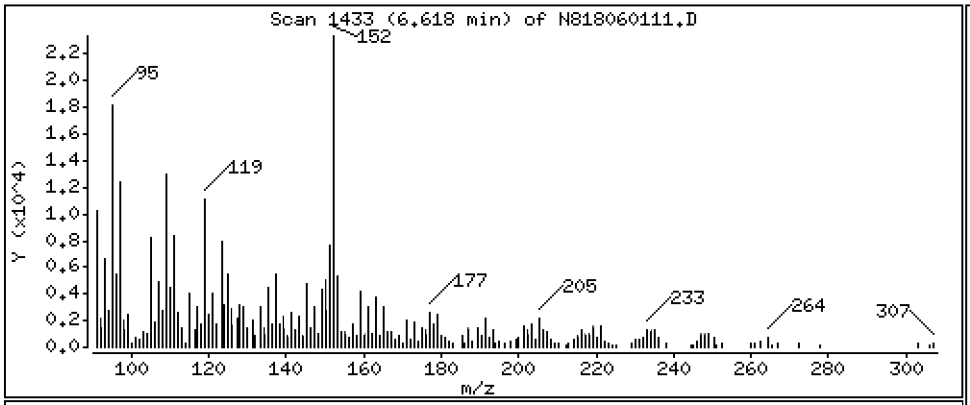
Operator: JZ

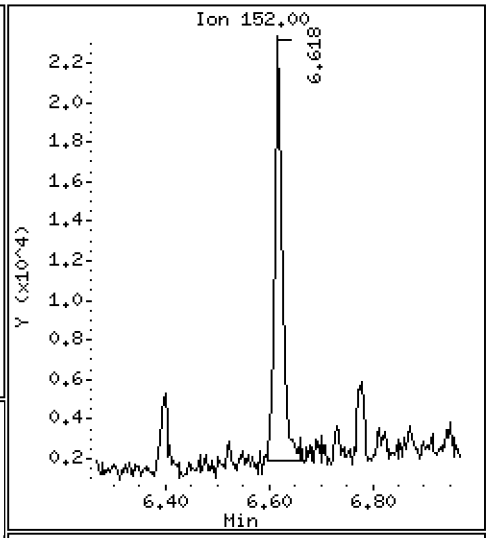
Column phase: Rxi-17sil

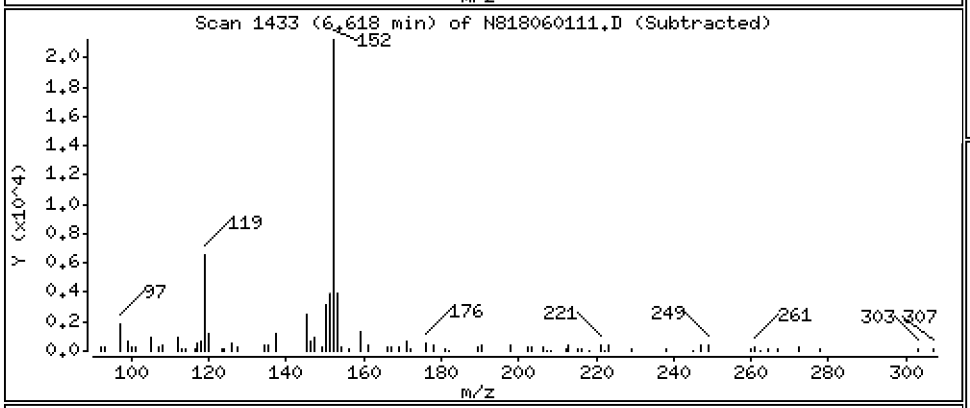
Column diameter: 0.25

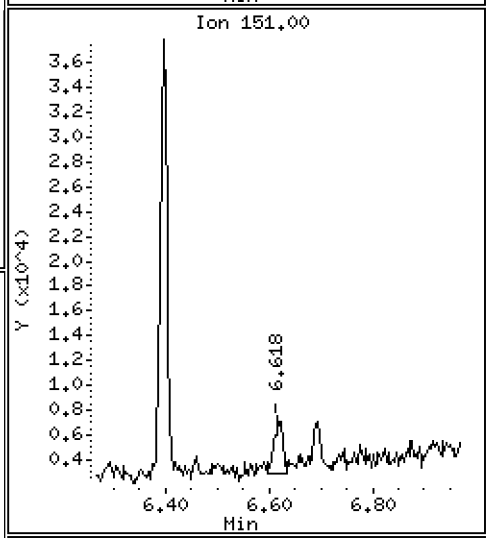
9 Acenaphthylene

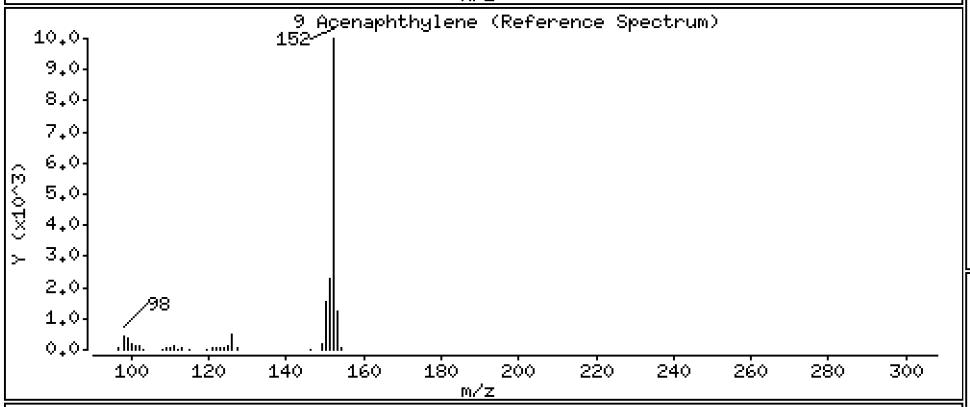
Concentration: 0.2118 ug/mL

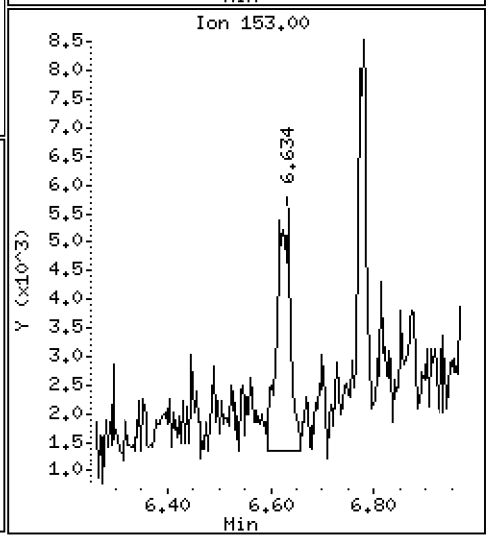


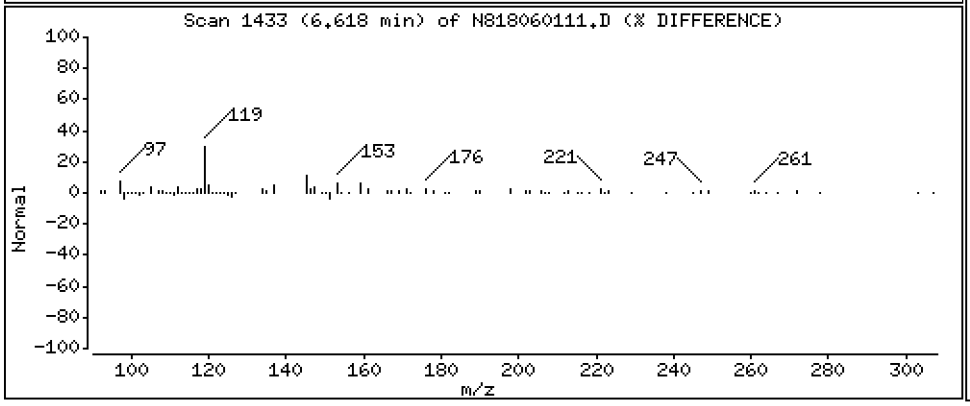












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

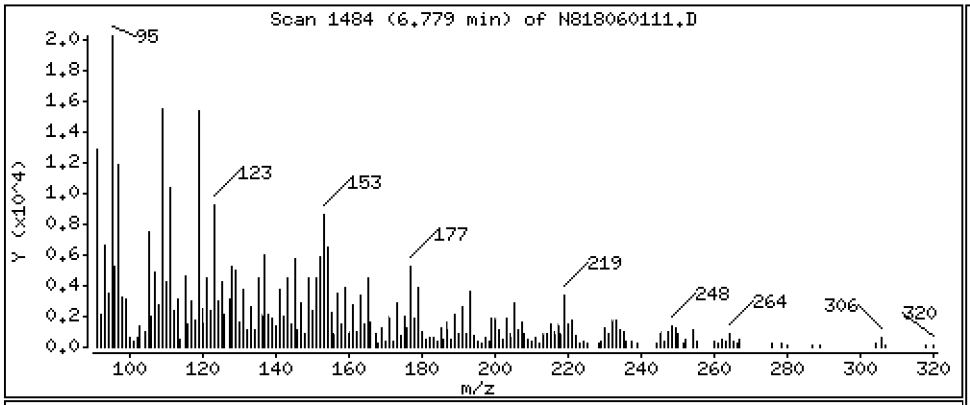
Operator: JZ

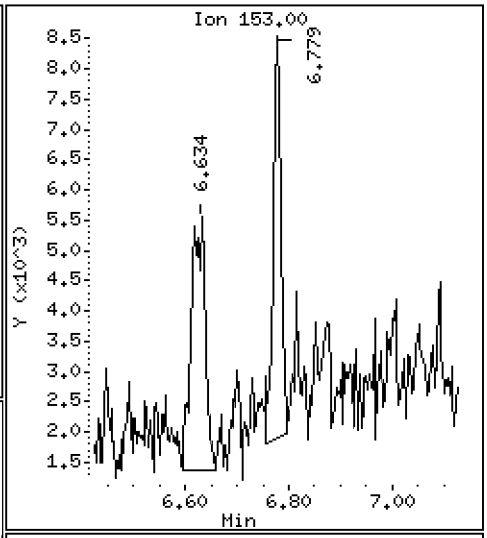
Column phase: Rxi-17sil

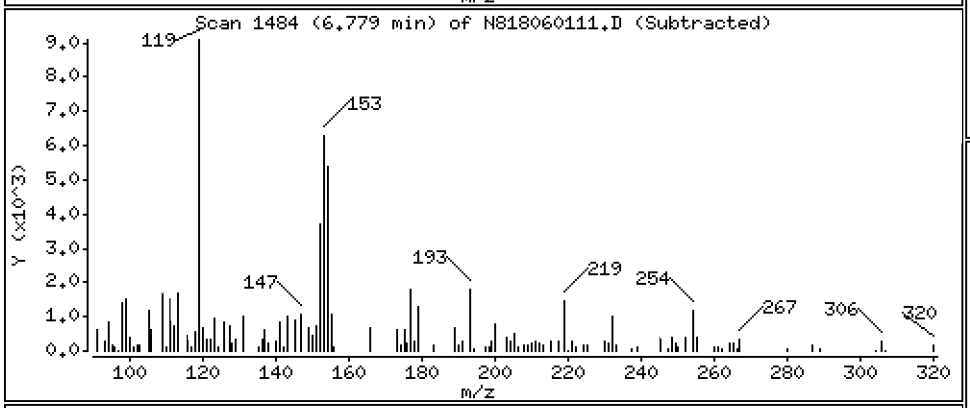
Column diameter: 0.25

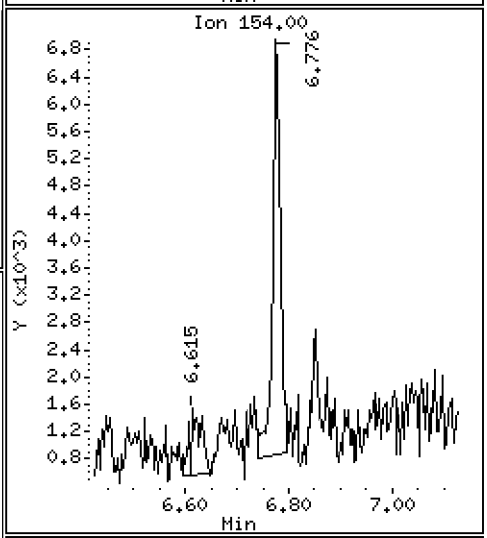
11 Acenaphthene

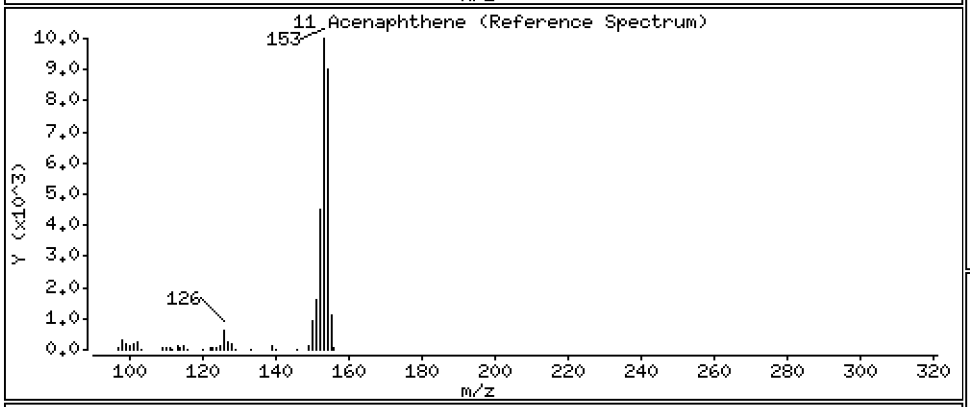
Concentration: 0.08896 ug/mL

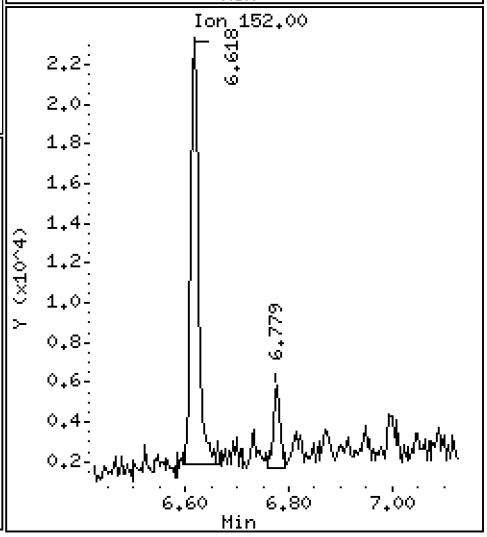


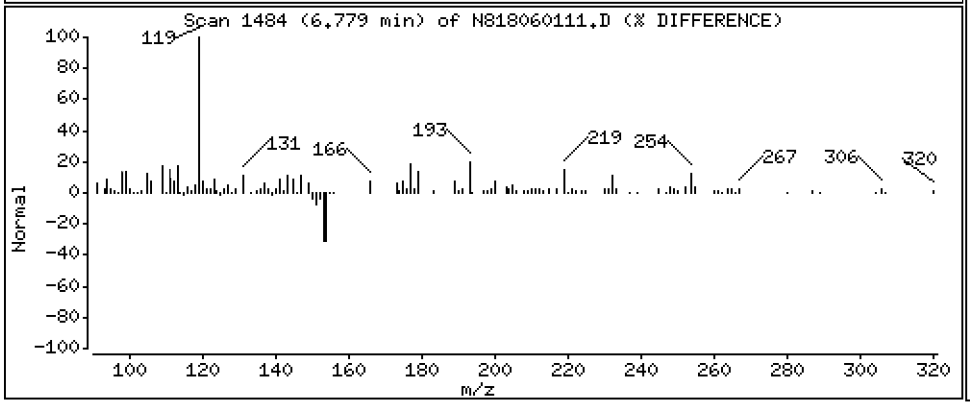












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

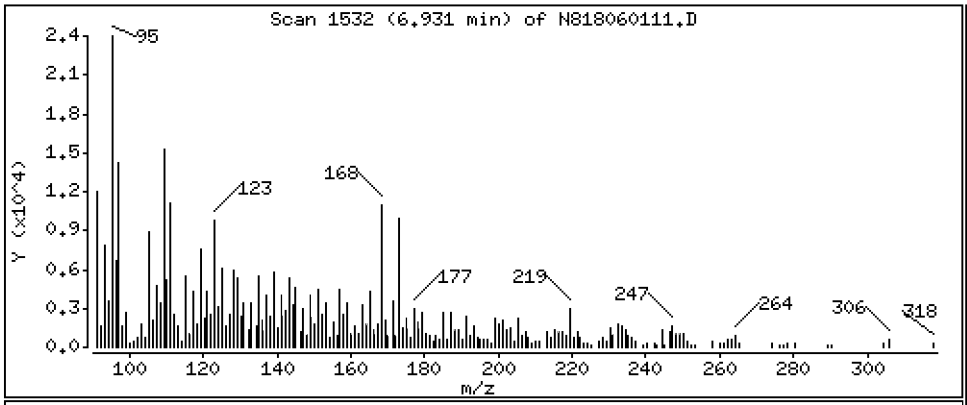
Operator: JZ

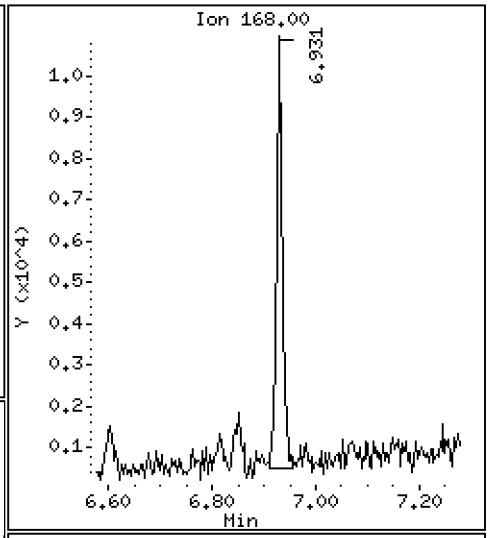
Column phase: Rxi-17sil

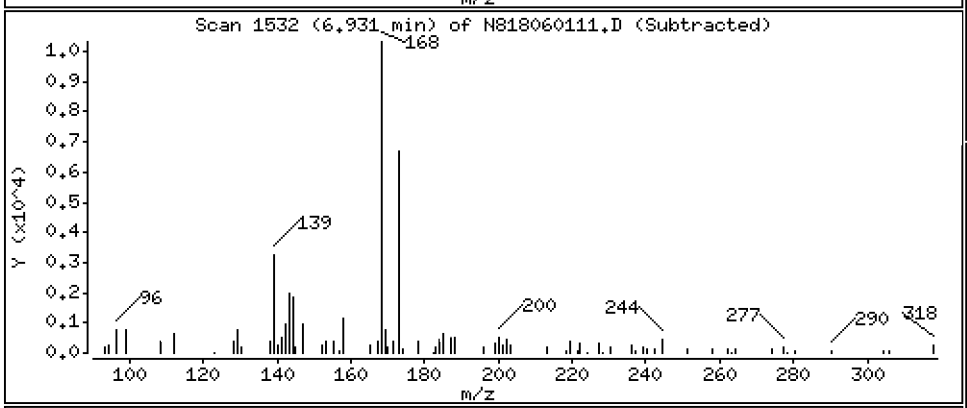
Column diameter: 0.25

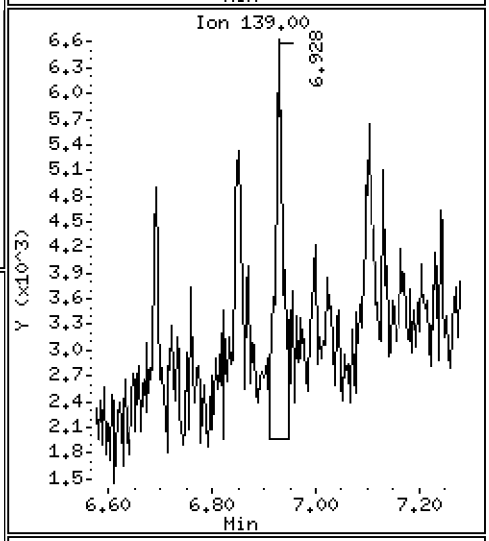
12 Dibenzofuran

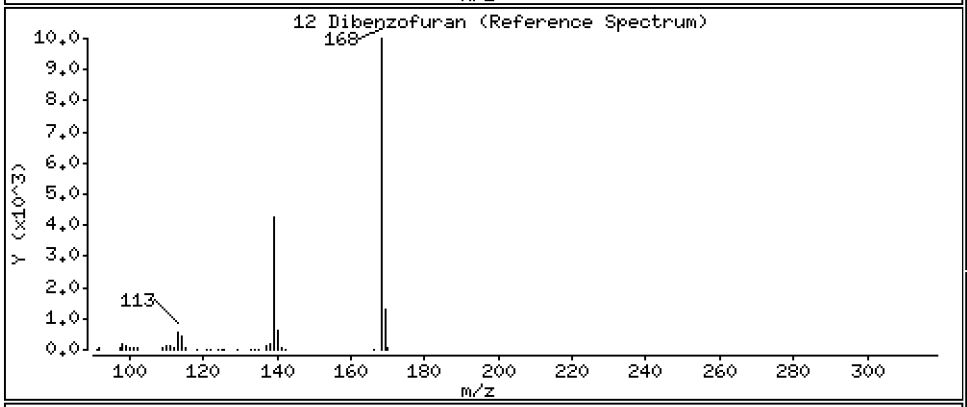
Concentration: 0.07909 ug/mL

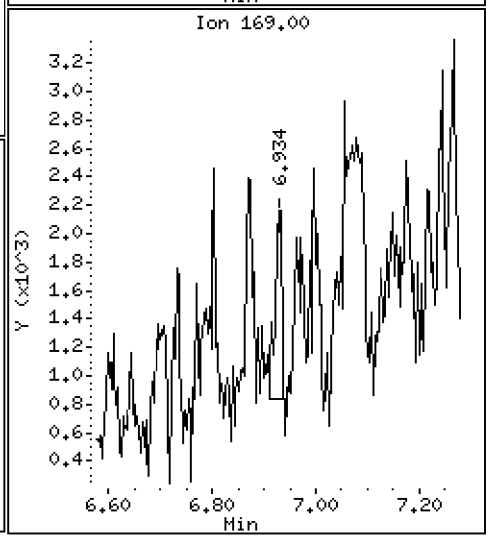


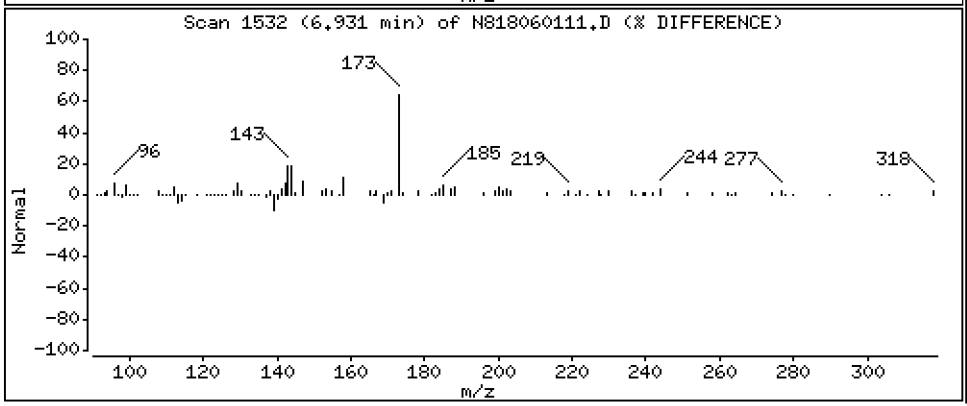












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

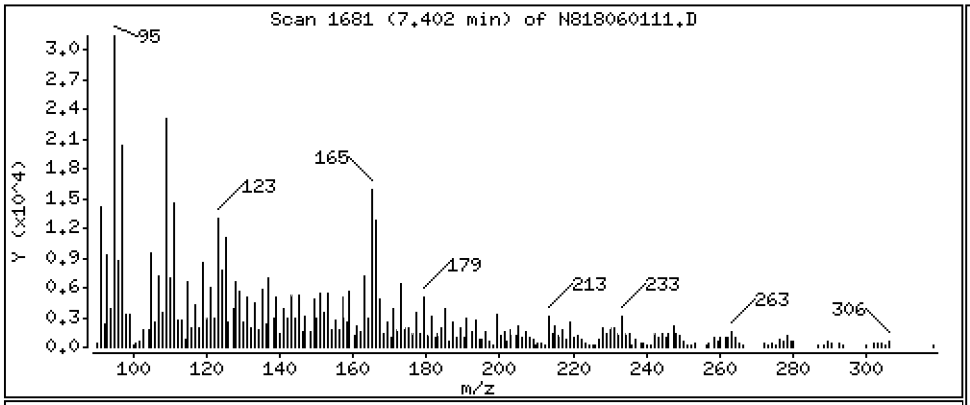
Operator: JZ

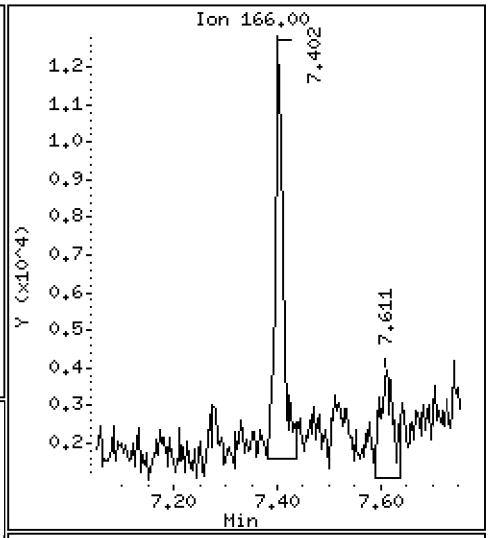
Column phase: Rxi-17sil

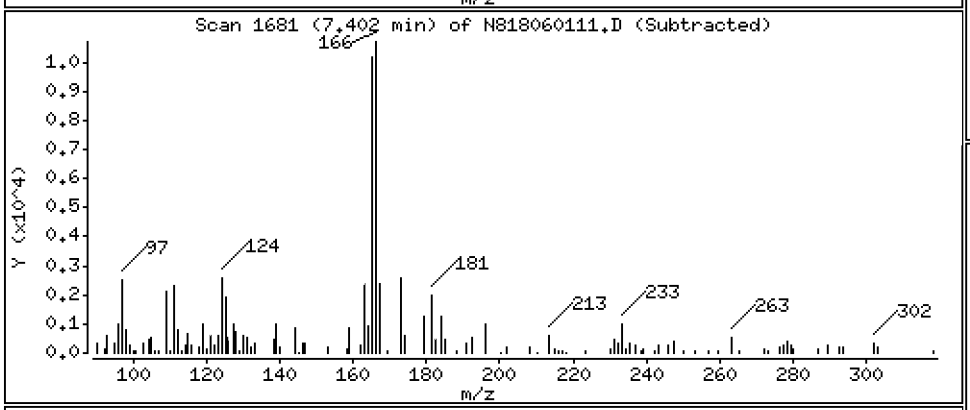
Column diameter: 0.25

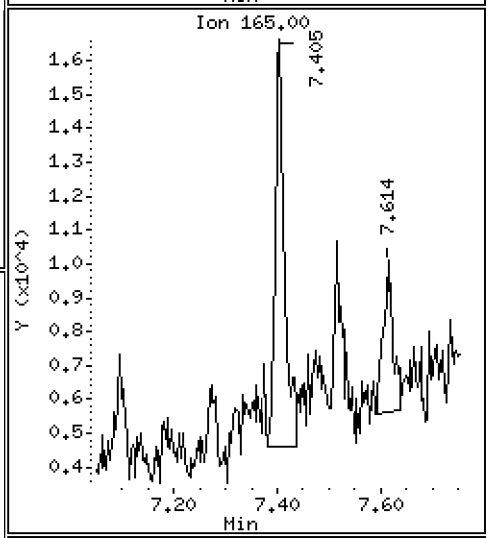
14 Fluorene

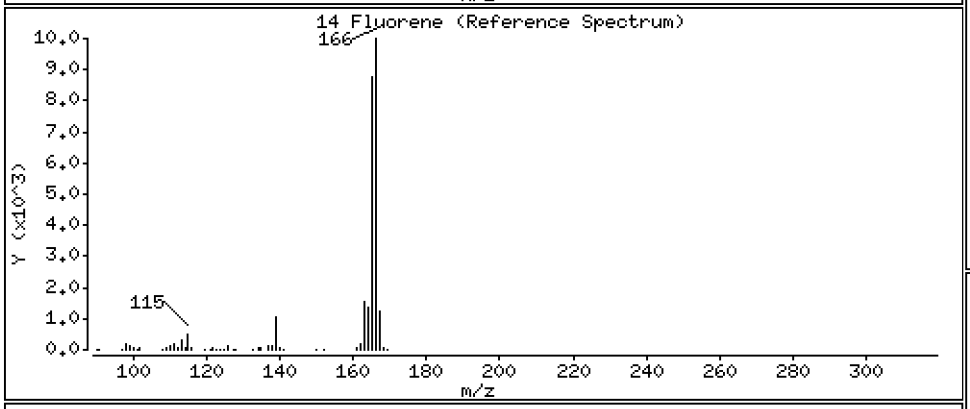
Concentration: 0.1444 ug/mL

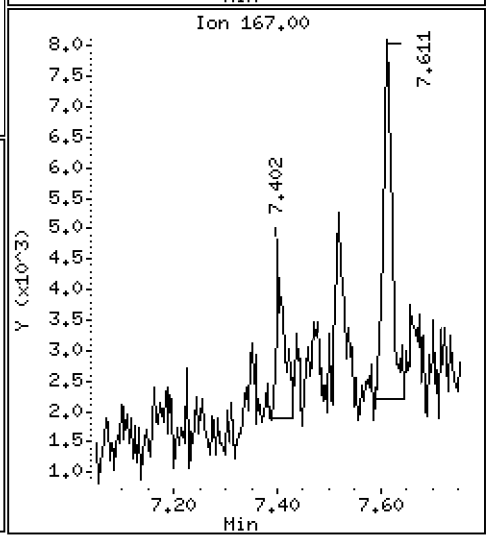


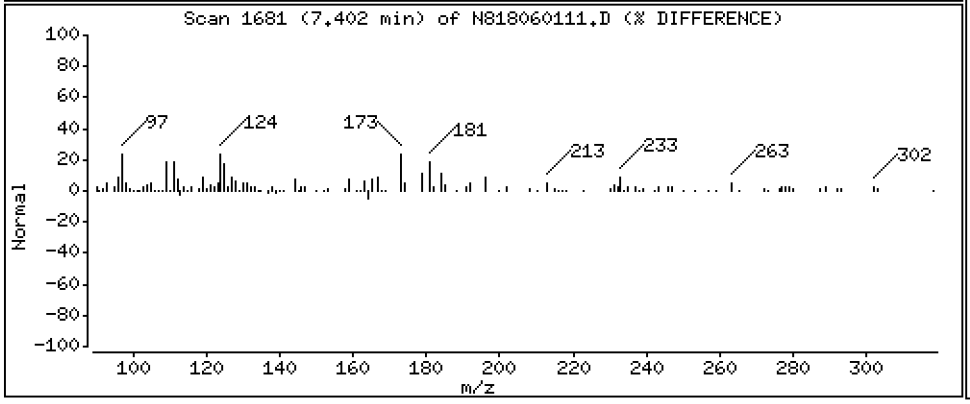












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

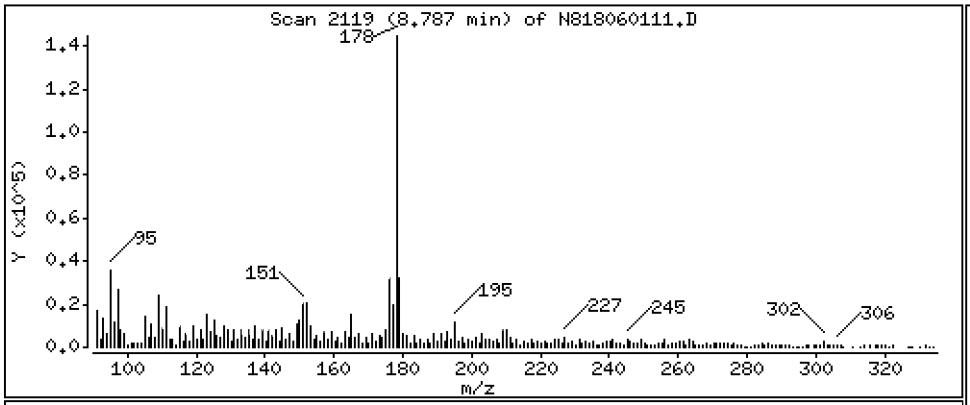
Operator: JZ

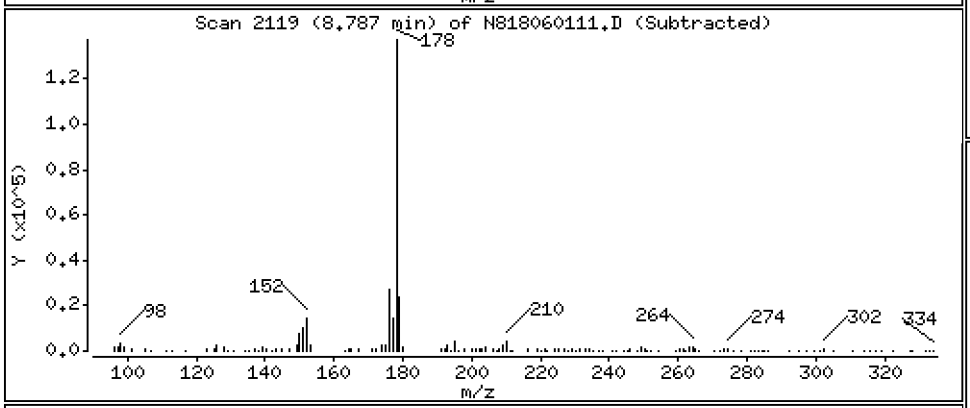
Column phase: Rxi-17sil

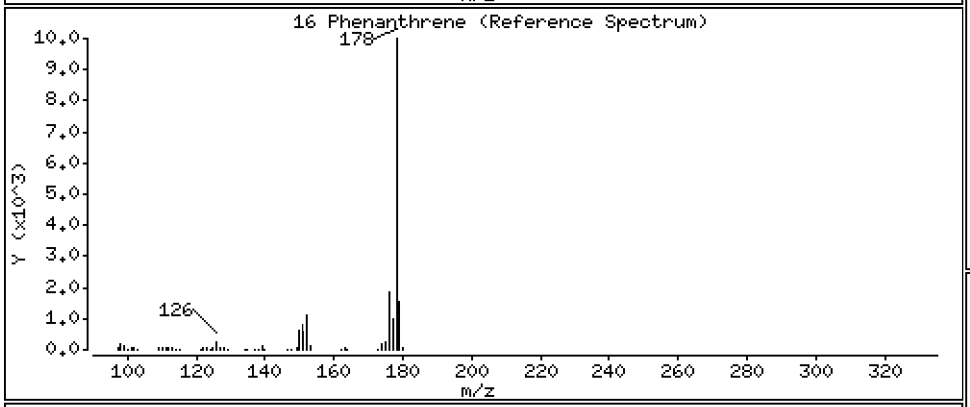
Column diameter: 0.25

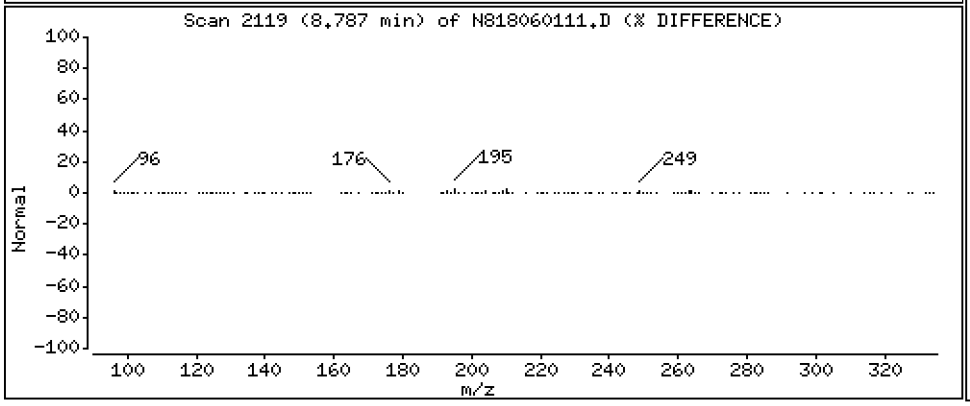
16 Phenanthrene

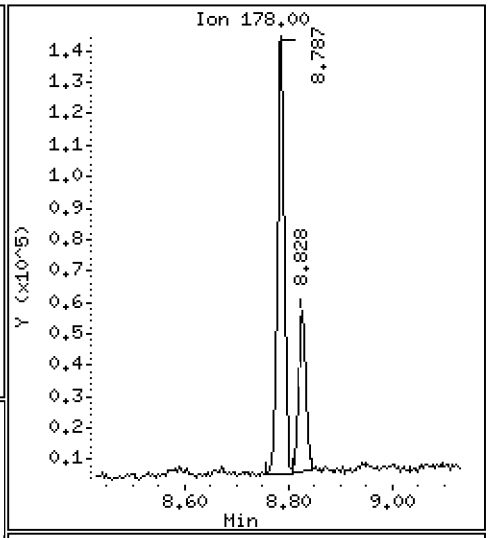
Concentration: 1.073 ug/mL

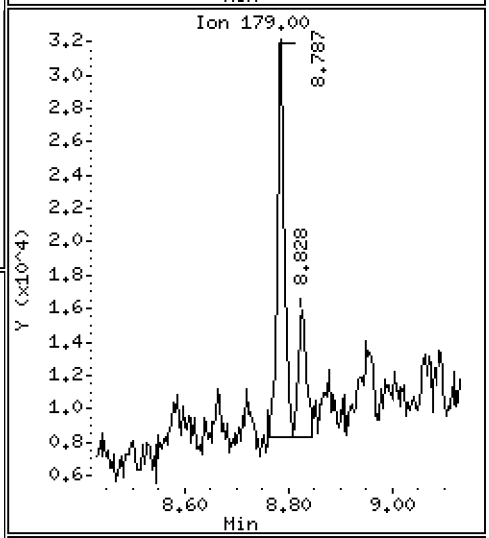


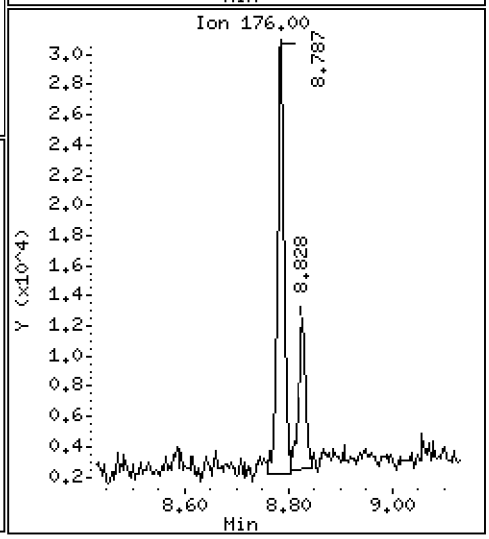












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

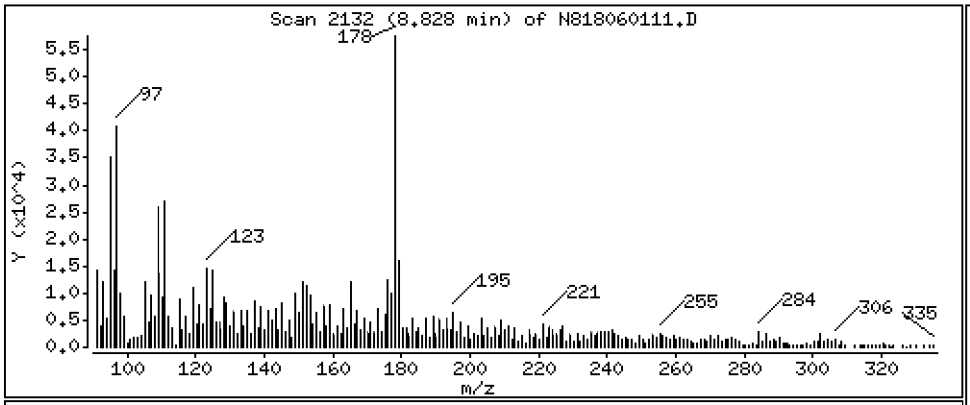
Operator: JZ

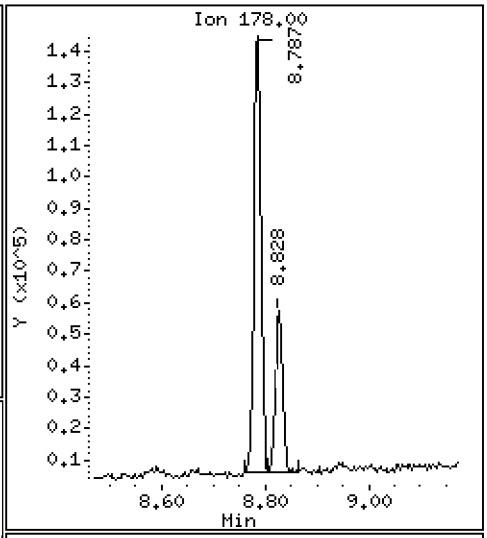
Column phase: Rxi-17sil

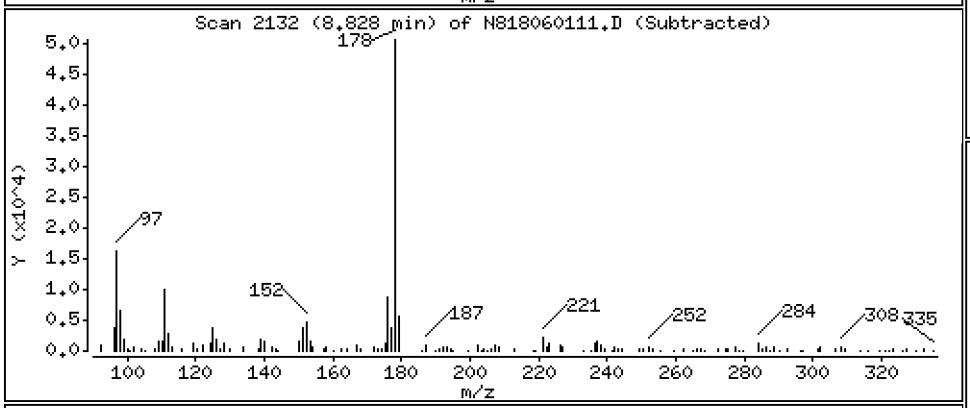
Column diameter: 0.25

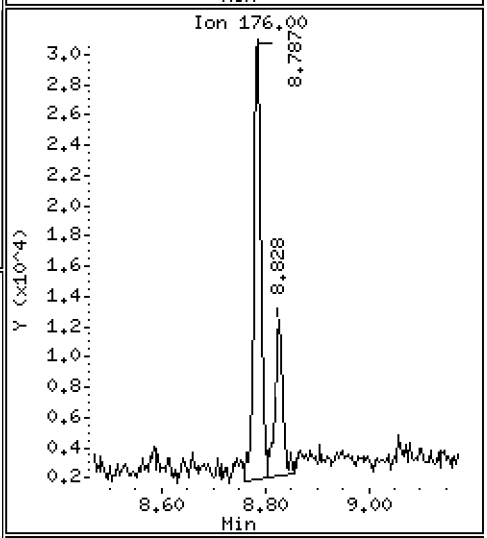
17 Anthracene

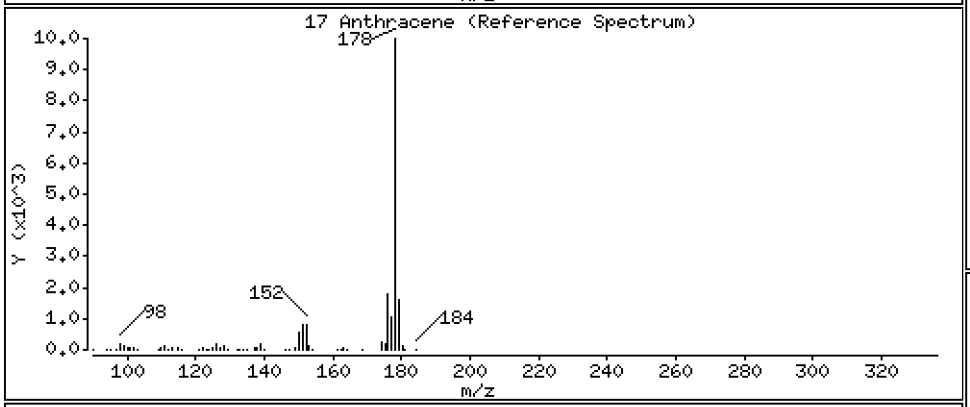
Concentration: 0.4683 ug/mL

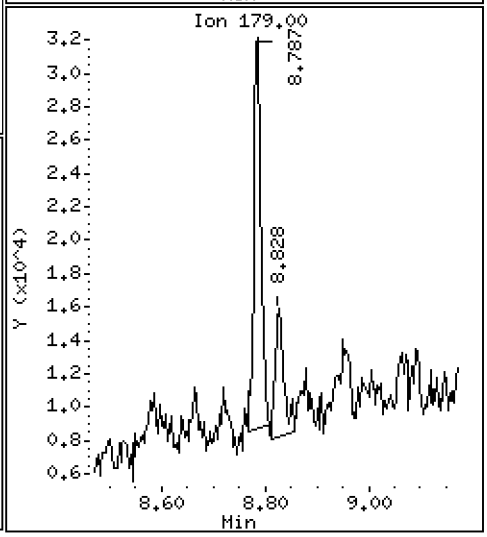


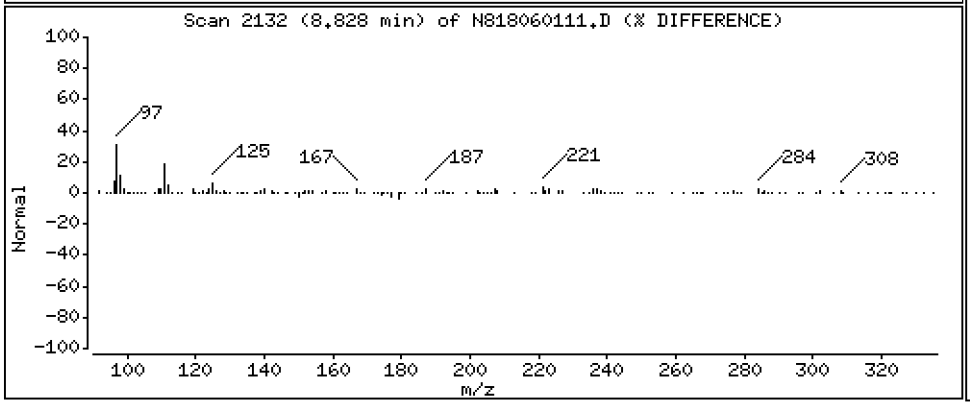












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

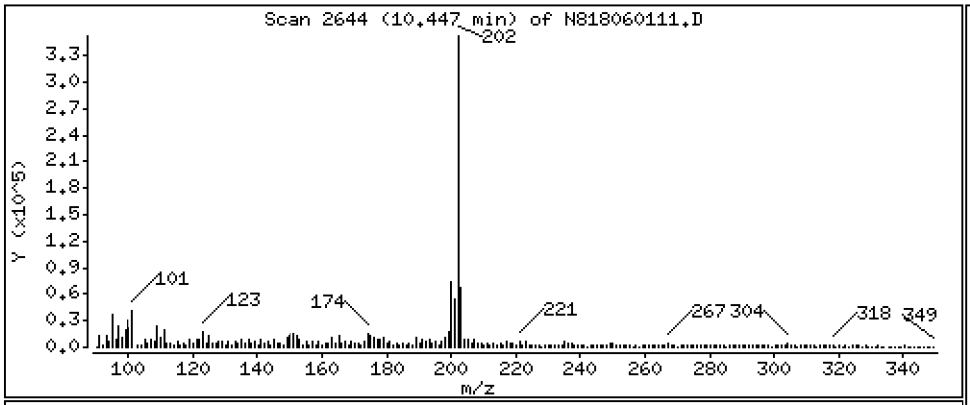
Operator: JZ

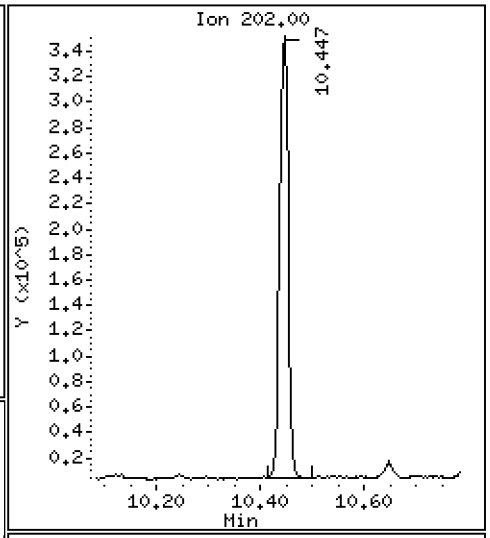
Column phase: Rxi-17sil

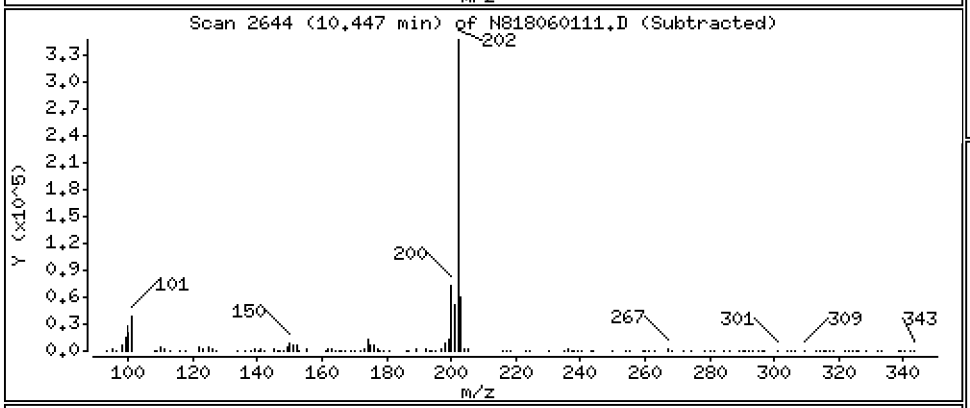
Column diameter: 0.25

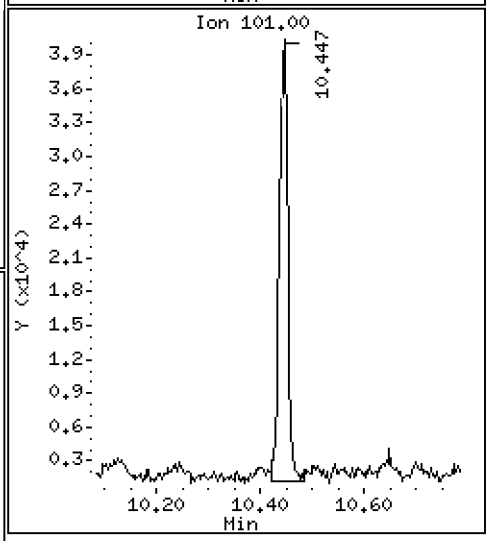
22 Fluoranthene

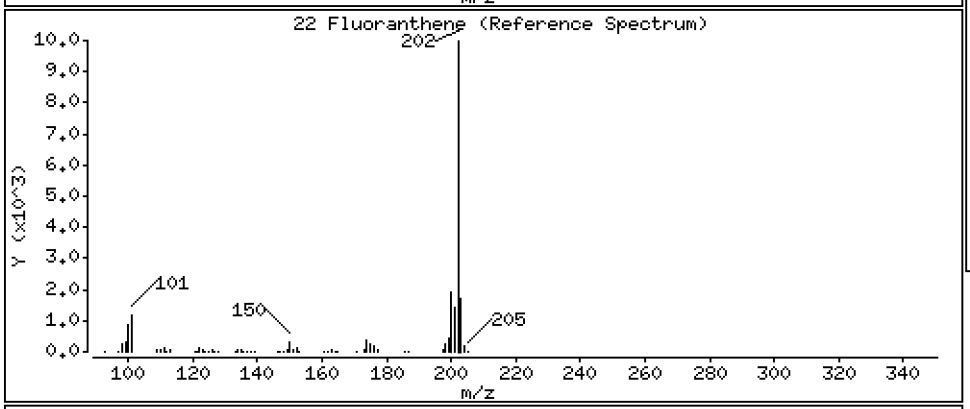
Concentration: 2.860 ug/mL

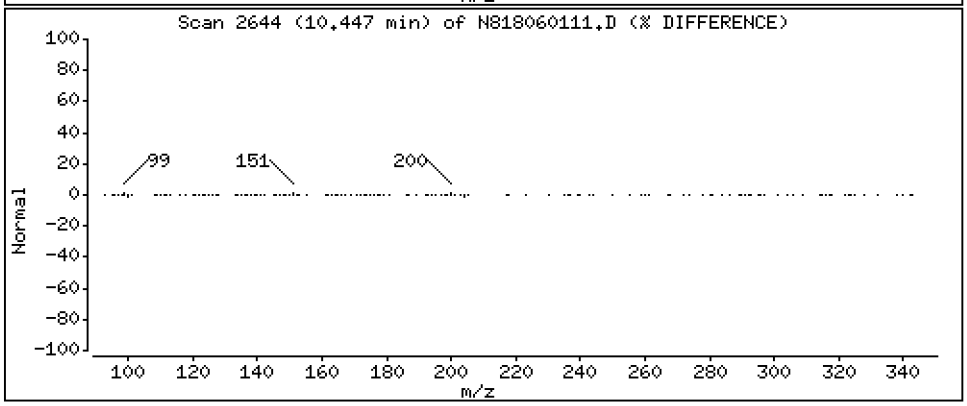












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

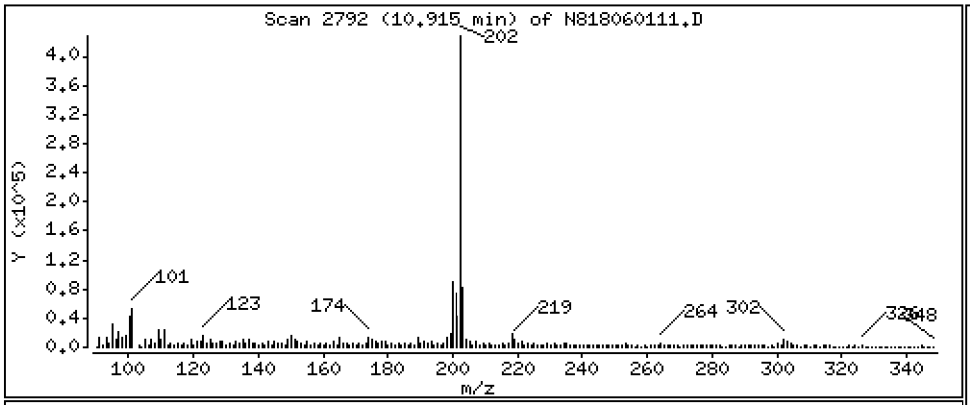
Operator: JZ

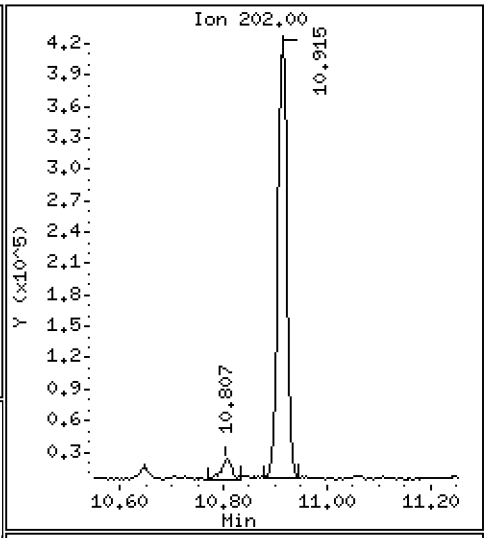
Column phase: Rxi-17sil

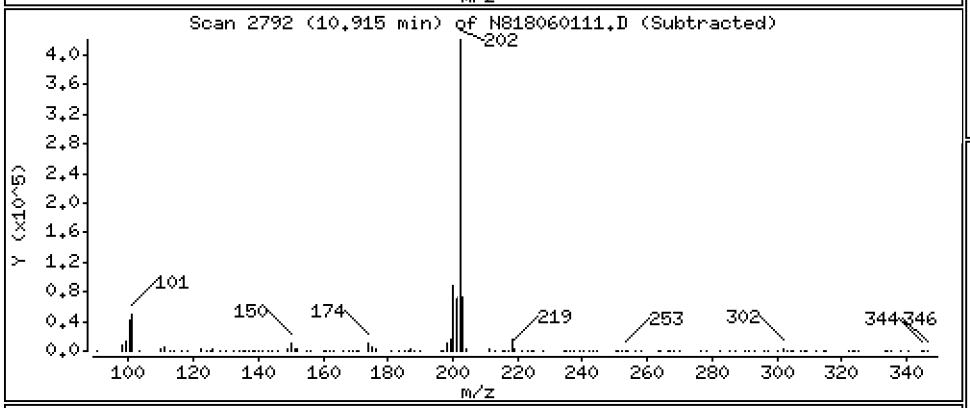
Column diameter: 0.25

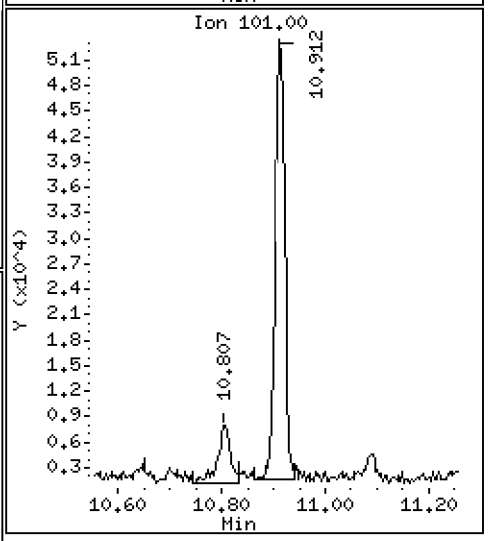
23 Pyrene

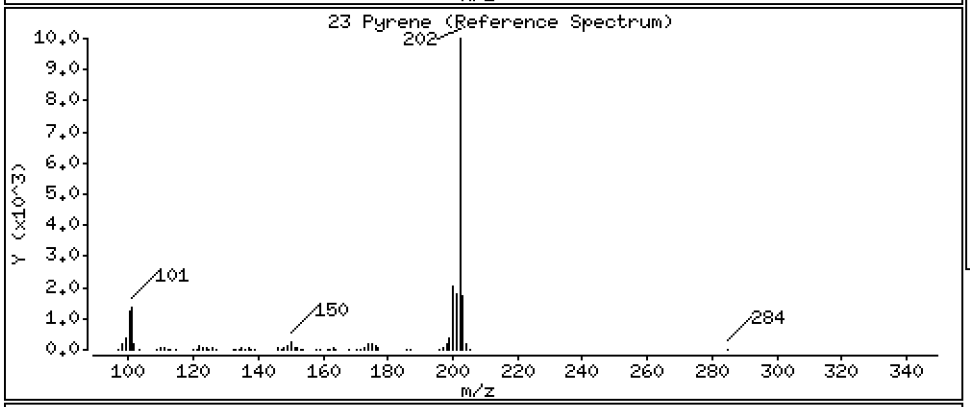
Concentration: 3.849 ug/mL

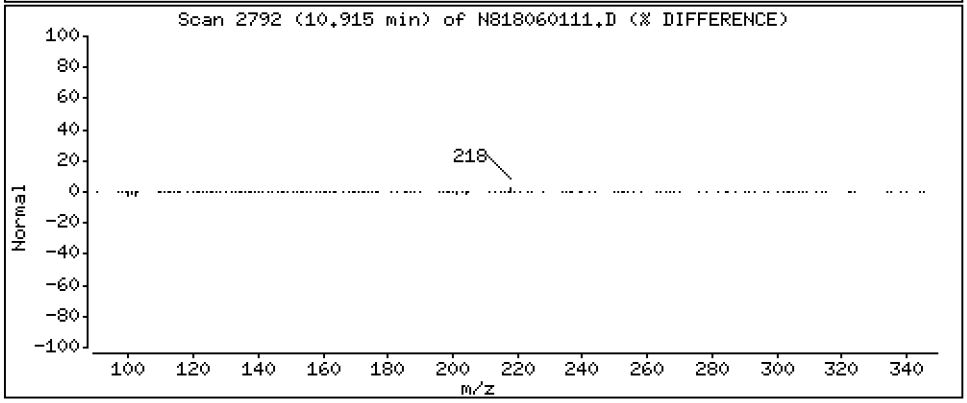












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

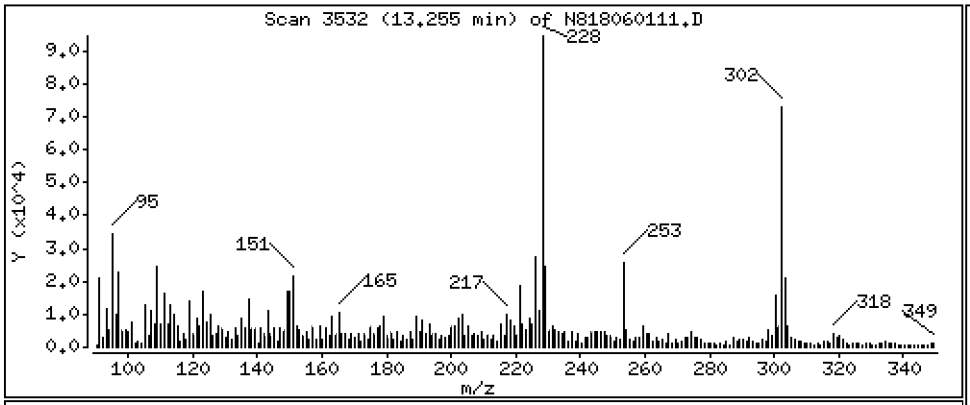
Operator: JZ

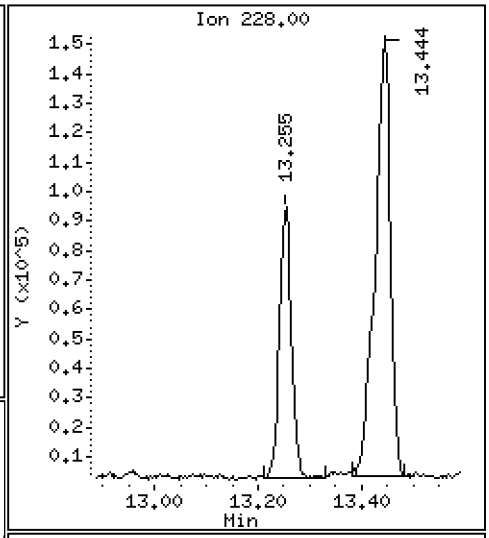
Column phase: Rxi-17sil

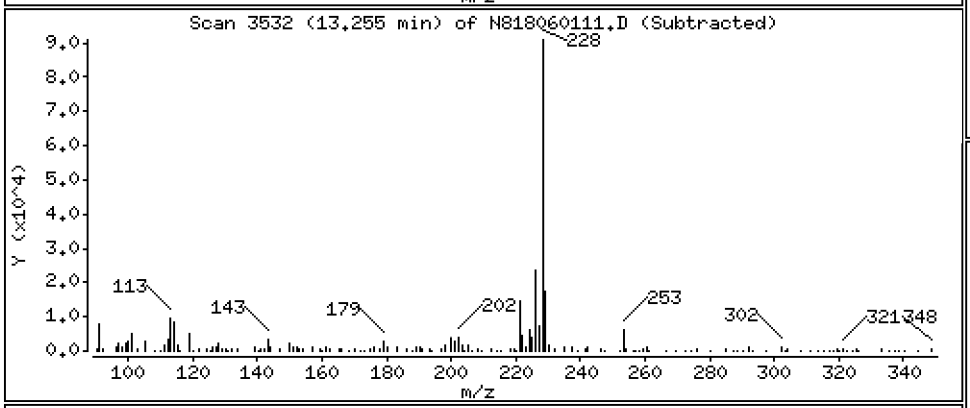
Column diameter: 0.25

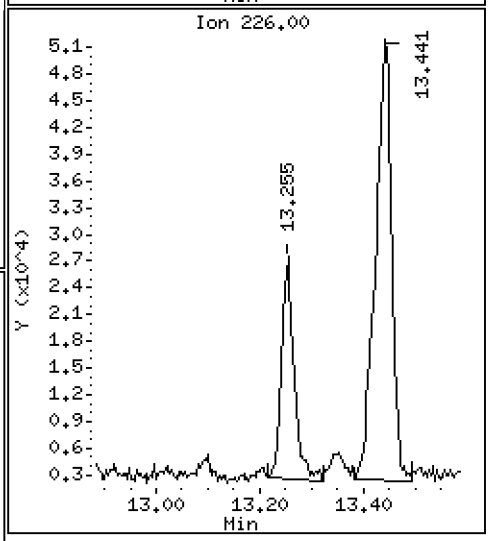
24 Benzo(a)anthracene

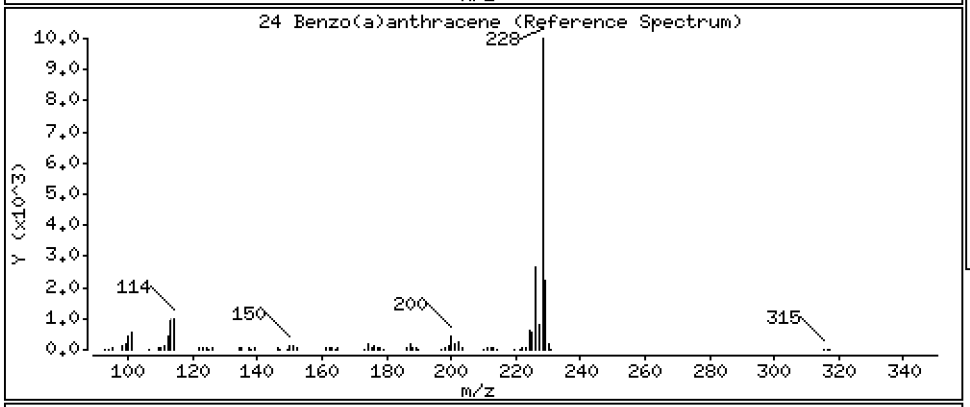
Concentration: 1.133 ug/mL

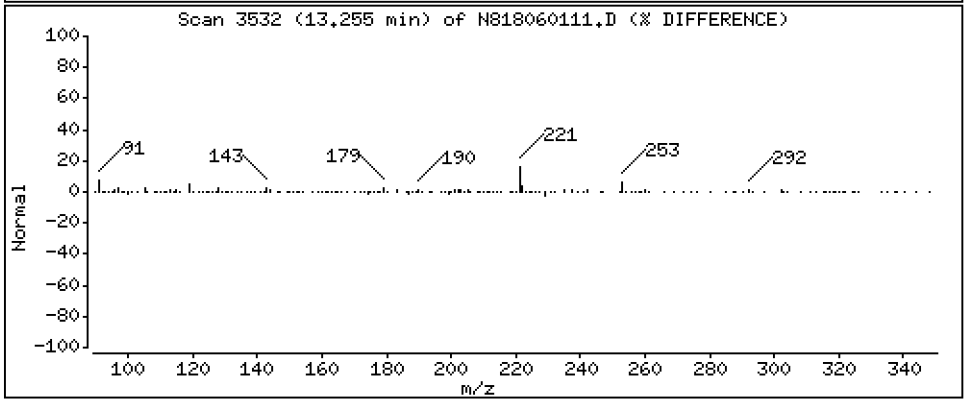












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

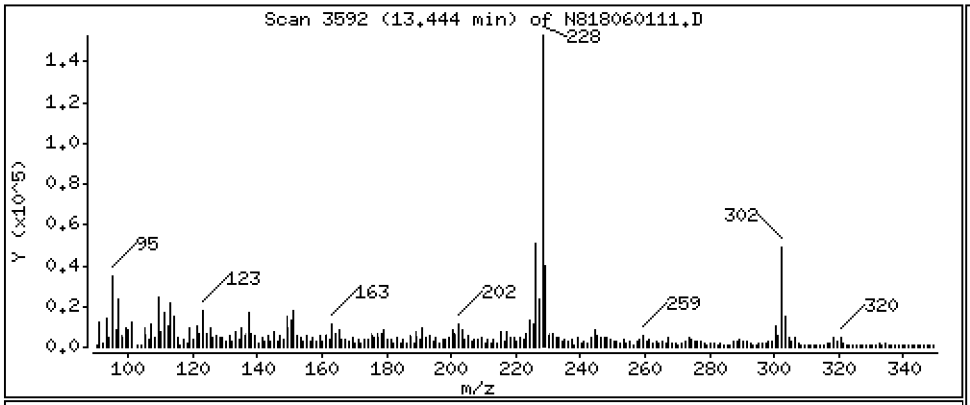
Operator: JZ

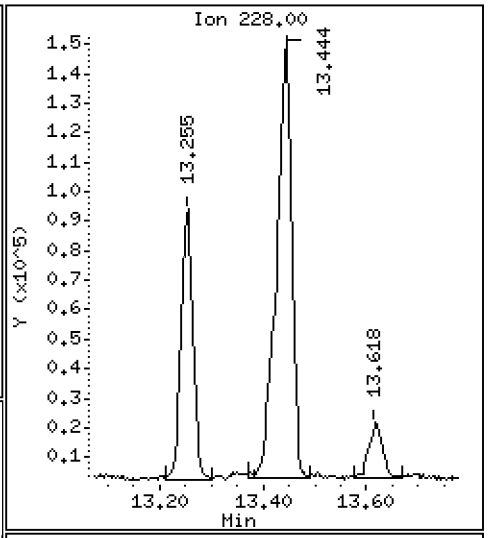
Column phase: Rxi-17sil

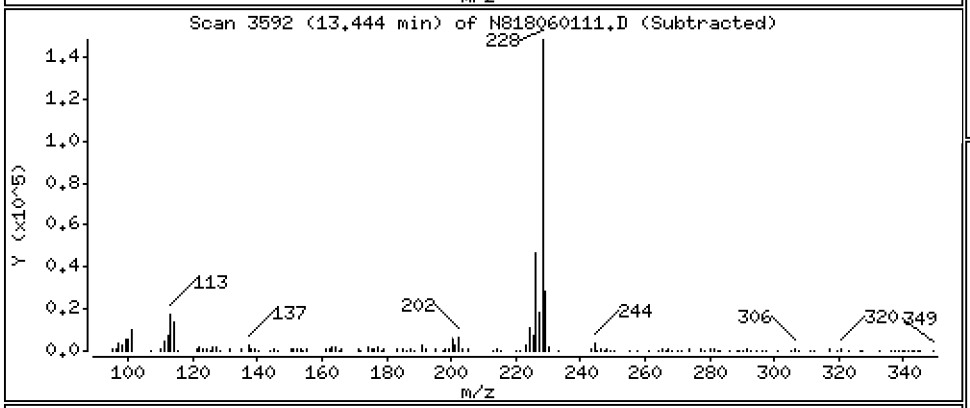
Column diameter: 0.25

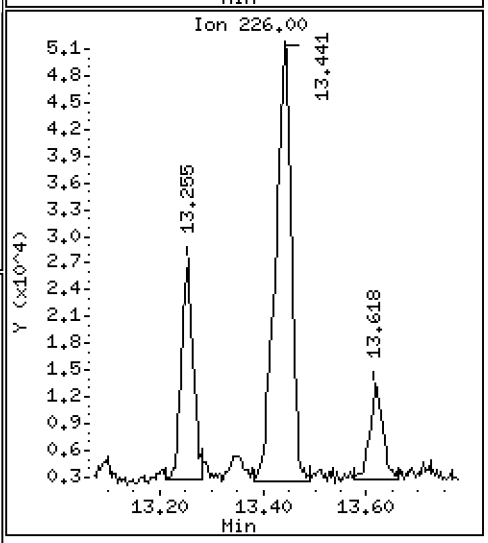
27 Chrysene

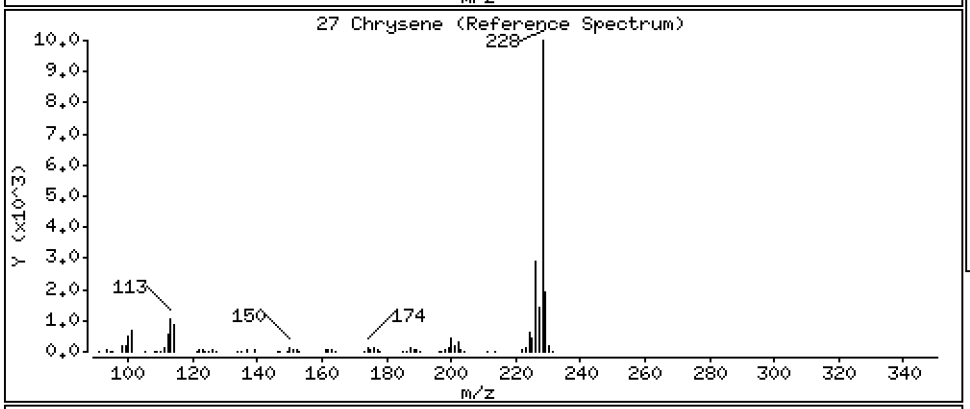
Concentration: 2.338 ug/mL

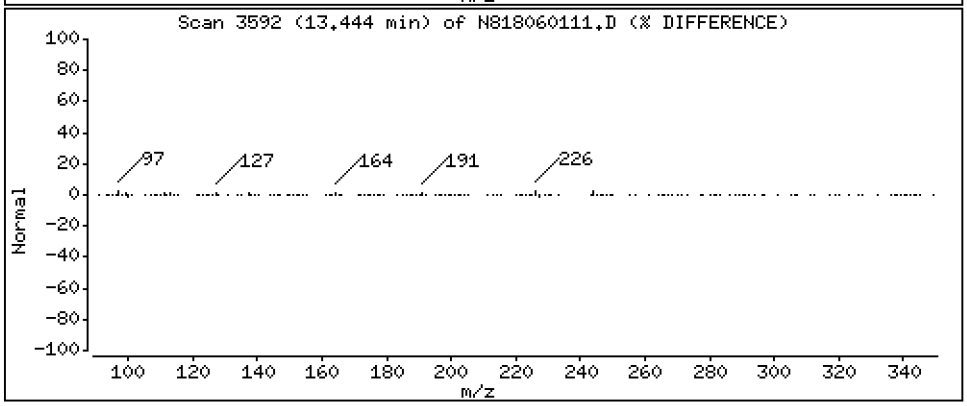












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

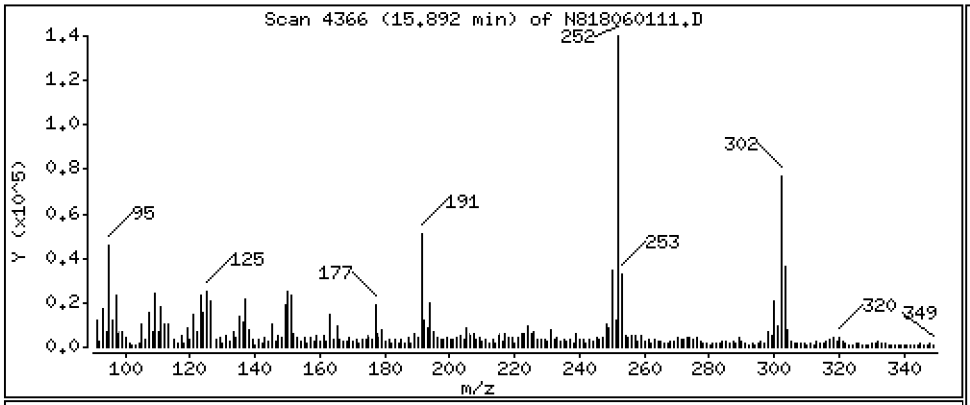
Operator: JZ

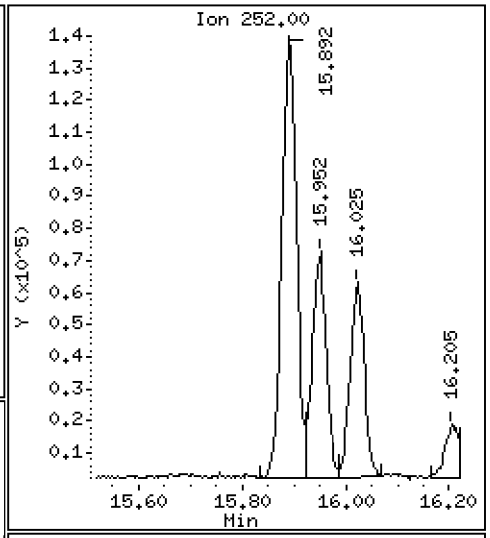
Column phase: Rxi-17sil

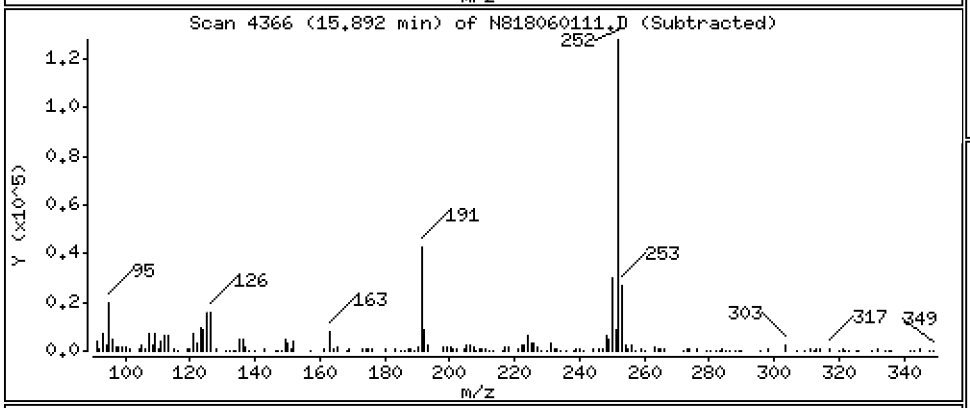
Column diameter: 0.25

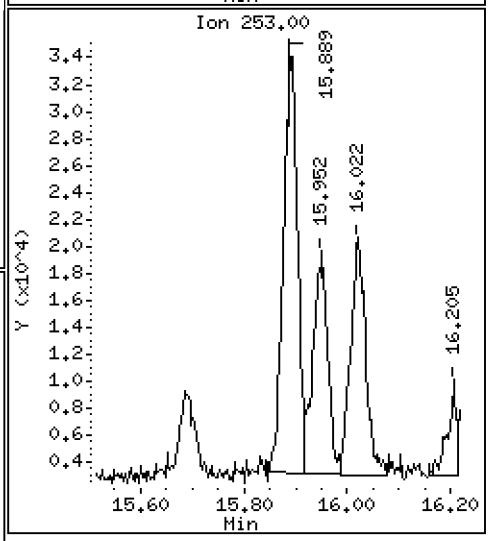
28 Benzo(b)fluoranthene

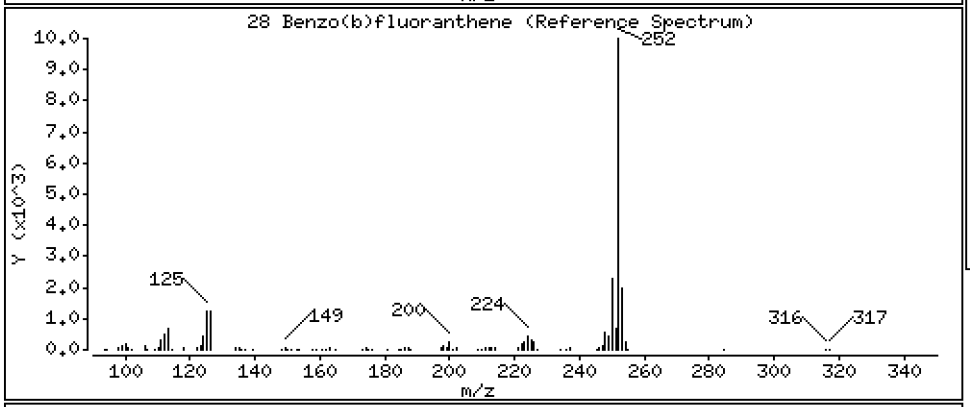
Concentration: 1.858 ug/mL

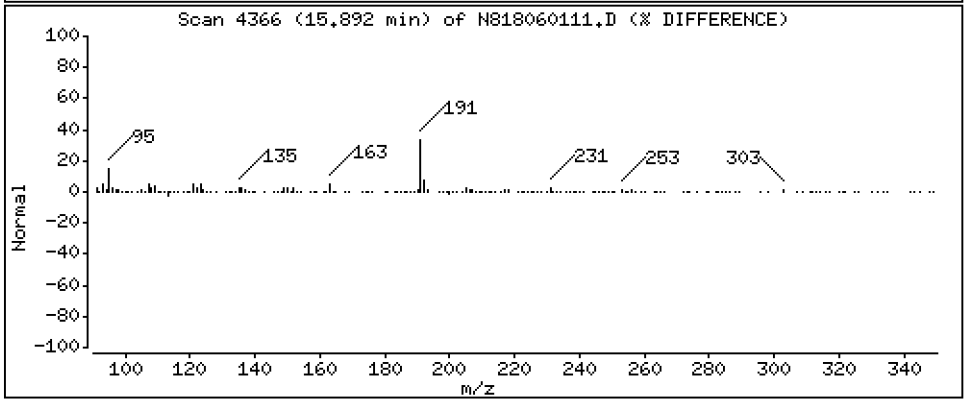












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

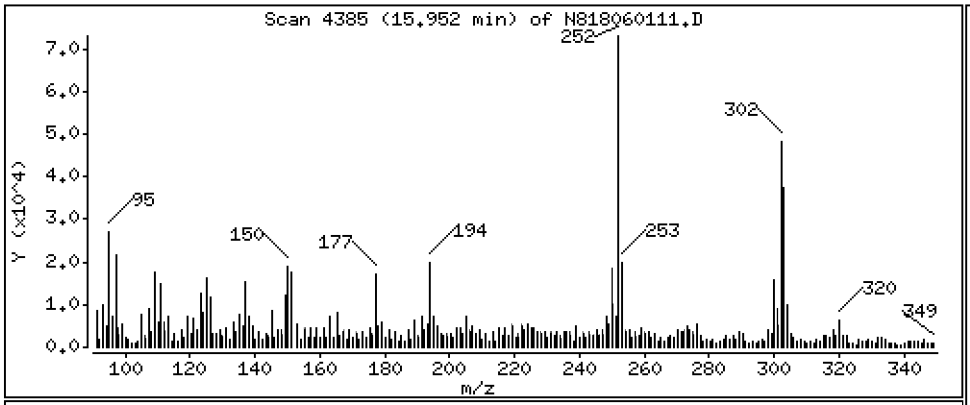
Operator: JZ

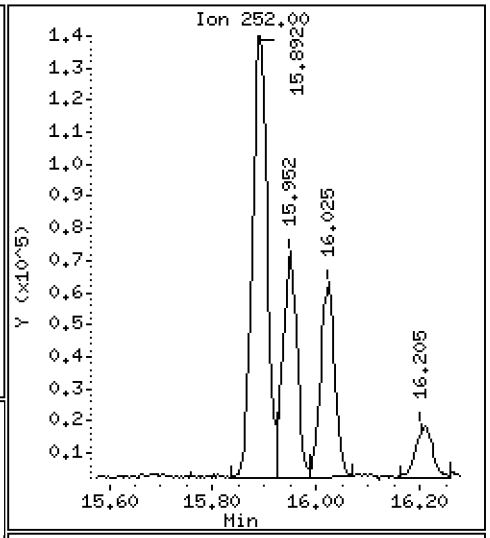
Column phase: Rxi-17sil

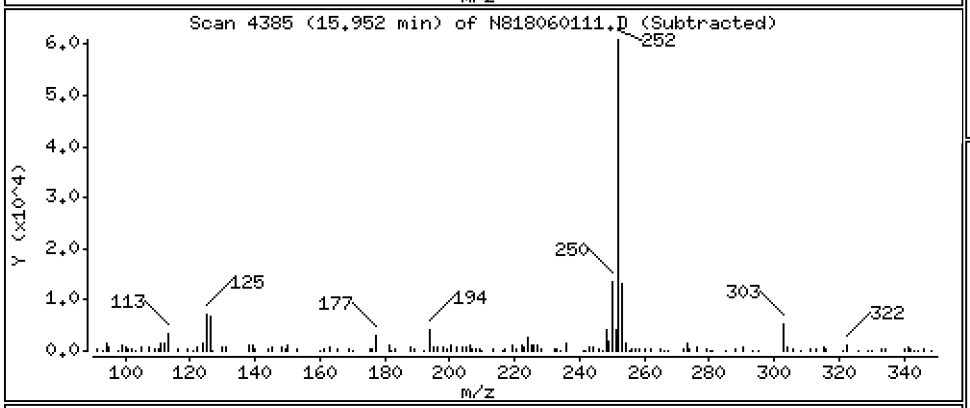
Column diameter: 0.25

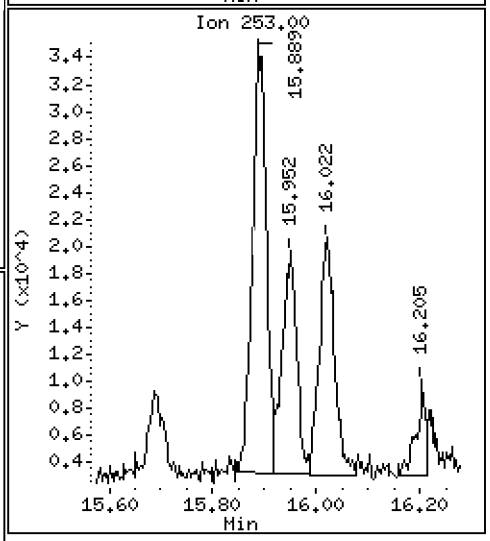
29 Benzo(k)fluoranthene

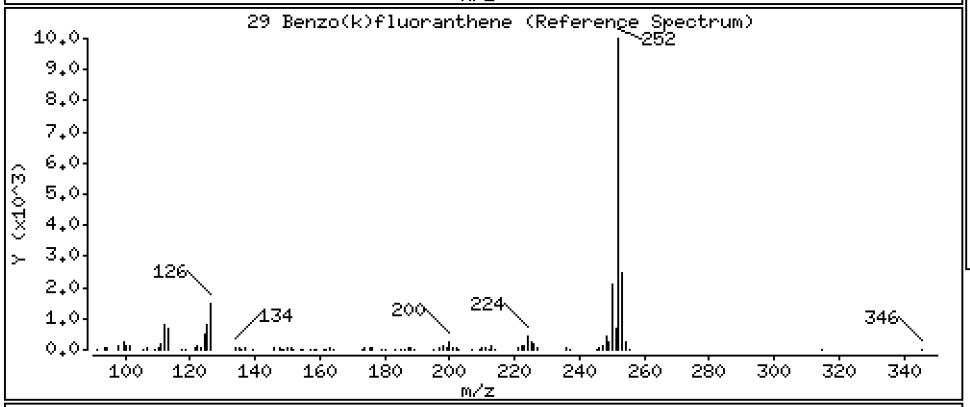
Concentration: 0.9210 ug/mL

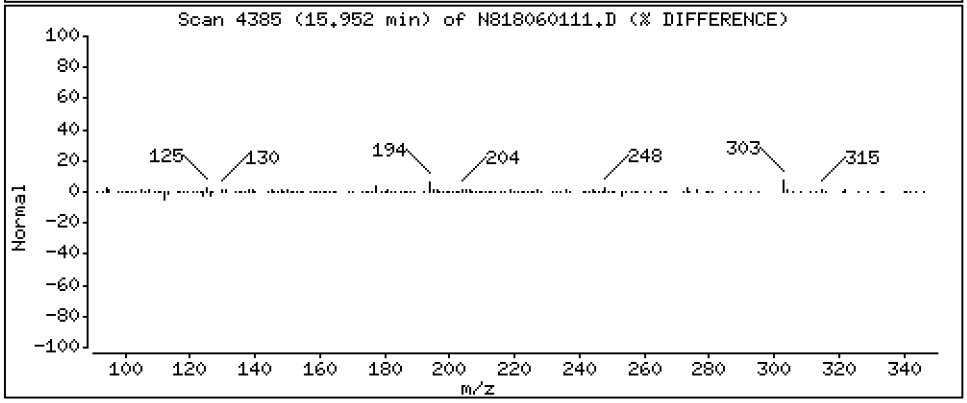












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

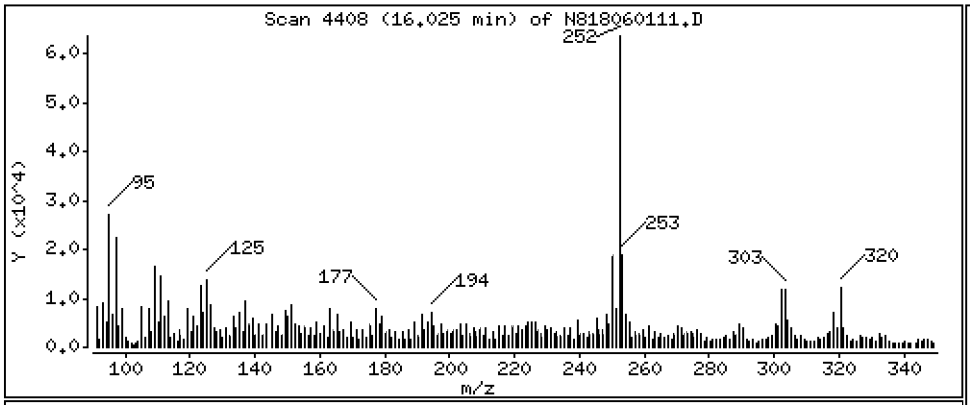
Operator: JZ

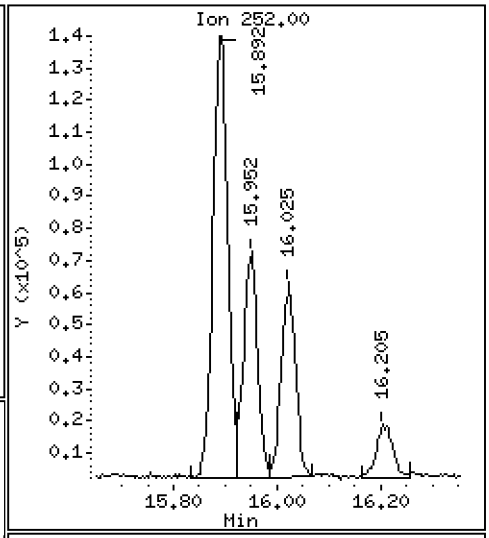
Column phase: Rxi-17sil

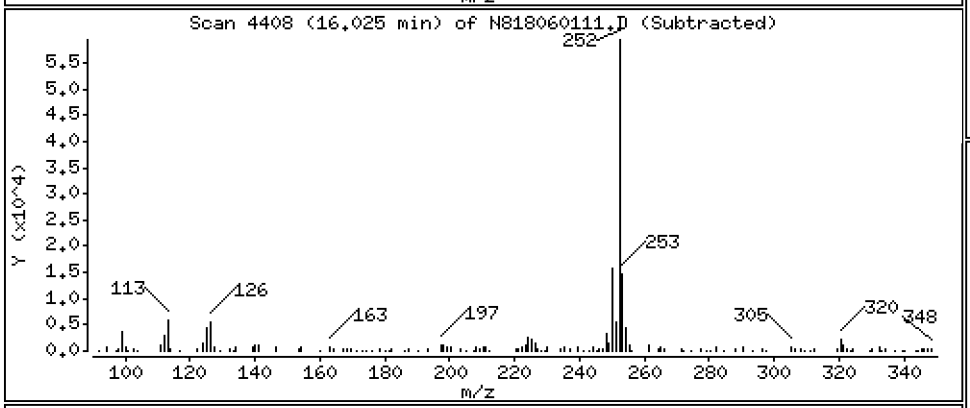
Column diameter: 0.25

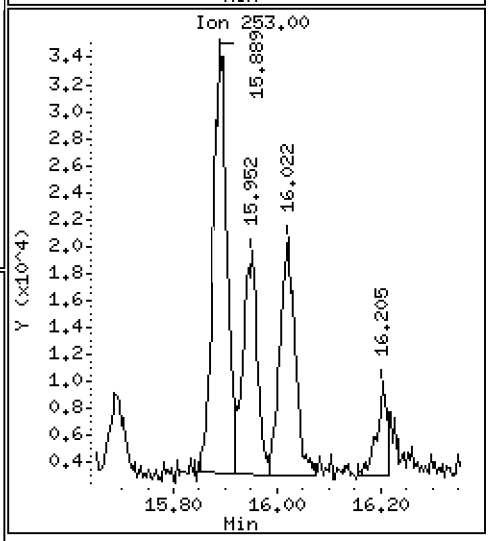
30 Benzo(j)fluoranthene

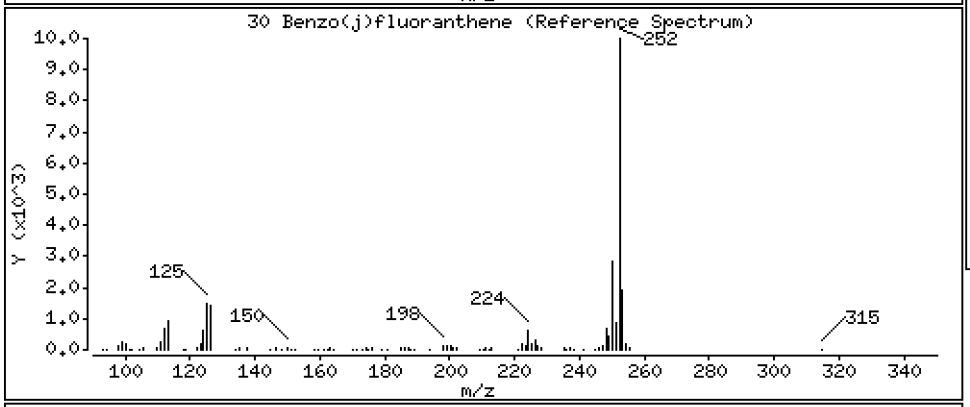
Concentration: 0.7974 ug/mL

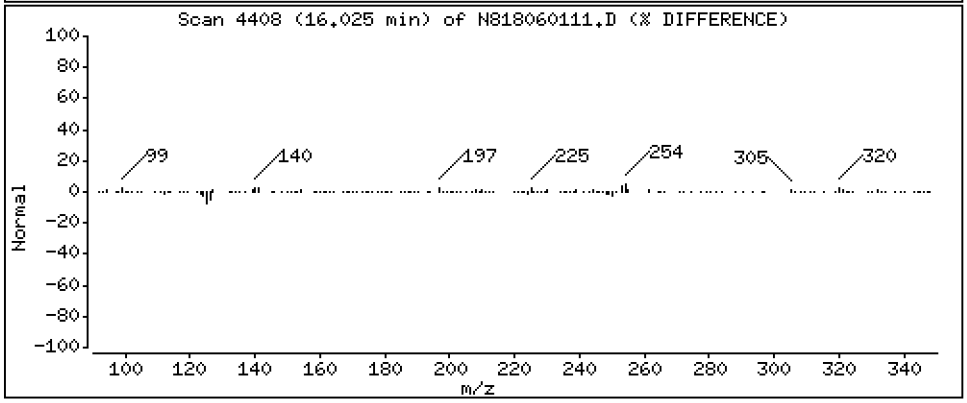












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

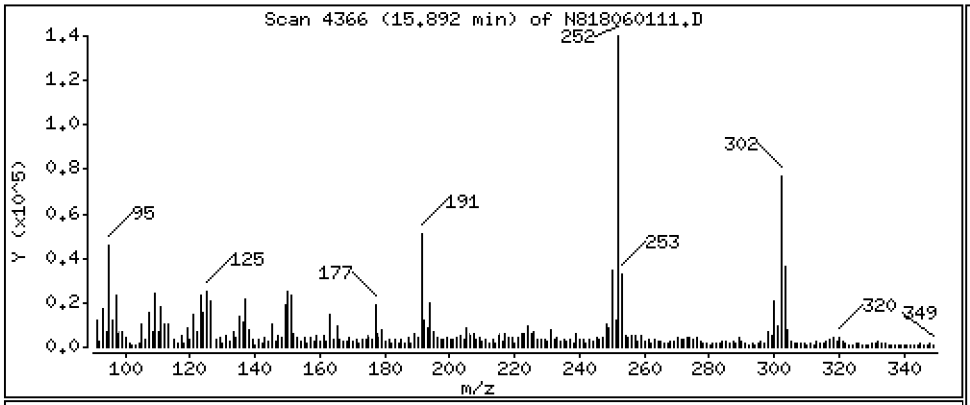
Operator: JZ

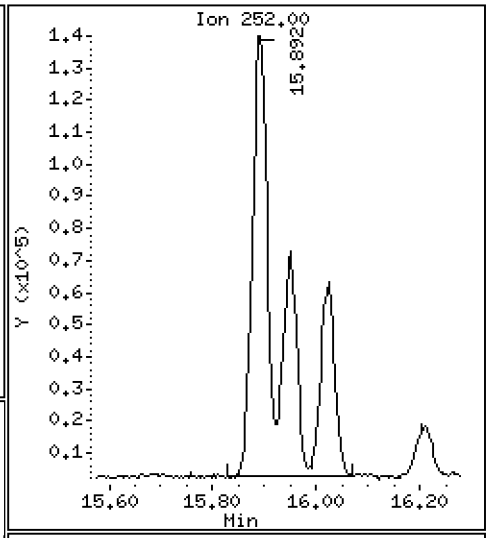
Column phase: Rxi-17sil

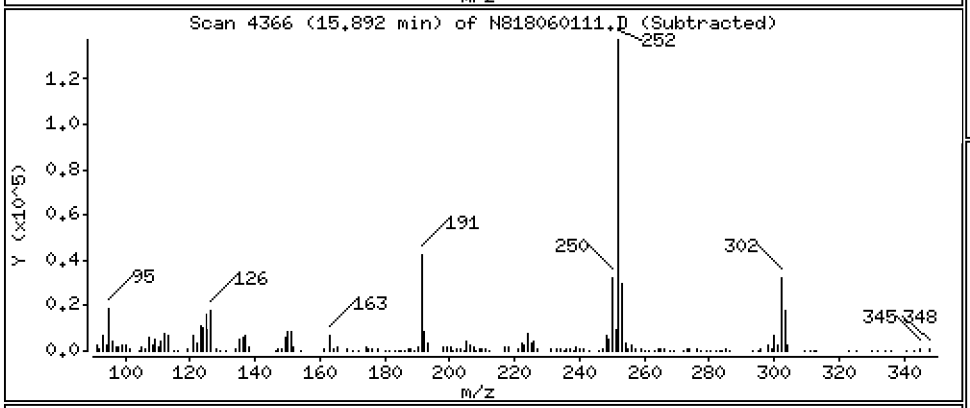
Column diameter: 0.25

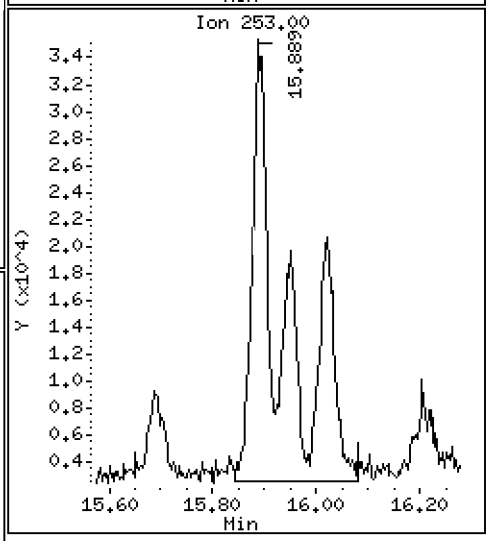
31 Total Benzofluoranthenes

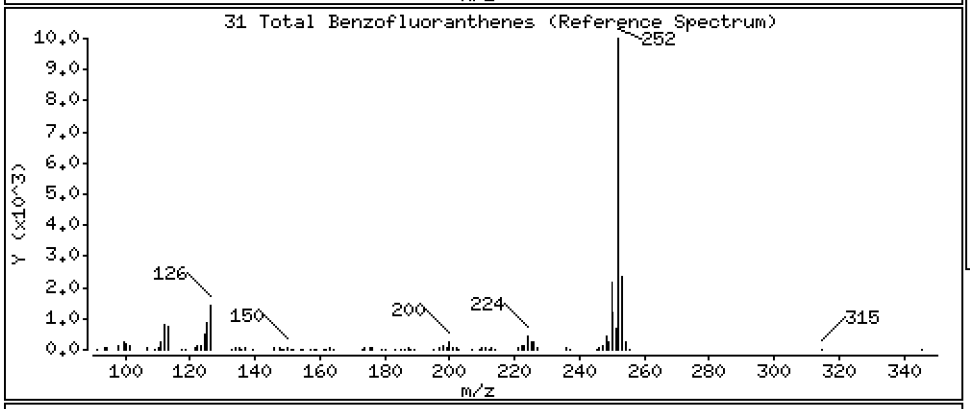
Concentration: 3.541 ug/mL

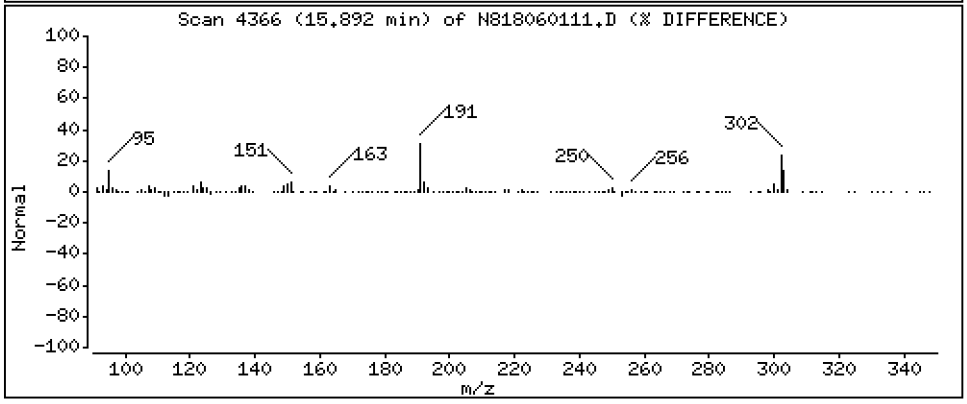












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

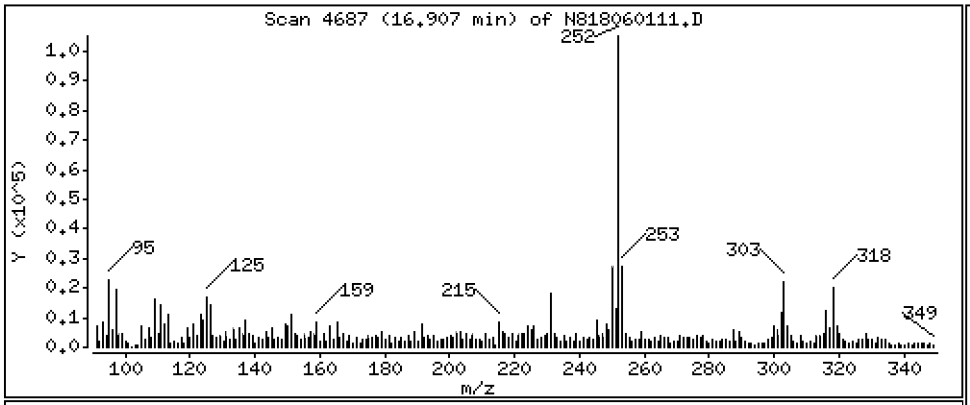
Operator: JZ

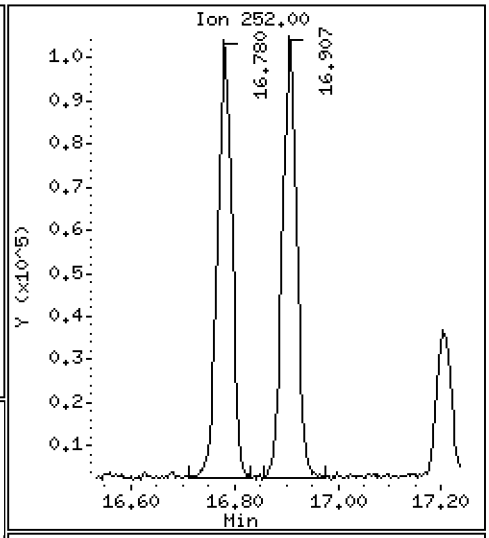
Column phase: Rxi-17sil

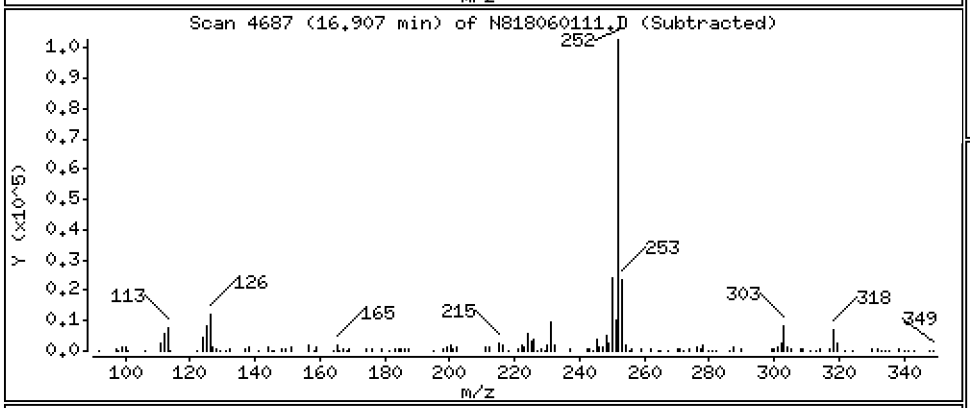
Column diameter: 0.25

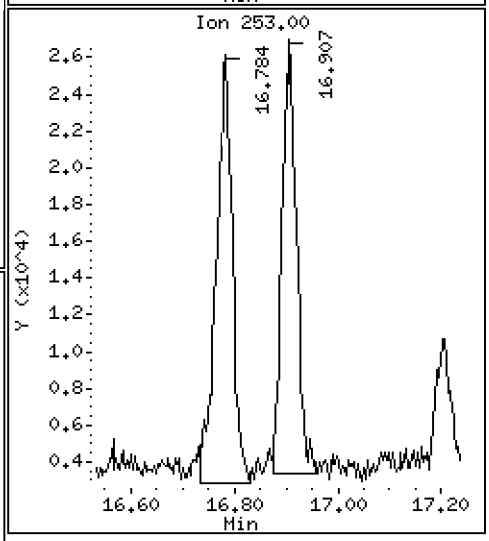
32 Benzo(a)pyrene

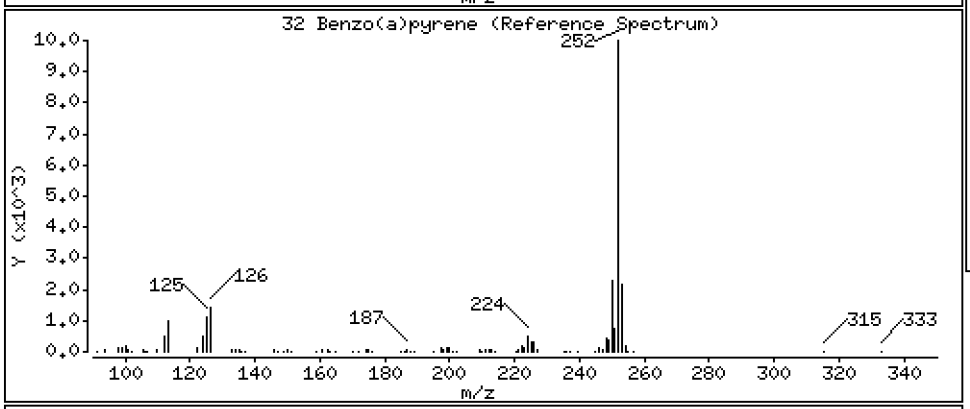
Concentration: 1.530 ug/mL

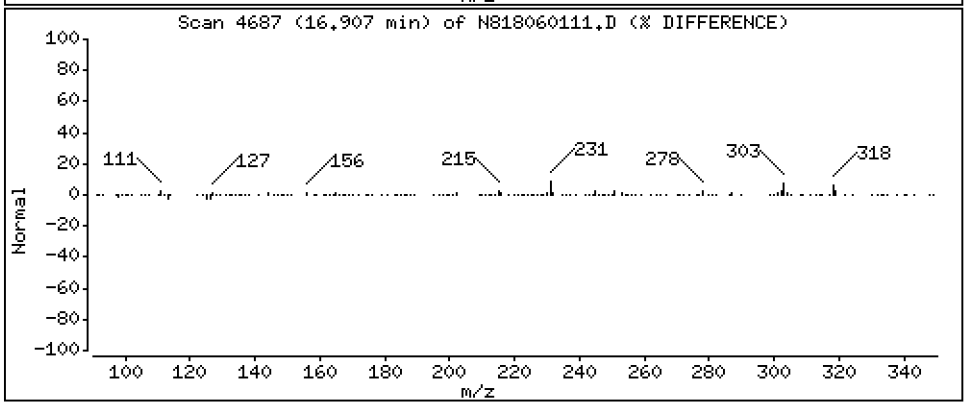












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

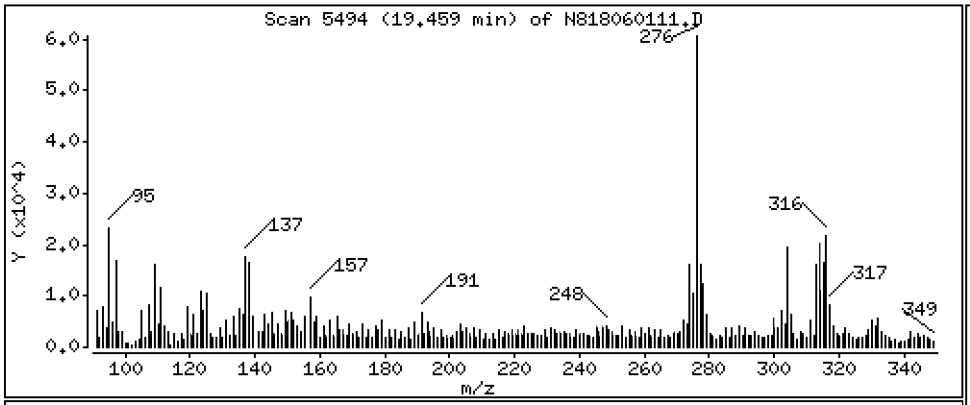
Operator: JZ

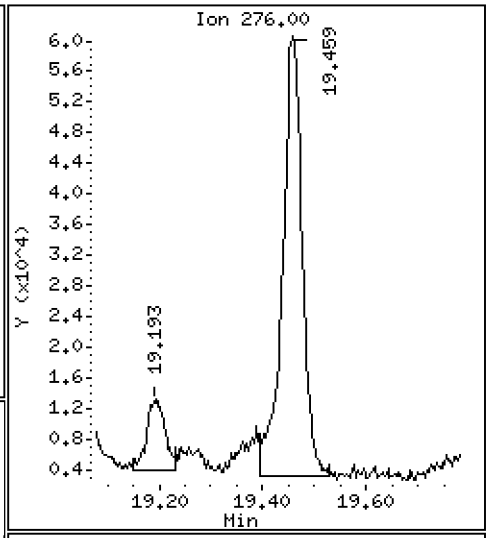
Column phase: Rxi-17sil

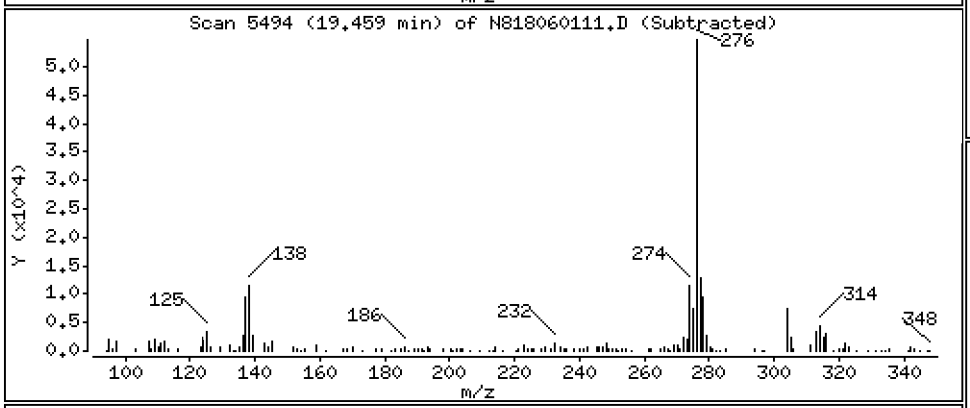
Column diameter: 0.25

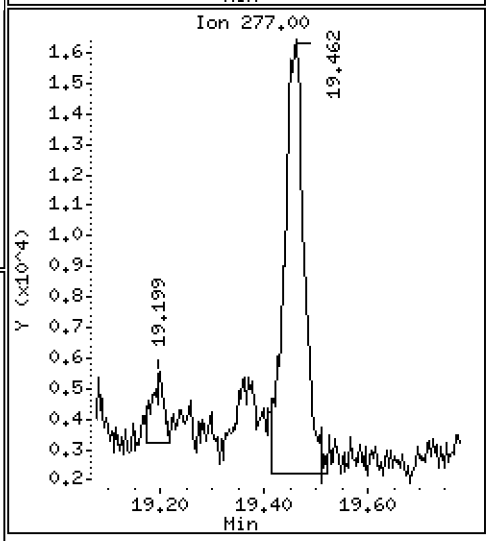
37 Indeno(1,2,3-cd)pyrene

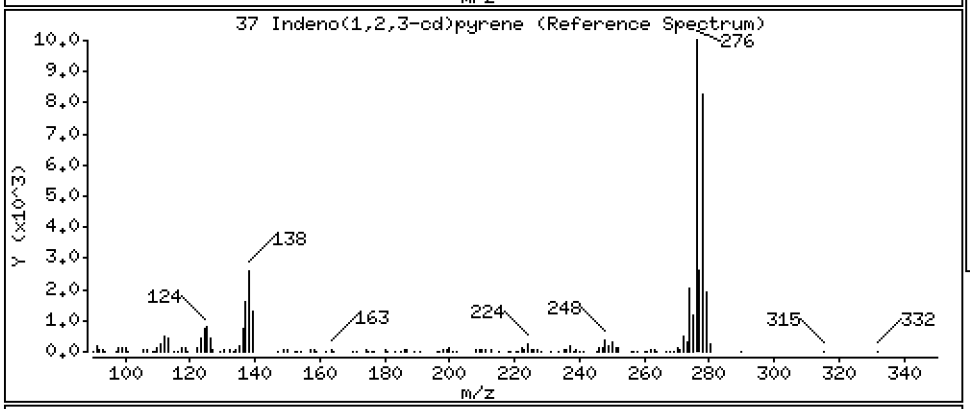
Concentration: 1.028 ug/mL

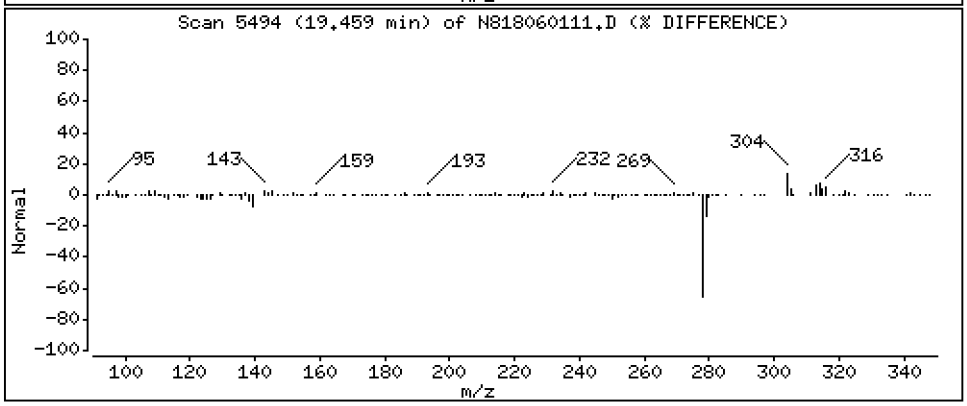












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

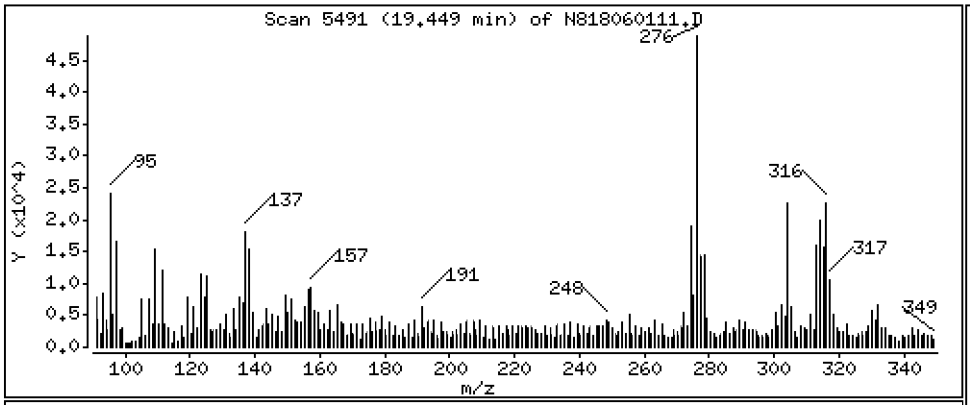
Operator: JZ

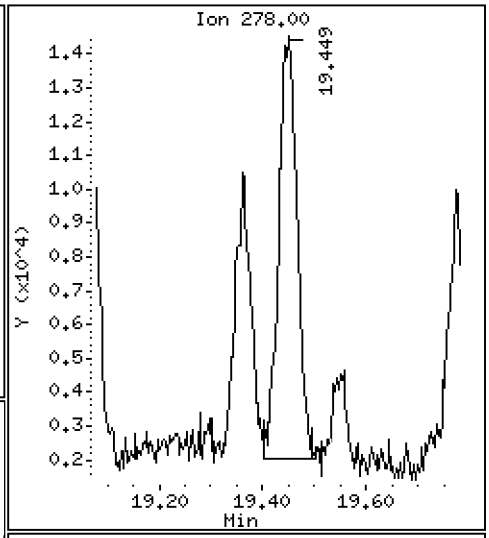
Column phase: Rxi-17sil

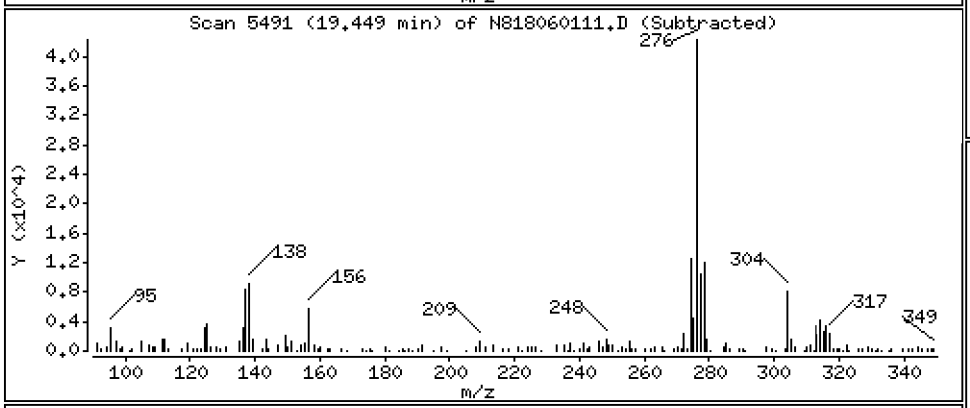
Column diameter: 0.25

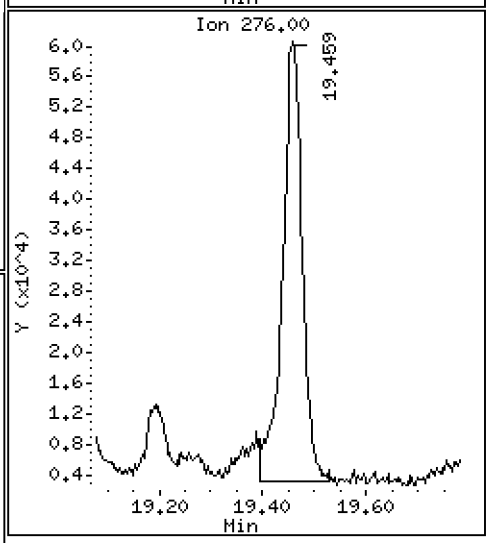
38 Dibenzo(a,h)anthracene

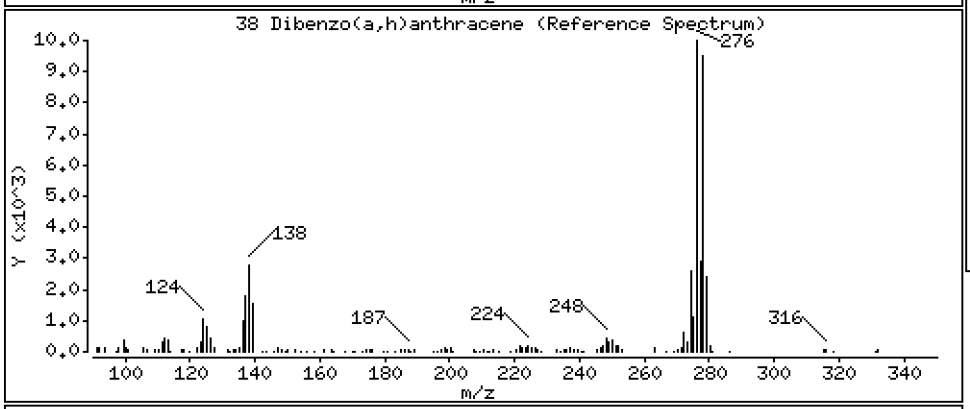
Concentration: 0.2575 ug/mL

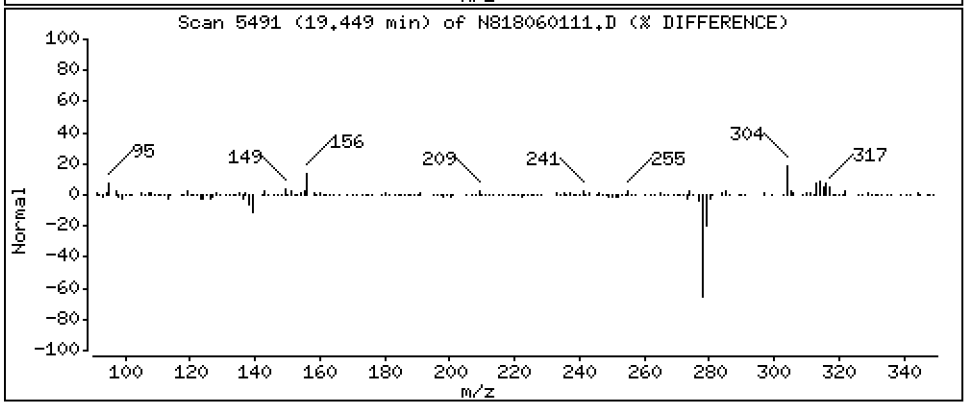












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

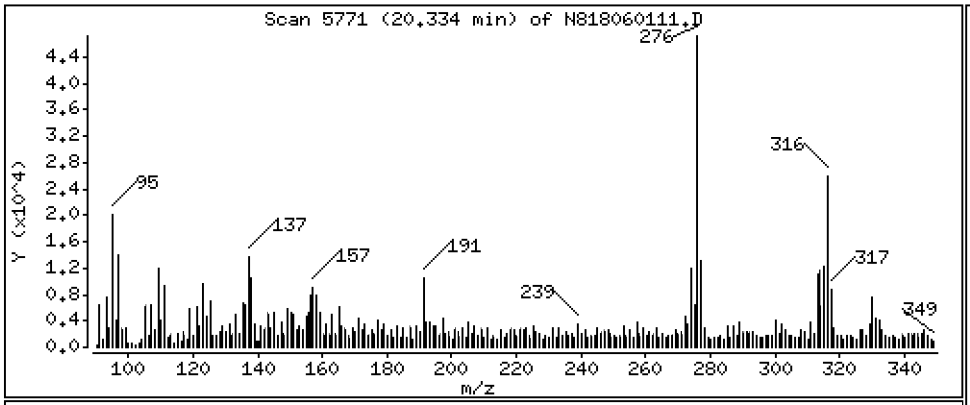
Operator: JZ

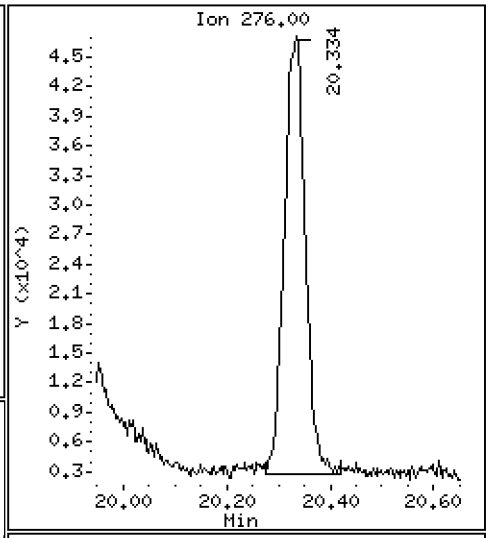
Column phase: Rxi-17sil

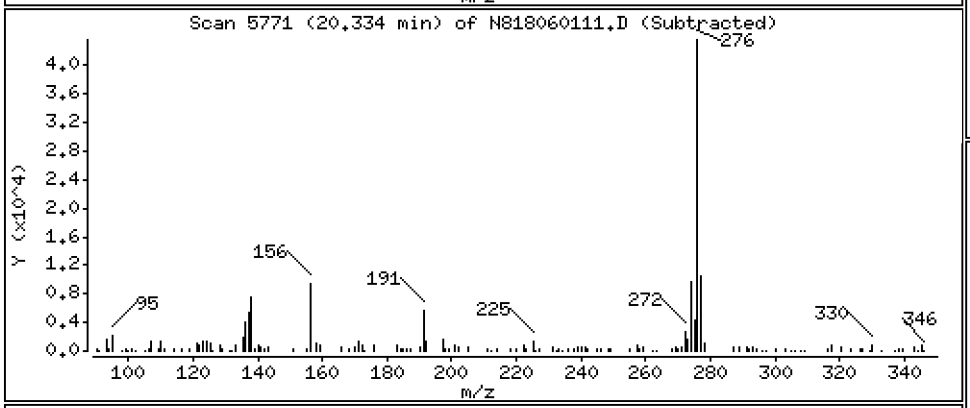
Column diameter: 0.25

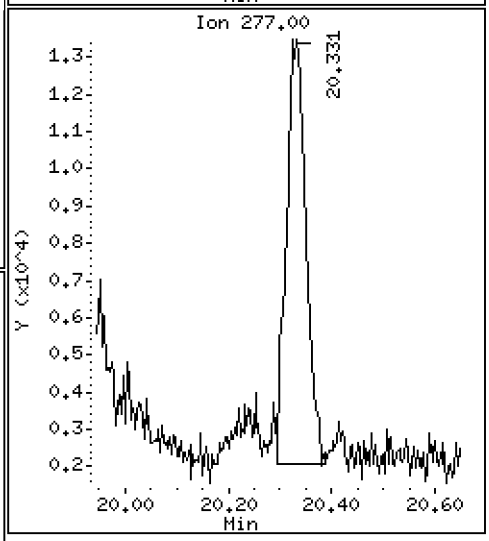
39 Benzo(g,h,i)perylene

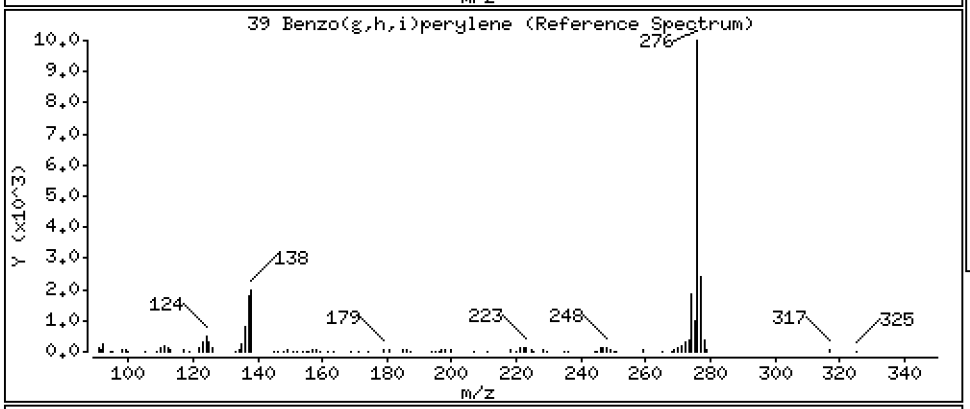
Concentration: 0.9629 ug/mL

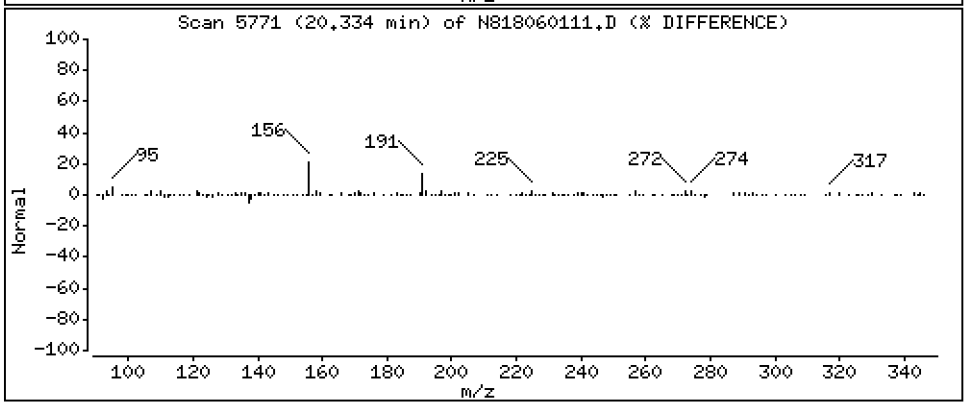












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060111.D

Date : 01-JUN-2018 18:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-04

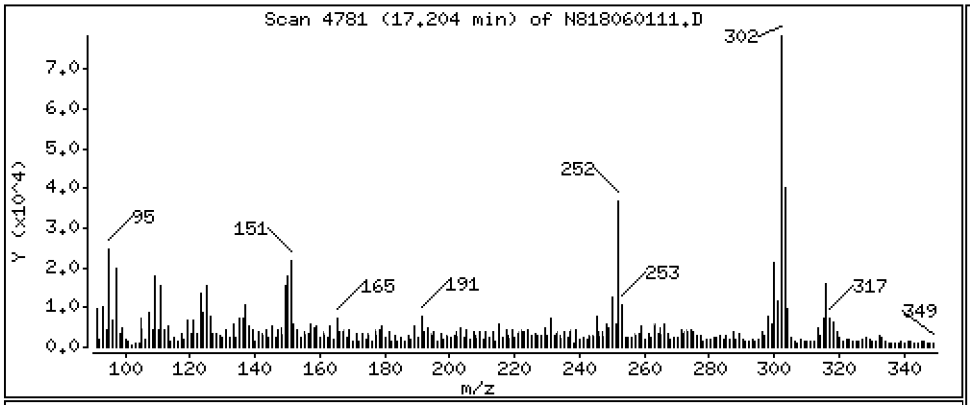
Operator: JZ

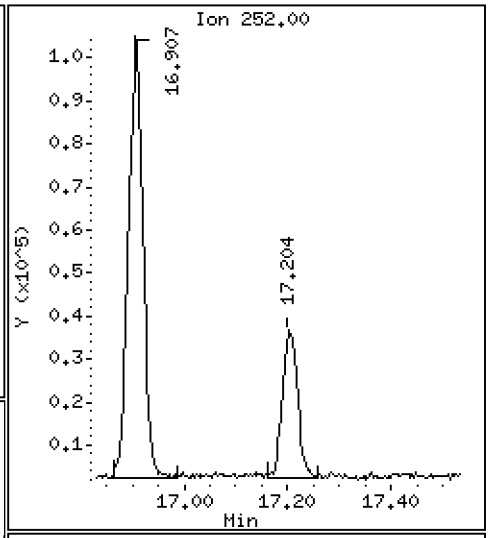
Column phase: Rxi-17sil

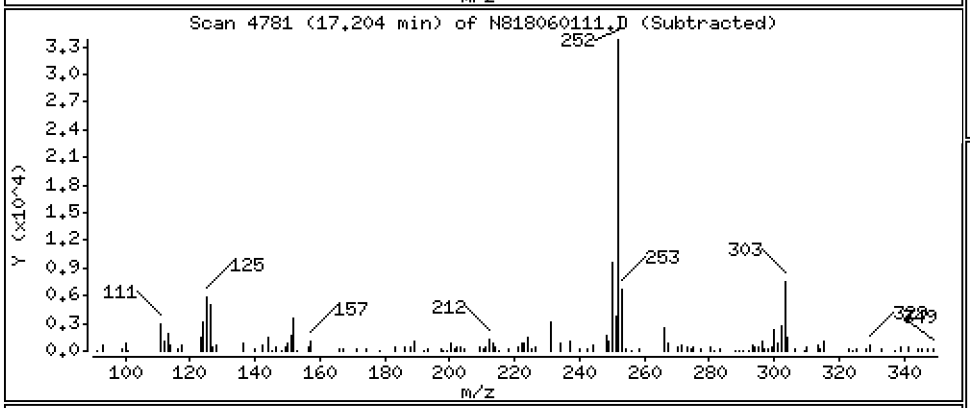
Column diameter: 0.25

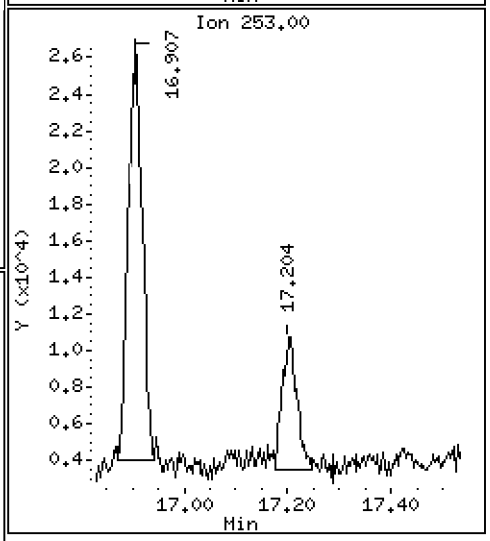
35 Perylene

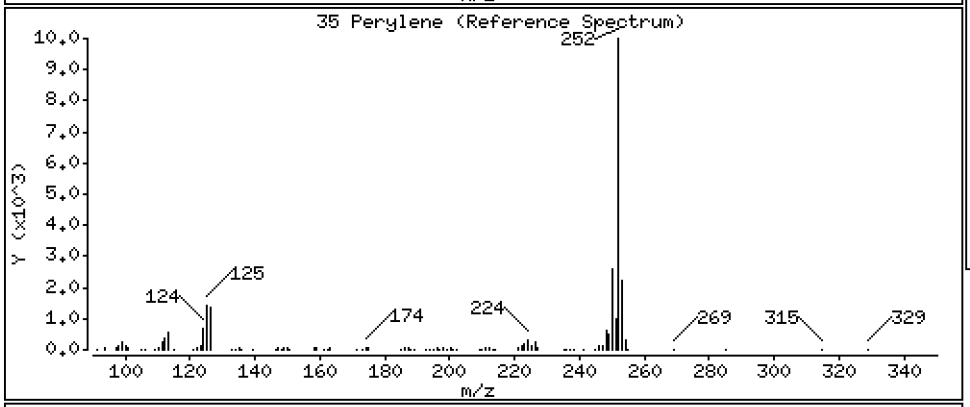
Concentration: 0.4986 ug/mL

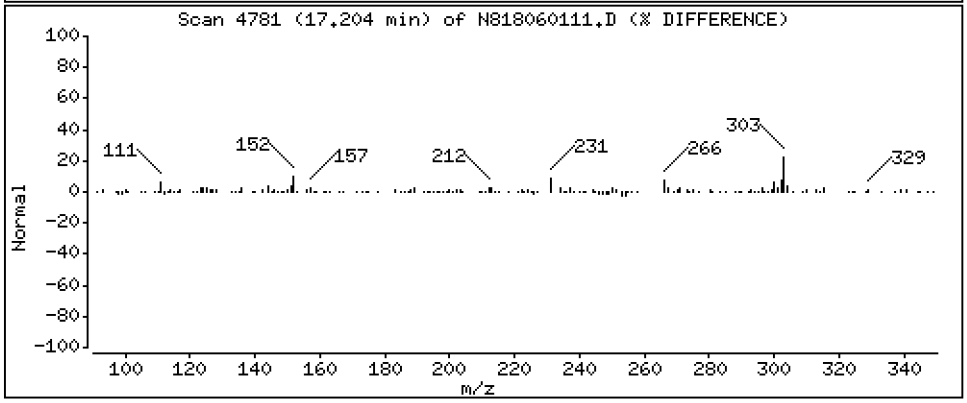












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060111.D
Lab Smp Id: 18E0243-04
Inj Date : 01-JUN-2018 18:52
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-04
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.455	4.464	(1.000)	218829	2.00000	
	2	Naphthalene	128	4.483	4.492	(1.006)	27315	0.21478	0.2148
$	3	2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	104190	1.30521	1.305
	4	2-Methylnaphthalene	141	5.236	5.242	(1.175)	13739	0.19180	0.1918
	5	1-methylnaphthalene	141	5.428	5.432	(1.219)	8510	0.11542	0.1154
	9	Acenaphthylene	152	6.617	6.617	(0.984)	22729	0.21183	0.2118
*	10	Acenaphthene-d10	164	6.728	6.728	(1.000)	108069	2.00000	
	11	Acenaphthene	153	6.779	6.775	(1.008)	7317	0.08896	0.08896
	12	Dibenzofuran	168	6.930	6.927	(1.030)	8747	0.07909	0.07909
	14	Fluorene	166	7.401	7.402	(1.100)	12339	0.14439	0.1444
*	15	Phenanthrene-d10	188	8.752	8.745	(1.000)	200441	2.00000	
	16	Phenanthrene	178	8.786	8.780	(1.004)	131789	1.07275	1.073
	17	Anthracene	178	8.828	8.821	(1.009)	52424	0.46835	0.4683
	22	Fluoranthene	202	10.446	10.434	(1.194)	396033	2.86039	2.860
$	21	Fluoranthene-d10	212	10.412	10.402	(1.190)	230551	1.75694	1.757
	23	Pyrene	202	10.914	10.902	(0.816)	521448	3.84949	3.849
	24	Benzo(a)anthracene	228	13.254	13.239	(0.991)	148428	1.13335	1.133
*	25	Chrysene-d12	240	13.374	13.356	(1.000)	225406	2.00000	
	27	Chrysene	228	13.444	13.425	(1.005)	308245	2.33816	2.338
	28	Benzo(b)fluoranthene	252	15.891	15.869	(0.927)	275385	1.85838	1.858
	29	Benzo(k)fluoranthene	252	15.951	15.926	(0.931)	134196	0.92096	0.9210
	30	Benzo(j)fluoranthene	252	16.024	16.002	(0.935)	116347	0.79744	0.7974
	31	Total Benzofluoranthenes	252	15.891	15.926	(0.927)	511698	3.54070	3.541(M)
	32	Benzo(a)pyrene	252	16.906	16.884	(0.987)	198685	1.52978	1.530
*	33	Perylene-d12	264	17.134	17.112	(1.000)	233168	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	19.458	19.430	(1.136)	152789	1.02756	1.028
$	36	Dibenzo(a,h)anthracene-d14	292	19.363	19.338	(1.130)	226027	2.06958	2.070
	38	Dibenzo(a,h)anthracene	278	19.449	19.430	(1.135)	31582	0.25749	0.2575
	39	Benzo(g,h,i)perylene	276	20.334	20.299	(1.187)	125135	0.96291	0.9629
	35	Perylene	252	17.204	17.181	(1.004)	70317	0.49861	0.4986

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060111.D
Lab Smp Id: 18E0243-04
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	218829	79.09
10 Acenaphthene-d10	65789	32895	131578	108069	64.27
15 Phenanthrene-d10	128644	64322	257288	200441	55.81
25 Chrysene-d12	166669	83335	333338	225406	35.24
33 Perylene-d12	140483	70242	280966	233168	65.98

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.07
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.14
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060111.D

Lab ID: 18E0243-04
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 18:52

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

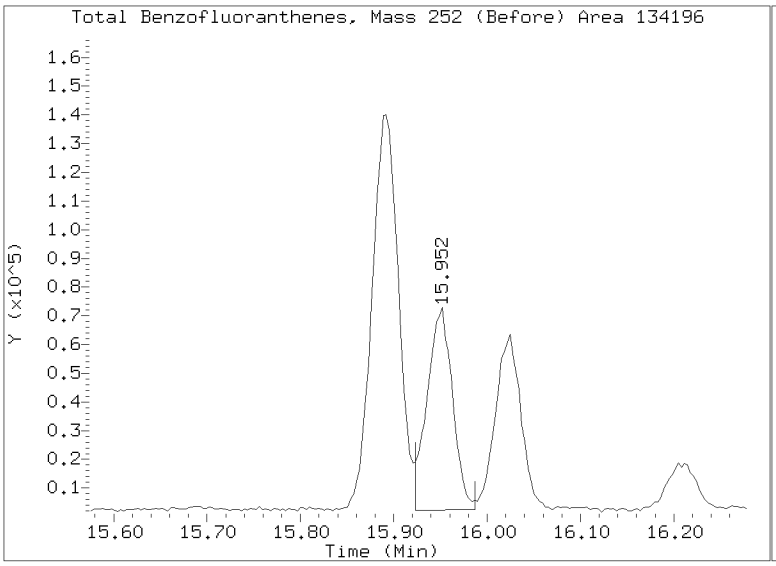
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

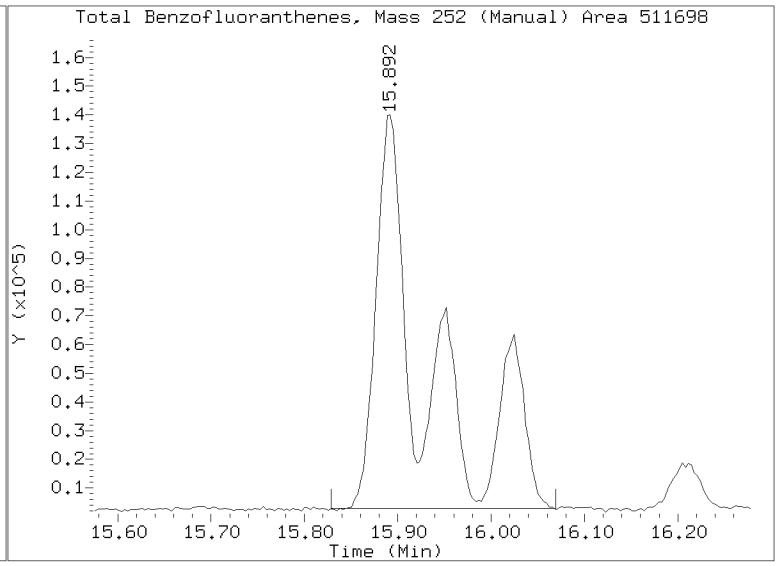
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060111.D
Injection Date: 01-JUN-2018 18:52
Lab ID:18E0243-04 Client ID:
Report Date: 06/04/2018 11:40





LDW18-SSCL-A04

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-05	SDG:	18E0231
Sampled:	05/16/18 12:32	Prepared:	05/24/18 10:50	File ID:	N818060112.D
% Solids:	73.55	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 19:18
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	14.2 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	13.0		0.79	4.79
218-01-9	Chrysene	1	23.3		1.01	4.79
205-99-2	Benzo(b)fluoranthene	1	14.2		1.31	4.79
207-08-9	Benzo(k)fluoranthene	1	8.06		0.73	4.79
50-32-8	Benzo(a)pyrene	1	12.8		0.59	4.79
193-39-5	Indeno(1,2,3-cd)pyrene	1	8.01		1.01	4.79
53-70-3	Dibenzo(a,h)anthracene	1	2.69	J	0.85	4.79

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.62	57.6	40.1	32 - 120	
Dibenzo[a,h]anthracene-d14	143.62	105	72.8	21 - 133	
Fluoranthene-d10	143.62	80.9	56.3	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

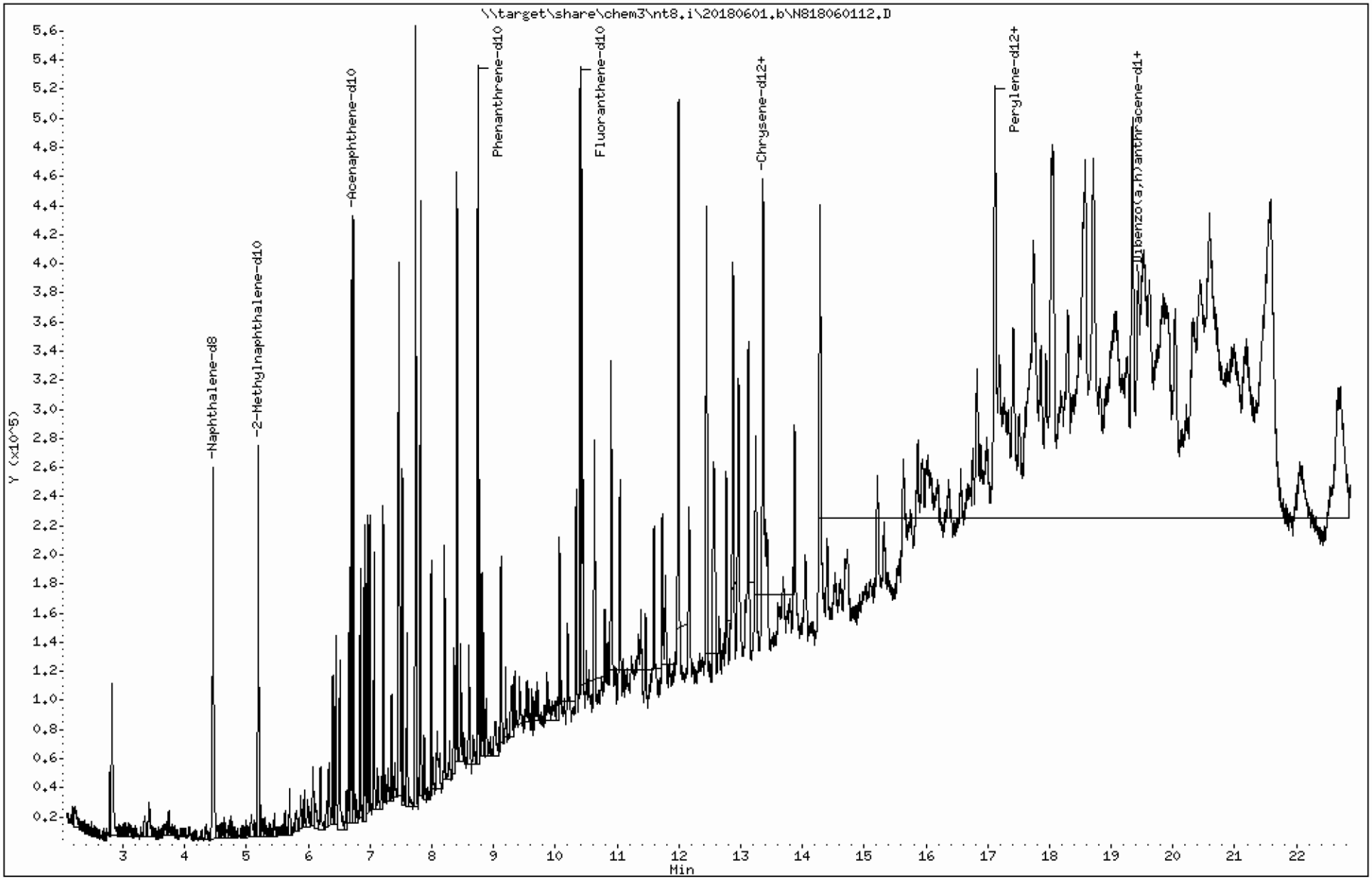
Instrument: nt8.i

Sample Info: 18E0243-05

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

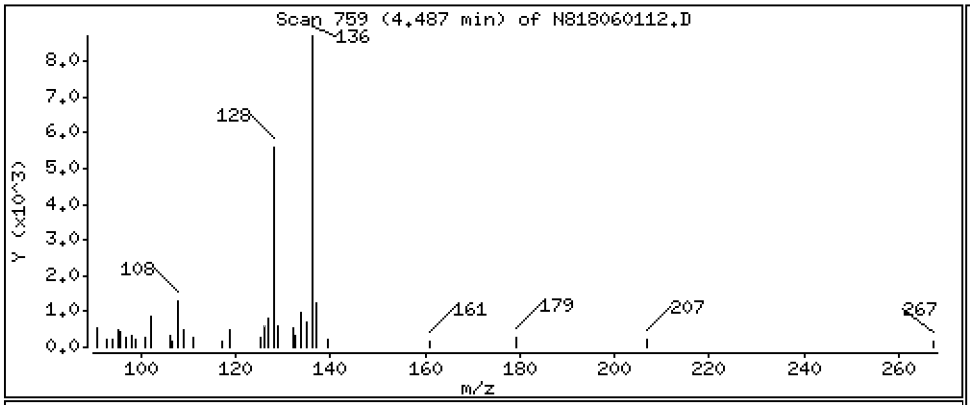
Operator: JZ

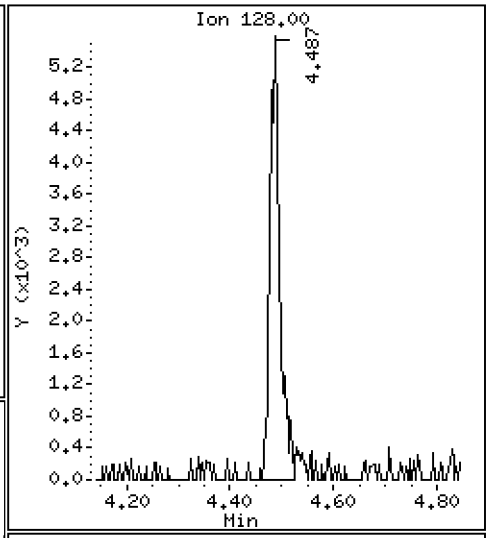
Column phase: Rxi-17sil

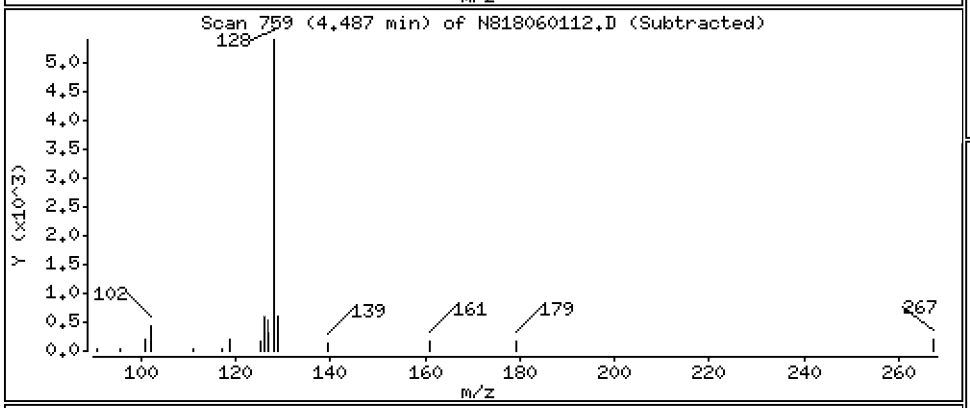
Column diameter: 0.25

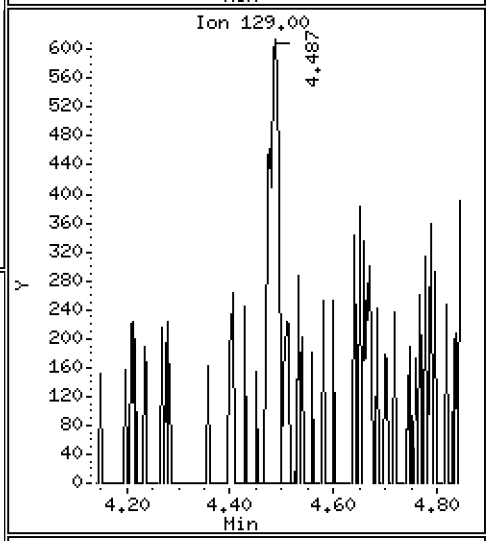
2 Naphthalene

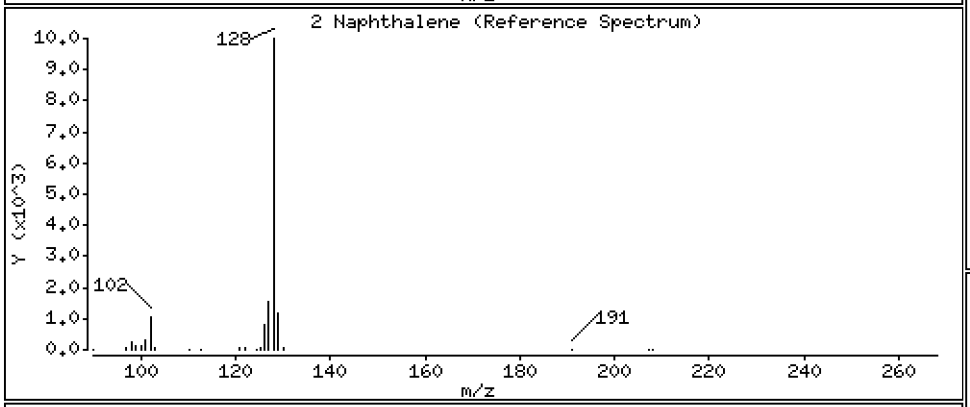
Concentration: 0.06073 ug/mL

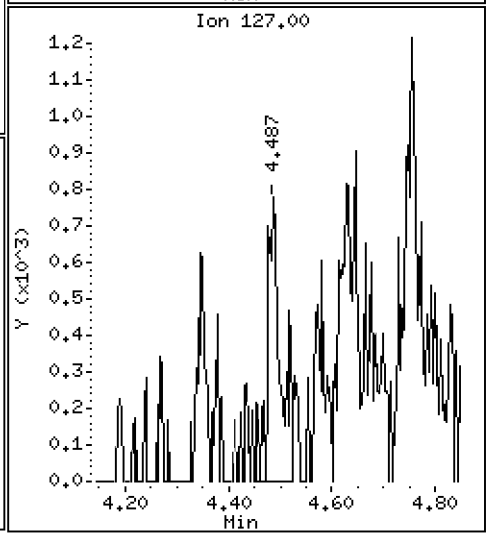


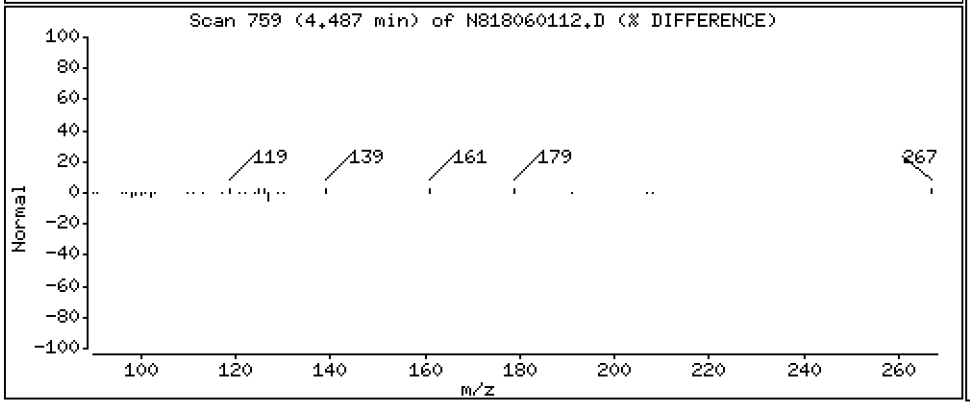












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

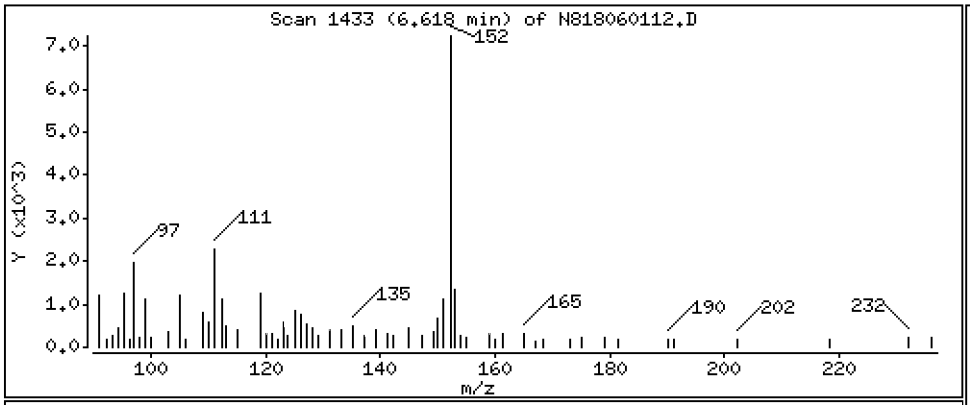
Operator: JZ

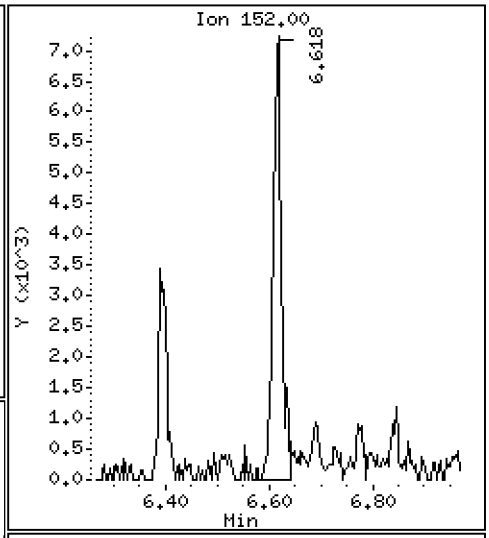
Column phase: Rxi-17sil

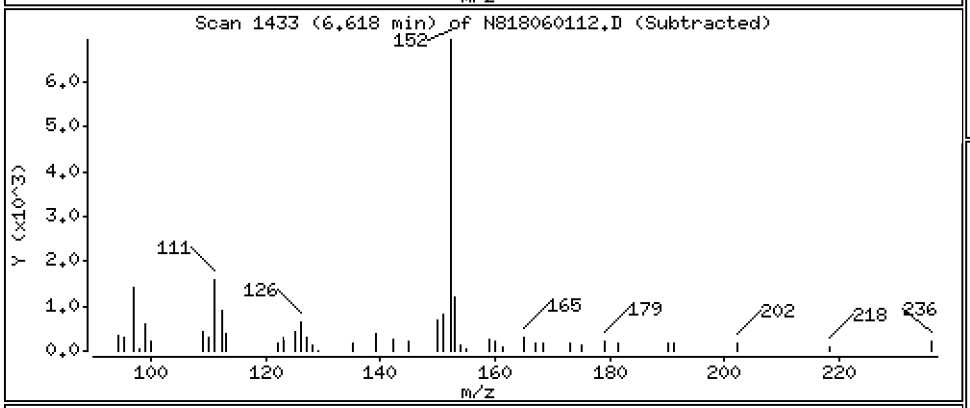
Column diameter: 0.25

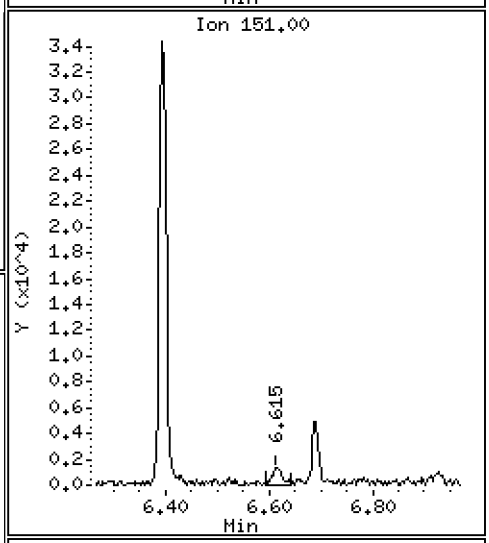
9 Acenaphthylene

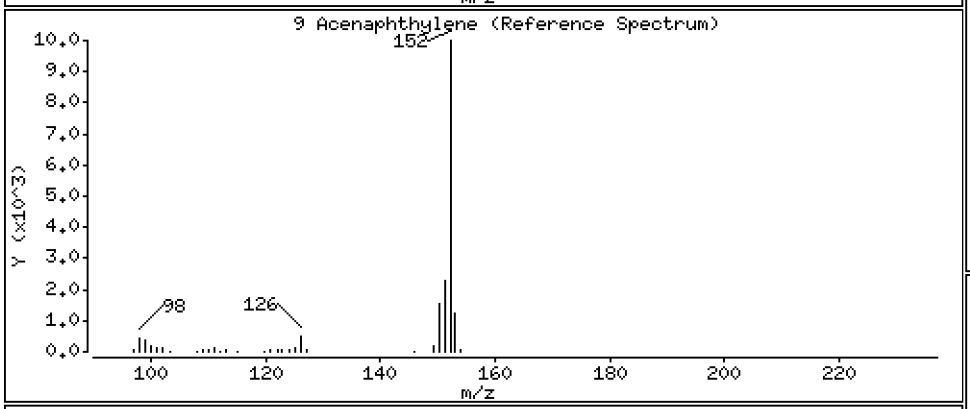
Concentration: 0.07816 ug/mL

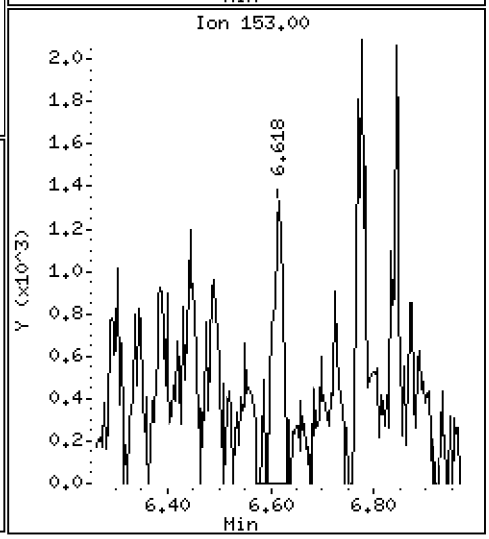


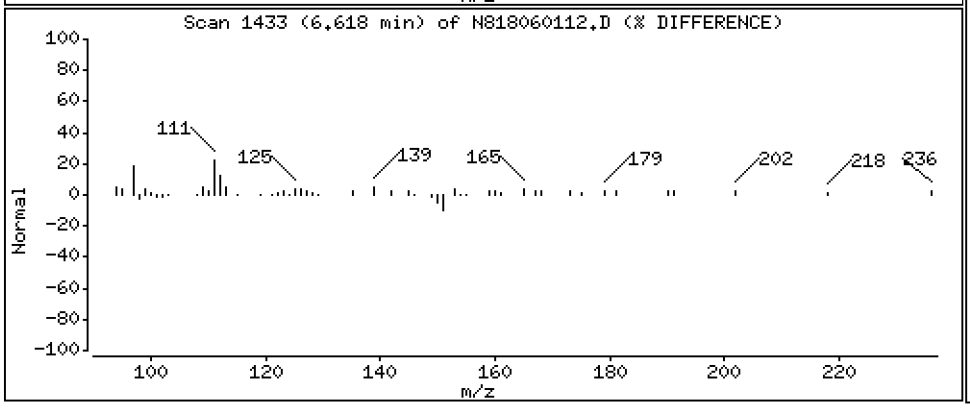












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

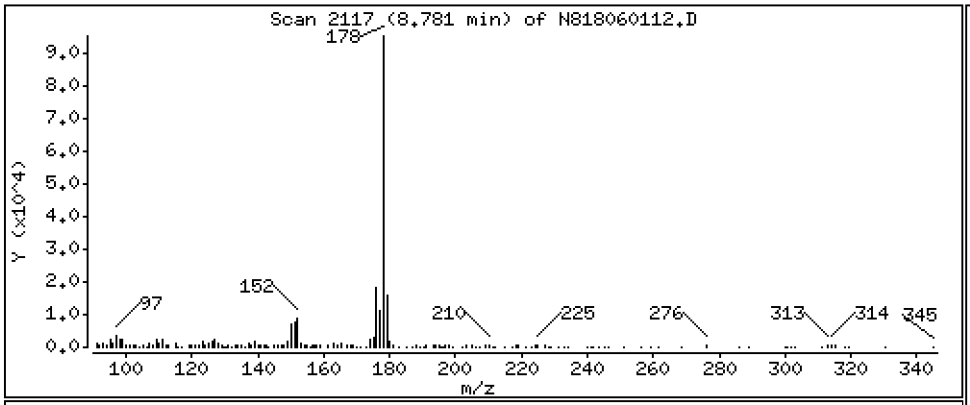
Operator: JZ

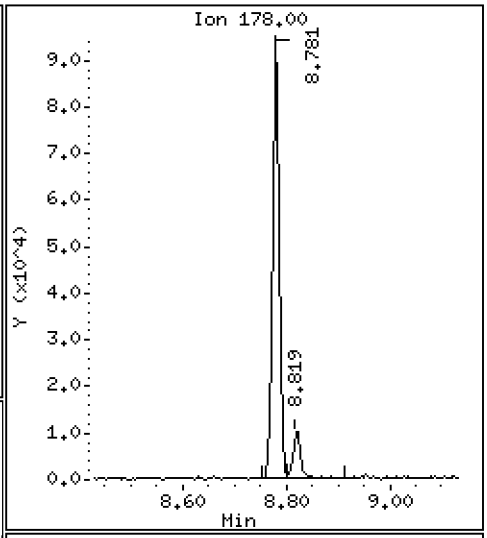
Column phase: Rxi-17sil

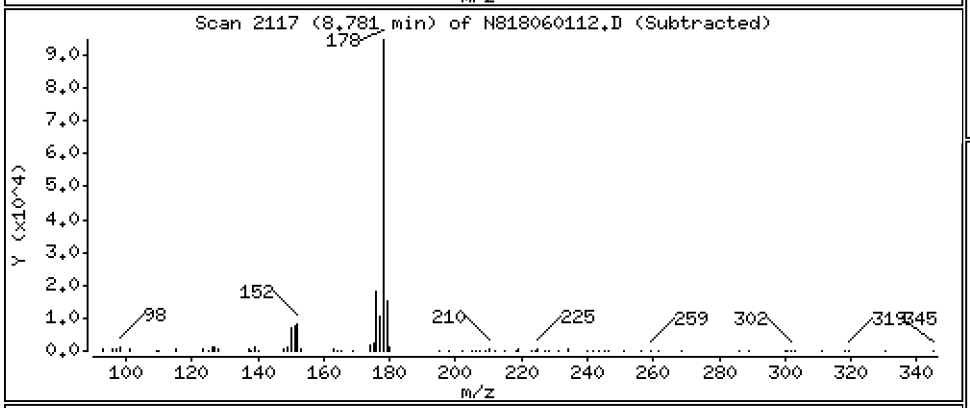
Column diameter: 0.25

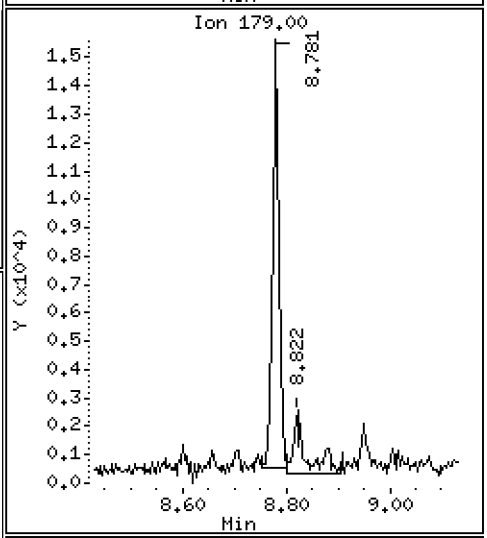
16 Phenanthrene

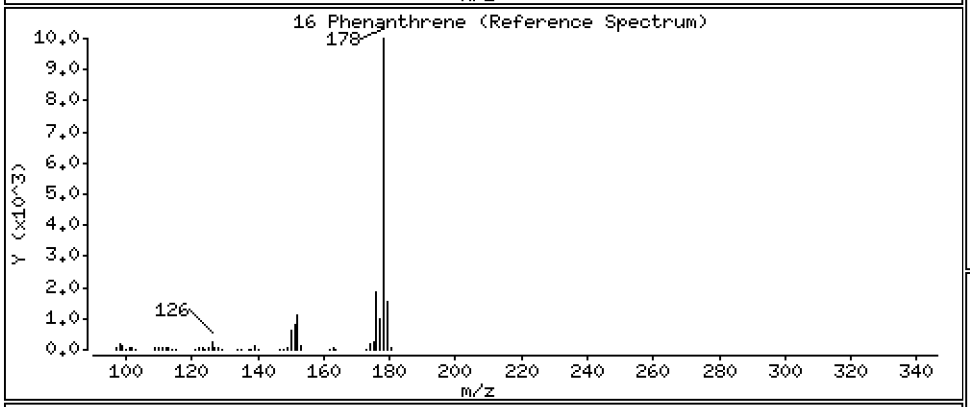
Concentration: 0.7279 ug/mL

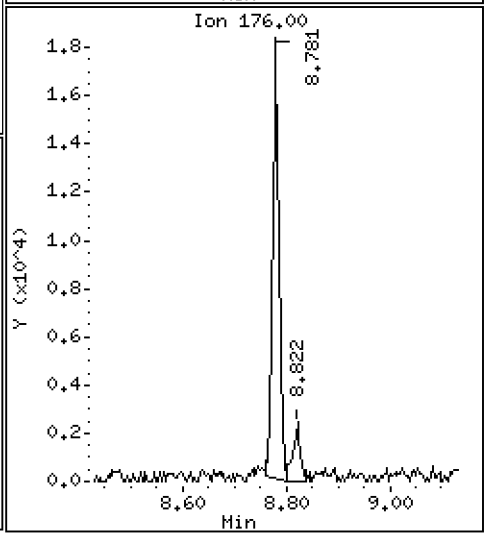


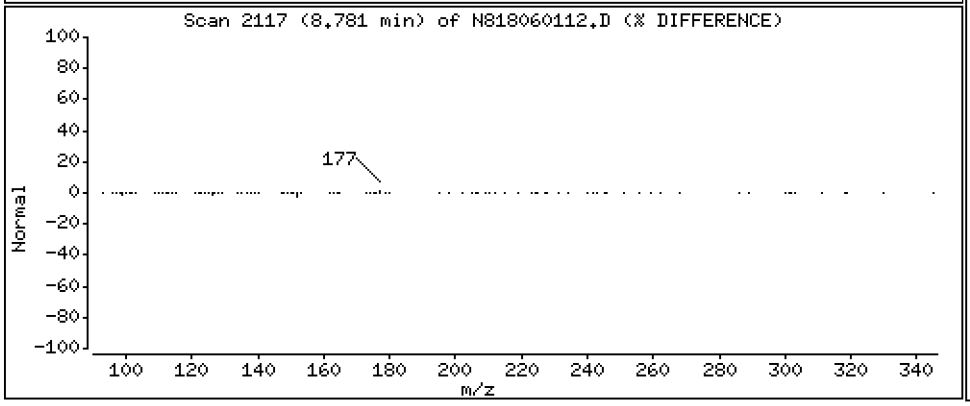












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

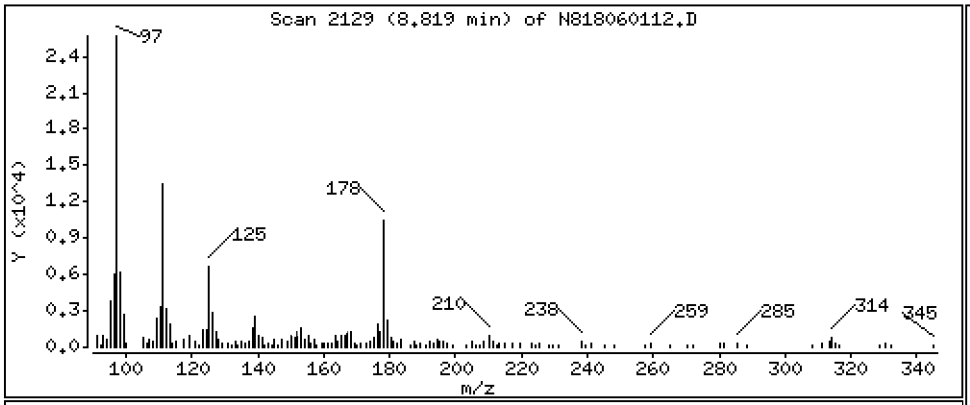
Operator: JZ

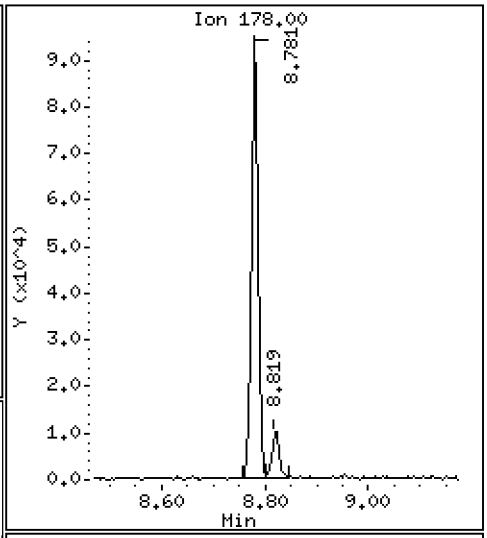
Column phase: Rxi-17sil

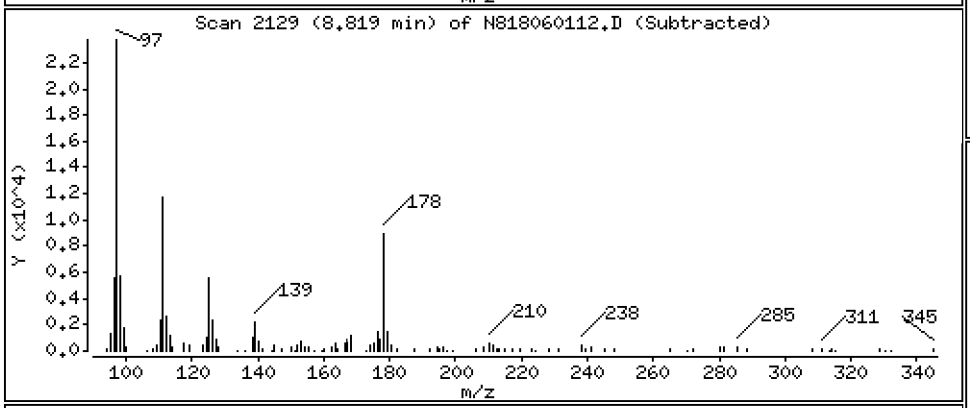
Column diameter: 0.25

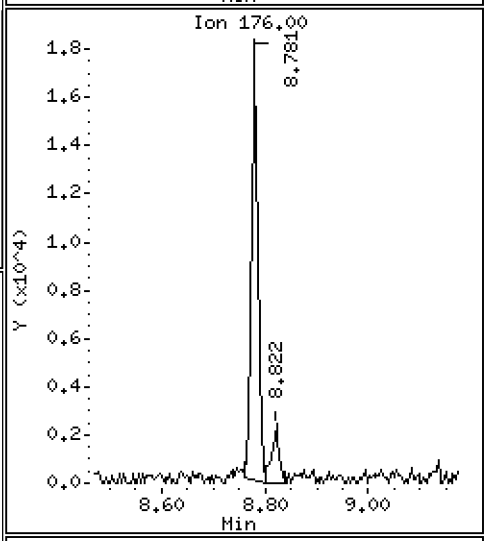
17 Anthracene

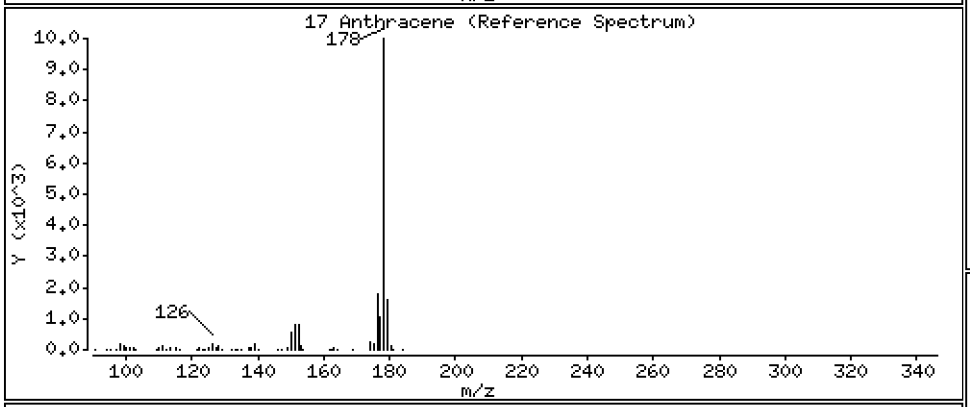
Concentration: 0.09178 ug/mL

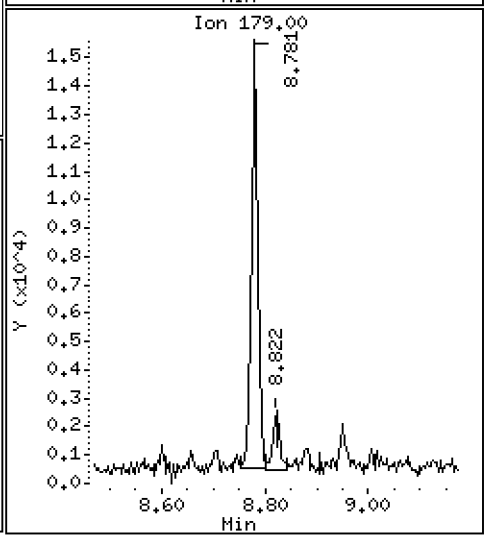


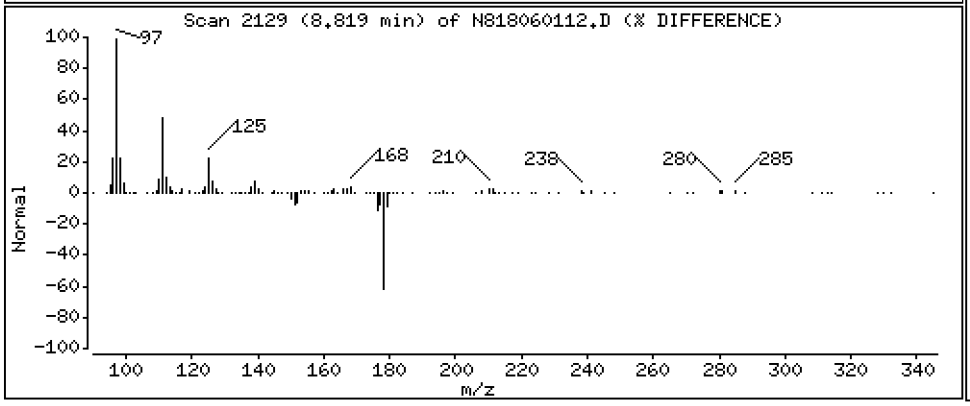












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

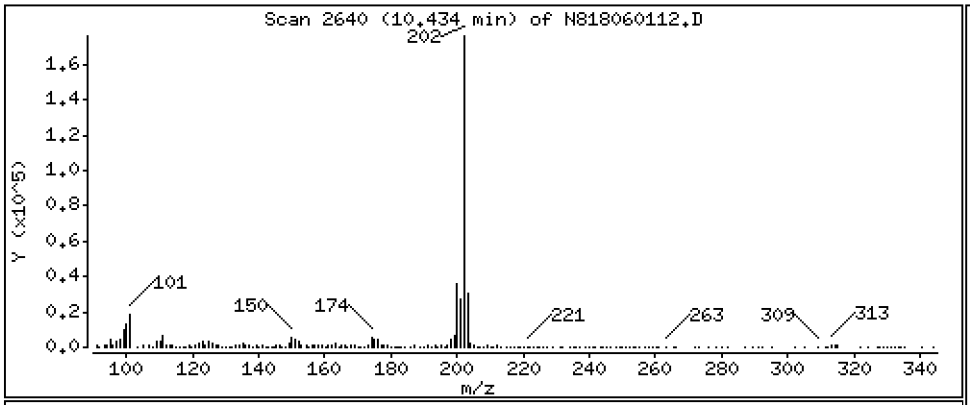
Operator: JZ

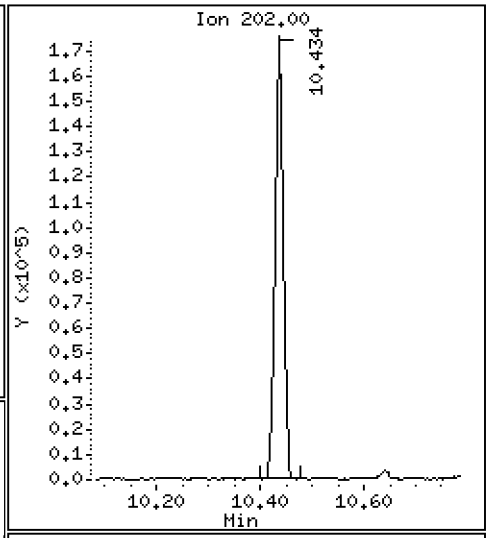
Column phase: Rxi-17sil

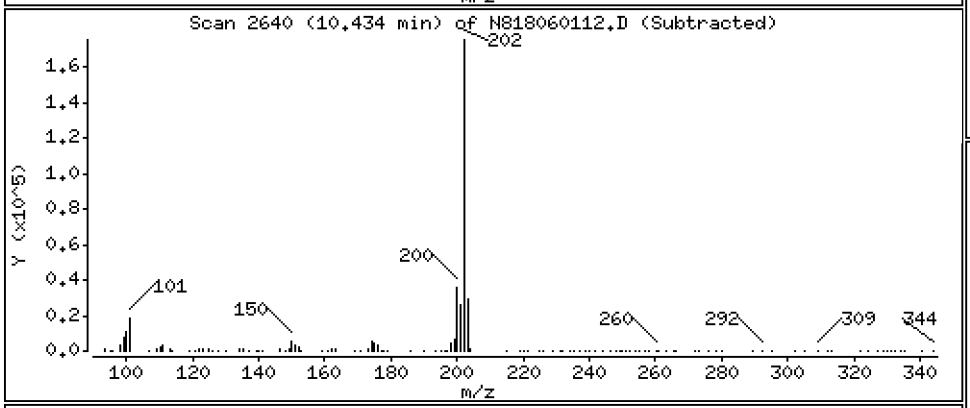
Column diameter: 0.25

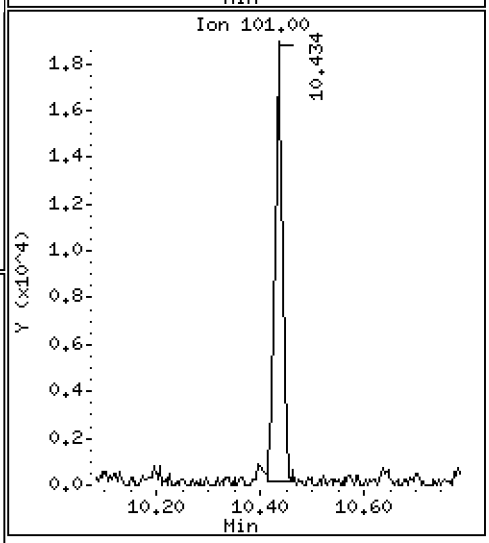
22 Fluoranthene

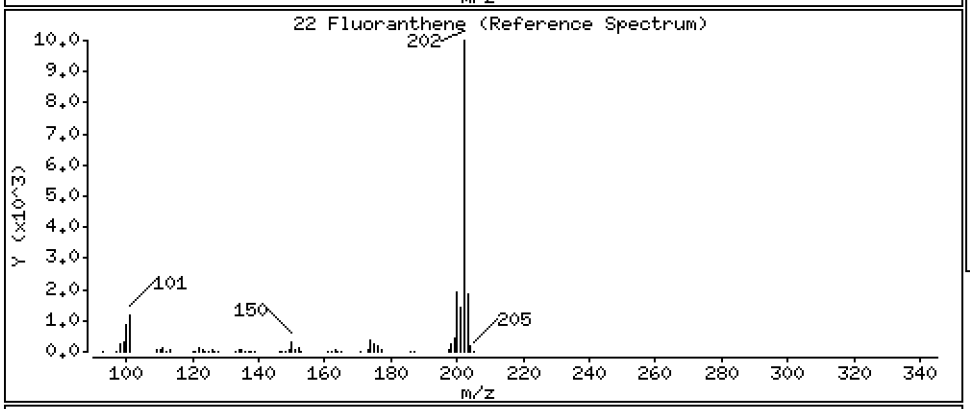
Concentration: 1.451 ug/mL

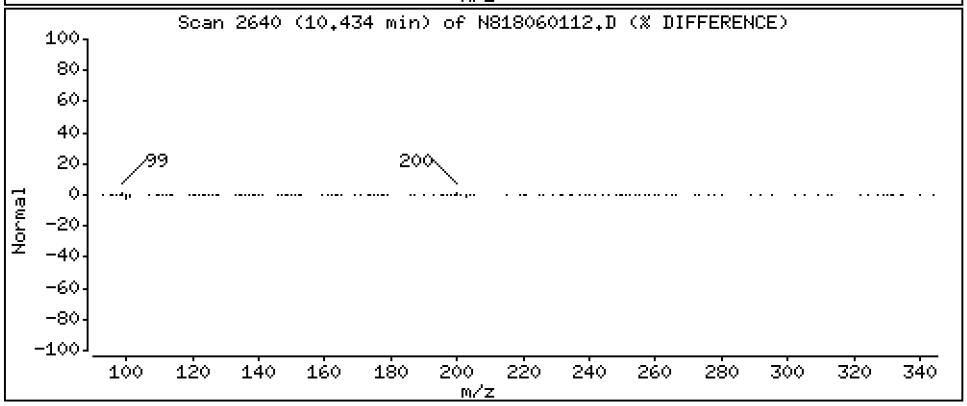












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

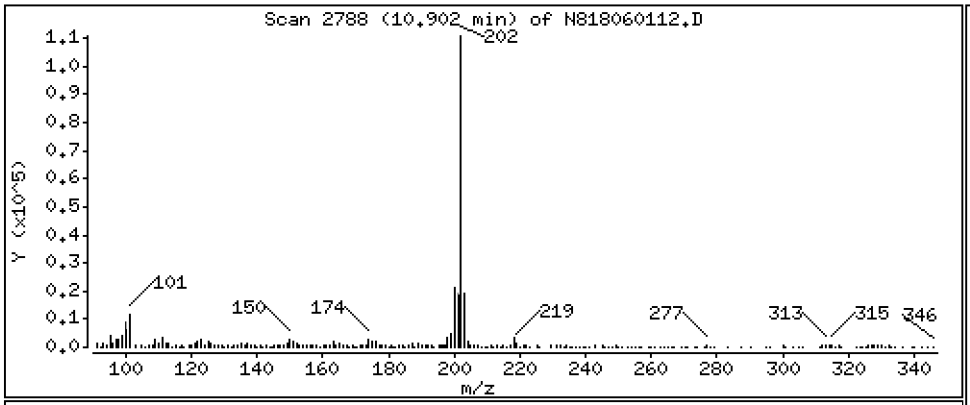
Operator: JZ

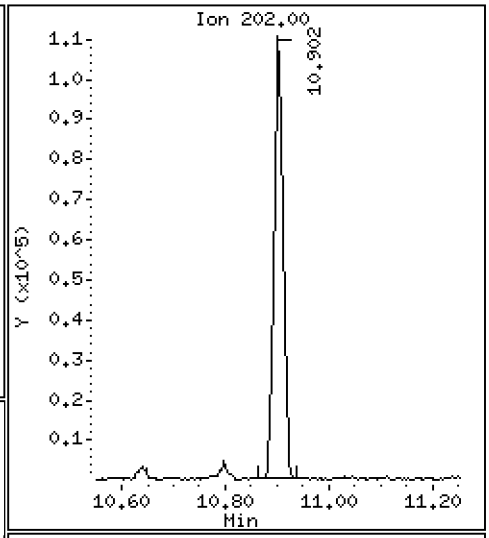
Column phase: Rxi-17sil

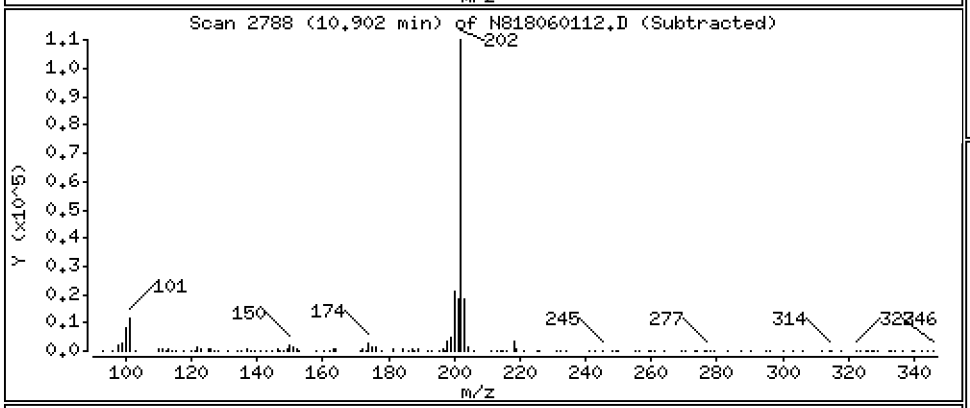
Column diameter: 0.25

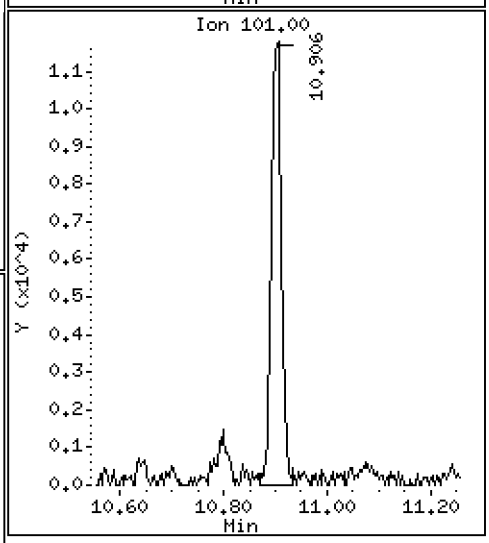
23 Pyrene

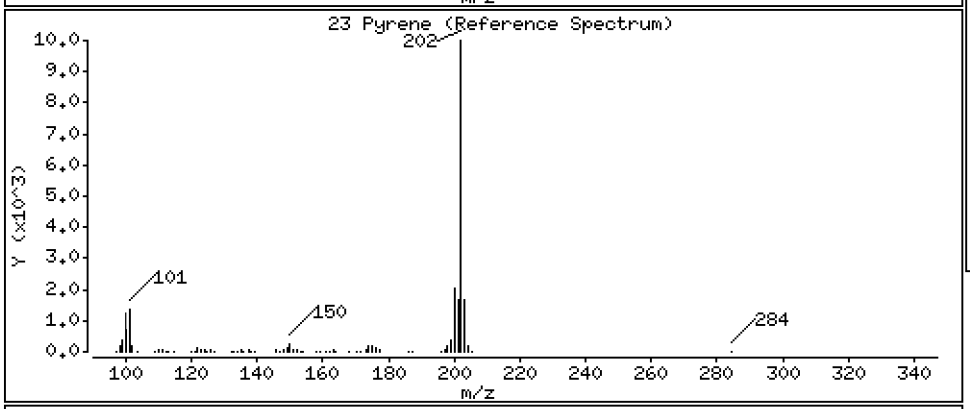
Concentration: 1.103 ug/mL

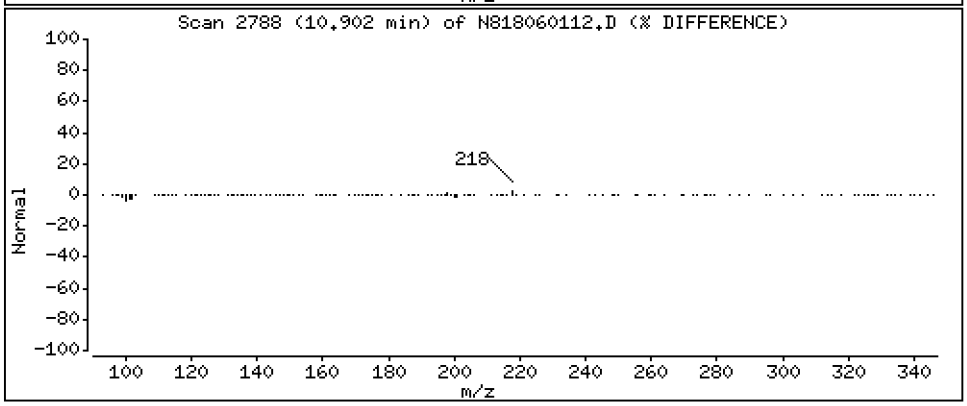












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

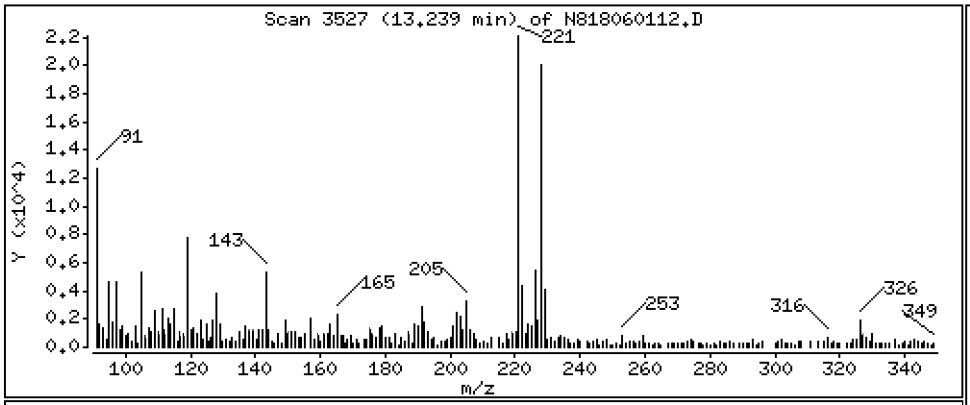
Operator: JZ

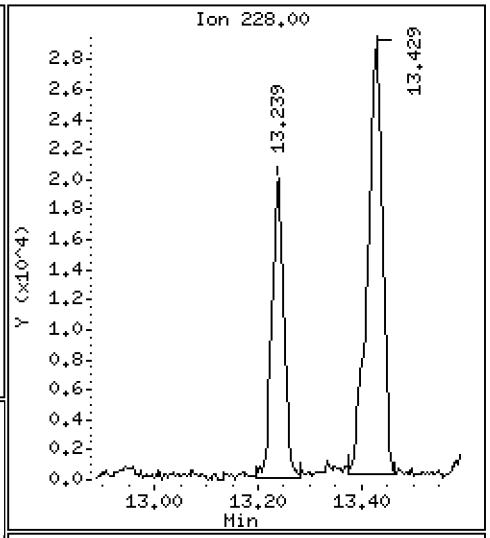
Column phase: Rxi-17sil

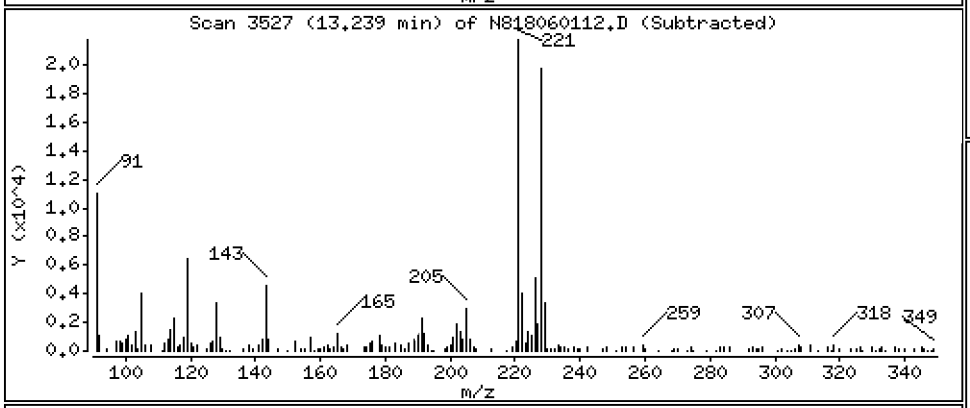
Column diameter: 0.25

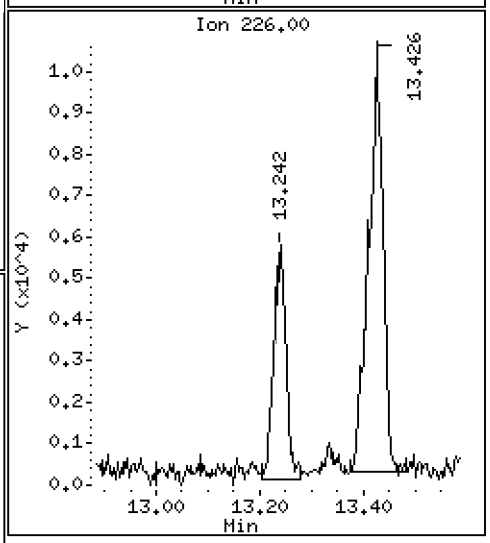
24 Benzo(a)anthracene

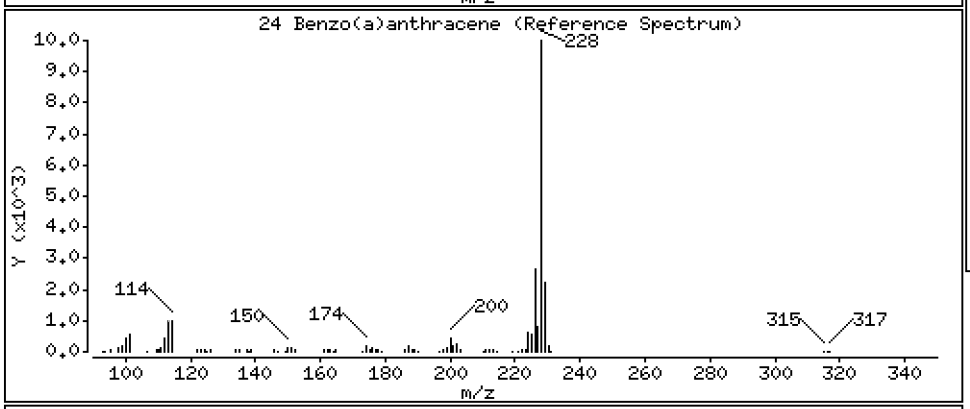
Concentration: 0.2708 ug/mL

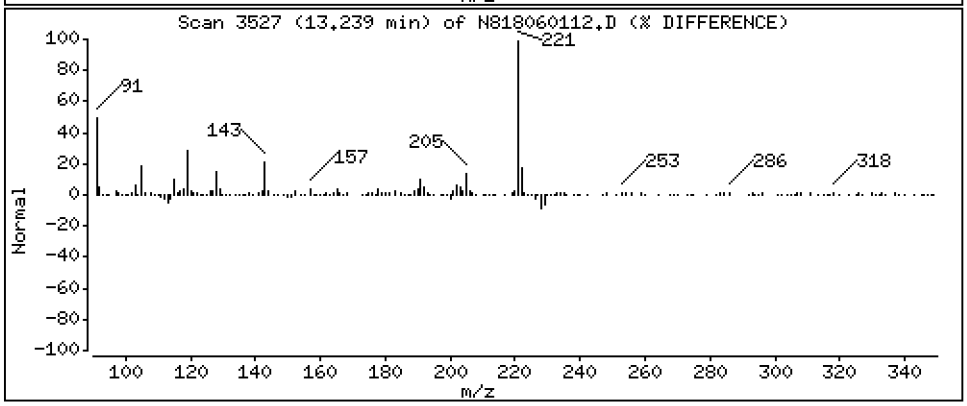












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

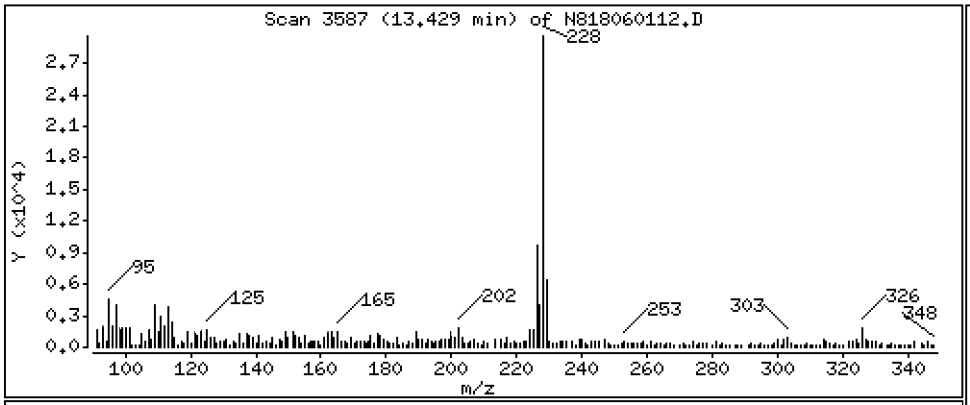
Operator: JZ

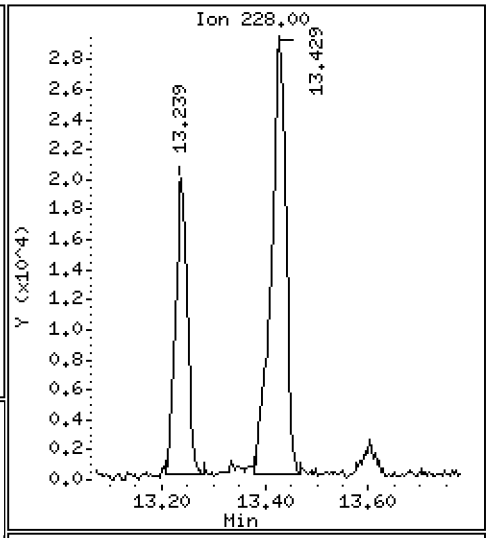
Column phase: Rxi-17sil

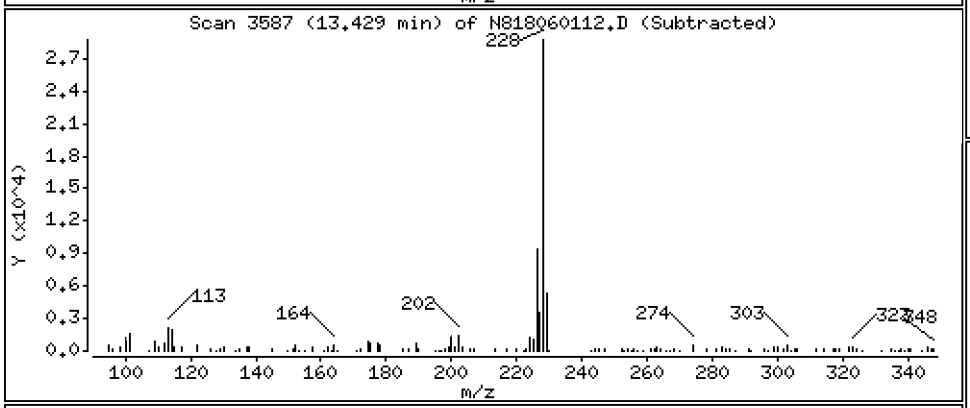
Column diameter: 0.25

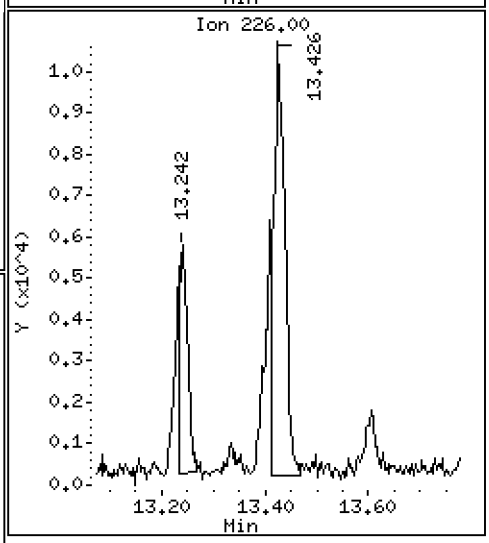
27 Chrysene

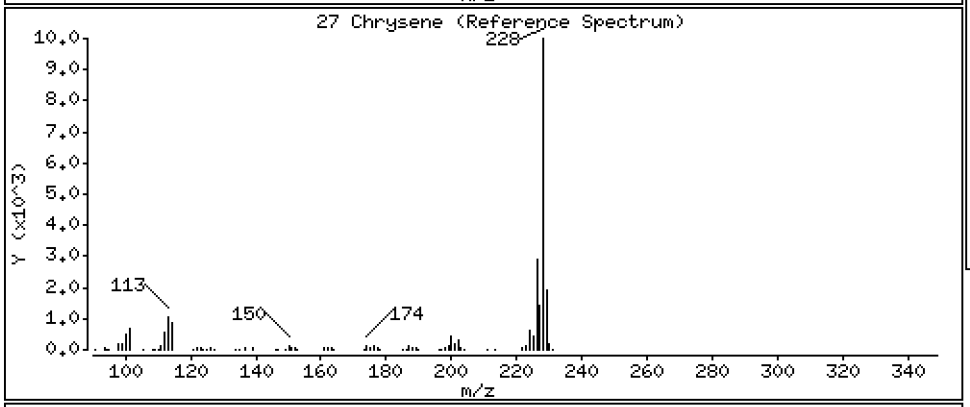
Concentration: 0.4860 ug/mL

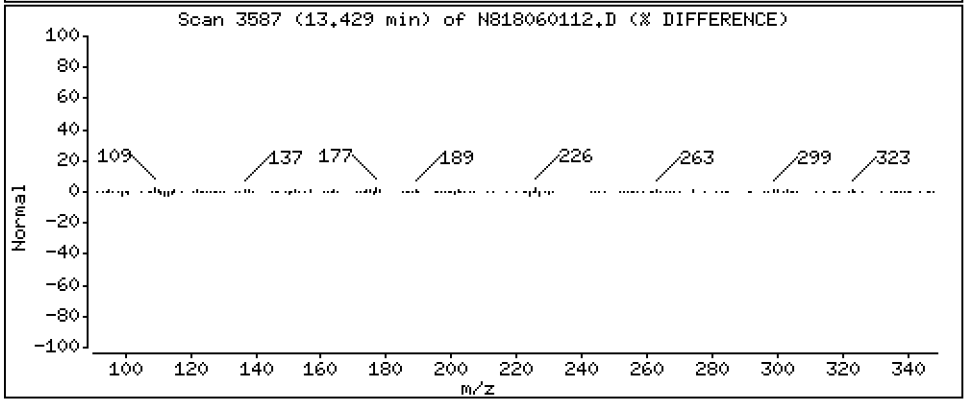












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

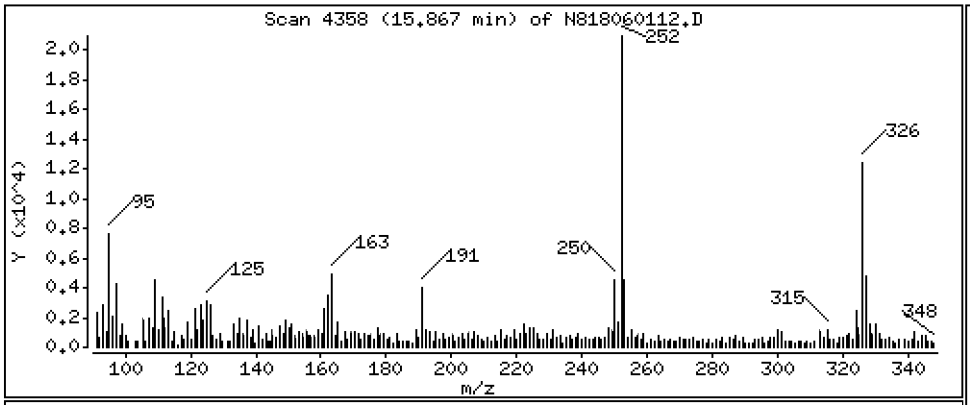
Operator: JZ

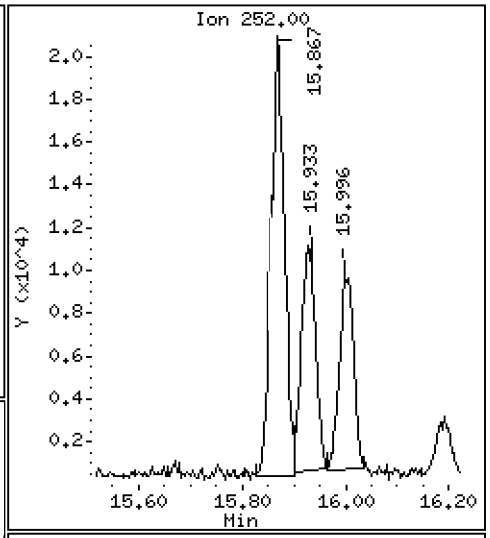
Column phase: Rxi-17sil

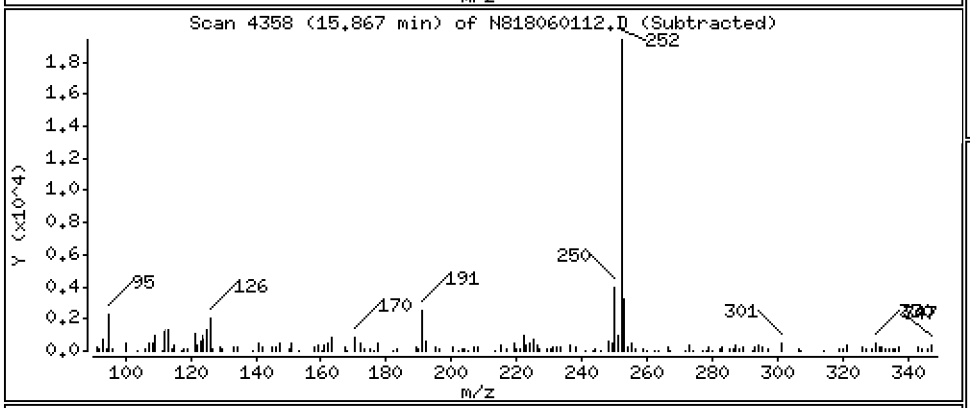
Column diameter: 0.25

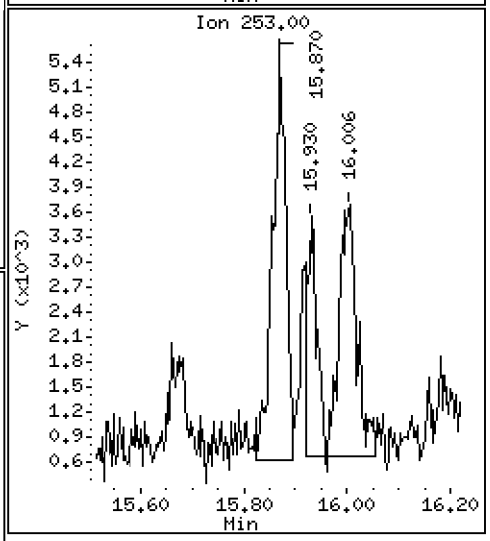
28 Benzo(b)fluoranthene

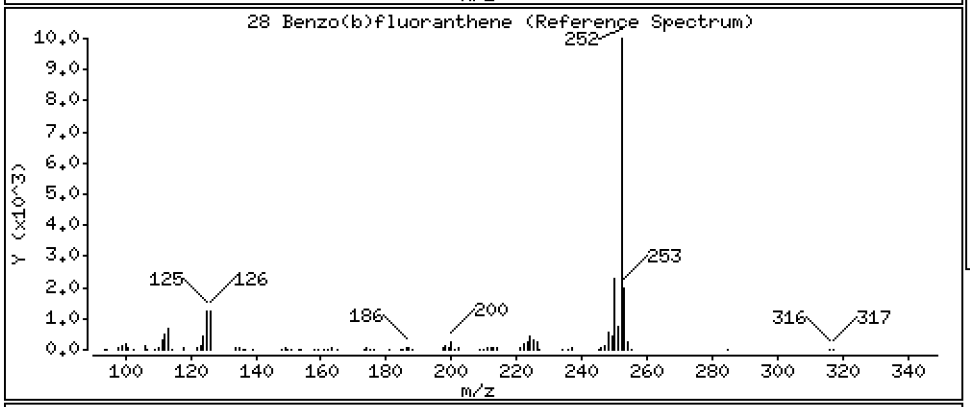
Concentration: 0.2969 ug/mL

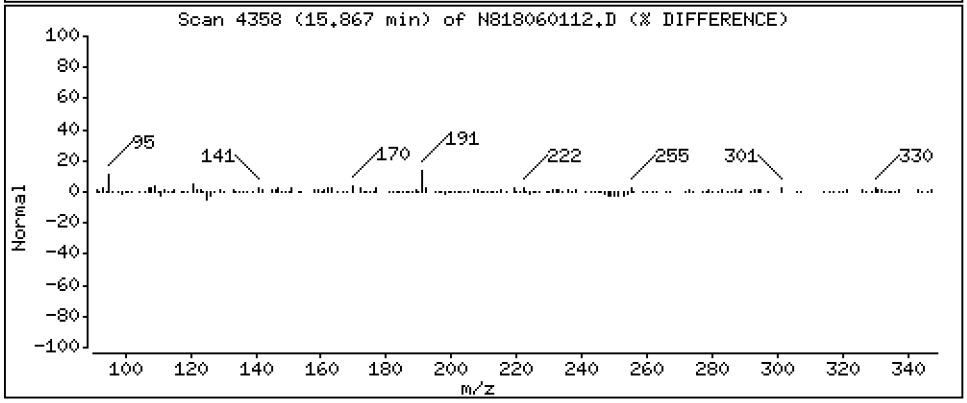












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

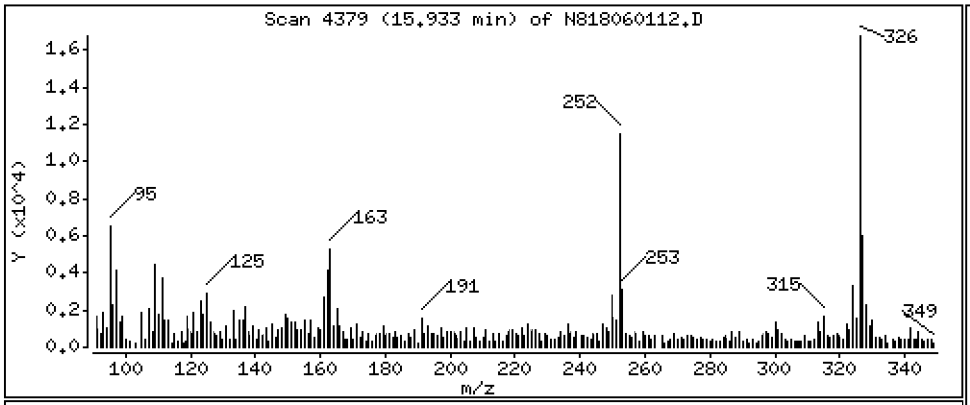
Operator: JZ

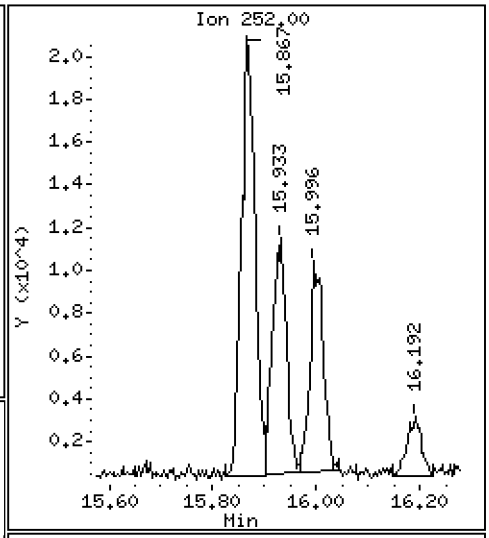
Column phase: Rxi-17sil

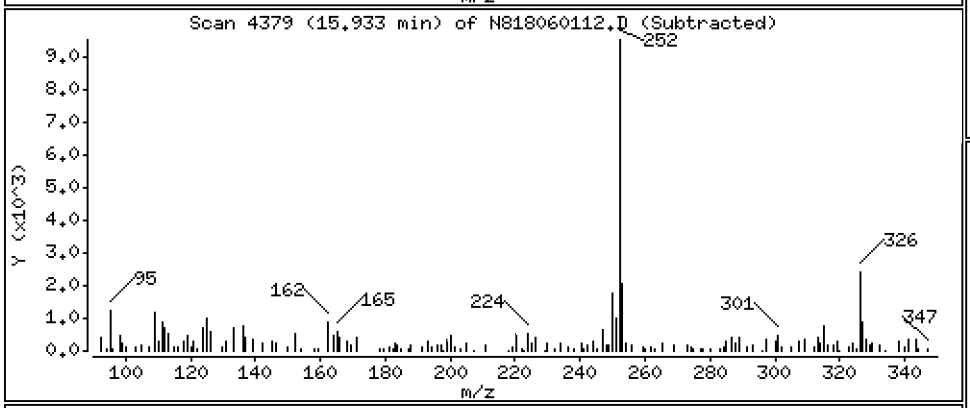
Column diameter: 0.25

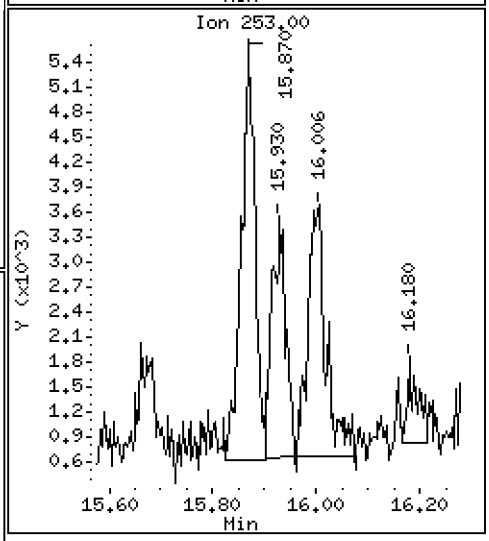
29 Benzo(k)fluoranthene

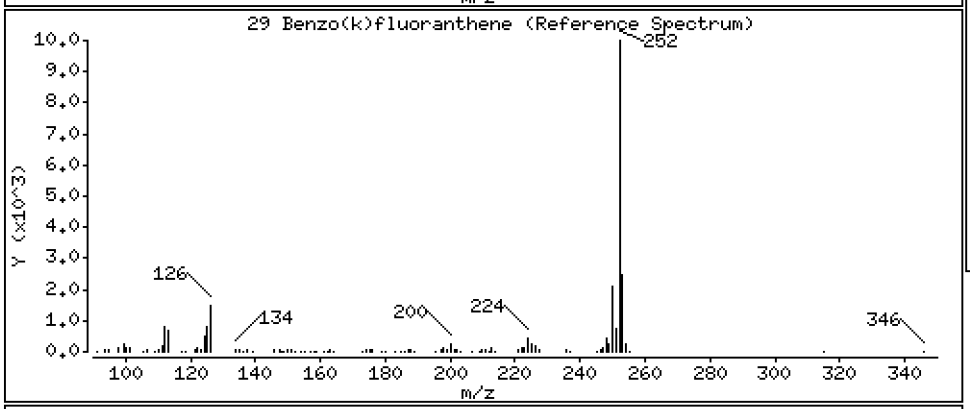
Concentration: 0.1683 ug/mL

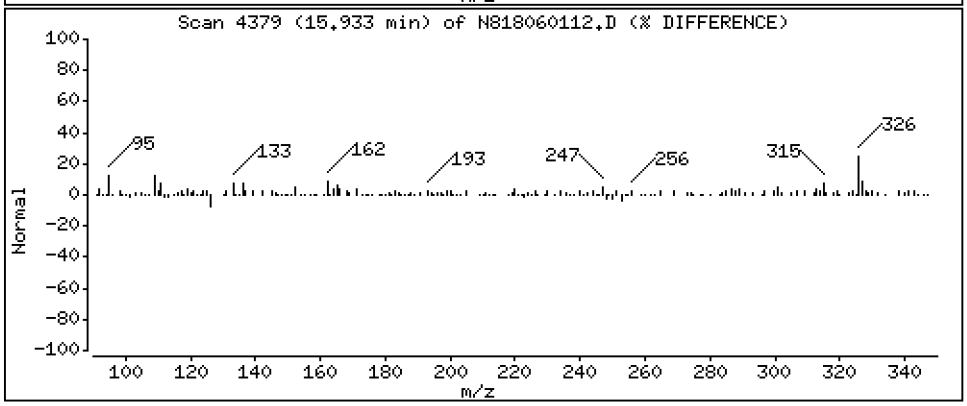












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

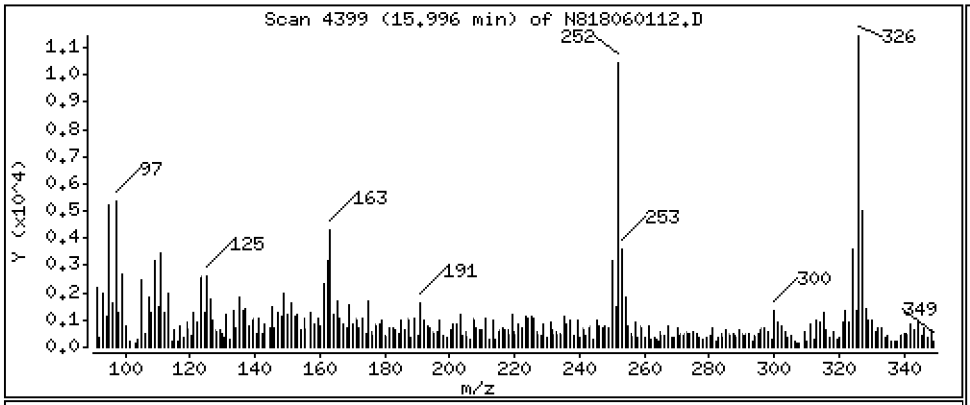
Operator: JZ

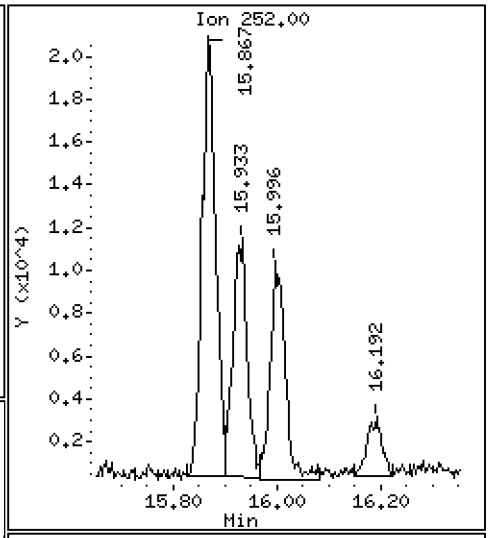
Column phase: Rxi-17sil

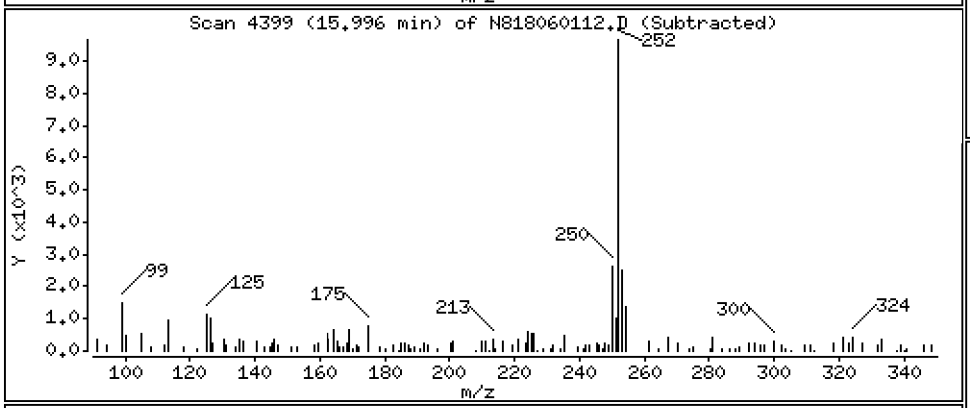
Column diameter: 0.25

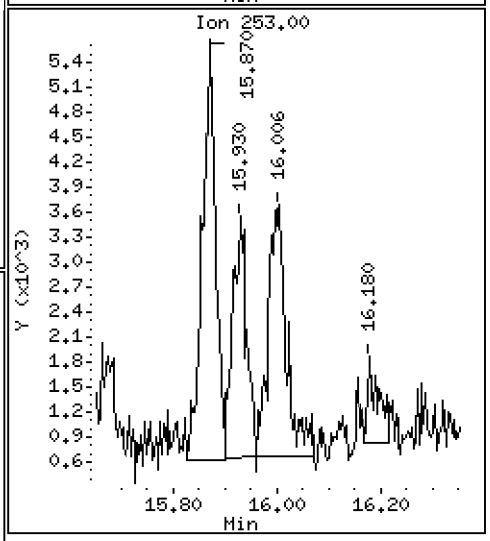
30 Benzo(j)fluoranthene

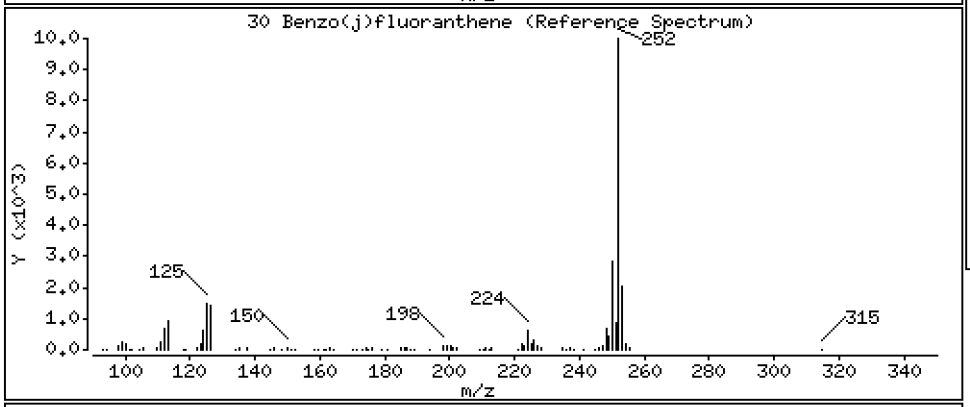
Concentration: 0.1651 ug/mL

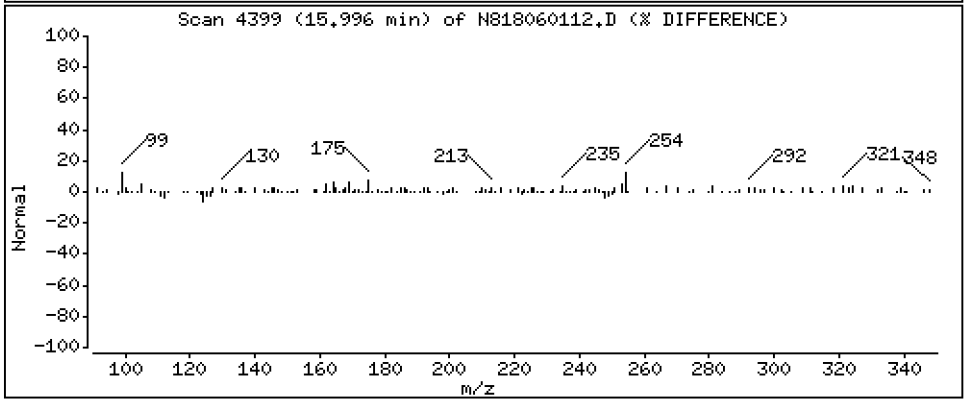












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

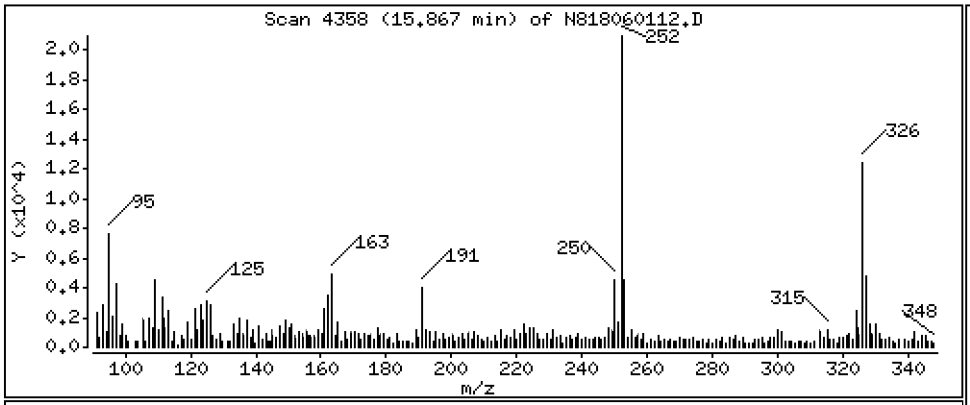
Operator: JZ

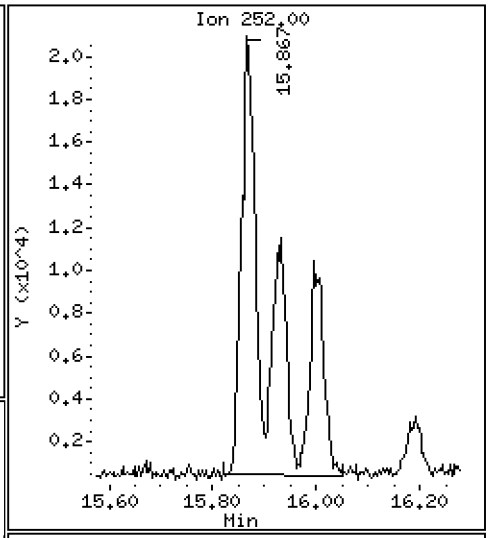
Column phase: Rxi-17sil

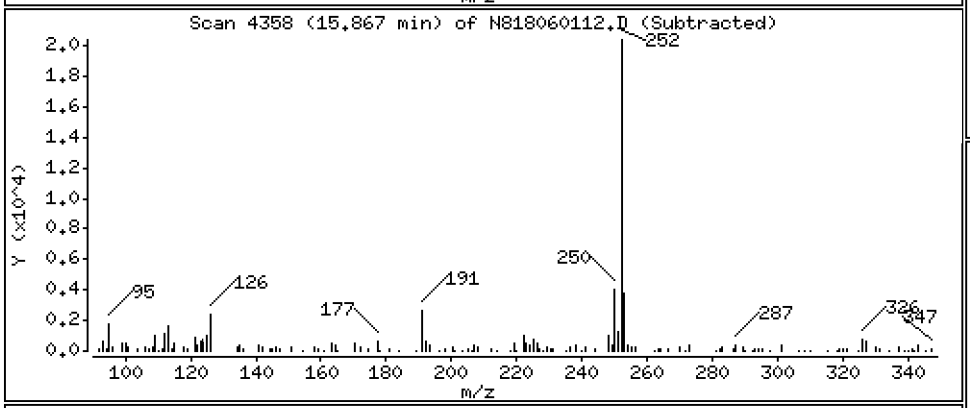
Column diameter: 0.25

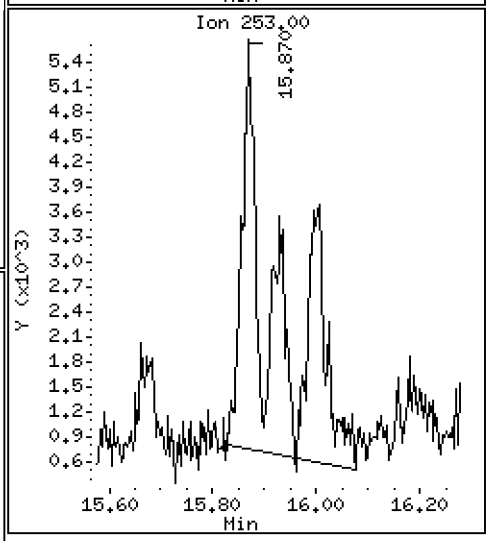
31 Total Benzofluoranthenes

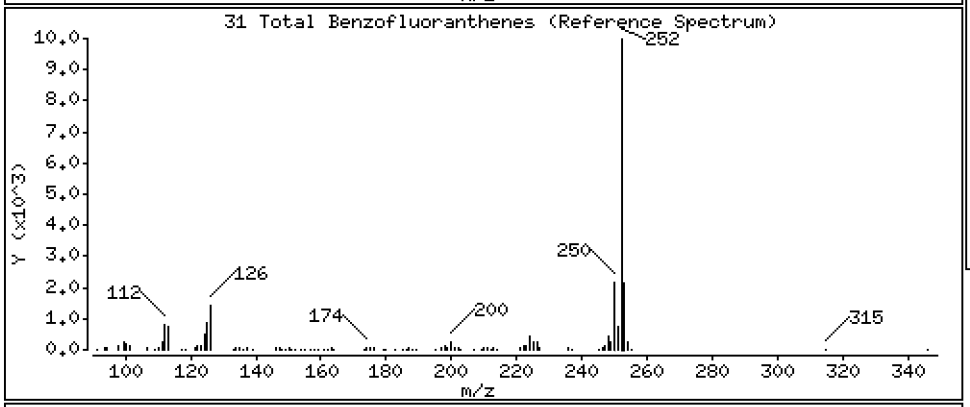
Concentration: 0.6252 ug/mL

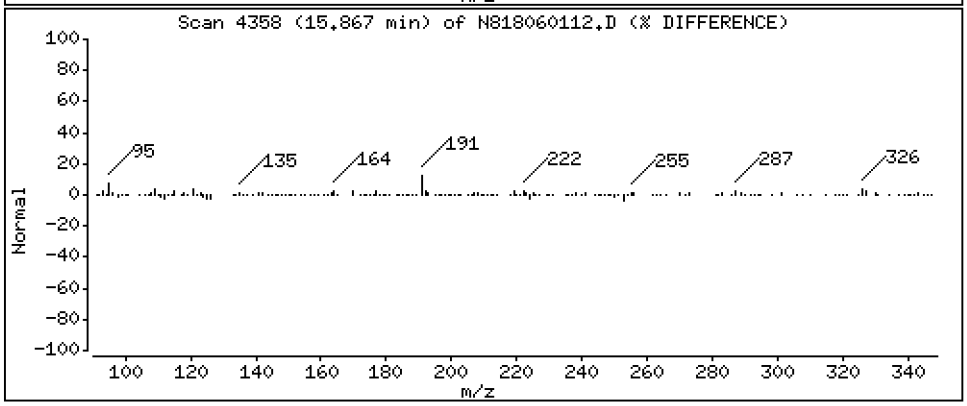












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

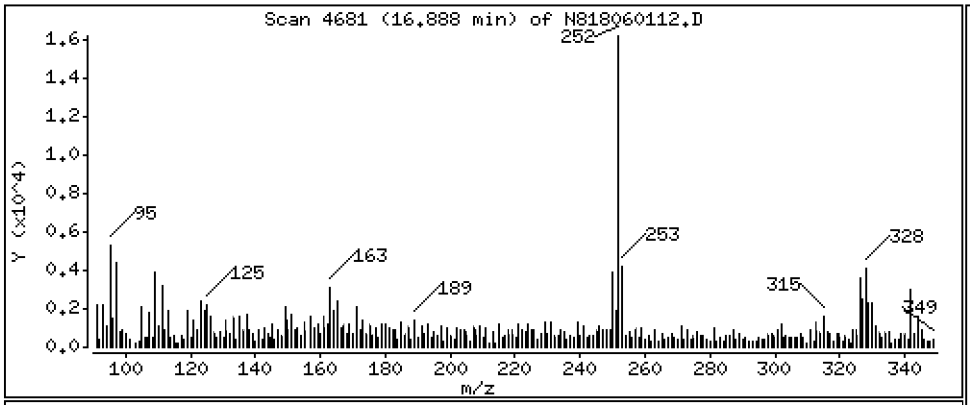
Operator: JZ

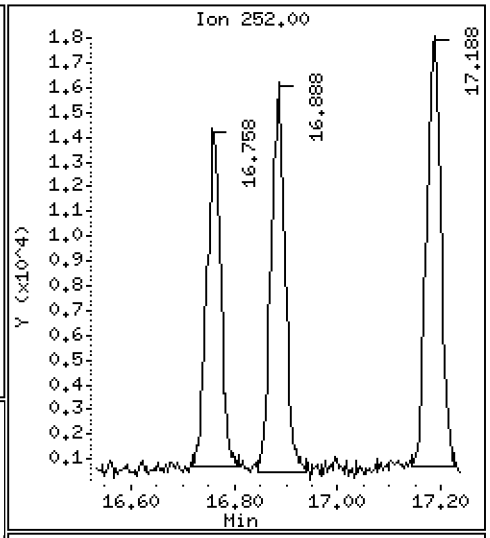
Column phase: Rxi-17sil

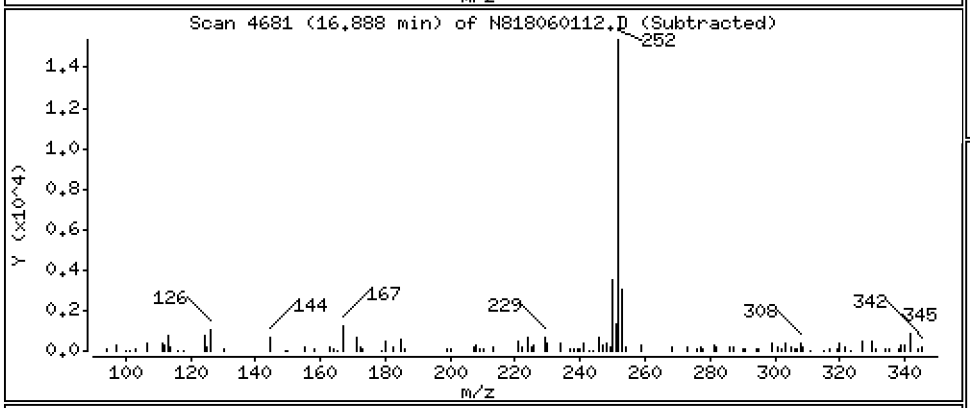
Column diameter: 0.25

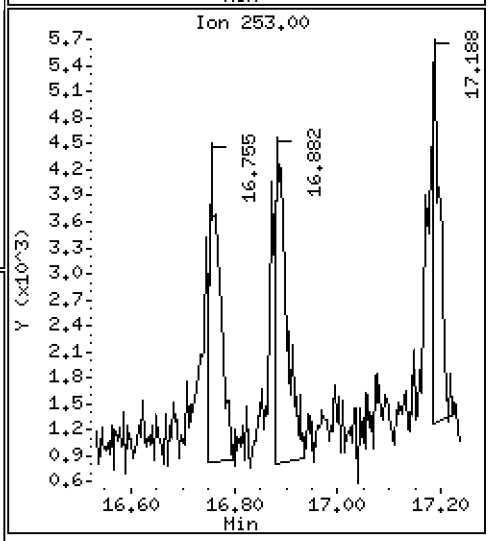
32 Benzo(a)pyrene

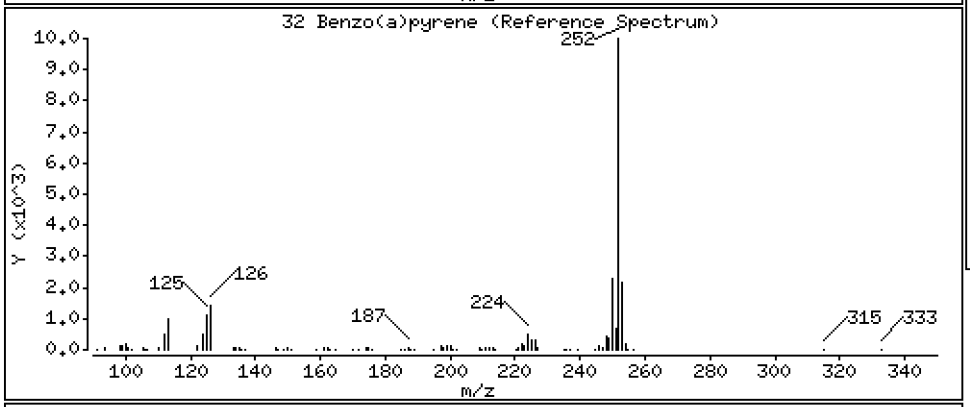
Concentration: 0.2671 ug/mL

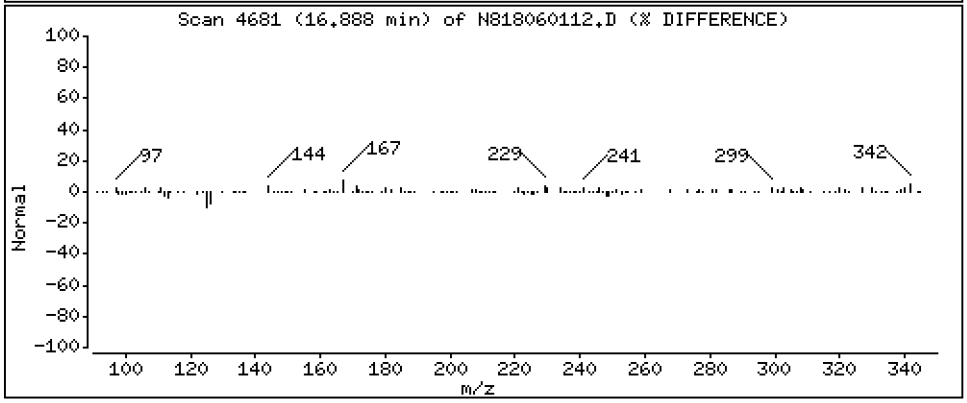












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

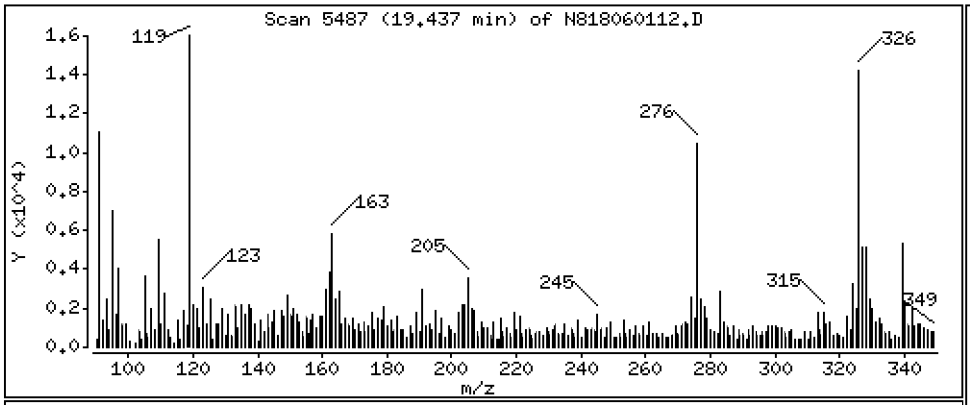
Operator: JZ

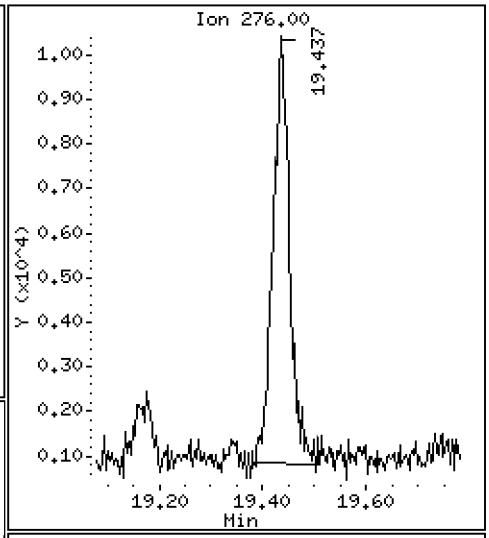
Column phase: Rxi-17sil

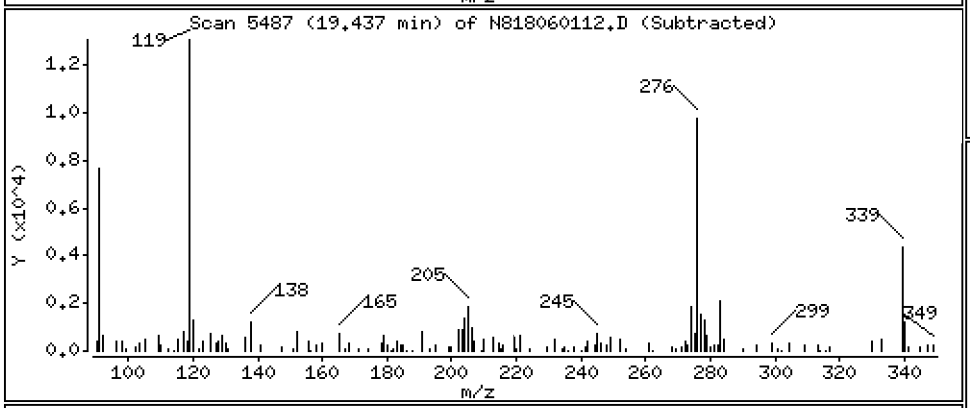
Column diameter: 0.25

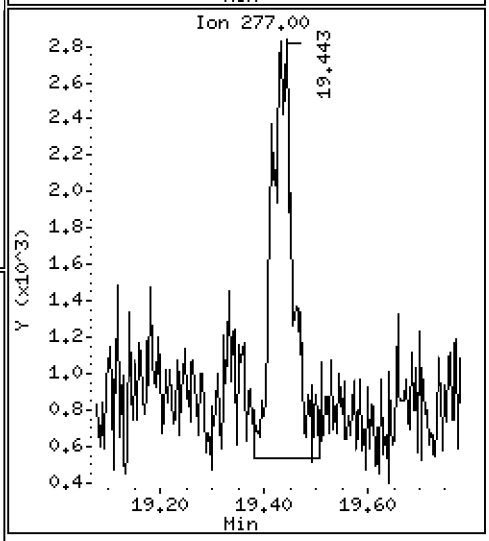
37 Indeno(1,2,3-cd)pyrene

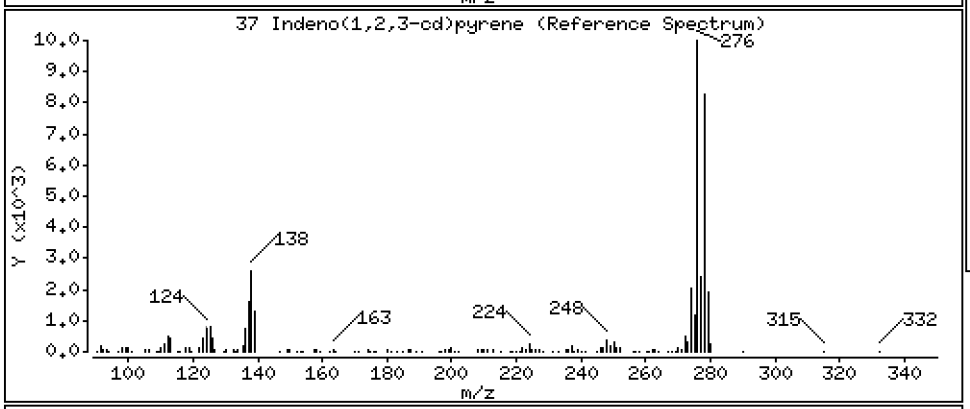
Concentration: 0.1673 ug/mL

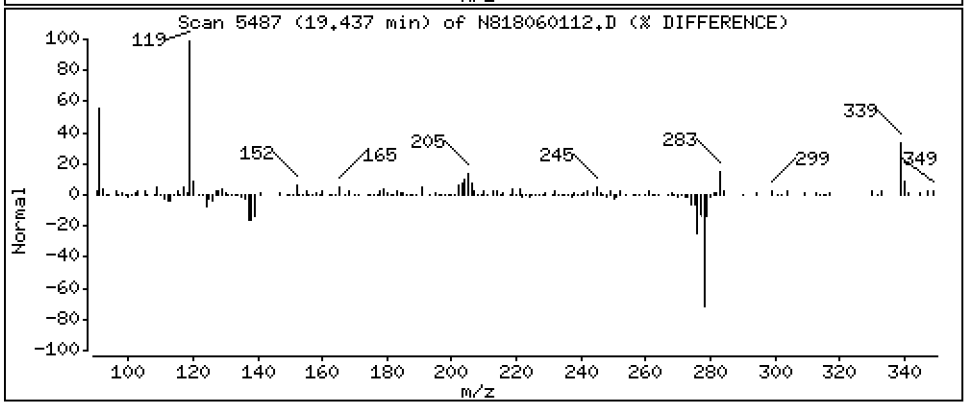












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

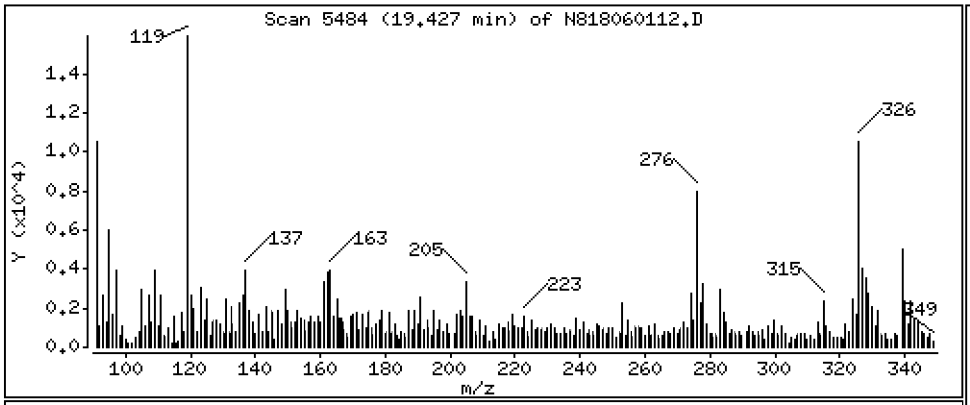
Operator: JZ

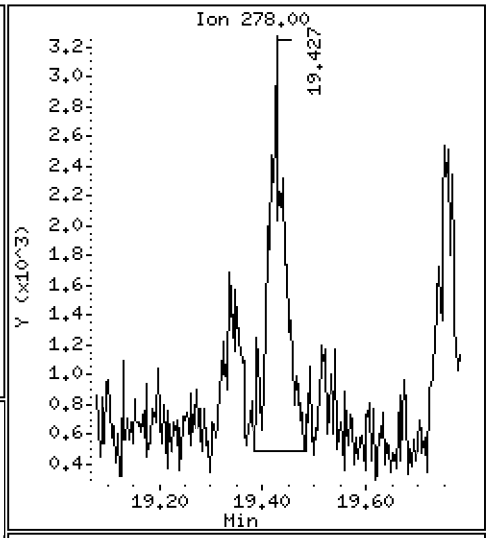
Column phase: Rxi-17sil

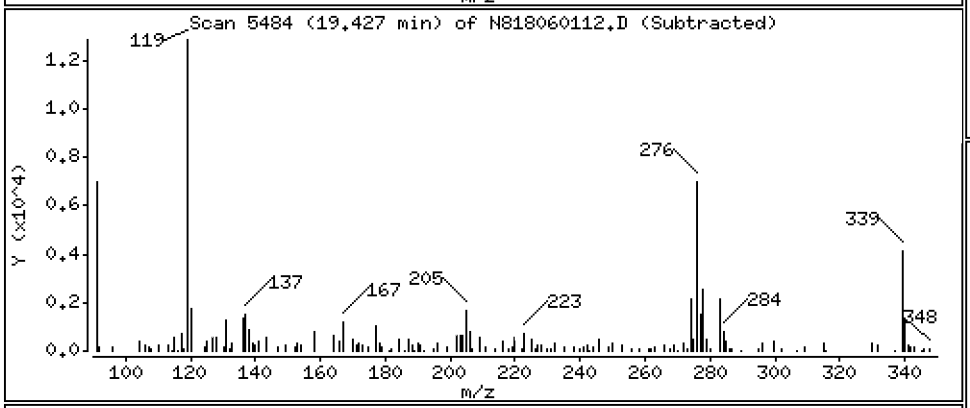
Column diameter: 0.25

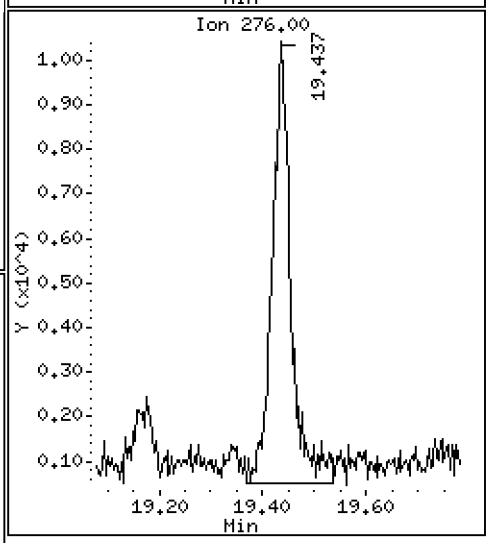
38 Dibenzo(a,h)anthracene

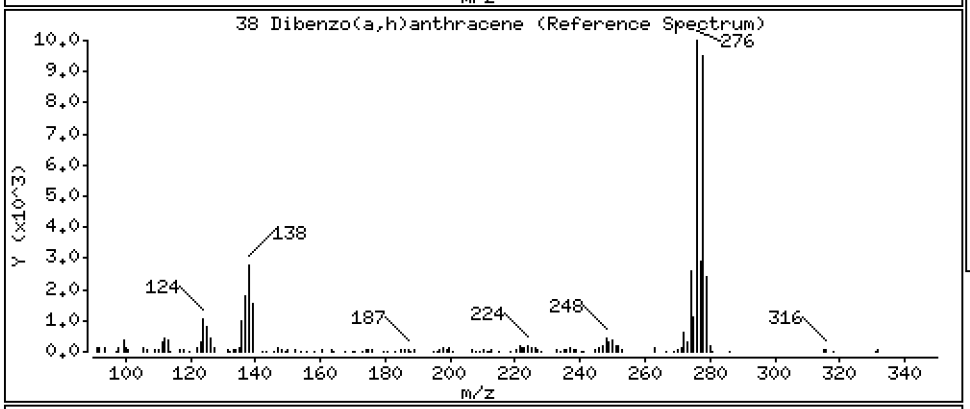
Concentration: 0.05624 ug/mL

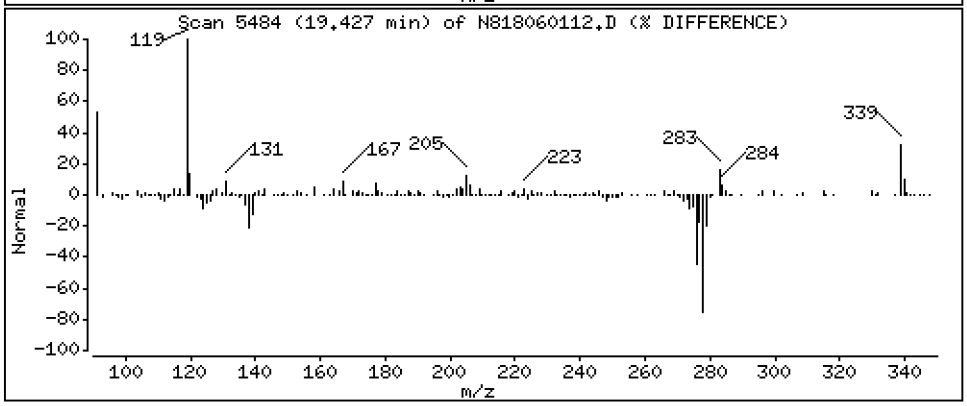












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

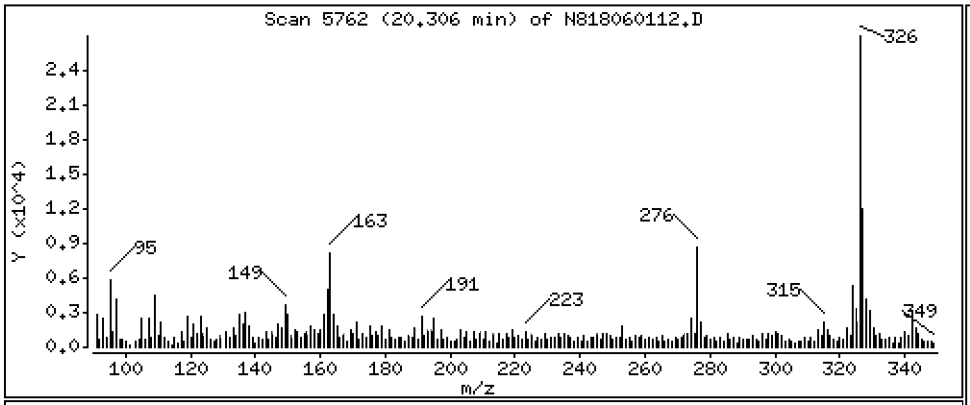
Operator: JZ

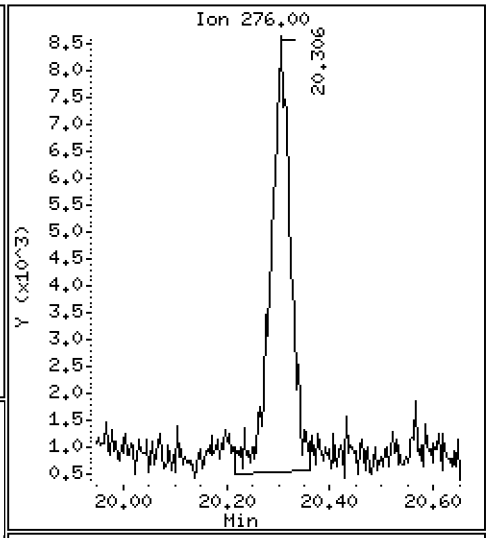
Column phase: Rxi-17sil

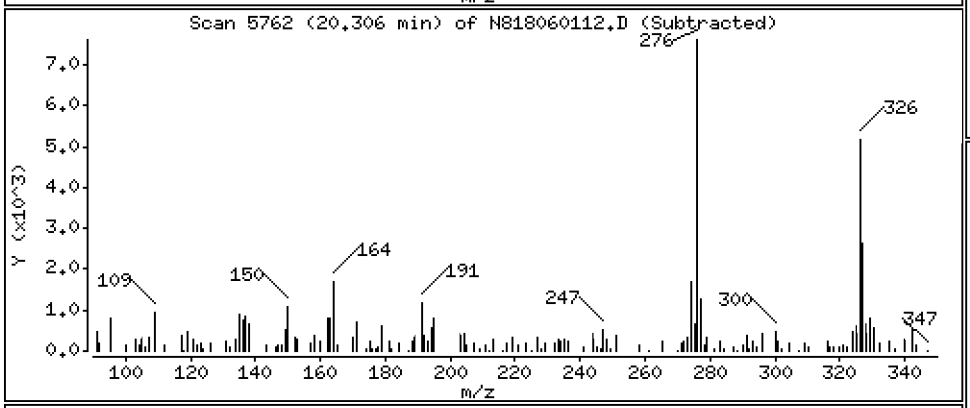
Column diameter: 0.25

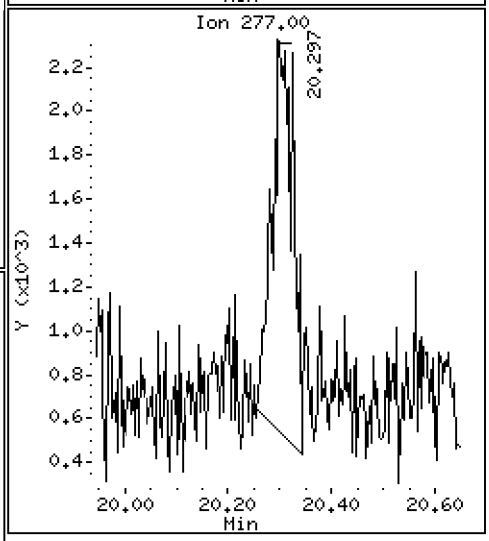
39 Benzo(g,h,i)perylene

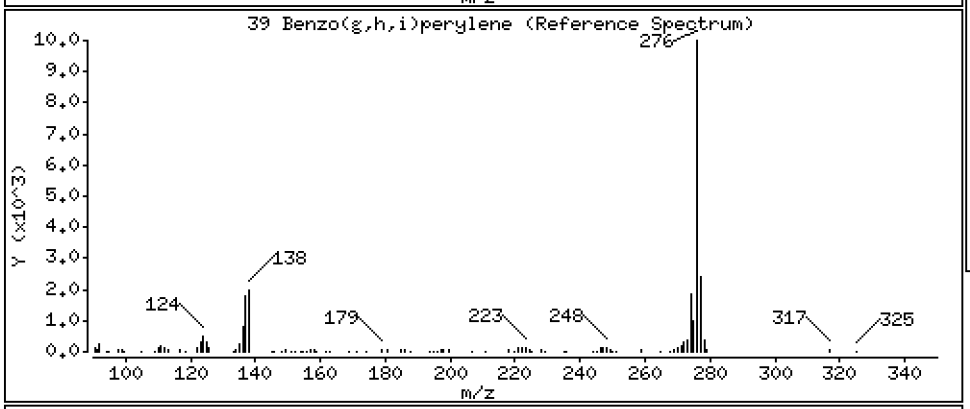
Concentration: 0.1957 ug/mL

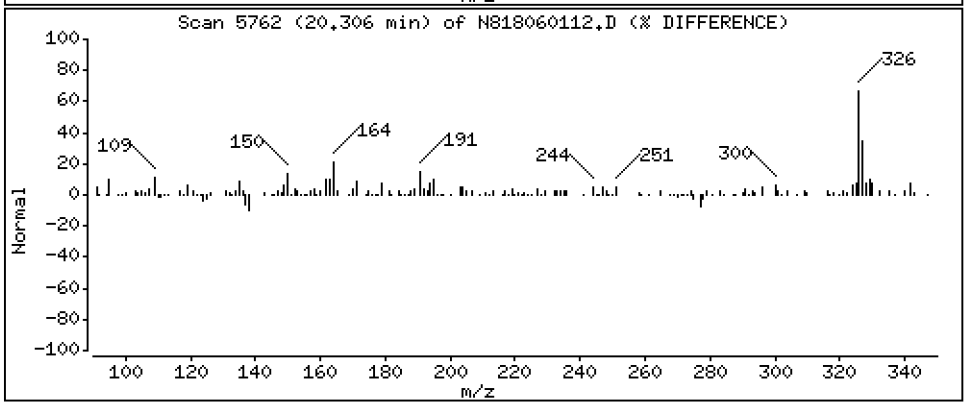












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060112.D

Date : 01-JUN-2018 19:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-05

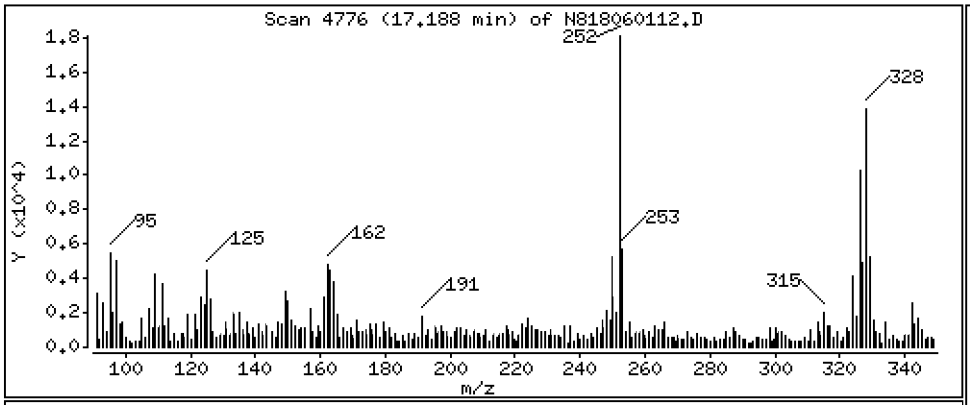
Operator: JZ

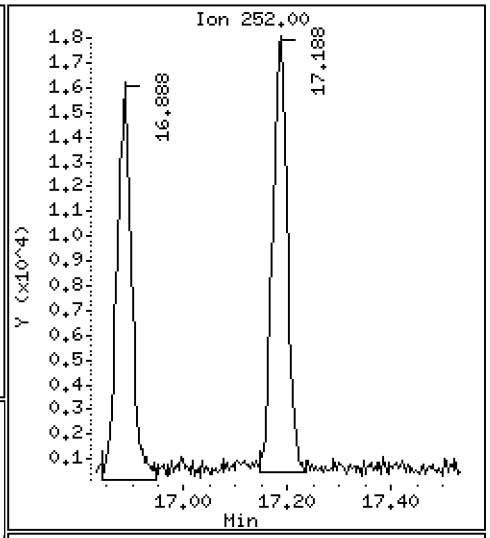
Column phase: Rxi-17sil

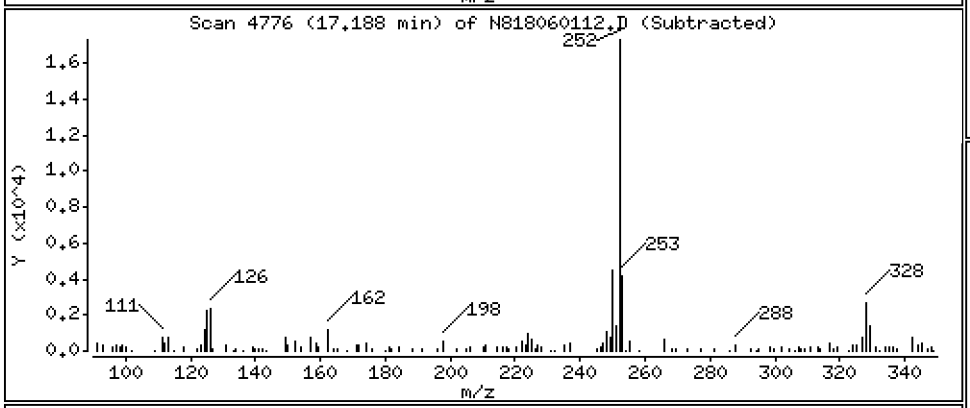
Column diameter: 0.25

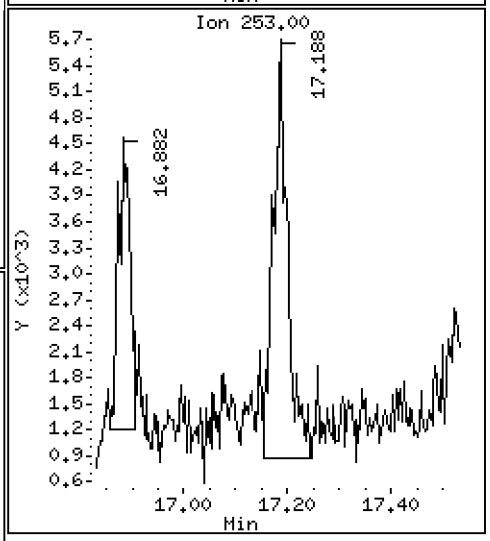
35 Perylene

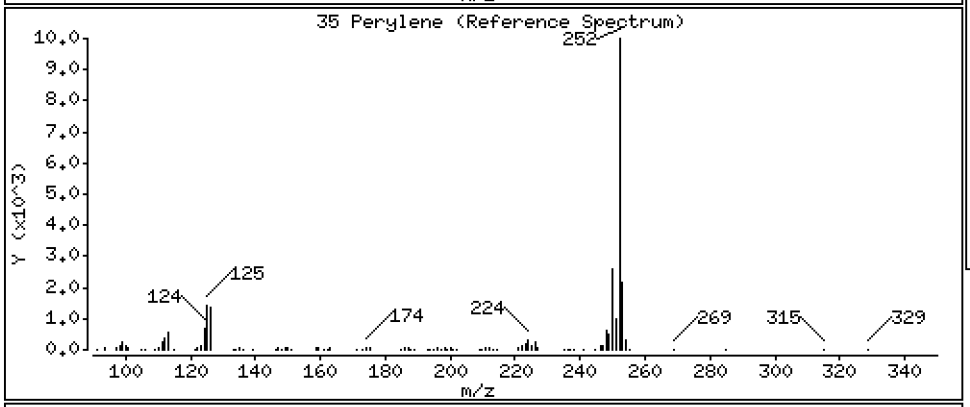
Concentration: 0.2917 ug/mL

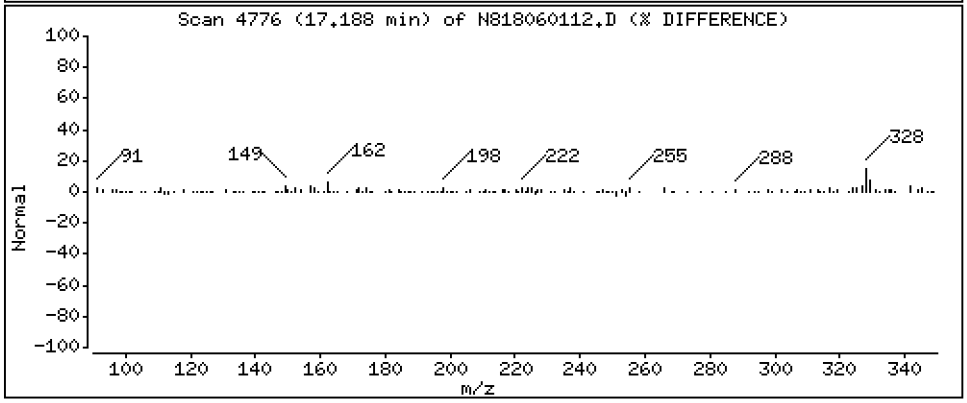












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060112.D
Lab Smp Id: 18E0243-05
Inj Date : 01-JUN-2018 19:18
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-05
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.458	4.464	(1.000)	215463	2.00000	
	2 Naphthalene	128	4.486	4.492	(1.006)	7605	0.06073	0.06073
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.164)	94521	1.20258	1.203
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	6.617	6.617	(0.984)	8518	0.07816	0.07816
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	109765	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	195604	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	87263	0.72787	0.7279
	17 Anthracene	178	8.818	8.821	(1.008)	10025	0.09178	0.09178
	22 Fluoranthene	202	10.434	10.434	(1.193)	196014	1.45074	1.451
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	216281	1.68895	1.689
	23 Pyrene	202	10.902	10.902	(0.816)	135564	1.10348	1.103
	24 Benzo(a)anthracene	228	13.239	13.239	(0.991)	32170	0.27085	0.2708
*	25 Chrysene-d12	240	13.362	13.356	(1.000)	204426	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	58103	0.48597	0.4860
	28 Benzo(b)fluoranthene	252	15.866	15.869	(0.927)	37469	0.29692	0.2969
	29 Benzo(k)fluoranthene	252	15.933	15.926	(0.931)	20889	0.16834	0.1683
	30 Benzo(j)fluoranthene	252	15.996	16.002	(0.935)	20517	0.16513	0.1651
	31 Total Benzofluoranthenes	252	15.866	15.926	(0.927)	76942	0.62518	0.6252(M)
	32 Benzo(a)pyrene	252	16.888	16.884	(0.987)	29547	0.26714	0.2671
*	33 Perylene-d12	264	17.112	17.112	(1.000)	198564	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.436	19.430	(1.136)	21179	0.16726	0.1673(M)
$	36 Dibenzo(a,h)anthracene-d14	292	19.344	19.338	(1.130)	203117	2.18392	2.184
	38 Dibenzo(a,h)anthracene	278	19.427	19.430	(1.135)	5874	0.05624	0.05624
	39 Benzo(g,h,i)perylene	276	20.306	20.299	(1.187)	21657	0.19569	0.1957
	35 Perylene	252	17.188	17.181	(1.004)	35036	0.29173	0.2917

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060112.D
Lab Smp Id: 18E0243-05
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	215463	76.33
10 Acenaphthene-d10	65789	32895	131578	109765	66.84
15 Phenanthrene-d10	128644	64322	257288	195604	52.05
25 Chrysene-d12	166669	83335	333338	204426	22.65
33 Perylene-d12	140483	70242	280966	198564	41.34

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.14
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.05
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060112.D

Lab ID: 18E0243-05
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 19:18

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

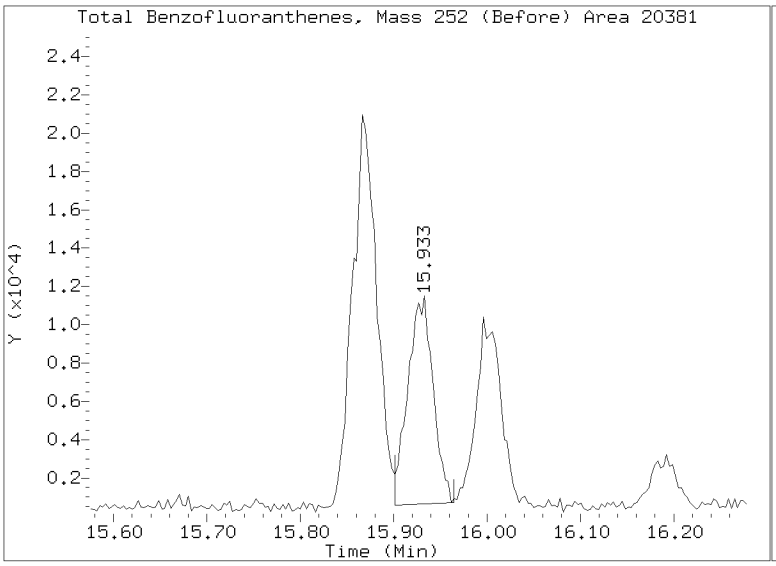
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

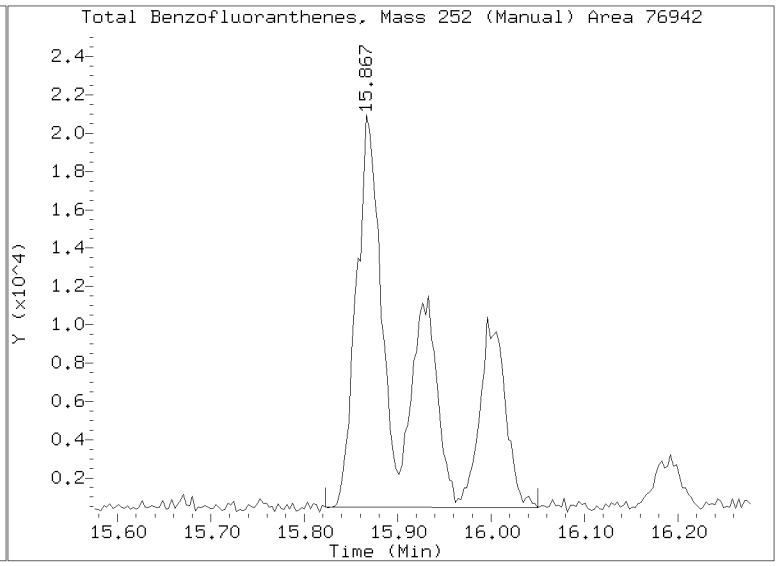
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

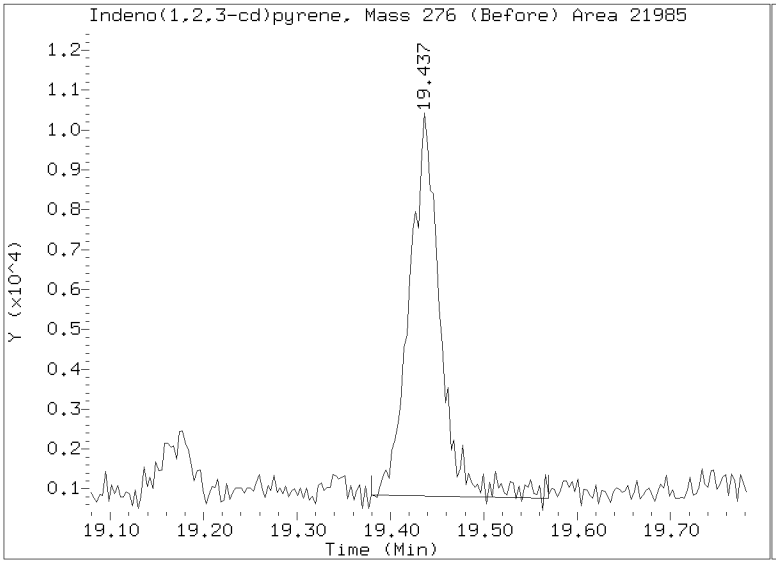
* Only compounds listed in the work order have been verified by the analyst *

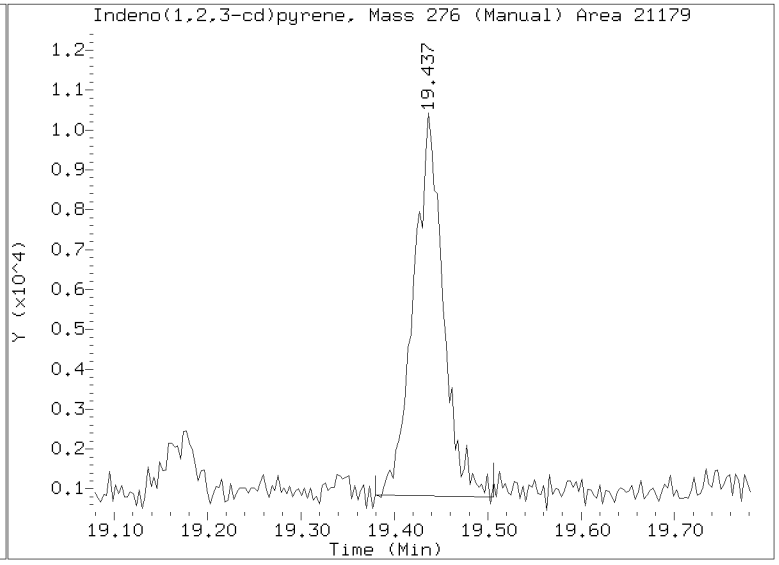
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060112.D
Injection Date: 01-JUN-2018 19:18
Lab ID:18E0243-05 Client ID:
Report Date: 06/04/2018 10:38









LDW18-SSCL-A06

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-06	SDG:	18E0231
Sampled:	05/16/18 12:07	Prepared:	05/24/18 10:50	File ID:	N818060113.D
% Solids:	73.18	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 19:45
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	14.26 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	31.4		0.79	4.79
218-01-9	Chrysene	1	44.3		1.01	4.79
205-99-2	Benzo(b)fluoranthene	1	34.2		1.31	4.79
207-08-9	Benzo(k)fluoranthene	1	17.7		0.73	4.79
50-32-8	Benzo(a)pyrene	1	33.1		0.59	4.79
193-39-5	Indeno(1,2,3-cd)pyrene	1	22.0		1.01	4.79
53-70-3	Dibenzo(a,h)anthracene	1	6.24		0.85	4.79

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.74	66.1	46.0	32 - 120	
Dibenzo[a,h]anthracene-d14	143.74	114	79.3	21 - 133	
Fluoranthene-d10	143.74	88.5	61.6	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

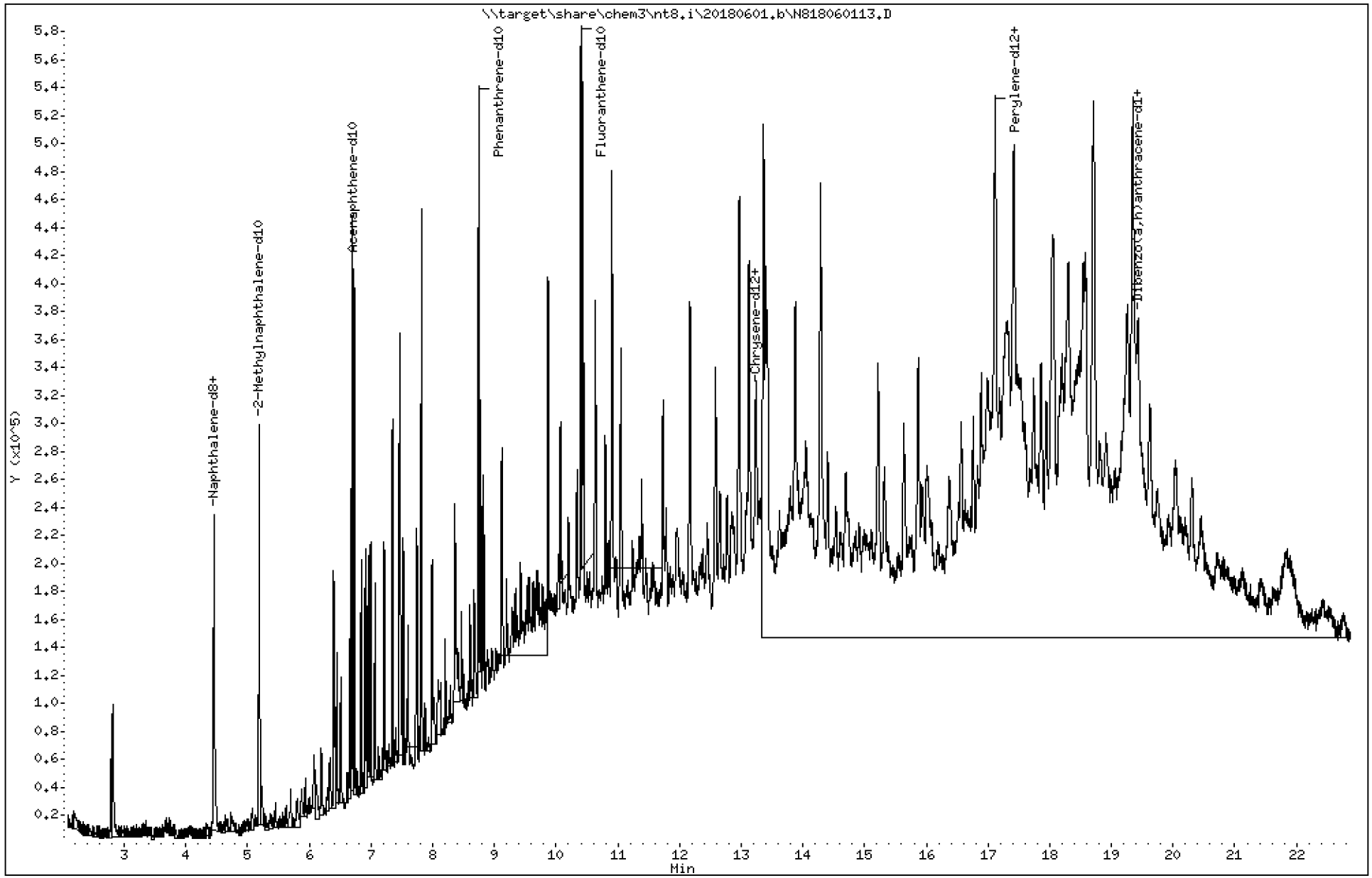
Instrument: nt8.i

Sample Info: 18E0243-06

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

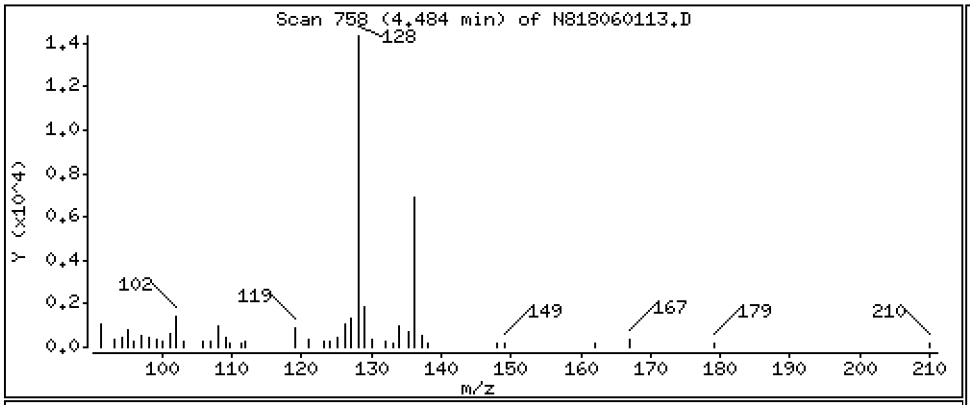
Operator: JZ

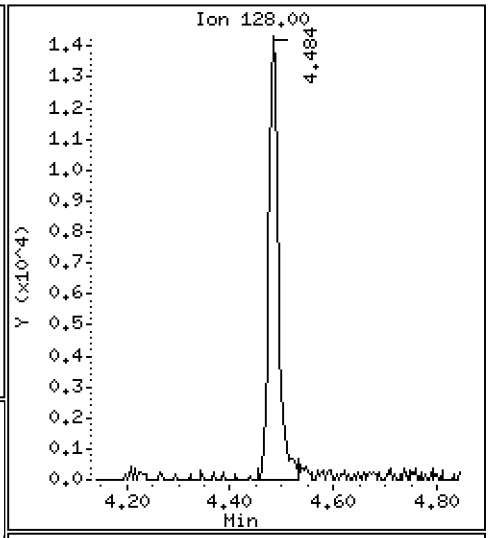
Column phase: Rxi-17sil

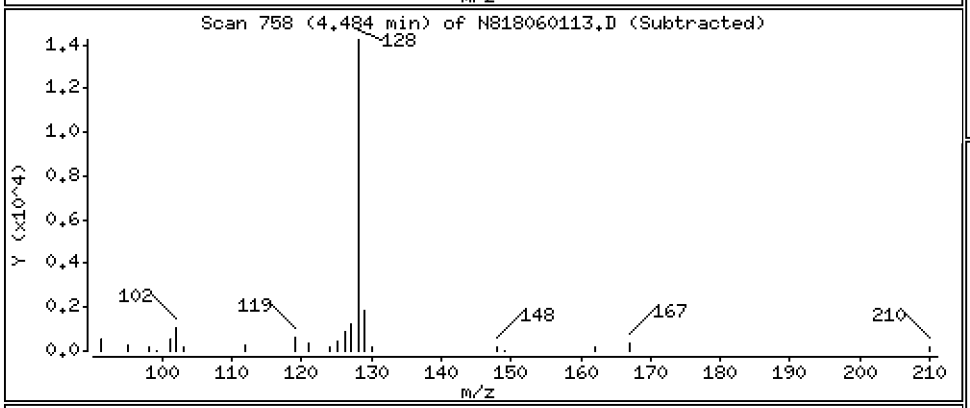
Column diameter: 0.25

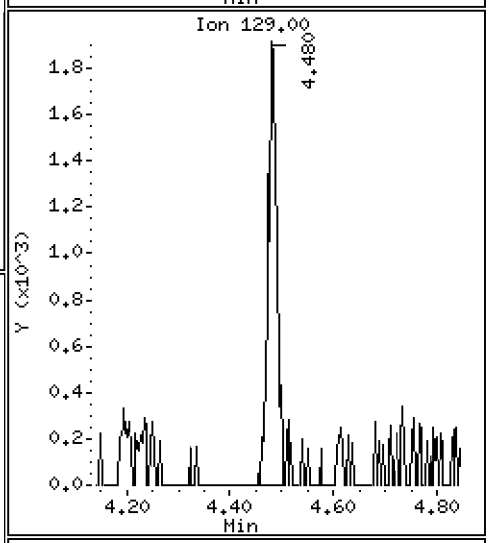
2 Naphthalene

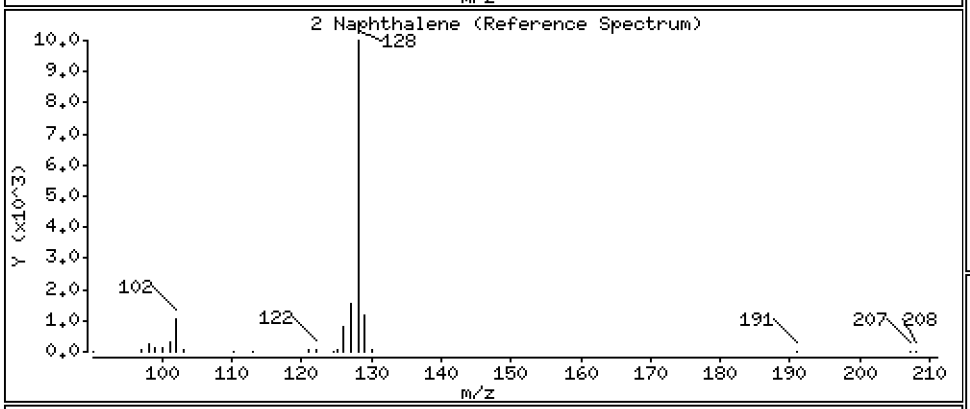
Concentration: 0.1625 ug/mL

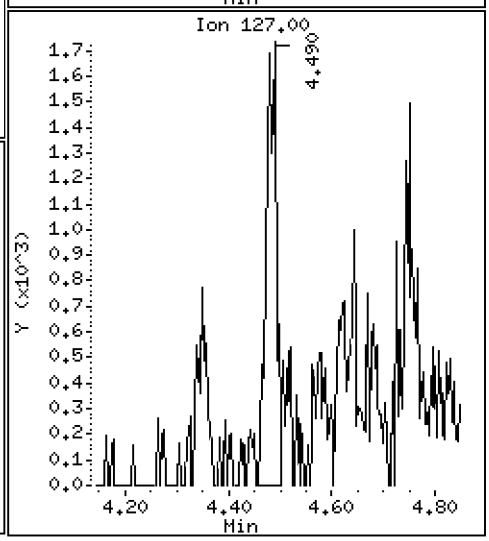


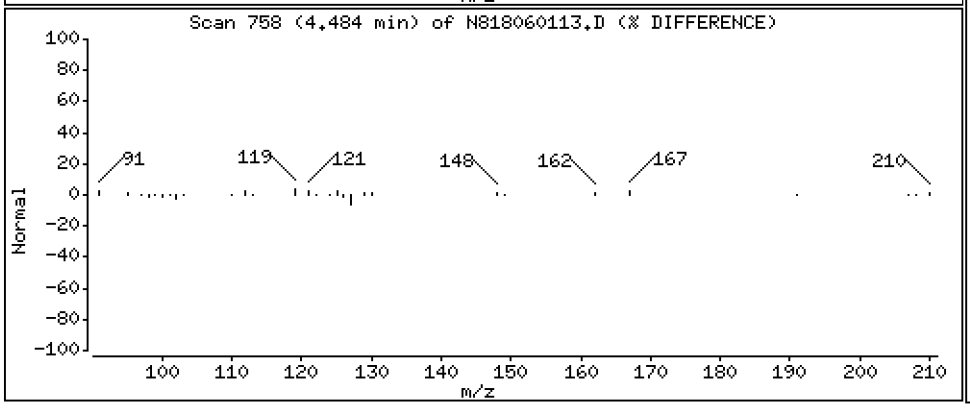












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

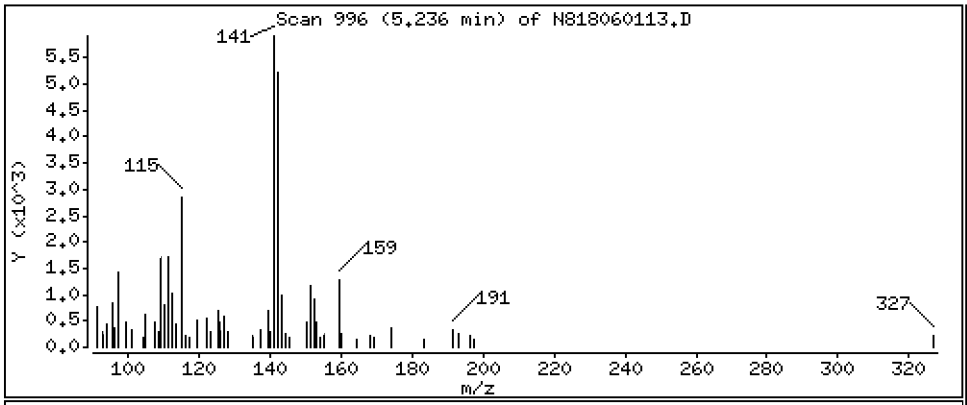
Operator: JZ

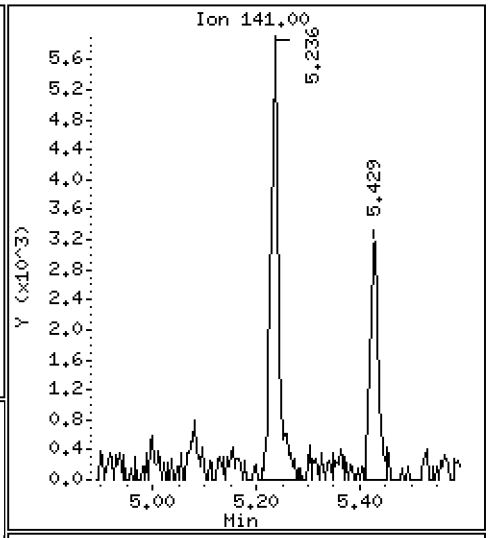
Column phase: Rxi-17sil

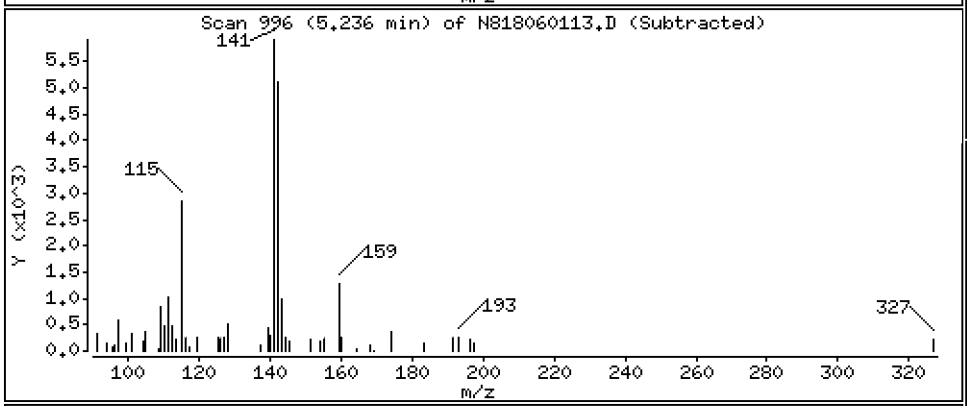
Column diameter: 0.25

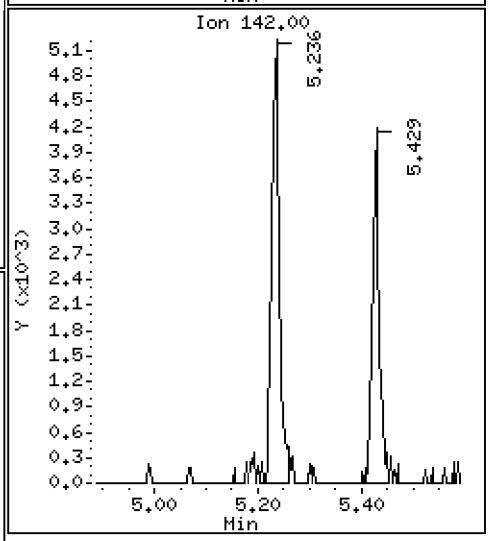
4 2-Methylnaphthalene

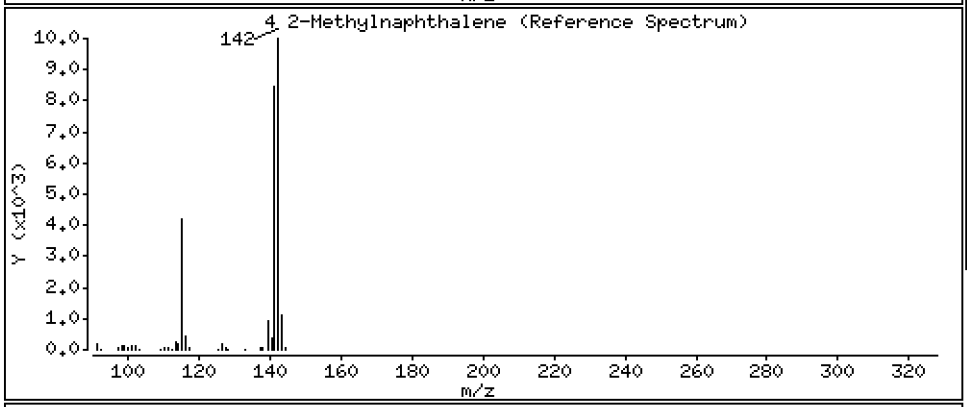
Concentration: 0.09284 ug/mL

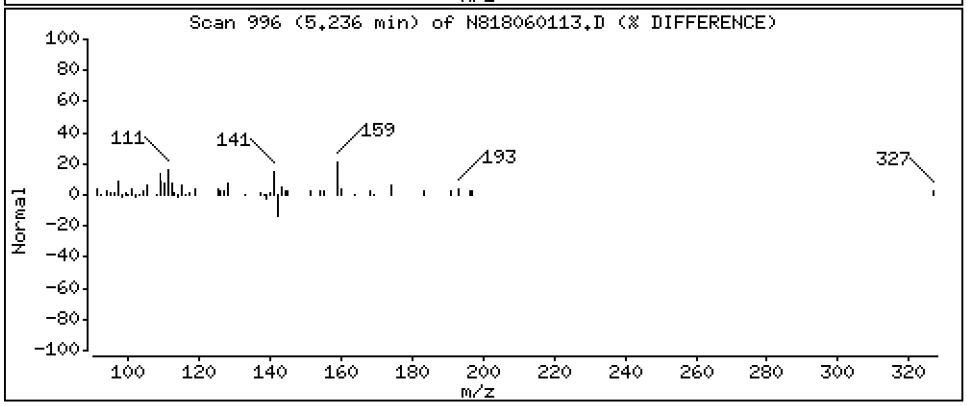












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

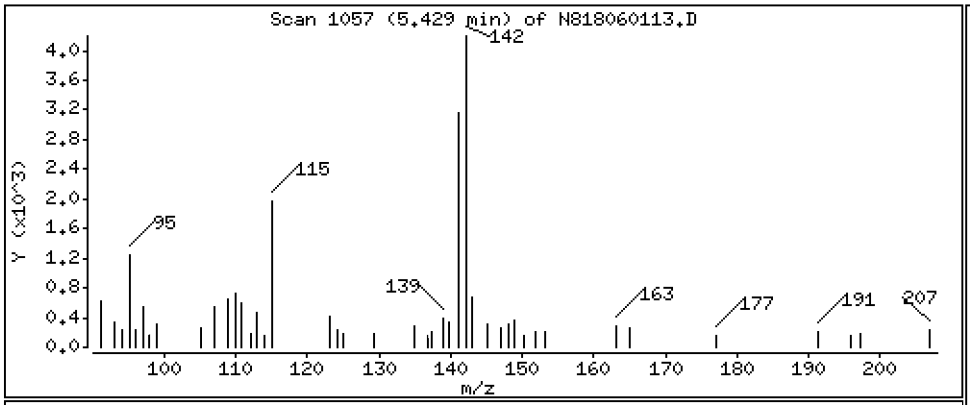
Operator: JZ

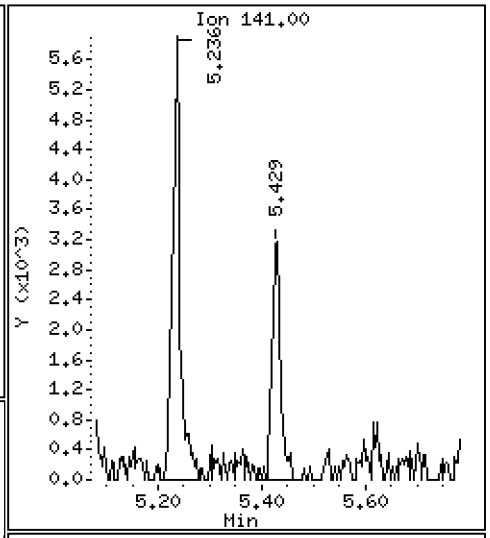
Column phase: Rxi-17sil

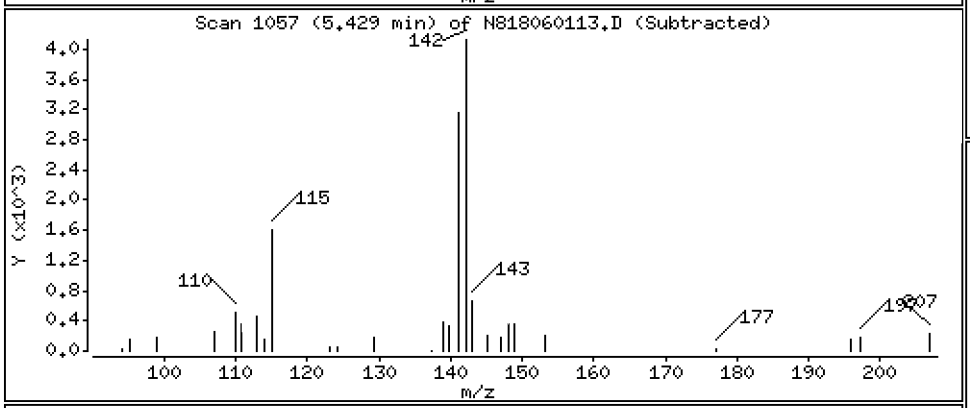
Column diameter: 0.25

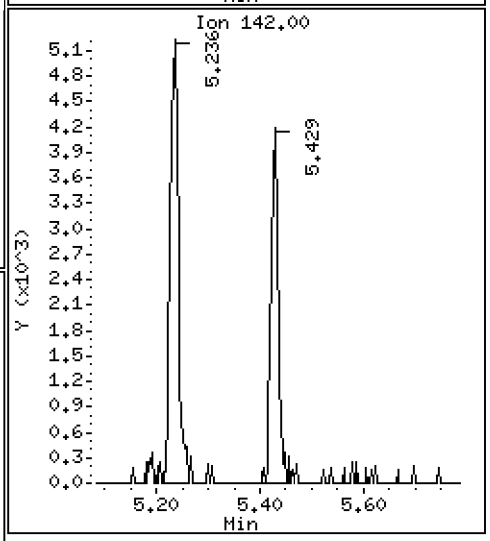
5 1-methylnaphthalene

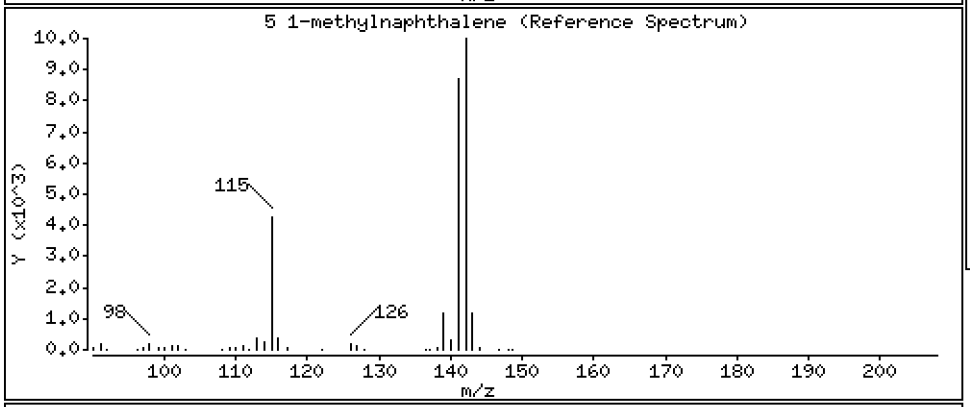
Concentration: 0.05630 ug/mL

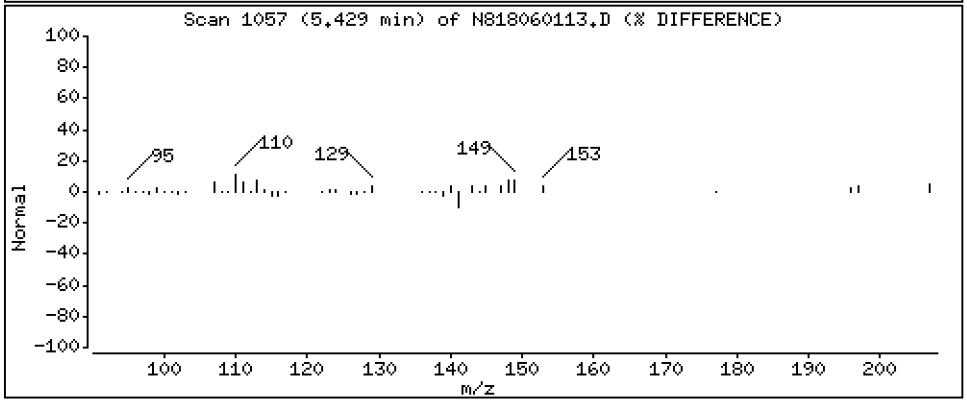












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

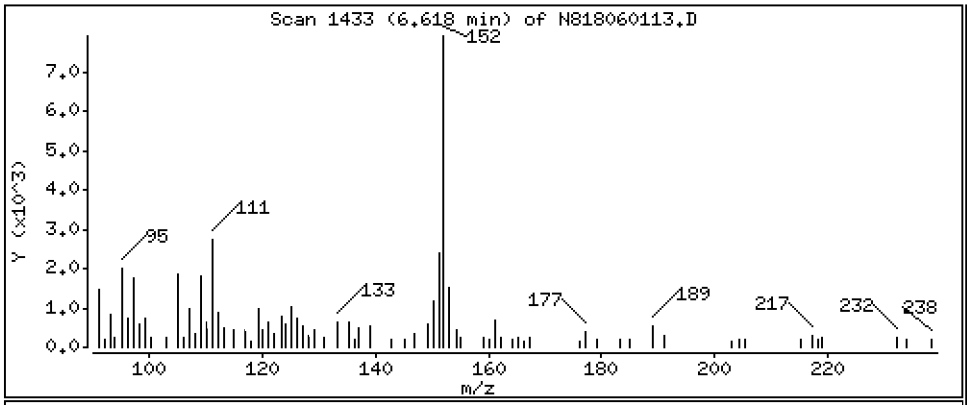
Operator: JZ

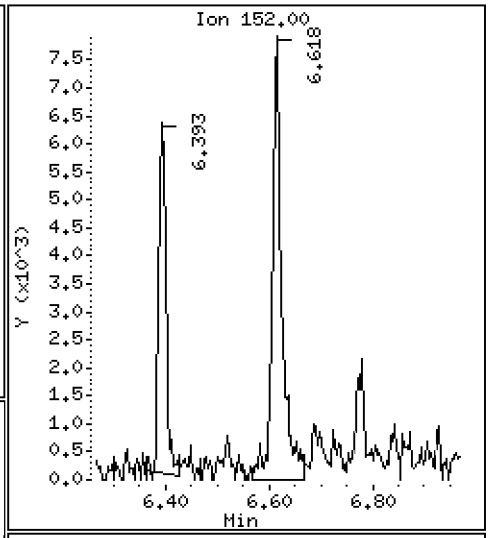
Column phase: Rxi-17sil

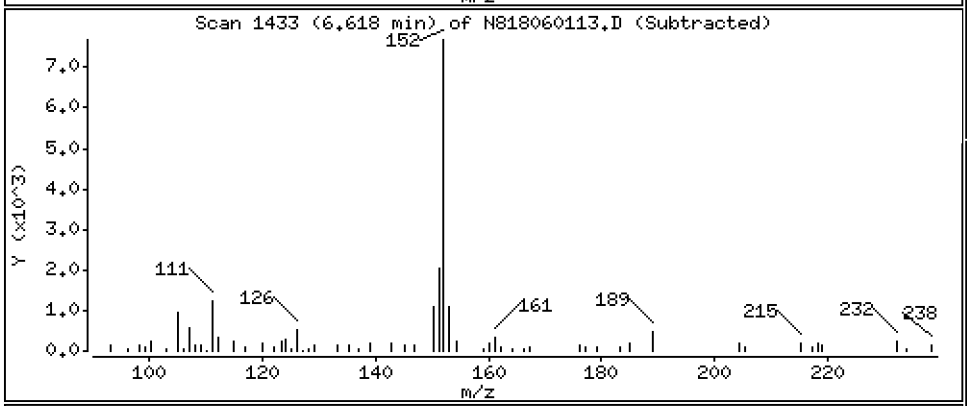
Column diameter: 0.25

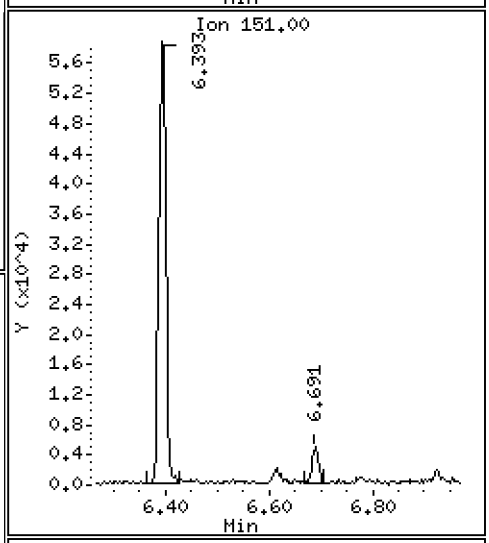
9 Acenaphthylene

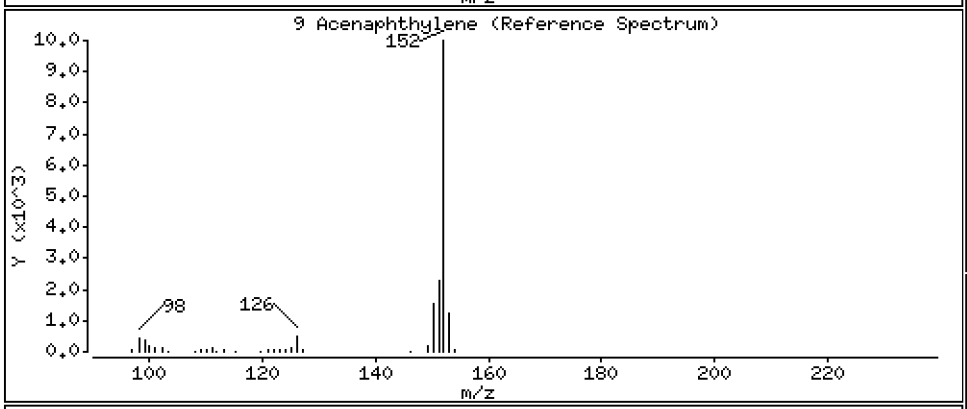
Concentration: 0.1090 ug/mL

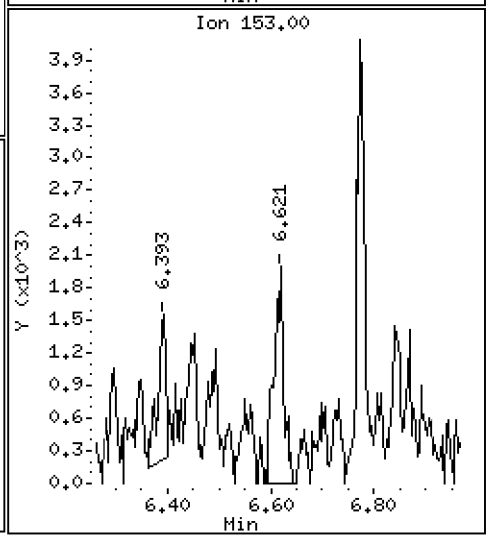


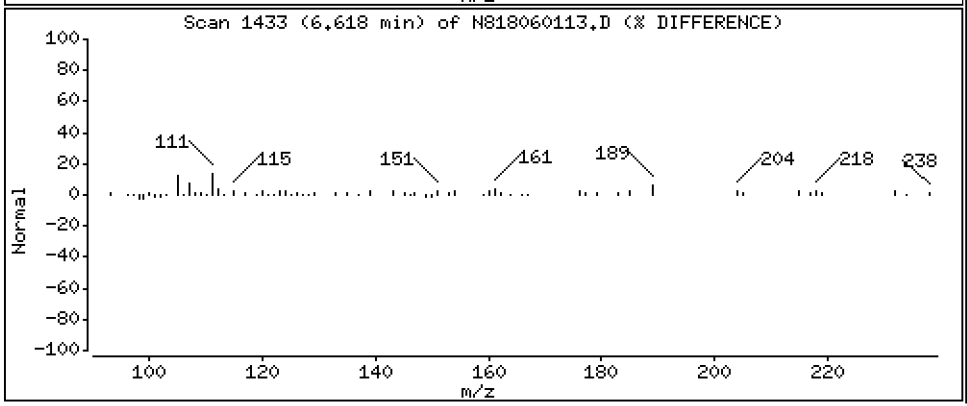












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

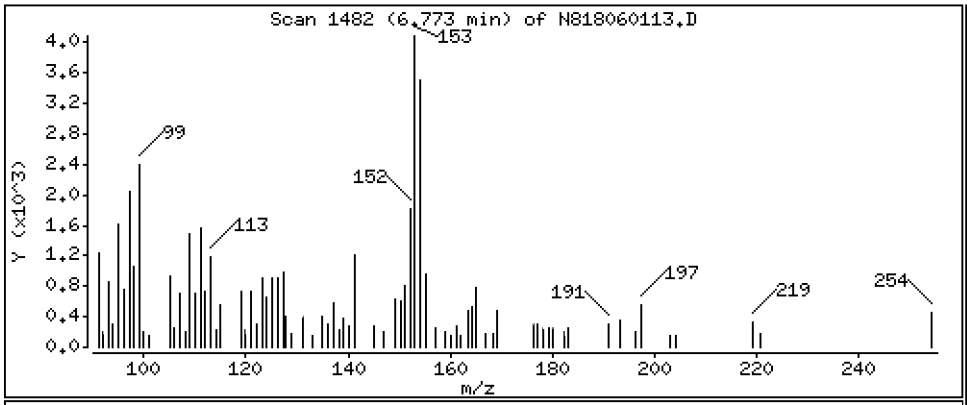
Operator: JZ

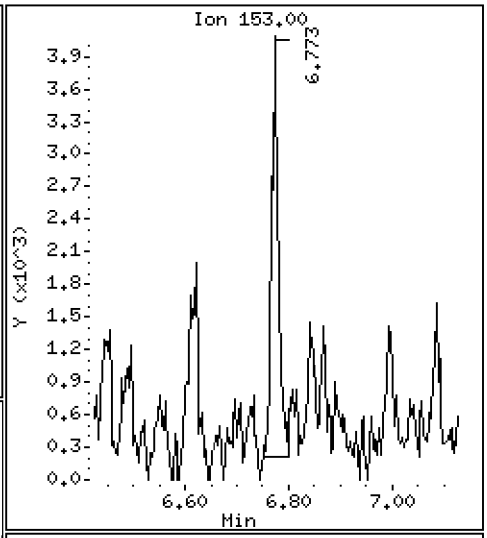
Column phase: Rxi-17sil

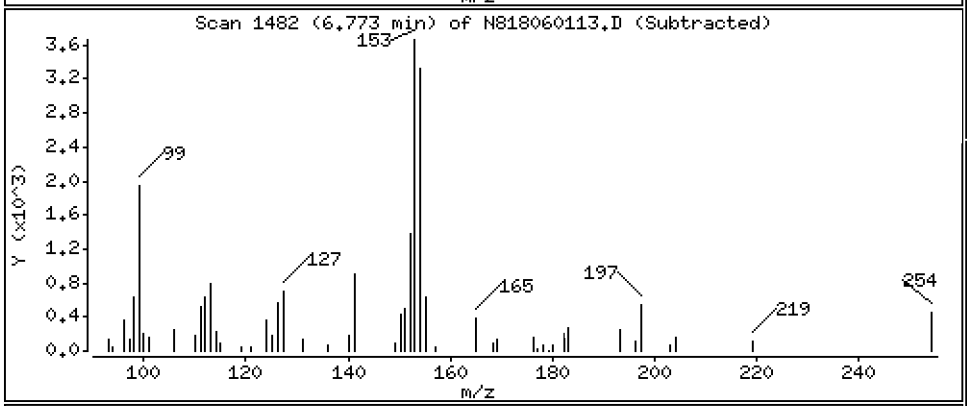
Column diameter: 0.25

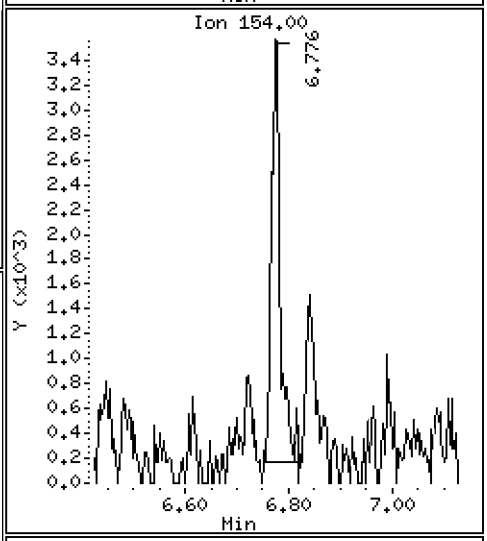
11 Acenaphthene

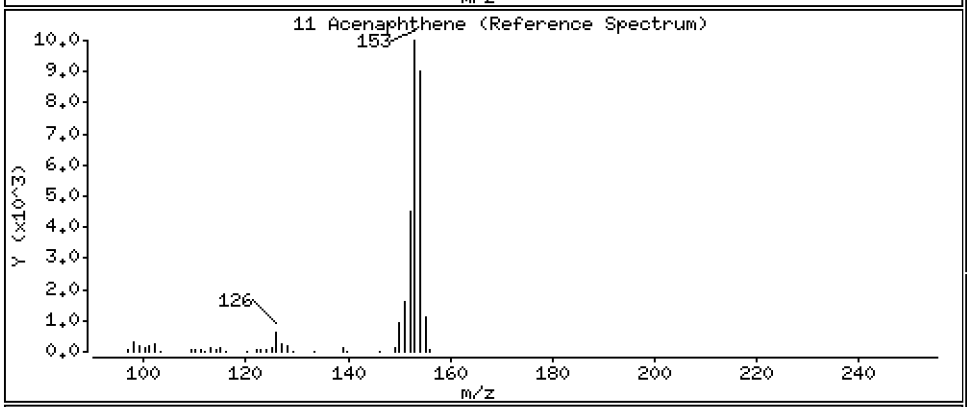
Concentration: 0.05050 ug/mL

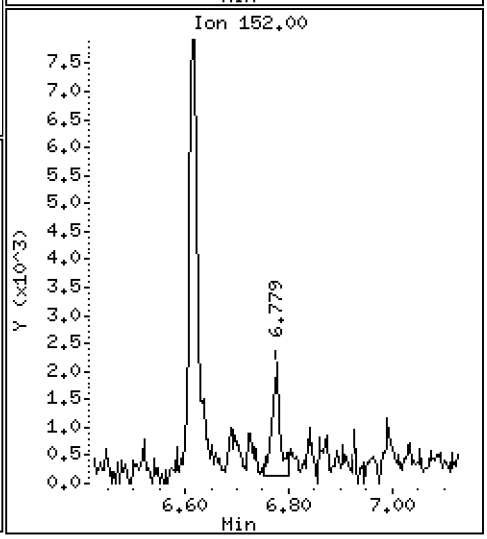


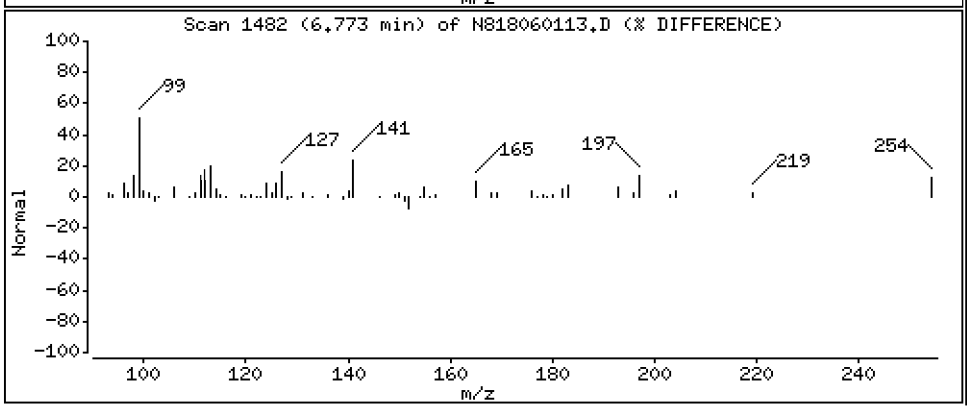












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

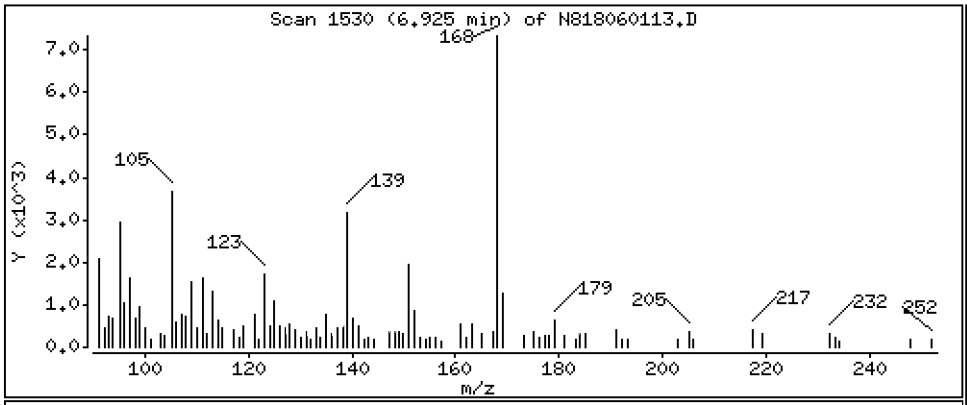
Operator: JZ

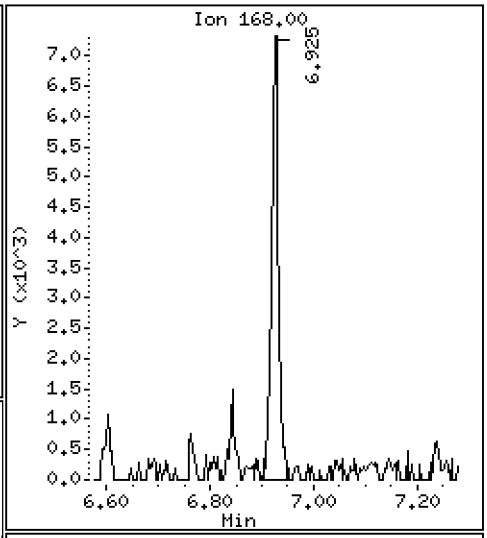
Column phase: Rxi-17sil

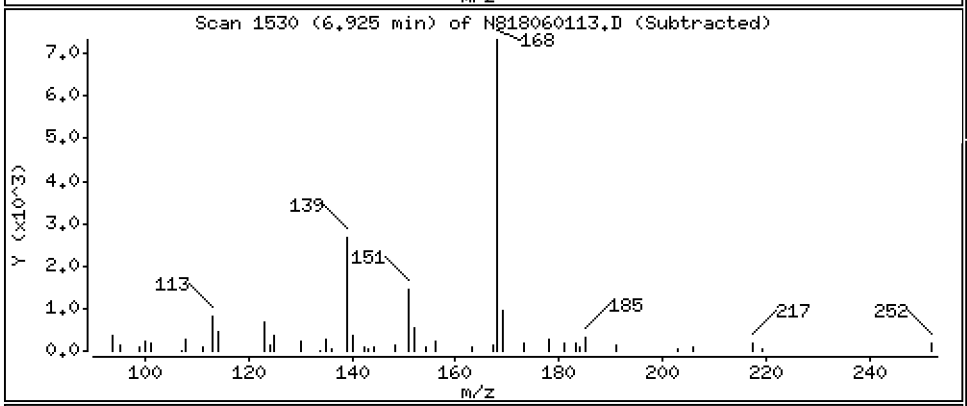
Column diameter: 0.25

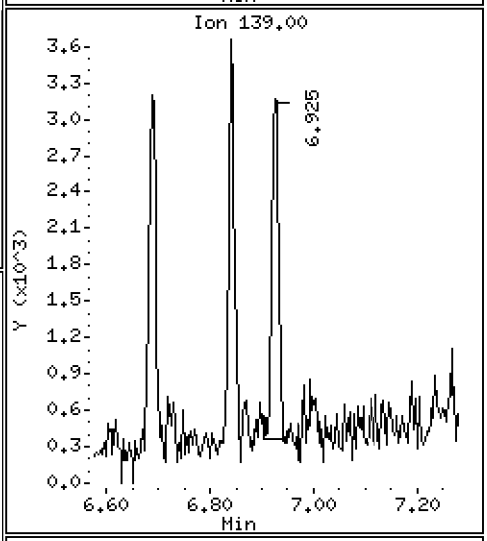
12 Dibenzofuran

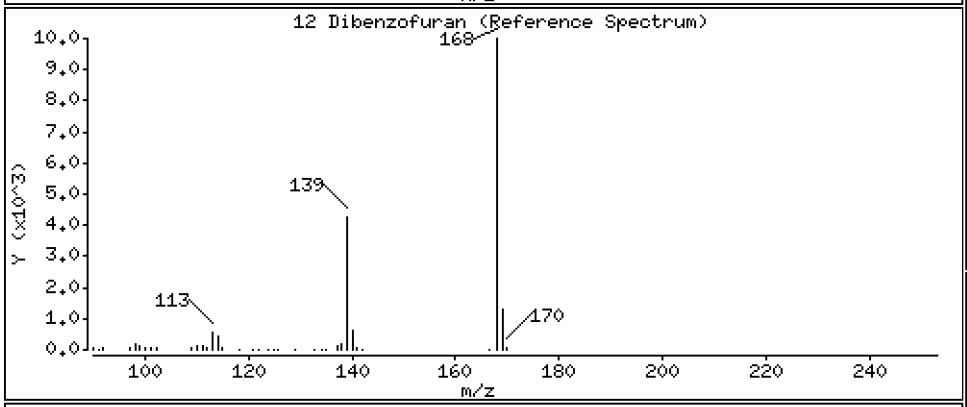
Concentration: 0.06934 ug/mL

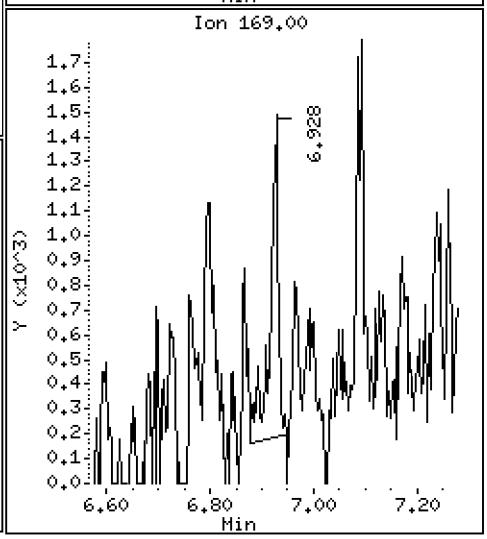


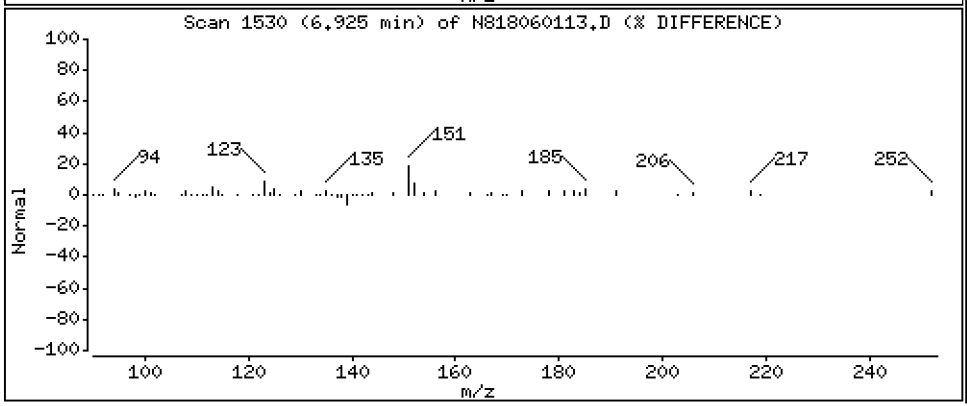












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

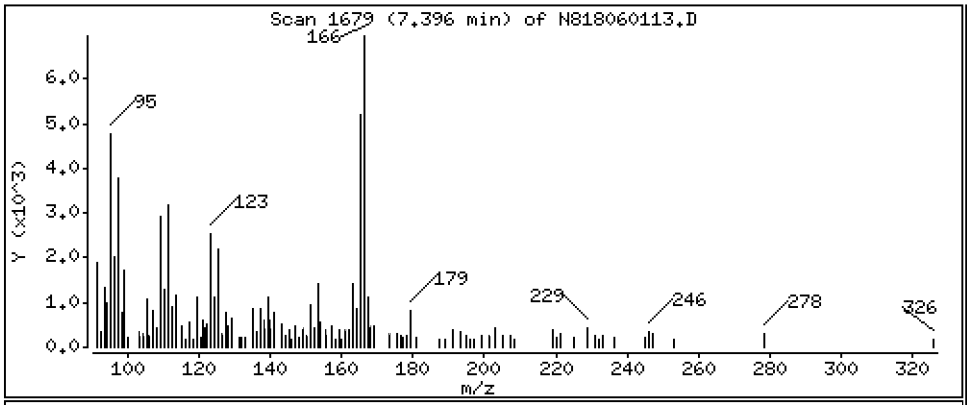
Operator: JZ

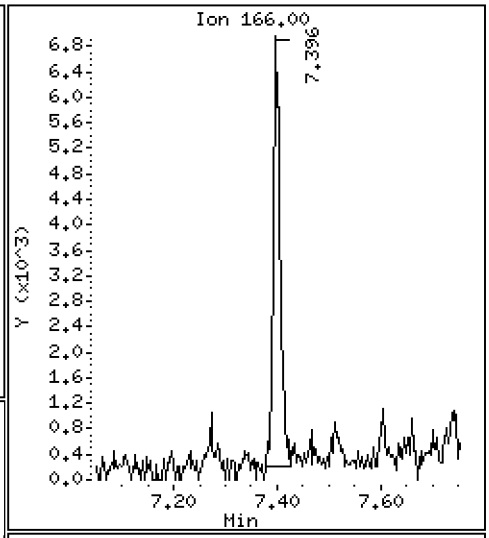
Column phase: Rxi-17sil

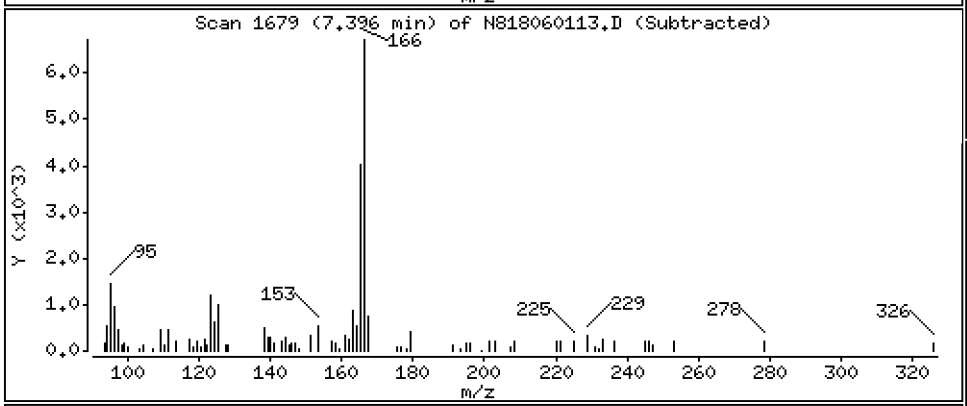
Column diameter: 0.25

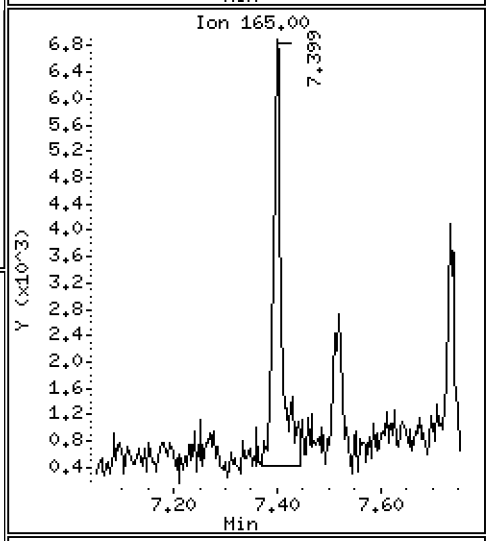
14 Fluorene

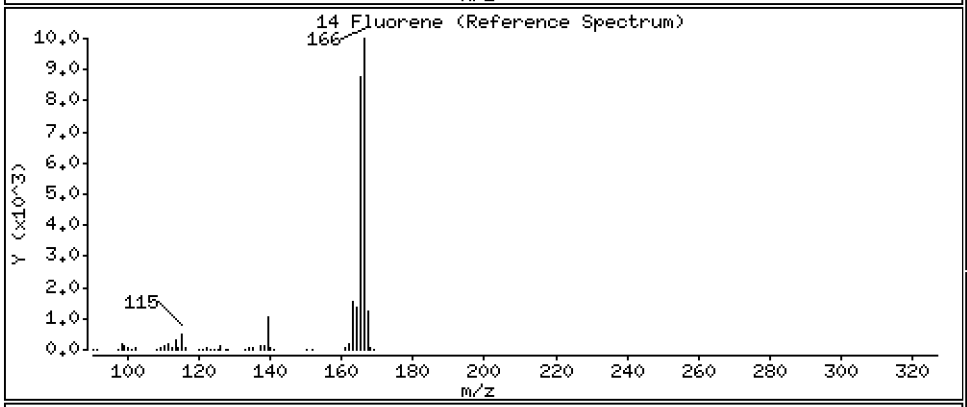
Concentration: 0.08229 ug/mL

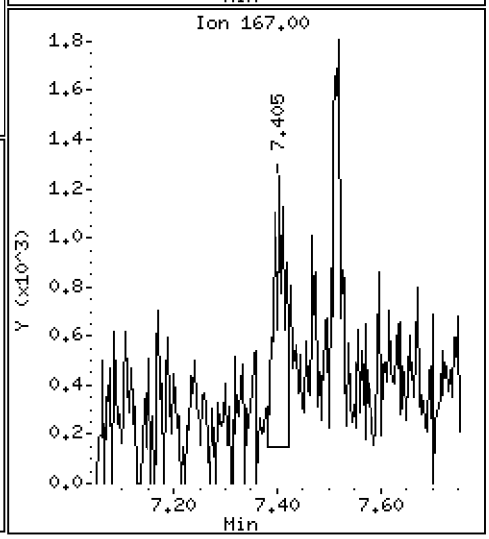


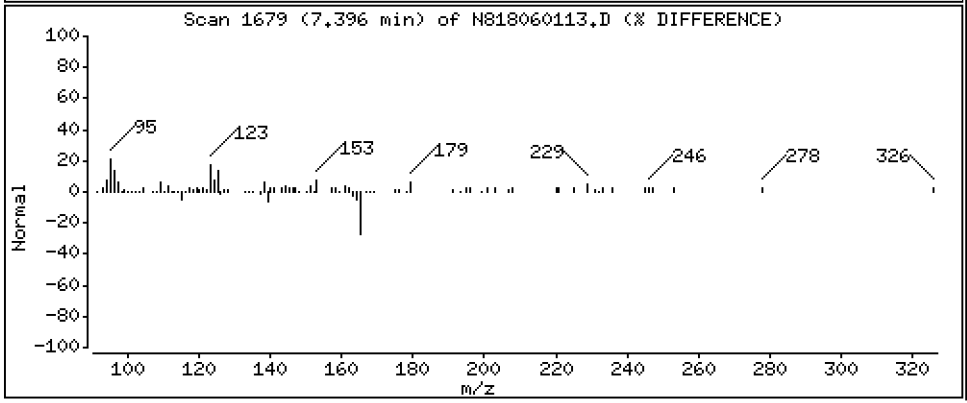












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

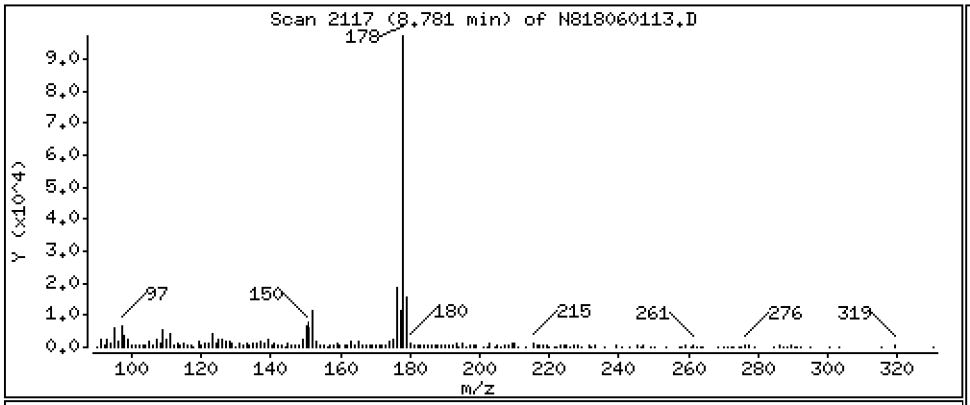
Operator: JZ

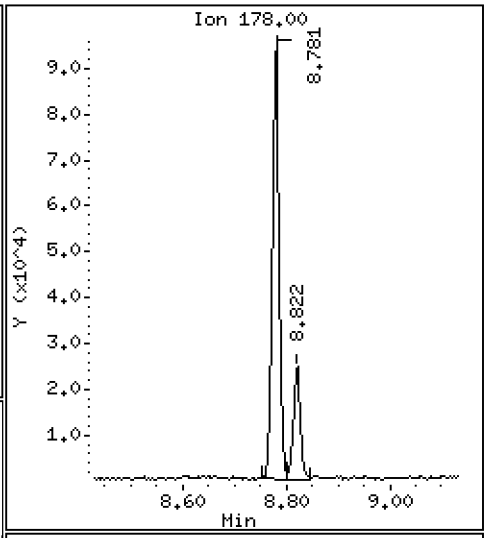
Column phase: Rxi-17sil

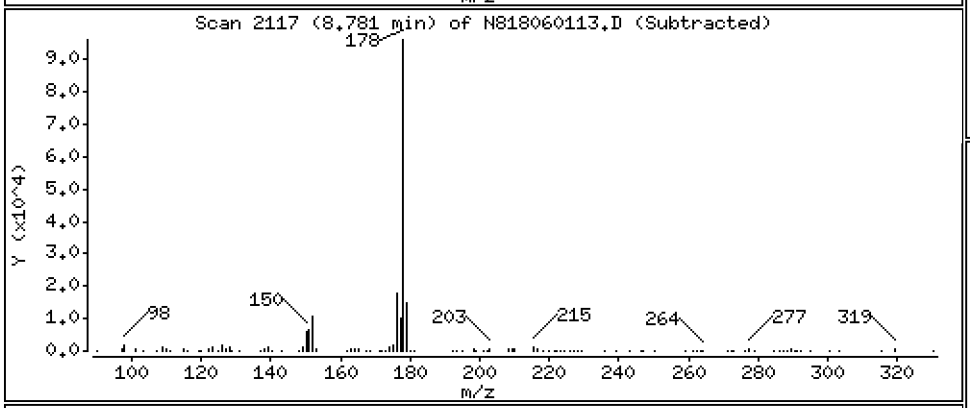
Column diameter: 0.25

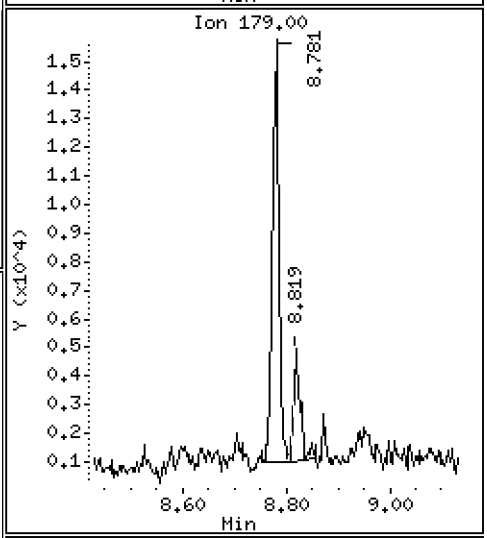
16 Phenanthrene

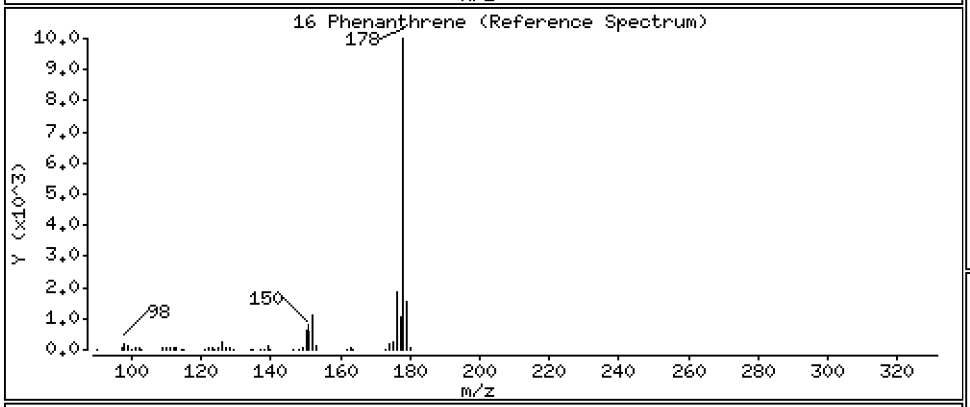
Concentration: 0.8315 ug/mL

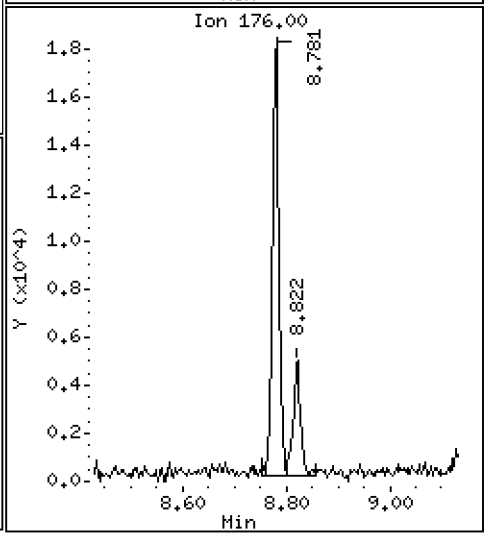


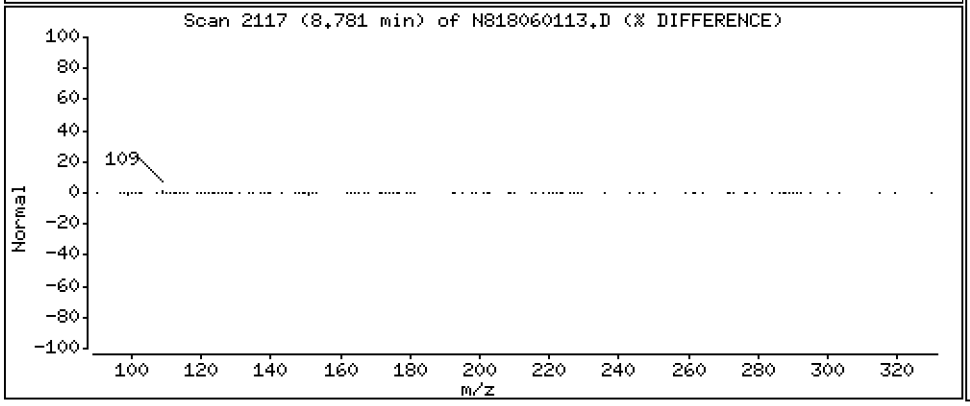












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

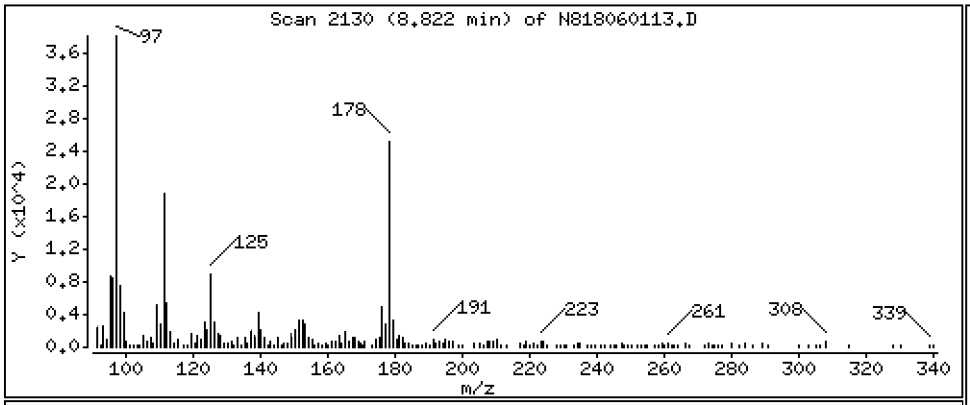
Operator: JZ

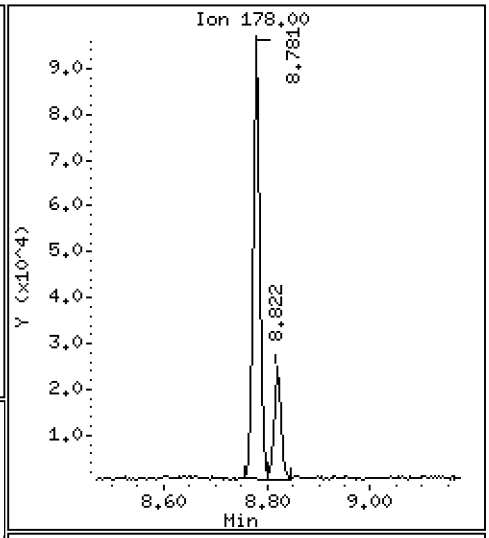
Column phase: Rxi-17sil

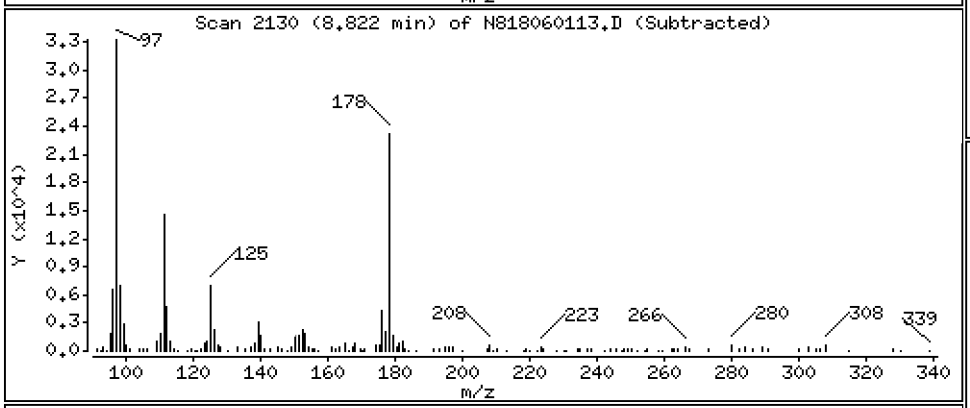
Column diameter: 0.25

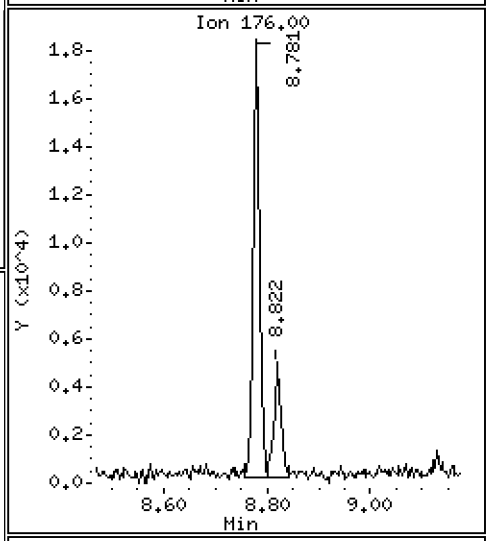
17 Anthracene

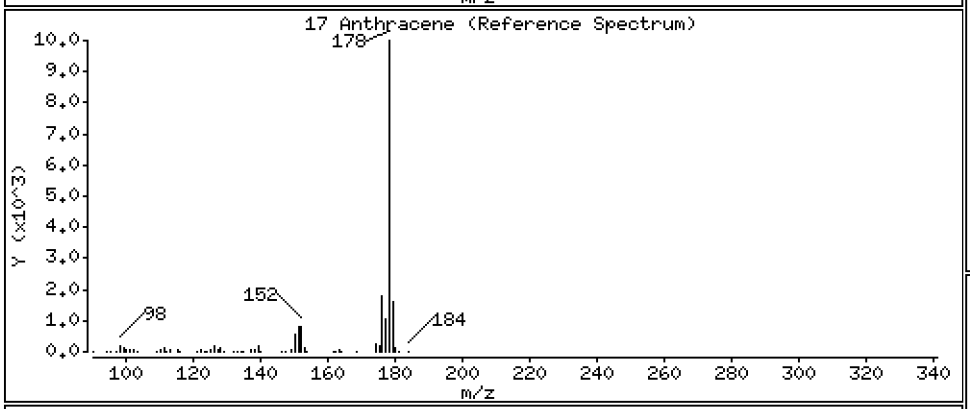
Concentration: 0.2481 ug/mL

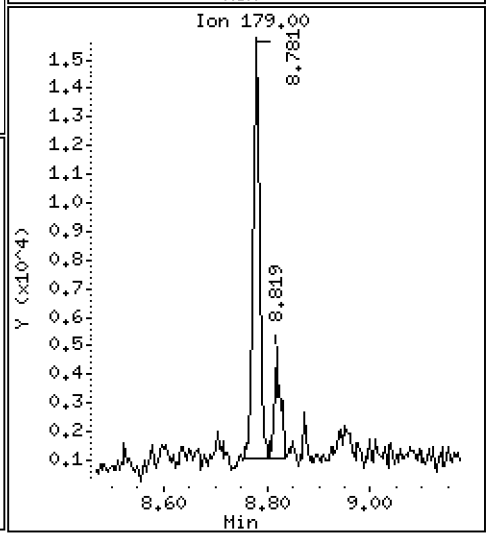


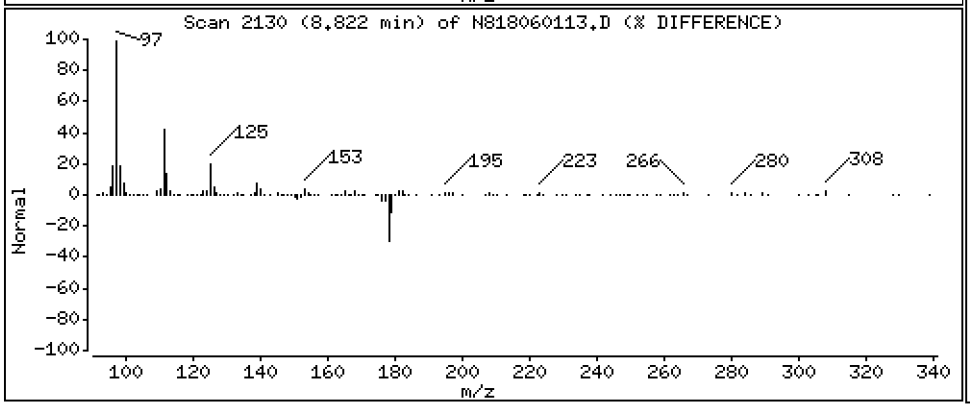












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

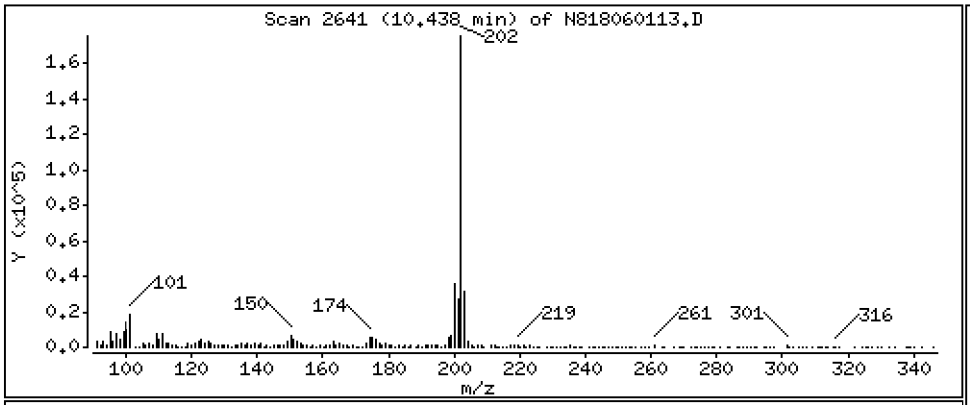
Operator: JZ

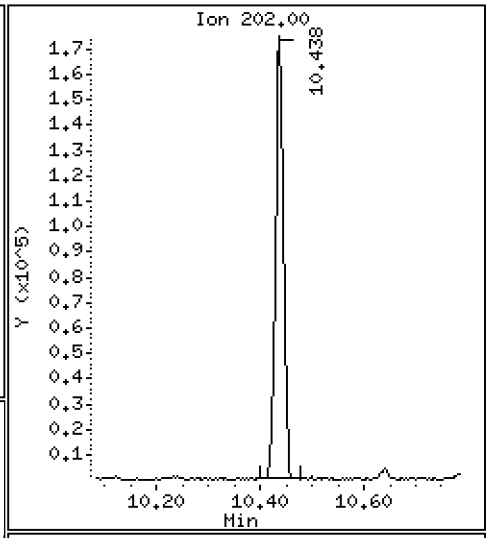
Column phase: Rxi-17sil

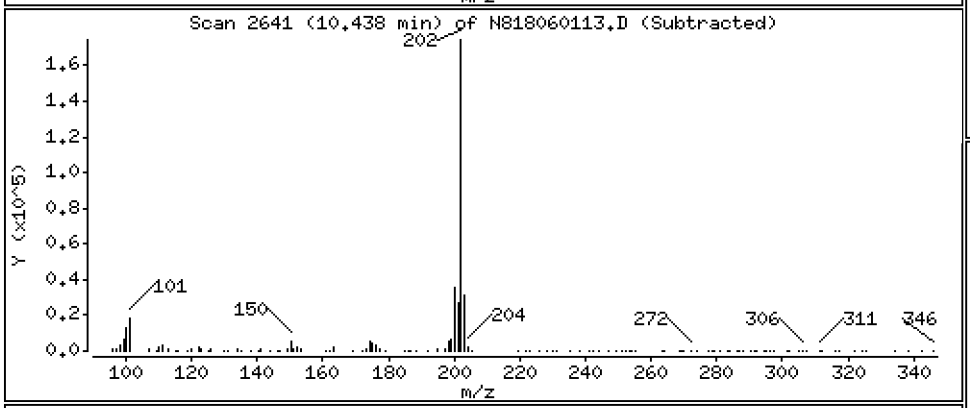
Column diameter: 0.25

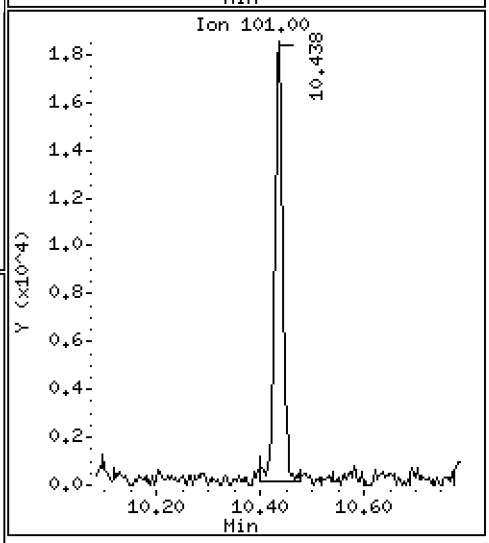
22 Fluoranthene

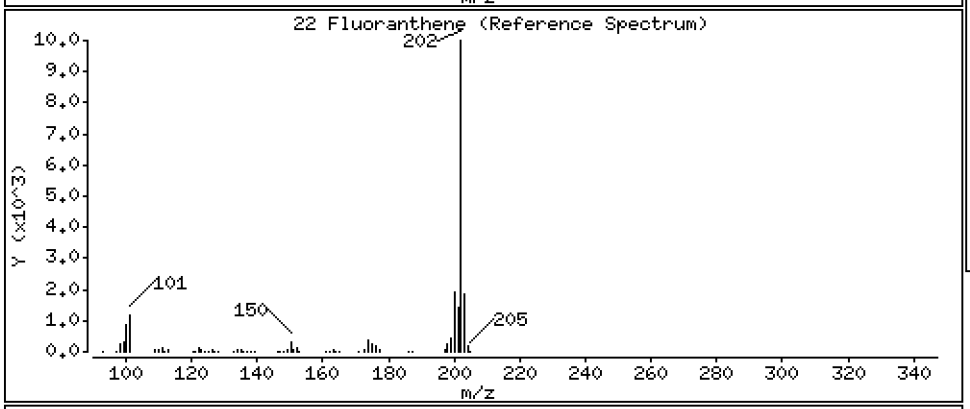
Concentration: 1.547 ug/mL

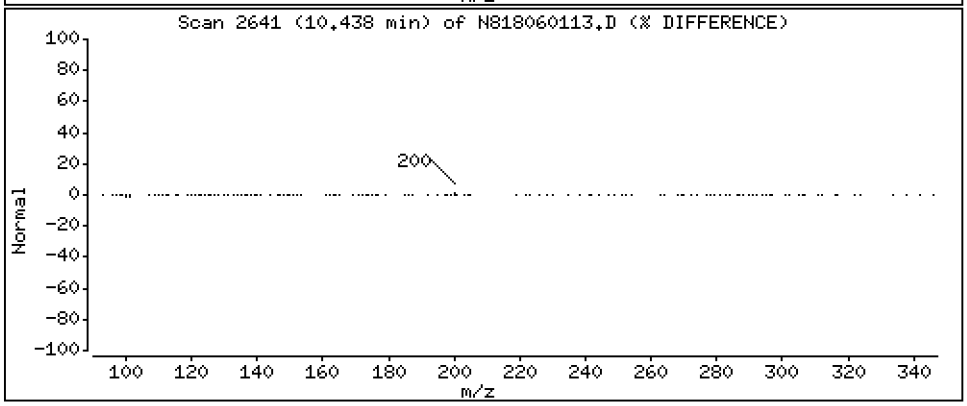












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

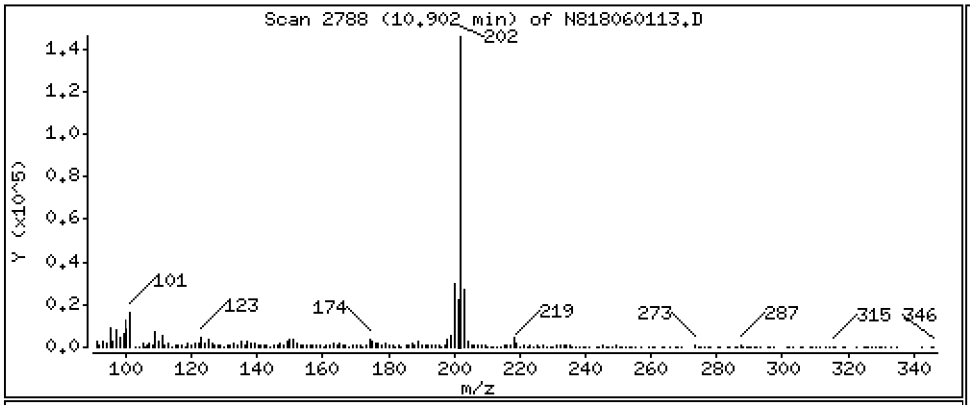
Operator: JZ

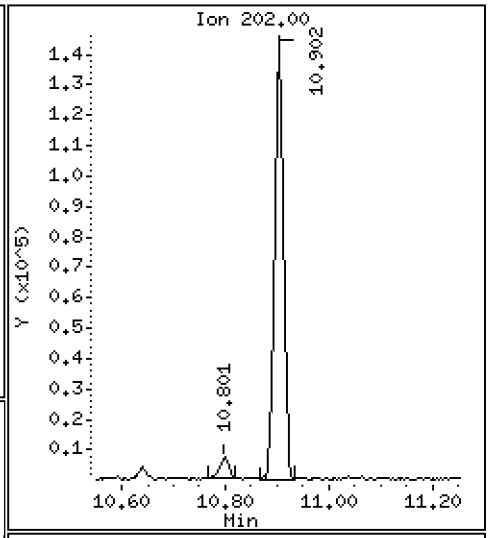
Column phase: Rxi-17sil

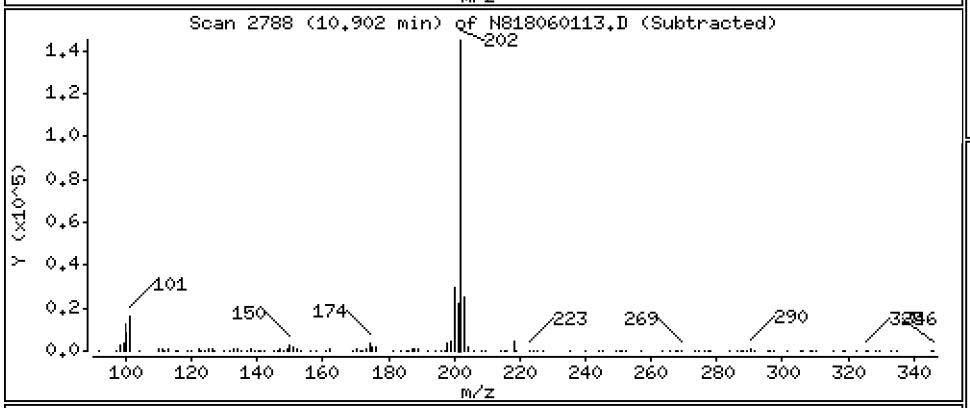
Column diameter: 0.25

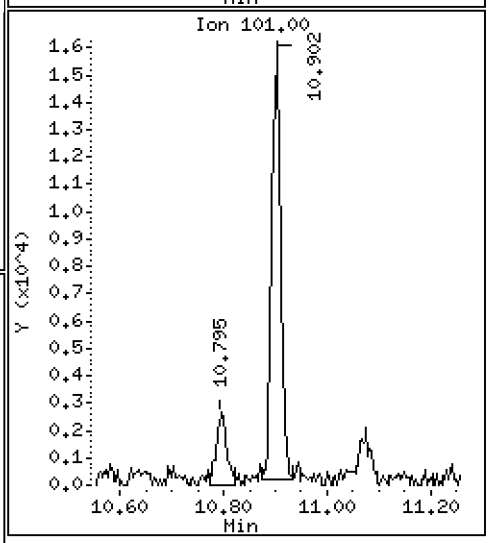
23 Pyrene

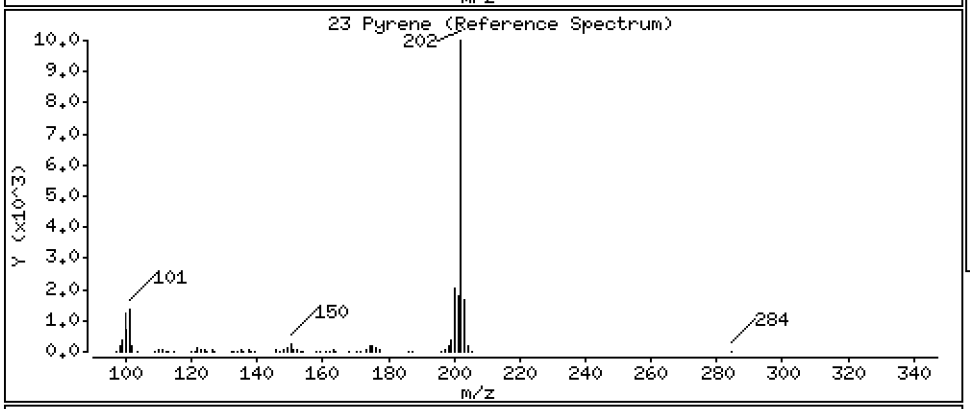
Concentration: 1.597 ug/mL

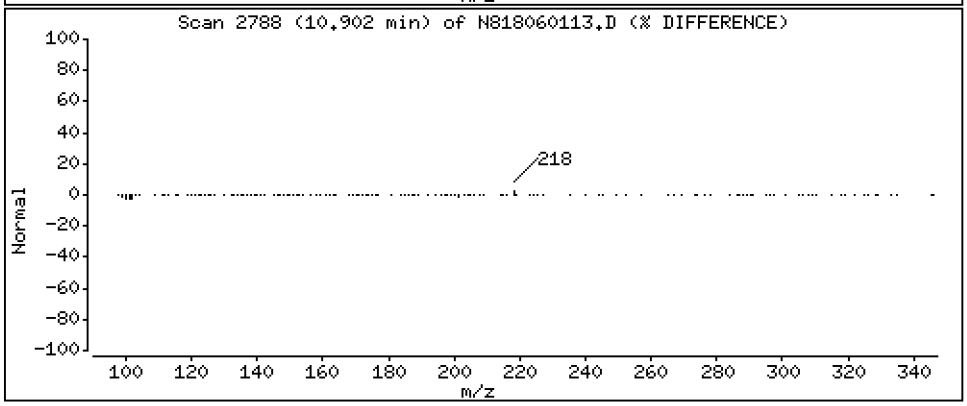












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

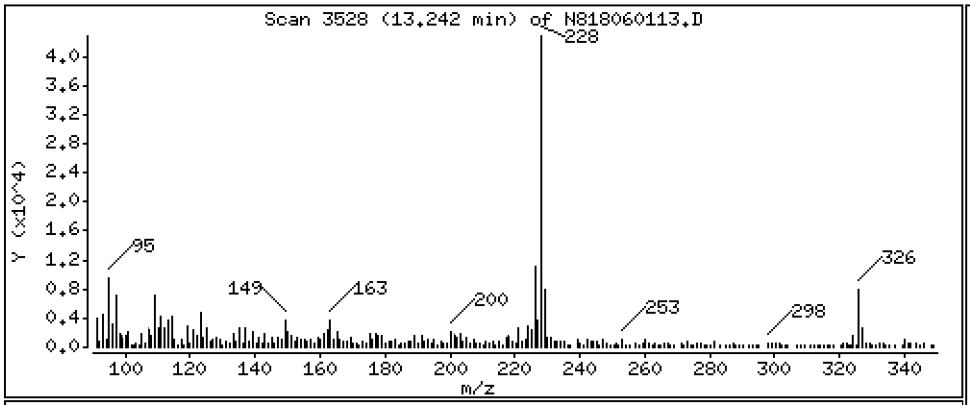
Operator: JZ

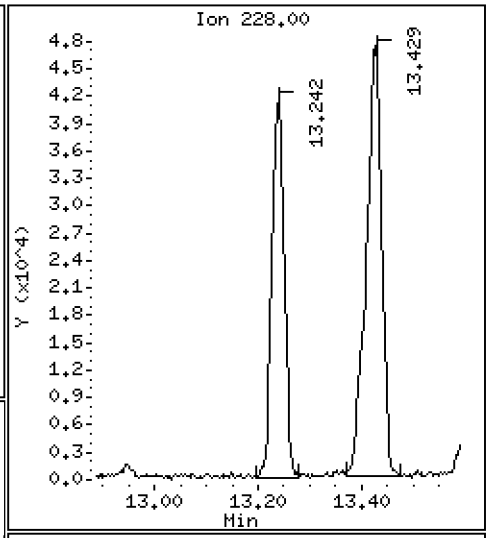
Column phase: Rxi-17sil

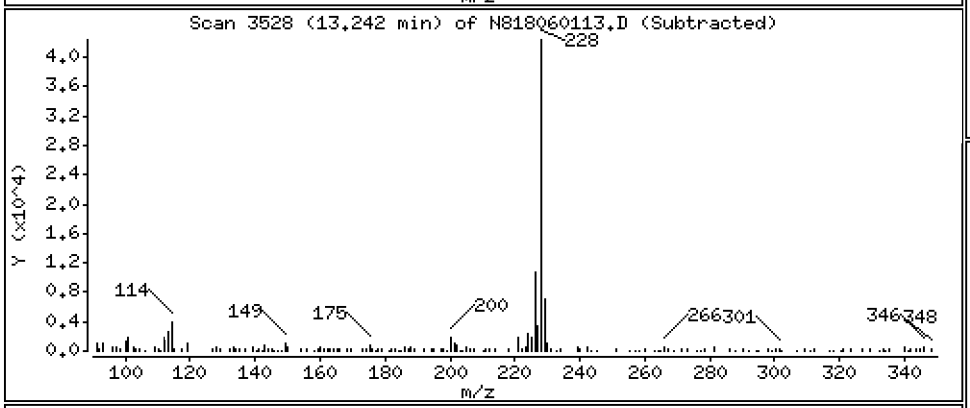
Column diameter: 0.25

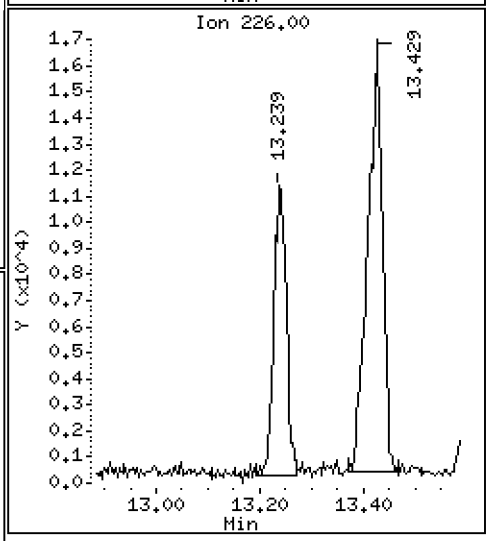
24 Benzo(a)anthracene

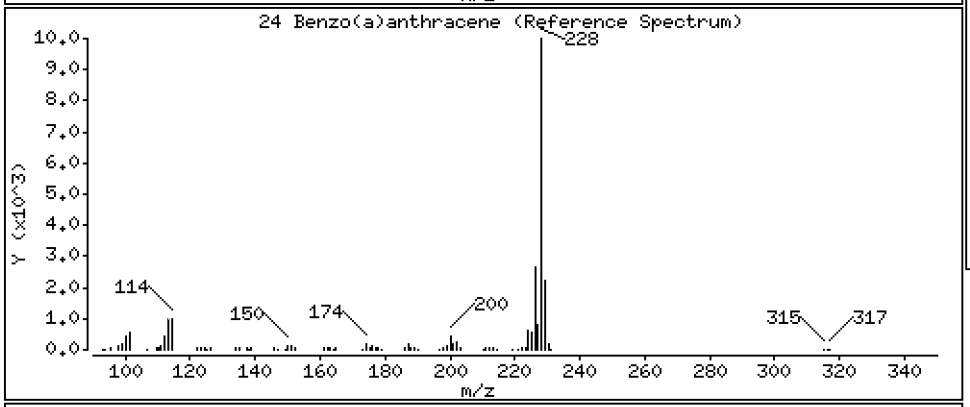
Concentration: 0.6555 ug/mL

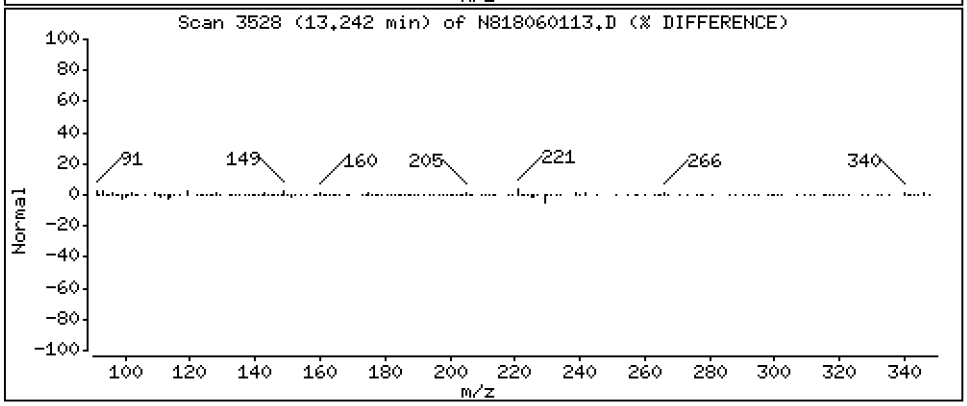












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

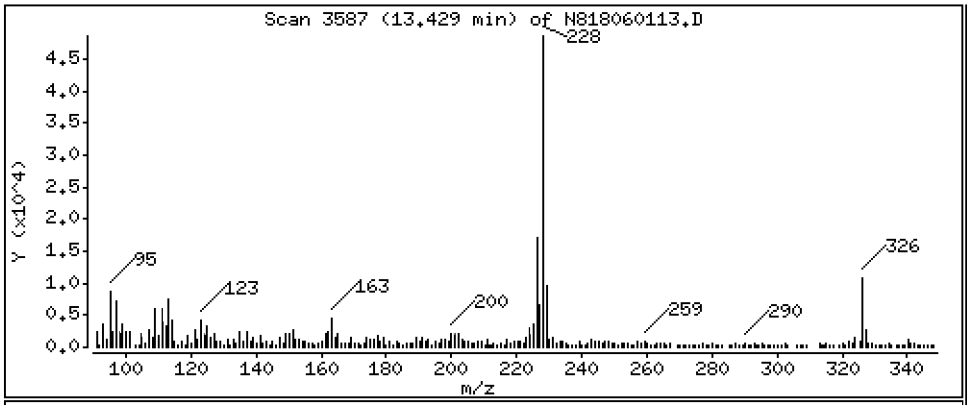
Operator: JZ

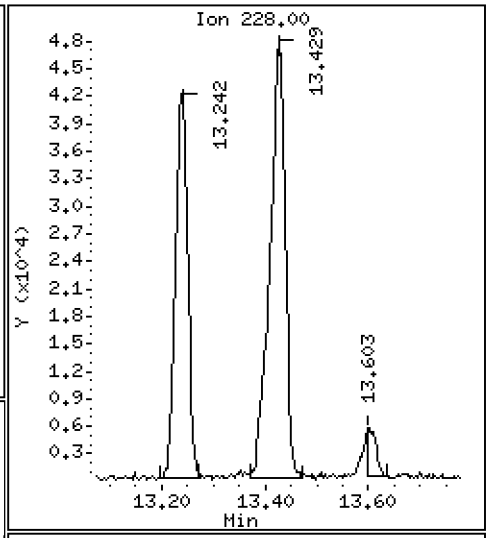
Column phase: Rxi-17sil

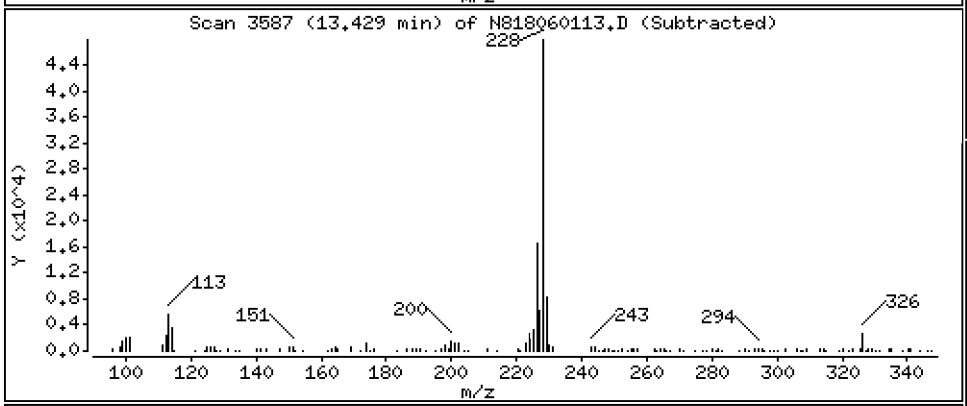
Column diameter: 0.25

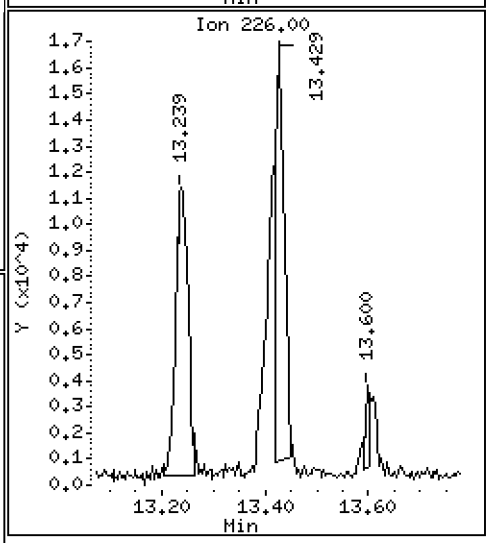
27 Chrysene

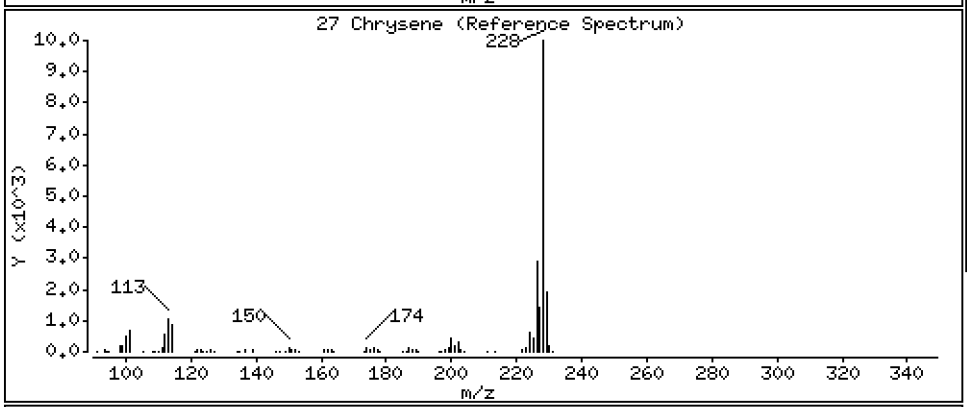
Concentration: 0.9248 ug/mL

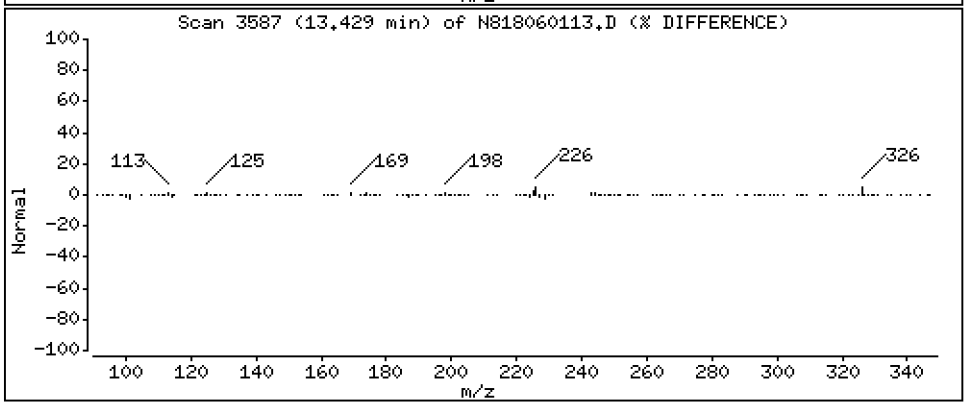












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

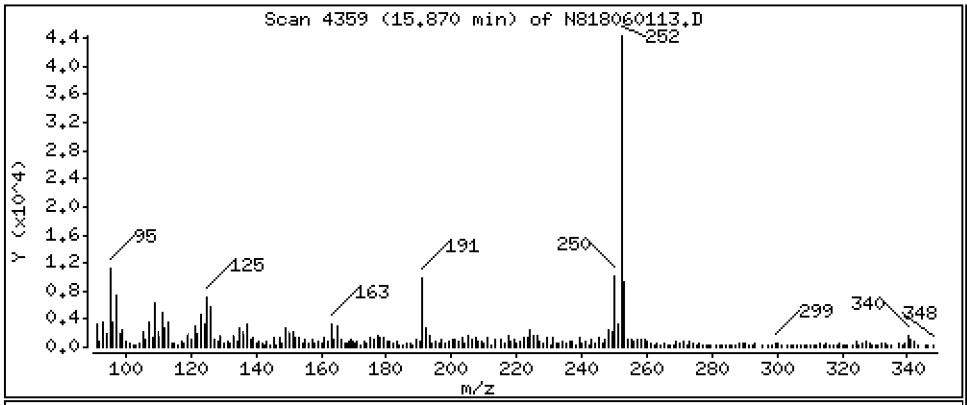
Operator: JZ

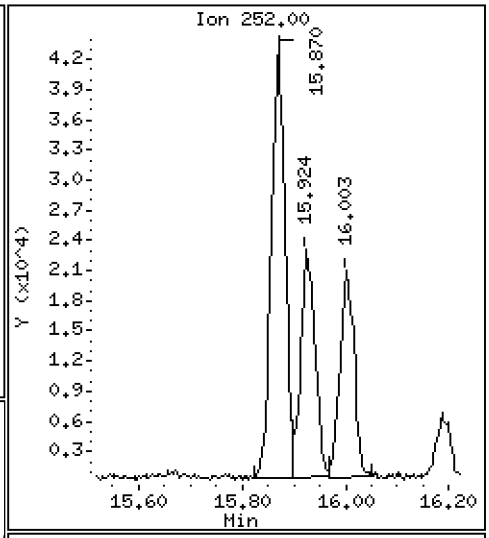
Column phase: Rxi-17sil

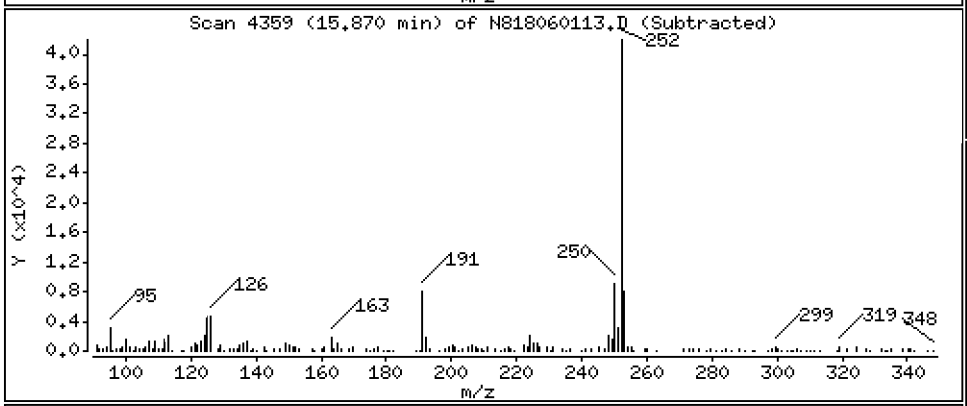
Column diameter: 0.25

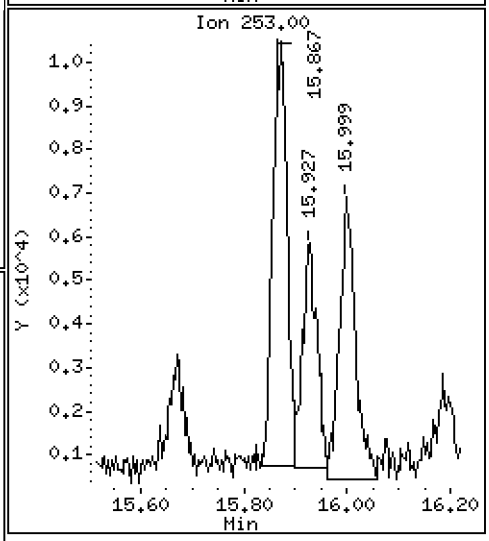
28 Benzo(b)fluoranthene

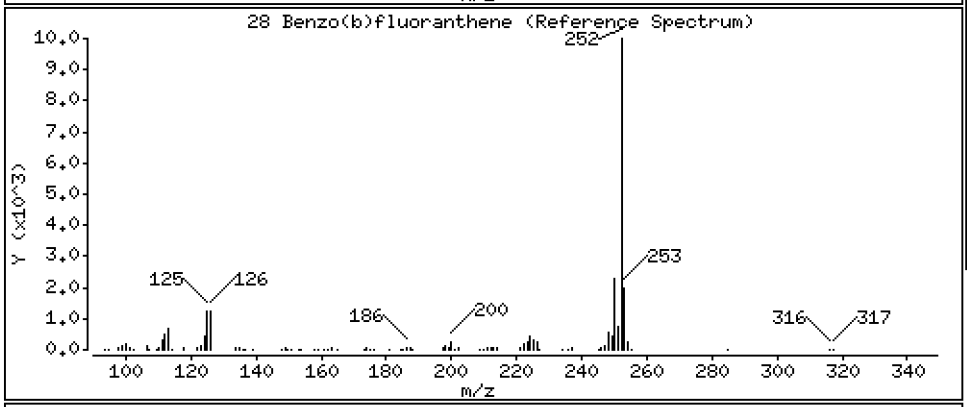
Concentration: 0.7148 ug/mL

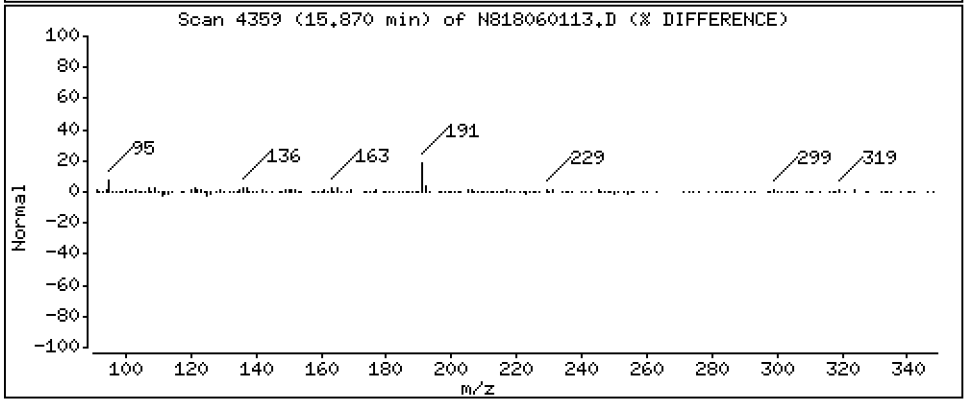












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

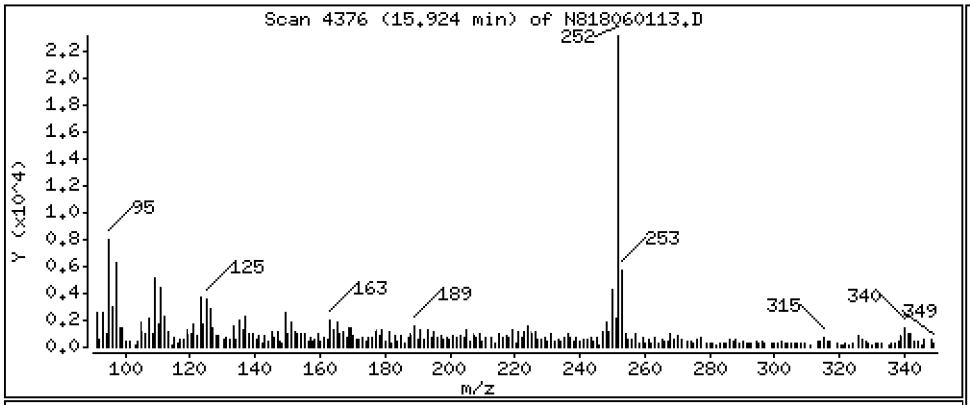
Operator: JZ

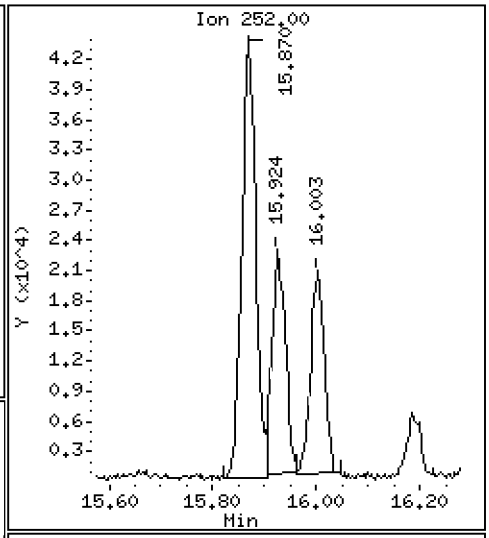
Column phase: Rxi-17sil

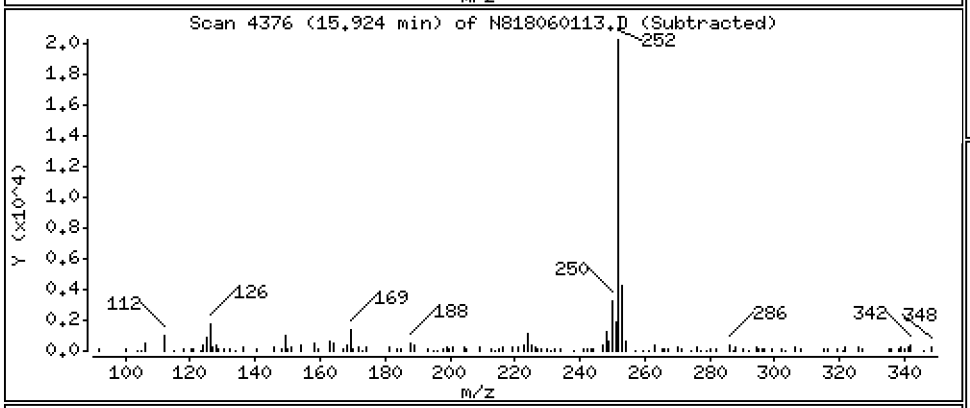
Column diameter: 0.25

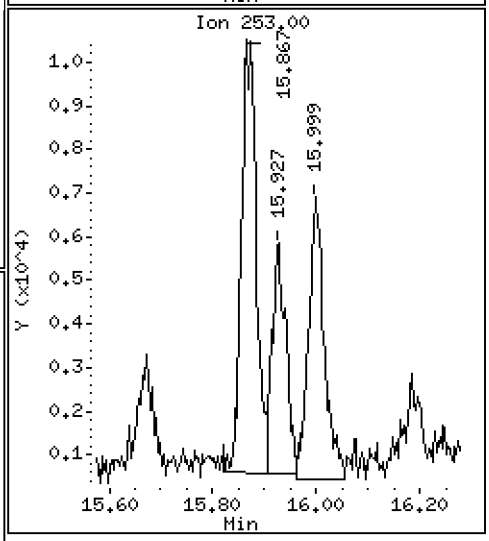
29 Benzo(k)fluoranthene

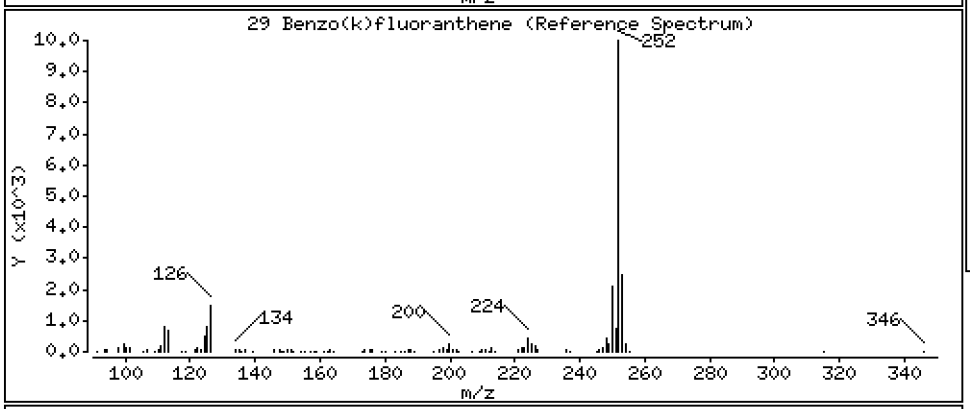
Concentration: 0.3685 ug/mL

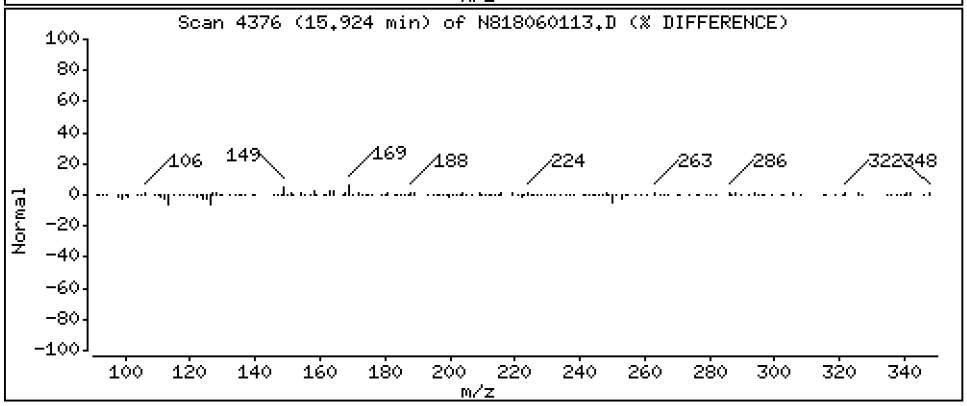












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

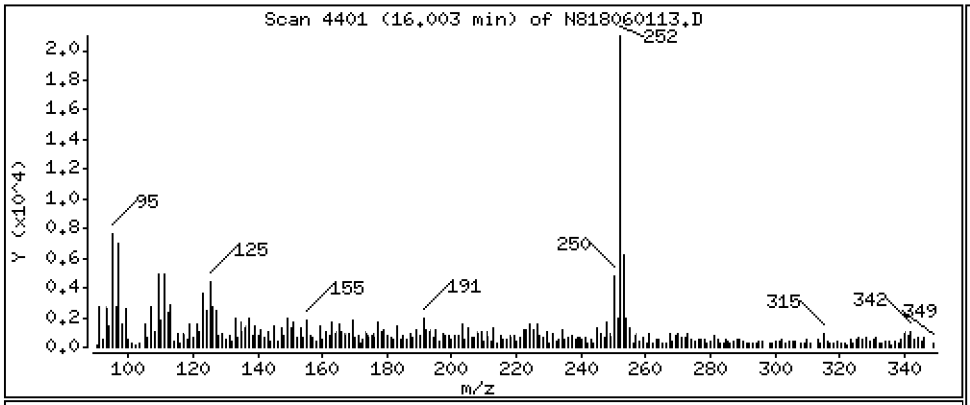
Operator: JZ

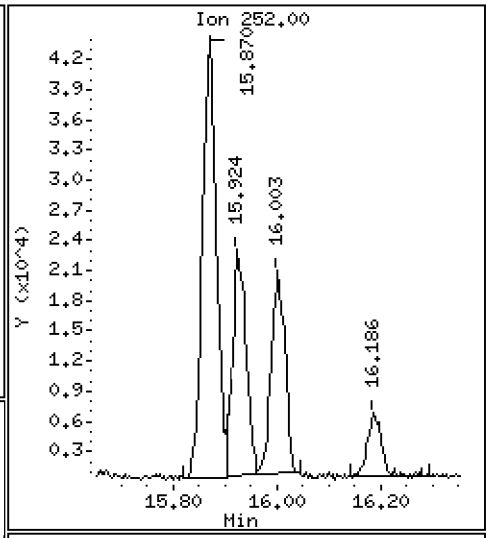
Column phase: Rxi-17sil

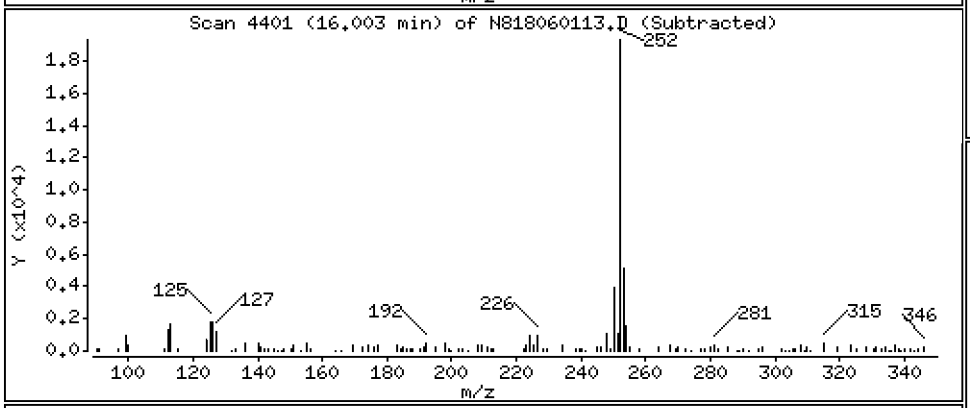
Column diameter: 0.25

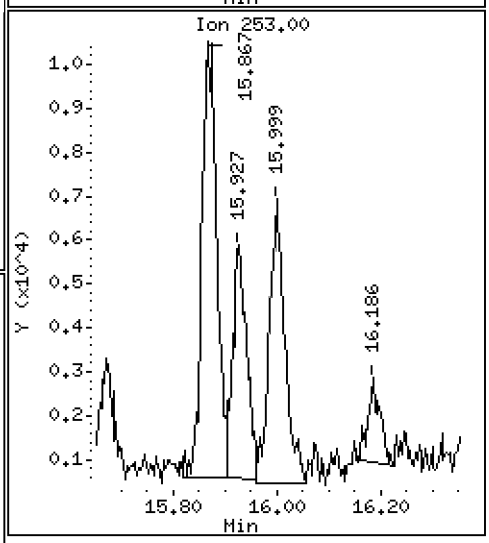
30 Benzo(j)fluoranthene

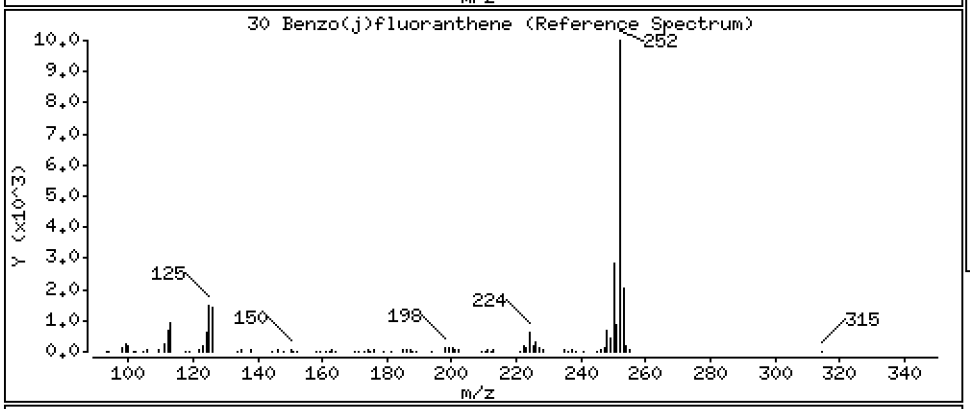
Concentration: 0.3389 ug/mL

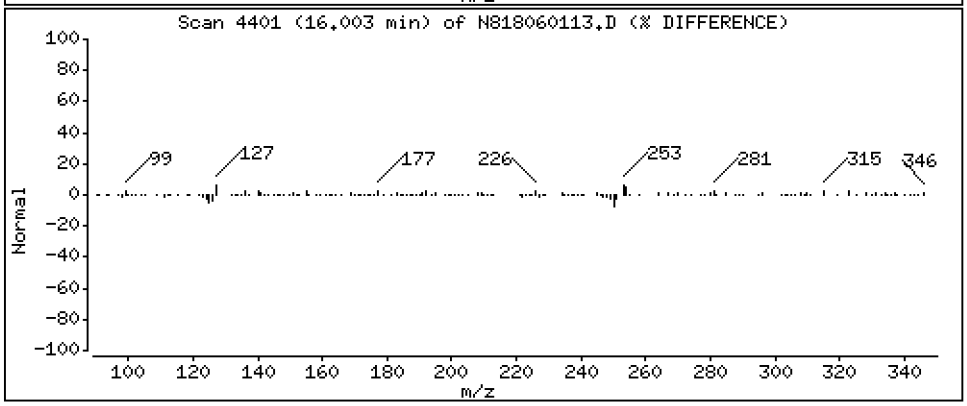












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

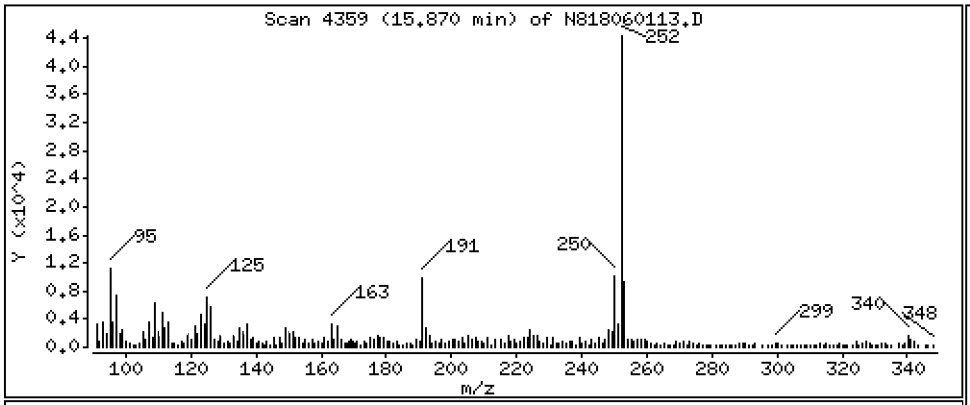
Operator: JZ

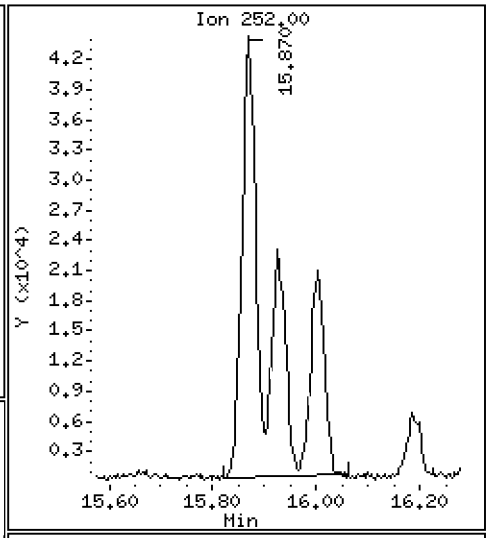
Column phase: Rxi-17sil

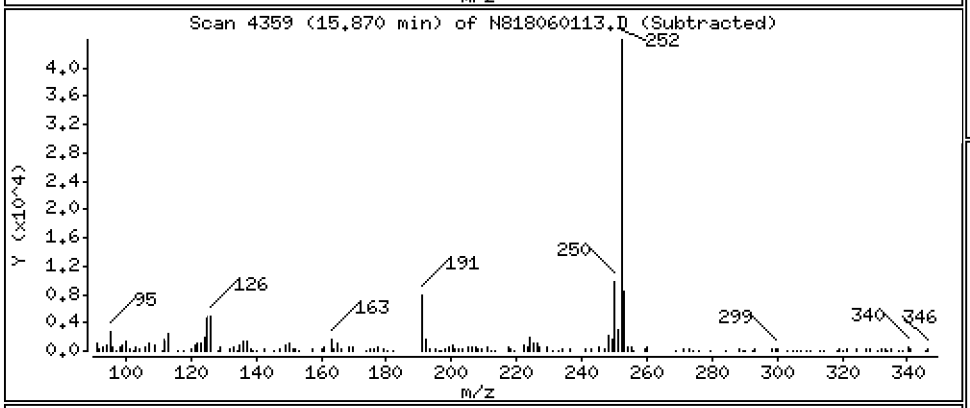
Column diameter: 0.25

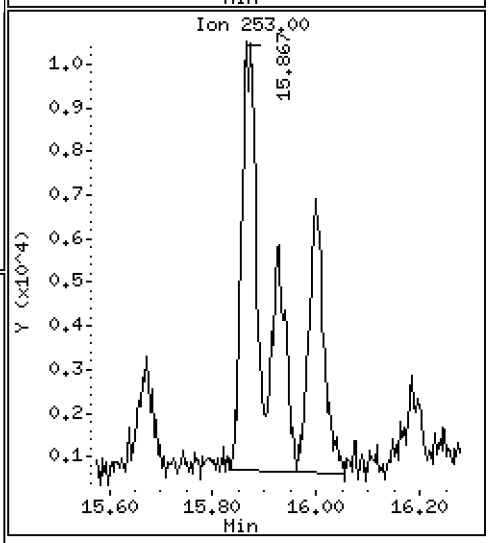
31 Total Benzofluoranthenes

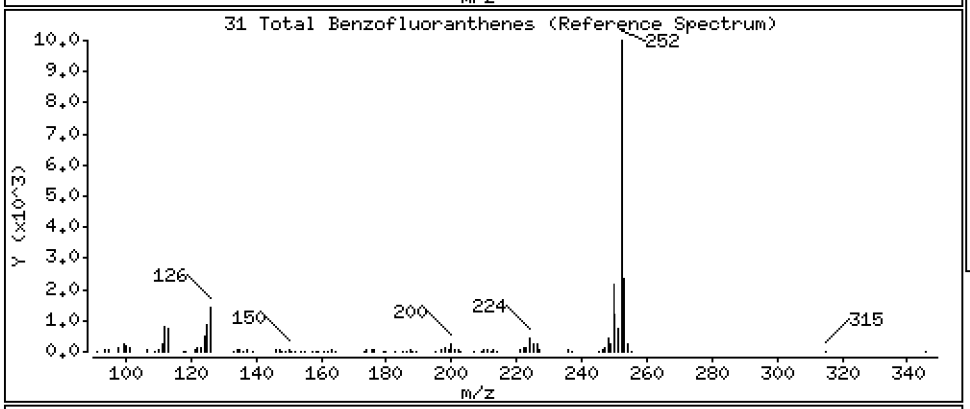
Concentration: 1.462 ug/mL

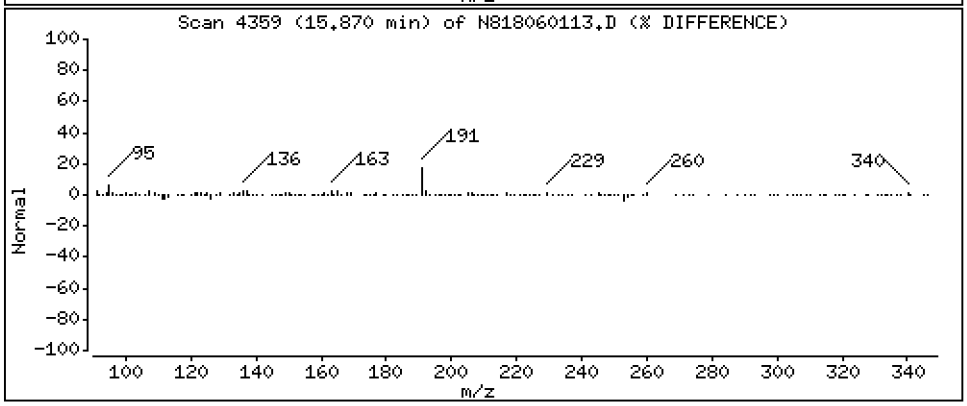












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

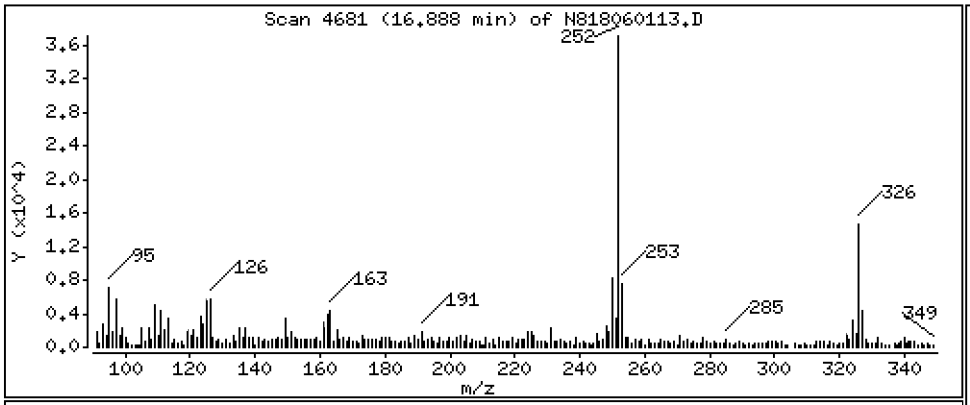
Operator: JZ

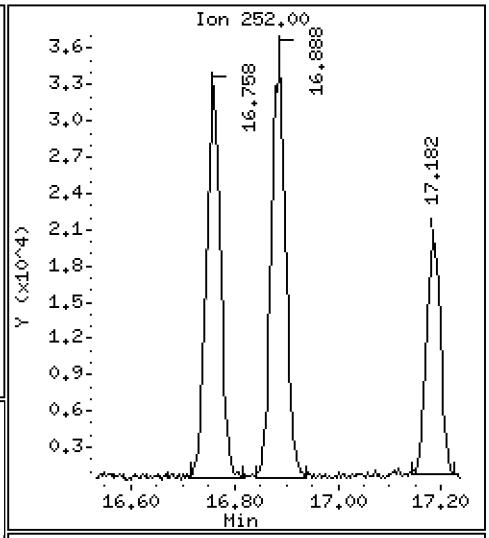
Column phase: Rxi-17sil

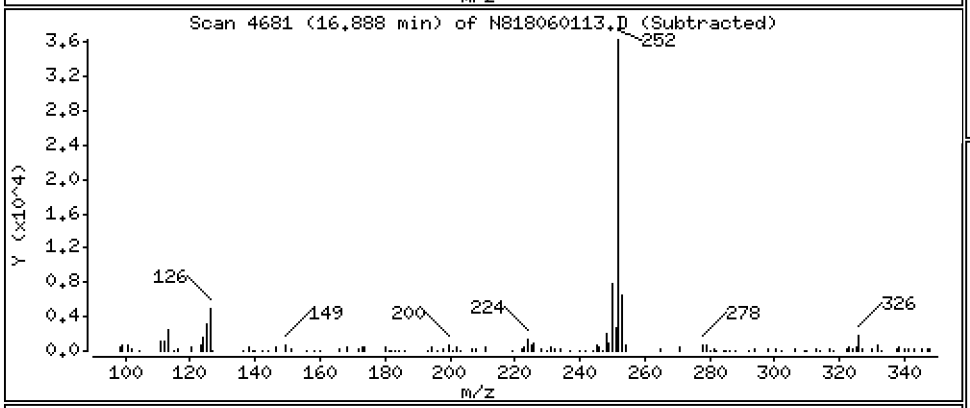
Column diameter: 0.25

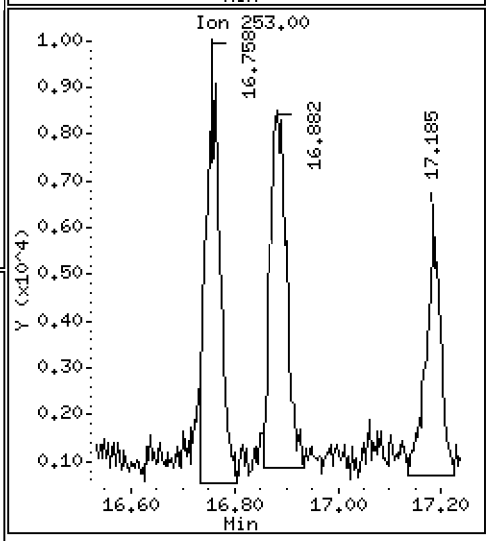
32 Benzo(a)pyrene

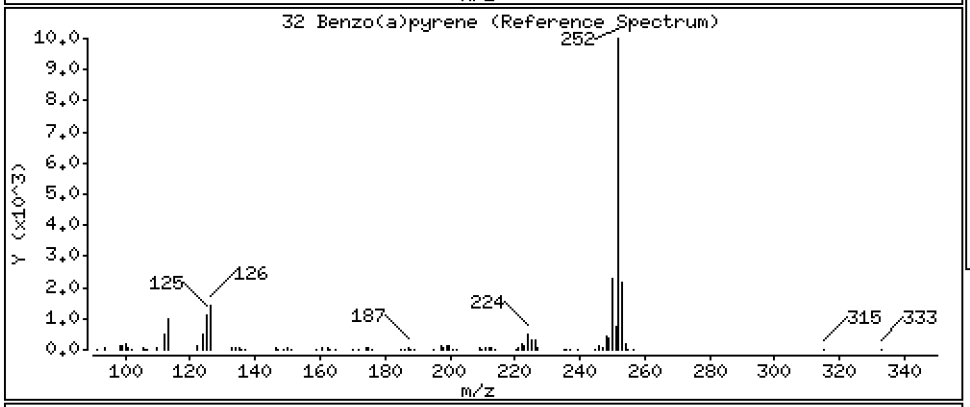
Concentration: 0.6907 ug/mL

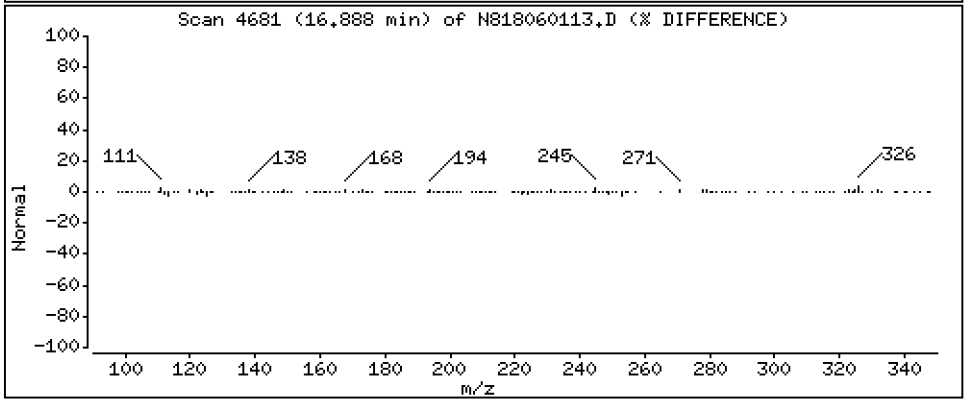












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

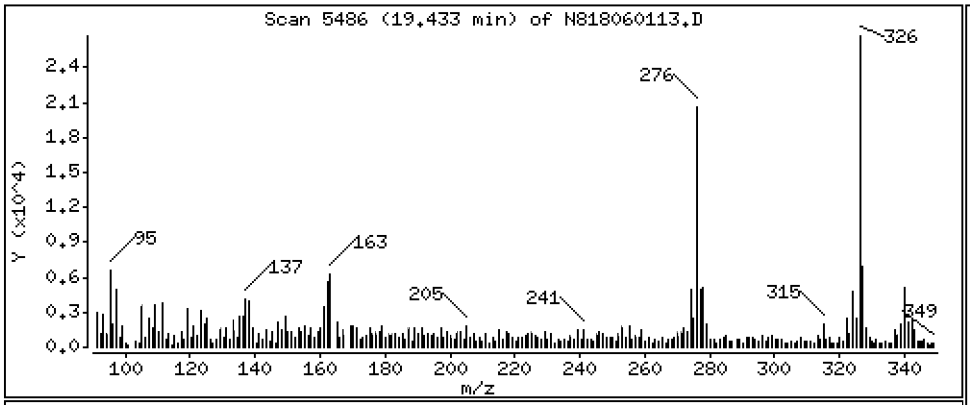
Operator: JZ

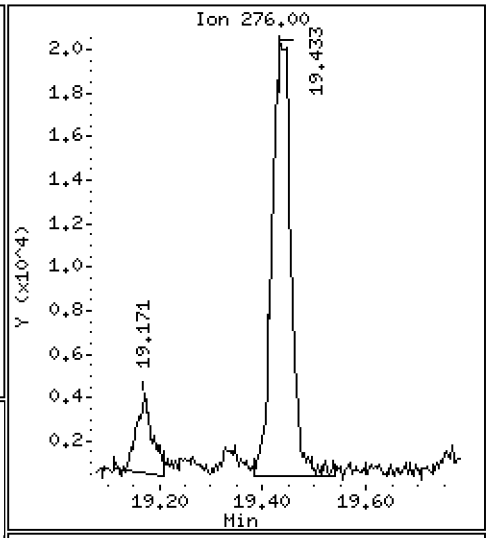
Column phase: Rxi-17sil

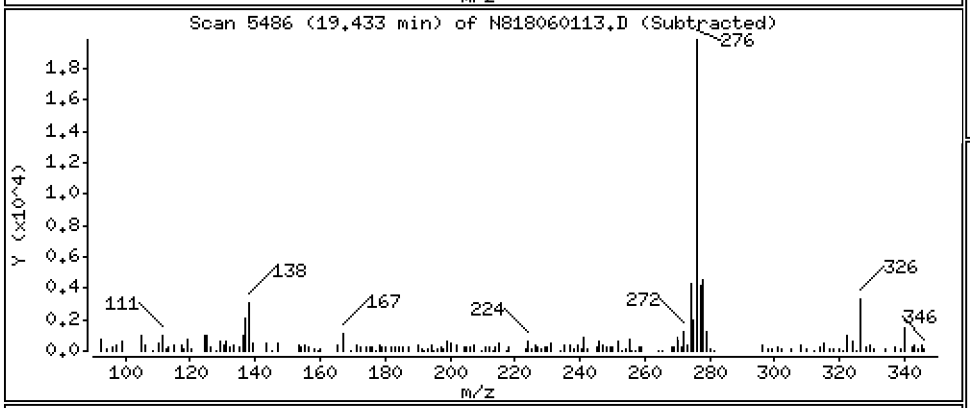
Column diameter: 0.25

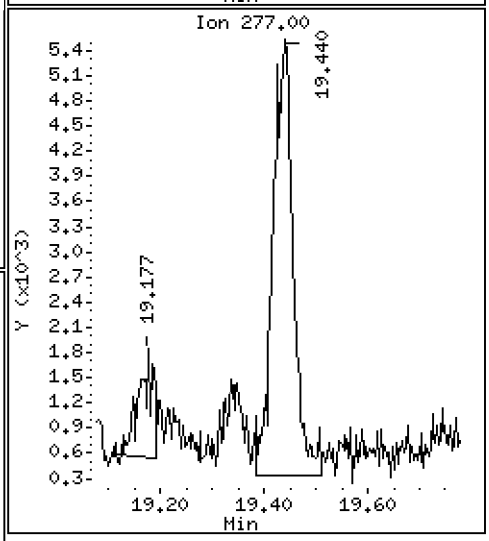
37 Indeno(1,2,3-cd)pyrene

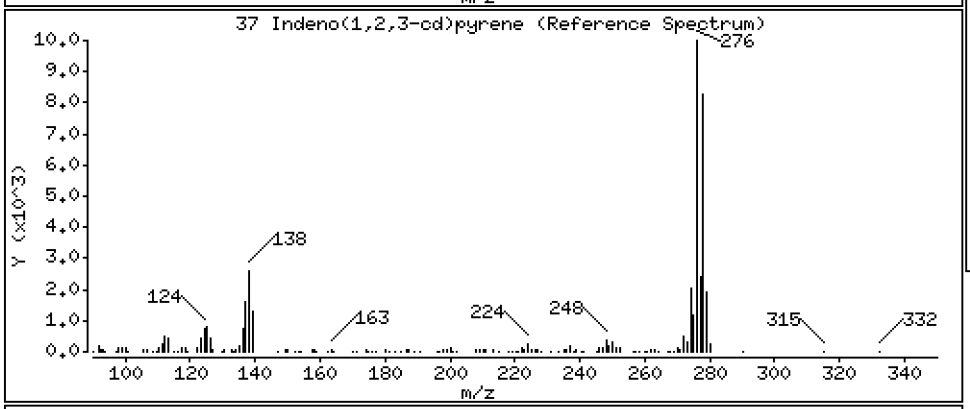
Concentration: 0.4594 ug/mL

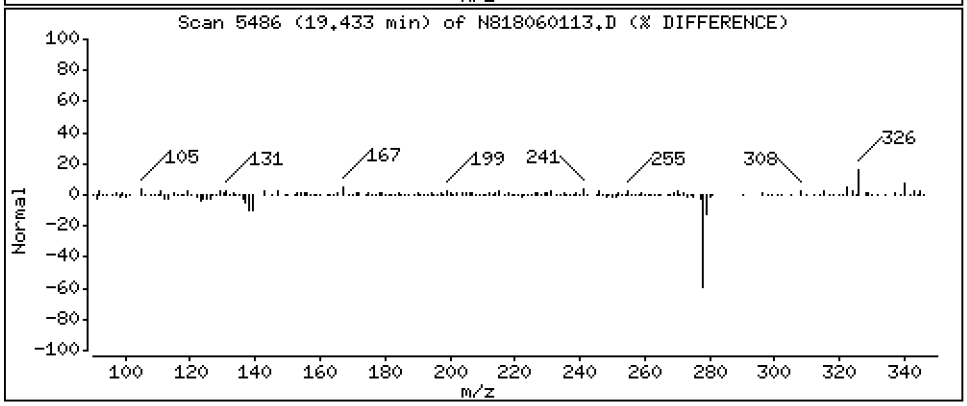












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

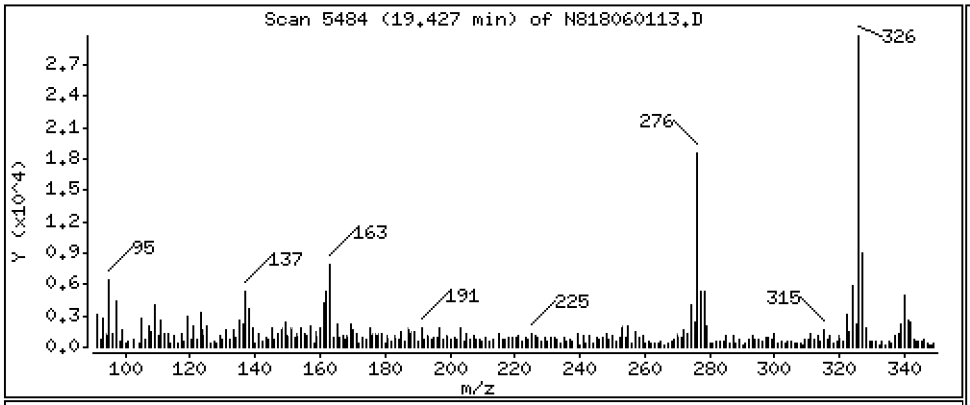
Operator: JZ

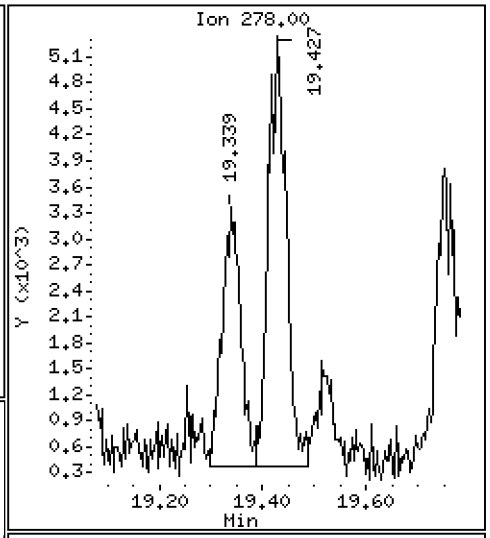
Column phase: Rxi-17sil

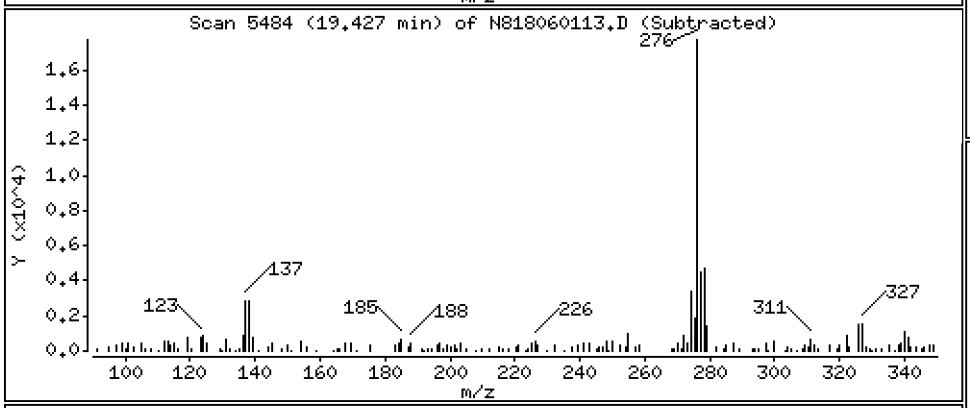
Column diameter: 0.25

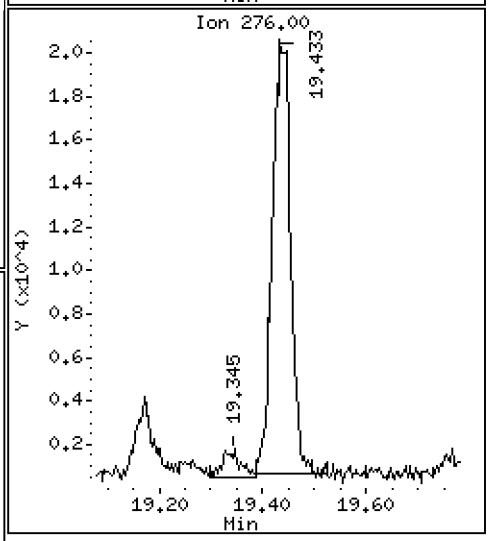
38 Dibenzo(a,h)anthracene

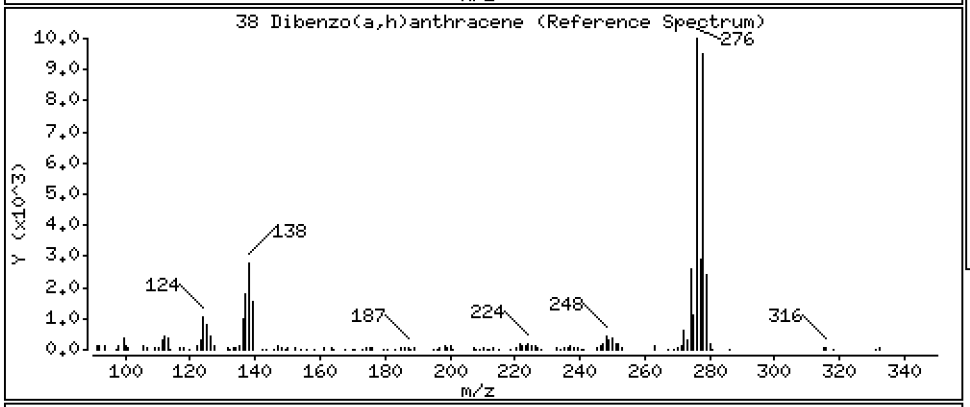
Concentration: 0.1303 ug/mL

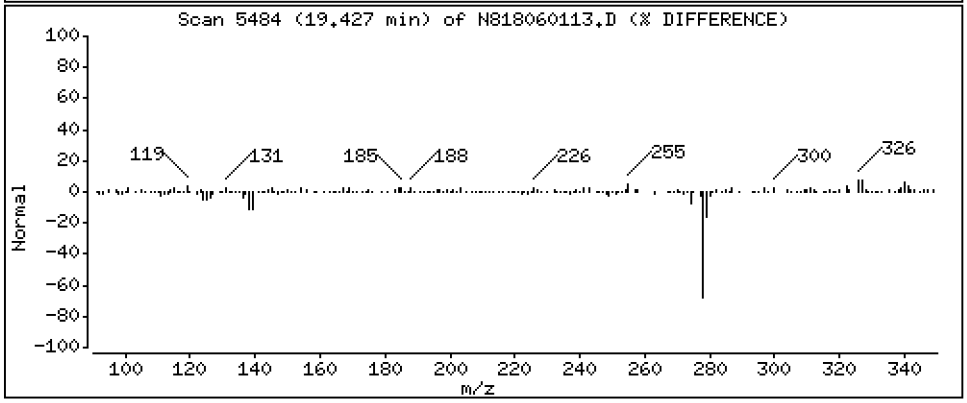












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

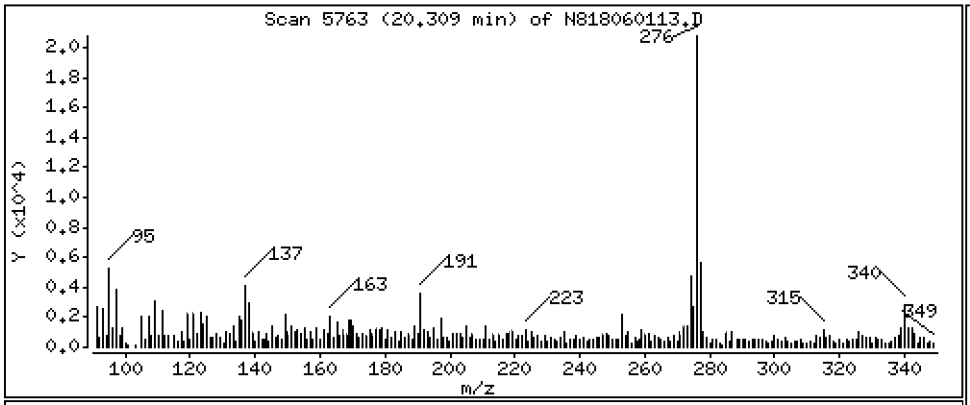
Operator: JZ

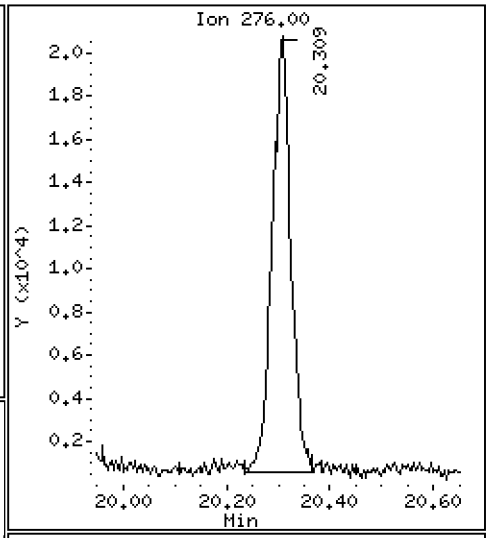
Column phase: Rxi-17sil

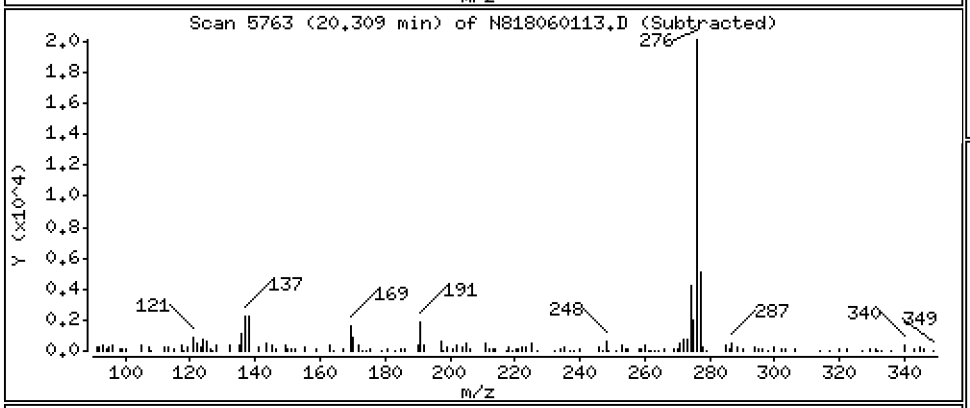
Column diameter: 0.25

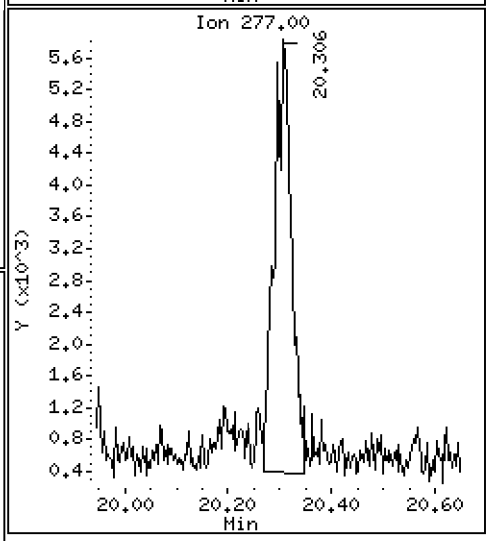
39 Benzo(g,h,i)perylene

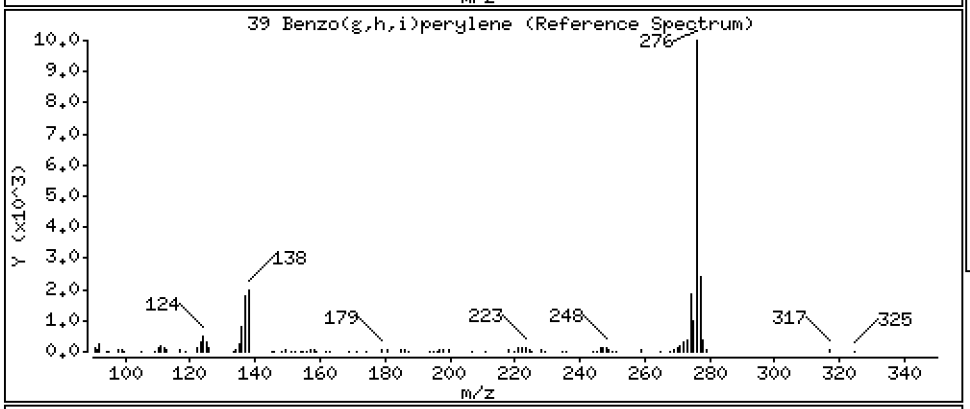
Concentration: 0.5164 ug/mL

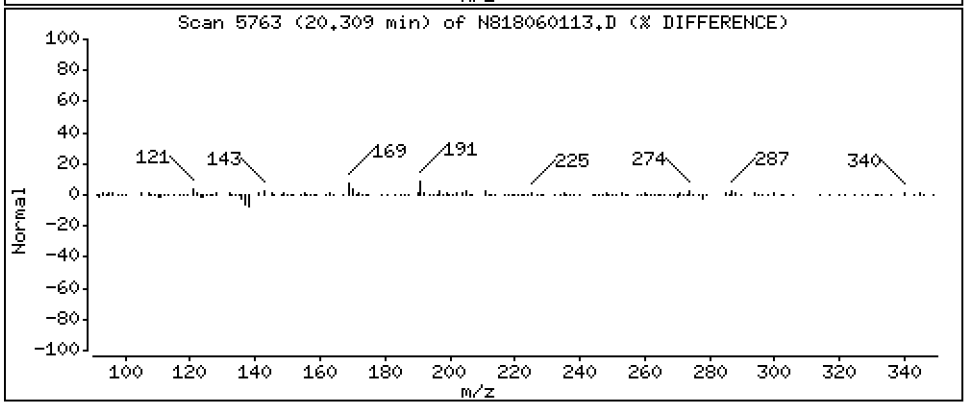












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060113.D

Date : 01-JUN-2018 19:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-06

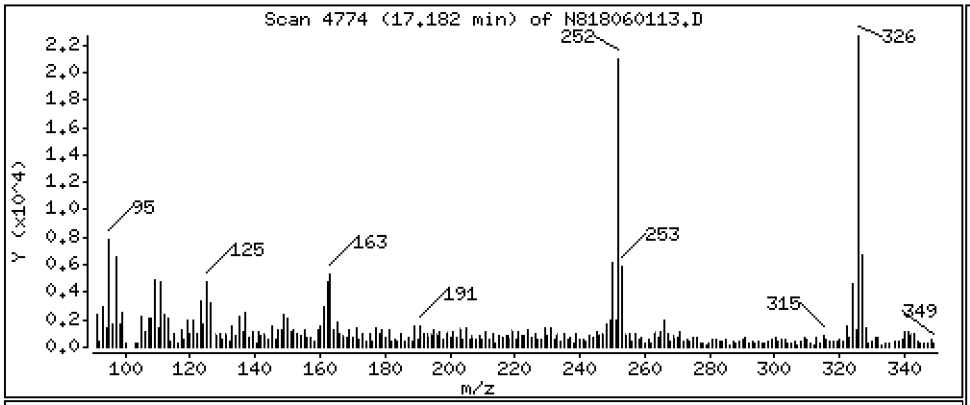
Operator: JZ

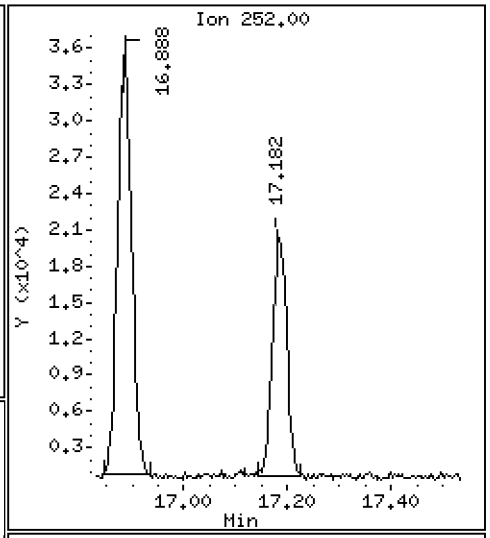
Column phase: Rxi-17sil

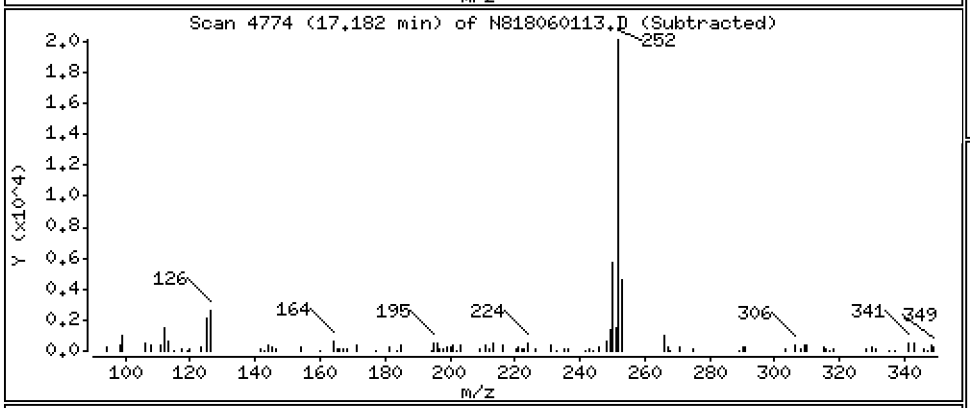
Column diameter: 0.25

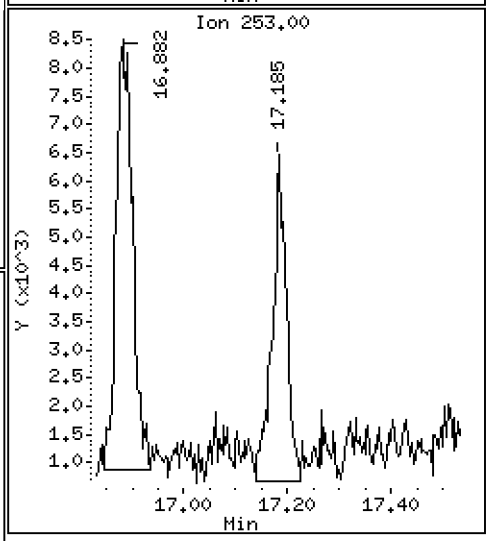
35 Perylene

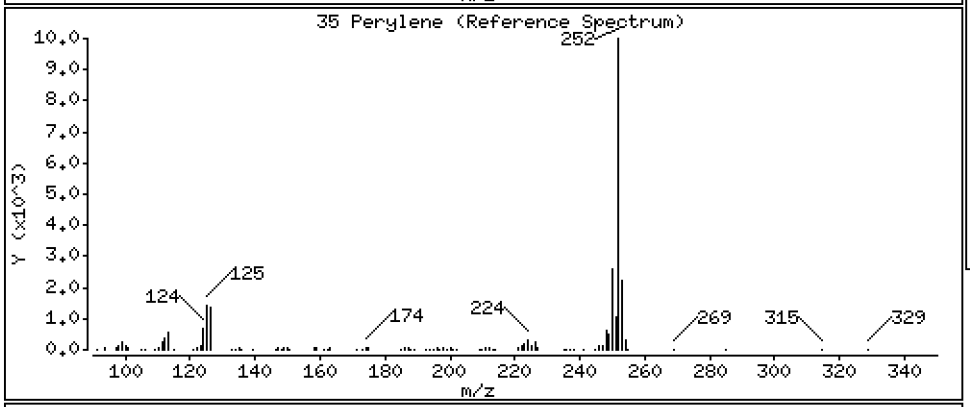
Concentration: 0.3546 ug/mL

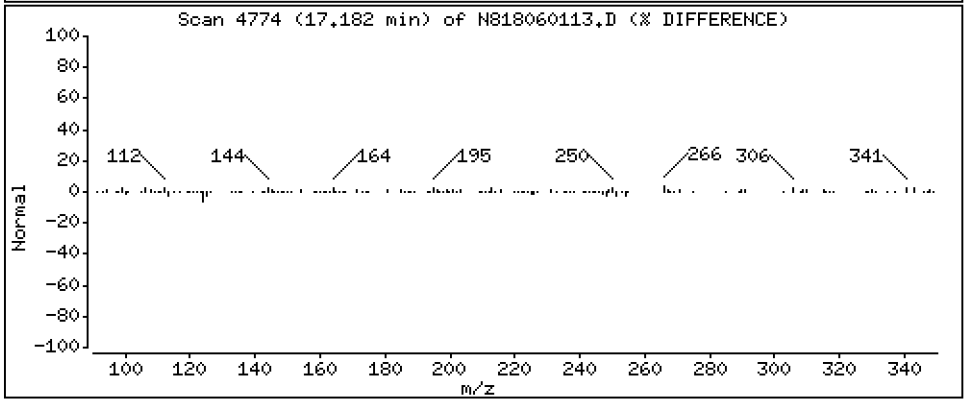












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060113.D
Lab Smp Id: 18E0243-06
Inj Date : 01-JUN-2018 19:45
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-06
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	194040	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	18324	0.16249	0.1625
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	97674	1.37989	1.380
	4 2-Methylnaphthalene	141	5.236	5.242	(1.175)	5897	0.09284	0.09284
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	3681	0.05630	0.05630
	9 Acenaphthylene	152	6.617	6.617	(0.984)	10612	0.10903	0.1090
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	98030	2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.007)	3768	0.05050	0.05050
	12 Dibenzofuran	168	6.924	6.927	(1.030)	6956	0.06934	0.06934
	14 Fluorene	166	7.395	7.402	(1.100)	6379	0.08229	0.08229
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	174318	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	88839	0.83151	0.8315
	17 Anthracene	178	8.821	8.821	(1.009)	24150	0.24808	0.2481
	22 Fluoranthene	202	10.437	10.434	(1.193)	186240	1.54672	1.547
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	210825	1.84738	1.847
	23 Pyrene	202	10.902	10.902	(0.816)	175969	1.59666	1.597
	24 Benzo(a)anthracene	228	13.242	13.239	(0.991)	69843	0.65547	0.6555
*	25 Chrysene-d12	240	13.359	13.356	(1.000)	183393	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	99191	0.92477	0.9248
	28 Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	80472	0.71477	0.7148
	29 Benzo(k)fluoranthene	252	15.923	15.926	(0.930)	40792	0.36847	0.3685
	30 Benzo(j)fluoranthene	252	16.002	16.002	(0.935)	37572	0.33895	0.3389
	31 Total Benzofluoranthenes	252	15.869	15.926	(0.927)	160513	1.46188	1.462(M)
	32 Benzo(a)pyrene	252	16.887	16.884	(0.987)	68159	0.69073	0.6907
*	33 Perylene-d12	264	17.115	17.112	(1.000)	177151	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.433	19.430	(1.135)	51898	0.45940	0.4594
$	36 Dibenzo(a,h)anthracene-d14	292	19.341	19.338	(1.130)	197513	2.38036	2.380
	38 Dibenzo(a,h)anthracene	278	19.427	19.430	(1.135)	12141	0.13029	0.1303
	39 Benzo(g,h,i)perylene	276	20.309	20.299	(1.187)	50990	0.51644	0.5164
	35 Perylene	252	17.182	17.181	(1.004)	37995	0.35461	0.3546

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060113.D
Lab Smp Id: 18E0243-06
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	194040	58.80
10 Acenaphthene-d10	65789	32895	131578	98030	49.01
15 Phenanthrene-d10	128644	64322	257288	174318	35.50
25 Chrysene-d12	166669	83335	333338	183393	10.03
33 Perylene-d12	140483	70242	280966	177151	26.10

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.02
33 Perylene-d12	17.11	16.61	17.61	17.12	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060113.D

Lab ID: 18E0243-06
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 19:45

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

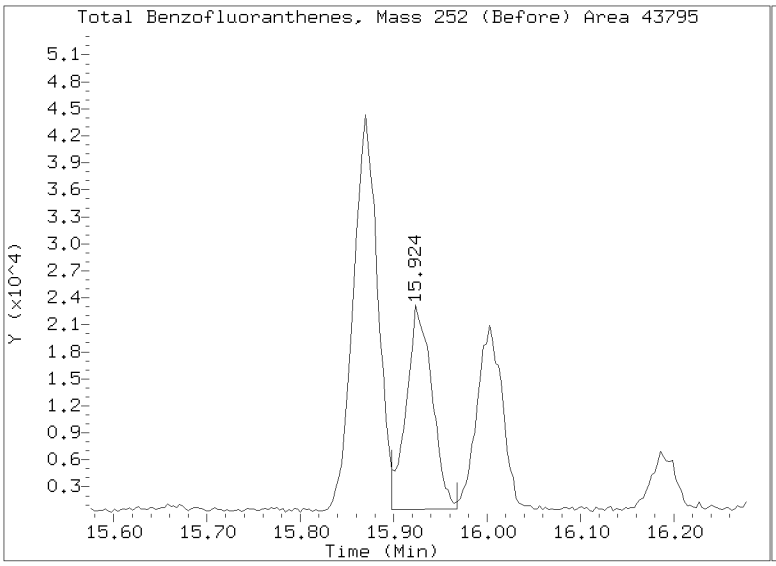
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

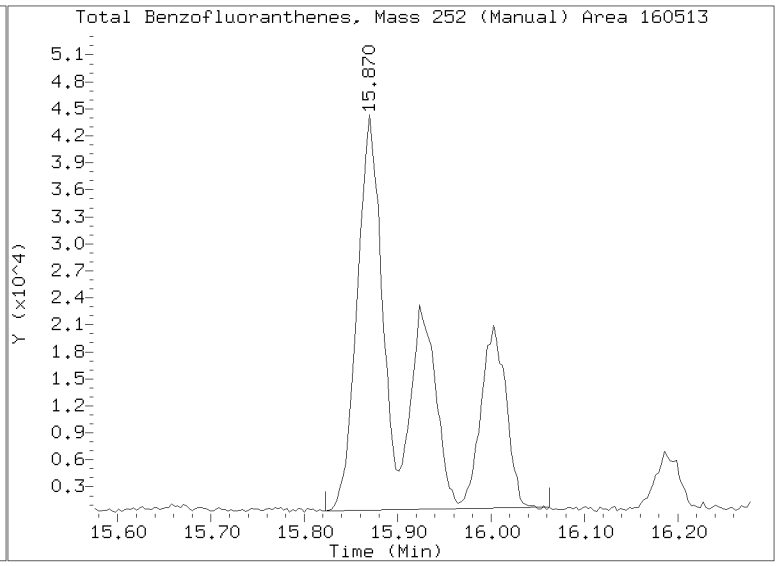
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060113.D
Injection Date: 01-JUN-2018 19:45
Lab ID:18E0243-06 Client ID:
Report Date: 06/04/2018 10:39





LDW18-A01-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-07	SDG:	18E0231
Sampled:	05/16/18 13:38	Prepared:	06/05/18 12:40	File ID:	N818061207.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 17:10
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.81	J	0.54	5.00
218-01-9	Chrysene	1	7.20		0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	4.50	J	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	2.58	J	0.71	5.00
50-32-8	Benzo(a)pyrene	1	3.77	J	0.92	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	0.58	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	62.1	41.4	20 - 130	
Dibenzo[a,h]anthracene-d14	150.00	103	68.7	20 - 130	
Fluoranthene-d10	150.00	85.5	57.0	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

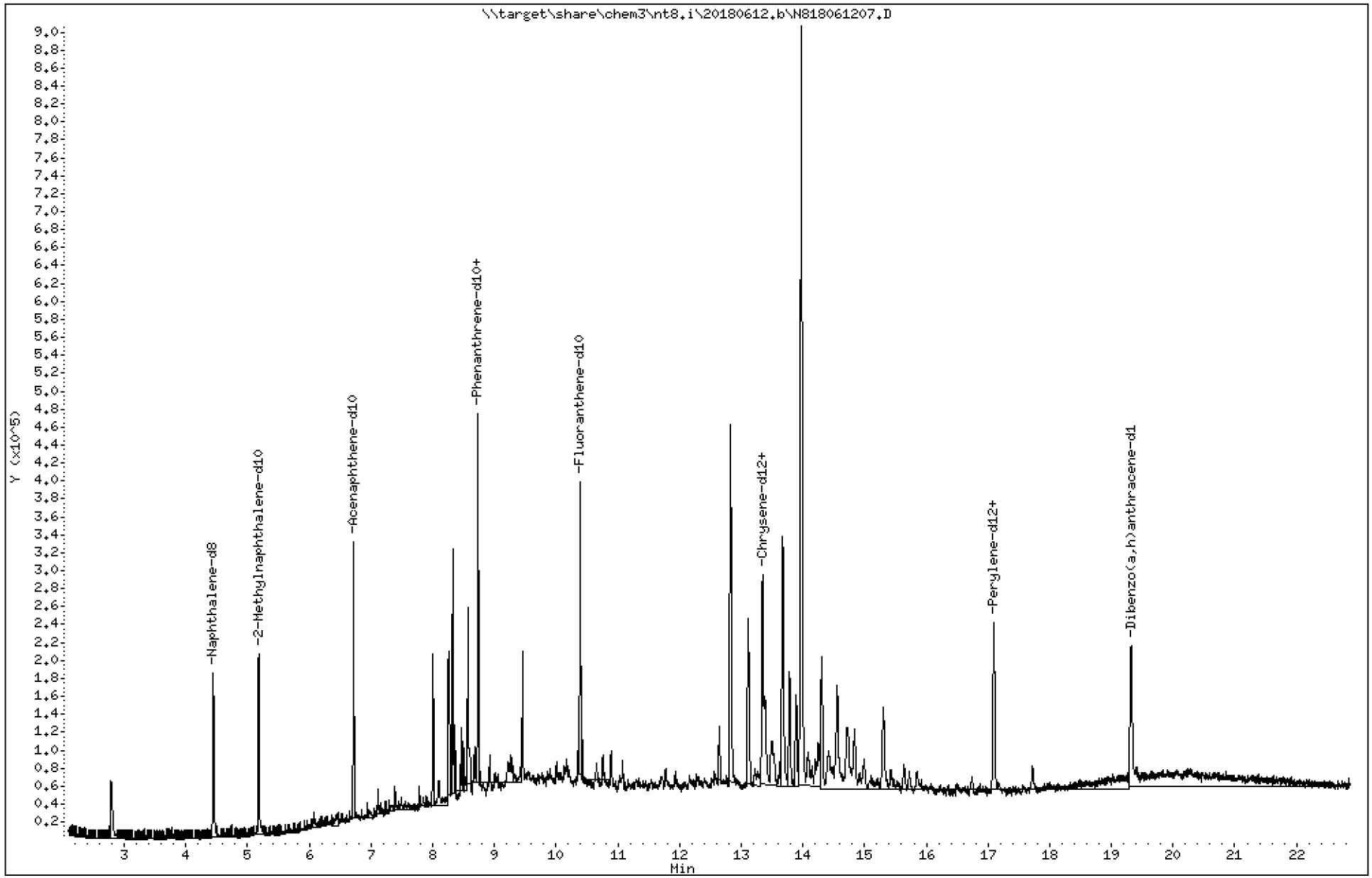
Instrument: nt8.i

Sample Info: 18E0243-07

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

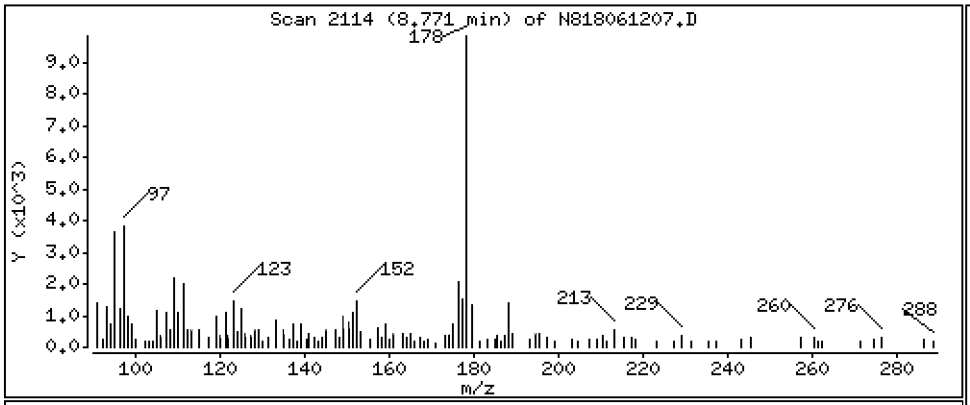
Operator: JZ

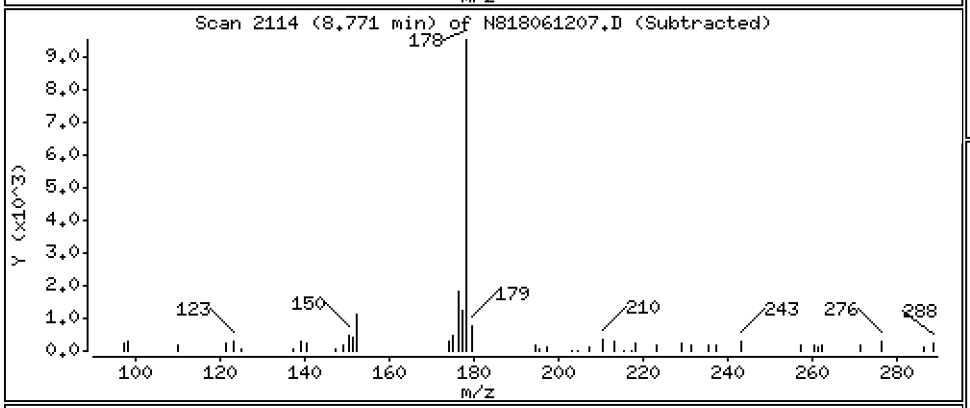
Column phase: Rxi-17sil

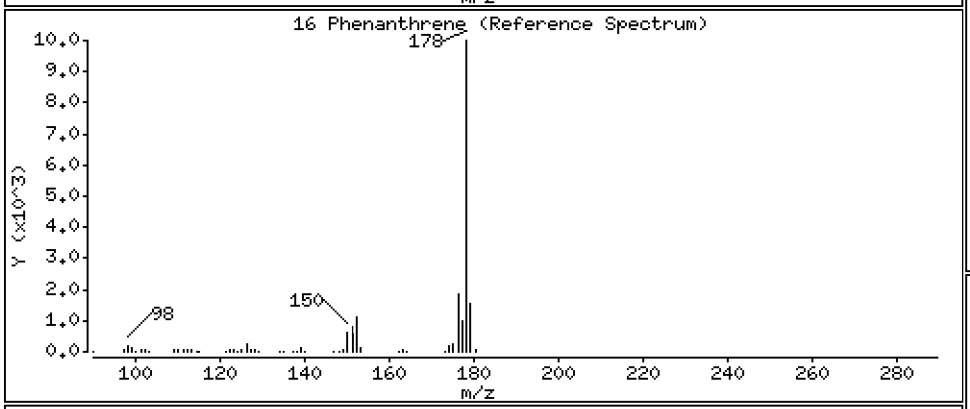
Column diameter: 0.25

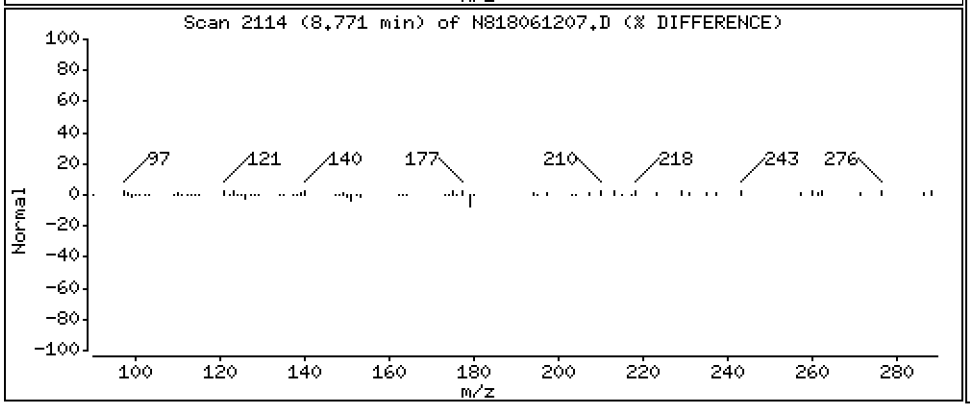
16 Phenanthrene

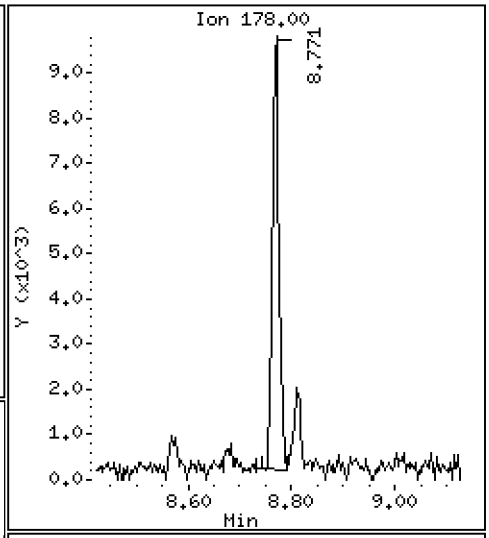
Concentration: 0.09725 ug/mL

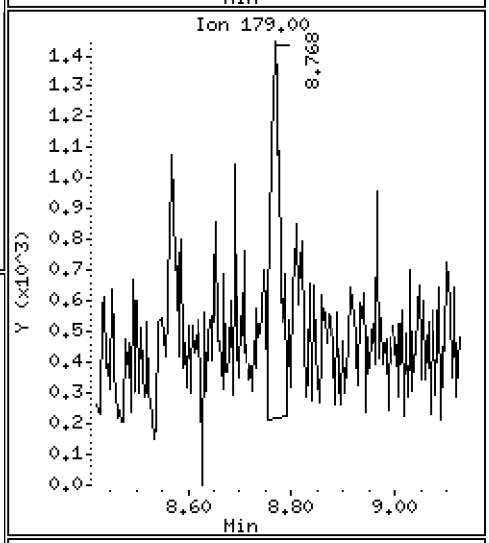


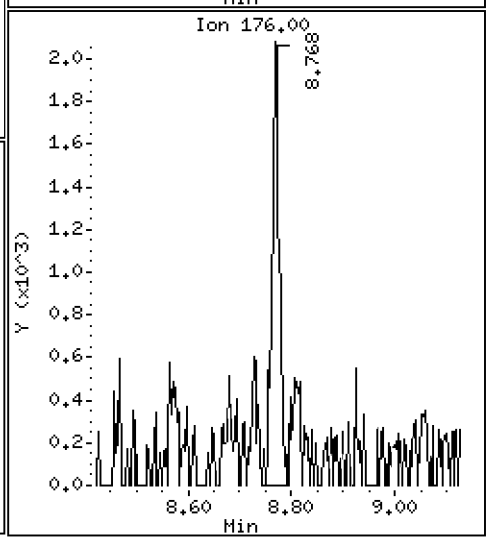












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

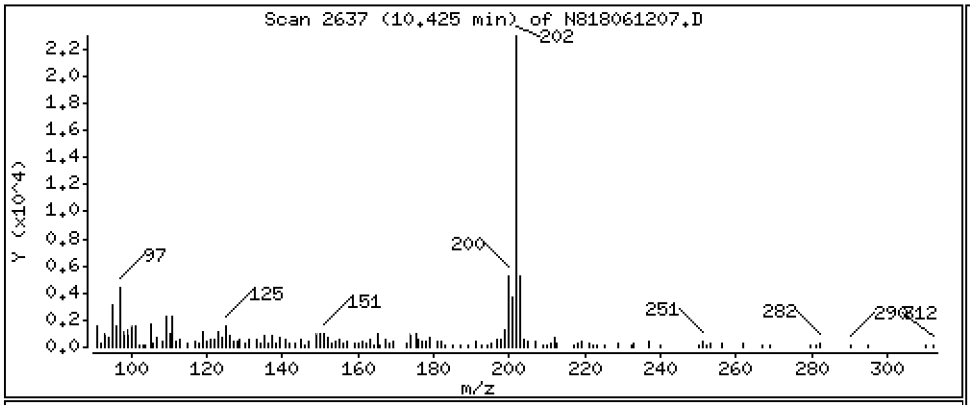
Operator: JZ

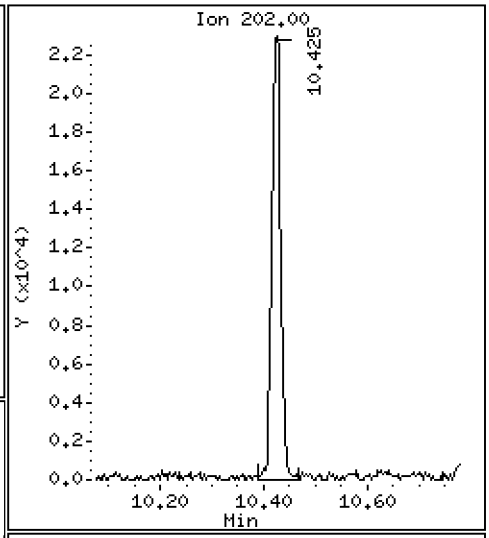
Column phase: Rxi-17sil

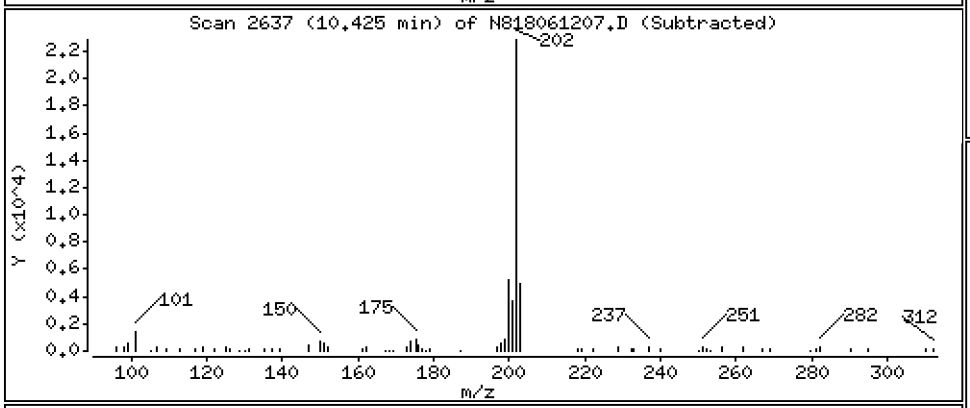
Column diameter: 0.25

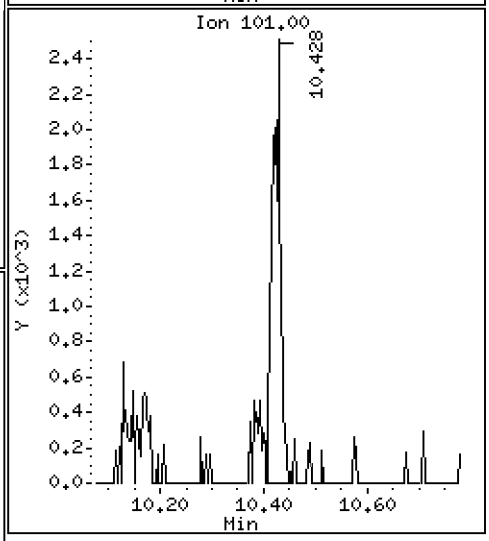
22 Fluoranthene

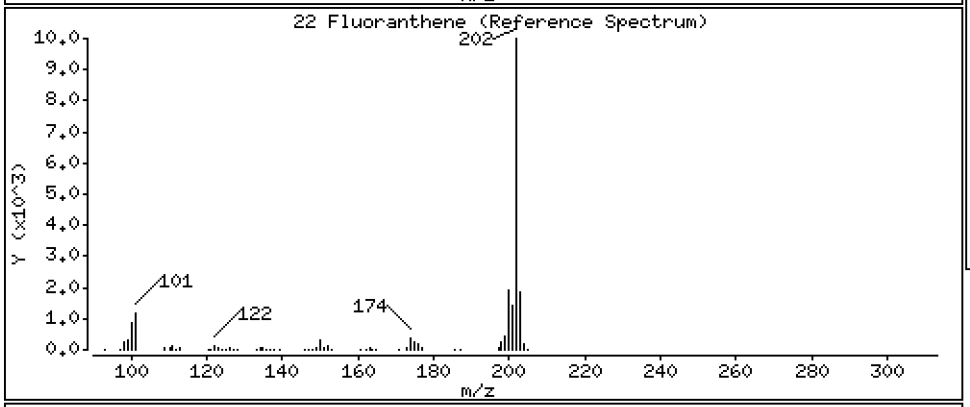
Concentration: 0.2742 ug/mL

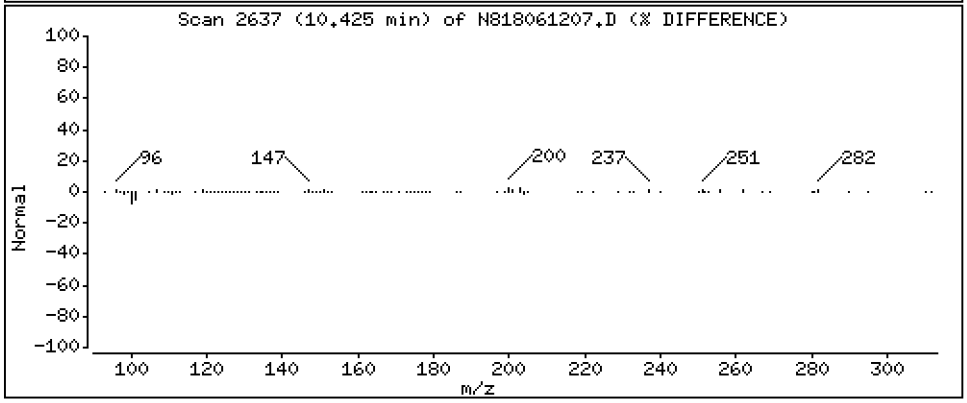












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

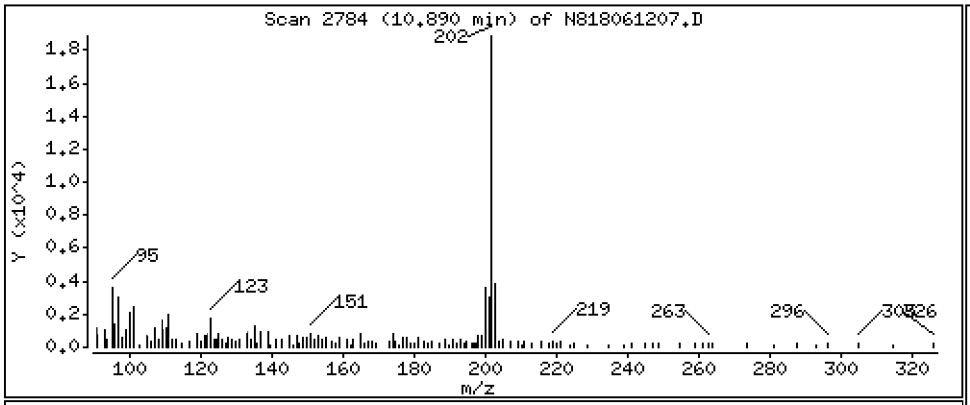
Operator: JZ

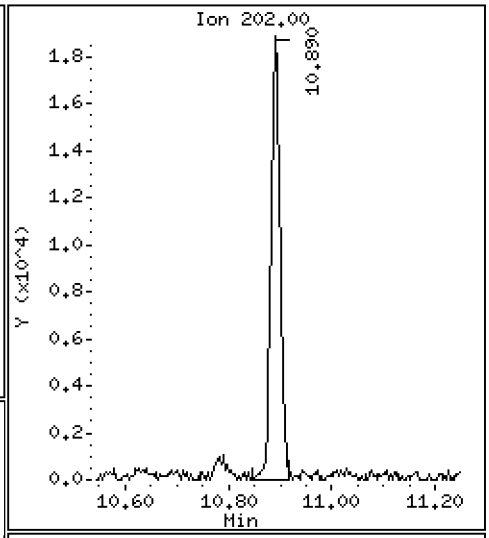
Column phase: Rxi-17sil

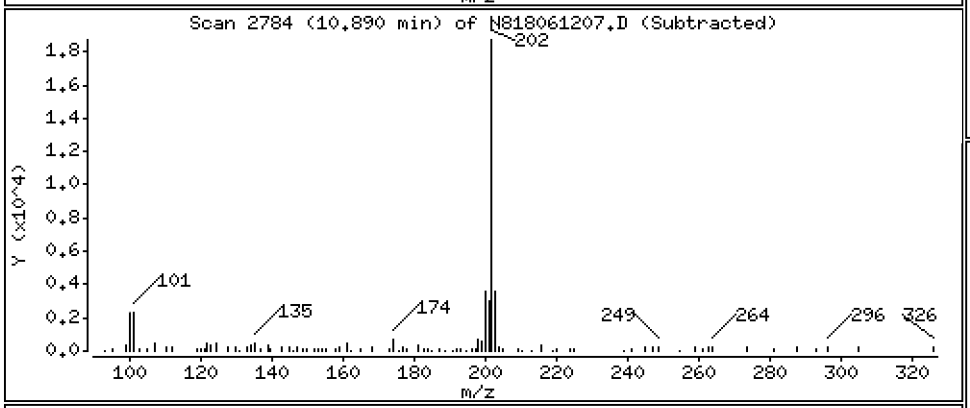
Column diameter: 0.25

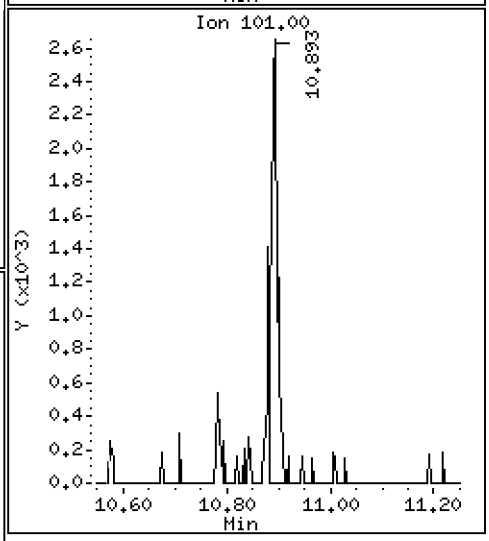
23 Pyrene

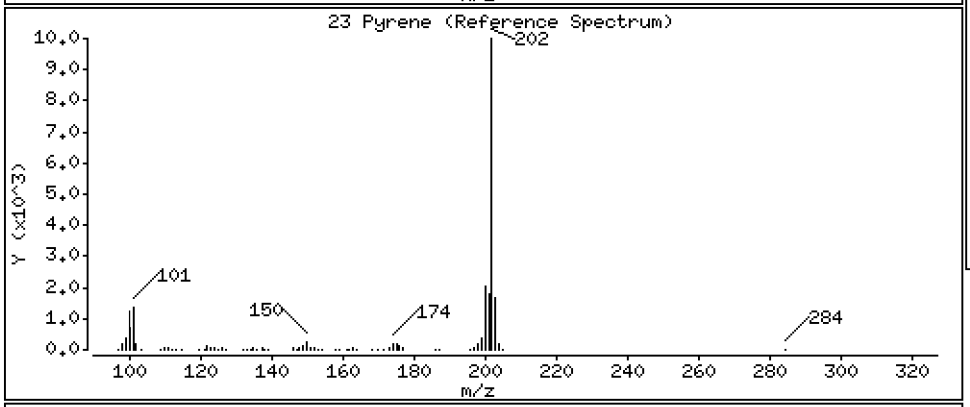
Concentration: 0.2621 ug/mL

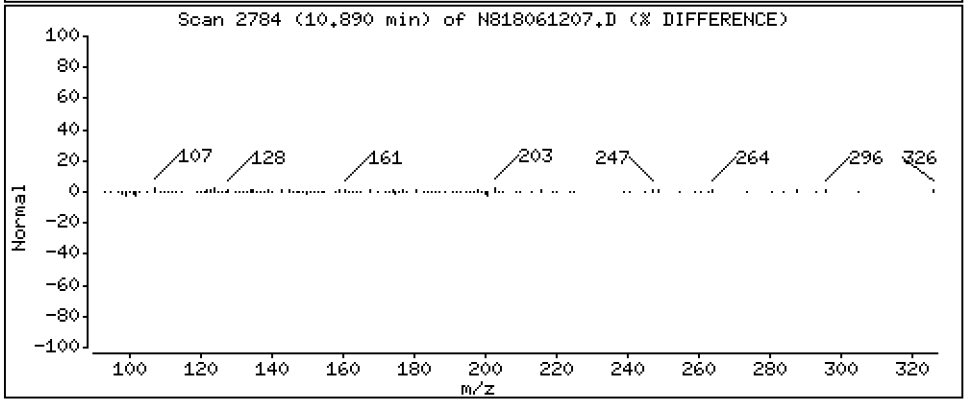












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

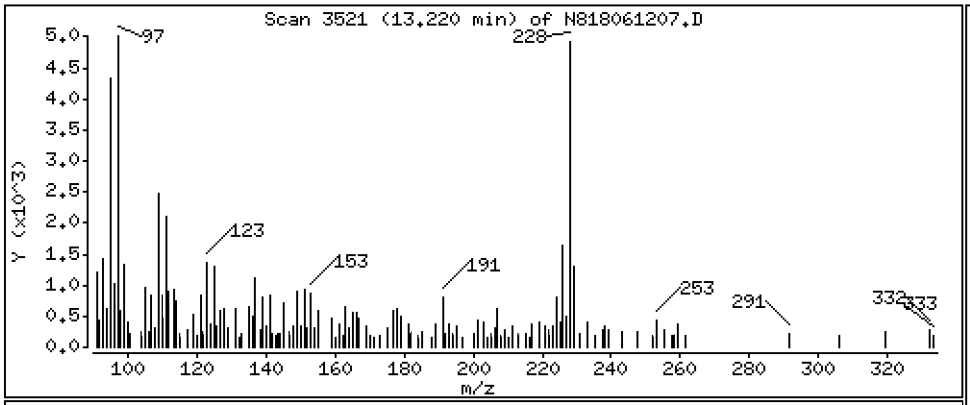
Operator: JZ

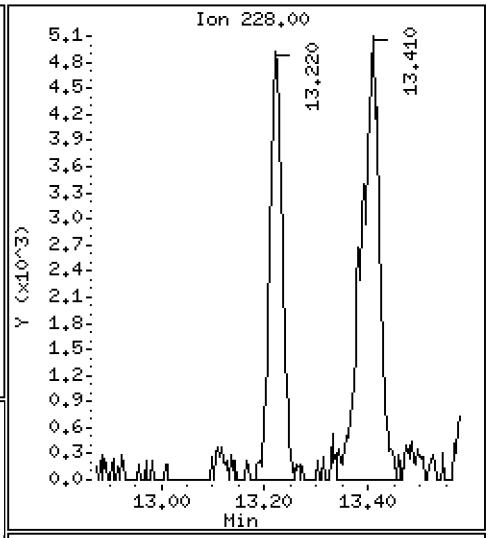
Column phase: Rxi-17sil

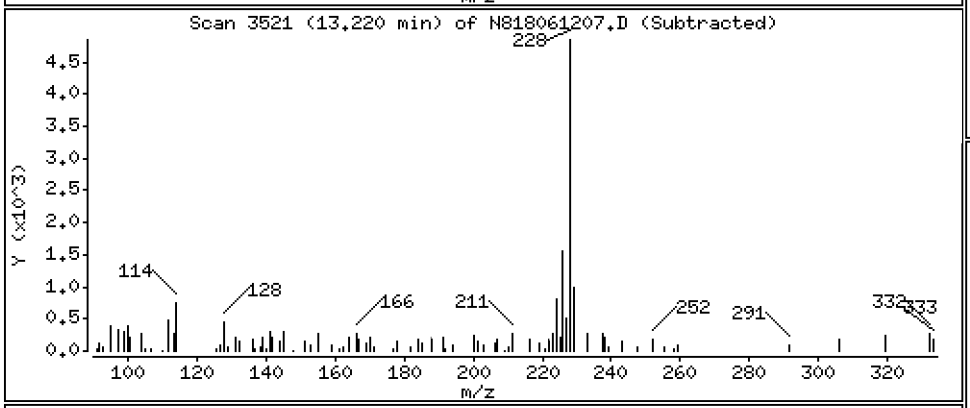
Column diameter: 0.25

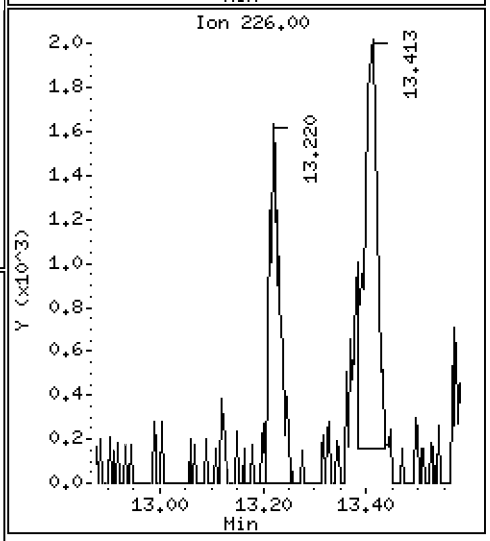
24 Benzo(a)anthracene

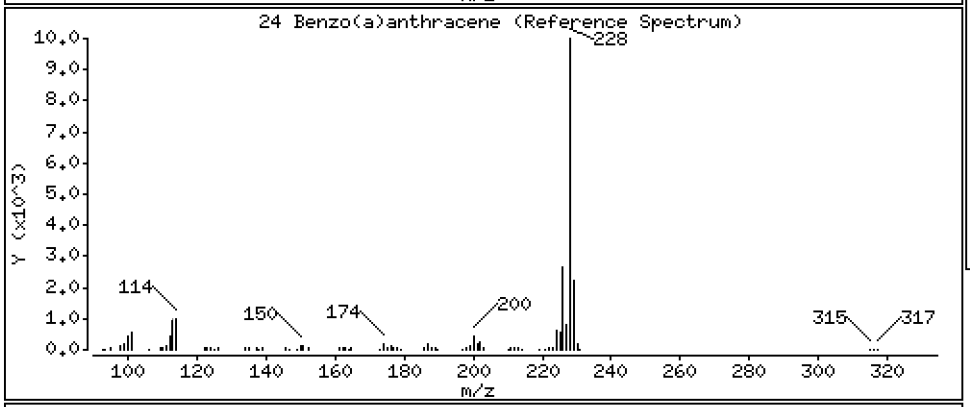
Concentration: 0.09614 ug/mL

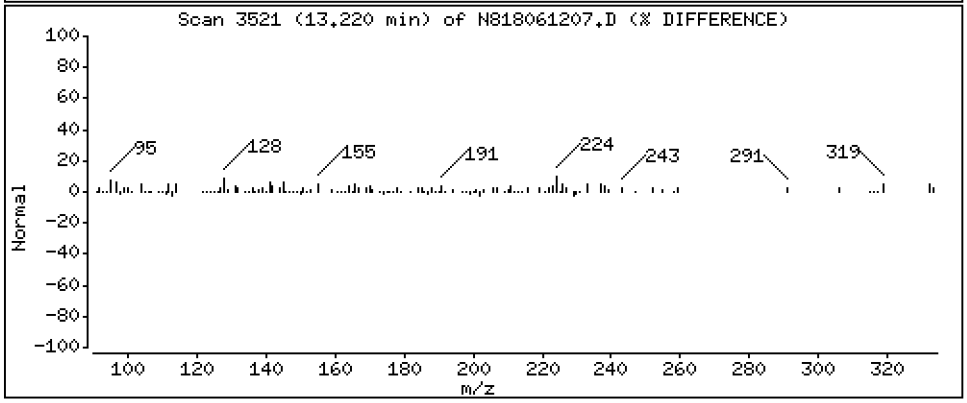












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

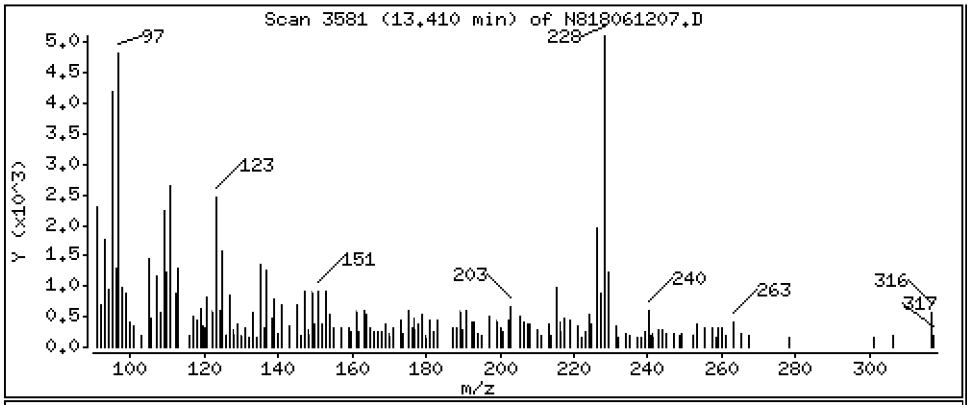
Operator: JZ

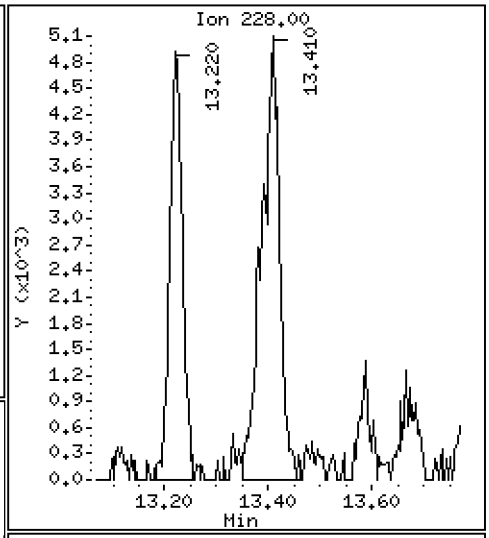
Column phase: Rxi-17sil

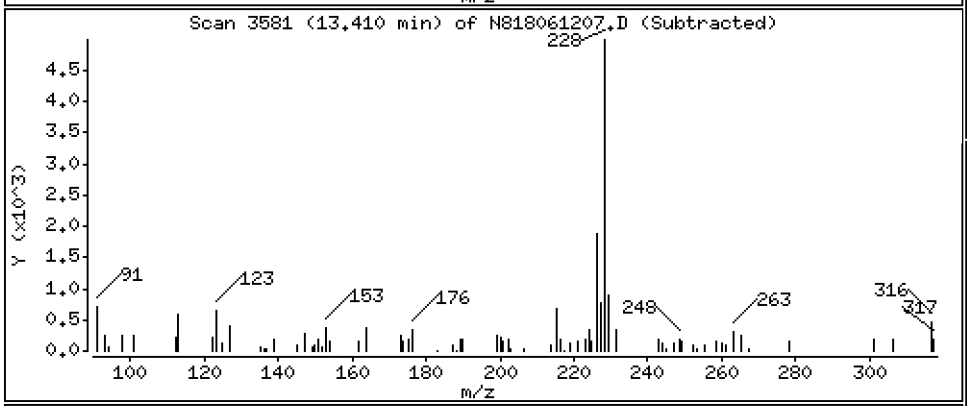
Column diameter: 0.25

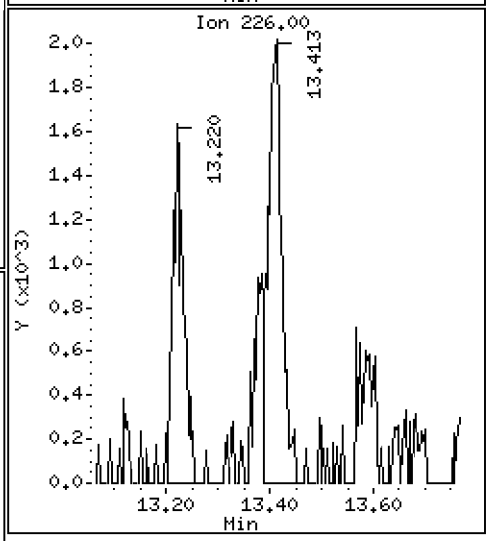
27 Chrysene

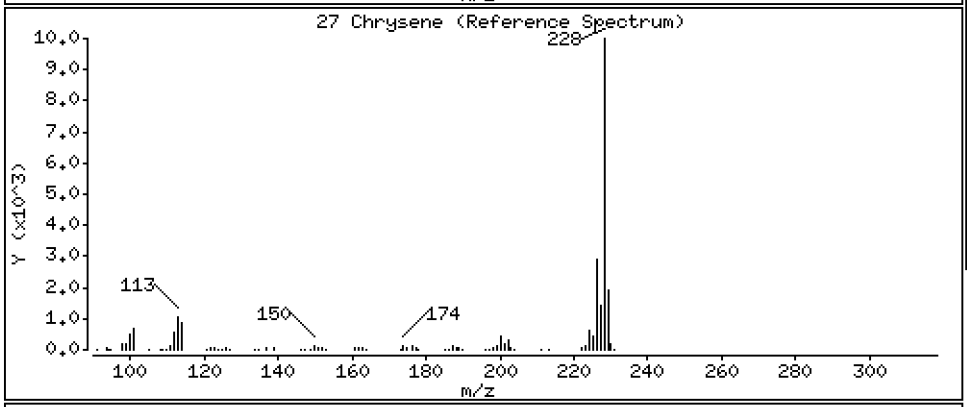
Concentration: 0.1440 ug/mL

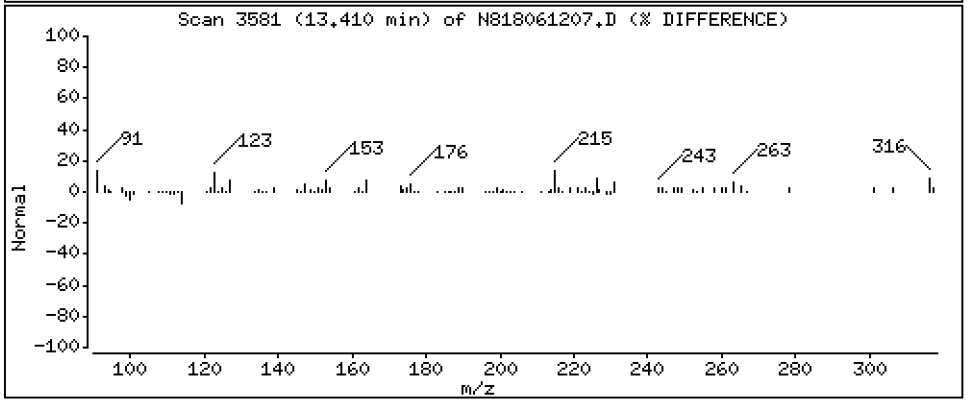












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

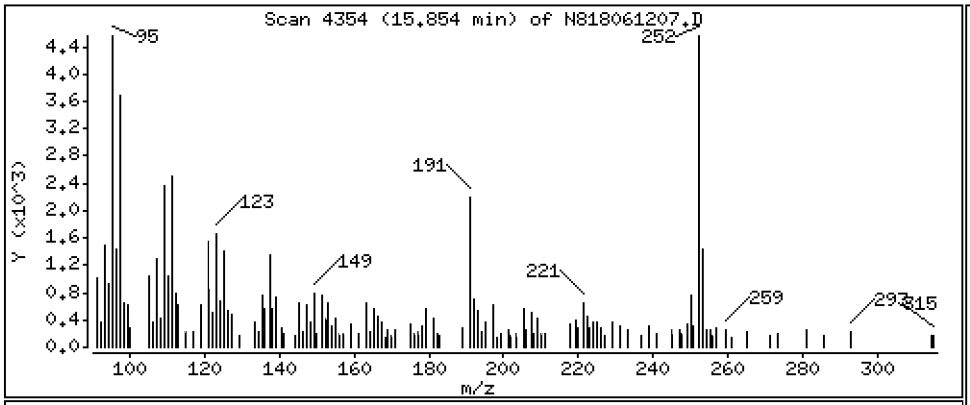
Operator: JZ

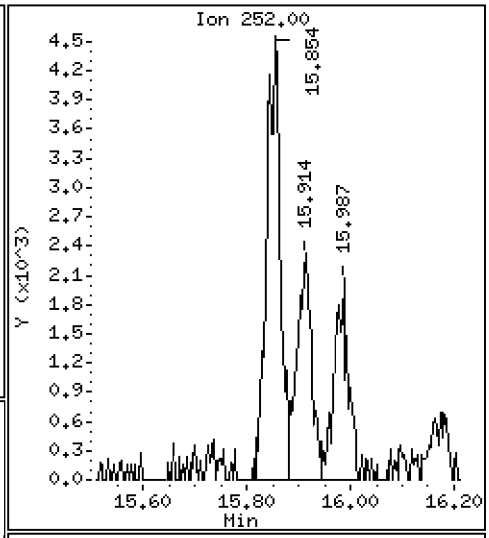
Column phase: Rxi-17sil

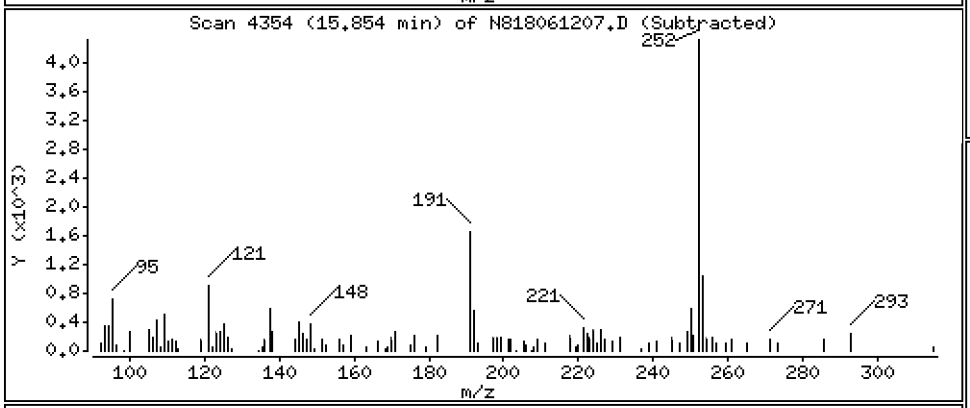
Column diameter: 0.25

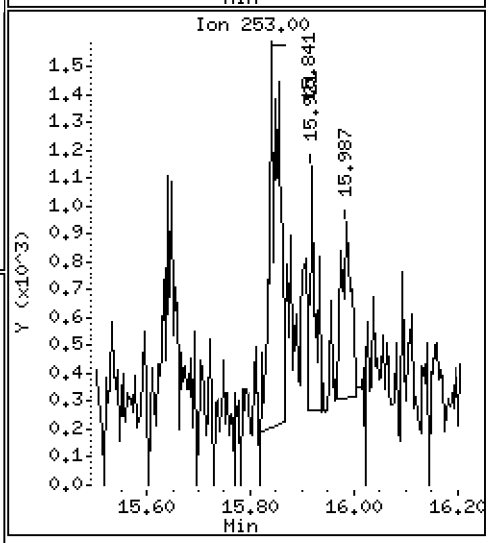
28 Benzo(b)fluoranthene

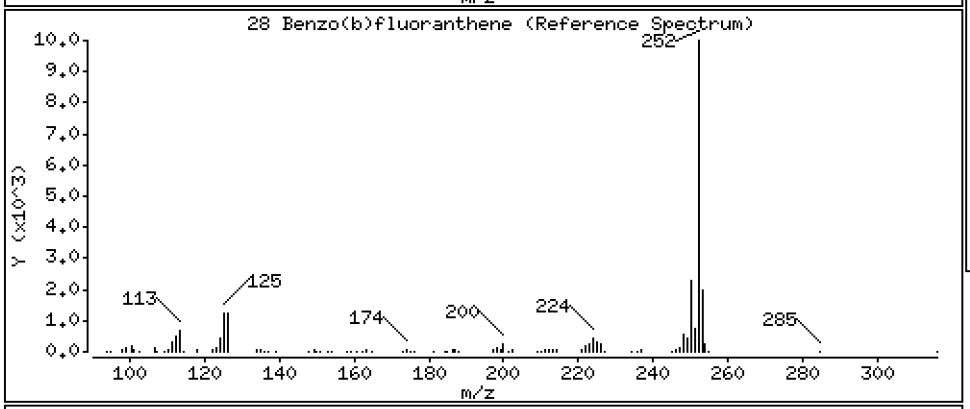
Concentration: 0.08991 ug/mL

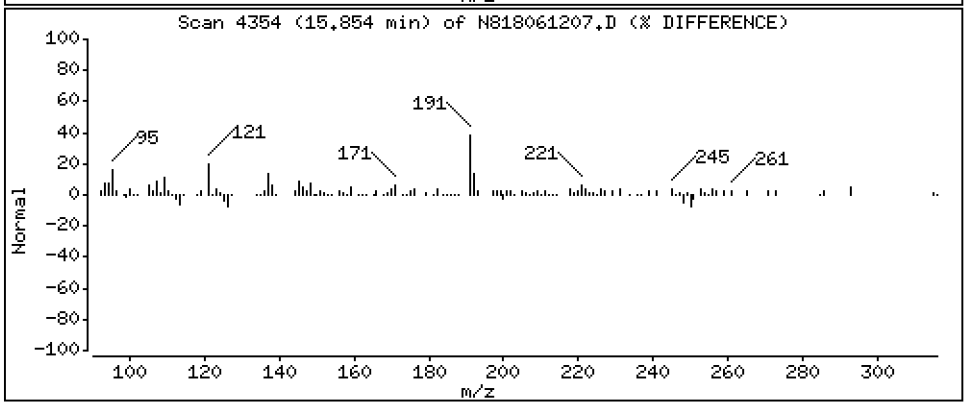












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

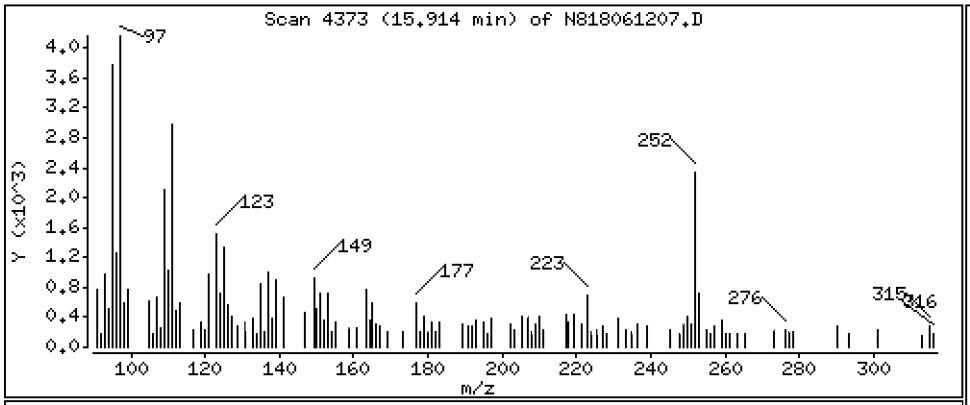
Operator: JZ

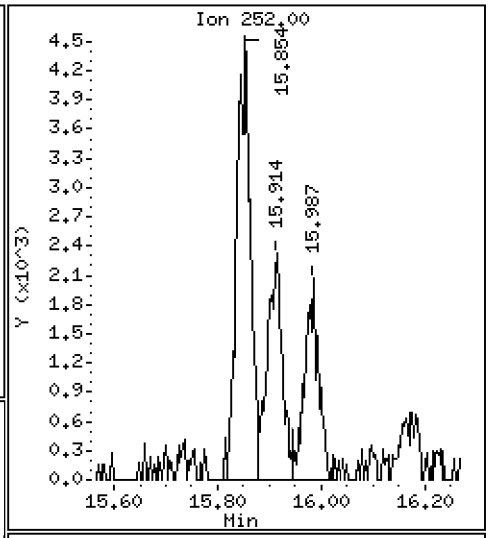
Column phase: Rxi-17sil

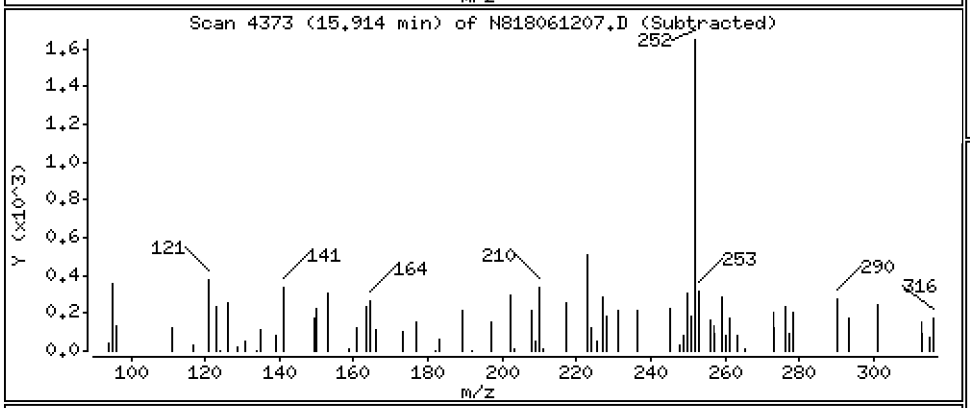
Column diameter: 0.25

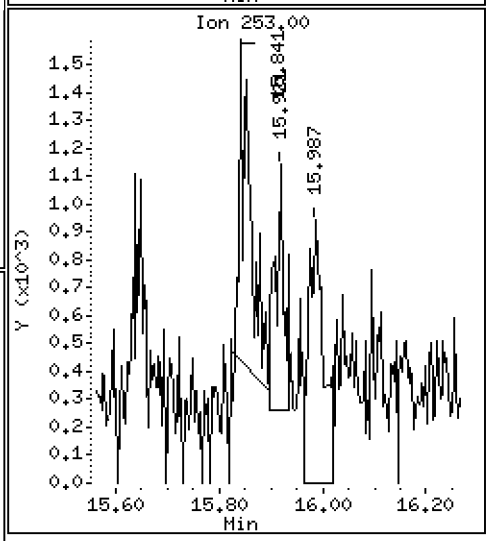
29 Benzo(k)fluoranthene

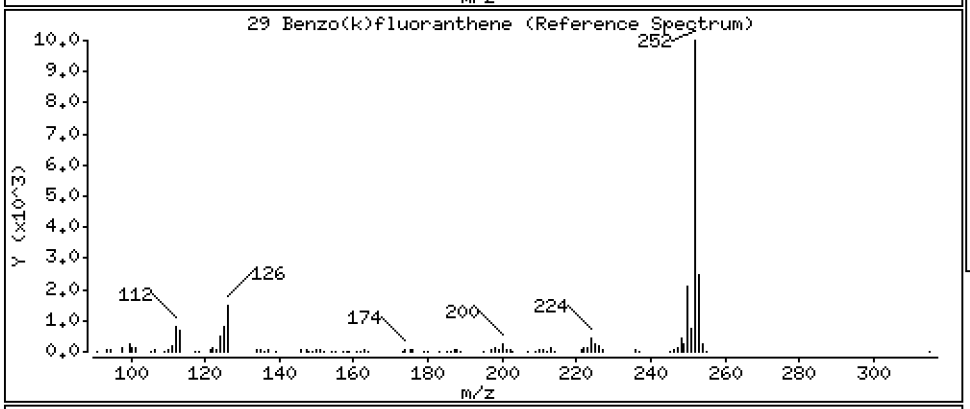
Concentration: 0.05155 ug/mL

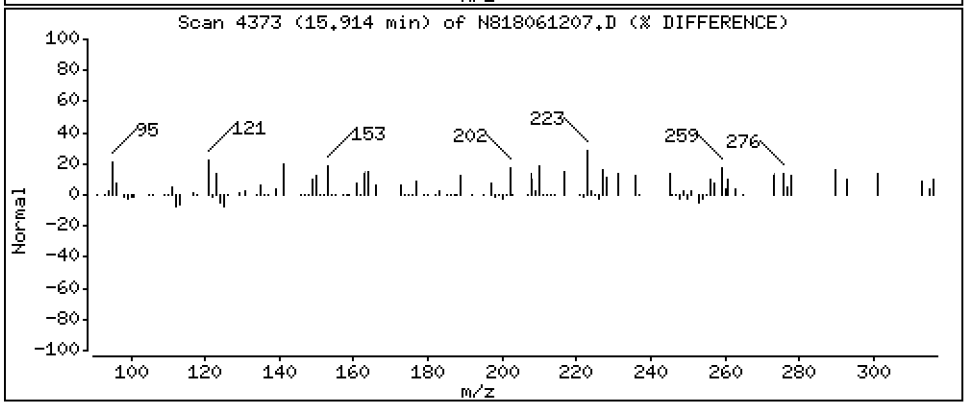












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

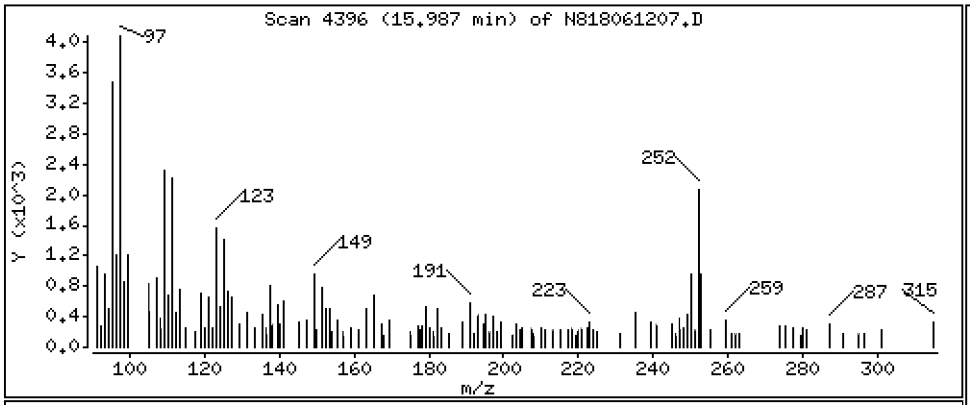
Operator: JZ

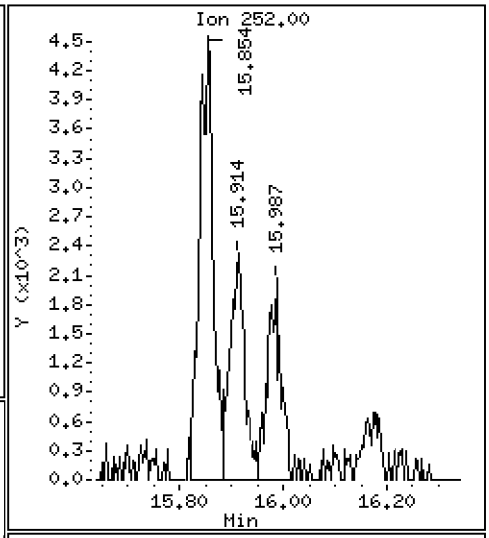
Column phase: Rxi-17sil

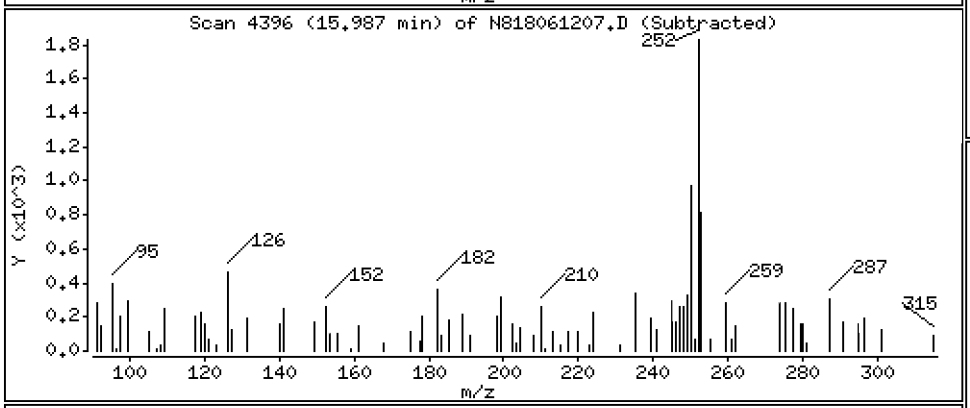
Column diameter: 0.25

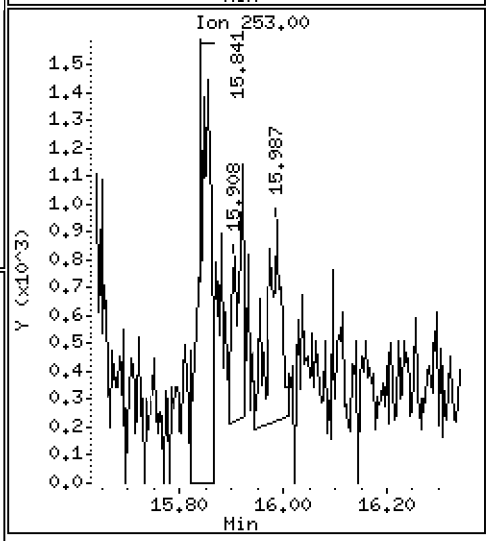
30 Benzo(j)fluoranthene

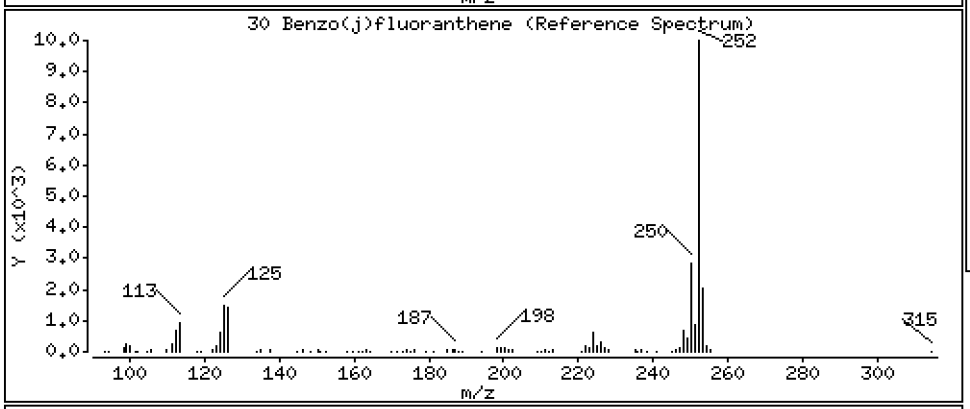
Concentration: 0.04026 ug/mL

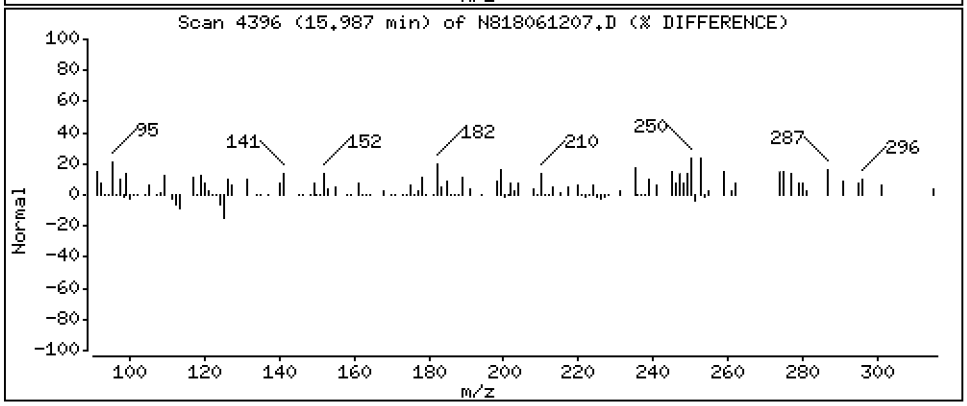












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

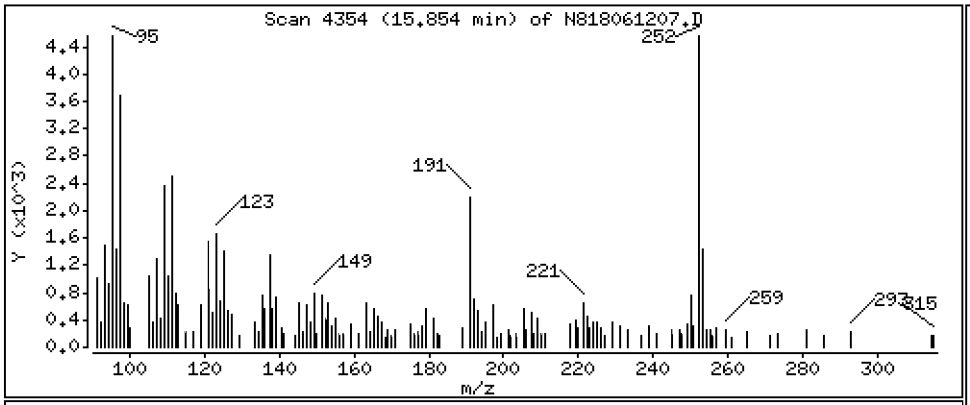
Operator: JZ

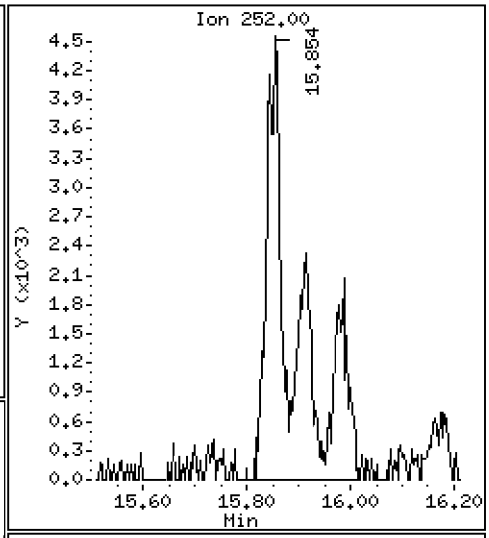
Column phase: Rxi-17sil

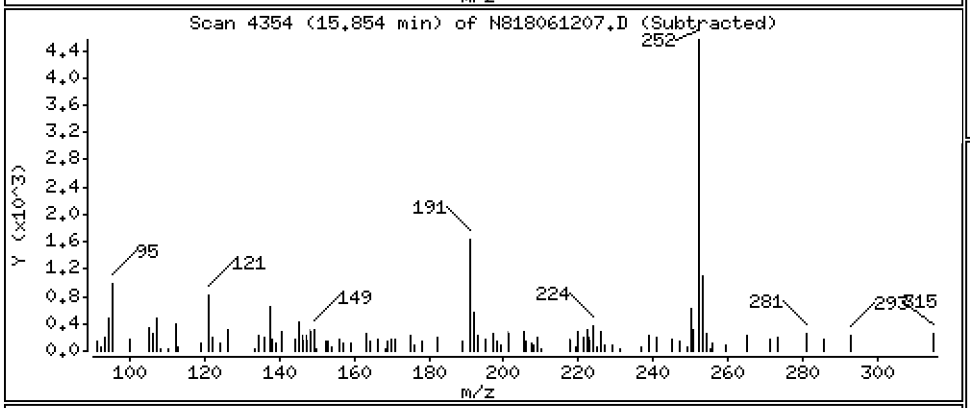
Column diameter: 0.25

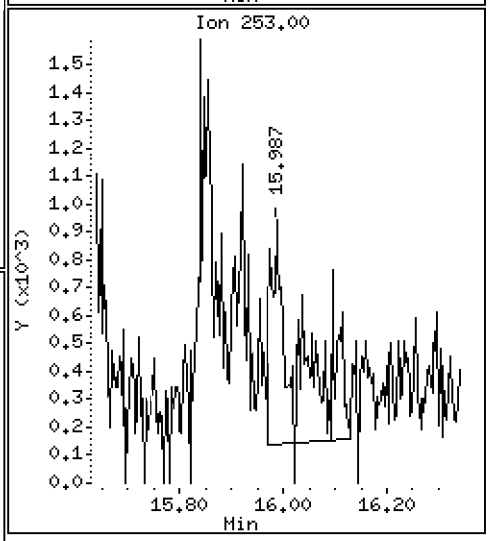
31 Total Benzofluoranthenes

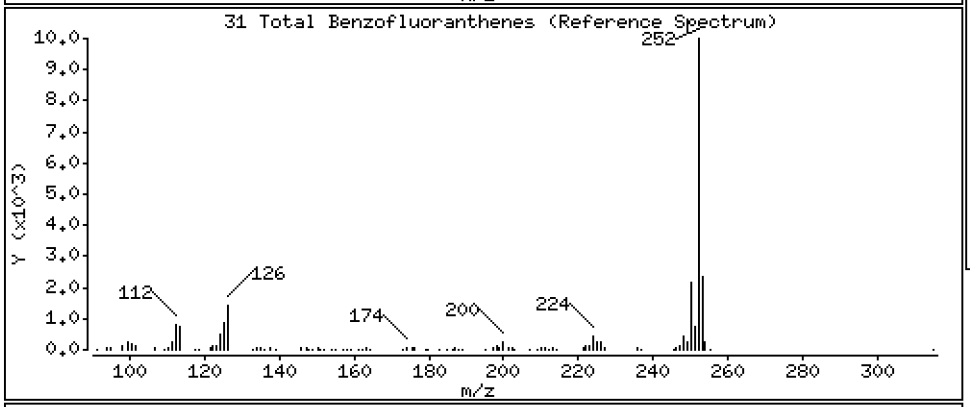
Concentration: 0.1842 ug/mL

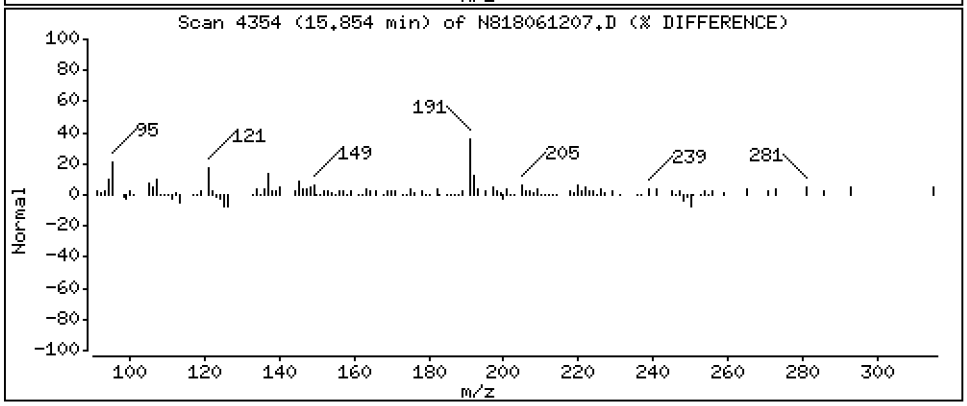












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

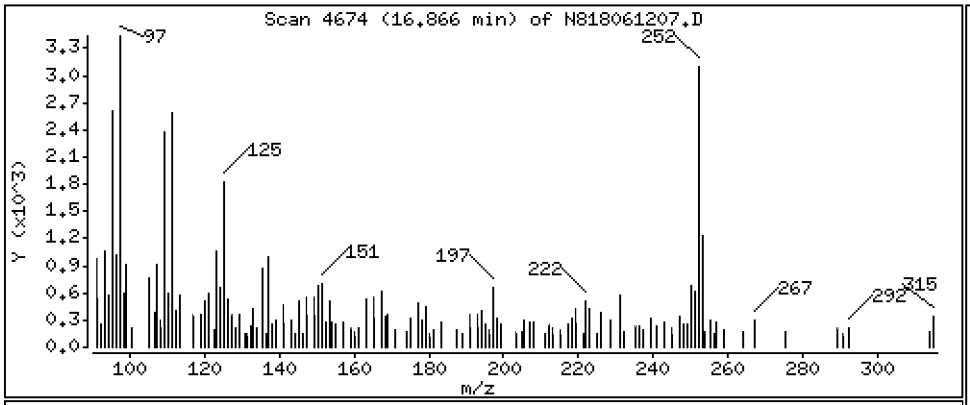
Operator: JZ

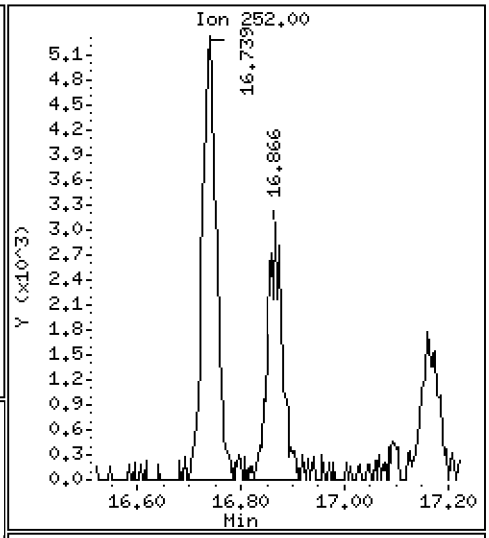
Column phase: Rxi-17sil

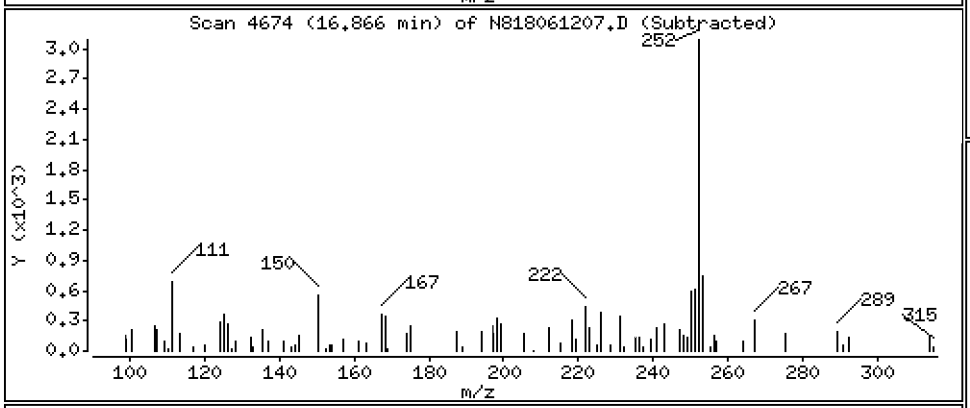
Column diameter: 0.25

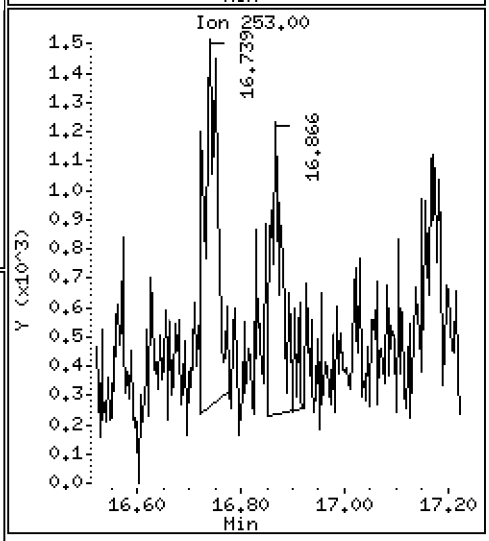
32 Benzo(a)pyrene

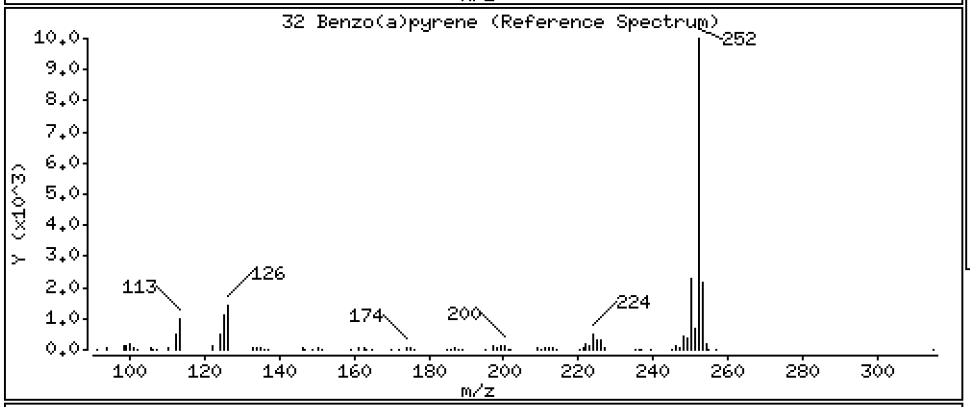
Concentration: 0.07530 ug/mL

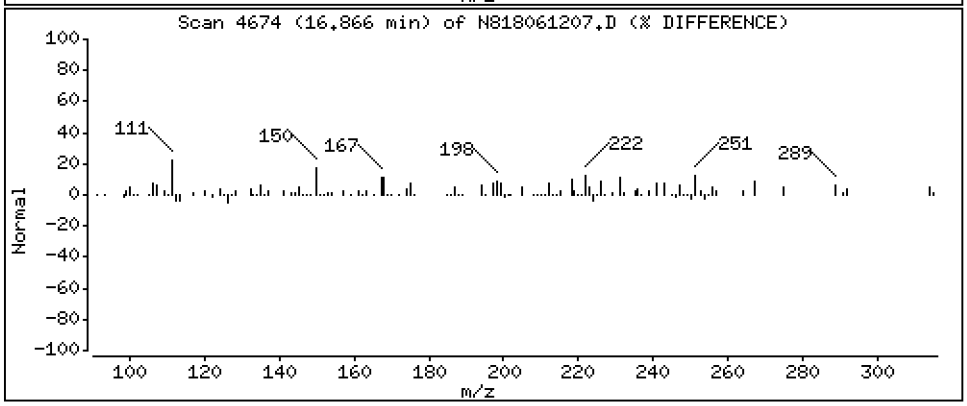












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061207.D

Date : 12-JUN-2018 17:10

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-07

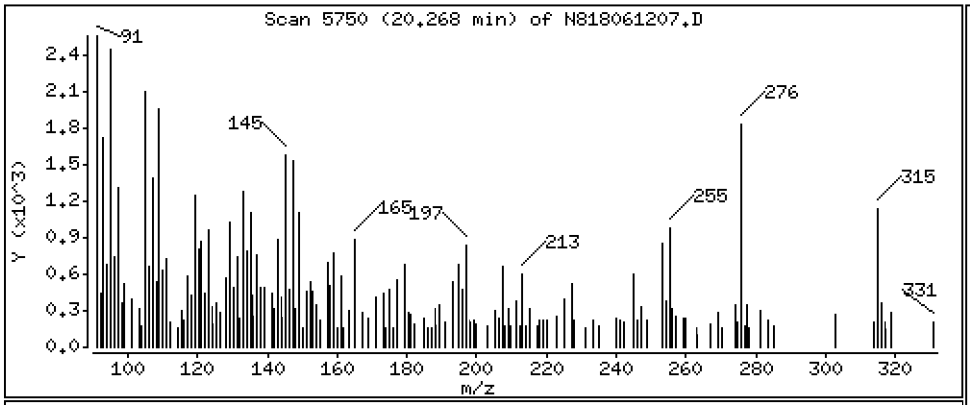
Operator: JZ

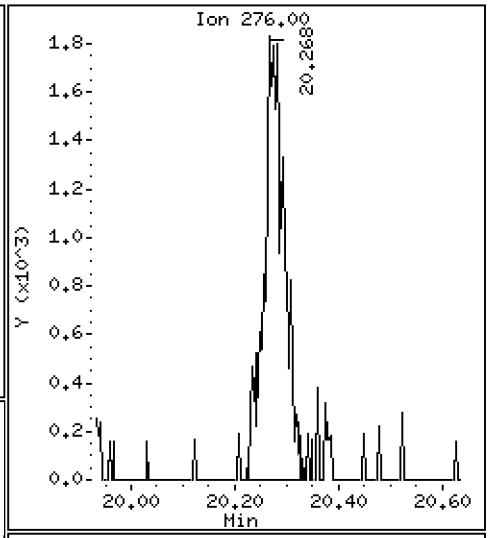
Column phase: Rxi-17sil

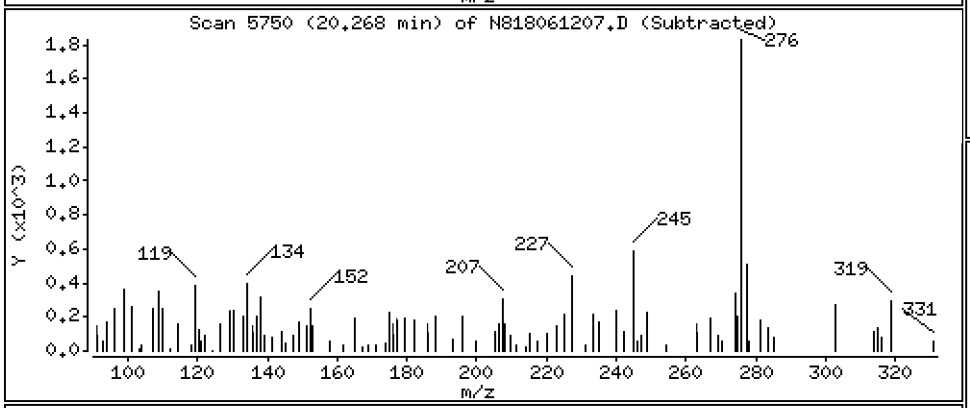
Column diameter: 0.25

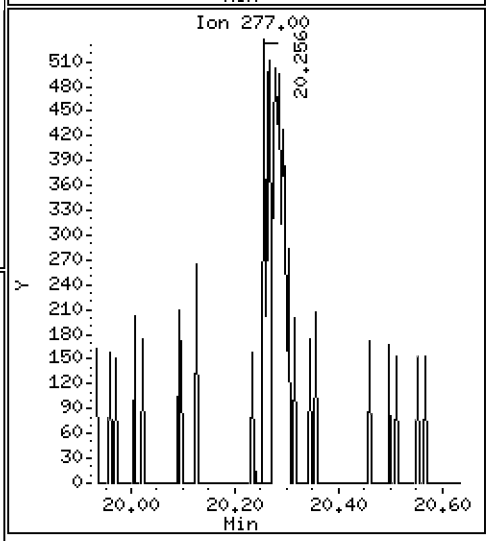
39 Benzo(g,h,i)perylene

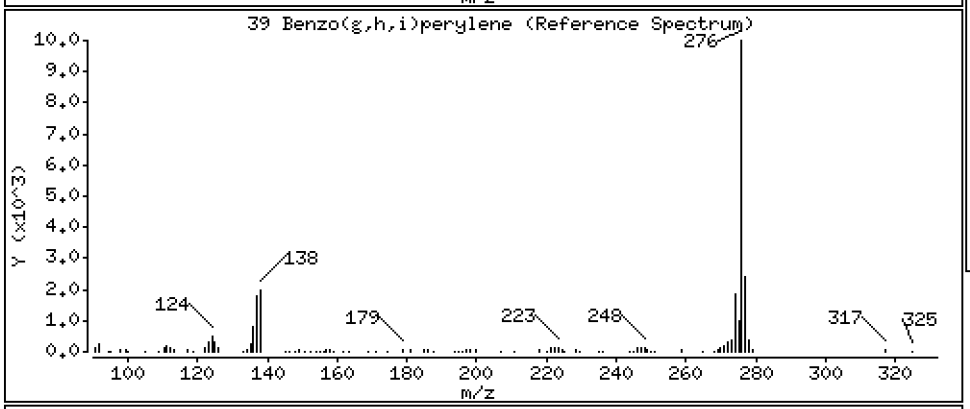
Concentration: 0.05953 ug/mL

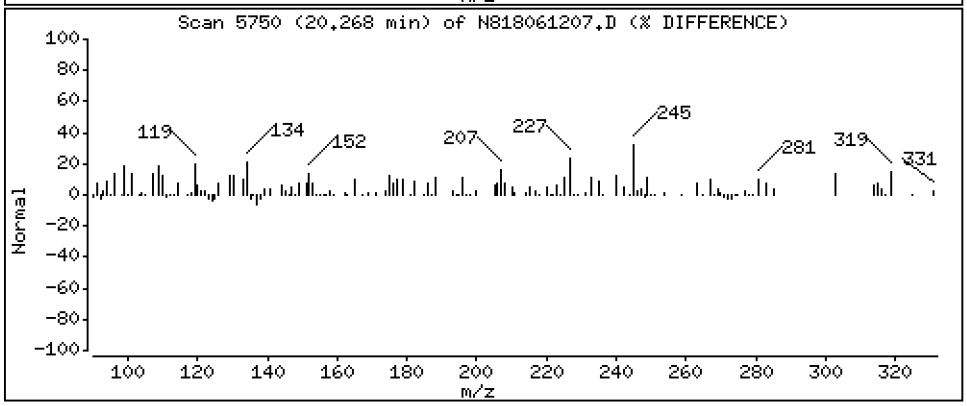












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061207.D
Lab Smp Id: 18E0243-07
Inj Date : 12-JUN-2018 17:10
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-07
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	160756	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.176	5.185	(1.165)	72785	1.24117	1.241
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	84324	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	147724	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	8805	0.09725	0.09725
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.425	10.428	(1.193)	27975	0.27416	0.2742
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	165427	1.71053	1.711
	23 Pyrene	202	10.889	10.896	(0.816)	23537	0.26214	0.2621
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	8346	0.09614	0.09614
*	25 Chrysene-d12	240	13.346	13.349	(1.000)	149406	2.00000	
	27 Chrysene	228	13.409	13.419	(1.005)	12580	0.14396	0.1440
	28 Benzo(b)fluoranthene	252	15.854	15.860	(0.928)	8411	0.08991	0.08991
	29 Benzo(k)fluoranthene	252	15.914	15.917	(0.931)	4742	0.05155	0.05155
	30 Benzo(j)fluoranthene	252	15.986	15.990	(0.935)	3708	0.04026	0.04026
	31 Total Benzofluoranthenes	252	15.854	15.860	(0.928)	16801	0.18416	0.1842(M)
	32 Benzo(a)pyrene	252	16.865	16.872	(0.987)	6174	0.07530	0.07530
*	33 Perylene-d12	264	17.090	17.099	(1.000)	147191	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	142143	2.06174	2.062
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.268	20.284	(1.186)	4884	0.05953	0.05953
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061207.D
Lab Smp Id: 18E0243-07
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	160756	31.56
10 Acenaphthene-d10	65789	32895	131578	84324	28.17
15 Phenanthrene-d10	128644	64322	257288	147724	14.83
25 Chrysene-d12	166669	83335	333338	149406	-10.36
33 Perylene-d12	140483	70242	280966	147191	4.77

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.28
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.02
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061207.D

Lab ID: 18E0243-07
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 17:10

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

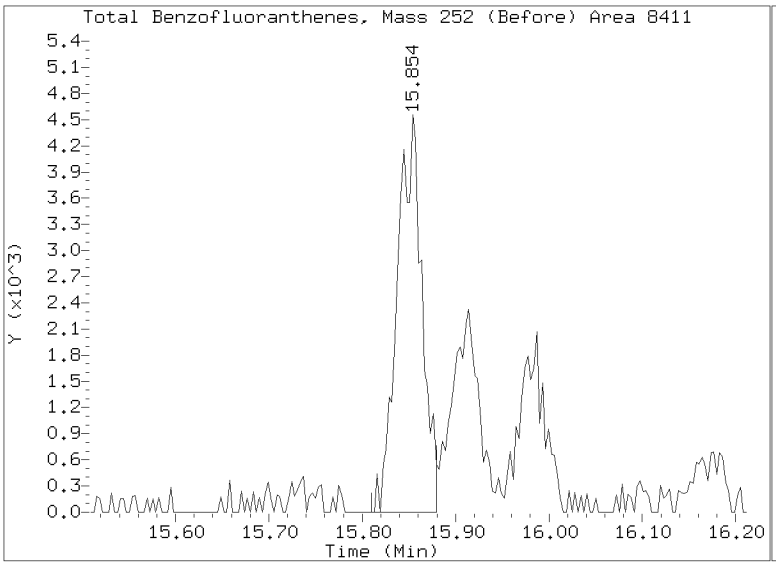
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

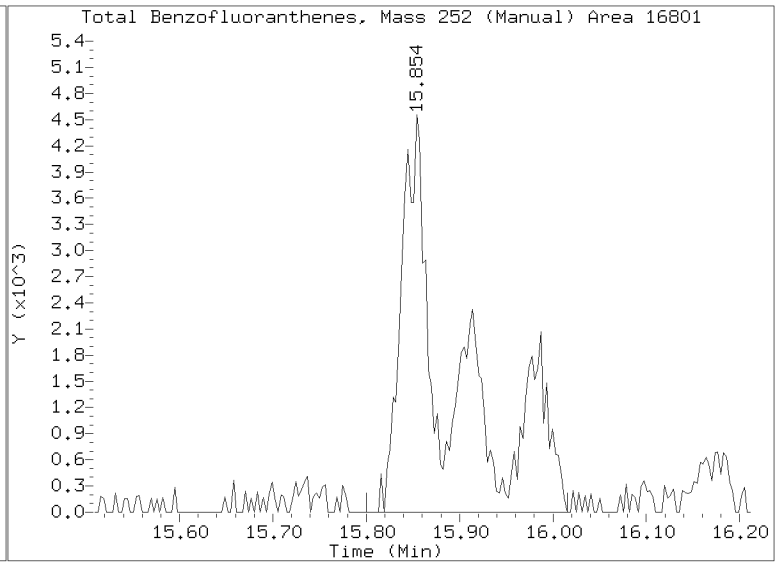
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061207.D
Injection Date: 12-JUN-2018 17:10
Lab ID:18E0243-07 Client ID:
Report Date: 06/12/2018 18:19





LDW18-A02-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-08	SDG:	18E0231
Sampled:	05/16/18 13:15	Prepared:	06/05/18 12:40	File ID:	N818061208.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 17:37
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.02 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.35	J	0.54	4.99
218-01-9	Chrysene	1	4.64	J	0.49	4.99
205-99-2	Benzo(b)fluoranthene	1	3.06	J	1.00	4.99
207-08-9	Benzo(k)fluoranthene	1	1.76	J	0.71	4.99
50-32-8	Benzo(a)pyrene	1	4.99	U	0.91	4.99
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.99	U	0.57	4.99
53-70-3	Dibenzo(a,h)anthracene	1	4.99	U	1.52	4.99

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.70	61.3	41.0	20 - 130	
Dibenzo[a,h]anthracene-d14	149.70	103	69.0	20 - 130	
Fluoranthene-d10	149.70	84.4	56.4	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

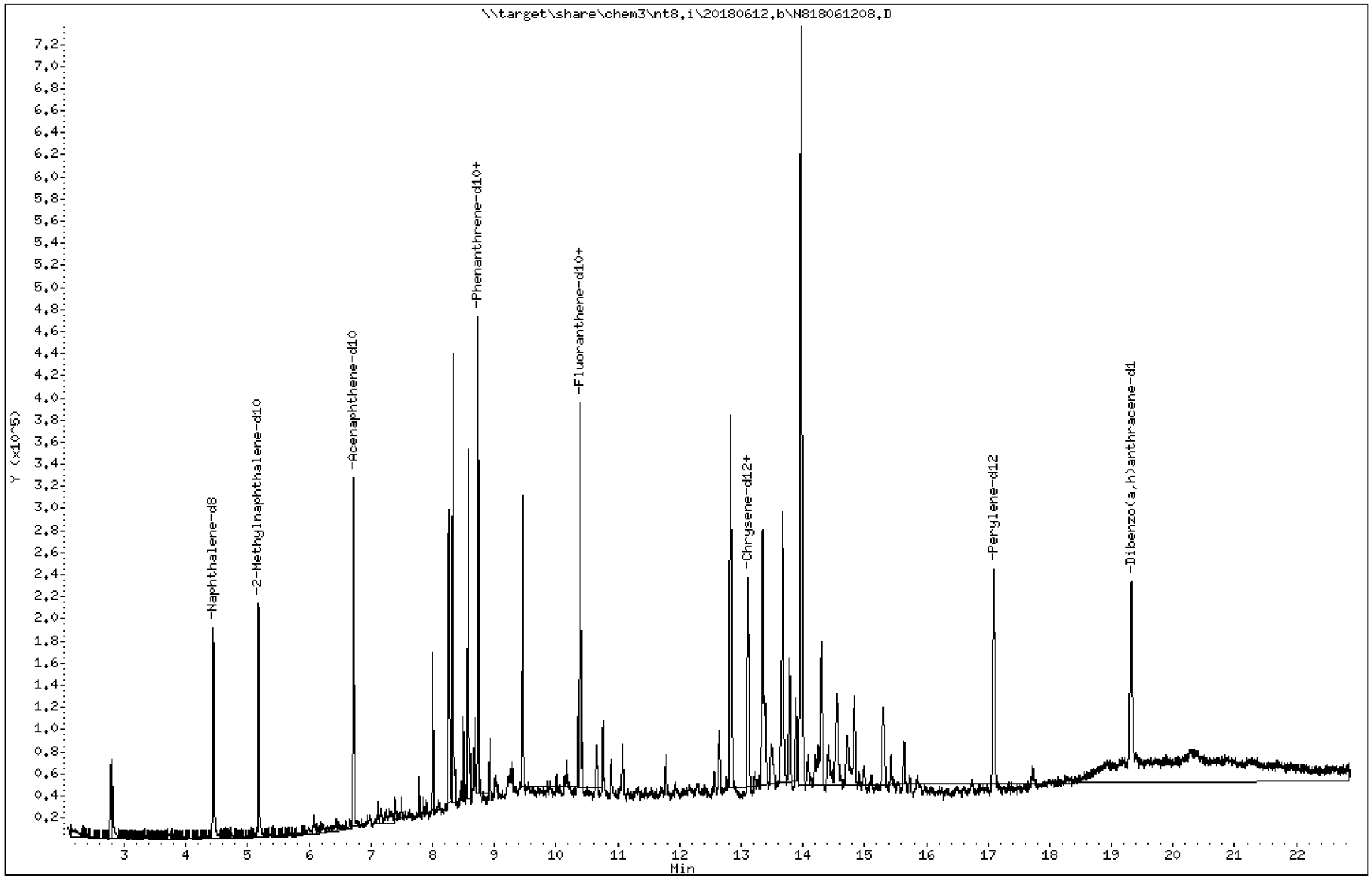
Instrument: nt8.i

Sample Info: 18E0243-08

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

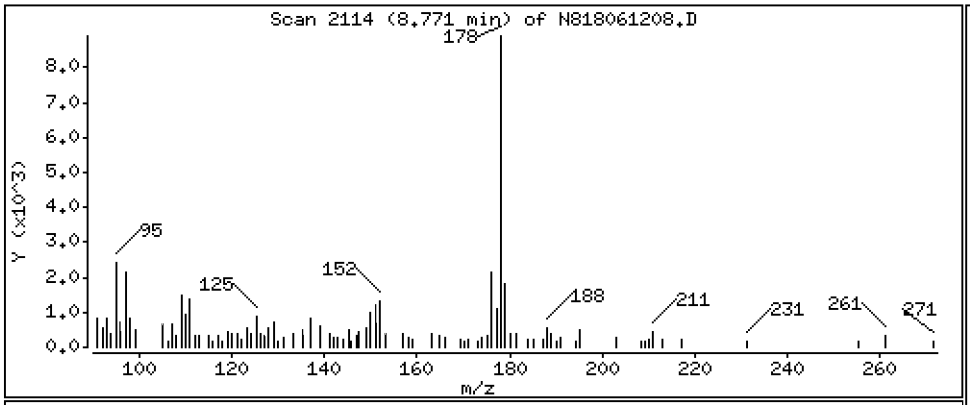
Operator: JZ

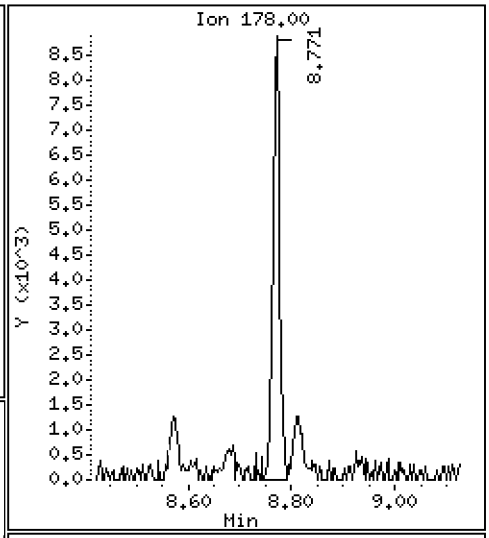
Column phase: Rxi-17sil

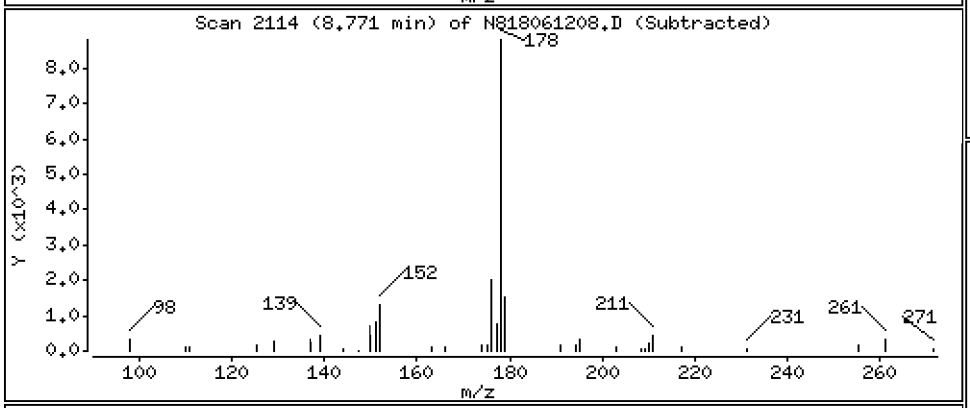
Column diameter: 0.25

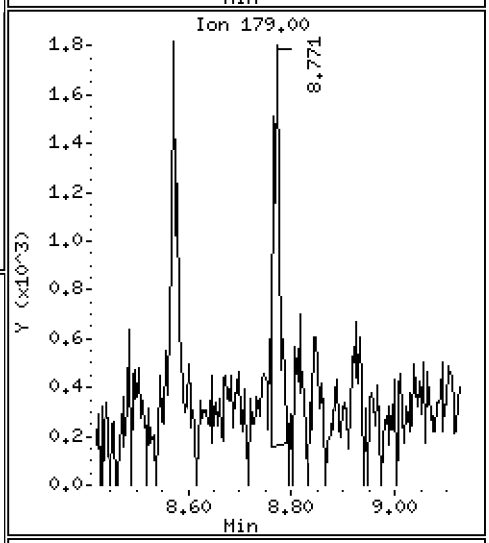
16 Phenanthrene

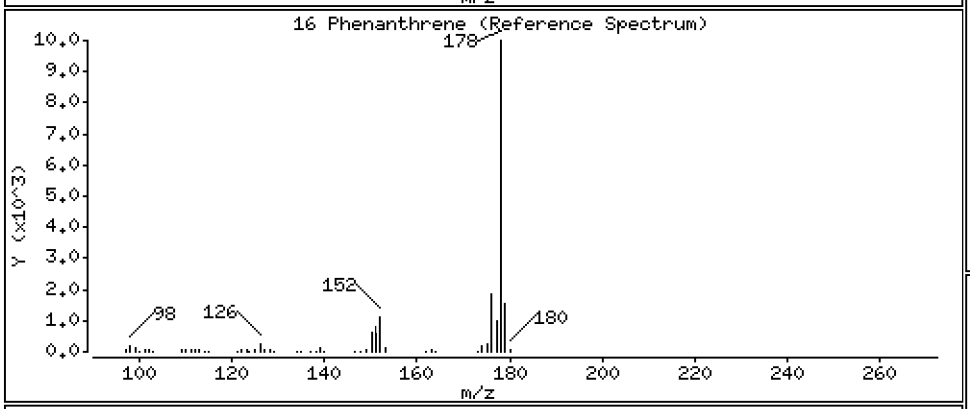
Concentration: 0.08089 ug/mL

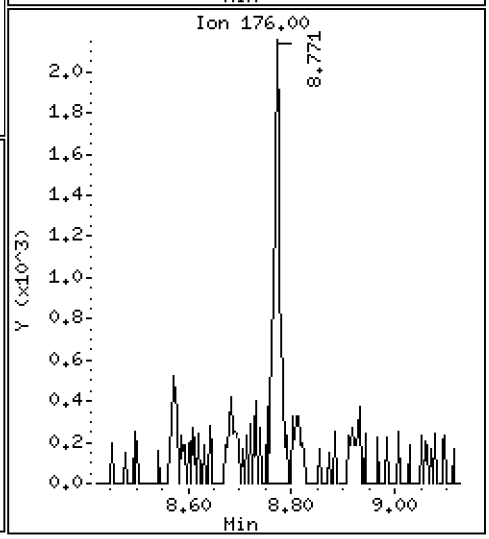


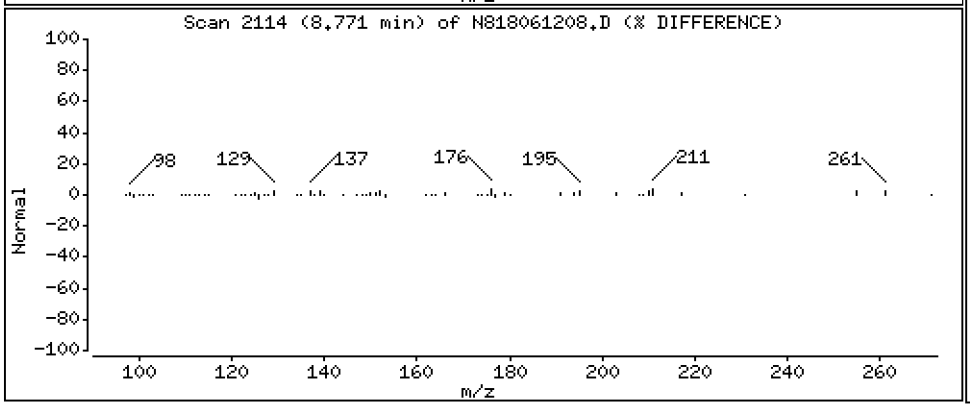












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

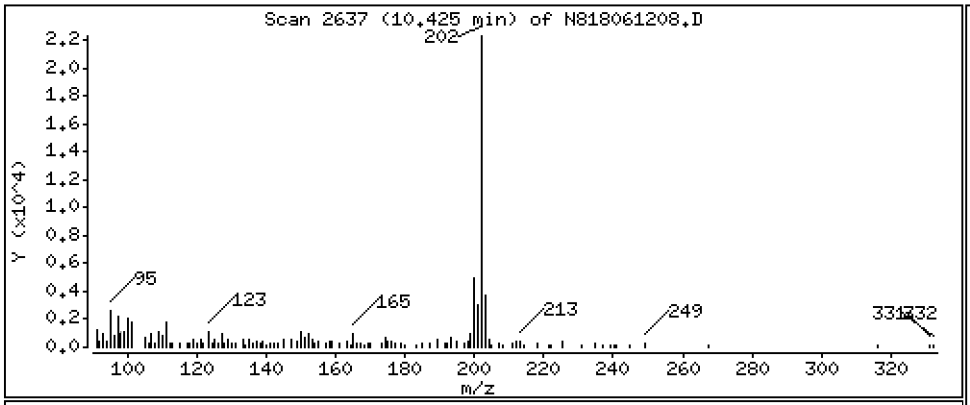
Operator: JZ

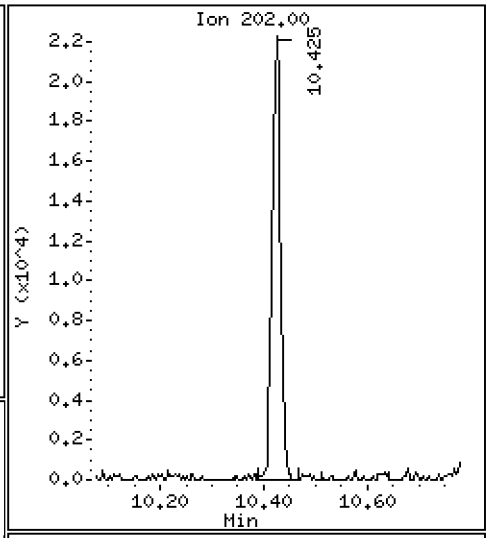
Column phase: Rxi-17sil

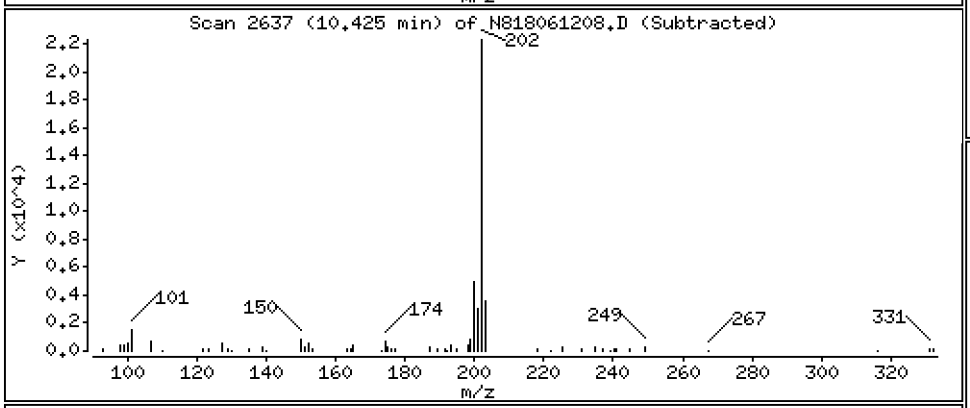
Column diameter: 0.25

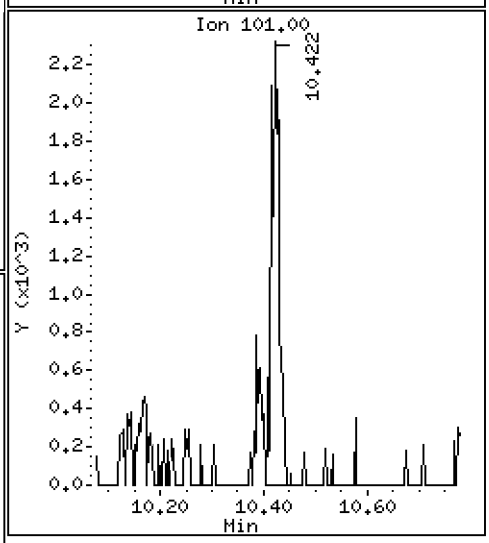
22 Fluoranthene

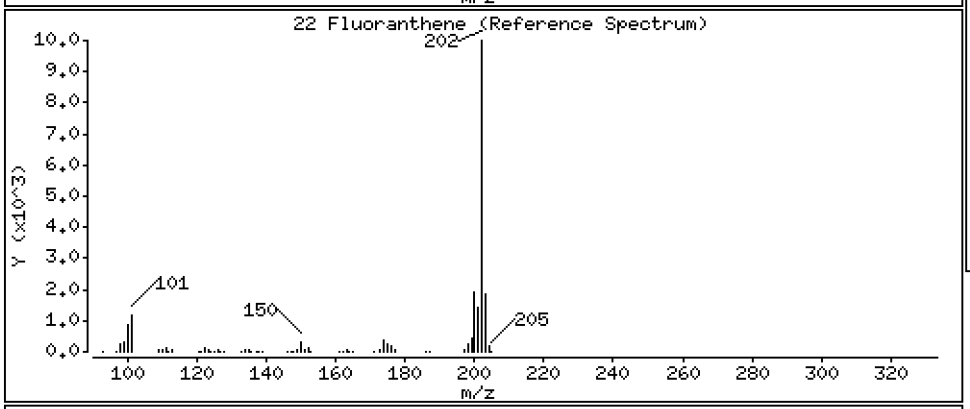
Concentration: 0.2293 ug/mL

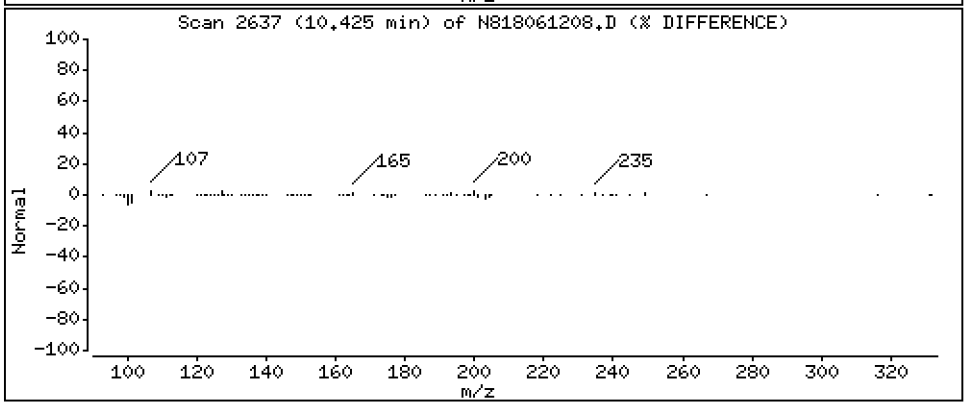












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

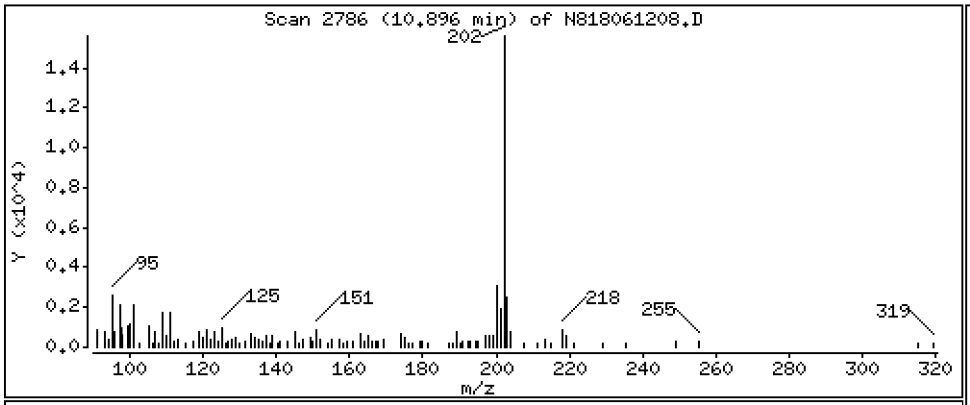
Operator: JZ

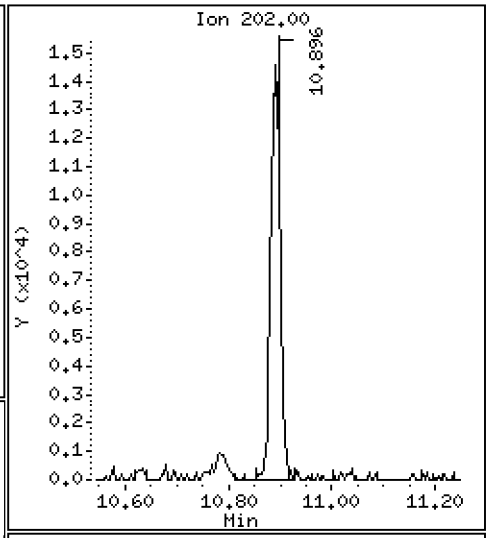
Column phase: Rxi-17sil

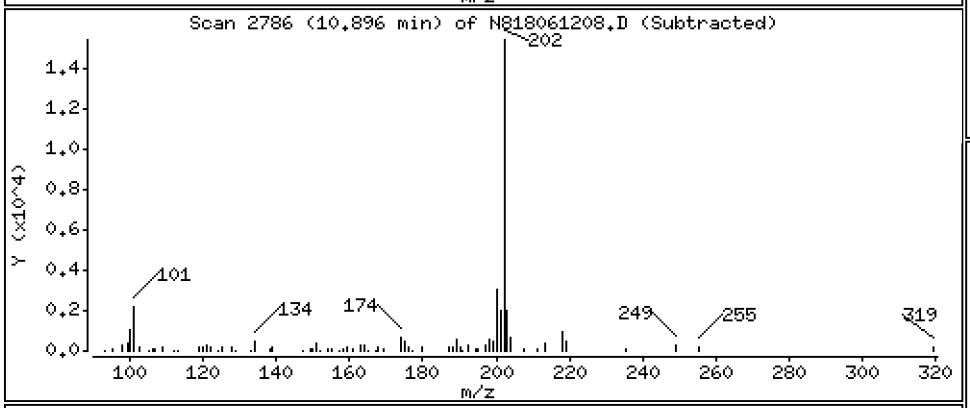
Column diameter: 0.25

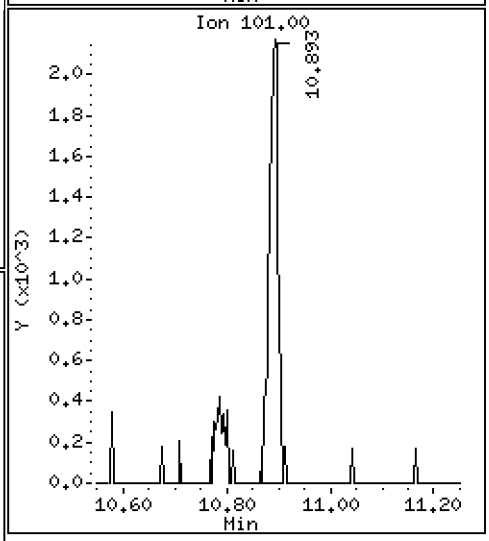
23 Pyrene

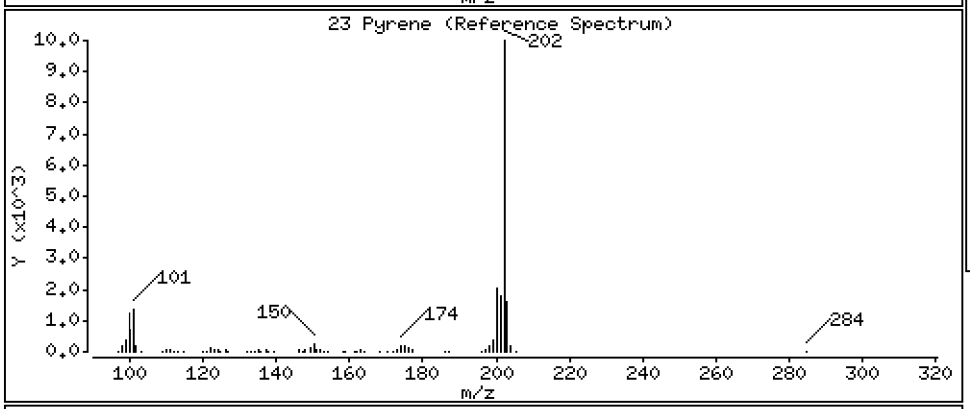
Concentration: 0.2037 ug/mL

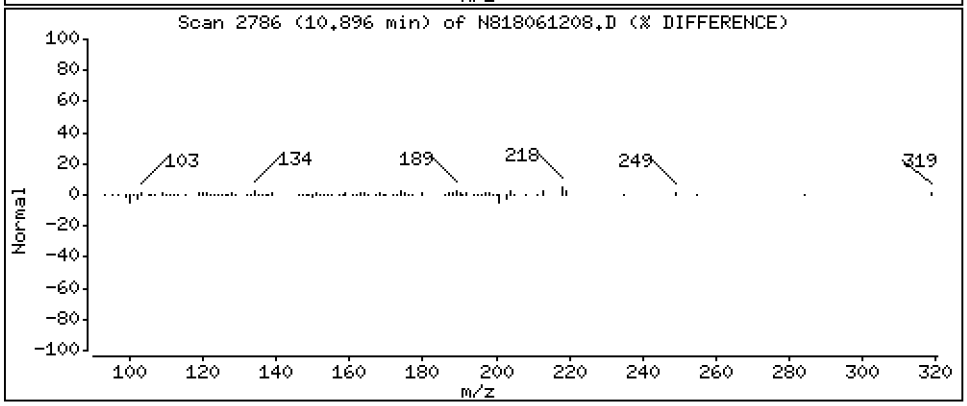












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

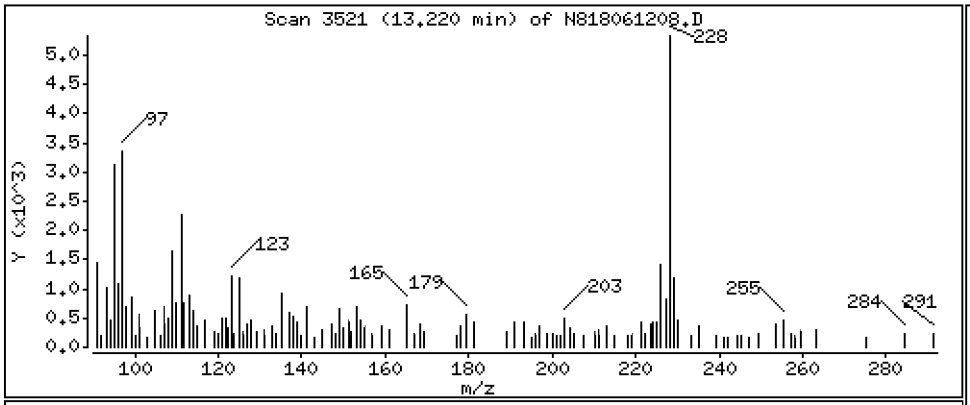
Operator: JZ

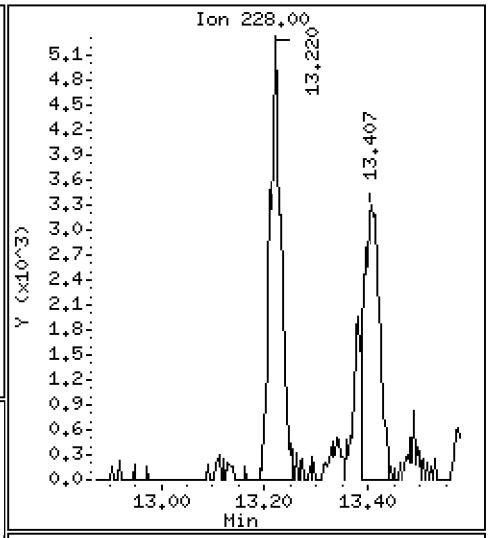
Column phase: Rxi-17sil

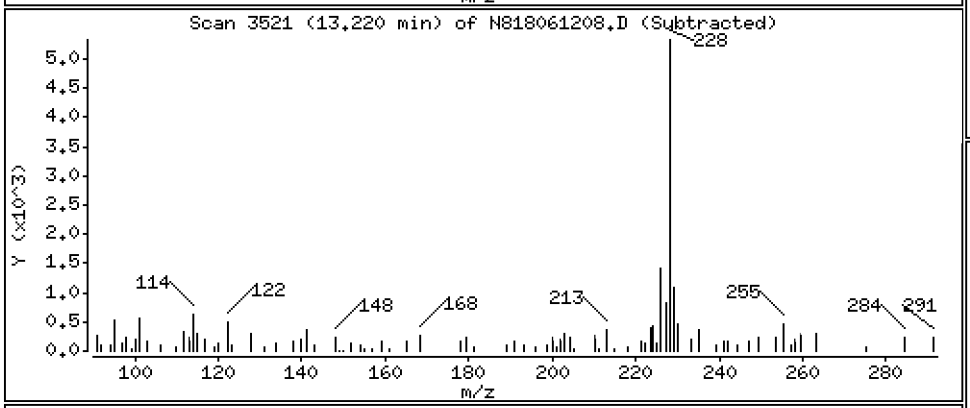
Column diameter: 0.25

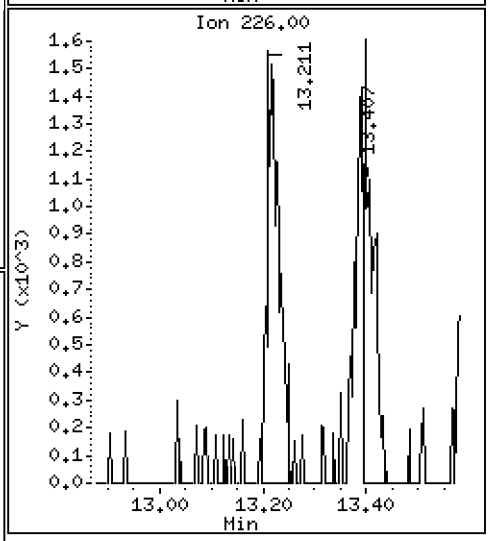
24 Benzo(a)anthracene

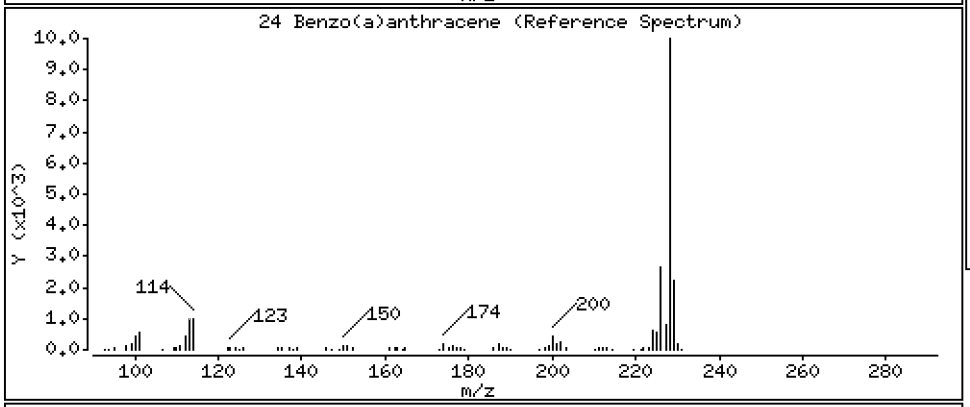
Concentration: 0.08709 ug/mL

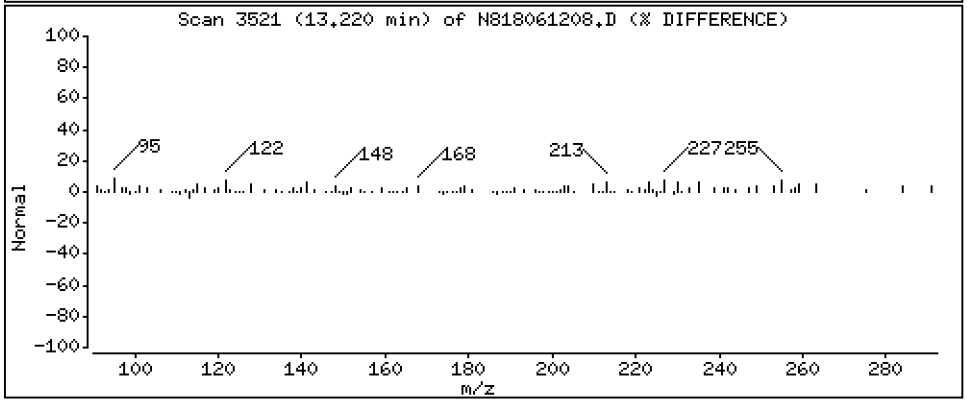












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

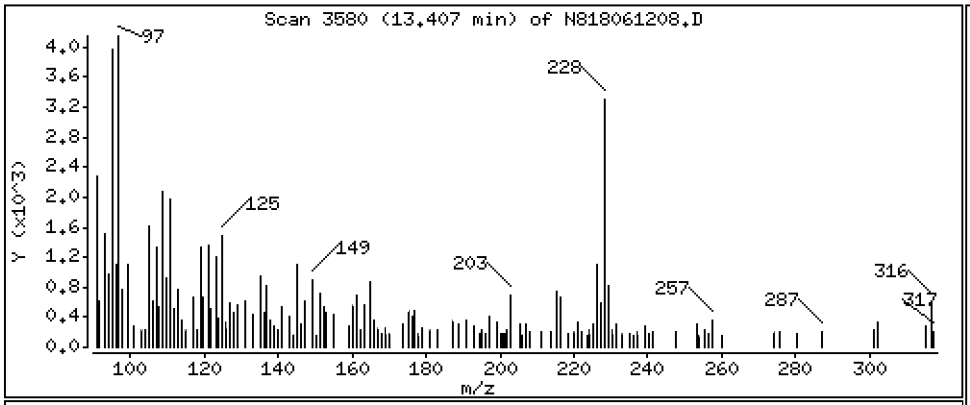
Operator: JZ

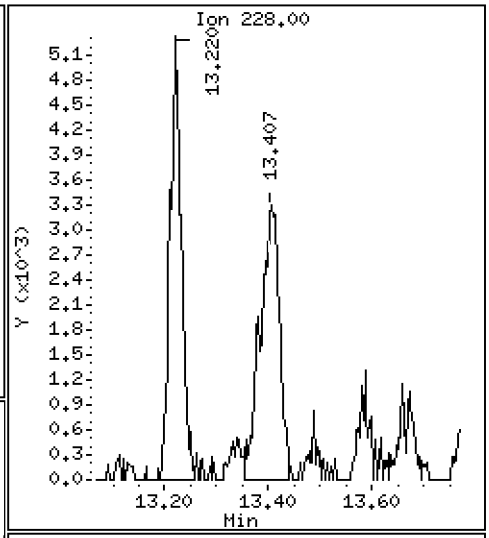
Column phase: Rxi-17sil

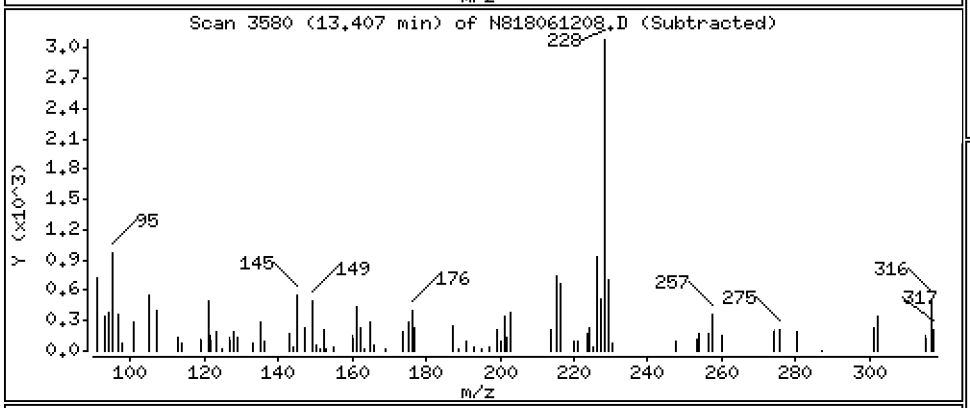
Column diameter: 0.25

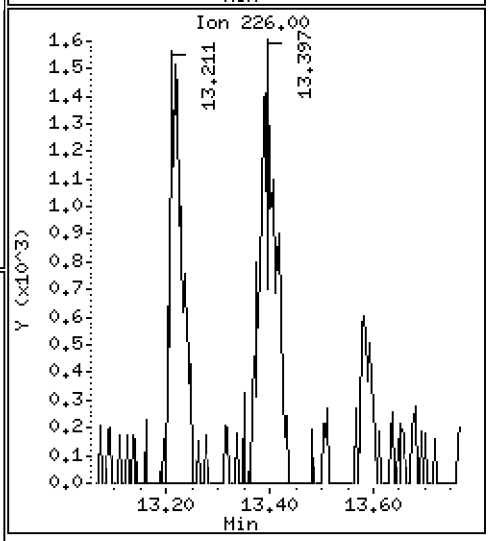
27 Chrysene

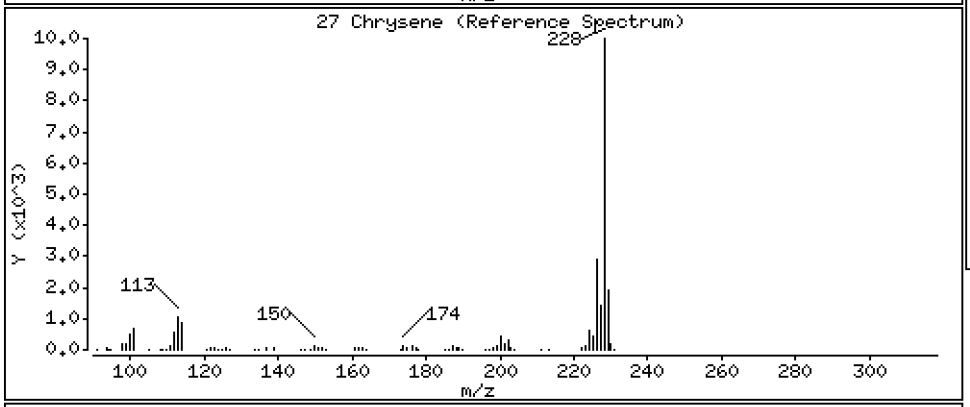
Concentration: 0.09308 ug/mL

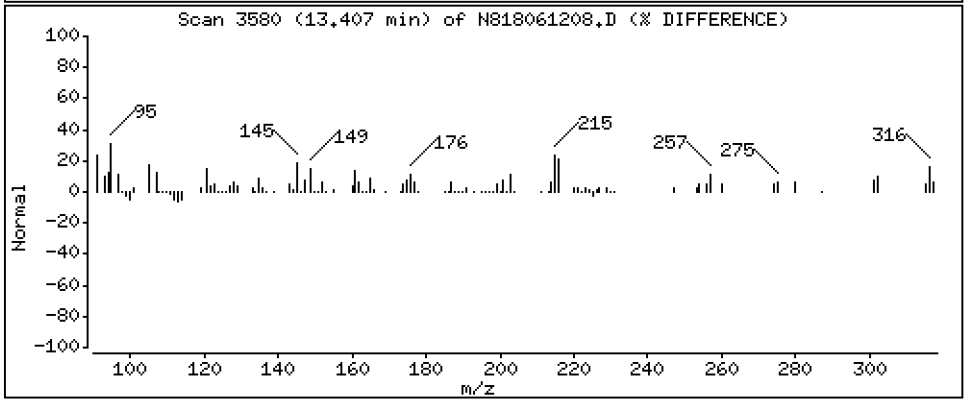












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

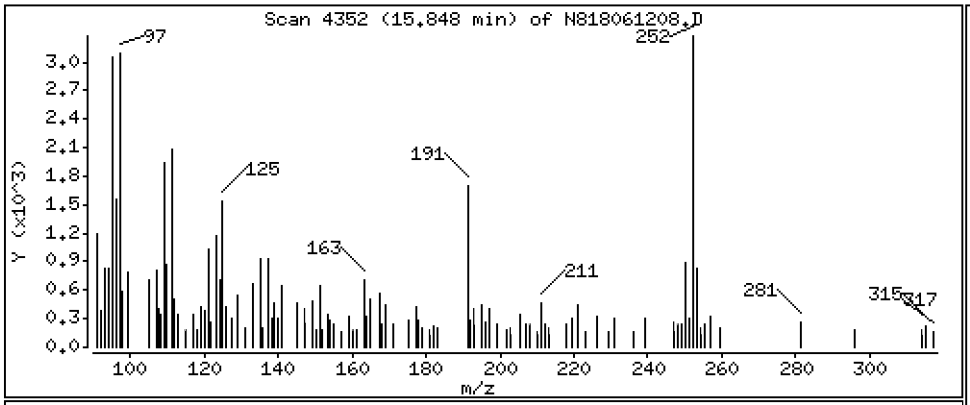
Operator: JZ

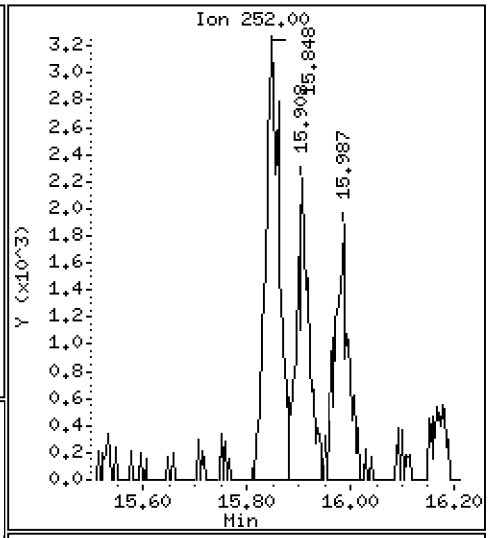
Column phase: Rxi-17sil

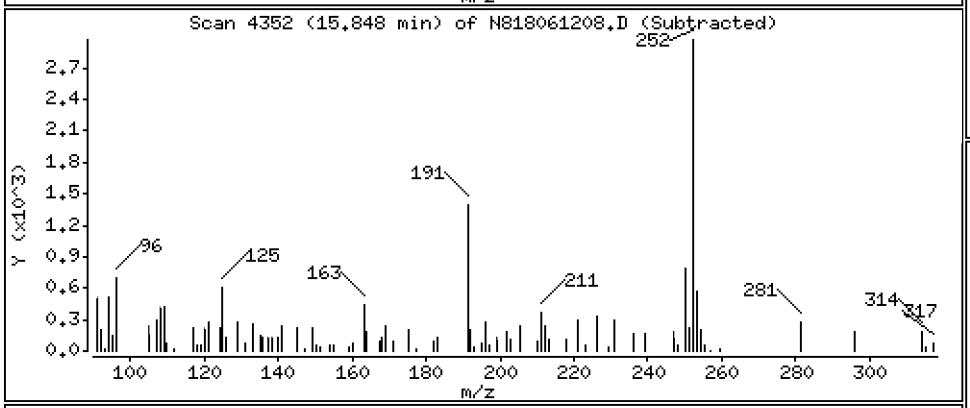
Column diameter: 0.25

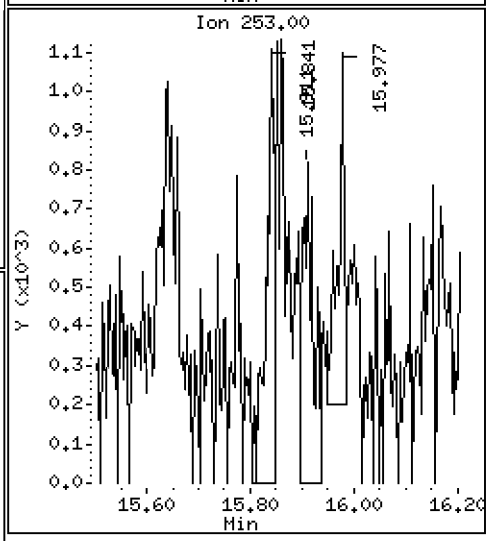
28 Benzo(b)fluoranthene

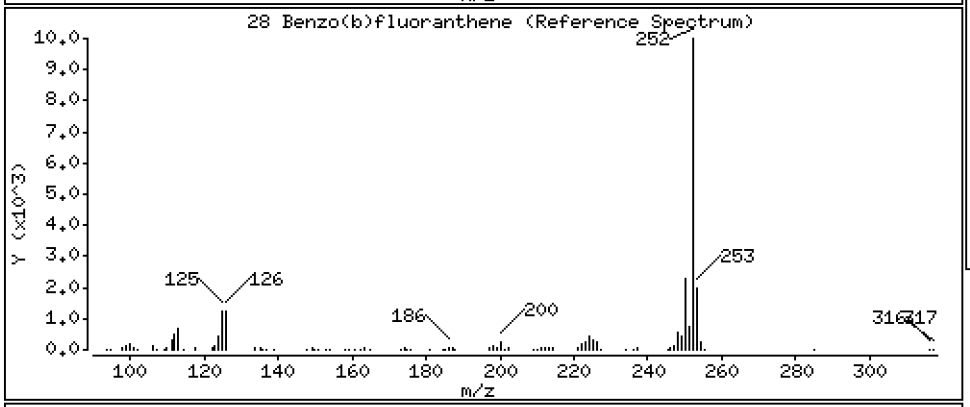
Concentration: 0.06137 ug/mL

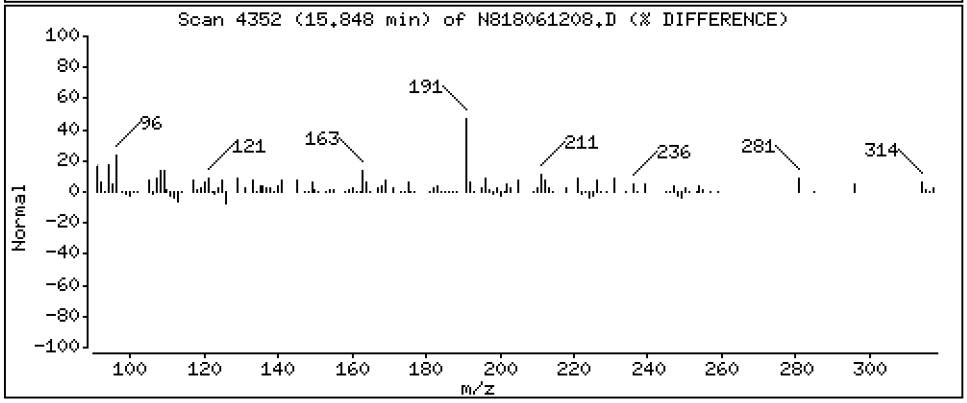












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

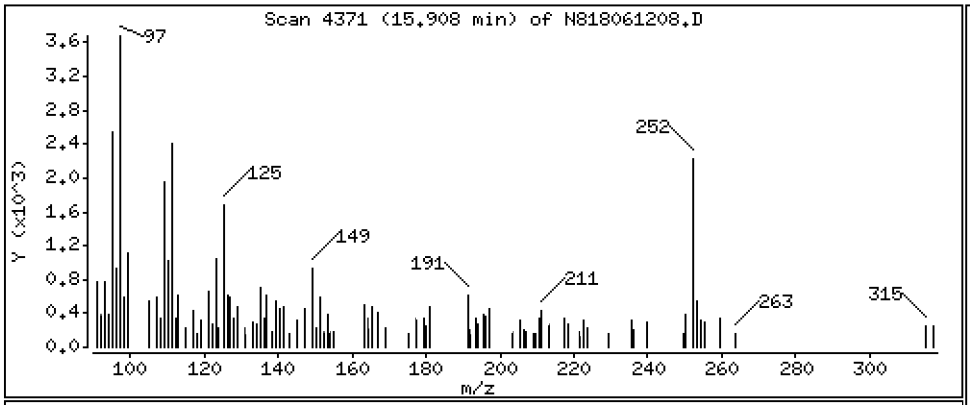
Operator: JZ

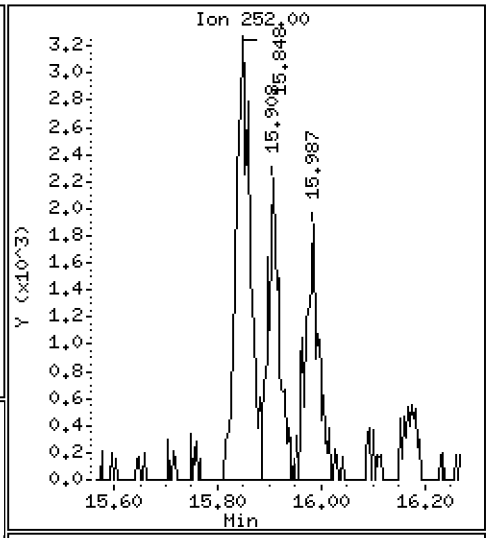
Column phase: Rxi-17sil

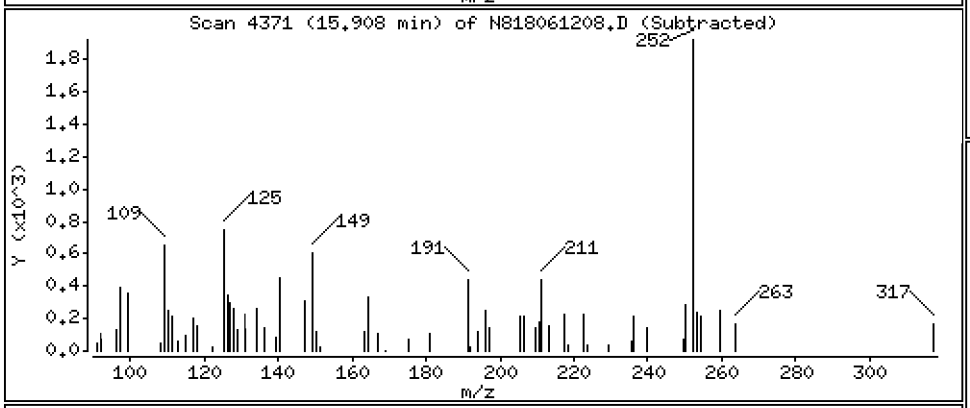
Column diameter: 0.25

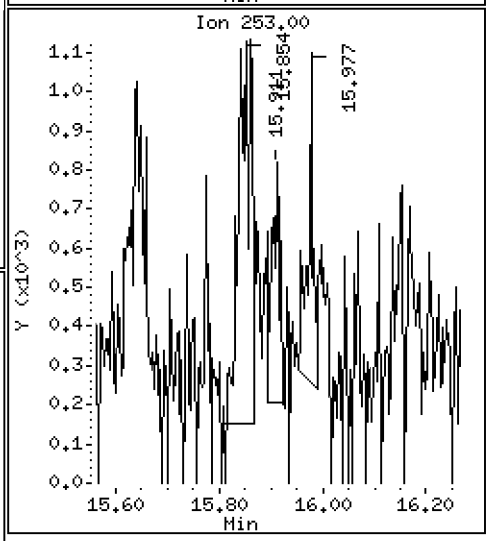
29 Benzo(k)fluoranthene

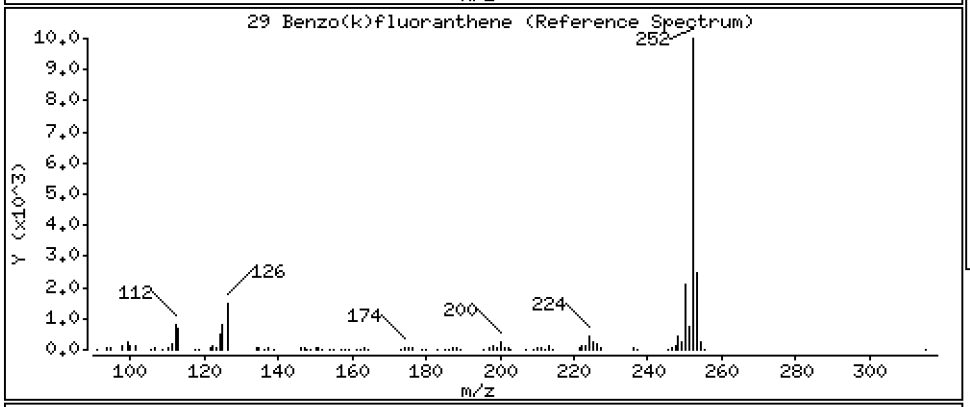
Concentration: 0.03529 ug/mL

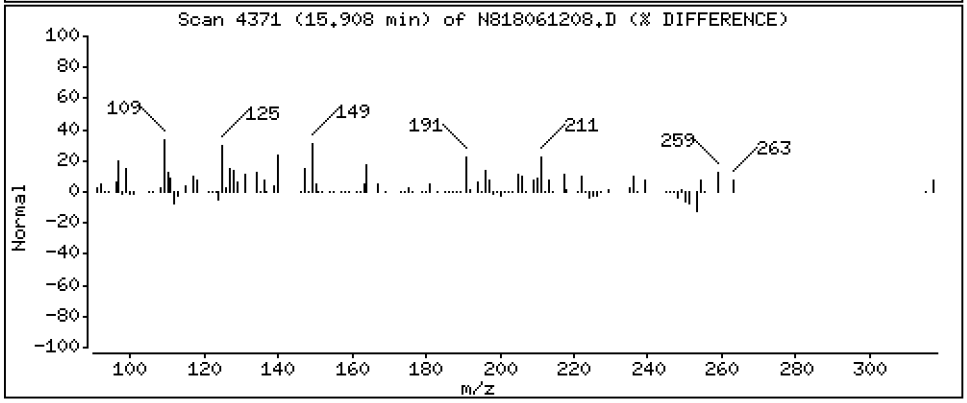












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

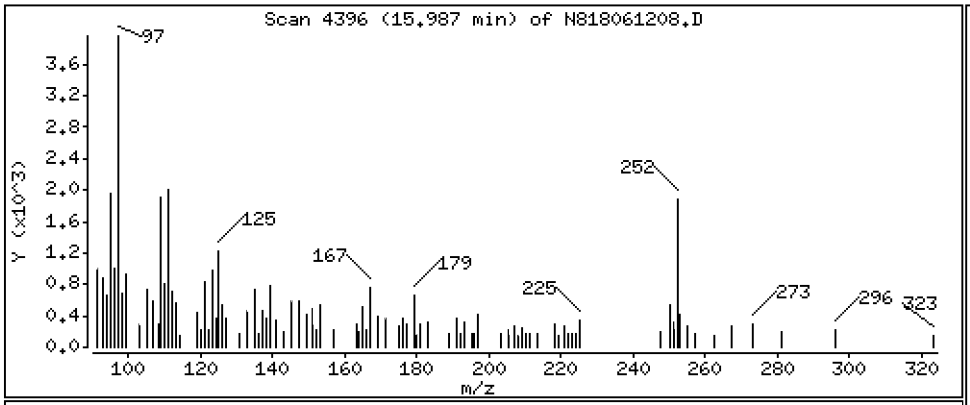
Operator: JZ

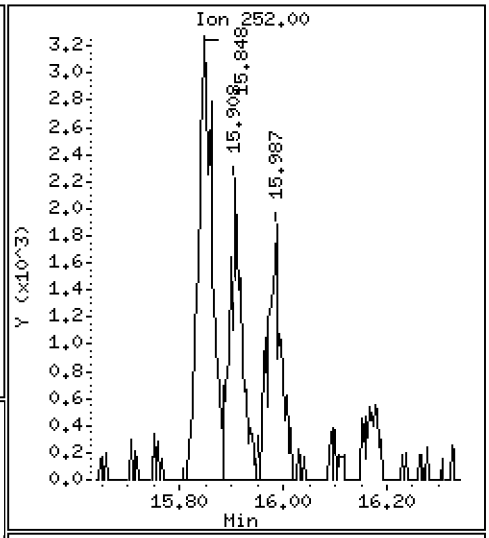
Column phase: Rxi-17sil

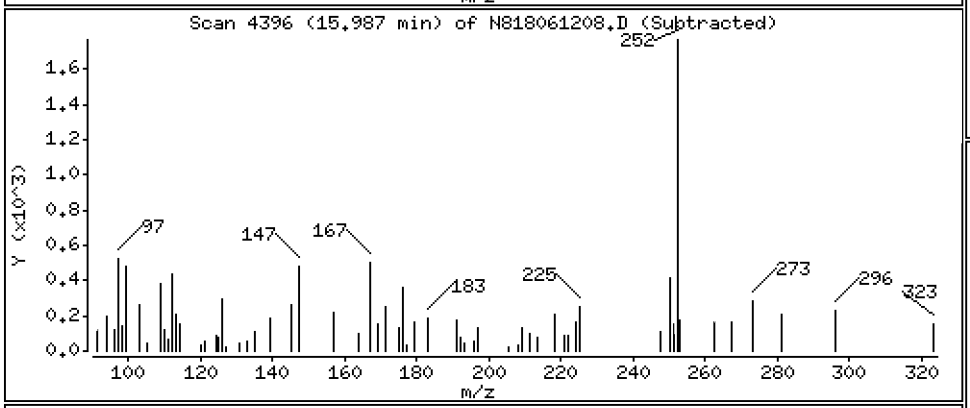
Column diameter: 0.25

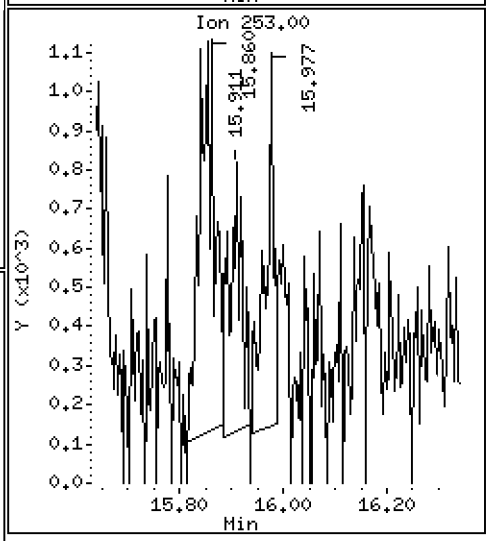
30 Benzo(j)fluoranthene

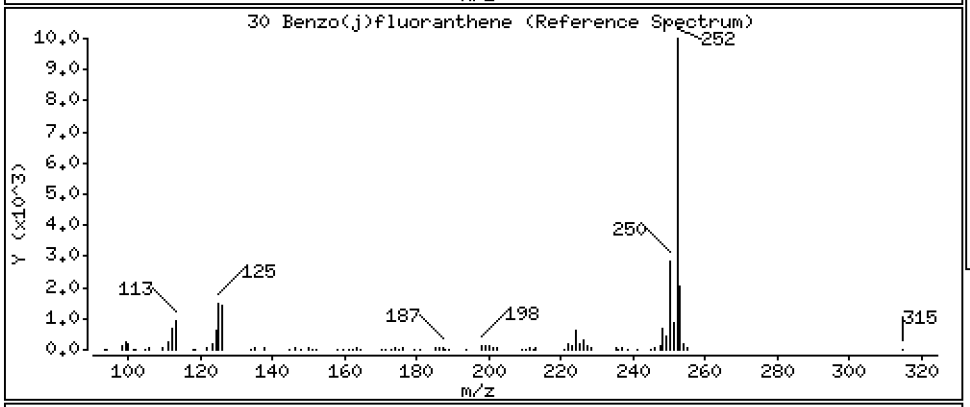
Concentration: 0.03397 ug/mL

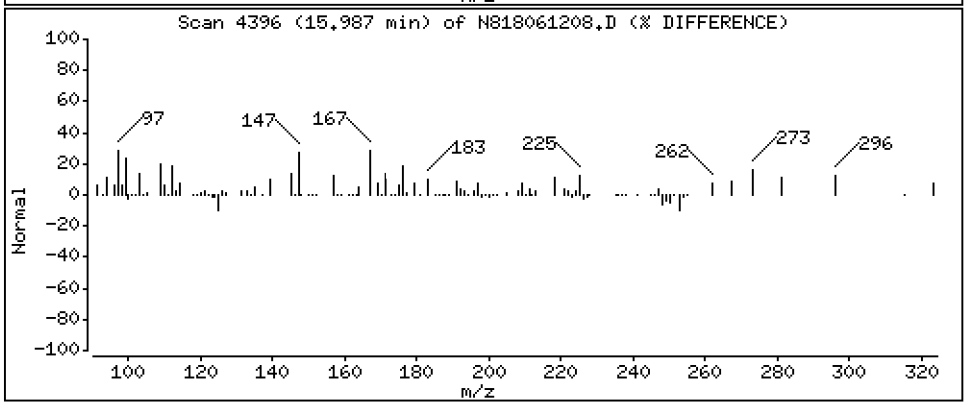












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061208.D

Date : 12-JUN-2018 17:37

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-08

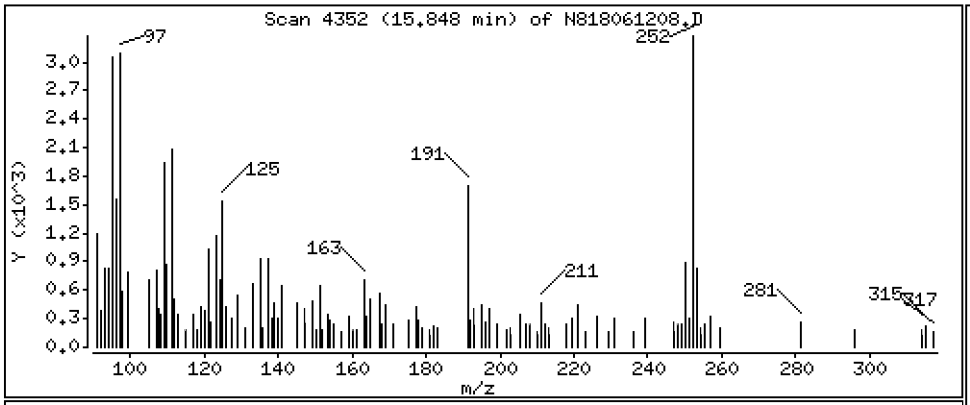
Operator: JZ

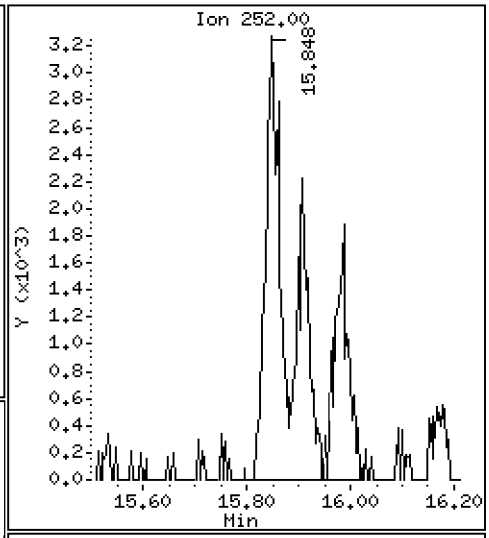
Column phase: Rxi-17sil

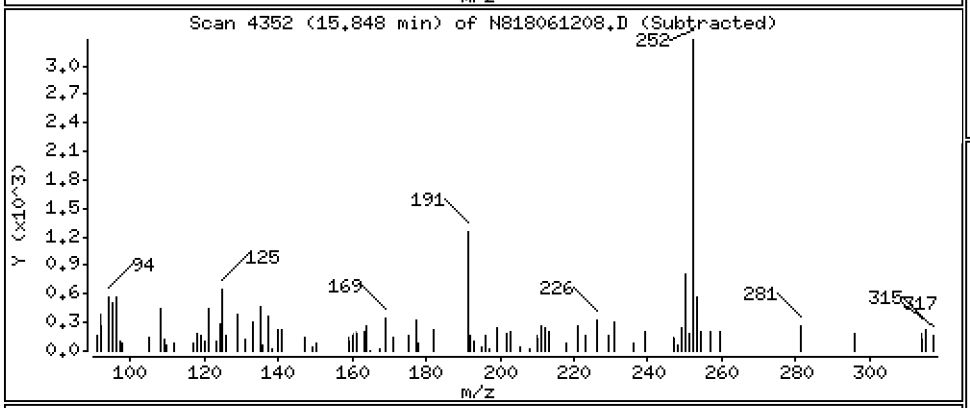
Column diameter: 0.25

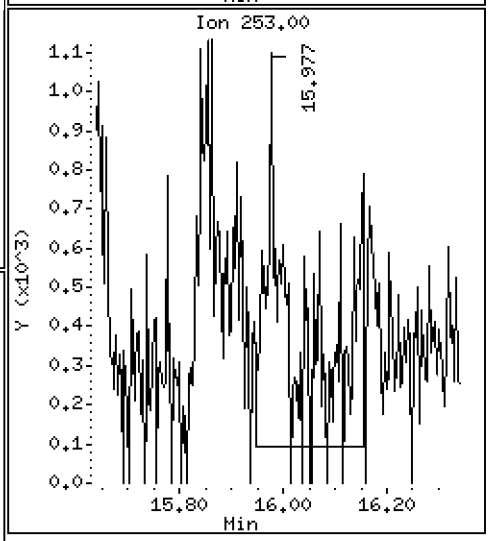
31 Total Benzofluoranthenes

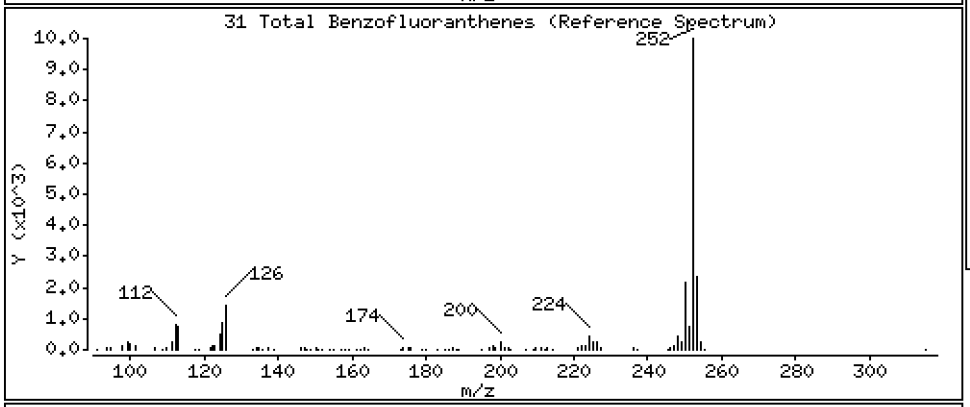
Concentration: 0.1340 ug/mL

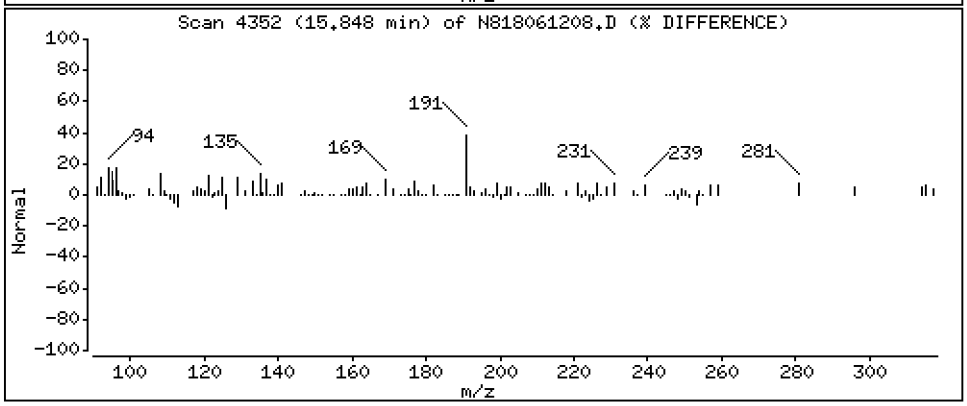












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061208.D
Lab Smp Id: 18E0243-08
Inj Date : 12-JUN-2018 17:37
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-08
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

								CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	170975		2.00000	
	2 Naphthalene	128	Compound Not Detected.						
$	3 2-Methylnaphthalene-d10	152	5.176	5.185	(1.164)	76668		1.22925	1.229
	4 2-Methylnaphthalene	141	Compound Not Detected.						
	5 1-methylnaphthalene	141	Compound Not Detected.						
	9 Acenaphthylene	152	Compound Not Detected.						
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	90843		2.00000	
	11 Acenaphthene	153	Compound Not Detected.						
	12 Dibenzofuran	168	Compound Not Detected.						
	14 Fluorene	166	Compound Not Detected.						
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	160561		2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	7960		0.08089	0.08089
	17 Anthracene	178	Compound Not Detected.						
	22 Fluoranthene	202	10.424	10.428	(1.193)	25431		0.22930	0.2293
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	177863		1.69208	1.692
	23 Pyrene	202	10.896	10.896	(0.817)	19372		0.20367	0.2037
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	8009		0.08709	0.08709
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	158274		2.00000	
	27 Chrysene	228	13.406	13.419	(1.005)	8616		0.09308	0.09308
	28 Benzo(b)fluoranthene	252	15.847	15.860	(0.927)	6111		0.06137	0.06137
	29 Benzo(k)fluoranthene	252	15.907	15.917	(0.930)	3456		0.03529	0.03529
	30 Benzo(j)fluoranthene	252	15.986	15.990	(0.935)	3331		0.03397	0.03397
	31 Total Benzofluoranthenes	252	15.847	15.860	(0.927)	13015		0.13401	0.1340(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.						
*	33 Perylene-d12	264	17.096	17.099	(1.000)	156689		2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	151819		2.06861	2.069
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.						
	35 Perylene	252	Compound Not Detected.						

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061208.D
Lab Smp Id: 18E0243-08
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	170975	39.93
10 Acenaphthene-d10	65789	32895	131578	90843	38.08
15 Phenanthrene-d10	128644	64322	257288	160561	24.81
25 Chrysene-d12	166669	83335	333338	158274	-5.04
33 Perylene-d12	140483	70242	280966	156689	11.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061208.D

Lab ID: 18E0243-08
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 17:37

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

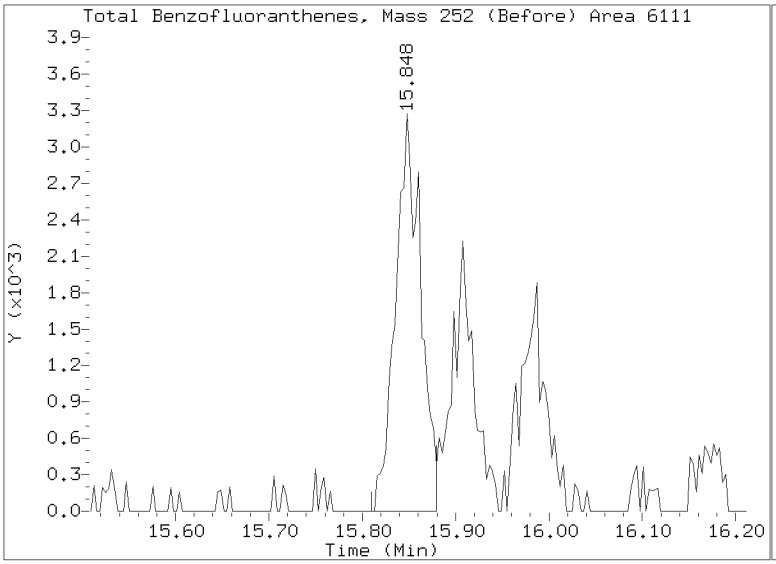
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

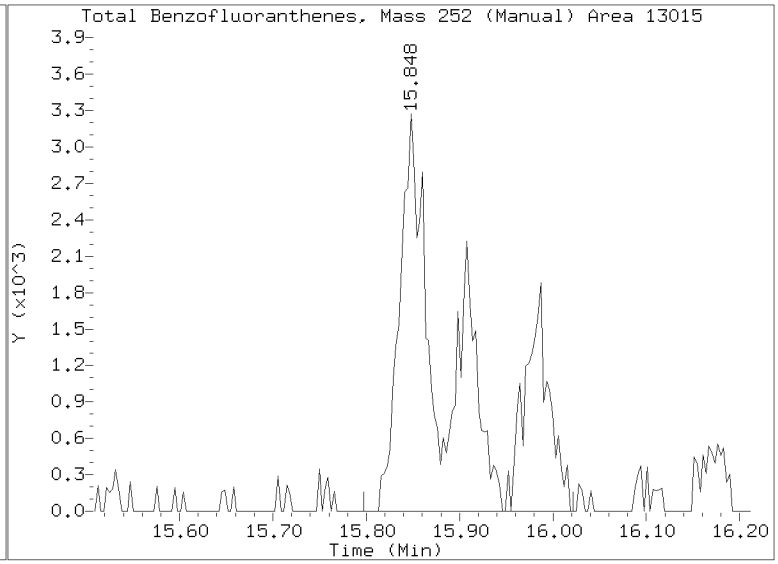
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061208.D
Injection Date: 12-JUN-2018 17:37
Lab ID:18E0243-08 Client ID:
Report Date: 06/12/2018 18:19





LDW18-A06-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-09	SDG:	18E0231
Sampled:	05/16/18 11:39	Prepared:	06/05/18 12:40	File ID:	N818061209.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 18:04
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.03 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.93	J	0.54	4.99
218-01-9	Chrysene	1	4.55	J	0.49	4.99
205-99-2	Benzo(b)fluoranthene	1	2.09	J	1.00	4.99
207-08-9	Benzo(k)fluoranthene	1	1.51	J	0.71	4.99
50-32-8	Benzo(a)pyrene	1	4.99	U	0.91	4.99
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.99	U	0.57	4.99
53-70-3	Dibenzo(a,h)anthracene	1	4.99	U	1.52	4.99

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.55	58.6	39.2	20 - 130	
Dibenzo[a,h]anthracene-d14	149.55	109	72.6	20 - 130	
Fluoranthene-d10	149.55	88.4	59.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

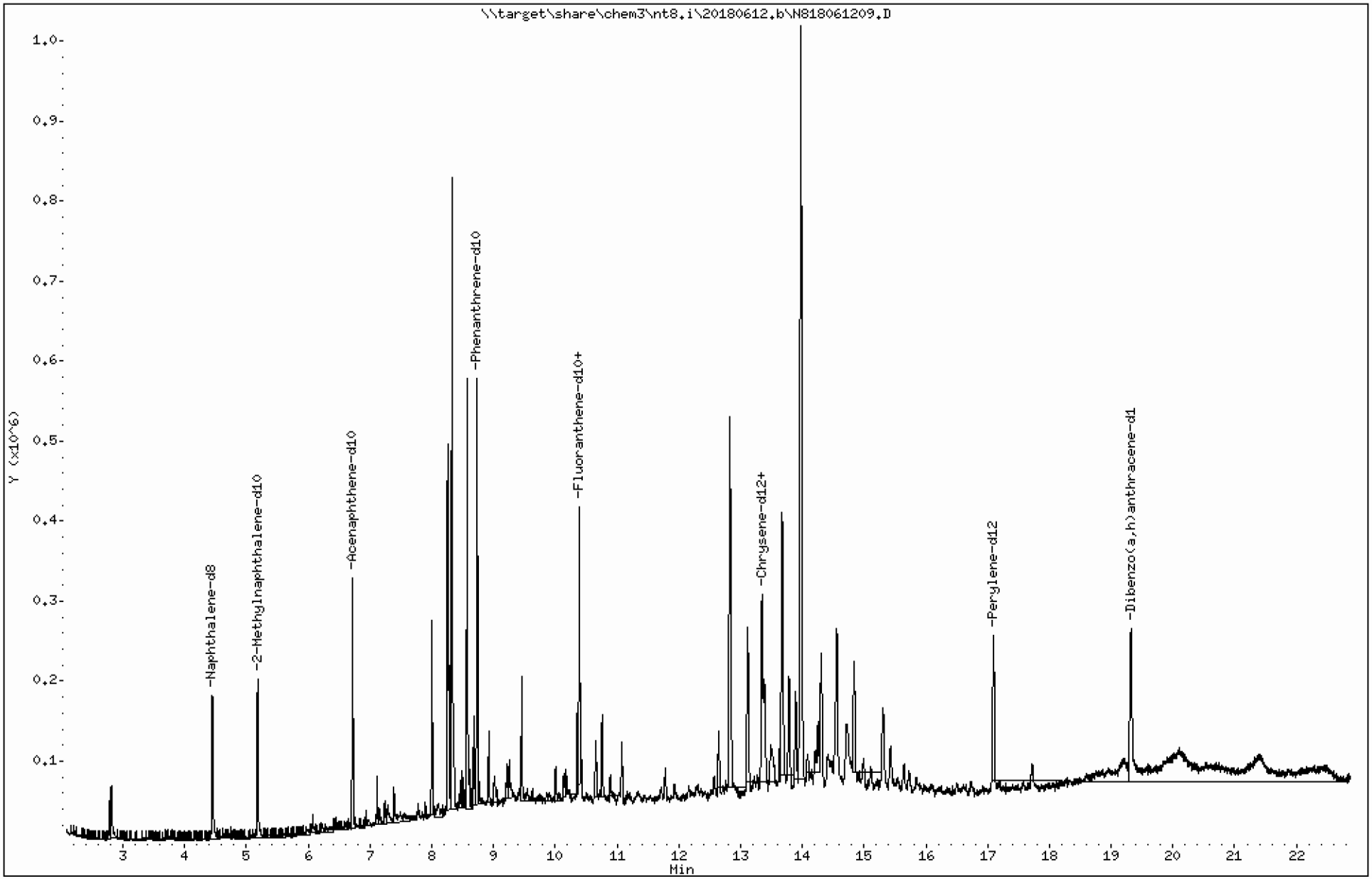
Instrument: nt8.i

Sample Info: 18E0243-09

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

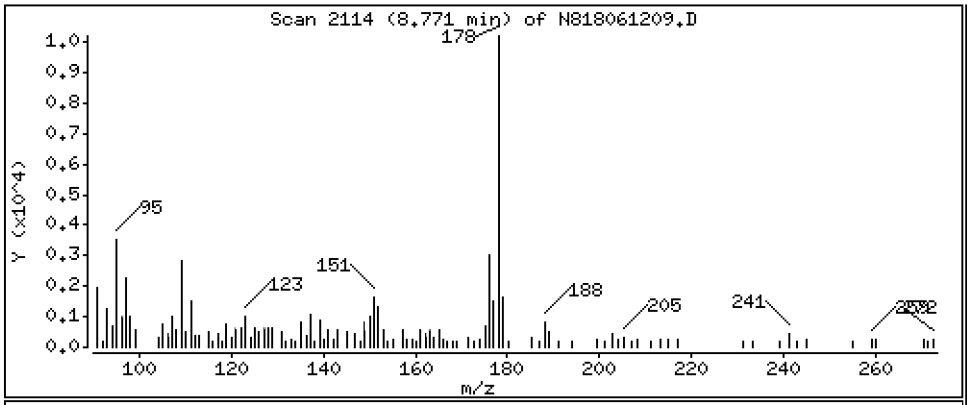
Operator: JZ

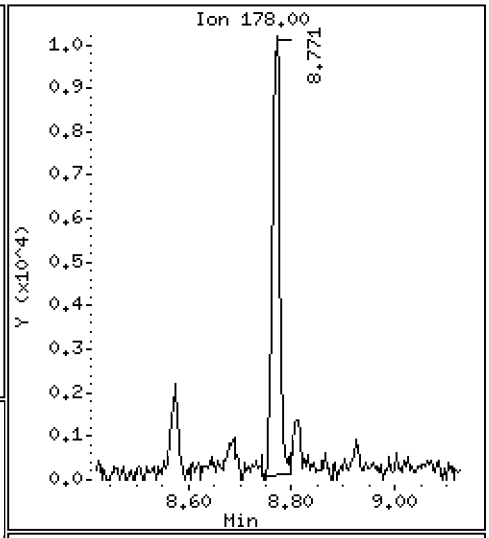
Column phase: Rxi-17sil

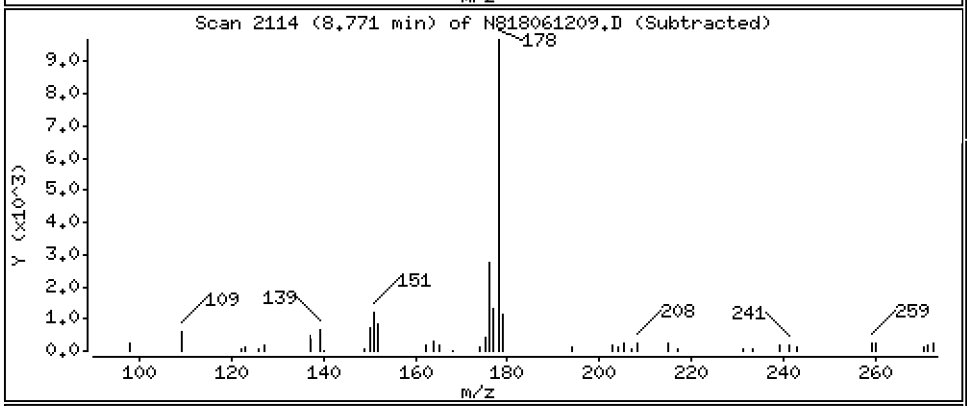
Column diameter: 0.25

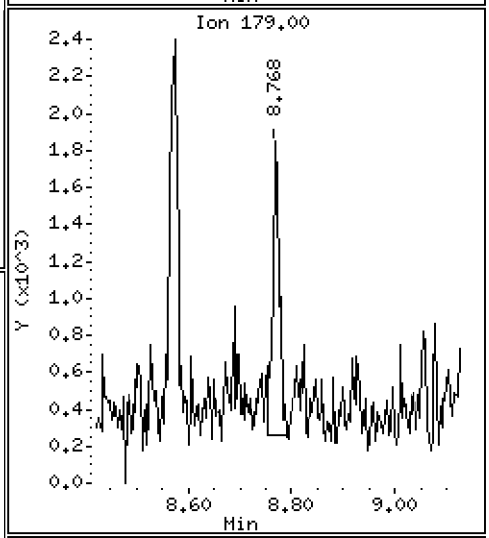
16 Phenanthrene

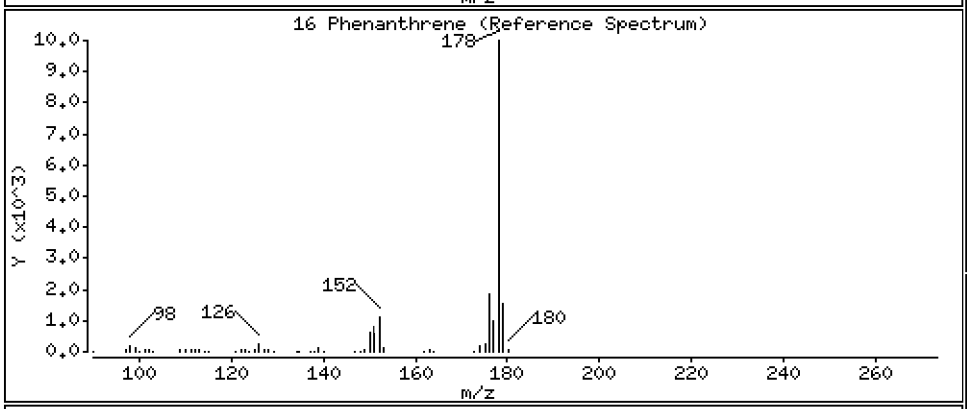
Concentration: 0.1075 ug/mL

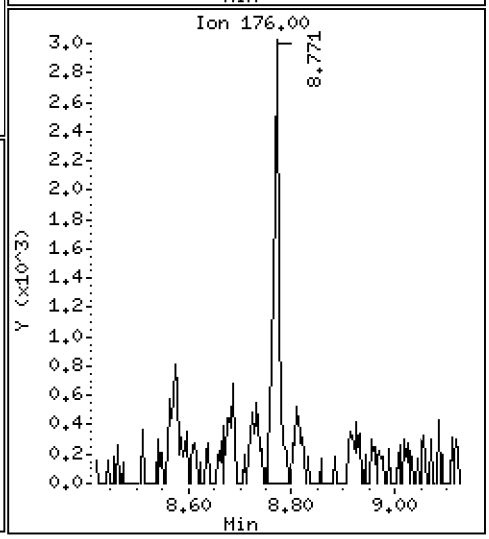


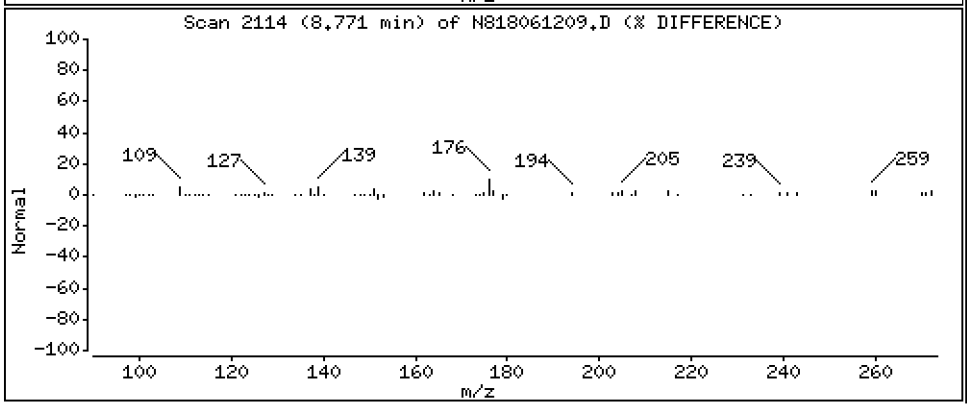












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

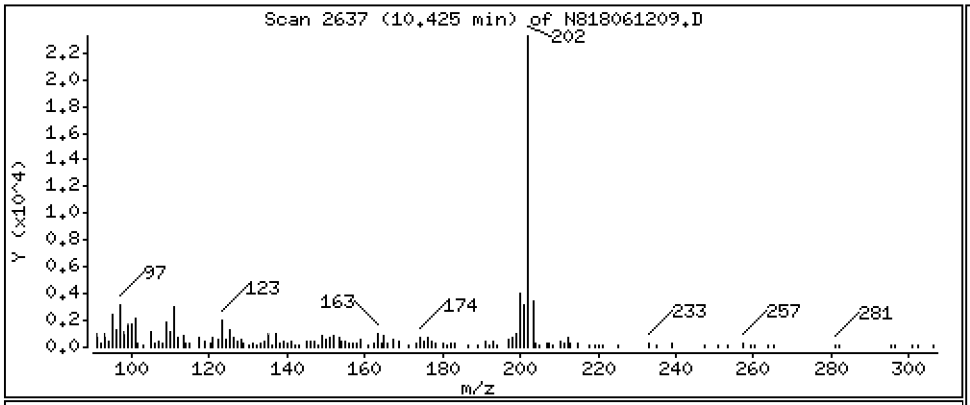
Operator: JZ

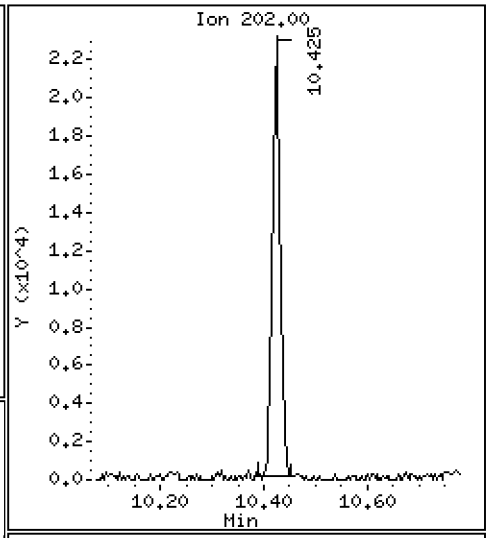
Column phase: Rxi-17sil

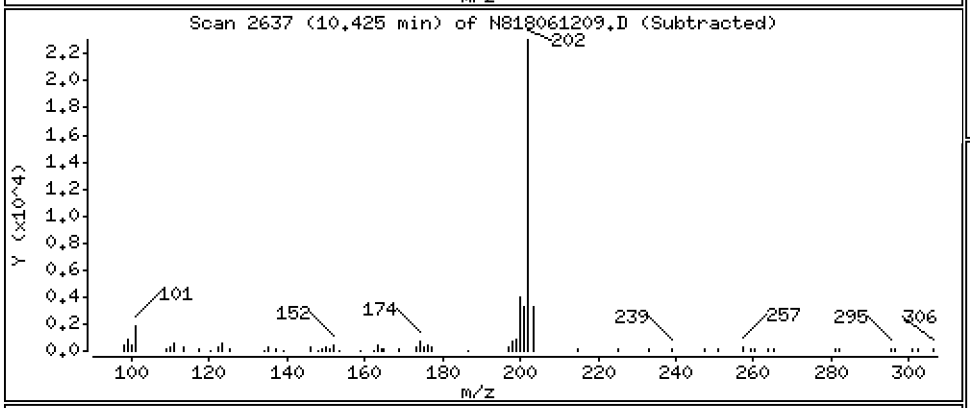
Column diameter: 0.25

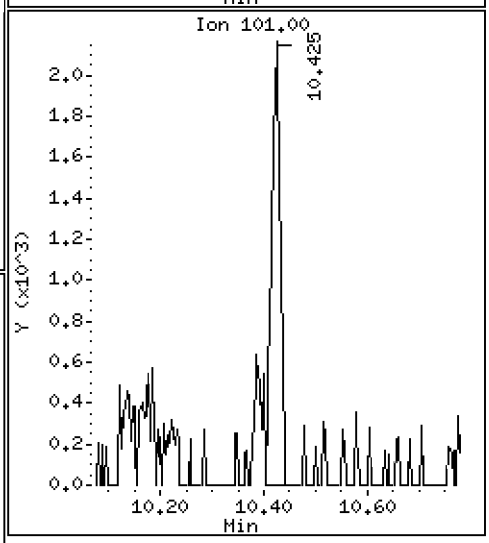
22 Fluoranthene

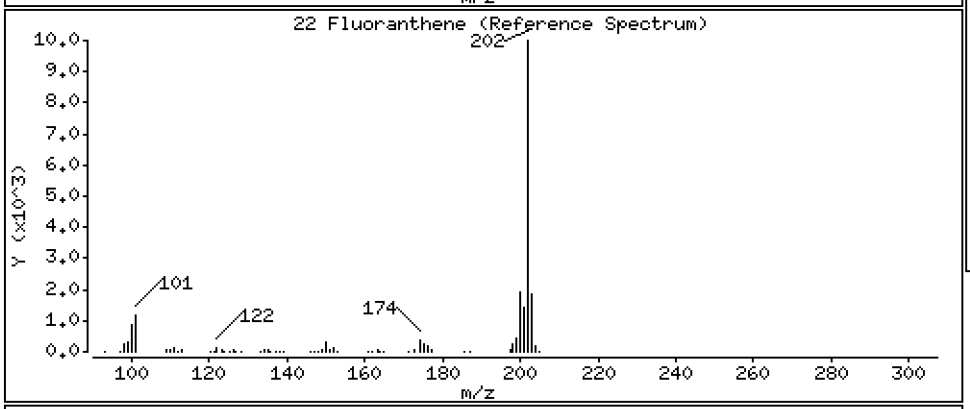
Concentration: 0.2295 ug/mL

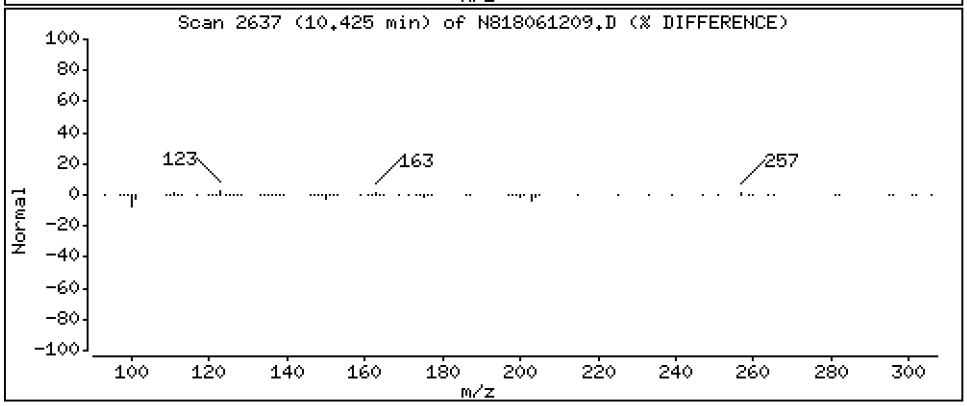












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

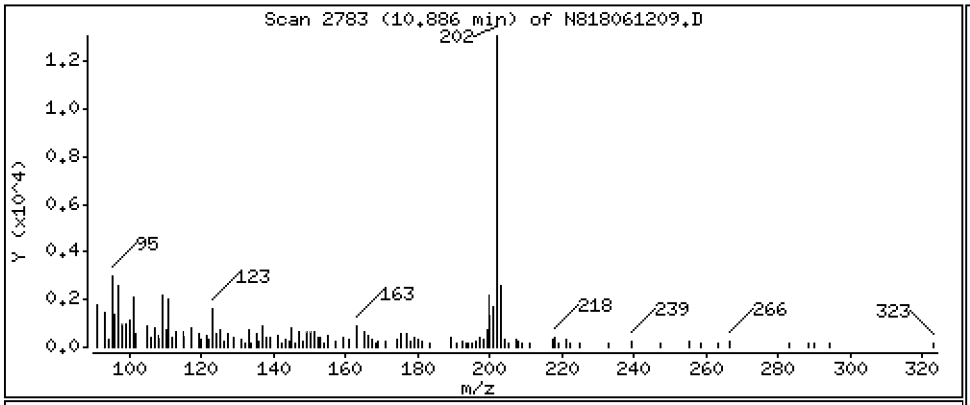
Operator: JZ

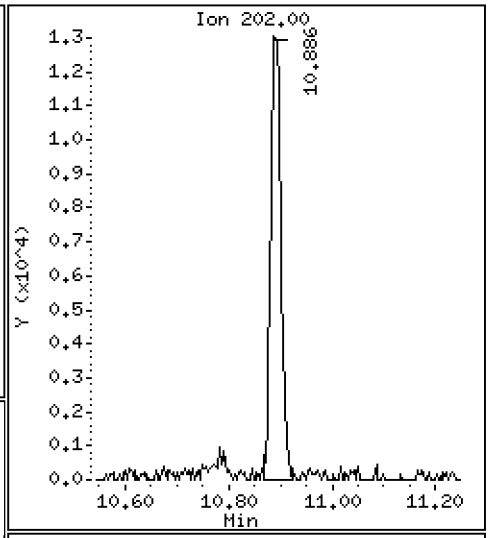
Column phase: Rxi-17sil

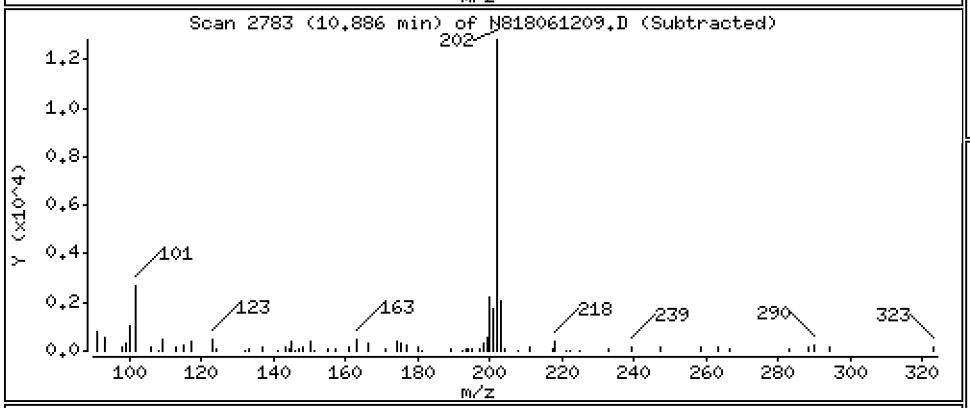
Column diameter: 0.25

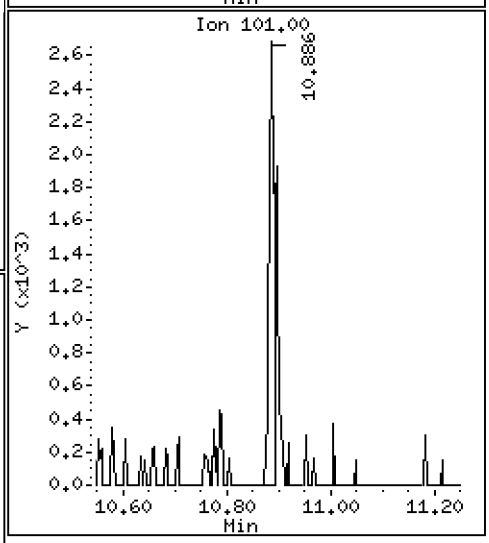
23 Pyrene

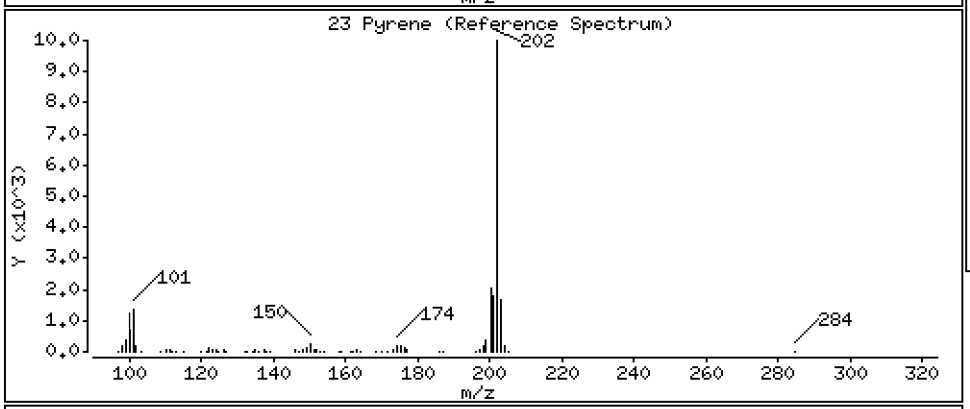
Concentration: 0.1956 ug/mL

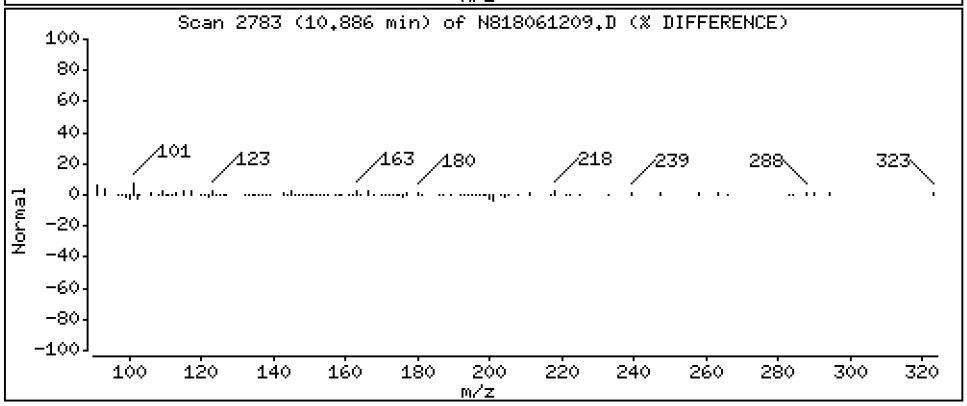












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

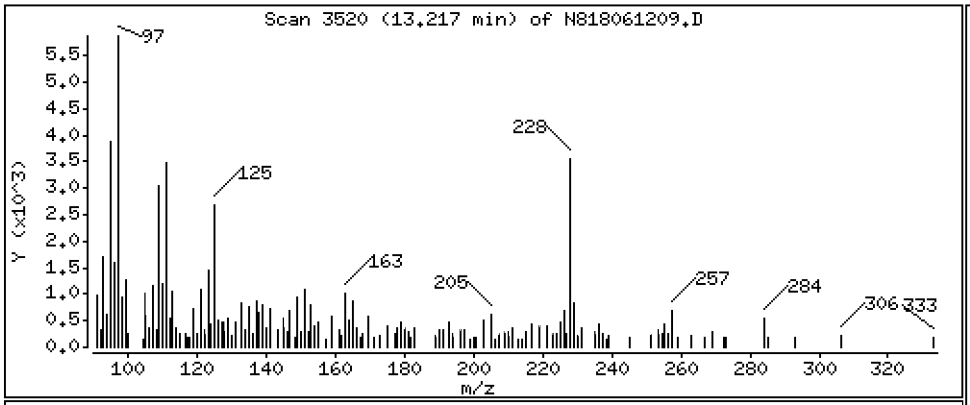
Operator: JZ

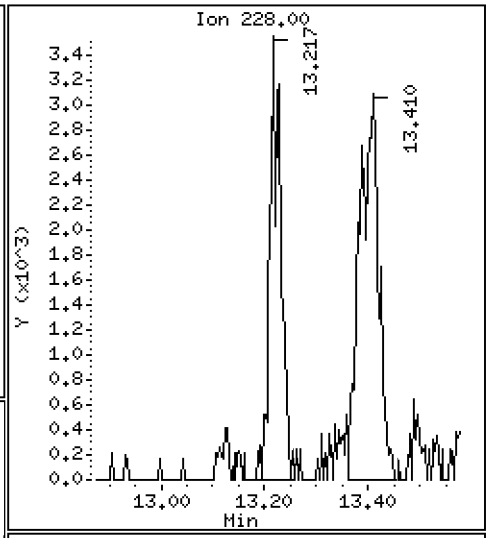
Column phase: Rxi-17sil

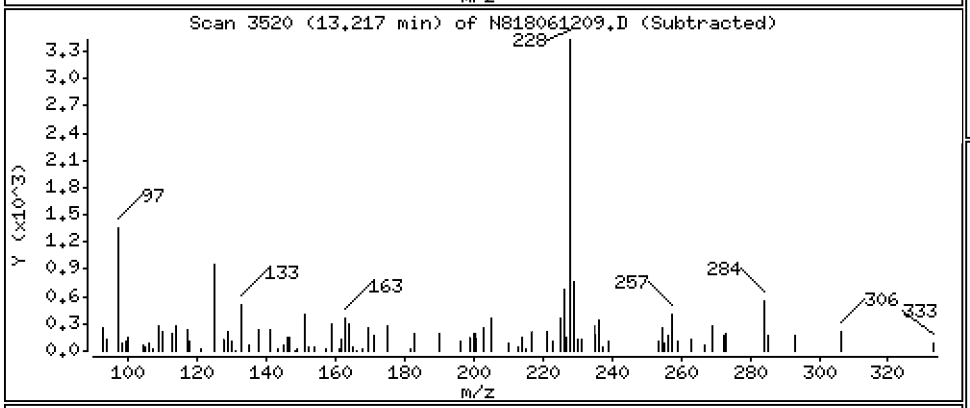
Column diameter: 0.25

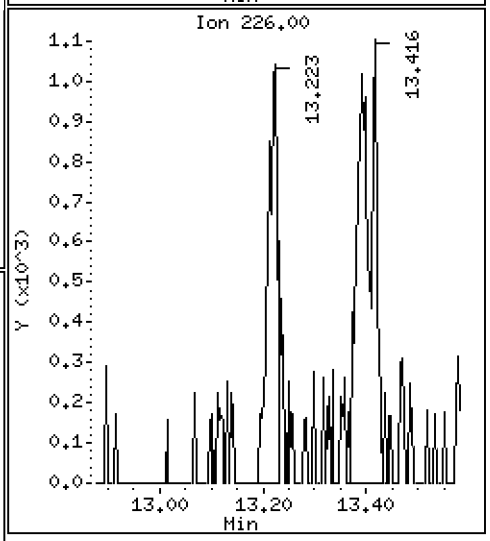
24 Benzo(a)anthracene

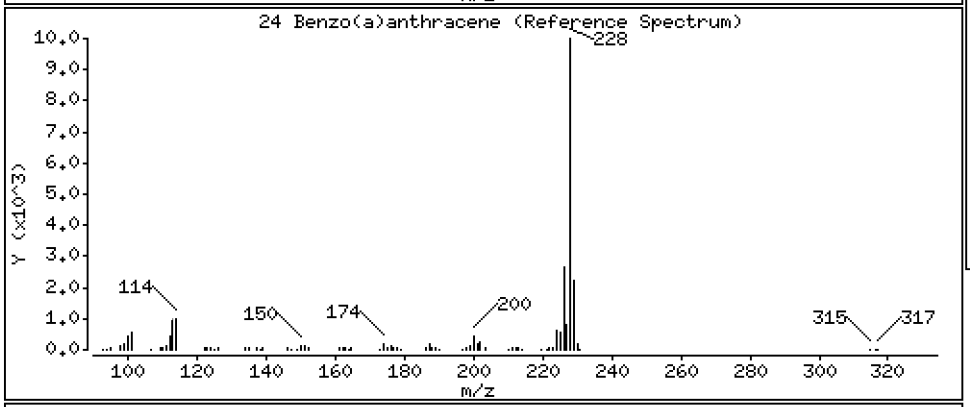
Concentration: 0.05873 ug/mL

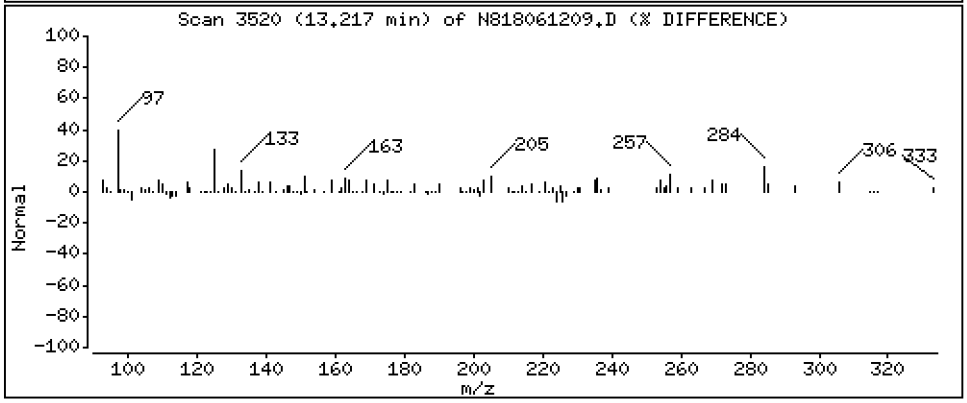












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

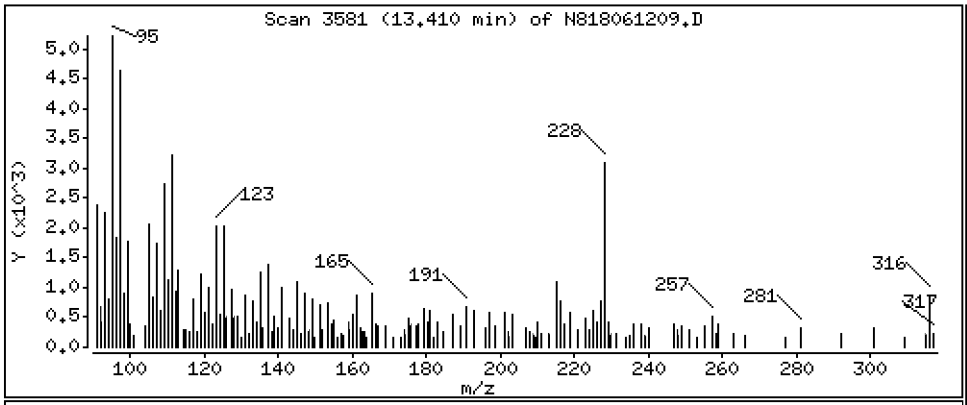
Operator: JZ

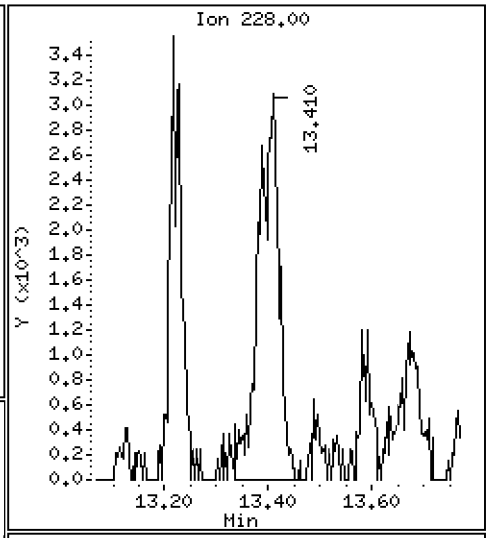
Column phase: Rxi-17sil

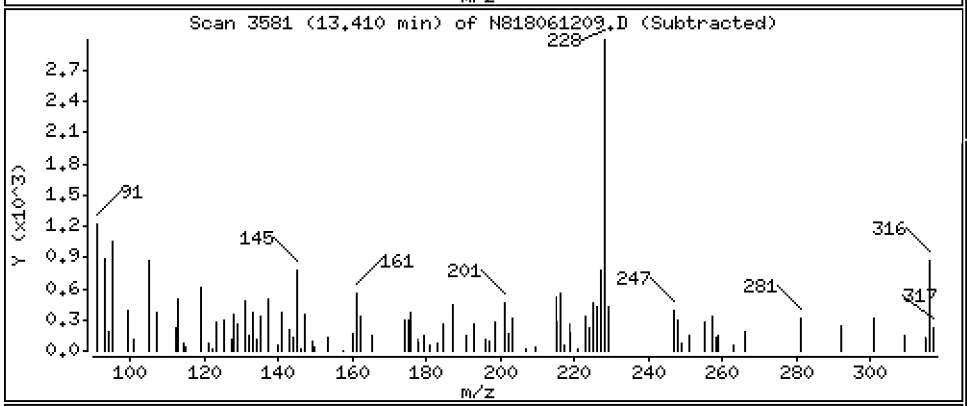
Column diameter: 0.25

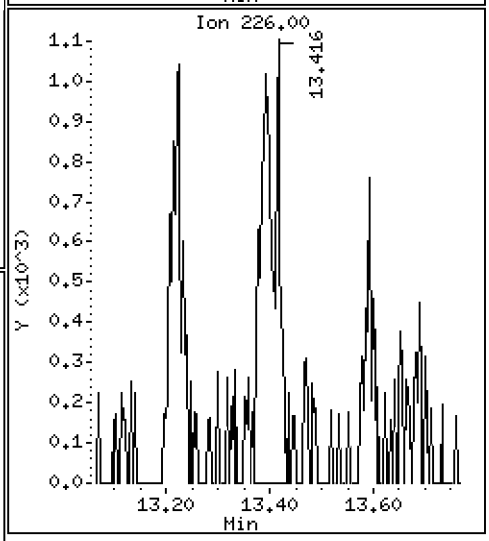
27 Chrysene

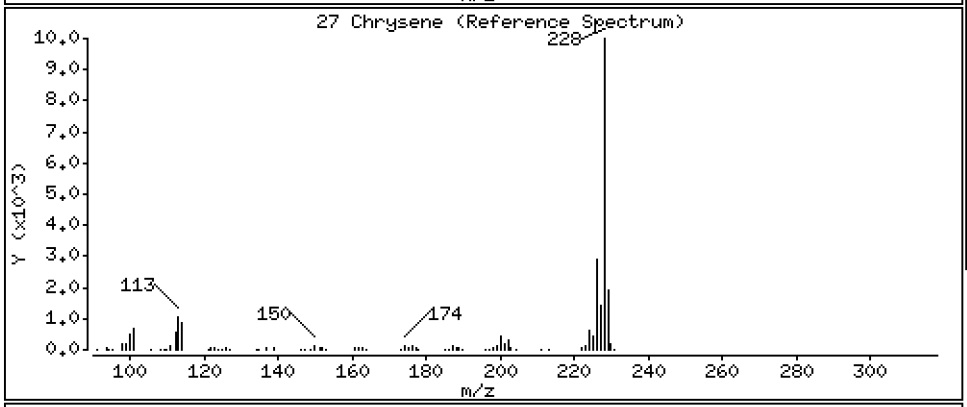
Concentration: 0.09137 ug/mL

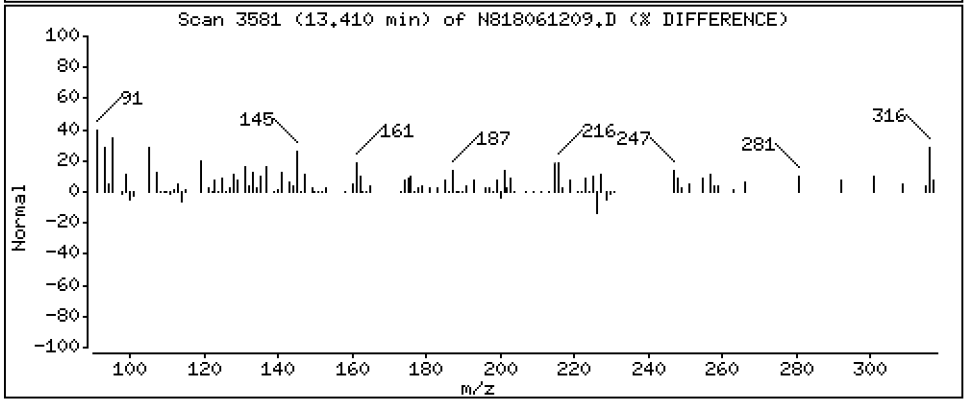












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

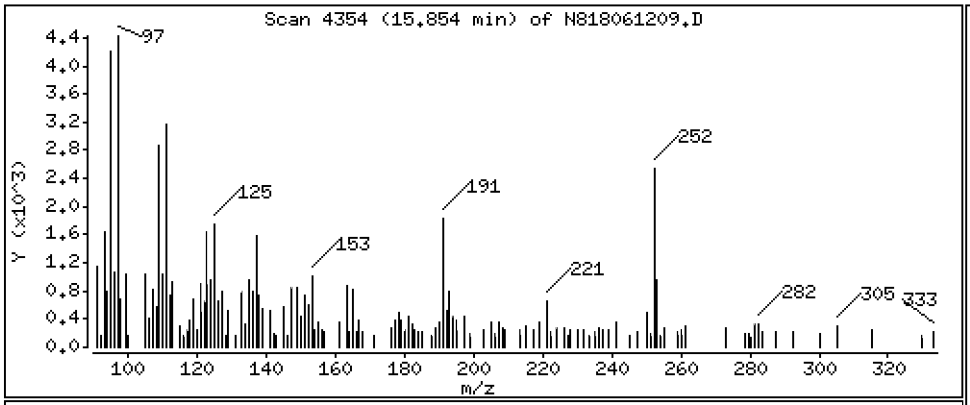
Operator: JZ

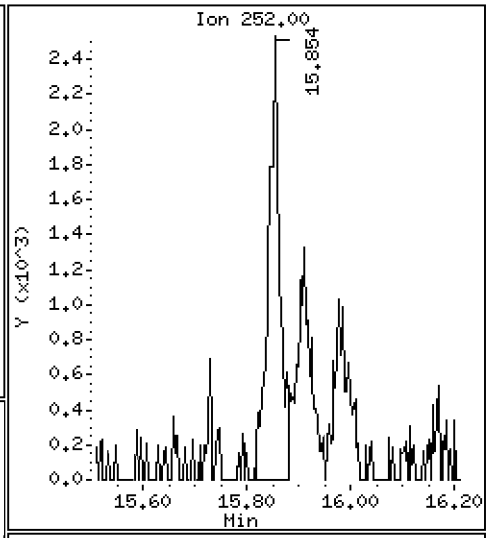
Column phase: Rxi-17sil

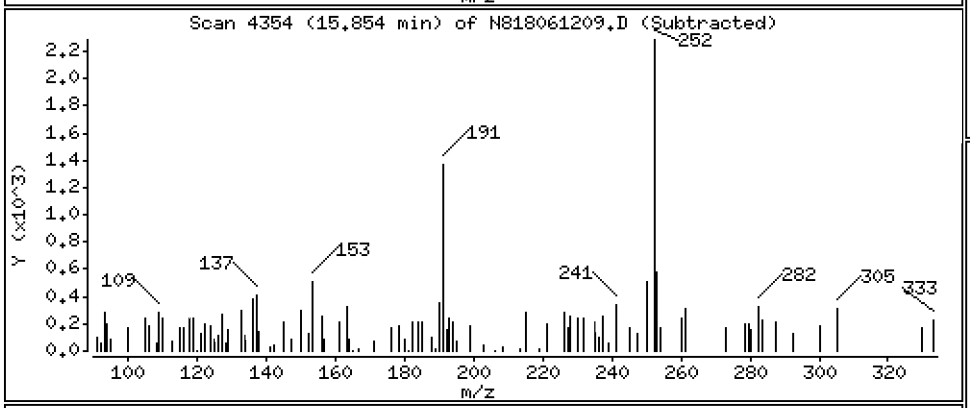
Column diameter: 0.25

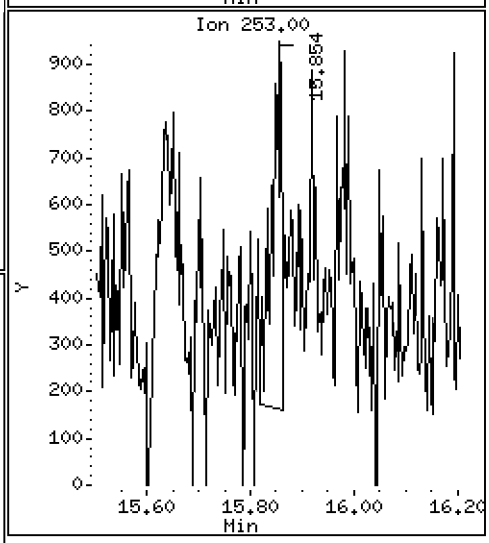
28 Benzo(b)fluoranthene

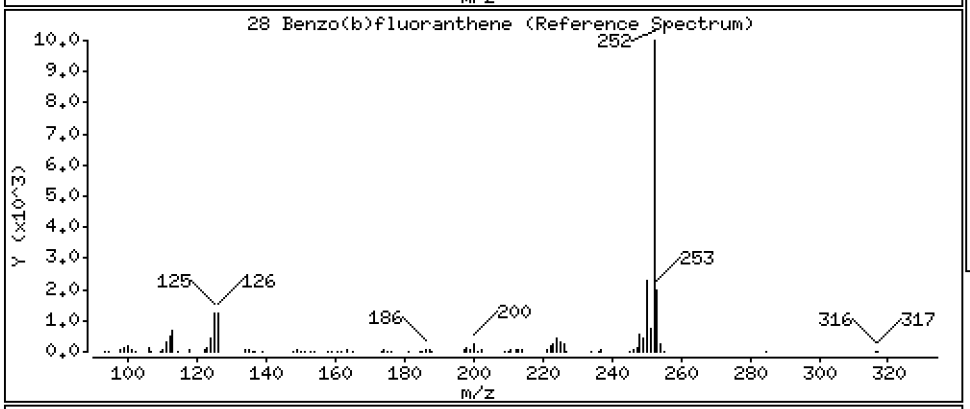
Concentration: 0.04186 ug/mL

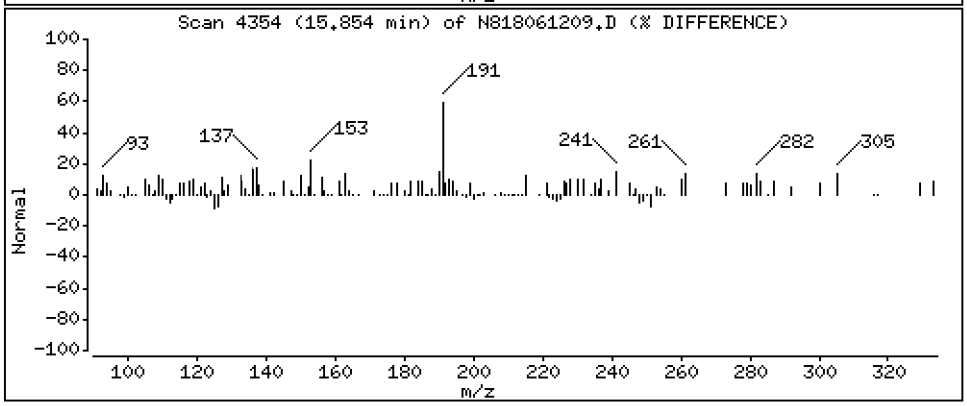












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

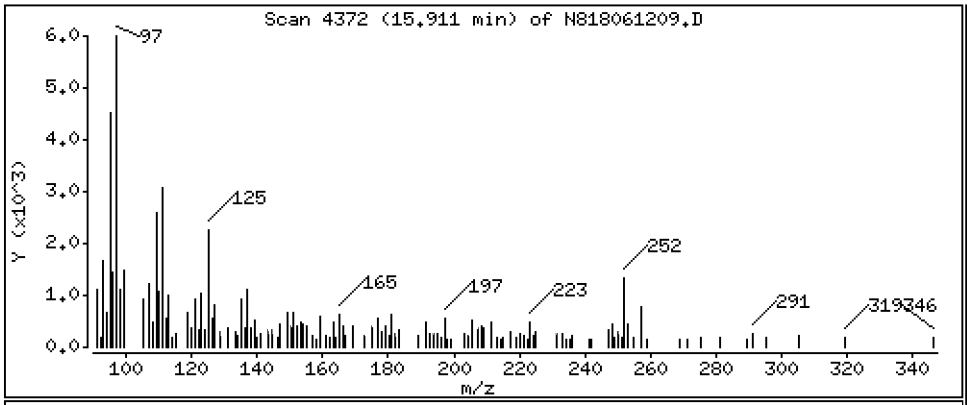
Operator: JZ

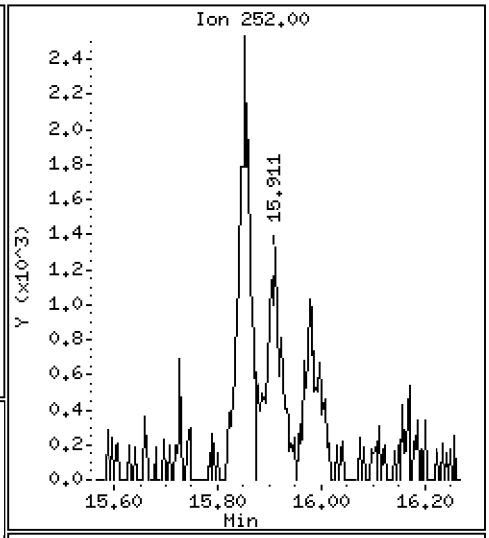
Column phase: Rxi-17sil

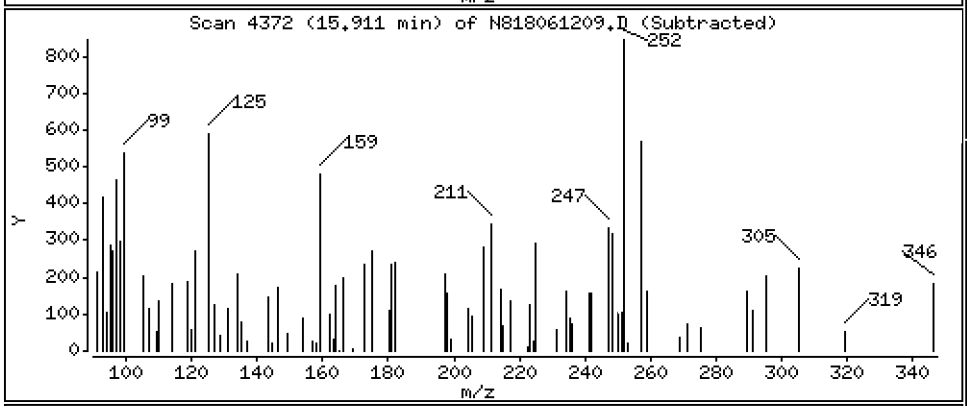
Column diameter: 0.25

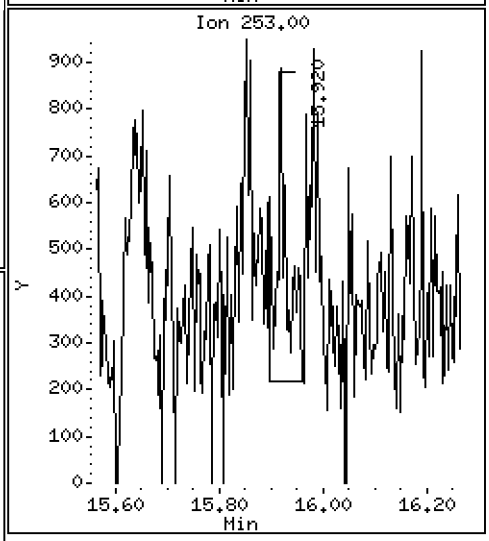
29 Benzo(k)fluoranthene

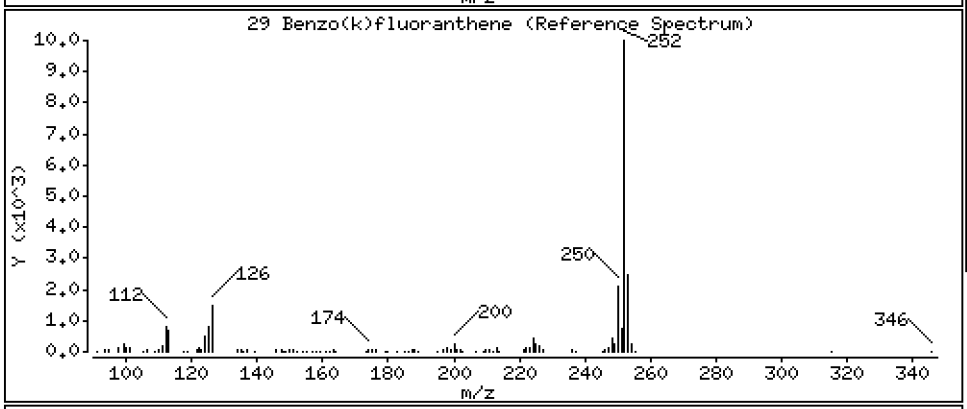
Concentration: 0.03028 ug/mL

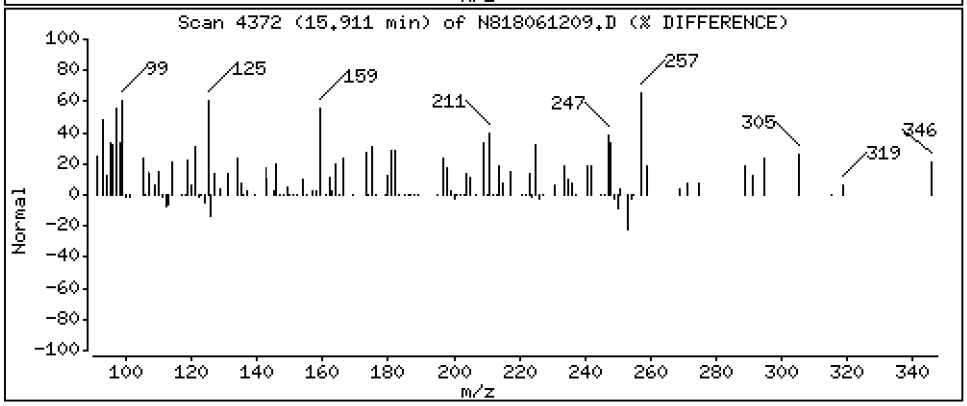












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061209.D

Date : 12-JUN-2018 18:04

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-09

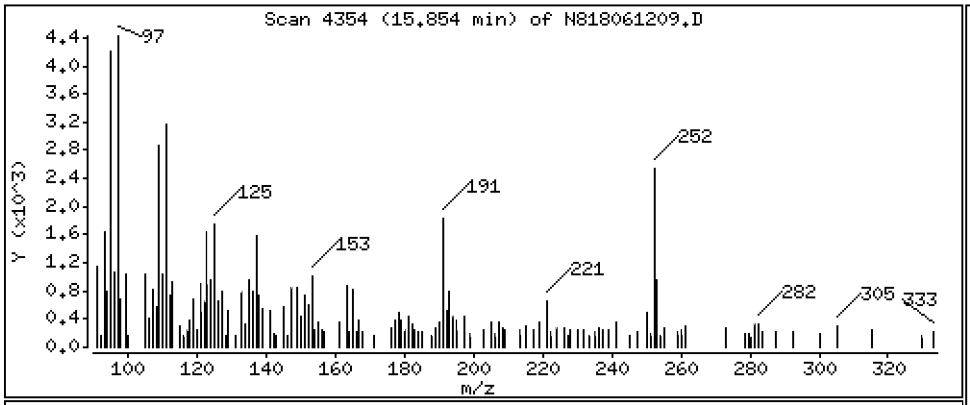
Operator: JZ

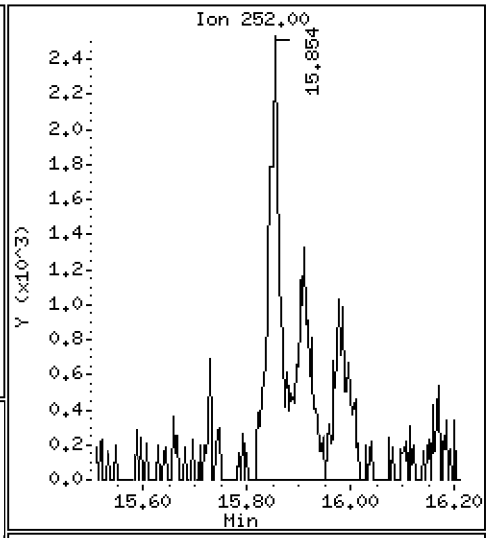
Column phase: Rxi-17sil

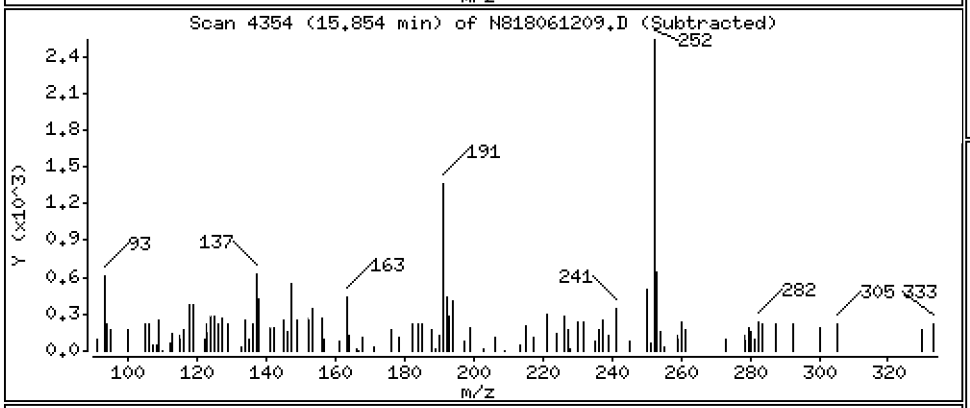
Column diameter: 0.25

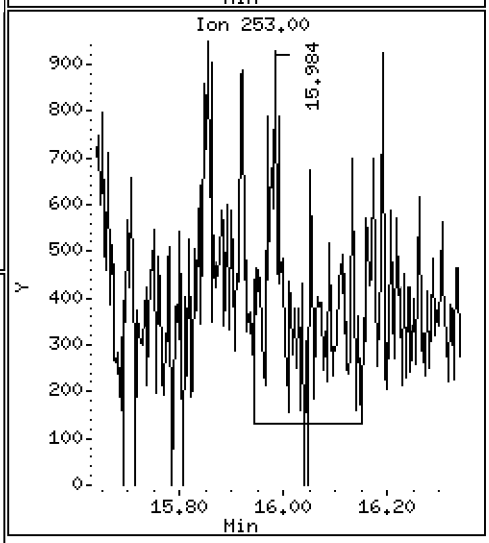
31 Total Benzofluoranthenes

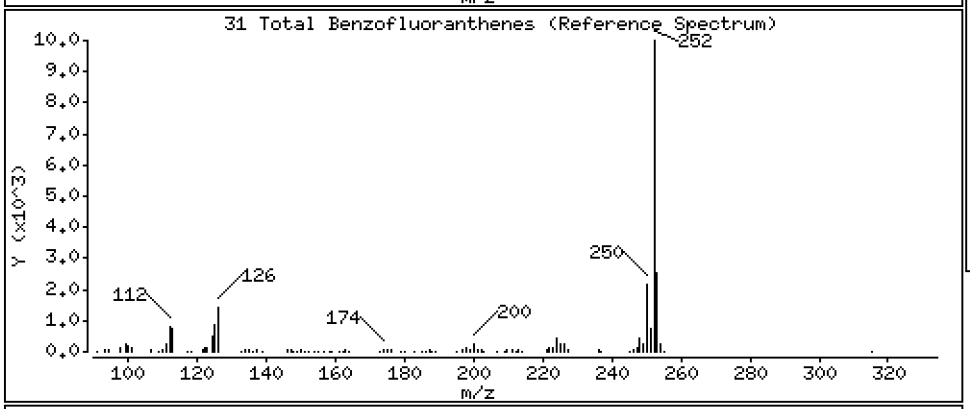
Concentration: 0.08937 ug/mL

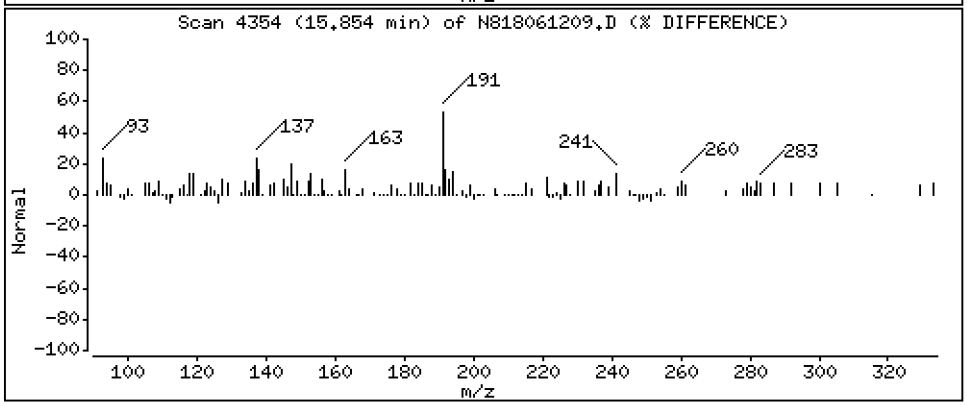












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061209.D
Lab Smp Id: 18E0243-09
Inj Date : 12-JUN-2018 18:04
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-09
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.448	4.455	(1.000)	171137	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.164)	73412	1.17593	1.176
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	89160	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	156164	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	10291	0.10752	0.1075
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	24752	0.22946	0.2295
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	181319	1.77353	1.774
	23 Pyrene	202	10.886	10.896	(0.816)	18481	0.19564	0.1956
	24 Benzo(a)anthracene	228	13.216	13.226	(0.991)	5364	0.05873	0.05873
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	157189	2.00000	
	27 Chrysene	228	13.409	13.419	(1.005)	8400	0.09137	0.09137(M)
	28 Benzo(b)fluoranthene	252	15.853	15.860	(0.927)	3992	0.04186	0.04186
	29 Benzo(k)fluoranthene	252	15.910	15.917	(0.931)	2839	0.03028	0.03028(M)
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.853	15.860	(0.927)	8312	0.08937	0.08937(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	150051	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	153036	2.17743	2.177
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061209.D
Lab Smp Id: 18E0243-09
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	171137	40.06
10 Acenaphthene-d10	65789	32895	131578	89160	35.52
15 Phenanthrene-d10	128644	64322	257288	156164	21.39
25 Chrysene-d12	166669	83335	333338	157189	-5.69
33 Perylene-d12	140483	70242	280966	150051	6.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.15
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061209.D

Lab ID: 18E0243-09
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 18:04

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

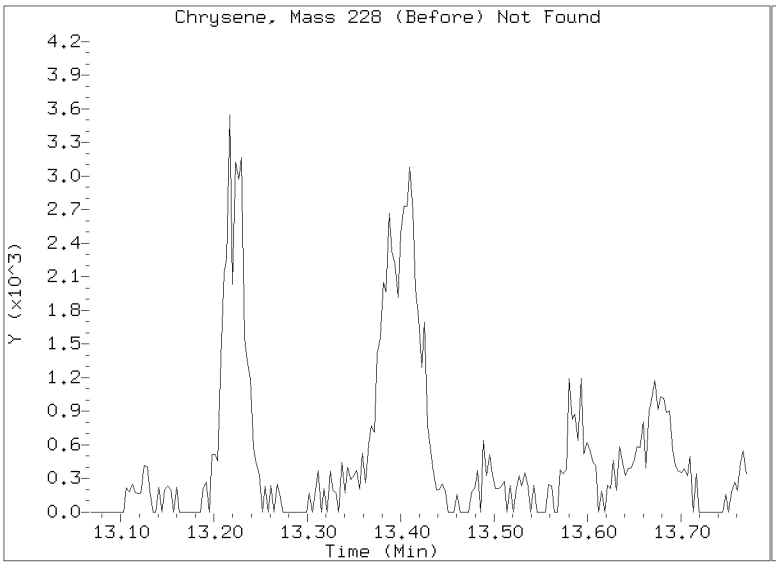
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

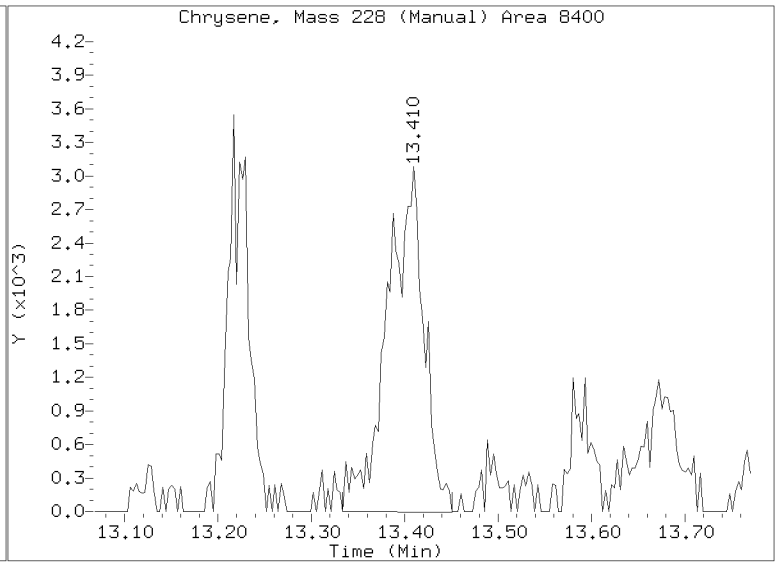
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

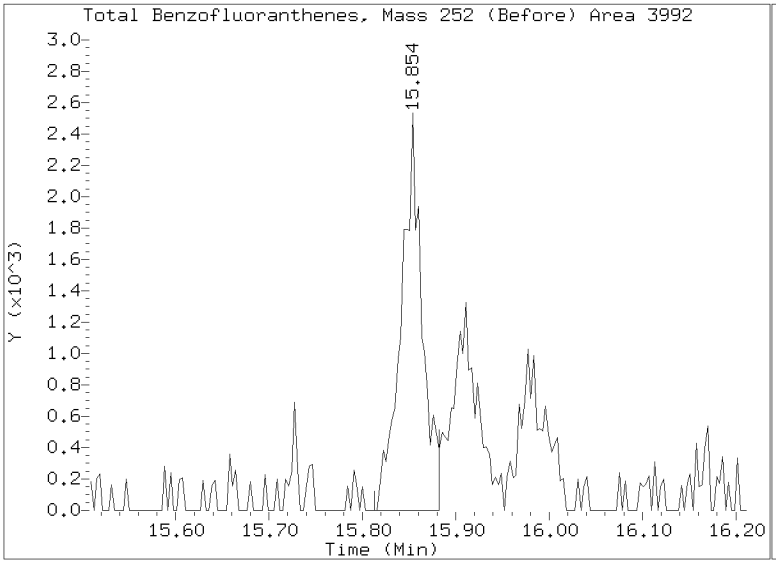
* Only compounds listed in the work order have been verified by the analyst *

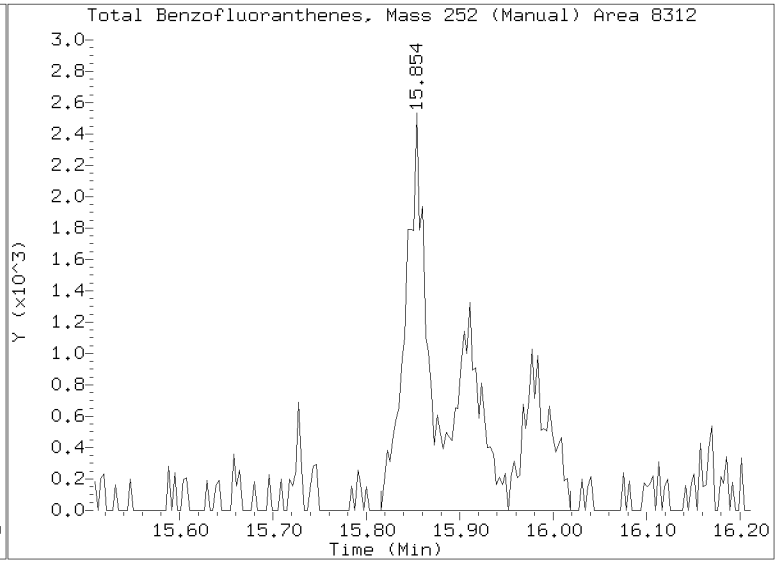
Quant Ion Manual Peak Adjustment Report

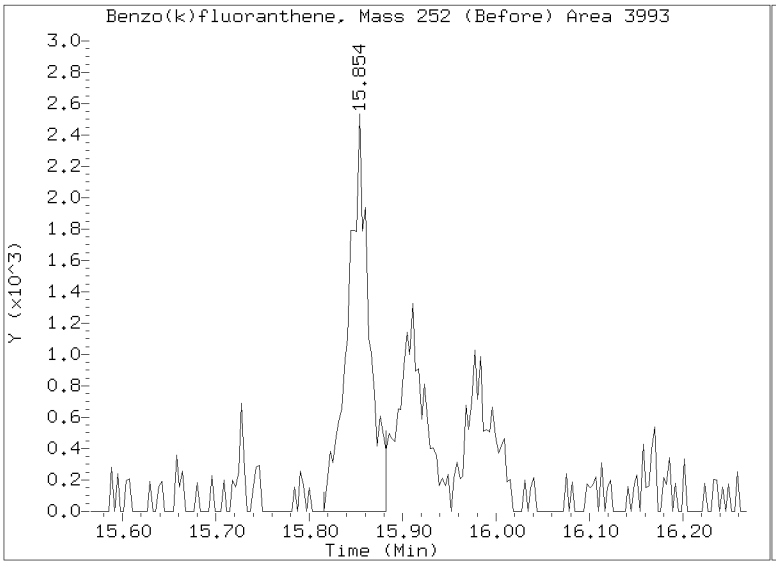
Datafile: //target/share/chem3/nt8.i/20180612.b/N818061209.D
Injection Date: 12-JUN-2018 18:04
Lab ID:18E0243-09 Client ID:
Report Date: 06/13/2018 11:27

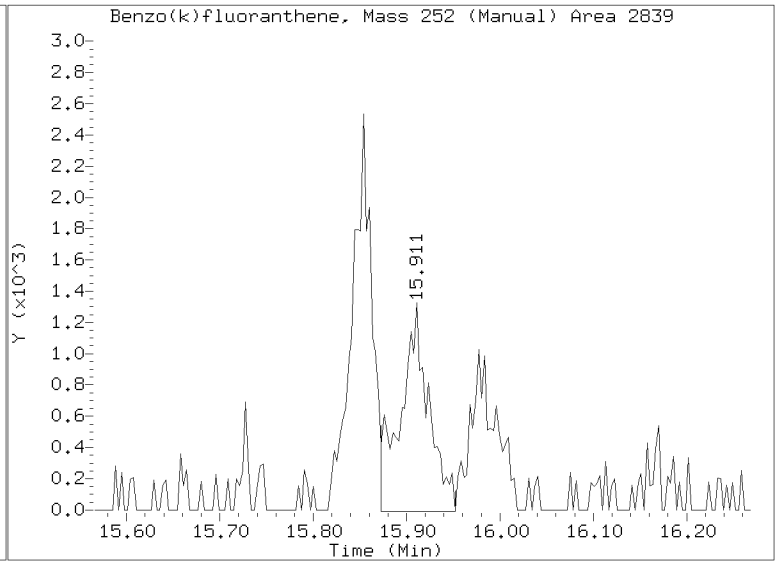












LDW18-A04-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-10	SDG:	18E0231
Sampled:	05/16/18 11:24	Prepared:	06/05/18 12:40	File ID:	N818061210.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 18:31
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.07 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.97	U	0.53	4.97
218-01-9	Chrysene	1	4.97	U	0.48	4.97
205-99-2	Benzo(b)fluoranthene	1	1.52	J	1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	4.97	U	0.71	4.97
50-32-8	Benzo(a)pyrene	1	4.97	U	0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.97	U	0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	4.97	U	1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.96	59.4	39.9	20 - 130	
Dibenzo[a,h]anthracene-d14	148.96	92.8	62.3	20 - 130	
Fluoranthene-d10	148.96	75.3	50.5	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

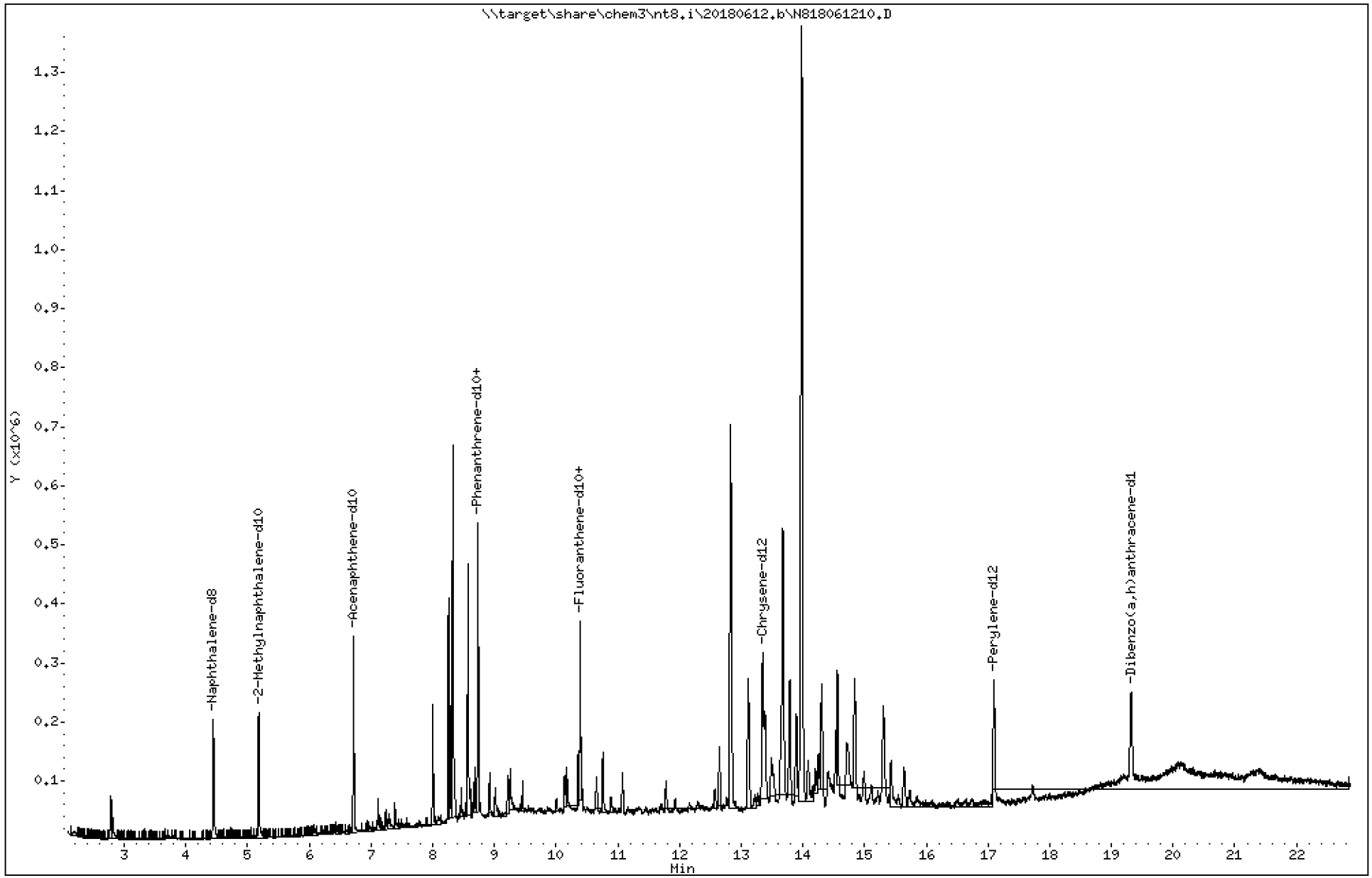
Instrument: nt8.i

Sample Info: 18E0243-10

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-10

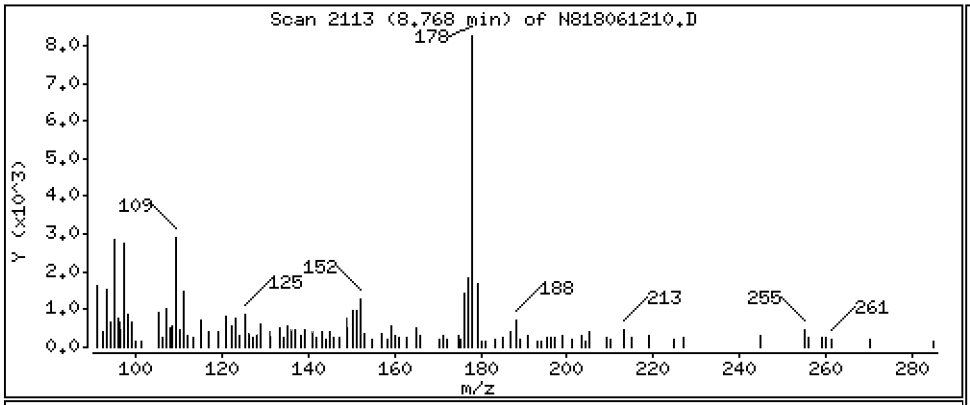
Operator: JZ

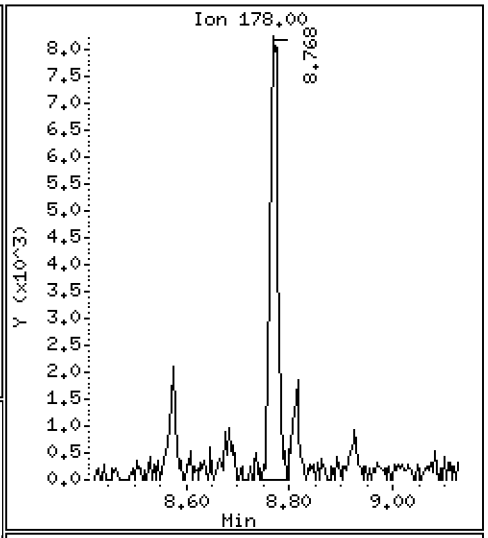
Column phase: Rxi-17sil

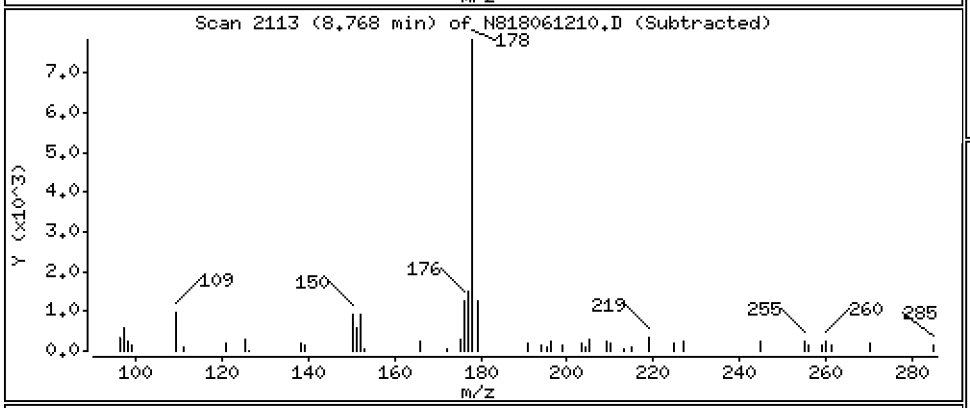
Column diameter: 0.25

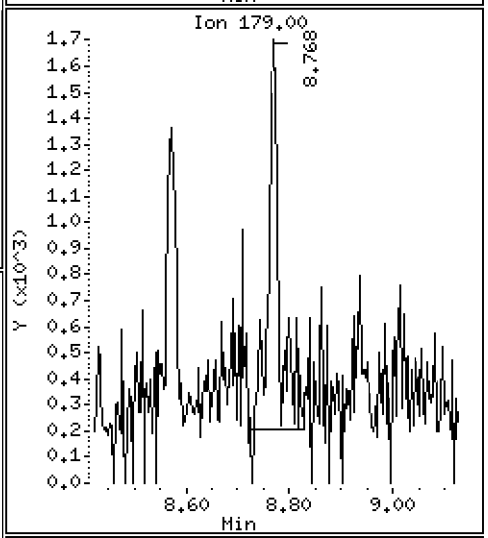
16 Phenanthrene

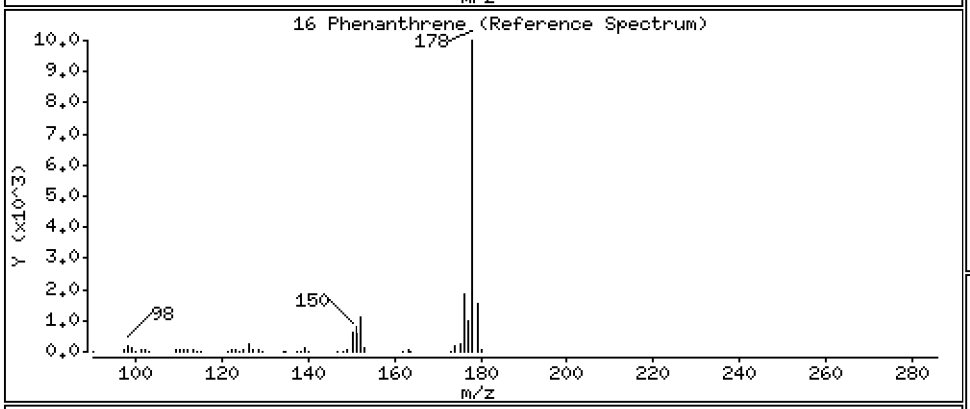
Concentration: 0.09132 ug/mL

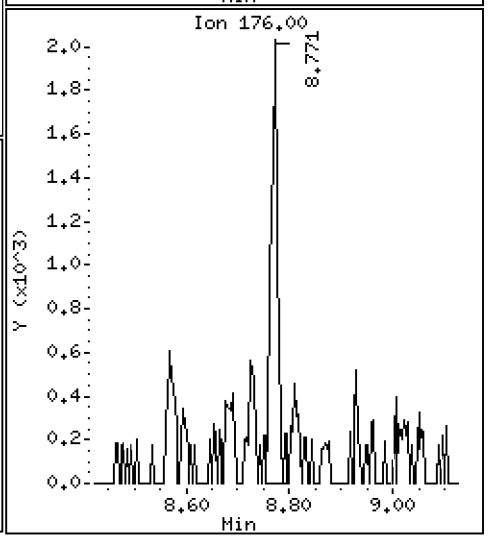


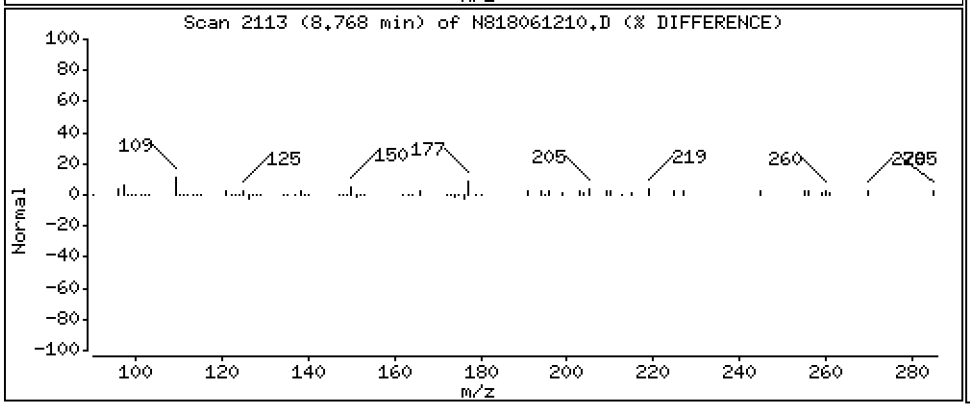












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-10

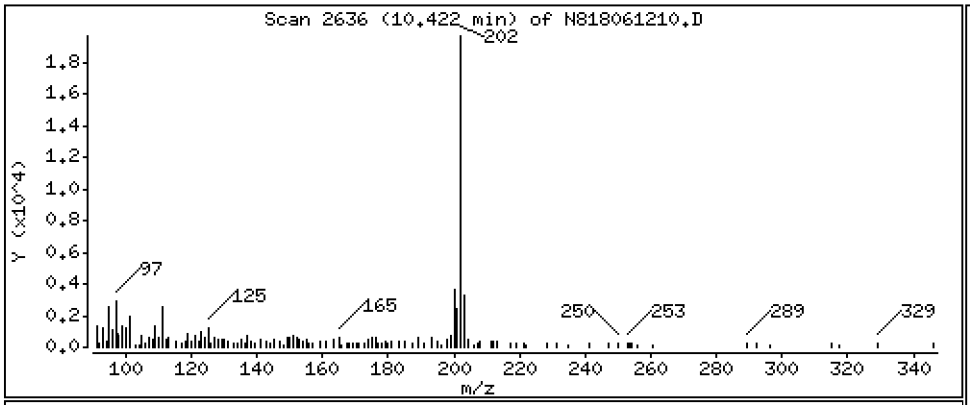
Operator: JZ

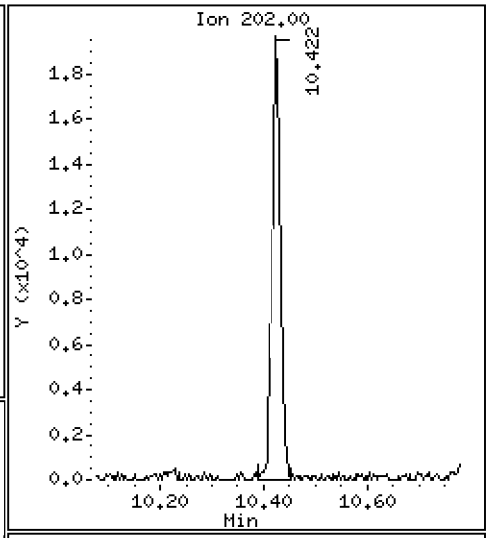
Column phase: Rxi-17sil

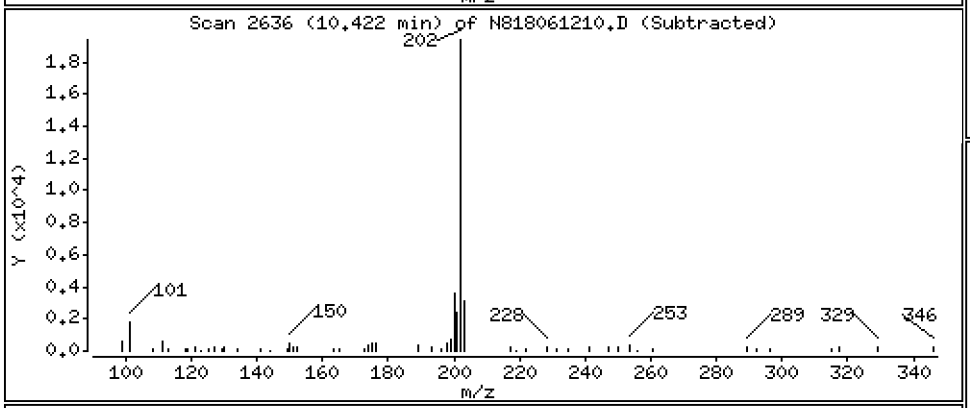
Column diameter: 0.25

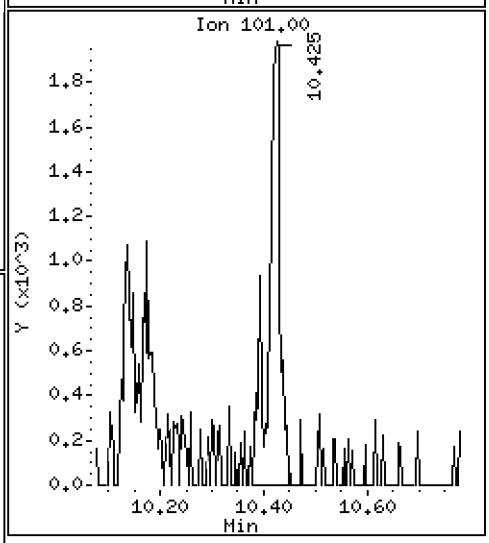
22 Fluoranthene

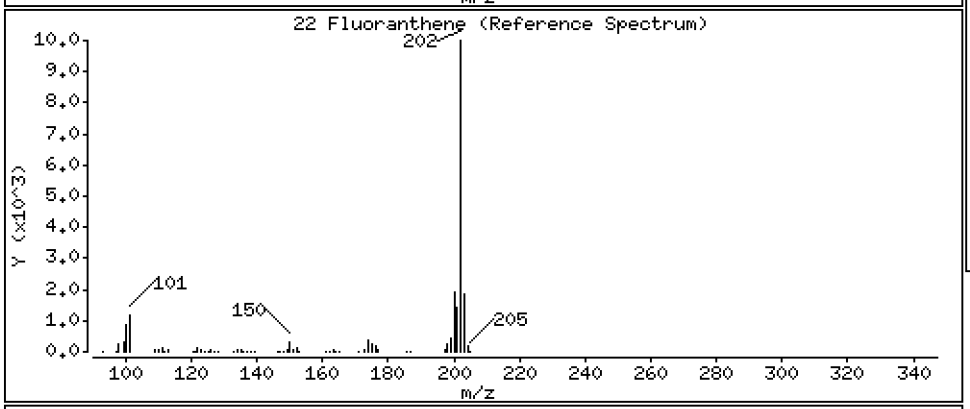
Concentration: 0.1970 ug/mL

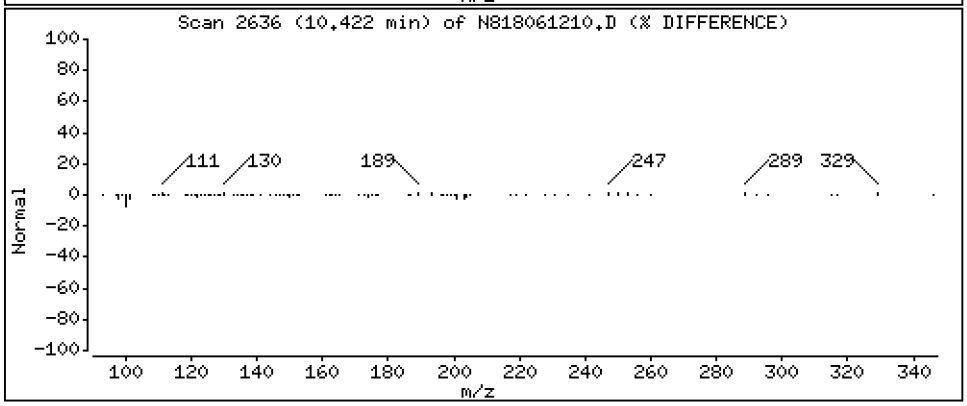












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-10

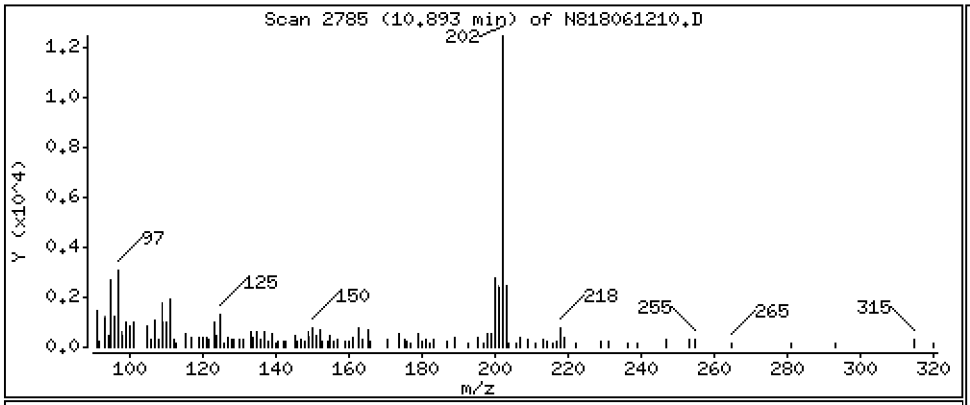
Operator: JZ

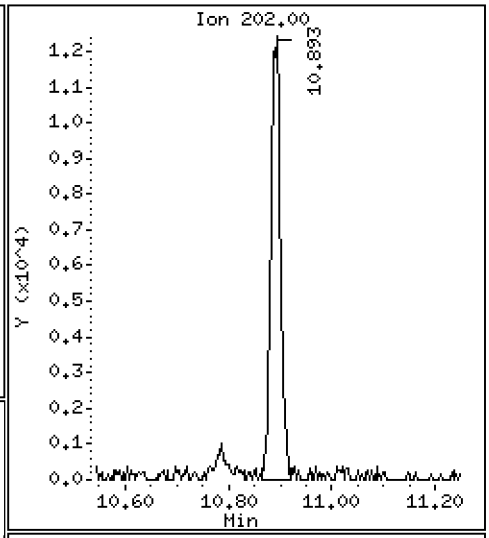
Column phase: Rxi-17sil

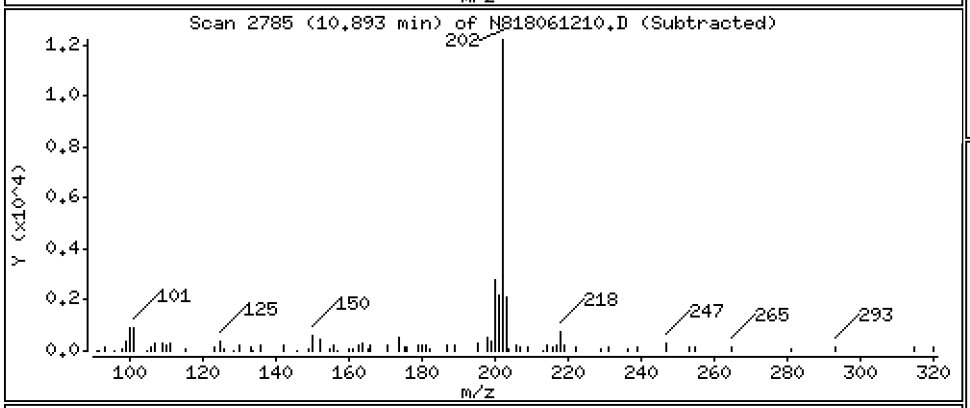
Column diameter: 0.25

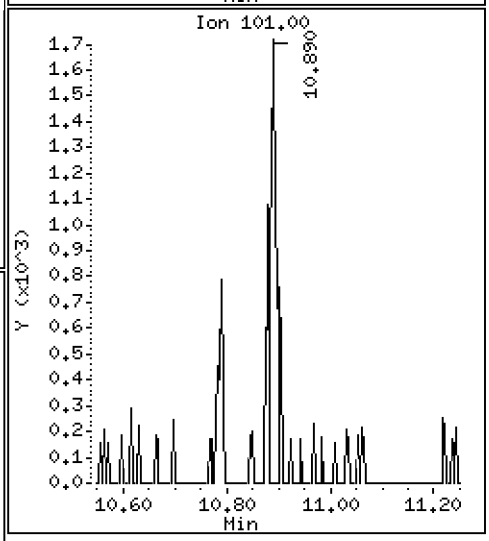
23 Pyrene

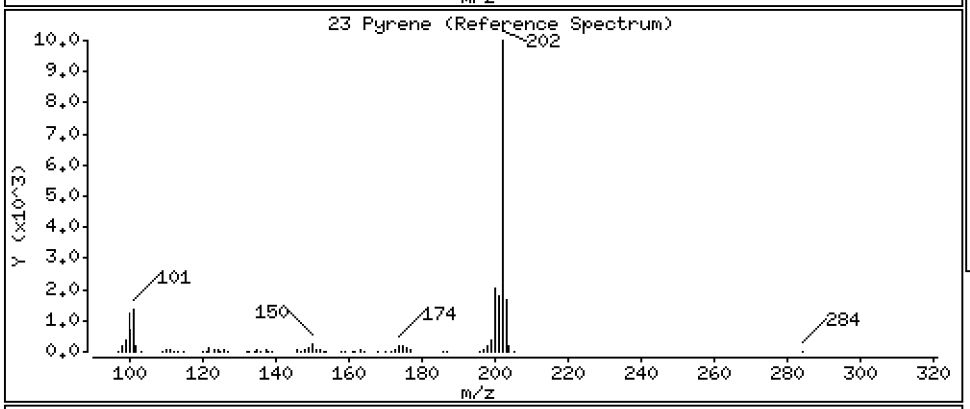
Concentration: 0.1642 ug/mL

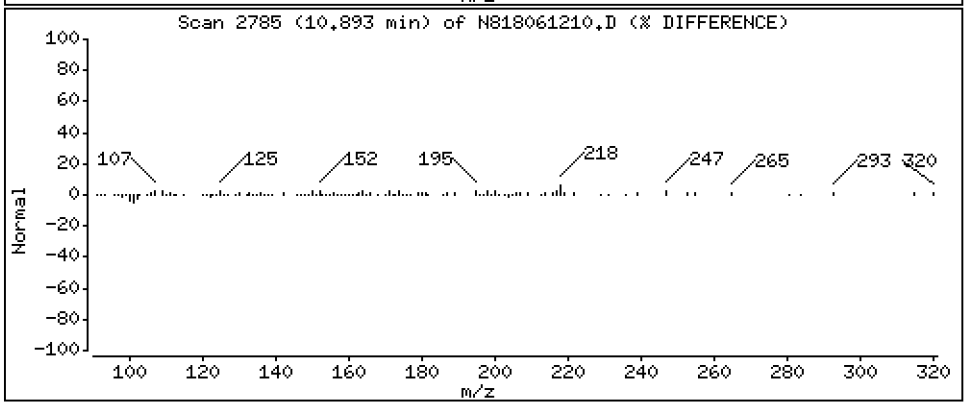












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-10

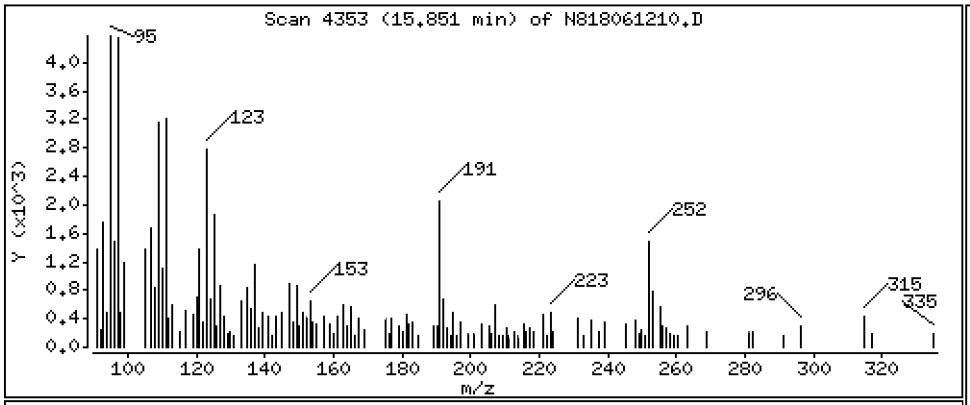
Operator: JZ

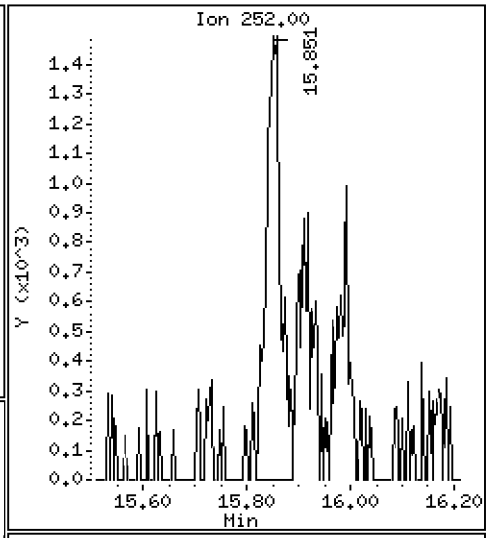
Column phase: Rxi-17sil

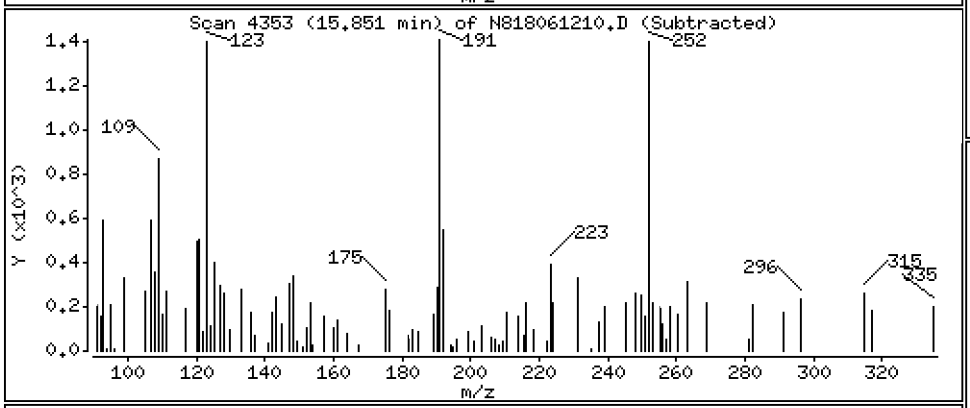
Column diameter: 0.25

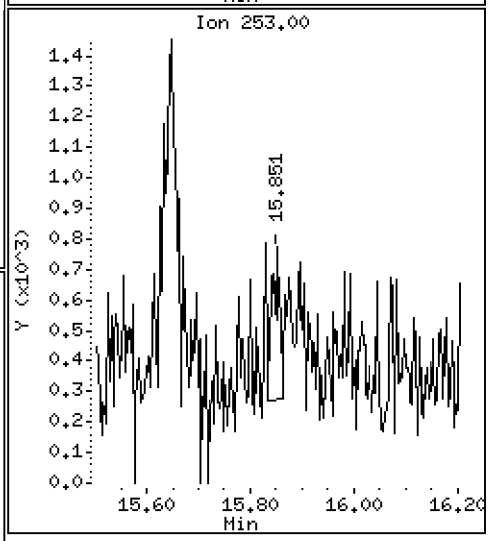
28 Benzo(b)fluoranthene

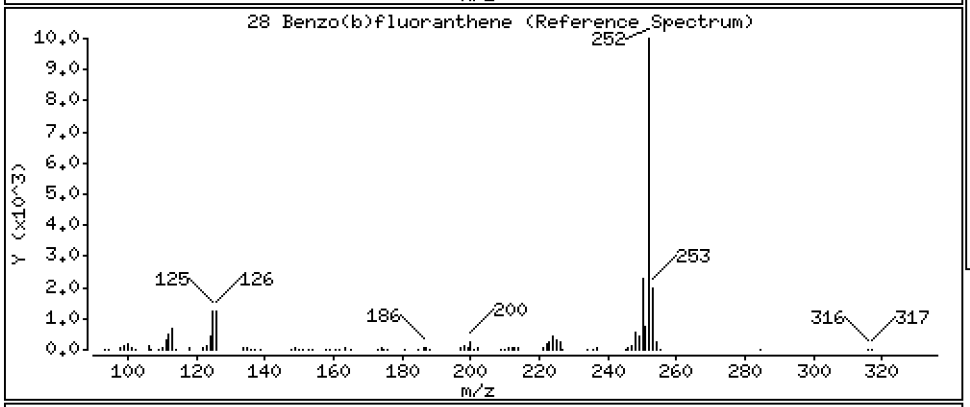
Concentration: 0.03067 ug/mL

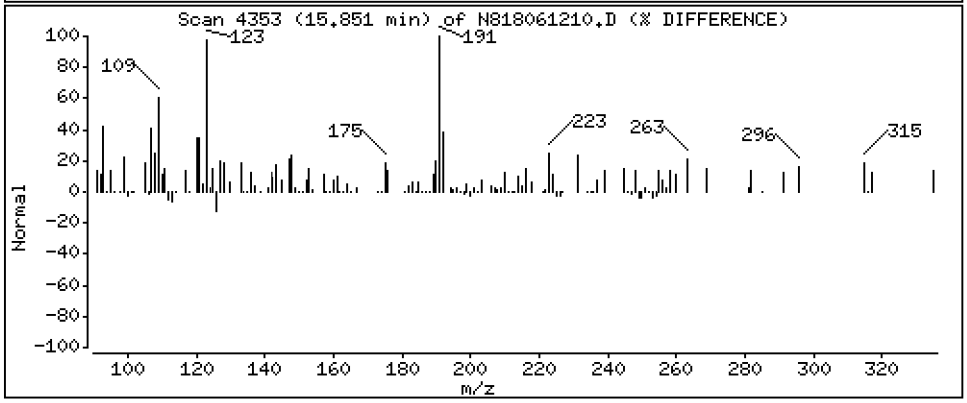












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061210.D

Date : 12-JUN-2018 18:31

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-10

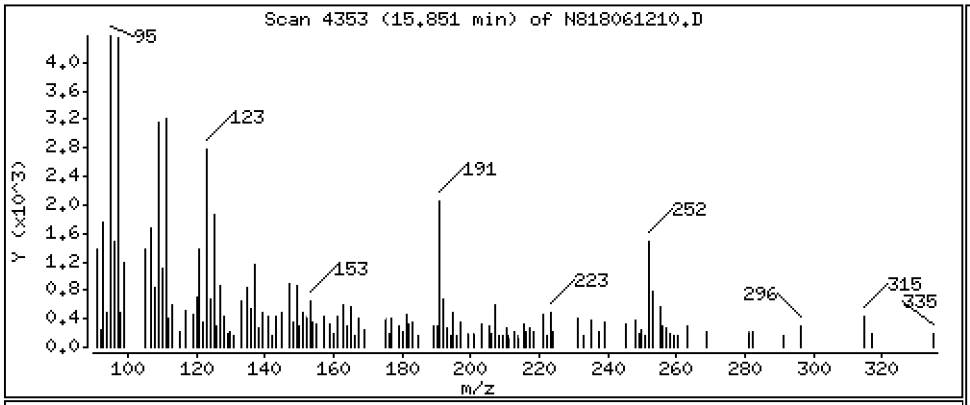
Operator: JZ

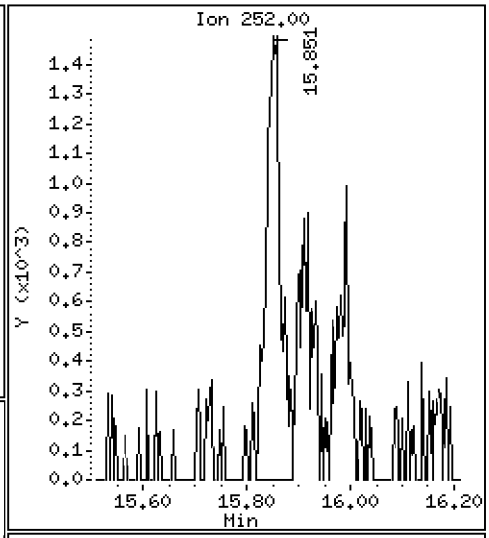
Column phase: Rxi-17sil

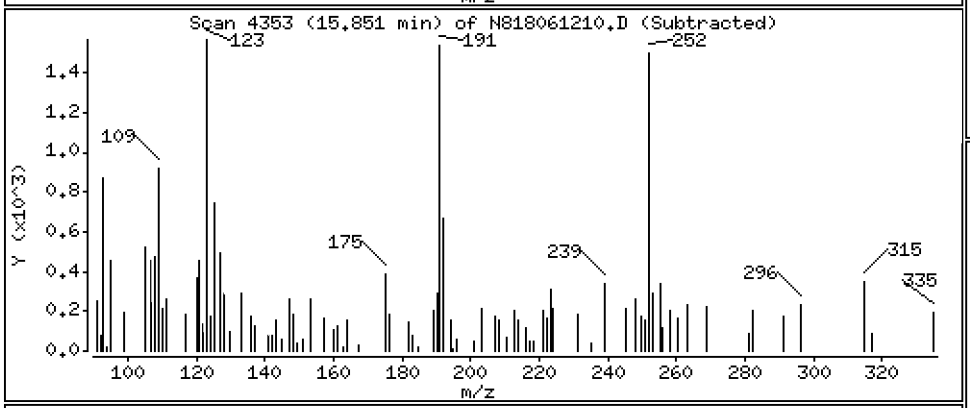
Column diameter: 0.25

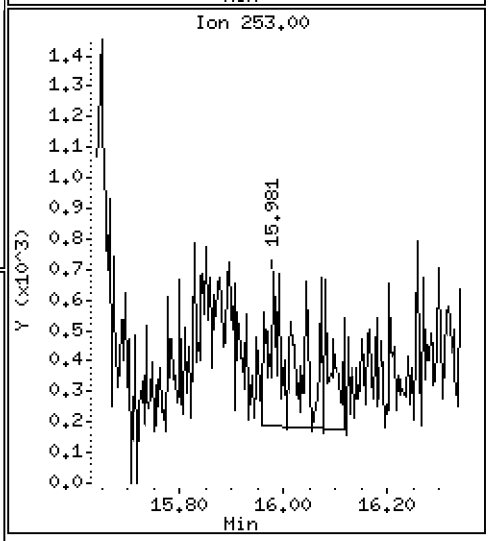
31 Total Benzofluoranthenes

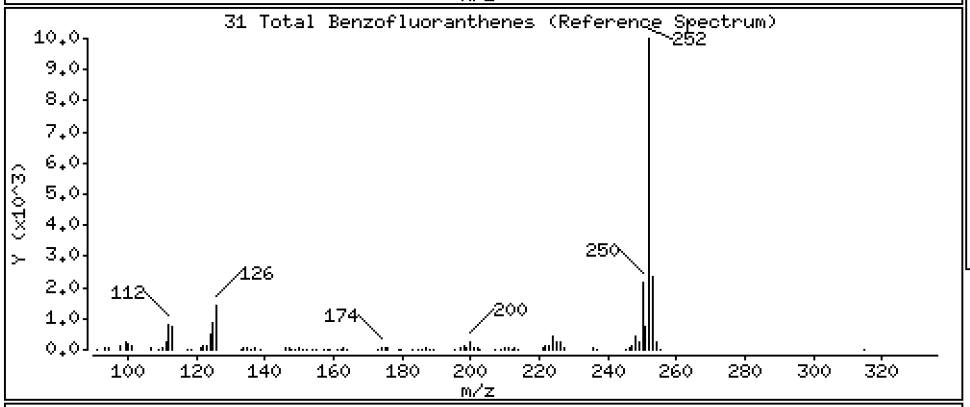
Concentration: 0.06237 ug/mL

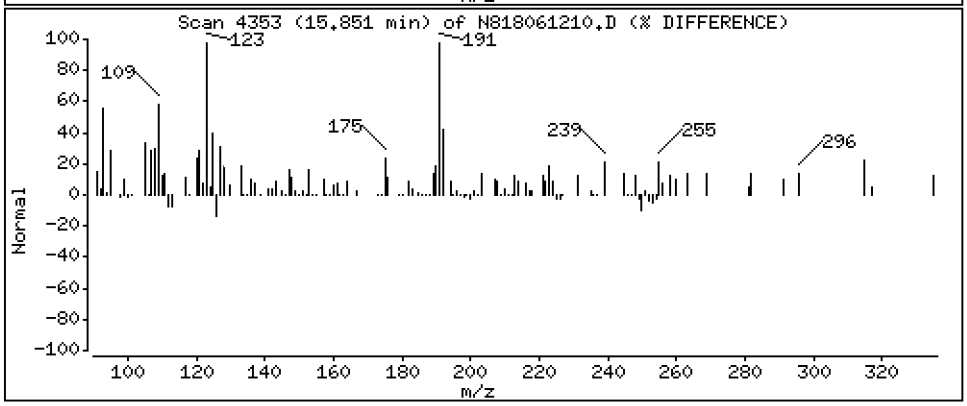












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061210.D
Lab Smp Id: 18E0243-10
Inj Date : 12-JUN-2018 18:31
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-10
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	175165	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.166)	76411	1.19582	1.196
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	90403	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	160361	2.00000	
	16 Phenanthrene	178	8.768	8.774	(1.004)	8976	0.09132	0.09132
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.421	10.428	(1.193)	21827	0.19705	0.1970
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	159119	1.51565	1.516
	23 Pyrene	202	10.892	10.896	(0.816)	16008	0.16421	0.1642
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	162214	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	15.850	15.860	(0.927)	3108	0.03067	0.03067
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.850	15.860	(0.927)	6163	0.06237	0.06237(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	159435	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	139522	1.86831	1.868
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061210.D
Lab Smp Id: 18E0243-10
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	175165	43.35
10 Acenaphthene-d10	65789	32895	131578	90403	37.41
15 Phenanthrene-d10	128644	64322	257288	160361	24.65
25 Chrysene-d12	166669	83335	333338	162214	-2.67
33 Perylene-d12	140483	70242	280966	159435	13.49

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.29
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061210.D

Lab ID: 18E0243-10
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 18:31

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

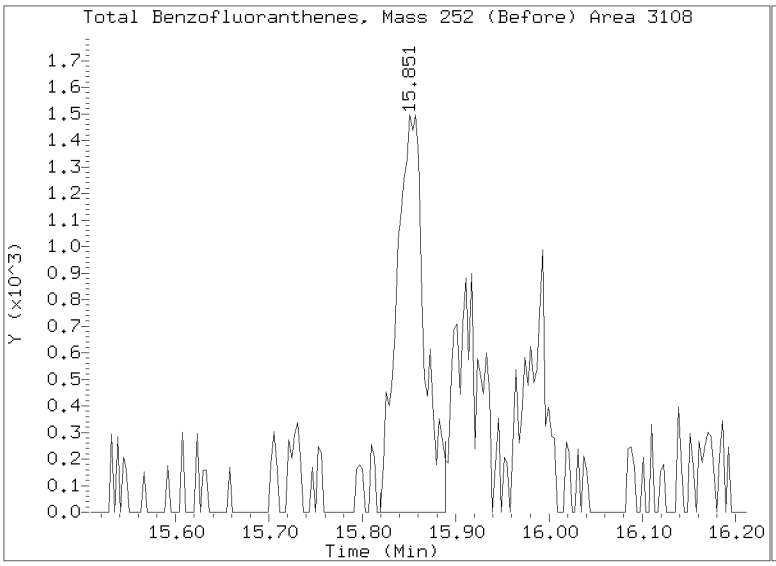
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

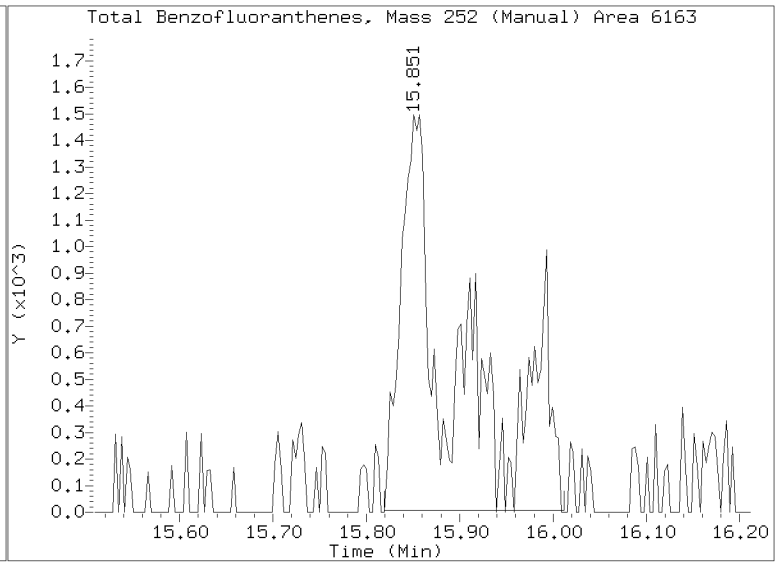
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061210.D
Injection Date: 12-JUN-2018 18:31
Lab ID:18E0243-10 Client ID:
Report Date: 06/13/2018 11:27





LDW18-A03-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-11	SDG:	18E0231
Sampled:	05/16/18 12:12	Prepared:	06/05/18 12:40	File ID:	N818061211.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 18:58
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.06 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	36.6		0.53	4.97
218-01-9	Chrysene	1	38.4		0.49	4.97
205-99-2	Benzo(b)fluoranthene	1	26.4		1.00	4.97
207-08-9	Benzo(k)fluoranthene	1	16.8		0.71	4.97
50-32-8	Benzo(a)pyrene	1	39.9		0.91	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	21.3		0.57	4.97
53-70-3	Dibenzo(a,h)anthracene	1	6.12		1.52	4.97

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.11	65.4	43.8	20 - 130	
Dibenzo[a,h]anthracene-d14	149.11	102	68.5	20 - 130	
Fluoranthene-d10	149.11	88.4	59.3	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

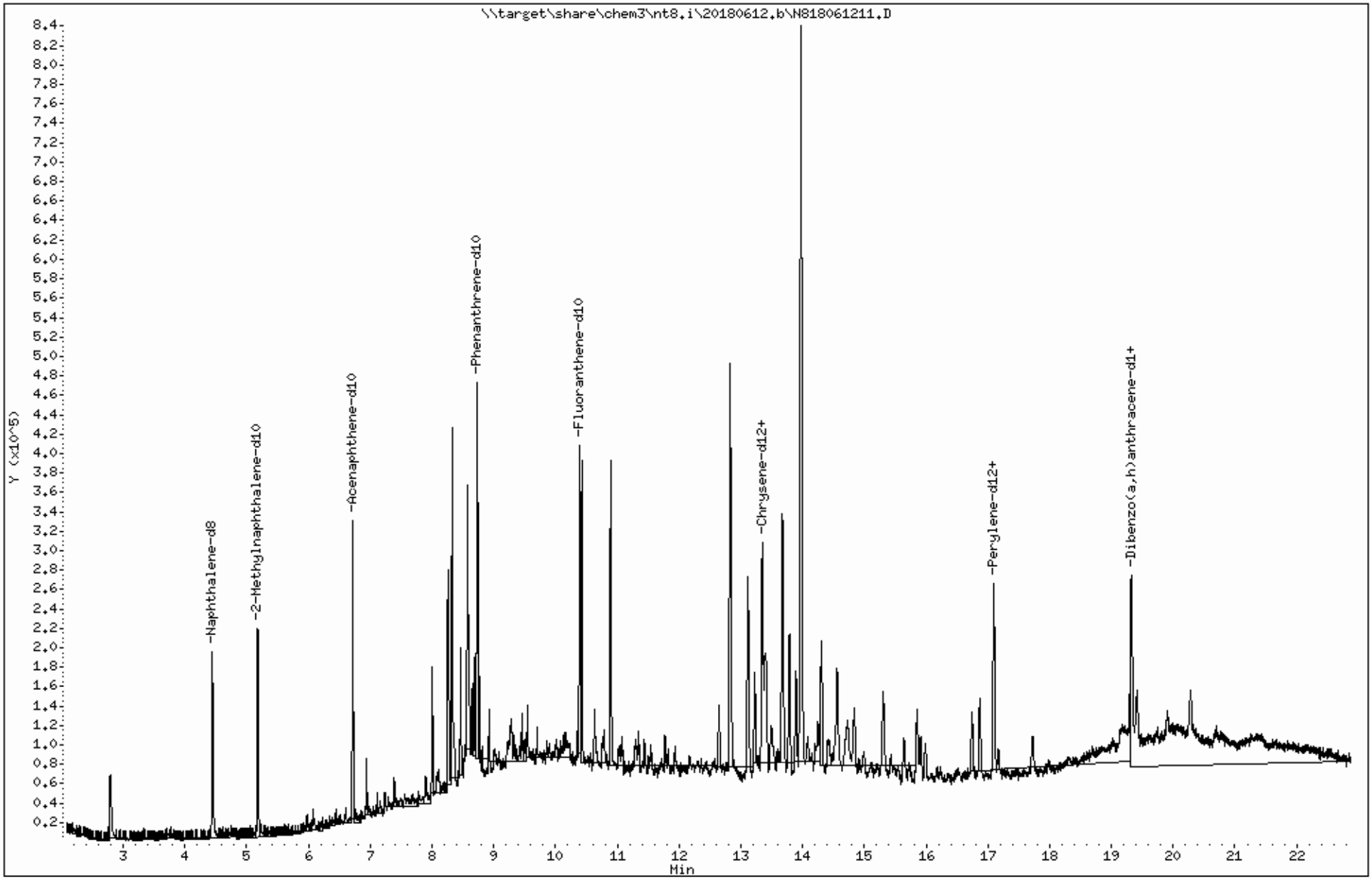
Instrument: nt8.i

Sample Info: 18E0243-11

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

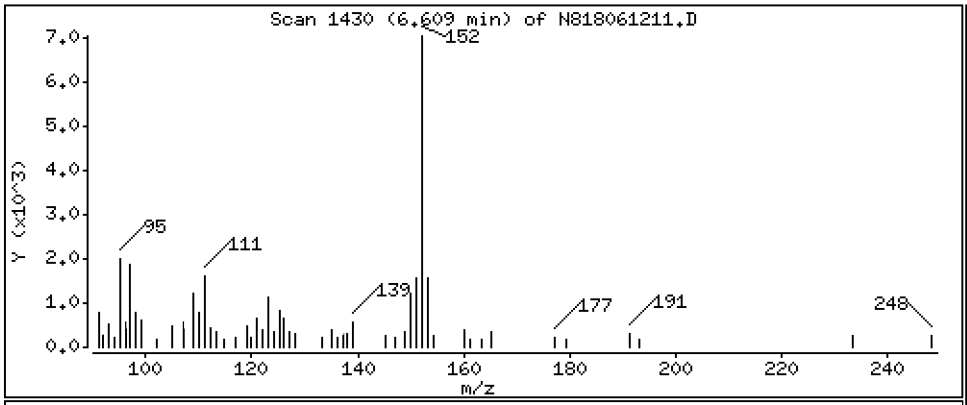
Operator: JZ

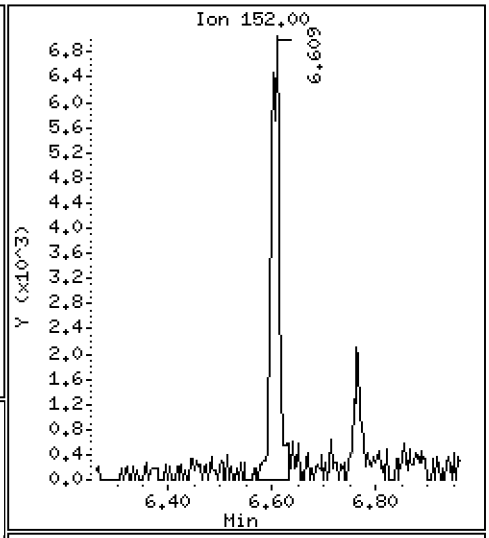
Column phase: Rxi-17sil

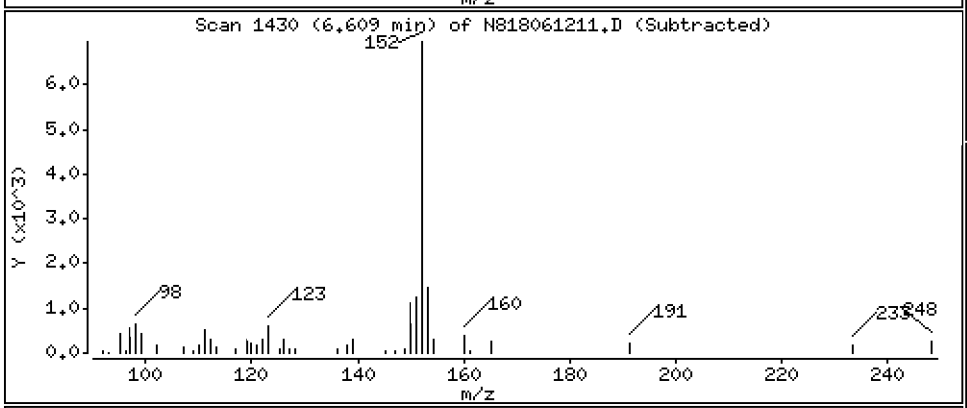
Column diameter: 0.25

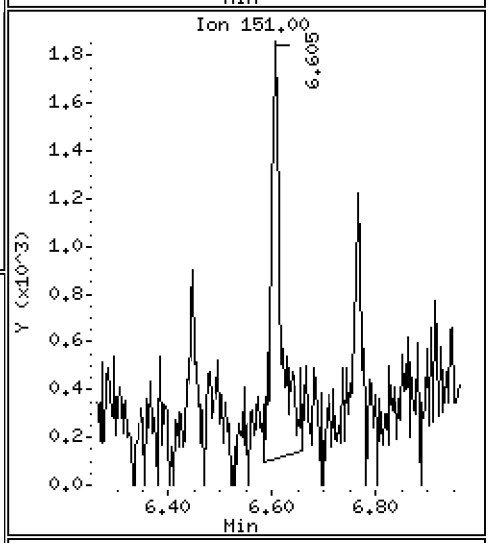
9 Acenaphthylene

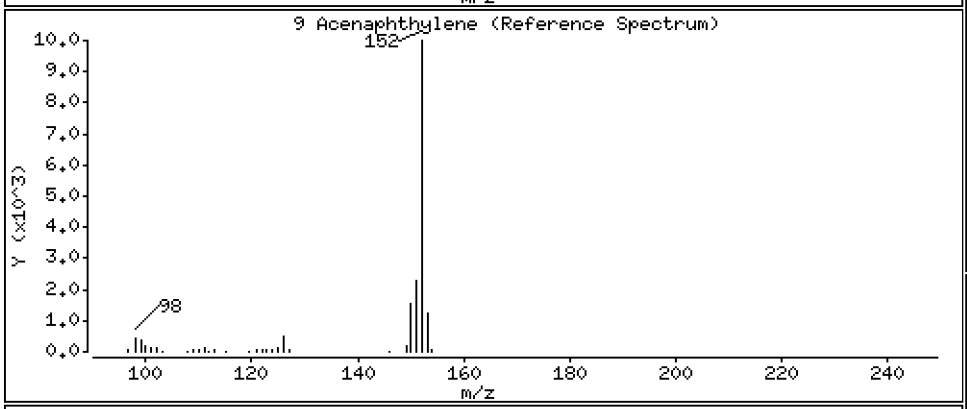
Concentration: 0.09183 ug/mL

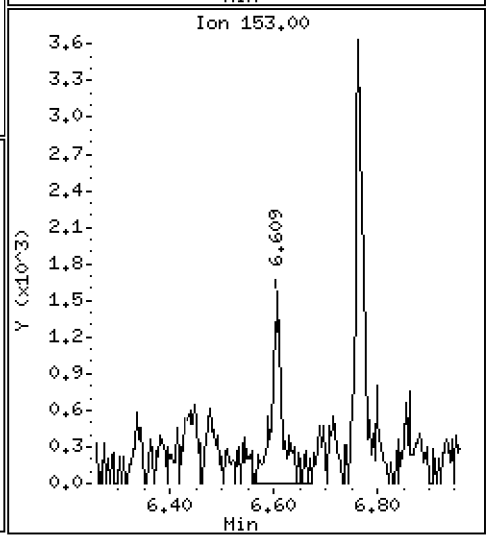


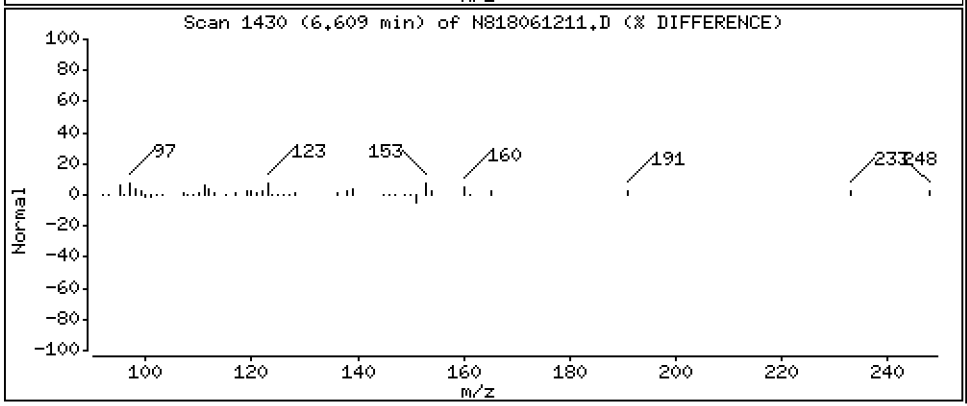












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

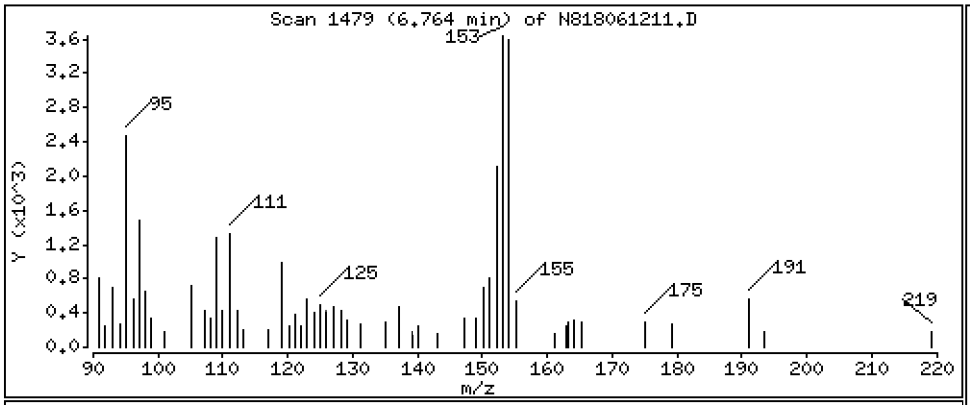
Operator: JZ

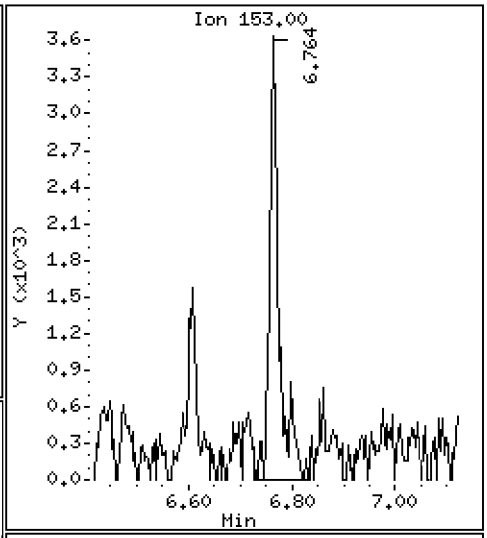
Column phase: Rxi-17sil

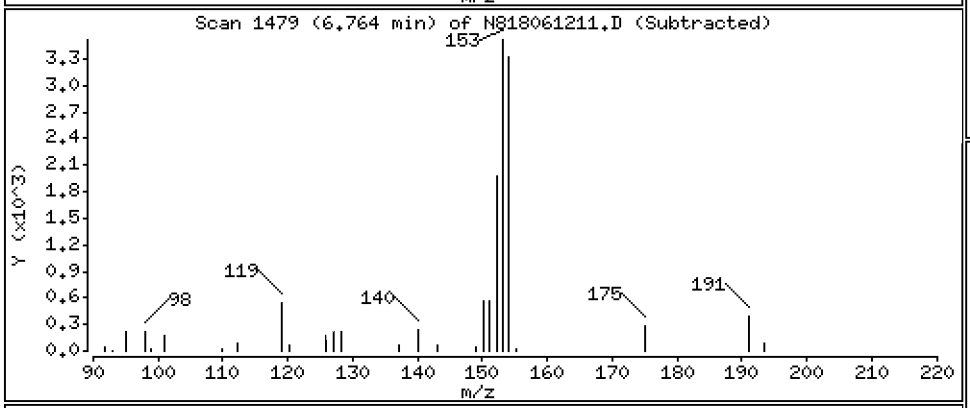
Column diameter: 0.25

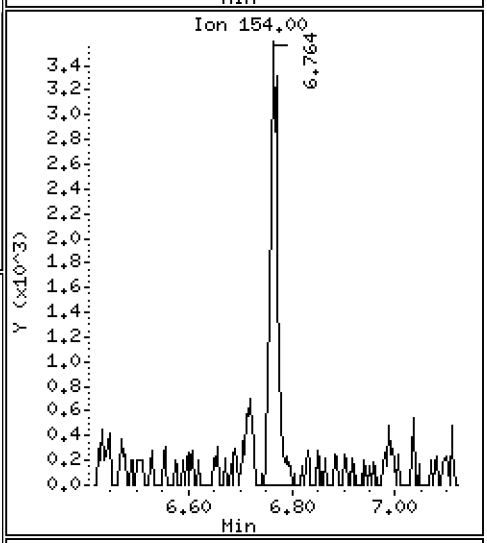
11 Acenaphthene

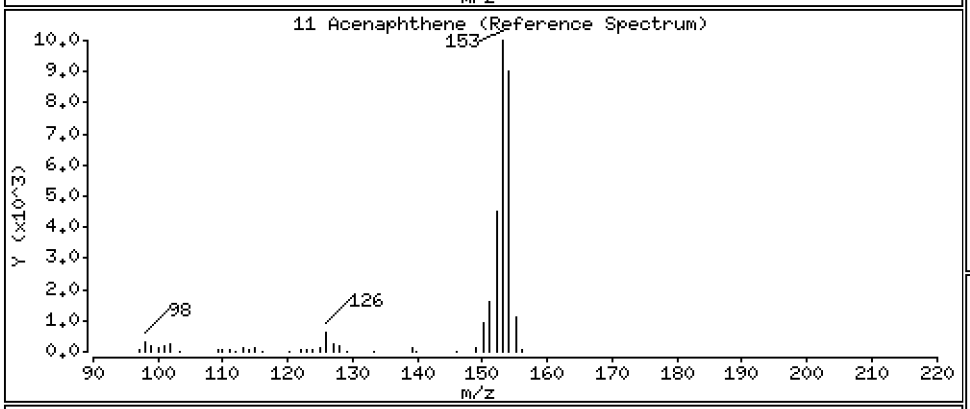
Concentration: 0.06894 ug/mL

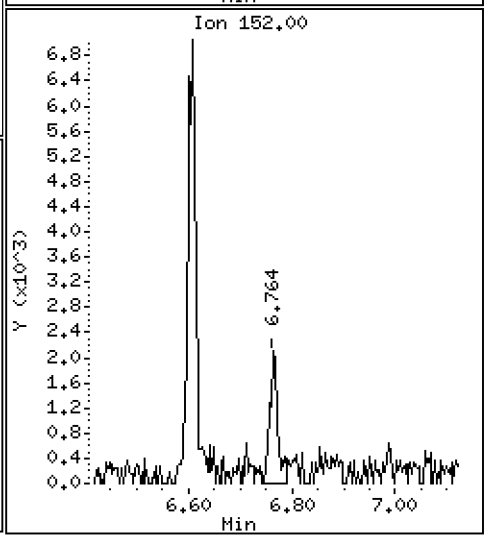


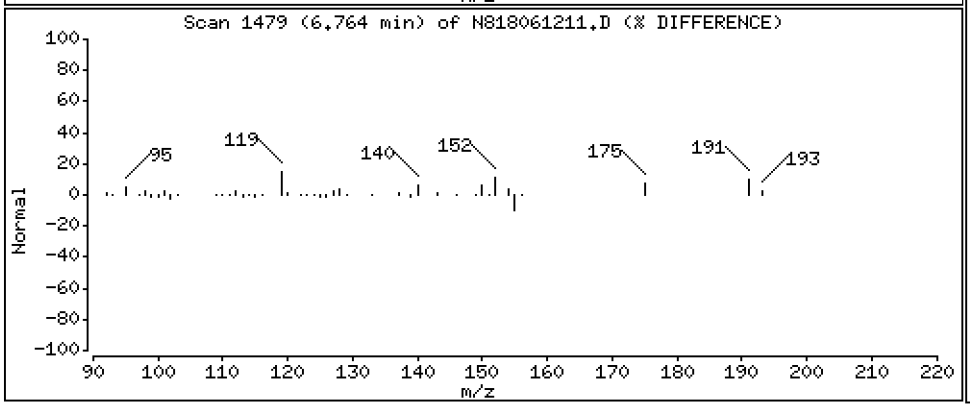












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

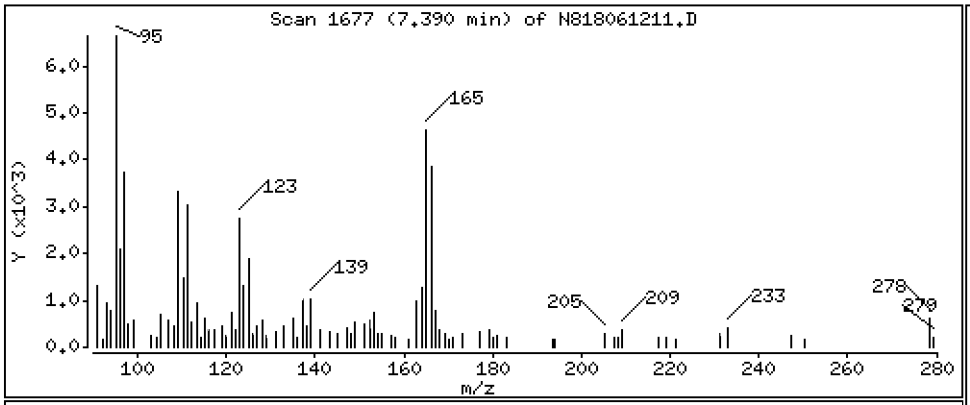
Operator: JZ

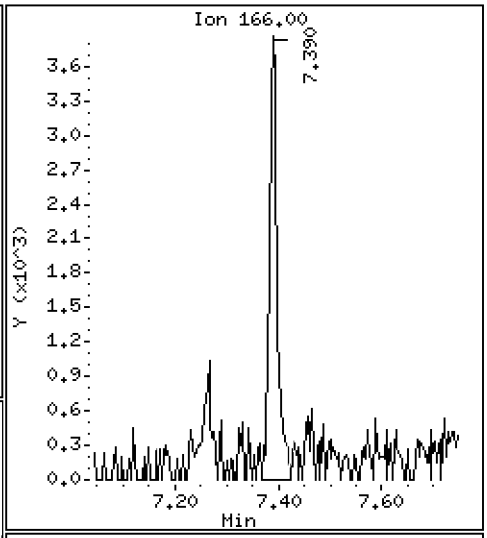
Column phase: Rxi-17sil

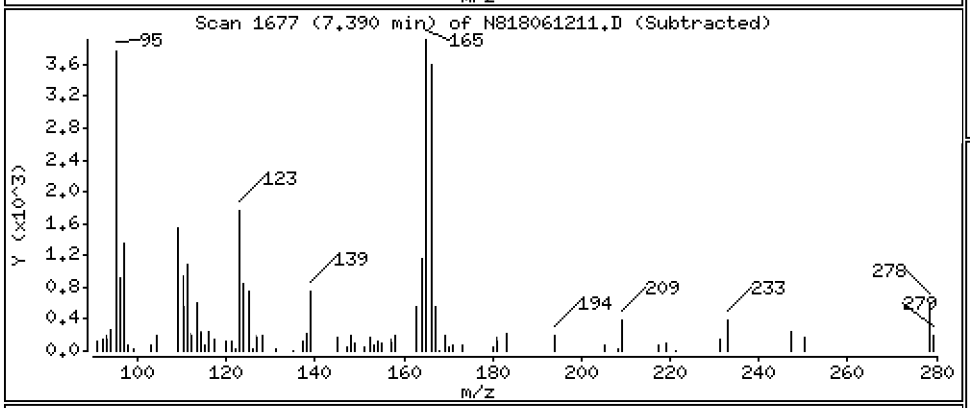
Column diameter: 0.25

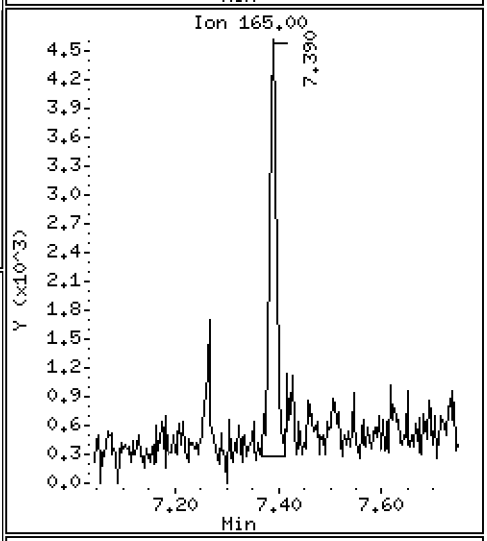
14 Fluorene

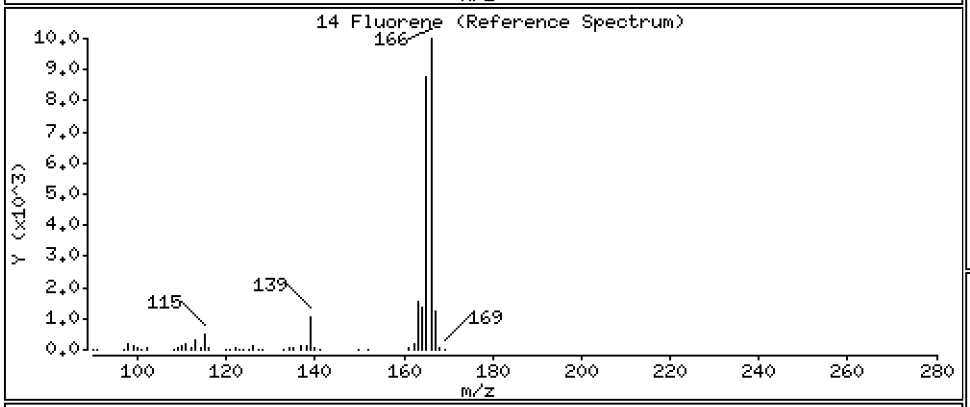
Concentration: 0.06155 ug/mL

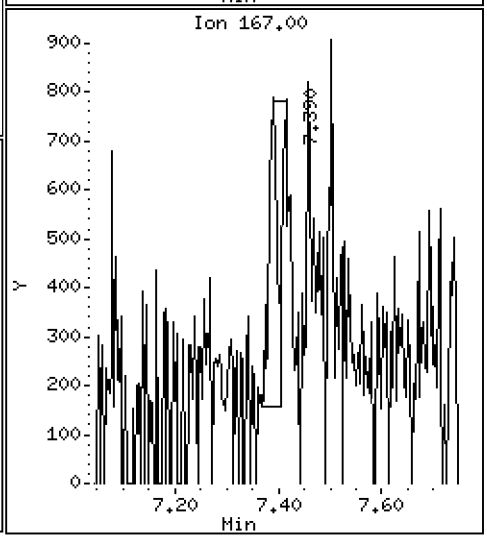


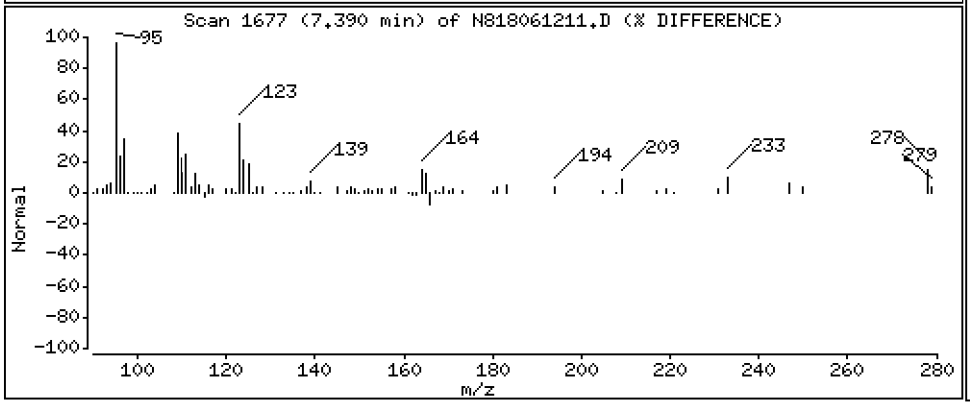












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

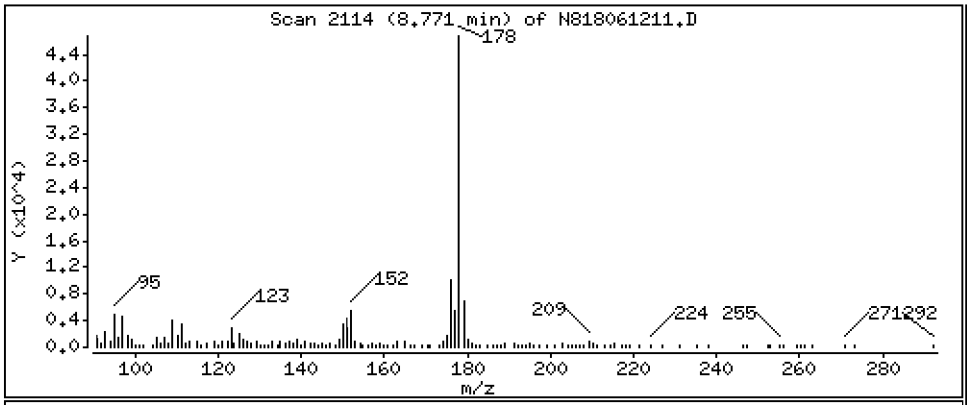
Operator: JZ

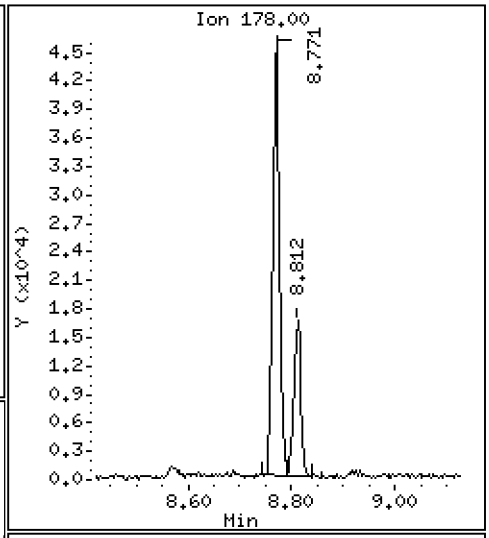
Column phase: Rxi-17sil

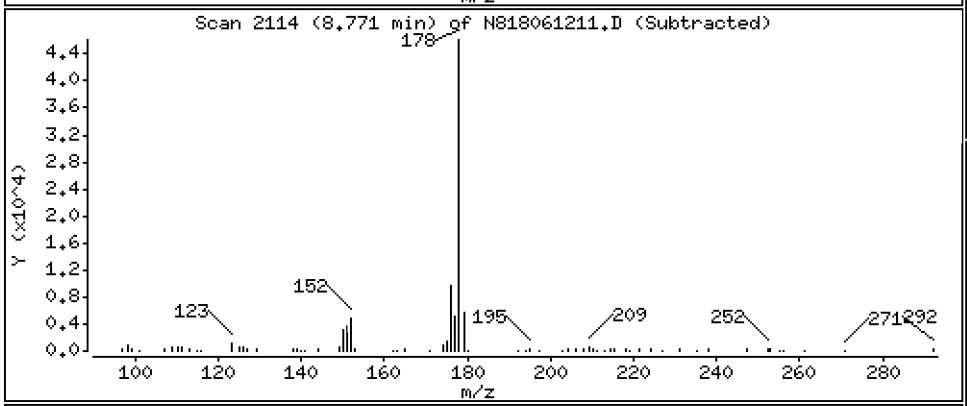
Column diameter: 0.25

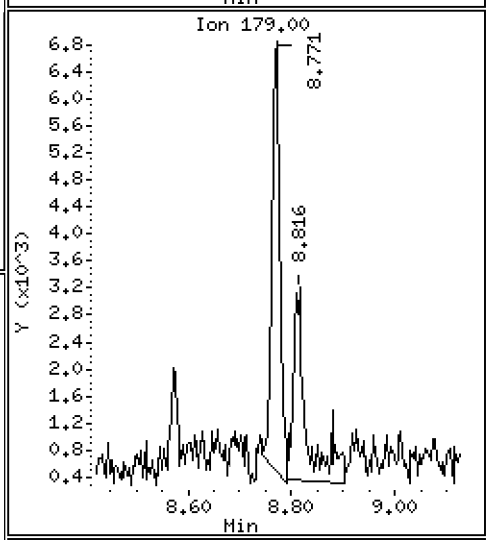
16 Phenanthrene

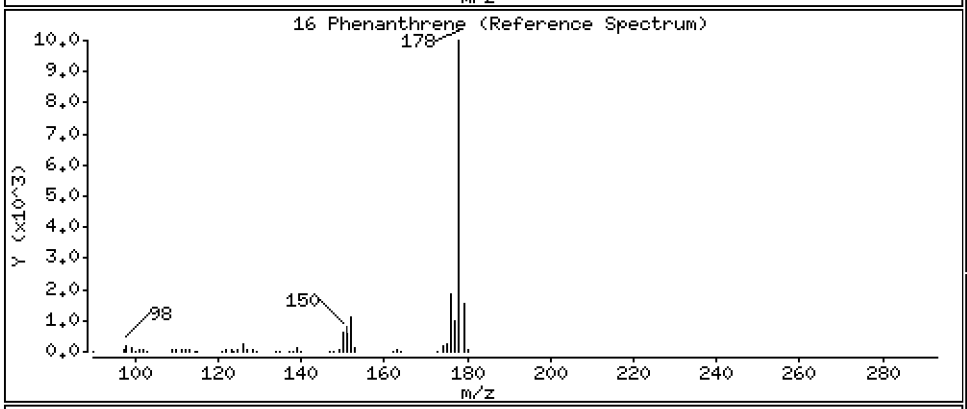
Concentration: 0.4727 ug/mL

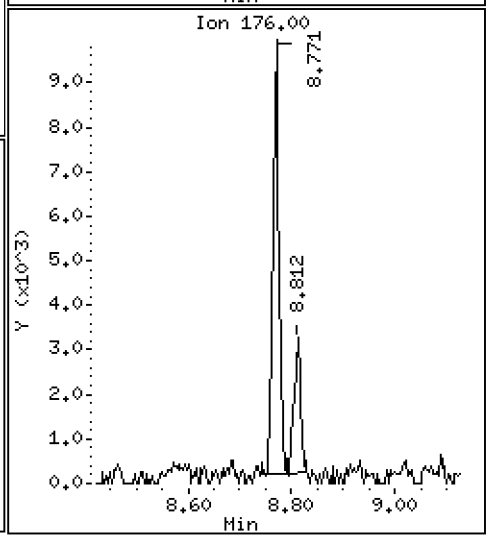


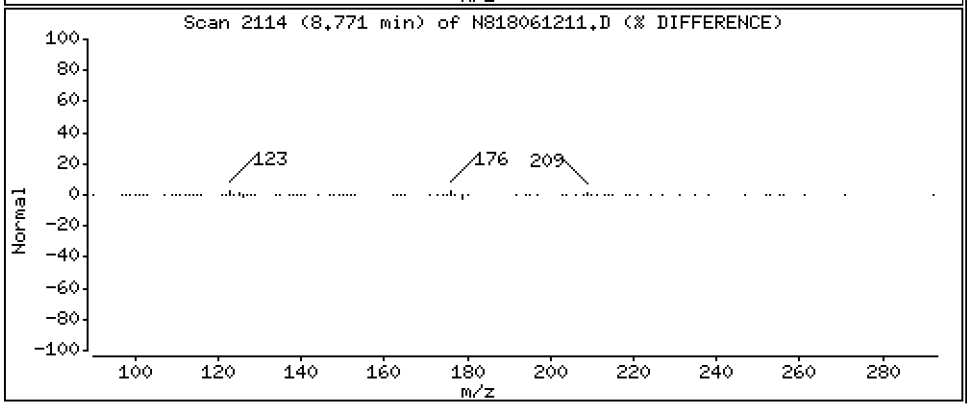












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

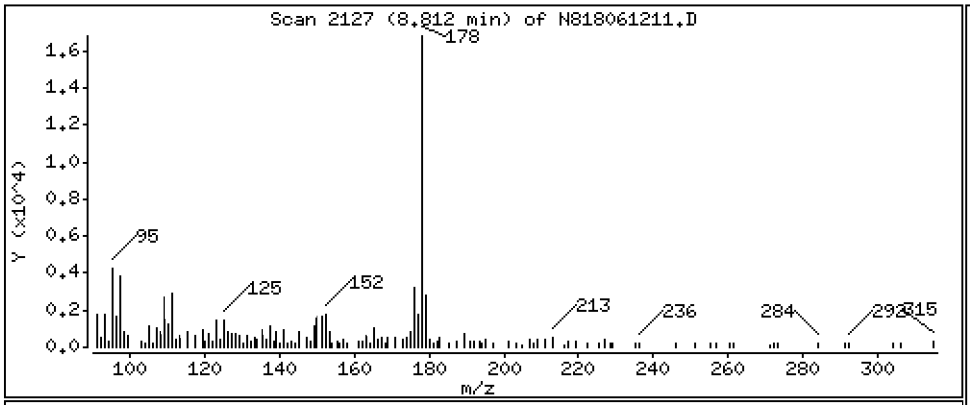
Operator: JZ

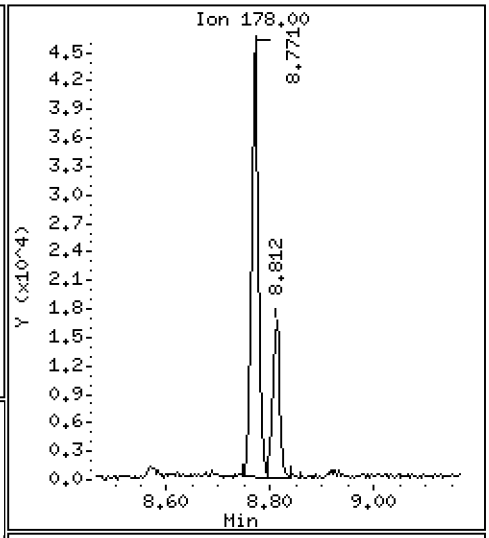
Column phase: Rxi-17sil

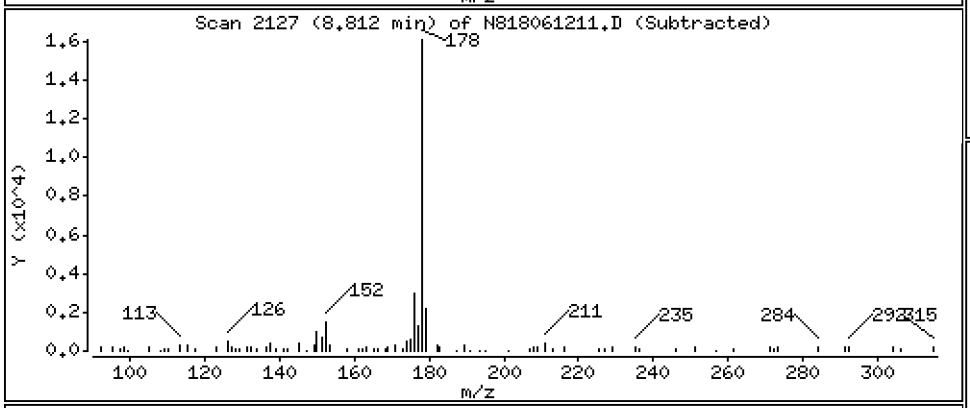
Column diameter: 0.25

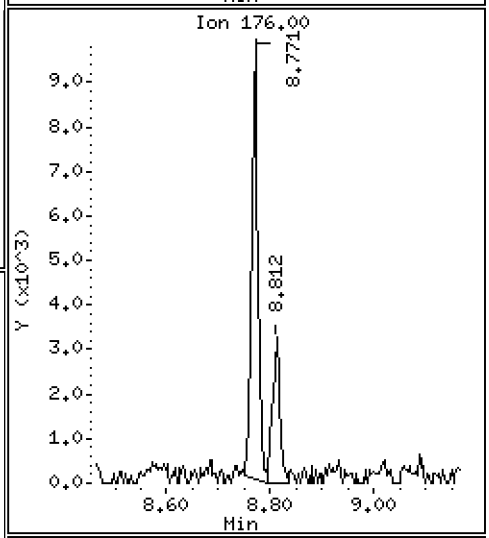
17 Anthracene

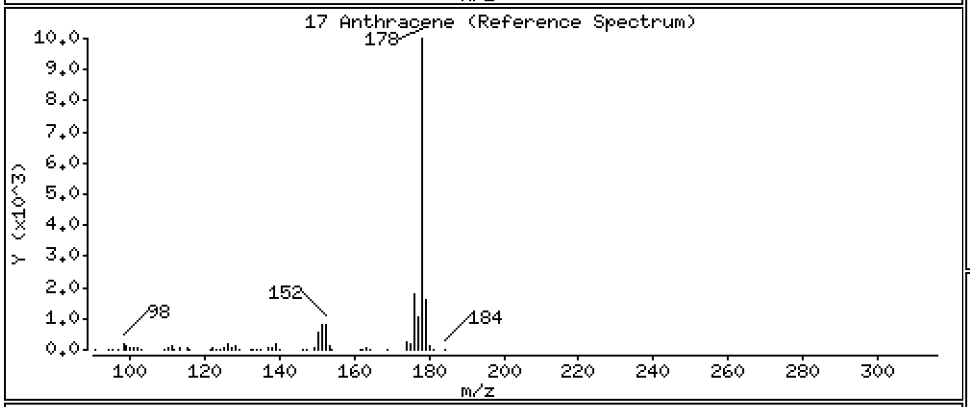
Concentration: 0.1930 ug/mL

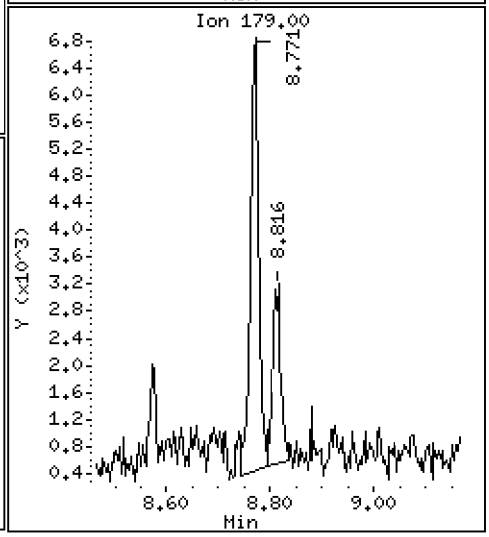


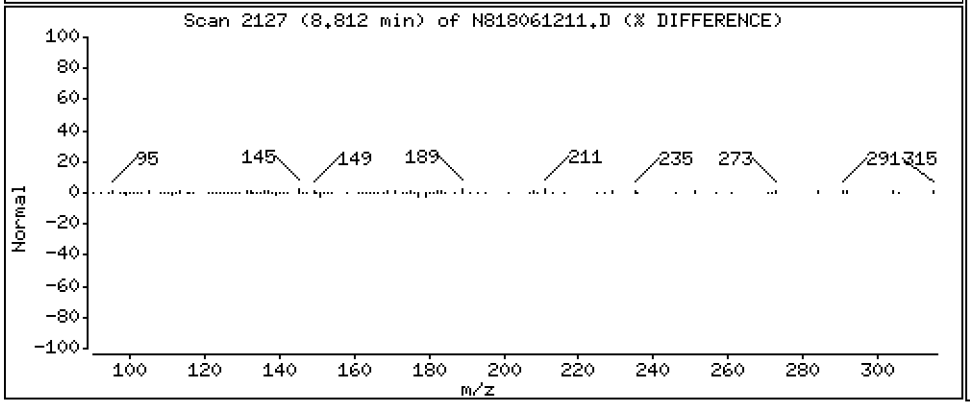












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

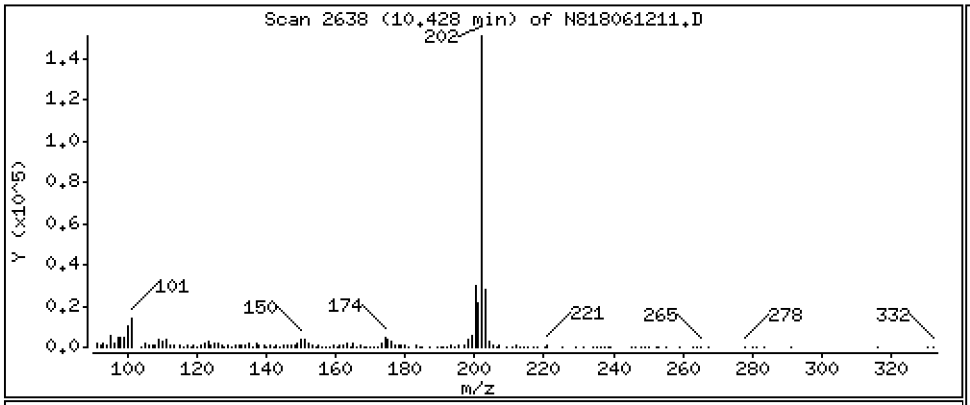
Operator: JZ

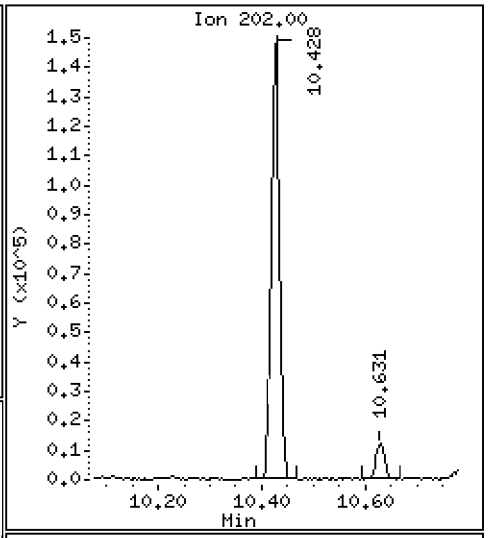
Column phase: Rxi-17sil

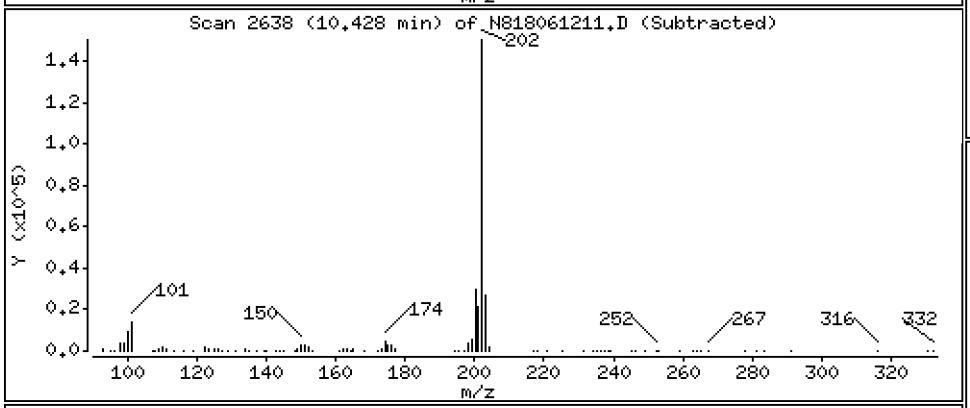
Column diameter: 0.25

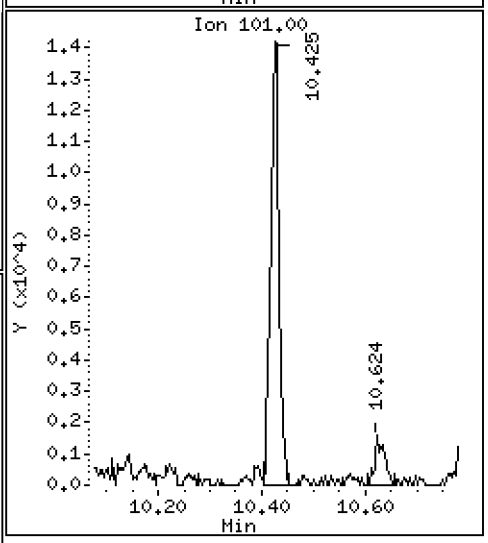
22 Fluoranthene

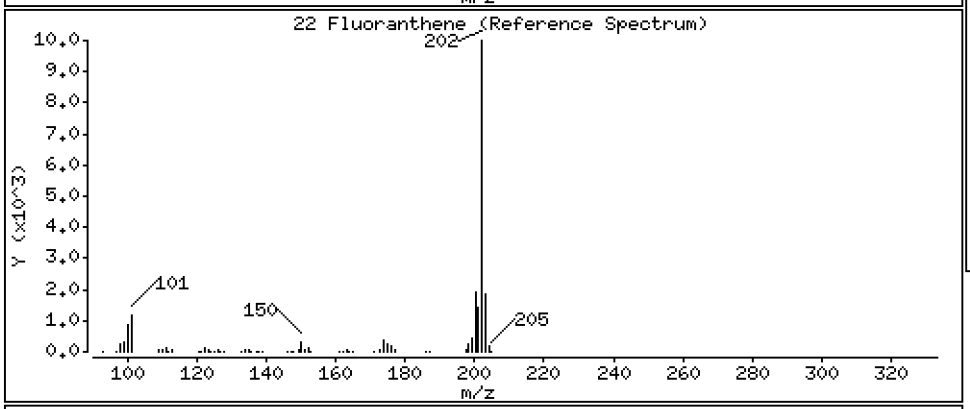
Concentration: 1.618 ug/mL

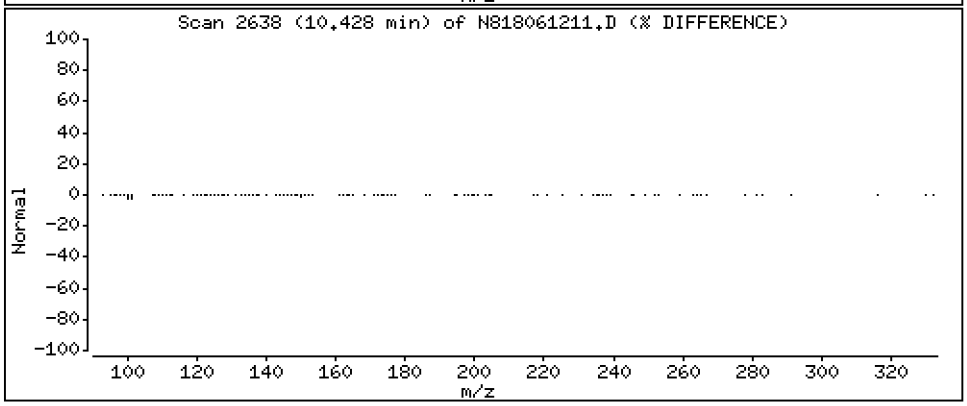












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

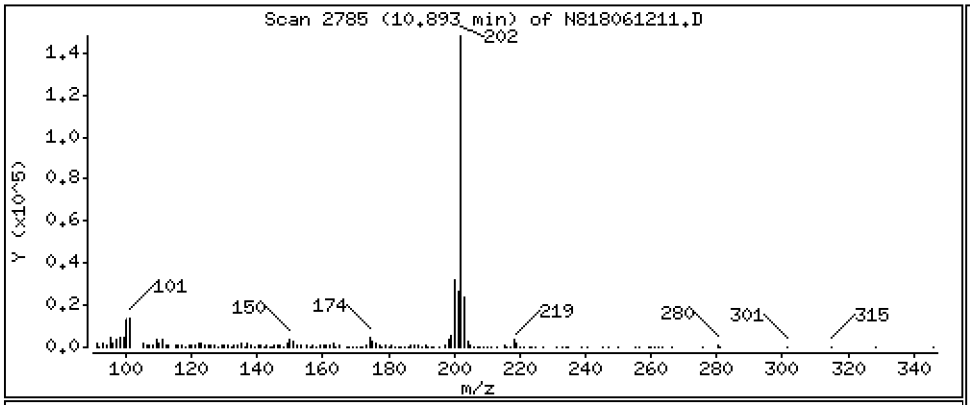
Operator: JZ

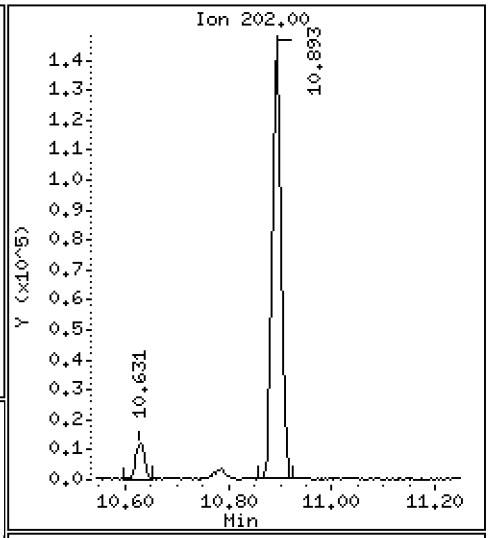
Column phase: Rxi-17sil

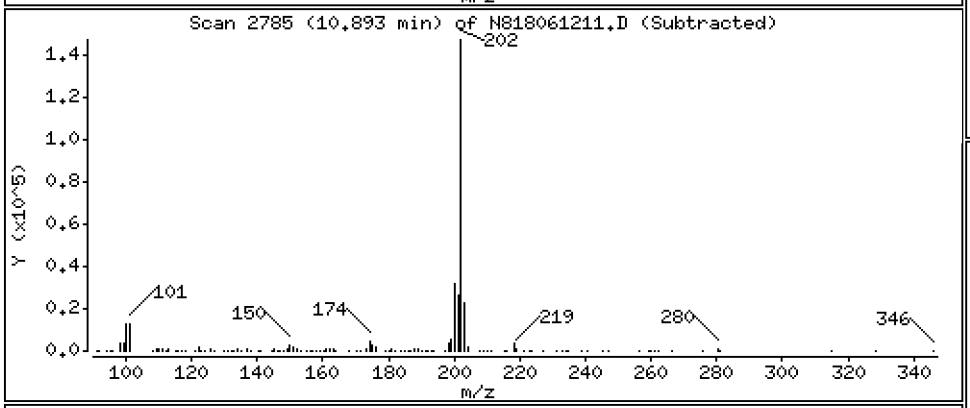
Column diameter: 0.25

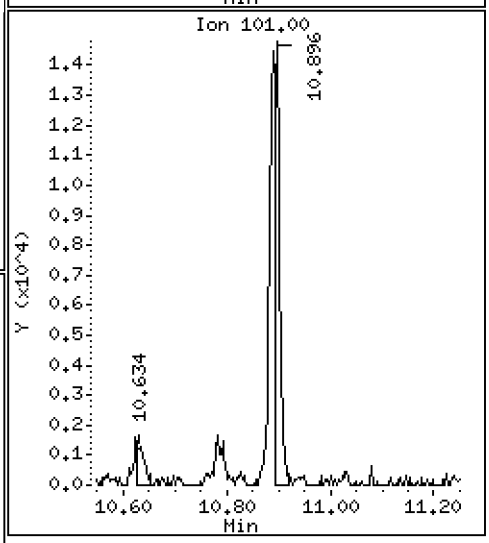
23 Pyrene

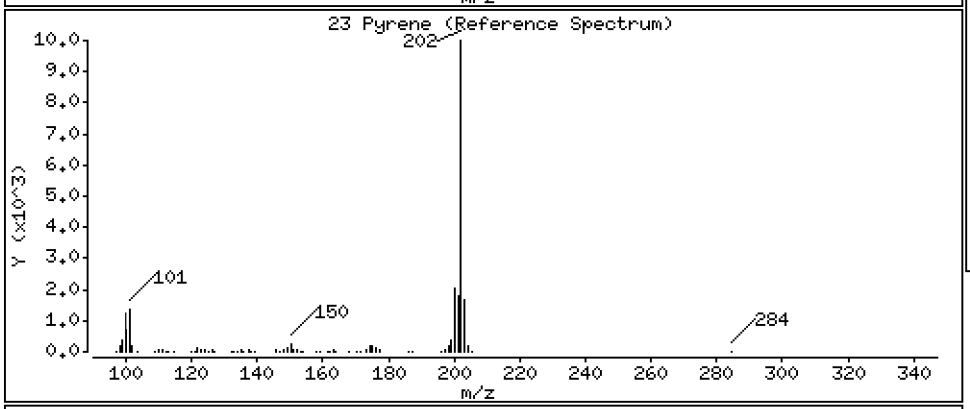
Concentration: 1.901 ug/mL

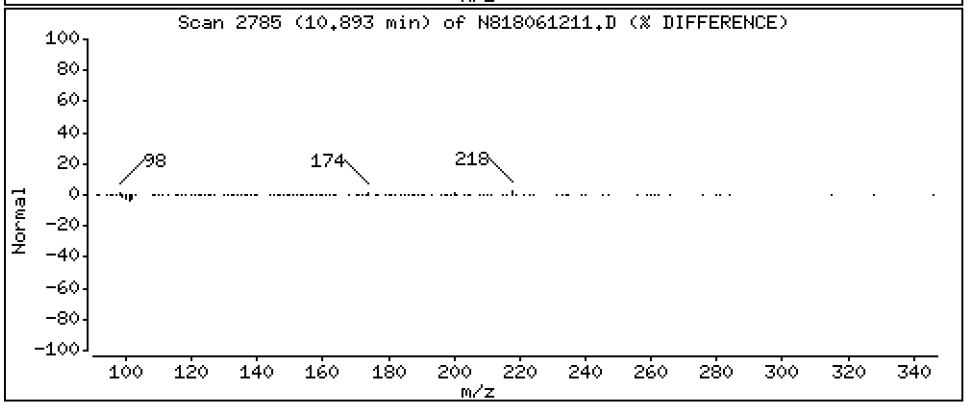












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

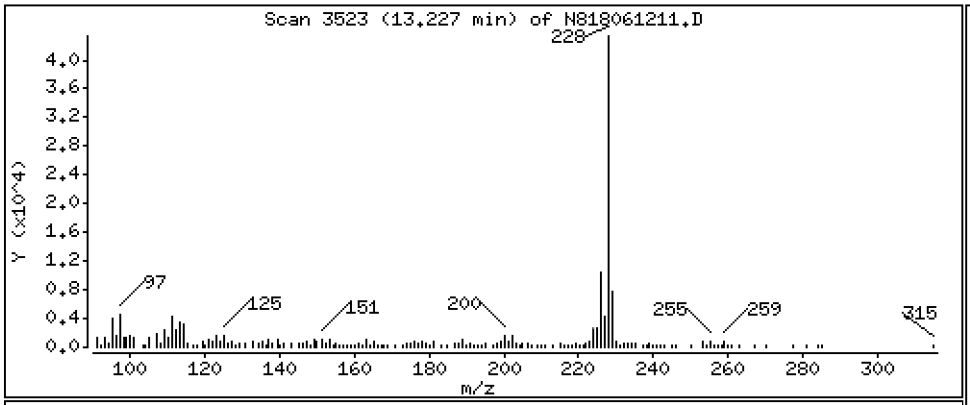
Operator: JZ

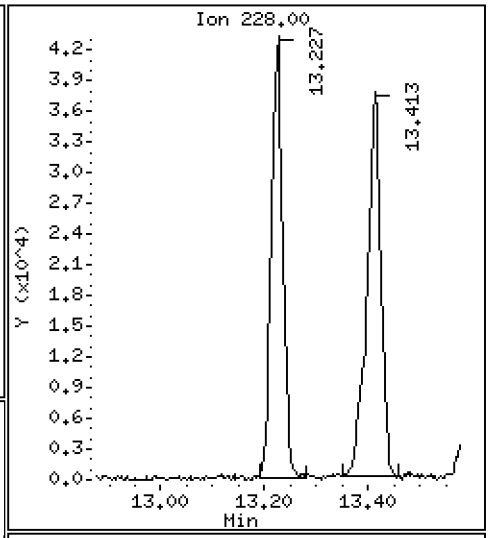
Column phase: Rxi-17sil

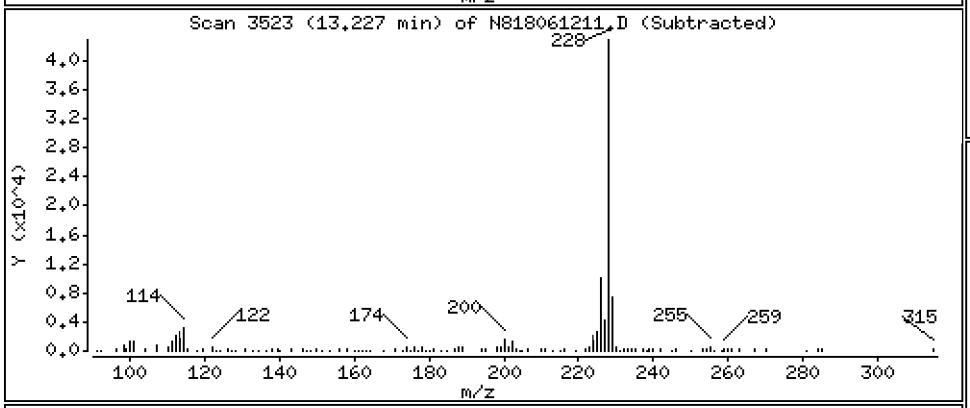
Column diameter: 0.25

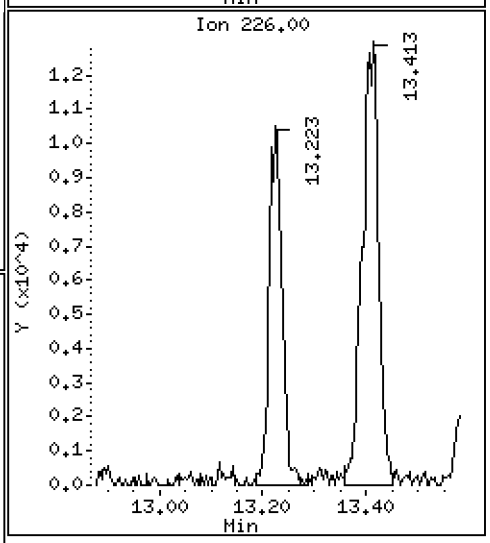
24 Benzo(a)anthracene

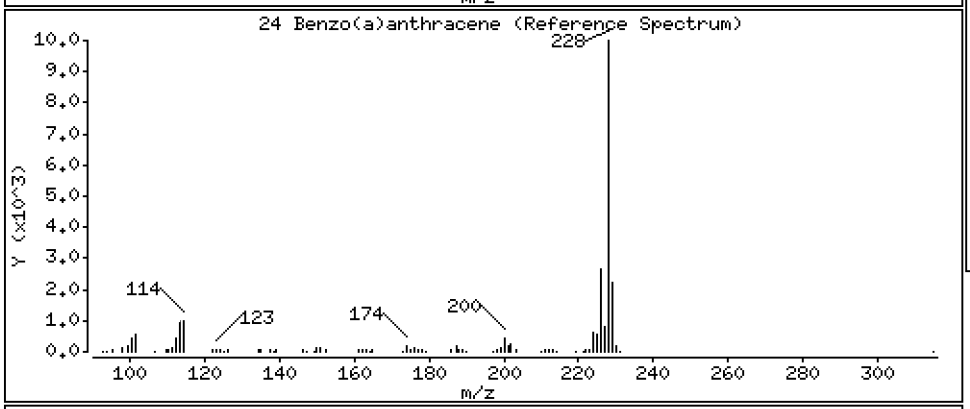
Concentration: 0.7366 ug/mL

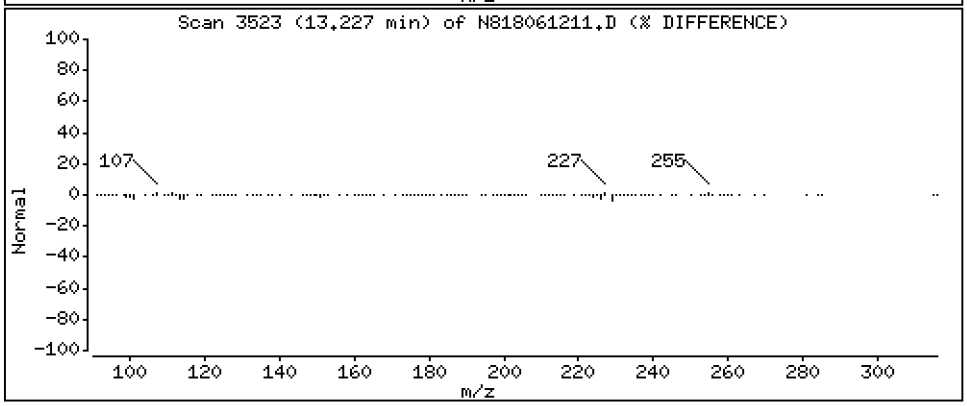












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

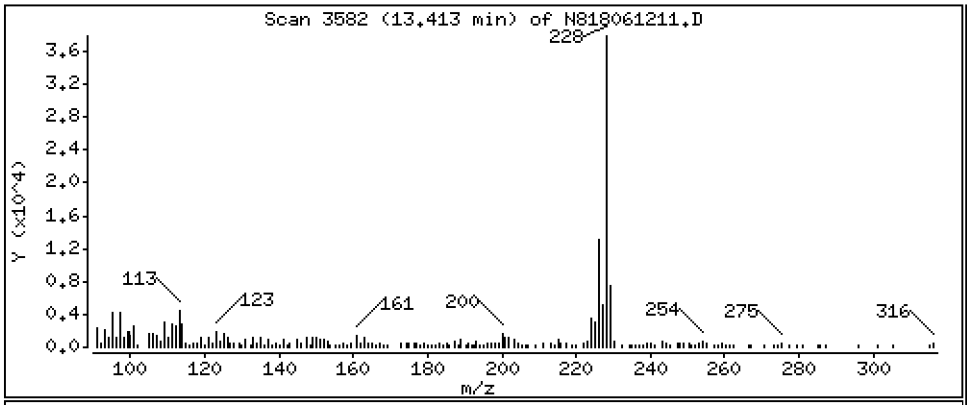
Operator: JZ

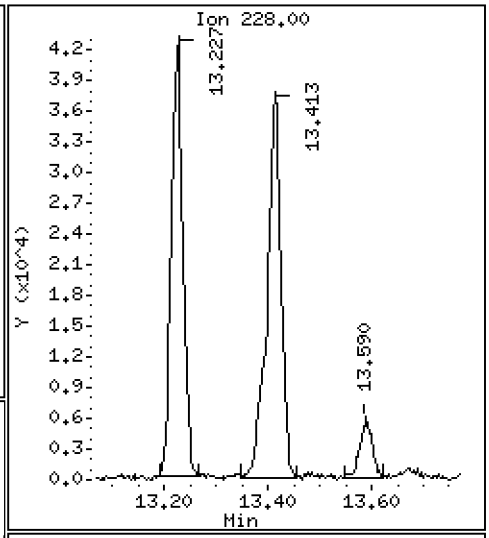
Column phase: Rxi-17sil

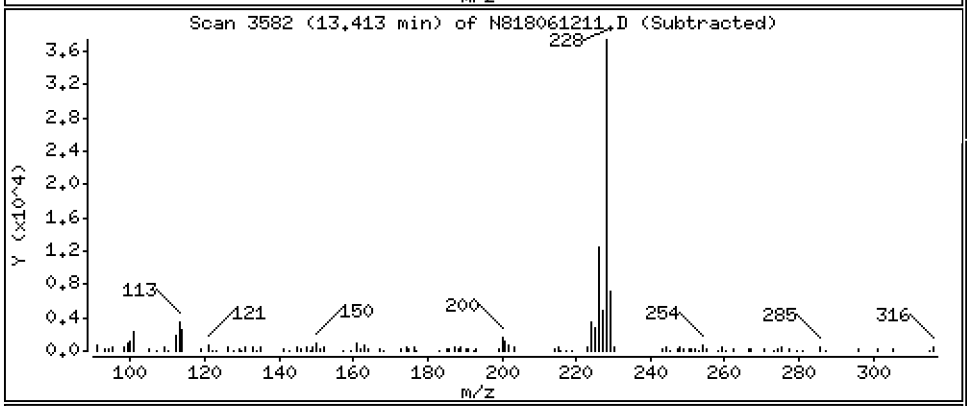
Column diameter: 0.25

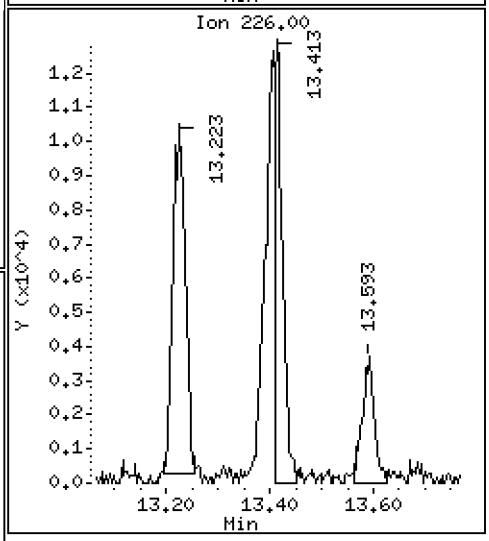
27 Chrysene

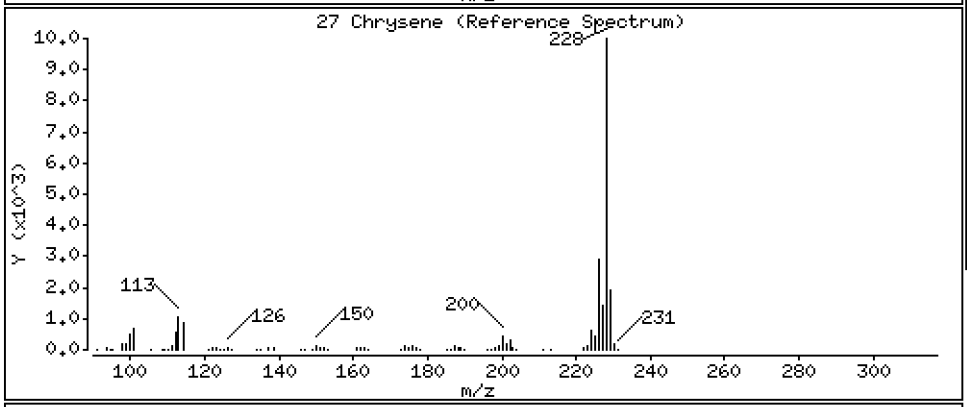
Concentration: 0.7727 ug/mL

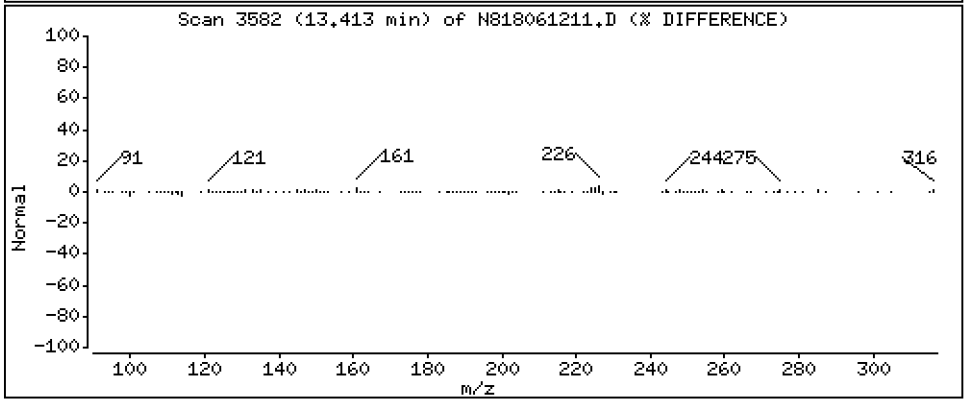












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

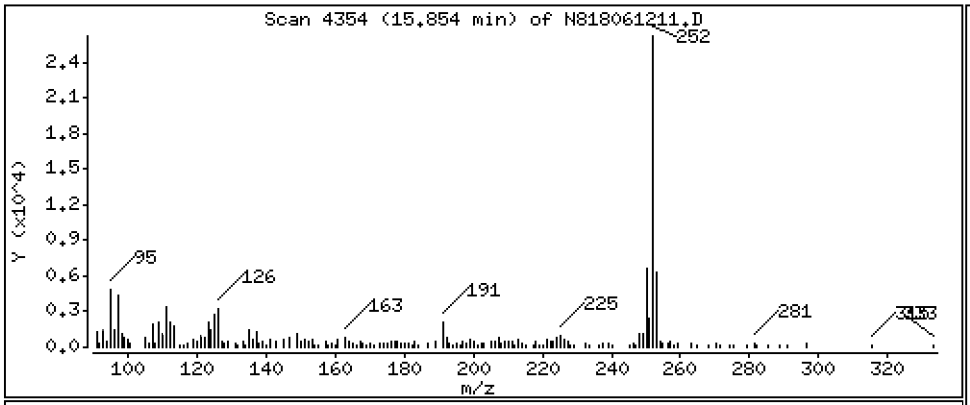
Operator: JZ

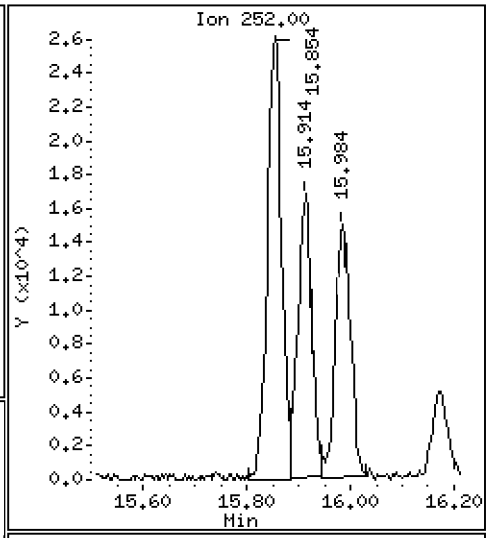
Column phase: Rxi-17sil

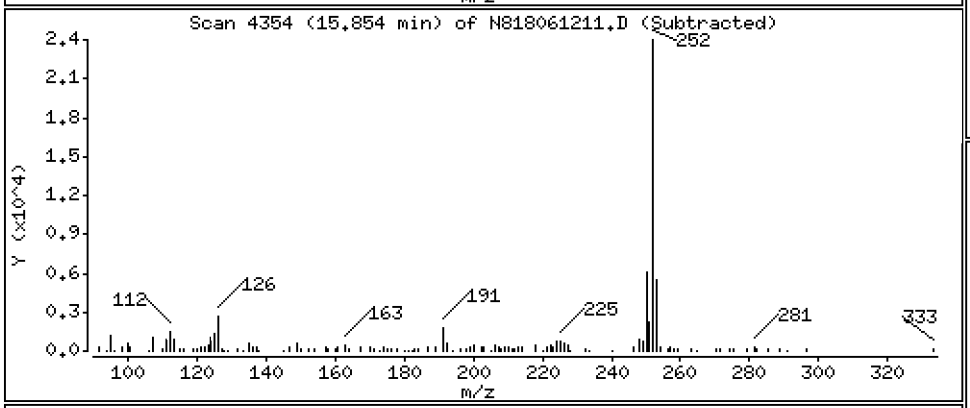
Column diameter: 0.25

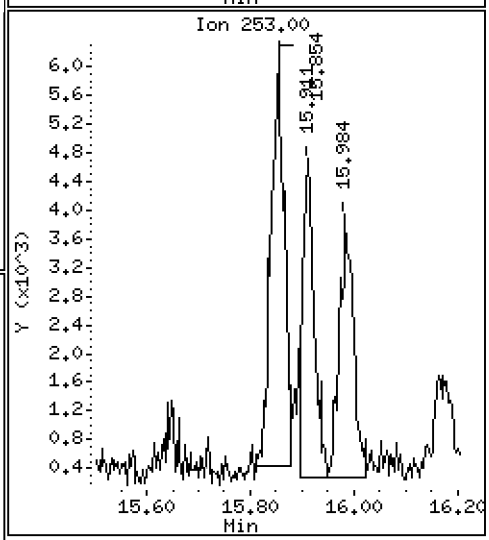
28 Benzo(b)fluoranthene

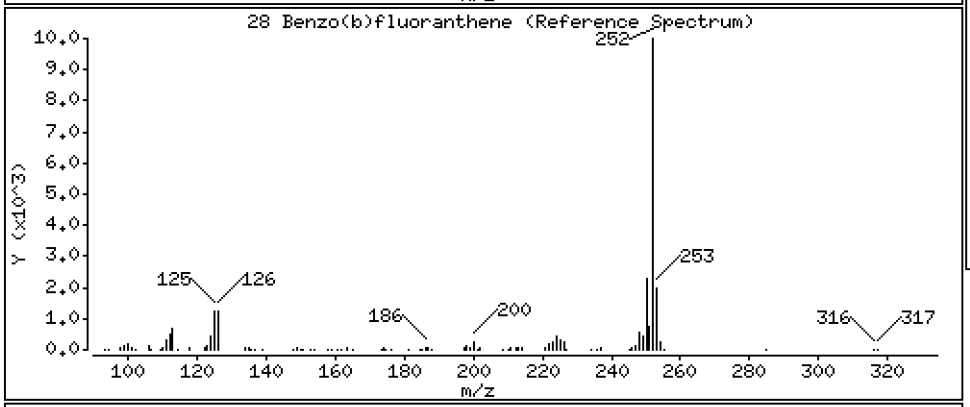
Concentration: 0.5308 ug/mL

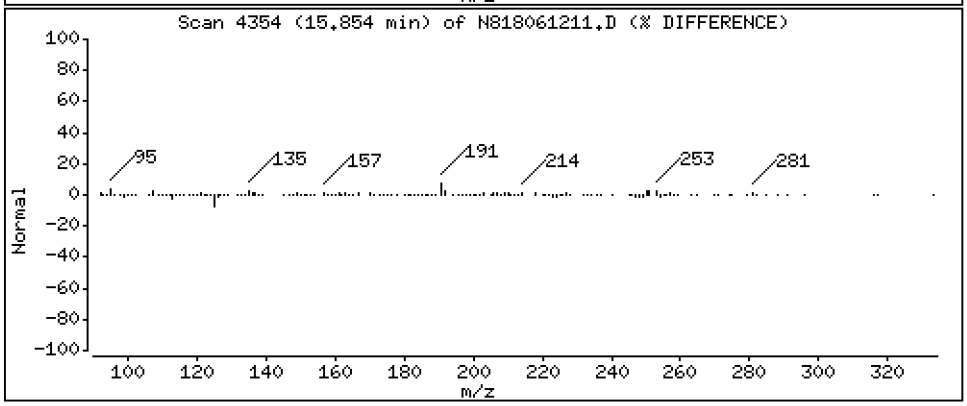












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

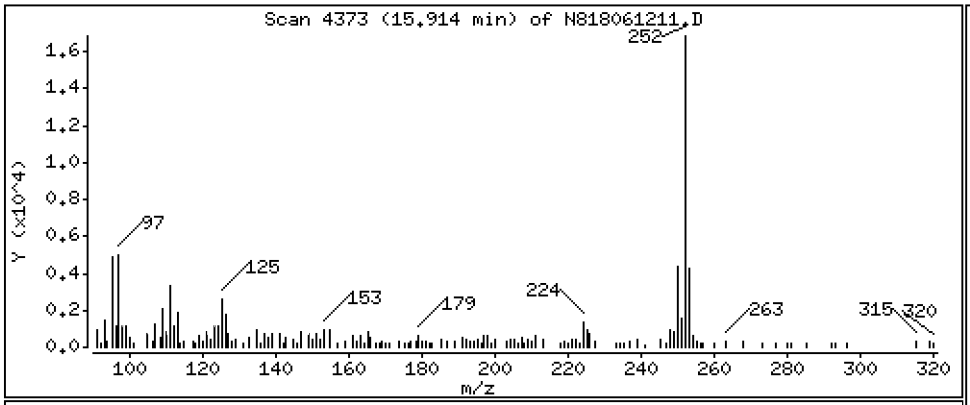
Operator: JZ

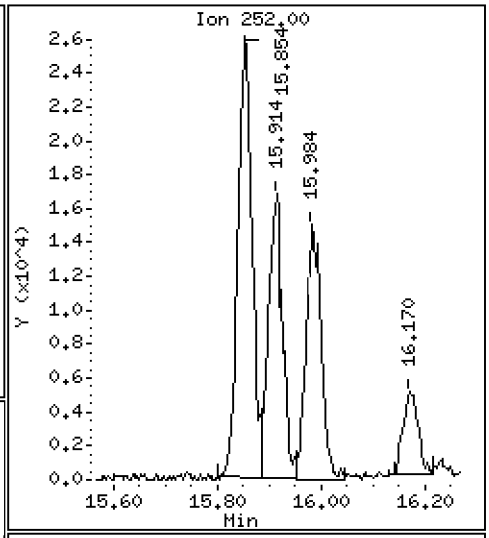
Column phase: Rxi-17sil

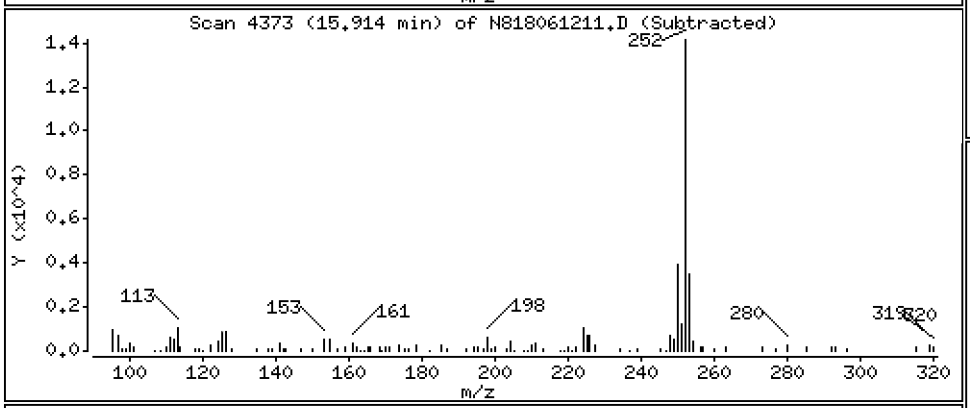
Column diameter: 0.25

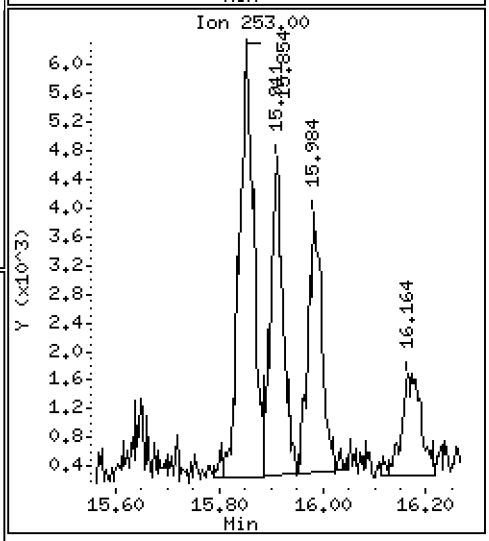
29 Benzo(k)fluoranthene

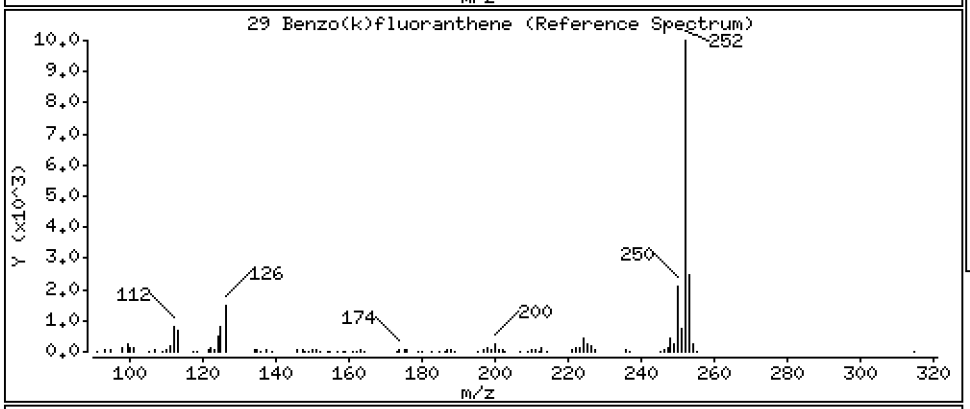
Concentration: 0.3387 ug/mL

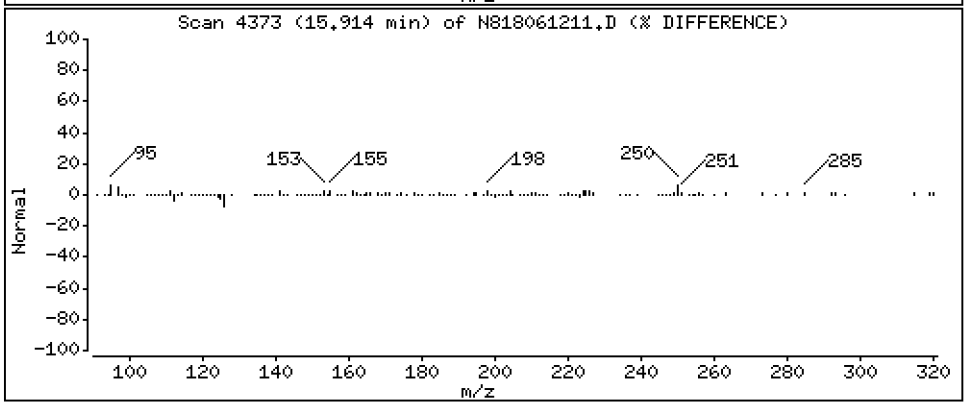












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

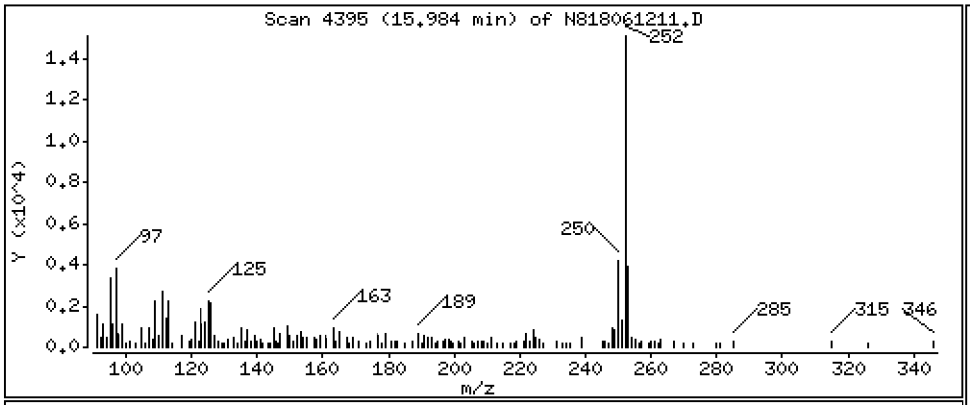
Operator: JZ

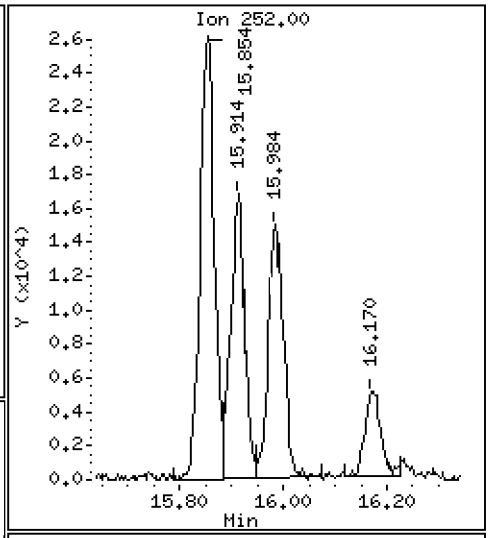
Column phase: Rxi-17sil

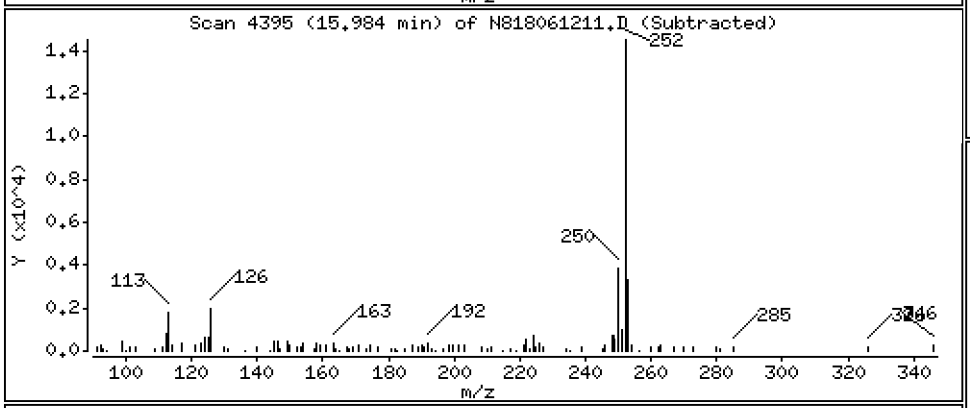
Column diameter: 0.25

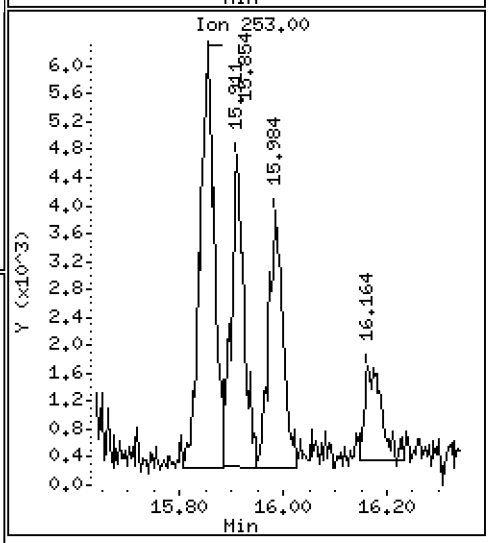
30 Benzo(j)fluoranthene

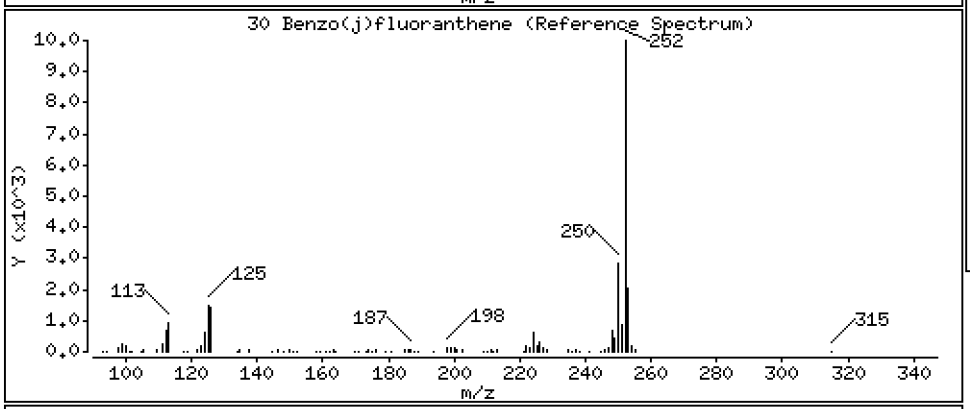
Concentration: 0.3285 ug/mL

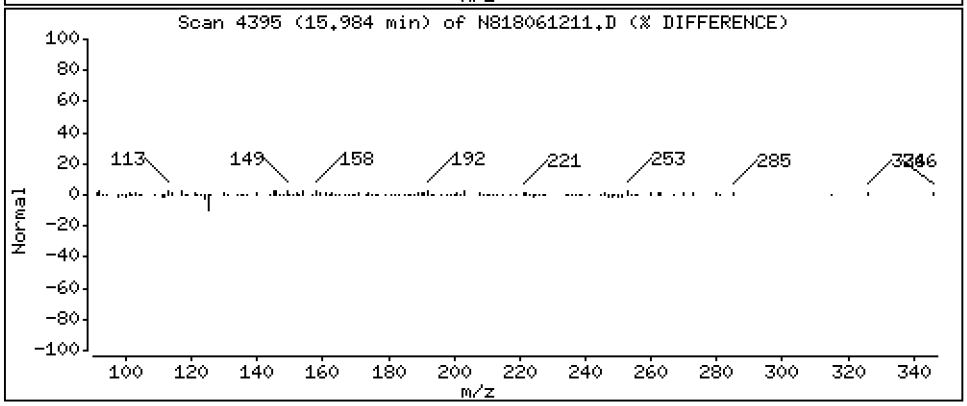












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

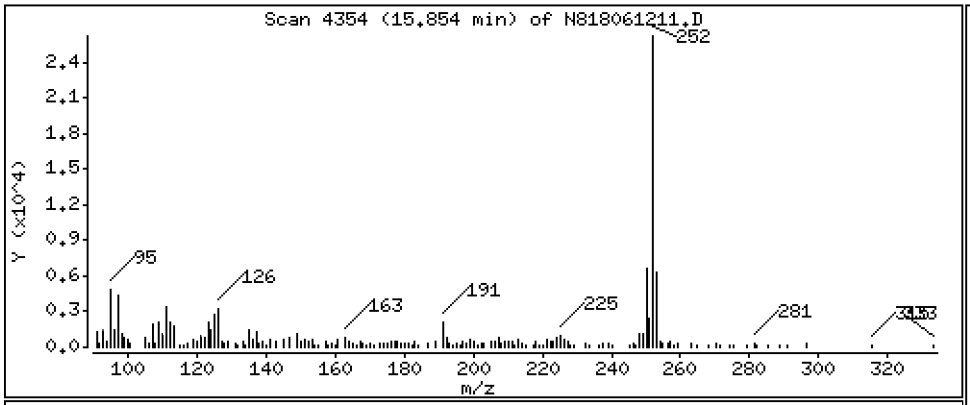
Operator: JZ

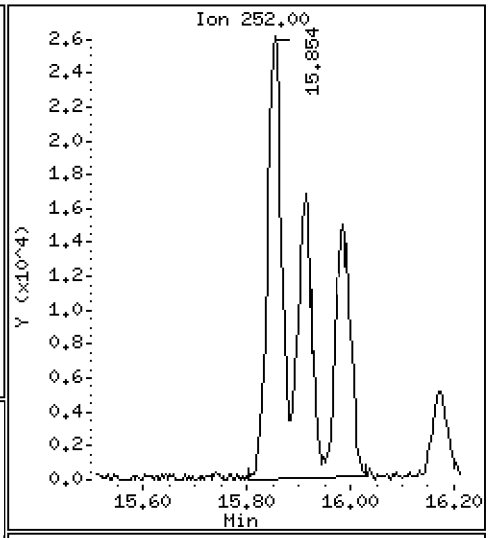
Column phase: Rxi-17sil

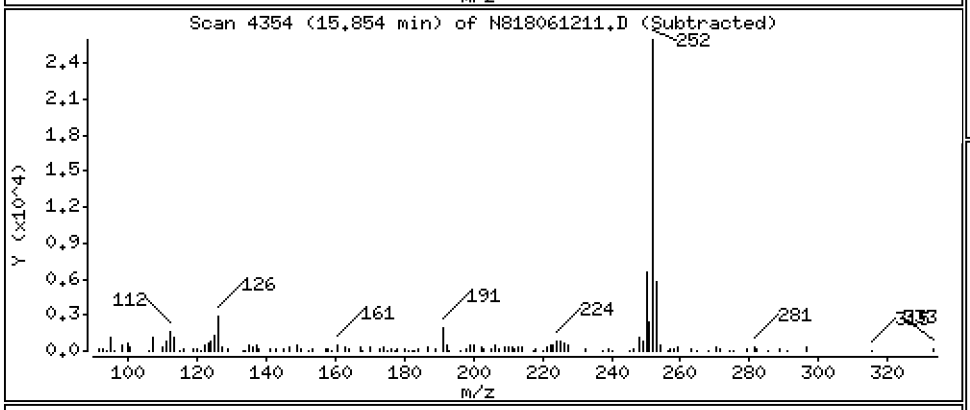
Column diameter: 0.25

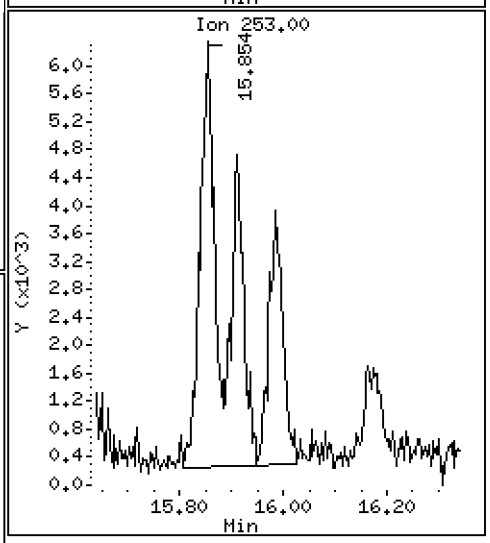
31 Total Benzofluoranthenes

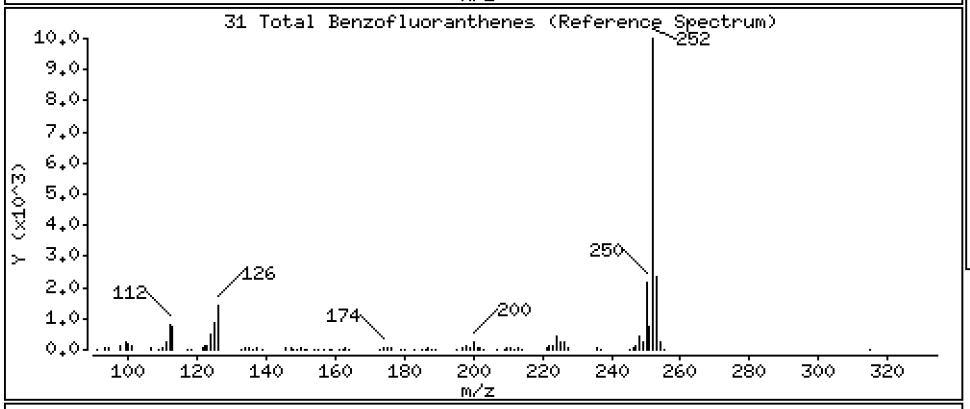
Concentration: 1.196 ug/mL

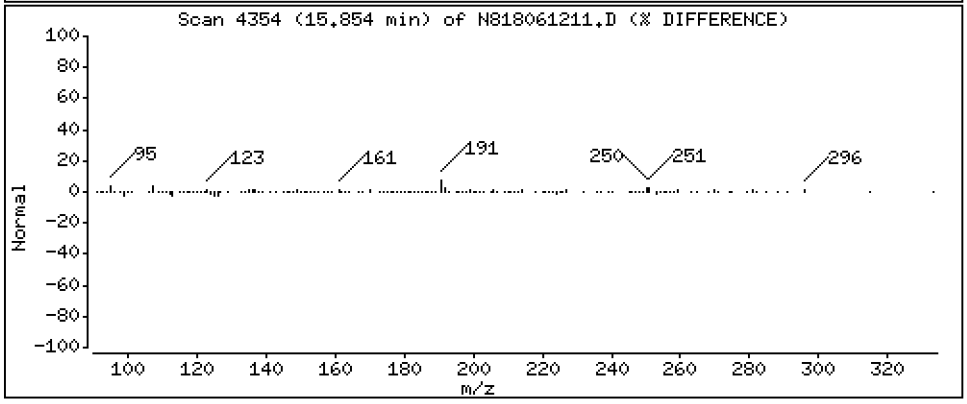












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

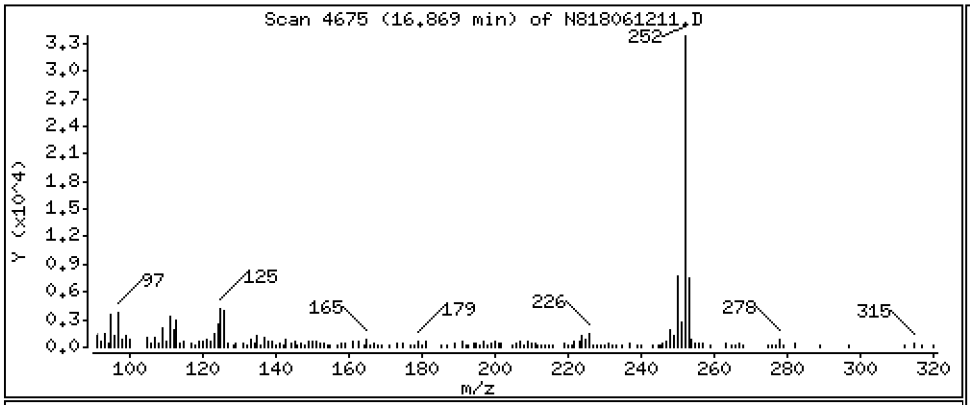
Operator: JZ

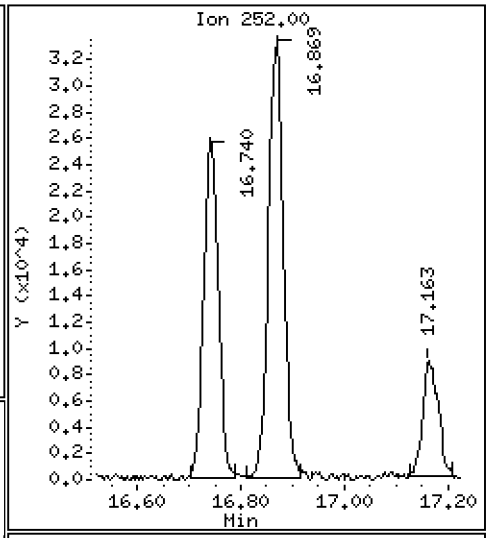
Column phase: Rxi-17sil

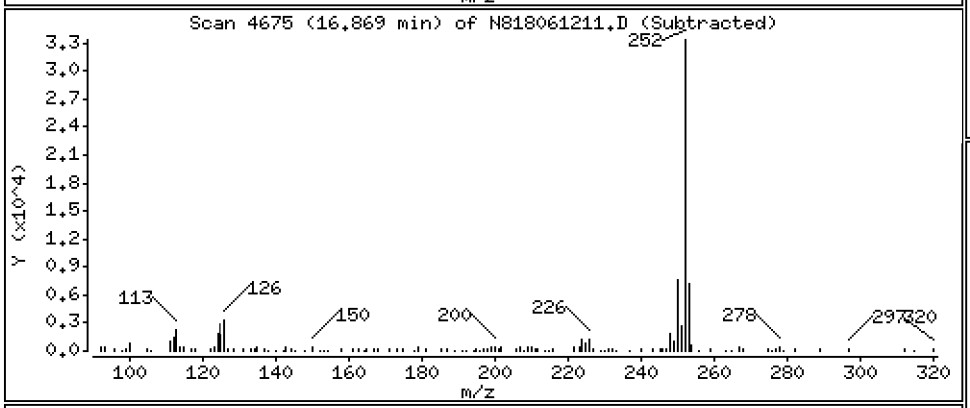
Column diameter: 0.25

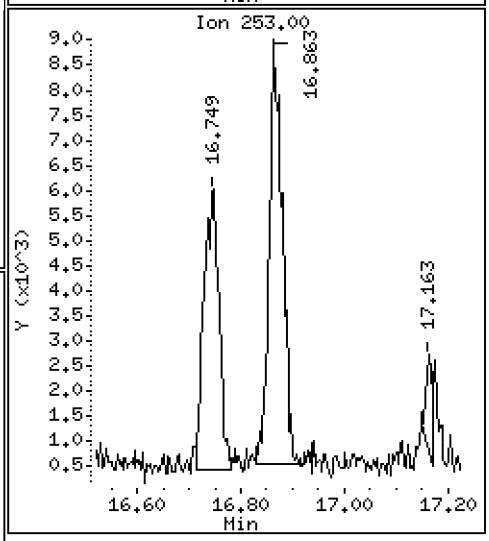
32 Benzo(a)pyrene

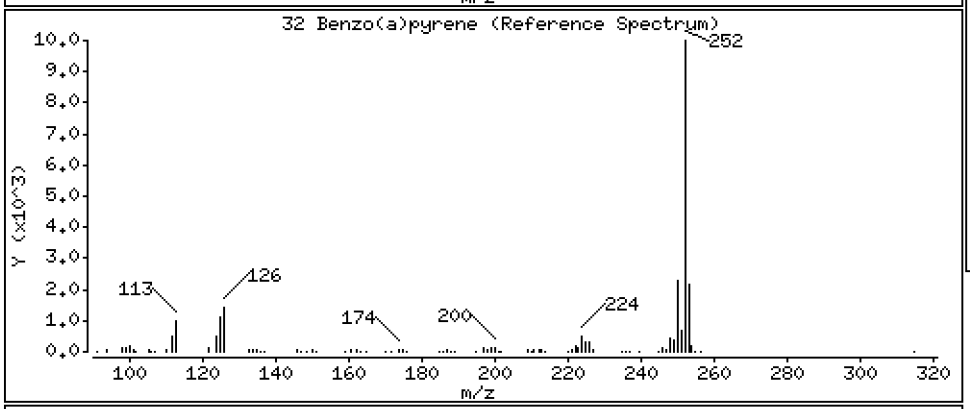
Concentration: 0.8024 ug/mL

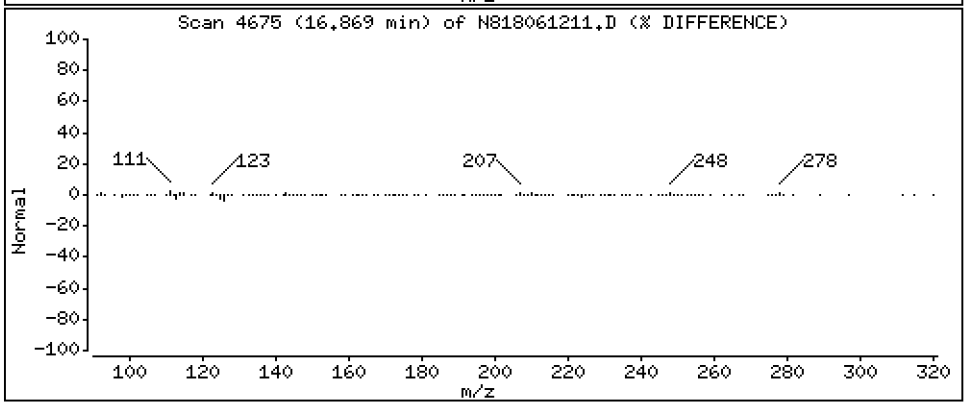












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

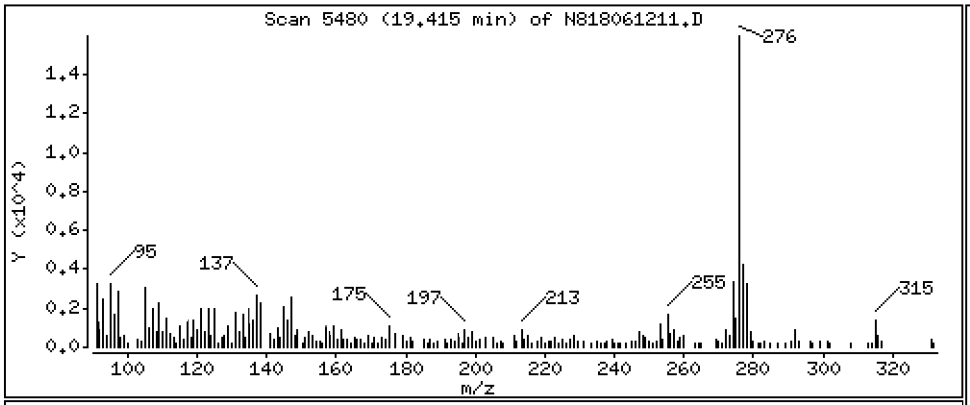
Operator: JZ

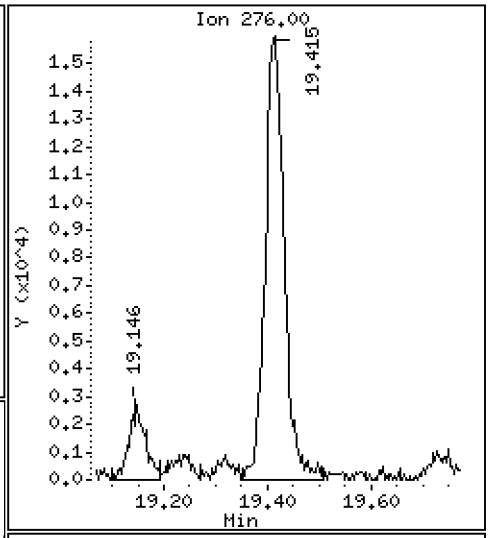
Column phase: Rxi-17sil

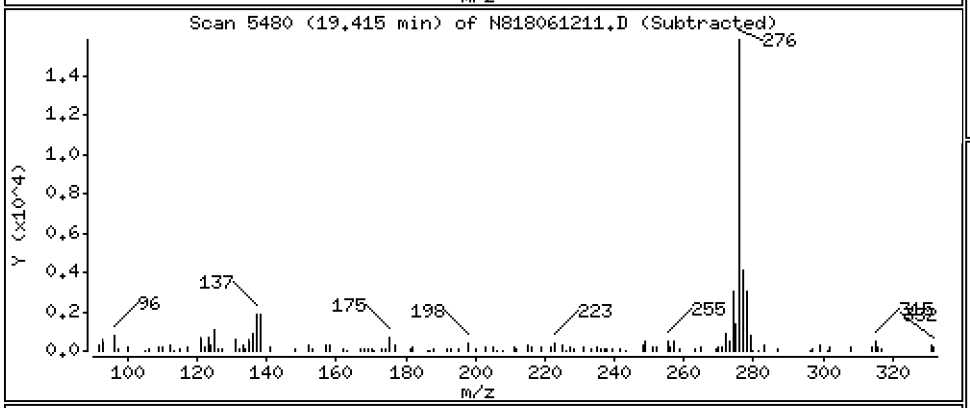
Column diameter: 0.25

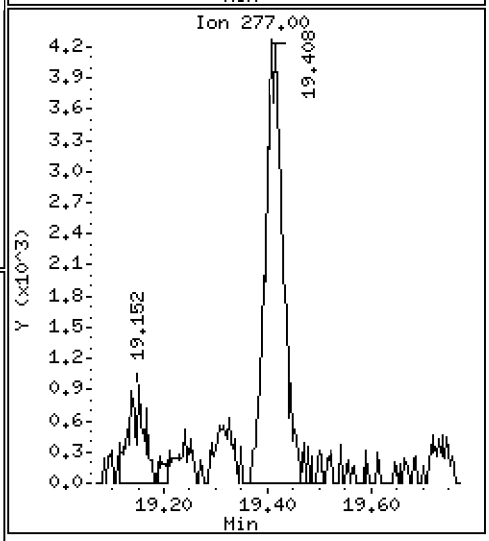
37 Indeno(1,2,3-cd)pyrene

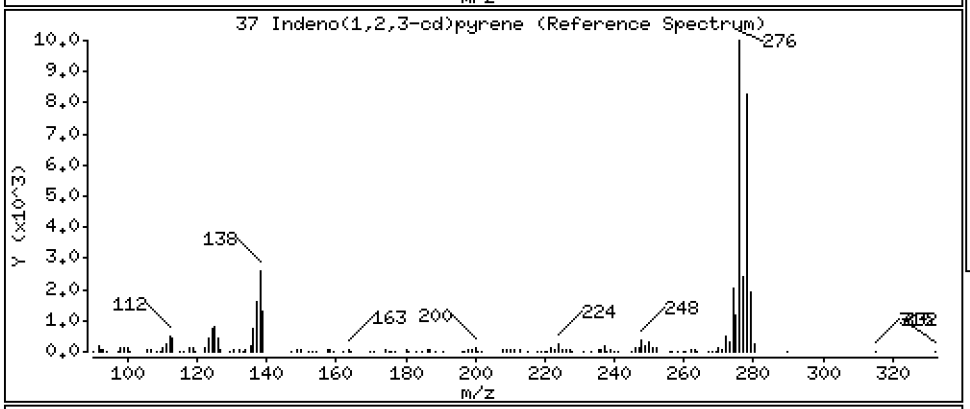
Concentration: 0.4291 ug/mL

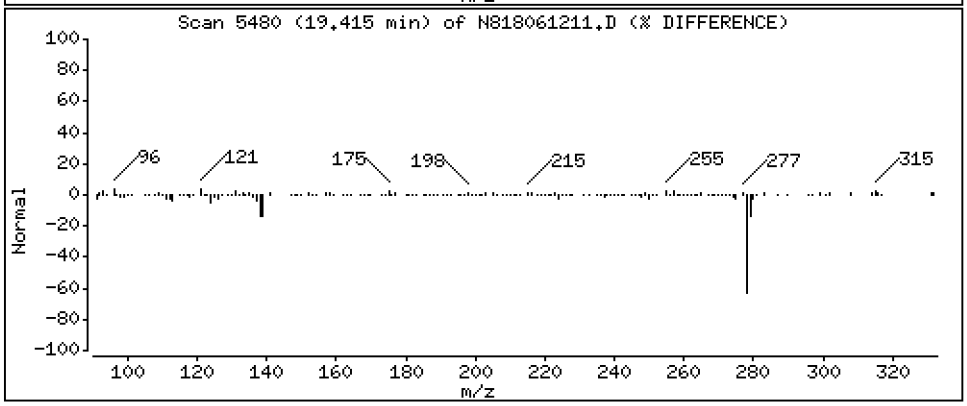












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

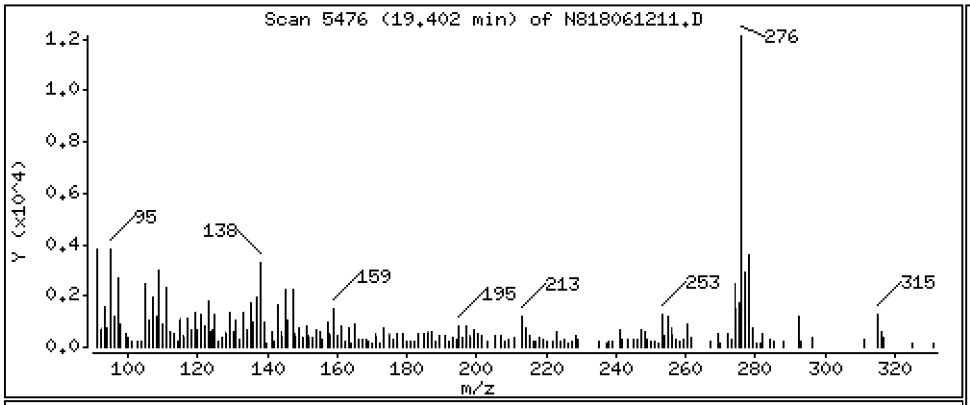
Operator: JZ

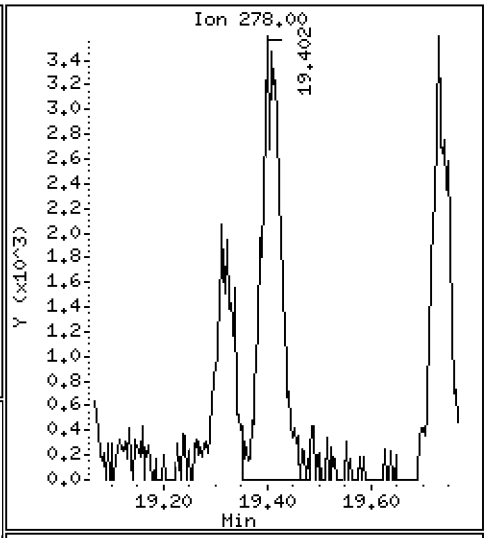
Column phase: Rxi-17sil

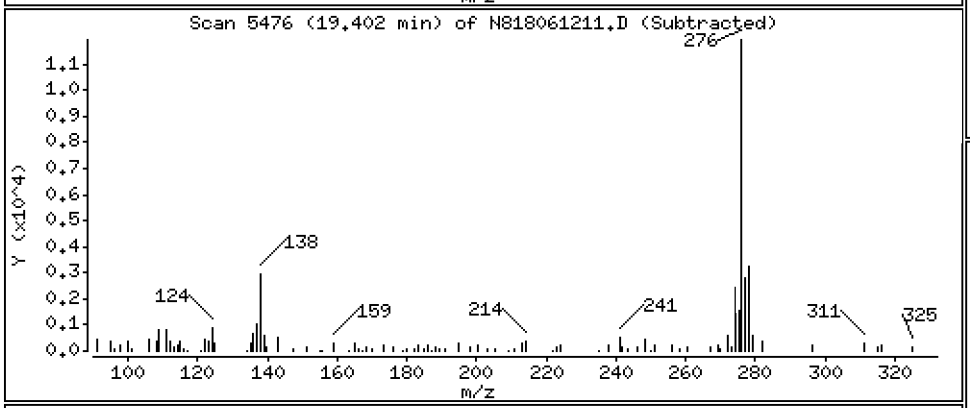
Column diameter: 0.25

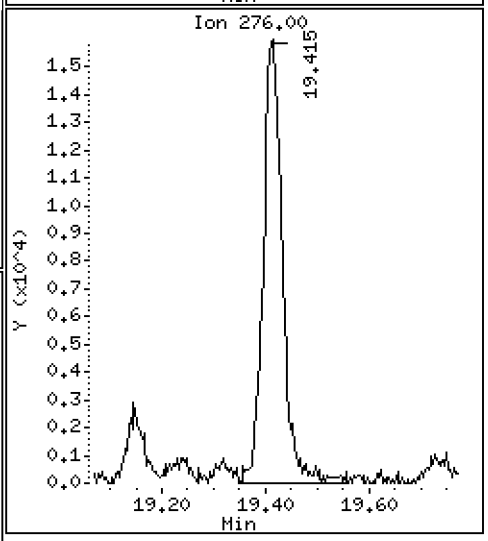
38 Dibenzo(a,h)anthracene

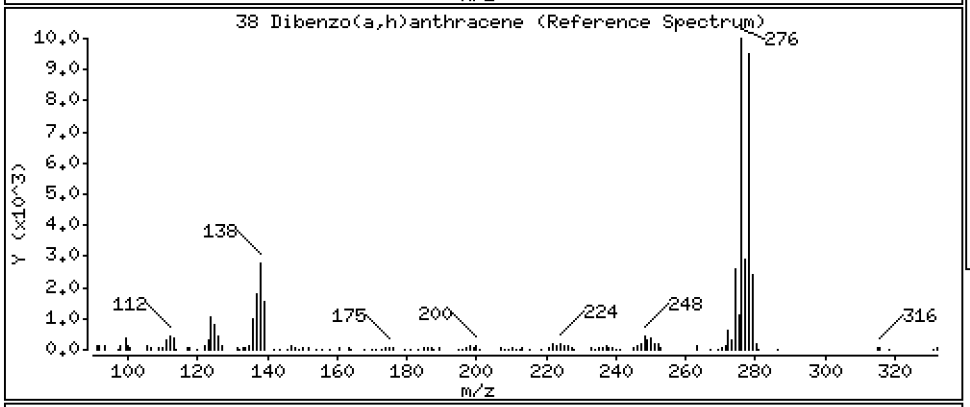
Concentration: 0.1231 ug/mL

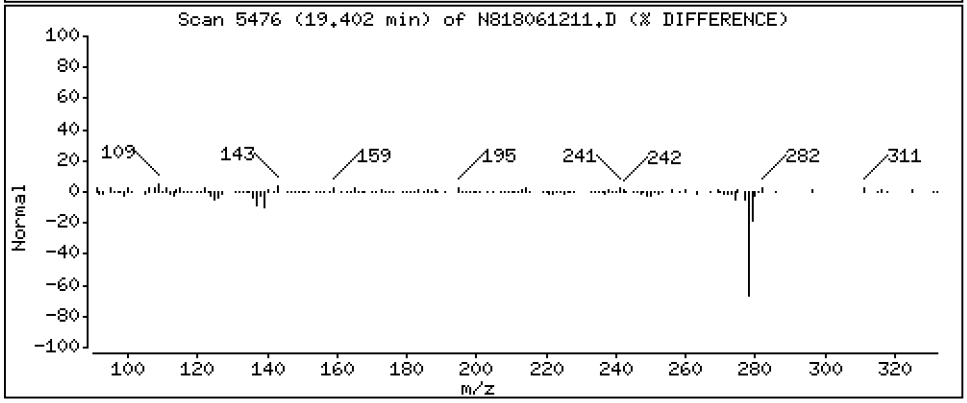












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

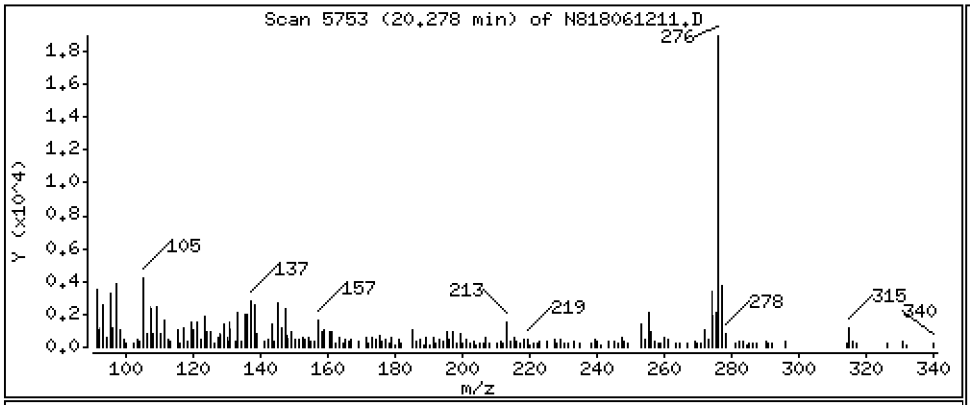
Operator: JZ

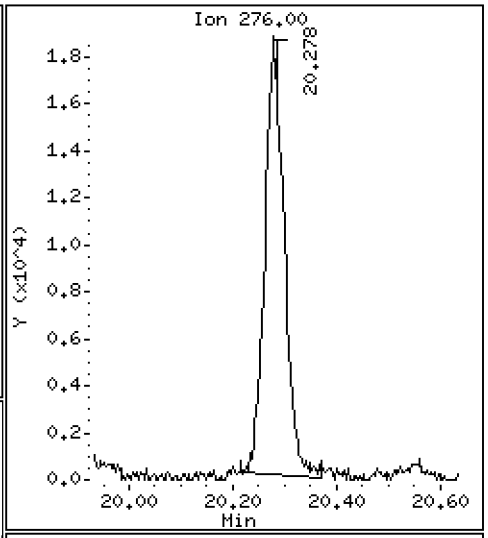
Column phase: Rxi-17sil

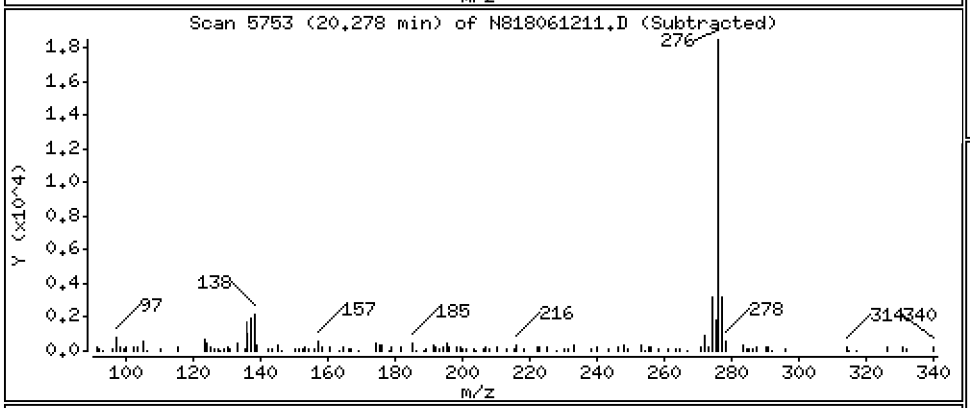
Column diameter: 0.25

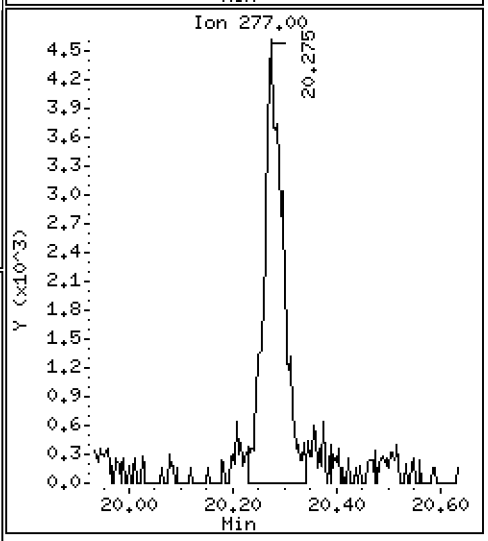
39 Benzo(g,h,i)perylene

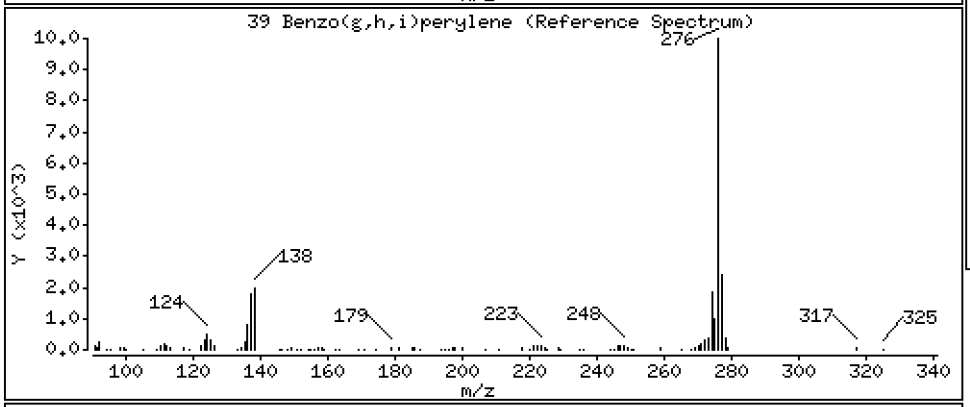
Concentration: 0.5896 ug/mL

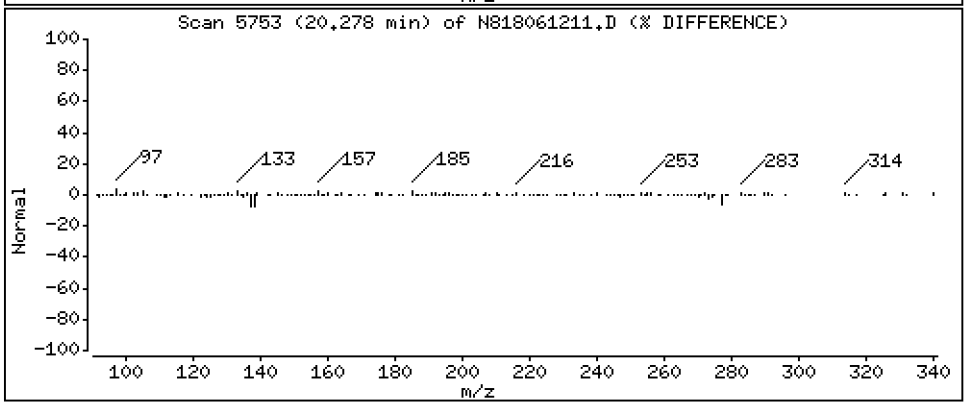












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061211.D

Date : 12-JUN-2018 18:58

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-11

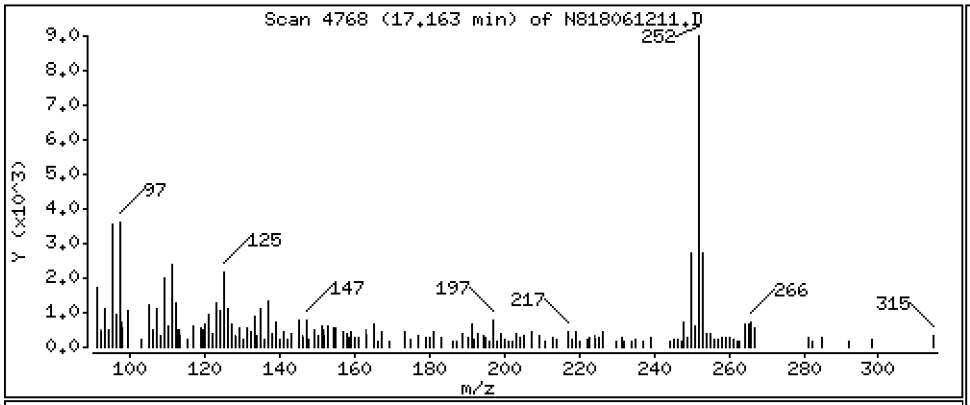
Operator: JZ

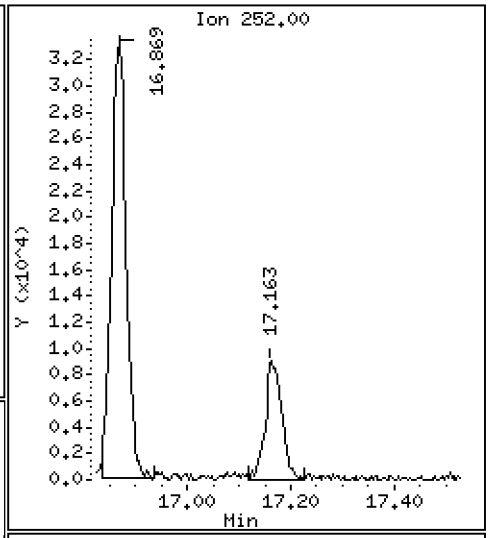
Column phase: Rxi-17sil

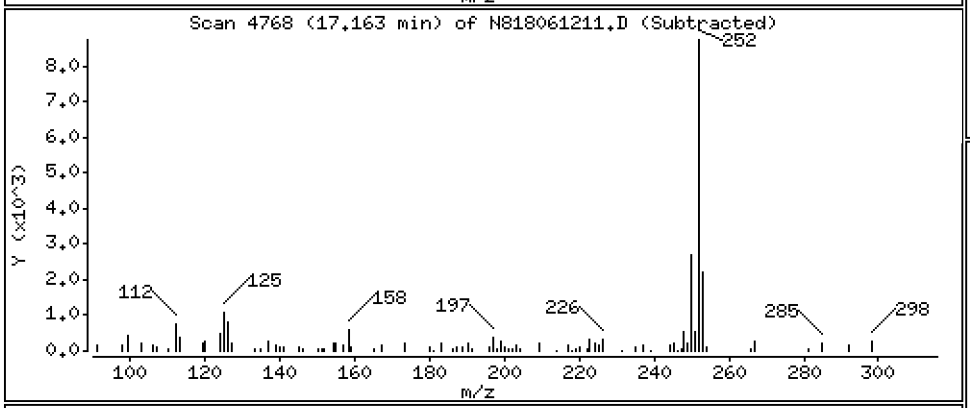
Column diameter: 0.25

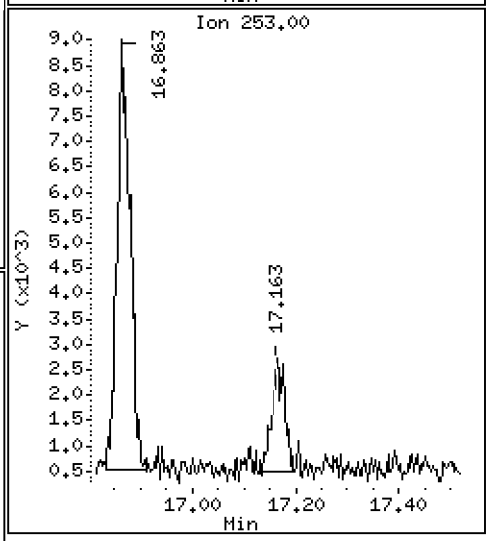
35 Perylene

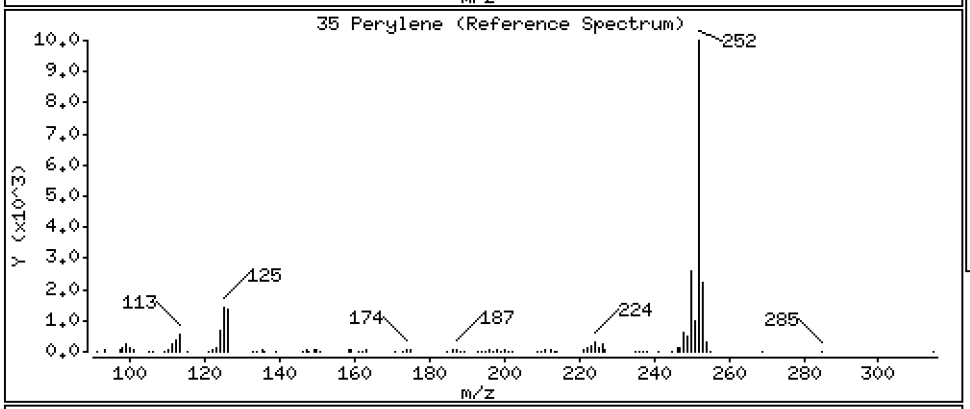
Concentration: 0.2212 ug/mL

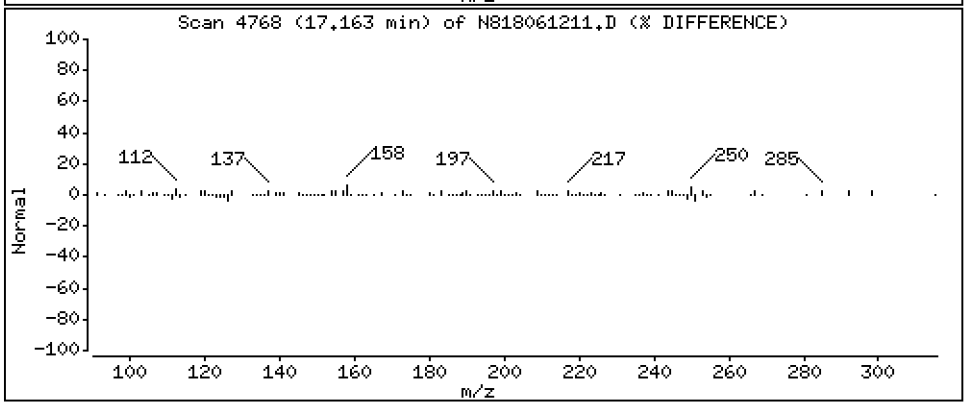












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061211.D
Lab Smp Id: 18E0243-11
Inj Date : 12-JUN-2018 18:58
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-11
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	163726	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.166)	78539	1.31500	1.315
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	6.608	6.611	(0.984)	7930	0.09183	0.09183
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	86975	2.00000	
	11 Acenaphthene	153	6.763	6.769	(1.007)	4564	0.06894	0.06894
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.389	7.395	(1.100)	4233	0.06155	0.06155
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	147460	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	42721	0.47268	0.4727
	17 Anthracene	178	8.812	8.815	(1.009)	15893	0.19300	0.1930
	22 Fluoranthene	202	10.428	10.428	(1.194)	164808	1.61802	1.618
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	171754	1.77913	1.779
	23 Pyrene	202	10.893	10.896	(0.816)	178392	1.90100	1.901
	24 Benzo(a)anthracene	228	13.226	13.226	(0.991)	66832	0.73663	0.7366
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	156153	2.00000	
	27 Chrysene	228	13.413	13.419	(1.005)	70565	0.77265	0.7727
	28 Benzo(b)fluoranthene	252	15.854	15.860	(0.927)	50555	0.53081	0.5308
	29 Benzo(k)fluoranthene	252	15.914	15.917	(0.931)	31723	0.33873	0.3387
	30 Benzo(j)fluoranthene	252	15.983	15.990	(0.935)	30803	0.32848	0.3285
	31 Total Benzofluoranthenes	252	15.854	15.860	(0.927)	111131	1.19644	1.196(M)
	32 Benzo(a)pyrene	252	16.869	16.872	(0.987)	66978	0.80237	0.8024
*	33 Perylene-d12	264	17.096	17.099	(1.000)	149861	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.414	19.420	(1.136)	41010	0.42913	0.4291
$	36 Dibenzo(a,h)anthracene-d14	292	19.326	19.325	(1.130)	144302	2.05577	2.056
	38 Dibenzo(a,h)anthracene	278	19.401	19.417	(1.135)	9702	0.12307	0.1231
	39 Benzo(g,h,i)perylene	276	20.277	20.284	(1.186)	49245	0.58959	0.5896
	35 Perylene	252	17.163	17.175	(1.004)	20046	0.22116	0.2212

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061211.D
Lab Smp Id: 18E0243-11
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	163726	33.99
10 Acenaphthene-d10	65789	32895	131578	86975	32.20
15 Phenanthrene-d10	128644	64322	257288	147460	14.63
25 Chrysene-d12	166669	83335	333338	156153	-6.31
33 Perylene-d12	140483	70242	280966	149861	6.68

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.28
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061211.D

Lab ID: 18E0243-11
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 18:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

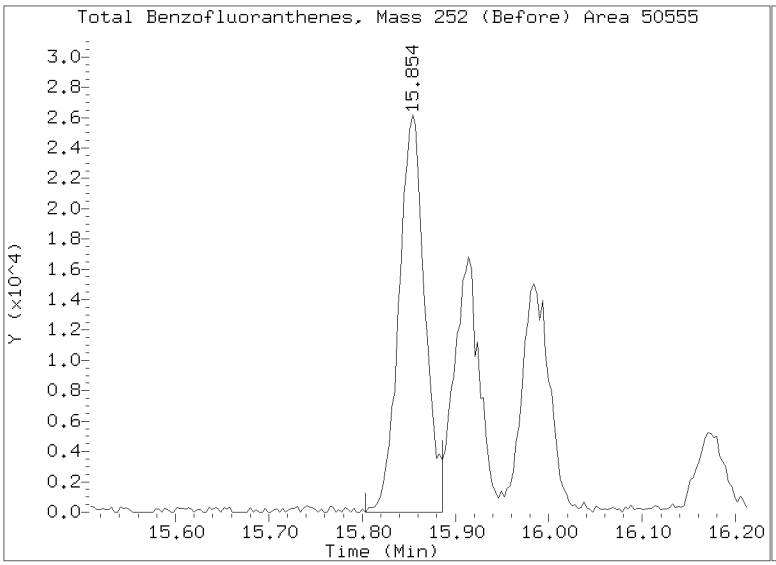
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

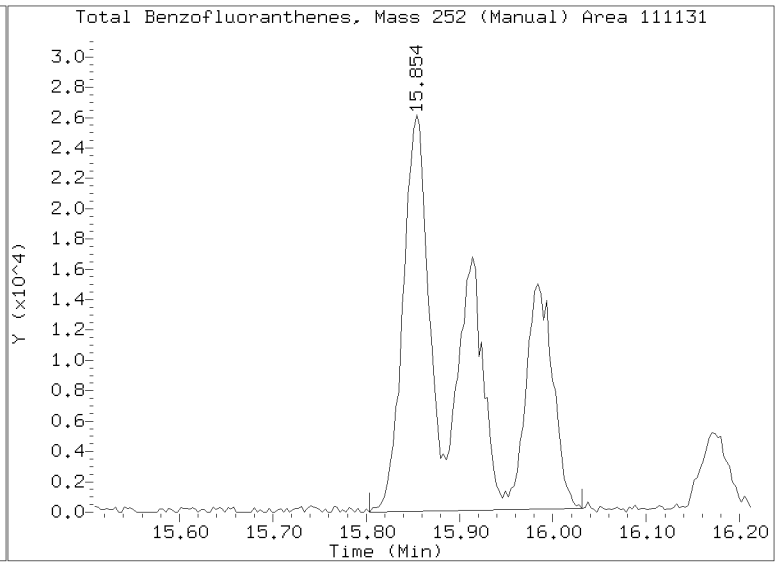
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061211.D
Injection Date: 12-JUN-2018 18:58
Lab ID:18E0243-11 Client ID:
Report Date: 06/13/2018 11:27





LDW18-A05-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-12	SDG:	18E0231
Sampled:	05/16/18 12:54	Prepared:	06/05/18 12:40	File ID:	N818061212.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 19:25
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.14 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.64	J	0.53	4.93
218-01-9	Chrysene	1	4.32	J	0.48	4.93
205-99-2	Benzo(b)fluoranthene	1	2.87	J	0.99	4.93
207-08-9	Benzo(k)fluoranthene	1	1.82	J	0.70	4.93
50-32-8	Benzo(a)pyrene	1	4.93	U	0.90	4.93
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.93	U	0.57	4.93
53-70-3	Dibenzo(a,h)anthracene	1	4.93	U	1.51	4.93

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	147.93	59.3	40.1	20 - 130	
Dibenzo[a,h]anthracene-d14	147.93	94.9	64.1	20 - 130	
Fluoranthene-d10	147.93	78.2	52.9	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

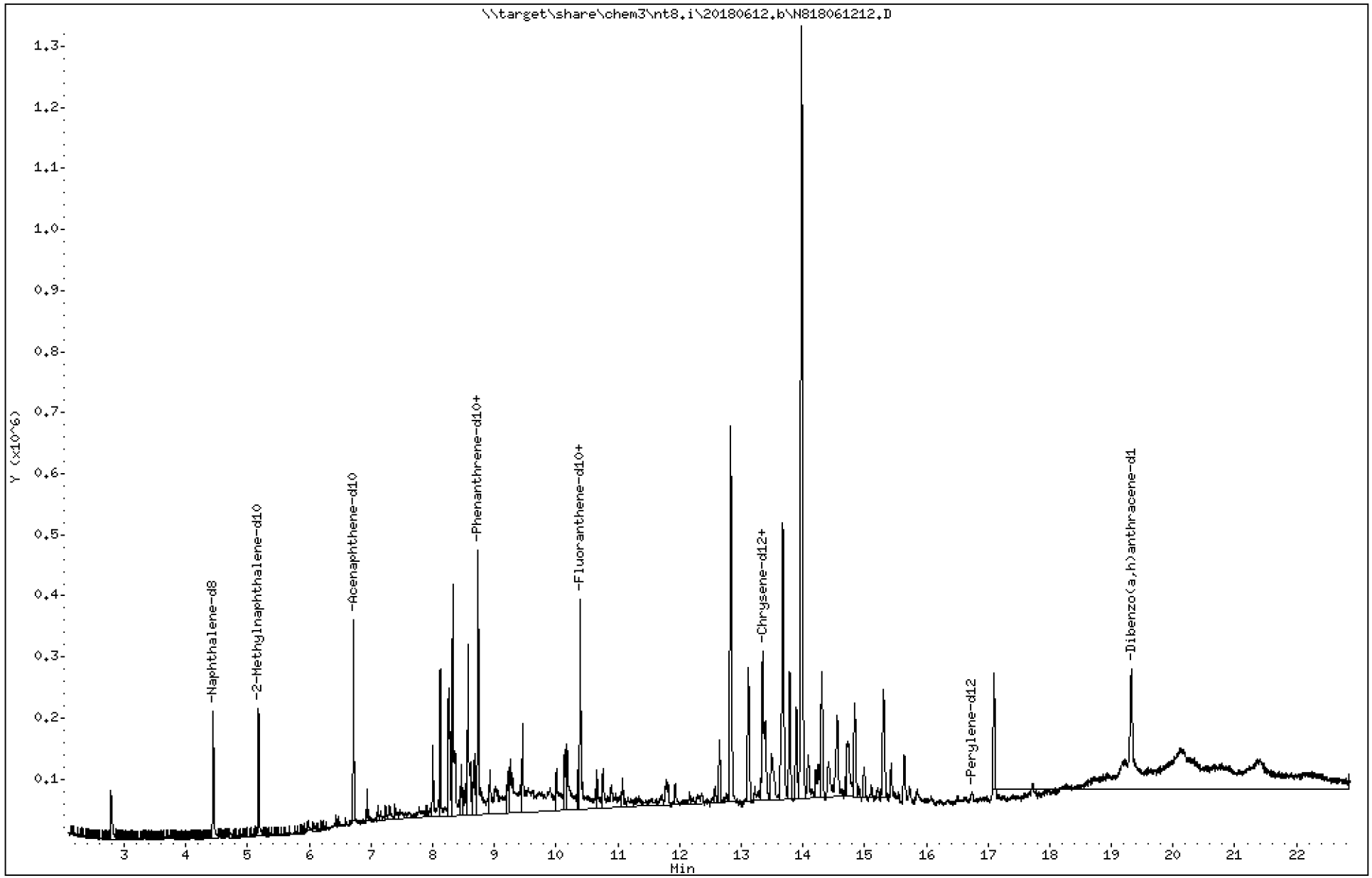
Instrument: nt8.i

Sample Info: 18E0243-12

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

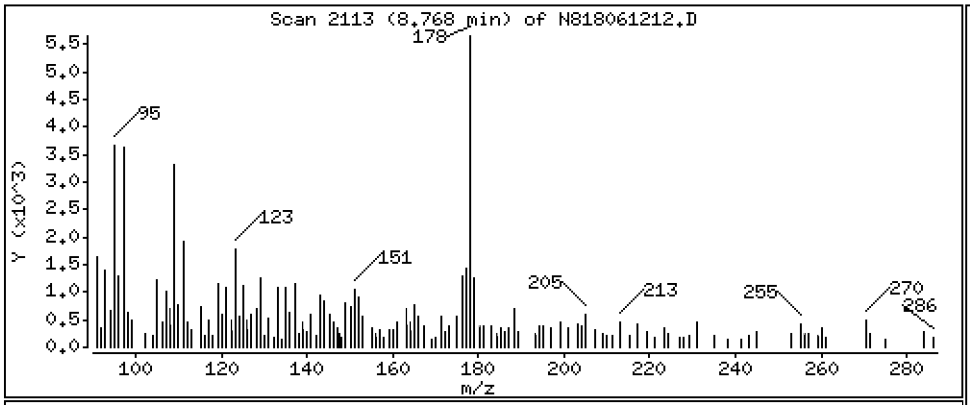
Operator: JZ

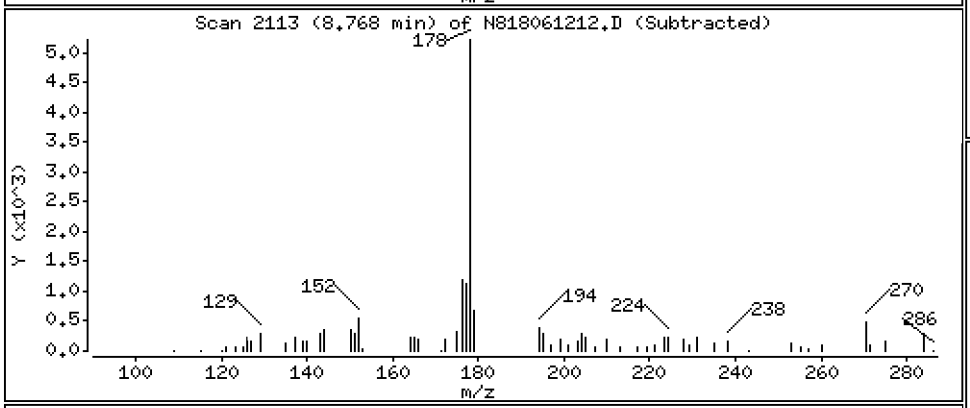
Column phase: Rxi-17sil

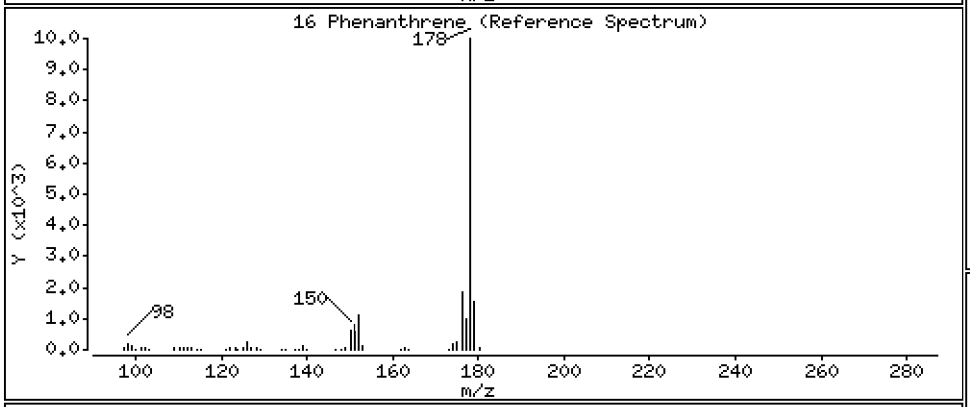
Column diameter: 0.25

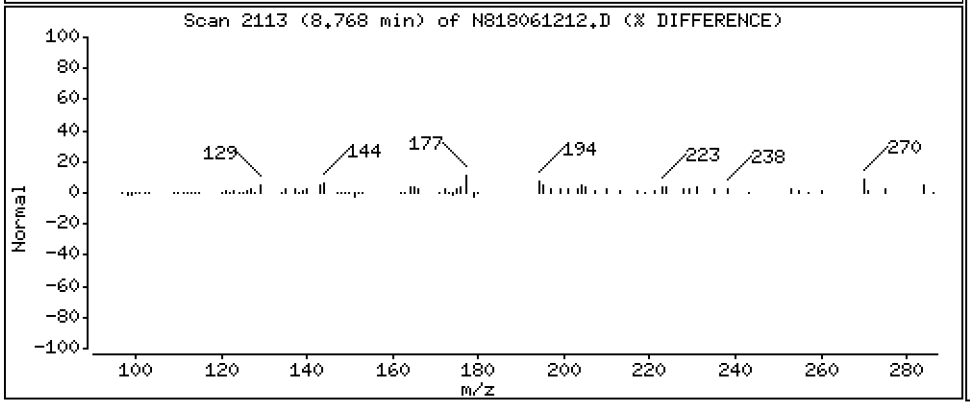
16 Phenanthrene

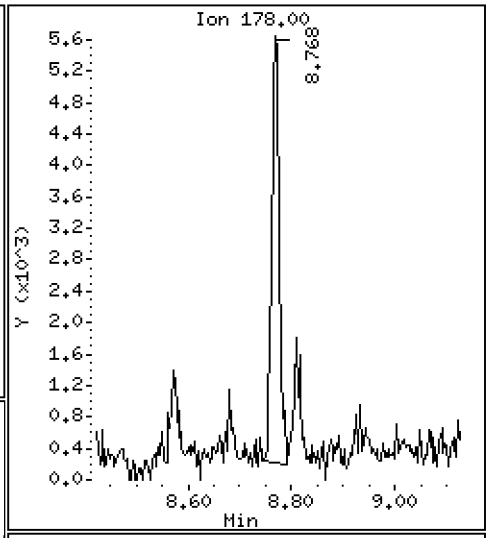
Concentration: 0.06012 ug/mL

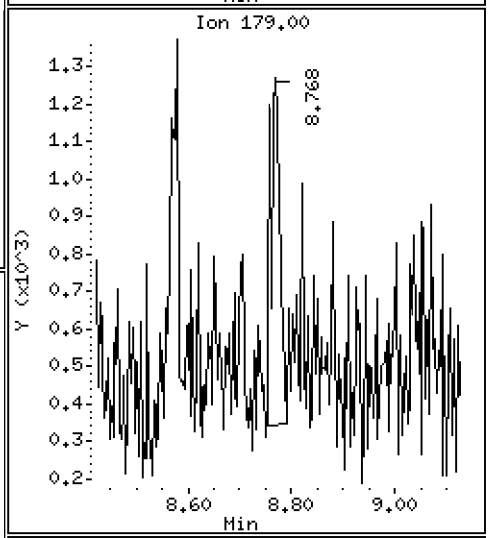


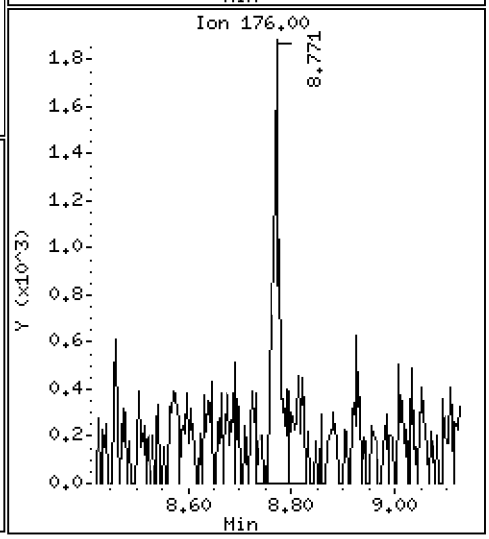












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

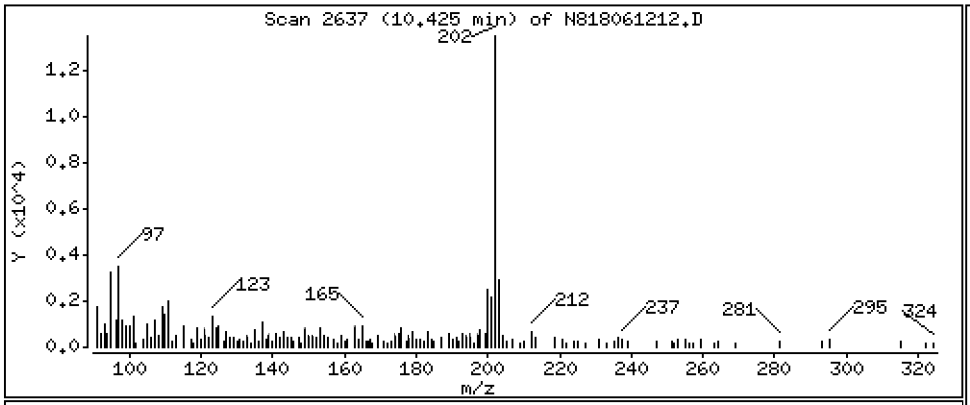
Operator: JZ

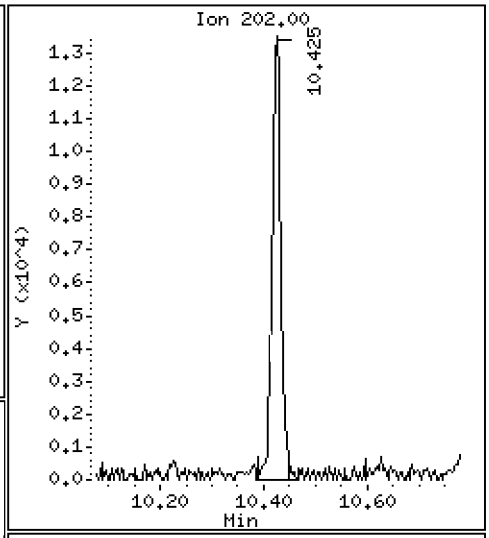
Column phase: Rxi-17sil

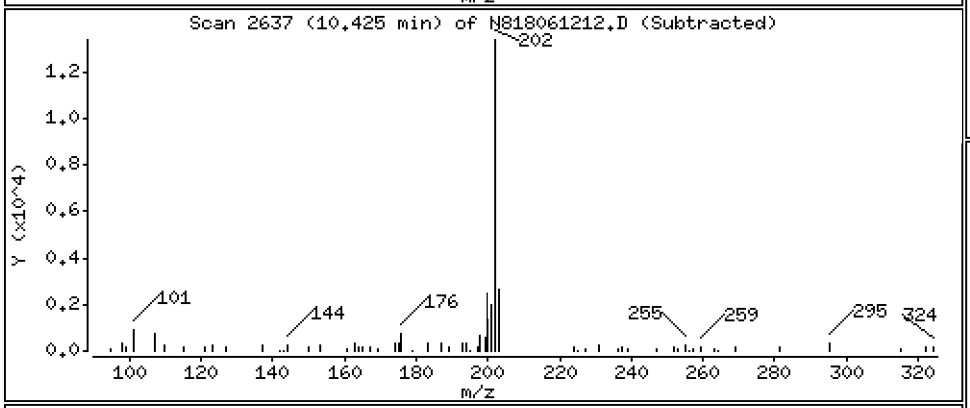
Column diameter: 0.25

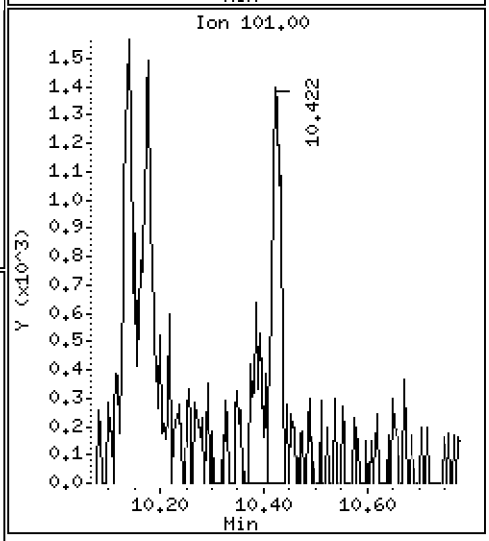
22 Fluoranthene

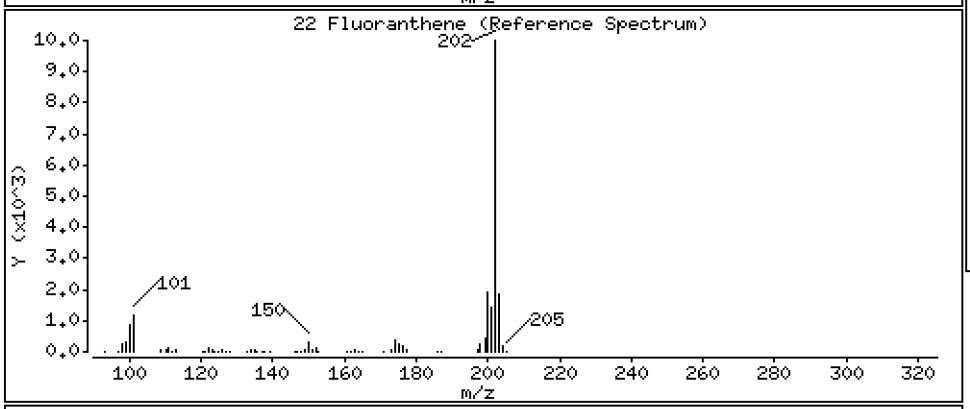
Concentration: 0.1486 ug/mL

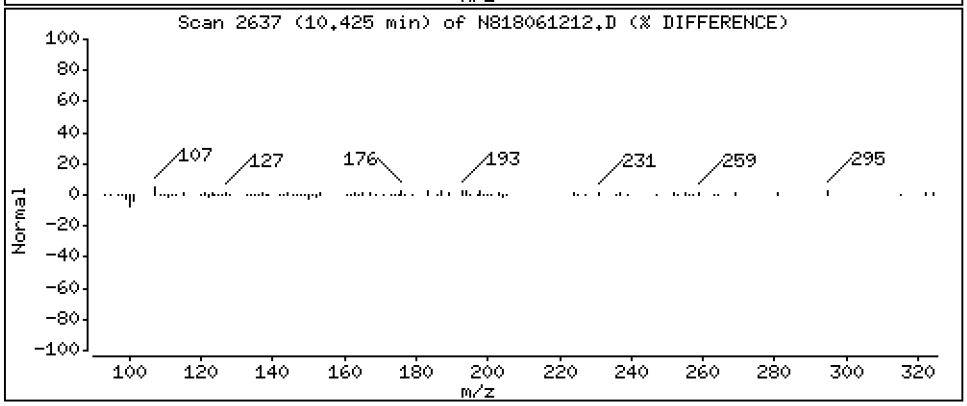












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

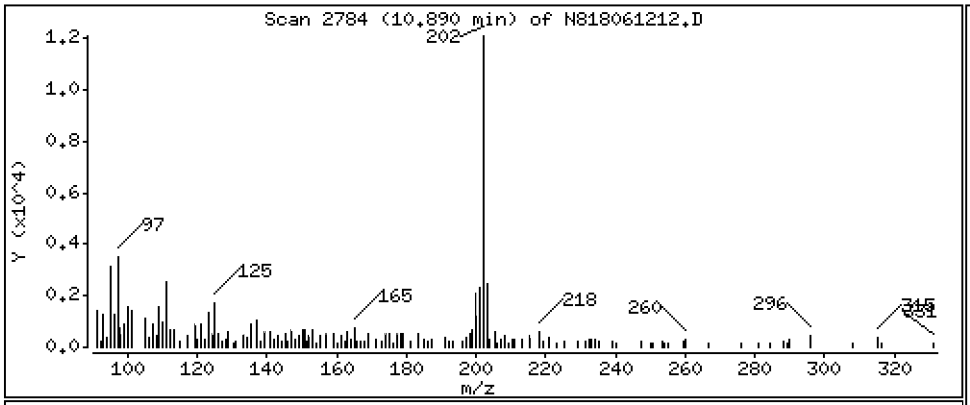
Operator: JZ

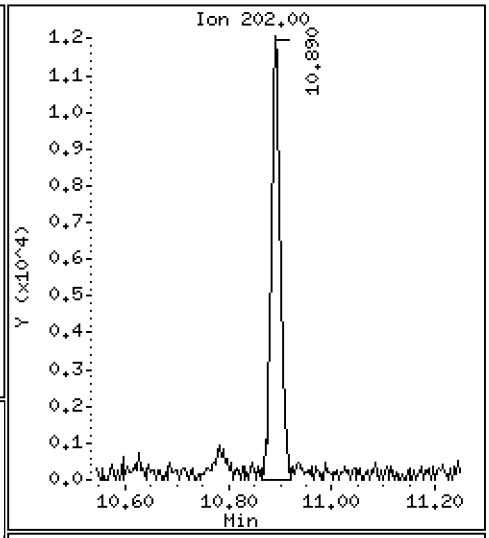
Column phase: Rxi-17sil

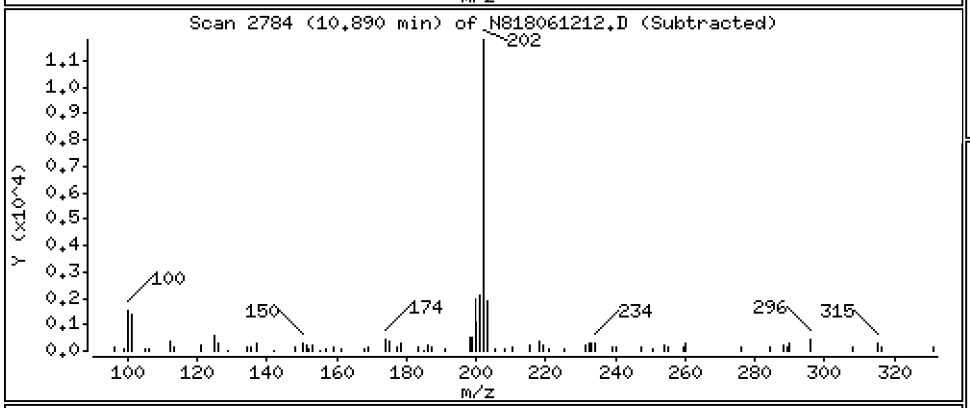
Column diameter: 0.25

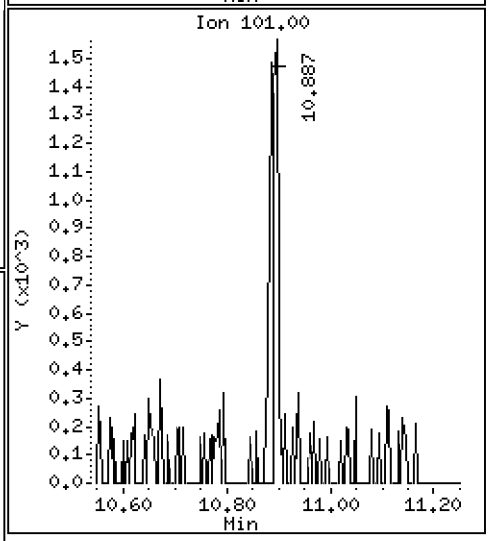
23 Pyrene

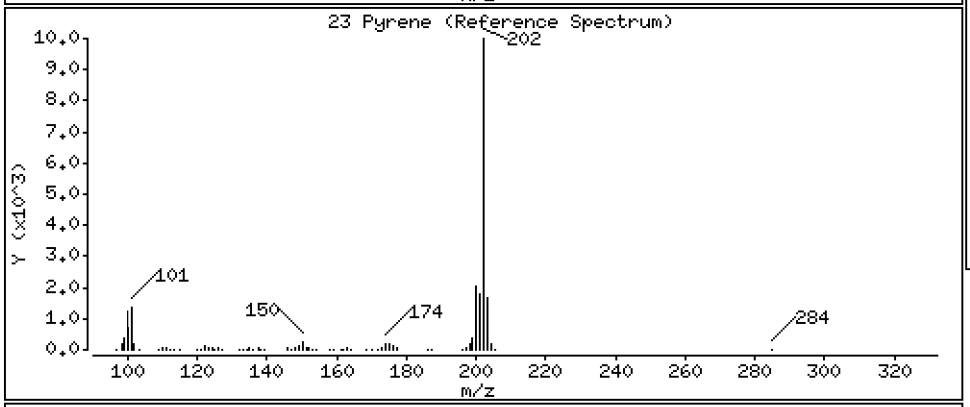
Concentration: 0.1521 ug/mL

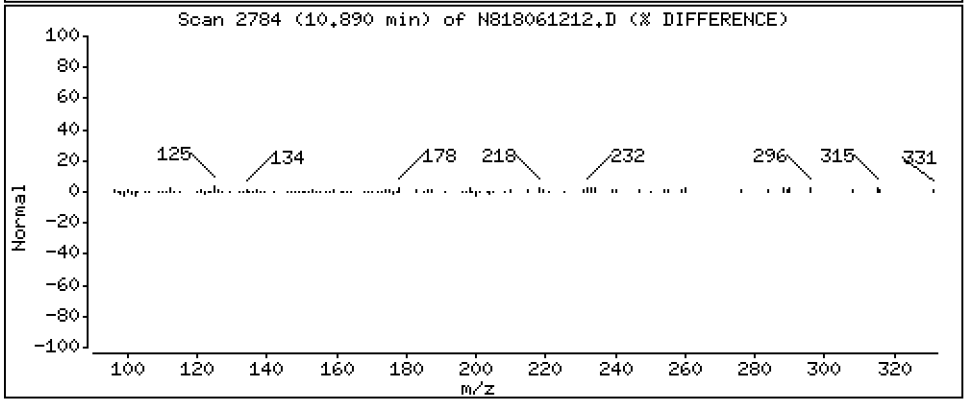












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

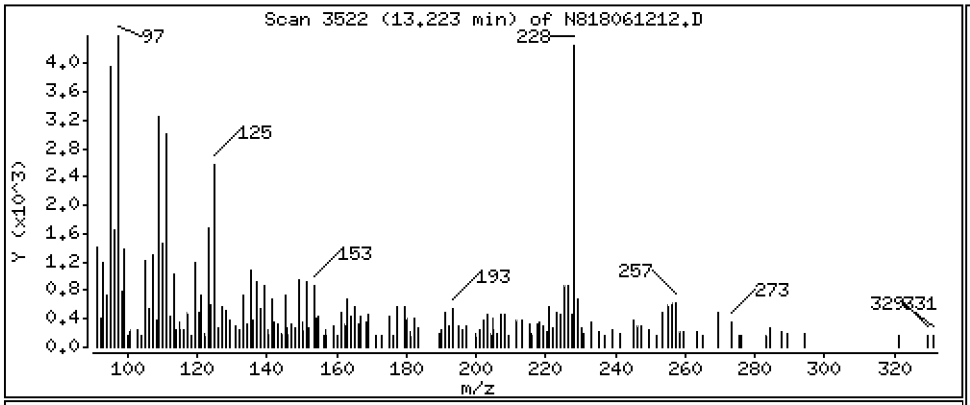
Operator: JZ

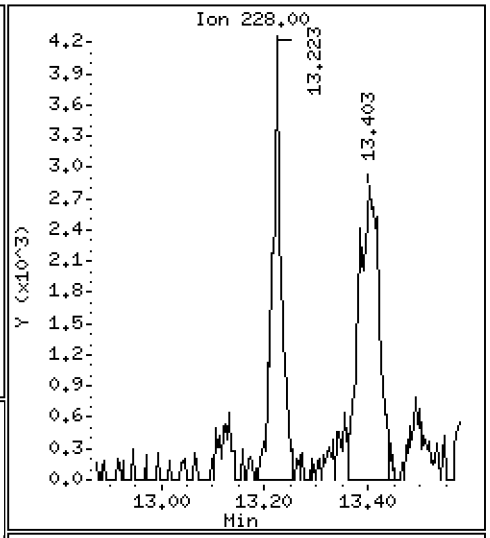
Column phase: Rxi-17sil

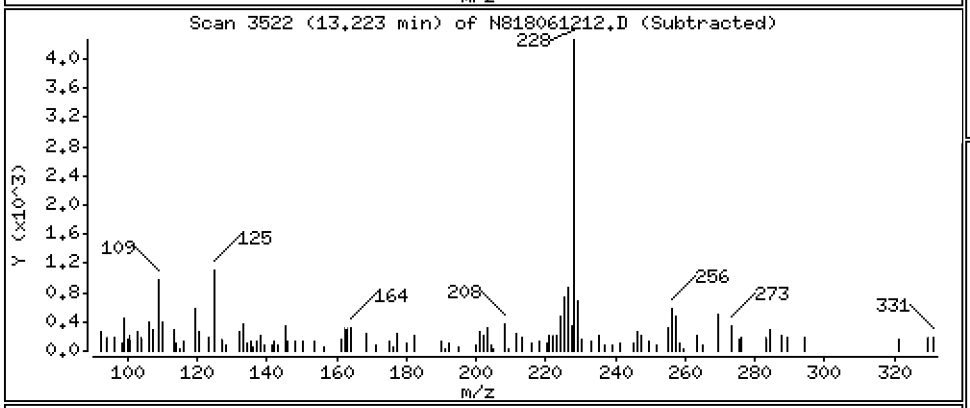
Column diameter: 0.25

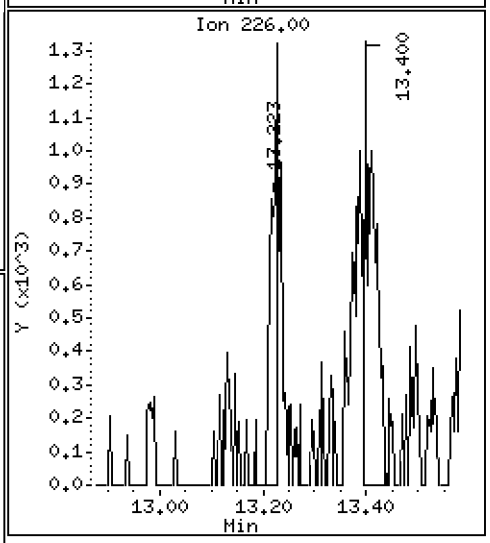
24 Benzo(a)anthracene

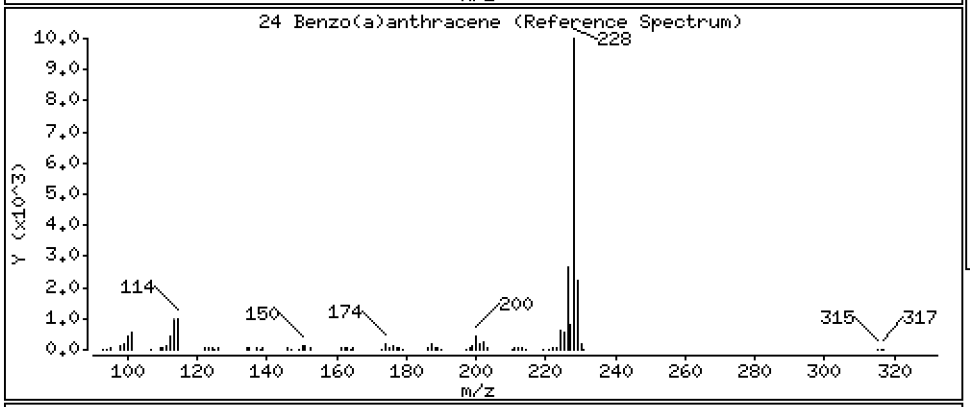
Concentration: 0.05346 ug/mL

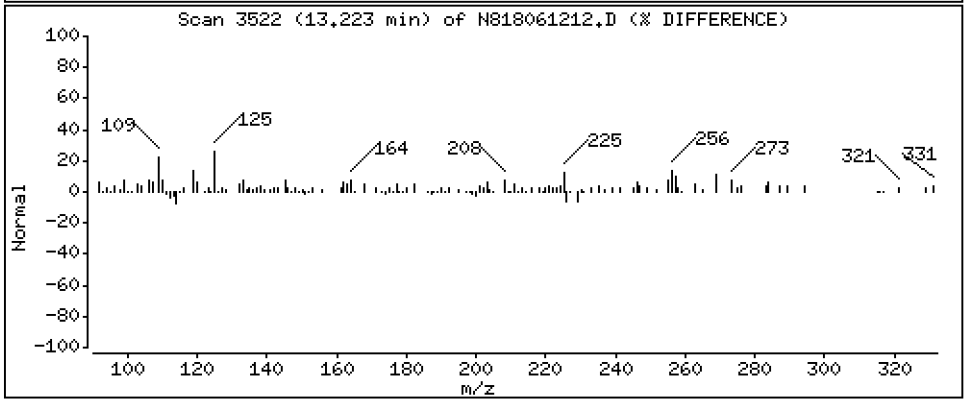












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

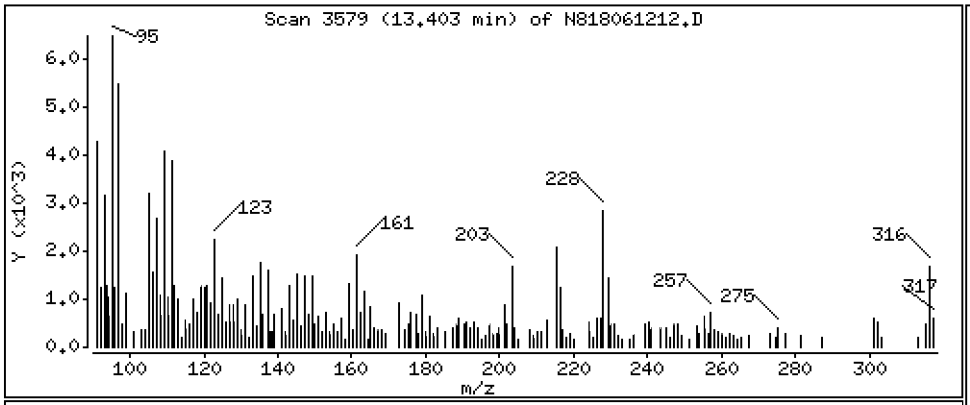
Operator: JZ

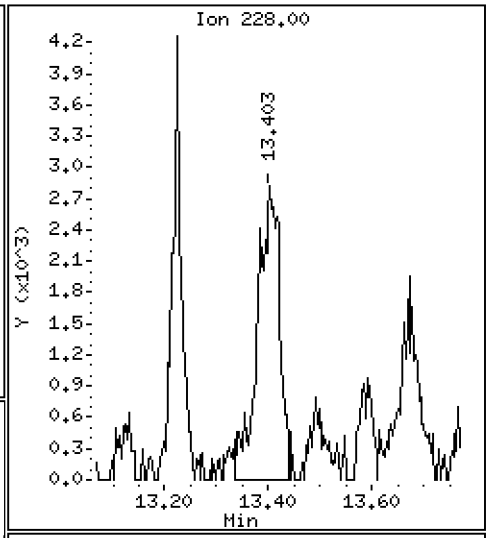
Column phase: Rxi-17sil

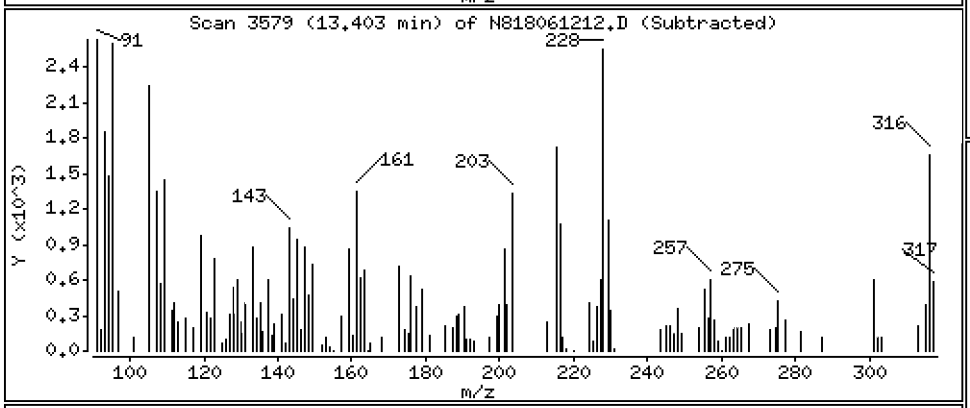
Column diameter: 0.25

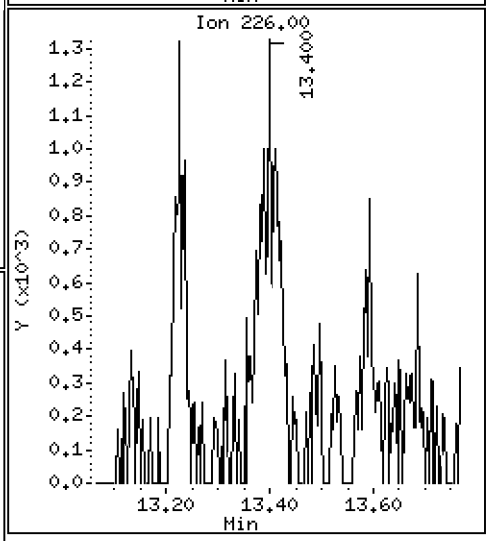
27 Chrysene

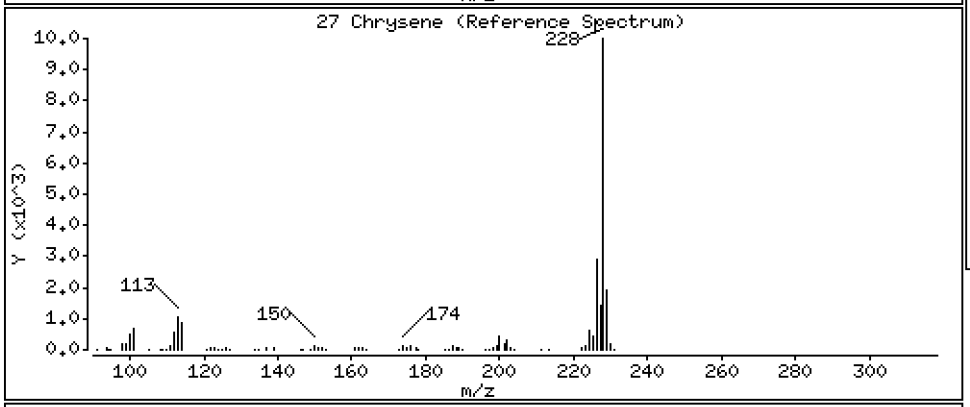
Concentration: 0.08769 ug/mL

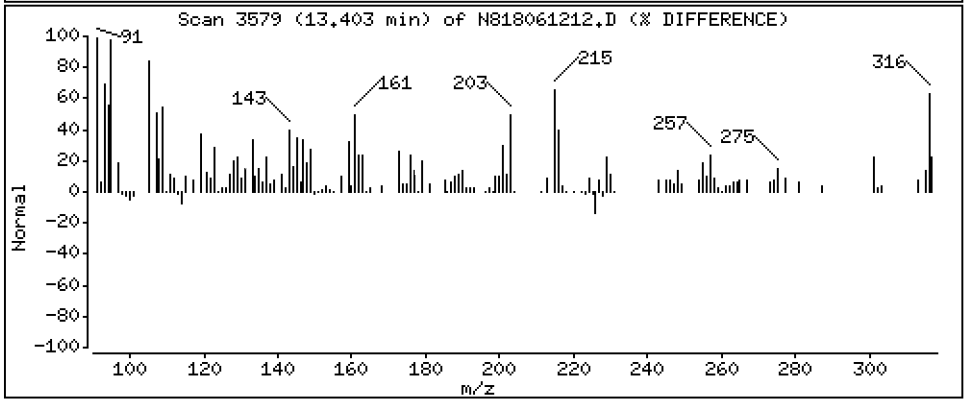












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

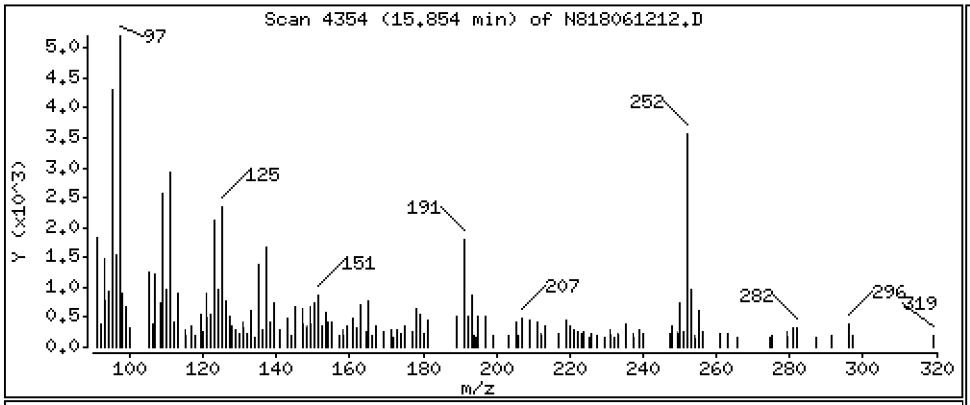
Operator: JZ

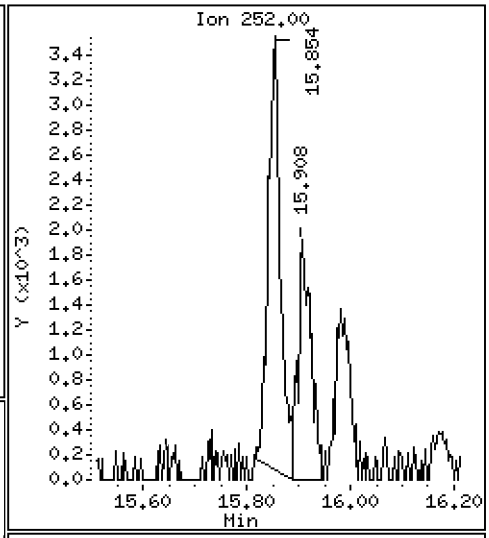
Column phase: Rxi-17sil

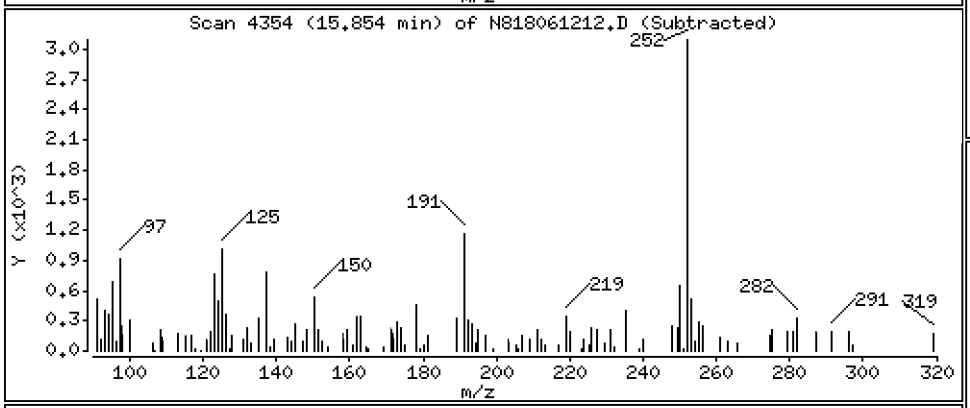
Column diameter: 0.25

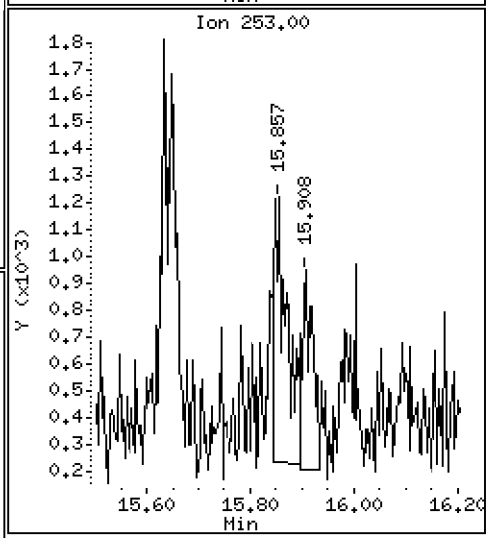
28 Benzo(b)fluoranthene

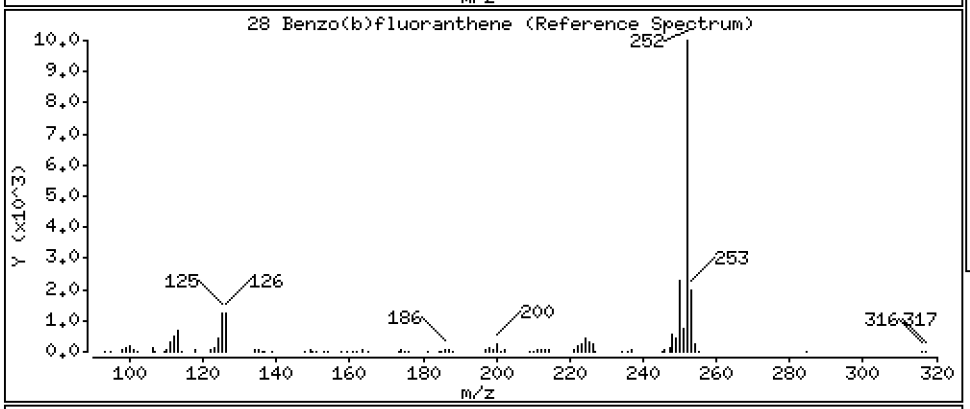
Concentration: 0.05815 ug/mL

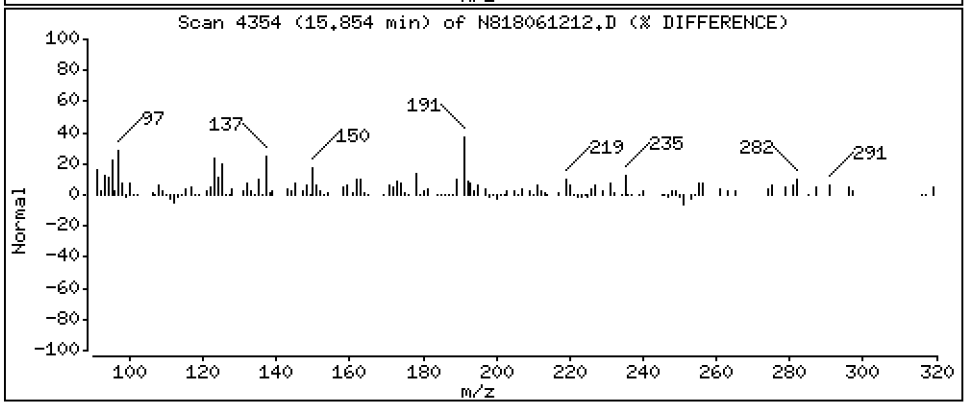












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

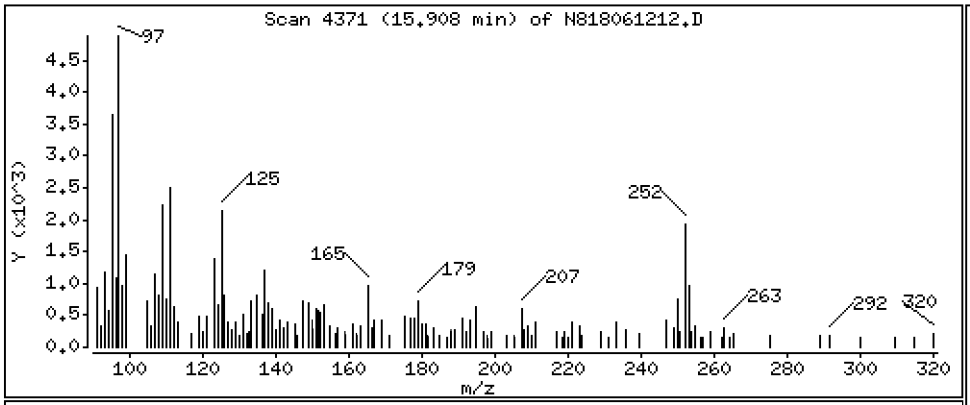
Operator: JZ

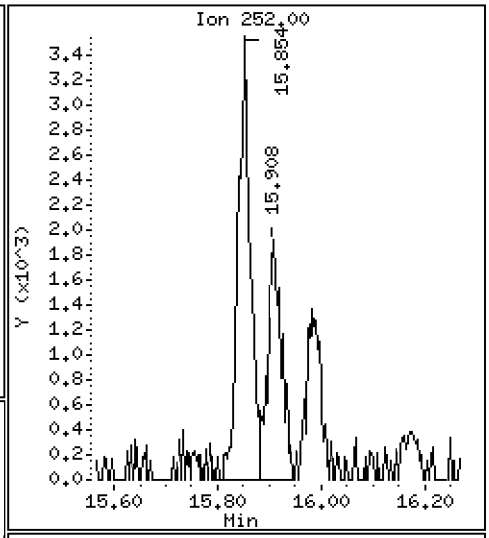
Column phase: Rxi-17sil

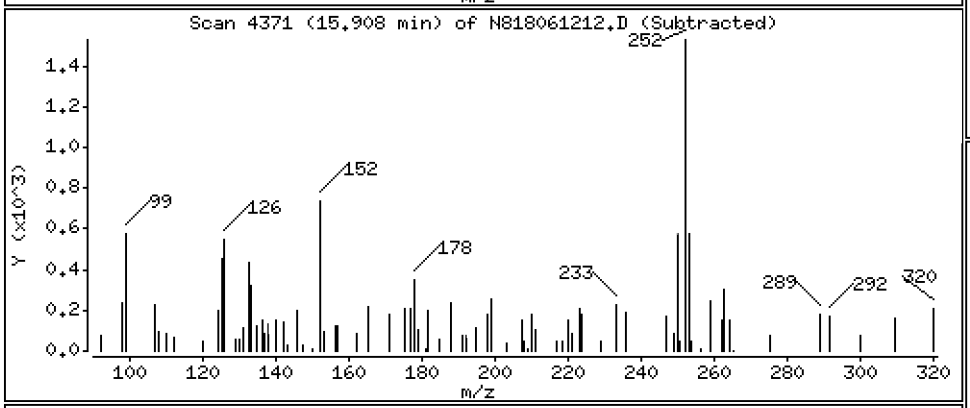
Column diameter: 0.25

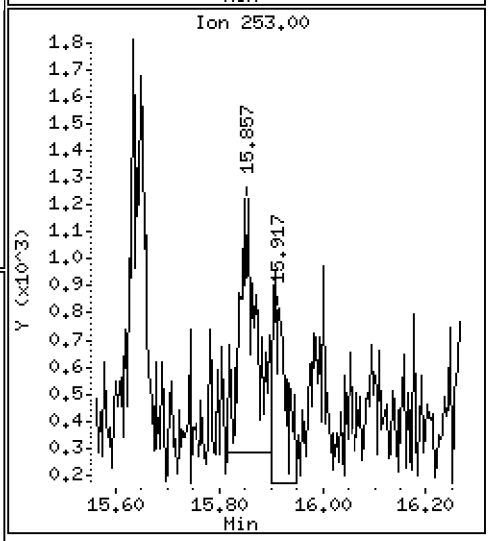
29 Benzo(k)fluoranthene

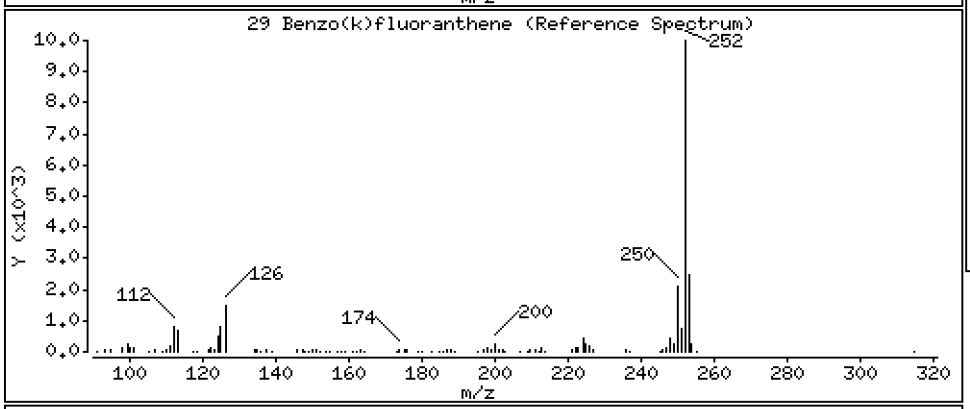
Concentration: 0.03689 ug/mL

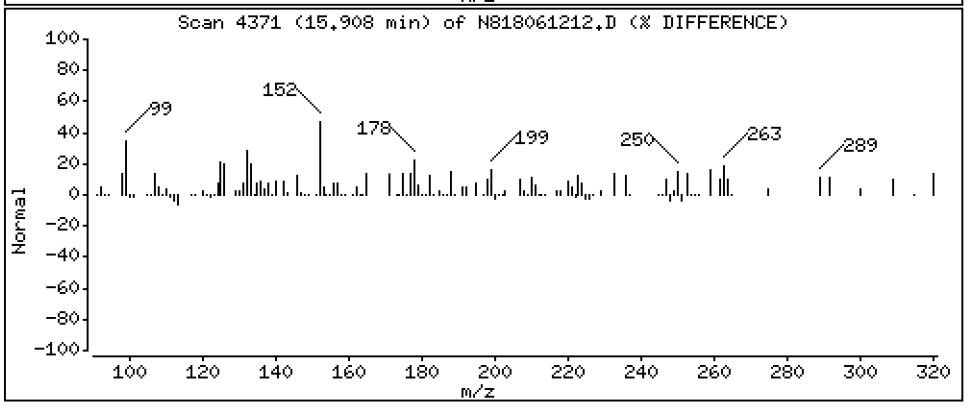












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

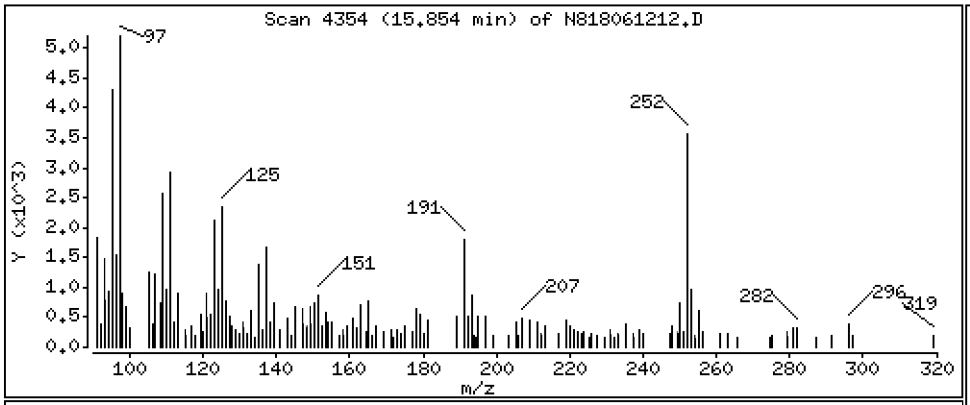
Operator: JZ

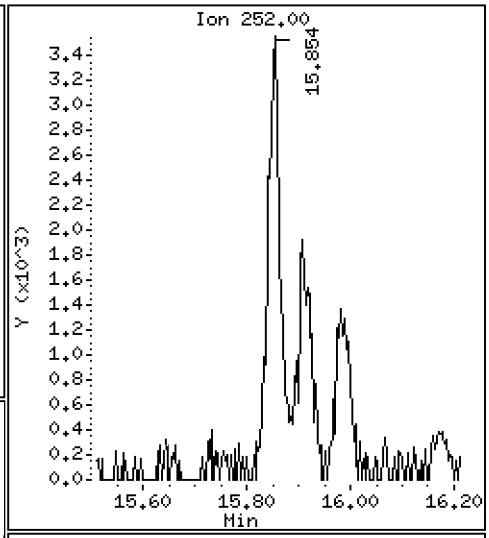
Column phase: Rxi-17sil

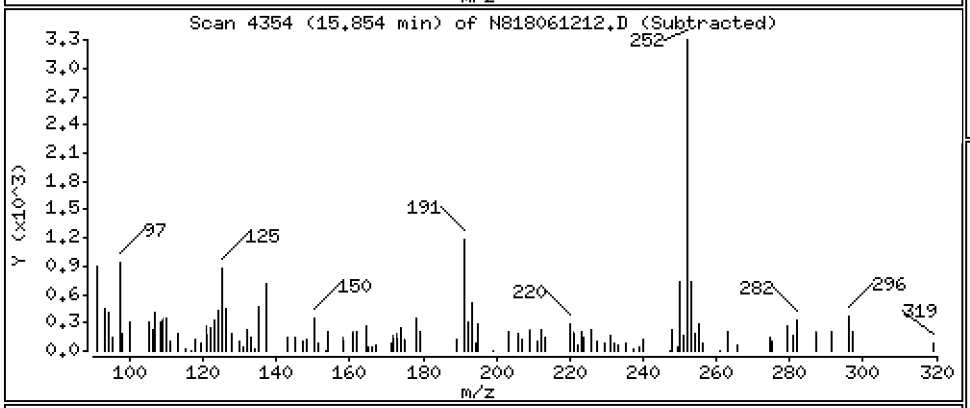
Column diameter: 0.25

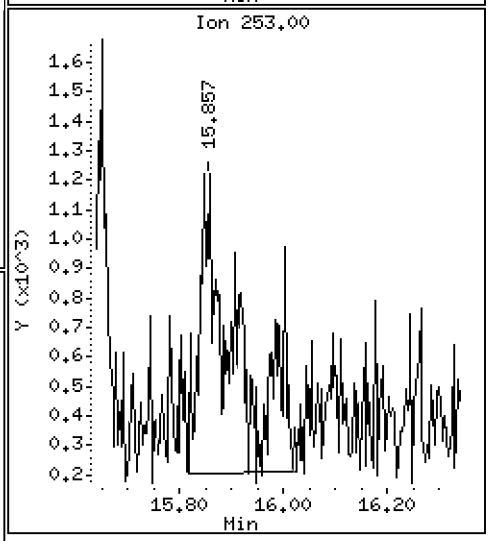
31 Total Benzofluoranthenes

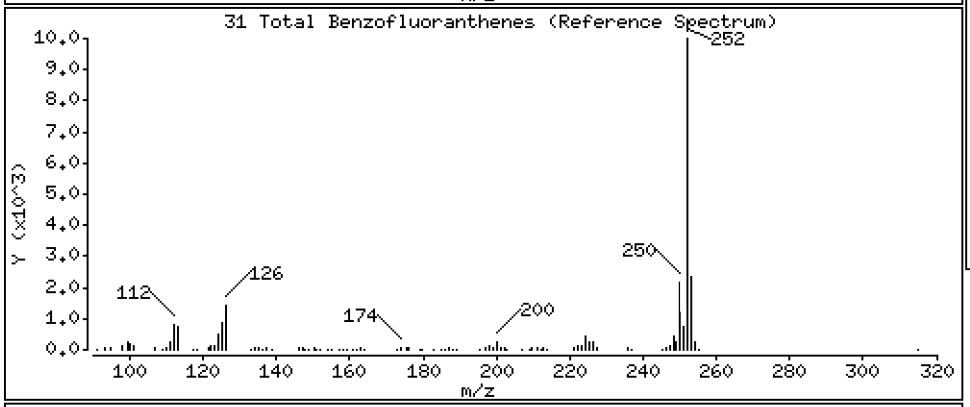
Concentration: 0.1292 ug/mL

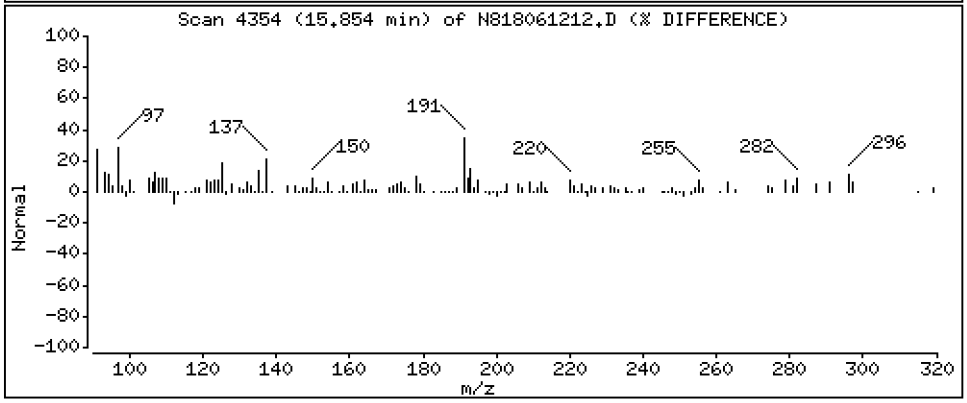












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061212.D

Date : 12-JUN-2018 19:25

Client ID:

Instrument: nt8.i

Sample Info: 18E0243-12

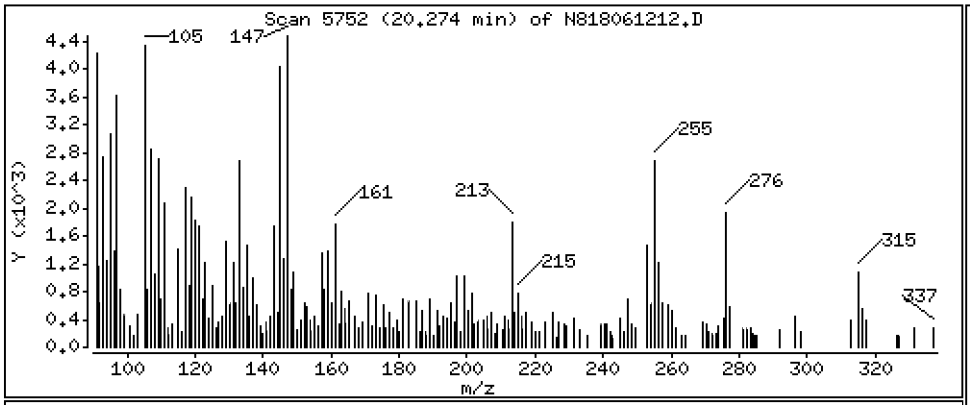
Operator: JZ

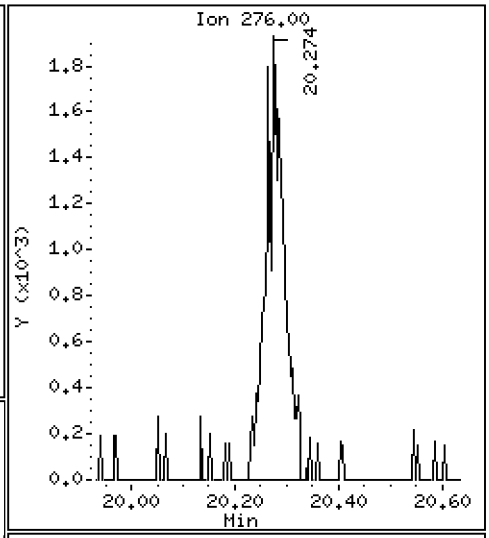
Column phase: Rxi-17sil

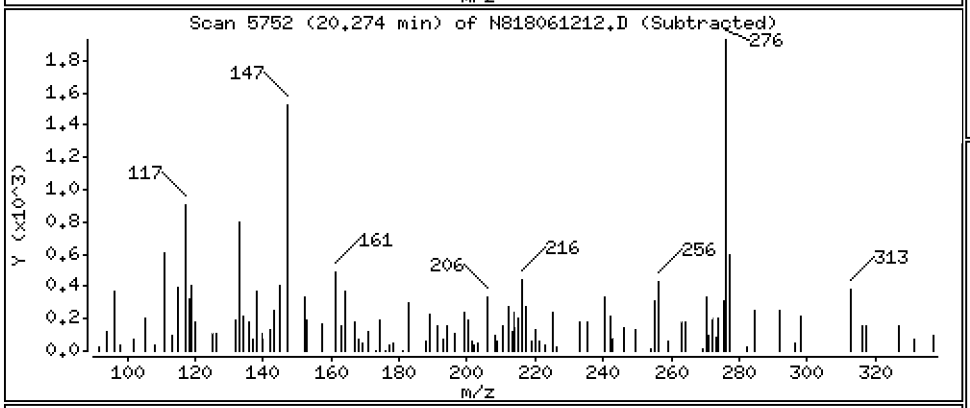
Column diameter: 0.25

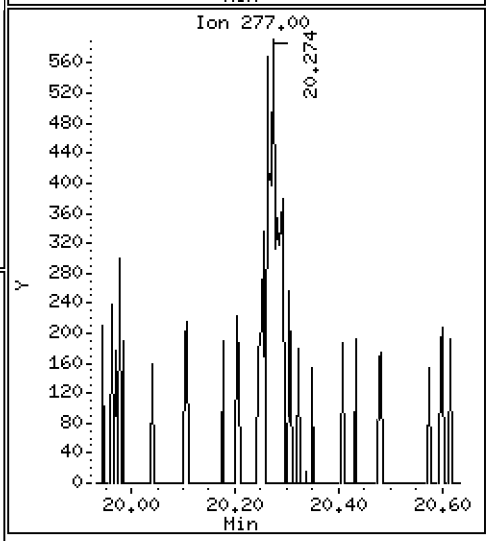
39 Benzo(g,h,i)perylene

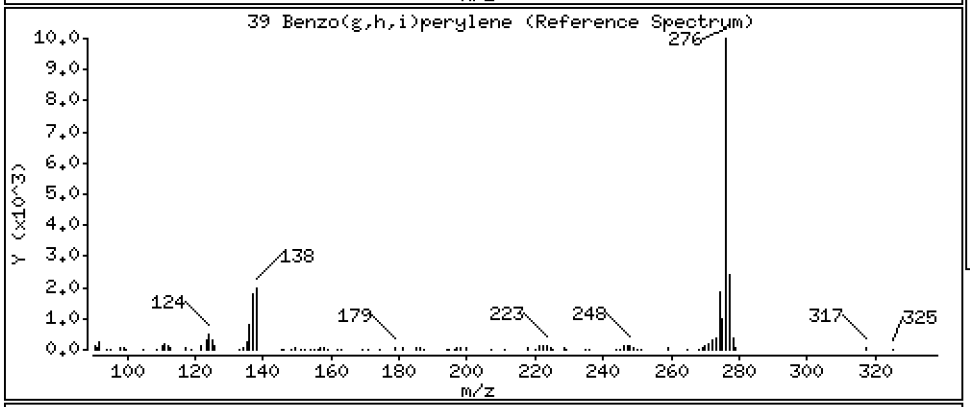
Concentration: 0.05434 ug/mL

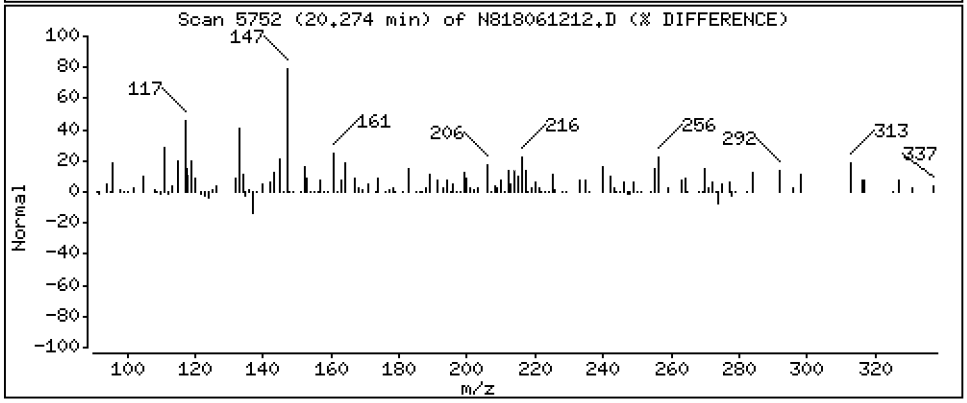












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061212.D
Lab Smp Id: 18E0243-12
Inj Date : 12-JUN-2018 19:25
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0243-12
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	168097	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.176	5.185	(1.165)	73765	1.20295	1.203
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	88888	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	157393	2.00000	
	16 Phenanthrene	178	8.768	8.774	(1.004)	5800	0.06012	0.06012
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	16151	0.14856	0.1486
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	163395	1.58573	1.586
	23 Pyrene	202	10.889	10.896	(0.816)	14921	0.15208	0.1521
	24 Benzo(a)anthracene	228	13.223	13.226	(0.991)	5071	0.05346	0.05346
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	163261	2.00000	
	27 Chrysene	228	13.403	13.419	(1.004)	8373	0.08769	0.08769(M)
	28 Benzo(b)fluoranthene	252	15.854	15.860	(0.927)	5744	0.05815	0.05815
	29 Benzo(k)fluoranthene	252	15.907	15.917	(0.931)	3583	0.03689	0.03689
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.854	15.860	(0.927)	12444	0.12916	0.1292(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	155440	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	140052	1.92361	1.924
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.274	20.284	(1.186)	4708	0.05434	0.05434
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061212.D
Lab Smp Id: 18E0243-12
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	168097	37.57
10 Acenaphthene-d10	65789	32895	131578	88888	35.11
15 Phenanthrene-d10	128644	64322	257288	157393	22.35
25 Chrysene-d12	166669	83335	333338	163261	-2.04
33 Perylene-d12	140483	70242	280966	155440	10.65

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.29
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061212.D

Lab ID: 18E0243-12
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 19:25

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

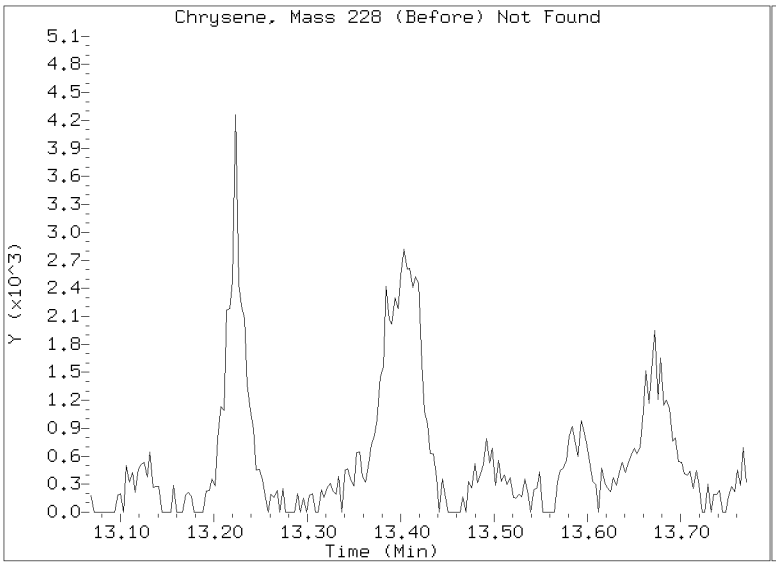
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

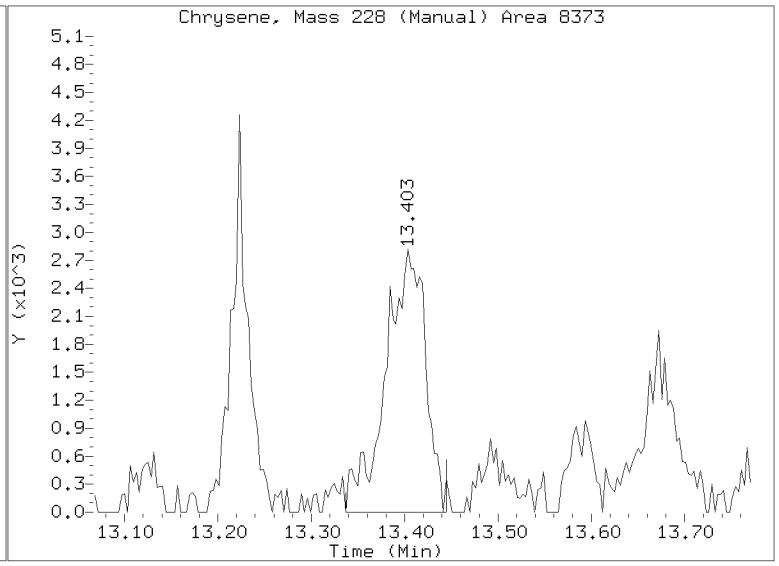
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

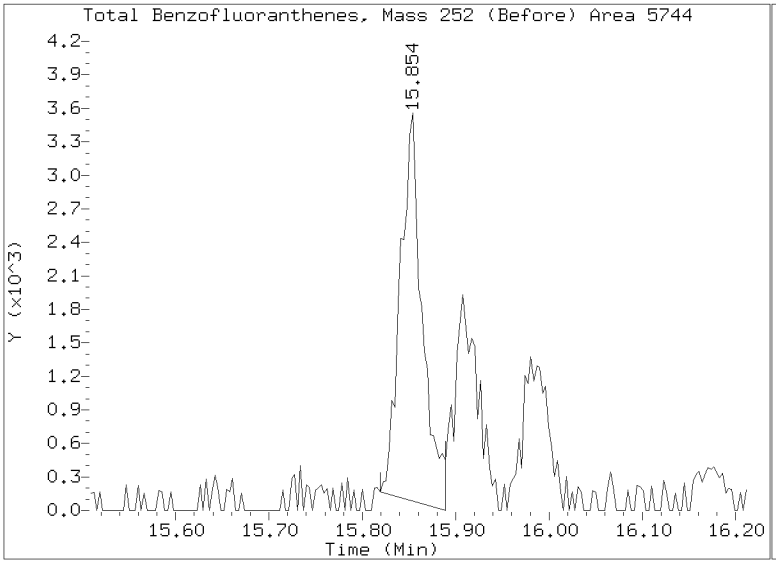
* Only compounds listed in the work order have been verified by the analyst *

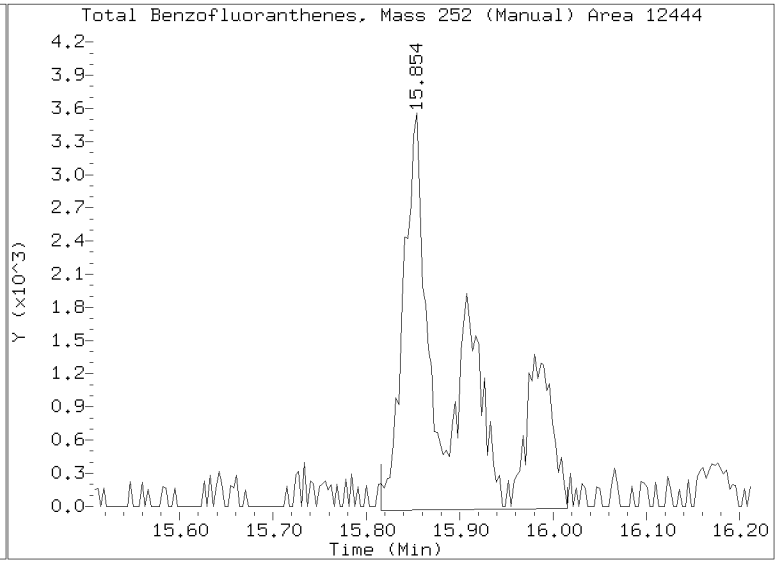
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061212.D
Injection Date: 12-JUN-2018 19:25
Lab ID:18E0243-12 Client ID:
Report Date: 06/13/2018 11:27









LDW18-SSCL-A13

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-01	SDG:	18E0231
Sampled:	05/17/18 13:20	Prepared:	05/24/18 10:50	File ID:	N818060117.D
% Solids:	74.45	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 21:32
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	14.17 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	46.0		0.78	4.74
218-01-9	Chrysene	1	68.9		1.00	4.74
205-99-2	Benzo(b)fluoranthene	1	50.8		1.30	4.74
207-08-9	Benzo(k)fluoranthene	1	30.3		0.72	4.74
50-32-8	Benzo(a)pyrene	1	53.6		0.58	4.74
193-39-5	Indeno(1,2,3-cd)pyrene	1	42.8		1.00	4.74
53-70-3	Dibenzo(a,h)anthracene	1	13.2		0.84	4.74

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	142.19	63.8	44.9	32 - 120	
Dibenzo[a,h]anthracene-d14	142.19	101	70.7	21 - 133	
Fluoranthene-d10	142.19	80.1	56.4	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

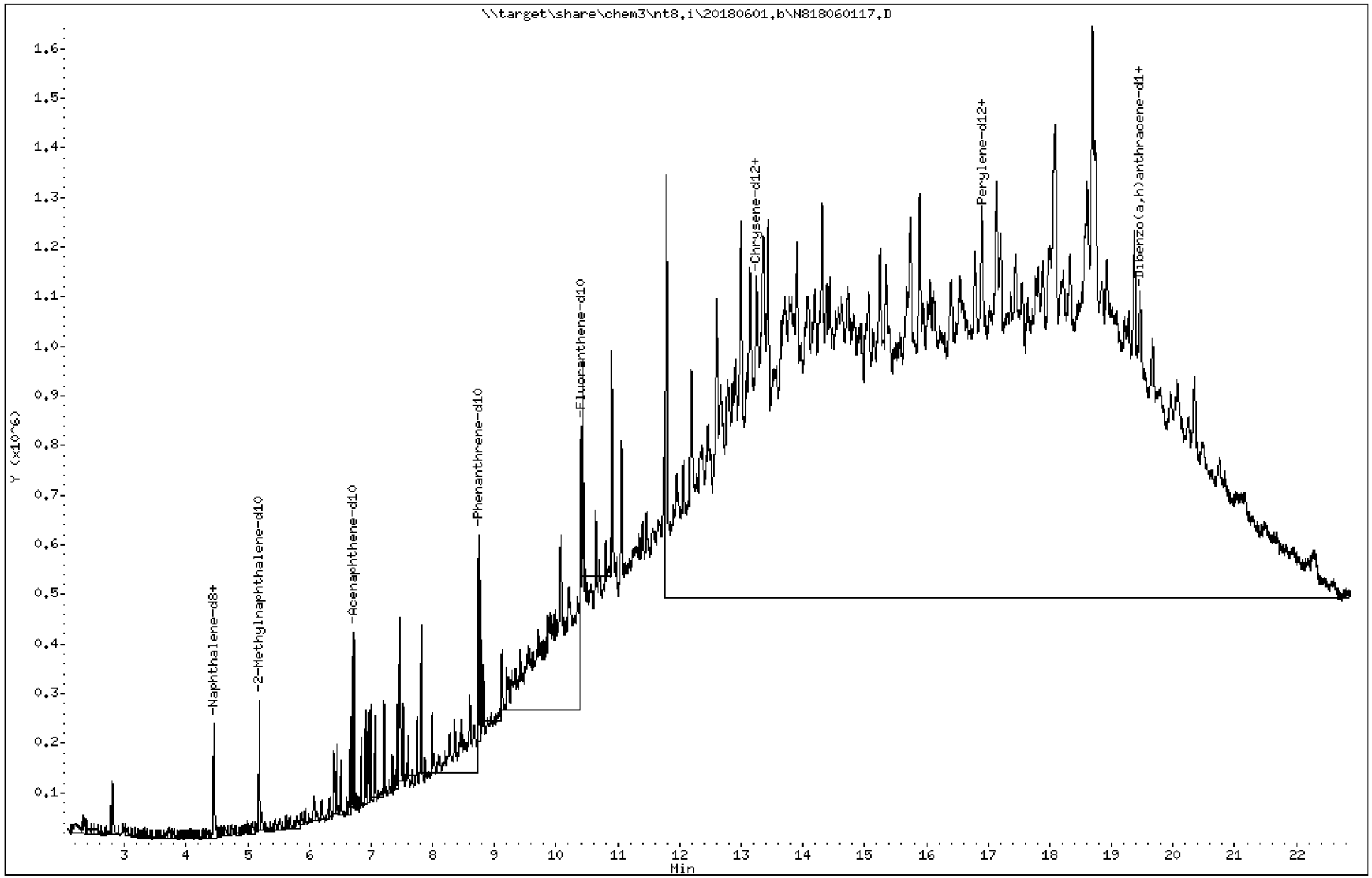
Instrument: nt8.i

Sample Info: 18E0262-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

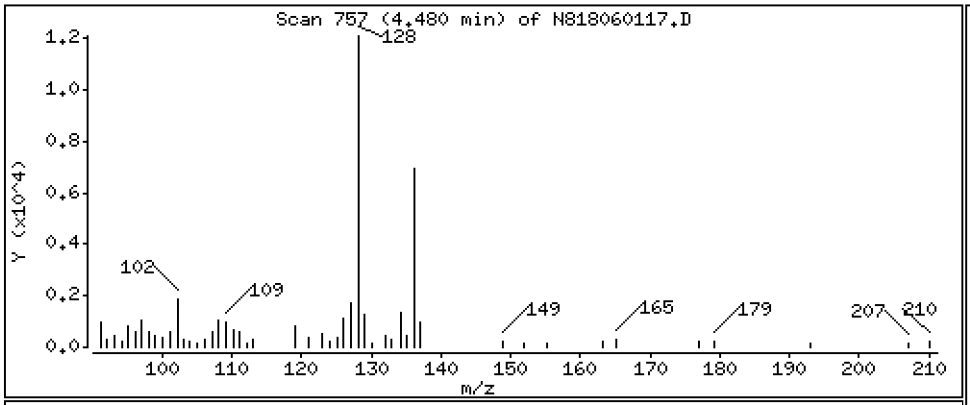
Operator: JZ

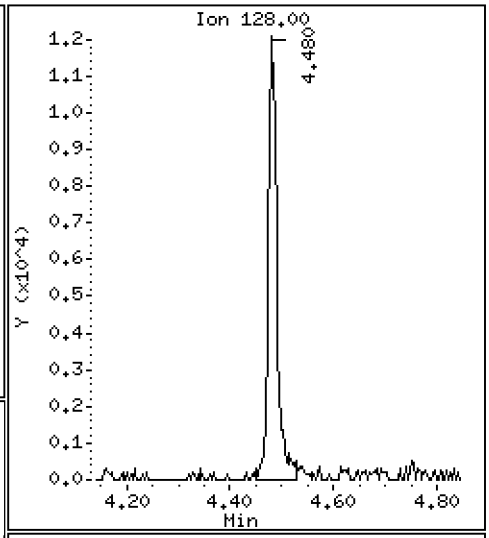
Column phase: Rxi-17sil

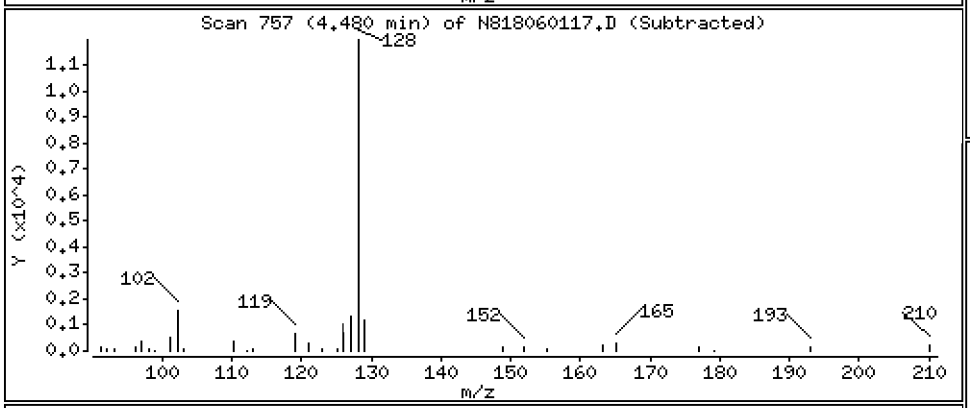
Column diameter: 0.25

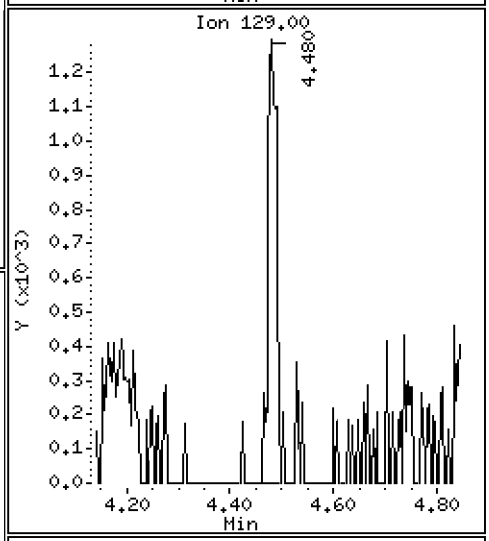
2 Naphthalene

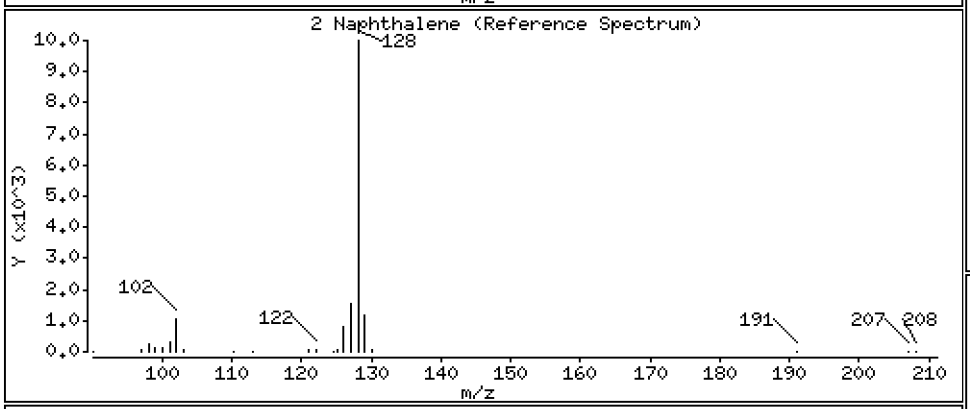
Concentration: 0.1336 ug/mL

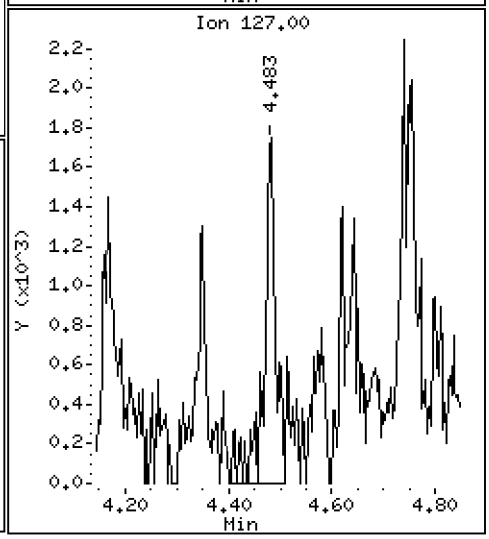


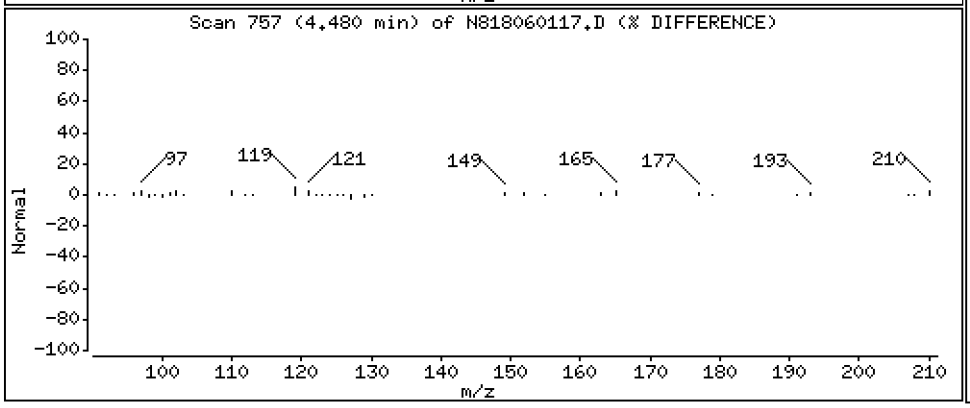












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

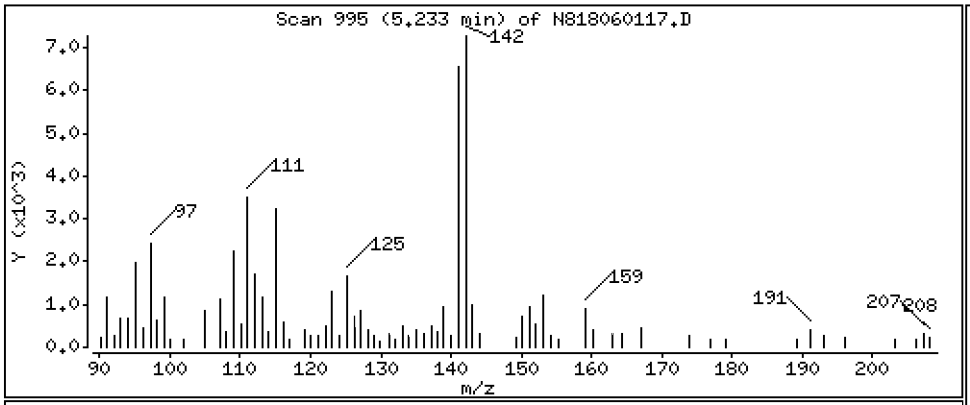
Operator: JZ

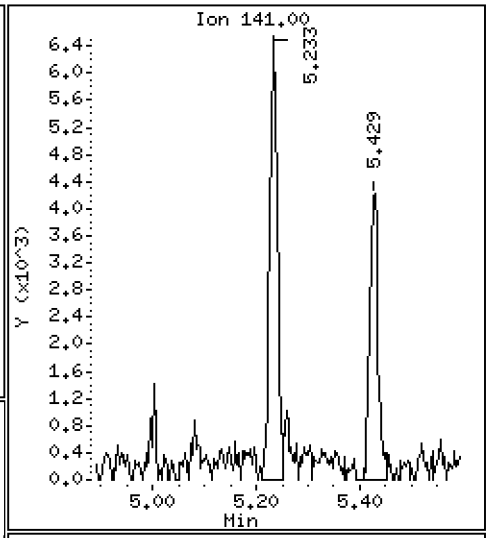
Column phase: Rxi-17sil

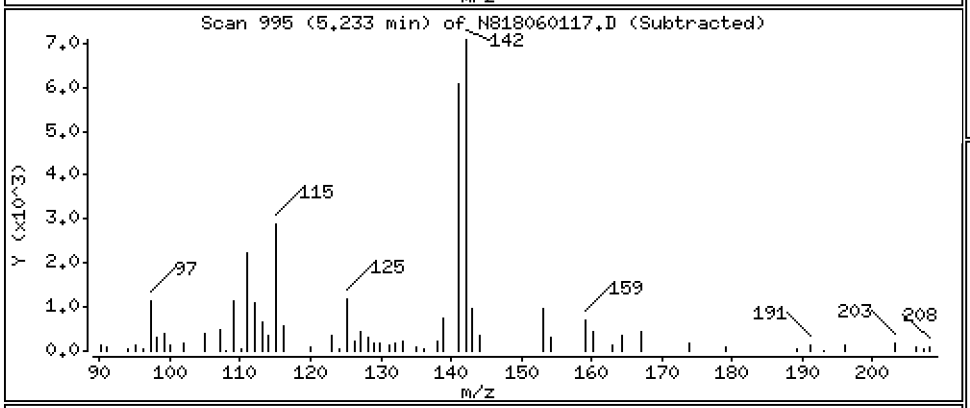
Column diameter: 0.25

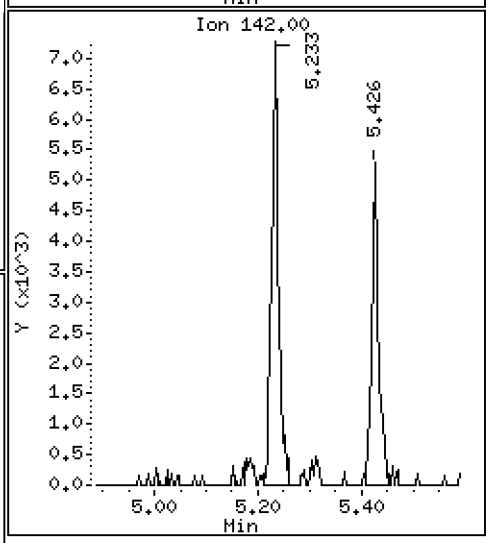
4 2-Methylnaphthalene

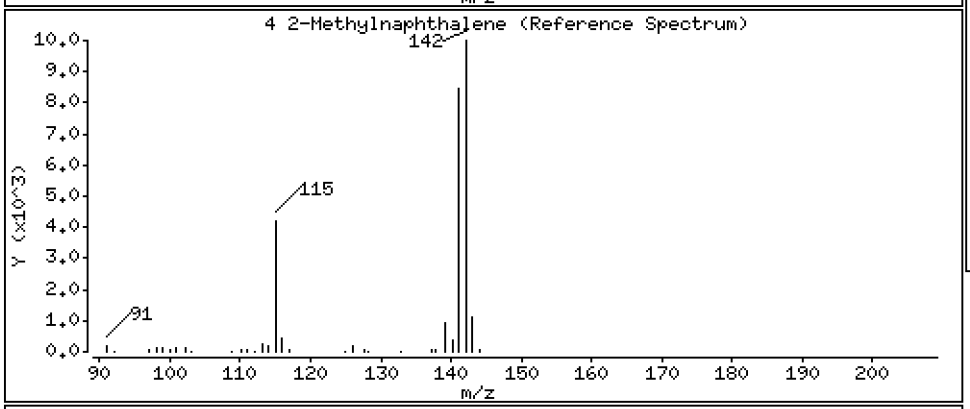
Concentration: 0.1103 ug/mL

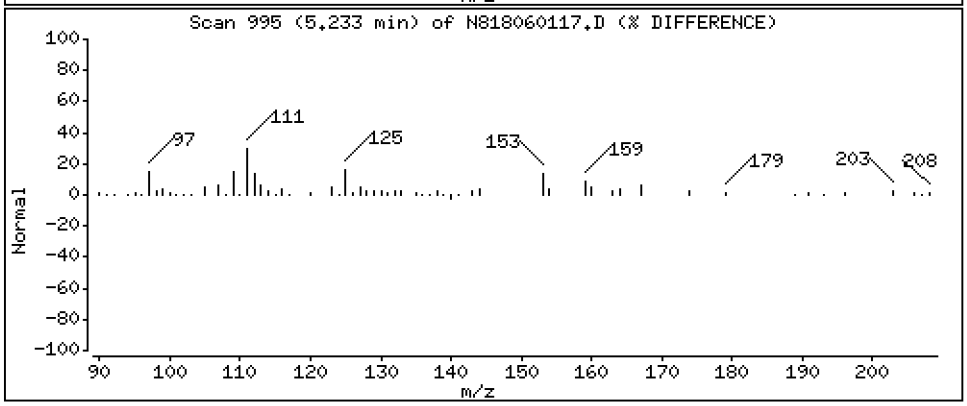












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

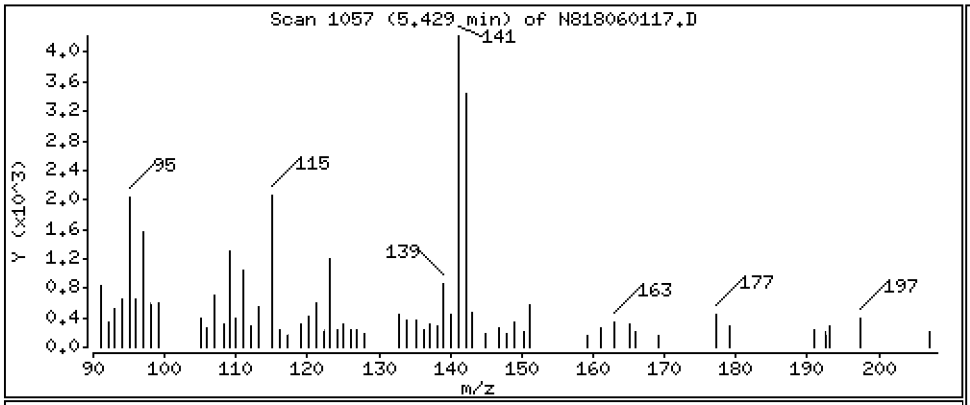
Operator: JZ

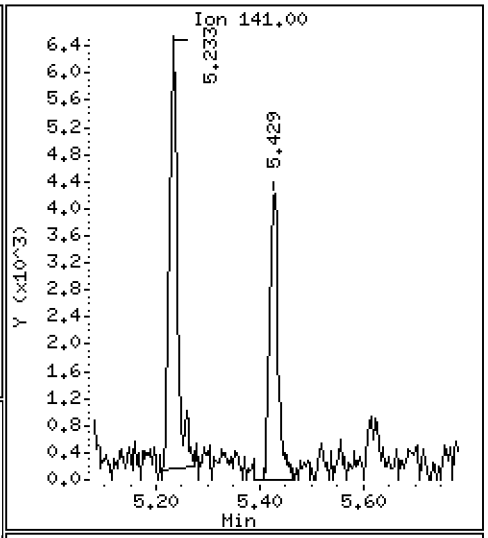
Column phase: Rxi-17sil

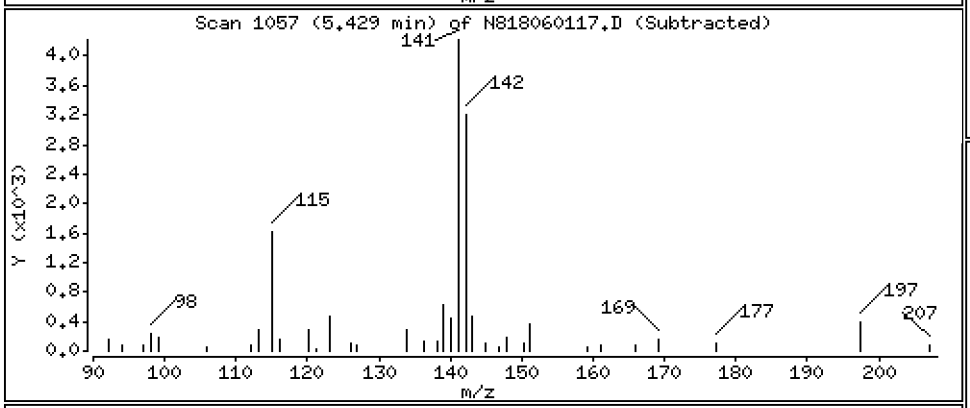
Column diameter: 0.25

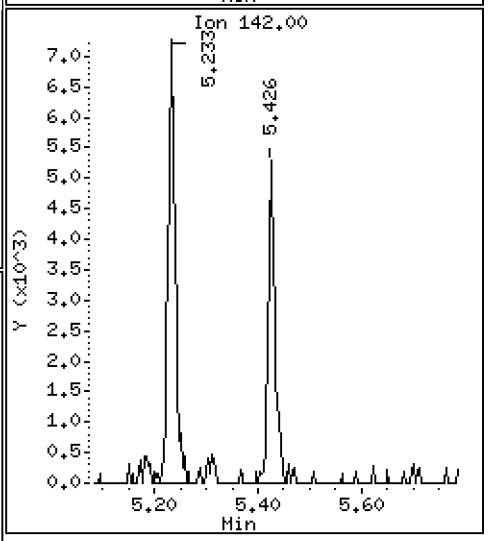
5 1-methylnaphthalene

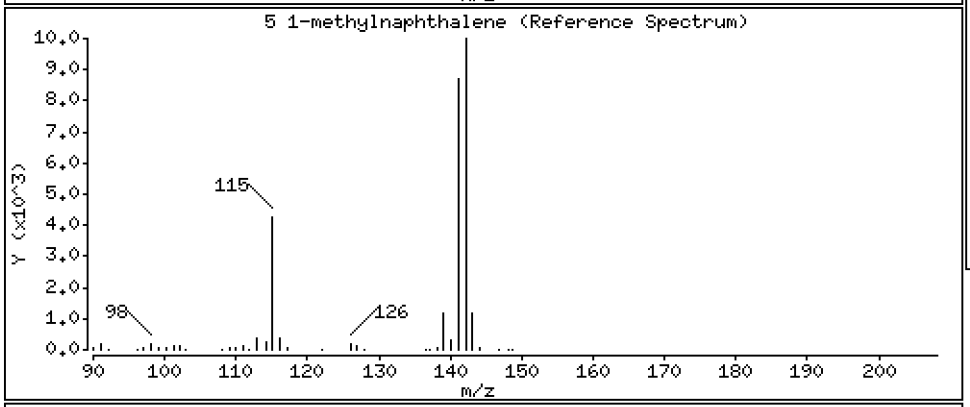
Concentration: 0.07850 ug/mL

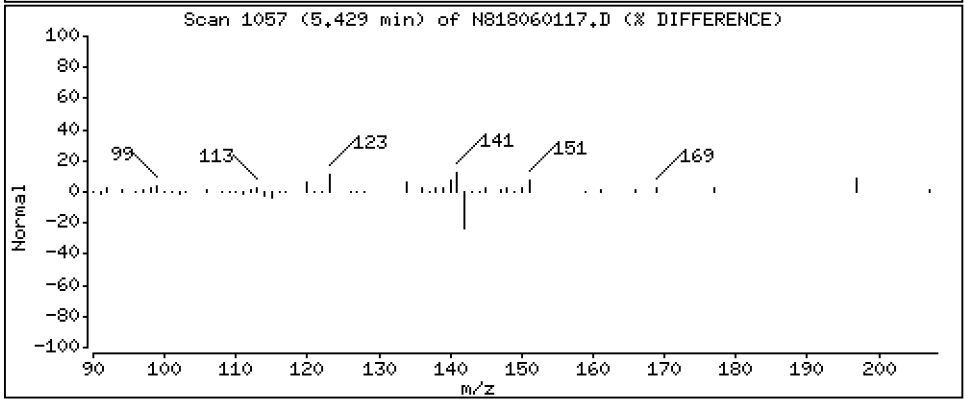












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

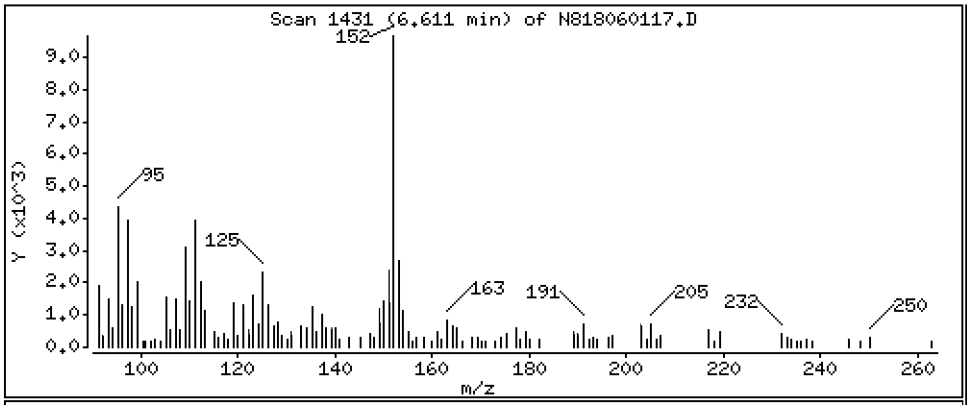
Operator: JZ

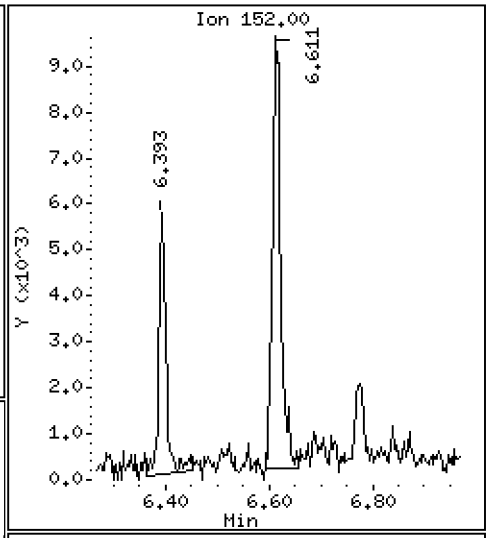
Column phase: Rxi-17sil

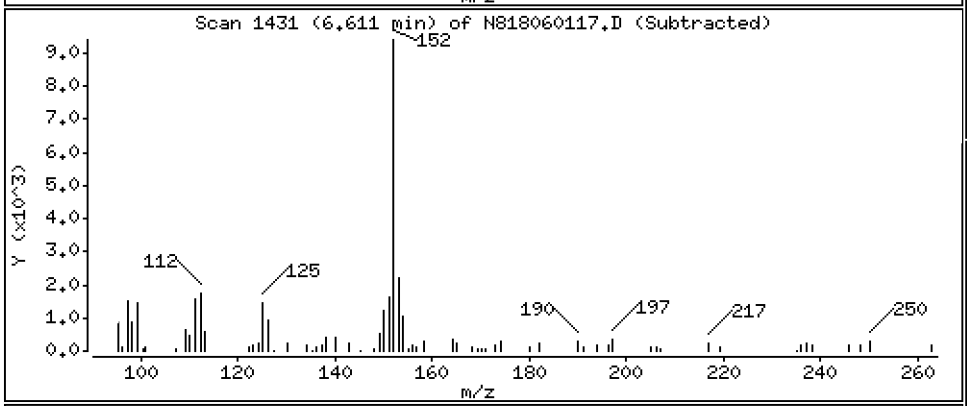
Column diameter: 0.25

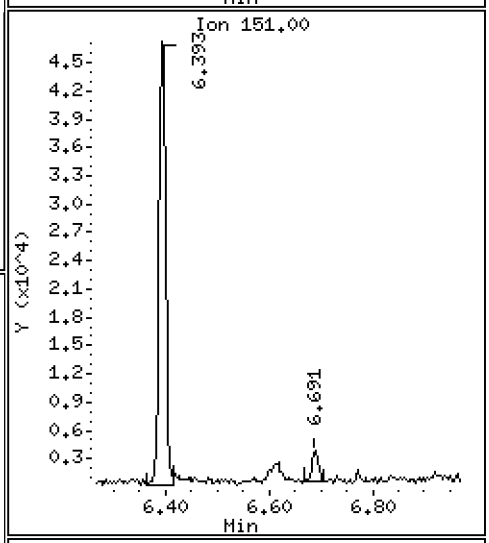
9 Acenaphthylene

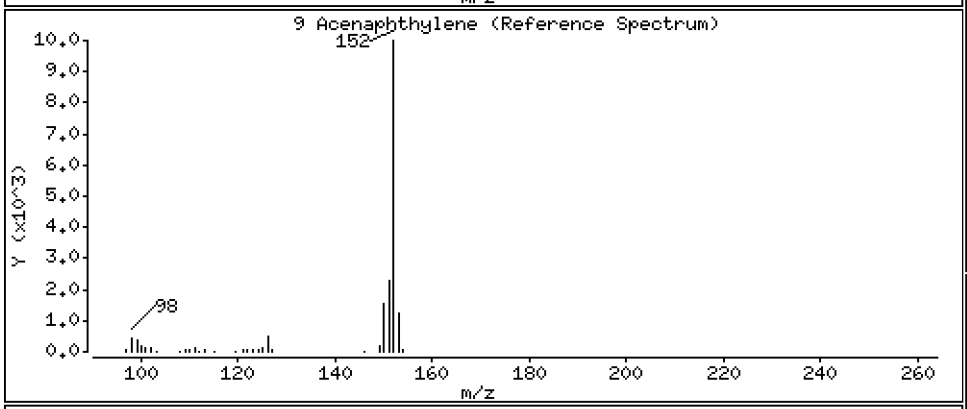
Concentration: 0.1199 ug/mL

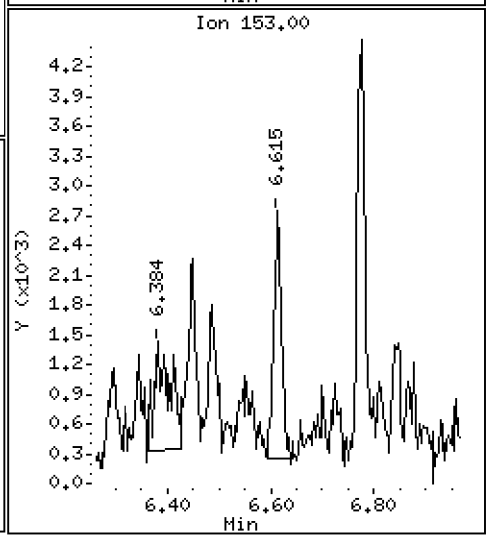


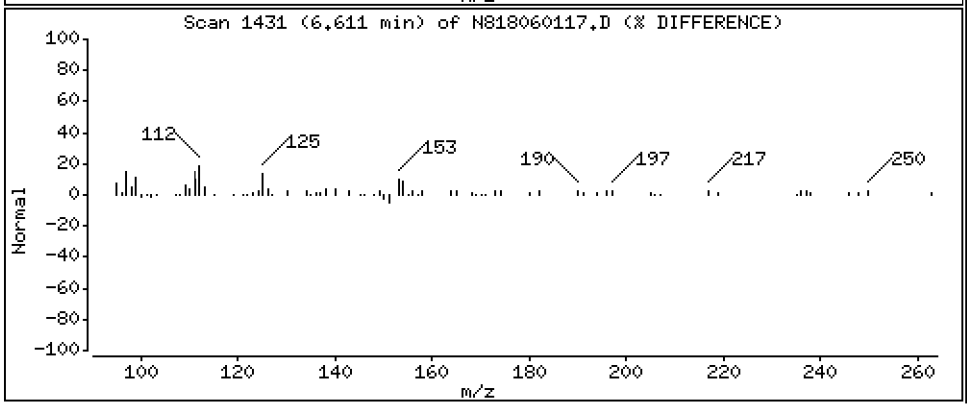












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

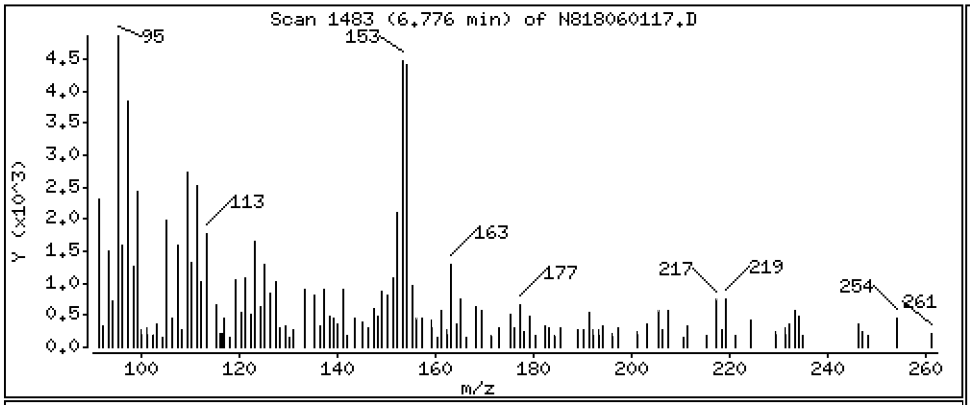
Operator: JZ

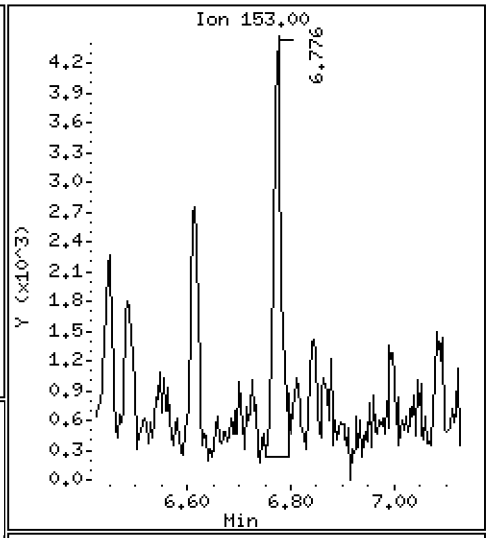
Column phase: Rxi-17sil

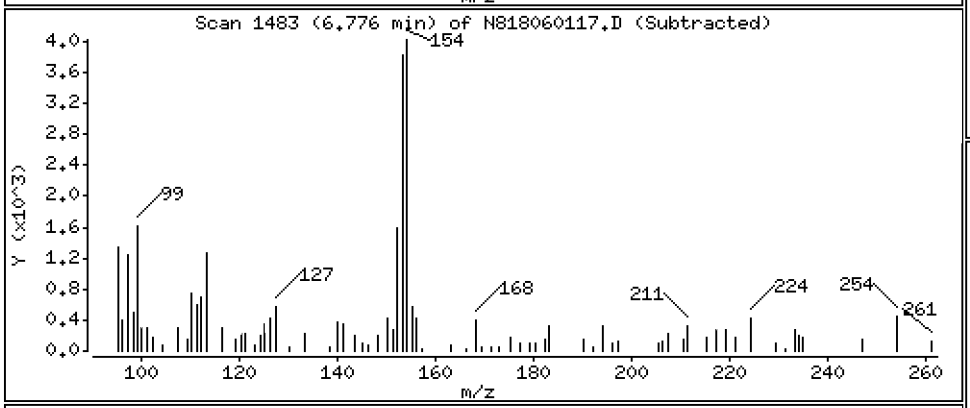
Column diameter: 0.25

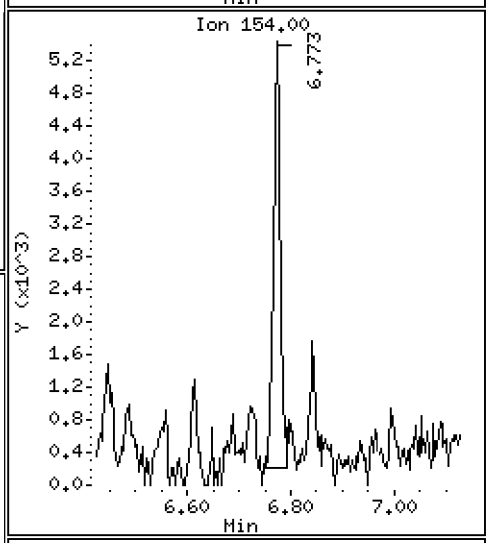
11 Acenaphthene

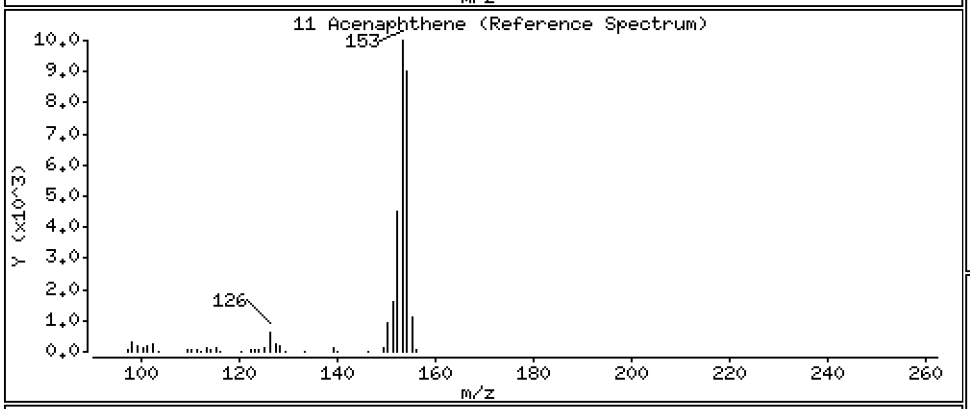
Concentration: 0.06456 ug/mL

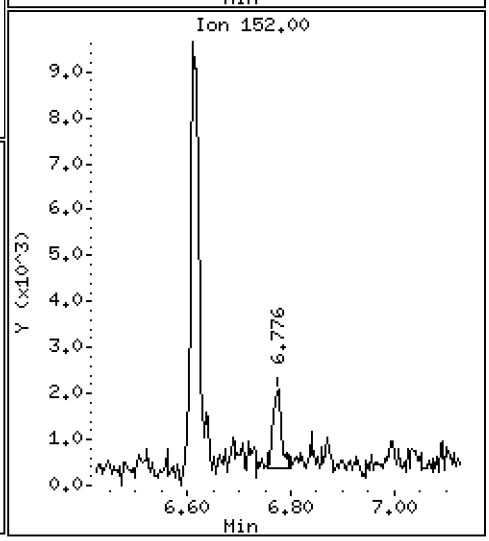


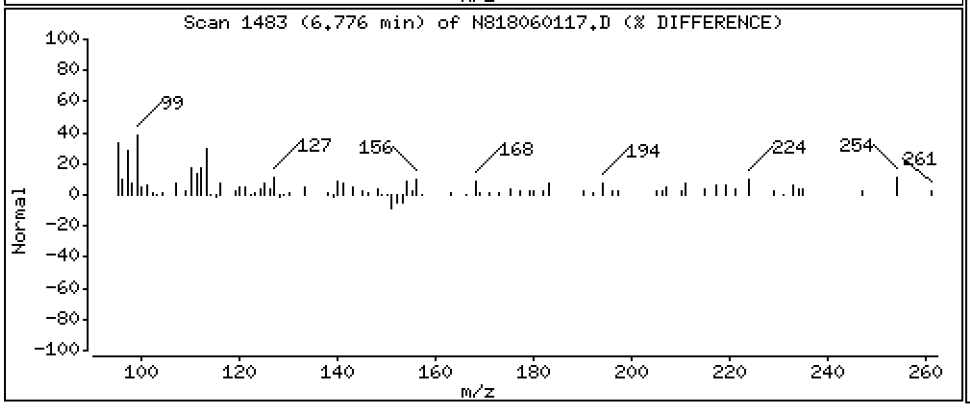












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

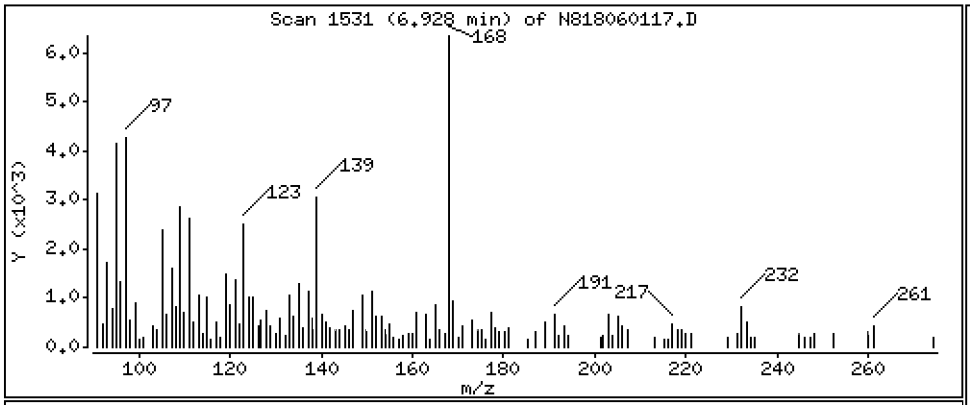
Operator: JZ

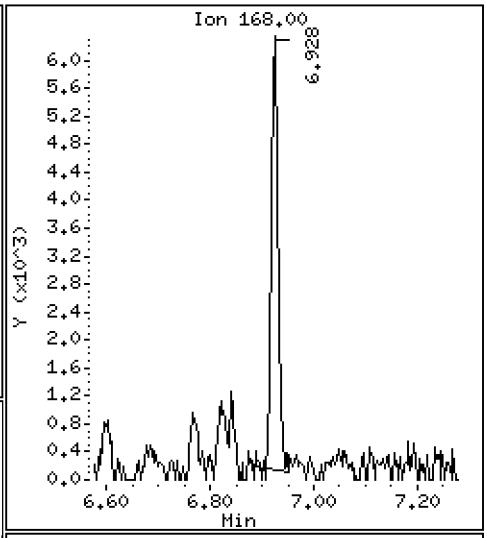
Column phase: Rxi-17sil

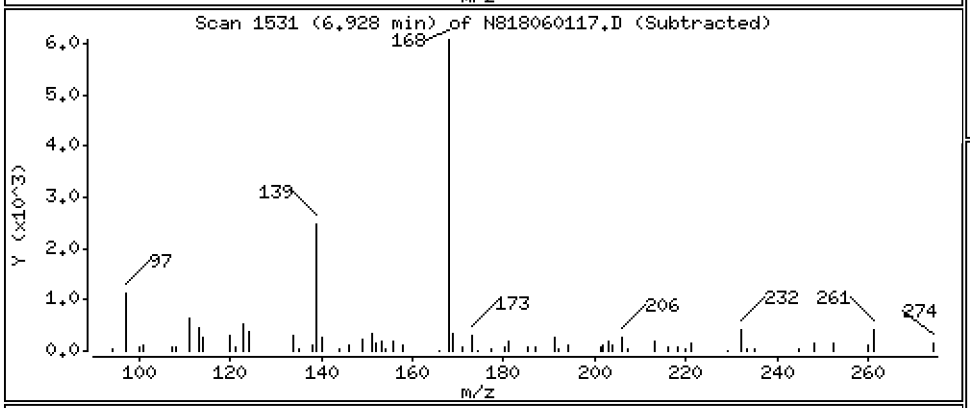
Column diameter: 0.25

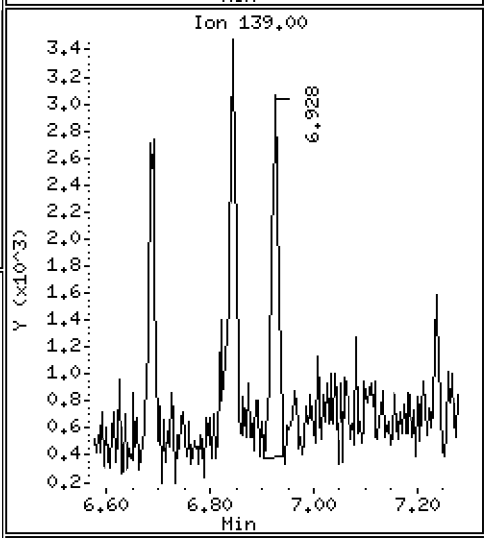
12 Dibenzofuran

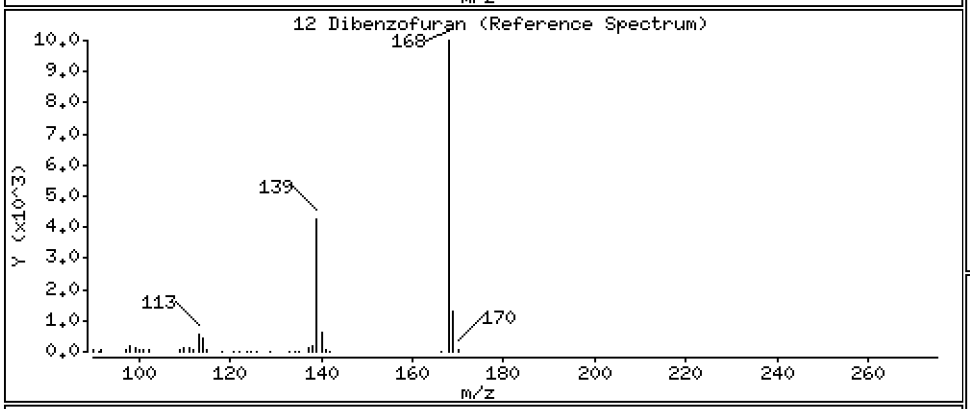
Concentration: 0.06470 ug/mL

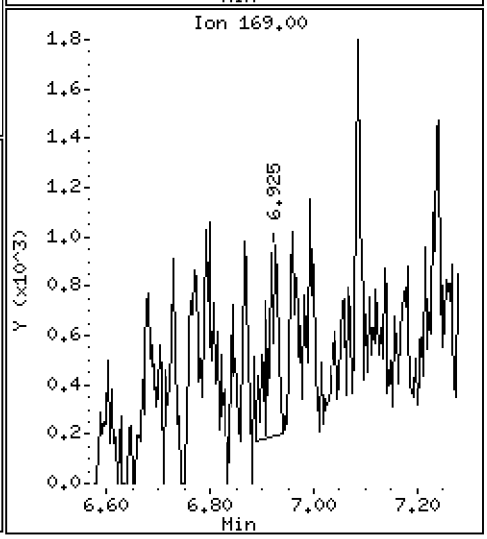


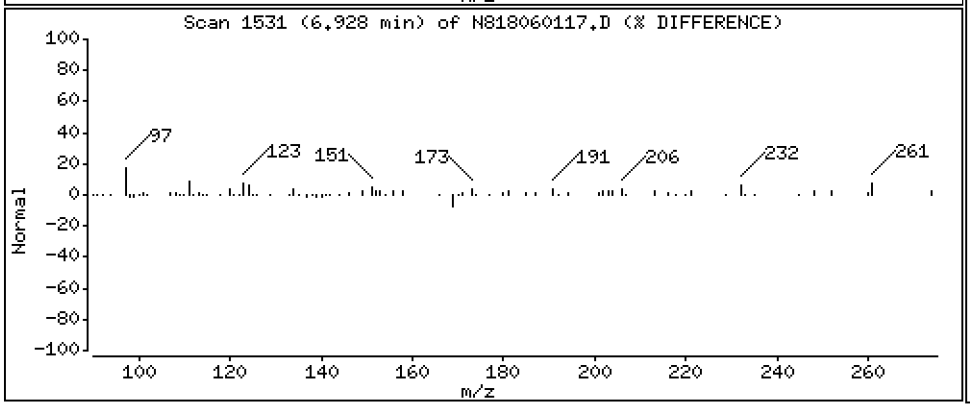












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

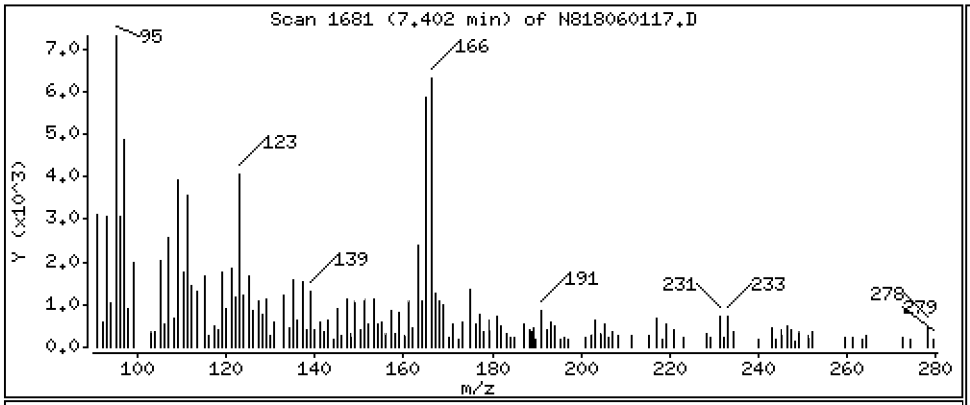
Operator: JZ

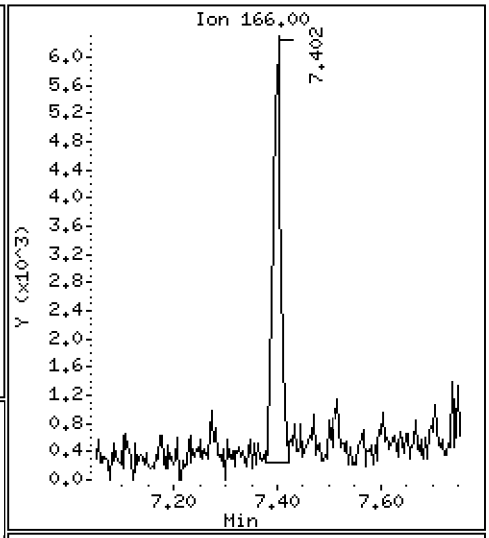
Column phase: Rxi-17sil

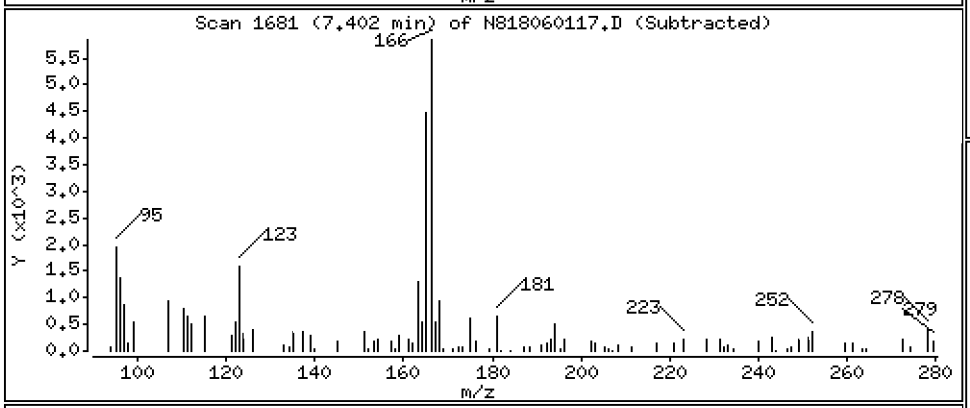
Column diameter: 0.25

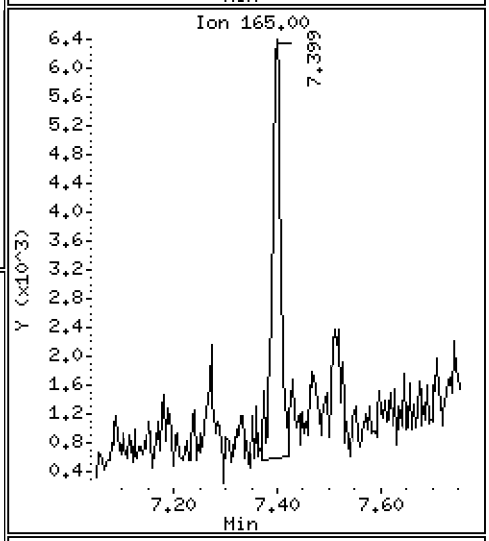
14 Fluorene

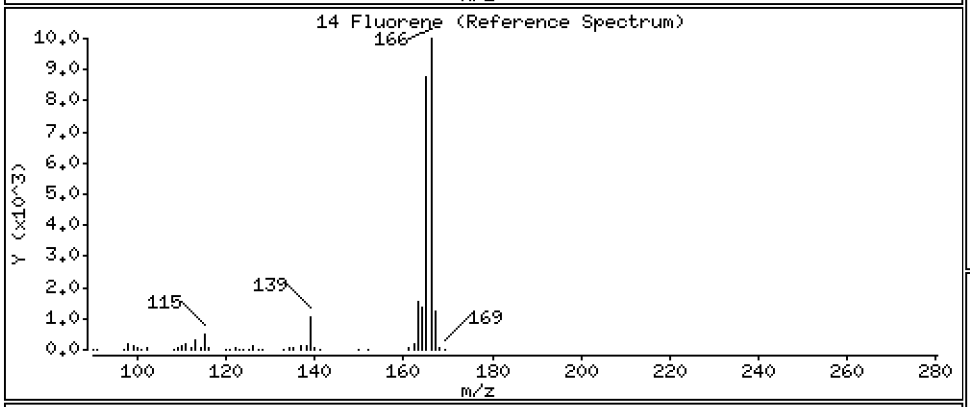
Concentration: 0.08724 ug/mL

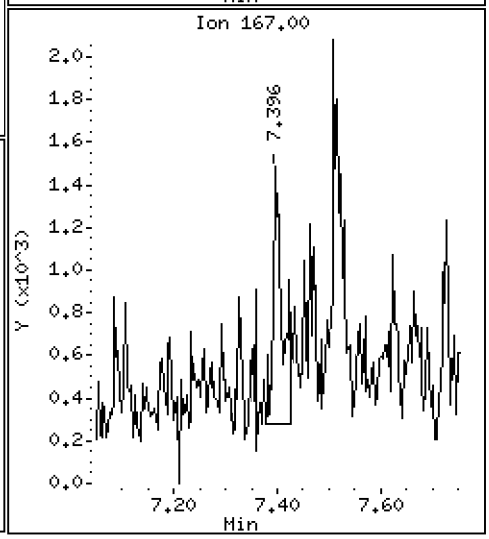


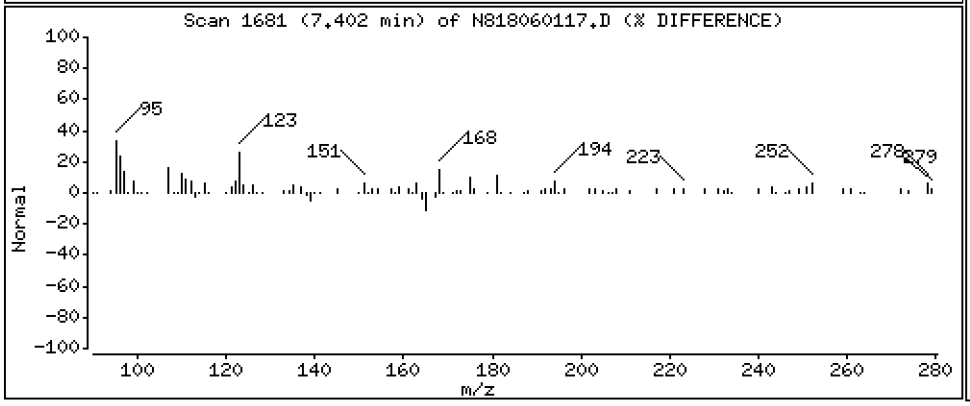












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

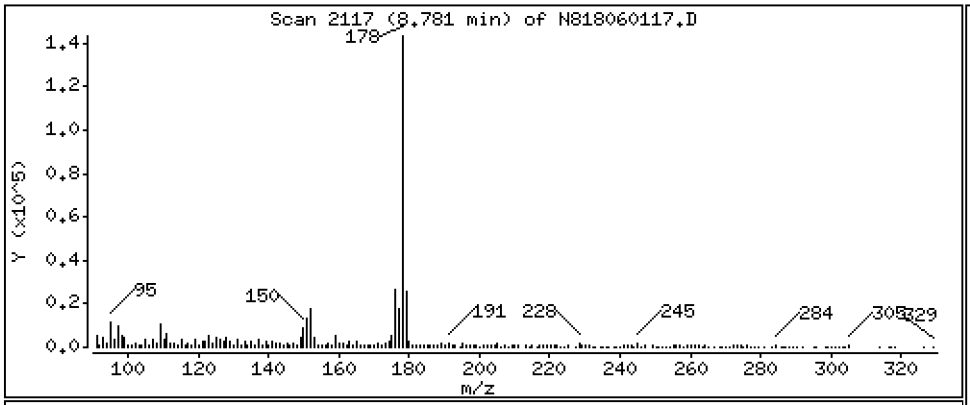
Operator: JZ

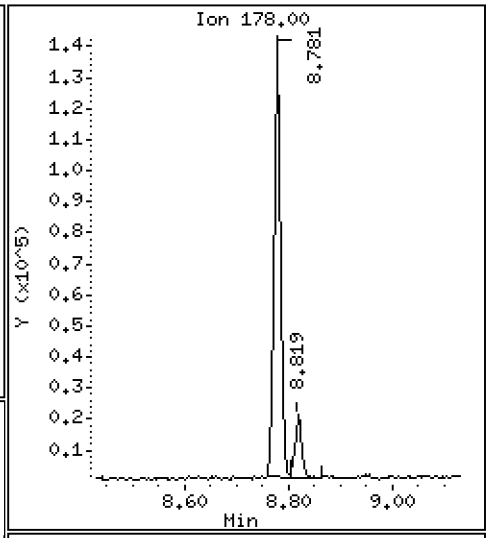
Column phase: Rxi-17sil

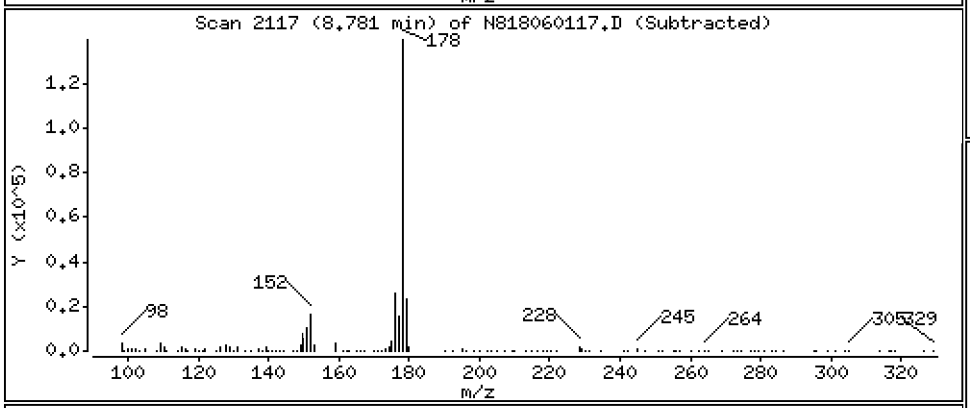
Column diameter: 0.25

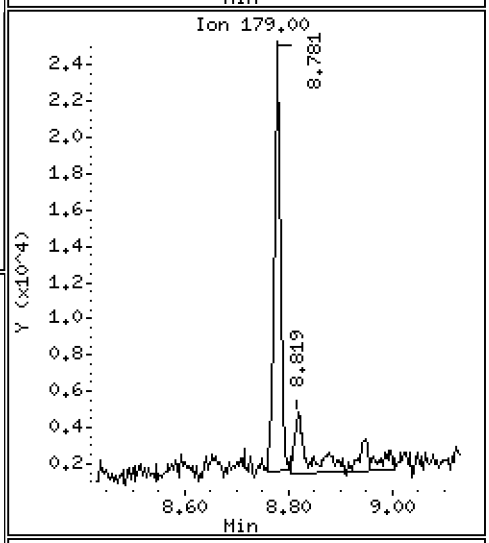
16 Phenanthrene

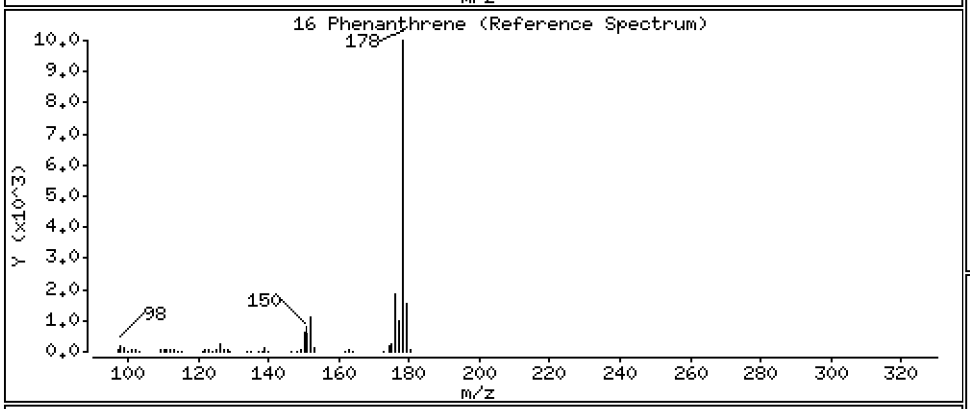
Concentration: 1.243 ug/mL

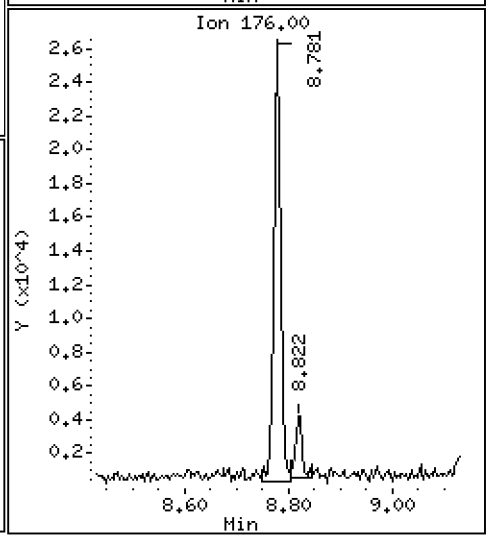


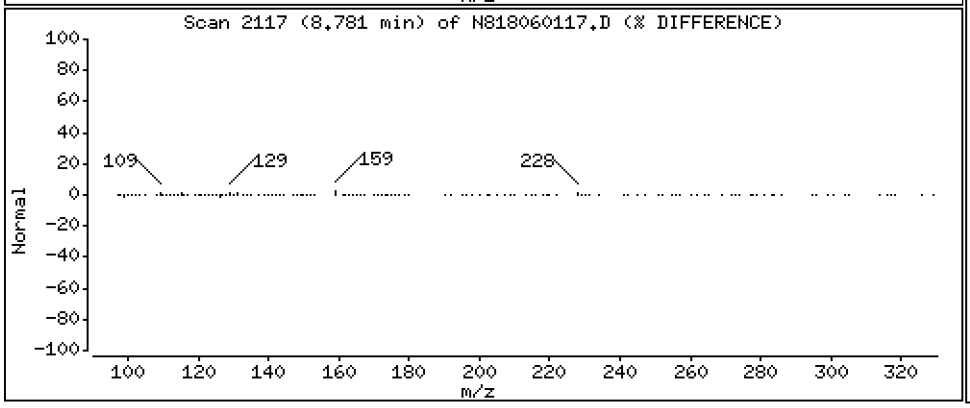












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

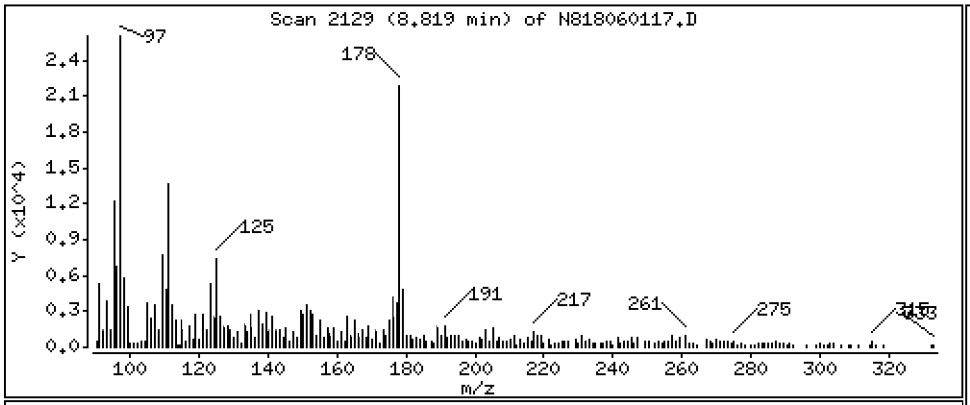
Operator: JZ

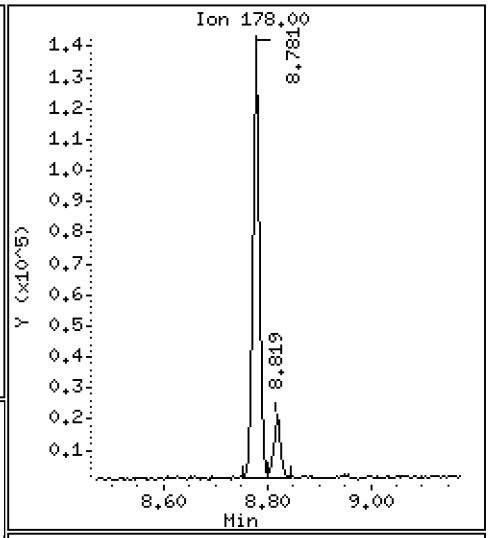
Column phase: Rxi-17sil

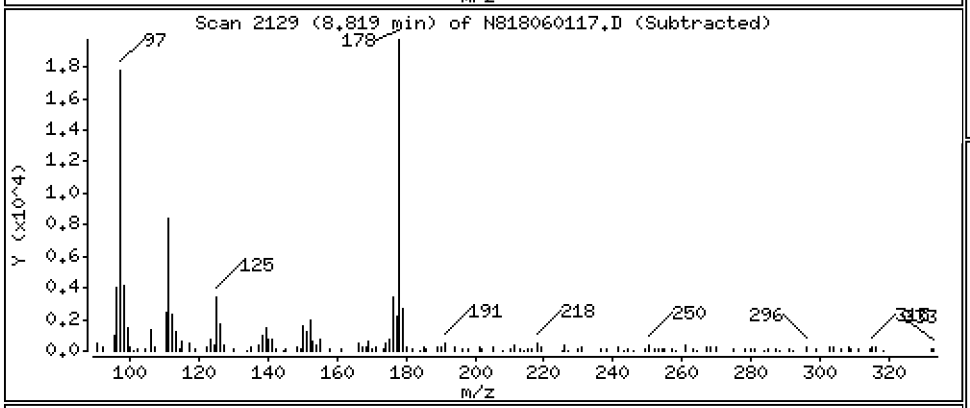
Column diameter: 0.25

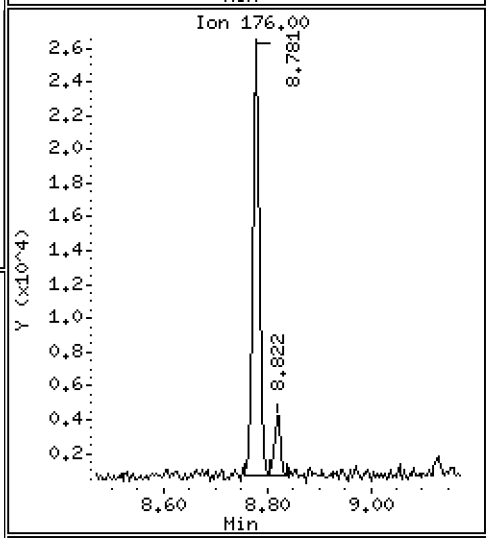
17 Anthracene

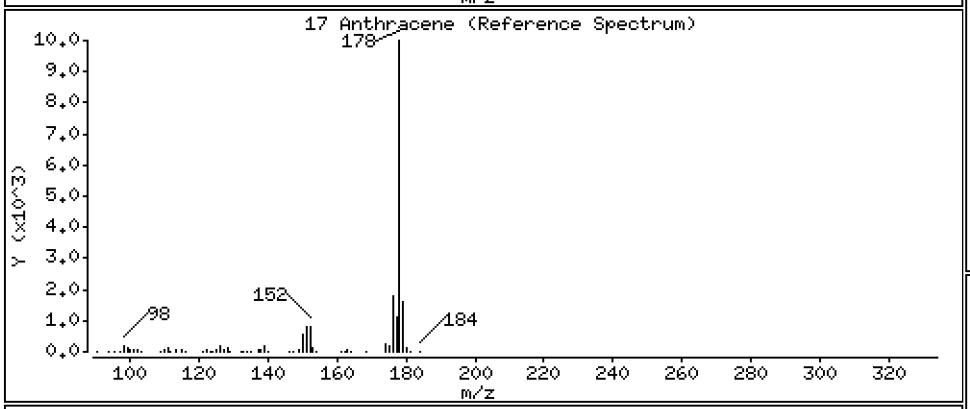
Concentration: 0.2061 ug/mL

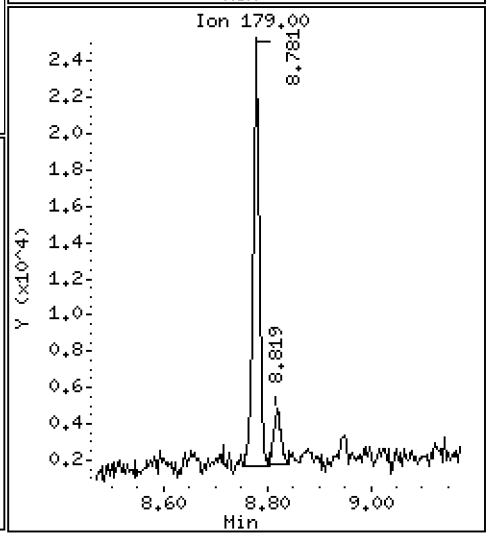


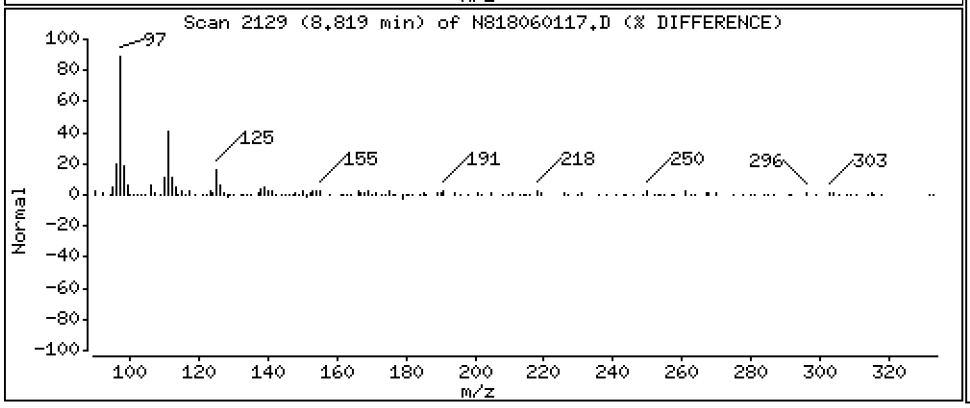












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

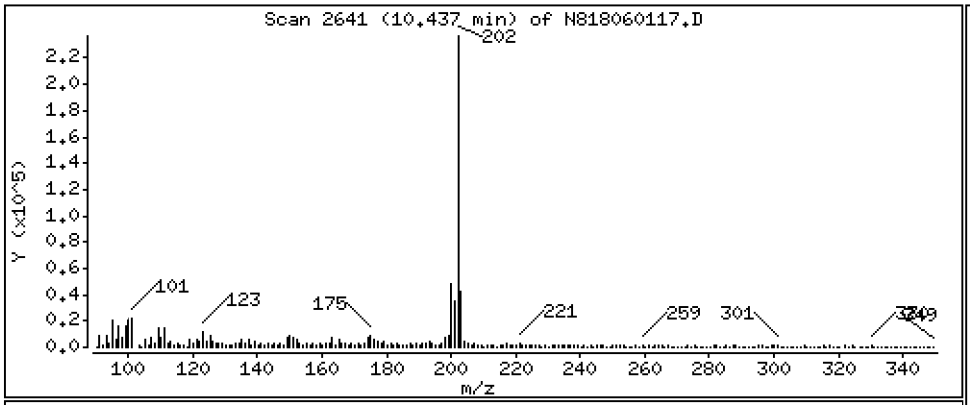
Operator: JZ

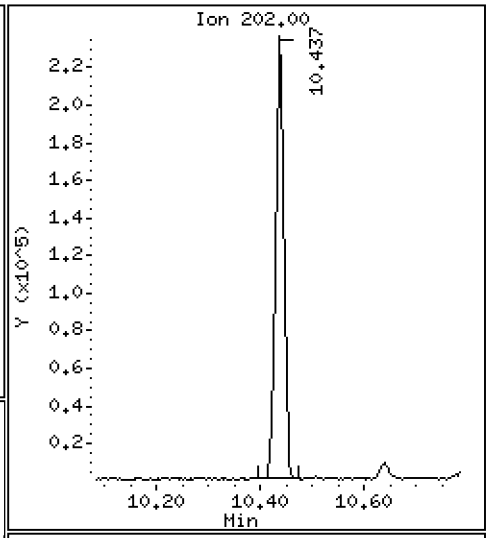
Column phase: Rxi-17sil

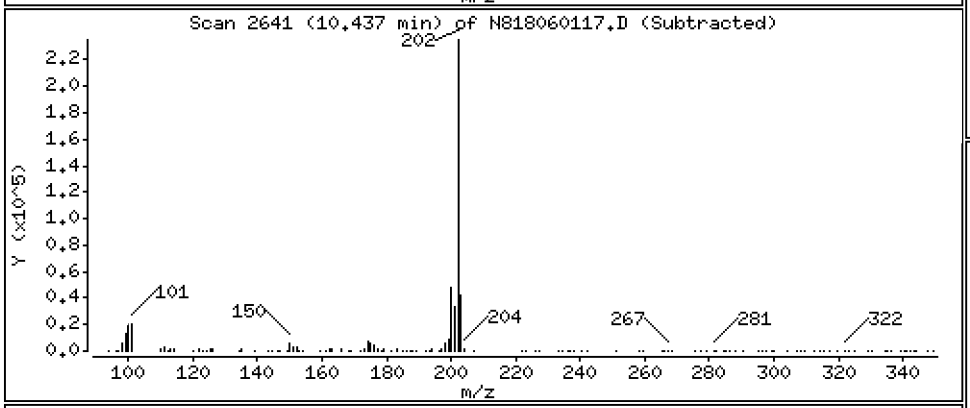
Column diameter: 0.25

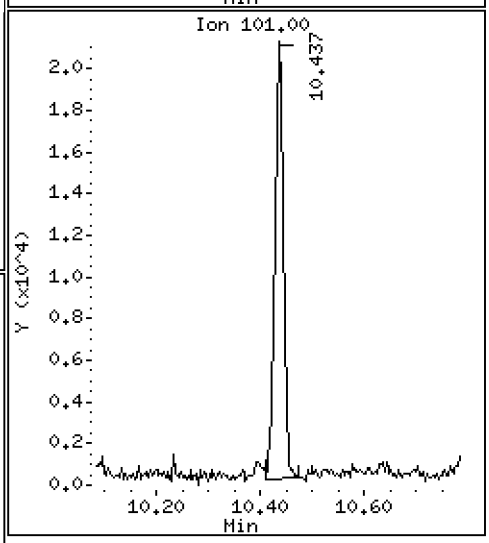
22 Fluoranthene

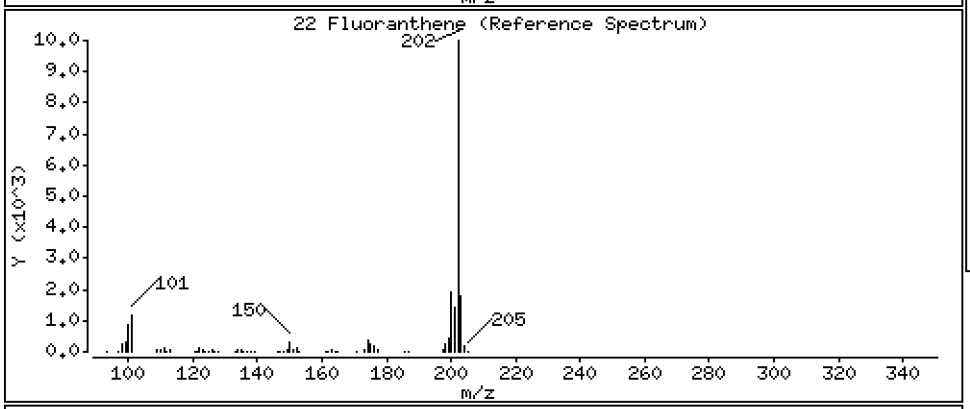
Concentration: 2.306 ug/mL

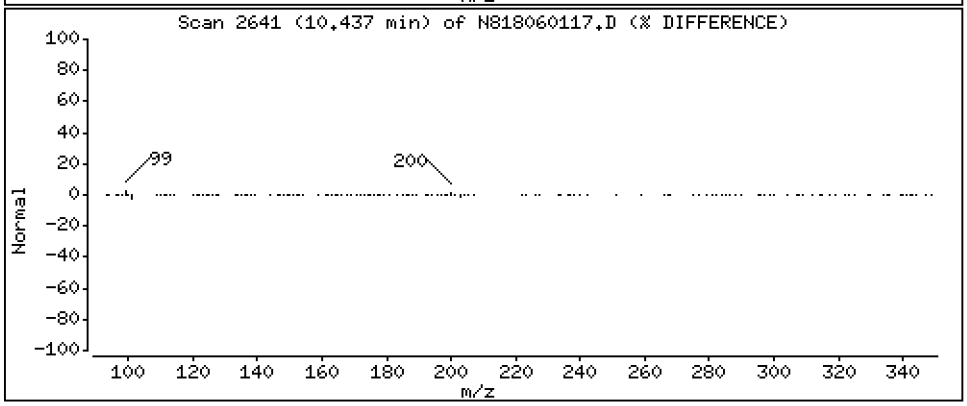












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

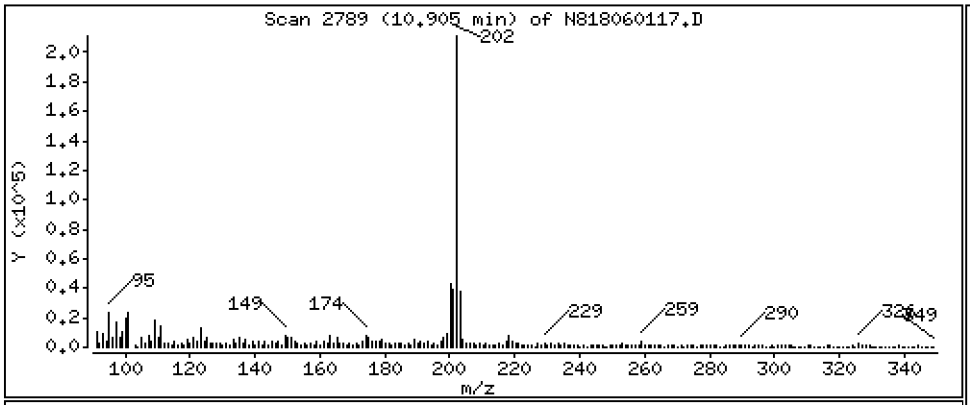
Operator: JZ

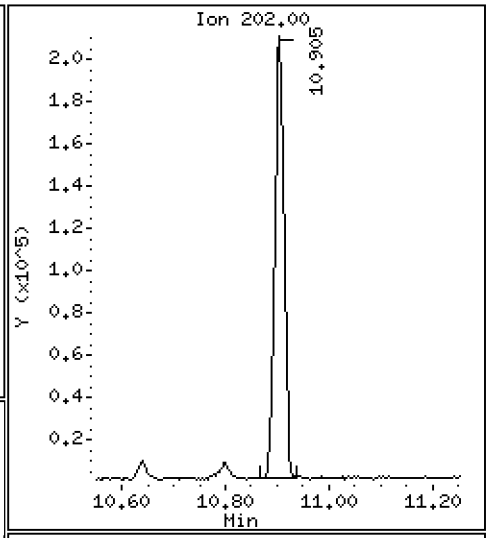
Column phase: Rxi-17sil

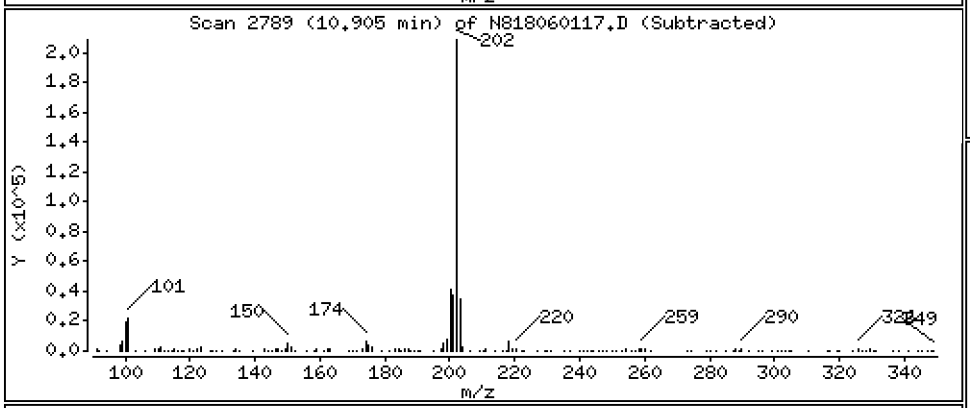
Column diameter: 0.25

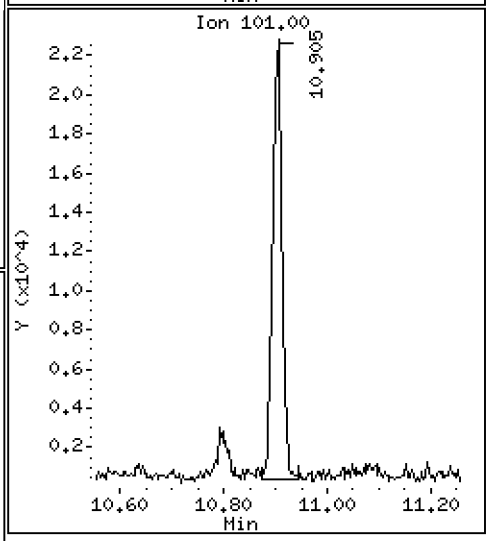
23 Pyrene

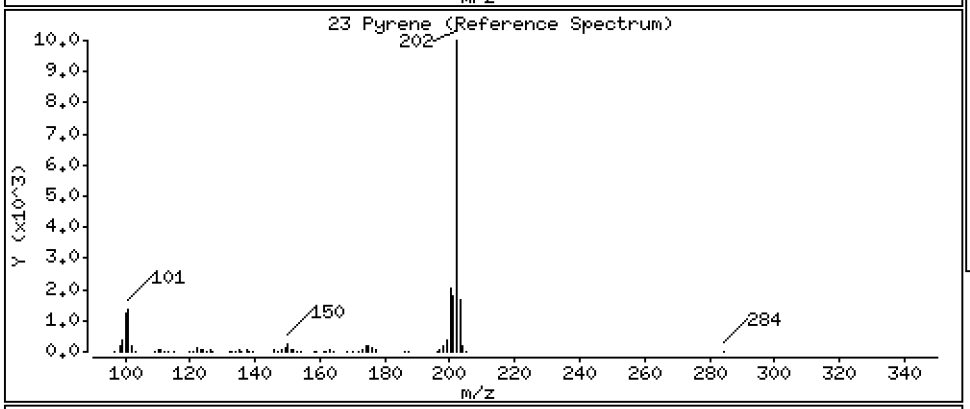
Concentration: 2.310 ug/mL

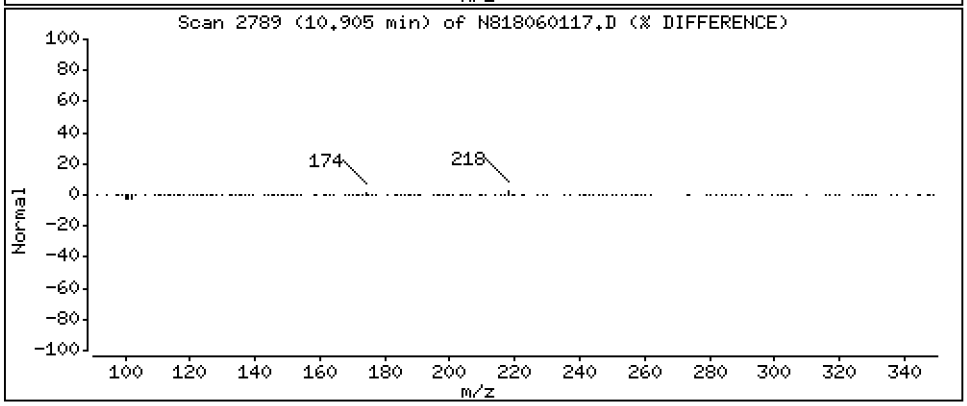












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

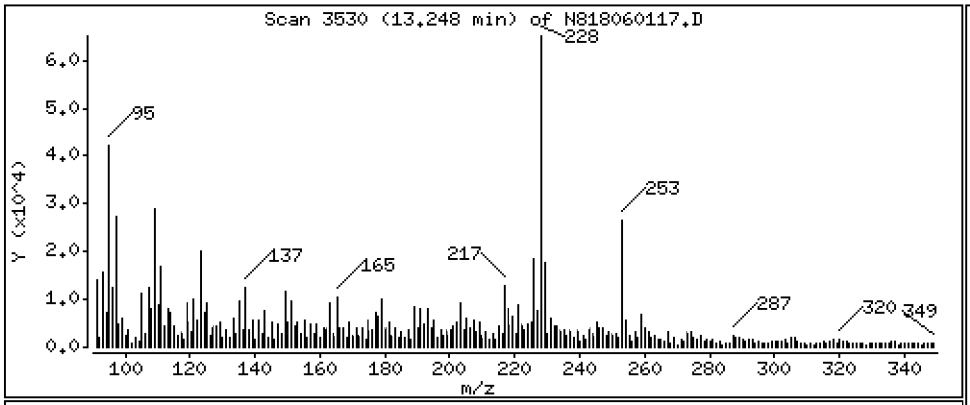
Operator: JZ

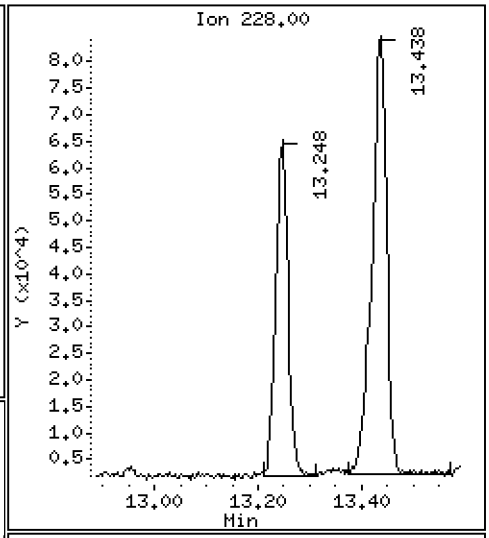
Column phase: Rxi-17sil

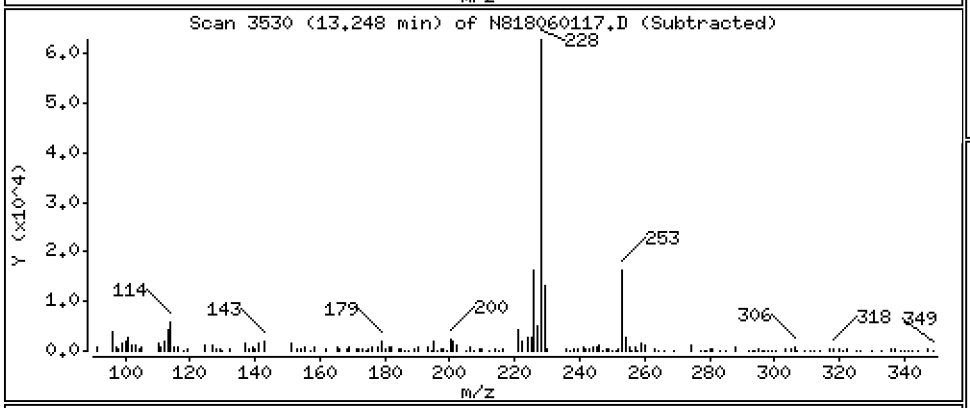
Column diameter: 0.25

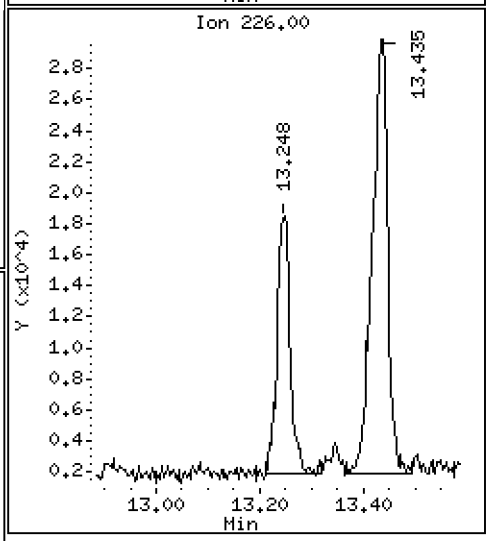
24 Benzo(a)anthracene

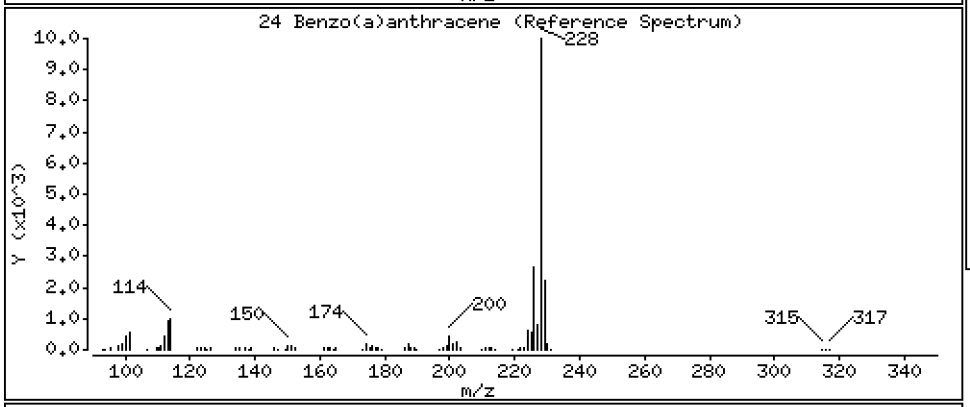
Concentration: 0.9715 ug/mL

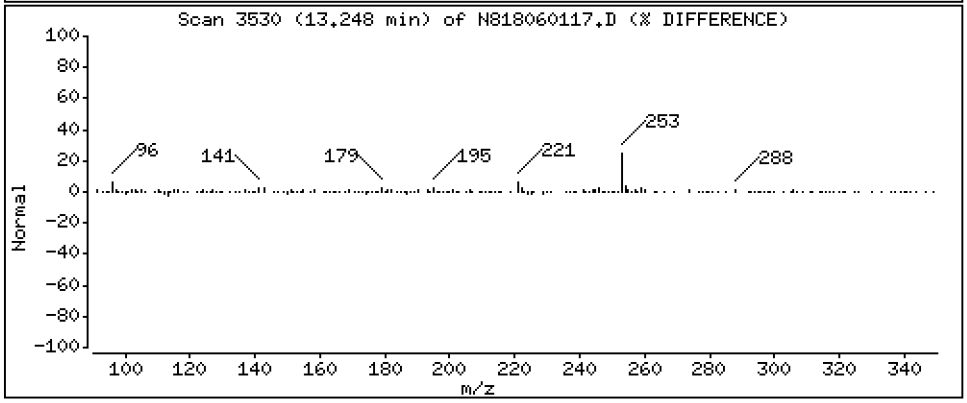












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

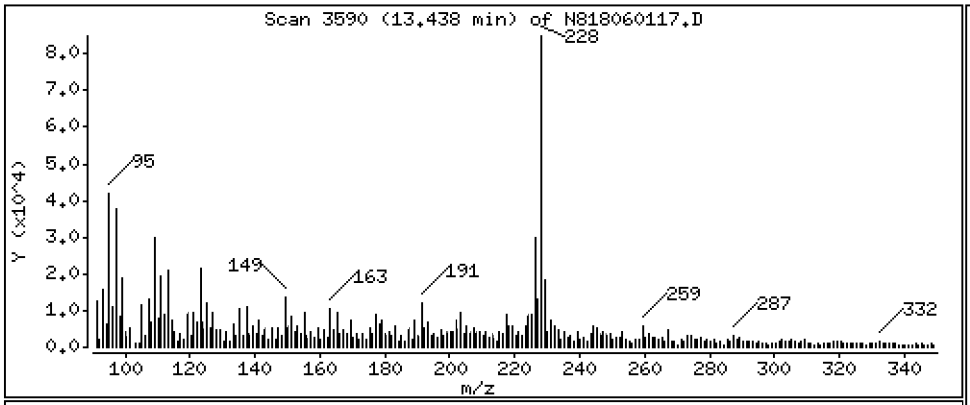
Operator: JZ

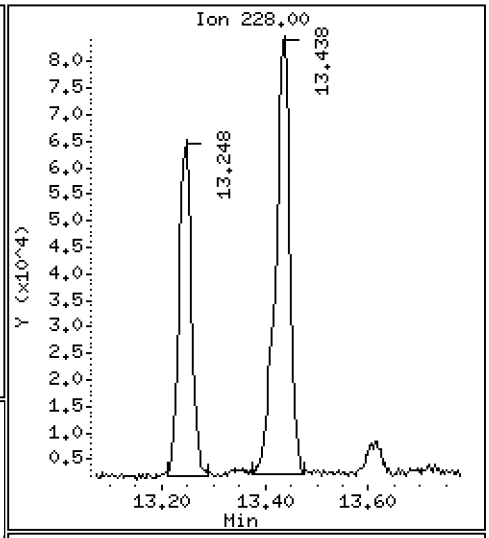
Column phase: Rxi-17sil

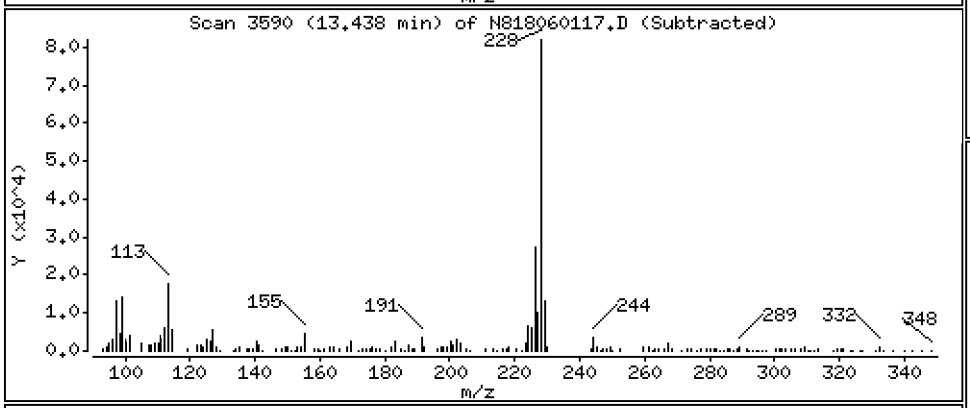
Column diameter: 0.25

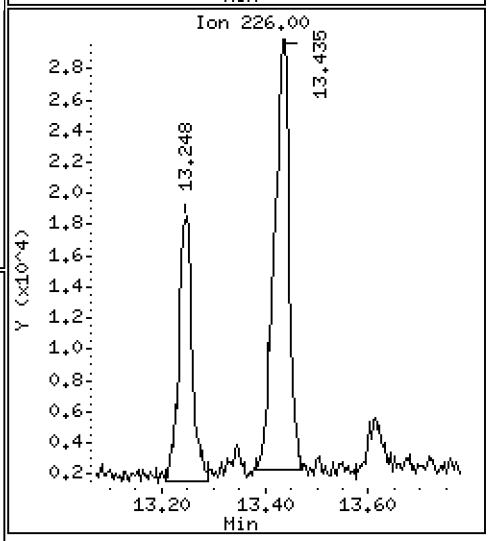
27 Chrysene

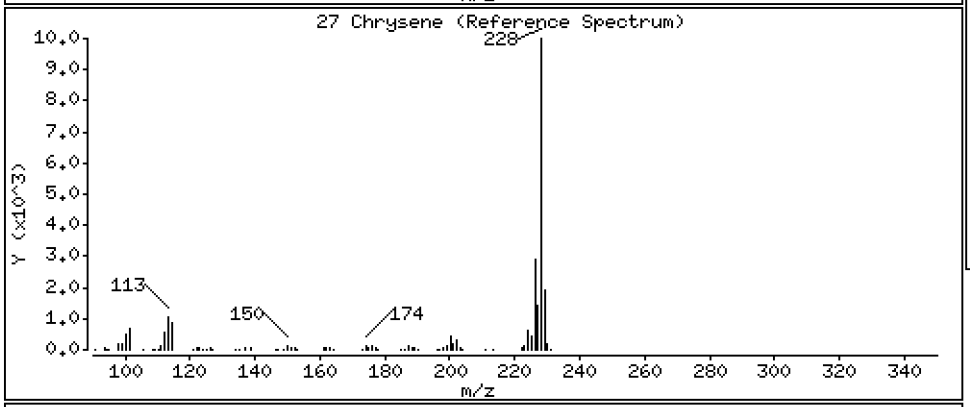
Concentration: 1.453 ug/mL

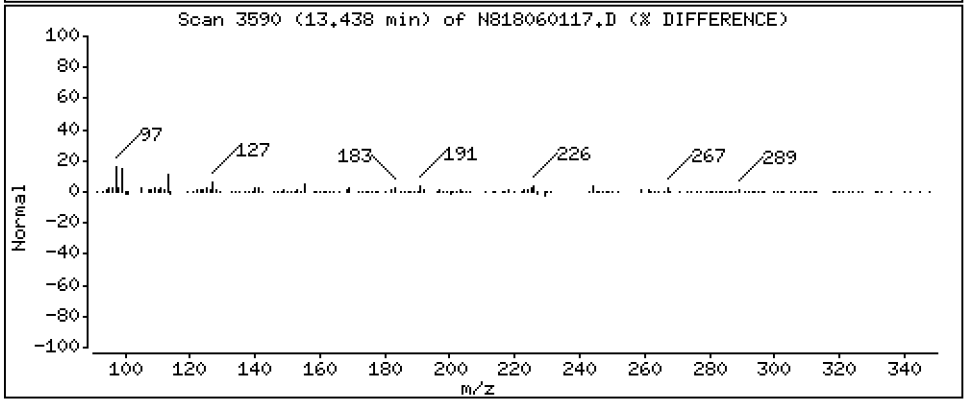












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

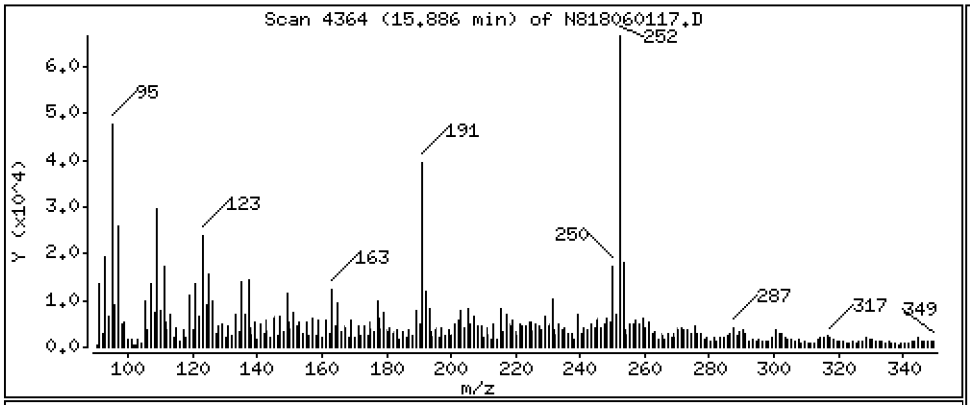
Operator: JZ

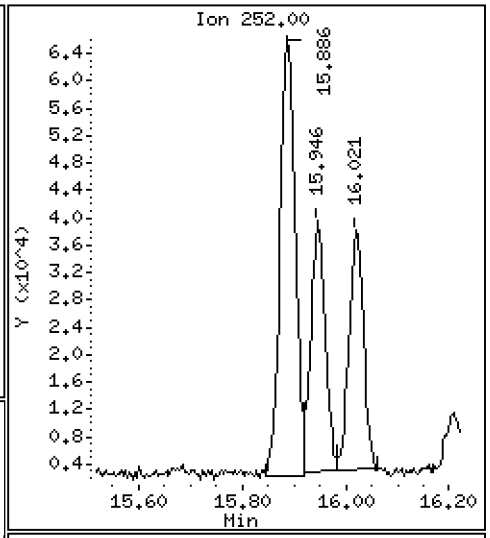
Column phase: Rxi-17sil

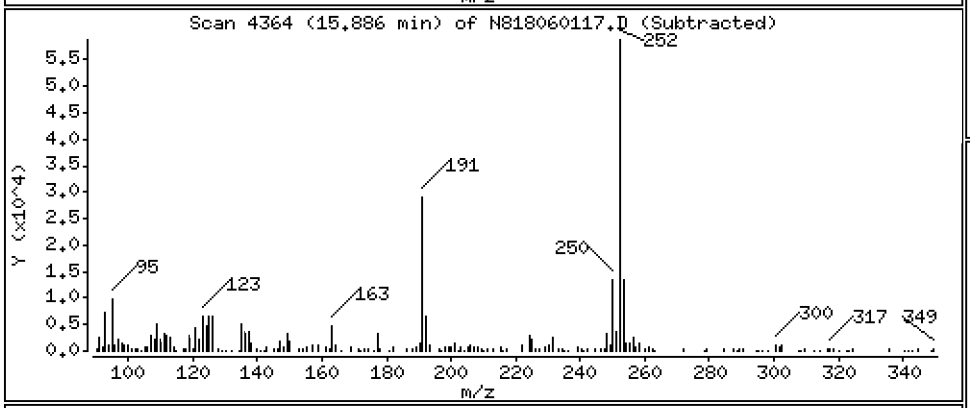
Column diameter: 0.25

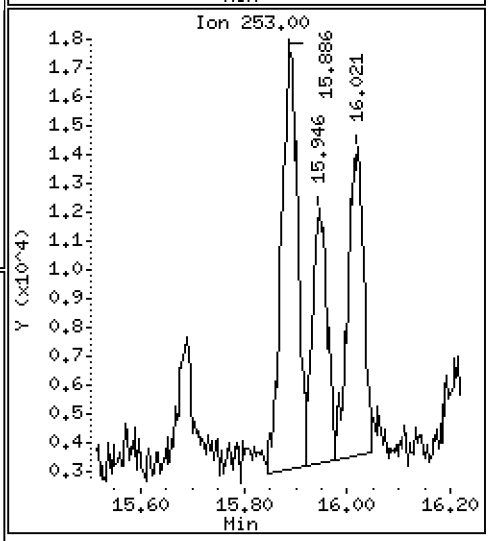
28 Benzo(b)fluoranthene

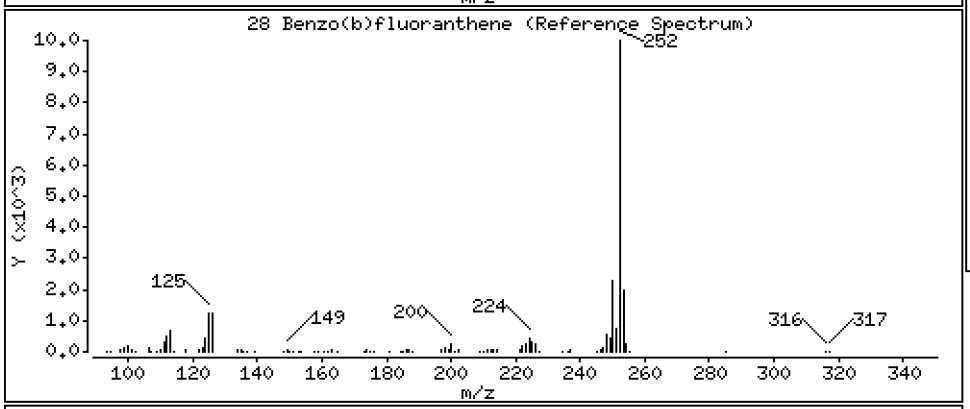
Concentration: 1.071 ug/mL

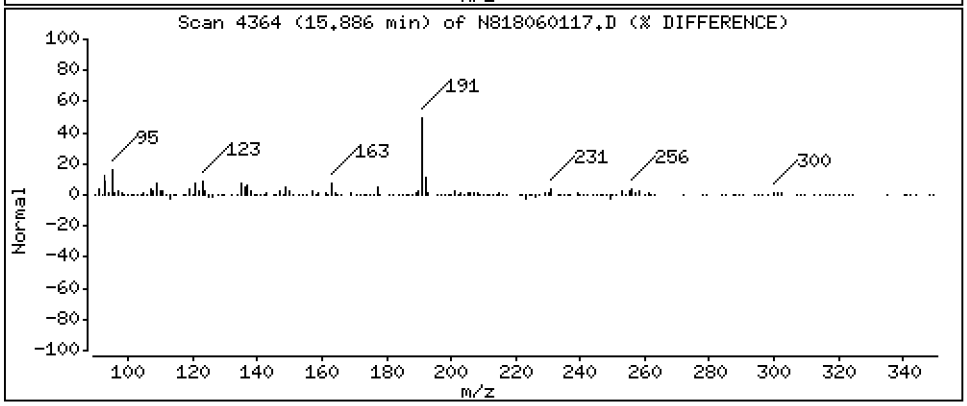












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

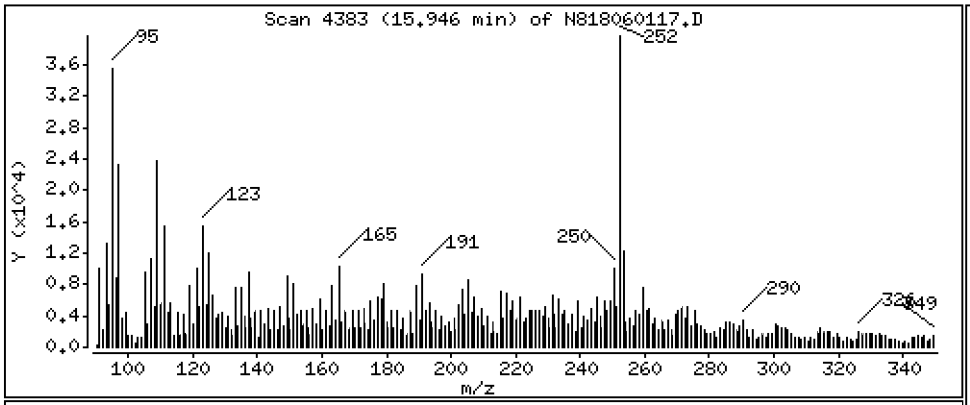
Operator: JZ

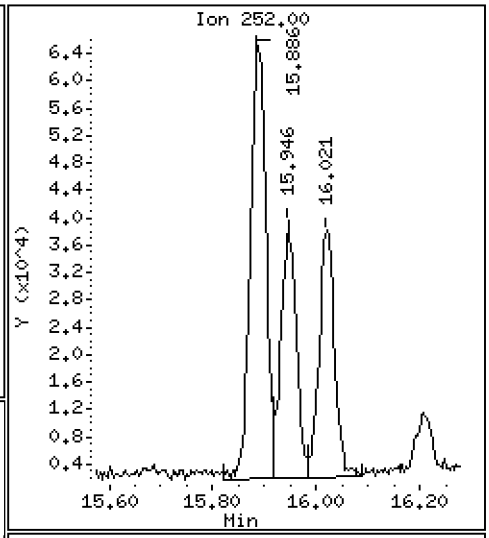
Column phase: Rxi-17sil

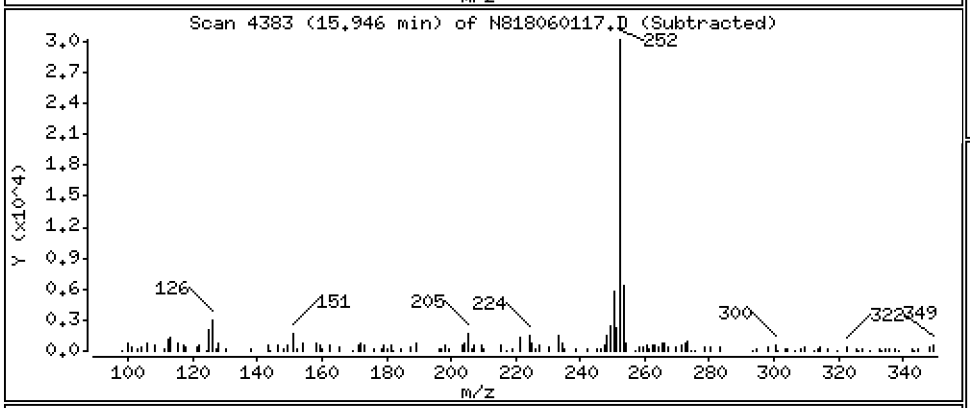
Column diameter: 0.25

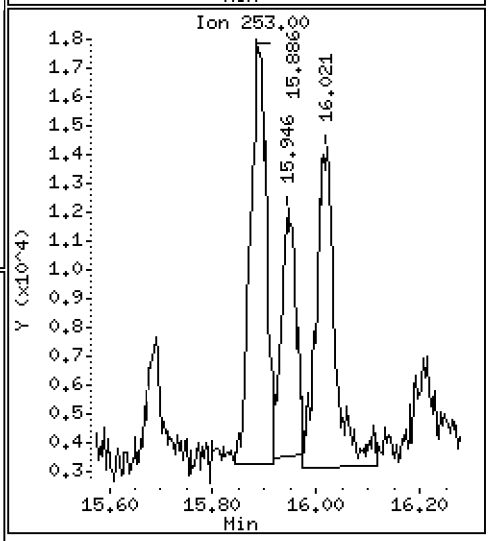
29 Benzo(k)fluoranthene

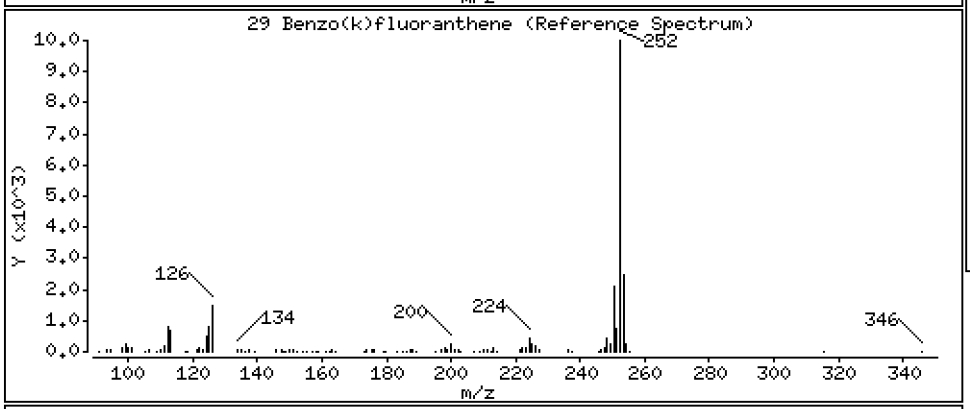
Concentration: 0.6390 ug/mL

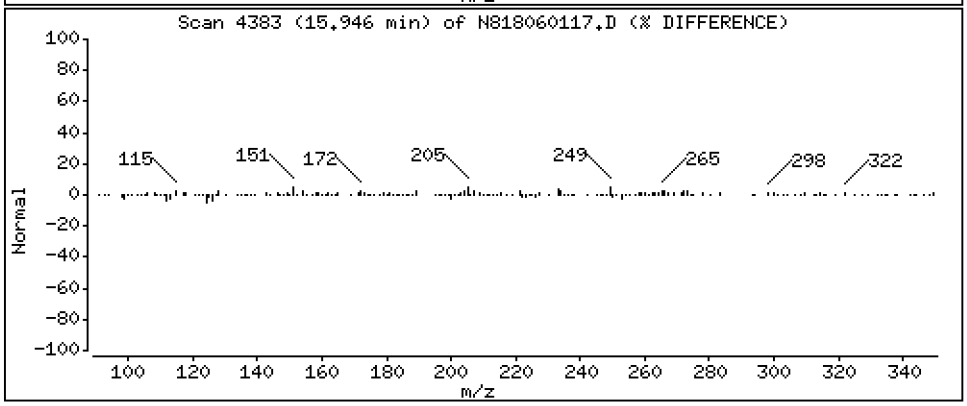












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

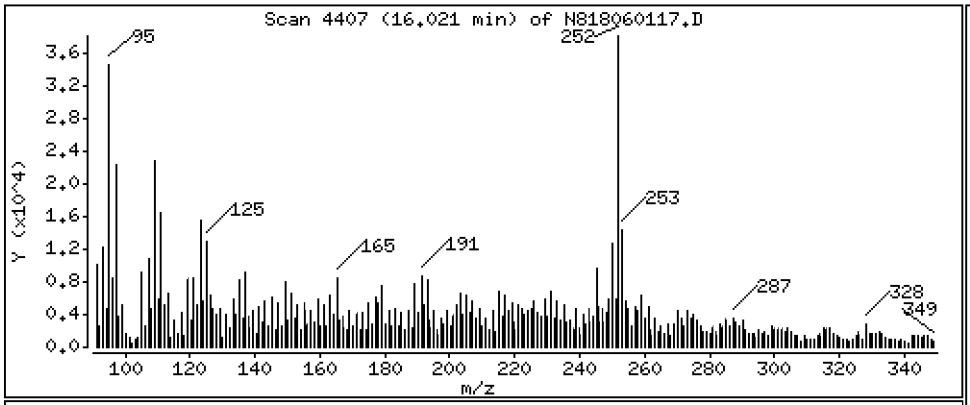
Operator: JZ

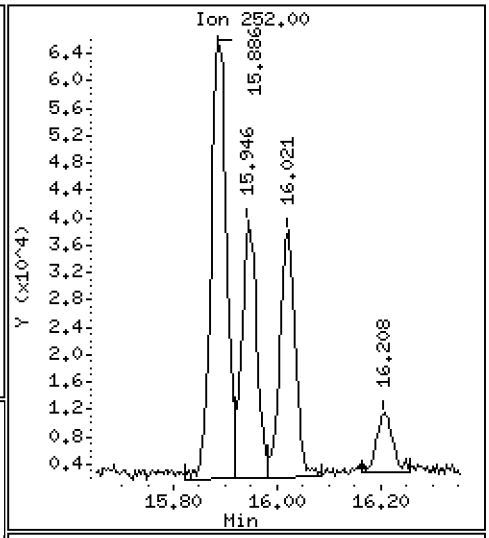
Column phase: Rxi-17sil

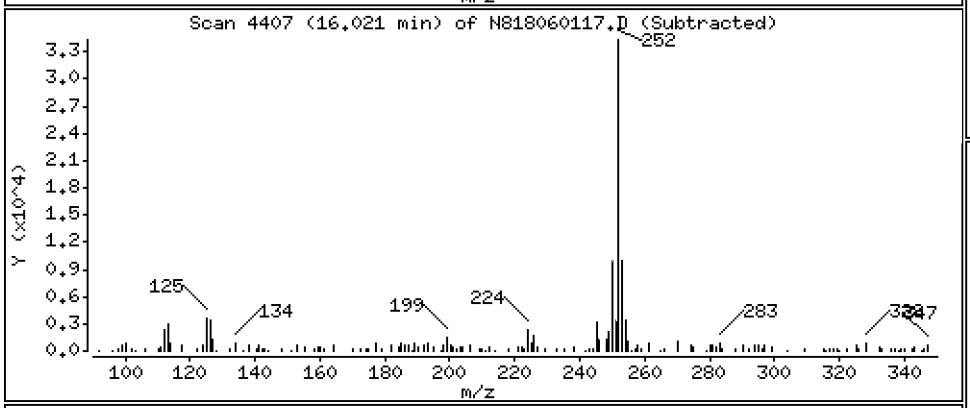
Column diameter: 0.25

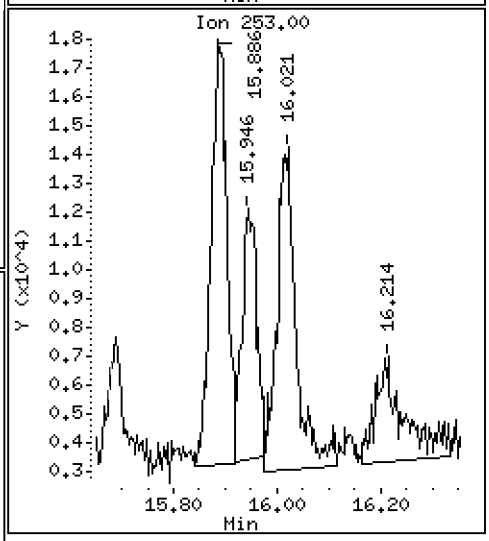
30 Benzo(j)fluoranthene

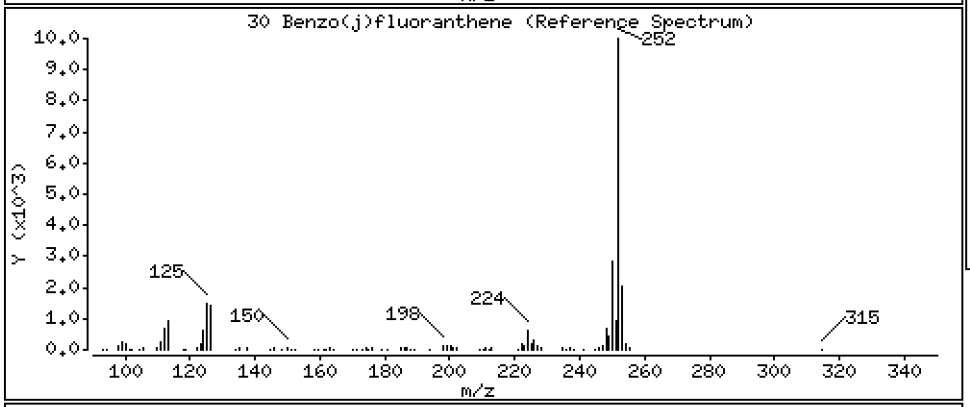
Concentration: 0.6135 ug/mL

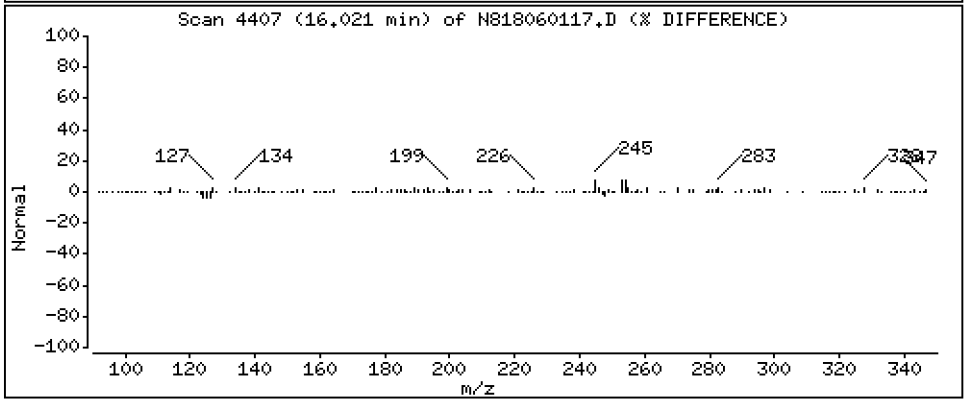












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

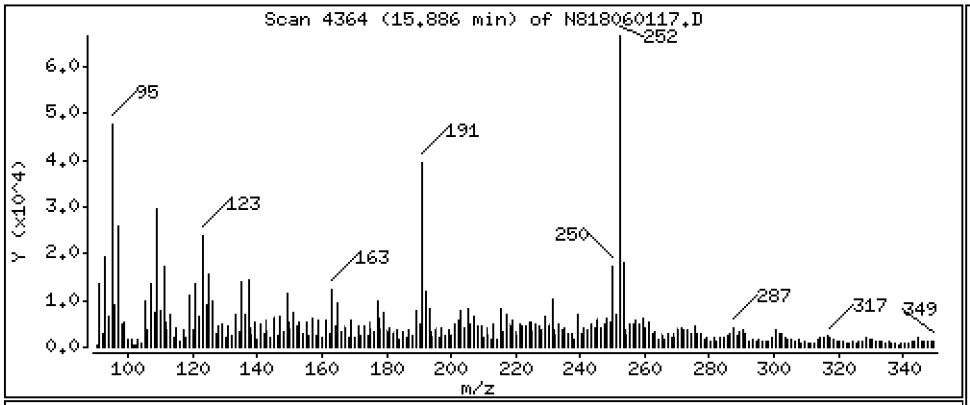
Operator: JZ

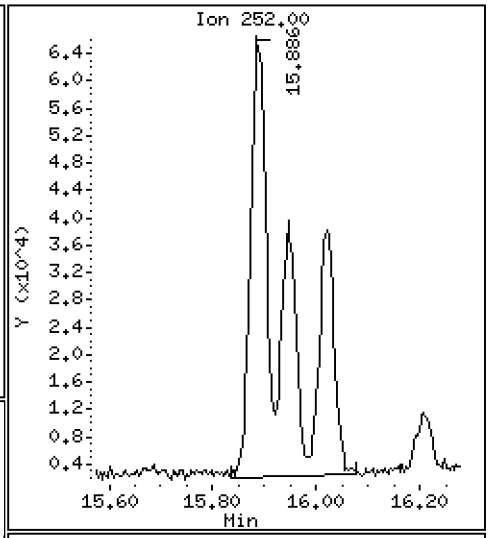
Column phase: Rxi-17sil

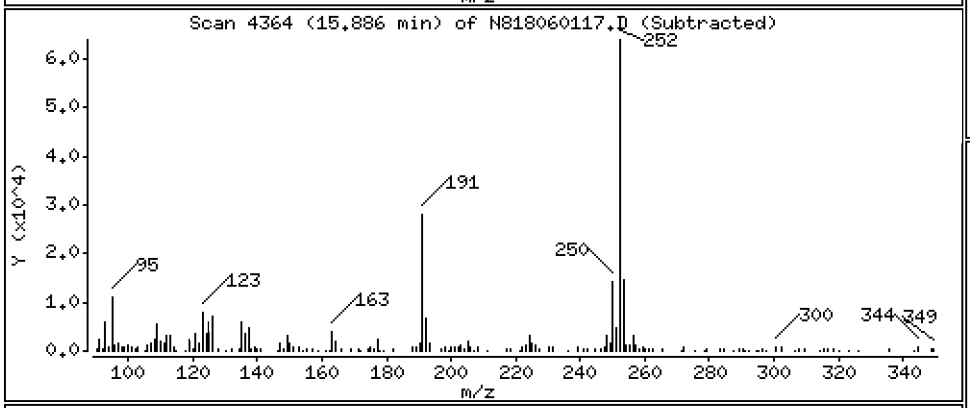
Column diameter: 0.25

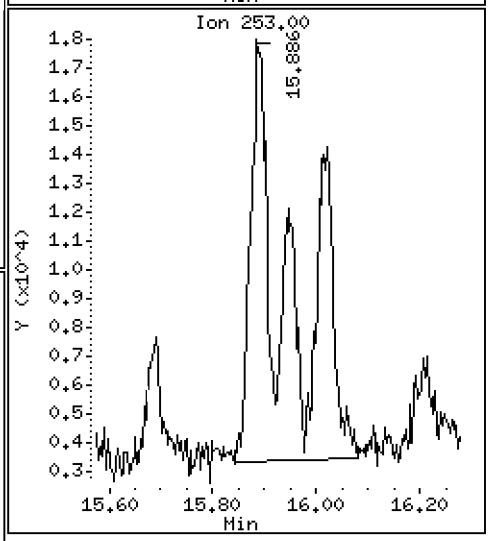
31 Total Benzofluoranthenes

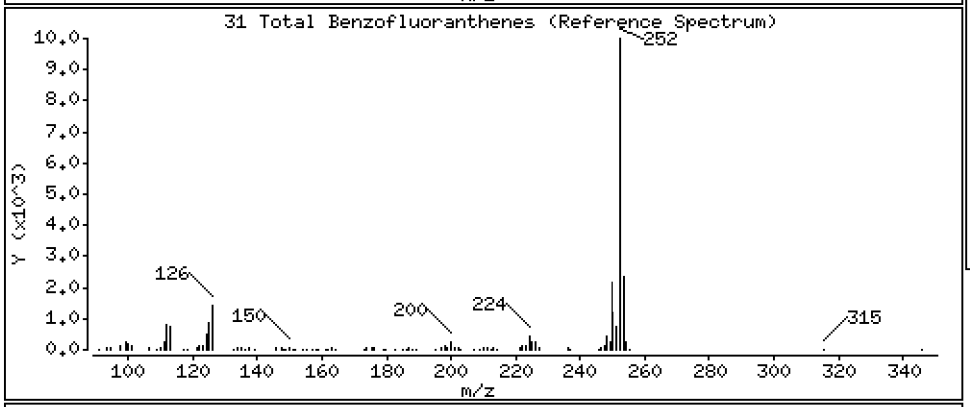
Concentration: 2.330 ug/mL

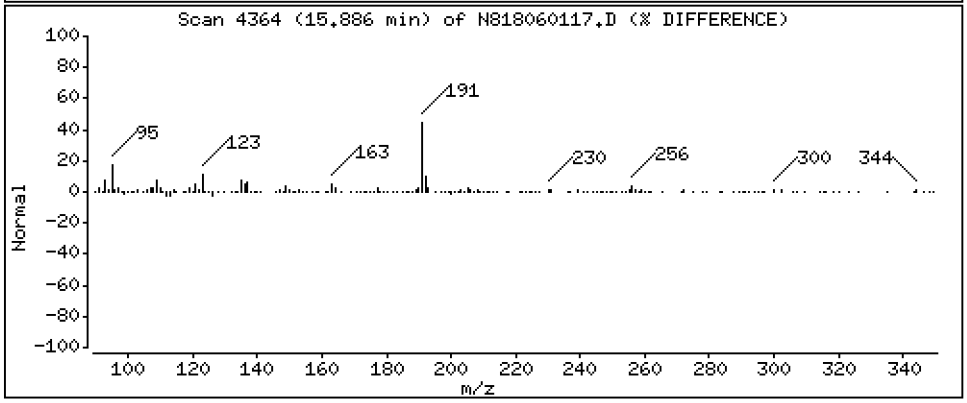












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

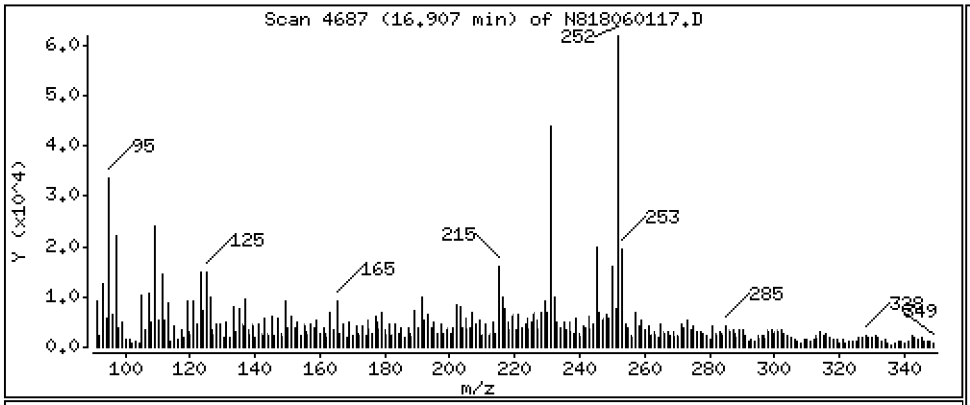
Operator: JZ

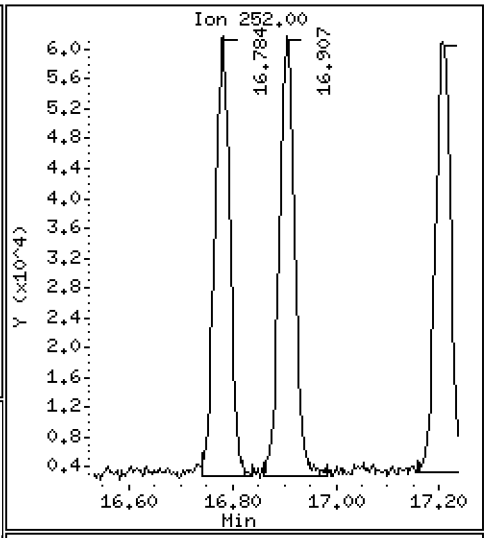
Column phase: Rxi-17sil

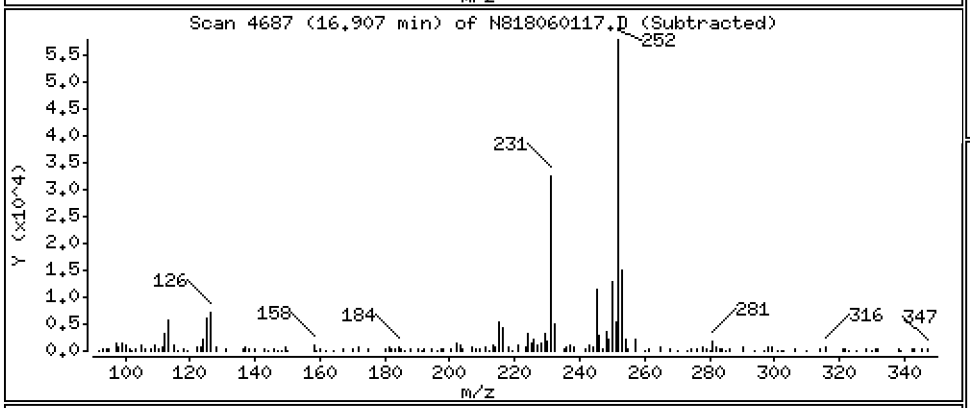
Column diameter: 0.25

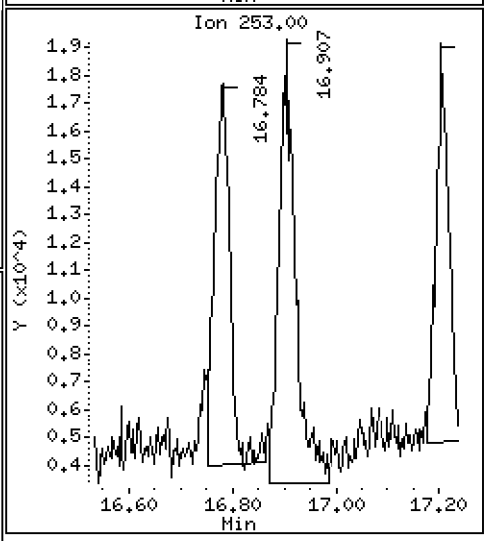
32 Benzo(a)pyrene

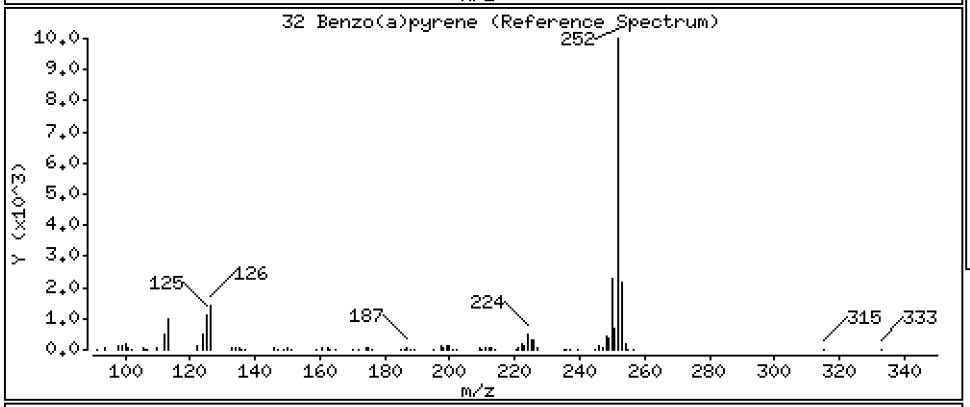
Concentration: 1.131 ug/mL

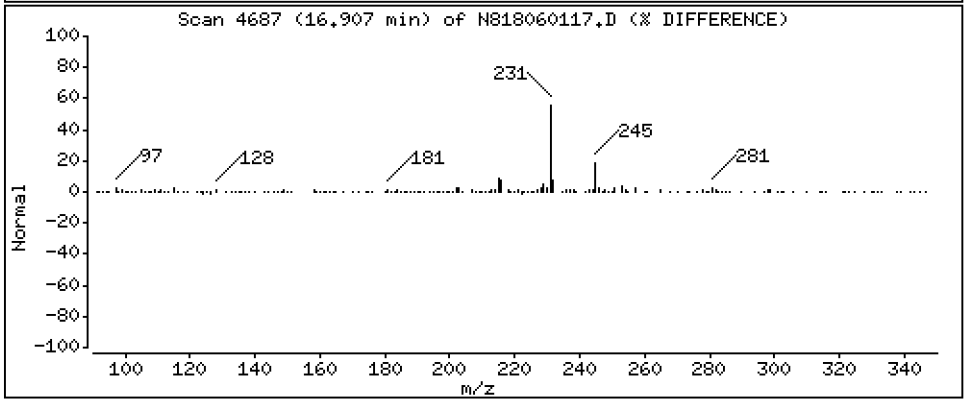












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

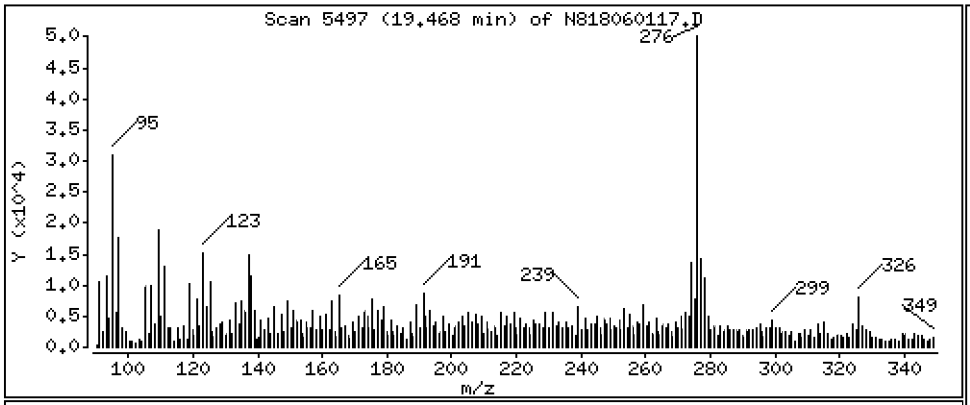
Operator: JZ

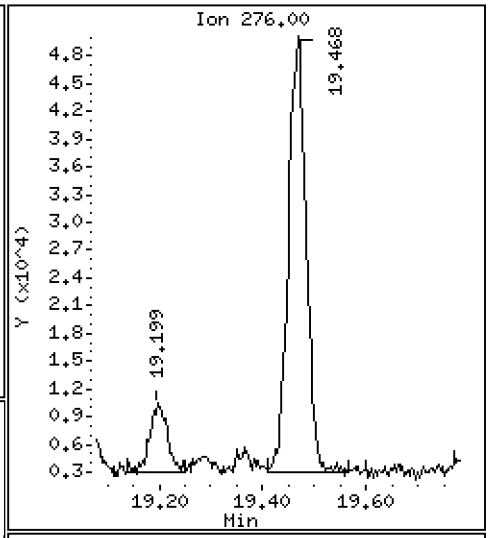
Column phase: Rxi-17sil

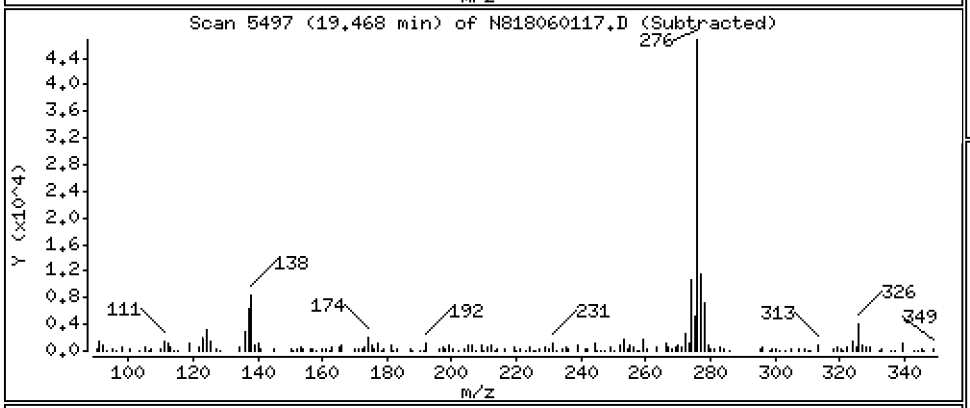
Column diameter: 0.25

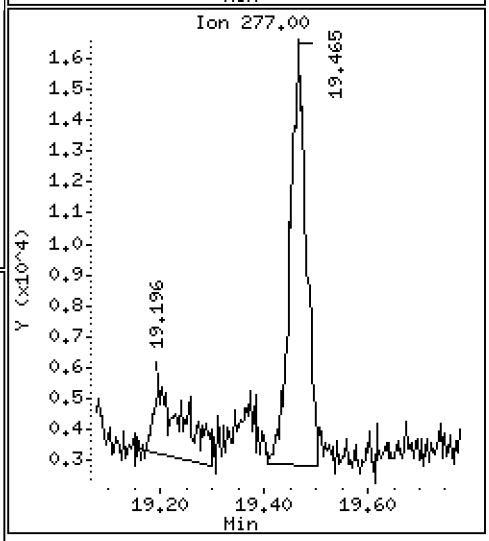
37 Indeno(1,2,3-cd)pyrene

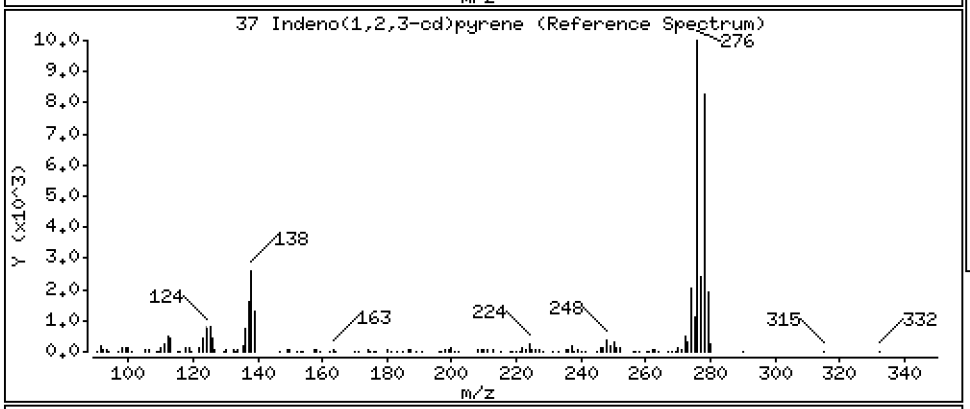
Concentration: 0.9028 ug/mL

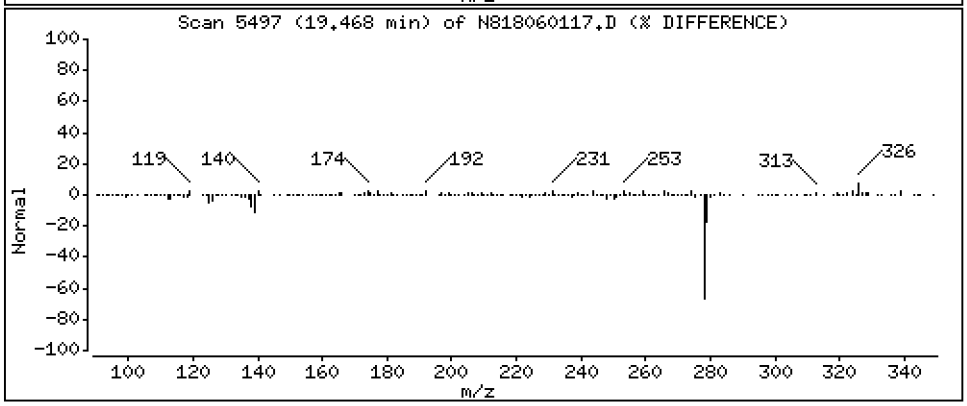












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

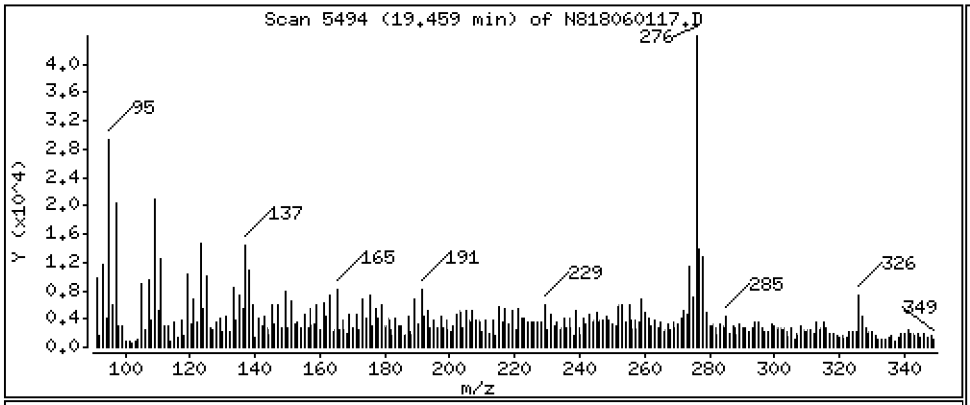
Operator: JZ

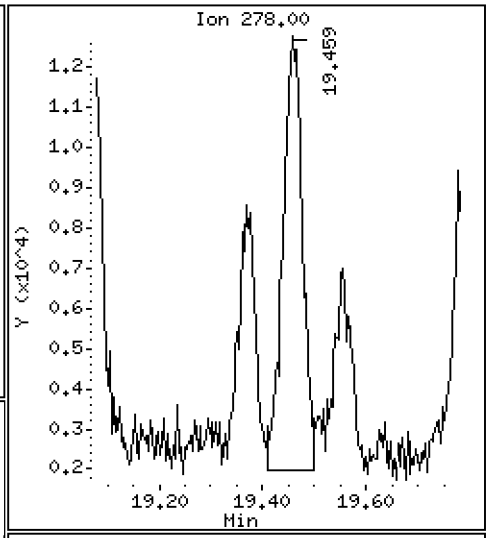
Column phase: Rxi-17sil

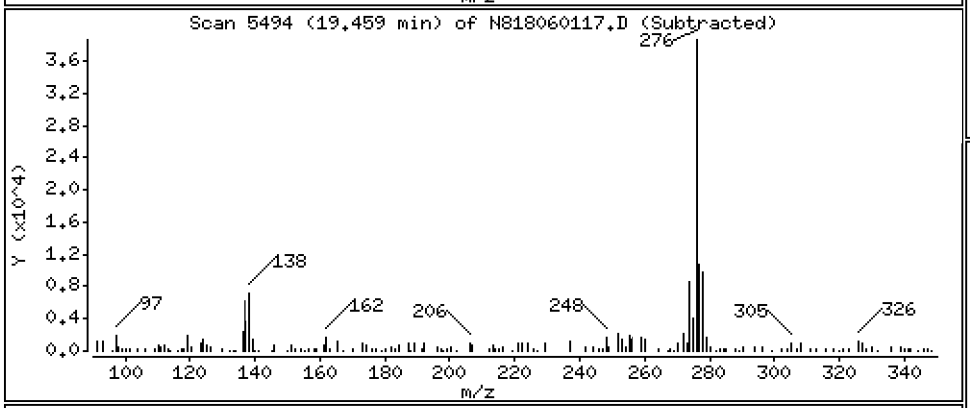
Column diameter: 0.25

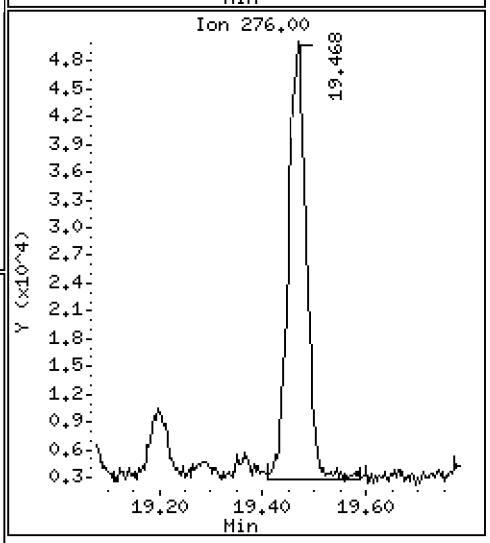
38 Dibenzo(a,h)anthracene

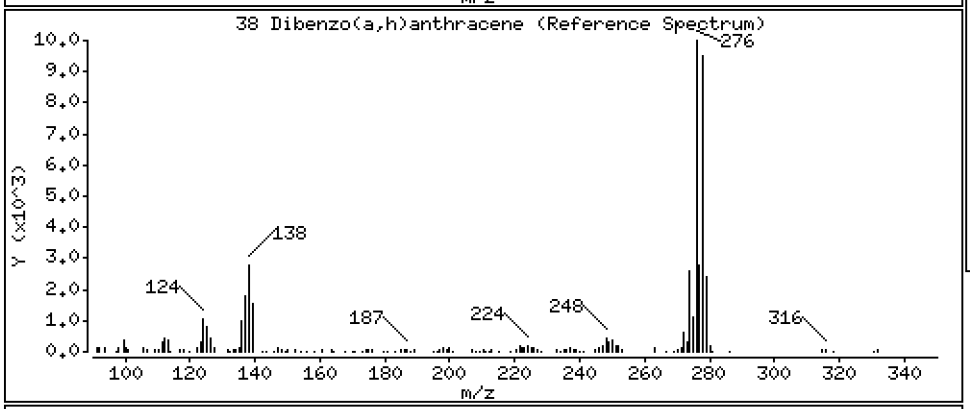
Concentration: 0.2796 ug/mL

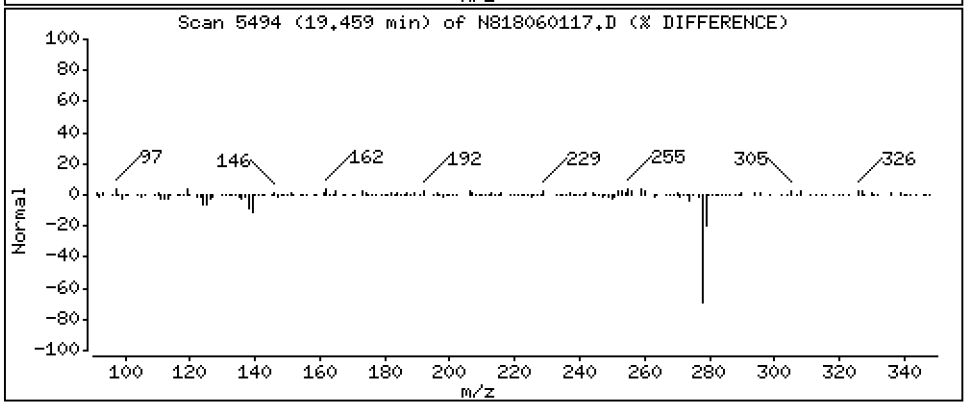












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

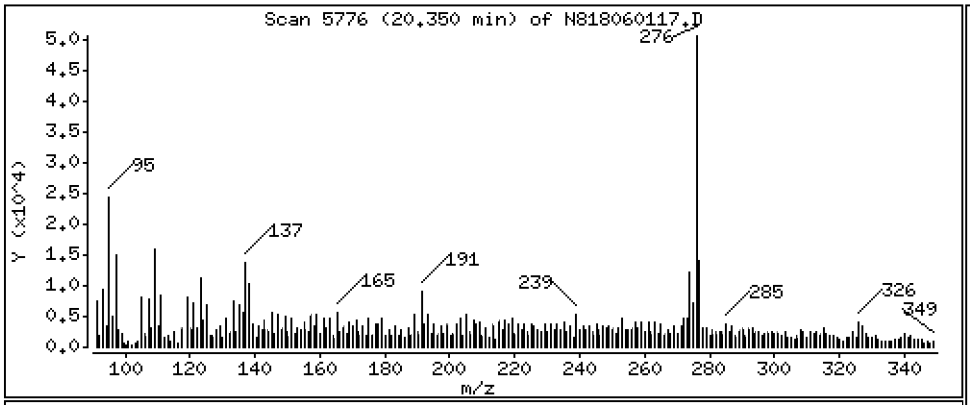
Operator: JZ

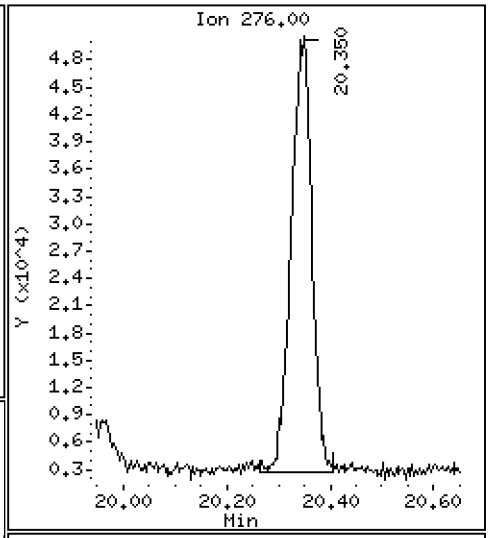
Column phase: Rxi-17sil

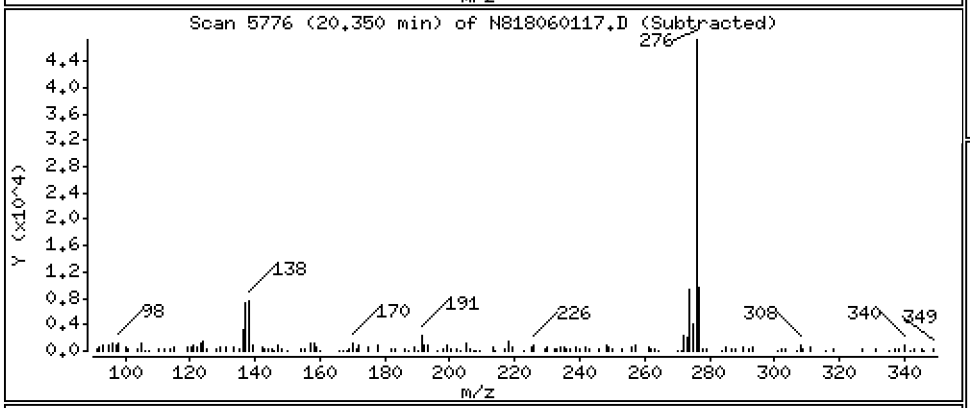
Column diameter: 0.25

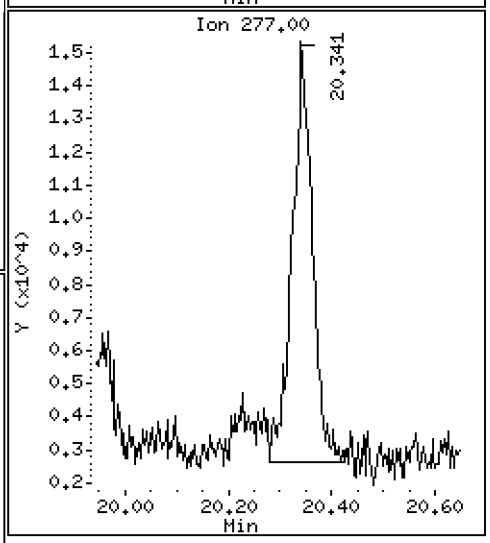
39 Benzo(g,h,i)perylene

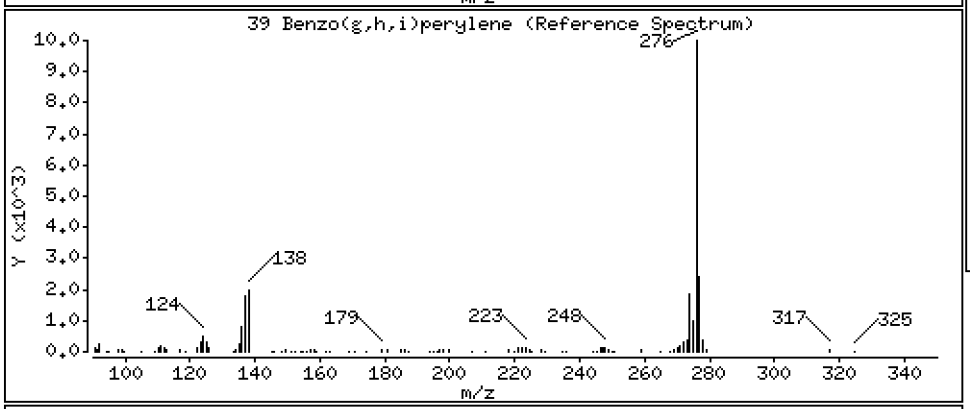
Concentration: 1.229 ug/mL

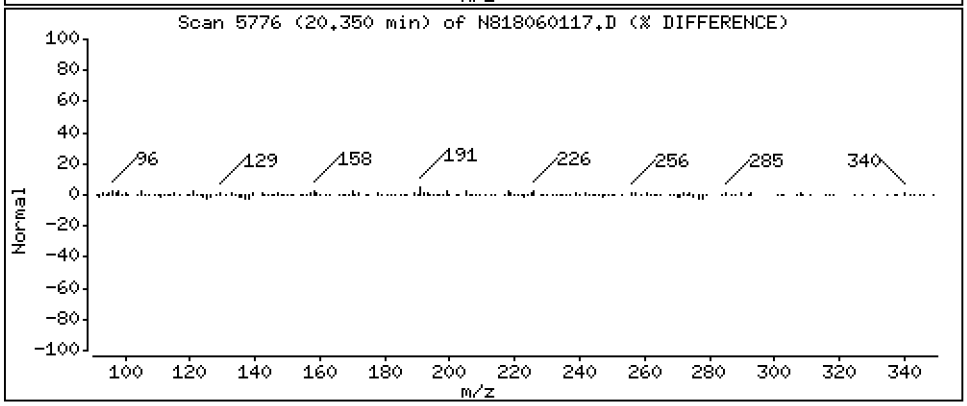












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060117.D

Date : 01-JUN-2018 21:32

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-01

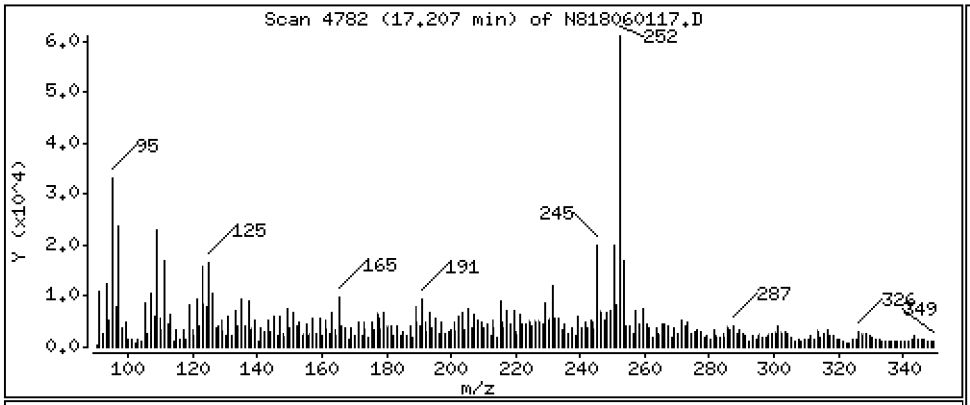
Operator: JZ

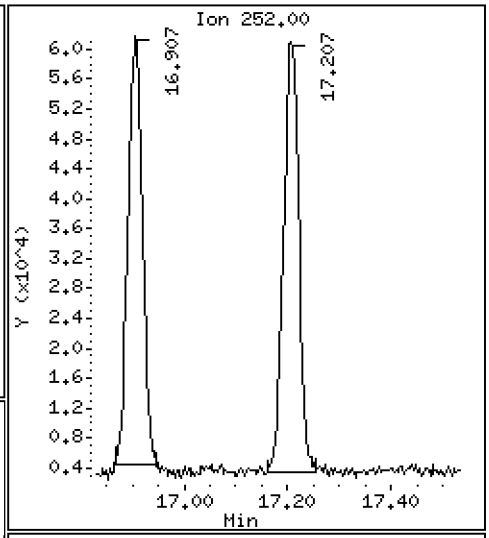
Column phase: Rxi-17sil

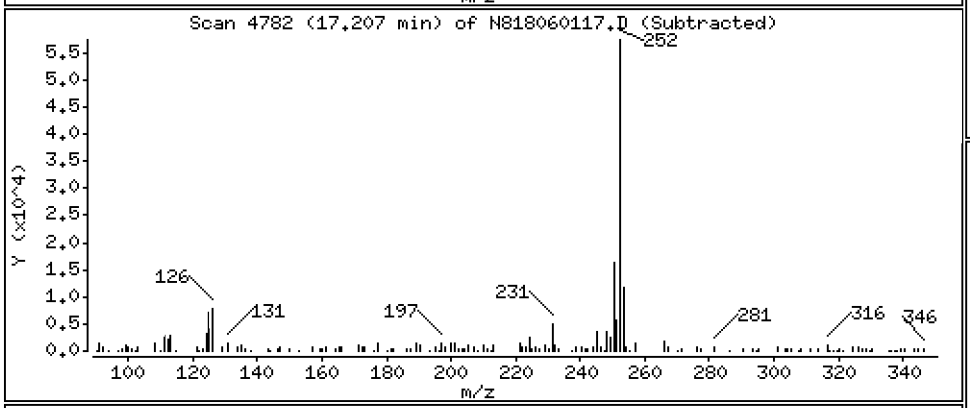
Column diameter: 0.25

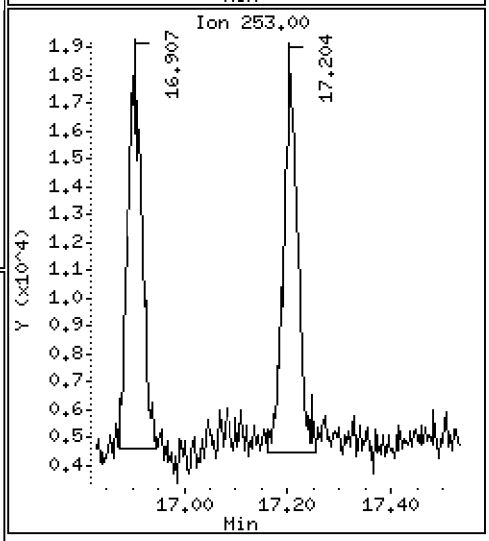
35 Perylene

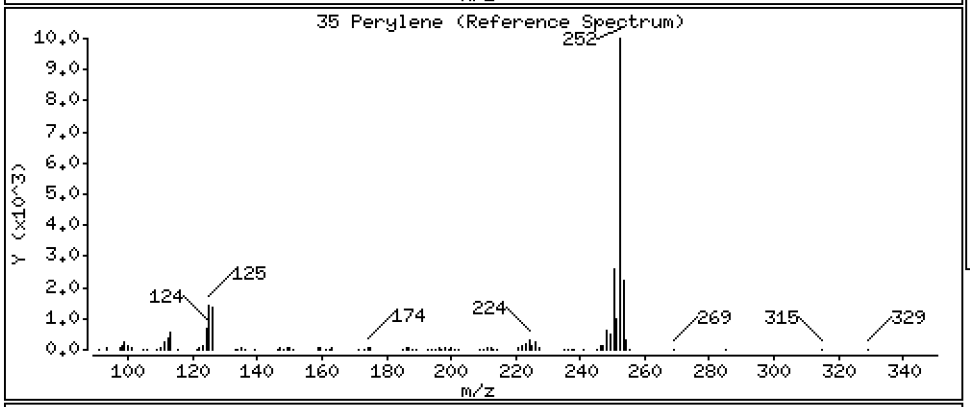
Concentration: 1.006 ug/mL

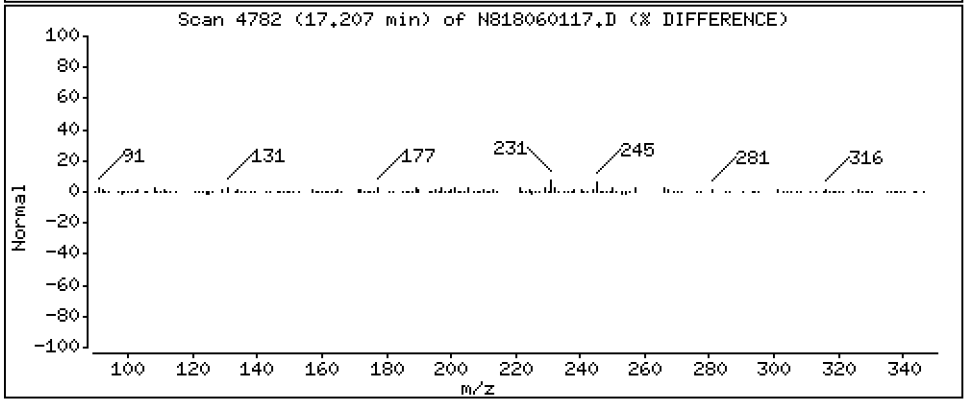












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060117.D
Lab Smp Id: 18E0262-01
Inj Date : 01-JUN-2018 21:32
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0262-01
Misc Info : 18-
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.451	4.464	(1.000)	183378	2.00000	
	2 Naphthalene	128	4.480	4.492	(1.006)	14234	0.13356	0.1336
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	90101	1.34692	1.347
	4 2-Methylnaphthalene	141	5.232	5.242	(1.175)	6621	0.11030	0.1103
	5 1-methylnaphthalene	141	5.428	5.432	(1.219)	4850	0.07850	0.07850
	9 Acenaphthylene	152	6.611	6.617	(0.983)	10814	0.11990	0.1199
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	90840	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.008)	4464	0.06456	0.06456
	12 Dibenzofuran	168	6.927	6.927	(1.030)	6015	0.06470	0.06470
	14 Fluorene	166	7.401	7.402	(1.101)	6267	0.08724	0.08724
*	15 Phenanthrene-d10	188	8.742	8.745	(1.000)	168484	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	128352	1.24293	1.243
	17 Anthracene	178	8.818	8.821	(1.009)	19392	0.20610	0.2061
	22 Fluoranthene	202	10.437	10.434	(1.194)	268341	2.30573	2.306
$	21 Fluoranthene-d10	212	10.402	10.402	(1.190)	186508	1.69089	1.691
	23 Pyrene	202	10.905	10.902	(0.816)	262568	2.31033	2.310
	24 Benzo(a)anthracene	228	13.248	13.239	(0.991)	106752	0.97155	0.9715
*	25 Chrysene-d12	240	13.368	13.356	(1.000)	189115	2.00000	
	27 Chrysene	228	13.438	13.425	(1.005)	160733	1.45319	1.453
	28 Benzo(b)fluoranthene	252	15.885	15.869	(0.927)	132454	1.07130	1.071
	29 Benzo(k)fluoranthene	252	15.945	15.926	(0.930)	77685	0.63898	0.6390
	30 Benzo(j)fluoranthene	252	16.021	16.002	(0.935)	74682	0.61349	0.6135
	31 Total Benzofluoranthenes	252	15.885	15.926	(0.927)	280939	2.32989	2.330(M)
	32 Benzo(a)pyrene	252	16.906	16.884	(0.987)	122547	1.13087	1.131
*	33 Perylene-d12	264	17.137	17.112	(1.000)	194545	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.468	19.430	(1.136)	112007	0.90283	0.9028
$	36 Dibenzo(a,h)anthracene-d14	292	19.373	19.338	(1.130)	193327	2.12160	2.122
	38 Dibenzo(a,h)anthracene	278	19.458	19.430	(1.135)	28609	0.27955	0.2796
	39 Benzo(g,h,i)perylene	276	20.350	20.299	(1.187)	133215	1.22860	1.229
	35 Perylene	252	17.207	17.181	(1.004)	118420	1.00642	1.006

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060117.D
Lab Smp Id: 18E0262-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	183378	50.08
10 Acenaphthene-d10	65789	32895	131578	90840	38.08
15 Phenanthrene-d10	128644	64322	257288	168484	30.97
25 Chrysene-d12	166669	83335	333338	189115	13.47
33 Perylene-d12	140483	70242	280966	194545	38.48

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.28
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.74	-0.04
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.09
33 Perylene-d12	17.11	16.61	17.61	17.14	0.15

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060117.D

Lab ID: 18E0262-01
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 21:32

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

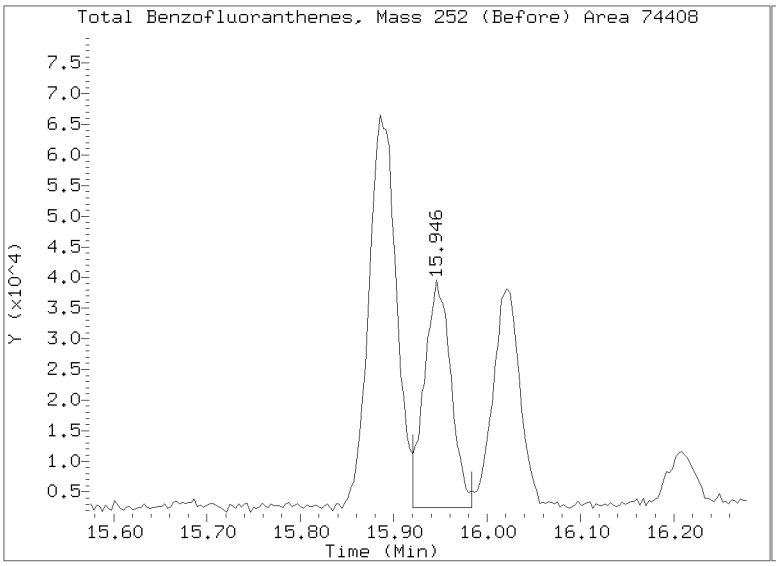
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

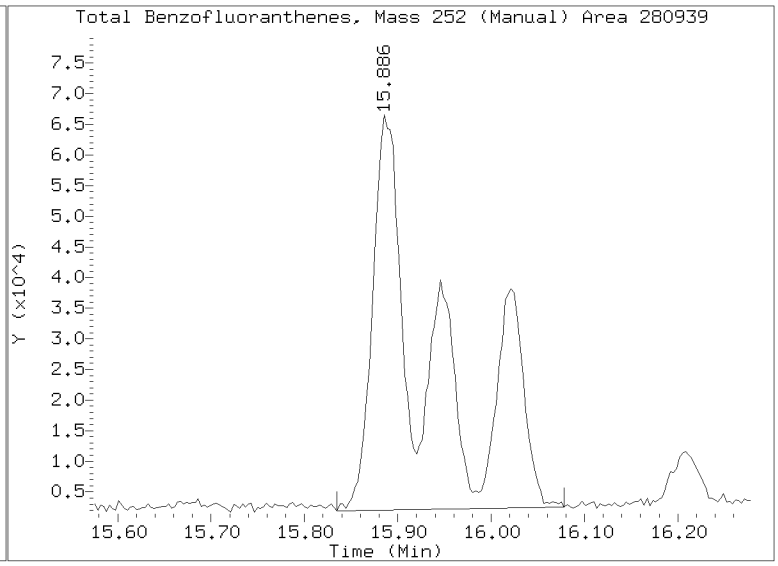
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060117.D
Injection Date: 01-JUN-2018 21:32
Lab ID:18E0262-01 Client ID:
Report Date: 06/04/2018 11:01





LDW18-SSCL-A19

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-02	SDG:	18E0231
Sampled:	05/17/18 14:04	Prepared:	05/24/18 10:50	File ID:	N818060118.D
% Solids:	60.48	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 21:59
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	17 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	49.6		0.80	4.86
218-01-9	Chrysene	1	74.6		1.02	4.86
205-99-2	Benzo(b)fluoranthene	1	54.3		1.33	4.86
207-08-9	Benzo(k)fluoranthene	1	32.7		0.74	4.86
50-32-8	Benzo(a)pyrene	1	58.0		0.60	4.86
193-39-5	Indeno(1,2,3-cd)pyrene	1	40.4		1.02	4.86
53-70-3	Dibenzo(a,h)anthracene	1	11.0		0.87	4.86

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	145.89	61.7	42.3	32 - 120	
Dibenzo[a,h]anthracene-d14	145.89	108	74.3	21 - 133	
Fluoranthene-d10	145.89	85.3	58.5	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

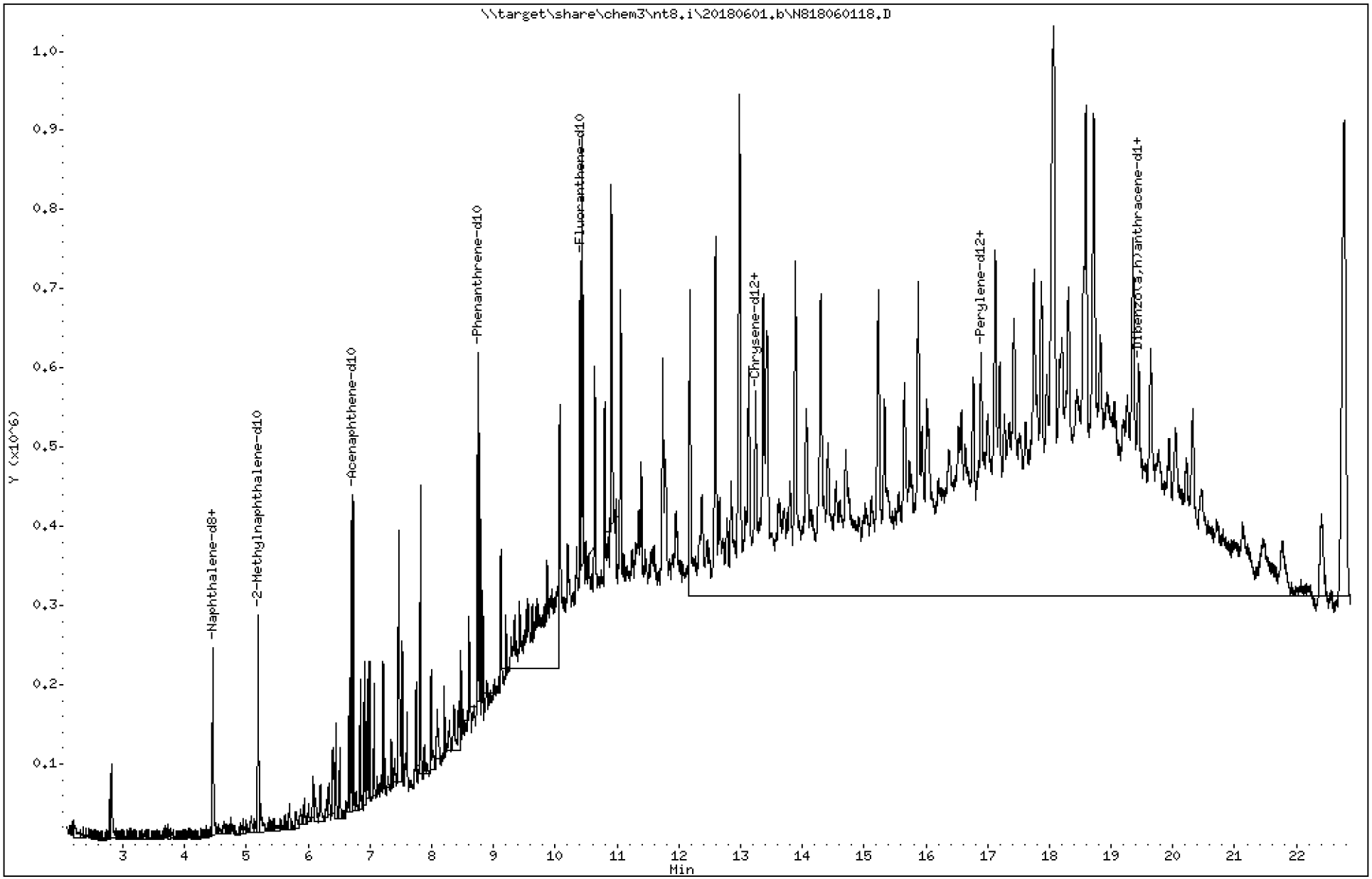
Instrument: nt8.i

Sample Info: 18E0262-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

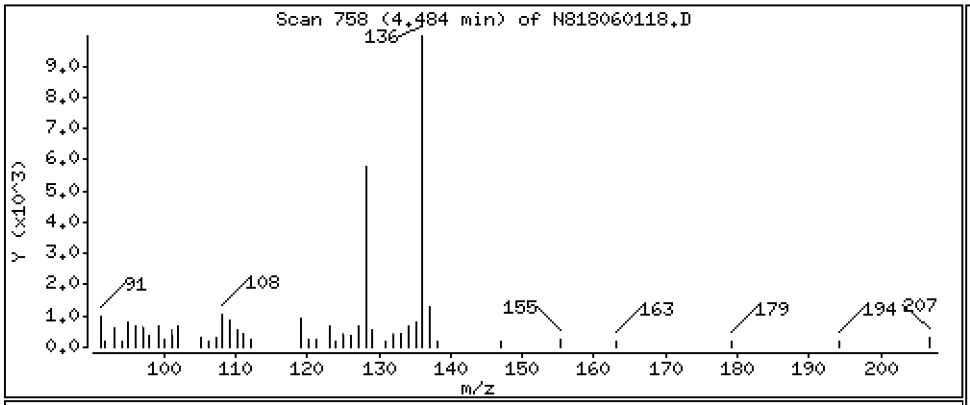
Operator: JZ

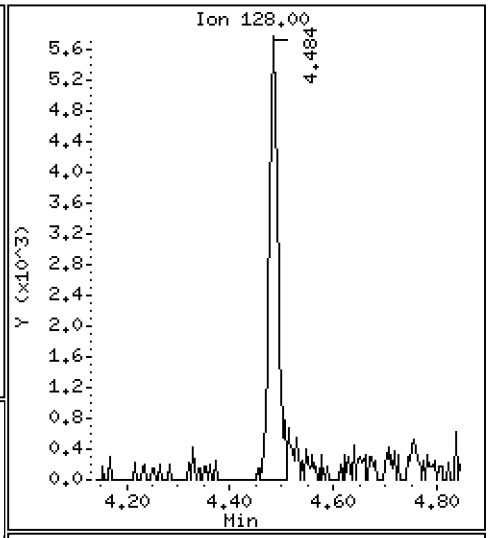
Column phase: Rxi-17sil

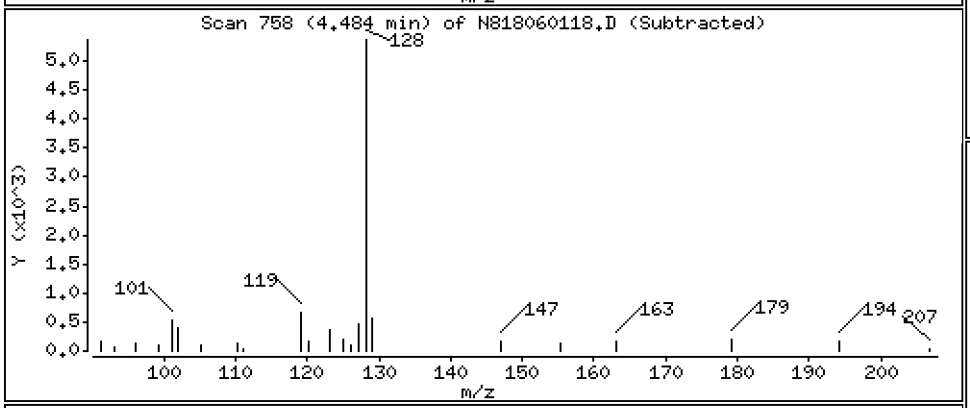
Column diameter: 0.25

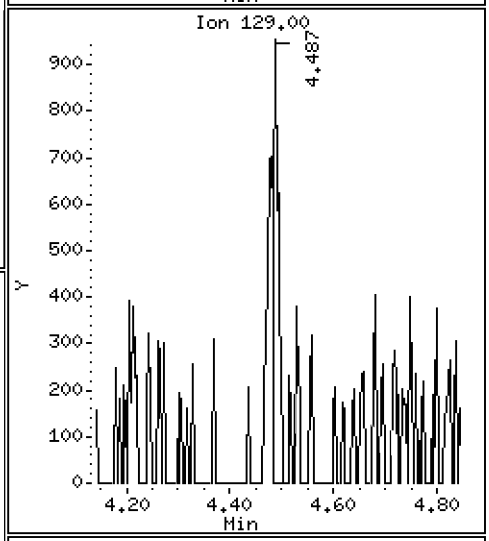
2 Naphthalene

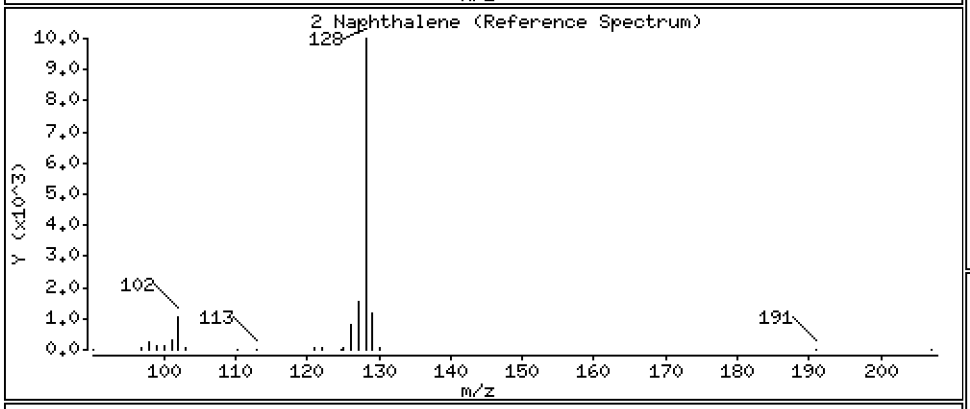
Concentration: 0.05533 ug/mL

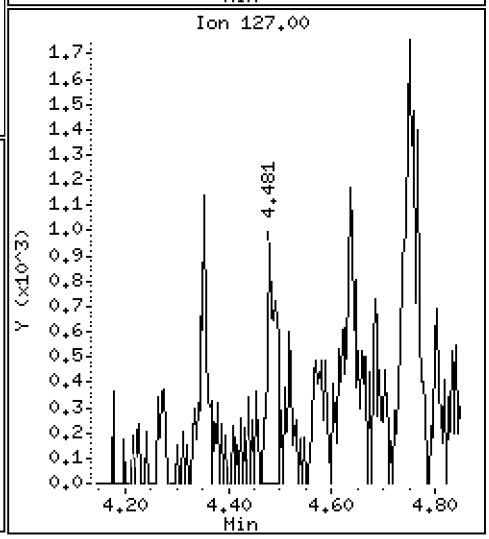


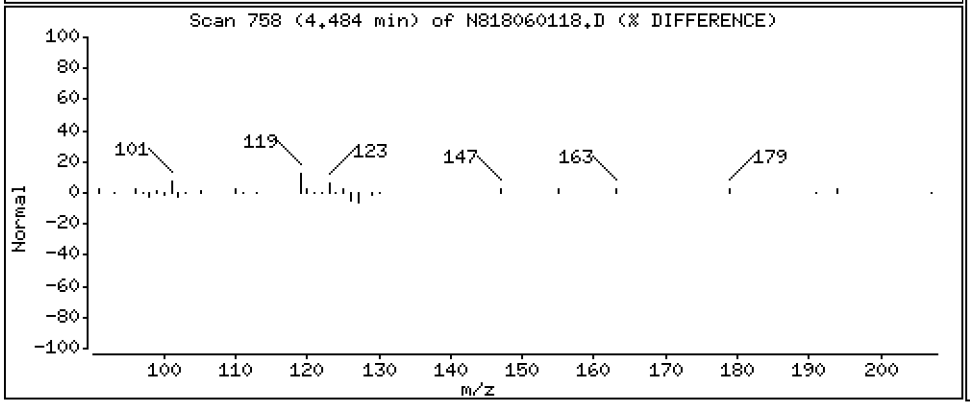












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

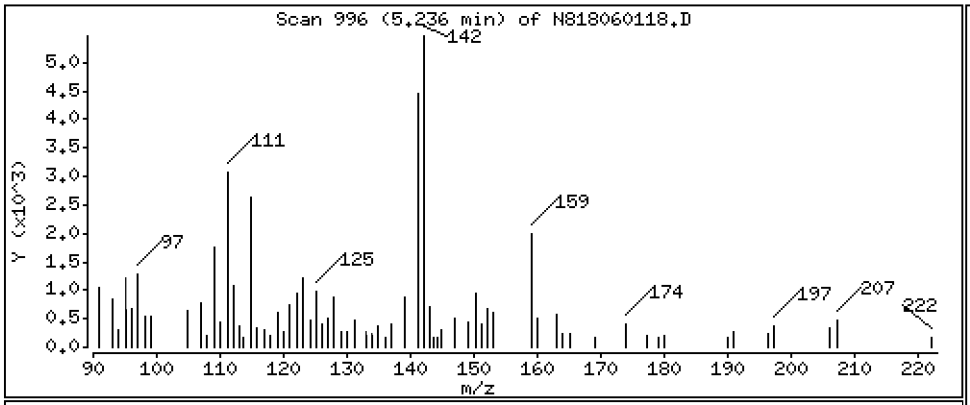
Operator: JZ

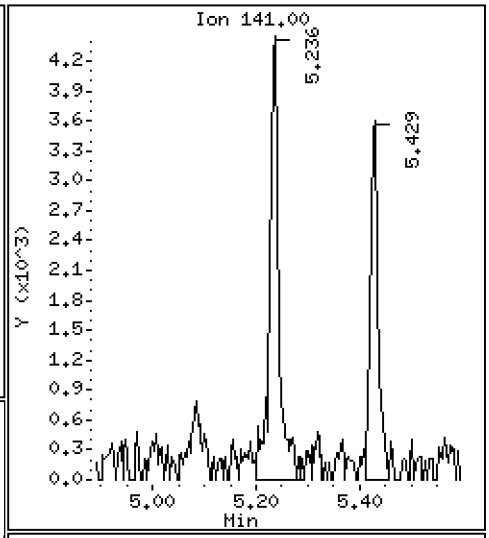
Column phase: Rxi-17sil

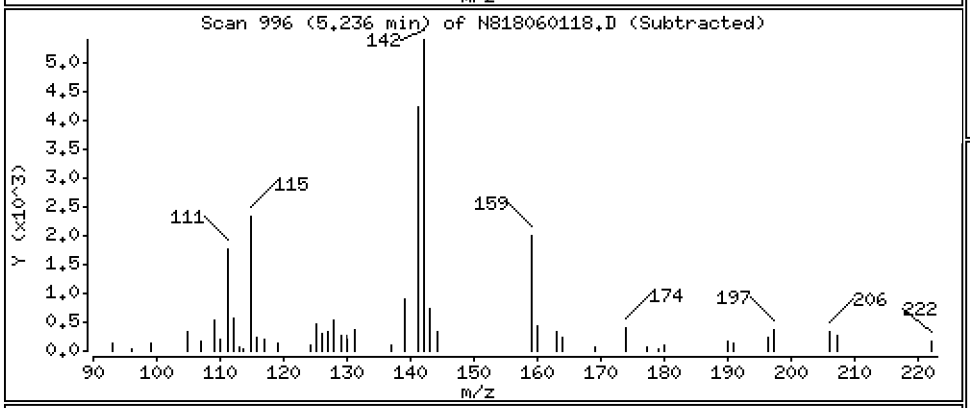
Column diameter: 0.25

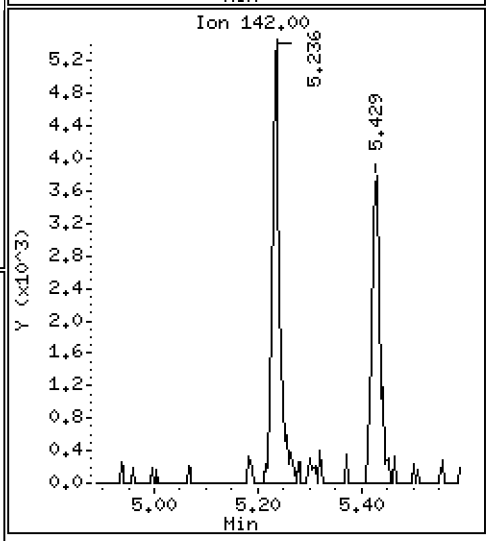
4 2-Methylnaphthalene

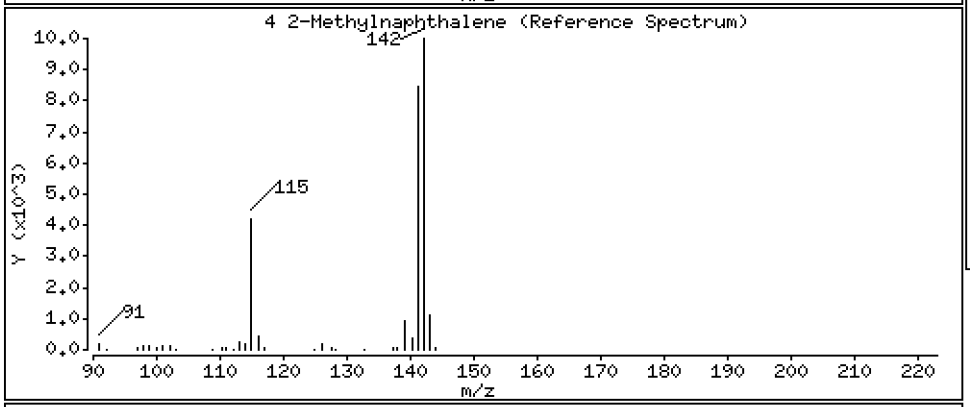
Concentration: 0.08448 ug/mL

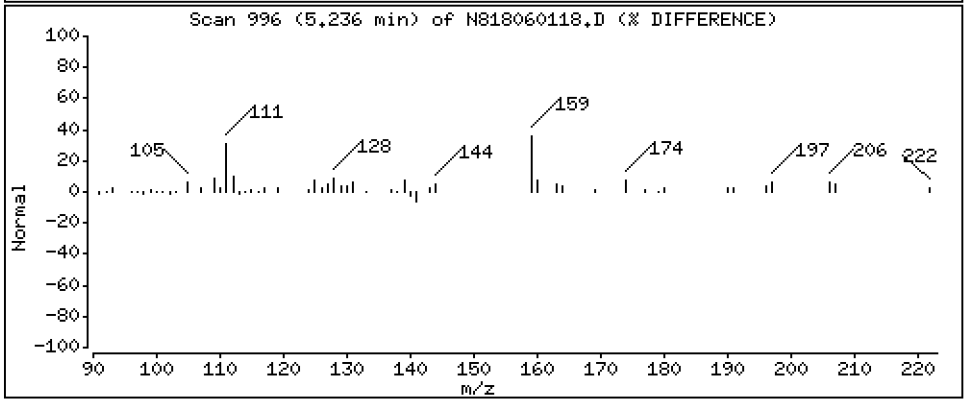












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

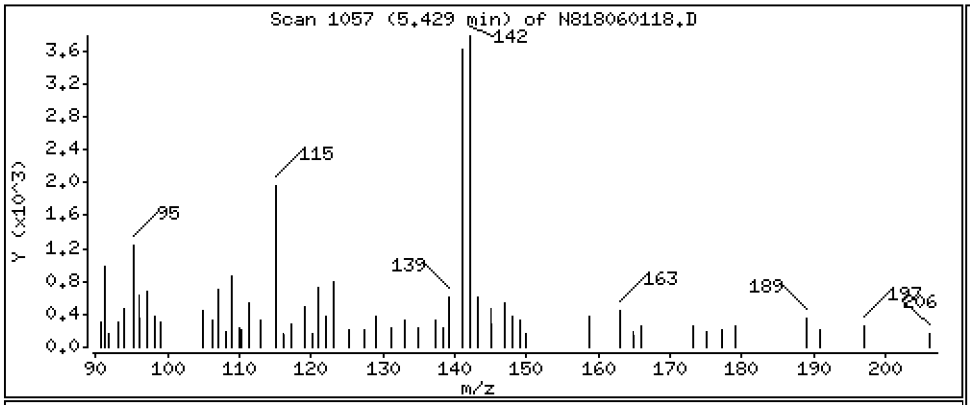
Operator: JZ

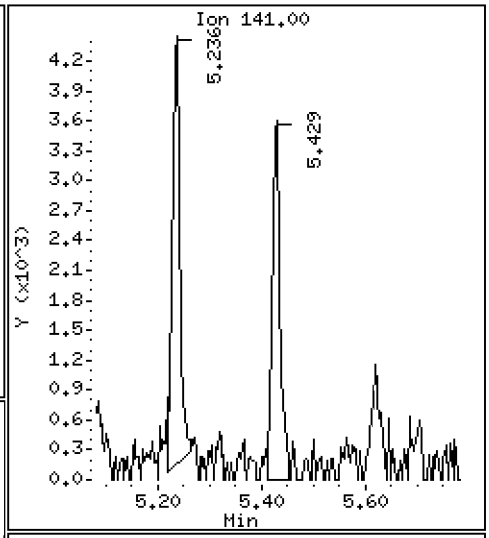
Column phase: Rxi-17sil

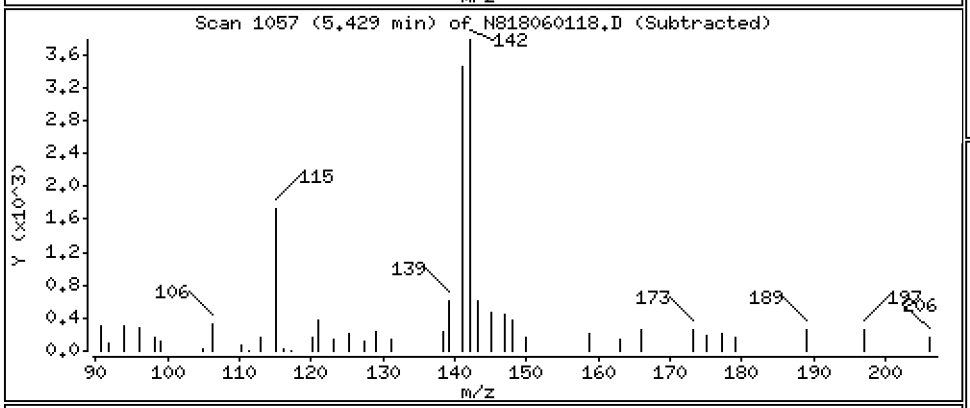
Column diameter: 0.25

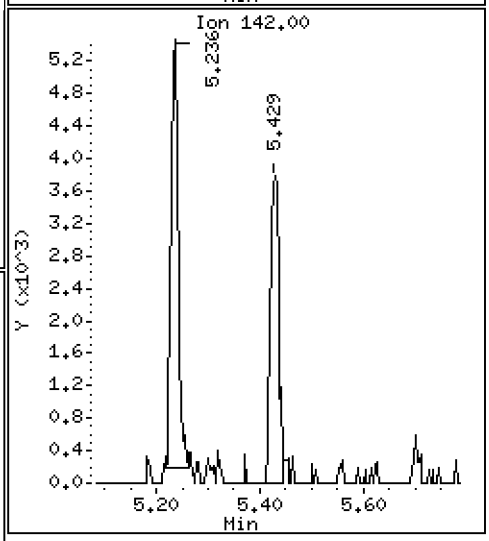
5 1-methylnaphthalene

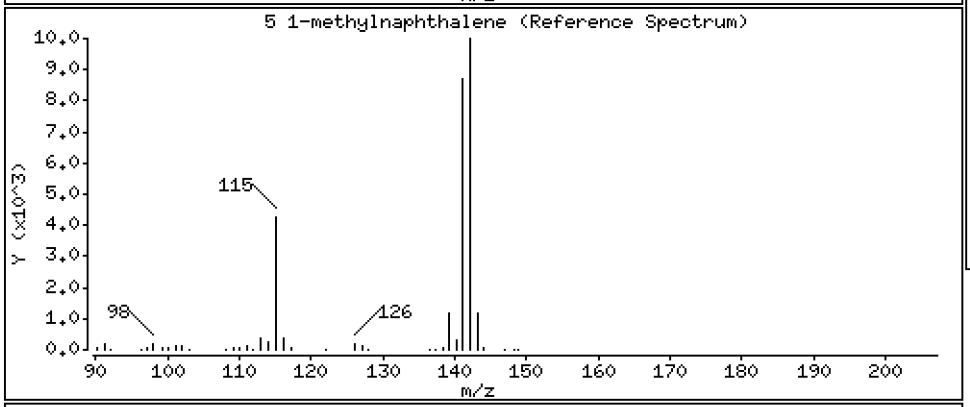
Concentration: 0.05363 ug/mL

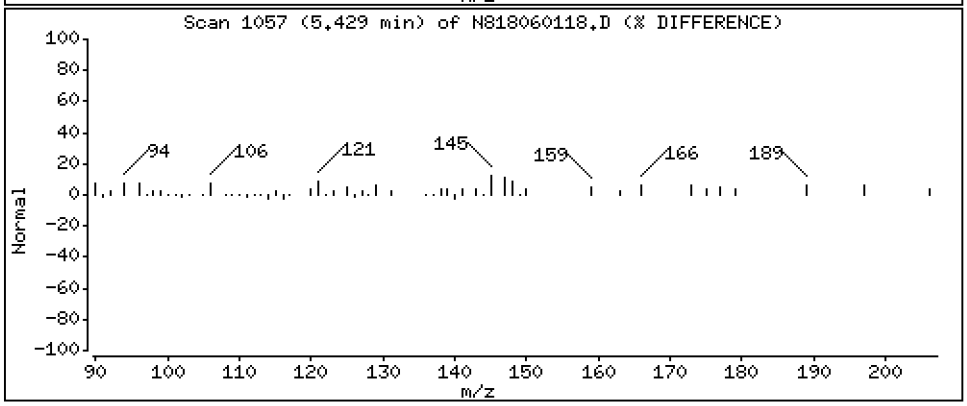












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

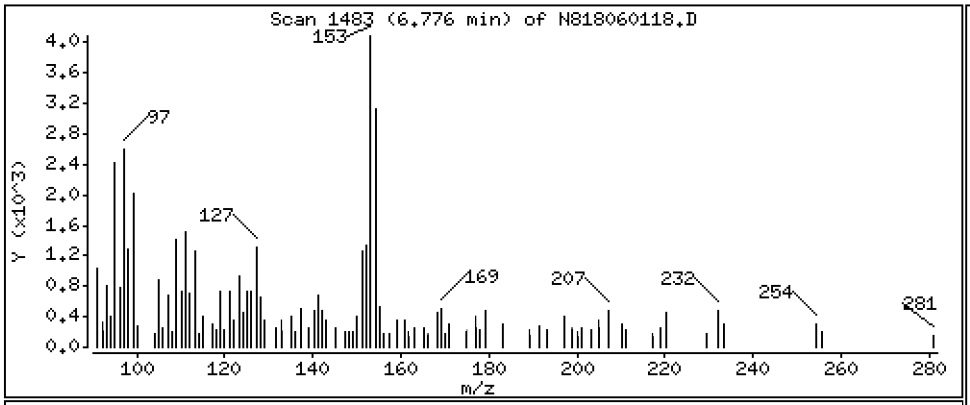
Operator: JZ

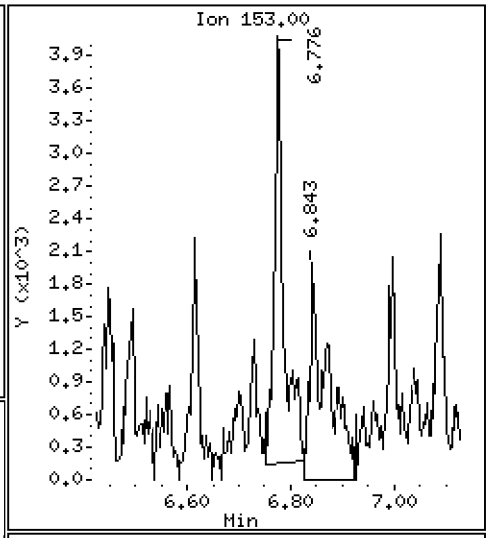
Column phase: Rxi-17sil

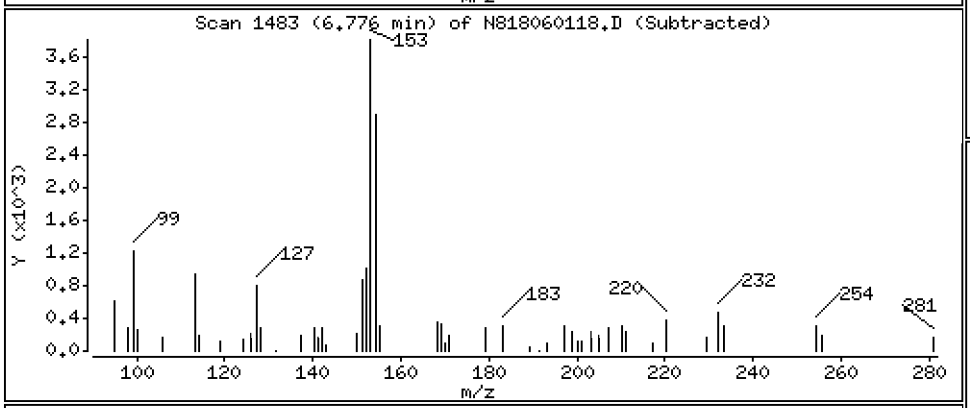
Column diameter: 0.25

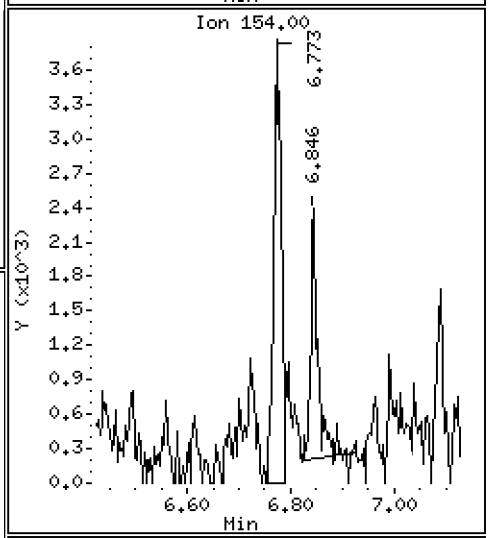
11 Acenaphthene

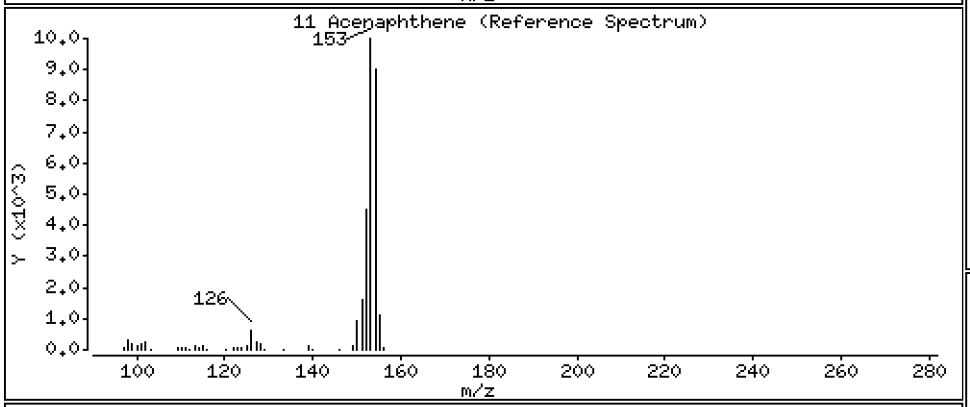
Concentration: 0.06522 ug/mL

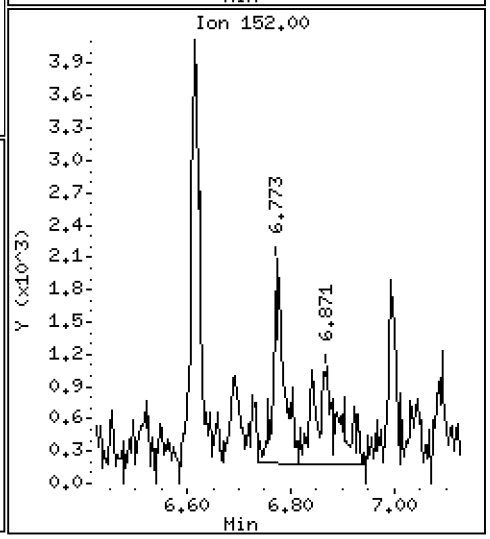


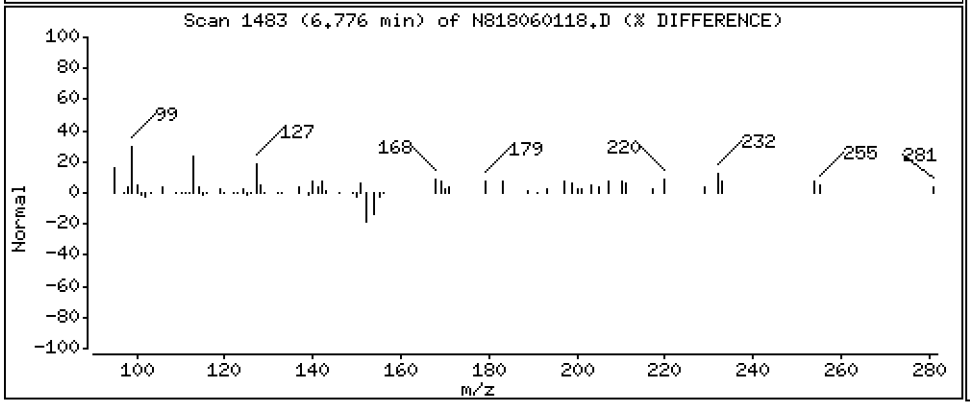












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

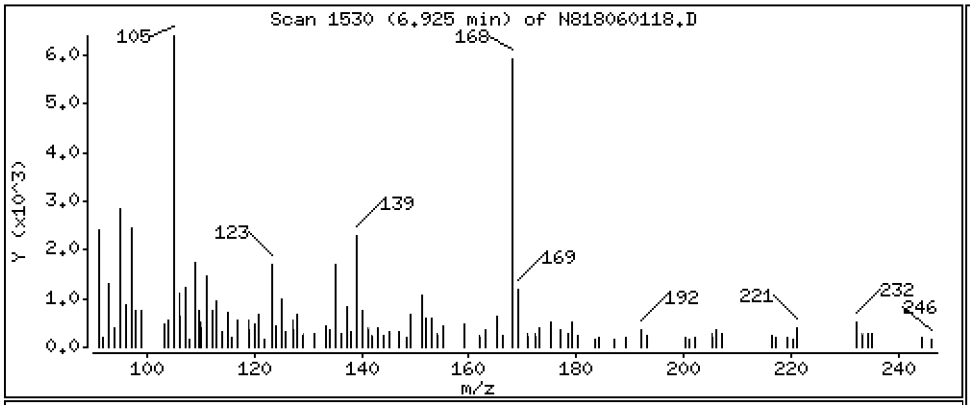
Operator: JZ

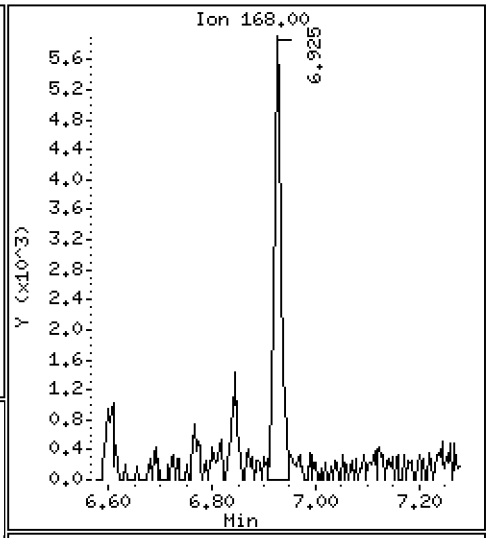
Column phase: Rxi-17sil

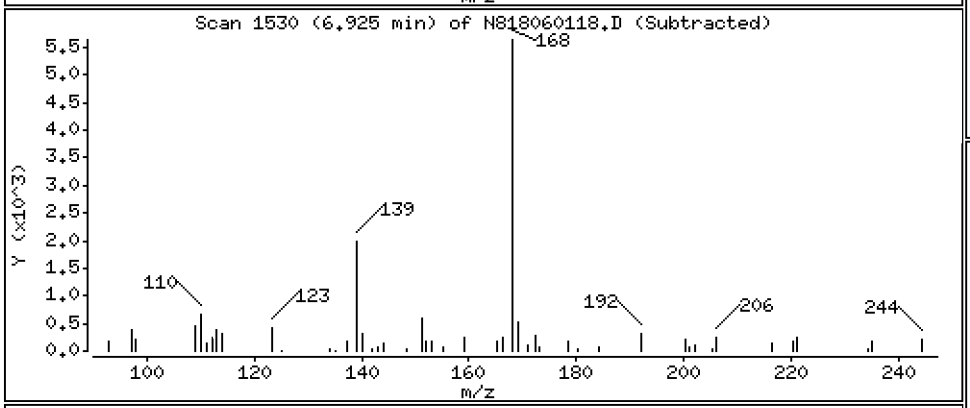
Column diameter: 0.25

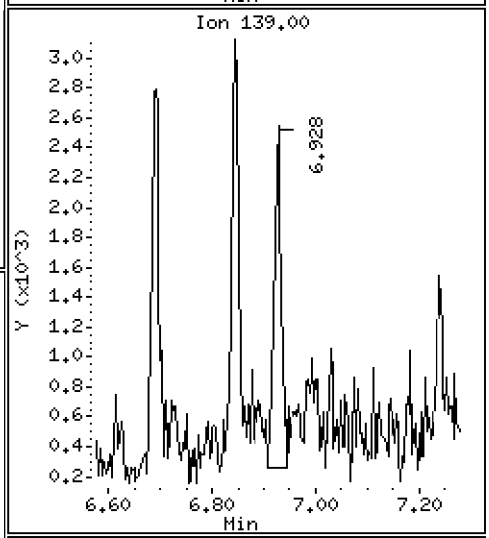
12 Dibenzofuran

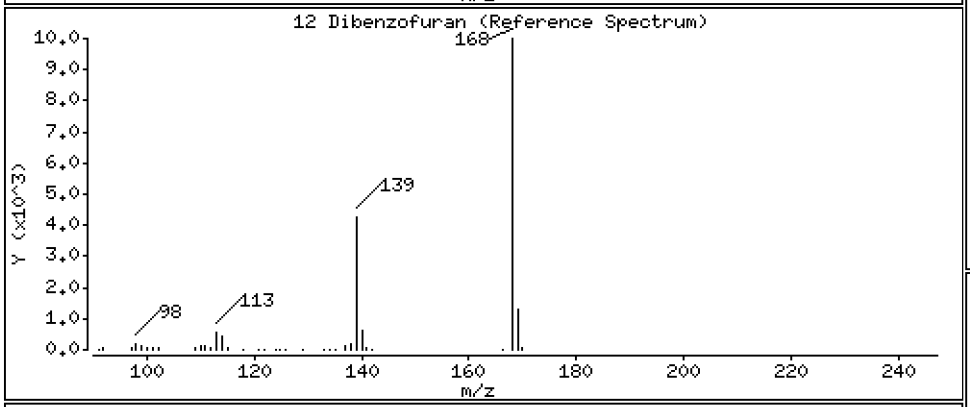
Concentration: 0.05371 ug/mL

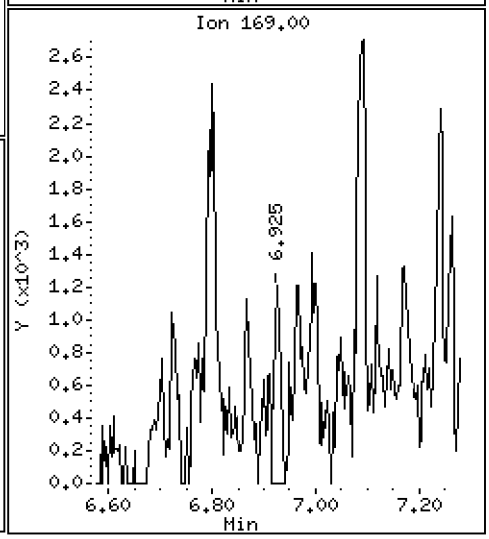


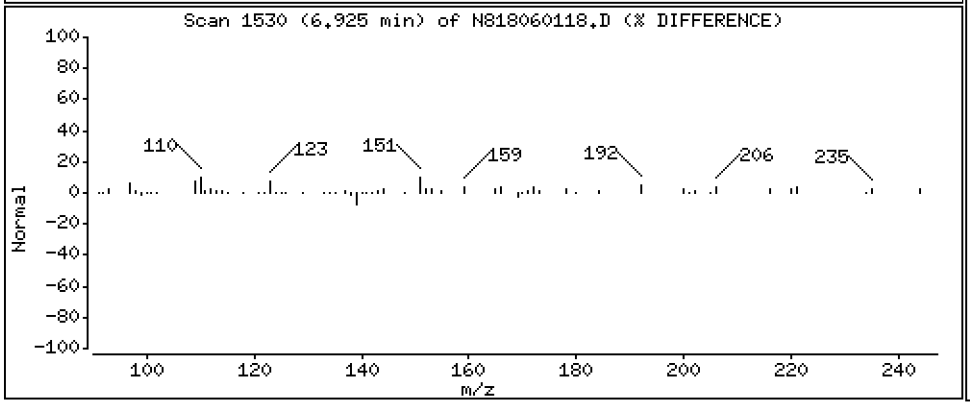












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

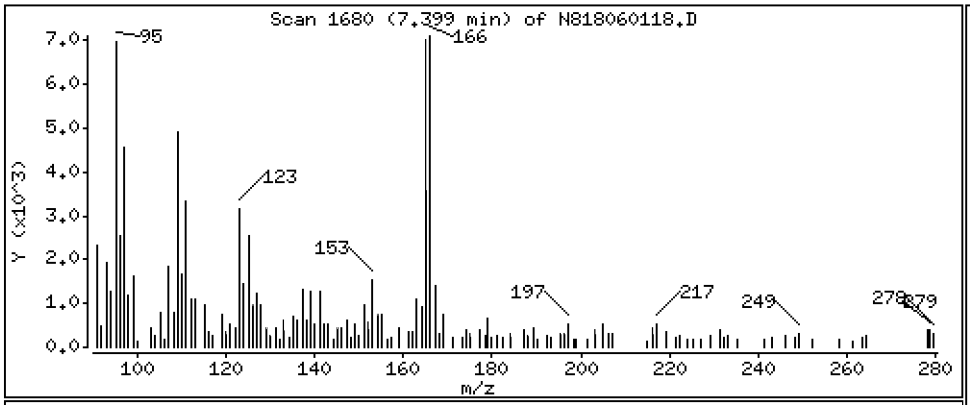
Operator: JZ

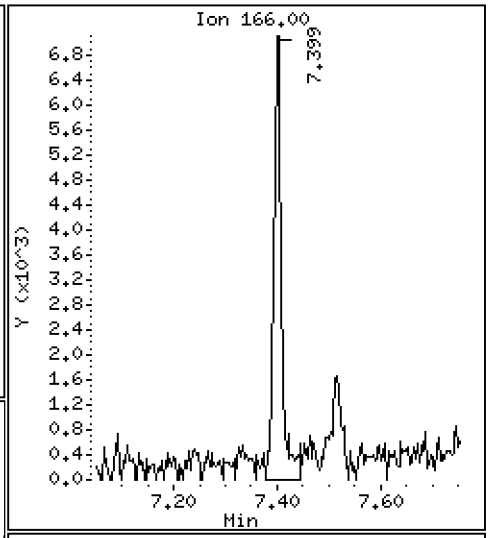
Column phase: Rxi-17sil

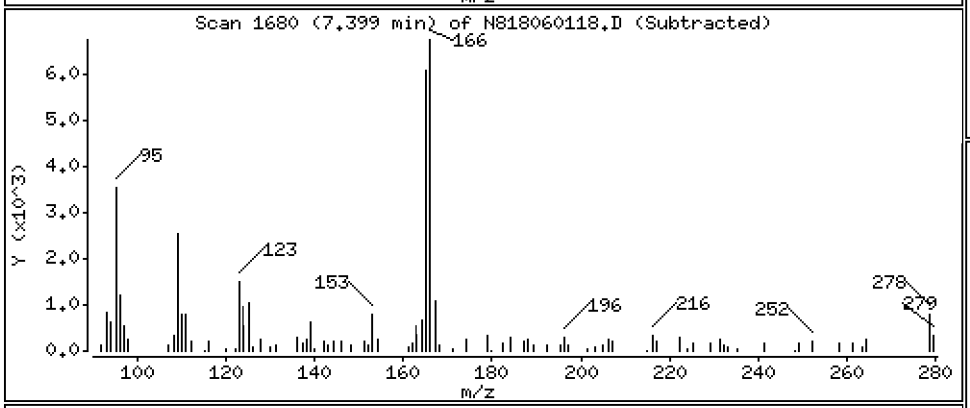
Column diameter: 0.25

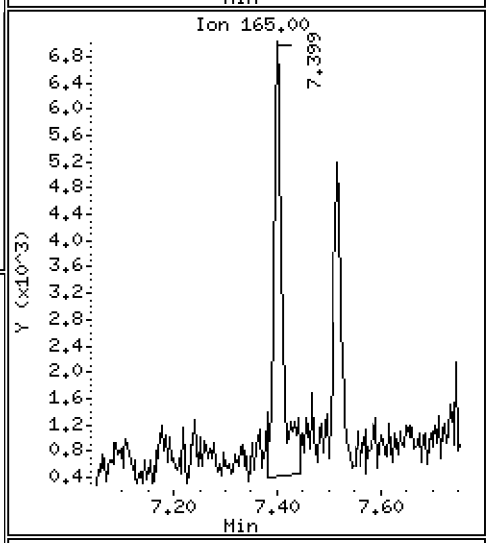
14 Fluorene

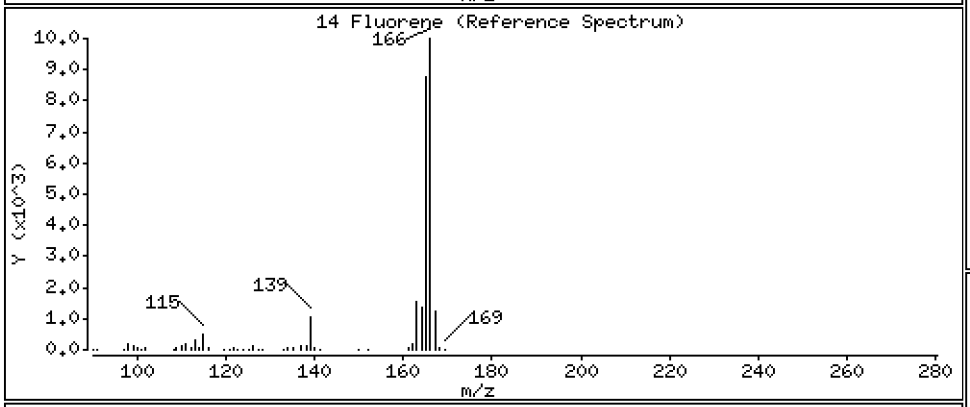
Concentration: 0.09393 ug/mL

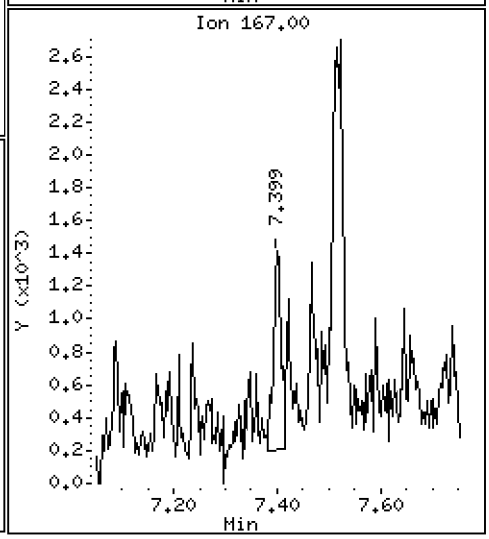


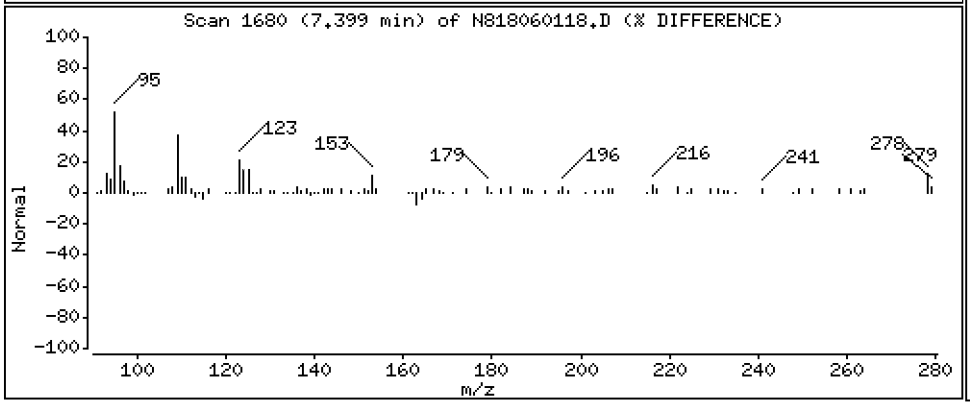












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

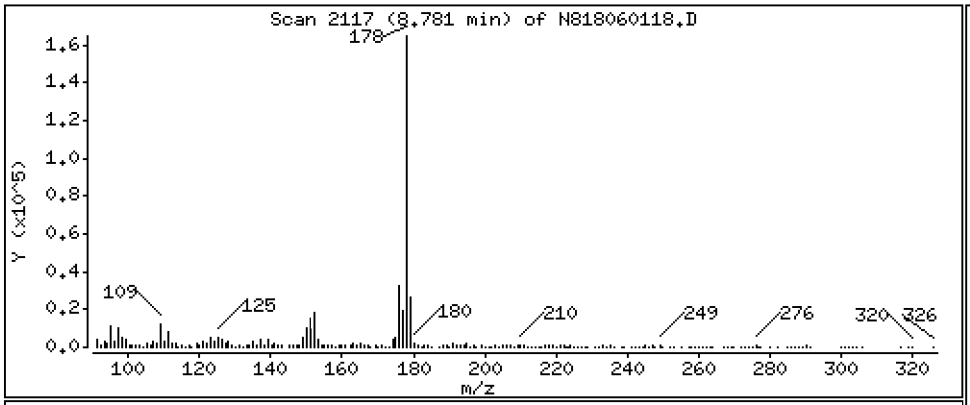
Operator: JZ

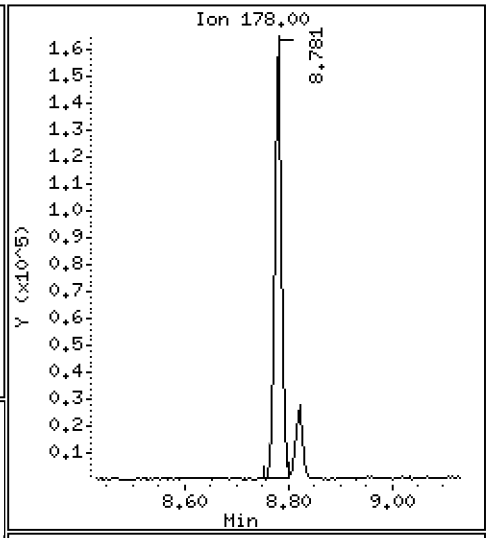
Column phase: Rxi-17sil

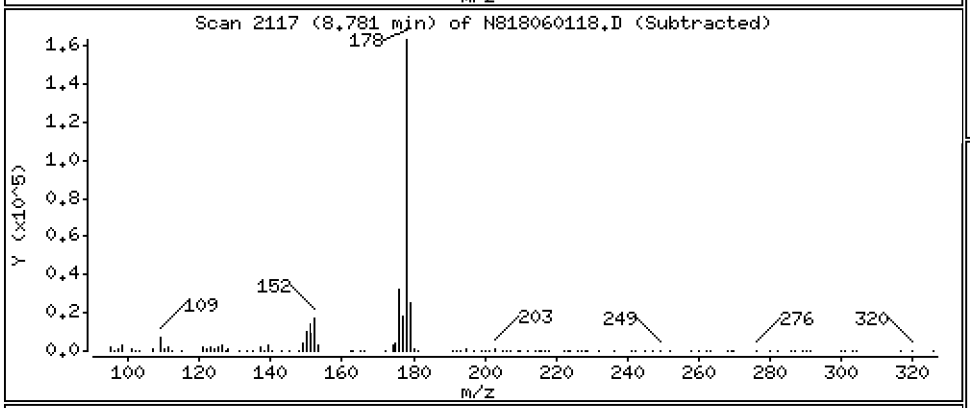
Column diameter: 0.25

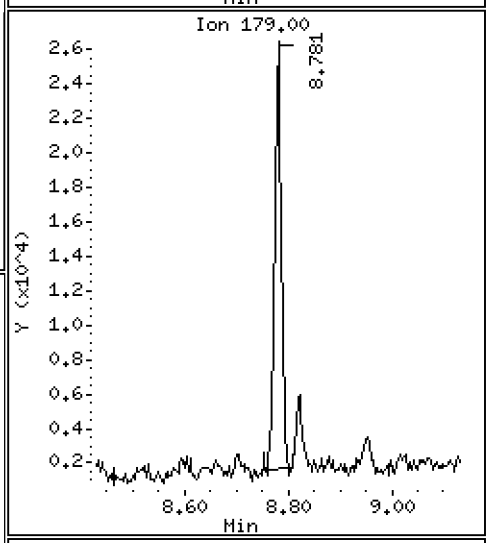
16 Phenanthrene

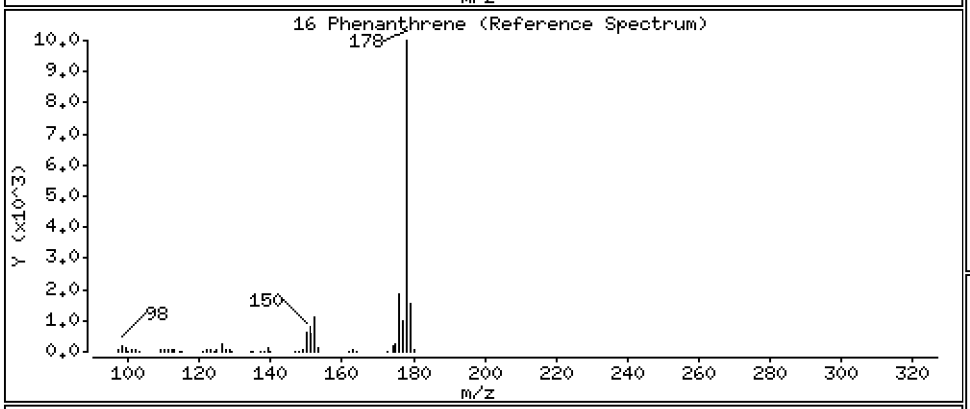
Concentration: 1.342 ug/mL

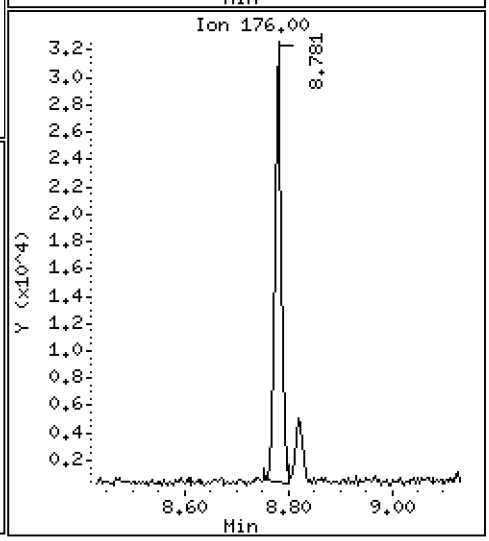


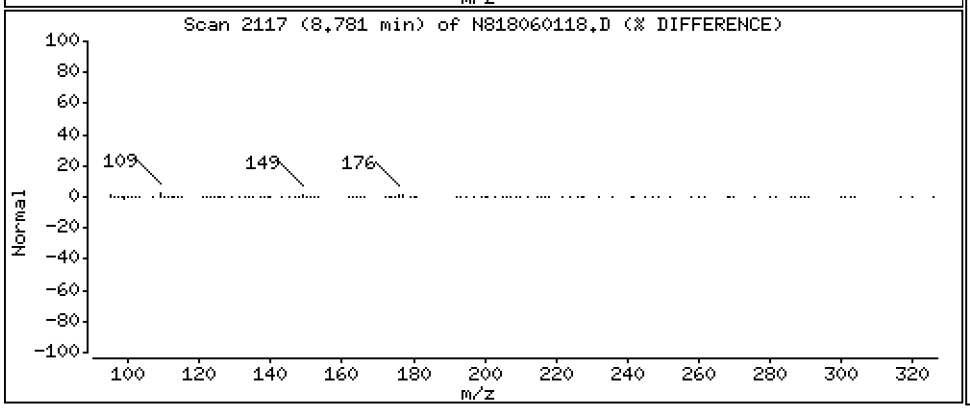












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

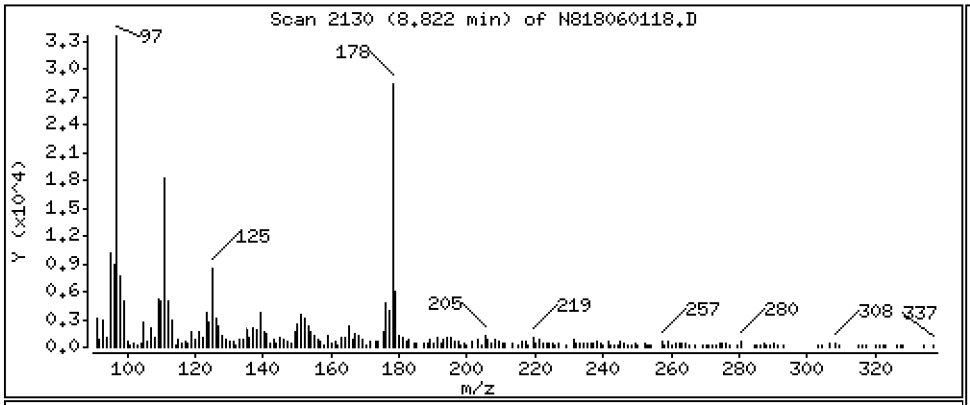
Operator: JZ

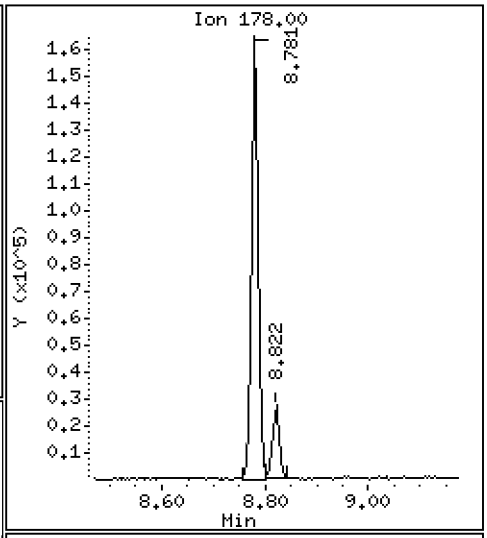
Column phase: Rxi-17sil

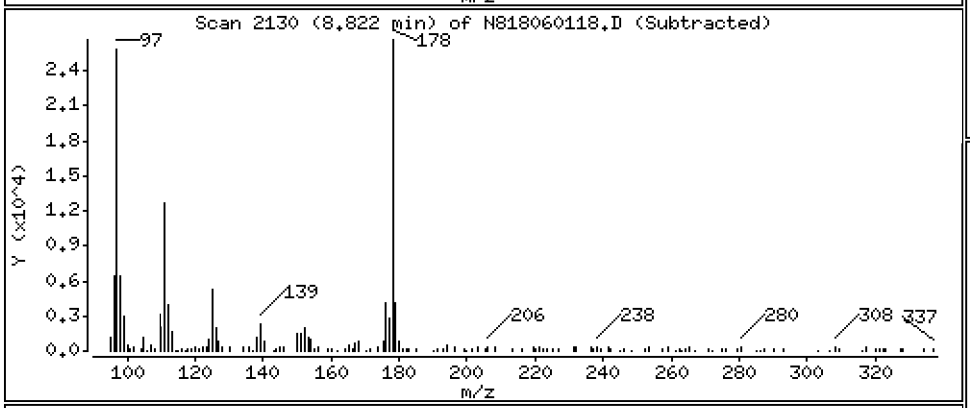
Column diameter: 0.25

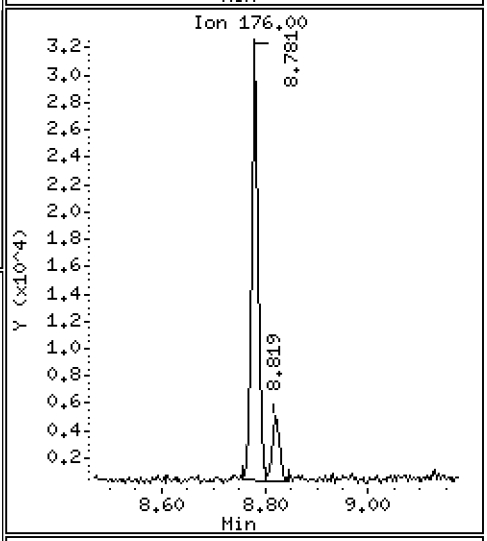
17 Anthracene

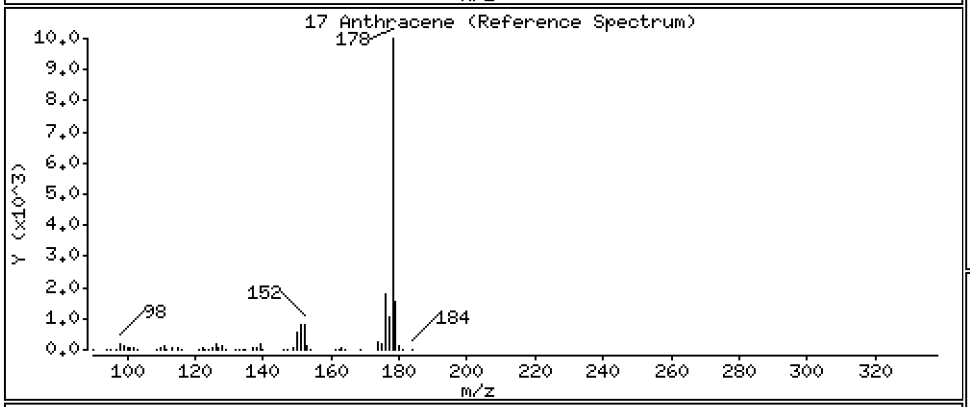
Concentration: 0.2558 ug/mL

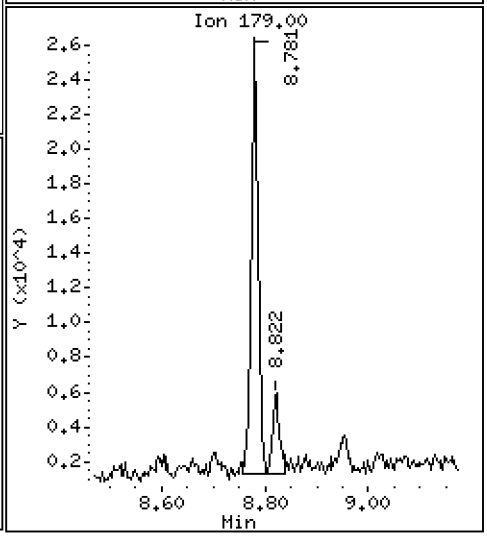


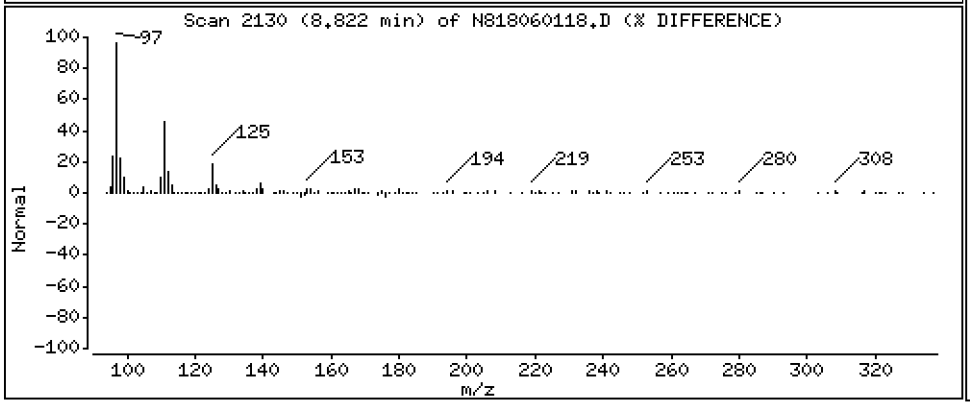












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

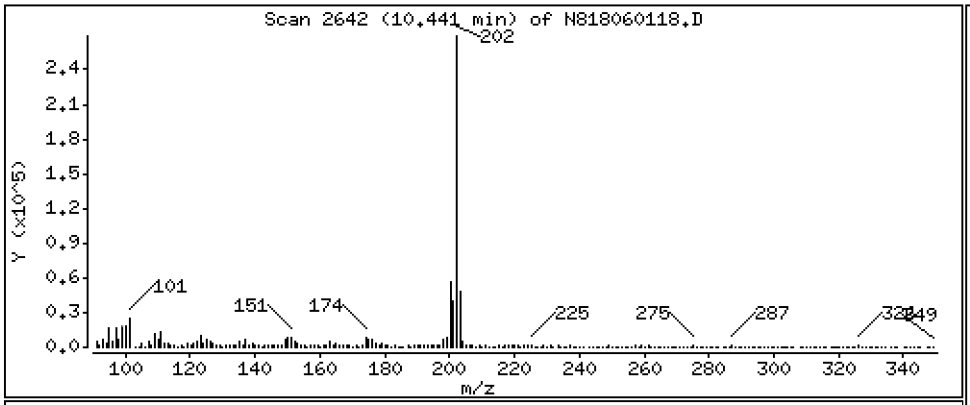
Operator: JZ

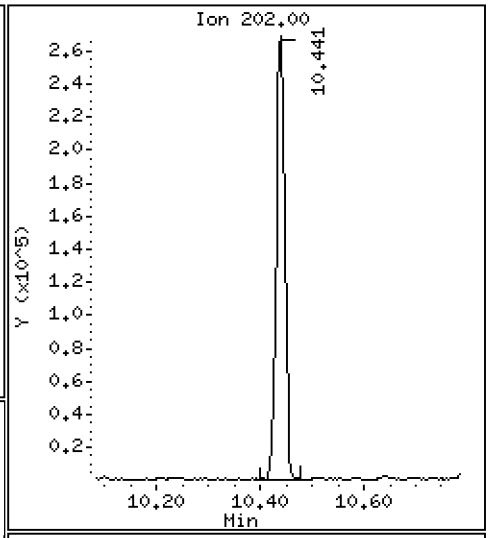
Column phase: Rxi-17sil

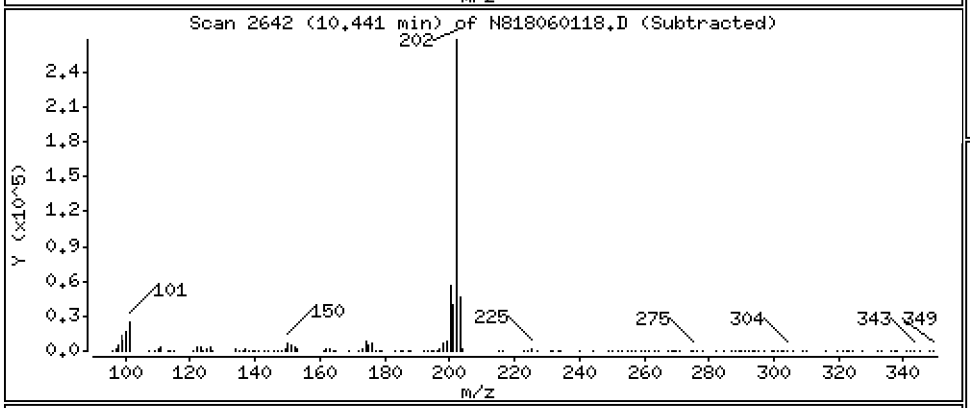
Column diameter: 0.25

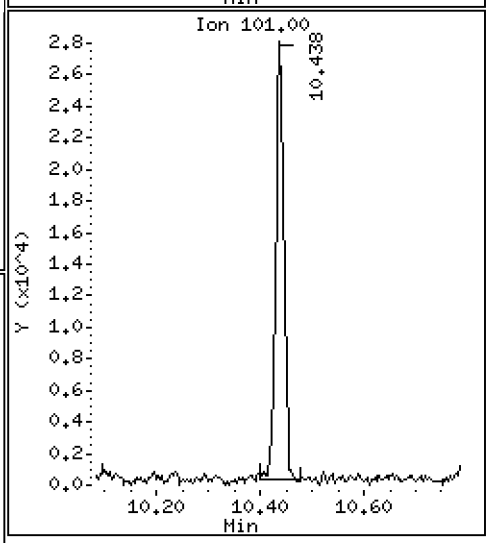
22 Fluoranthene

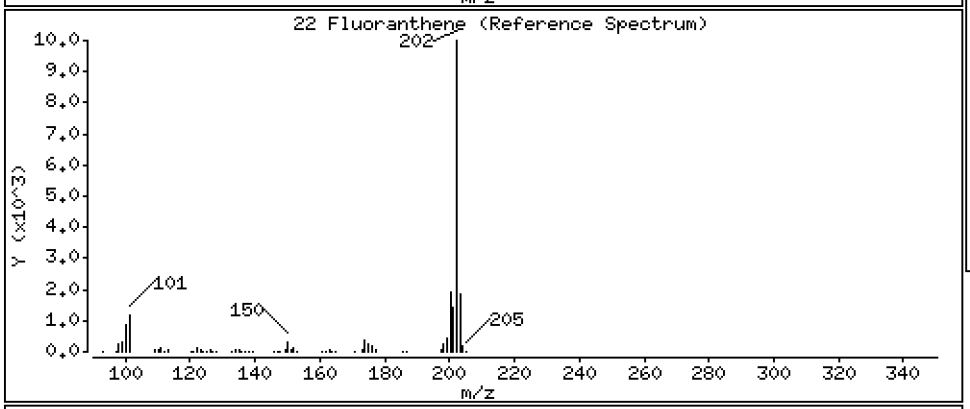
Concentration: 2.410 ug/mL

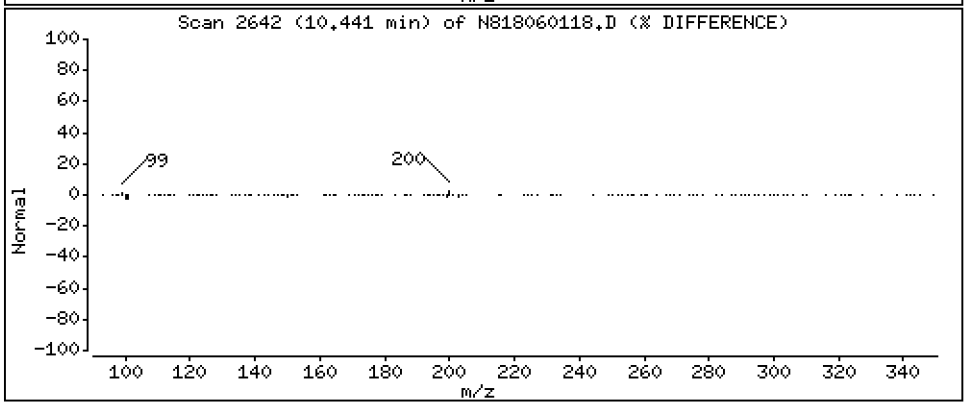












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

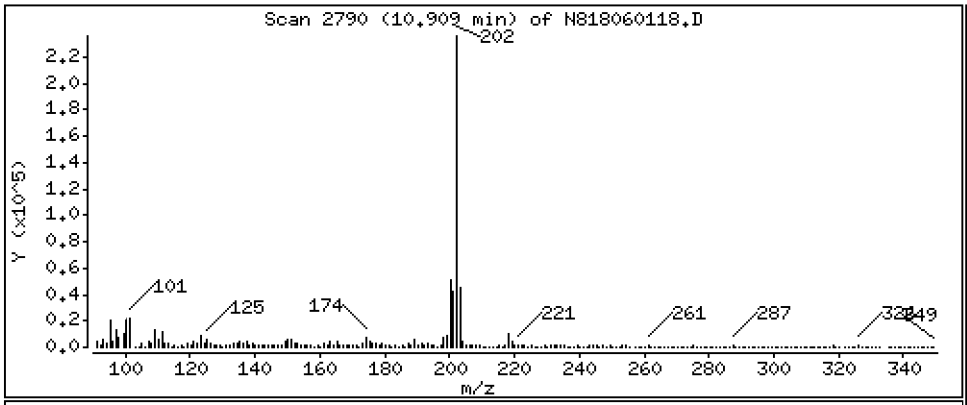
Operator: JZ

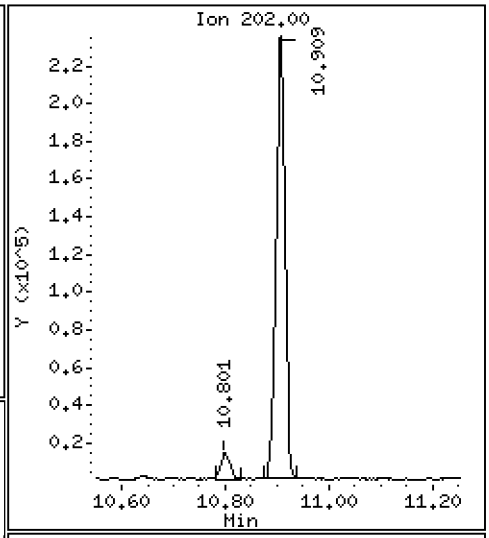
Column phase: Rxi-17sil

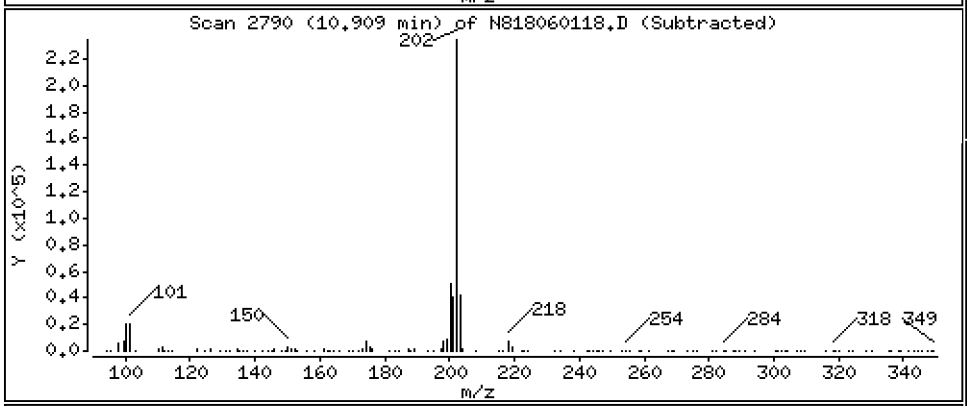
Column diameter: 0.25

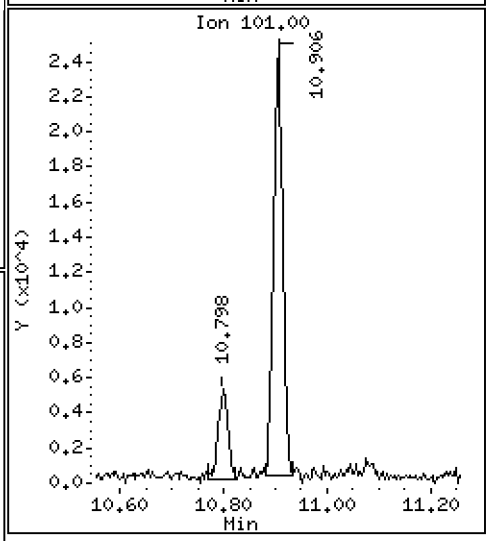
23 Pyrene

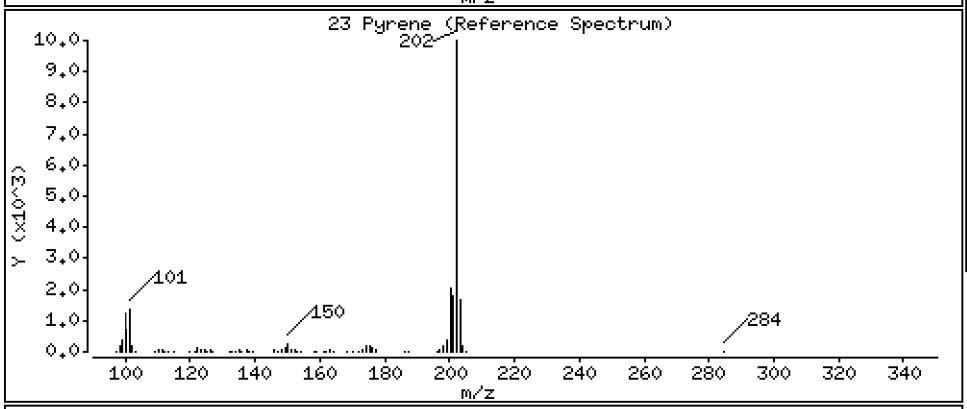
Concentration: 2.375 ug/mL

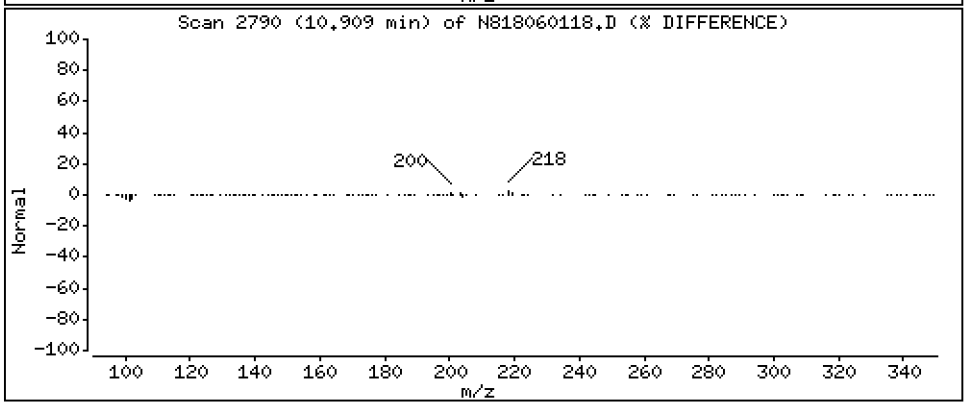












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

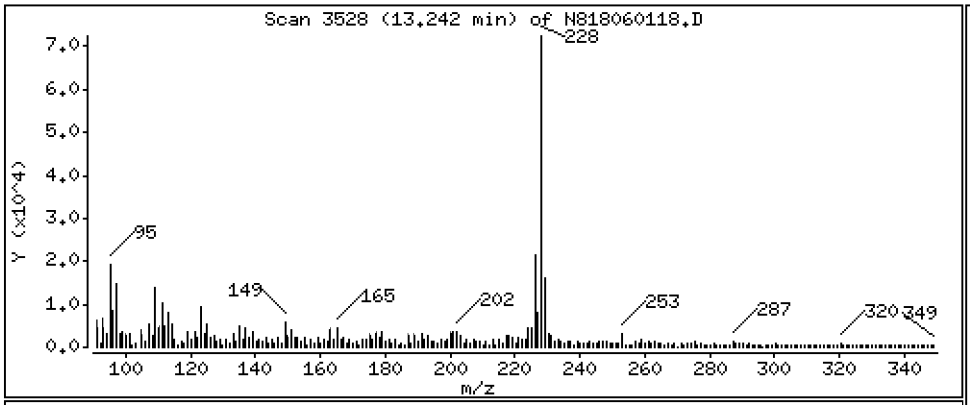
Operator: JZ

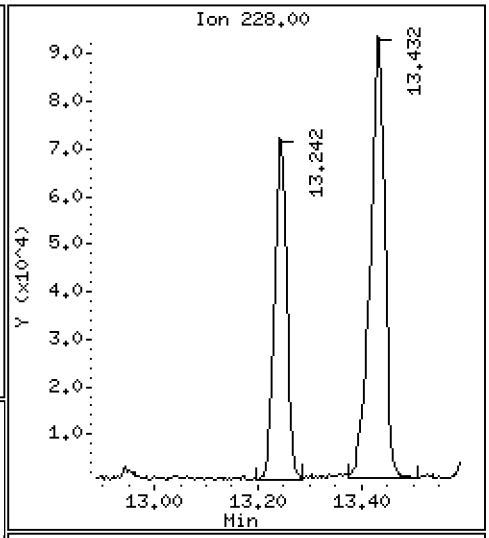
Column phase: Rxi-17sil

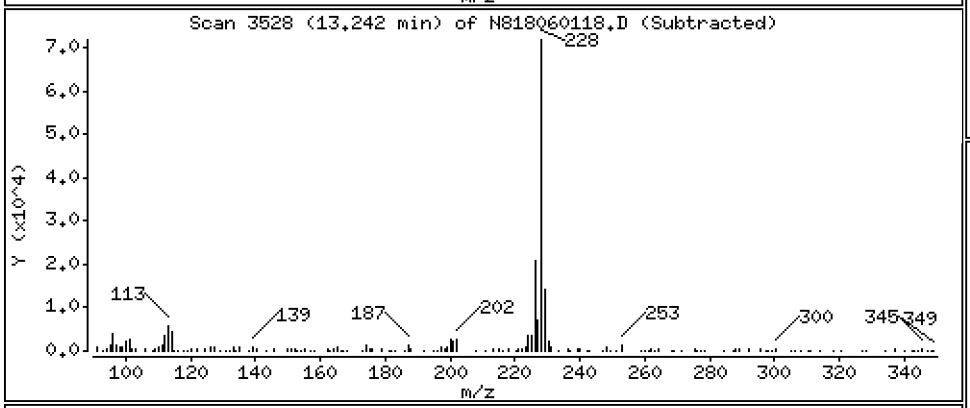
Column diameter: 0.25

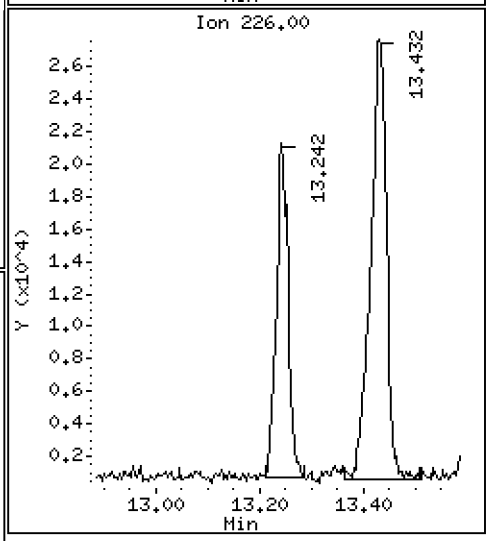
24 Benzo(a)anthracene

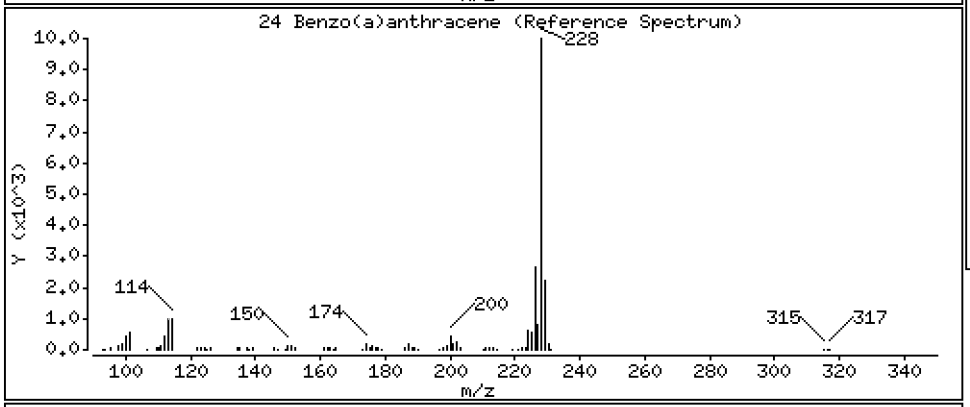
Concentration: 1.021 ug/mL

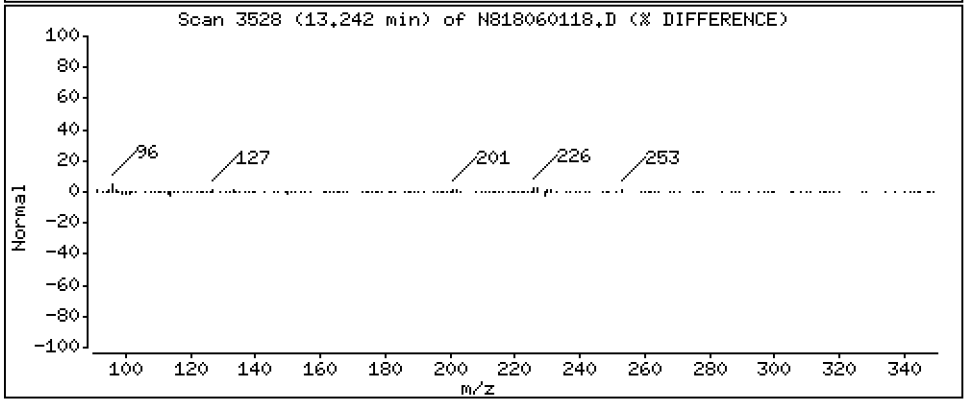












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

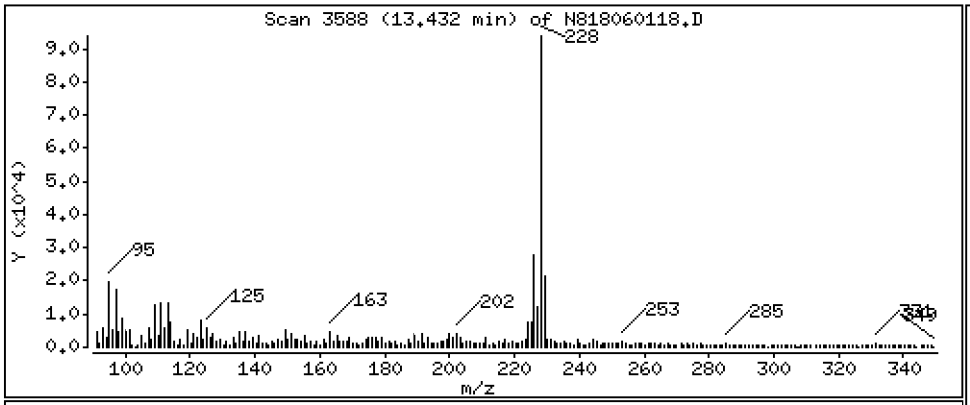
Operator: JZ

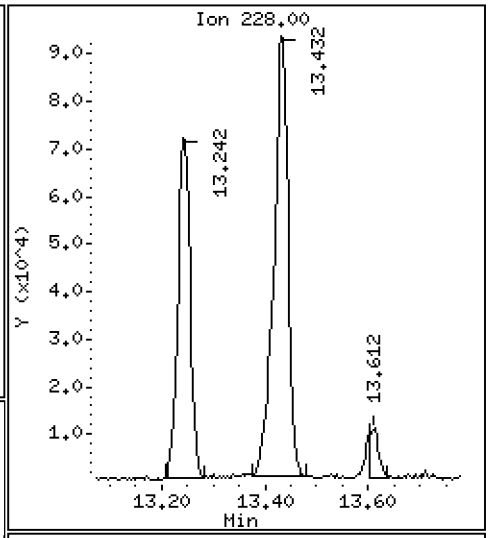
Column phase: Rxi-17sil

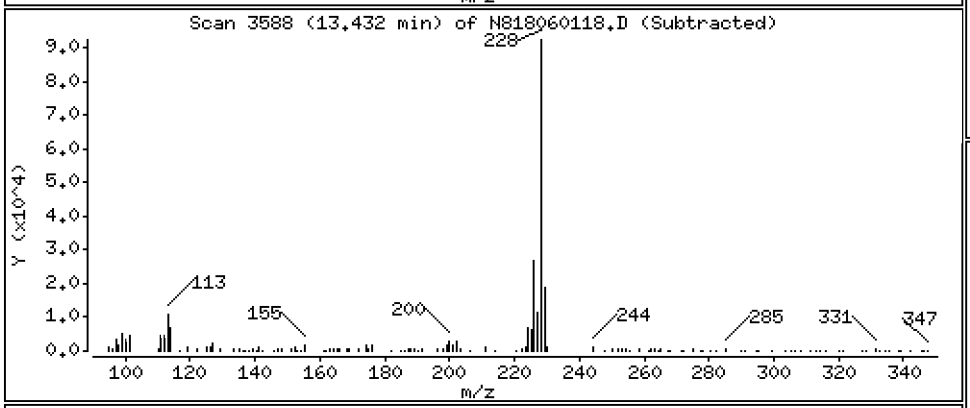
Column diameter: 0.25

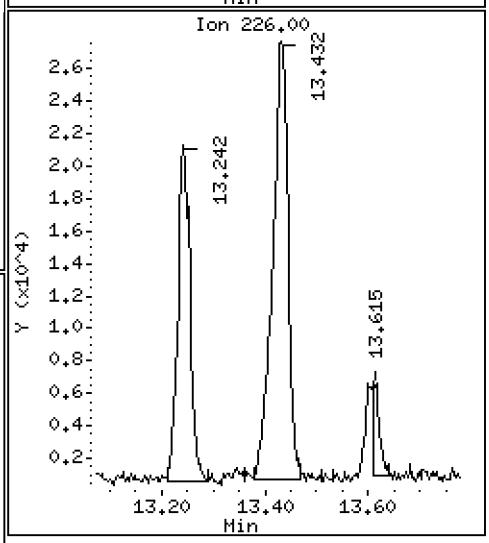
27 Chrysene

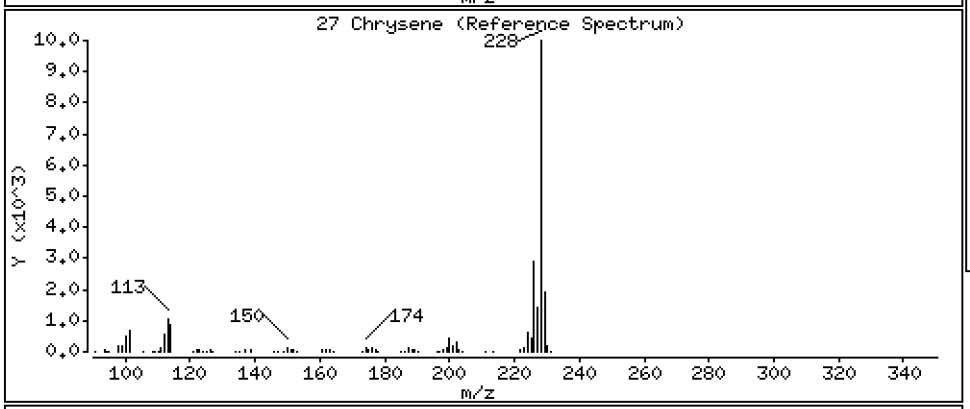
Concentration: 1.535 ug/mL

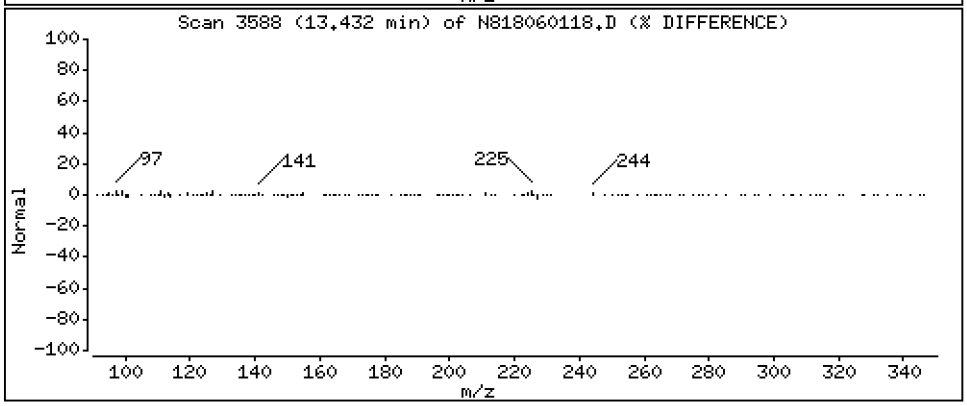












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

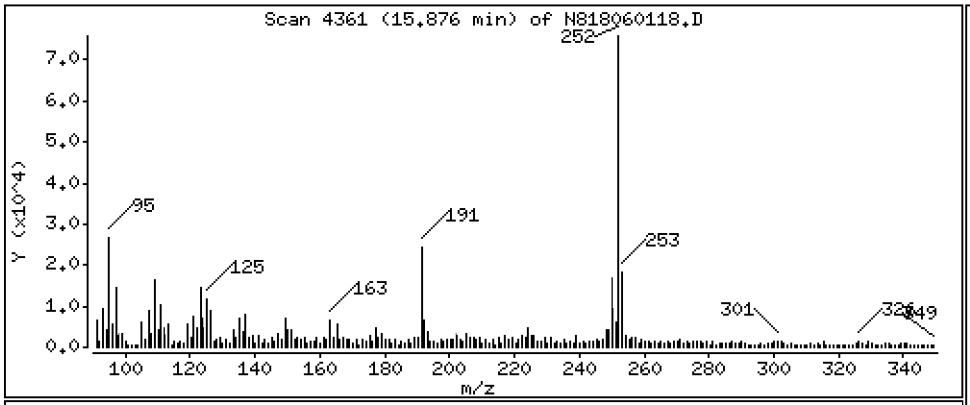
Operator: JZ

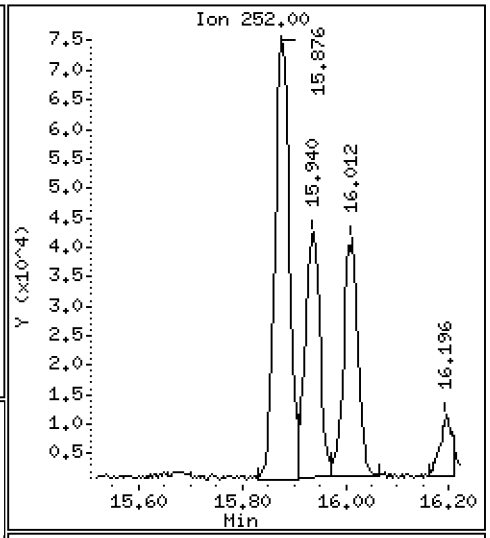
Column phase: Rxi-17sil

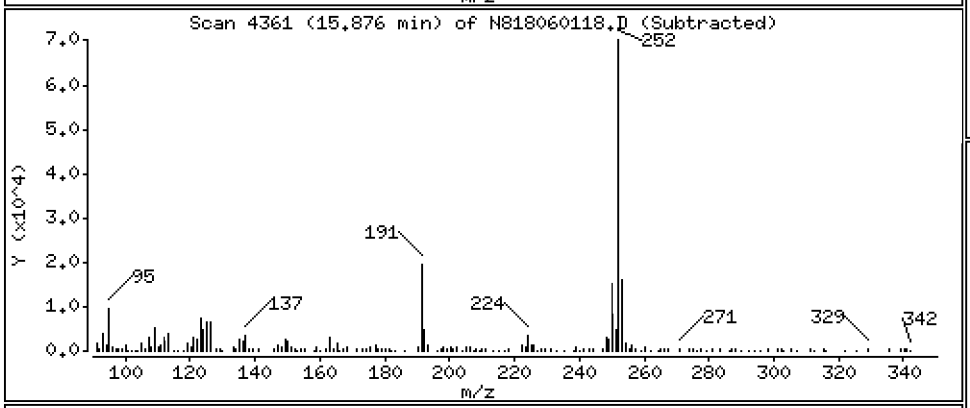
Column diameter: 0.25

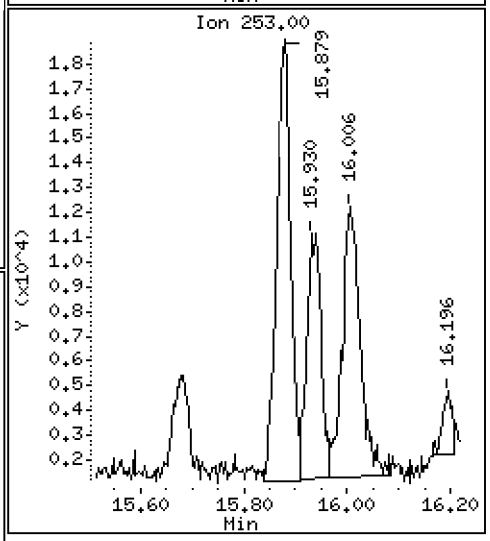
28 Benzo(b)fluoranthene

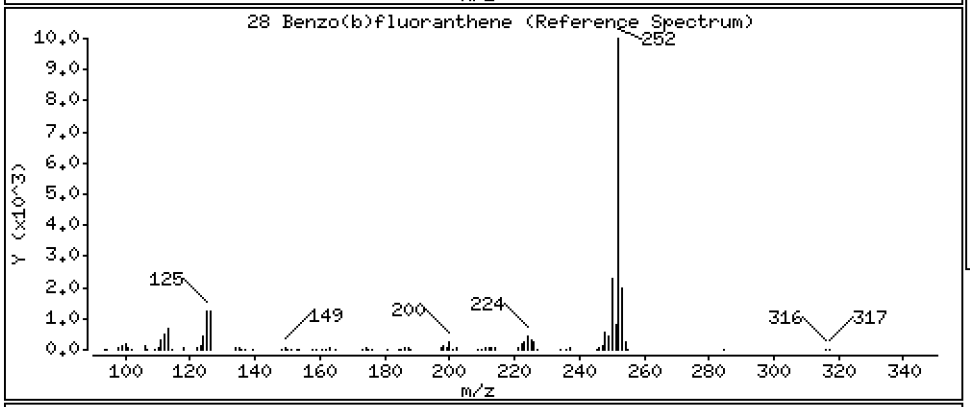
Concentration: 1.118 ug/mL

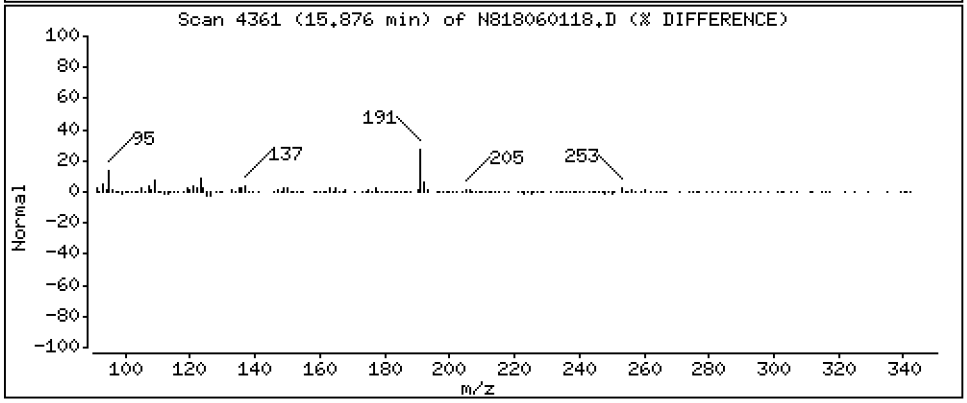












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

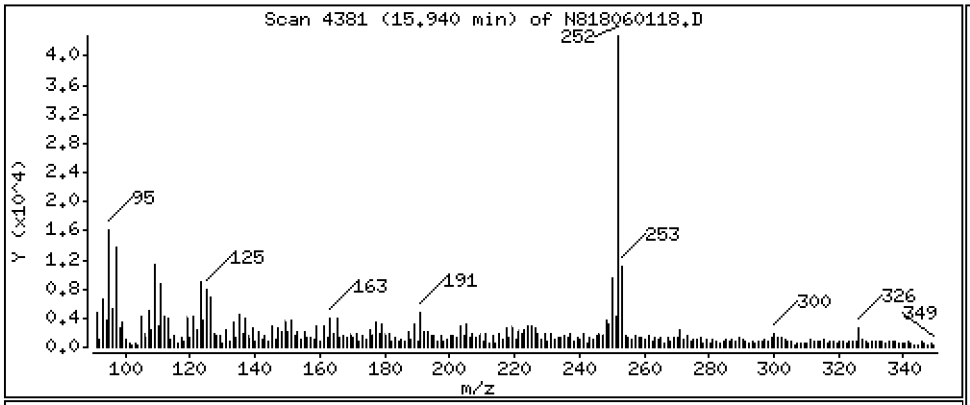
Operator: JZ

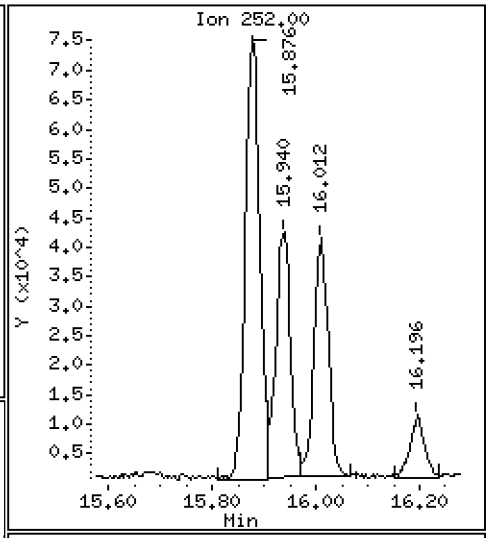
Column phase: Rxi-17sil

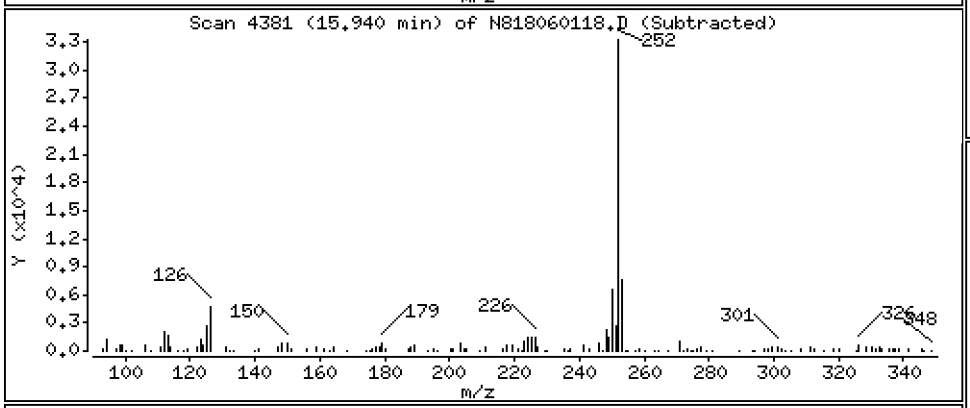
Column diameter: 0.25

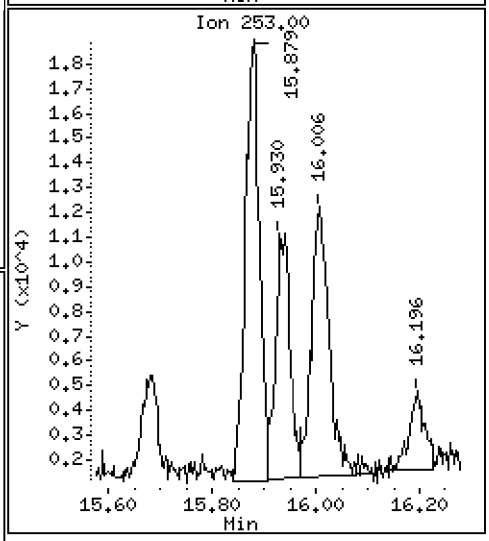
29 Benzo(k)fluoranthene

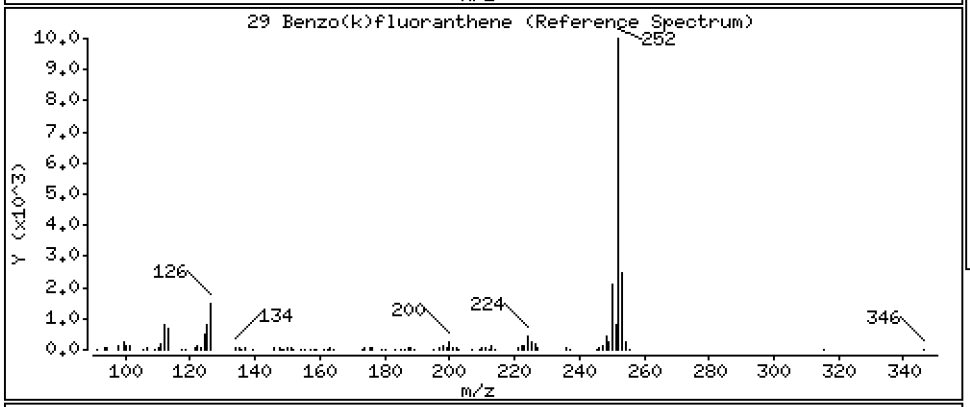
Concentration: 0.6721 ug/mL

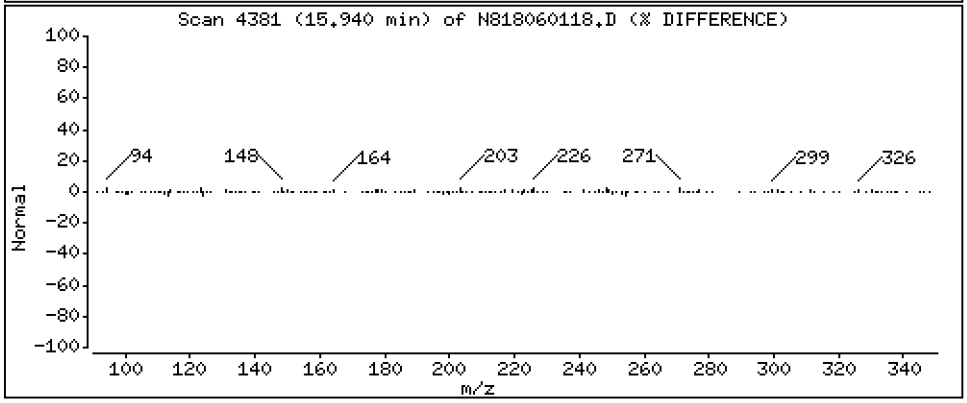












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

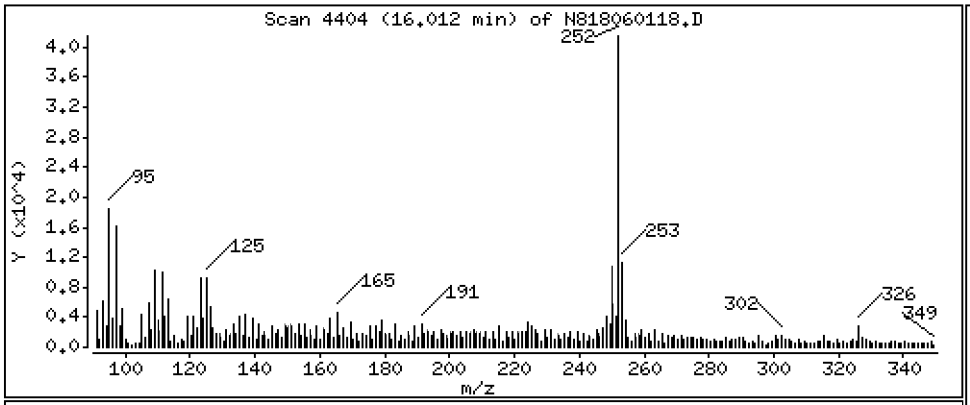
Operator: JZ

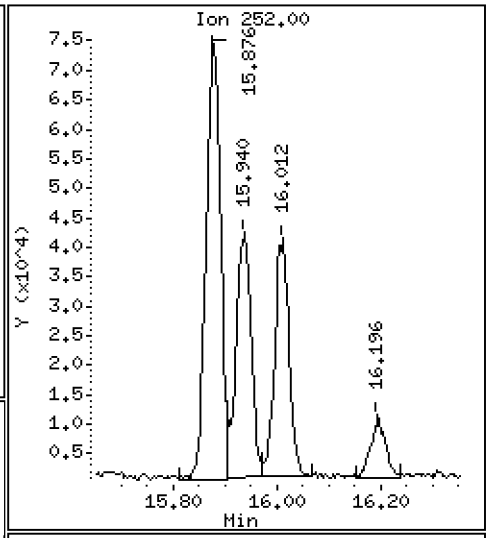
Column phase: Rxi-17sil

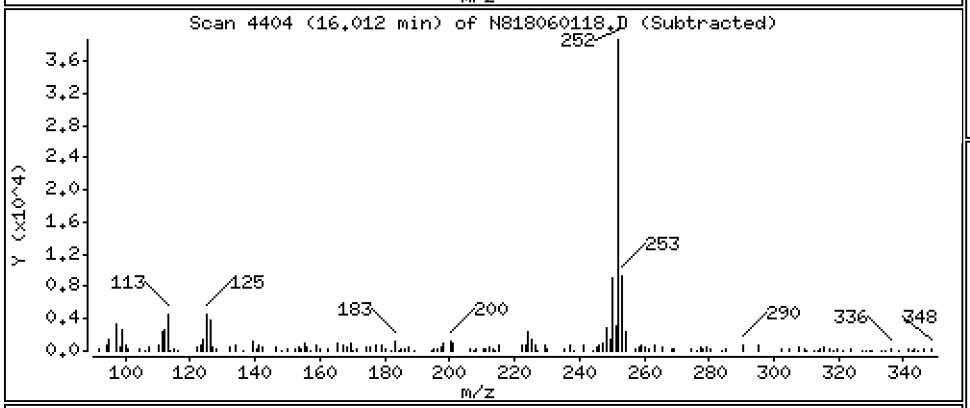
Column diameter: 0.25

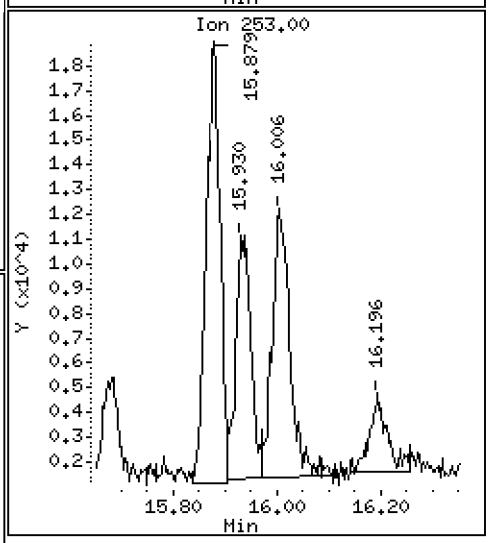
30 Benzo(j)fluoranthene

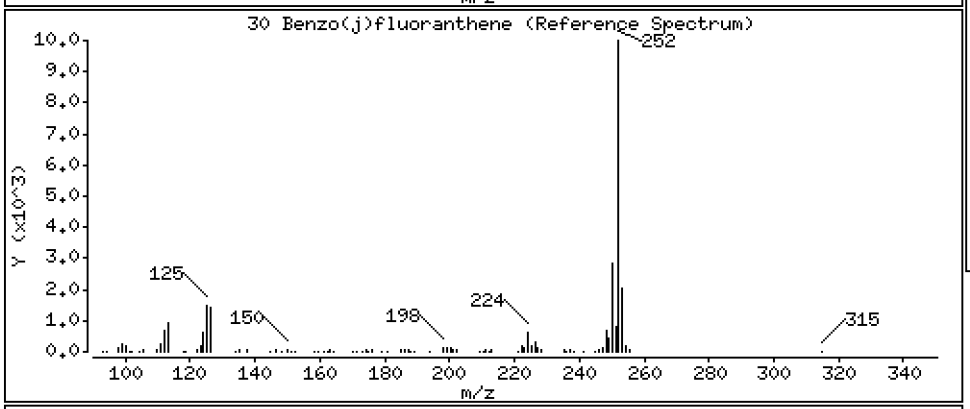
Concentration: 0.6062 ug/mL

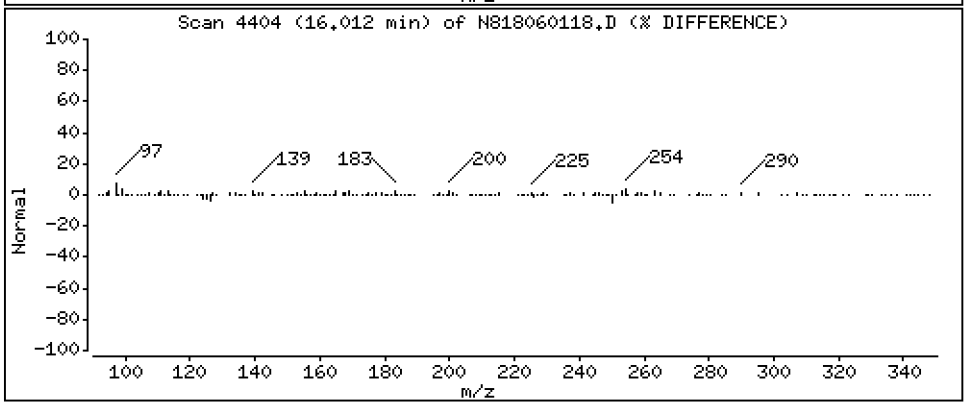












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

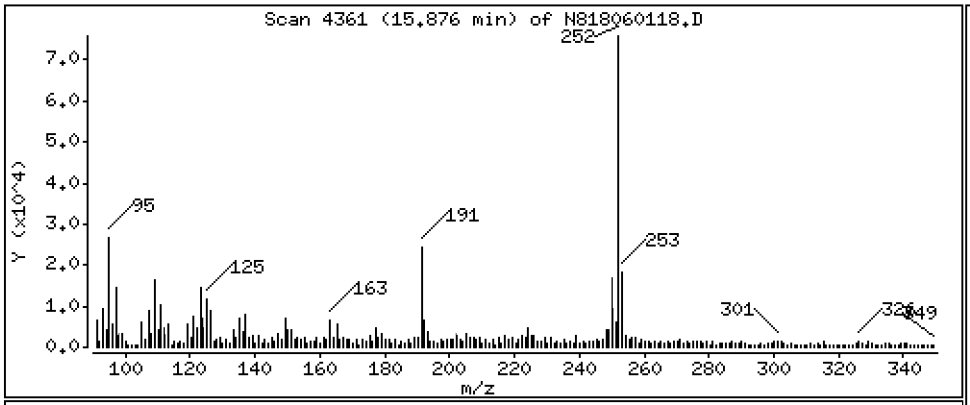
Operator: JZ

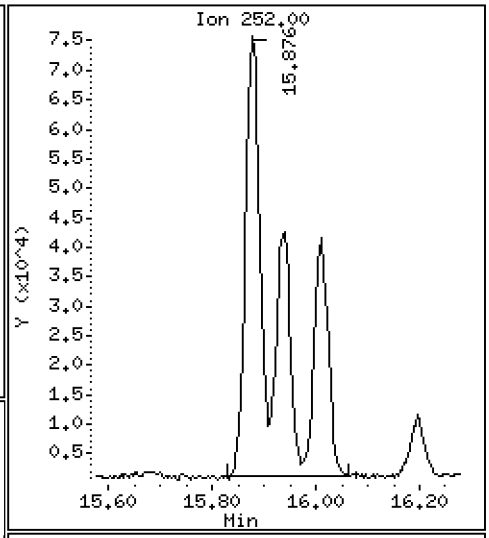
Column phase: Rxi-17sil

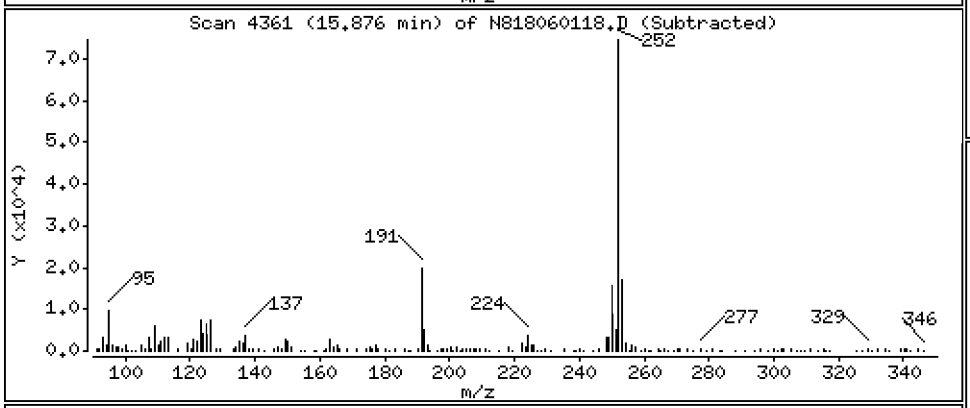
Column diameter: 0.25

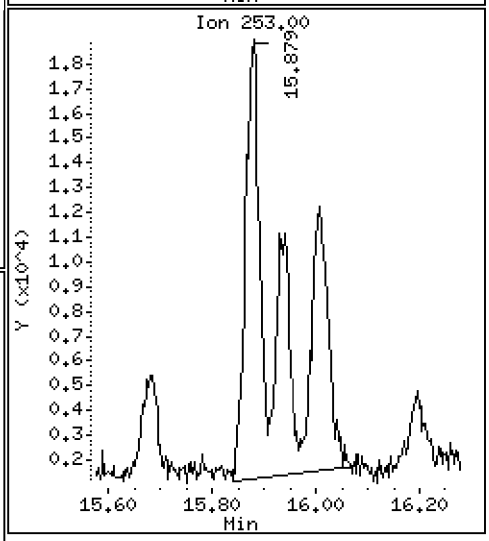
31 Total Benzofluoranthenes

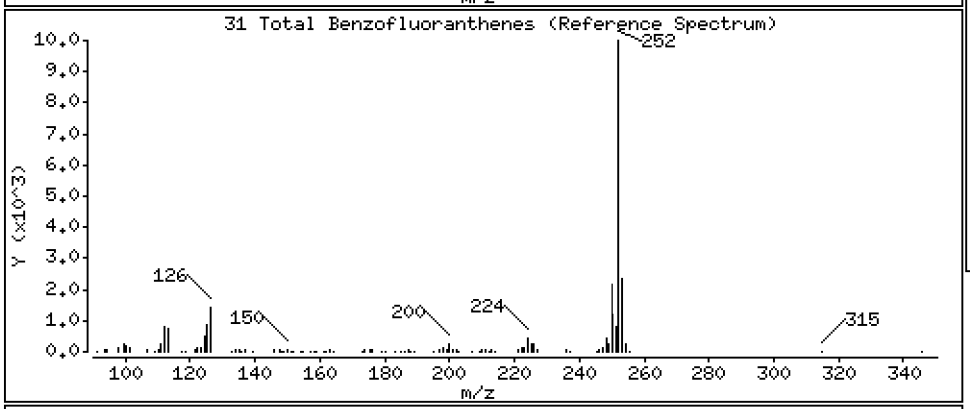
Concentration: 2.380 ug/mL

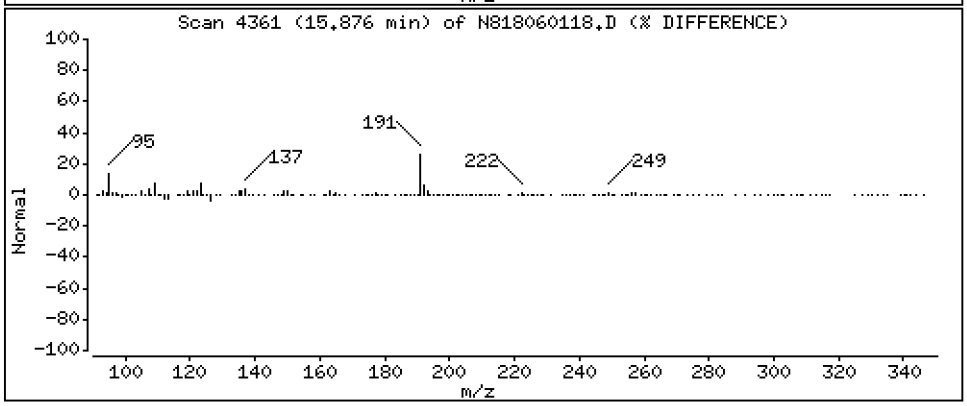












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

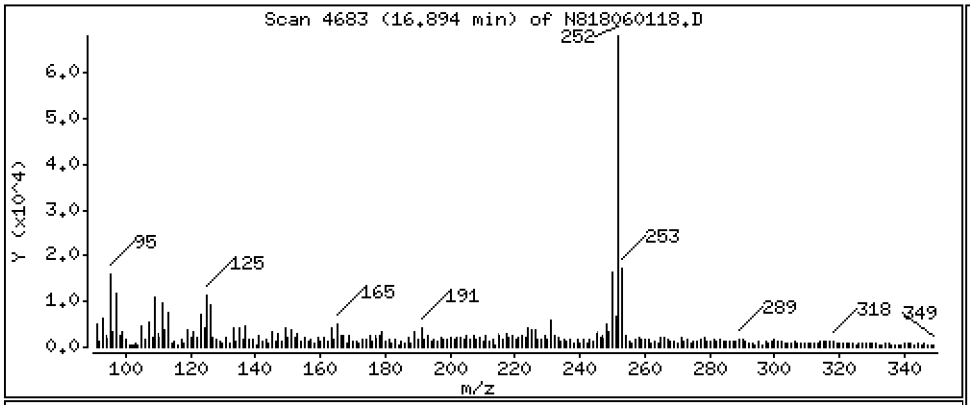
Operator: JZ

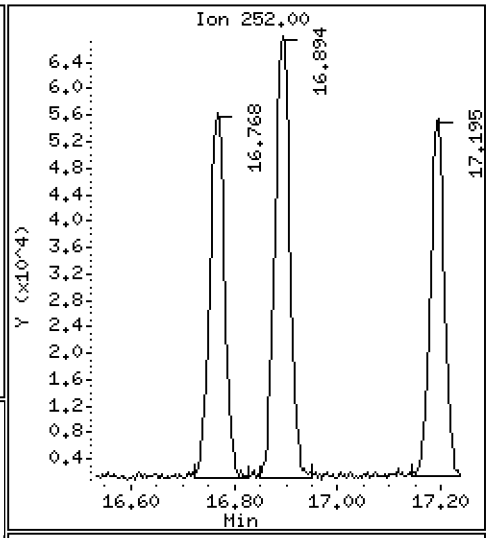
Column phase: Rxi-17sil

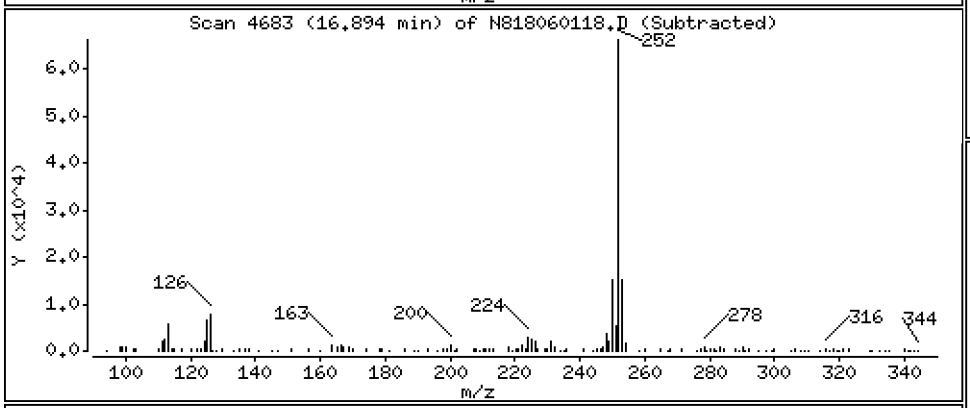
Column diameter: 0.25

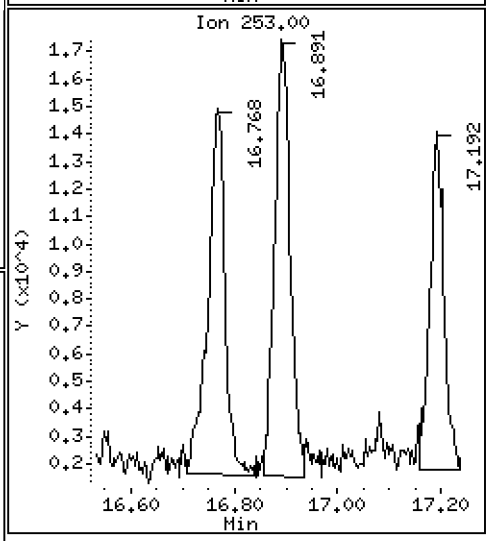
32 Benzo(a)pyrene

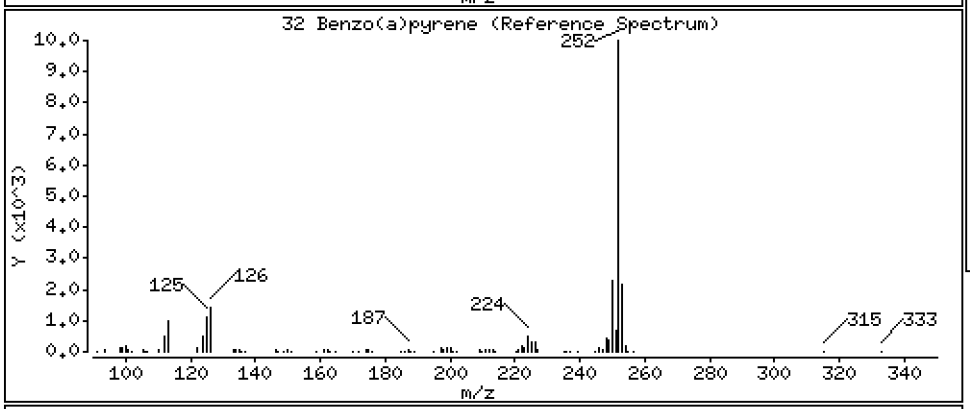
Concentration: 1.192 ug/mL

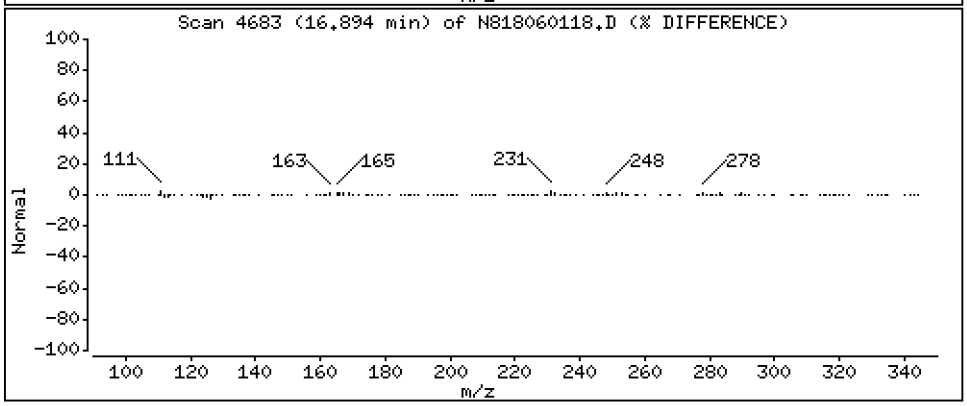












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

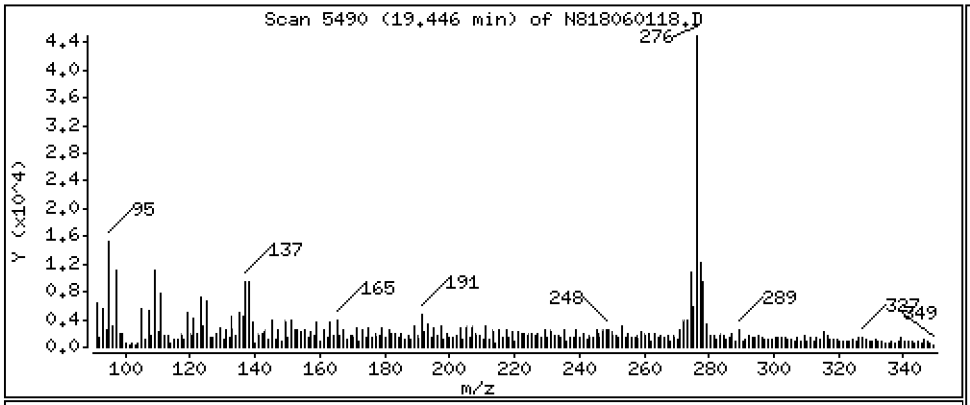
Operator: JZ

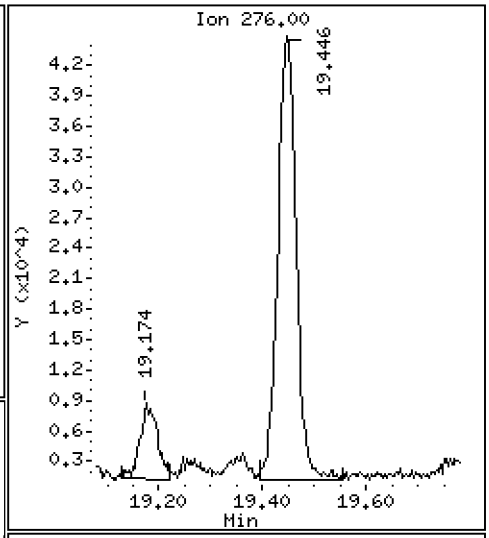
Column phase: Rxi-17sil

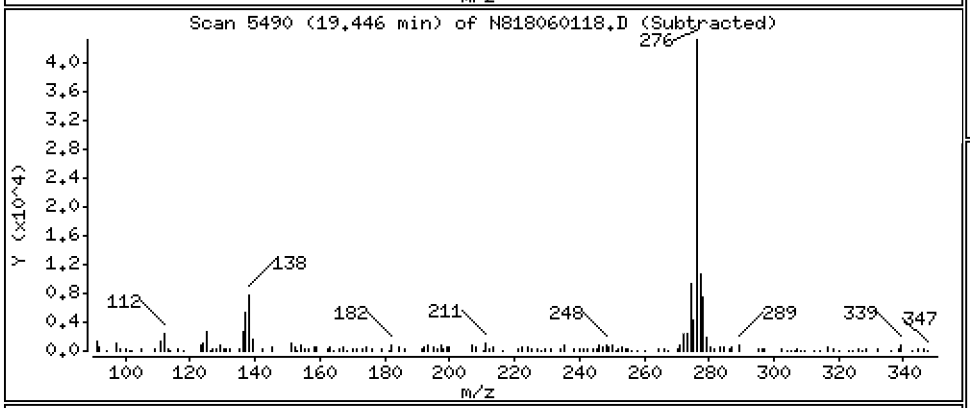
Column diameter: 0.25

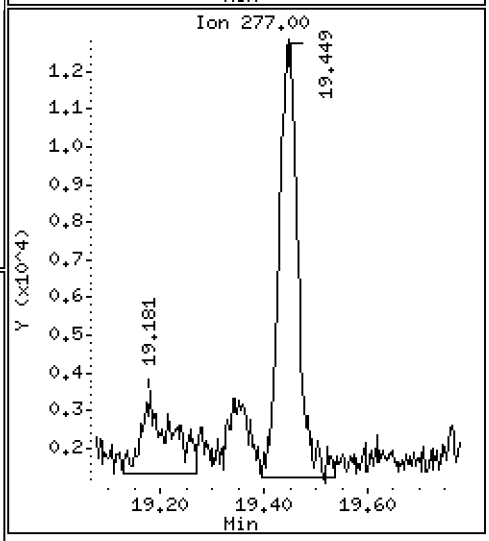
37 Indeno(1,2,3-cd)pyrene

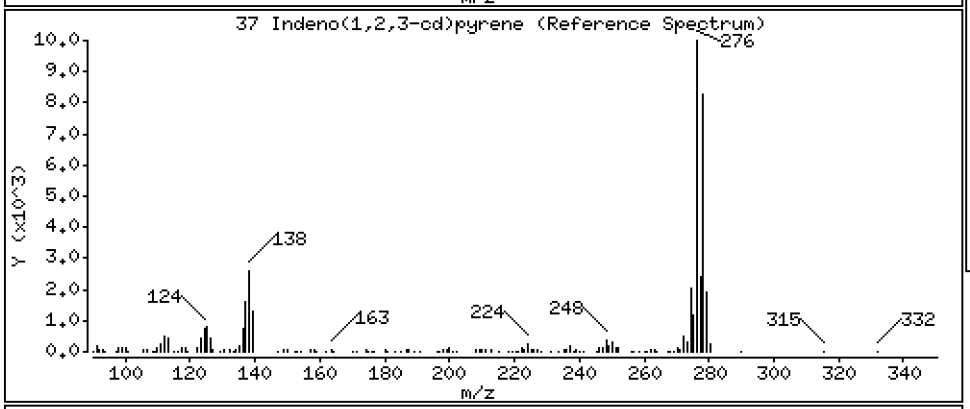
Concentration: 0.8301 ug/mL

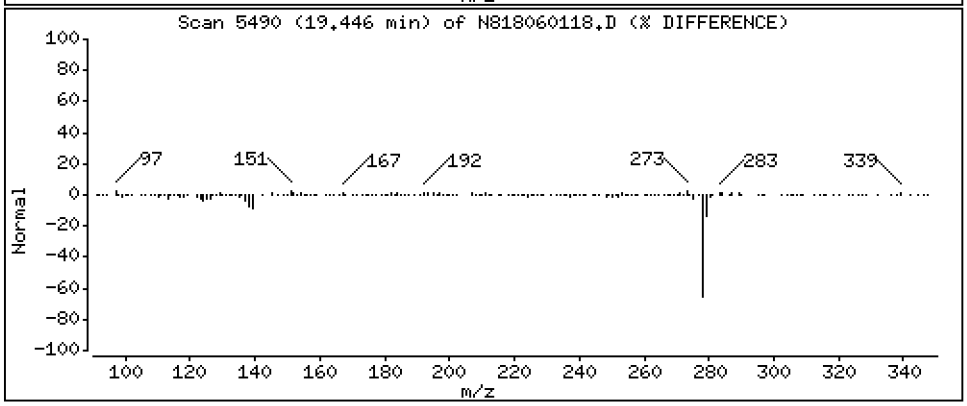












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

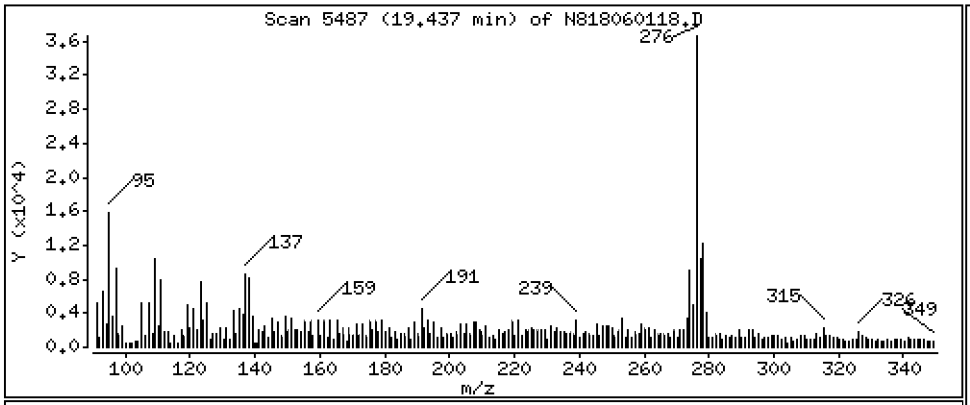
Operator: JZ

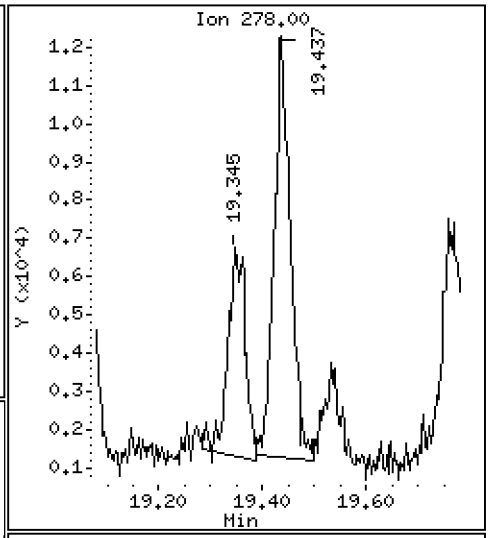
Column phase: Rxi-17sil

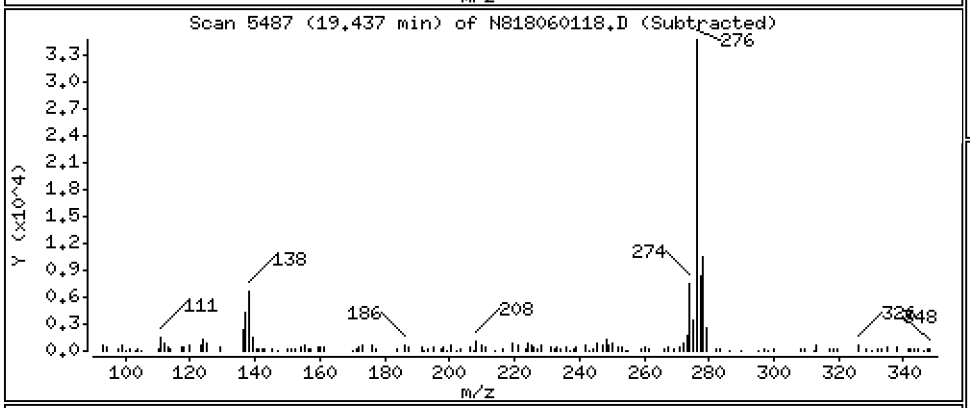
Column diameter: 0.25

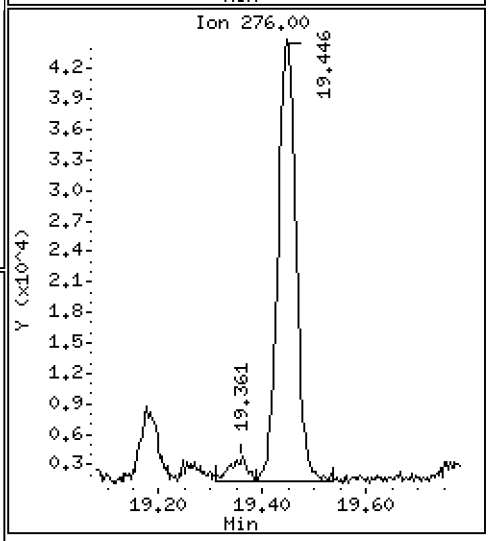
38 Dibenzo(a,h)anthracene

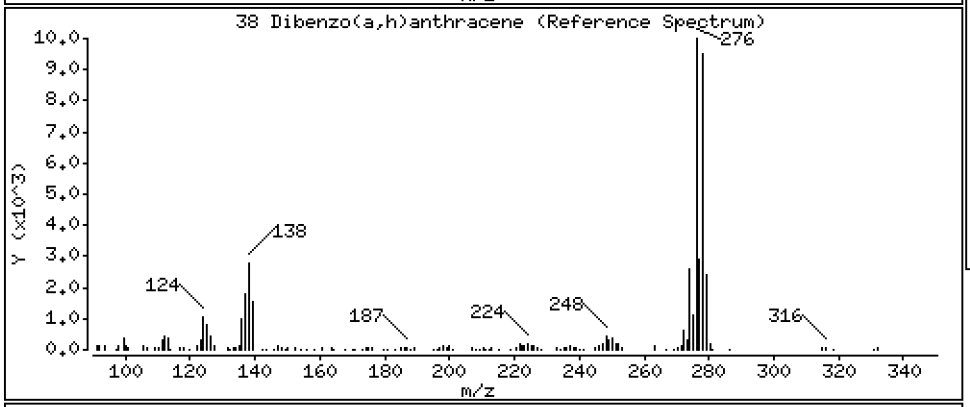
Concentration: 0.2266 ug/mL

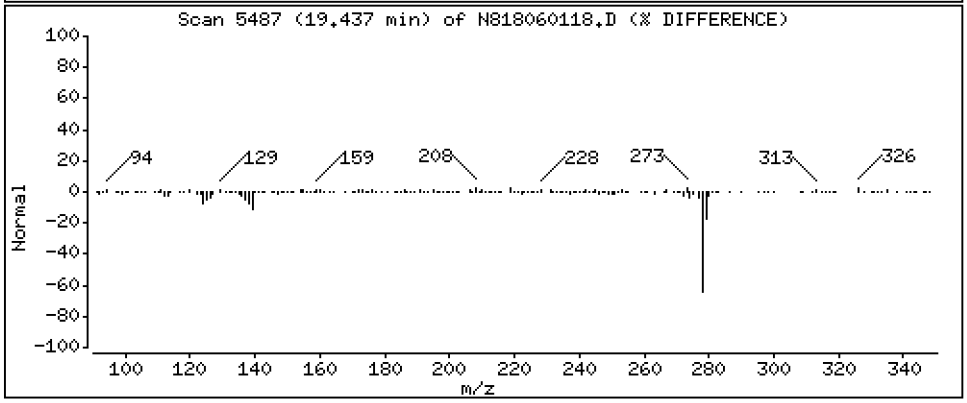












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

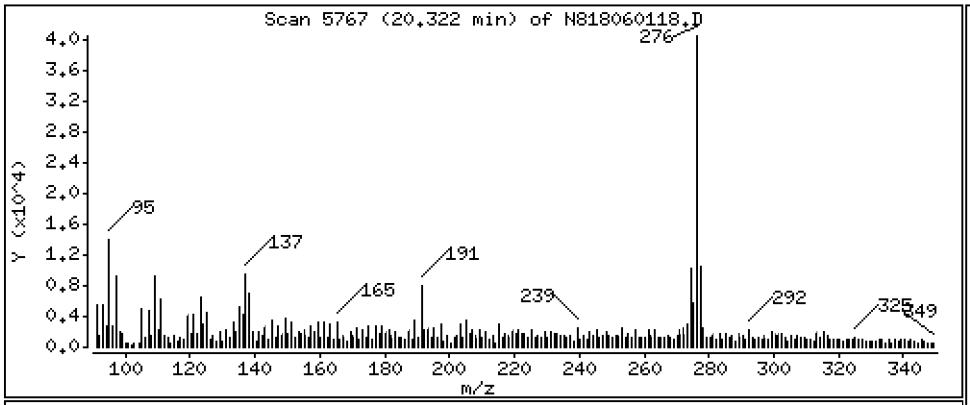
Operator: JZ

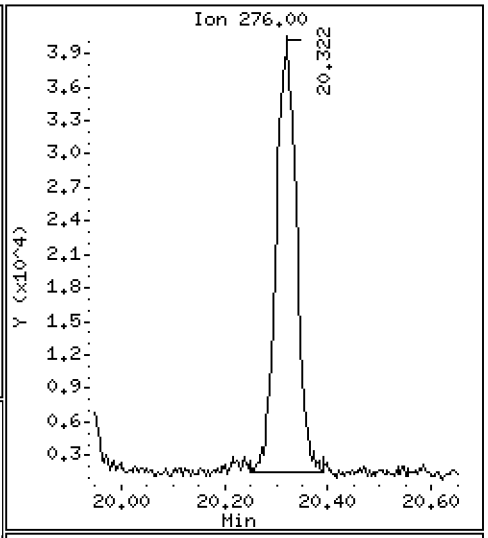
Column phase: Rxi-17sil

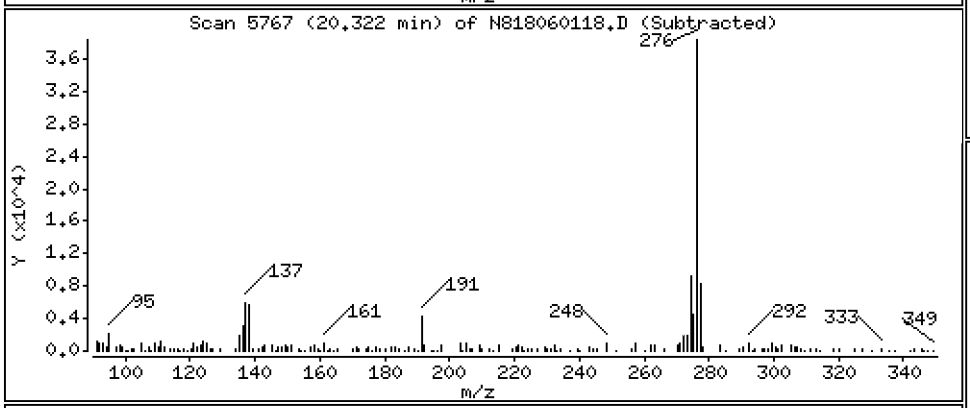
Column diameter: 0.25

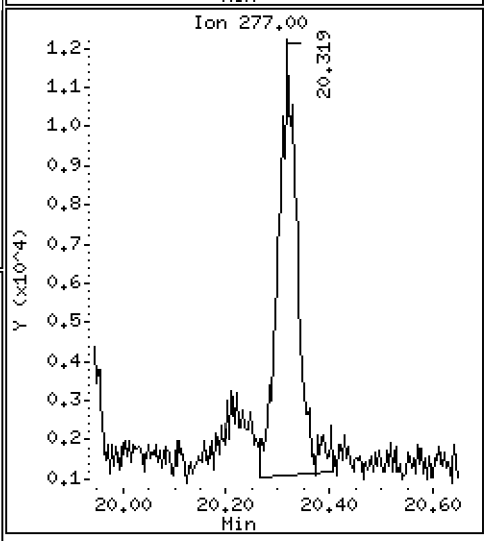
39 Benzo(g,h,i)perylene

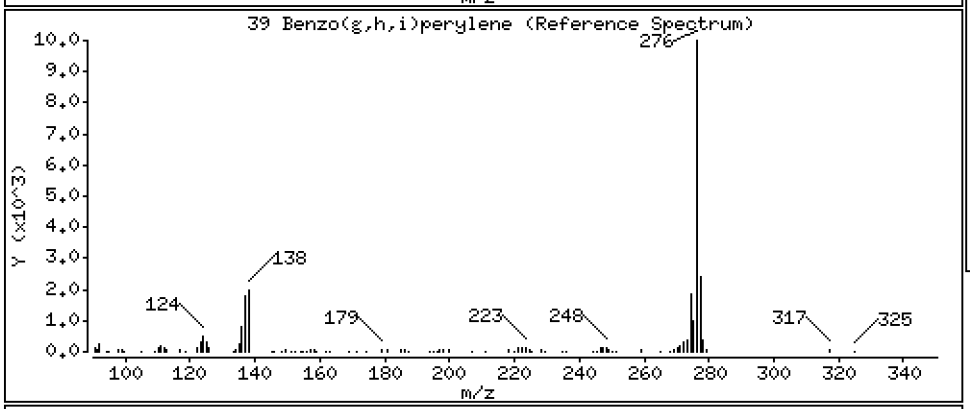
Concentration: 0.9387 ug/mL

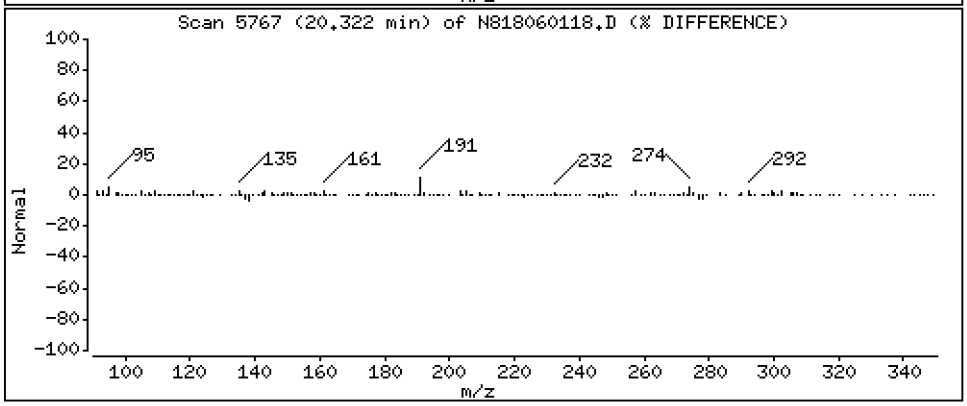












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060118.D

Date : 01-JUN-2018 21:59

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-02

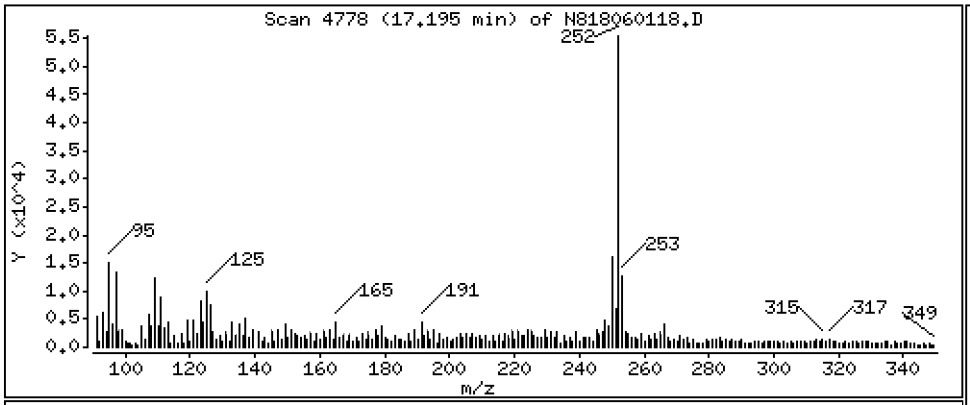
Operator: JZ

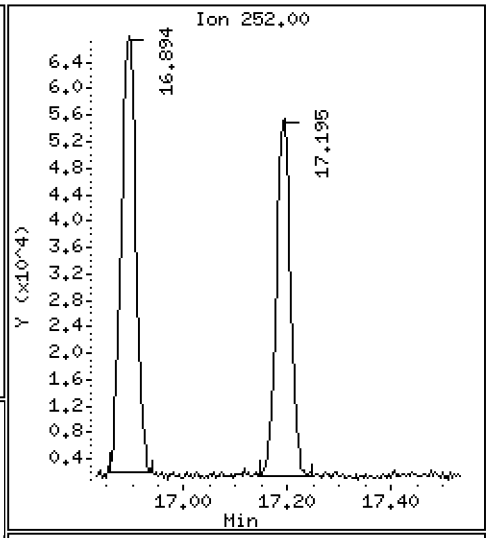
Column phase: Rxi-17sil

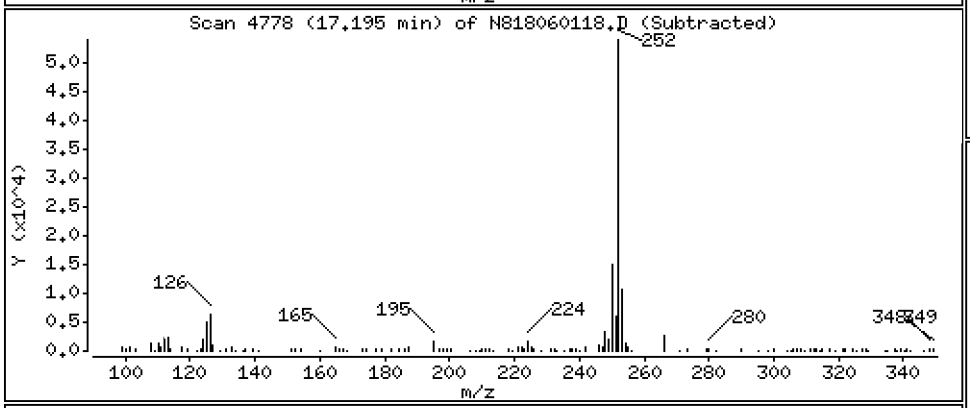
Column diameter: 0.25

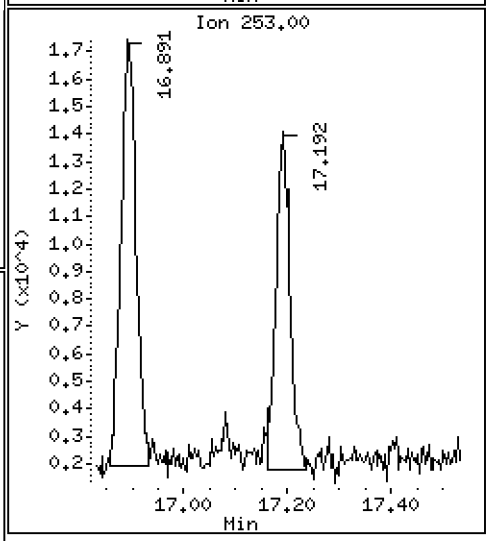
35 Perylene

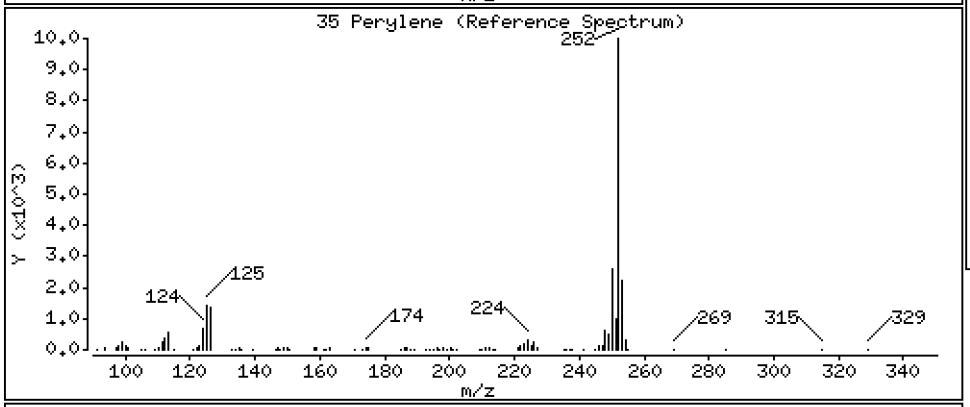
Concentration: 0.8316 ug/mL

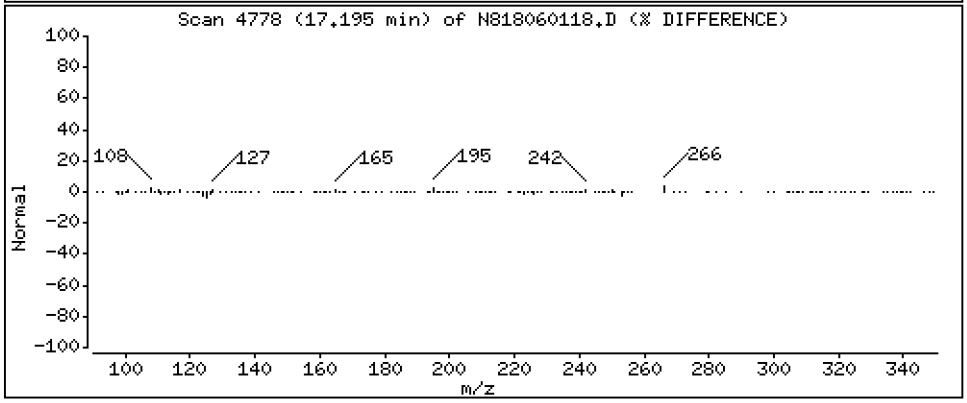












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060118.D
Lab Smp Id: 18E0262-02
Inj Date : 01-JUN-2018 21:59
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0262-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	205154	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	6597	0.05533	0.05533
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	94900	1.26807	1.268
	4 2-Methylnaphthalene	141	5.236	5.242	(1.175)	5673	0.08448	0.08448
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	3707	0.05363	0.05363
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	103668	2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.008)	5146	0.06522	0.06522
	12 Dibenzofuran	168	6.924	6.927	(1.030)	5698	0.05371	0.05371
	14 Fluorene	166	7.399	7.402	(1.100)	7700	0.09393	0.09393
*	15 Phenanthrene-d10	188	8.746	8.745	(1.000)	184582	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	151796	1.34176	1.342
	17 Anthracene	178	8.821	8.821	(1.009)	26372	0.25584	0.2558
	22 Fluoranthene	202	10.440	10.434	(1.194)	307228	2.40963	2.410
$	21 Fluoranthene-d10	212	10.406	10.402	(1.190)	211991	1.75430	1.754
	23 Pyrene	202	10.908	10.902	(0.816)	286718	2.37527	2.375
	24 Benzo(a)anthracene	228	13.242	13.239	(0.991)	119103	1.02055	1.021
*	25 Chrysene-d12	240	13.362	13.356	(1.000)	200863	2.00000	
	27 Chrysene	228	13.432	13.425	(1.005)	180329	1.53500	1.535
	28 Benzo(b)fluoranthene	252	15.876	15.869	(0.927)	145935	1.11760	1.118
	29 Benzo(k)fluoranthene	252	15.939	15.926	(0.931)	86302	0.67213	0.6721
	30 Benzo(j)fluoranthene	252	16.012	16.002	(0.935)	77942	0.60624	0.6062
	31 Total Benzofluoranthenes	252	15.876	15.926	(0.927)	303142	2.38041	2.380(M)
	32 Benzo(a)pyrene	252	16.894	16.884	(0.987)	136437	1.19214	1.192
*	33 Perylene-d12	264	17.125	17.112	(1.000)	205465	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.446	19.430	(1.136)	108759	0.83006	0.8301
$	36 Dibenzo(a,h)anthracene-d14	292	19.354	19.338	(1.130)	214428	2.22810	2.228
	38 Dibenzo(a,h)anthracene	278	19.436	19.430	(1.135)	24486	0.22655	0.2266
	39 Benzo(g,h,i)perylene	276	20.322	20.299	(1.187)	107495	0.93870	0.9387
	35 Perylene	252	17.194	17.181	(1.004)	103343	0.83160	0.8316

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060118.D
Lab Smp Id: 18E0262-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	205154	67.90
10 Acenaphthene-d10	65789	32895	131578	103668	57.58
15 Phenanthrene-d10	128644	64322	257288	184582	43.48
25 Chrysene-d12	166669	83335	333338	200863	20.52
33 Perylene-d12	140483	70242	280966	205465	46.26

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.04
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.05
33 Perylene-d12	17.11	16.61	17.61	17.13	0.08

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060118.D

Lab ID: 18E0262-02
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 21:59

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

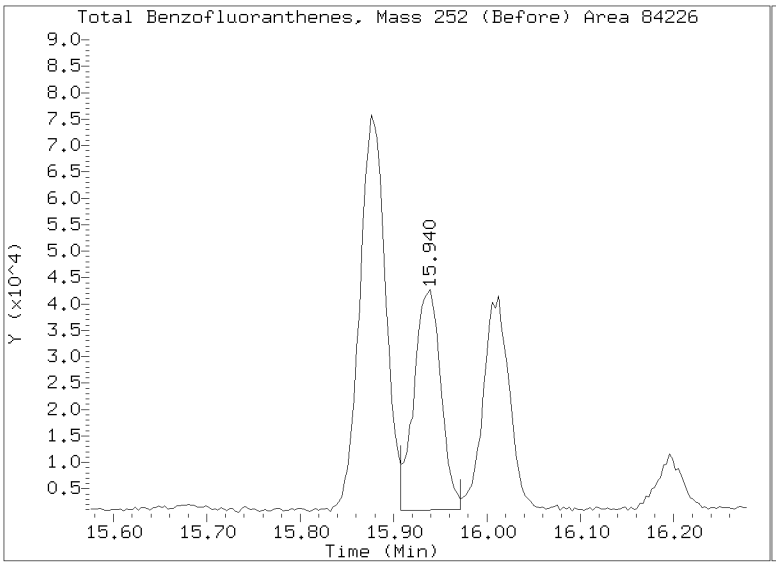
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

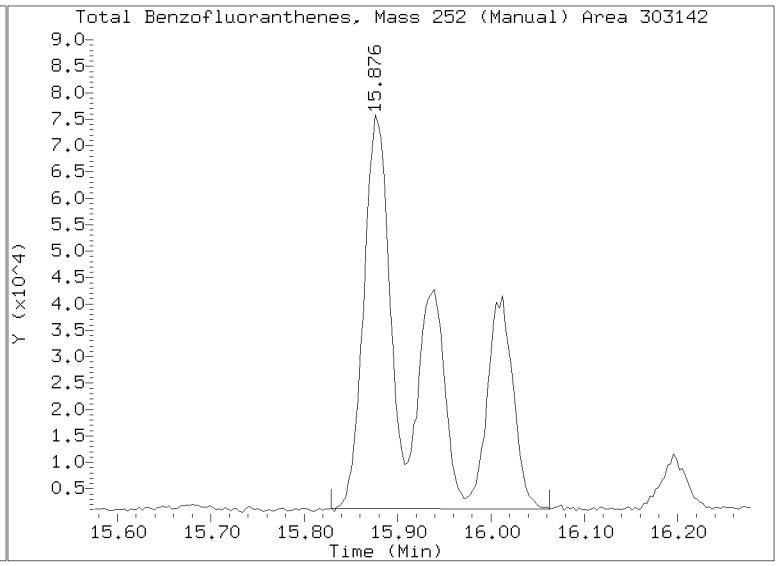
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060118.D
Injection Date: 01-JUN-2018 21:59
Lab ID:18E0262-02 Client ID:
Report Date: 06/04/2018 11:01





LDW18-A19-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0262-03	SDG:	18E0231
Sampled:	05/17/18 12:26	Prepared:	06/05/18 12:40	File ID:	N818061206.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 16:43
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.01 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.54	5.00
218-01-9	Chrysene	1	5.00	U	0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	1.64	J	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.71	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.91	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	0.57	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.85	56.7	37.8	20 - 130	
Dibenzo[a,h]anthracene-d14	149.85	105	70.1	20 - 130	
Fluoranthene-d10	149.85	88.9	59.3	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

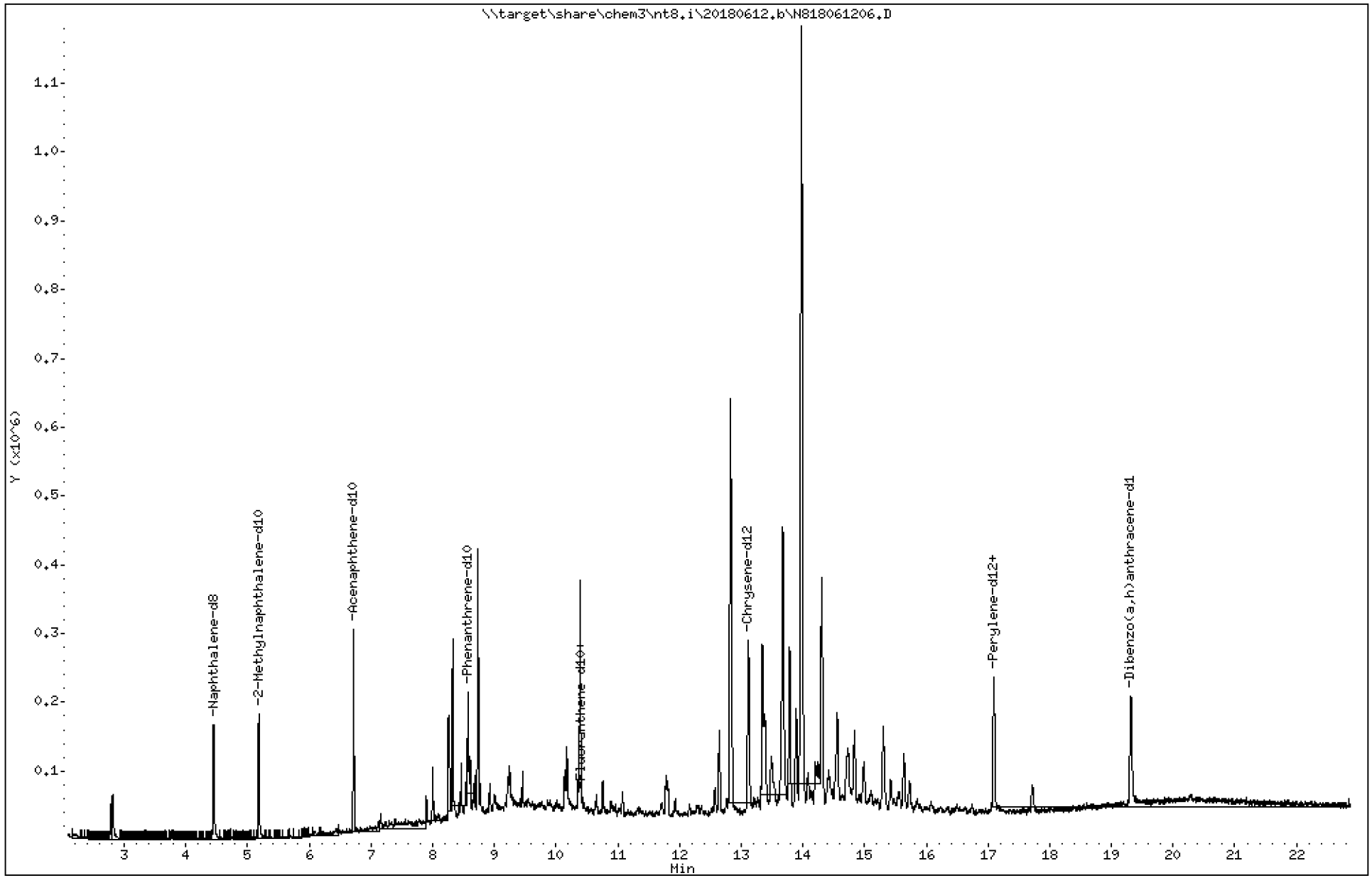
Instrument: nt8.i

Sample Info: 18E0262-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-03

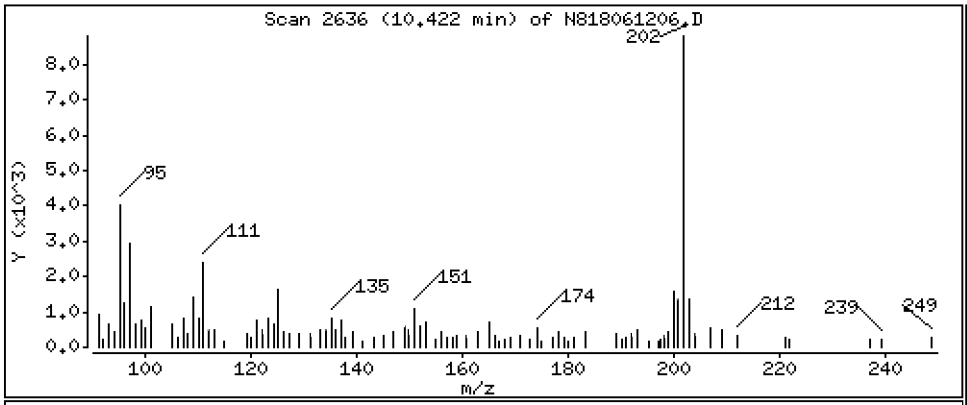
Operator: JZ

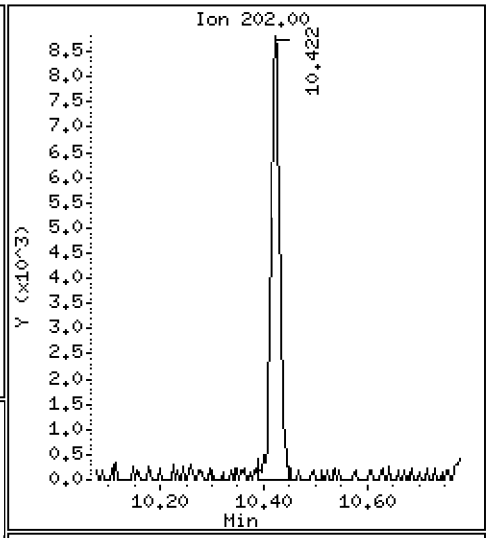
Column phase: Rxi-17sil

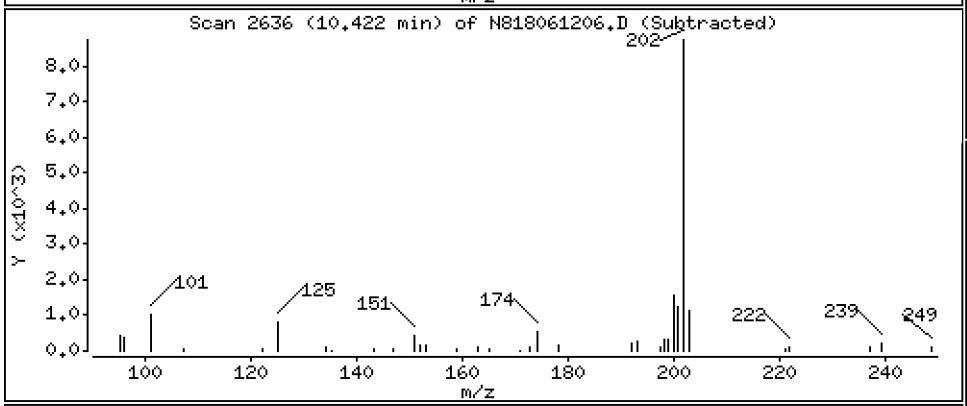
Column diameter: 0.25

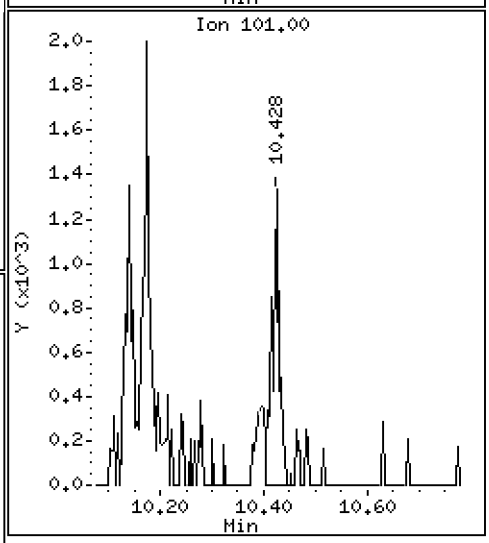
22 Fluoranthene

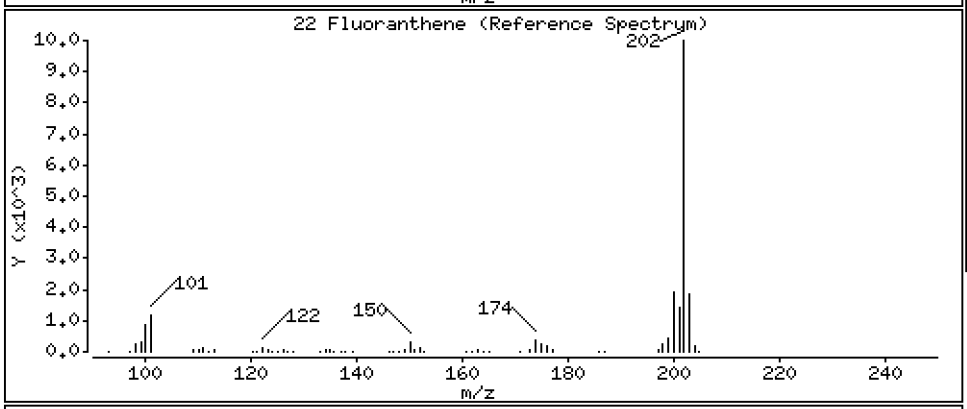
Concentration: 0.1052 ug/mL

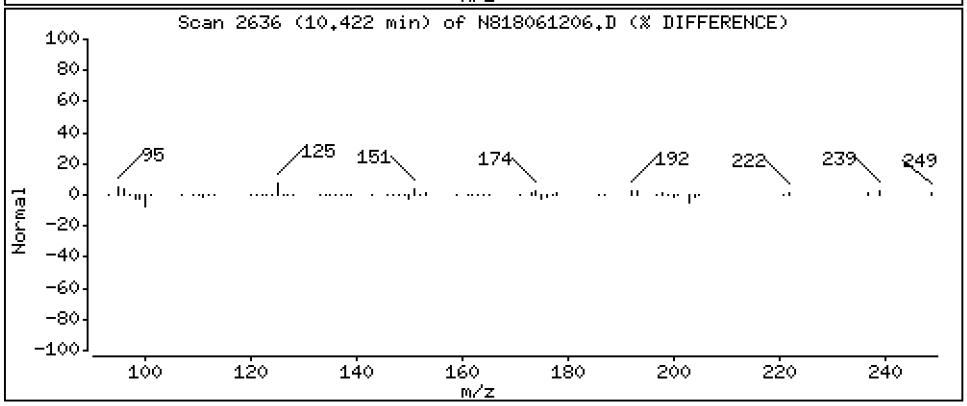












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-03

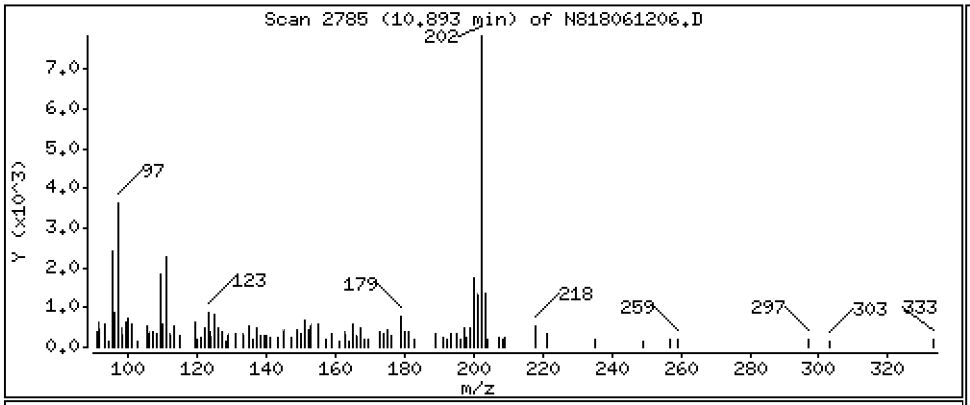
Operator: JZ

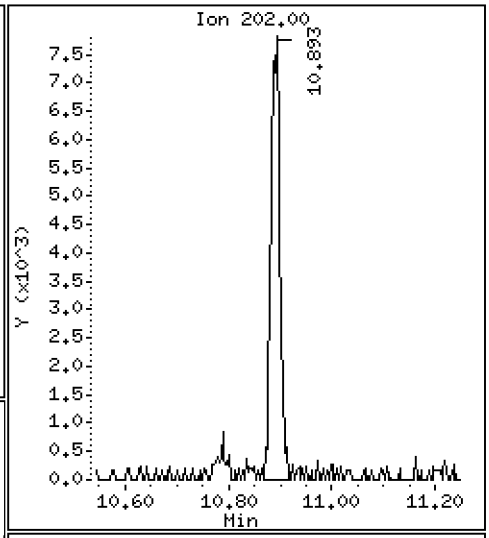
Column phase: Rxi-17sil

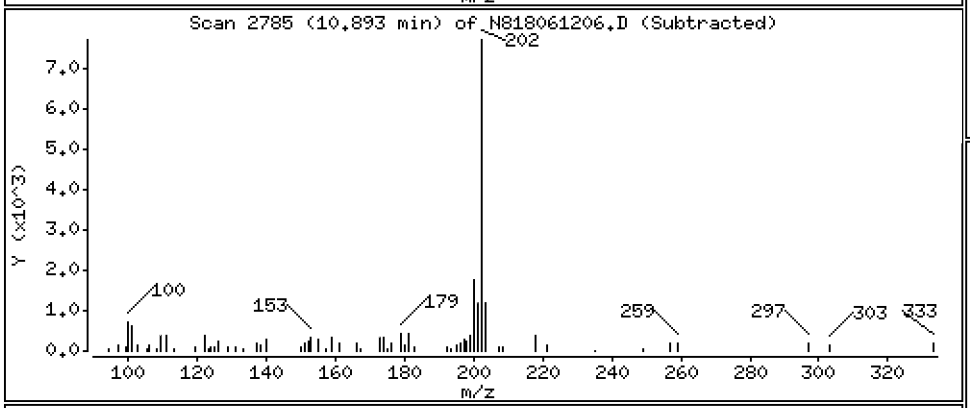
Column diameter: 0.25

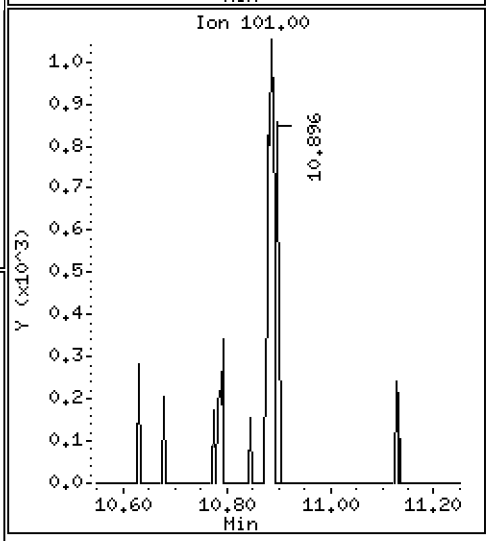
23 Pyrene

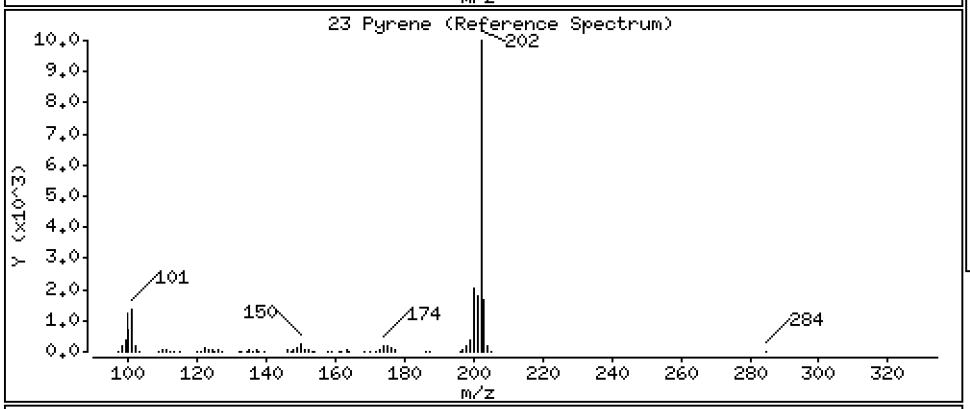
Concentration: 0.1022 ug/mL

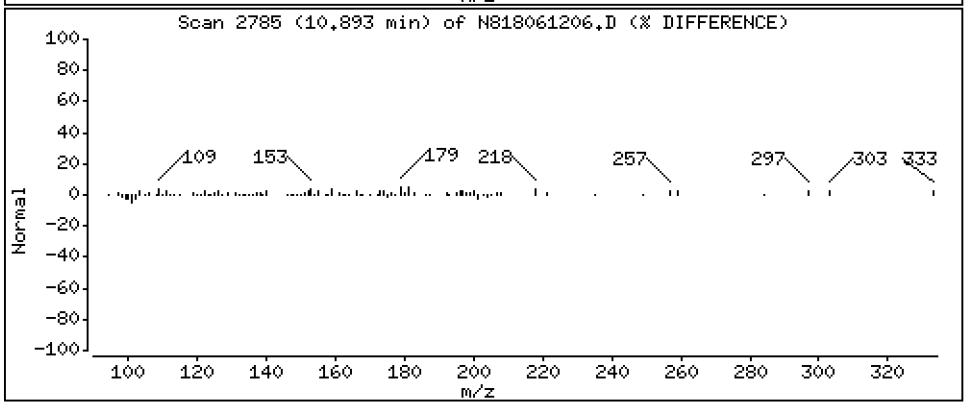












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-03

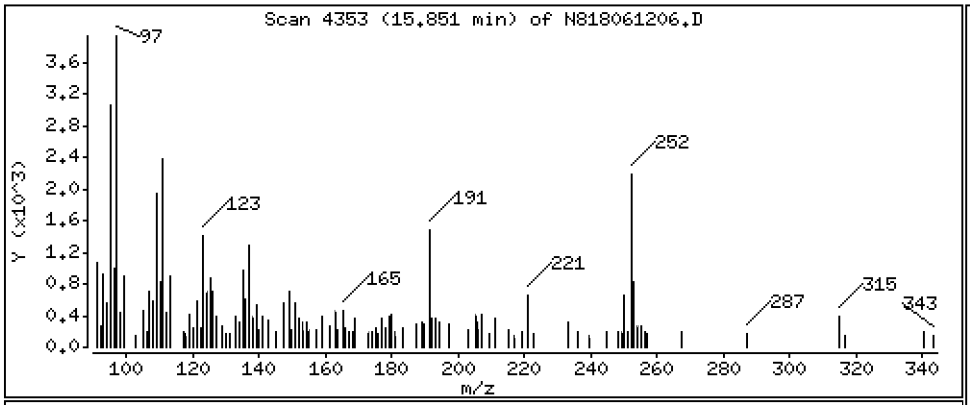
Operator: JZ

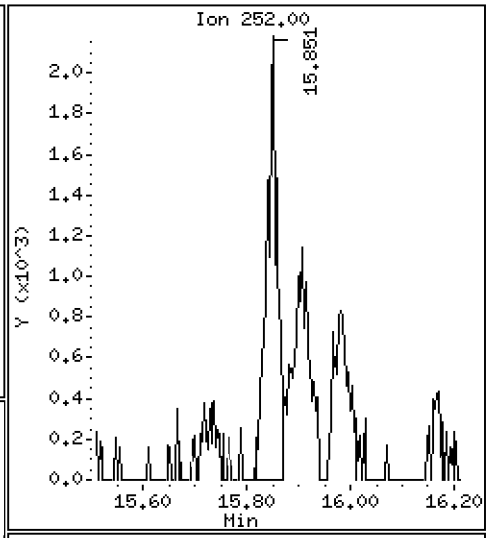
Column phase: Rxi-17sil

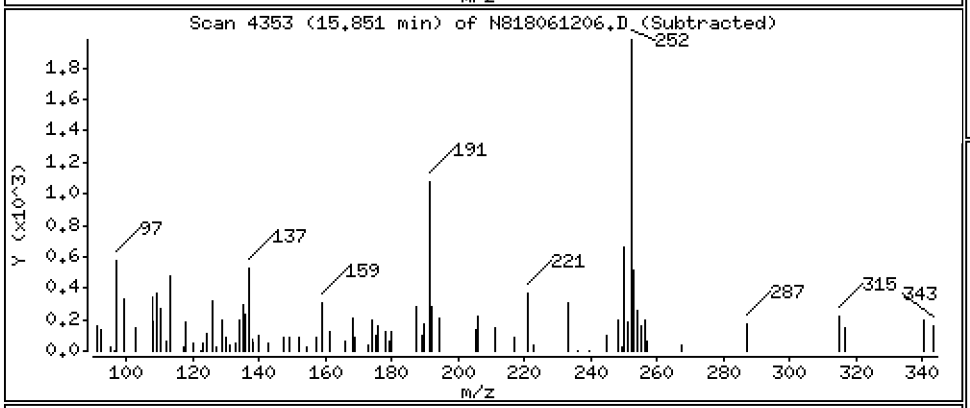
Column diameter: 0.25

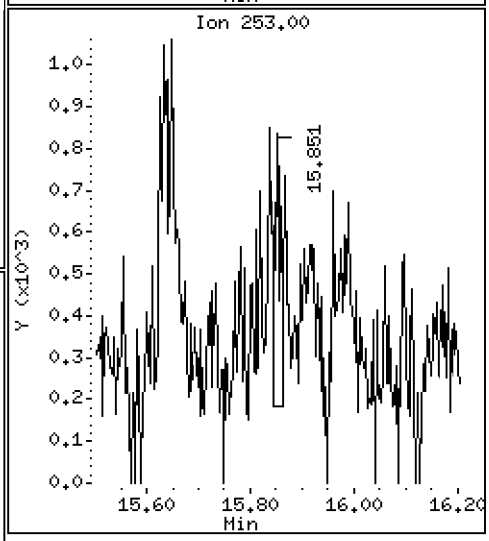
28 Benzo(b)fluoranthene

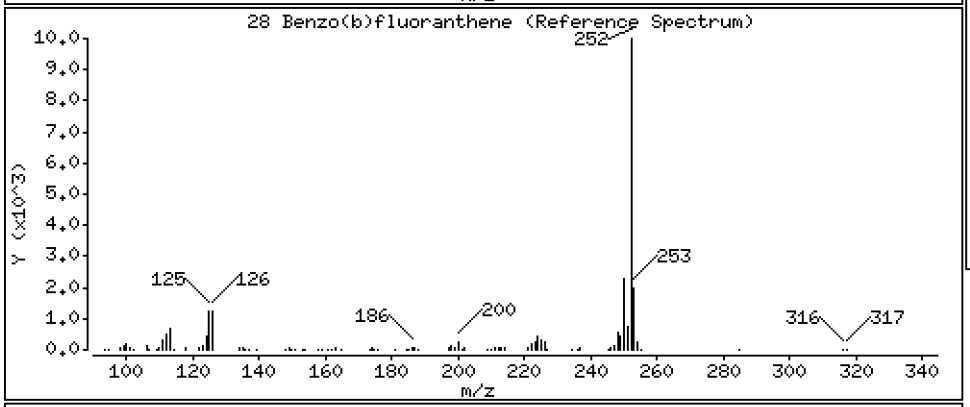
Concentration: 0.03276 ug/mL

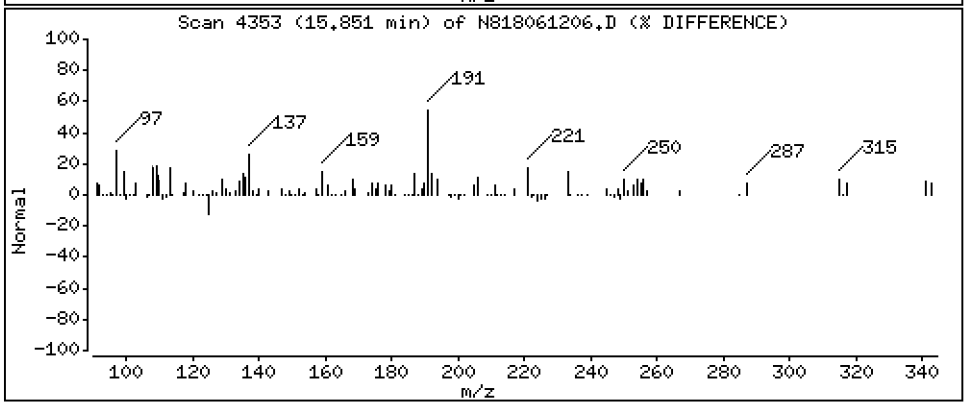












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-03

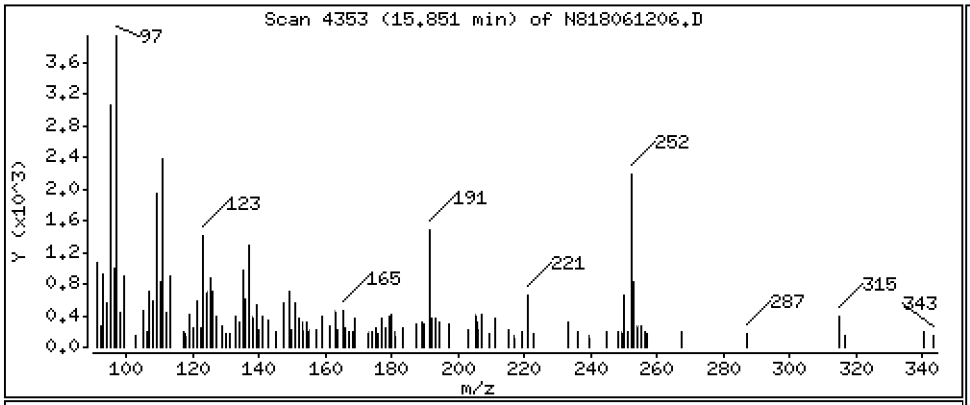
Operator: JZ

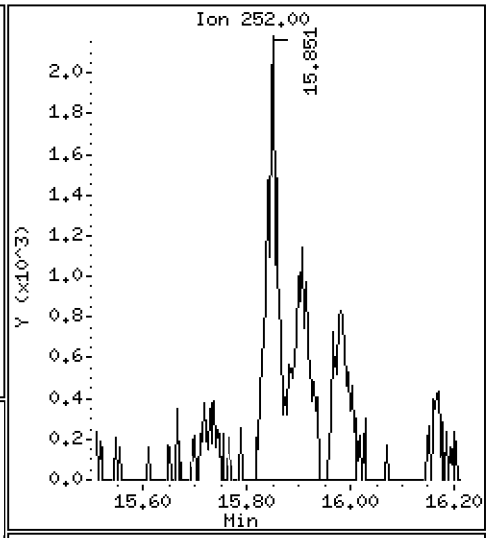
Column phase: Rxi-17sil

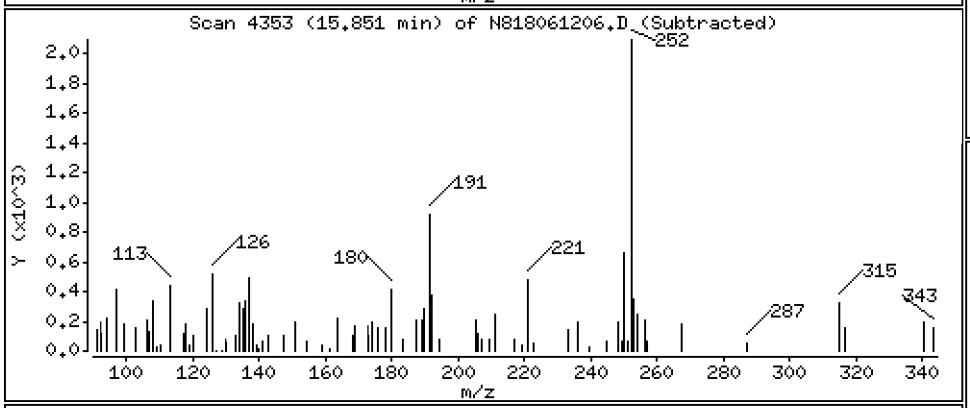
Column diameter: 0.25

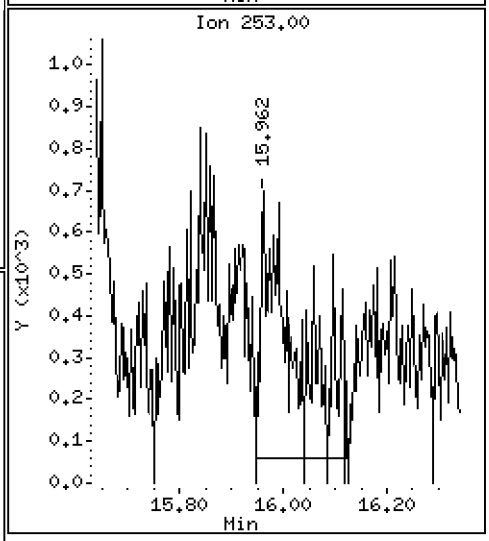
31 Total Benzofluoranthenes

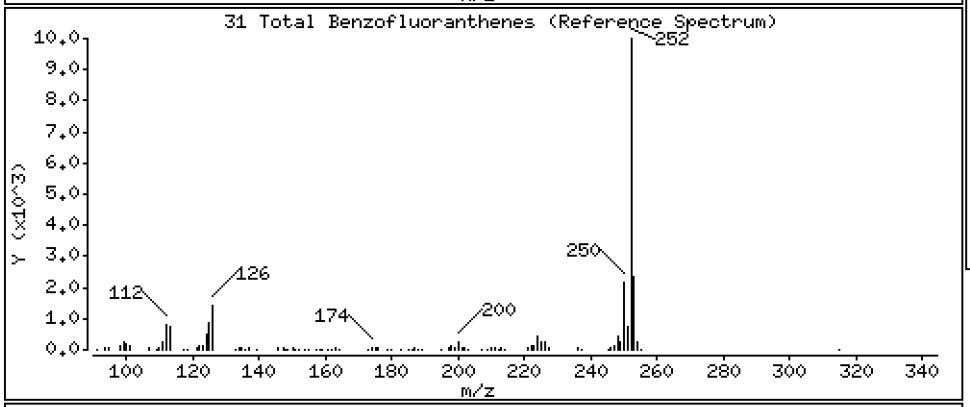
Concentration: 0.07839 ug/mL

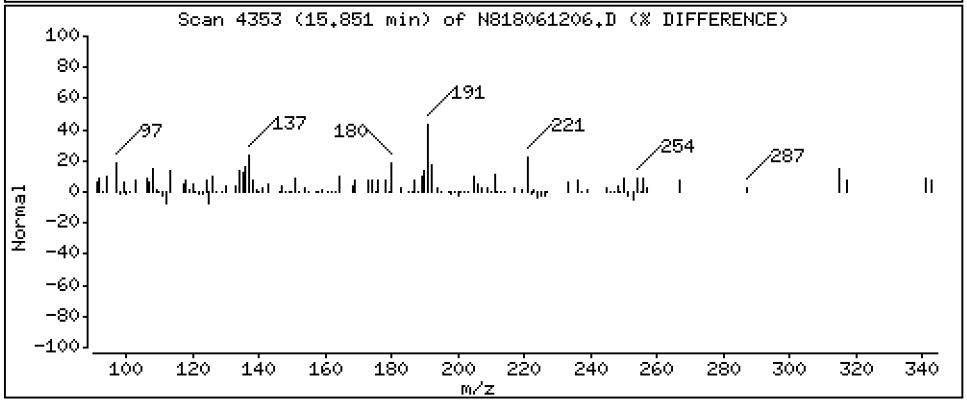












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061206.D

Date : 12-JUN-2018 16:43

Client ID:

Instrument: nt8.i

Sample Info: 18E0262-03

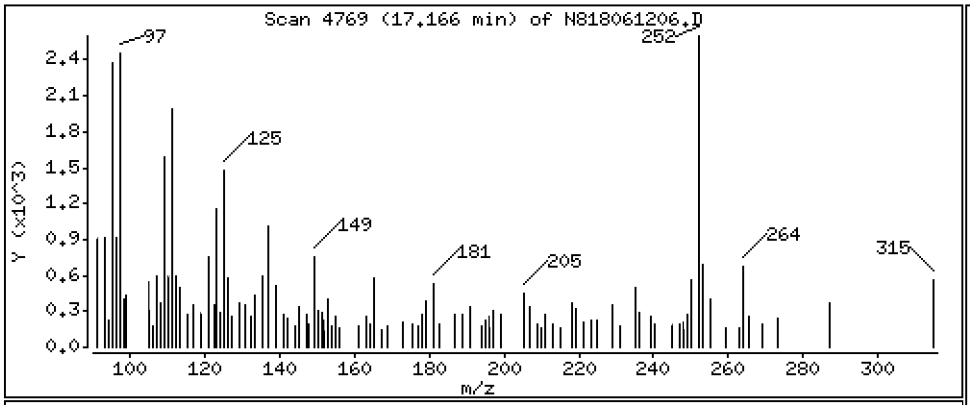
Operator: JZ

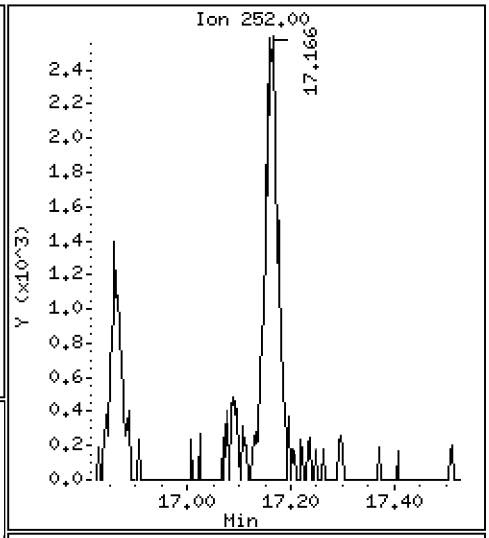
Column phase: Rxi-17sil

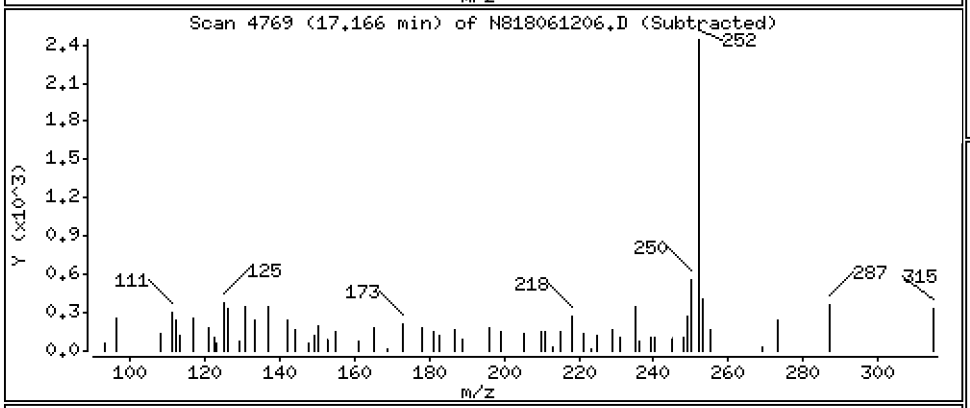
Column diameter: 0.25

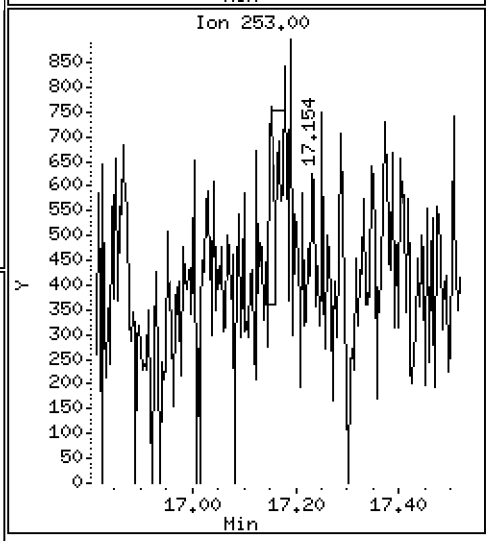
35 Perylene

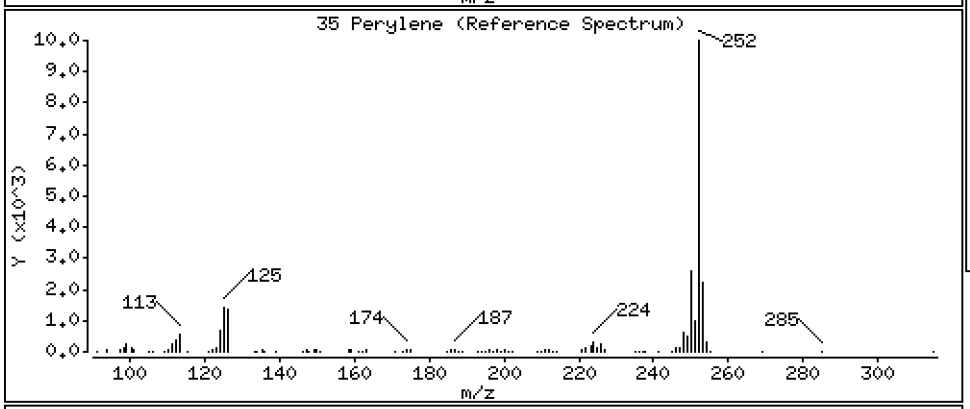
Concentration: 0.05116 ug/mL

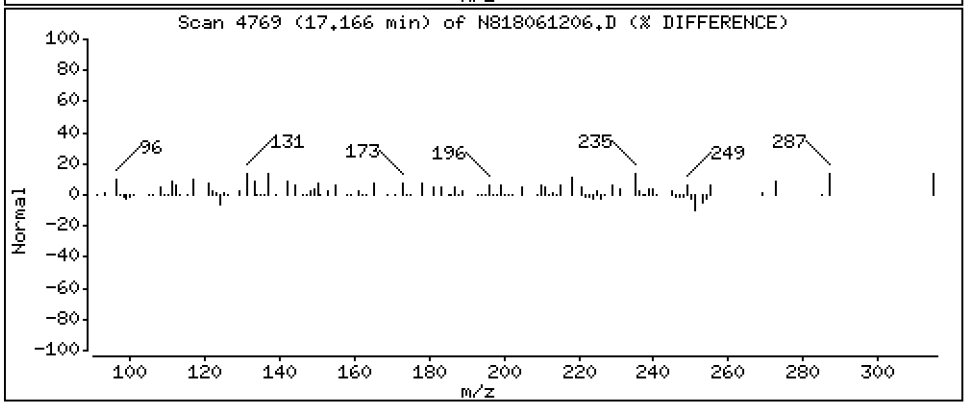












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061206.D
Lab Smp Id: 18E0262-03
Inj Date : 12-JUN-2018 16:43
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0262-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.448	4.455	(1.000)	156243	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.164)	64706	1.13528	1.135
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	81848	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	145161	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.421	10.428	(1.193)	10545	0.10517	0.1052
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	169194	1.78037	1.780
	23 Pyrene	202	10.892	10.896	(0.816)	9431	0.10219	0.1022
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	153574	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	15.850	15.860	(0.927)	3130	0.03276	0.03276
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.850	15.860	(0.927)	7305	0.07839	0.07839(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	150341	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.316	19.325	(1.130)	148037	2.10224	2.102
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	17.166	17.175	(1.004)	4652	0.05116	0.05116

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061206.D
Lab Smp Id: 18E0262-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	156243	27.87
10 Acenaphthene-d10	65789	32895	131578	81848	24.41
15 Phenanthrene-d10	128644	64322	257288	145161	12.84
25 Chrysene-d12	166669	83335	333338	153574	-7.86
33 Perylene-d12	140483	70242	280966	150341	7.02

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.14
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061206.D

Lab ID: 18E0262-03
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 16:43

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

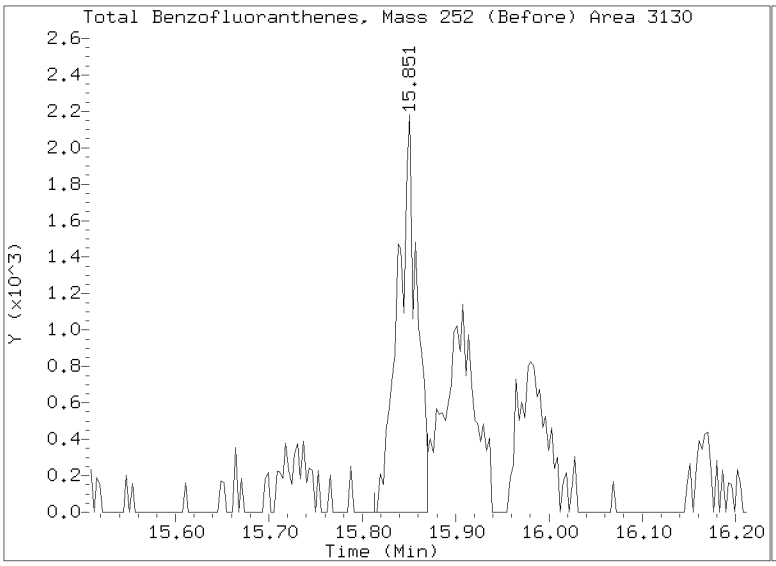
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

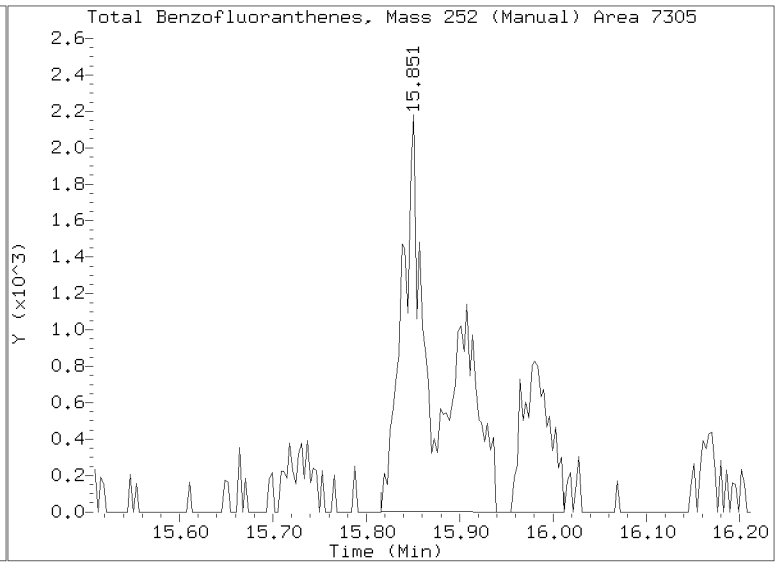
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061206.D
Injection Date: 12-JUN-2018 16:43
Lab ID:18E0262-03 Client ID:
Report Date: 06/12/2018 17:11





LDW18-SSCL-A12

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-01	SDG:	18E0231
Sampled:	05/18/18 13:30	Prepared:	05/24/18 10:50	File ID:	N818060119.D
% Solids:	77.43	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 22:26
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	13.17 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	17.5		0.81	4.90
218-01-9	Chrysene	1	27.9		1.03	4.90
205-99-2	Benzo(b)fluoranthene	1	21.3		1.35	4.90
207-08-9	Benzo(k)fluoranthene	1	9.79		0.75	4.90
50-32-8	Benzo(a)pyrene	1	17.7		0.60	4.90
193-39-5	Indeno(1,2,3-cd)pyrene	1	12.8		1.03	4.90
53-70-3	Dibenzo(a,h)anthracene	1	4.52	J	0.87	4.90

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	147.09	60.5	41.2	32 - 120	
Dibenzo[a,h]anthracene-d14	147.09	105	71.5	21 - 133	
Fluoranthene-d10	147.09	85.2	57.9	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

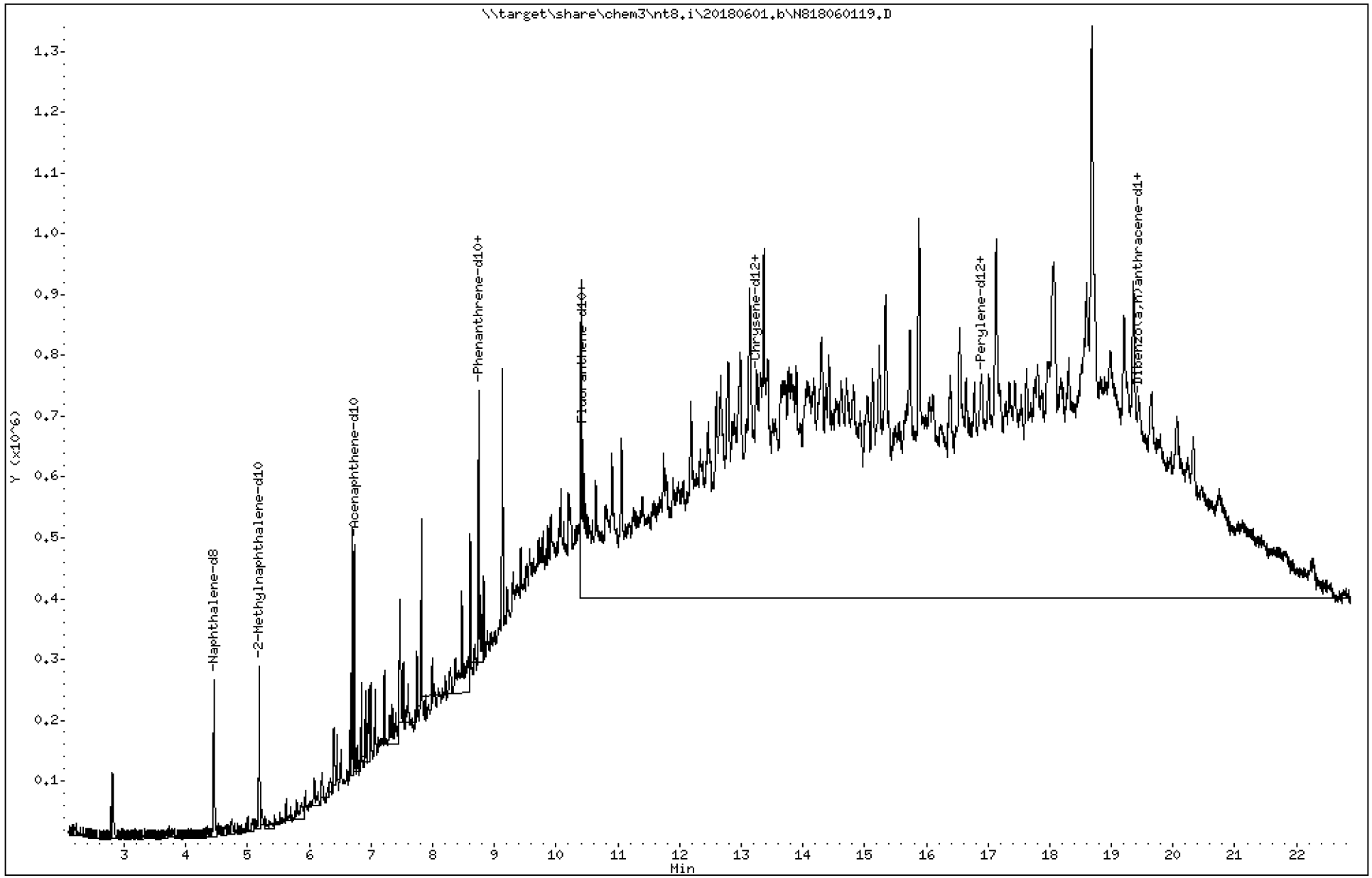
Instrument: nt8.i

Sample Info: 18E0282-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

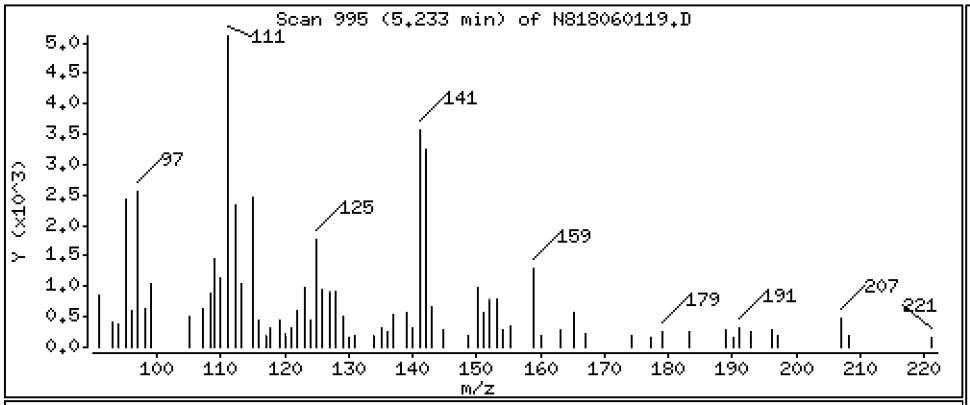
Operator: JZ

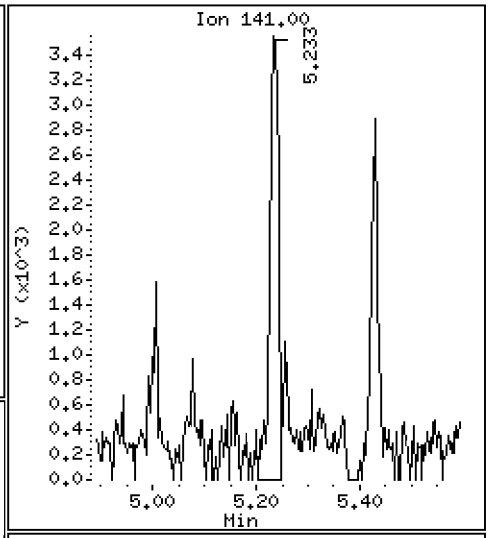
Column phase: Rxi-17sil

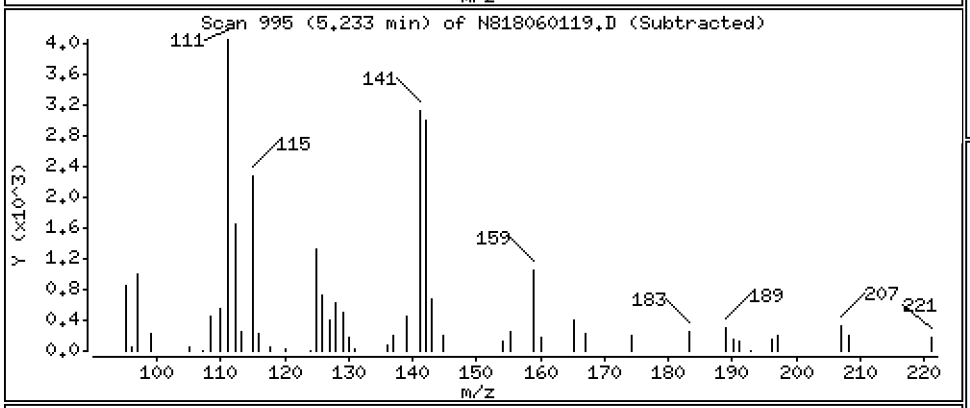
Column diameter: 0.25

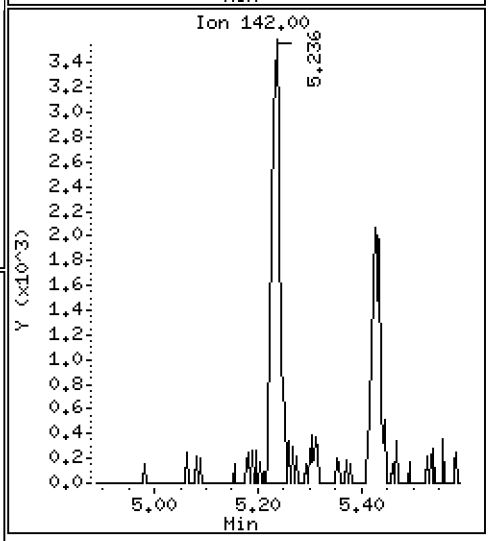
4 2-Methylnaphthalene

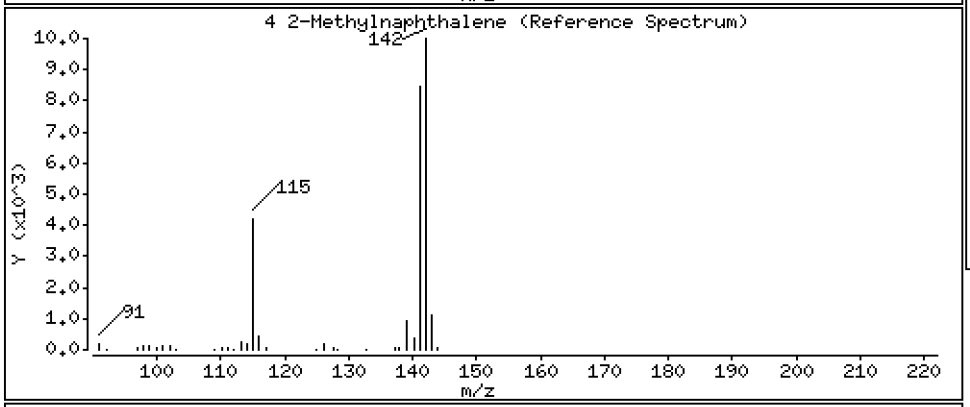
Concentration: 0.06238 ug/mL

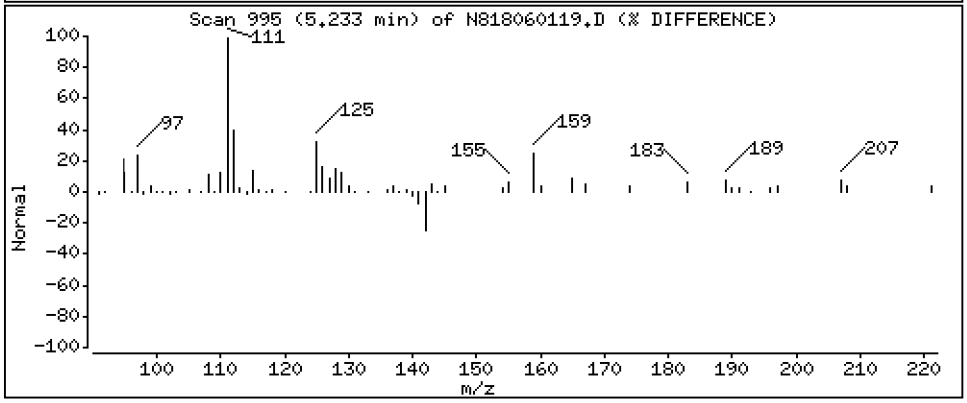












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

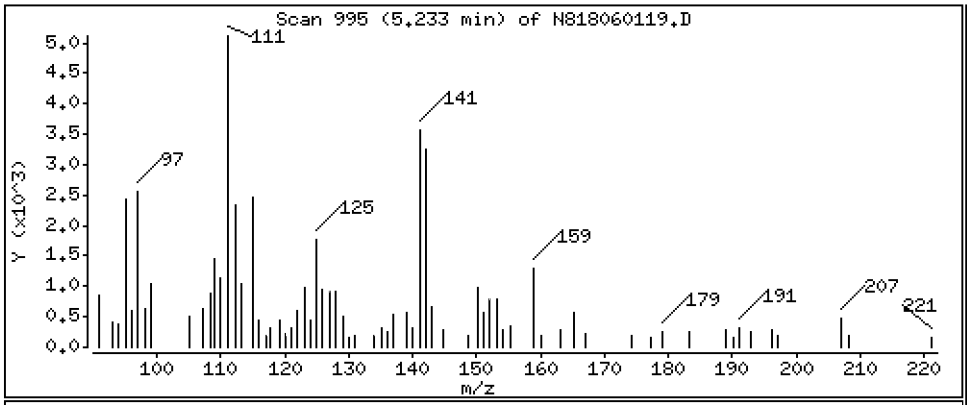
Operator: JZ

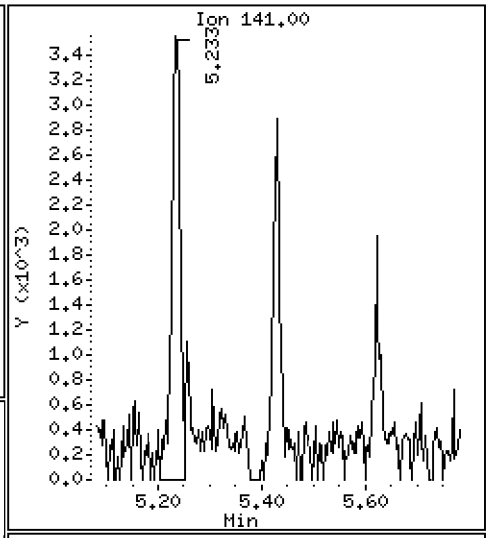
Column phase: Rxi-17sil

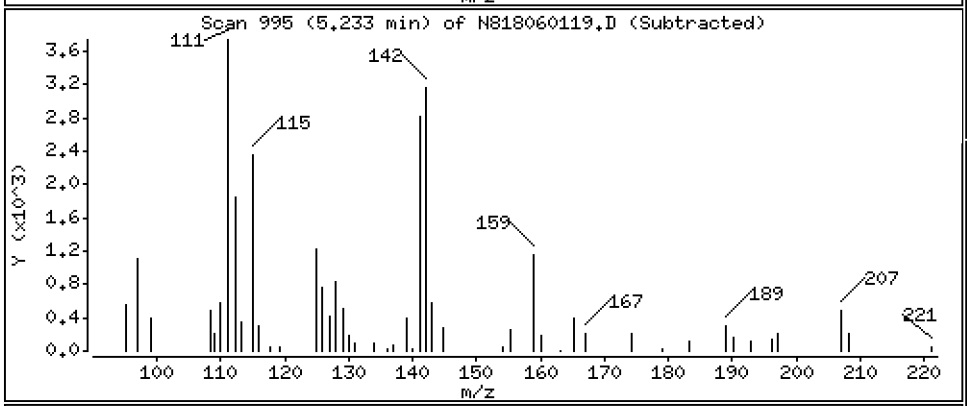
Column diameter: 0.25

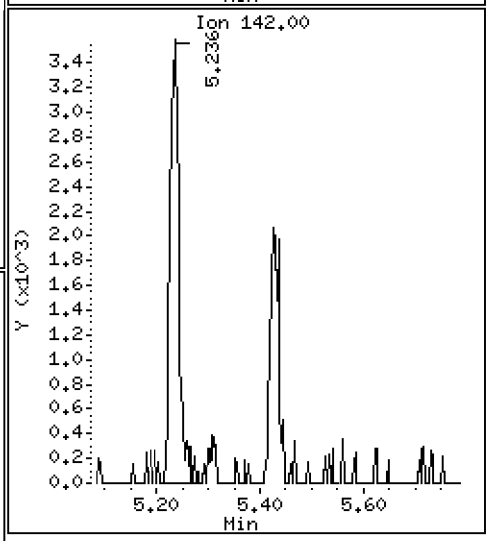
5 1-methylnaphthalene

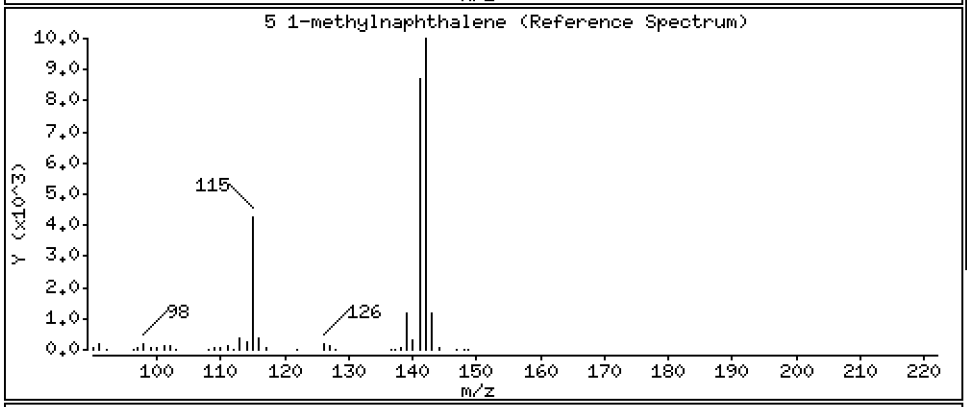
Concentration: 0.06180 ug/mL

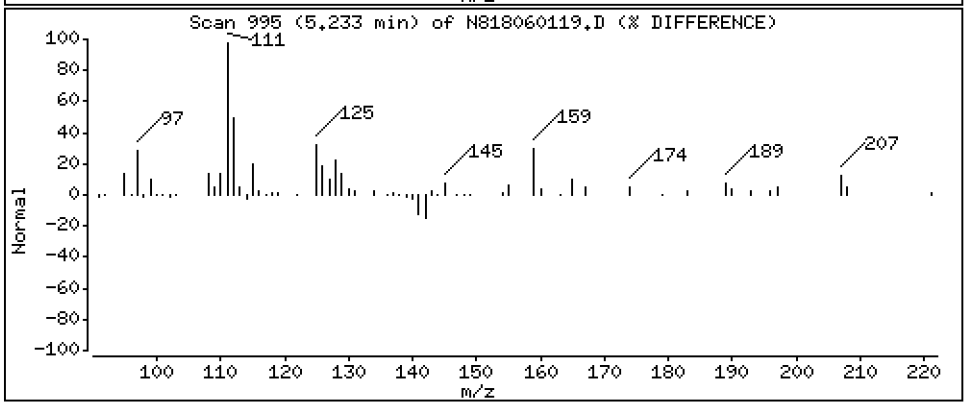












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

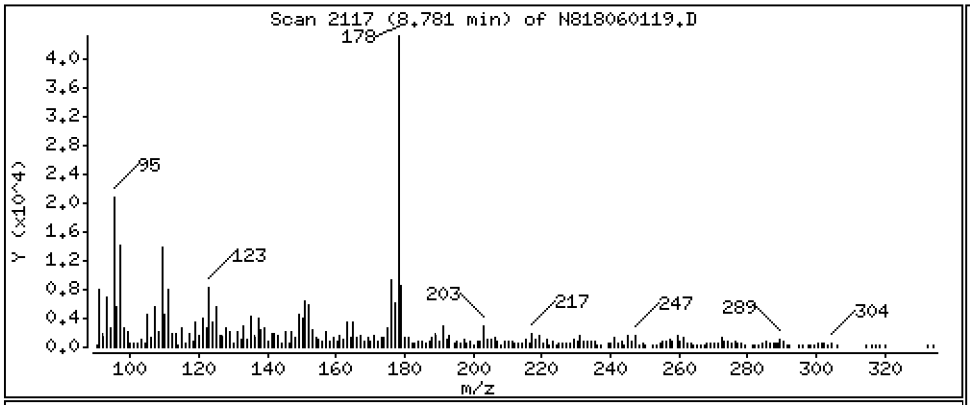
Operator: JZ

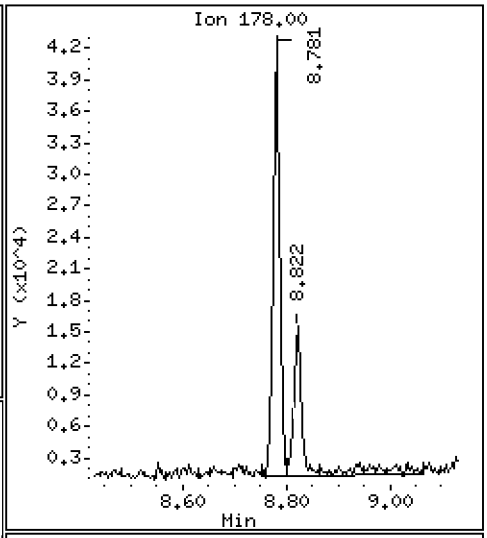
Column phase: Rxi-17sil

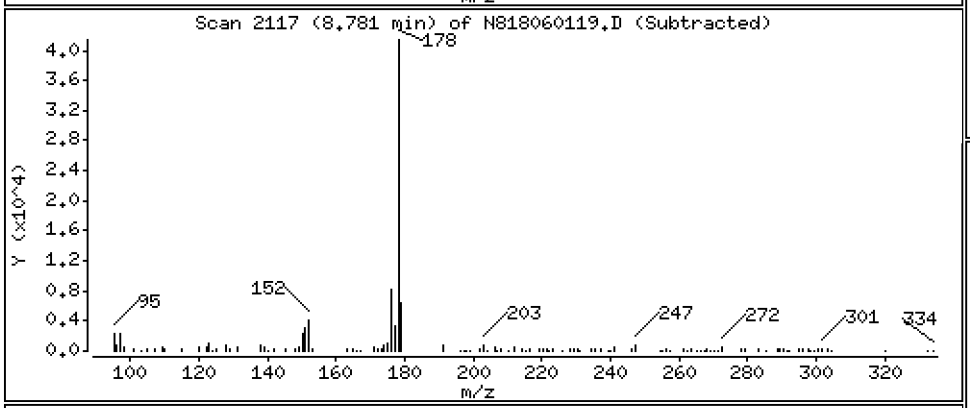
Column diameter: 0.25

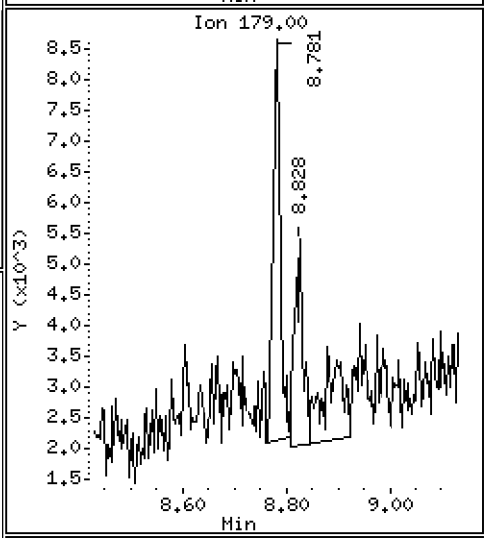
16 Phenanthrene

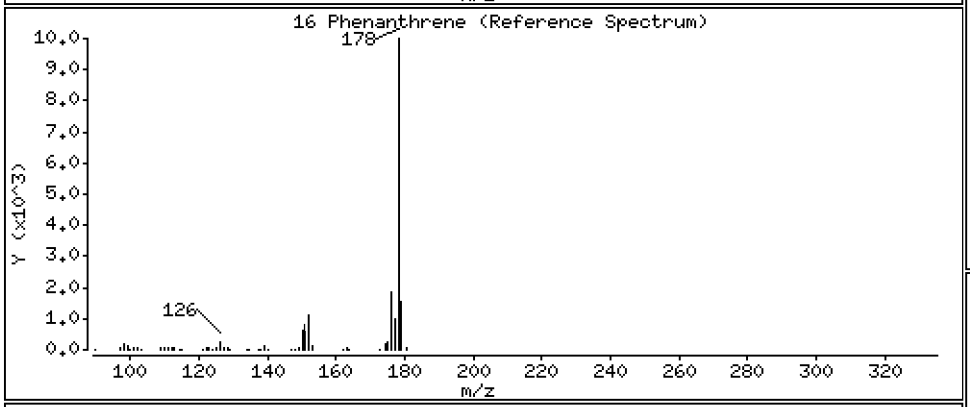
Concentration: 0.3449 ug/mL

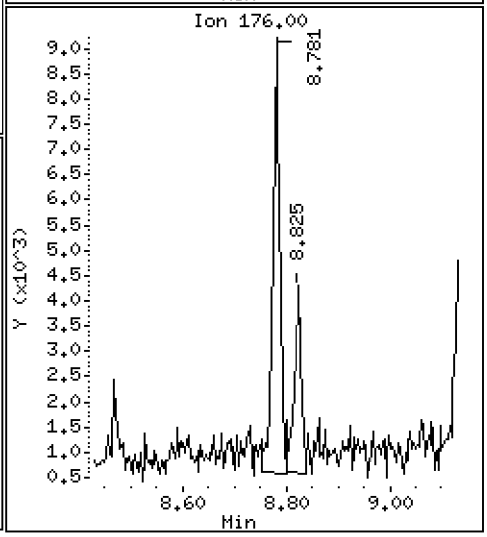


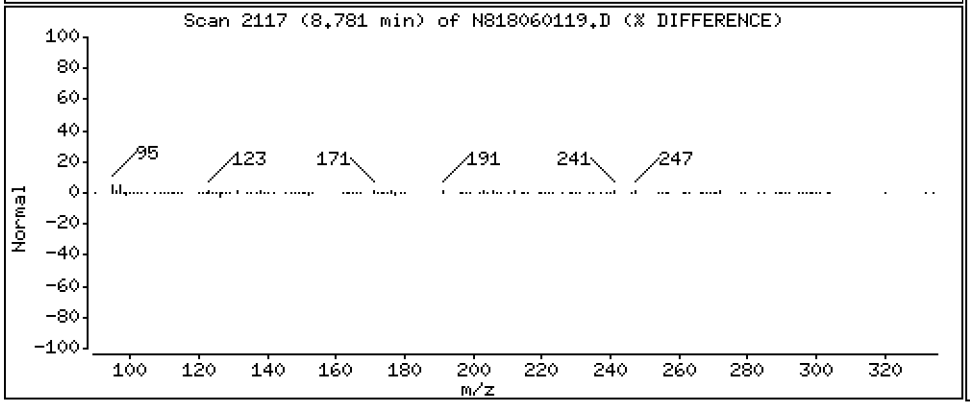












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

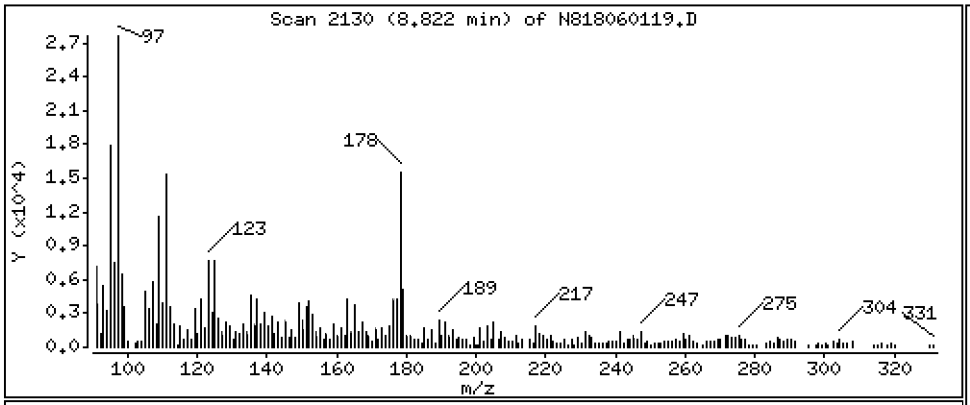
Operator: JZ

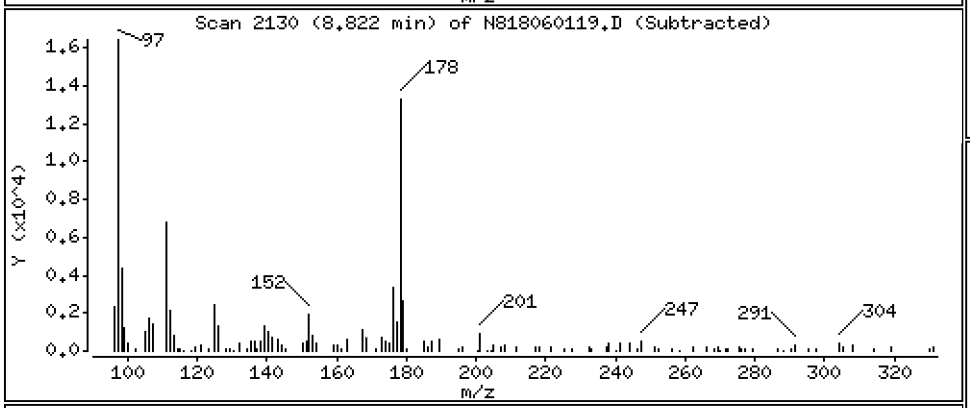
Column phase: Rxi-17sil

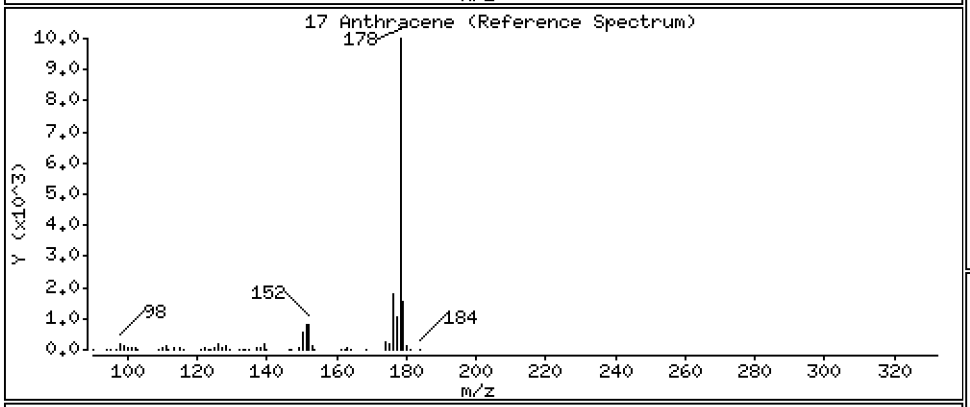
Column diameter: 0.25

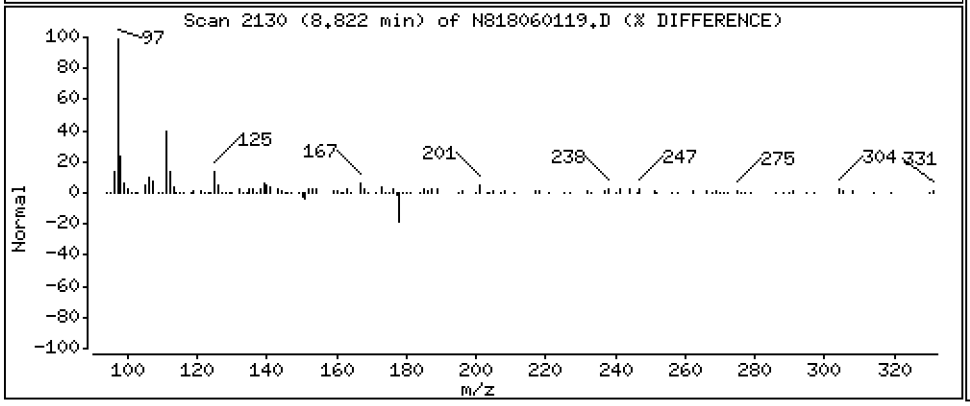
17 Anthracene

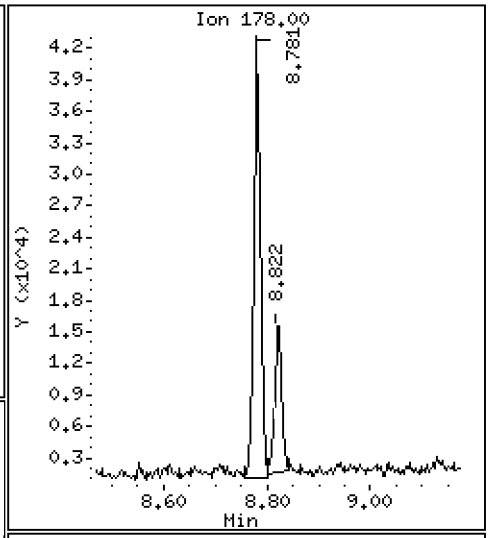
Concentration: 0.1342 ug/mL

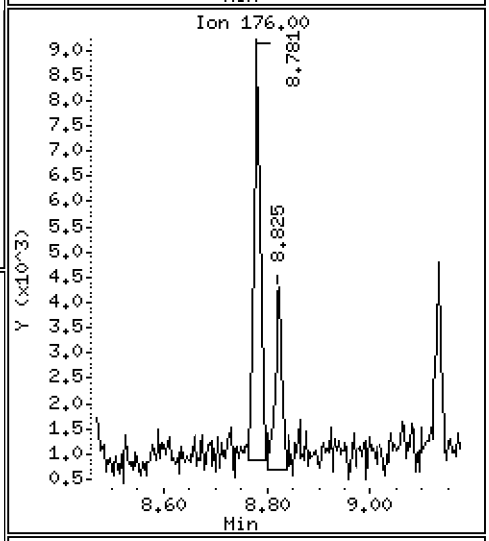


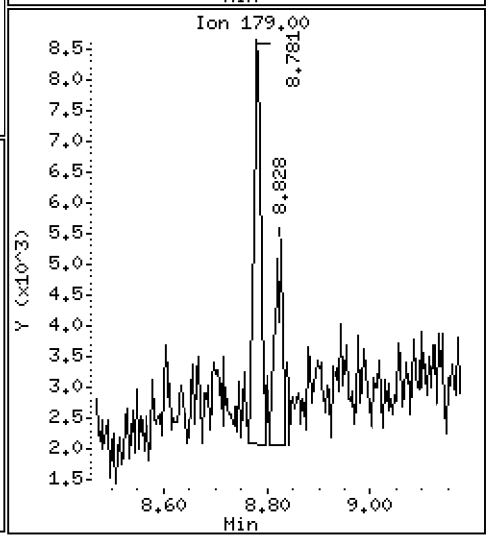












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

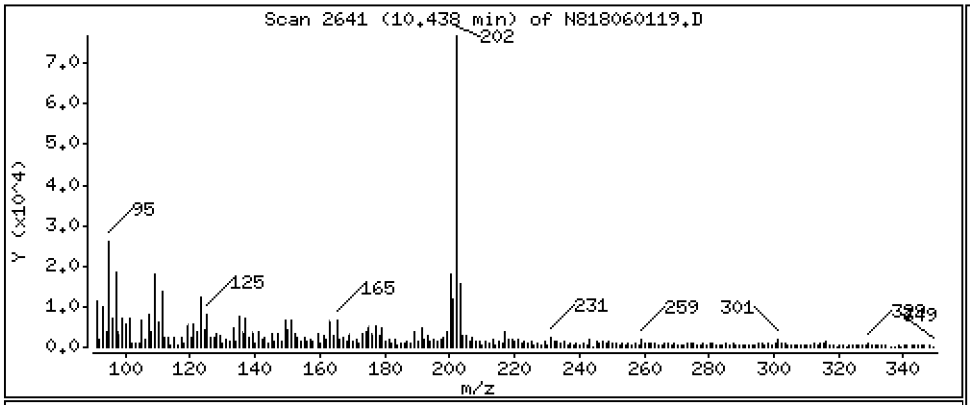
Operator: JZ

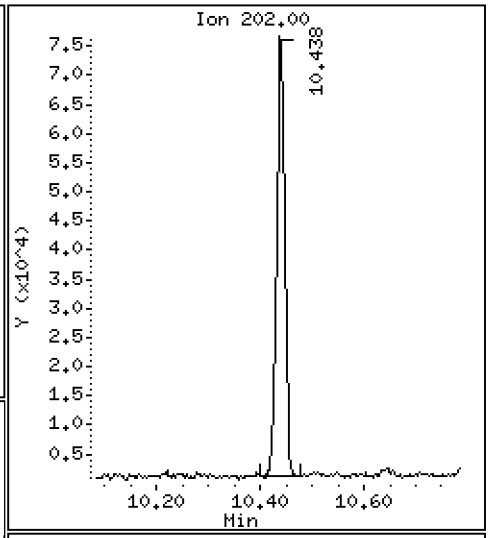
Column phase: Rxi-17sil

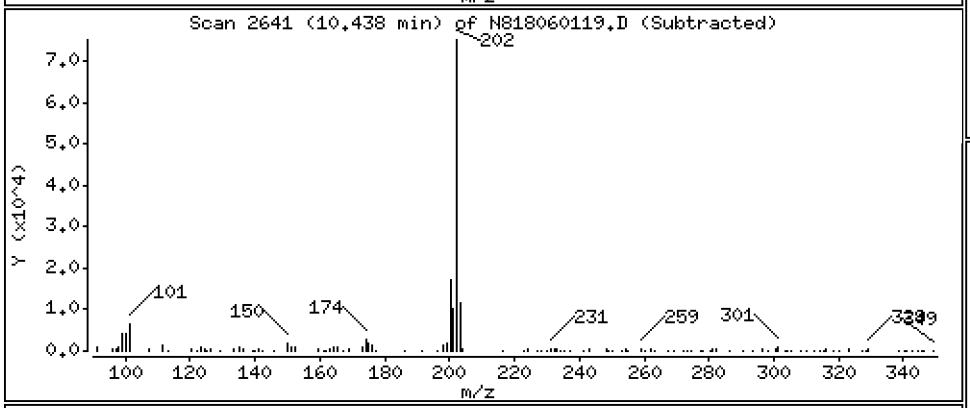
Column diameter: 0.25

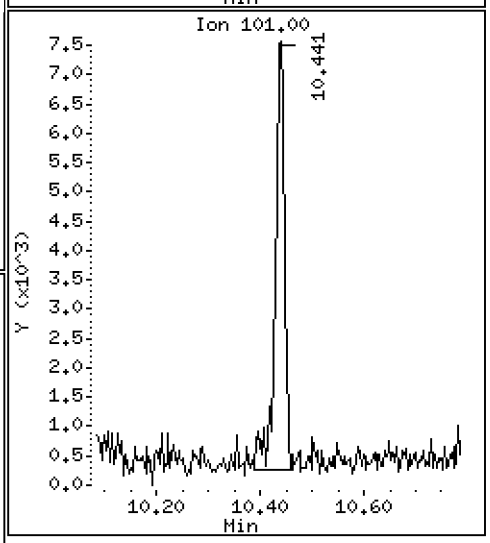
22 Fluoranthene

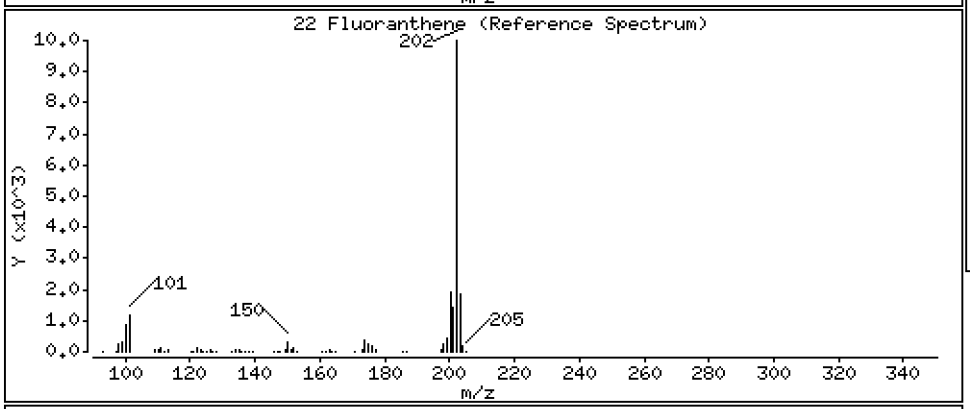
Concentration: 0.6705 ug/mL

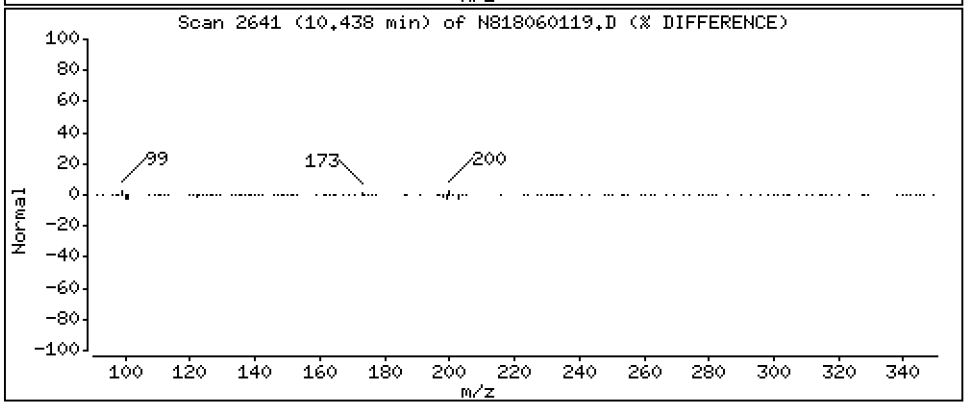












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

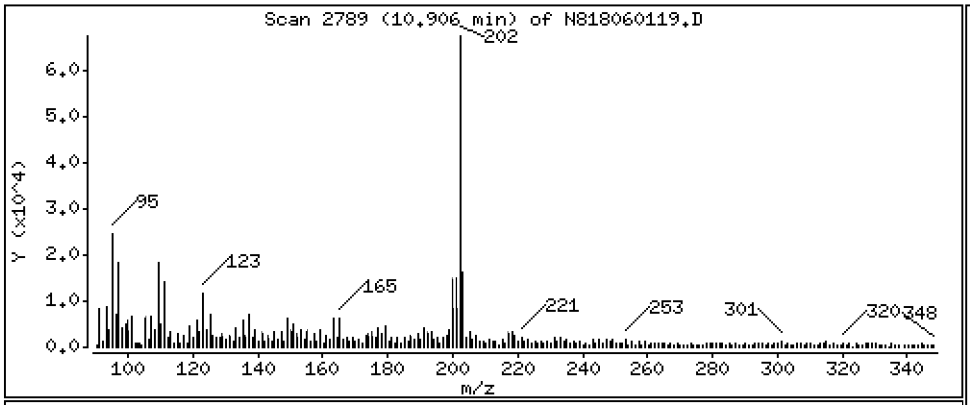
Operator: JZ

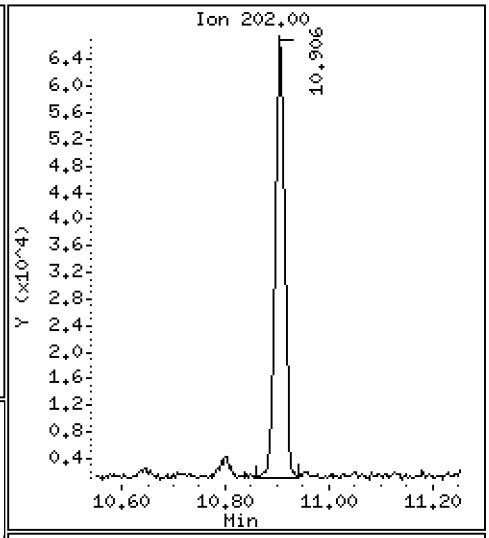
Column phase: Rxi-17sil

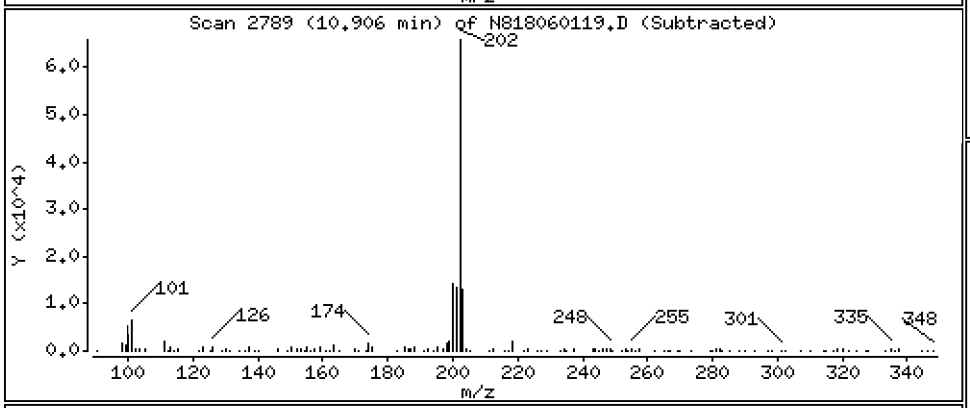
Column diameter: 0.25

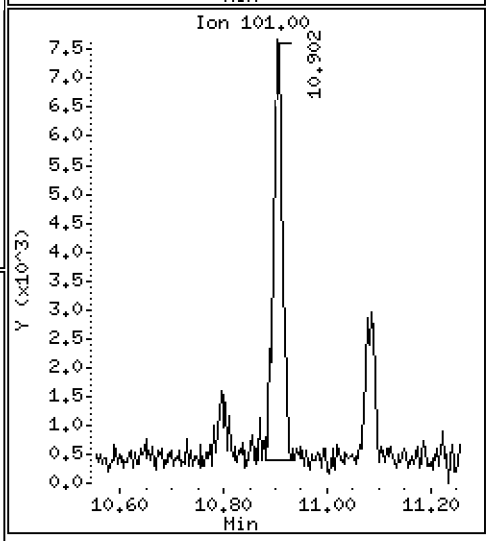
23 Pyrene

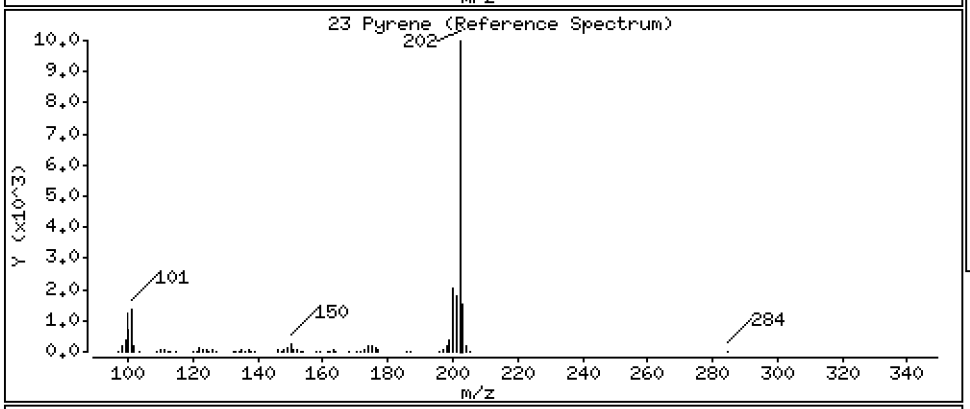
Concentration: 0.7083 ug/mL

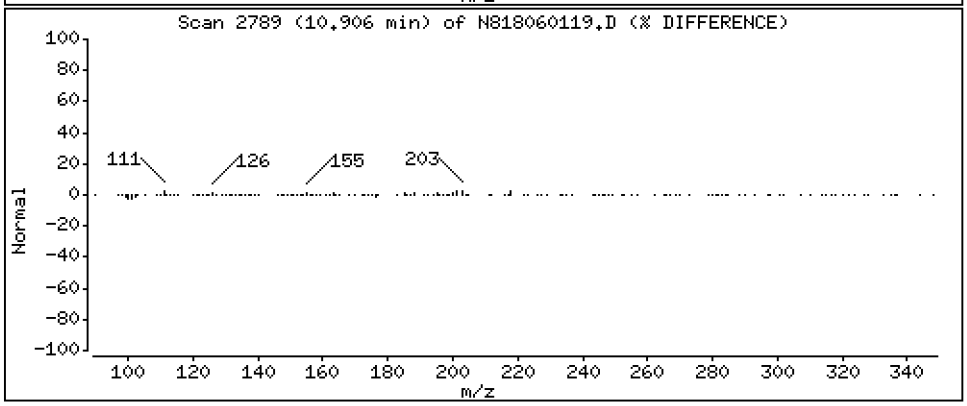












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

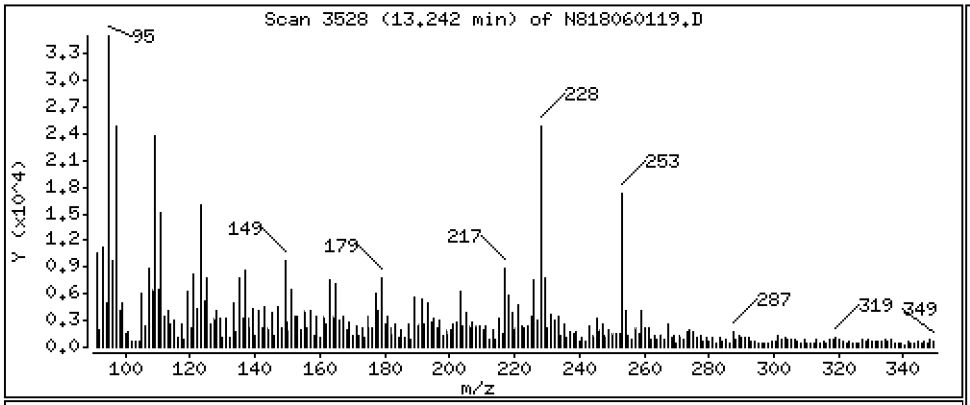
Operator: JZ

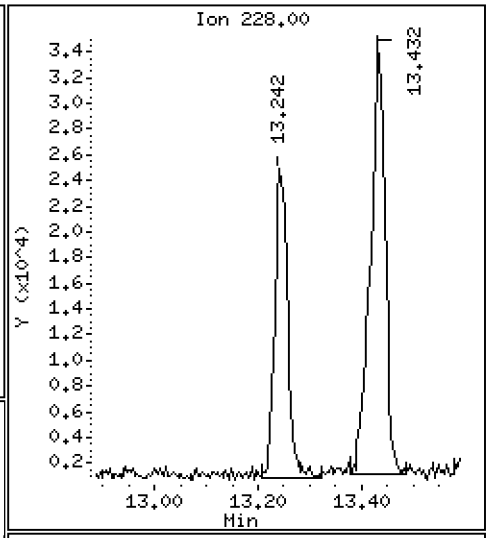
Column phase: Rxi-17sil

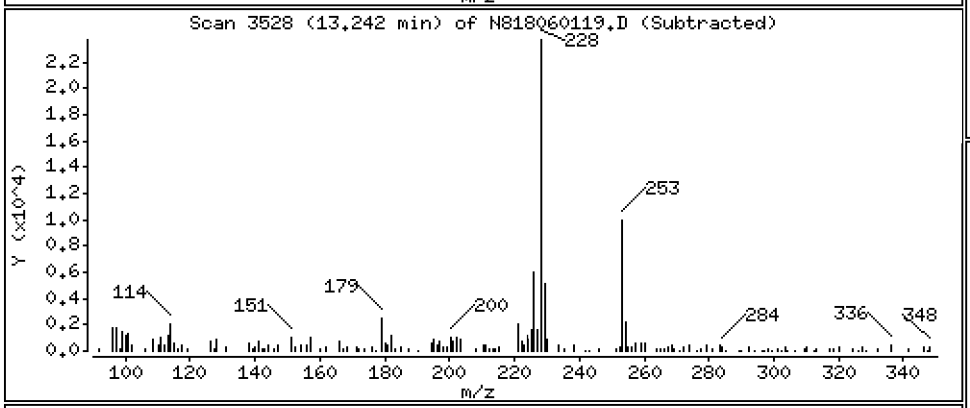
Column diameter: 0.25

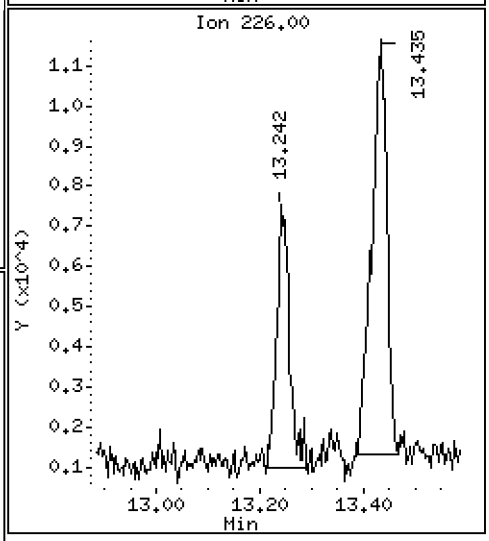
24 Benzo(a)anthracene

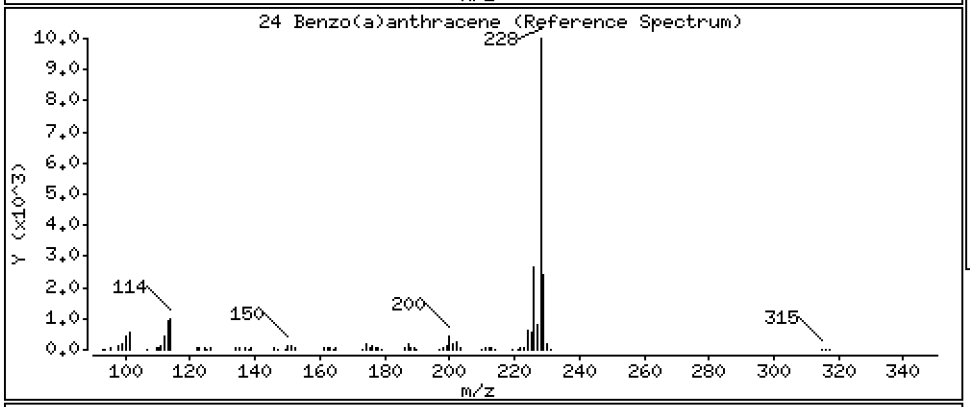
Concentration: 0.3560 ug/mL

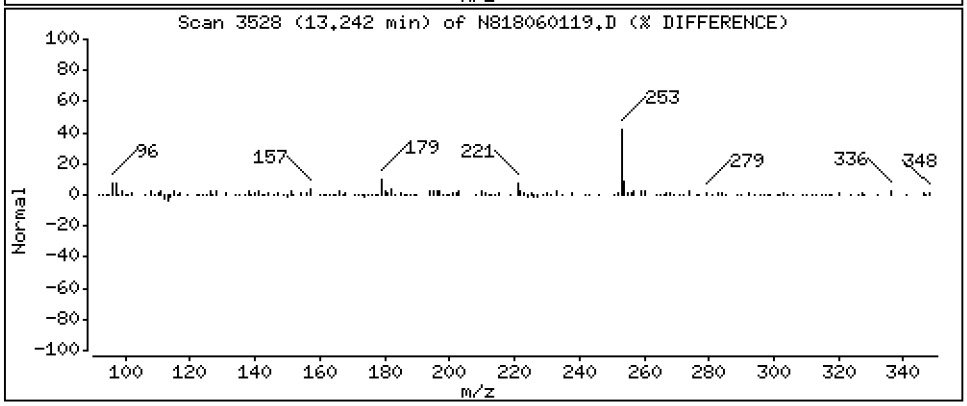












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

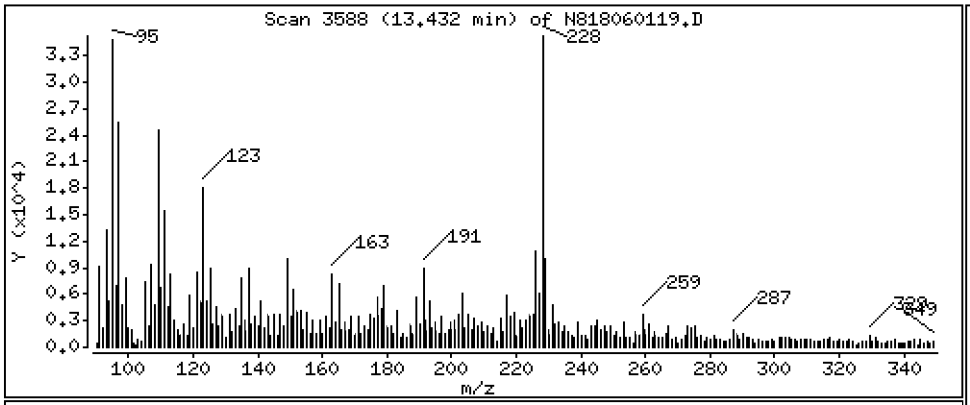
Operator: JZ

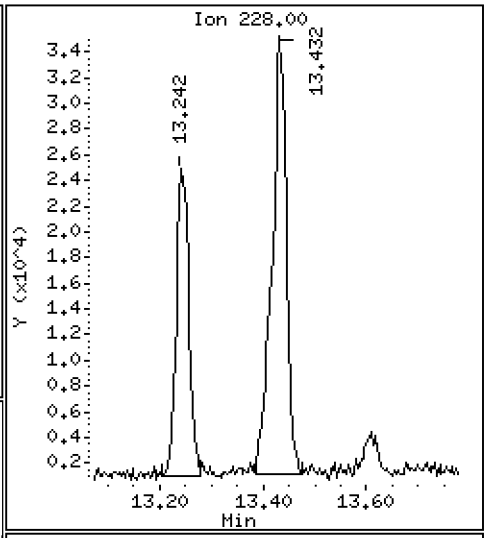
Column phase: Rxi-17sil

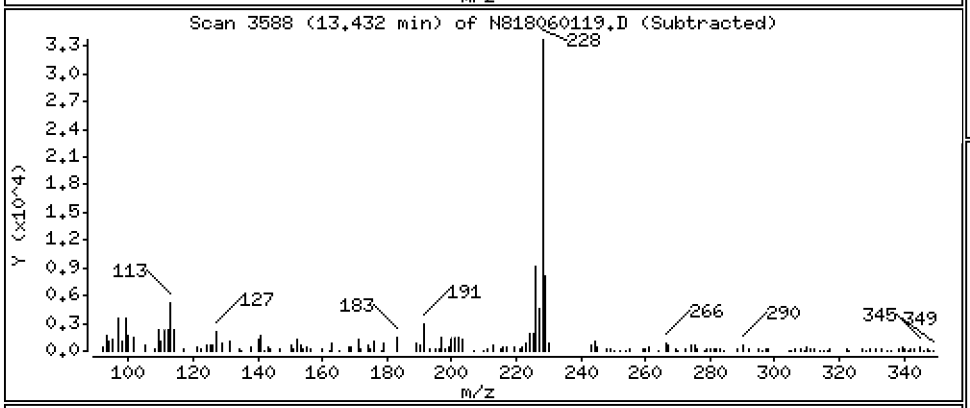
Column diameter: 0.25

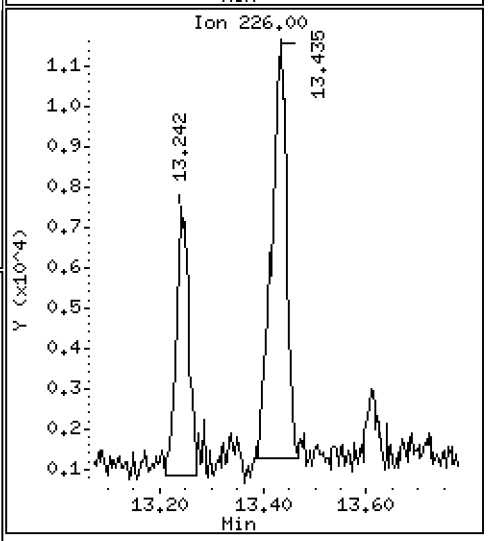
27 Chrysene

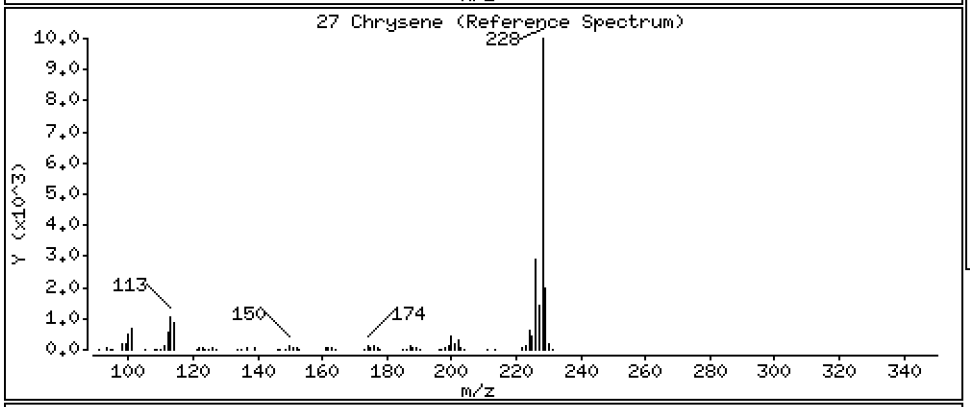
Concentration: 0.5682 ug/mL

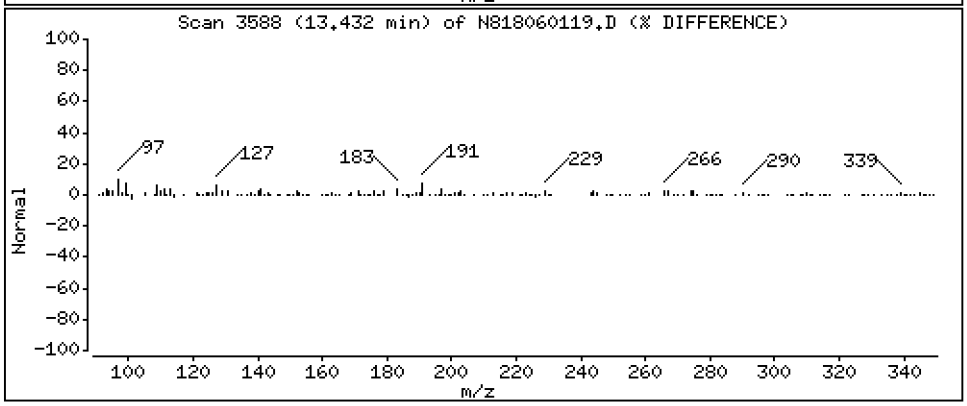












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

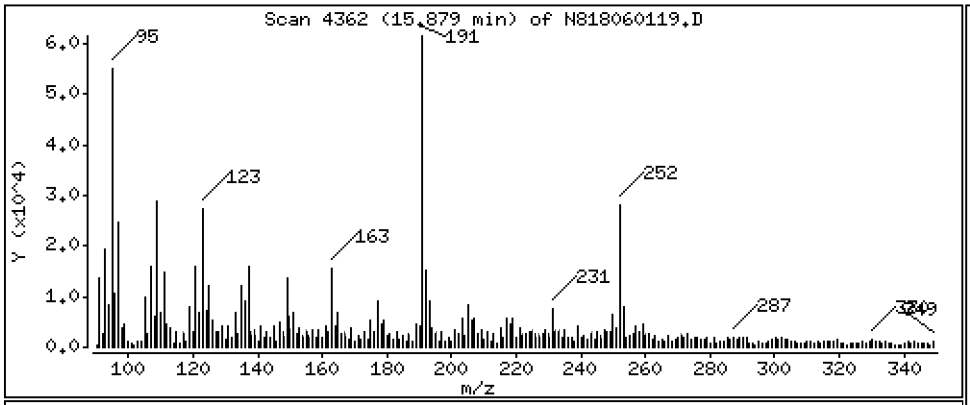
Operator: JZ

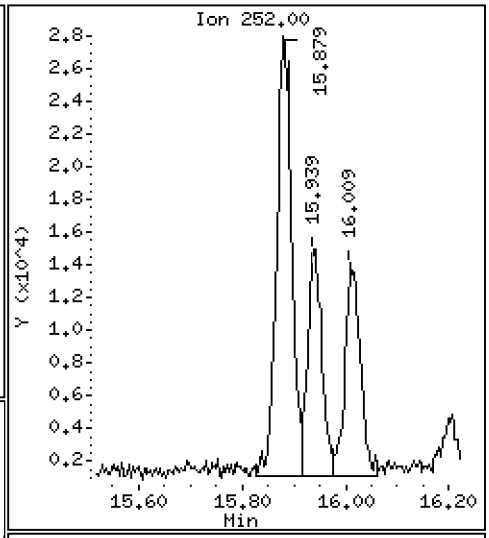
Column phase: Rxi-17sil

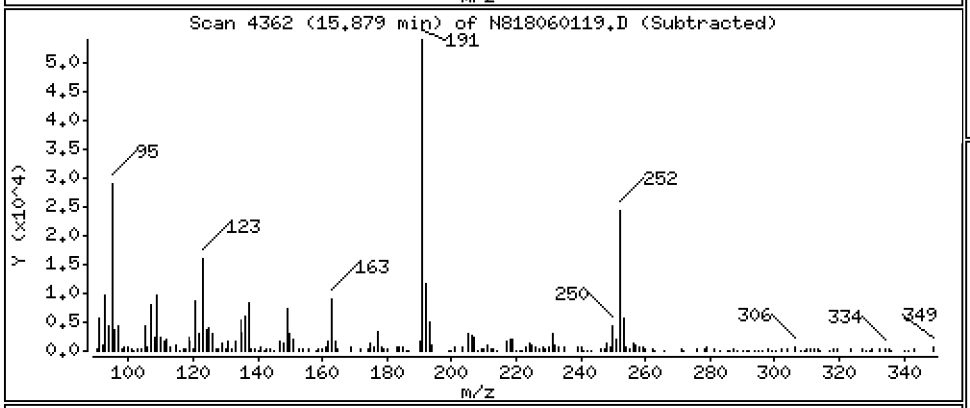
Column diameter: 0.25

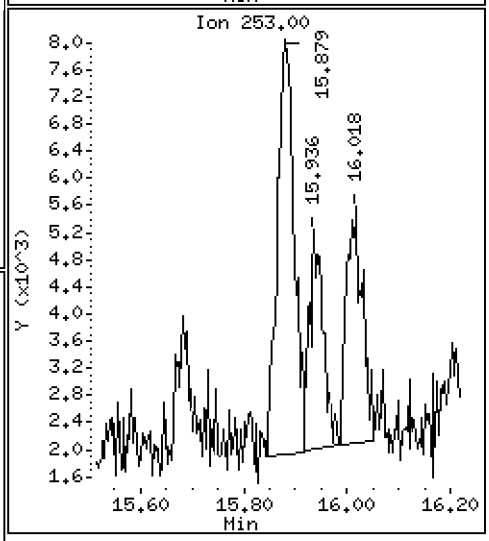
28 Benzo(b)fluoranthene

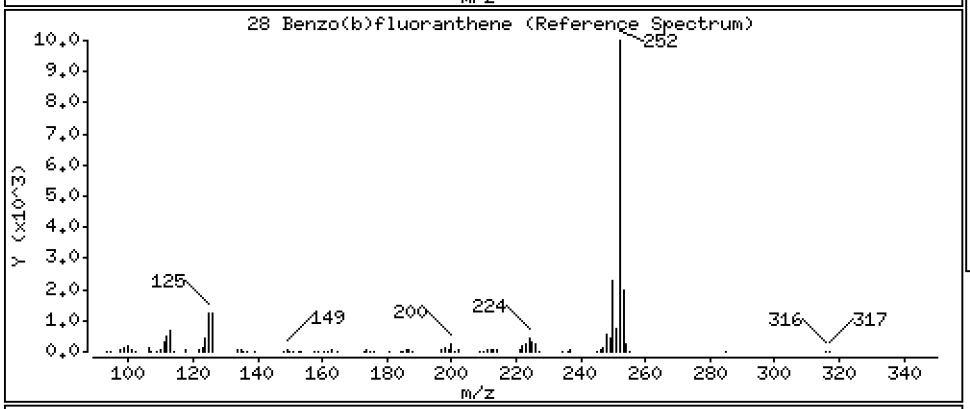
Concentration: 0.4334 ug/mL

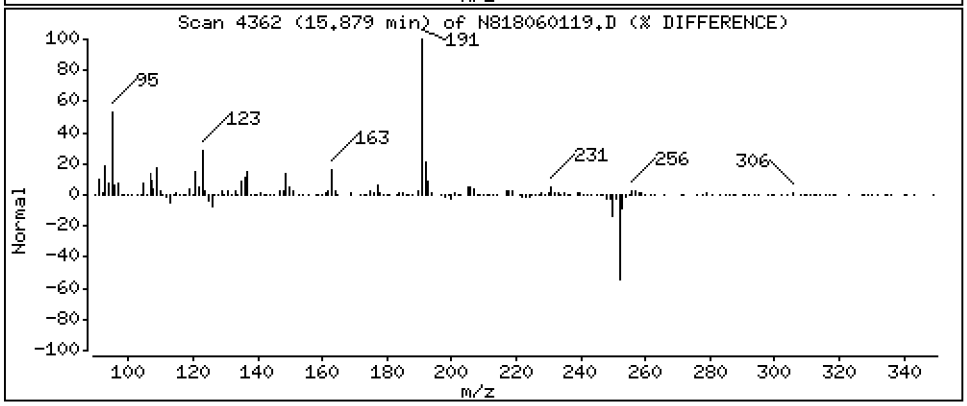












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

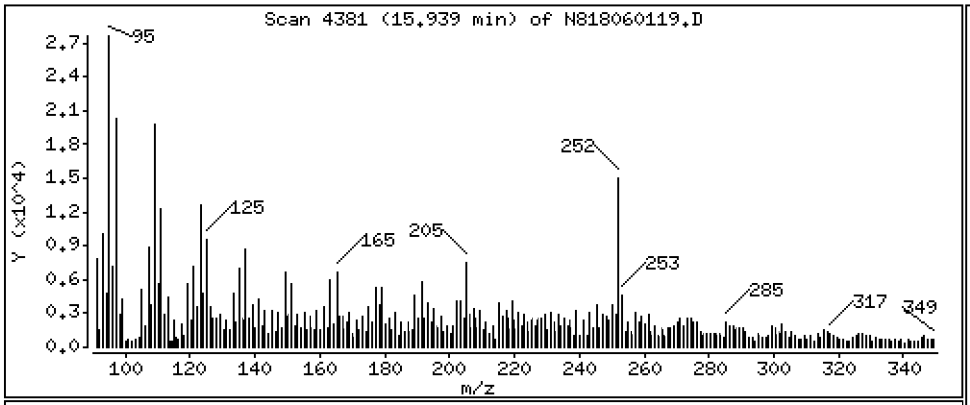
Operator: JZ

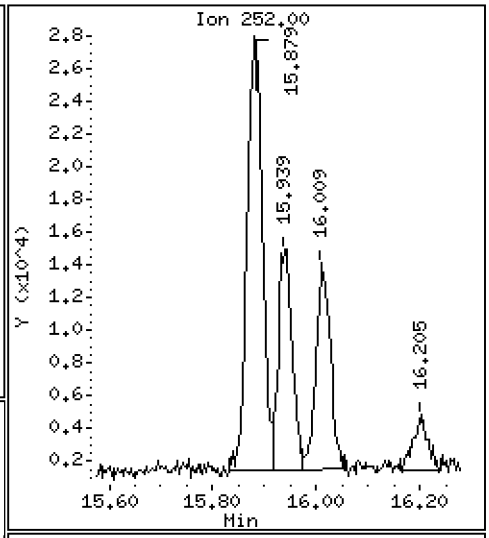
Column phase: Rxi-17sil

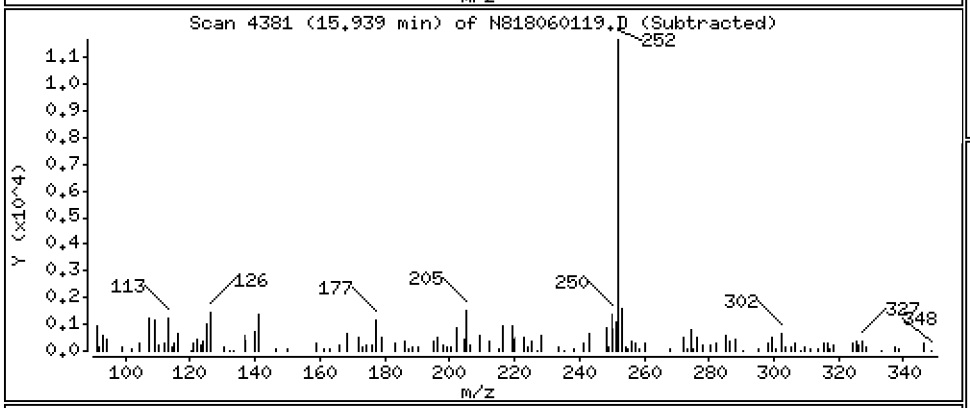
Column diameter: 0.25

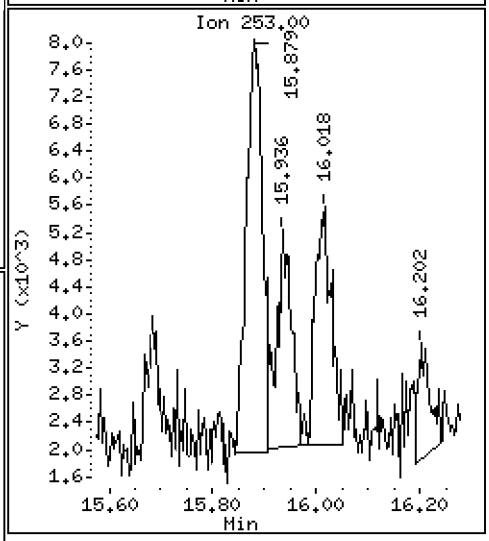
29 Benzo(k)fluoranthene

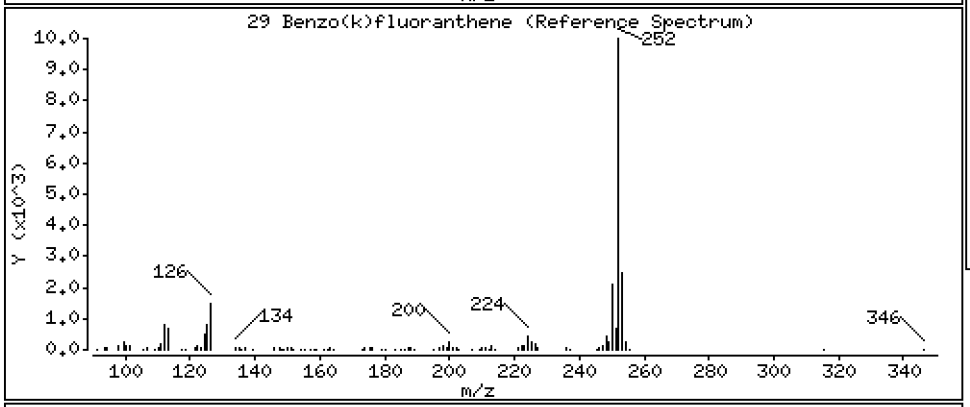
Concentration: 0.1996 ug/mL

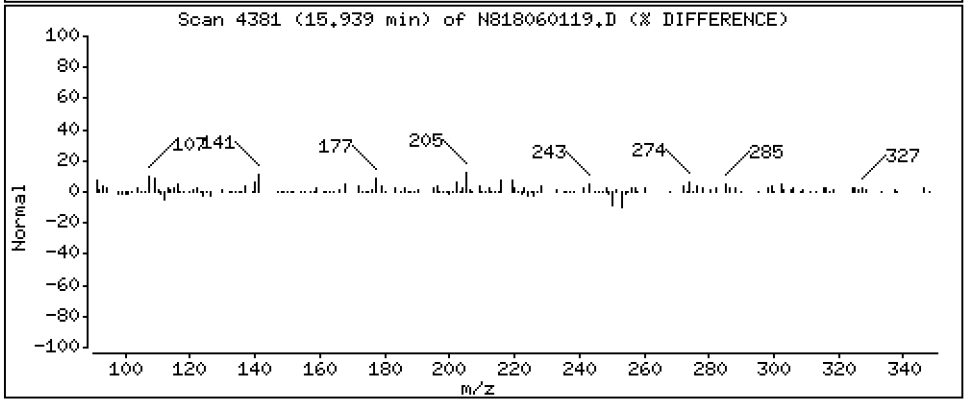












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

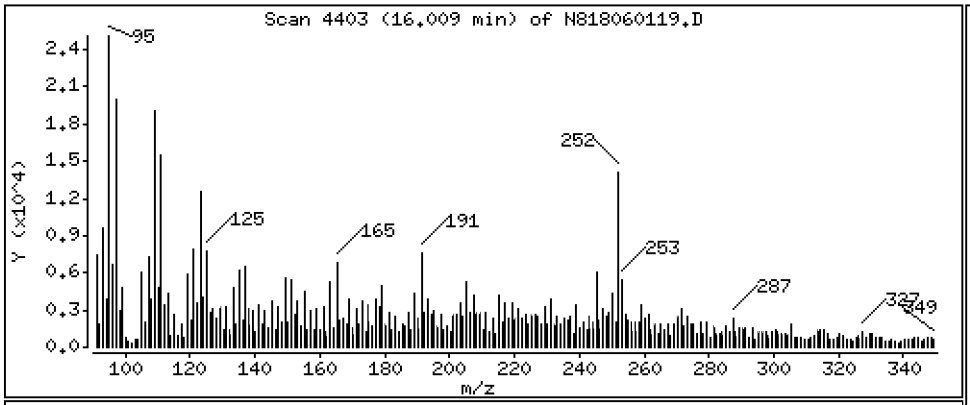
Operator: JZ

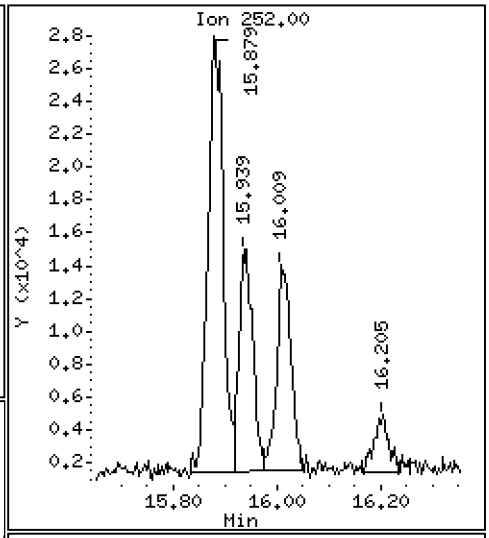
Column phase: Rxi-17sil

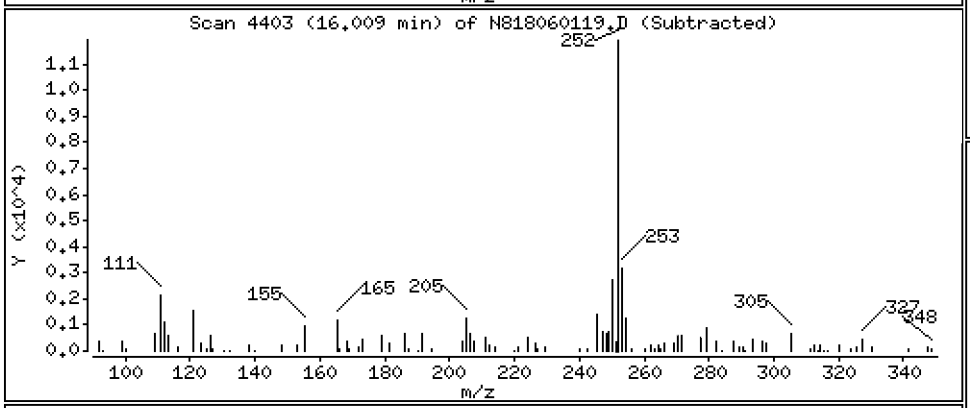
Column diameter: 0.25

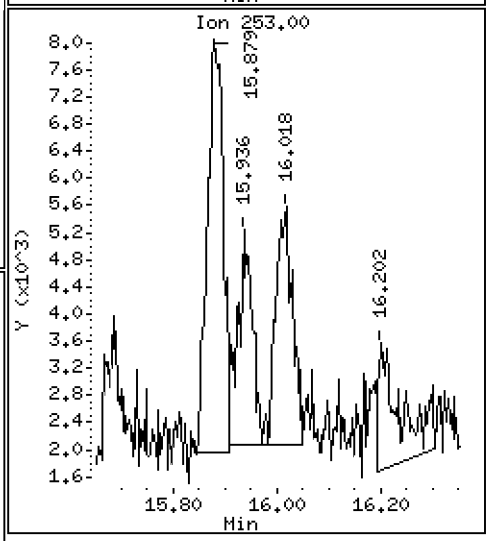
30 Benzo(j)fluoranthene

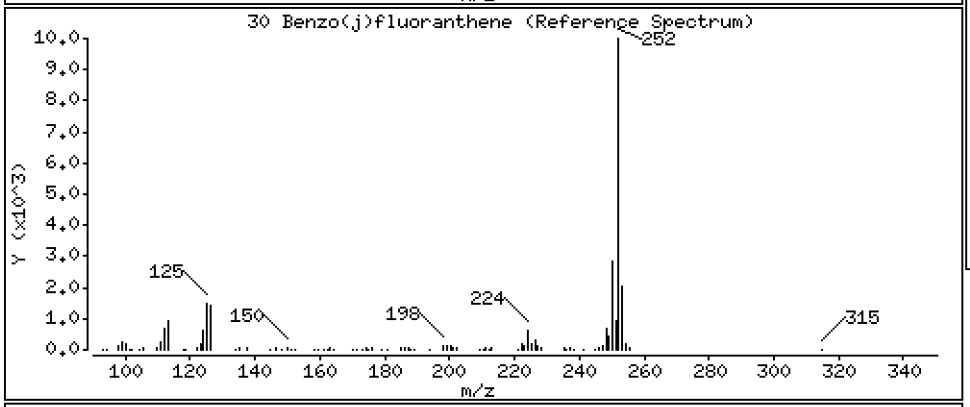
Concentration: 0.1912 ug/mL

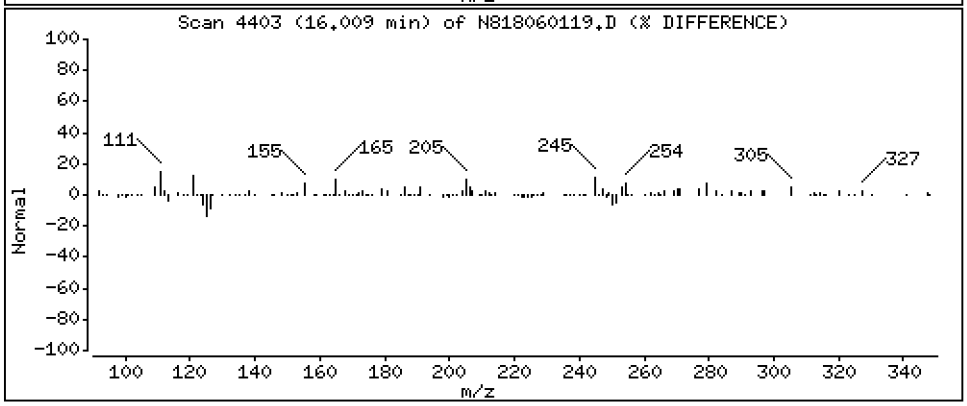












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

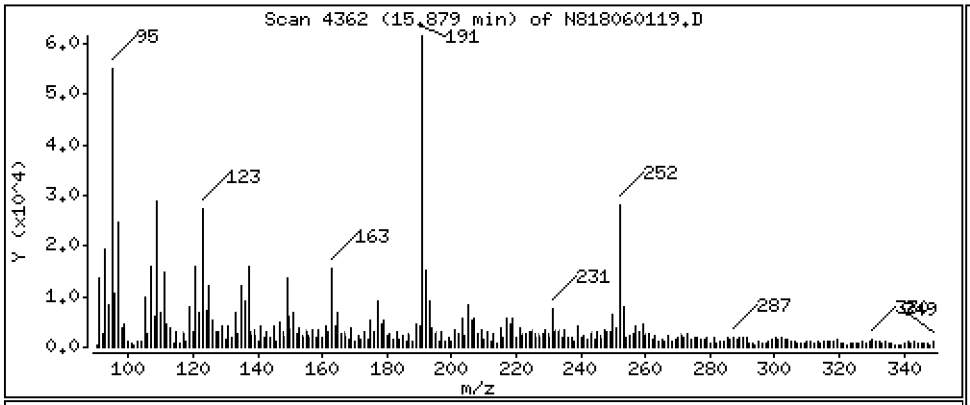
Operator: JZ

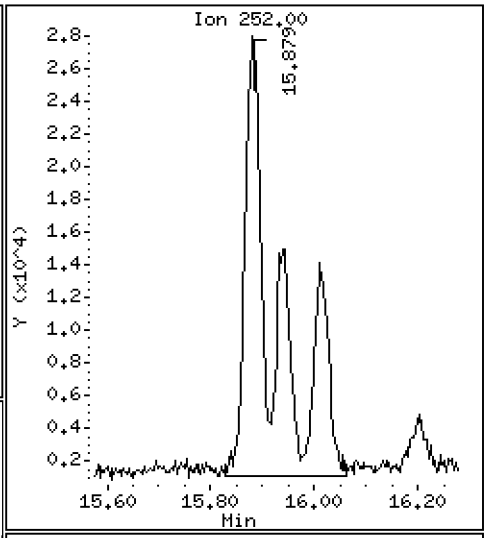
Column phase: Rxi-17sil

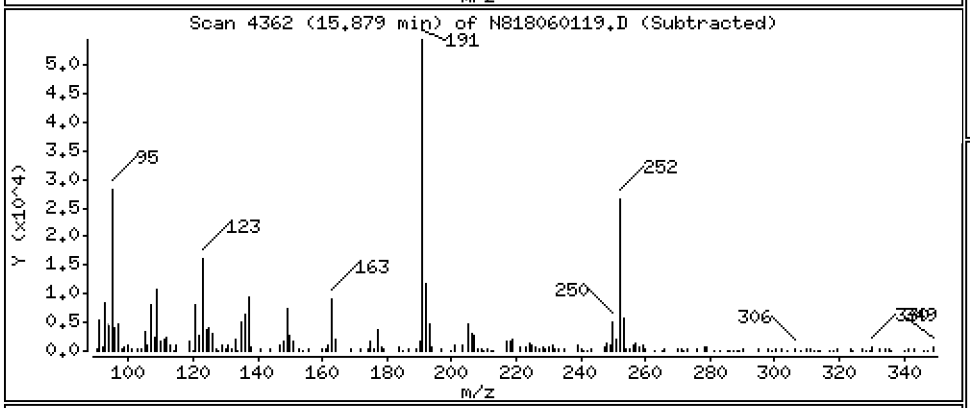
Column diameter: 0.25

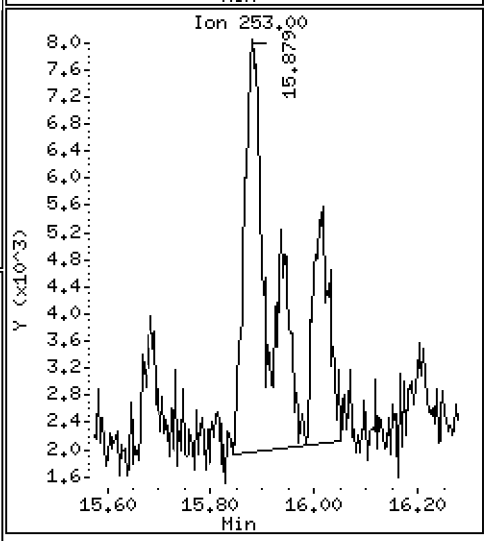
31 Total Benzofluoranthenes

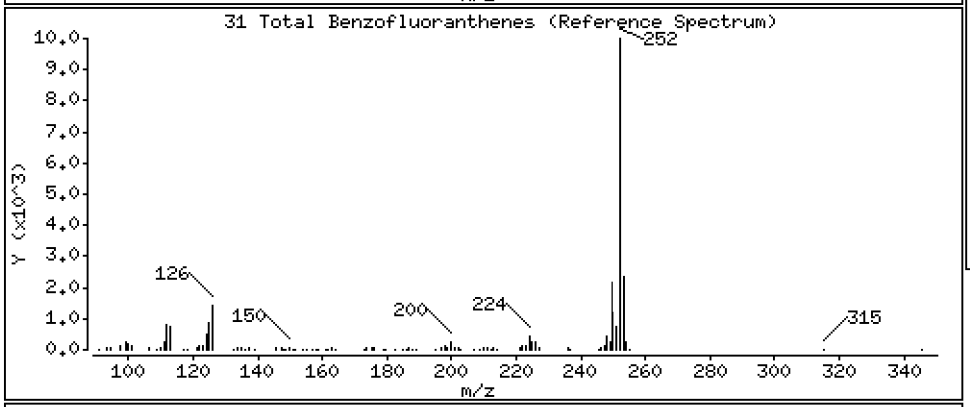
Concentration: 0.8617 ug/mL

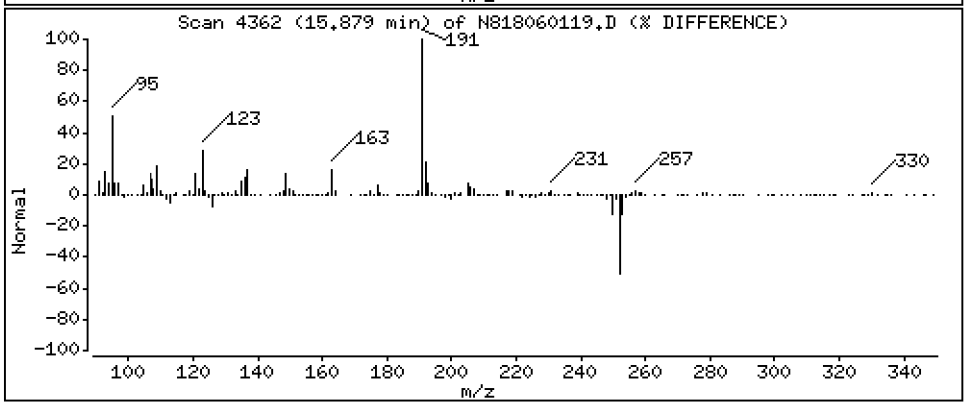












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

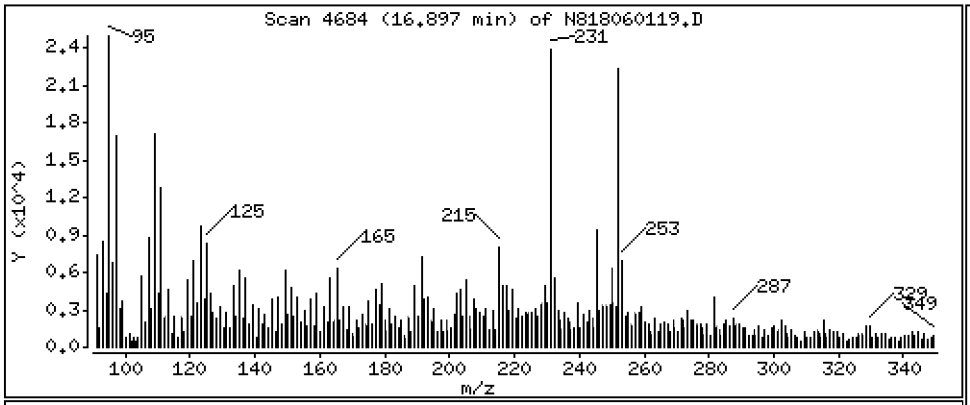
Operator: JZ

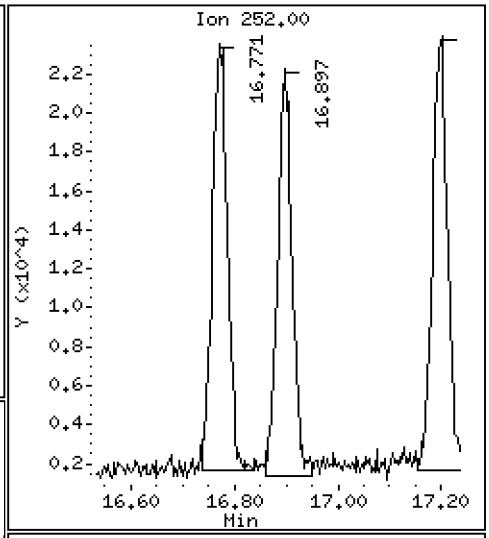
Column phase: Rxi-17sil

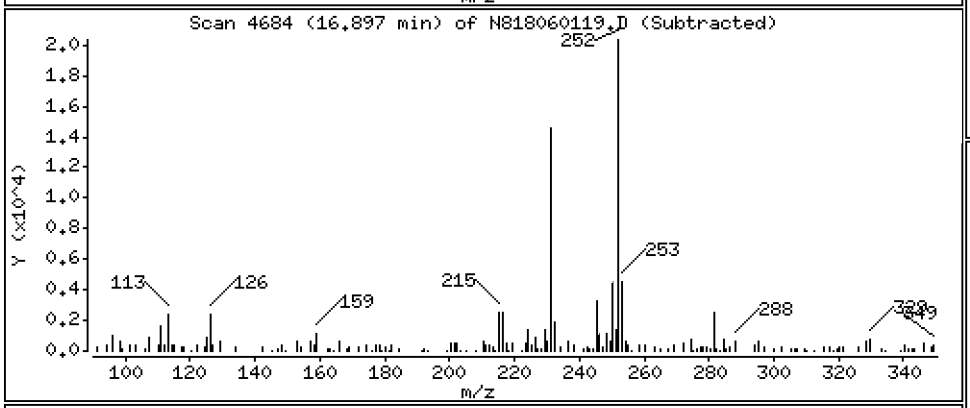
Column diameter: 0.25

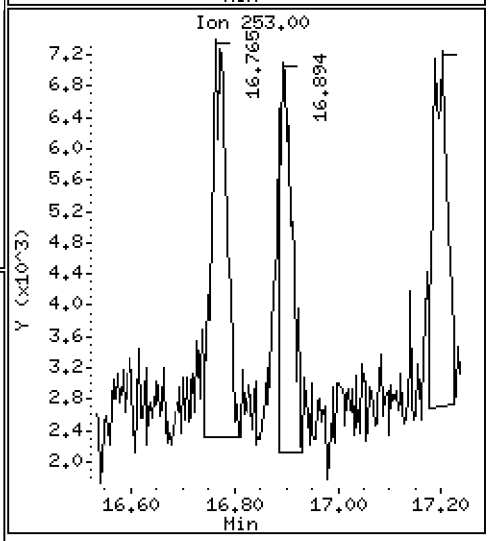
32 Benzo(a)pyrene

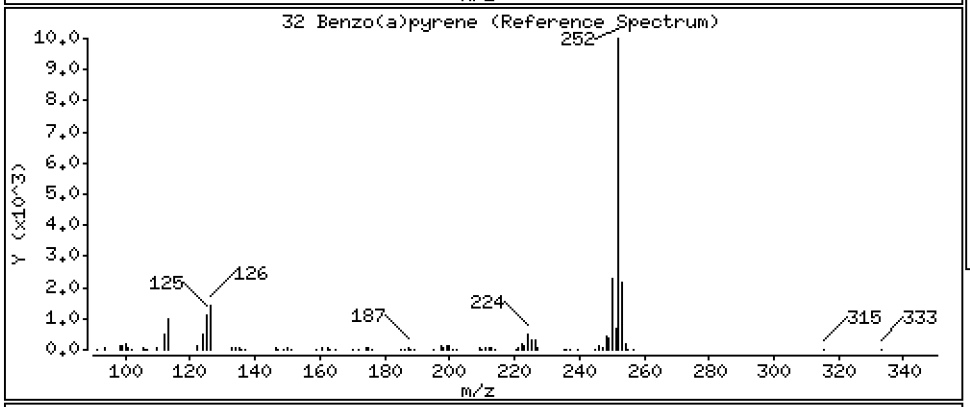
Concentration: 0.3601 ug/mL

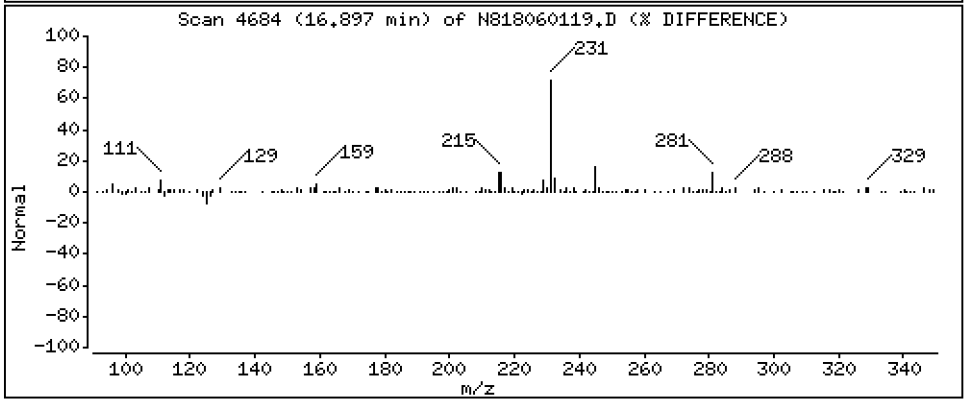












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

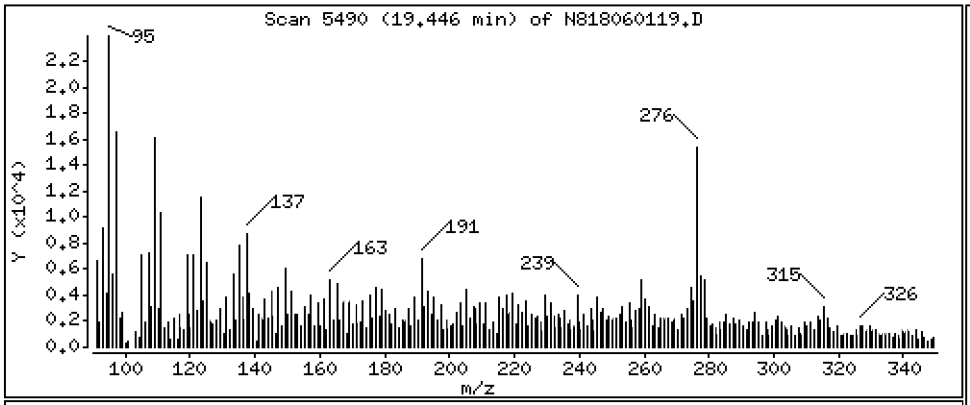
Operator: JZ

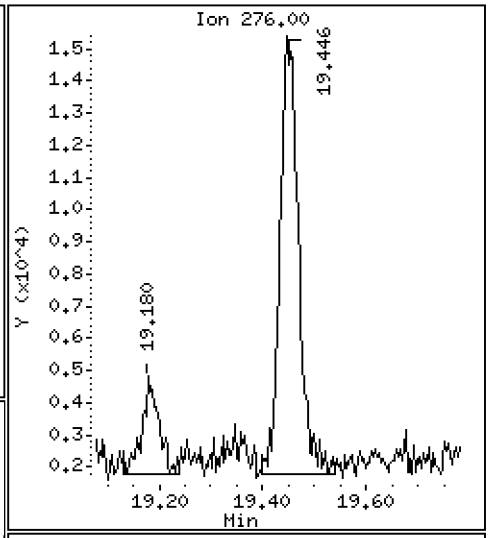
Column phase: Rxi-17sil

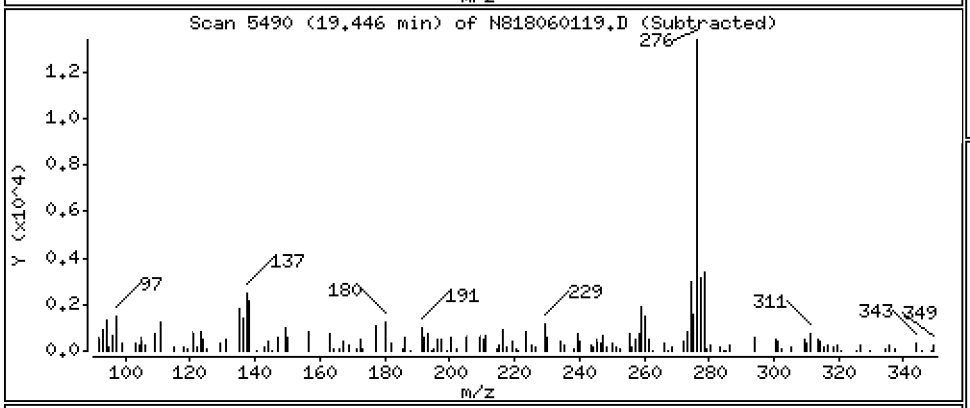
Column diameter: 0.25

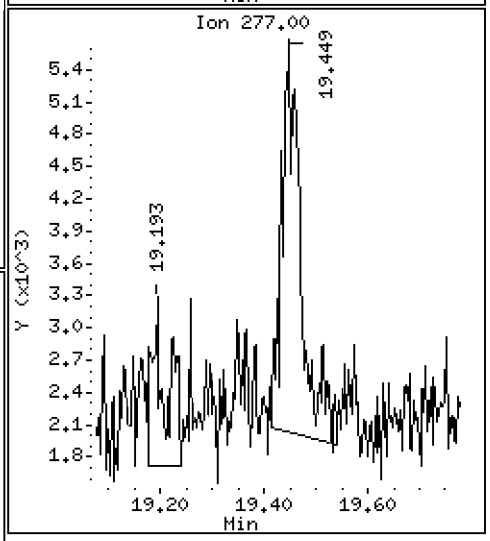
37 Indeno(1,2,3-cd)pyrene

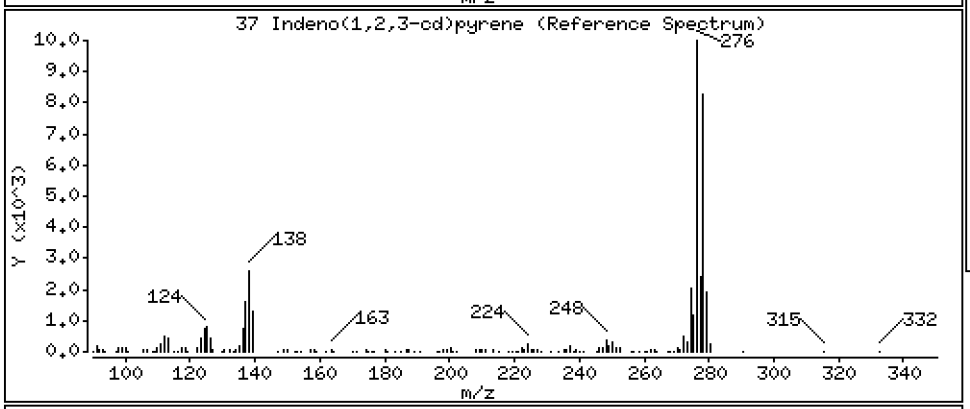
Concentration: 0.2610 ug/mL

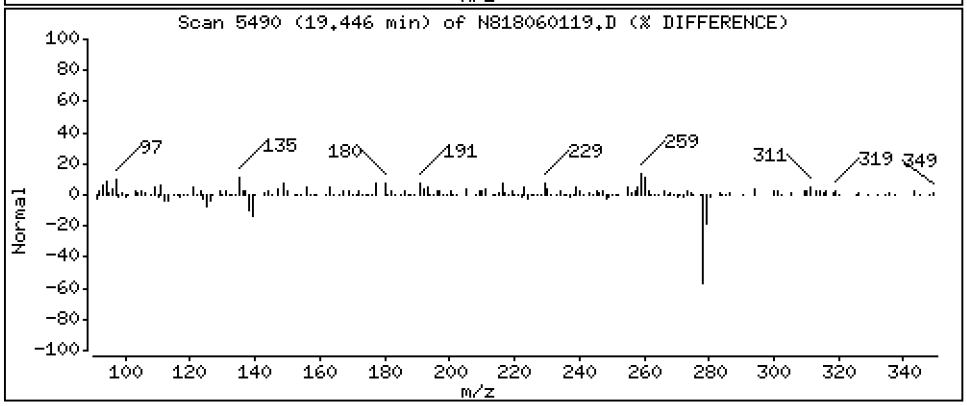












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

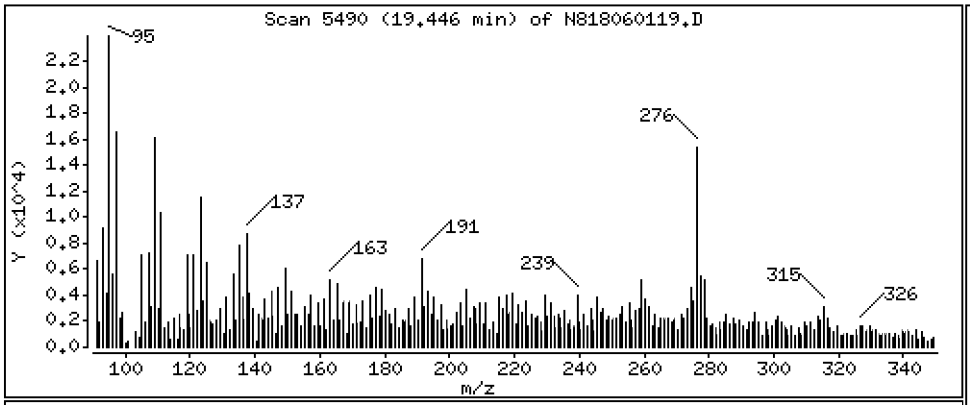
Operator: JZ

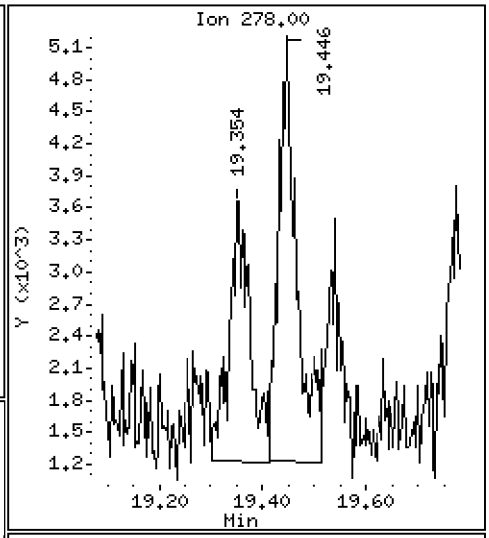
Column phase: Rxi-17sil

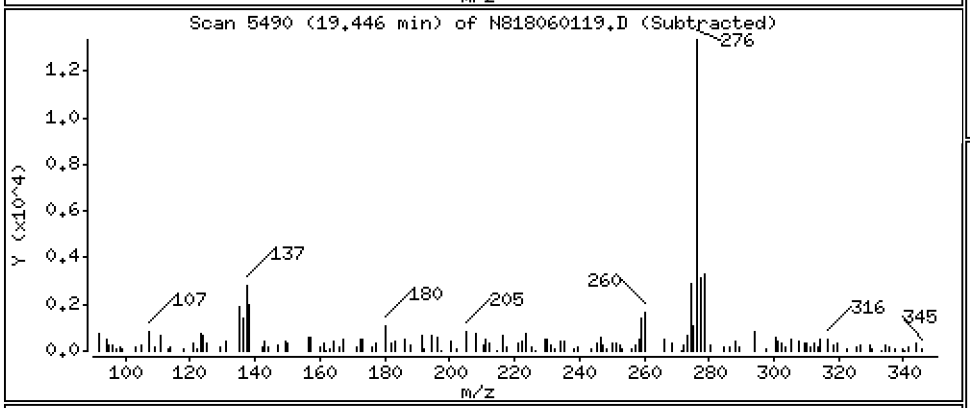
Column diameter: 0.25

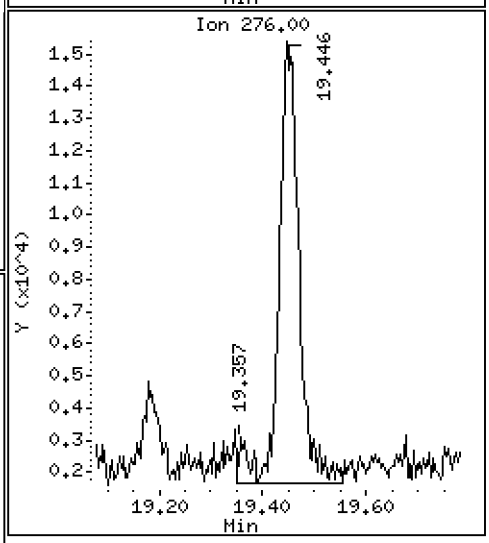
38 Dibenzo(a,h)anthracene

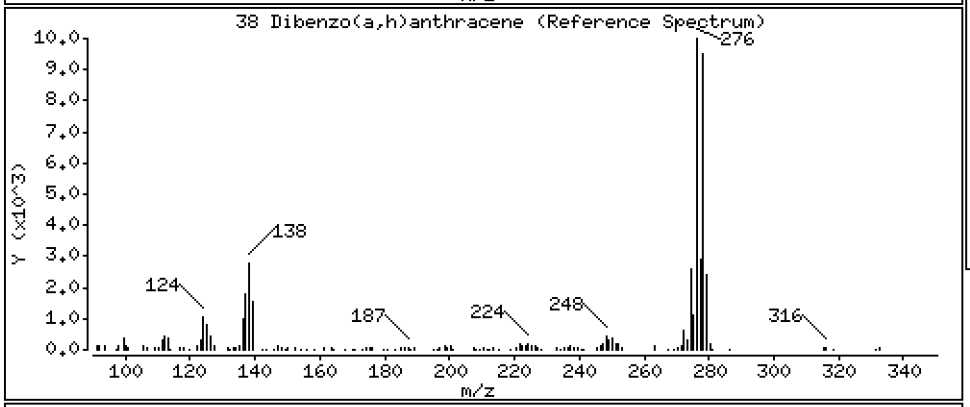
Concentration: 0.09228 ug/mL

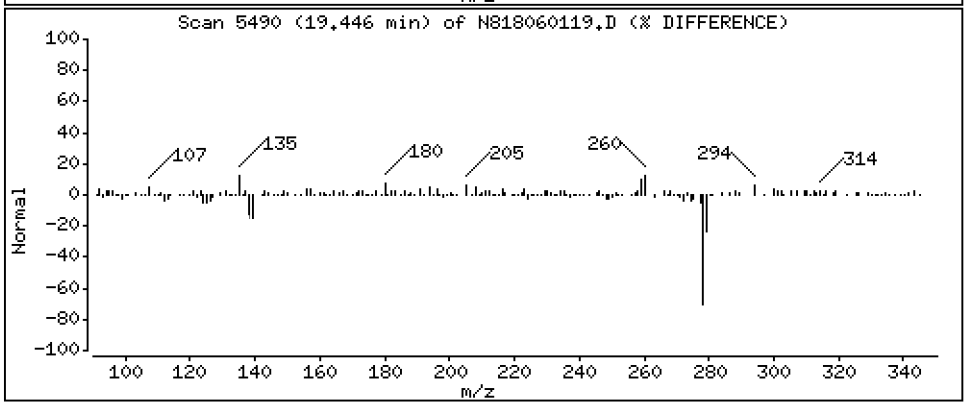












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

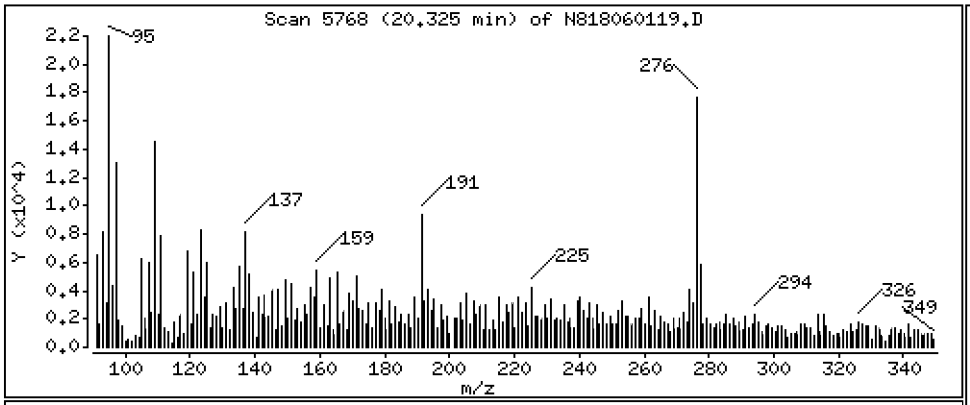
Operator: JZ

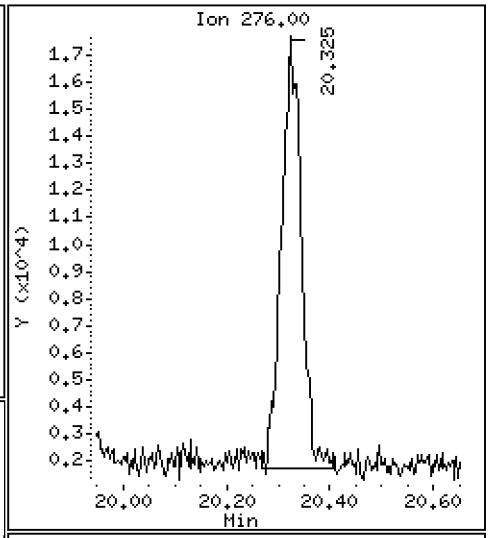
Column phase: Rxi-17sil

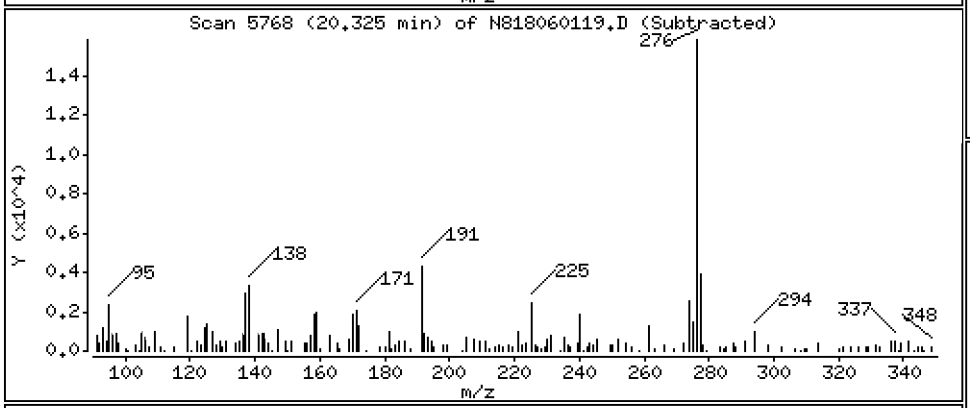
Column diameter: 0.25

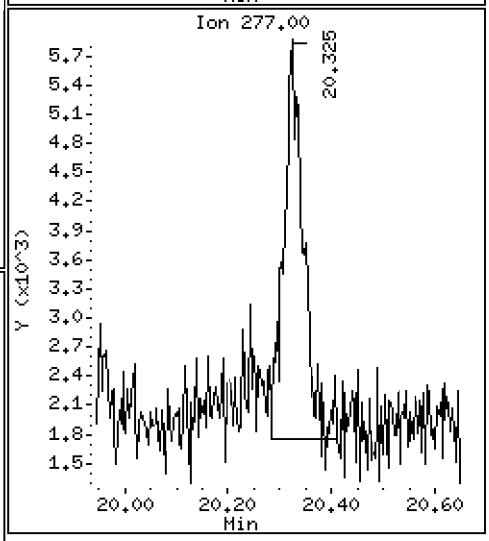
39 Benzo(g,h,i)perylene

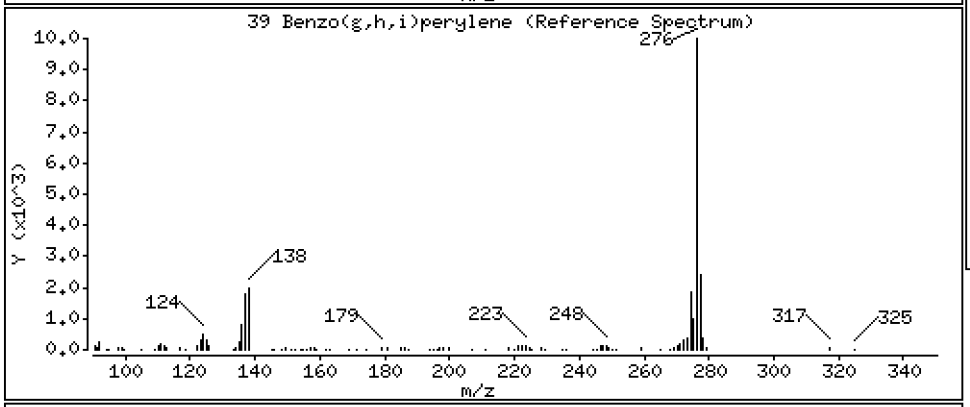
Concentration: 0.3726 ug/mL

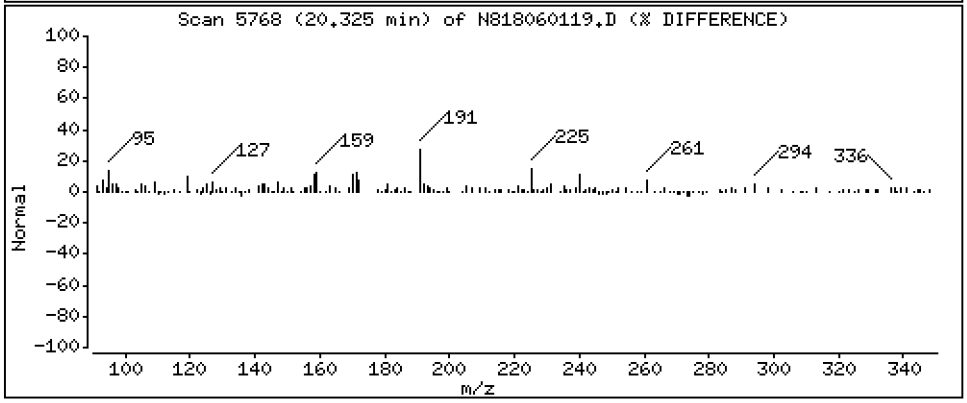












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060119.D

Date : 01-JUN-2018 22:26

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-01

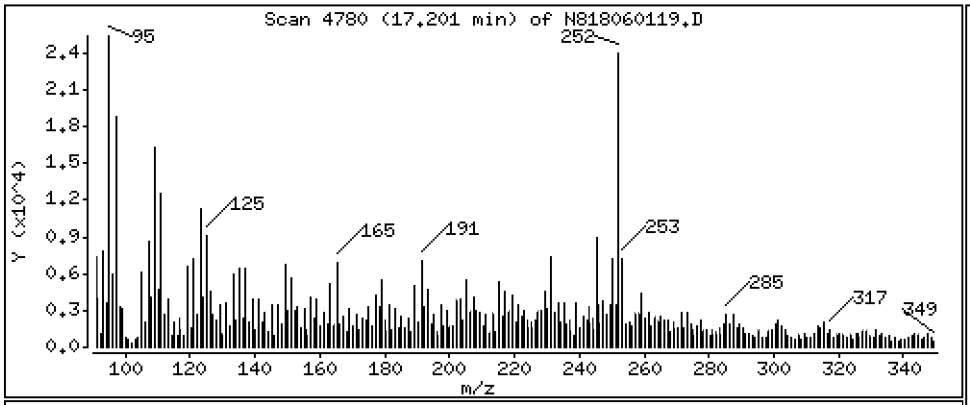
Operator: JZ

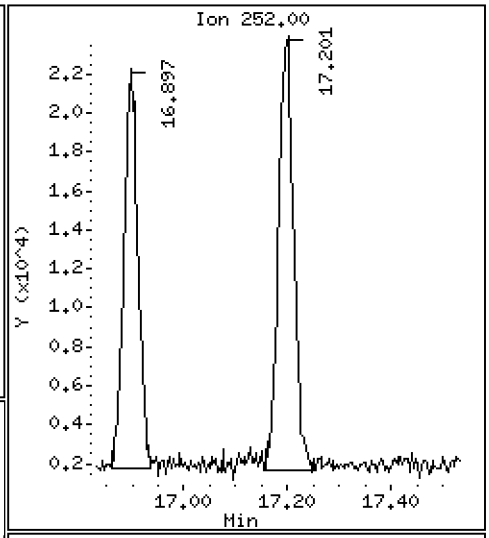
Column phase: Rxi-17sil

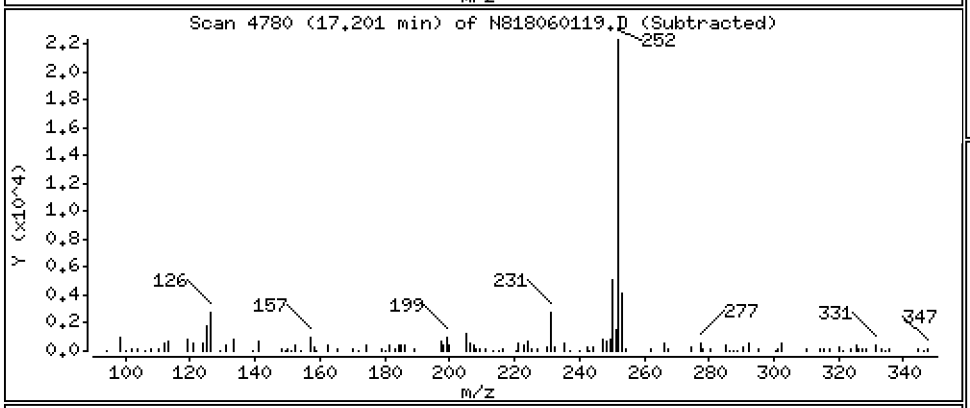
Column diameter: 0.25

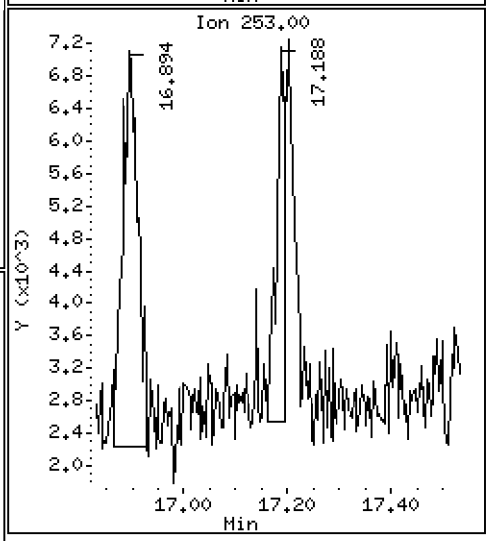
35 Perylene

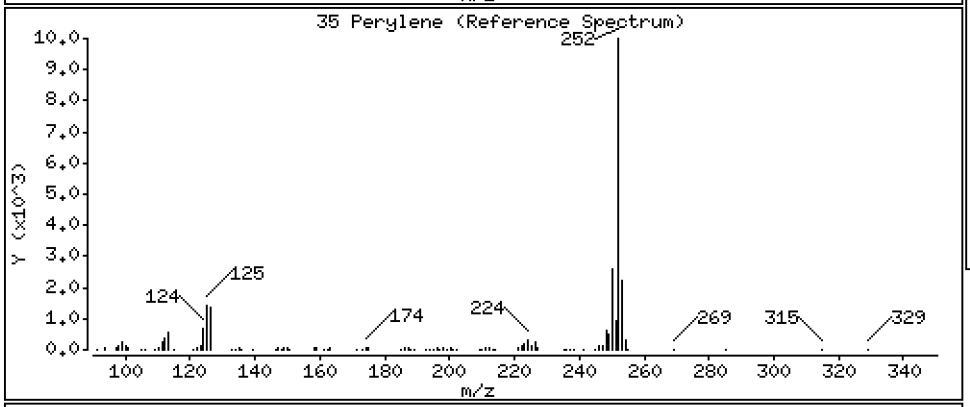
Concentration: 0.3681 ug/mL

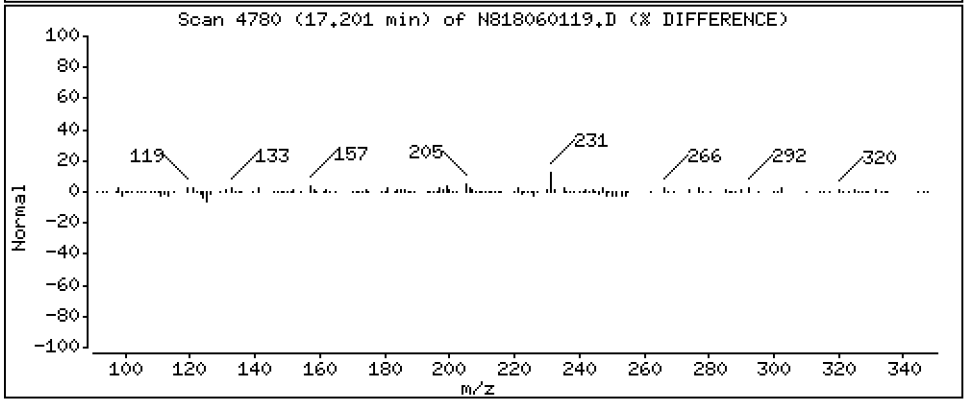












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060119.D
Lab Smp Id: 18E0282-01
Inj Date : 01-JUN-2018 22:26
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	202705	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	91292	1.23460	1.235
	4 2-Methylnaphthalene	141	5.232	5.242	(1.175)	4139	0.06238	0.06238
	5 1-methylnaphthalene	141	5.232	5.432	(1.175)	4221	0.06180	0.06180
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	100867	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	180670	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	38189	0.34487	0.3449
	17 Anthracene	178	8.821	8.821	(1.009)	13537	0.13417	0.1342
	22 Fluoranthene	202	10.437	10.434	(1.193)	83671	0.67045	0.6705
$	21 Fluoranthene-d10	212	10.405	10.402	(1.190)	205511	1.73750	1.737
	23 Pyrene	202	10.905	10.902	(0.816)	85746	0.70830	0.7083
	24 Benzo(a)anthracene	228	13.242	13.239	(0.991)	41669	0.35602	0.3560
*	25 Chrysene-d12	240	13.365	13.356	(1.000)	201443	2.00000	
	27 Chrysene	228	13.431	13.425	(1.005)	66940	0.56817	0.5682
	28 Benzo(b)fluoranthene	252	15.879	15.869	(0.927)	56262	0.43342	0.4334
	29 Benzo(k)fluoranthene	252	15.939	15.926	(0.931)	25484	0.19965	0.1996
	30 Benzo(j)fluoranthene	252	16.008	16.002	(0.935)	24443	0.19125	0.1912
	31 Total Benzofluoranthenes	252	15.879	15.926	(0.927)	109090	0.86170	0.8617(M)
	32 Benzo(a)pyrene	252	16.897	16.884	(0.987)	40965	0.36006	0.3601
*	33 Perylene-d12	264	17.128	17.112	(1.000)	204254	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.446	19.430	(1.135)	33996	0.26100	0.2610
$	36 Dibenzo(a,h)anthracene-d14	292	19.354	19.338	(1.130)	205296	2.14585	2.146
	38 Dibenzo(a,h)anthracene	278	19.446	19.430	(1.135)	9915	0.09228	0.09228
	39 Benzo(g,h,i)perylene	276	20.325	20.299	(1.187)	42416	0.37259	0.3726
	35 Perylene	252	17.201	17.181	(1.004)	45474	0.36810	0.3681

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060119.D
Lab Smp Id: 18E0282-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	202705	65.89
10 Acenaphthene-d10	65789	32895	131578	100867	53.32
15 Phenanthrene-d10	128644	64322	257288	180670	40.44
25 Chrysene-d12	166669	83335	333338	201443	20.86
33 Perylene-d12	140483	70242	280966	204254	45.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.07
33 Perylene-d12	17.11	16.61	17.61	17.13	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060119.D

Lab ID: 18E0282-01
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 22:26

RT	CO-ELUTION COMPOUNDS
19.446	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
19.446	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene
5.233	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

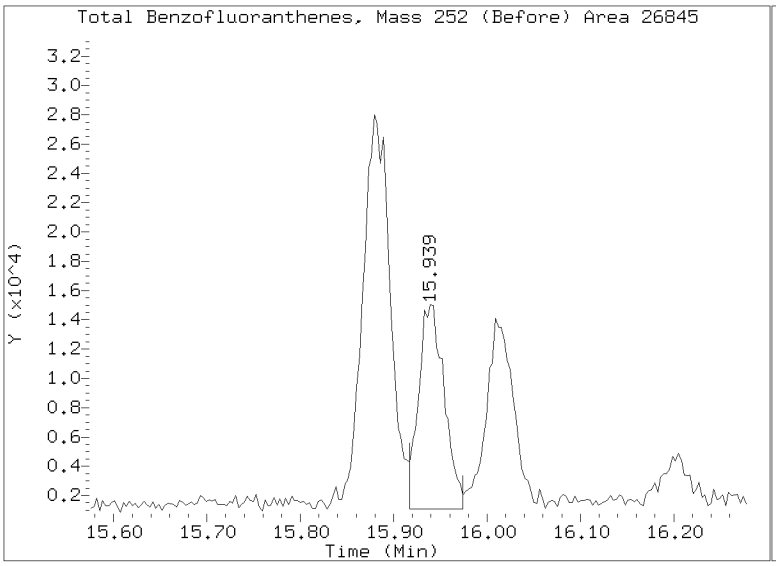
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

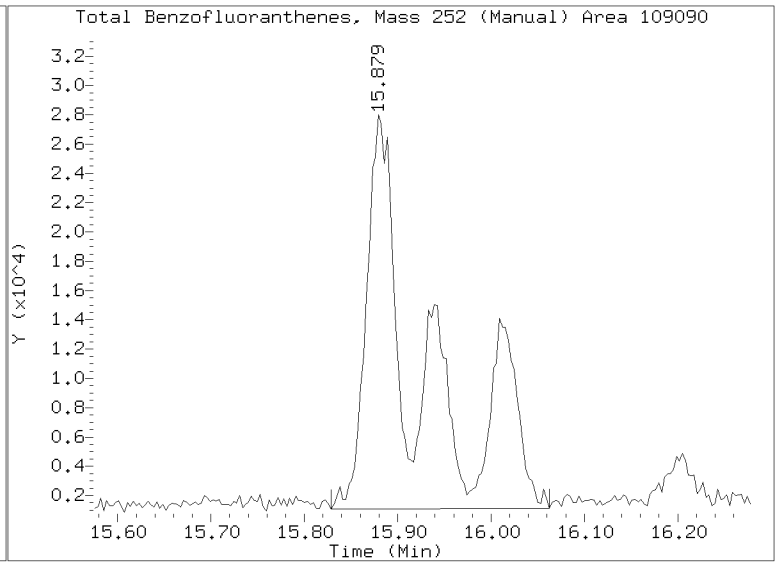
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060119.D
Injection Date: 01-JUN-2018 22:26
Lab ID:18E0282-01 Client ID:
Report Date: 06/04/2018 11:37





LDW18-SSCL-A17

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-02	SDG:	18E0231
Sampled:	05/18/18 13:36	Prepared:	05/24/18 10:50	File ID:	N818060120.D
% Solids:	61.74	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 22:53
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	16.37 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	144		0.82	4.95
218-01-9	Chrysene	1	181		1.04	4.95
205-99-2	Benzo(b)fluoranthene	1	143		1.36	4.95
207-08-9	Benzo(k)fluoranthene	1	76.4		0.75	4.95
50-32-8	Benzo(a)pyrene	1	148		0.61	4.95
193-39-5	Indeno(1,2,3-cd)pyrene	1	98.0		1.04	4.95
53-70-3	Dibenzo(a,h)anthracene	1	29.2		0.88	4.95

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.41	45.7	30.8	32 - 120	*
Dibenzo[a,h]anthracene-d14	148.41	58.3	39.3	21 - 133	
Fluoranthene-d10	148.41	58.9	39.7	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

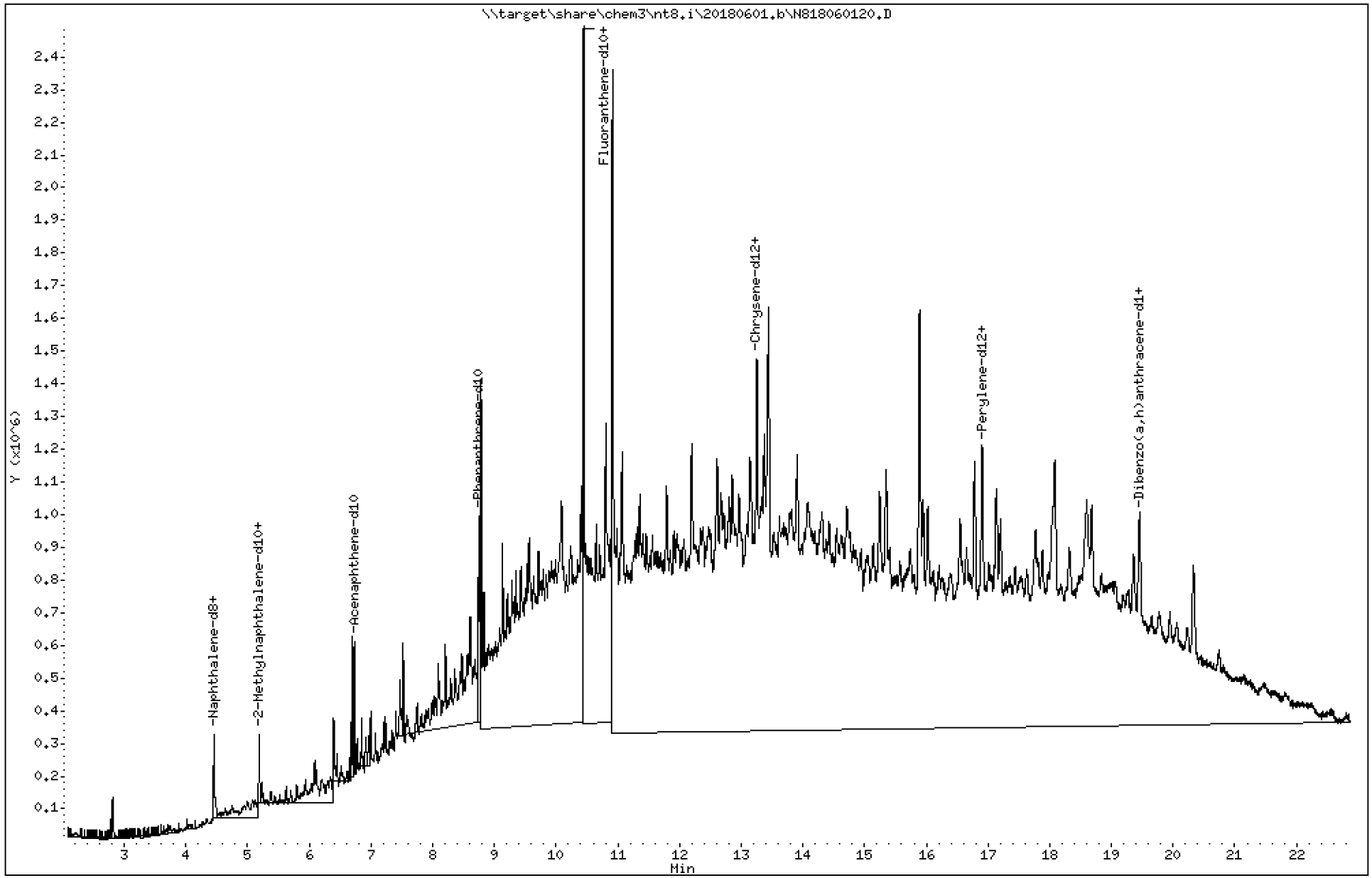
Instrument: nt8.i

Sample Info: 18E0282-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

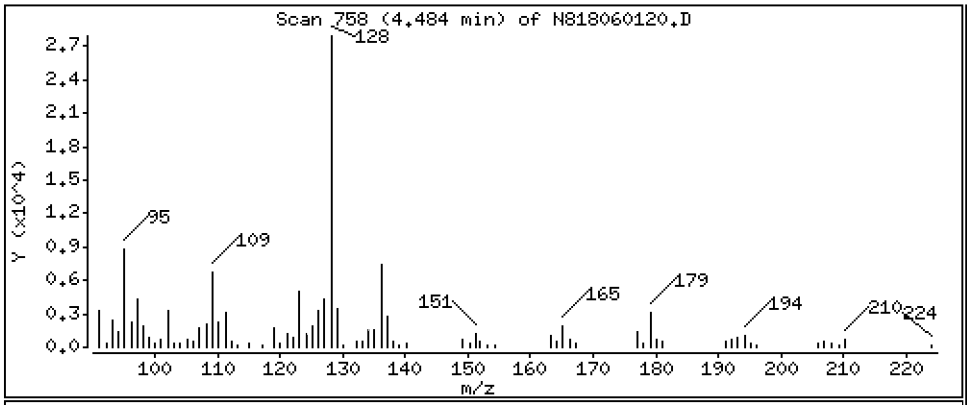
Operator: JZ

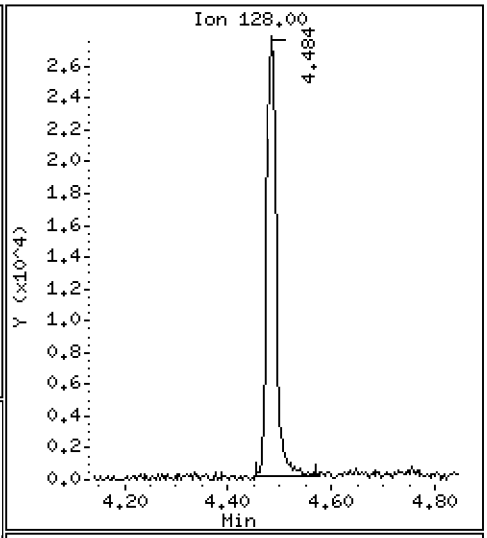
Column phase: Rxi-17sil

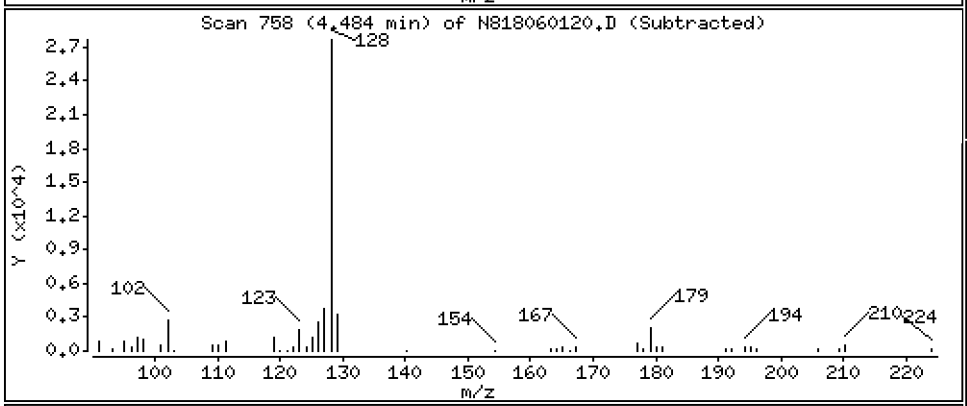
Column diameter: 0.25

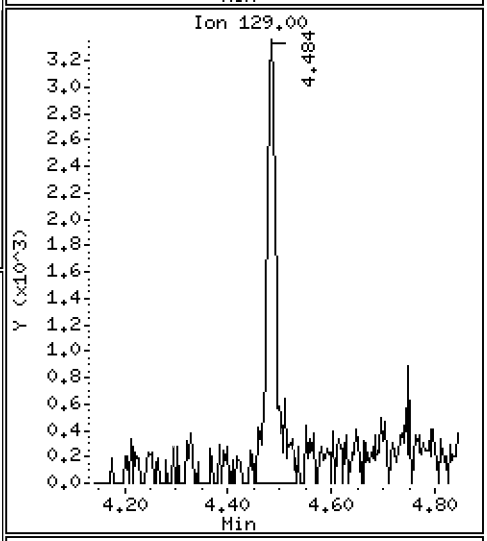
2 Naphthalene

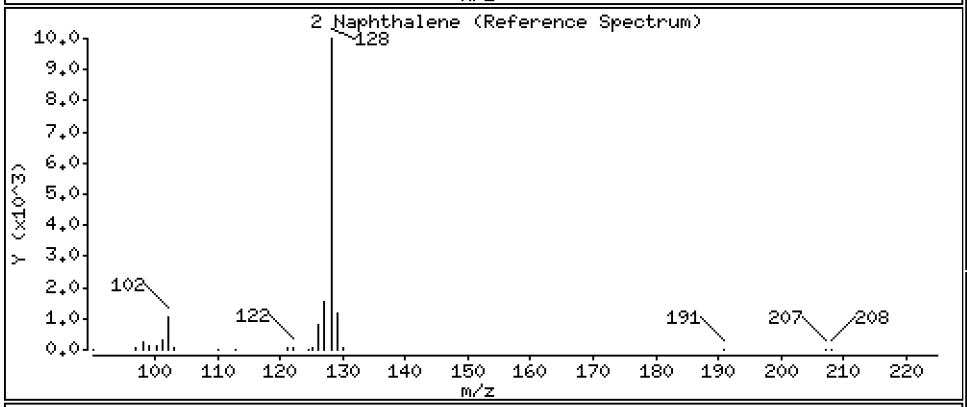
Concentration: 0.2955 ug/mL

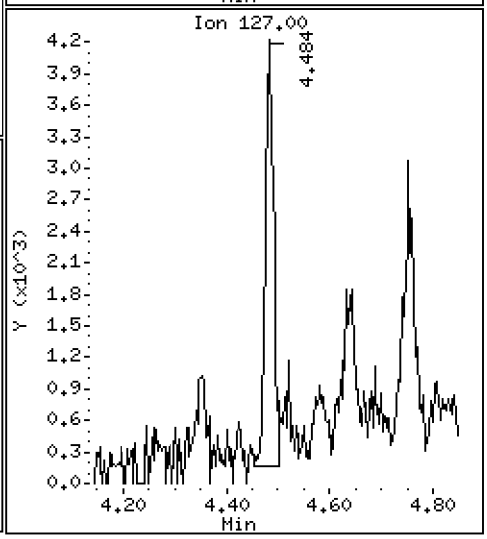


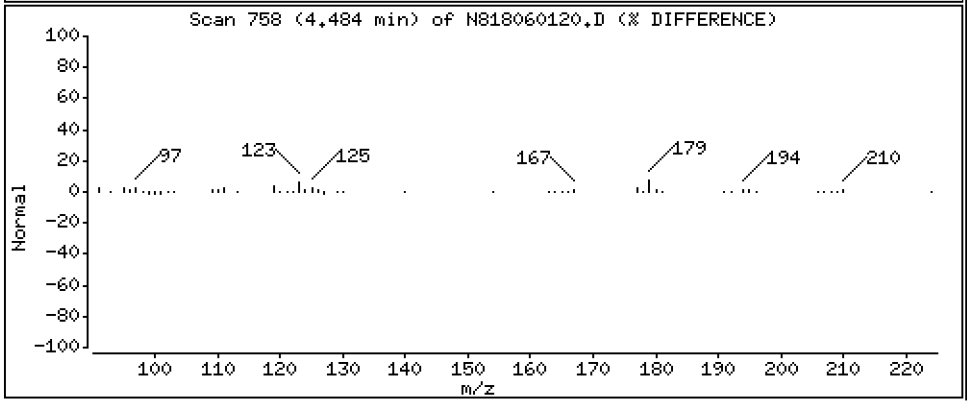












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

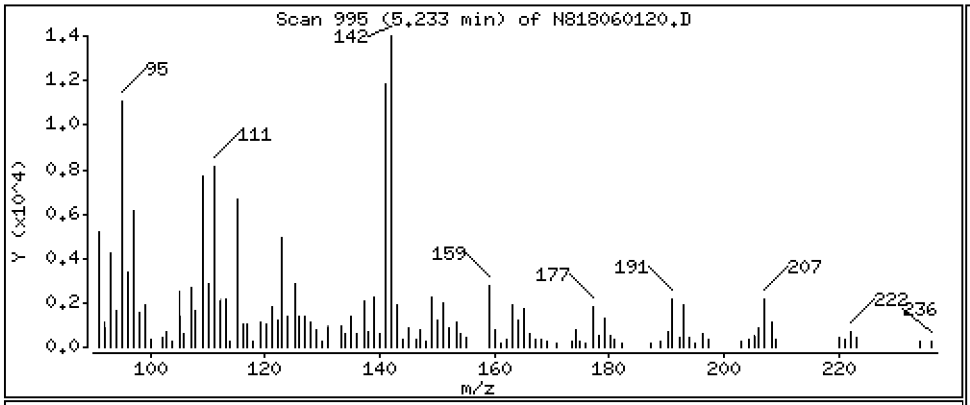
Operator: JZ

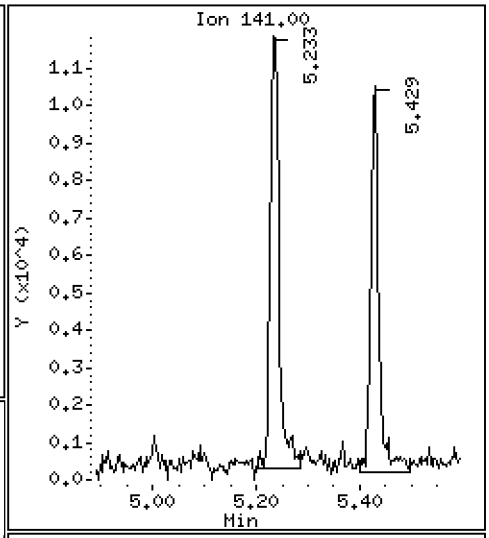
Column phase: Rxi-17sil

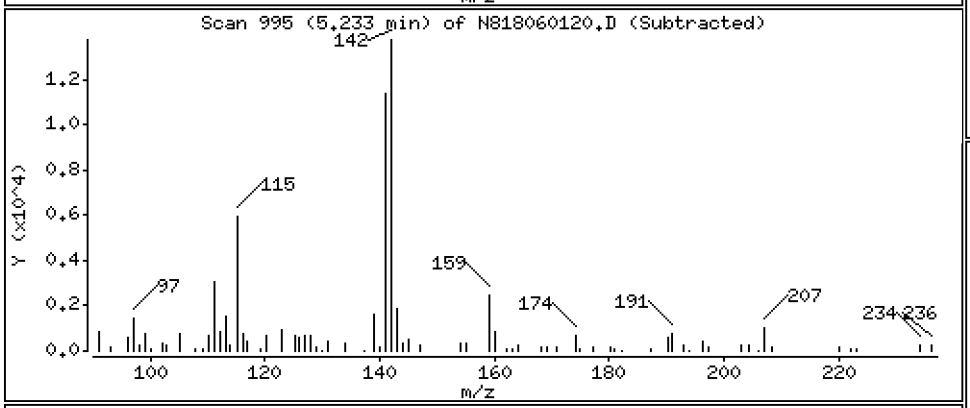
Column diameter: 0.25

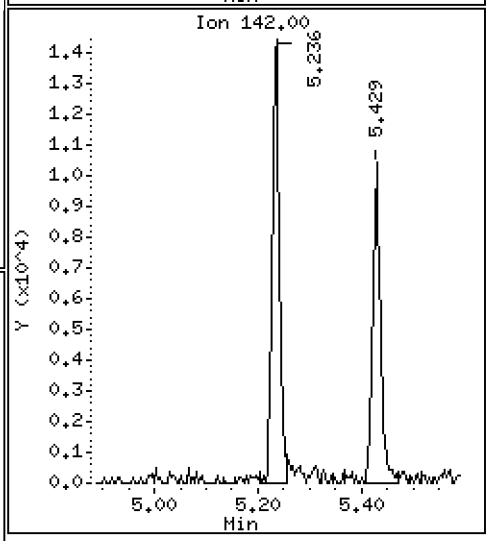
4 2-Methylnaphthalene

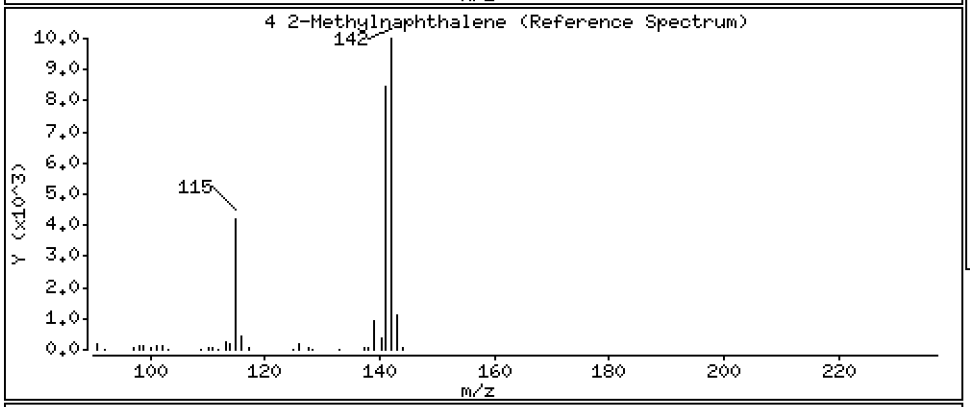
Concentration: 0.1992 ug/mL

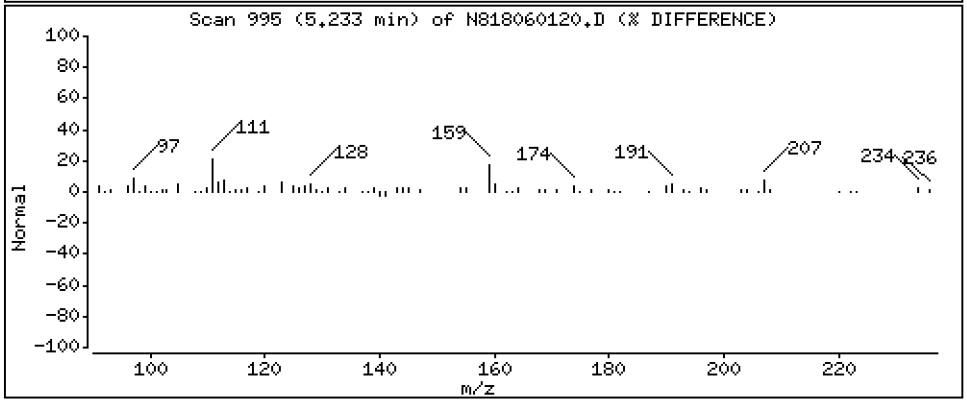












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

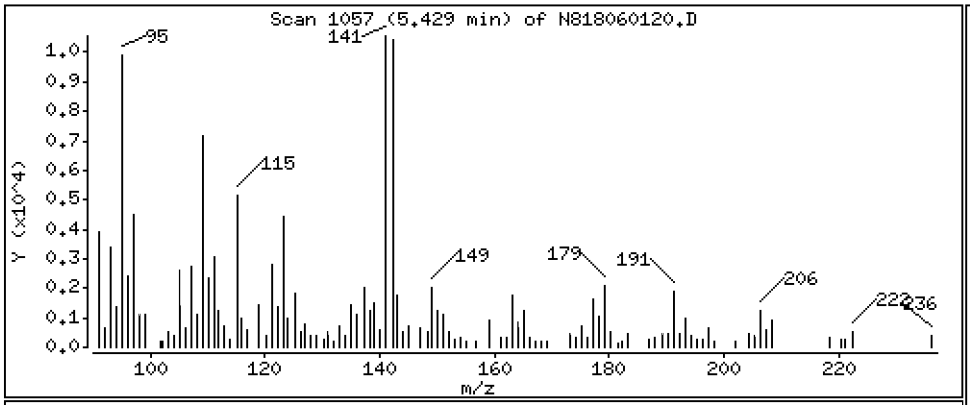
Operator: JZ

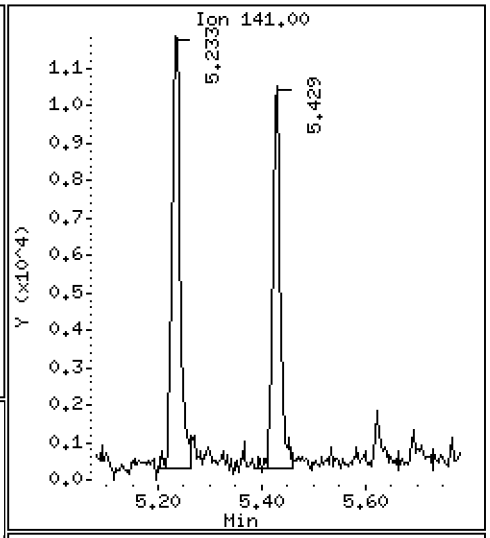
Column phase: Rxi-17sil

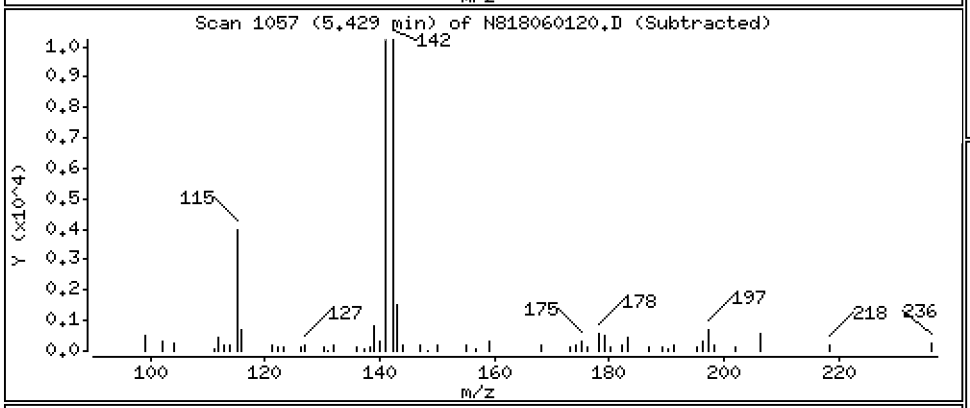
Column diameter: 0.25

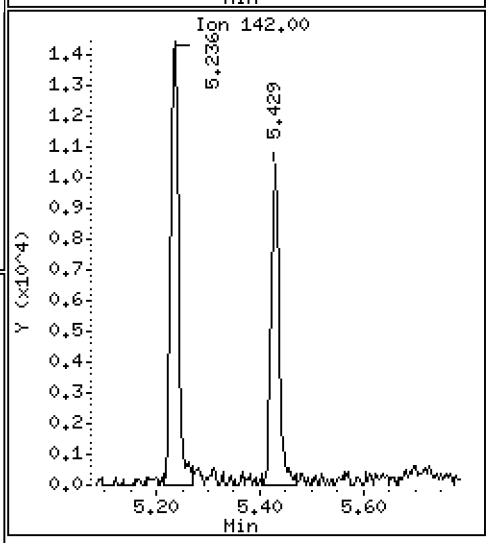
5 1-methylnaphthalene

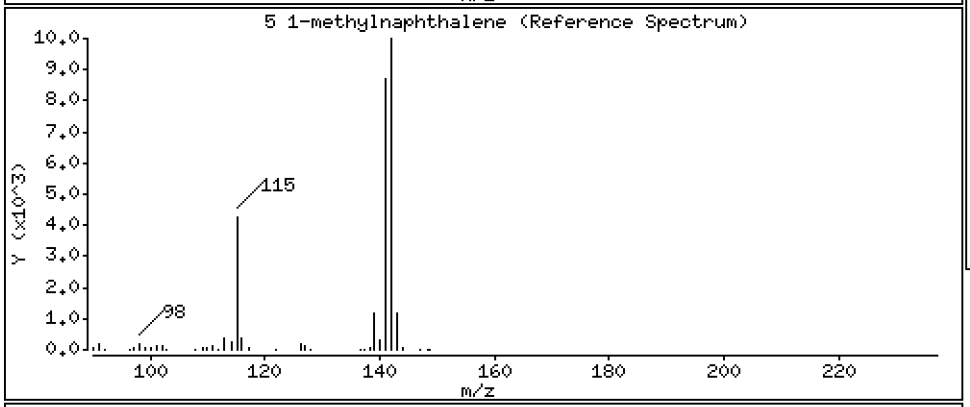
Concentration: 0.1476 ug/mL

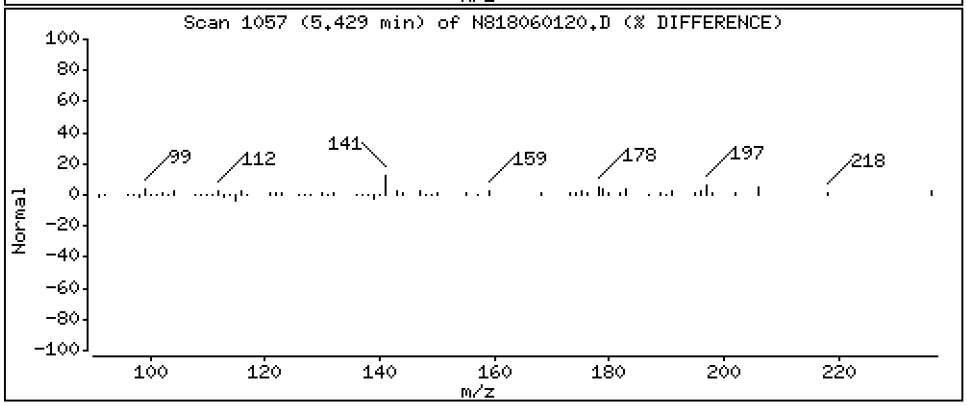












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

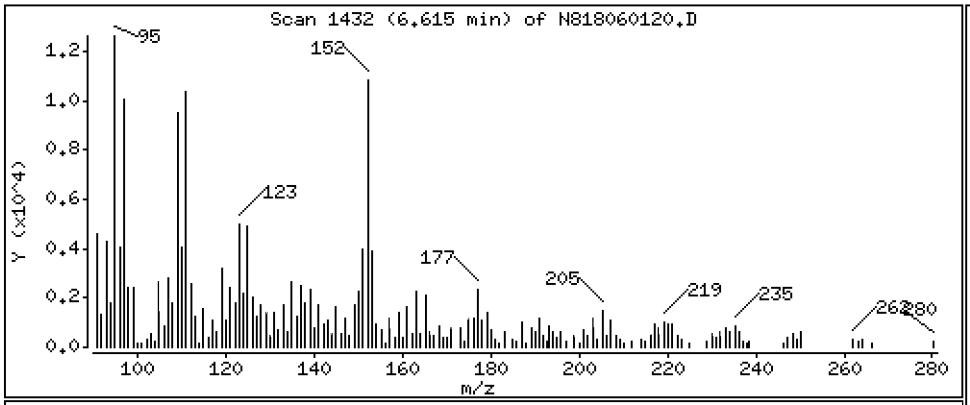
Operator: JZ

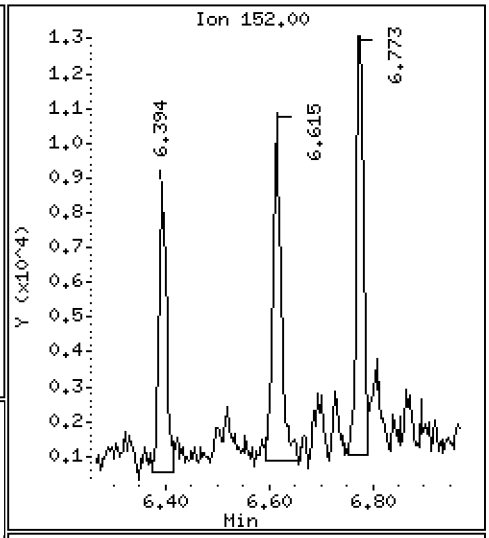
Column phase: Rxi-17sil

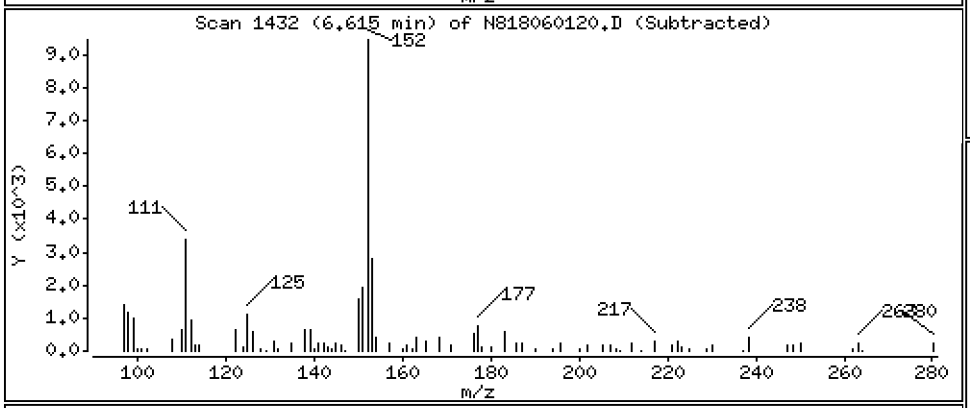
Column diameter: 0.25

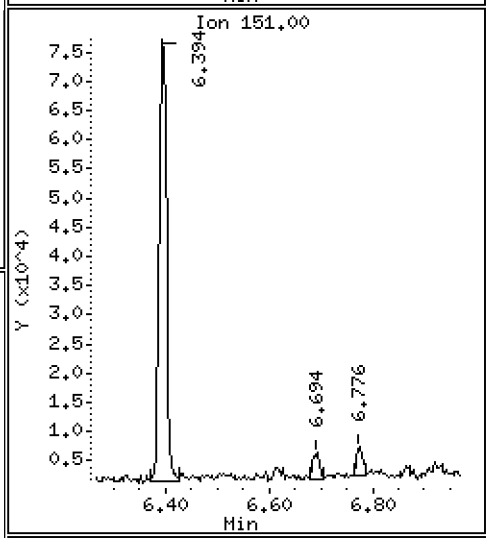
9 Acenaphthylene

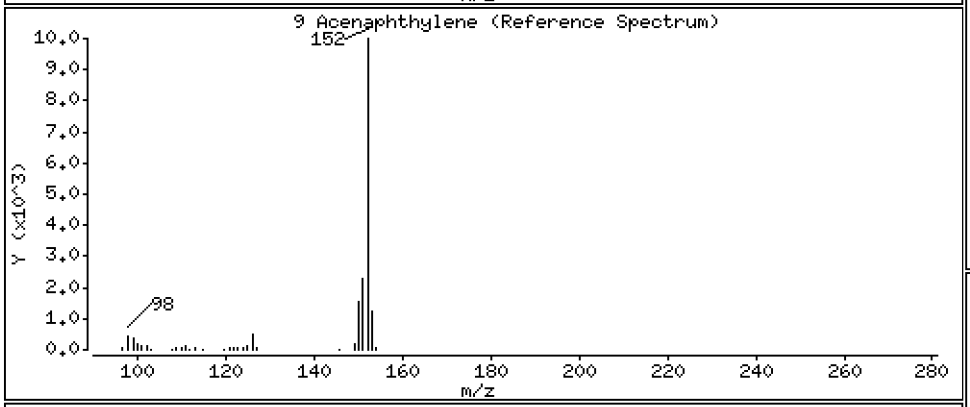
Concentration: 0.1151 ug/mL

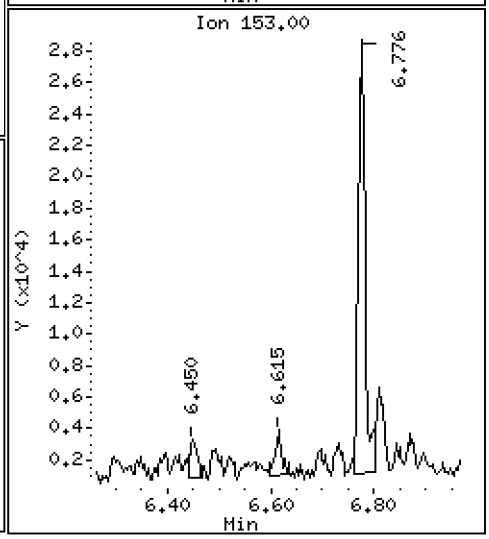


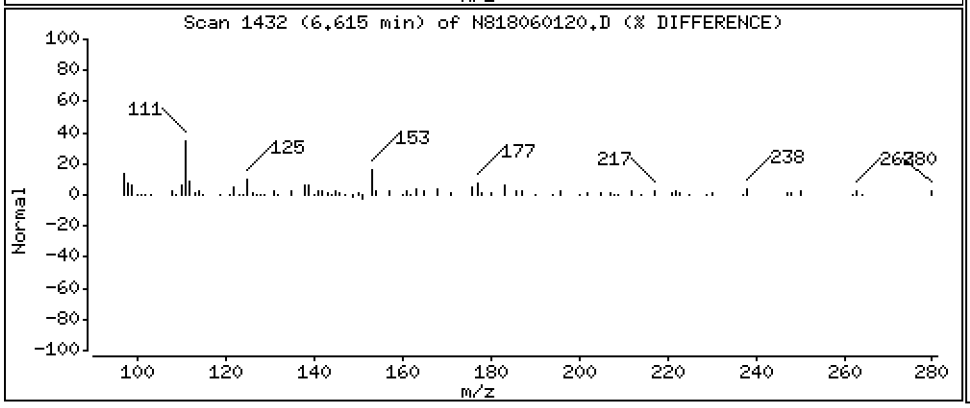












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

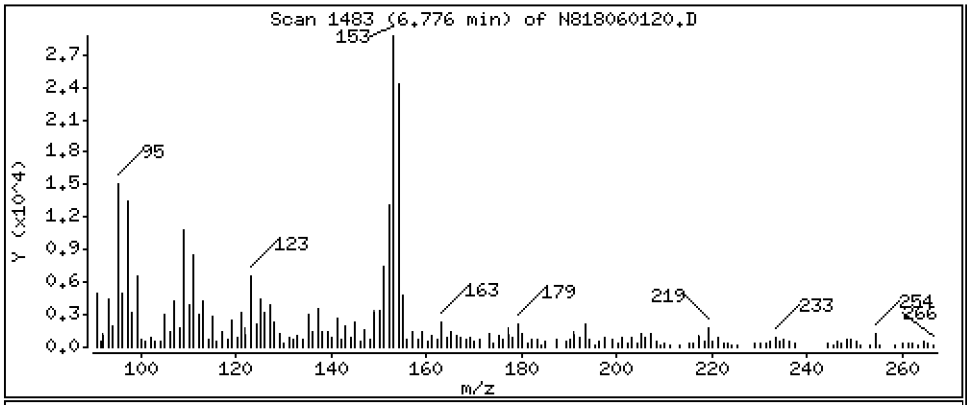
Operator: JZ

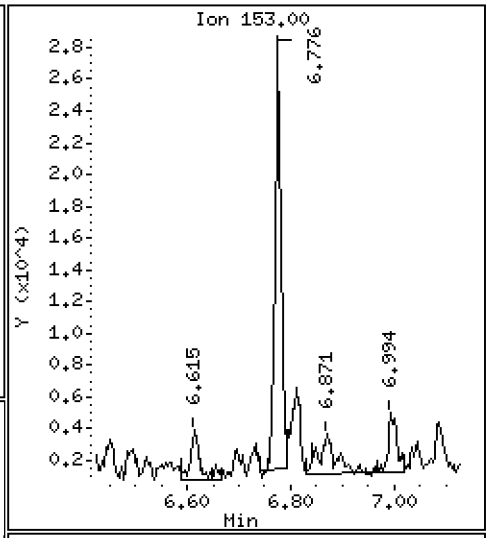
Column phase: Rxi-17sil

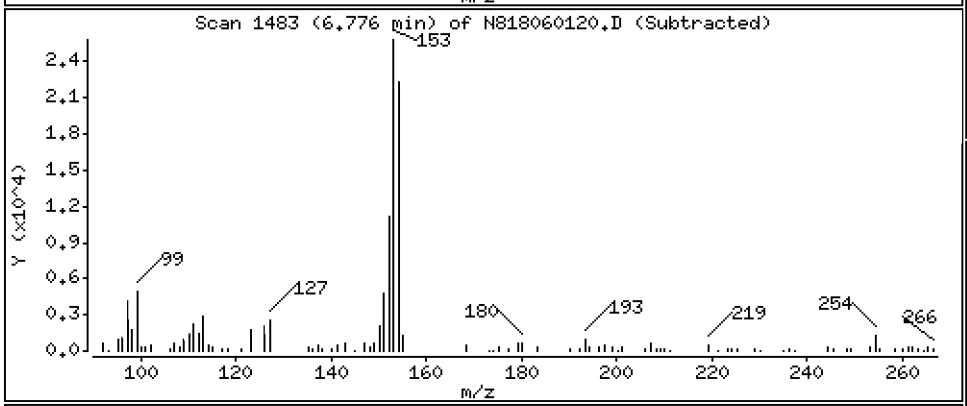
Column diameter: 0.25

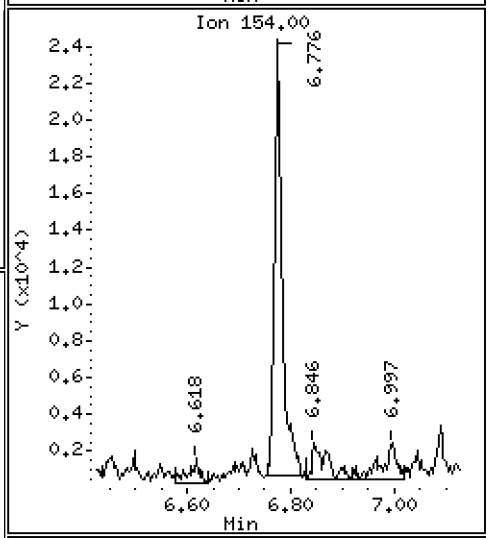
11 Acenaphthene

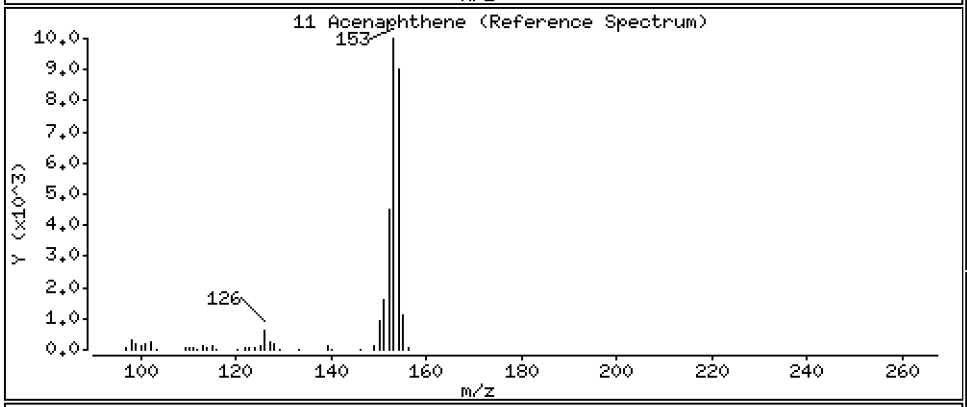
Concentration: 0.3040 ug/mL

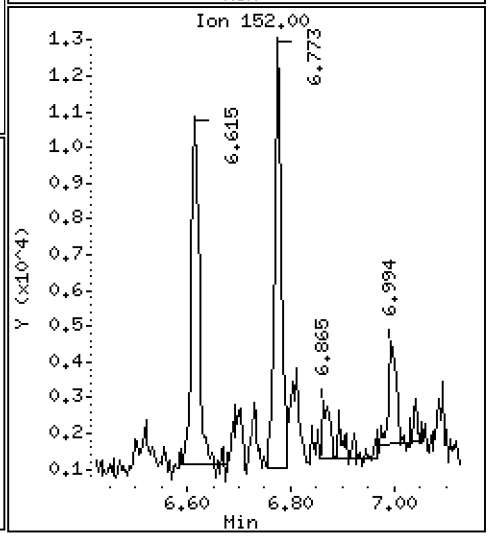


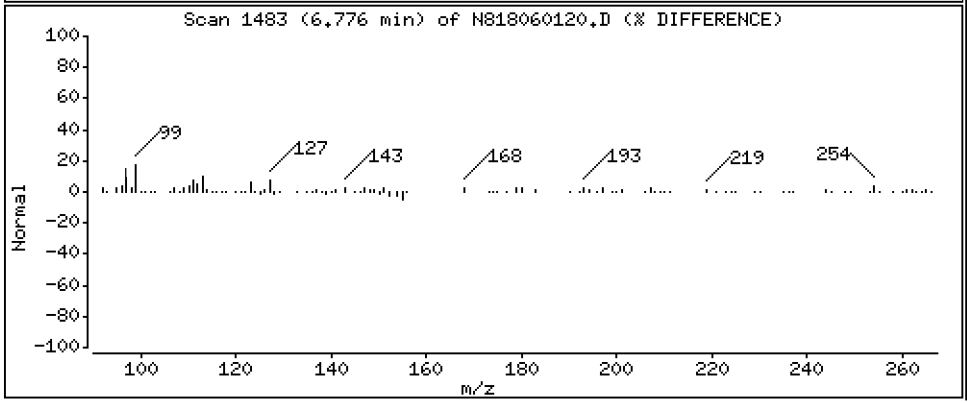












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

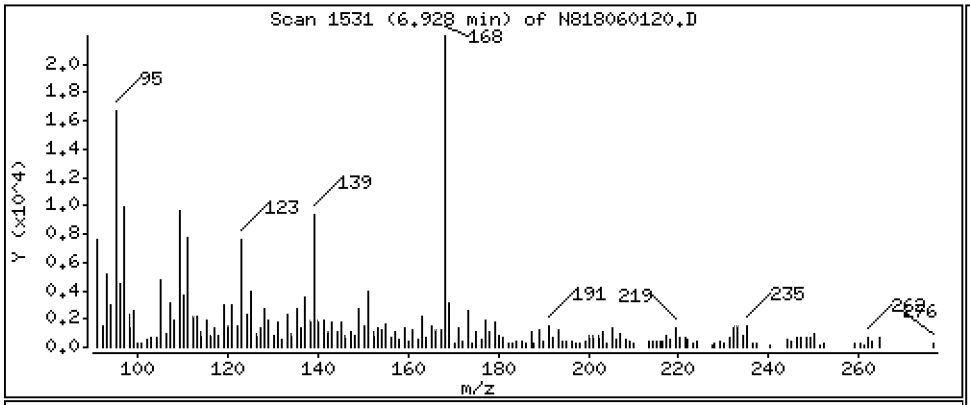
Operator: JZ

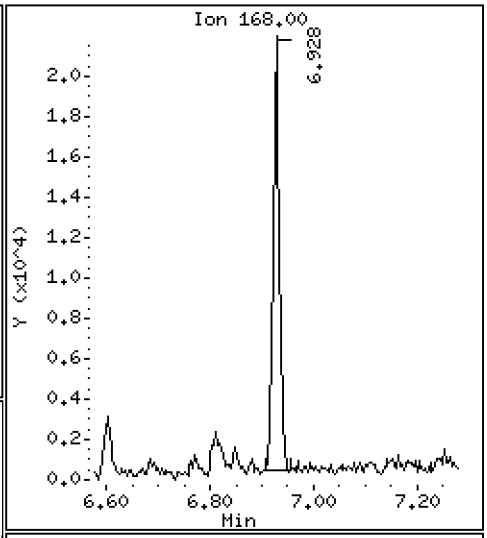
Column phase: Rxi-17sil

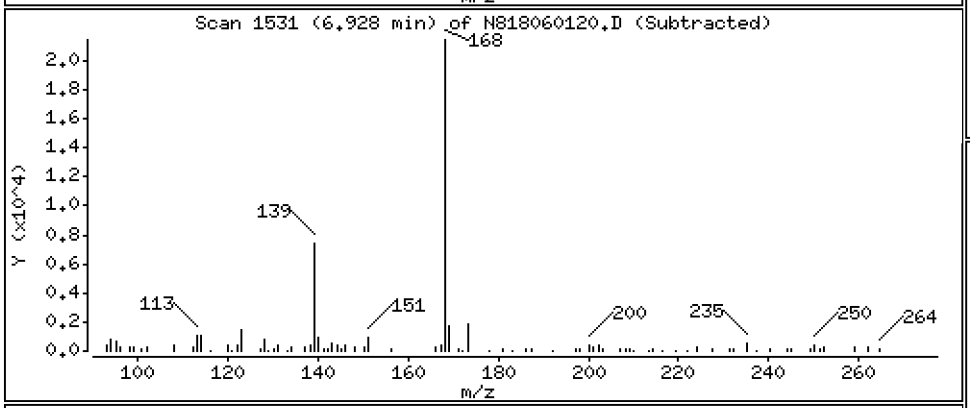
Column diameter: 0.25

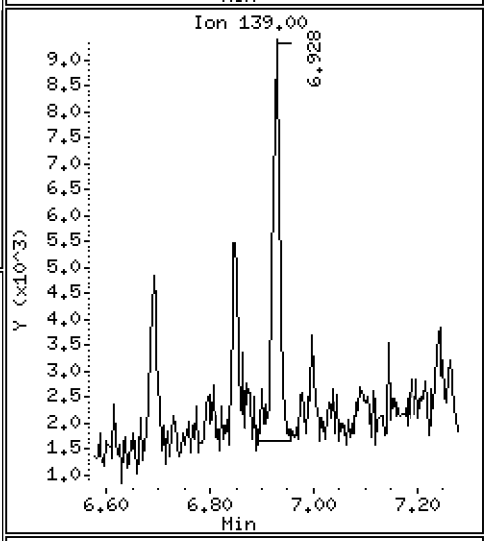
12 Dibenzofuran

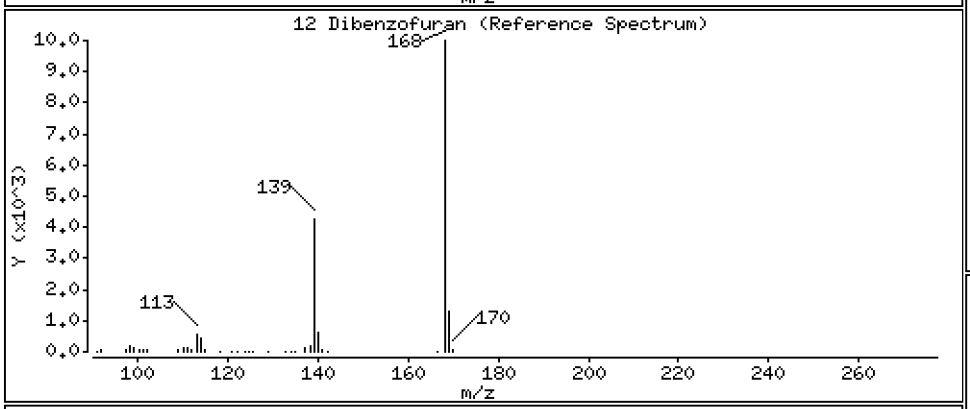
Concentration: 0.1817 ug/mL

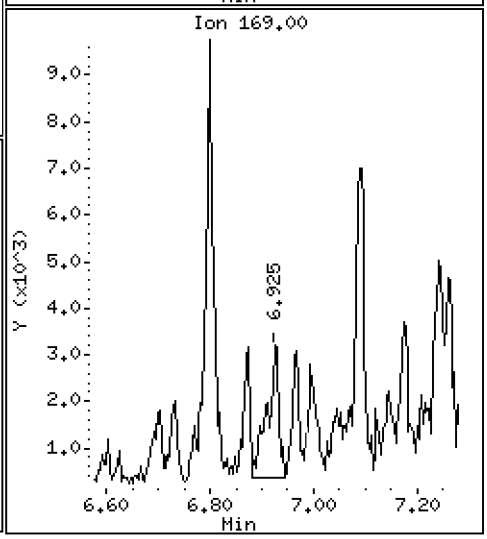


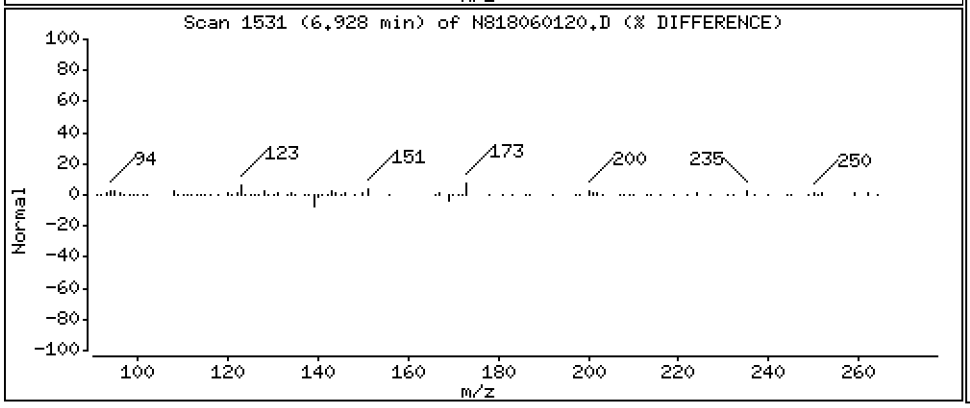












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

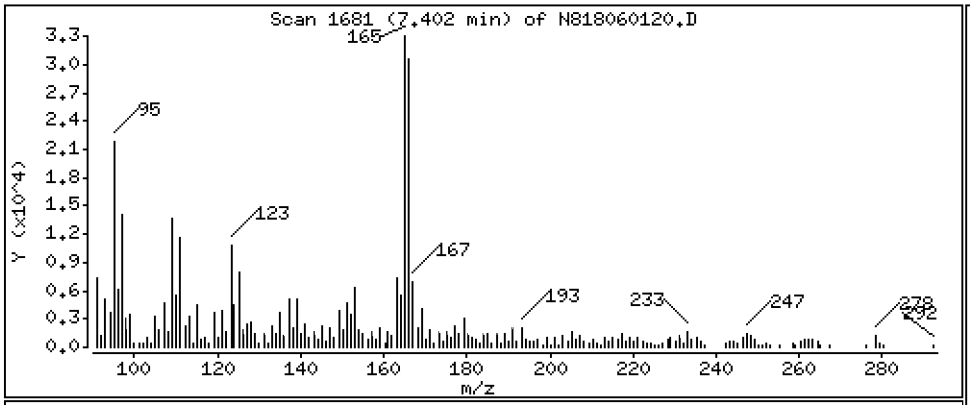
Operator: JZ

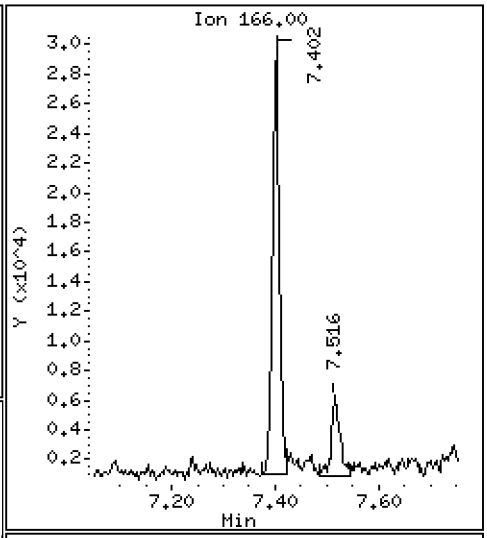
Column phase: Rxi-17sil

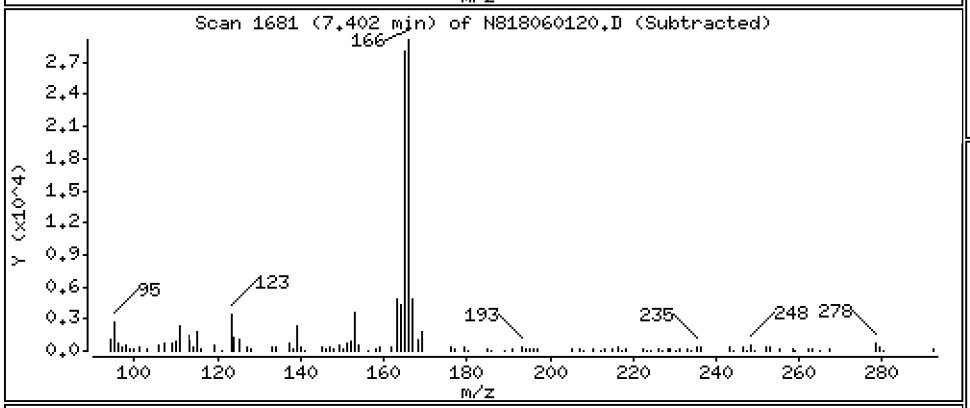
Column diameter: 0.25

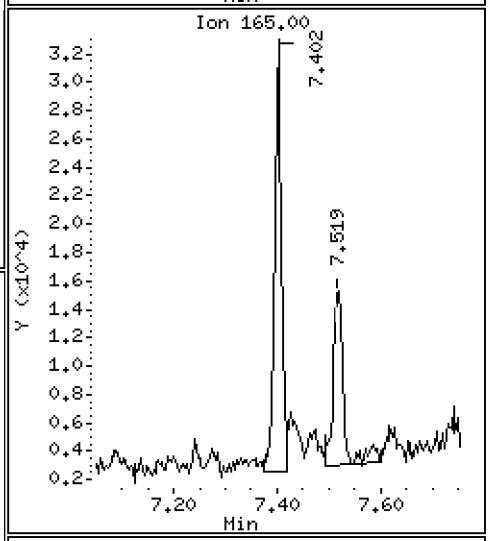
14 Fluorene

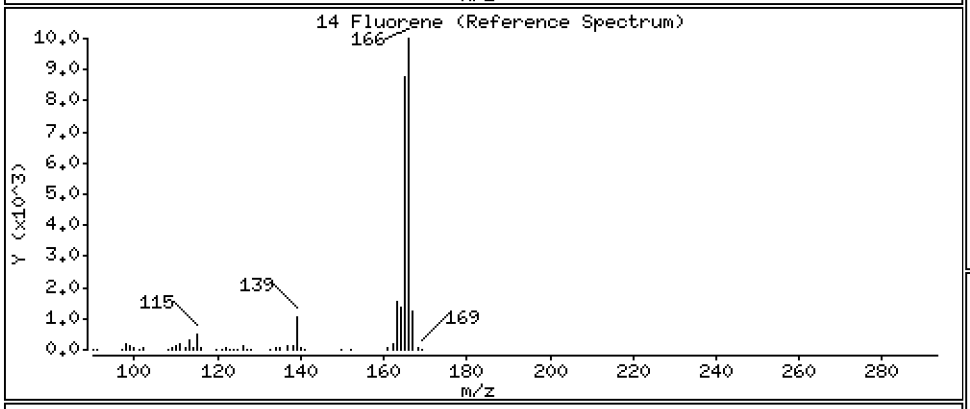
Concentration: 0.3524 ug/mL

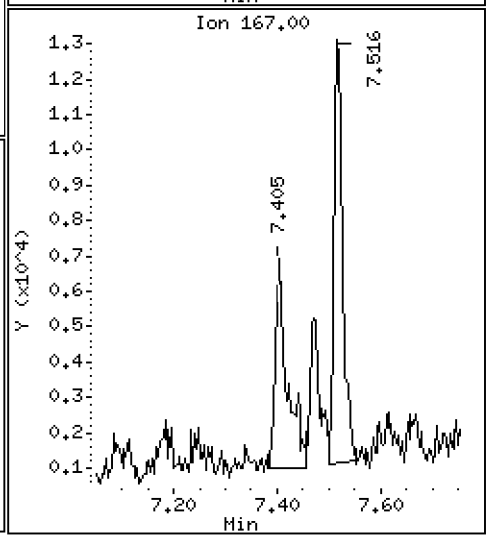


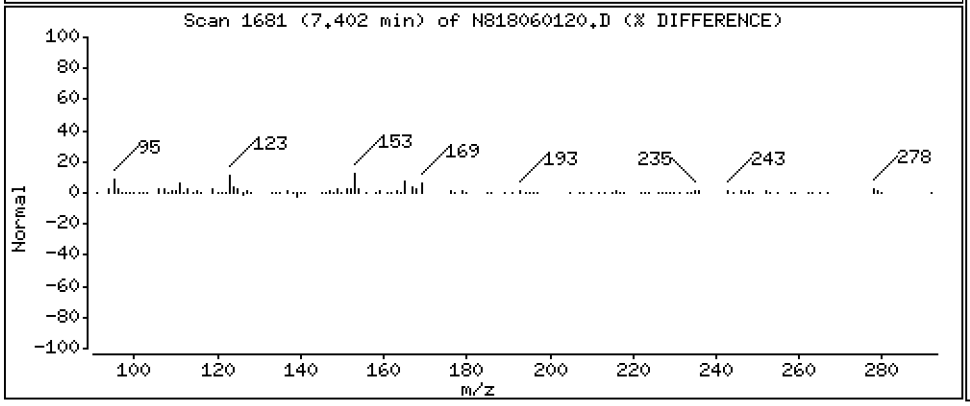












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

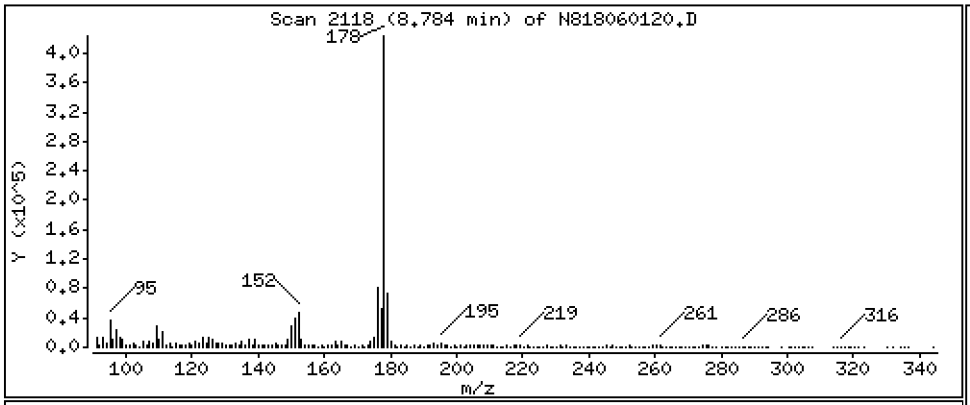
Operator: JZ

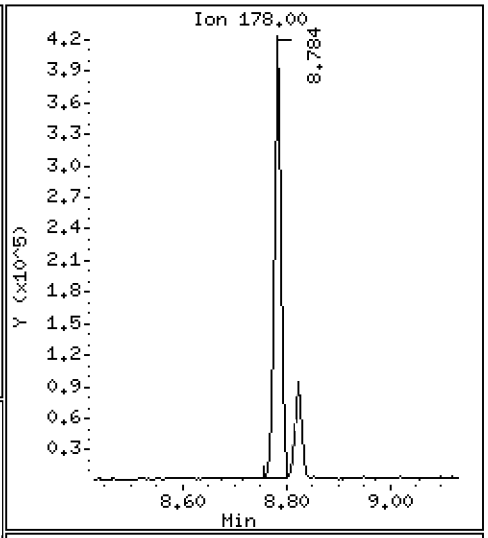
Column phase: Rxi-17sil

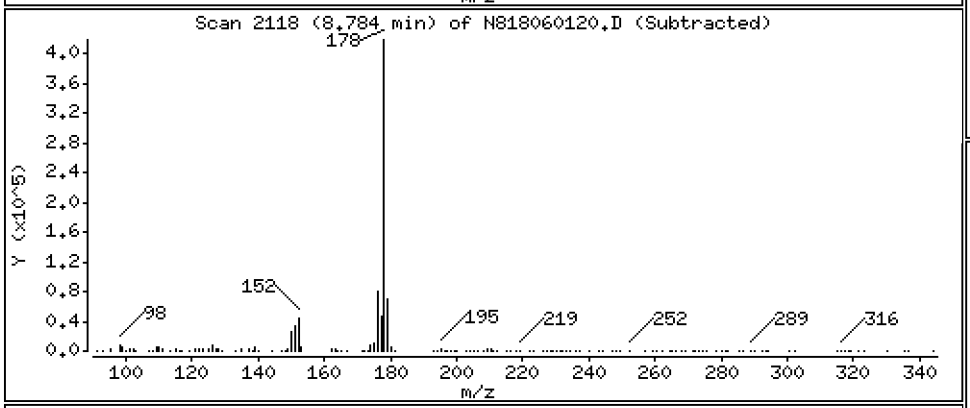
Column diameter: 0.25

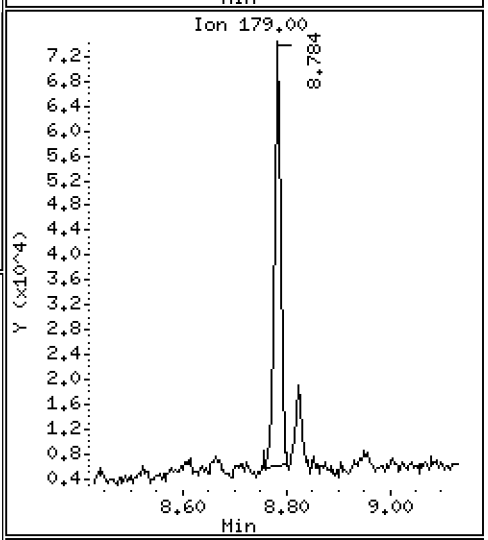
16 Phenanthrene

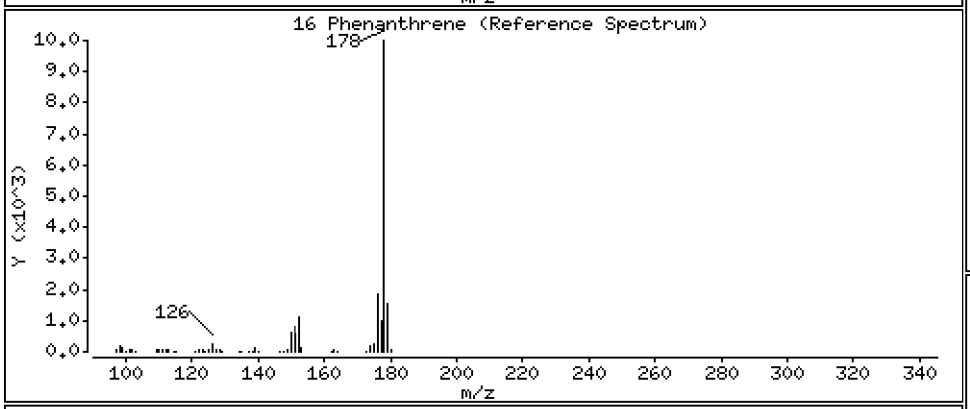
Concentration: 3.372 ug/mL

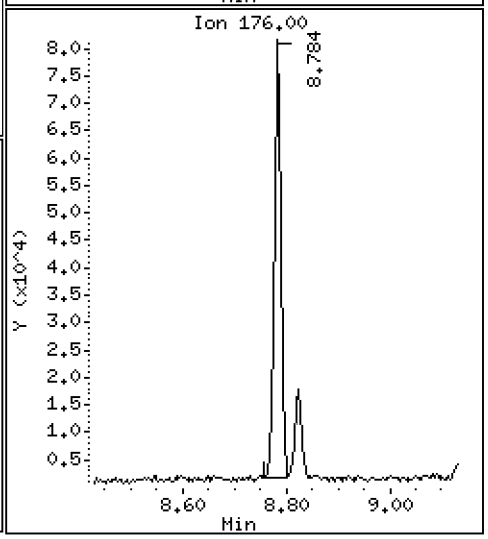


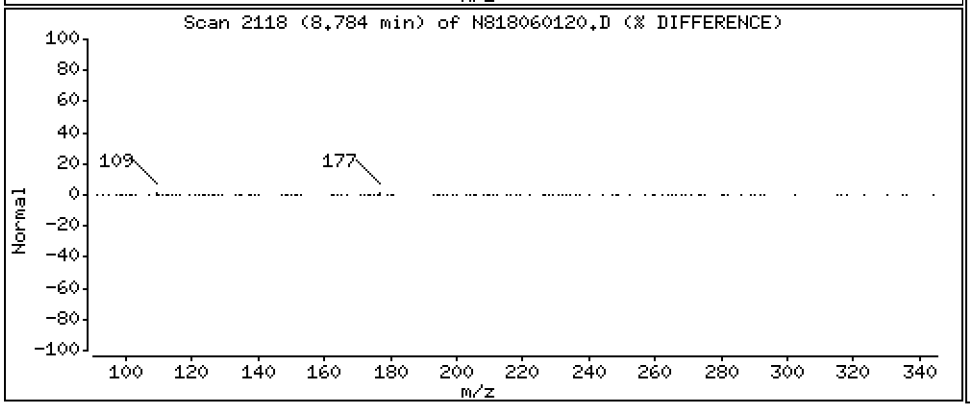












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

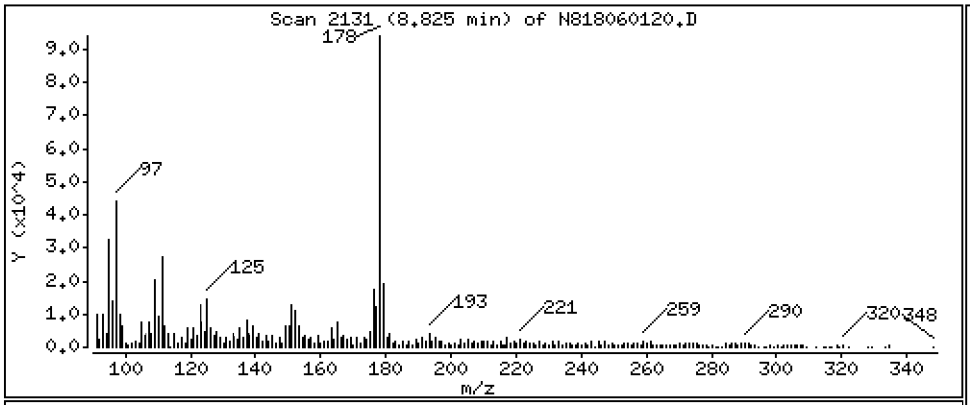
Operator: JZ

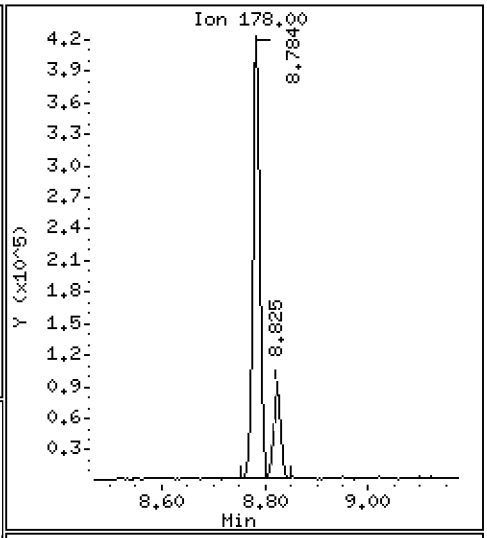
Column phase: Rxi-17sil

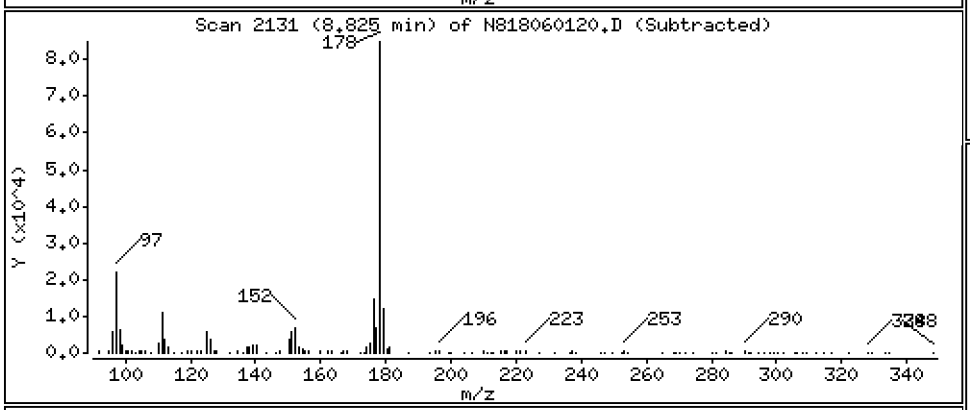
Column diameter: 0.25

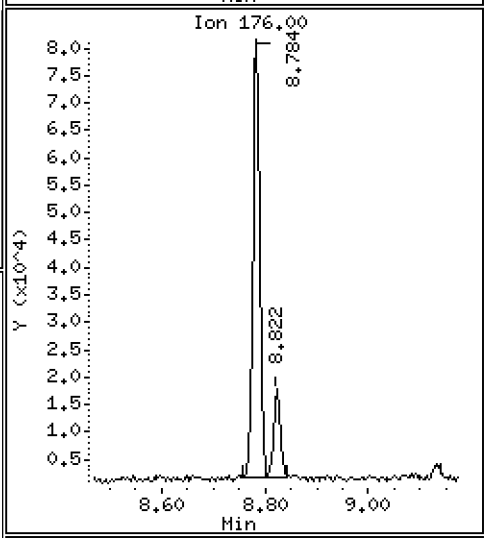
17 Anthracene

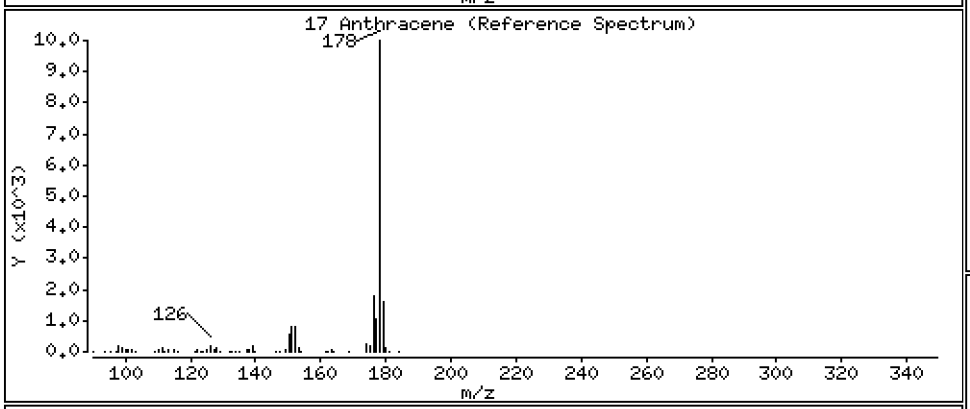
Concentration: 0.8293 ug/mL

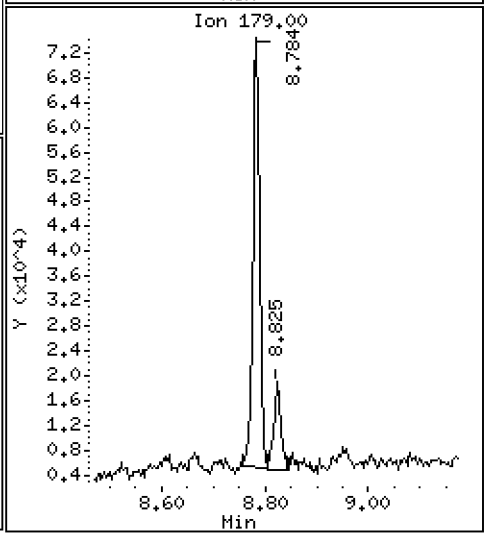


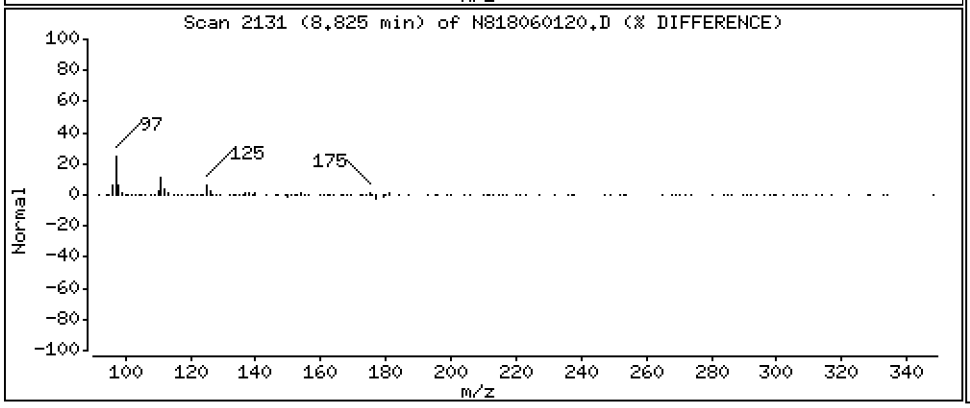












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

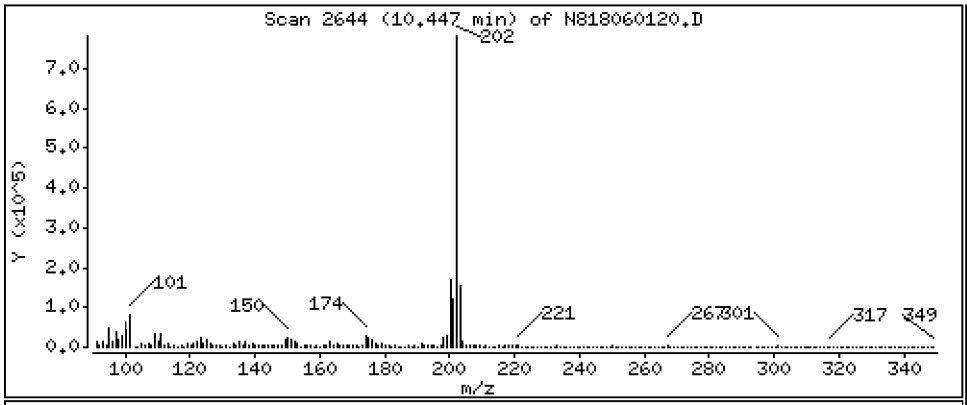
Operator: JZ

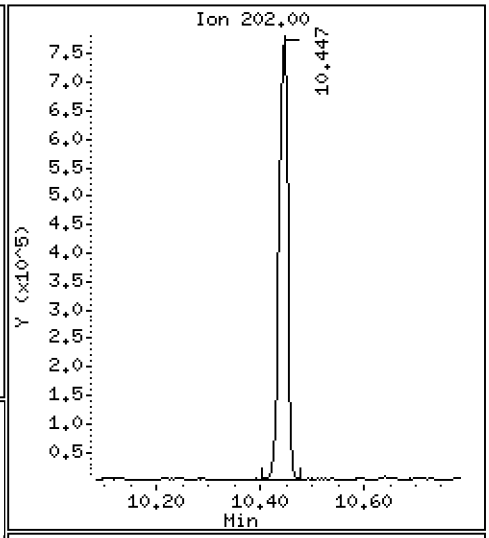
Column phase: Rxi-17sil

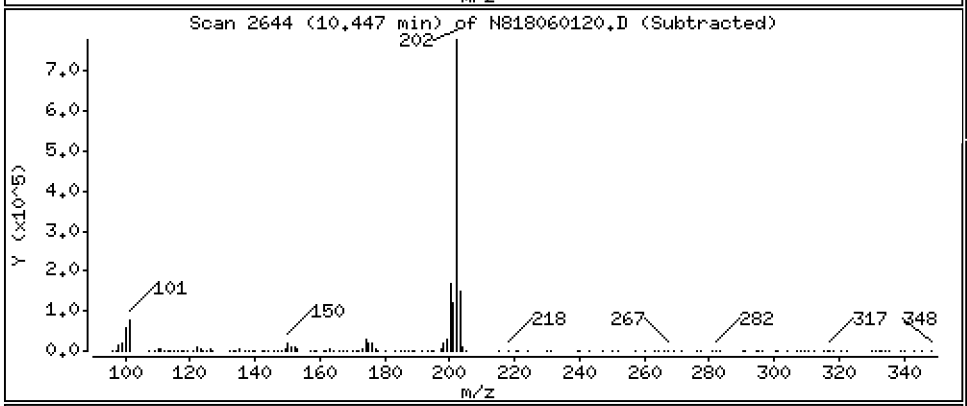
Column diameter: 0.25

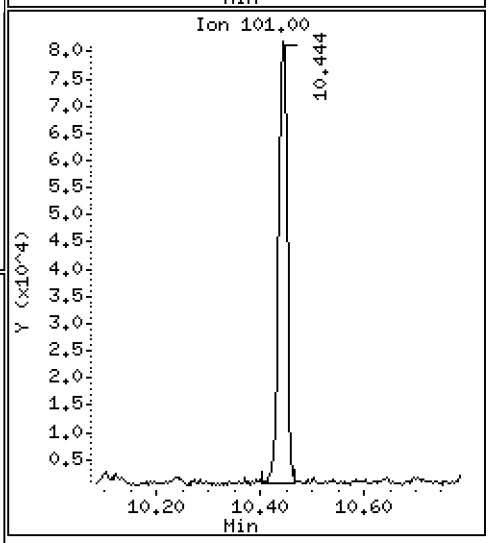
22 Fluoranthene

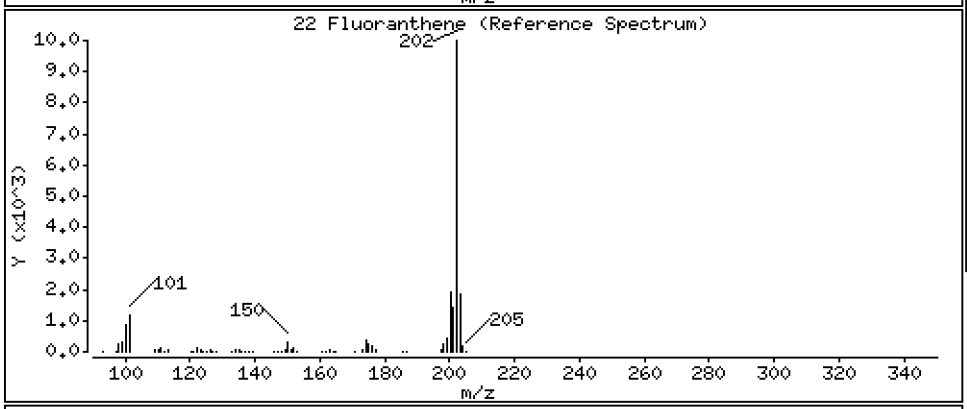
Concentration: 6.811 ug/mL

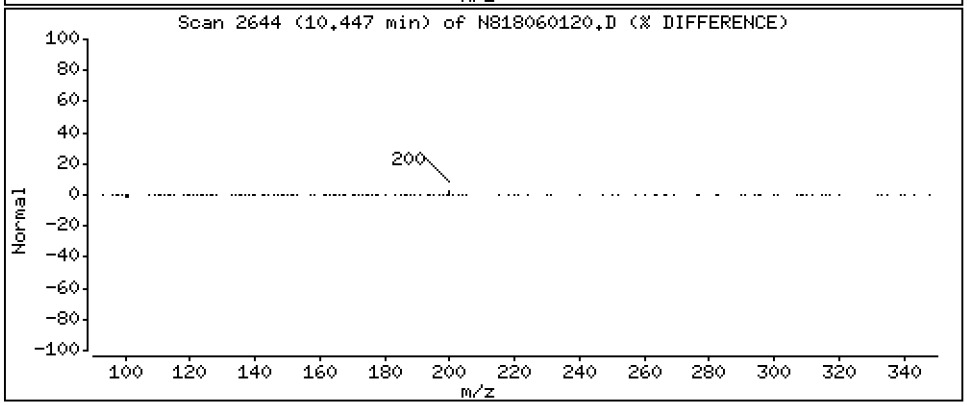












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

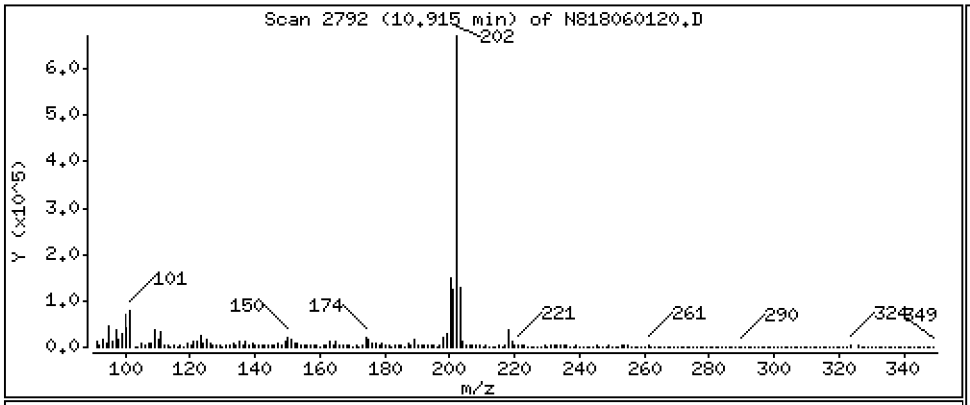
Operator: JZ

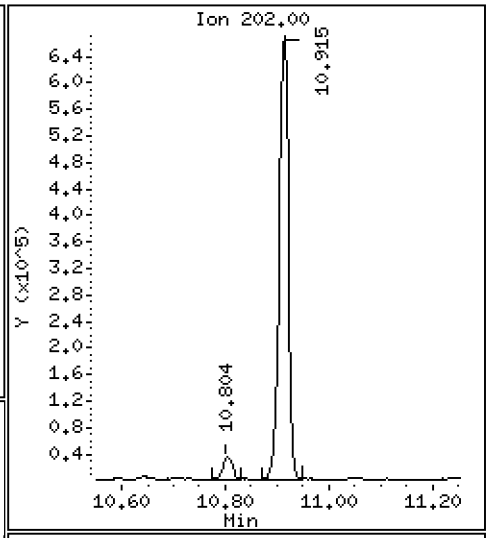
Column phase: Rxi-17sil

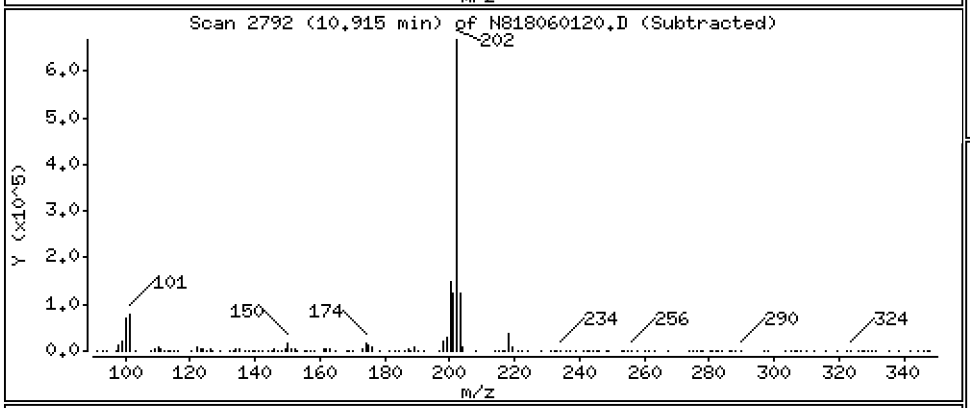
Column diameter: 0.25

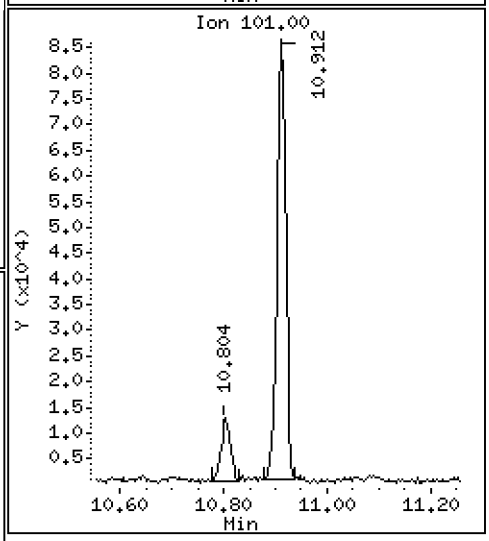
23 Pyrene

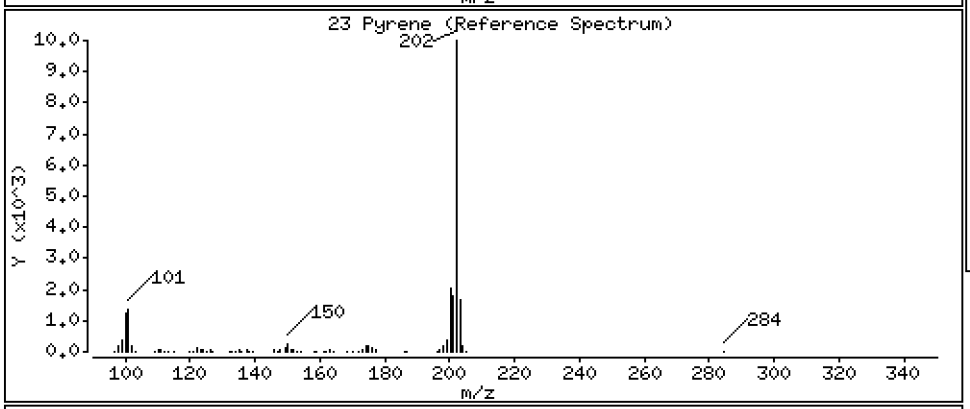
Concentration: 6.523 ug/mL

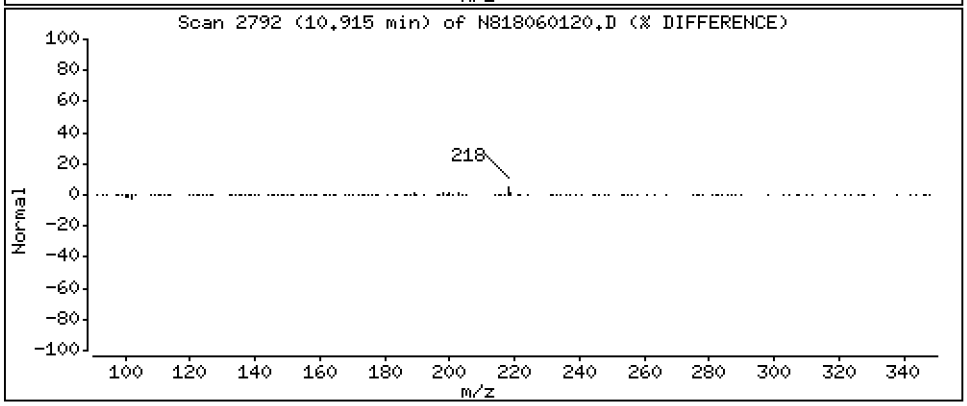












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

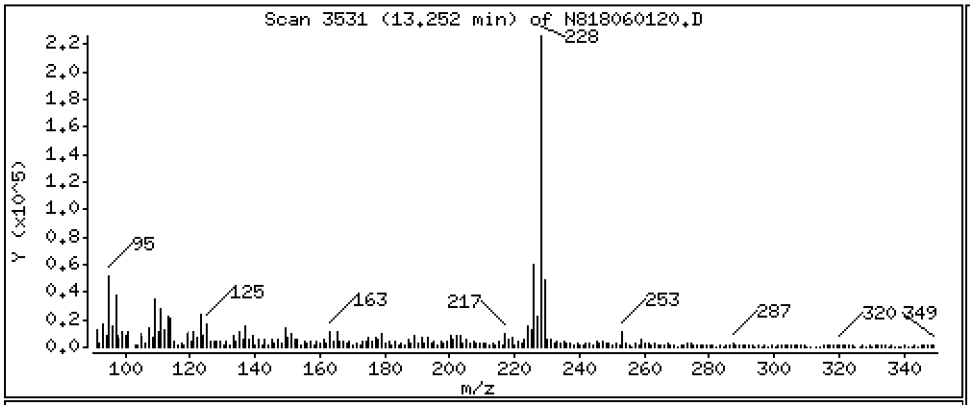
Operator: JZ

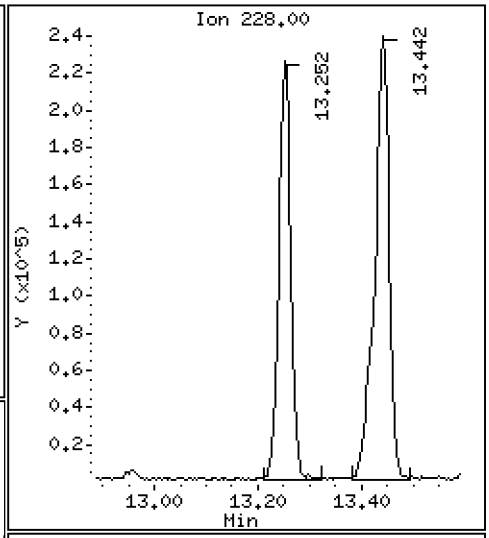
Column phase: Rxi-17sil

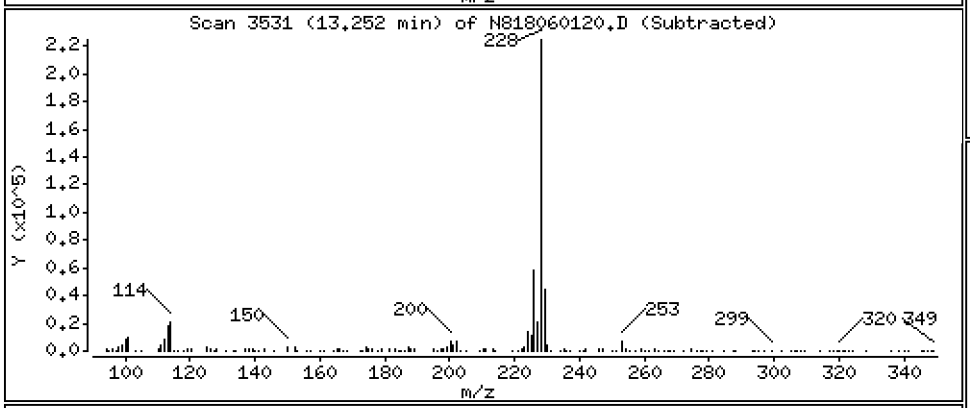
Column diameter: 0.25

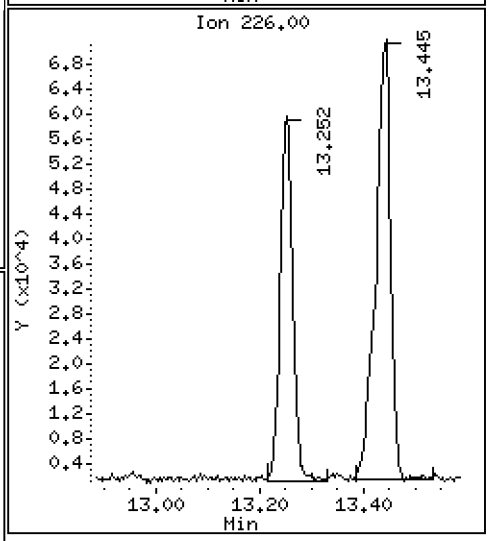
24 Benzo(a)anthracene

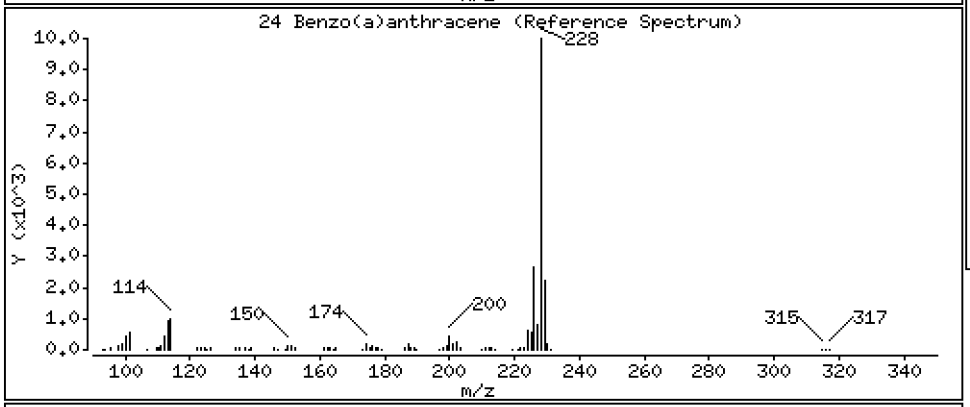
Concentration: 2.920 ug/mL

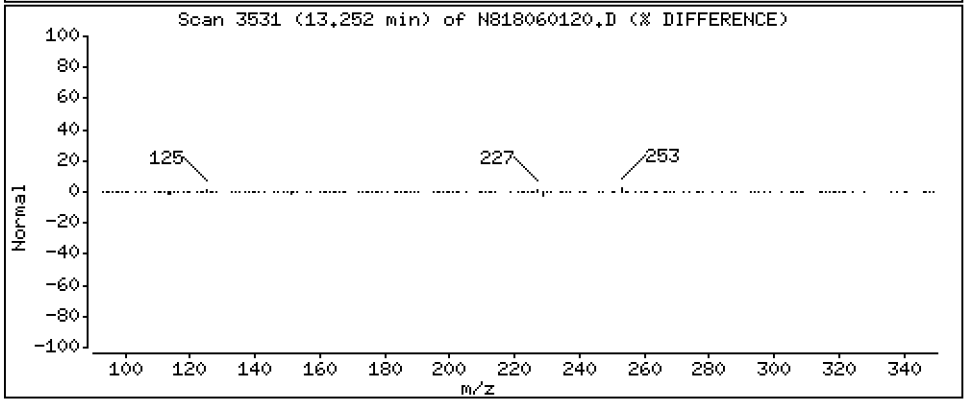












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

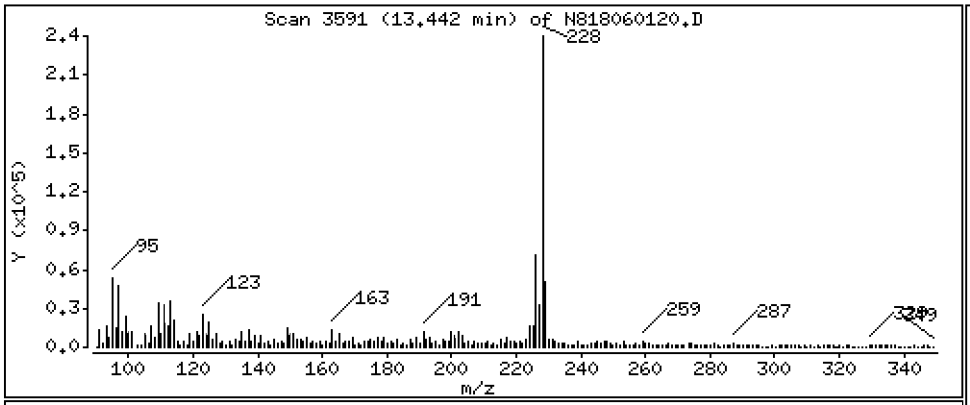
Operator: JZ

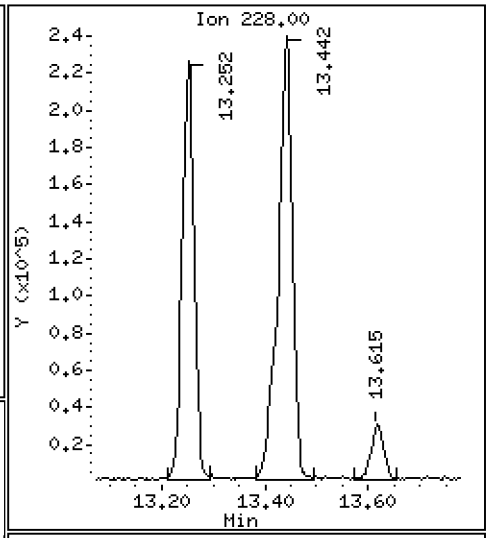
Column phase: Rxi-17sil

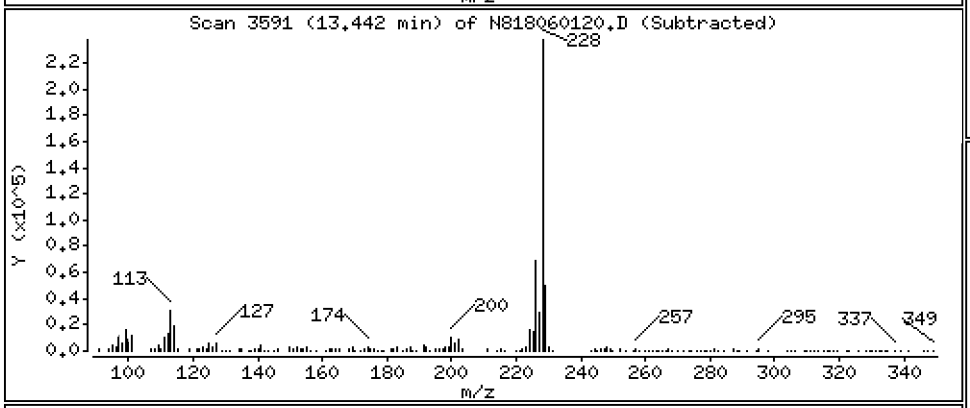
Column diameter: 0.25

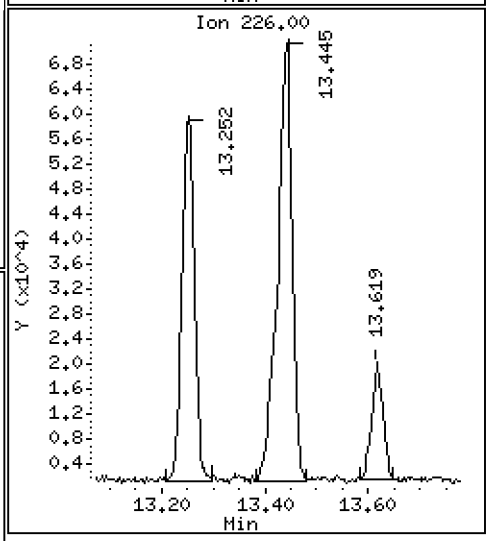
27 Chrysene

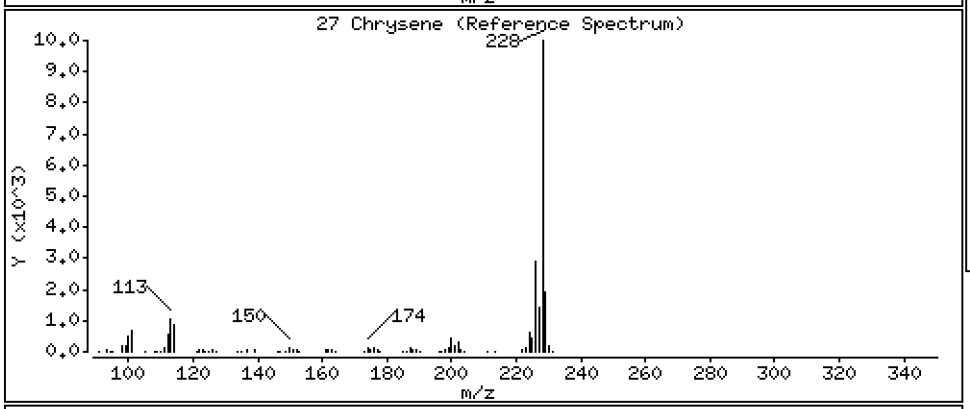
Concentration: 3.668 ug/mL

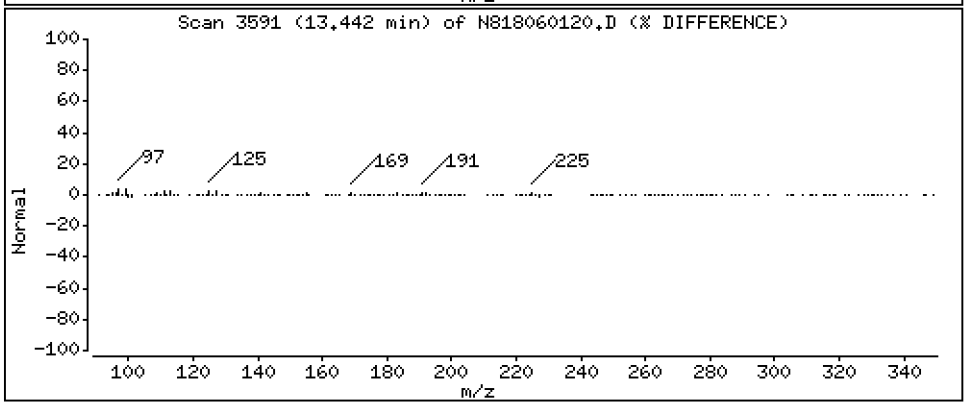












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

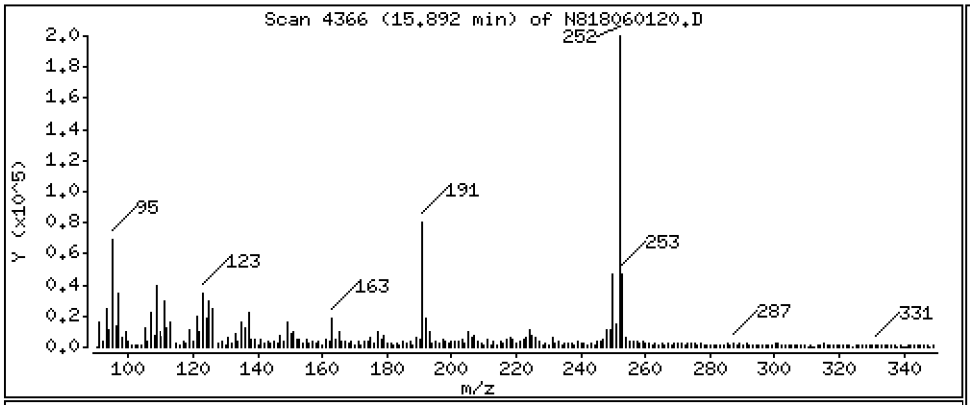
Operator: JZ

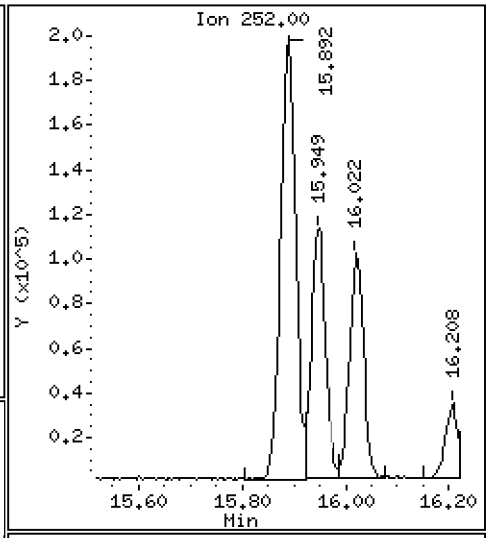
Column phase: Rxi-17sil

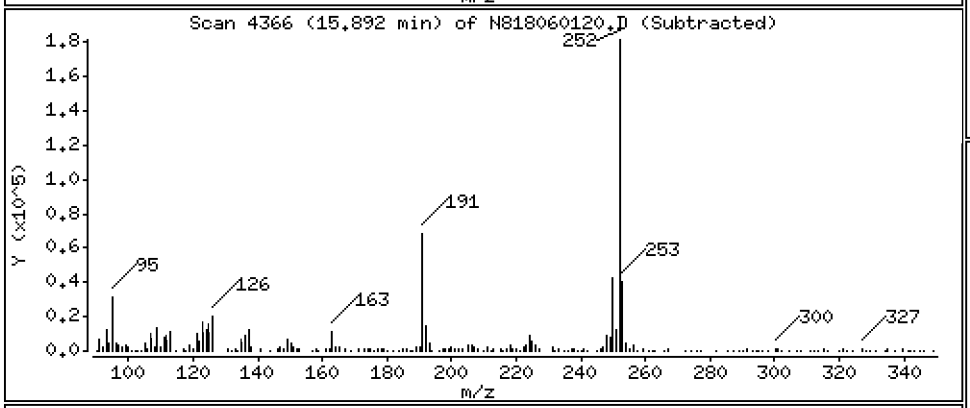
Column diameter: 0.25

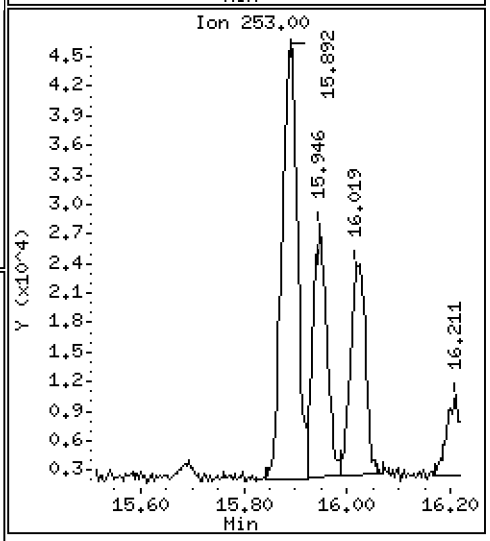
28 Benzo(b)fluoranthene

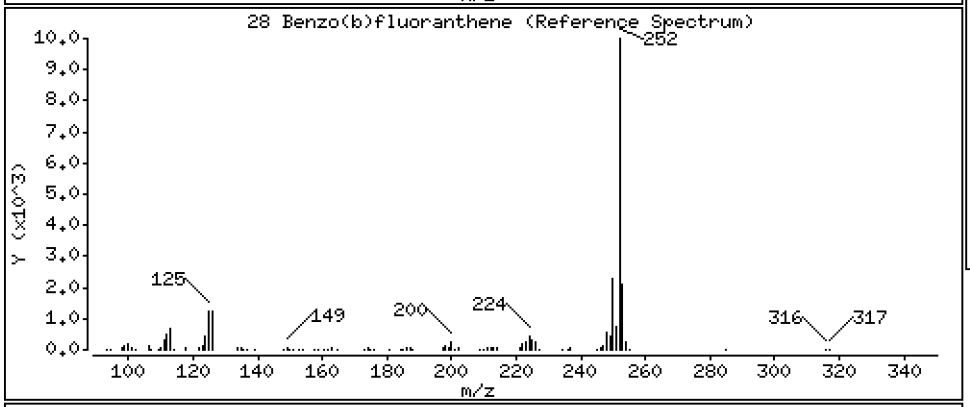
Concentration: 2.899 ug/mL

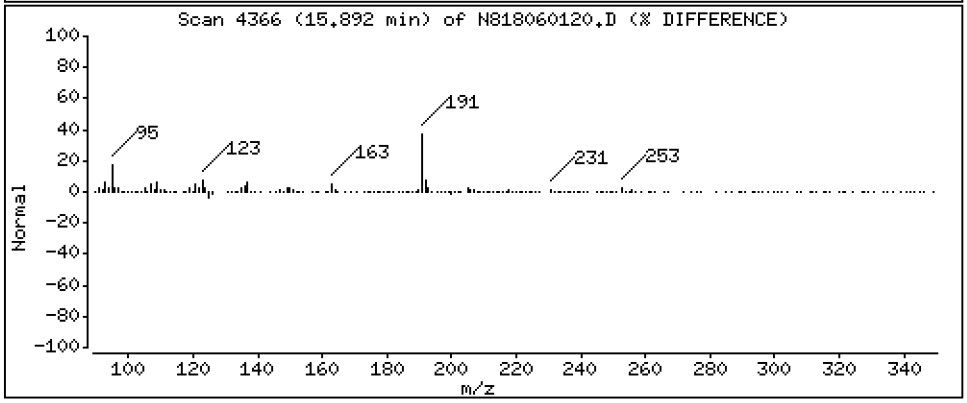












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

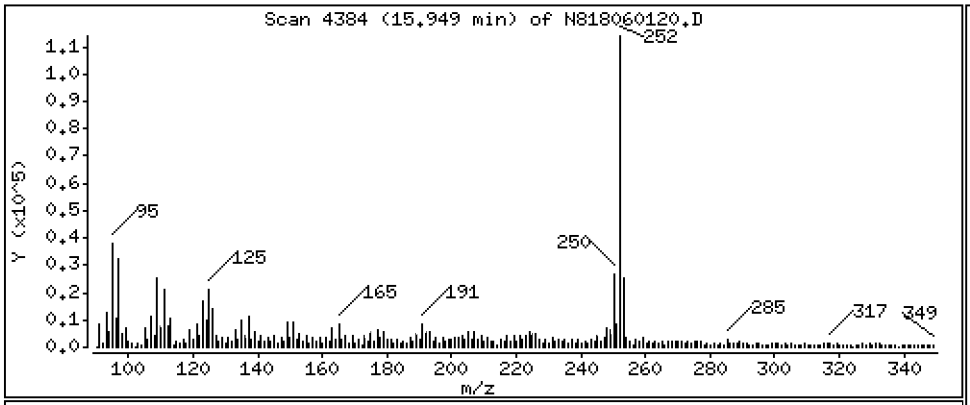
Operator: JZ

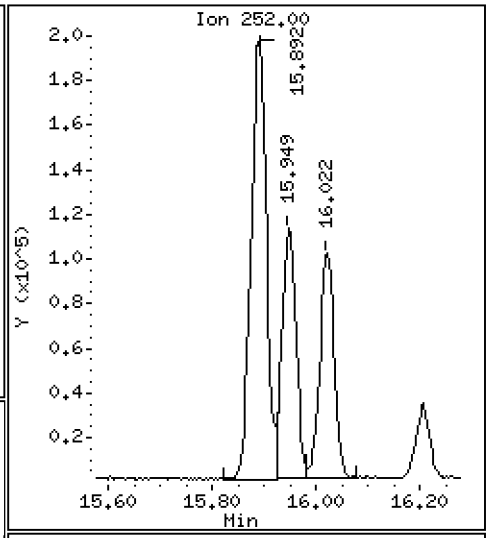
Column phase: Rxi-17sil

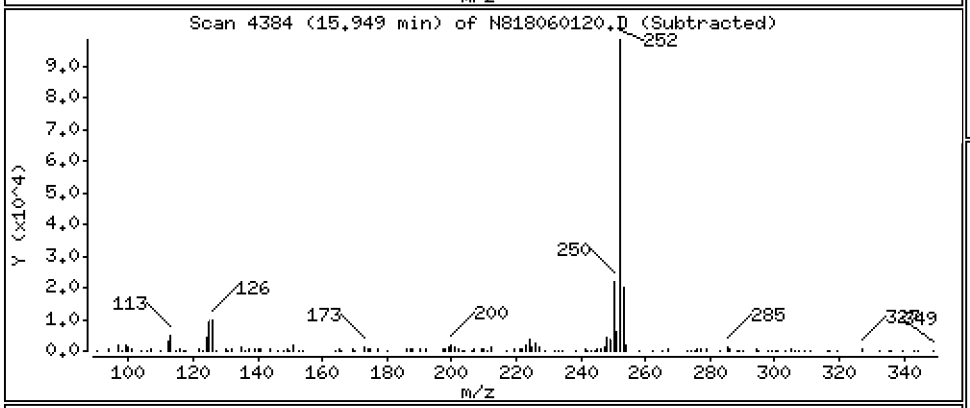
Column diameter: 0.25

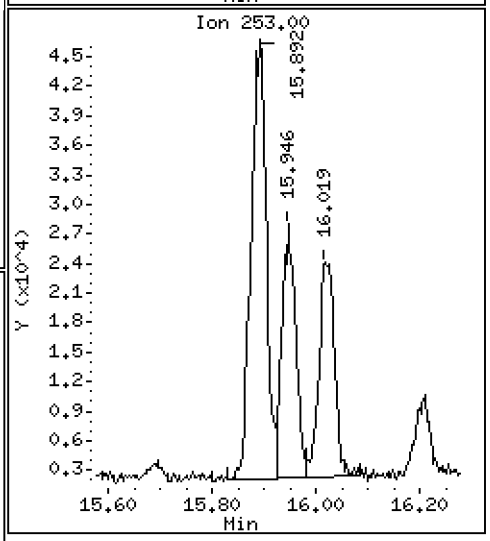
29 Benzo(k)fluoranthene

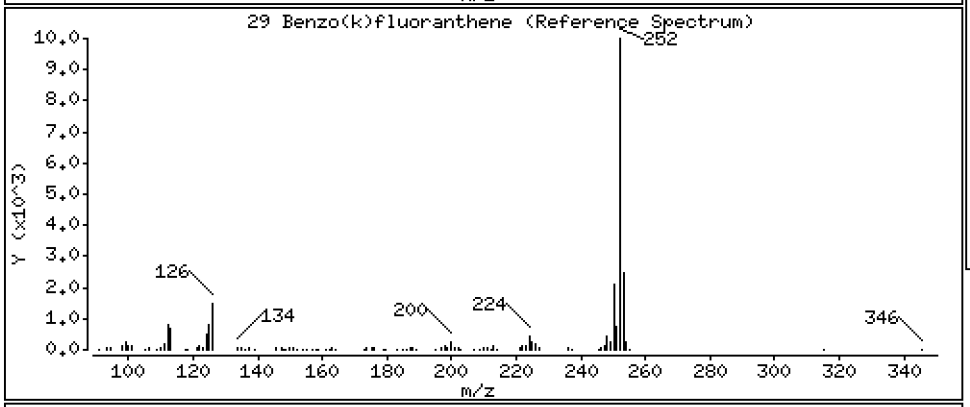
Concentration: 1.545 ug/mL

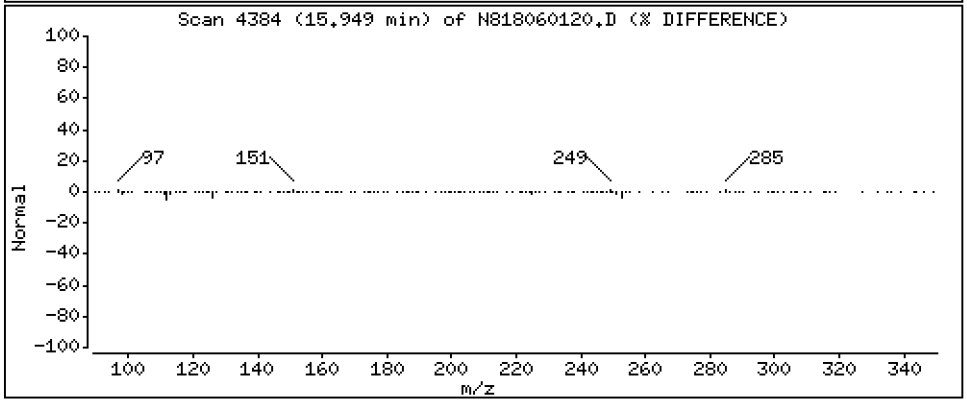












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

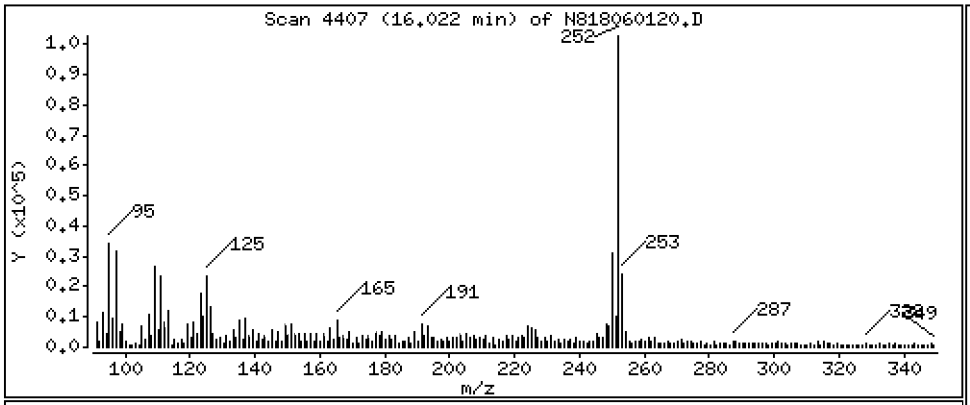
Operator: JZ

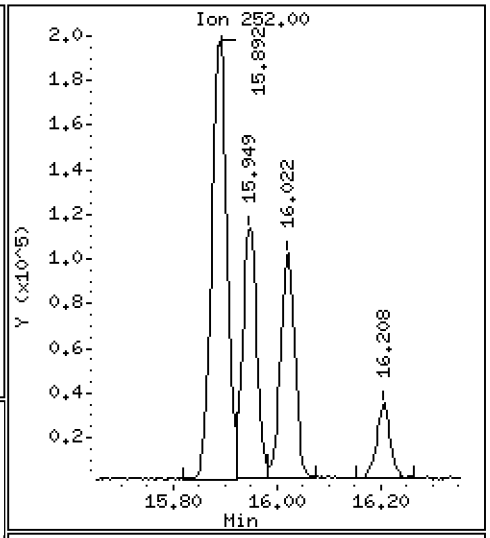
Column phase: Rxi-17sil

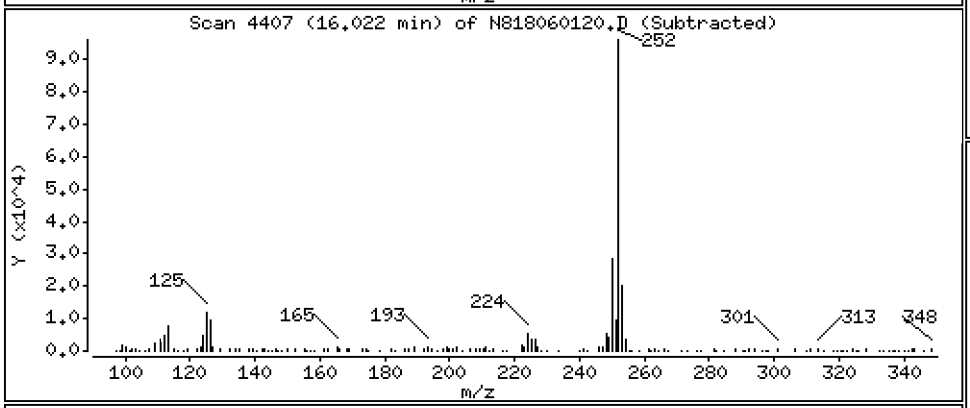
Column diameter: 0.25

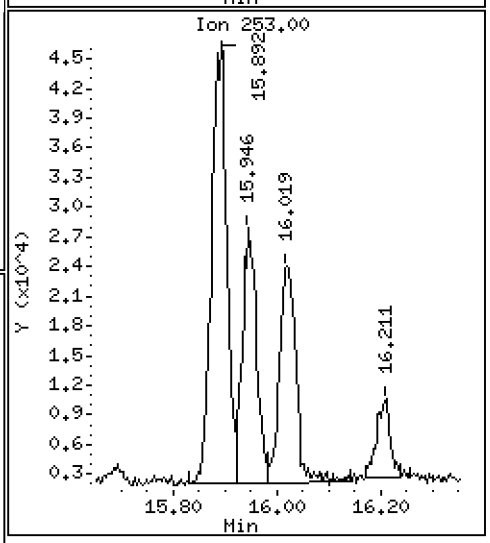
30 Benzo(j)fluoranthene

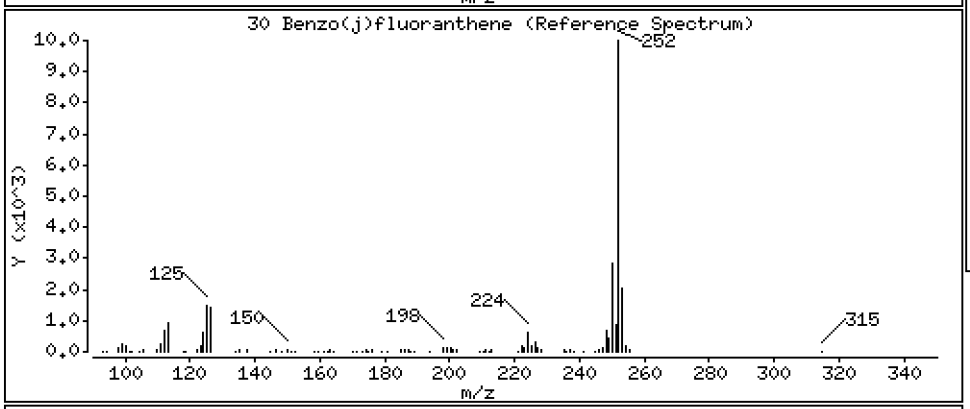
Concentration: 1.406 ug/mL

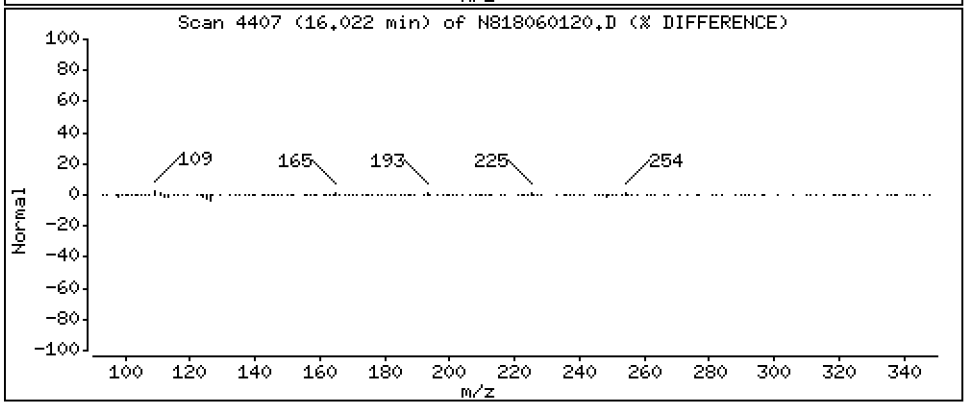












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

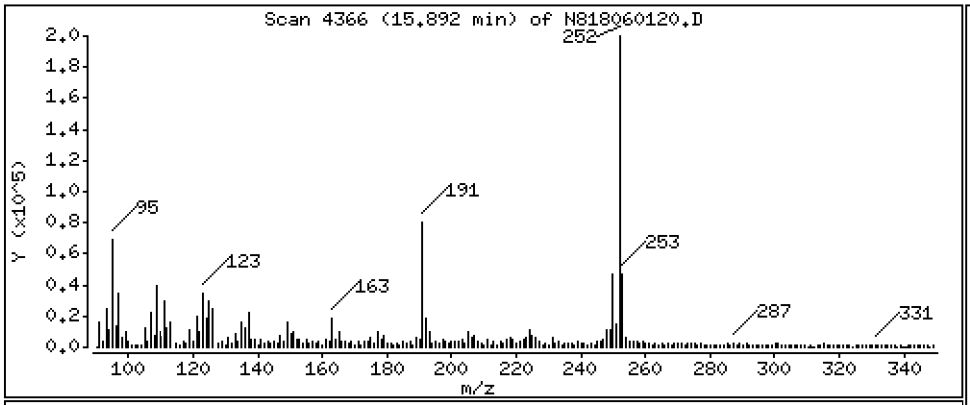
Operator: JZ

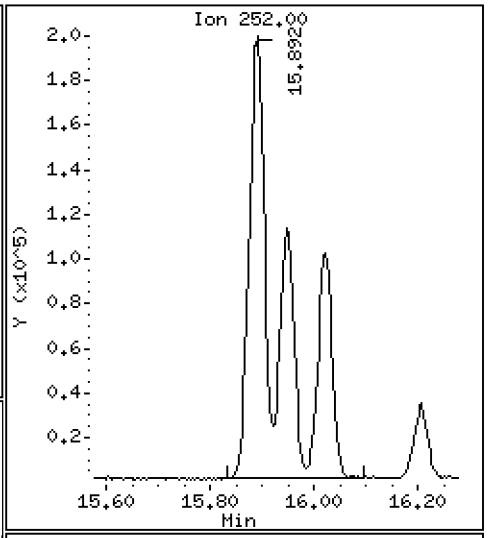
Column phase: Rxi-17sil

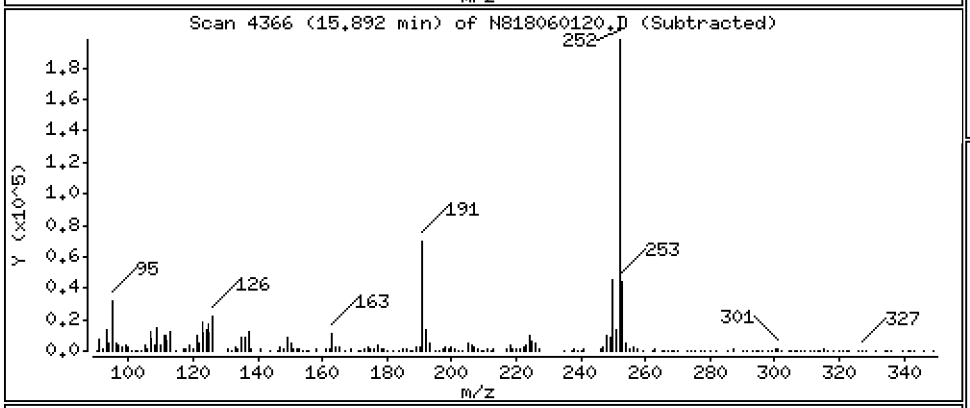
Column diameter: 0.25

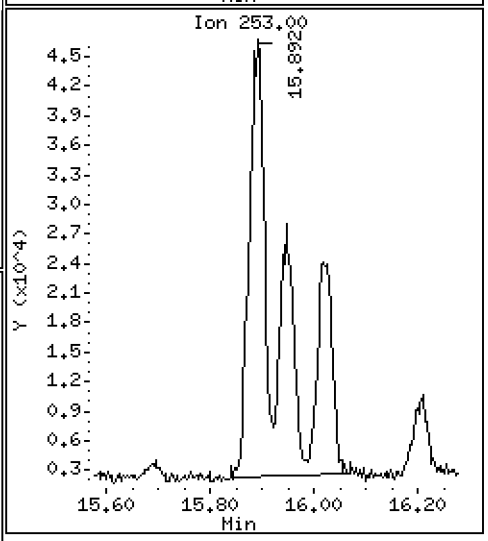
31 Total Benzofluoranthenes

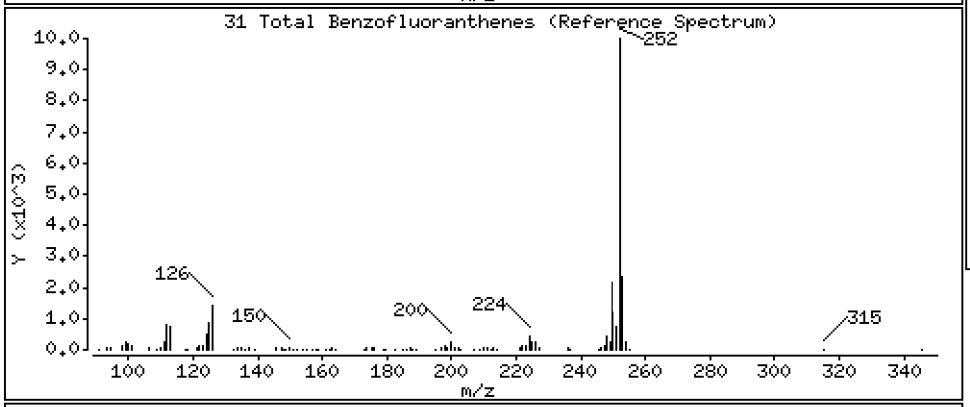
Concentration: 5.878 ug/mL

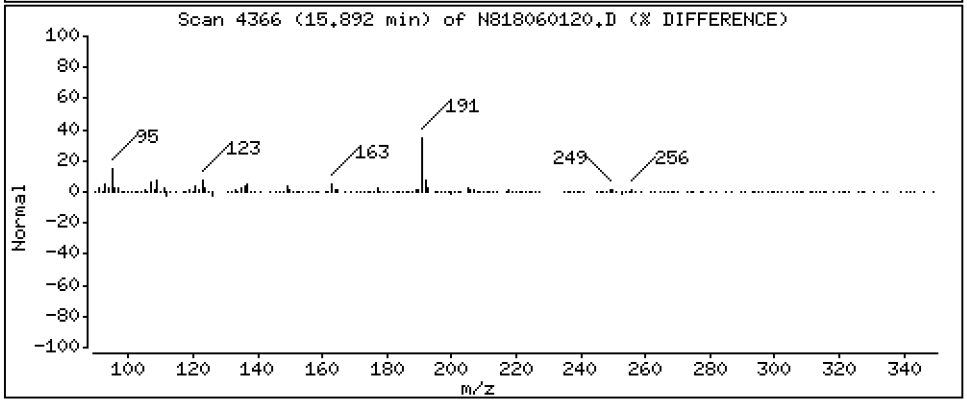












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

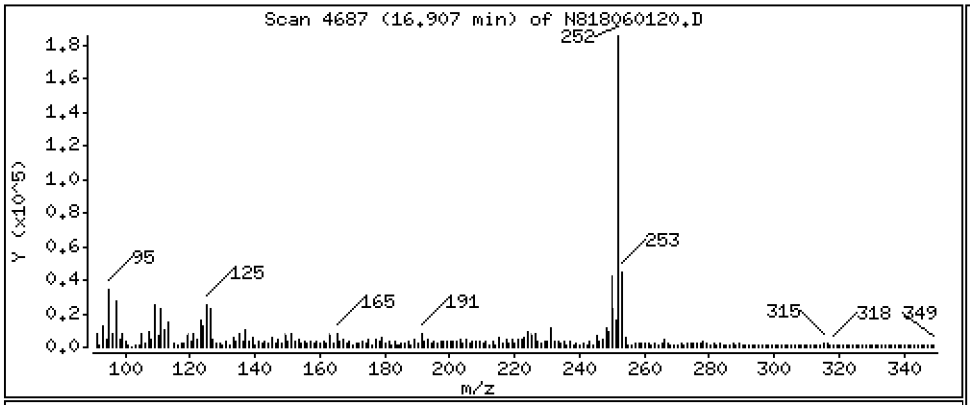
Operator: JZ

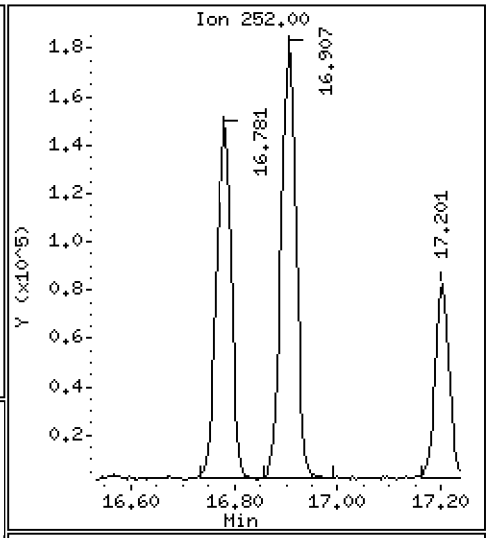
Column phase: Rxi-17sil

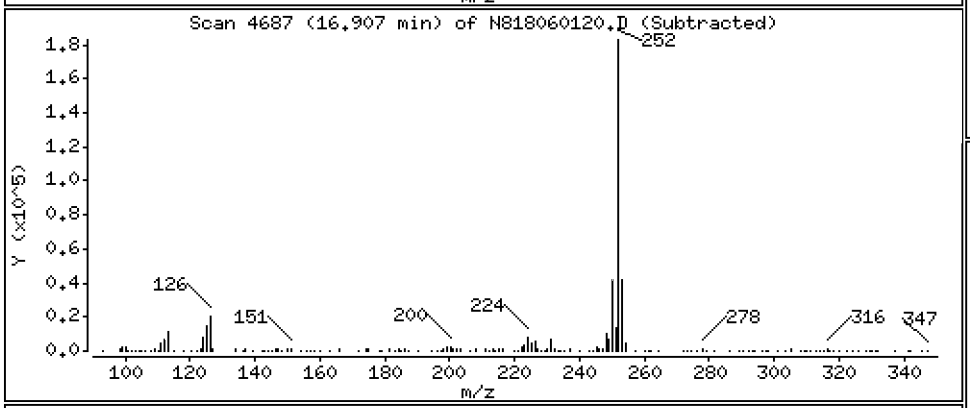
Column diameter: 0.25

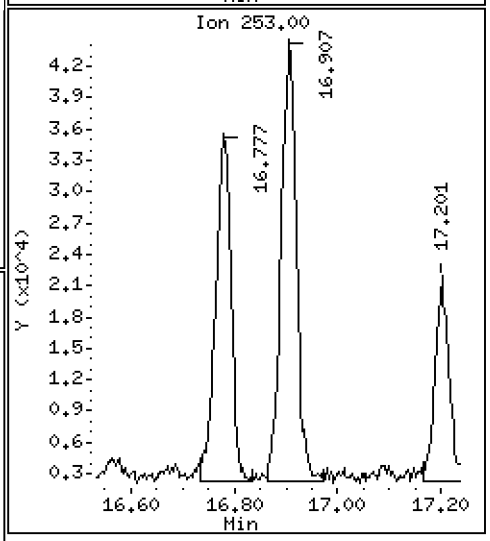
32 Benzo(a)pyrene

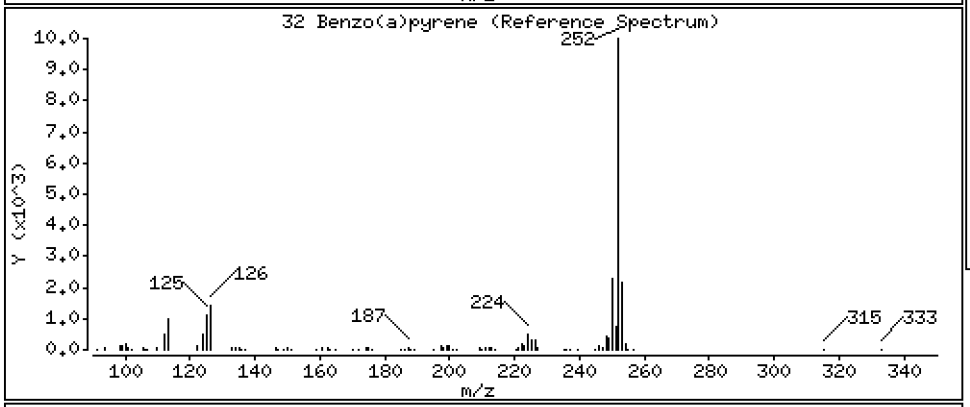
Concentration: 2.988 ug/mL

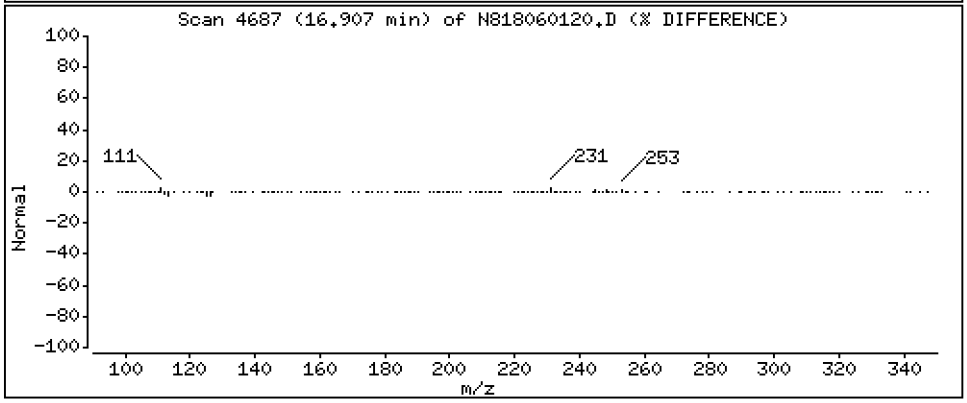












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

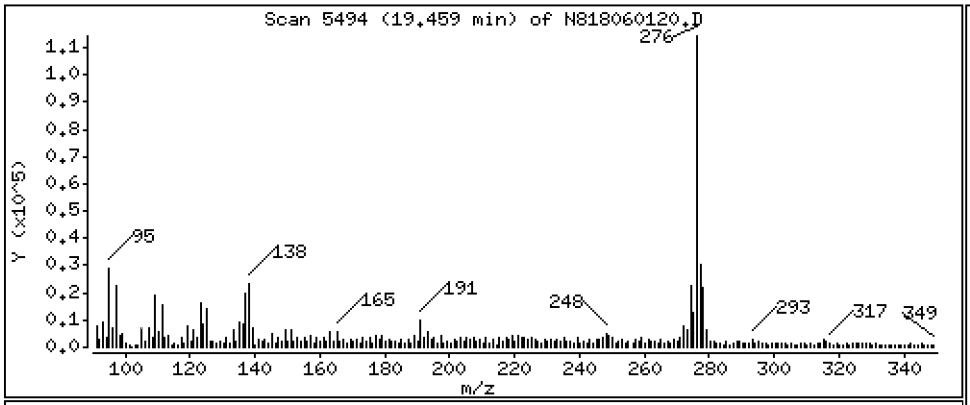
Operator: JZ

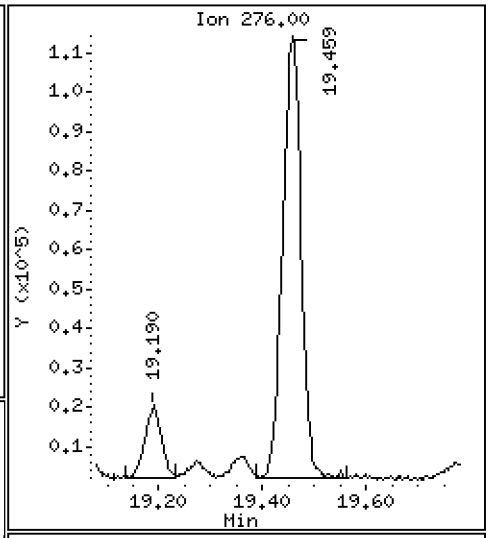
Column phase: Rxi-17sil

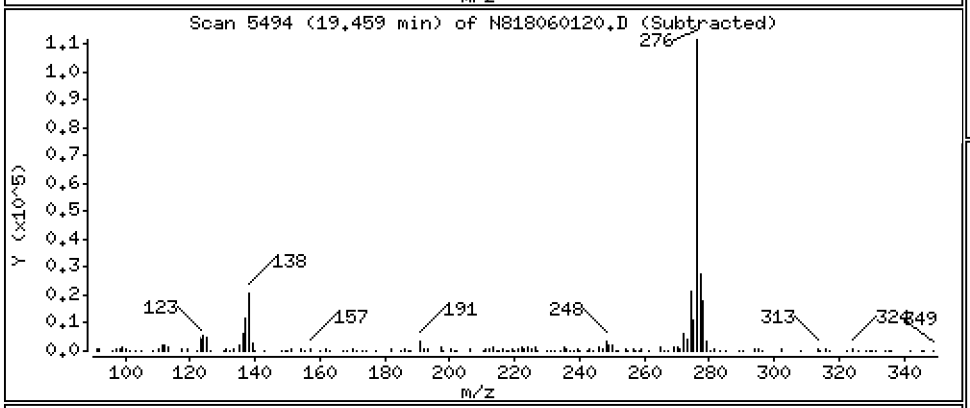
Column diameter: 0.25

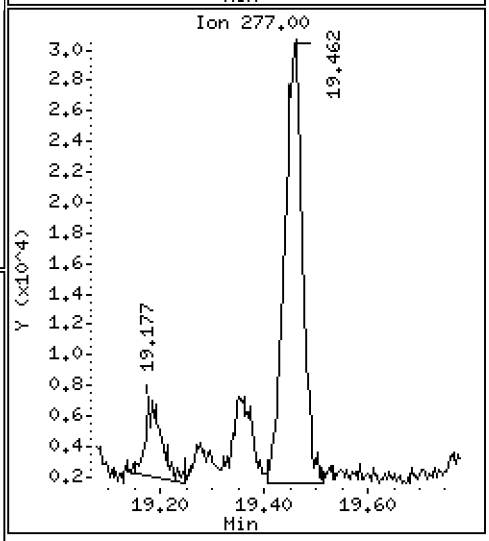
37 Indeno(1,2,3-cd)pyrene

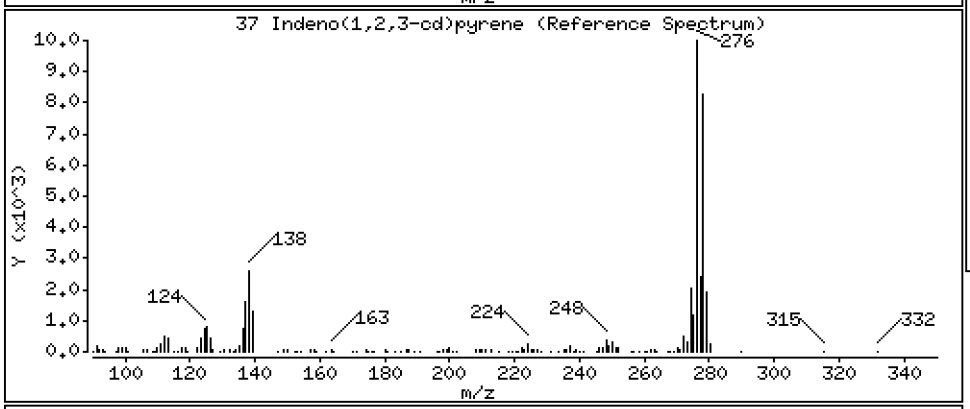
Concentration: 1.981 ug/mL

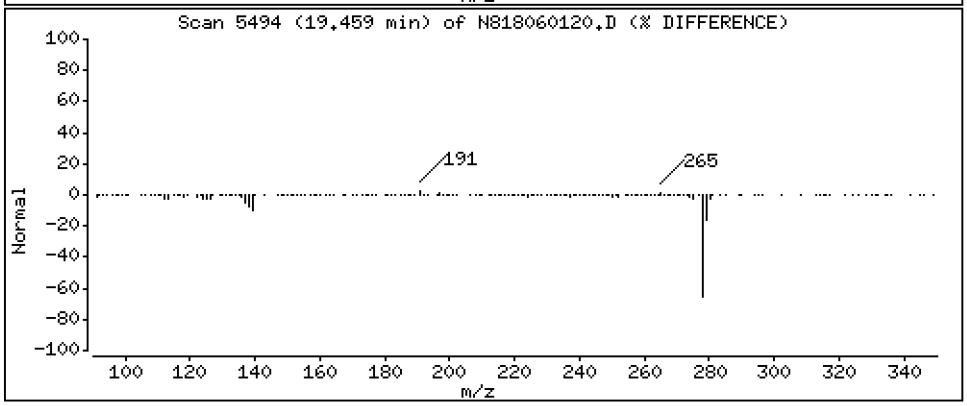












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

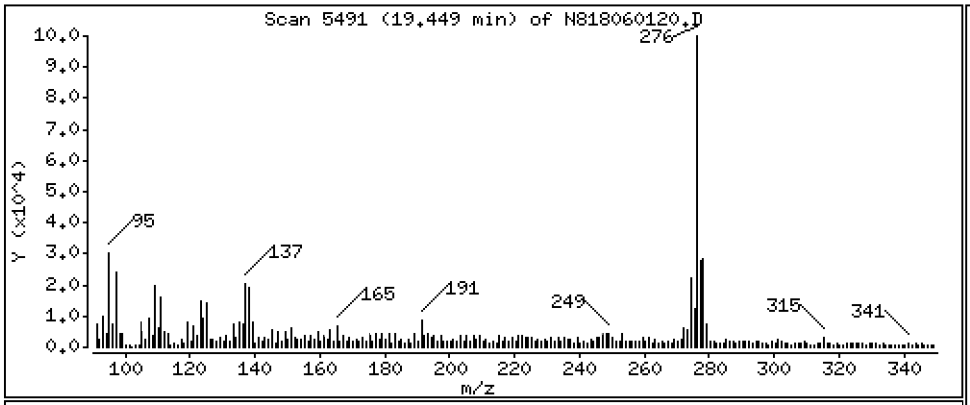
Operator: JZ

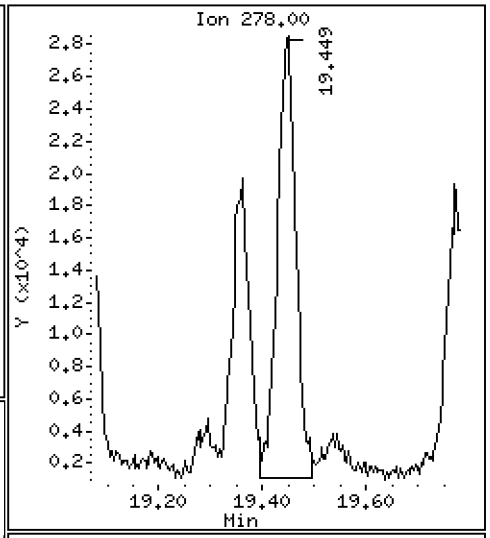
Column phase: Rxi-17sil

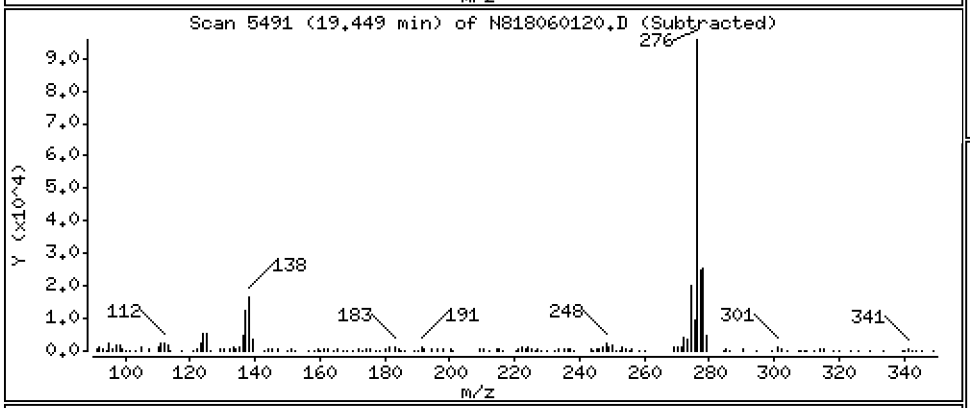
Column diameter: 0.25

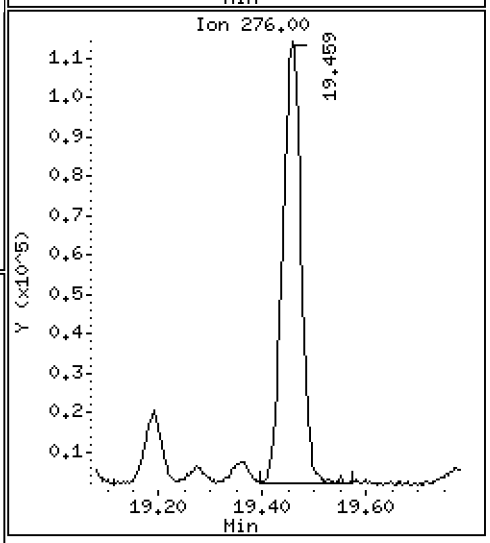
38 Dibenzo(a,h)anthracene

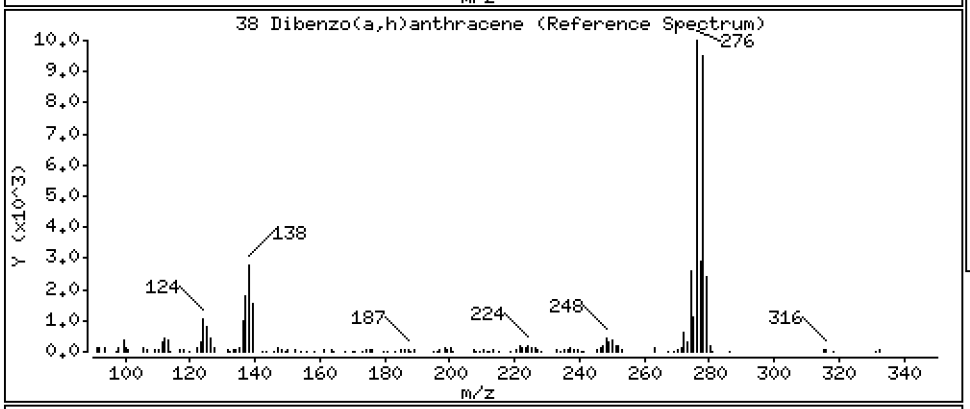
Concentration: 0.5902 ug/mL

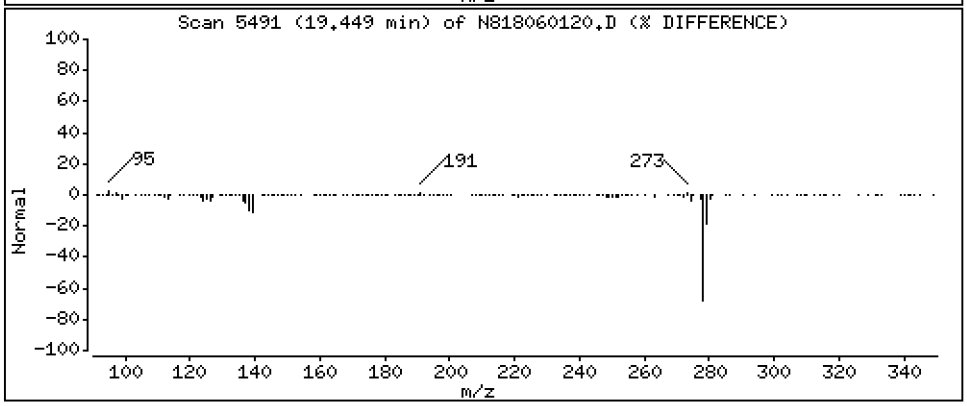












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

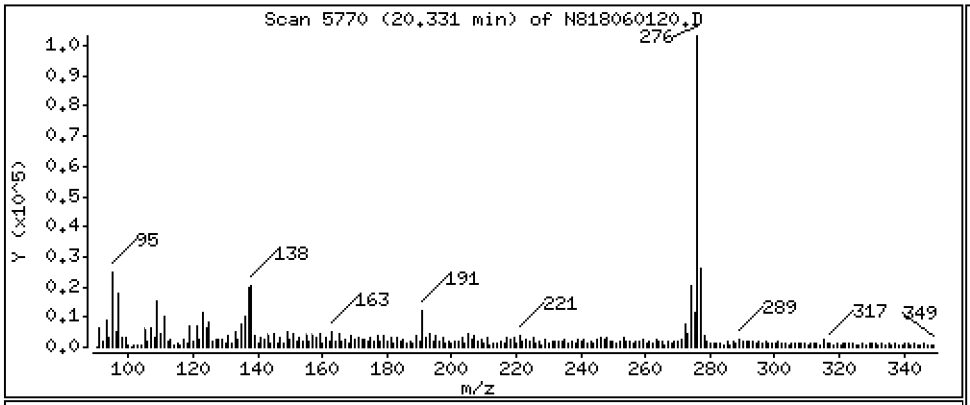
Operator: JZ

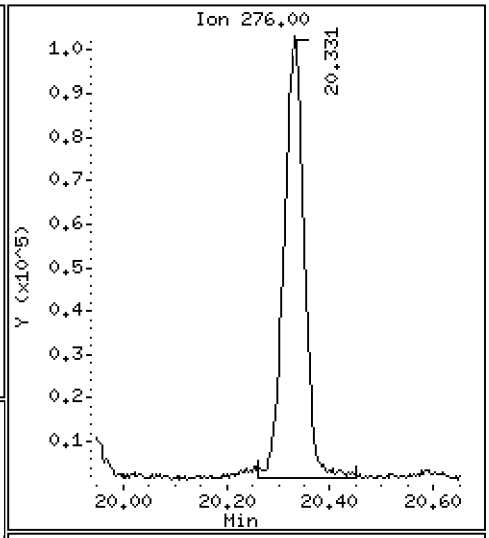
Column phase: Rxi-17sil

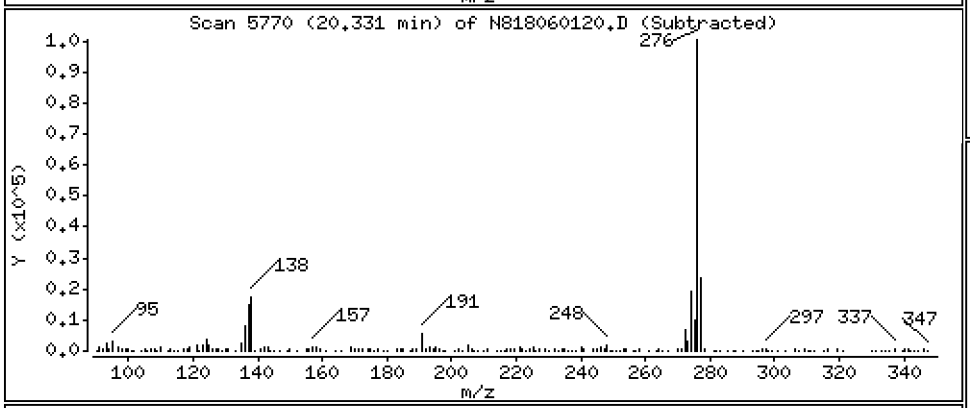
Column diameter: 0.25

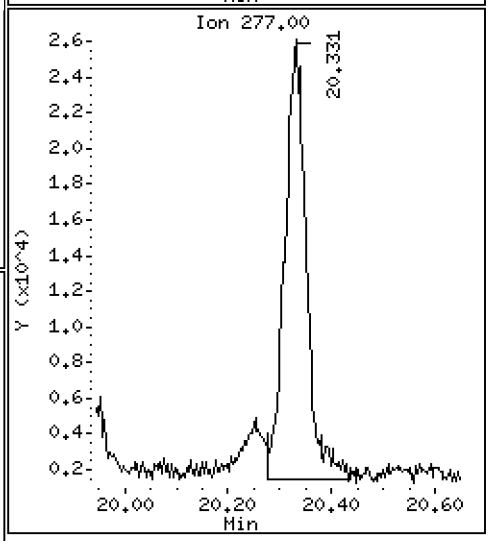
39 Benzo(g,h,i)perylene

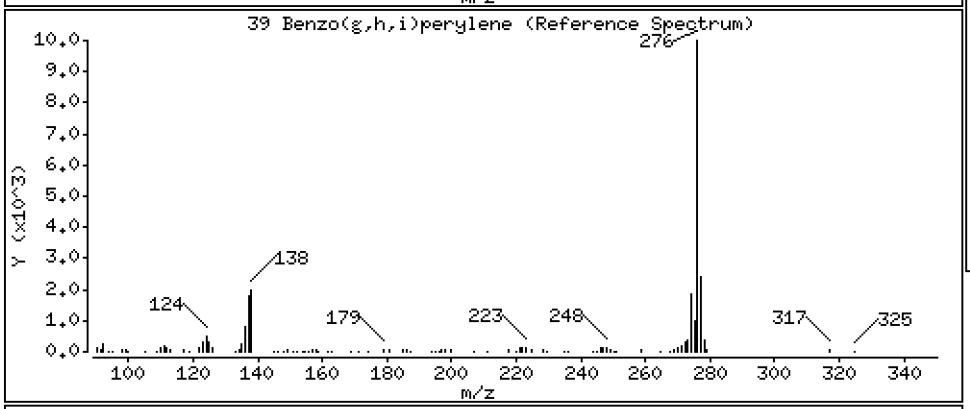
Concentration: 2.247 ug/mL

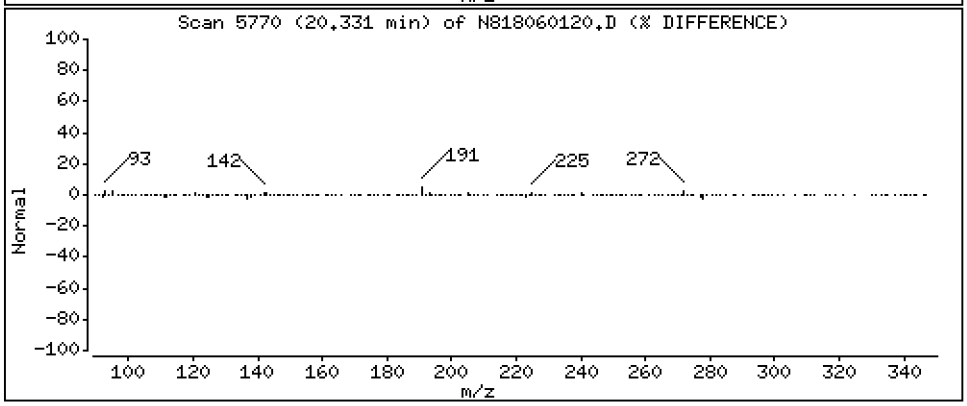












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060120.D

Date : 01-JUN-2018 22:53

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-02

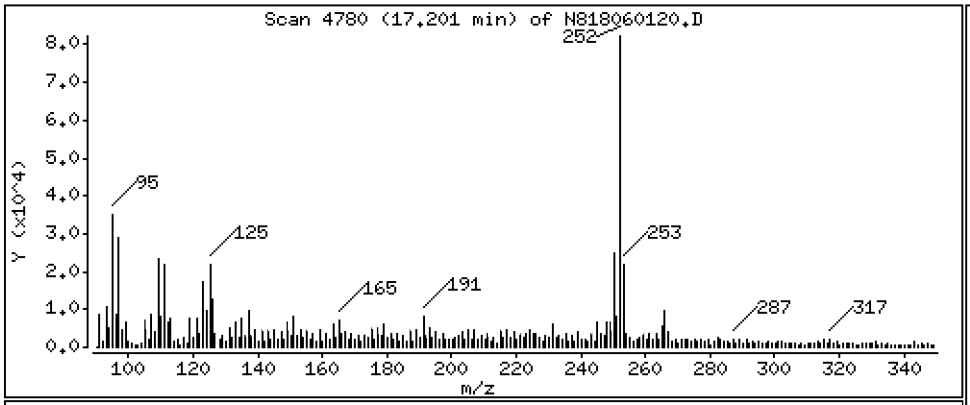
Operator: JZ

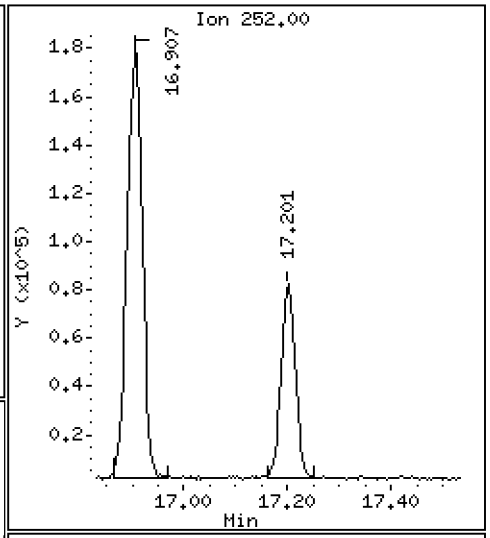
Column phase: Rxi-17sil

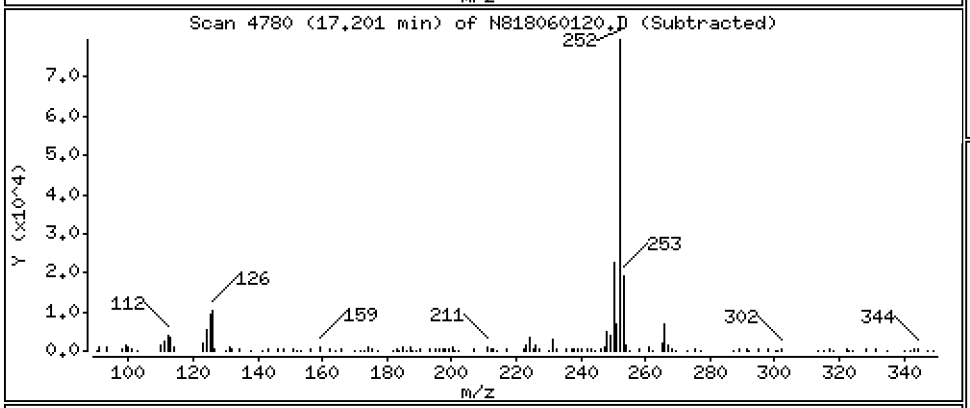
Column diameter: 0.25

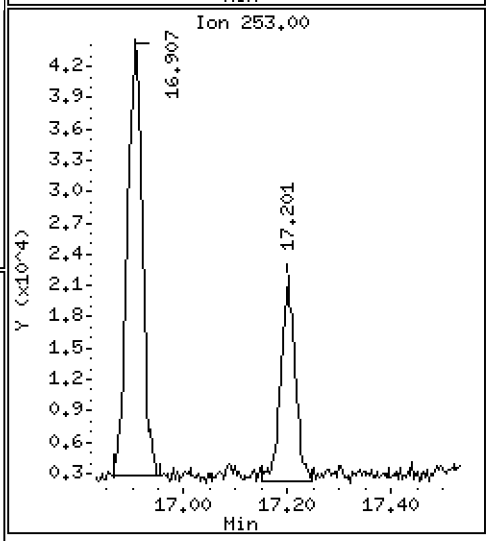
35 Perylene

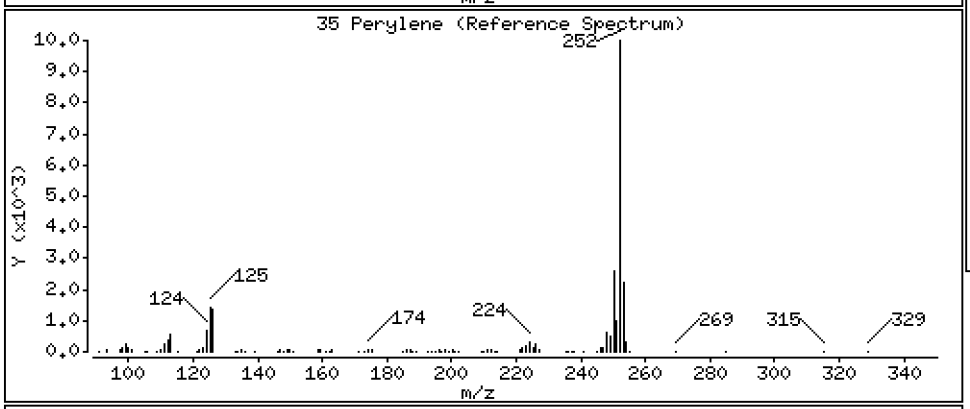
Concentration: 1.140 ug/mL

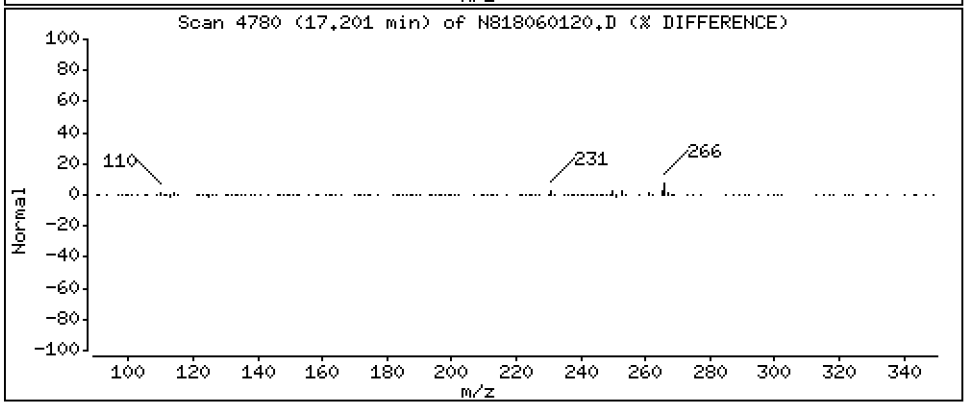












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060120.D
Lab Smp Id: 18E0282-02
Inj Date : 01-JUN-2018 22:53
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	208944		2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	35886		0.29553	0.2955
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	70398		0.92361	0.9236
	4 2-Methylnaphthalene	141	5.233	5.242	(1.175)	13623		0.19918	0.1992
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	10389		0.14757	0.1476
	9 Acenaphthylene	152	6.614	6.617	(0.983)	11382		0.11511	0.1151
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	99593		2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.007)	23045		0.30401	0.3040
	12 Dibenzofuran	168	6.927	6.927	(1.030)	18517		0.18168	0.1817
	14 Fluorene	166	7.402	7.402	(1.100)	27754		0.35241	0.3524
*	15 Phenanthrene-d10	188	8.749	8.745	(1.000)	188007		2.00000	
	16 Phenanthrene	178	8.783	8.780	(1.004)	388611		3.37245	3.372
	17 Anthracene	178	8.825	8.821	(1.009)	87067		0.82928	0.8293
	22 Fluoranthene	202	10.447	10.434	(1.194)	884506		6.81093	6.811
$	21 Fluoranthene-d10	212	10.409	10.402	(1.190)	146642		1.19141	1.191
	23 Pyrene	202	10.915	10.902	(0.816)	841689		6.52294	6.523
	24 Benzo(a)anthracene	228	13.251	13.239	(0.991)	364243		2.91970	2.920
*	25 Chrysene-d12	240	13.375	13.356	(1.000)	214717		2.00000	
	27 Chrysene	228	13.441	13.425	(1.005)	460658		3.66823	3.668
	28 Benzo(b)fluoranthene	252	15.892	15.869	(0.927)	408467		2.89909	2.899
	29 Benzo(k)fluoranthene	252	15.948	15.926	(0.931)	214047		1.54497	1.545
	30 Benzo(j)fluoranthene	252	16.021	16.002	(0.935)	195042		1.40598	1.406
	31 Total Benzofluoranthenes	252	15.892	15.926	(0.927)	807759		5.87849	5.878(M)
	32 Benzo(a)pyrene	252	16.907	16.884	(0.987)	369010		2.98820	2.988
*	33 Perylene-d12	264	17.134	17.112	(1.000)	221697		2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.458	19.430	(1.136)	280065		1.98099	1.981
$	36 Dibenzo(a,h)anthracene-d14	292	19.360	19.338	(1.130)	122428		1.17899	1.179
	38 Dibenzo(a,h)anthracene	278	19.449	19.430	(1.135)	68833		0.59023	0.5902
	39 Benzo(g,h,i)perylene	276	20.331	20.299	(1.187)	277688		2.24737	2.247
	35 Perylene	252	17.201	17.181	(1.004)	152845		1.13990	1.140

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060120.D
Lab Smp Id: 18E0282-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	208944	71.00
10 Acenaphthene-d10	65789	32895	131578	99593	51.38
15 Phenanthrene-d10	128644	64322	257288	188007	46.15
25 Chrysene-d12	166669	83335	333338	214717	28.83
33 Perylene-d12	140483	70242	280966	221697	57.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.04
25 Chrysene-d12	13.36	12.86	13.86	13.38	0.14
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060120.D

Lab ID: 18E0282-02
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 22:53

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

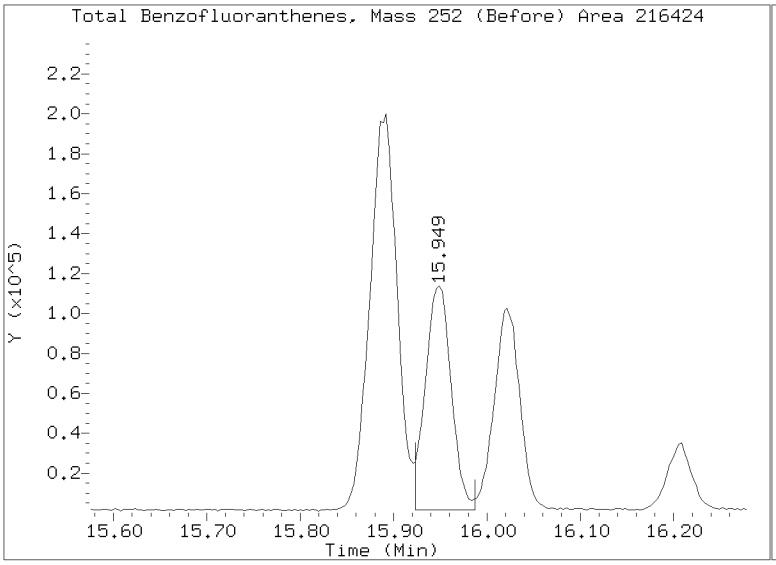
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

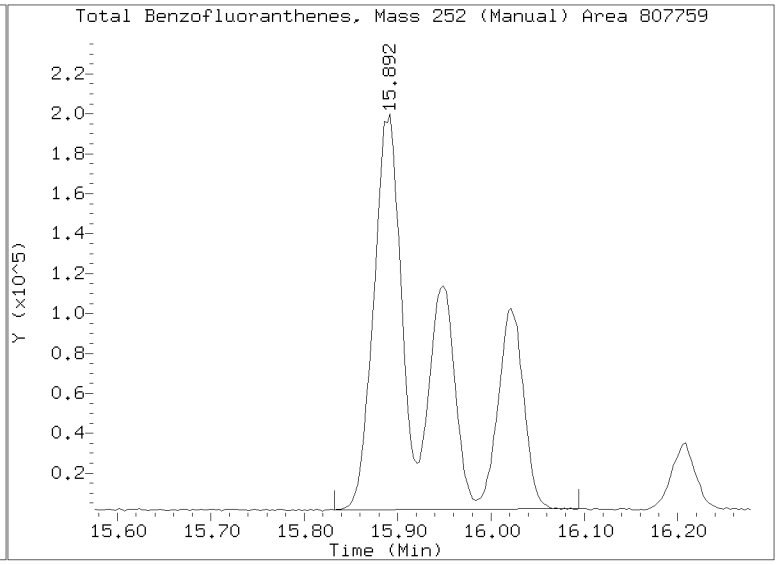
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060120.D
Injection Date: 01-JUN-2018 22:53
Lab ID:18E0282-02 Client ID:
Report Date: 06/04/2018 11:37





LDW18-SSCL-A18

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-03	SDG:	18E0231
Sampled:	05/18/18 13:57	Prepared:	05/24/18 10:50	File ID:	N818060121.D
% Solids:	71.30	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 23:20
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	14.1 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	848	E	0.82	4.97
218-01-9	Chrysene	1	898	E	1.05	4.97
205-99-2	Benzo(b)fluoranthene	1	795	E	1.36	4.97
207-08-9	Benzo(k)fluoranthene	1	489		0.76	4.97
50-32-8	Benzo(a)pyrene	1	1030	E	0.61	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	601	E	1.04	4.97
53-70-3	Dibenzo(a,h)anthracene	1	209		0.89	4.97

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.20	49.1	32.9	32 - 120	
Dibenzo[a,h]anthracene-d14	149.20	62.9	42.1	21 - 133	
Fluoranthene-d10	149.20	57.9	38.8	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

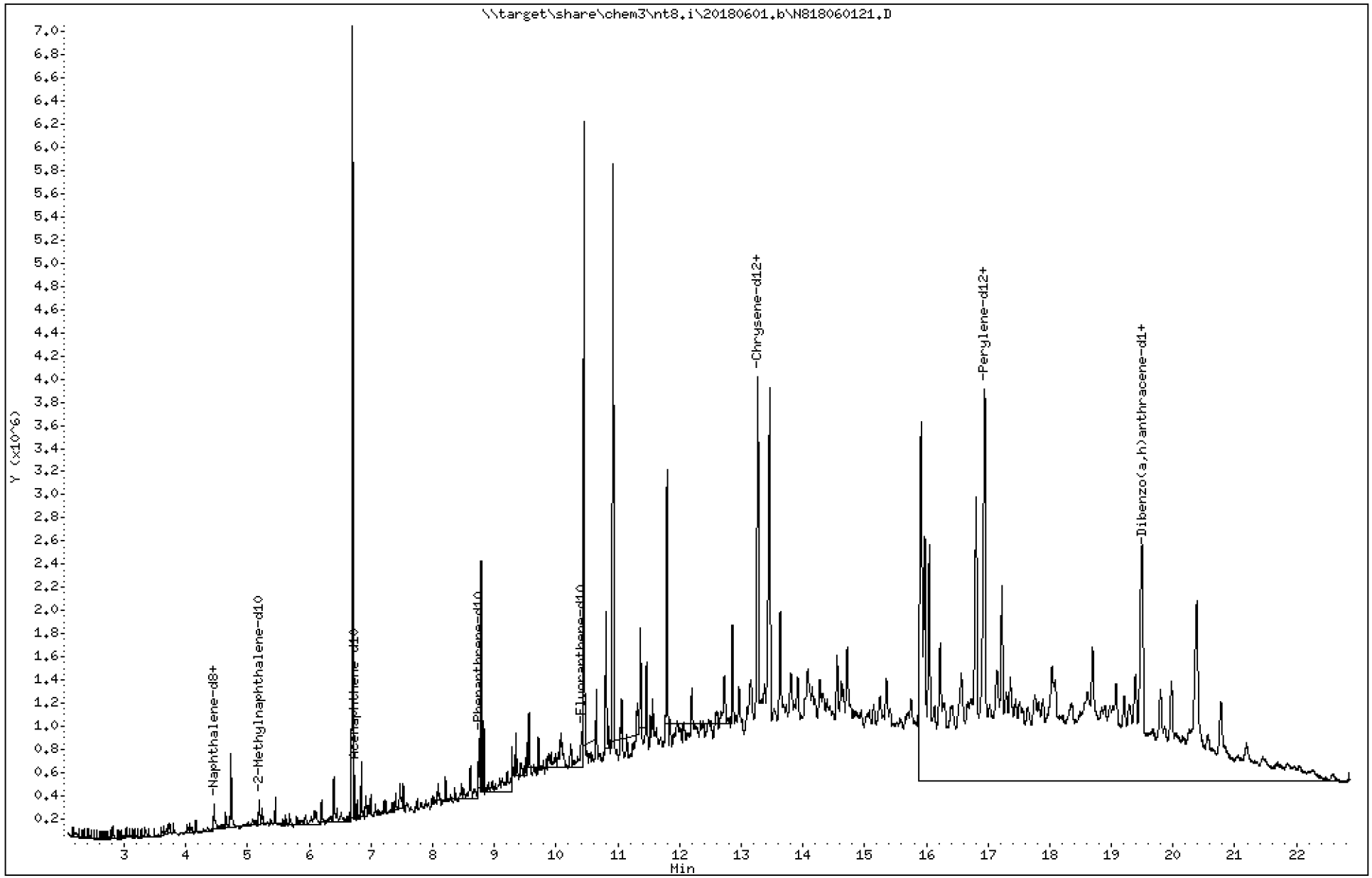
Instrument: nt8.i

Sample Info: 18E0282-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

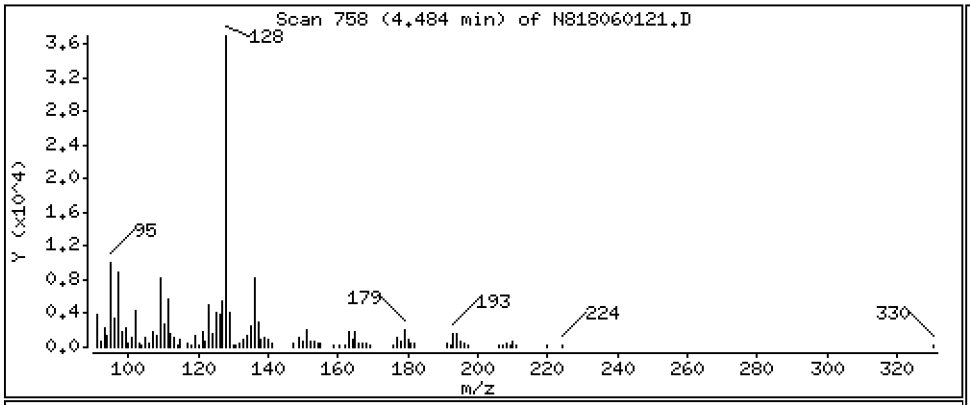
Operator: JZ

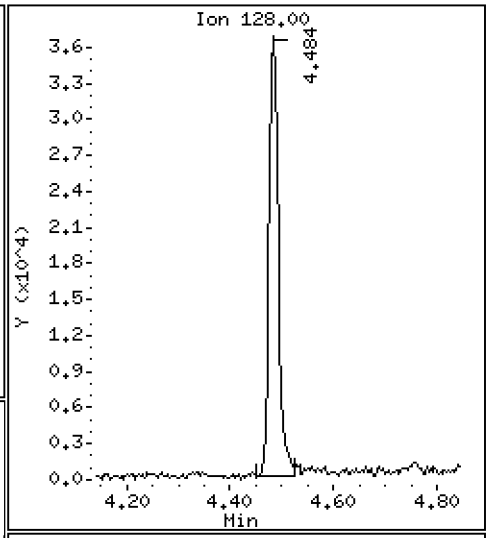
Column phase: Rxi-17sil

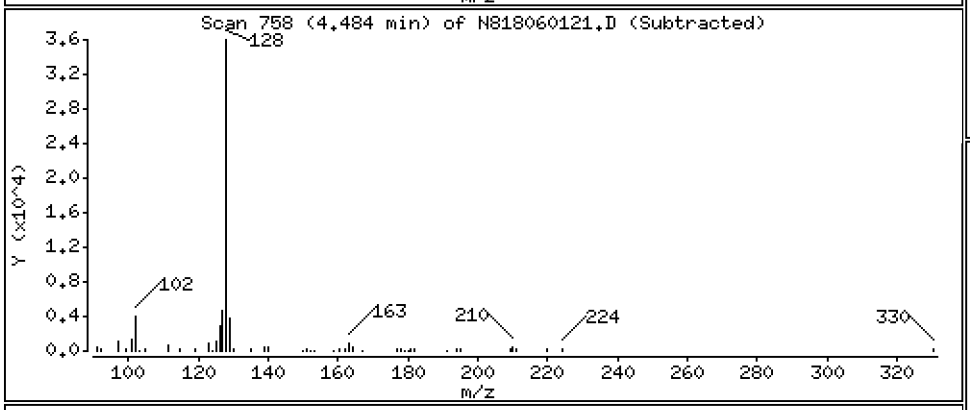
Column diameter: 0.25

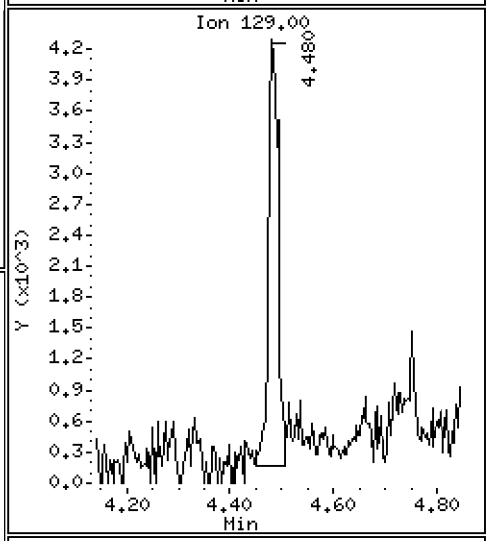
2 Naphthalene

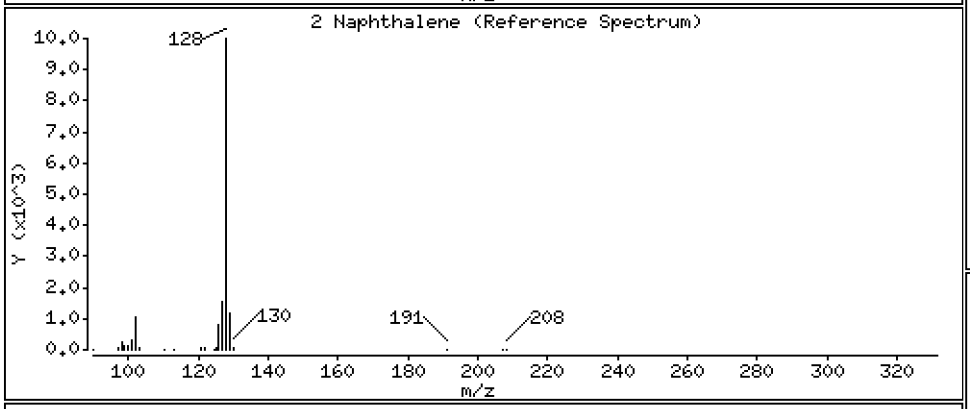
Concentration: 0.4115 ug/mL

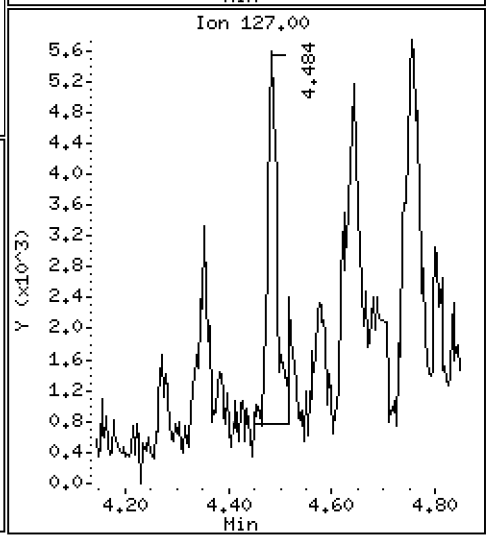


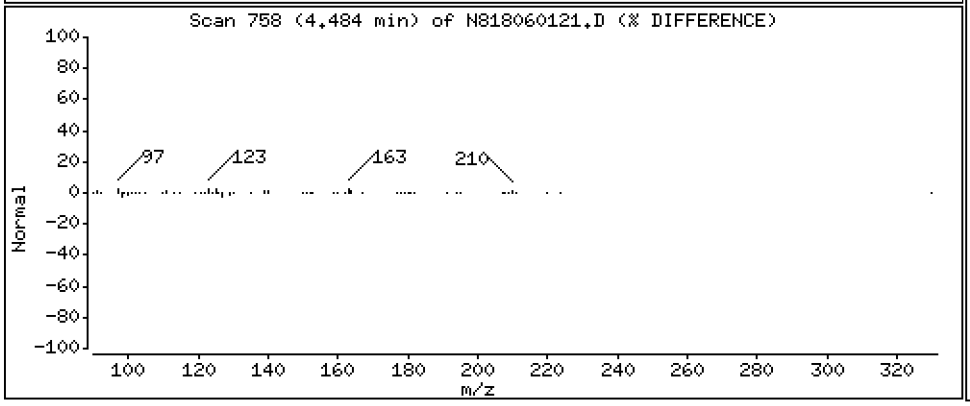












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

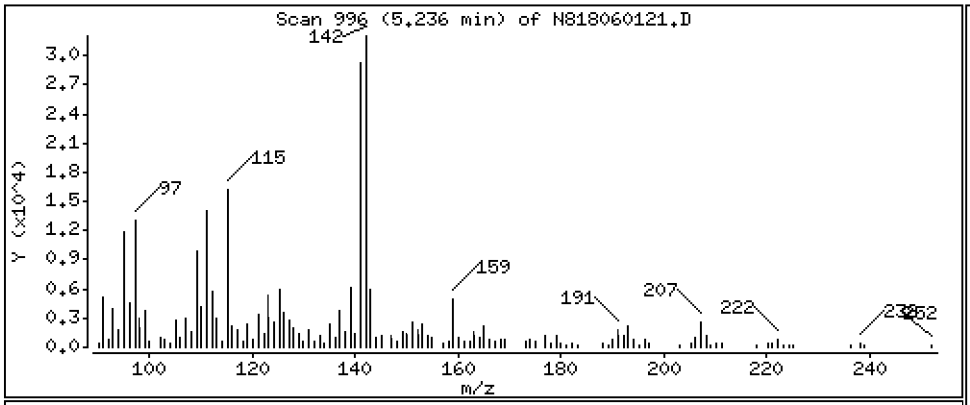
Operator: JZ

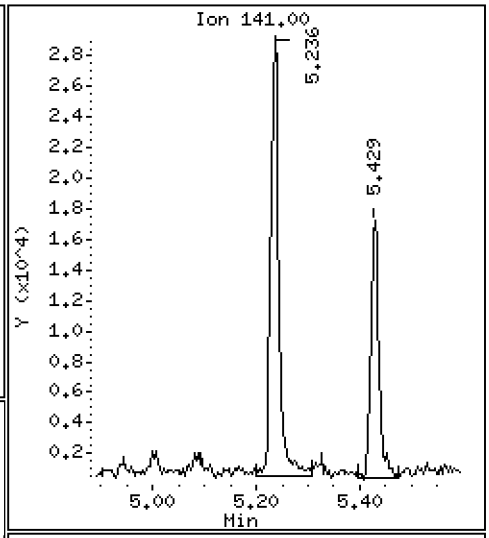
Column phase: Rxi-17sil

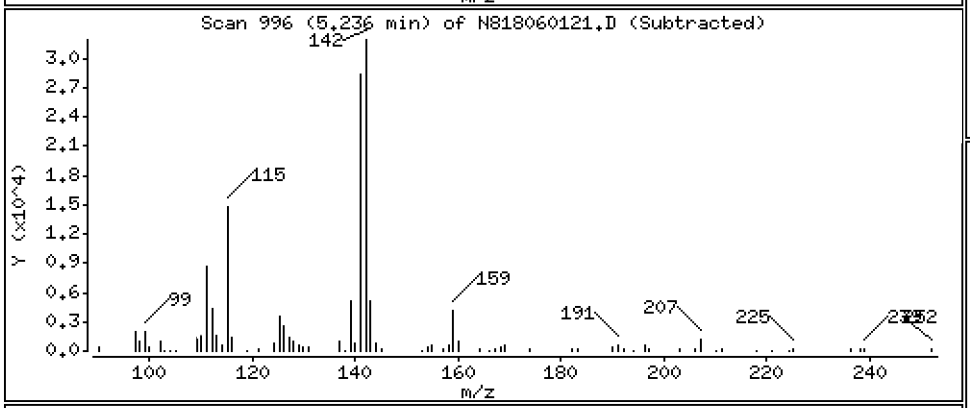
Column diameter: 0.25

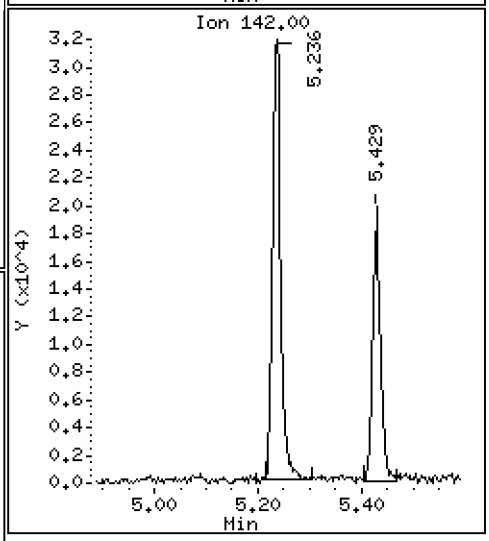
4 2-Methylnaphthalene

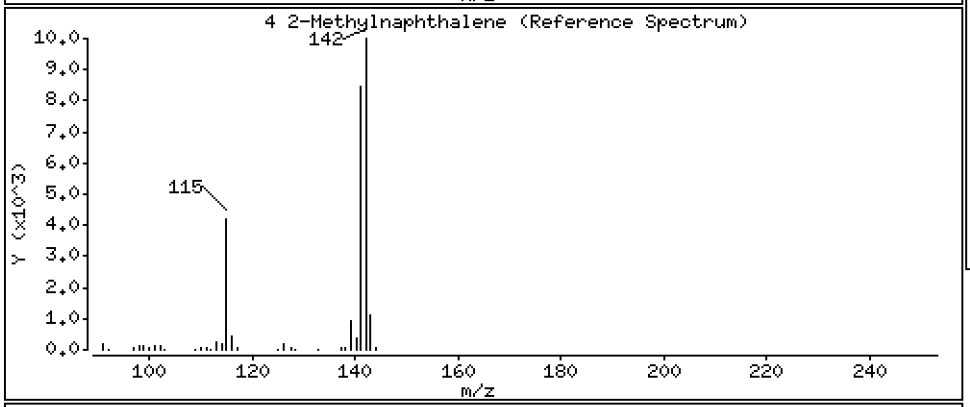
Concentration: 0.5267 ug/mL

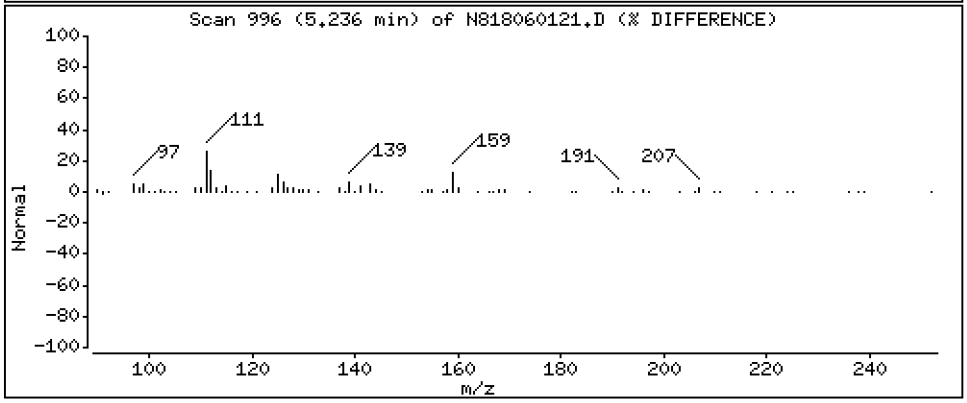












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

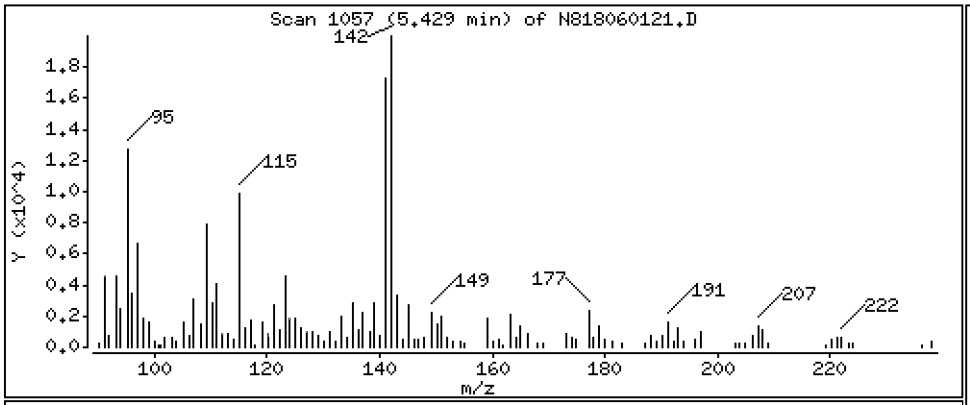
Operator: JZ

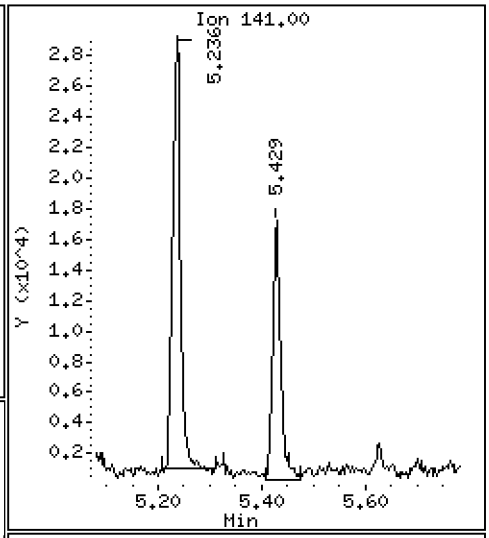
Column phase: Rxi-17sil

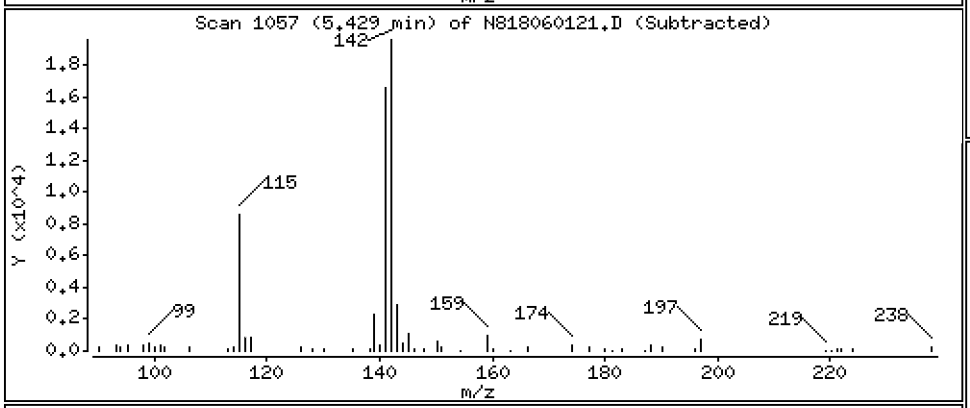
Column diameter: 0.25

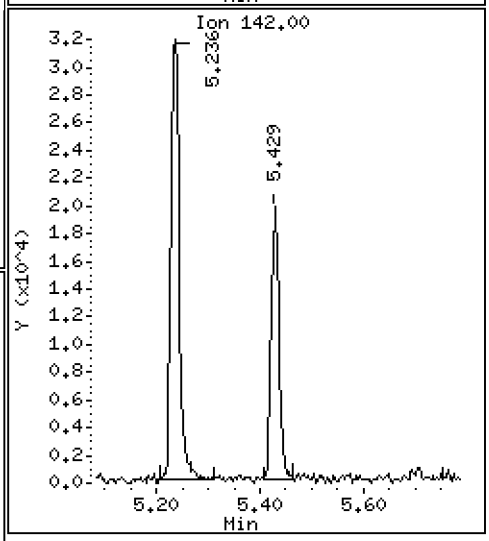
5 1-methylnaphthalene

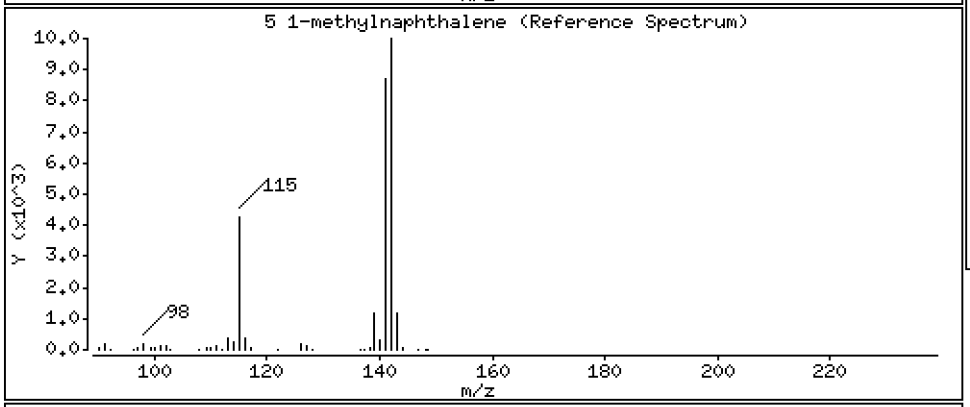
Concentration: 0.2965 ug/mL

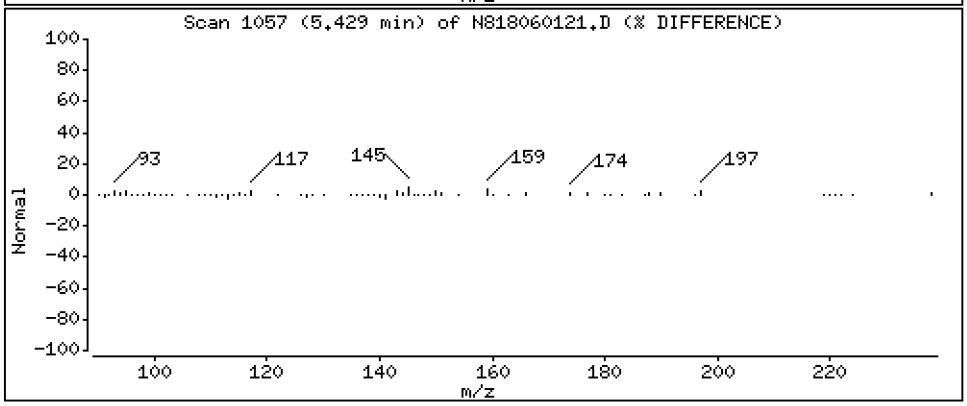












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

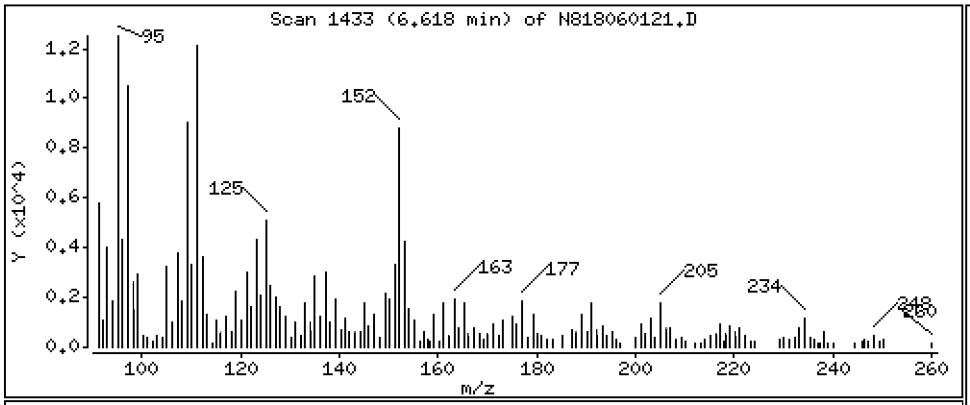
Operator: JZ

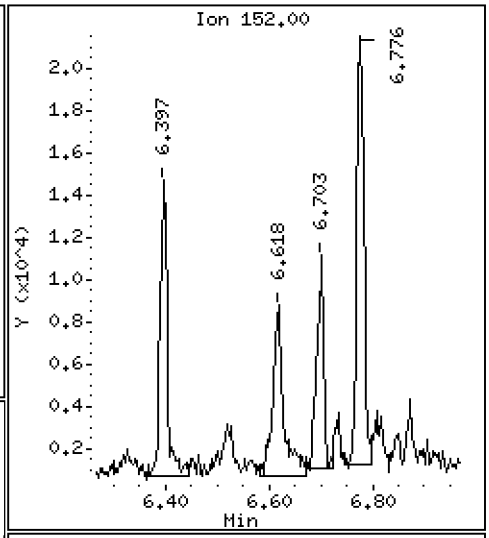
Column phase: Rxi-17sil

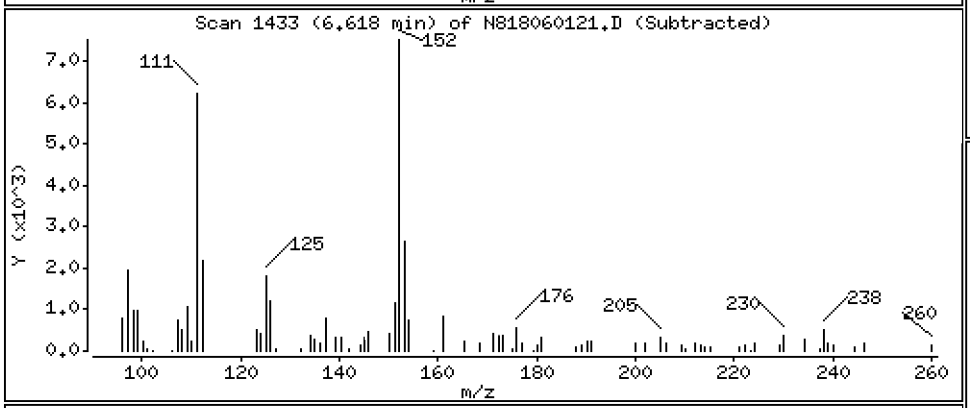
Column diameter: 0.25

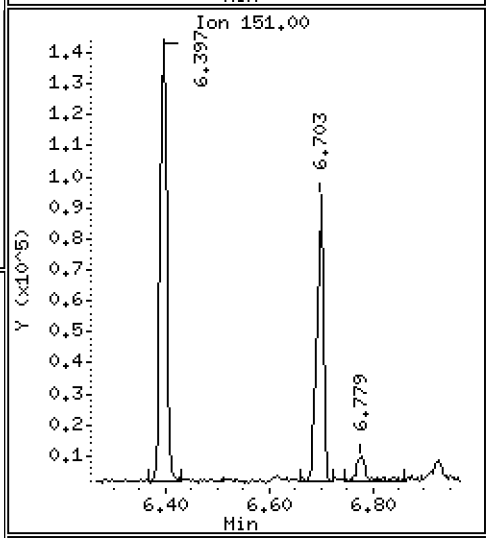
9 Acenaphthylene

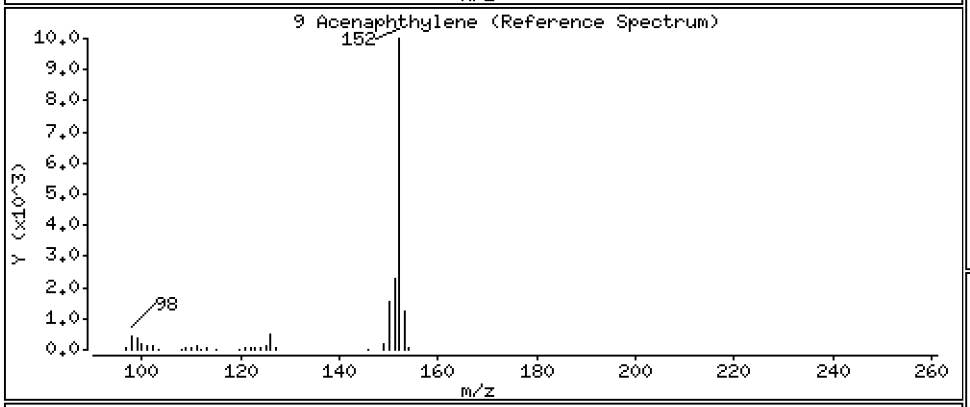
Concentration: 0.1308 ug/mL

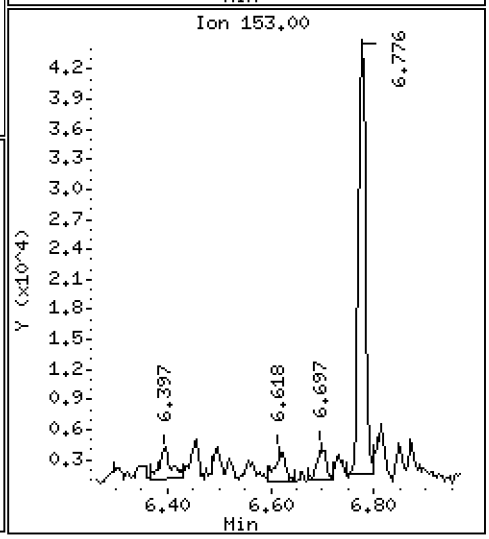


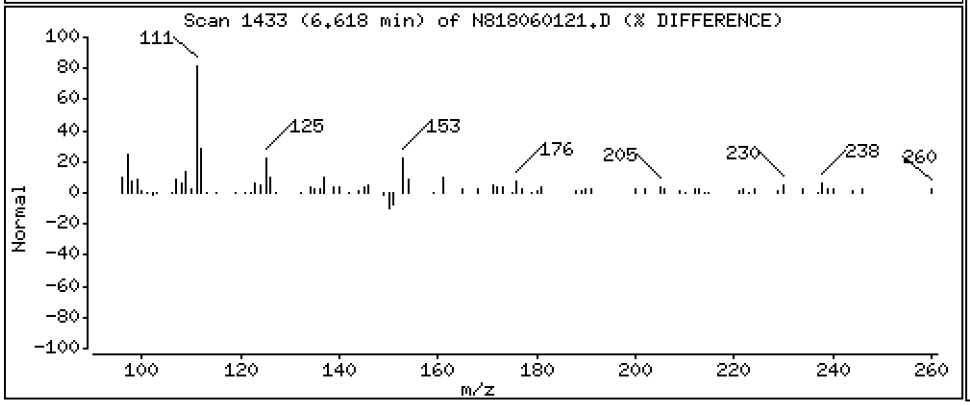












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

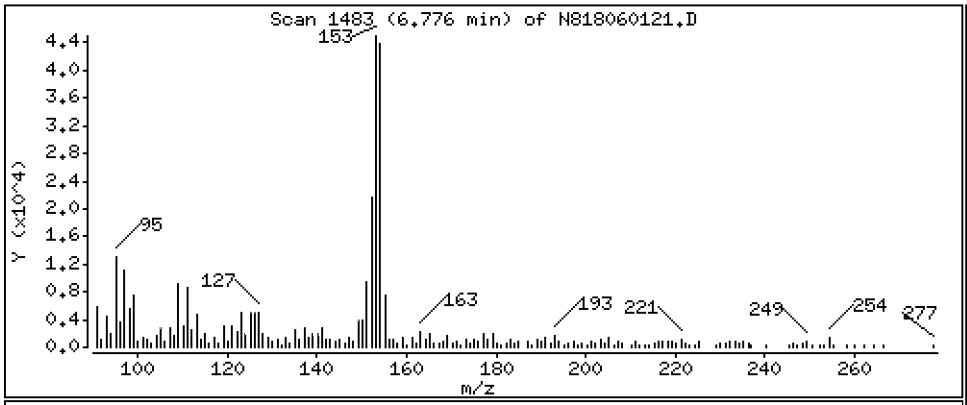
Operator: JZ

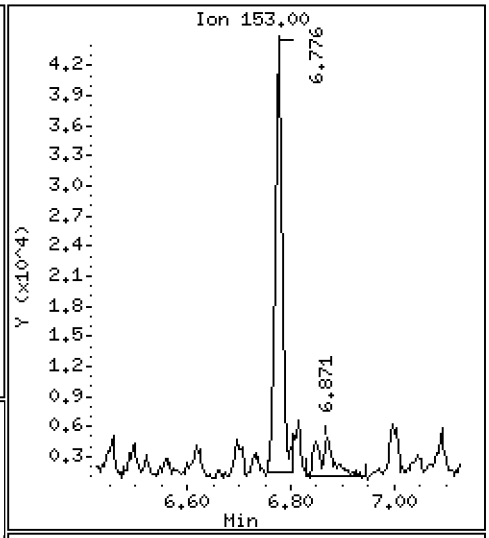
Column phase: Rxi-17sil

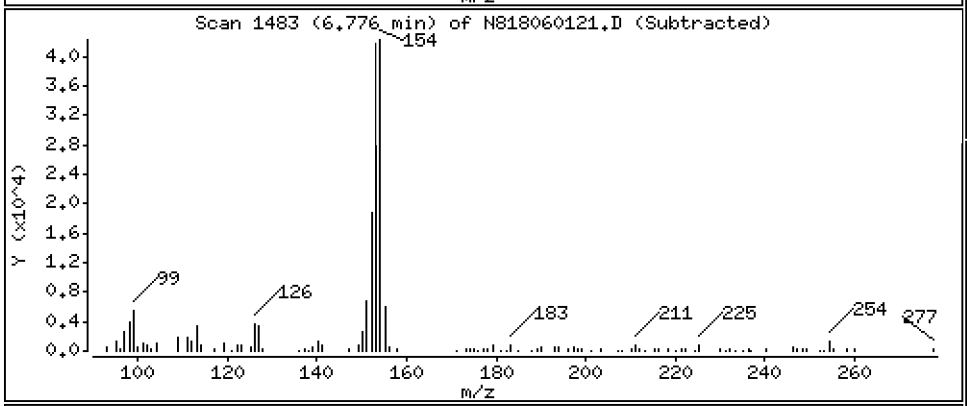
Column diameter: 0.25

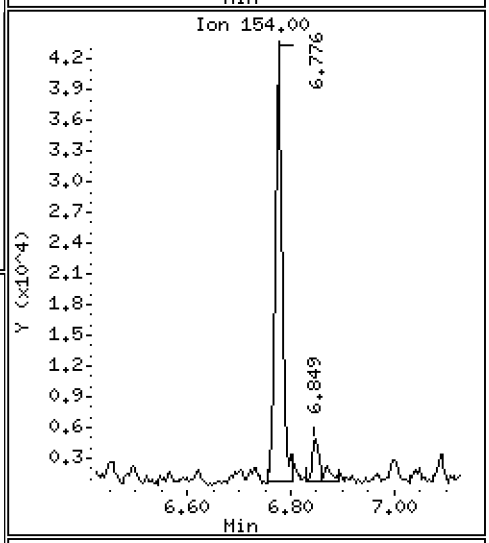
11 Acenaphthene

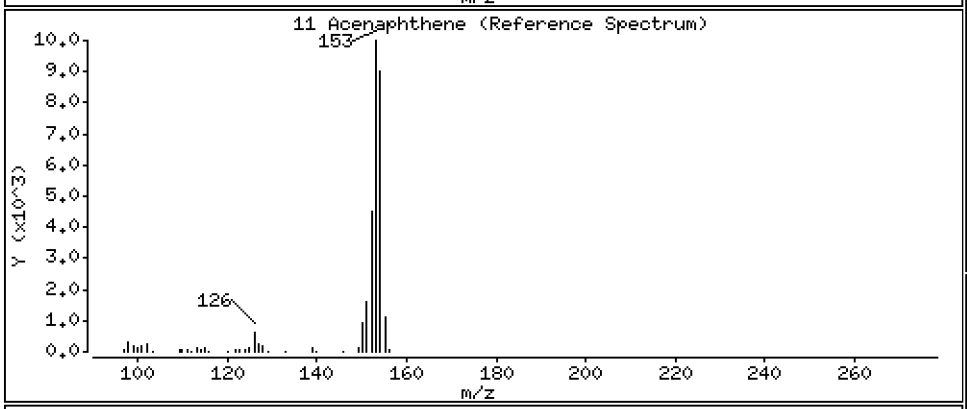
Concentration: 0.5890 ug/mL

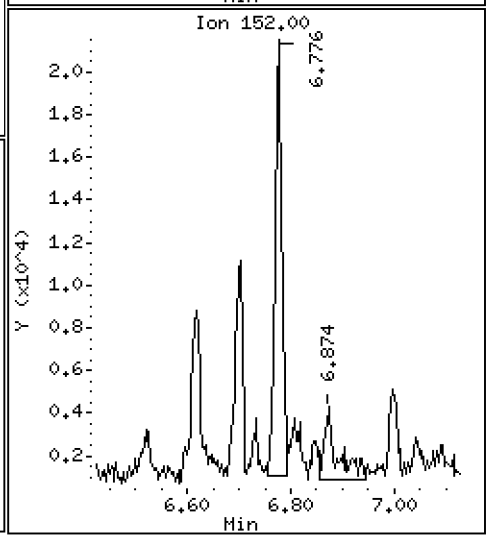


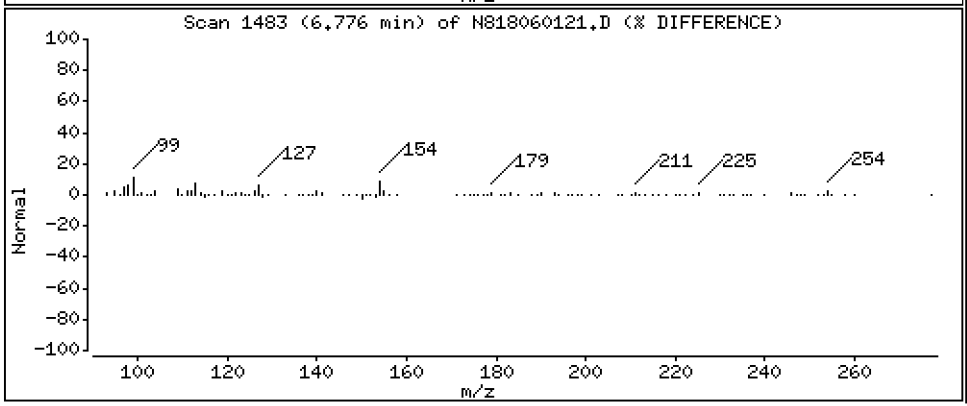












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

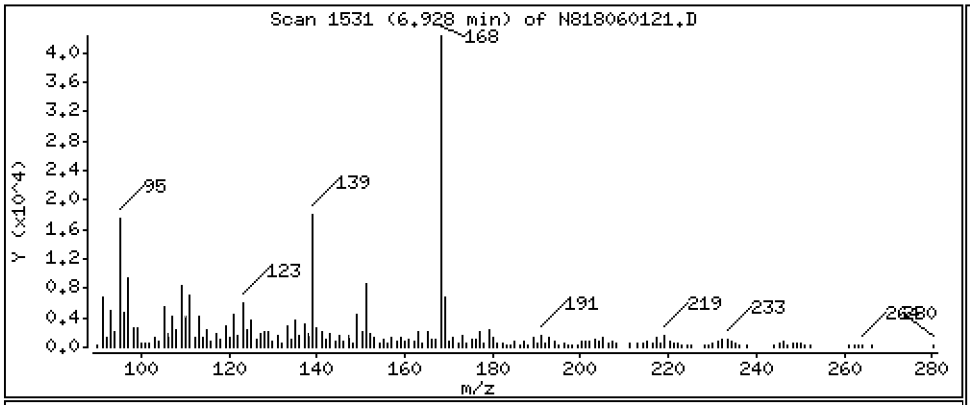
Operator: JZ

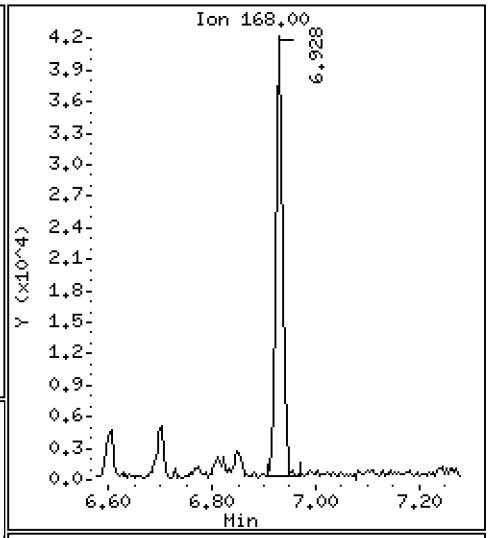
Column phase: Rxi-17sil

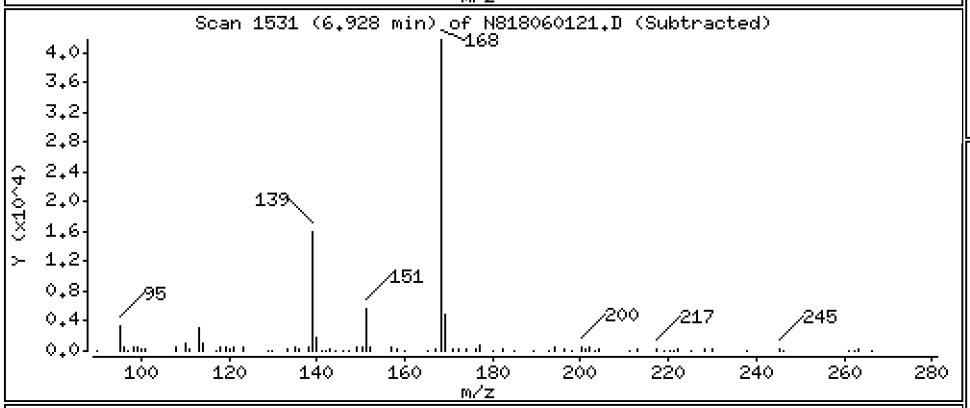
Column diameter: 0.25

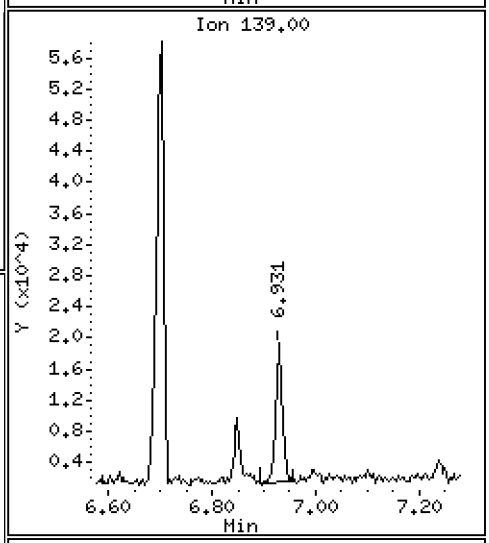
12 Dibenzofuran

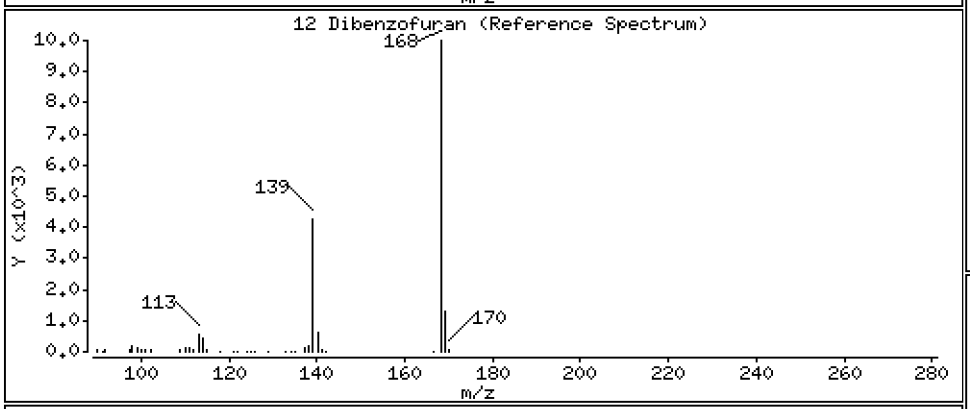
Concentration: 0.4111 ug/mL

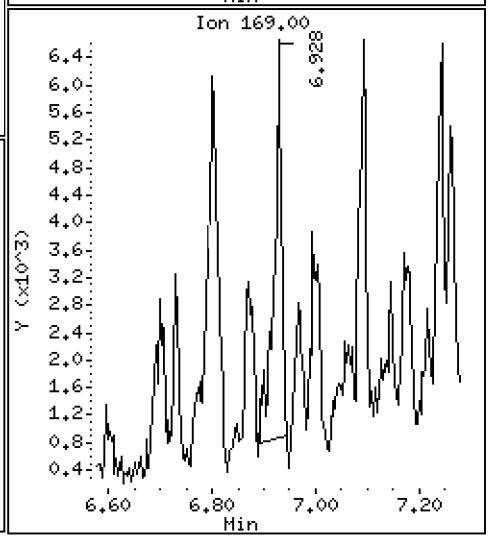


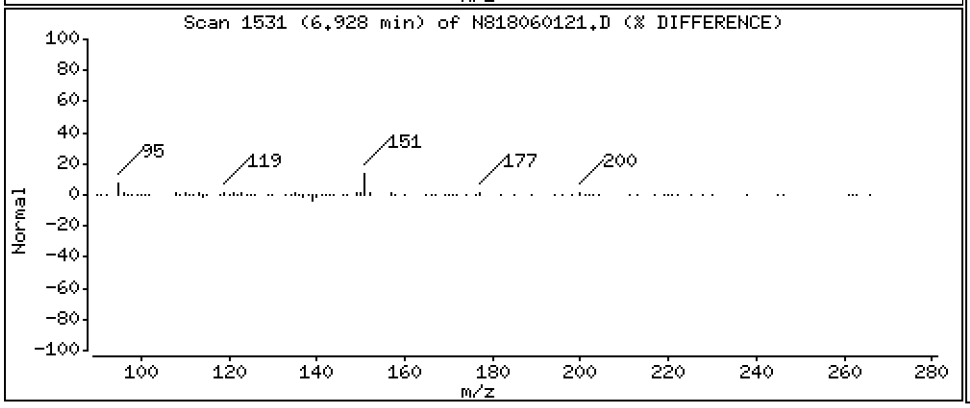












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

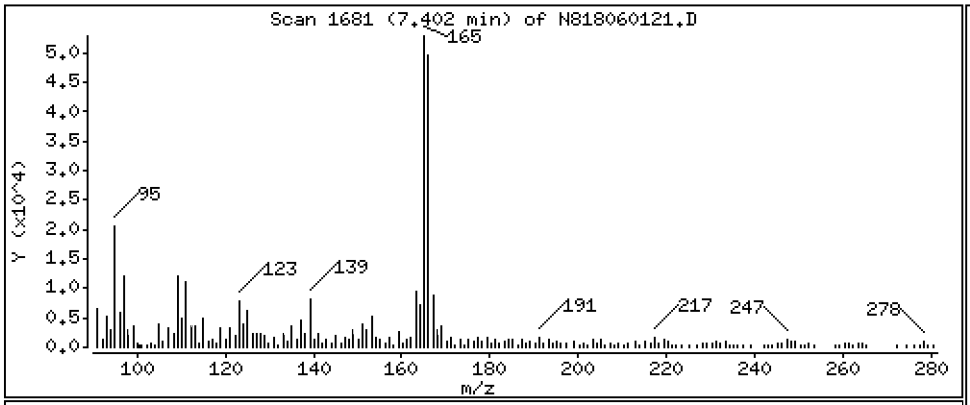
Operator: JZ

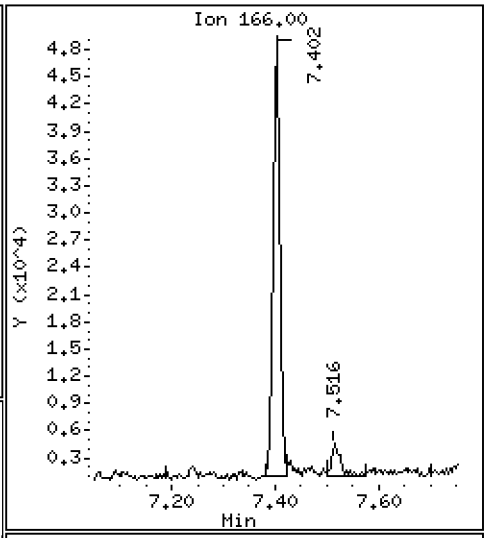
Column phase: Rxi-17sil

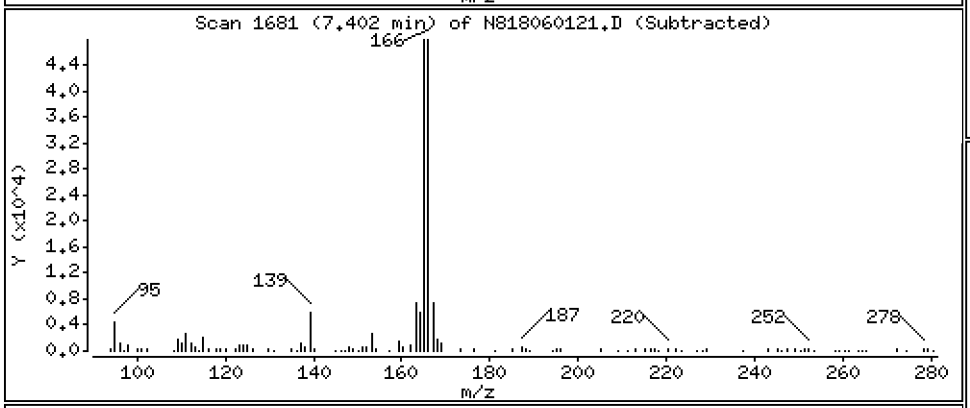
Column diameter: 0.25

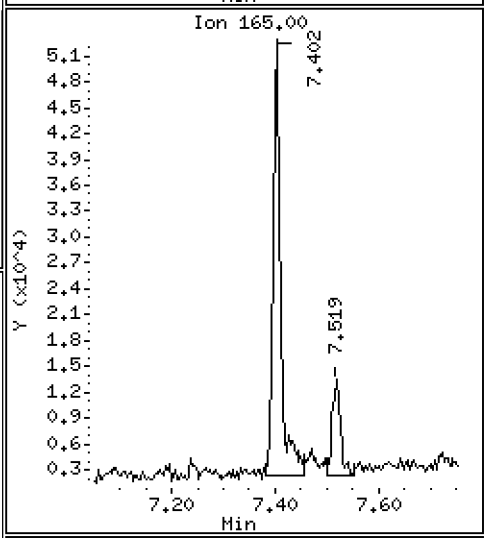
14 Fluorene

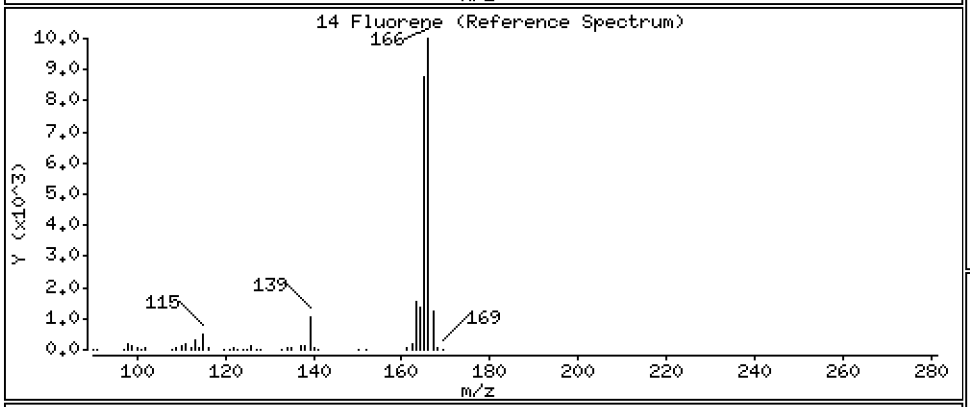
Concentration: 0.6114 ug/mL

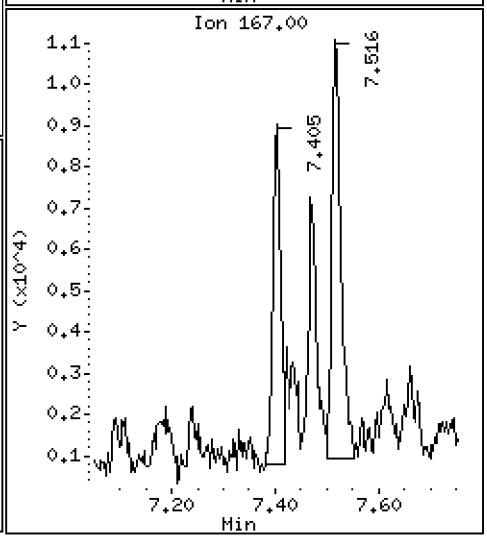


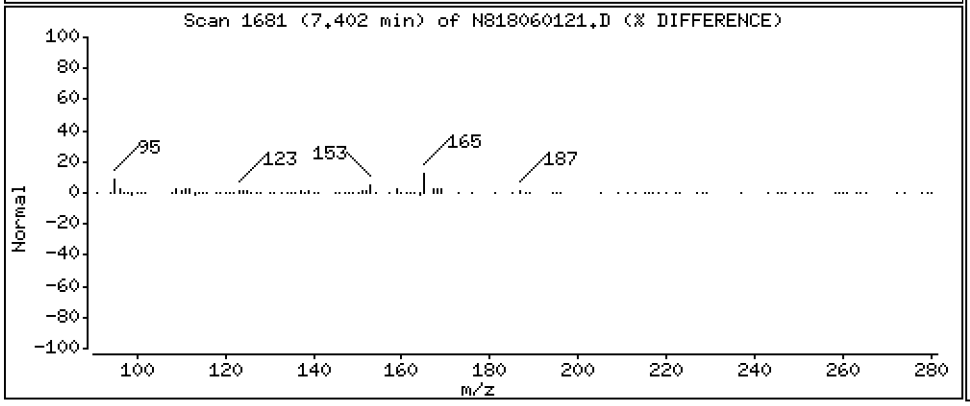












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

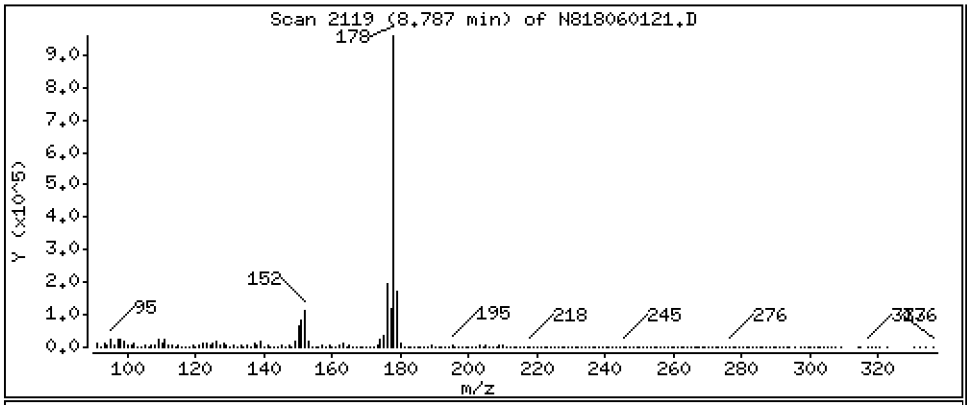
Operator: JZ

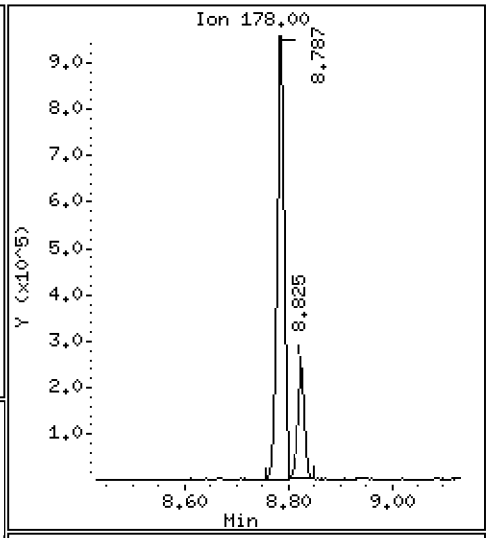
Column phase: Rxi-17sil

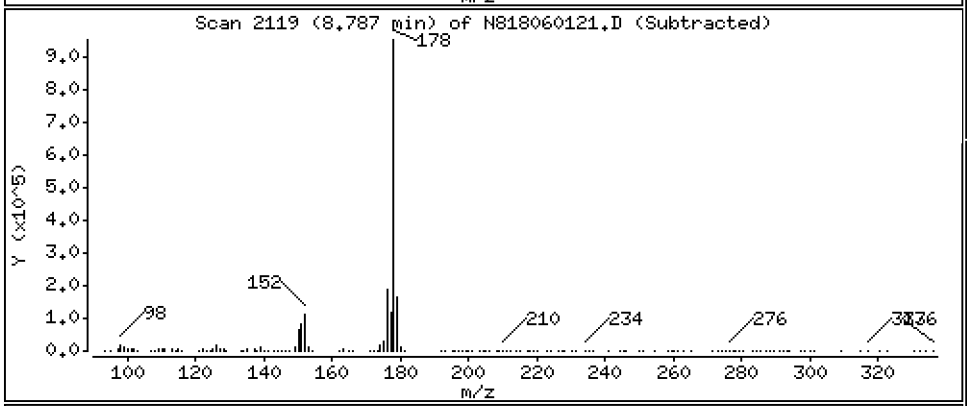
Column diameter: 0.25

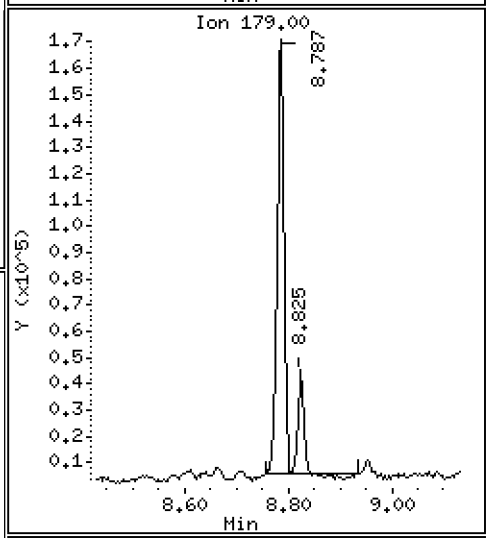
16 Phenanthrene

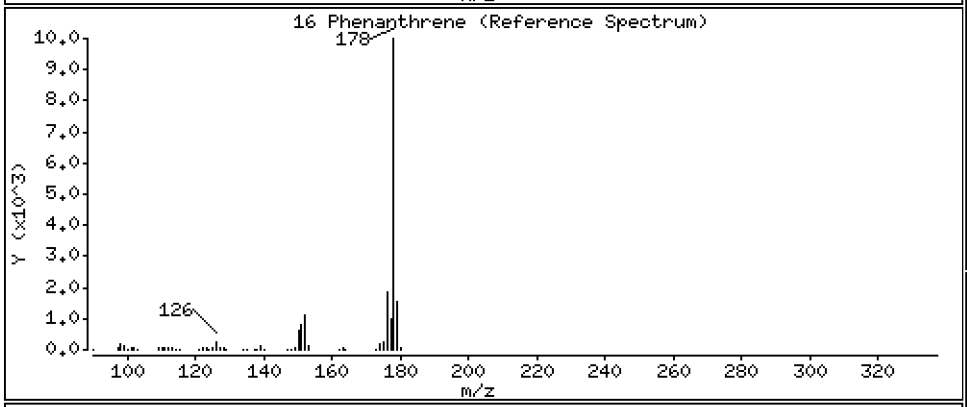
Concentration: 8.407 ug/mL

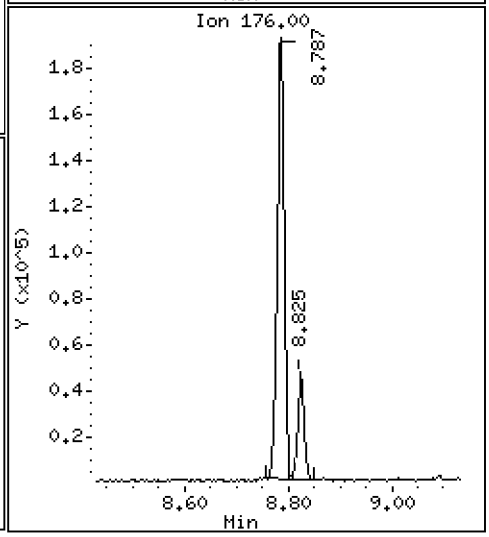


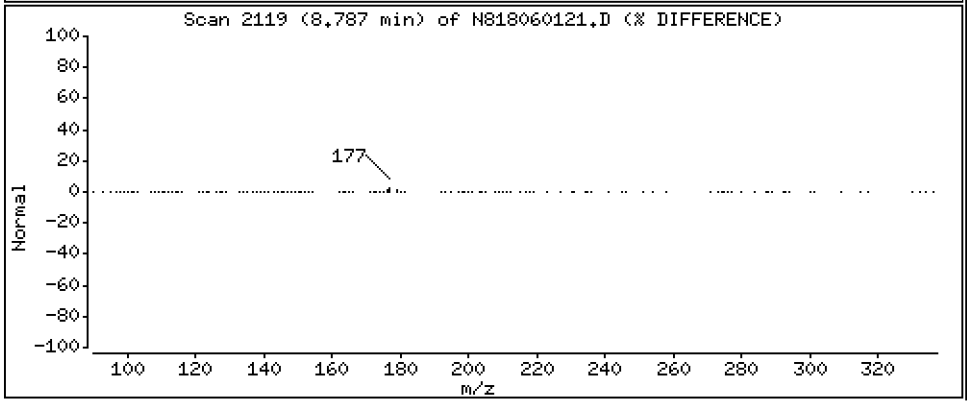












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

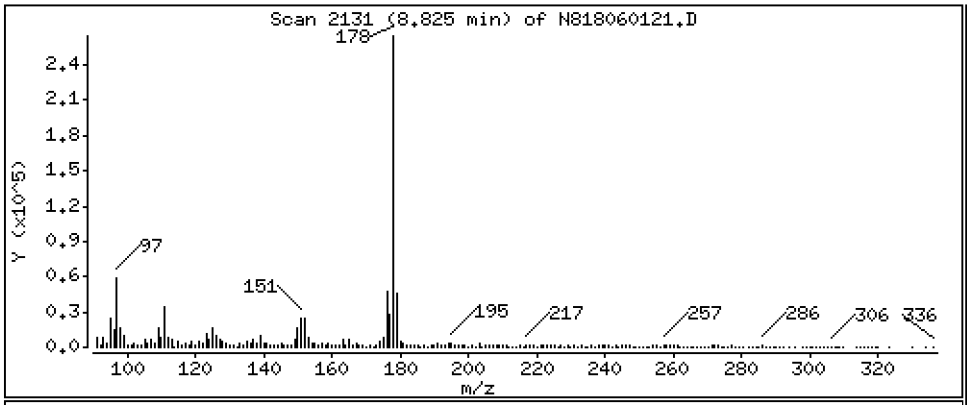
Operator: JZ

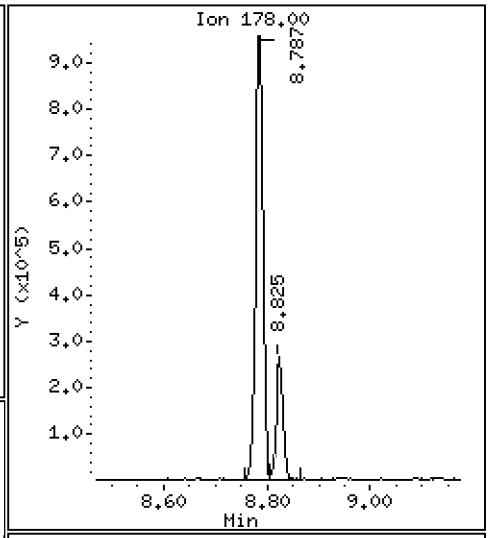
Column phase: Rxi-17sil

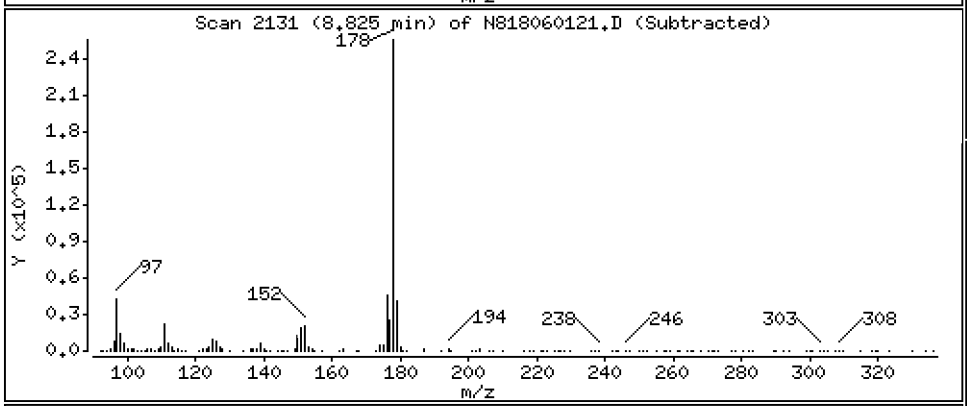
Column diameter: 0.25

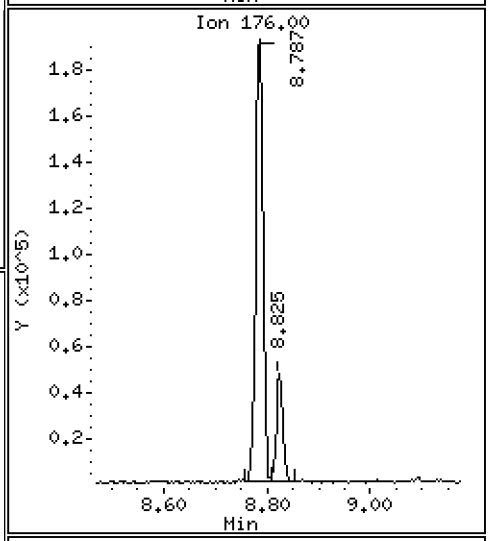
17 Anthracene

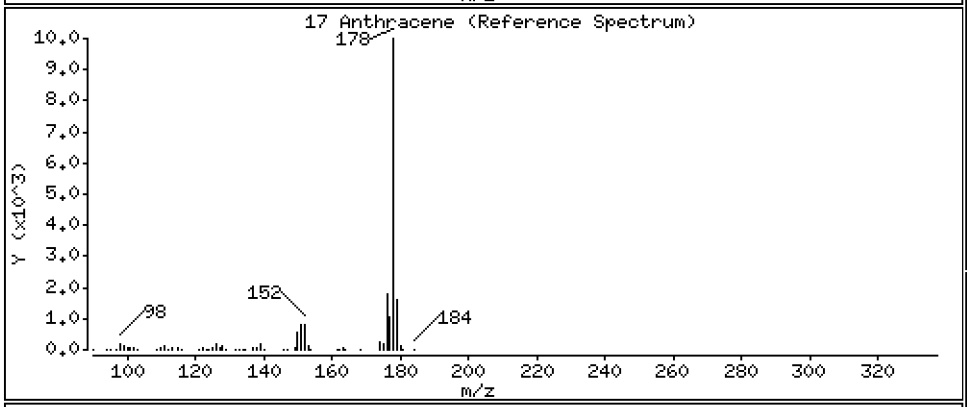
Concentration: 2.339 ug/mL

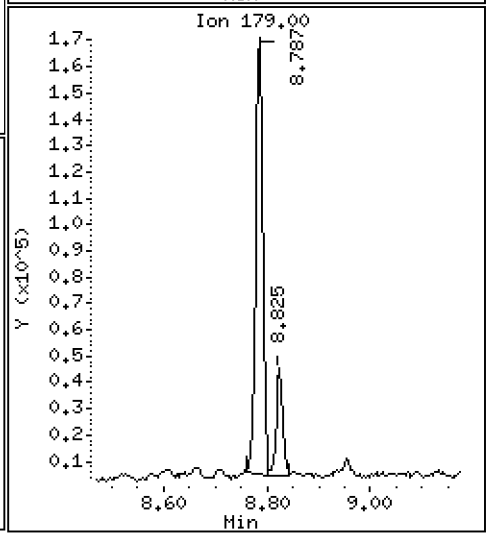


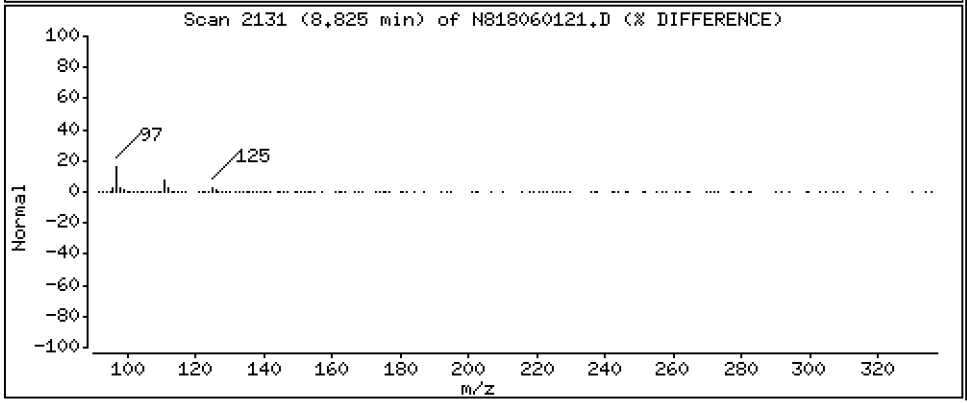












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

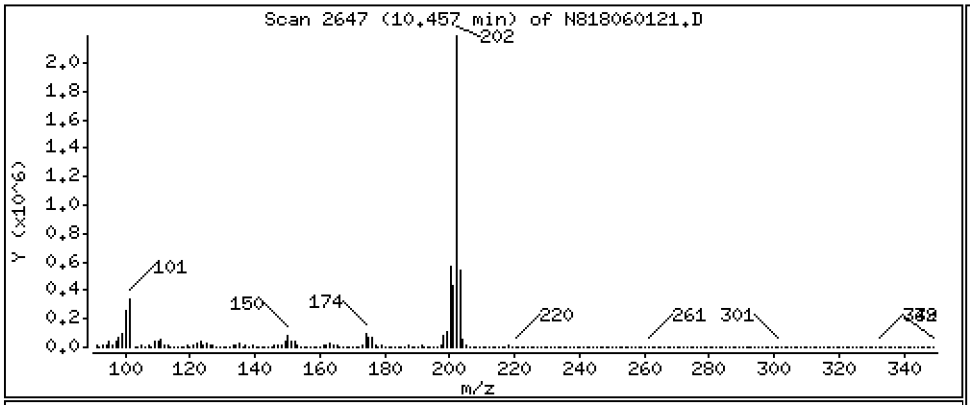
Operator: JZ

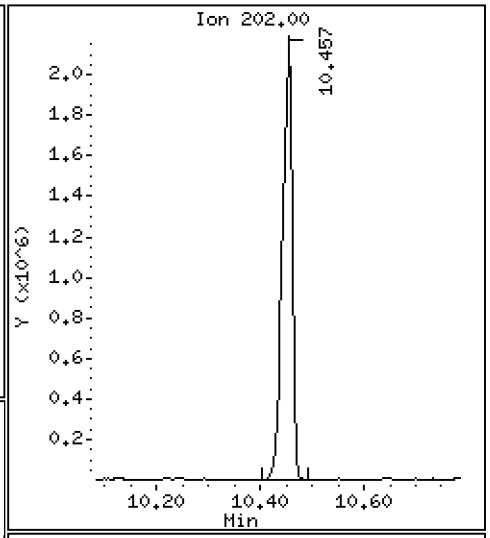
Column phase: Rxi-17sil

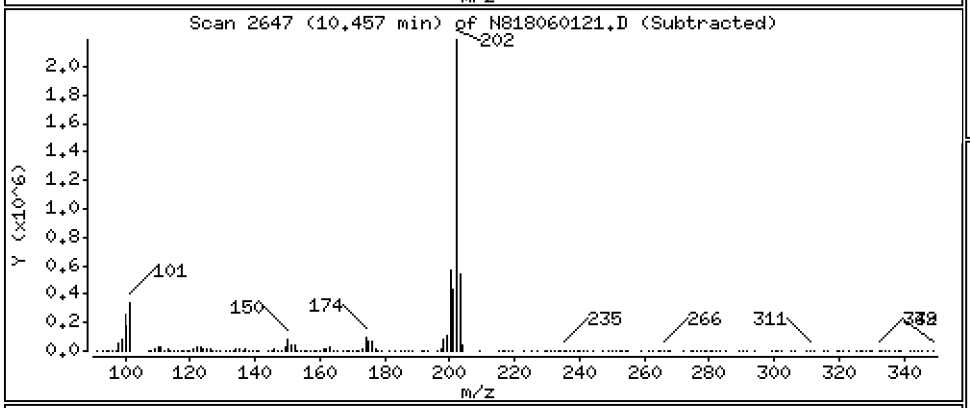
Column diameter: 0.25

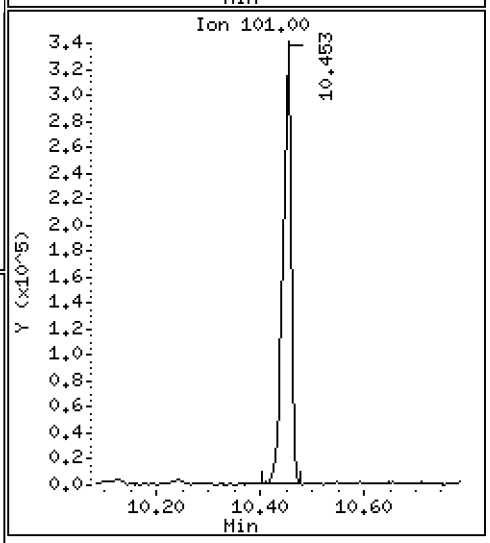
22 Fluoranthene

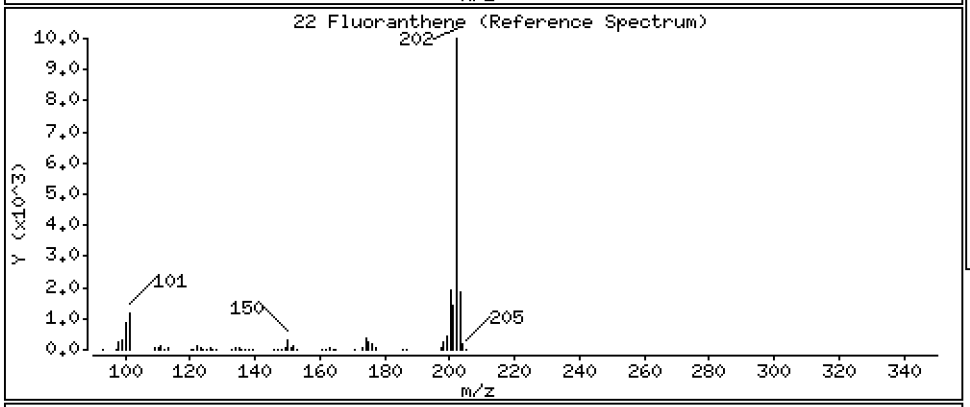
Concentration: 23.64 ug/mL

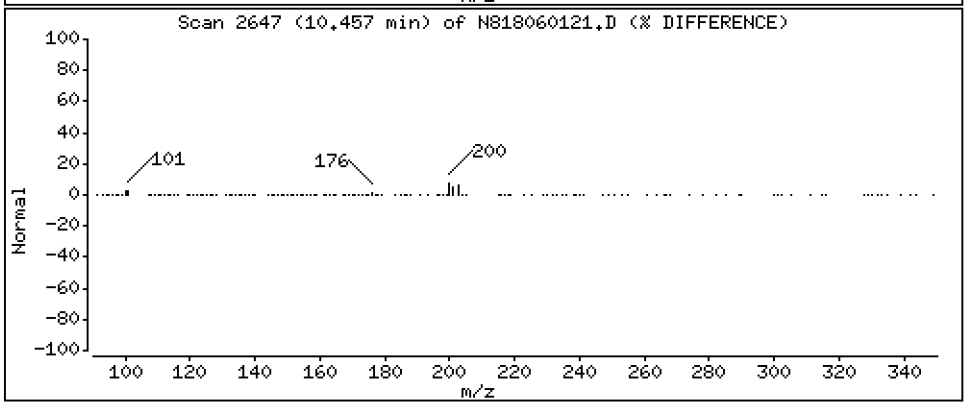












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

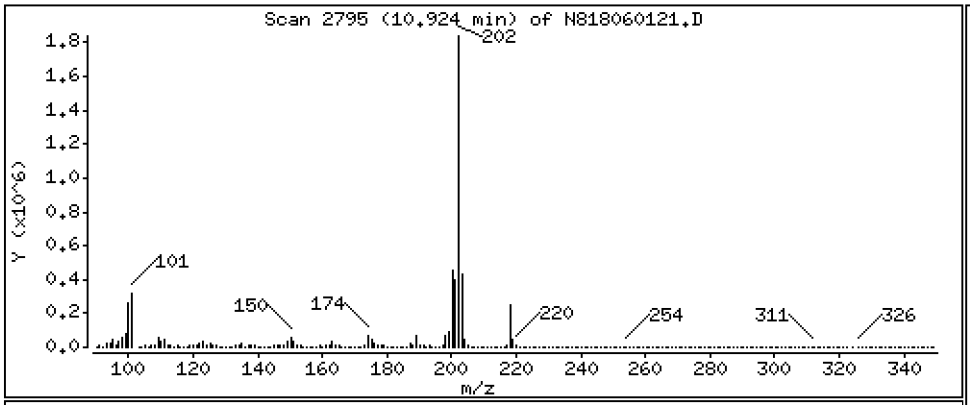
Operator: JZ

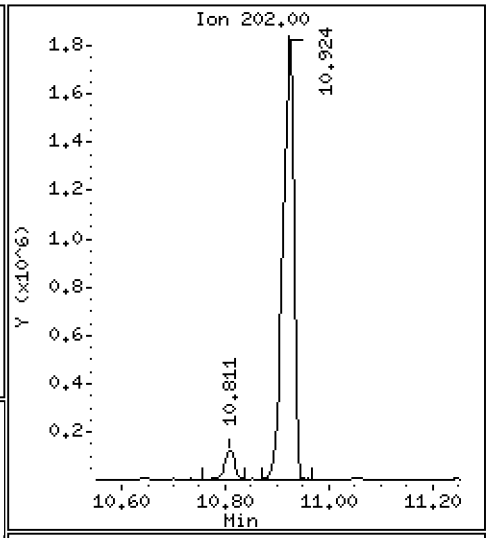
Column phase: Rxi-17sil

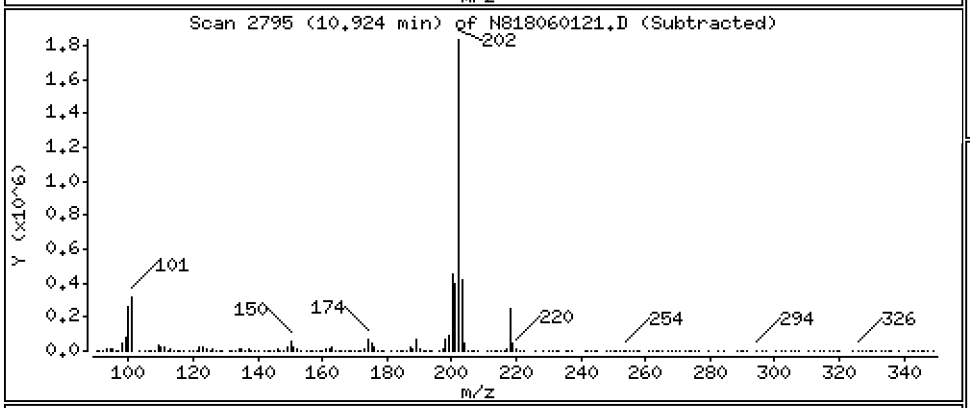
Column diameter: 0.25

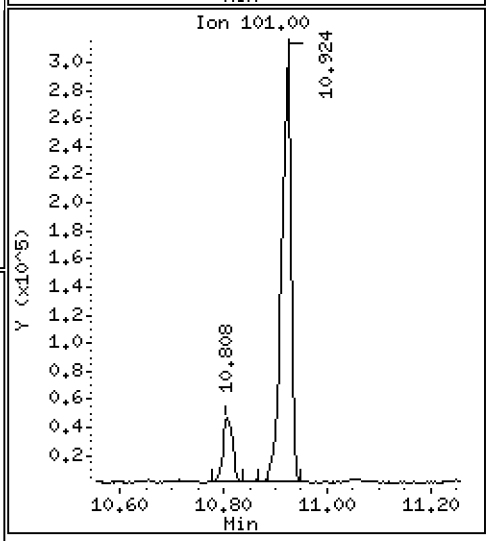
23 Pyrene

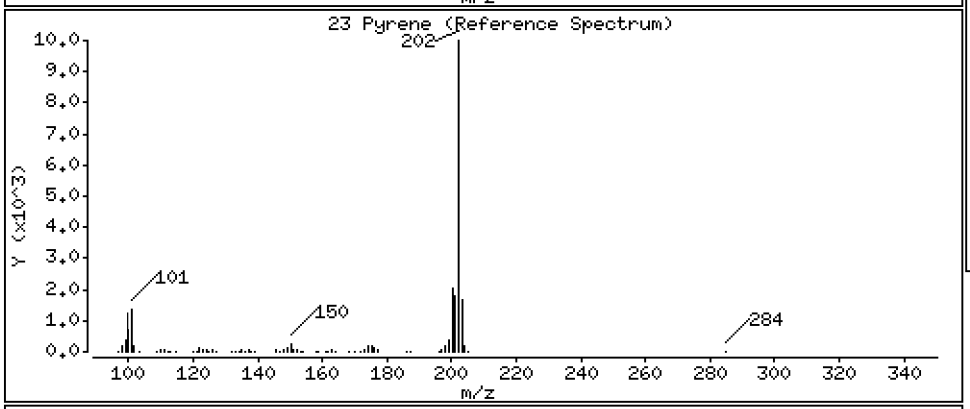
Concentration: 21.63 ug/mL

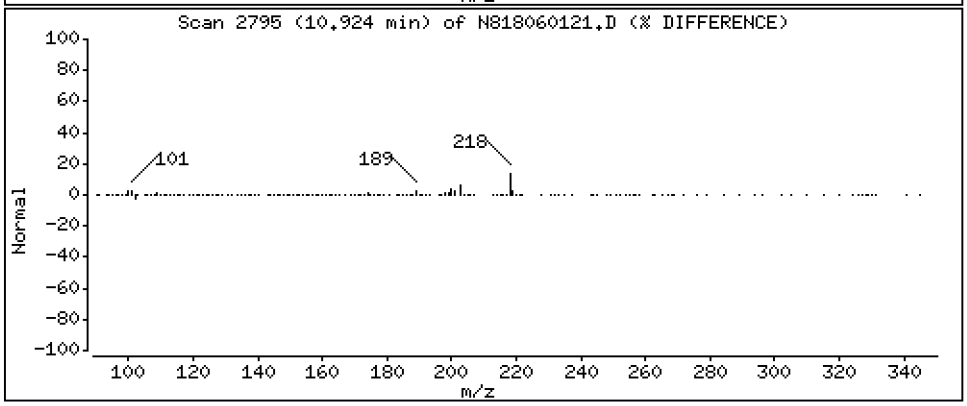












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

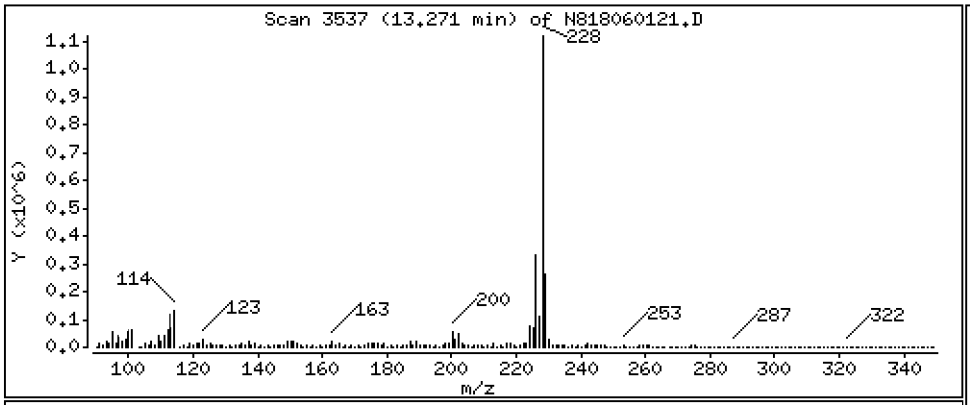
Operator: JZ

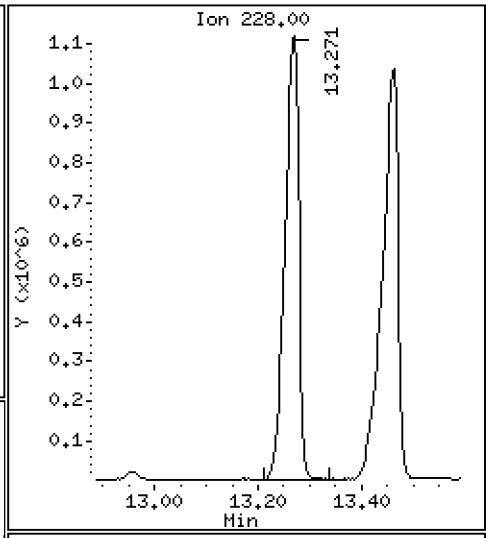
Column phase: Rxi-17sil

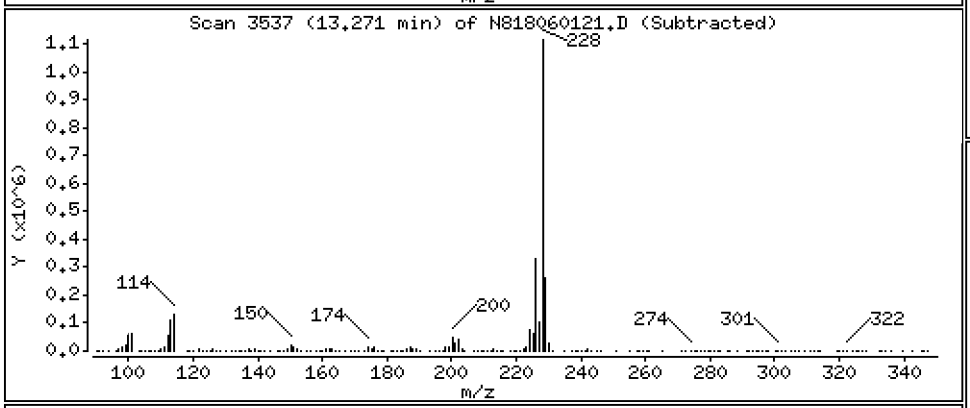
Column diameter: 0.25

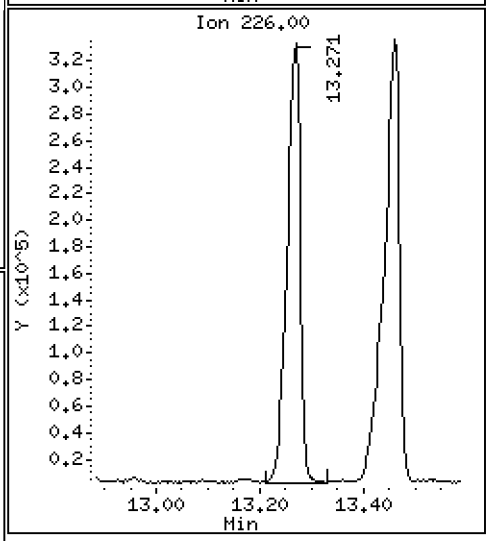
24 Benzo(a)anthracene

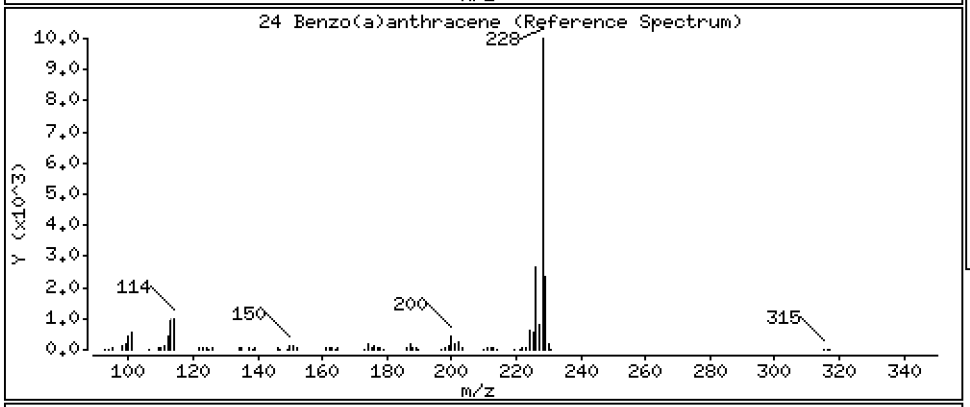
Concentration: 17.04 ug/mL

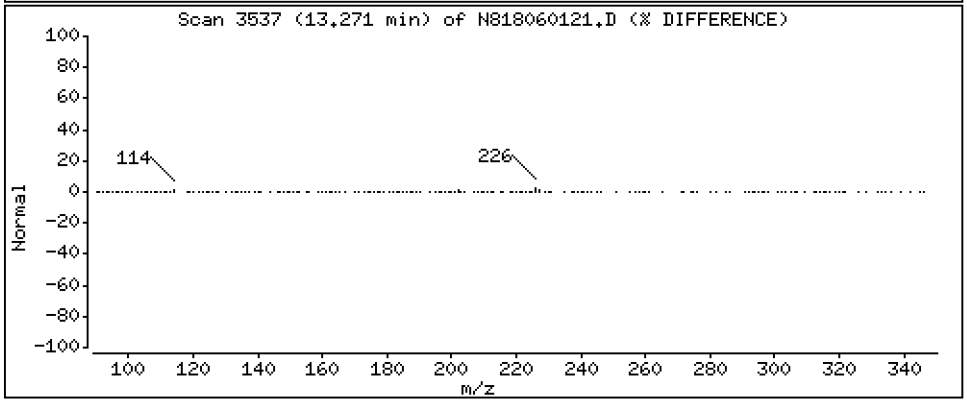












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

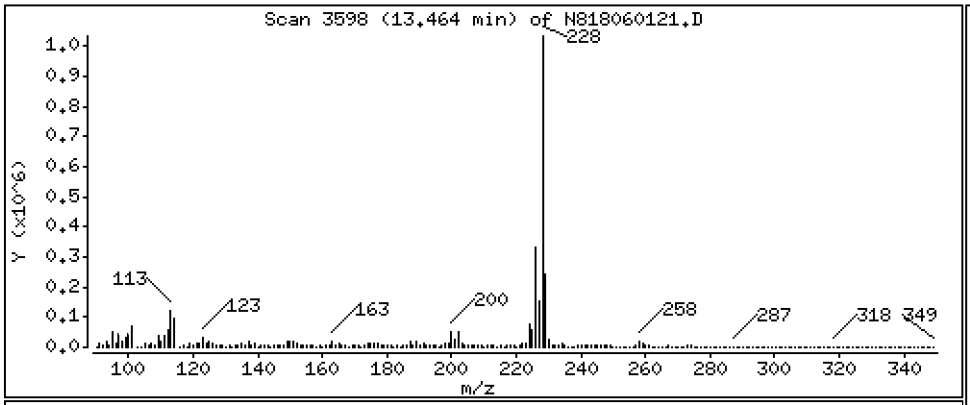
Operator: JZ

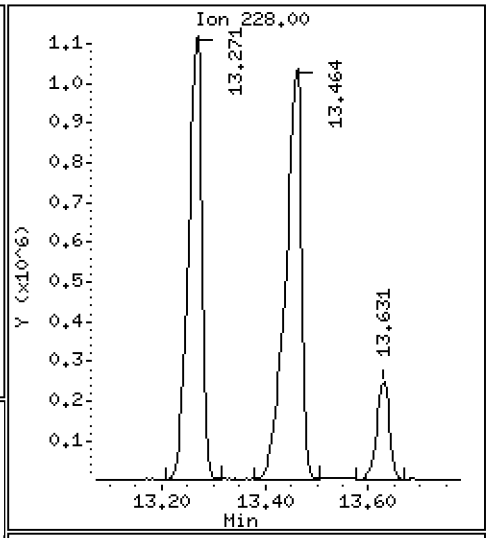
Column phase: Rxi-17sil

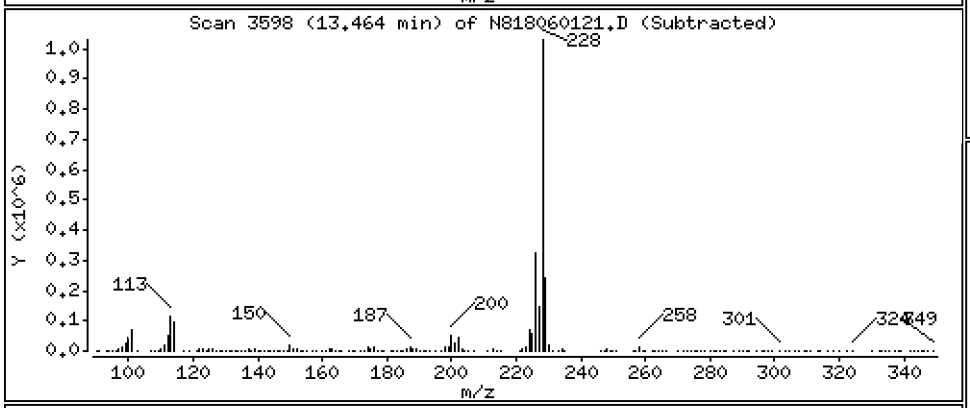
Column diameter: 0.25

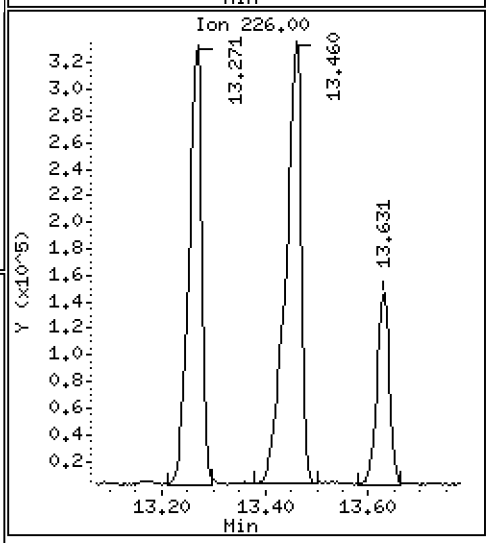
27 Chrysene

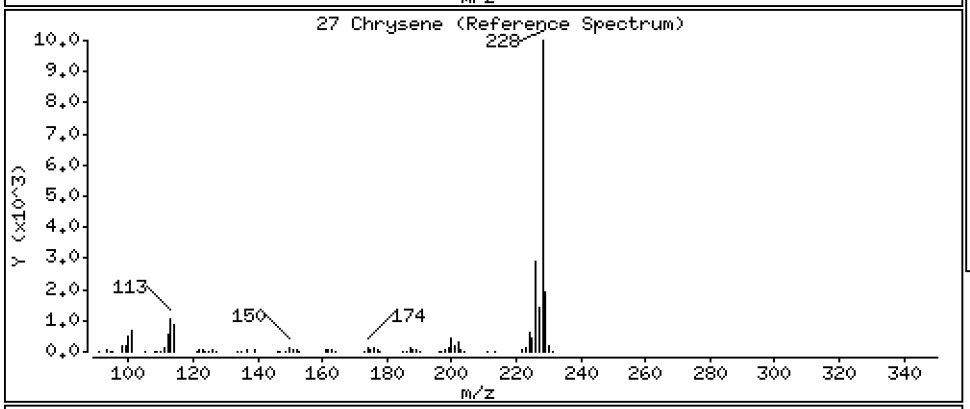
Concentration: 18.05 ug/mL

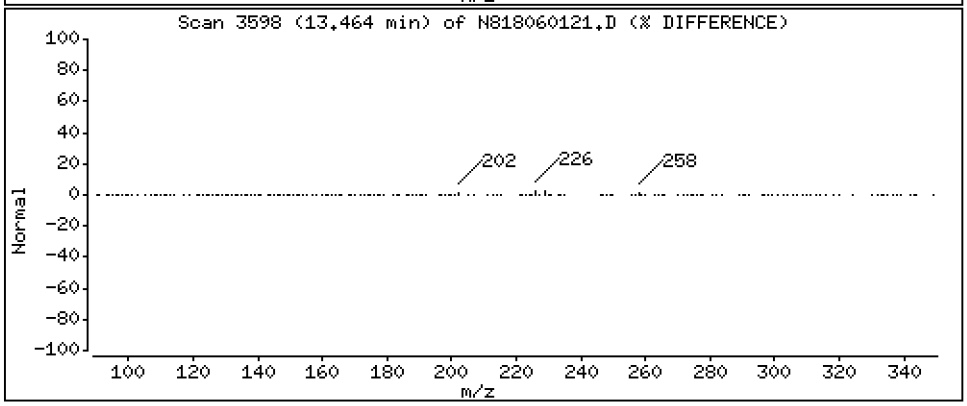












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

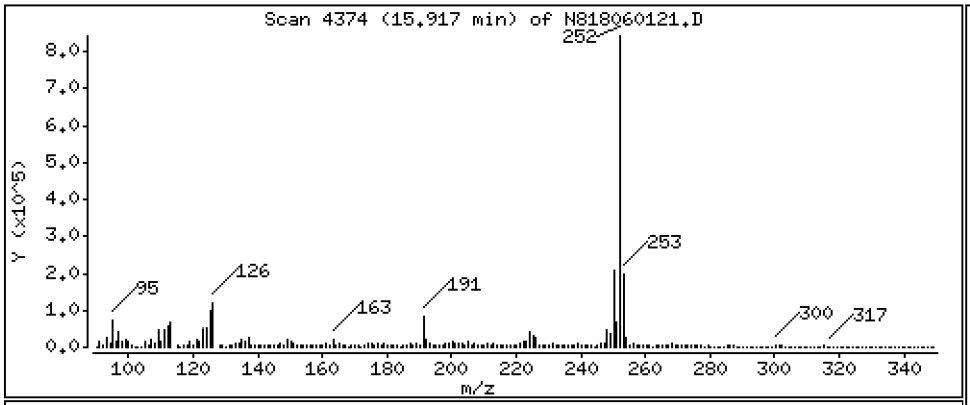
Operator: JZ

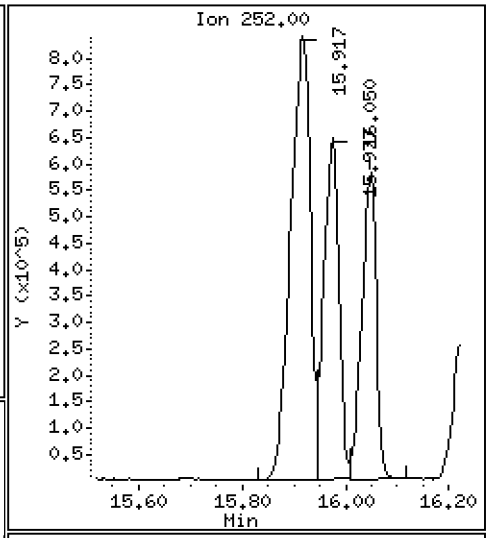
Column phase: Rxi-17sil

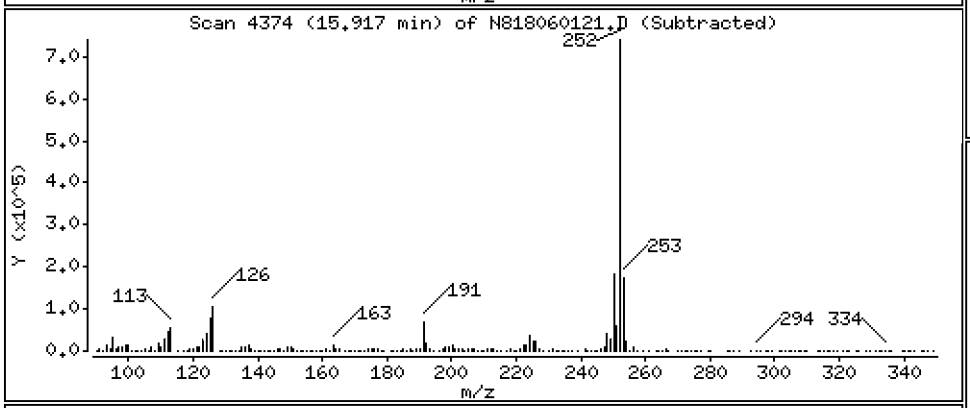
Column diameter: 0.25

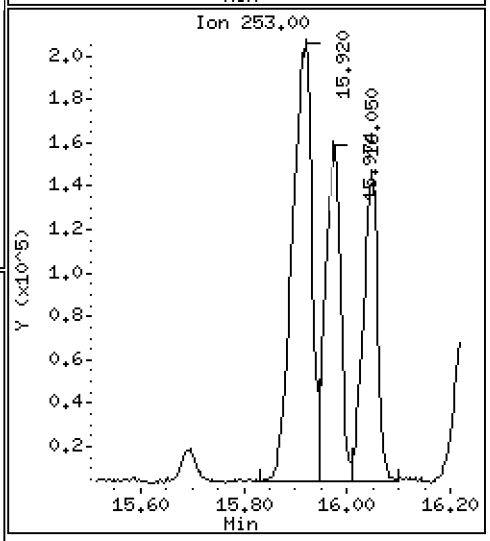
28 Benzo(b)fluoranthene

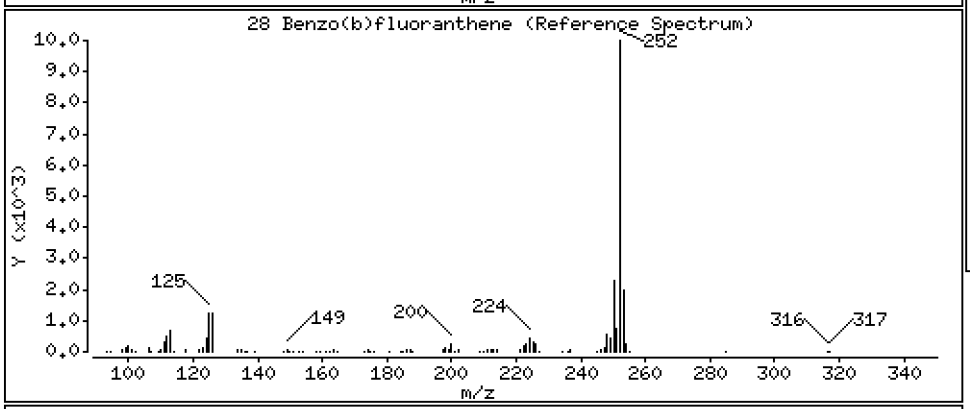
Concentration: 15.98 ug/mL

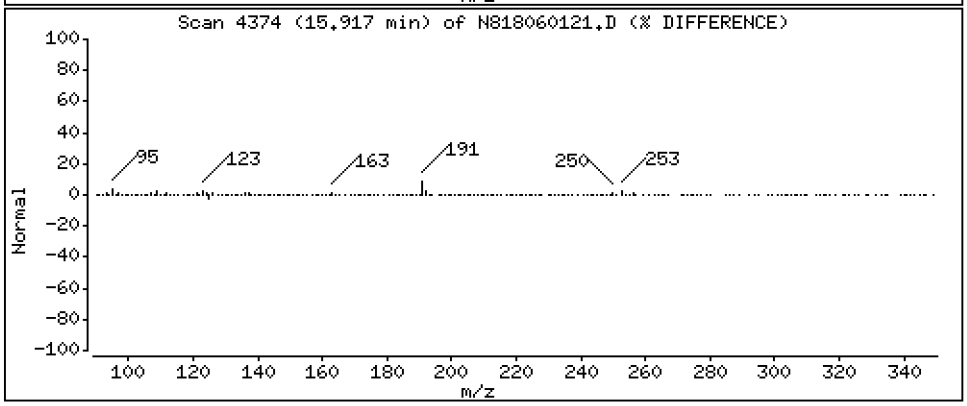












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

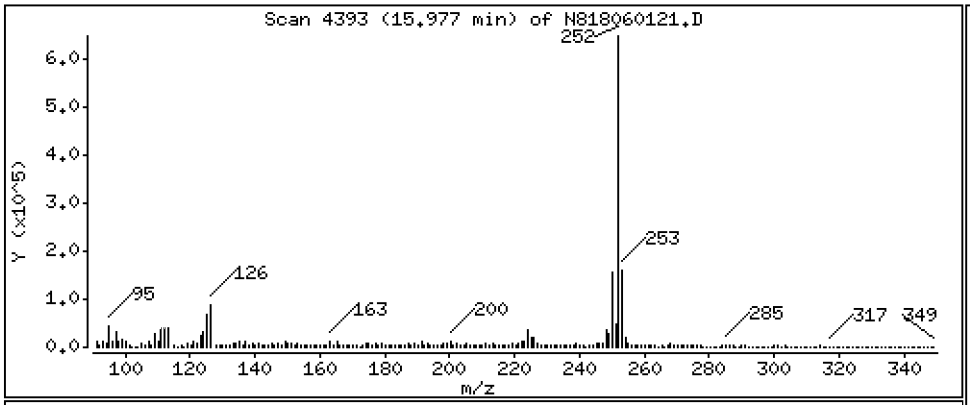
Operator: JZ

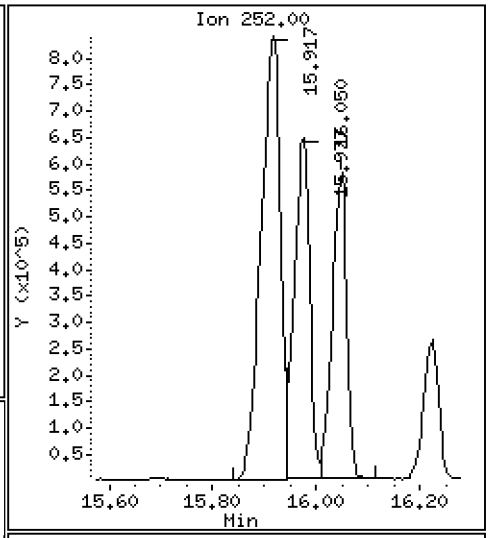
Column phase: Rxi-17sil

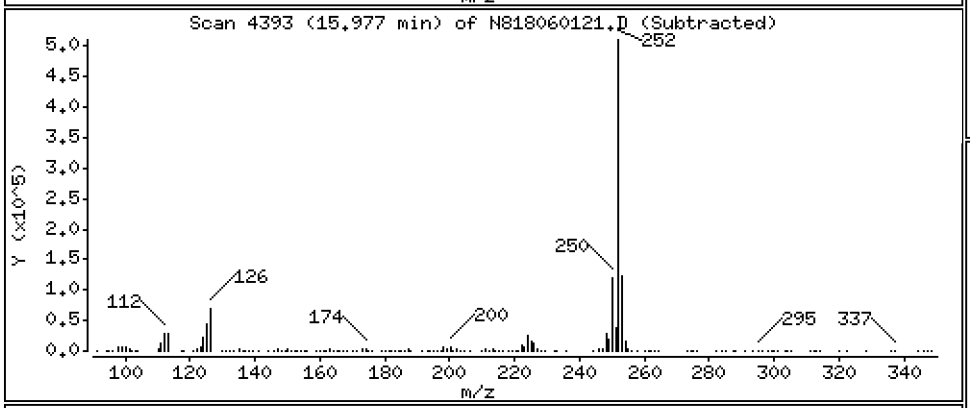
Column diameter: 0.25

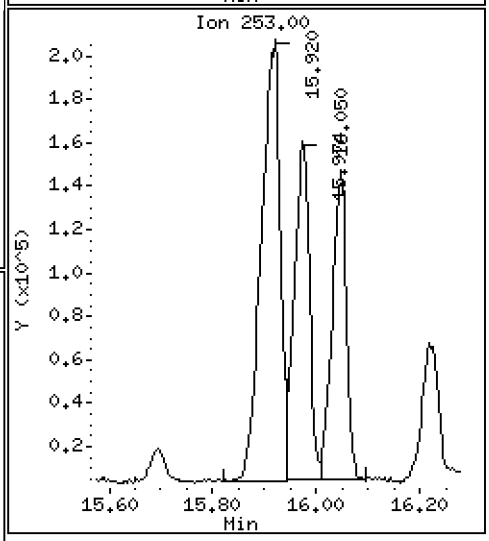
29 Benzo(k)fluoranthene

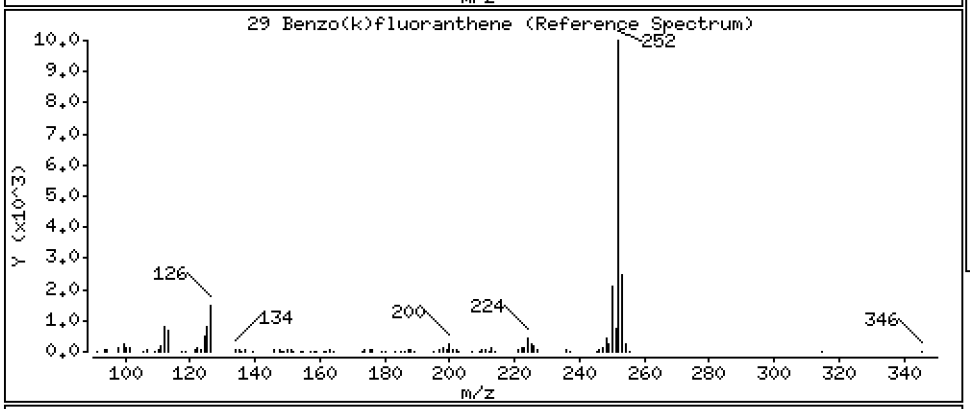
Concentration: 9.835 ug/mL

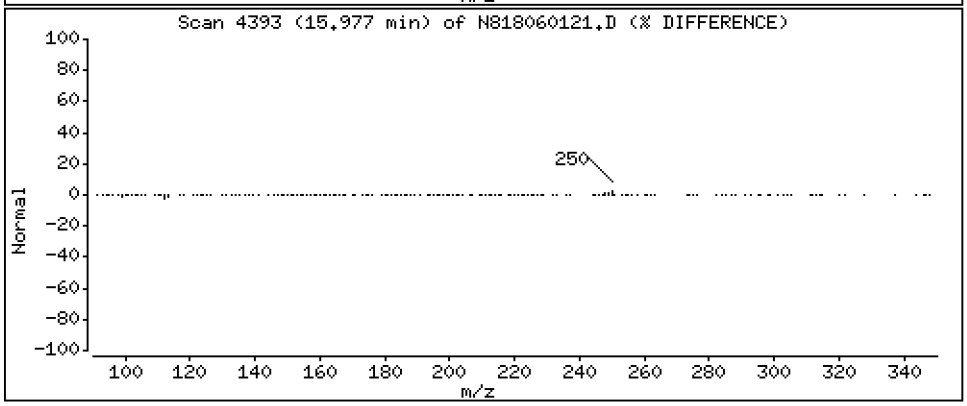












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

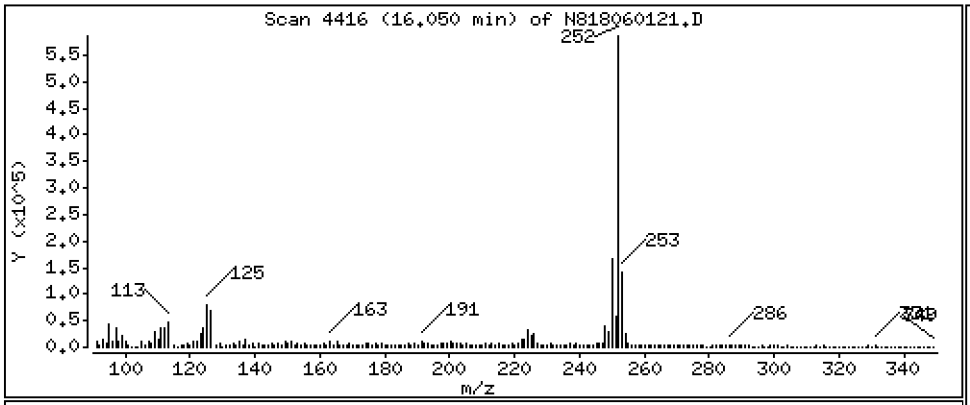
Operator: JZ

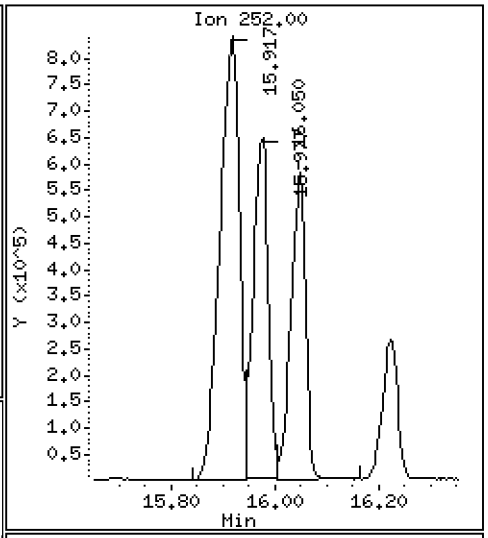
Column phase: Rxi-17sil

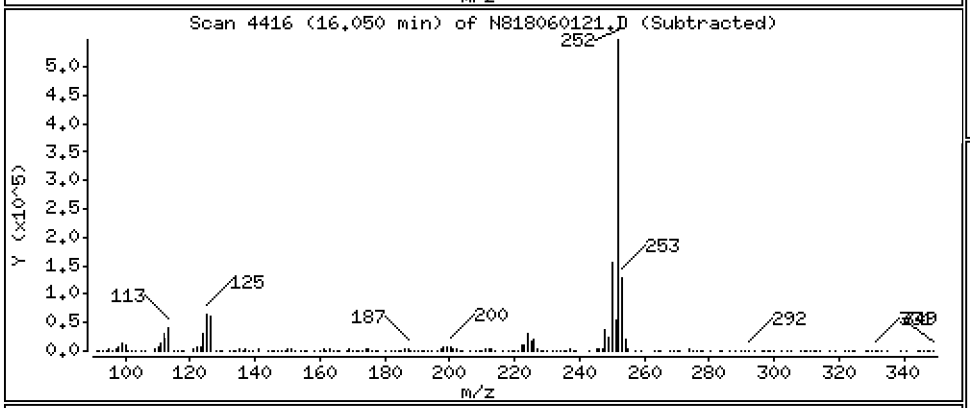
Column diameter: 0.25

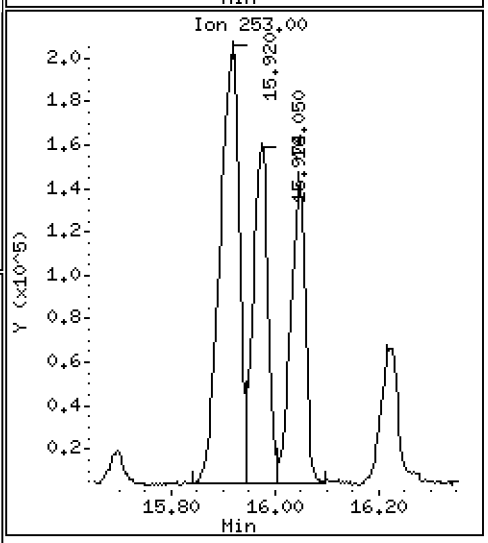
30 Benzo(j)fluoranthene

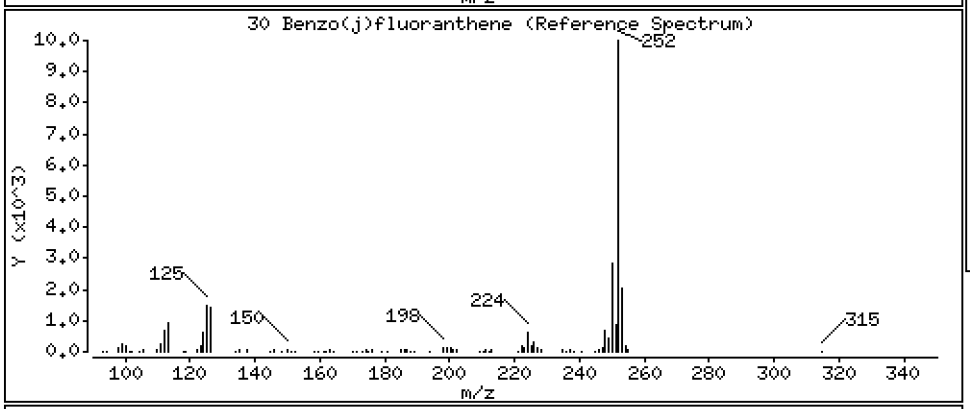
Concentration: 8.284 ug/mL

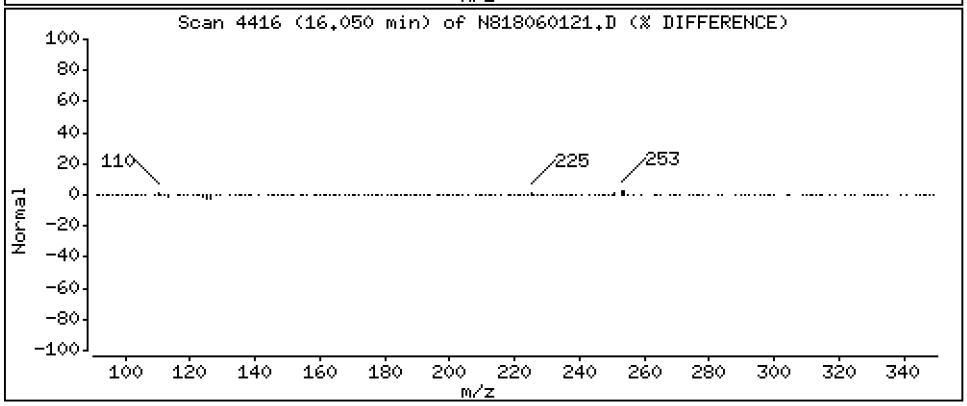












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

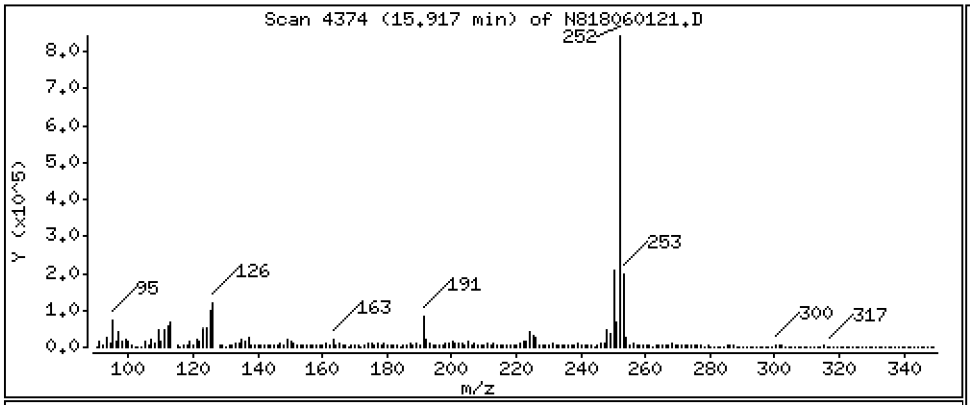
Operator: JZ

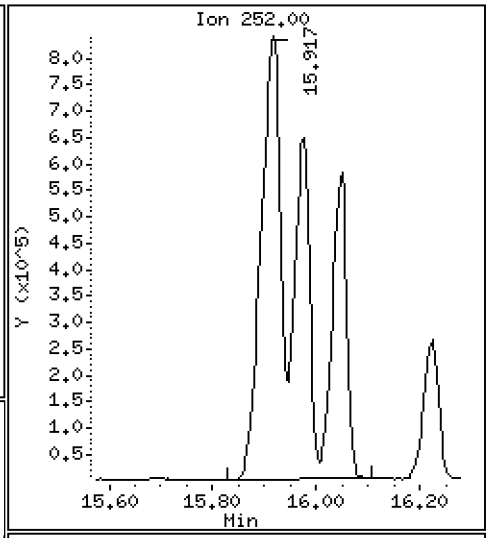
Column phase: Rxi-17sil

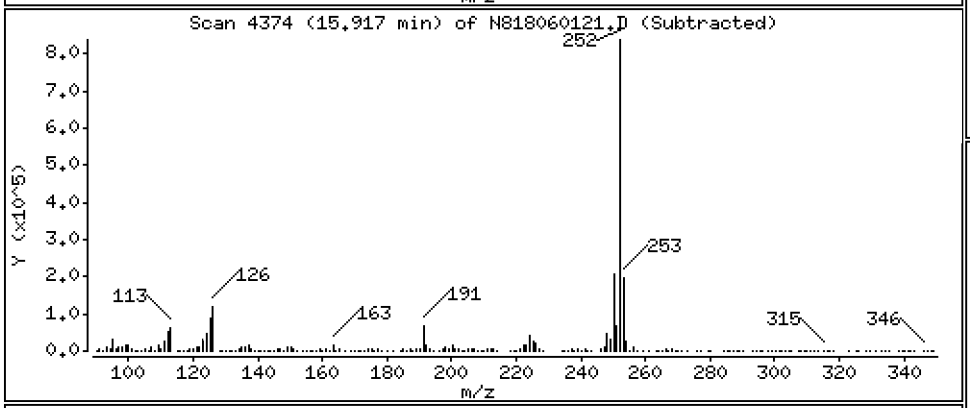
Column diameter: 0.25

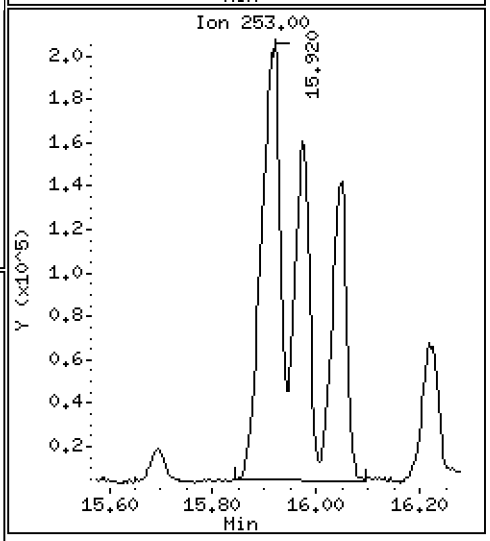
31 Total Benzofluoranthenes

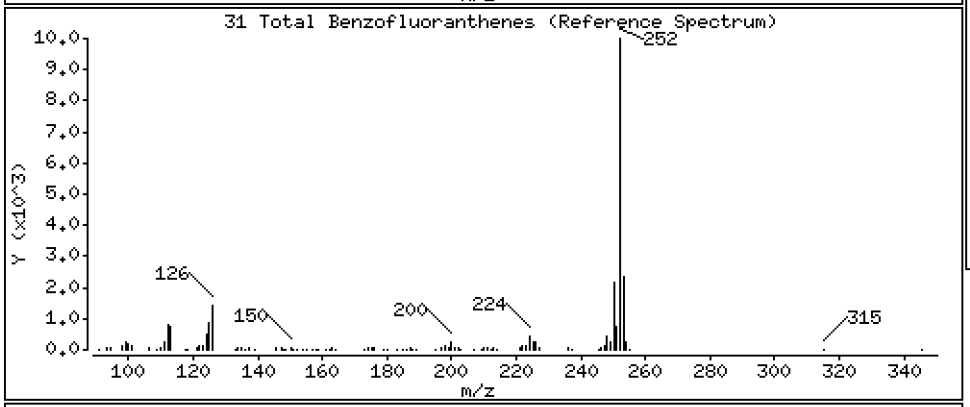
Concentration: 33.88 ug/mL

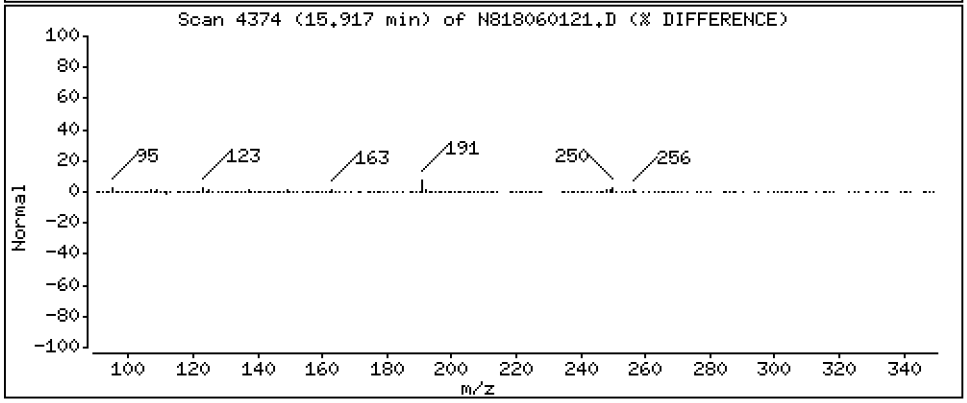












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

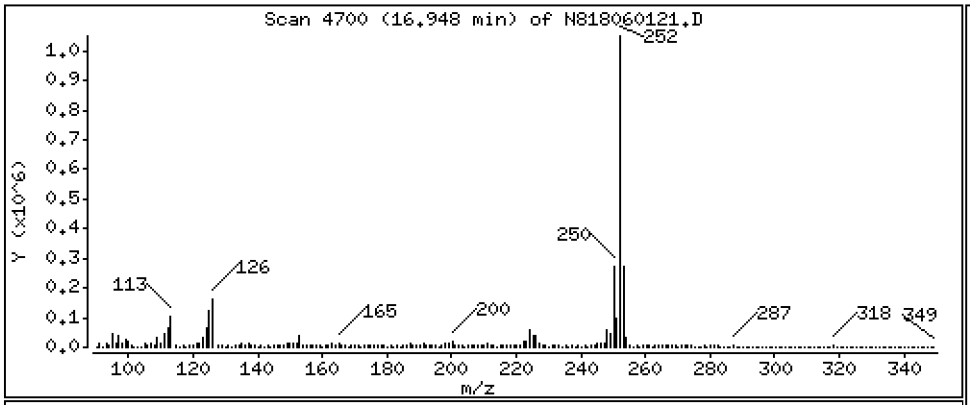
Operator: JZ

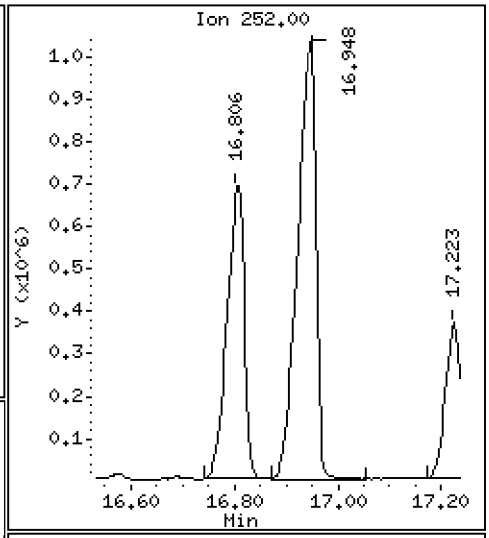
Column phase: Rxi-17sil

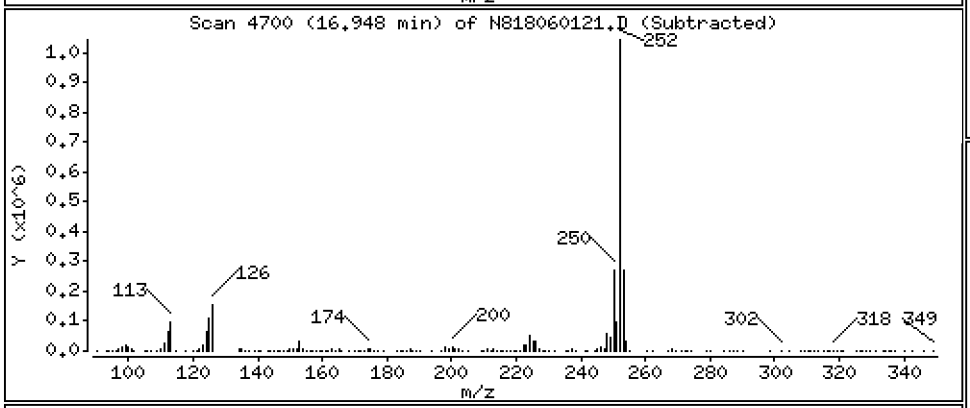
Column diameter: 0.25

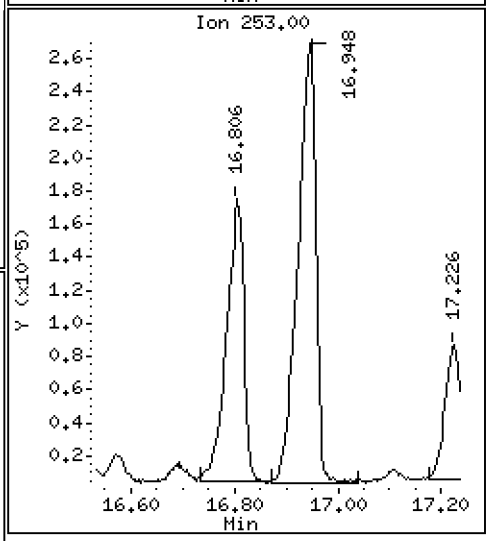
32 Benzo(a)pyrene

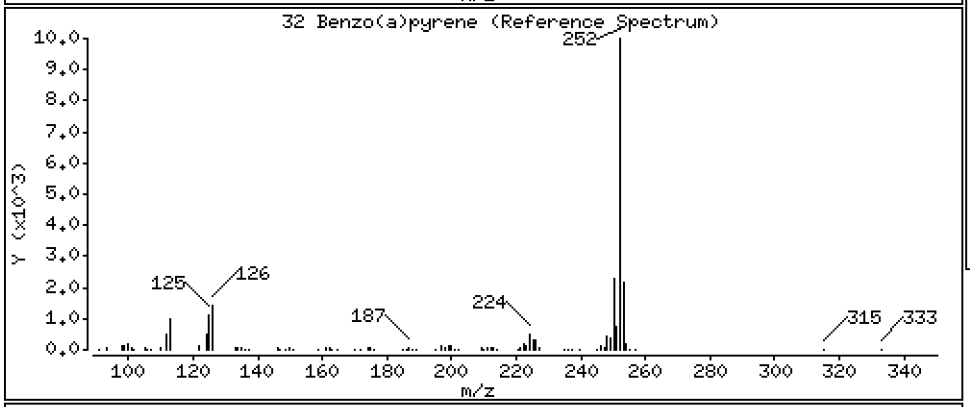
Concentration: 20.71 ug/mL

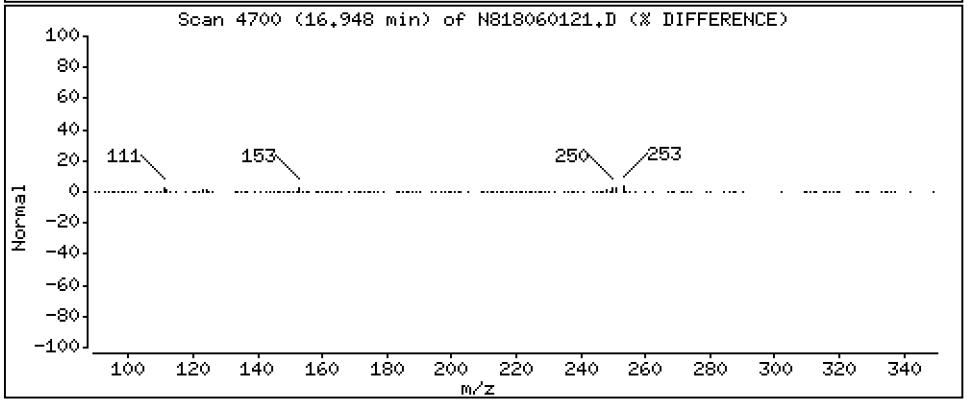












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

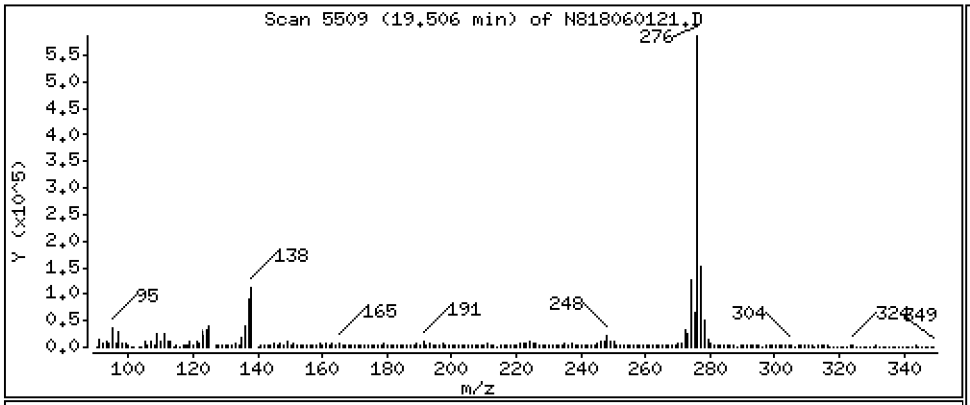
Operator: JZ

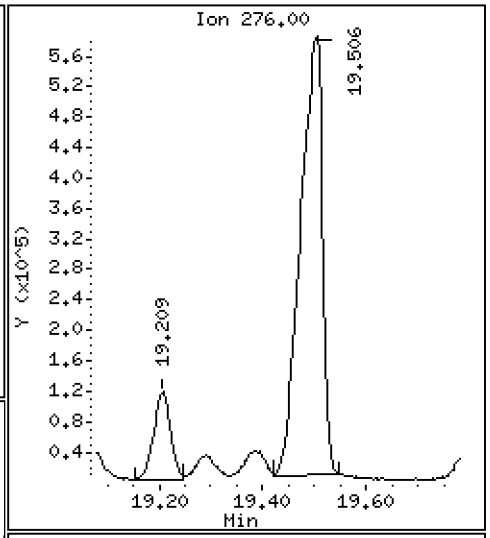
Column phase: Rxi-17sil

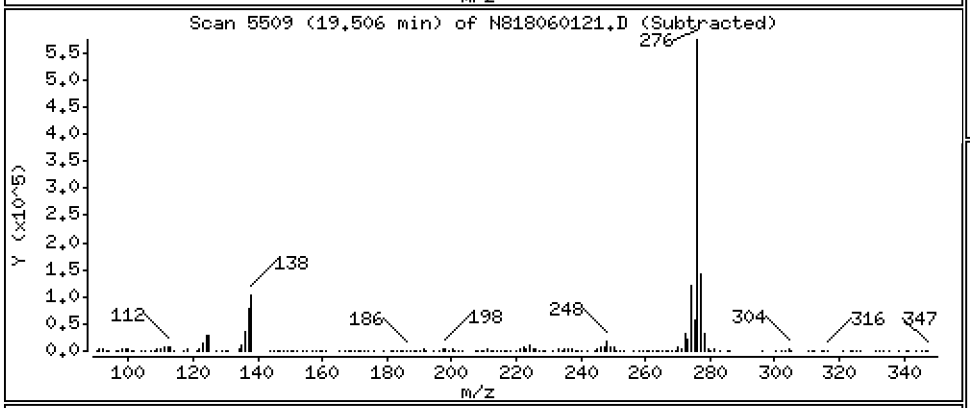
Column diameter: 0.25

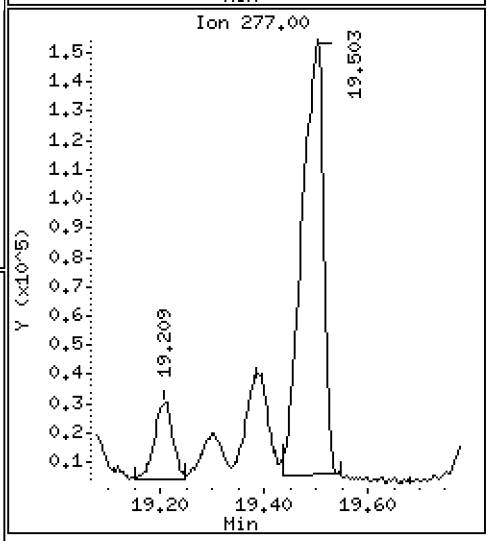
37 Indeno(1,2,3-cd)pyrene

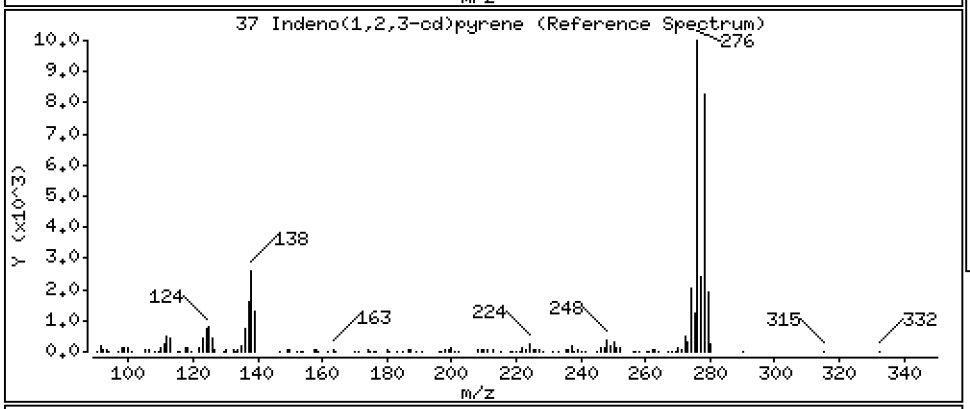
Concentration: 12.09 ug/mL

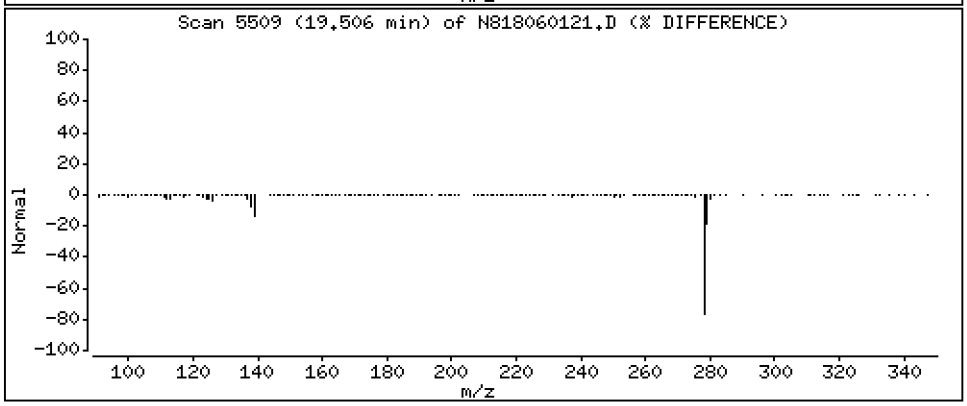












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

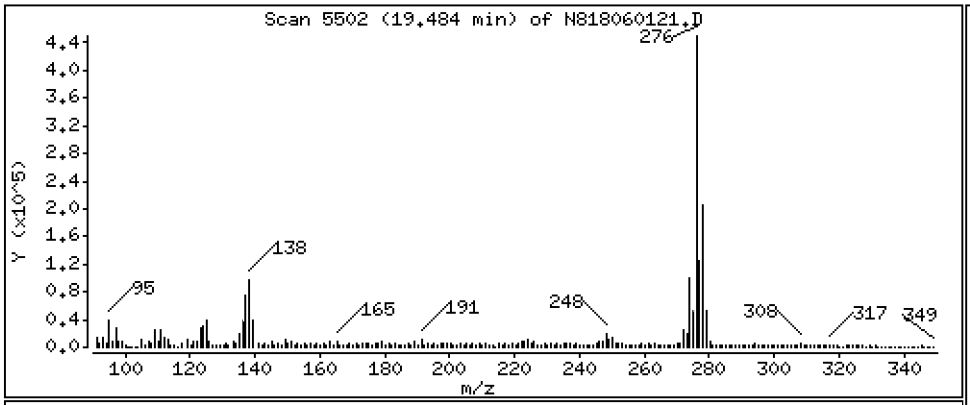
Operator: JZ

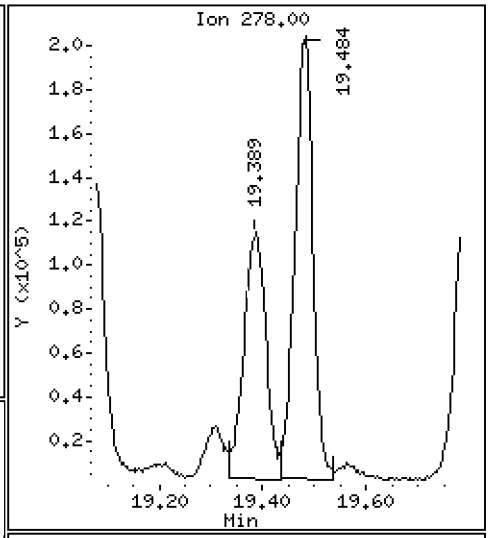
Column phase: Rxi-17sil

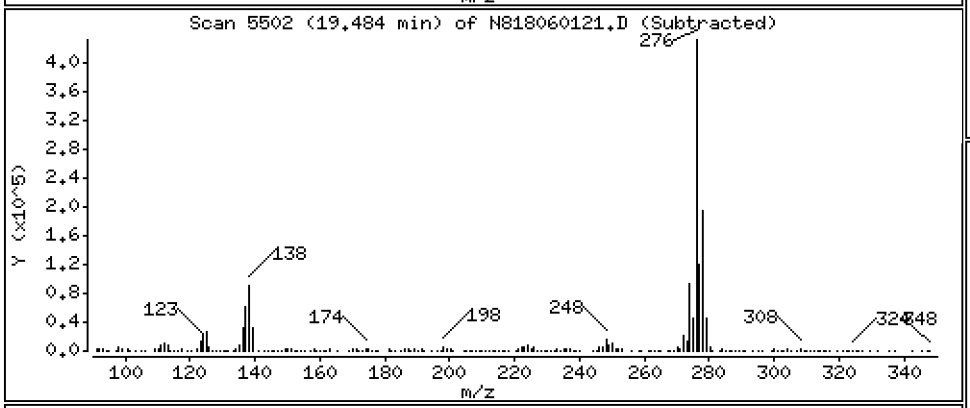
Column diameter: 0.25

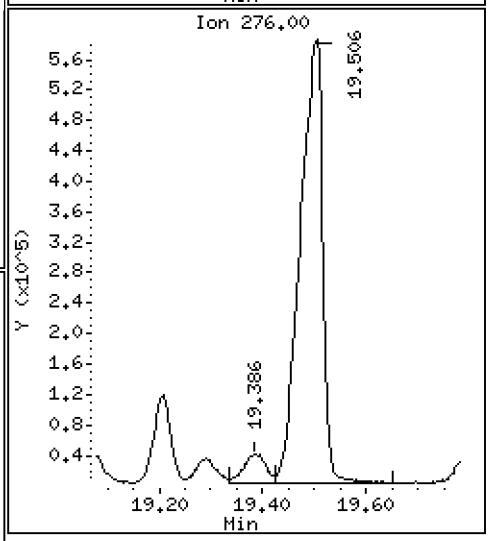
38 Dibenzo(a,h)anthracene

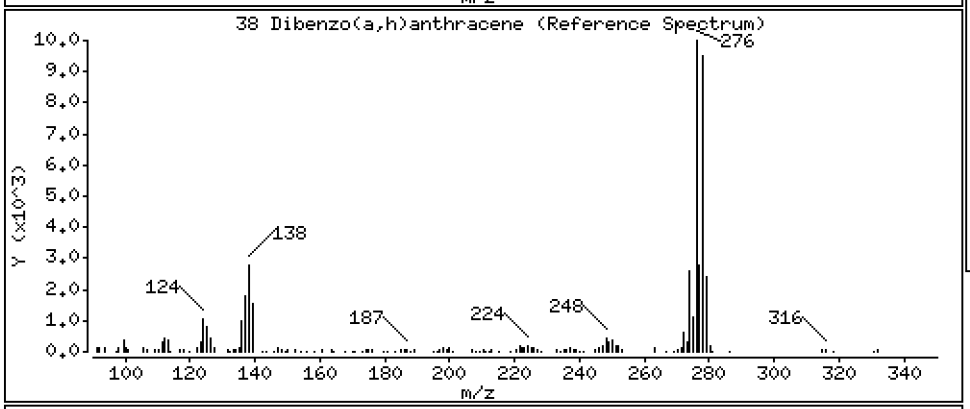
Concentration: 4.206 ug/mL

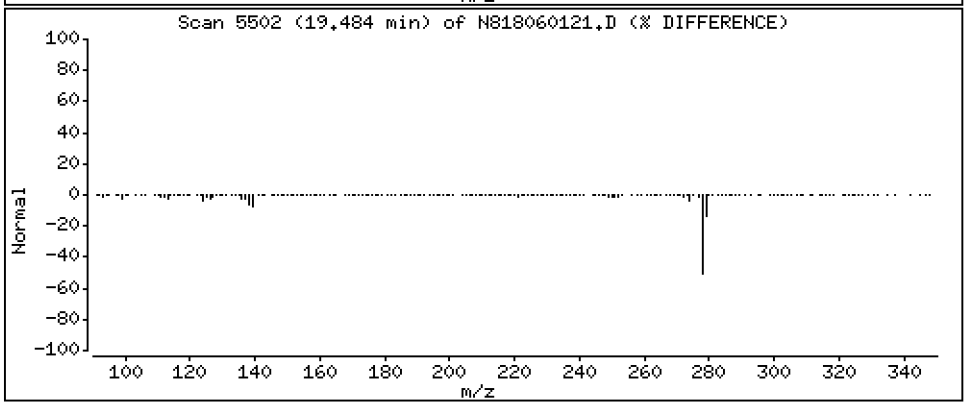












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

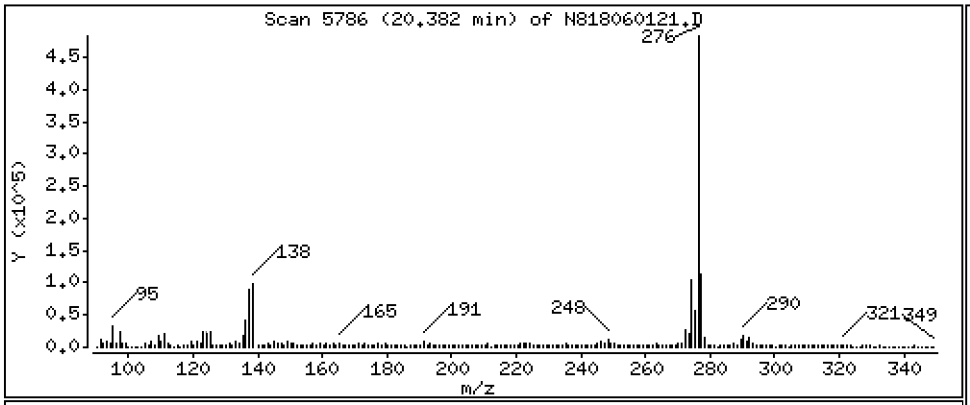
Operator: JZ

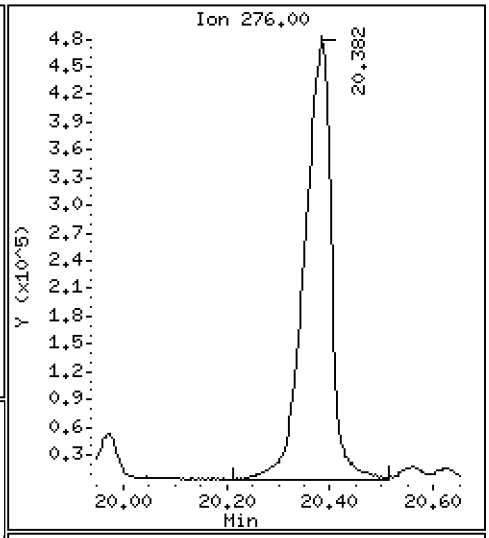
Column phase: Rxi-17sil

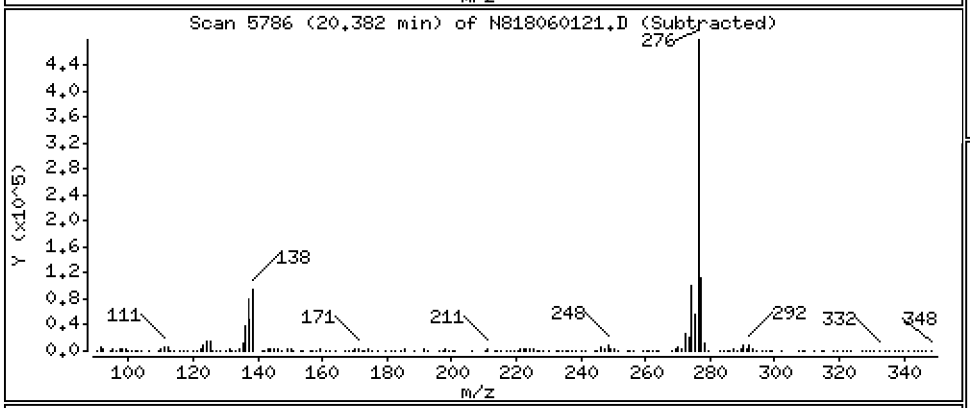
Column diameter: 0.25

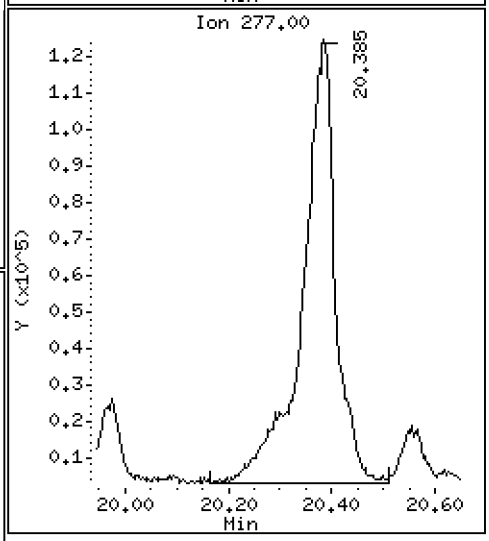
39 Benzo(g,h,i)perylene

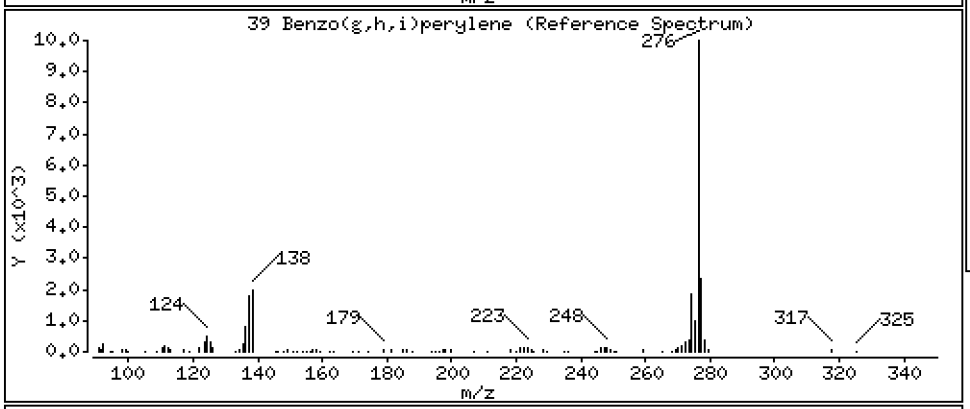
Concentration: 14.06 ug/mL

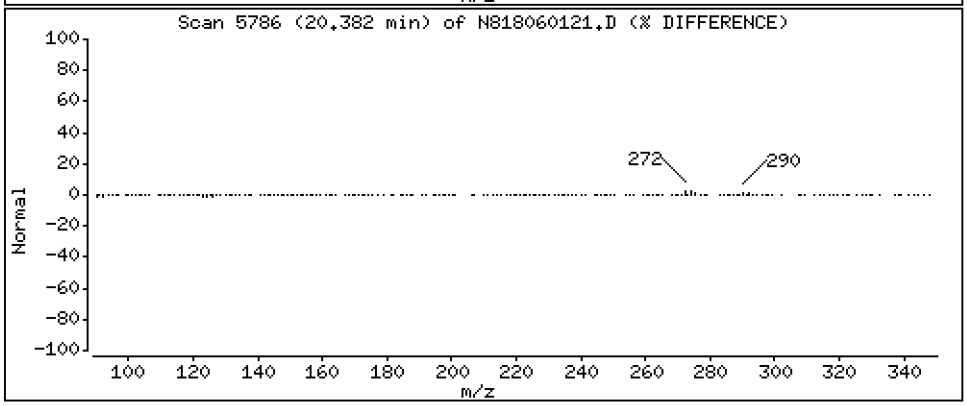












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060121.D

Date : 01-JUN-2018 23:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03

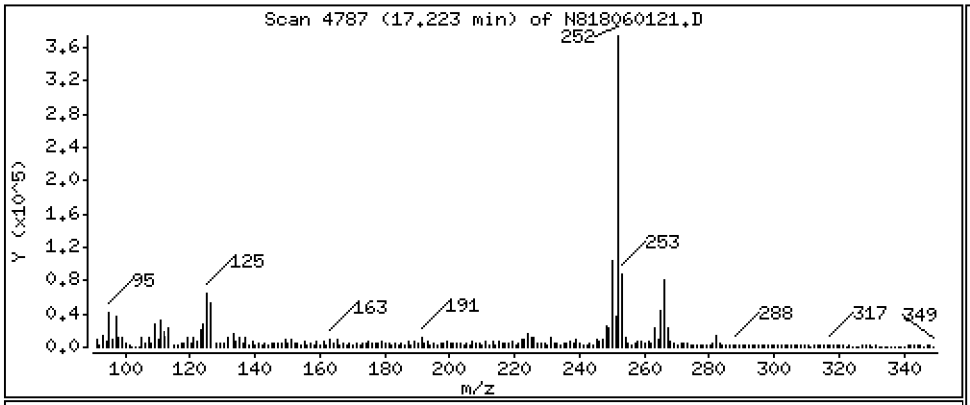
Operator: JZ

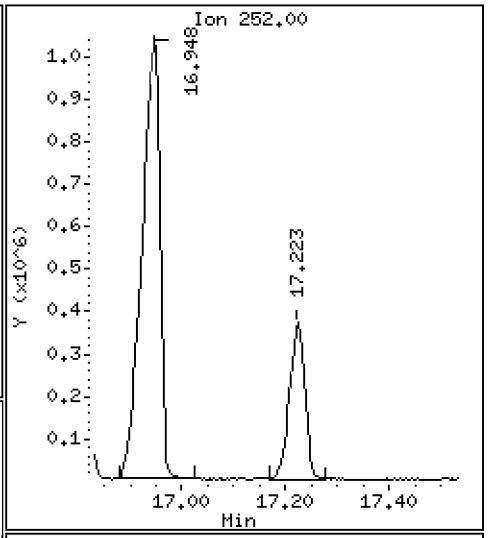
Column phase: Rxi-17sil

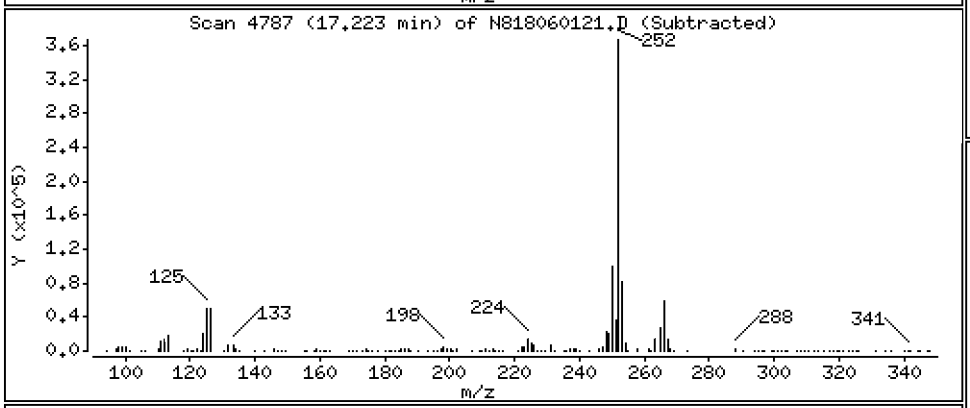
Column diameter: 0.25

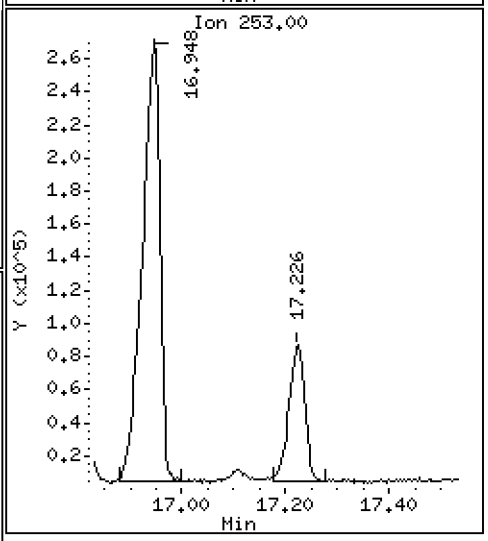
35 Perylene

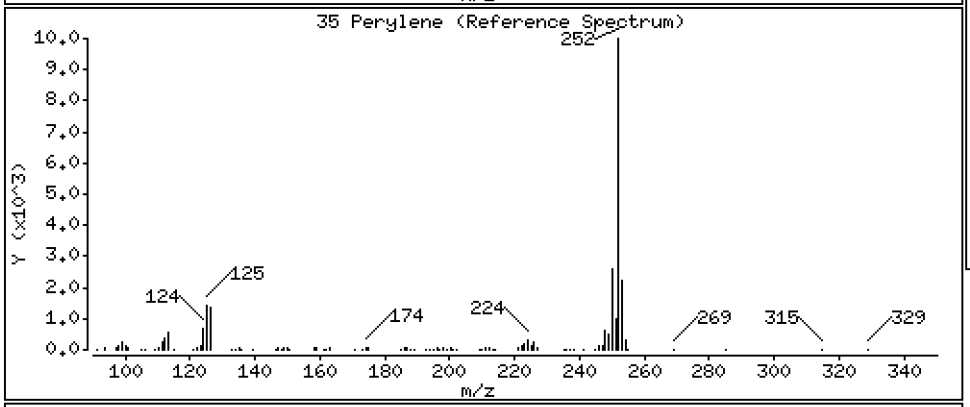
Concentration: 5.692 ug/mL

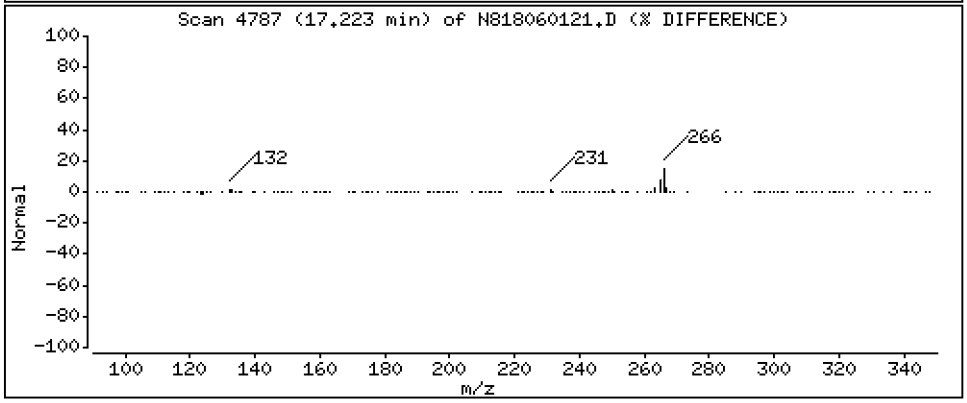












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060121.D
Lab Smp Id: 18E0282-03
Inj Date : 01-JUN-2018 23:20
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.458	4.464	(1.000)	190248	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	45500	0.41152	0.4115
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.164)	68457	0.98641	0.9864
	4 2-Methylnaphthalene	141	5.236	5.242	(1.174)	32800	0.52670	0.5267
	5 1-methylnaphthalene	141	5.428	5.432	(1.218)	19008	0.29653	0.2965
	9 Acenaphthylene	152	6.617	6.617	(0.984)	12382	0.13079	0.1308
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	95353	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.007)	42744	0.58896	0.5890
	12 Dibenzofuran	168	6.927	6.927	(1.030)	40112	0.41106	0.4111
	14 Fluorene	166	7.402	7.402	(1.100)	46101	0.61141	0.6114
*	15 Phenanthrene-d10	188	8.749	8.745	(1.000)	180952	2.00000	
	16 Phenanthrene	178	8.787	8.780	(1.004)	932435	8.40736	8.407
	17 Anthracene	178	8.824	8.821	(1.009)	236333	2.33875	2.339
	22 Fluoranthene	202	10.456	10.434	(1.195)	2954880	23.6405	23.64
$	21 Fluoranthene-d10	212	10.409	10.402	(1.190)	137868	1.16379	1.164
	23 Pyrene	202	10.924	10.902	(0.817)	2735879	21.6286	21.63
	24 Benzo(a)anthracene	228	13.270	13.239	(0.992)	2084533	17.0449	17.04
*	25 Chrysene-d12	240	13.375	13.356	(1.000)	210488	2.00000	
	27 Chrysene	228	13.463	13.425	(1.007)	2222627	18.0544	18.05
	28 Benzo(b)fluoranthene	252	15.917	15.869	(0.928)	2241952	15.9800	15.98
	29 Benzo(k)fluoranthene	252	15.977	15.926	(0.932)	1356850	9.83534	9.835
	30 Benzo(j)fluoranthene	252	16.050	16.002	(0.936)	1144336	8.28420	8.284
	31 Total Benzofluoranthenes	252	15.917	15.926	(0.928)	4635055	33.8756	33.88(M)
	32 Benzo(a)pyrene	252	16.948	16.884	(0.988)	2546188	20.7066	20.71
*	33 Perylene-d12	264	17.147	17.112	(1.000)	220756	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.506	19.430	(1.138)	1702418	12.0931	12.09
$	36 Dibenzo(a,h)anthracene-d14	292	19.385	19.338	(1.131)	130673	1.26376	1.264
	38 Dibenzo(a,h)anthracene	278	19.483	19.430	(1.136)	488428	4.20603	4.206
	39 Benzo(g,h,i)perylene	276	20.381	20.299	(1.189)	1729754	14.0588	14.06
	35 Perylene	252	17.223	17.181	(1.004)	760027	5.69233	5.692

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060121.D
Lab Smp Id: 18E0282-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	190248	55.70
10 Acenaphthene-d10	65789	32895	131578	95353	44.94
15 Phenanthrene-d10	128644	64322	257288	180952	40.66
25 Chrysene-d12	166669	83335	333338	210488	26.29
33 Perylene-d12	140483	70242	280966	220756	57.14

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.14
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.04
25 Chrysene-d12	13.36	12.86	13.86	13.38	0.14
33 Perylene-d12	17.11	16.61	17.61	17.15	0.20

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060121.D

Lab ID: 18E0282-03
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 23:20

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

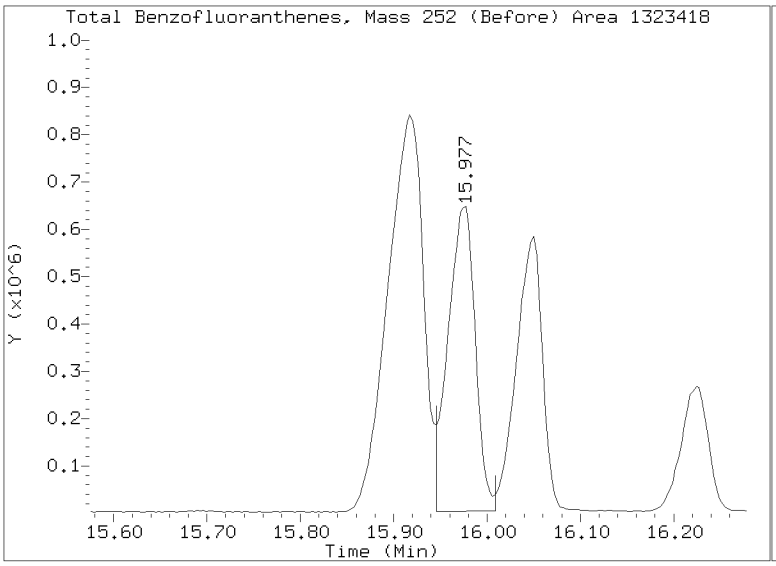
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

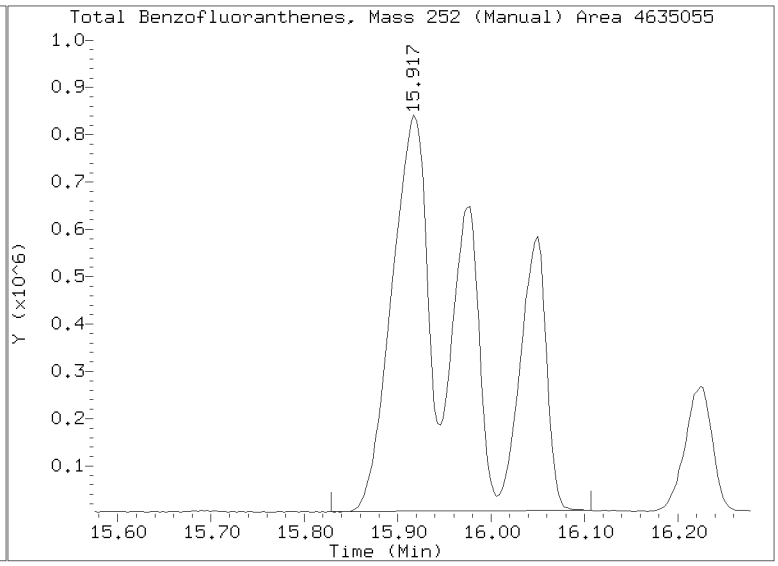
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060121.D
Injection Date: 01-JUN-2018 23:20
Lab ID:18E0282-03 Client ID:
Report Date: 06/04/2018 11:37





LDW18-SSCL-A18

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-03RE1	SDG:	18E0231
Sampled:	05/18/18 13:57	Prepared:	05/24/18 10:50	File ID:	N818060406.D
% Solids:	71.30	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/04/18 12:34
Batch:	BGE0626	Sequence:	SGF0027	Initial/Final:	14.1 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	5	896	D	4.10	24.9
218-01-9	Chrysene	5	916	D	5.24	24.9
205-99-2	Benzo(b)fluoranthene	5	789	D	6.82	24.9
207-08-9	Benzo(k)fluoranthene	5	494	D	3.78	24.9
50-32-8	Benzo(a)pyrene	5	1020	D	3.05	24.9
193-39-5	Indeno(1,2,3-cd)pyrene	5	624	D	5.22	24.9
53-70-3	Dibenzo(a,h)anthracene	5	209	D	4.43	24.9

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.20	48.0	32.1	32 - 120	
Dibenzo[a,h]anthracene-d14	149.20	76.9	51.5	21 - 133	
Fluoranthene-d10	149.20	54.6	36.6	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

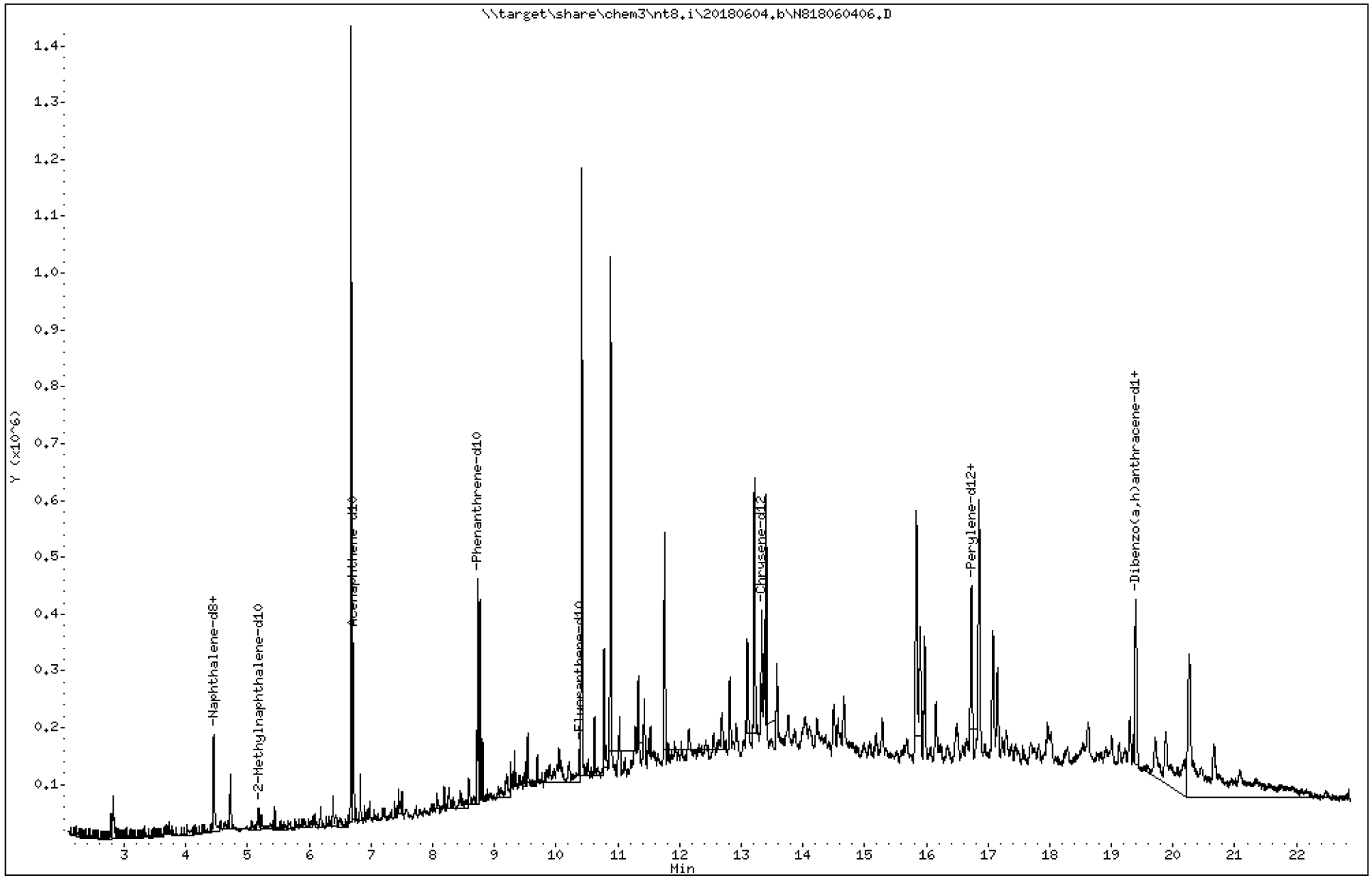
Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

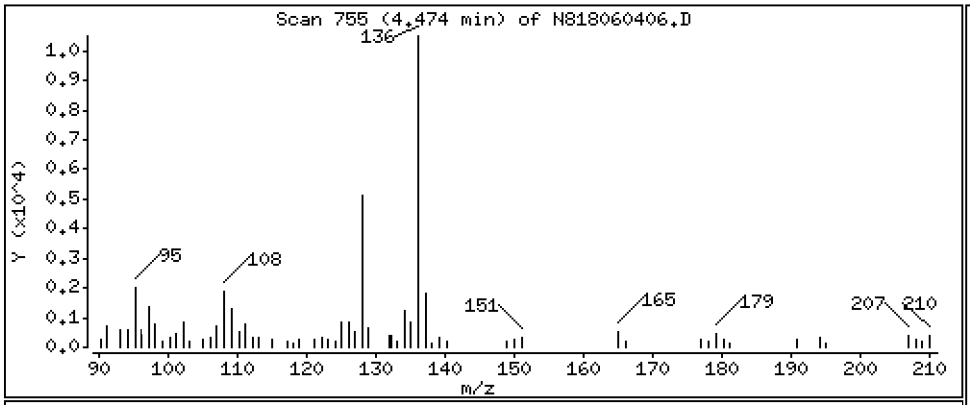
Operator: JZ

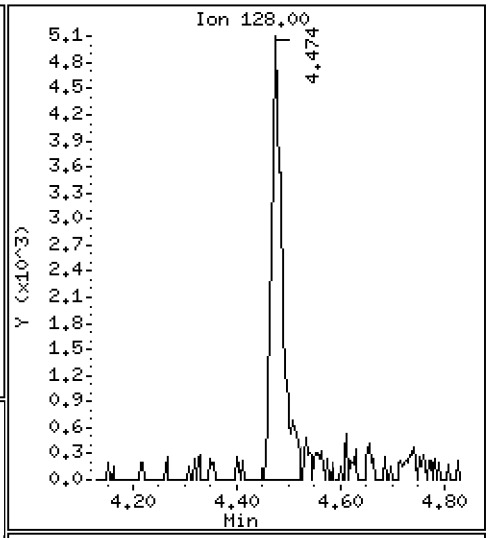
Column phase: Rxi-17sil

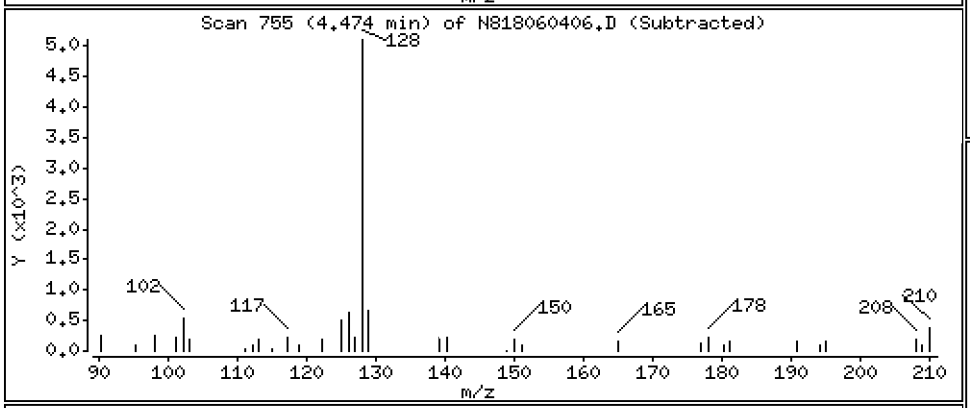
Column diameter: 0.25

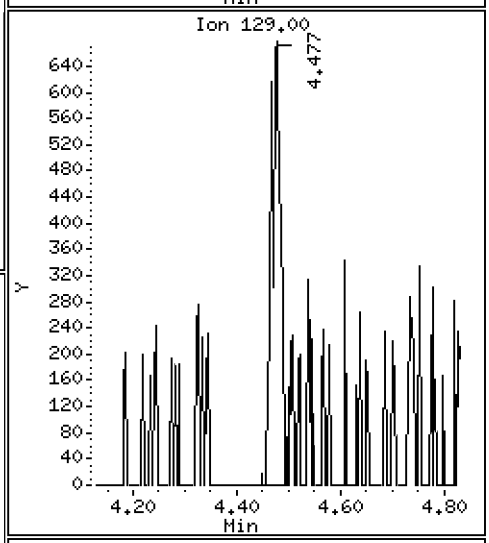
2 Naphthalene

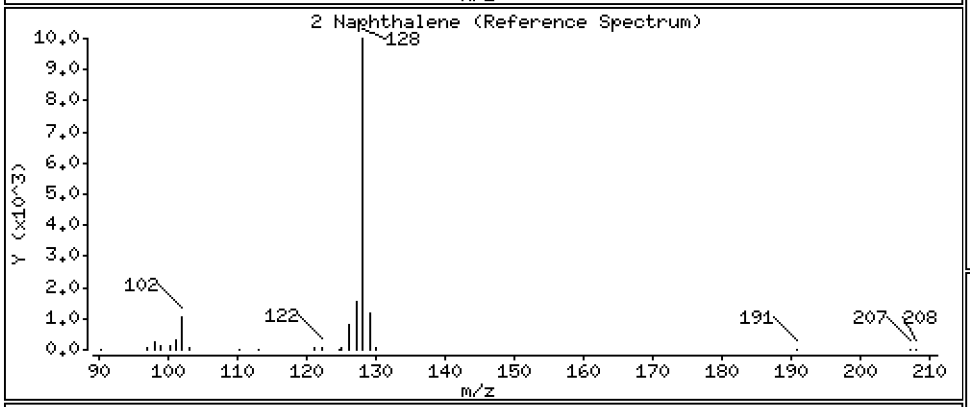
Concentration: 0.3930 ug/mL

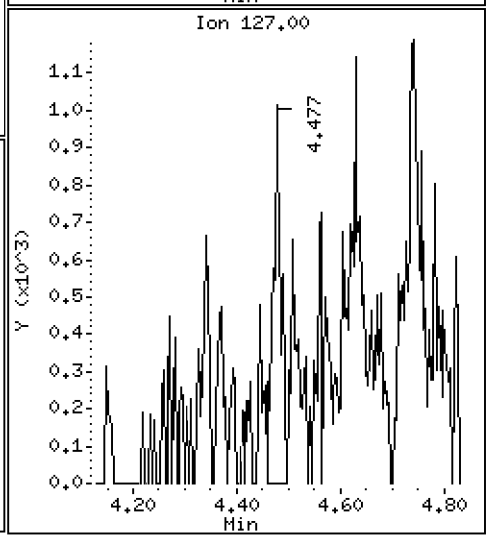


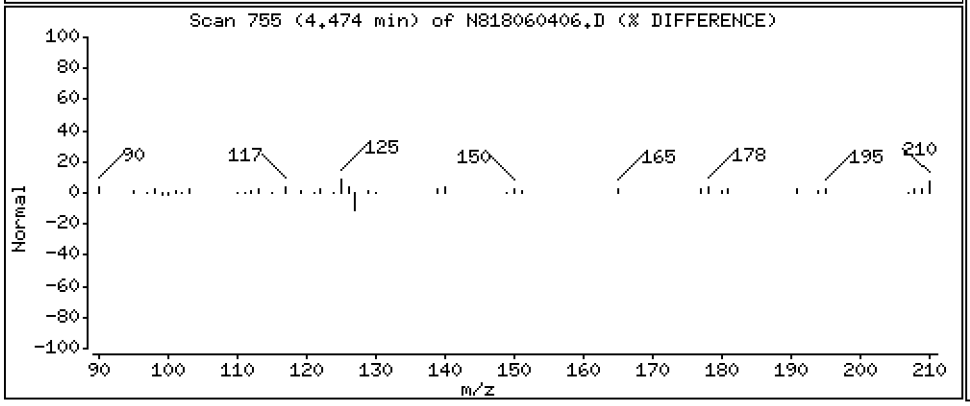












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

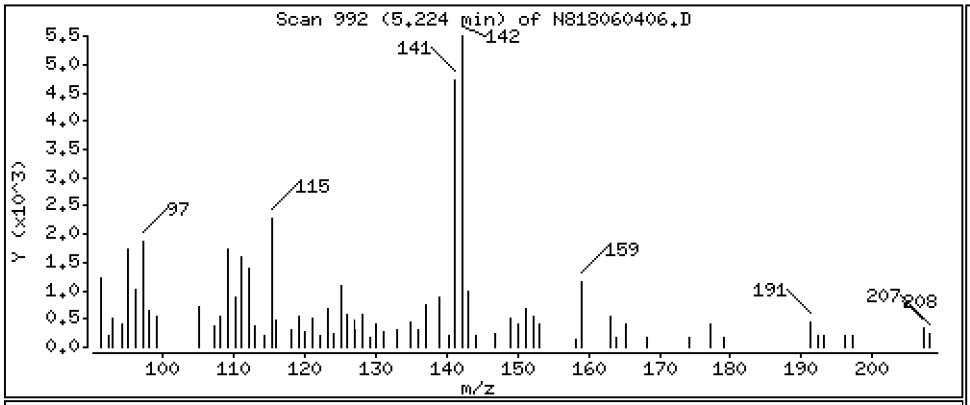
Operator: JZ

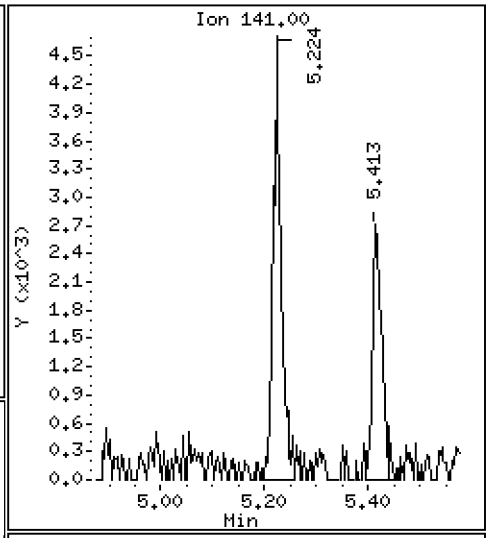
Column phase: Rxi-17sil

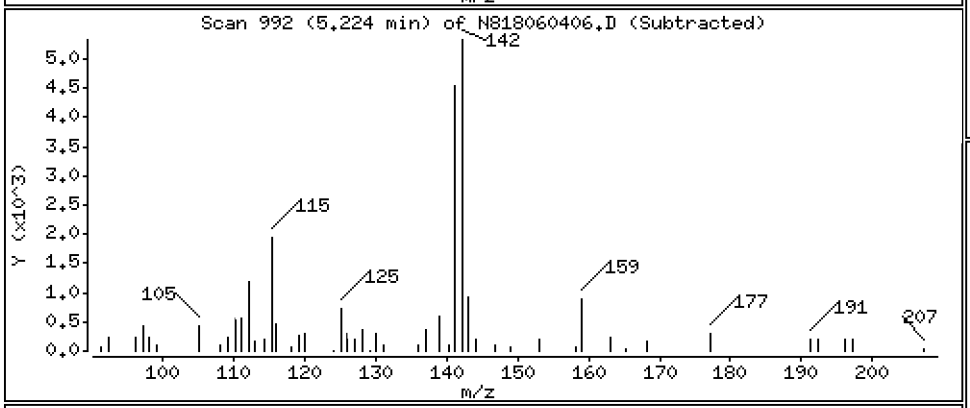
Column diameter: 0.25

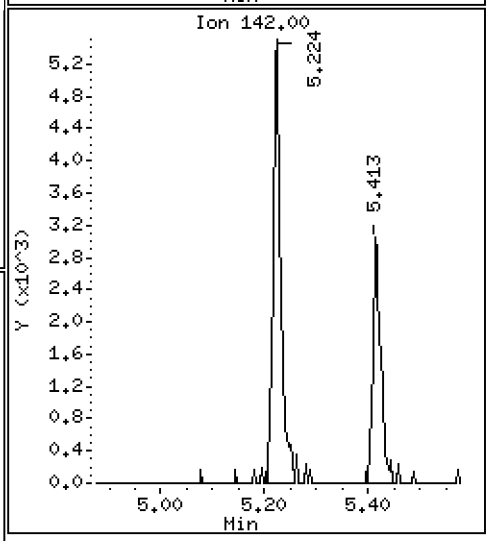
4 2-Methylnaphthalene

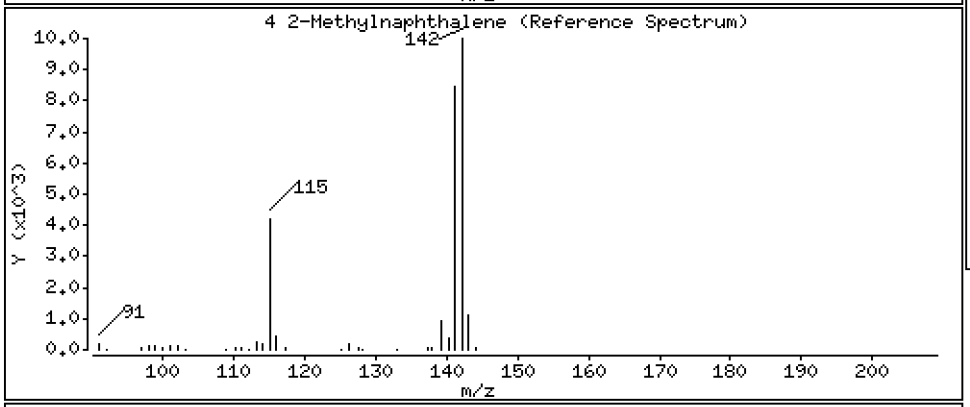
Concentration: 0.4793 ug/mL

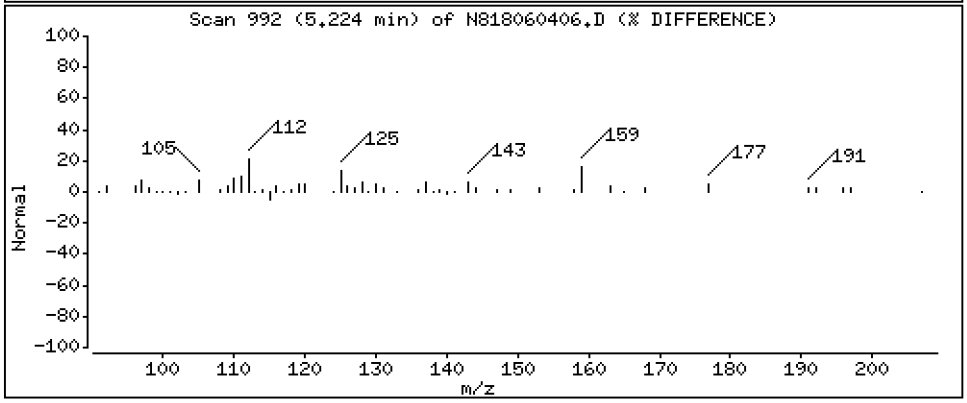












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

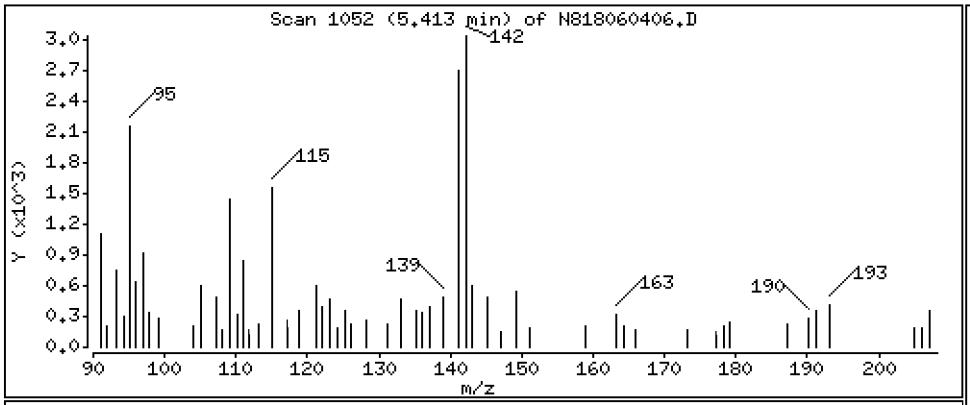
Operator: JZ

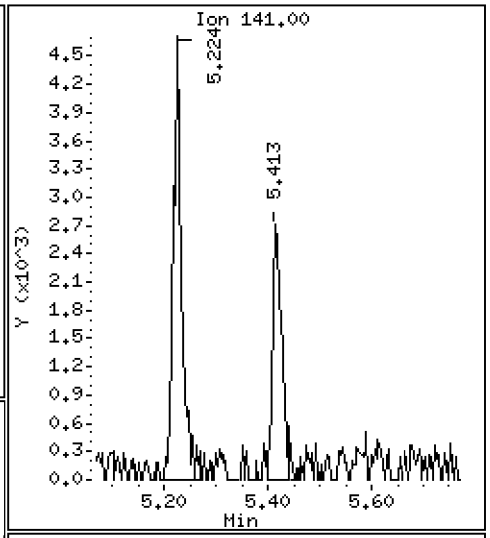
Column phase: Rxi-17sil

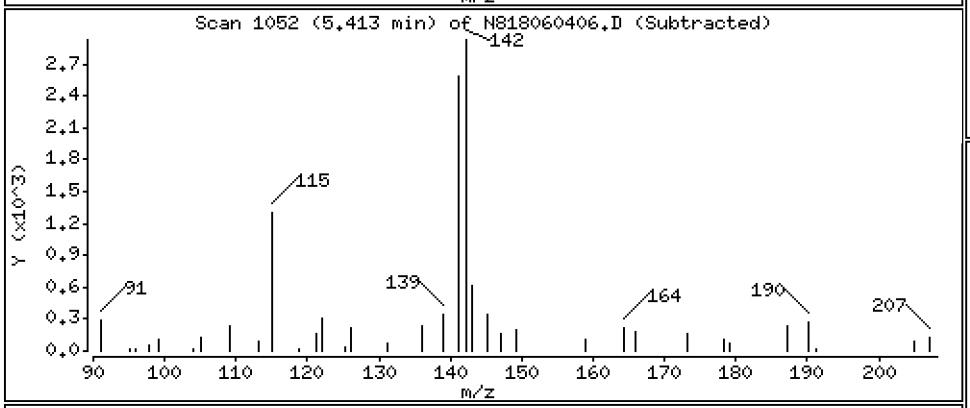
Column diameter: 0.25

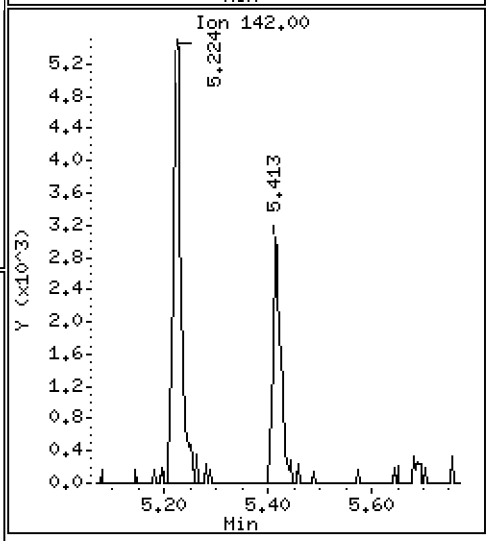
5 1-methylnaphthalene

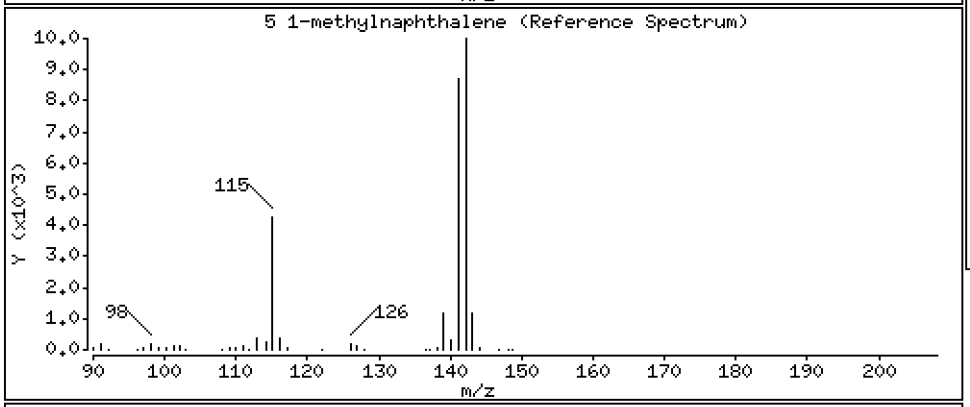
Concentration: 0.3125 ug/mL

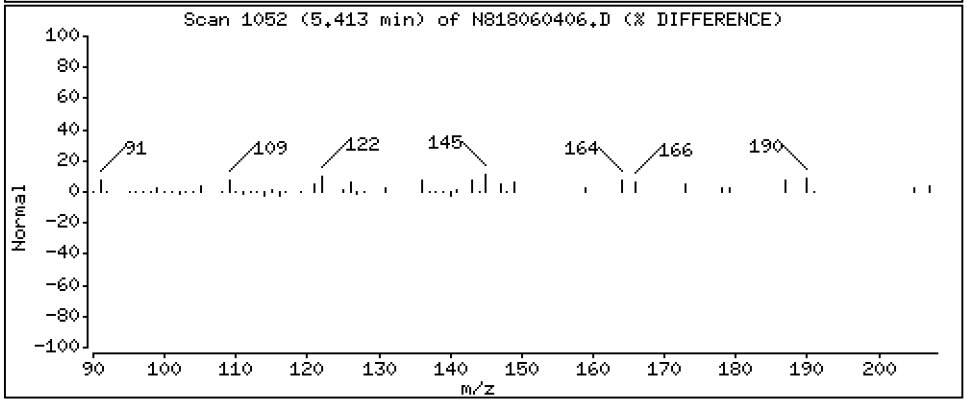












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

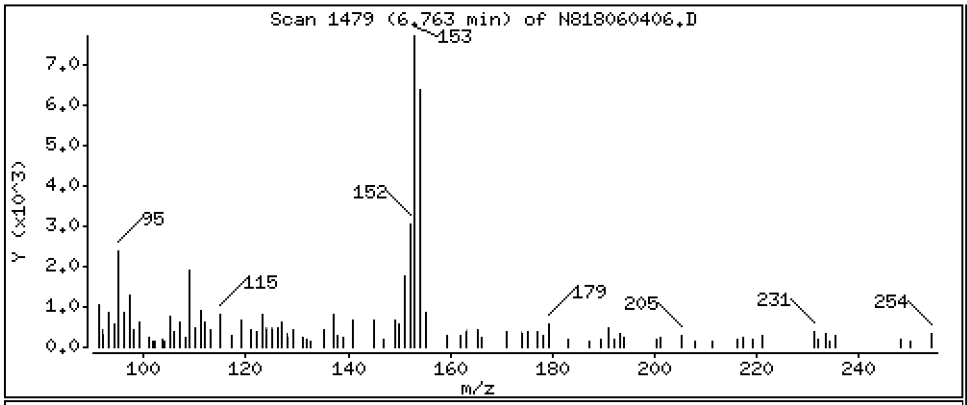
Operator: JZ

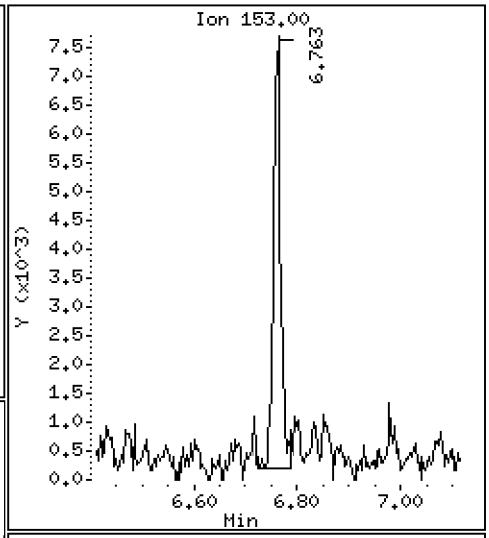
Column phase: Rxi-17sil

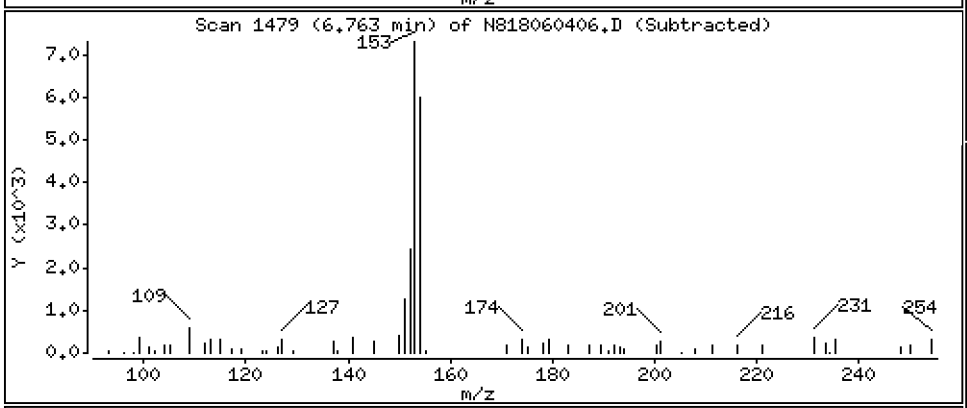
Column diameter: 0.25

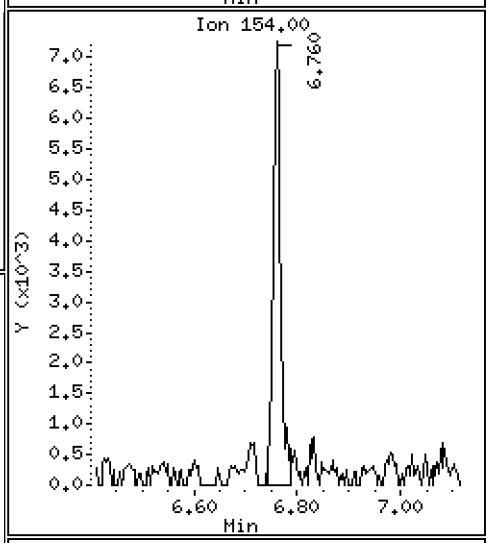
11 Acenaphthene

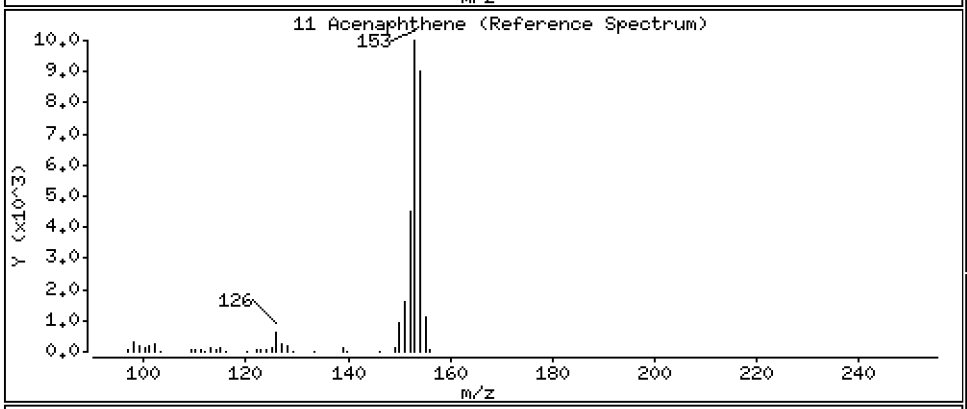
Concentration: 0.5615 ug/mL

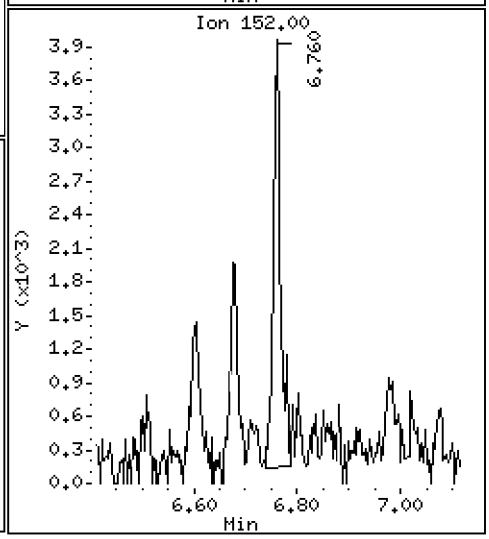


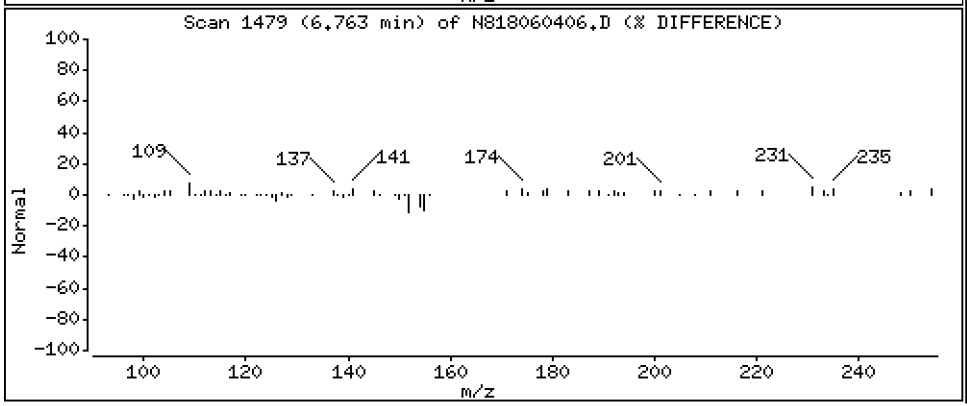












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

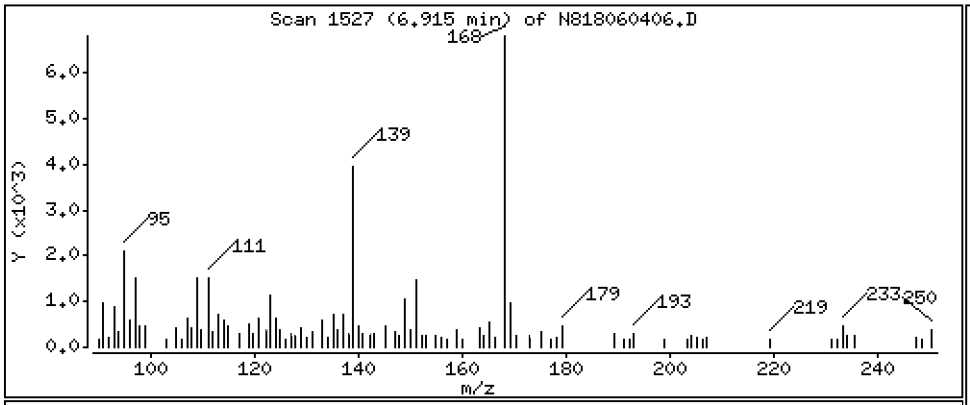
Operator: JZ

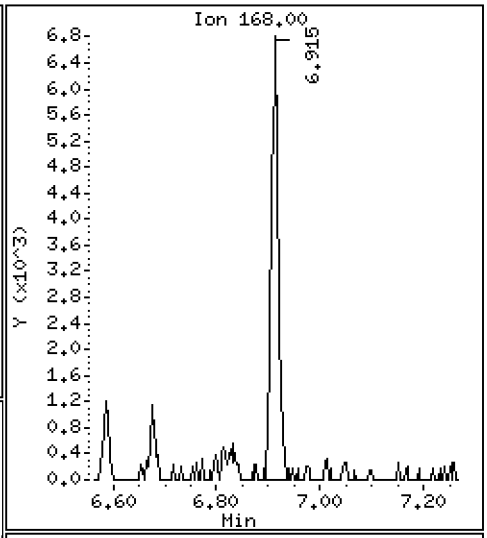
Column phase: Rxi-17sil

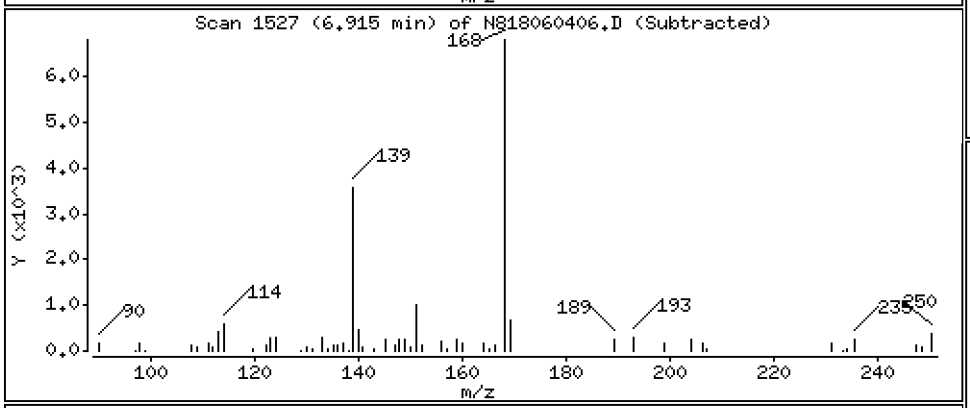
Column diameter: 0.25

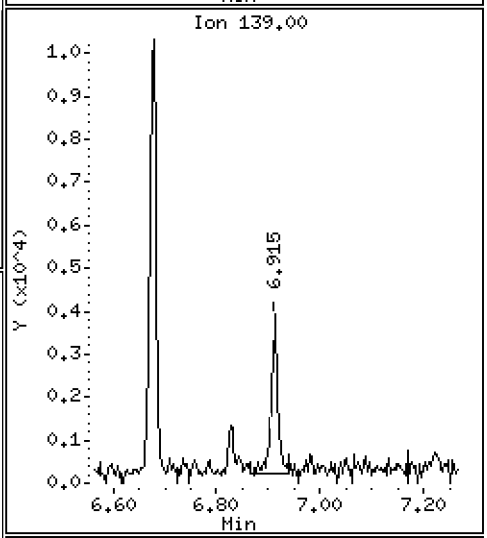
12 Dibenzofuran

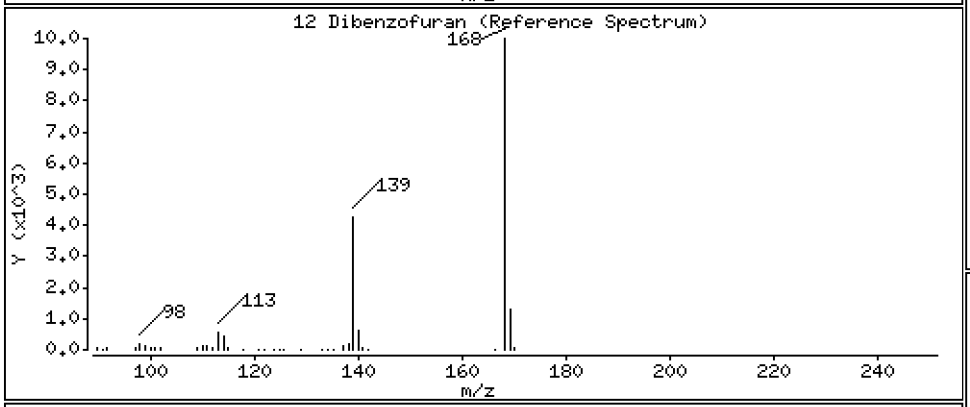
Concentration: 0.3794 ug/mL

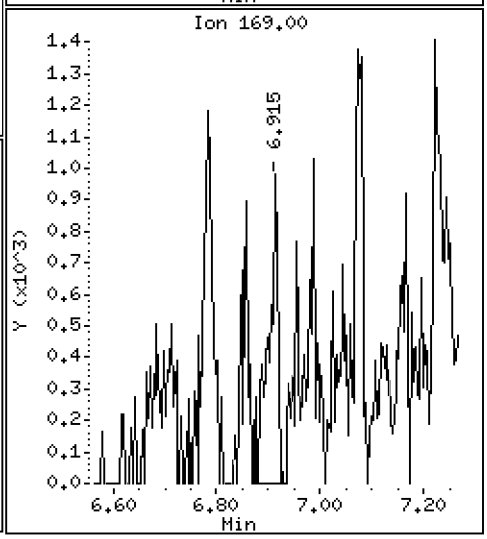


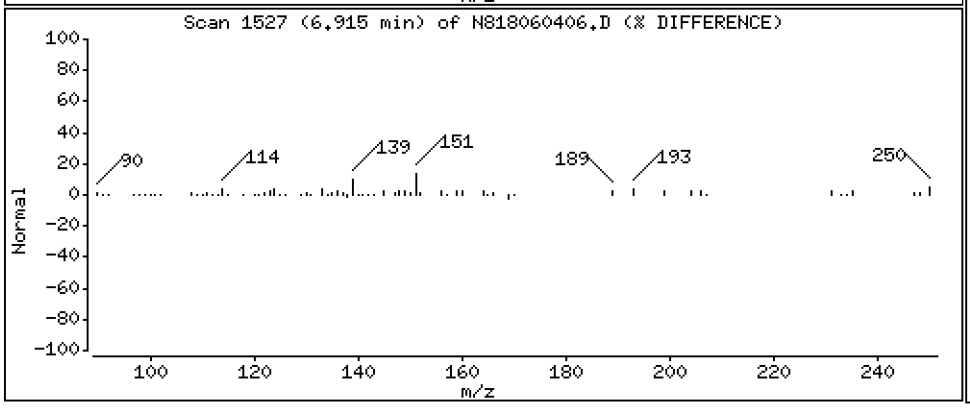












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

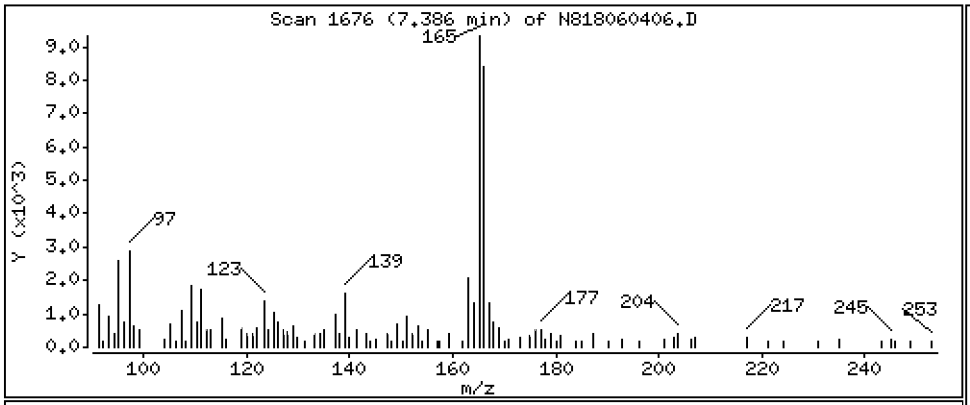
Operator: JZ

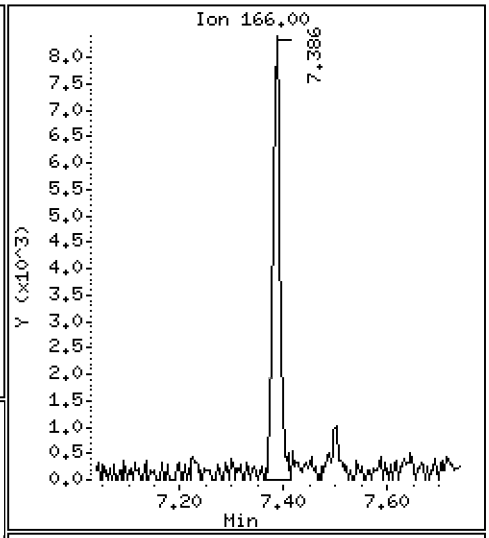
Column phase: Rxi-17sil

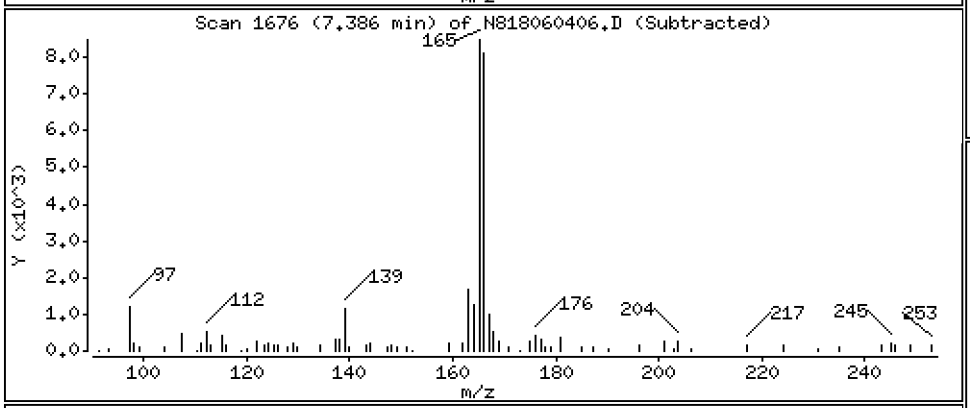
Column diameter: 0.25

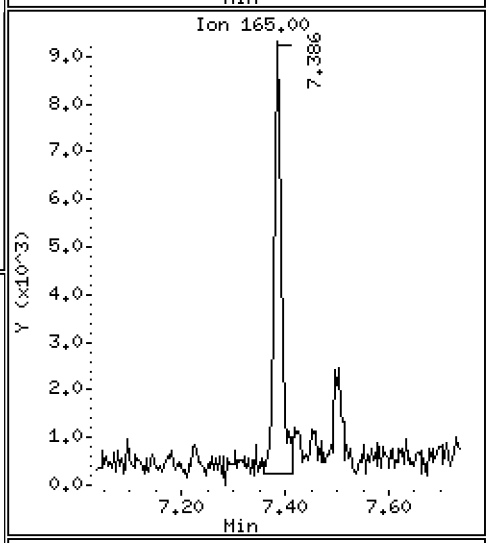
14 Fluorene

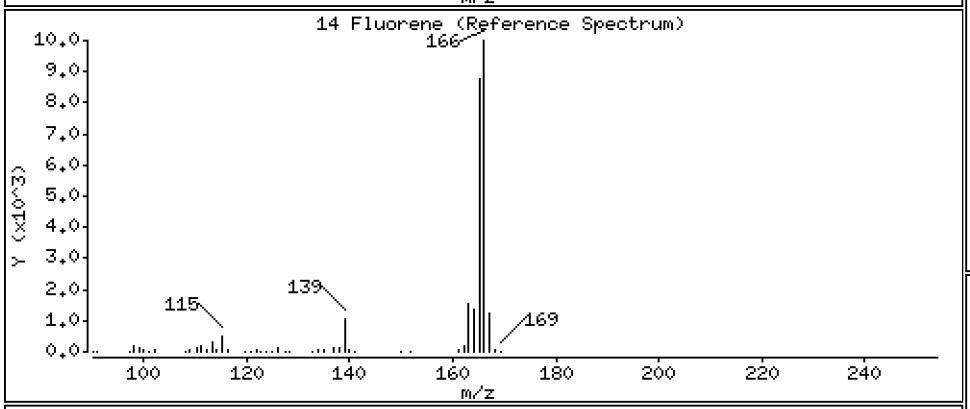
Concentration: 0.5956 ug/mL

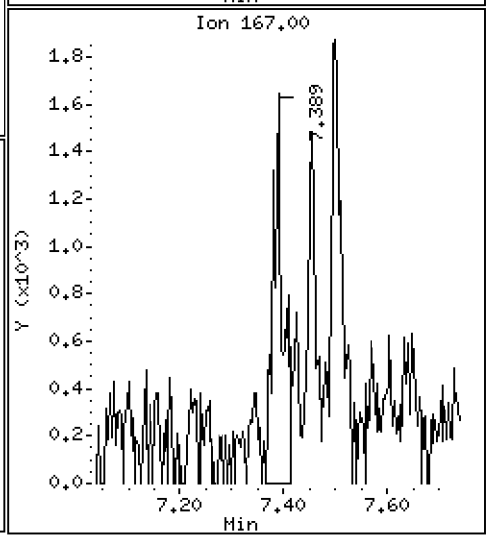


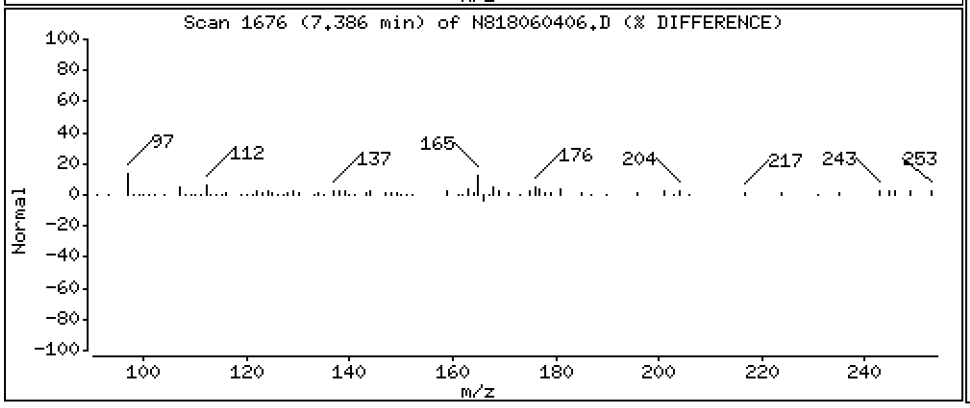












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

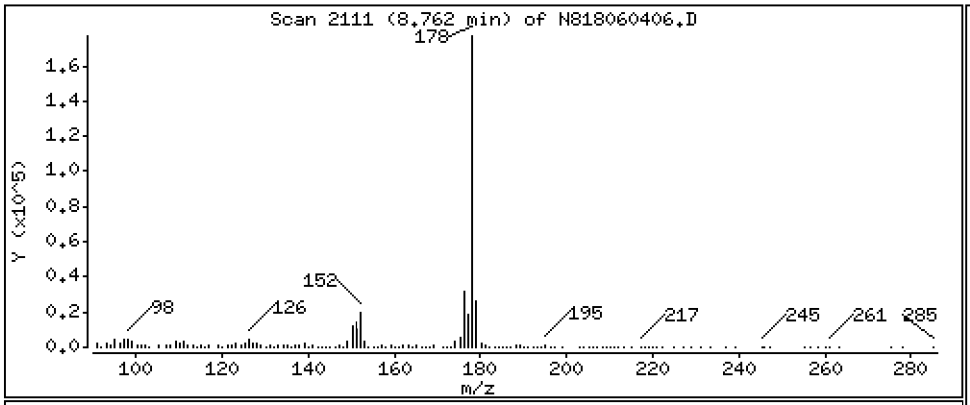
Operator: JZ

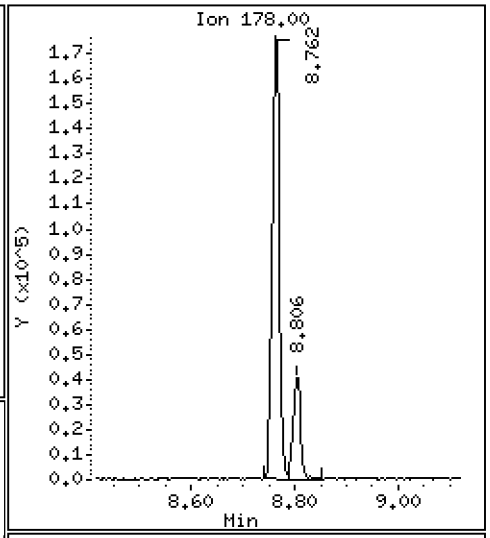
Column phase: Rxi-17sil

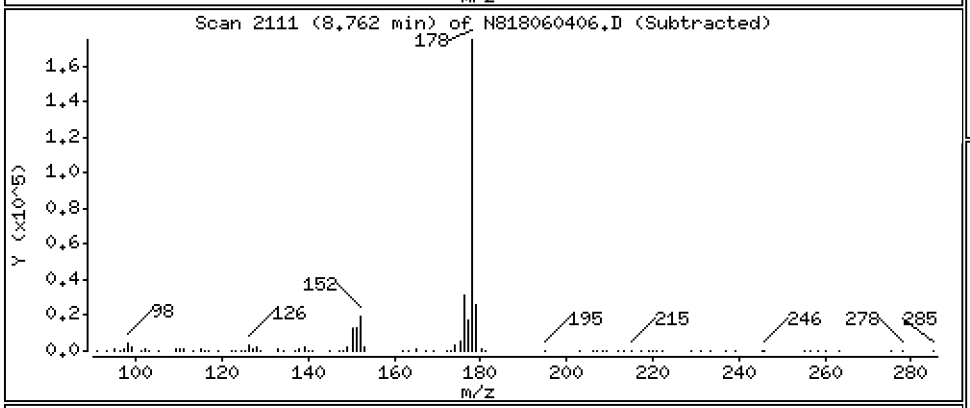
Column diameter: 0.25

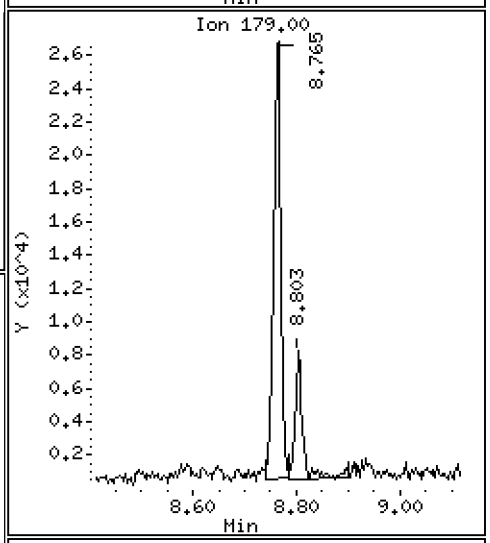
16 Phenanthrene

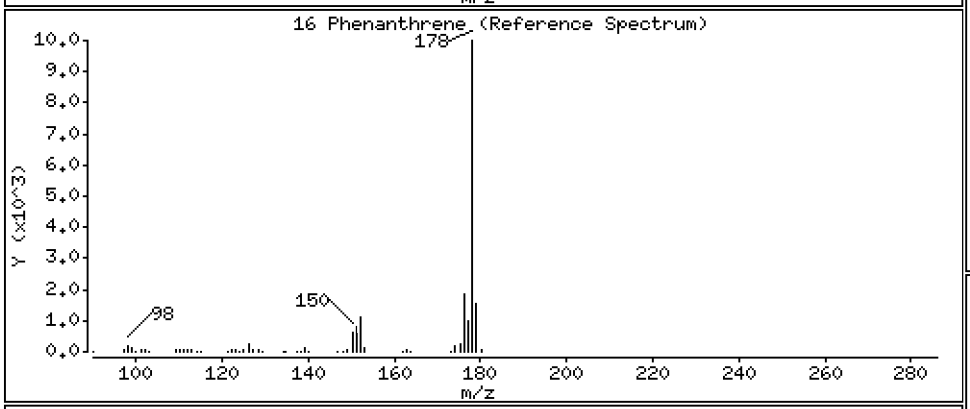
Concentration: 8.325 ug/mL

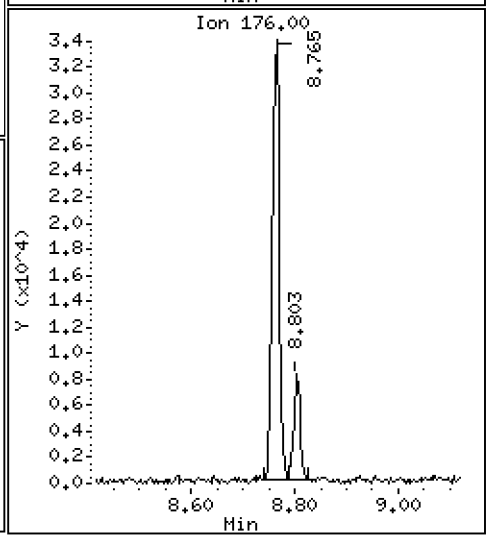


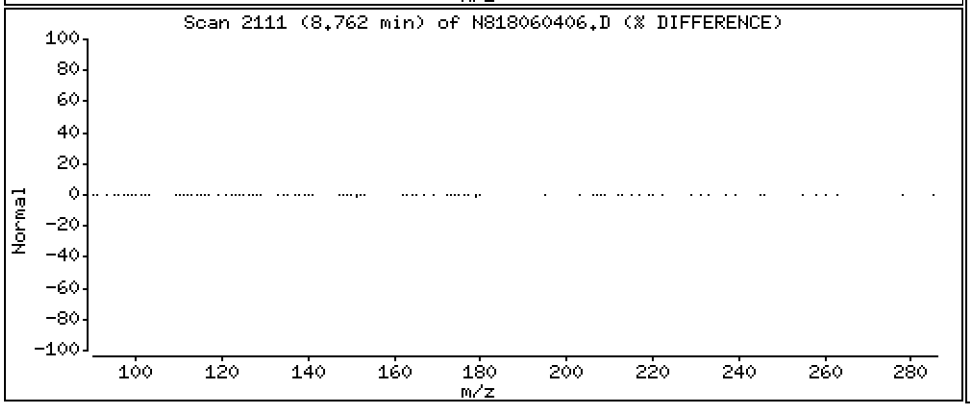












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

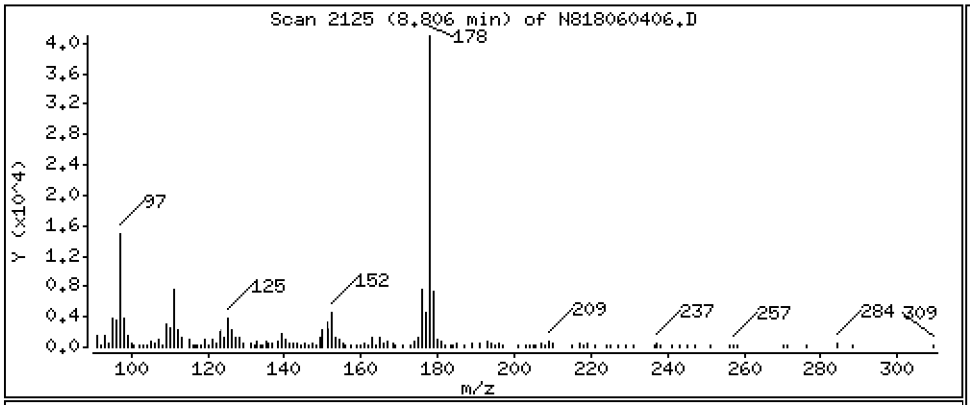
Operator: JZ

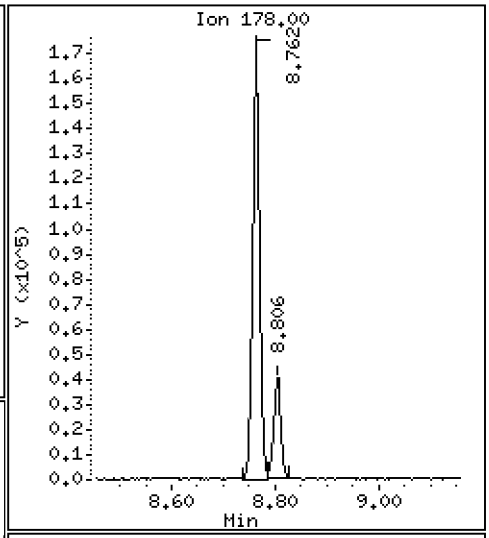
Column phase: Rxi-17sil

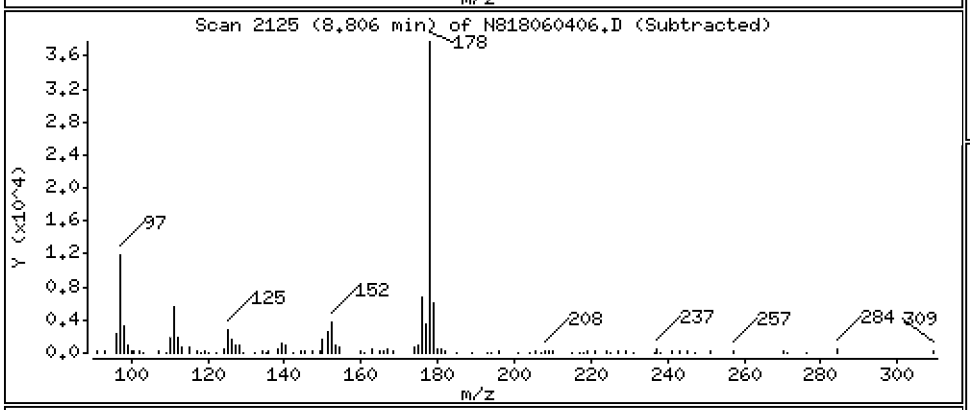
Column diameter: 0.25

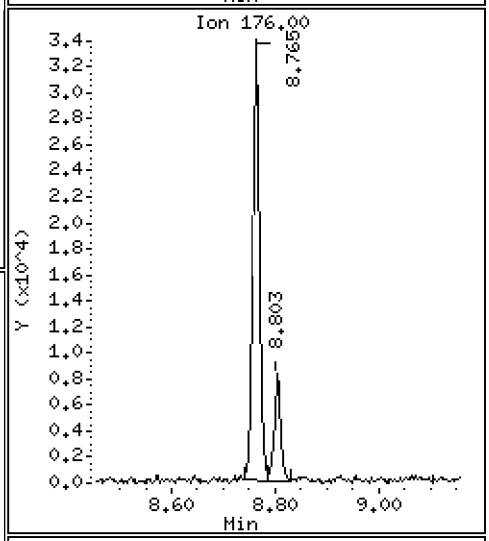
17 Anthracene

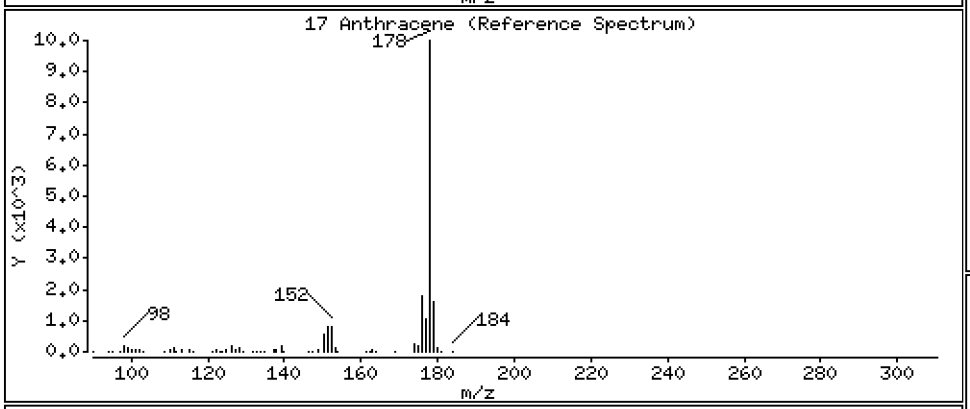
Concentration: 2.117 ug/mL

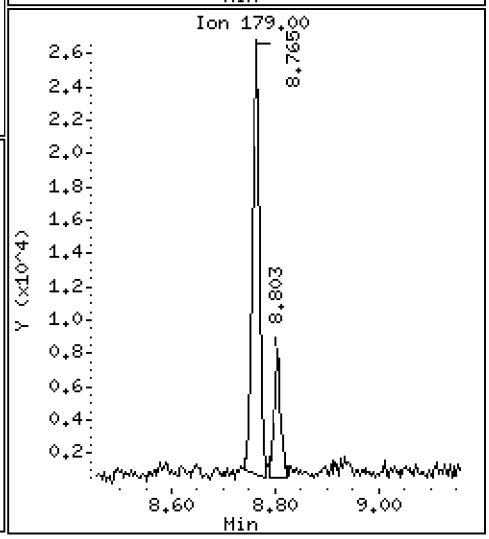


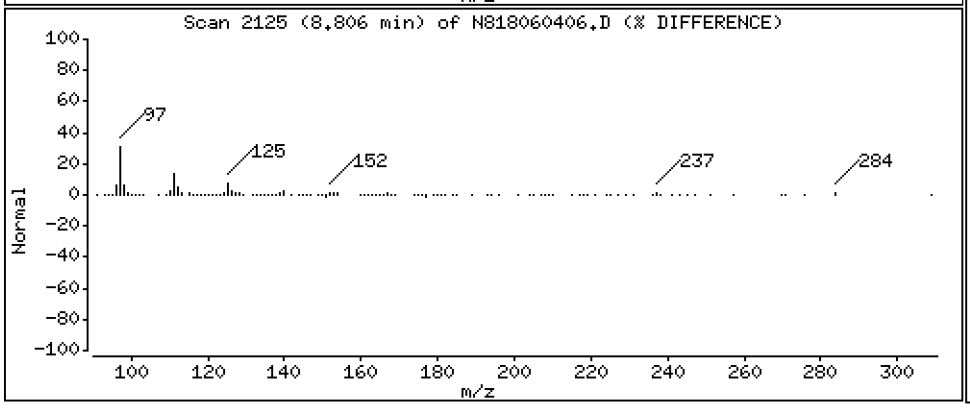












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

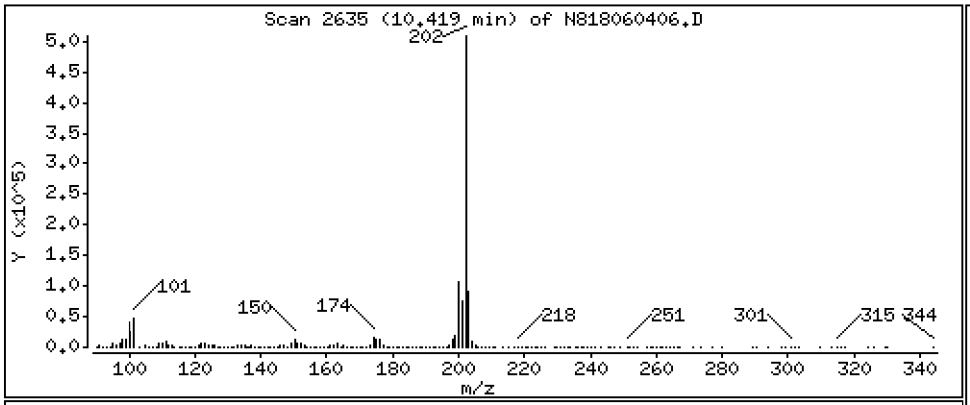
Operator: JZ

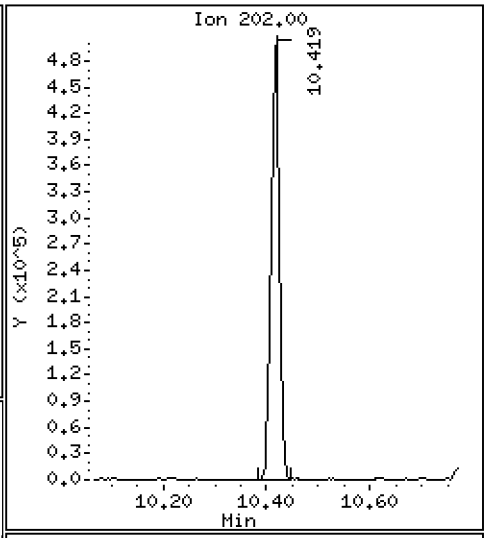
Column phase: Rxi-17sil

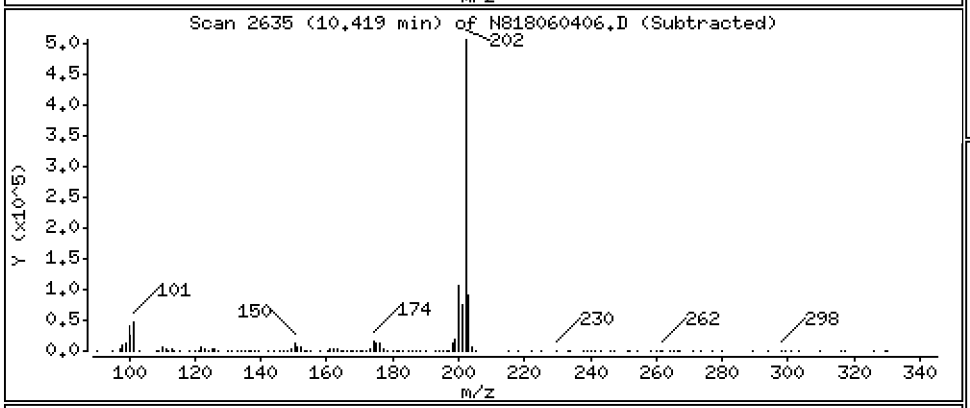
Column diameter: 0.25

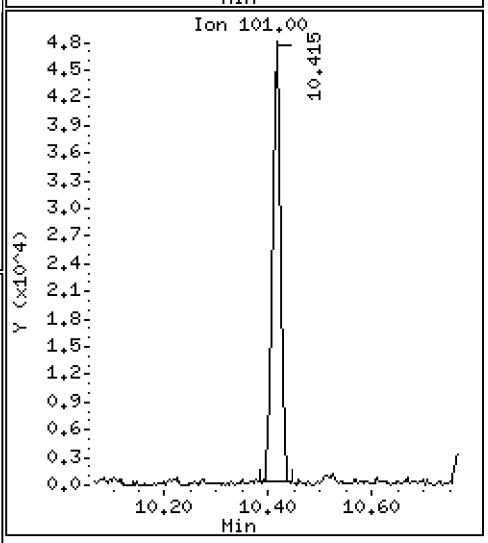
22 Fluoranthene

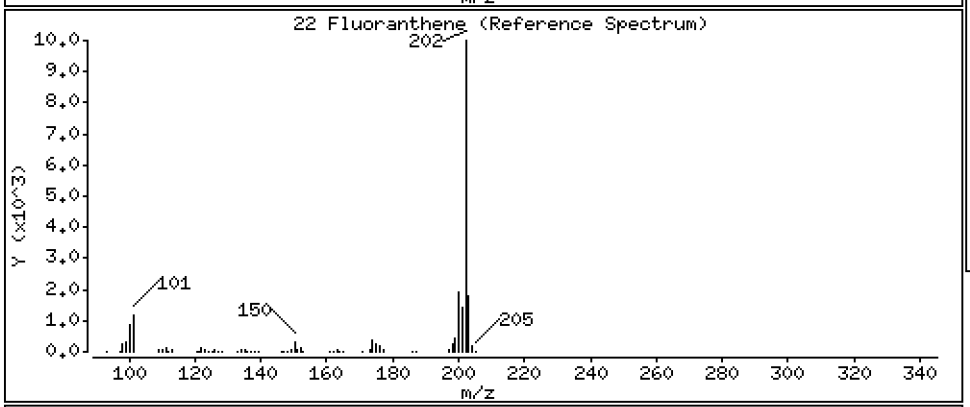
Concentration: 25.21 ug/mL

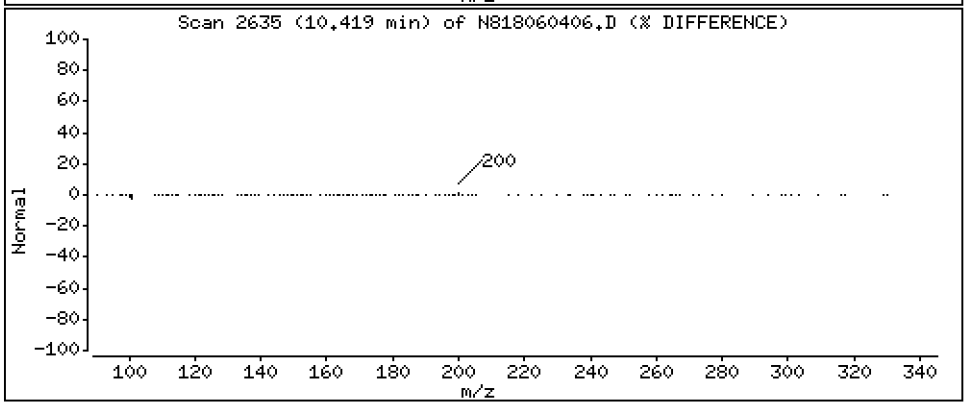












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

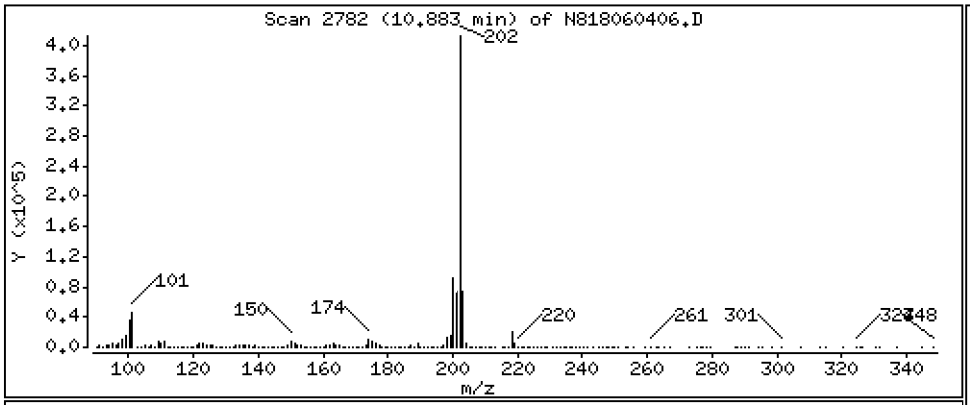
Operator: JZ

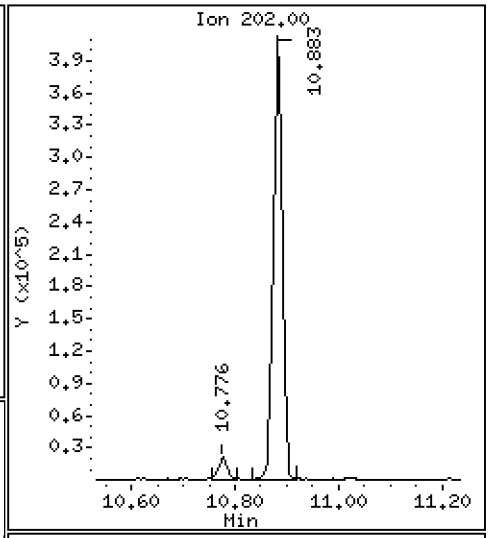
Column phase: Rxi-17sil

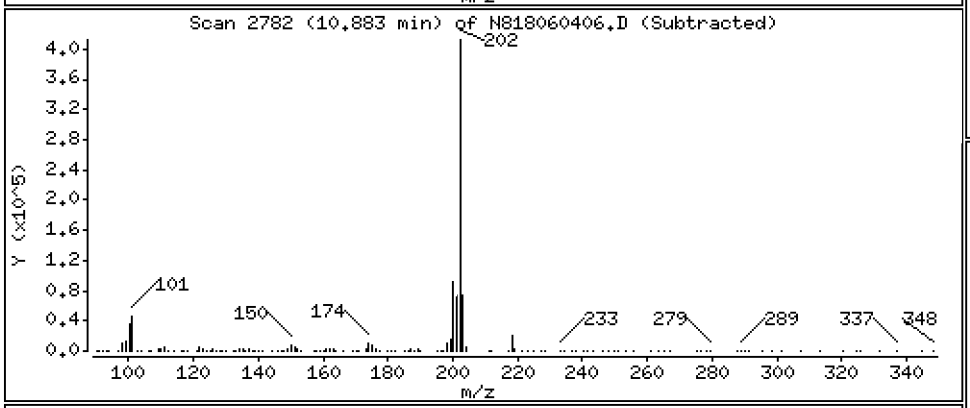
Column diameter: 0.25

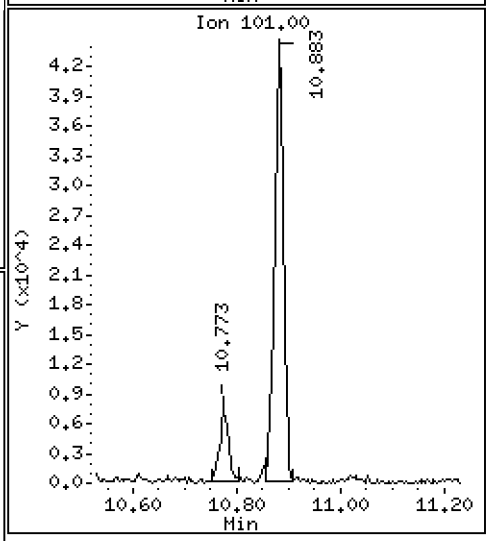
23 Pyrene

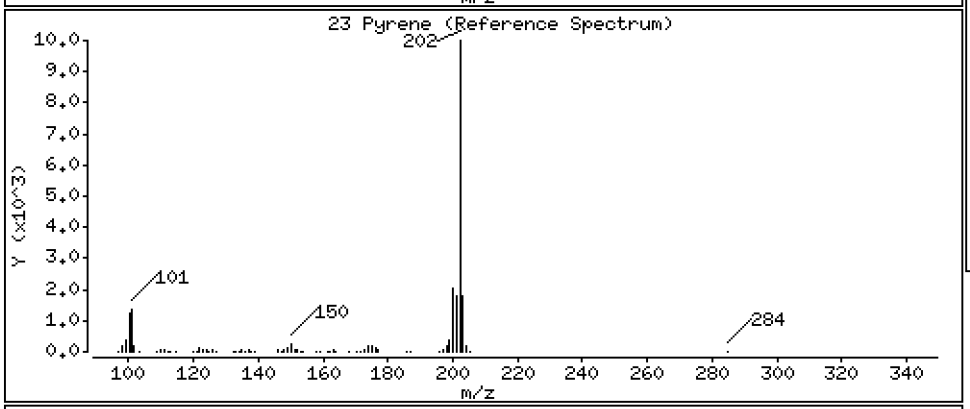
Concentration: 26.46 ug/mL

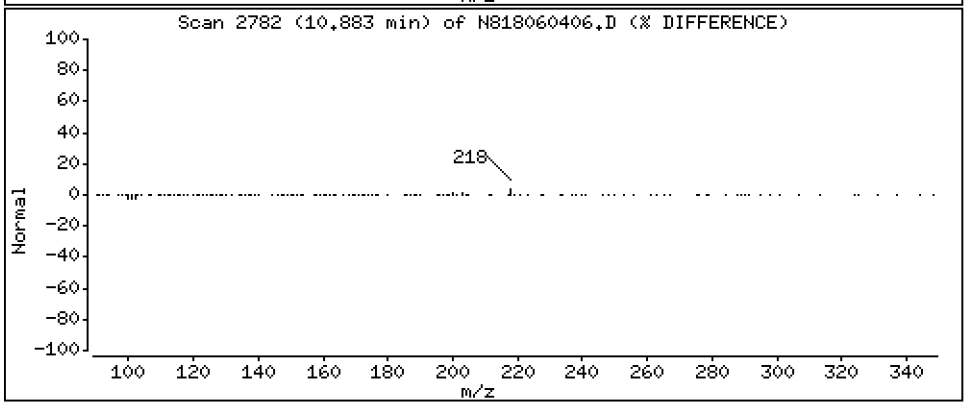












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

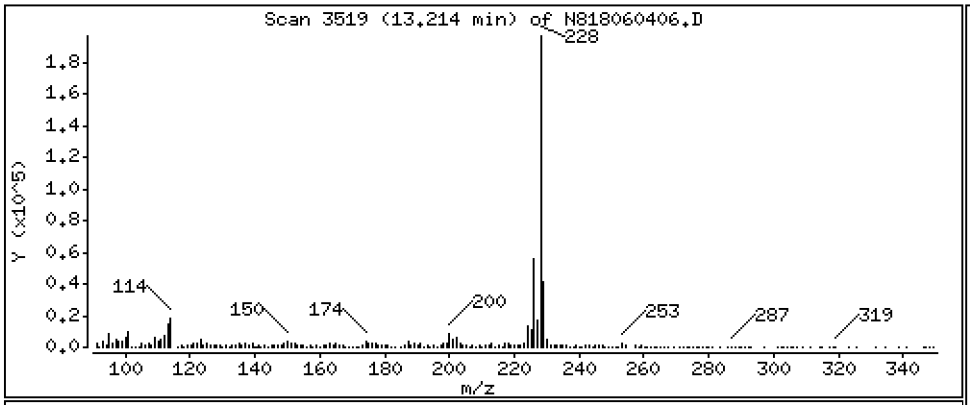
Operator: JZ

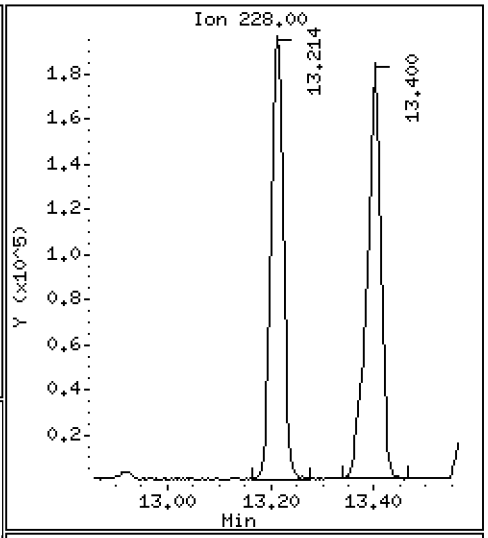
Column phase: Rxi-17sil

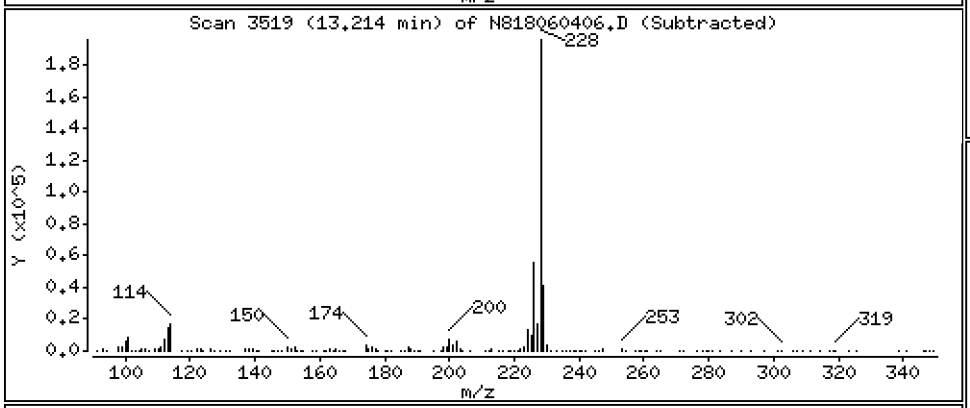
Column diameter: 0.25

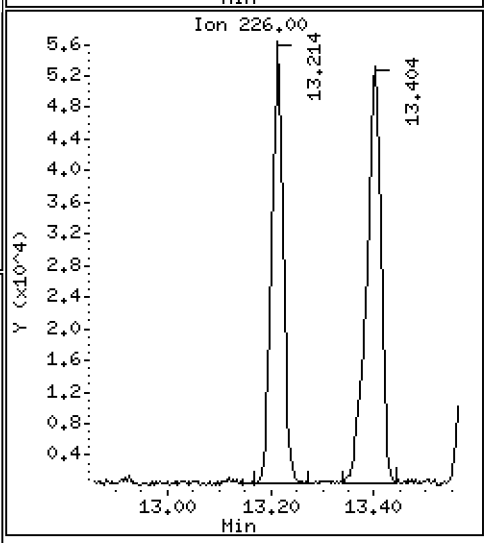
24 Benzo(a)anthracene

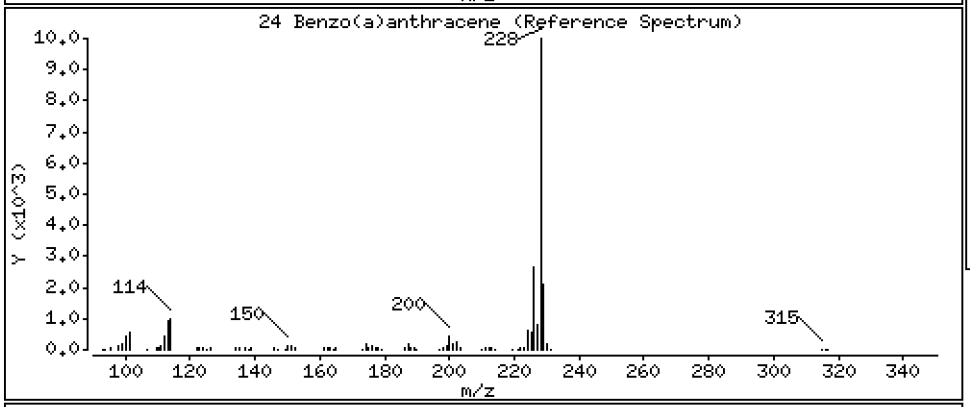
Concentration: 18.01 ug/mL

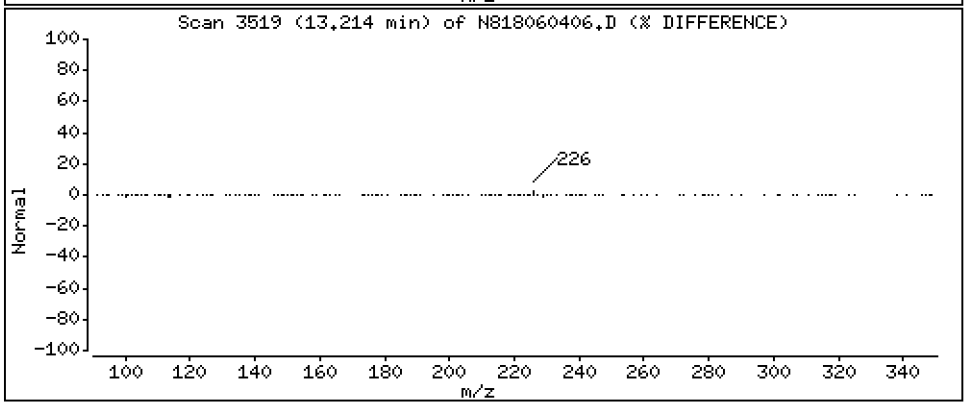












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

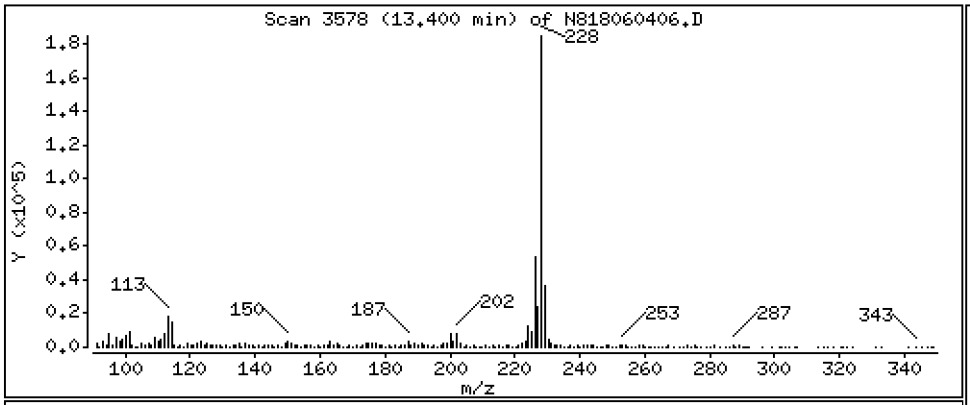
Operator: JZ

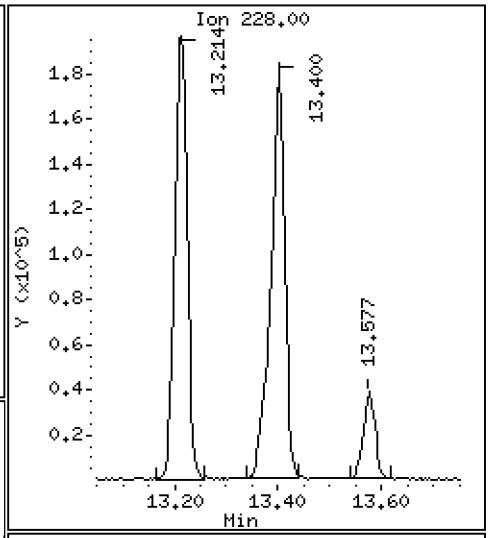
Column phase: Rxi-17sil

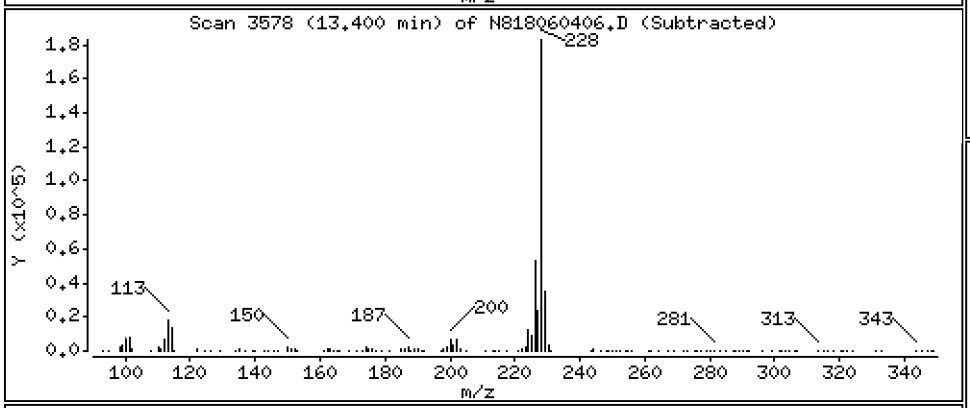
Column diameter: 0.25

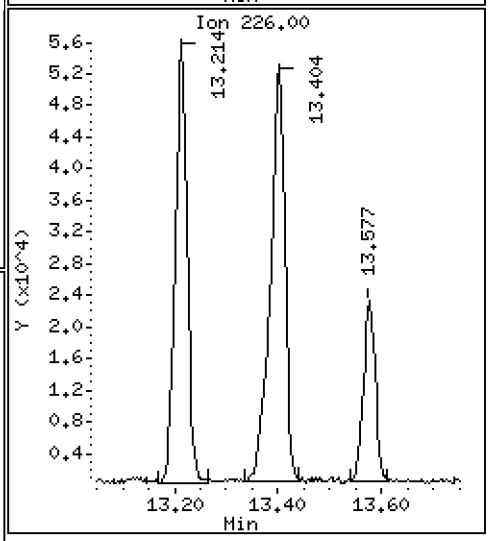
27 Chrysene

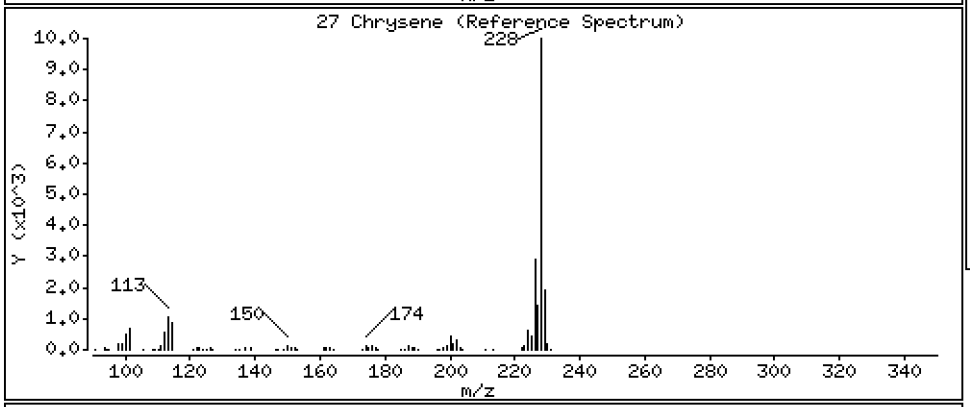
Concentration: 18.42 ug/mL

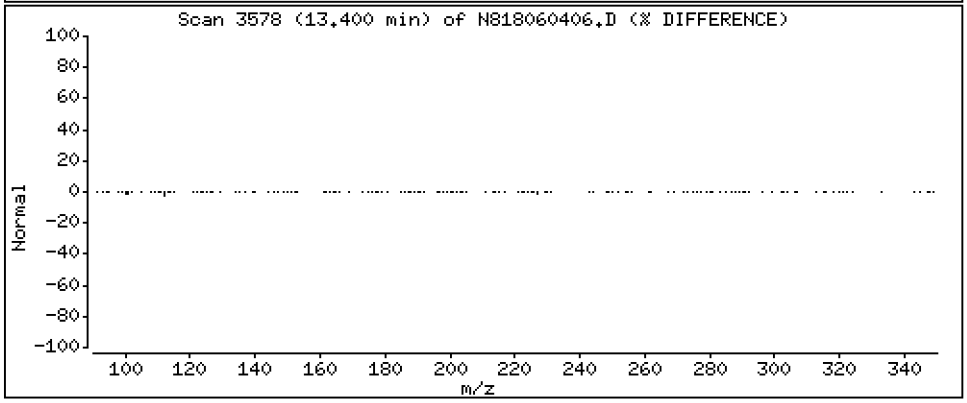












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

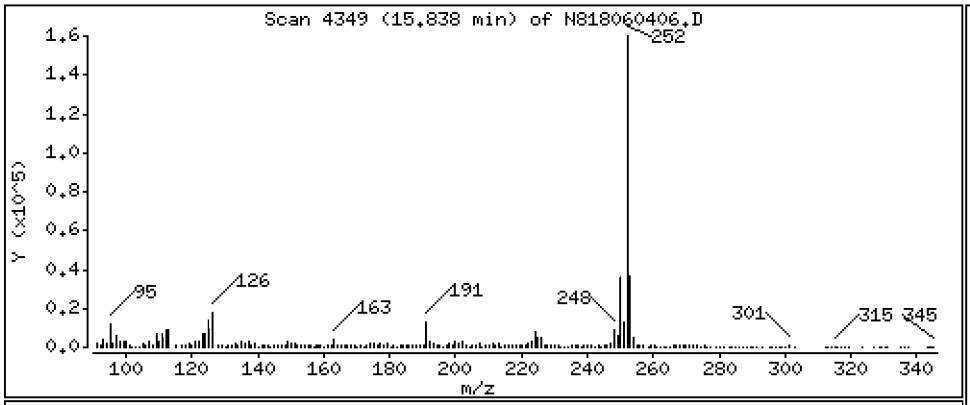
Operator: JZ

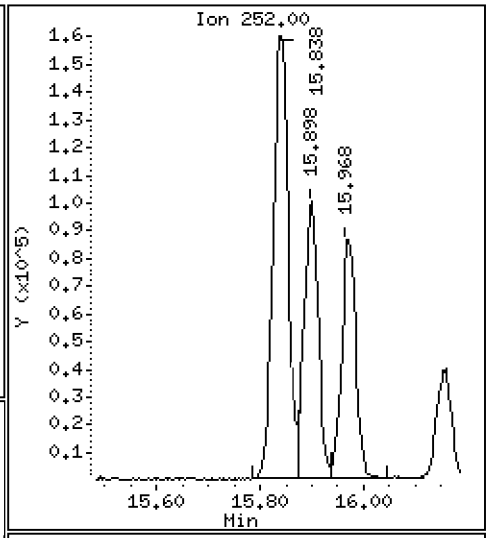
Column phase: Rxi-17sil

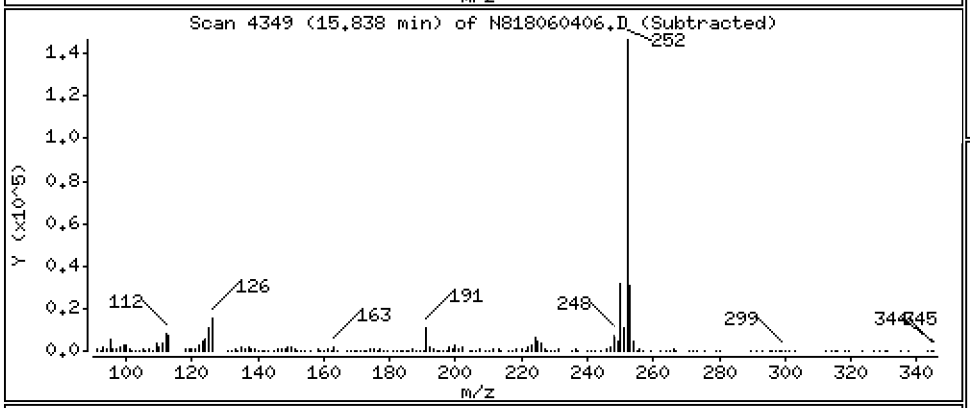
Column diameter: 0.25

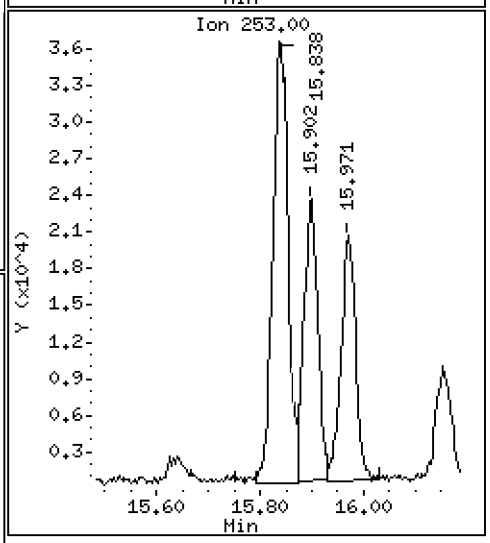
28 Benzo(b)fluoranthene

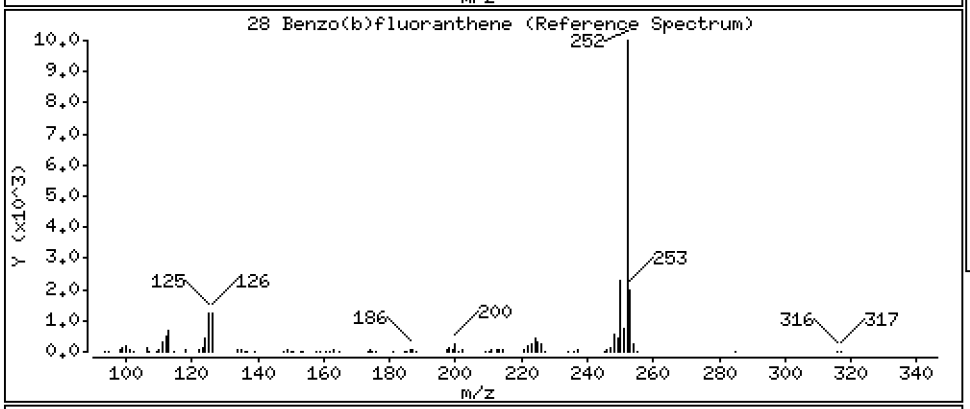
Concentration: 15.86 ug/mL

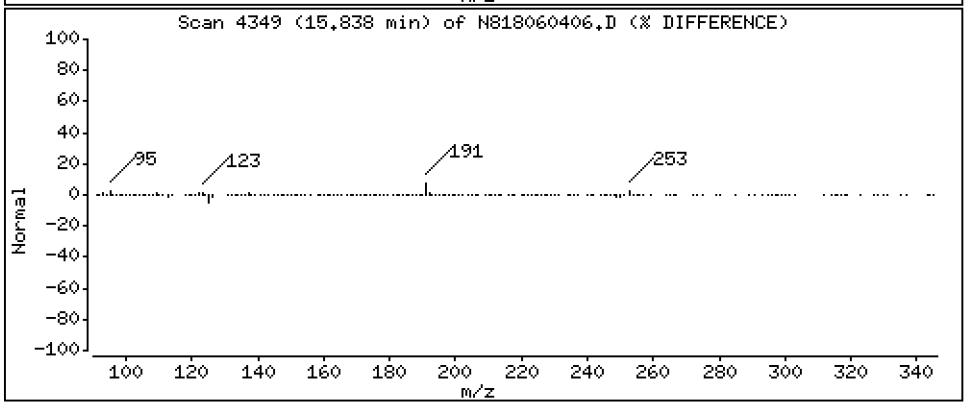












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

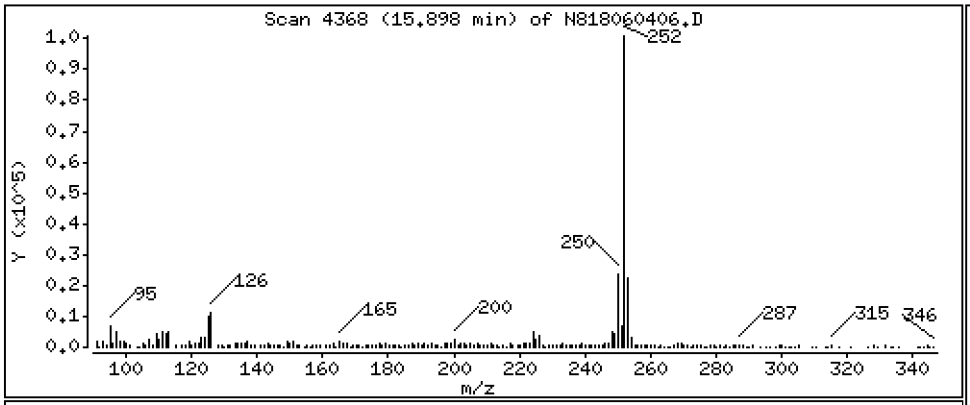
Operator: JZ

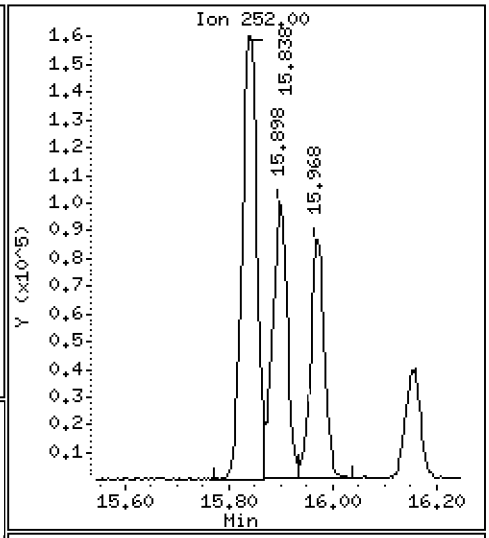
Column phase: Rxi-17sil

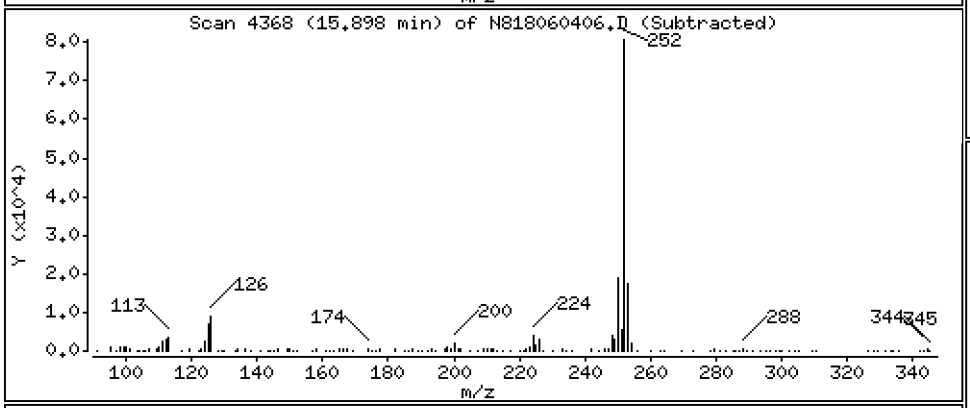
Column diameter: 0.25

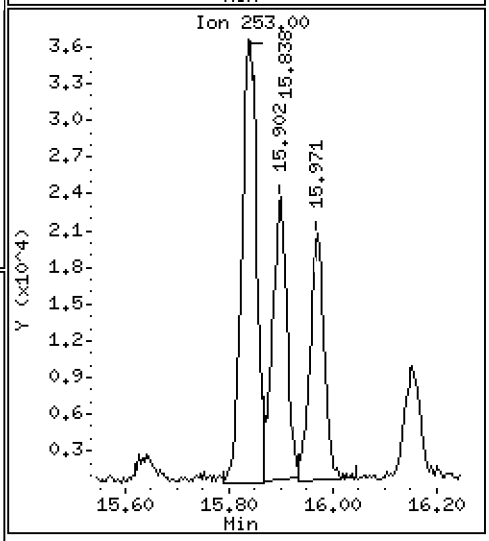
29 Benzo(k)fluoranthene

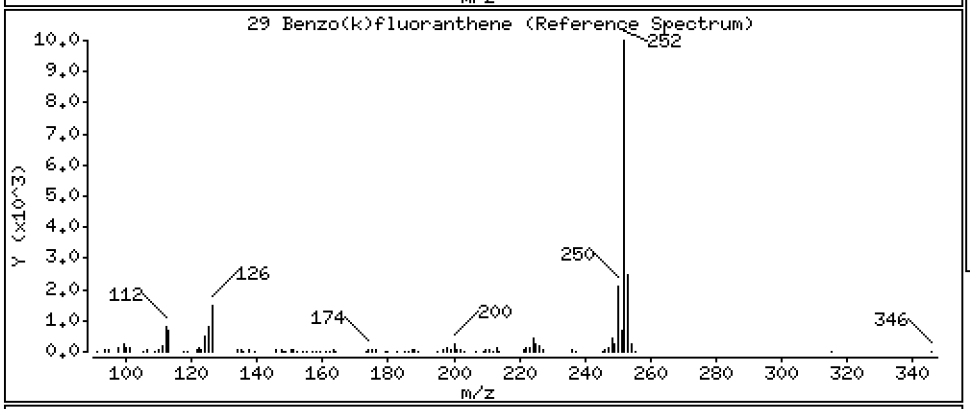
Concentration: 9.940 ug/mL

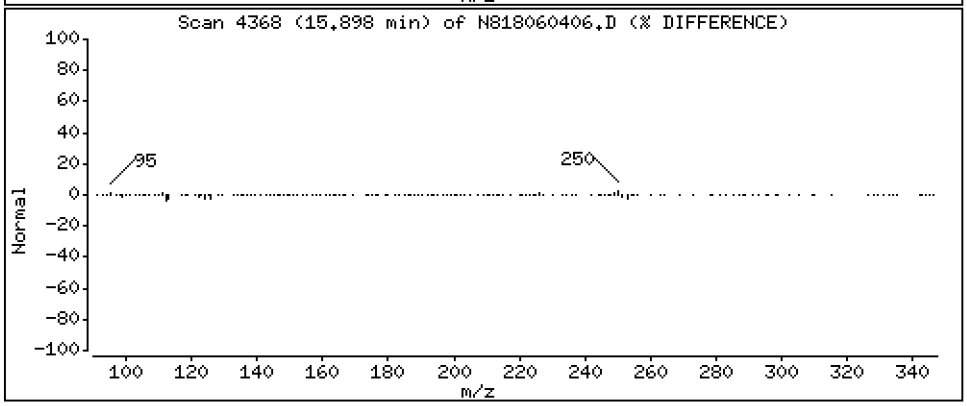












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

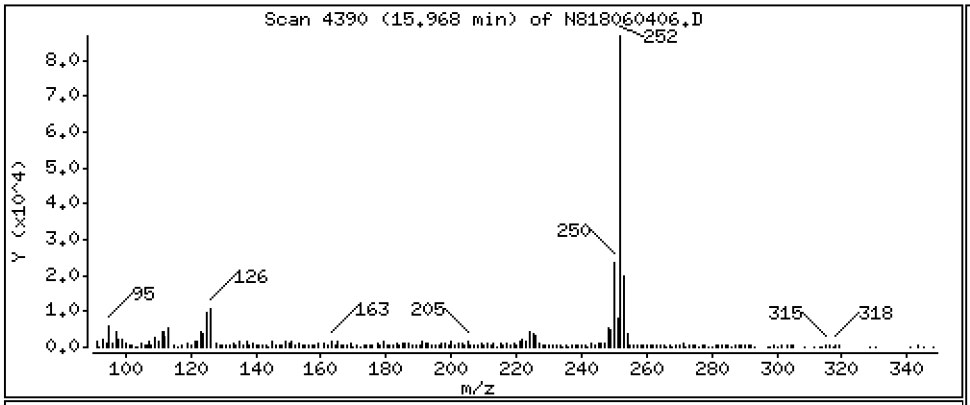
Operator: JZ

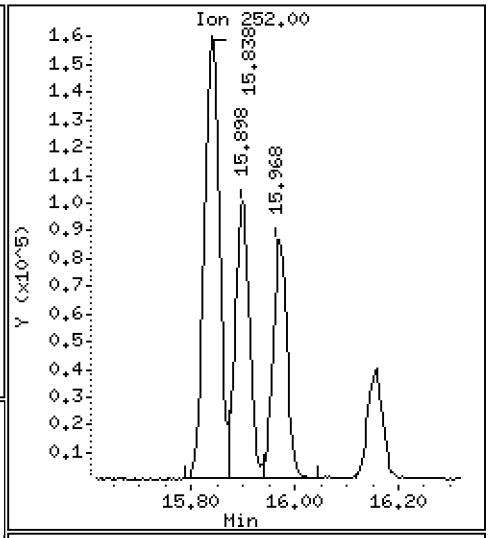
Column phase: Rxi-17sil

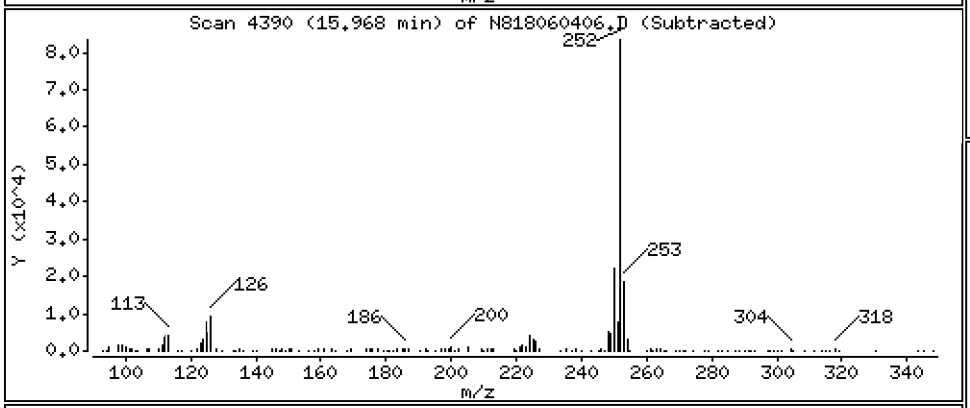
Column diameter: 0.25

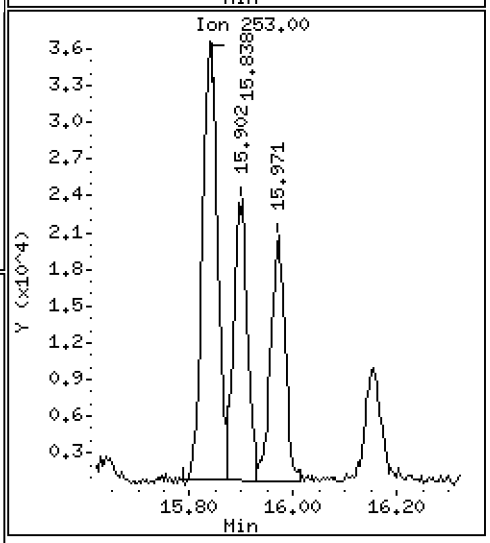
30 Benzo(j)fluoranthene

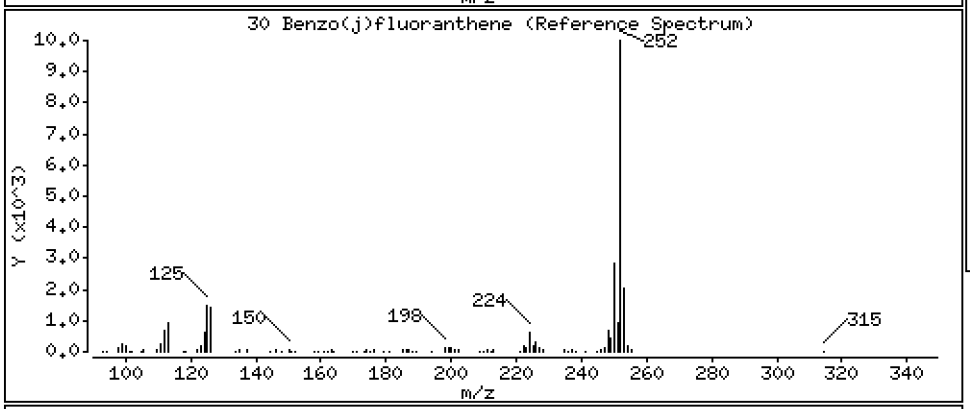
Concentration: 8.020 ug/mL

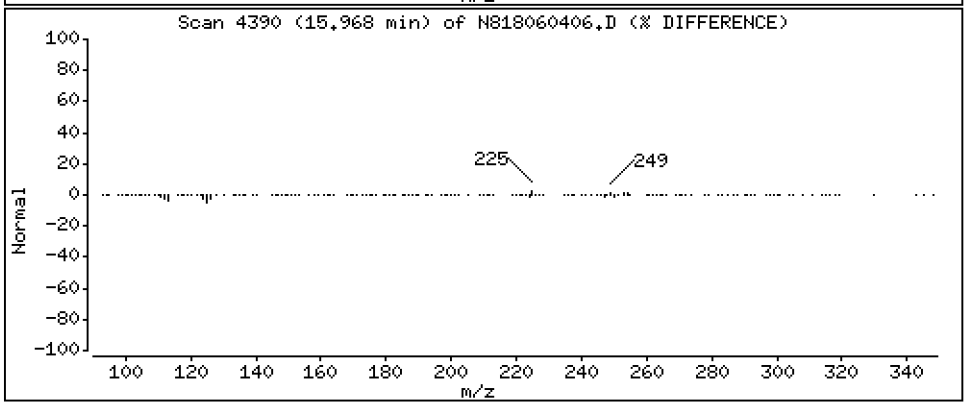












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

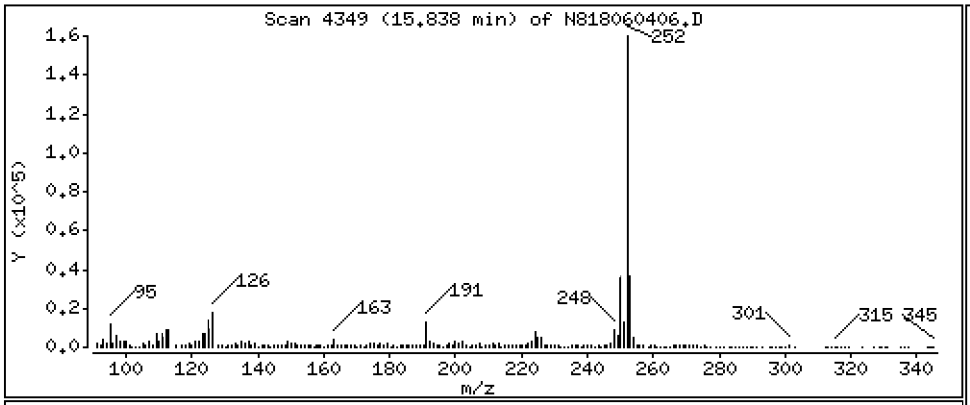
Operator: JZ

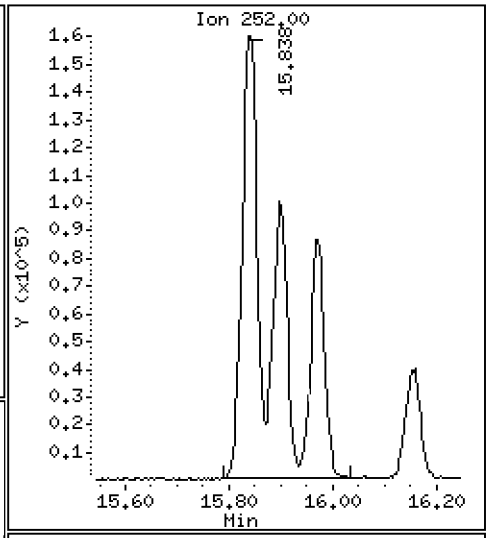
Column phase: Rxi-17sil

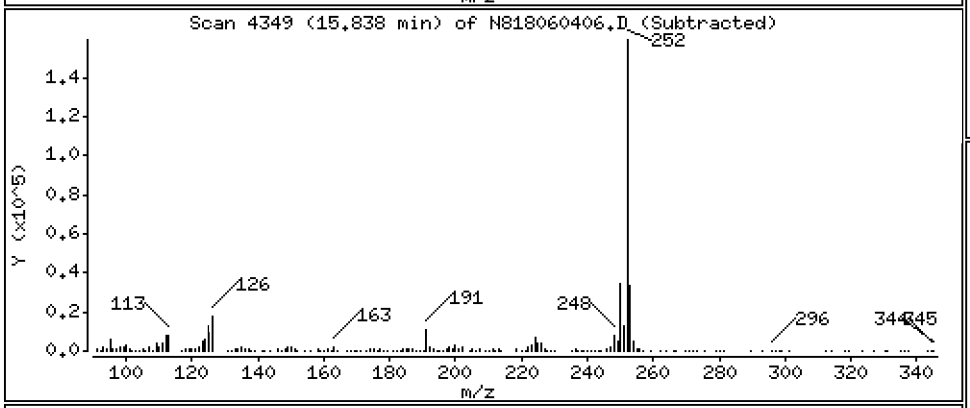
Column diameter: 0.25

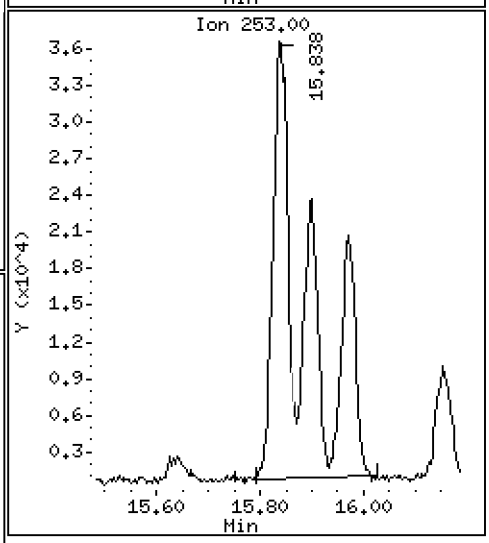
31 Total Benzofluoranthenes

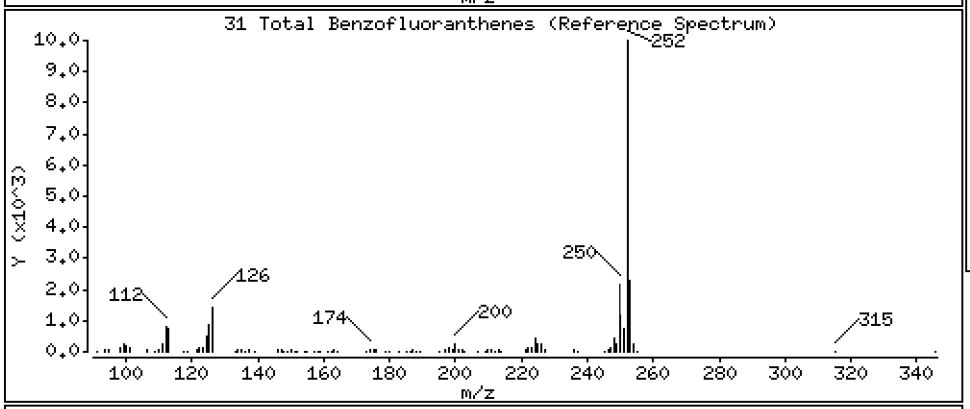
Concentration: 33.70 ug/mL

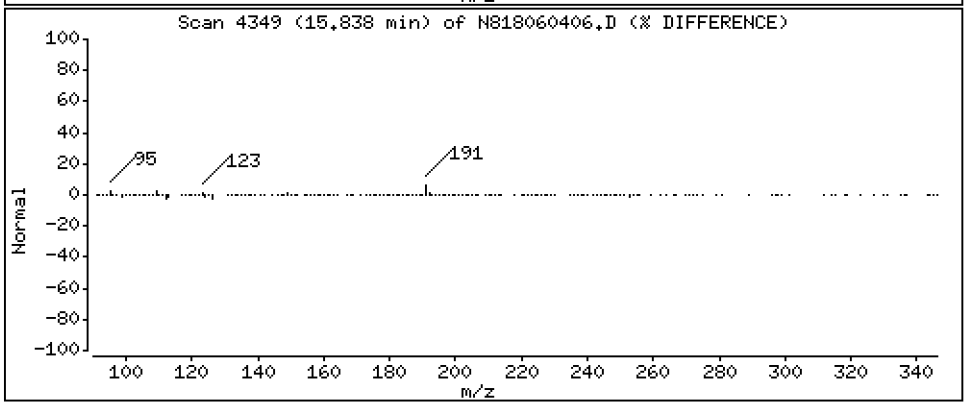












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

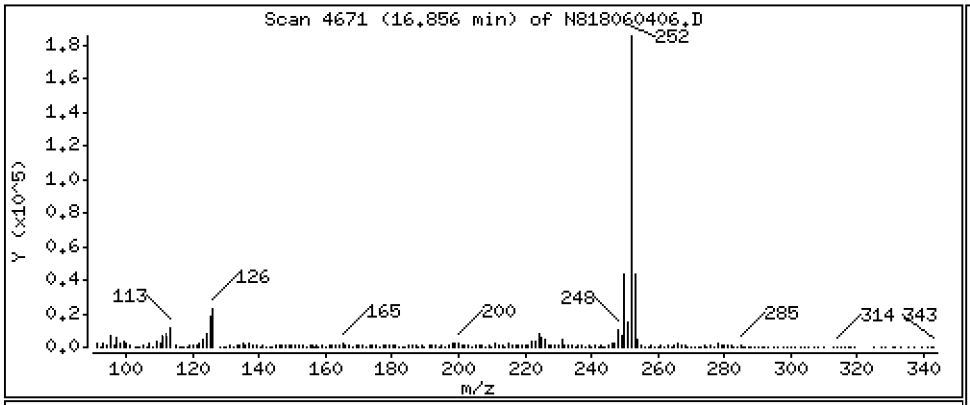
Operator: JZ

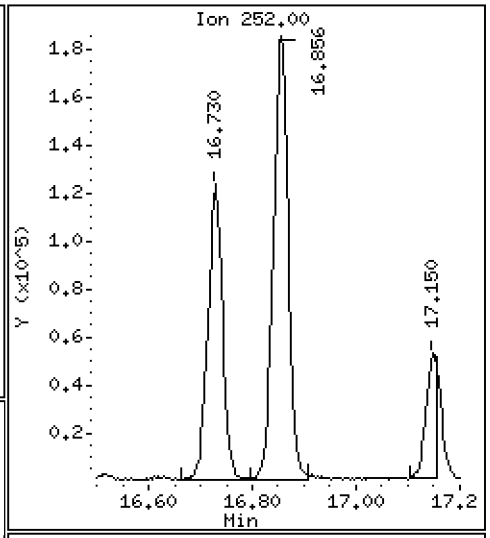
Column phase: Rxi-17sil

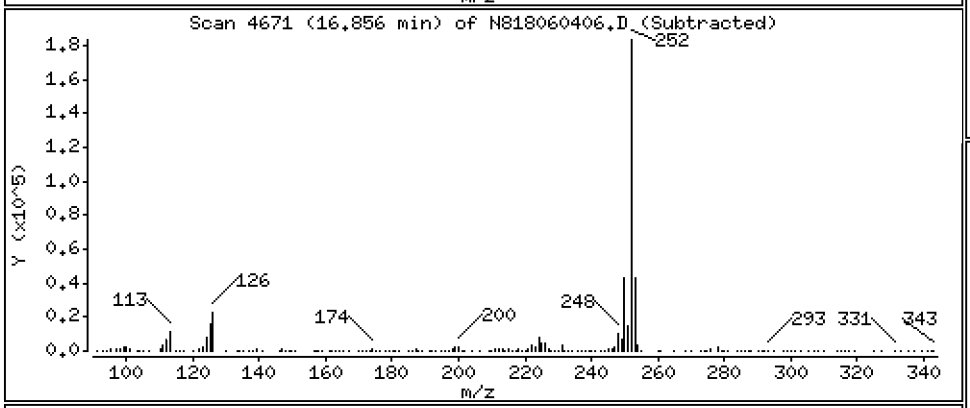
Column diameter: 0.25

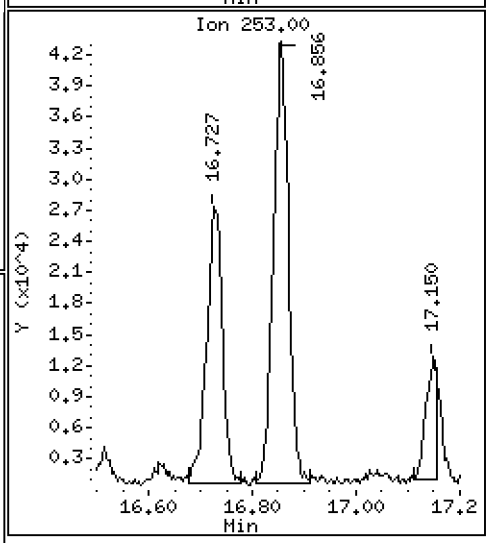
32 Benzo(a)pyrene

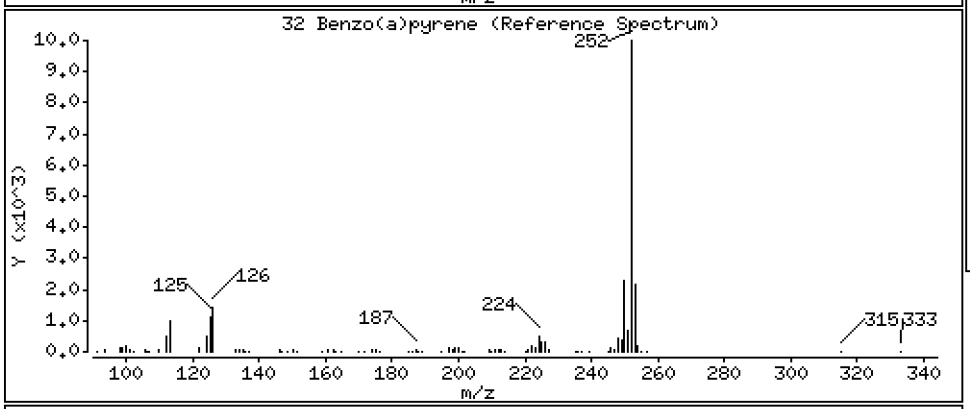
Concentration: 20.56 ug/mL

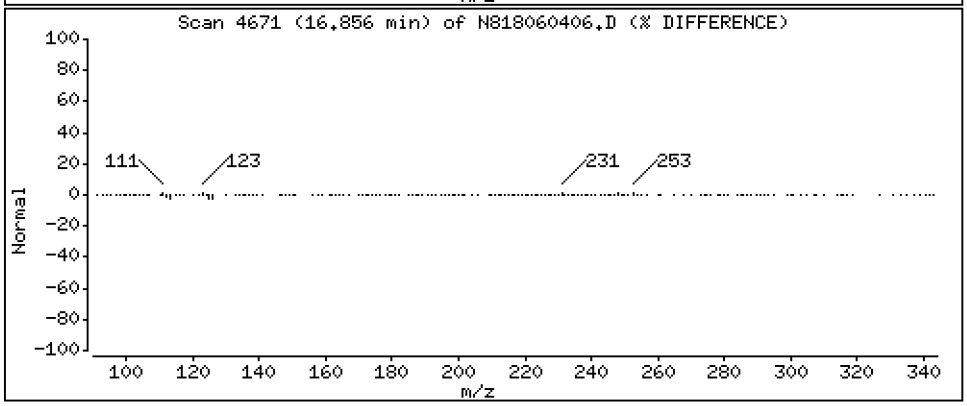












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

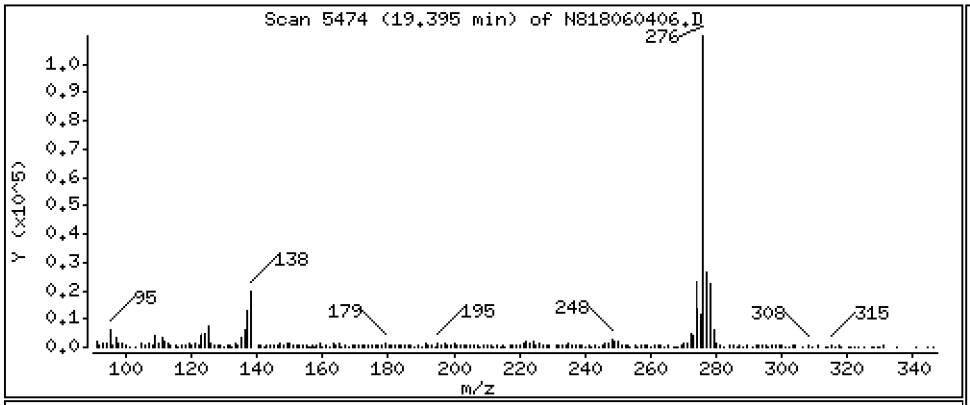
Operator: JZ

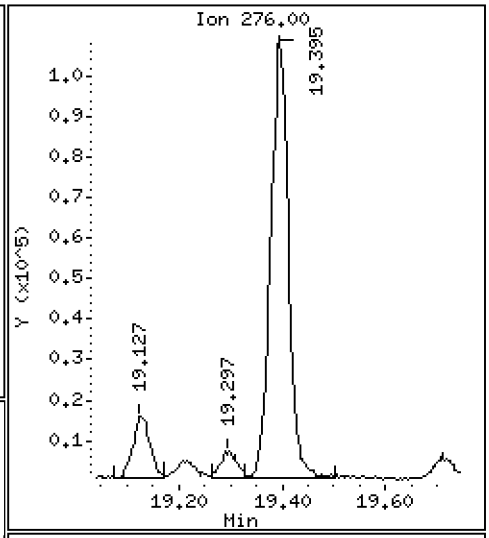
Column phase: Rxi-17sil

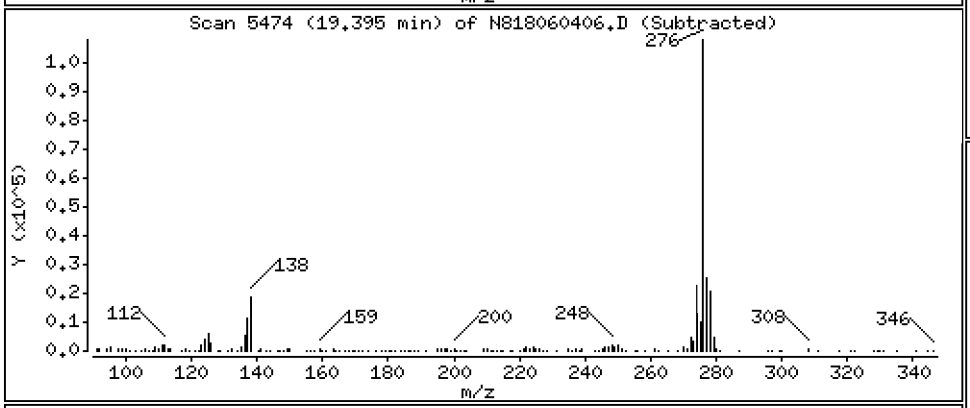
Column diameter: 0.25

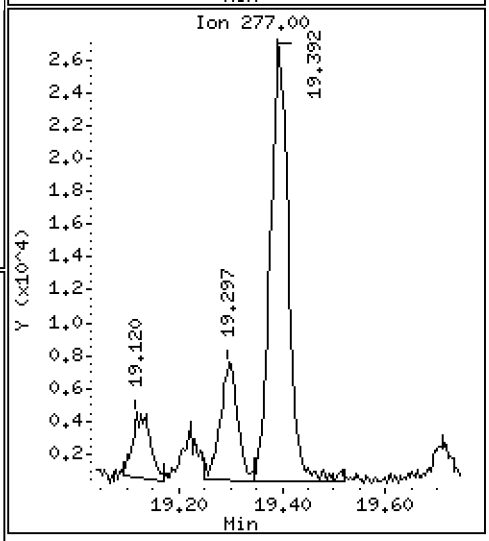
37 Indeno(1,2,3-cd)pyrene

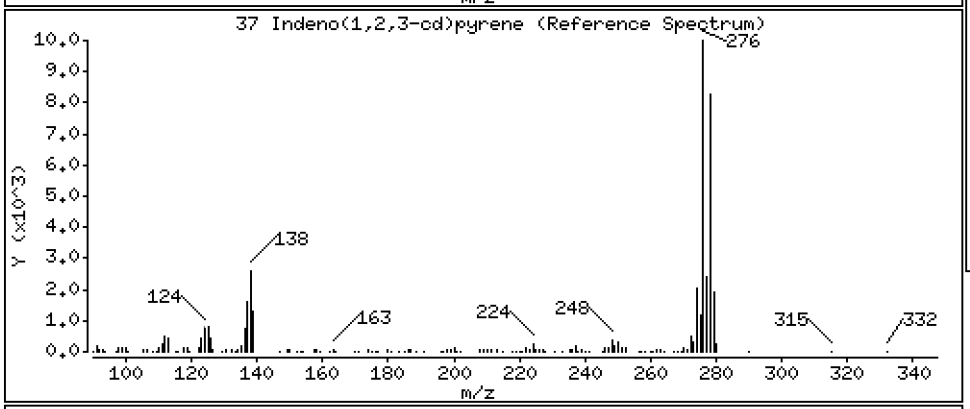
Concentration: 12.54 ug/mL

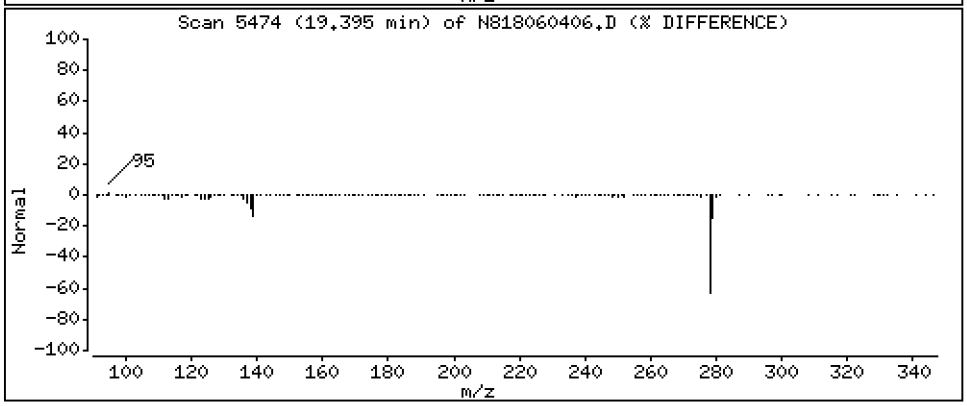












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

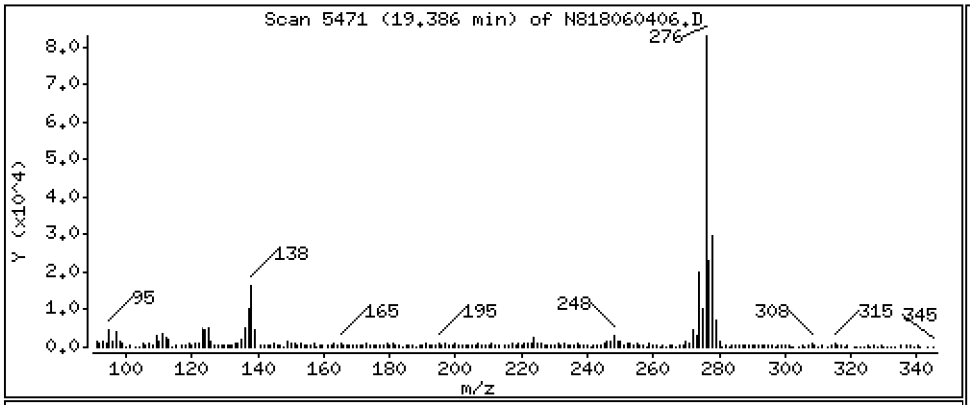
Operator: JZ

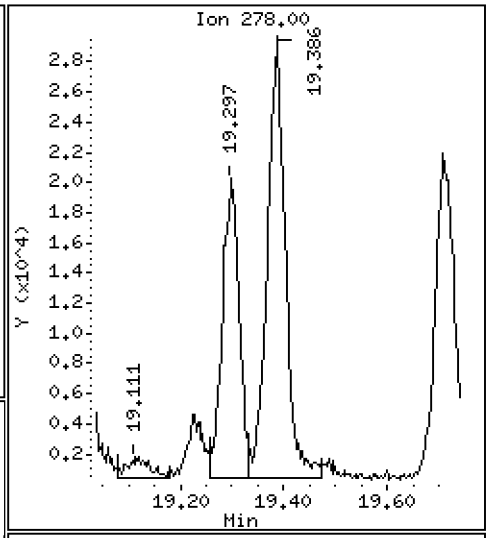
Column phase: Rxi-17sil

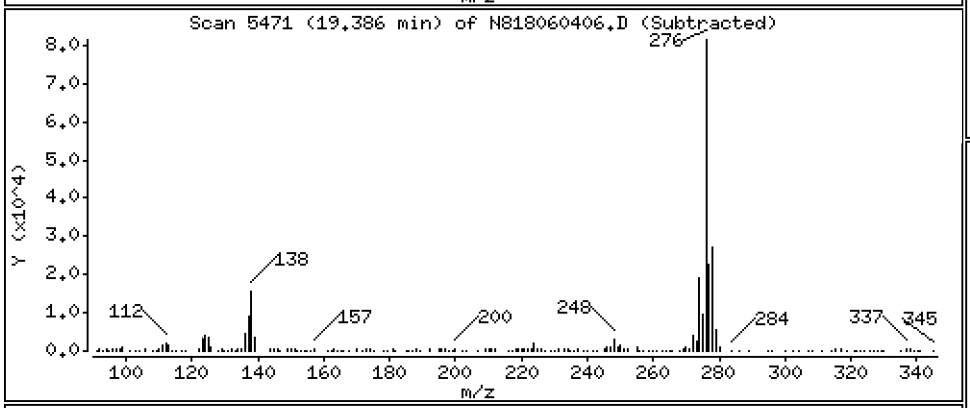
Column diameter: 0.25

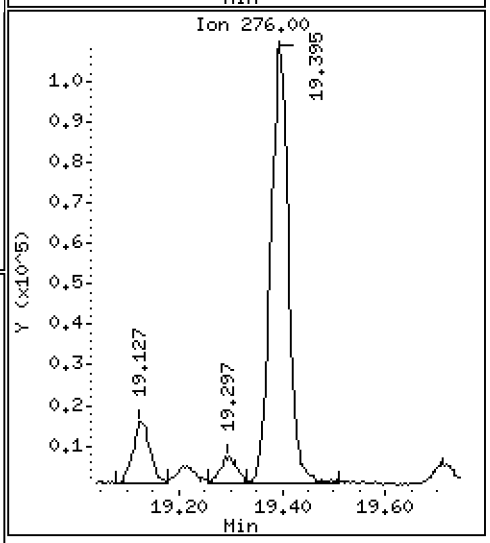
38 Dibenzo(a,h)anthracene

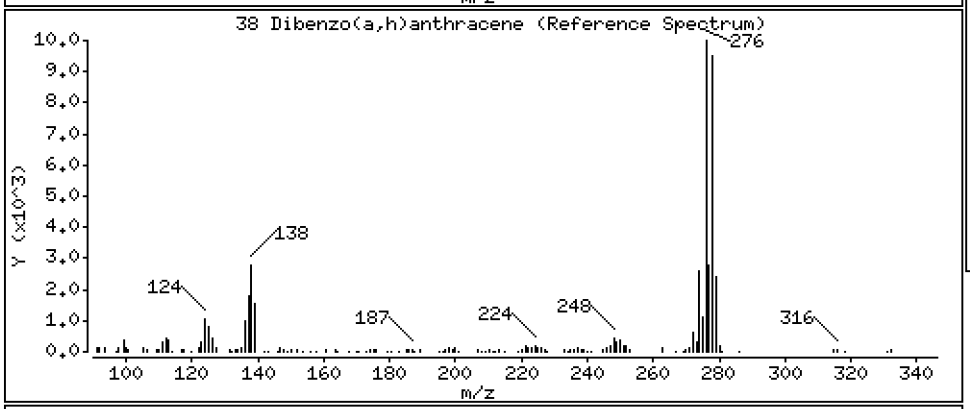
Concentration: 4.193 ug/mL

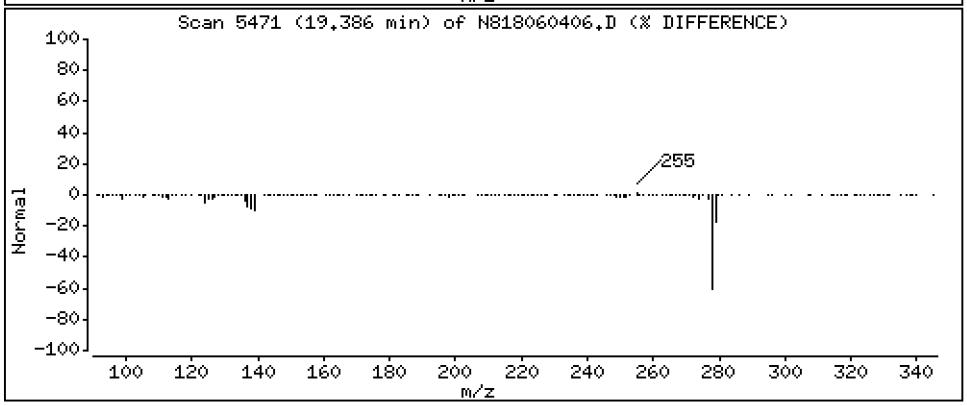












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

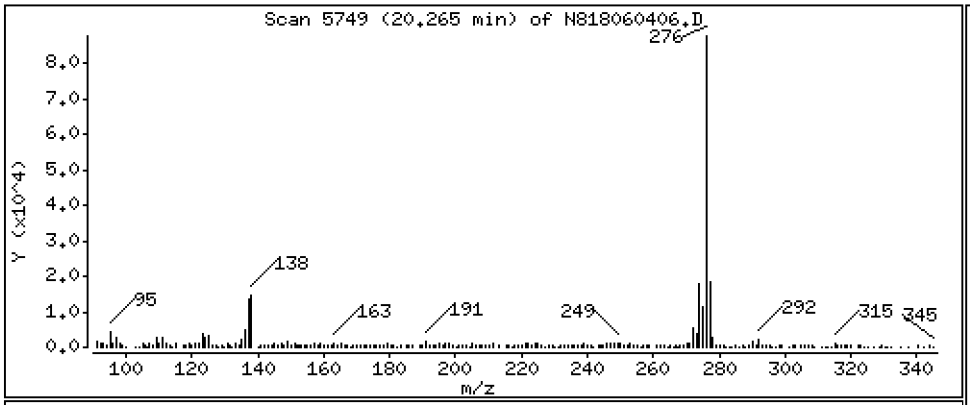
Operator: JZ

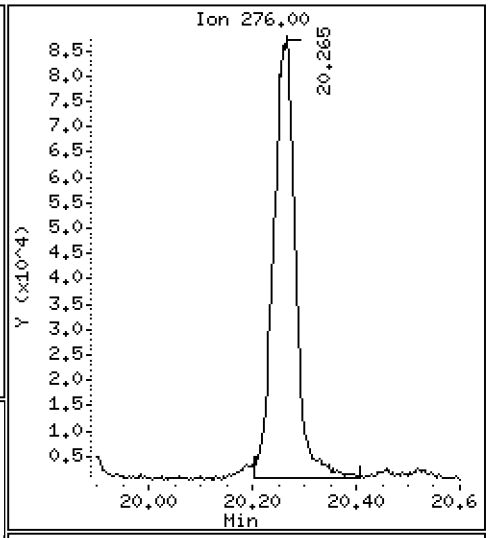
Column phase: Rxi-17sil

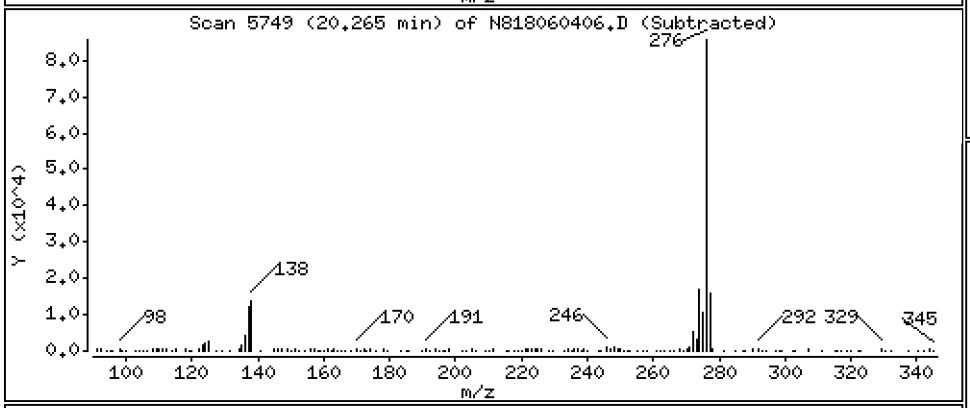
Column diameter: 0.25

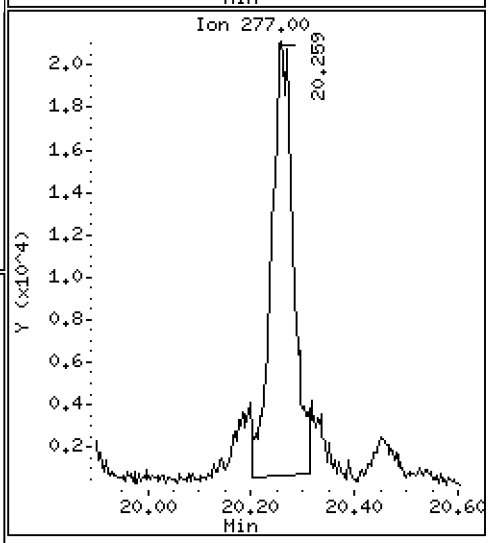
39 Benzo(g,h,i)perylene

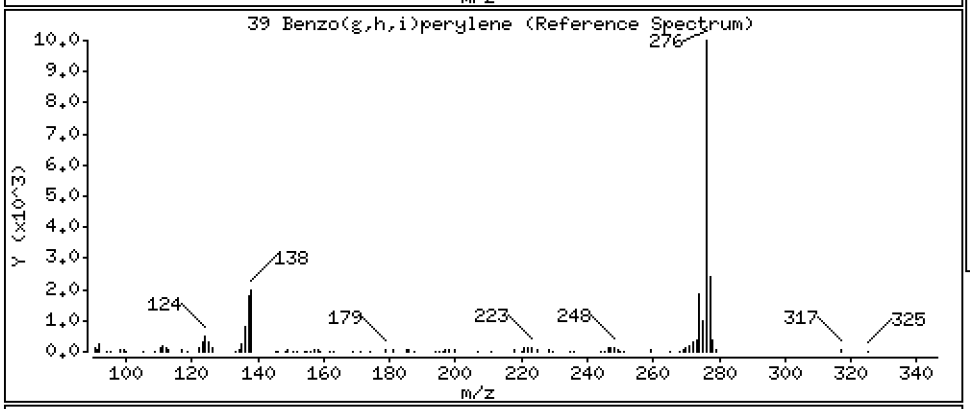
Concentration: 14.33 ug/mL

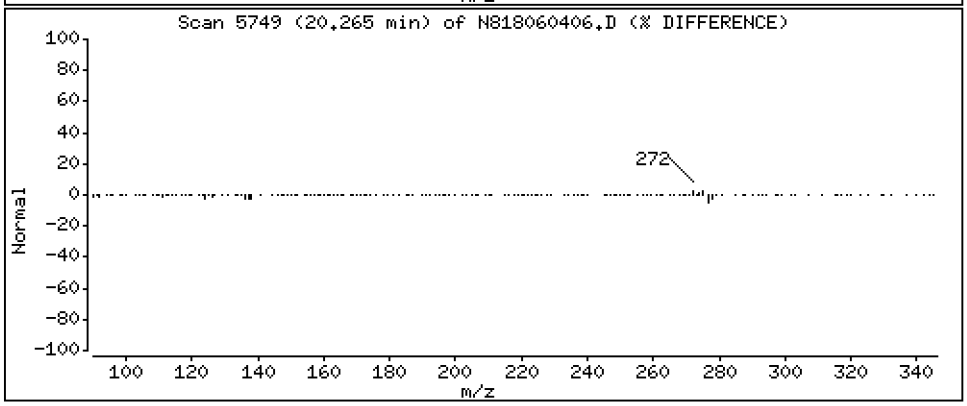












Data File: \\target\share\chem3\nt8.i\20180604.b\N818060406.D

Date : 04-JUN-2018 12:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-03RE1,5,

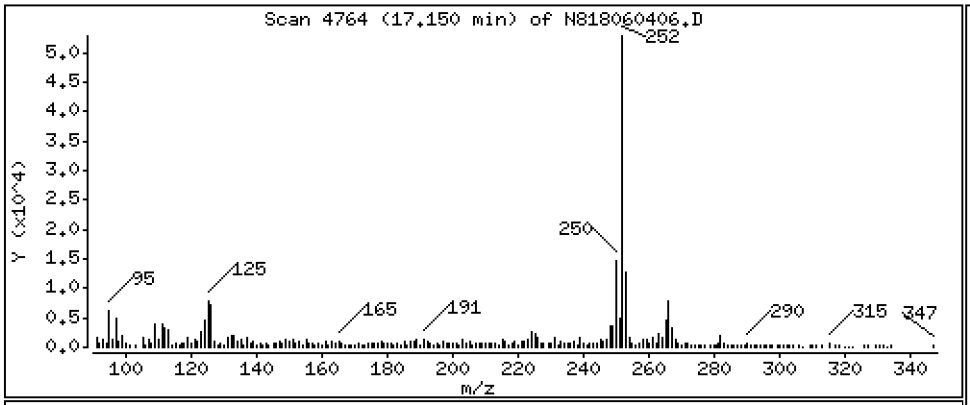
Operator: JZ

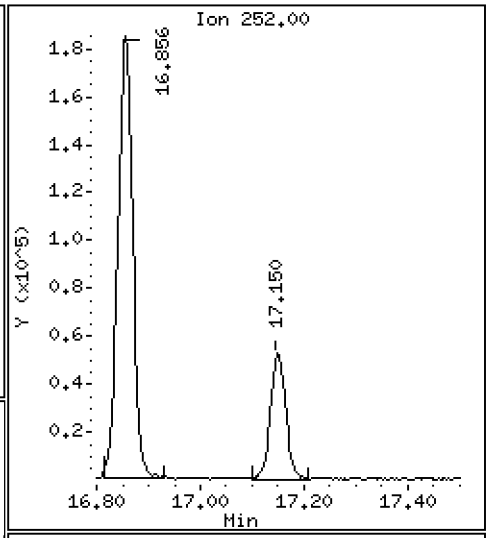
Column phase: Rxi-17sil

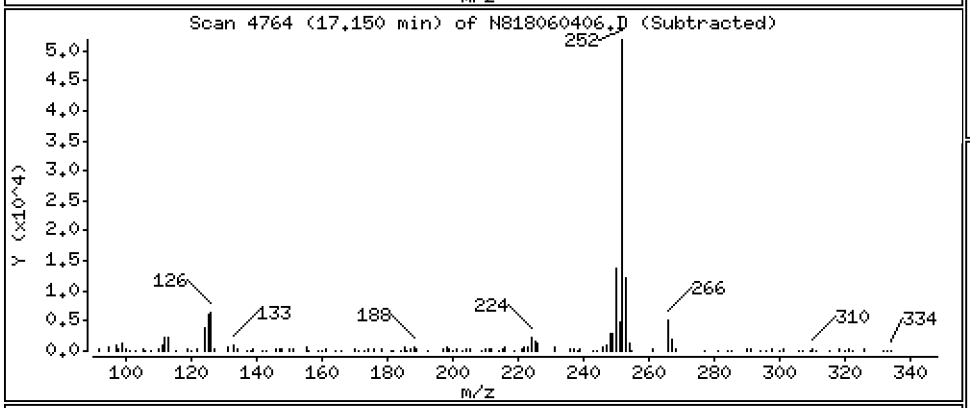
Column diameter: 0.25

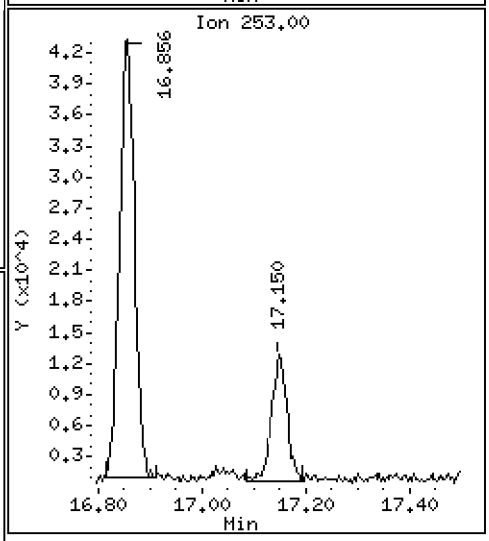
35 Perylene

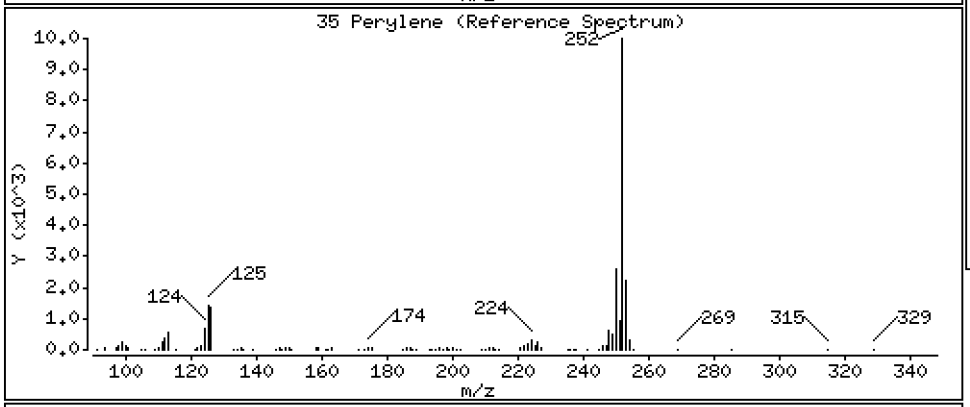
Concentration: 5.506 ug/mL

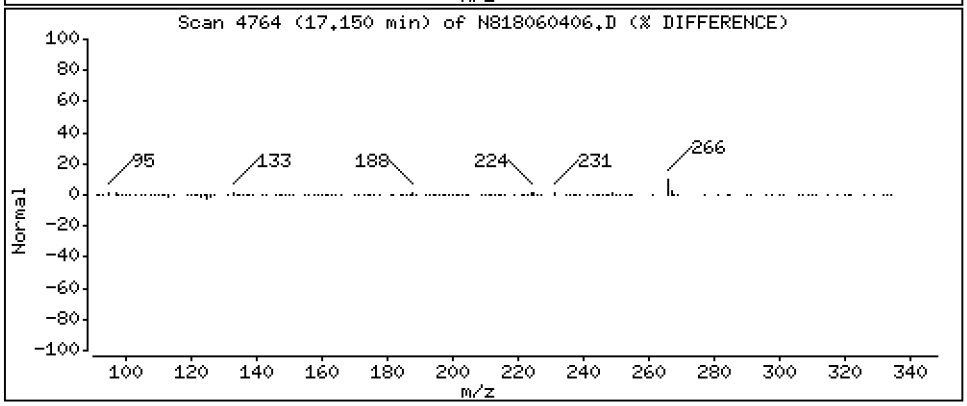












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180604.b\N818060406.D
Lab Smp Id: 18E0282-03RE1
Inj Date : 04-JUN-2018 12:34
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-03RE1,5,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180604.b\FSIMPNA180305.m
Meth Date : 04-Jun-2018 13:03 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 6
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.448	4.451	(1.000)	165019	2.00000	
	2 Naphthalene	128	4.474	4.480	(1.006)	7538	0.07860	0.3930
$	3 2-Methylnaphthalene-d10	152	5.176	5.179	(1.163)	11611	0.19288	0.9644
	4 2-Methylnaphthalene	141	5.223	5.226	(1.174)	5178	0.09586	0.4793
	5 1-methylnaphthalene	141	5.413	5.419	(1.217)	3475	0.06250	0.3125
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.712	6.715	(1.000)	86916	2.00000	
	11 Acenaphthene	153	6.763	6.763	(1.008)	7429	0.11230	0.5615
	12 Dibenzofuran	168	6.915	6.915	(1.030)	6750	0.07589	0.3794
	14 Fluorene	166	7.386	7.389	(1.100)	8187	0.11912	0.5956
*	15 Phenanthrene-d10	188	8.730	8.730	(1.000)	162921	2.00000	
	16 Phenanthrene	178	8.761	8.767	(1.004)	166265	1.66505	8.325
	17 Anthracene	178	8.806	8.805	(1.009)	38524	0.42343	2.117
	22 Fluoranthene	202	10.418	10.418	(1.193)	567433	5.04217	25.21
$	21 Fluoranthene-d10	212	10.380	10.383	(1.189)	23422	0.21959	1.098
	23 Pyrene	202	10.883	10.883	(0.816)	504187	5.29142	26.46
	24 Benzo(a)anthracene	228	13.213	13.210	(0.991)	331834	3.60211	18.01
*	25 Chrysene-d12	240	13.330	13.333	(1.000)	158554	2.00000	
	27 Chrysene	228	13.400	13.400	(1.005)	341590	3.68360	18.42
	28 Benzo(b)fluoranthene	252	15.838	15.834	(0.927)	326022	3.17152	15.86
	29 Benzo(k)fluoranthene	252	15.898	15.895	(0.931)	200942	1.98791	9.940
	30 Benzo(j)fluoranthene	252	15.967	15.967	(0.935)	162352	1.60407	8.020
	31 Total Benzofluoranthenes	252	15.838	15.895	(0.927)	675711	6.74001	33.70(M)
	32 Benzo(a)pyrene	252	16.856	16.849	(0.987)	370506	4.11228	20.56
*	33 Perylene-d12	264	17.080	17.077	(1.000)	161750	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.395	19.392	(1.136)	258776	2.50878	12.54
$	36 Dibenzo(a,h)anthracene-d14	292	19.300	19.300	(1.130)	23423	0.30916	1.546
	38 Dibenzo(a,h)anthracene	278	19.386	19.389	(1.135)	71357	0.83864	4.193
	39 Benzo(g,h,i)perylene	276	20.265	20.249	(1.186)	258404	2.86637	14.33
	35 Perylene	252	17.150	17.150	(1.004)	107731	1.10121	5.506

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060406.D
Lab Smp Id: 18E0282-03RE1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180604.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 04-JUN-2018
Calibration Time: 10:34
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	165019	35.05
10 Acenaphthene-d10	65789	32895	131578	86916	32.11
15 Phenanthrene-d10	128644	64322	257288	162921	26.64
25 Chrysene-d12	166669	83335	333338	158554	-4.87
33 Perylene-d12	140483	70242	280966	161750	15.14

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.45	3.95	4.95	4.45	-0.07
10 Acenaphthene-d10	6.72	6.22	7.22	6.71	-0.04
15 Phenanthrene-d10	8.73	8.23	9.23	8.73	0.00
25 Chrysene-d12	13.33	12.83	13.83	13.33	-0.02
33 Perylene-d12	17.08	16.58	17.58	17.08	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060406.D

Lab ID: 18E0282-03RE1
nt8.i, 20180604.b\FSIMPNA180305.m,   04-JUN-2018 12:34

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

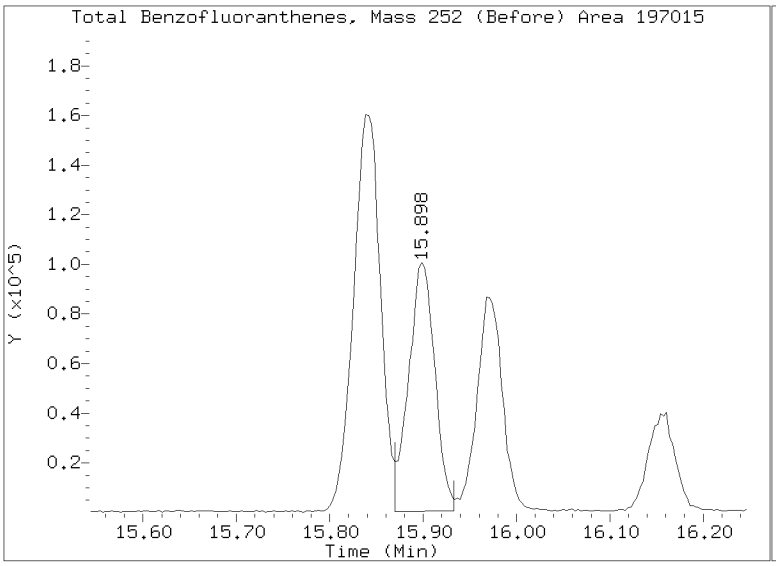
On Column LOD for nt8.i, 20180604.b\FSIMPNA180305.m, pnax.sub = 0.0500

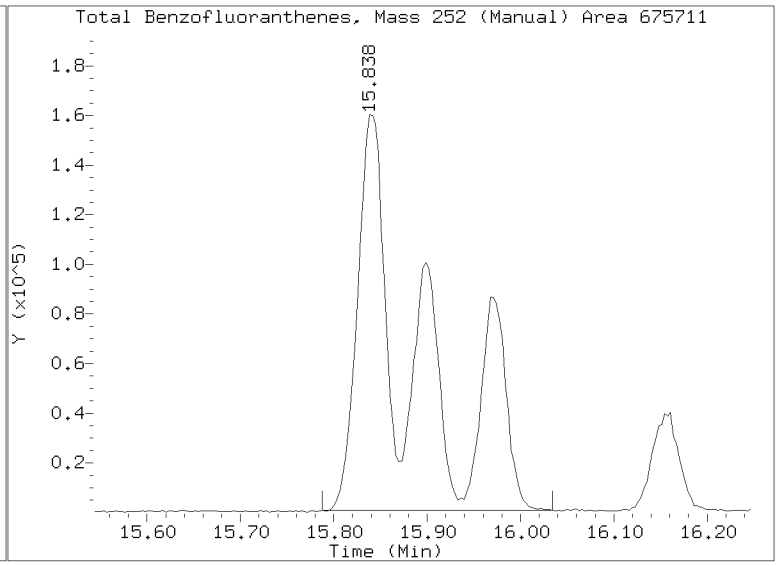
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180604.b/N818060406.D
Injection Date: 04-JUN-2018 12:34
Lab ID:18E0282-03RE1 Client ID:
Report Date: 06/04/2018 13:04





LDW18-SSCL-A09

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-04	SDG:	18E0231
Sampled:	05/18/18 15:28	Prepared:	05/24/18 10:50	File ID:	N818060122.D
% Solids:	78.45	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/01/18 23:47
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	13.19 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	29.8		0.80	4.83
218-01-9	Chrysene	1	44.5		1.02	4.83
205-99-2	Benzo(b)fluoranthene	1	39.5		1.33	4.83
207-08-9	Benzo(k)fluoranthene	1	20.1		0.73	4.83
50-32-8	Benzo(a)pyrene	1	34.2		0.59	4.83
193-39-5	Indeno(1,2,3-cd)pyrene	1	20.8		1.01	4.83
53-70-3	Dibenzo(a,h)anthracene	1	5.69		0.86	4.83

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	144.96	46.1	31.8	32 - 120	*
Dibenzo[a,h]anthracene-d14	144.96	65.6	45.3	21 - 133	
Fluoranthene-d10	144.96	59.1	40.8	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

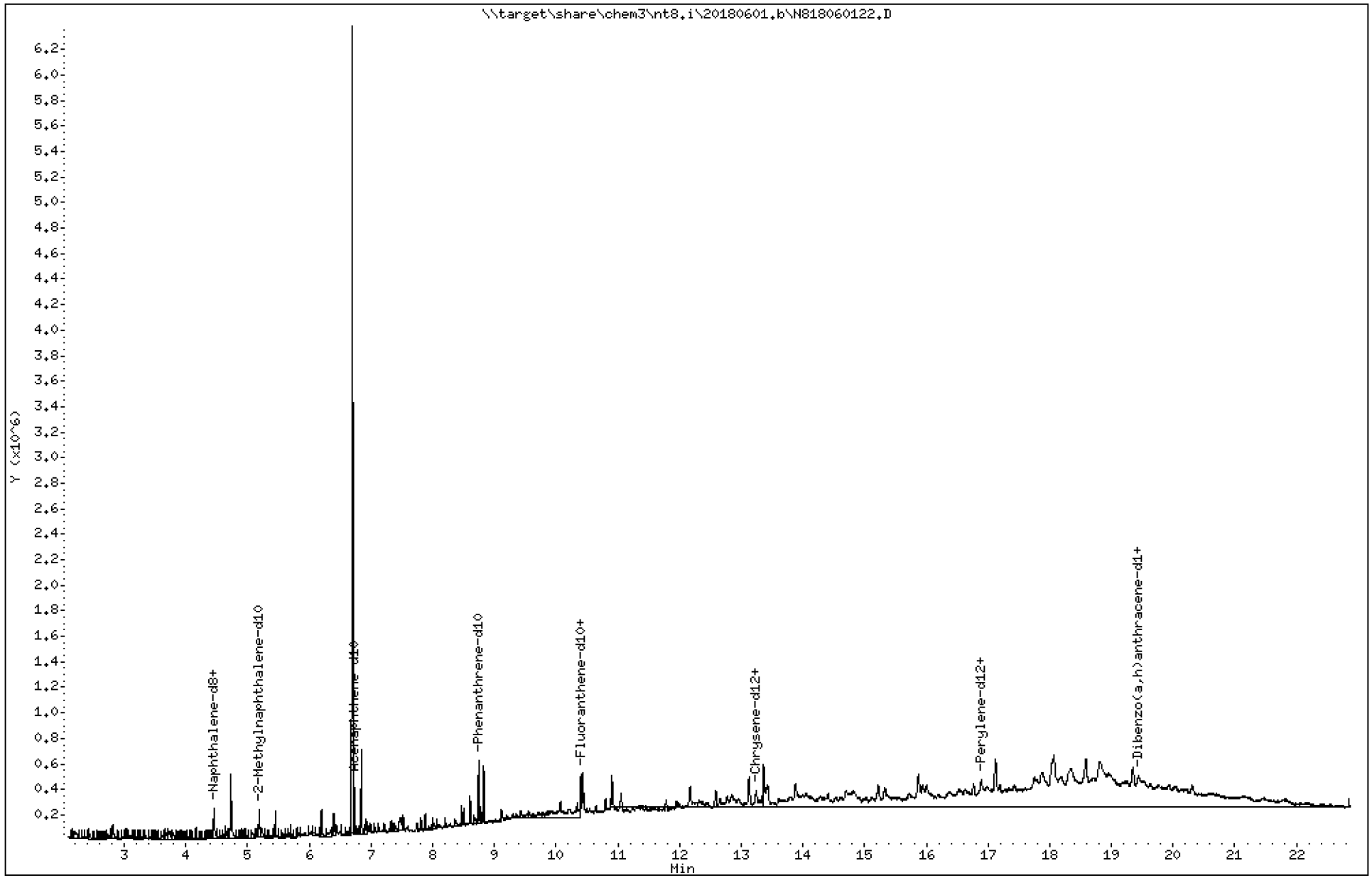
Instrument: nt8.i

Sample Info: 18E0282-04

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

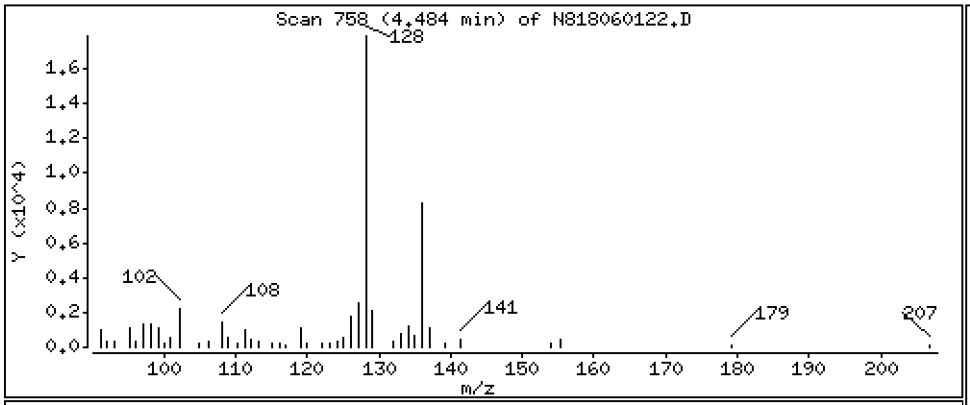
Operator: JZ

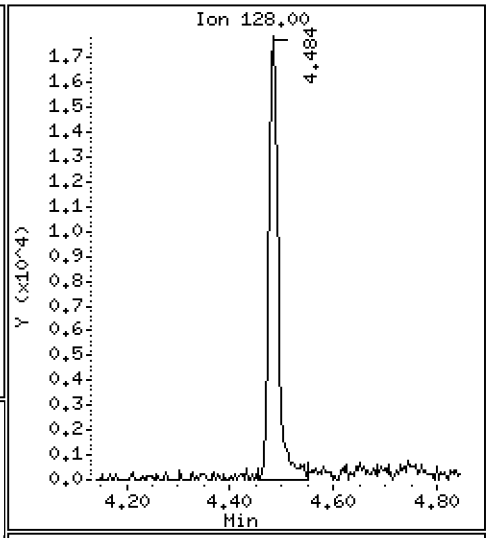
Column phase: Rxi-17sil

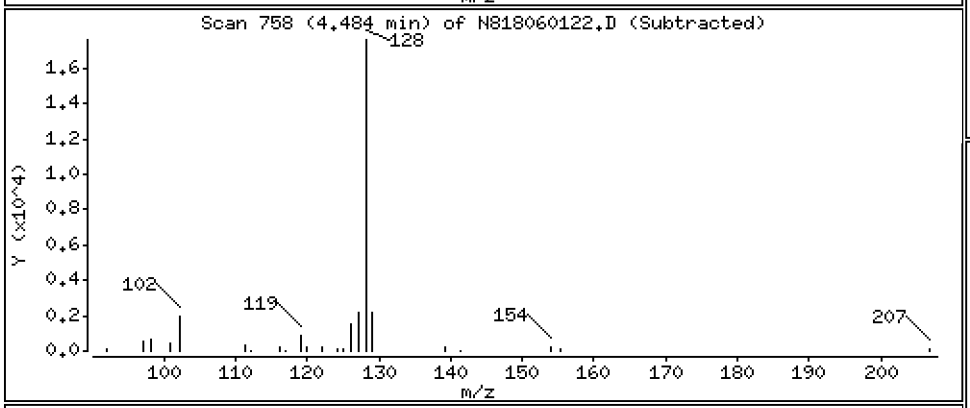
Column diameter: 0.25

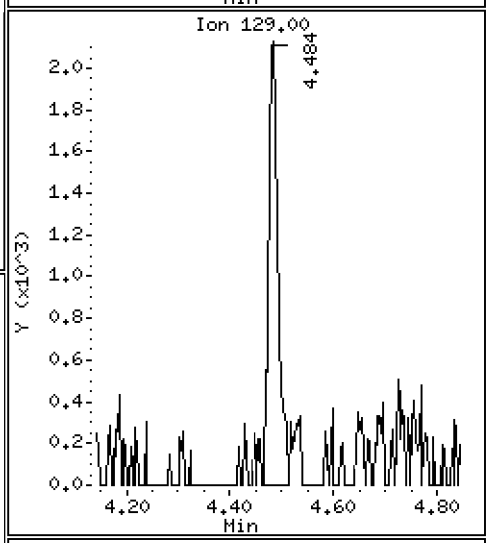
2 Naphthalene

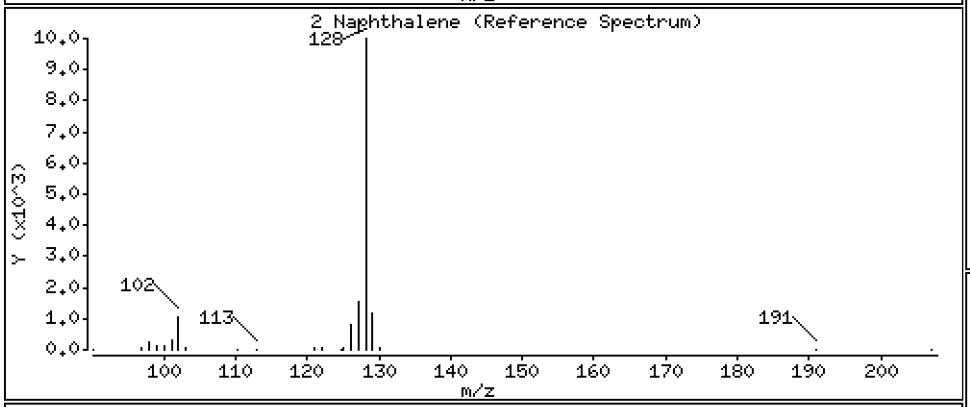
Concentration: 0.1930 ug/mL

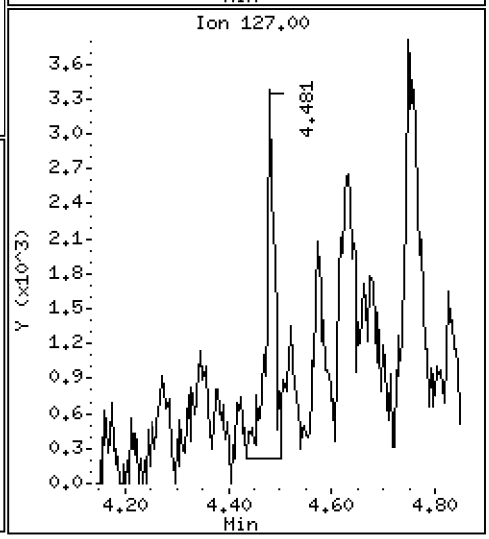


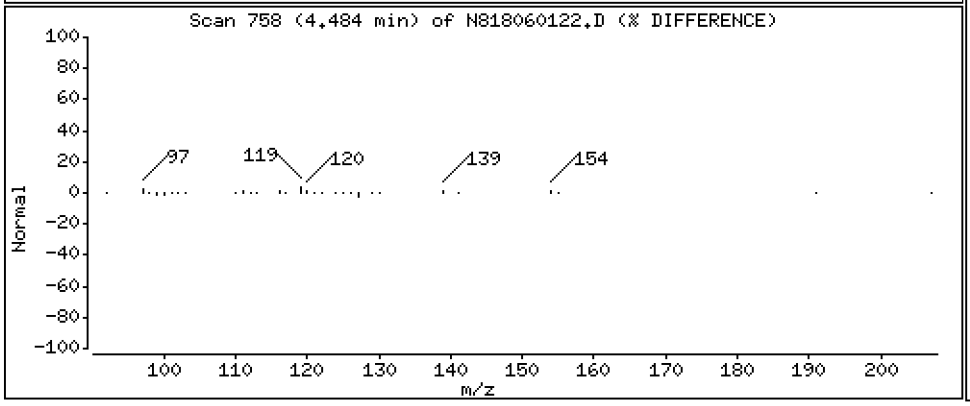












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

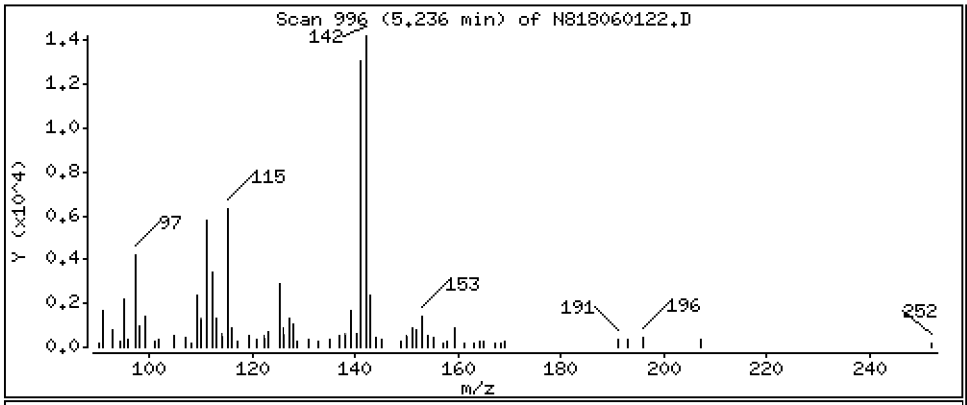
Operator: JZ

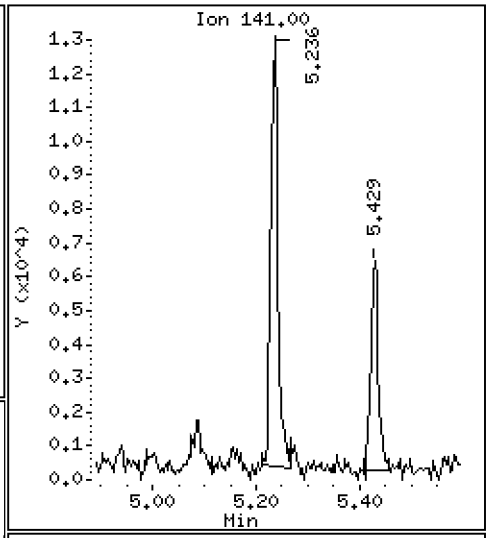
Column phase: Rxi-17sil

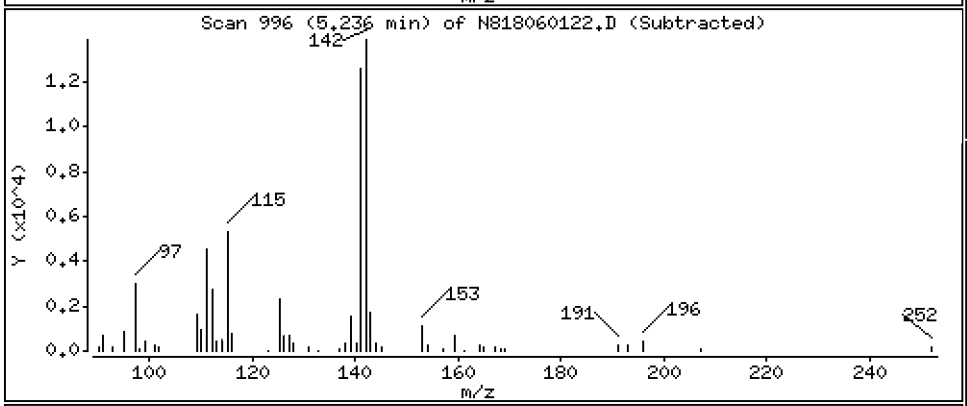
Column diameter: 0.25

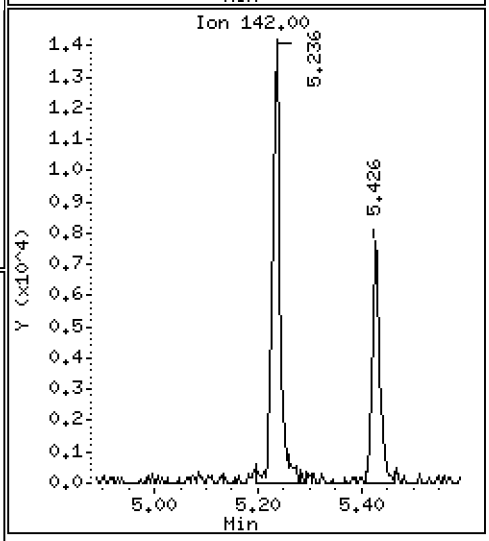
4 2-Methylnaphthalene

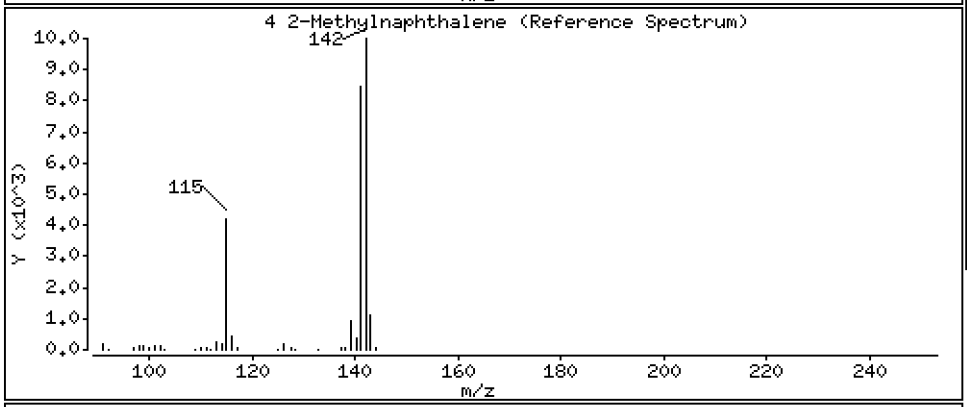
Concentration: 0.1901 ug/mL

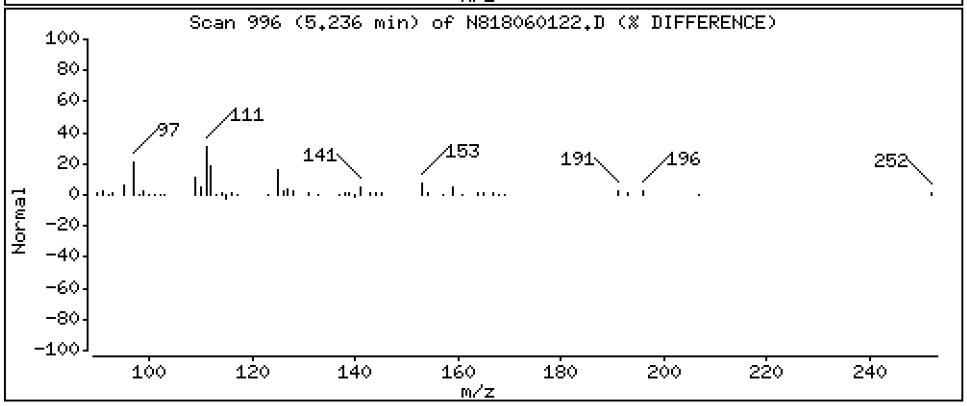












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

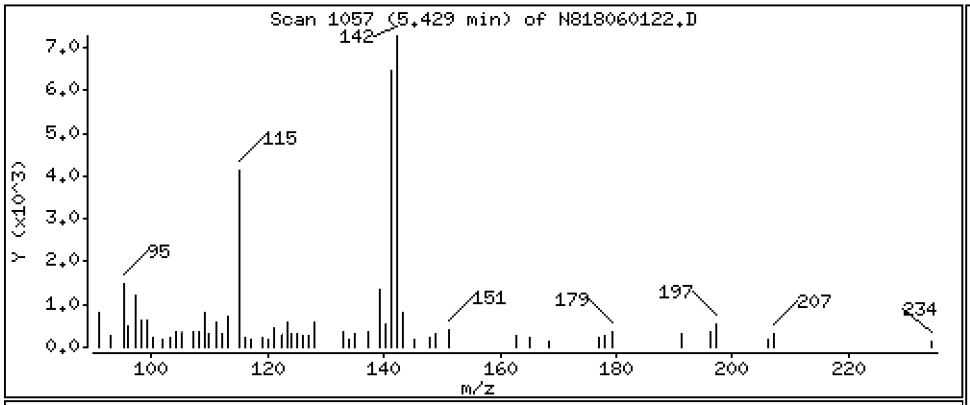
Operator: JZ

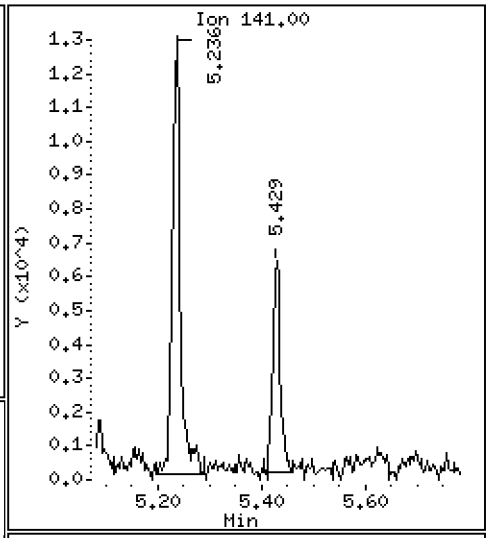
Column phase: Rxi-17sil

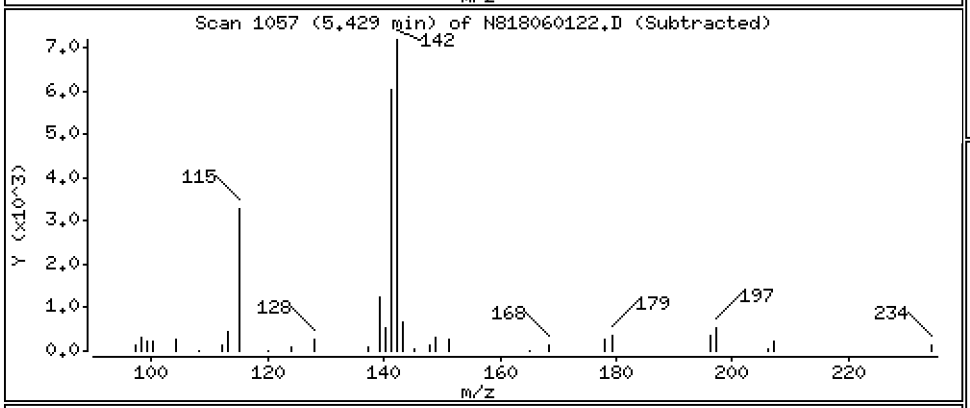
Column diameter: 0.25

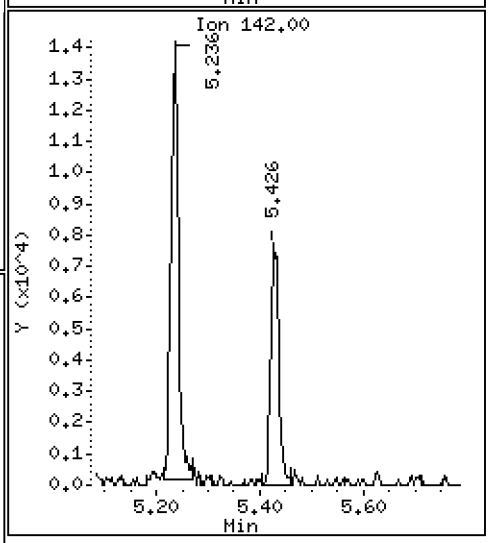
5 1-methylnaphthalene

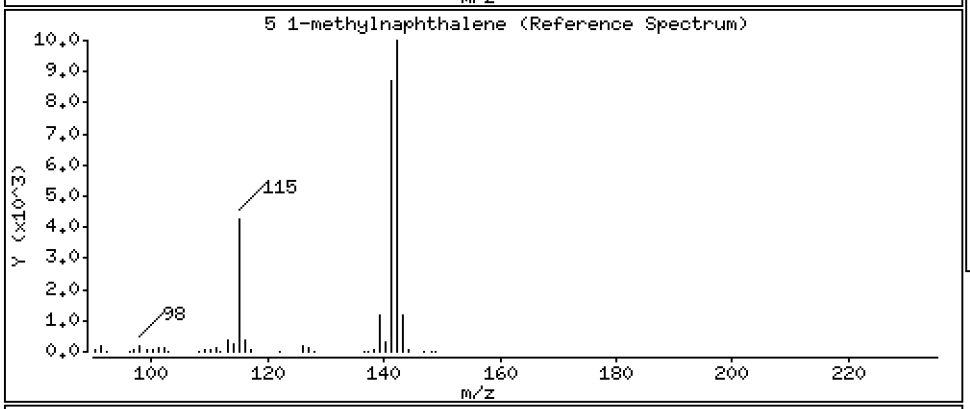
Concentration: 0.09439 ug/mL

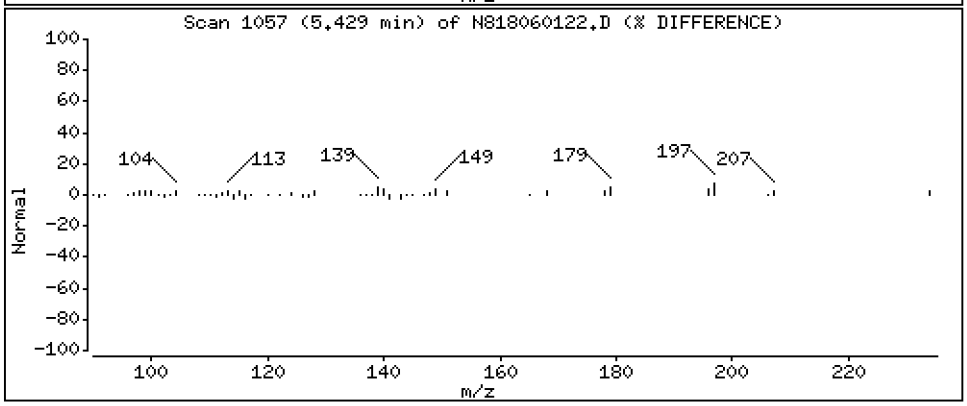












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

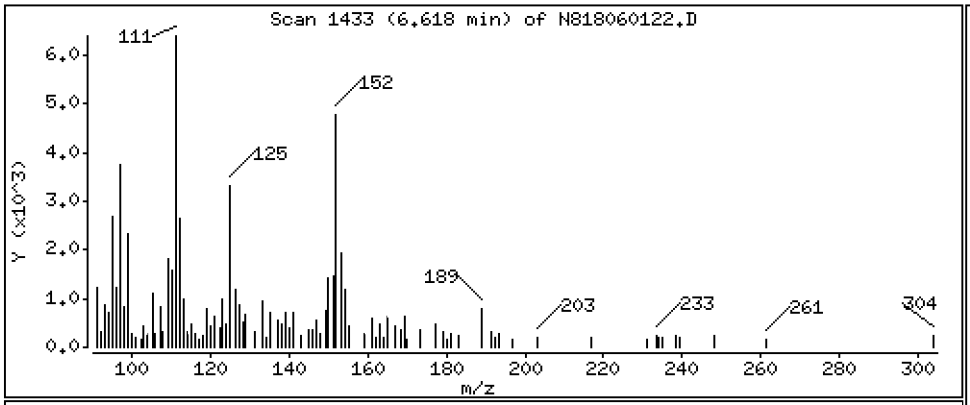
Operator: JZ

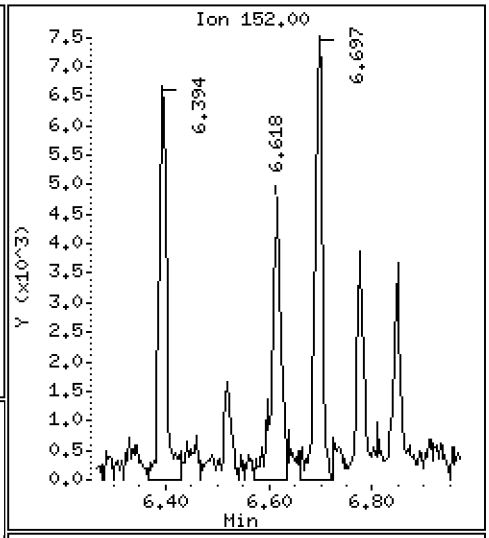
Column phase: Rxi-17sil

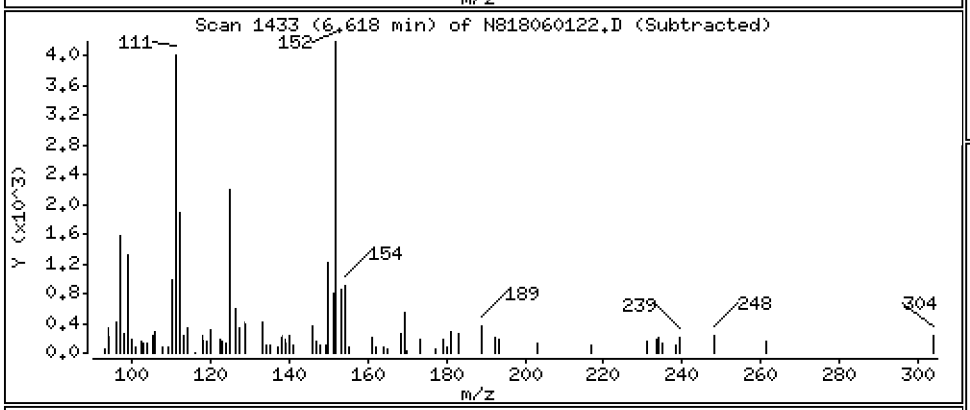
Column diameter: 0.25

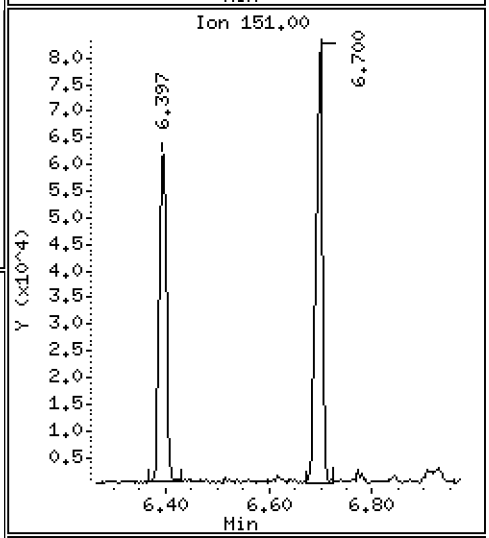
9 Acenaphthylene

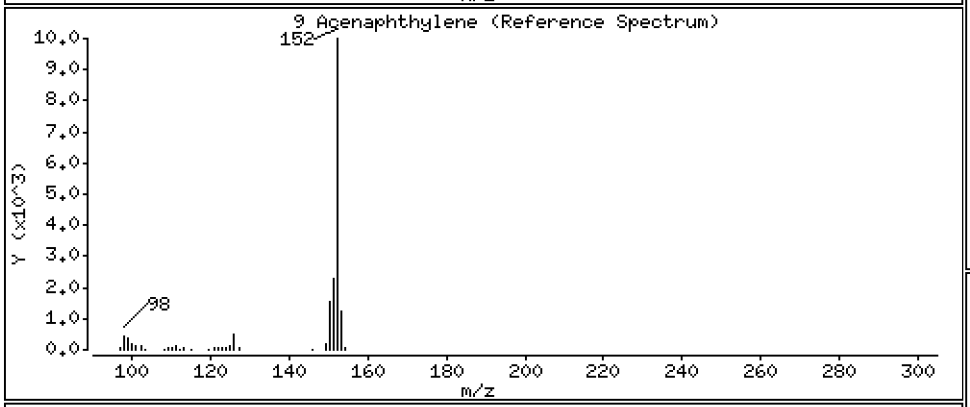
Concentration: 0.06145 ug/mL

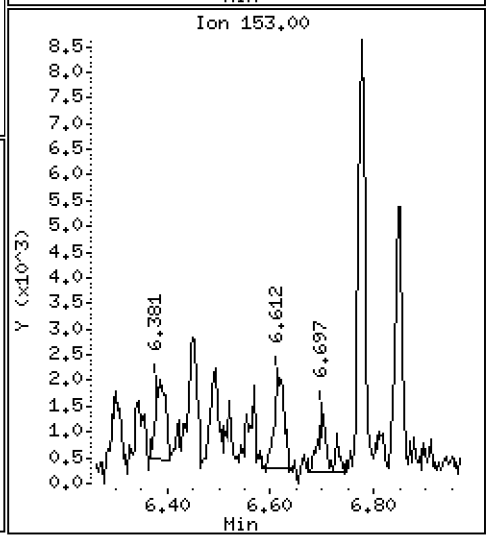


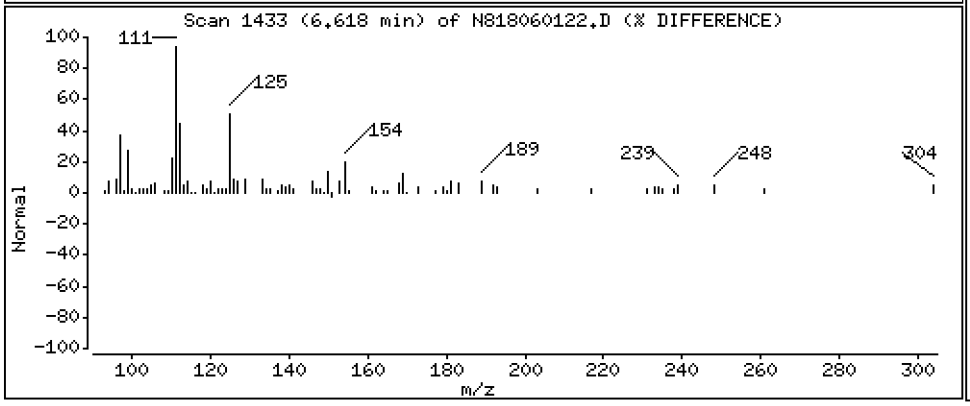












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

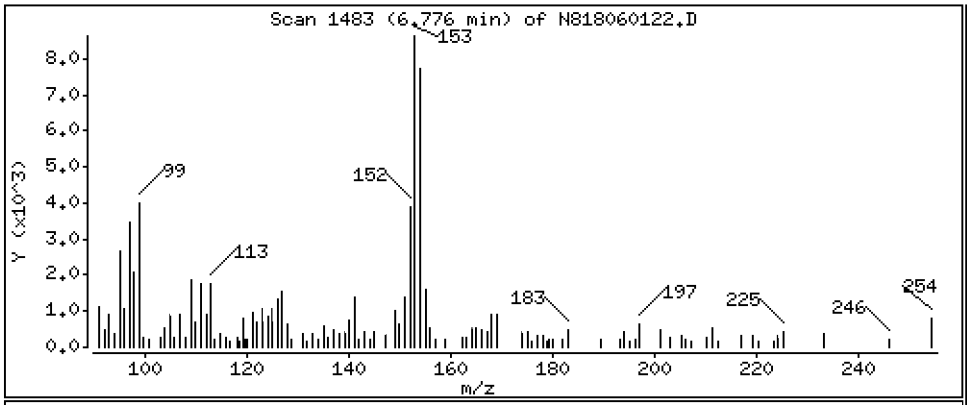
Operator: JZ

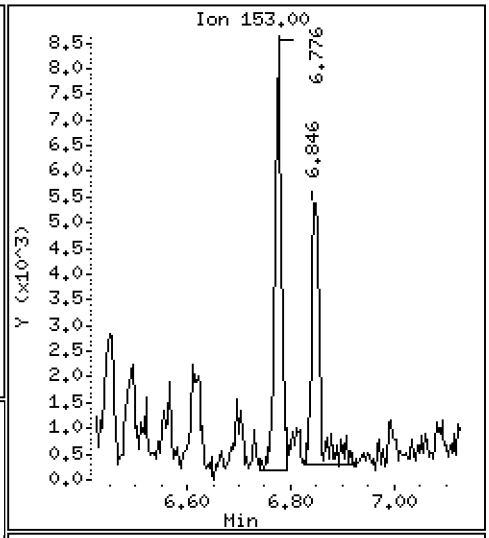
Column phase: Rxi-17sil

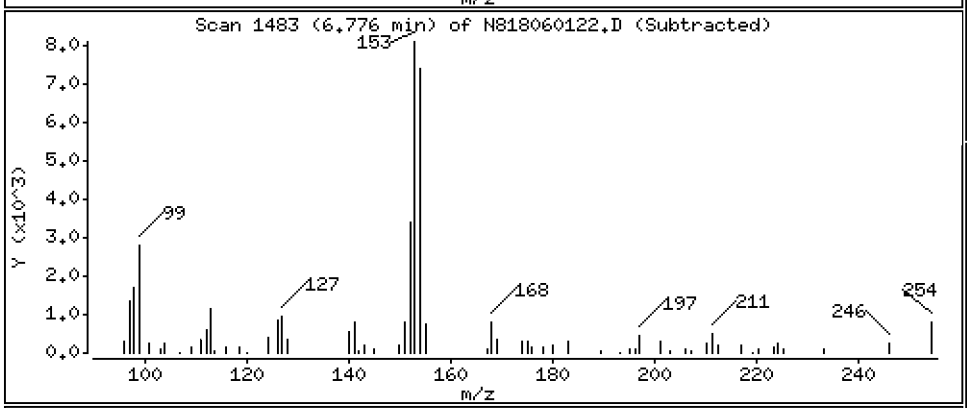
Column diameter: 0.25

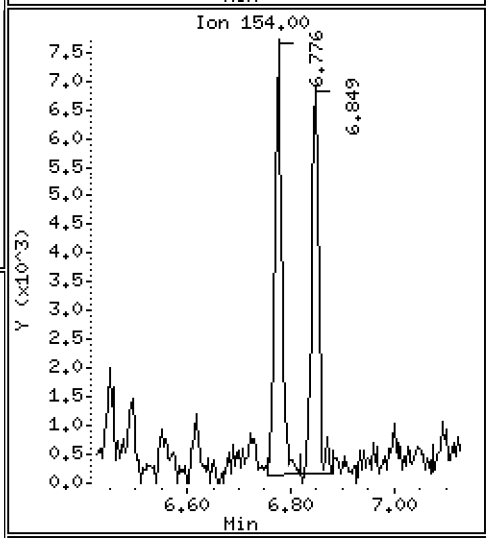
11 Acenaphthene

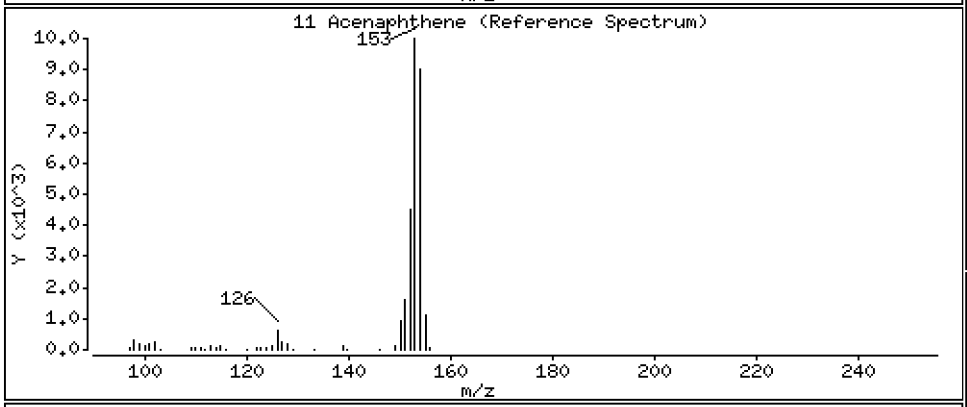
Concentration: 0.1020 ug/mL

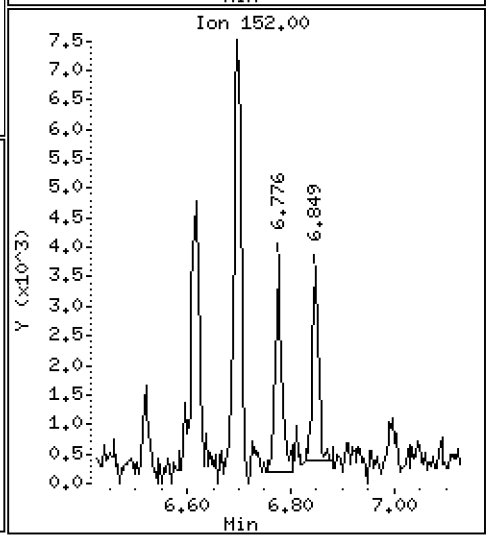


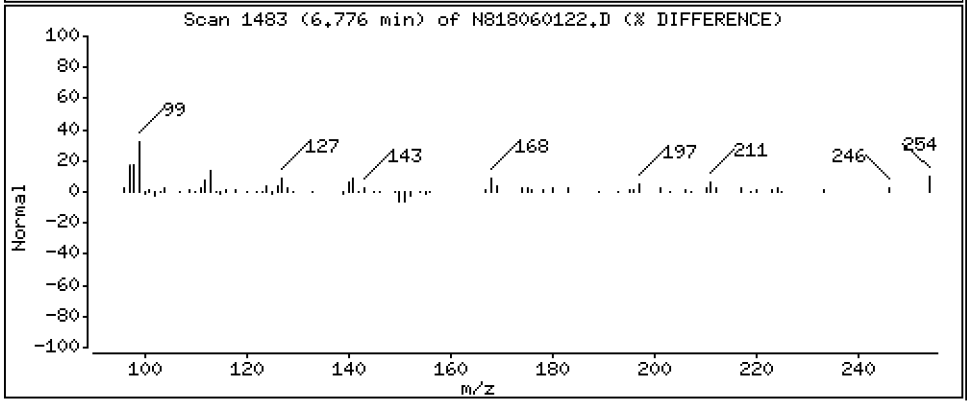












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

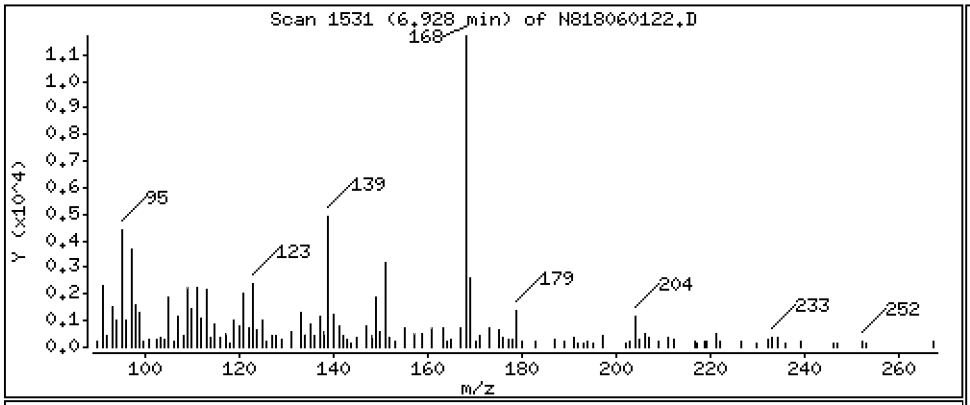
Operator: JZ

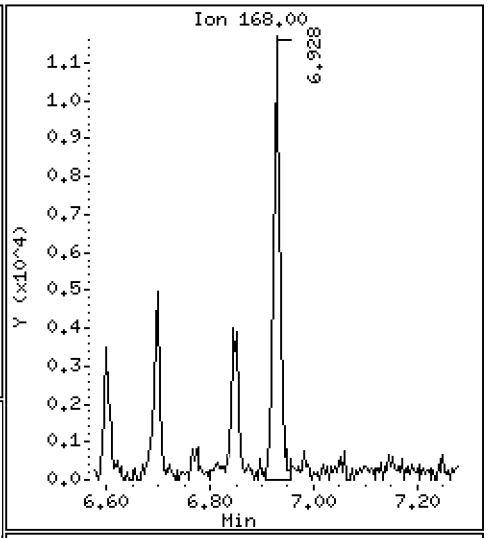
Column phase: Rxi-17sil

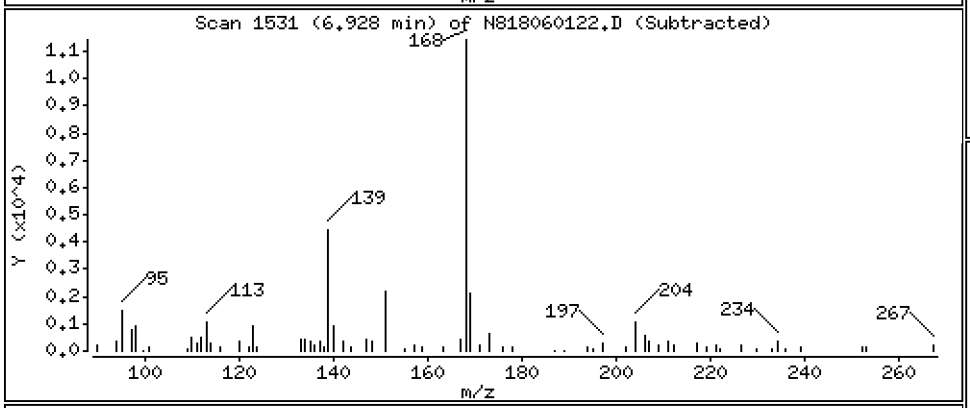
Column diameter: 0.25

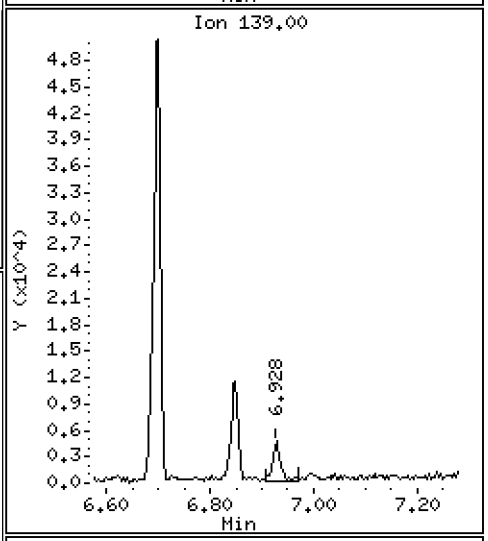
12 Dibenzofuran

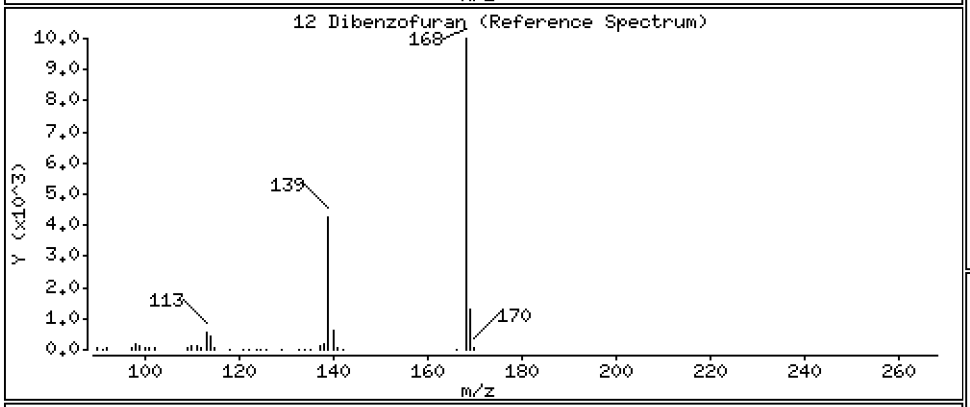
Concentration: 0.1052 ug/mL

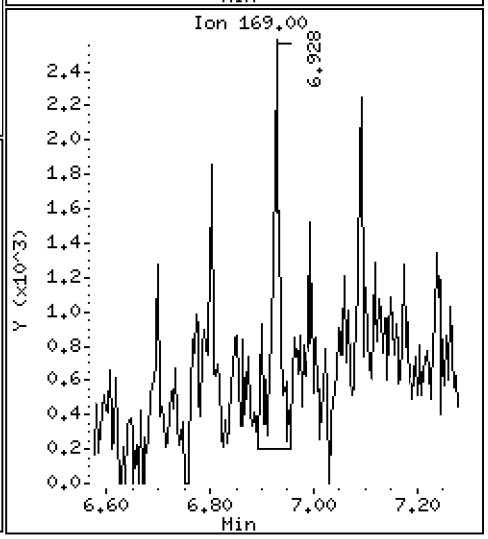


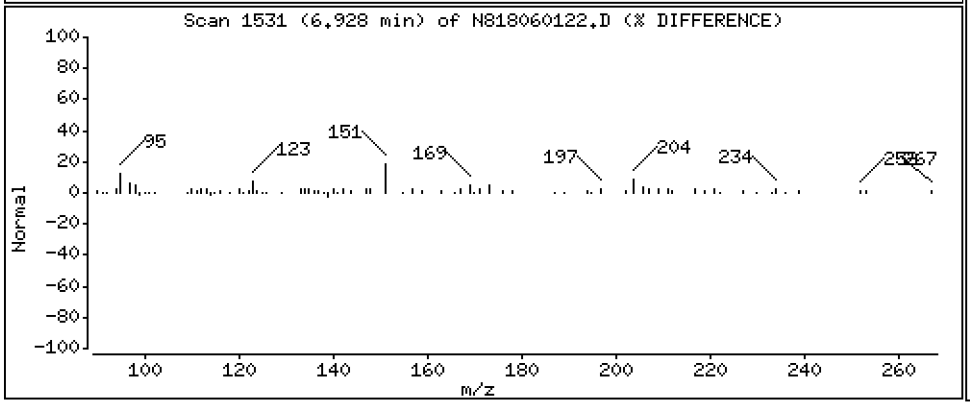












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

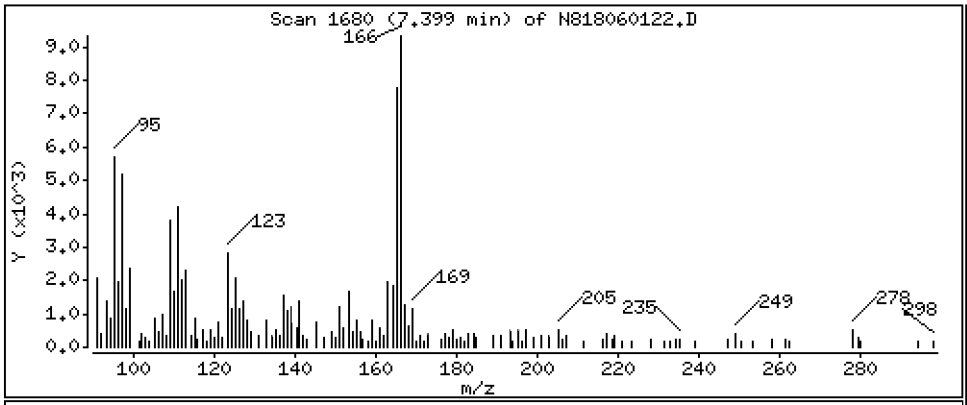
Operator: JZ

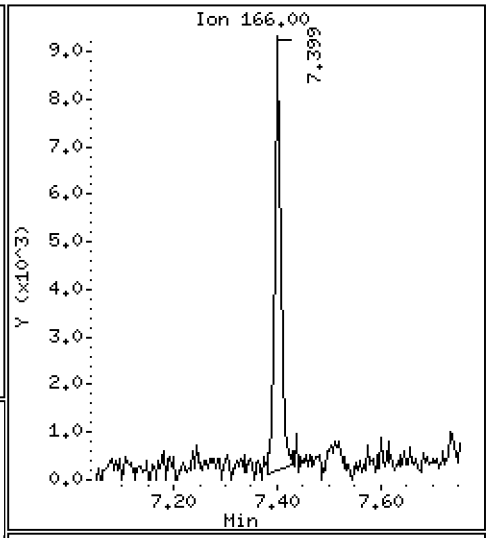
Column phase: Rxi-17sil

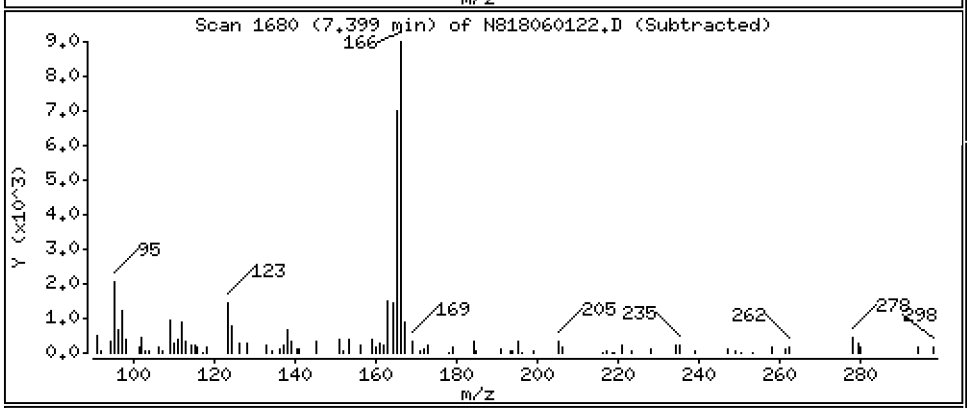
Column diameter: 0.25

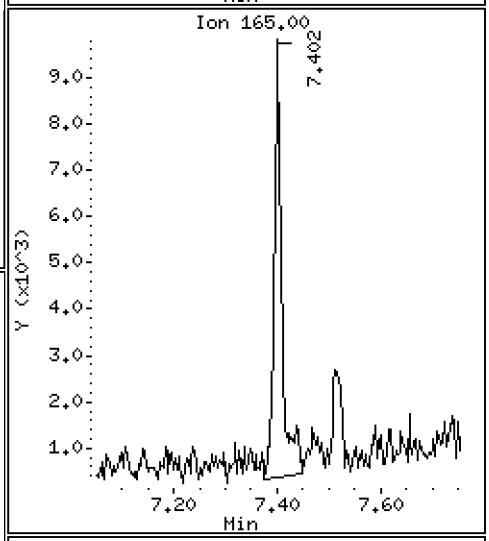
14 Fluorene

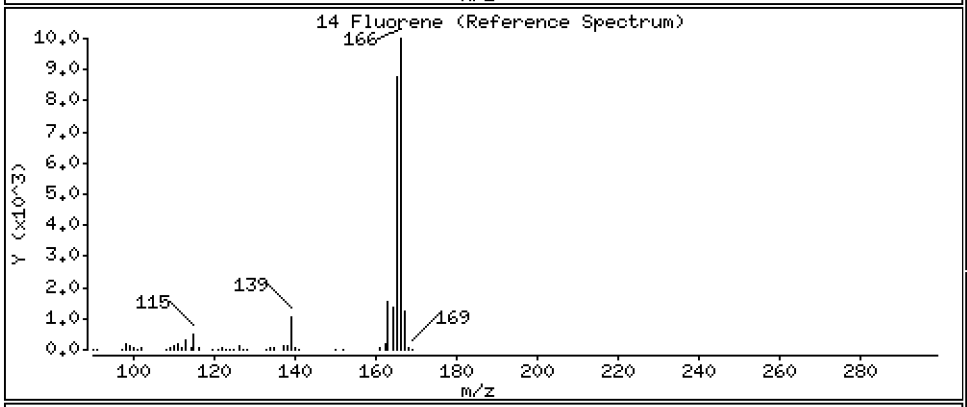
Concentration: 0.1039 ug/mL

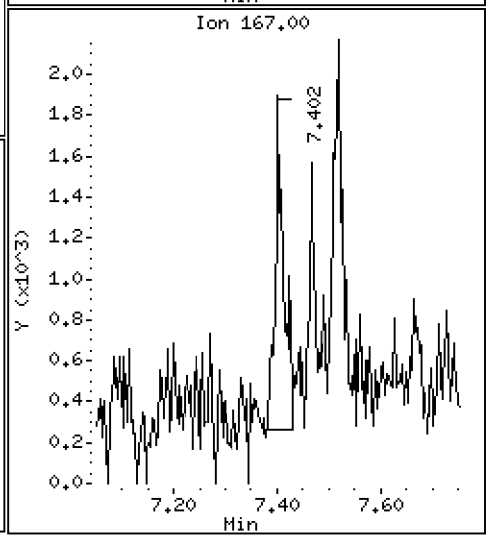


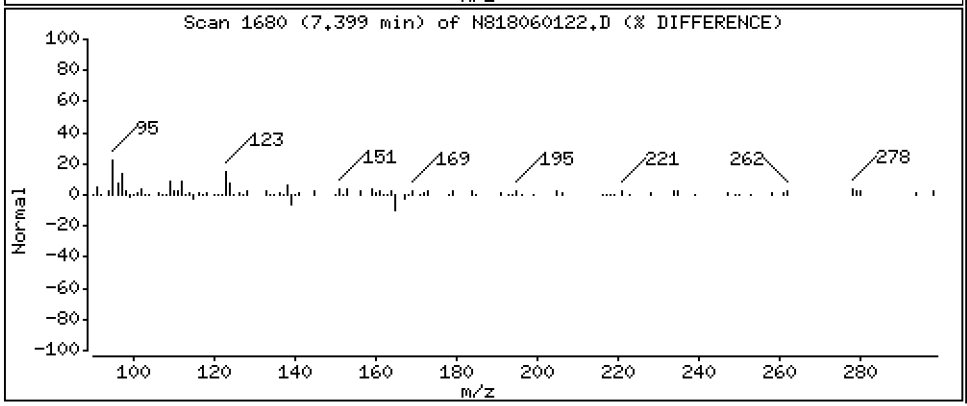












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

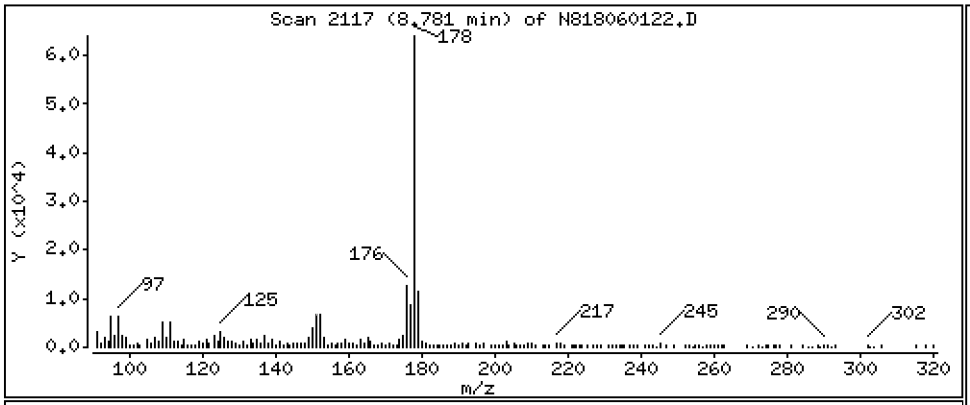
Operator: JZ

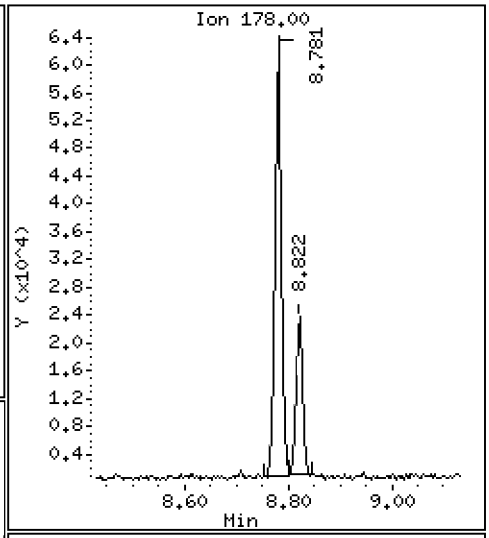
Column phase: Rxi-17sil

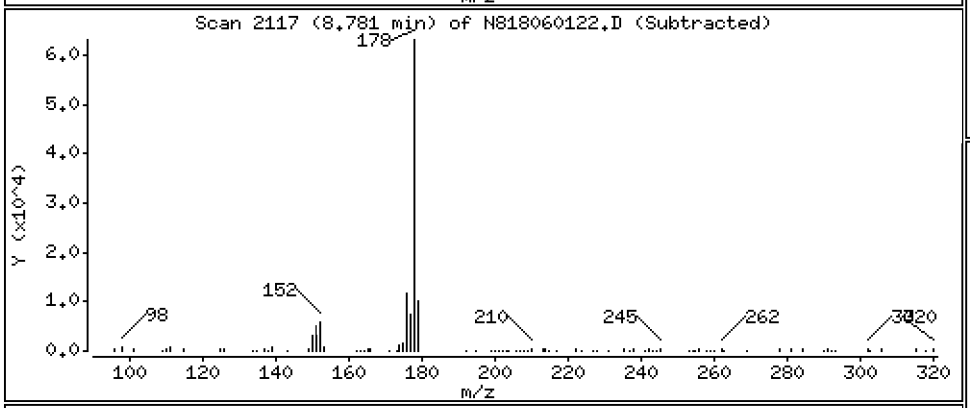
Column diameter: 0.25

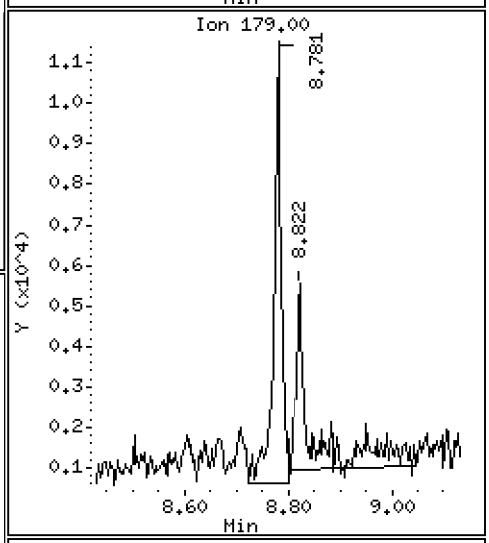
16 Phenanthrene

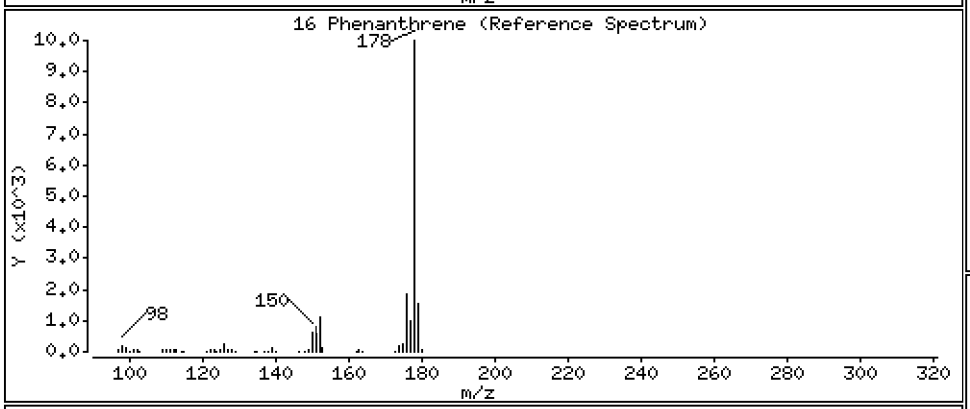
Concentration: 0.4845 ug/mL

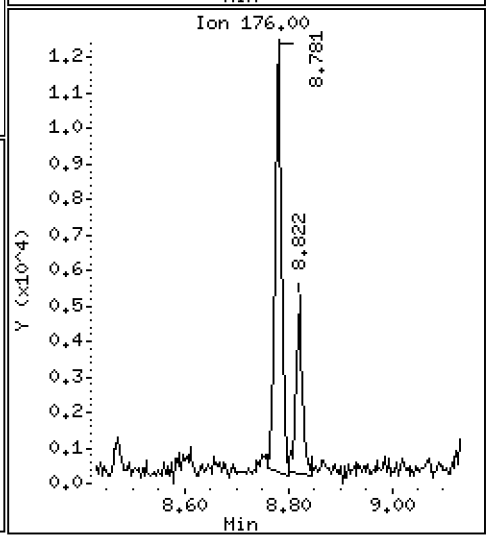


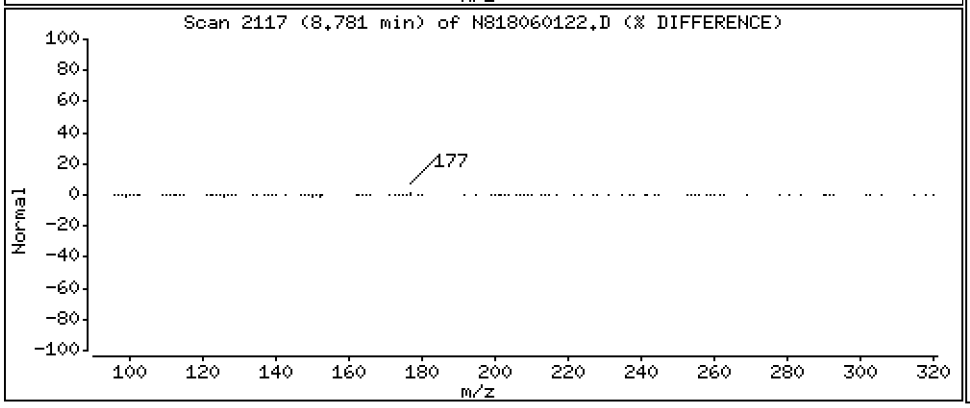












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

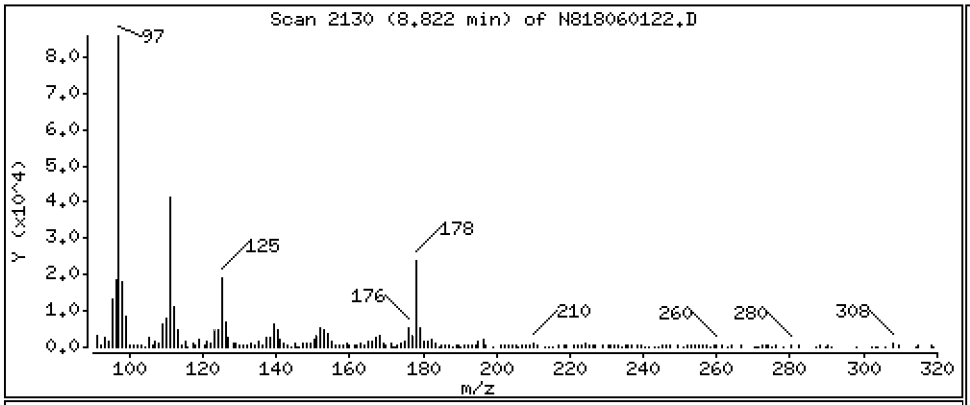
Operator: JZ

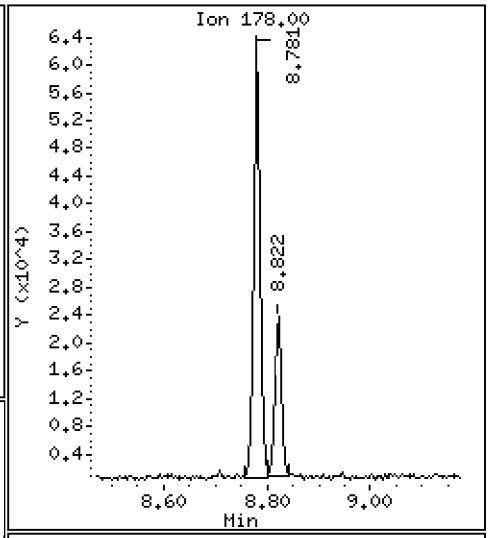
Column phase: Rxi-17sil

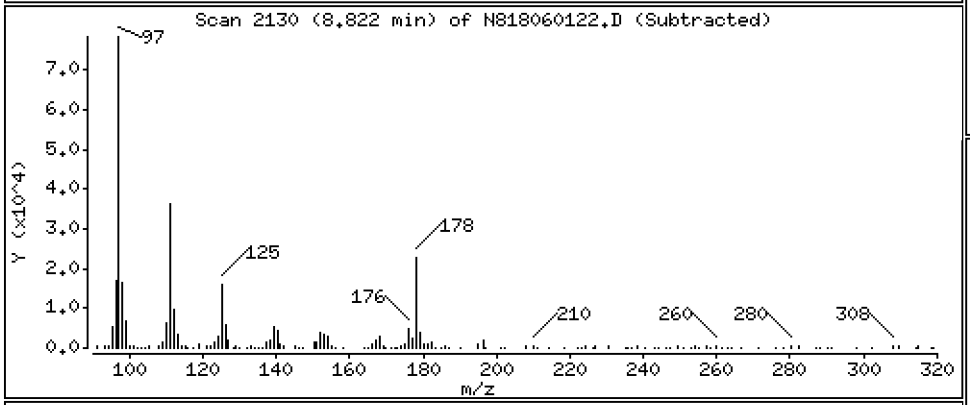
Column diameter: 0.25

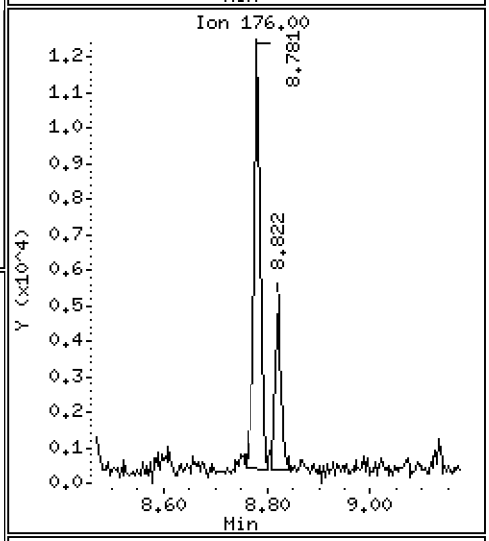
17 Anthracene

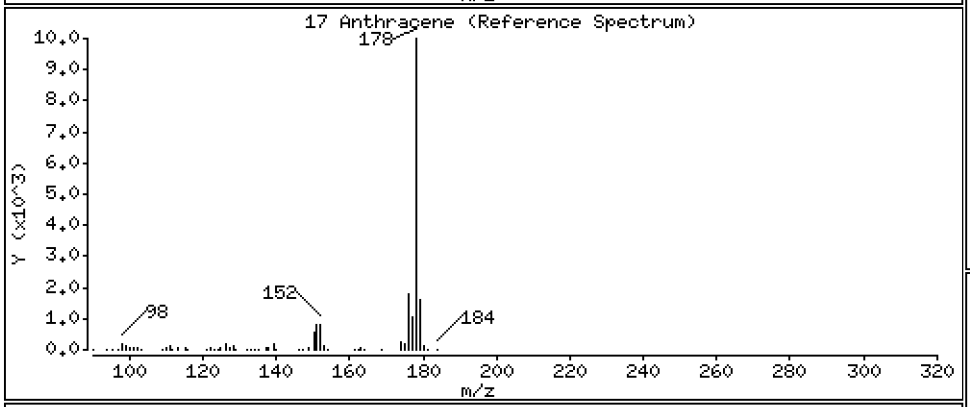
Concentration: 0.2055 ug/mL

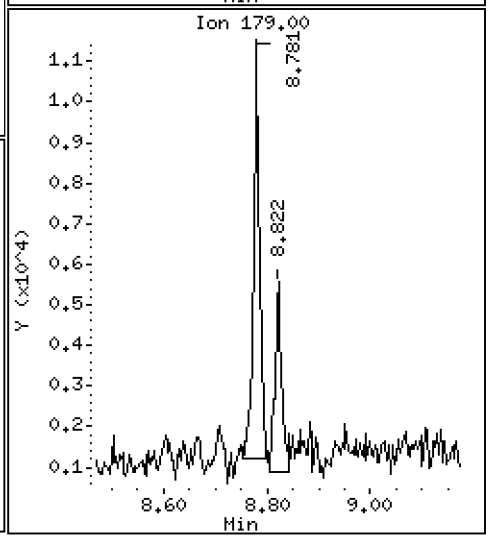


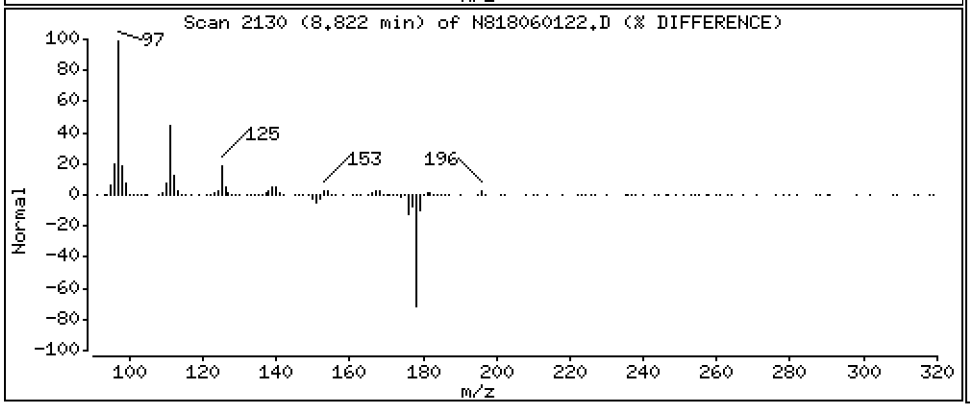












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

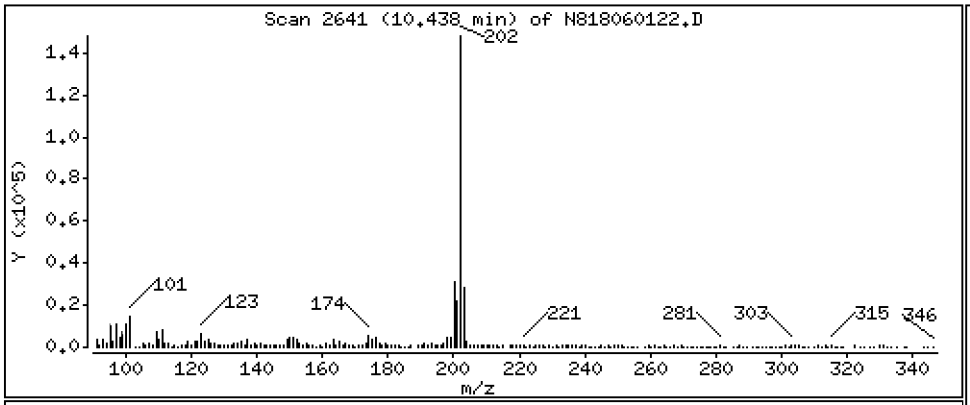
Operator: JZ

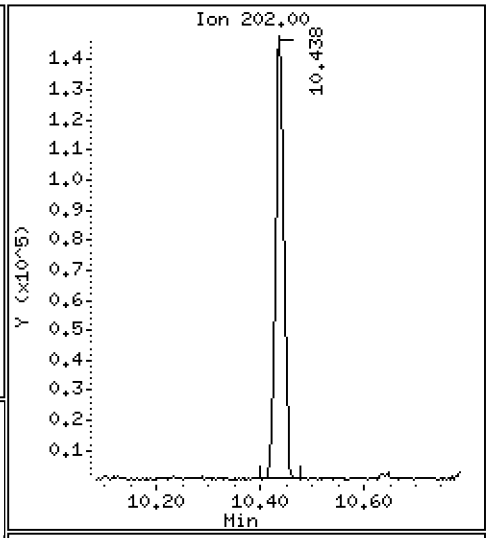
Column phase: Rxi-17sil

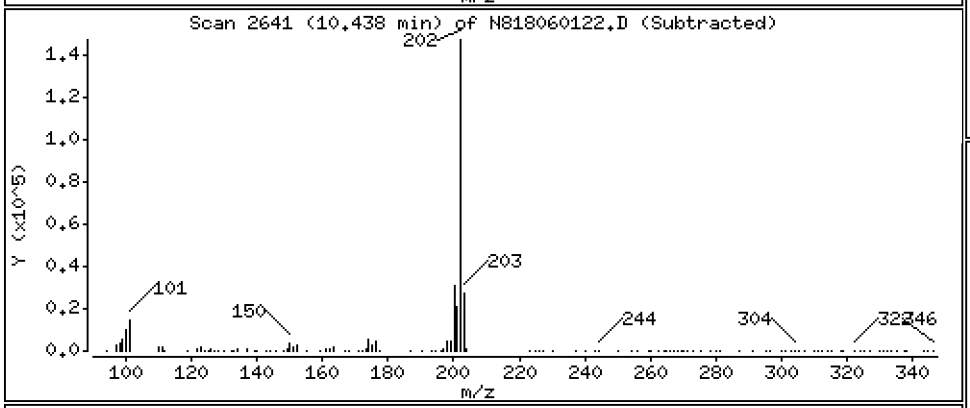
Column diameter: 0.25

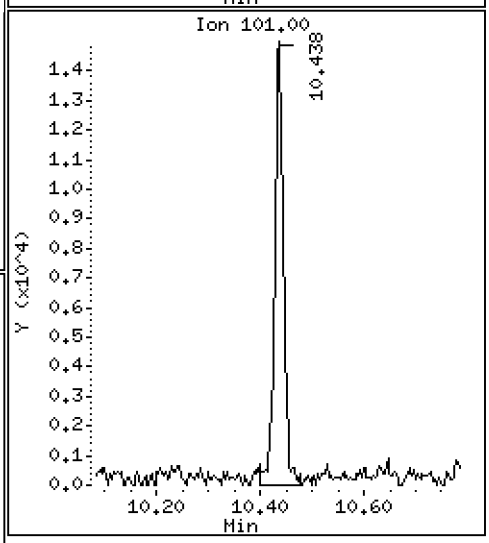
22 Fluoranthene

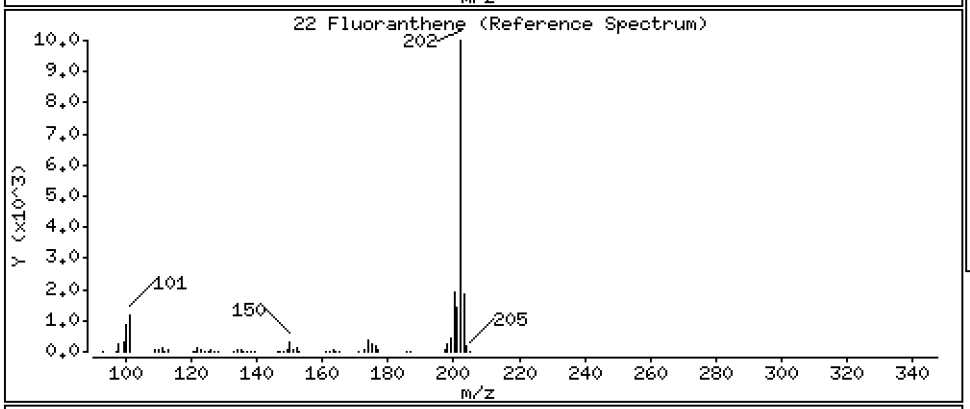
Concentration: 1.270 ug/mL

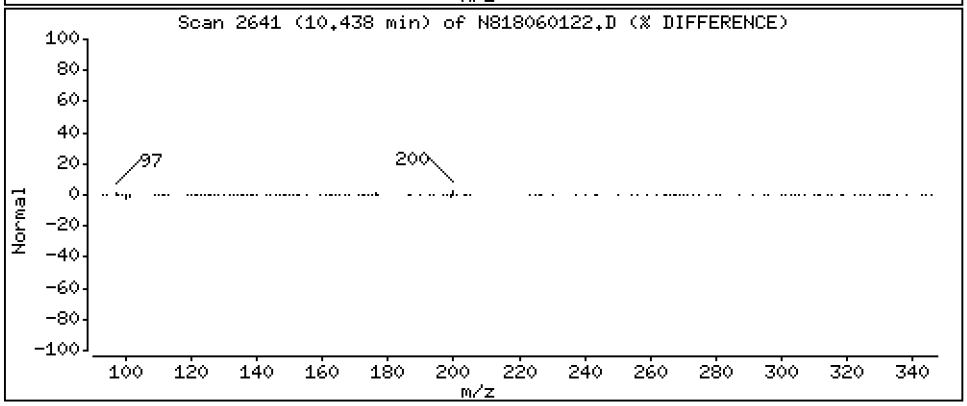












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

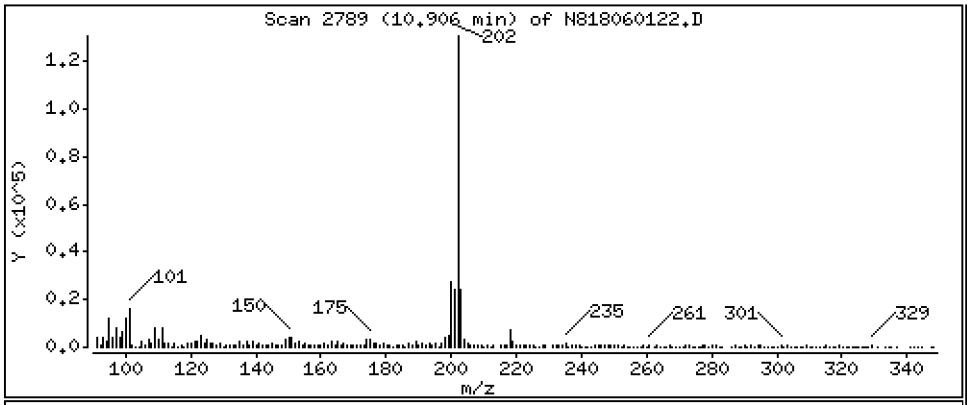
Operator: JZ

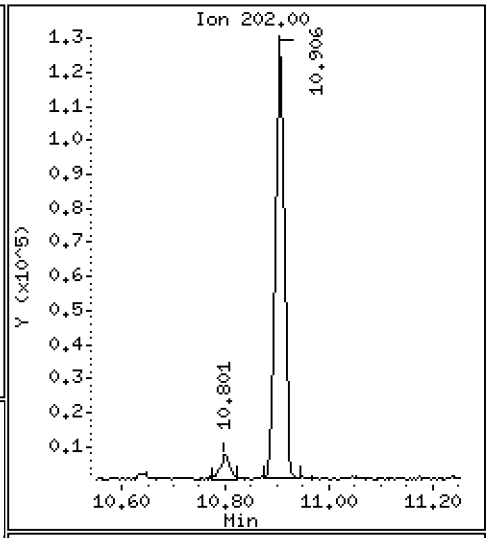
Column phase: Rxi-17sil

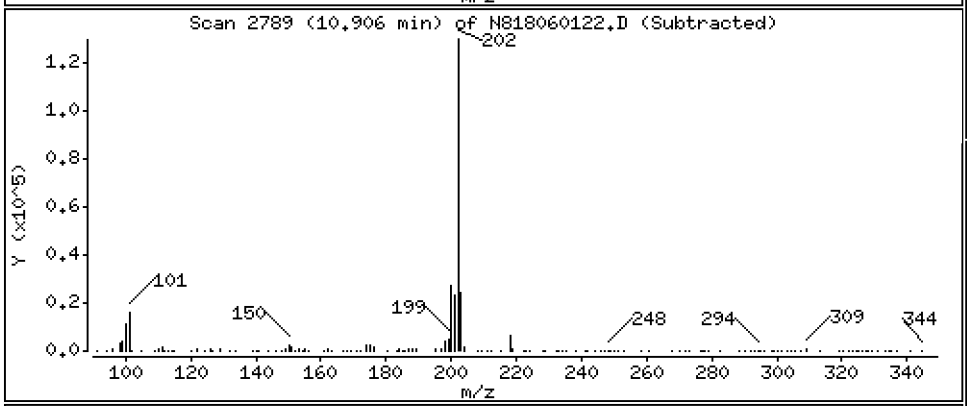
Column diameter: 0.25

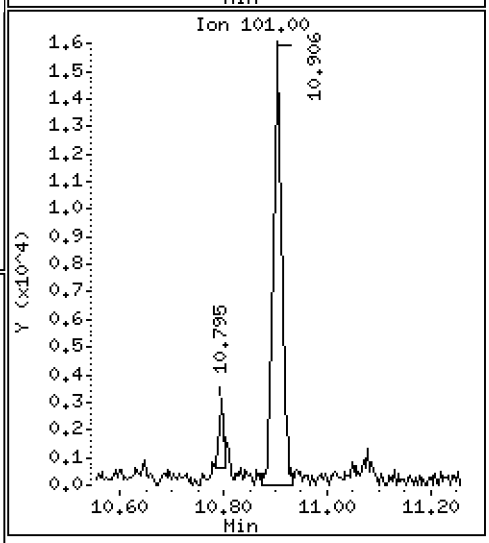
23 Pyrene

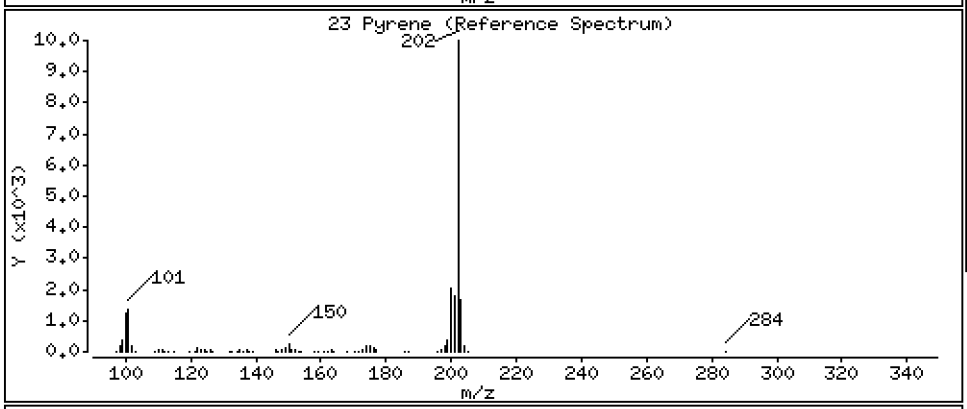
Concentration: 1.340 ug/mL

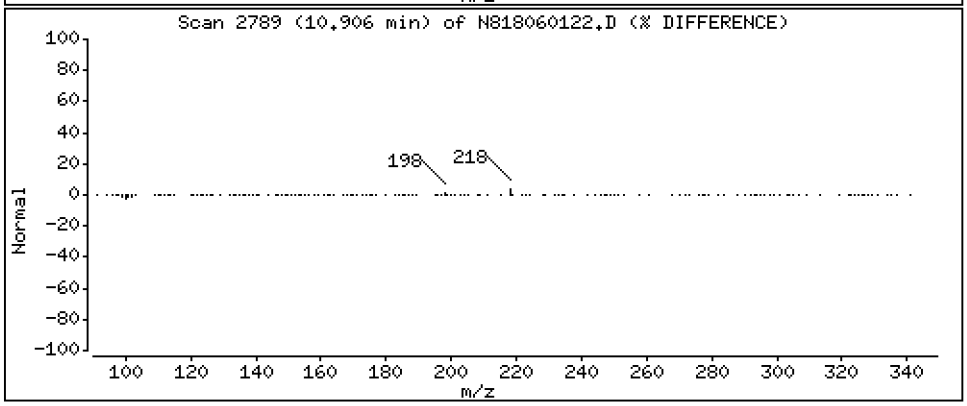












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

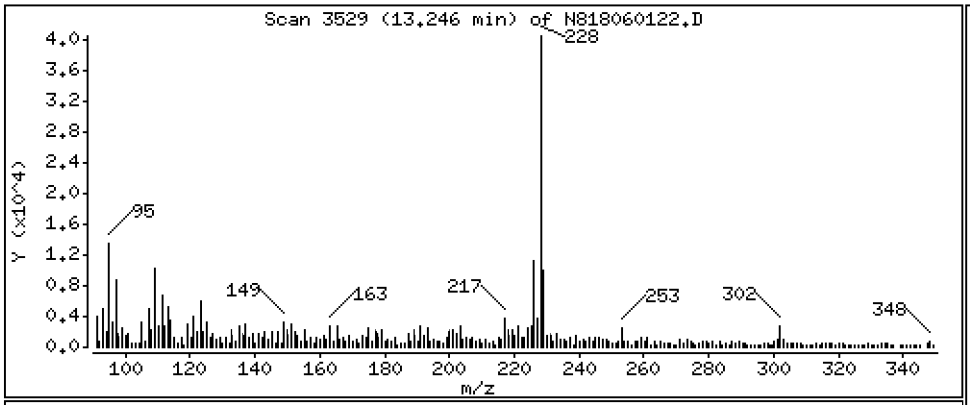
Operator: JZ

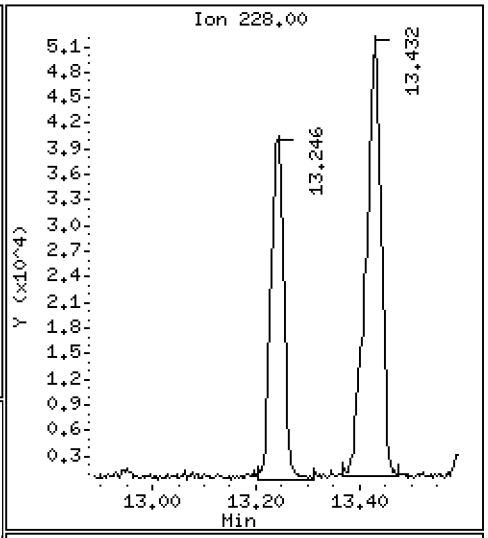
Column phase: Rxi-17sil

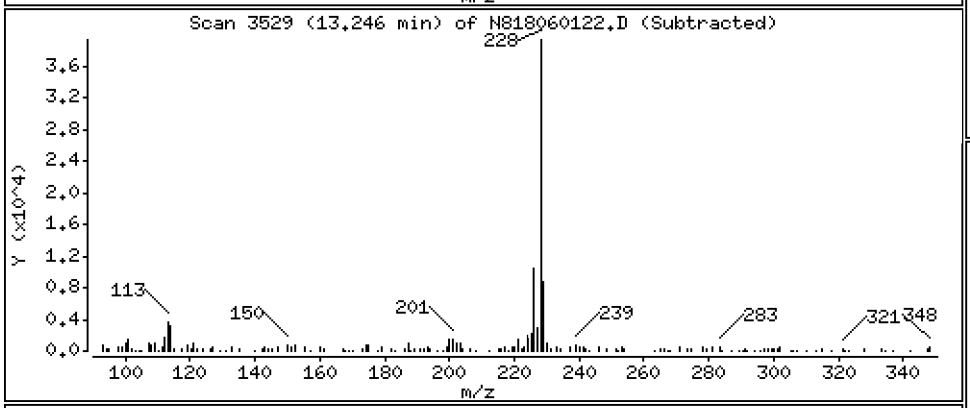
Column diameter: 0.25

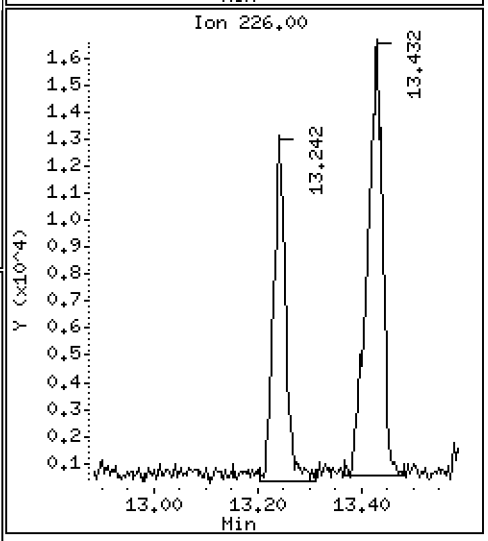
24 Benzo(a)anthracene

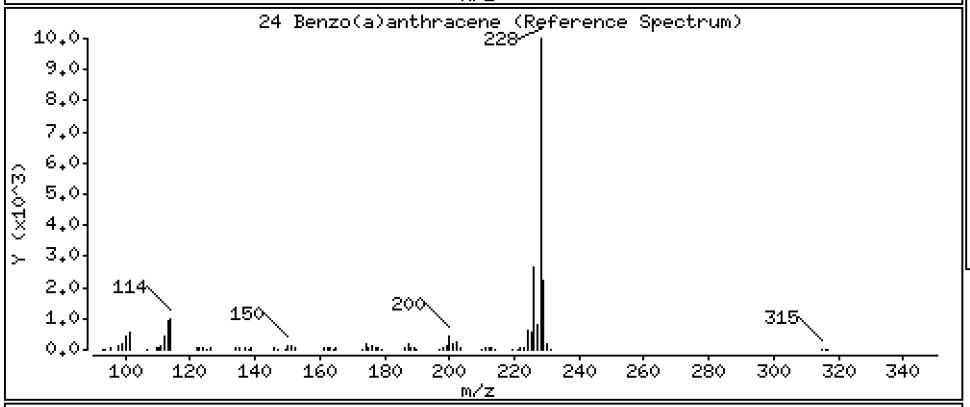
Concentration: 0.6167 ug/mL

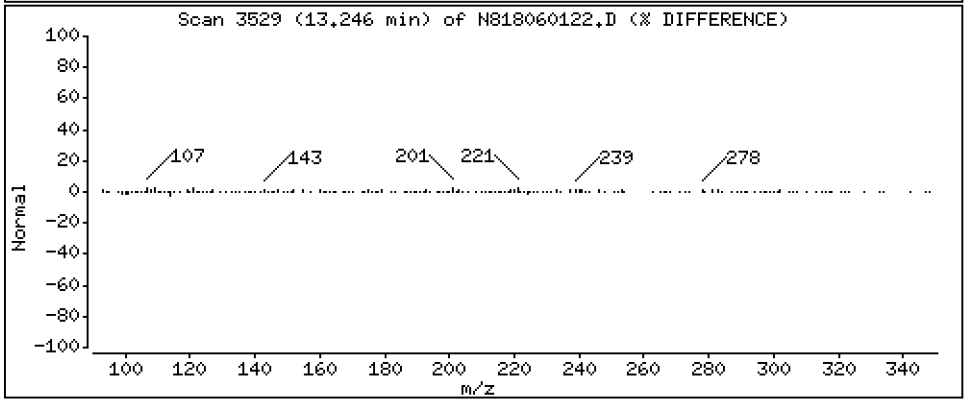












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

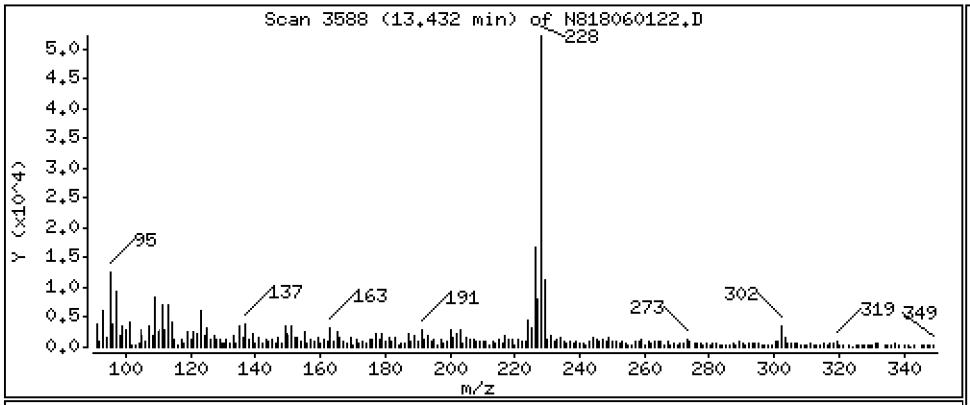
Operator: JZ

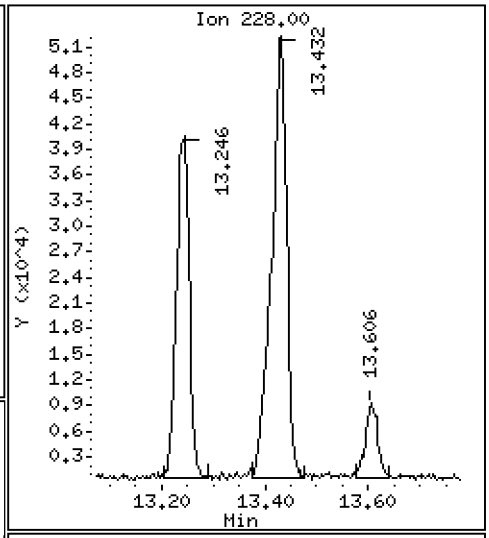
Column phase: Rxi-17sil

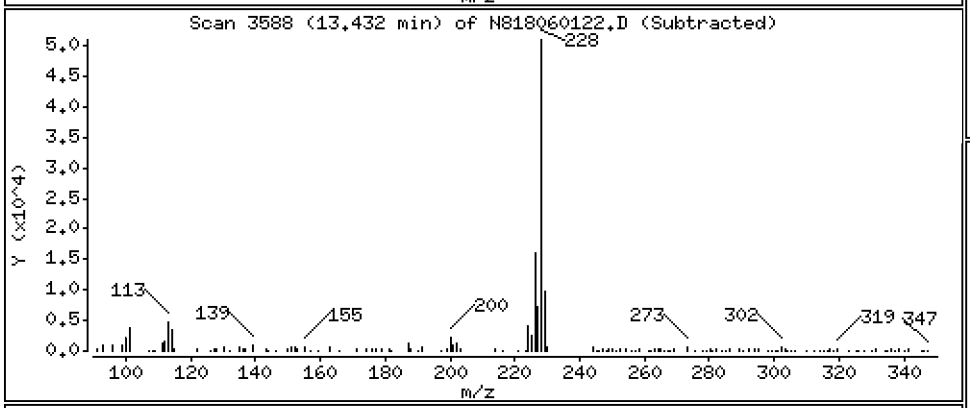
Column diameter: 0.25

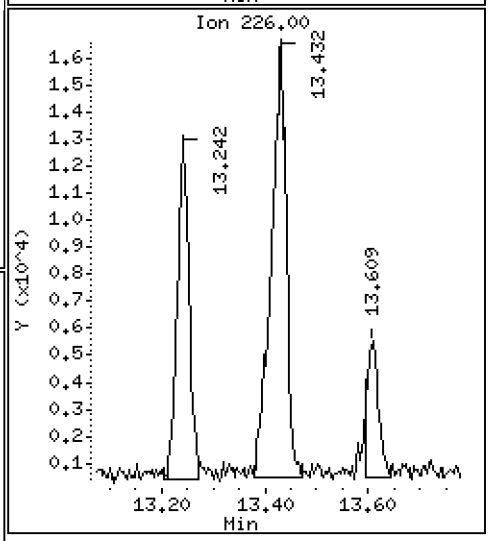
27 Chrysene

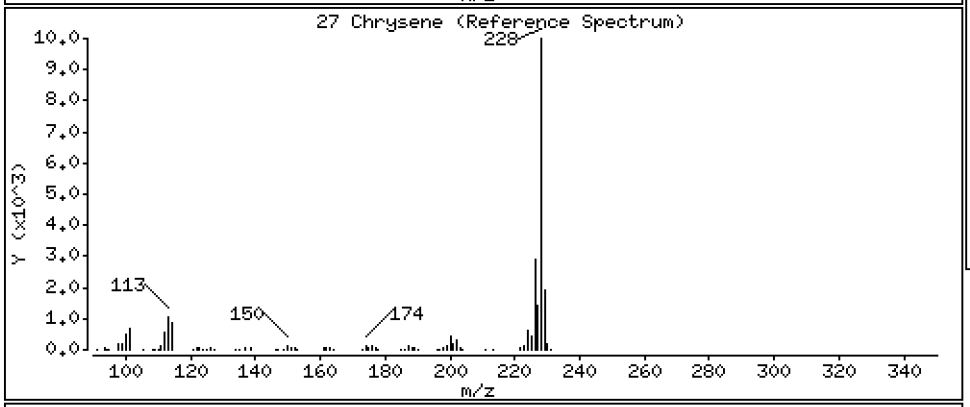
Concentration: 0.9200 ug/mL

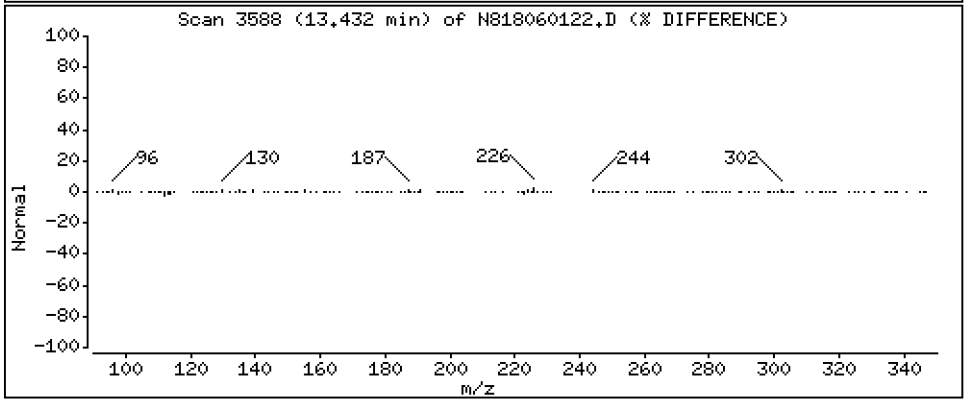












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

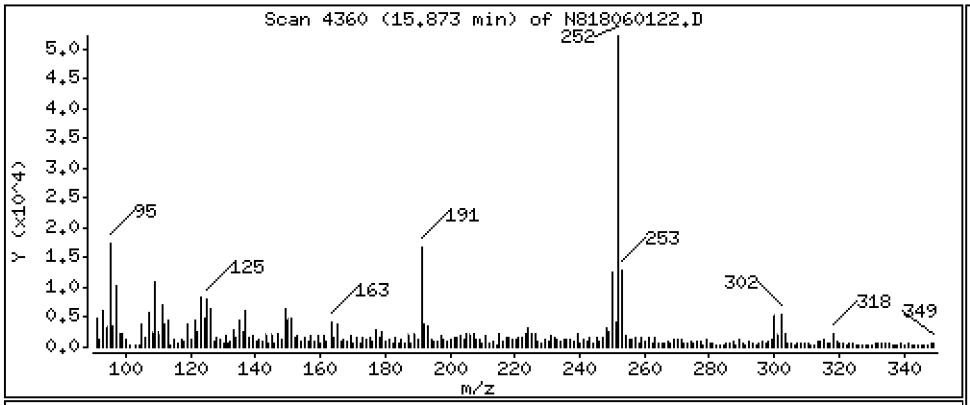
Operator: JZ

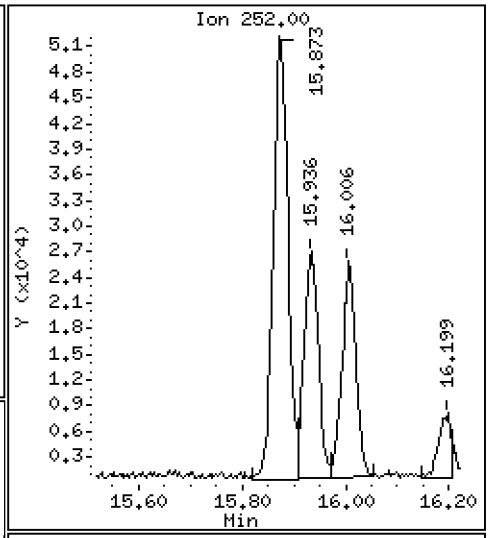
Column phase: Rxi-17sil

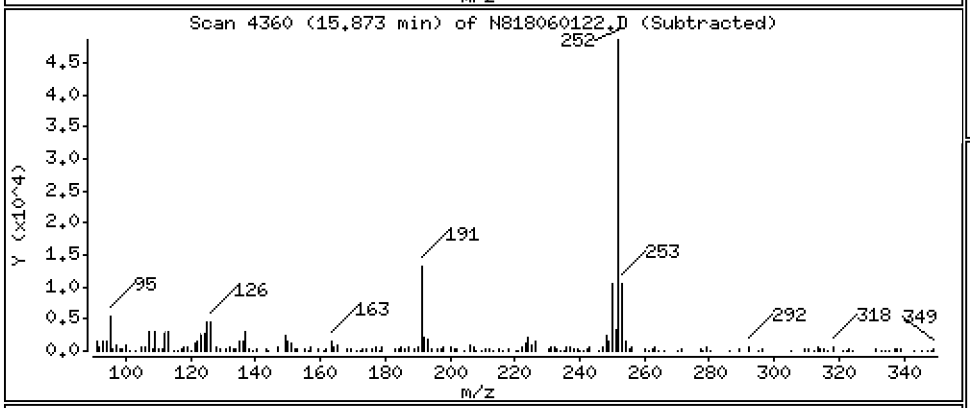
Column diameter: 0.25

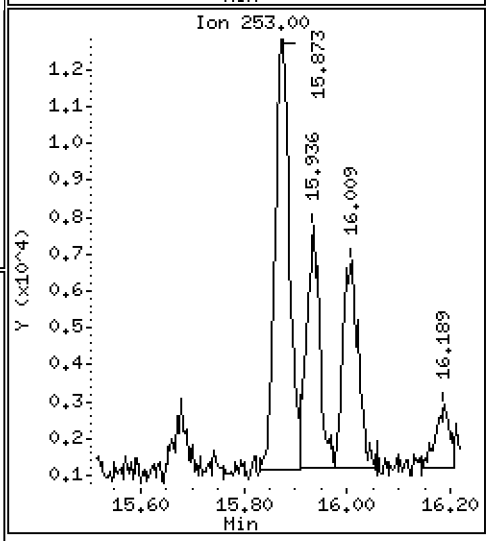
28 Benzo(b)fluoranthene

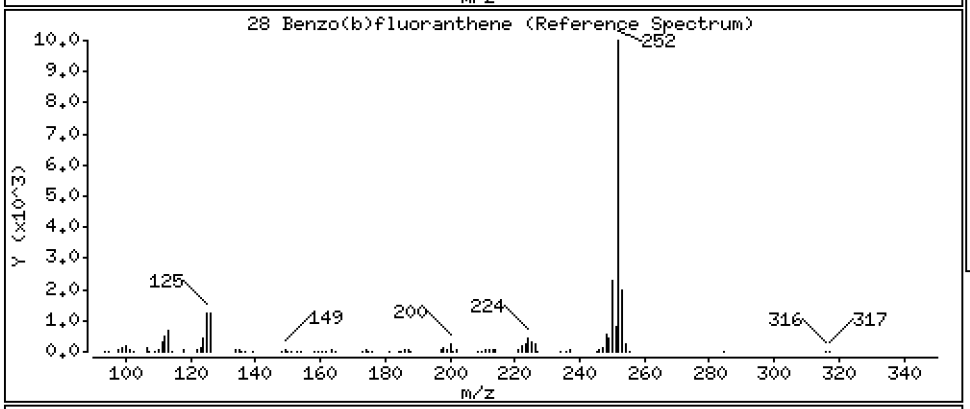
Concentration: 0.8184 ug/mL

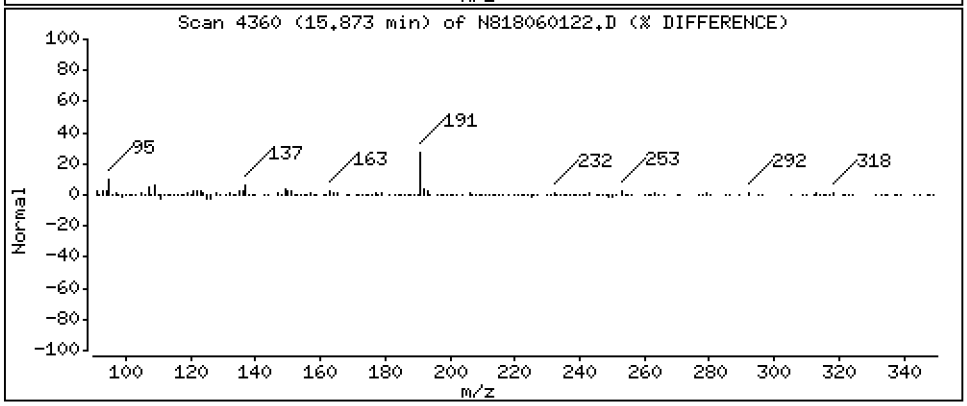












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

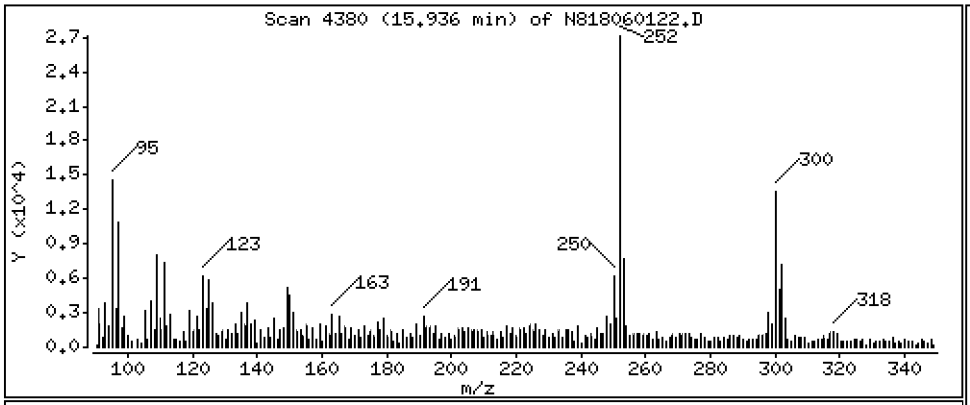
Operator: JZ

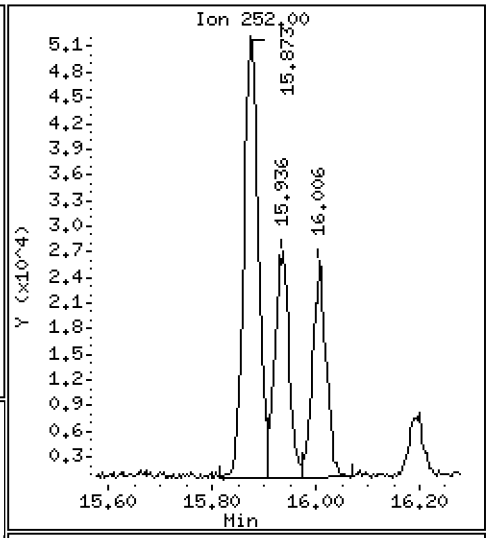
Column phase: Rxi-17sil

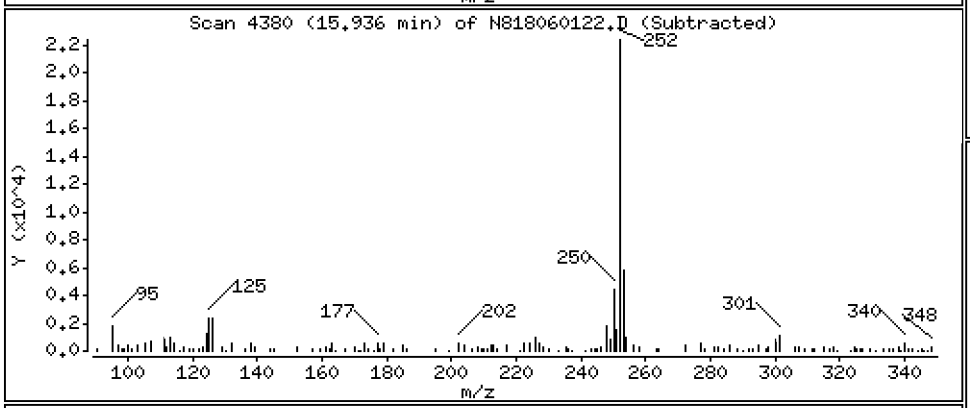
Column diameter: 0.25

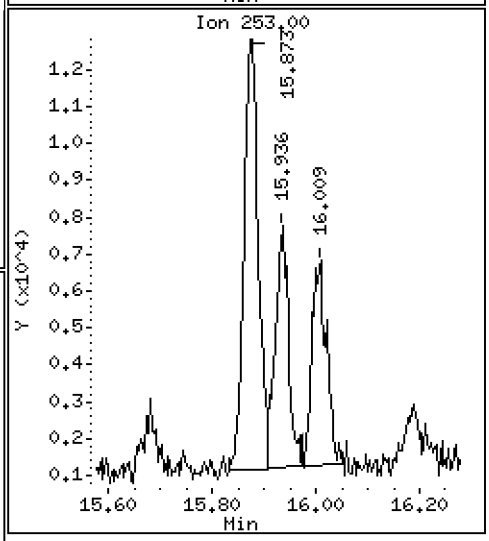
29 Benzo(k)fluoranthene

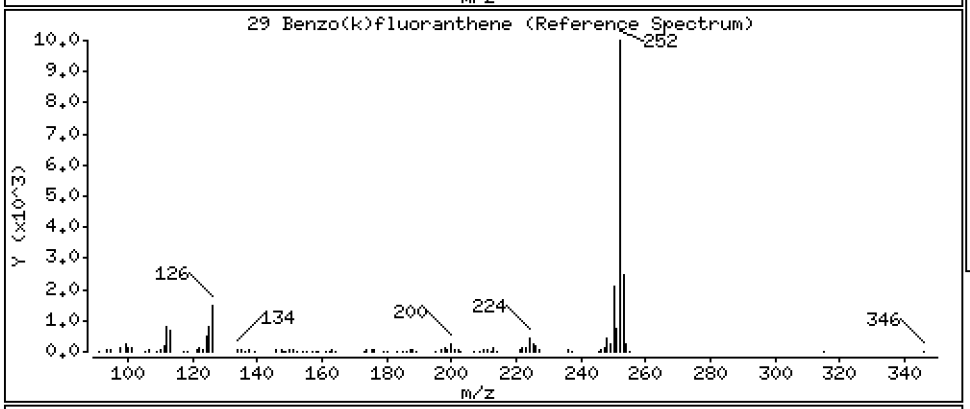
Concentration: 0.4164 ug/mL

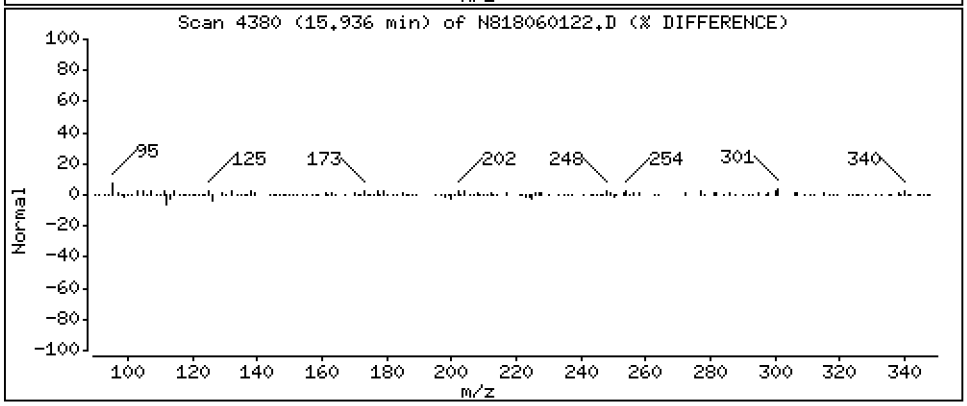












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

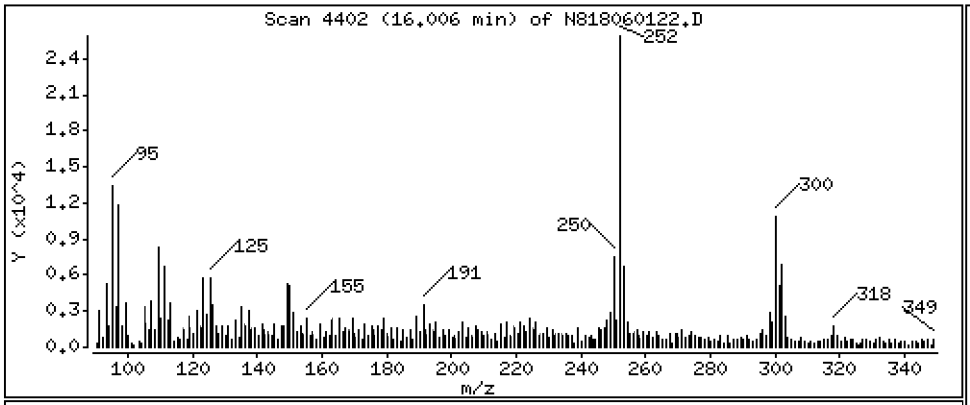
Operator: JZ

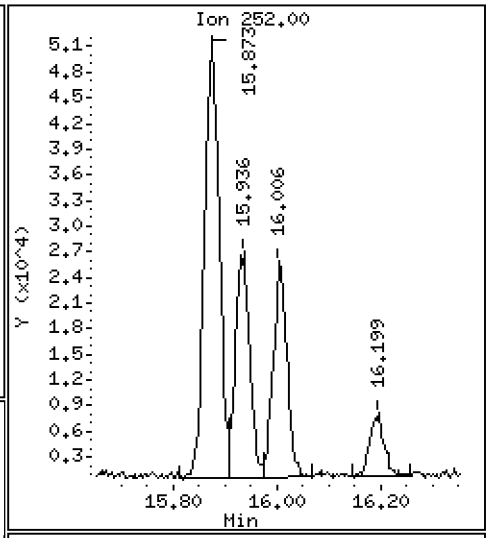
Column phase: Rxi-17sil

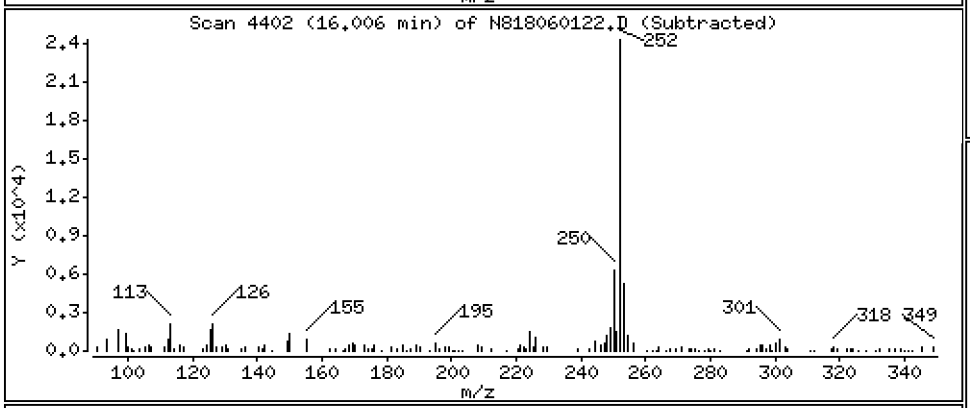
Column diameter: 0.25

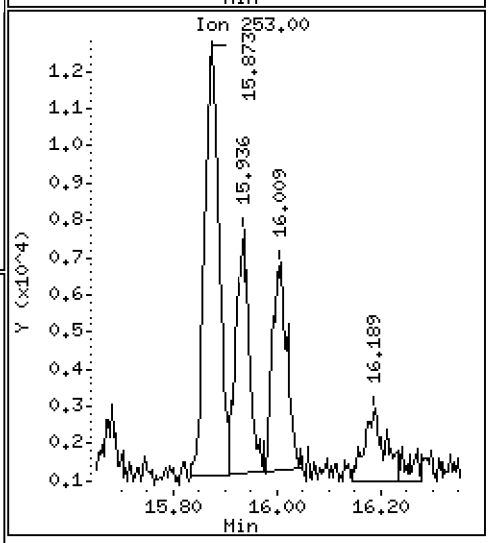
30 Benzo(j)fluoranthene

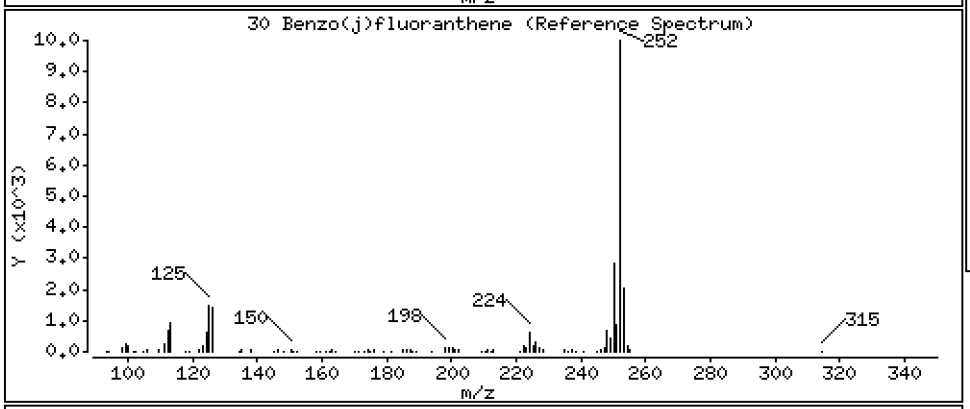
Concentration: 0.3702 ug/mL

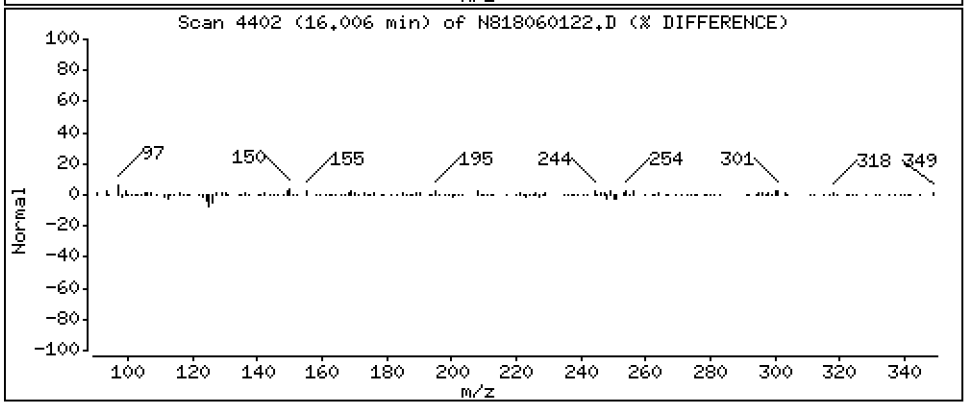












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

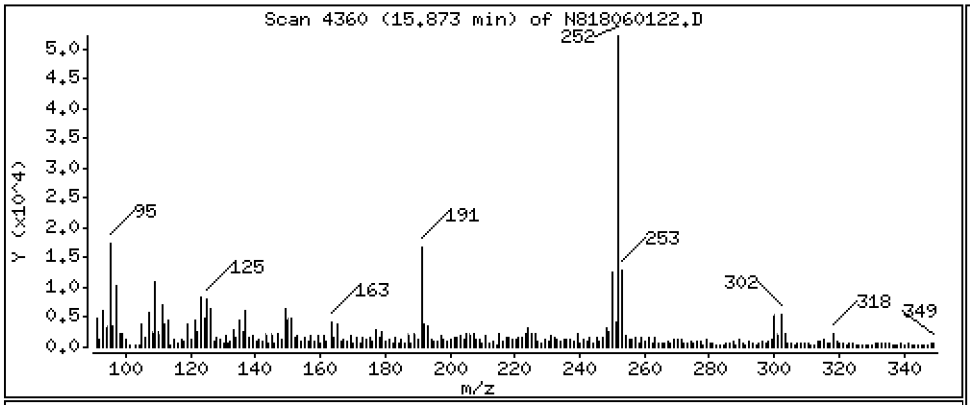
Operator: JZ

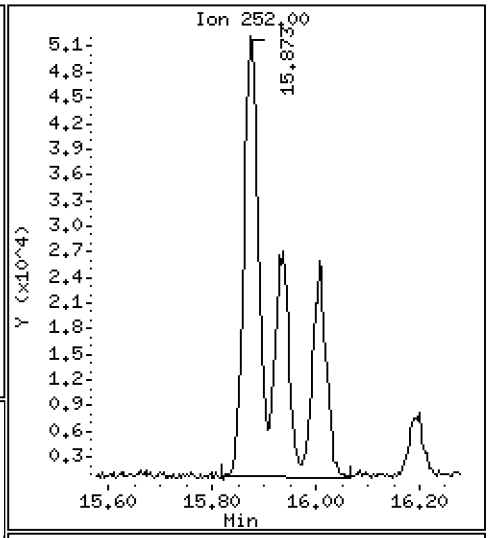
Column phase: Rxi-17sil

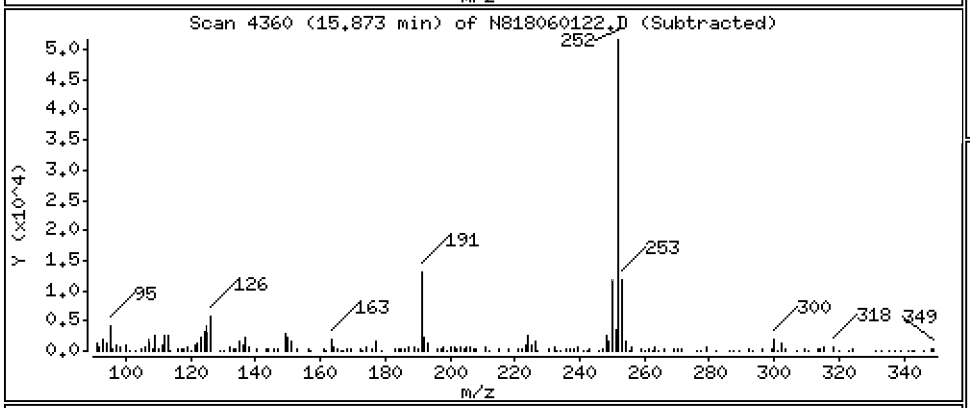
Column diameter: 0.25

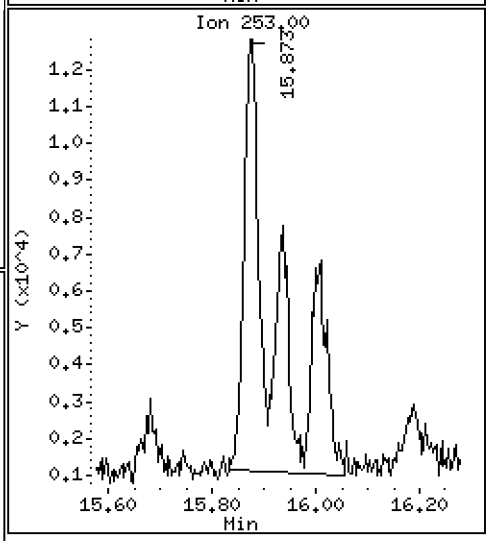
31 Total Benzofluoranthenes

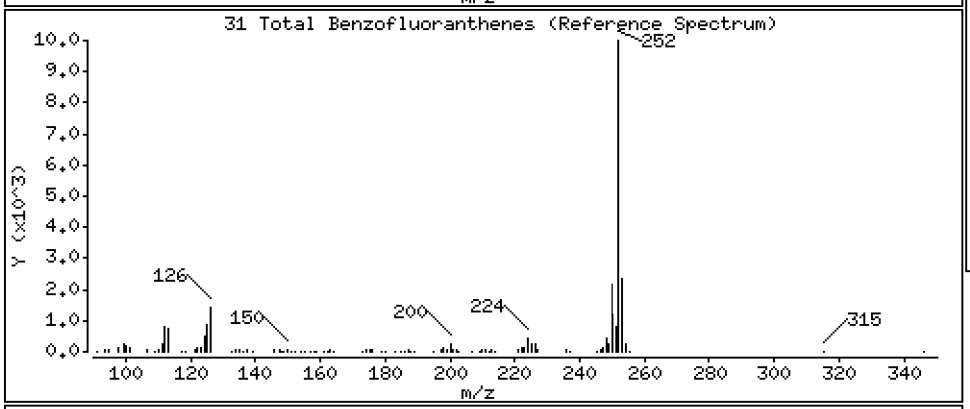
Concentration: 1.598 ug/mL

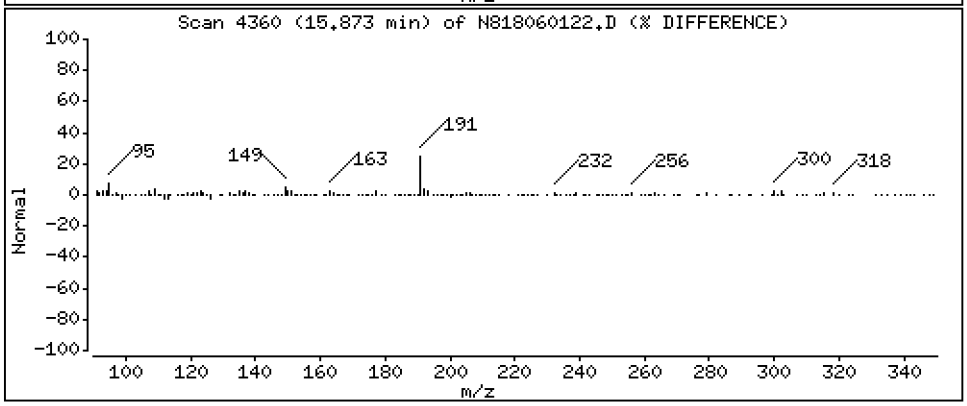












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

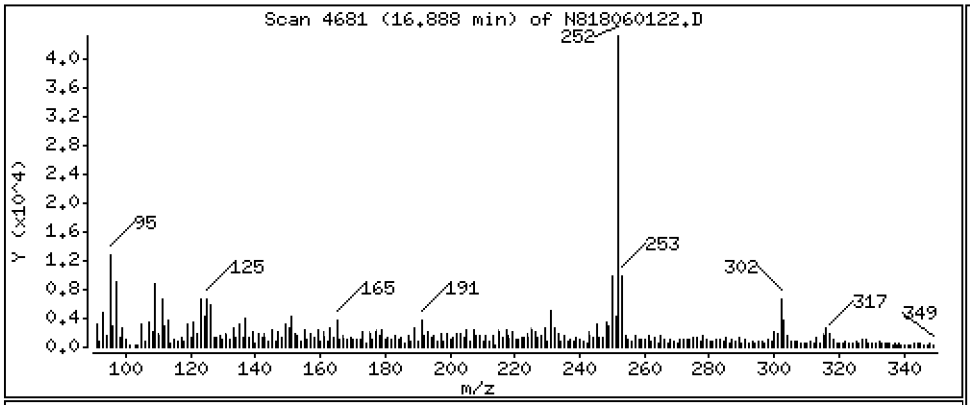
Operator: JZ

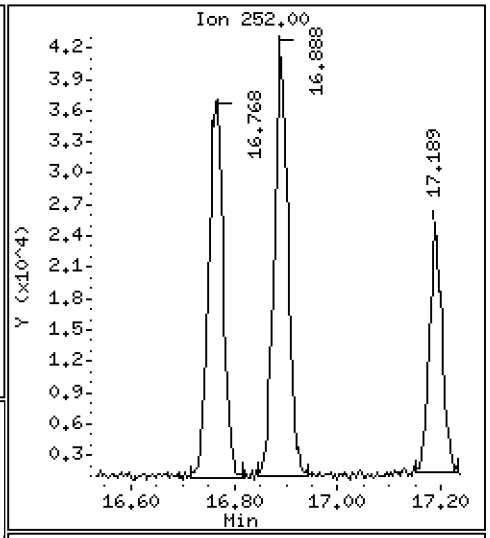
Column phase: Rxi-17sil

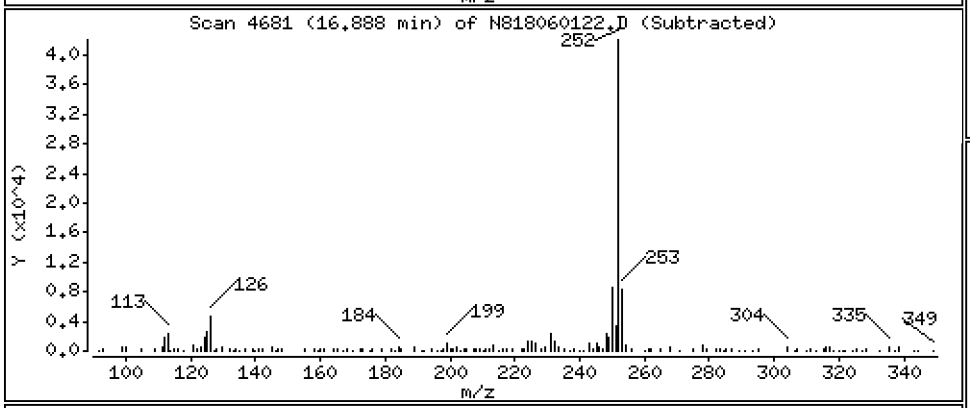
Column diameter: 0.25

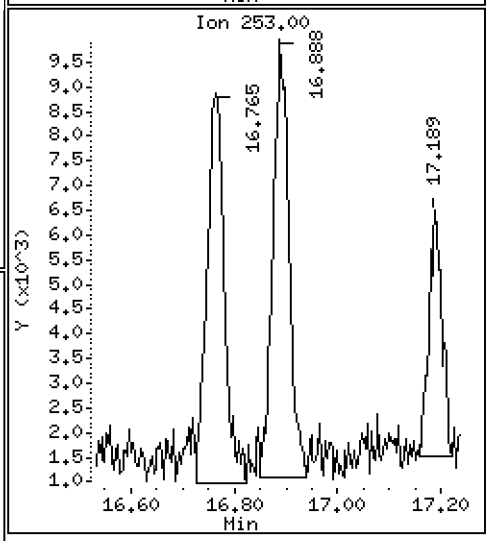
32 Benzo(a)pyrene

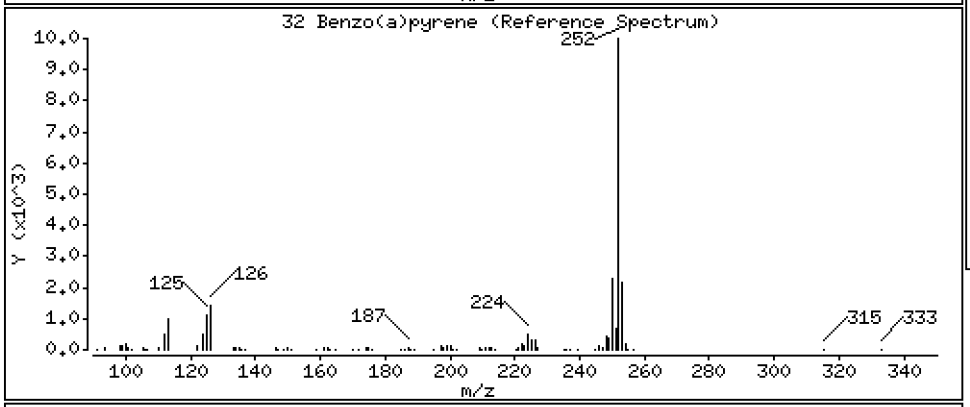
Concentration: 0.7068 ug/mL

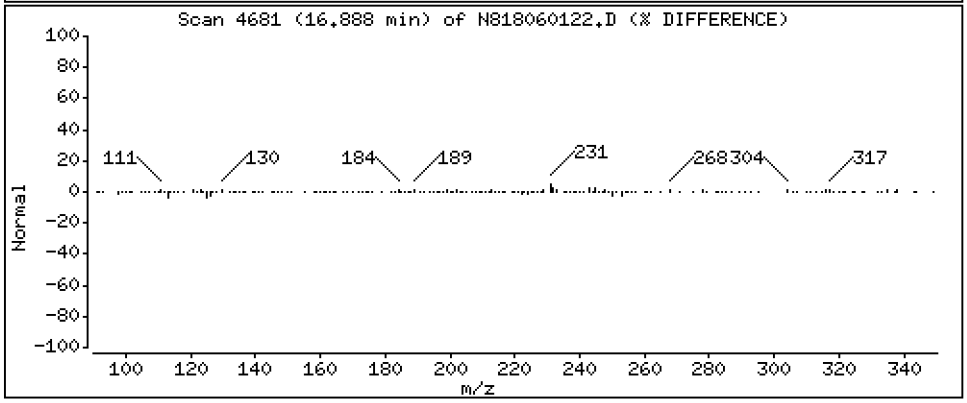












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

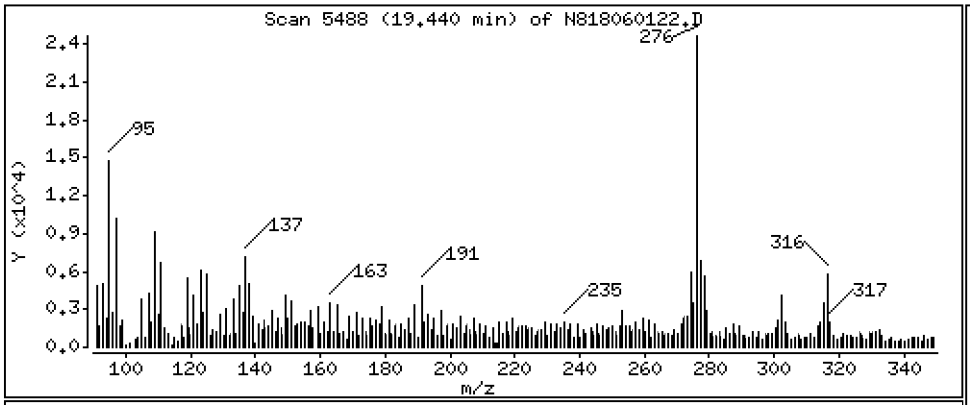
Operator: JZ

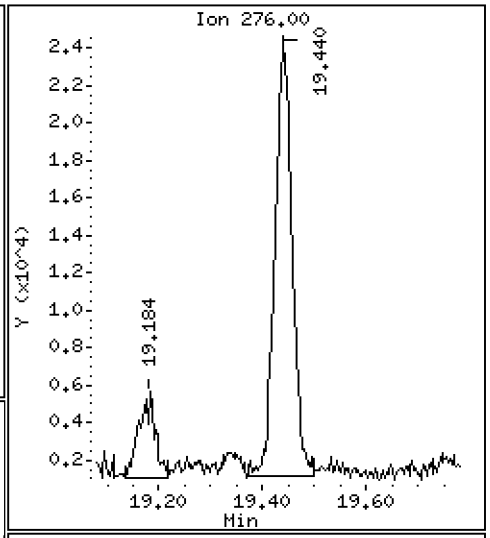
Column phase: Rxi-17sil

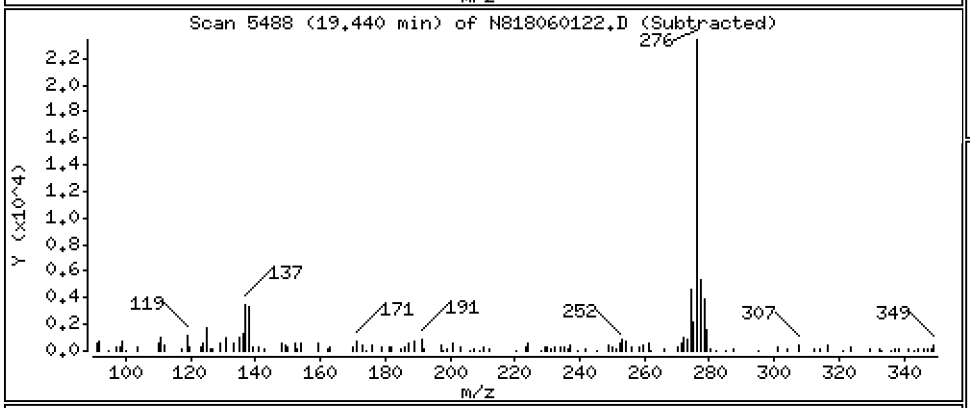
Column diameter: 0.25

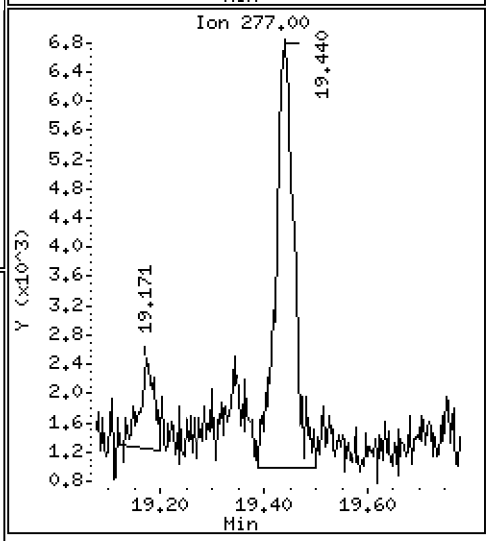
37 Indeno(1,2,3-cd)pyrene

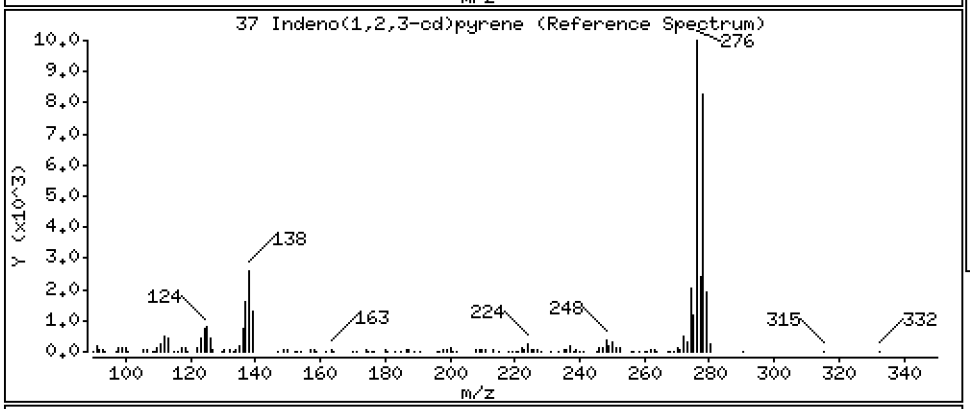
Concentration: 0.4308 ug/mL

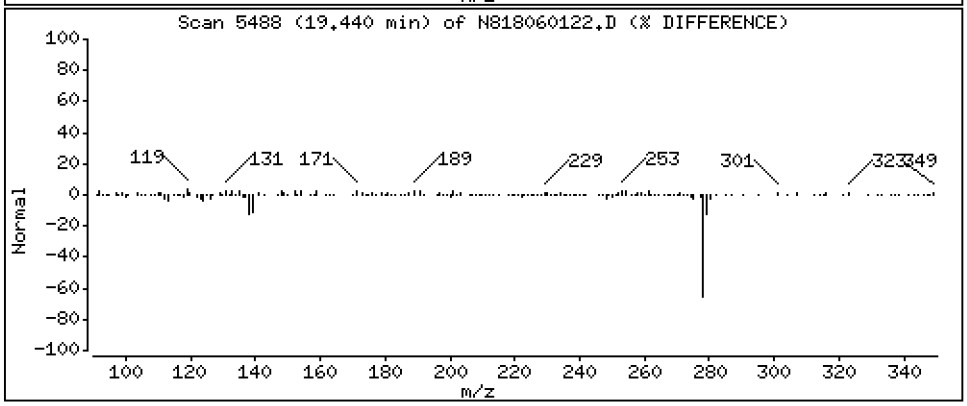












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

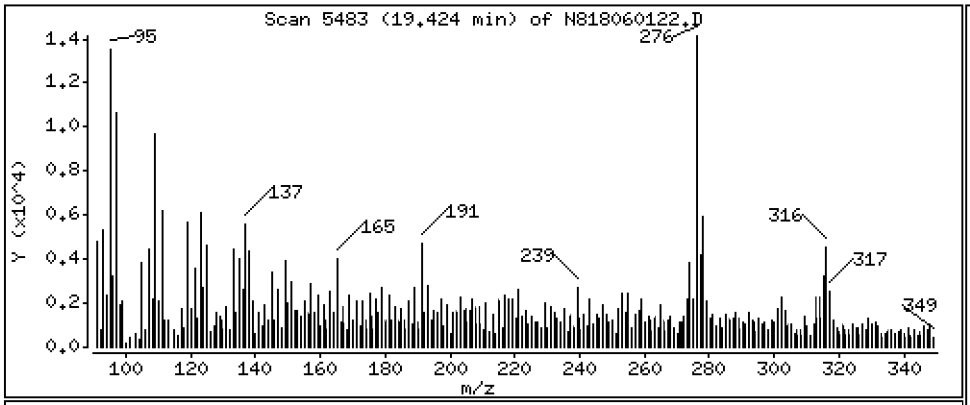
Operator: JZ

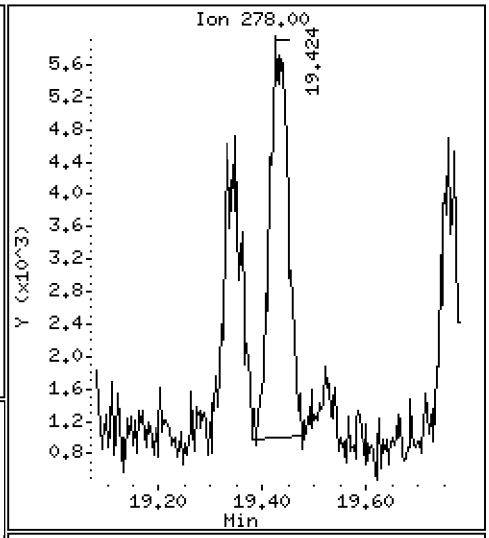
Column phase: Rxi-17sil

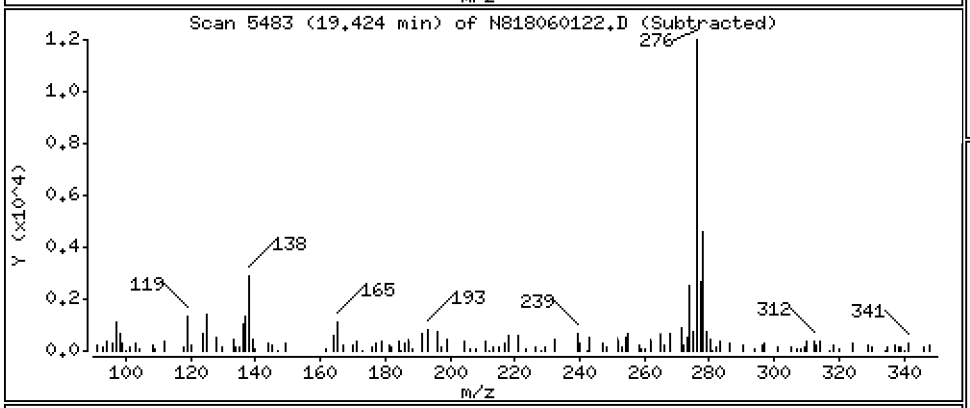
Column diameter: 0.25

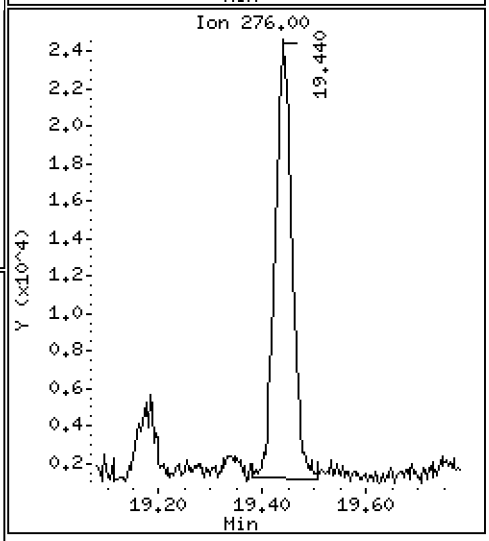
38 Dibenzo(a,h)anthracene

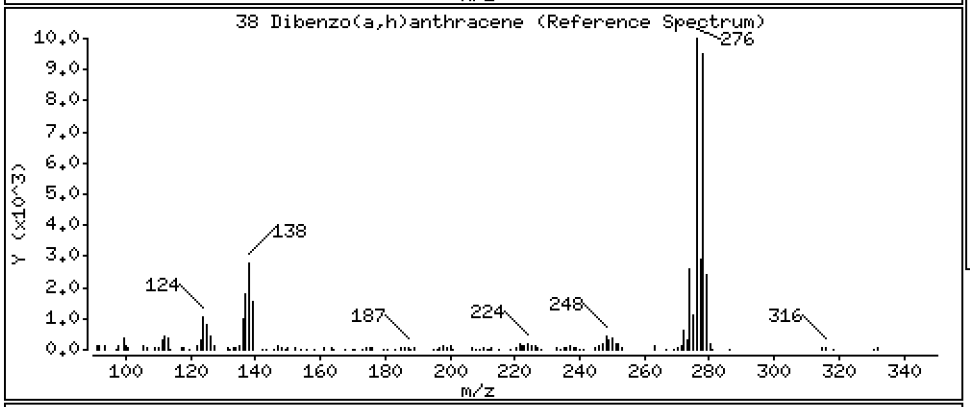
Concentration: 0.1178 ug/mL

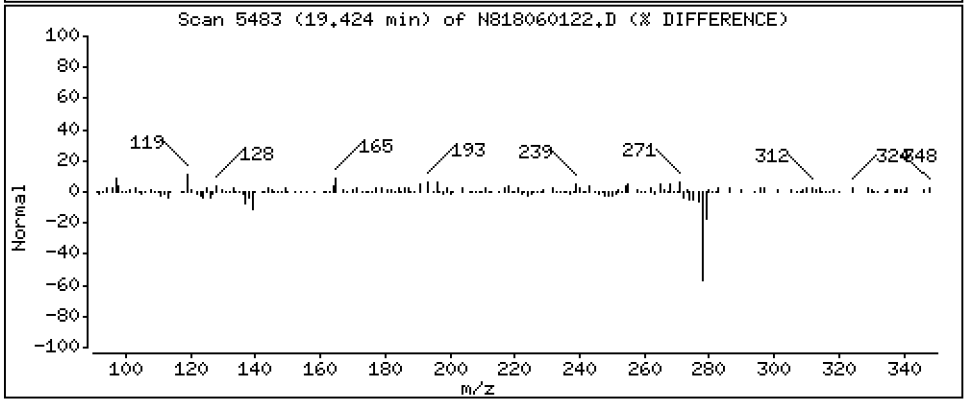












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

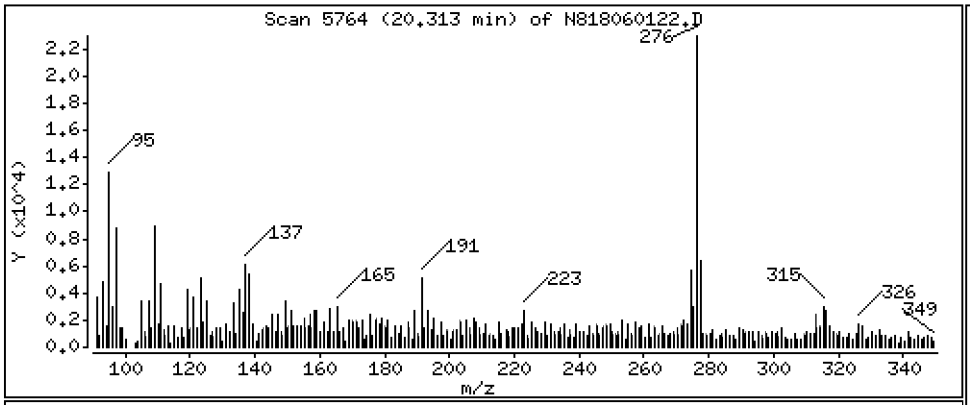
Operator: JZ

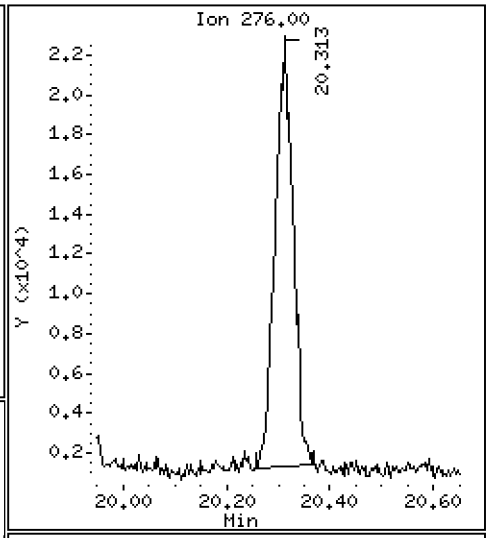
Column phase: Rxi-17sil

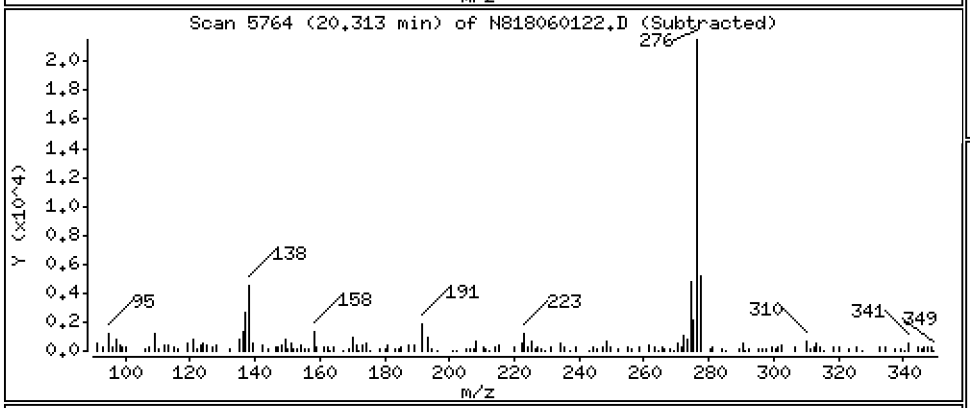
Column diameter: 0.25

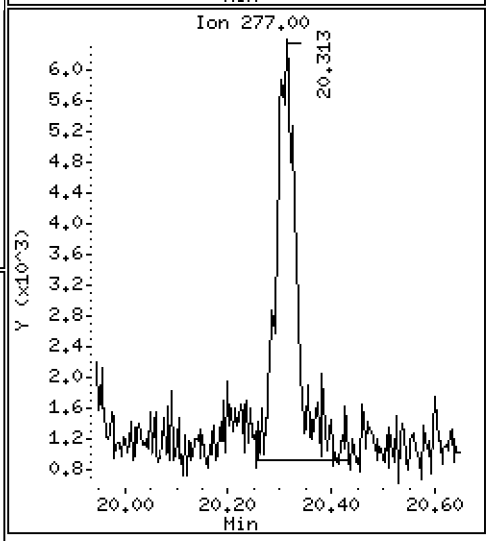
39 Benzo(g,h,i)perylene

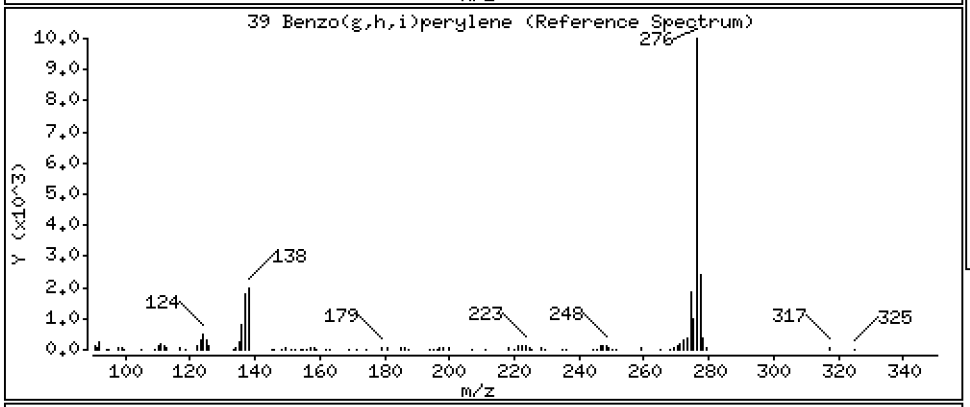
Concentration: 0.4705 ug/mL

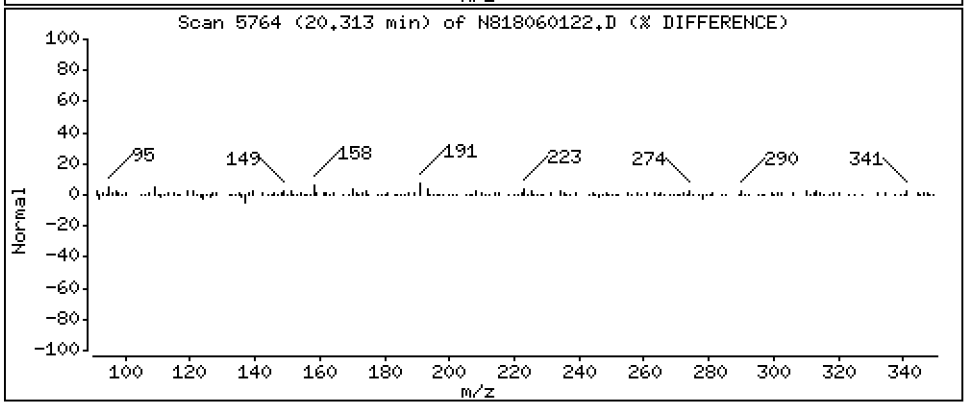












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060122.D

Date : 01-JUN-2018 23:47

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-04

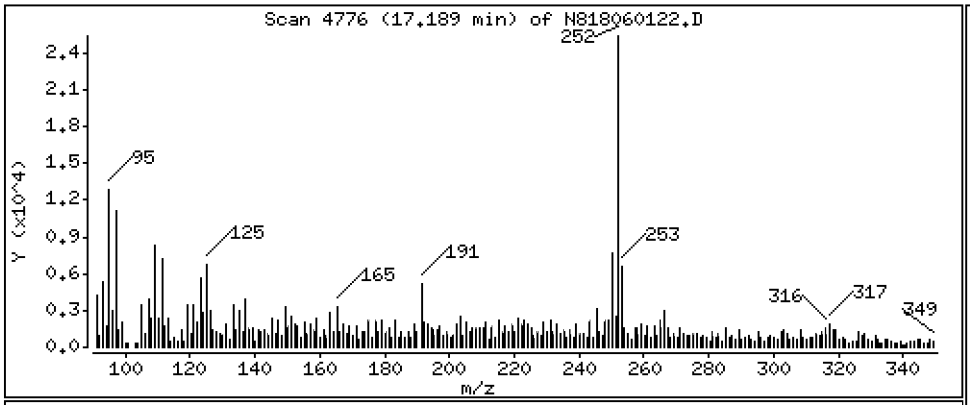
Operator: JZ

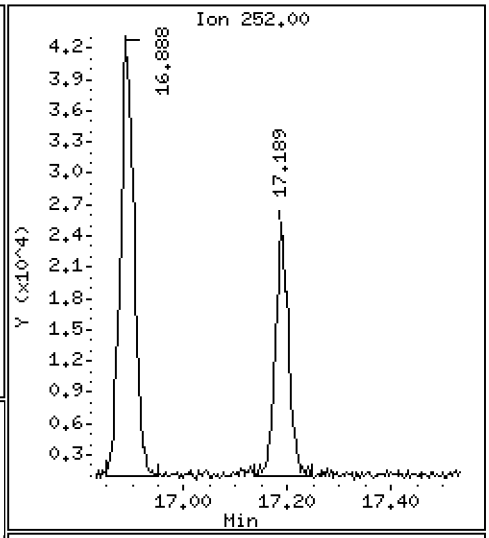
Column phase: Rxi-17sil

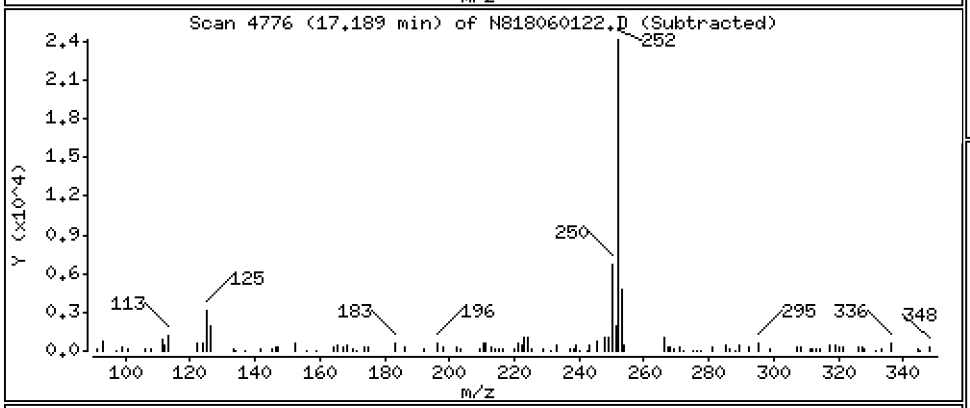
Column diameter: 0.25

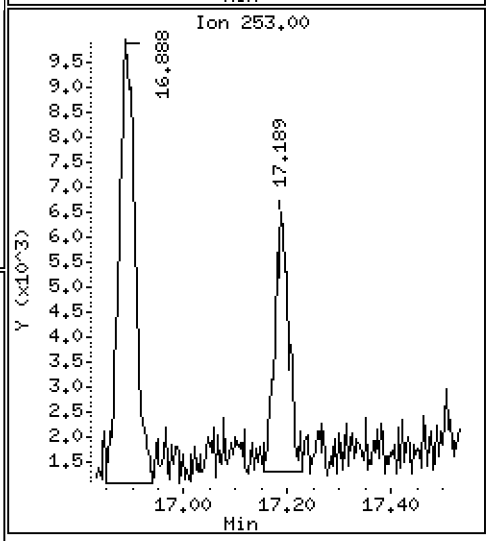
35 Perylene

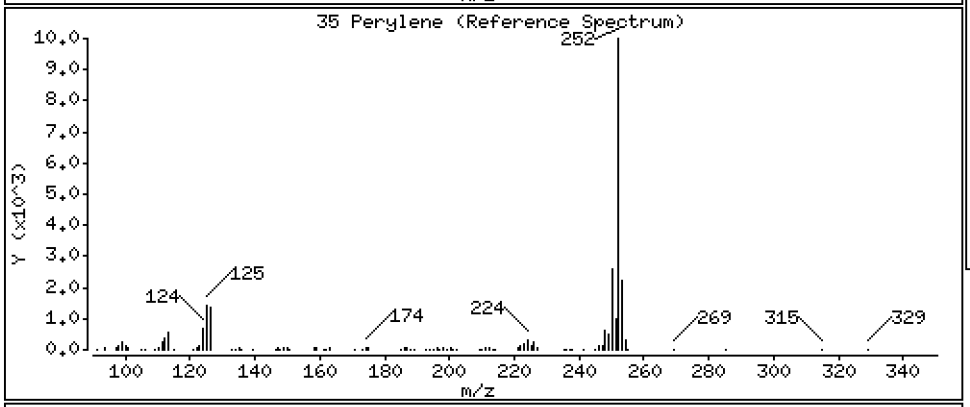
Concentration: 0.3615 ug/mL

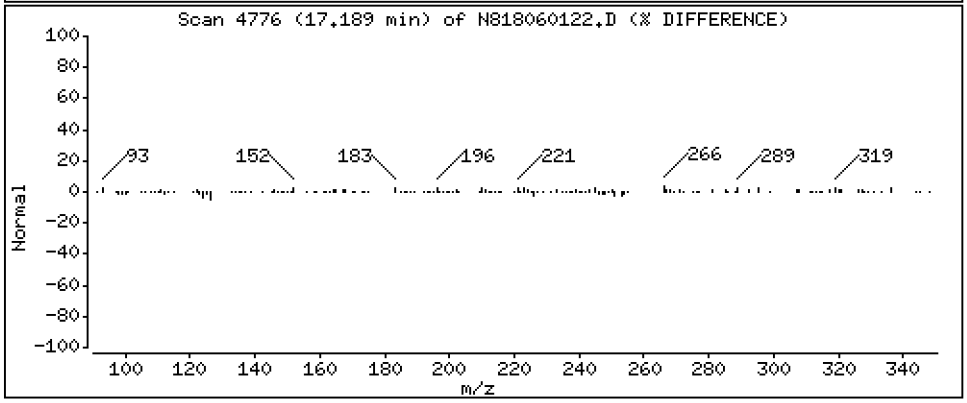












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060122.D
Lab Smp Id: 18E0282-04
Inj Date : 01-JUN-2018 23:47
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-04
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	199888	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	22425	0.19304	0.1930
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	69588	0.95435	0.9543
	4 2-Methylnaphthalene	141	5.236	5.242	(1.175)	12437	0.19008	0.1901
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	6357	0.09439	0.09439
	9 Acenaphthylene	152	6.618	6.617	(0.984)	6034	0.06145	0.06145
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	98901	2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.007)	7676	0.10197	0.1020
	12 Dibenzofuran	168	6.927	6.927	(1.030)	10646	0.10518	0.1052
	14 Fluorene	166	7.399	7.402	(1.100)	8127	0.10392	0.1039
*	15 Phenanthrene-d10	188	8.746	8.745	(1.000)	187294	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	55618	0.48450	0.4845
	17 Anthracene	178	8.821	8.821	(1.009)	21492	0.20548	0.2055
	22 Fluoranthene	202	10.437	10.434	(1.193)	164326	1.27017	1.270
$	21 Fluoranthene-d10	212	10.406	10.402	(1.190)	150078	1.22396	1.224
	23 Pyrene	202	10.905	10.902	(0.816)	157909	1.33997	1.340
	24 Benzo(a)anthracene	228	13.245	13.239	(0.991)	70262	0.61669	0.6167
*	25 Chrysene-d12	240	13.362	13.356	(1.000)	196096	2.00000	
	27 Chrysene	228	13.432	13.425	(1.005)	105520	0.92005	0.9200
	28 Benzo(b)fluoranthene	252	15.873	15.869	(0.927)	103256	0.81838	0.8184
	29 Benzo(k)fluoranthene	252	15.936	15.926	(0.931)	51658	0.41637	0.4164
	30 Benzo(j)fluoranthene	252	16.005	16.002	(0.935)	45992	0.37022	0.3702
	31 Total Benzofluoranthenes	252	15.873	15.926	(0.927)	196592	1.59766	1.598(M)
	32 Benzo(a)pyrene	252	16.888	16.884	(0.987)	78165	0.70683	0.7068
*	33 Perylene-d12	264	17.118	17.112	(1.000)	198530	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.439	19.430	(1.136)	54541	0.43080	0.4308
$	36 Dibenzo(a,h)anthracene-d14	292	19.344	19.338	(1.130)	126269	1.35788	1.358
	38 Dibenzo(a,h)anthracene	278	19.424	19.430	(1.135)	12305	0.11783	0.1178
	39 Benzo(g,h,i)perylene	276	20.312	20.299	(1.187)	52055	0.47045	0.4705
	35 Perylene	252	17.188	17.181	(1.004)	43410	0.36152	0.3615

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060122.D
Lab Smp Id: 18E0282-04
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	199888	63.59
10 Acenaphthene-d10	65789	32895	131578	98901	50.33
15 Phenanthrene-d10	128644	64322	257288	187294	45.59
25 Chrysene-d12	166669	83335	333338	196096	17.66
33 Perylene-d12	140483	70242	280966	198530	41.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.05
33 Perylene-d12	17.11	16.61	17.61	17.12	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060122.D

Lab ID: 18E0282-04
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 23:47

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

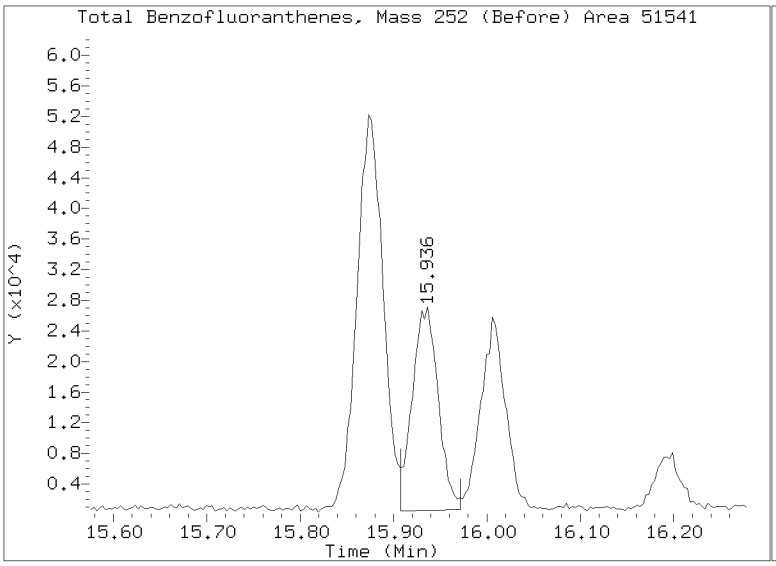
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

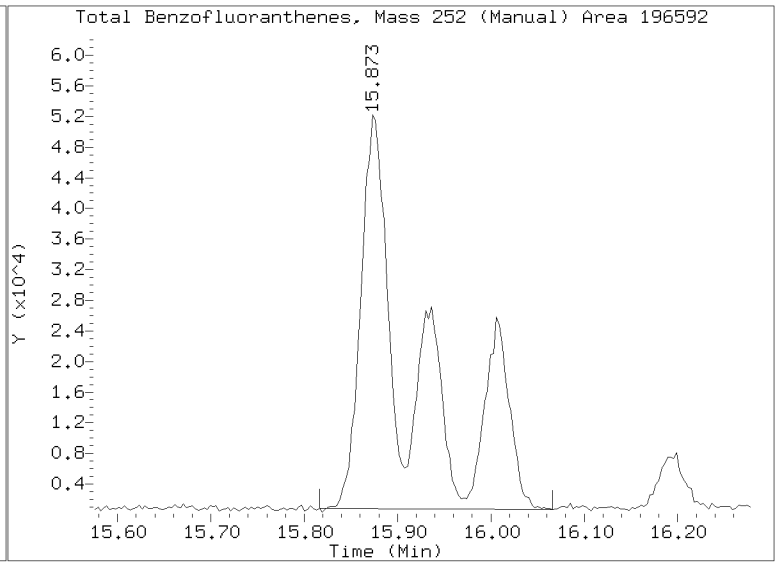
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060122.D
Injection Date: 01-JUN-2018 23:47
Lab ID:18E0282-04 Client ID:
Report Date: 06/04/2018 11:37





LDW18-SSCL-A10

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-05	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	05/24/18 10:50	File ID:	N818060123.D
% Solids:	86.78	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/02/18 00:13
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	12.02 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	37.3		0.79	4.79
218-01-9	Chrysene	1	50.6		1.01	4.79
205-99-2	Benzo(b)fluoranthene	1	39.4		1.32	4.79
207-08-9	Benzo(k)fluoranthene	1	21.5		0.73	4.79
50-32-8	Benzo(a)pyrene	1	40.0		0.59	4.79
193-39-5	Indeno(1,2,3-cd)pyrene	1	24.7		1.01	4.79
53-70-3	Dibenzo(a,h)anthracene	1	8.01		0.85	4.79

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.80	55.1	38.3	32 - 120	
Dibenzo[a,h]anthracene-d14	143.80	102	70.8	21 - 133	
Fluoranthene-d10	143.80	79.0	54.9	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

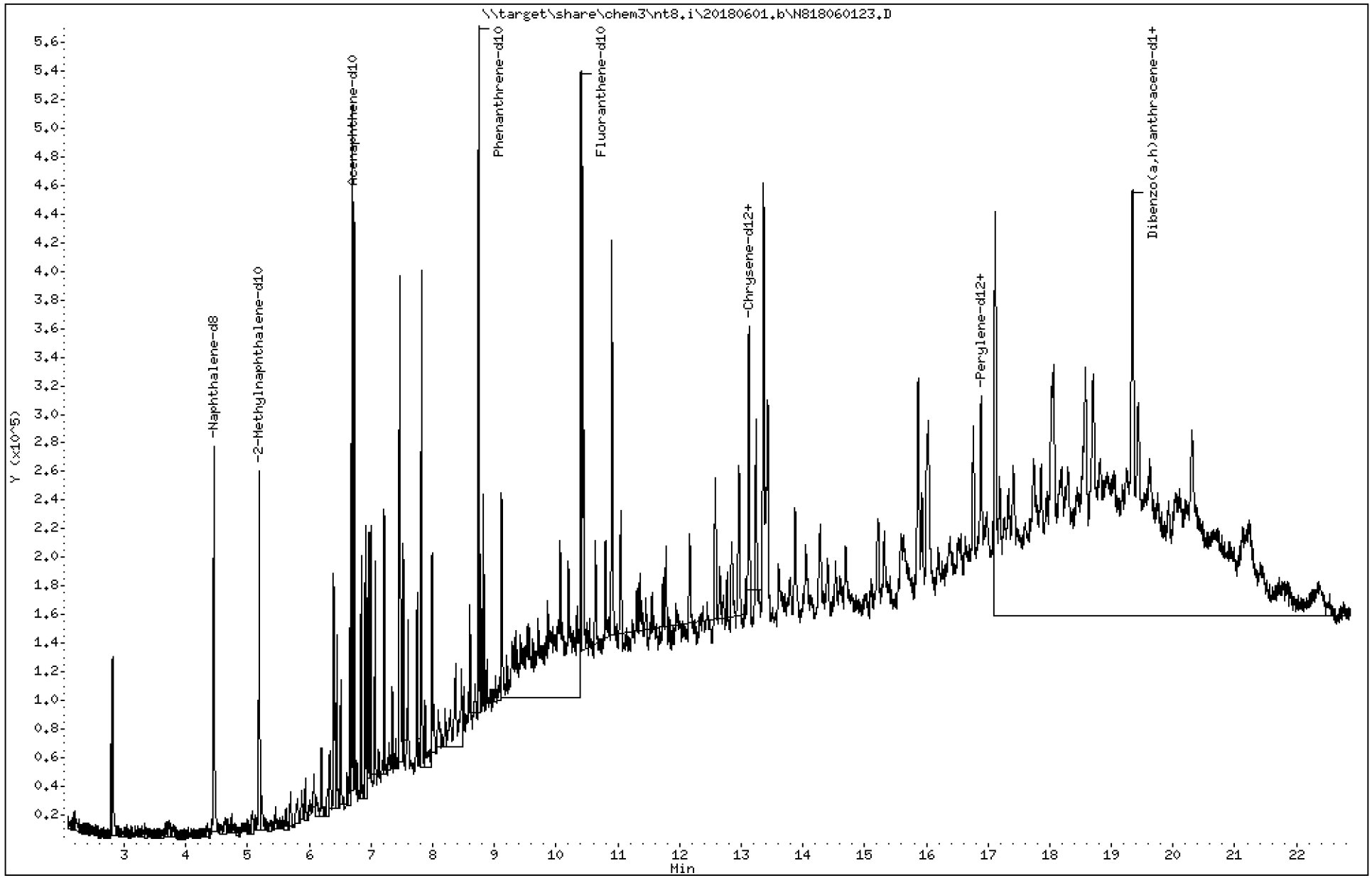
Instrument: nt8.i

Sample Info: 18E0282-05

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

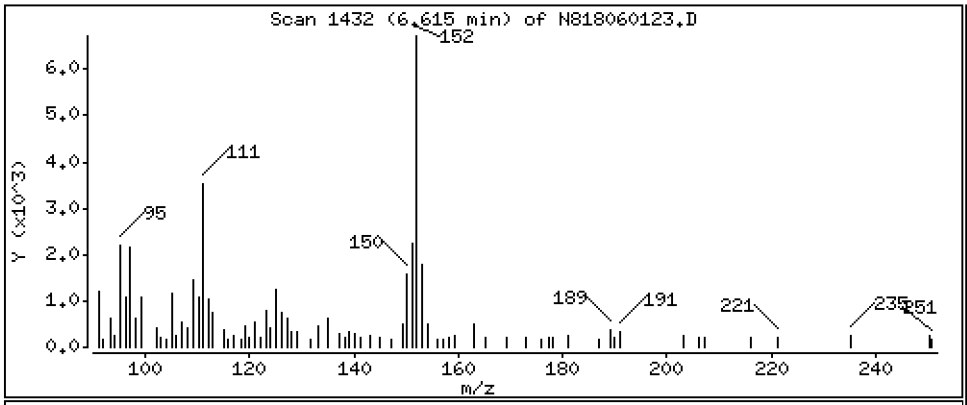
Operator: JZ

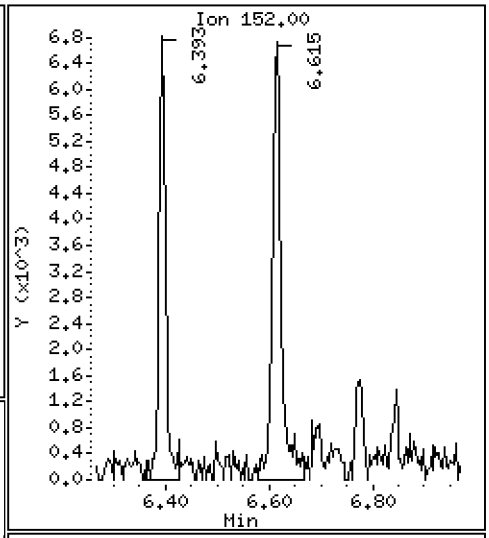
Column phase: Rxi-17sil

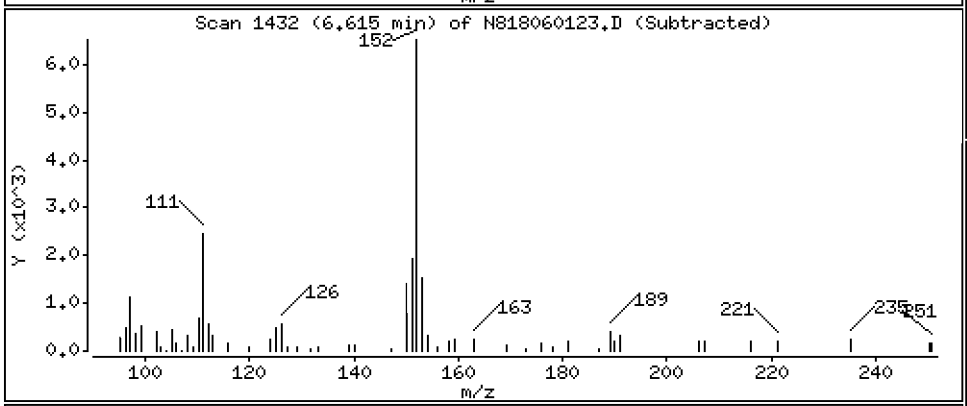
Column diameter: 0.25

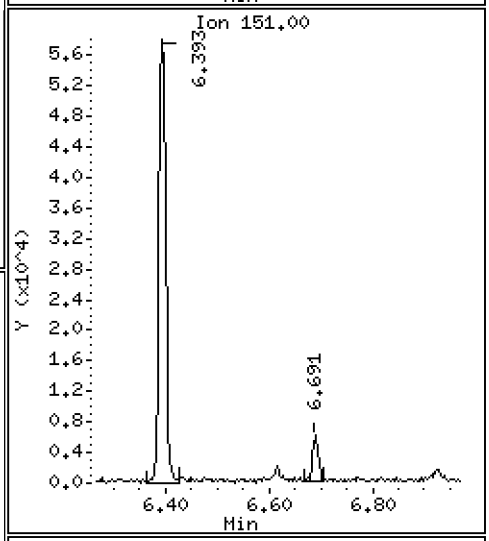
9 Acenaphthylene

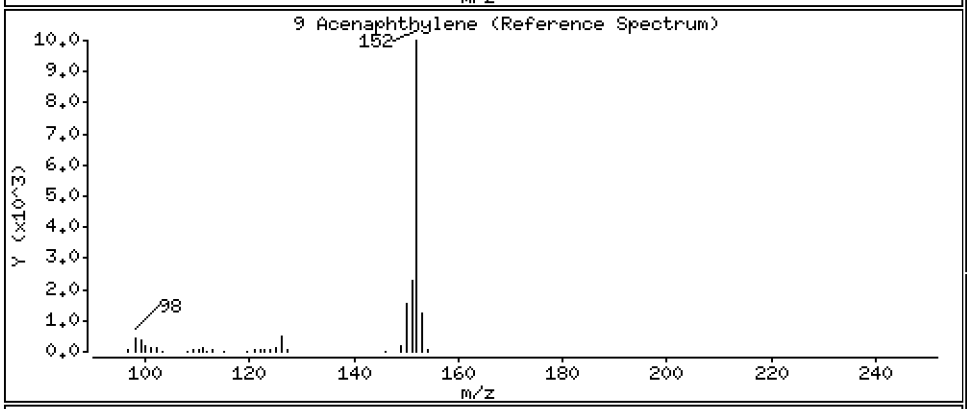
Concentration: 0.07525 ug/mL

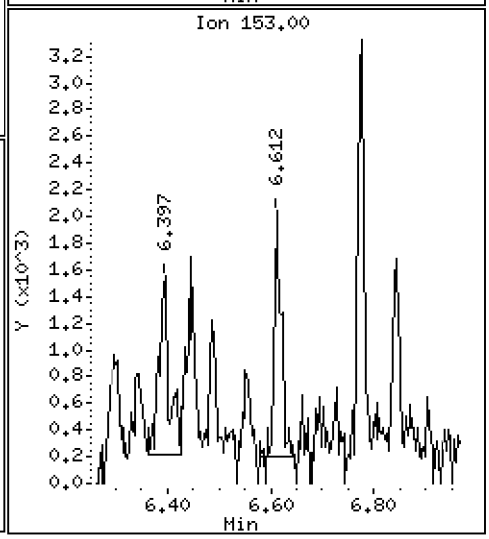


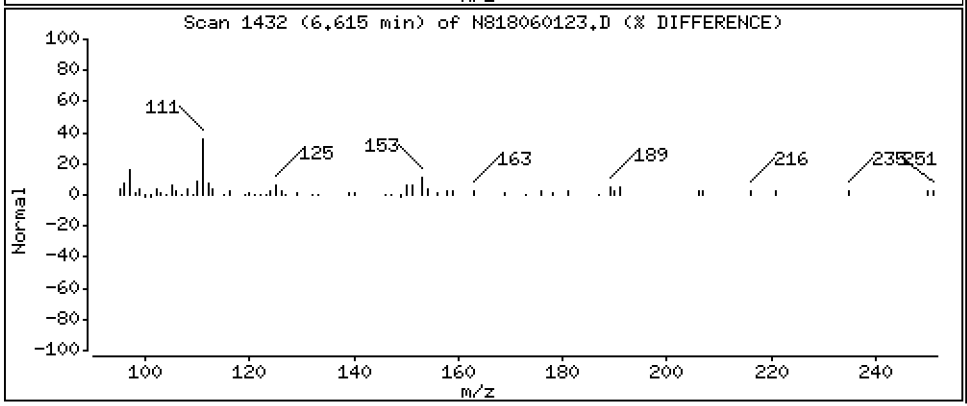












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

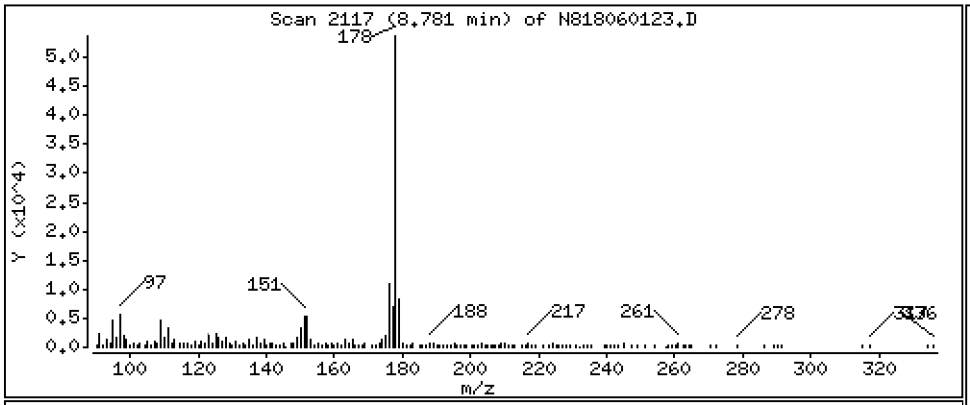
Operator: JZ

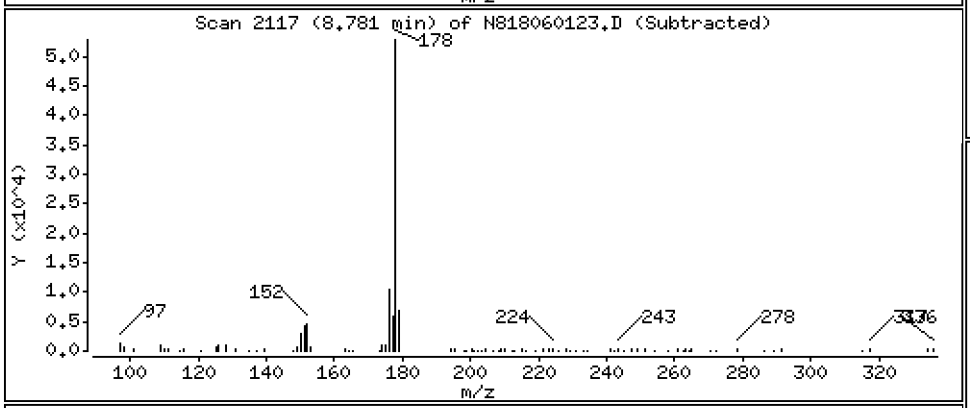
Column phase: Rxi-17sil

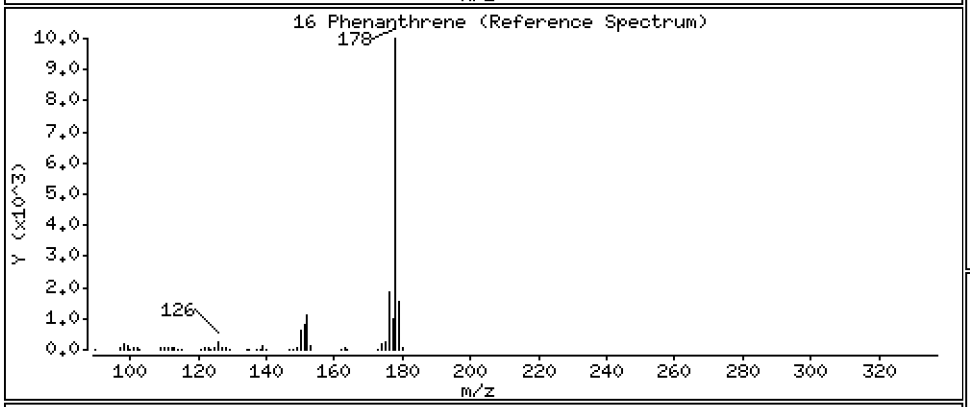
Column diameter: 0.25

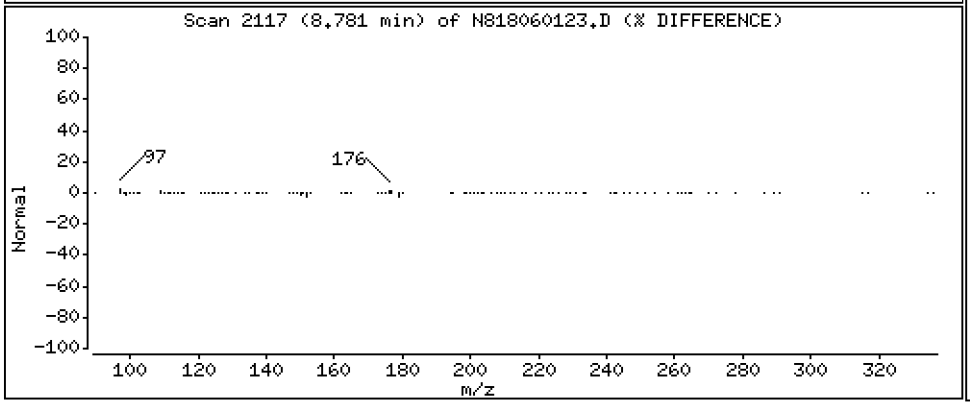
16 Phenanthrene

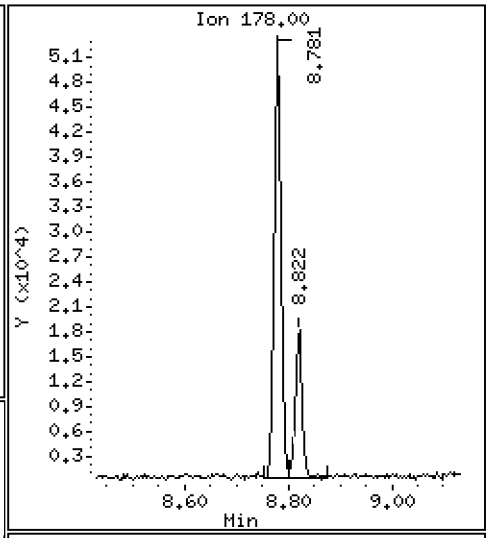
Concentration: 0.4248 ug/mL

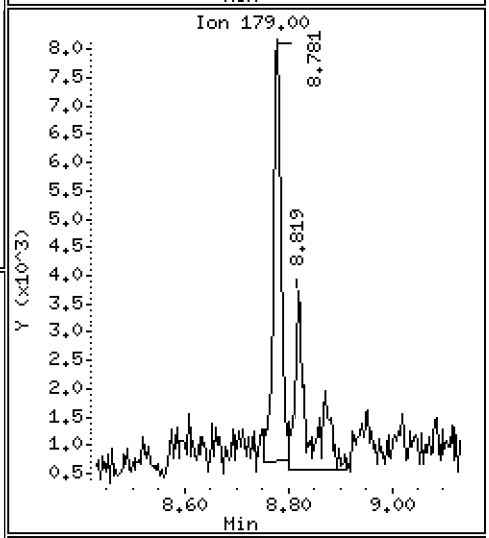


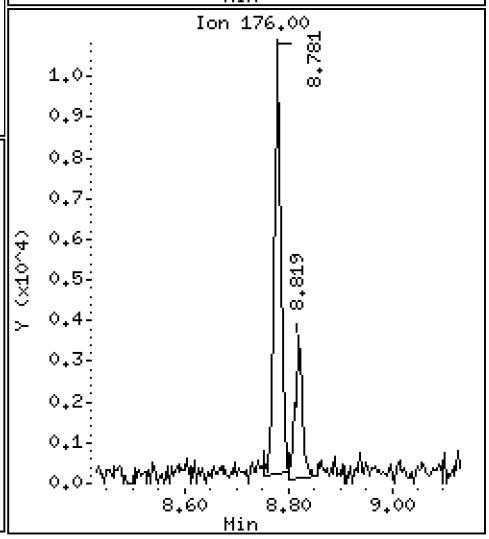












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

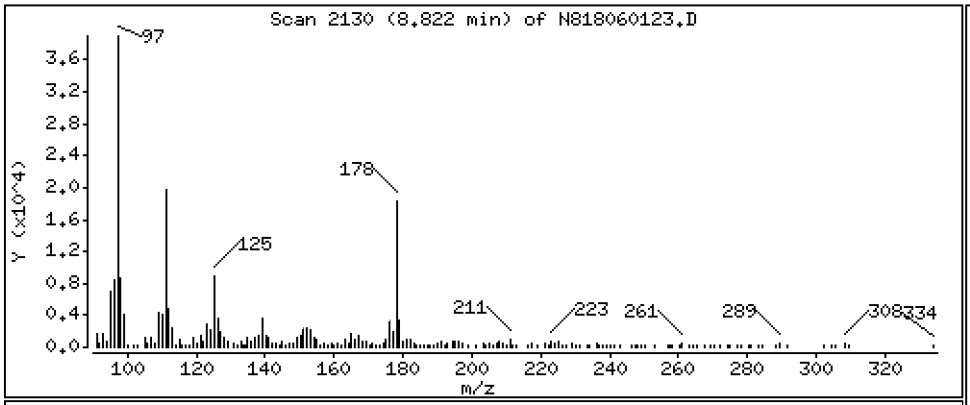
Operator: JZ

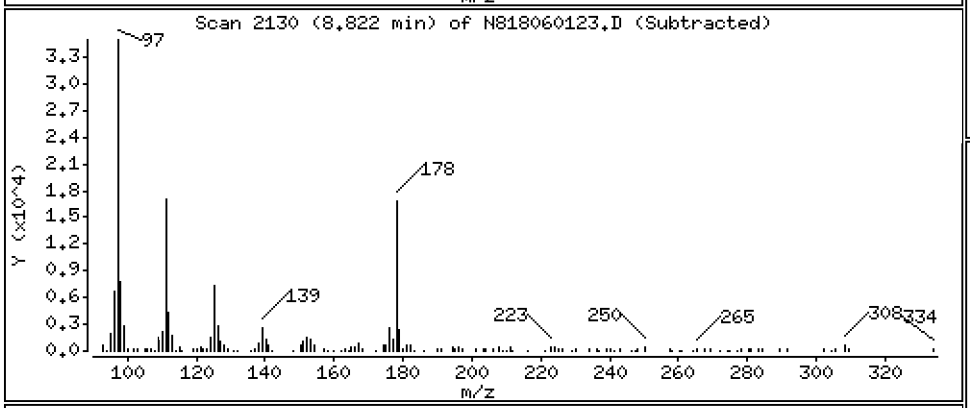
Column phase: Rxi-17sil

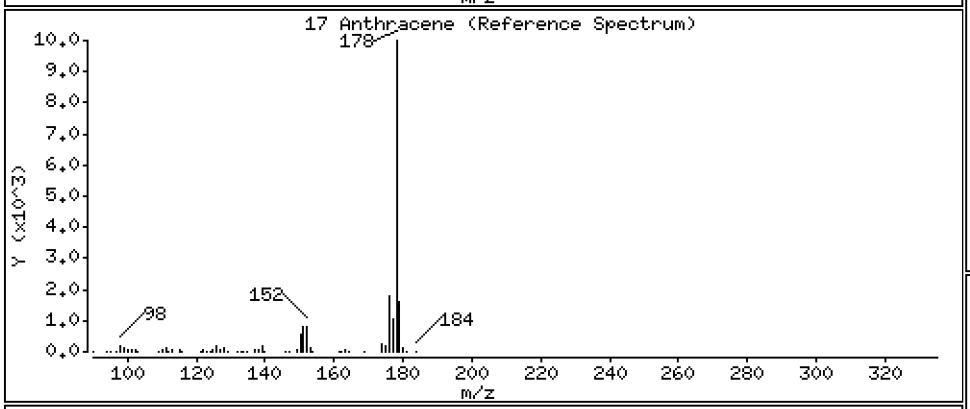
Column diameter: 0.25

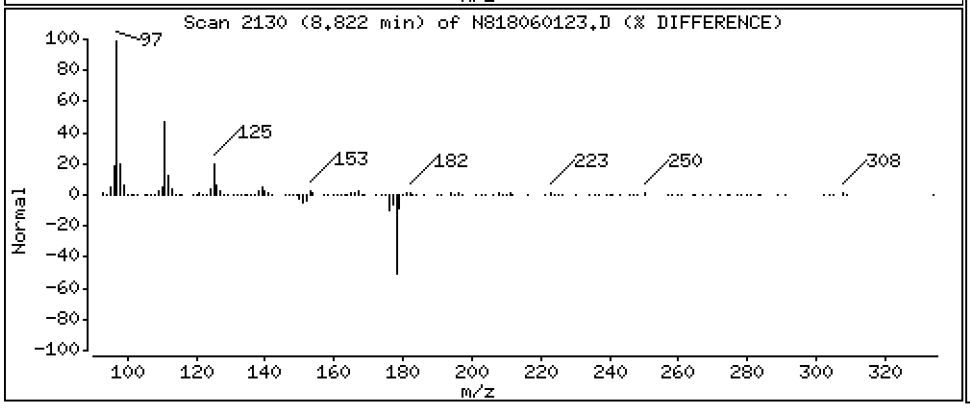
17 Anthracene

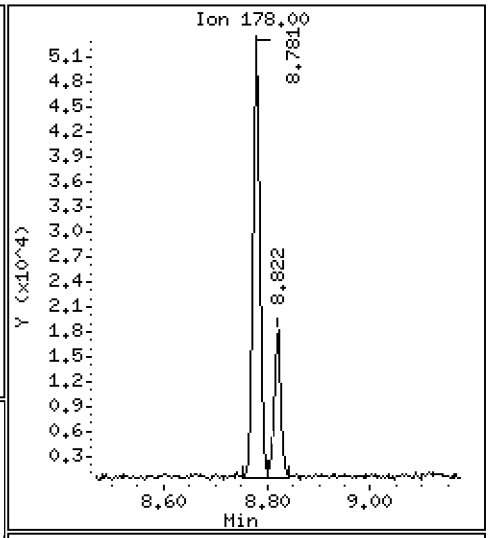
Concentration: 0.1532 ug/mL

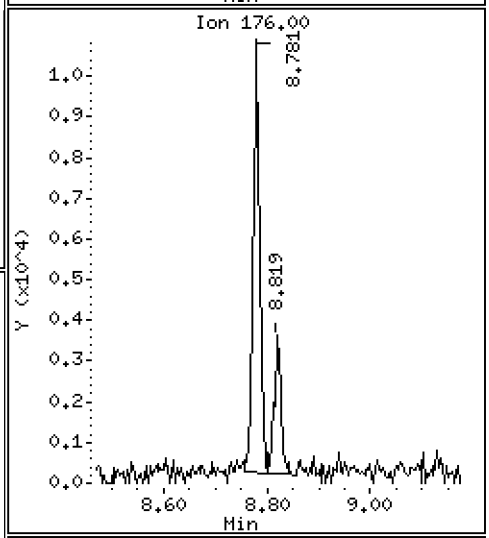


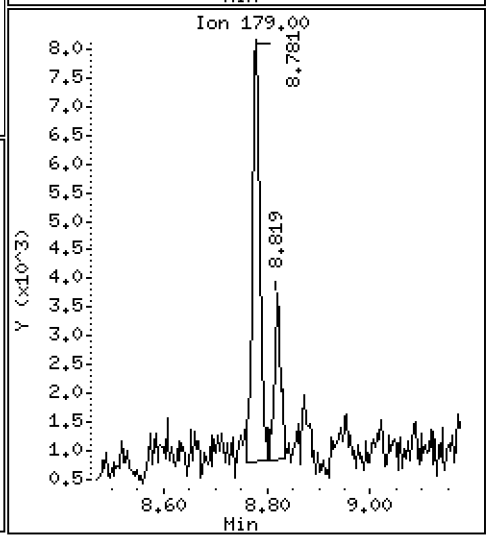












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

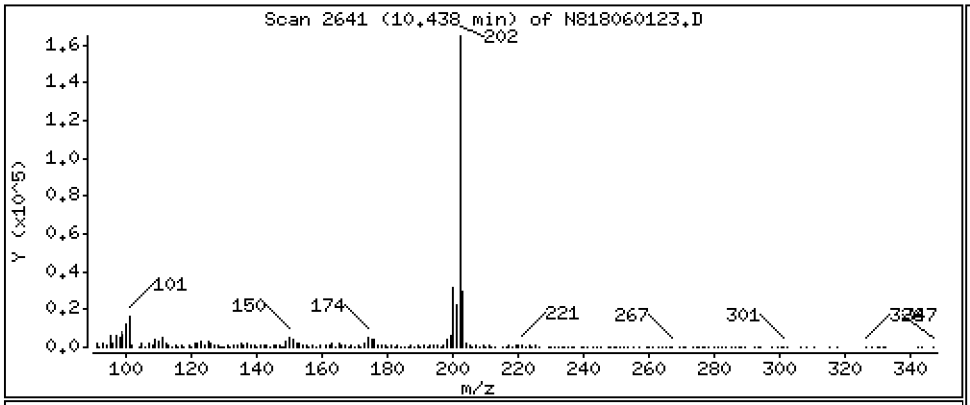
Operator: JZ

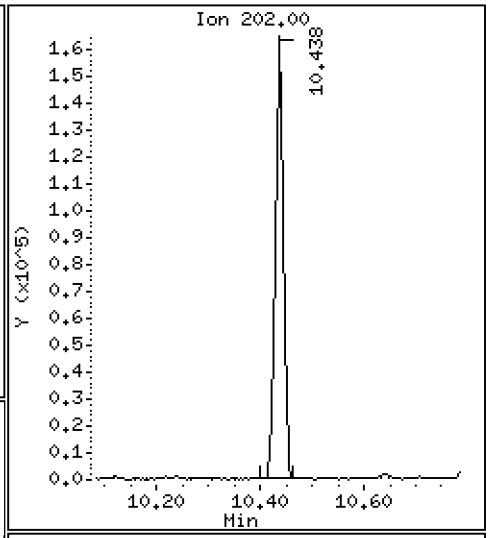
Column phase: Rxi-17sil

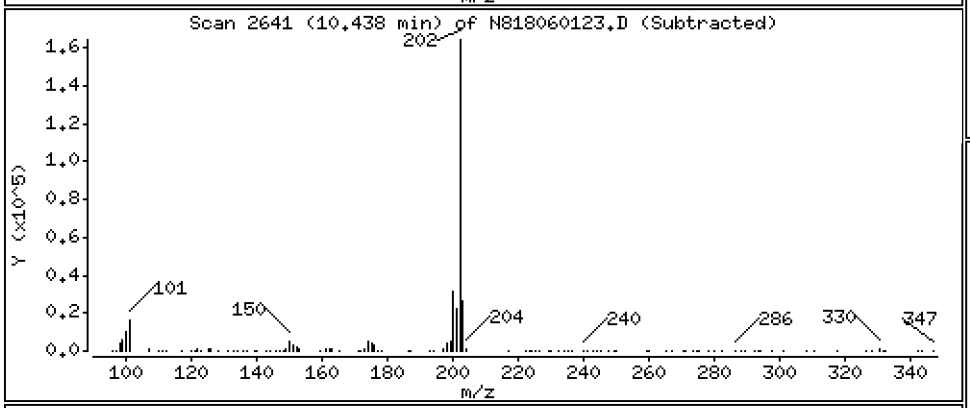
Column diameter: 0.25

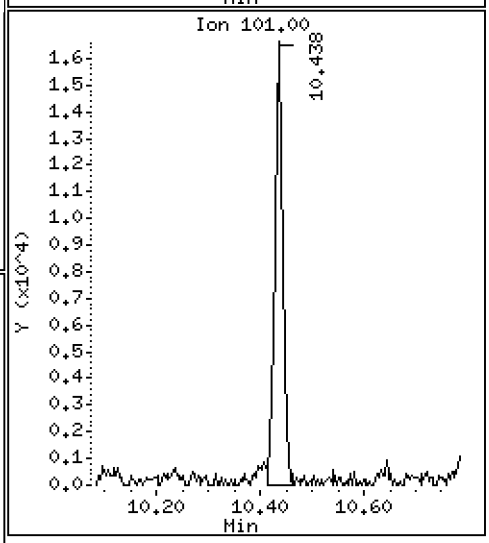
22 Fluoranthene

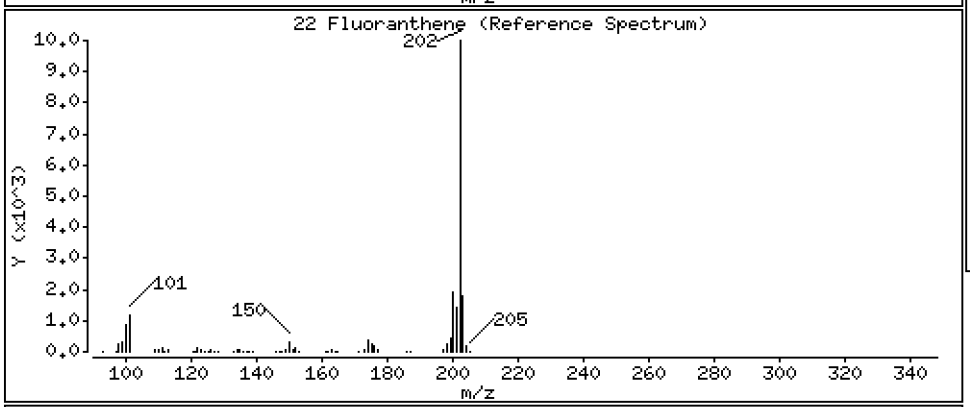
Concentration: 1.328 ug/mL

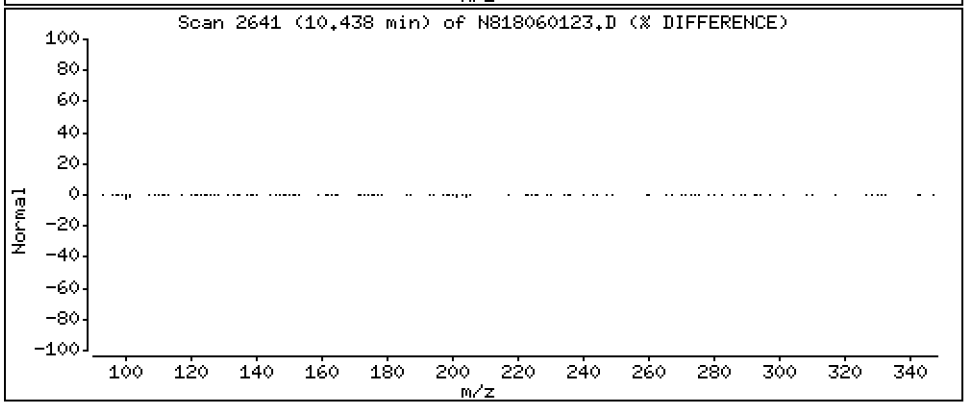












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

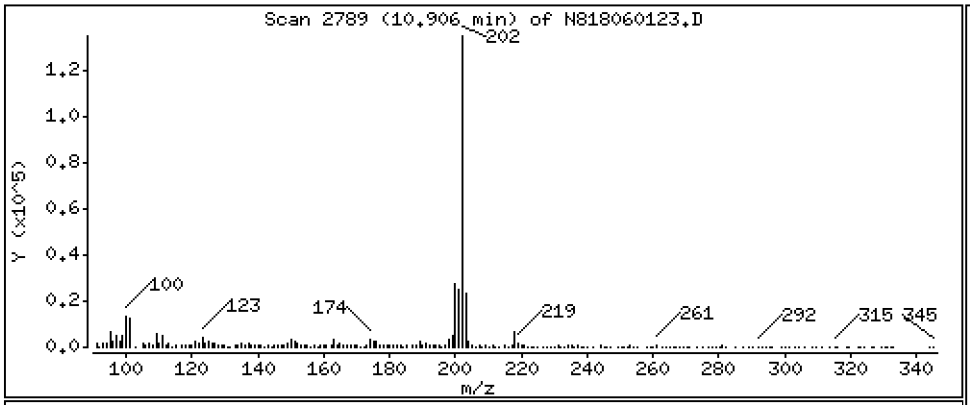
Operator: JZ

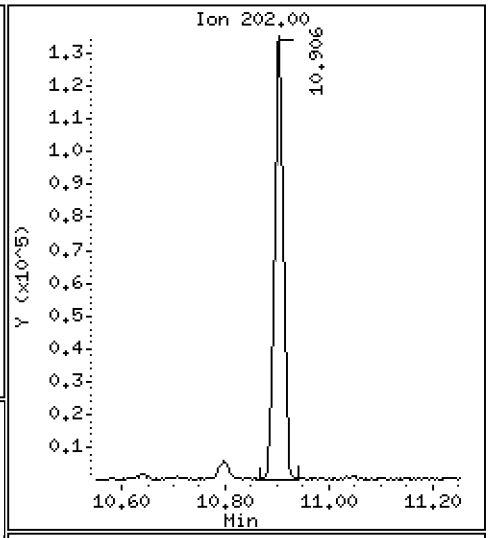
Column phase: Rxi-17sil

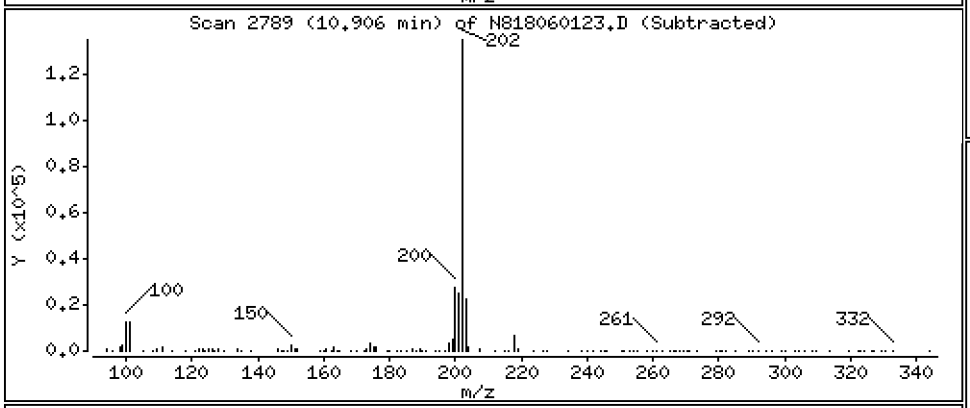
Column diameter: 0.25

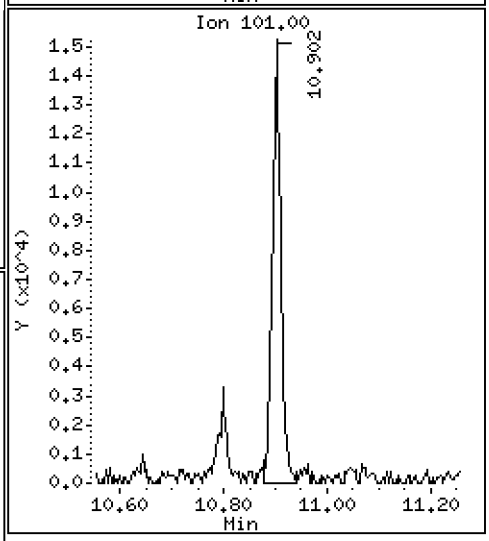
23 Pyrene

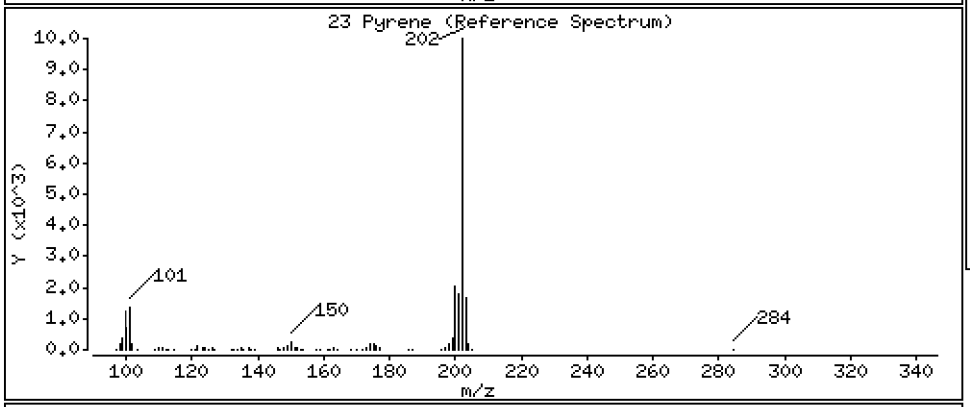
Concentration: 1.361 ug/mL

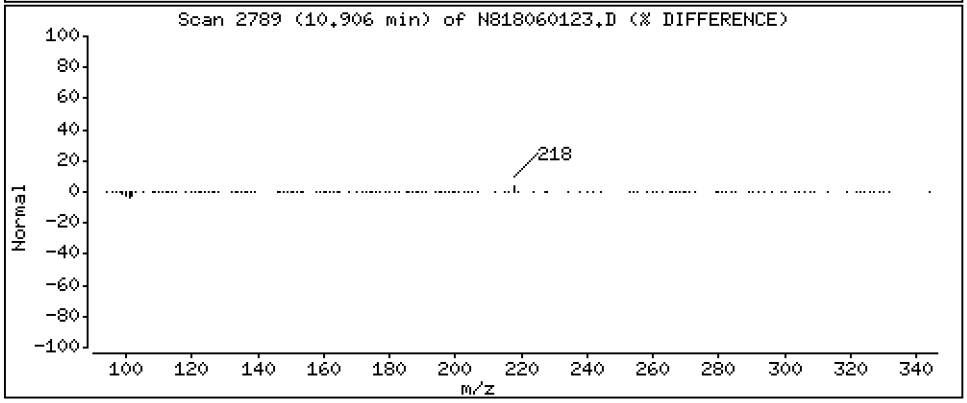












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

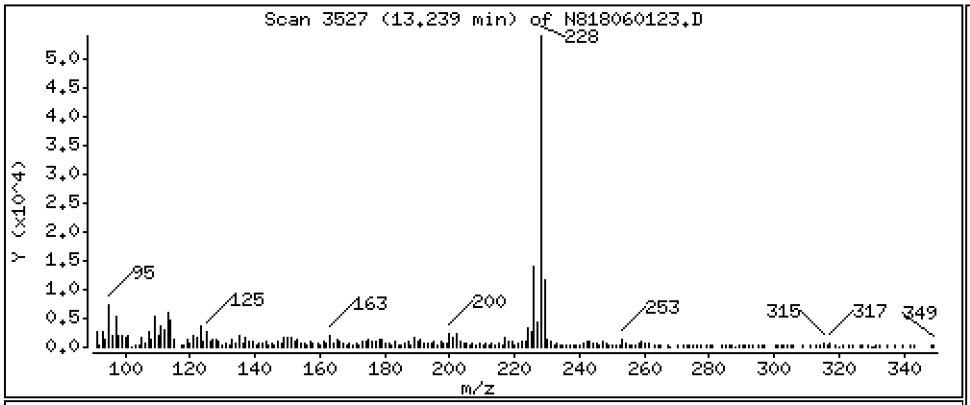
Operator: JZ

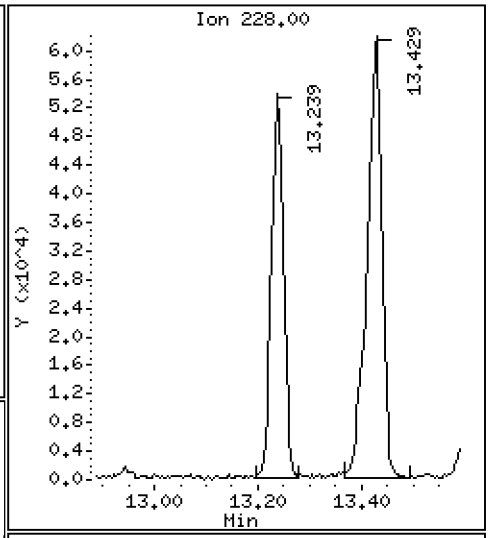
Column phase: Rxi-17sil

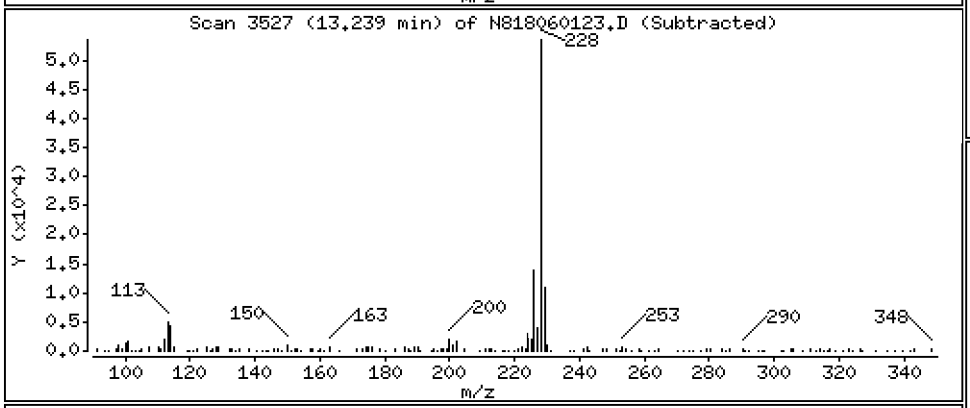
Column diameter: 0.25

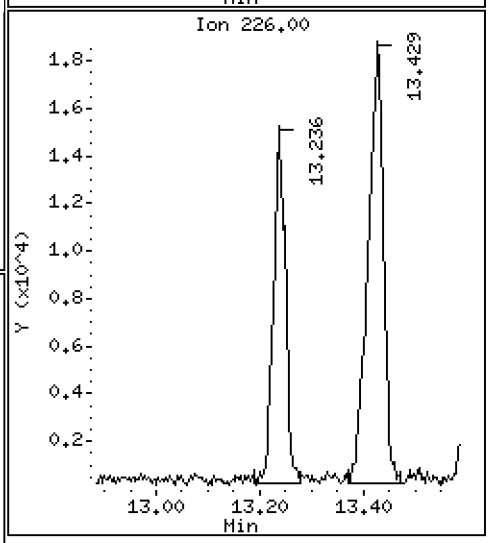
24 Benzo(a)anthracene

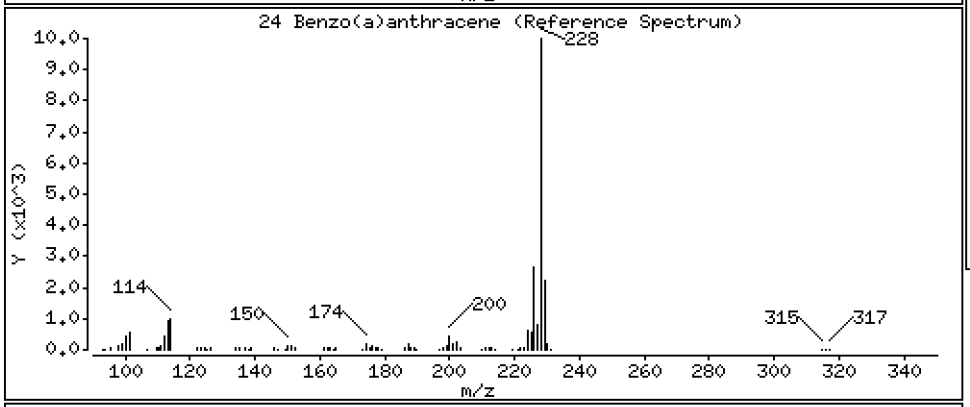
Concentration: 0.7792 ug/mL

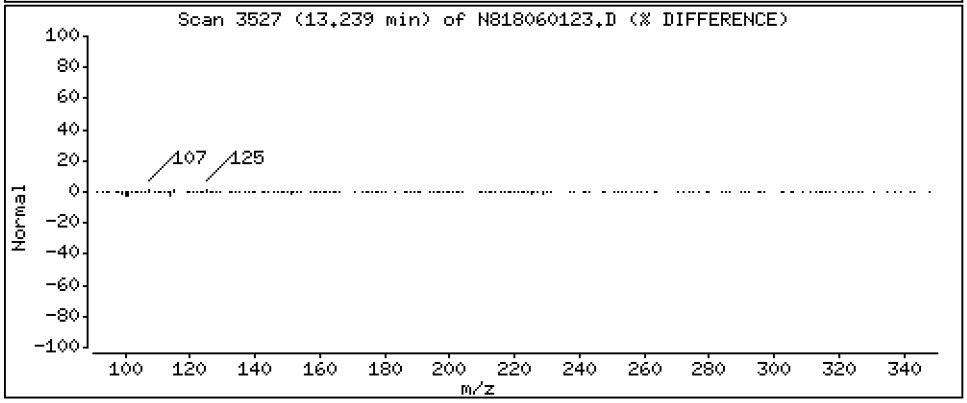












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

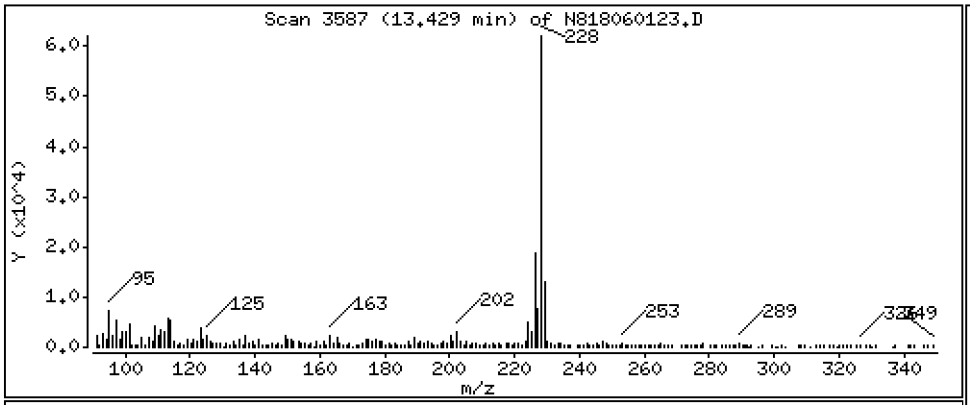
Operator: JZ

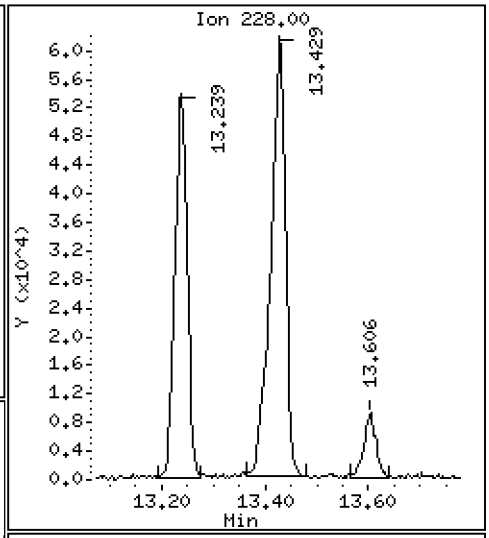
Column phase: Rxi-17sil

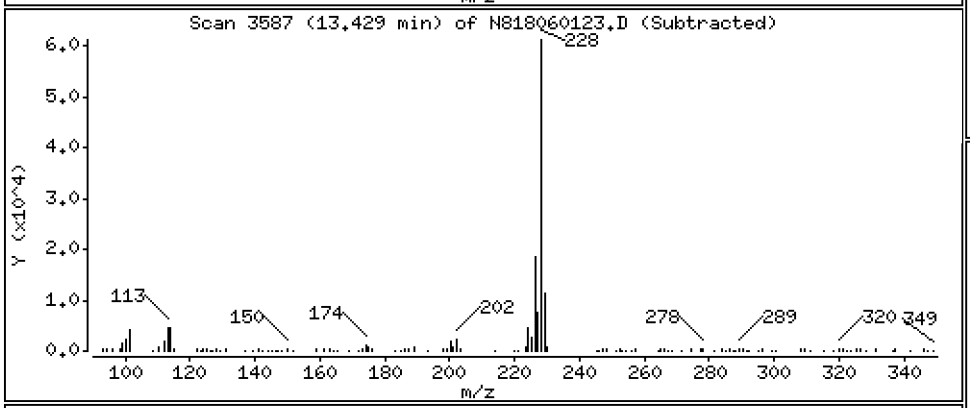
Column diameter: 0.25

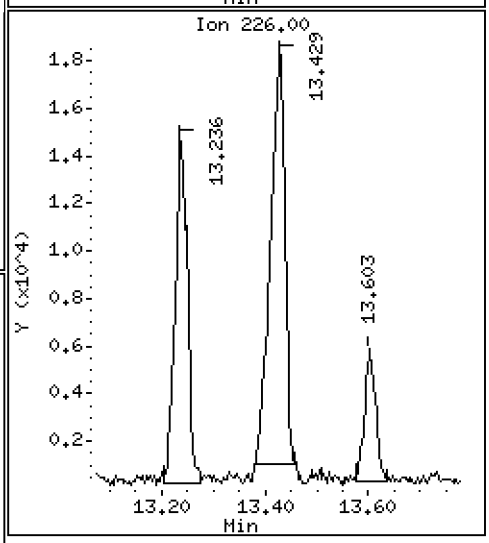
27 Chrysene

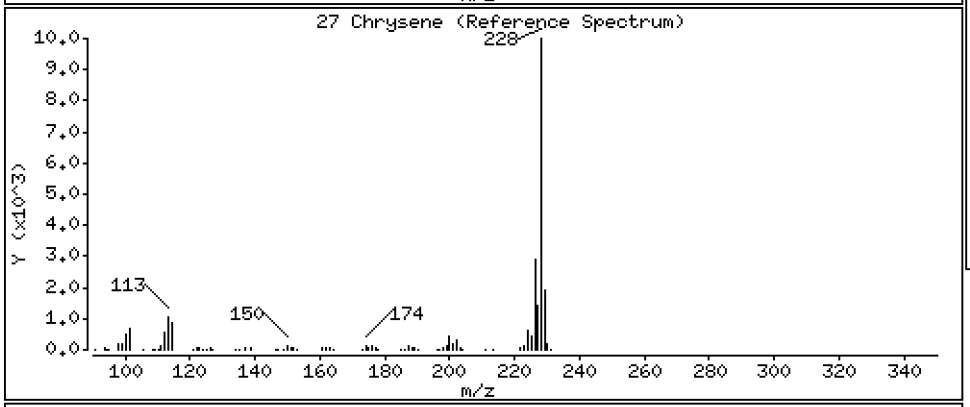
Concentration: 1.056 ug/mL

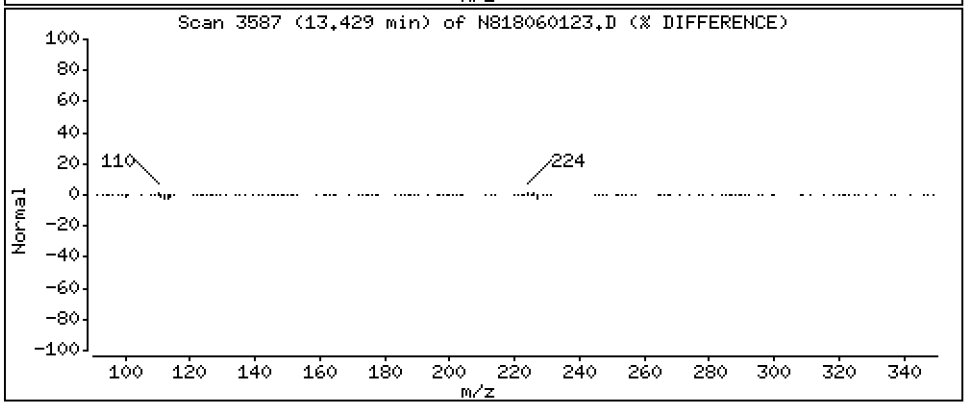












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

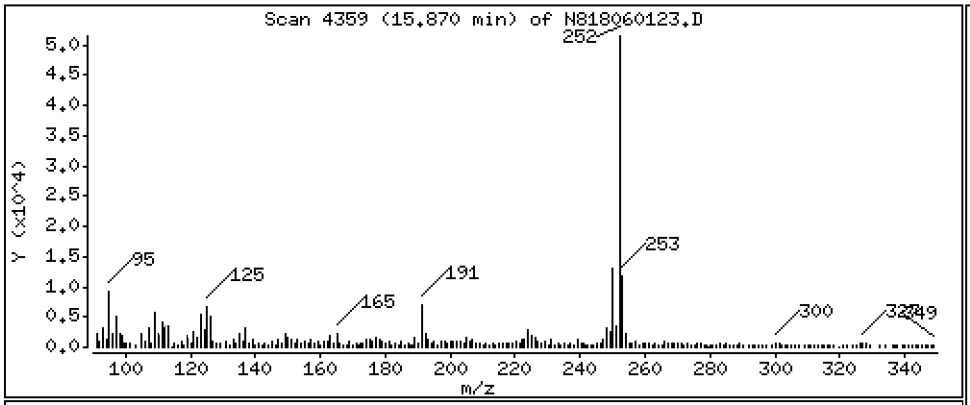
Operator: JZ

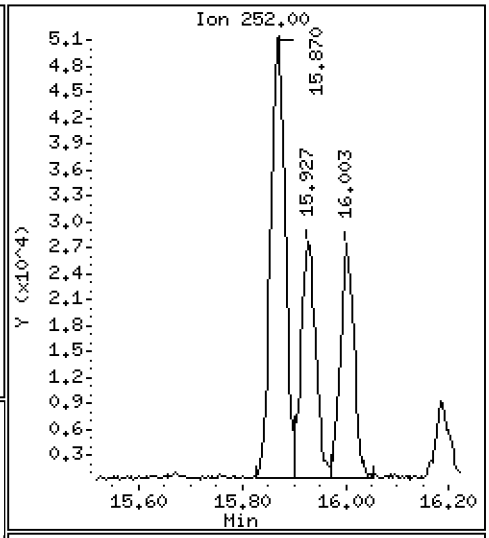
Column phase: Rxi-17sil

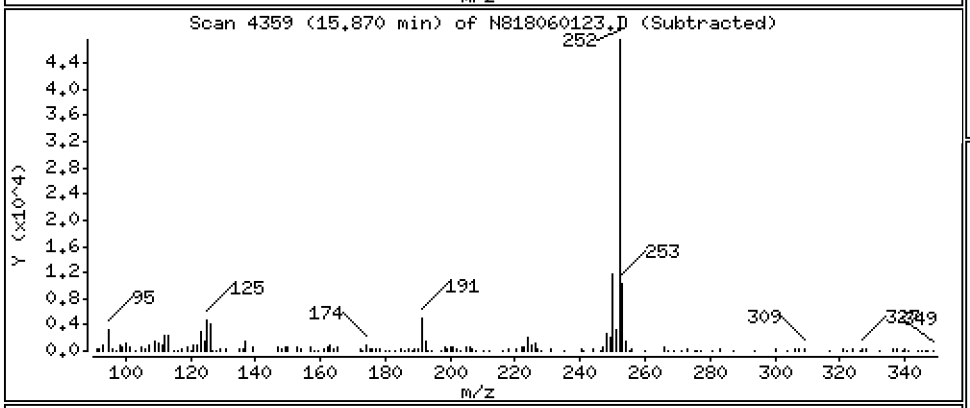
Column diameter: 0.25

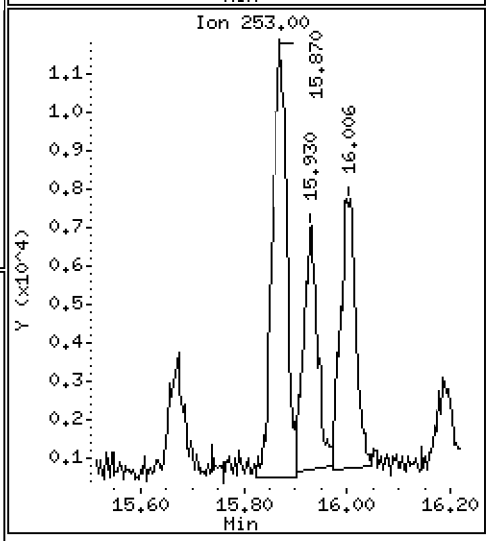
28 Benzo(b)fluoranthene

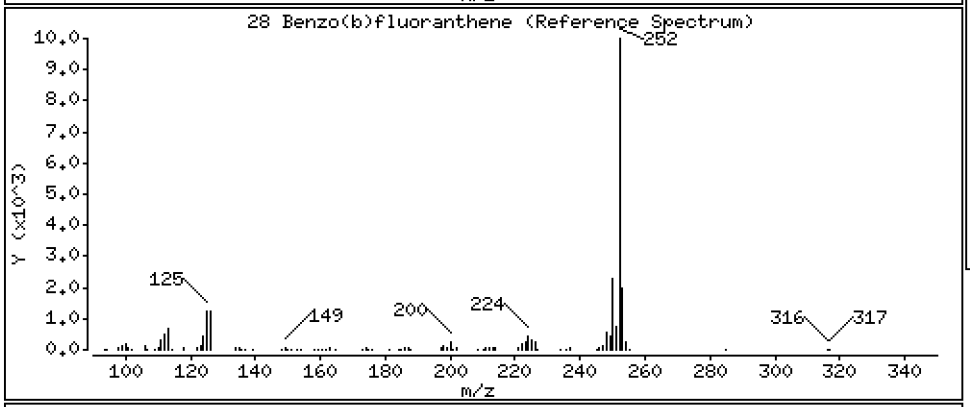
Concentration: 0.8212 ug/mL

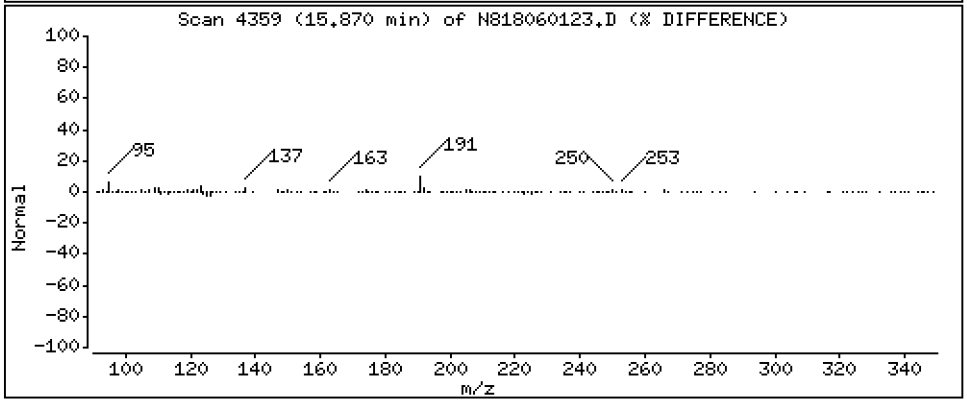












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

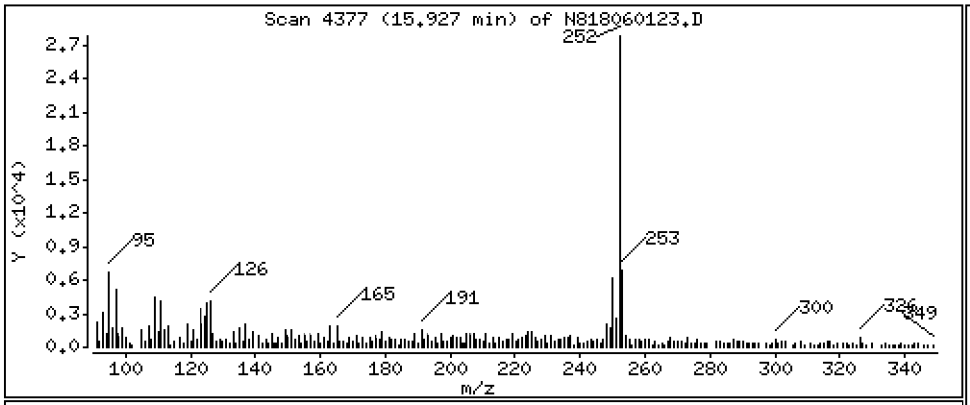
Operator: JZ

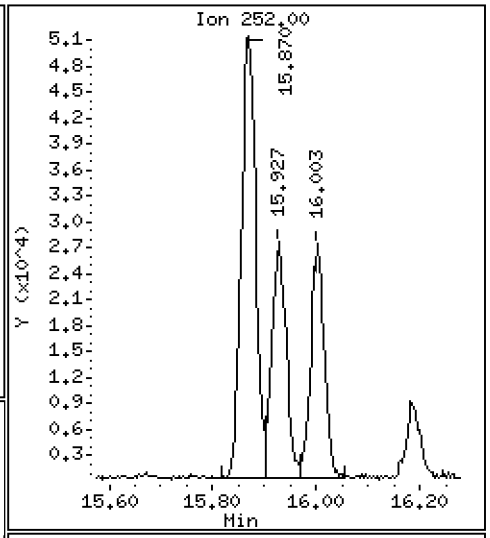
Column phase: Rxi-17sil

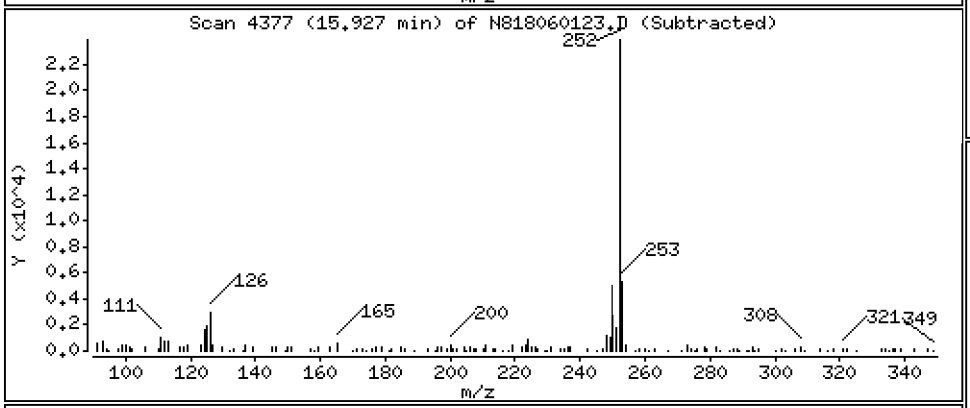
Column diameter: 0.25

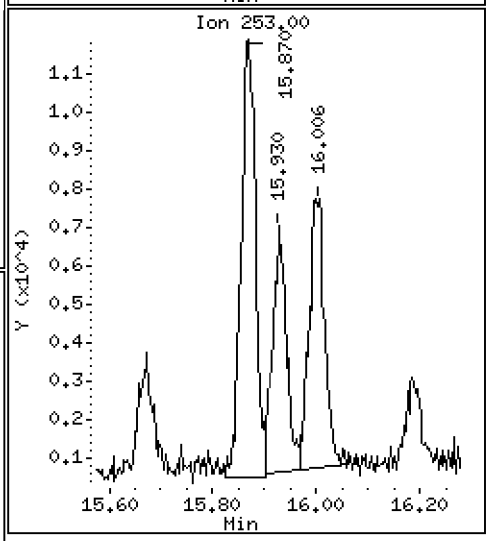
29 Benzo(k)fluoranthene

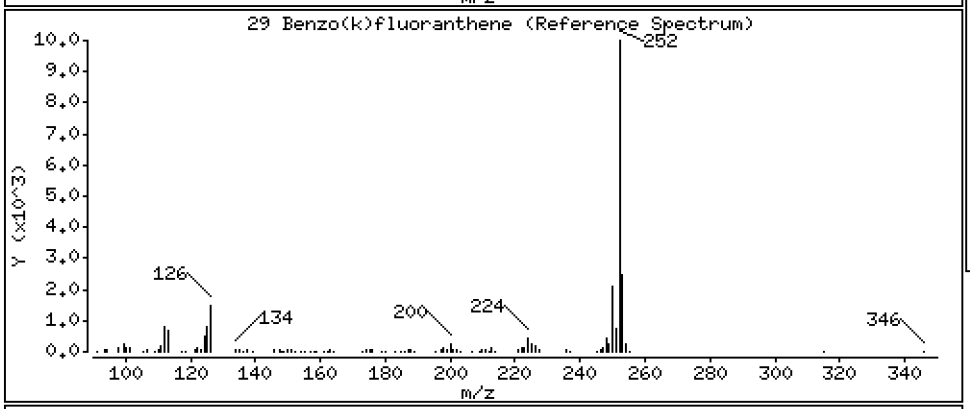
Concentration: 0.4480 ug/mL

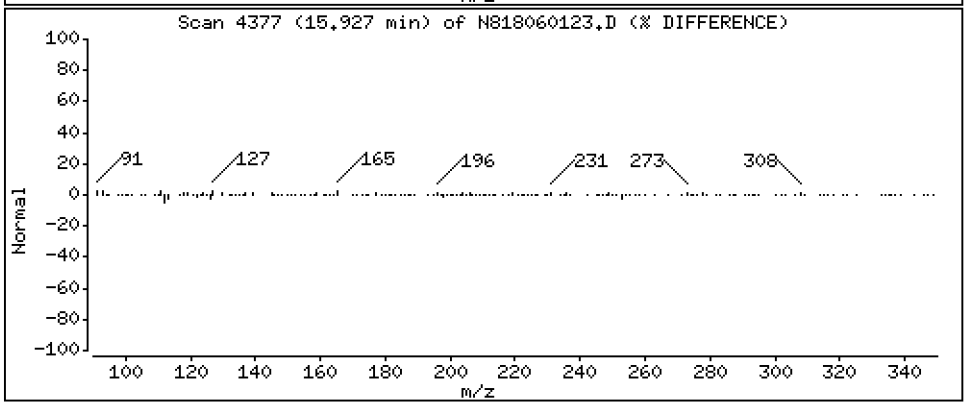












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

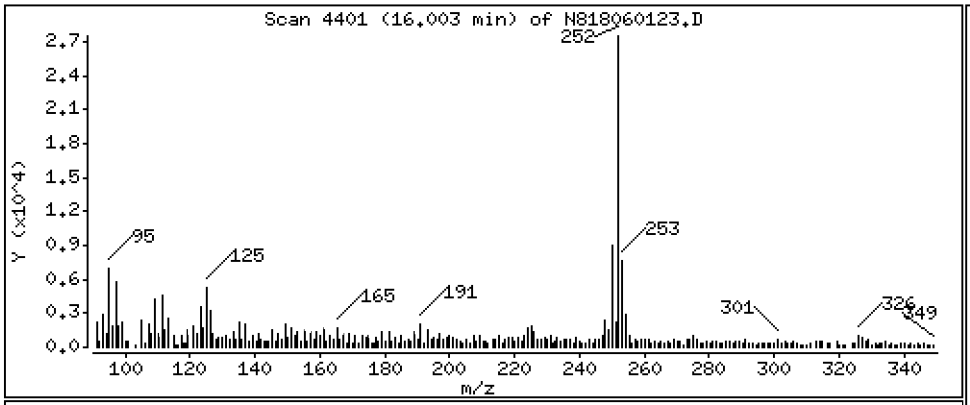
Operator: JZ

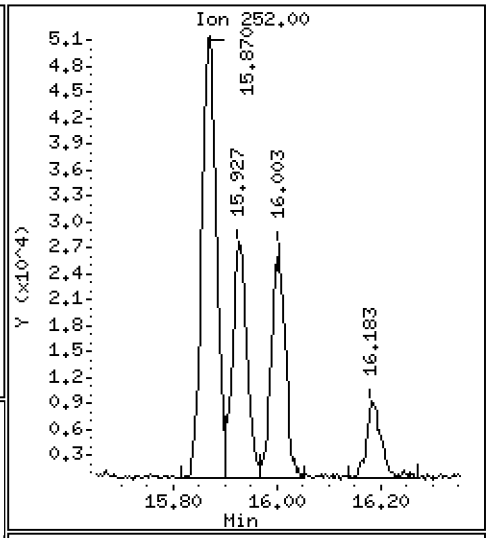
Column phase: Rxi-17sil

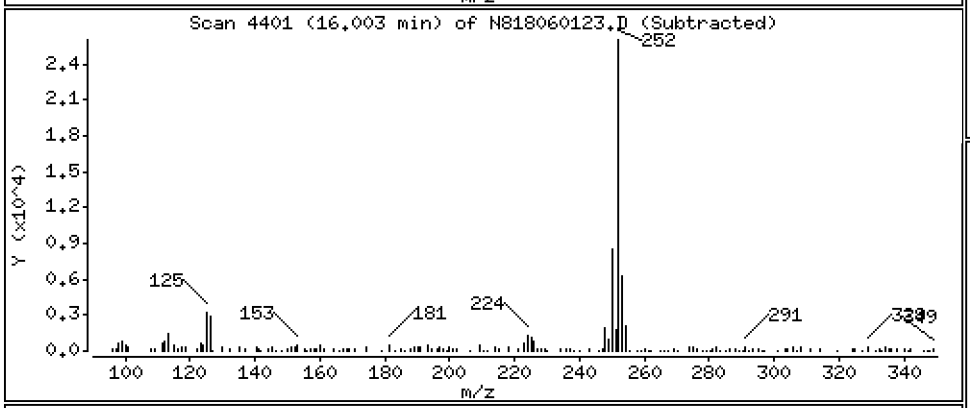
Column diameter: 0.25

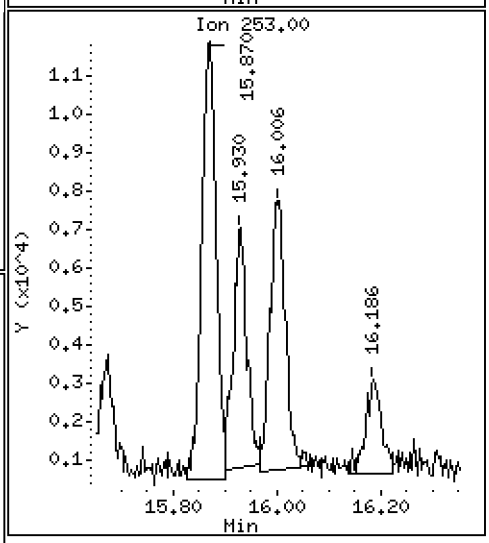
30 Benzo(j)fluoranthene

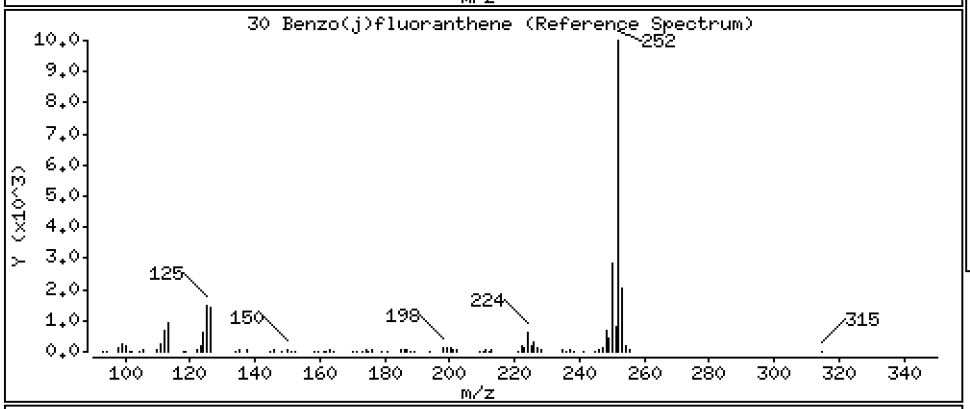
Concentration: 0.4143 ug/mL

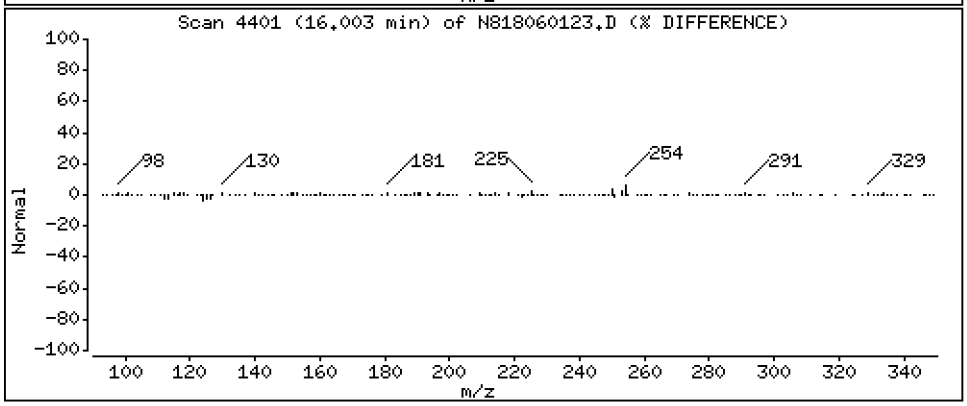












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

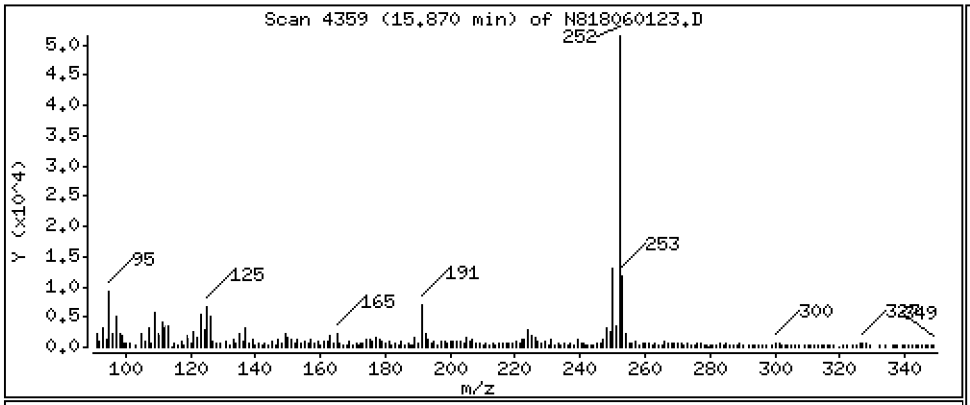
Operator: JZ

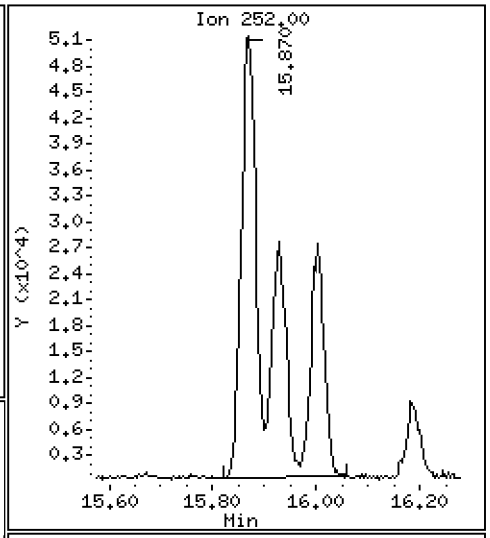
Column phase: Rxi-17sil

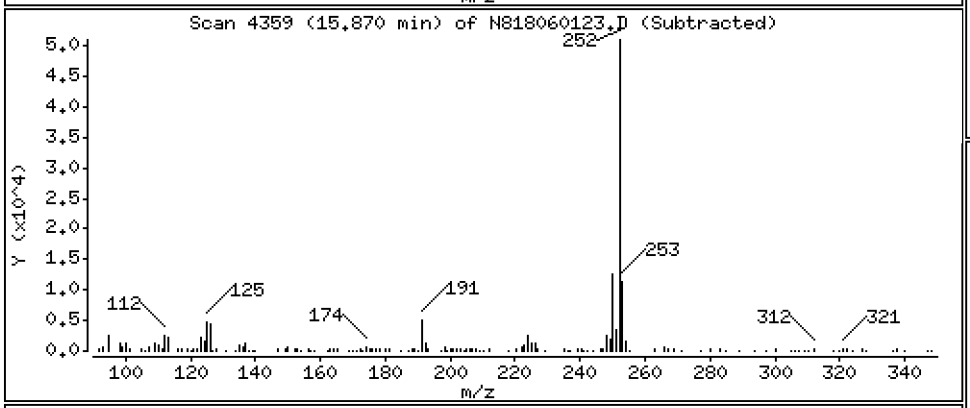
Column diameter: 0.25

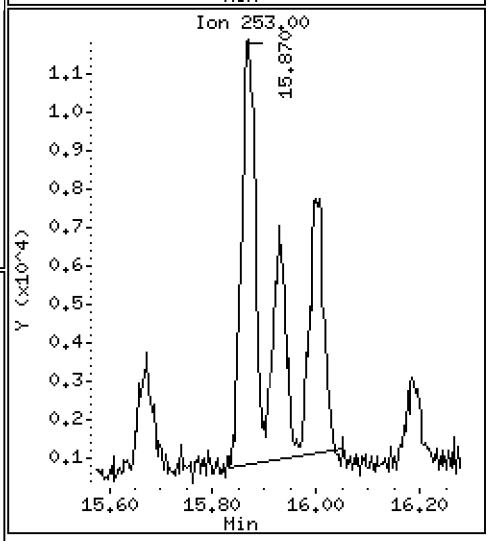
31 Total Benzofluoranthenes

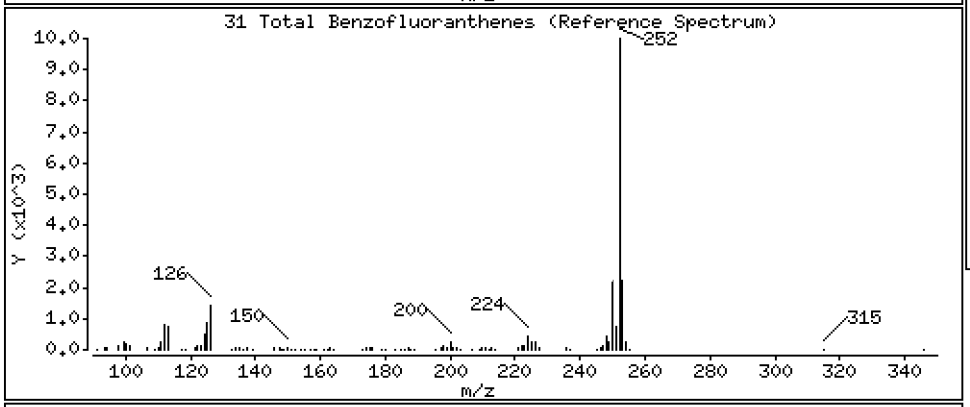
Concentration: 1.698 ug/mL

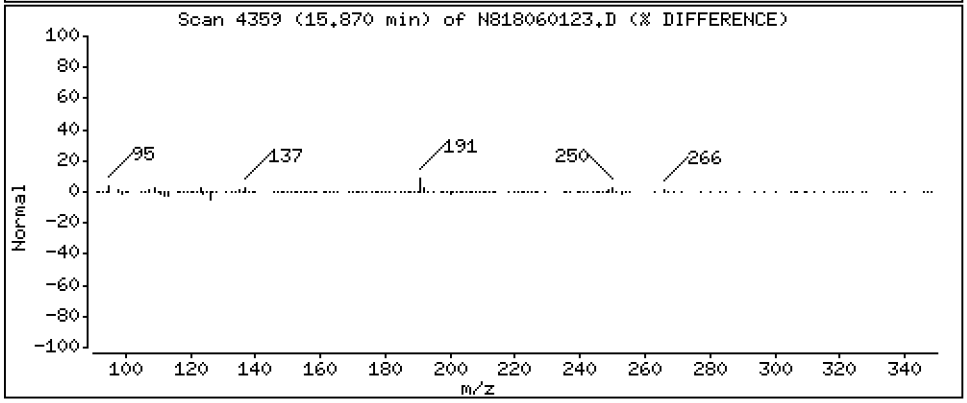












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

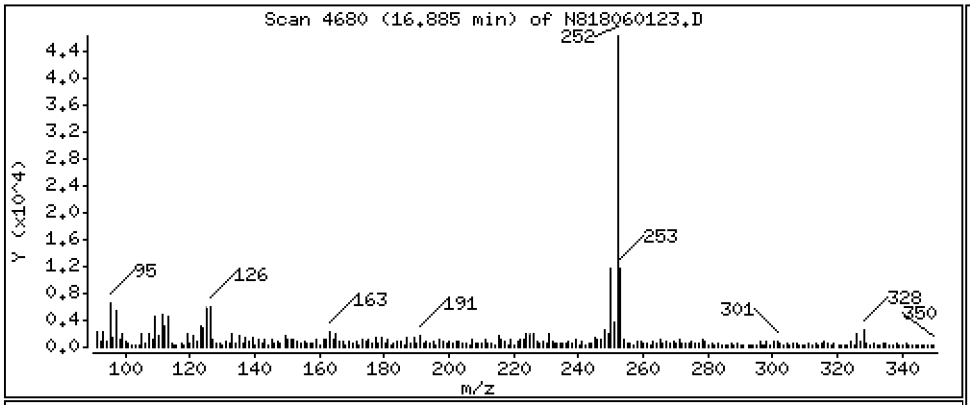
Operator: JZ

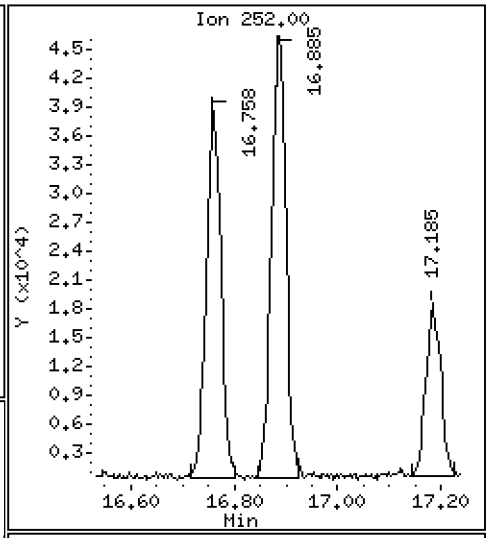
Column phase: Rxi-17sil

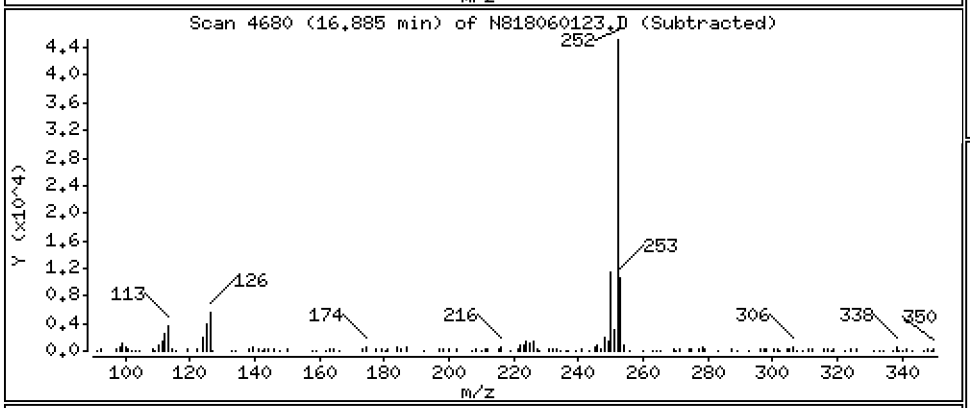
Column diameter: 0.25

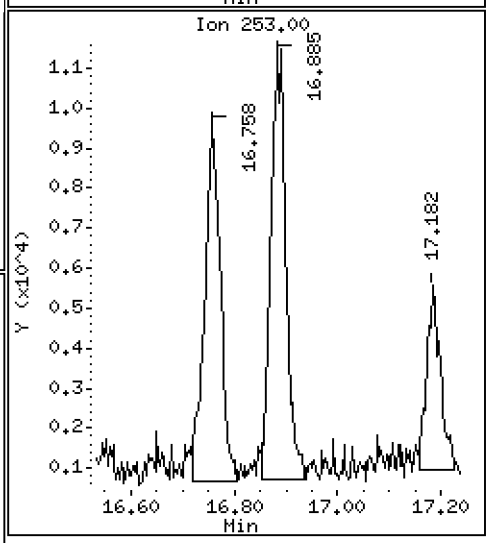
32 Benzo(a)pyrene

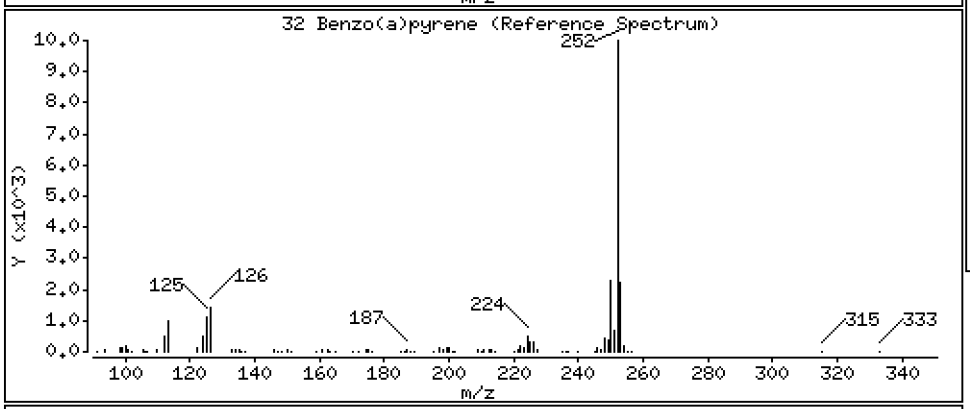
Concentration: 0.8344 ug/mL

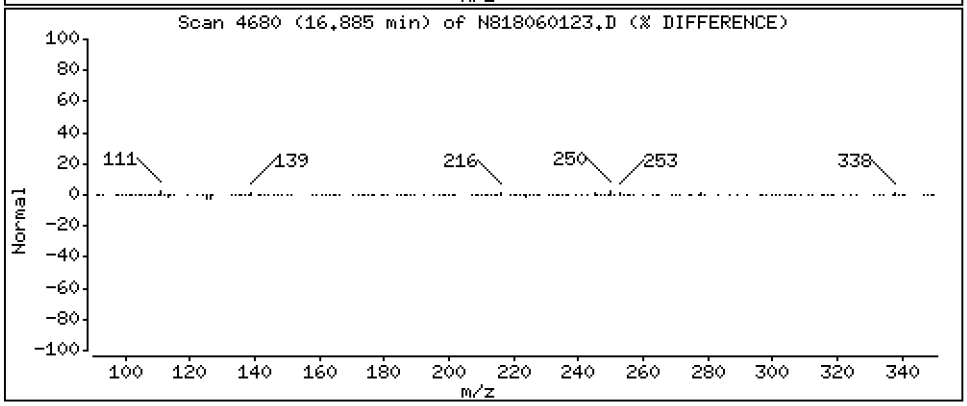












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

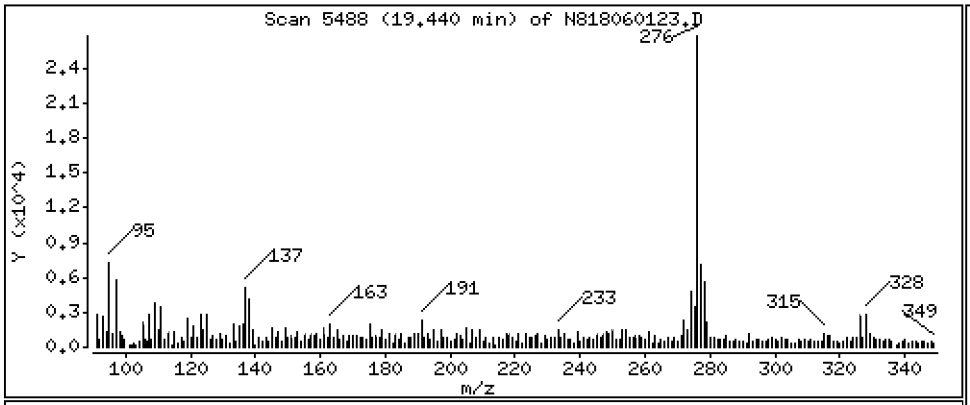
Operator: JZ

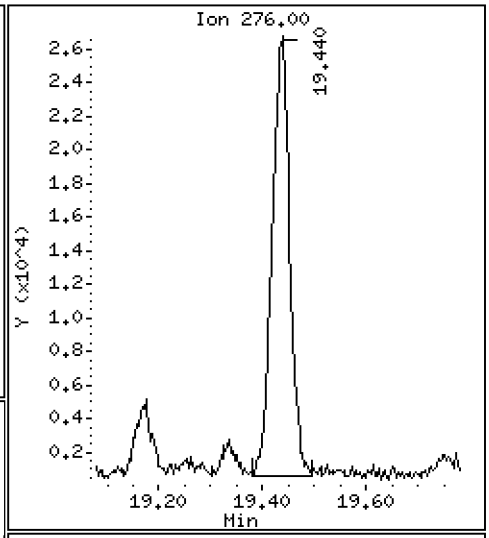
Column phase: Rxi-17sil

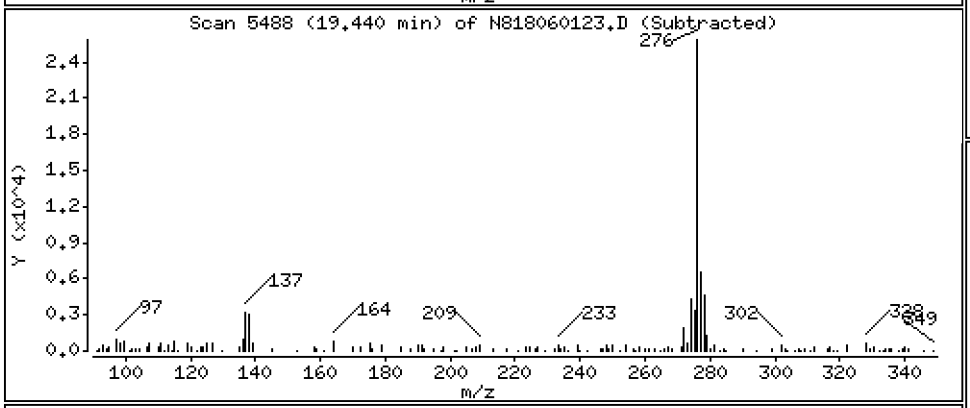
Column diameter: 0.25

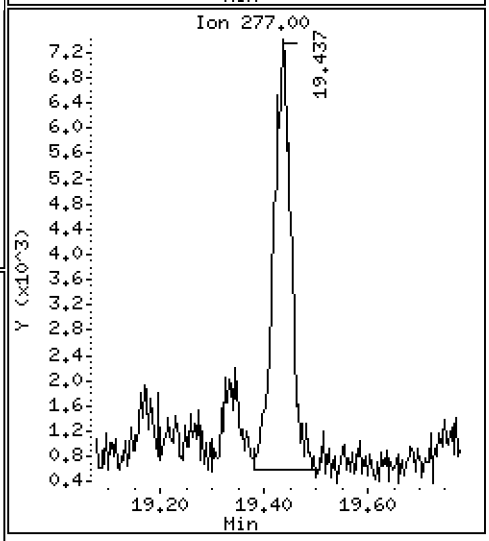
37 Indeno(1,2,3-cd)pyrene

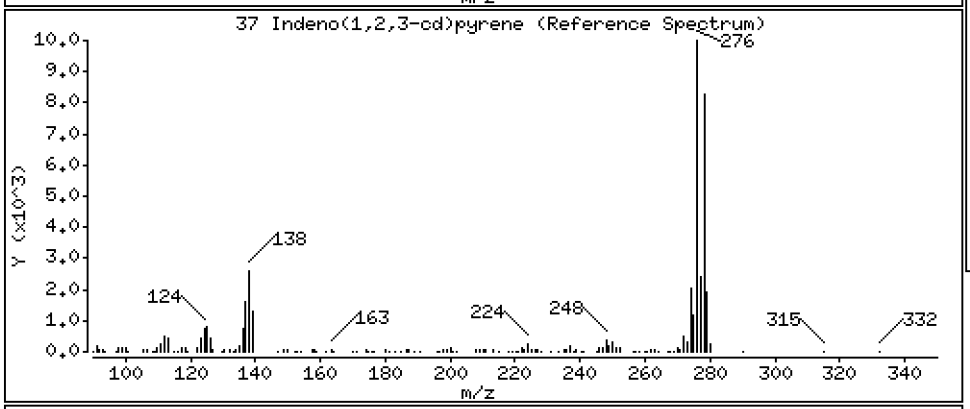
Concentration: 0.5152 ug/mL

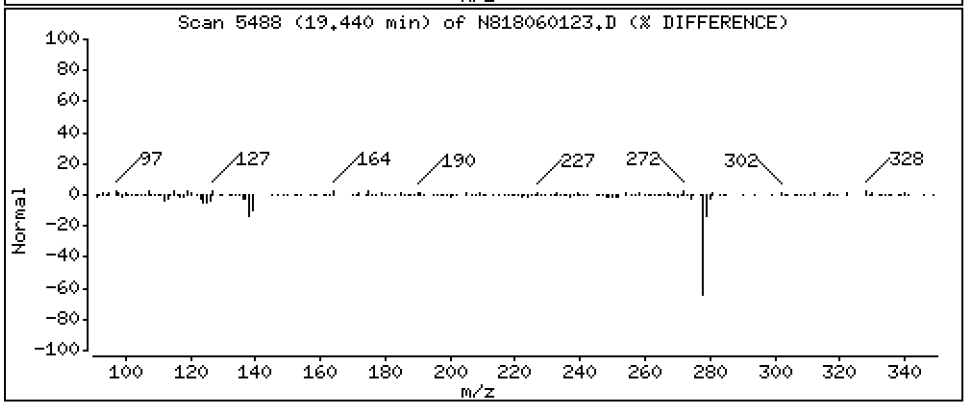












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

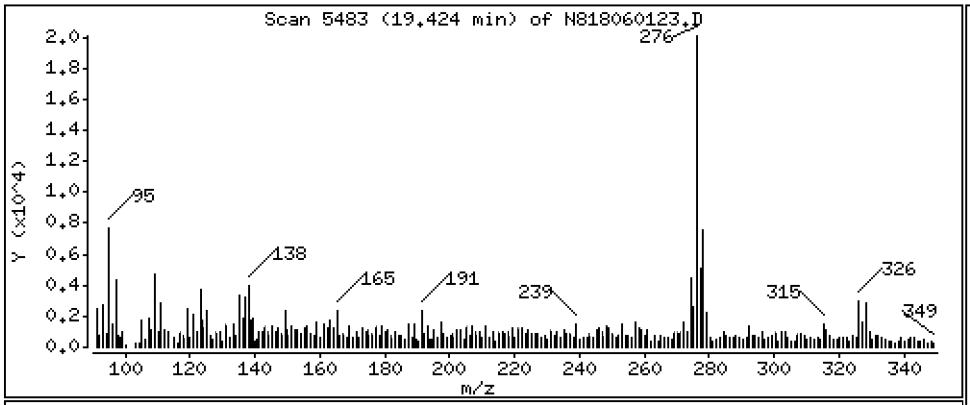
Operator: JZ

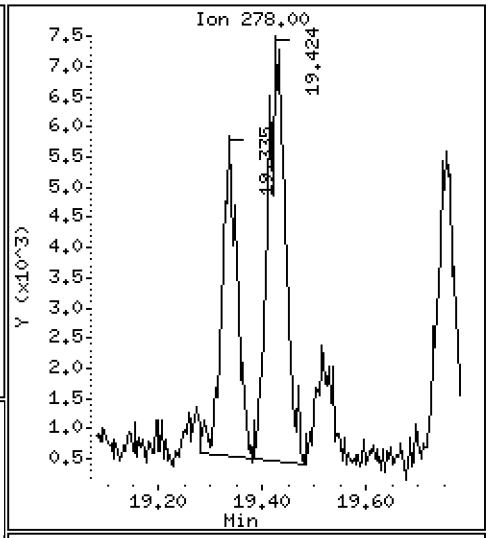
Column phase: Rxi-17sil

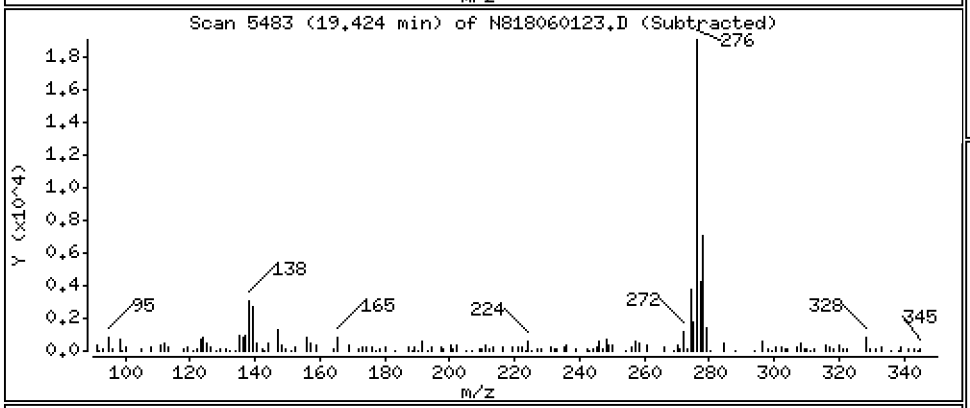
Column diameter: 0.25

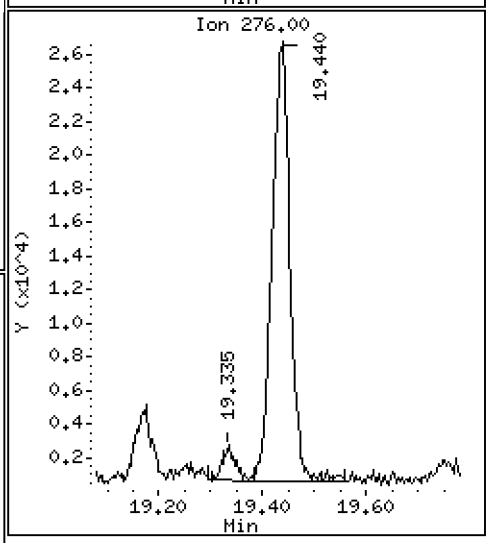
38 Dibenzo(a,h)anthracene

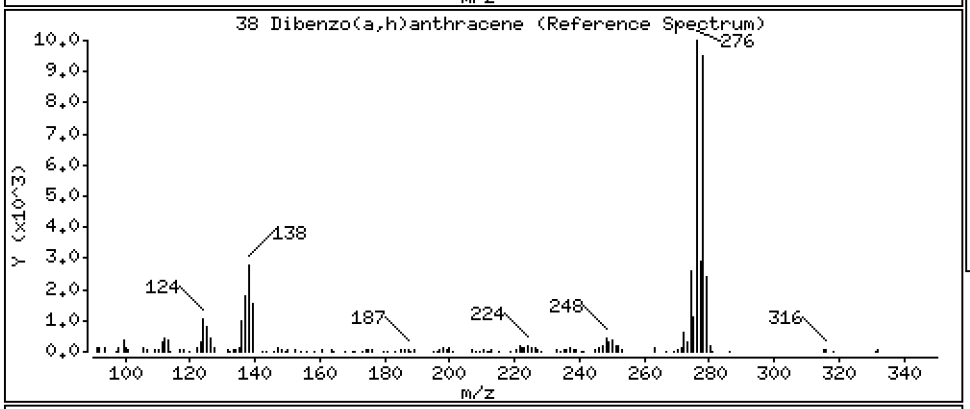
Concentration: 0.1670 ug/mL

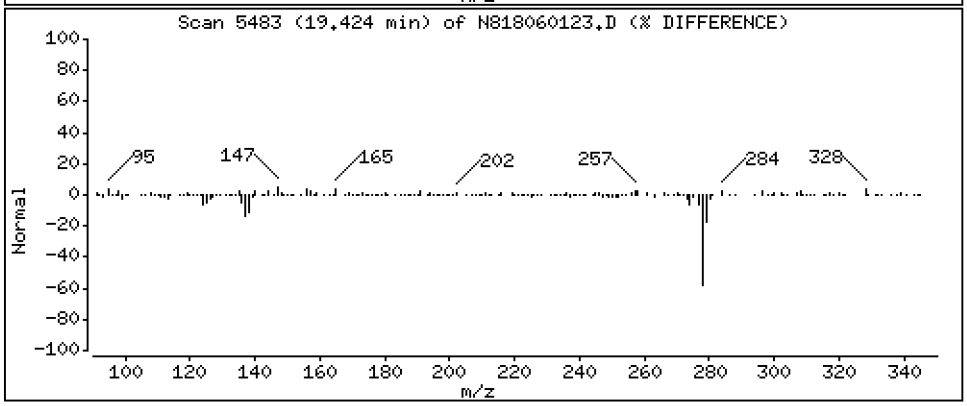












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

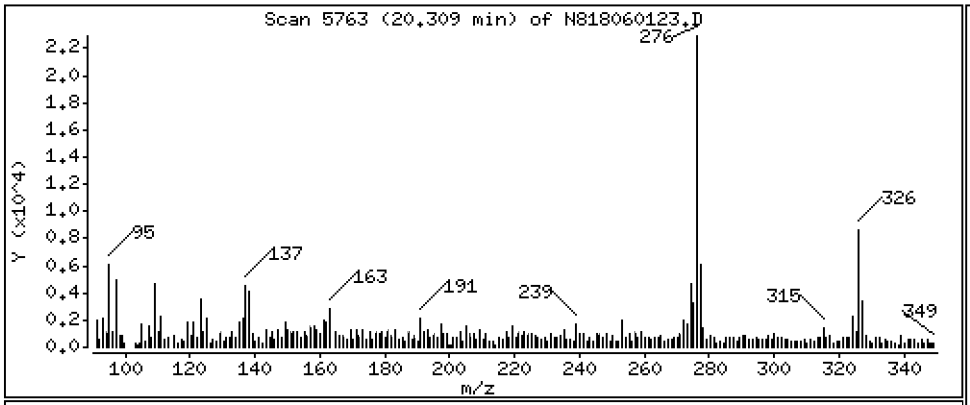
Operator: JZ

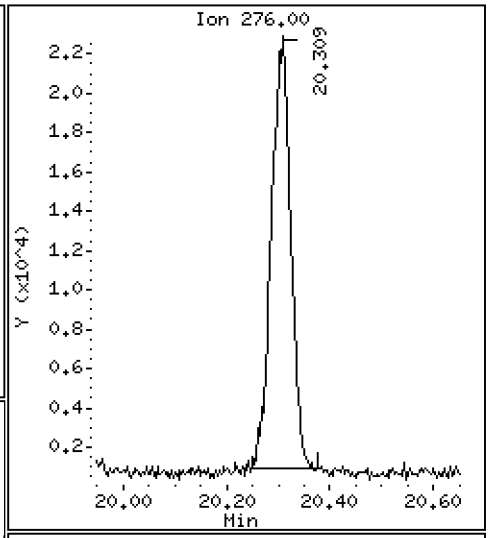
Column phase: Rxi-17sil

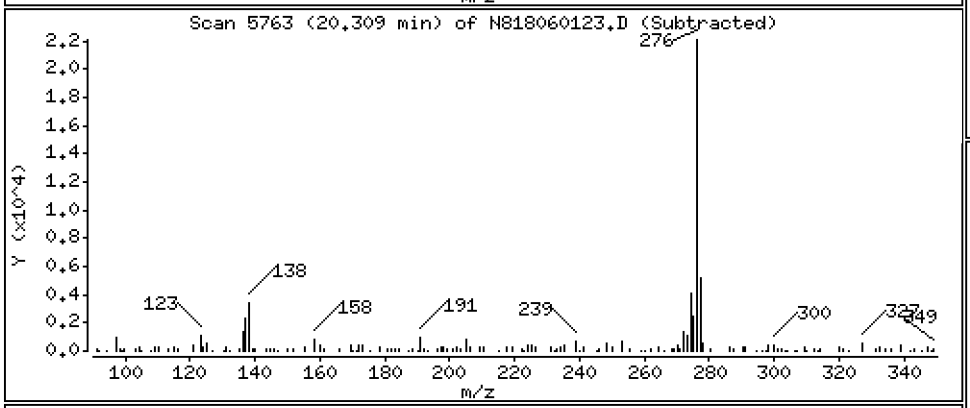
Column diameter: 0.25

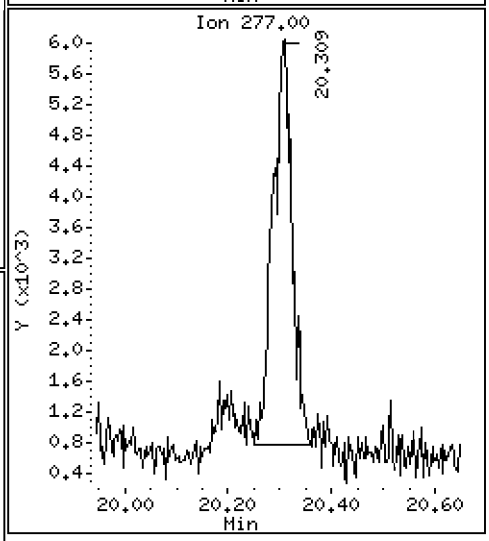
39 Benzo(g,h,i)perylene

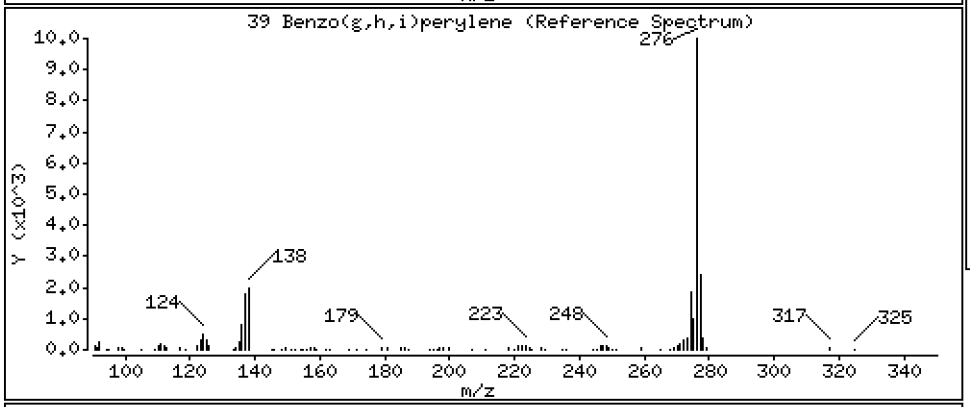
Concentration: 0.5380 ug/mL

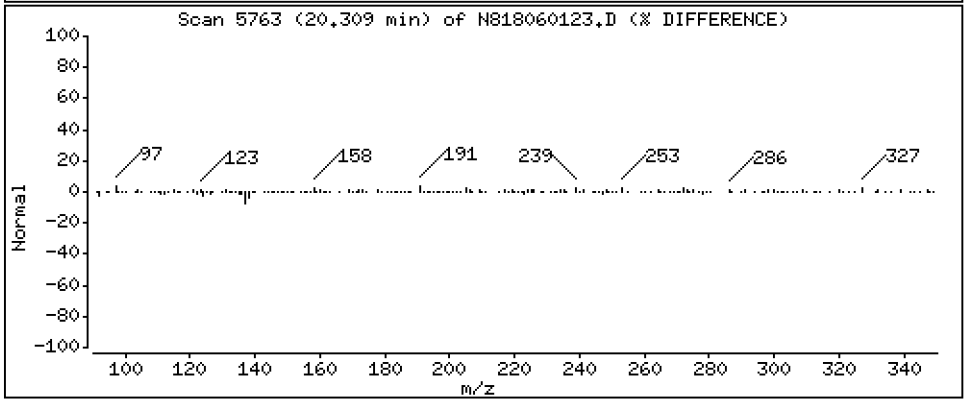












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060123.D

Date : 02-JUN-2018 00:13

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-05

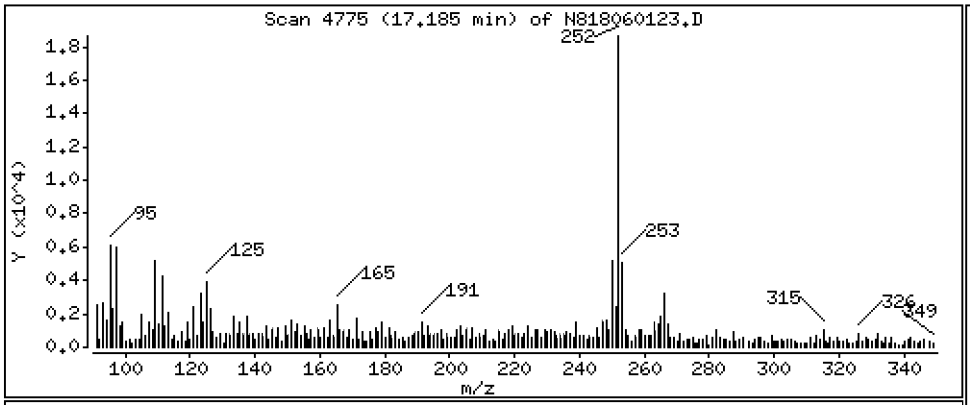
Operator: JZ

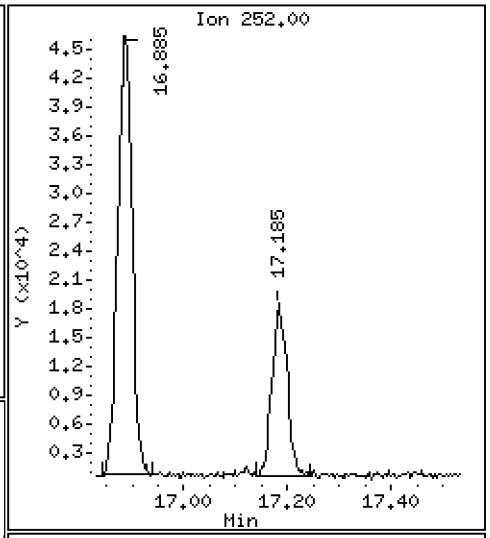
Column phase: Rxi-17sil

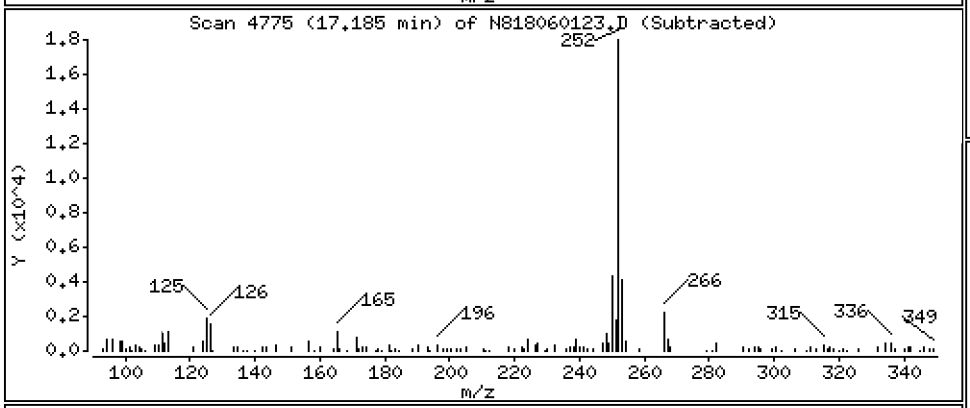
Column diameter: 0.25

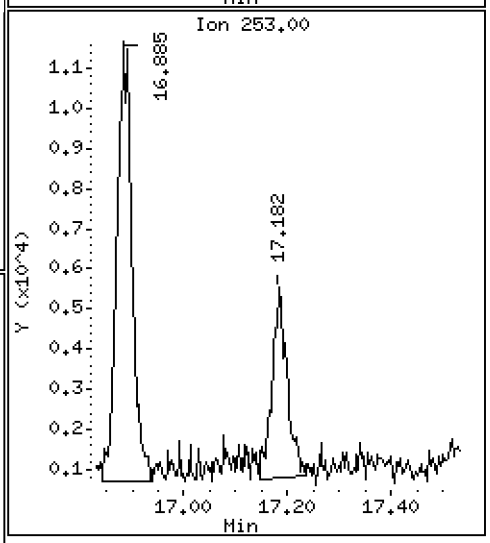
35 Perylene

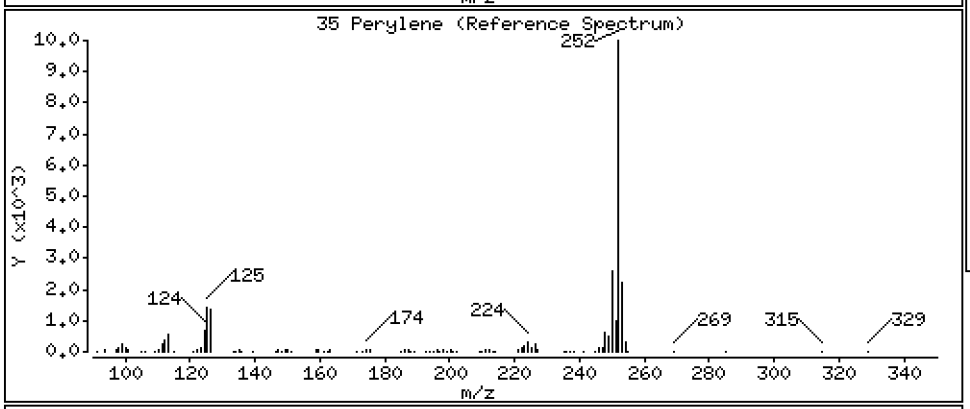
Concentration: 0.3240 ug/mL

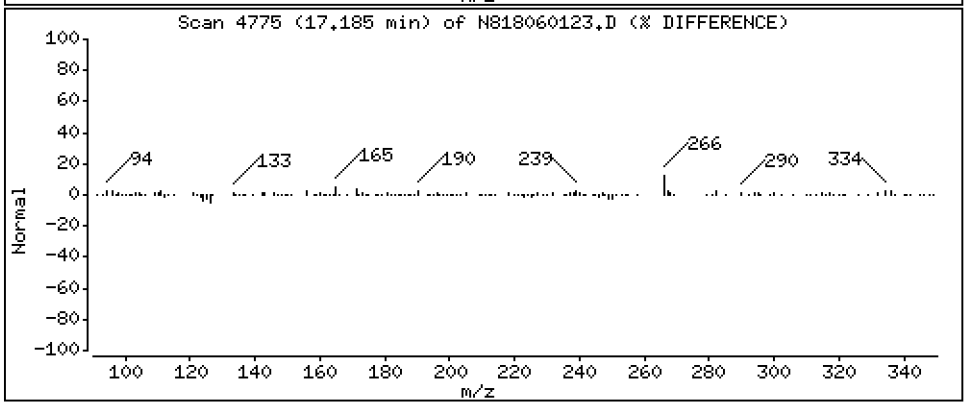












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060123.D
Lab Smp Id: 18E0282-05
Inj Date : 02-JUN-2018 00:13
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-05
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	209359	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.185	5.191	(1.164)	87820	1.14990	1.150
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	6.614	6.617	(0.984)	8233	0.07525	0.07525
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	110195	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	196168	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	51075	0.42480	0.4248
	17 Anthracene	178	8.821	8.821	(1.009)	16778	0.15316	0.1532
	22 Fluoranthene	202	10.437	10.434	(1.193)	180003	1.32841	1.328
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	211586	1.64753	1.648
	23 Pyrene	202	10.905	10.902	(0.816)	161747	1.36114	1.361
	24 Benzo(a)anthracene	228	13.239	13.239	(0.991)	89519	0.77918	0.7792
*	25 Chrysene-d12	240	13.359	13.356	(1.000)	197738	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	122179	1.05645	1.056
	28 Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	99980	0.82118	0.8212
	29 Benzo(k)fluoranthene	252	15.926	15.926	(0.931)	53639	0.44803	0.4480
	30 Benzo(j)fluoranthene	252	16.002	16.002	(0.935)	49666	0.41431	0.4143
	31 Total Benzofluoranthenes	252	15.869	15.926	(0.927)	201640	1.69817	1.698(M)
	32 Benzo(a)pyrene	252	16.884	16.884	(0.987)	89035	0.83436	0.8344
*	33 Perylene-d12	264	17.112	17.112	(1.000)	191575	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.439	19.430	(1.136)	62936	0.51516	0.5152(M)
$	36 Dibenzo(a,h)anthracene-d14	292	19.344	19.338	(1.130)	190505	2.12304	2.123
	38 Dibenzo(a,h)anthracene	278	19.423	19.430	(1.135)	16834	0.16704	0.1670
	39 Benzo(g,h,i)perylene	276	20.309	20.299	(1.187)	57447	0.53803	0.5380
	35 Perylene	252	17.185	17.181	(1.004)	37538	0.32397	0.3240

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060123.D
Lab Smp Id: 18E0282-05
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	209359	71.34
10 Acenaphthene-d10	65789	32895	131578	110195	67.50
15 Phenanthrene-d10	128644	64322	257288	196168	52.49
25 Chrysene-d12	166669	83335	333338	197738	18.64
33 Perylene-d12	140483	70242	280966	191575	36.37

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.04
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.02
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060123.D

Lab ID: 18E0282-05
nt8.i, 20180601.b\FSIMPNA180305.m,   02-JUN-2018 00:13

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

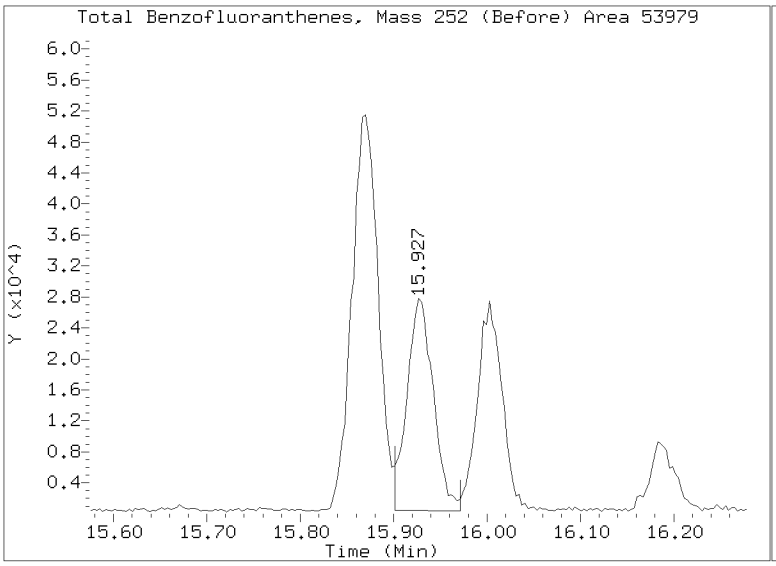
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

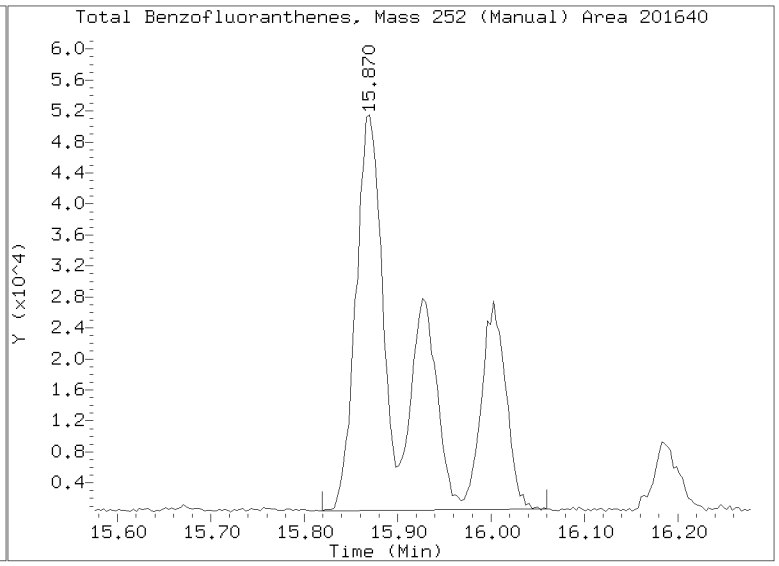
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

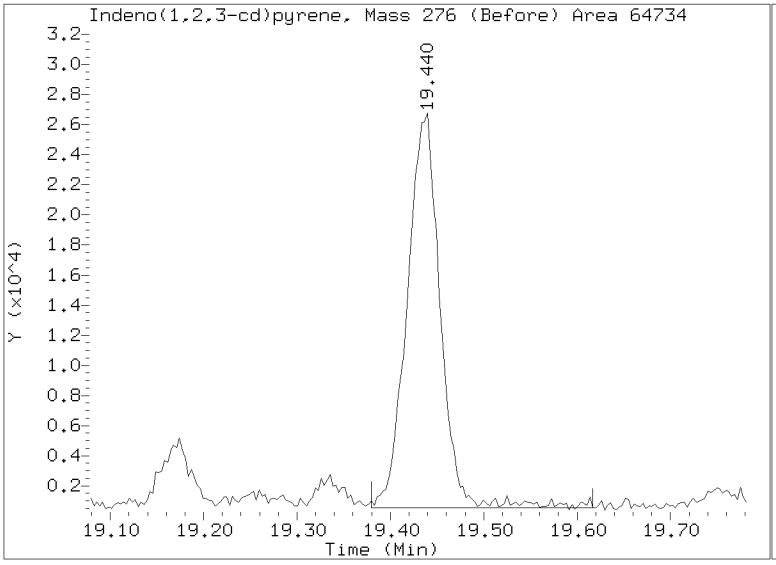
* Only compounds listed in the work order have been verified by the analyst *

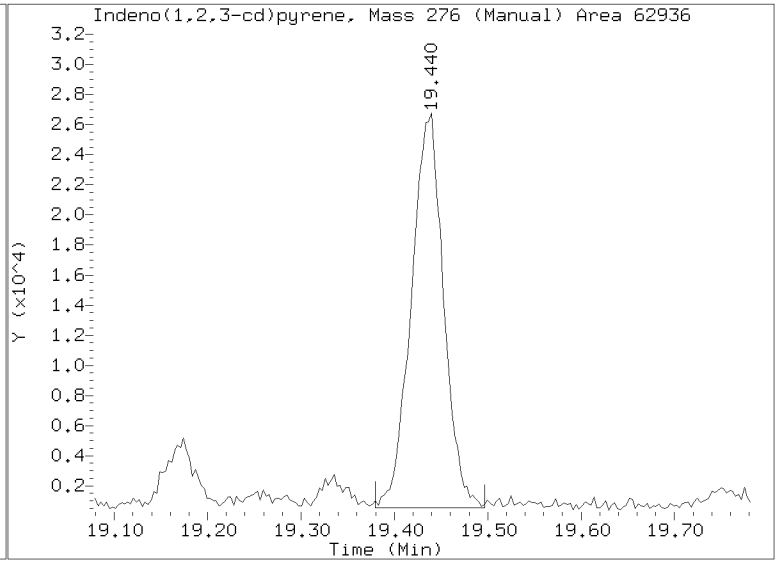
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060123.D
Injection Date: 02-JUN-2018 00:13
Lab ID:18E0282-05 Client ID:
Report Date: 06/04/2018 11:37









LDW18-A12-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-06	SDG:	18E0231
Sampled:	05/18/18 12:41	Prepared:	06/05/18 12:40	File ID:	N818061213.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 19:52
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.98	U	0.53	4.98
218-01-9	Chrysene	1	4.98	U	0.49	4.98
205-99-2	Benzo(b)fluoranthene	1	4.98	U	1.00	4.98
207-08-9	Benzo(k)fluoranthene	1	4.98	U	0.71	4.98
50-32-8	Benzo(a)pyrene	1	4.98	U	0.91	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.98	U	0.57	4.98
53-70-3	Dibenzo(a,h)anthracene	1	4.98	U	1.52	4.98

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.25	54.2	36.3	20 - 130	
Dibenzo[a,h]anthracene-d14	149.25	93.9	62.9	20 - 130	
Fluoranthene-d10	149.25	74.7	50.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061213.D

Date : 12-JUN-2018 19:52

Client ID:

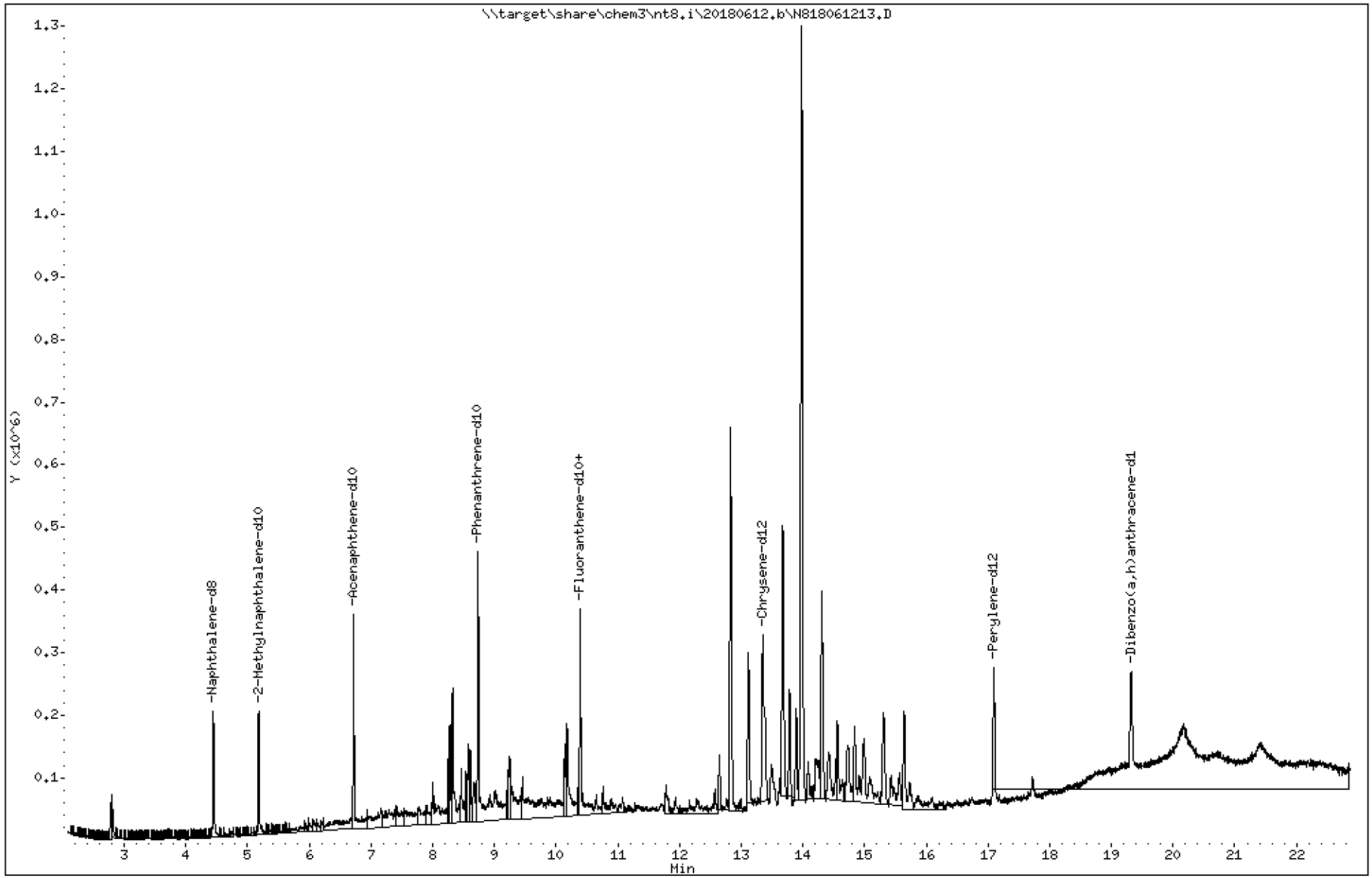
Instrument: nt8.i

Sample Info: 18E0282-06

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061213.D

Date : 12-JUN-2018 19:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-06

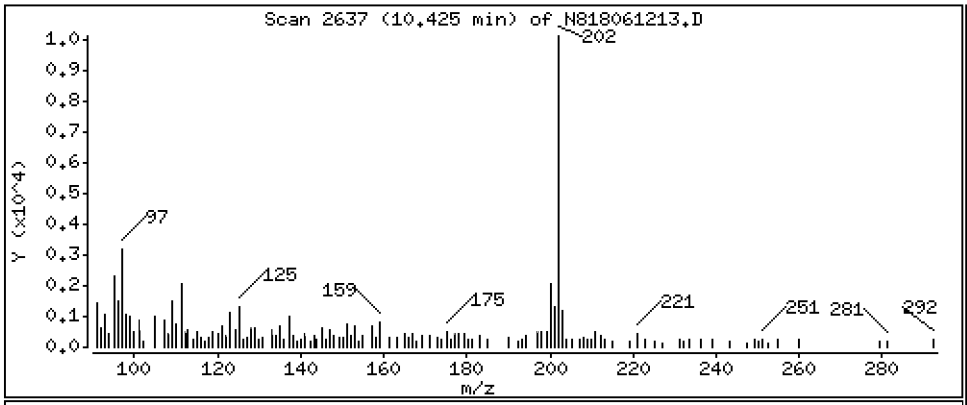
Operator: JZ

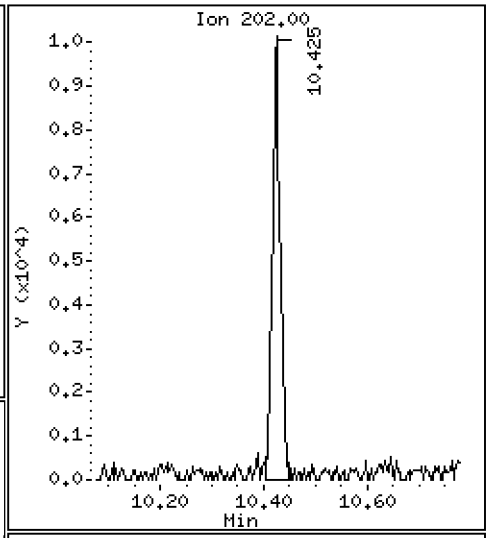
Column phase: Rxi-17sil

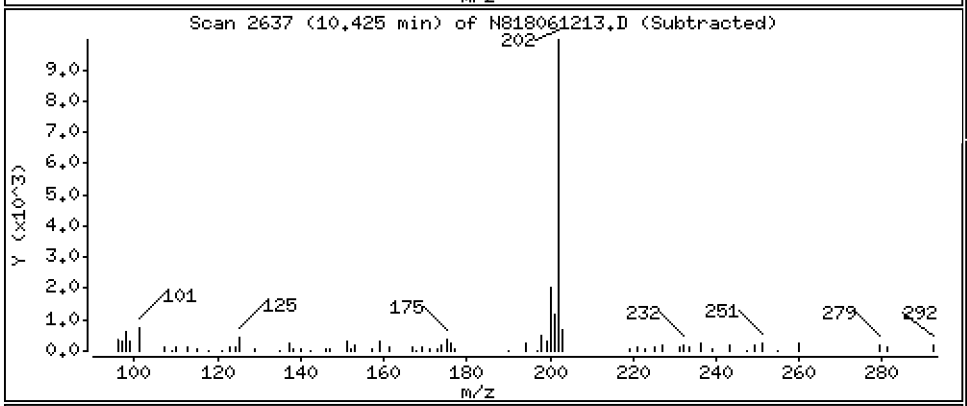
Column diameter: 0.25

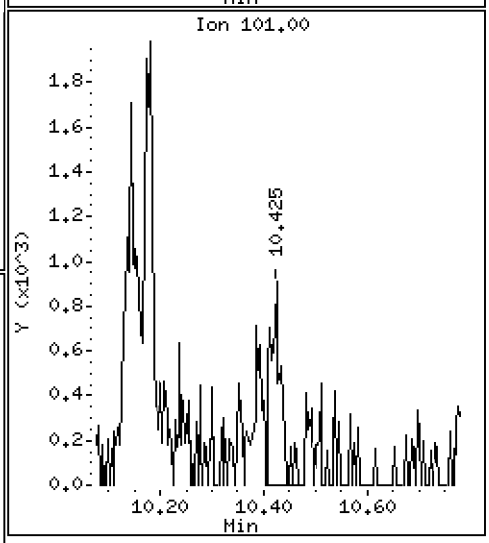
22 Fluoranthene

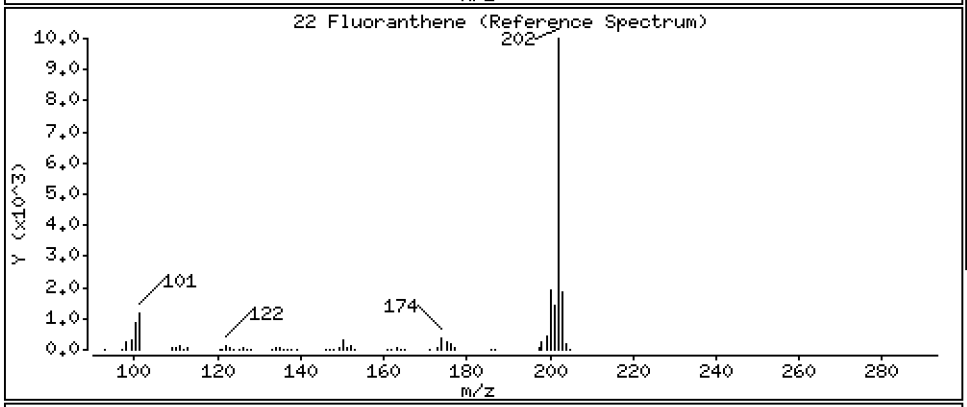
Concentration: 0.09650 ug/mL

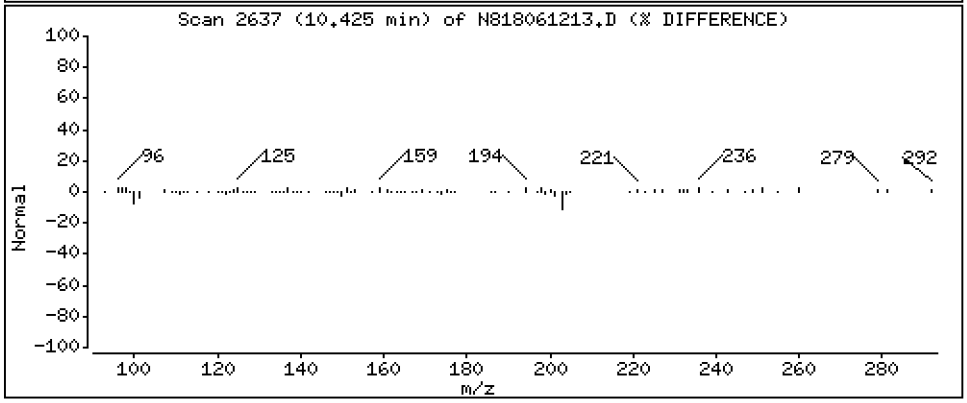












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061213.D

Date : 12-JUN-2018 19:52

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-06

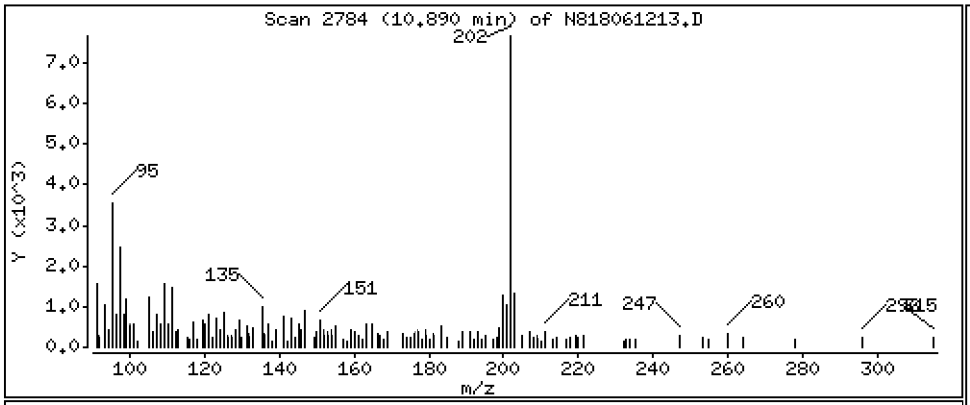
Operator: JZ

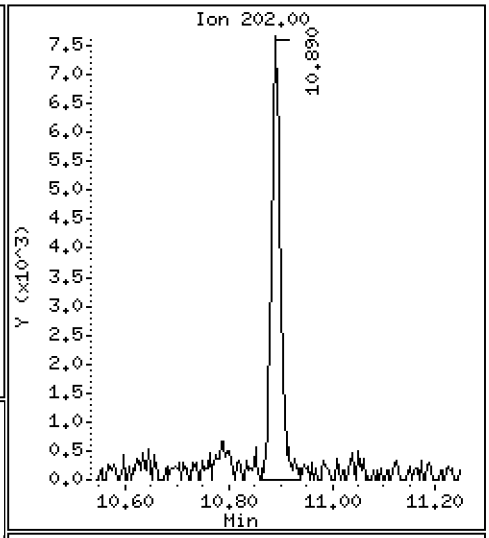
Column phase: Rxi-17sil

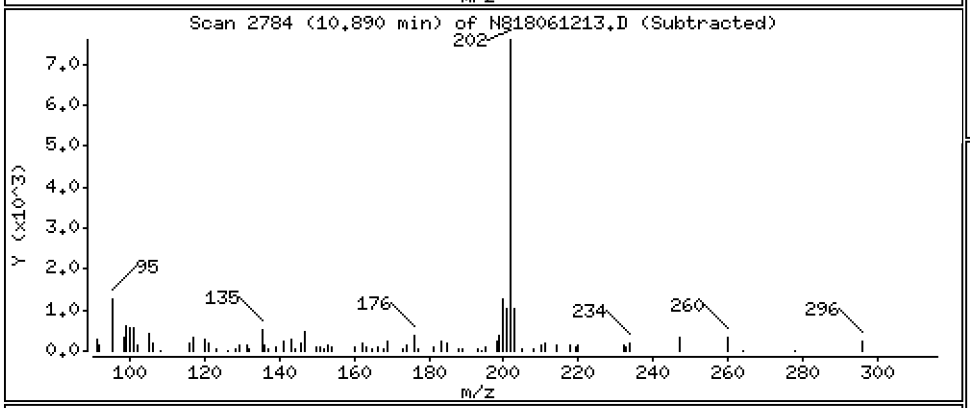
Column diameter: 0.25

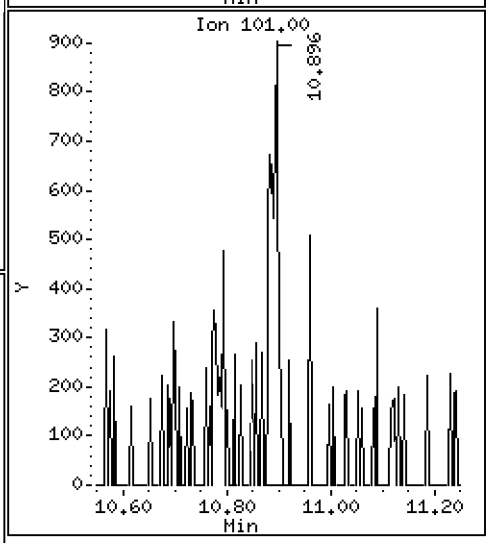
23 Pyrene

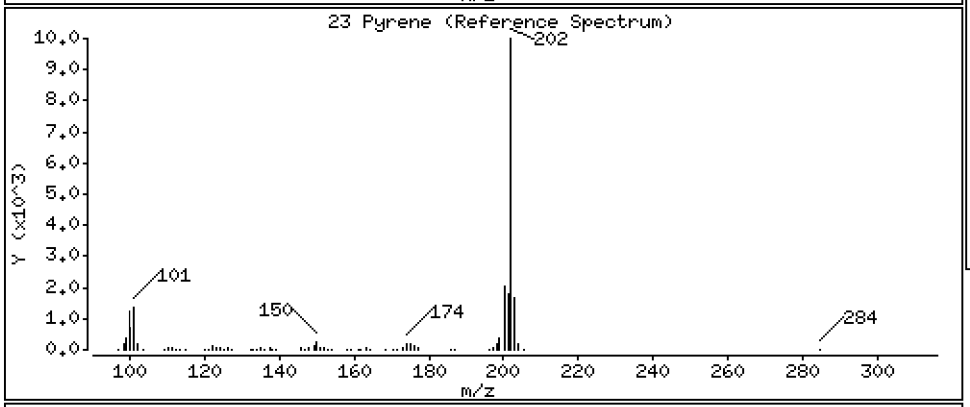
Concentration: 0.09484 ug/mL

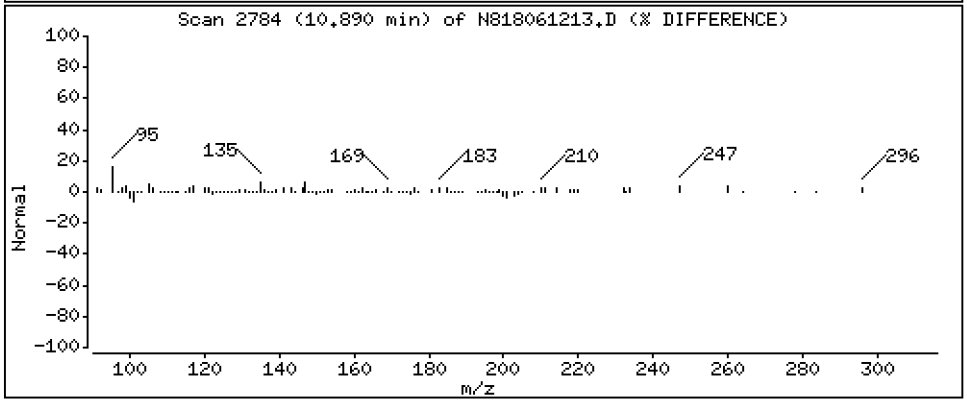












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061213.D
Lab Smp Id: 18E0282-06
Inj Date : 12-JUN-2018 19:52
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-06
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	176179	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	70045	1.08989	1.090
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	93249	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	163200	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	10879	0.09650	0.09650
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	160507	1.50227	1.502
	23 Pyrene	202	10.889	10.896	(0.816)	9271	0.09484	0.09484
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	162671	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	Compound Not Detected.					
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.096	17.099	(1.000)	161739	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	142952	1.88697	1.887
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061213.D
Lab Smp Id: 18E0282-06
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	176179	44.18
10 Acenaphthene-d10	65789	32895	131578	93249	41.74
15 Phenanthrene-d10	128644	64322	257288	163200	26.86
25 Chrysene-d12	166669	83335	333338	162671	-2.40
33 Perylene-d12	140483	70242	280966	161739	15.13

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.22
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061213.D

Lab ID: 18E0282-06
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 19:52

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LDW18-A09-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-07	SDG:	18E0231
Sampled:	05/18/18 15:23	Prepared:	06/05/18 12:40	File ID:	N818061214.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 20:18
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.08 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.05	J	0.53	4.96
218-01-9	Chrysene	1	4.36	J	0.48	4.96
205-99-2	Benzo(b)fluoranthene	1	2.39	J	1.00	4.96
207-08-9	Benzo(k)fluoranthene	1	1.59	J	0.71	4.96
50-32-8	Benzo(a)pyrene	1	4.96	U	0.91	4.96
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.96	U	0.57	4.96
53-70-3	Dibenzo(a,h)anthracene	1	4.96	U	1.51	4.96

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.81	61.5	41.4	20 - 130	
Dibenzo[a,h]anthracene-d14	148.81	101	67.6	20 - 130	
Fluoranthene-d10	148.81	85.2	57.3	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

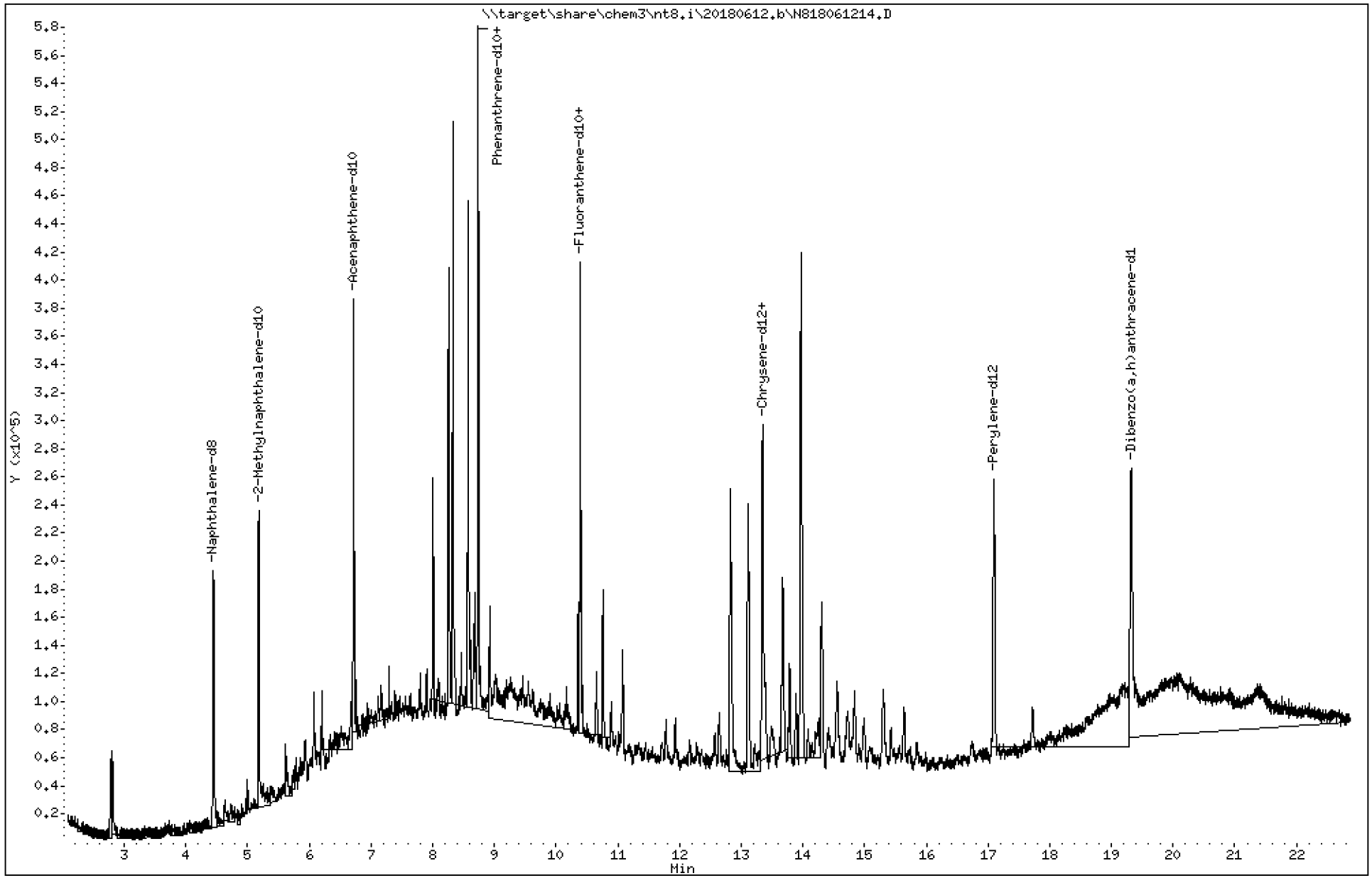
Instrument: nt8.i

Sample Info: 18E0282-07

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

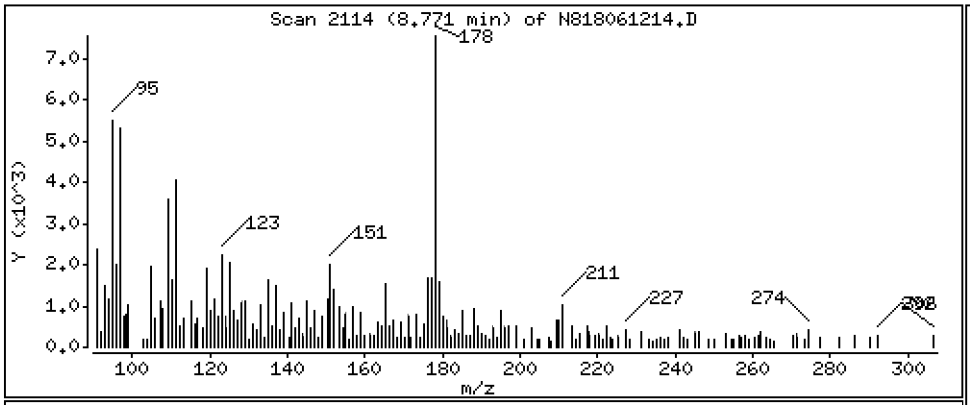
Operator: JZ

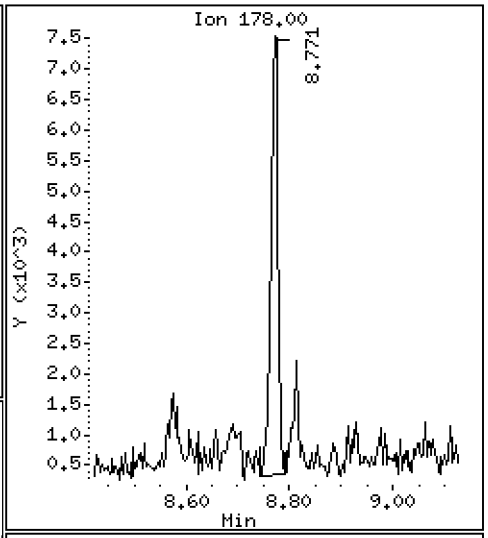
Column phase: Rxi-17sil

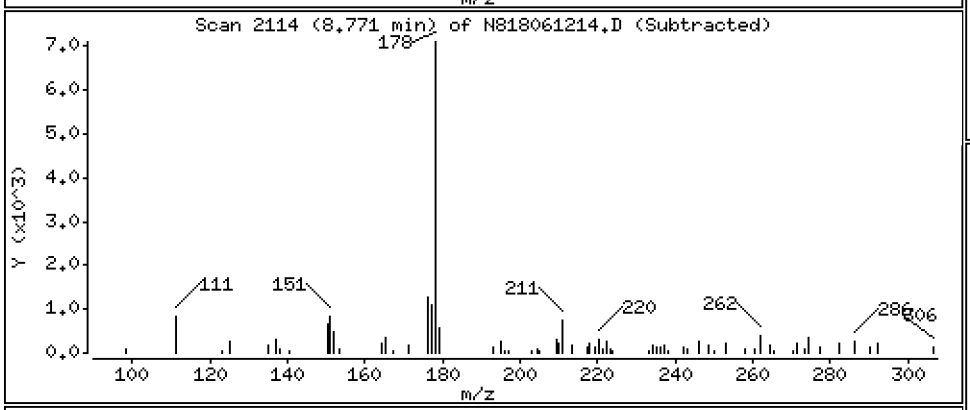
Column diameter: 0.25

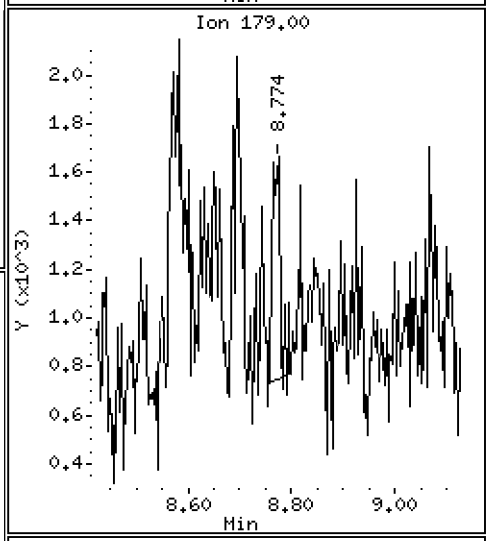
16 Phenanthrene

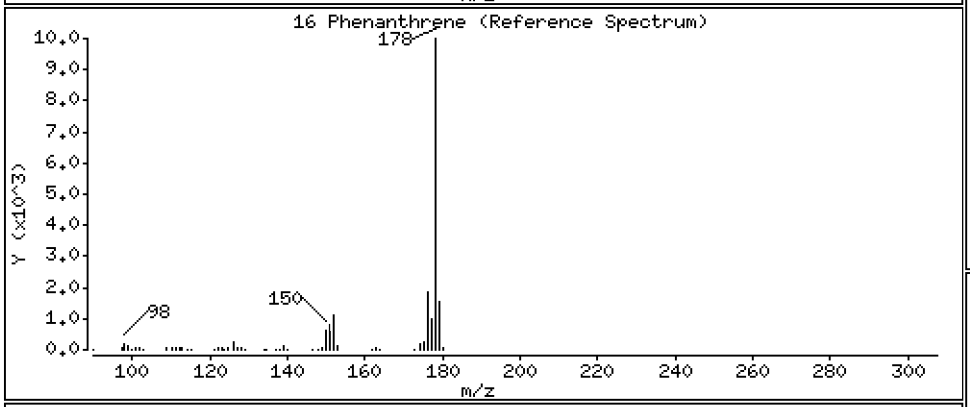
Concentration: 0.07719 ug/mL

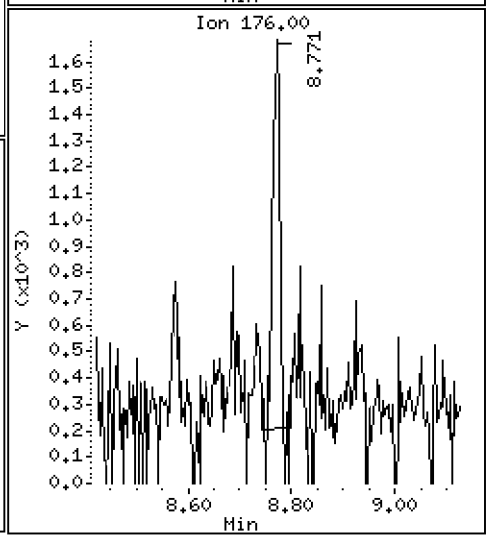


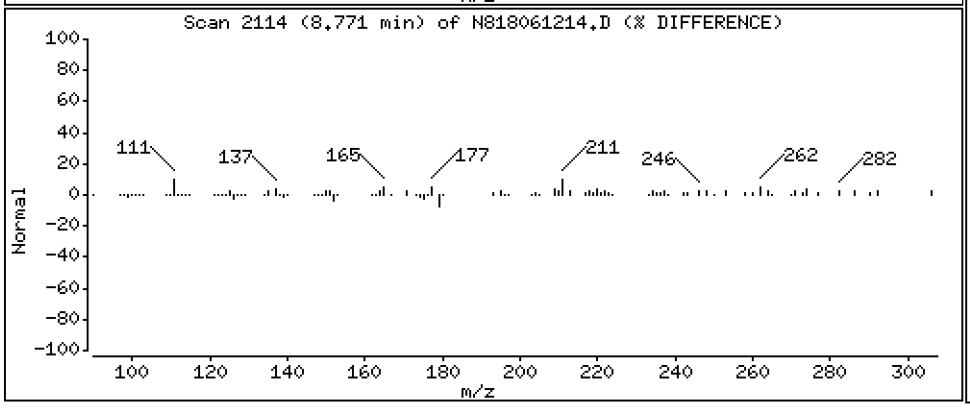












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

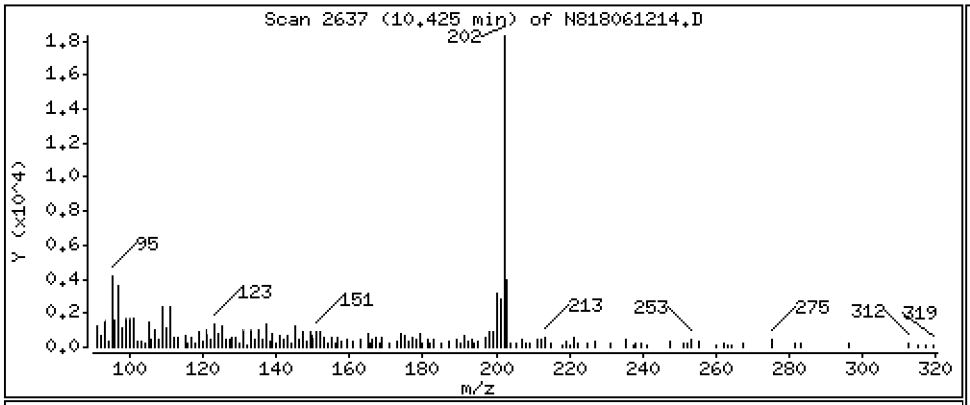
Operator: JZ

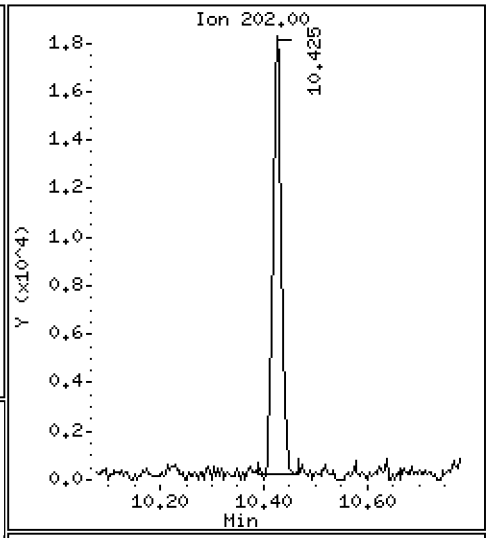
Column phase: Rxi-17sil

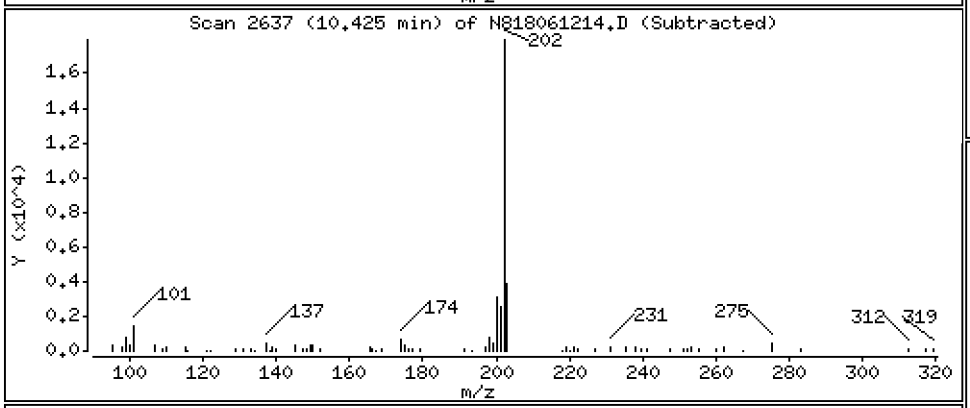
Column diameter: 0.25

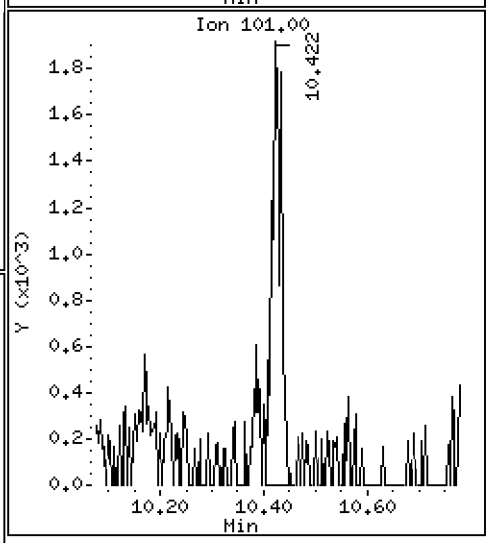
22 Fluoranthene

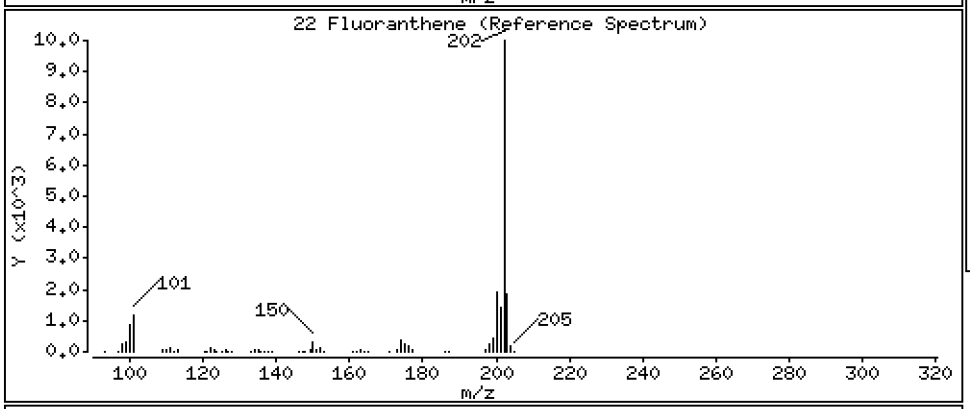
Concentration: 0.1959 ug/mL

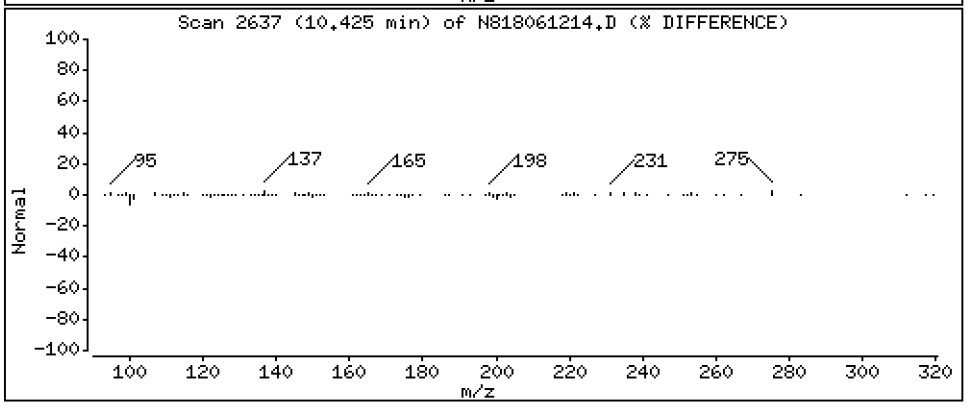












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

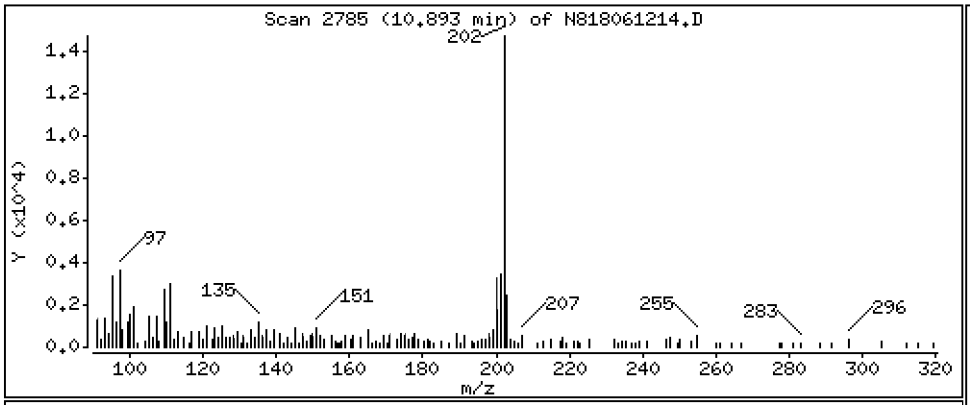
Operator: JZ

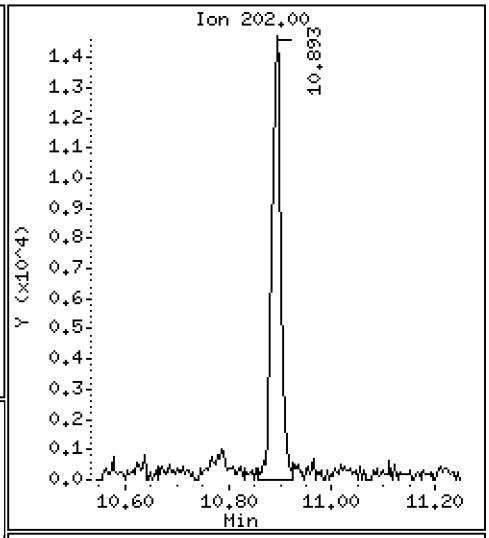
Column phase: Rxi-17sil

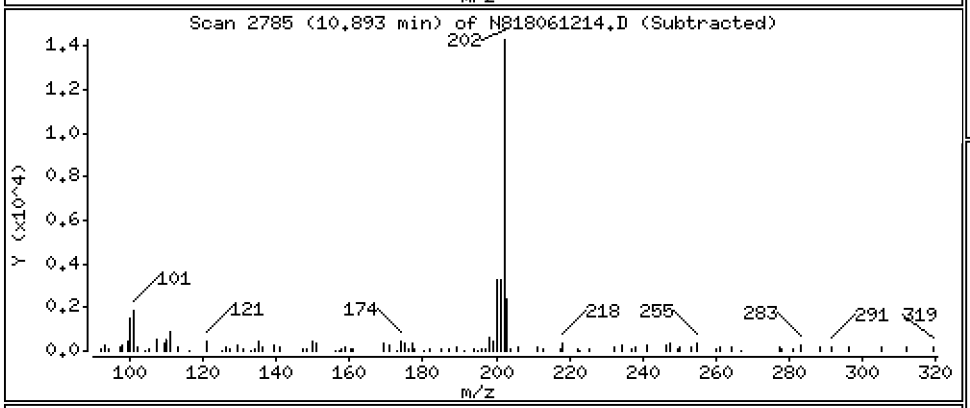
Column diameter: 0.25

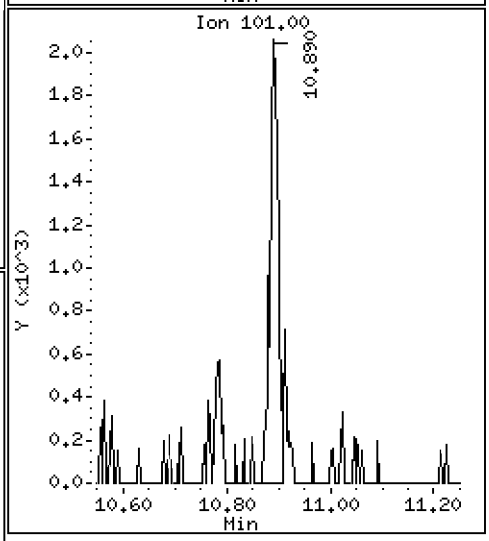
23 Pyrene

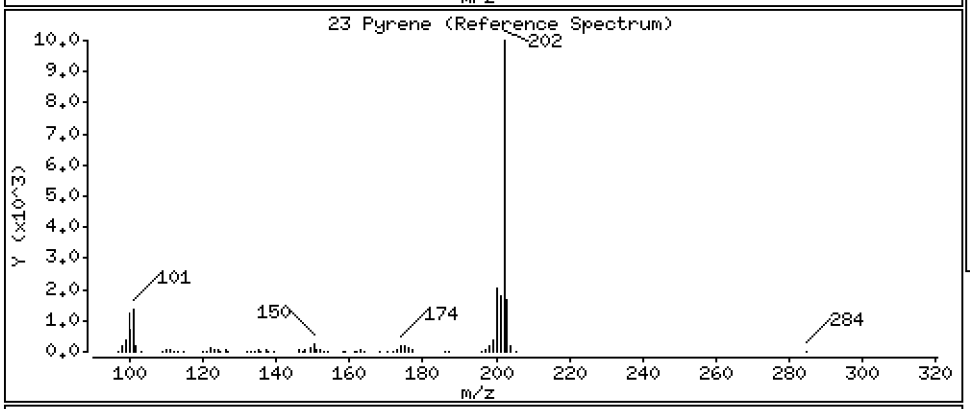
Concentration: 0.1919 ug/mL

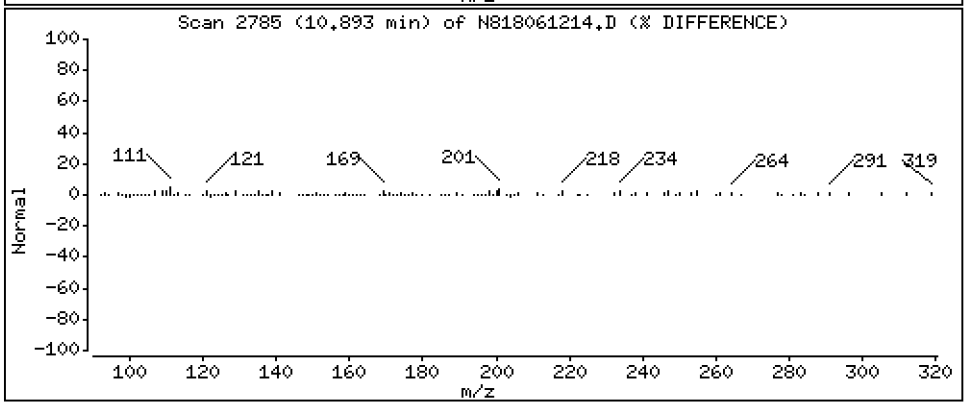












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

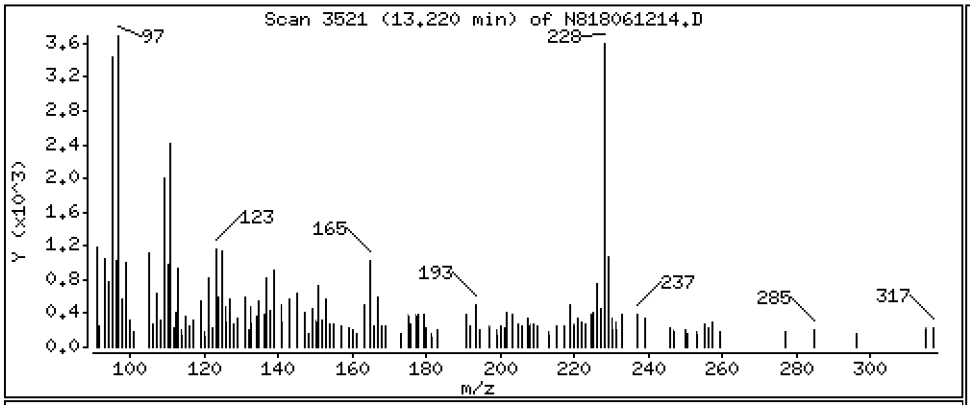
Operator: JZ

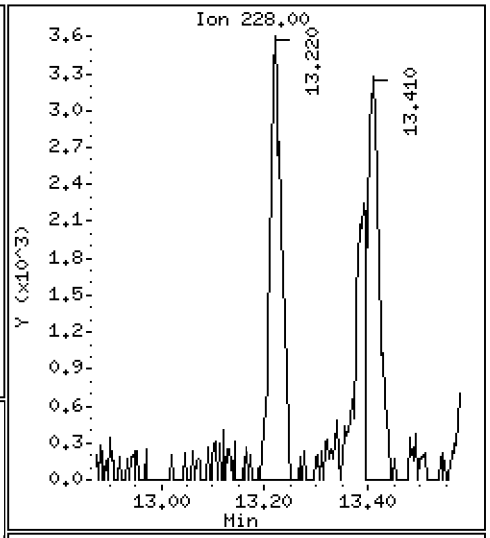
Column phase: Rxi-17sil

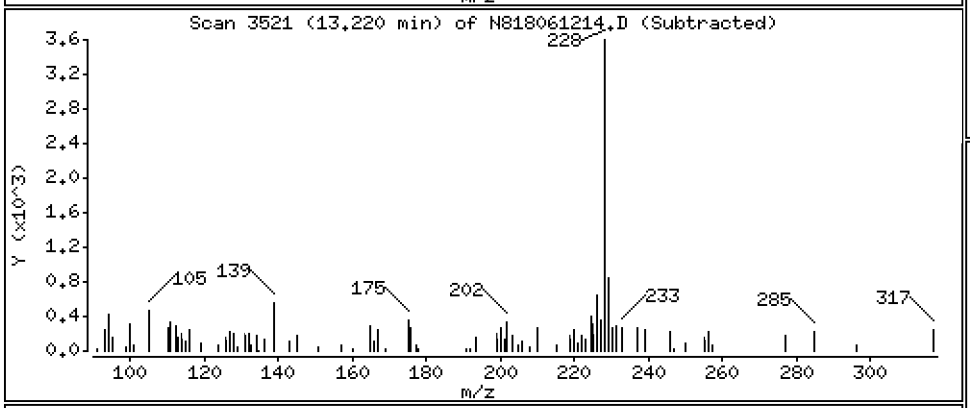
Column diameter: 0.25

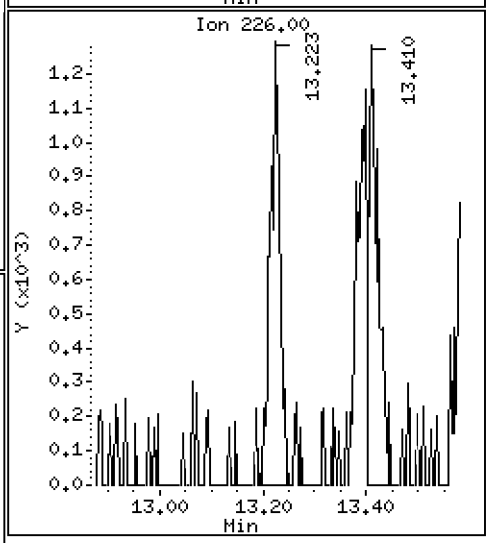
24 Benzo(a)anthracene

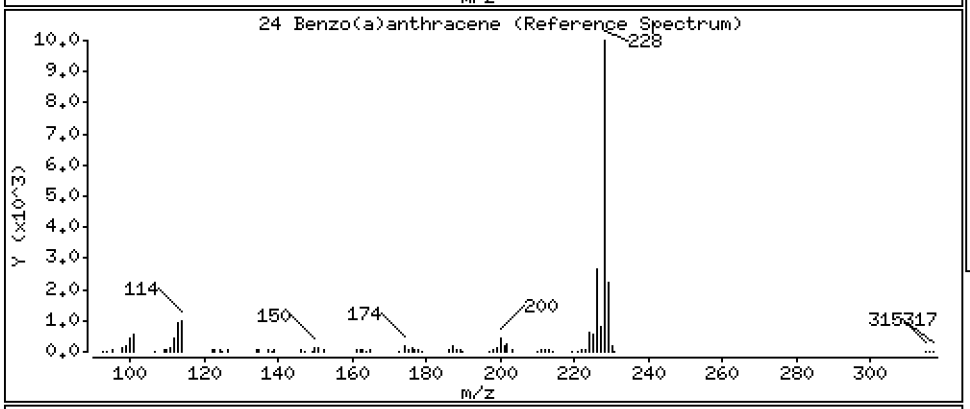
Concentration: 0.06141 ug/mL

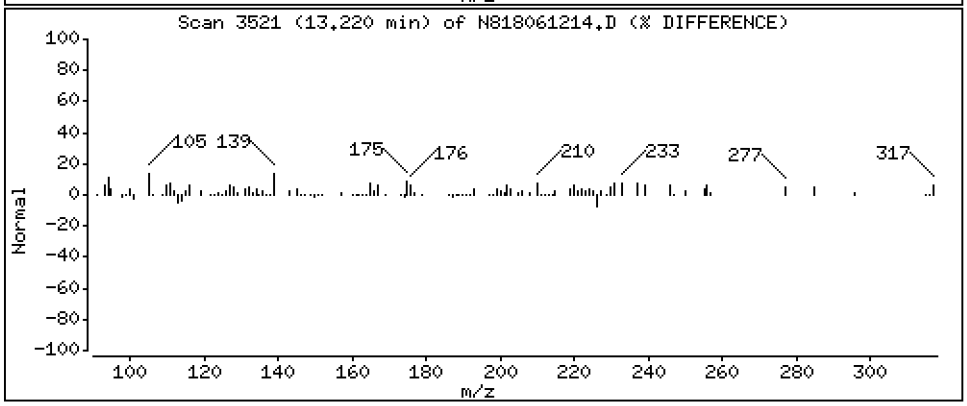












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

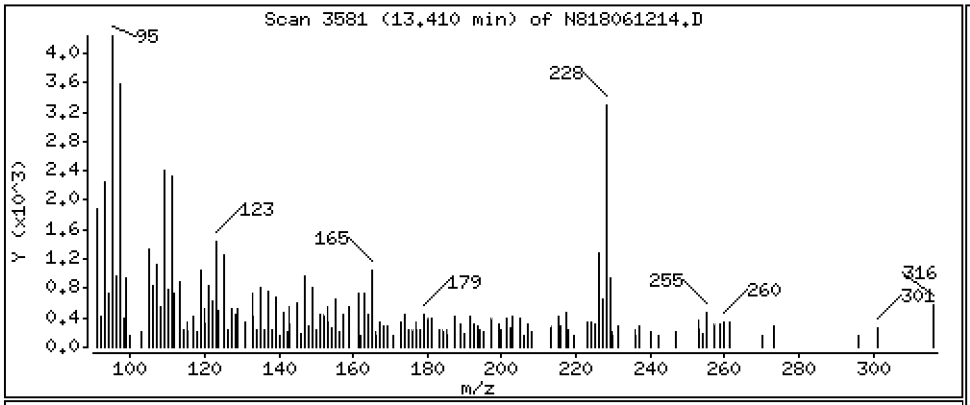
Operator: JZ

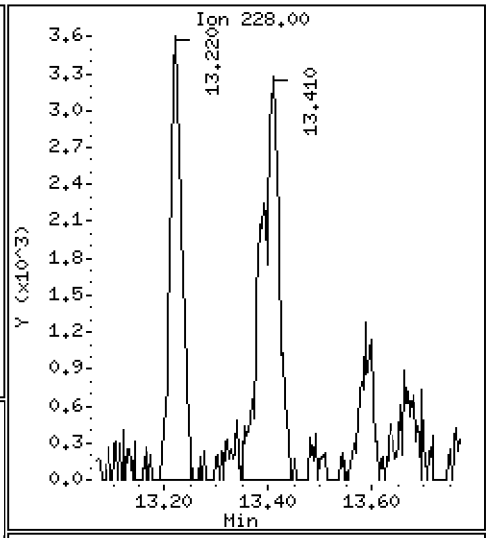
Column phase: Rxi-17sil

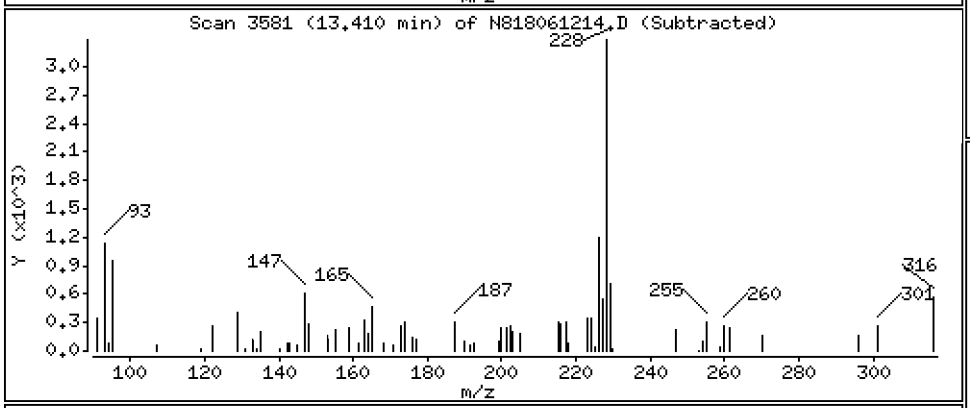
Column diameter: 0.25

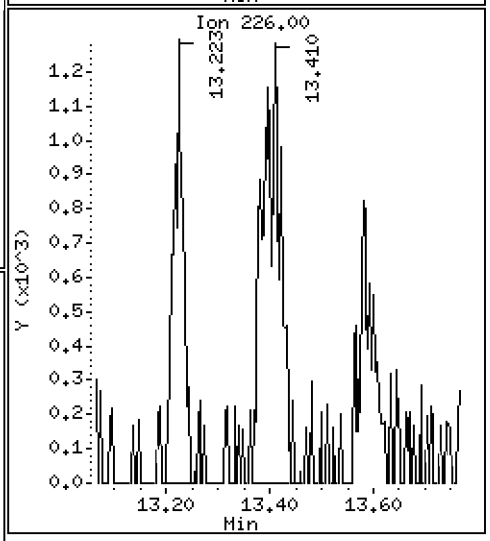
27 Chrysene

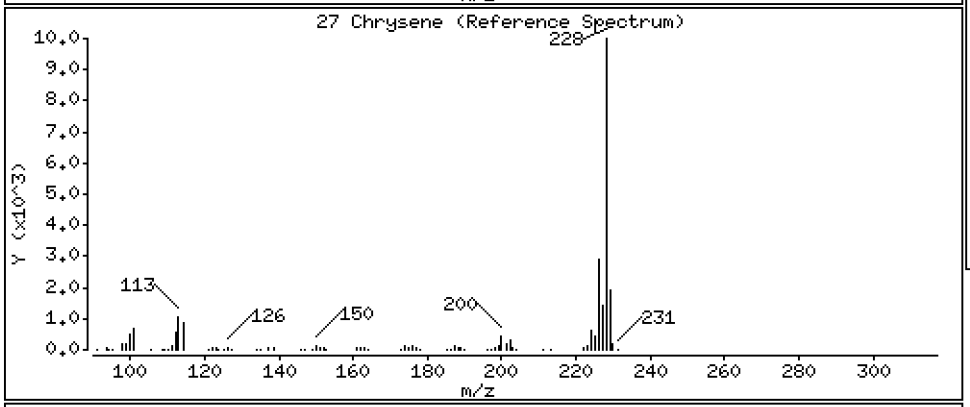
Concentration: 0.08791 ug/mL

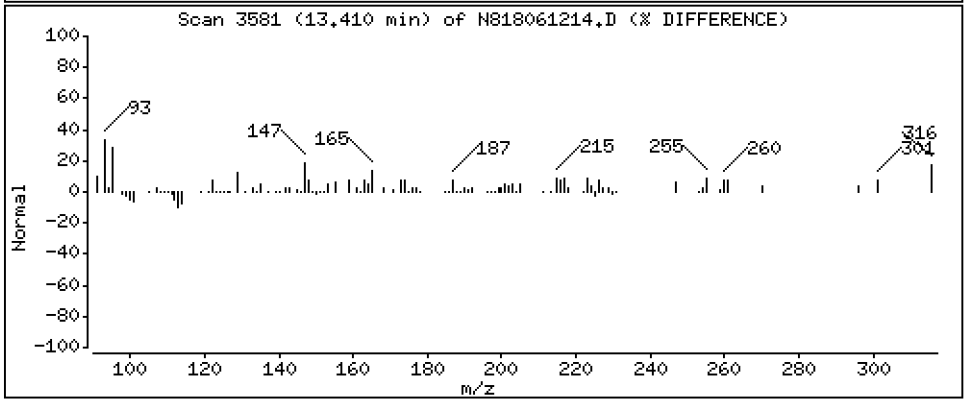












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

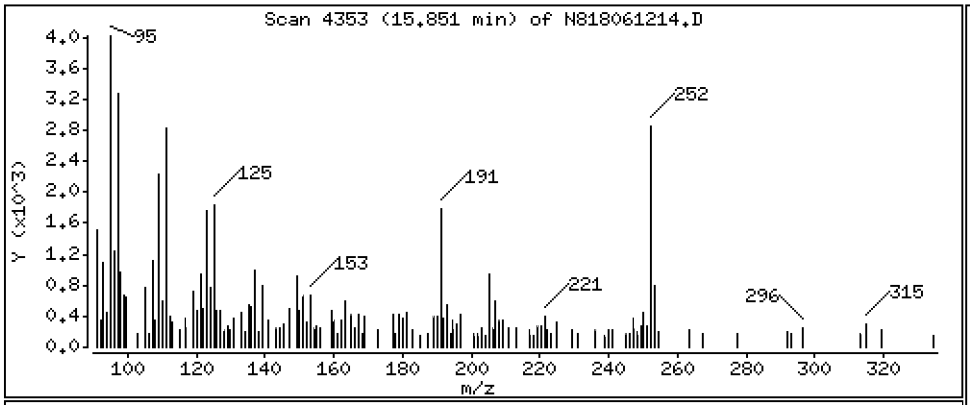
Operator: JZ

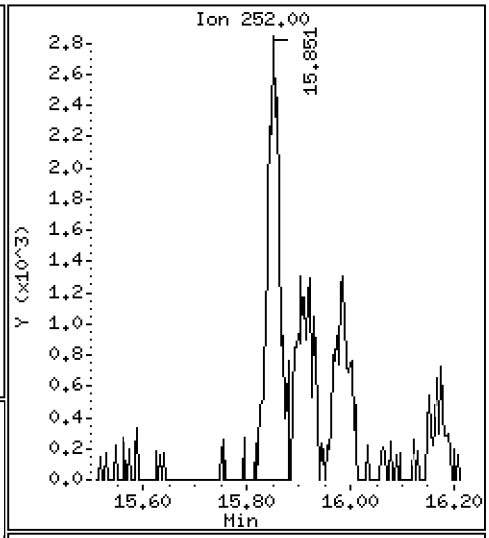
Column phase: Rxi-17sil

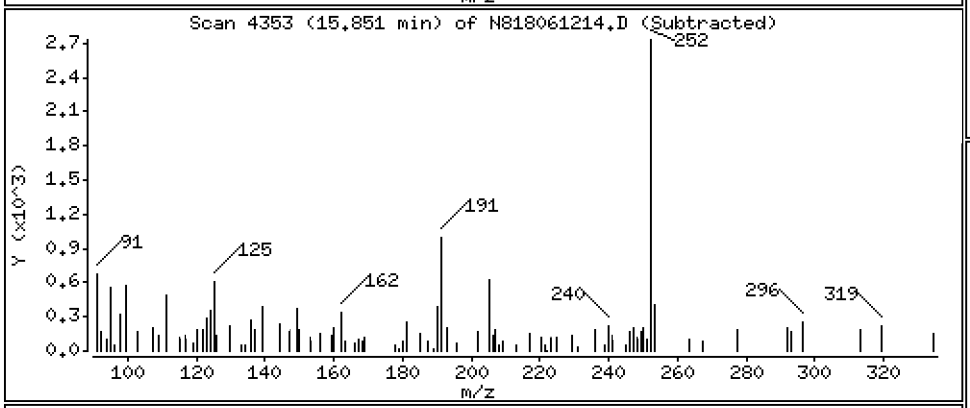
Column diameter: 0.25

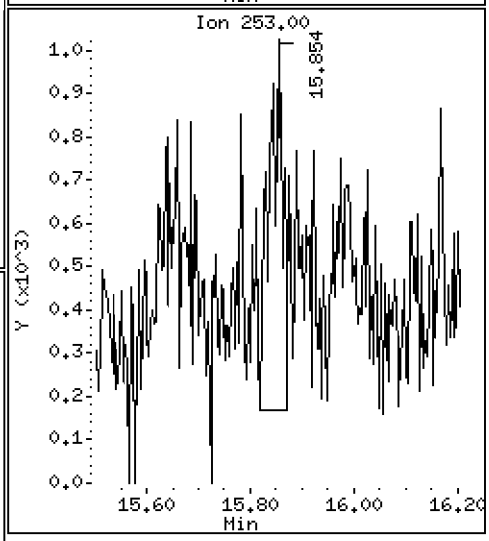
28 Benzo(b)fluoranthene

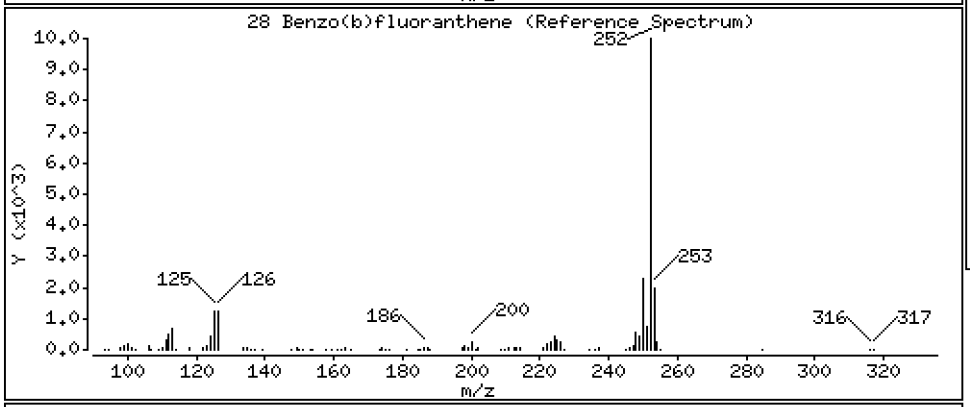
Concentration: 0.04828 ug/mL

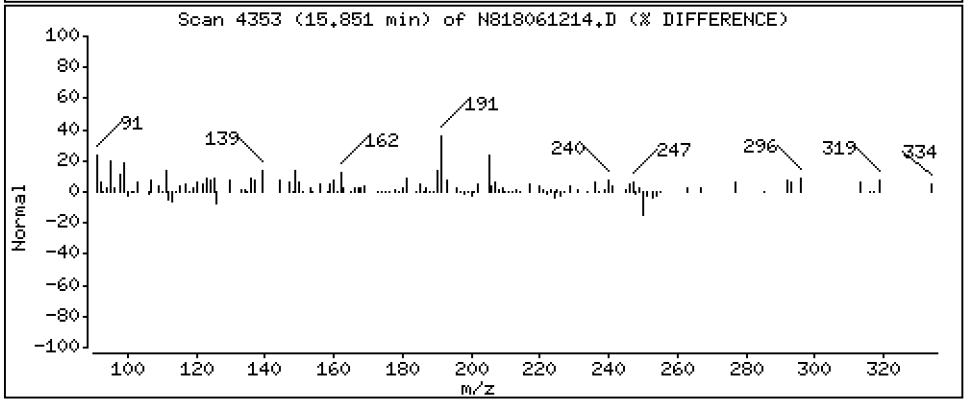












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

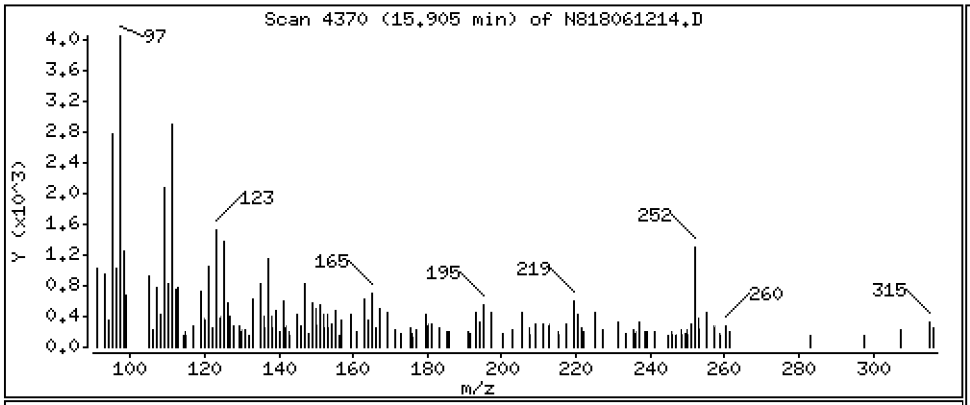
Operator: JZ

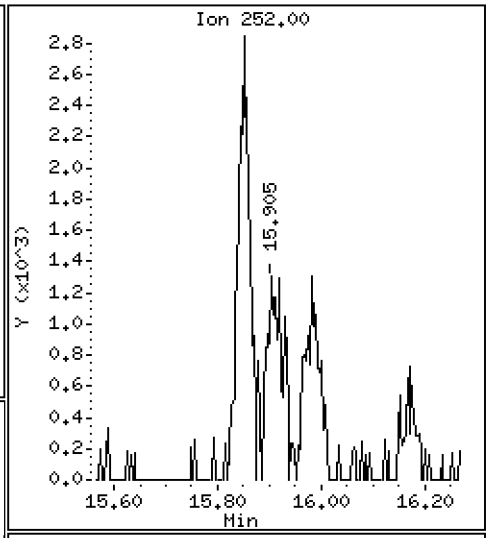
Column phase: Rxi-17sil

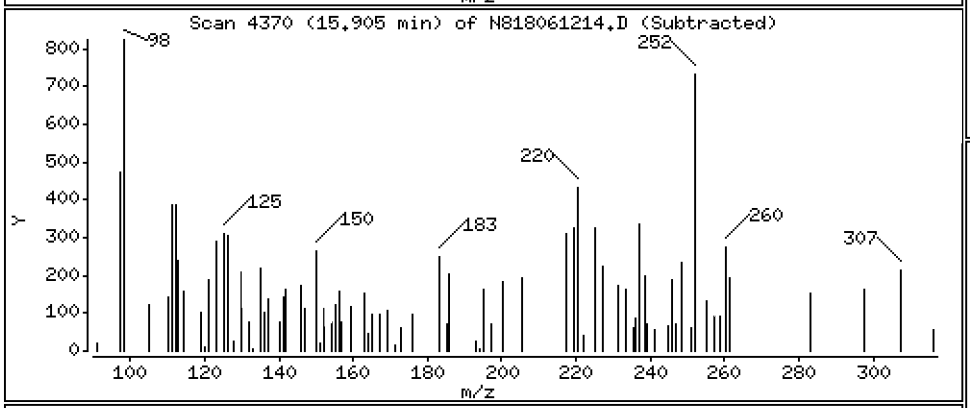
Column diameter: 0.25

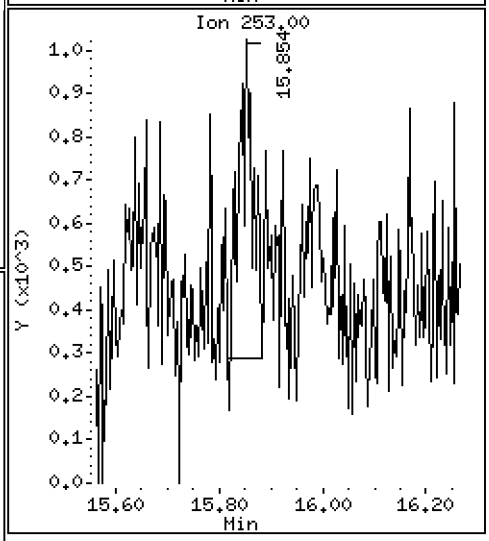
29 Benzo(k)fluoranthene

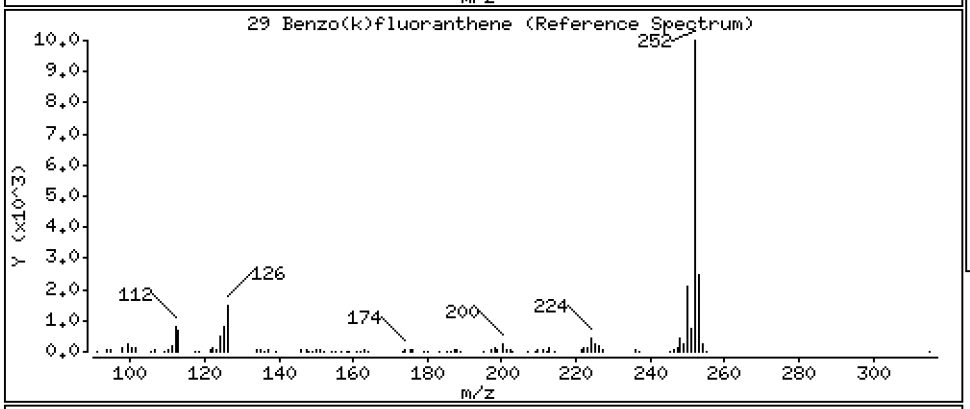
Concentration: 0.03204 ug/mL

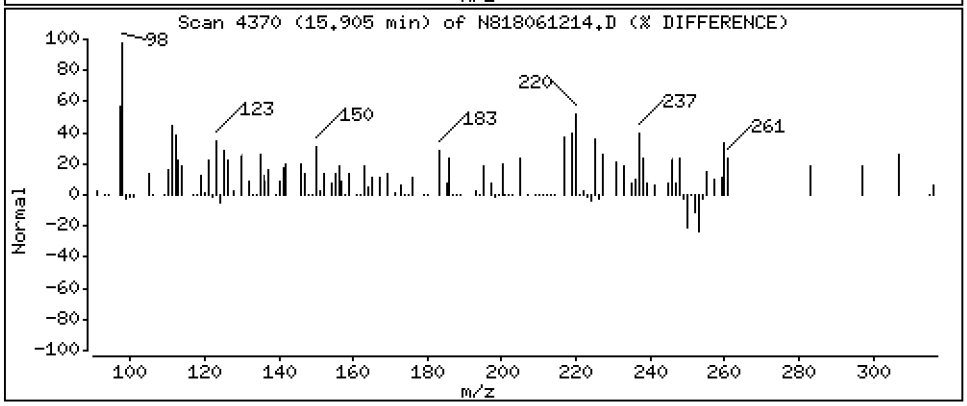












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061214.D

Date : 12-JUN-2018 20:18

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-07

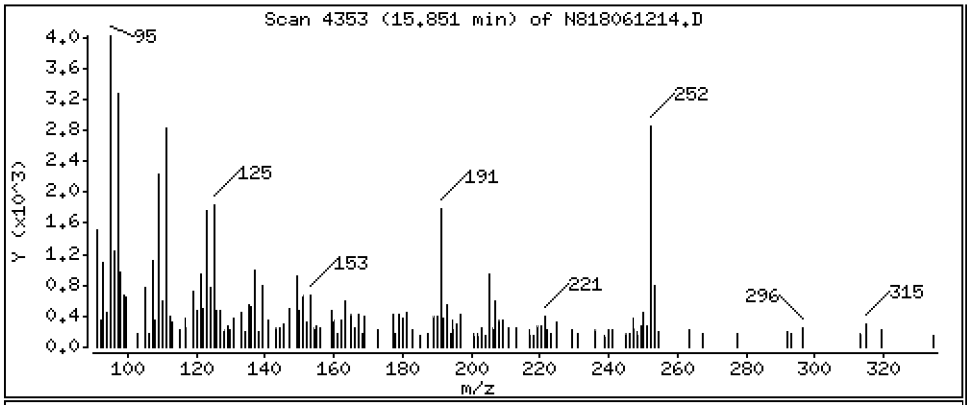
Operator: JZ

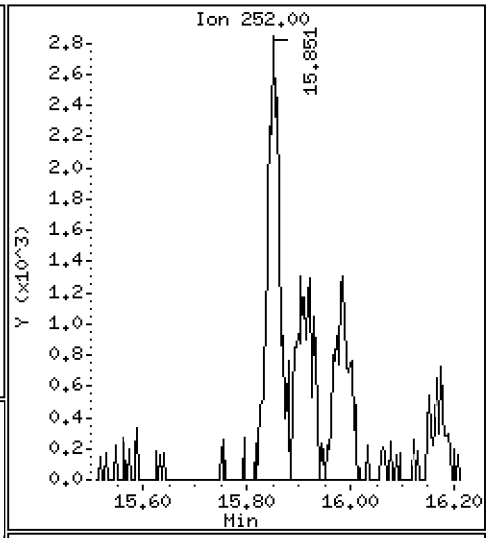
Column phase: Rxi-17sil

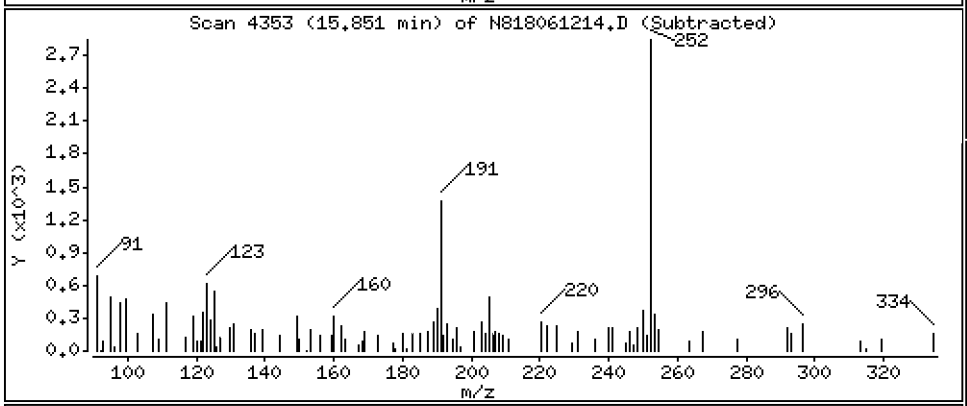
Column diameter: 0.25

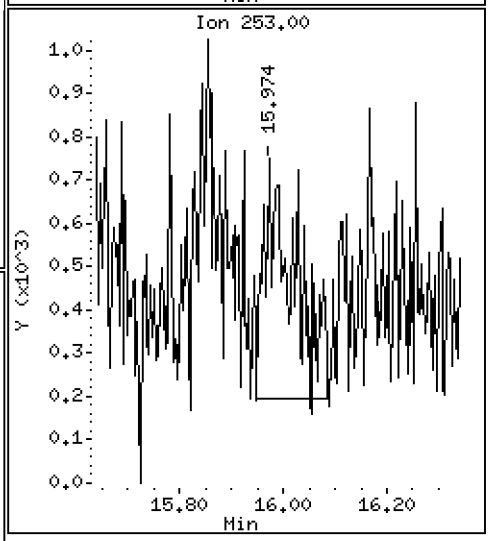
31 Total Benzofluoranthenes

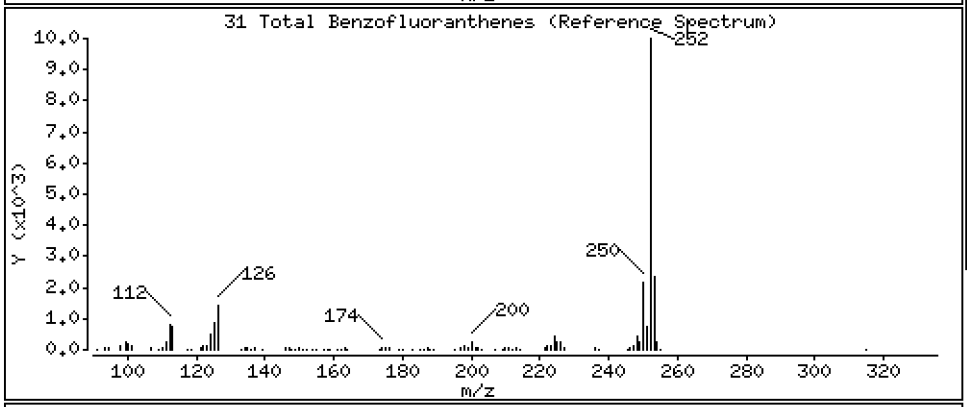
Concentration: 0.1056 ug/mL

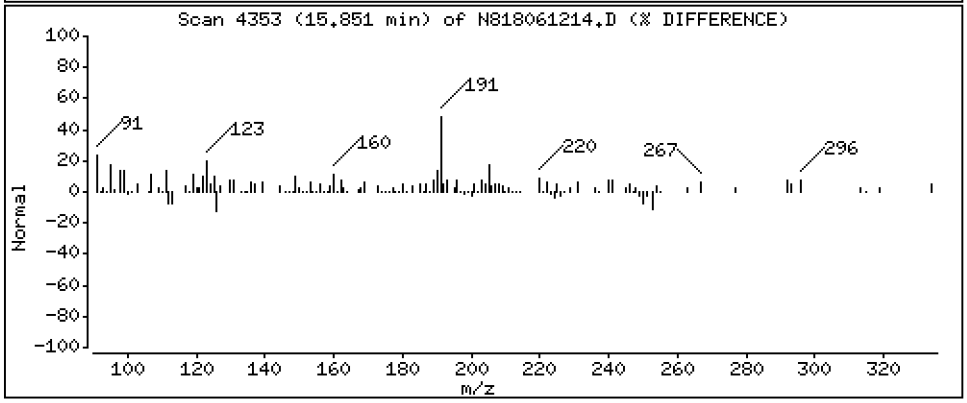












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061214.D
Lab Smp Id: 18E0282-07
Inj Date : 12-JUN-2018 20:18
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-07
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	166777	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	75478	1.24063	1.241
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	84951	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	151589	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	7172	0.07719	0.07719
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	20512	0.19589	0.1959
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	170494	1.71797	1.718
	23 Pyrene	202	10.892	10.896	(0.816)	18116	0.19194	0.1919
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	5604	0.06141	0.06141
*	25 Chrysene-d12	240	13.346	13.349	(1.000)	157060	2.00000	
	27 Chrysene	228	13.409	13.419	(1.005)	8075	0.08791	0.08791
	28 Benzo(b)fluoranthene	252	15.850	15.860	(0.927)	4758	0.04828	0.04828
	29 Benzo(k)fluoranthene	252	15.904	15.917	(0.930)	3105	0.03204	0.03204(MH)
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.850	15.860	(0.927)	10151	0.10561	0.1056(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	155083	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	147421	2.02948	2.029
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061214.D
Lab Smp Id: 18E0282-07
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	166777	36.49
10 Acenaphthene-d10	65789	32895	131578	84951	29.13
15 Phenanthrene-d10	128644	64322	257288	151589	17.84
25 Chrysene-d12	166669	83335	333338	157060	-5.77
33 Perylene-d12	140483	70242	280966	155083	10.39

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.02
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061214.D

Lab ID: 18E0282-07
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 20:18

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

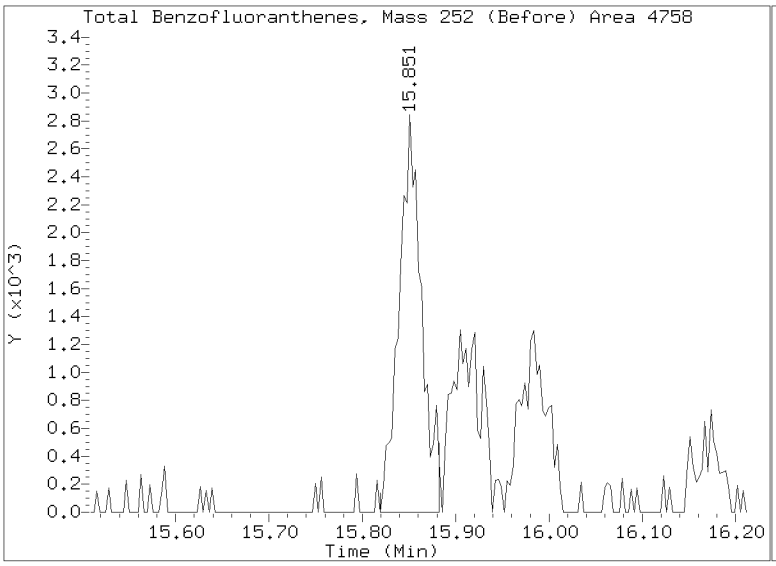
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

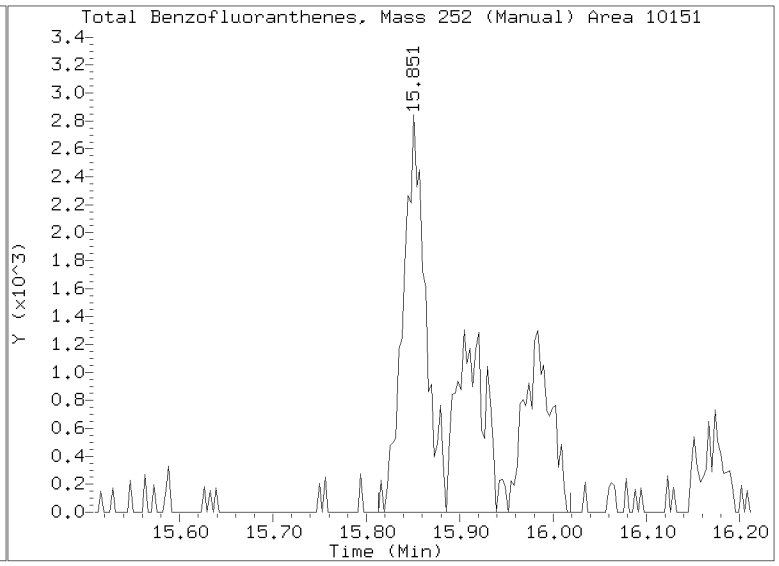
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

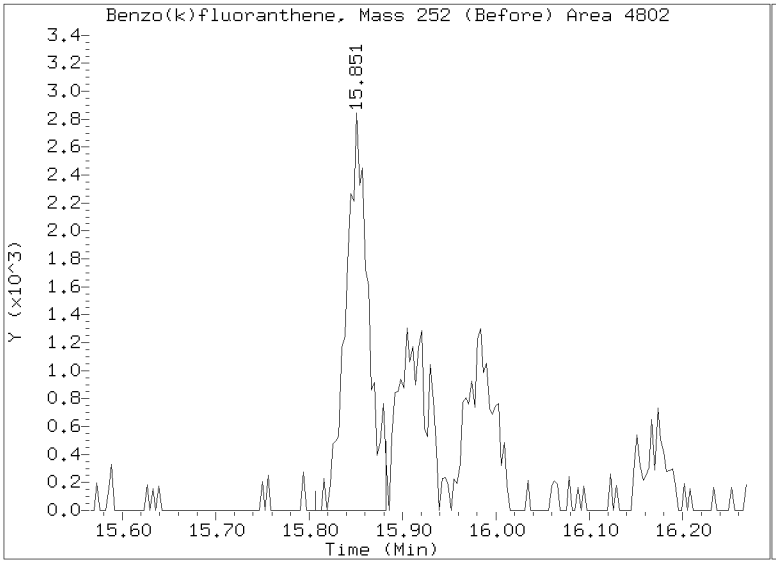
* Only compounds listed in the work order have been verified by the analyst *

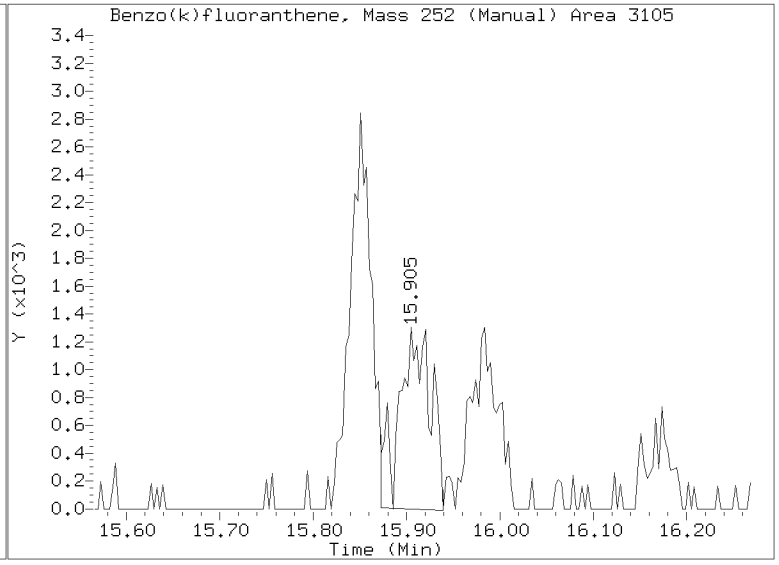
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061214.D
Injection Date: 12-JUN-2018 20:18
Lab ID:18E0282-07 Client ID:
Report Date: 06/13/2018 13:43









LDW18-A10-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-08	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	06/05/18 12:40	File ID:	N818061215.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 20:45
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.13 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.11		0.53	4.94
218-01-9	Chrysene	1	5.72		0.48	4.94
205-99-2	Benzo(b)fluoranthene	1	2.85	J	0.99	4.94
207-08-9	Benzo(k)fluoranthene	1	1.73	J	0.70	4.94
50-32-8	Benzo(a)pyrene	1	4.94	U	0.90	4.94
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.94	U	0.57	4.94
53-70-3	Dibenzo(a,h)anthracene	1	4.94	U	1.51	4.94

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.08	55.4	37.4	20 - 130	
Dibenzo[a,h]anthracene-d14	148.08	88.8	60.0	20 - 130	
Fluoranthene-d10	148.08	73.9	49.9	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

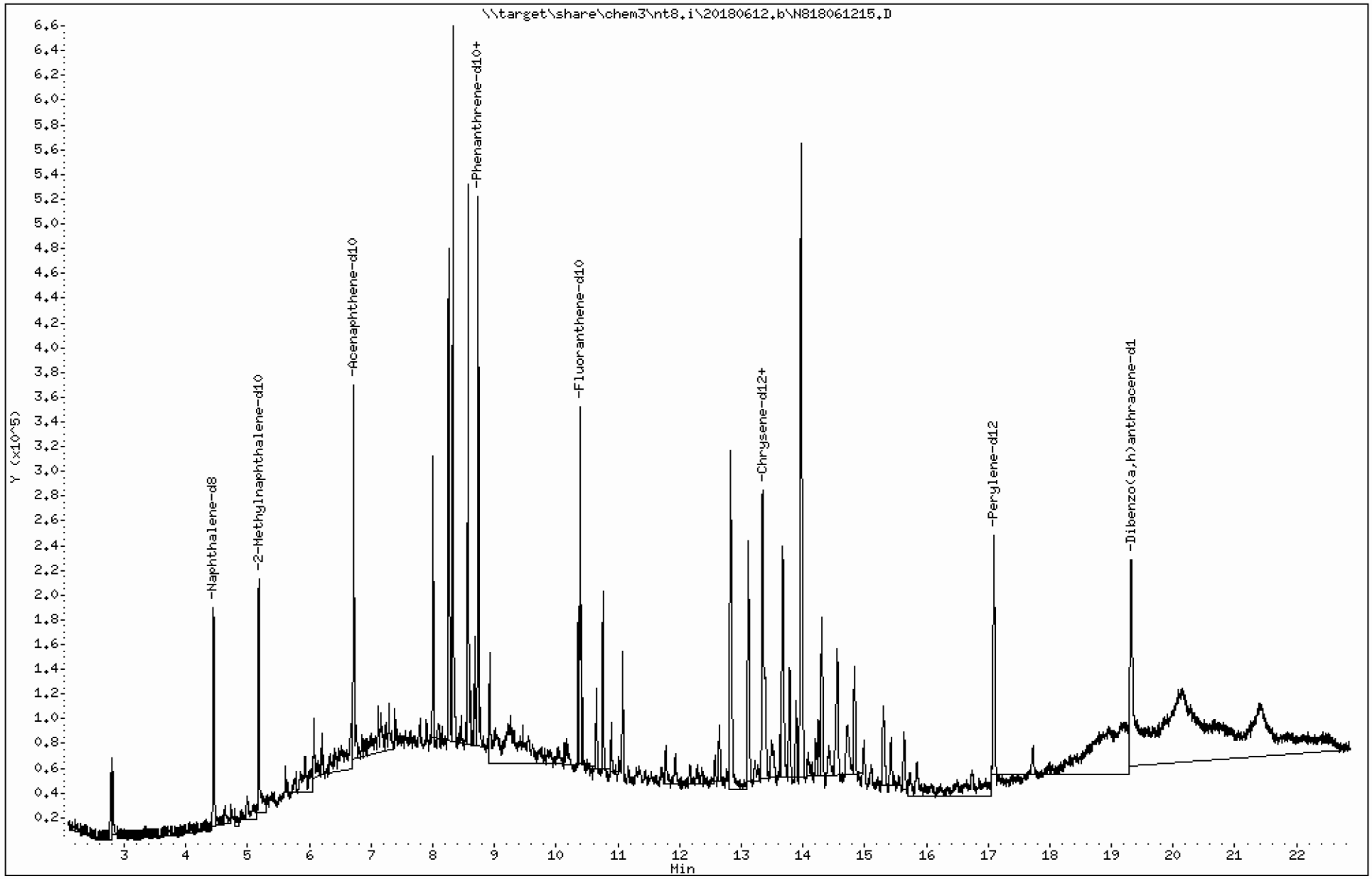
Instrument: nt8.i

Sample Info: 18E0282-08

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

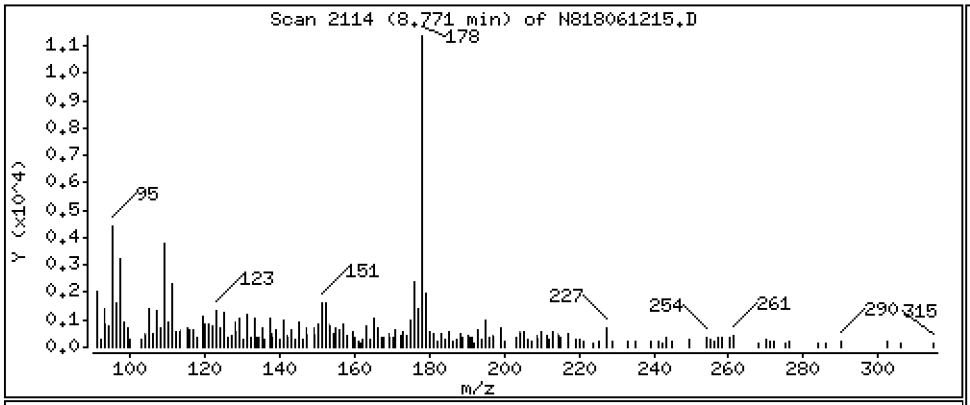
Operator: JZ

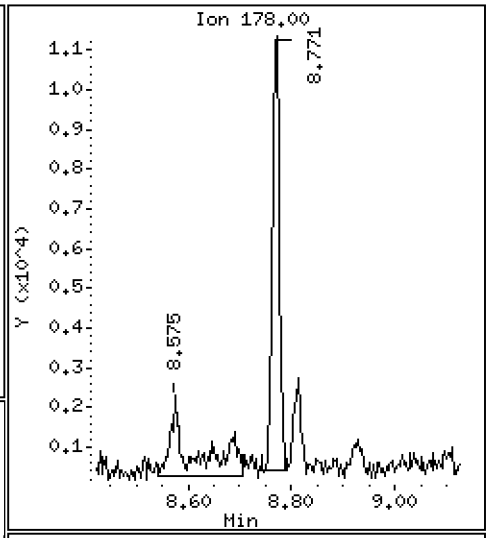
Column phase: Rxi-17sil

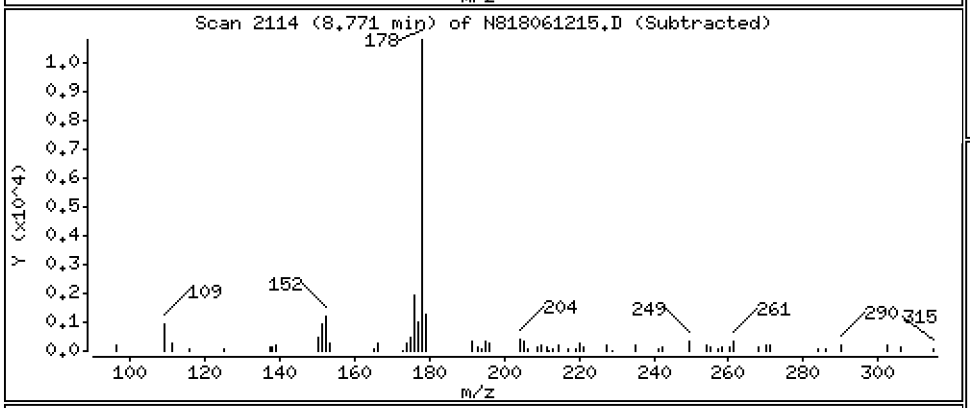
Column diameter: 0.25

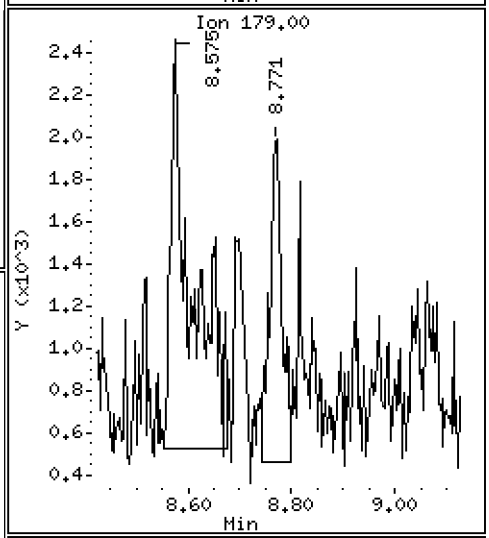
16 Phenanthrene

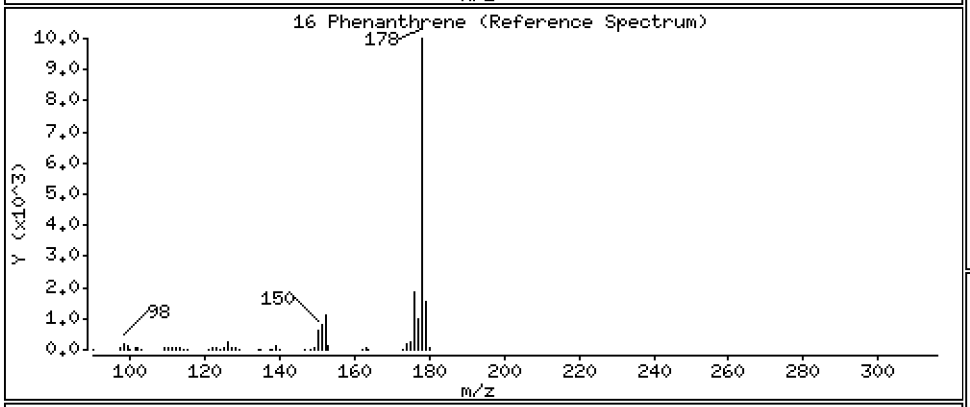
Concentration: 0.1076 ug/mL

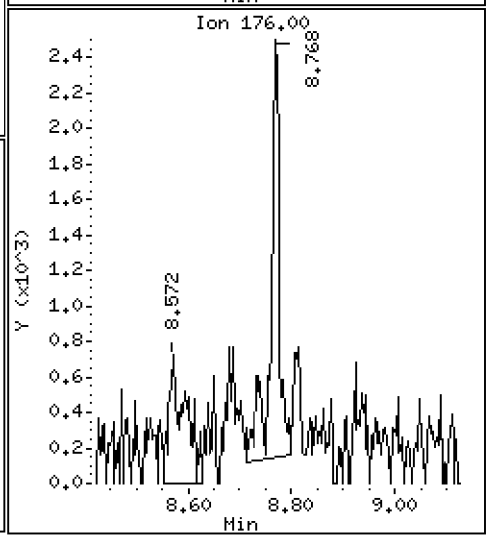


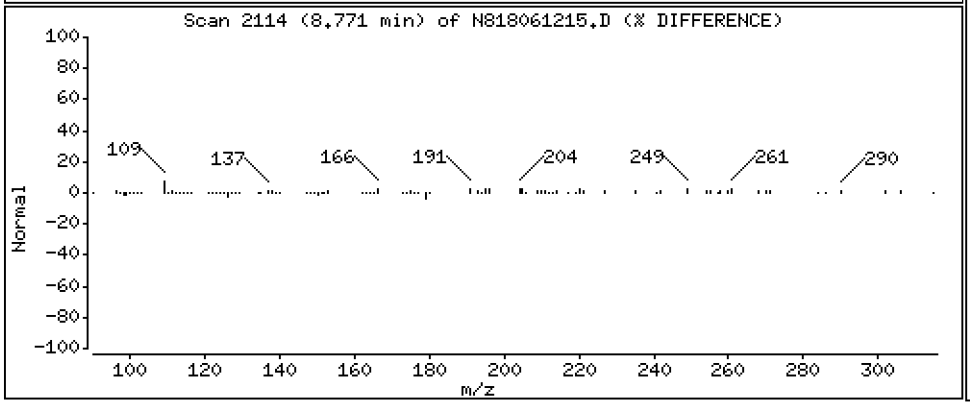












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

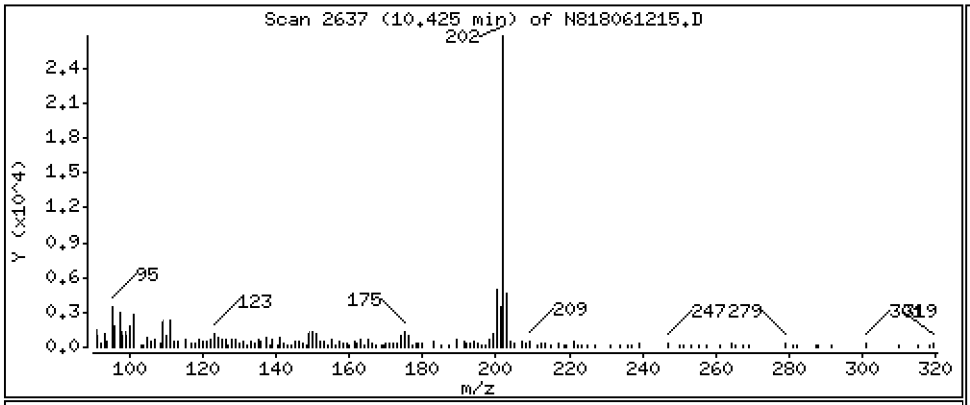
Operator: JZ

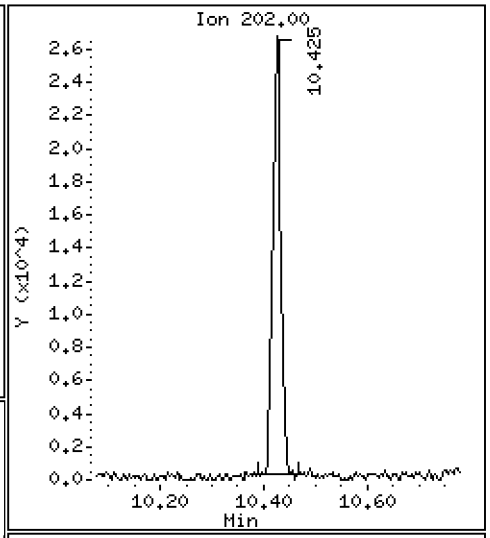
Column phase: Rxi-17sil

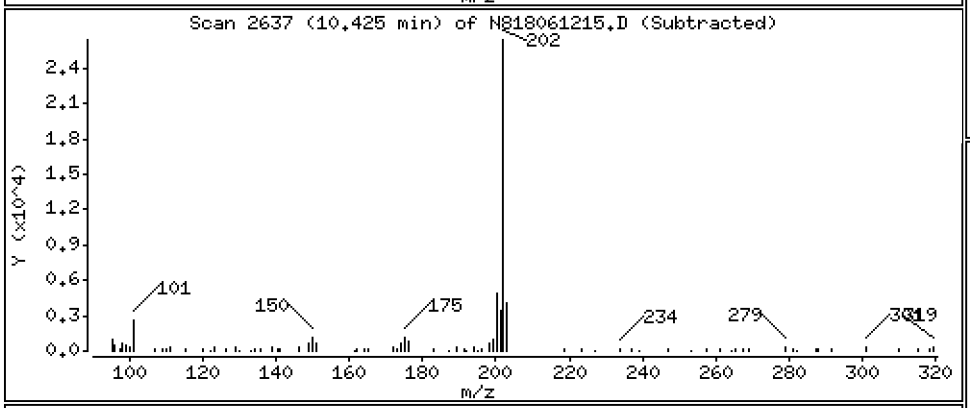
Column diameter: 0.25

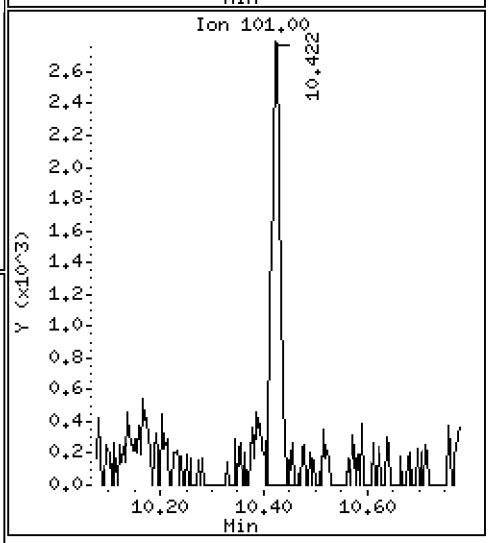
22 Fluoranthene

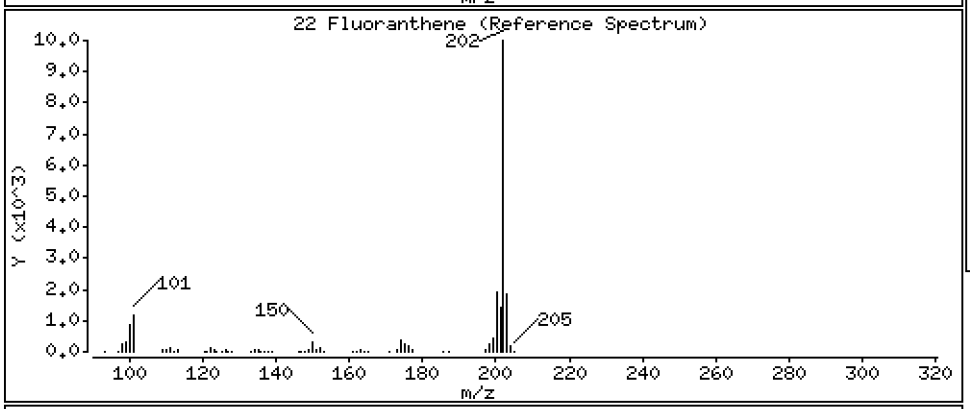
Concentration: 0.2708 ug/mL

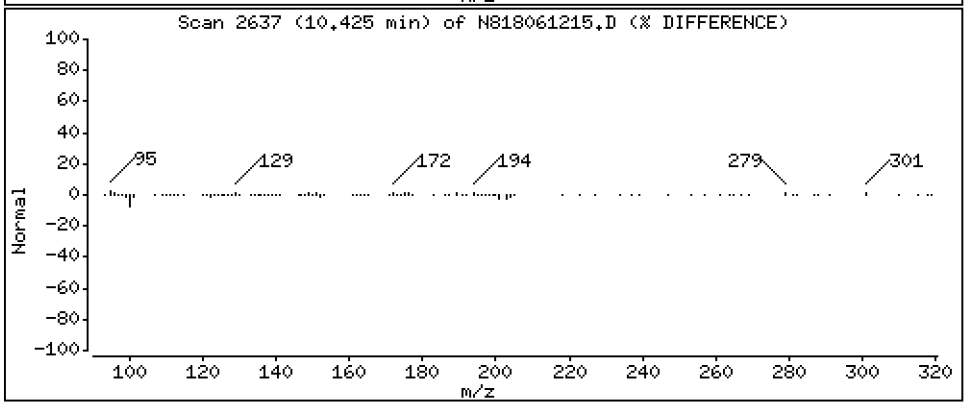












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

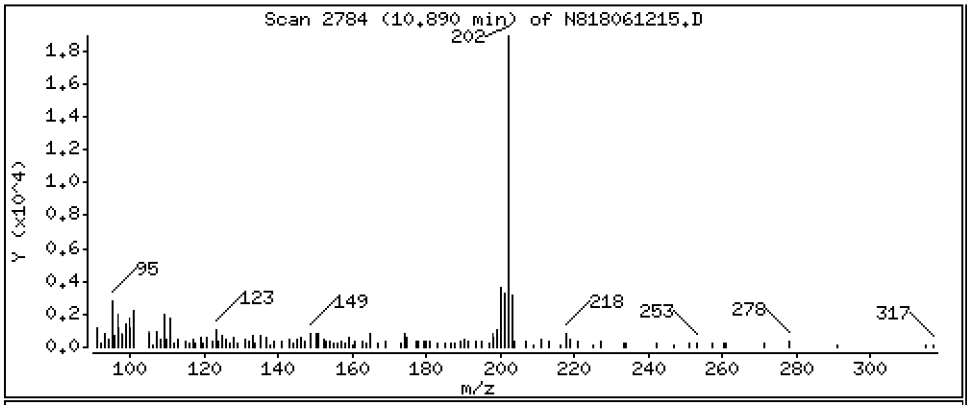
Operator: JZ

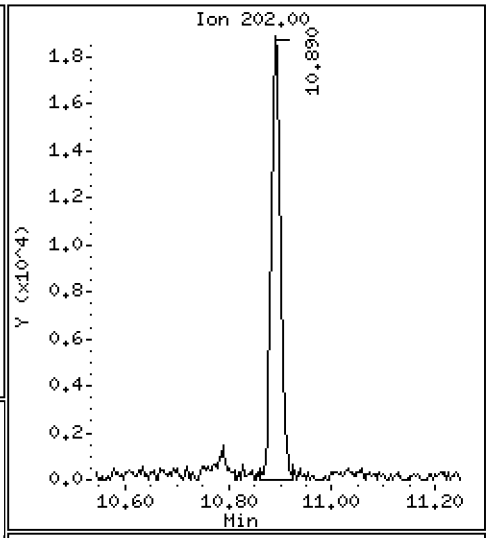
Column phase: Rxi-17sil

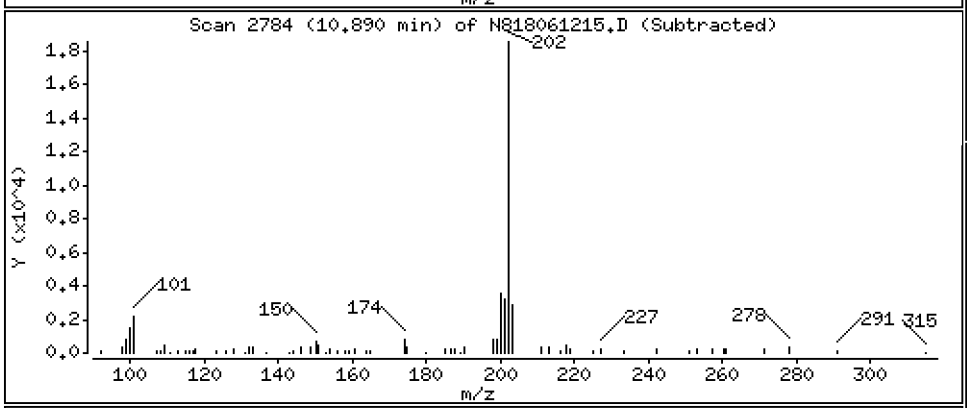
Column diameter: 0.25

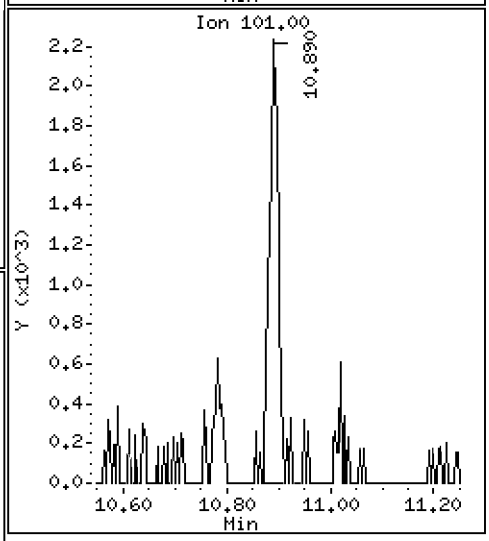
23 Pyrene

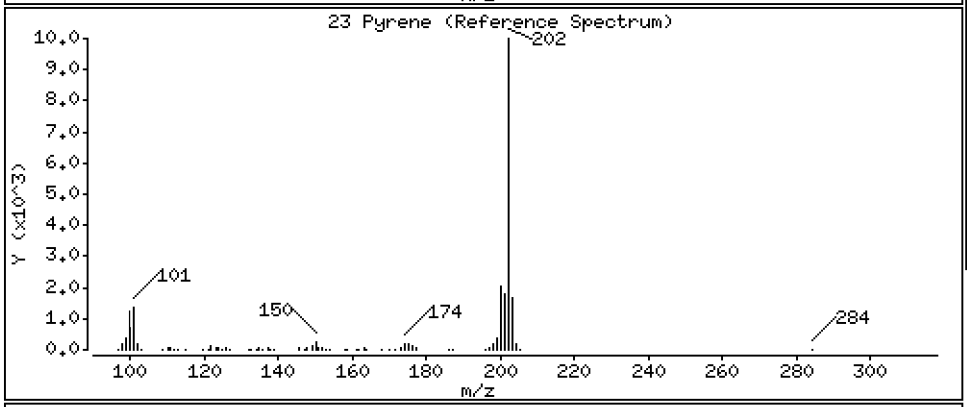
Concentration: 0.2578 ug/mL

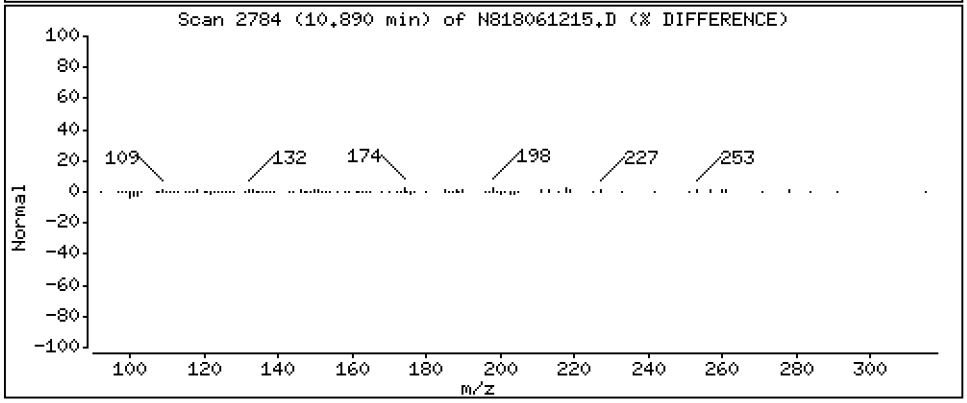












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

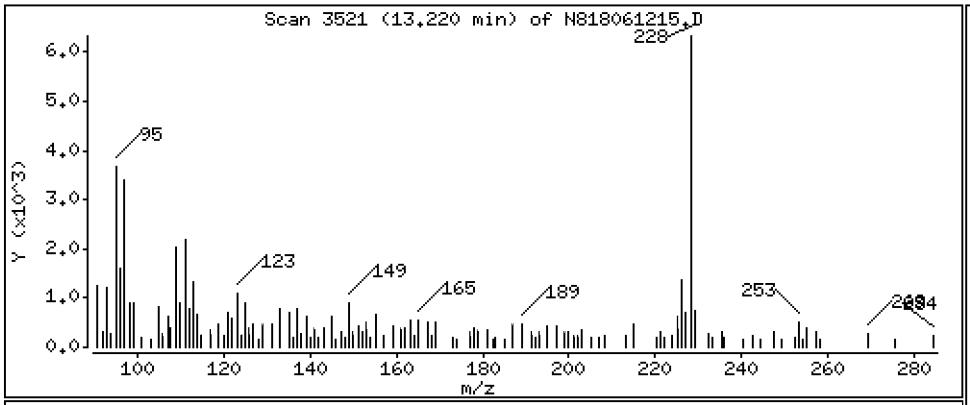
Operator: JZ

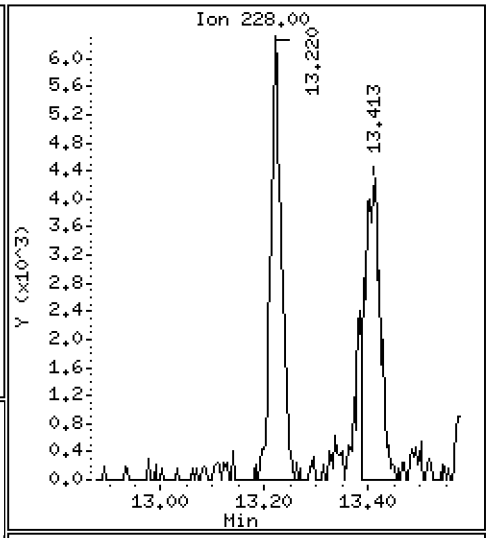
Column phase: Rxi-17sil

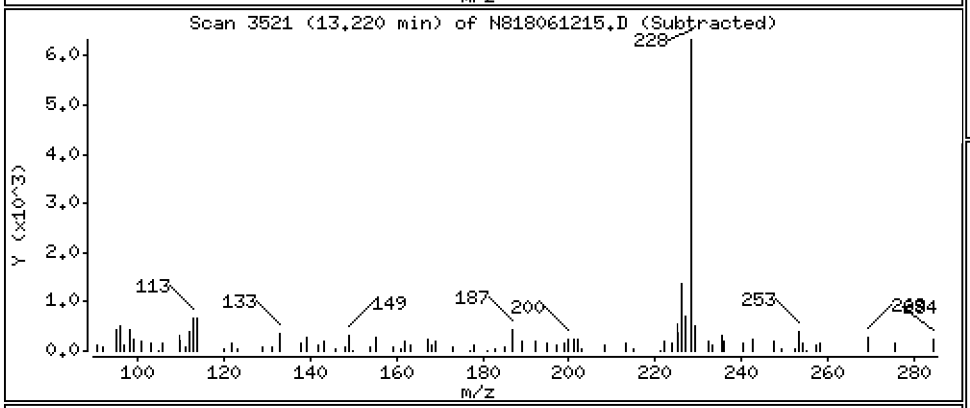
Column diameter: 0.25

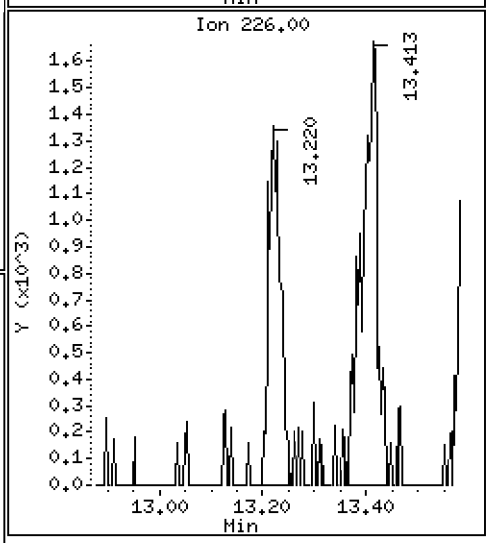
24 Benzo(a)anthracene

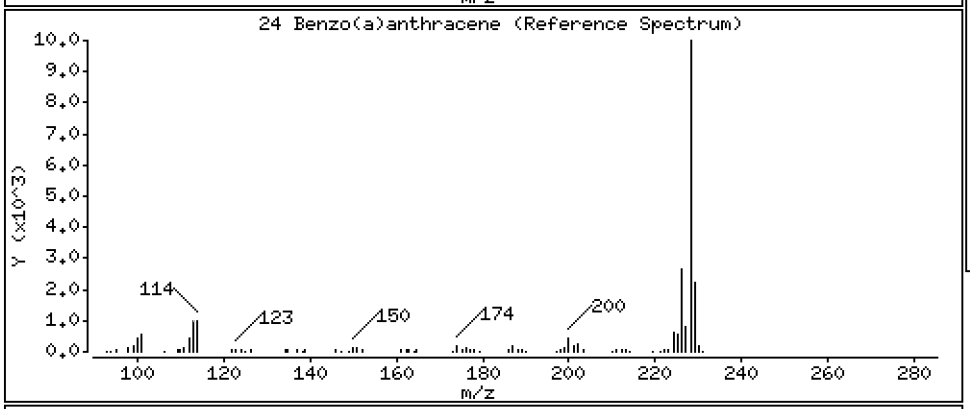
Concentration: 0.1036 ug/mL

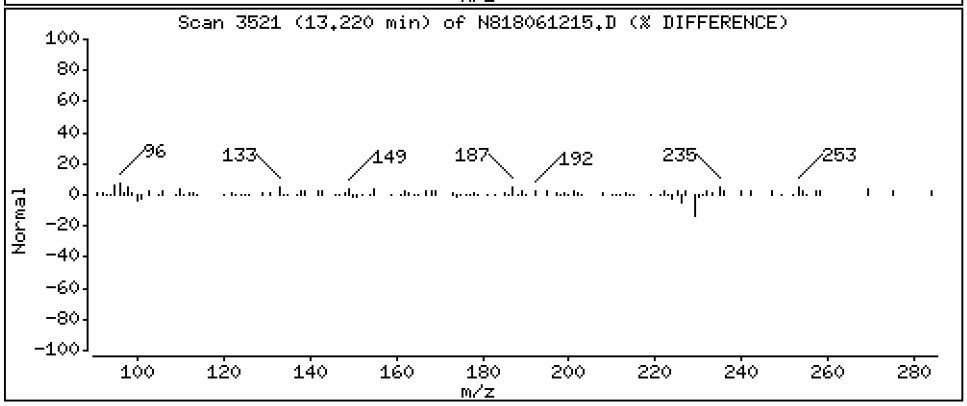












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

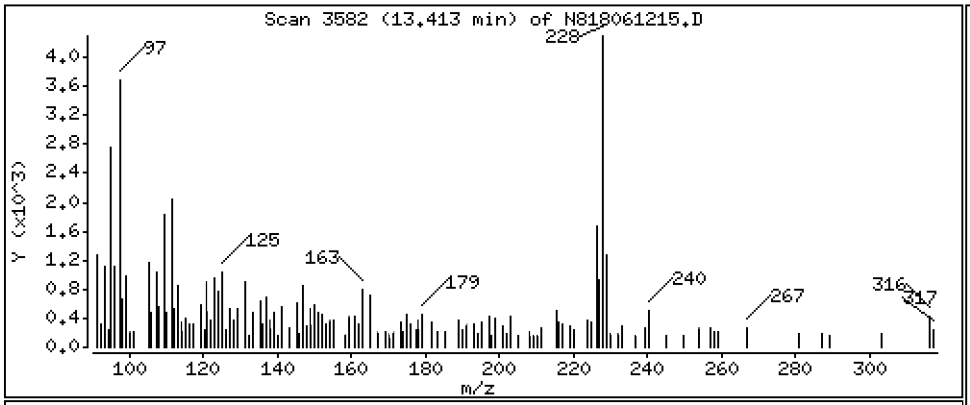
Operator: JZ

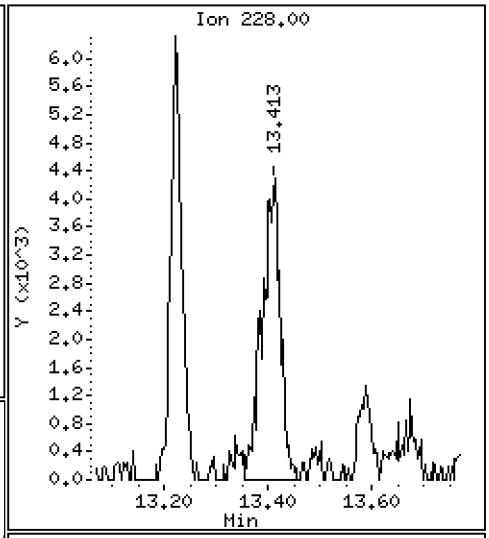
Column phase: Rxi-17sil

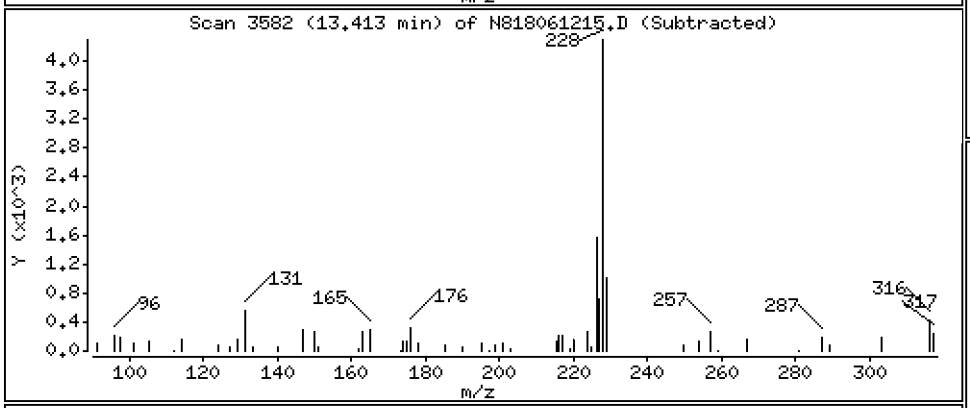
Column diameter: 0.25

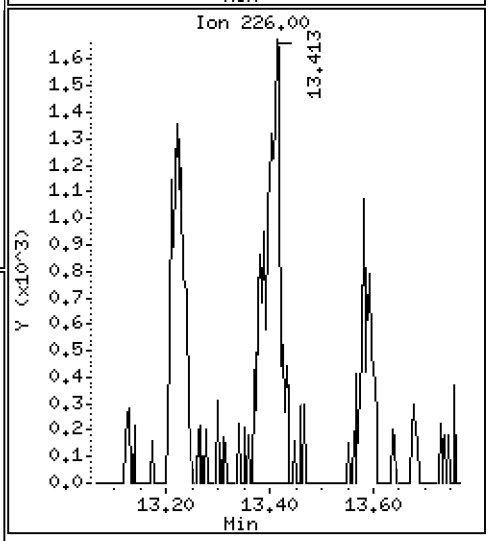
27 Chrysene

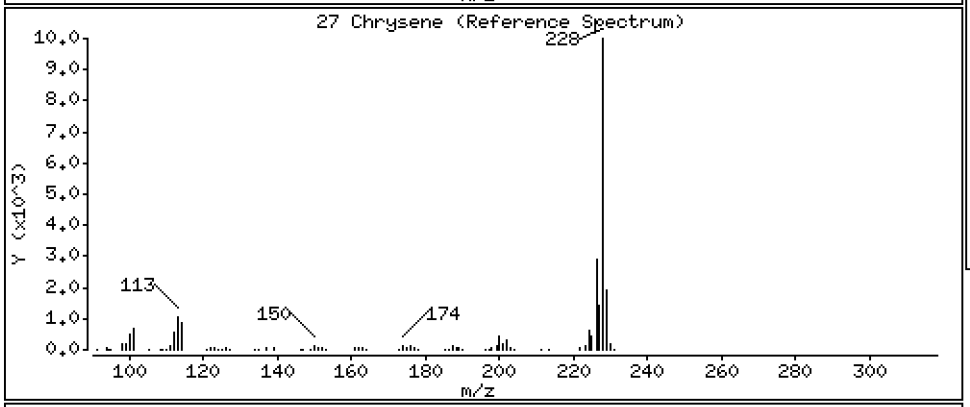
Concentration: 0.1159 ug/mL

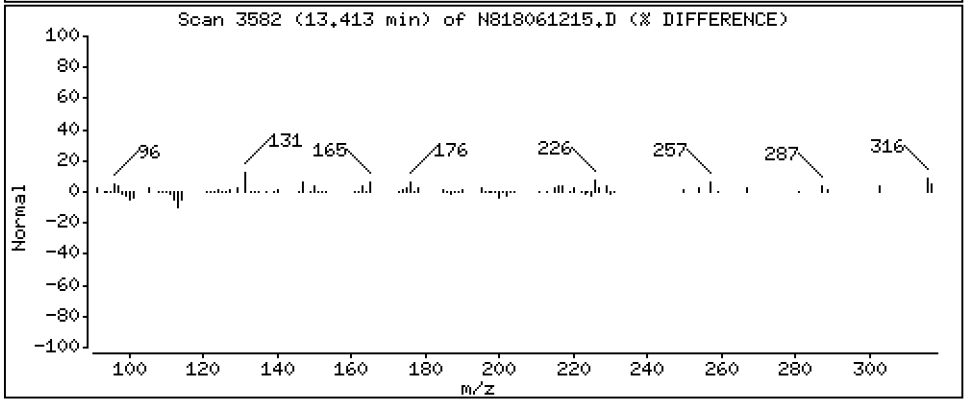












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

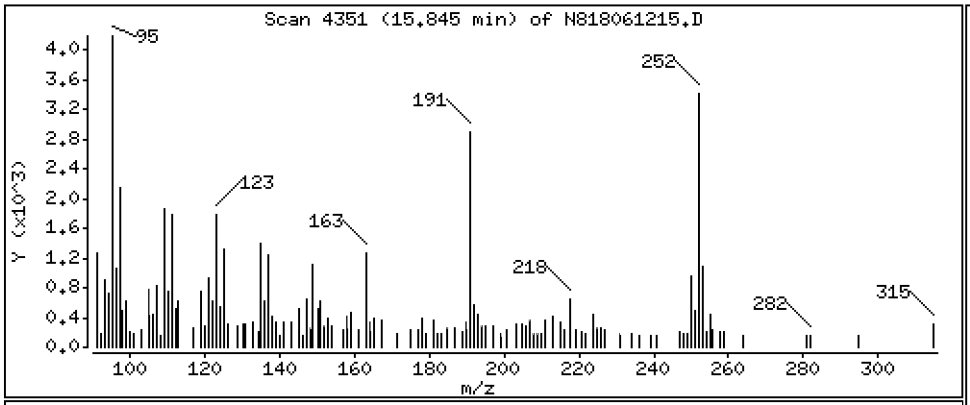
Operator: JZ

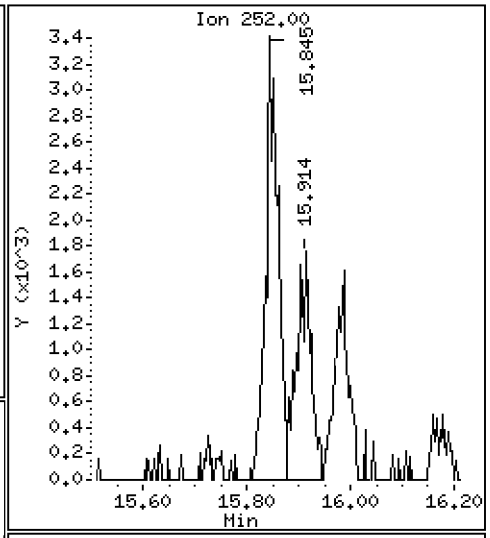
Column phase: Rxi-17sil

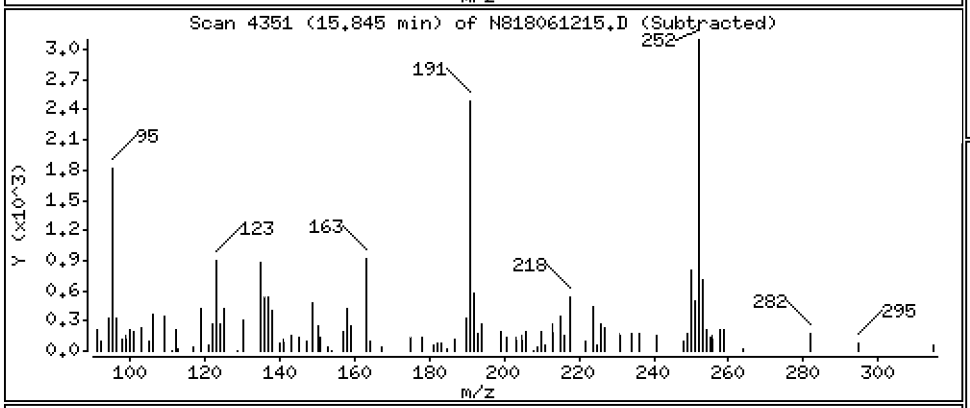
Column diameter: 0.25

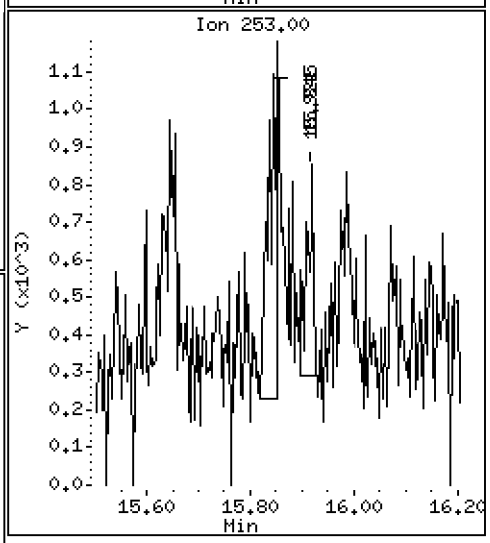
28 Benzo(b)fluoranthene

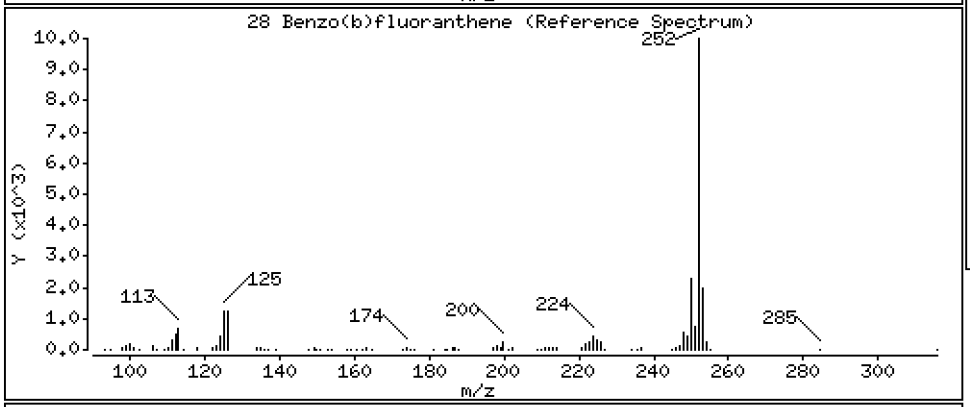
Concentration: 0.05765 ug/mL

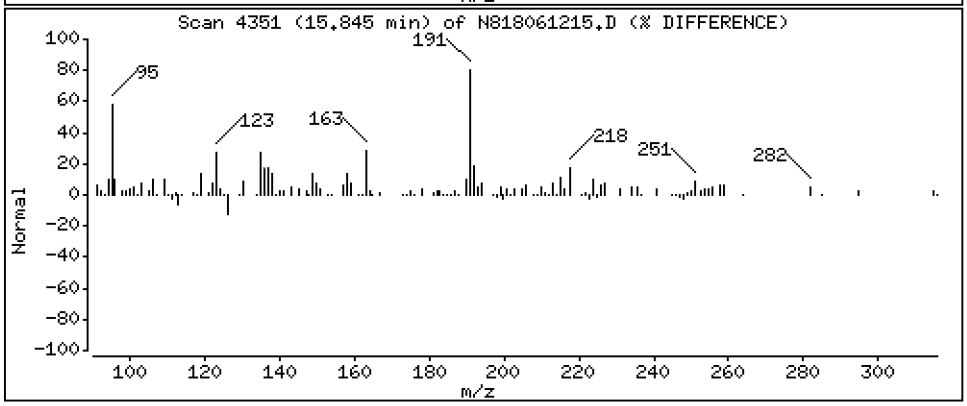












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

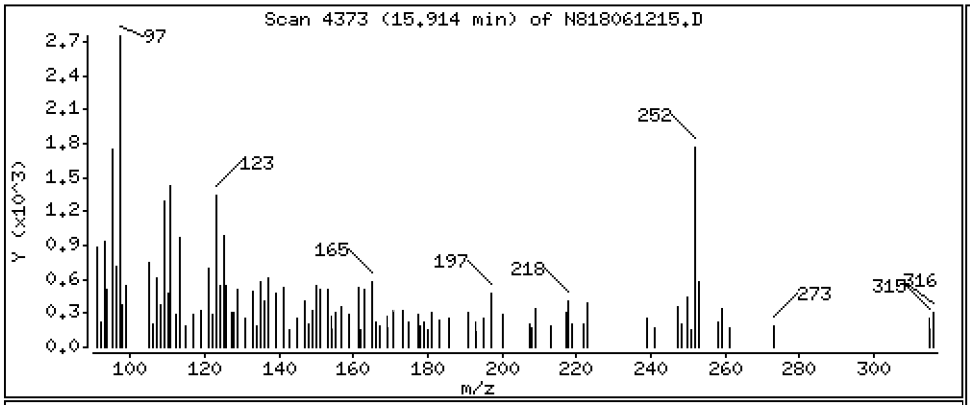
Operator: JZ

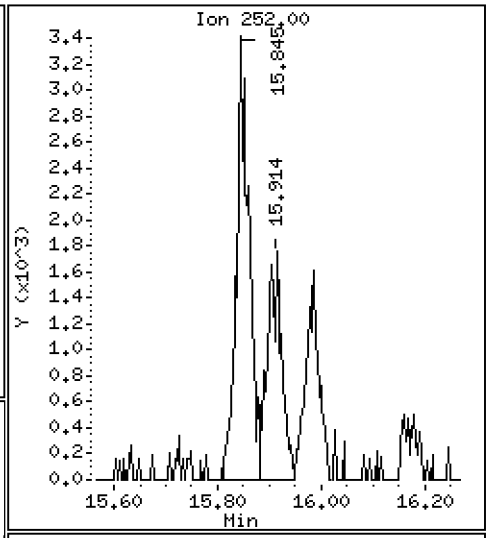
Column phase: Rxi-17sil

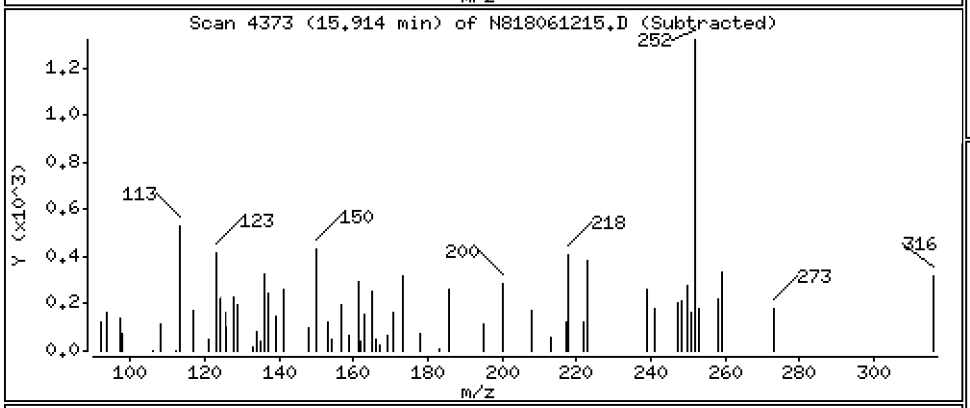
Column diameter: 0.25

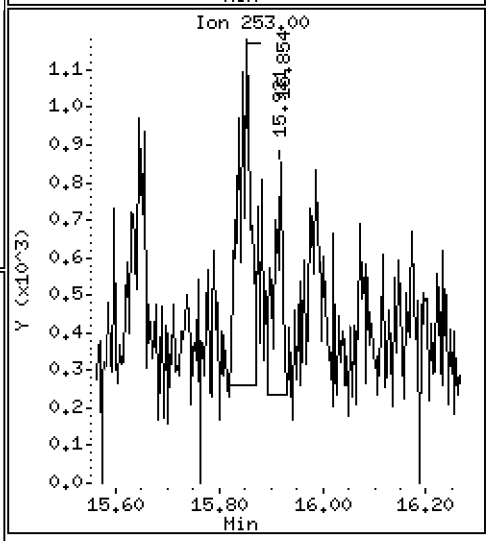
29 Benzo(k)fluoranthene

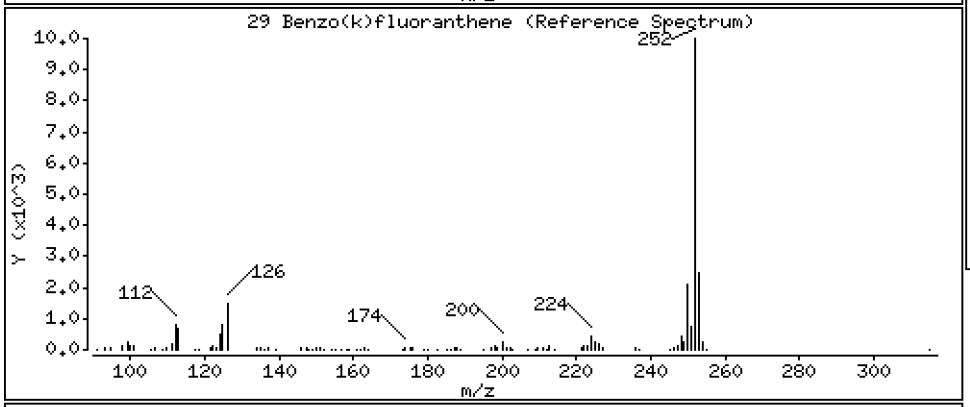
Concentration: 0.03513 ug/mL

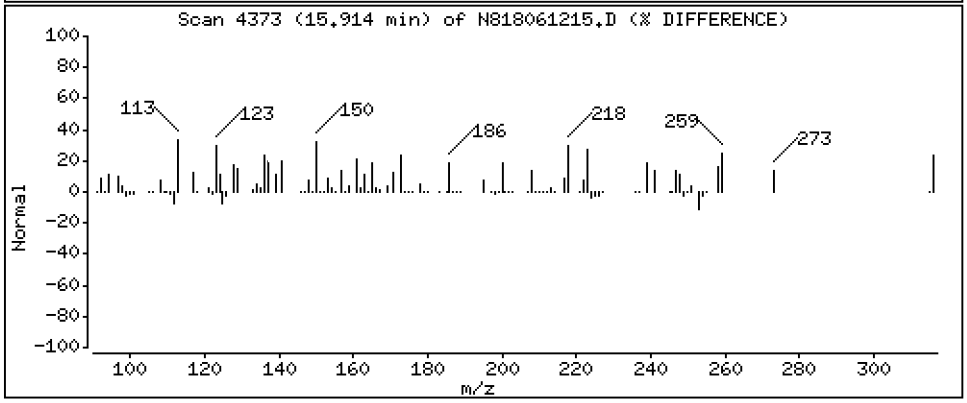












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

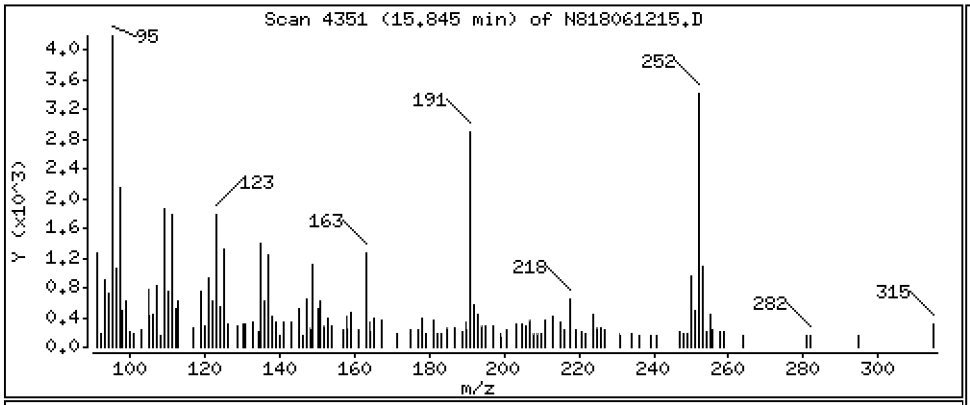
Operator: JZ

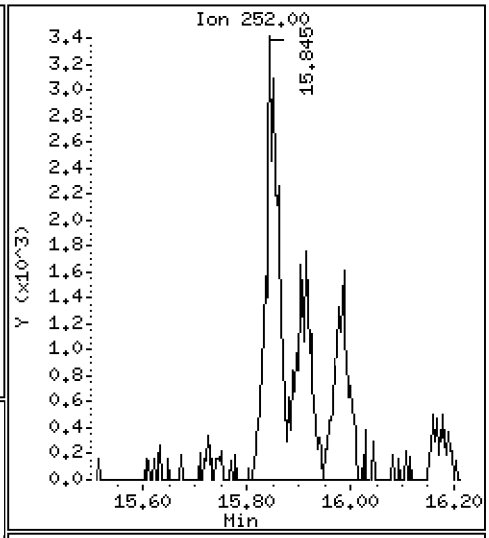
Column phase: Rxi-17sil

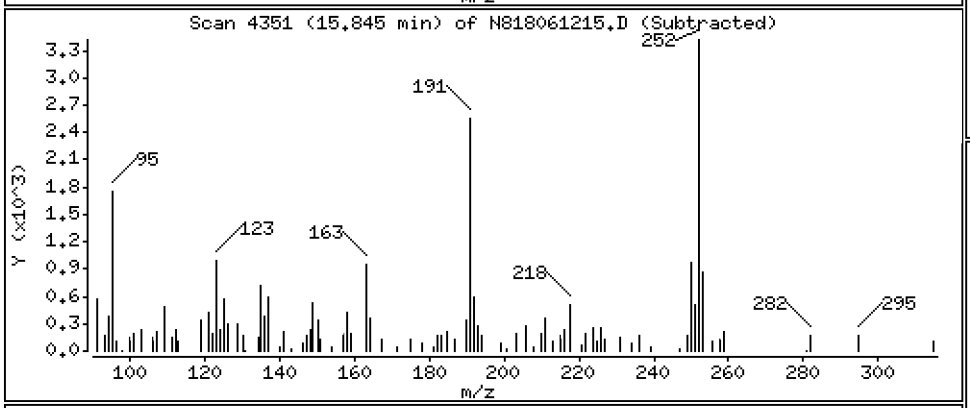
Column diameter: 0.25

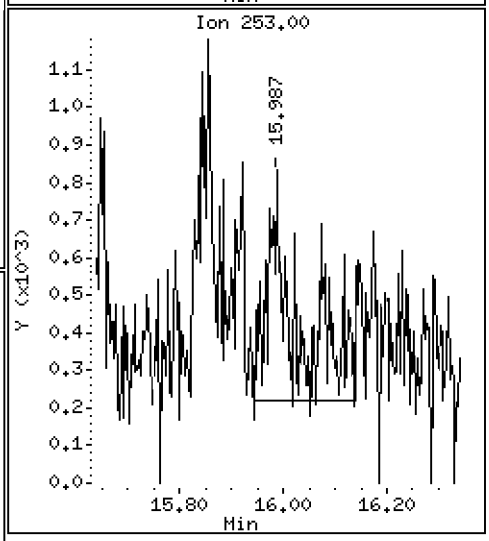
31 Total Benzofluoranthenes

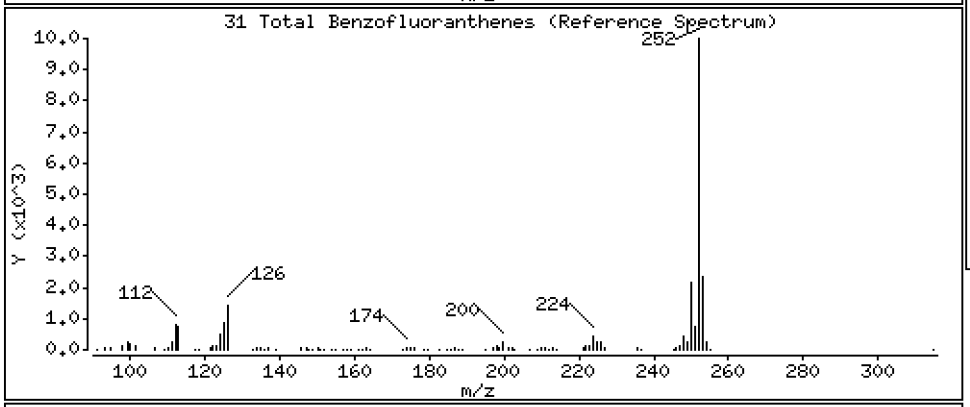
Concentration: 0.1254 ug/mL

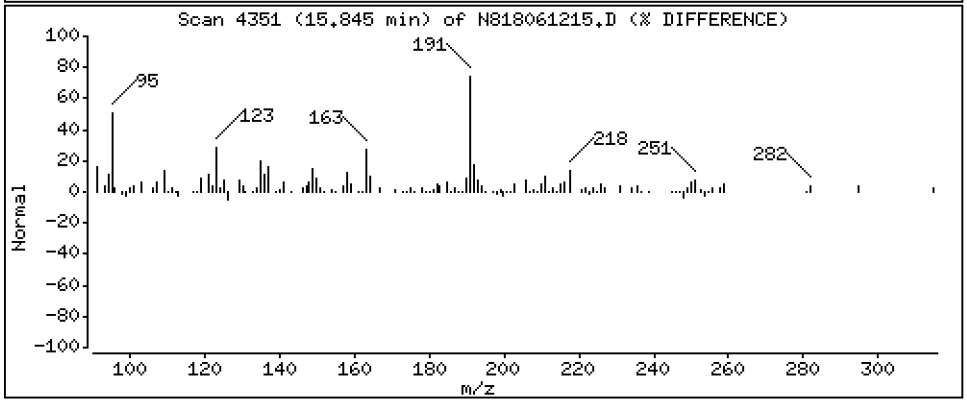












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061215.D

Date : 12-JUN-2018 20:45

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-08

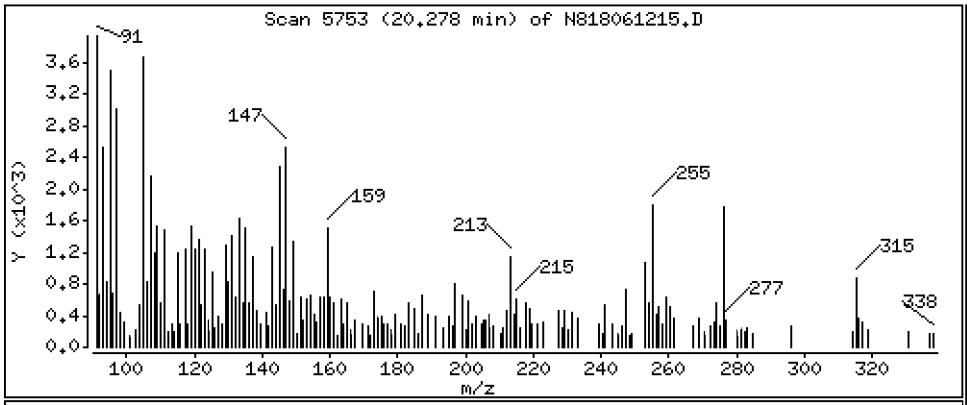
Operator: JZ

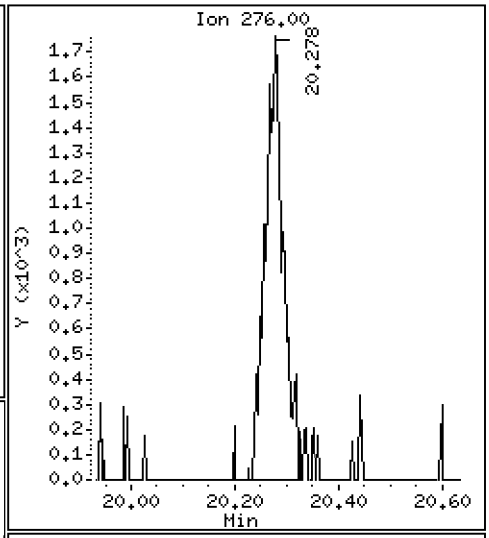
Column phase: Rxi-17sil

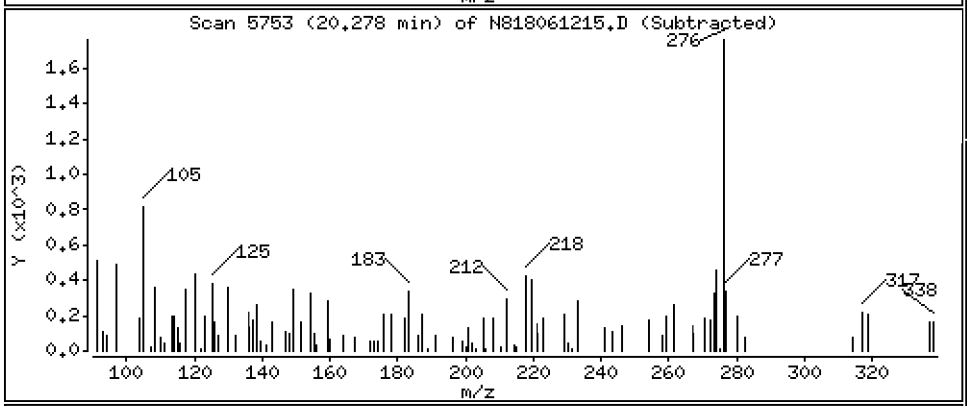
Column diameter: 0.25

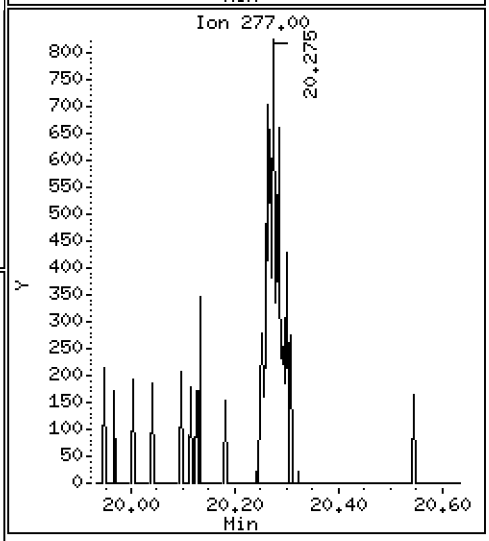
39 Benzo(g,h,i)perylene

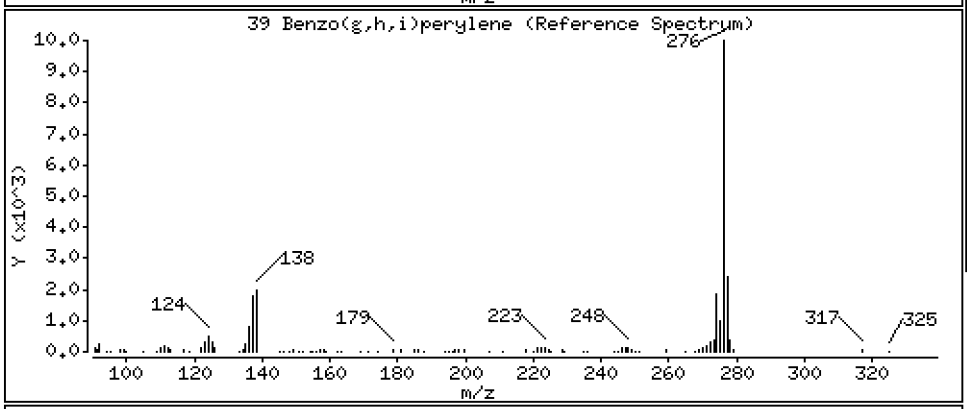
Concentration: 0.05009 ug/mL

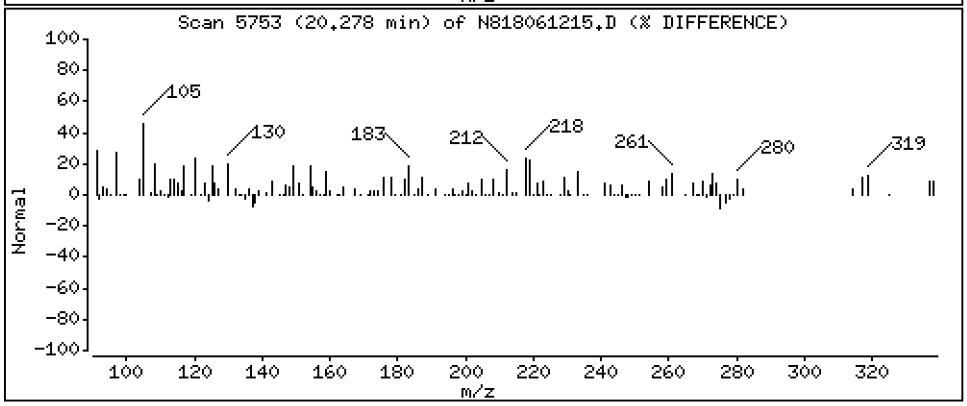












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061215.D
Lab Smp Id: 18E0282-08
Inj Date : 12-JUN-2018 20:45
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-08
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

								CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	164768		2.00000	
	2 Naphthalene	128	Compound Not Detected.						
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	67463		1.12241	1.122
	4 2-Methylnaphthalene	141	Compound Not Detected.						
	5 1-methylnaphthalene	141	Compound Not Detected.						
	9 Acenaphthylene	152	Compound Not Detected.						
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	82444		2.00000	
	11 Acenaphthene	153	Compound Not Detected.						
	12 Dibenzofuran	168	Compound Not Detected.						
	14 Fluorene	166	Compound Not Detected.						
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	153866		2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	10145		0.10758	0.1076
	17 Anthracene	178	Compound Not Detected.						
	22 Fluoranthene	202	10.425	10.428	(1.193)	28781		0.27080	0.2708
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	150756		1.49661	1.497
	23 Pyrene	202	10.889	10.896	(0.816)	24125		0.25779	0.2578
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	9374		0.10361	0.1036
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	155723		2.00000	
	27 Chrysene	228	13.413	13.419	(1.005)	10554		0.11588	0.1159(M)
	28 Benzo(b)fluoranthene	252	15.844	15.860	(0.927)	5605		0.05765	0.05765
	29 Benzo(k)fluoranthene	252	15.914	15.917	(0.931)	3359		0.03513	0.03513
	30 Benzo(j)fluoranthene	252	Compound Not Detected.						
	31 Total Benzofluoranthenes	252	15.844	15.860	(0.927)	11892		0.12541	0.1254(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.						
*	33 Perylene-d12	264	17.093	17.099	(1.000)	152989		2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
$	36 Dibenzo(a,h)anthracene-d14	292	19.316	19.325	(1.130)	128957		1.79960	1.800
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	39 Benzo(g,h,i)perylene	276	20.277	20.284	(1.186)	4271		0.05009	0.05009
	35 Perylene	252	Compound Not Detected.						

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061215.D
Lab Smp Id: 18E0282-08
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	164768	34.85
10 Acenaphthene-d10	65789	32895	131578	82444	25.32
15 Phenanthrene-d10	128644	64322	257288	153866	19.61
25 Chrysene-d12	166669	83335	333338	155723	-6.57
33 Perylene-d12	140483	70242	280966	152989	8.90

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061215.D

Lab ID: 18E0282-08
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 20:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

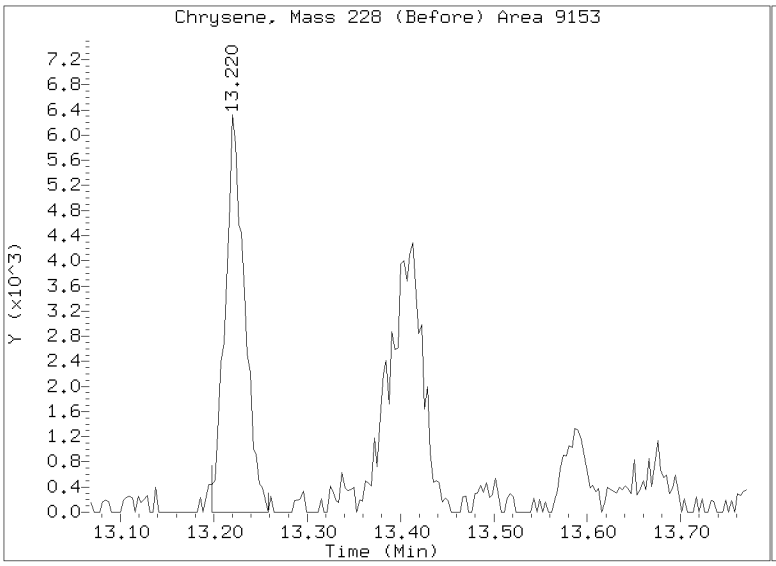
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

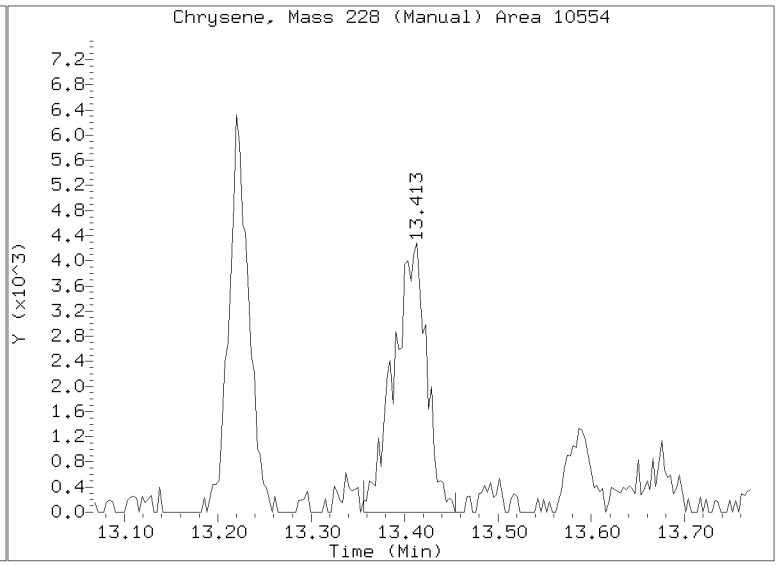
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

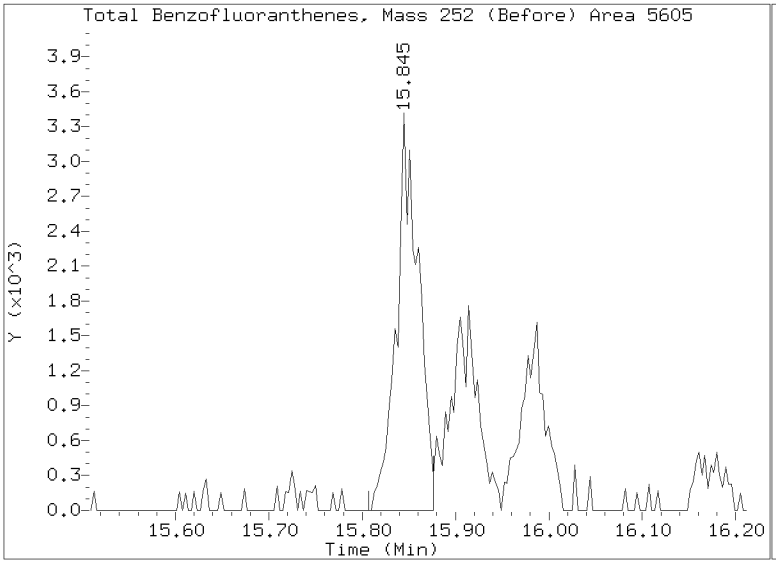
* Only compounds listed in the work order have been verified by the analyst *

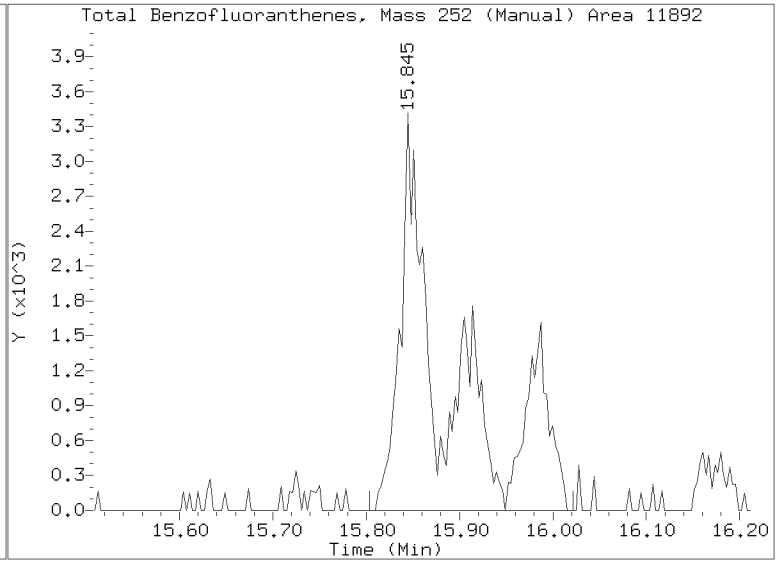
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061215.D
Injection Date: 12-JUN-2018 20:45
Lab ID:18E0282-08 Client ID:
Report Date: 06/13/2018 13:43









LDW18-A18-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-09	SDG:	18E0231
Sampled:	05/18/18 13:13	Prepared:	06/05/18 12:40	File ID:	N818061216.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 21:12
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.09 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.39	J	0.53	4.96
218-01-9	Chrysene	1	6.01		0.48	4.96
205-99-2	Benzo(b)fluoranthene	1	4.31	J	1.00	4.96
207-08-9	Benzo(k)fluoranthene	1	2.72	J	0.71	4.96
50-32-8	Benzo(a)pyrene	1	3.91	J	0.91	4.96
193-39-5	Indeno(1,2,3-cd)pyrene	1	2.65	J	0.57	4.96
53-70-3	Dibenzo(a,h)anthracene	1	4.96	U	1.51	4.96

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.66	62.1	41.8	20 - 130	
Dibenzo[a,h]anthracene-d14	148.66	102	68.6	20 - 130	
Fluoranthene-d10	148.66	82.0	55.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

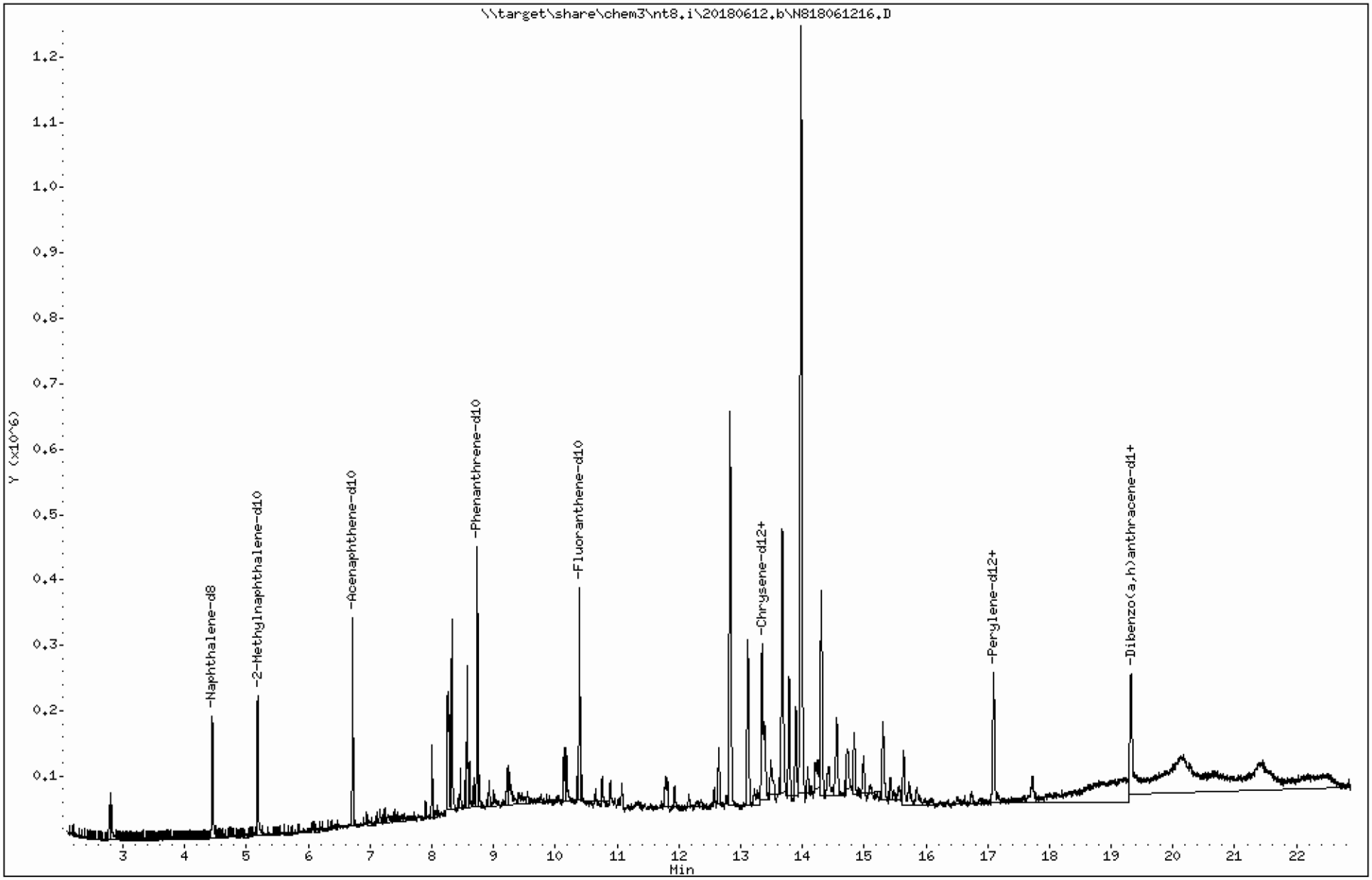
Instrument: nt8.i

Sample Info: 18E0282-09

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

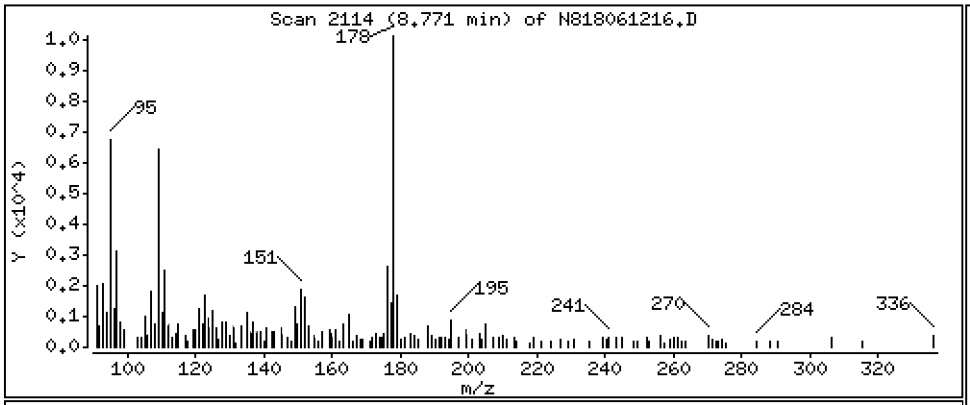
Operator: JZ

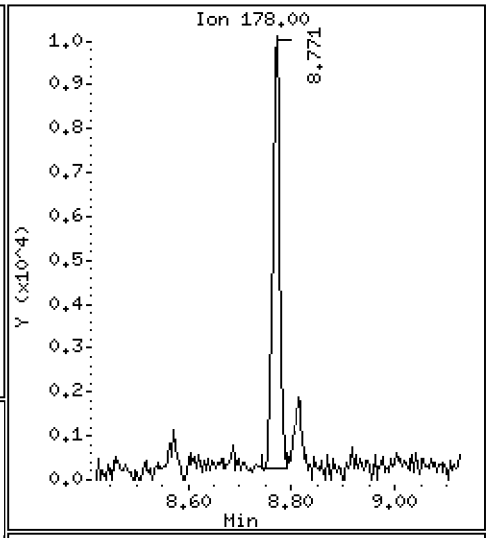
Column phase: Rxi-17sil

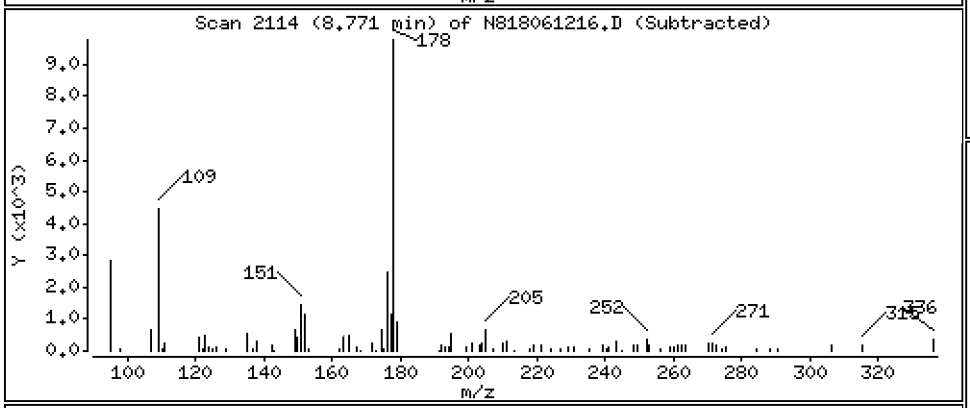
Column diameter: 0.25

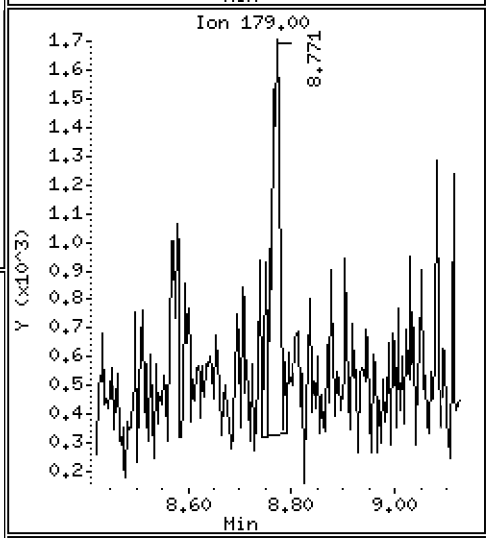
16 Phenanthrene

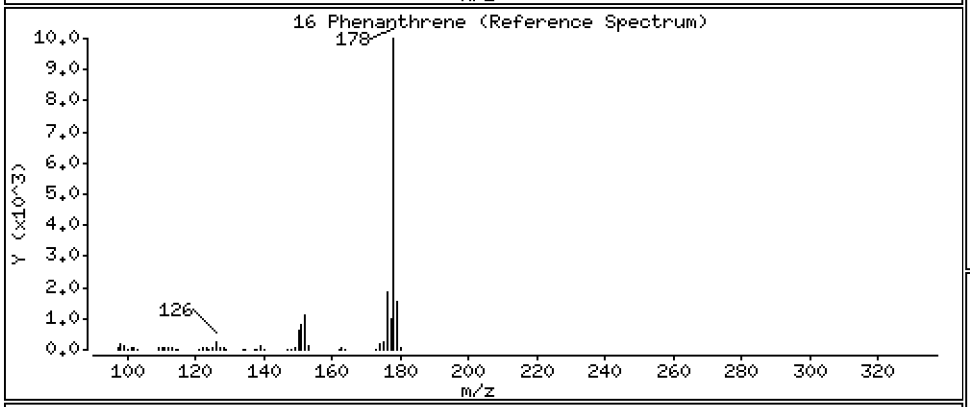
Concentration: 0.09445 ug/mL

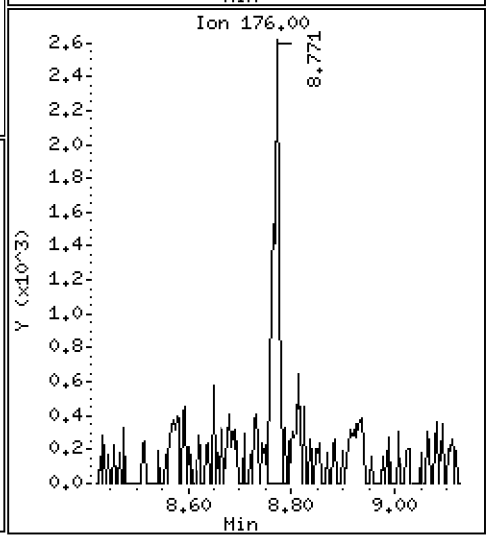


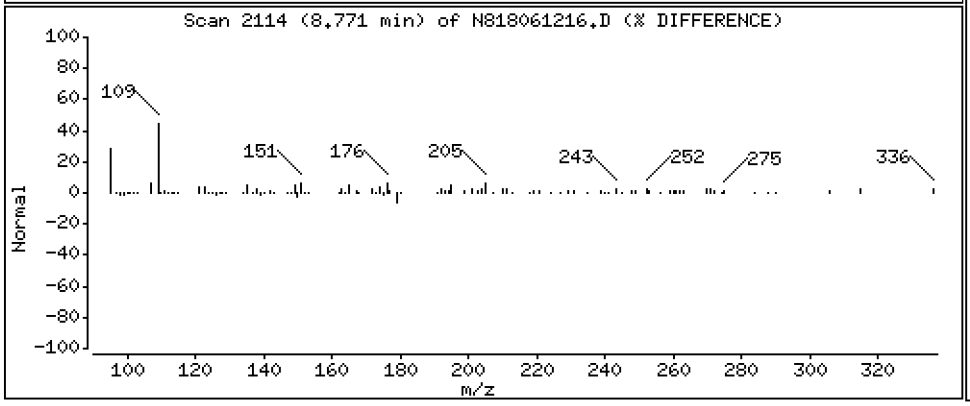












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

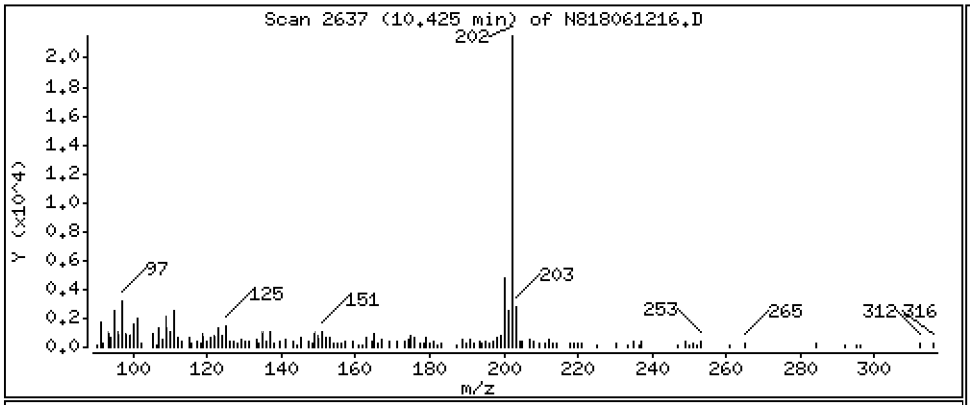
Operator: JZ

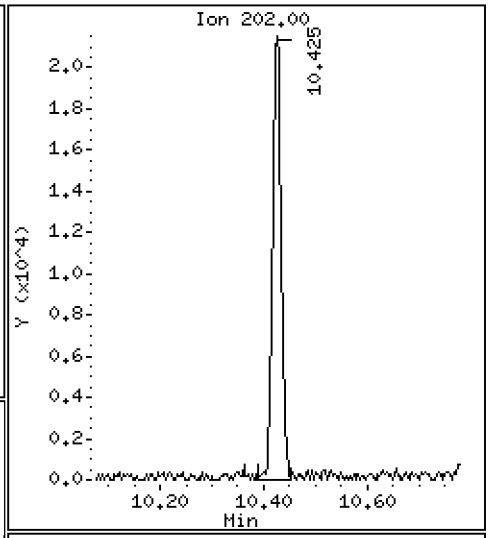
Column phase: Rxi-17sil

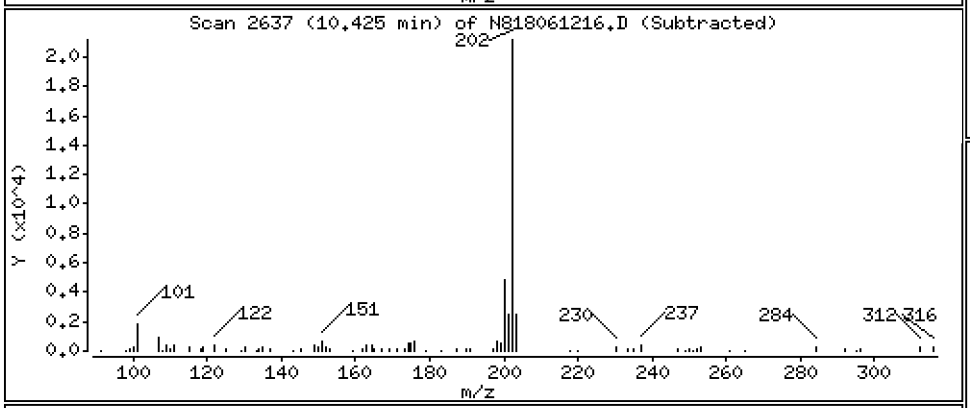
Column diameter: 0.25

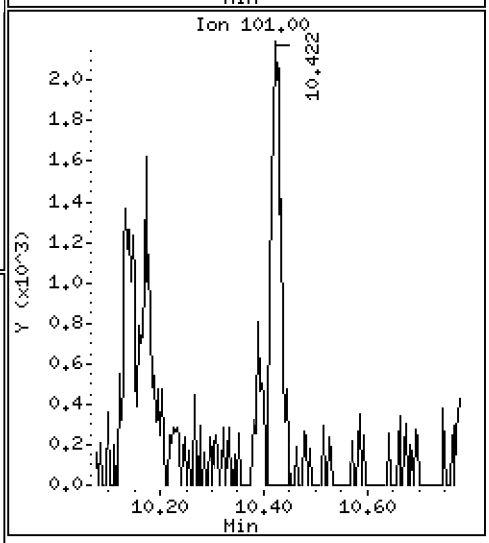
22 Fluoranthene

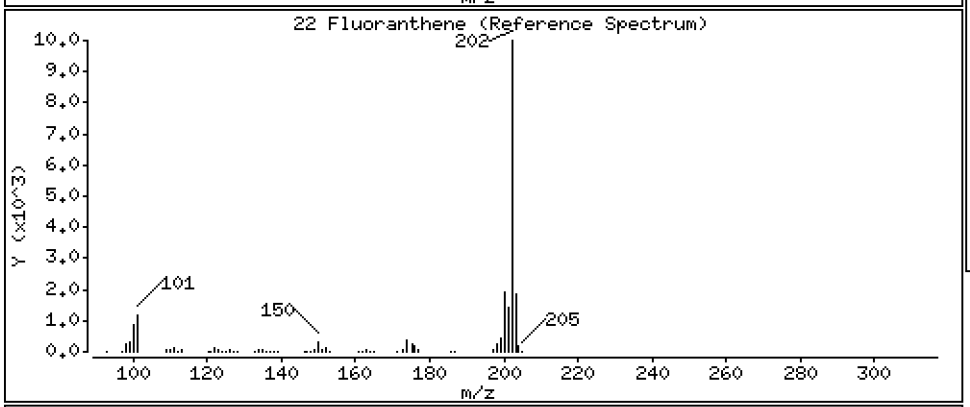
Concentration: 0.2301 ug/mL

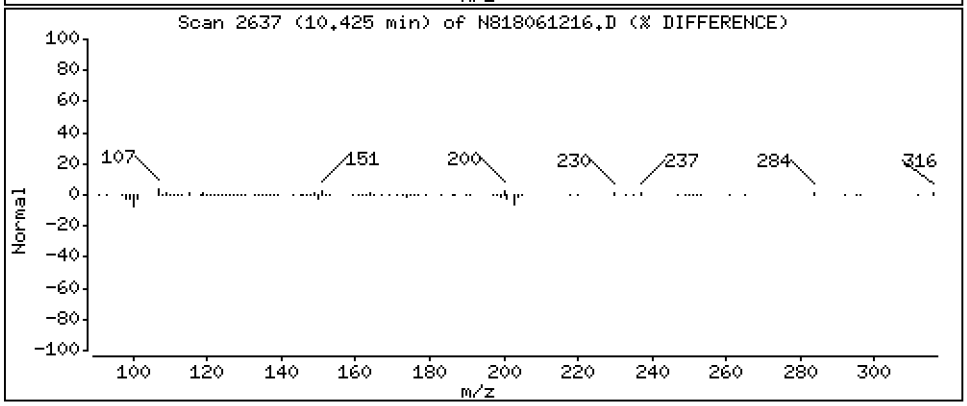












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

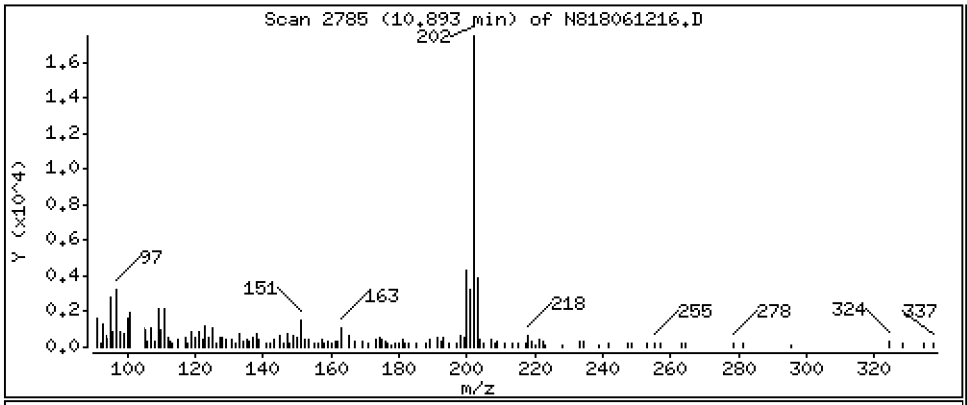
Operator: JZ

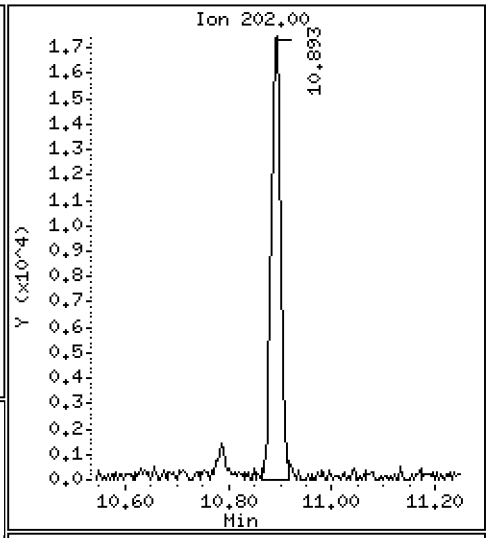
Column phase: Rxi-17sil

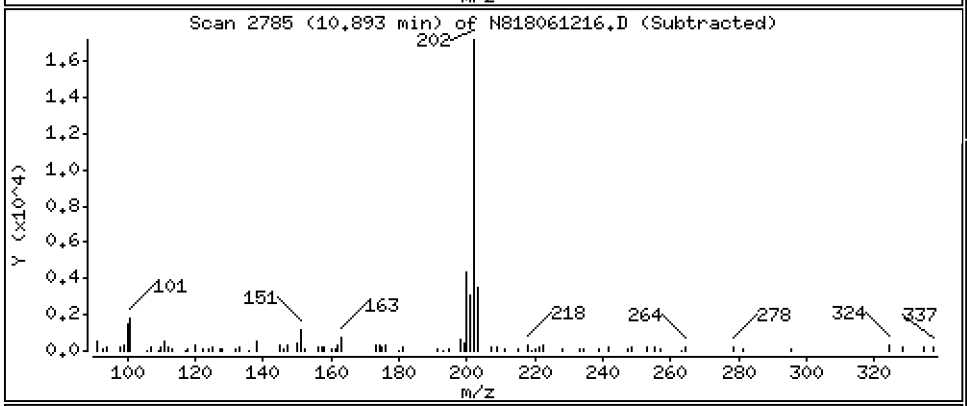
Column diameter: 0.25

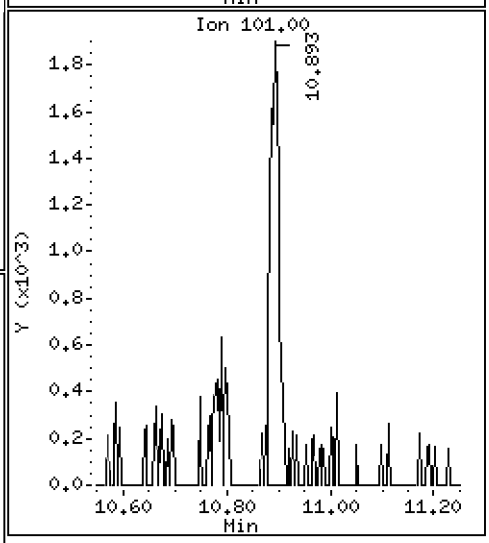
23 Pyrene

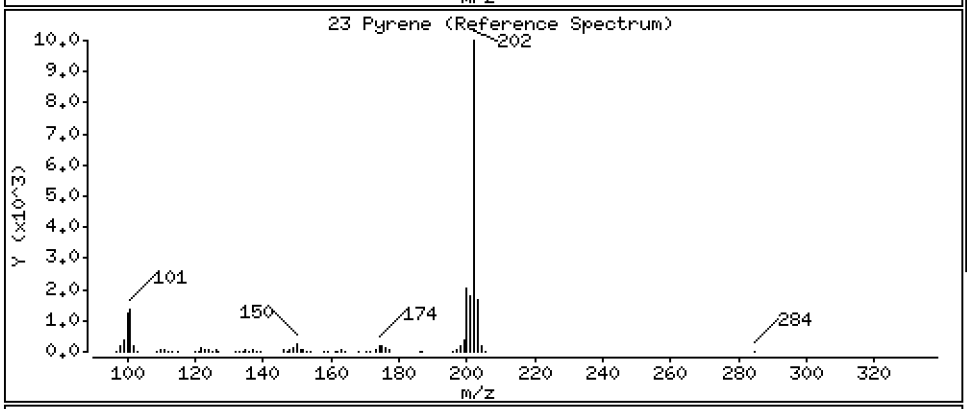
Concentration: 0.2343 ug/mL

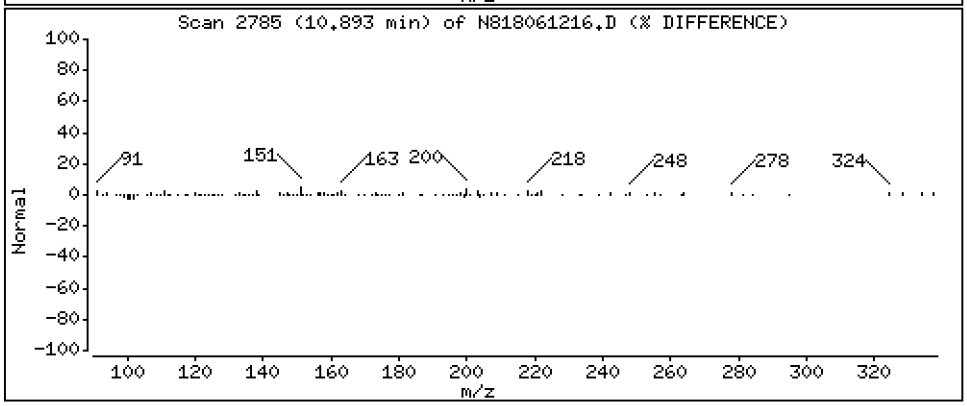












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

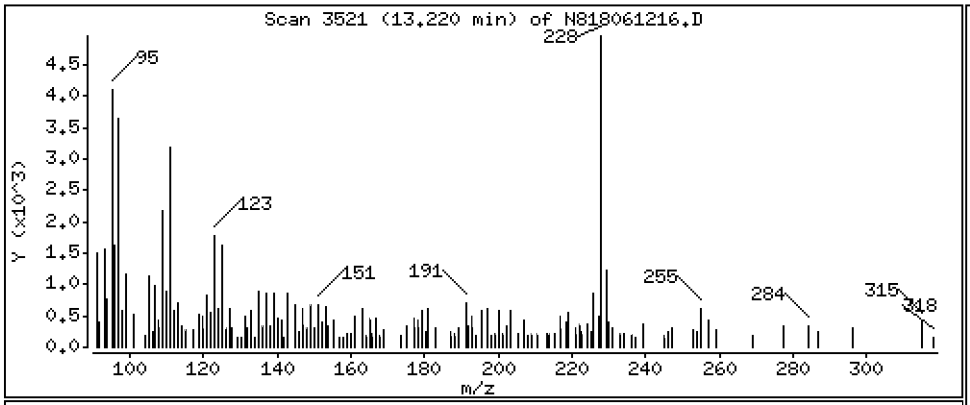
Operator: JZ

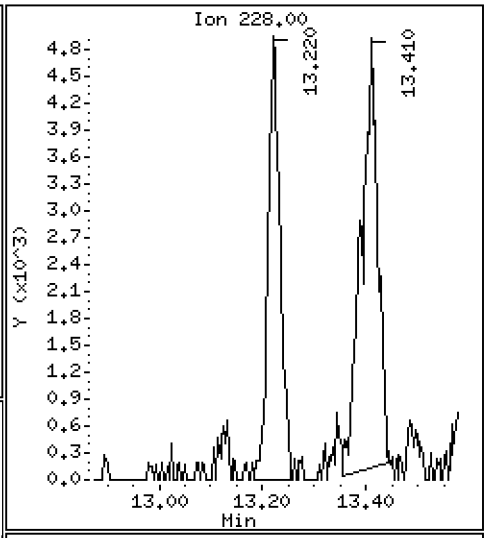
Column phase: Rxi-17sil

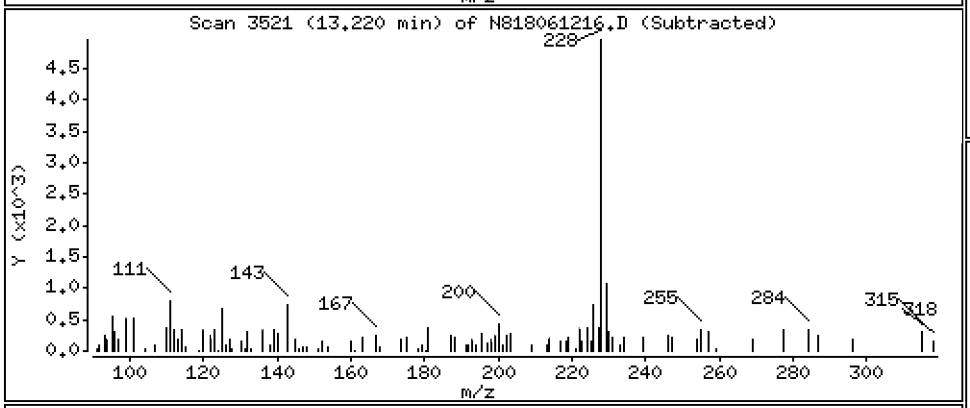
Column diameter: 0.25

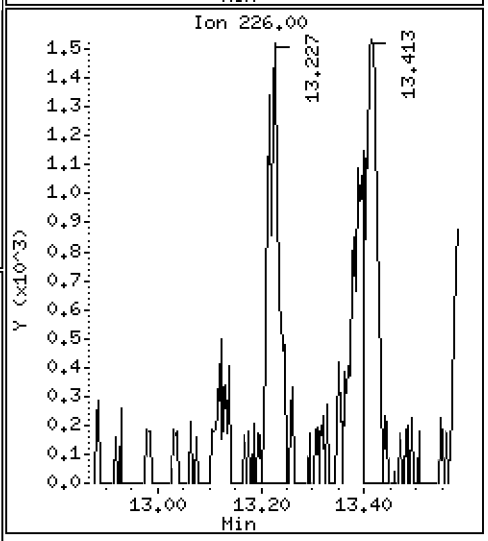
24 Benzo(a)anthracene

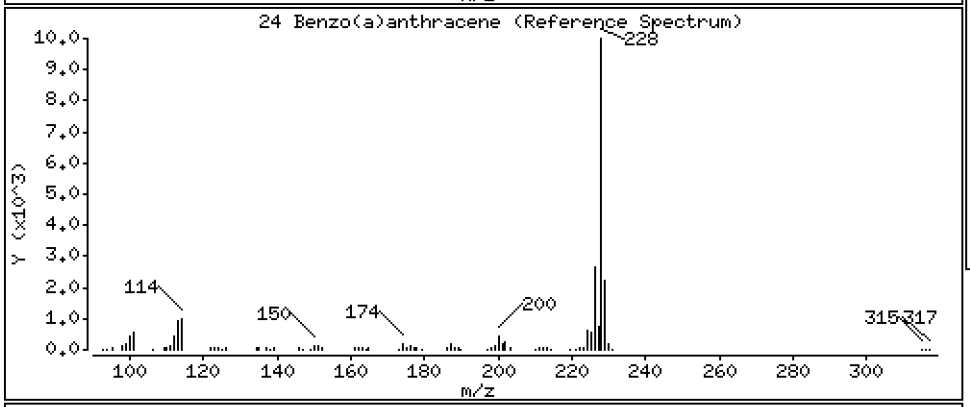
Concentration: 0.08849 ug/mL

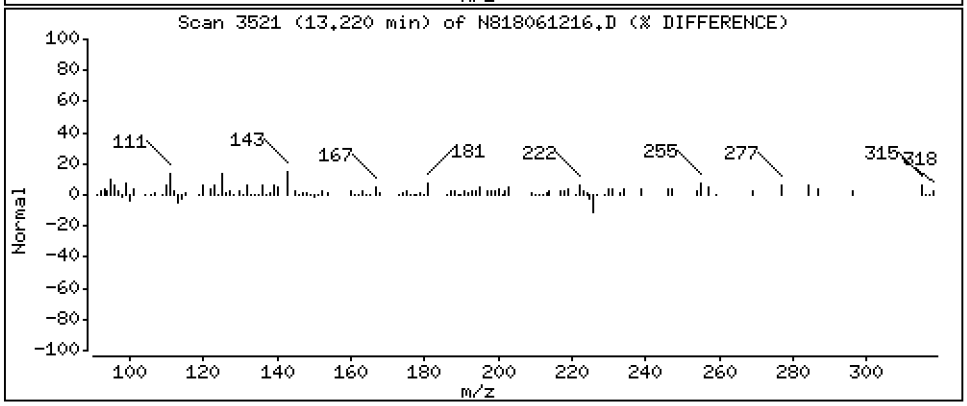












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

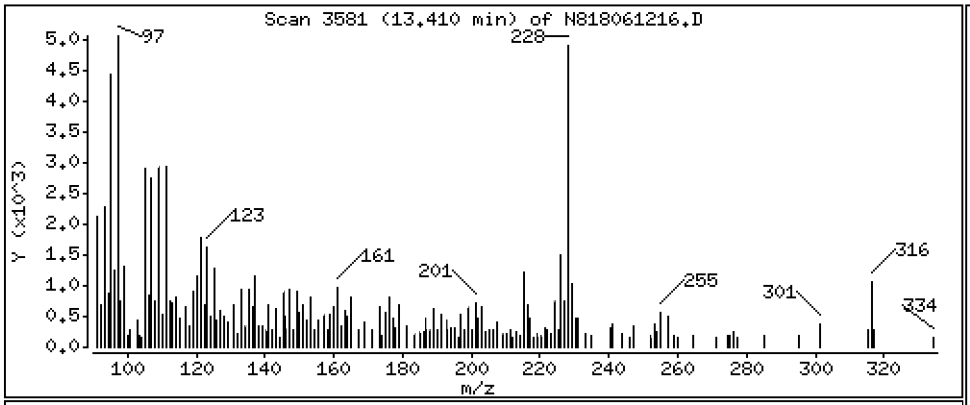
Operator: JZ

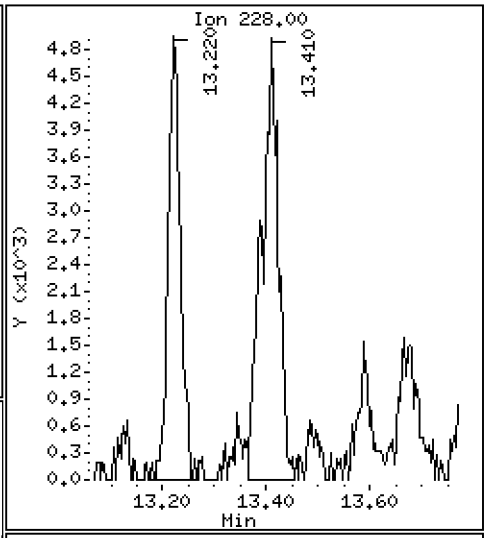
Column phase: Rxi-17sil

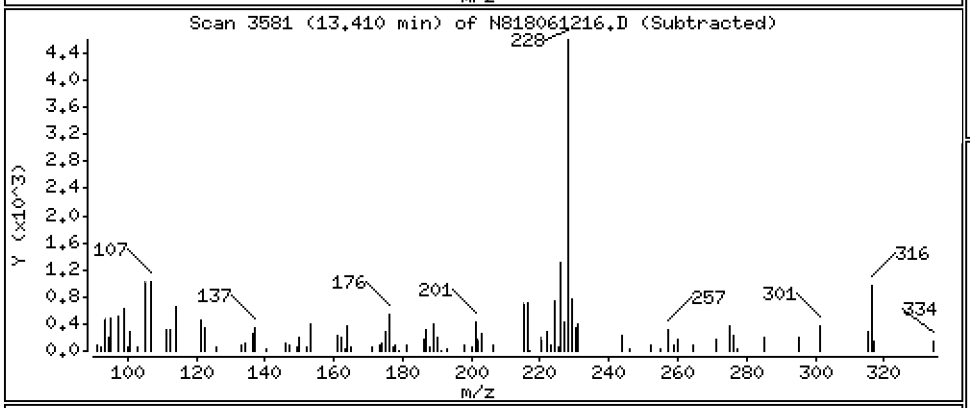
Column diameter: 0.25

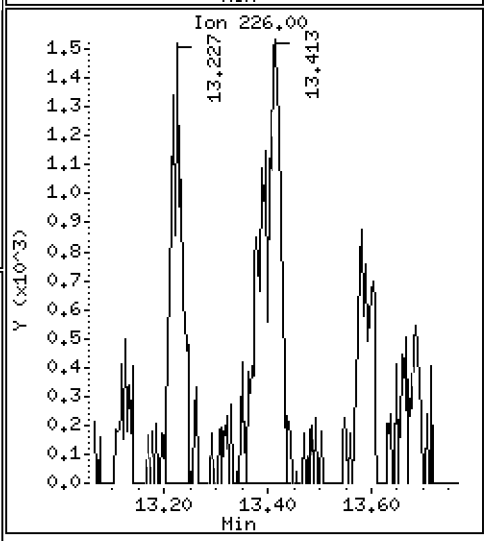
27 Chrysene

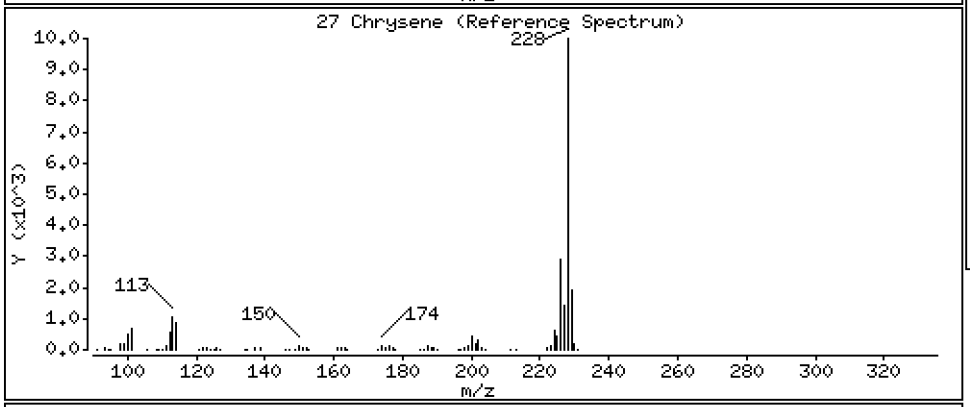
Concentration: 0.1212 ug/mL

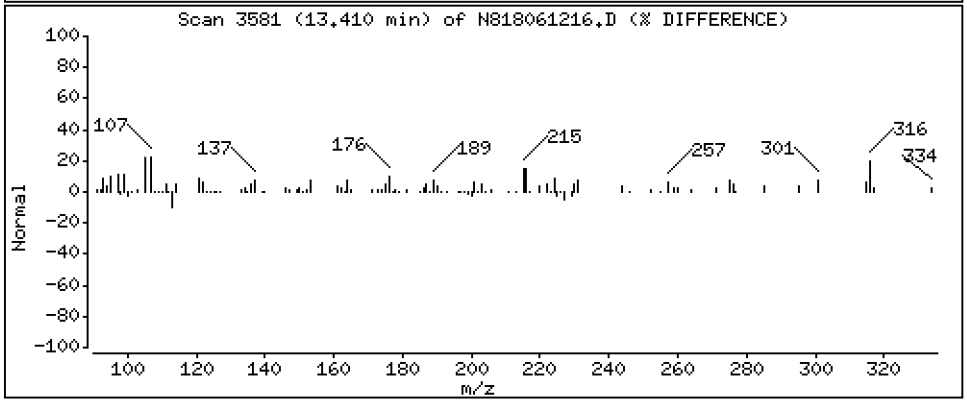












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

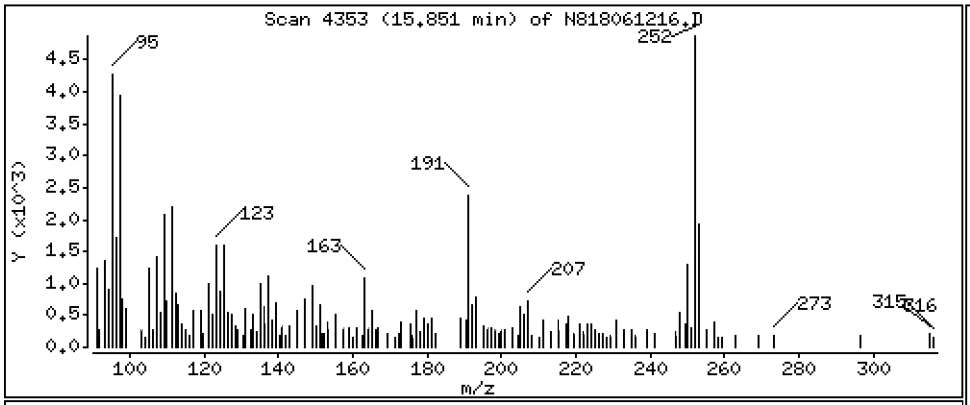
Operator: JZ

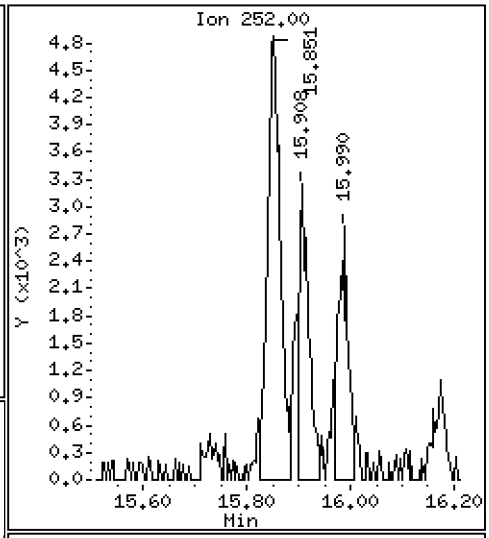
Column phase: Rxi-17sil

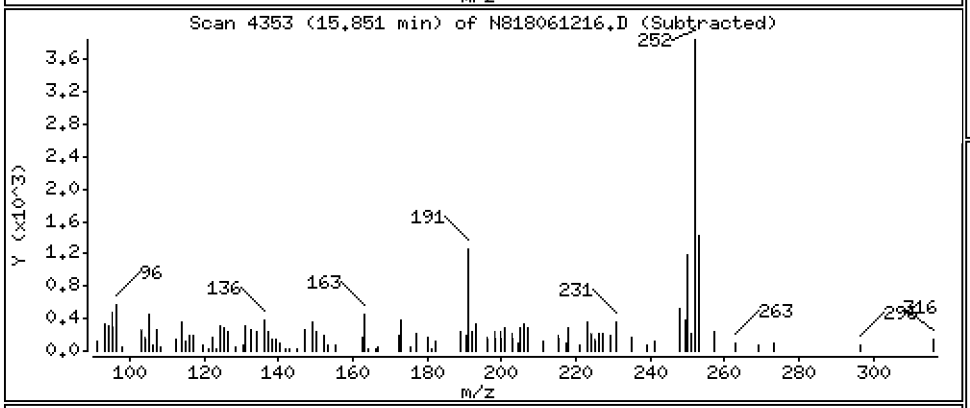
Column diameter: 0.25

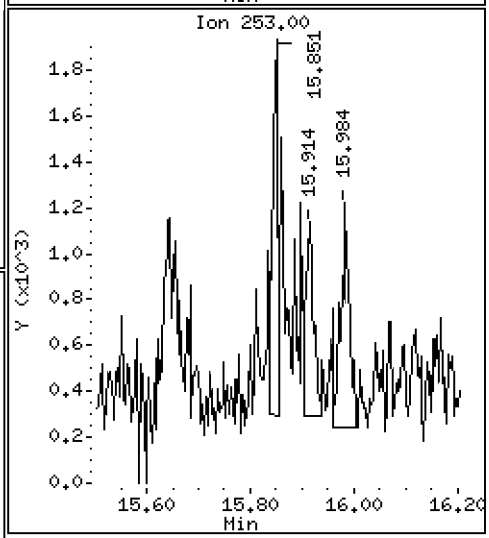
28 Benzo(b)fluoranthene

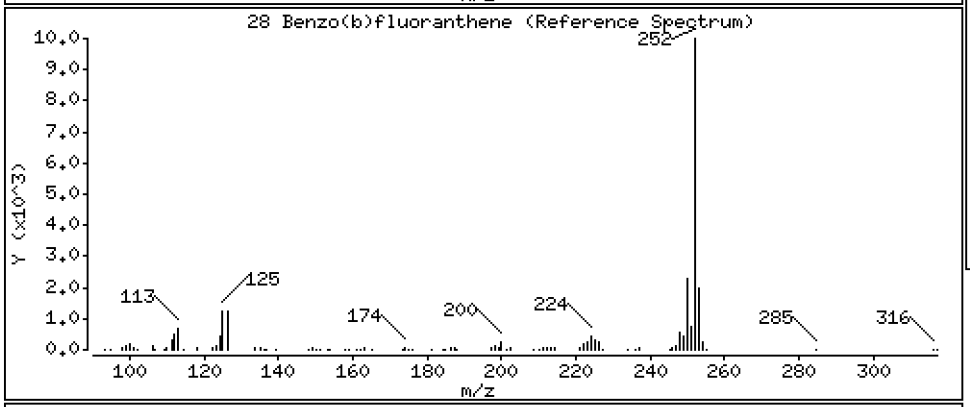
Concentration: 0.08705 ug/mL

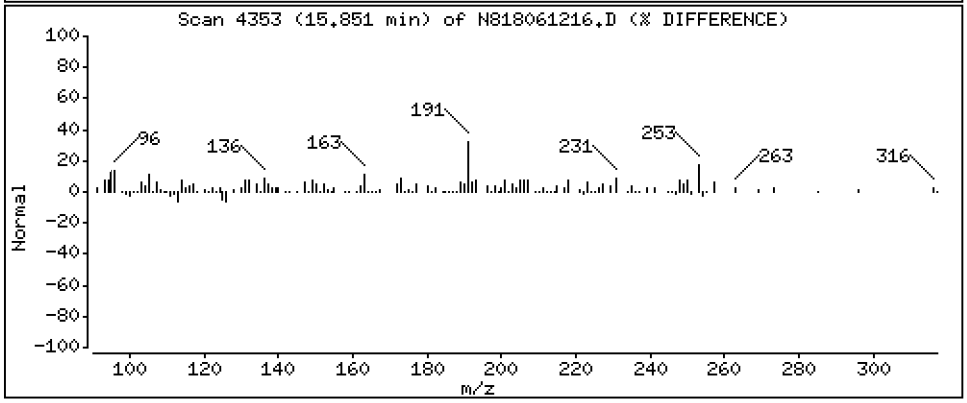












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

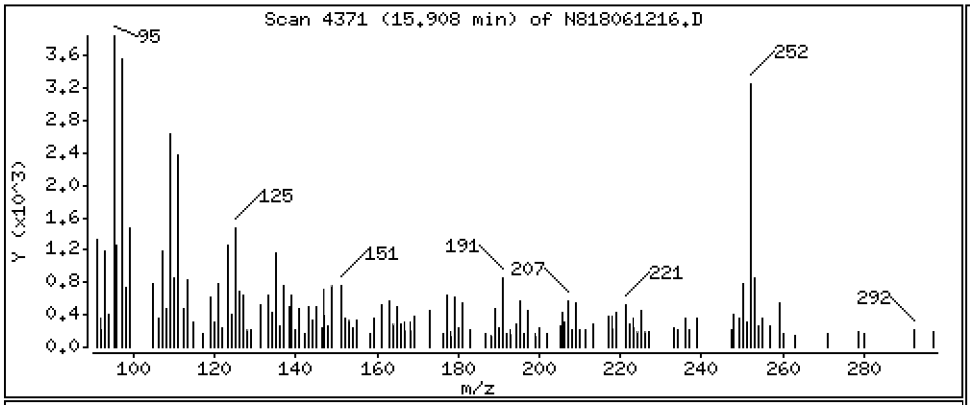
Operator: JZ

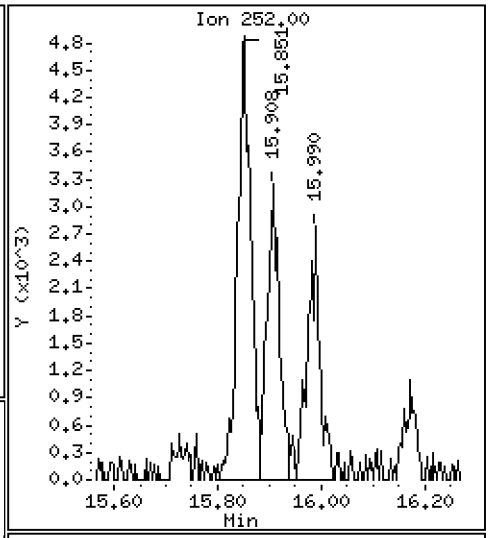
Column phase: Rxi-17sil

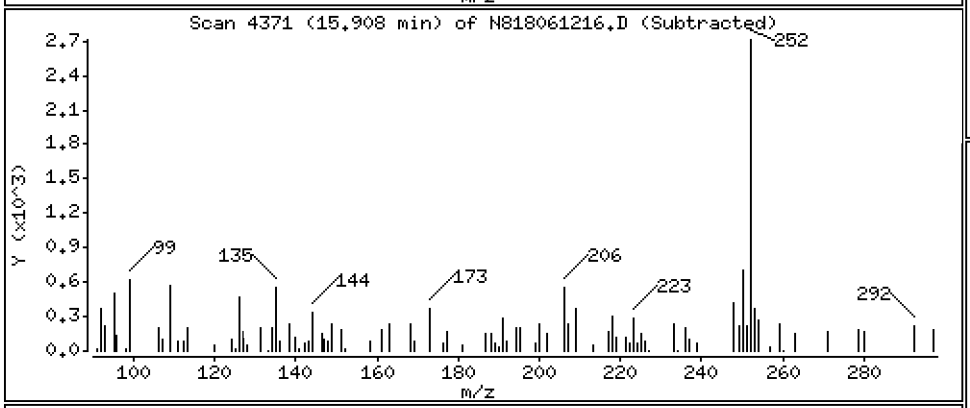
Column diameter: 0.25

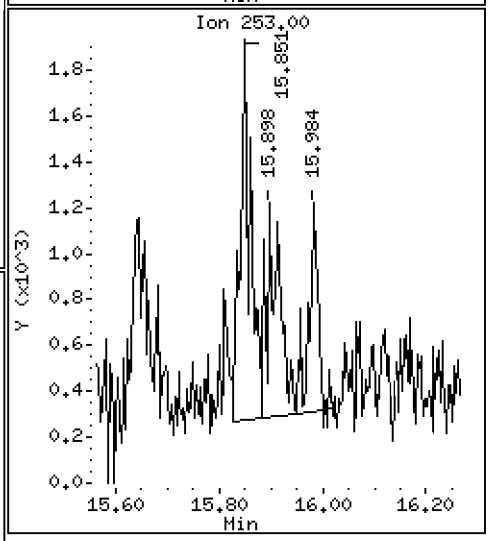
29 Benzo(k)fluoranthene

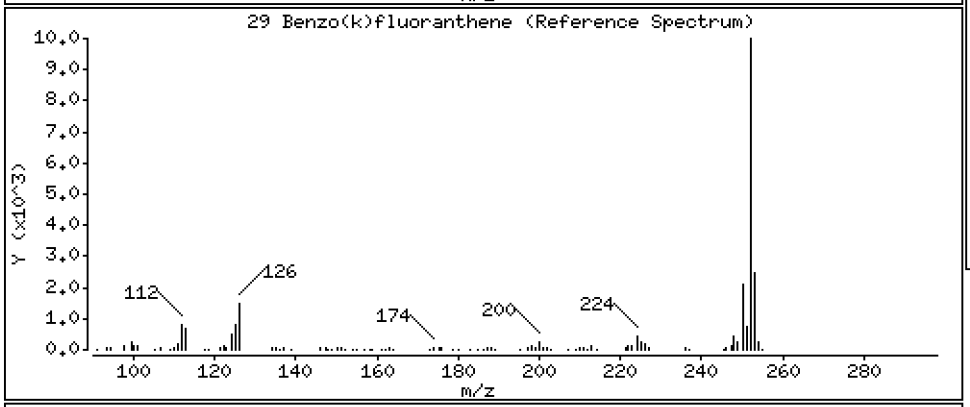
Concentration: 0.05489 ug/mL

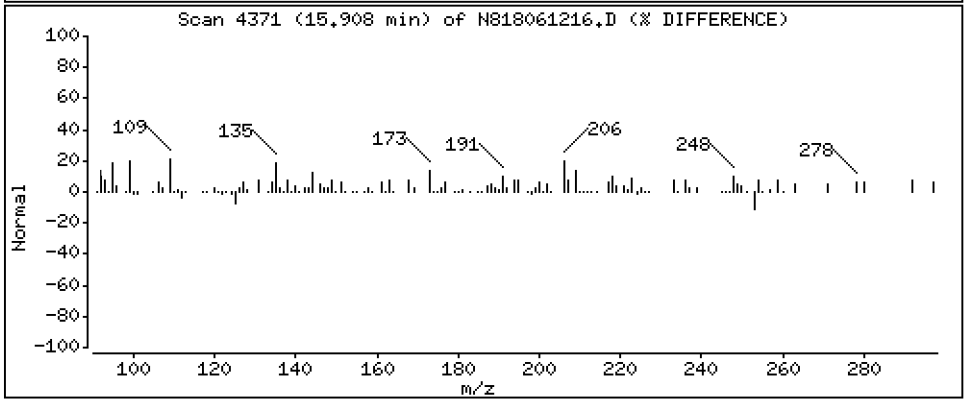












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

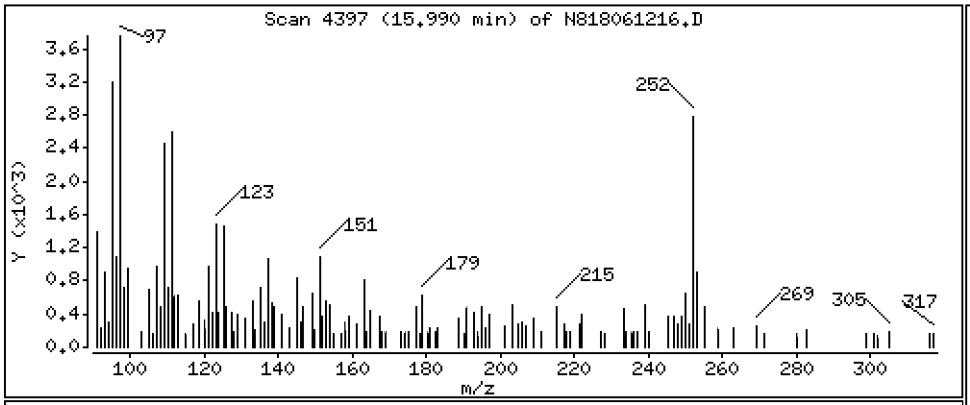
Operator: JZ

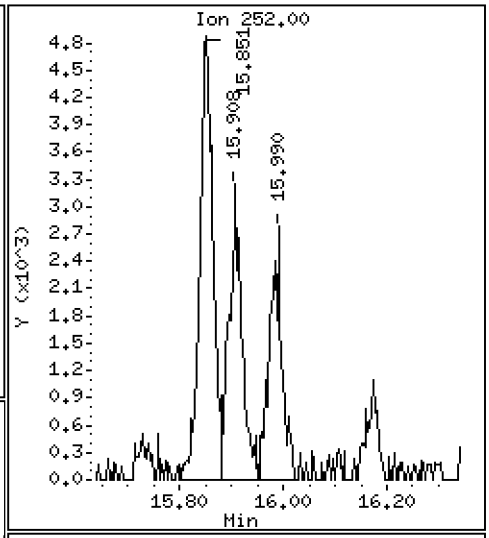
Column phase: Rxi-17sil

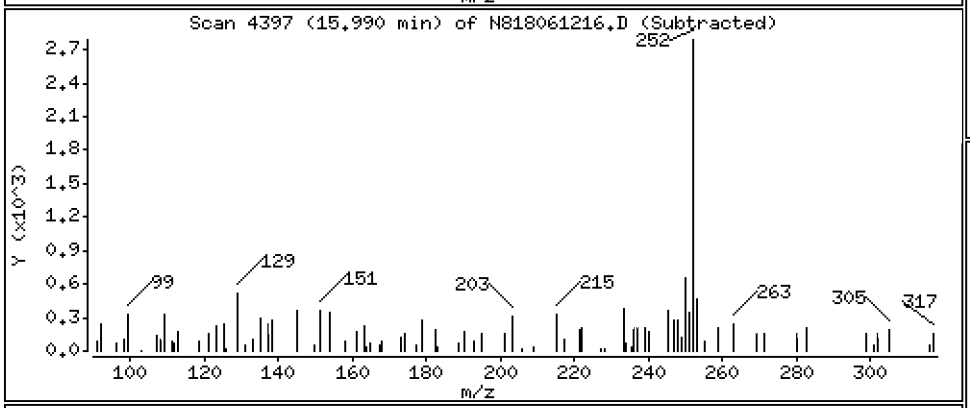
Column diameter: 0.25

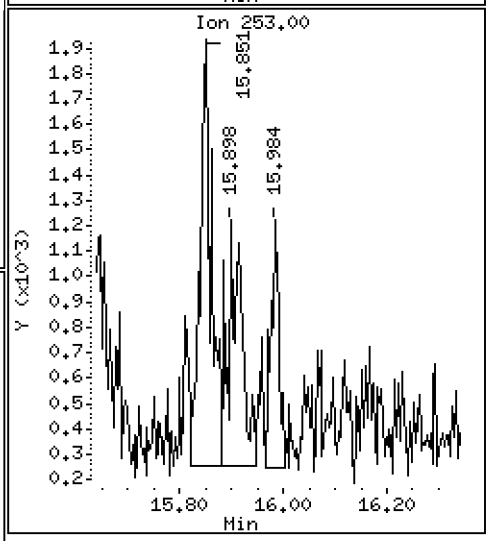
30 Benzo(j)fluoranthene

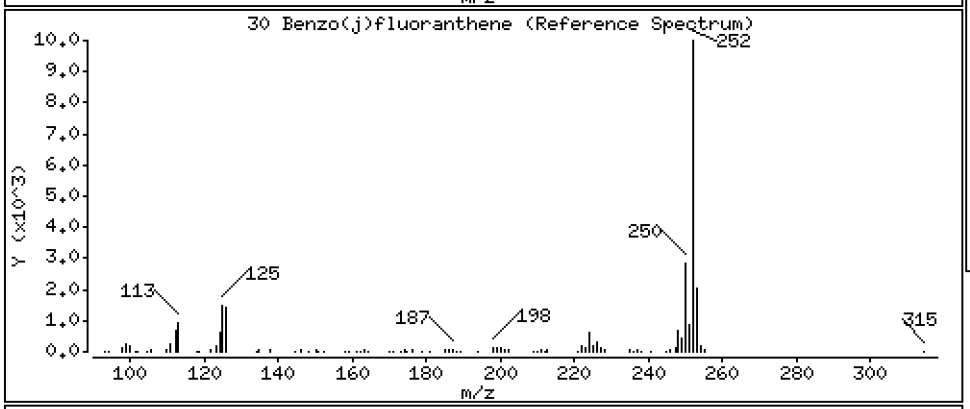
Concentration: 0.04742 ug/mL

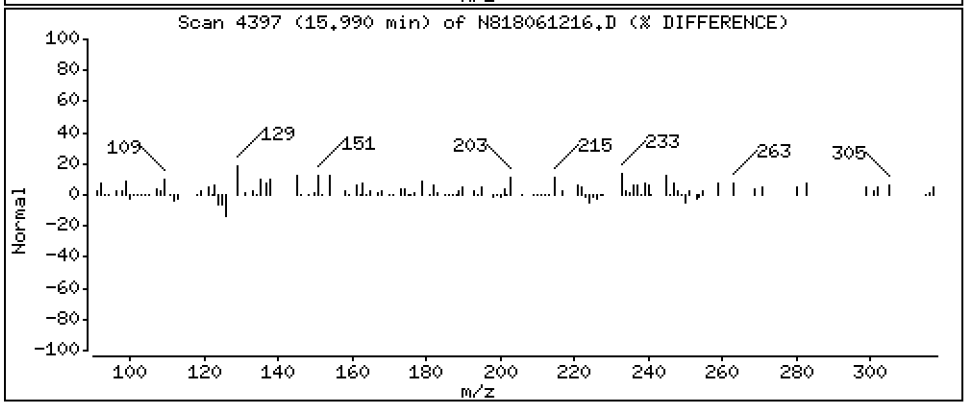












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

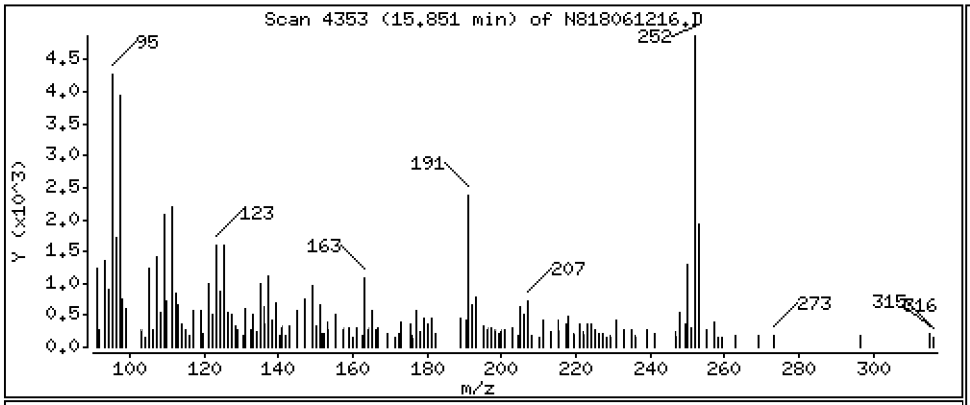
Operator: JZ

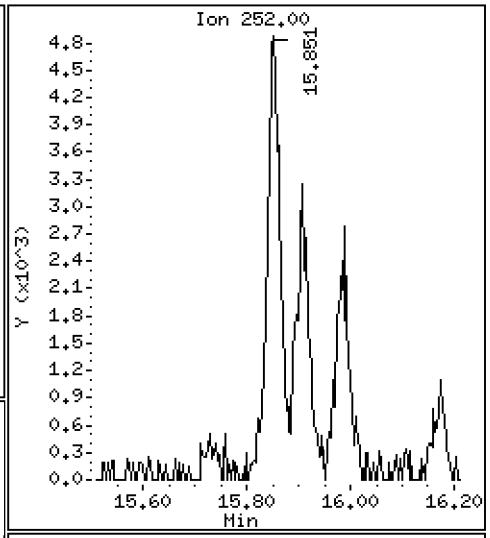
Column phase: Rxi-17sil

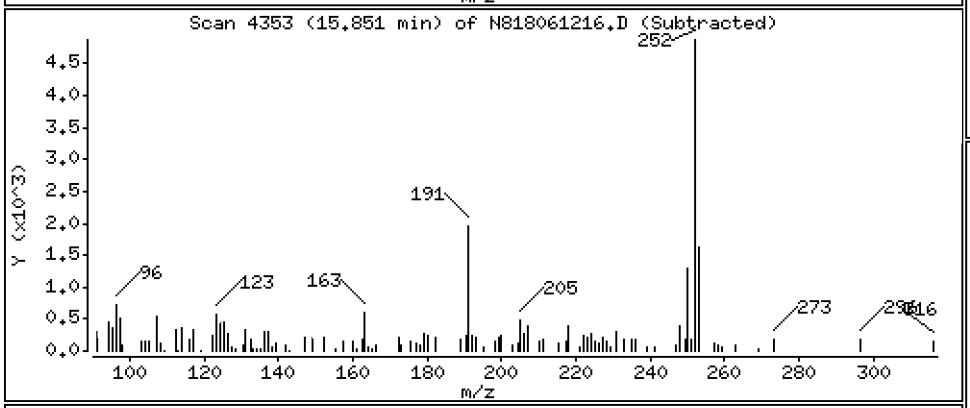
Column diameter: 0.25

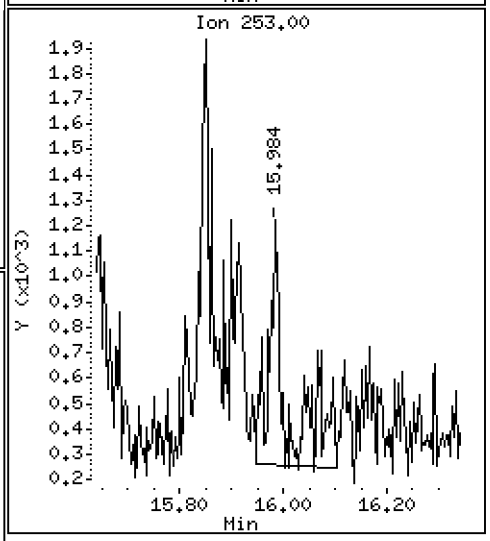
31 Total Benzofluoranthenes

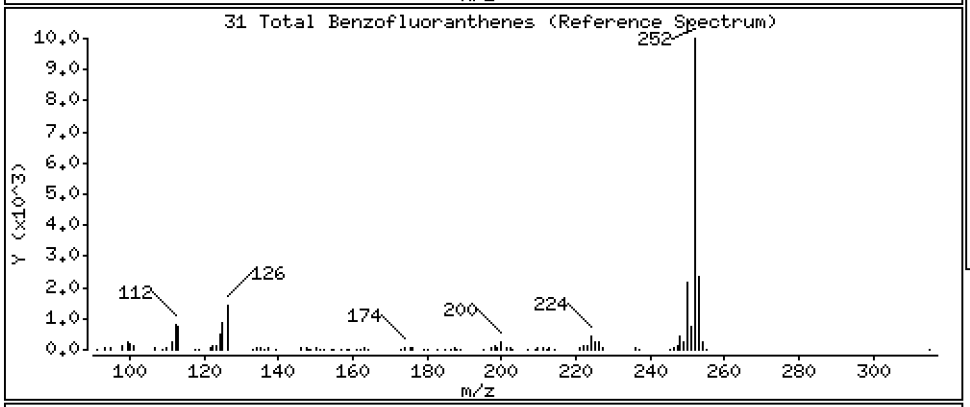
Concentration: 0.1998 ug/mL

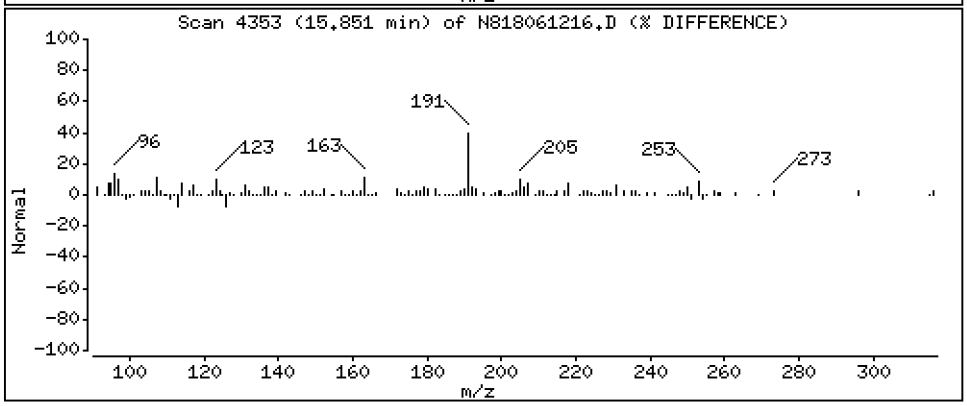












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

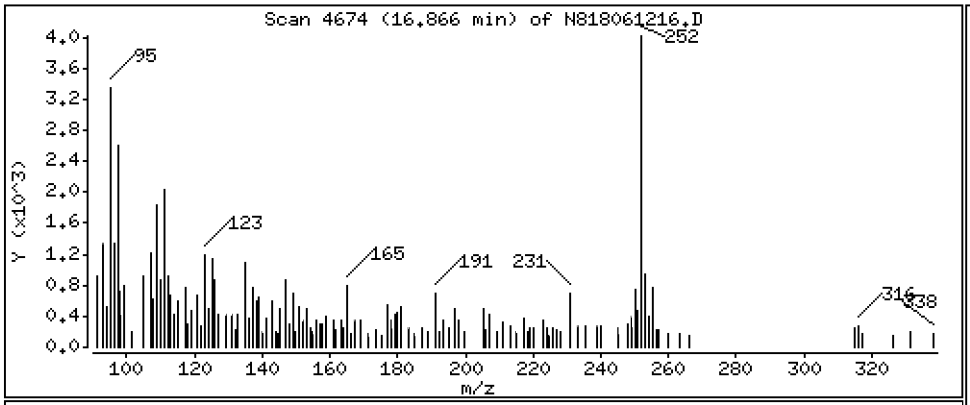
Operator: JZ

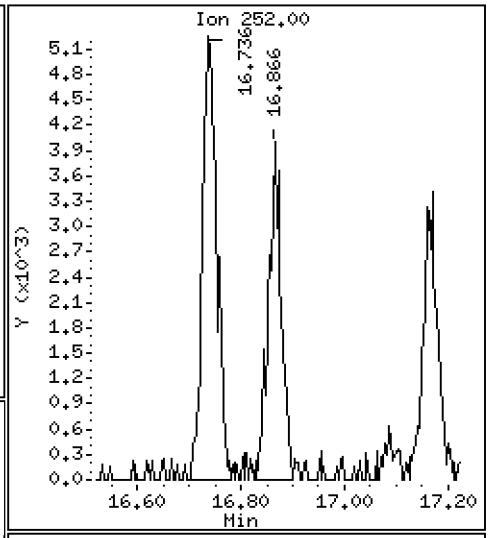
Column phase: Rxi-17sil

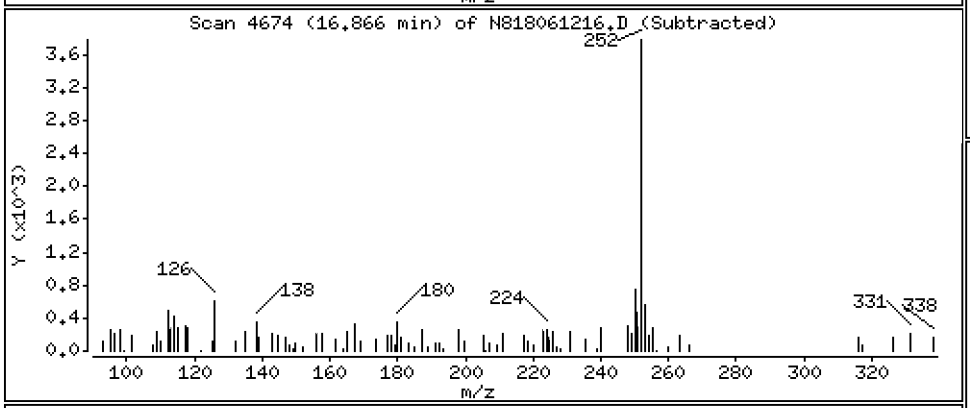
Column diameter: 0.25

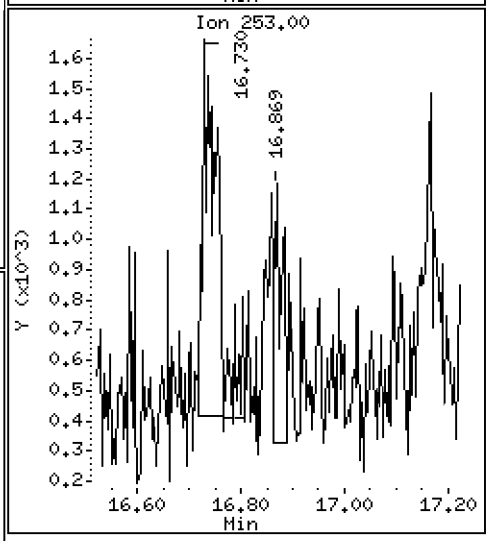
32 Benzo(a)pyrene

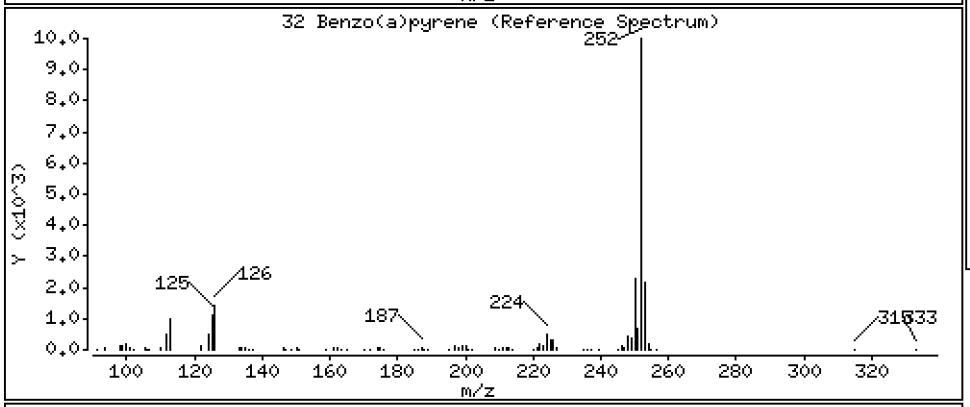
Concentration: 0.07896 ug/mL

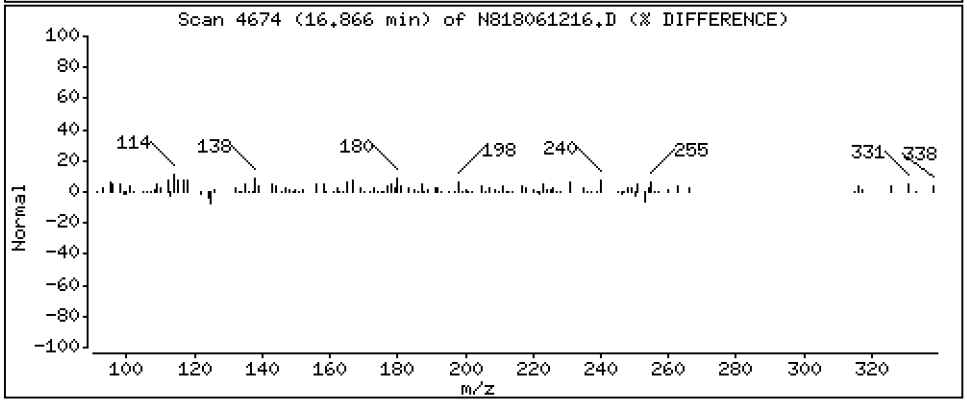












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

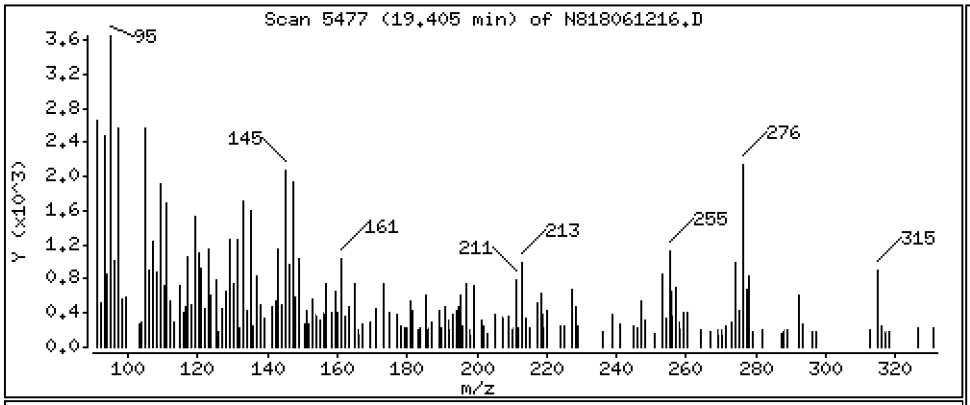
Operator: JZ

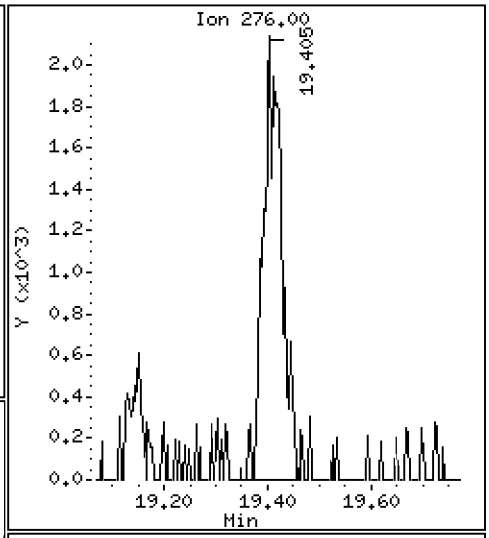
Column phase: Rxi-17sil

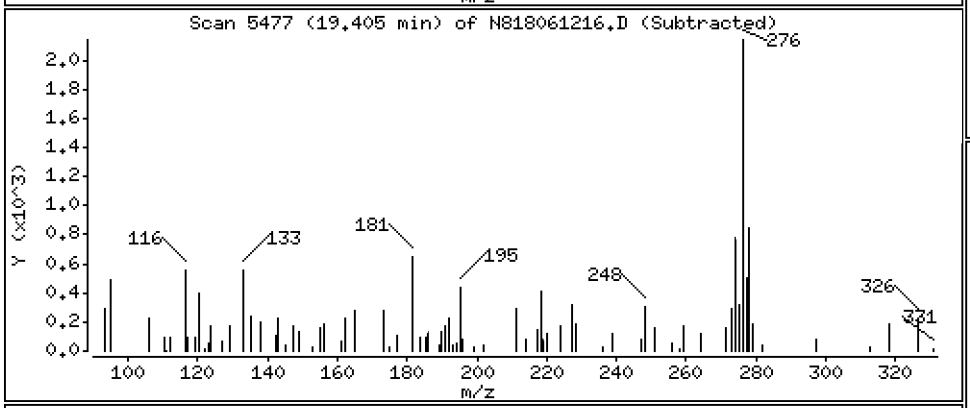
Column diameter: 0.25

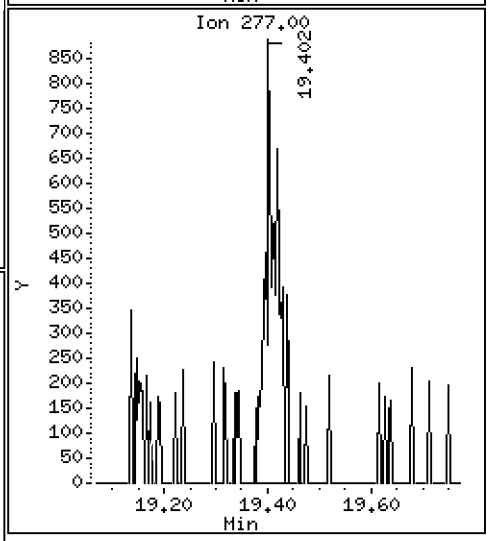
37 Indeno(1,2,3-cd)pyrene

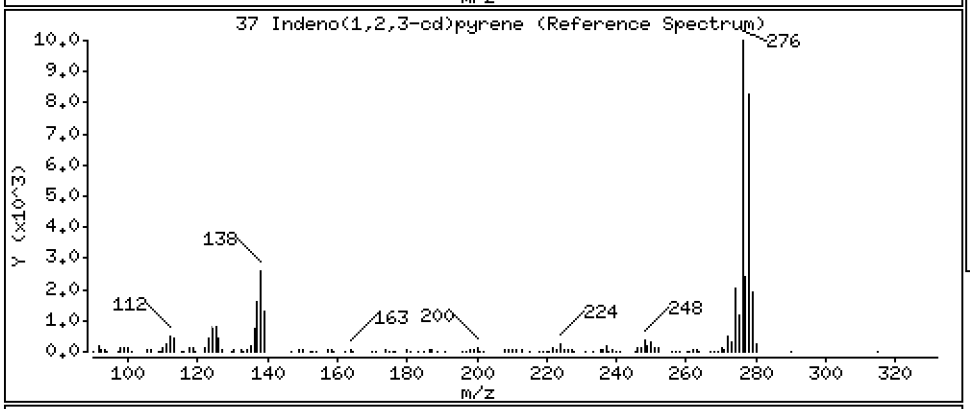
Concentration: 0.05347 ug/mL

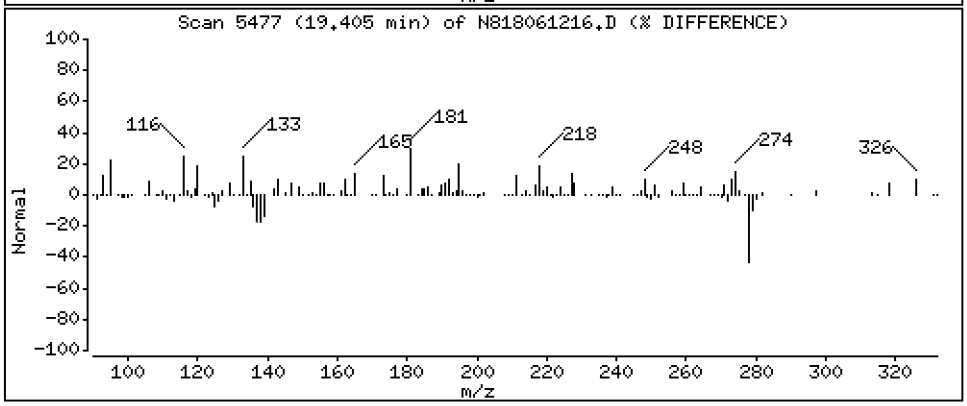












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

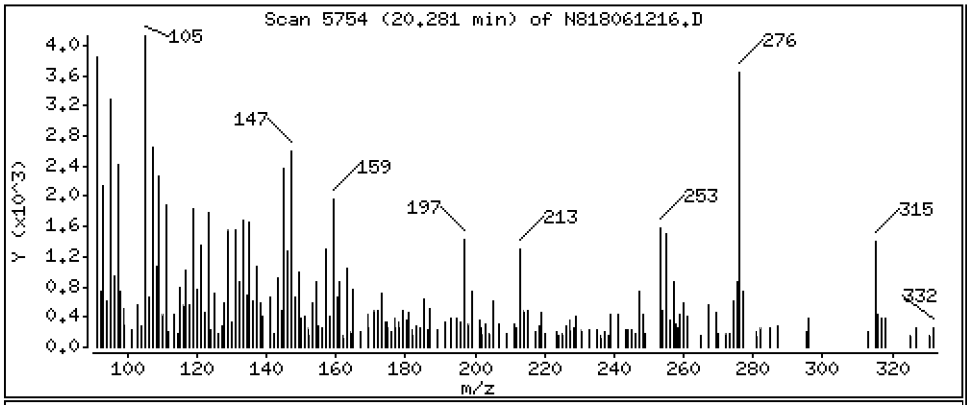
Operator: JZ

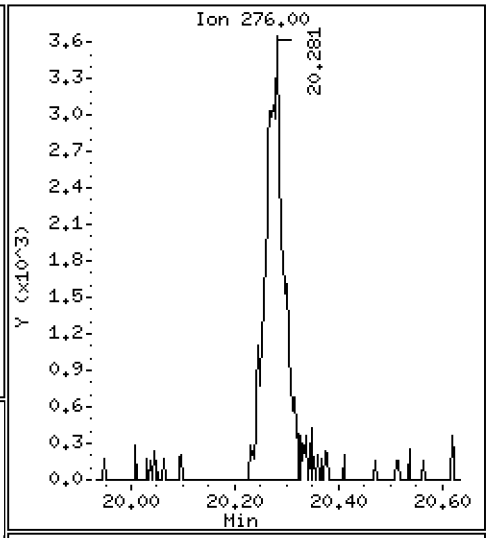
Column phase: Rxi-17sil

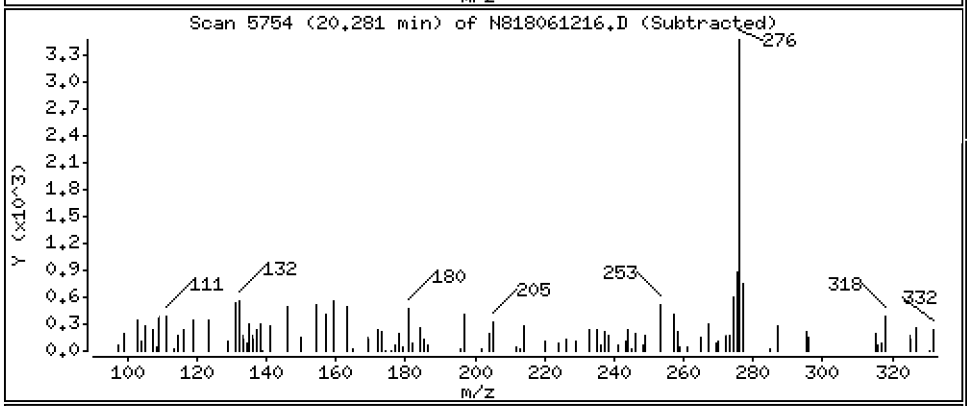
Column diameter: 0.25

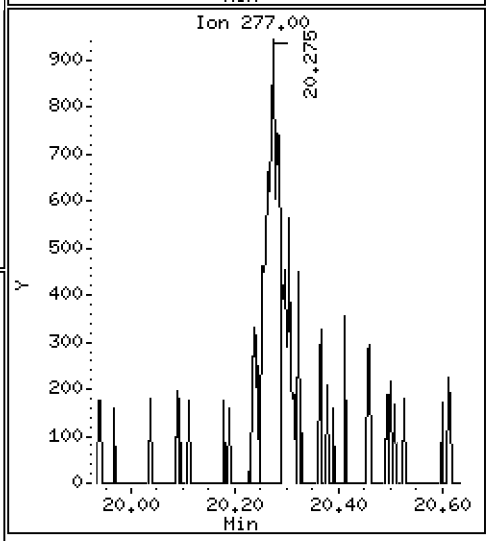
39 Benzo(g,h,i)perylene

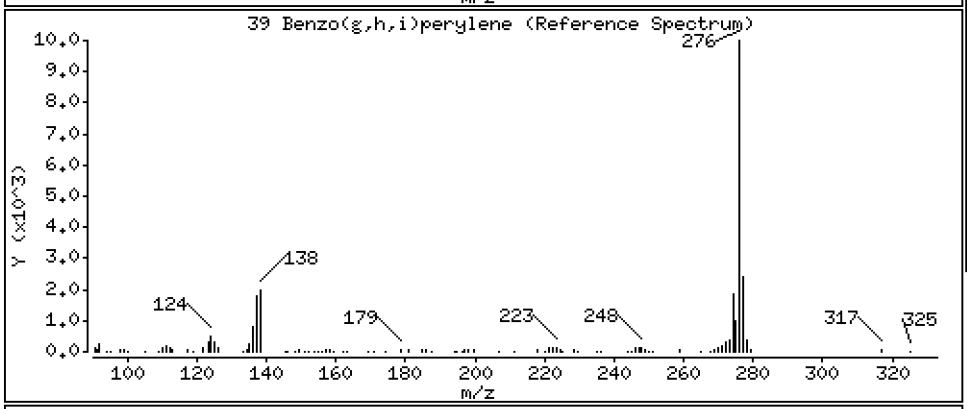
Concentration: 0.1008 ug/mL

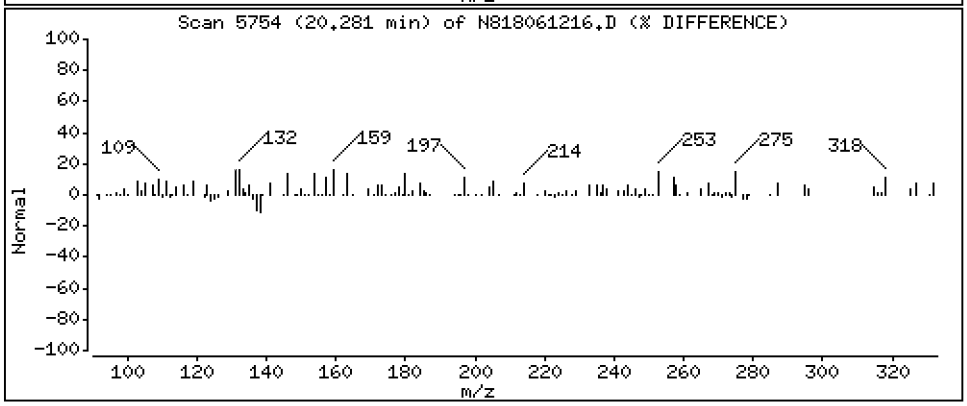












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061216.D

Date : 12-JUN-2018 21:12

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-09

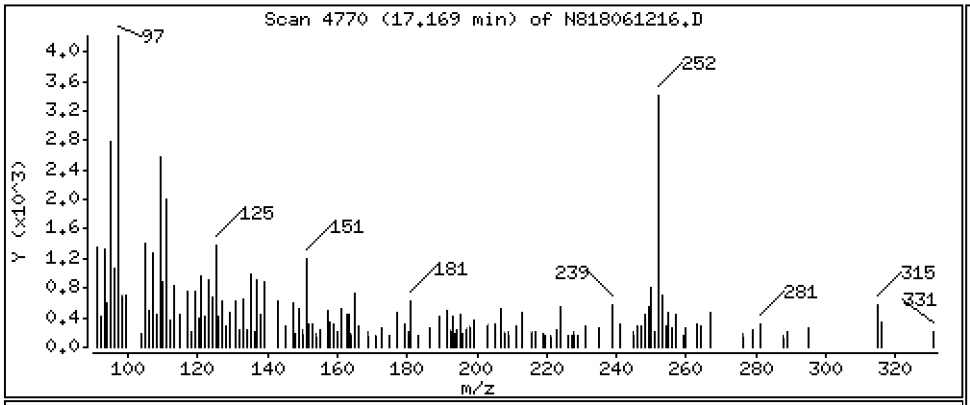
Operator: JZ

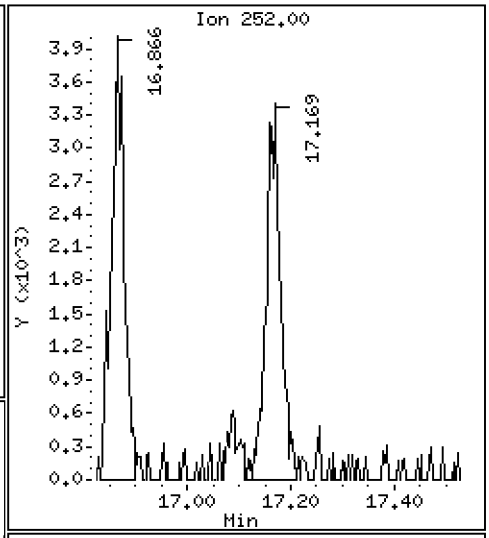
Column phase: Rxi-17sil

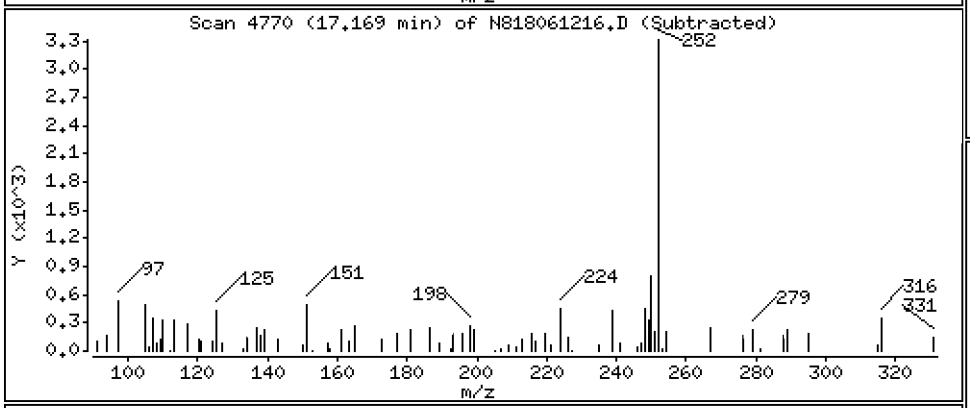
Column diameter: 0.25

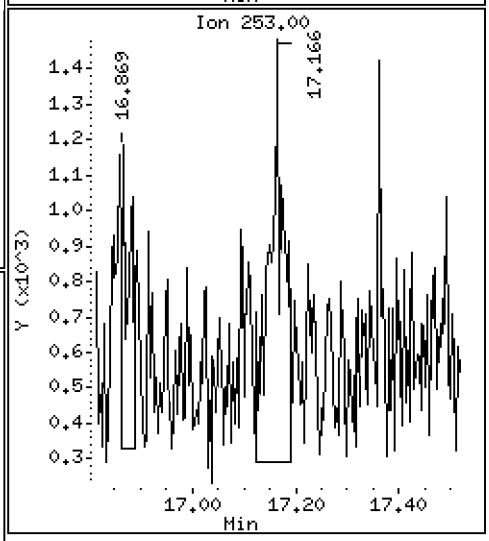
35 Perylene

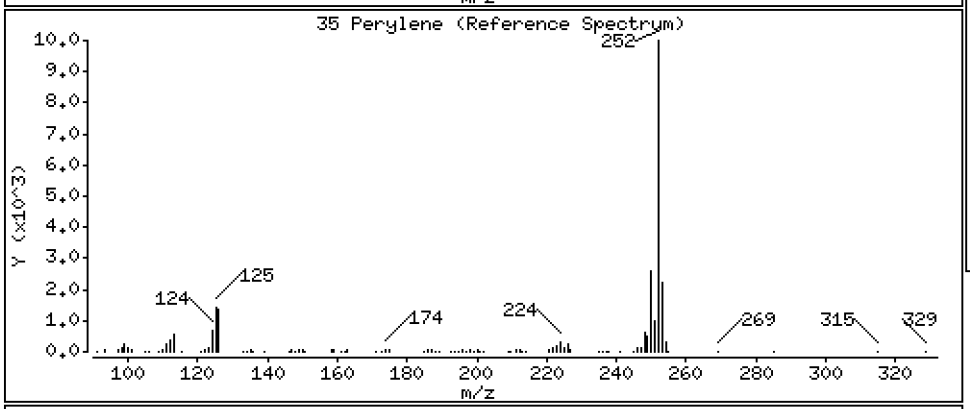
Concentration: 0.06986 ug/mL

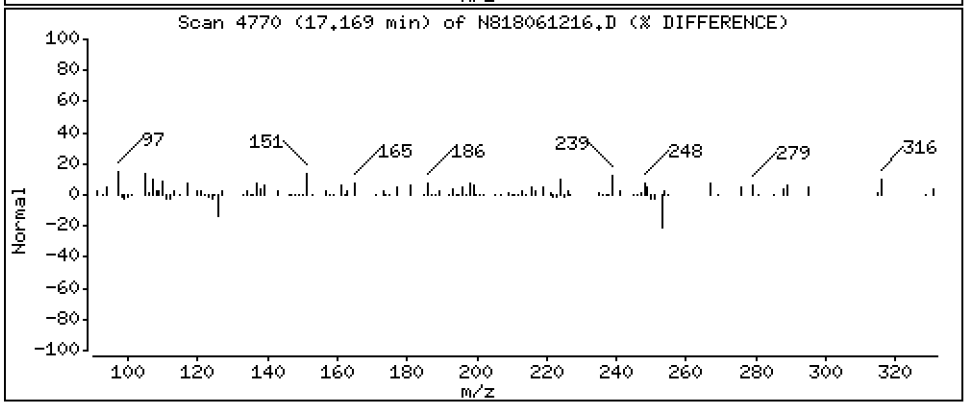












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061216.D
Lab Smp Id: 18E0282-09
Inj Date : 12-JUN-2018 21:12
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-09
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)	
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	175307	2.00000		
	2 Naphthalene	128	Compound Not Detected.						
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	80197	1.25406	1.254	
	4 2-Methylnaphthalene	141	Compound Not Detected.						
	5 1-methylnaphthalene	141	Compound Not Detected.						
	9 Acenaphthylene	152	Compound Not Detected.						
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	91874	2.00000		
	11 Acenaphthene	153	Compound Not Detected.						
	12 Dibenzofuran	168	Compound Not Detected.						
	14 Fluorene	166	Compound Not Detected.						
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	159146	2.00000		
	16 Phenanthrene	178	8.771	8.774	(1.004)	9213	0.09445	0.09445	
	17 Anthracene	178	Compound Not Detected.						
	22 Fluoranthene	202	10.425	10.428	(1.193)	25290	0.23006	0.2301	
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	172348	1.65419	1.654	
	23 Pyrene	202	10.892	10.896	(0.816)	22274	0.23435	0.2343	
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	8132	0.08849	0.08849	
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	158159	2.00000		
	27 Chrysene	228	13.409	13.419	(1.005)	11214	0.12123	0.1212	
	28 Benzo(b)fluoranthene	252	15.850	15.860	(0.927)	8591	0.08705	0.08705	
	29 Benzo(k)fluoranthene	252	15.907	15.917	(0.931)	5327	0.05489	0.05489	
	30 Benzo(j)fluoranthene	252	15.990	15.990	(0.935)	4608	0.04742	0.04742	
	31 Total Benzofluoranthenes	252	15.850	15.860	(0.927)	19227	0.19976	0.1998	(M)
	32 Benzo(a)pyrene	252	16.865	16.872	(0.987)	6830	0.07896	0.07896	
*	33 Perylene-d12	264	17.093	17.099	(1.000)	155295	2.00000		
	37 Indeno(1,2,3-cd)pyrene	276	19.405	19.420	(1.135)	5295	0.05347	0.05347	
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	149638	2.05719	2.057	
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	39 Benzo(g,h,i)perylene	276	20.280	20.284	(1.186)	8724	0.10079	0.1008	
	35 Perylene	252	17.169	17.175	(1.004)	6562	0.06986	0.06986	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061216.D
Lab Smp Id: 18E0282-09
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	175307	43.47
10 Acenaphthene-d10	65789	32895	131578	91874	39.65
15 Phenanthrene-d10	128644	64322	257288	159146	23.71
25 Chrysene-d12	166669	83335	333338	158159	-5.11
33 Perylene-d12	140483	70242	280966	155295	10.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061216.D

Lab ID: 18E0282-09
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 21:12

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

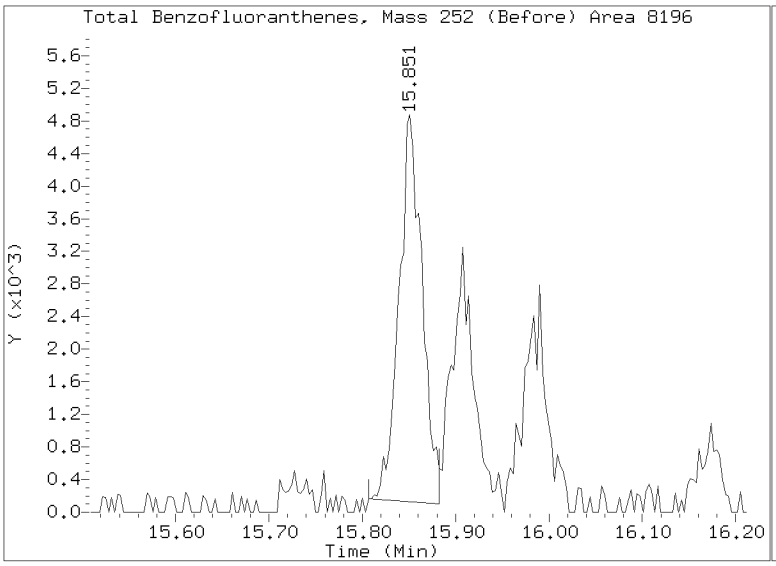
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

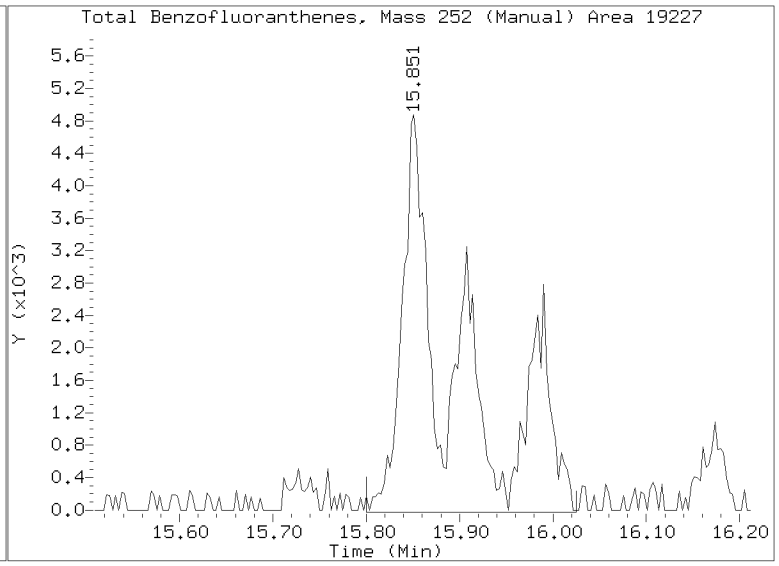
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061216.D
Injection Date: 12-JUN-2018 21:12
Lab ID:18E0282-09 Client ID:
Report Date: 06/13/2018 13:43





LDW18-A17-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-10	SDG:	18E0231
Sampled:	05/18/18 12:56	Prepared:	06/05/18 12:40	File ID:	N818061217.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 21:39
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.05 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	2.76	J	0.53	4.98
218-01-9	Chrysene	1	4.42	J	0.49	4.98
205-99-2	Benzo(b)fluoranthene	1	2.69	J	1.00	4.98
207-08-9	Benzo(k)fluoranthene	1	1.52	J	0.71	4.98
50-32-8	Benzo(a)pyrene	1	4.98	U	0.91	4.98
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.98	U	0.57	4.98
53-70-3	Dibenzo(a,h)anthracene	1	4.98	U	1.52	4.98

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.25	60.7	40.6	20 - 130	
Dibenzo[a,h]anthracene-d14	149.25	103	68.9	20 - 130	
Fluoranthene-d10	149.25	82.4	55.2	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

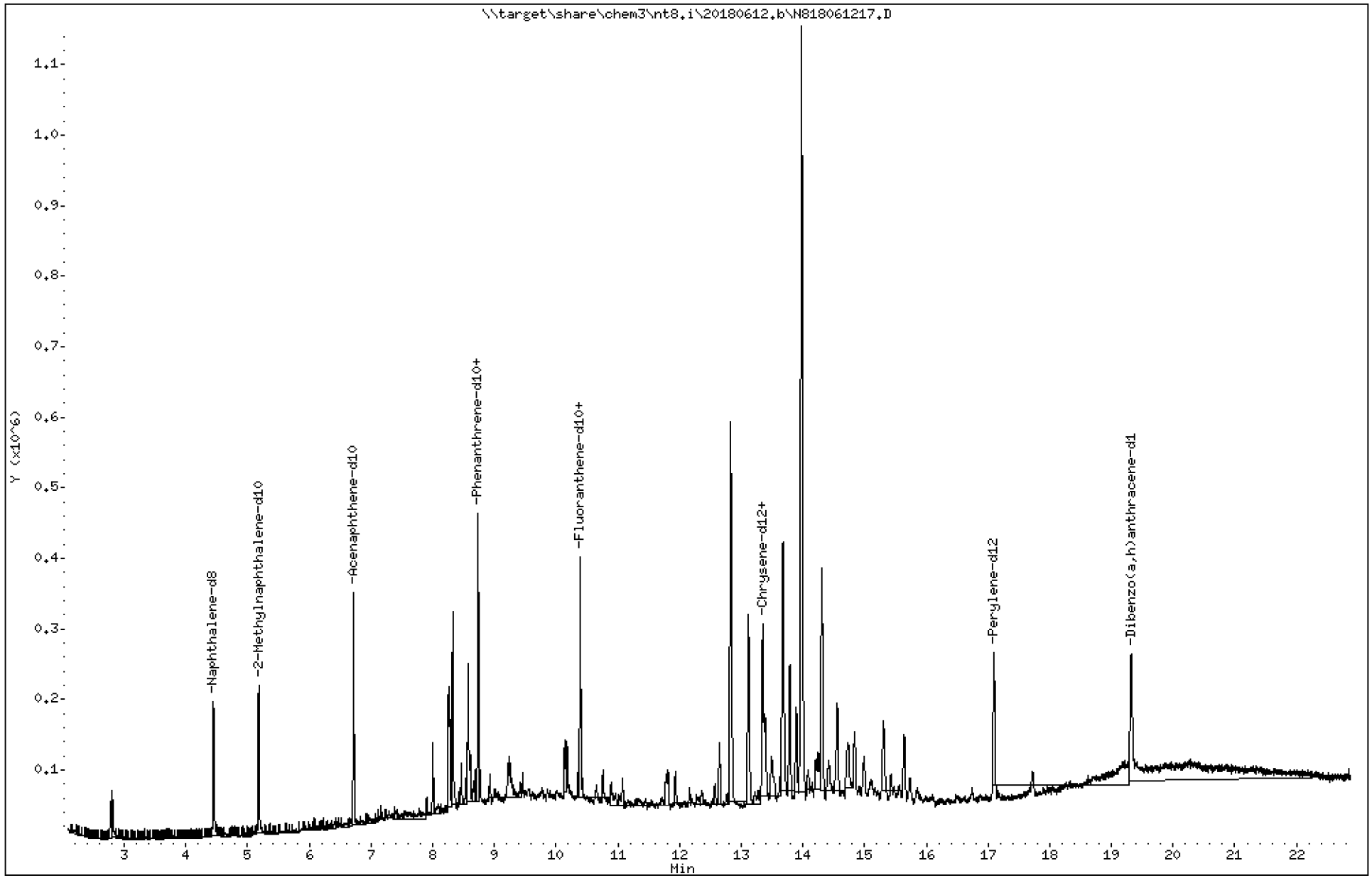
Instrument: nt8.i

Sample Info: 18E0282-10

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

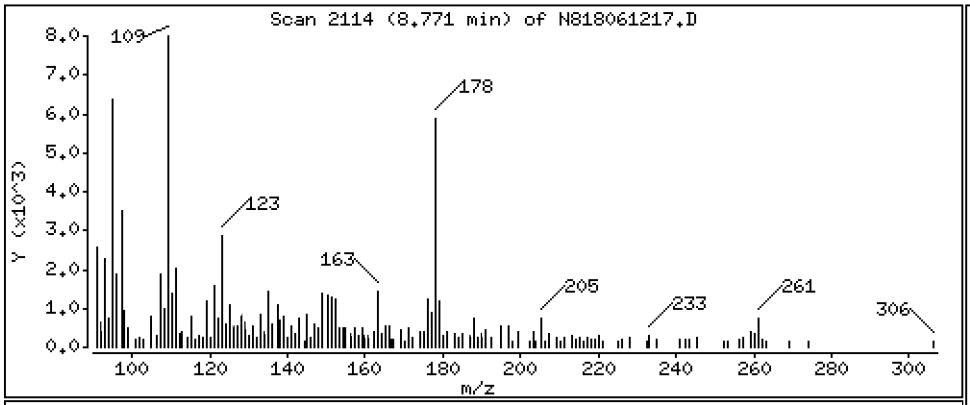
Operator: JZ

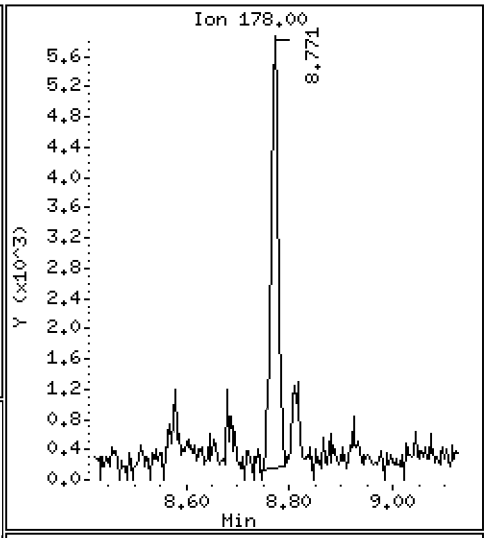
Column phase: Rxi-17sil

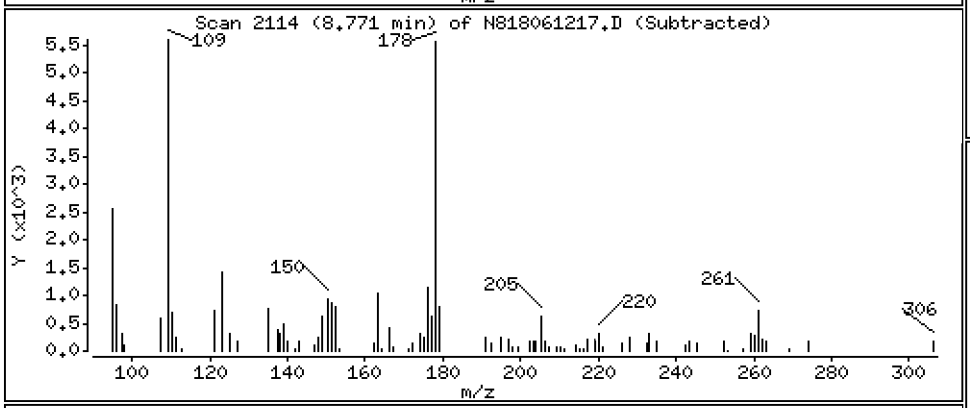
Column diameter: 0.25

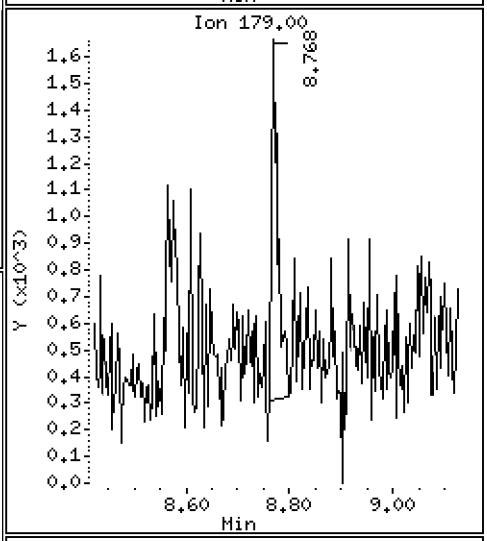
16 Phenanthrene

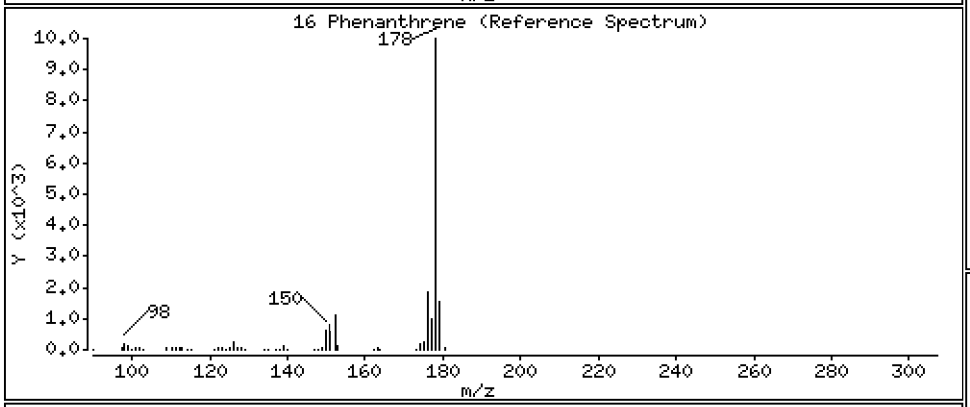
Concentration: 0.05850 ug/mL

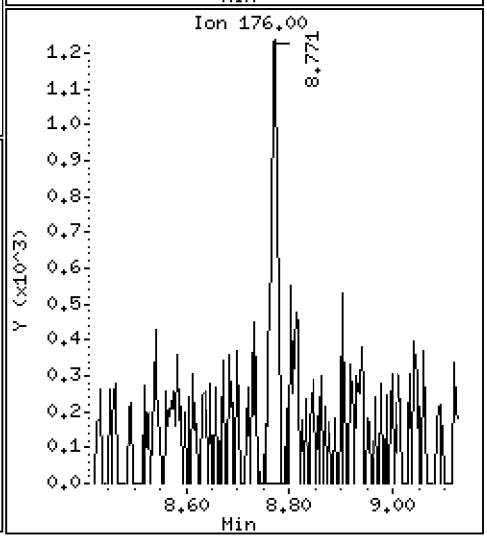


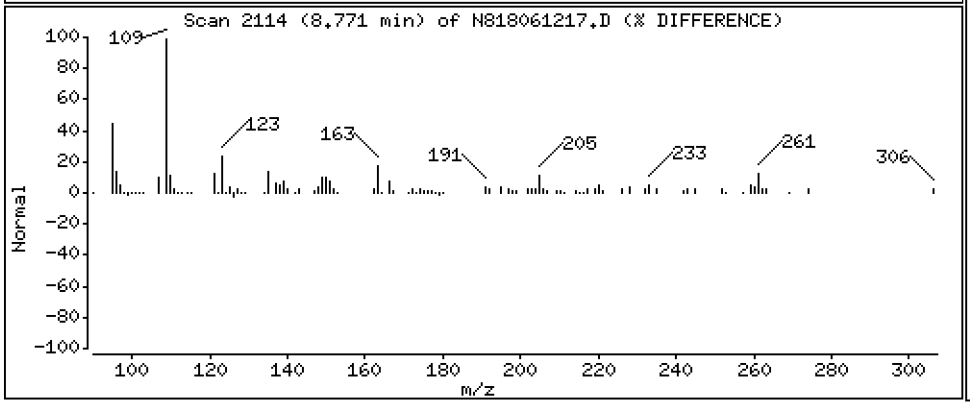












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

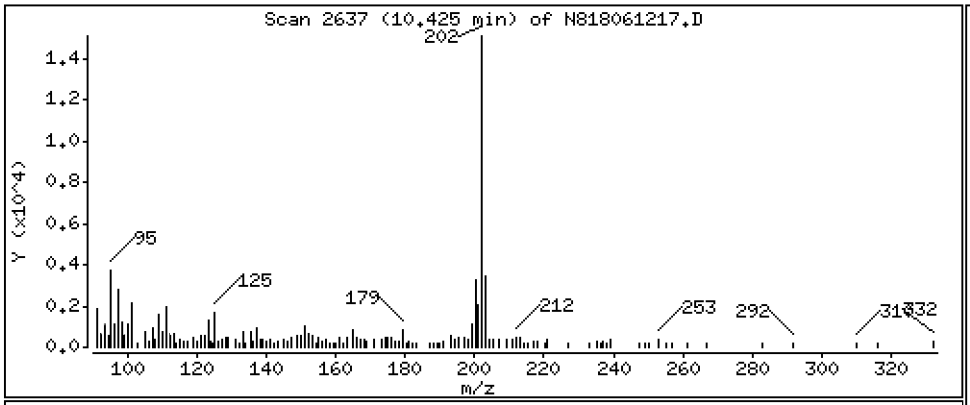
Operator: JZ

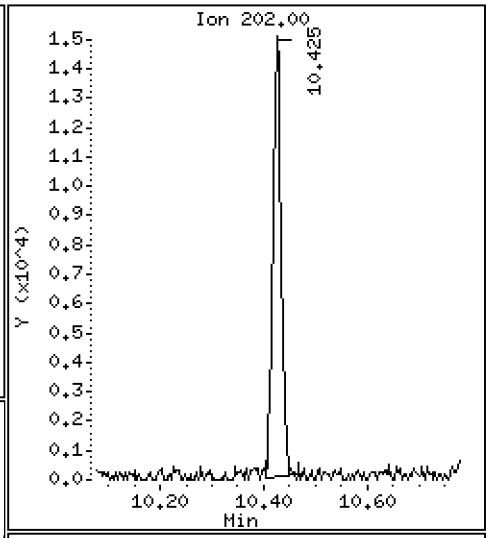
Column phase: Rxi-17sil

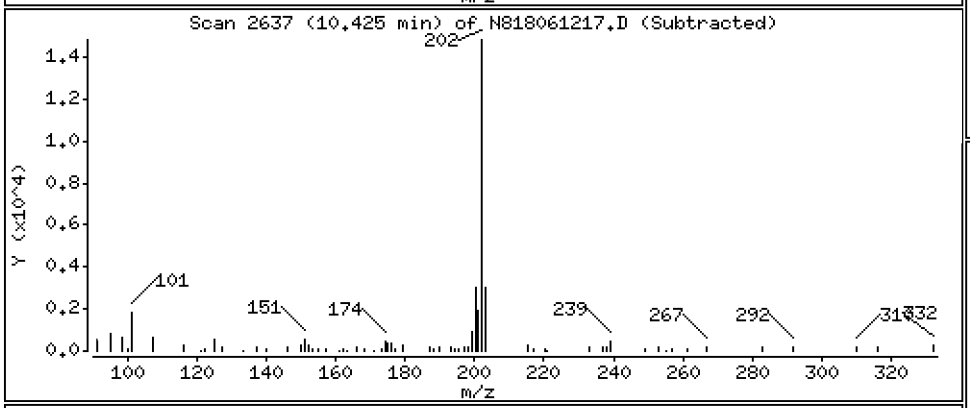
Column diameter: 0.25

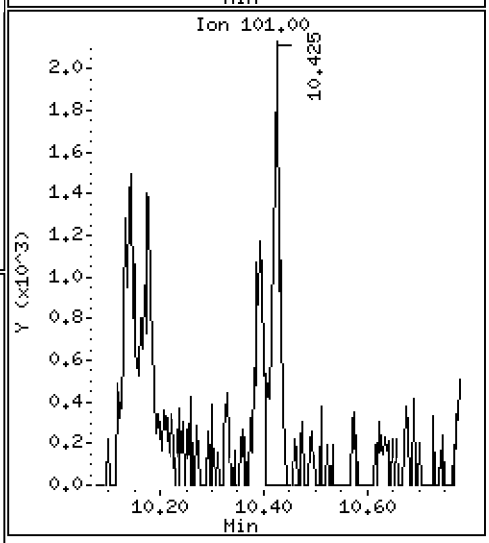
22 Fluoranthene

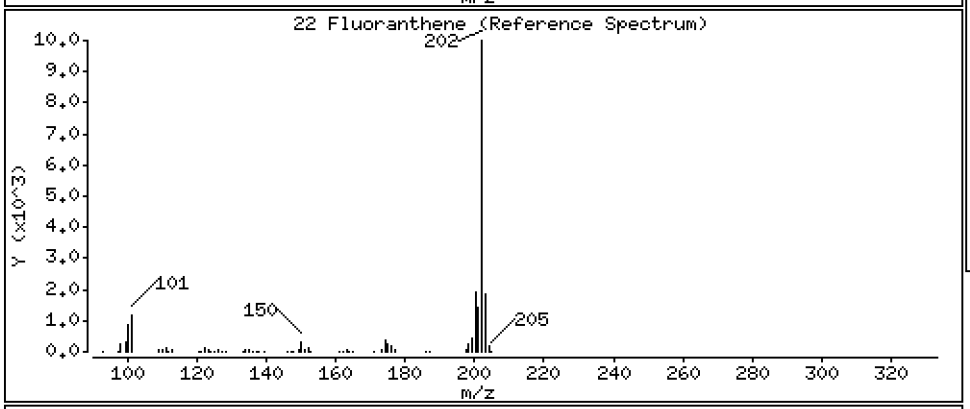
Concentration: 0.1535 ug/mL

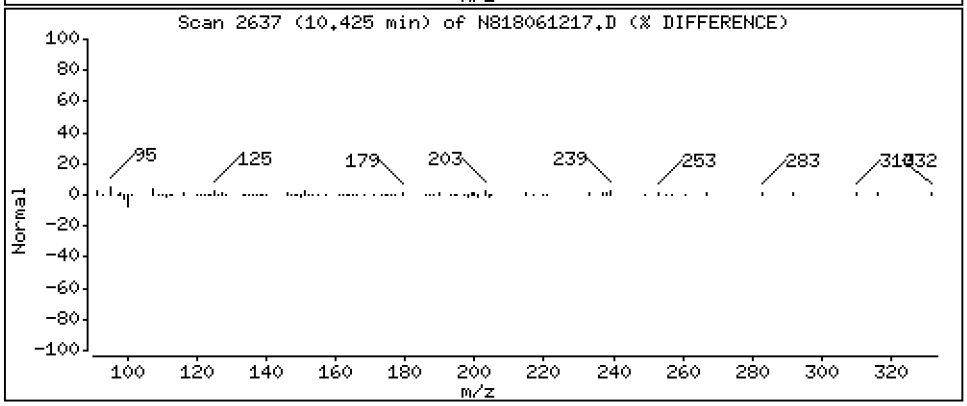












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

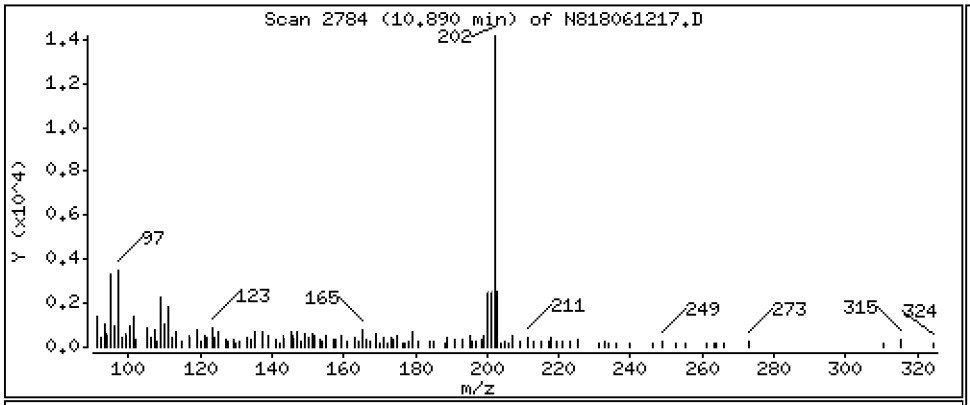
Operator: JZ

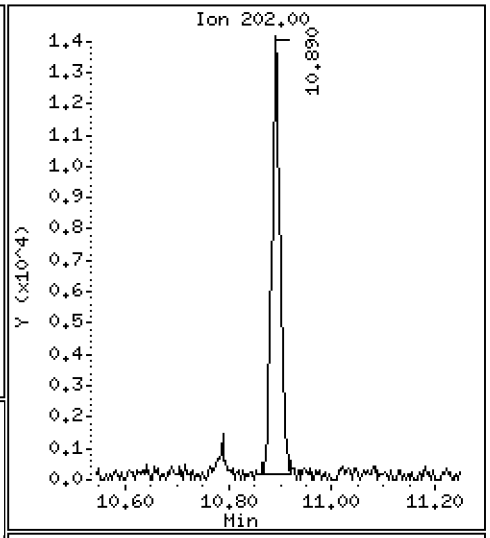
Column phase: Rxi-17sil

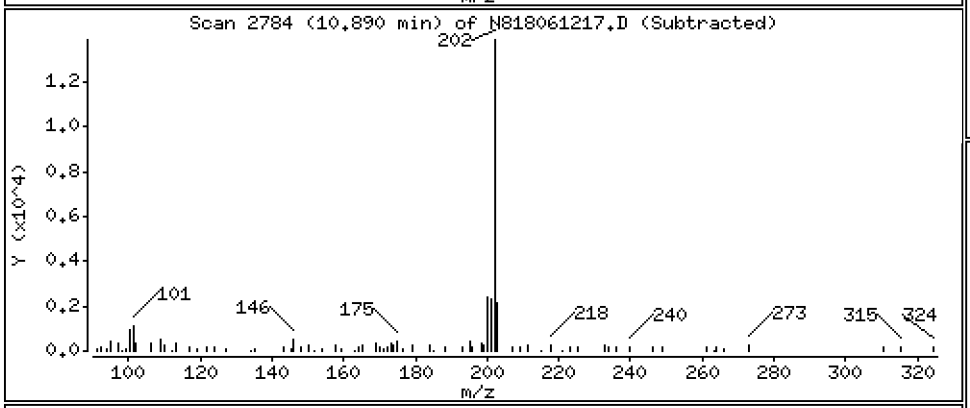
Column diameter: 0.25

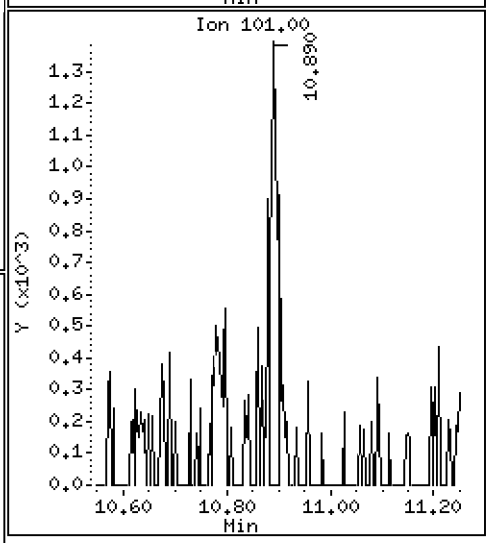
23 Pyrene

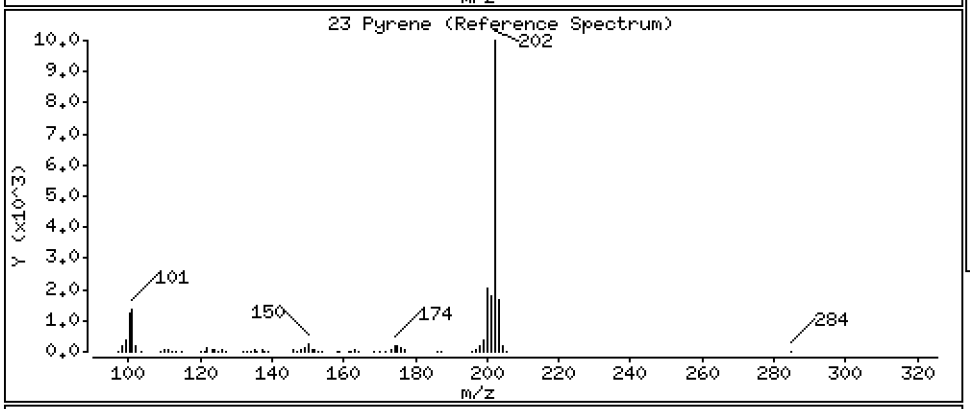
Concentration: 0.1608 ug/mL

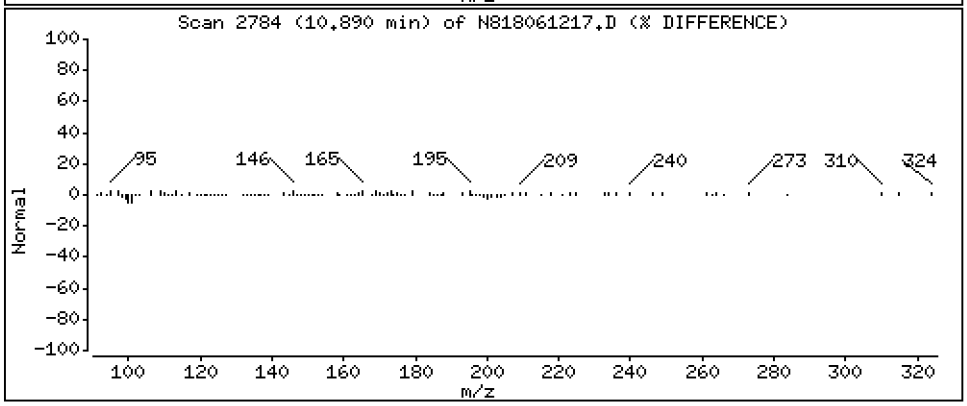












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

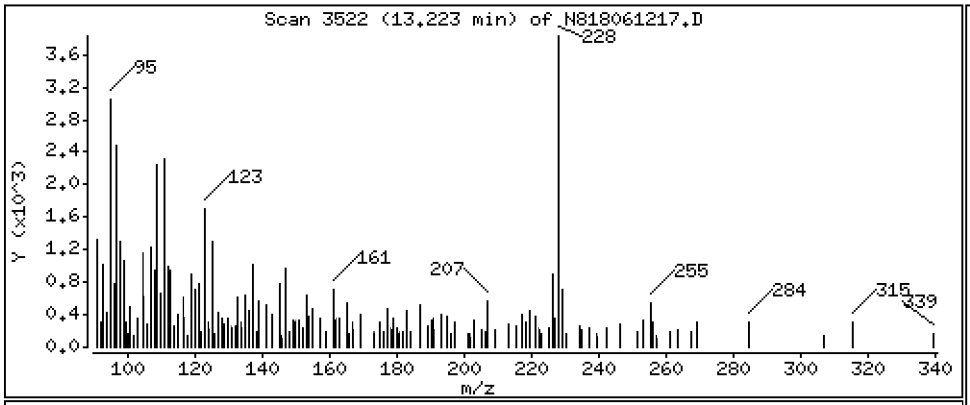
Operator: JZ

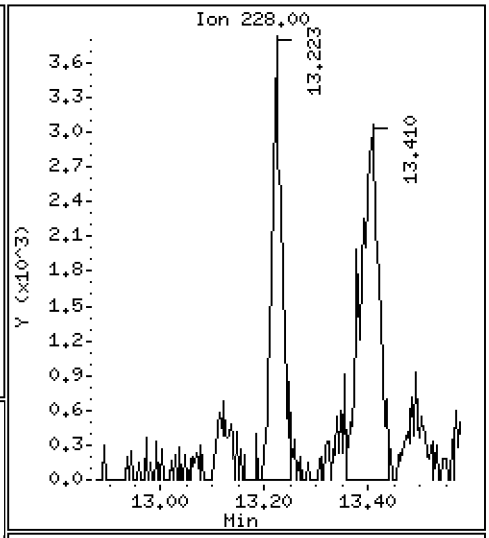
Column phase: Rxi-17sil

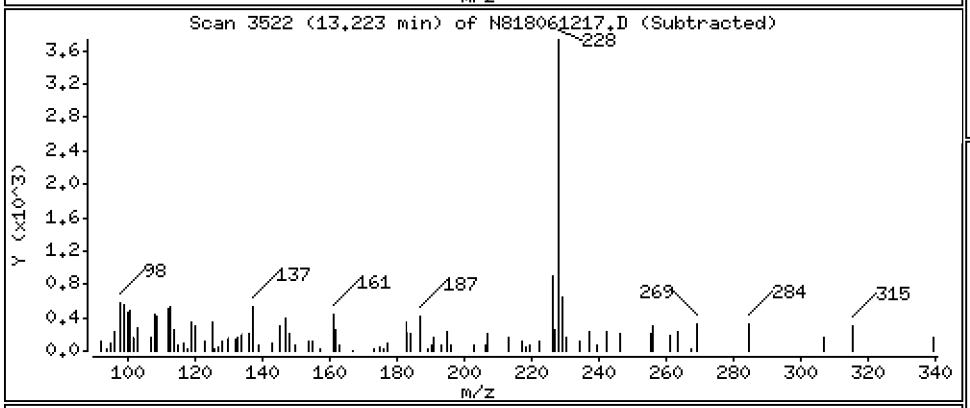
Column diameter: 0.25

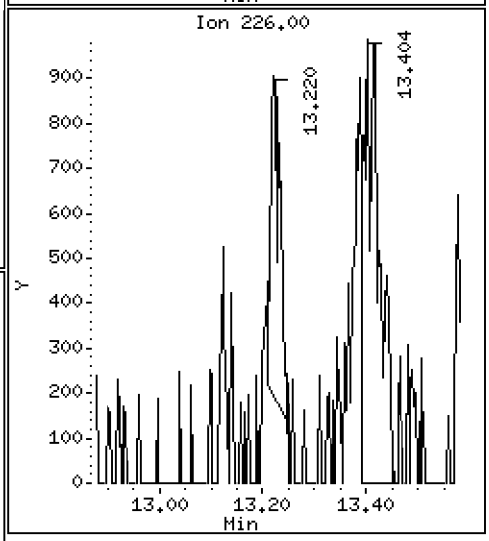
24 Benzo(a)anthracene

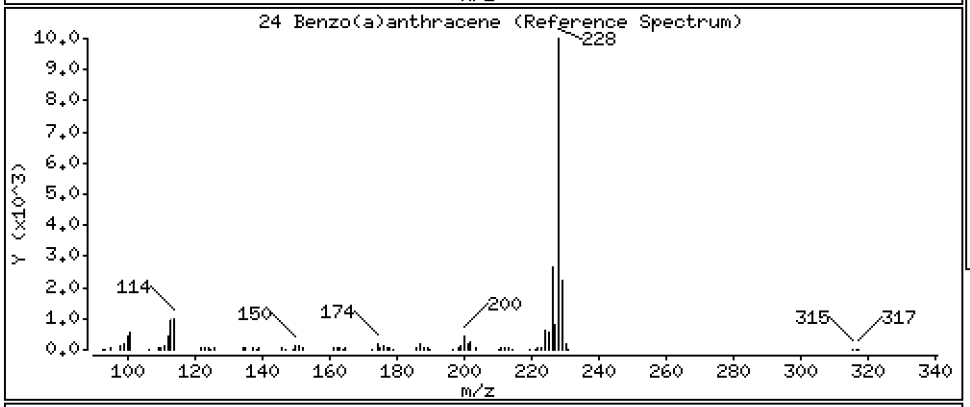
Concentration: 0.05539 ug/mL

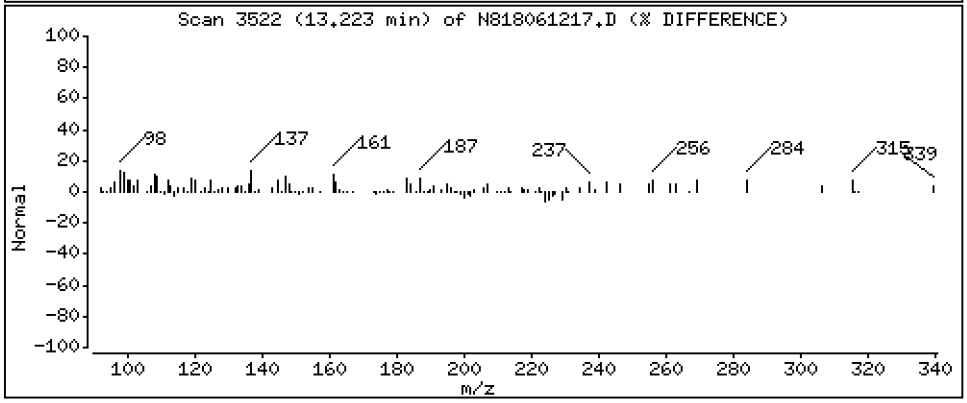












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

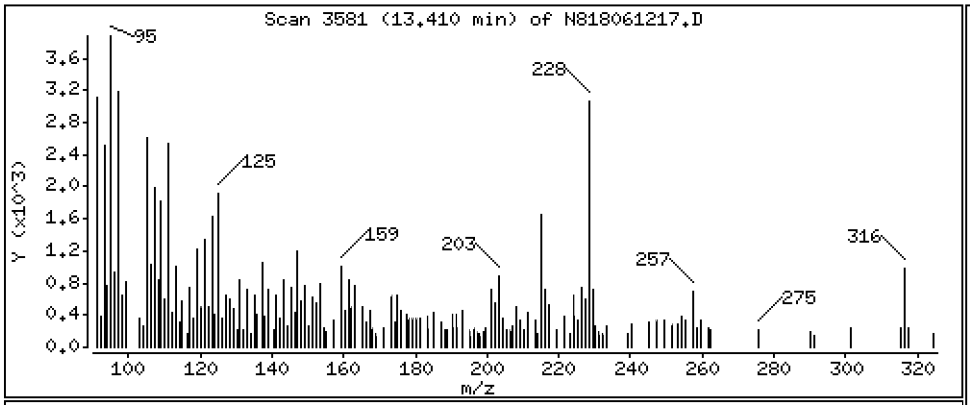
Operator: JZ

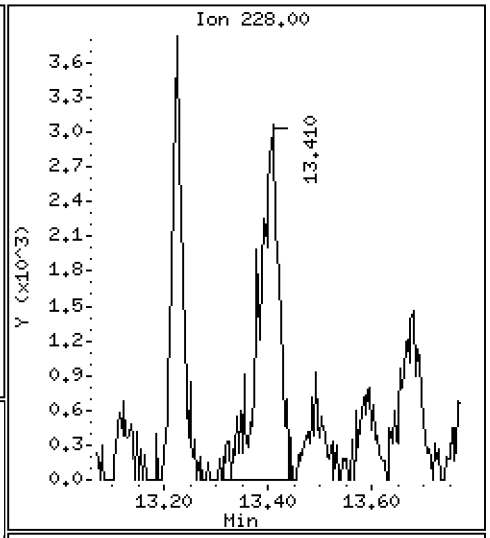
Column phase: Rxi-17sil

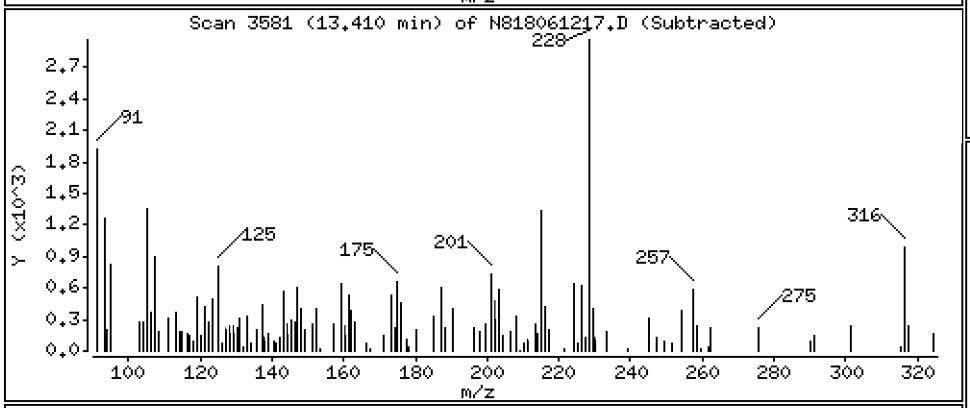
Column diameter: 0.25

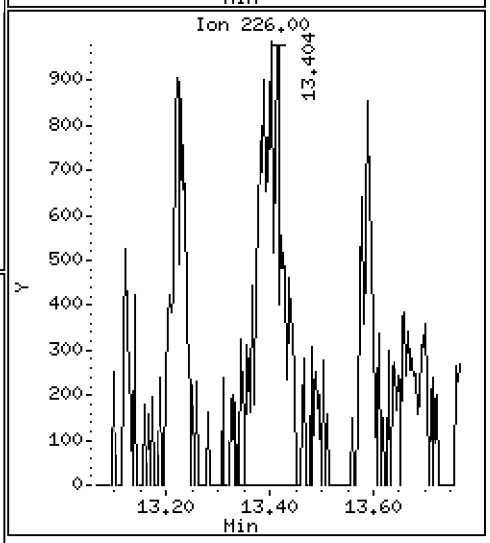
27 Chrysene

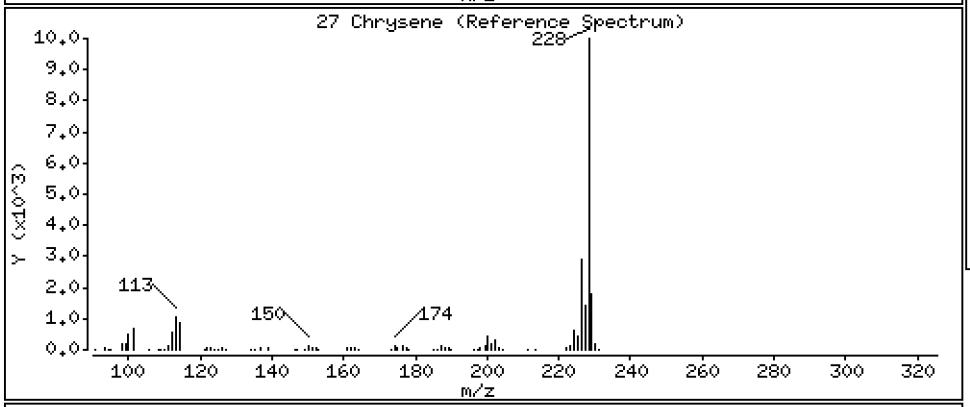
Concentration: 0.08877 ug/mL

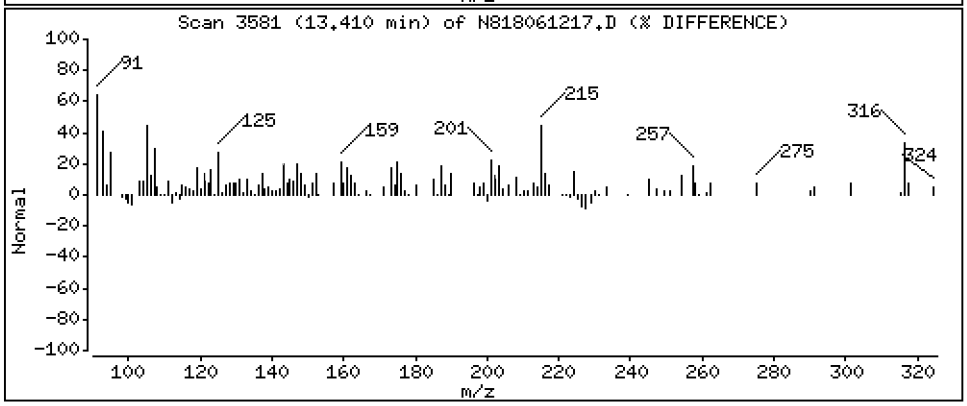












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

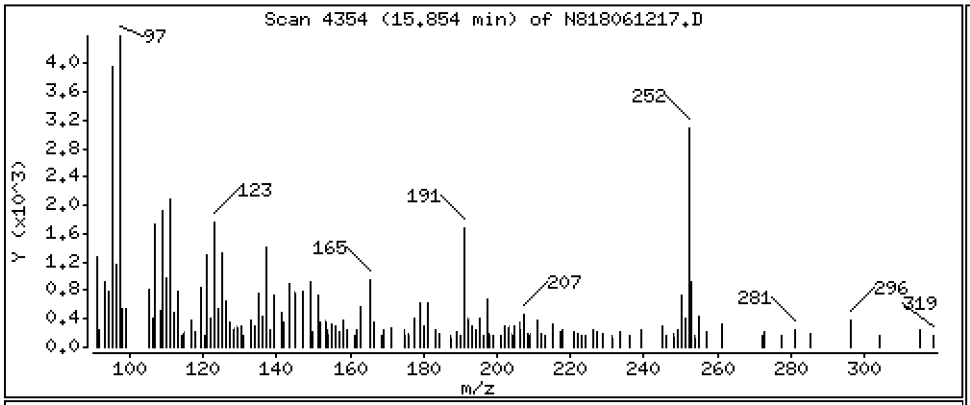
Operator: JZ

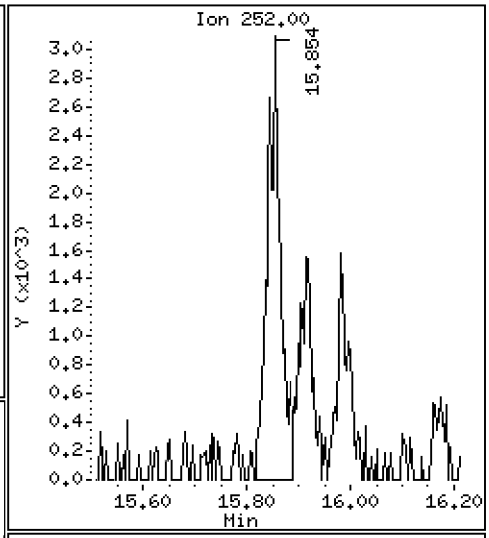
Column phase: Rxi-17sil

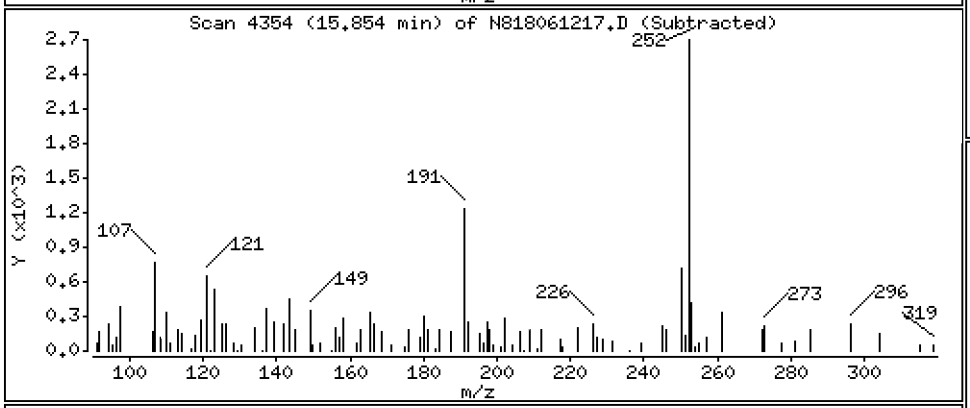
Column diameter: 0.25

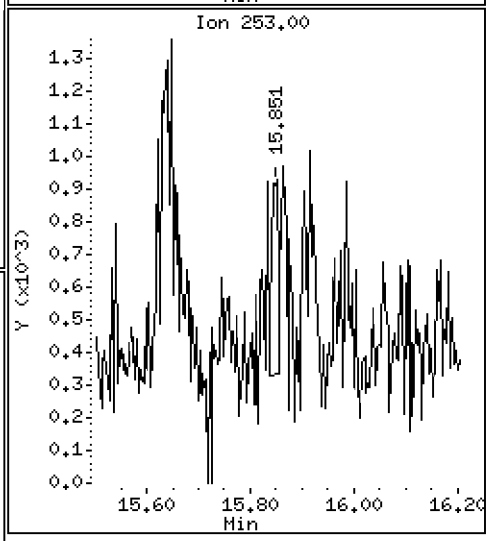
28 Benzo(b)fluoranthene

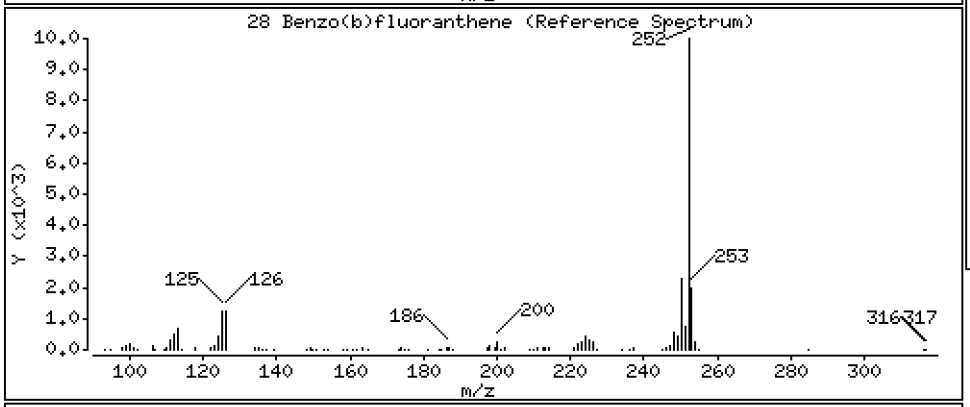
Concentration: 0.05411 ug/mL

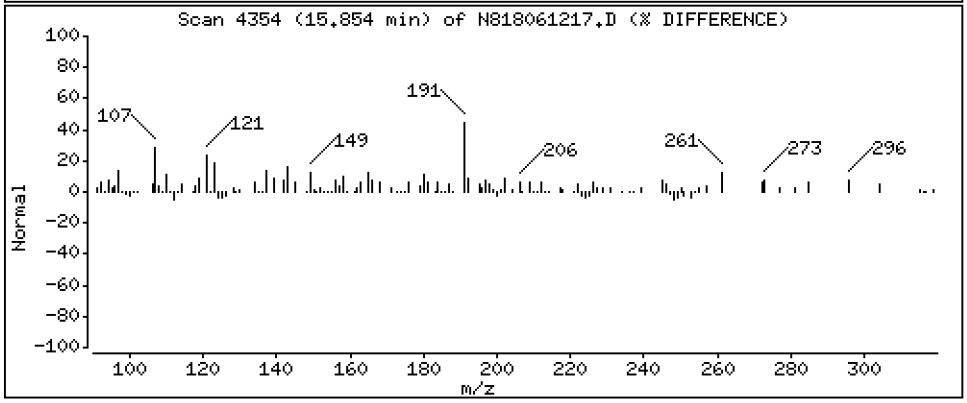












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

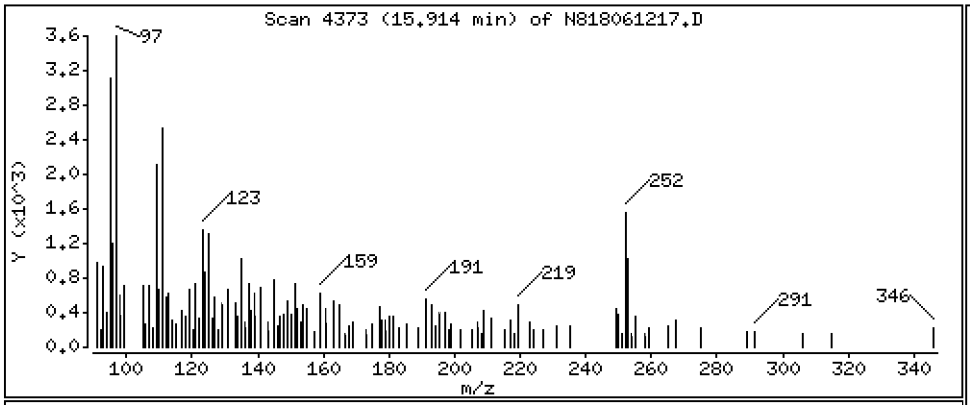
Operator: JZ

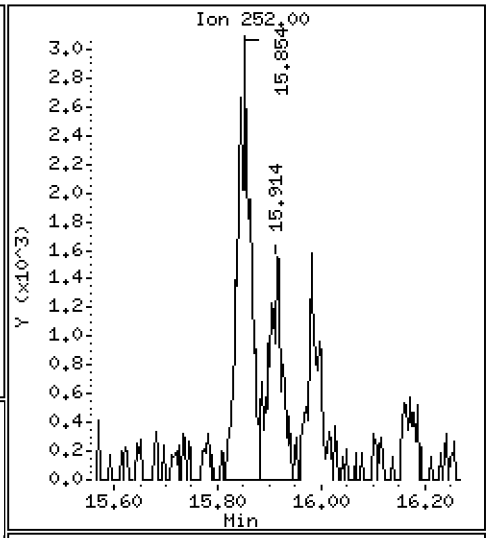
Column phase: Rxi-17sil

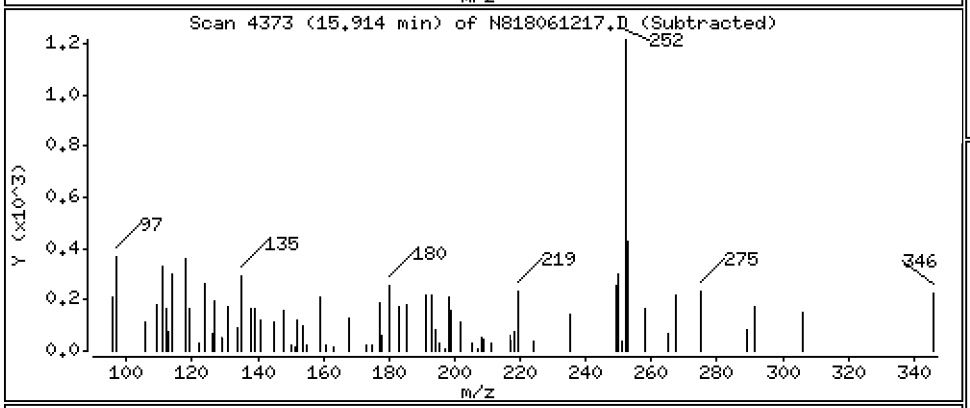
Column diameter: 0.25

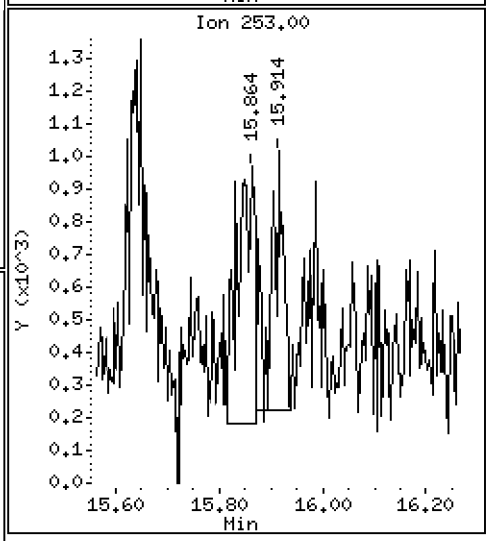
29 Benzo(k)fluoranthene

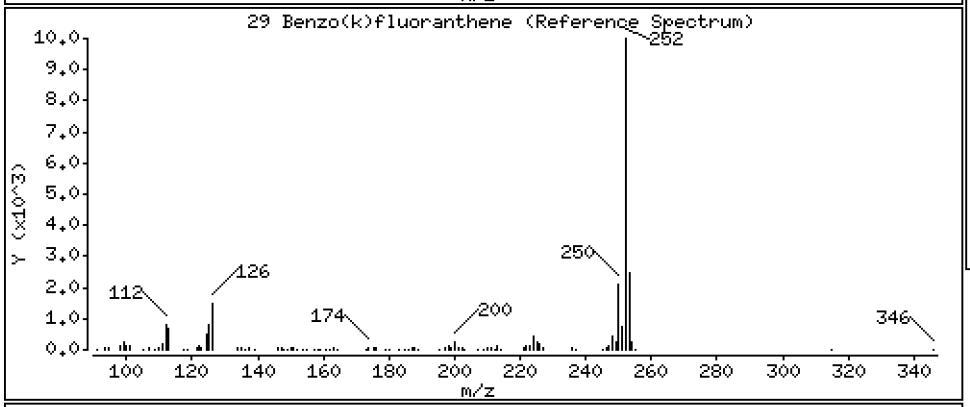
Concentration: 0.03063 ug/mL

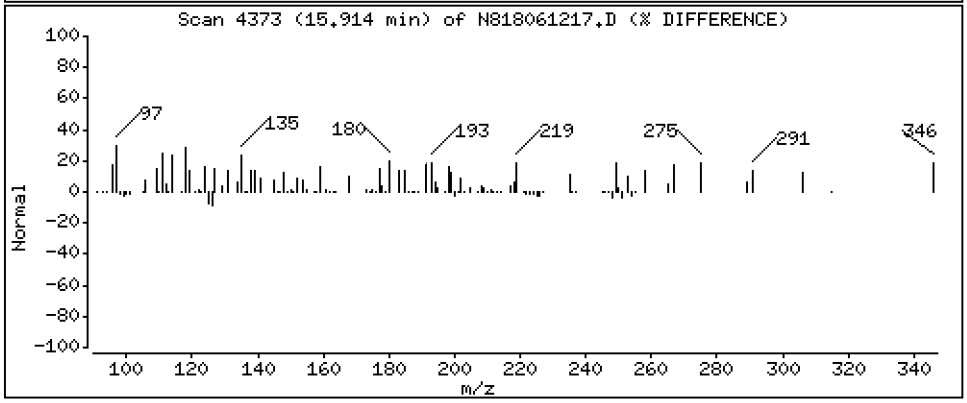












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

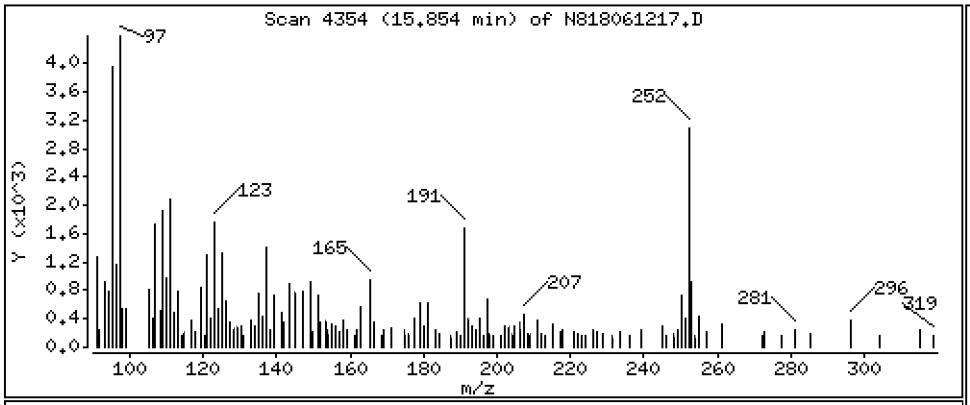
Operator: JZ

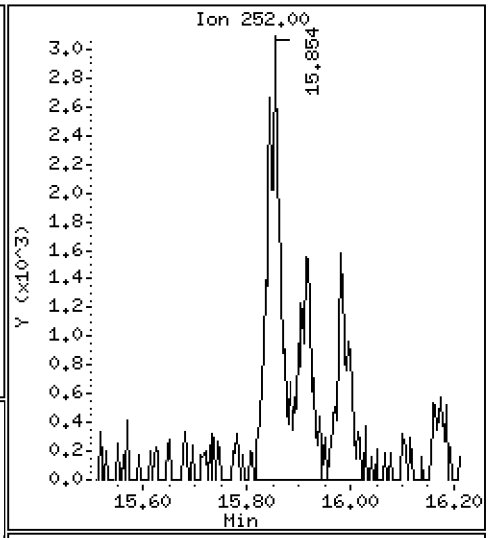
Column phase: Rxi-17sil

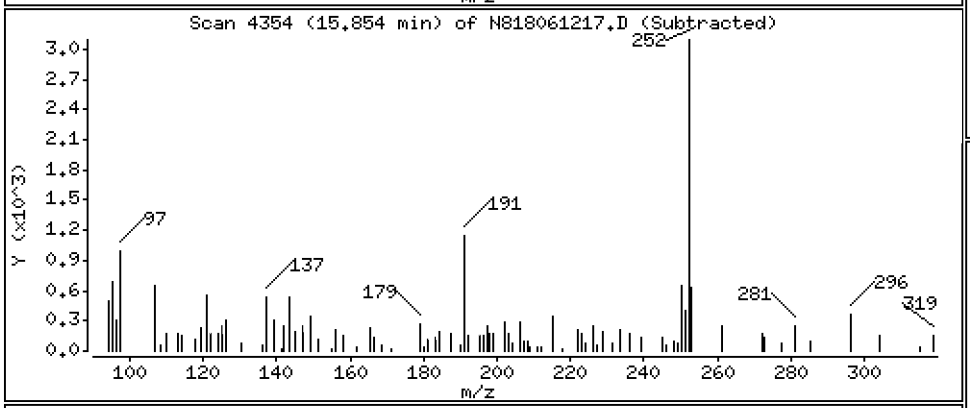
Column diameter: 0.25

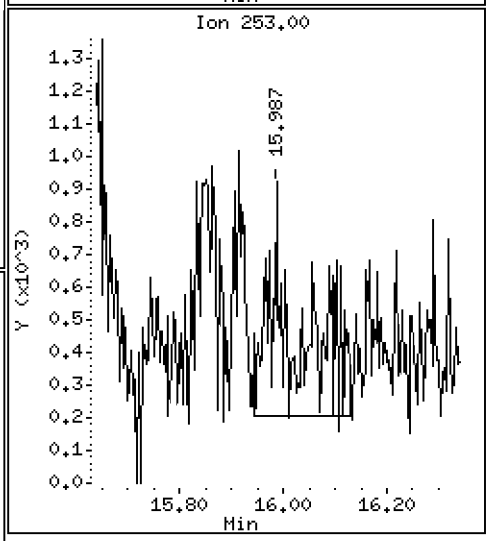
31 Total Benzofluoranthenes

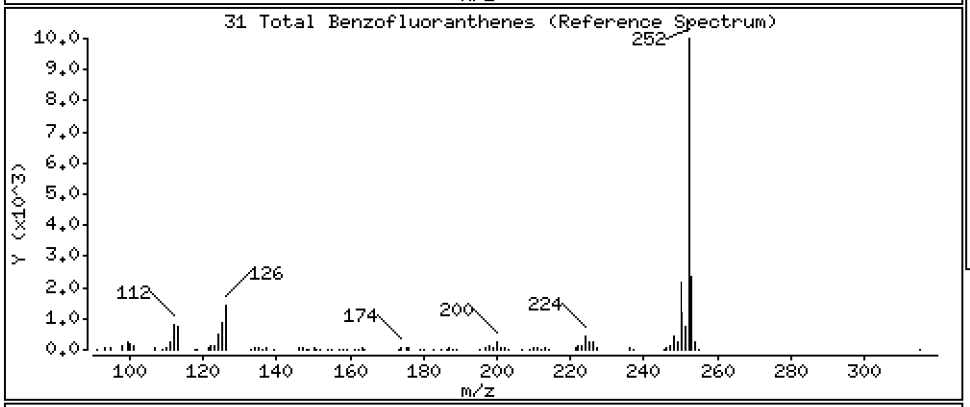
Concentration: 0.1073 ug/mL

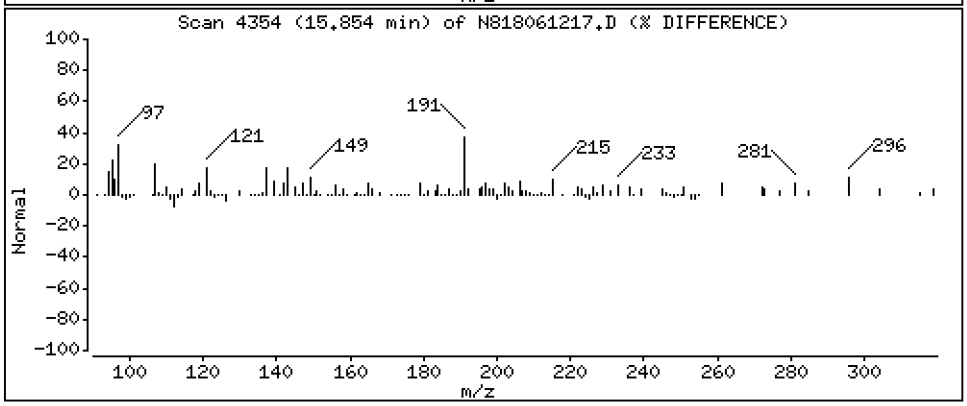












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061217.D

Date : 12-JUN-2018 21:39

Client ID:

Instrument: nt8.i

Sample Info: 18E0282-10

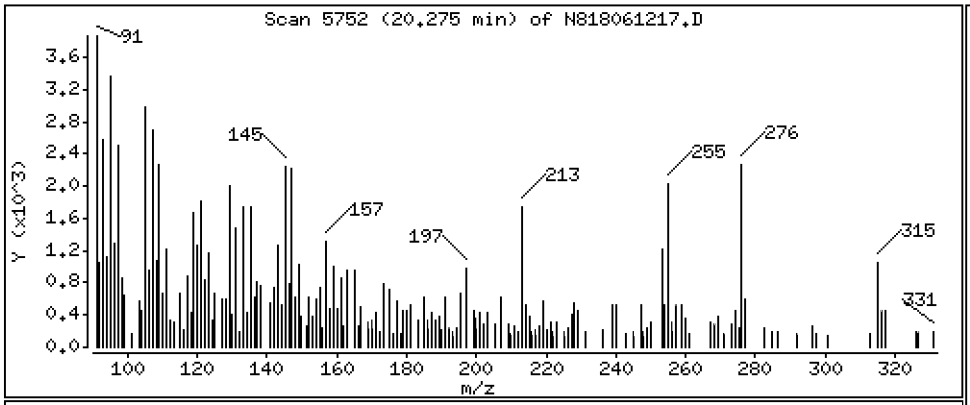
Operator: JZ

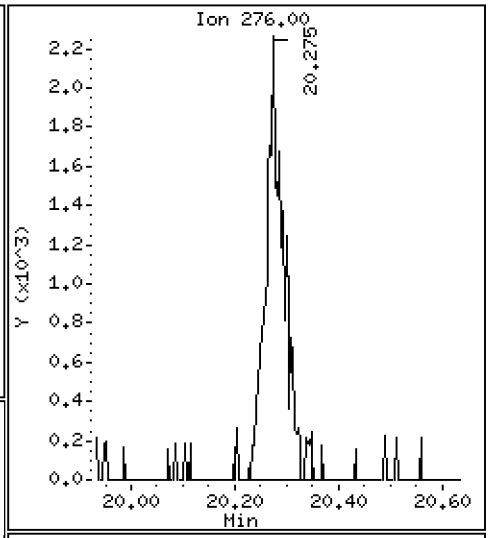
Column phase: Rxi-17sil

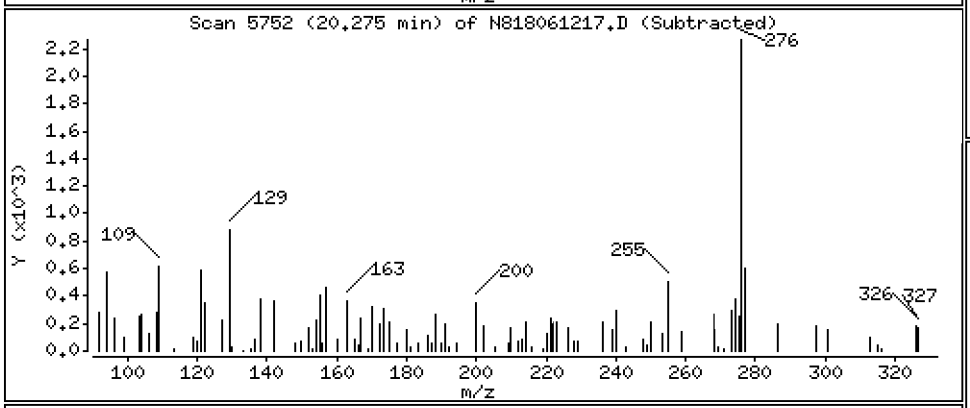
Column diameter: 0.25

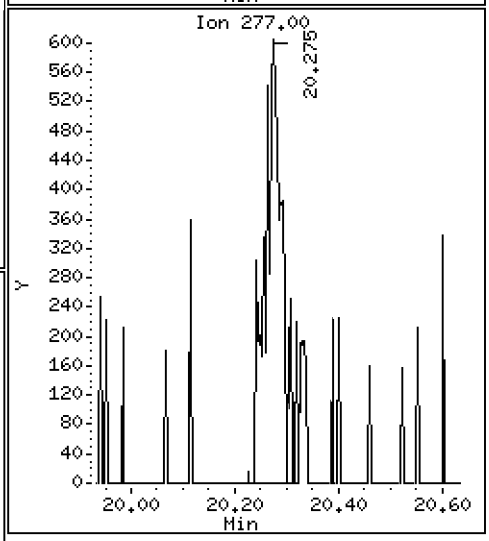
39 Benzo(g,h,i)perylene

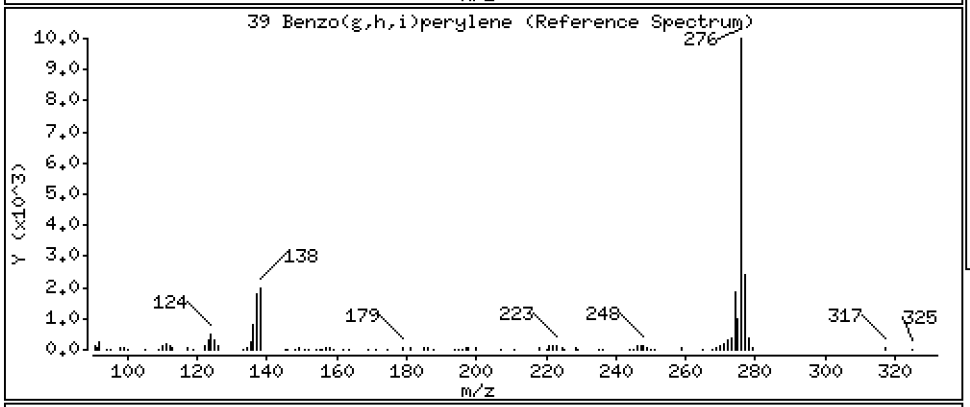
Concentration: 0.06125 ug/mL

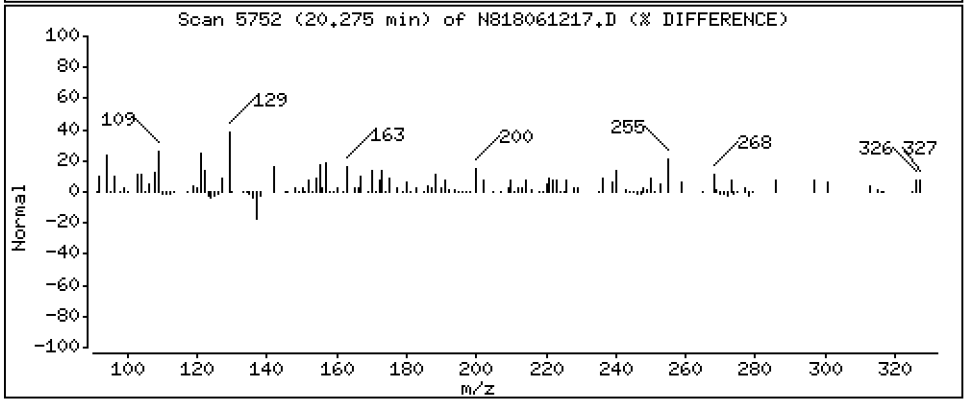












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061217.D
Lab Smp Id: 18E0282-10
Inj Date : 12-JUN-2018 21:39
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0282-10
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	171666	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	76349	1.21921	1.219
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	92585	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	157684	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	5654	0.05850	0.05850
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.425	10.428	(1.193)	16714	0.15345	0.1535
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	170976	1.65624	1.656
	23 Pyrene	202	10.889	10.896	(0.816)	15654	0.16081	0.1608
	24 Benzo(a)anthracene	228	13.223	13.226	(0.991)	5213	0.05539	0.05539
*	25 Chrysene-d12	240	13.346	13.349	(1.000)	161979	2.00000	
	27 Chrysene	228	13.409	13.419	(1.005)	8410	0.08877	0.08877(M)
	28 Benzo(b)fluoranthene	252	15.854	15.860	(0.927)	5406	0.05411	0.05411
	29 Benzo(k)fluoranthene	252	15.914	15.917	(0.931)	3009	0.03063	0.03063
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.854	15.860	(0.927)	10454	0.10730	0.1073(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	157190	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	152184	2.06697	2.067
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	20.274	20.284	(1.186)	5366	0.06125	0.06125
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061217.D
Lab Smp Id: 18E0282-10
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	171666	40.49
10 Acenaphthene-d10	65789	32895	131578	92585	40.73
15 Phenanthrene-d10	128644	64322	257288	157684	22.57
25 Chrysene-d12	166669	83335	333338	161979	-2.81
33 Perylene-d12	140483	70242	280966	157190	11.89

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.02
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061217.D

Lab ID: 18E0282-10
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 21:39

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

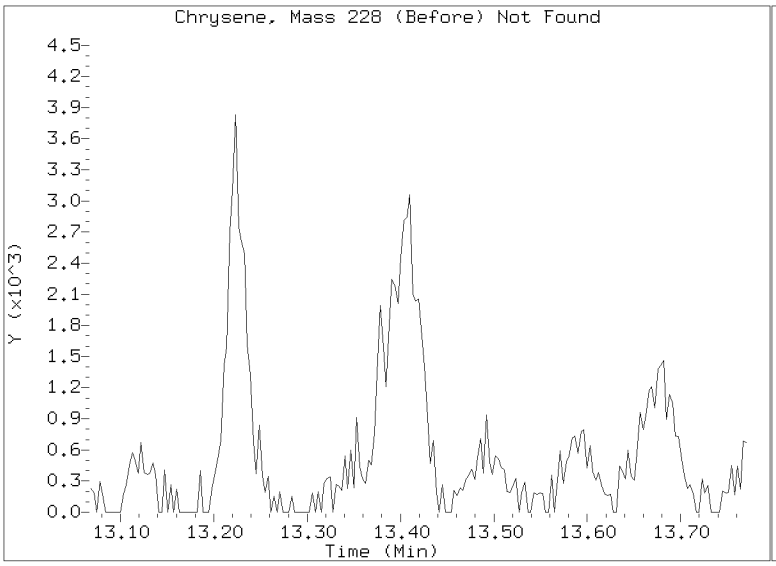
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

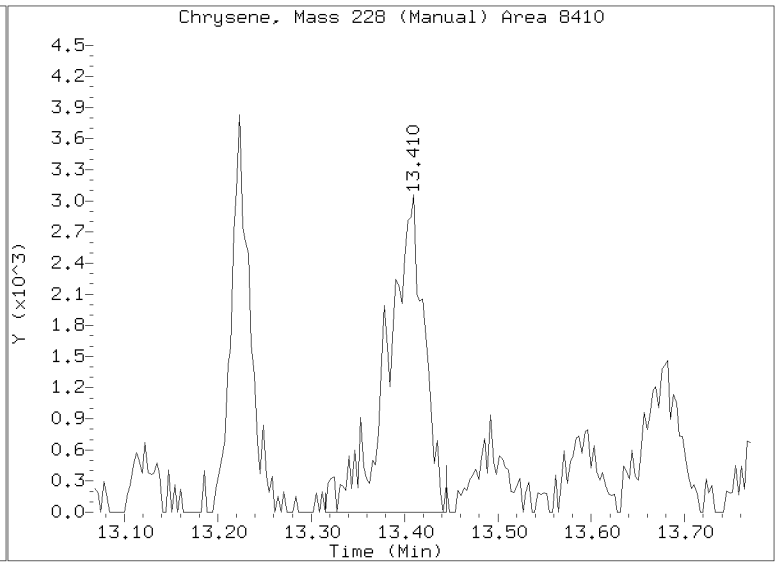
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

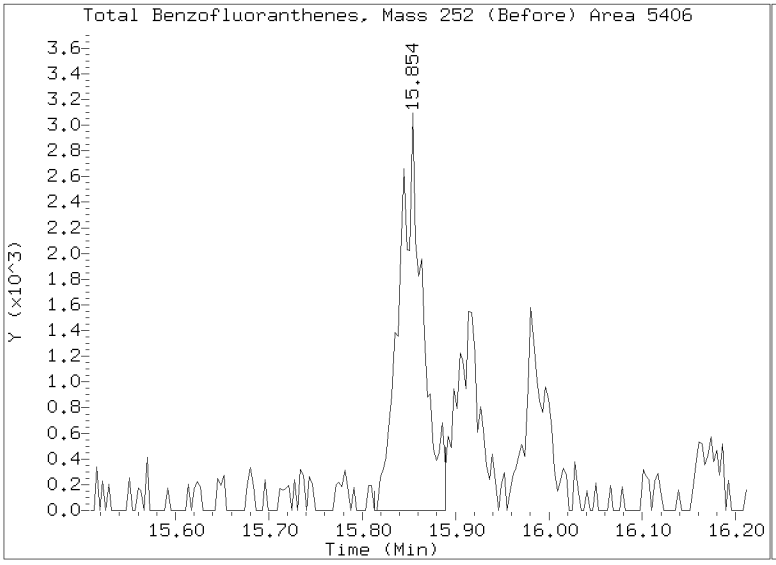
* Only compounds listed in the work order have been verified by the analyst *

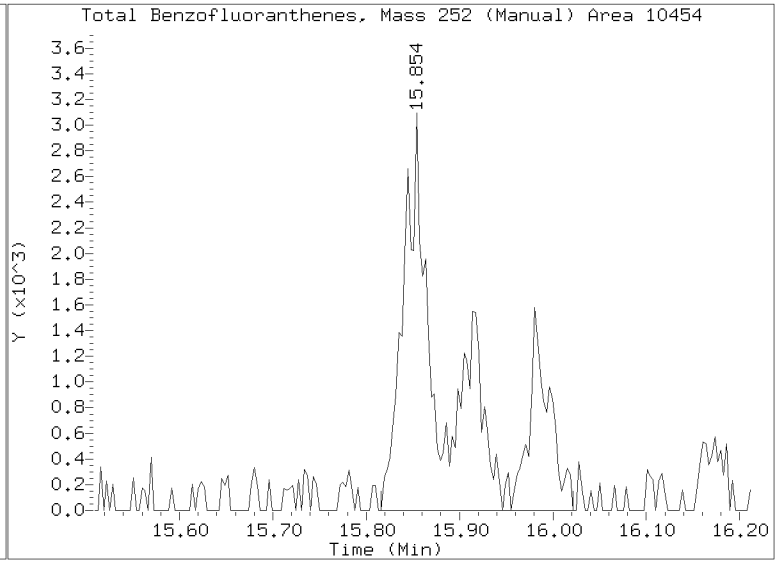
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061217.D
Injection Date: 12-JUN-2018 21:39
Lab ID:18E0282-10 Client ID:
Report Date: 06/13/2018 13:43









LDW18-SSCL-A07

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-01	SDG:	18E0231
Sampled:	05/19/18 14:35	Prepared:	05/24/18 10:50	File ID:	N818060126.D
% Solids:	76.66	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/02/18 01:34
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	13.13 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	67.0		0.82	4.97
218-01-9	Chrysene	1	108		1.05	4.97
205-99-2	Benzo(b)fluoranthene	1	71.0		1.36	4.97
207-08-9	Benzo(k)fluoranthene	1	37.5		0.76	4.97
50-32-8	Benzo(a)pyrene	1	94.2		0.61	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	55.5		1.04	4.97
53-70-3	Dibenzo(a,h)anthracene	1	17.0		0.89	4.97

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.02	75.7	50.8	32 - 120	
Dibenzo[a,h]anthracene-d14	149.02	115	76.9	21 - 133	
Fluoranthene-d10	149.02	93.3	62.6	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

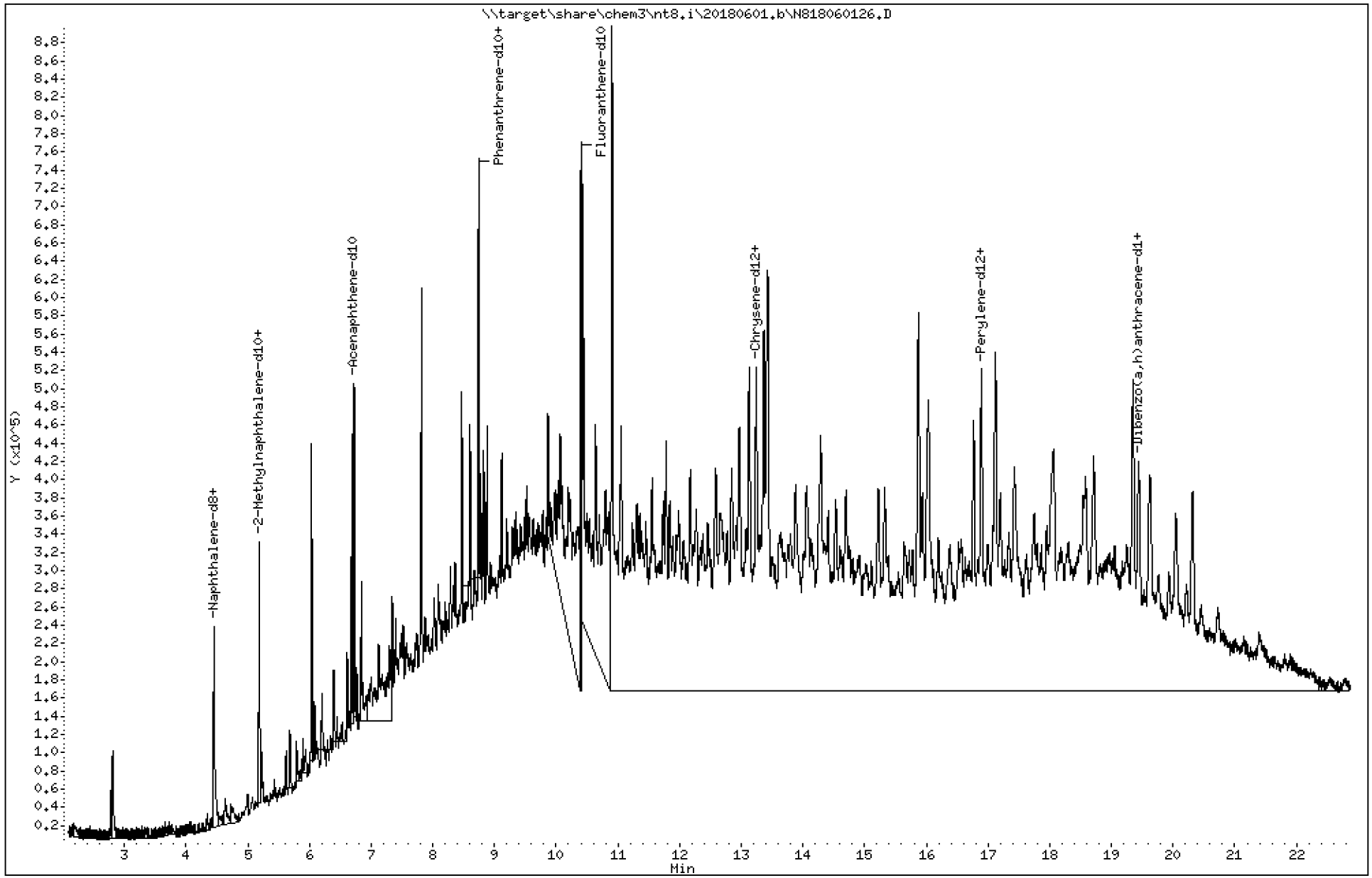
Instrument: nt8.i

Sample Info: 18E0309-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

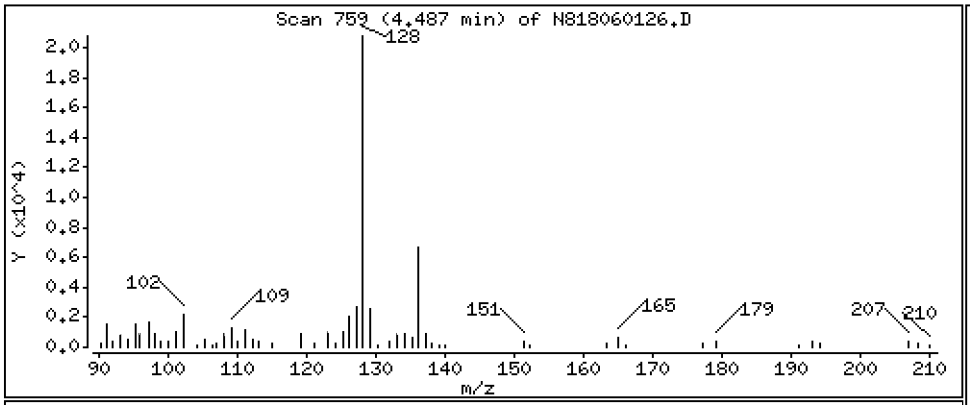
Operator: JZ

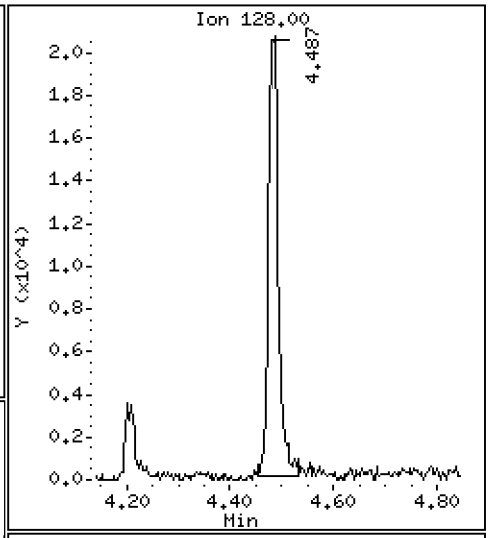
Column phase: Rxi-17sil

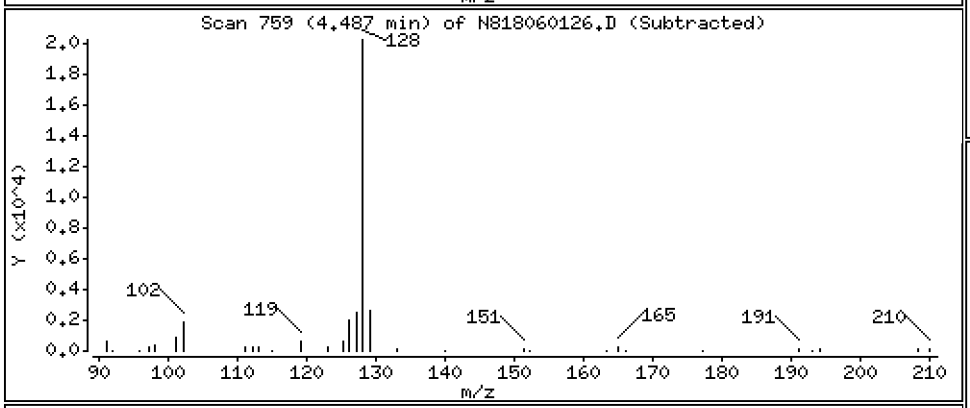
Column diameter: 0.25

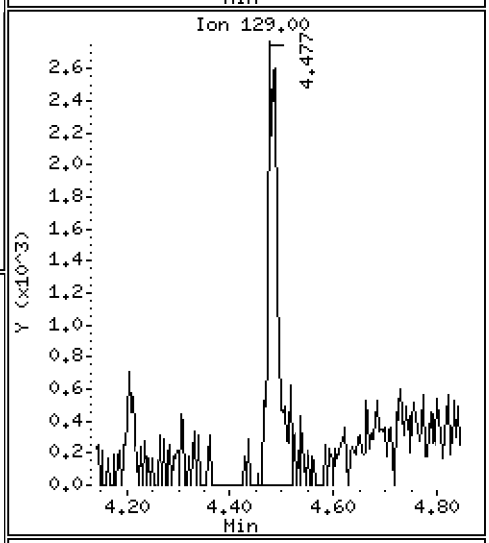
2 Naphthalene

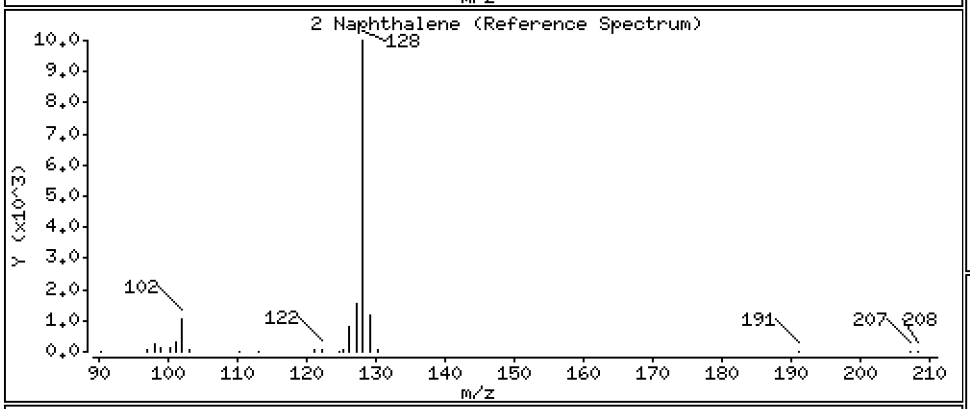
Concentration: 0.2583 ug/mL

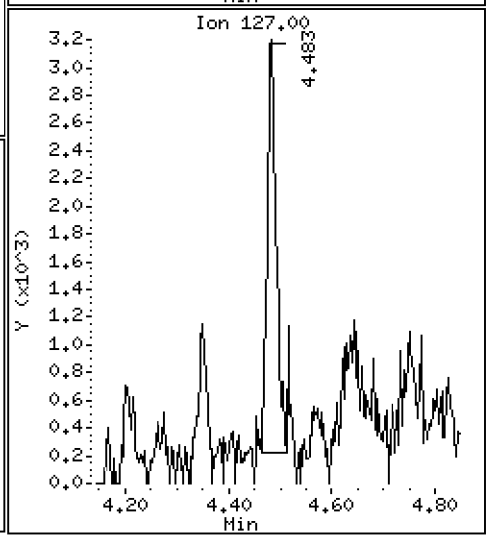


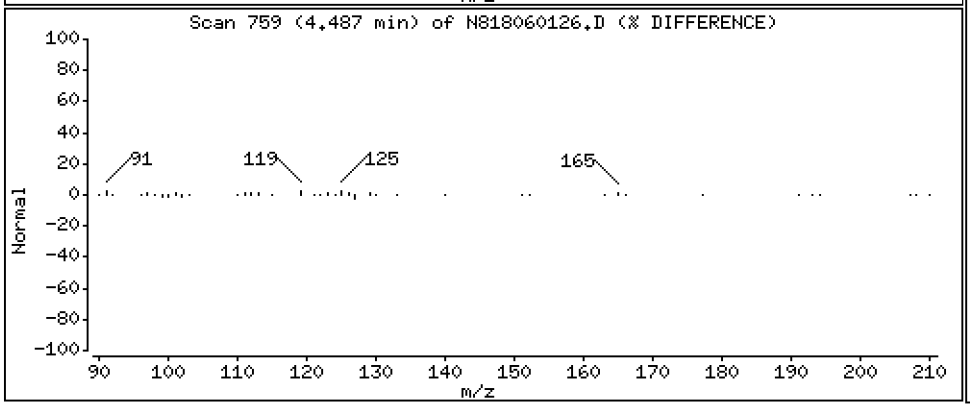












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

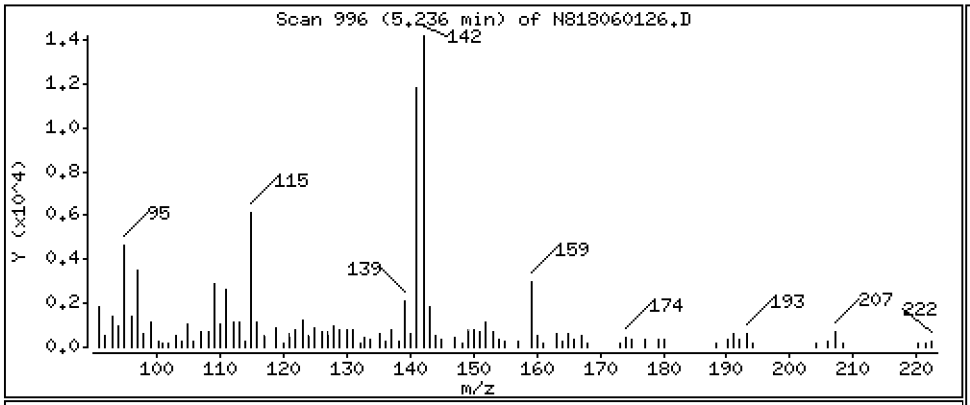
Operator: JZ

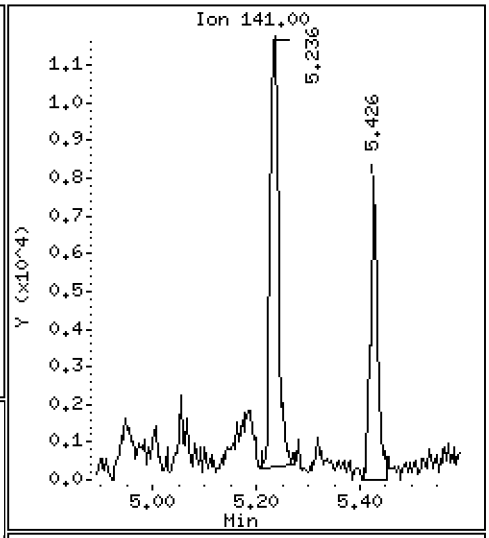
Column phase: Rxi-17sil

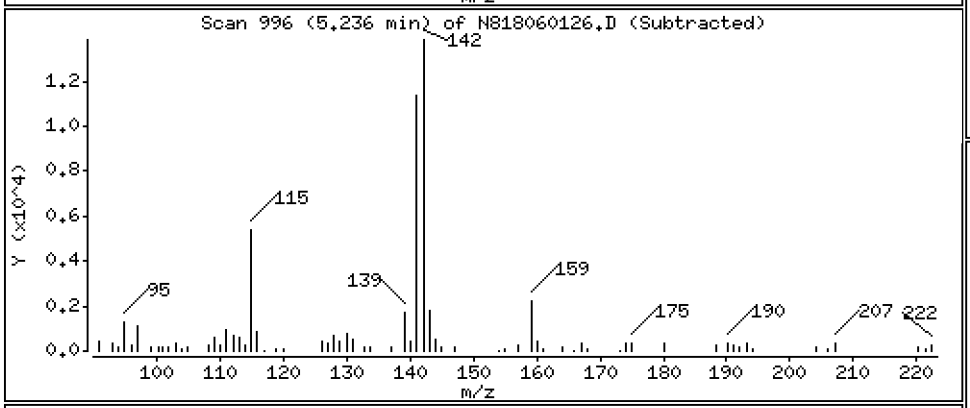
Column diameter: 0.25

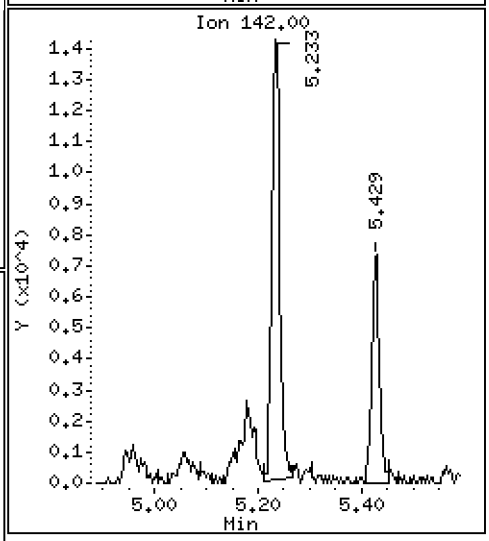
4 2-Methylnaphthalene

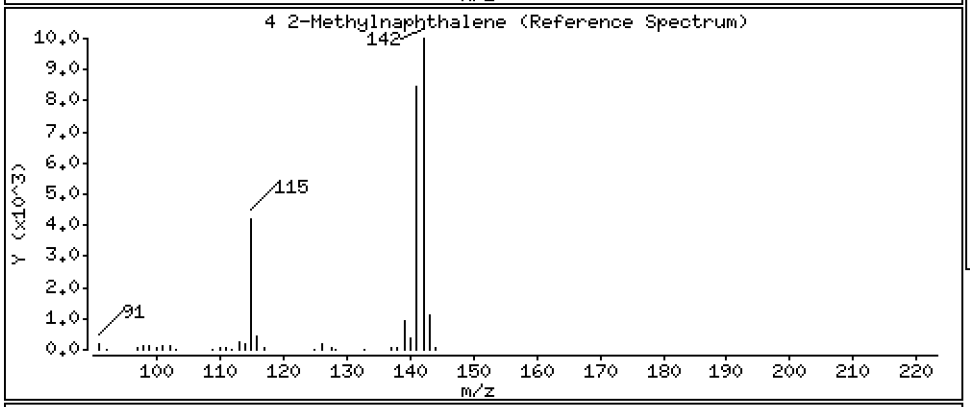
Concentration: 0.2032 ug/mL

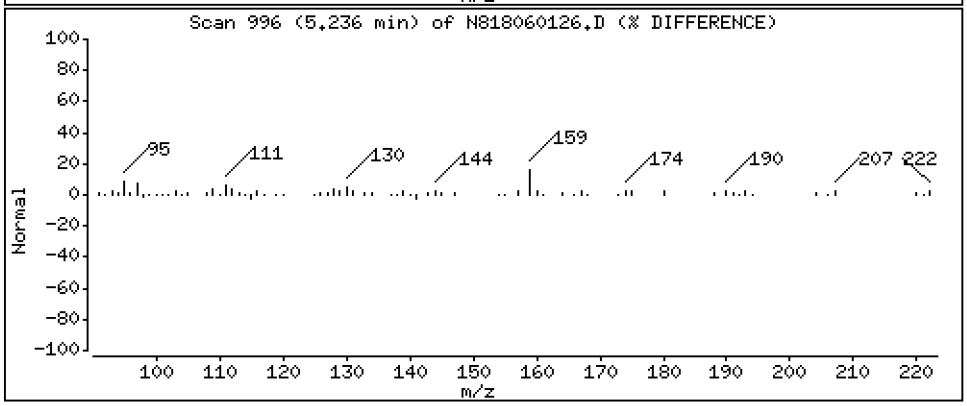












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

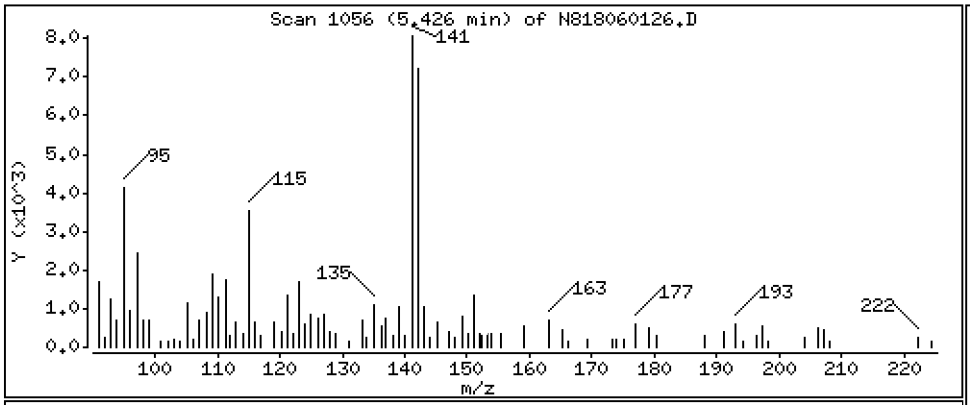
Operator: JZ

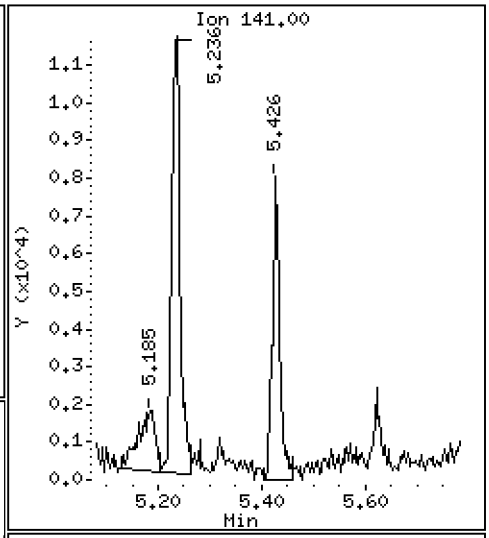
Column phase: Rxi-17sil

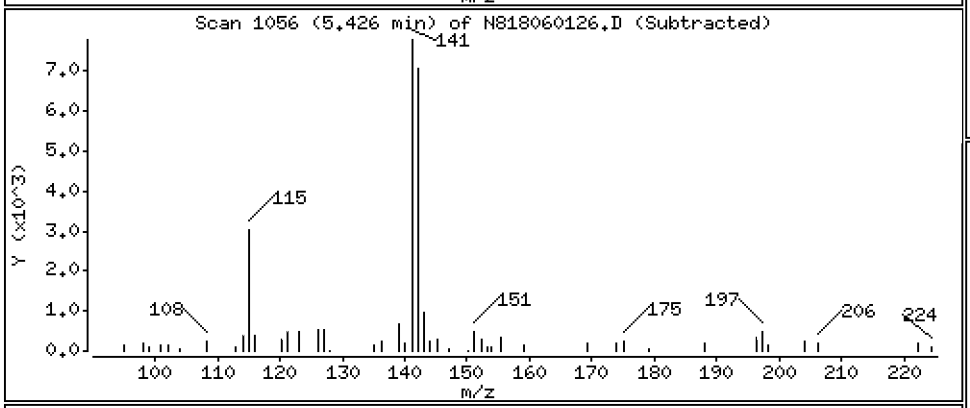
Column diameter: 0.25

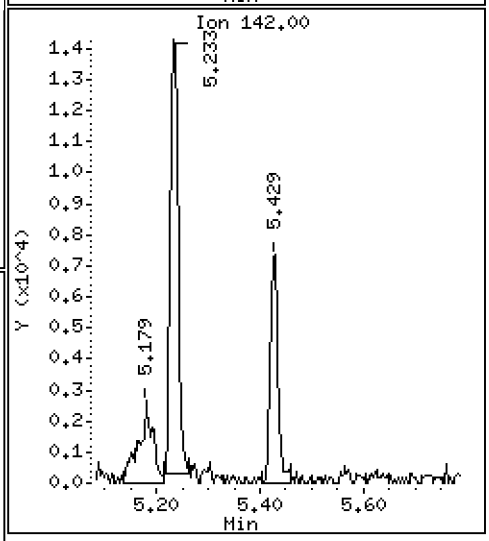
5 1-methylnaphthalene

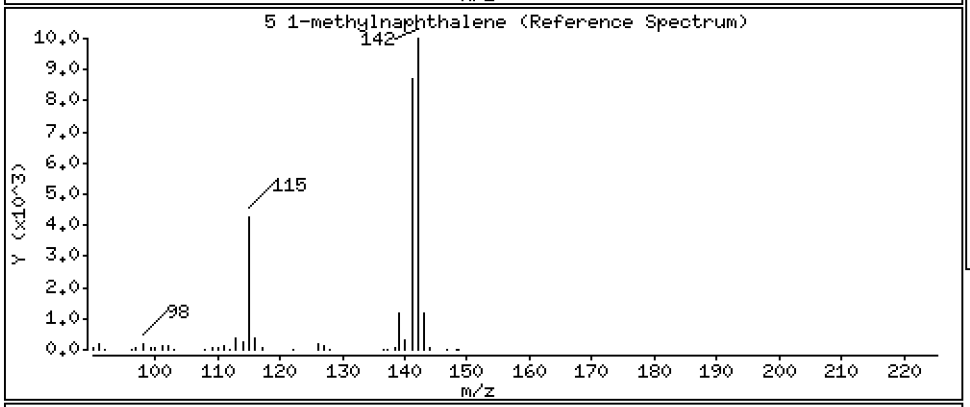
Concentration: 0.1203 ug/mL

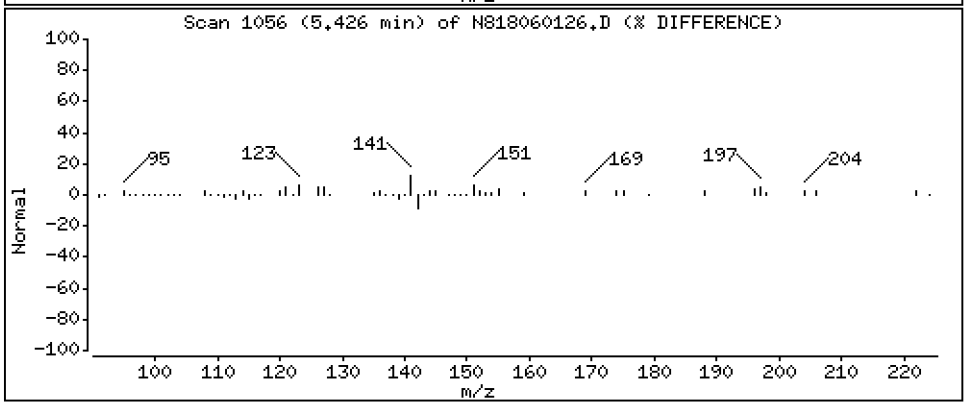












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

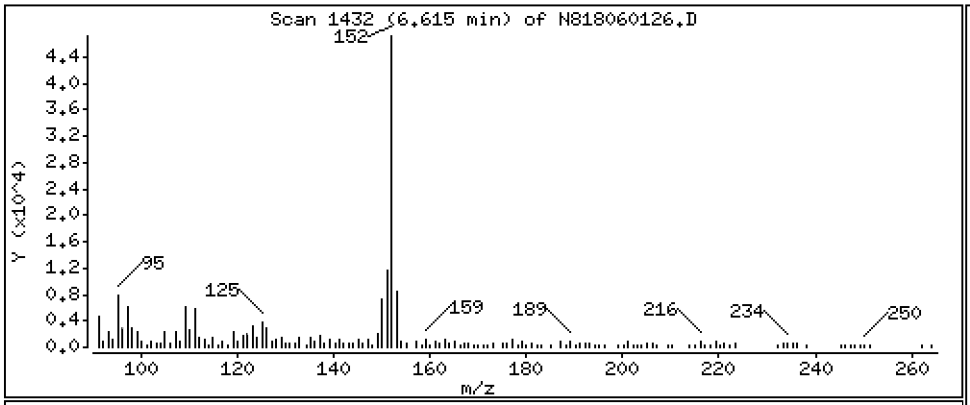
Operator: JZ

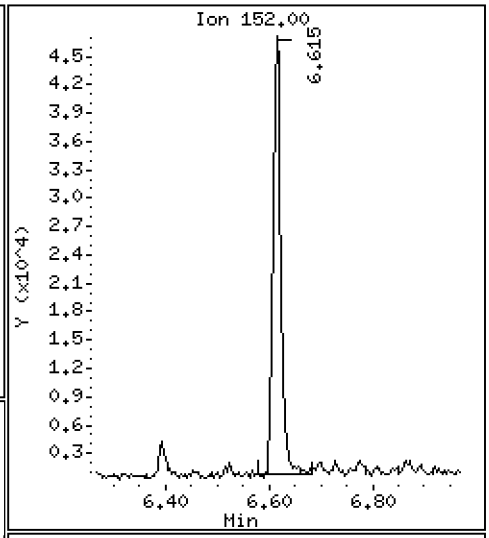
Column phase: Rxi-17sil

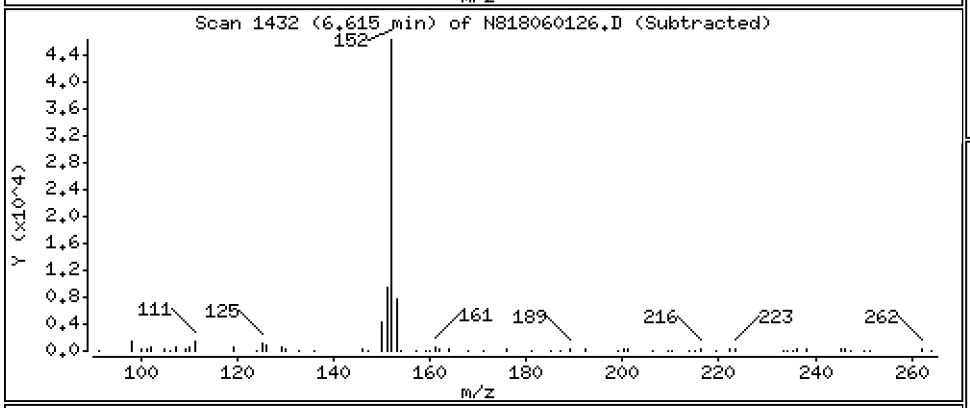
Column diameter: 0.25

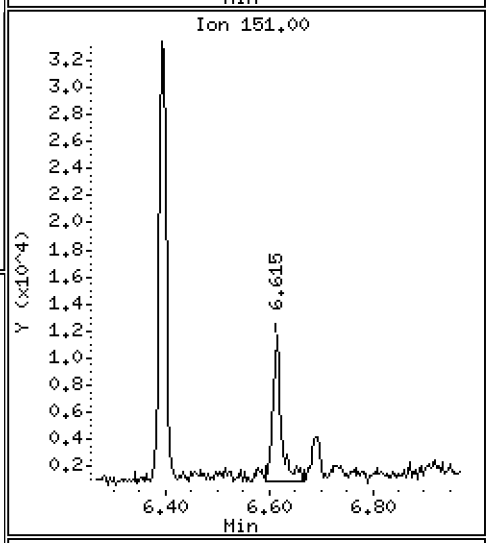
9 Acenaphthylene

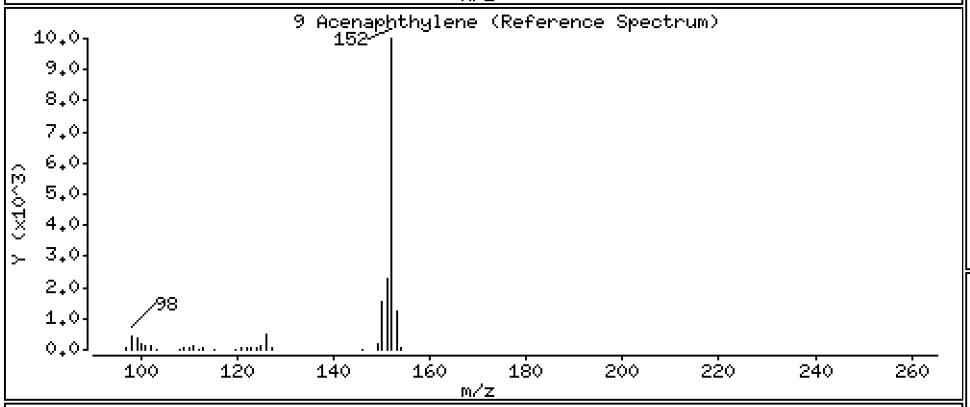
Concentration: 0.5045 ug/mL

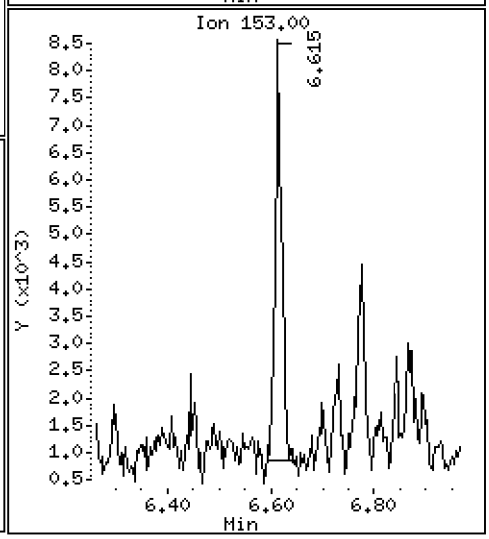


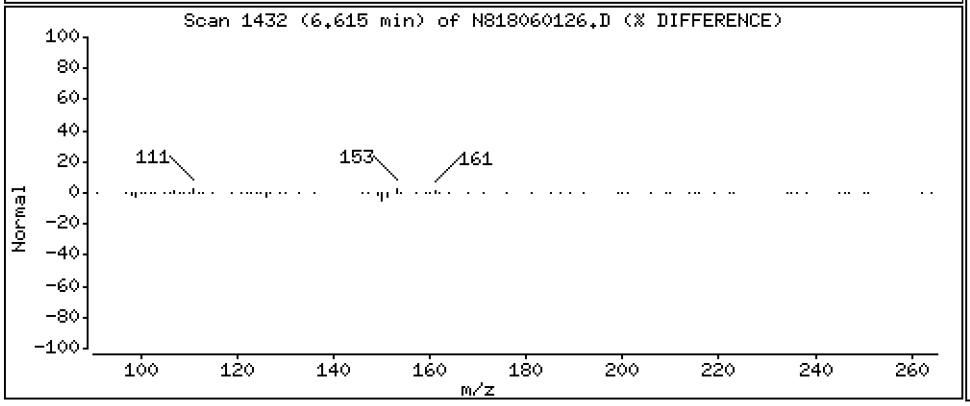












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

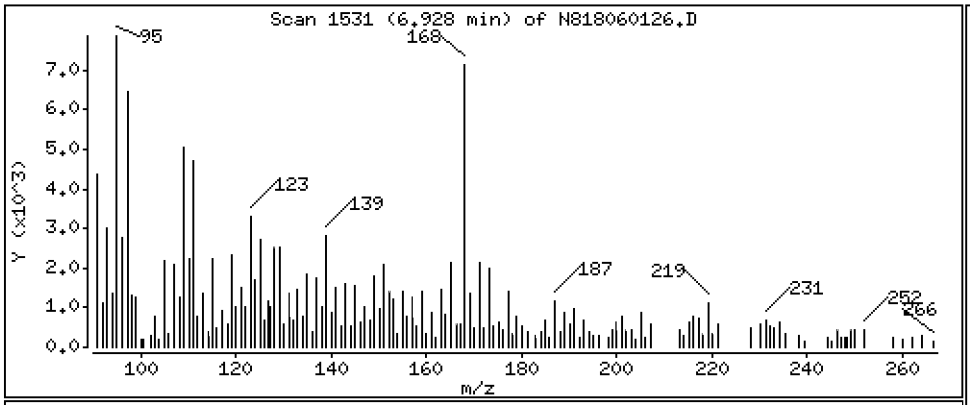
Operator: JZ

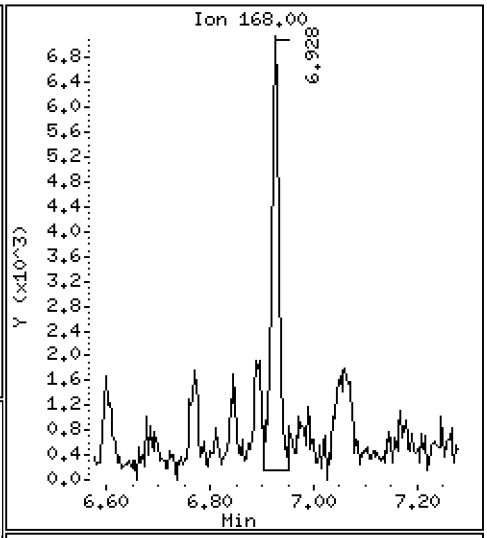
Column phase: Rxi-17sil

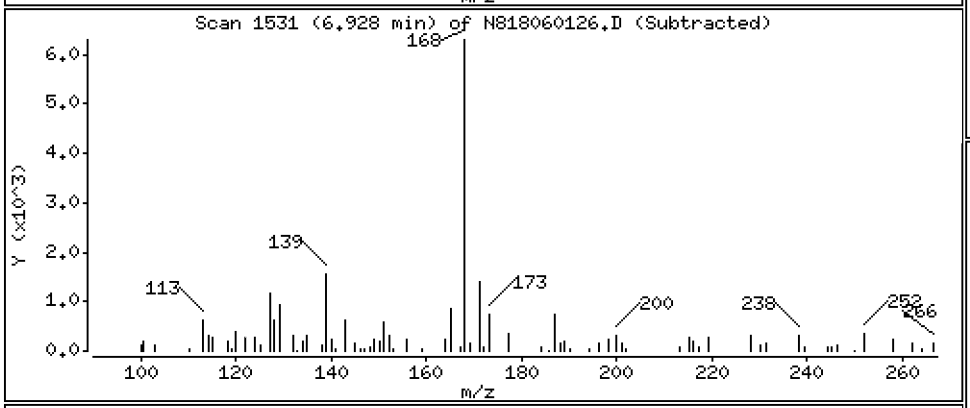
Column diameter: 0.25

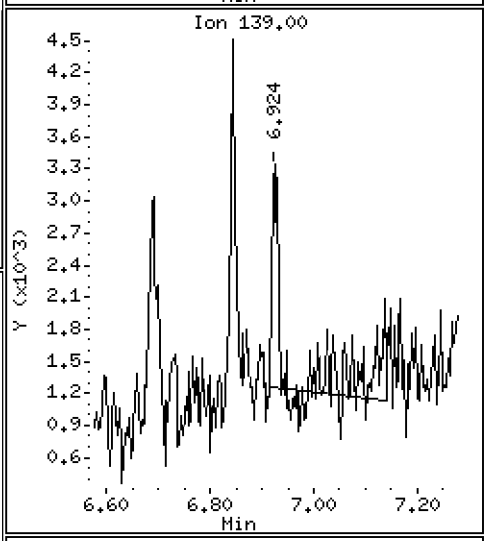
12 Dibenzofuran

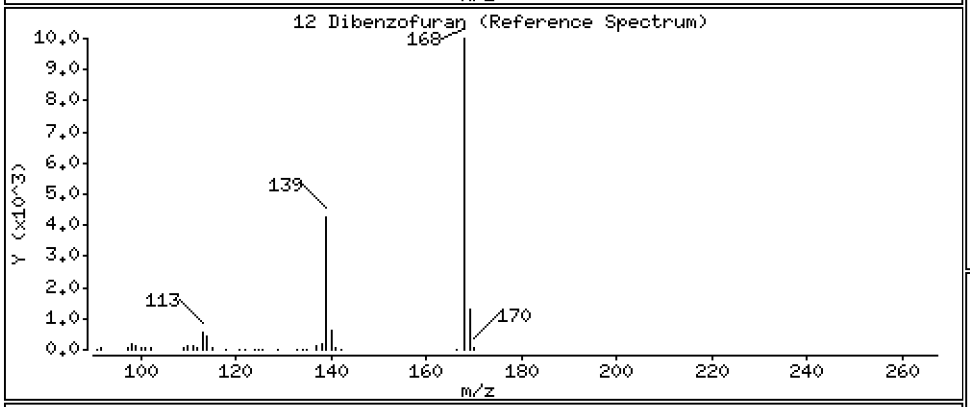
Concentration: 0.07510 ug/mL

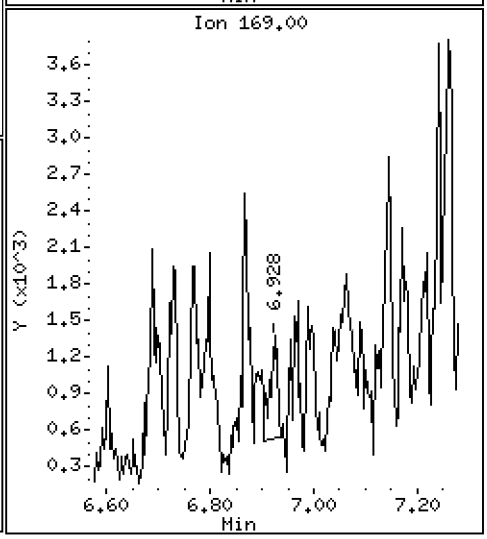


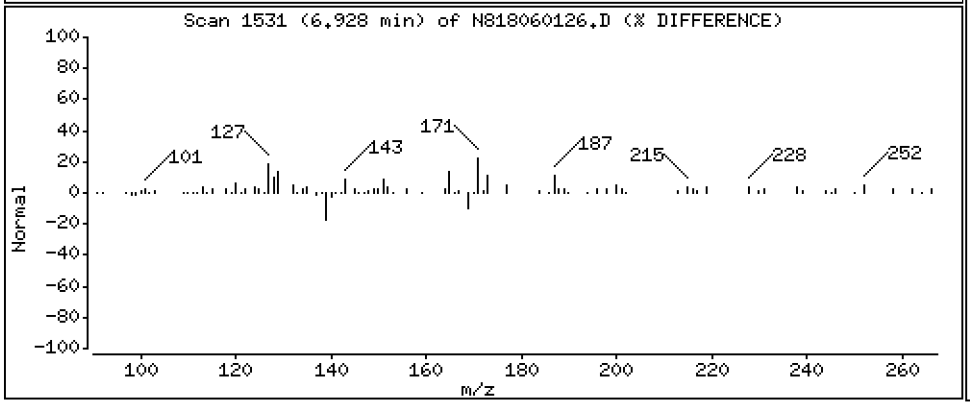












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

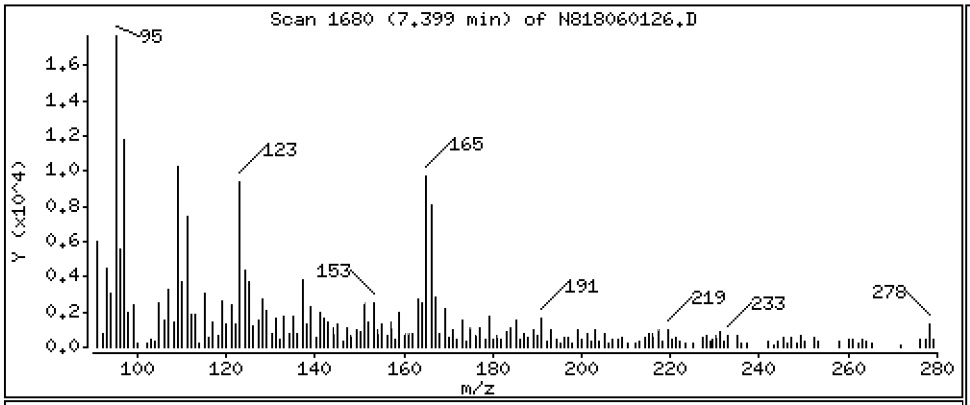
Operator: JZ

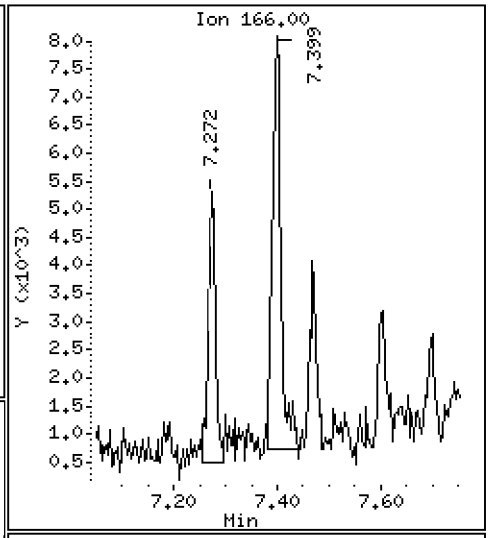
Column phase: Rxi-17sil

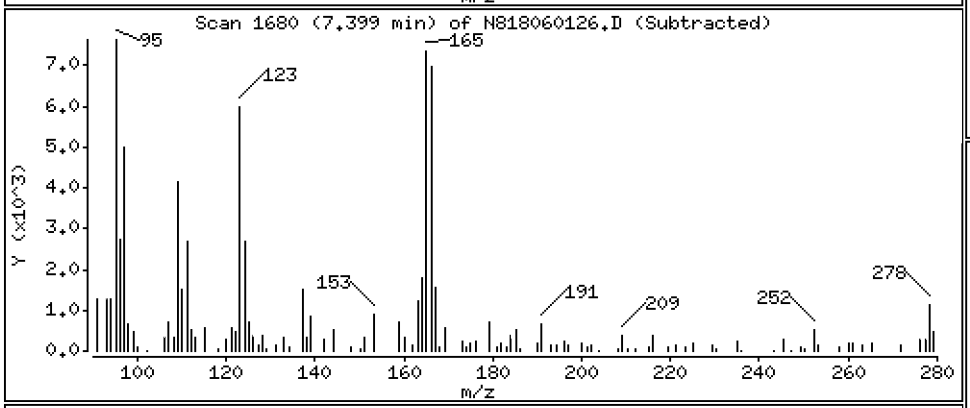
Column diameter: 0.25

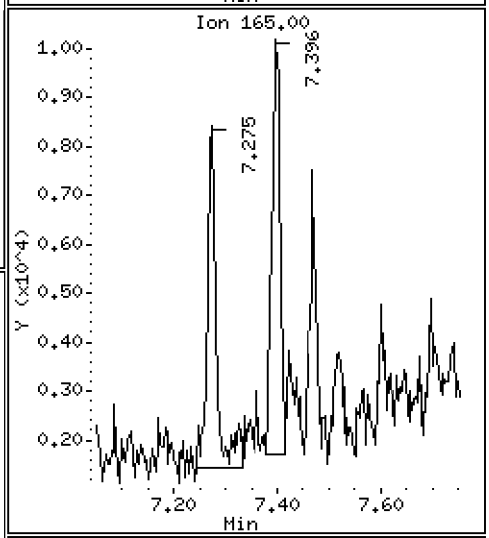
14 Fluorene

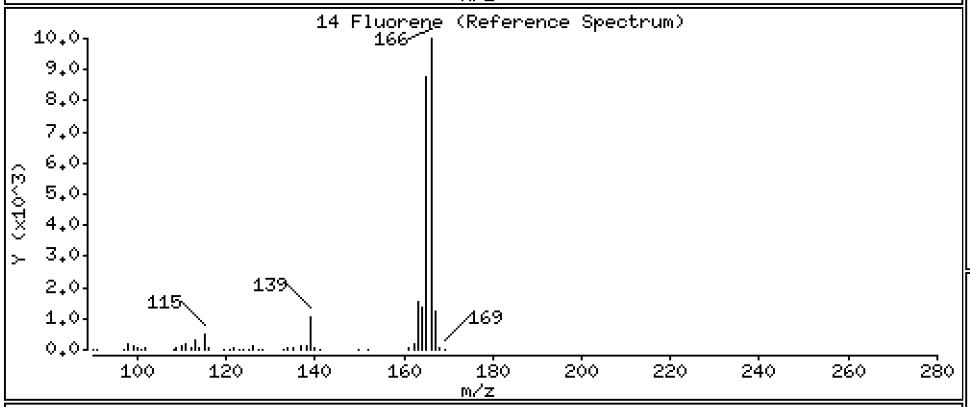
Concentration: 0.1104 ug/mL

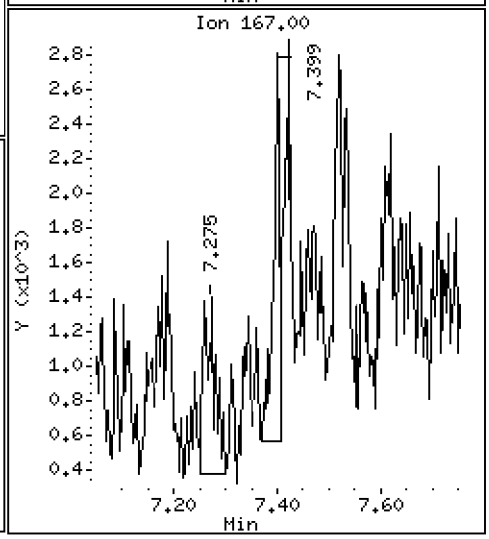


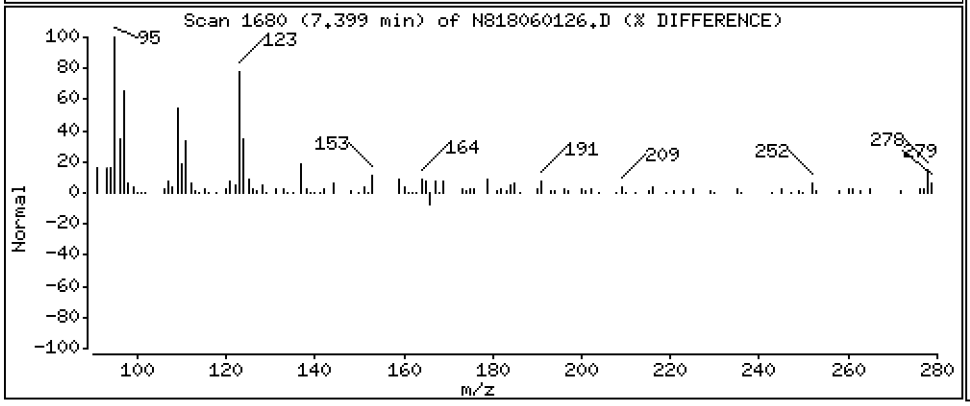












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

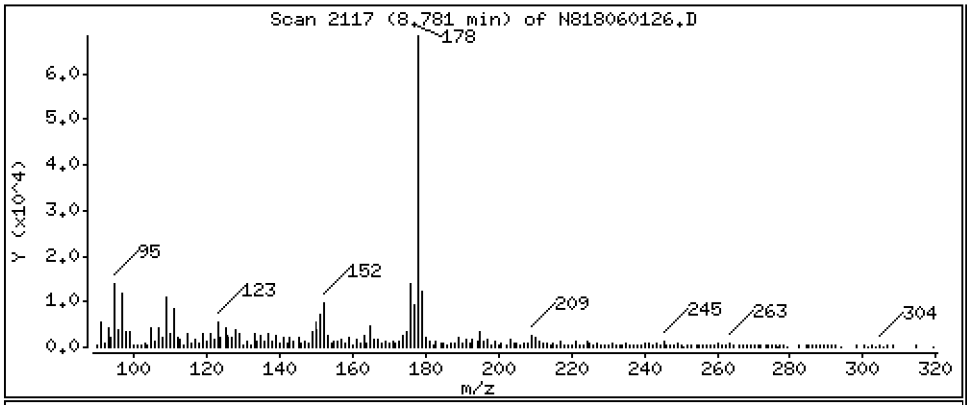
Operator: JZ

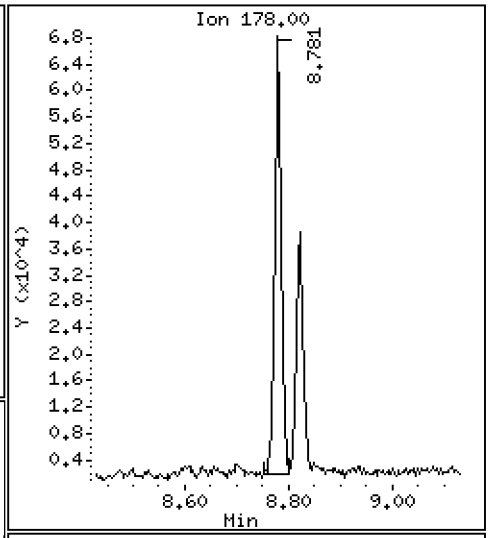
Column phase: Rxi-17sil

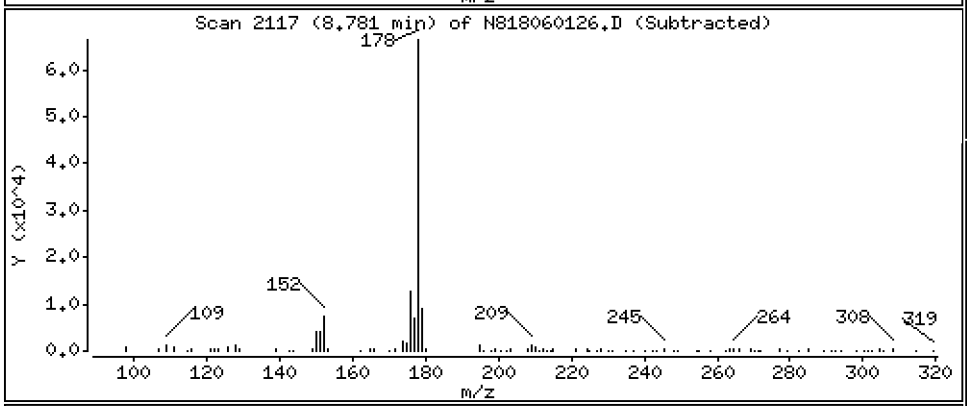
Column diameter: 0.25

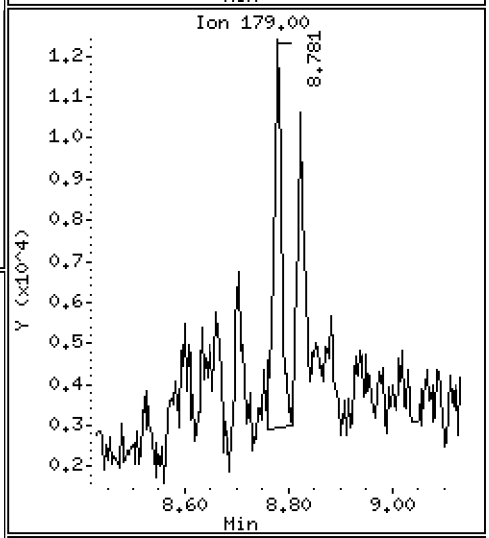
16 Phenanthrene

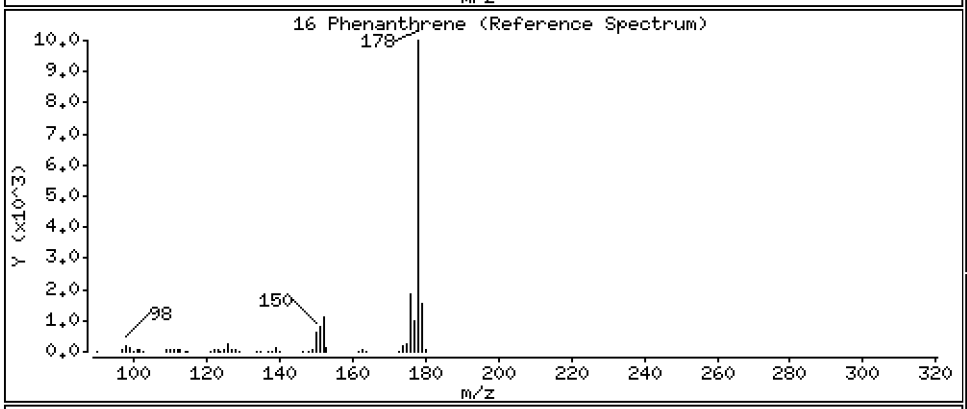
Concentration: 0.5633 ug/mL

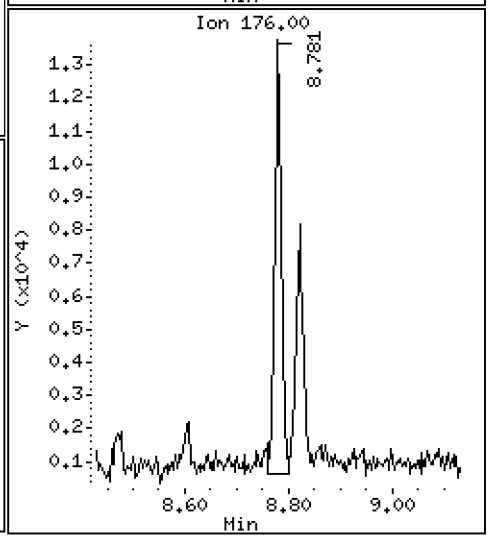


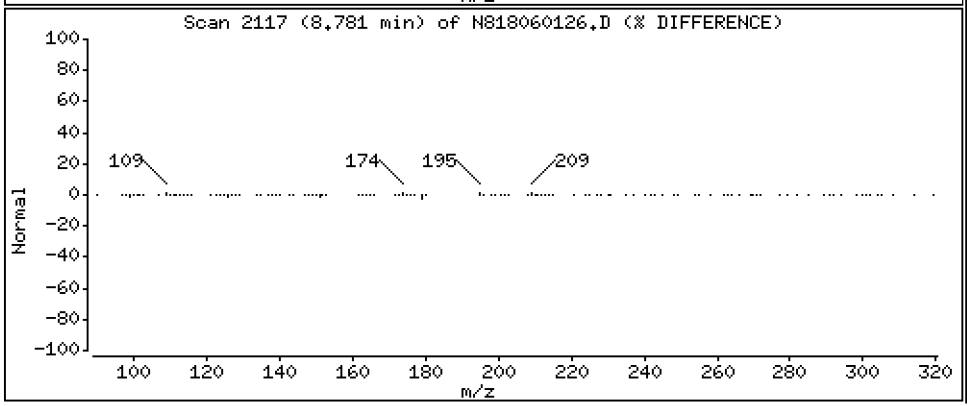












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

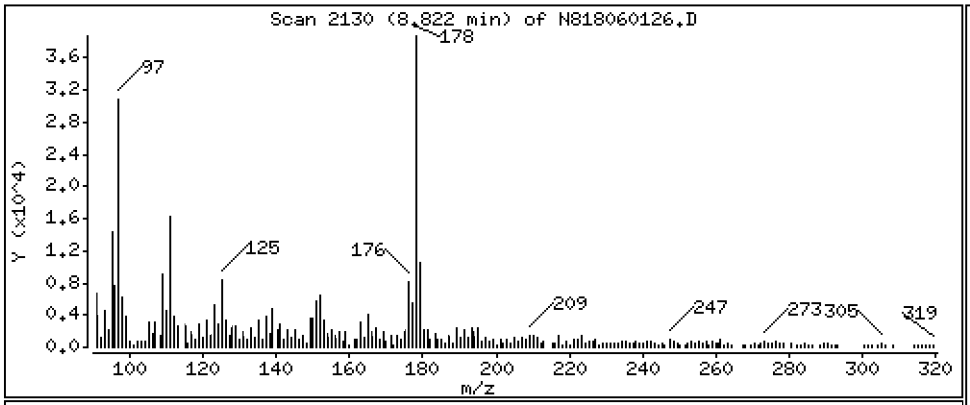
Operator: JZ

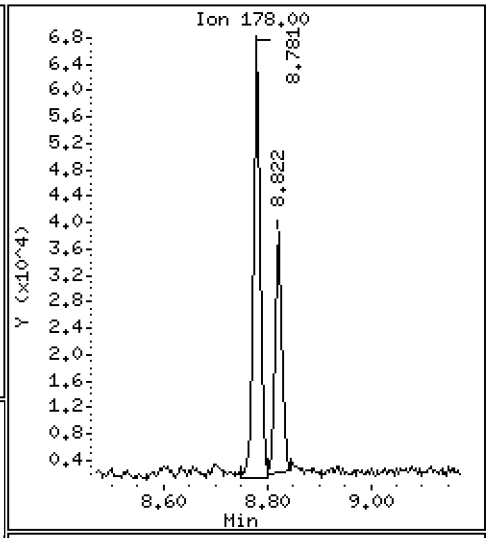
Column phase: Rxi-17sil

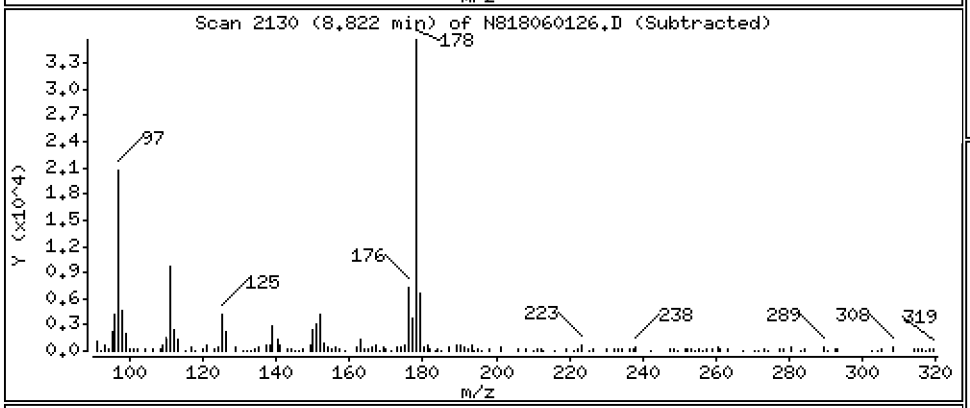
Column diameter: 0.25

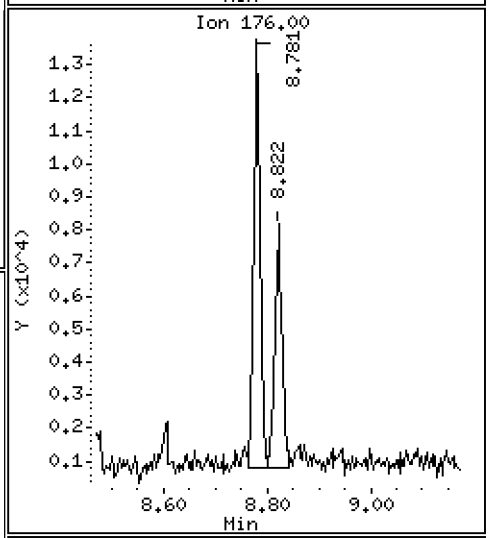
17 Anthracene

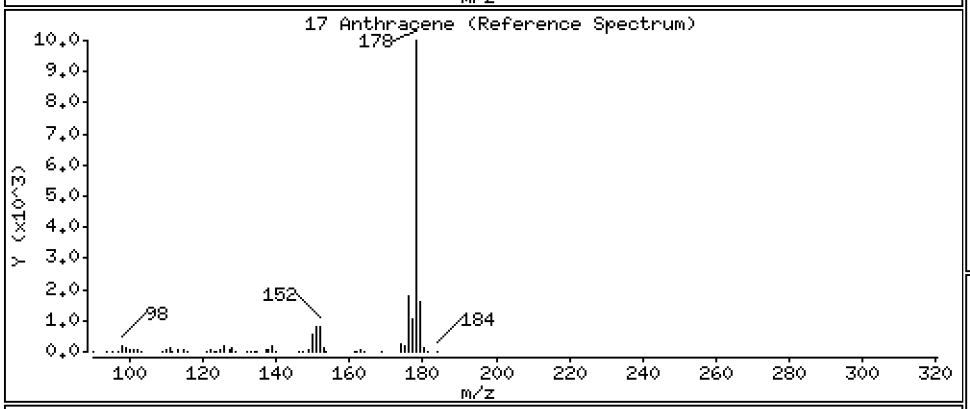
Concentration: 0.3586 ug/mL

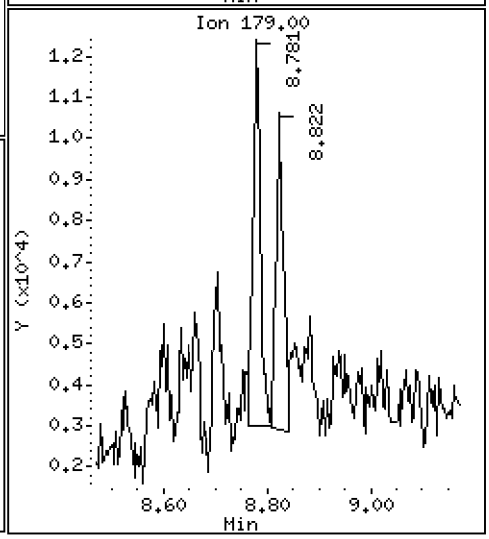


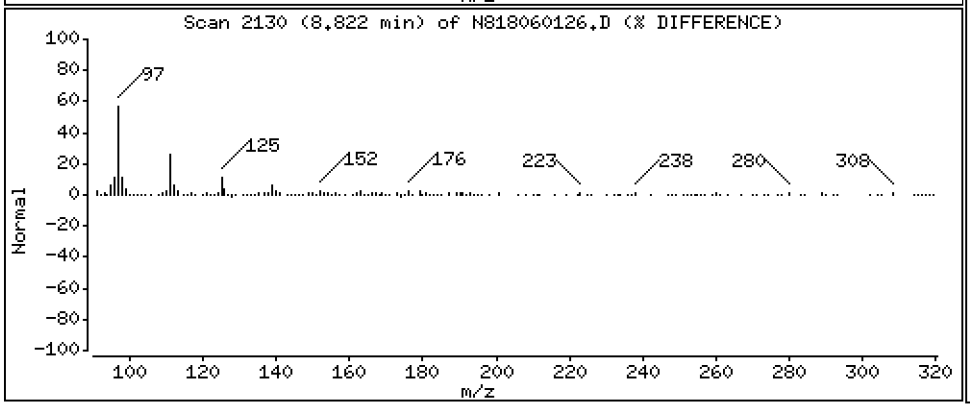












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

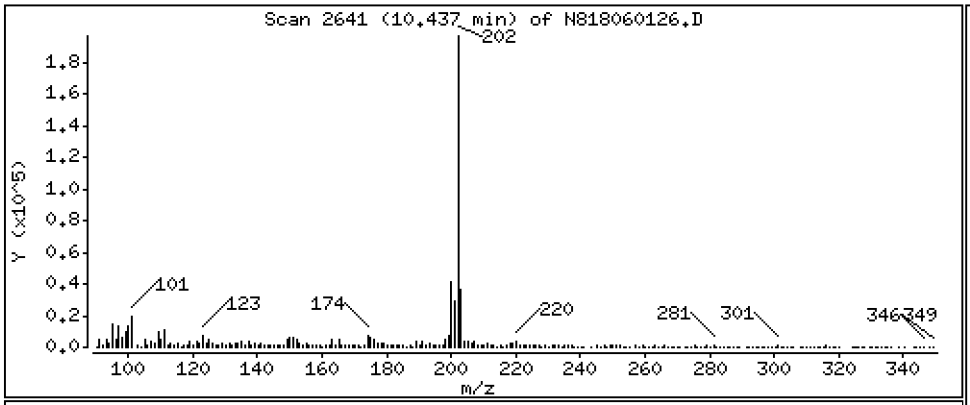
Operator: JZ

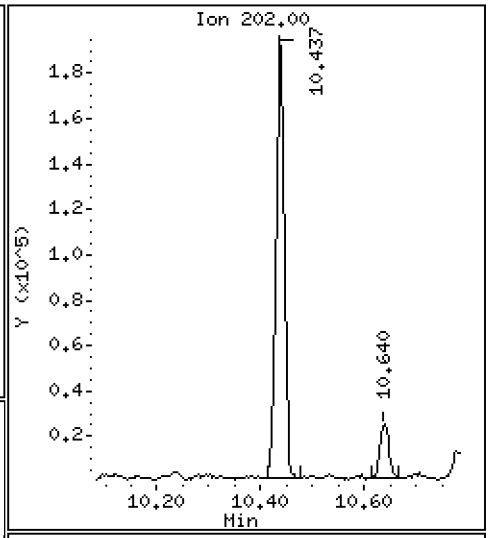
Column phase: Rxi-17sil

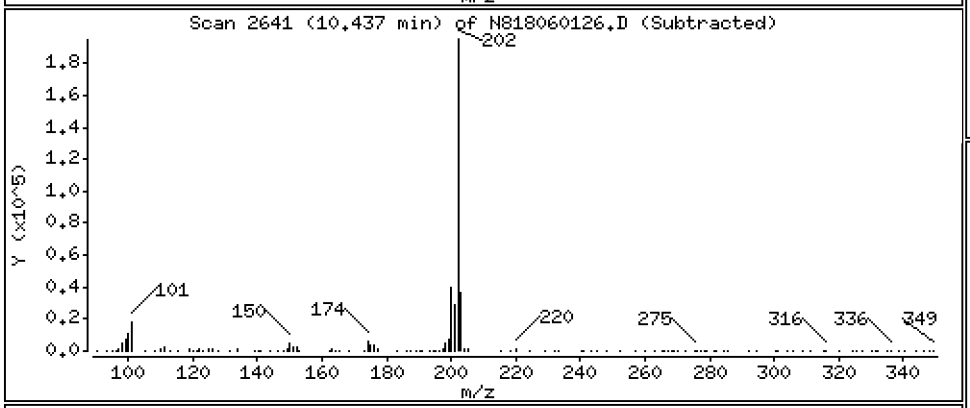
Column diameter: 0.25

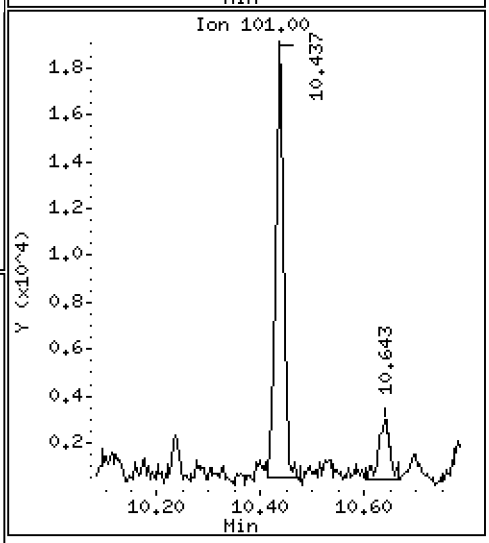
22 Fluoranthene

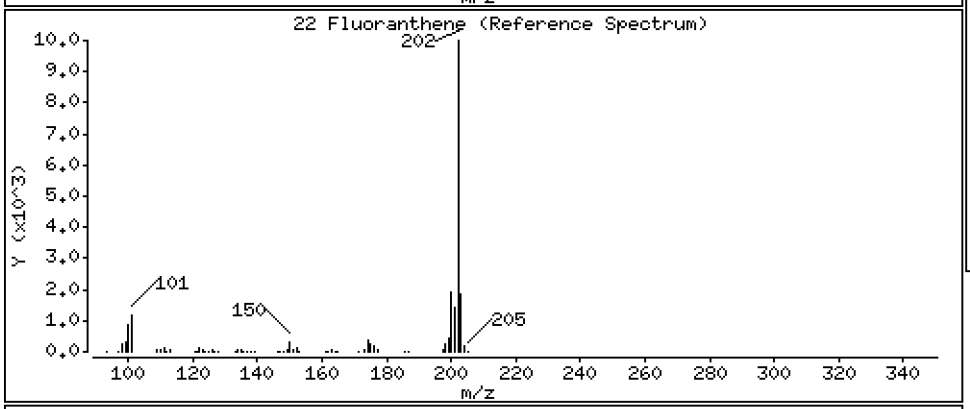
Concentration: 1.807 ug/mL

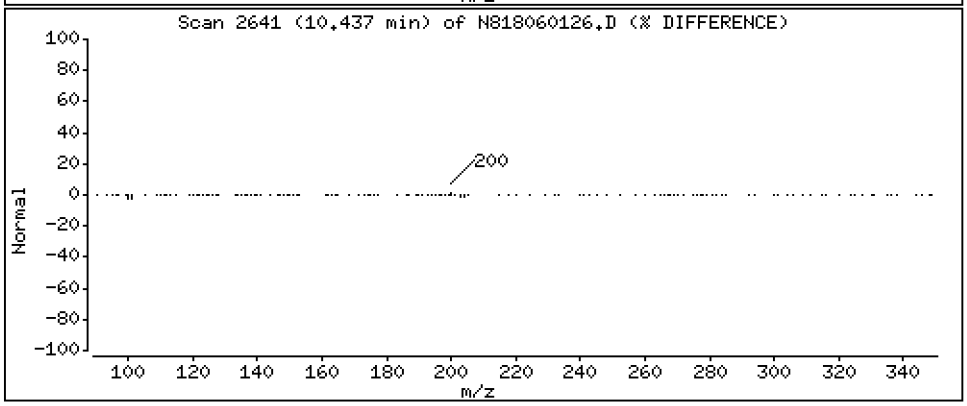












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

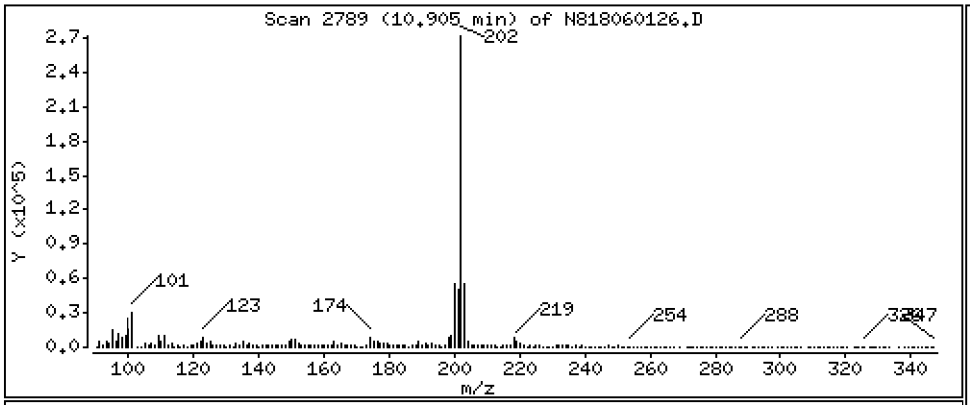
Operator: JZ

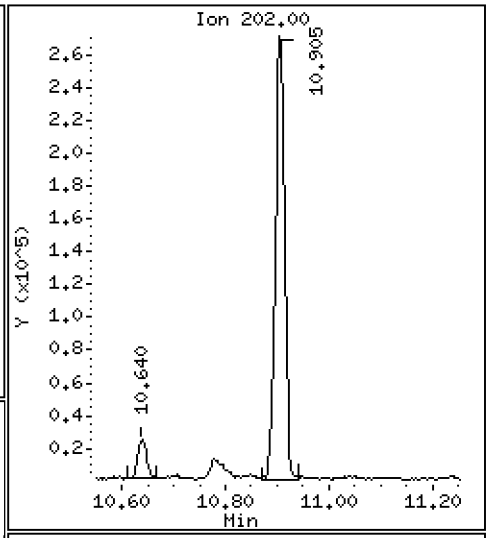
Column phase: Rxi-17sil

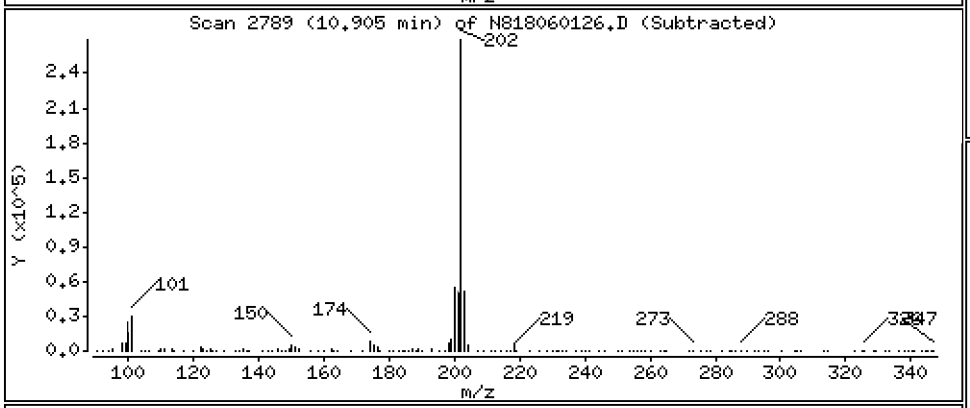
Column diameter: 0.25

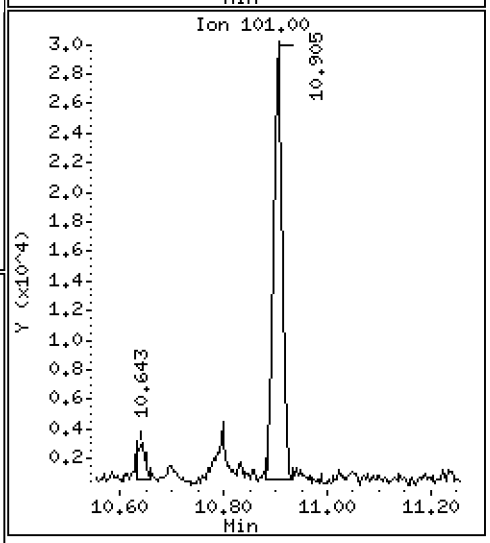
23 Pyrene

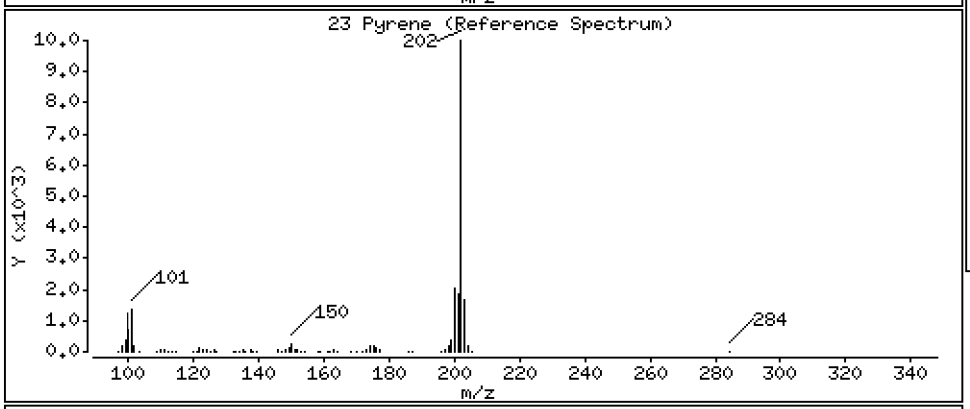
Concentration: 3.001 ug/mL

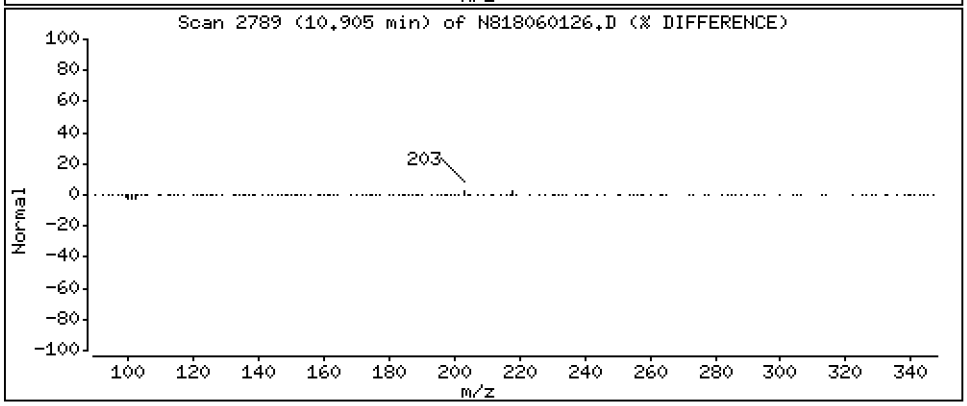












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

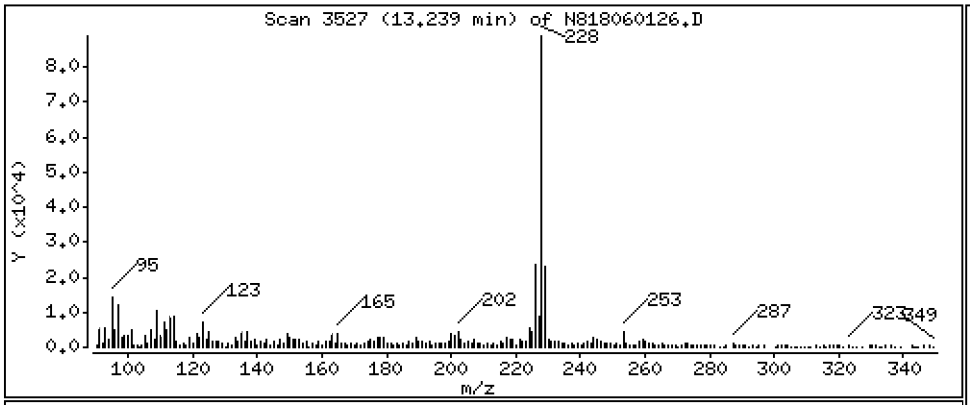
Operator: JZ

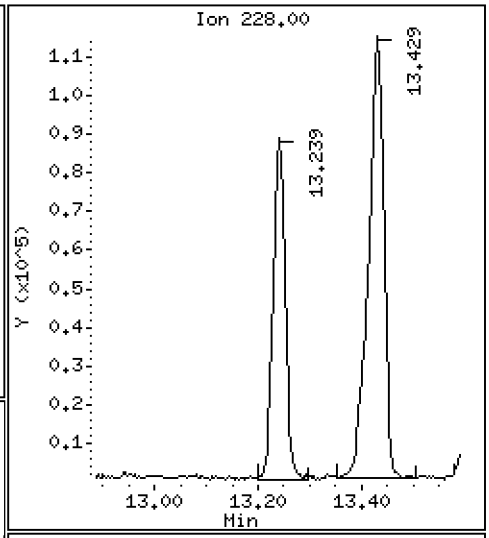
Column phase: Rxi-17sil

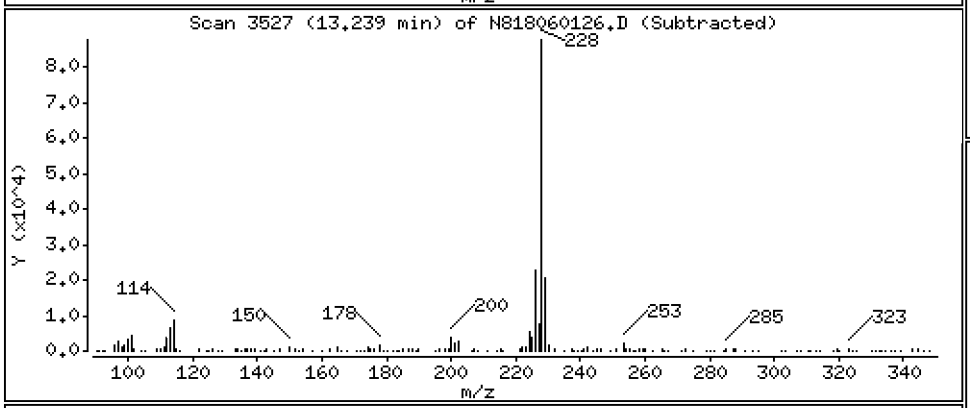
Column diameter: 0.25

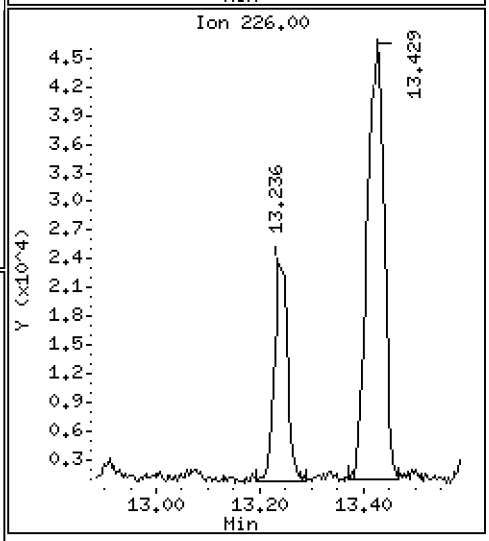
24 Benzo(a)anthracene

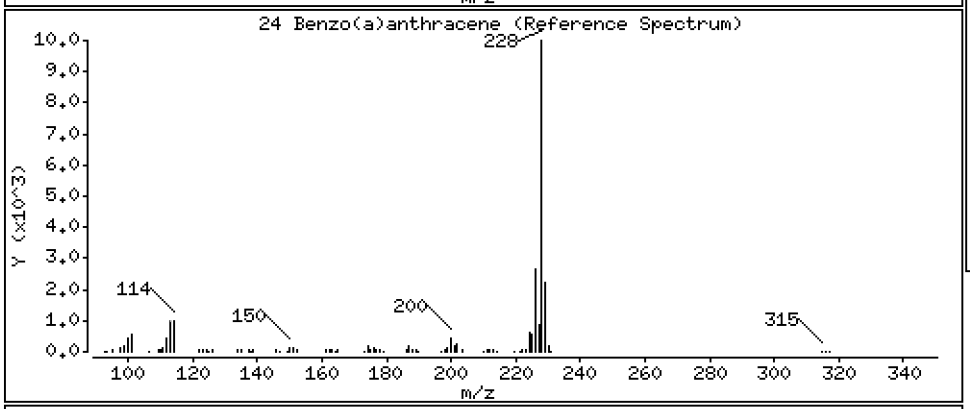
Concentration: 1.349 ug/mL

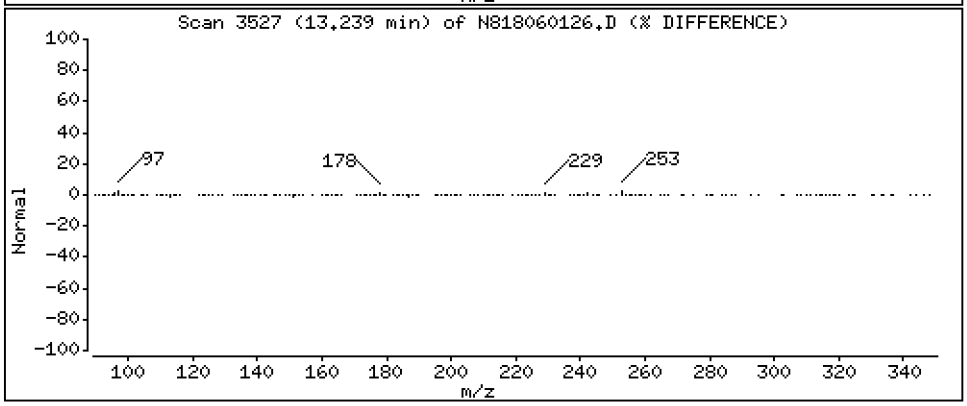












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

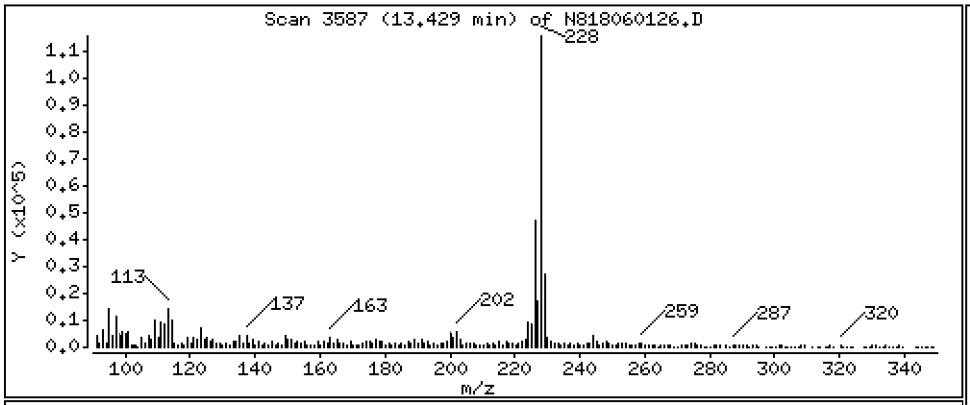
Operator: JZ

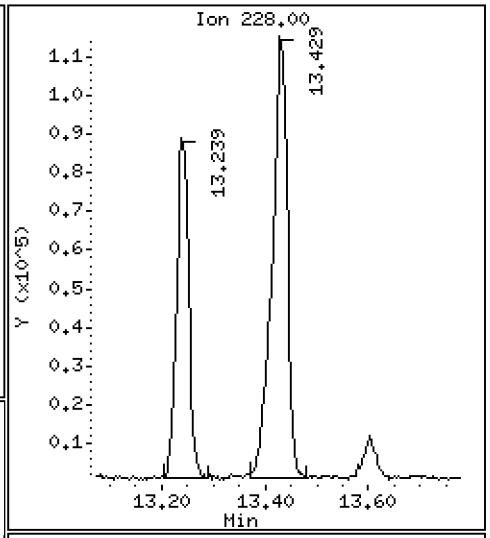
Column phase: Rxi-17sil

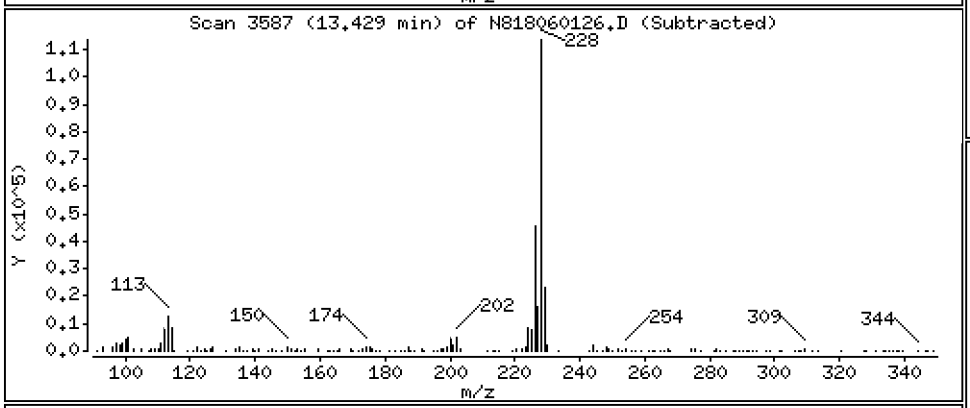
Column diameter: 0.25

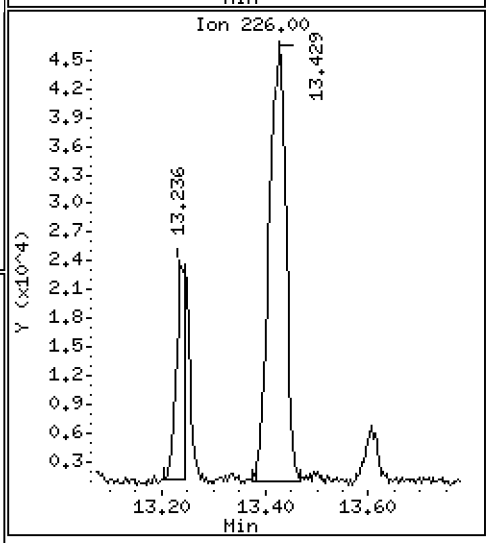
27 Chrysene

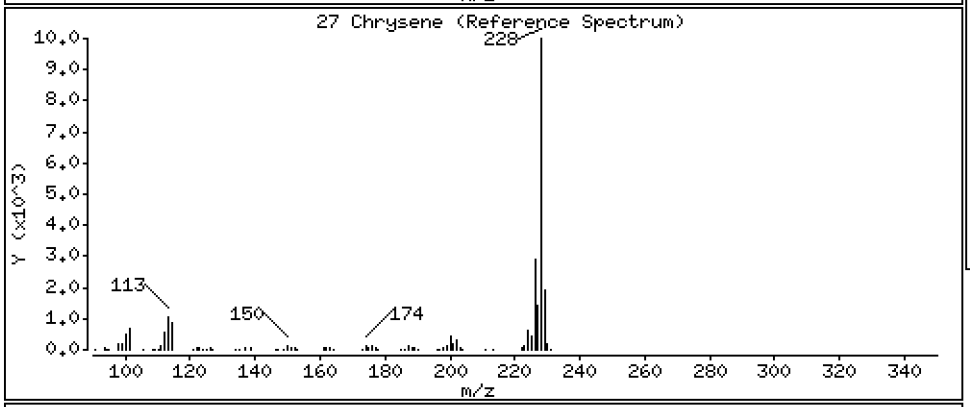
Concentration: 2.171 ug/mL

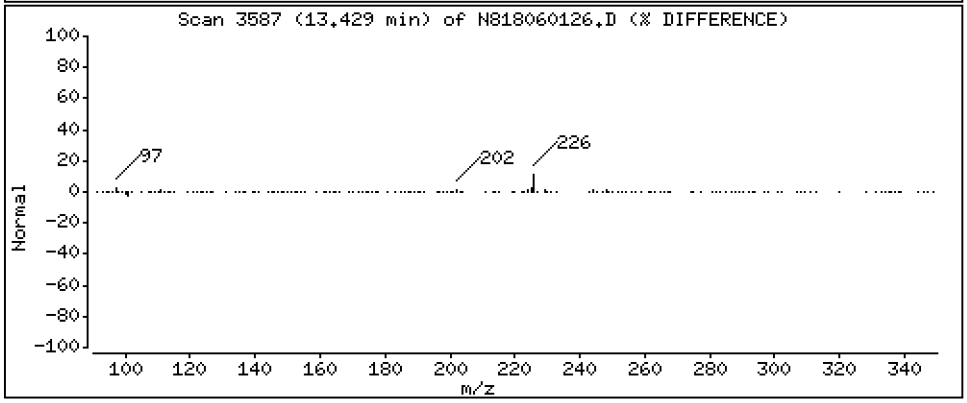












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

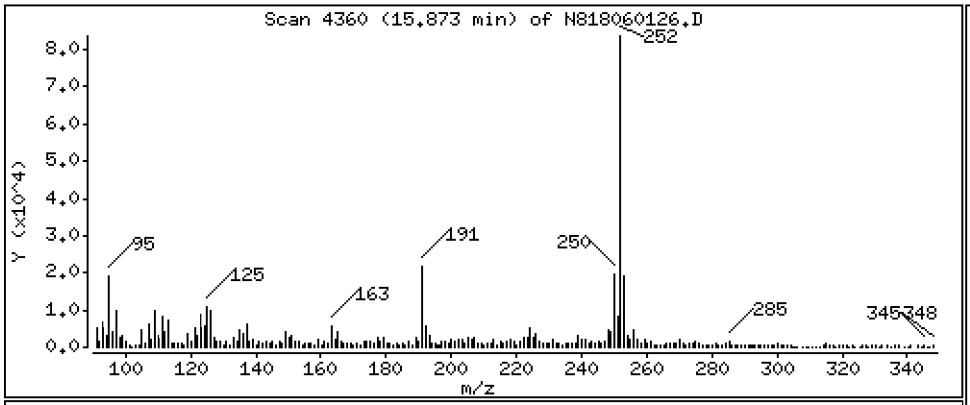
Operator: JZ

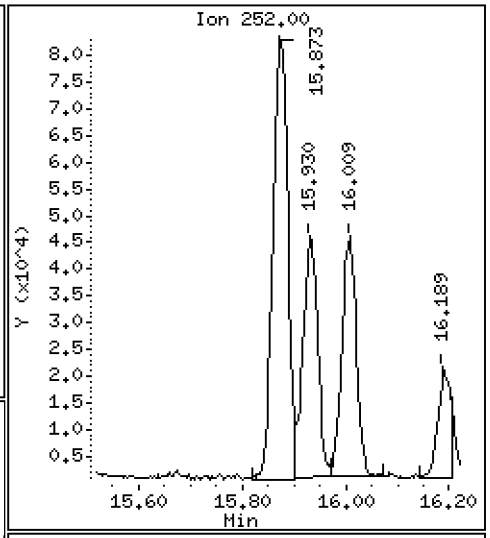
Column phase: Rxi-17sil

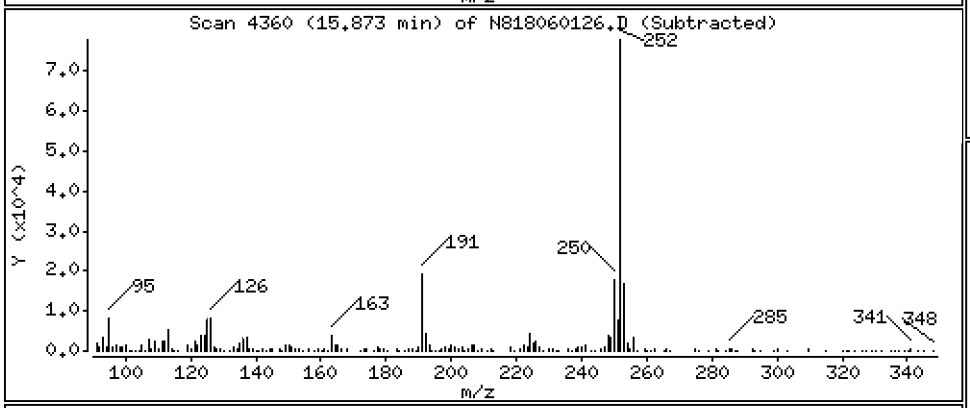
Column diameter: 0.25

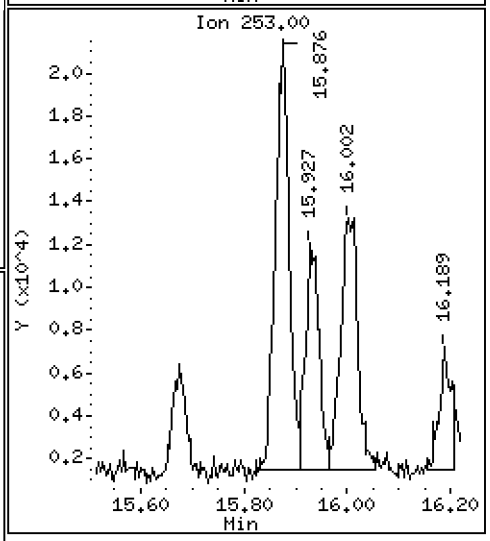
28 Benzo(b)fluoranthene

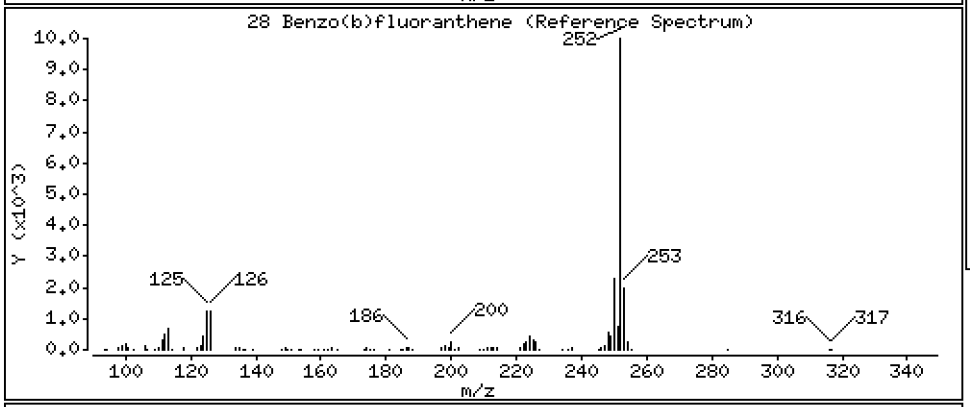
Concentration: 1.429 ug/mL

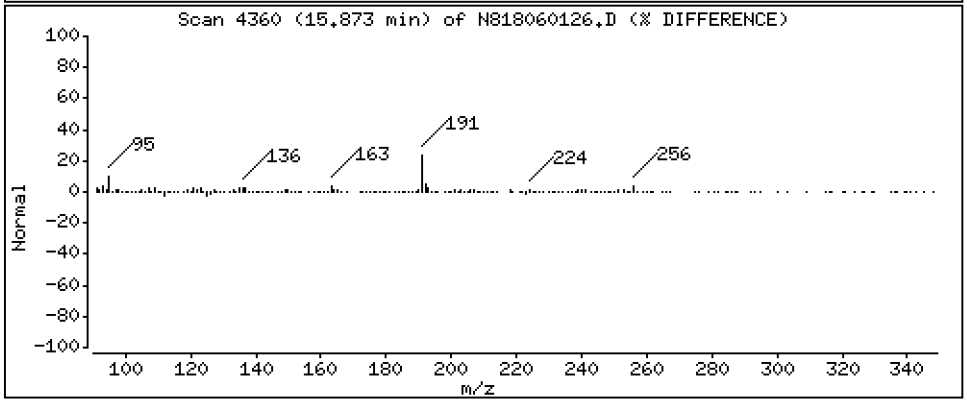












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

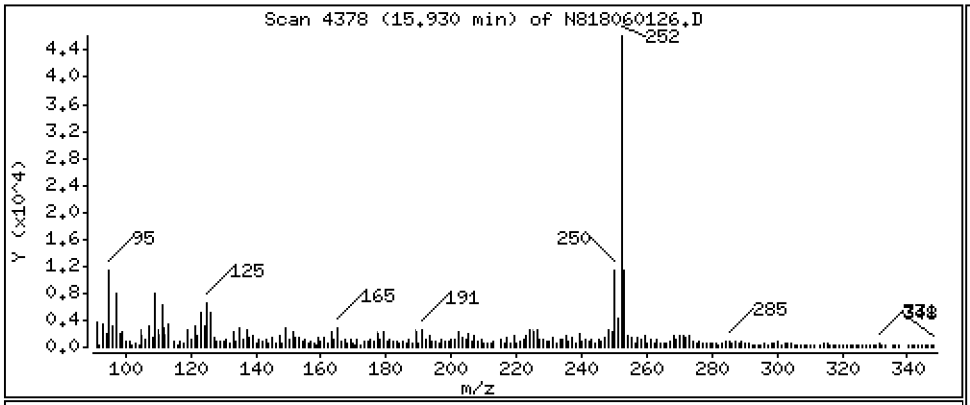
Operator: JZ

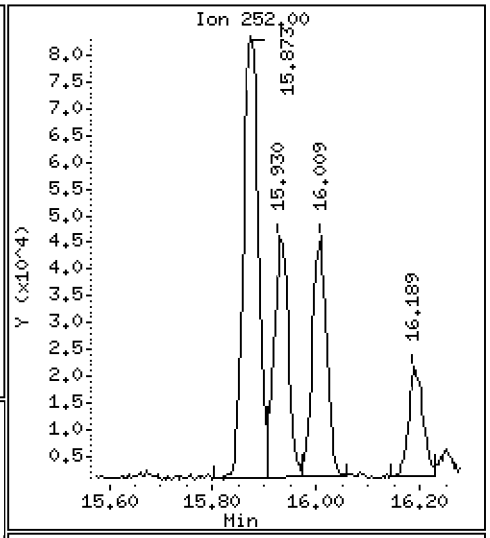
Column phase: Rxi-17sil

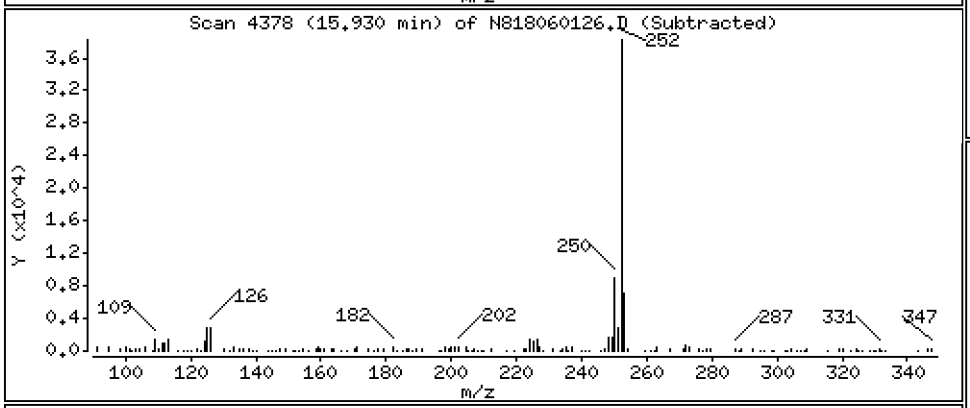
Column diameter: 0.25

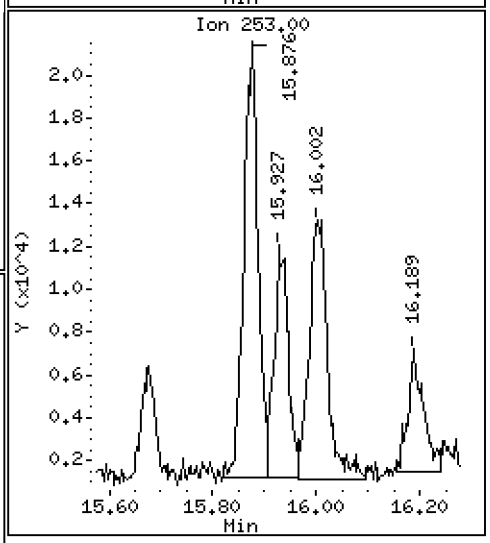
29 Benzo(k)fluoranthene

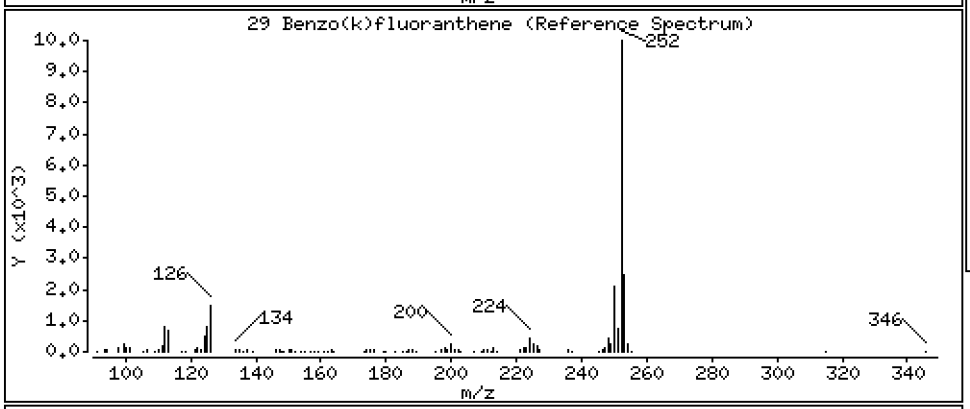
Concentration: 0.7541 ug/mL

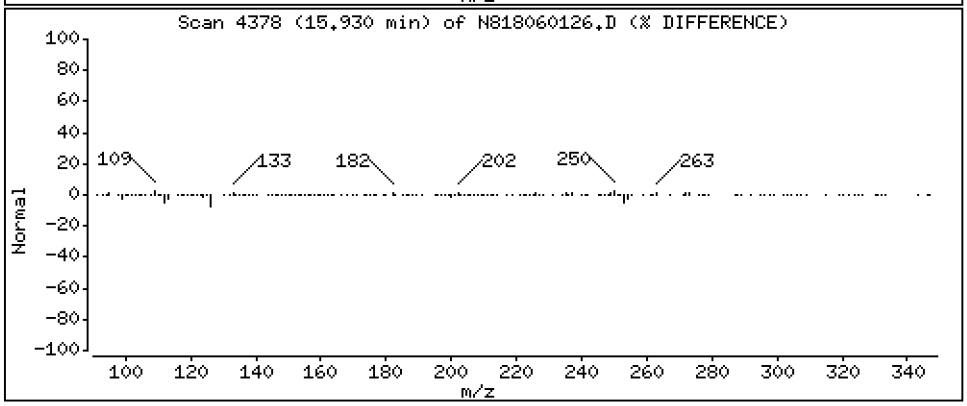












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

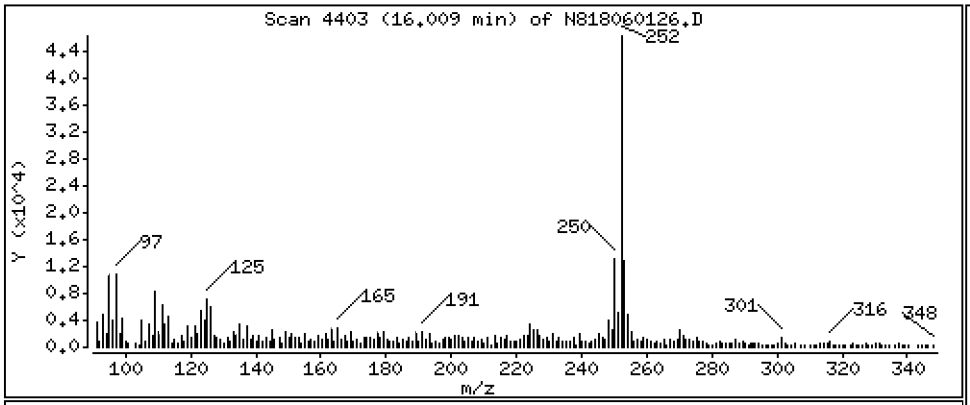
Operator: JZ

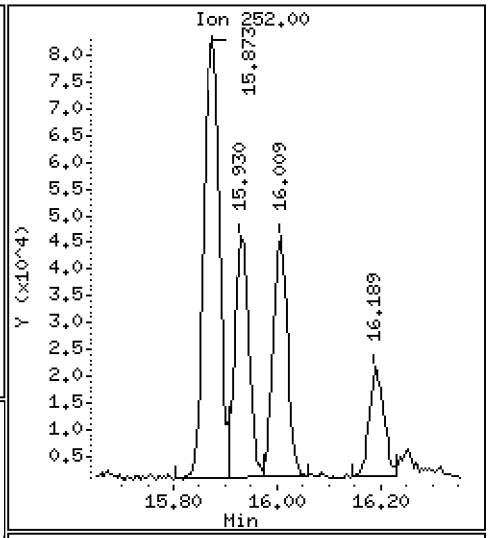
Column phase: Rxi-17sil

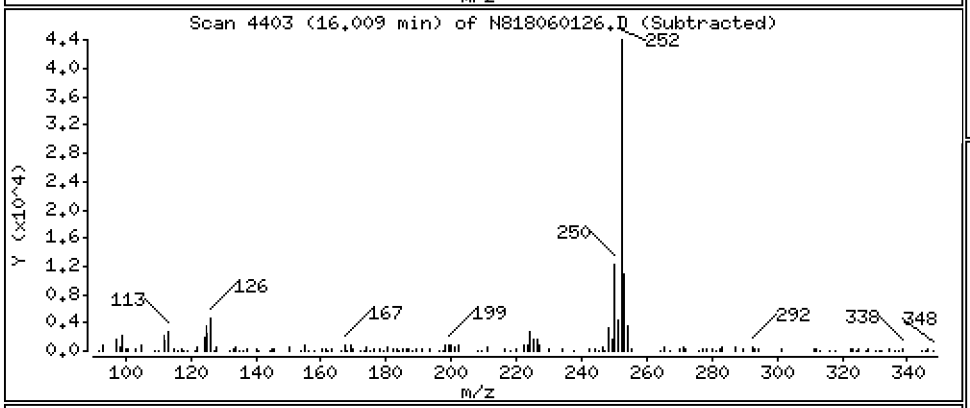
Column diameter: 0.25

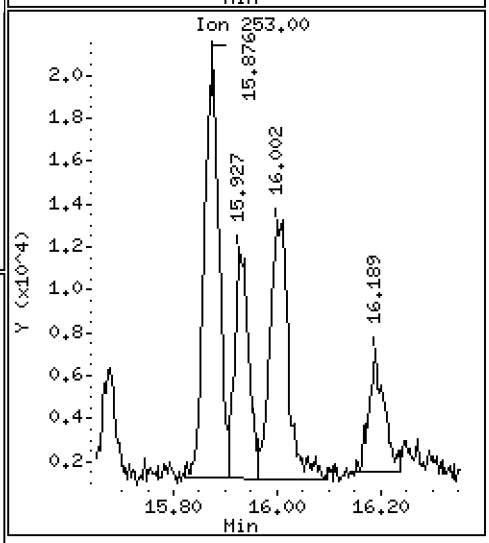
30 Benzo(j)fluoranthene

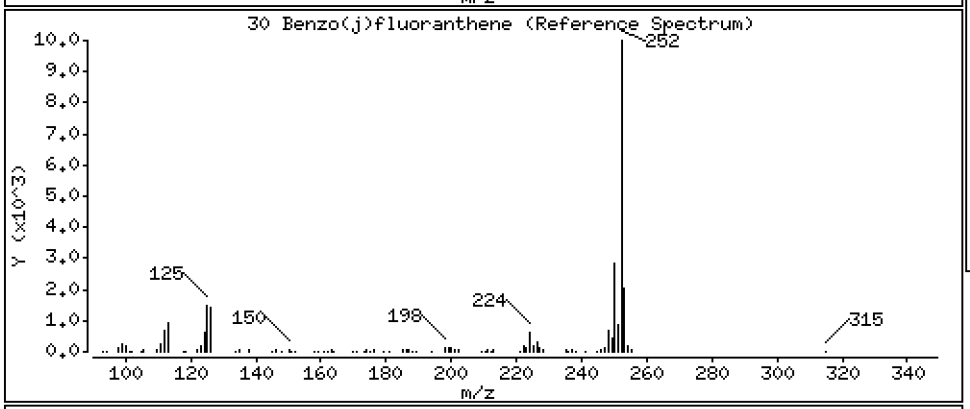
Concentration: 0.7435 ug/mL

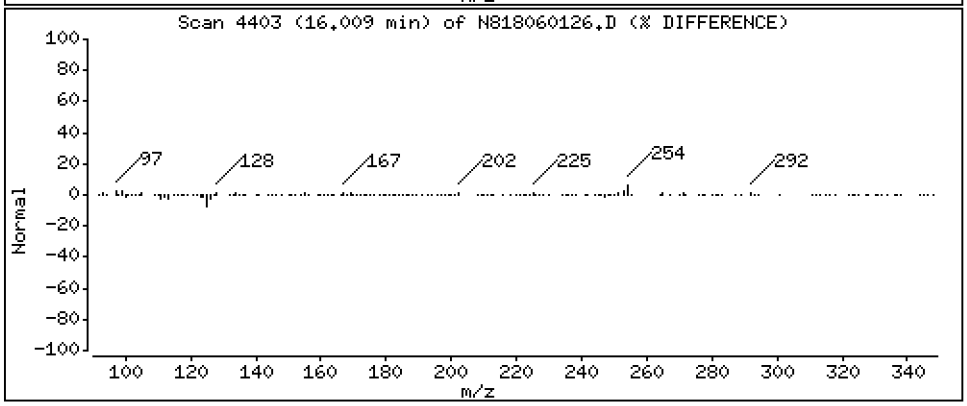












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

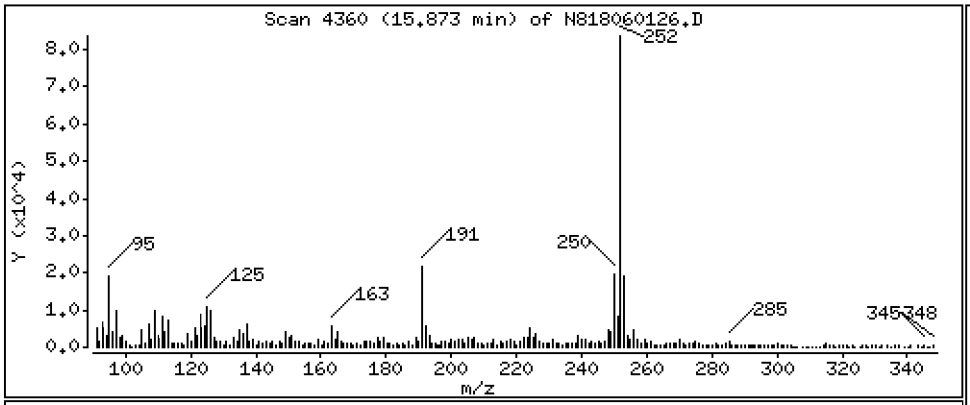
Operator: JZ

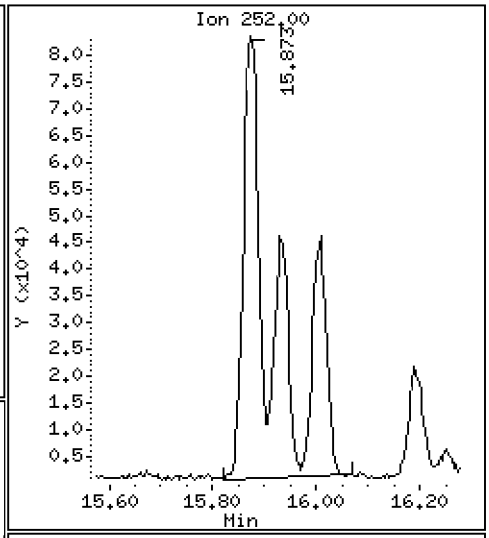
Column phase: Rxi-17sil

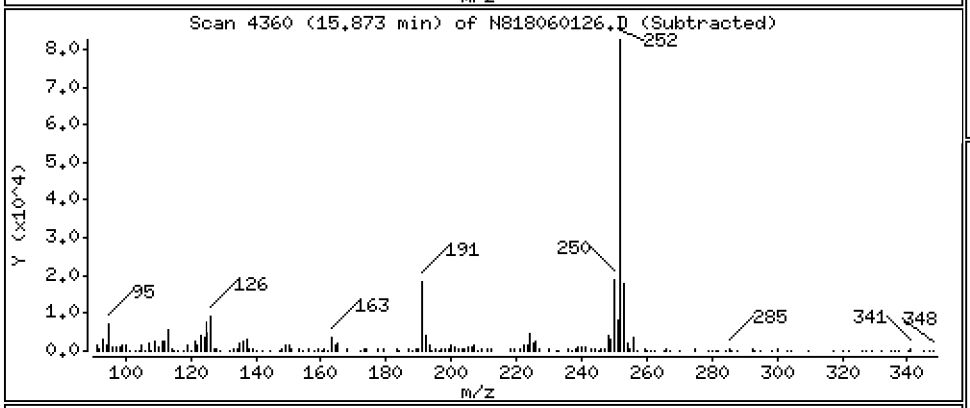
Column diameter: 0.25

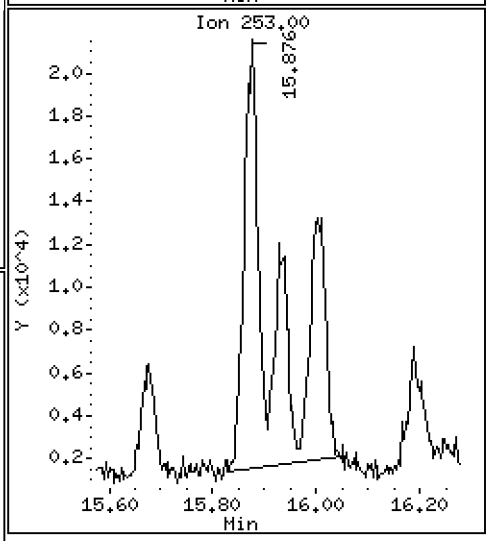
31 Total Benzofluoranthenes

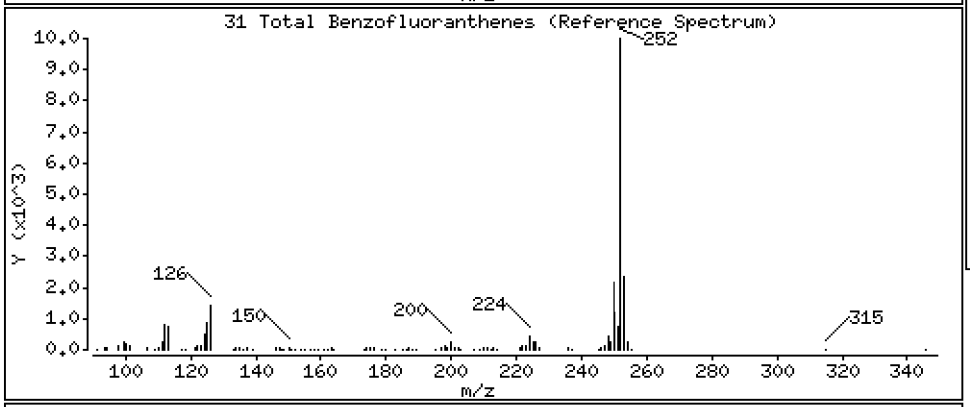
Concentration: 2.979 ug/mL

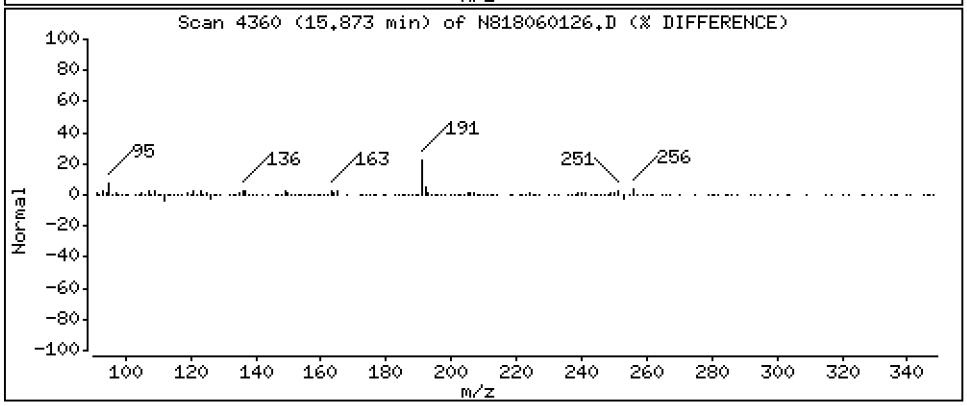












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

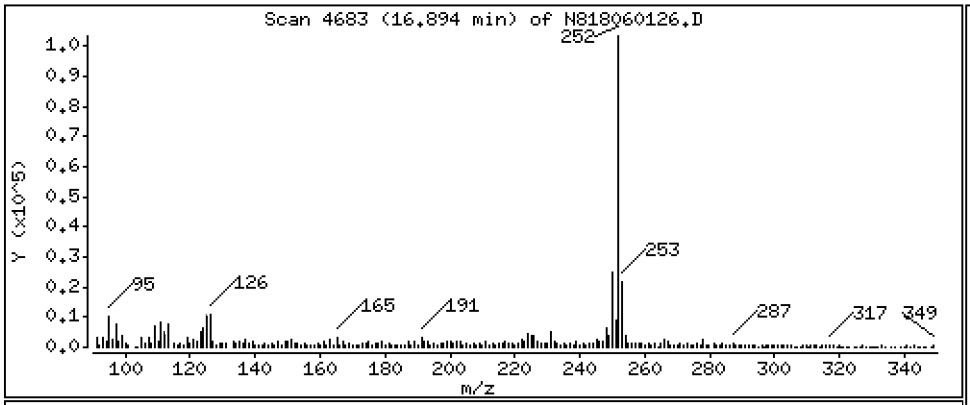
Operator: JZ

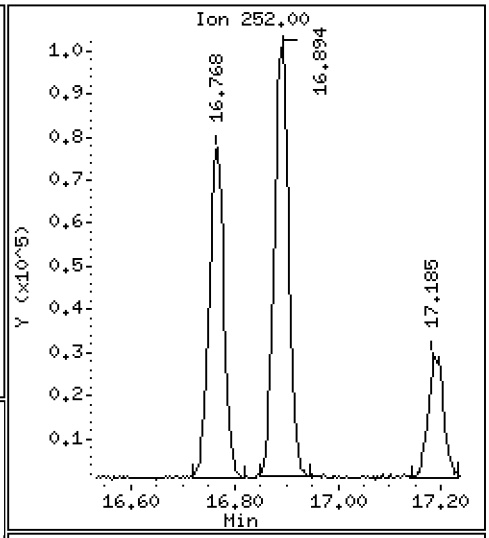
Column phase: Rxi-17sil

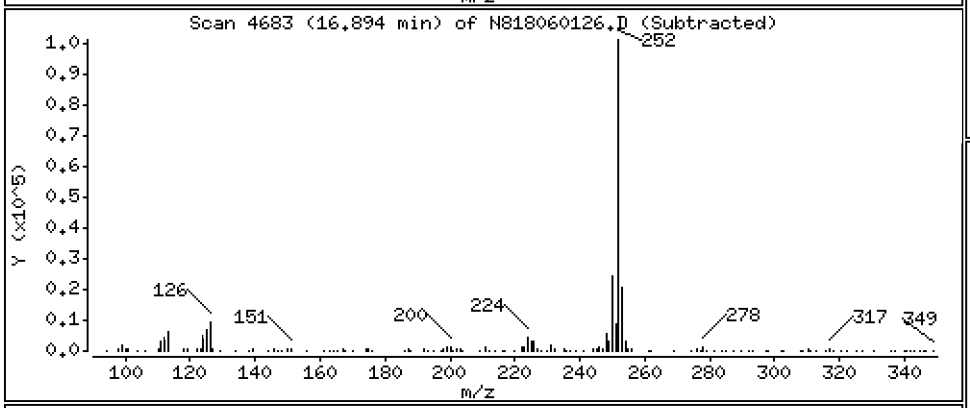
Column diameter: 0.25

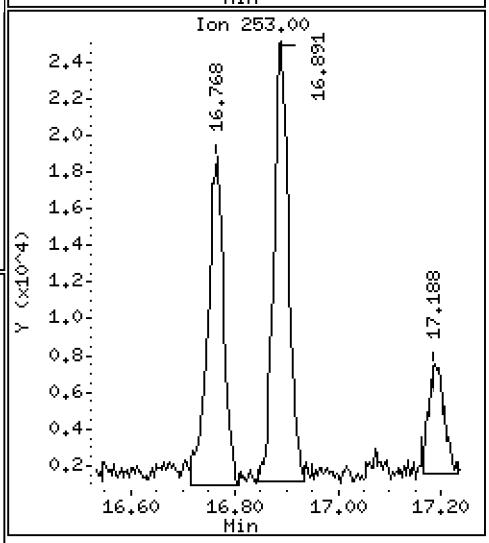
32 Benzo(a)pyrene

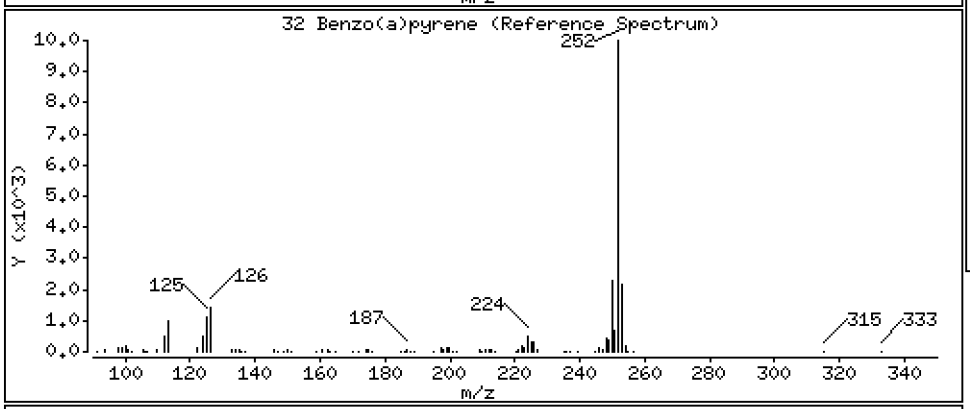
Concentration: 1.896 ug/mL

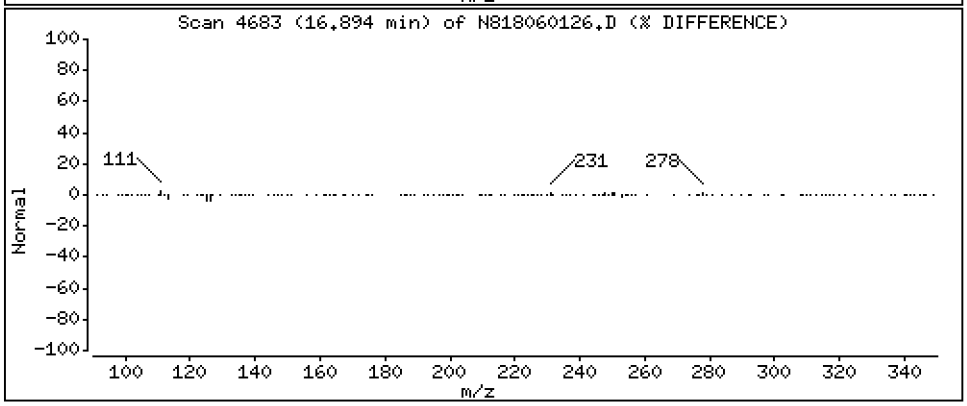












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

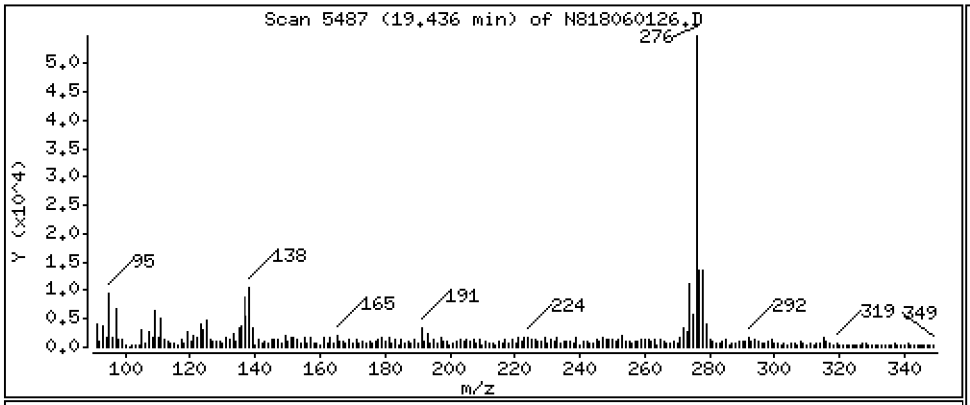
Operator: JZ

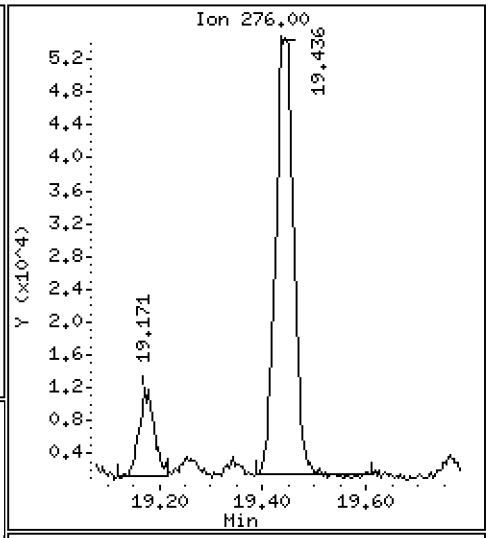
Column phase: Rxi-17sil

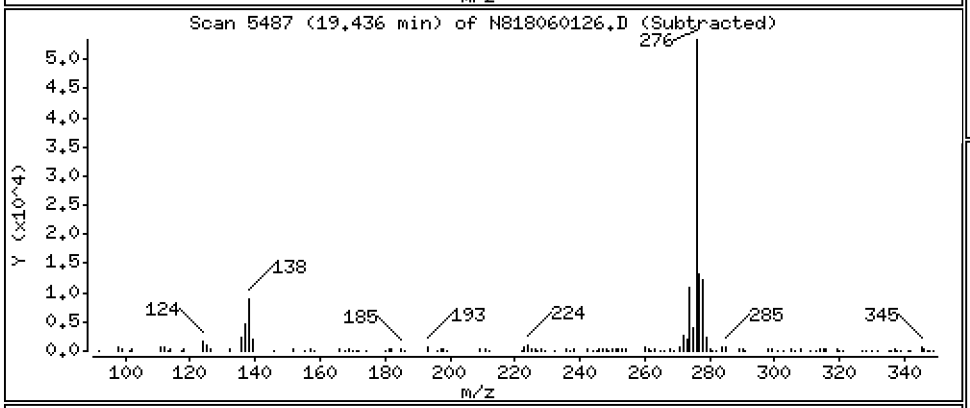
Column diameter: 0.25

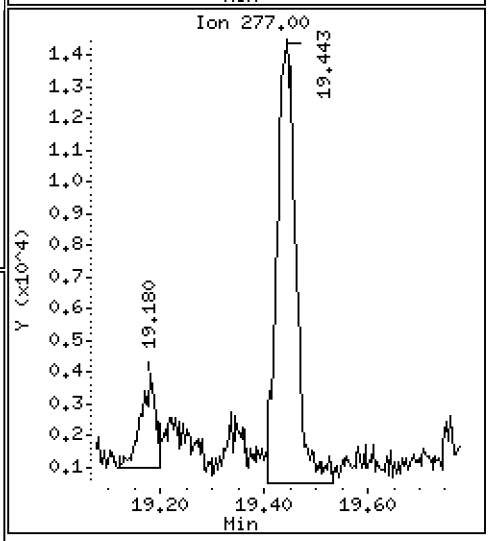
37 Indeno(1,2,3-cd)pyrene

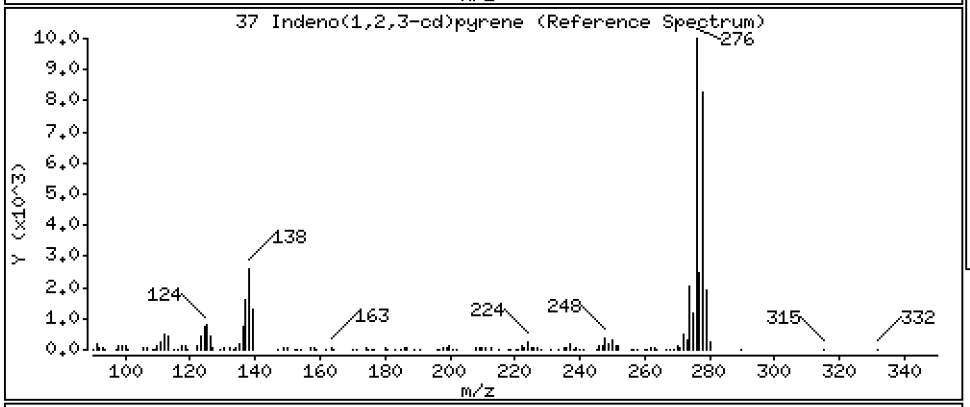
Concentration: 1.116 ug/mL

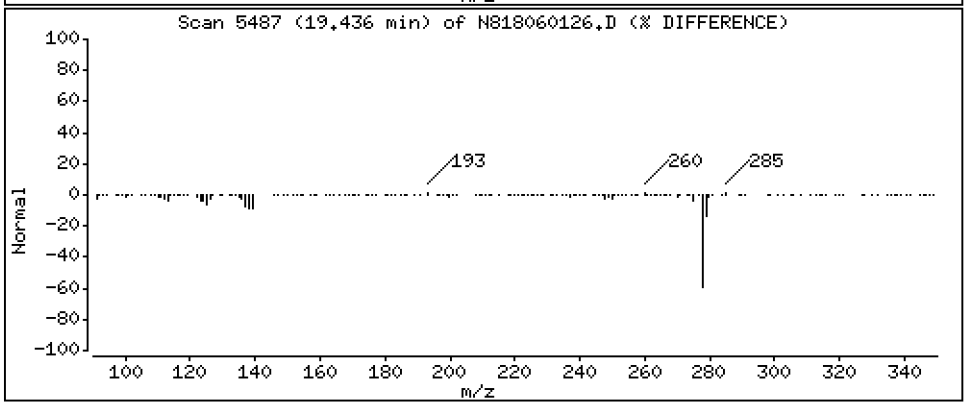












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

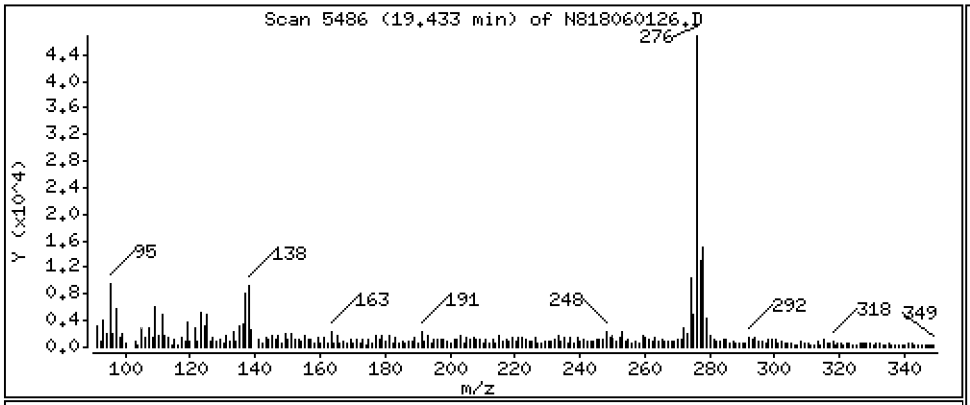
Operator: JZ

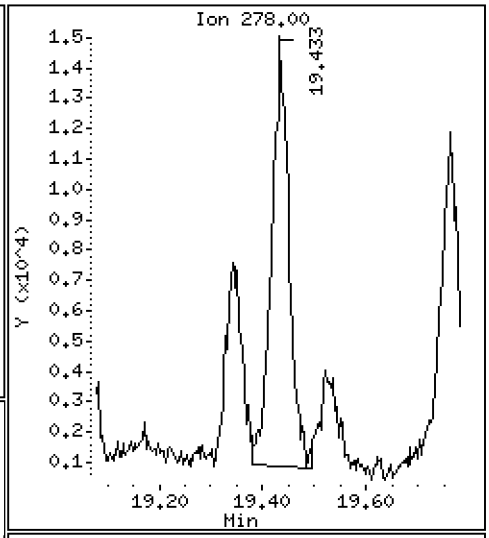
Column phase: Rxi-17sil

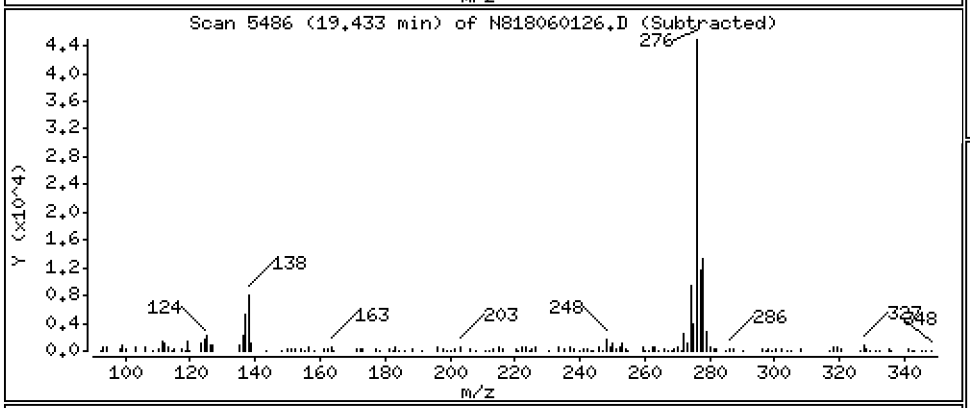
Column diameter: 0.25

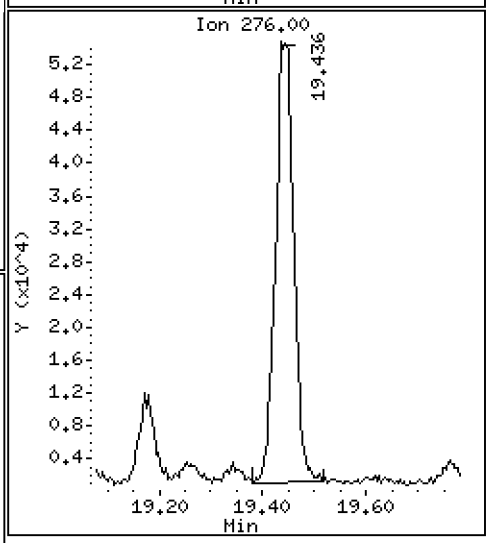
38 Dibenzo(a,h)anthracene

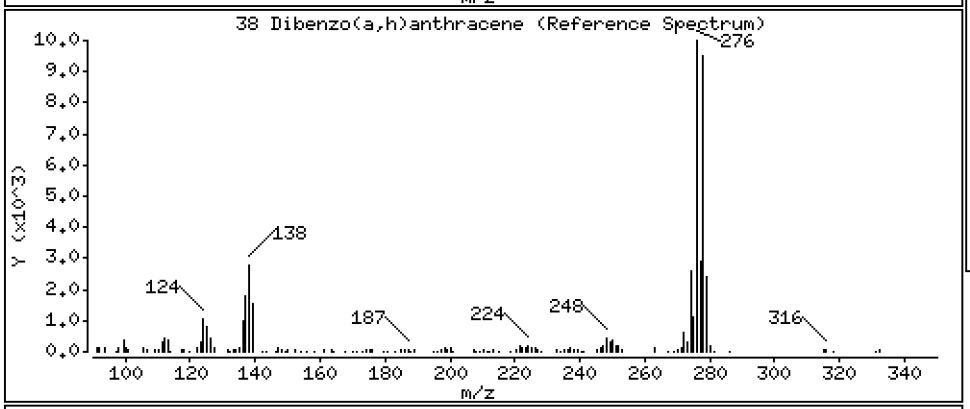
Concentration: 0.3427 ug/mL

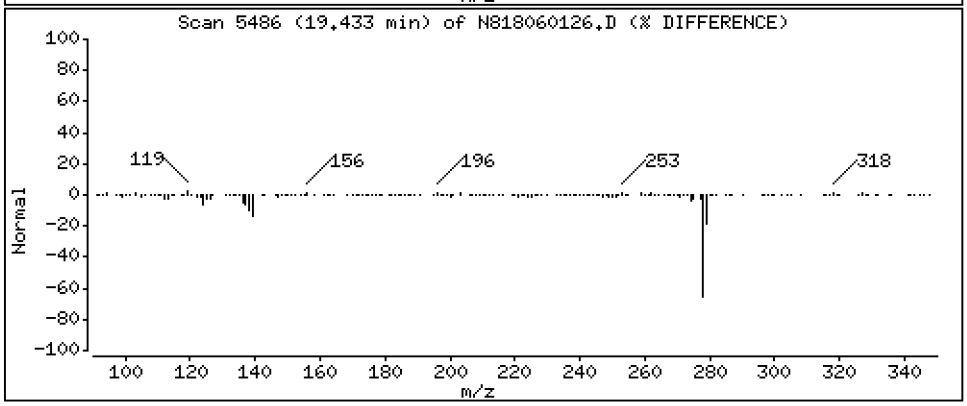












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

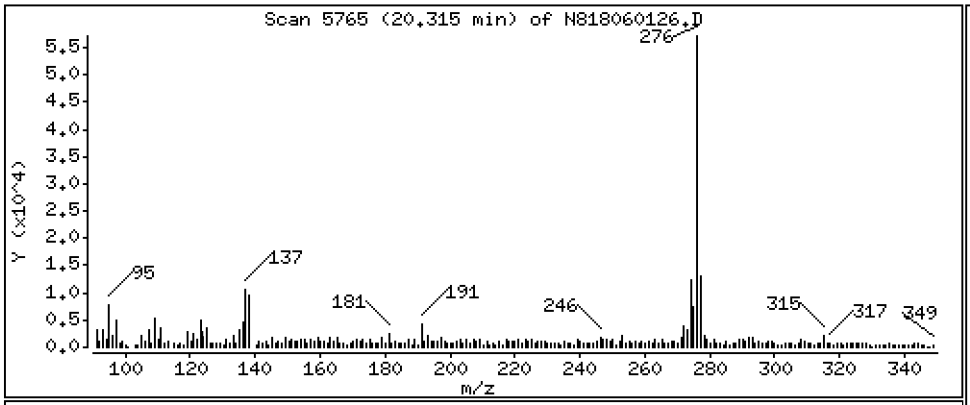
Operator: JZ

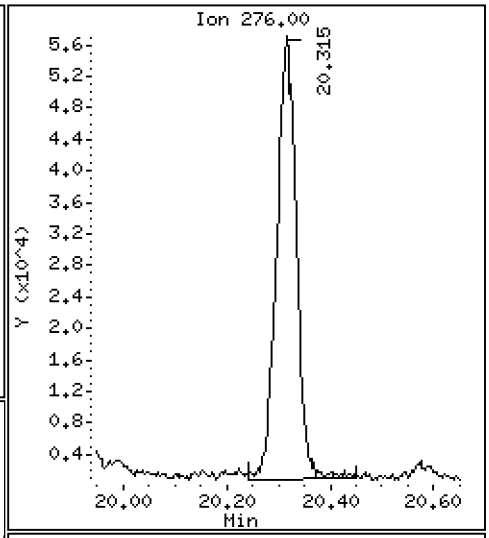
Column phase: Rxi-17sil

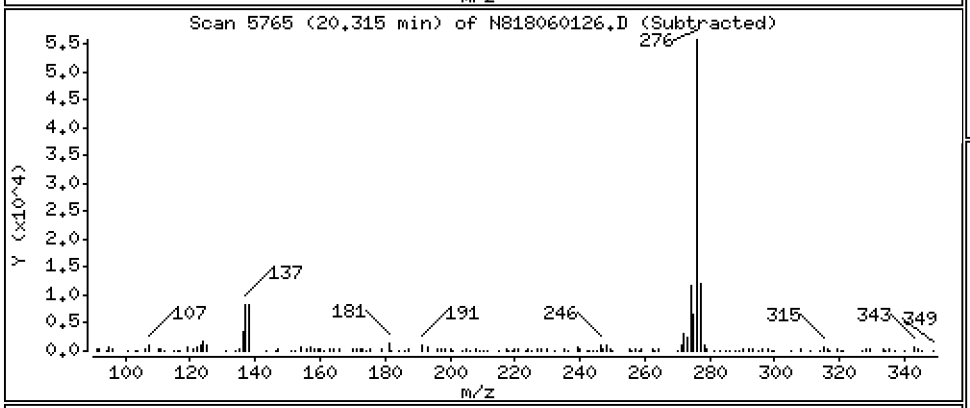
Column diameter: 0.25

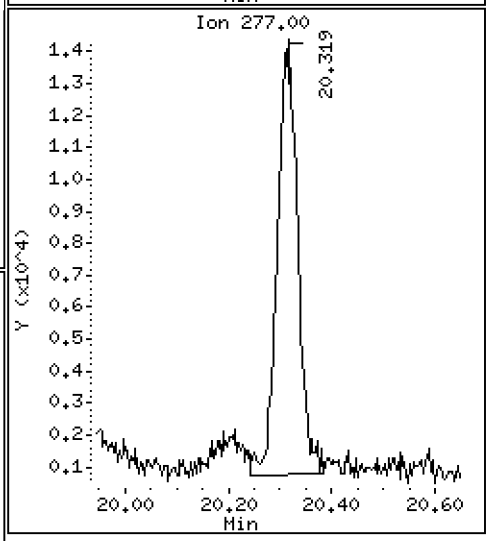
39 Benzo(g,h,i)perylene

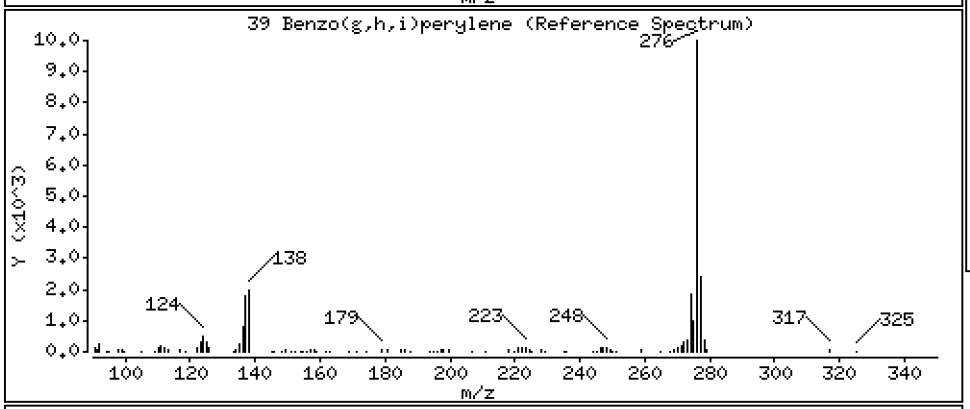
Concentration: 1.455 ug/mL

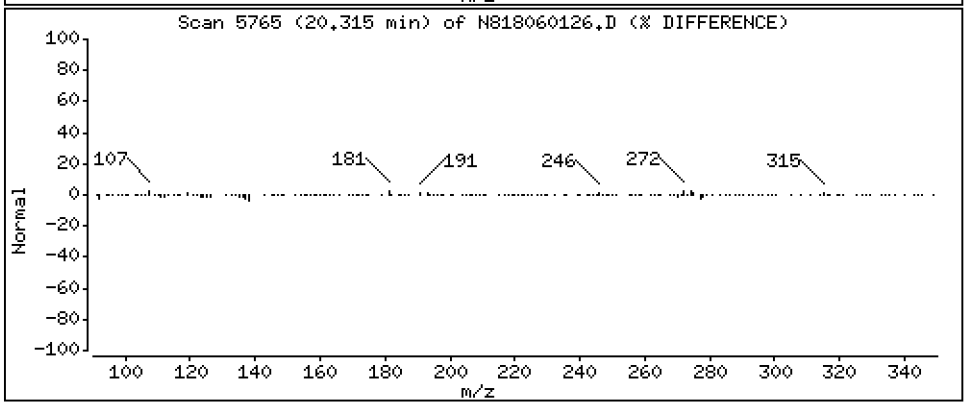












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060126.D

Date : 02-JUN-2018 01:34

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-01

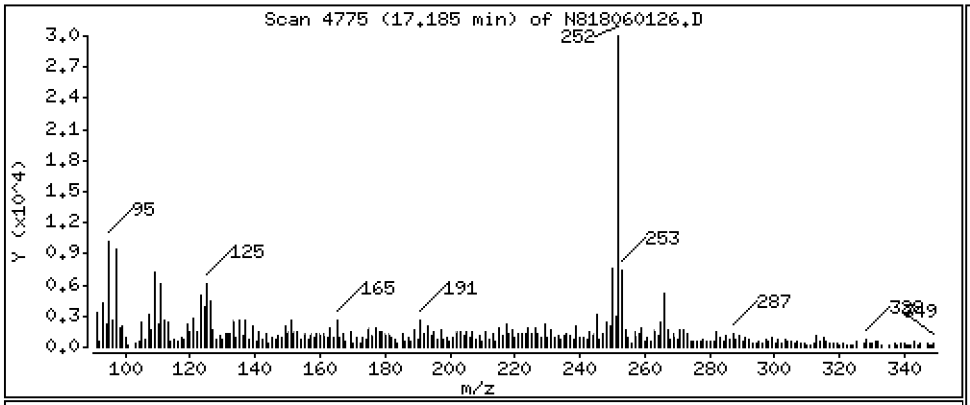
Operator: JZ

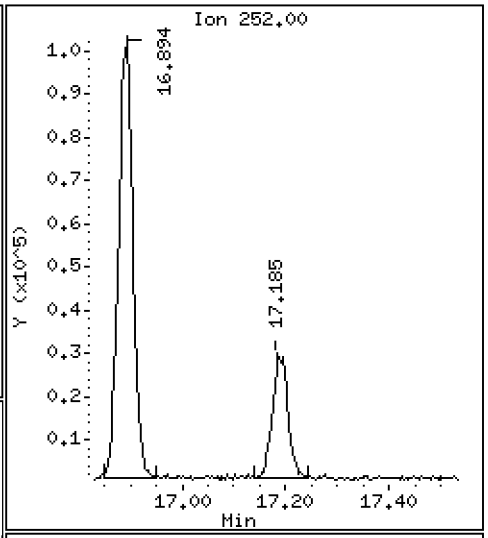
Column phase: Rxi-17sil

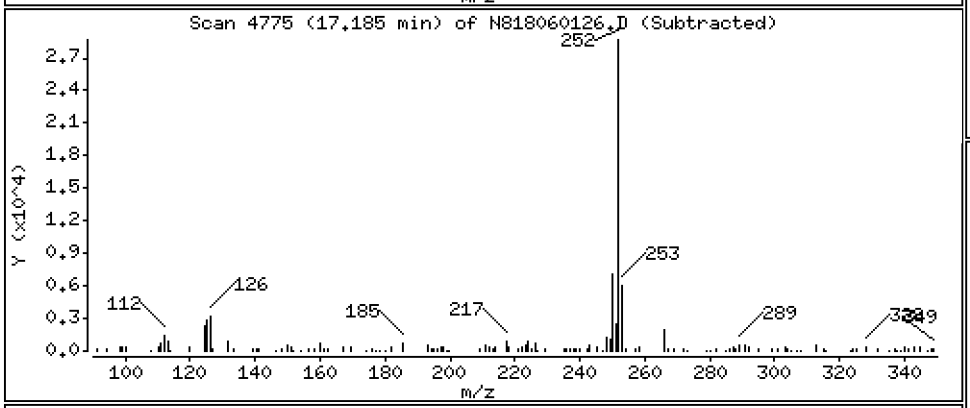
Column diameter: 0.25

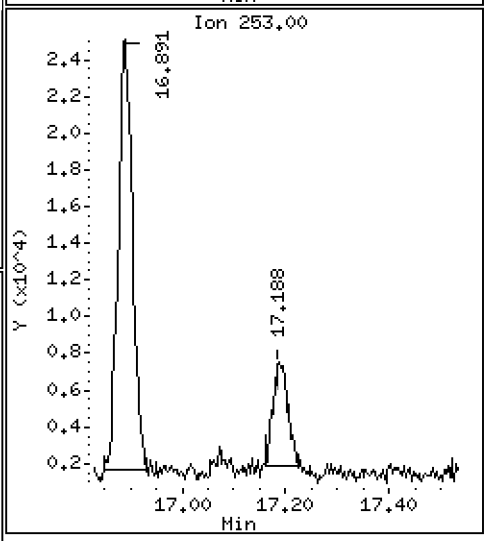
35 Perylene

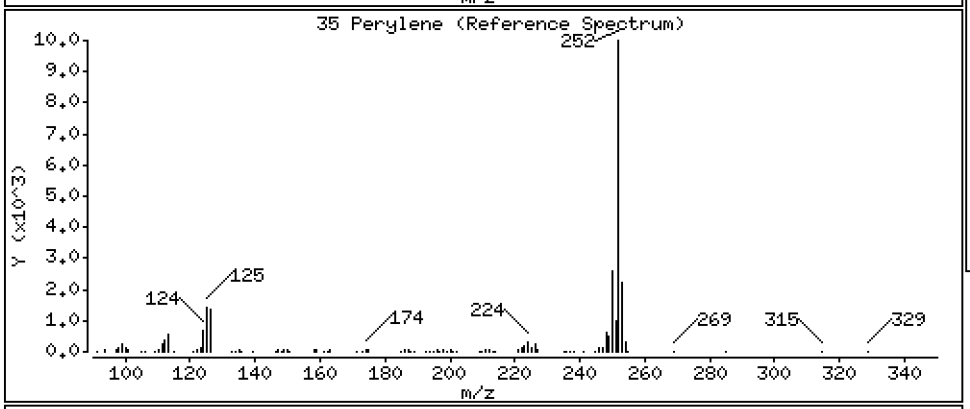
Concentration: 0.5356 ug/mL

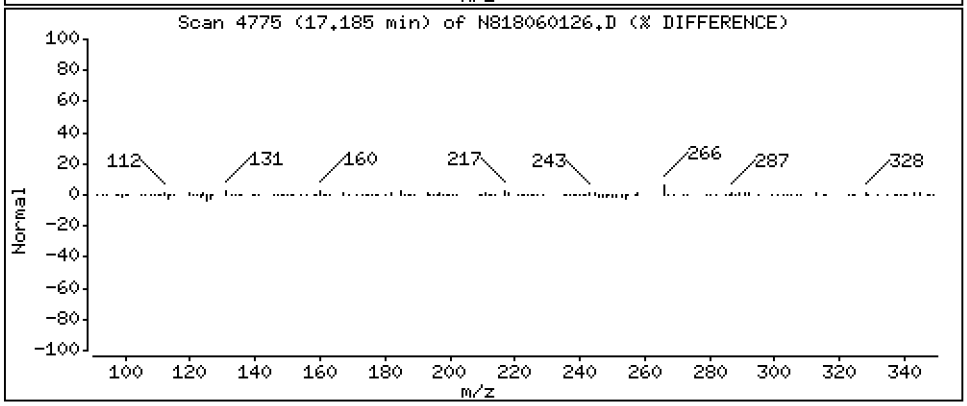












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060126.D
Lab Smp Id: 18E0309-01
Inj Date : 02-JUN-2018 01:34
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0309-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.454	4.464	(1.000)	188311	2.00000	
	2 Naphthalene	128	4.486	4.492	(1.007)	28265	0.25827	0.2583
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	104661	1.52359	1.524
	4 2-Methylnaphthalene	141	5.235	5.242	(1.175)	12524	0.20318	0.2032
	5 1-methylnaphthalene	141	5.425	5.432	(1.218)	7631	0.12027	0.1203
	9 Acenaphthylene	152	6.614	6.617	(0.984)	49128	0.50452	0.5045
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	98076	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	6.927	6.927	(1.030)	7538	0.07510	0.07510
	14 Fluorene	166	7.398	7.402	(1.100)	8559	0.11036	0.1104
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	175676	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	60656	0.56333	0.5633
	17 Anthracene	178	8.821	8.821	(1.009)	35178	0.35858	0.3586
	22 Fluoranthene	202	10.437	10.434	(1.193)	219266	1.80692	1.807
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	216073	1.87873	1.879
	23 Pyrene	202	10.905	10.902	(0.816)	335339	3.00106	3.001
	24 Benzo(a)anthracene	228	13.238	13.239	(0.991)	145759	1.34921	1.349
*	25 Chrysene-d12	240	13.365	13.356	(1.000)	185938	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	236100	2.17106	2.171
	28 Benzo(b)fluoranthene	252	15.872	15.869	(0.927)	168137	1.42883	1.429
	29 Benzo(k)fluoranthene	252	15.929	15.926	(0.931)	87262	0.75413	0.7541
	30 Benzo(j)fluoranthene	252	16.008	16.002	(0.935)	86146	0.74353	0.7435
	31 Total Benzofluoranthenes	252	15.872	15.926	(0.927)	341884	2.97904	2.979(M)
	32 Benzo(a)pyrene	252	16.894	16.884	(0.987)	195553	1.89605	1.896
*	33 Perylene-d12	264	17.118	17.112	(1.000)	185160	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.436	19.430	(1.135)	131815	1.11635	1.116
$	36 Dibenzo(a,h)anthracene-d14	292	19.347	19.338	(1.130)	199957	2.30558	2.306
	38 Dibenzo(a,h)anthracene	278	19.433	19.430	(1.135)	33379	0.34270	0.3427
	39 Benzo(g,h,i)perylene	276	20.315	20.299	(1.187)	150125	1.45473	1.455
	35 Perylene	252	17.185	17.181	(1.004)	59983	0.53562	0.5356

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060126.D
Lab Smp Id: 18E0309-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	188311	54.11
10 Acenaphthene-d10	65789	32895	131578	98076	49.08
15 Phenanthrene-d10	128644	64322	257288	175676	36.56
25 Chrysene-d12	166669	83335	333338	185938	11.56
33 Perylene-d12	140483	70242	280966	185160	31.80

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	-0.00
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.07
33 Perylene-d12	17.11	16.61	17.61	17.12	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060126.D

Lab ID: 18E0309-01
nt8.i, 20180601.b\FSIMPNA180305.m,   02-JUN-2018 01:34

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

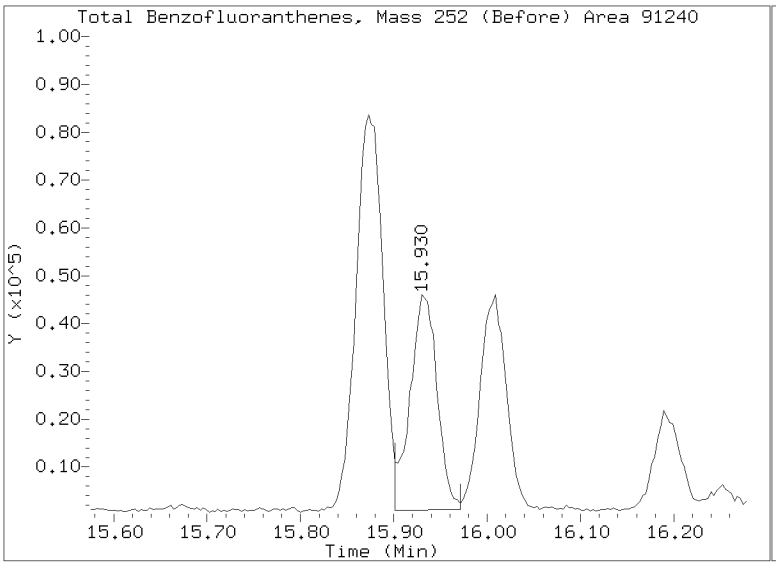
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

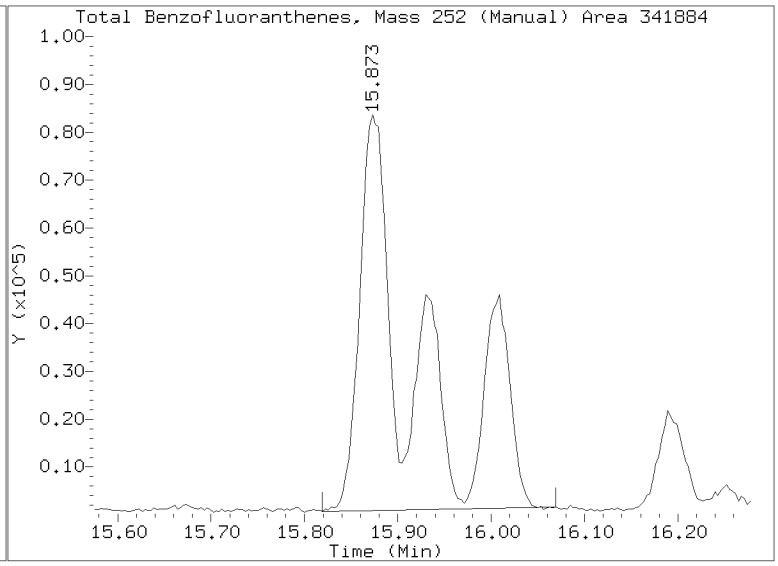
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060126.D
Injection Date: 02-JUN-2018 01:34
Lab ID:18E0309-01 Client ID:
Report Date: 06/04/2018 11:37





LDW18-SSCL-A08

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-02	SDG:	18E0231
Sampled:	05/19/18 15:00	Prepared:	05/24/18 10:50	File ID:	N818060127.D
% Solids:	66.40	Preparation:	EPA 3546 (Microwave)	Analyzed:	06/02/18 02:01
Batch:	BGE0626	Sequence:	SGF0017	Initial/Final:	15.15 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel, Sulfur				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	124		0.82	4.97
218-01-9	Chrysene	1	195		1.05	4.97
205-99-2	Benzo(b)fluoranthene	1	100		1.36	4.97
207-08-9	Benzo(k)fluoranthene	1	57.3		0.76	4.97
50-32-8	Benzo(a)pyrene	1	145		0.61	4.97
193-39-5	Indeno(1,2,3-cd)pyrene	1	86.0		1.04	4.97
53-70-3	Dibenzo(a,h)anthracene	1	26.4		0.89	4.97

SURROGATES	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.11	62.4	41.8	32 - 120	
Dibenzo[a,h]anthracene-d14	149.11	101	67.8	21 - 133	
Fluoranthene-d10	149.11	85.7	57.5	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

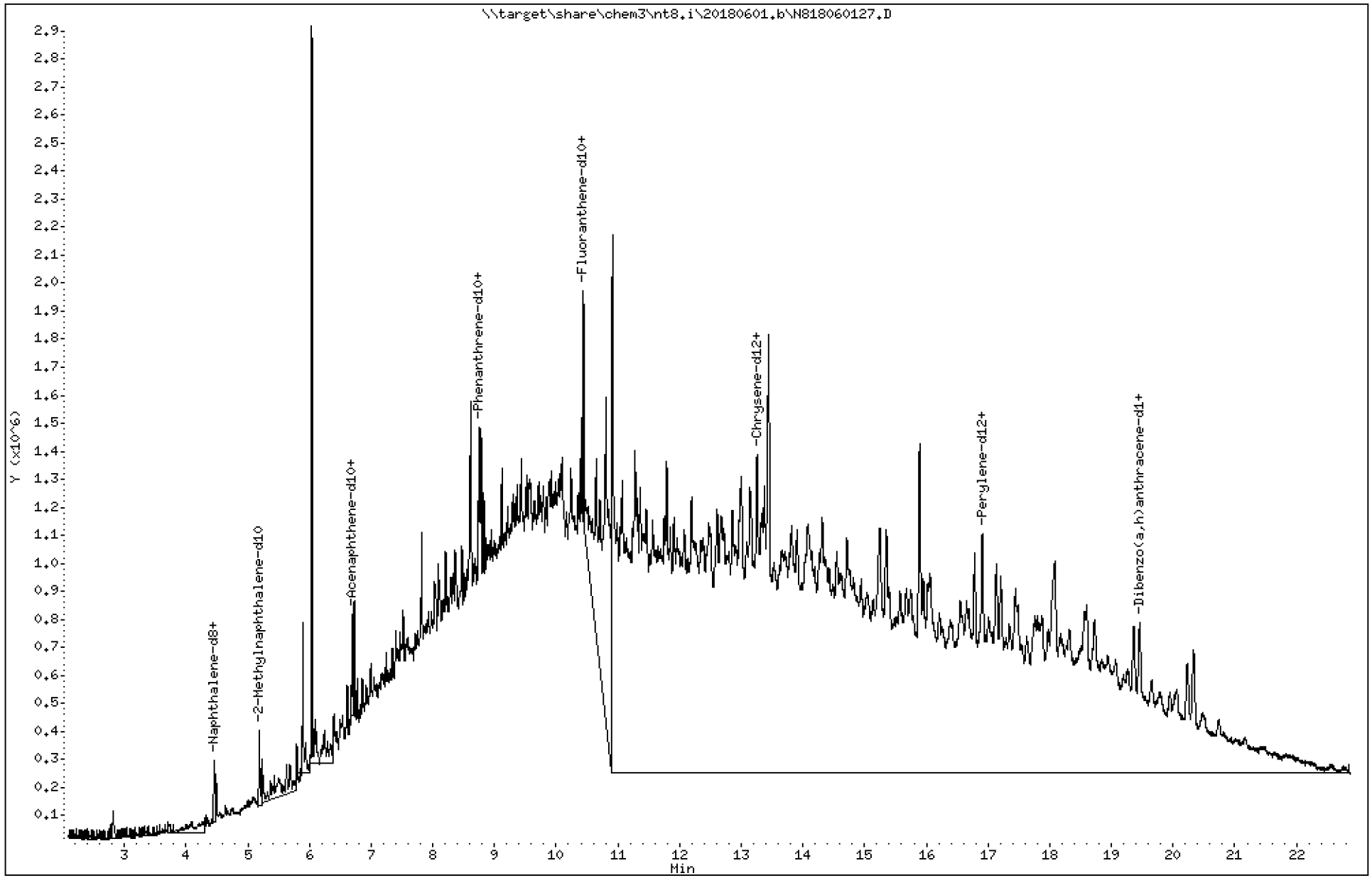
Instrument: nt8.i

Sample Info: 18E0309-02

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

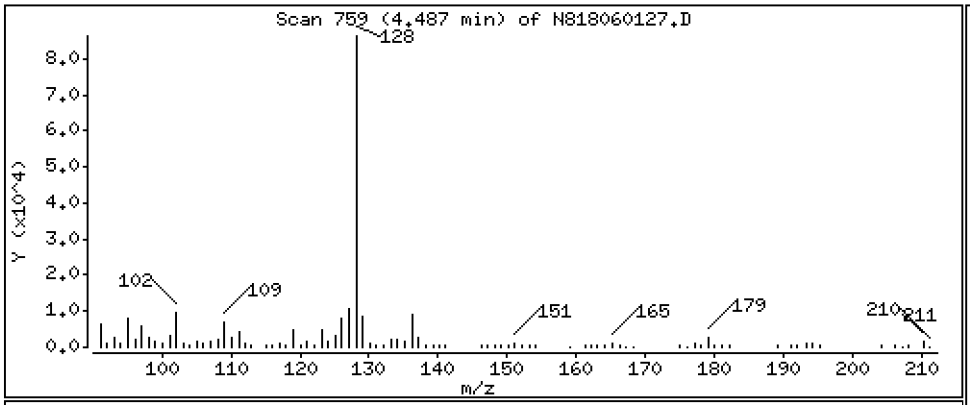
Operator: JZ

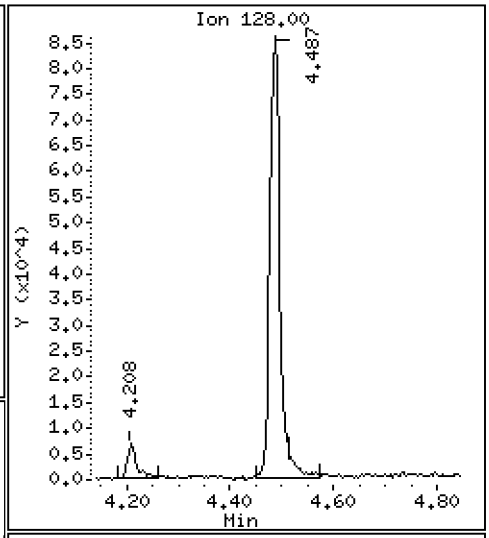
Column phase: Rxi-17sil

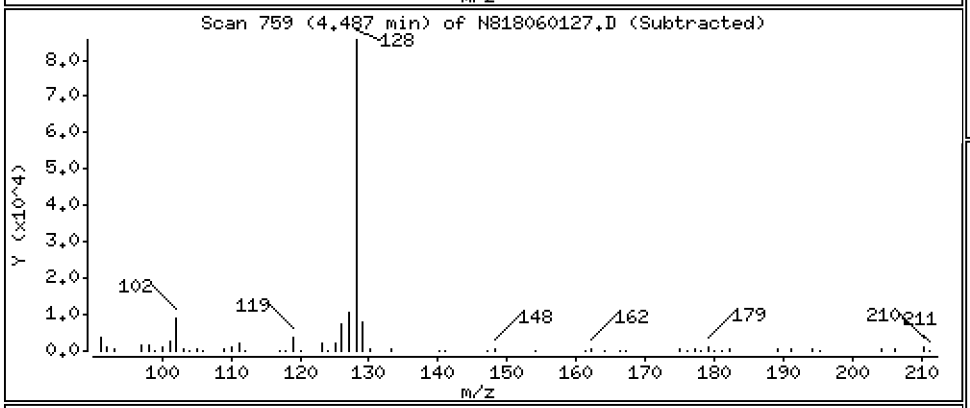
Column diameter: 0.25

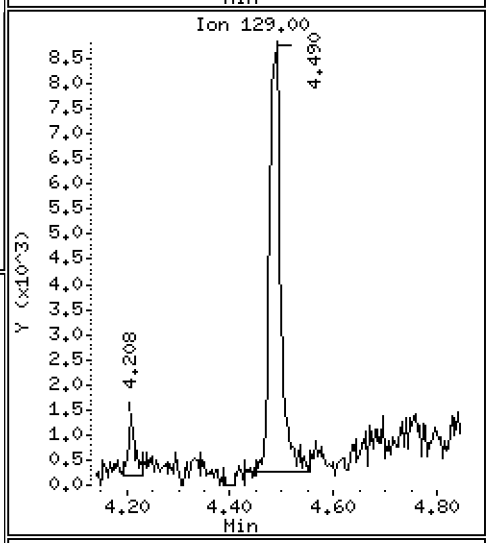
2 Naphthalene

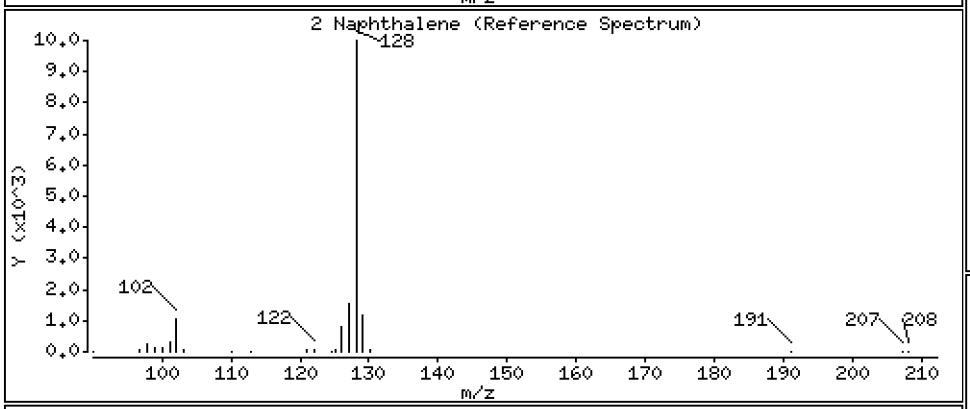
Concentration: 1.049 ug/mL

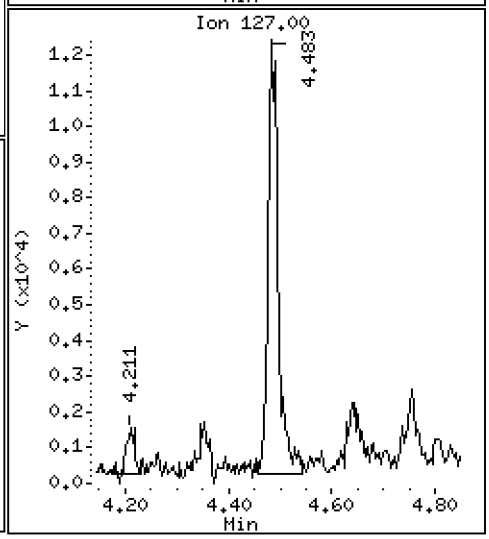


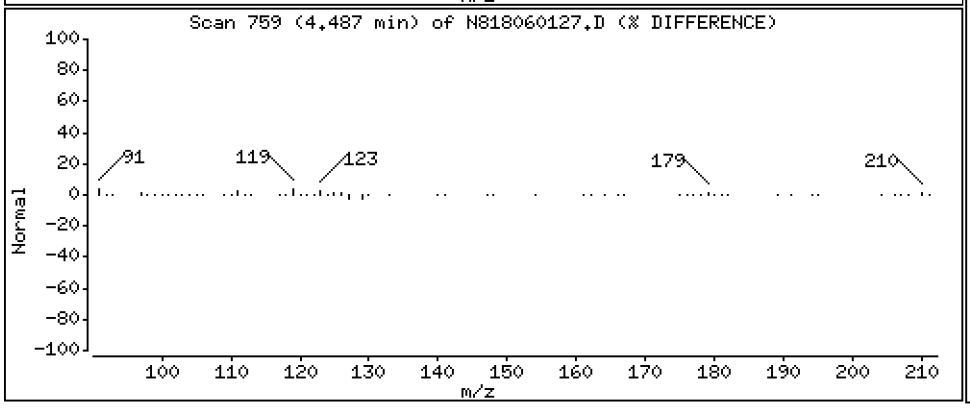












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

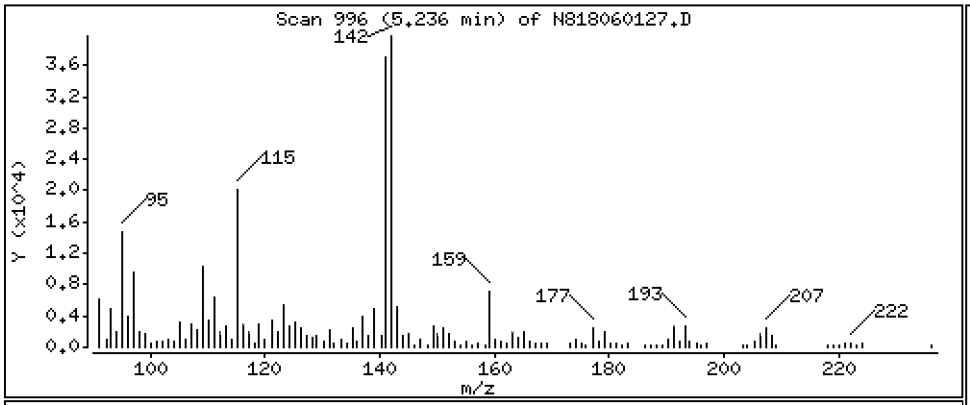
Operator: JZ

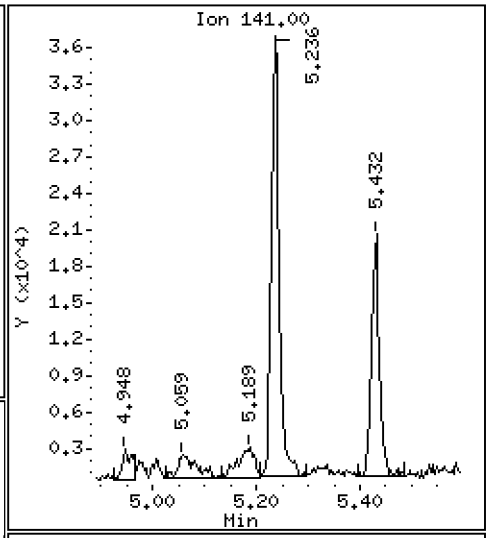
Column phase: Rxi-17sil

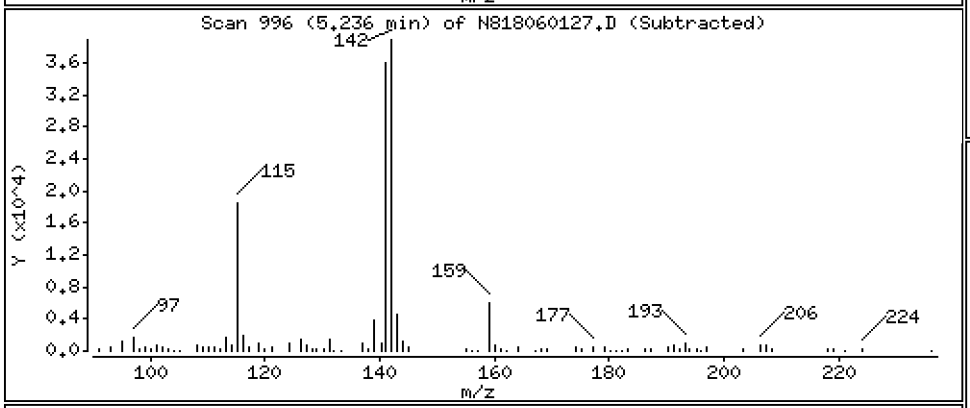
Column diameter: 0.25

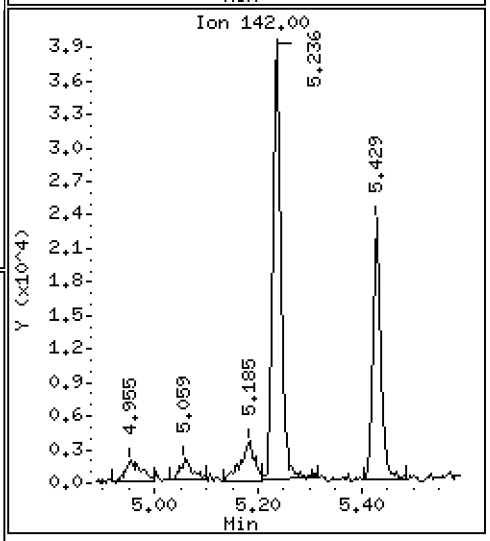
4 2-Methylnaphthalene

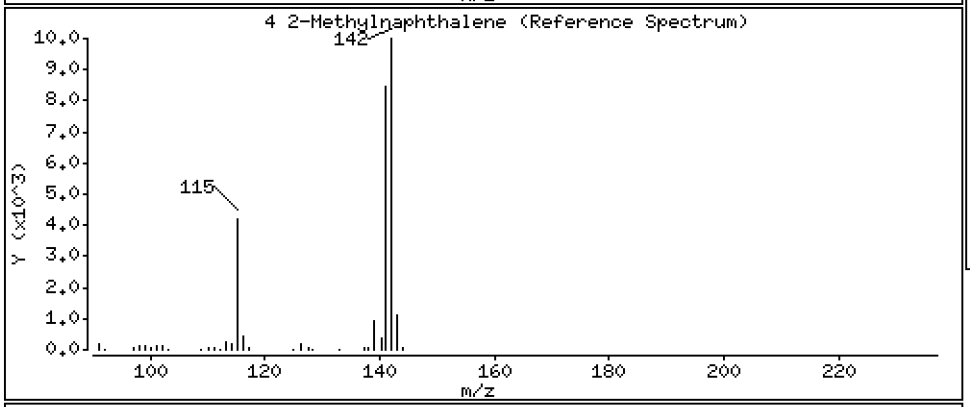
Concentration: 0.6253 ug/mL

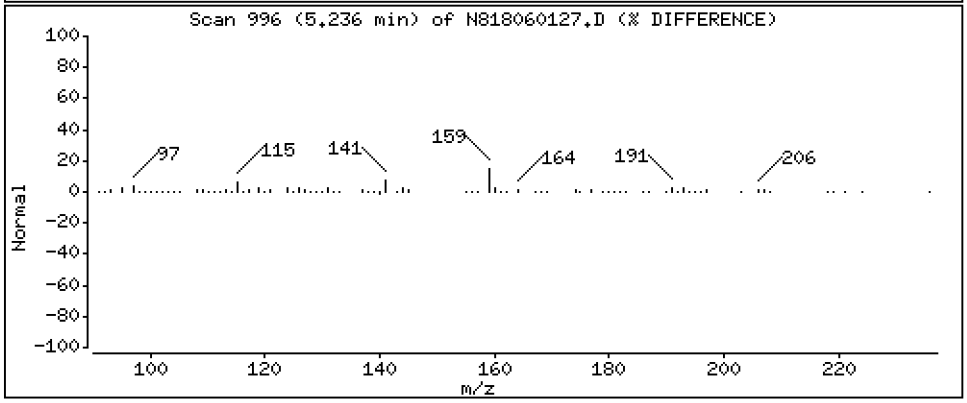












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

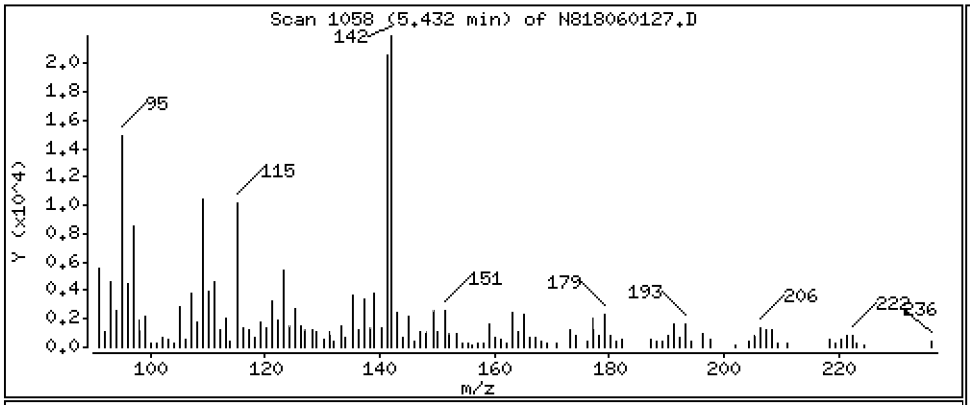
Operator: JZ

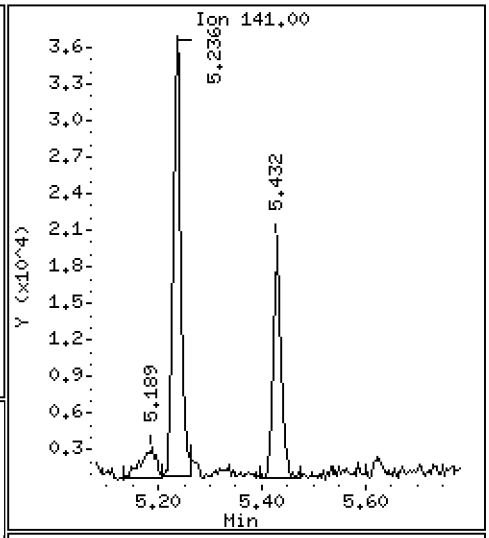
Column phase: Rxi-17sil

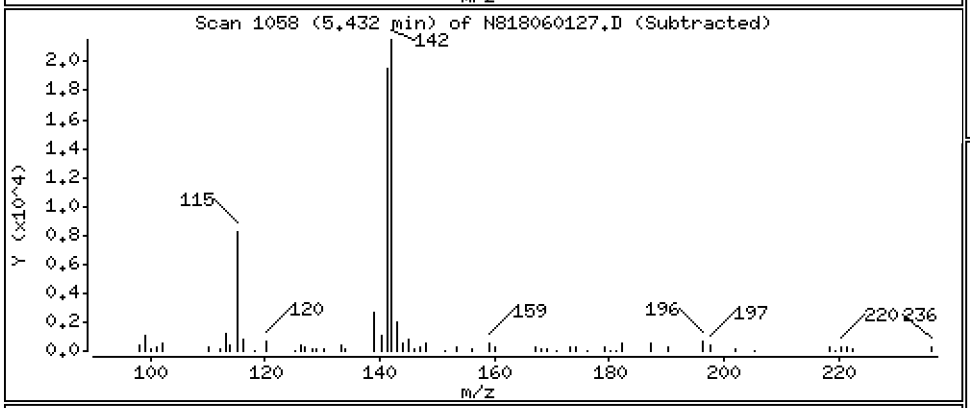
Column diameter: 0.25

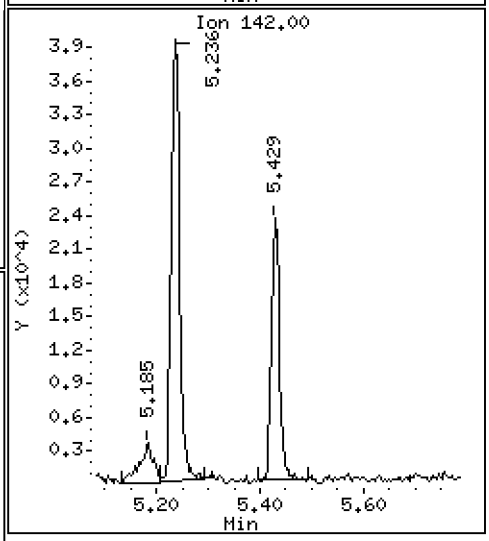
5 1-methylnaphthalene

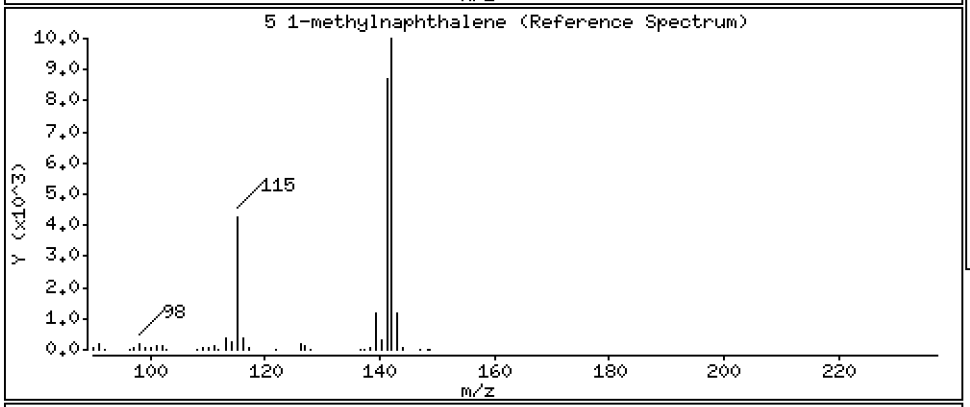
Concentration: 0.3323 ug/mL

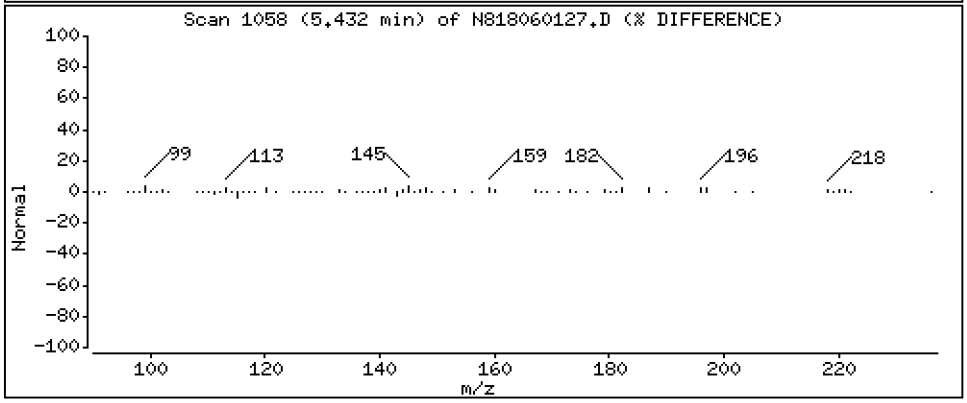












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

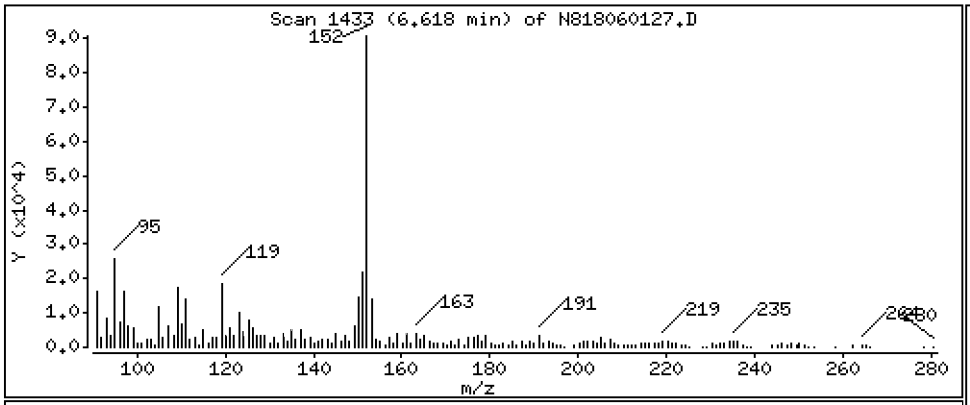
Operator: JZ

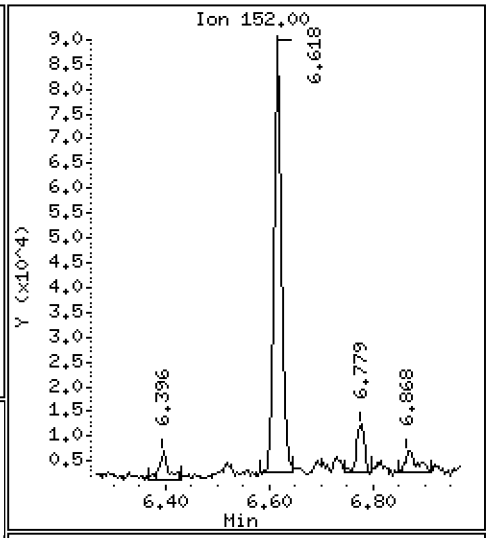
Column phase: Rxi-17sil

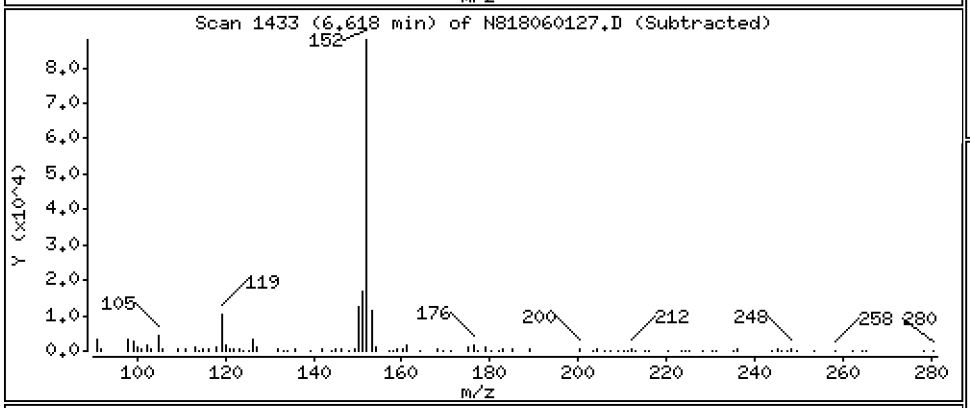
Column diameter: 0.25

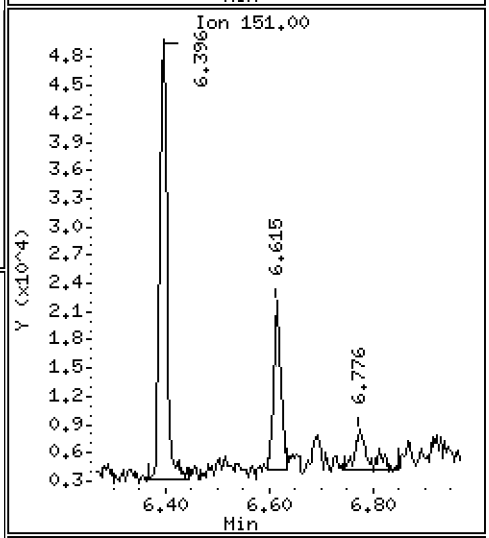
9 Acenaphthylene

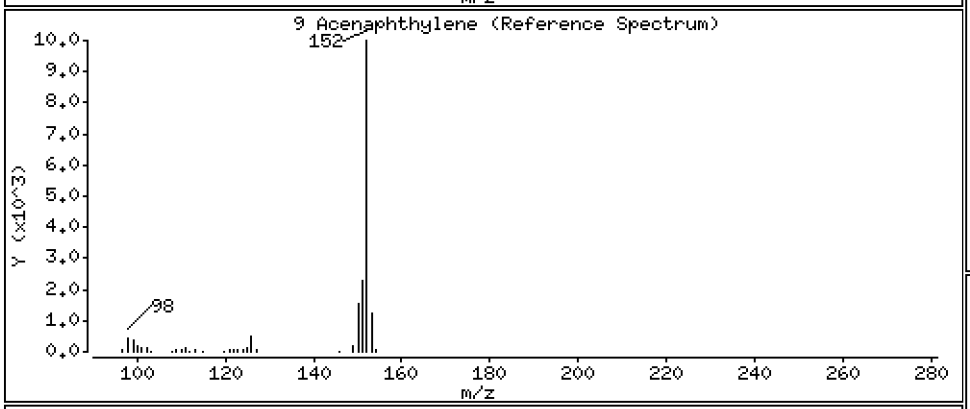
Concentration: 0.9400 ug/mL

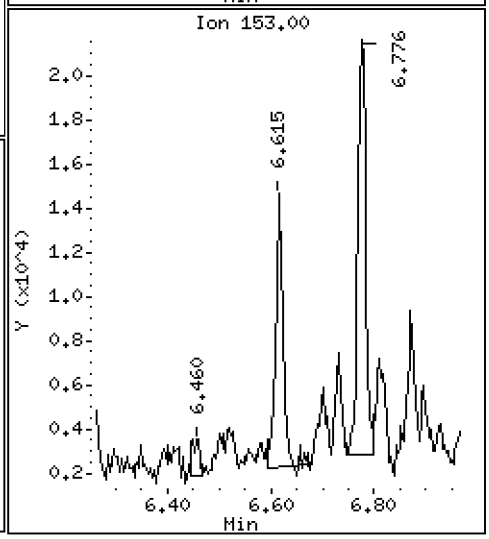


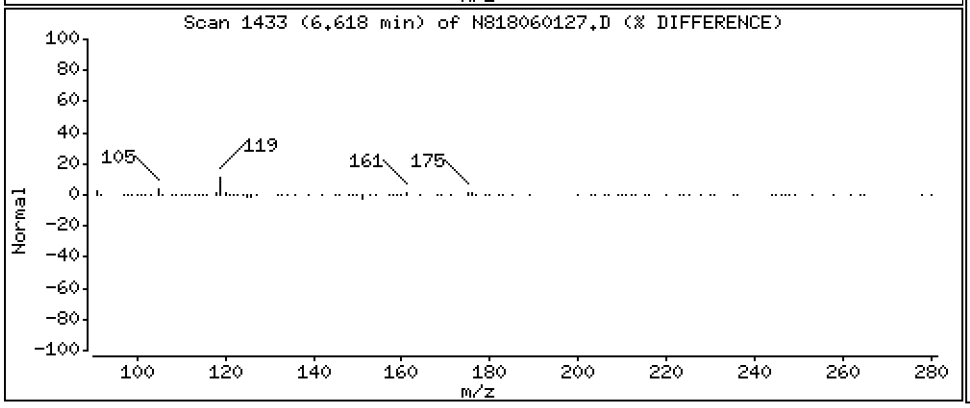












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

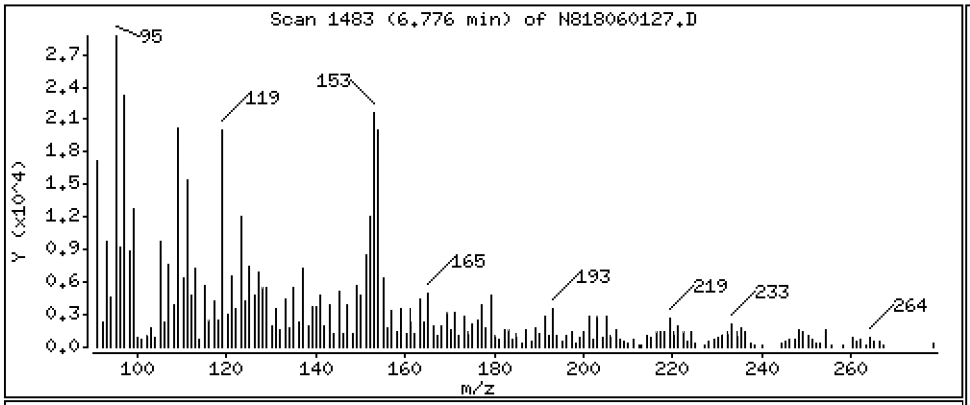
Operator: JZ

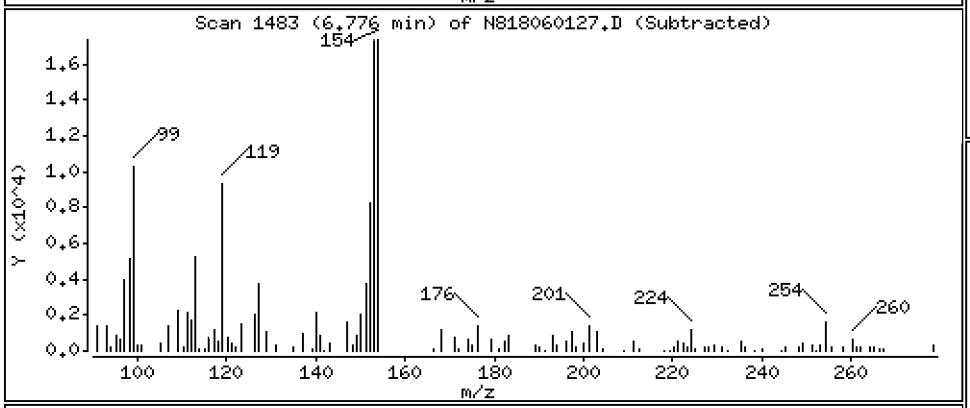
Column phase: Rxi-17sil

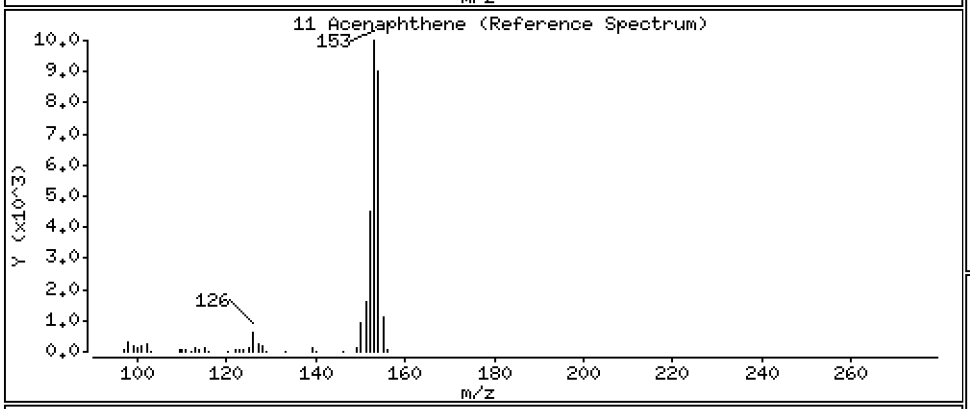
Column diameter: 0.25

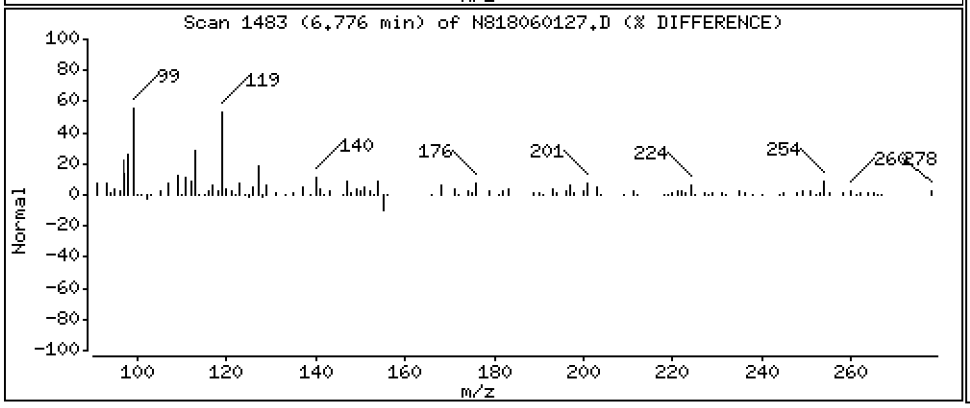
11 Acenaphthene

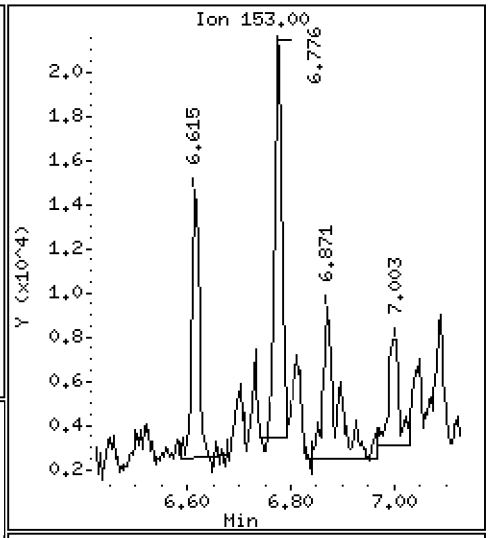
Concentration: 0.2457 ug/mL

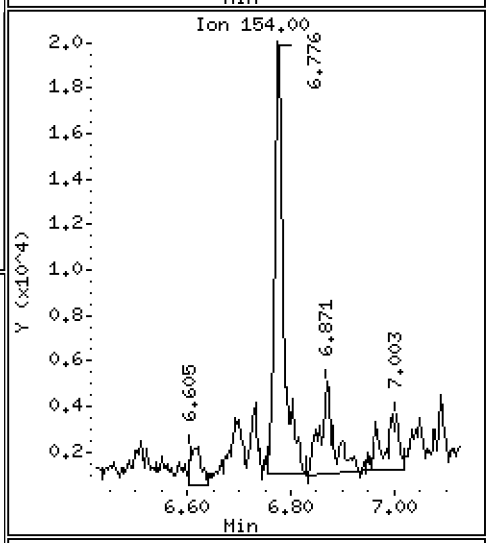


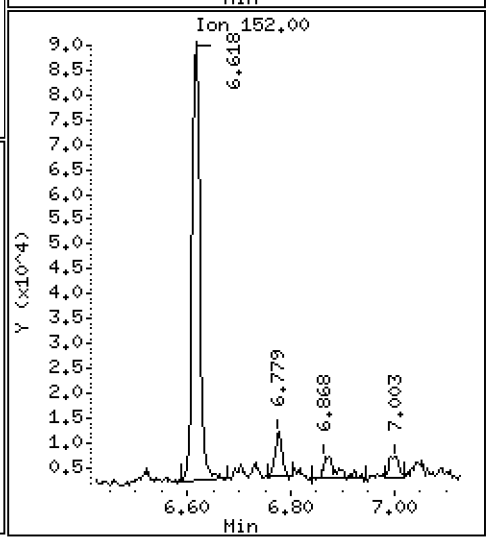












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

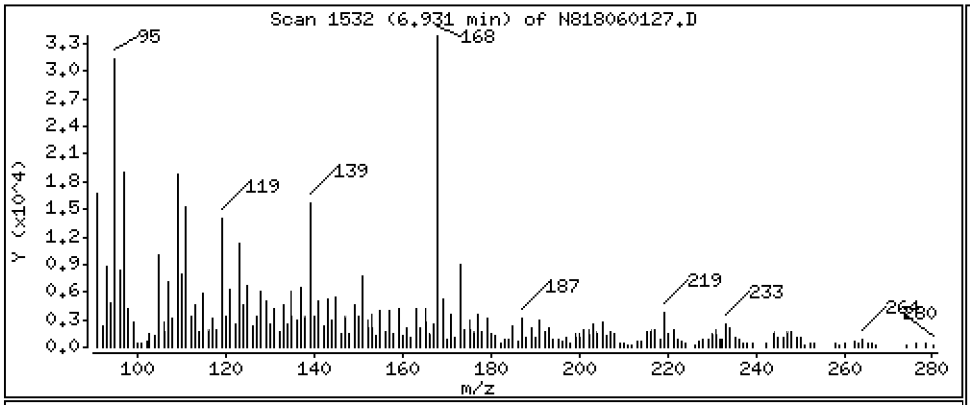
Operator: JZ

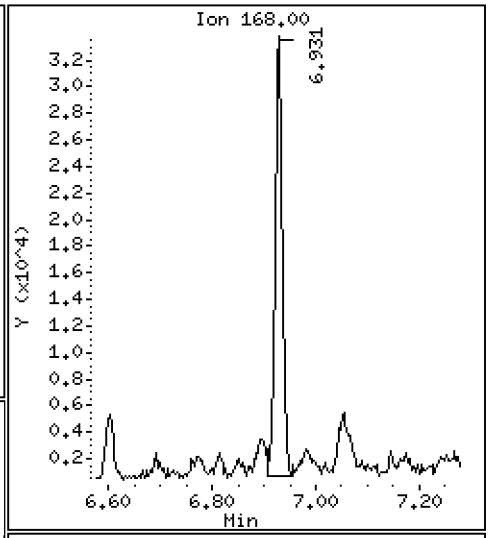
Column phase: Rxi-17sil

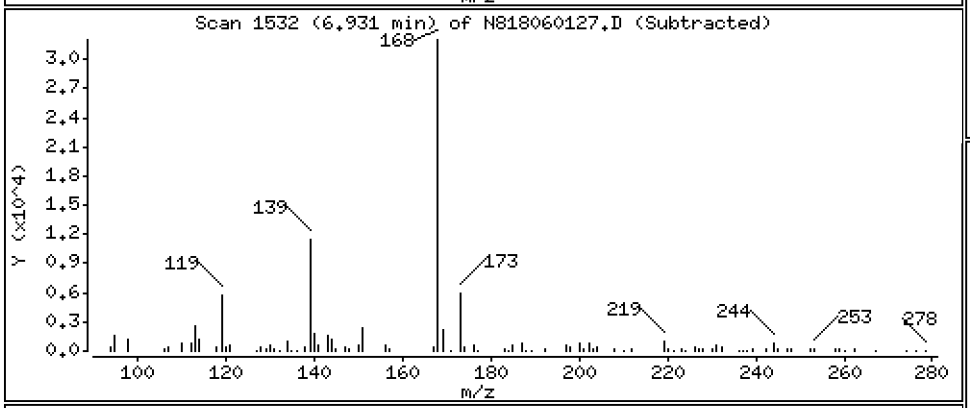
Column diameter: 0.25

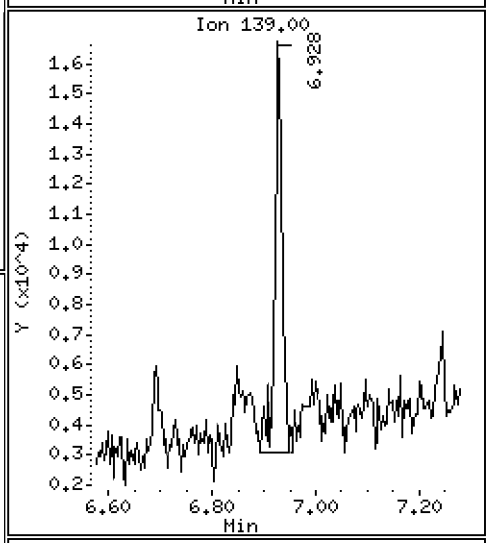
12 Dibenzofuran

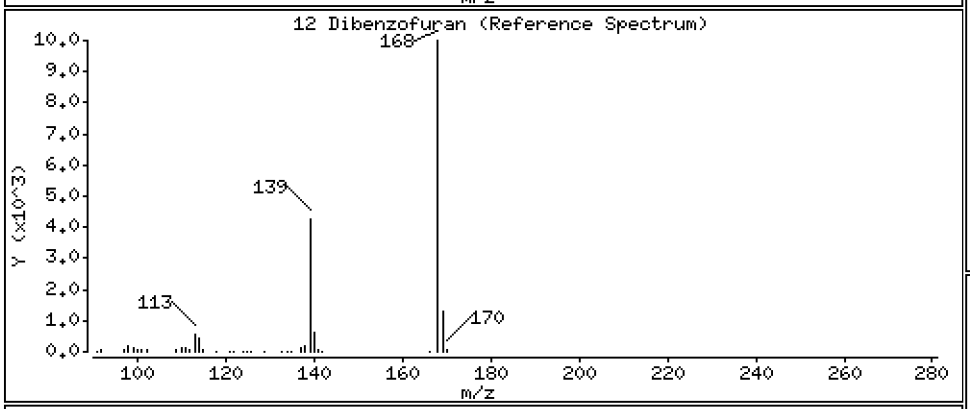
Concentration: 0.3333 ug/mL

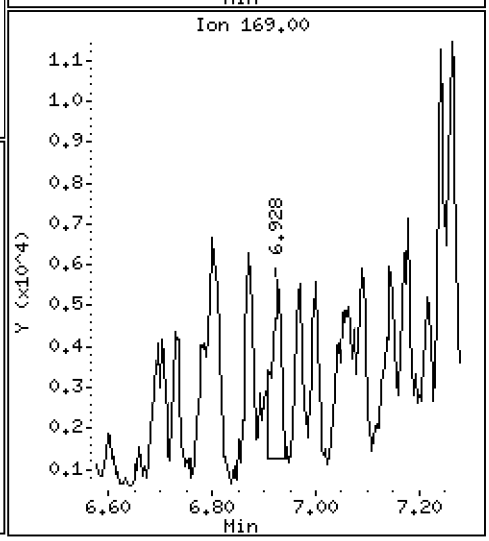


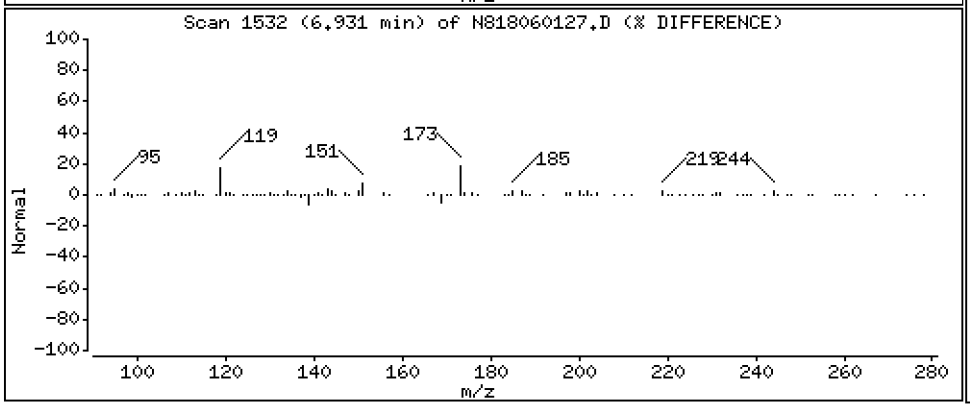












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

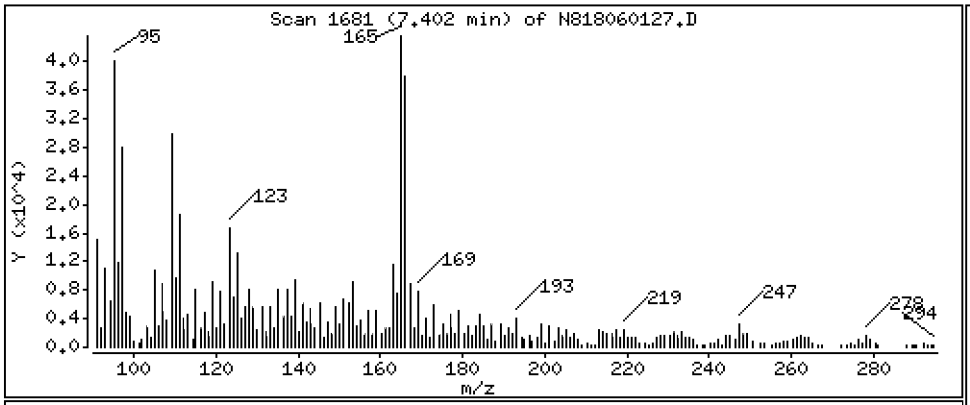
Operator: JZ

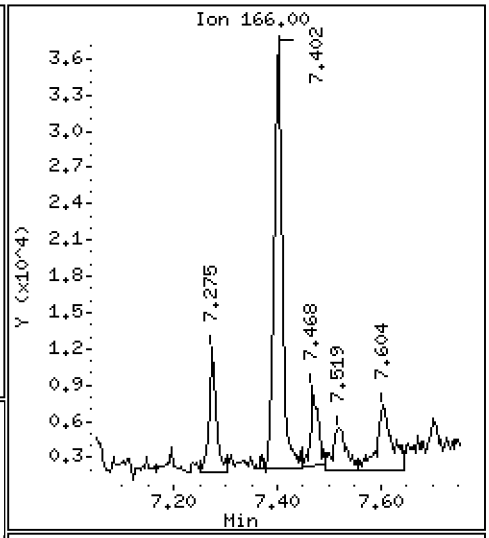
Column phase: Rxi-17sil

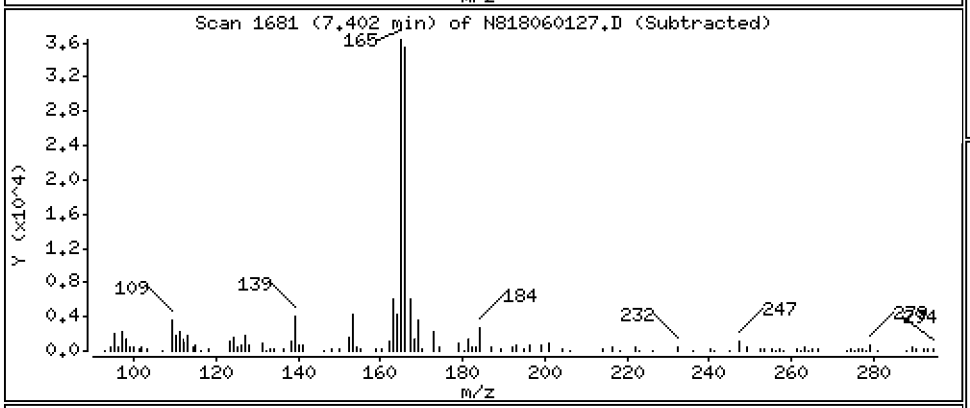
Column diameter: 0.25

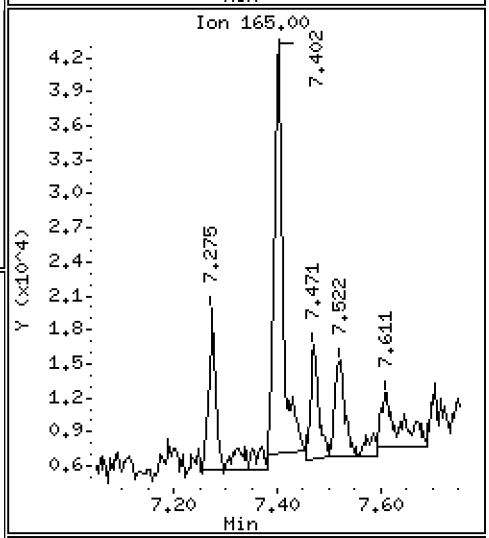
14 Fluorene

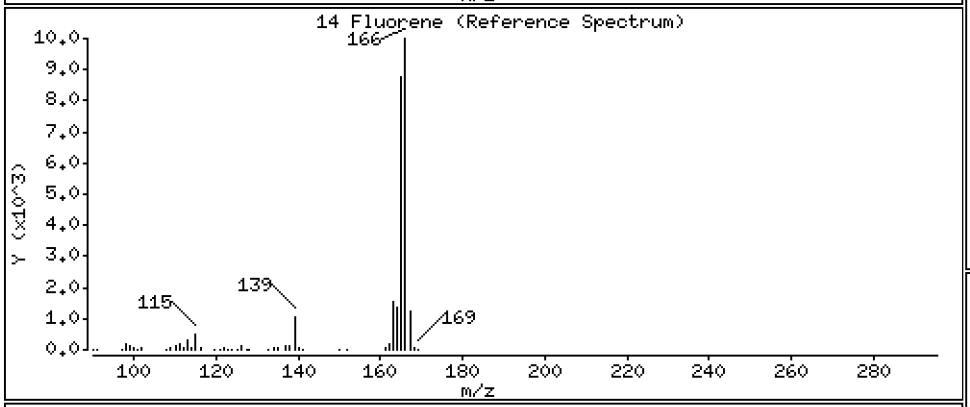
Concentration: 0.5358 ug/mL

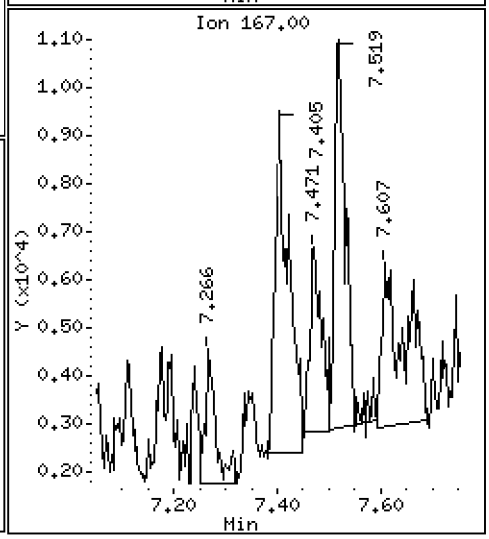


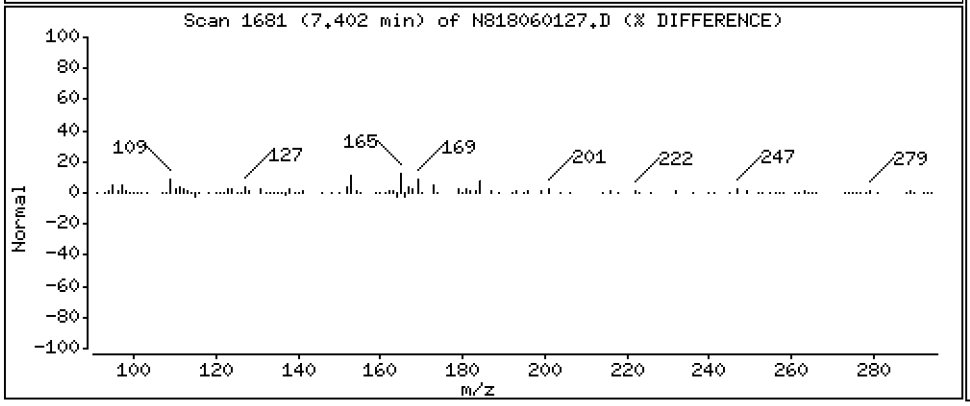












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

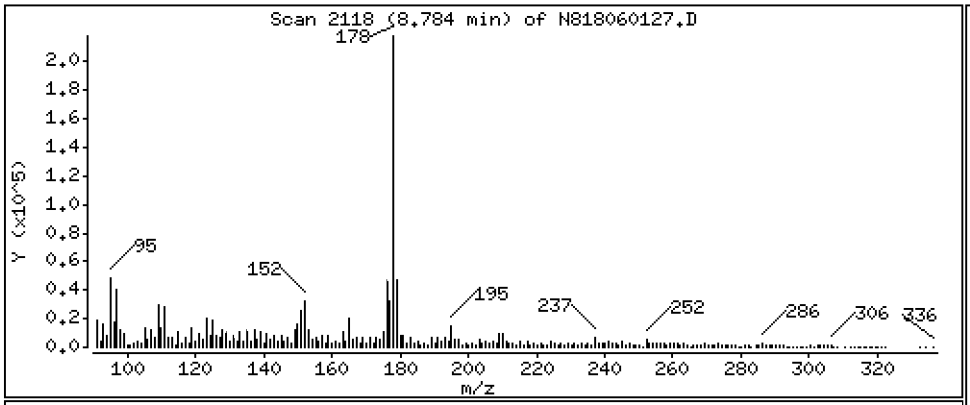
Operator: JZ

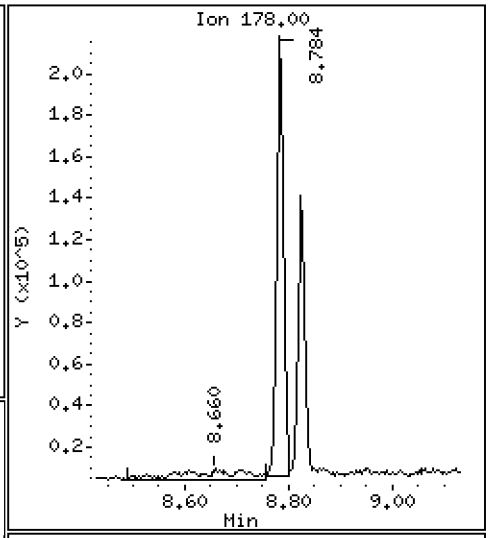
Column phase: Rxi-17sil

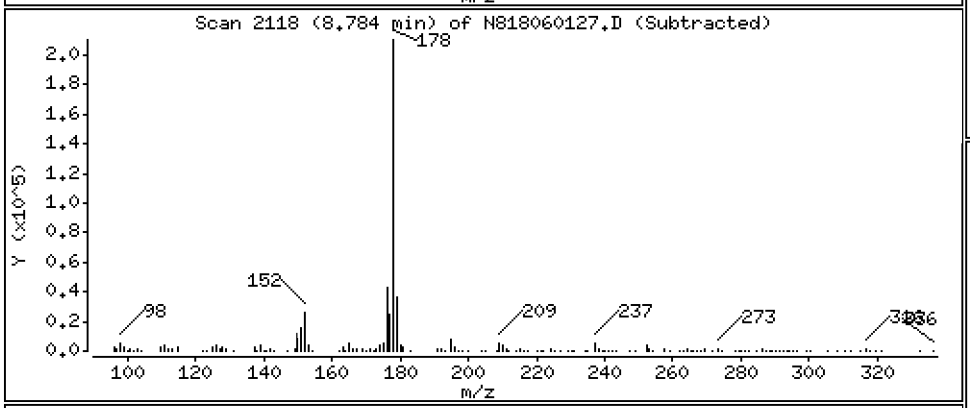
Column diameter: 0.25

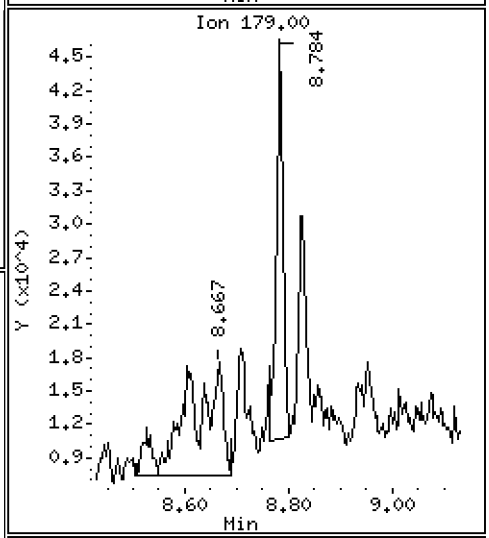
16 Phenanthrene

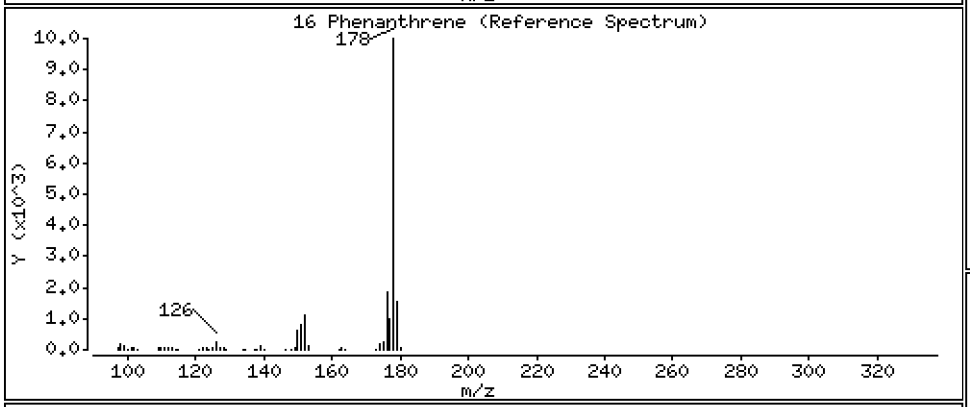
Concentration: 1.848 ug/mL

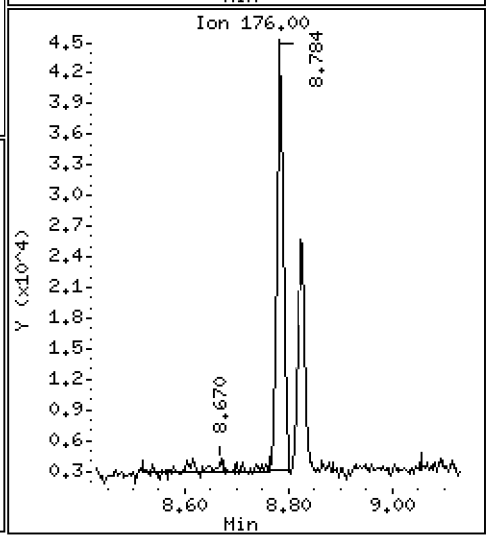


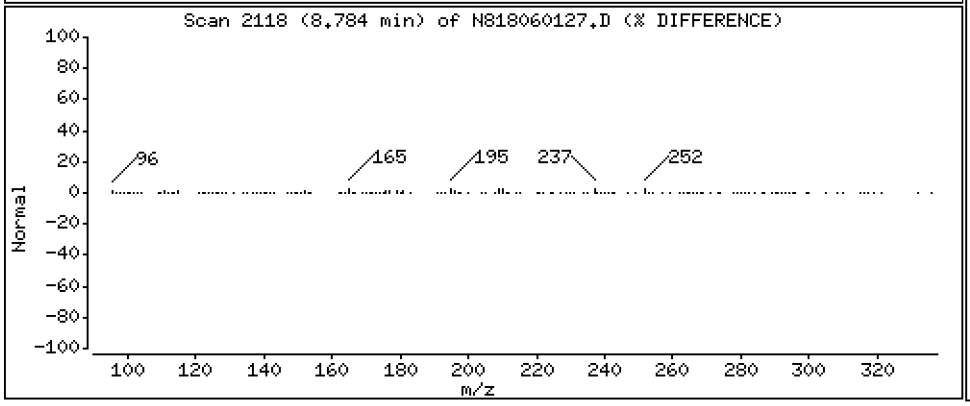












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

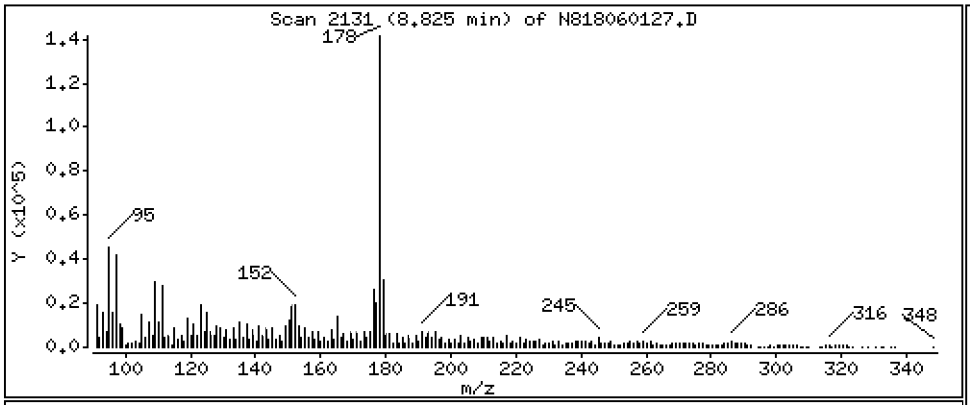
Operator: JZ

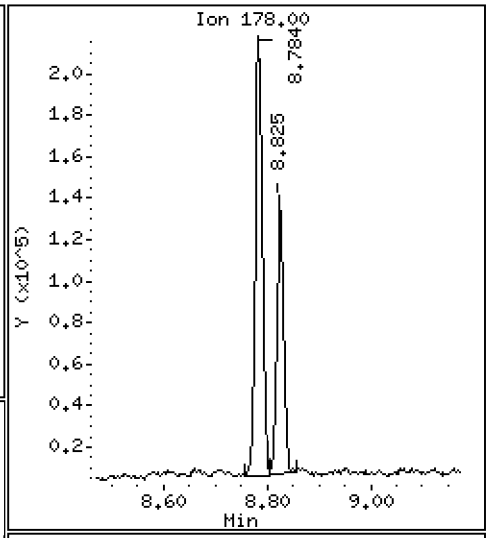
Column phase: Rxi-17sil

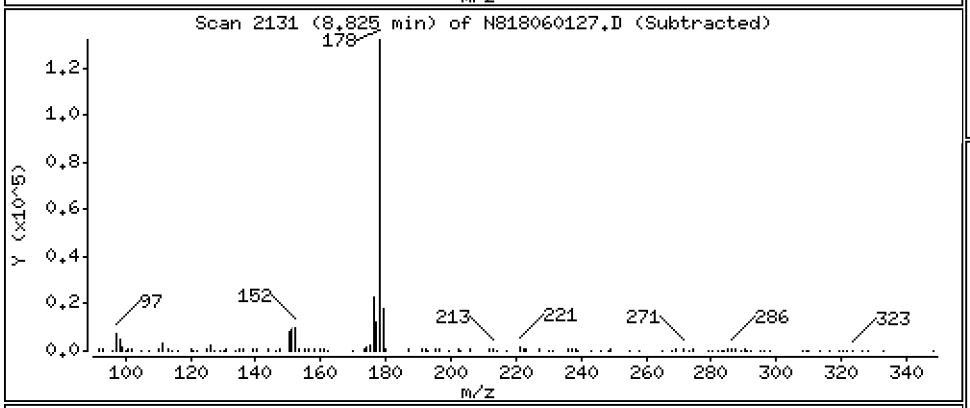
Column diameter: 0.25

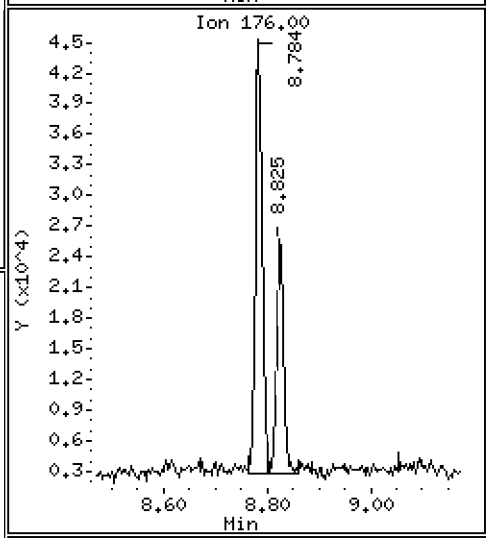
17 Anthracene

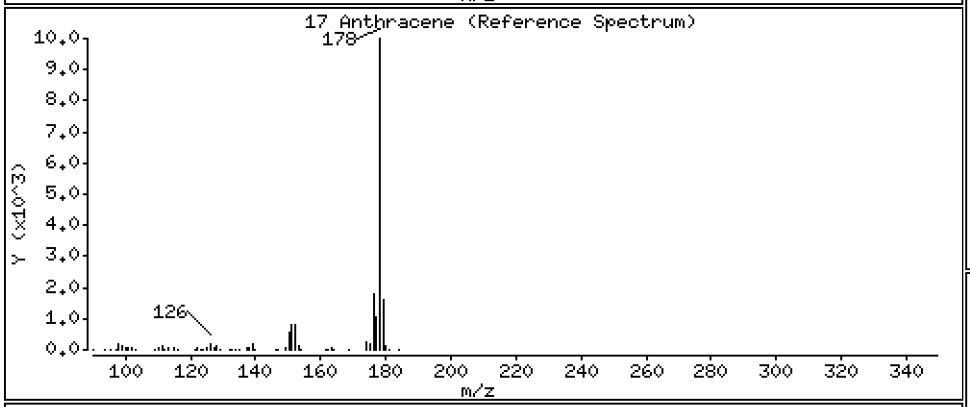
Concentration: 1.232 ug/mL

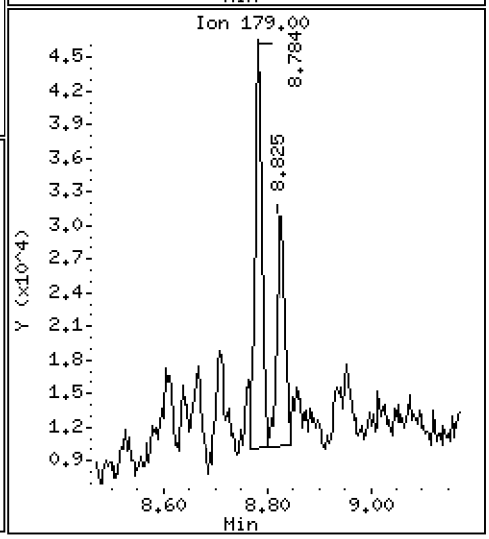


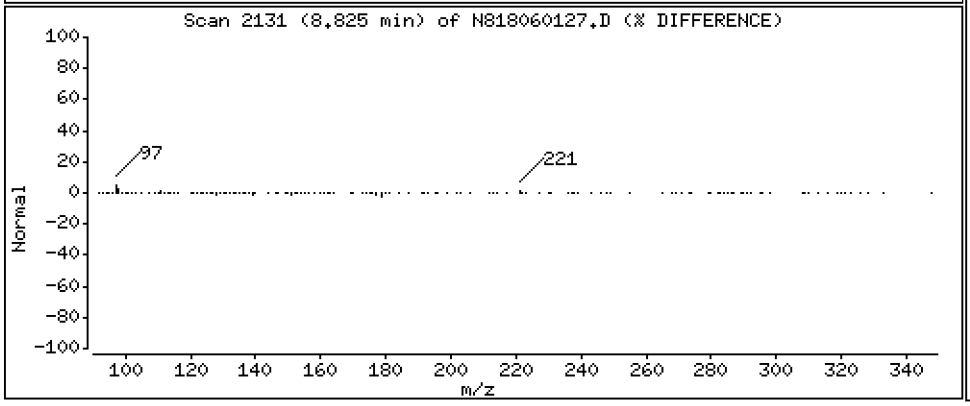












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

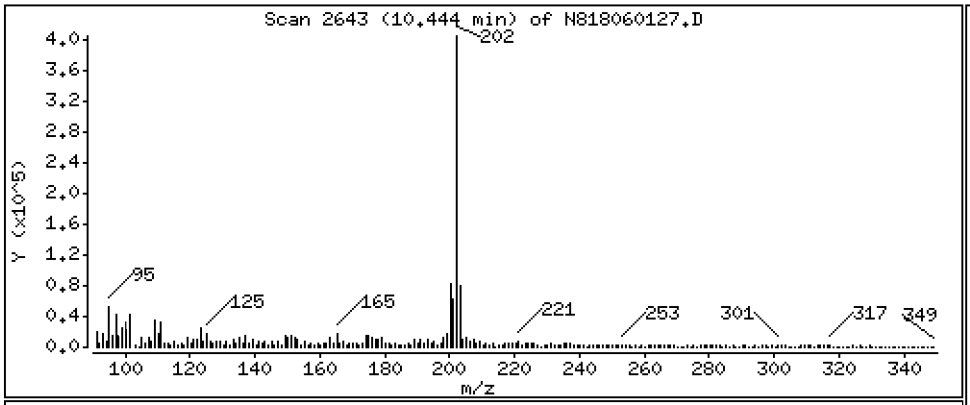
Operator: JZ

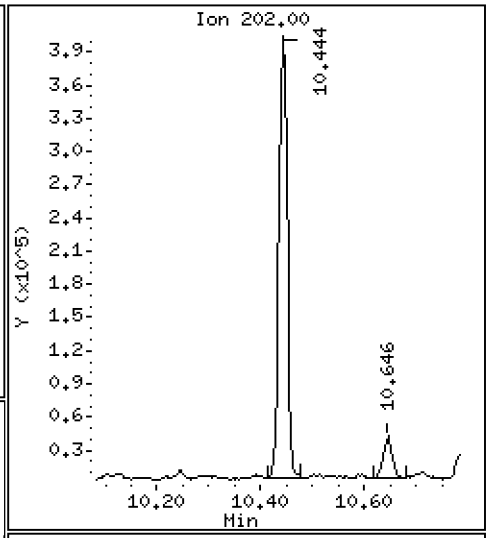
Column phase: Rxi-17sil

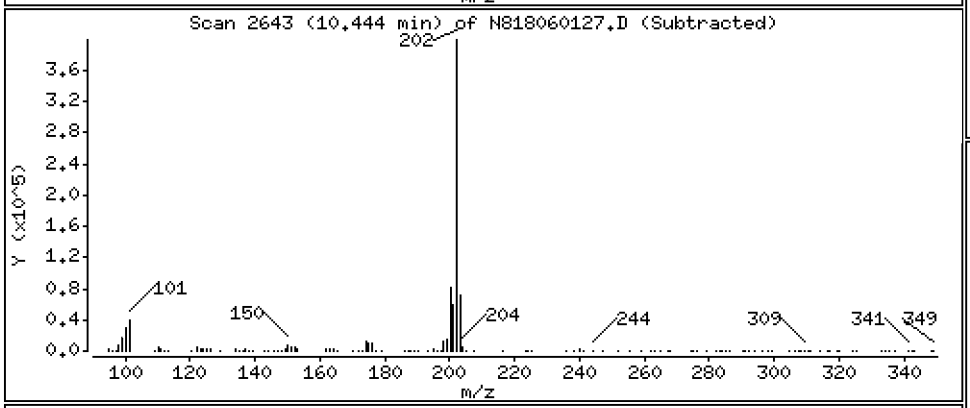
Column diameter: 0.25

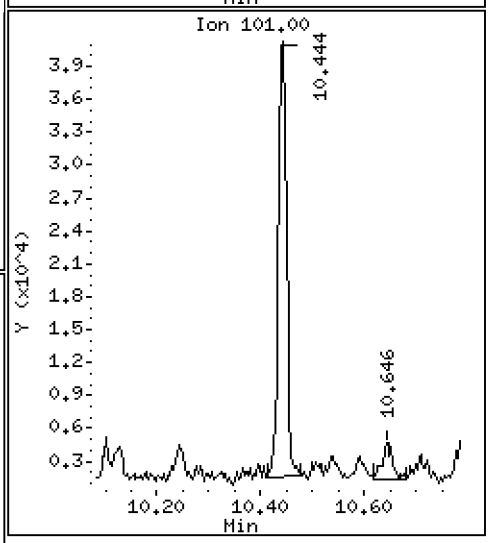
22 Fluoranthene

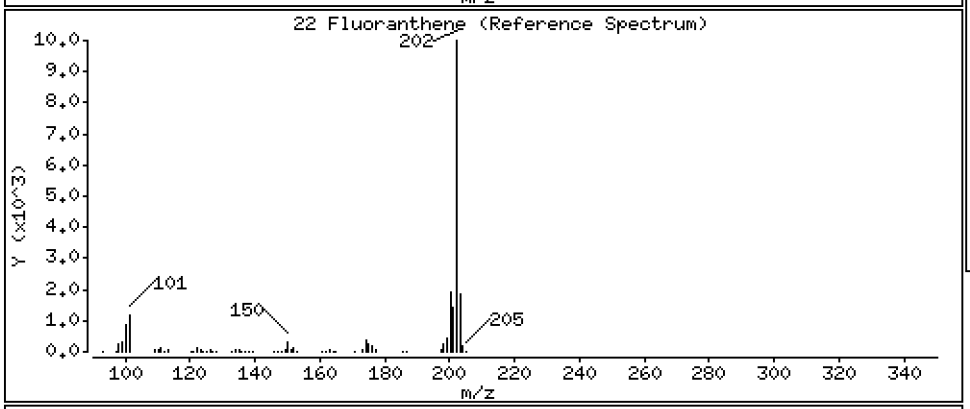
Concentration: 3.541 ug/mL

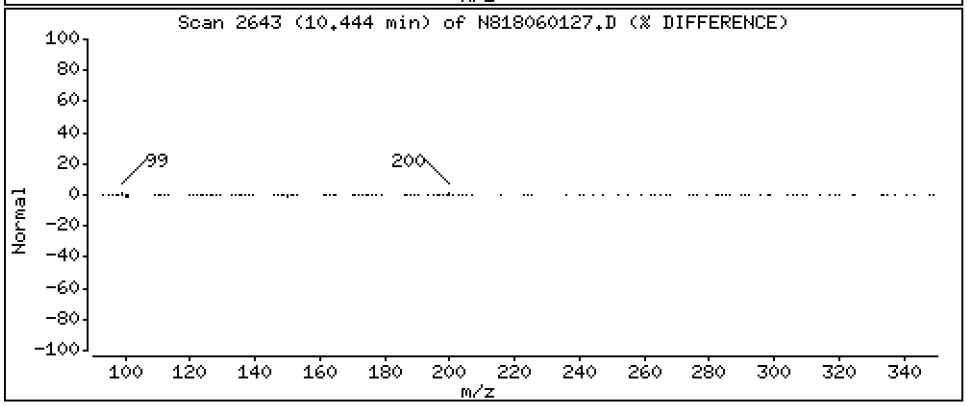












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

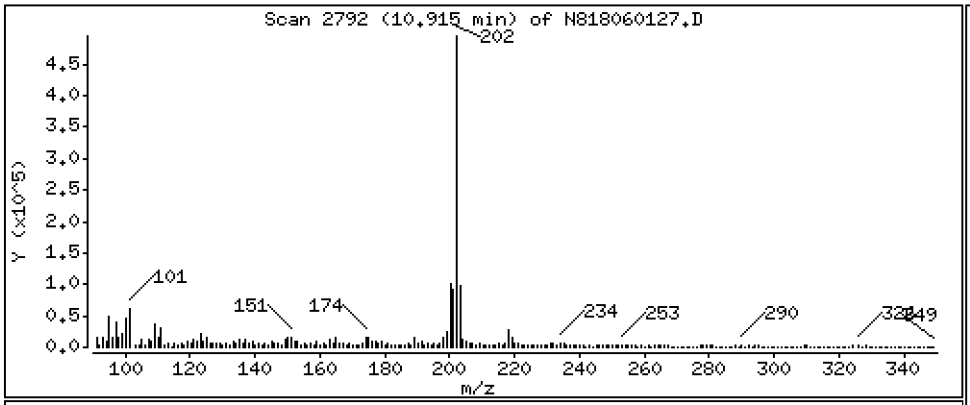
Operator: JZ

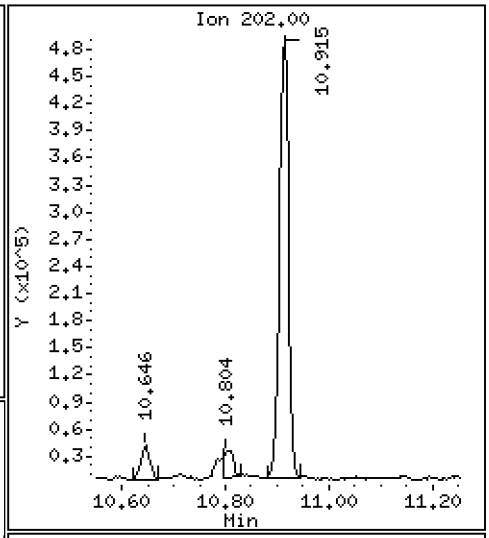
Column phase: Rxi-17sil

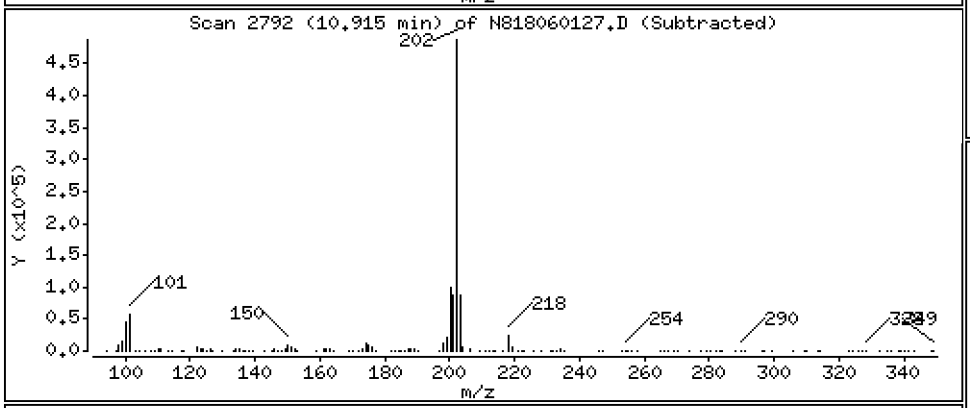
Column diameter: 0.25

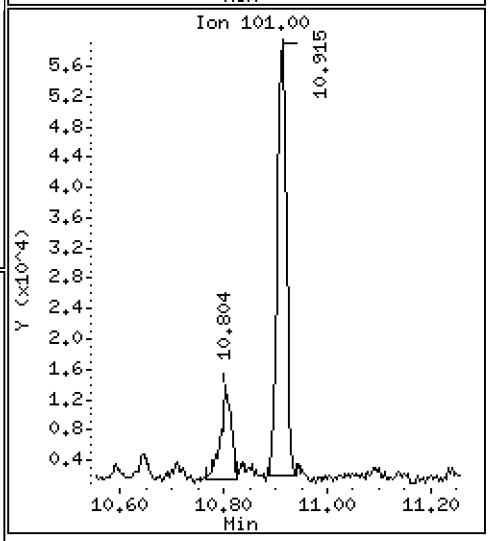
23 Pyrene

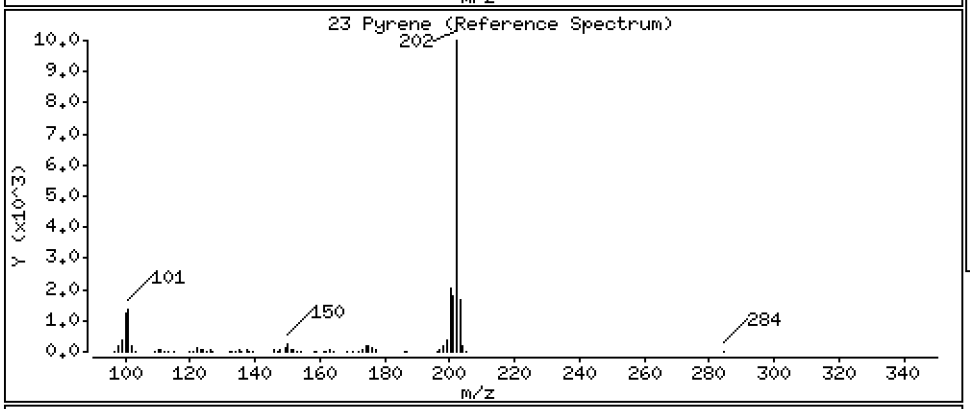
Concentration: 5.054 ug/mL

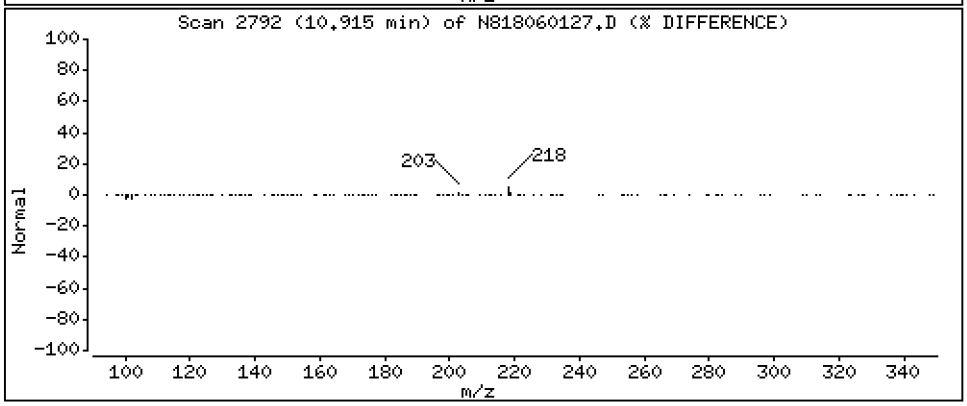












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

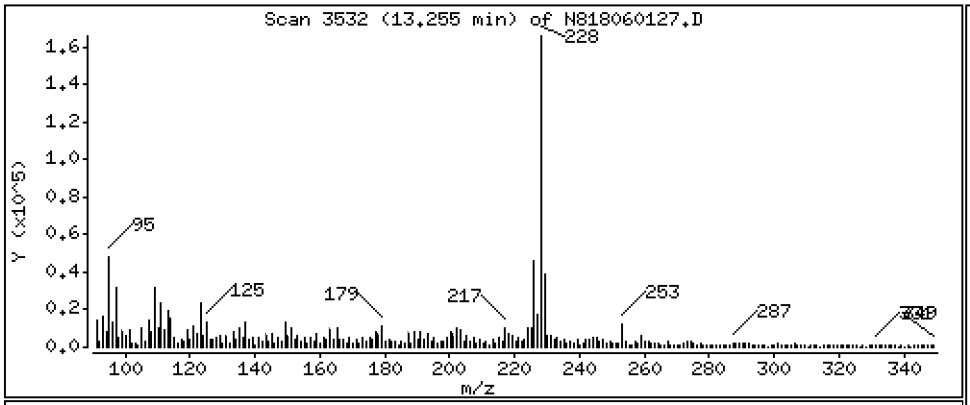
Operator: JZ

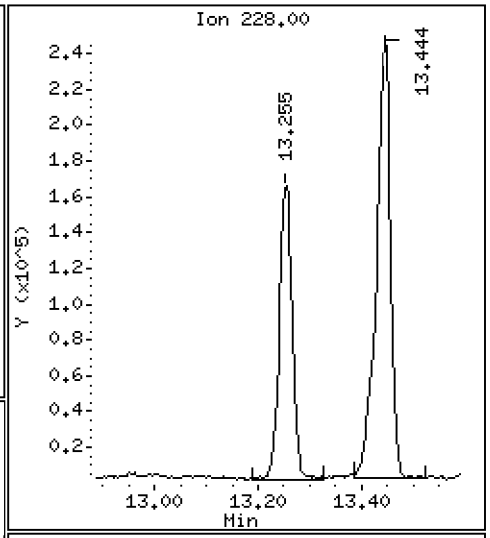
Column phase: Rxi-17sil

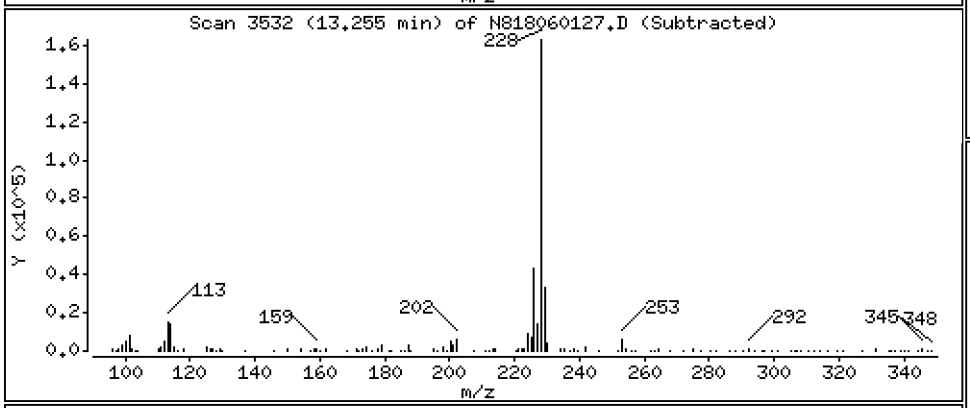
Column diameter: 0.25

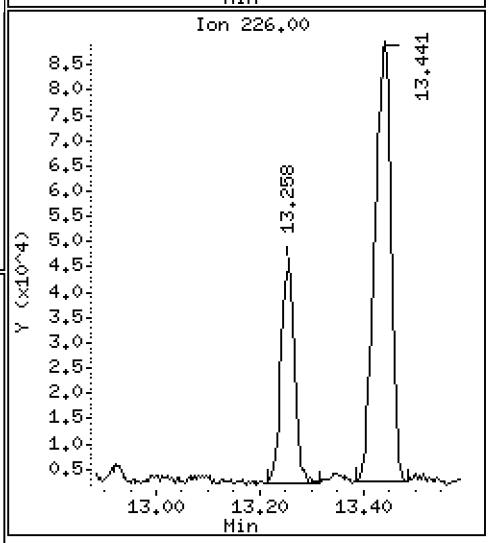
24 Benzo(a)anthracene

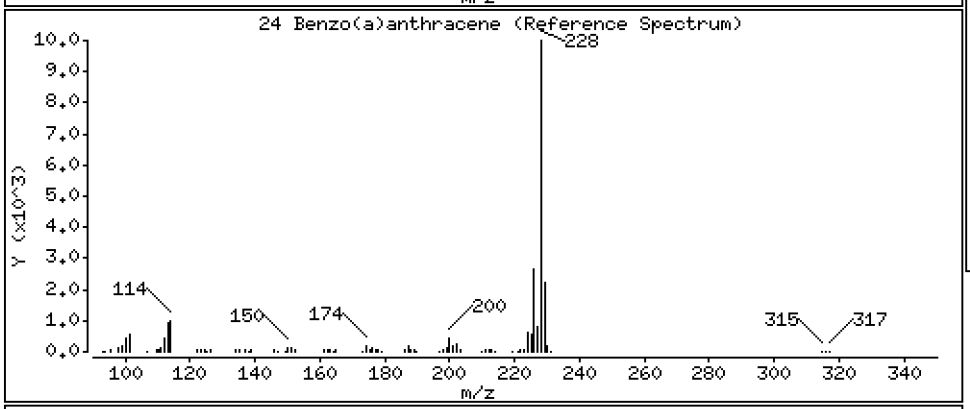
Concentration: 2.502 ug/mL

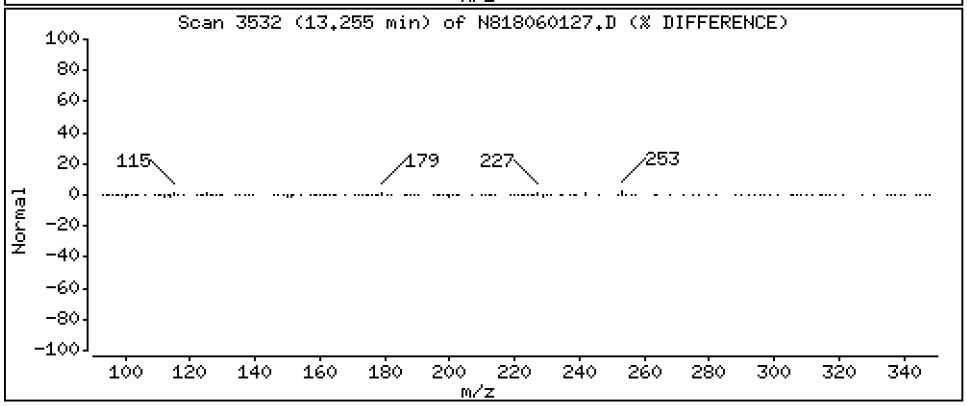












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

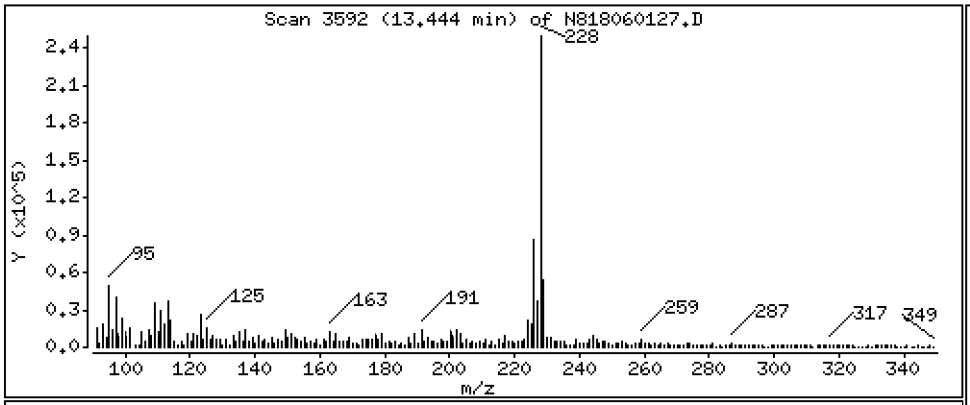
Operator: JZ

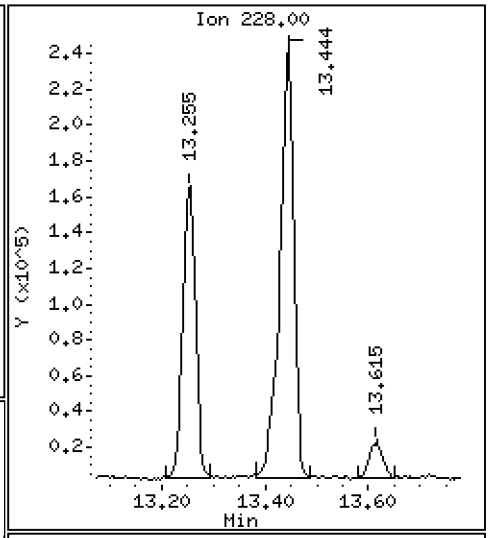
Column phase: Rxi-17sil

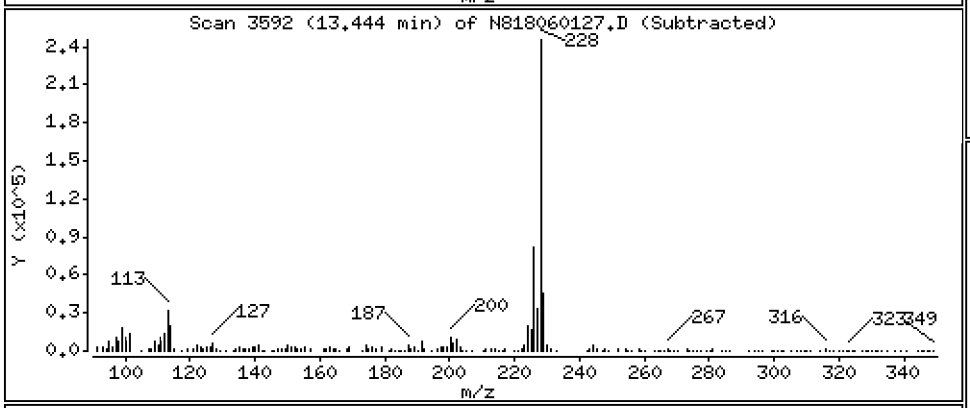
Column diameter: 0.25

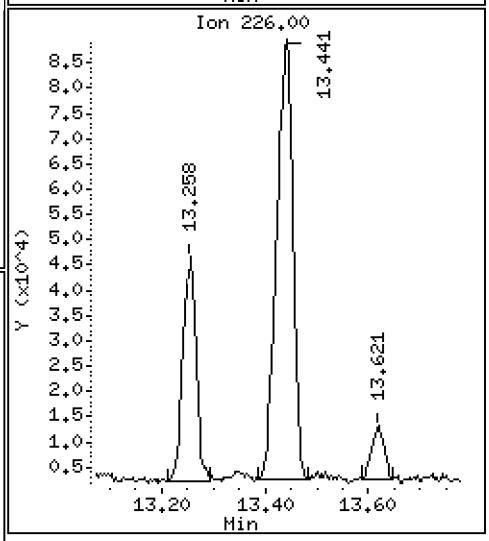
27 Chrysene

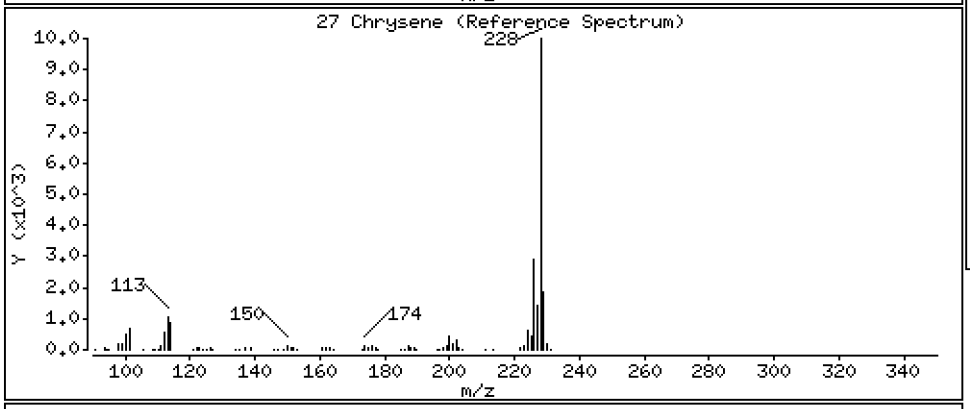
Concentration: 3.929 ug/mL

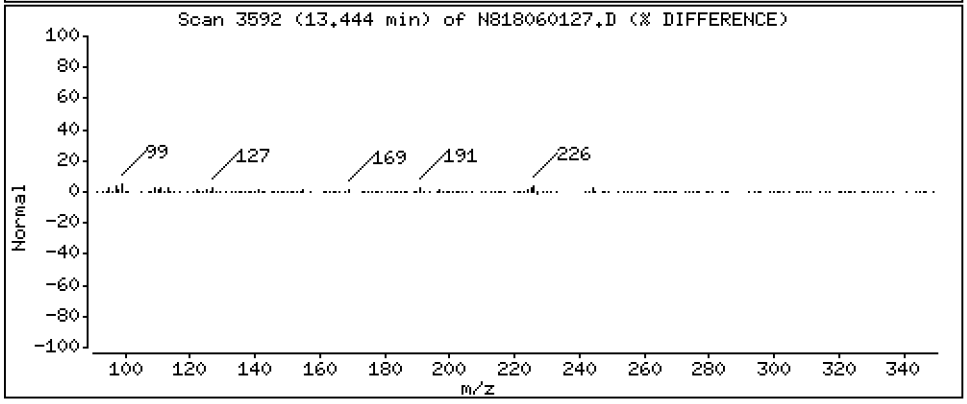












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

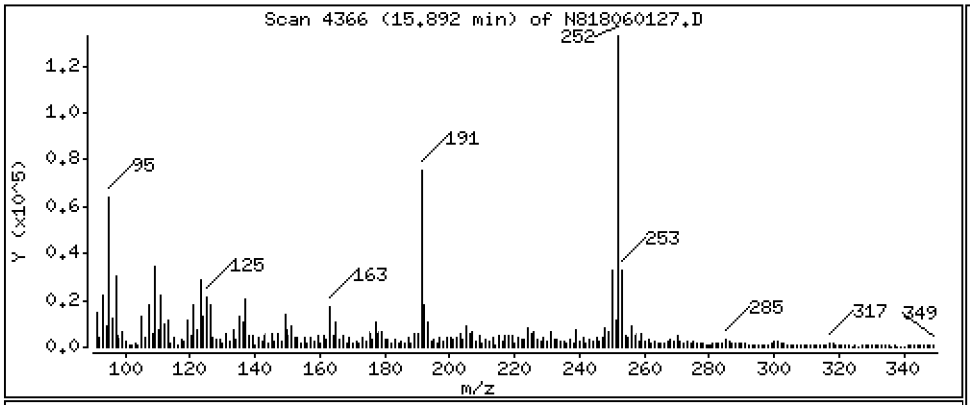
Operator: JZ

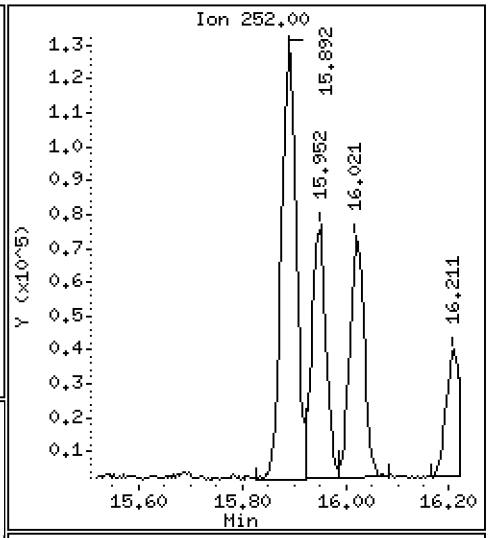
Column phase: Rxi-17sil

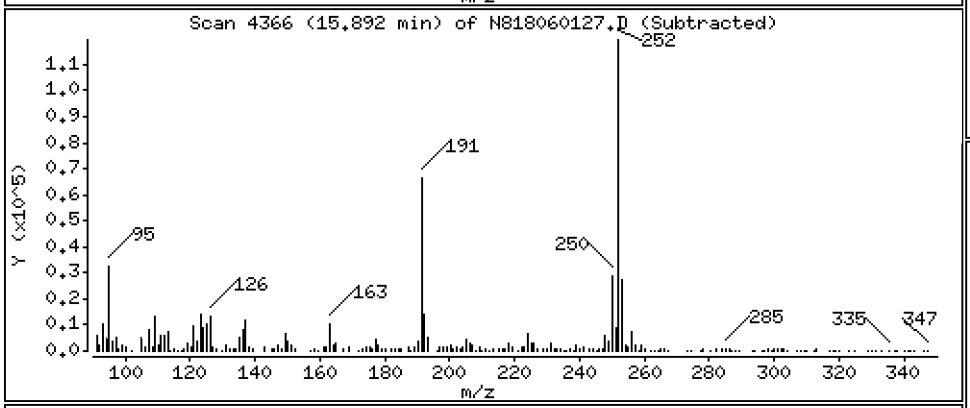
Column diameter: 0.25

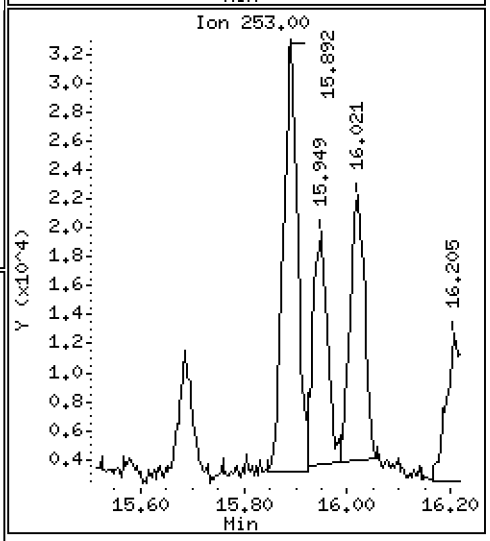
28 Benzo(b)fluoranthene

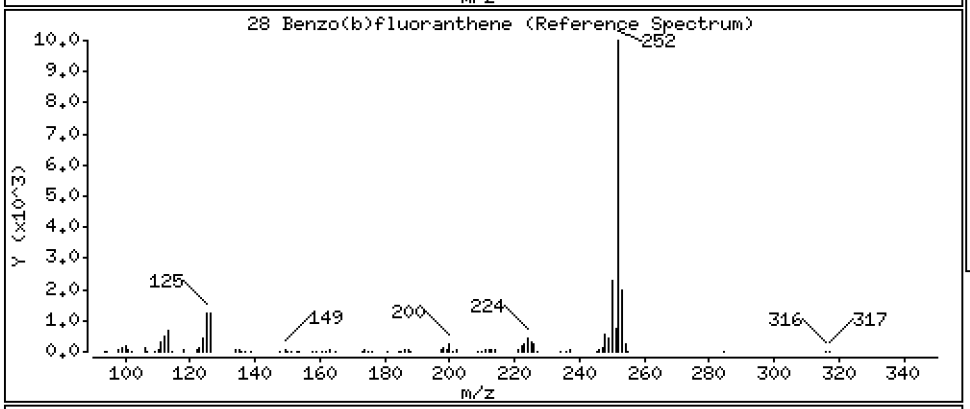
Concentration: 2.016 ug/mL

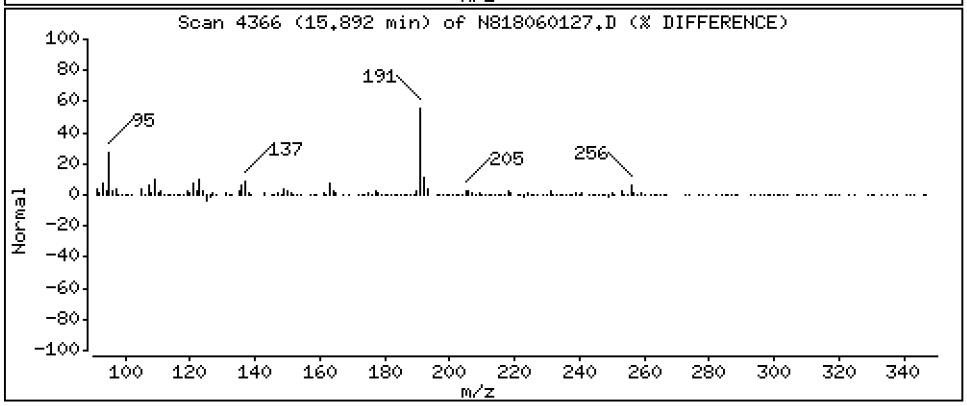












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

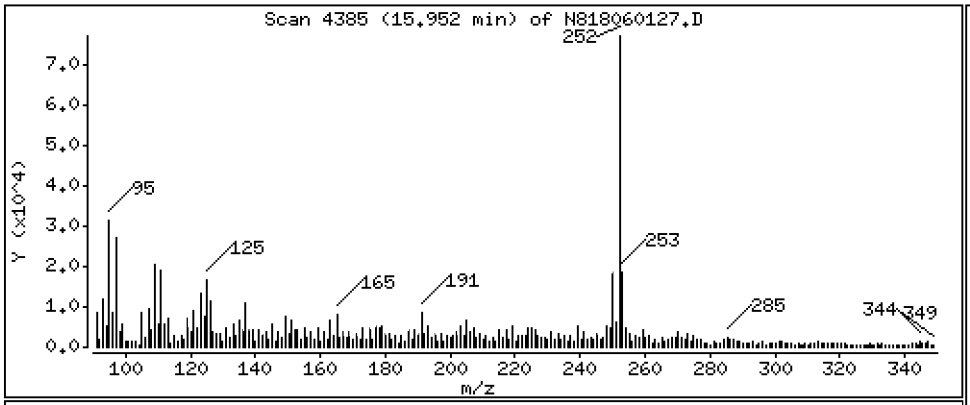
Operator: JZ

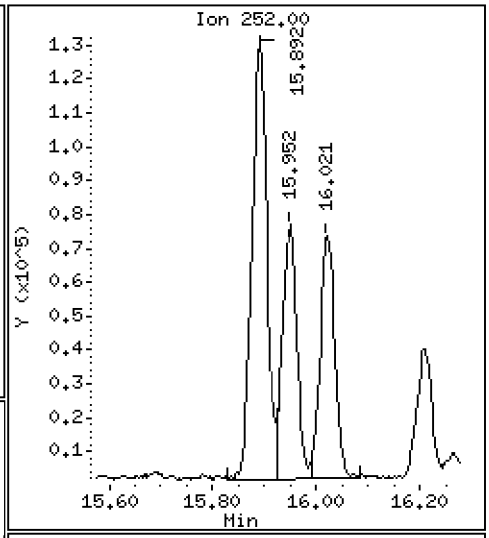
Column phase: Rxi-17sil

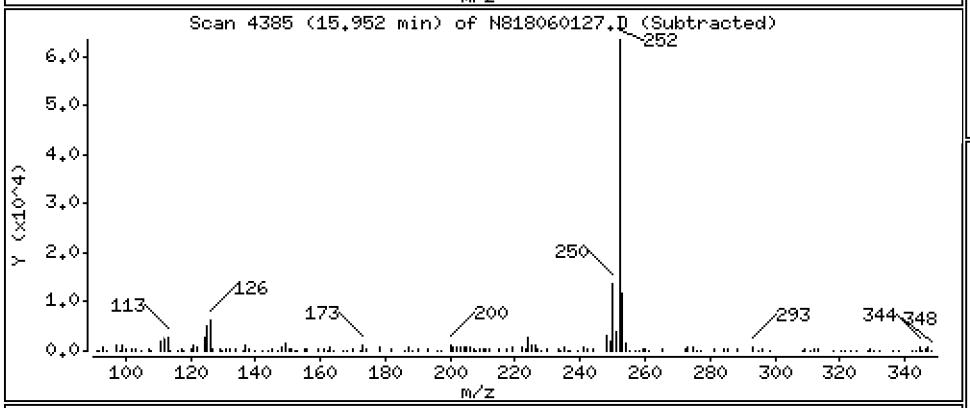
Column diameter: 0.25

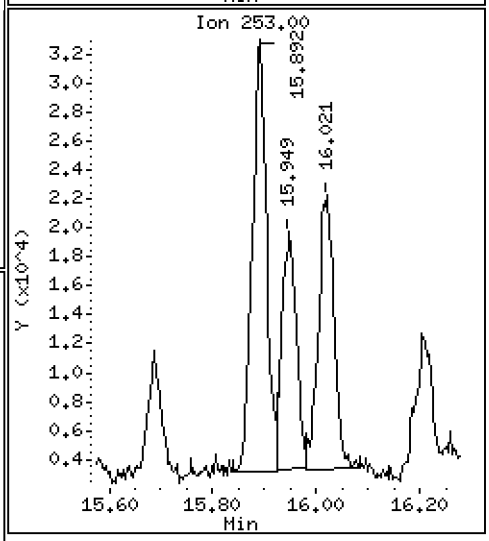
29 Benzo(k)fluoranthene

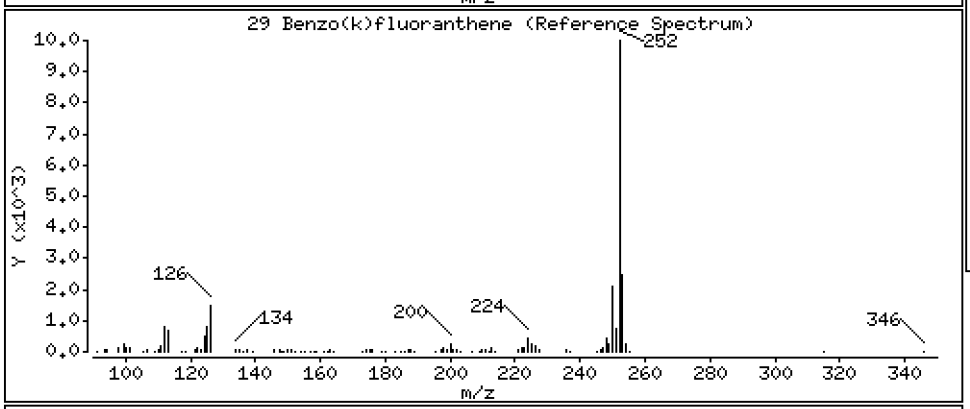
Concentration: 1.153 ug/mL

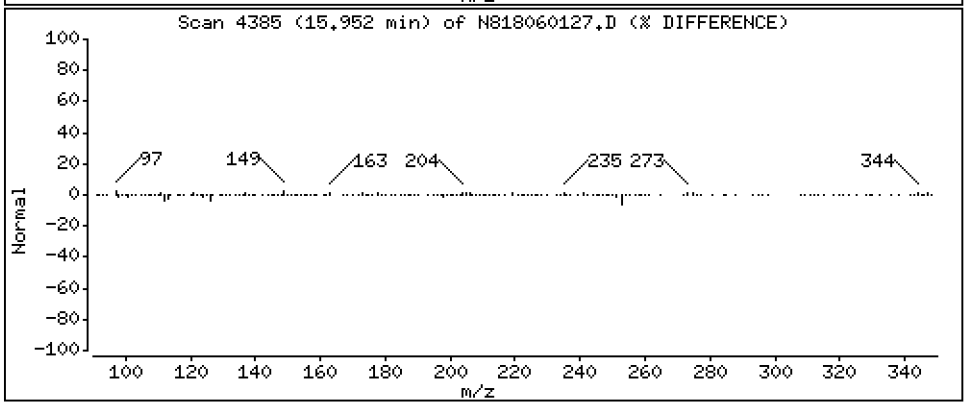












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

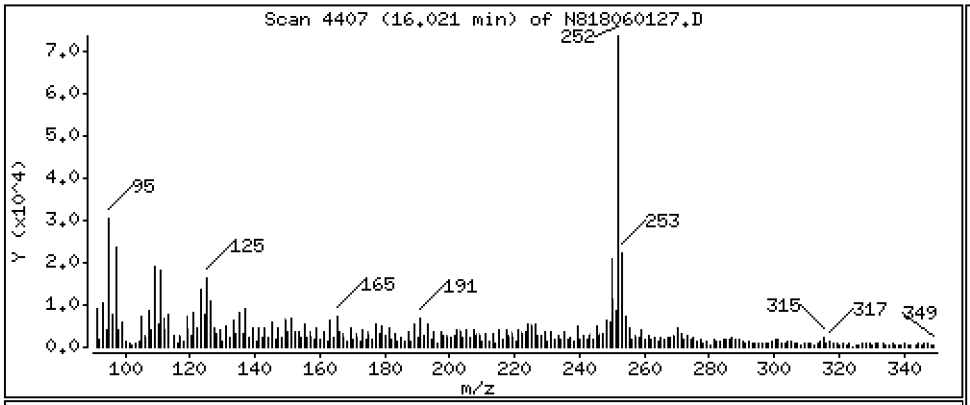
Operator: JZ

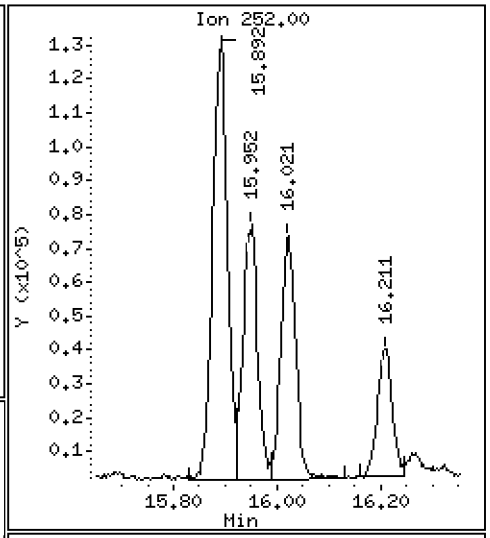
Column phase: Rxi-17sil

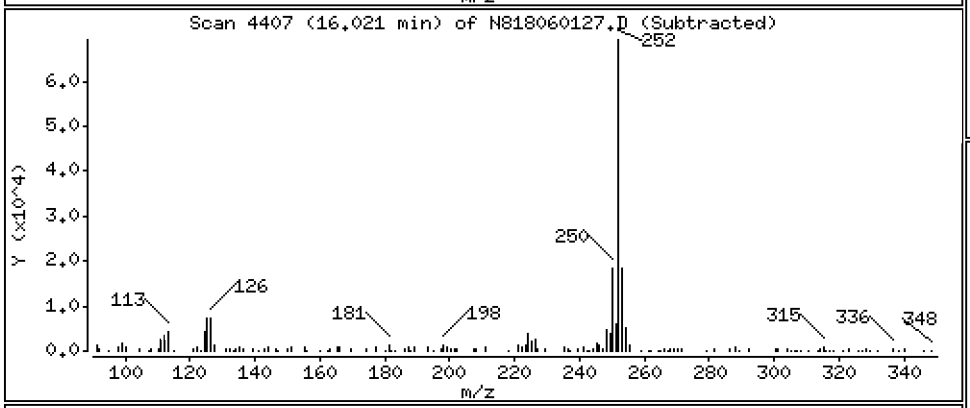
Column diameter: 0.25

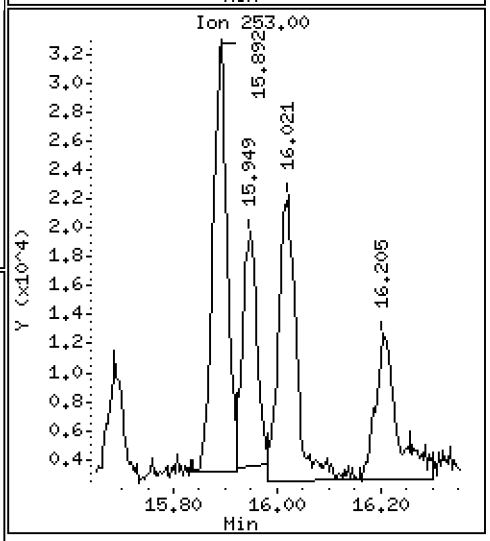
30 Benzo(j)fluoranthene

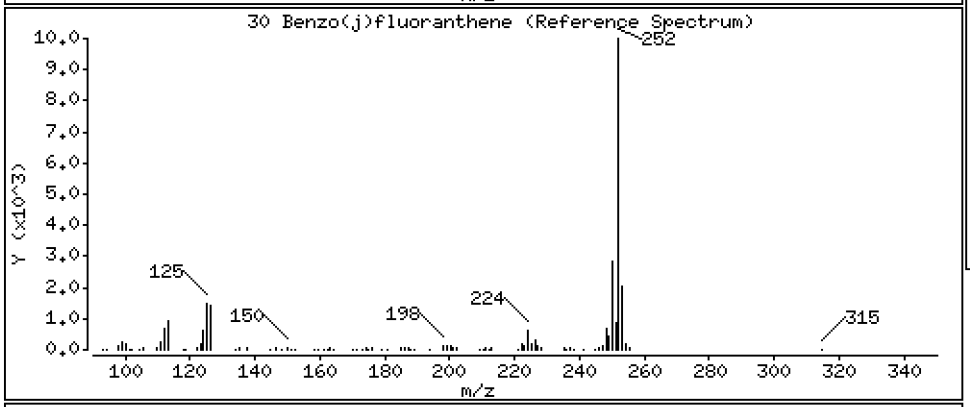
Concentration: 1.126 ug/mL

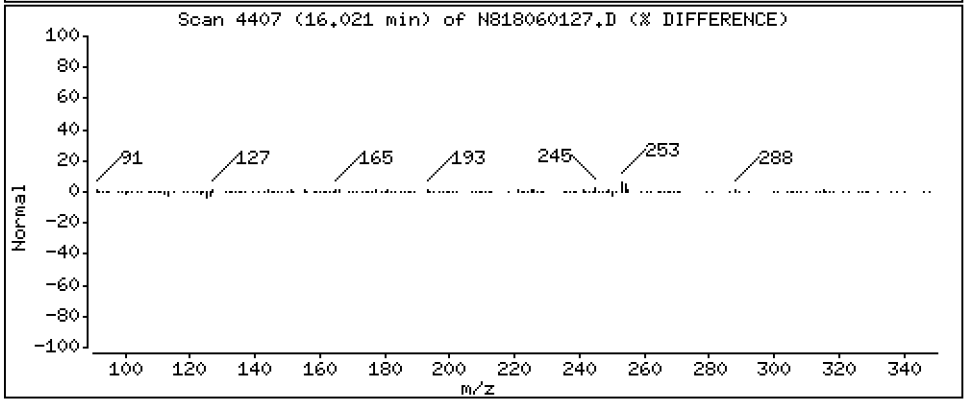












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

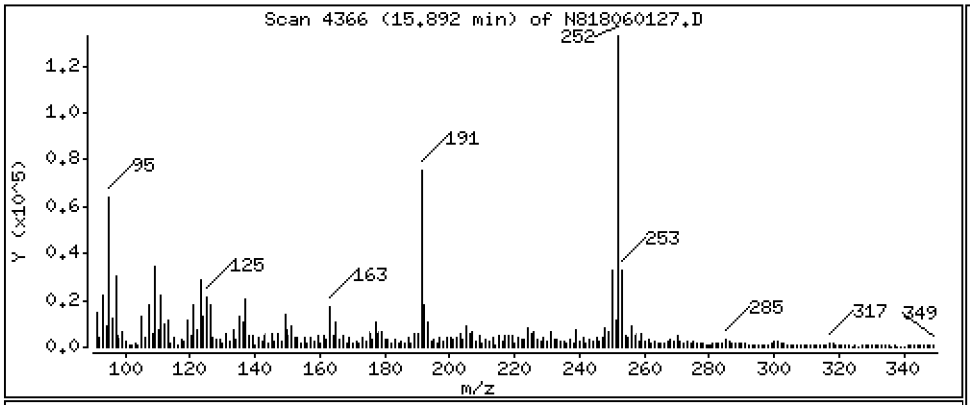
Operator: JZ

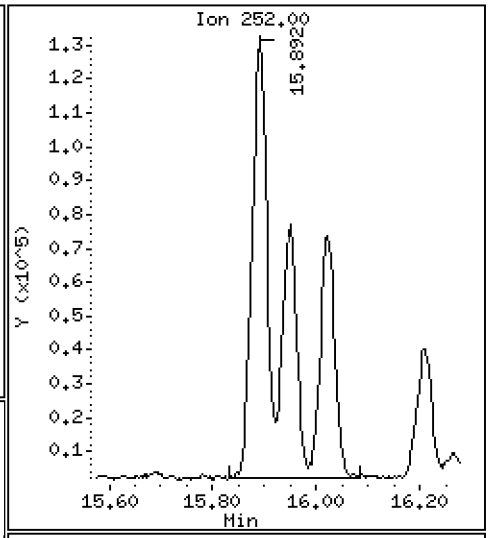
Column phase: Rxi-17sil

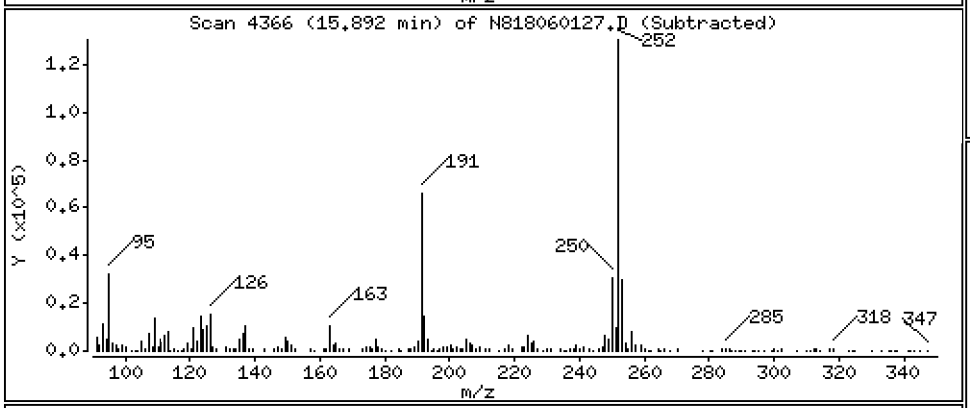
Column diameter: 0.25

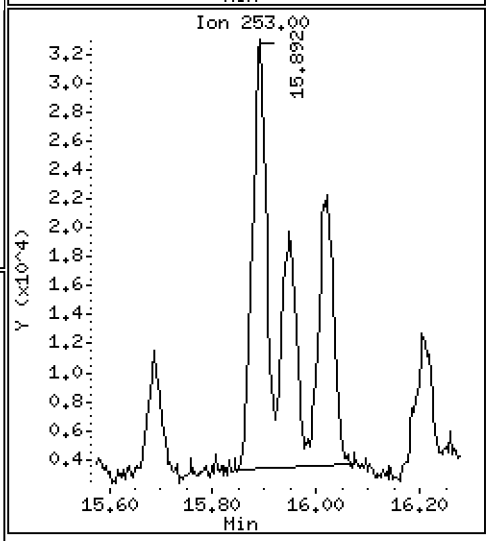
31 Total Benzofluoranthenes

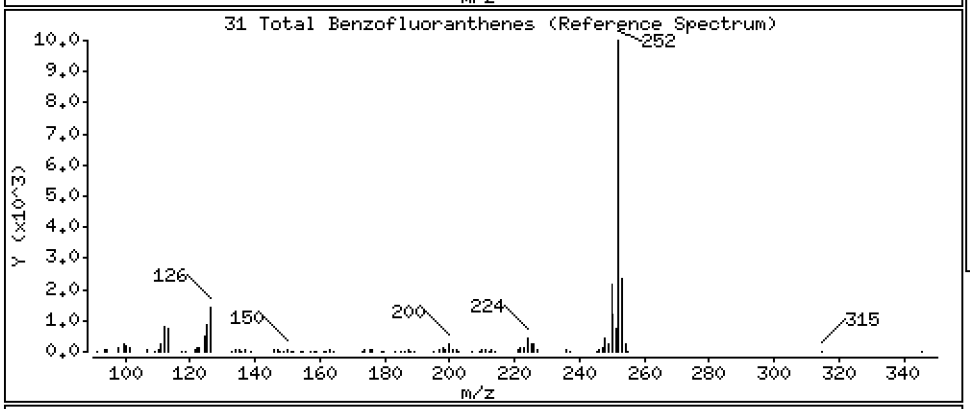
Concentration: 4.260 ug/mL

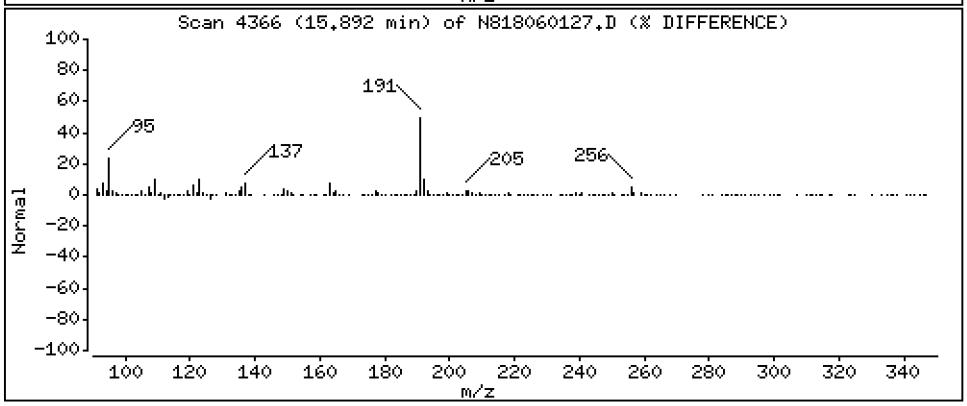












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

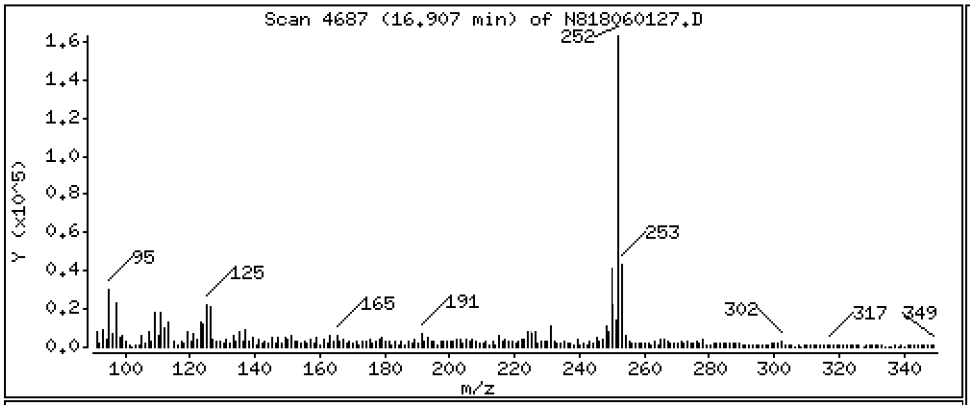
Operator: JZ

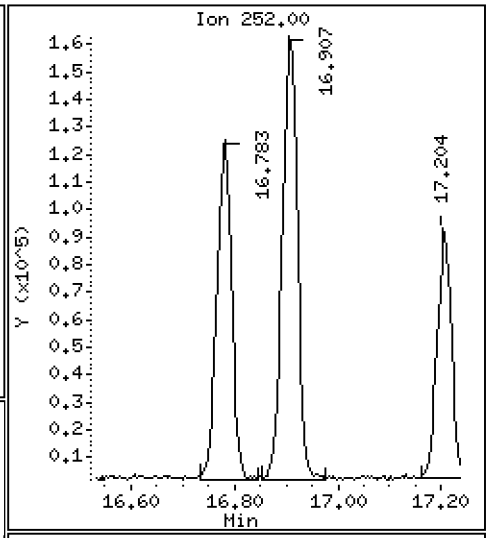
Column phase: Rxi-17sil

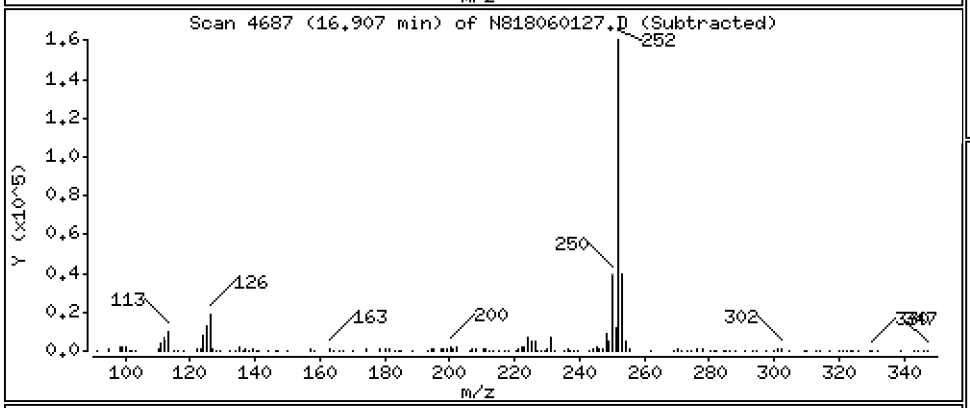
Column diameter: 0.25

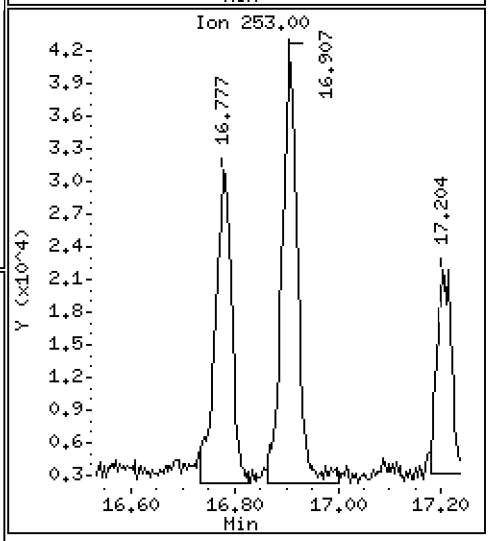
32 Benzo(a)pyrene

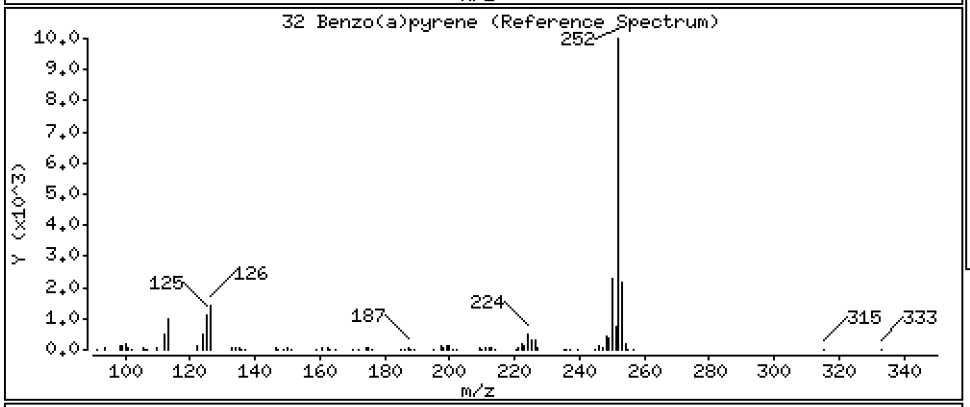
Concentration: 2.927 ug/mL

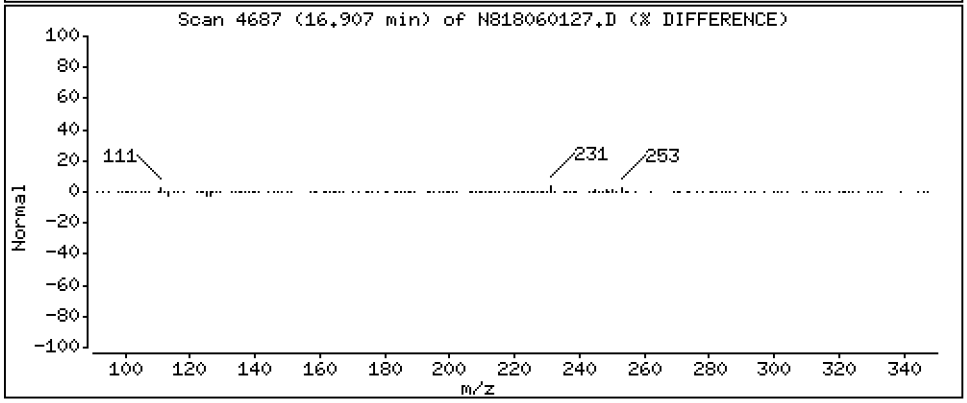












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

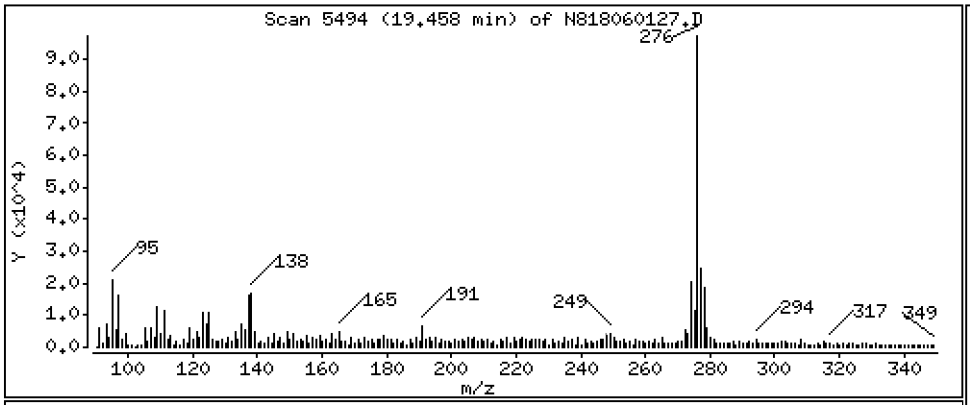
Operator: JZ

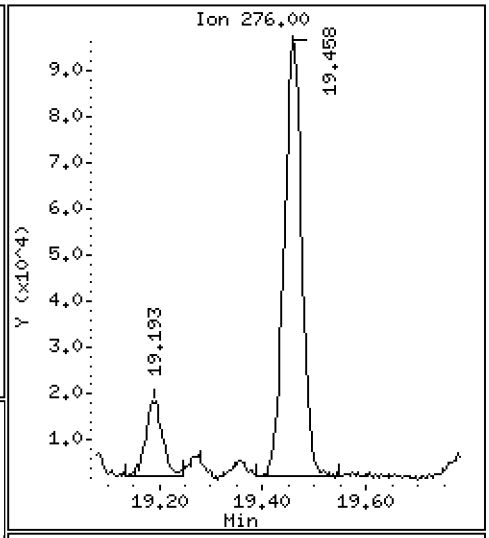
Column phase: Rxi-17sil

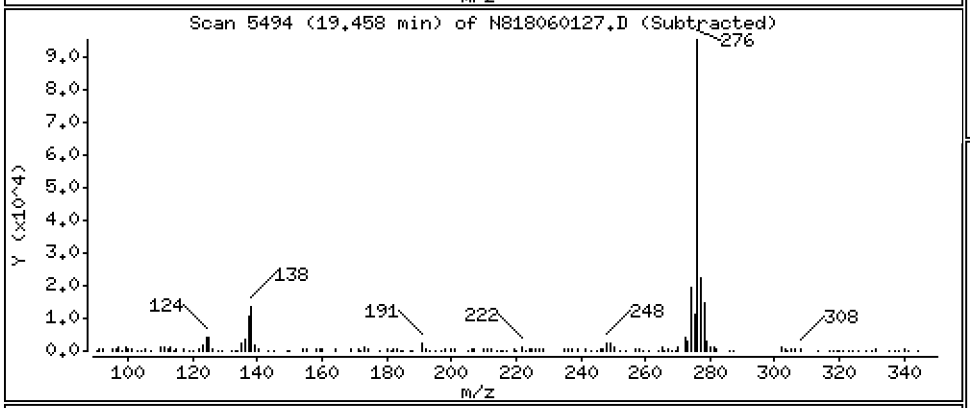
Column diameter: 0.25

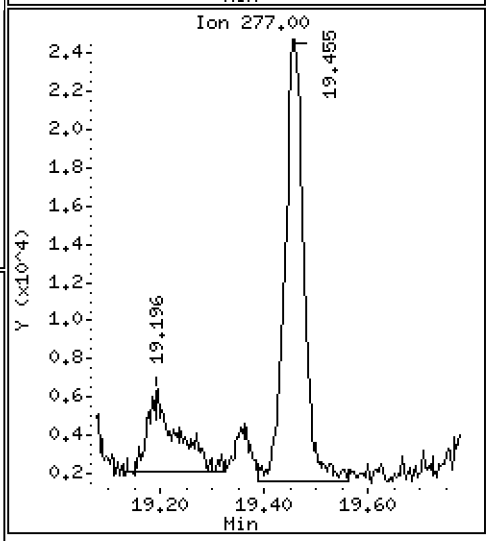
37 Indeno(1,2,3-cd)pyrene

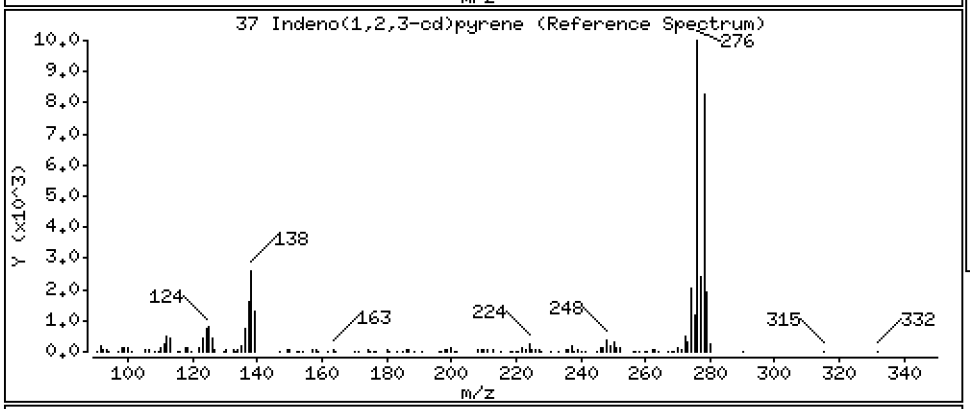
Concentration: 1.731 ug/mL

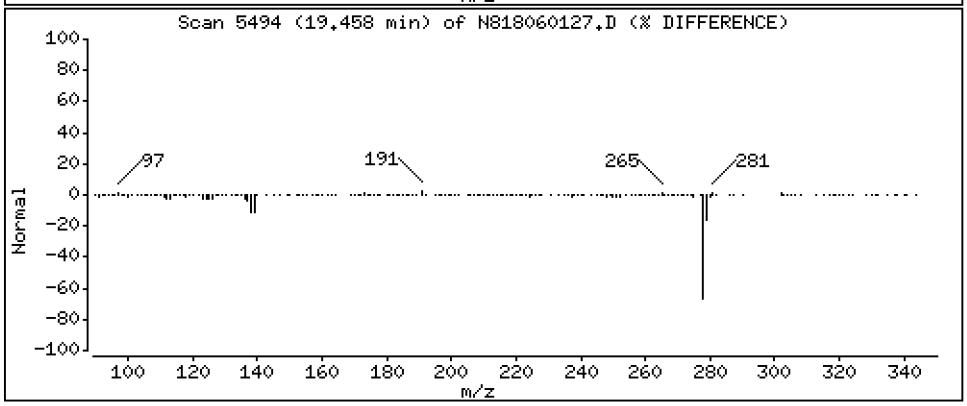












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

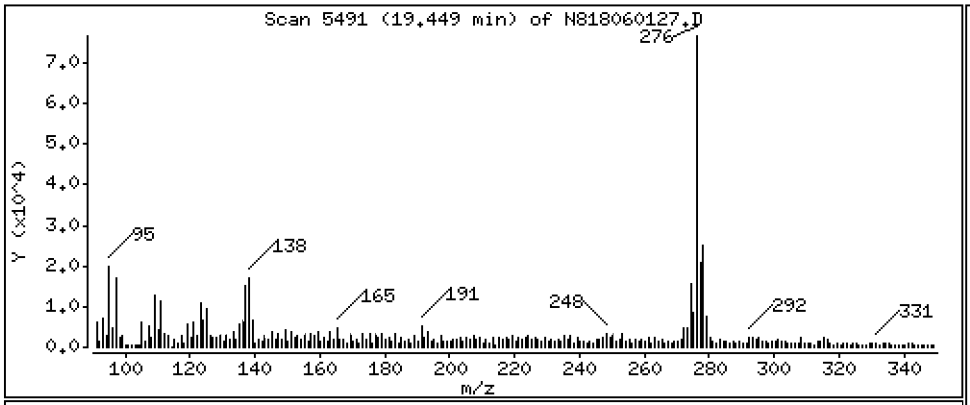
Operator: JZ

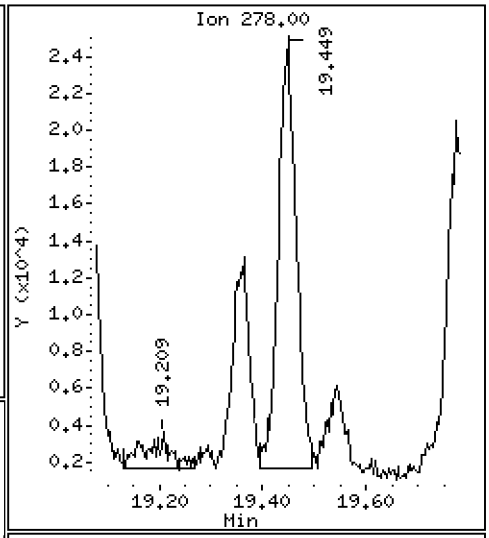
Column phase: Rxi-17sil

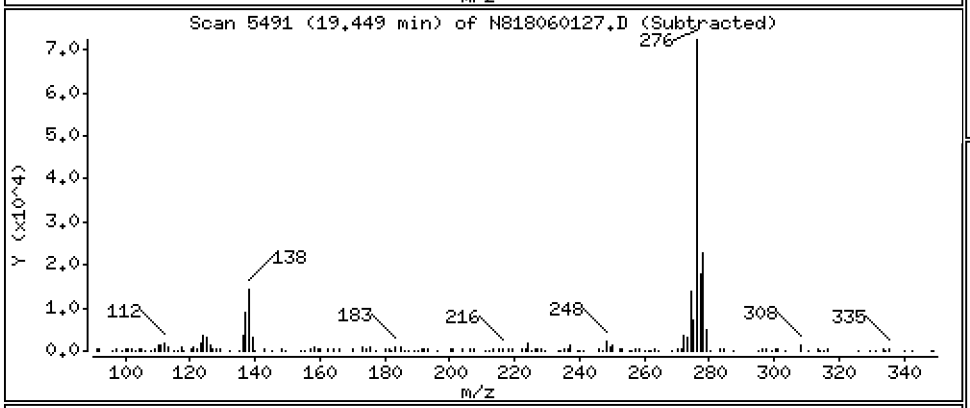
Column diameter: 0.25

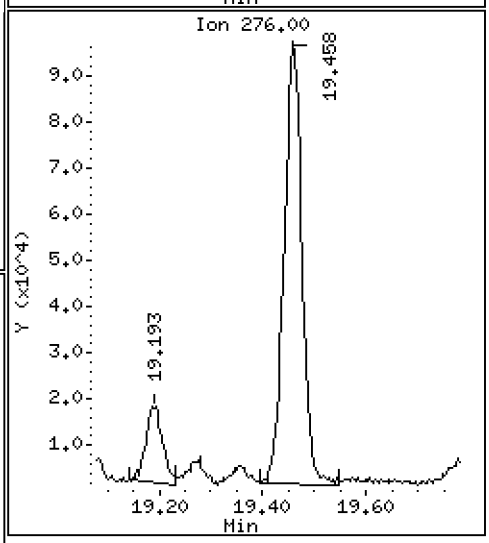
38 Dibenzo(a,h)anthracene

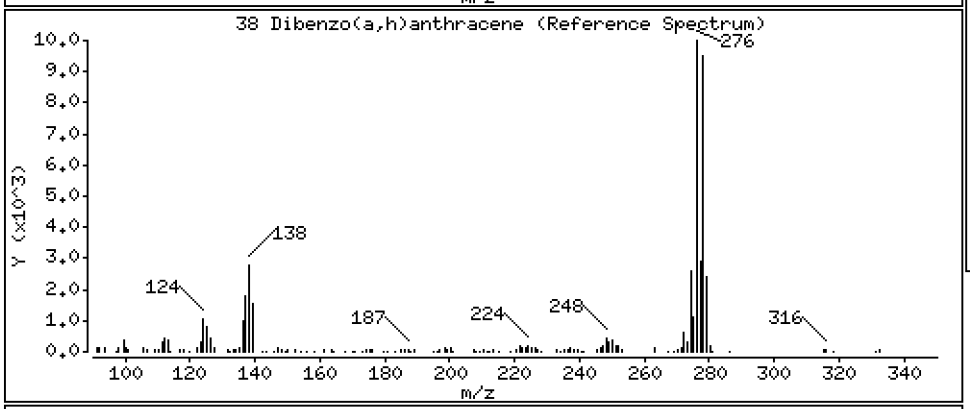
Concentration: 0.5303 ug/mL

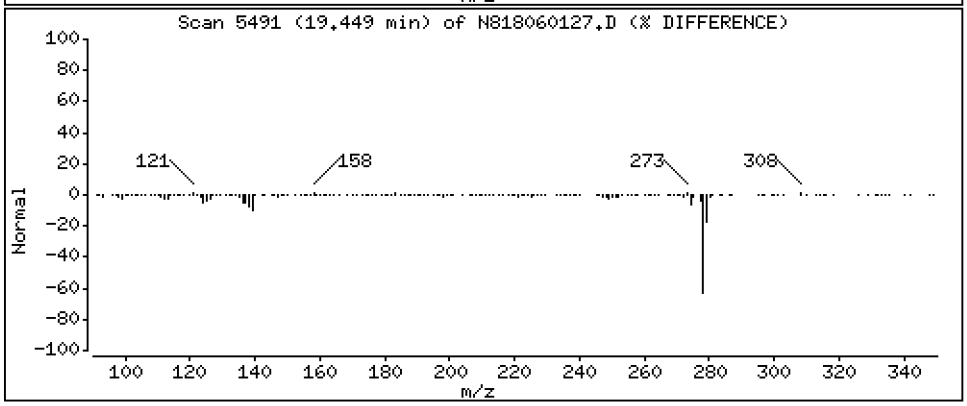












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

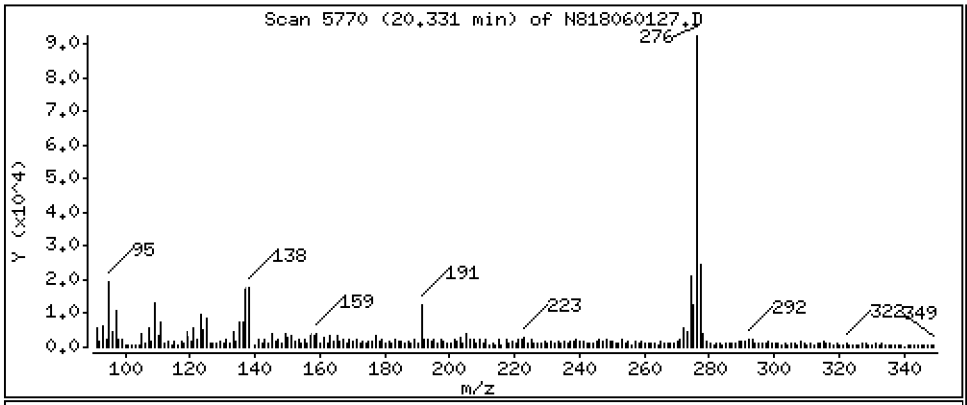
Operator: JZ

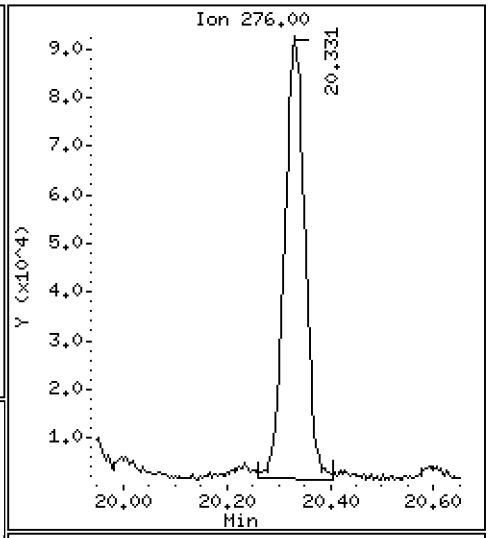
Column phase: Rxi-17sil

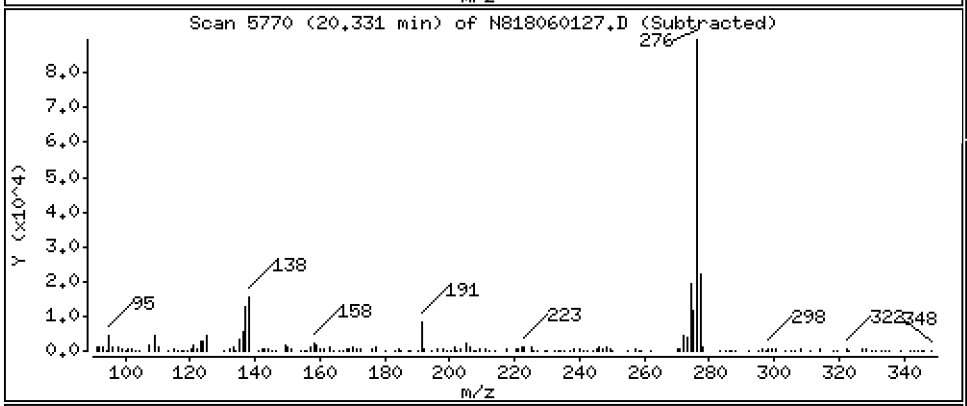
Column diameter: 0.25

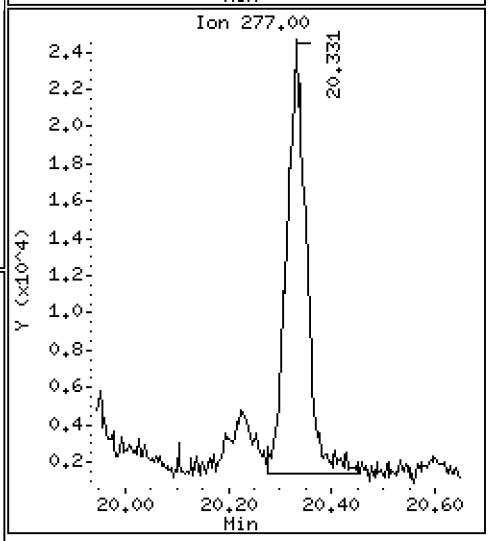
39 Benzo(g,h,i)perylene

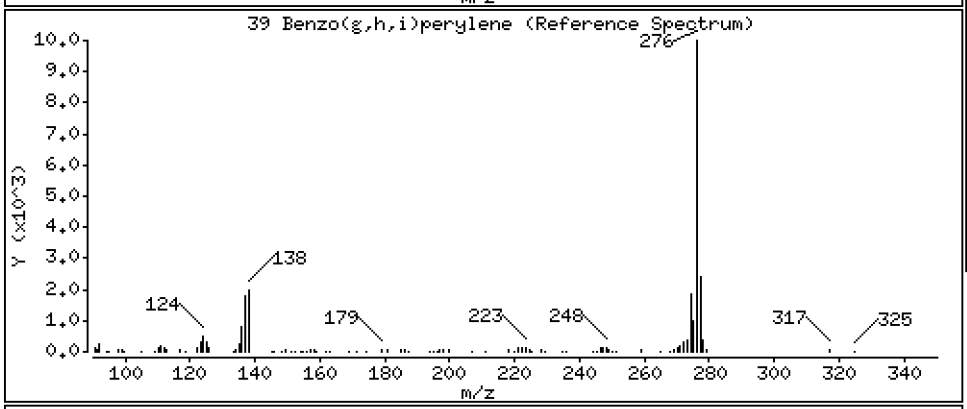
Concentration: 2.202 ug/mL

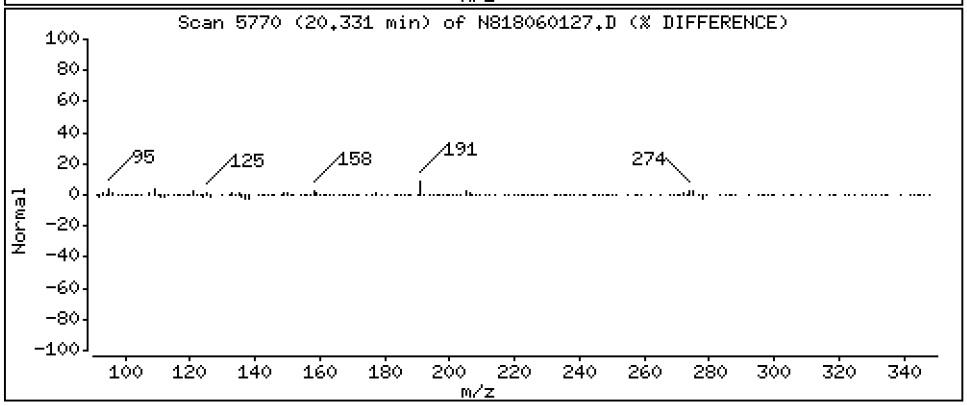












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060127.D

Date : 02-JUN-2018 02:01

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-02

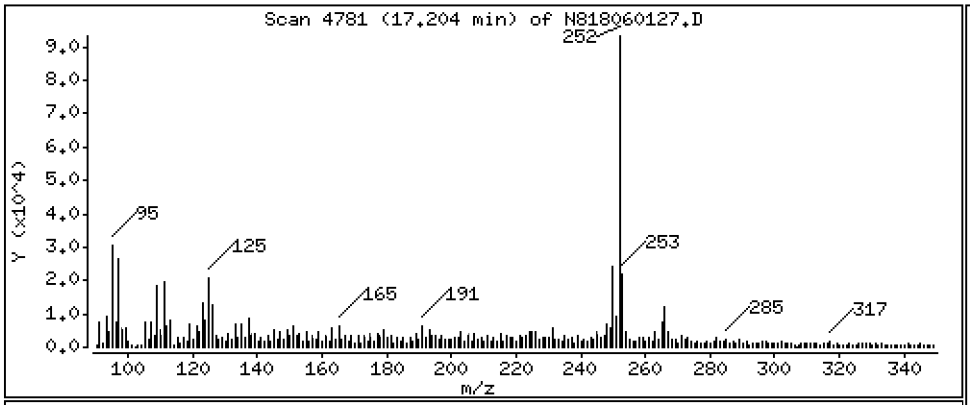
Operator: JZ

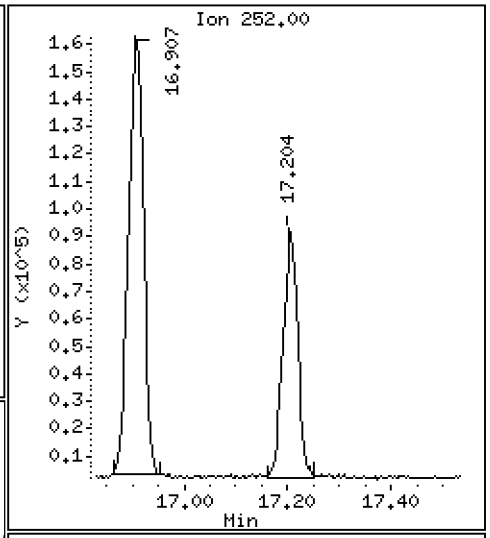
Column phase: Rxi-17sil

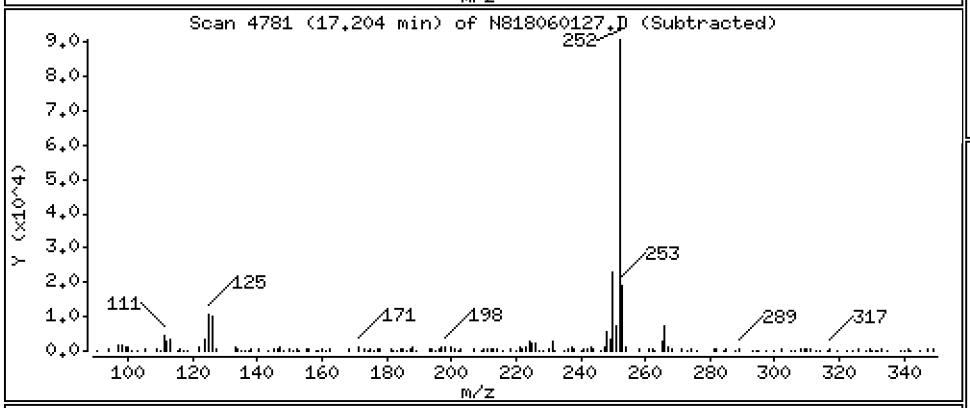
Column diameter: 0.25

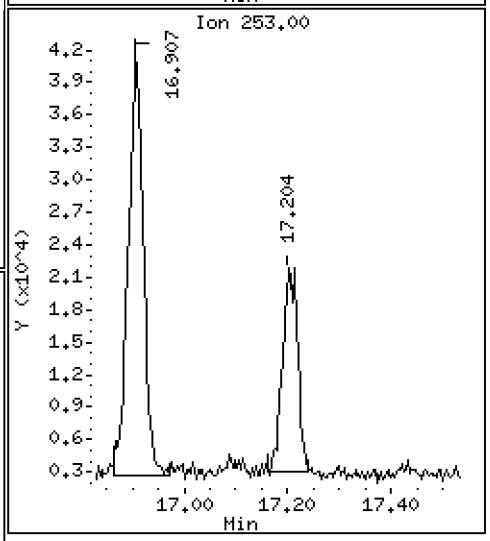
35 Perylene

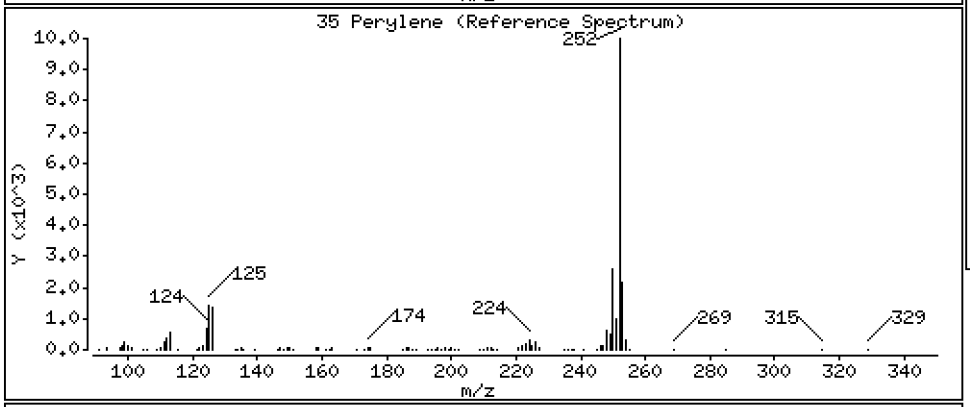
Concentration: 1.424 ug/mL

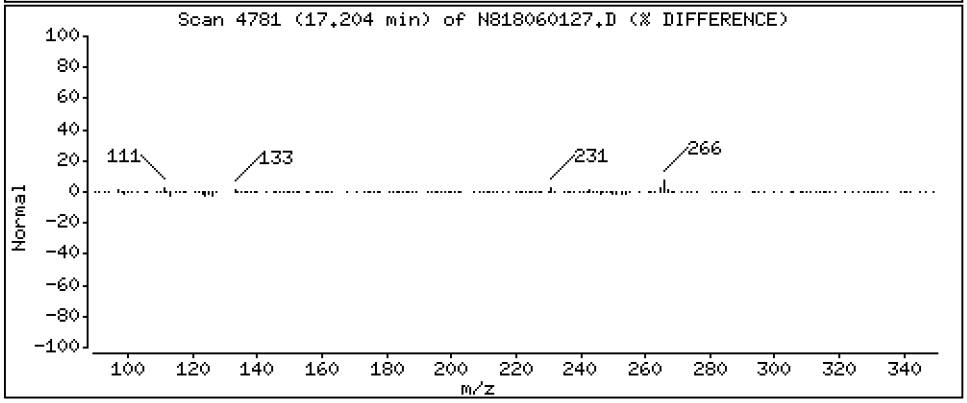












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060127.D
Lab Smp Id: 18E0309-02
Inj Date : 02-JUN-2018 02:01
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0309-02
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.458	4.464	(1.000)	191669	2.00000	
	2 Naphthalene	128	4.486	4.492	(1.006)	116879	1.04927	1.049
$	3 2-Methylnaphthalene-d10	152	5.191	5.191	(1.165)	87723	1.25464	1.255
	4 2-Methylnaphthalene	141	5.235	5.242	(1.174)	39229	0.62526	0.6253
	5 1-methylnaphthalene	141	5.431	5.432	(1.218)	21457	0.33225	0.3323
	9 Acenaphthylene	152	6.617	6.617	(0.984)	89905	0.93996	0.9400
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	96336	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.007)	18013	0.24566	0.2457
	12 Dibenzofuran	168	6.930	6.927	(1.030)	32857	0.33327	0.3333
	14 Fluorene	166	7.401	7.402	(1.100)	40813	0.53576	0.5358
*	15 Phenanthrene-d10	188	8.748	8.745	(1.000)	179161	2.00000	
	16 Phenanthrene	178	8.783	8.780	(1.004)	202946	1.84817	1.848
	17 Anthracene	178	8.824	8.821	(1.009)	123308	1.23245	1.232
	22 Fluoranthene	202	10.443	10.434	(1.194)	438266	3.54139	3.541
$	21 Fluoranthene-d10	212	10.408	10.402	(1.190)	202169	1.72364	1.724
	23 Pyrene	202	10.914	10.902	(0.816)	602271	5.05376	5.054
	24 Benzo(a)anthracene	228	13.254	13.239	(0.991)	288273	2.50197	2.502
*	25 Chrysene-d12	240	13.371	13.356	(1.000)	198306	2.00000	
	27 Chrysene	228	13.444	13.425	(1.005)	455738	3.92938	3.929
	28 Benzo(b)fluoranthene	252	15.891	15.869	(0.927)	260890	2.01628	2.016
	29 Benzo(k)fluoranthene	252	15.951	15.926	(0.931)	146675	1.15280	1.153
	30 Benzo(j)fluoranthene	252	16.021	16.002	(0.935)	143428	1.12583	1.126
	31 Total Benzofluoranthenes	252	15.891	15.926	(0.927)	537597	4.26020	4.260(M)
	32 Benzo(a)pyrene	252	16.906	16.884	(0.987)	331923	2.92683	2.927
*	33 Perylene-d12	264	17.134	17.112	(1.000)	203597	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.458	19.430	(1.136)	224733	1.73093	1.731
$	36 Dibenzo(a,h)anthracene-d14	292	19.360	19.338	(1.130)	194094	2.03531	2.035
	38 Dibenzo(a,h)anthracene	278	19.449	19.430	(1.135)	56800	0.53035	0.5303
	39 Benzo(g,h,i)perylene	276	20.331	20.299	(1.187)	249912	2.20239	2.202
	35 Perylene	252	17.204	17.181	(1.004)	175331	1.42384	1.424

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060127.D
Lab Smp Id: 18E0309-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	191669	56.86
10 Acenaphthene-d10	65789	32895	131578	96336	46.43
15 Phenanthrene-d10	128644	64322	257288	179161	39.27
25 Chrysene-d12	166669	83335	333338	198306	18.98
33 Perylene-d12	140483	70242	280966	203597	44.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.14
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.03
25 Chrysene-d12	13.36	12.86	13.86	13.37	0.12
33 Perylene-d12	17.11	16.61	17.61	17.13	0.13

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060127.D

Lab ID: 18E0309-02
nt8.i, 20180601.b\FSIMPNA180305.m,   02-JUN-2018 02:01

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

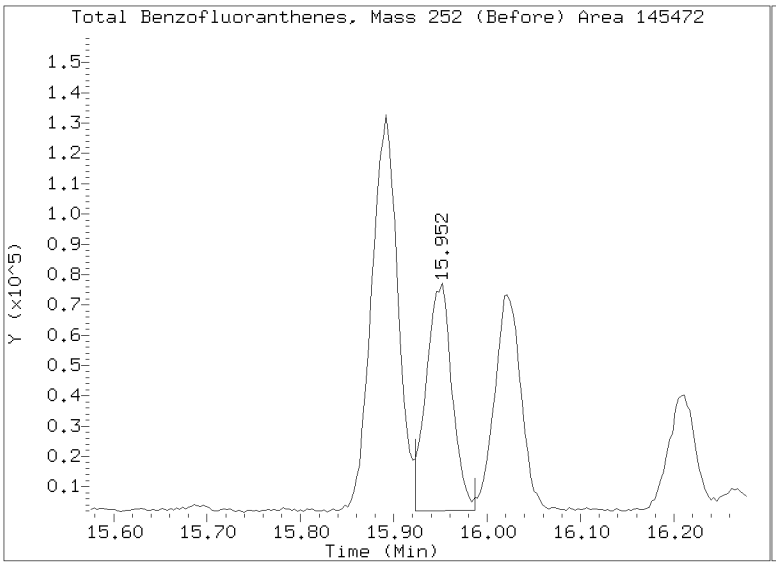
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

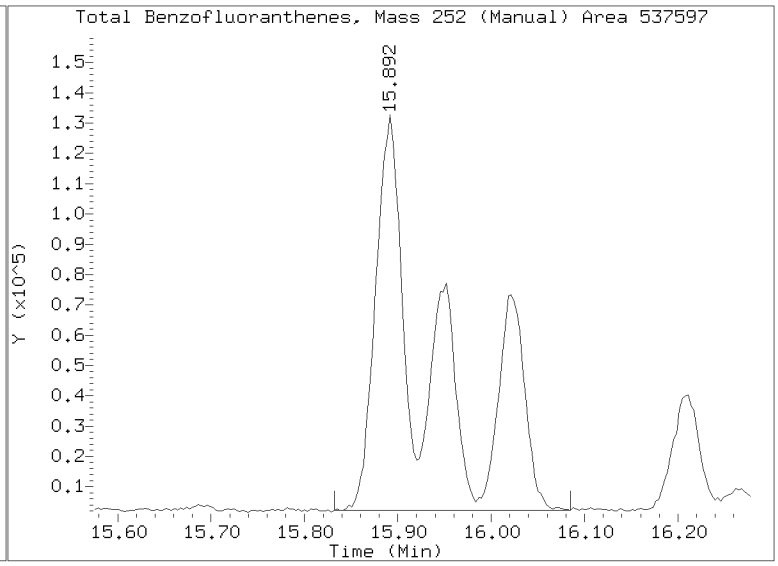
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060127.D
Injection Date: 02-JUN-2018 02:01
Lab ID:18E0309-02 Client ID:
Report Date: 06/04/2018 11:37





LDW18-A07-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-03	SDG:	18E0231
Sampled:	05/19/18 14:50	Prepared:	06/05/18 12:40	File ID:	N818061218.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 22:06
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.12 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.05	J	0.53	4.94
218-01-9	Chrysene	1	5.08		0.48	4.94
205-99-2	Benzo(b)fluoranthene	1	2.42	J	0.99	4.94
207-08-9	Benzo(k)fluoranthene	1	4.94	U	0.71	4.94
50-32-8	Benzo(a)pyrene	1	4.94	U	0.90	4.94
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.94	U	0.57	4.94
53-70-3	Dibenzo(a,h)anthracene	1	4.94	U	1.51	4.94

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.22	52.8	35.6	20 - 130	
Dibenzo[a,h]anthracene-d14	148.22	93.6	63.2	20 - 130	
Fluoranthene-d10	148.22	73.5	49.6	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

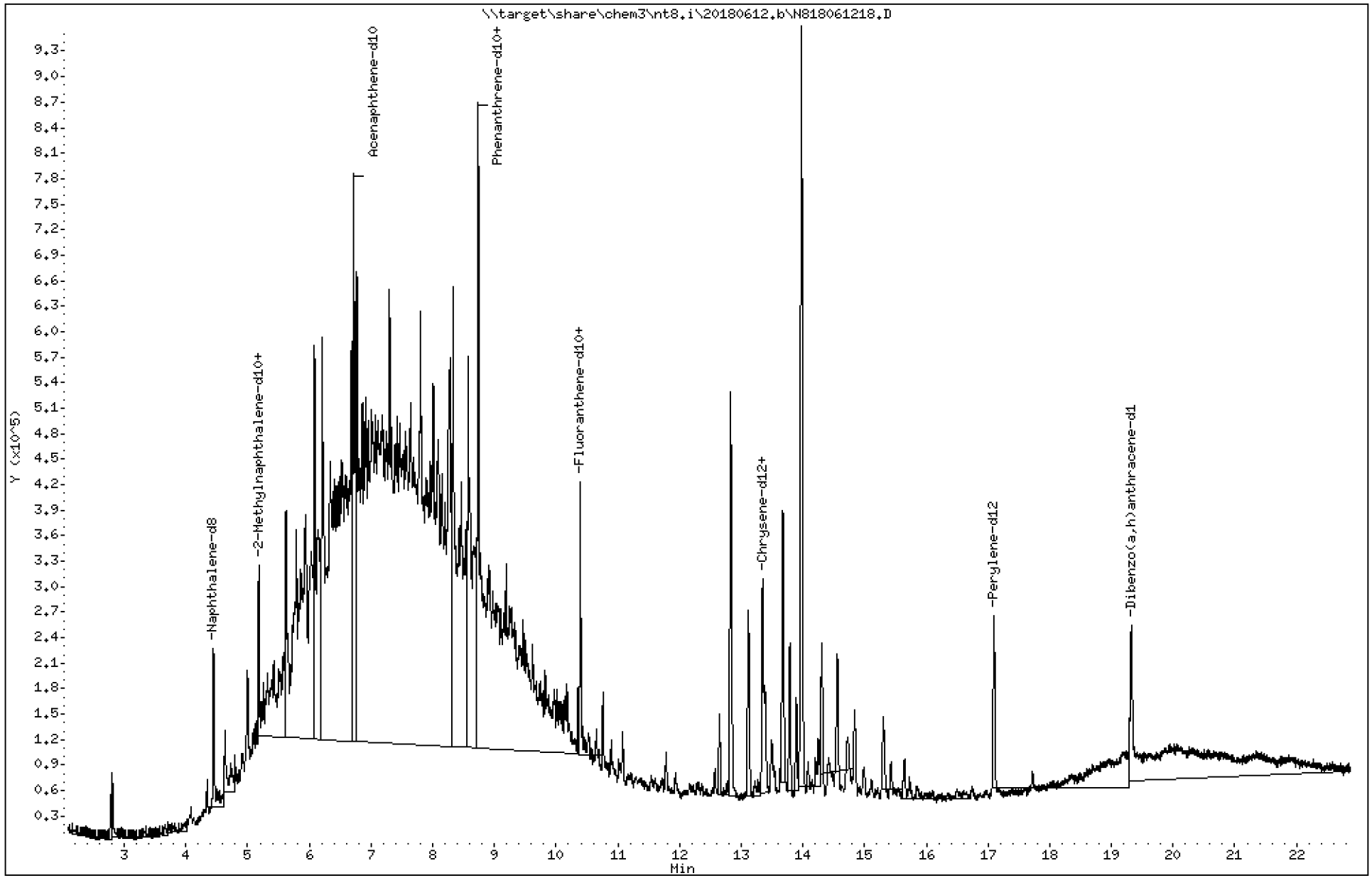
Instrument: nt8.i

Sample Info: 18E0309-03

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

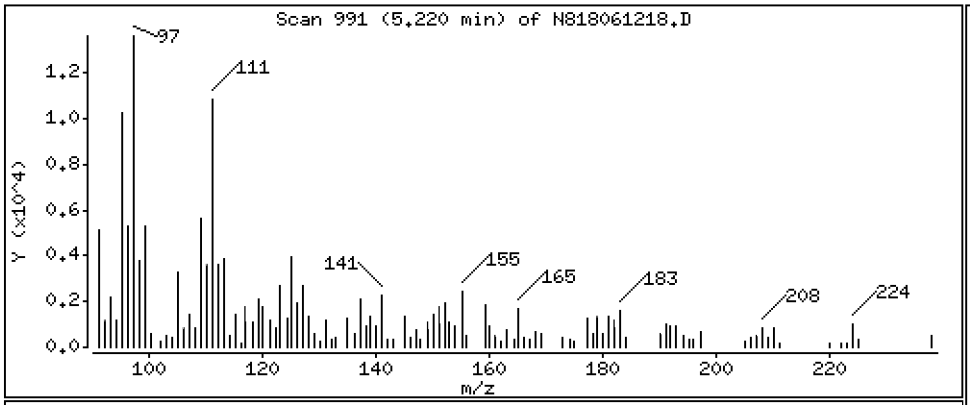
Operator: JZ

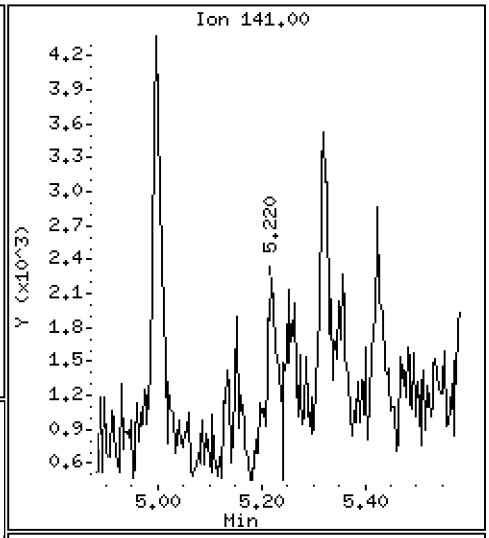
Column phase: Rxi-17sil

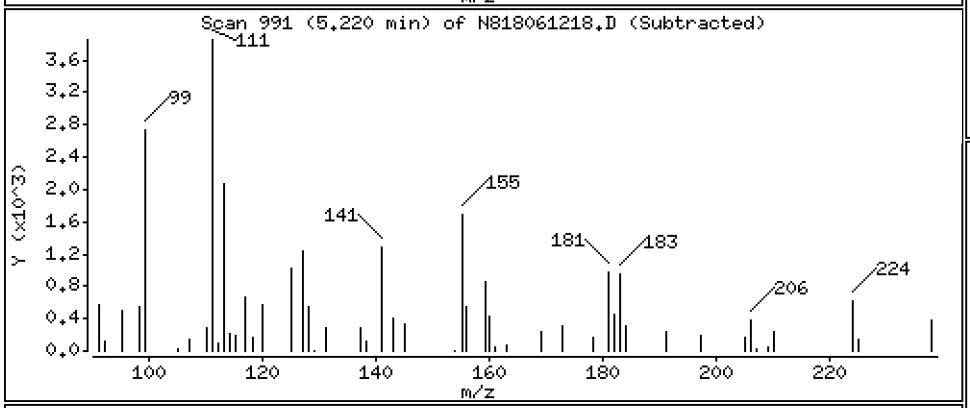
Column diameter: 0.25

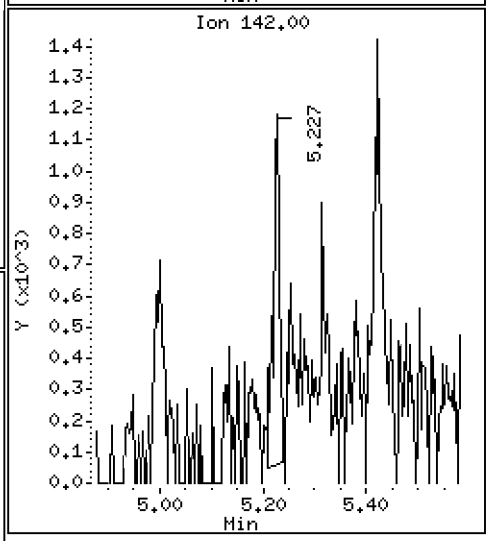
4 2-Methylnaphthalene

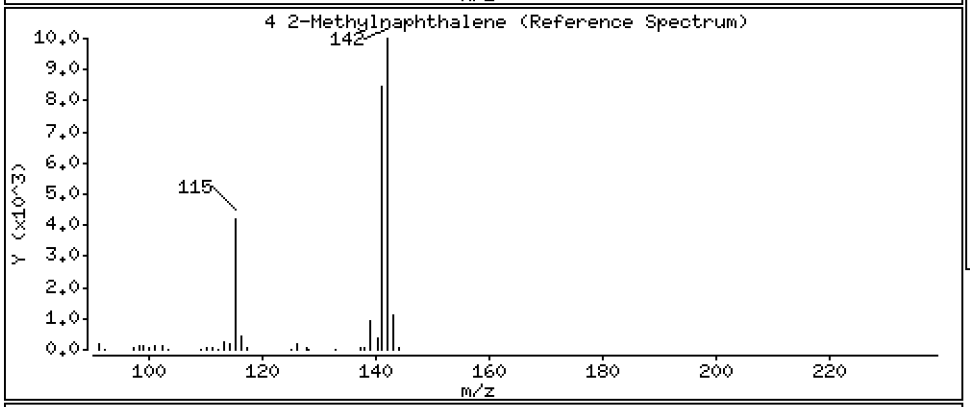
Concentration: 0.05704 ug/mL

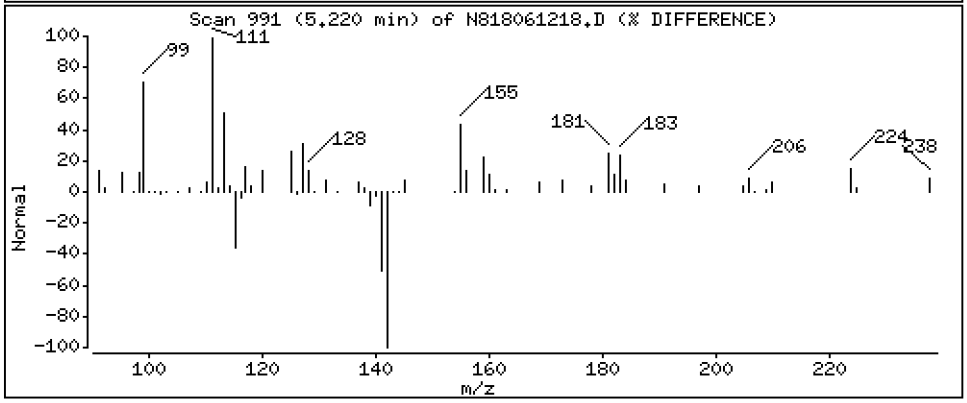












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

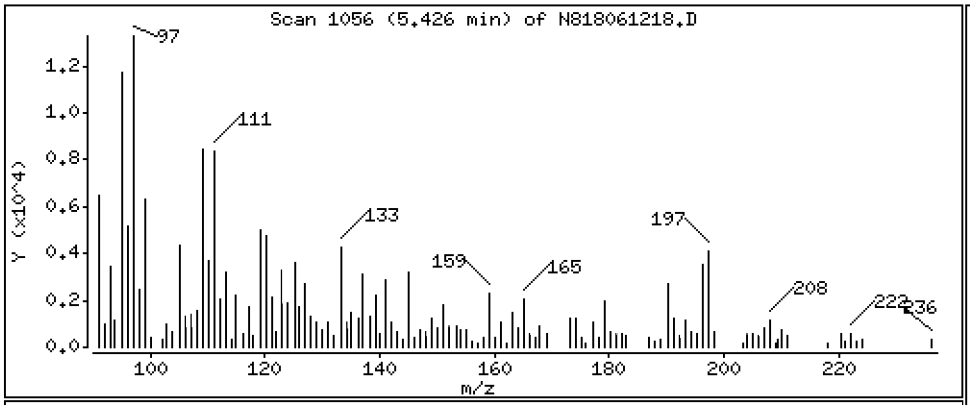
Operator: JZ

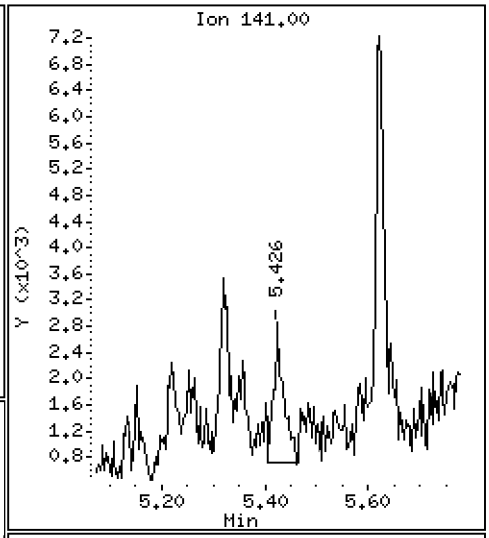
Column phase: Rxi-17sil

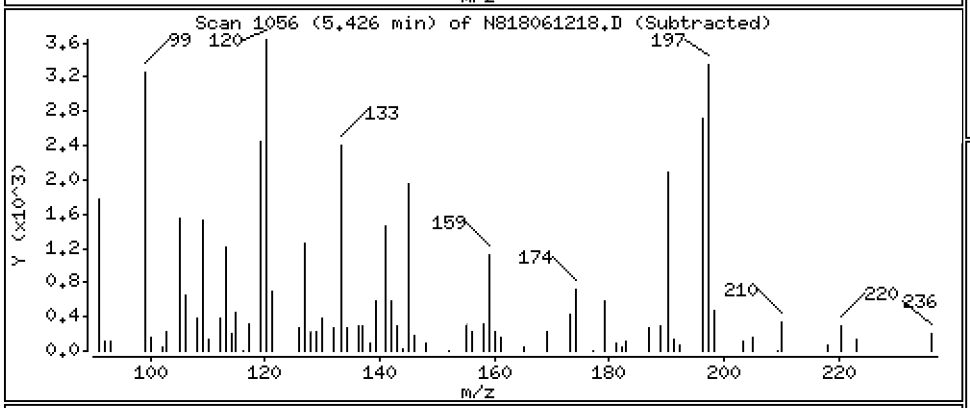
Column diameter: 0.25

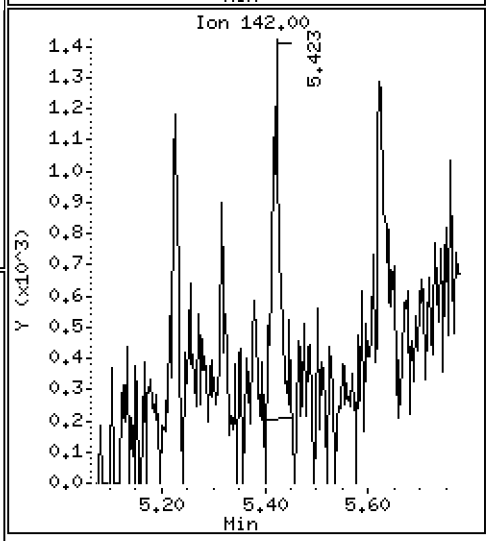
5 1-methylnaphthalene

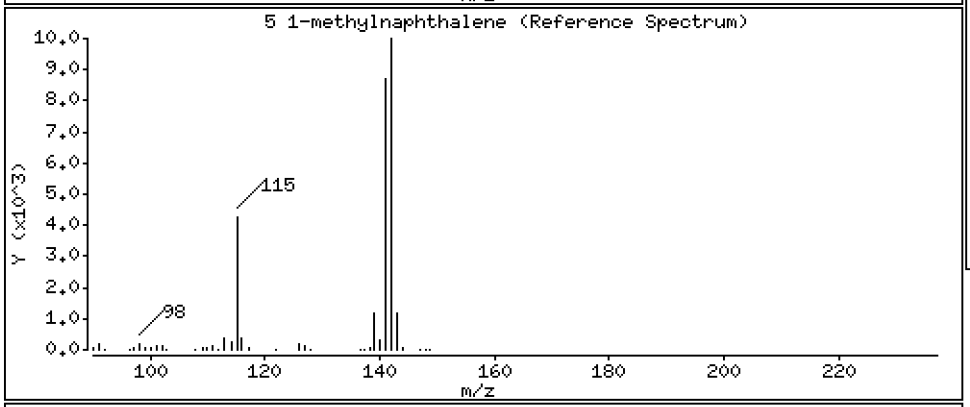
Concentration: 0.05008 ug/mL

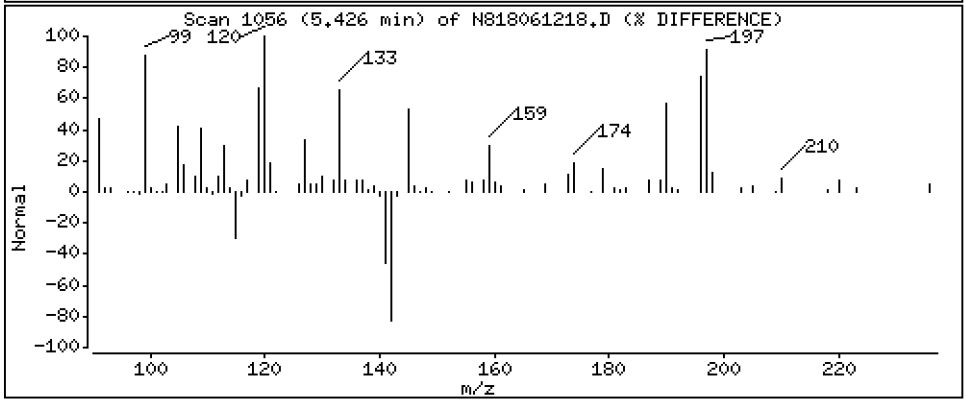












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

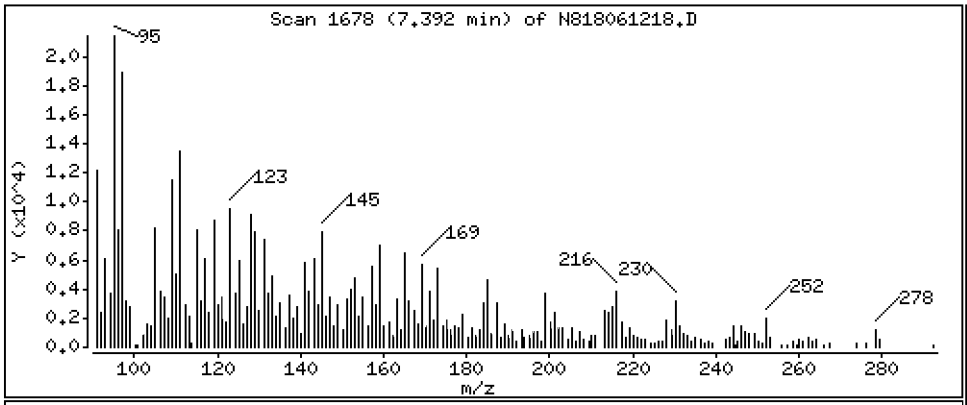
Operator: JZ

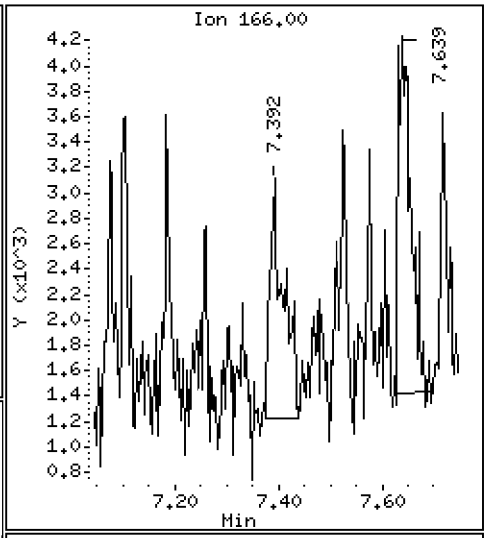
Column phase: Rxi-17sil

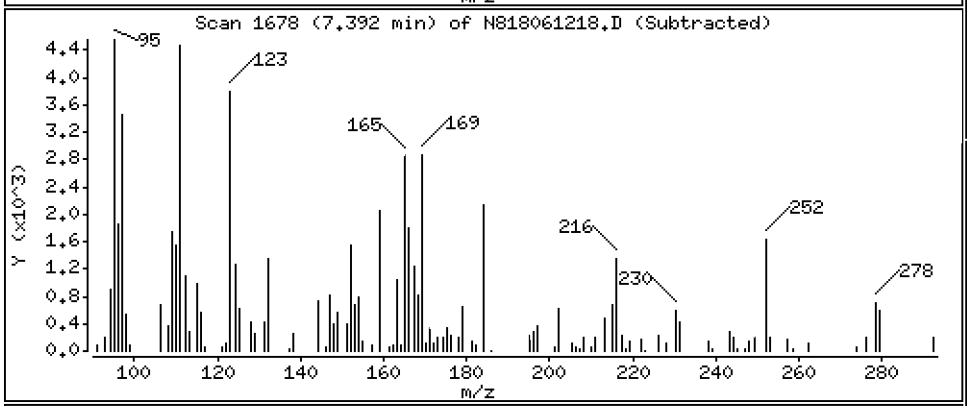
Column diameter: 0.25

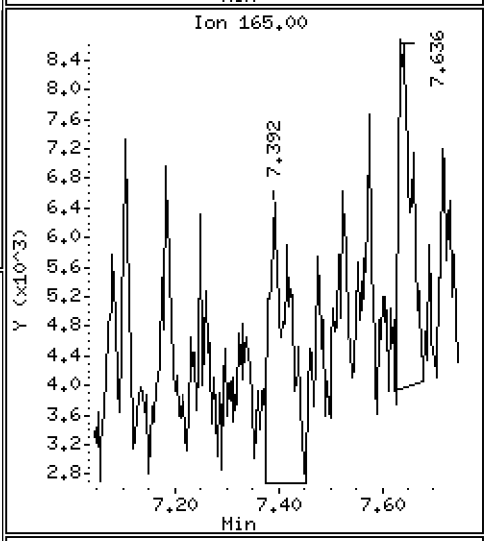
14 Fluorene

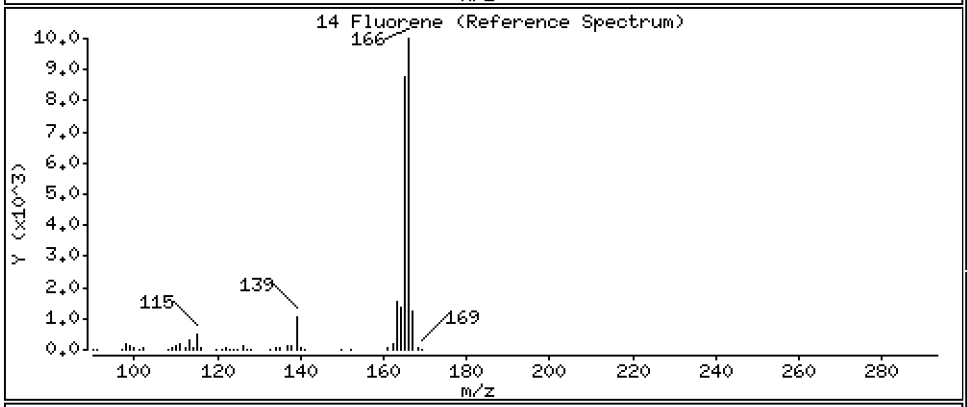
Concentration: 0.05182 ug/mL

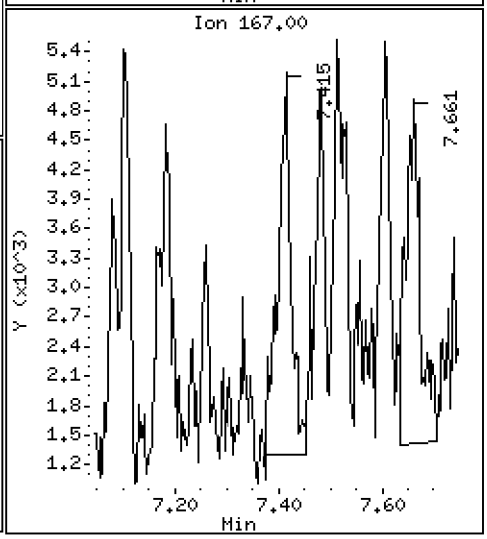


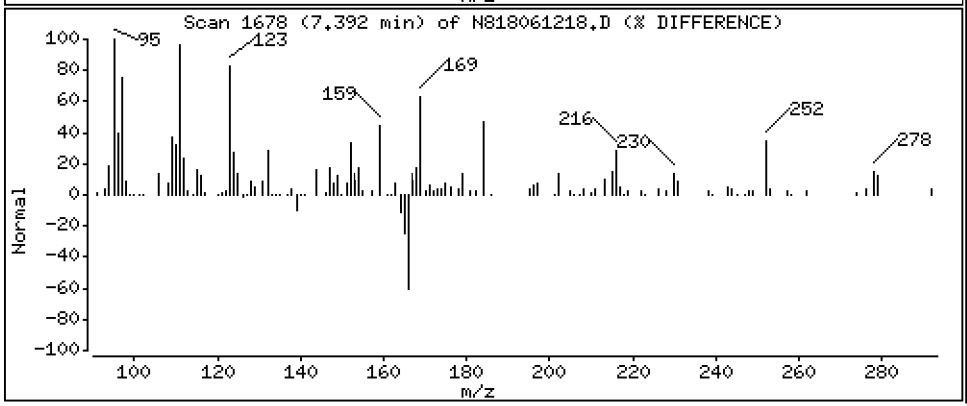












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

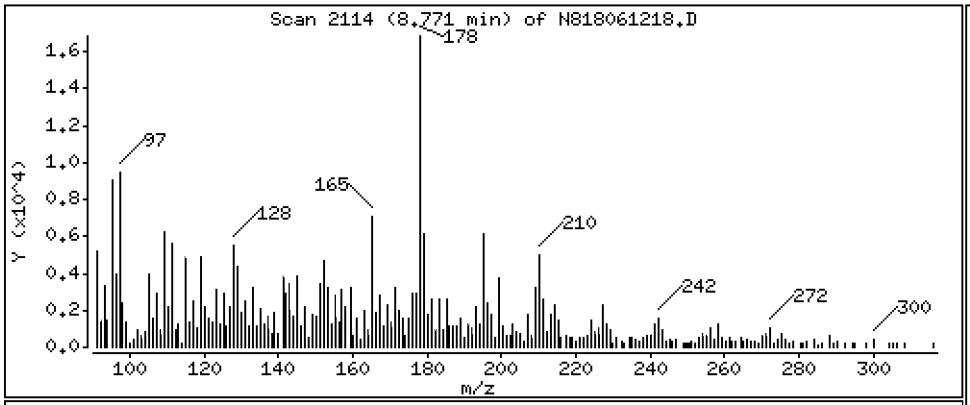
Operator: JZ

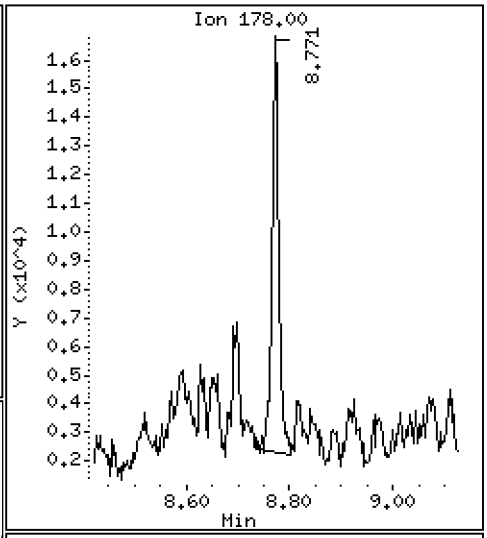
Column phase: Rxi-17sil

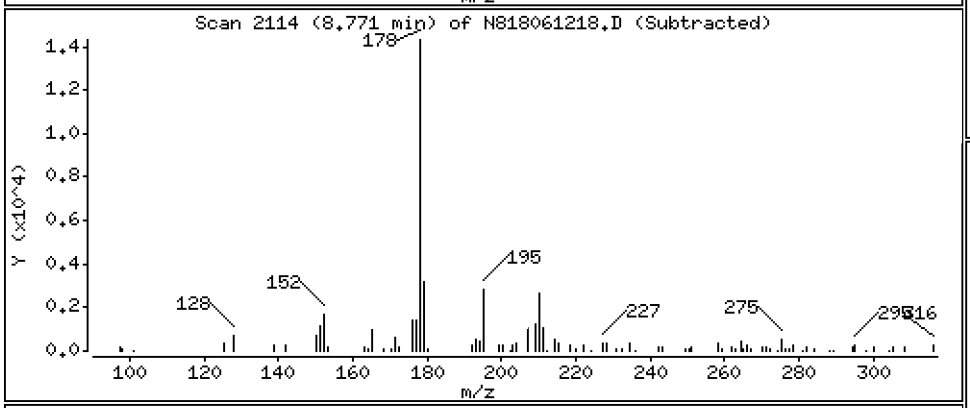
Column diameter: 0.25

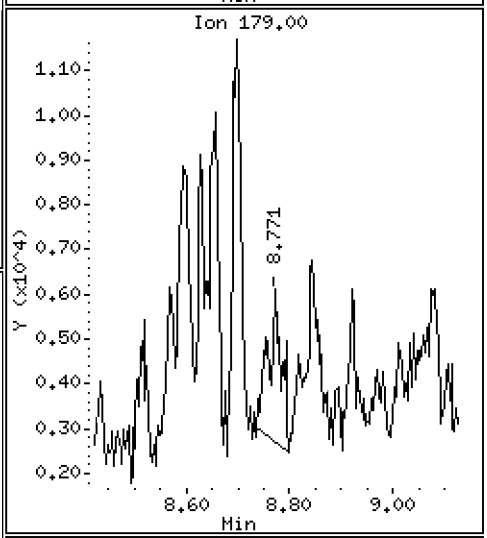
16 Phenanthrene

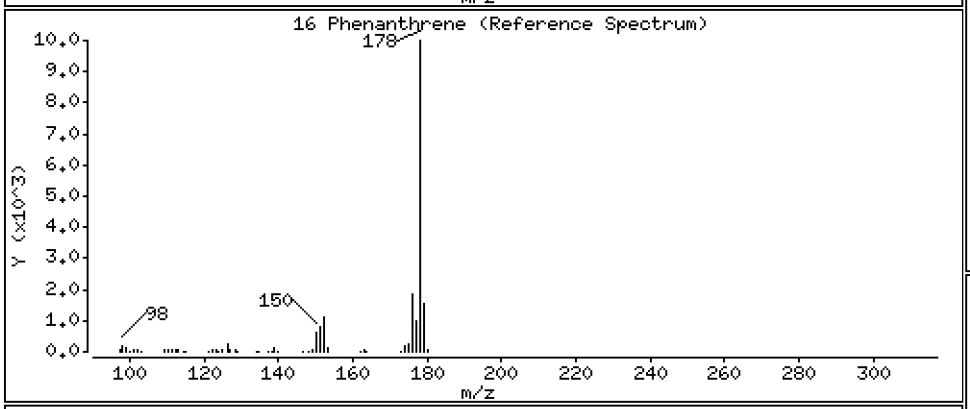
Concentration: 0.1381 ug/mL

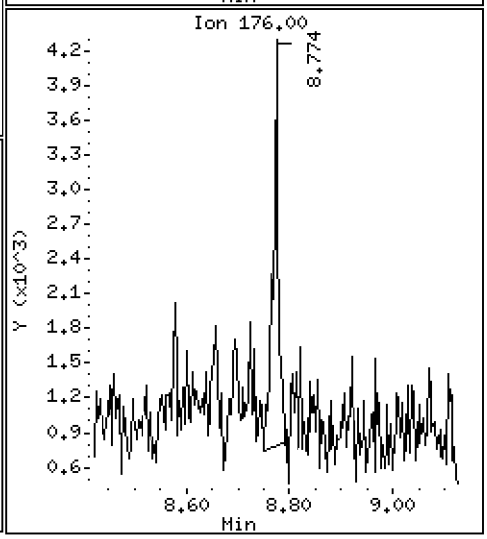


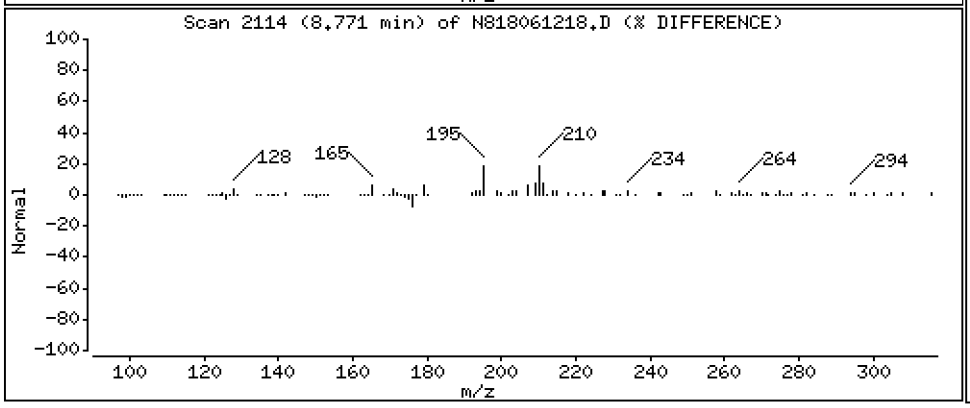












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

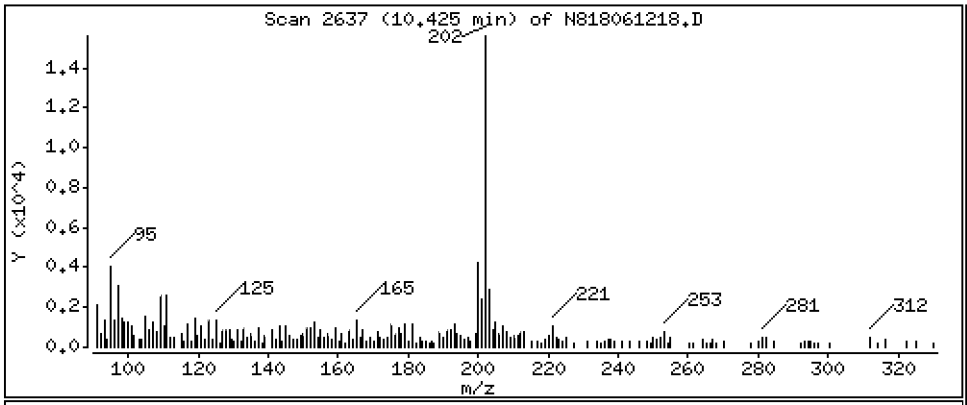
Operator: JZ

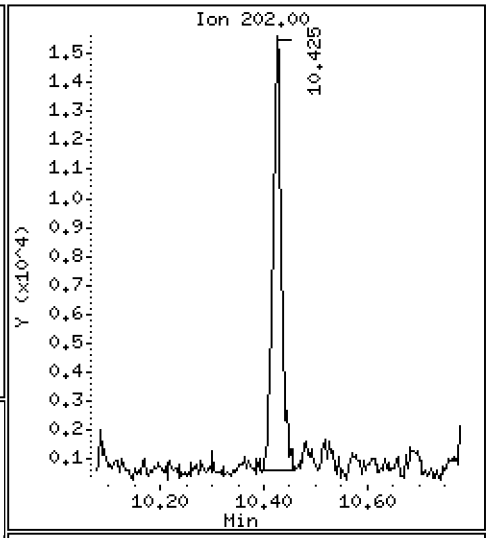
Column phase: Rxi-17sil

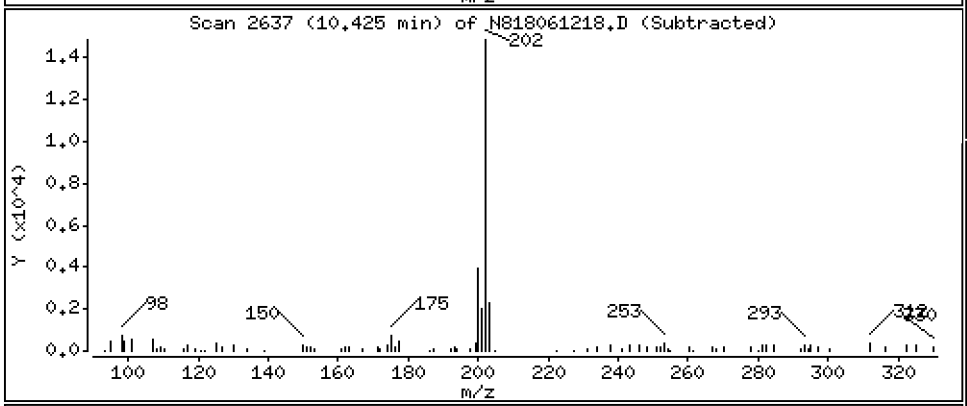
Column diameter: 0.25

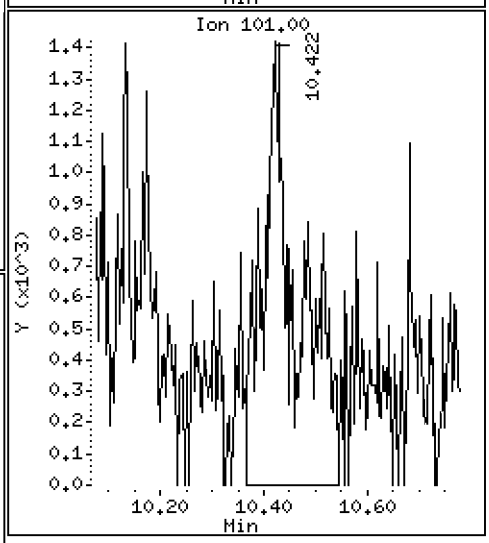
22 Fluoranthene

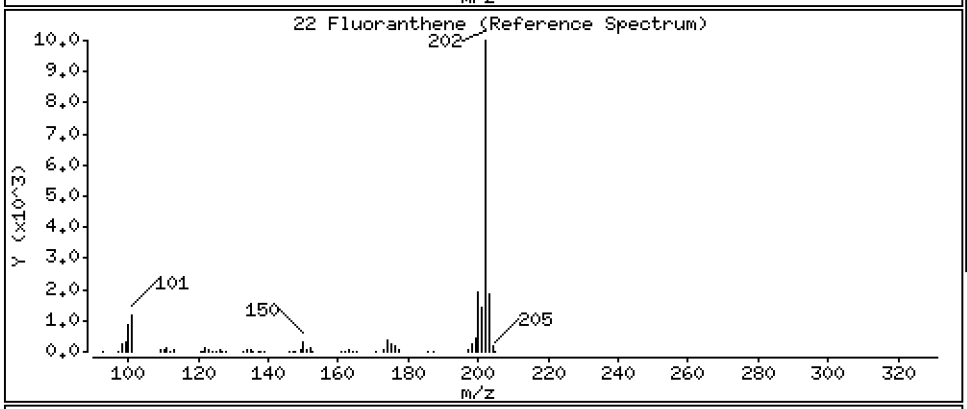
Concentration: 0.1570 ug/mL

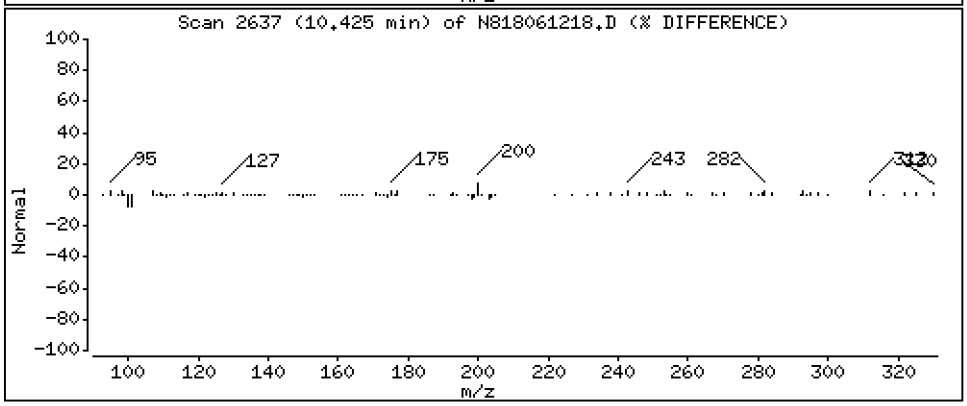












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

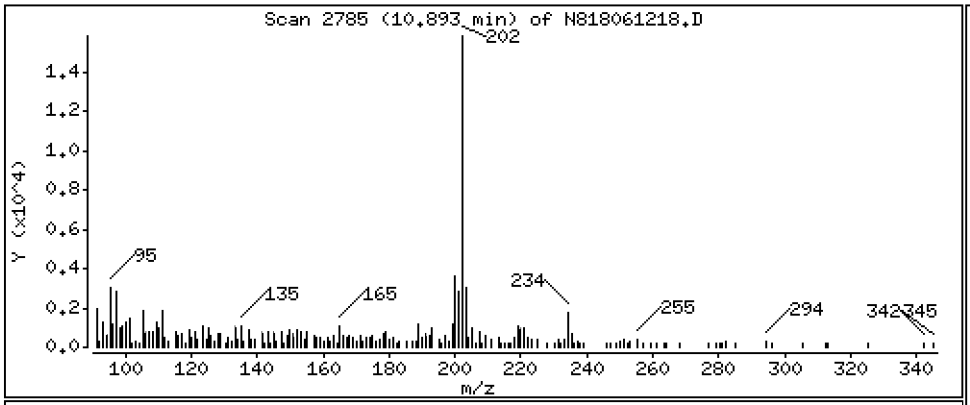
Operator: JZ

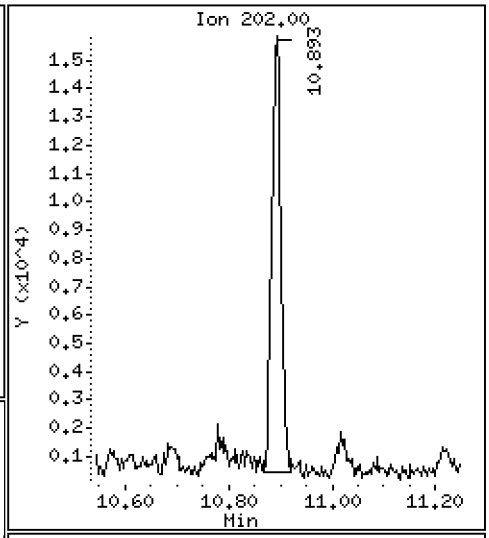
Column phase: Rxi-17sil

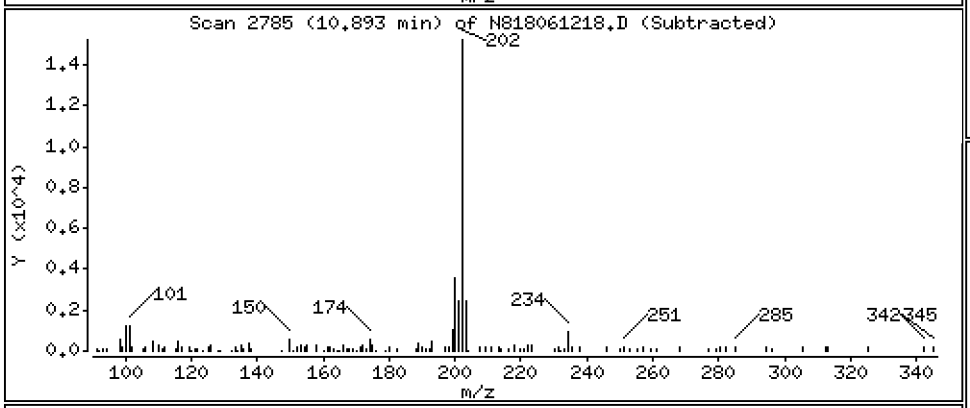
Column diameter: 0.25

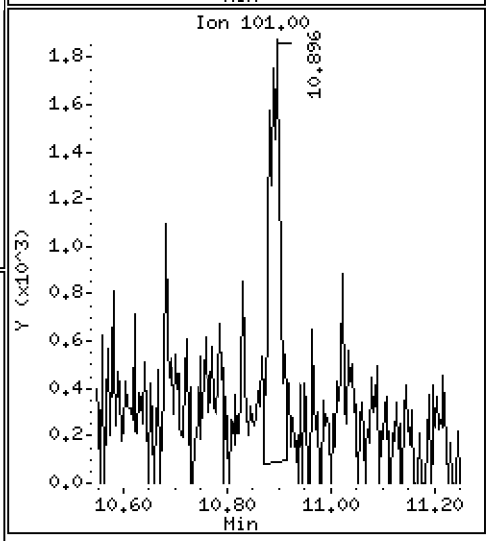
23 Pyrene

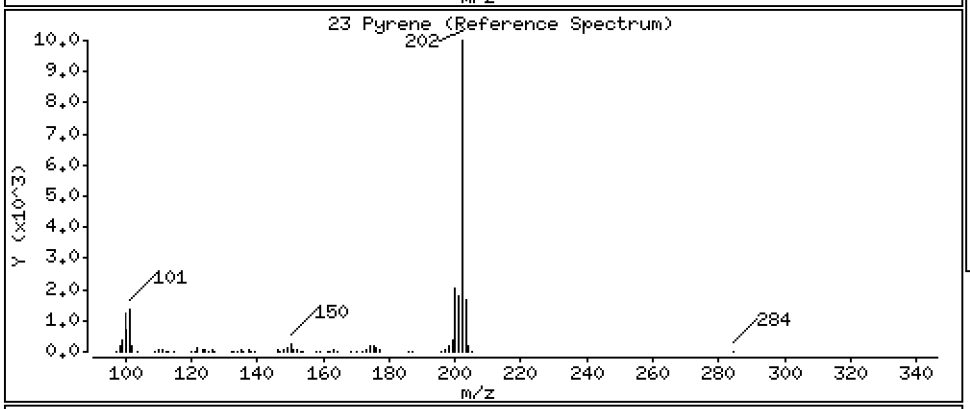
Concentration: 0.1951 ug/mL

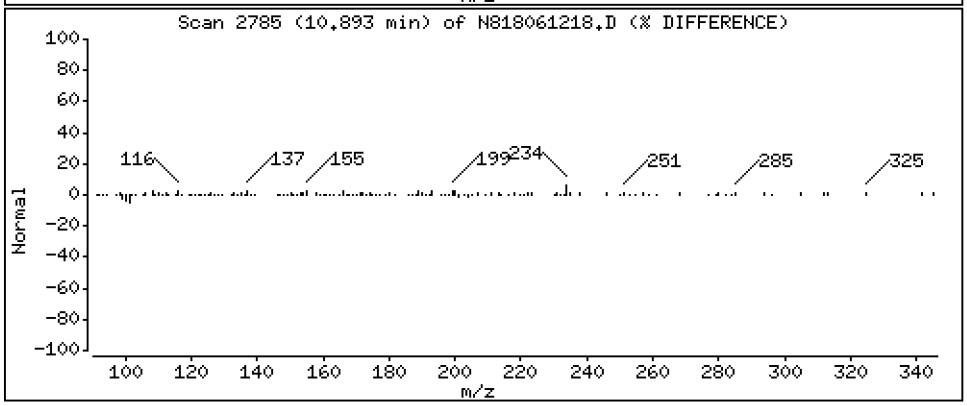












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

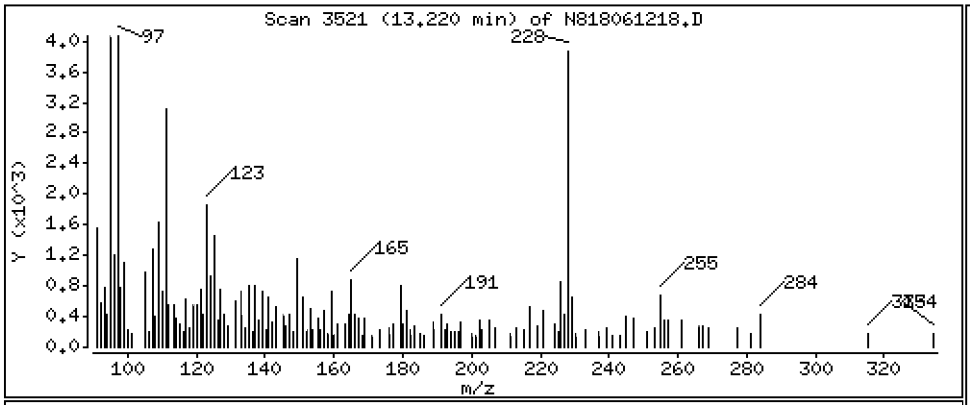
Operator: JZ

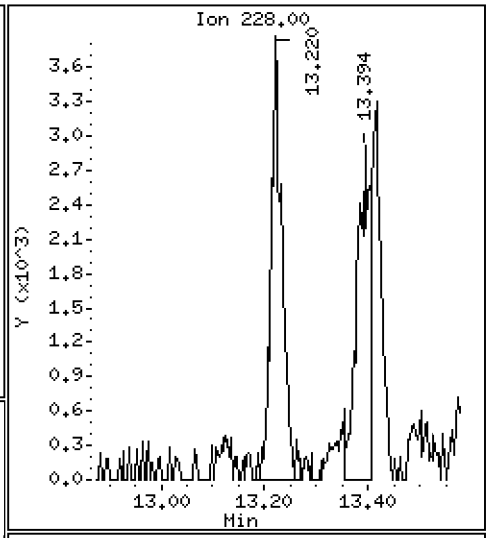
Column phase: Rxi-17sil

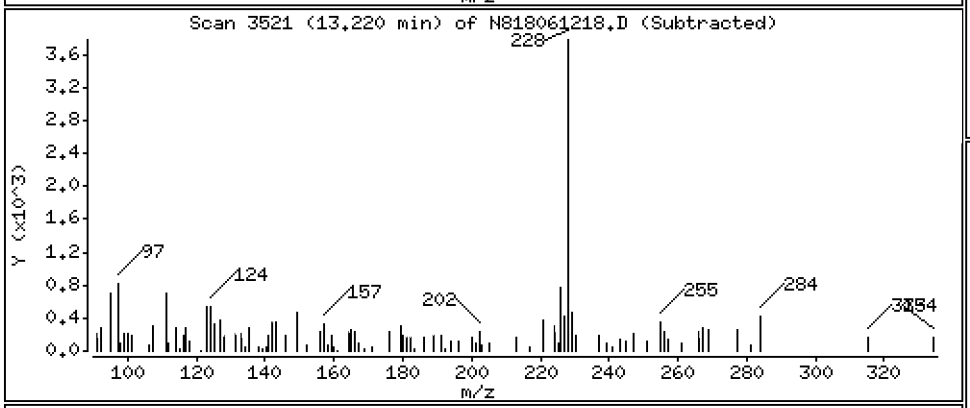
Column diameter: 0.25

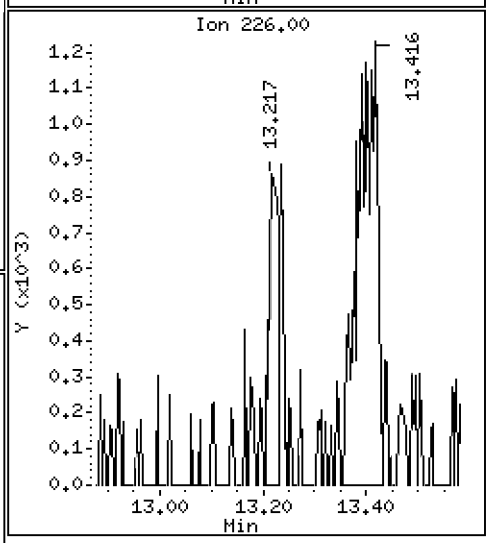
24 Benzo(a)anthracene

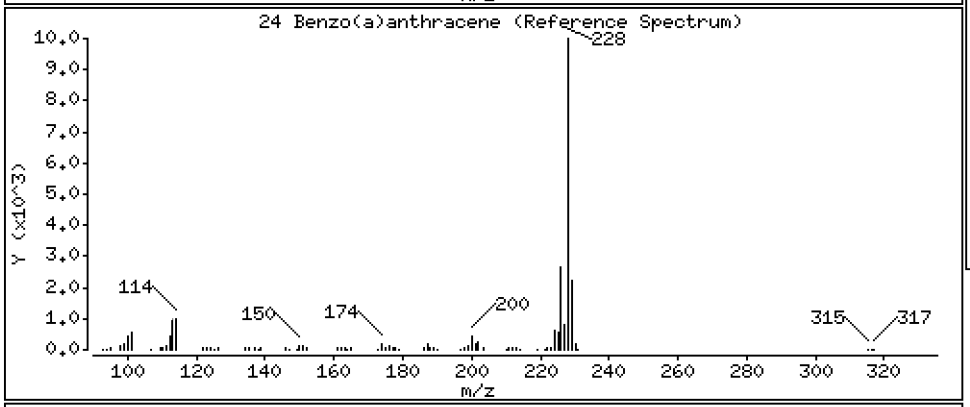
Concentration: 0.06164 ug/mL

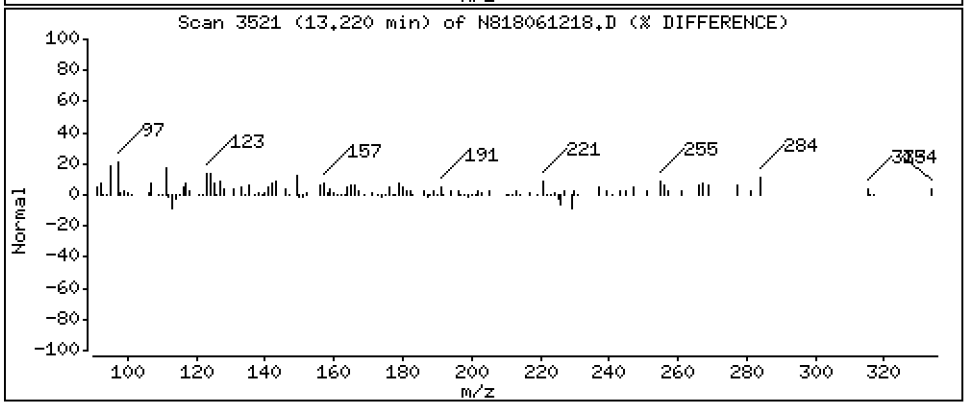












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

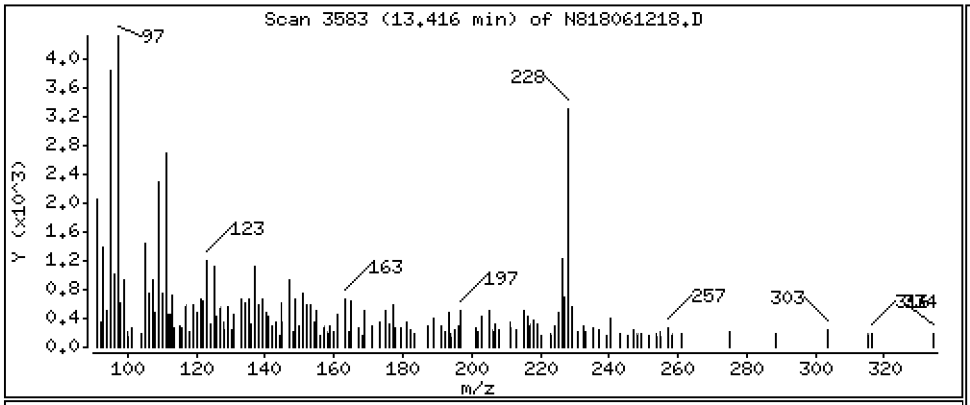
Operator: JZ

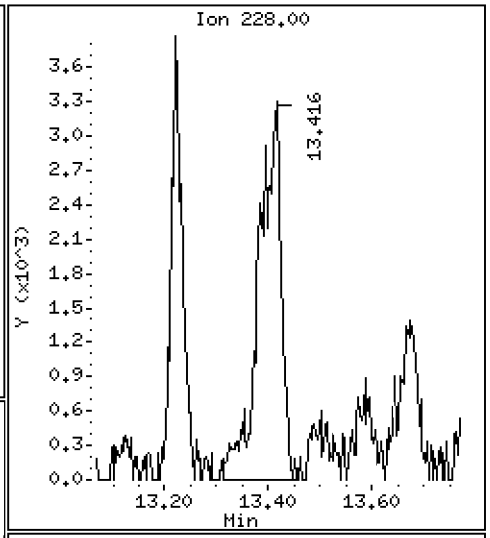
Column phase: Rxi-17sil

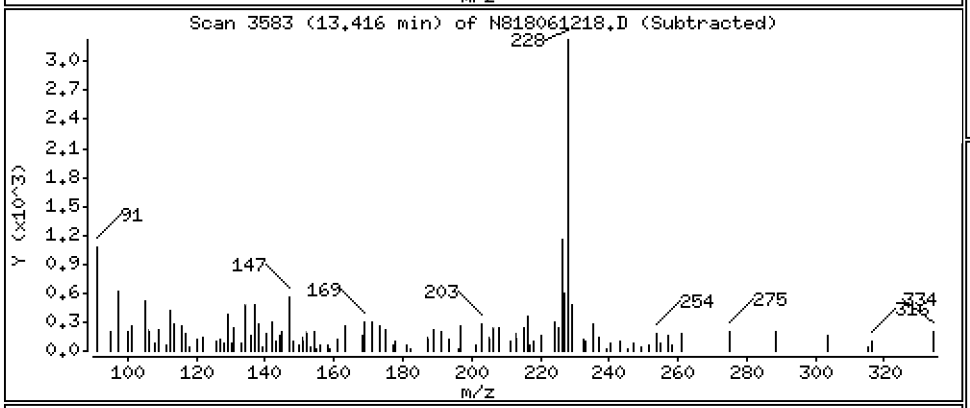
Column diameter: 0.25

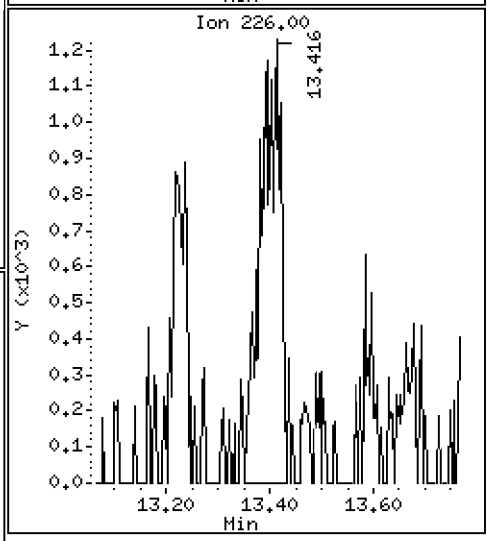
27 Chrysene

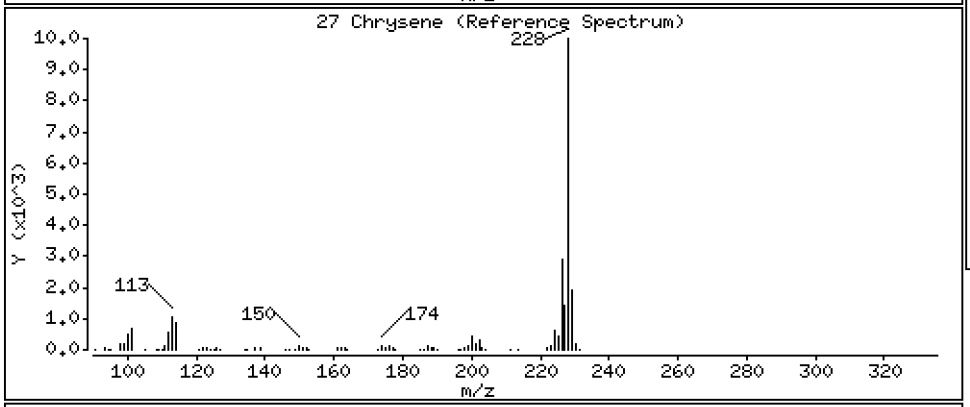
Concentration: 0.1029 ug/mL

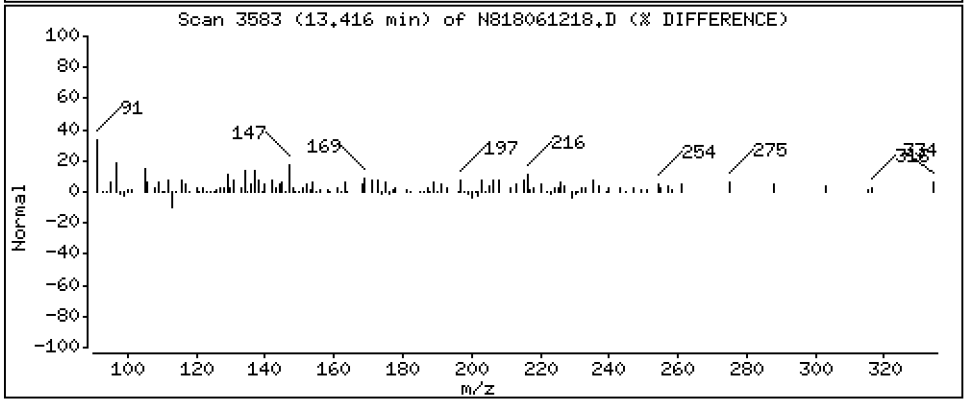












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

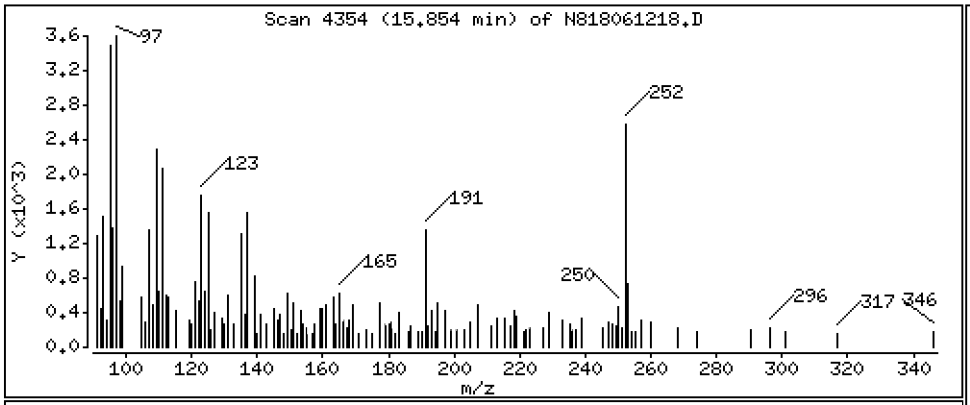
Operator: JZ

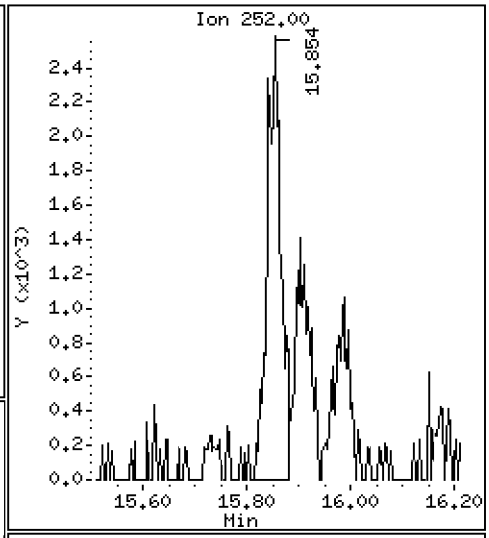
Column phase: Rxi-17sil

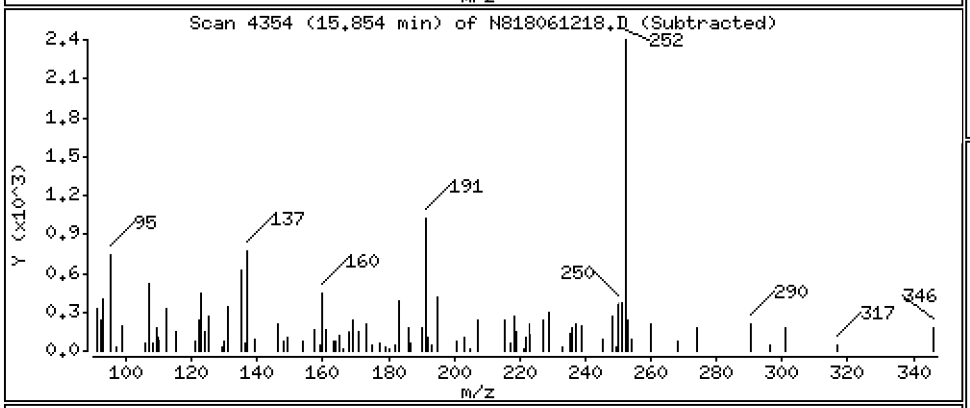
Column diameter: 0.25

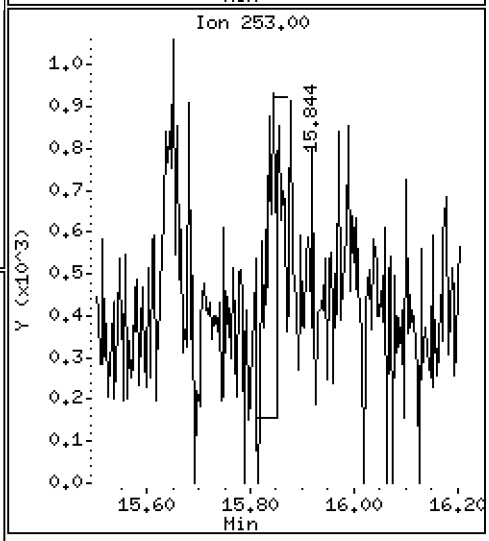
28 Benzo(b)fluoranthene

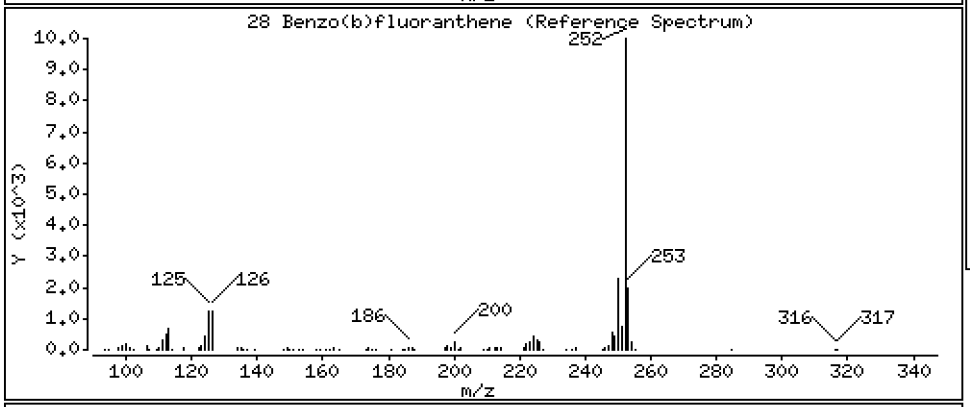
Concentration: 0.04905 ug/mL

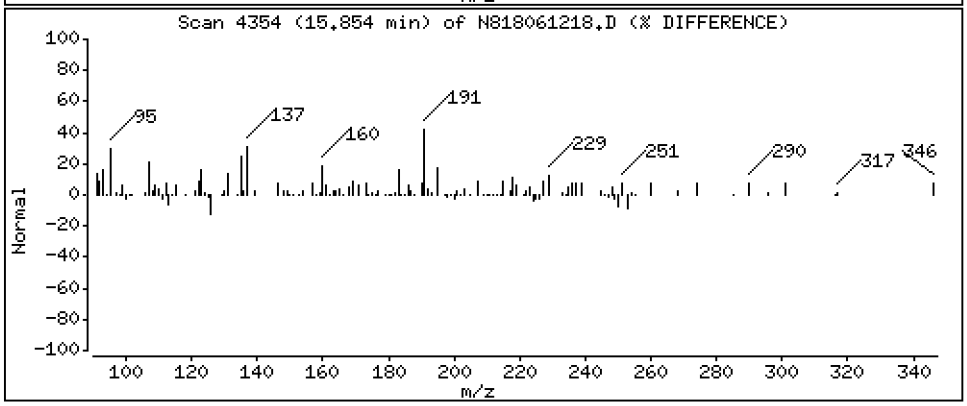












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061218.D

Date : 12-JUN-2018 22:06

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-03

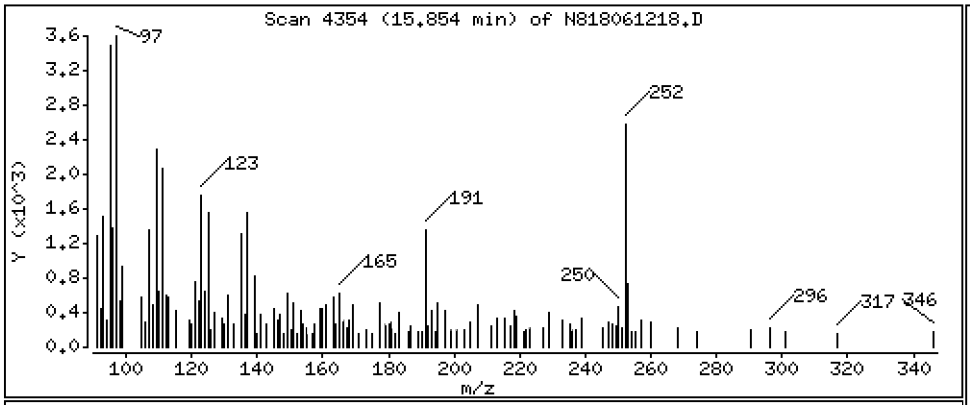
Operator: JZ

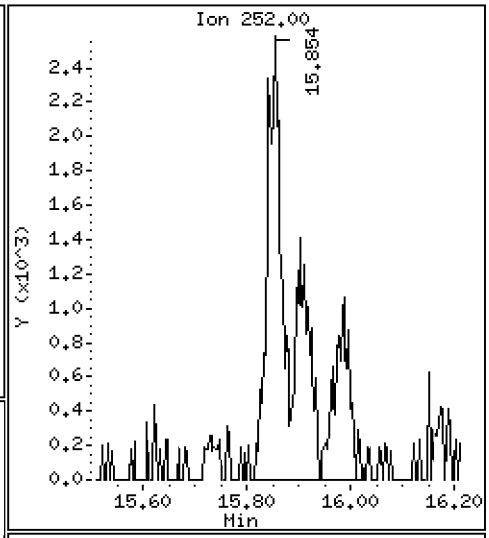
Column phase: Rxi-17sil

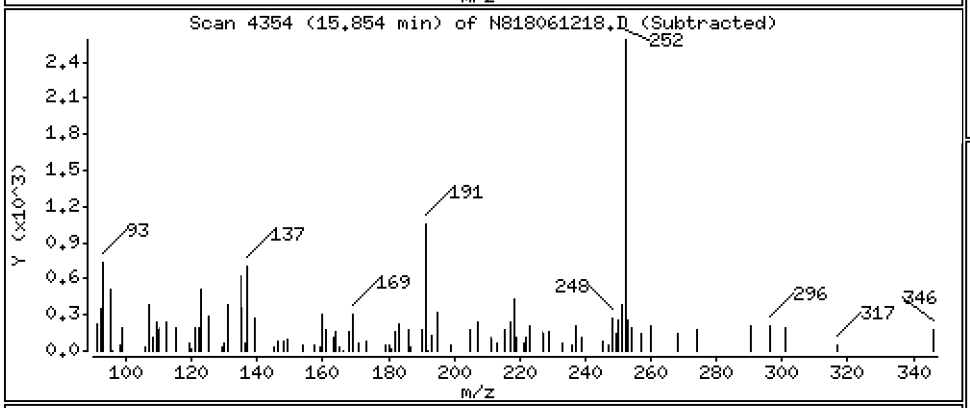
Column diameter: 0.25

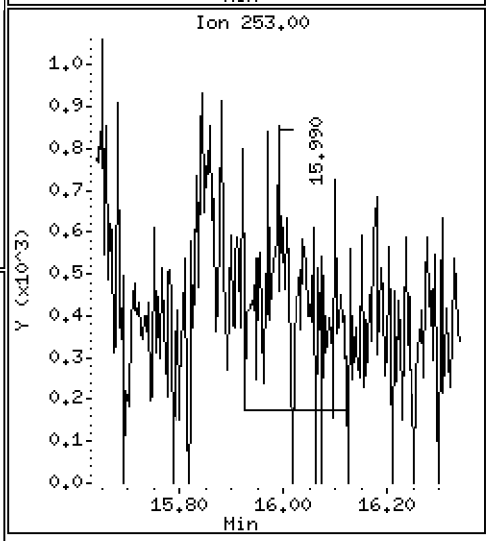
31 Total Benzofluoranthenes

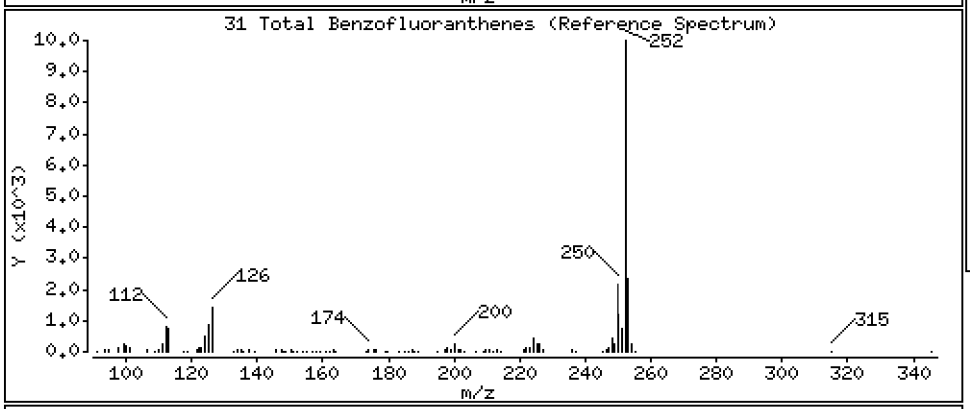
Concentration: 0.09782 ug/mL

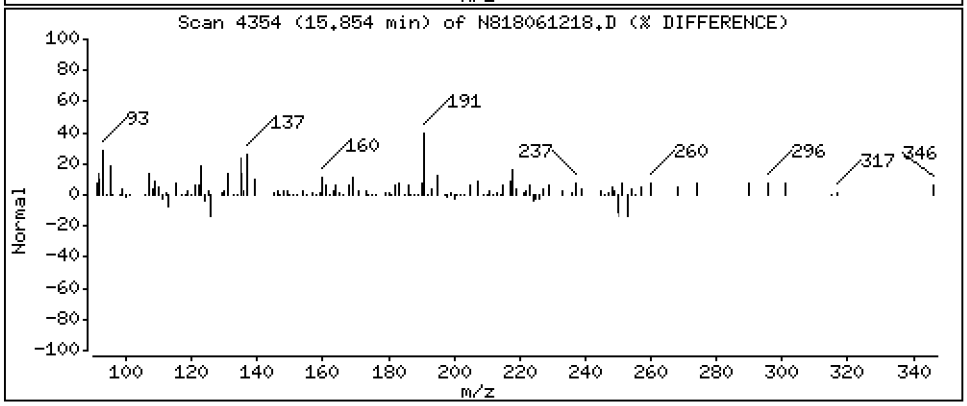












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061218.D
Lab Smp Id: 18E0309-03
Inj Date : 12-JUN-2018 22:06
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0309-03
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.445	4.455	(1.000)	170369	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	66461	1.06939	1.069
	4 2-Methylnaphthalene	141	5.220	5.233	(1.174)	3181	0.05704	0.05704(M)
	5 1-methylnaphthalene	141	5.425	5.425	(1.220)	2875	0.05008	0.05008(M)
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.718	6.722	(1.000)	83918	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.392	7.395	(1.100)	3439	0.05182	0.05182
*	15 Phenanthrene-d10	188	8.739	8.739	(1.000)	161141	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	13637	0.13808	0.1381(M)
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	17478	0.15702	0.1570
$	21 Fluoranthene-d10	212	10.393	10.396	(1.189)	156881	1.48710	1.487
	23 Pyrene	202	10.892	10.896	(0.816)	19147	0.19509	0.1951
	24 Benzo(a)anthracene	228	13.219	13.226	(0.991)	5849	0.06164	0.06164
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	163312	2.00000	
	27 Chrysene	228	13.416	13.419	(1.005)	9828	0.10289	0.1029(M)
	28 Benzo(b)fluoranthene	252	15.853	15.860	(0.927)	4975	0.04905	0.04905
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.853	15.860	(0.927)	9677	0.09782	0.09782(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	159609	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	141654	1.89479	1.895
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061218.D
Lab Smp Id: 18E0309-03
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	170369	39.43
10 Acenaphthene-d10	65789	32895	131578	83918	27.56
15 Phenanthrene-d10	128644	64322	257288	161141	25.26
25 Chrysene-d12	166669	83335	333338	163312	-2.01
33 Perylene-d12	140483	70242	280966	159609	13.61

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.22
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.05
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.00
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061218.D

Lab ID: 18E0309-03
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 22:06

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

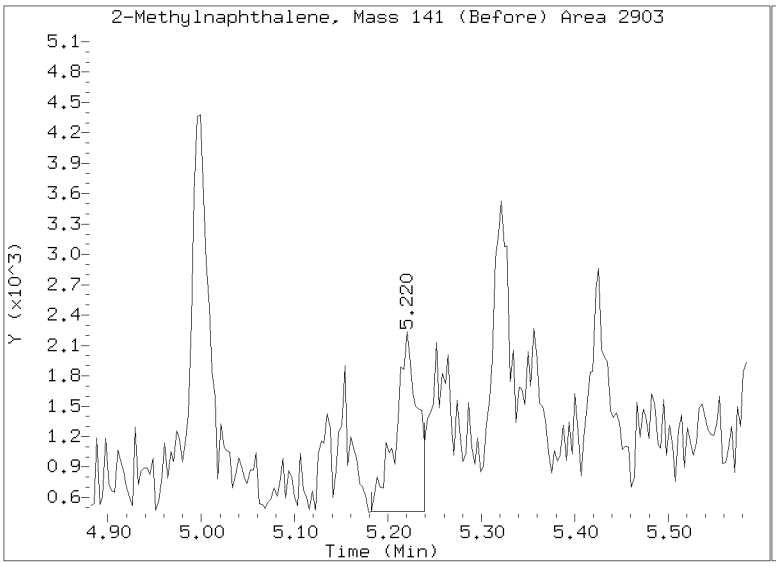
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

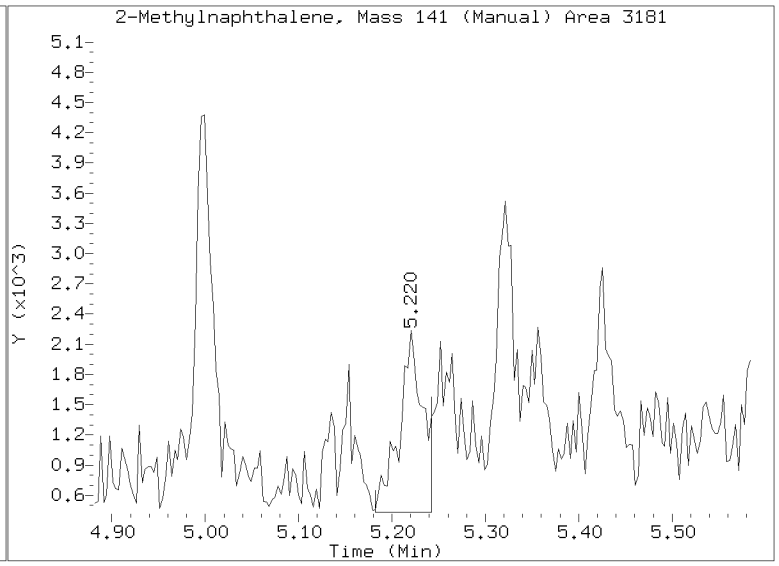
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

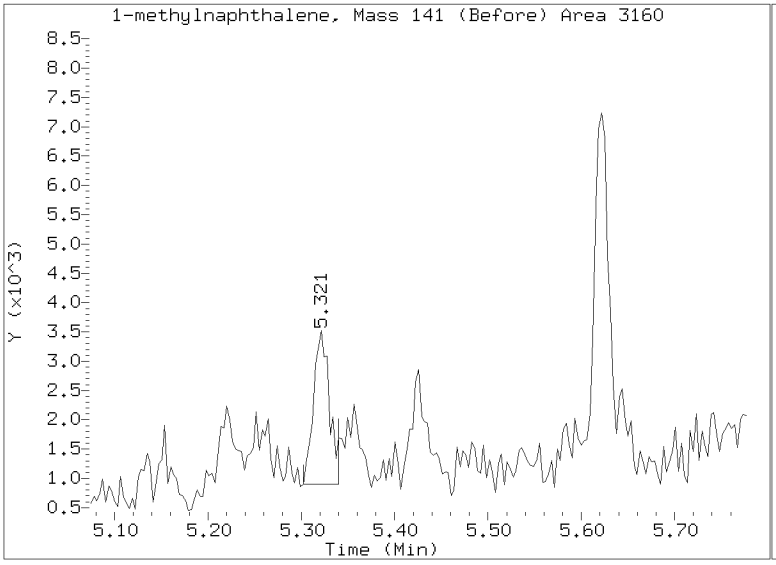
* Only compounds listed in the work order have been verified by the analyst *

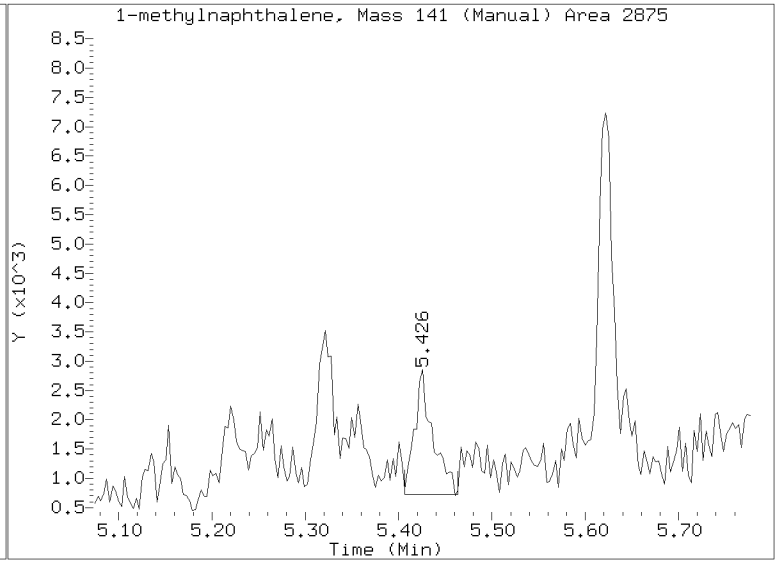
Quant Ion Manual Peak Adjustment Report

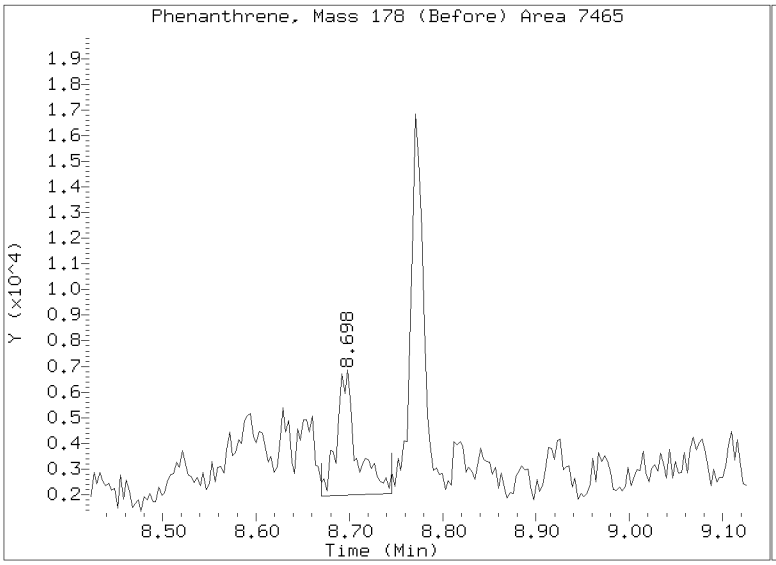
Datafile: //target/share/chem3/nt8.i/20180612.b/N818061218.D
Injection Date: 12-JUN-2018 22:06
Lab ID:18E0309-03 Client ID:
Report Date: 06/13/2018 13:44

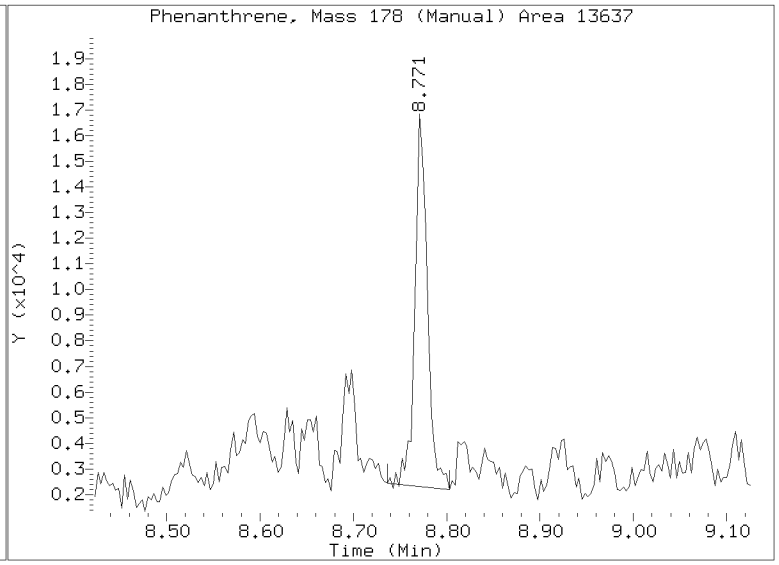






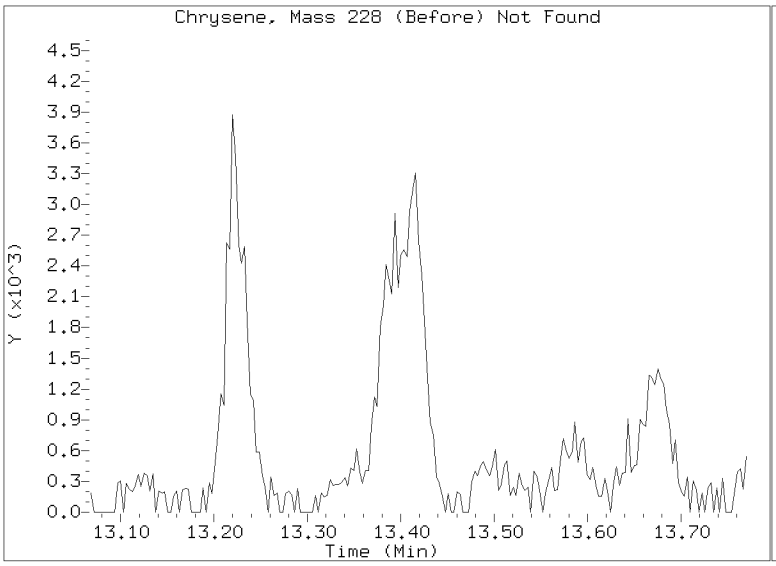


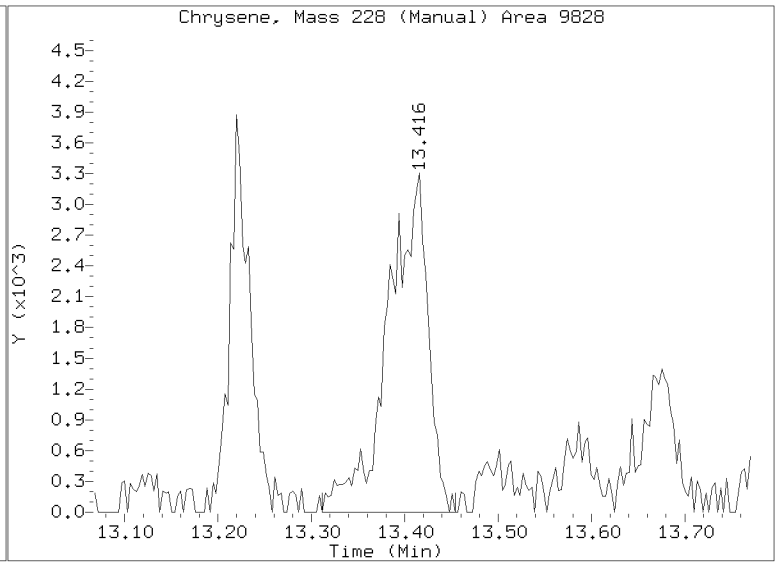


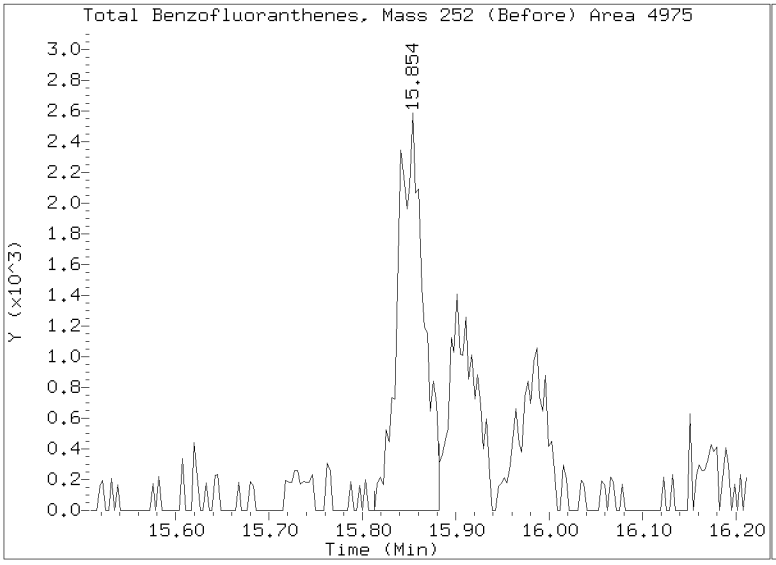


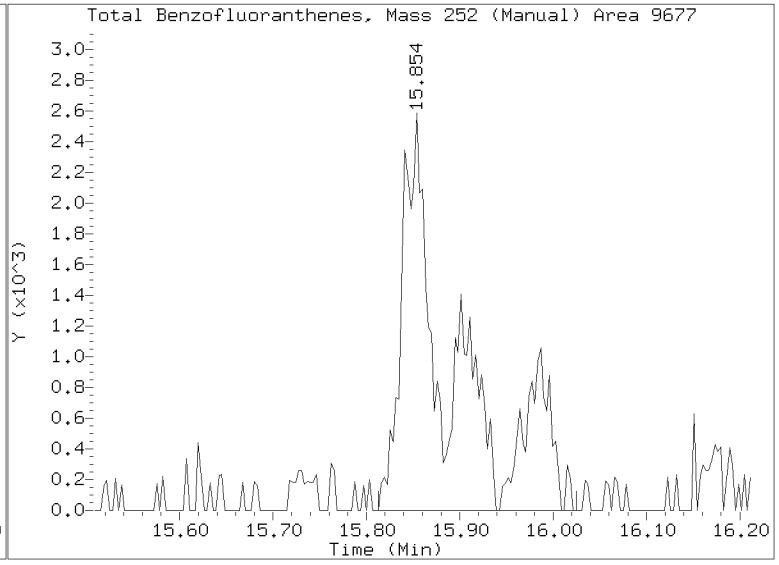
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061218.D
Injection Date: 12-JUN-2018 22:06
Lab ID:18E0309-03 Client ID:
Report Date: 06/13/2018 13:44









LDW18-A08-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-04	SDG:	18E0231
Sampled:	05/19/18 13:15	Prepared:	06/05/18 12:40	File ID:	N818061219.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/12/18 22:33
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.15 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	3.16	J	0.53	4.93
218-01-9	Chrysene	1	4.28	J	0.48	4.93
205-99-2	Benzo(b)fluoranthene	1	2.39	J	0.99	4.93
207-08-9	Benzo(k)fluoranthene	1	4.93	U	0.70	4.93
50-32-8	Benzo(a)pyrene	1	4.93	U	0.90	4.93
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.93	U	0.57	4.93
53-70-3	Dibenzo(a,h)anthracene	1	4.93	U	1.50	4.93

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	147.78	56.3	38.1	20 - 130	
Dibenzo[a,h]anthracene-d14	147.78	92.1	62.3	20 - 130	
Fluoranthene-d10	147.78	77.0	52.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

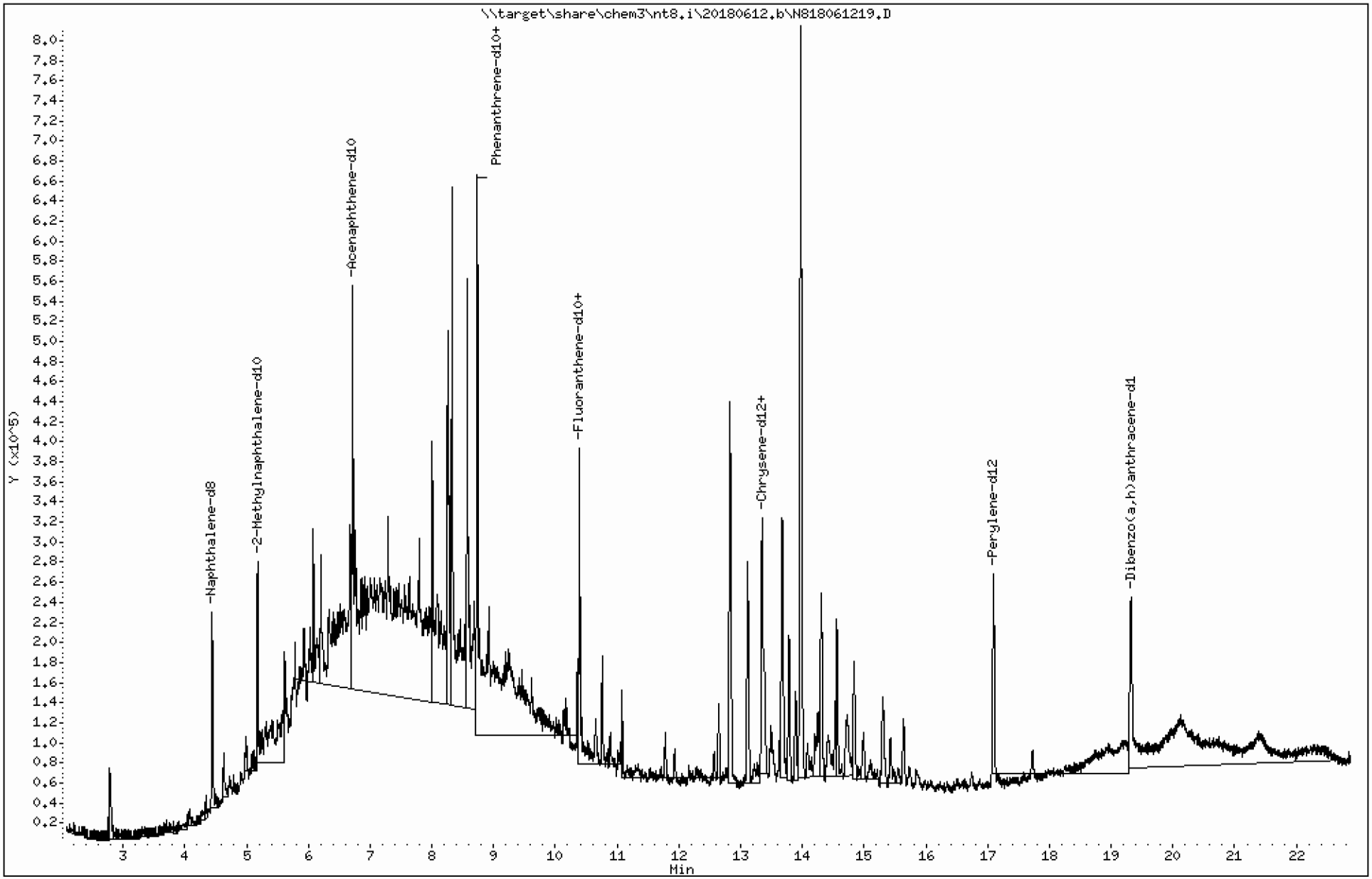
Instrument: nt8.i

Sample Info: 18E0309-04

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

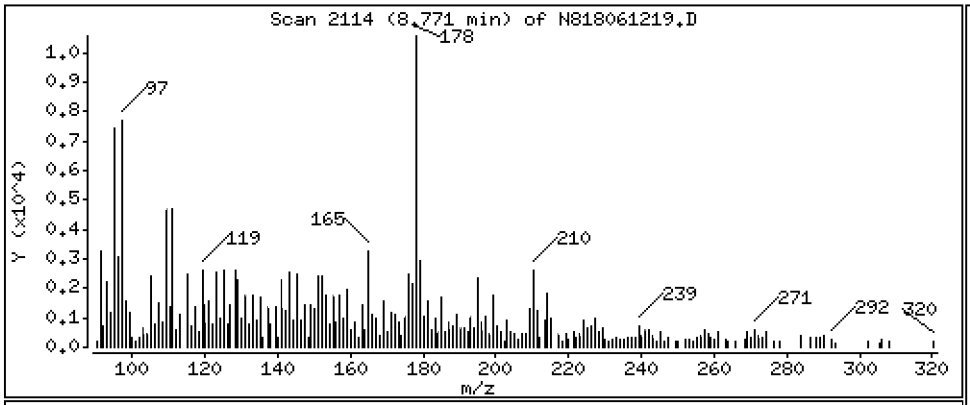
Operator: JZ

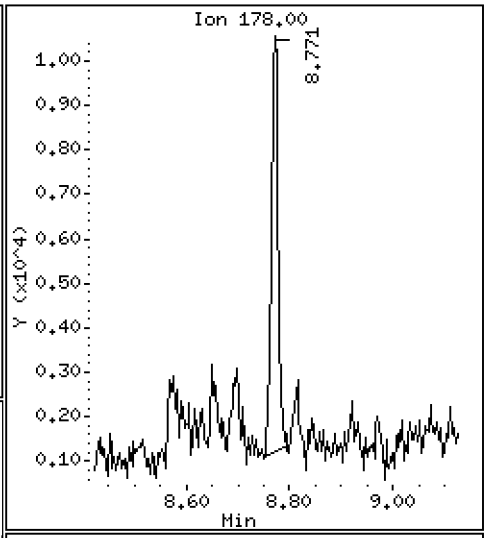
Column phase: Rxi-17sil

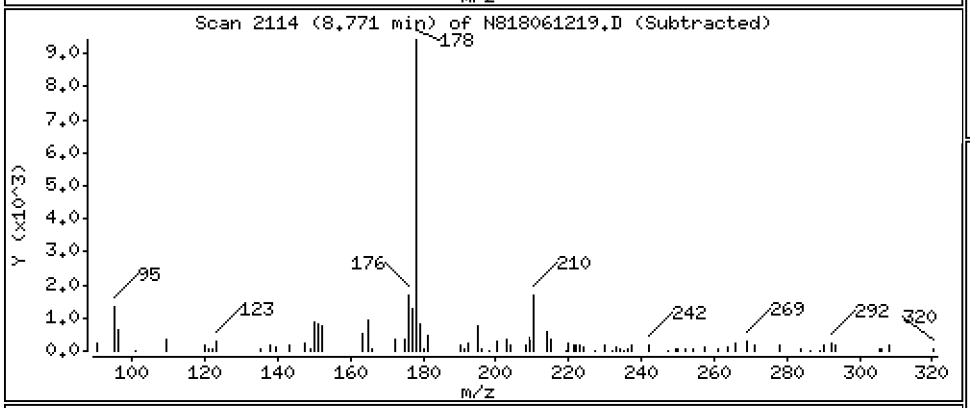
Column diameter: 0.25

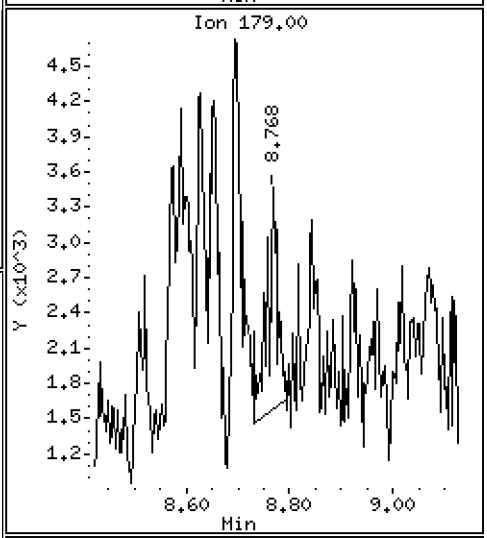
16 Phenanthrene

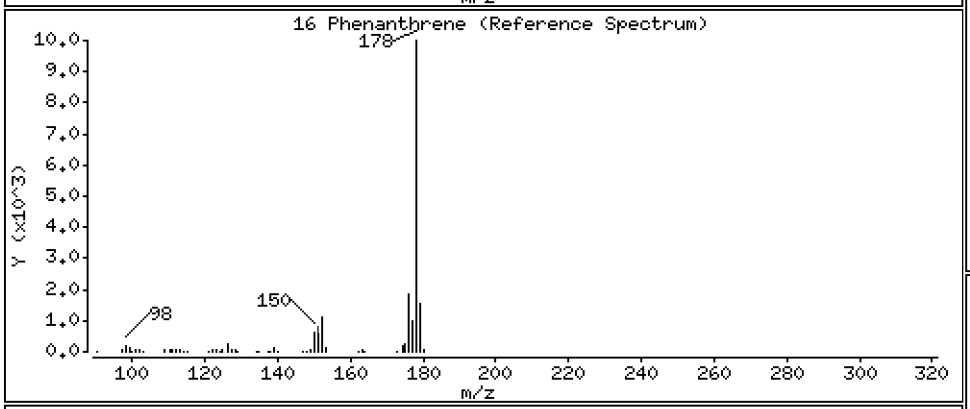
Concentration: 0.08956 ug/mL

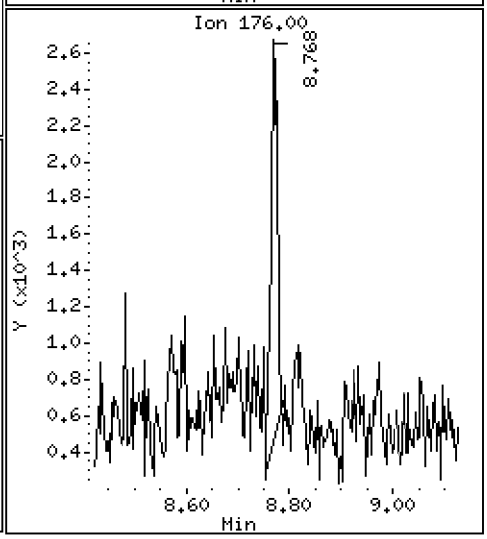


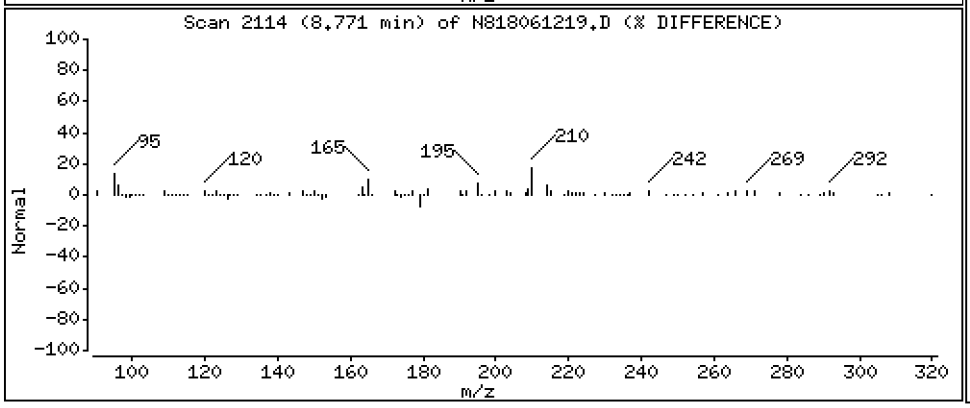












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

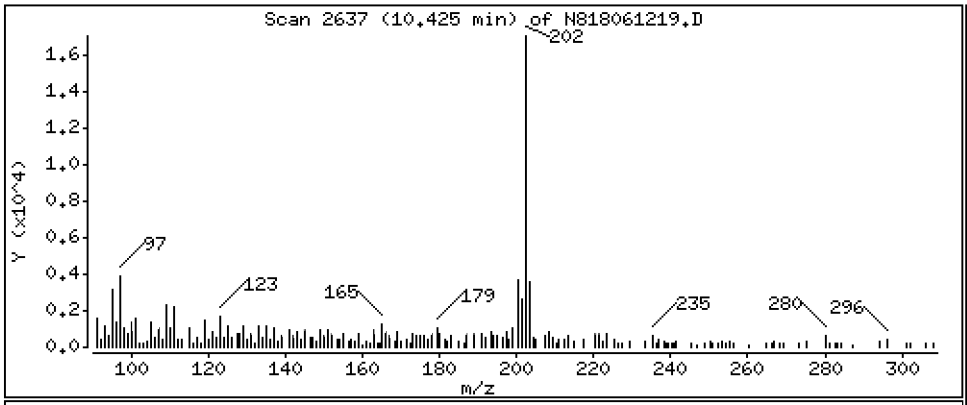
Operator: JZ

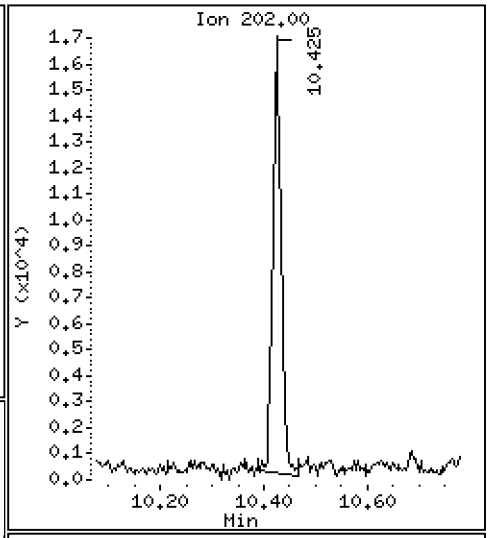
Column phase: Rxi-17sil

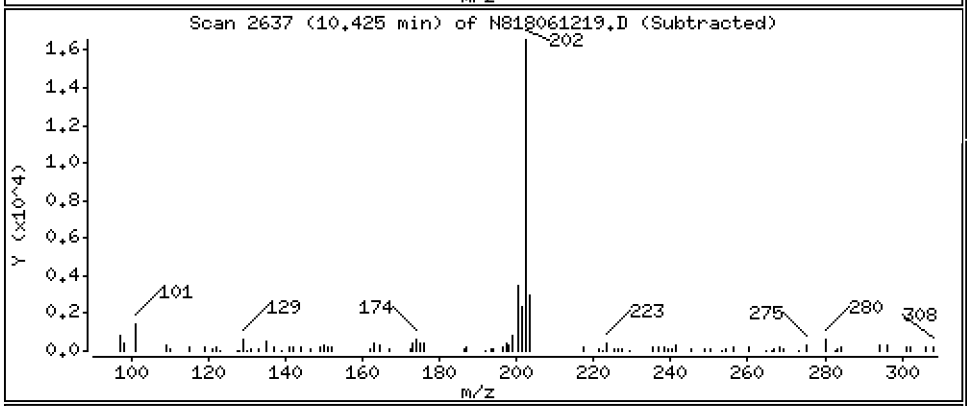
Column diameter: 0.25

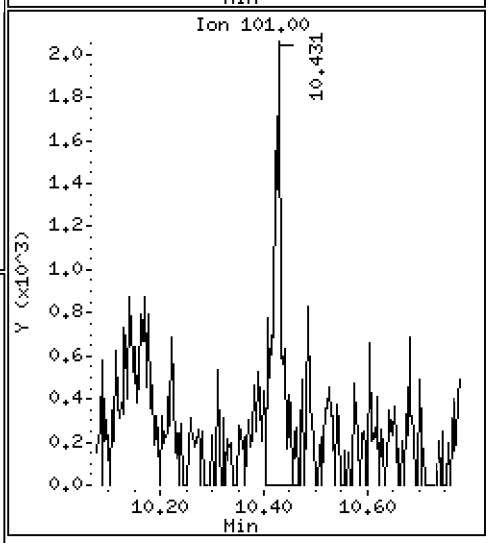
22 Fluoranthene

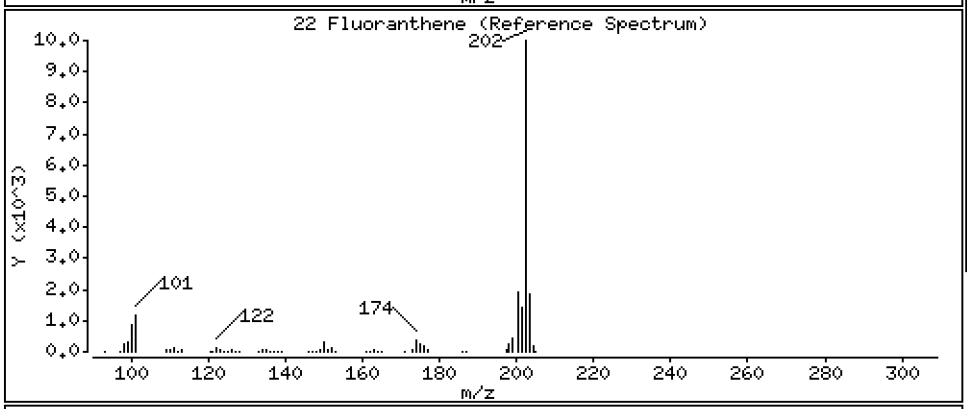
Concentration: 0.1777 ug/mL

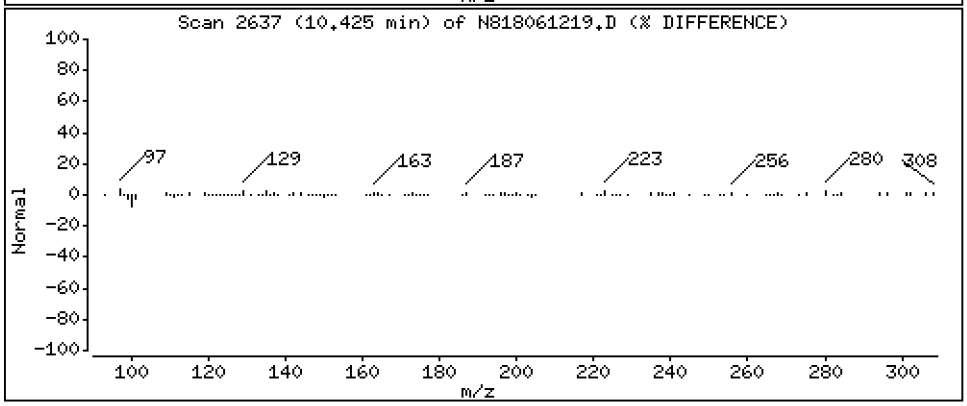












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

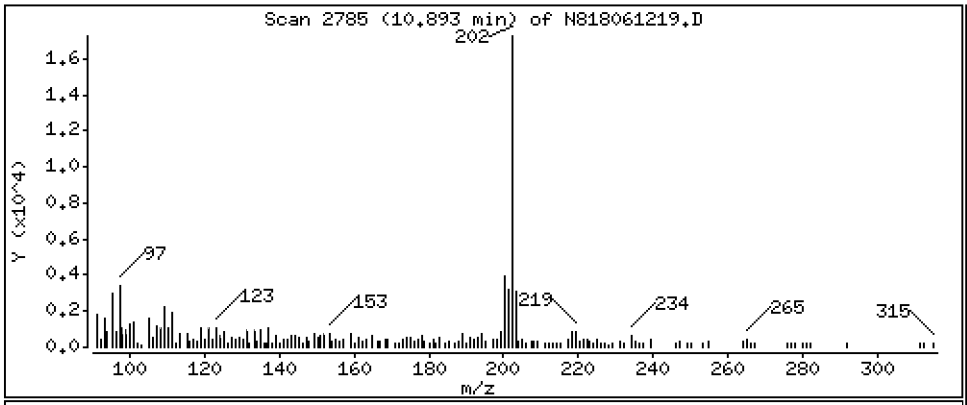
Operator: JZ

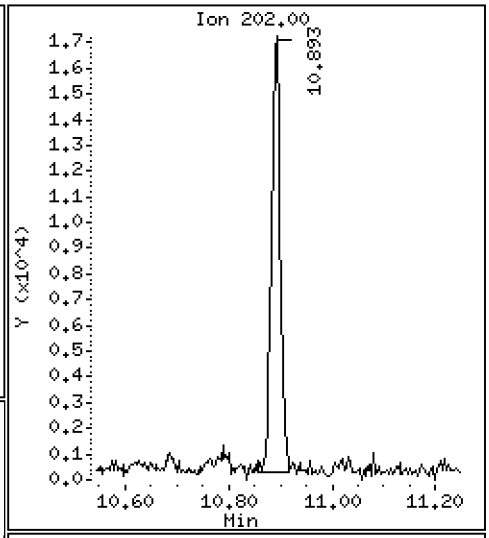
Column phase: Rxi-17sil

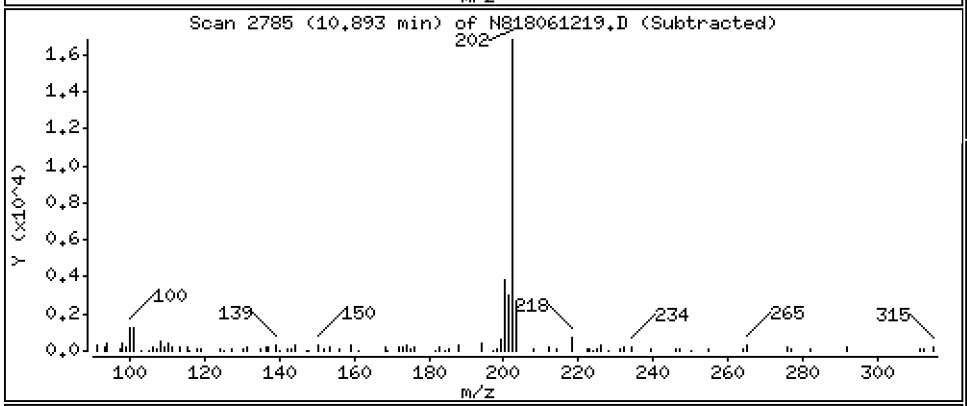
Column diameter: 0.25

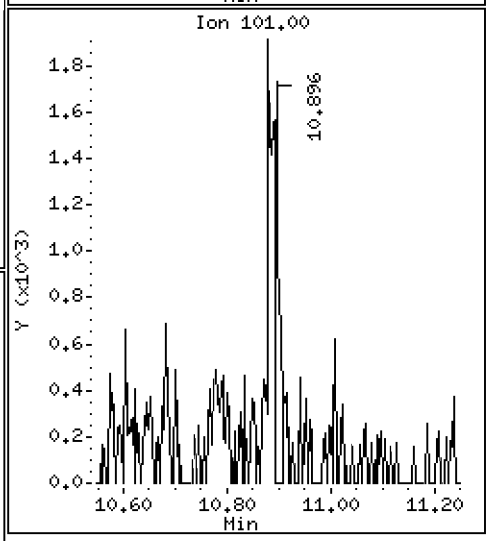
23 Pyrene

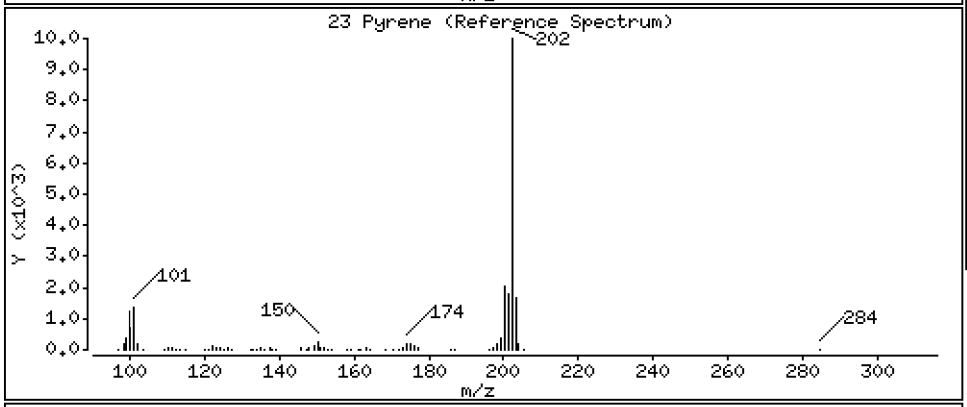
Concentration: 0.2014 ug/mL

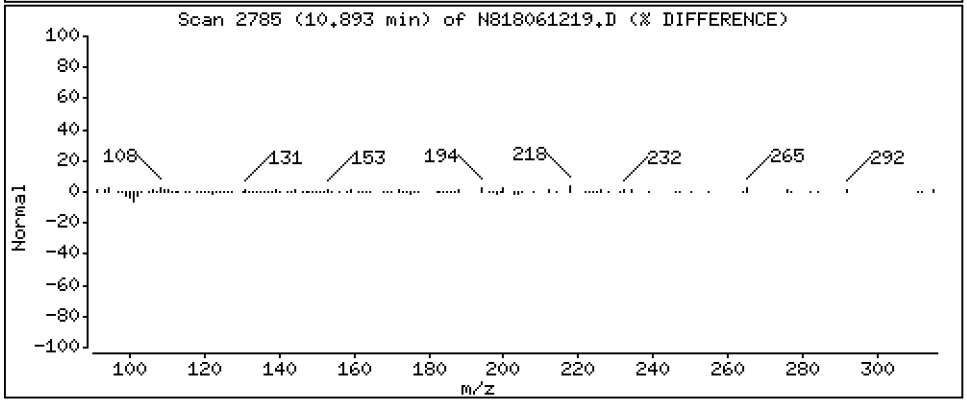












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

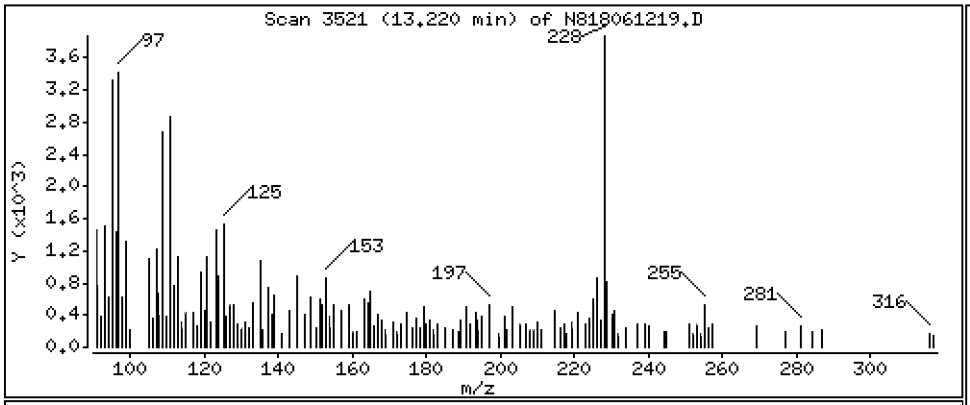
Operator: JZ

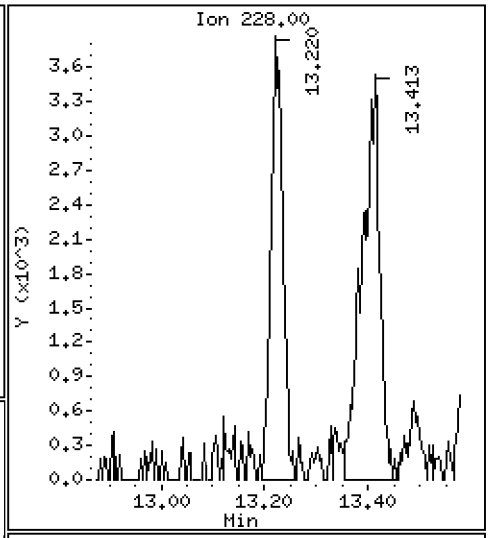
Column phase: Rxi-17sil

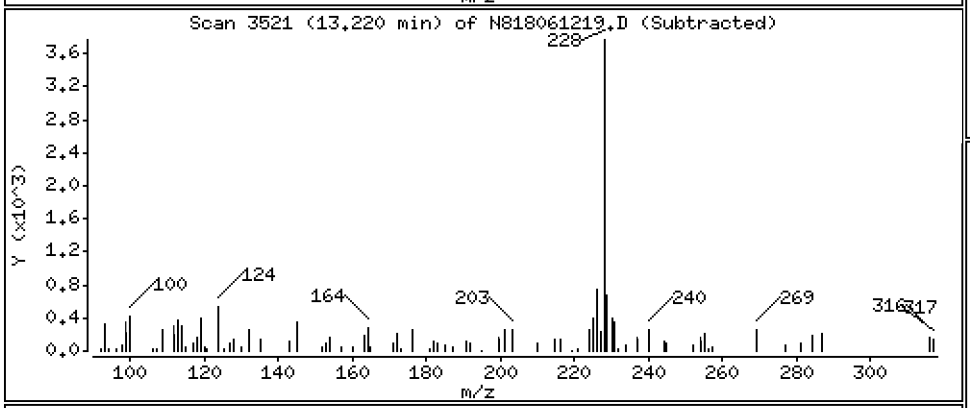
Column diameter: 0.25

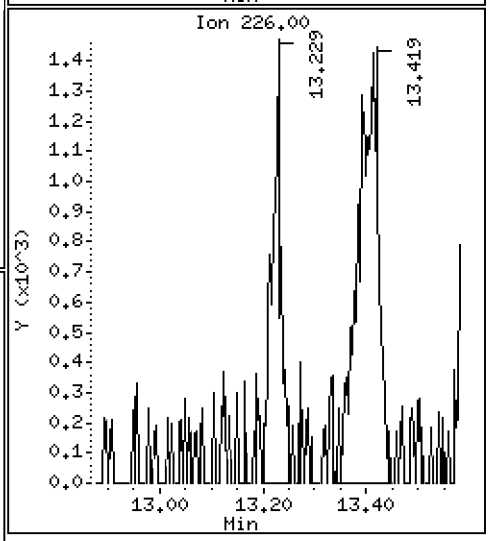
24 Benzo(a)anthracene

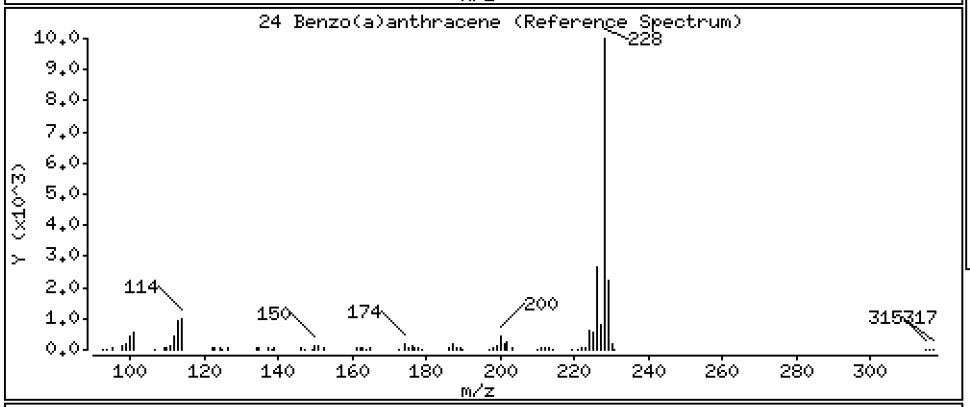
Concentration: 0.06405 ug/mL

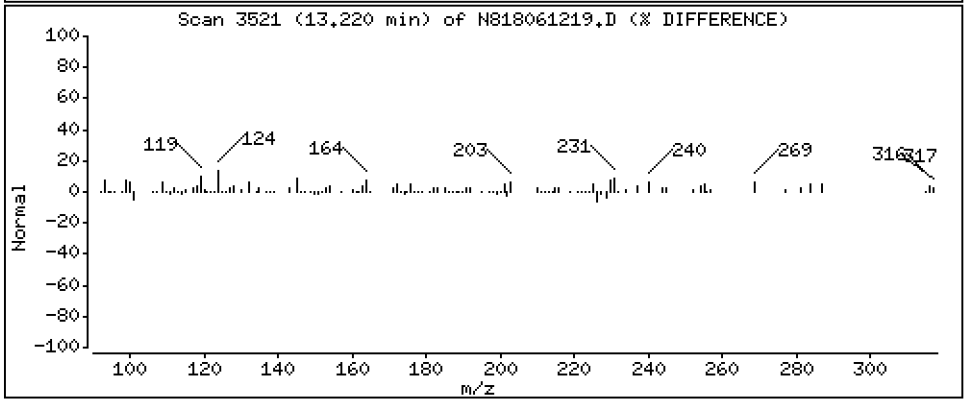












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

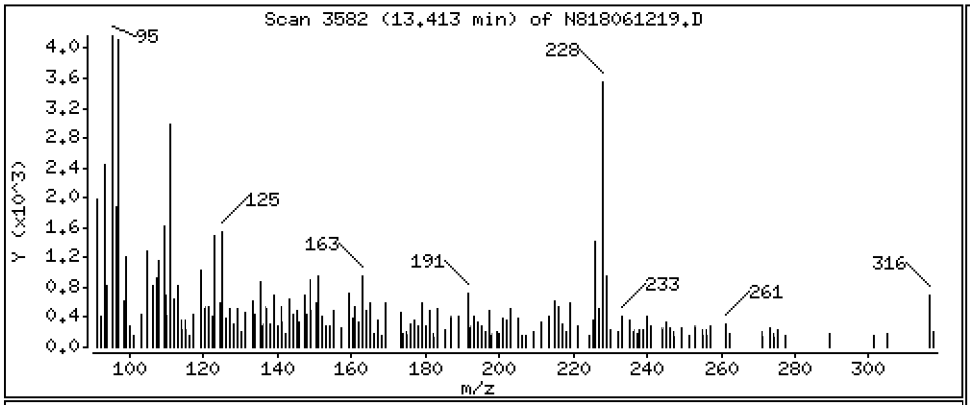
Operator: JZ

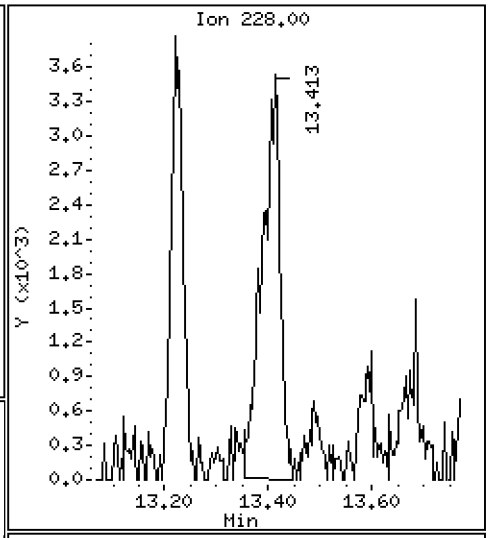
Column phase: Rxi-17sil

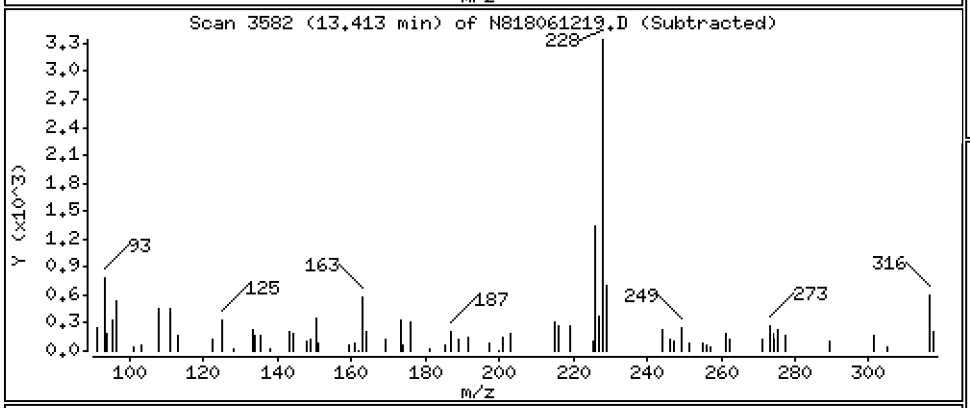
Column diameter: 0.25

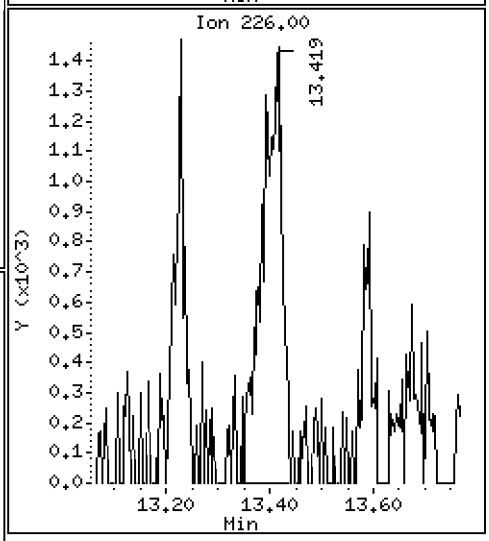
27 Chrysene

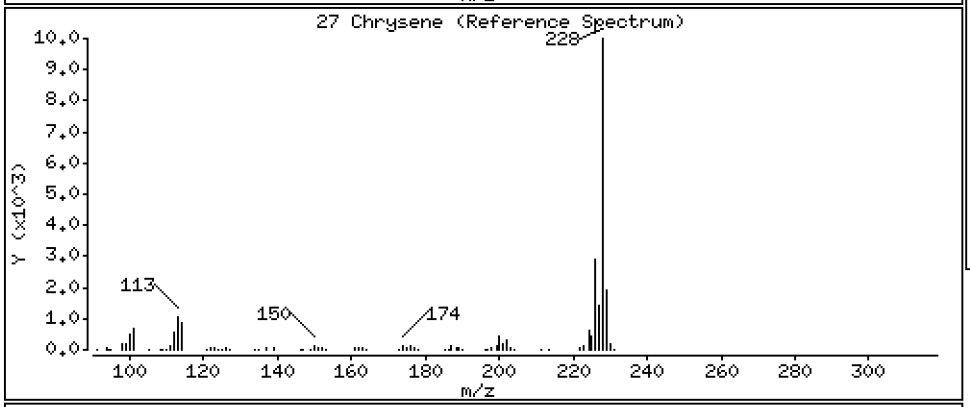
Concentration: 0.08682 ug/mL

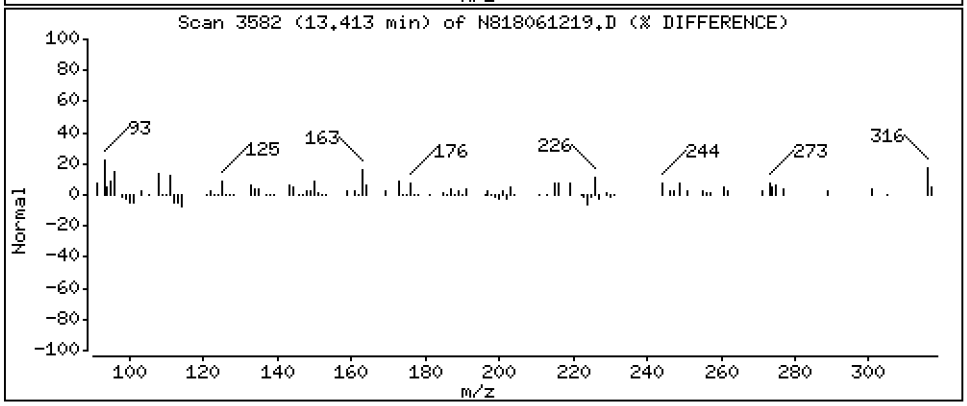












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

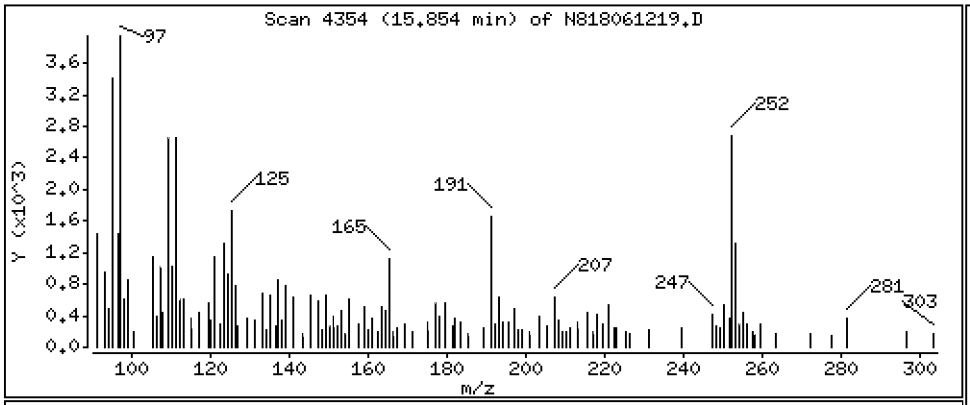
Operator: JZ

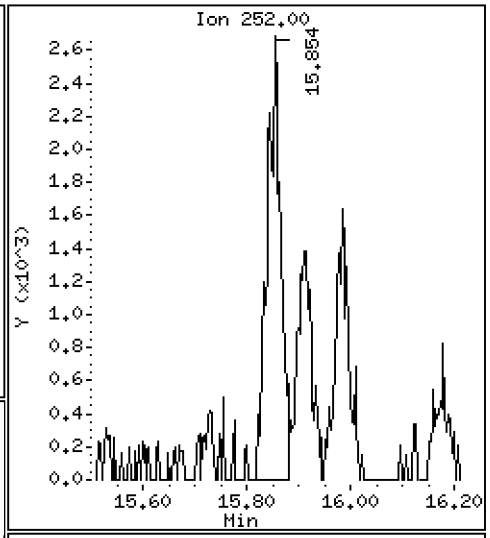
Column phase: Rxi-17sil

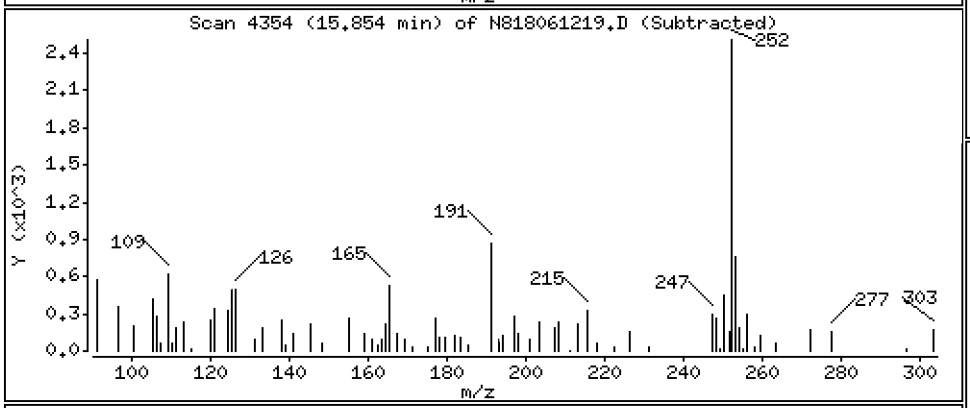
Column diameter: 0.25

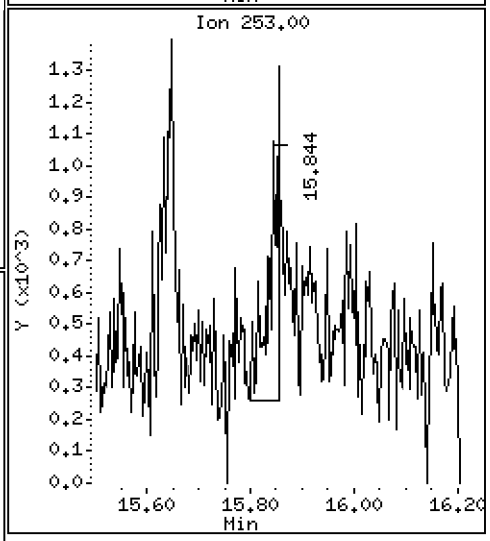
28 Benzo(b)fluoranthene

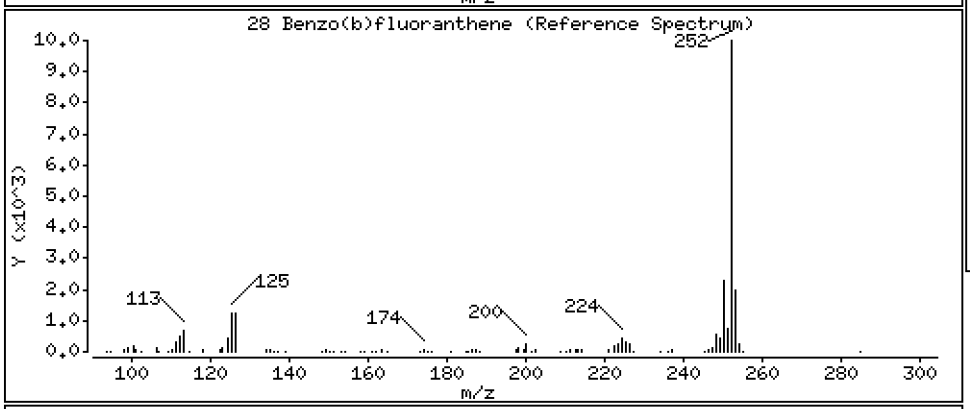
Concentration: 0.04843 ug/mL

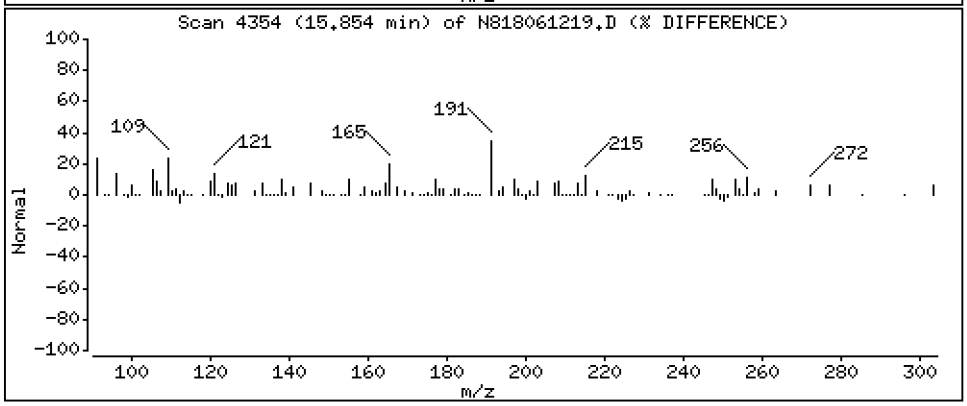












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061219.D

Date : 12-JUN-2018 22:33

Client ID:

Instrument: nt8.i

Sample Info: 18E0309-04

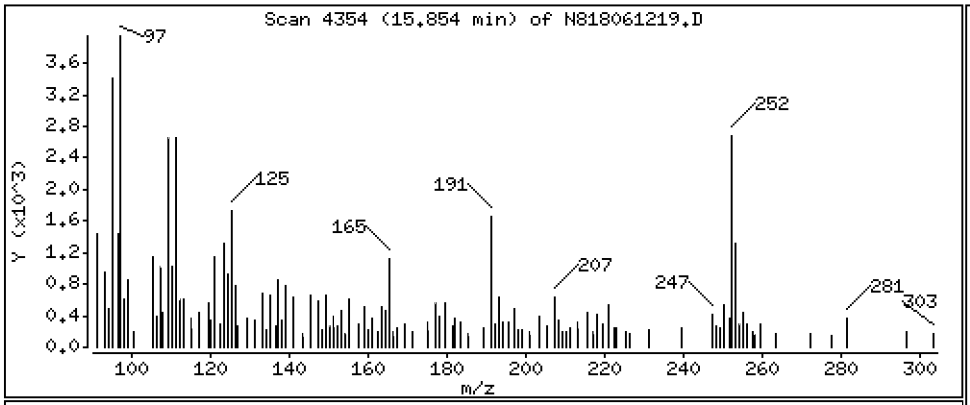
Operator: JZ

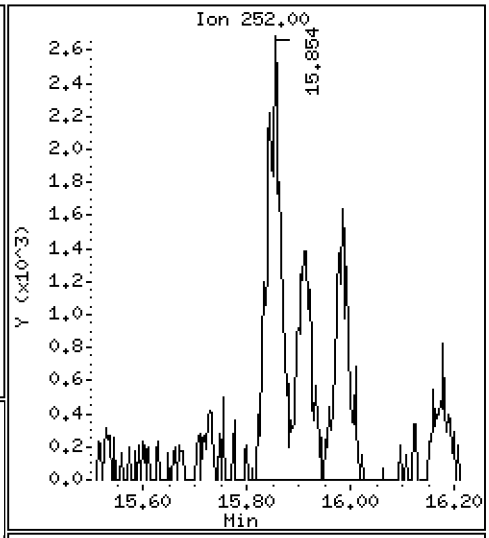
Column phase: Rxi-17sil

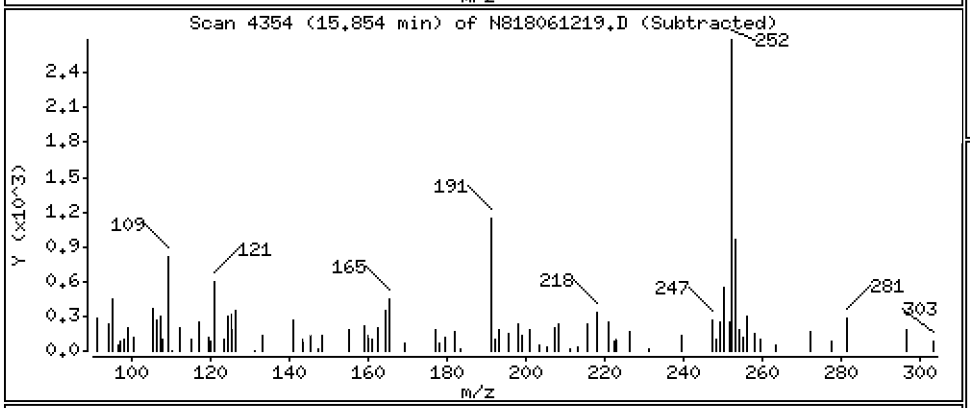
Column diameter: 0.25

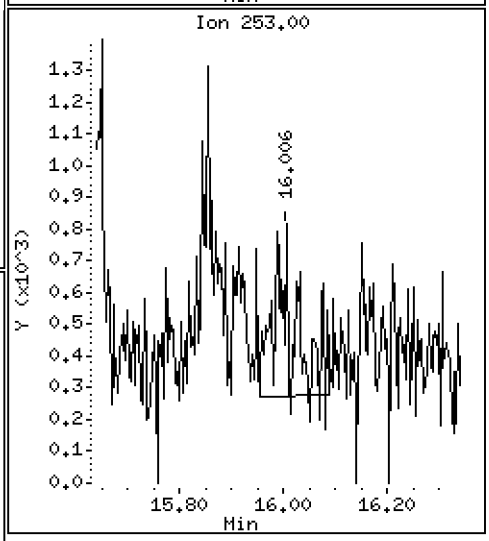
31 Total Benzofluoranthenes

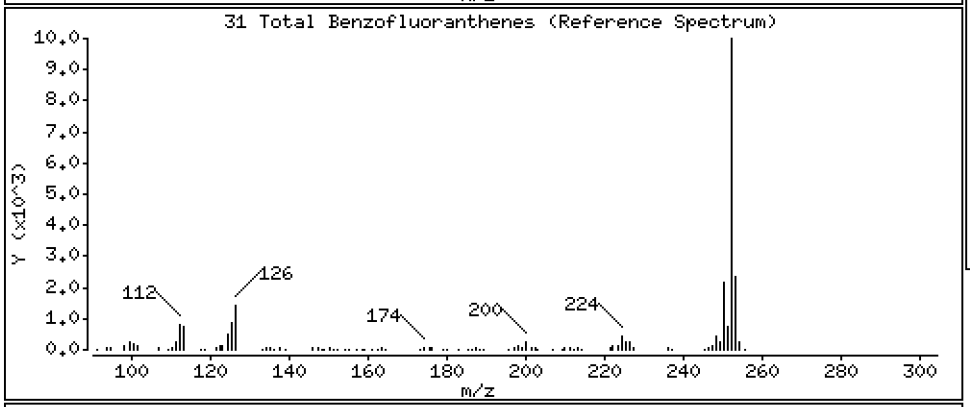
Concentration: 0.1053 ug/mL

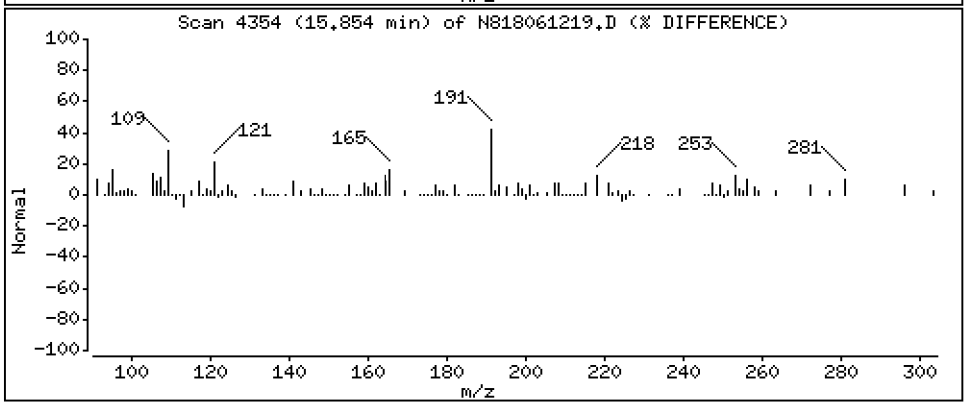












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061219.D
Lab Smp Id: 18E0309-04
Inj Date : 12-JUN-2018 22:33
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0309-04
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	166985	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.166)	69600	1.14259	1.143
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.718	6.722	(1.000)	85596	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	156939	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	8615	0.08956	0.08956(M)
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	19259	0.17766	0.1777
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	160604	1.56315	1.563
	23 Pyrene	202	10.892	10.896	(0.816)	19972	0.20143	0.2014
	24 Benzo(a)anthracene	228	13.219	13.226	(0.991)	6140	0.06405	0.06405
*	25 Chrysene-d12	240	13.346	13.349	(1.000)	164990	2.00000	
	27 Chrysene	228	13.412	13.419	(1.005)	8378	0.08682	0.08682(M)
	28 Benzo(b)fluoranthene	252	15.853	15.860	(0.927)	4947	0.04843	0.04843
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.853	15.860	(0.927)	10491	0.10532	0.1053(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.093	17.099	(1.000)	160712	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	140744	1.86970	1.870
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061219.D
Lab Smp Id: 18E0309-04
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	166985	36.66
10 Acenaphthene-d10	65789	32895	131578	85596	30.11
15 Phenanthrene-d10	128644	64322	257288	156939	21.99
25 Chrysene-d12	166669	83335	333338	164990	-1.01
33 Perylene-d12	140483	70242	280966	160712	14.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.29
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.05
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.03
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061219.D

Lab ID: 18E0309-04
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 22:33

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

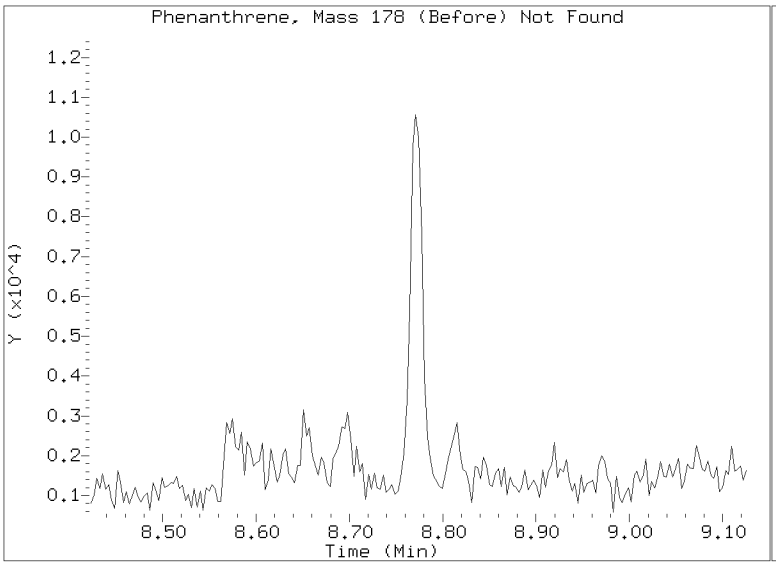
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

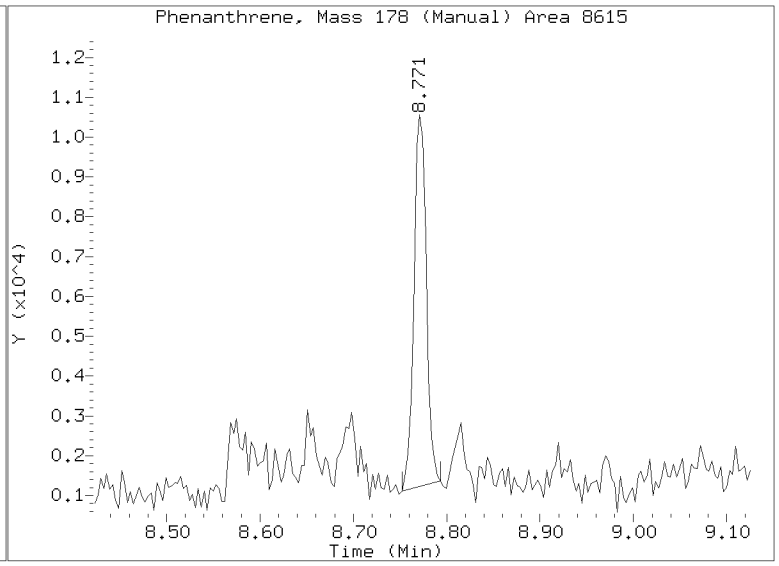
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

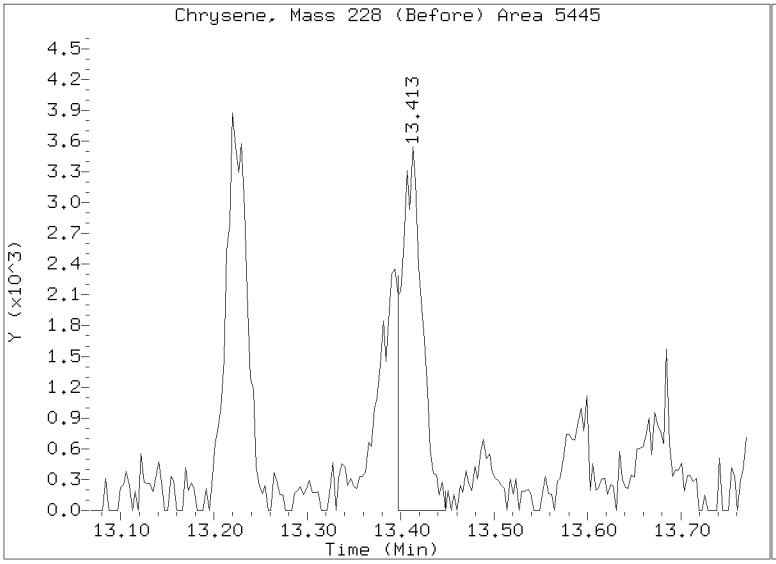
* Only compounds listed in the work order have been verified by the analyst *

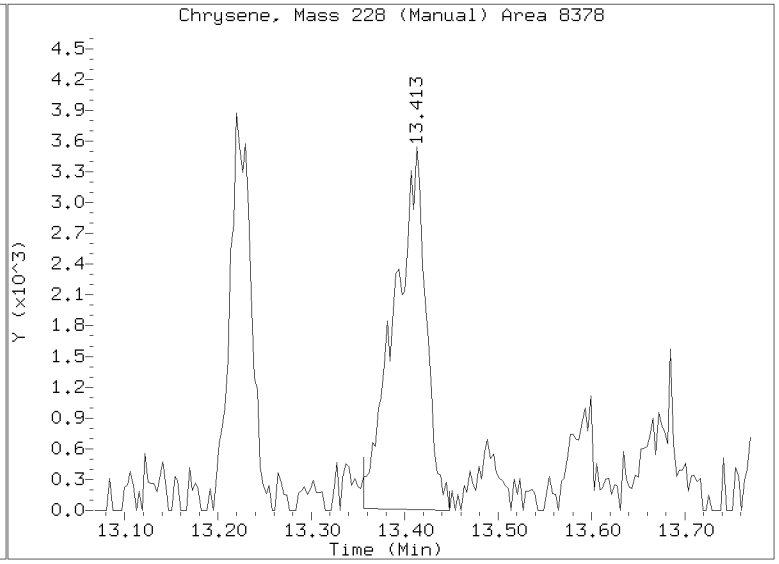
Quant Ion Manual Peak Adjustment Report

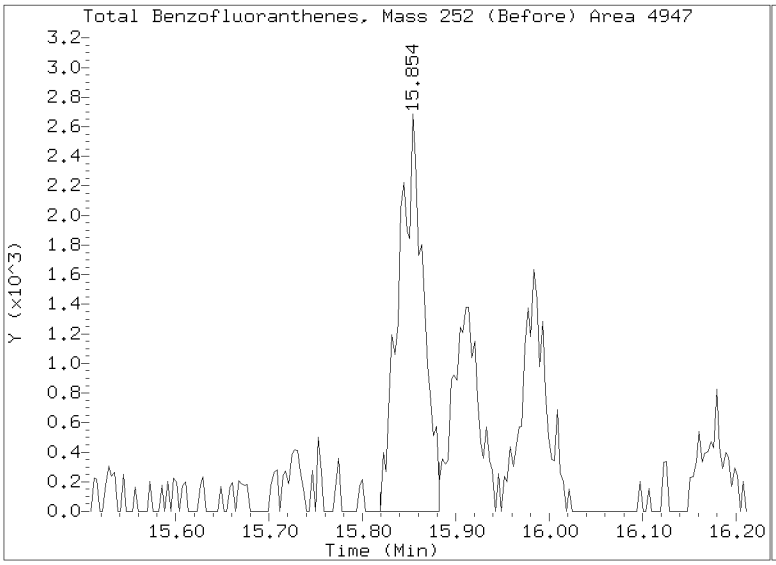
Datafile: //target/share/chem3/nt8.i/20180612.b/N818061219.D
Injection Date: 12-JUN-2018 22:33
Lab ID:18E0309-04 Client ID:
Report Date: 06/13/2018 13:44

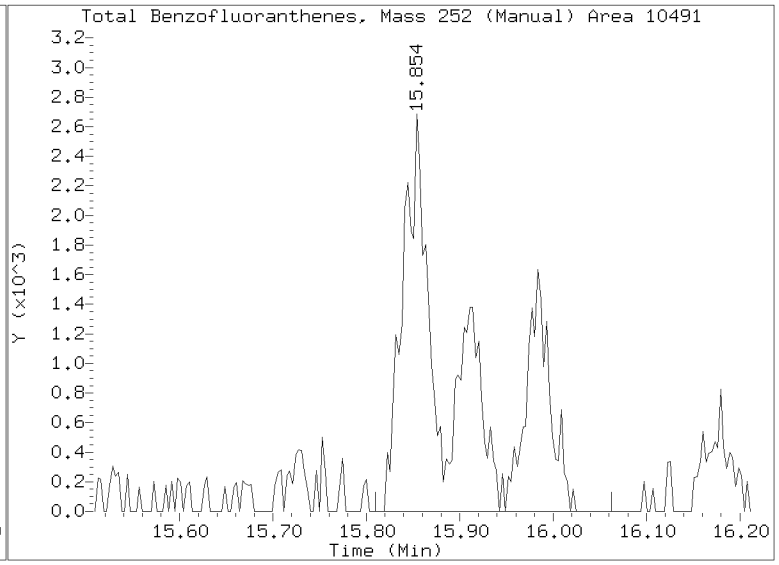












LDW18-A13-CLWB-Comp1

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0389-01	SDG:	18E0231
Sampled:	05/17/18 12:20	Prepared:	06/05/18 12:40	File ID:	N818061223.D
% Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Analyzed:	06/13/18 00:20
Batch:	BGE0773	Sequence:	SGF0149	Initial/Final:	10.15 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	BC00011
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	4.93	U	0.53	4.93
218-01-9	Chrysene	1	4.07	J	0.48	4.93
205-99-2	Benzo(b)fluoranthene	1	1.71	J	0.99	4.93
207-08-9	Benzo(k)fluoranthene	1	4.93	U	0.70	4.93
50-32-8	Benzo(a)pyrene	1	4.93	U	0.90	4.93
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.93	U	0.57	4.93
53-70-3	Dibenzo(a,h)anthracene	1	4.93	U	1.50	4.93

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	147.78	63.1	42.7	20 - 130	
Dibenzo[a,h]anthracene-d14	147.78	102	68.9	20 - 130	
Fluoranthene-d10	147.78	81.6	55.2	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

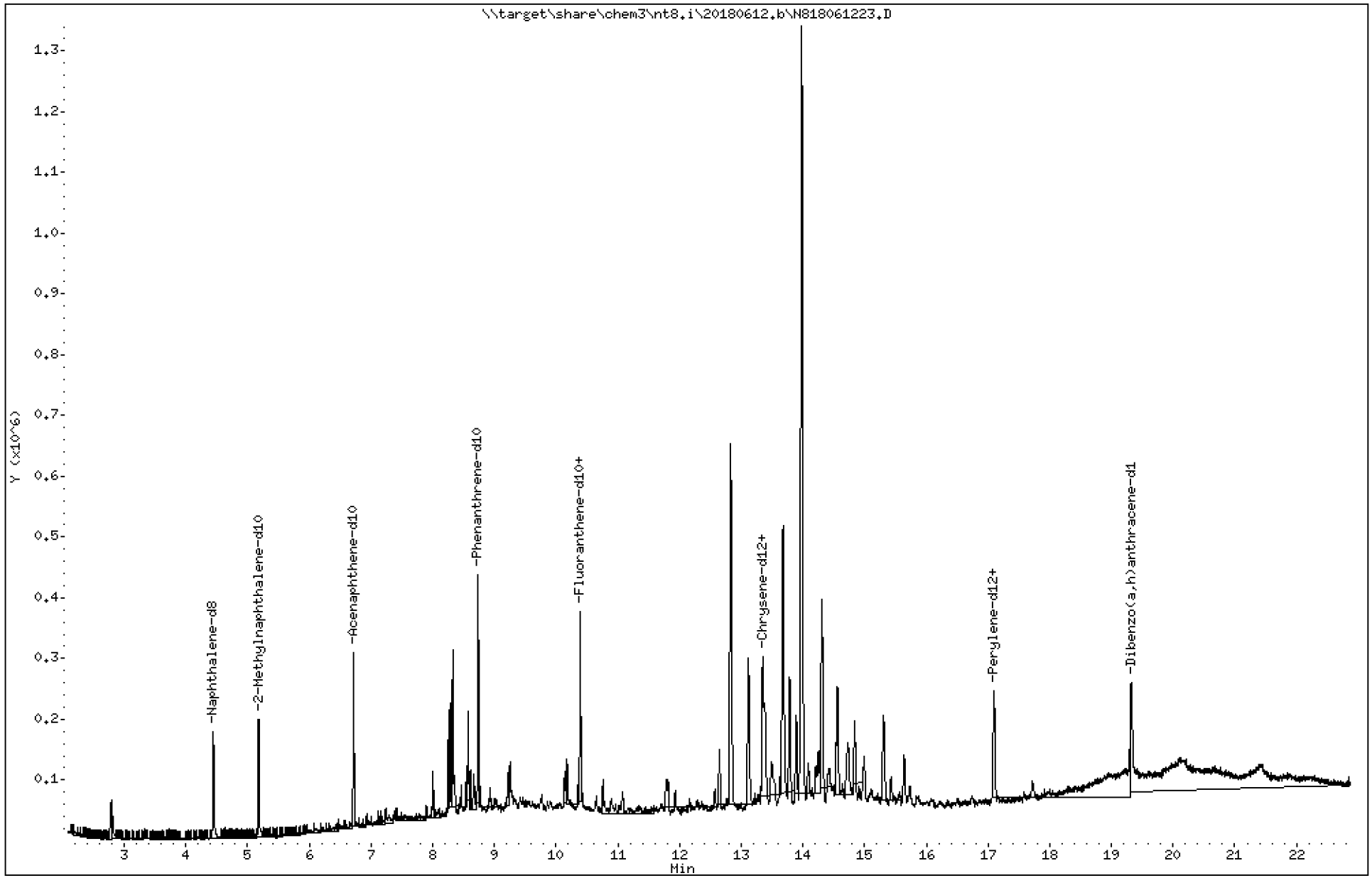
Instrument: nt8.i

Sample Info: 18E0389-01

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

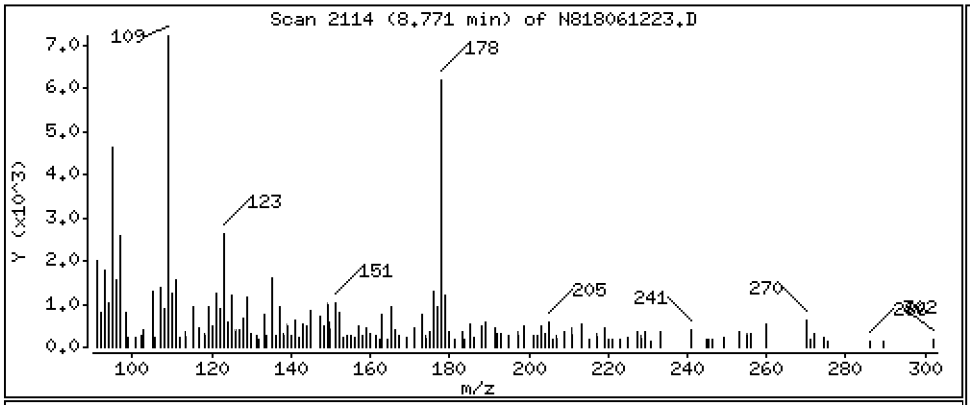
Operator: JZ

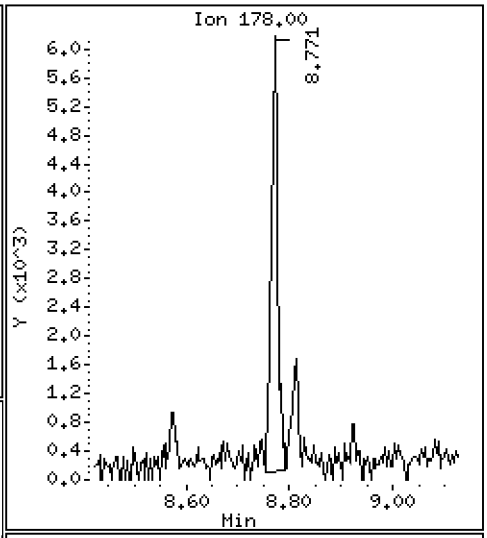
Column phase: Rxi-17sil

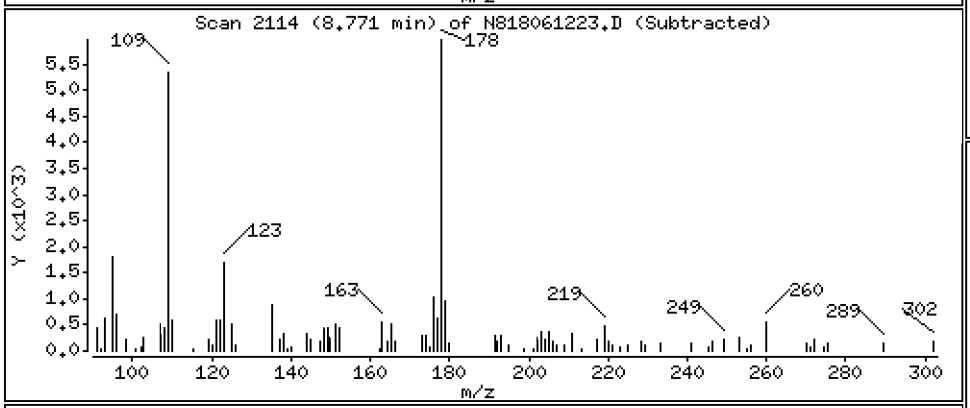
Column diameter: 0.25

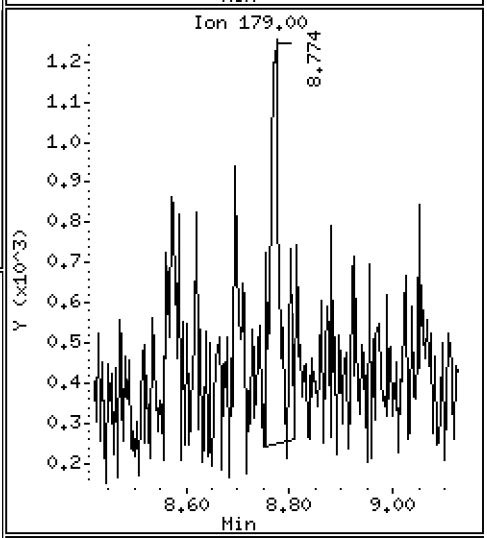
16 Phenanthrene

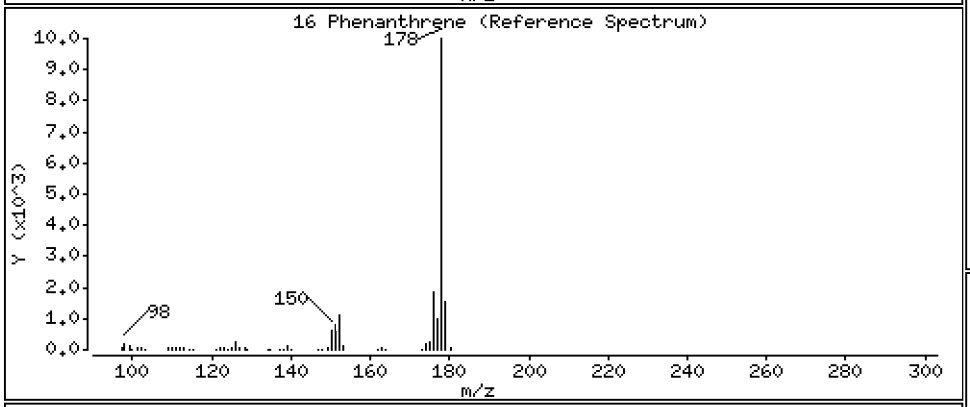
Concentration: 0.05839 ug/mL

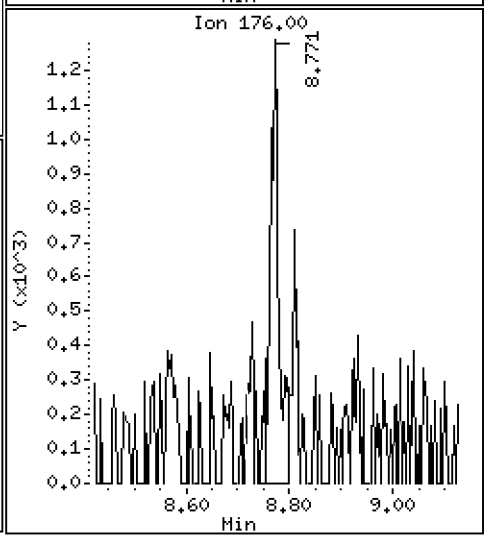


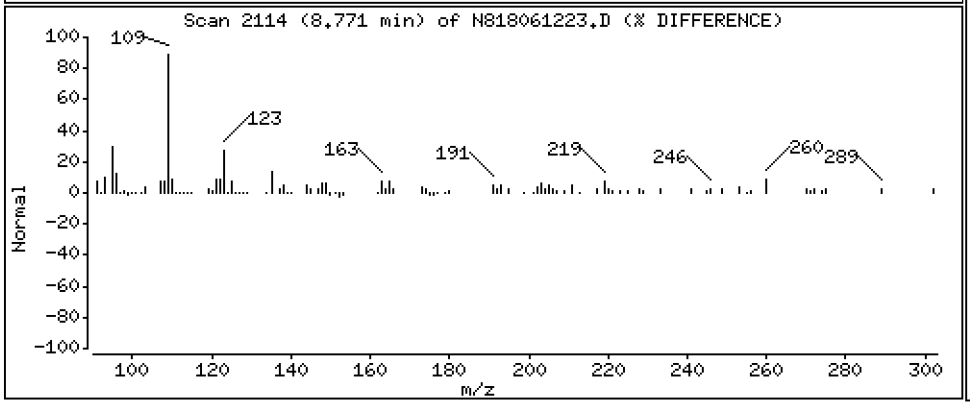












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

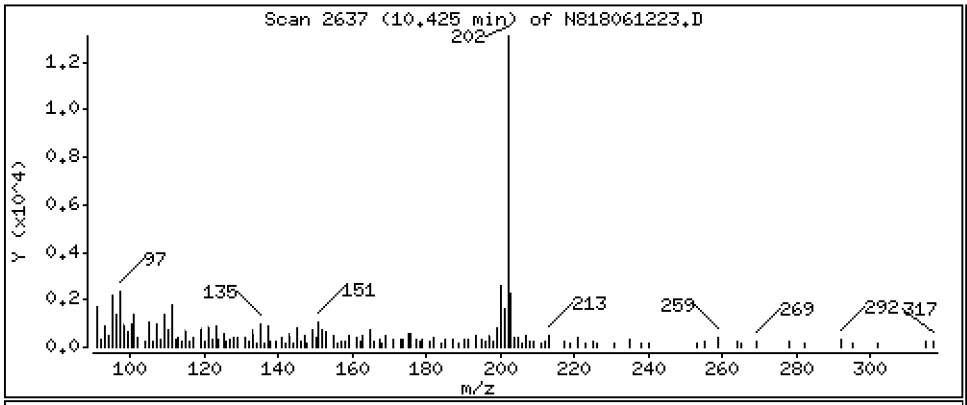
Operator: JZ

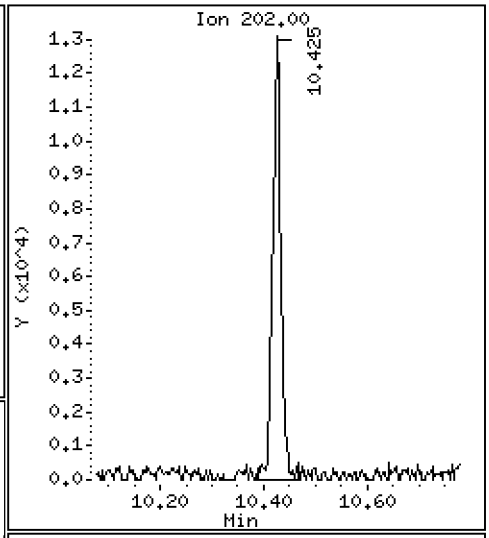
Column phase: Rxi-17sil

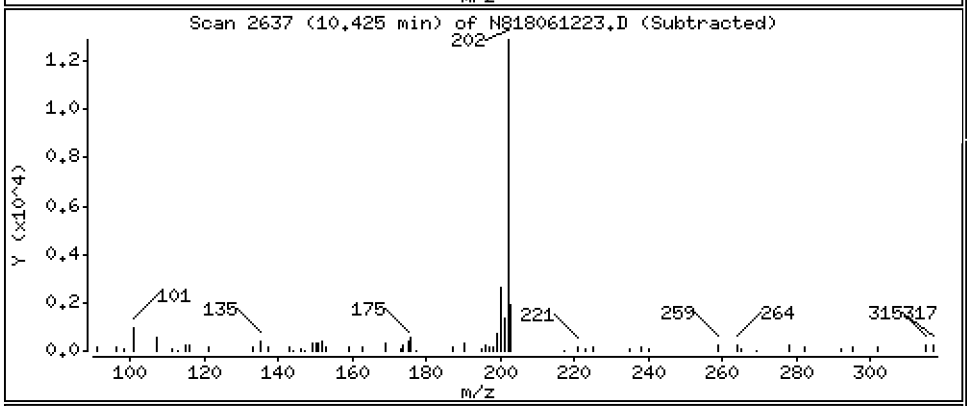
Column diameter: 0.25

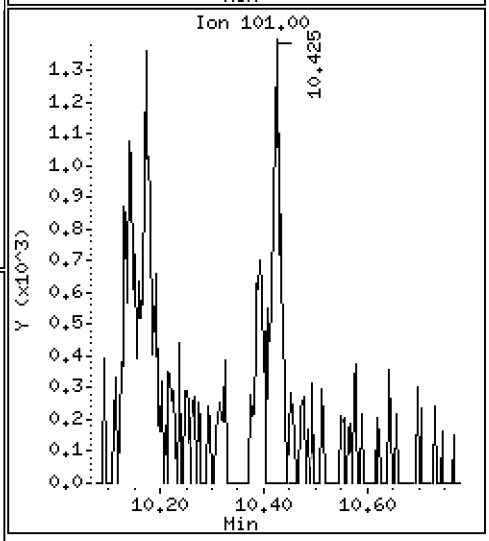
22 Fluoranthene

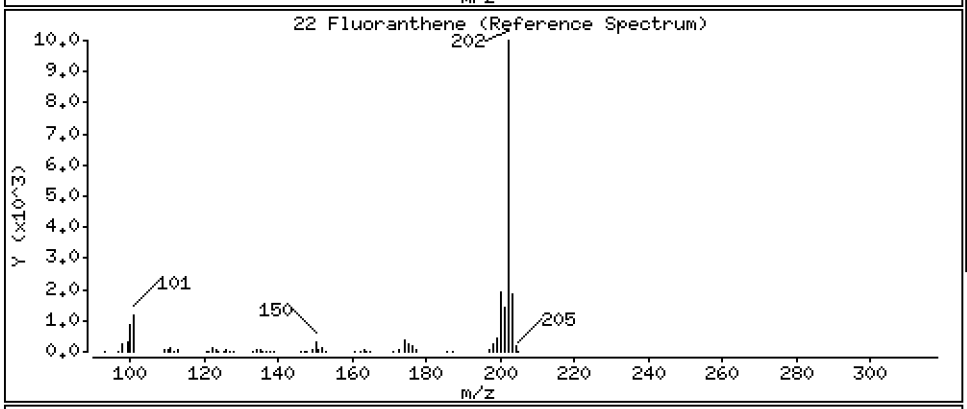
Concentration: 0.1416 ug/mL

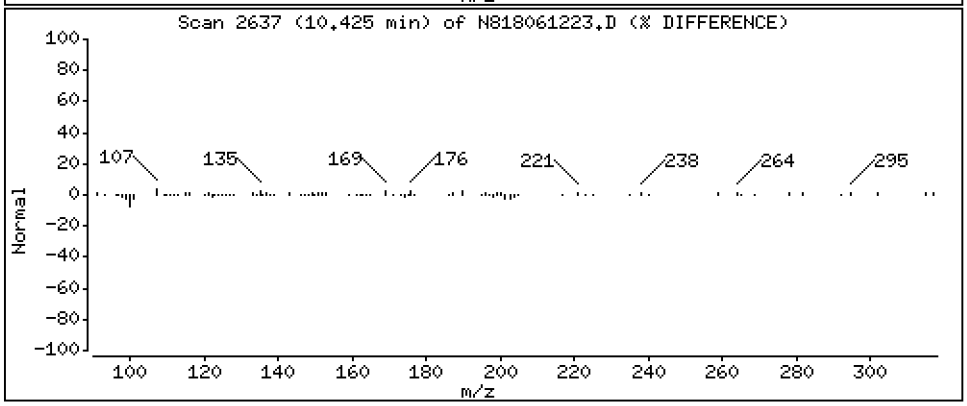












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

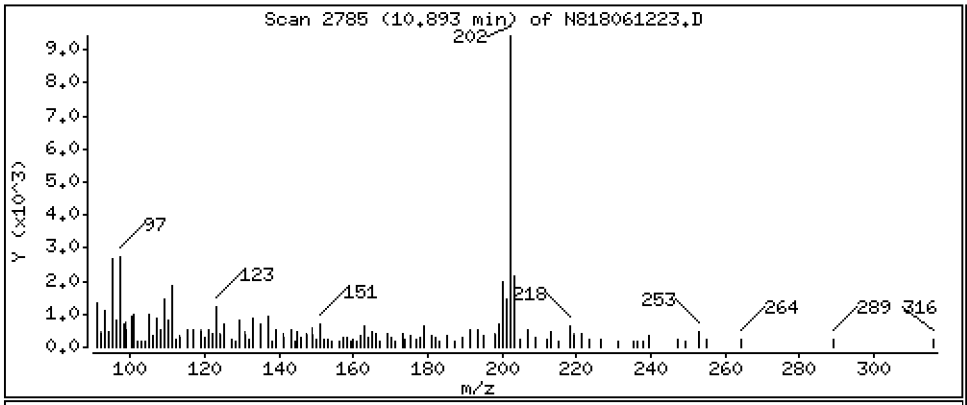
Operator: JZ

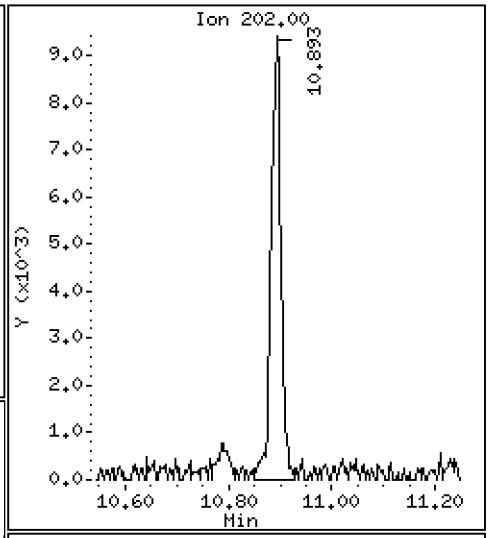
Column phase: Rxi-17sil

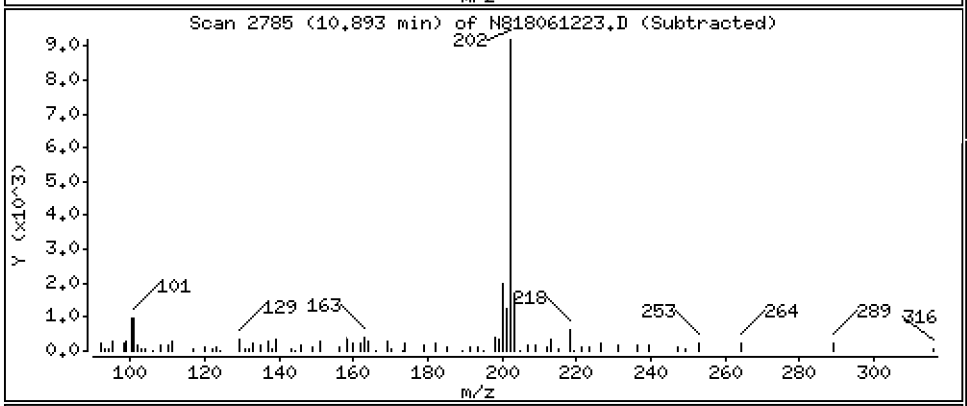
Column diameter: 0.25

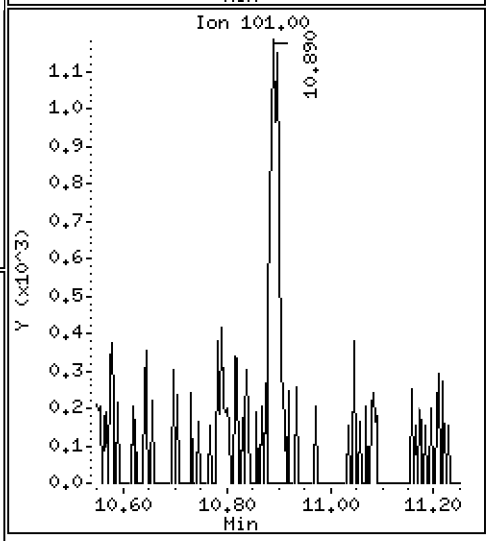
23 Pyrene

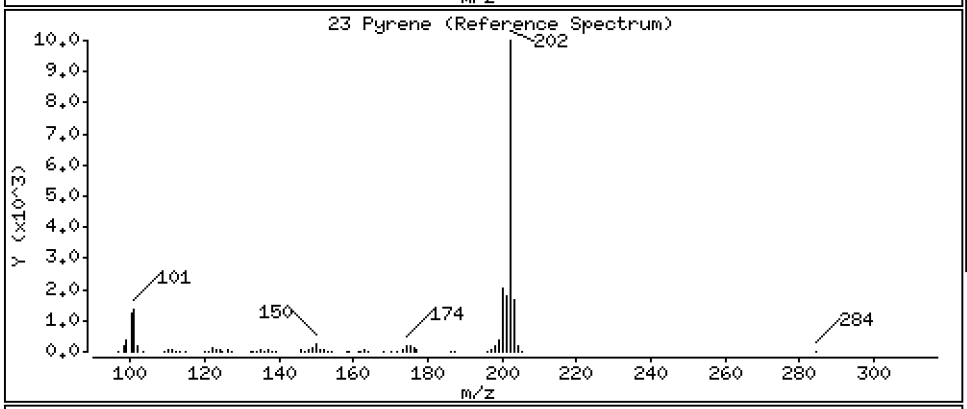
Concentration: 0.1359 ug/mL

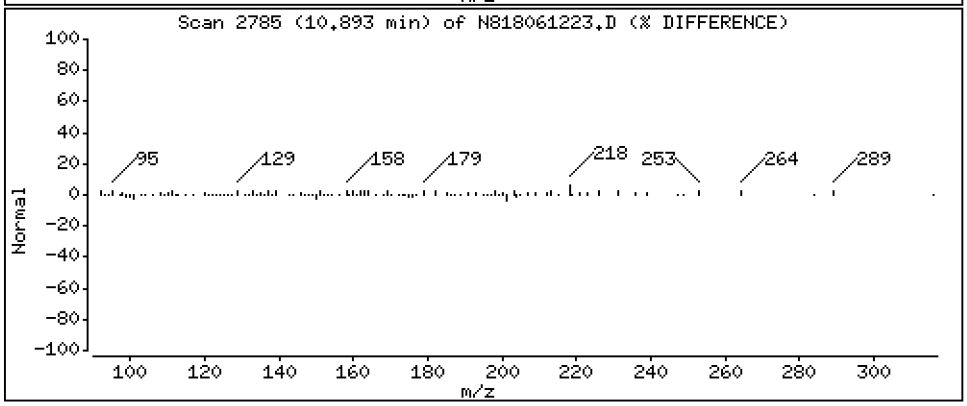












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

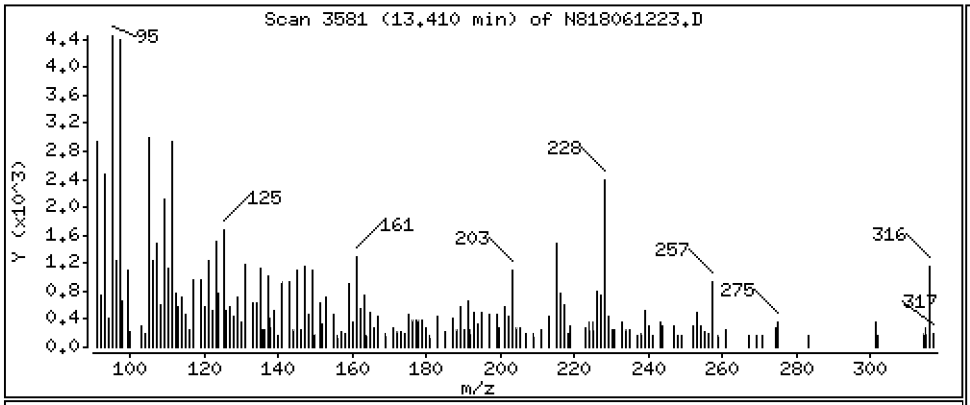
Operator: JZ

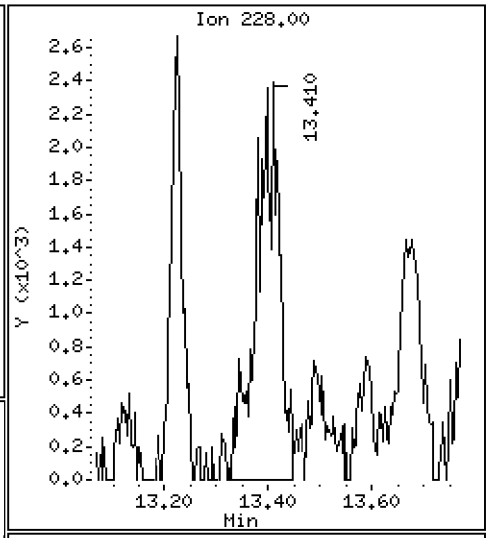
Column phase: Rxi-17sil

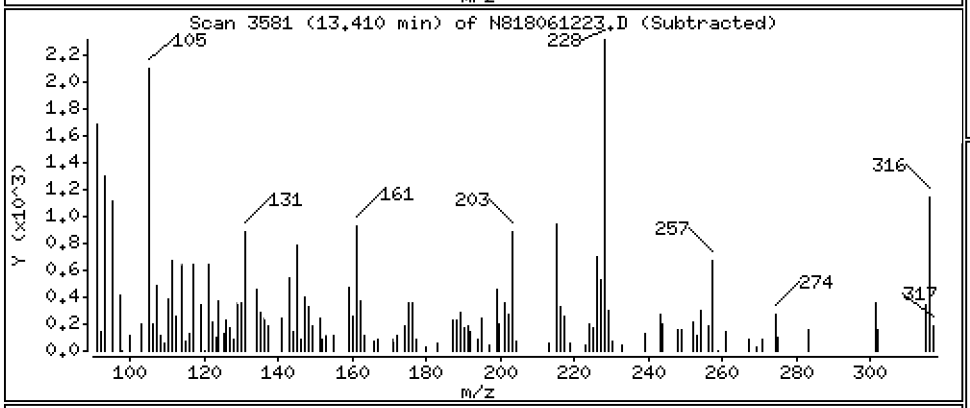
Column diameter: 0.25

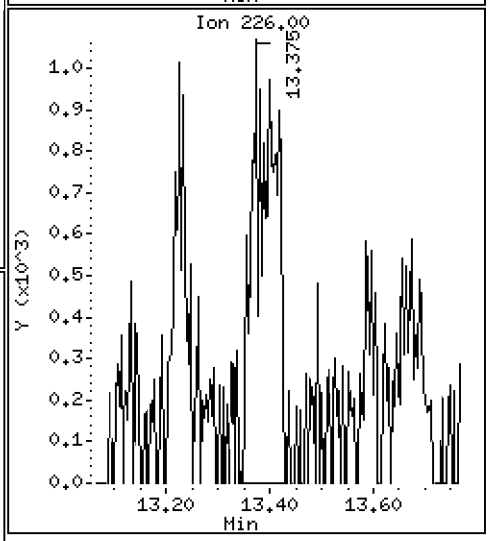
27 Chrysene

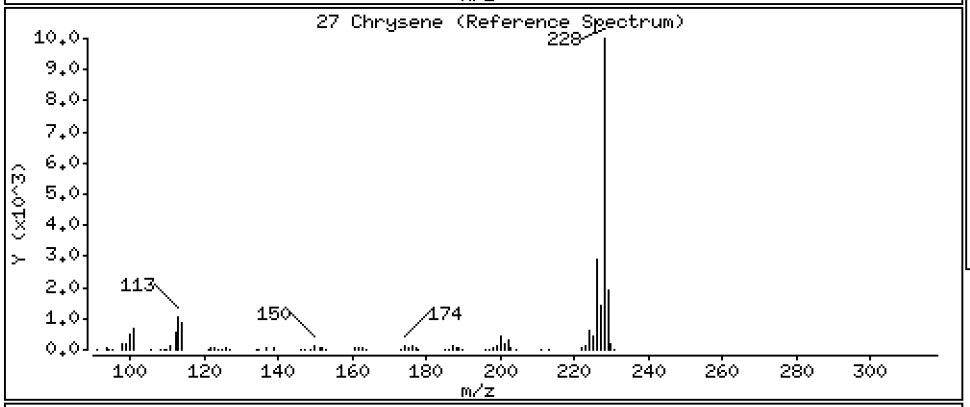
Concentration: 0.08259 ug/mL

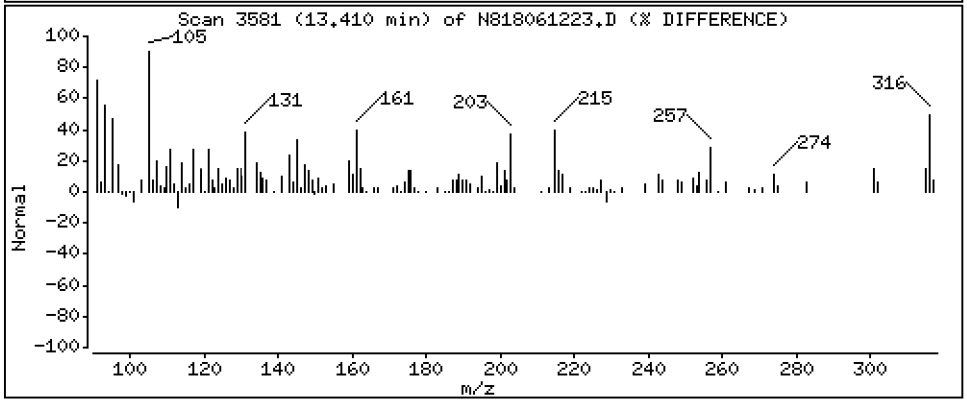












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

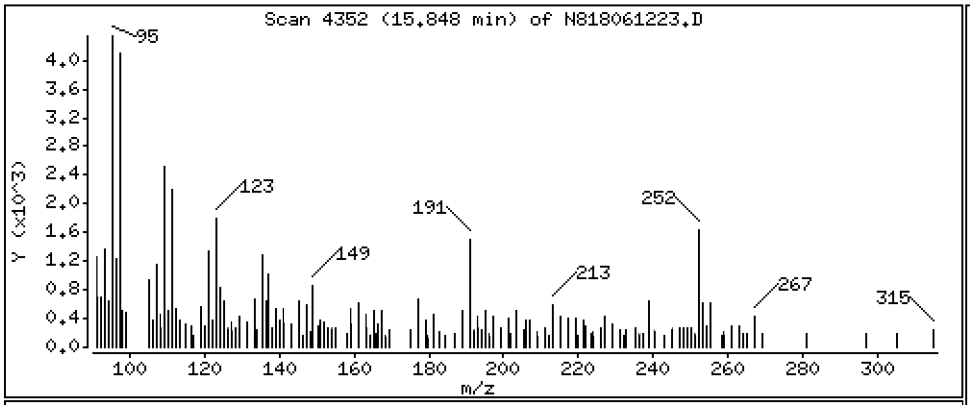
Operator: JZ

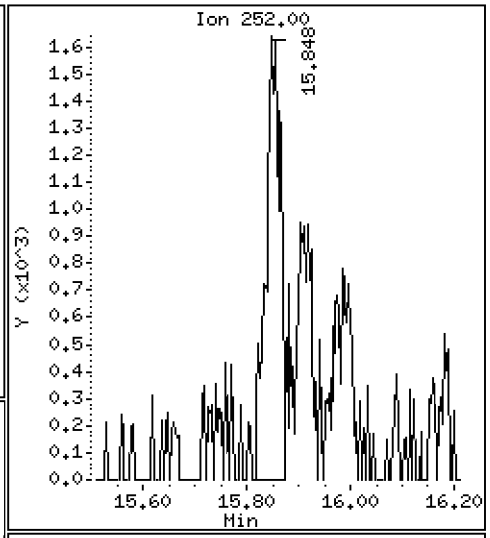
Column phase: Rxi-17sil

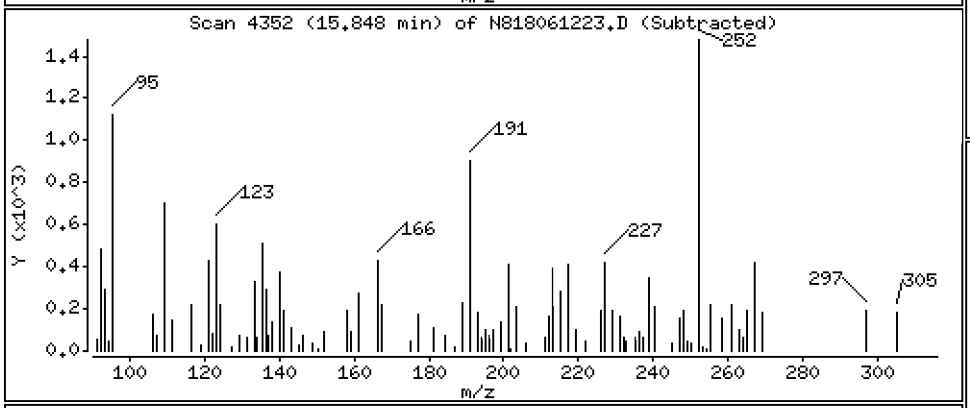
Column diameter: 0.25

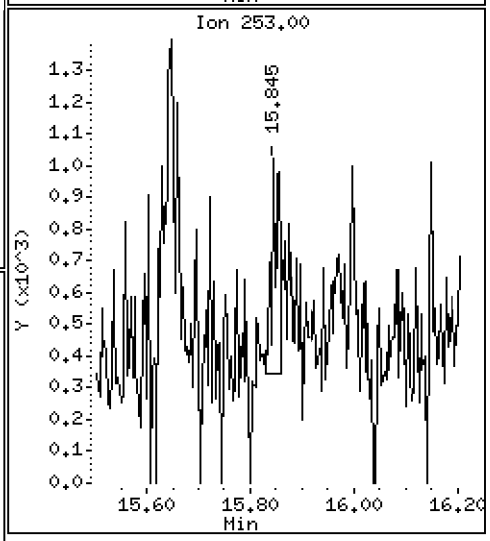
28 Benzo(b)fluoranthene

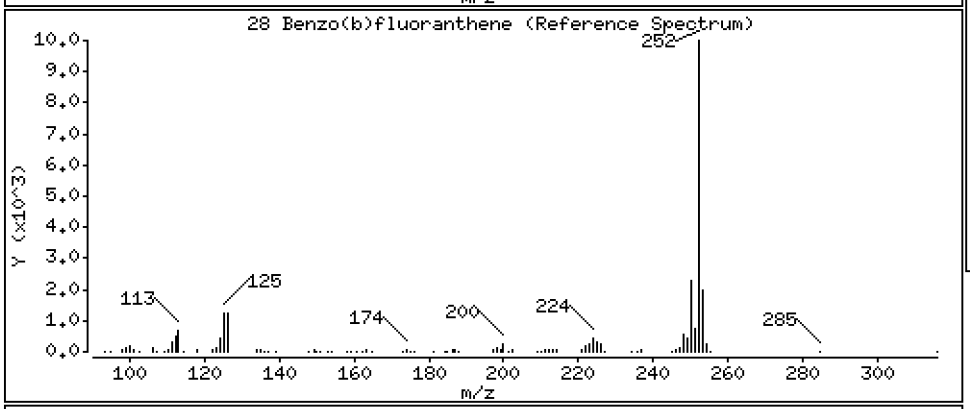
Concentration: 0.03466 ug/mL

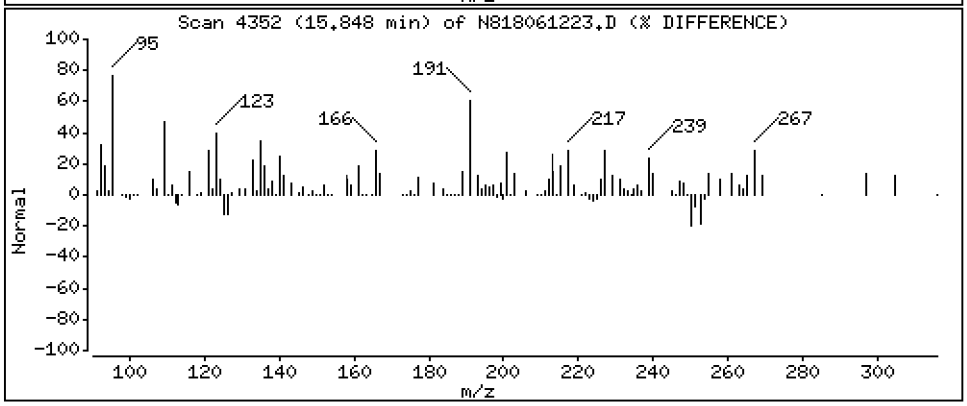












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

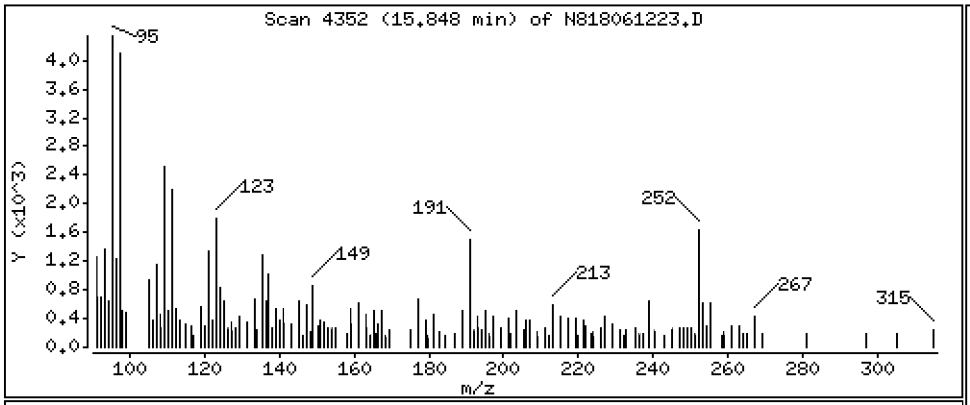
Operator: JZ

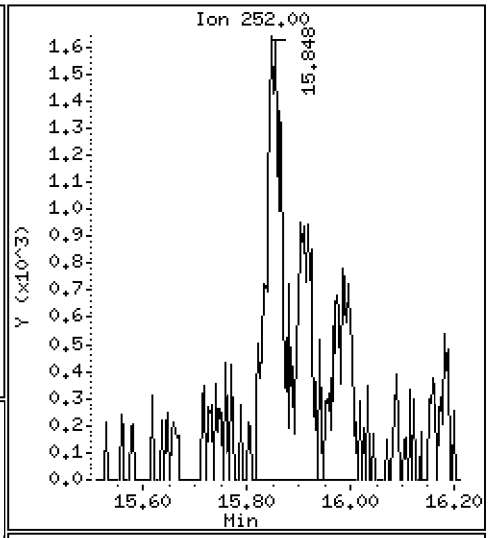
Column phase: Rxi-17sil

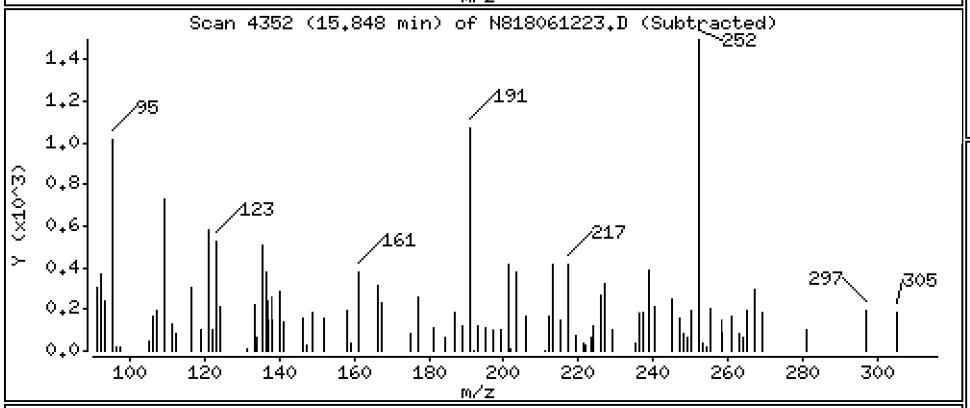
Column diameter: 0.25

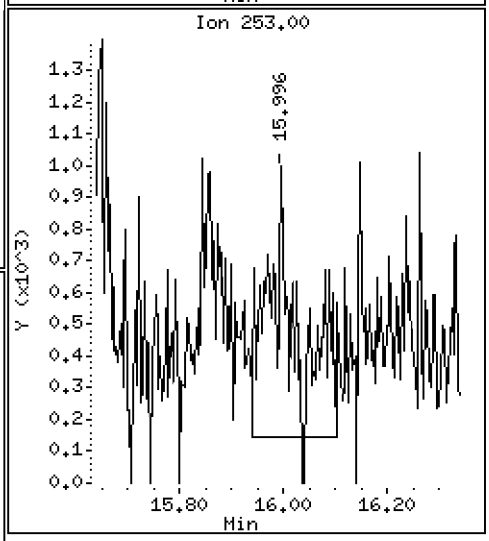
31 Total Benzofluoranthenes

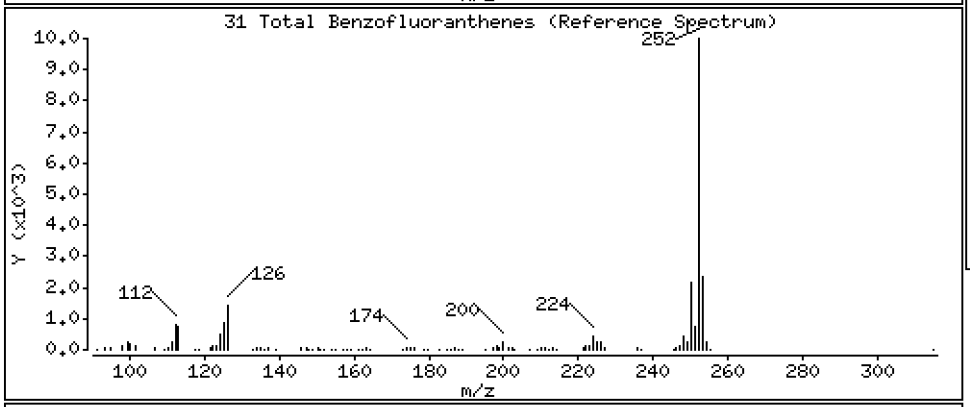
Concentration: 0.08133 ug/mL

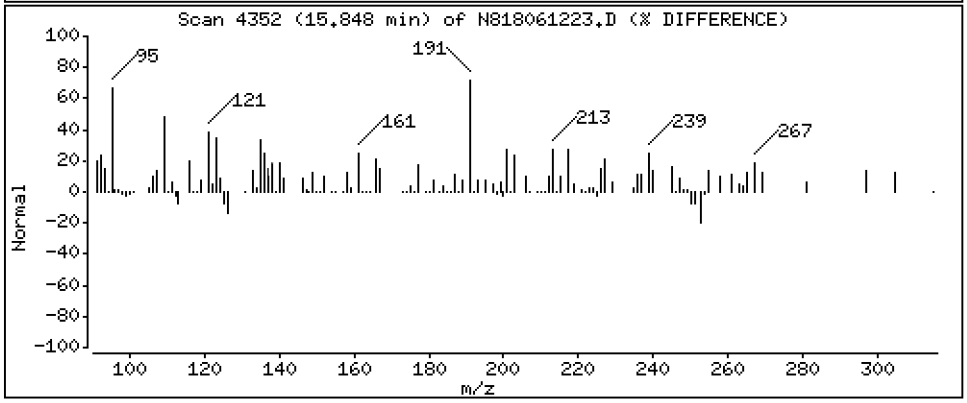












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061223.D

Date : 13-JUN-2018 00:20

Client ID:

Instrument: nt8.i

Sample Info: 18E0389-01

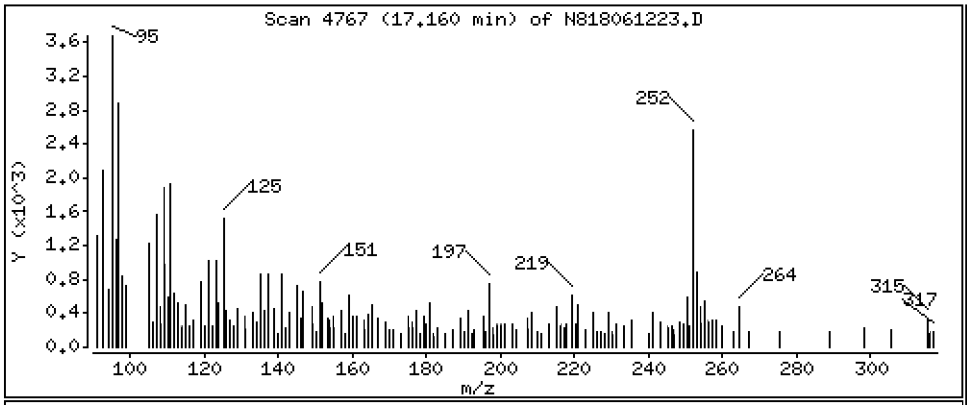
Operator: JZ

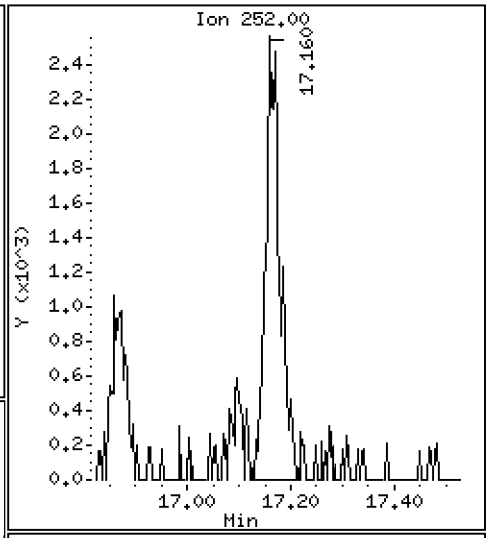
Column phase: Rxi-17sil

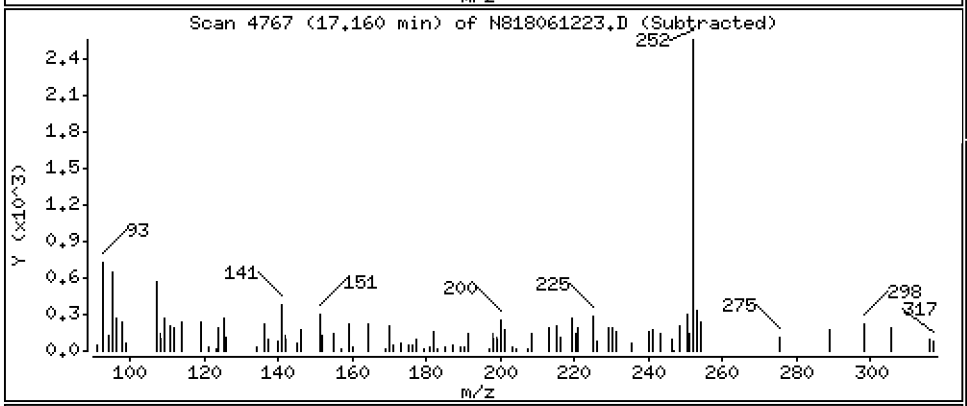
Column diameter: 0.25

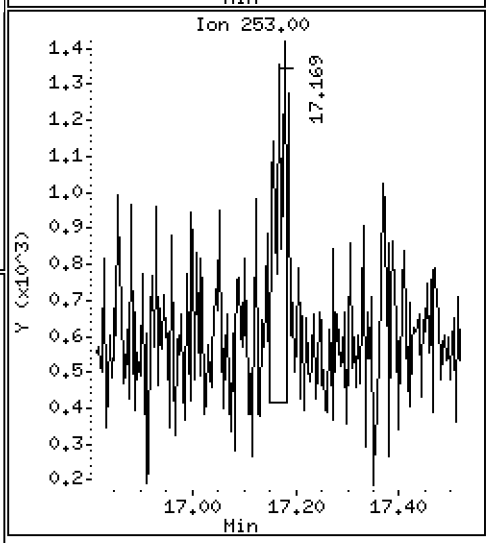
35 Perylene

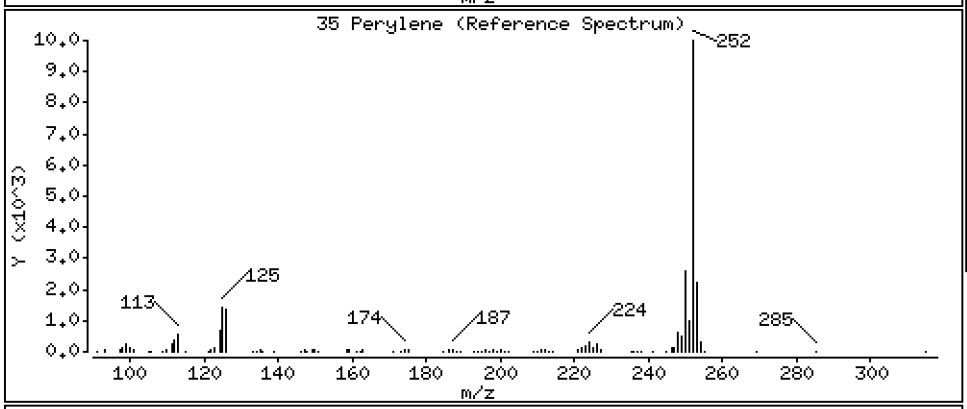
Concentration: 0.05603 ug/mL

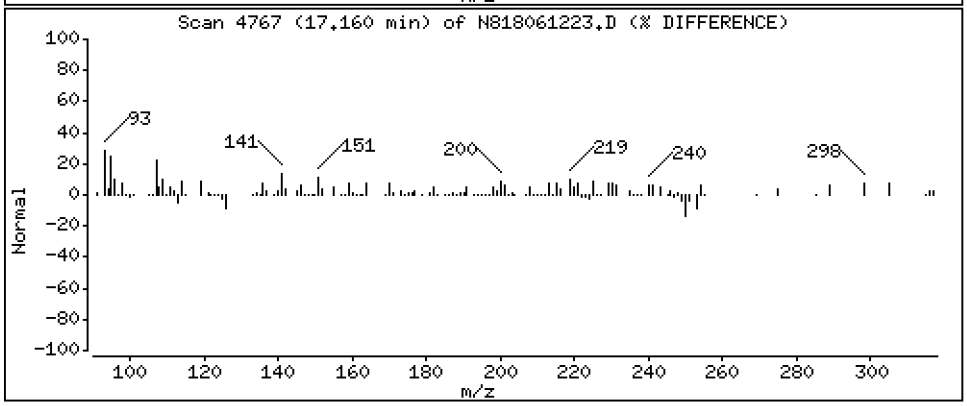












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061223.D
Lab Smp Id: 18E0389-01
Inj Date : 13-JUN-2018 00:20
Operator : JZ Inst ID: nt8.i
Smp Info : 18E0389-01
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.442	4.455	(1.000)	158470	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.166)	73994	1.27999	1.280
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	84534	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	148094	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	5300	0.05839	0.05839
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	10.424	10.428	(1.193)	14489	0.14164	0.1416
$	21 Fluoranthene-d10	212	10.393	10.396	(1.190)	160543	1.65588	1.656
	23 Pyrene	202	10.892	10.896	(0.816)	12413	0.13593	0.1359(M)
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.346	13.349	(1.000)	151961	2.00000	
	27 Chrysene	228	13.409	13.419	(1.005)	7340	0.08259	0.08259(M)
	28 Benzo(b)fluoranthene	252	15.847	15.860	(0.927)	3190	0.03466	0.03466
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.847	15.860	(0.927)	7301	0.08133	0.08133(M)
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.096	17.099	(1.000)	144833	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	140276	2.06779	2.068
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	17.159	17.175	(1.004)	4908	0.05603	0.05603

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061223.D
Lab Smp Id: 18E0389-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	158470	29.69
10 Acenaphthene-d10	65789	32895	131578	84534	28.49
15 Phenanthrene-d10	128644	64322	257288	148094	15.12
25 Chrysene-d12	166669	83335	333338	151961	-8.82
33 Perylene-d12	140483	70242	280966	144833	3.10

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.44	-0.29
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.02
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061223.D

Lab ID: 18E0389-01
nt8.i, 20180612.b\FSIMPNA180305.m,   13-JUN-2018 00:20

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

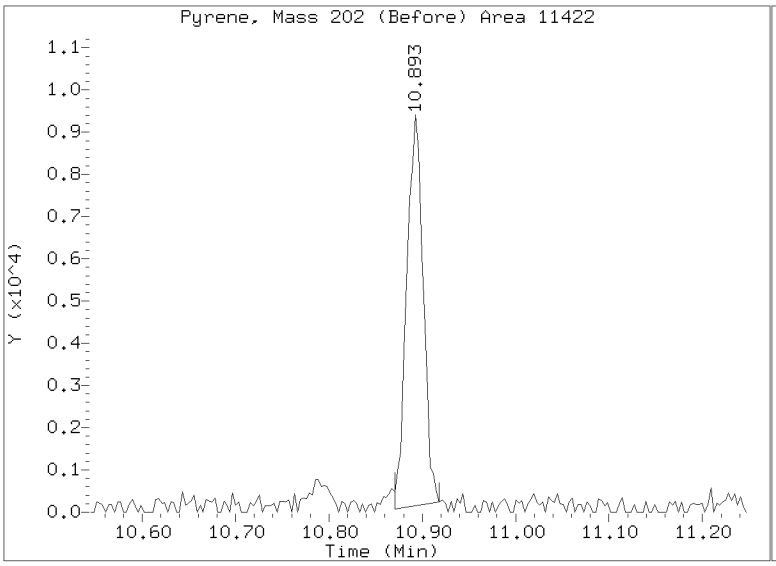
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

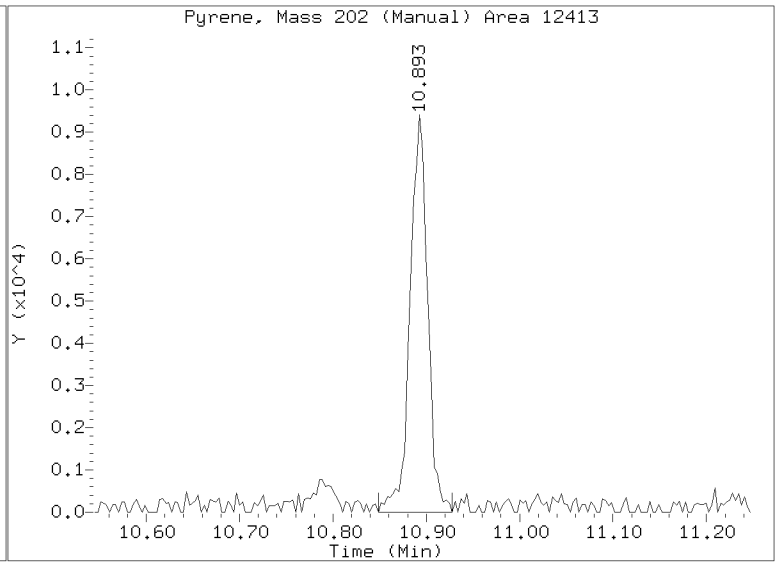
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

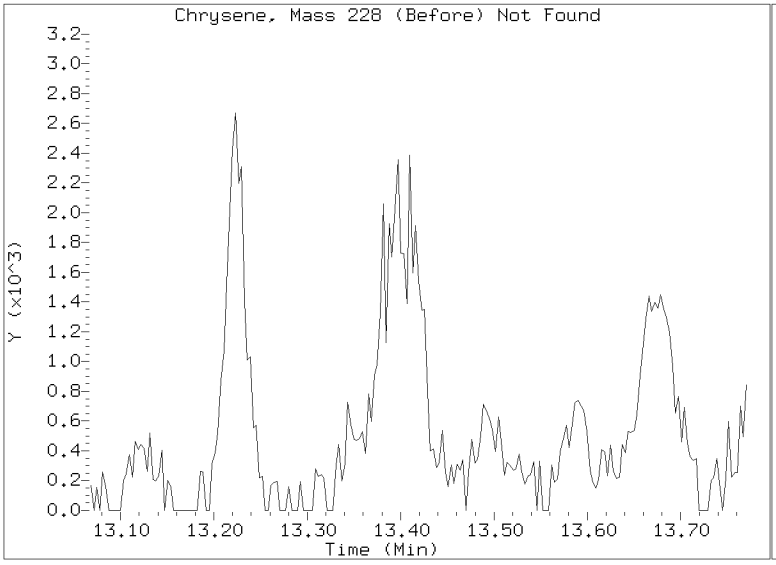
* Only compounds listed in the work order have been verified by the analyst *

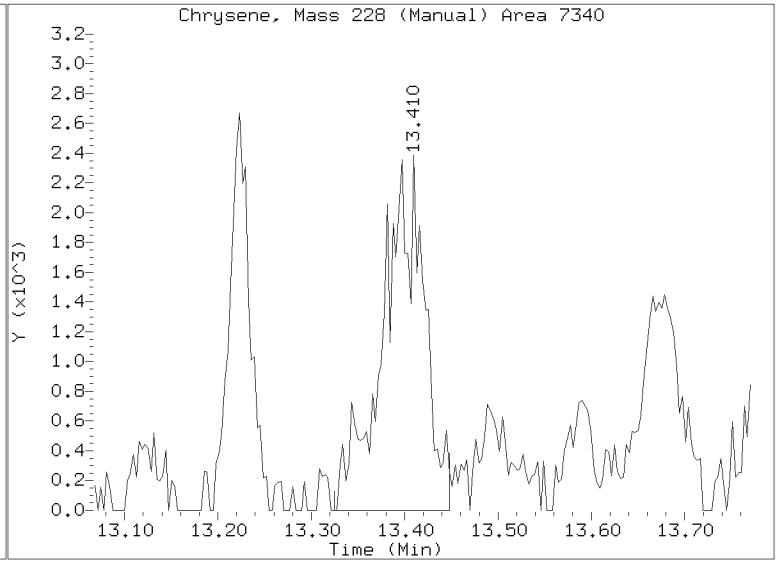
Quant Ion Manual Peak Adjustment Report

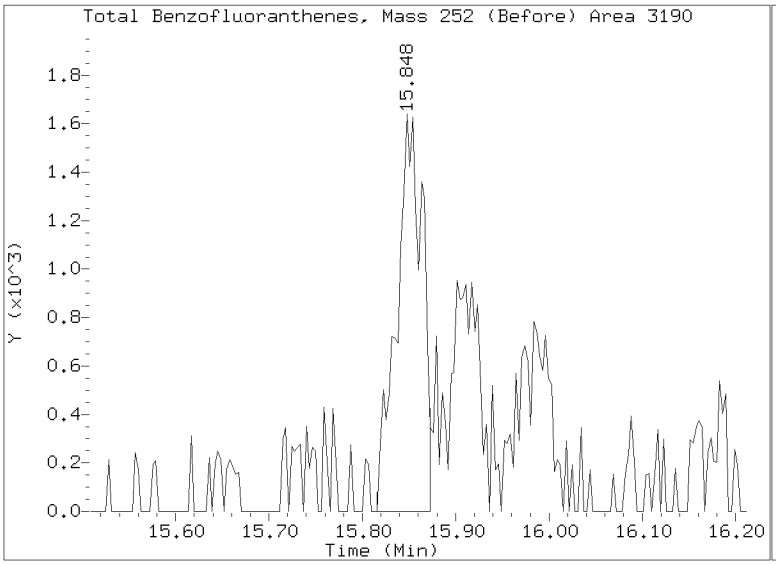
Datafile: //target/share/chem3/nt8.i/20180612.b/N818061223.D
Injection Date: 13-JUN-2018 00:20
Lab ID:18E0389-01 Client ID:
Report Date: 06/13/2018 13:52

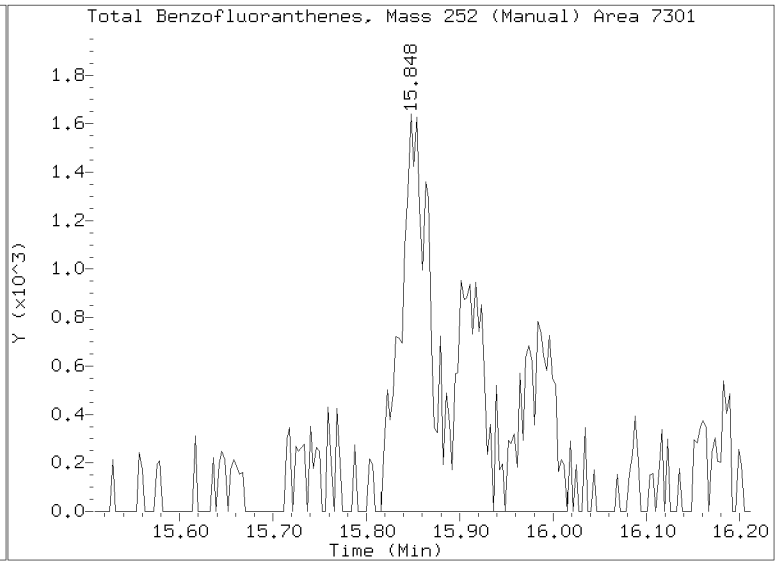












Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0626 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-SSCL-A11	18E0231-02	N818060106.D	05/24/18 10:50	
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	05/24/18 10:50	
LDW18-SSCL-A01	18E0243-01	N818060108.D	05/24/18 10:50	
LDW18-SSCL-A01	18E0243-01RE1	N818060114.D	05/24/18 10:50	Added 6/1/2018 by JZ
LDW18-SSCL-A02	18E0243-02	N818060109.D	05/24/18 10:50	
LDW18-SSCL-A03	18E0243-03	N818060115.D	05/24/18 10:50	
LDW18-SSCL-A03	18E0243-03RE1	N818060116.D	05/24/18 10:50	Added 6/4/2018 by JZ
LDW18-SSCL-A05	18E0243-04	N818060111.D	05/24/18 10:50	
LDW18-SSCL-A04	18E0243-05	N818060112.D	05/24/18 10:50	
LDW18-SSCL-A06	18E0243-06	N818060113.D	05/24/18 10:50	
LDW18-SSCL-A13	18E0262-01	N818060117.D	05/24/18 10:50	
LDW18-SSCL-A19	18E0262-02	N818060118.D	05/24/18 10:50	
LDW18-SSCL-A12	18E0282-01	N818060119.D	05/24/18 10:50	
LDW18-SSCL-A17	18E0282-02	N818060120.D	05/24/18 10:50	
LDW18-SSCL-A18	18E0282-03	N818060121.D	05/24/18 10:50	
LDW18-SSCL-A18	18E0282-03RE1	N818060406.D	05/24/18 10:50	Added 6/4/2018 by JZ
LDW18-SSCL-A09	18E0282-04	N818060122.D	05/24/18 10:50	
LDW18-SSCL-A10	18E0282-05	N818060123.D	05/24/18 10:50	
LDW18-SSCL-A07	18E0309-01	N818060126.D	05/24/18 10:50	
LDW18-SSCL-A08	18E0309-02	N818060127.D	05/24/18 10:50	
Blank	BGE0626-BLK1	N818060103.D	05/24/18 10:50	
Blank	BGE0626-BLK1	N818060103.D	05/24/18 10:50	
Blank	BGE0626-BLK1	N818060103.D	05/24/18 10:50	
Blank	BGE0626-BLK1	N818060103.D	05/24/18 10:50	
Blank	BGE0626-BLK1	N818060103.D	05/24/18 10:50	
LCS	BGE0626-BS1	N818060104.D	05/24/18 10:50	
LCS	BGE0626-BS1	N818060104.D	05/24/18 10:50	
LCS	BGE0626-BS1	N818060104.D	05/24/18 10:50	
LCS	BGE0626-BS1	N818060104.D	05/24/18 10:50	
LCS	BGE0626-BS1	N818060104.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	05/24/18 10:50	

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0626 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	05/24/18 10:50	
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	05/24/18 10:50	
Reference	BGE0626-SRM1	N818060105.D	05/24/18 10:50	
Reference	BGE0626-SRM1	N818060105.D	05/24/18 10:50	
Reference	BGE0626-SRM1	N818060105.D	05/24/18 10:50	
Reference	BGE0626-SRM1	N818060105.D	05/24/18 10:50	
Reference	BGE0626-SRM1	N818060105.D	05/24/18 10:50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0626

Prepared using: EPA 3546 (Microwave)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Solid (Version:cPAH)

Matrix: Solid Date Prepared: 05/24/18 Balance ID: B14646261 4 Set Up By: CCT 5/24/18

The following standards may be missing from this batch!

Designator	Description
QLS 4	QLS 4

Analysis: 8270D-SIM PAH (0.1 ug/L or 5 ug/kg)

Lab Number & Container	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ/Opt) GPC C/U (1:1) 1 2 3	(REQ/Opt) Sulfur C/U (1:1) Y/N (Transfer Rinse)	(REQ/Opt) Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18E0231-02 B	60.4	(16.57) 17.01	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0231-03 B	60.2	(16.60) 17.11	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-01 A	77.4	(12.91) 13.05	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-02 A	69.3	(14.42) 15.08	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-03 A	62.9	(15.90) 16.08	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-04 A	65.9	(15.18) 15.24	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-05 A	73.6	(13.60) 14.20	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0243-06 A	73.2	(13.67) 14.26	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0262-01 A	74.5	(13.43) 14.17	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0262-02 A	60.5	(16.53) 17.00	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0282-01 B	77.4	(12.92) 13.17	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	See notes
18E0282-02 B	61.7	(16.20) 16.37	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0282-03 B	71.3	(14.03) 14.10	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0282-04 B	78.5	(12.75) 13.19	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0282-05 B	86.8	(11.52) 12.02	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0309-01 B	76.7	(13.05) 13.13	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
18E0309-02 B	66.4	(15.06) 15.15	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ/Opt) GPC C/U (1:1) 1 2 3	(REQ/Opt) Sulfur C/U (1:1) Y/N (Transfer Rinse)	(REQ/Opt) Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGE0626-BLK1	100.0	(10.00) 10.00	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
BGE0626-BS1	100.0	(10.00) 10.00	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	
BGE0626-MS1	86.8	() 11.52 12.09	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	Use 18E0282-05
BGE0626-MSD1	86.8	() 11.52 12.07	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	Use 18E0282-05
BGE0626-SRM1	100.0	~~(10.00)~~ 5.0 5.04	(1:1) Y / N	(1:1) Y / N	(1:1) Y / N	0.5	0.5	Use F011861 (5g + 1g H20)

Client ID verified By: Wed 5/24/18 Date

Preparation Reviewed By: SP 6/1/18 Date

Extraction Date and Time: 05/24/18 10:54

Printed: 5/24/2018 8:40:05AM

3060F
Page 1 of 2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0626

Prepared using: EPA 3546 (Microwave)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Solid (Version:cPAH)

Prep Steps

Microwave
CT
1 2 3
Analyst/Date 5/24/18

Pre-GPC KD 100°C (No Exchange)
1 2 (3) 4 (5) 6
BH 5/30/18
Analyst/Date

Pre GPC TurboVap
1 2 3 4
N/A
Analyst/Date

Post-GPC KD 80°C Hexane Exchange 2 x 20 mL 100°C
1 2 3 4 5 6
AF 5/31/18
Analyst/Date

Pre-Cleanup TurboVap
1 2 3 4
SE 6/1/18
Analyst/Date

Post-Cleanup TurboVap
1 2 3 4
SE 6/1/18
Analyst/Date

Vialing
SE 6/1/18
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT Date: 5/24/18	
1:1 Methylene Chloride/Acetone	G003819
Methylene Chloride	G003838
Anhydrous Sodium Sulfate	G003448
Pre-Deactivated Glass Wool	G001662
Pre GPC KD Analyst: BH Date: 5/30/18	
Methylene Chloride	G003838
Hexane	G003426
GPC Filter Prep Analyst: SE Date: 5/30/18	
Methylene Chloride	G003838
GPC Analyst: MM Date: 5/30/18	
Methylene Chloride	G003838
GPC Calibration File	CG0067-GPC4
Post GPC KD Analyst: AF Date: 5/31/18	
Hexane	G003479
Methylene Chloride	G003838
Vialing Analyst: SE Date: 6/1/18	
Silica Gel (SPE) darts	G001699
Methylene Chloride	G003838
Hexane	G003439
Tetrabutylammonium hydrogensulfate (TBAS)	G002632
Sodium Sulfite	G009142

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness
Surrogate 15/75µg/mL	B G002655 Exp: 09/28/2018	100µL		CT
Spike 15/75µg/mL	15 G003923 Exp: 11/03/2018	100µL		CT

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

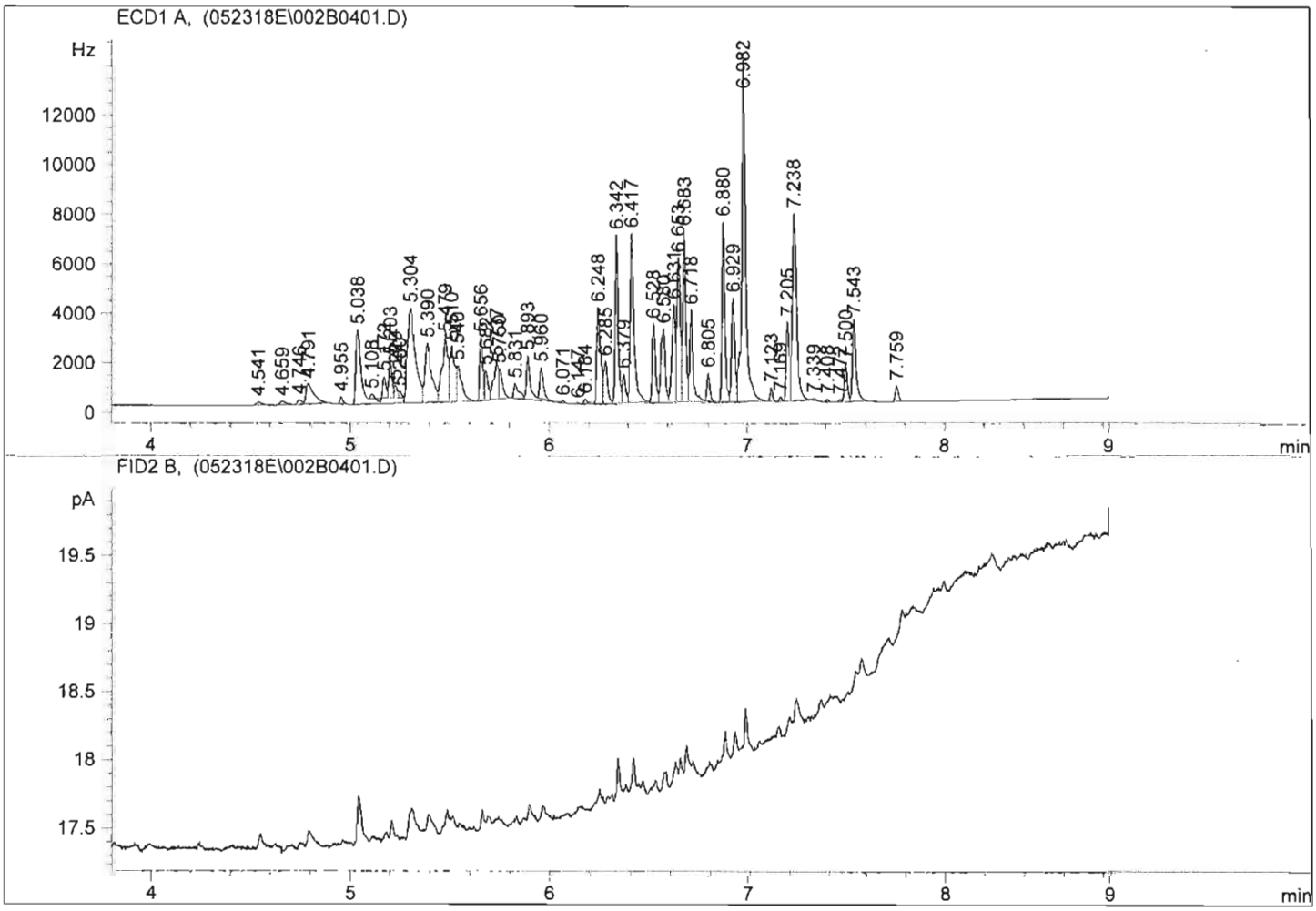
Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SIM PNA

Element Batch: BGE0626 Work Order(s): 18E0262, 18E0282, 18E0309

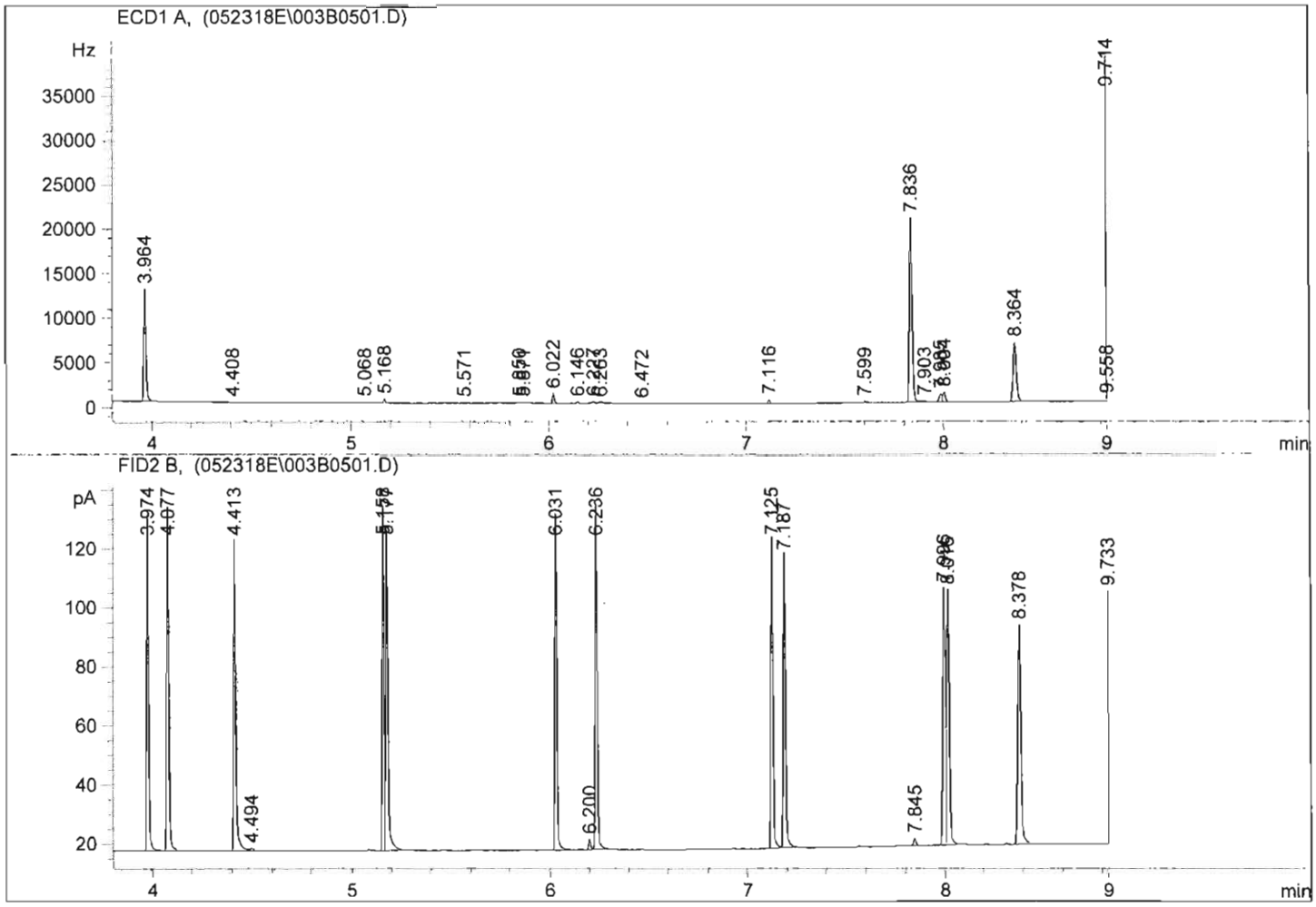
Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 18E0282 Φ2, Φ4) (18E0309 =Φ1, Φ2)	ME Φ5/22/18
☒ Standing Water Decanted (Not shared)= 18E0262 Φ1, Φ2,) (18E0282 =Φ1, Φ2, Φ3, Φ4, Φ5) (18E0309 =Φ1, Φ2)	ME Φ5/22/18
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? 20.0% 18E0262 10.0% =Φ1, Φ2. (18E0282 10.0% 40.0% =Φ1, Φ2, Φ4. Φ5)	ME Φ5/22/18
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
post GPC-KD w/ recycled KD's.	ar 5/31/18
SPE ran low on 1:1 Pent/Dcm — 18E0282-01, 18E0282-02, 18E0282-03 18E0282-04 were affected. Lower volume was collected 282-01 approx 5%. less volume. All others 50-60%. Added 2mL Hex	SP 6/1/18
☒ Share Samples Y / N) to tubes and re-ran extracts after	ME Φ5/22/18
☒ Multiple Jars Y / N) refilling 1:1 Pent/Dcm bottle SP 6/1/18	ME Φ5/22/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

```
==================================================================
Injection Date  : 5/23/2018 4:57:32 PM          Seq. Line :   4
Sample Name     : AR1660 1PPM                    Location : Vial 2
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==================================================================
```



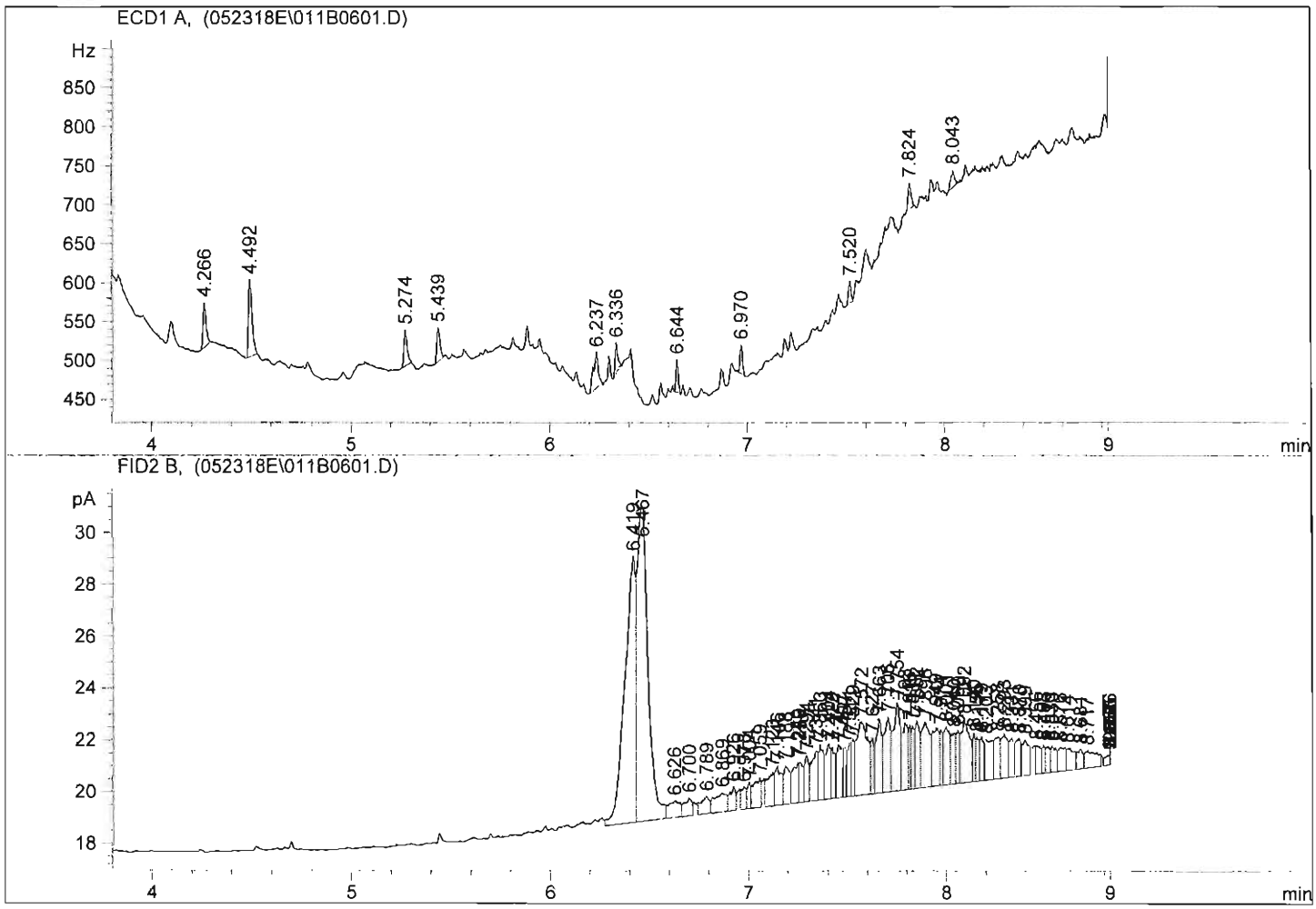
*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 5:11:13 PM          Seq. Line :   5
Sample Name     : PNA STD 10 PPM                 Location : Vial 3
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



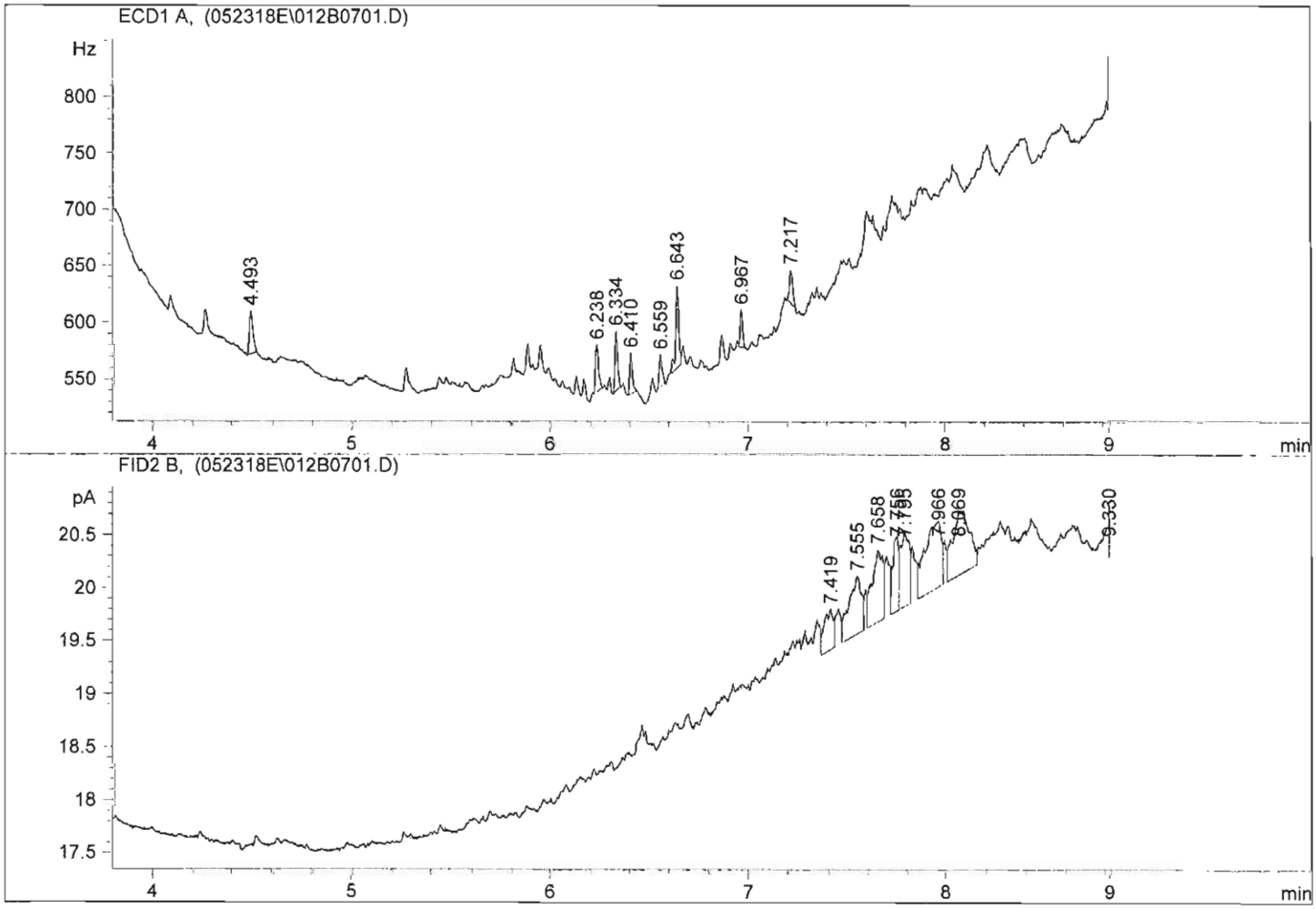
*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 5:24:54 PM          Seq. Line :   6
Sample Name     : 18E0262-01                     Location : Vial 11
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



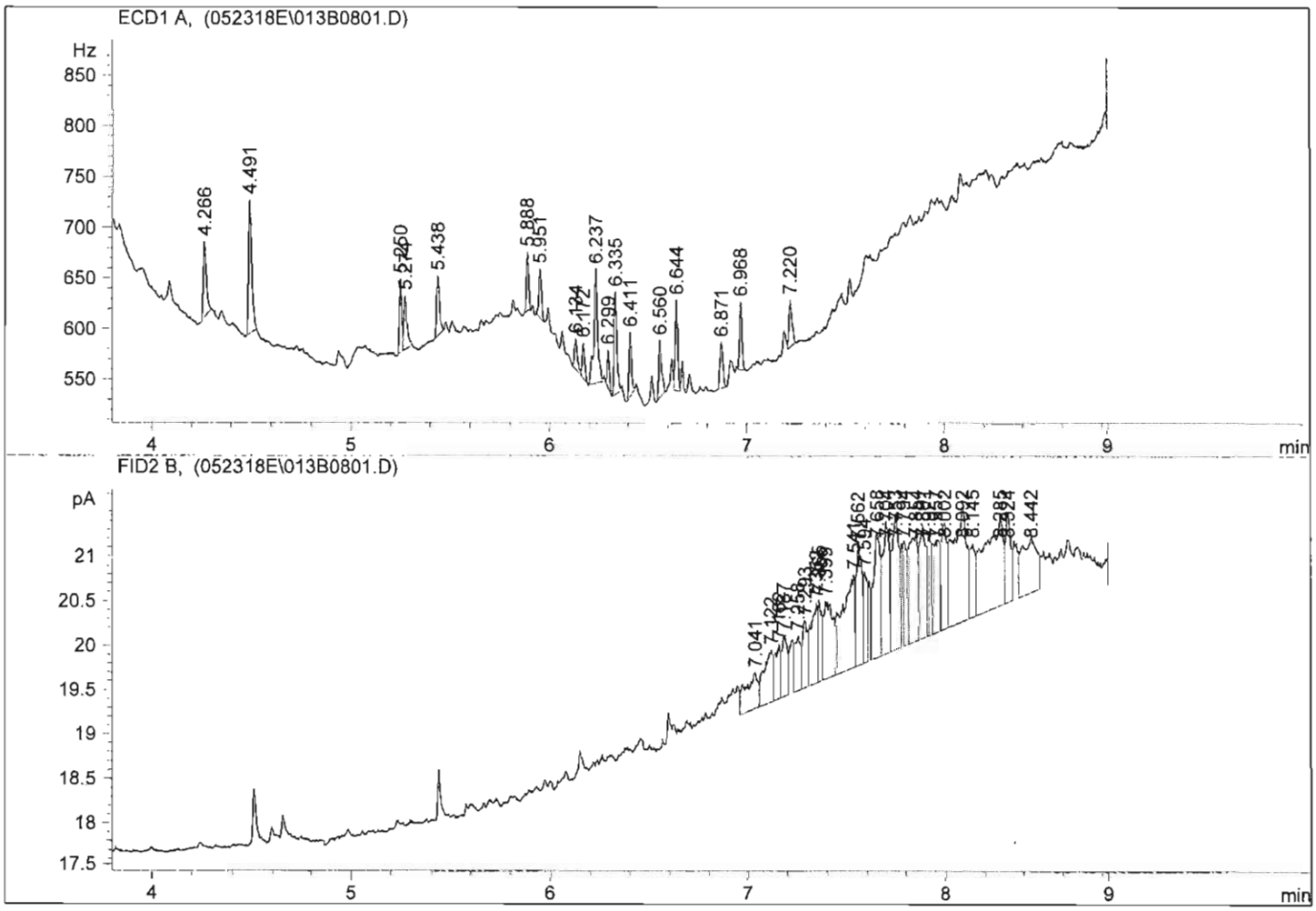
*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 5:38:34 PM          Seq. Line :   7
Sample Name     : 18E0262-02                     Location : Vial 12
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



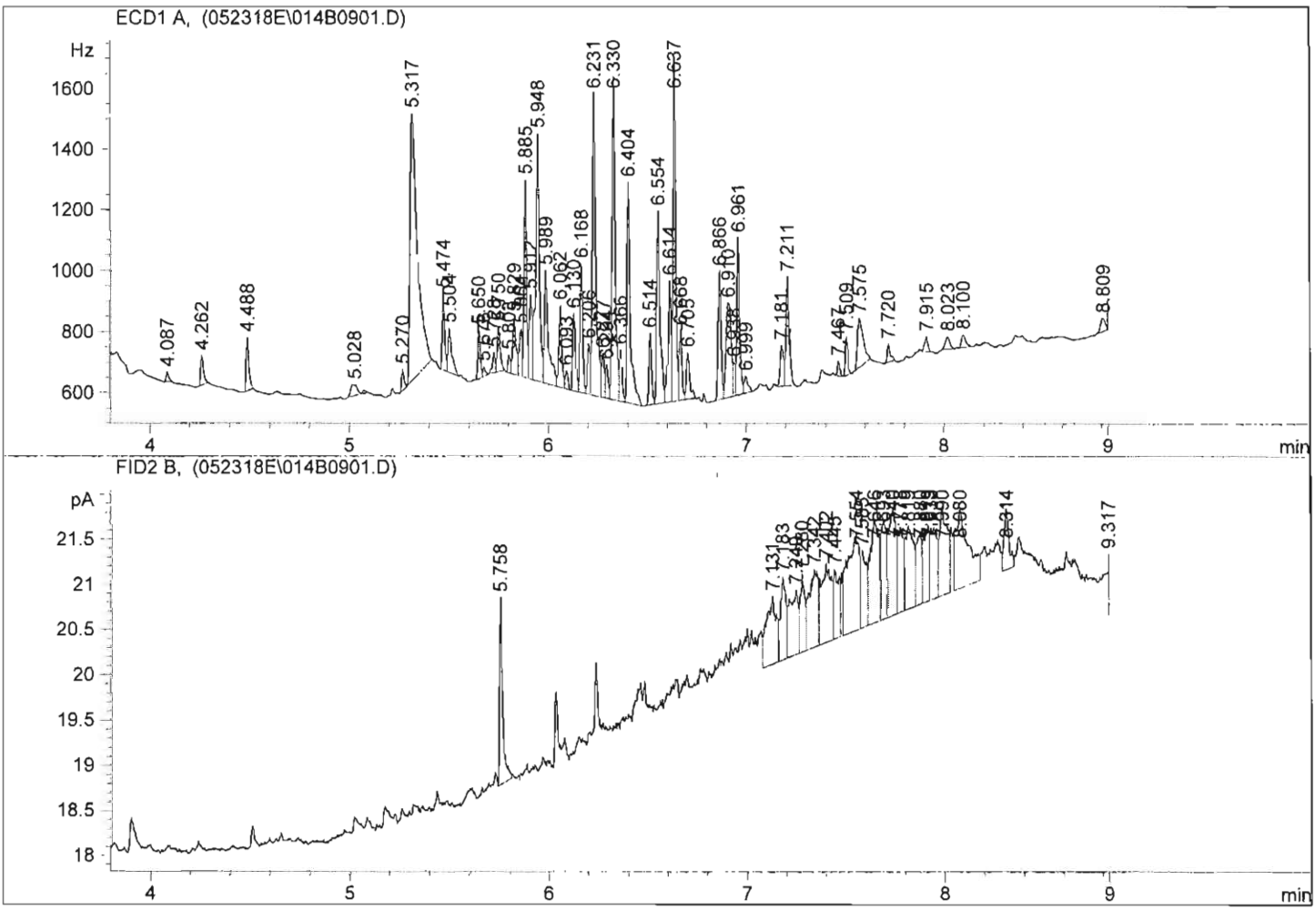
*** End of Report ***

```
==================================================================
Injection Date  : 5/23/2018 5:52:17 PM          Seq. Line :   8
Sample Name     : 18E0282-01                     Location : Vial 13
Acq. Operator   : cct                                Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==================================================================
```



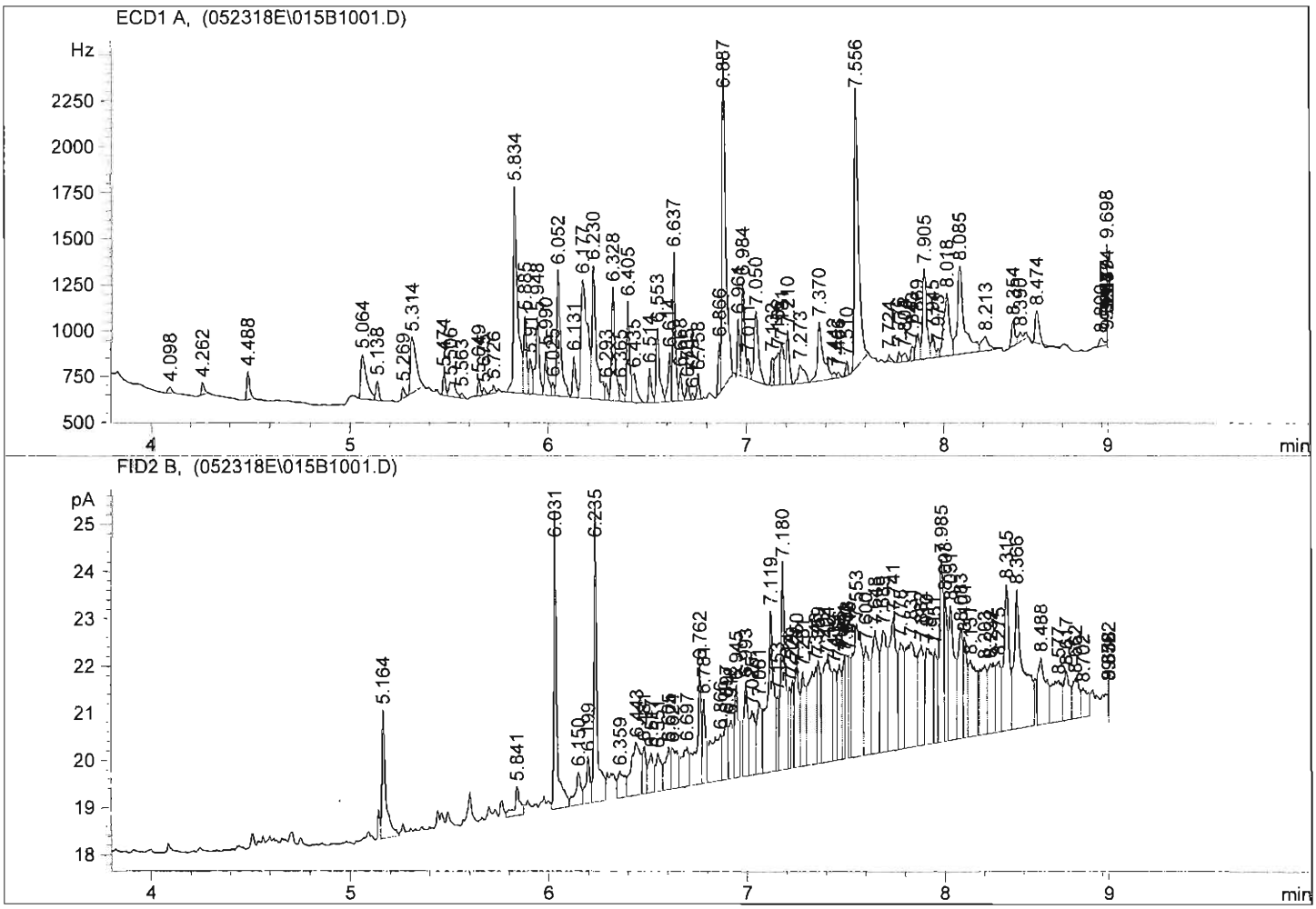
*** End of Report ***

```
==============================================================================
Injection Date  : 5/23/2018 6:05:58 PM          Seq. Line :   9
Sample Name     : 18E0282-02                     Location : Vial 14
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==============================================================================
```



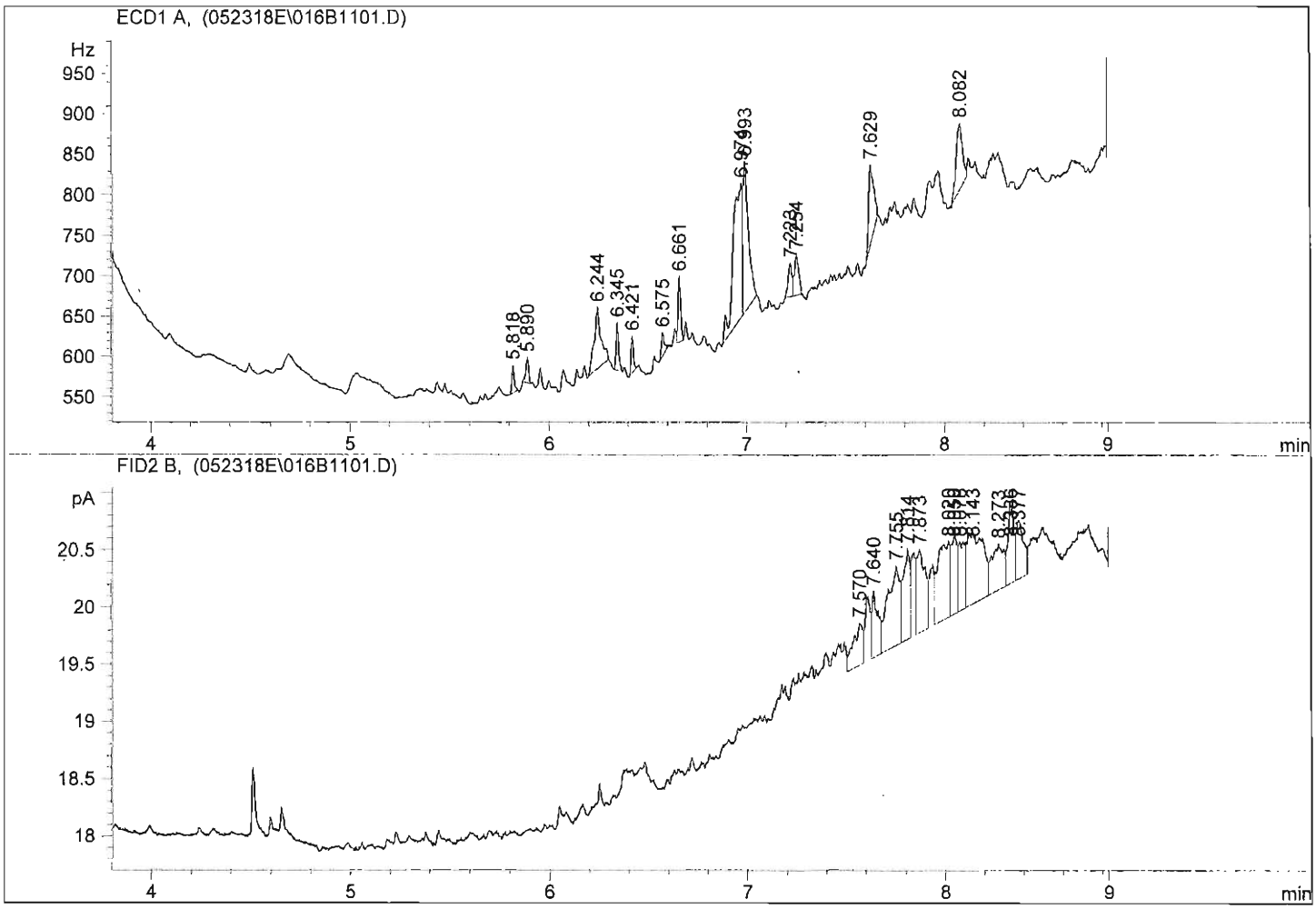
*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 6:19:43 PM          Seq. Line :  10
Sample Name     : 18E0282-03                     Location : Vial 15
Acq. Operator   : cct                                Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



*** End of Report ***

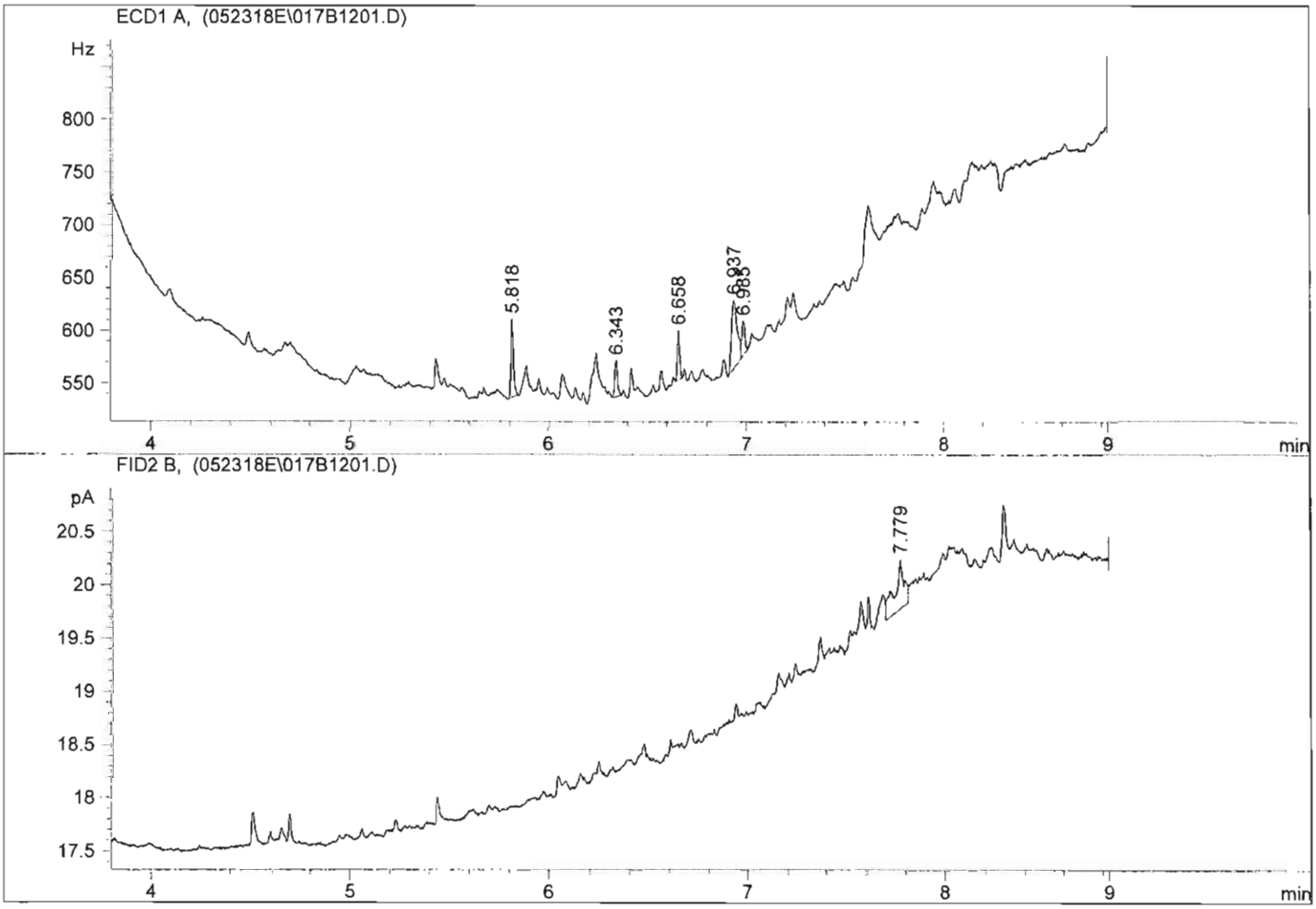
```
==========================================================================
Injection Date  : 5/23/2018 6:33:24 PM          Seq. Line :  11
Sample Name     : 18E0282-04                     Location : Vial 16
Acq. Operator   : cct                                Inj :   1
                                                 Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



*** End of Report ***

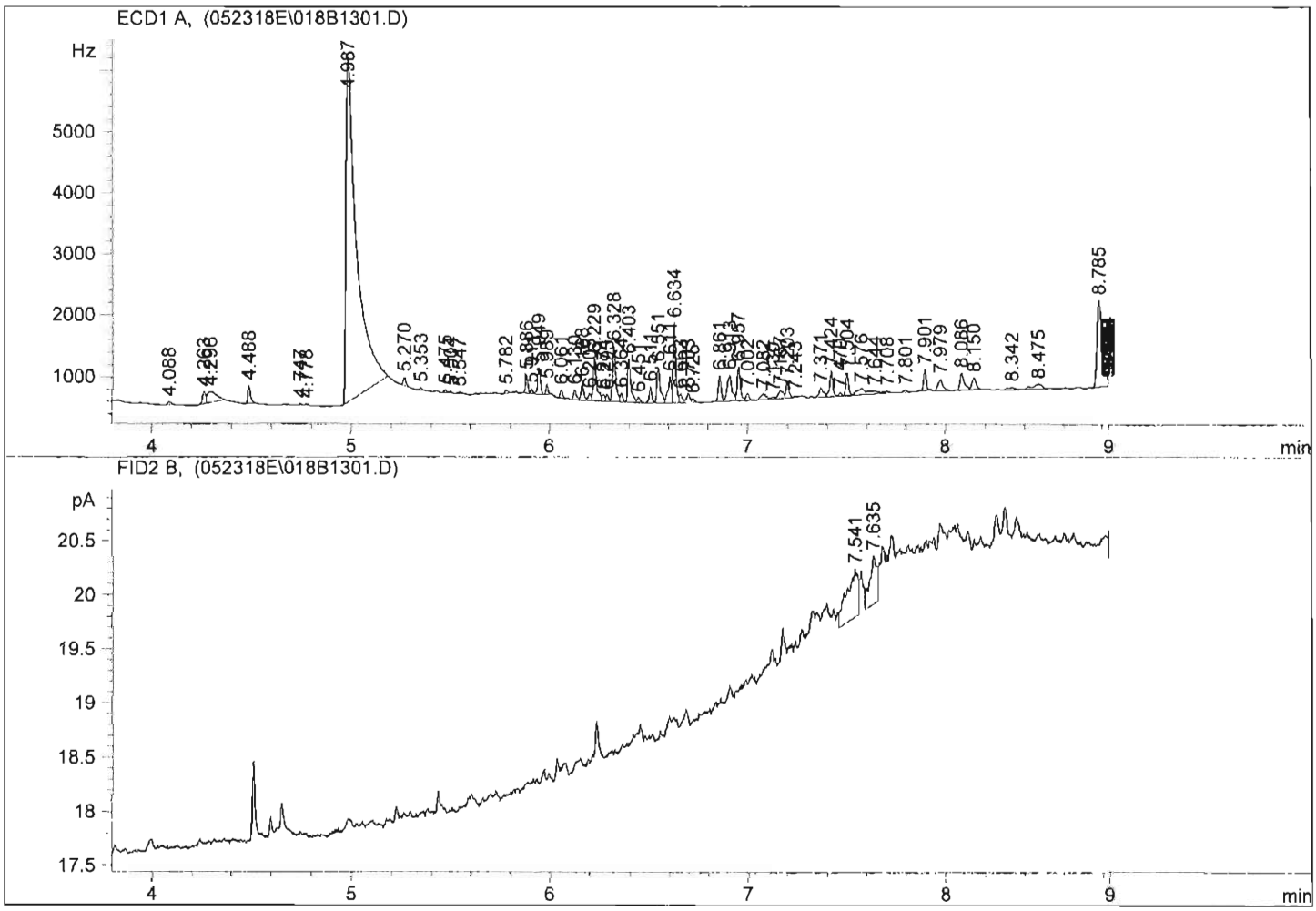
Data File C:\HPCHEM\2\DATA\052318E\017B1201.D Sample Name: 18E0282-05

```
==========================================================================
Injection Date  : 5/23/2018 6:47:01 PM          Seq. Line :  12
Sample Name     : 18E0282-05                     Location : Vial 17
Acq. Operator   : cct                                Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



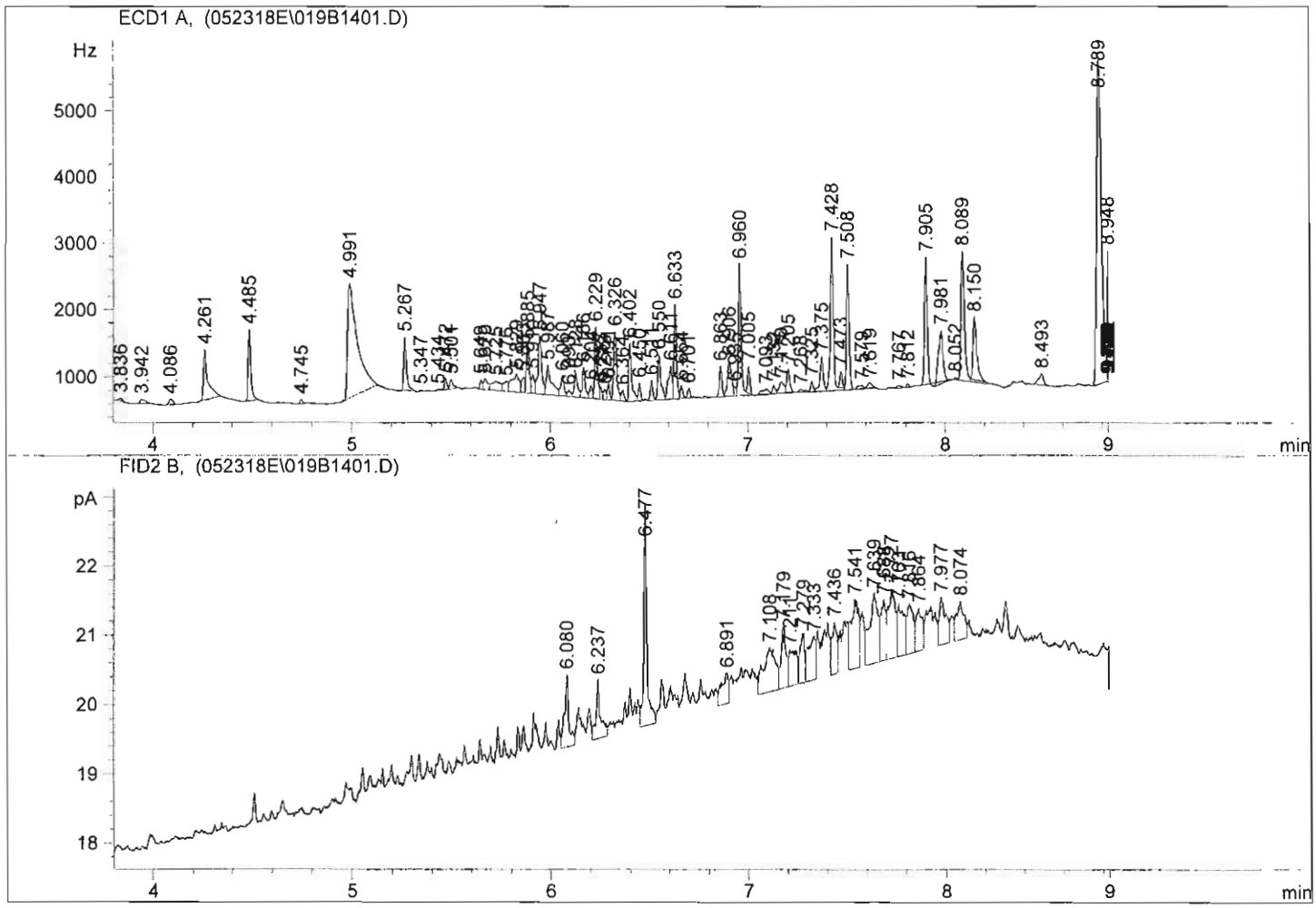
*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 7:00:40 PM          Seq. Line :  13
Sample Name     : 18E0309-01                     Location : Vial 18
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



*** End of Report ***

```
==========================================================================
Injection Date  : 5/23/2018 7:14:22 PM          Seq. Line :  14
Sample Name     : 18E0309-02                     Location : Vial 19
Acq. Operator   : cct                               Inj :   1
                                                Inj Volume : 2 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\052318E.S
Method          : C:\HPCHEM\2\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:30:33 PM by BH
==========================================================================
```



*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

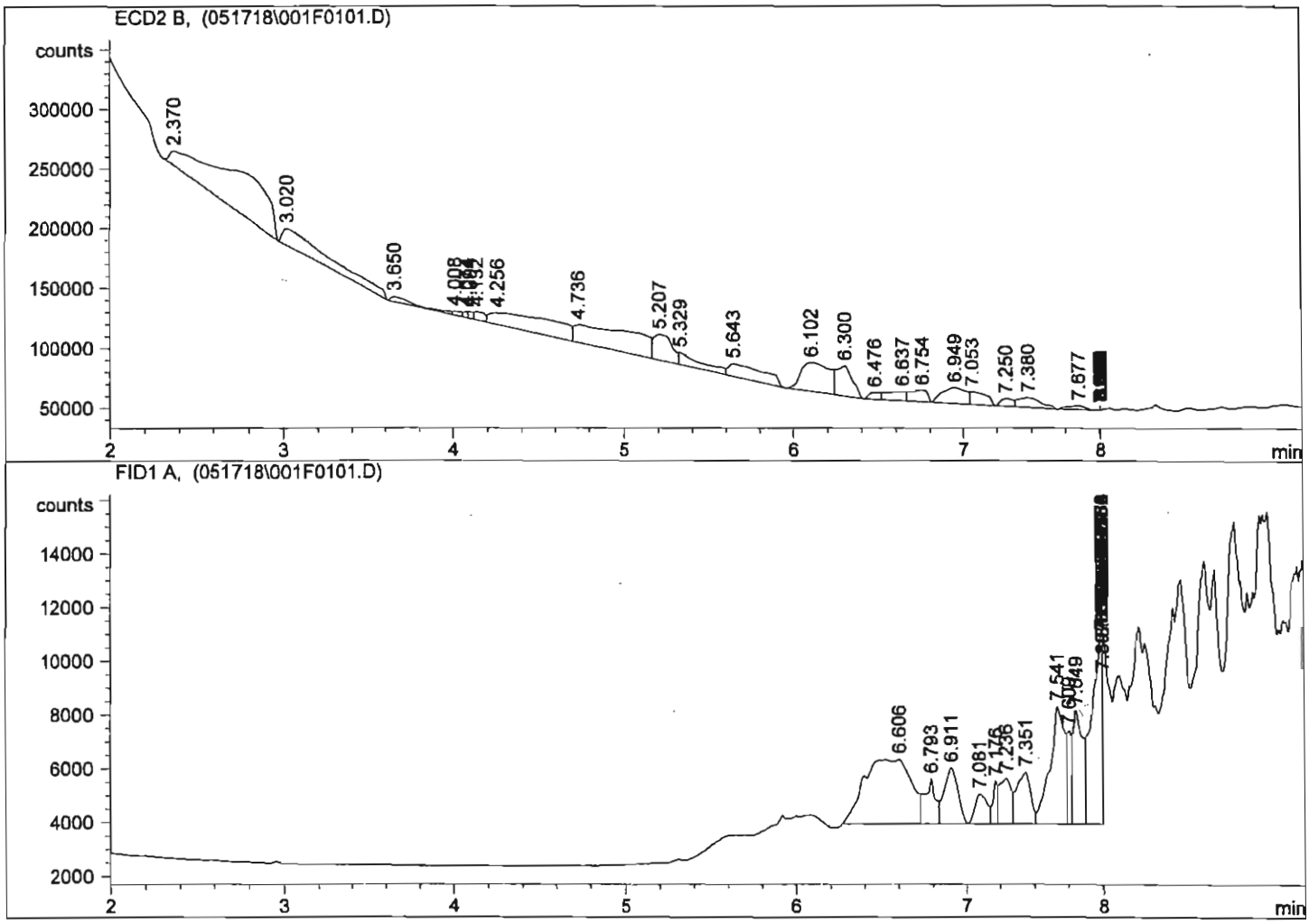
Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SIM PNA

Element Batch: BGE0626 Work Order(s): ~~18E0226~~, 18E0242, ~~18E0240~~, ~~18E0239~~, 18E0231

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)= (18E0226 ϕ1, ϕ2)(18E0231 =ϕ2, ϕ3)	ϕ5 5/17/18
☒ Standing Water Decanted (Not shared)= (18E0226 =ϕ1, ϕ2)(18E0231 =ϕ2, ϕ3)	ϕ5 5/17/18
☒ Standing Water Homogenized (Shared samples)= 18E0239 =ϕ2	ϕ5 5/17/18
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? (5.0% 18E0239 =ϕ2)(5% 18E0240 =ϕ1)	ϕ5 5/17/18
☒ Organics (Leaves/sticks/grass)= (5.0% 18E0239 =ϕ1)(6% 18E0241 =ϕ1, ϕ2, ϕ3)	ϕ5 5/17/18
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
POST GPC KD w/ recycled KD's	LLS 5/31/18
☒ Share Samples Y / N (18E0239 =ϕ1, ϕ2)(18E0240 =ϕ1)(18E0242 =ϕ1, ϕ2, ϕ3)	ϕ5 5/17/18
☒ Multiple Jars Y / N	ϕ5 5/17/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

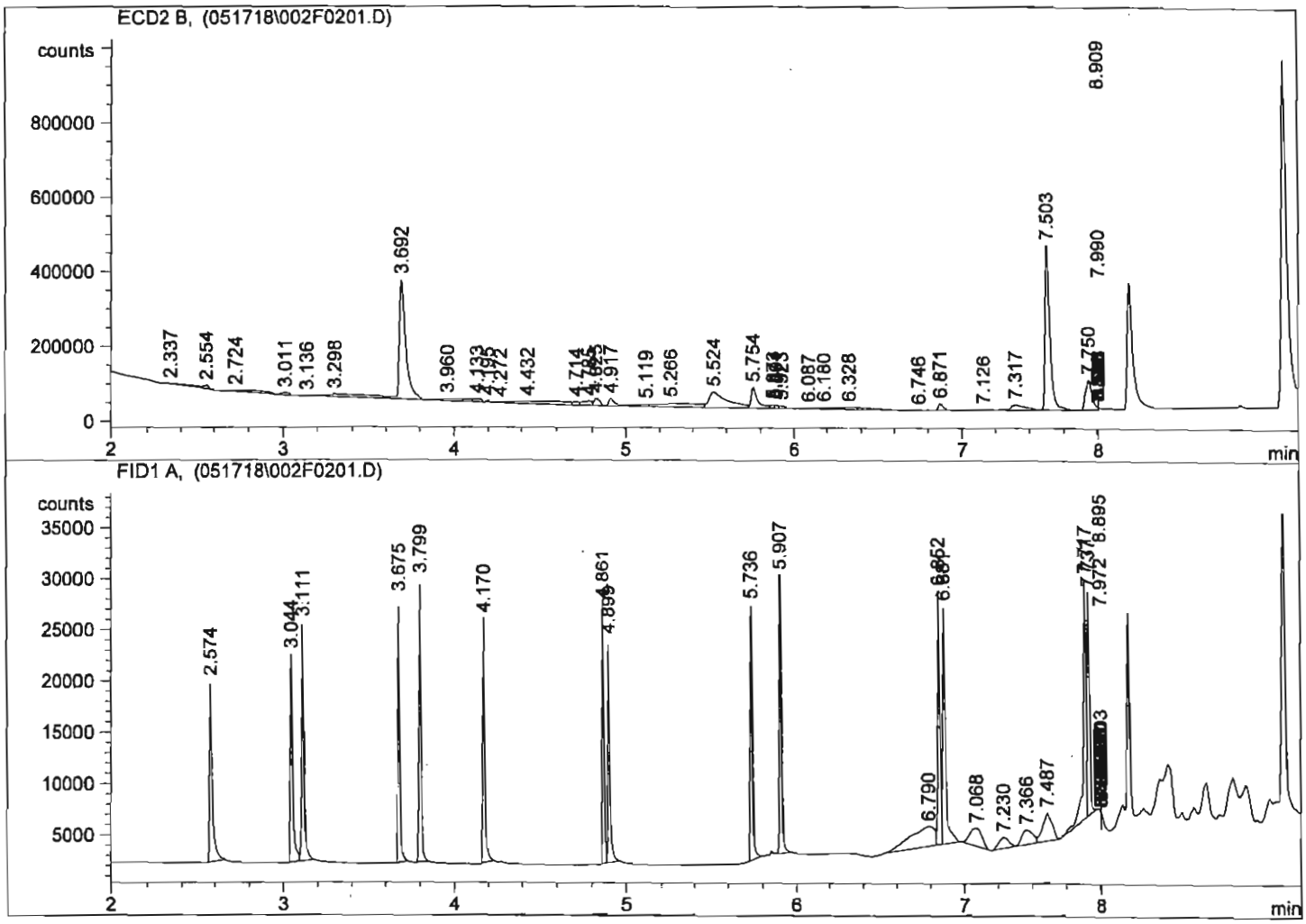
```
==================================================================
Injection Date  : 5/17/2018 2:12:15 PM          Seq. Line :   1
Sample Name     : DCM RINSE                      Location : Vial 1
Acq. Operator   : YL                                 Inj :   1
                                                Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==================================================================
```



*** End of Report ***

Injection Date : 5/17/2018 2:25:42 PM Seq. Line : 2
Sample Name : PNA STD 10PPM Location : Vial 2
Acq. Operator : YL Inj : 1
Inj Volume : 1 µl

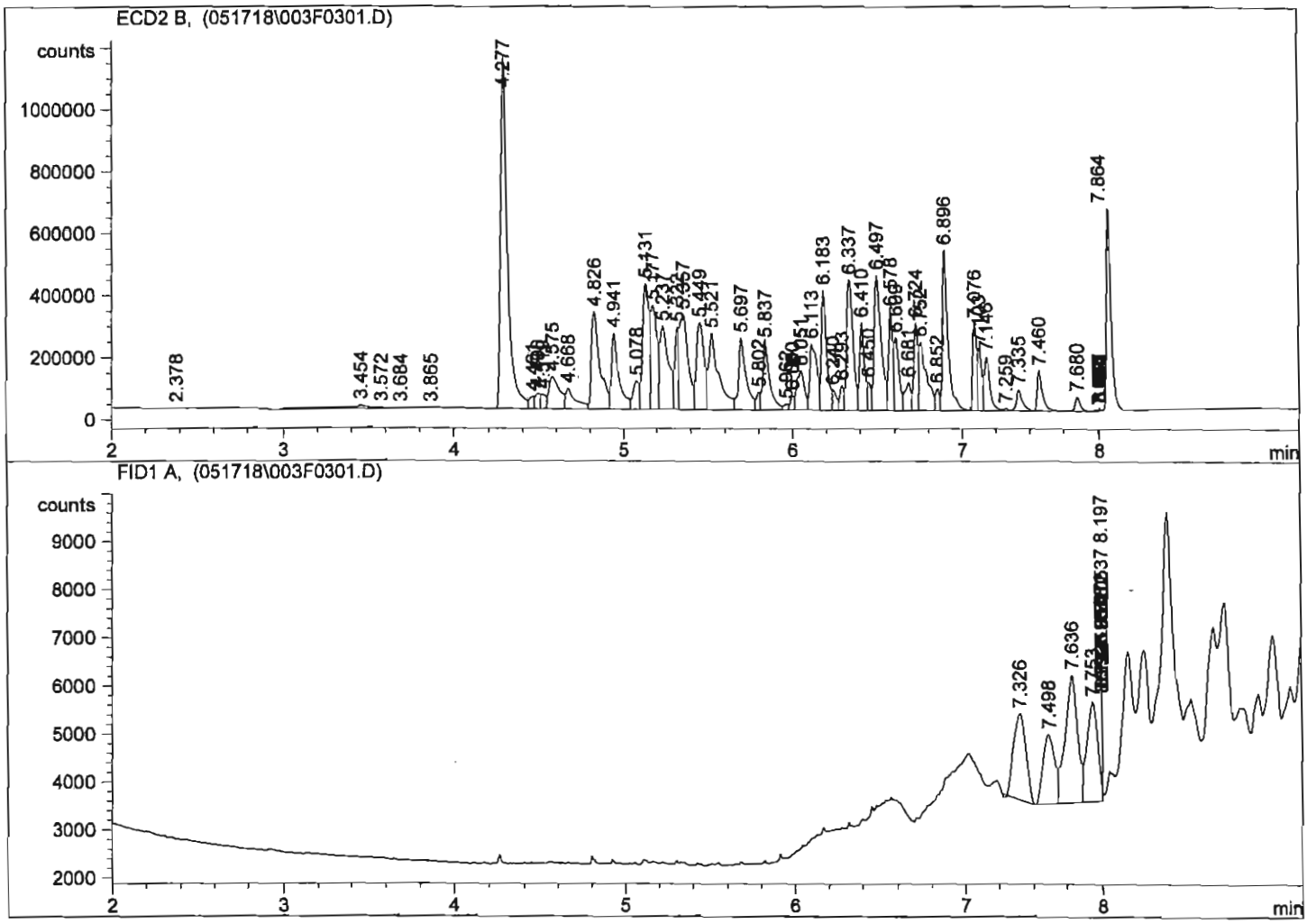
Sequence File : C:\HPCHEM\1\SEQUENCE\051718.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 4/2/2018 1:29:10 PM by ww



*** End of Report ***

Injection Date : 5/17/2018 2:39:14 PM Seq. Line : 3
Sample Name : AR1660 1PPM Location : Vial 3
Acq. Operator : YL Inj : 1
Inj Volume : 1 µl

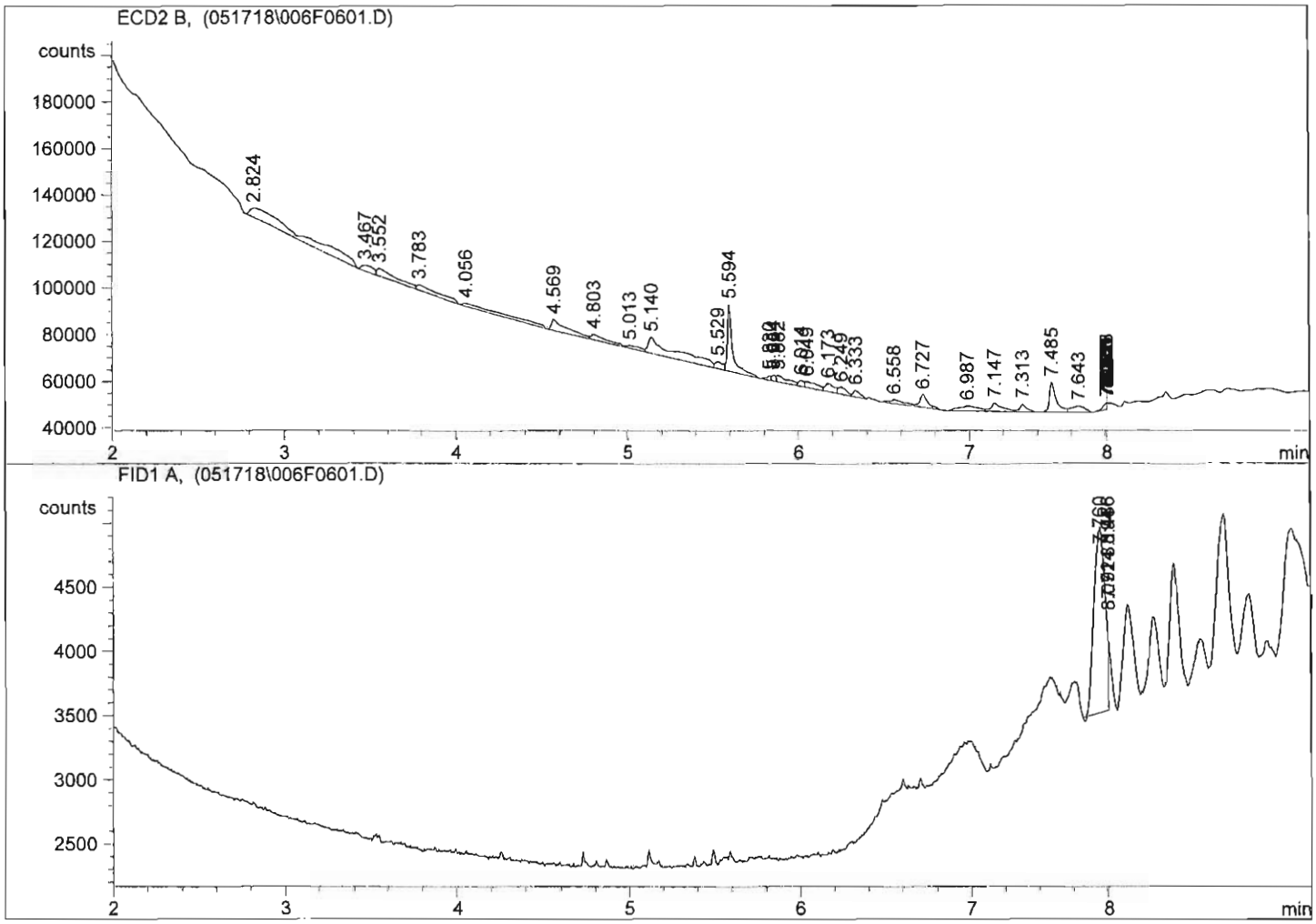
Sequence File : C:\HPCHEM\1\SEQUENCE\051718.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 4/2/2018 1:29:10 PM by ww



*** End of Report ***

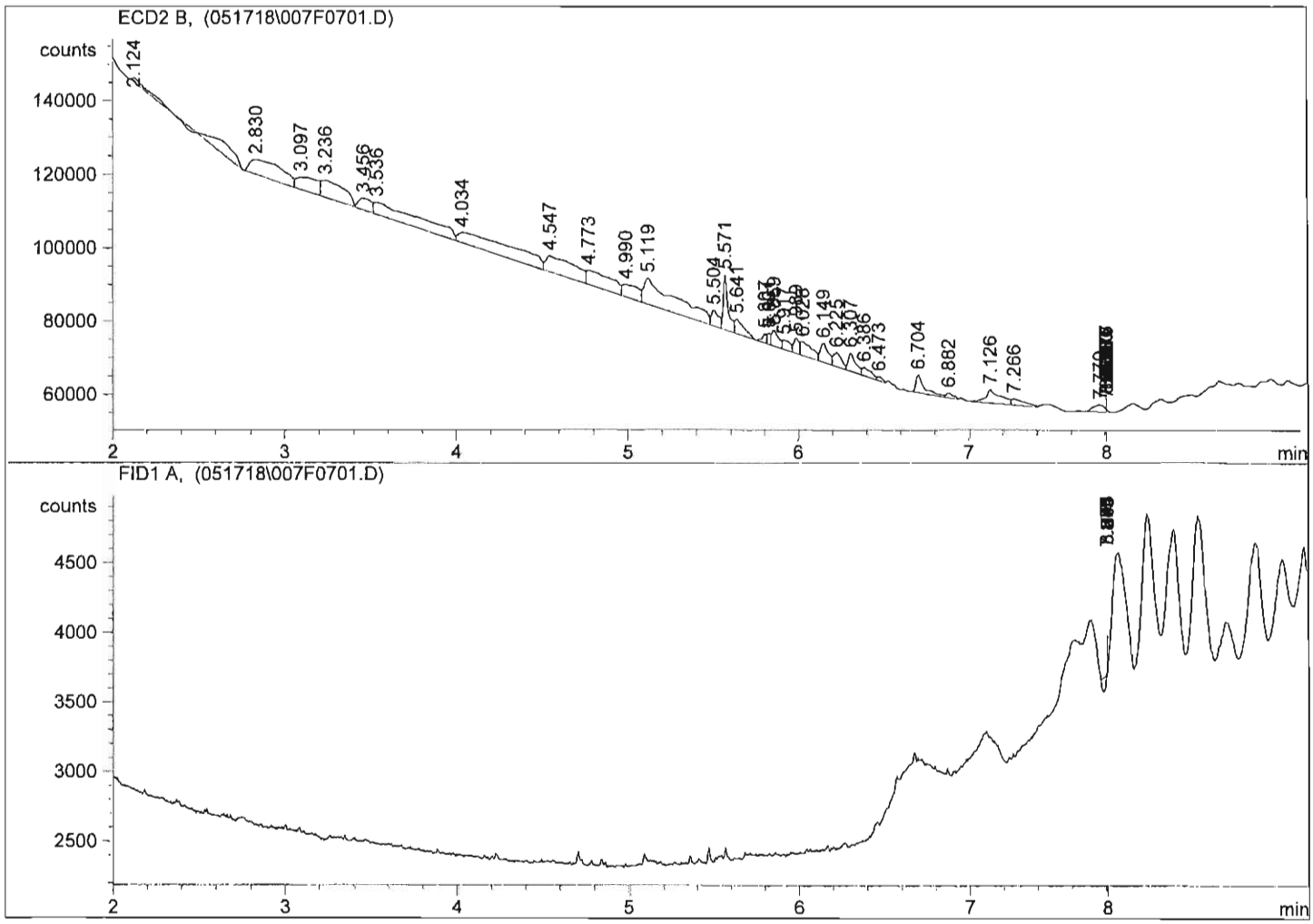
```
==================================================================
Injection Date  : 5/17/2018 3:19:52 PM          Seq. Line :   6
Sample Name     : 18E0231 02                     Location : Vial 6
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl

Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==================================================================
```



*** End of Report ***

```
==========================================================================
Injection Date  : 5/17/2018 3:33:29 PM          Seq. Line :   7
Sample Name     : 18E0231 03                     Location : Vial 7
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==========================================================================
```



*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

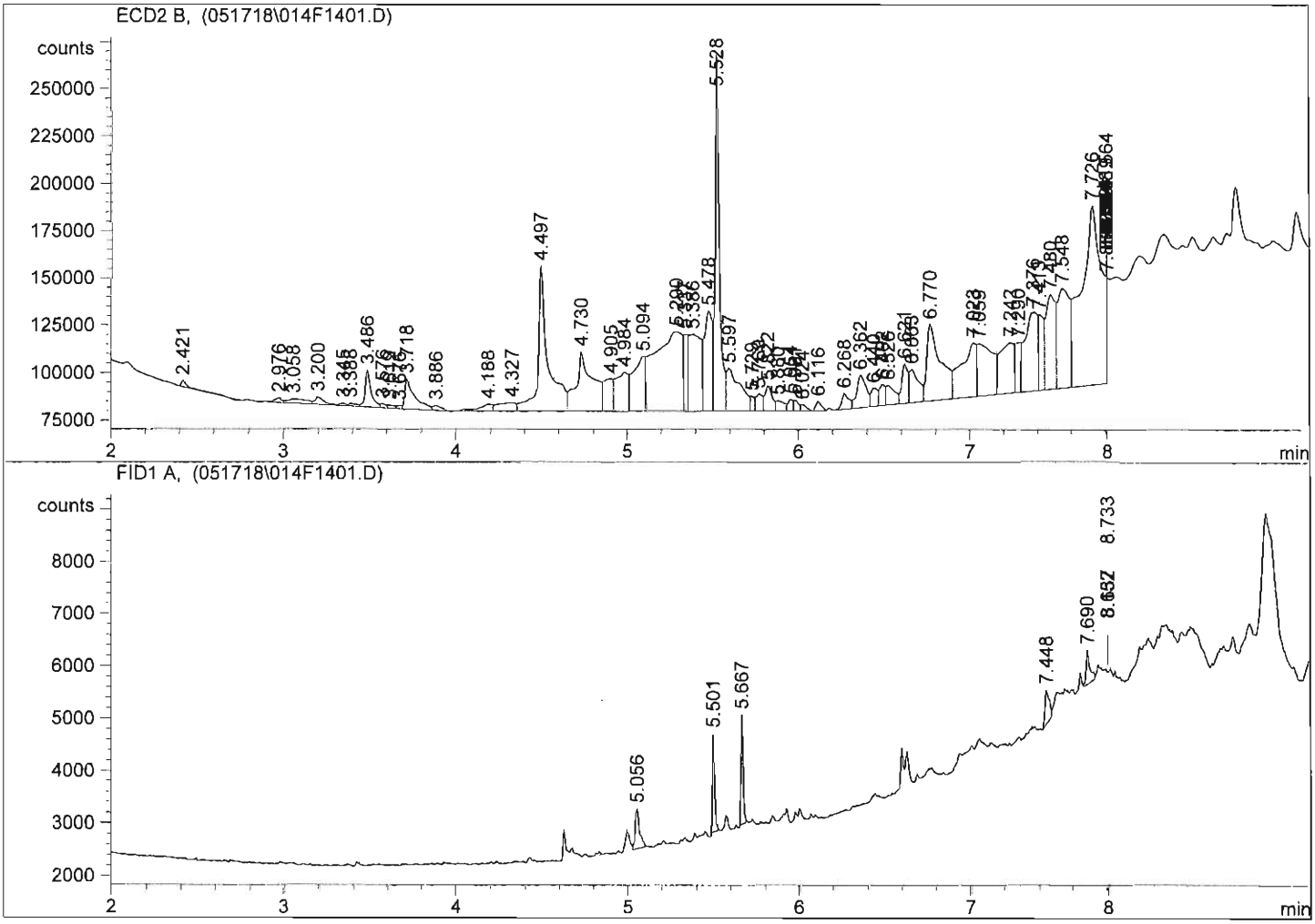
Extraction Parameter: GC/MS PNA

Element Batch: BGE0626 Work Order(s): 18E0243

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= ϕ1, ϕ2, ϕ4, ϕ5, ϕ6.	ME ϕ5/17/18
☒ Standing Water Decanted (Not shared)= ϕ3, ϕ4, ϕ5.	ME ϕ5/17/18
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? 5.0% = ϕ3	ME ϕ5/17/18
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
Post GPC KD w/ recycled KDs.	05/18/18
☒ Share Samples Y / N	ME ϕ5/17/18
☒ Multiple Jars Y / N	ME ϕ5/17/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

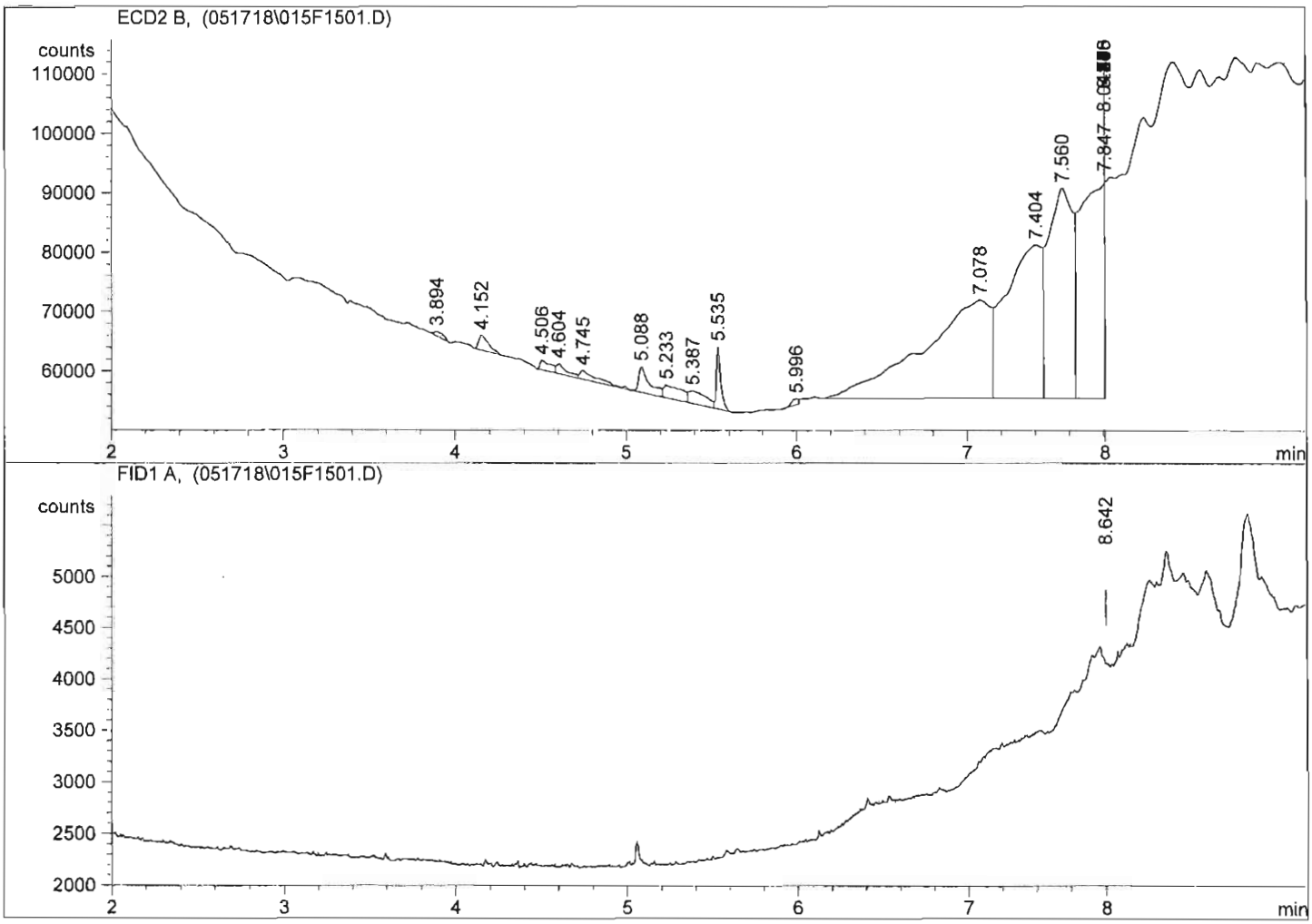
```
==========================================================================
Injection Date  : 5/17/2018 5:08:36 PM          Seq. Line :  14
Sample Name     : 18E0243 01                     Location : Vial 14
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl

Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==========================================================================
```



*** End of Report ***

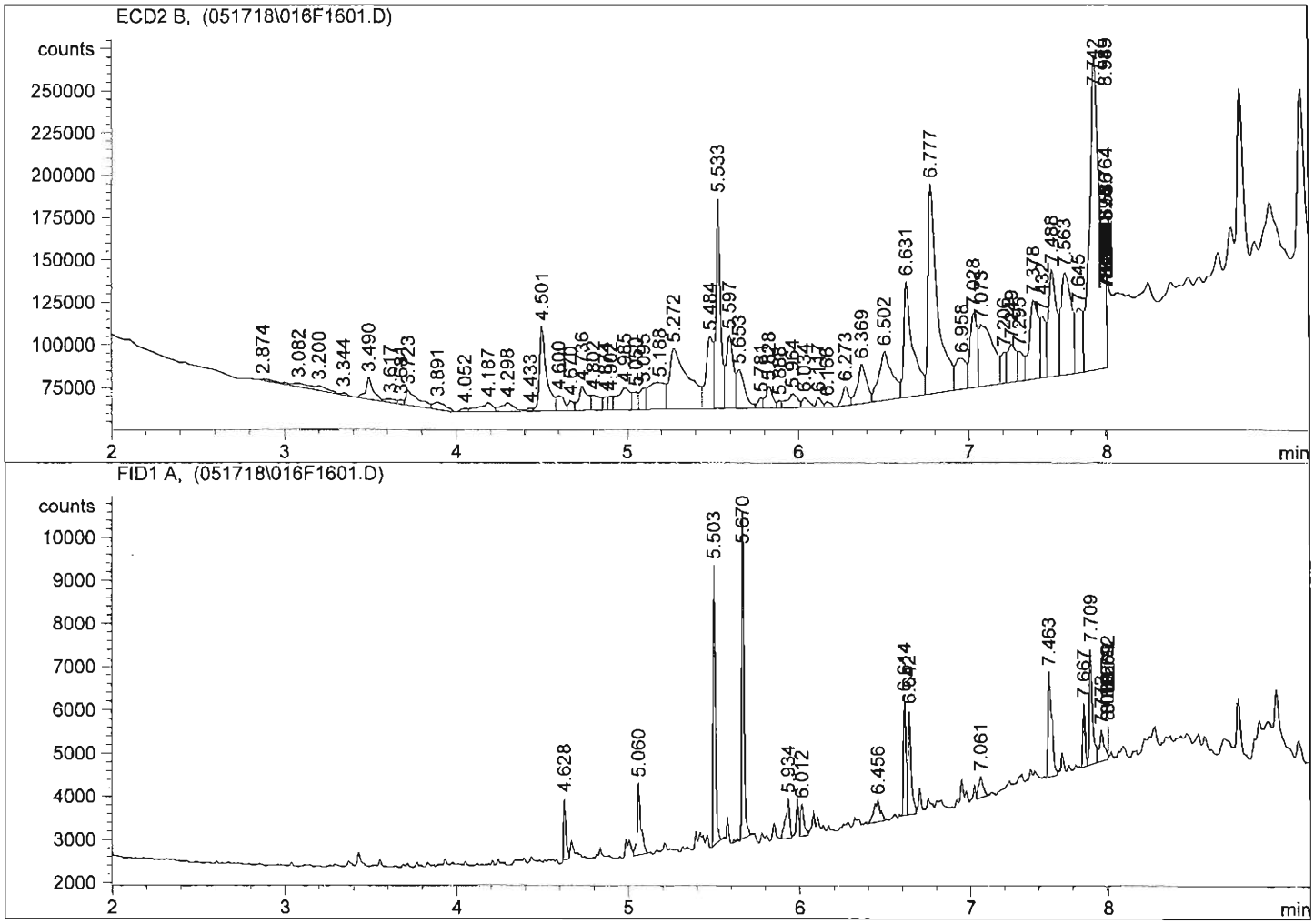
```
==========================================================================
Injection Date  : 5/17/2018 5:22:11 PM          Seq. Line :  15
Sample Name     : 18E0243 02                     Location : Vial 15
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==========================================================================
```



*** End of Report ***

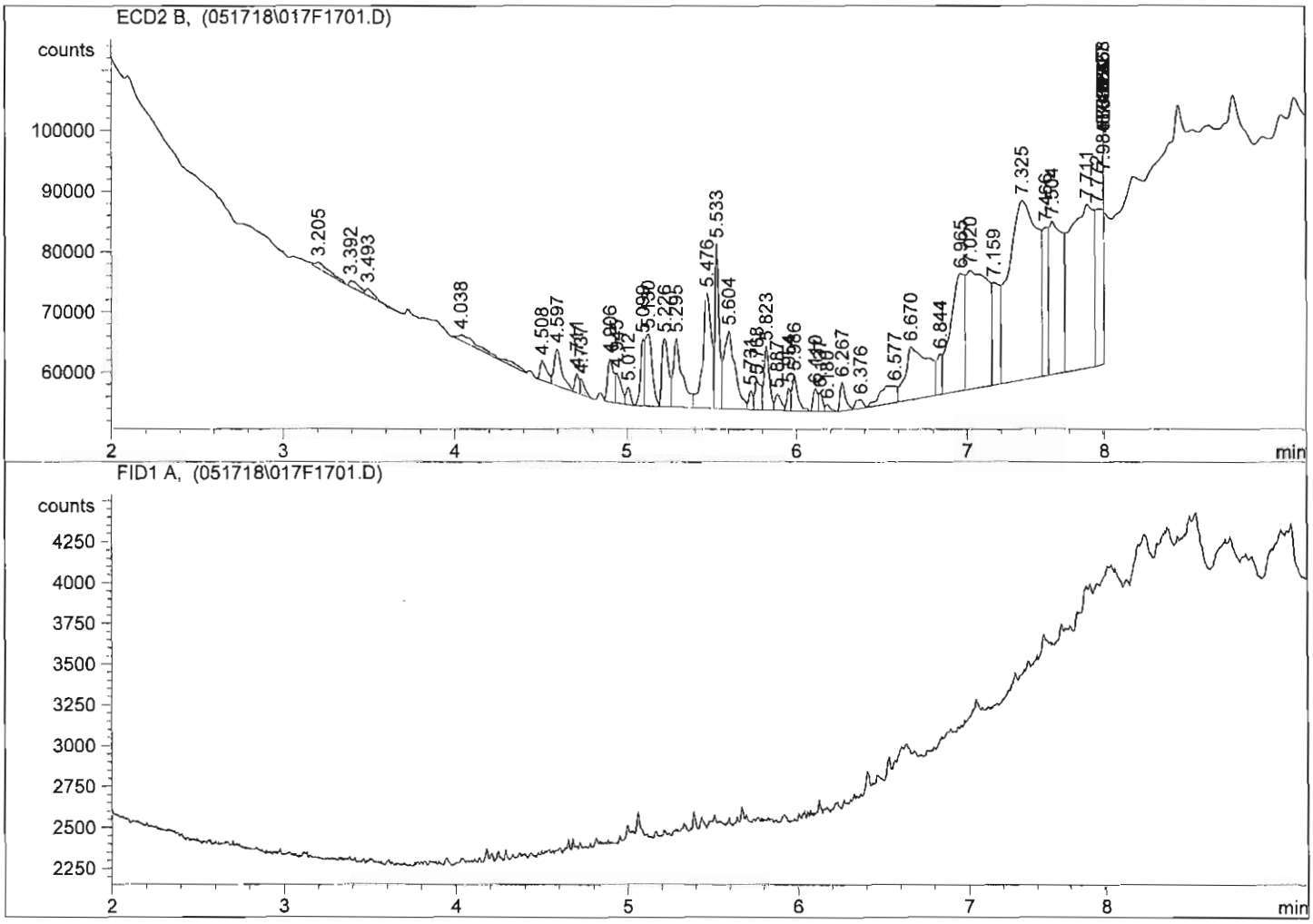
```
==================================================================
Injection Date  : 5/17/2018 5:35:41 PM          Seq. Line :  16
Sample Name     : 18E0243 03                     Location : Vial 16
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl

Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==================================================================
```



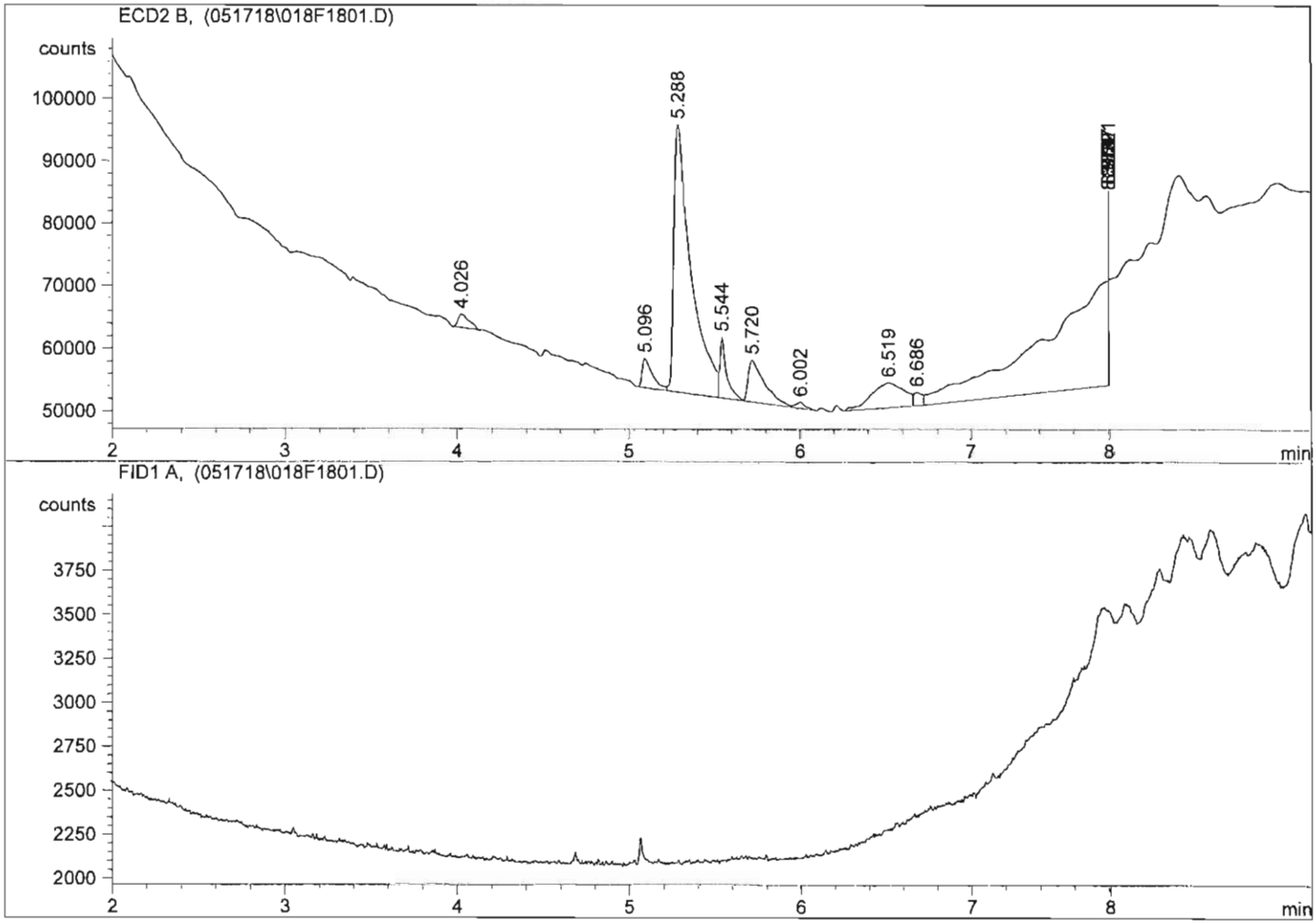
*** End of Report ***

Injection Date	: 5/17/2018 5:49:18 PM	Seq. Line	: 17
Sample Name	: 18E0243 04	Location	: Vial 17
Acq. Operator	: YL	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\051718.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 4/2/2018 1:29:10 PM by ww		



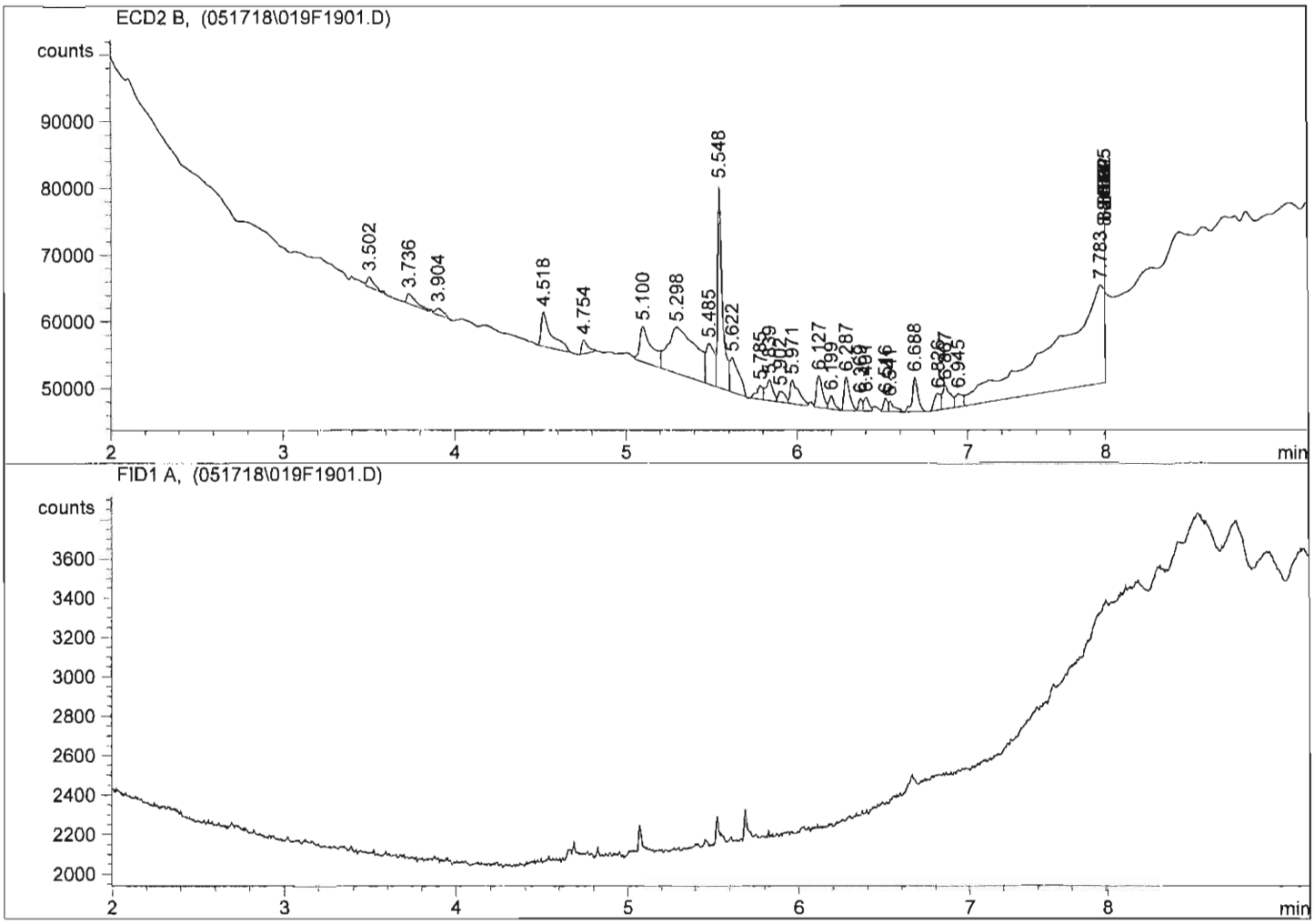
*** End of Report ***

Injection Date	: 5/17/2018 6:03:03 PM	Seq. Line	: 18
Sample Name	: 18E0243 05	Location	: Vial 18
Acq. Operator	: YL	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\051718.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 4/2/2018 1:29:10 PM by ww		



*** End of Report ***

```
==========================================================================
Injection Date  : 5/17/2018 6:16:38 PM          Seq. Line :  19
Sample Name     : 18E0243 06                     Location : Vial 19
Acq. Operator   : YL                                Inj :   1
                                                Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\1\SEQUENCE\051718.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 4/2/2018 1:29:10 PM by ww
==========================================================================
```

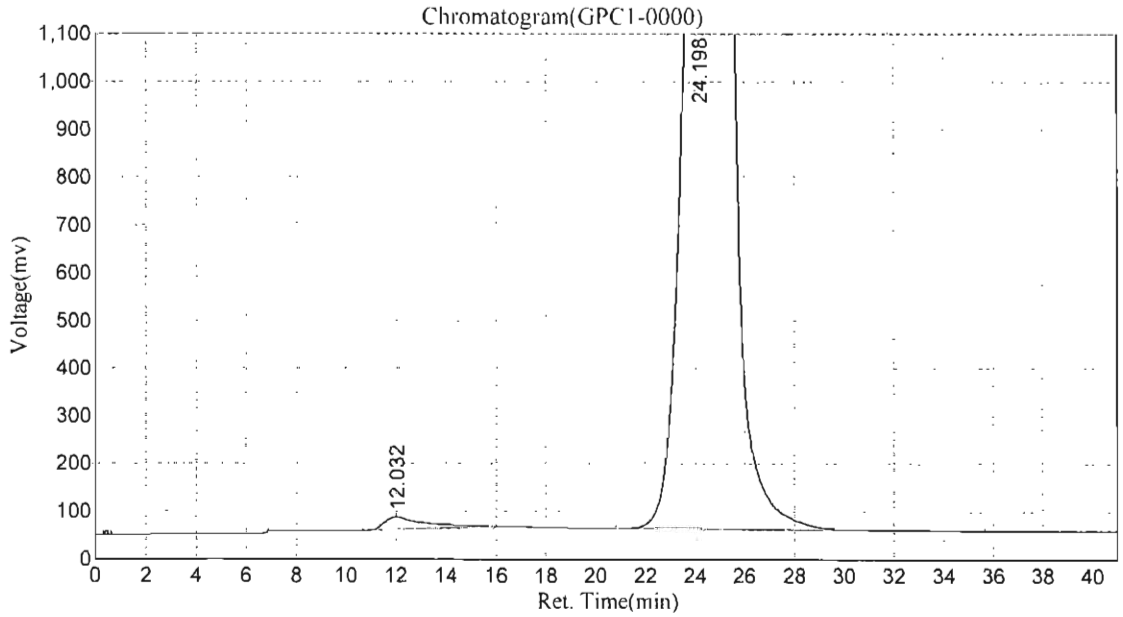


*** End of Report ***

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,5:50:02 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0000
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,5:50:03 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	26566.641	3109290.000	1.3855
2		24.198	1425718.875	221309344.000	98.6145
Total			1452285.516	224418634.000	100.000

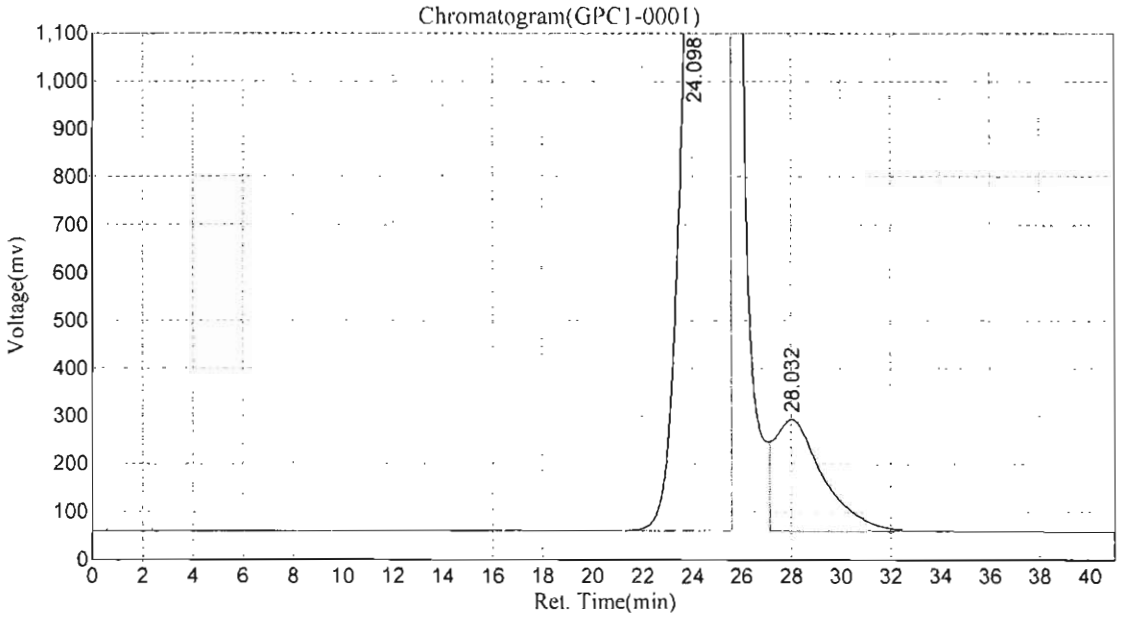
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,6:32:47 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0001
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,6:32:48 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		24.098	1428907.500	185186480.000	85.1594
2		28.032	233025.281	32272234.000	14.8406
Total			1661932.781	217458714.000	100.000

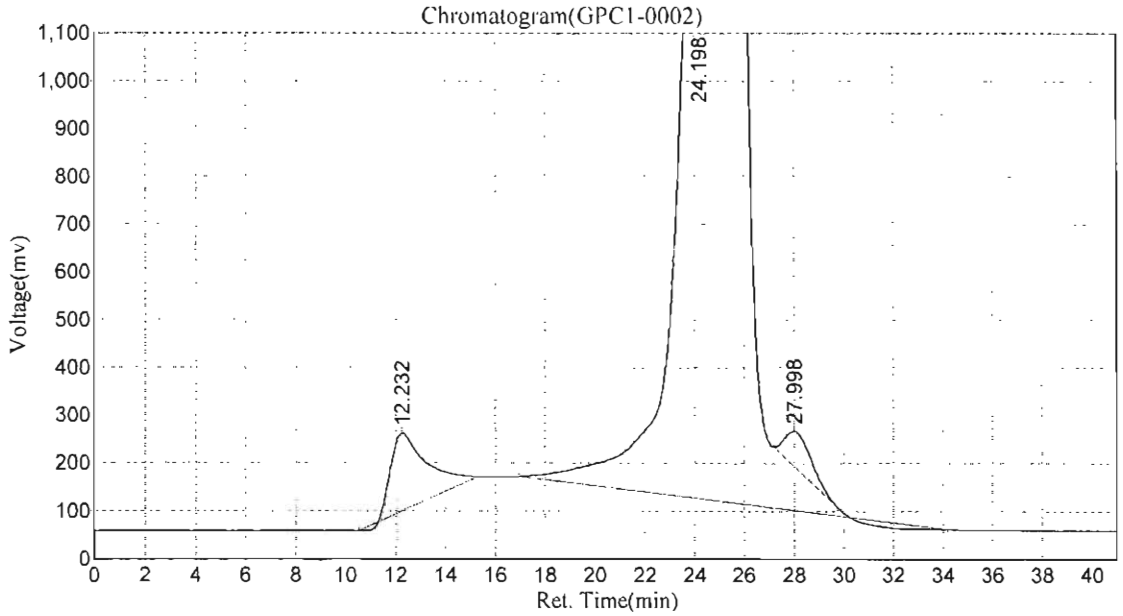
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,7:15:30 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0002
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,7:15:31 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.232	162309.656	16154437.000	9.8286
2		24.198	1365595.250	142902656.000	86.9443
3		27.998	72283.734	5304158.000	3.2271
Total			1600188.641	164361251.000	100.000

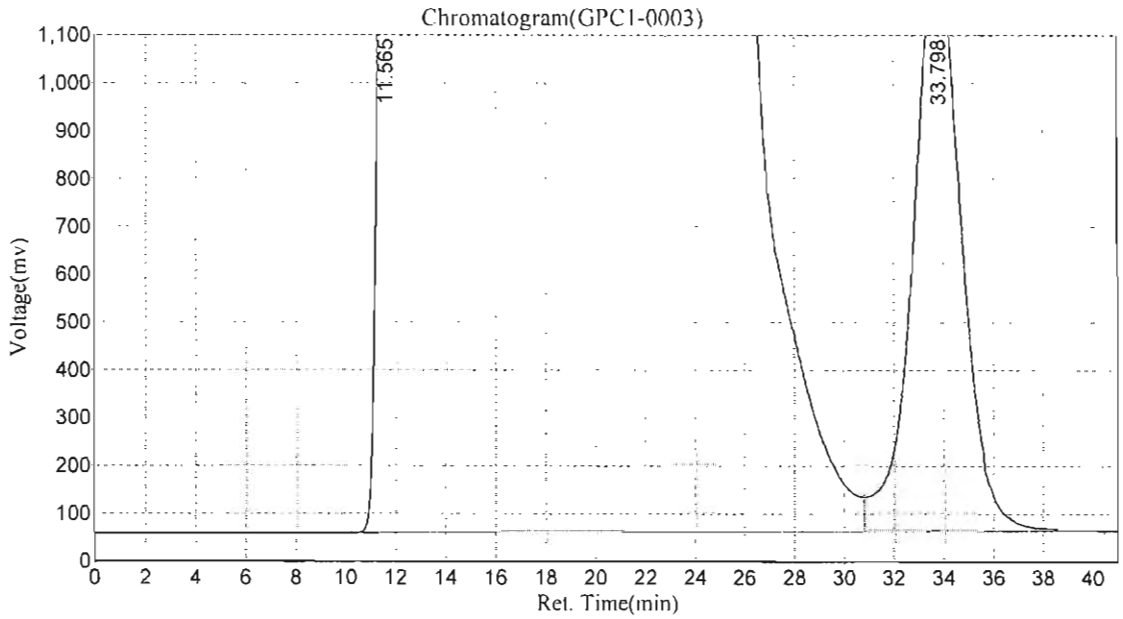
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,7:58:16 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0003
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,7:58:16 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.565	1430203.875	1362308736.000	89.3631
2		33.798	1214305.375	162155296.000	10.6369
Total			2644509.250	1524464032.000	100.000

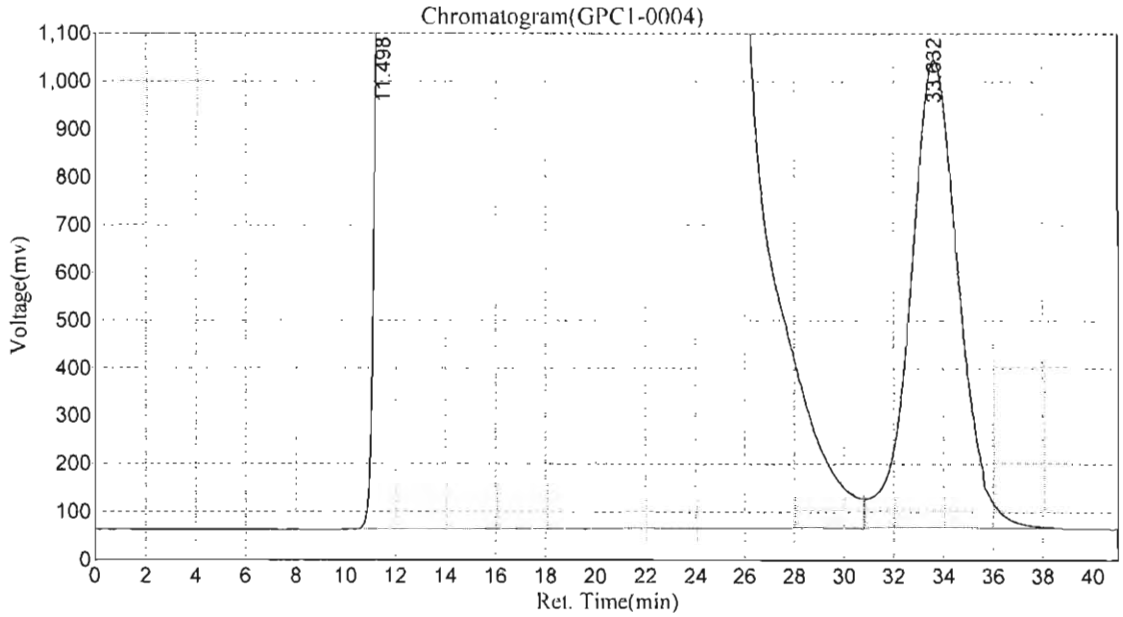
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,8:40:58 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0004
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,8:40:58 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.498	1426079.125	1352561664.000	91.1058
2		33.632	979085.813	132043352.000	8.8942
Total			2405164.938	1484605016.000	100.000

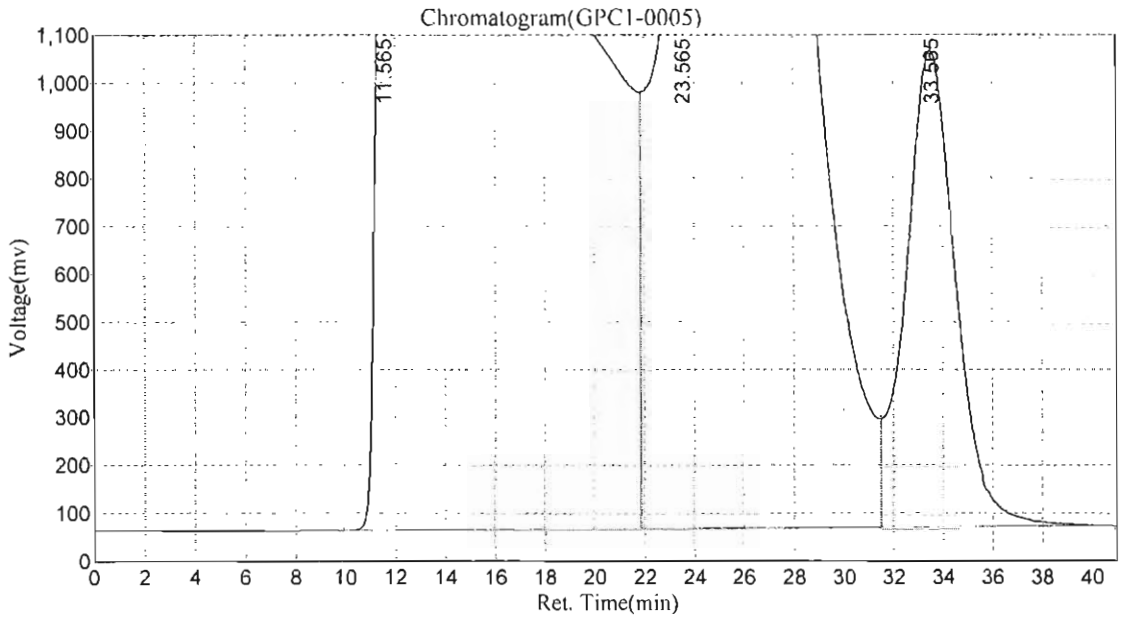
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,9:23:42 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0005
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-05-30,9:23:42 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.565	1425087.750	793457920.000	50.2836
2		23.565	1421458.000	644014464.000	40.8129
3		33.565	997228.188	140494816.000	8.9035
Total			3843773.938	1577967200.000	100.000

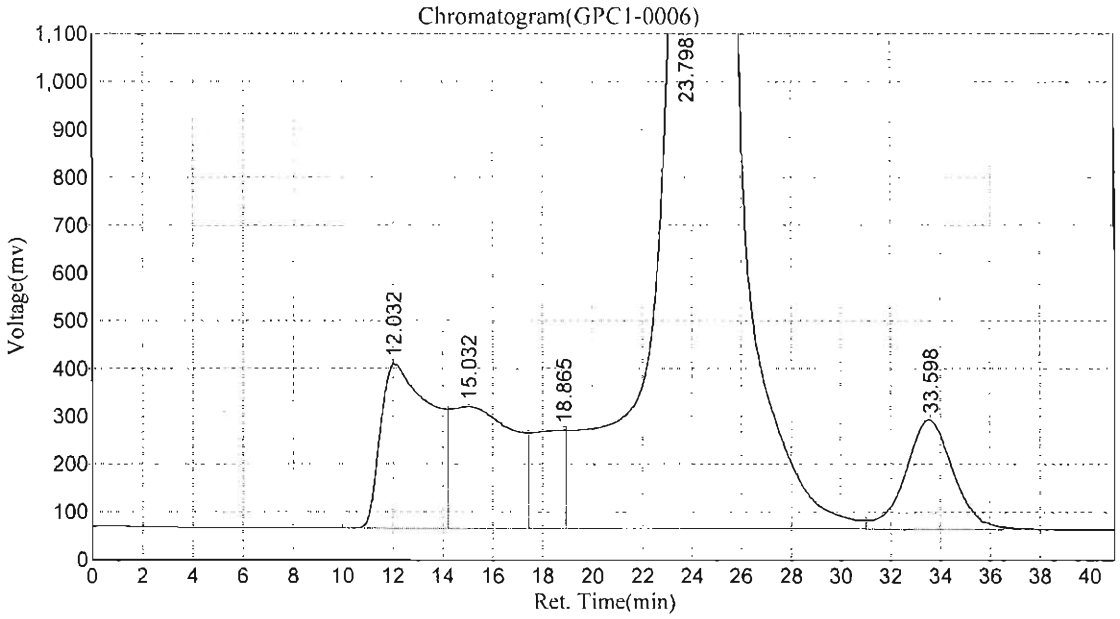
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,10:06:23 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0006
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,10:06:24 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	344732.656	49562640.000	9.6908
2		15.032	254568.547	44933472.000	8.7857
3		18.865	204944.750	18250608.000	3.5685
4		23.798	1423723.125	368332928.000	72.0187
5		33.598	227884.359	30361090.000	5.9364
Total			2455853.438	511440738.000	100.000

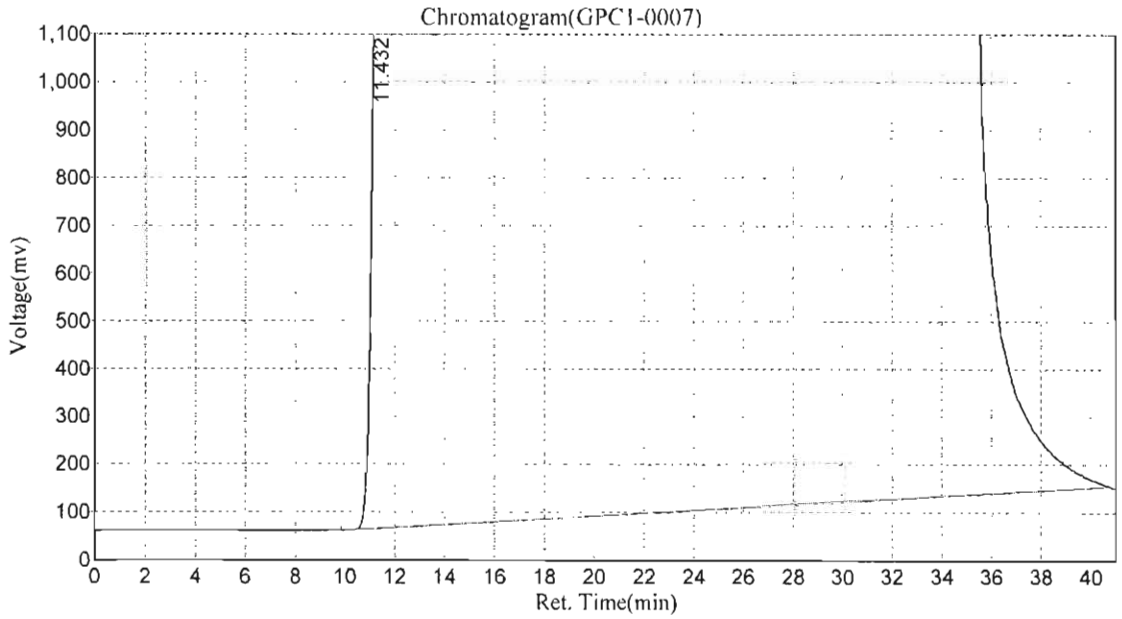
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,10:49:10 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0007
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,10:49:10 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.432	1421886.250	2090833280.000	100.0000
Total			1421886.250	2090833280.000	100.000

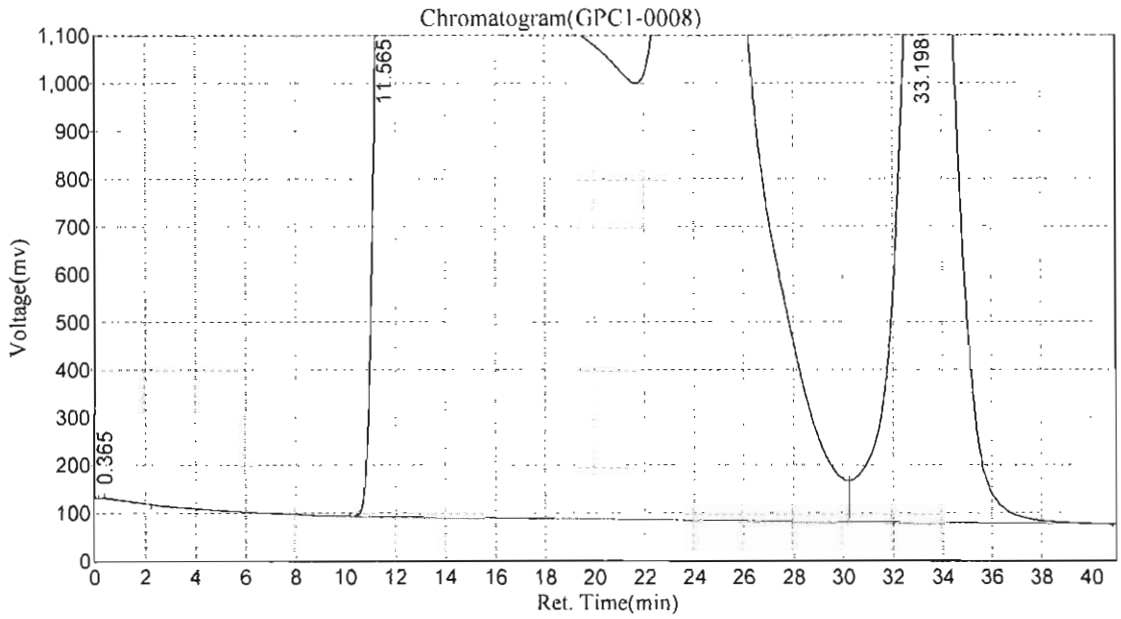
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-30,11:31:51 PM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0008
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-30,11:31:52 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		0.365	2290.000	106809.398	0.0075
2		11.565	1396532.250	1186375424.000	83.2204
3		33.198	1408248.750	239099888.000	16.7721
Total			2807071.000	1425582121.398	100.000

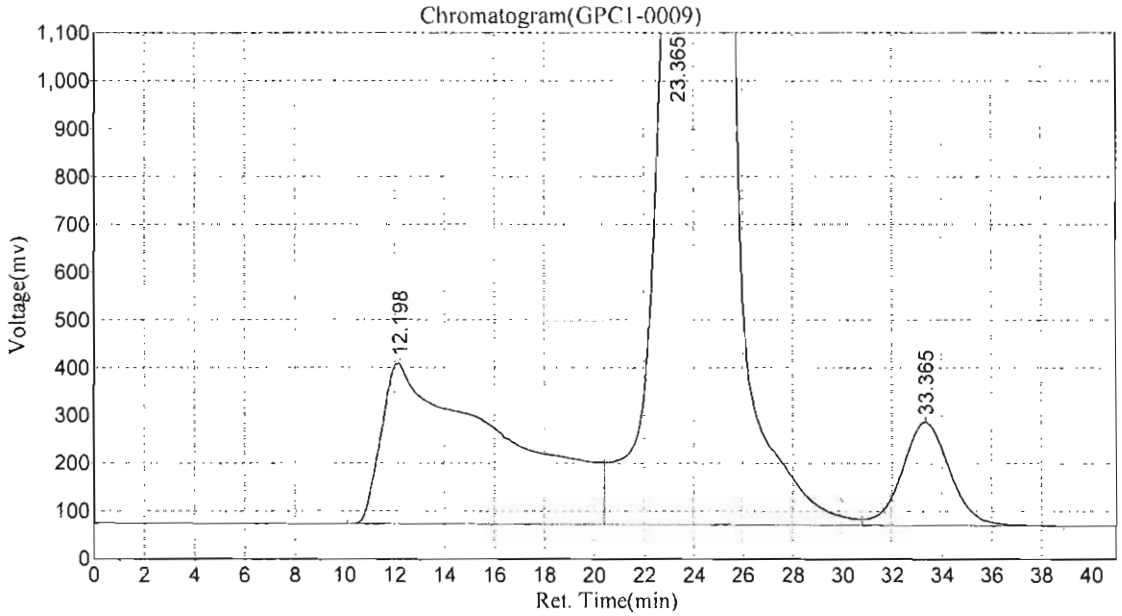
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,12:14:35 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0009
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,12:14:35 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.198	337215.750	113273792.000	23.7454
2		23.365	1417822.125	334640992.000	70.1504
3		33.365	216203.188	29118980.000	6.1042
Total			1971241.063	477033764.000	100.000

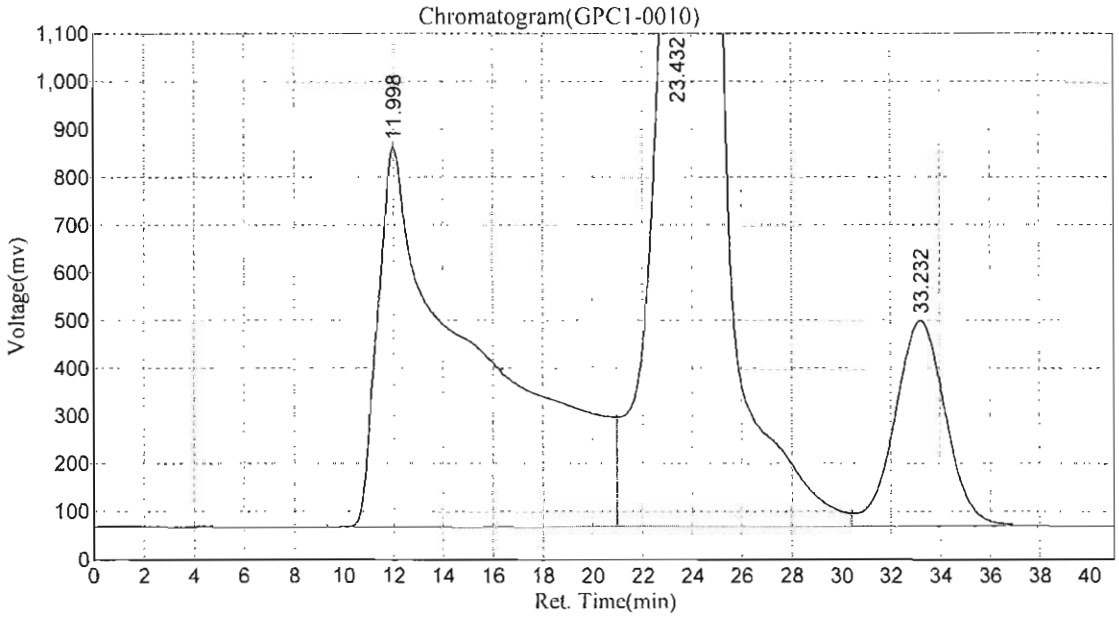
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,12:57:17 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0010
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,12:57:17 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.998	796110.563	225622496.000	37.5978
2		23.432	1419947.750	313692608.000	52.2738
3		33.232	428975.563	60780444.000	10.1285
Total			2645033.875	600095548.000	100.000

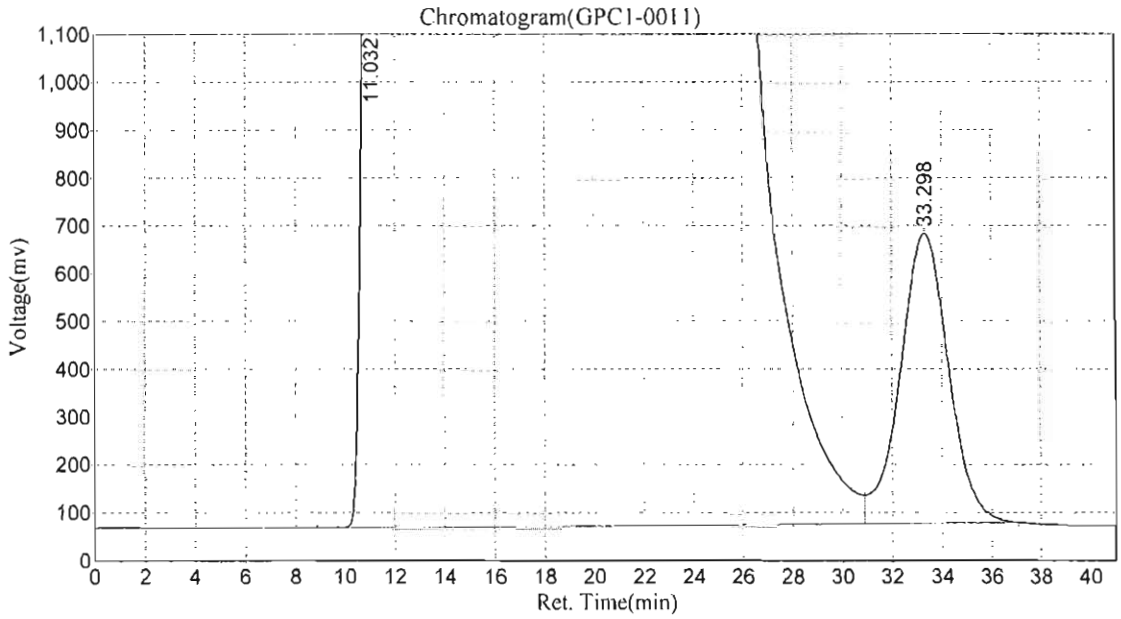
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,1:40:02 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0011
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-05-31,1:40:02 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.032	1420440.250	1437924864.000	94.6174
2		33.298	605581.375	81800248.000	5.3826
Total			2026021.625	1519725112.000	100.000

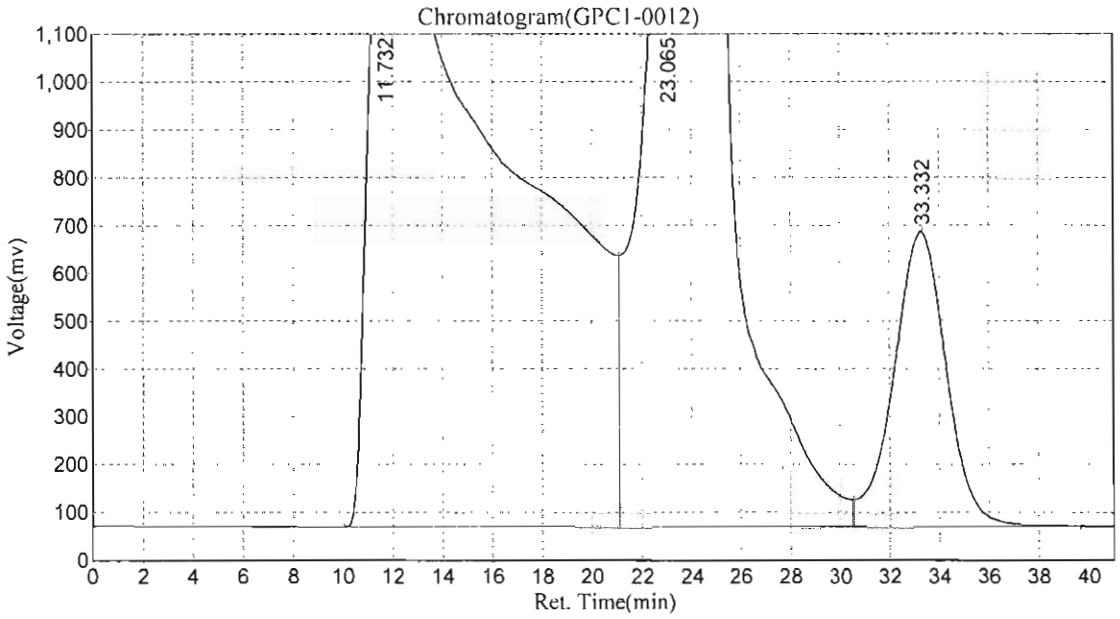
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,2:22:42 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0012
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-05-31,2:22:42 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.732	1419392.500	549793920.000	53.0710
2		23.065	1419276.125	395084320.000	38.1370
3		33.332	617270.563	91081480.000	8.7920
Total			3455939.188	1035959720.000	100.000

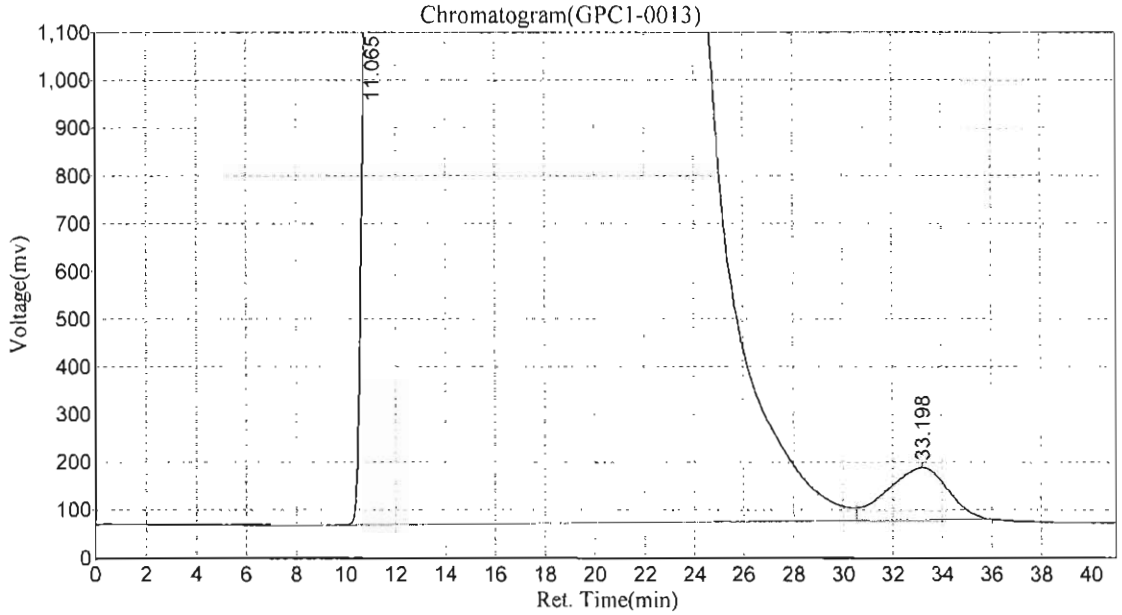
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,3:05:25 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0013
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,3:05:26 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.065	1420108.625	1251552768.000	98.5218
2		33.198	110049.258	18777828.000	1.4782
Total			1530157.883	1270330596.000	100.000

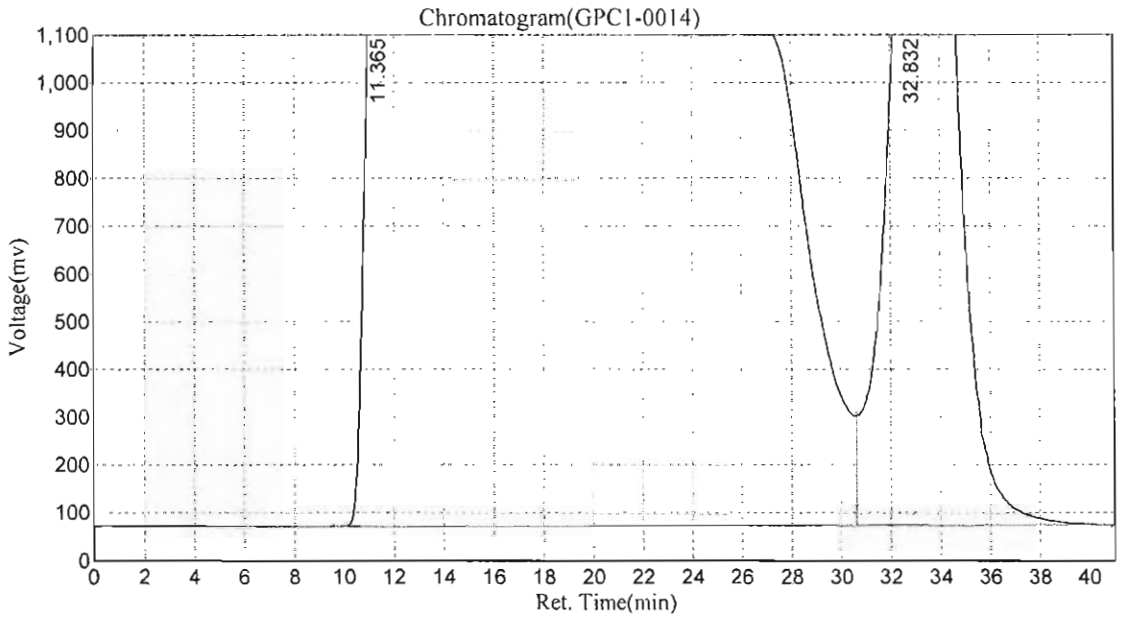
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,3:48:07 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0014
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,3:48:07 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.365	1418403.875	1378283648.000	82.5056
2		32.832	1415936.250	292249344.000	17.4944
Total			2834340.125	1670532992.000	100.000

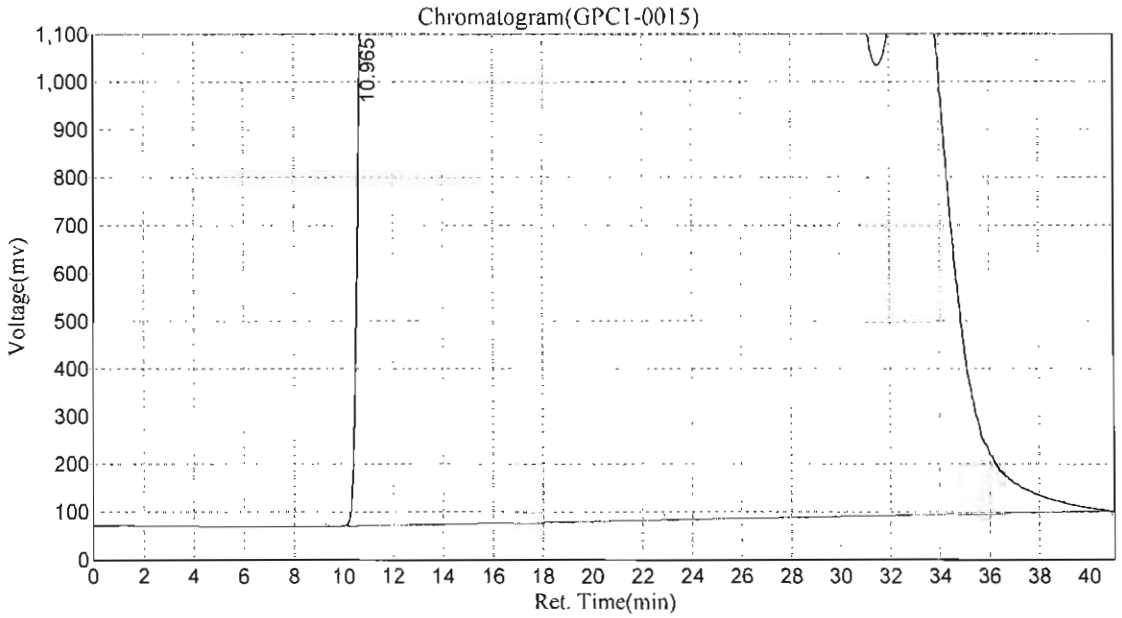
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,4:30:51 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0015
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-05-31,4:30:51 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.965	1418490.625	1982450048.000	100.0000
Total			1418490.625	1982450048.000	100.000

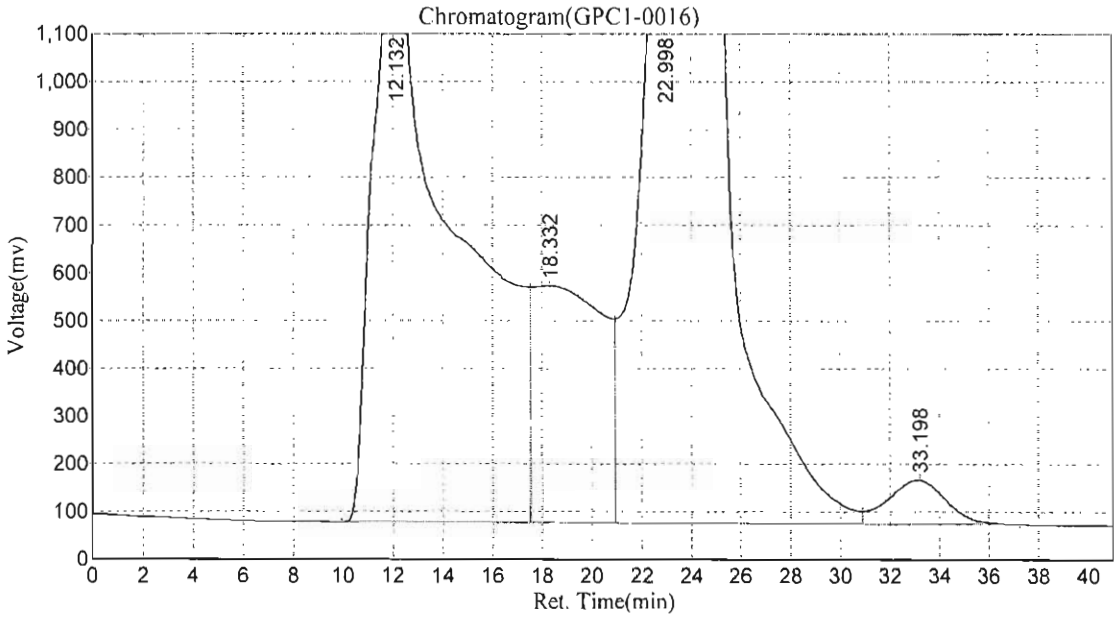
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,5:13:31 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0016
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-05-31,5:13:31 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	1411578.375	296715968.000	37.7991
2		18.332	497286.938	96625520.000	12.3093
3		22.998	1413926.250	375910688.000	47.8878
4		33.198	94223.055	15730261.000	2.0039
Total			3417014.617	784982437.000	100.000

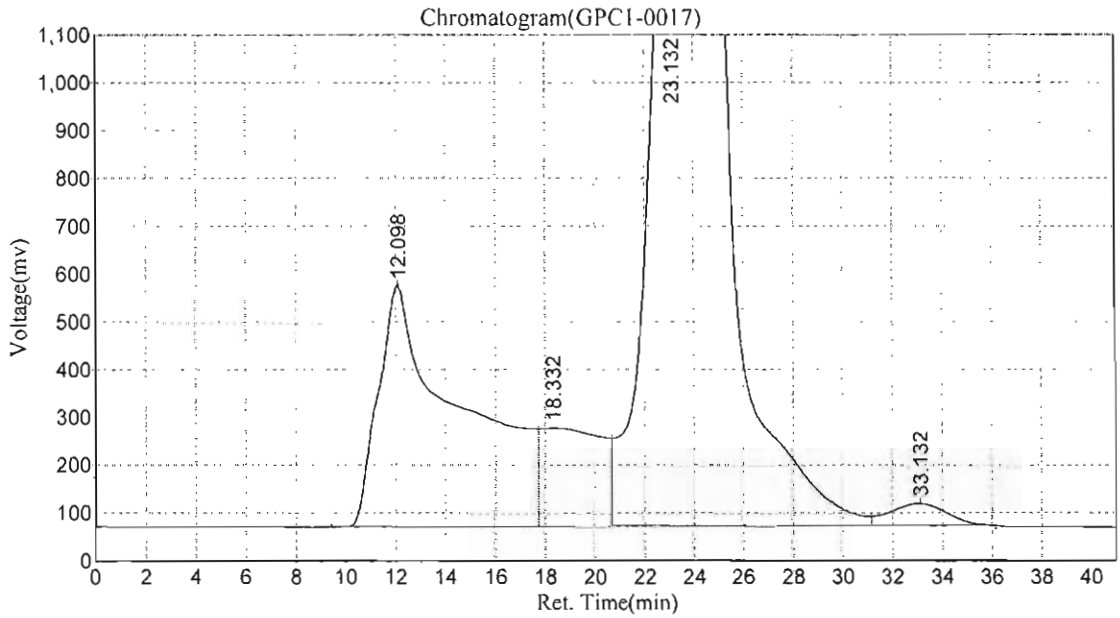
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,5:56:14 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0017
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,5:56:14 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	507211.563	117222320.000	23.2985
2		18.332	206108.000	34931548.000	6.9428
3		23.132	1417647.250	343468736.000	68.2662
4		33.132	46781.359	7509108.500	1.4925
Total			2177748.172	503131712.500	100.000

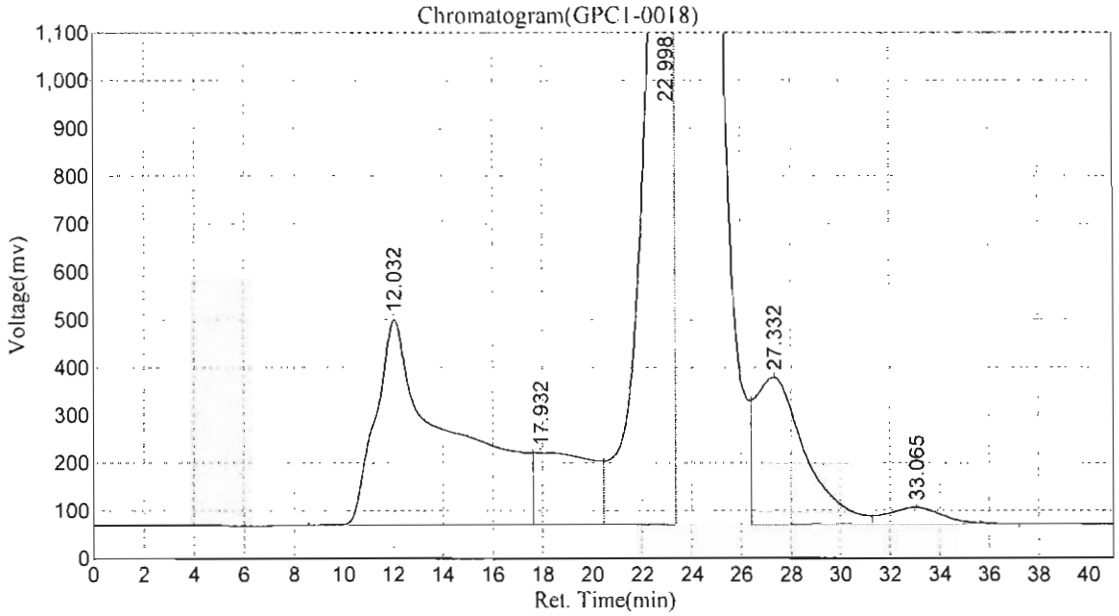
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,6:38:56 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0018
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,6:38:56 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	430728.156	91375552.000	31.7298
2		17.932	151536.344	24937126.000	8.6593
3		22.998	1418958.875	122994584.000	42.7094
4		27.332	308829.969	43245796.000	15.0169
5		33.065	34330.234	5427241.000	1.8846
Total			2344383.578	287980299.000	100.000

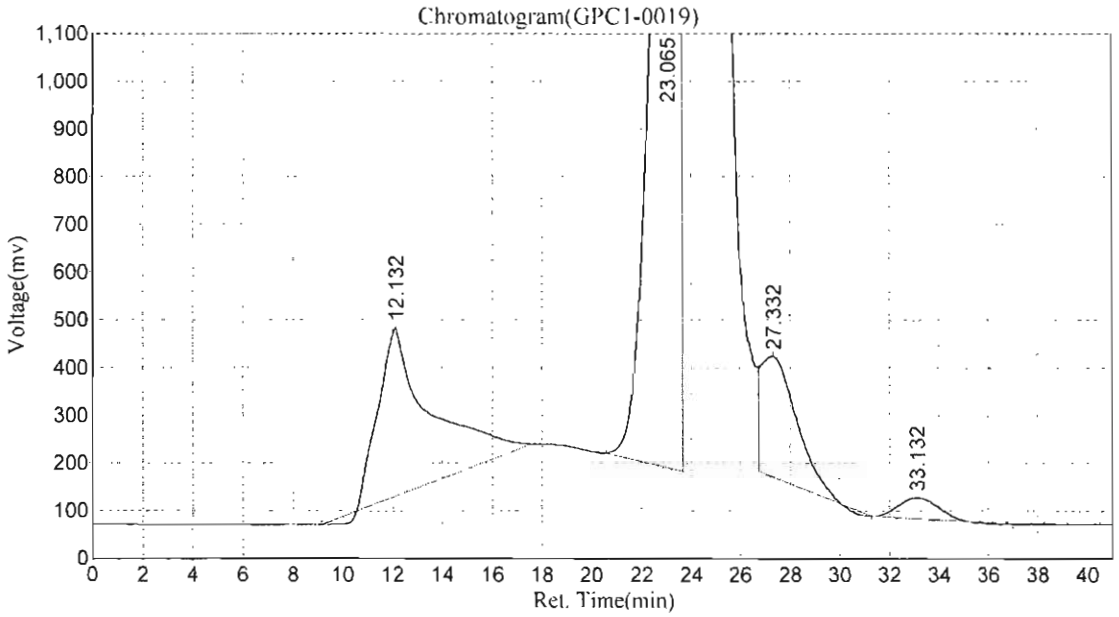
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,7:21:40 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0019
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,7:21:40 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	354091.438	52443948.000	25.0996
2		23.065	1298331.500	120758776.000	57.7949
3		27.332	286973.656	30693560.000	14.6899
4		33.132	44601.000	5047478.500	2.4157
Total			1983997.594	208943762.500	100.000

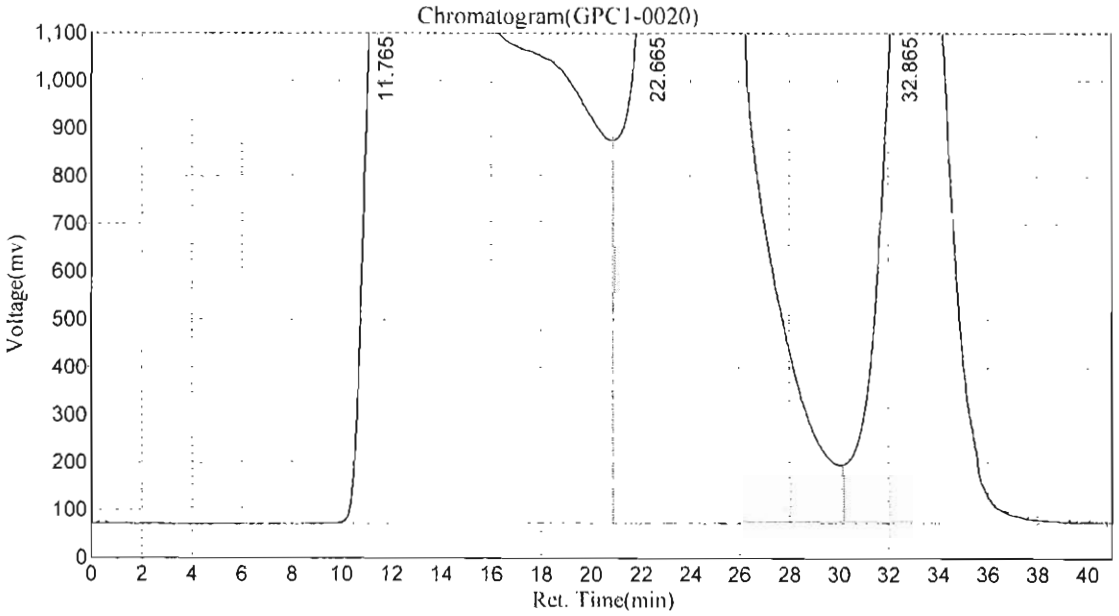
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,8:04:23 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0020
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,8:04:23 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.765	1417770.875	659239360.000	46.2918
2		22.665	1416334.500	504742240.000	35.4430
3		32.865	1414990.375	260113664.000	18.2652
Total			4249095.750	1424095264.000	100.000

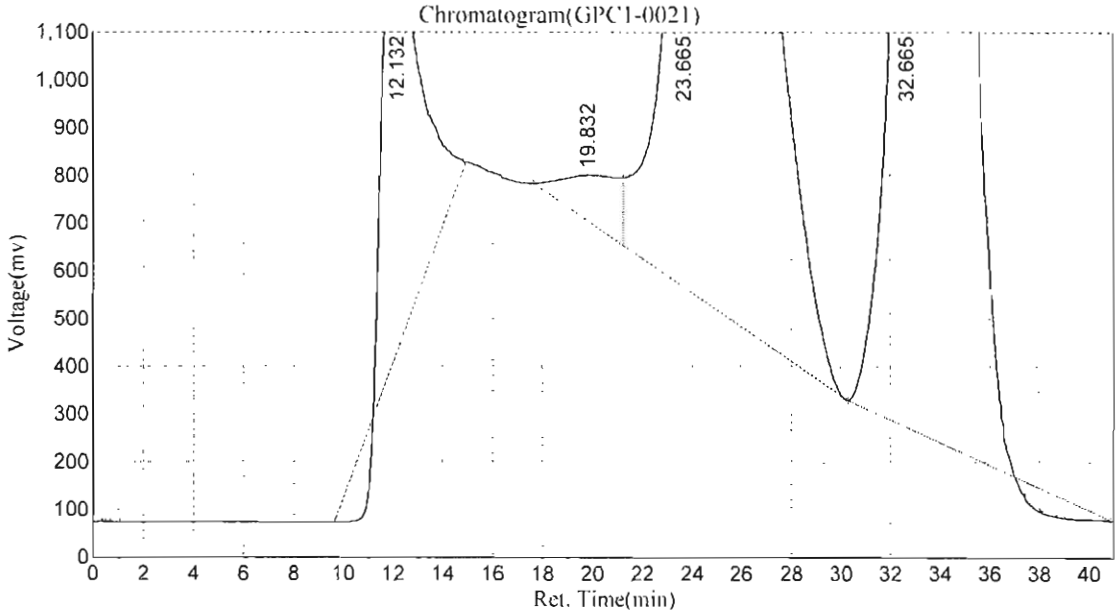
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0626 18E0231/243/262/282/309 Sim PNA /GPC Ver

Date:2018-05-31,8:47:06 AM
Data File:d:\n2000\data\gpc1\053018b\GPC1-0021
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-05-31,8:47:07 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	1060323.125	93564336.000	12.5677
2		19.832	95992.336	16476122.000	2.2131
3		23.665	922109.688	326288064.000	43.8277
4		32.665	1216668.000	308151424.000	41.3915
Total			3295093.148	744479946.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0626

Prepared using: EPA 3546 (Microwave)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Solid (Version:cPAH)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into beakers-lightly dry with Sodium Sulfate. 2. Transfer to microwave vessel. 3. Add DCM ONLY to the vessels (until solvent is 3 inches above soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-re-homogenize while hot then let cool 10-15 min in Refridgerator 05. Re-homogenize while cool. 7. Decant DCM into Erlenmeyer flask with a funnel containing pre-deactivated glasswool. 8. Rinse with DCM 9. Microwave a 2nd time using 1:1 DCM/ACE. 10. Let cool and decant the solvent then empty the soil into the funnel and rinse with DCM. 11. If GPC is Req add 10mL Hexane and KD to 5mL at 100°C (NO EXCHANGE) 12. If GPC is NOT Req = KD to 5mL at 100°C. Exchange to Hexane (2X with 10mL) to 5mL at 100°C. 13. TurboVap. 14. Sulfur clean = Hexane transfer rinse. 15. Silica Clean-up Any Color=REQ (All or none). 16. TurboVap 17. Vial in DCM. A. Need Total Solids Y /N B. Archive Freeze Y / N	

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0773 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-A11-CLWB-Comp1	18E0231-01	N818061220.D	06/05/18 12:40	
LDW18-A01-CLWB-Comp1	18E0243-07	N818061207.D	06/05/18 12:40	
LDW18-A02-CLWB-Comp1	18E0243-08	N818061208.D	06/05/18 12:40	
LDW18-A06-CLWB-Comp1	18E0243-09	N818061209.D	06/05/18 12:40	
LDW18-A04-CLWB-Comp1	18E0243-10	N818061210.D	06/05/18 12:40	
LDW18-A03-CLWB-Comp1	18E0243-11	N818061211.D	06/05/18 12:40	
LDW18-A05-CLWB-Comp1	18E0243-12	N818061212.D	06/05/18 12:40	
LDW18-A19-CLWB-Comp1	18E0262-03	N818061206.D	06/05/18 12:40	
LDW18-A12-CLWB-Comp1	18E0282-06	N818061213.D	06/05/18 12:40	
LDW18-A09-CLWB-Comp1	18E0282-07	N818061214.D	06/05/18 12:40	
LDW18-A10-CLWB-Comp1	18E0282-08	N818061215.D	06/05/18 12:40	
LDW18-A18-CLWB-Comp1	18E0282-09	N818061216.D	06/05/18 12:40	
LDW18-A17-CLWB-Comp1	18E0282-10	N818061217.D	06/05/18 12:40	
LDW18-A07-CLWB-Comp1	18E0309-03	N818061218.D	06/05/18 12:40	
LDW18-A08-CLWB-Comp1	18E0309-04	N818061219.D	06/05/18 12:40	
LDW18-A13-CLWB-Comp1	18E0389-01	N818061223.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
Blank	BGE0773-BLK1	N818061203.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LCS	BGE0773-BS1	N818061204.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0773 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	
Reference	BGE0773-SRM1	N818061205.D	06/05/18 12:40	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0773

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:)
8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH)

Matrix: Tissue Date Prepared: 06/05/18 Balance ID: B139798002 Set Up By: CAT 6/5/18

The following standards may be missing from this batch!

Designator	Description
I	Surrogate
18	Spike

Analysis: 8270D-SIM PAH (0.1 ug/L or 5 ug/kg)

Lab Number & Container	Initial (g) Target Wet: 10 (Wet) Actual	(REQ) GPC (1:1) CAT 4:5	(REQ) Silica Gel C/U (1:1) EPH Aro	Final Effective Vol (mL)	Vol to Lab 0.4	Extraction Comments
18E0231-01 A	(10.000) 10.07	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-07 A	(10.000) 10.00	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-08 A	(10.000) 10.02	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-09 A	(10.000) 10.03	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-10 A	(10.000) 10.07	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-11 A	(10.000) 10.06	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0243-12 A	(10.000) 10.14	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0262-03 A	(10.000) 10.01	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0282-06 A	(10.000) 10.05	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0282-07 A	(10.000) 10.08	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0282-08 A	(10.000) 10.13	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0282-09 A	(10.000) 10.09	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0282-10 A	(10.000) 10.05	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0309-03 A	(10.000) 10.12	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0309-04 A	(10.000) 10.15	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
18E0389-01 A	(10.000) 10.15	~~(1:1)~~	(1:1)	0.5	~~0.5~~	

Batch QC

Lab Number	Initial (g) Target Wet: 10 (Wet) Actual	(REQ) GPC (1:1) CAT 4:5	(REQ) Silica Gel C/U (1:1) EPH Aro	Final Effective Vol (mL)	Vol to Lab 0.4	Extraction Comments
BGE0773-BLK1	(10.000) 10.00	~~(1:1)~~	(1:1)	0.5	~~0.5~~	
BGE0773-BS1	(10.000) 10.00	~~(1:1)~~ 1:1	(1:1)	0.5	~~0.5~~ 0.5	
BGE0773-MS1	(10.000) 10.03	(1:1)	(1:1)	0.5	~~0.5~~	Use 18E0231-01
BGE0773-MSD1	(10.000) 10.03	~~(1:1)~~ 1:1	(1:1)	0.5	~~0.5~~ 0.5	Use 18E0231-01
BGE0773-SRM1	~~(10.000)~~ 5.0 5.05	(1:1) 1:1	(1:1)	0.5	~~0.5~~ 0.5	Use F011861 5g + 1g H2O

06/05/18
Client ID verified By Date

6/12/18
Preparation Reviewed By Date

06/05/18 12:40
Extraction Date and Time

Printed: 6/5/2018 10:13:59AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0773

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:)
8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH)

Prep Steps	Reagents Used	
Tissuemizing MK 06/05/18 Analyst/Date	**Station/Reagent**	**Standard ID**
	TissueMizing Analyst: MK Date: 06/05/18	
	Corn Oil MK 06/05/18	N/A
	Neutral Glasswool	G003192
	Anhydrous Sodium Sulfate	G004348
	Methylene Chloride	G004967
	1:1 Methylene Chloride/Acetone	G006105
KD Pre GPC 80 - 85°C 100°C 1 2 3 4 5 6 CET 6/6/18 Analyst/Date	**Pre GPC KD** Analyst: CET Date: 6/6/18	
	Methylene Chloride	G003838
TurboVap Pre GPC 1 2 3 4 5 6/7/18 Analyst/Date	**GPC Filter Prep** Analyst: Date: 6/7/18	
	Methylene Chloride	G004967
GPC Filter 6/7/18 Analyst/Date	**GPC** Analyst: Date: 6/7/18	
	Methylene Chloride	G004967
GPC 6/7/18 Analyst/Date	GPC Calibration File	CG00067-Gray
	Post GPC KD Analyst: CET Date: 6/8/18	
KD 80 - 85°C Hexane Exchange (2 X 20 mL) 100°C 1 2 3 4 5 6 CET 6/8/18 Analyst/Date	Methylene Chloride	G004967
	Hexane	G004216
	Vialing Analyst: SP Date: 6/12/18	
TurboVap Pre Silica Gel Clean 1 2 3 4 5 SP 6/12/18 Analyst/Date	60:40 Pentane/Methylene Chloride	G005070
	Pentane	F003882
	Hexane	G004216
	Methylene Chloride	G004567
TurboVap Post Silica Gel Clean 1 2 3 4 5 6/12/18 Analyst/Date	Neutral Sodium Sulfate	G005136
	0% Silica Gel LL	F006436
	Neutral Glasswool	G003192

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness
B	G002655 Exp:9/28/18	100uL	MK	CT
15	G003923 Exp:11/3/18	100uL	MK	CT

Hexane: G003479

(V) indicates a virtual standard combining two or more physical standards In these cases the Standard ID refers to the virtual standard, not the parent standards

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SIM PNA 18E0282, 18E0307, 18E0389

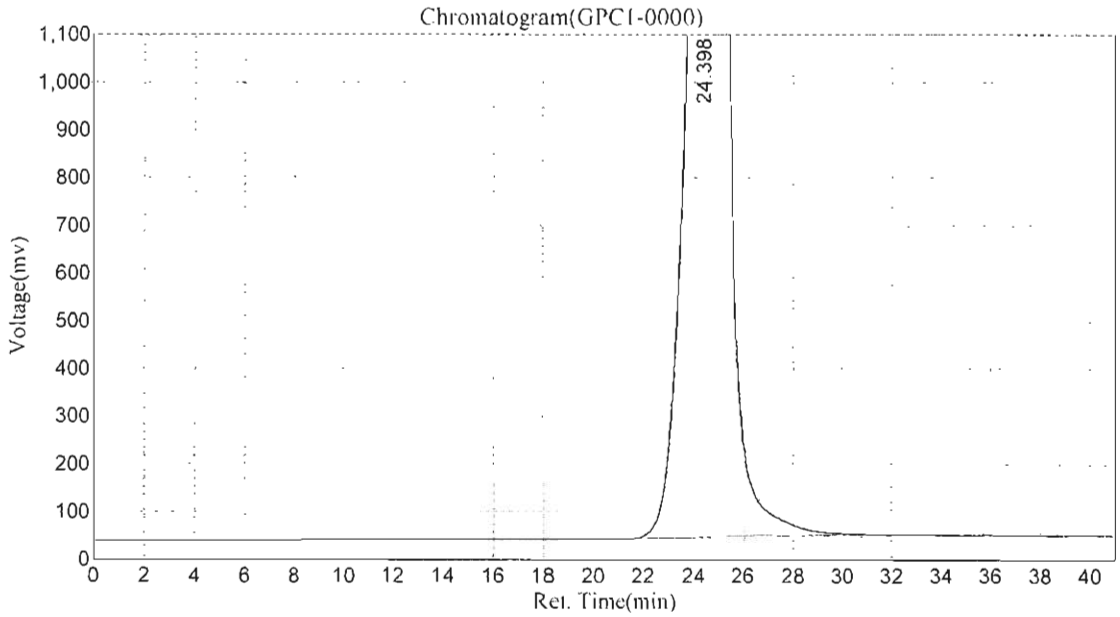
Element Batch: BGE0773 Work Order(s): 18E0231, 18E0243, 18E0262

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☑ Other (Details)= Clam tissue	CLS 6/6/18
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
KD on 100°C w/ 10mL Hexane.	CLS 6/6/18
used LL 0% Silica gel for fractionation. OK as per Brian B.	SE 6/12/18
☑ Share Samples Y / N	MJE 06/05/18
☒ Multiple Jars Y / N	MJE 06/05/18
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-07,8:47:08 PM
Data File:d:\n2000\data\gpc1\060718\GPC1-0000 - BLK
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-07,8:47:08 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		24.398	1441912.625	196687248.000	100.0000
Total			1441912.625	196687248.000	100.000

Ingredient Table

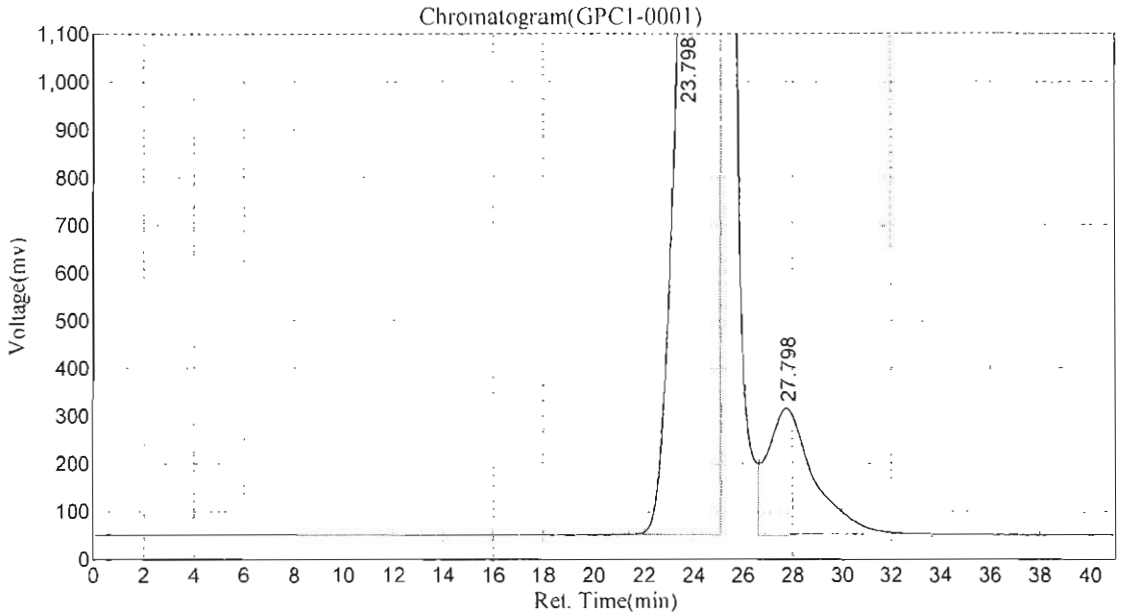
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-07,9:29:50 PM
Data File:d:\n2000\data\gpc1\060718\GPC1-0001
Method File:D:\N2000\GPC1_InHouse.mtd

-BS

Analyst£°WW
Date/Time2018-06-07,9:29:51 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		23.798	1437803.875	171821632.000	83.3711
2		27.798	263549.750	34270916.000	16.6289
Total			1701353.625	206092548.000	100.000

Ingredient Table

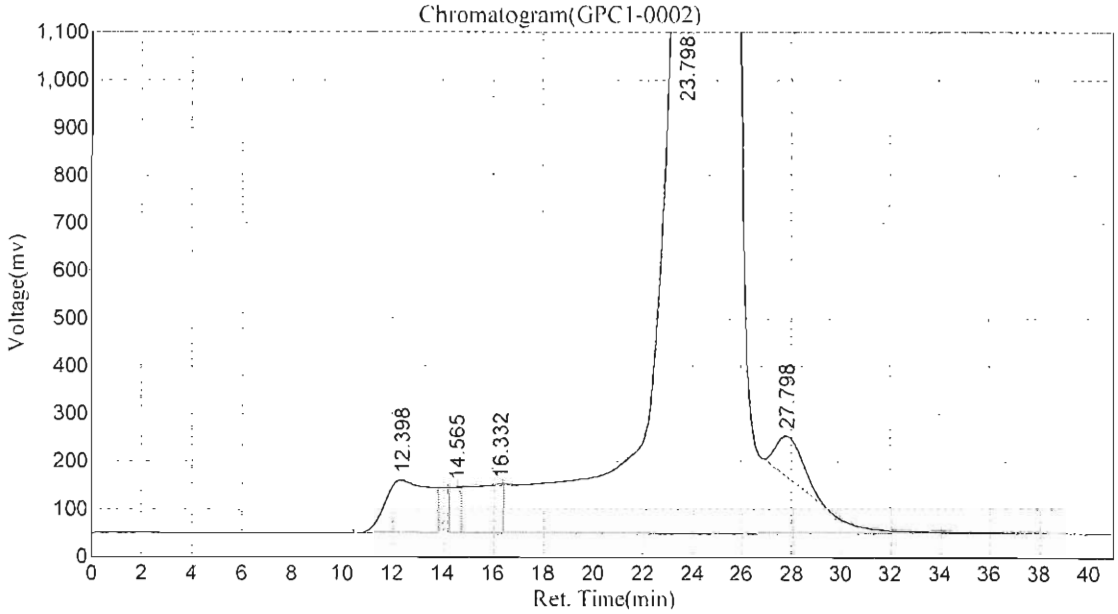
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-07,10:12:32 PM
Data File:d:\n2000\data\gpc1\060718\GPC1-0002
Method File:D:\N2000\GPC1_InHouse.mtd

-SRM

Analyst£ºWW
Date/Time2018-06-07,10:12:33 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.398	110997.102	13624352.000	7.8542
2		14.565	95996.461	2865966.000	1.6522
3		16.332	100501.383	9852953.000	5.6801
4		23.798	1438787.500	140674032.000	81.0965
5		27.798	84435.281	6447698.500	3.7170
Total			1830717.727	173465001.500	100.000

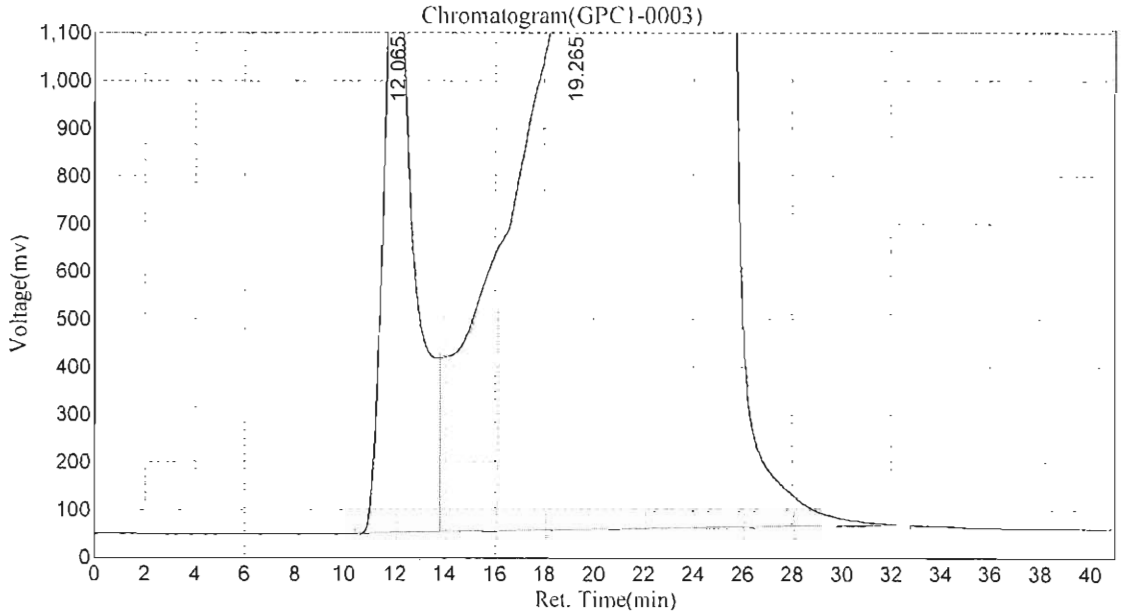
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-07,10:55:16 PM
Data File:d:\n2000\data\gpc1\060718\GPC1-0003
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-07,10:55:17 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.065	1416834.125	113945456.000	12.0612
2		19.265	1431932.875	830784960.000	87.9388
Total			2848767.000	944730416.000	100.000

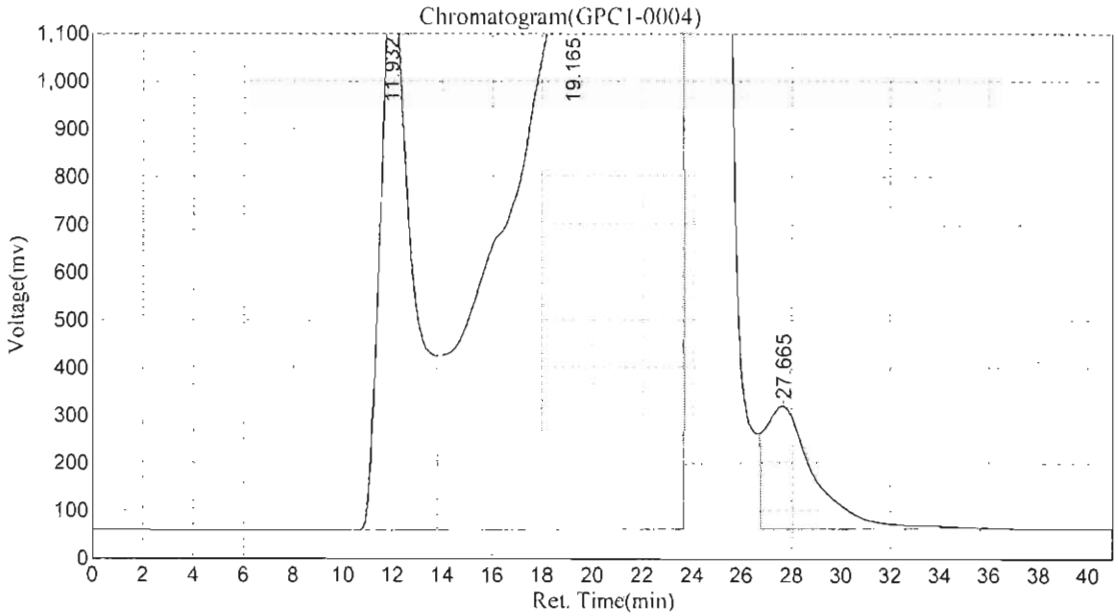
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-07,11:37:59 PM
Data File:d:\n2000\data\gpc1\060718\GPC1-0004 — MS
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-07,11:38:00 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.932	1200399.500	107151064.000	14.0430
2		19.165	1428446.375	620140288.000	81.2742
3		27.665	257986.234	35730580.000	4.6828
Total			2886832.109	763021932.000	100.000

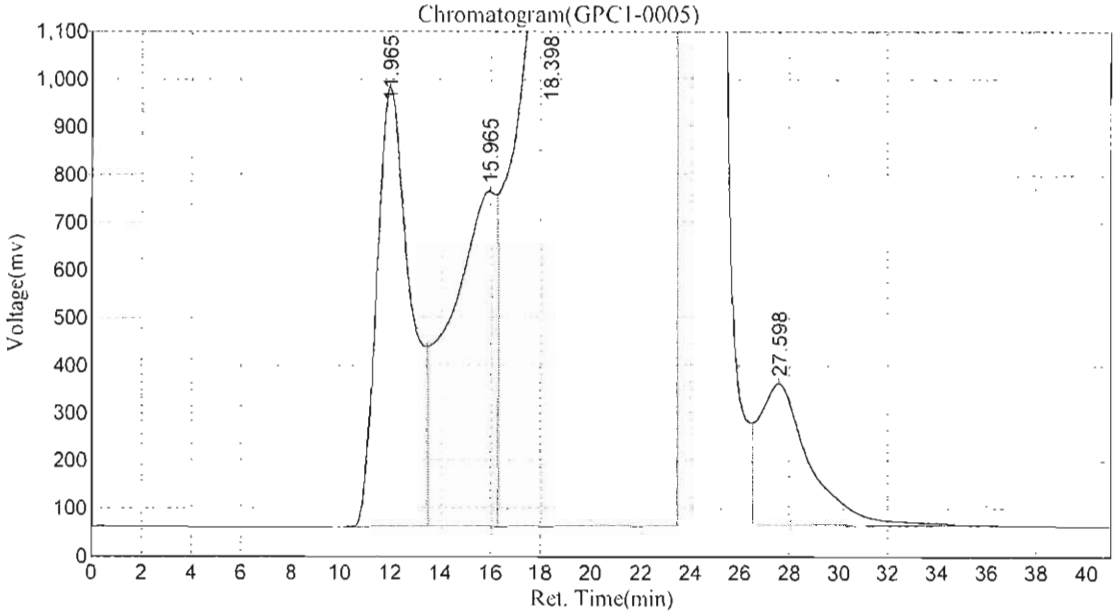
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,12:20:43 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0005 —MSd
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,12:20:43 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.965	925191.688	85766088.000	10.9751
2		15.965	705464.063	89854432.000	11.4982
3		18.398	1426939.625	563081408.000	72.0547
4		27.598	298642.750	42761804.000	5.4720
Total			3356238.125	781463732.000	100.000

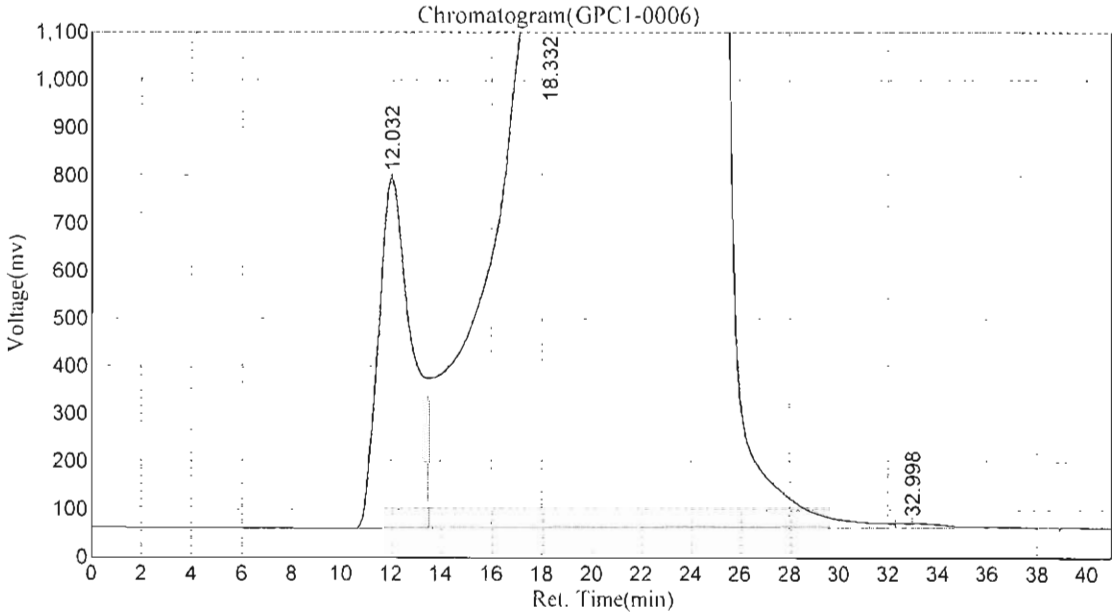
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,1:03:26 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0006
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,1:03:27 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	735067.438	68631120.000	7.3802
2		18.332	1428500.375	859682304.000	92.4457
3		32.998	9327.472	1618335.000	0.1740
Total			2172895.284	929931759.000	100.000

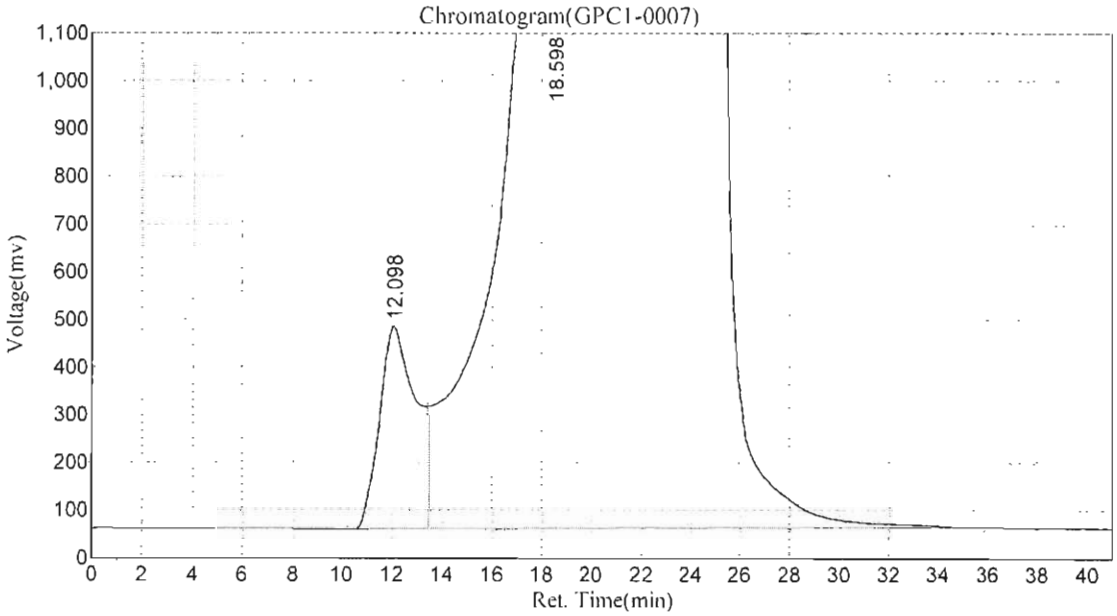
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,1:46:10 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0007
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,1:46:11 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	425298.375	41726024.000	4.6708
2		18.598	1427501.125	851615168.000	95.3292
Total			1852799.500	893341192.000	100.000

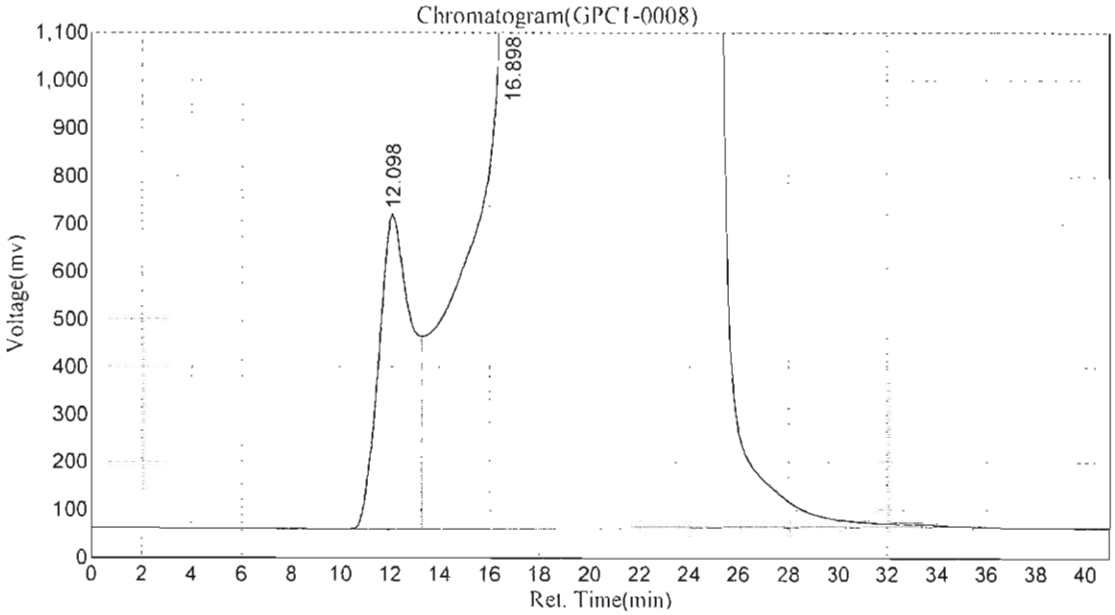
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,2:28:53 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0008
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,2:28:53 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	659289.188	61435640.000	6.3966
2		16.898	1428463.375	899008640.000	93.6034
Total			2087752.563	960444280.000	100.000

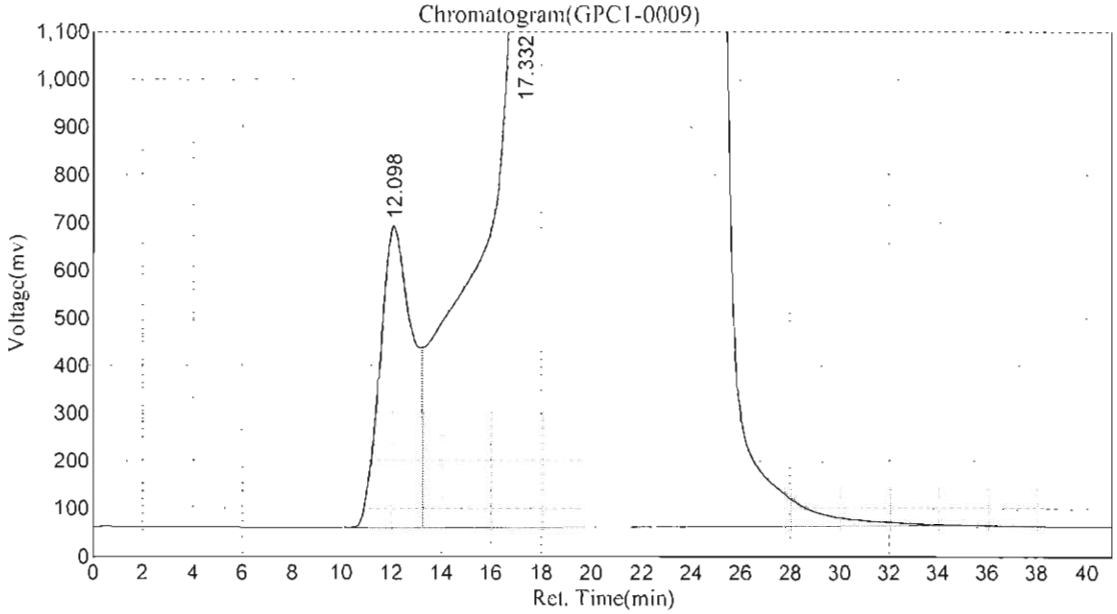
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,3:11:37 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0009
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,3:11:38 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	633424.813	56501548.000	6.1158
2		17.332	1428762.375	867362432.000	93.8842
Total			2062187.188	923863980.000	100.000

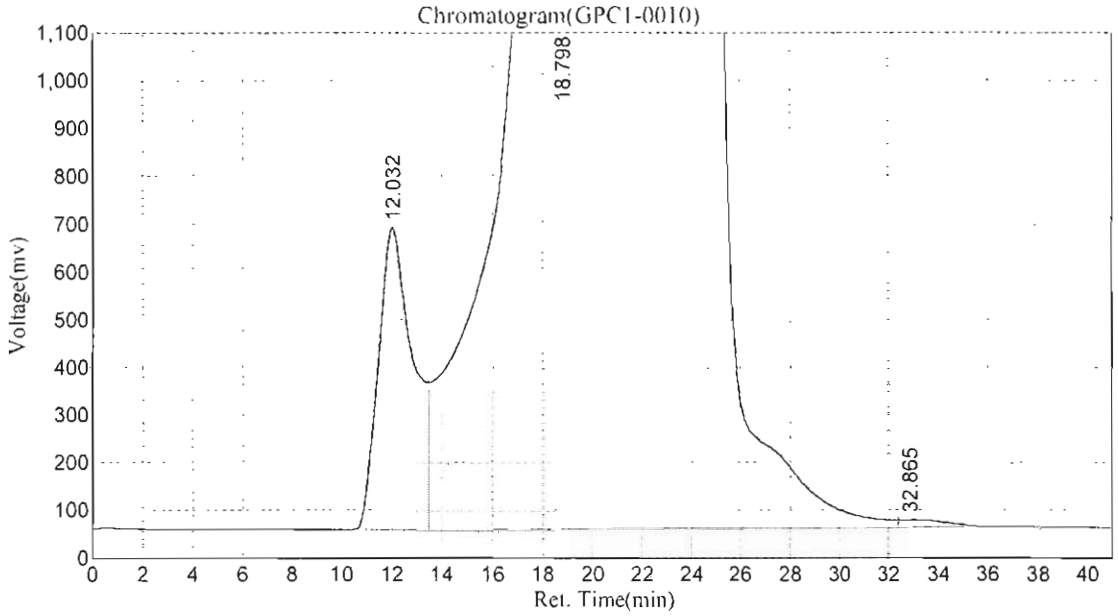
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,3:54:19 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0010
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,3:54:20 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	634878.563	62205632.000	6.6337
2		18.798	1428597.750	873249216.000	93.1245
3		32.865	15763.420	2267943.500	0.2419
Total			2079239.732	937722791.500	100.000

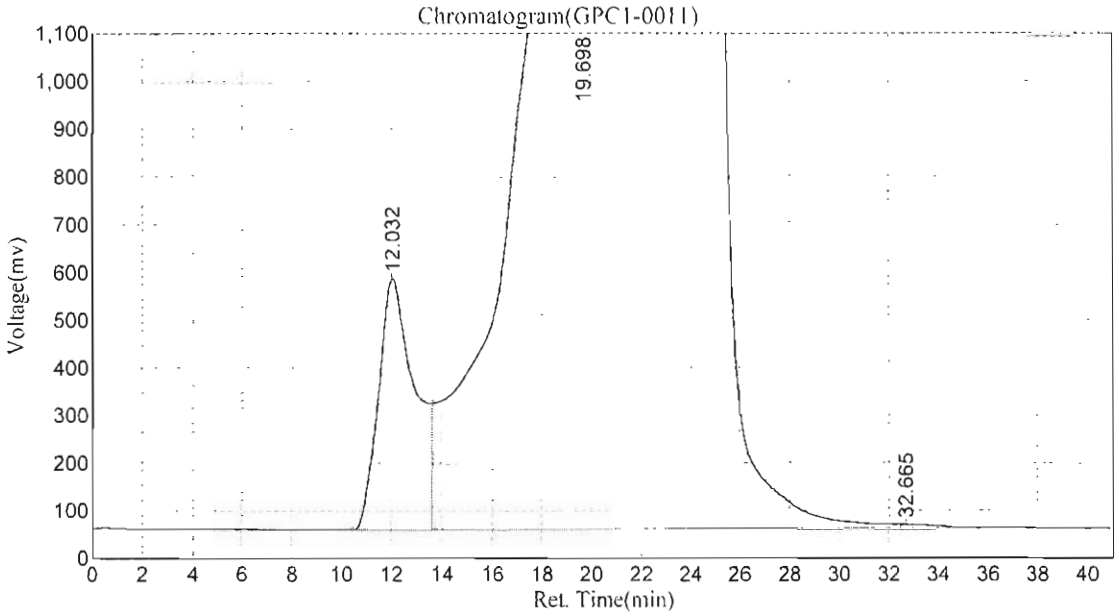
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,4:37:03 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0011 -12
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,4:37:04 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	526615.750	54086960.000	6.3880
2		19.698	1343367.625	791842048.000	93.5210
3		32.665	7165.481	770762.750	0.0910
Total			1877148.856	846699770.750	100.000

Ingredient Table

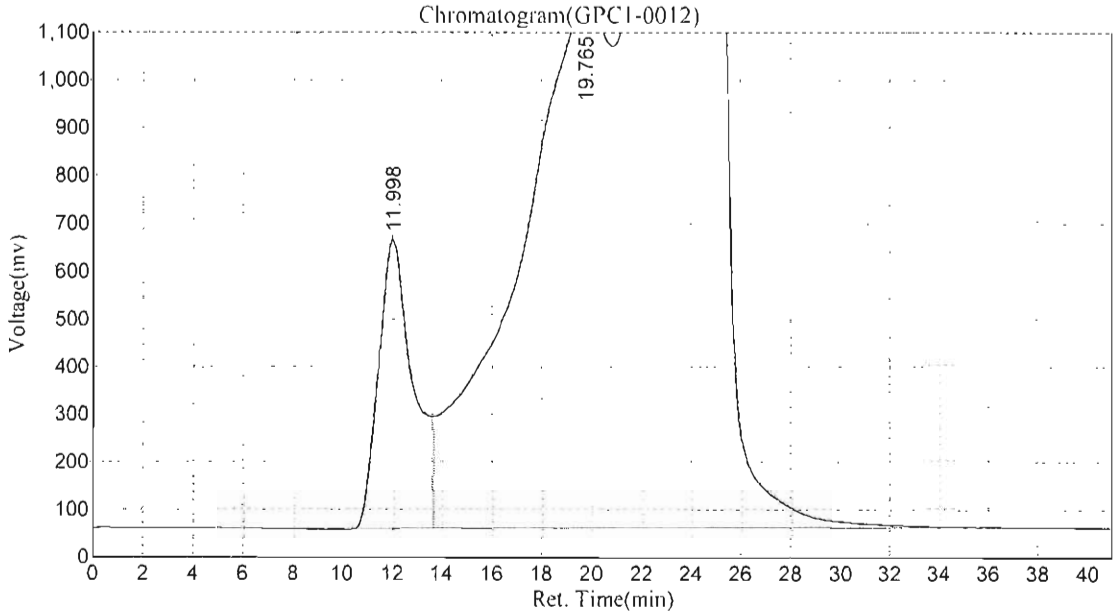
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,5:19:46 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0012
Method File:D:\N2000\GPC1_InHouse.mtd

-93

Analyst£°WW
Date/Time2018-06-08,5:19:47 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		11.998	608579.875	59230440.000	7.9309
2		19.765	1109612.750	687596992.000	92.0691
Total			1718192.625	746827432.000	100.000

Ingredient Table

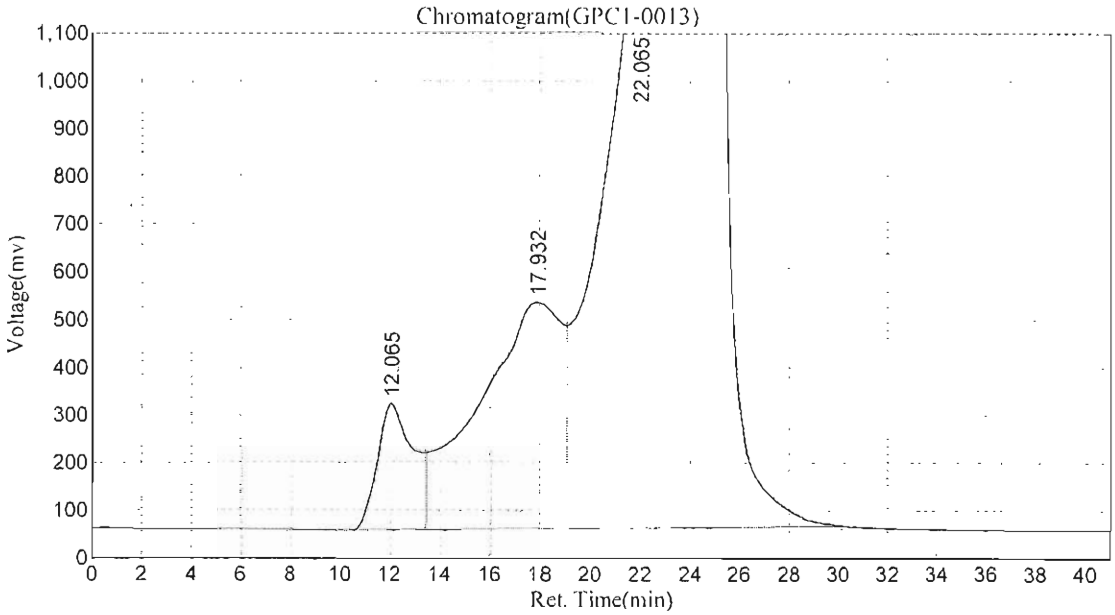
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,6:02:30 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0013
Method File:D:\N2000\GPC1_InHouse.mtd

-06

Analyst£°WW
Date/Time2018-06-08,6:02:31 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.065	265112.844	26141308.000	4.3650
2		17.932	475136.594	109450312.000	18.2755
3		22.065	1424866.000	463298432.000	77.3595
Total			2165115.438	598890052.000	100.000

Ingredient Table

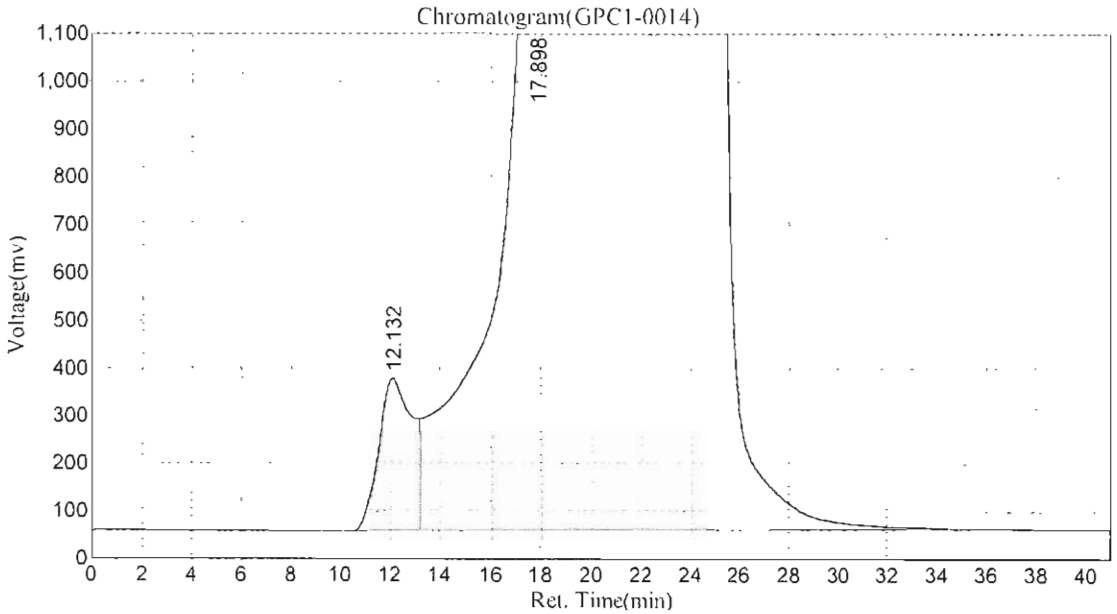
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,6:45:13 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0014
Method File:D:\N2000\GPC1_InHouse.mtd

-07

Analyst£ºWW
Date/Time2018-06-08,6:45:13 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	321533.469	29797516.000	3.3980
2		17.898	1430663.375	847114624.000	96.6020
Total			1752196.844	876912140.000	100.000

Ingredient Table

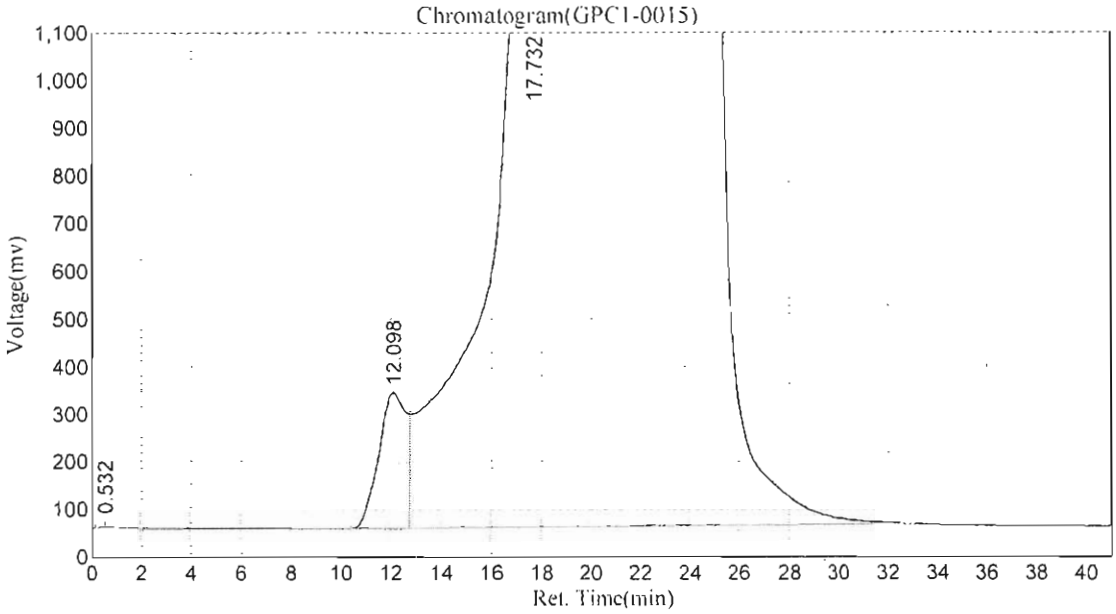
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,7:27:57 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0015
Method File:D:\N2000\GPC1_InHouse.mtd

-99

Analyst£°WW
Date/Time2018-06-08,7:27:57 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		0.532	2333.833	108757.602	0.0126
2		12.098	285595.750	22307236.000	2.5934
3		17.732	1426565.375	837740800.000	97.3940
Total			1714494.958	860156793.602	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

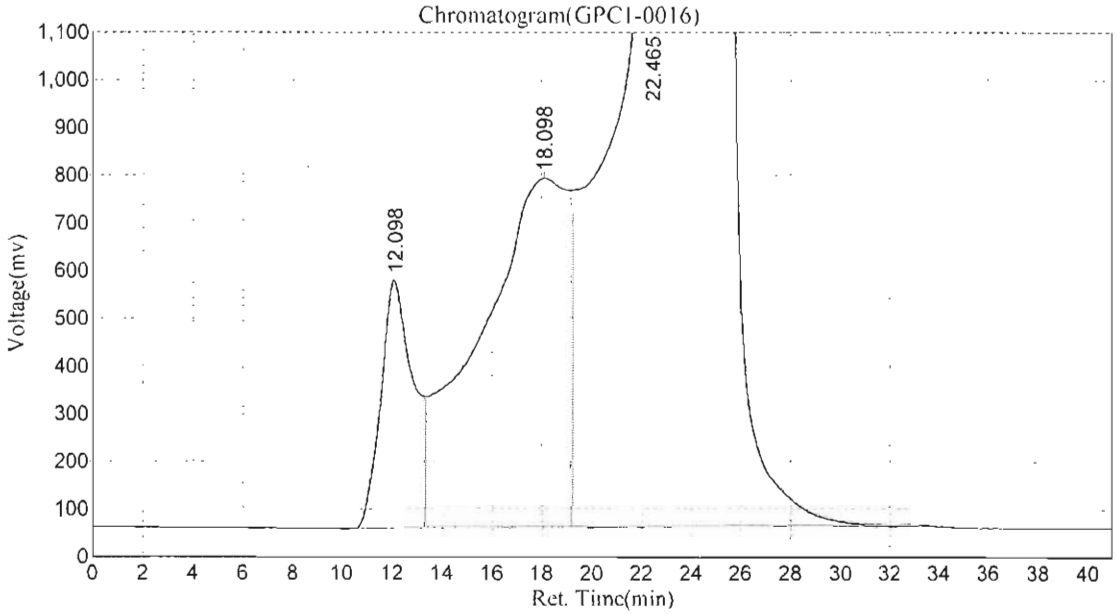
2018-06-08

Analytical Resources, Inc.

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,8:10:39 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0016
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,8:10:39 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	520792.625	46457324.000	6.4431
2		18.098	733136.813	177967328.000	24.6821
3		22.465	1426271.000	496612736.000	68.8748
Total			2680200.438	721037388.000	100.000

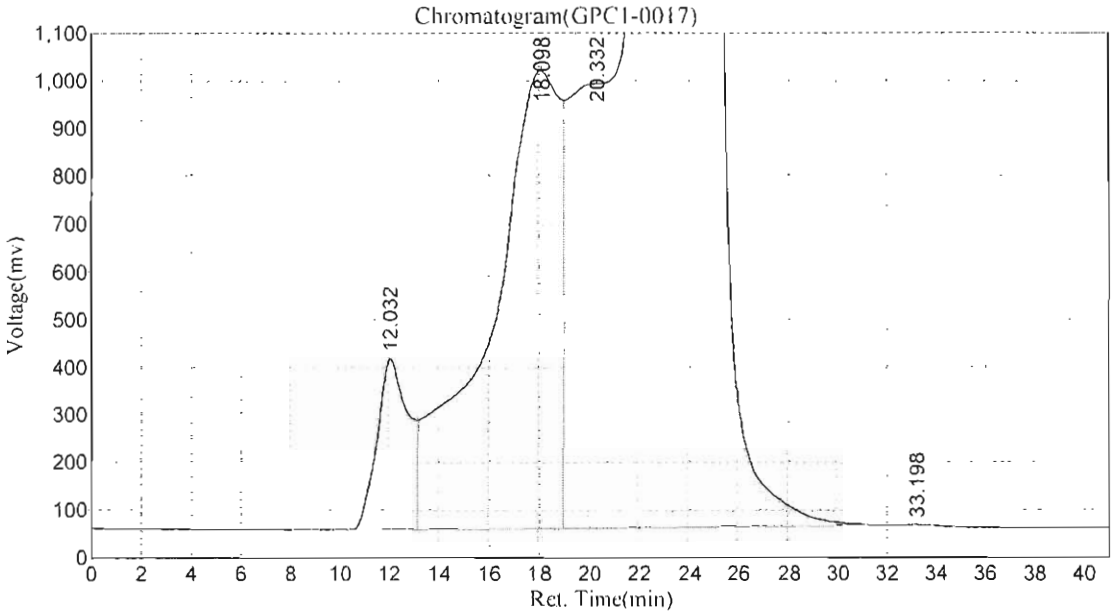
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,8:53:22 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0017
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,8:53:23 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.032	358997.656	32349660.000	4.4856
2		18.098	959398.000	187904160.000	26.0547
3		20.332	932637.500	500740768.000	69.4326
4		33.198	3129.808	195443.016	0.0271
Total			2254162.964	721190031.016	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

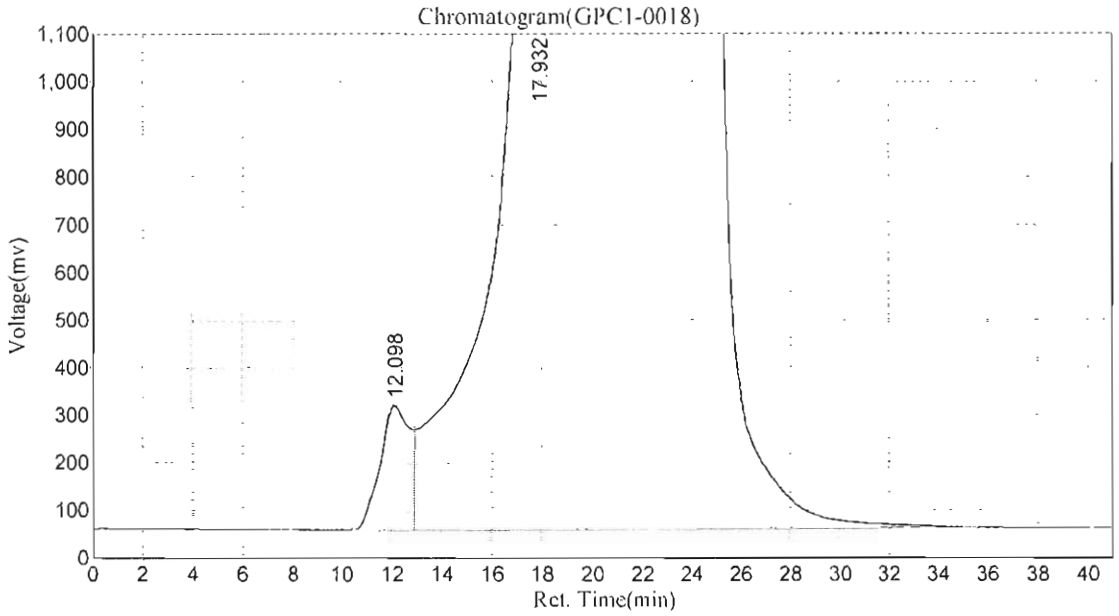
2018-06-08

Analytical Resources, Inc.

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,9:36:05 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0018
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,9:36:05 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.098	261878.719	21702550.000	2.5542
2		17.932	1343571.625	827979264.000	97.4458
Total			1605450.344	849681814.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

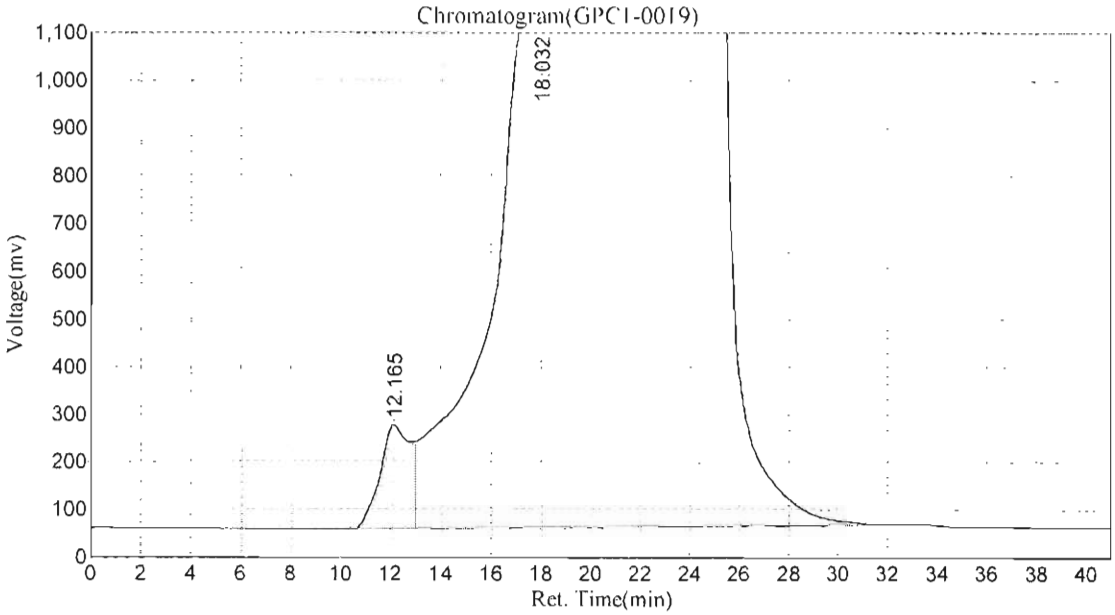
2018-06-08

Analytical Resources, Inc.

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,10:18:48 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0019
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£ºWW
Date/Time2018-06-08,10:18:48 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.165	218379.281	17603980.000	2.0854
2		18.032	1335886.875	826548928.000	97.9146
Total			1554266.156	844152908.000	100.000

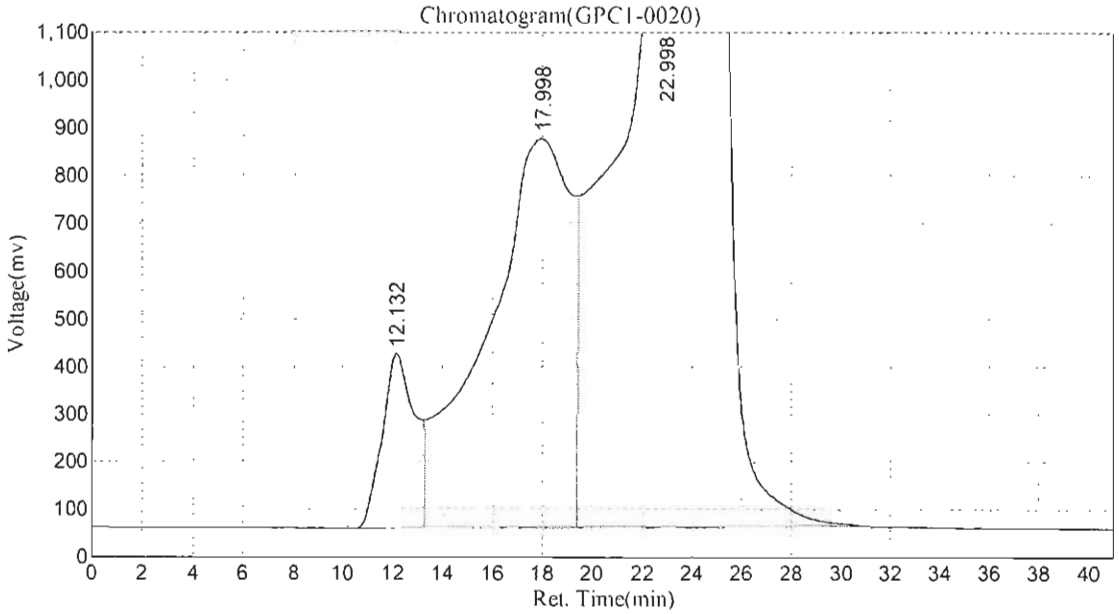
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

BGE0773 18E0231/243/262/282/309/389 Sim PNA

Date:2018-06-08,11:01:30 AM
Data File:d:\n2000\data\gpc1\060718\GPC1-0020
Method File:D:\N2000\GPC1_InHouse.mtd

Analyst£°WW
Date/Time2018-06-08,11:01:30 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		12.132	367438.469	32734622.000	4.9223
2		17.998	817144.688	191511696.000	28.7973
3		22.998	1426189.750	440786176.000	66.2804
Total			2610772.906	665032494.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	16.500	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	20.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	35.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	36.000	0.010	0.00E+000	0.00E+000	0.0000

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0773

Prepared using: EPA 3550C-Mod (Ultrasonic)

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:)
8270D-SIM PAH (0.1 ug/L or 5 ug/kg) in Tissue (Version:cPAH)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into samples 250mL Centrifuge bottle(s). 2. Add surr/spike. 3. Add 1:1 DCM/Acetone 4. Add Sodium Sulfate just before tissuemizing 5. Tissuemize 2X with 1:1 DCM/Acetone, then 1x with DCM for 1 min each. 6. Collect samples into 500mL flask (sodium sulfate in flask) with funnel and glasswool. 7. KD using DCM to 5mL at 80°C. 8. TurboVap for GPC 1:1 9. Post GPC KD at 80°C. 10. Exchange to Hexane (2X with 20mL) at 100°C. 11. TurboVap extract to 2mL in Hexane. 12. Silica Clean-up with normal Silica Gel REQ. Collect EPH Aromatic fraction only. 13. TurboVap to 0.5 mL A. Need Total Solids Y / N B. Freeze Y/N	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Cleanup Batch:	CGF0001	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-SSCL-A08	18E0309-02	N818060127.D	05/30/2018	
LDW18-SSCL-A10	18E0282-05	N818060123.D	05/30/2018	
LDW18-SSCL-A18	18E0282-03	N818060121.D	05/30/2018	
LDW18-SSCL-A17	18E0282-02	N818060120.D	05/30/2018	
LDW18-SSCL-A13	18E0262-01	N818060117.D	05/30/2018	
LDW18-SSCL-A12	18E0282-01	N818060119.D	05/30/2018	
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	05/30/2018	
LDW18-SSCL-A02	18E0243-02	N818060109.D	05/30/2018	
LDW18-SSCL-A19	18E0262-02	N818060118.D	05/30/2018	
LDW18-SSCL-A04	18E0243-05	N818060112.D	05/30/2018	
LDW18-SSCL-A07	18E0309-01	N818060126.D	05/30/2018	
LDW18-SSCL-A06	18E0243-06	N818060113.D	05/30/2018	
LDW18-SSCL-A05	18E0243-04	N818060111.D	05/30/2018	
LDW18-SSCL-A01	18E0243-01	N818060108.D	05/30/2018	
LDW18-SSCL-A03	18E0243-03	N818060115.D	05/30/2018	
LDW18-SSCL-A09	18E0282-04	N818060122.D	05/30/2018	
LDW18-SSCL-A11	18E0231-02	N818060106.D	05/30/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0001

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup** **Printed: 6/1/2018 1:03:10PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18E0309-02	B	LDW18-SSCL-A08	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0309-01	B	LDW18-SSCL-A07	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0282-02	B	LDW18-SSCL-A17	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0282-03	B	LDW18-SSCL-A18	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0282-04	B	LDW18-SSCL-A09	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0282-05	B	LDW18-SSCL-A10	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-03	A	LDW18-SSCL-A03	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-02	A	LDW18-SSCL-A02	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-04	A	LDW18-SSCL-A05	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-05	A	LDW18-SSCL-A04	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-06	A	LDW18-SSCL-A06	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0262-01	A	LDW18-SSCL-A13	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0262-02	A	LDW18-SSCL-A19	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0282-01	B	LDW18-SSCL-A12	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0231-02	B	LDW18-SSCL-A11	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0231-03	B	LDW18-SSCL-A11-FD	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
18E0243-01	A	LDW18-SSCL-A01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	5/30/2018	WPW	
BGE0626-SRM1	-	Reference	-	0.5	0.5	-	5/30/2018	WPW	
BGE0626-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	5/30/2018	WPW	
BGE0626-MS1	-	Matrix Spike	-	0.5	0.5	-	5/30/2018	WPW	
BGE0626-BS1	-	LCS	-	0.5	0.5	-	5/30/2018	WPW	
BGE0626-BLK1	-	Blank	-	0.5	0.5	-	5/30/2018	WPW	

Cleanup Reviewed By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0001

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup** **Printed: 6/1/2018 1:03:10PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Cleanup Batch:	CGF0002	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-SSCL-A12	18E0282-01	N818060119.D	06/01/2018	
LDW18-SSCL-A10	18E0282-05	N818060123.D	06/01/2018	
LDW18-SSCL-A09	18E0282-04	N818060122.D	06/01/2018	
LDW18-SSCL-A08	18E0309-02	N818060127.D	06/01/2018	
LDW18-SSCL-A07	18E0309-01	N818060126.D	06/01/2018	
LDW18-SSCL-A06	18E0243-06	N818060113.D	06/01/2018	
LDW18-SSCL-A05	18E0243-04	N818060111.D	06/01/2018	
LDW18-SSCL-A02	18E0243-02	N818060109.D	06/01/2018	
LDW18-SSCL-A01	18E0243-01	N818060108.D	06/01/2018	
LDW18-SSCL-A11	18E0231-02	N818060106.D	06/01/2018	
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	06/01/2018	
LDW18-SSCL-A04	18E0243-05	N818060112.D	06/01/2018	
LDW18-SSCL-A13	18E0262-01	N818060117.D	06/01/2018	
LDW18-SSCL-A17	18E0282-02	N818060120.D	06/01/2018	
LDW18-SSCL-A18	18E0282-03	N818060121.D	06/01/2018	
LDW18-SSCL-A19	18E0262-02	N818060118.D	06/01/2018	
LDW18-SSCL-A03	18E0243-03	N818060115.D	06/01/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0002

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup** **Printed: 6/1/2018 1:04:27PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18E0309-02	B	LDW18-SSCL-A08	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0309-01	B	LDW18-SSCL-A07	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-02	B	LDW18-SSCL-A17	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-03	B	LDW18-SSCL-A18	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-04	B	LDW18-SSCL-A09	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-05	B	LDW18-SSCL-A10	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-03	A	LDW18-SSCL-A03	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-02	A	LDW18-SSCL-A02	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-04	A	LDW18-SSCL-A05	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-05	A	LDW18-SSCL-A04	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-06	A	LDW18-SSCL-A06	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0262-01	A	LDW18-SSCL-A13	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0262-02	A	LDW18-SSCL-A19	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-01	B	LDW18-SSCL-A12	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0231-02	B	LDW18-SSCL-A11	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0231-03	B	LDW18-SSCL-A11-FD	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-01	A	LDW18-SSCL-A01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
BGE0626-SRM1	-	Reference	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-MS1	-	Matrix Spike	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-BS1	-	LCS	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-BLK1	-	Blank	-	0.5	0.5	-	6/1/2018	SDP	

Cleanup Reviewed By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0002

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup** **Printed: 6/1/2018 1:04:27PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Cleanup Batch:	CGF0003	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-SSCL-A01	18E0243-01	N818060108.D	06/01/2018	
LDW18-SSCL-A19	18E0262-02	N818060118.D	06/01/2018	
LDW18-SSCL-A18	18E0282-03	N818060121.D	06/01/2018	
LDW18-SSCL-A17	18E0282-02	N818060120.D	06/01/2018	
LDW18-SSCL-A13	18E0262-01	N818060117.D	06/01/2018	
LDW18-SSCL-A12	18E0282-01	N818060119.D	06/01/2018	
LDW18-SSCL-A11	18E0231-02	N818060106.D	06/01/2018	
LDW18-SSCL-A10	18E0282-05	N818060123.D	06/01/2018	
LDW18-SSCL-A03	18E0243-03	N818060115.D	06/01/2018	
LDW18-SSCL-A07	18E0309-01	N818060126.D	06/01/2018	
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	06/01/2018	
LDW18-SSCL-A02	18E0243-02	N818060109.D	06/01/2018	
LDW18-SSCL-A08	18E0309-02	N818060127.D	06/01/2018	
LDW18-SSCL-A04	18E0243-05	N818060112.D	06/01/2018	
LDW18-SSCL-A05	18E0243-04	N818060111.D	06/01/2018	
LDW18-SSCL-A06	18E0243-06	N818060113.D	06/01/2018	
LDW18-SSCL-A09	18E0282-04	N818060122.D	06/01/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0003

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 6/1/2018 1:05:54PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18E0309-02	B	LDW18-SSCL-A08	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0309-01	B	LDW18-SSCL-A07	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-02	B	LDW18-SSCL-A17	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-03	B	LDW18-SSCL-A18	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-04	B	LDW18-SSCL-A09	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-05	B	LDW18-SSCL-A10	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-03	A	LDW18-SSCL-A03	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-02	A	LDW18-SSCL-A02	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-04	A	LDW18-SSCL-A05	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-05	A	LDW18-SSCL-A04	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-06	A	LDW18-SSCL-A06	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0262-01	A	LDW18-SSCL-A13	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0262-02	A	LDW18-SSCL-A19	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0282-01	B	LDW18-SSCL-A12	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0231-02	B	LDW18-SSCL-A11	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0231-03	B	LDW18-SSCL-A11-FD	B 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
18E0243-01	A	LDW18-SSCL-A01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/1/2018	SDP	
BGE0626-SRM1	-	Reference	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-MS1	-	Matrix Spike	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-BS1	-	LCS	-	0.5	0.5	-	6/1/2018	SDP	
BGE0626-BLK1	-	Blank	-	0.5	0.5	-	6/1/2018	SDP	

Cleanup Reviewed By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0003

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 6/1/2018 1:05:54PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Cleanup Batch:	CGF0062	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-A01-CLWB-Comp1	18E0243-07	N818061207.D	06/07/2018	
LDW18-A18-CLWB-Comp1	18E0282-09	N818061216.D	06/07/2018	
LDW18-A17-CLWB-Comp1	18E0282-10	N818061217.D	06/07/2018	
LDW18-A13-CLWB-Comp1	18E0389-01	N818061223.D	06/07/2018	
LDW18-A12-CLWB-Comp1	18E0282-06	N818061213.D	06/07/2018	
LDW18-A11-CLWB-Comp1	18E0231-01	N818061220.D	06/07/2018	
LDW18-A10-CLWB-Comp1	18E0282-08	N818061215.D	06/07/2018	
LDW18-A19-CLWB-Comp1	18E0262-03	N818061206.D	06/07/2018	
LDW18-A09-CLWB-Comp1	18E0282-07	N818061214.D	06/07/2018	
LDW18-A08-CLWB-Comp1	18E0309-04	N818061219.D	06/07/2018	
LDW18-A06-CLWB-Comp1	18E0243-09	N818061209.D	06/07/2018	
LDW18-A04-CLWB-Comp1	18E0243-10	N818061210.D	06/07/2018	
LDW18-A03-CLWB-Comp1	18E0243-11	N818061211.D	06/07/2018	
LDW18-A02-CLWB-Comp1	18E0243-08	N818061208.D	06/07/2018	
LDW18-A07-CLWB-Comp1	18E0309-03	N818061218.D	06/07/2018	
LDW18-A05-CLWB-Comp1	18E0243-12	N818061212.D	06/07/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0062

Matrix: Tissue **Cleanup using: Organics - EPA 3640A GPC Cleanup** **Printed: 6/12/2018 2:24:24PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18E0389-01	A	LDW18-A13-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0309-04	A	LDW18-A08-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0309-03	A	LDW18-A07-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0282-08	A	LDW18-A10-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0282-09	A	LDW18-A18-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0282-10	A	LDW18-A17-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-12	A	LDW18-SSCL-A05-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-10	A	LDW18-SSCL-A04-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-08	A	LDW18-SSCL-A02-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-09	A	LDW18-SSCL-A06-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0262-03	A	LDW18-A19-CLWB-Comp01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0282-06	A	LDW18-A12-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0282-07	A	LDW18-A09-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-11	A	LDW18-SSCL-A03-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0243-07	A	LDW18-SSCL-A01-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
18E0231-01	A	LDW18-A11-CLWB-Comp01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/7/2018	WPW	
BGE0773-SRM1	-	Reference	-	0.5	0.5	-	6/7/2018	WPW	
BGE0773-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	6/7/2018	WPW	
BGE0773-MS1	-	Matrix Spike	-	0.5	0.5	-	6/7/2018	WPW	
BGE0773-BS1	-	LCS	-	0.5	0.5	-	6/7/2018	WPW	
BGE0773-BLK1	-	Blank	-	0.5	0.5	-	6/7/2018	WPW	

Cleanup Reviewed By Date

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Cleanup Batch:	CGF0063	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
LDW18-A08-CLWB-Comp1	18E0309-04	N818061219.D	06/12/2018	
LDW18-A11-CLWB-Comp1	18E0231-01	N818061220.D	06/12/2018	
LDW18-A12-CLWB-Comp1	18E0282-06	N818061213.D	06/12/2018	
LDW18-A09-CLWB-Comp1	18E0282-07	N818061214.D	06/12/2018	
LDW18-A17-CLWB-Comp1	18E0282-10	N818061217.D	06/12/2018	
LDW18-A04-CLWB-Comp1	18E0243-10	N818061210.D	06/12/2018	
LDW18-A10-CLWB-Comp1	18E0282-08	N818061215.D	06/12/2018	
LDW18-A13-CLWB-Comp1	18E0389-01	N818061223.D	06/12/2018	
LDW18-A06-CLWB-Comp1	18E0243-09	N818061209.D	06/12/2018	
LDW18-A07-CLWB-Comp1	18E0309-03	N818061218.D	06/12/2018	
LDW18-A05-CLWB-Comp1	18E0243-12	N818061212.D	06/12/2018	
LDW18-A03-CLWB-Comp1	18E0243-11	N818061211.D	06/12/2018	
LDW18-A02-CLWB-Comp1	18E0243-08	N818061208.D	06/12/2018	
LDW18-A01-CLWB-Comp1	18E0243-07	N818061207.D	06/12/2018	
LDW18-A19-CLWB-Comp1	18E0262-03	N818061206.D	06/12/2018	
LDW18-A18-CLWB-Comp1	18E0282-09	N818061216.D	06/12/2018	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CGF0063

Matrix: Tissue **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 6/12/2018 2:25:46PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
18E0389-01	A	LDW18-A13-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0309-04	A	LDW18-A08-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0309-03	A	LDW18-A07-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0282-08	A	LDW18-A10-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0282-09	A	LDW18-A18-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0282-10	A	LDW18-A17-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-12	A	LDW18-SSCL-A05-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-10	A	LDW18-SSCL-A04-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-08	A	LDW18-SSCL-A02-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-09	A	LDW18-SSCL-A06-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0262-03	A	LDW18-A19-CLWB-Comp01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0282-06	A	LDW18-A12-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0282-07	A	LDW18-A09-CLWB-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-11	A	LDW18-SSCL-A03-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0243-07	A	LDW18-SSCL-A01-Comp1	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
18E0231-01	A	LDW18-A11-CLWB-Comp01	A 01	0.5	0.5	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	6/12/2018	SDP	
BGE0773-SRM1	-	Reference	-	0.5	0.5	-	6/12/2018	SDP	
BGE0773-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	6/12/2018	SDP	
BGE0773-MS1	-	Matrix Spike	-	0.5	0.5	-	6/12/2018	SDP	
BGE0773-BS1	-	LCS	-	0.5	0.5	-	6/12/2018	SDP	
BGE0773-BLK1	-	Blank	-	0.5	0.5	-	6/12/2018	SDP	

Cleanup Reviewed By Date

Form I

METHOD BLANK DATA SHEET

EPA 8270D-SIM

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18E0231
Client:	Windward Environmental, LLC			Project:	LDW AOC3 Task 4
Matrix:	Solid	Laboratory ID:	BGE0626-BLK1	File ID:	N818060103.D
Sampled:	N/A	Prepared:	05/24/18 10:50	Analyzed:	06/01/18 15:17
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 0.5 mL
Batch:	BGE0626	Sequence:	SGF0017	Calibration:	BC00011
Instrument:	NT8	Column:	RXI-17Sil ms	Cleanups:	GPC, Silica Gel, Sulfur

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg wet)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.82	5.00
218-01-9	Chrysene	1	5.00	U	1.05	5.00
205-99-2	Benzo(b)fluoranthene	1	5.00	U	1.37	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.76	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.61	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	1.05	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	0.89	5.00

SURROGATES	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	68.7	45.8	32 - 120	
Dibenzo[a,h]anthracene-d14	150.00	105	70.2	21 - 133	
Fluoranthene-d10	150.00	102	68.1	36 - 134	

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060103.D

Date : 01-JUN-2018 15:17

Client ID:

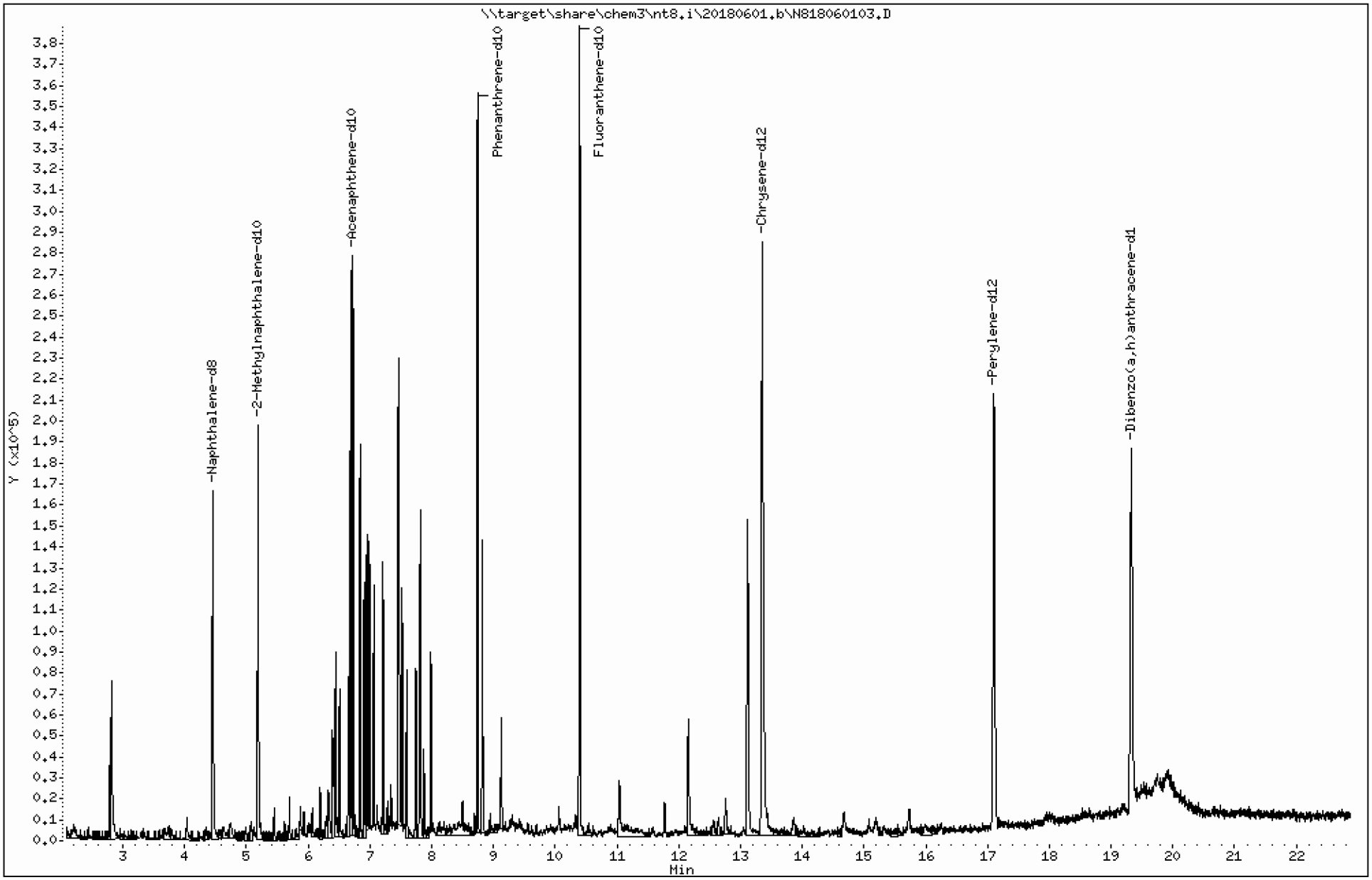
Instrument: nt8.i

Sample Info: BGE0626-BLK1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060103.D
Lab Smp Id: BGE0626-BLK1
Inj Date : 01-JUN-2018 15:17
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0626-BLK1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	136656		2.00000	
	2 Naphthalene	128	Compound Not Detected.						
$	3 2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	68487		1.37384	1.374
	4 2-Methylnaphthalene	141	Compound Not Detected.						
	5 1-methylnaphthalene	141	Compound Not Detected.						
	9 Acenaphthylene	152	Compound Not Detected.						
*	10 Acenaphthene-d10	164	6.722	6.728	(1.000)	73418		2.00000	
	11 Acenaphthene	153	Compound Not Detected.						
	12 Dibenzofuran	168	Compound Not Detected.						
	14 Fluorene	166	Compound Not Detected.						
*	15 Phenanthrene-d10	188	8.742	8.745	(1.000)	146262		2.00000	
	16 Phenanthrene	178	Compound Not Detected.						
	17 Anthracene	178	Compound Not Detected.						
	22 Fluoranthene	202	Compound Not Detected.						
$	21 Fluoranthene-d10	212	10.396	10.402	(1.189)	195559		2.04231	2.042
	23 Pyrene	202	Compound Not Detected.						
	24 Benzo(a)anthracene	228	Compound Not Detected.						
*	25 Chrysene-d12	240	13.349	13.356	(1.000)	174707		2.00000	
	27 Chrysene	228	Compound Not Detected.						
	28 Benzo(b)fluoranthene	252	Compound Not Detected.						
	29 Benzo(k)fluoranthene	252	Compound Not Detected.						
	30 Benzo(j)fluoranthene	252	Compound Not Detected.						
	31 Total Benzofluoranthenes	252	Compound Not Detected.						
	32 Benzo(a)pyrene	252	Compound Not Detected.						
*	33 Perylene-d12	264	17.103	17.112	(1.000)	160751		2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
$	36 Dibenzo(a,h)anthracene-d14	292	19.325	19.338	(1.130)	158566		2.10594	2.106
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.						
	35 Perylene	252	Compound Not Detected.						

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060103.D
Lab Smp Id: BGE0626-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	136656	11.84
10 Acenaphthene-d10	65789	32895	131578	73418	11.60
15 Phenanthrene-d10	128644	64322	257288	146262	13.70
25 Chrysene-d12	166669	83335	333338	174707	4.82
33 Perylene-d12	140483	70242	280966	160751	14.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.72	-0.09
15 Phenanthrene-d10	8.75	8.25	9.25	8.74	-0.03
25 Chrysene-d12	13.36	12.86	13.86	13.35	-0.05
33 Perylene-d12	17.11	16.61	17.61	17.10	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060103.D

Lab ID: BGE0626-BLK1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 15:17

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Form I

METHOD BLANK DATA SHEET

EPA 8270D-SIM

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18E0231
Client:	Windward Environmental, LLC			Project:	LDW AOC3 Task 4
Matrix:	Tissue	Laboratory ID:	BGE0773-BLK1	File ID:	N818061203.D
Sampled:	N/A	Prepared:	06/05/18 12:40	Analyzed:	06/12/18 15:23
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	10 g / 0.5 mL
Batch:	BGE0773	Sequence:	SGF0149	Calibration:	BC00011
Instrument:	NT8	Column:	RXI-17Sil ms	Cleanups:	GPC, Silica Gel

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.54	5.00
218-01-9	Chrysene	1	5.00	U	0.49	5.00
205-99-2	Benzo(b)fluoranthene	1	5.00	U	1.00	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.71	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.92	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	0.58	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	1.53	5.00

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	59.7	39.8	20 - 130	
Dibenzo[a,h]anthracene-d14	150.00	127	84.5	20 - 130	
Fluoranthene-d10	150.00	107	71.1	20 - 130	

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061203.D

Date : 12-JUN-2018 15:23

Client ID:

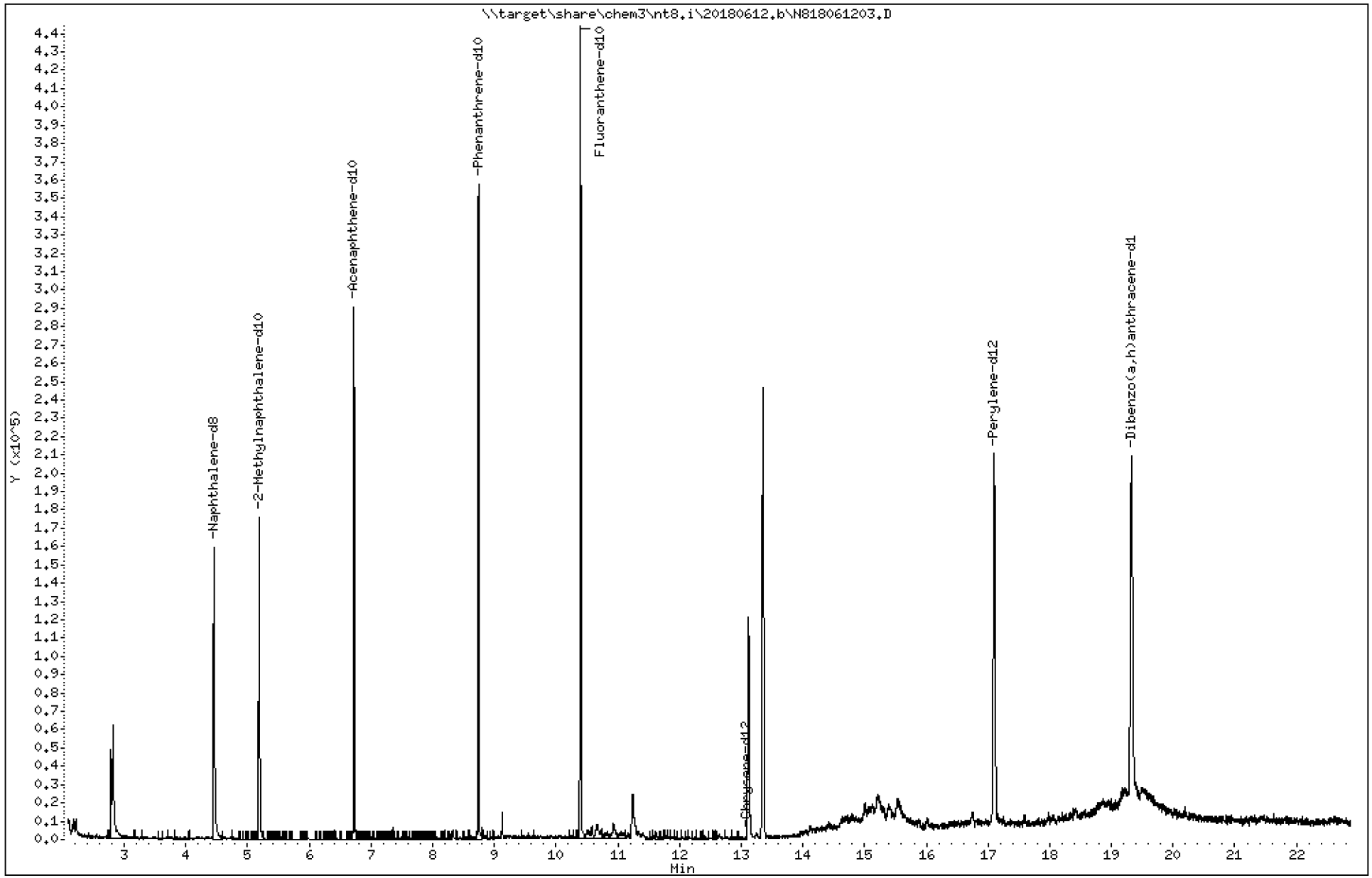
Instrument: nt8.i

Sample Info: BGE0773-BLK1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061203.D
Lab Smp Id: BGE0773-BLK1
Inj Date : 12-JUN-2018 15:23
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0773-BLK1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.455	(1.000)	148577	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	5.185	5.185	(1.164)	64673	1.19324	1.193
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	6.722	6.722	(1.000)	78533	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	8.742	8.739	(1.000)	155209	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	22 Fluoranthene	202	Compound Not Detected.					
$	21 Fluoranthene-d10	212	10.396	10.396	(1.189)	216644	2.13209	2.132
	23 Pyrene	202	Compound Not Detected.					
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	13.349	13.349	(1.000)	161959	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	Compound Not Detected.					
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	17.099	17.099	(1.000)	154347	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	19.325	19.325	(1.130)	183210	2.53420	2.534
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	35 Perylene	252	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061203.D
Lab Smp Id: BGE0773-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	148577	21.60
10 Acenaphthene-d10	65789	32895	131578	78533	19.37
15 Phenanthrene-d10	128644	64322	257288	155209	20.65
25 Chrysene-d12	166669	83335	333338	161959	-2.83
33 Perylene-d12	140483	70242	280966	154347	9.87

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.00
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.00
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.00
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061203.D

Lab ID: BGE0773-BLK1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 15:23

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Solid	Analyzed:	06/01/18 15:44
Batch:	BGE0626	Laboratory ID:	BGE0626-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	10 g / 0.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	150	102		68.0	42 - 120
Chrysene	150	99.0		66.0	48 - 120
Benzo(b)fluoranthene	150	101		67.0	35 - 127
Benzo(k)fluoranthene	150	101		67.5	37 - 129
Benzo(a)pyrene	150	95.2		63.4	36 - 120
Indeno(1,2,3-cd)pyrene	150	102		67.8	40 - 120
Dibenzo(a,h)anthracene	150	104		69.2	38 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

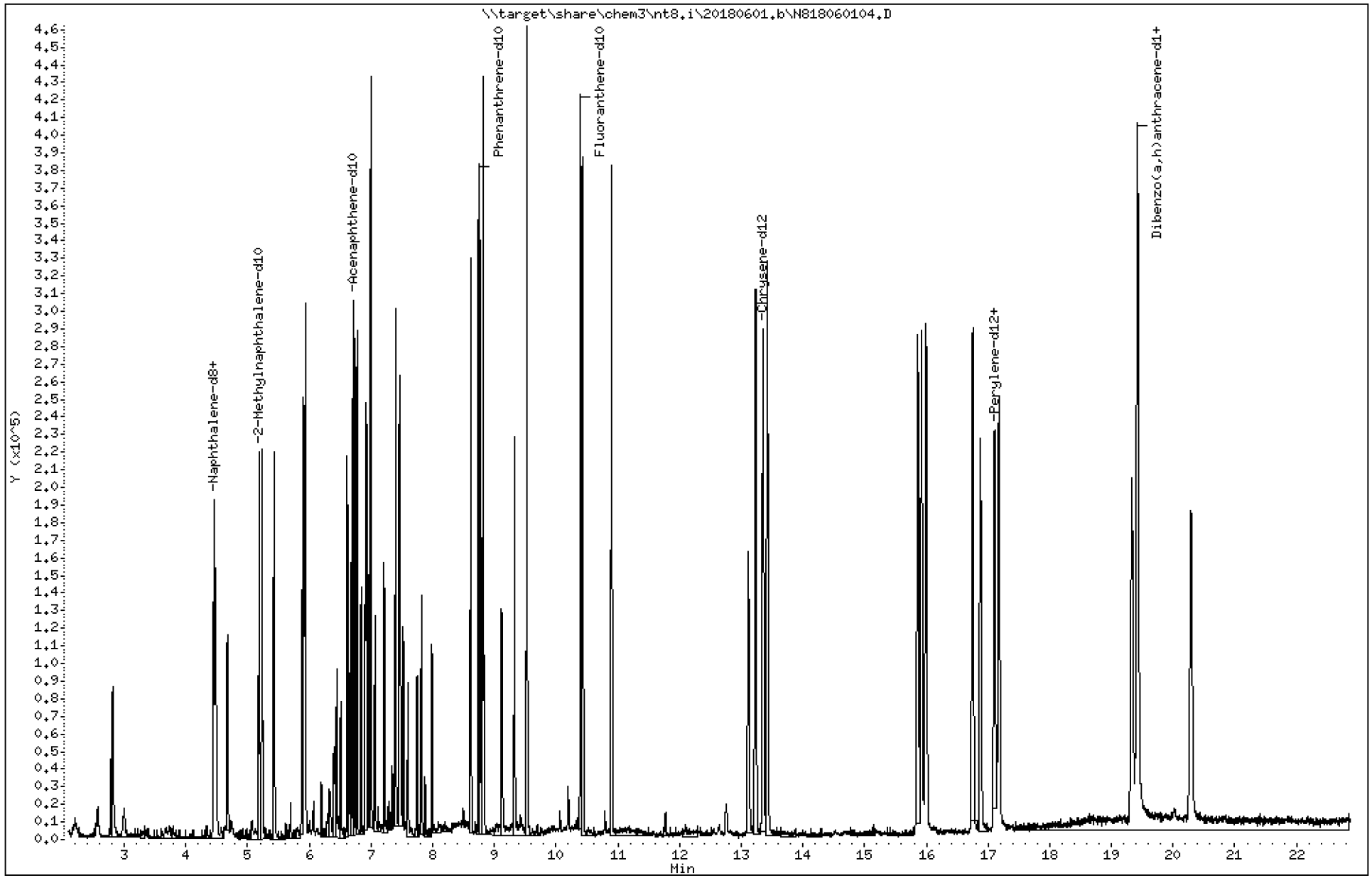
Instrument: nt8.i

Sample Info: BGE0626-BS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

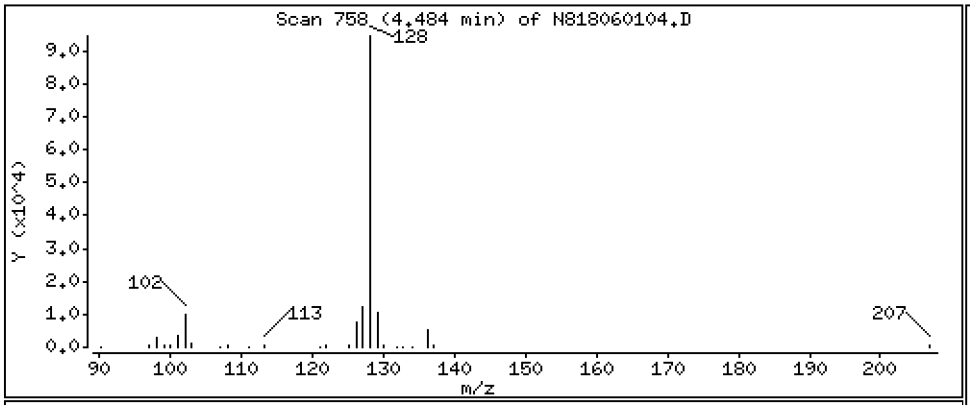
Operator: JZ

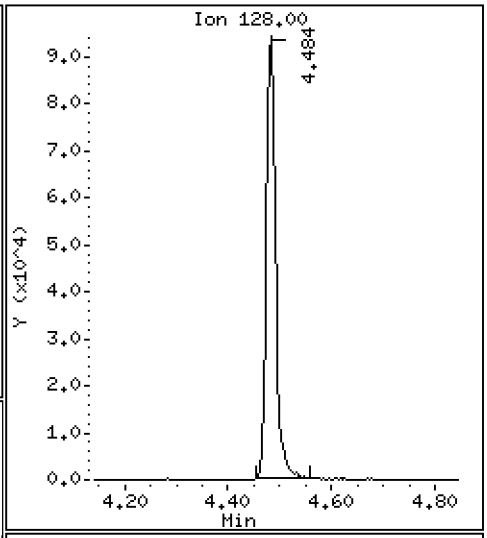
Column phase: Rxi-17sil

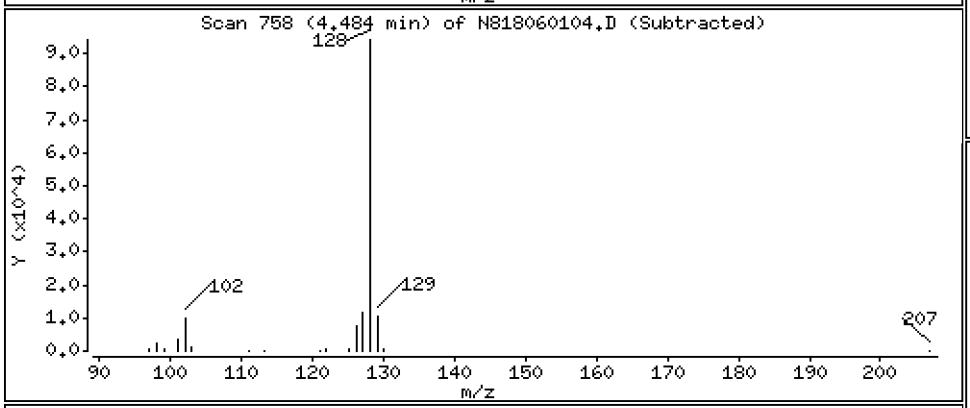
Column diameter: 0.25

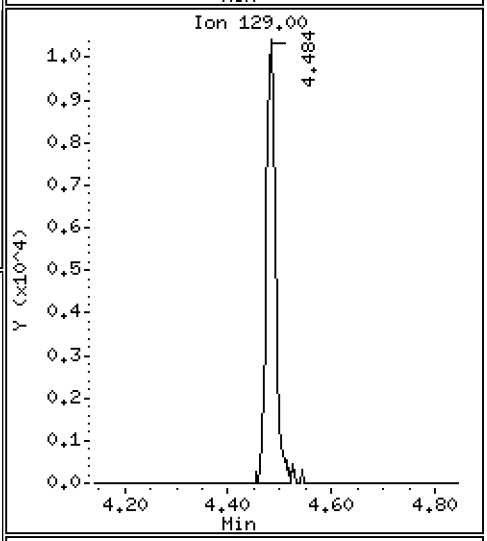
2 Naphthalene

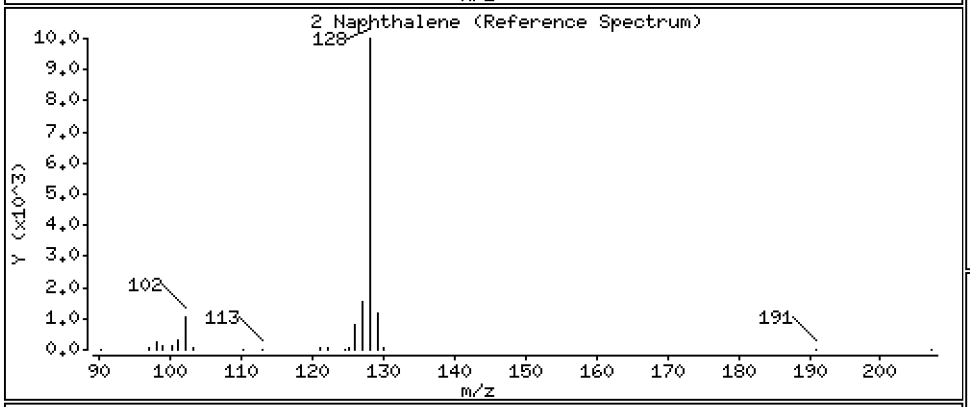
Concentration: 1.297 ug/mL

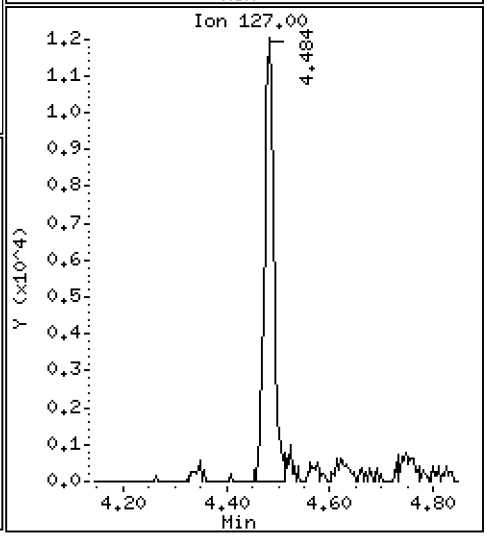


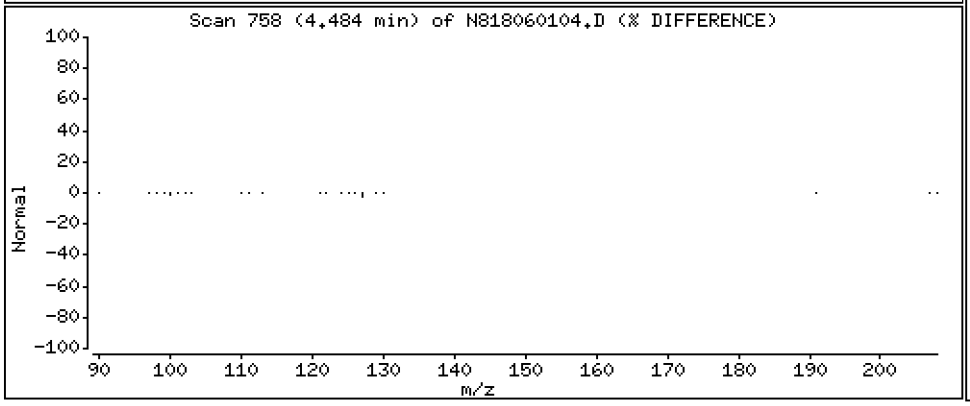












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

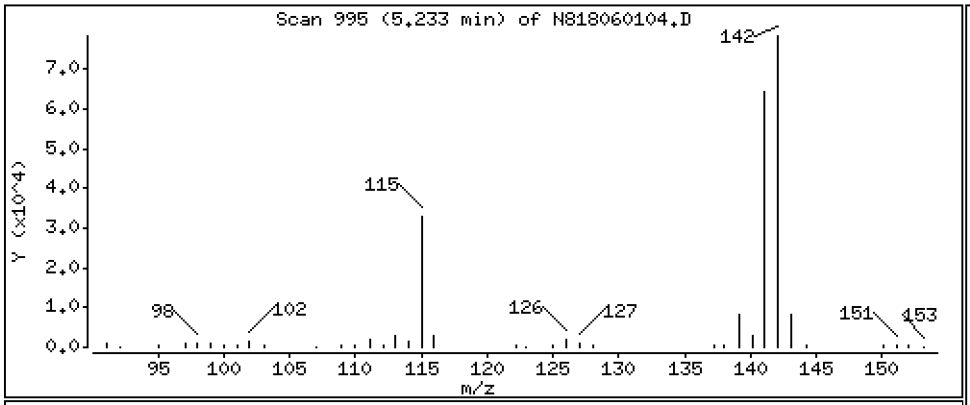
Operator: JZ

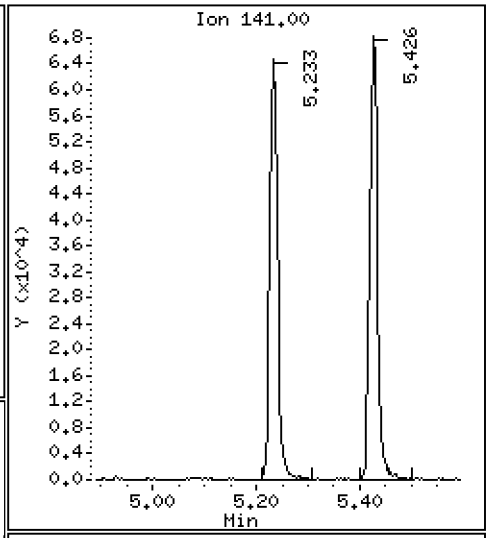
Column phase: Rxi-17sil

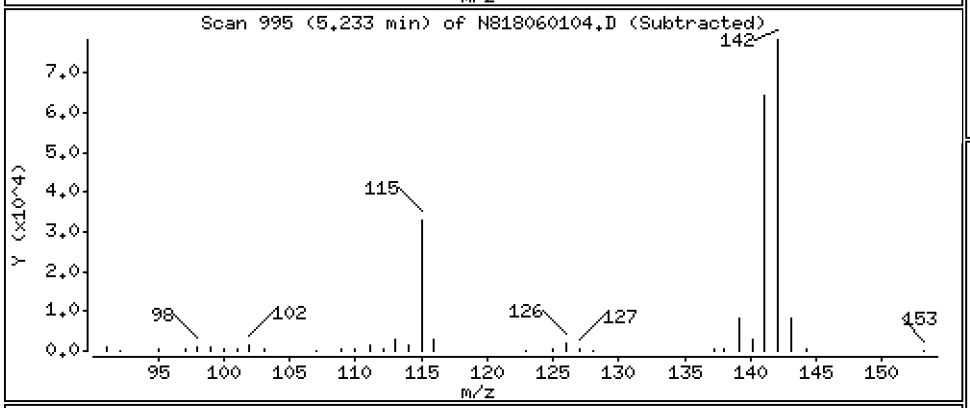
Column diameter: 0.25

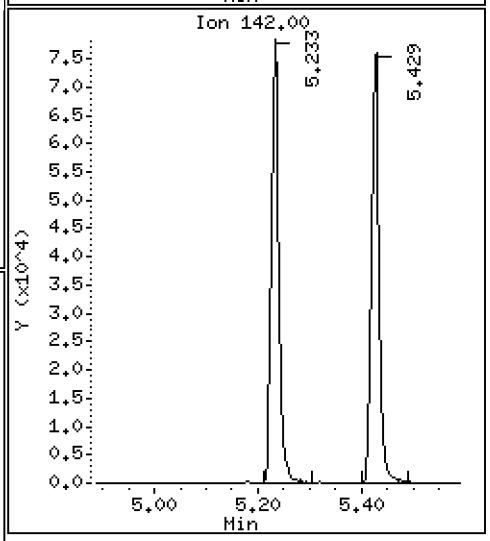
4 2-Methylnaphthalene

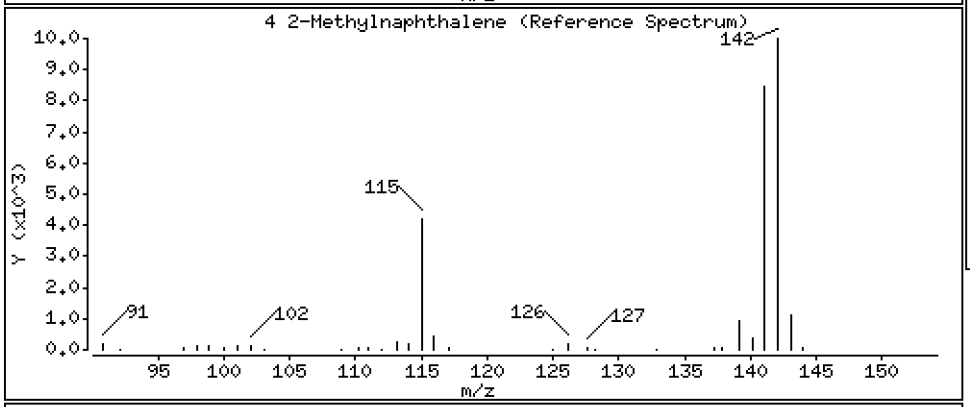
Concentration: 1.323 ug/mL

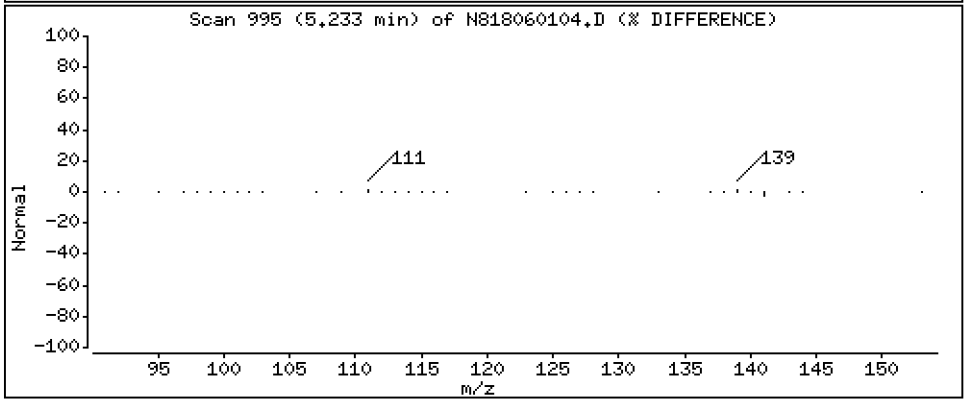












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

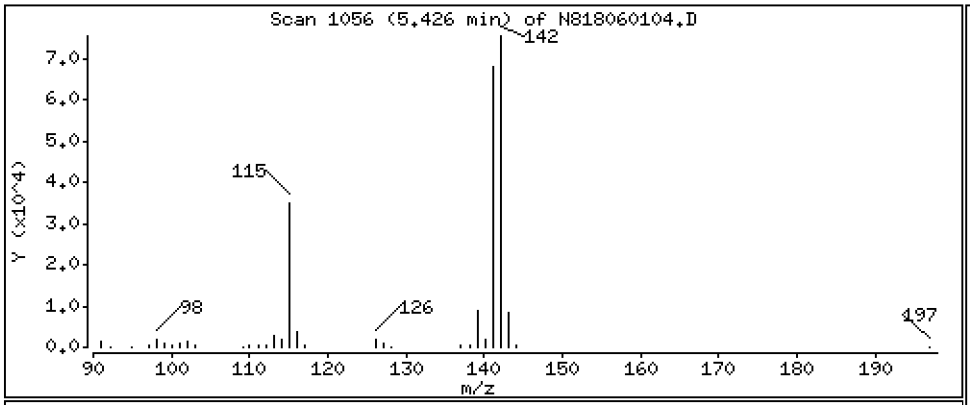
Operator: JZ

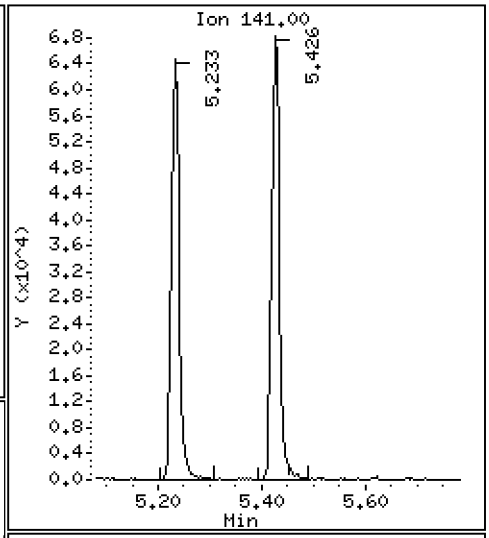
Column phase: Rxi-17sil

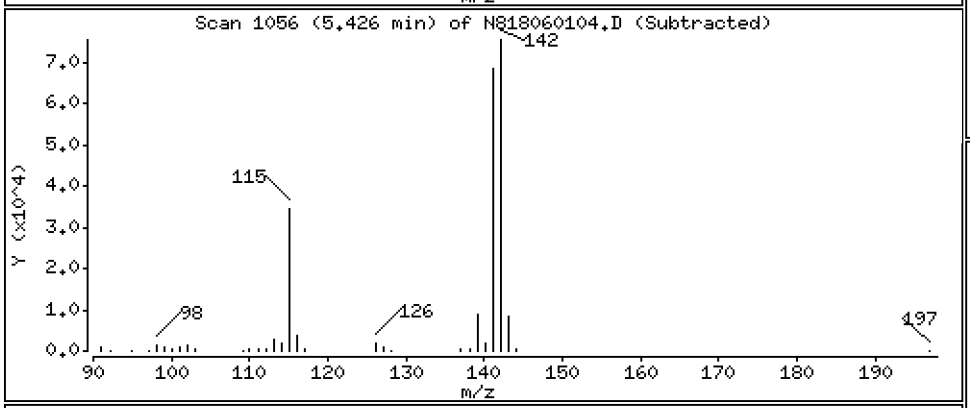
Column diameter: 0.25

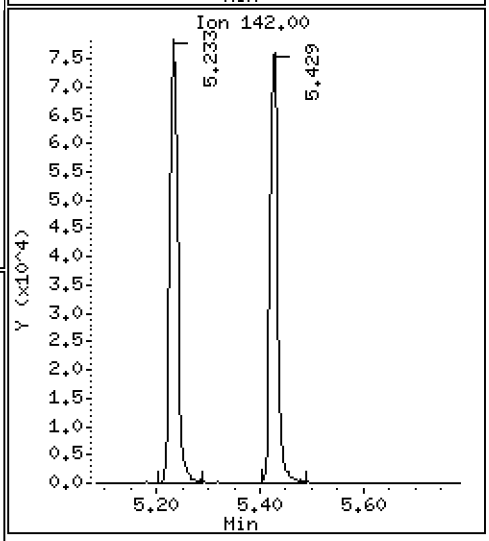
5 1-methylnaphthalene

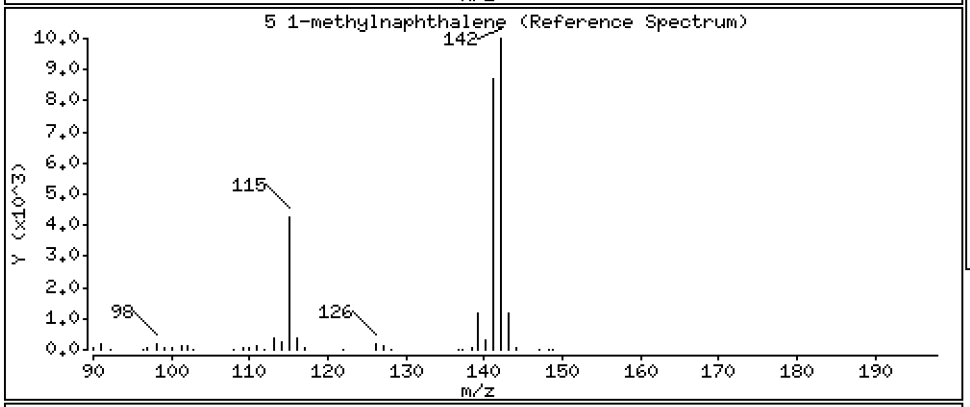
Concentration: 1.357 ug/mL

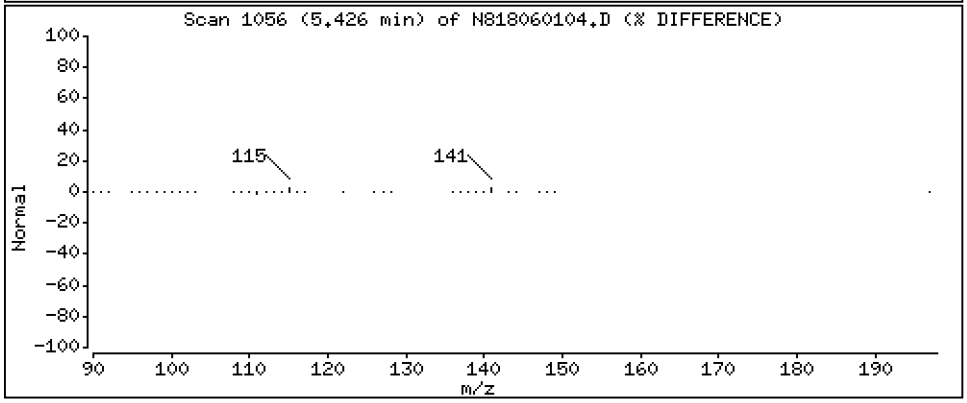












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

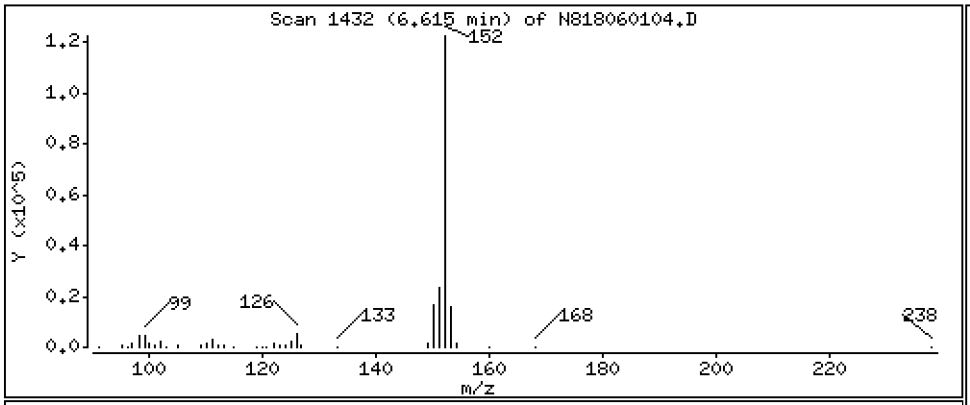
Operator: JZ

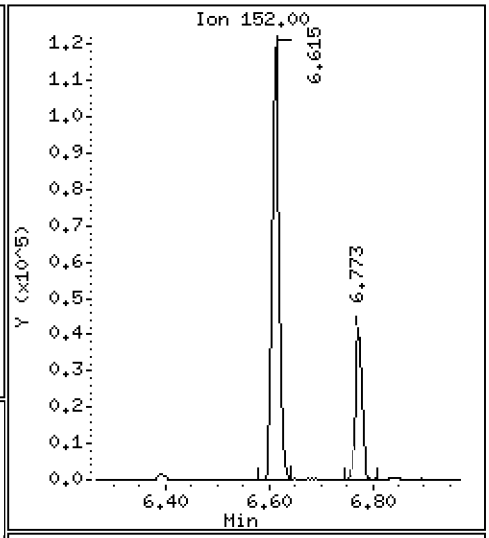
Column phase: Rxi-17sil

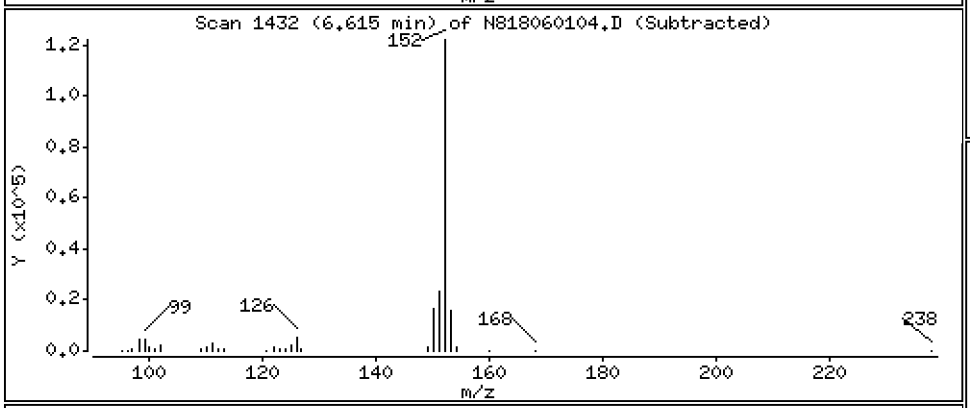
Column diameter: 0.25

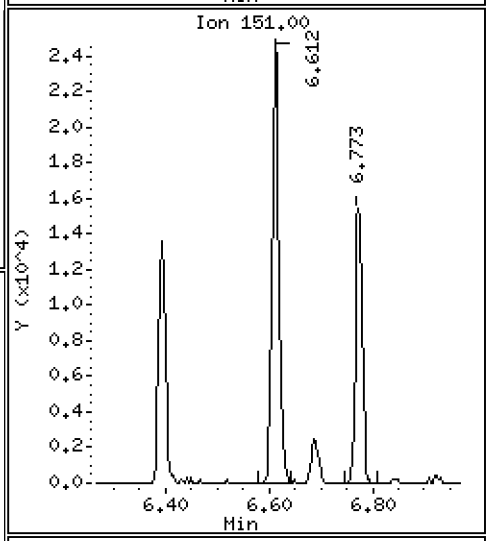
9 Acenaphthylene

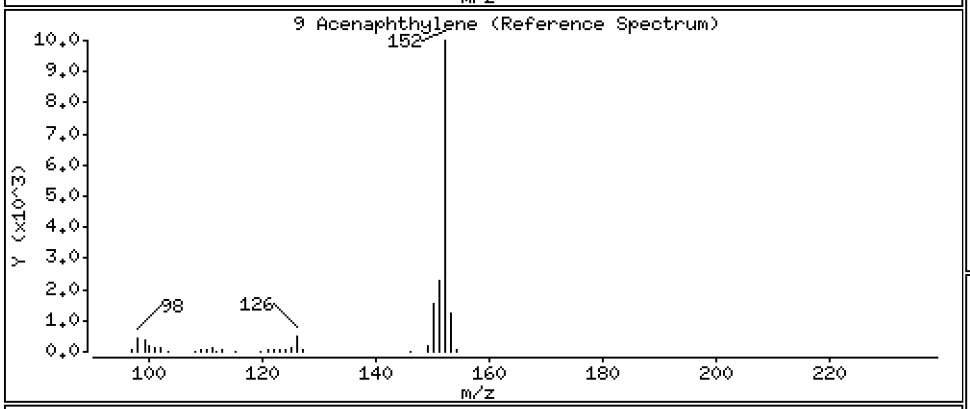
Concentration: 1.434 ug/mL

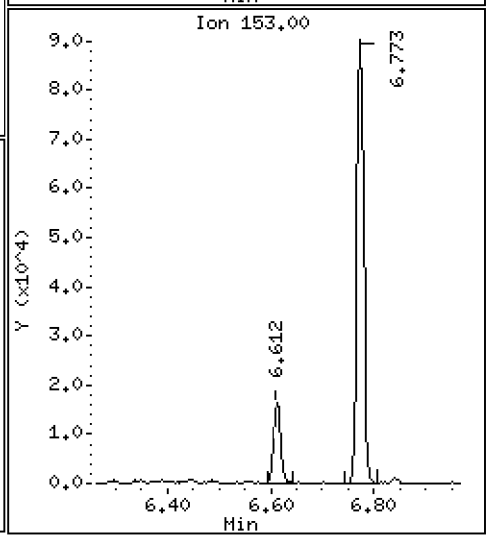


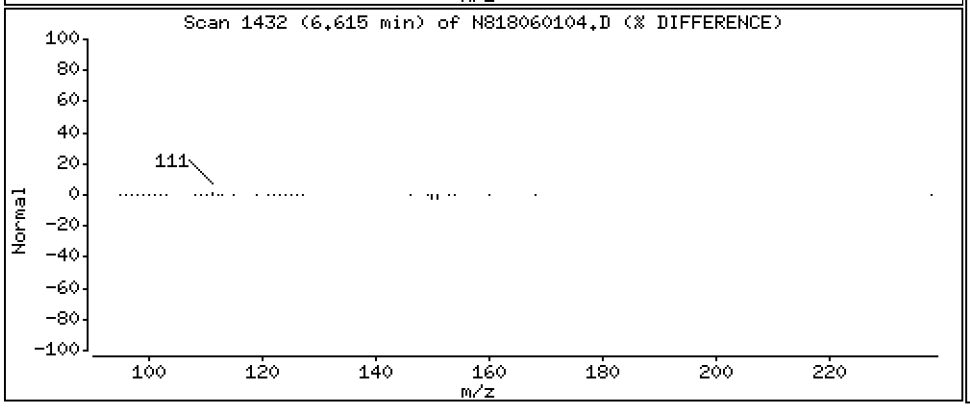












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

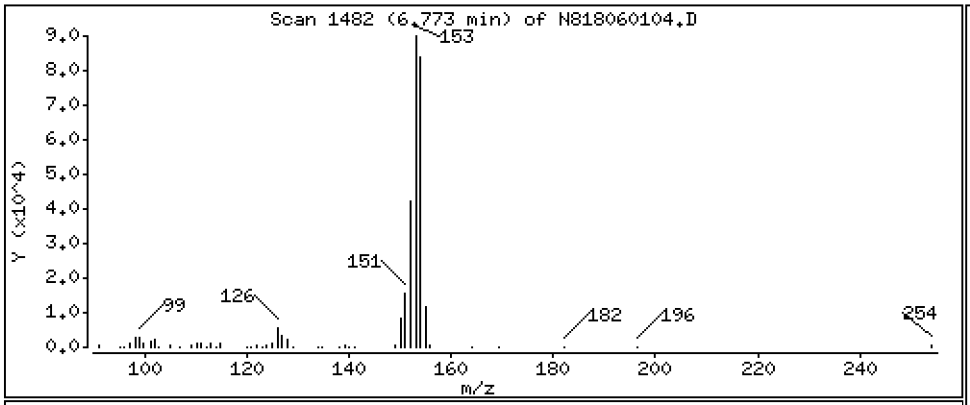
Operator: JZ

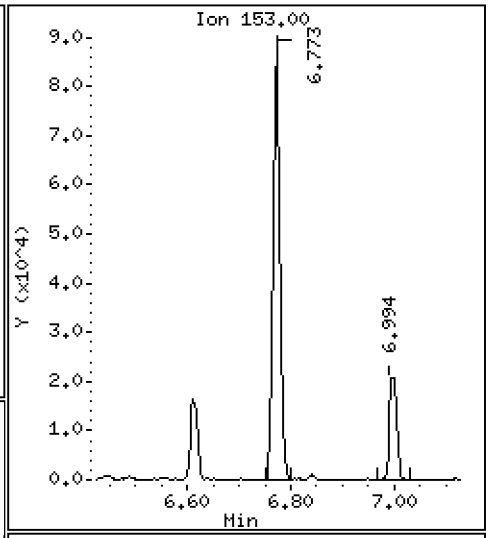
Column phase: Rxi-17sil

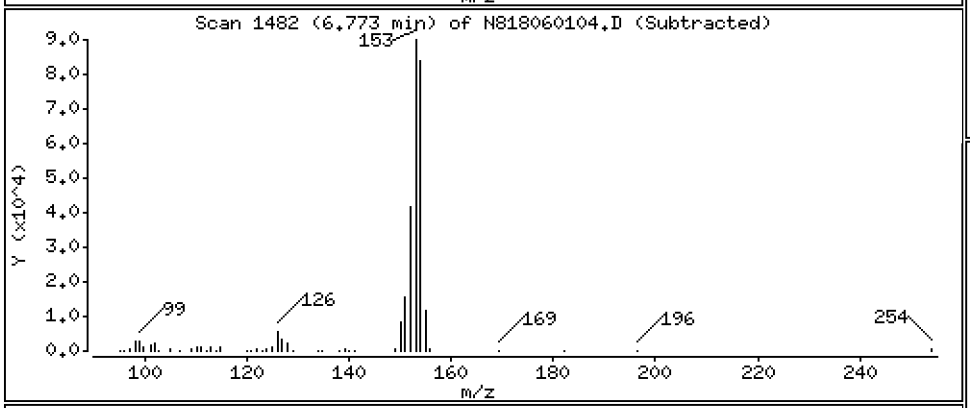
Column diameter: 0.25

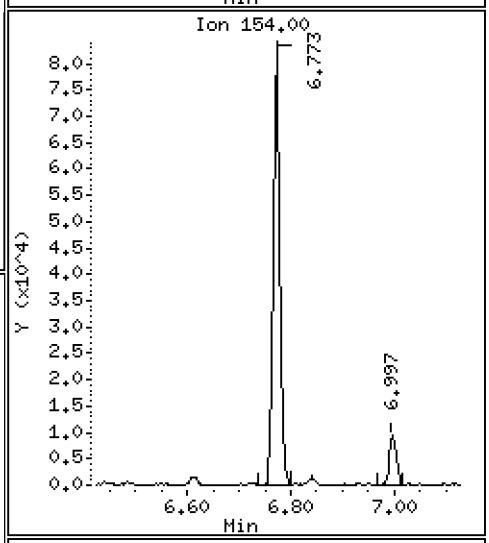
11 Acenaphthene

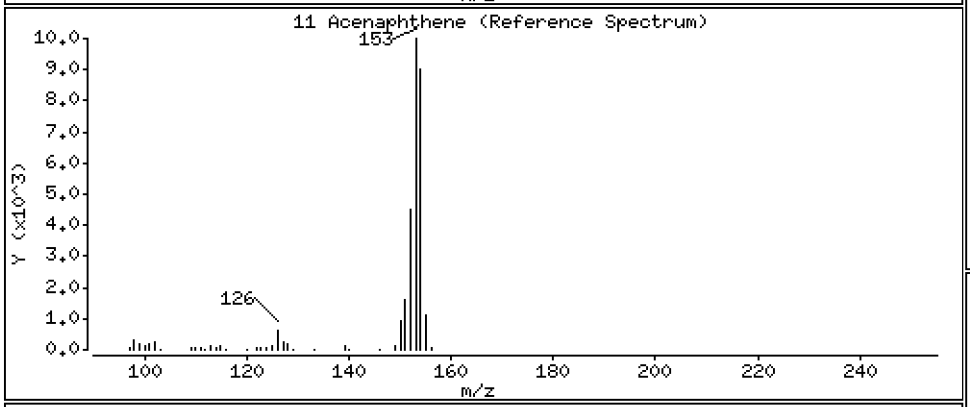
Concentration: 1.359 ug/mL

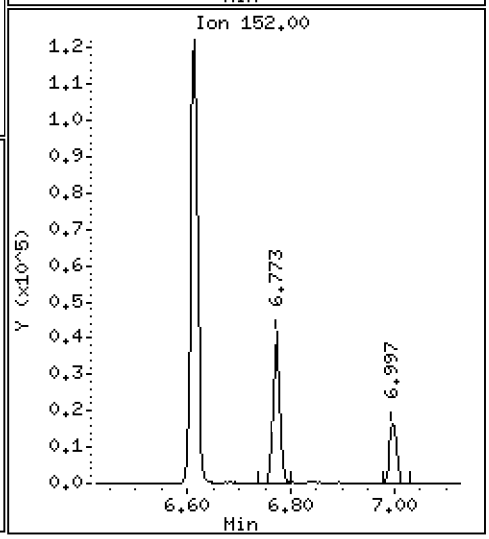


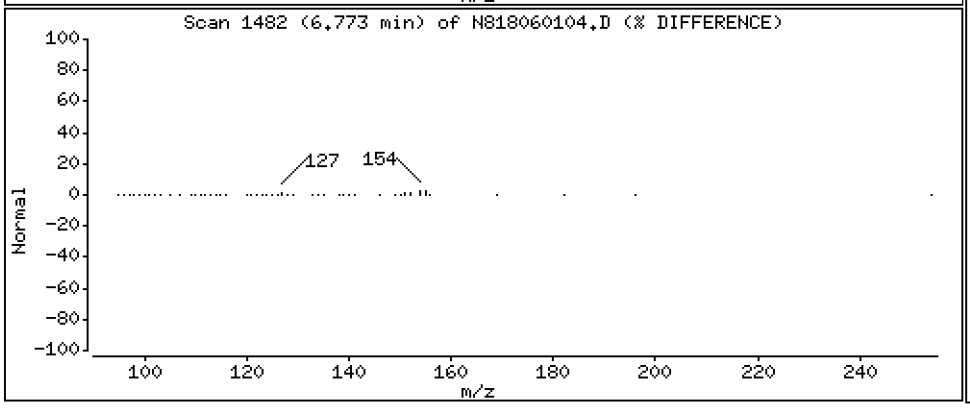












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

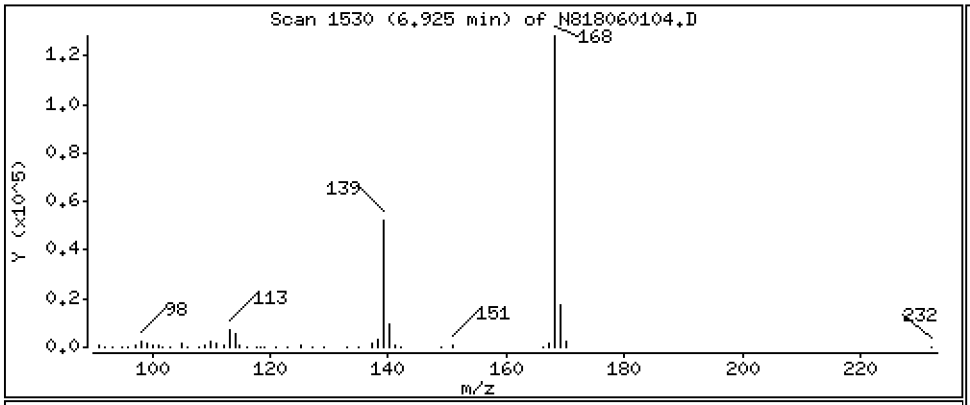
Operator: JZ

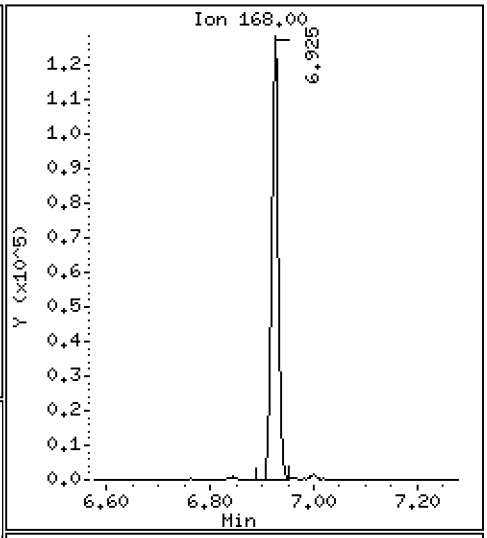
Column phase: Rxi-17sil

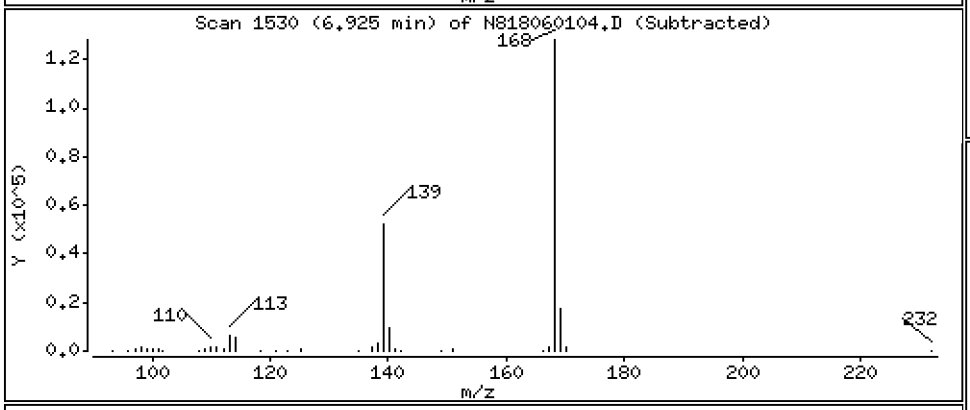
Column diameter: 0.25

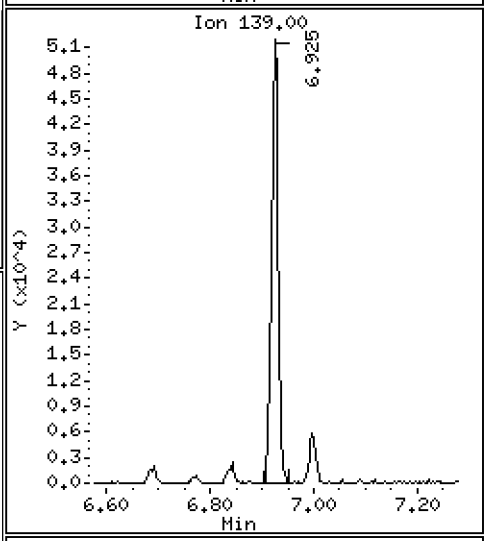
12 Dibenzofuran

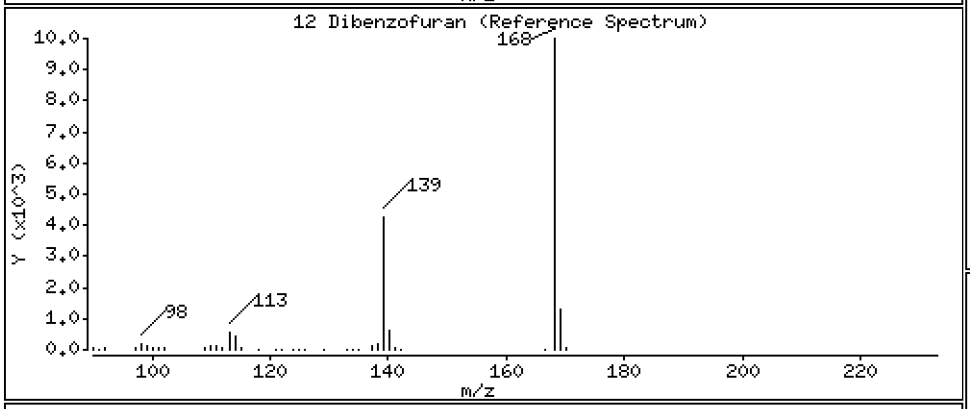
Concentration: 1.383 ug/mL

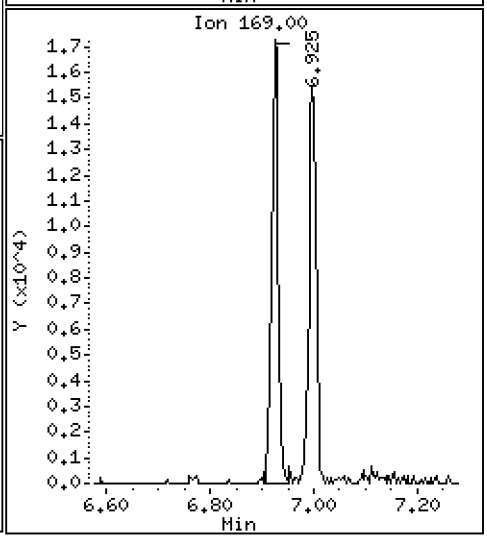


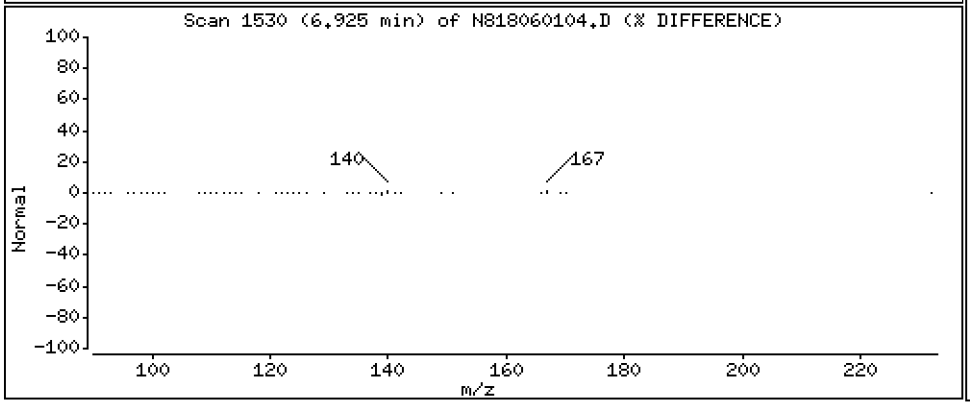












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

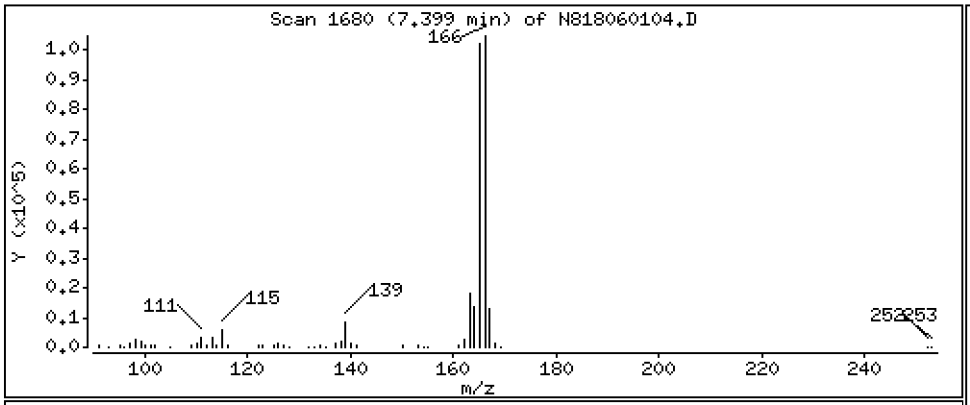
Operator: JZ

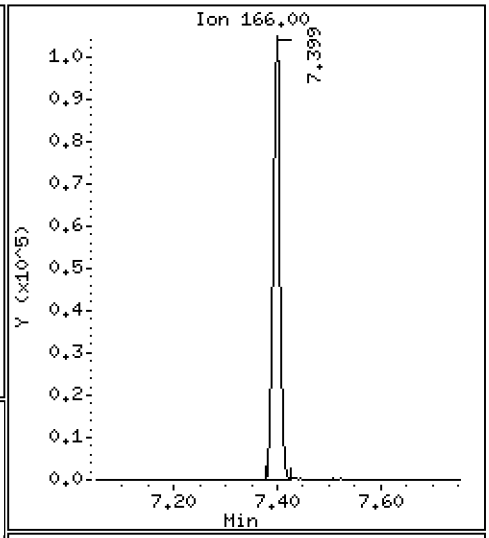
Column phase: Rxi-17sil

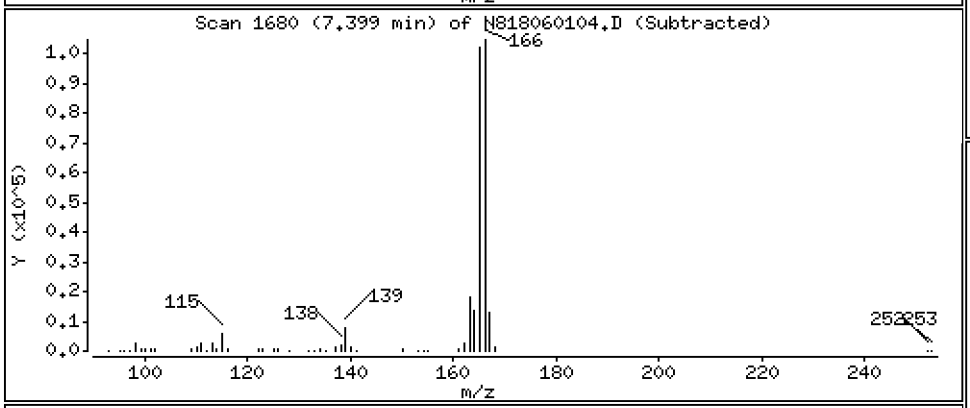
Column diameter: 0.25

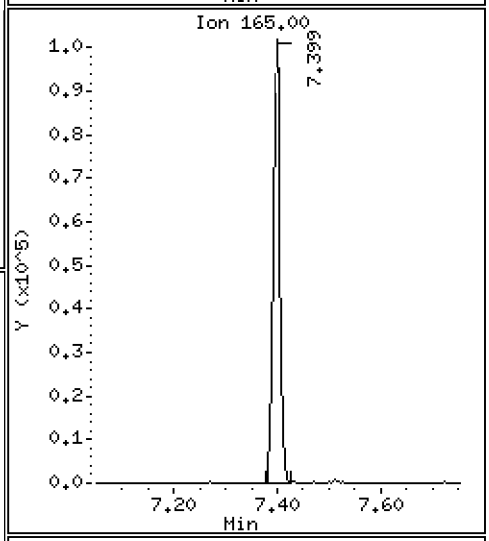
14 Fluorene

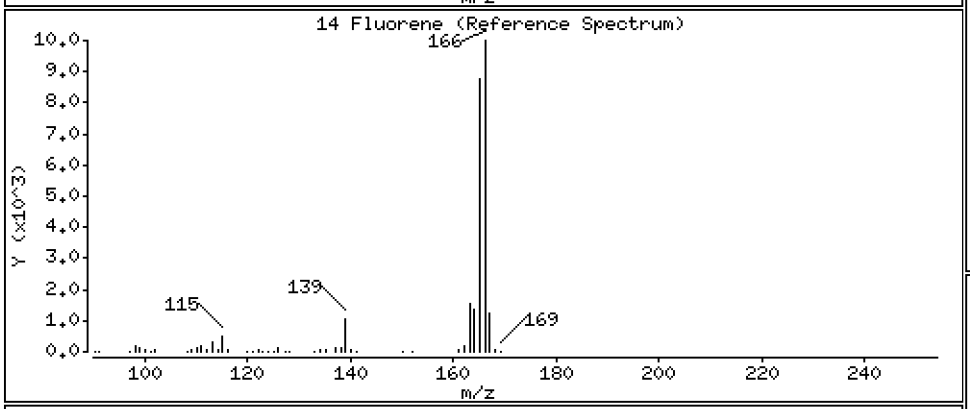
Concentration: 1.485 ug/mL

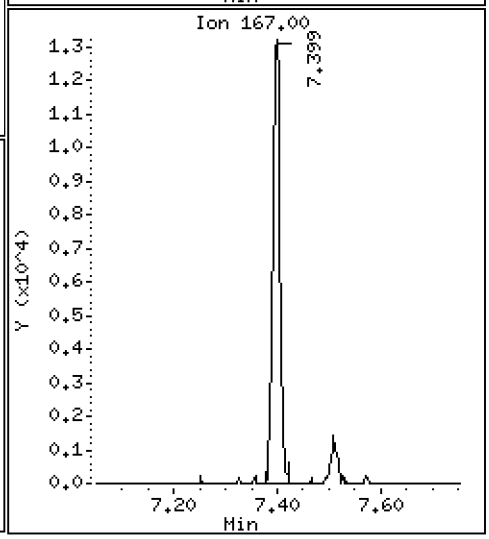


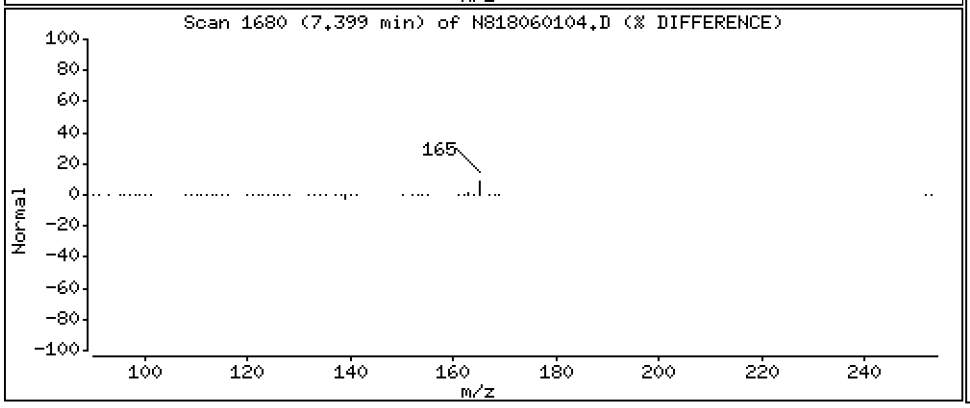












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

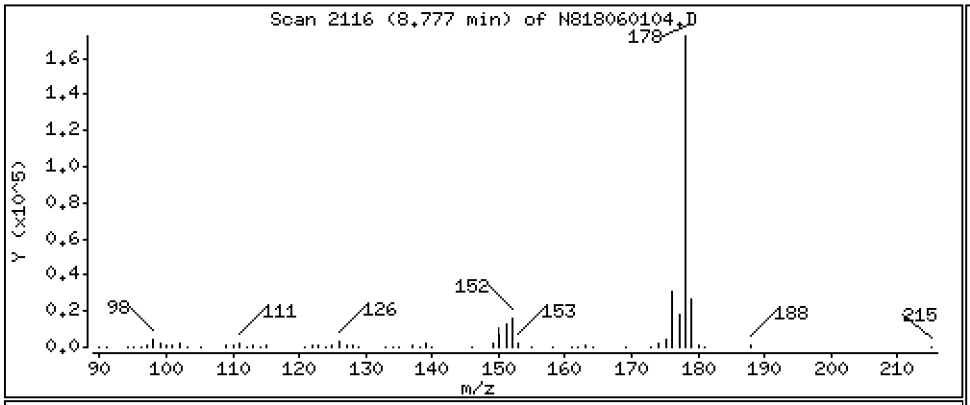
Operator: JZ

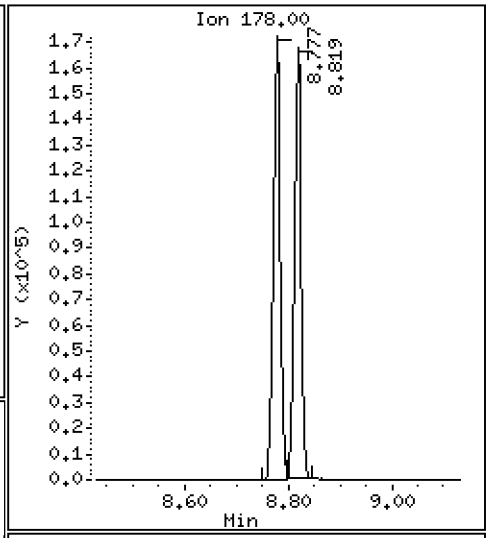
Column phase: Rxi-17sil

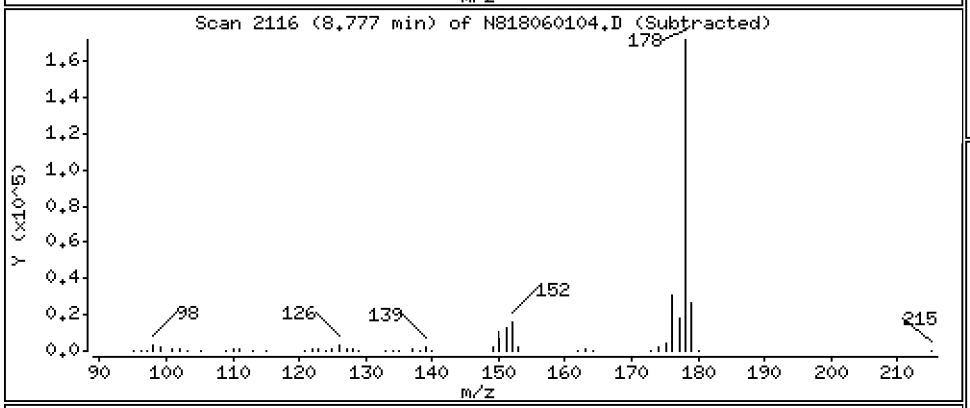
Column diameter: 0.25

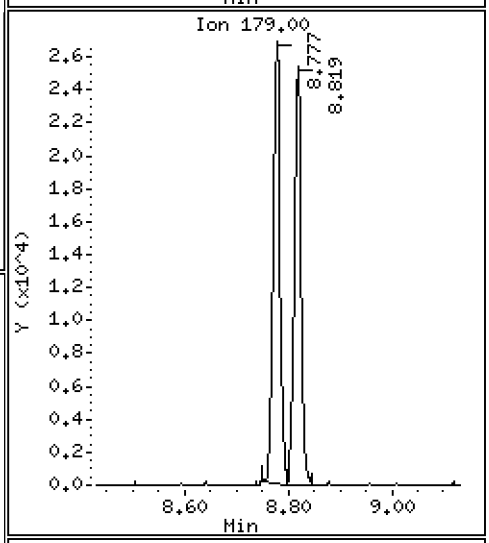
16 Phenanthrene

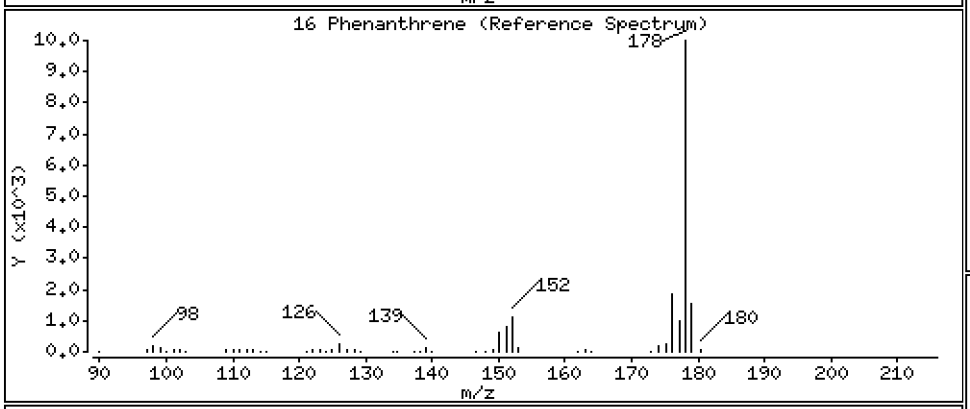
Concentration: 1.610 ug/mL

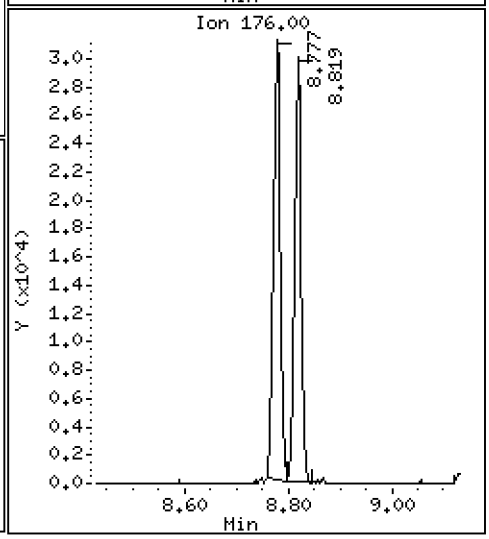


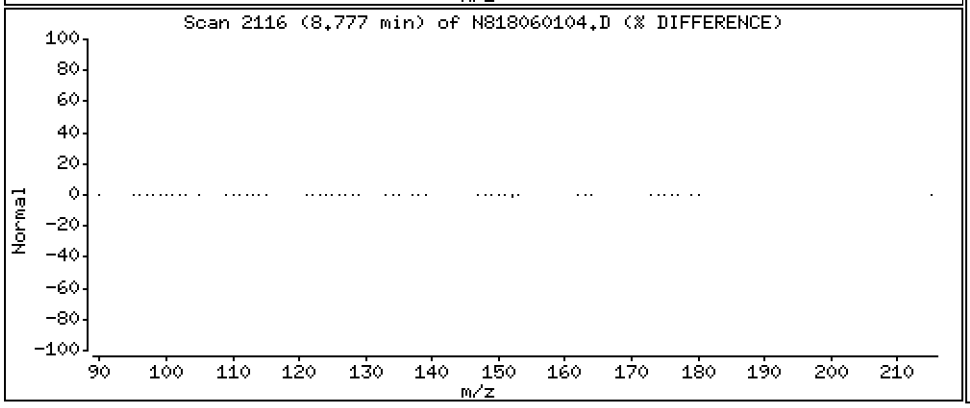












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

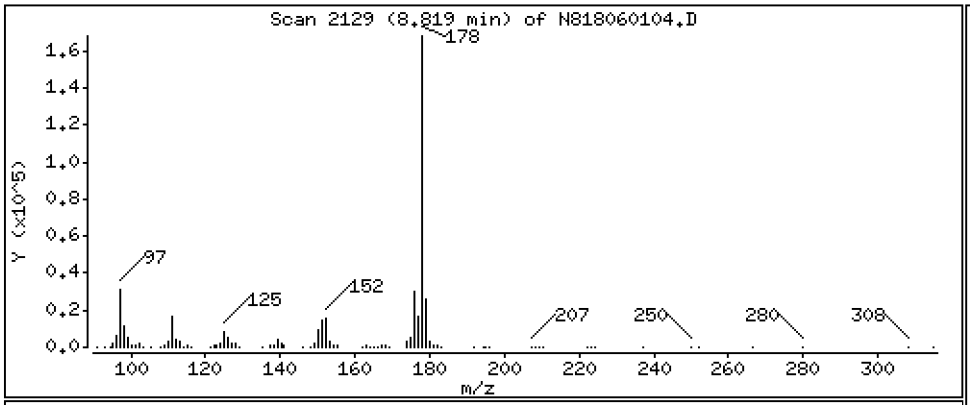
Operator: JZ

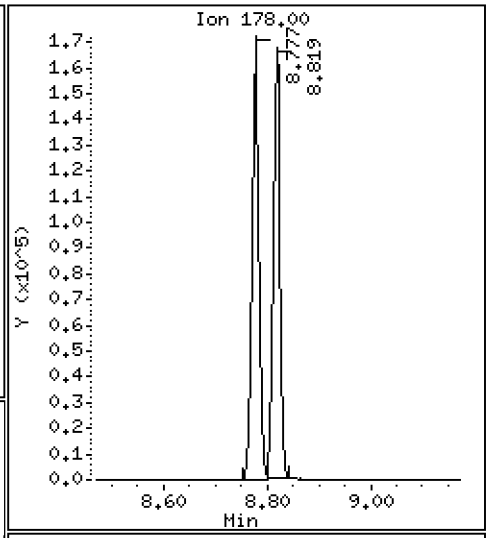
Column phase: Rxi-17sil

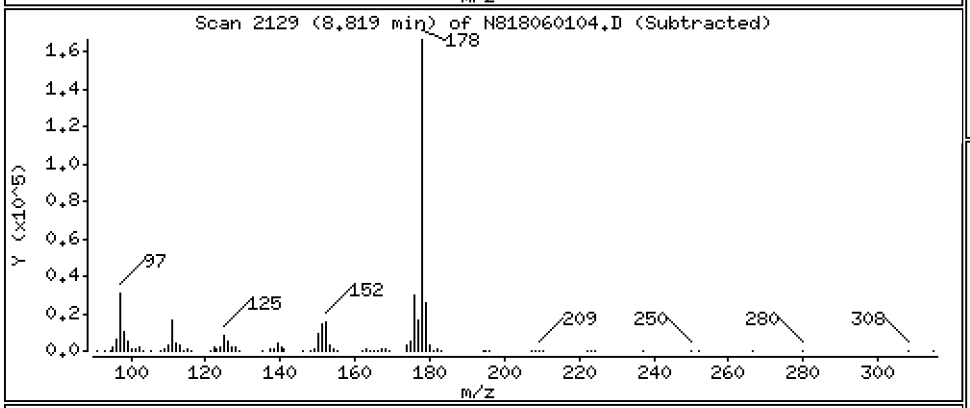
Column diameter: 0.25

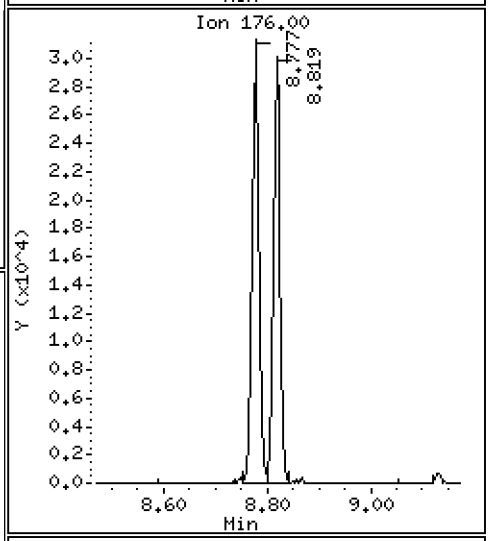
17 Anthracene

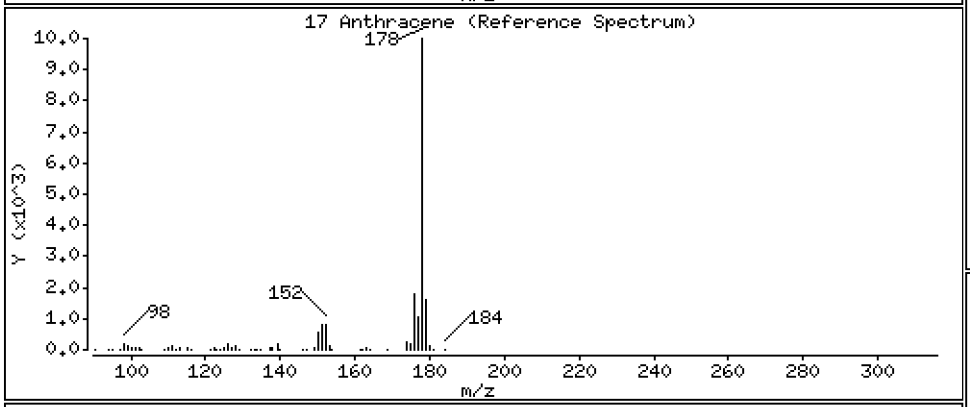
Concentration: 1.665 ug/mL

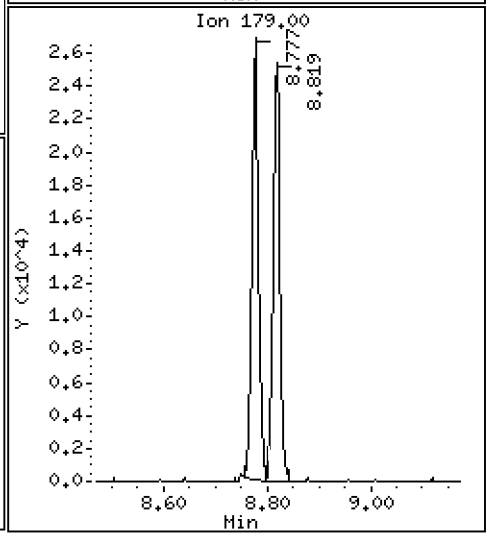


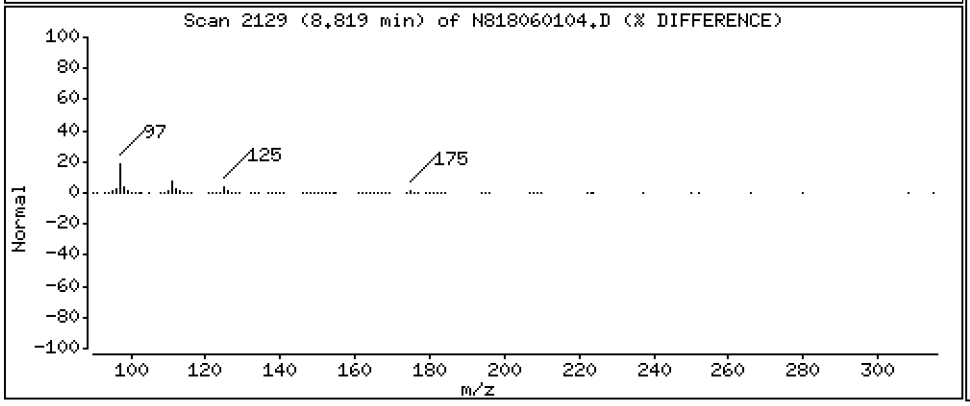












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

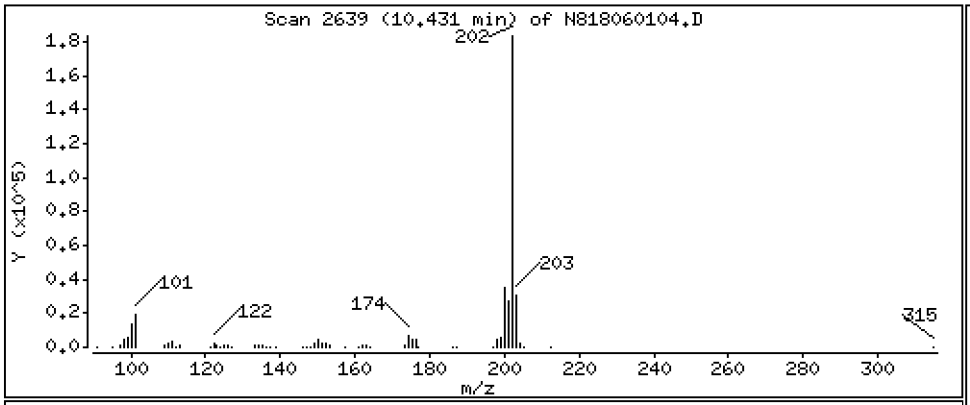
Operator: JZ

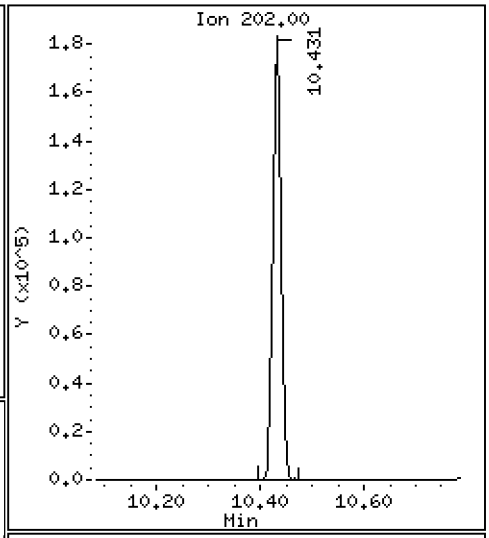
Column phase: Rxi-17sil

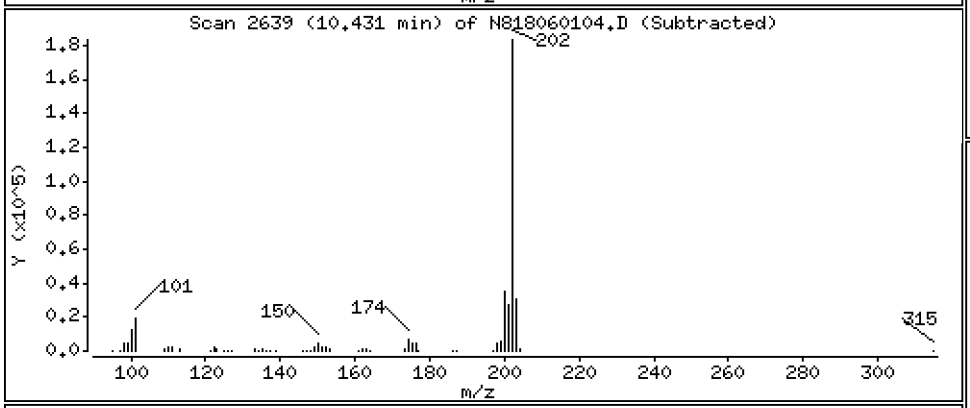
Column diameter: 0.25

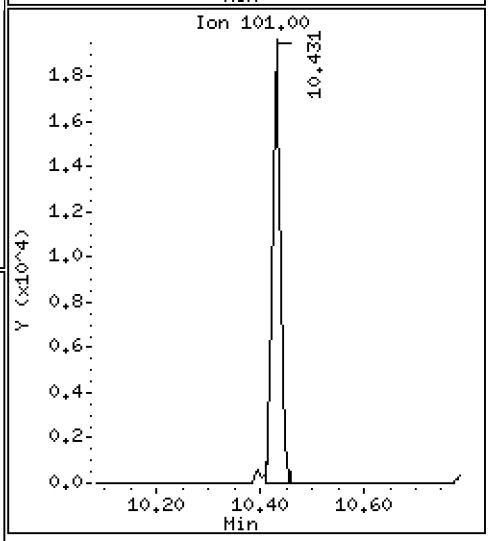
22 Fluoranthene

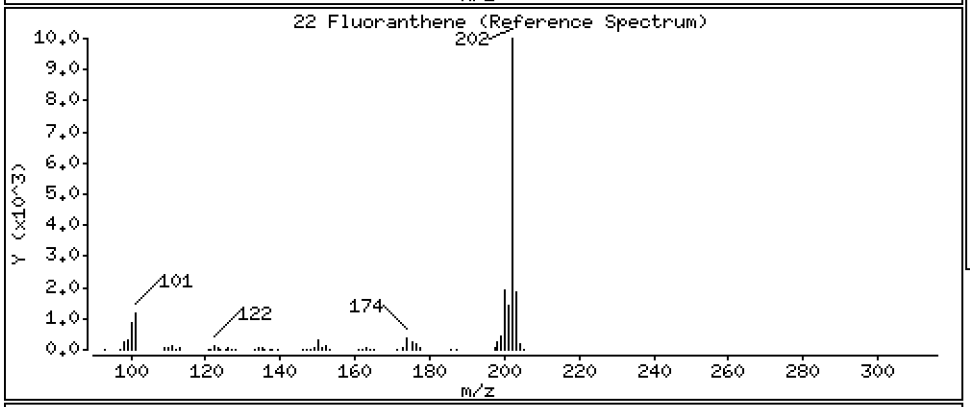
Concentration: 1.872 ug/mL

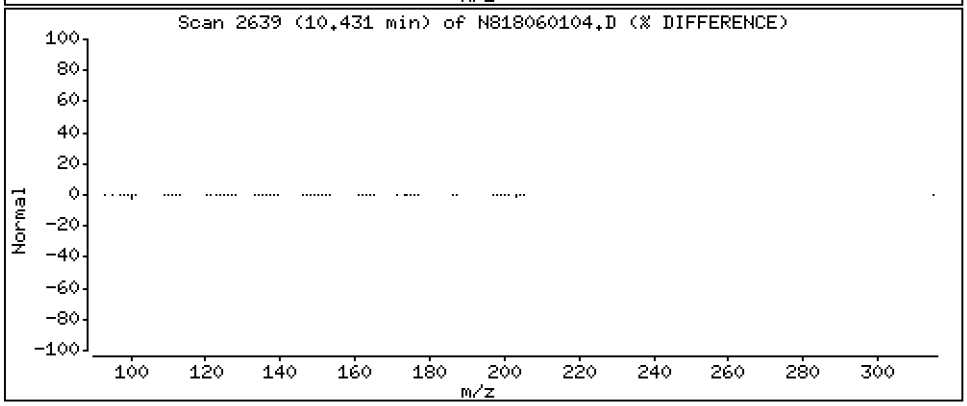












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

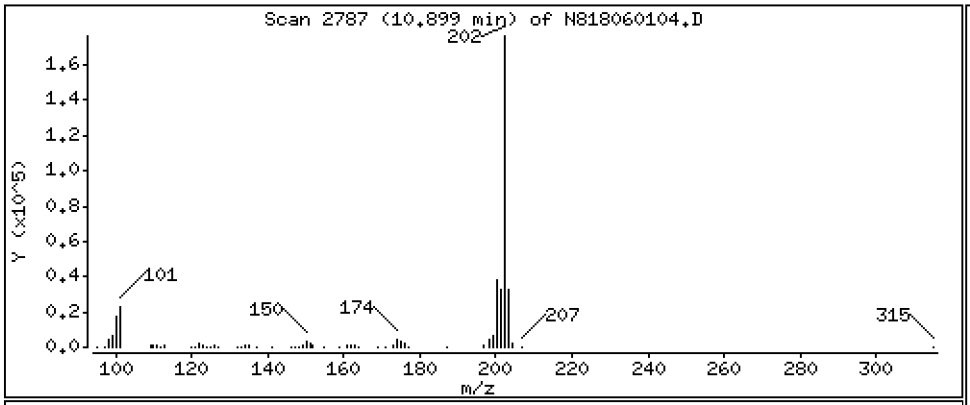
Operator: JZ

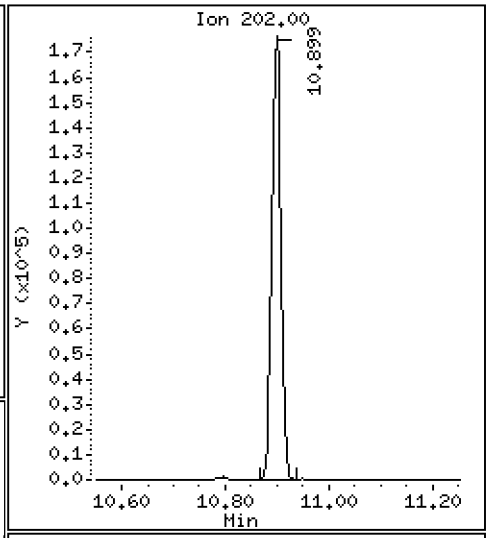
Column phase: Rxi-17sil

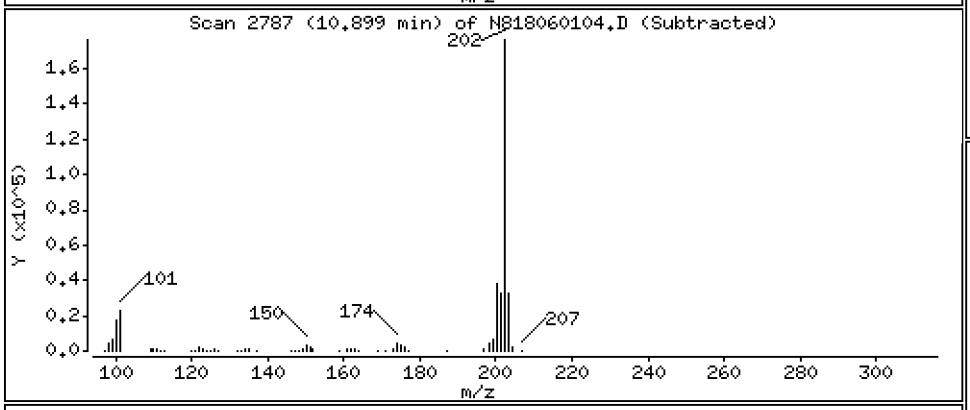
Column diameter: 0.25

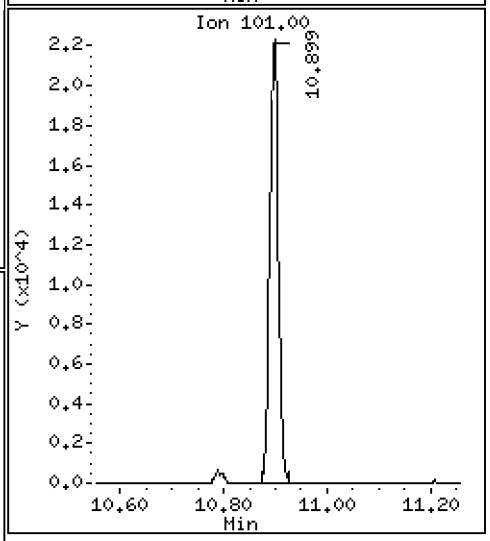
23 Pyrene

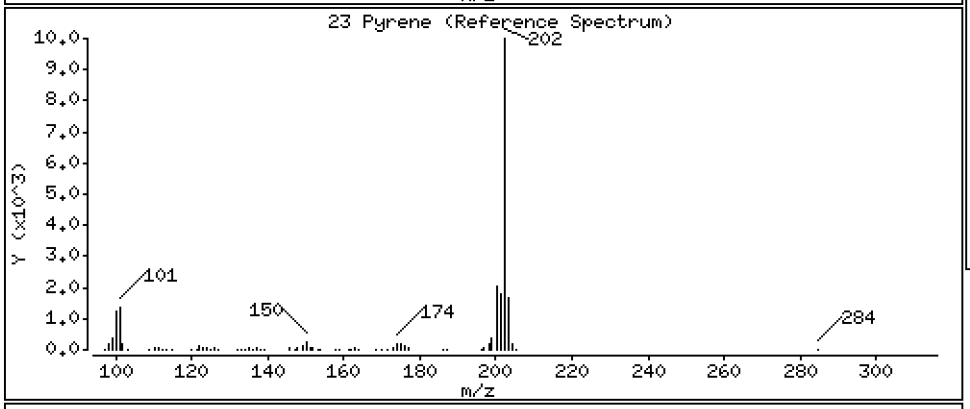
Concentration: 1.925 ug/mL

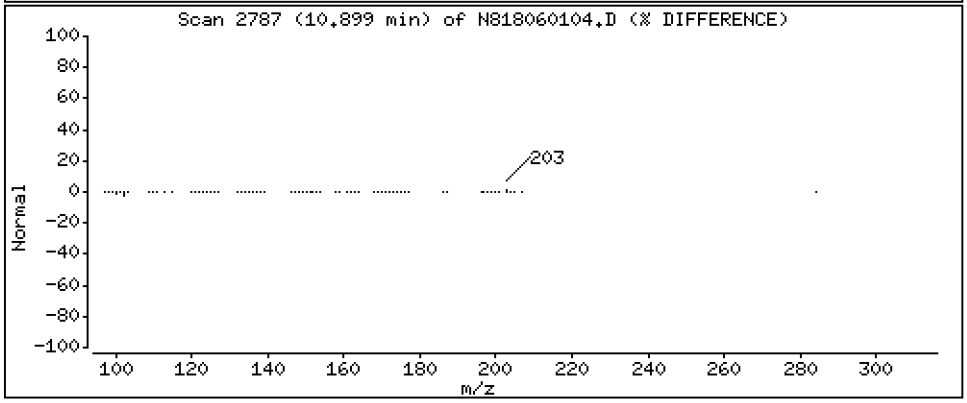












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

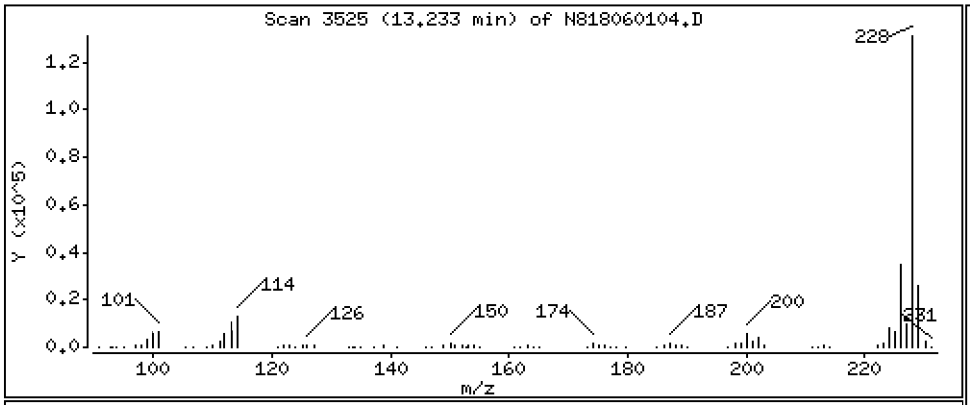
Operator: JZ

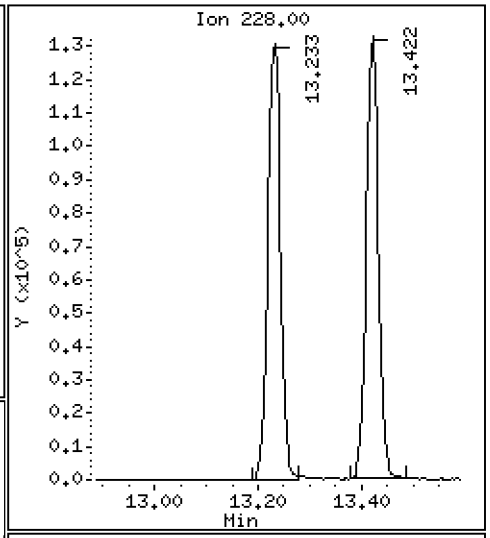
Column phase: Rxi-17sil

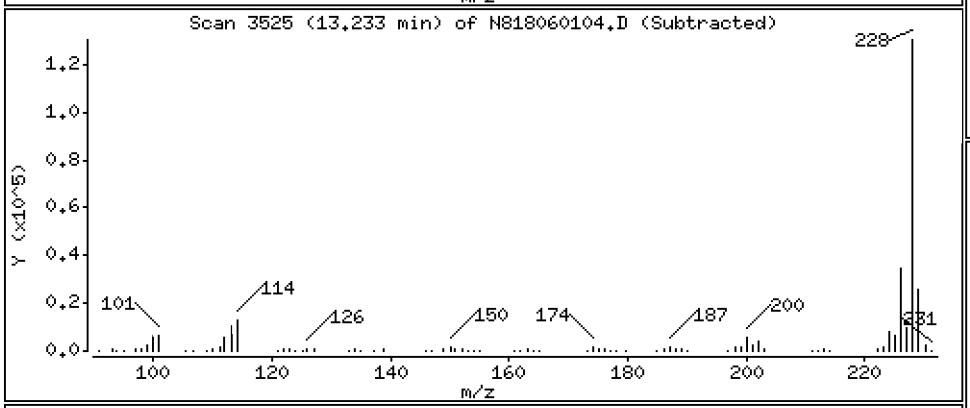
Column diameter: 0.25

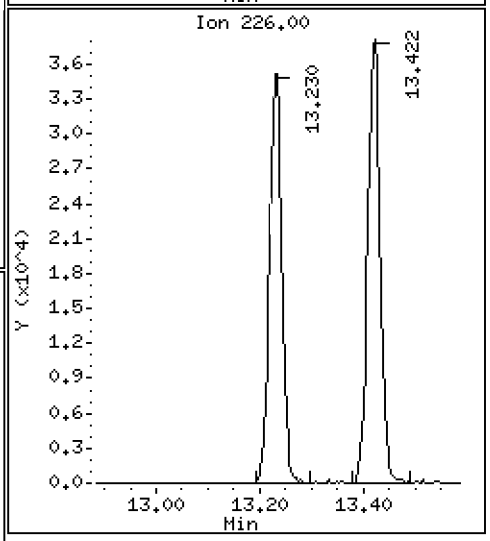
24 Benzo(a)anthracene

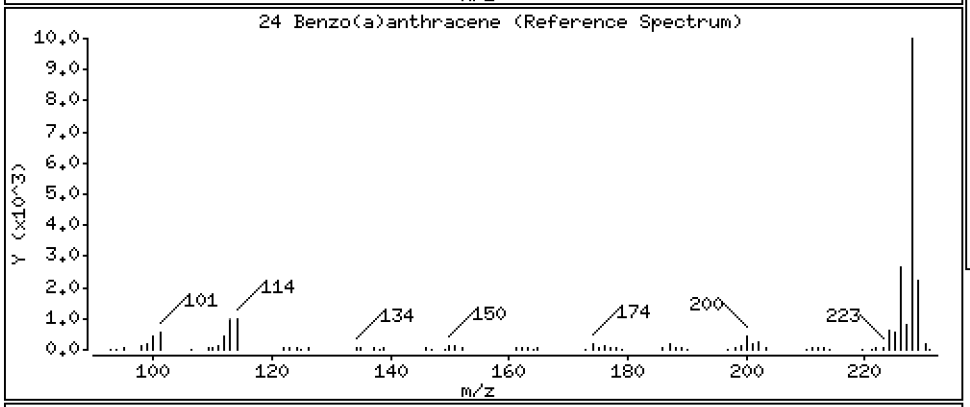
Concentration: 2.041 ug/mL

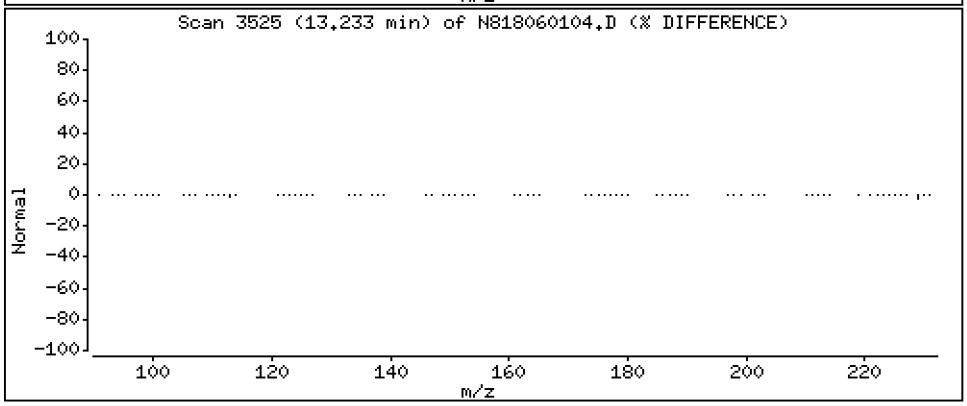












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

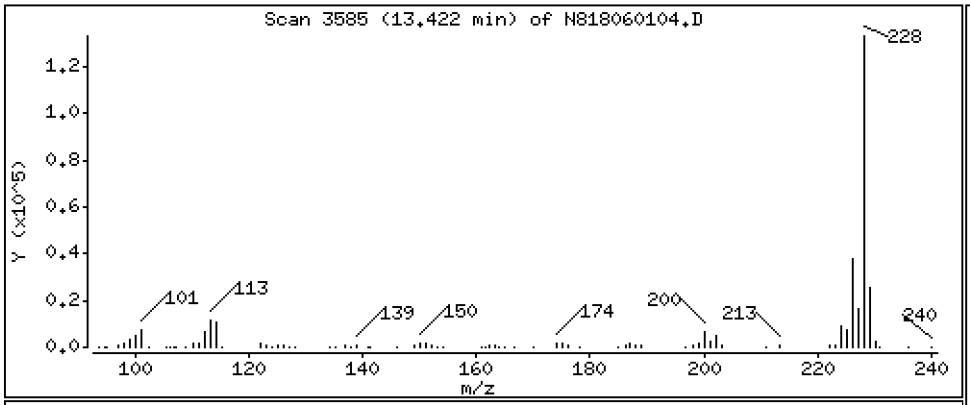
Operator: JZ

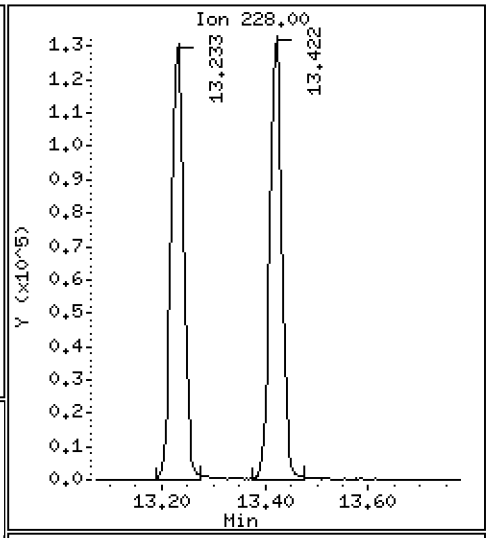
Column phase: Rxi-17sil

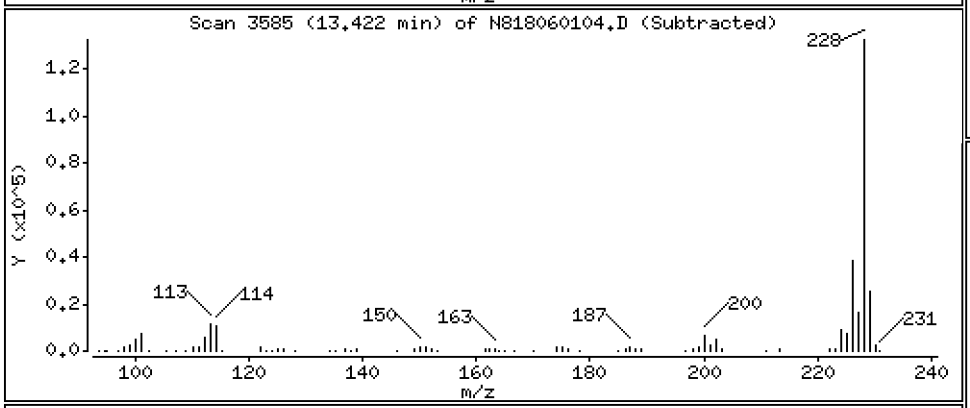
Column diameter: 0.25

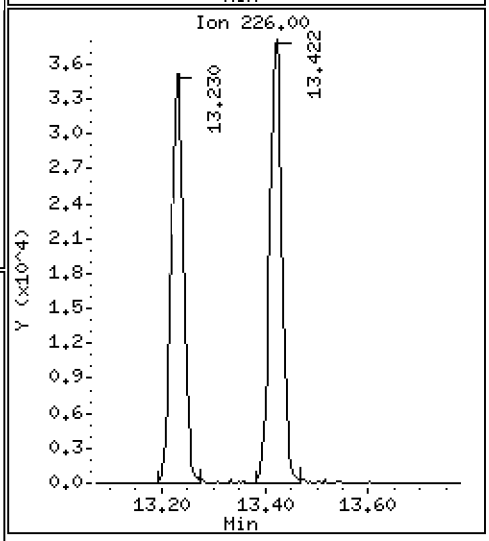
27 Chrysene

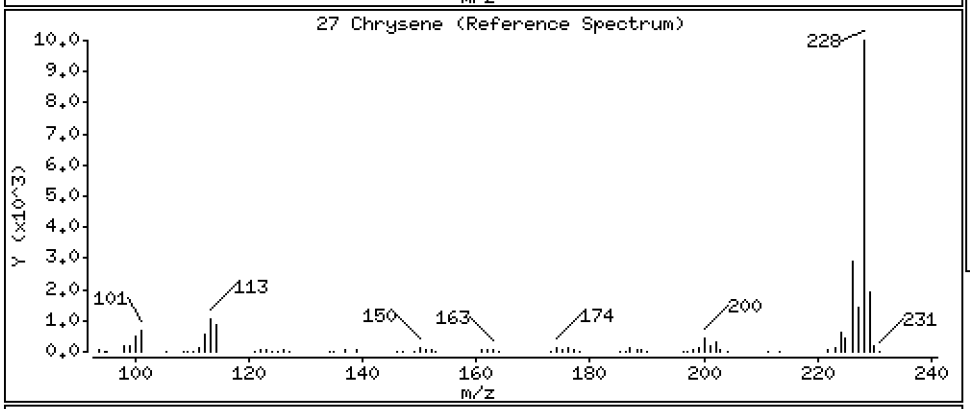
Concentration: 1.981 ug/mL

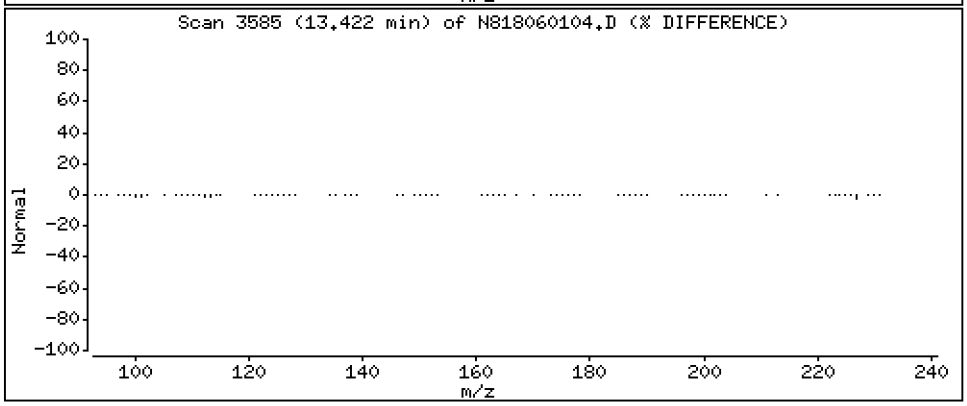












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

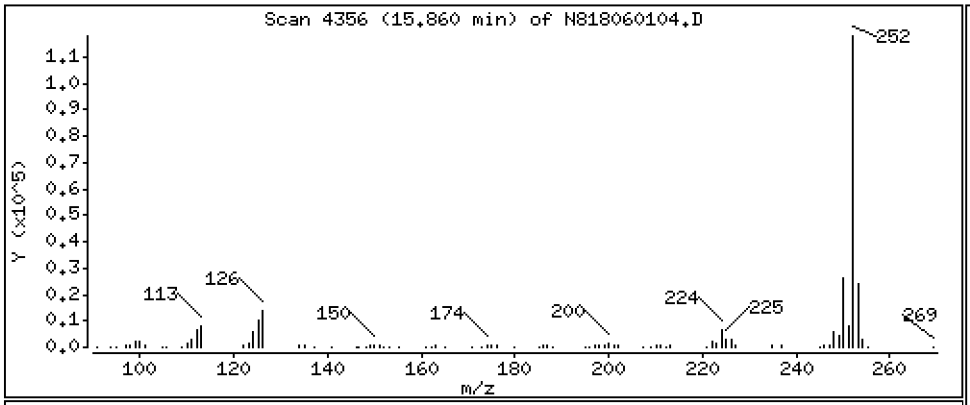
Operator: JZ

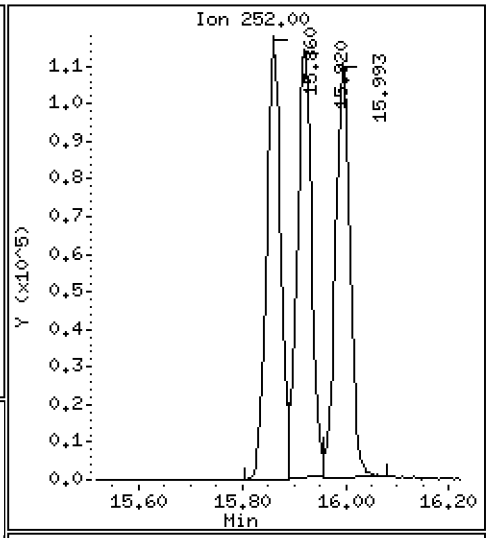
Column phase: Rxi-17sil

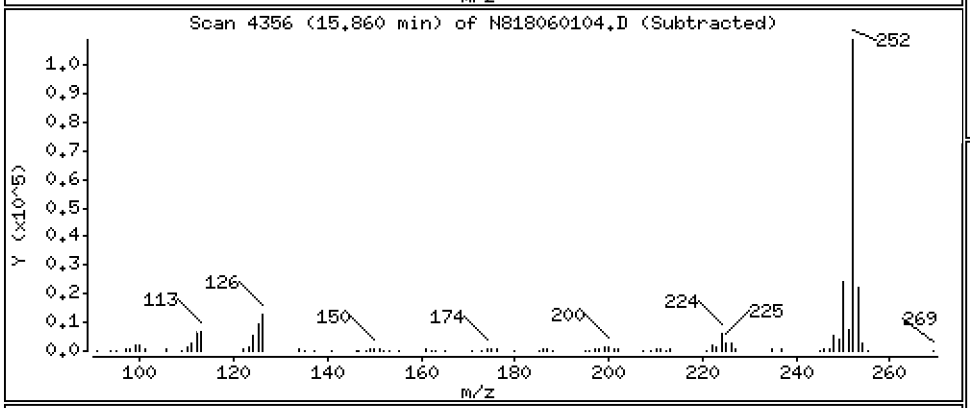
Column diameter: 0.25

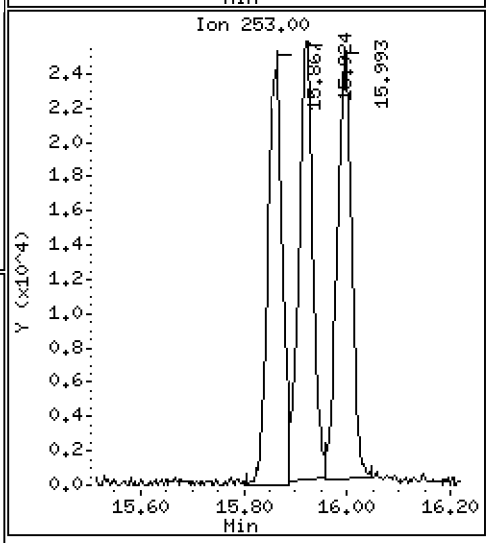
28 Benzo(b)fluoranthene

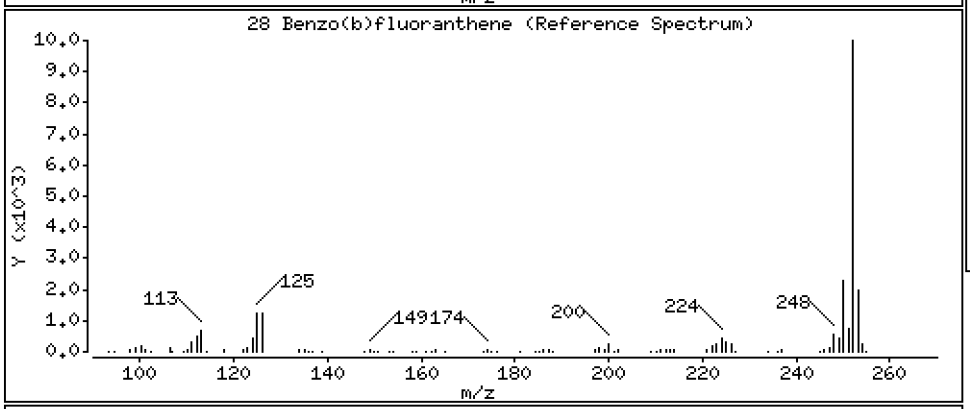
Concentration: 2.011 ug/mL

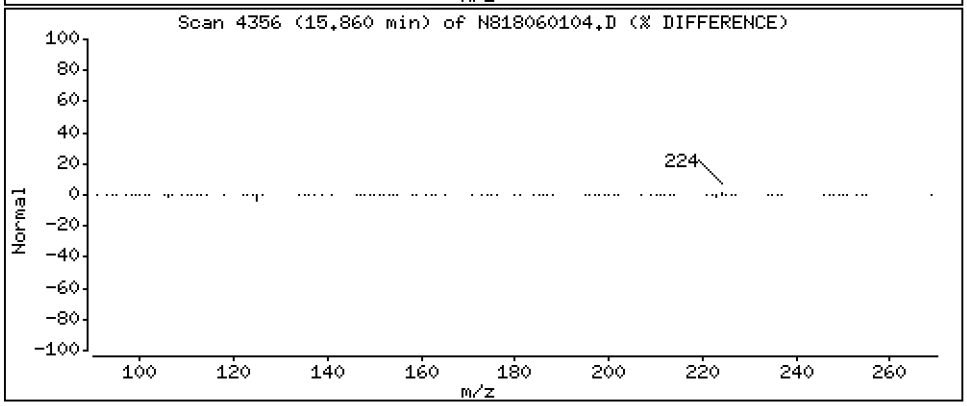












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

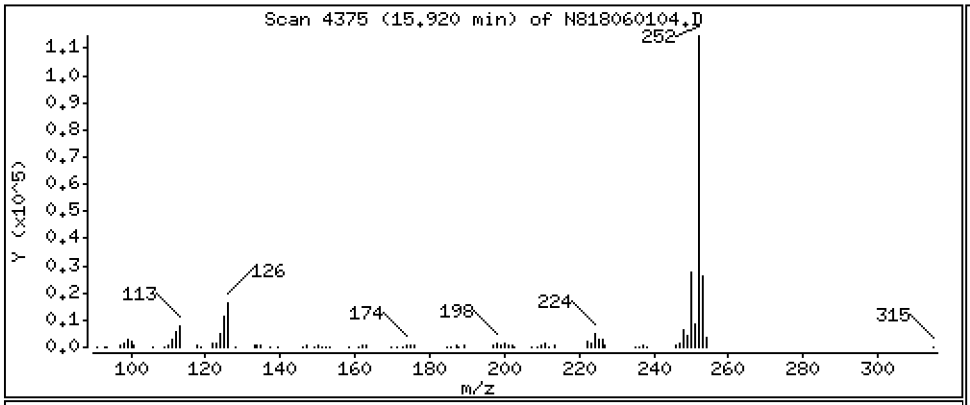
Operator: JZ

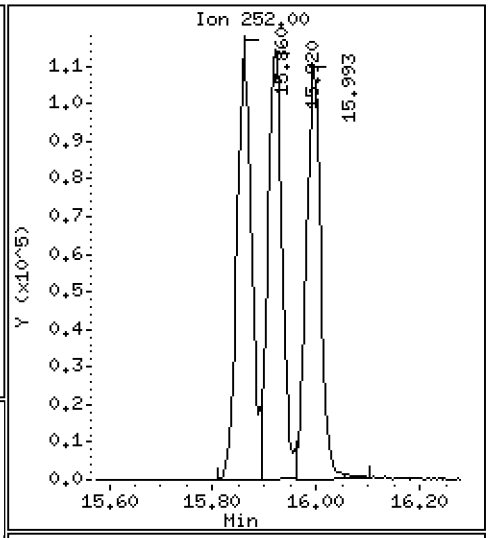
Column phase: Rxi-17sil

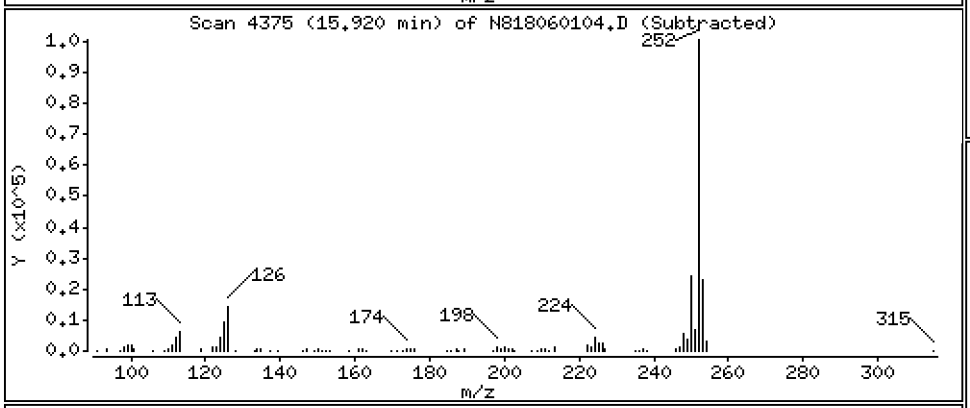
Column diameter: 0.25

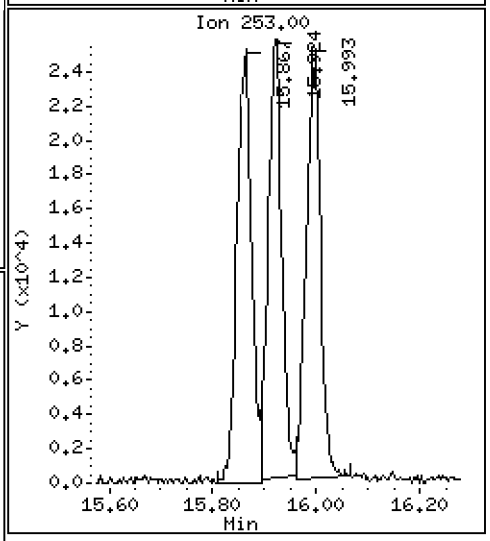
29 Benzo(k)fluoranthene

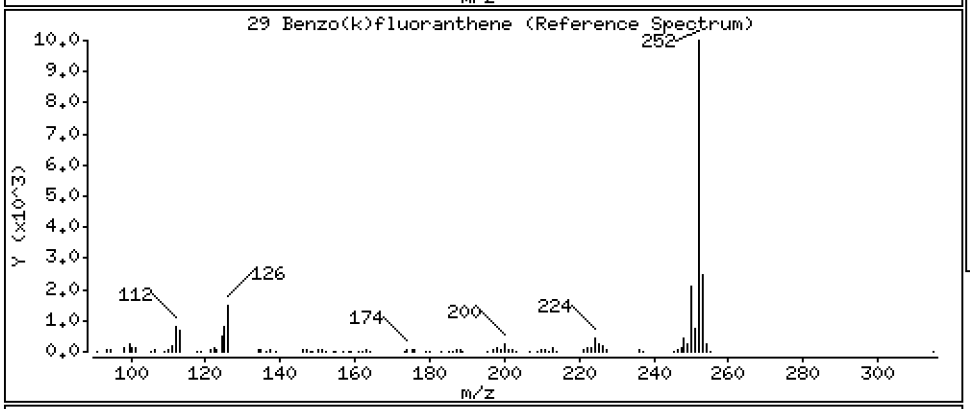
Concentration: 2.025 ug/mL

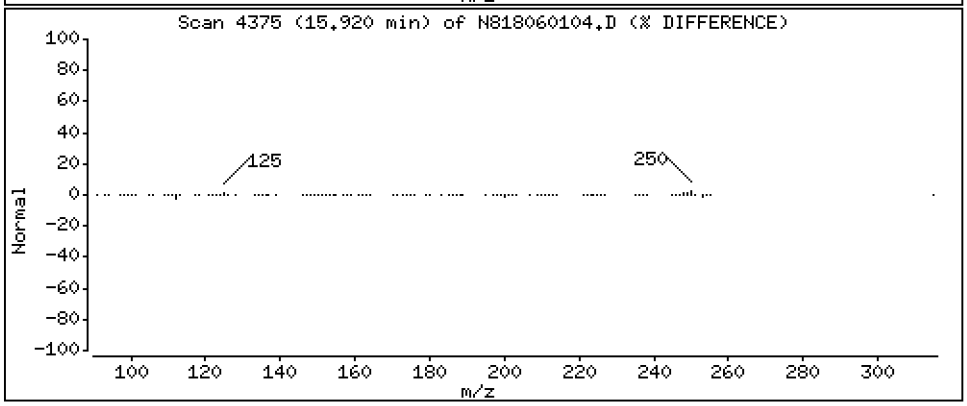












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

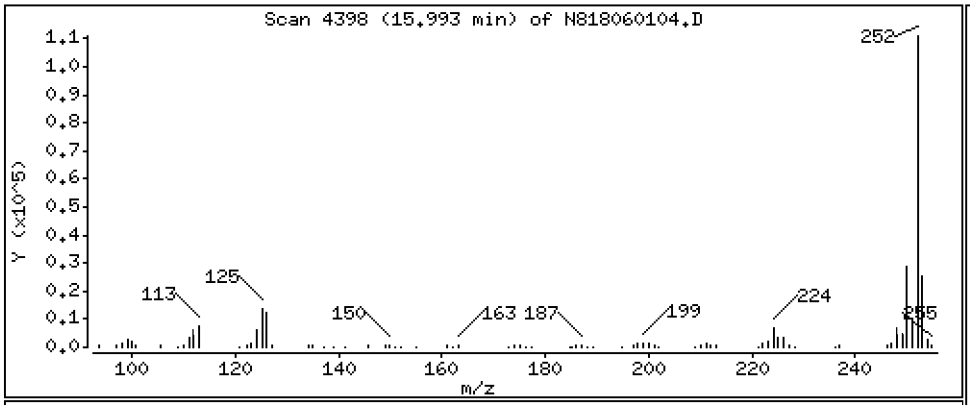
Operator: JZ

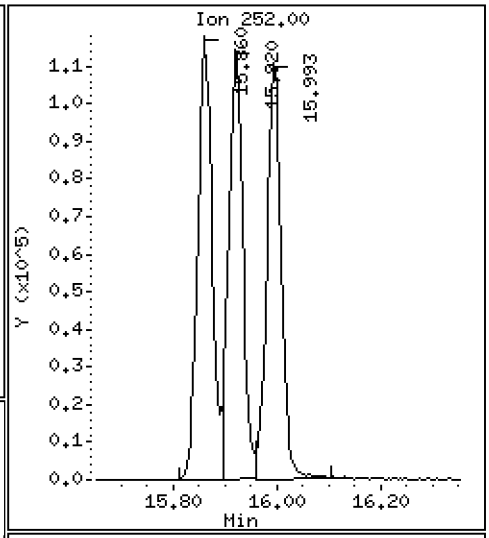
Column phase: Rxi-17sil

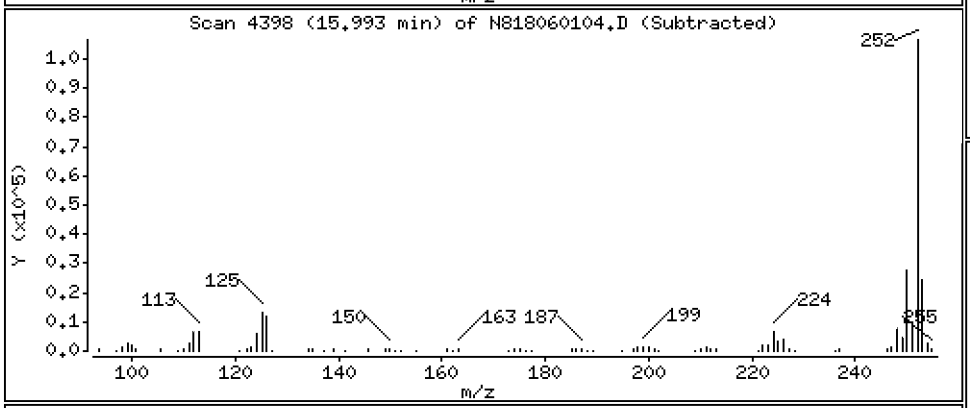
Column diameter: 0.25

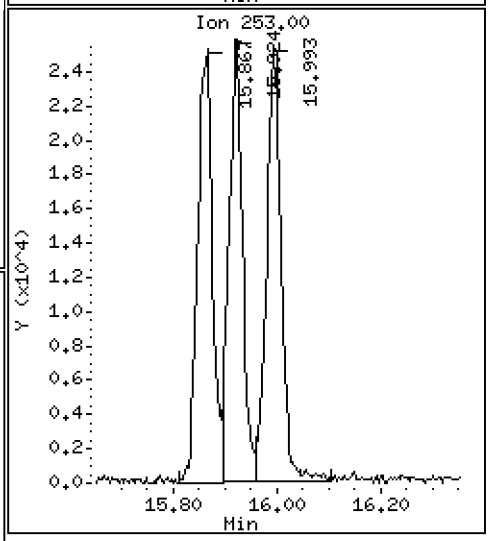
30 Benzo(j)fluoranthene

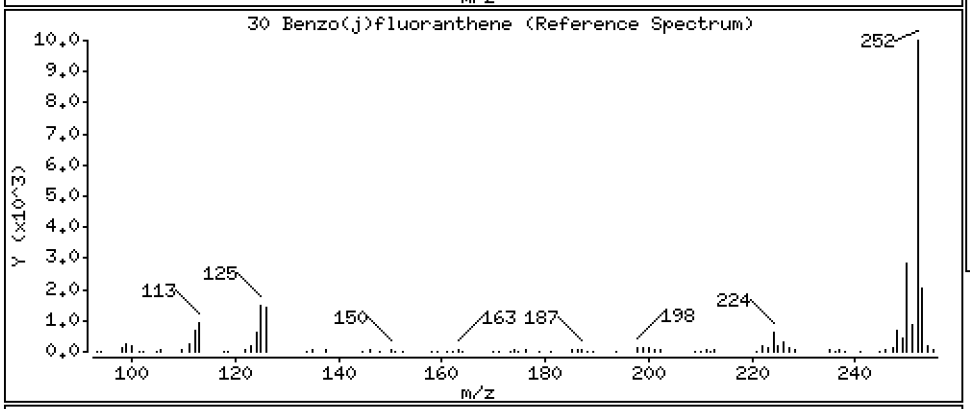
Concentration: 1.999 ug/mL

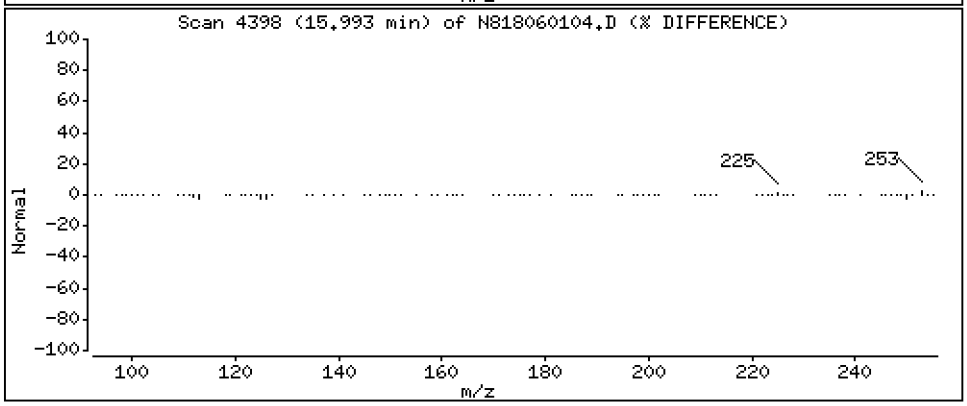












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

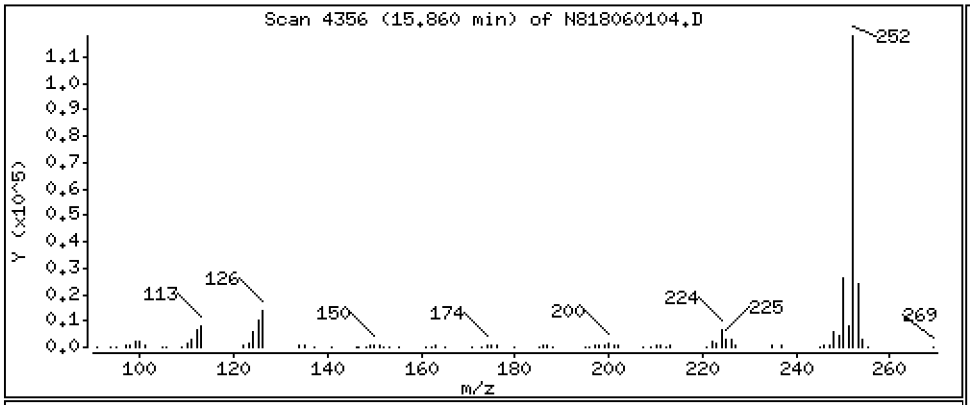
Operator: JZ

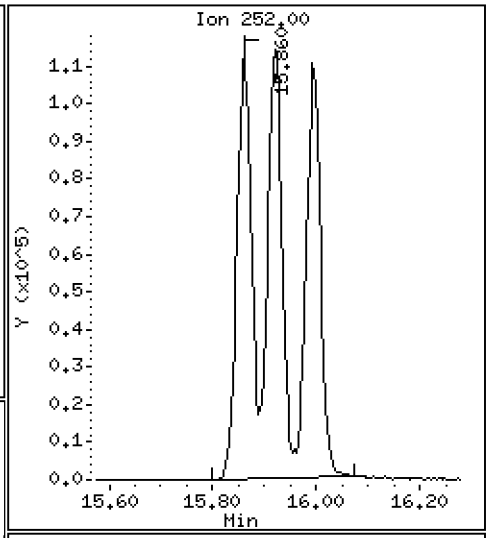
Column phase: Rxi-17sil

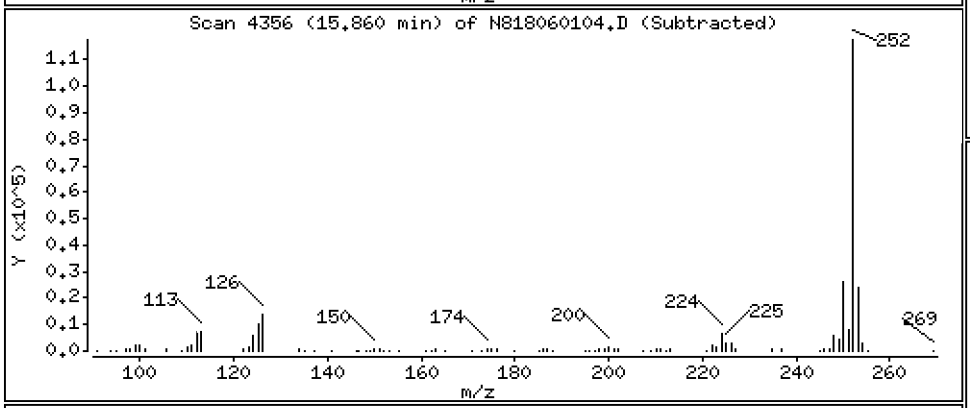
Column diameter: 0.25

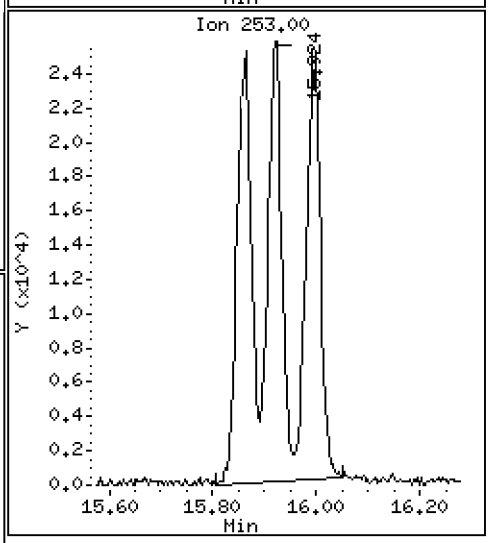
31 Total Benzofluoranthenes

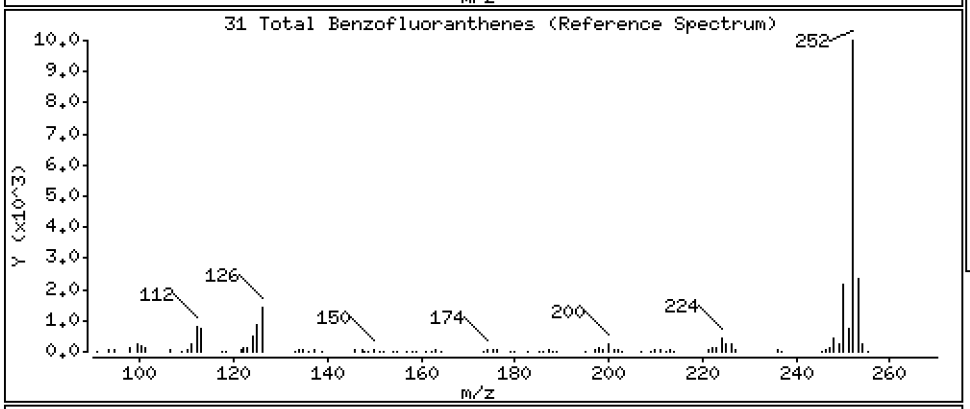
Concentration: 6.089 ug/mL

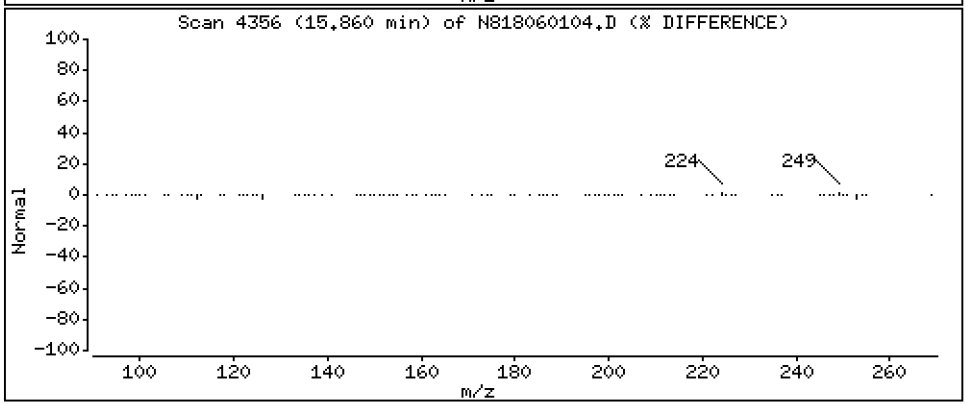












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

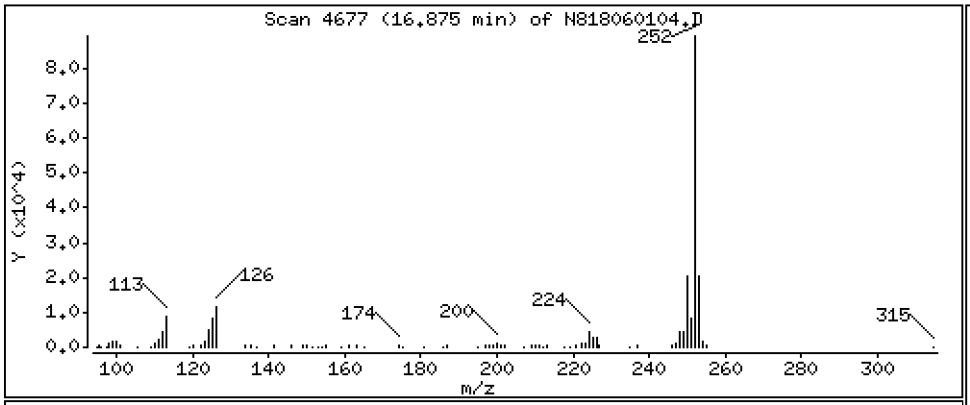
Operator: JZ

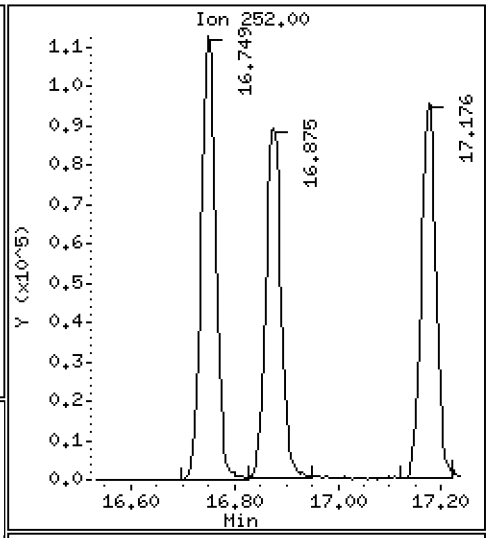
Column phase: Rxi-17sil

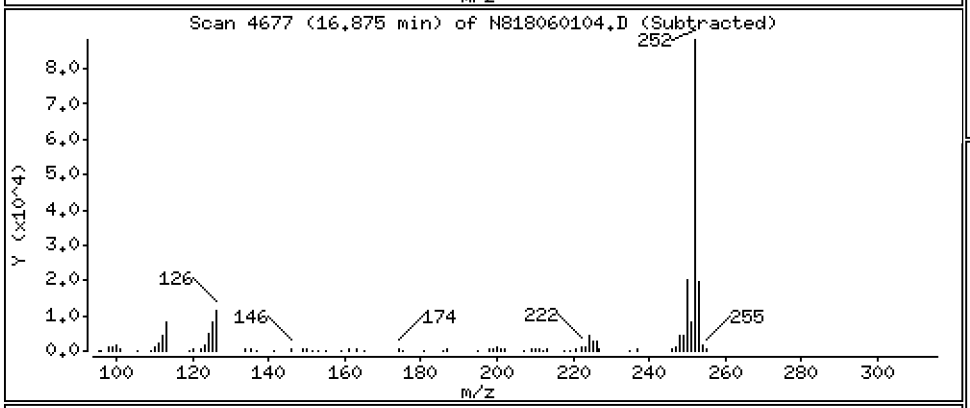
Column diameter: 0.25

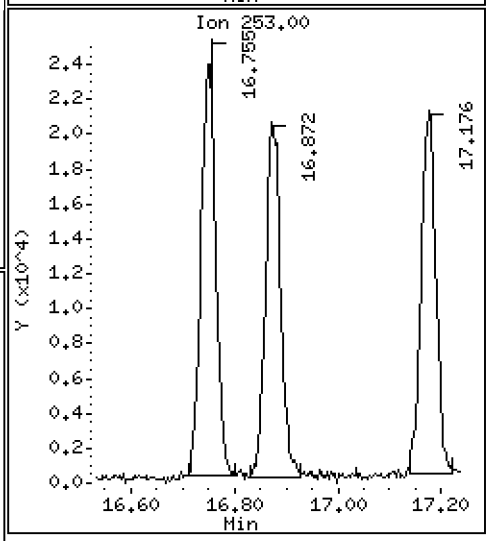
32 Benzo(a)pyrene

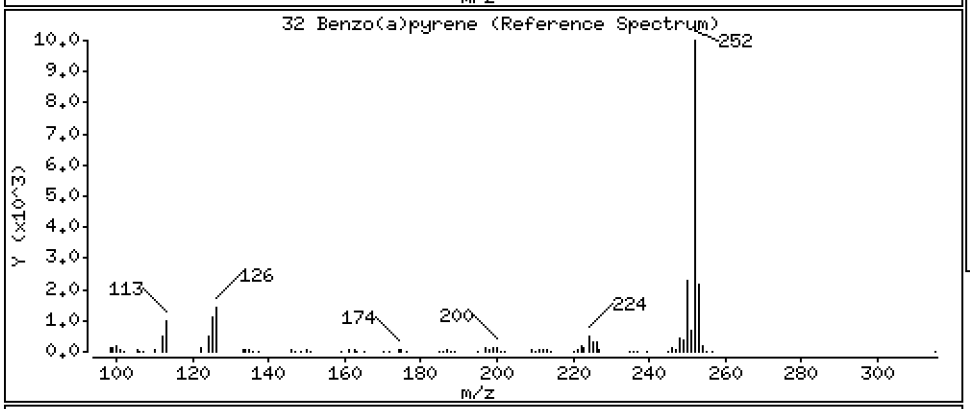
Concentration: 1.903 ug/mL

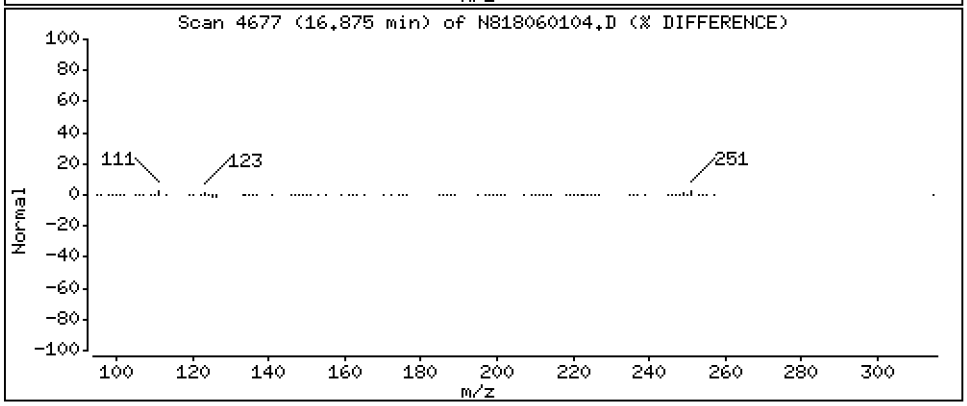












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

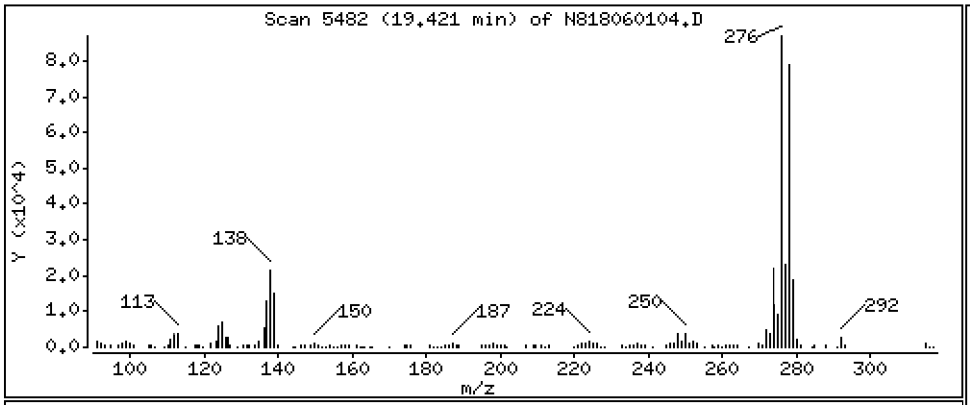
Operator: JZ

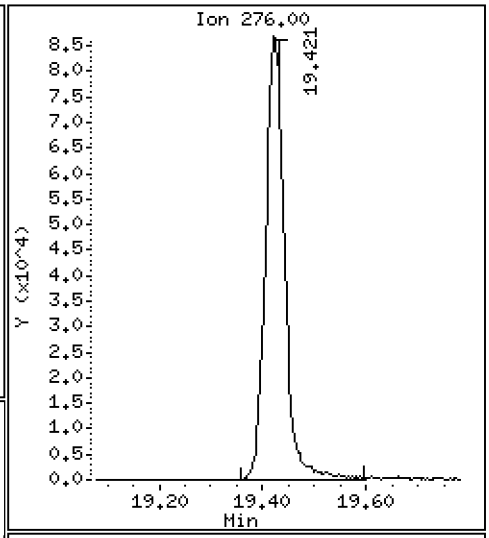
Column phase: Rxi-17sil

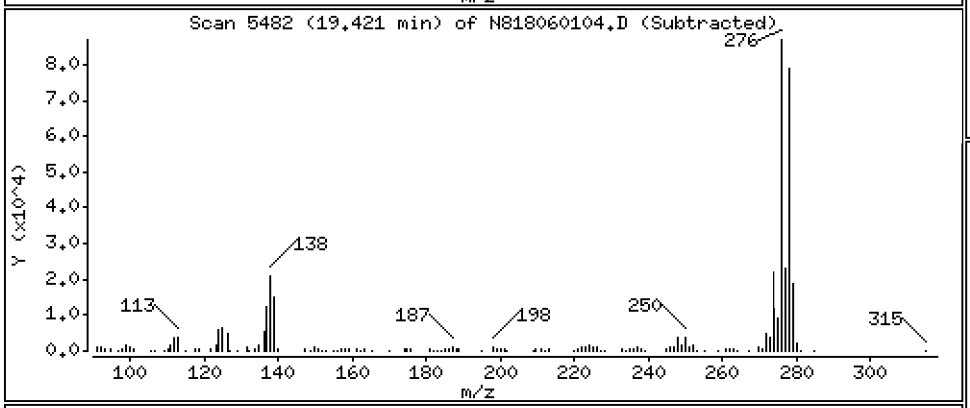
Column diameter: 0.25

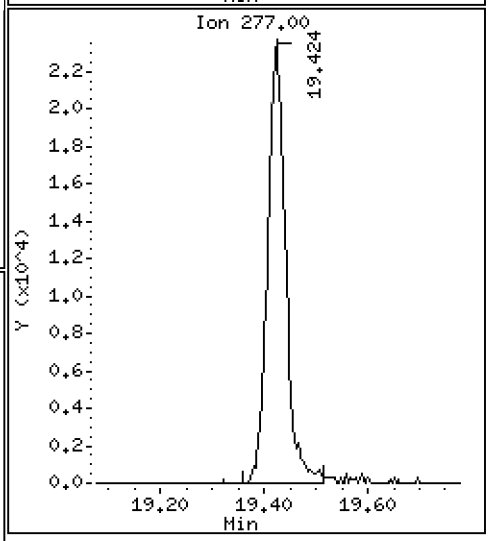
37 Indeno(1,2,3-cd)pyrene

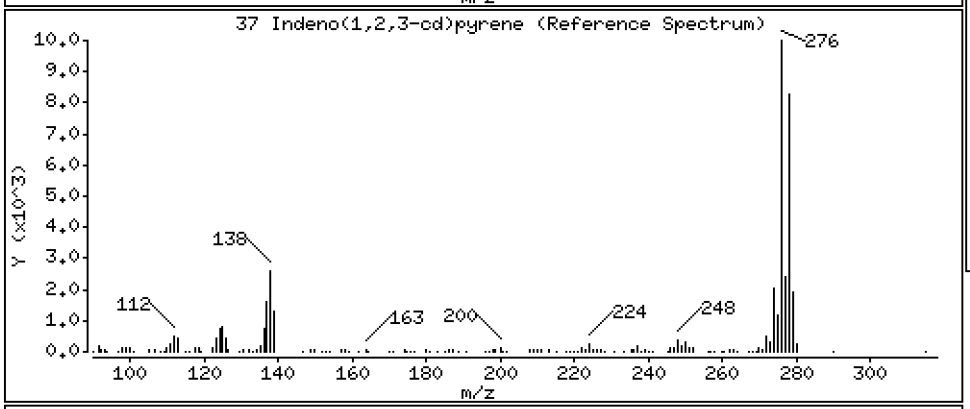
Concentration: 2.033 ug/mL

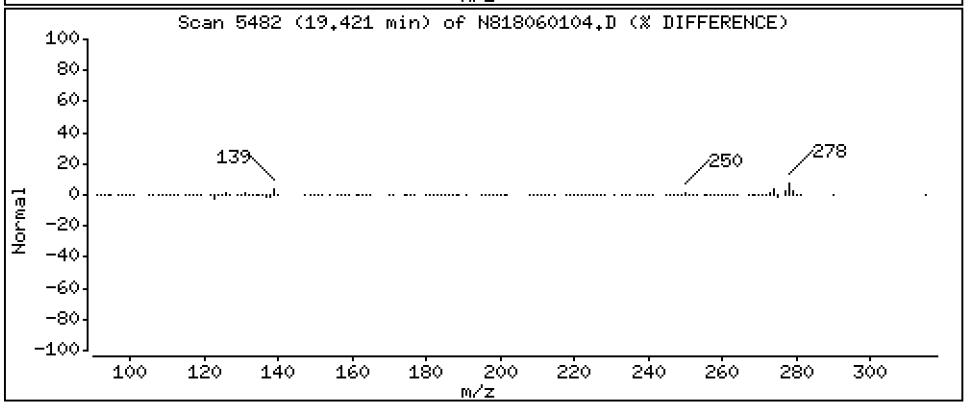












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

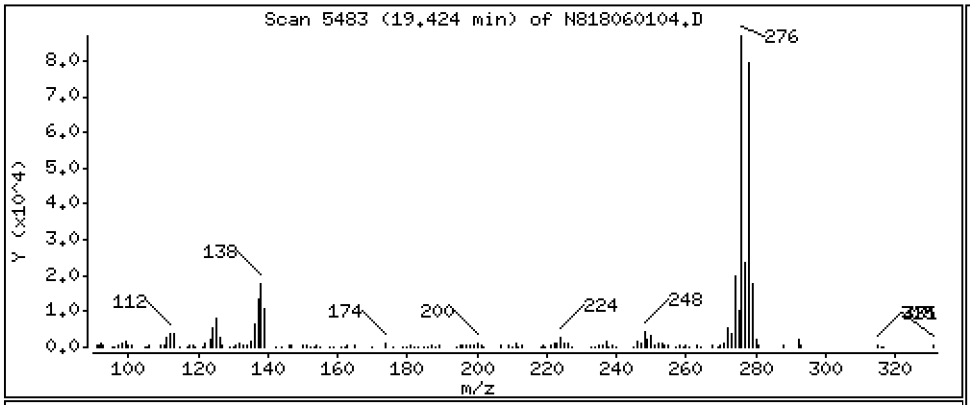
Operator: JZ

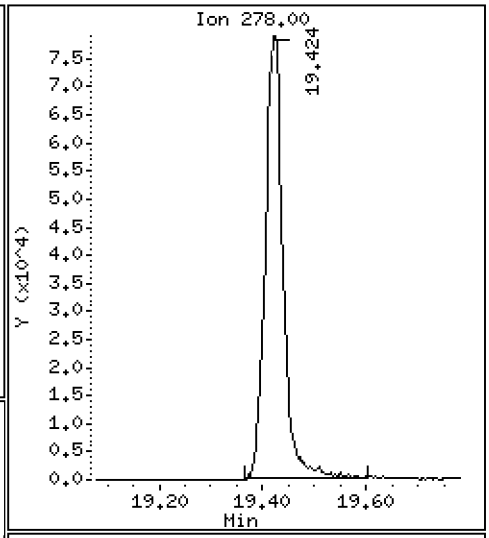
Column phase: Rxi-17sil

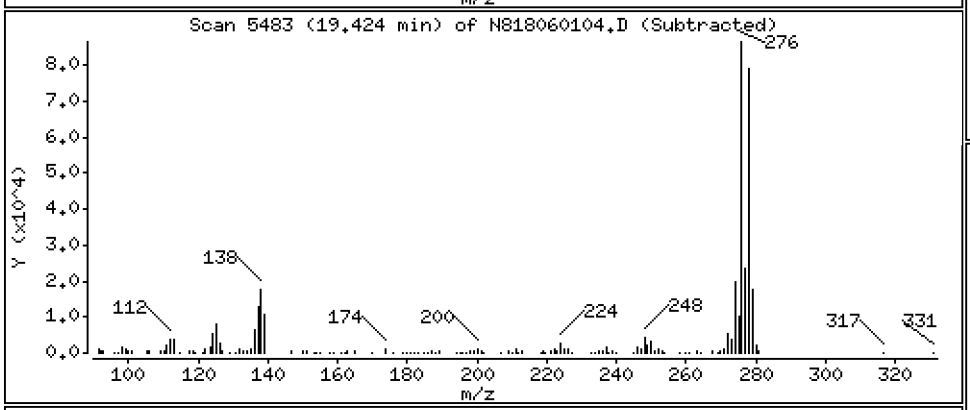
Column diameter: 0.25

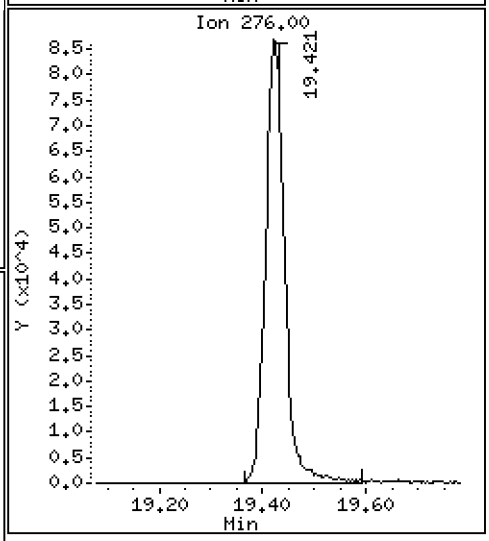
38 Dibenzo(a,h)anthracene

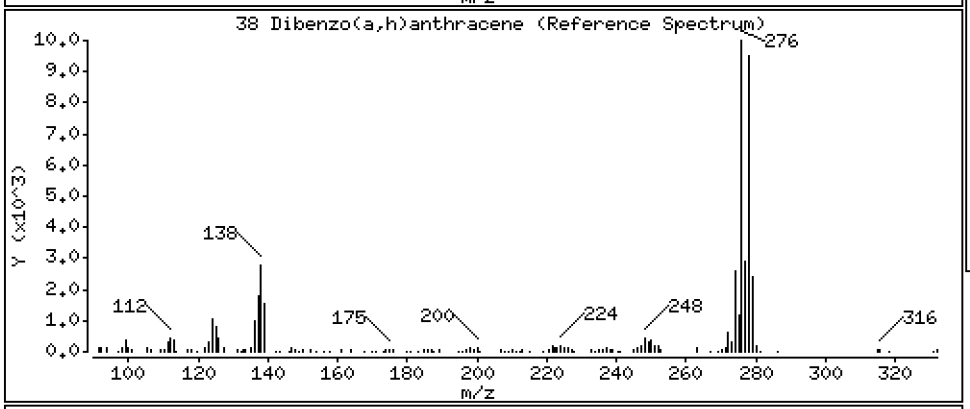
Concentration: 2.075 ug/mL

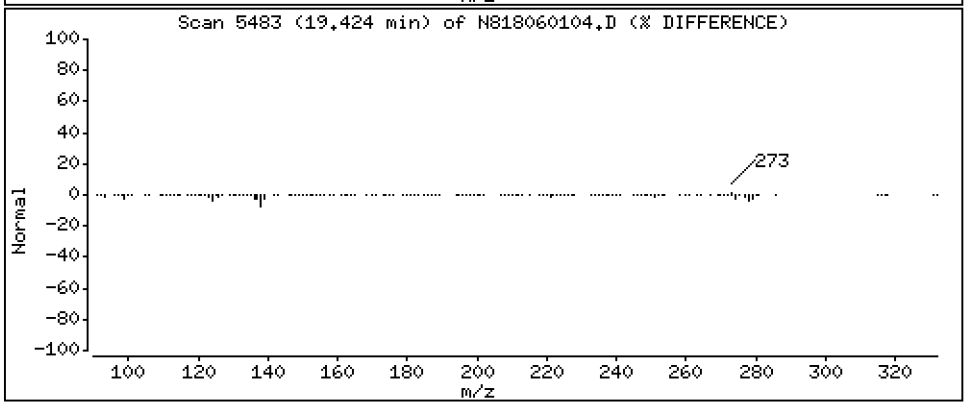












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

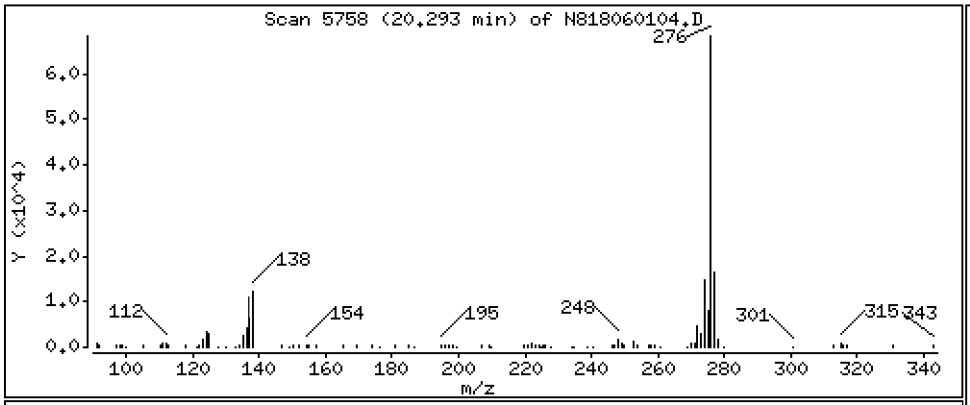
Operator: JZ

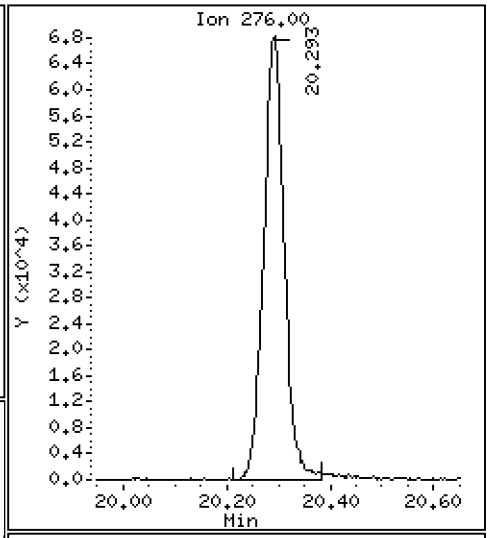
Column phase: Rxi-17sil

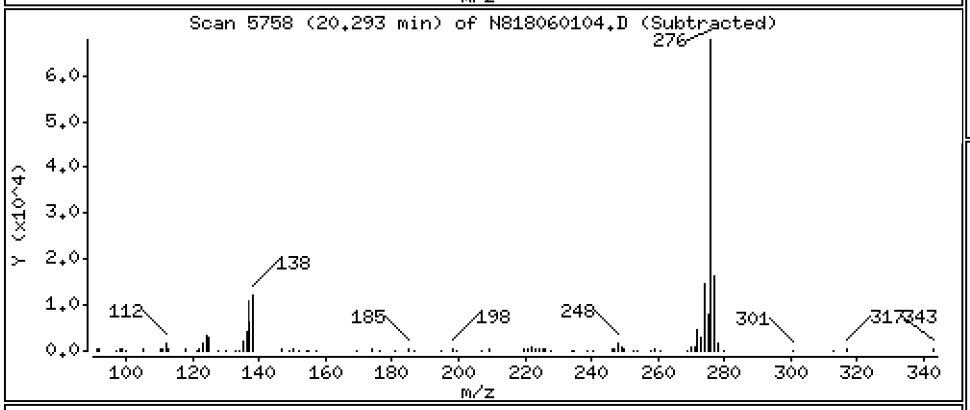
Column diameter: 0.25

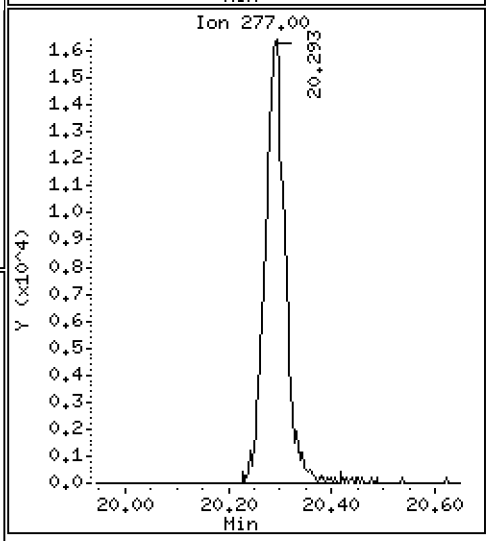
39 Benzo(g,h,i)perylene

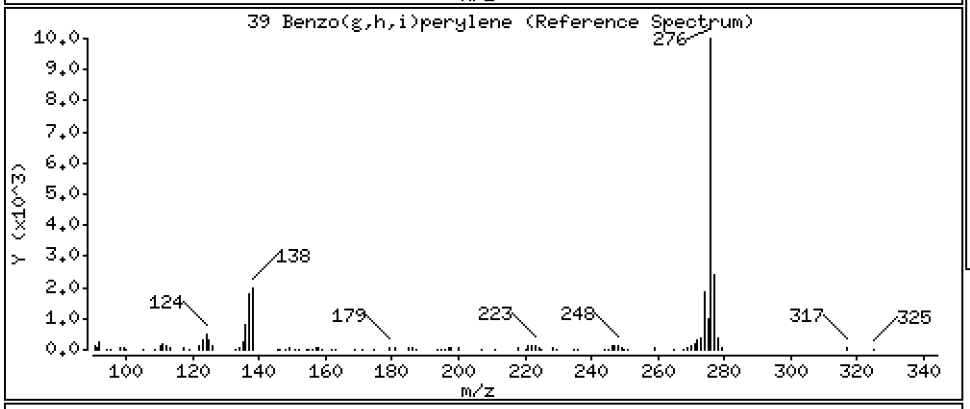
Concentration: 1.942 ug/mL

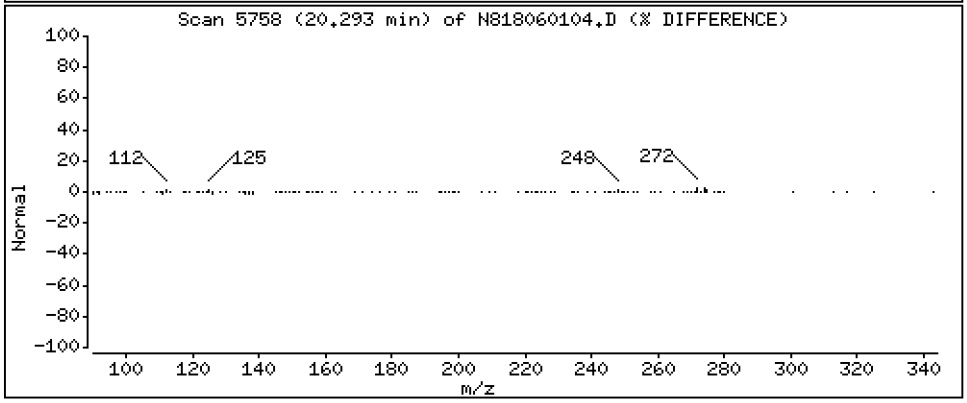












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060104.D

Date : 01-JUN-2018 15:44

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-BS1,

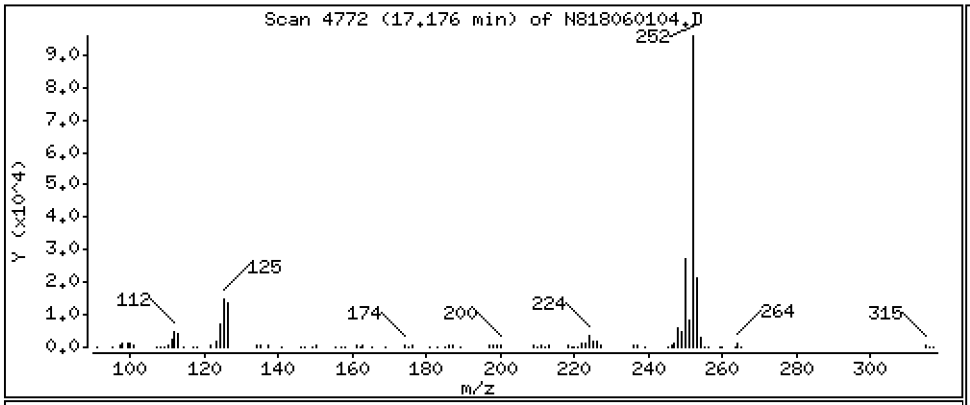
Operator: JZ

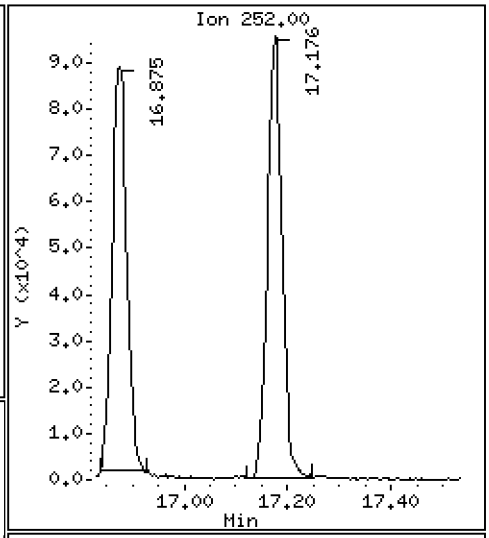
Column phase: Rxi-17sil

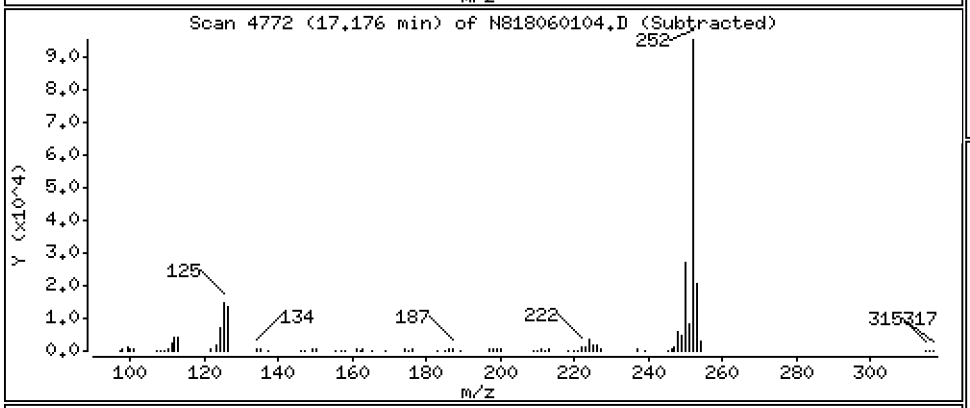
Column diameter: 0.25

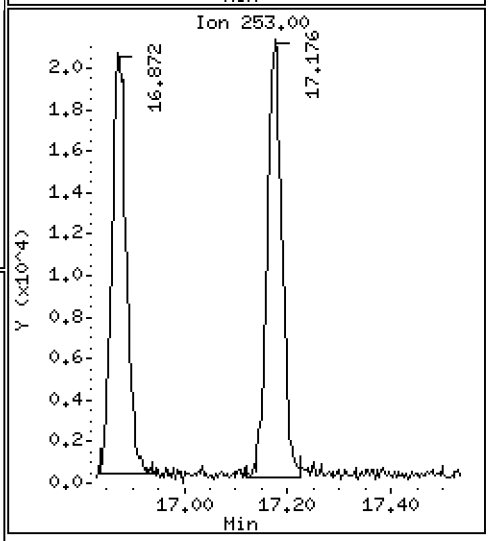
35 Perylene

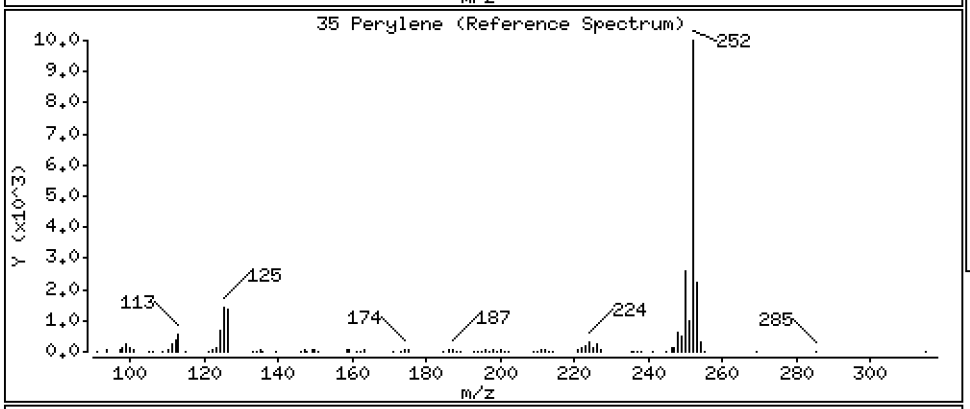
Concentration: 1.810 ug/mL

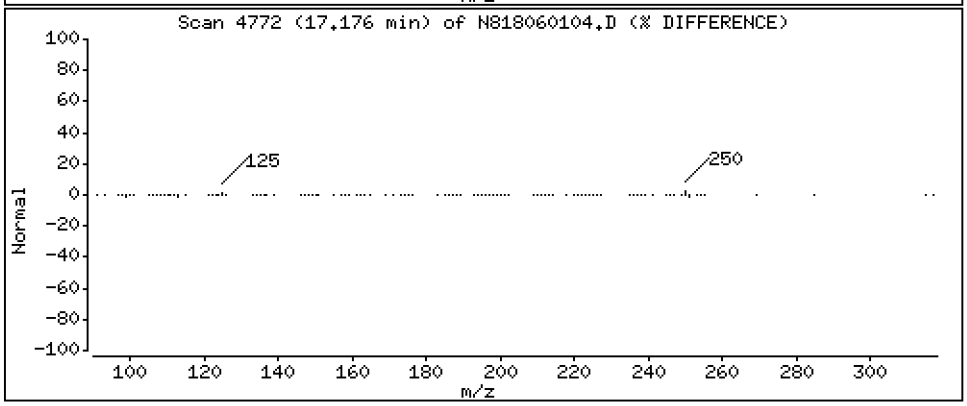












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060104.D
Lab Smp Id: BGE0626-BS1
Inj Date : 01-JUN-2018 15:44
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0626-BS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	154320	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	116331	1.29711	1.297
$	3 2-Methylnaphthalene-d10	152	5.185	5.191	(1.164)	75109	1.33422	1.334
	4 2-Methylnaphthalene	141	5.232	5.242	(1.175)	66850	1.32338	1.323
	5 1-methylnaphthalene	141	5.425	5.432	(1.218)	70544	1.35671	1.357
	9 Acenaphthylene	152	6.614	6.617	(0.984)	115680	1.43367	1.434
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	81269	2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.007)	84055	1.35889	1.359
	12 Dibenzofuran	168	6.924	6.927	(1.030)	115035	1.38314	1.383
	14 Fluorene	166	7.398	7.402	(1.100)	95429	1.48495	1.485
*	15 Phenanthrene-d10	188	8.742	8.745	(1.000)	161355	2.00000	
	16 Phenanthrene	178	8.777	8.780	(1.004)	159227	1.61005	1.610
	17 Anthracene	178	8.818	8.821	(1.009)	150064	1.66539	1.665
	22 Fluoranthene	202	10.431	10.434	(1.193)	208697	1.87246	1.872
$	21 Fluoranthene-d10	212	10.399	10.402	(1.190)	213017	2.01654	2.017
	23 Pyrene	202	10.899	10.902	(0.816)	217743	1.92540	1.925
	24 Benzo(a)anthracene	228	13.232	13.239	(0.991)	223102	2.04050	2.041
*	25 Chrysene-d12	240	13.352	13.356	(1.000)	188183	2.00000	
	27 Chrysene	228	13.422	13.425	(1.005)	218002	1.98073	1.981
	28 Benzo(b)fluoranthene	252	15.860	15.869	(0.927)	223413	2.01080	2.011
	29 Benzo(k)fluoranthene	252	15.920	15.926	(0.931)	221188	2.02455	2.025
	30 Benzo(j)fluoranthene	252	15.993	16.002	(0.935)	218695	1.99915	1.999
	31 Total Benzofluoranthenes	252	15.860	15.926	(0.927)	659787	6.08898	6.089(M)
	32 Benzo(a)pyrene	252	16.875	16.884	(0.987)	185326	1.90311	1.903
*	33 Perylene-d12	264	17.106	17.112	(1.000)	174825	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.420	19.430	(1.135)	226597	2.03251	2.033
$	36 Dibenzo(a,h)anthracene-d14	292	19.332	19.338	(1.130)	188952	2.30748	2.307
	38 Dibenzo(a,h)anthracene	278	19.423	19.430	(1.135)	190871	2.07549	2.075
	39 Benzo(g,h,i)perylene	276	20.293	20.299	(1.186)	189231	1.94208	1.942
	35 Perylene	252	17.175	17.181	(1.004)	191398	1.81012	1.810

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060104.D
Lab Smp Id: BGE0626-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	154320	26.30
10 Acenaphthene-d10	65789	32895	131578	81269	23.53
15 Phenanthrene-d10	128644	64322	257288	161355	25.43
25 Chrysene-d12	166669	83335	333338	188183	12.91
33 Perylene-d12	140483	70242	280966	174825	24.45

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.74	-0.04
25 Chrysene-d12	13.36	12.86	13.86	13.35	-0.02
33 Perylene-d12	17.11	16.61	17.61	17.11	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060104.D

Lab ID: BGE0626-BS1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 15:44

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

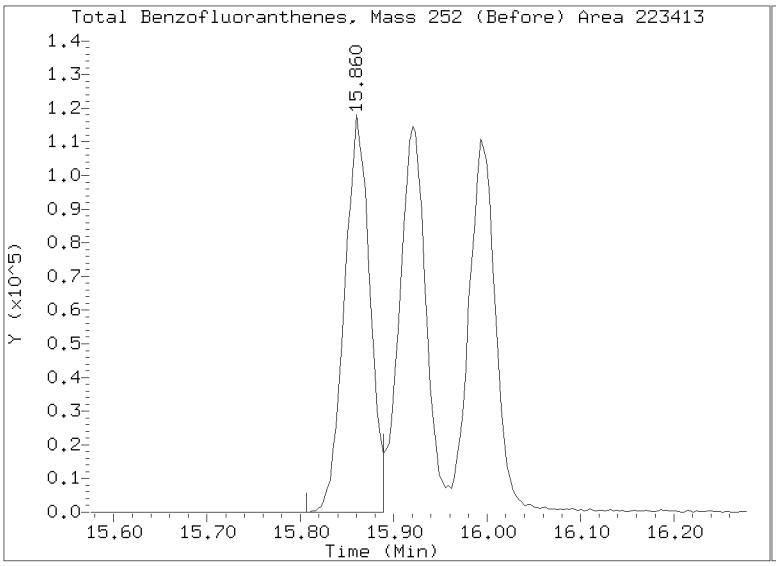
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

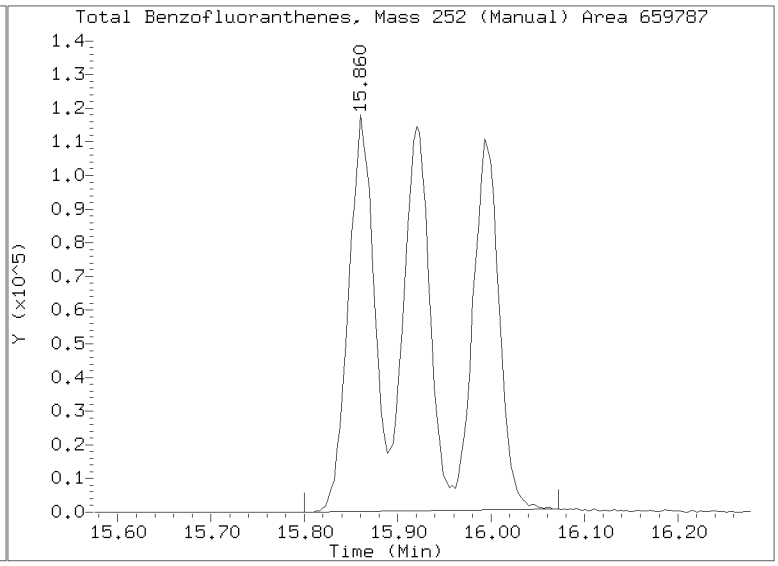
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060104.D
Injection Date: 01-JUN-2018 15:44
Lab ID:BGE0626-BS1 Client ID:
Report Date: 06/01/2018 16:16





LCS / LCS DUPLICATE RECOVERY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Tissue	Analyzed:	06/12/18 15:50
Batch:	BGE0773	Laboratory ID:	BGE0773-BS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	LCS
Initial/Final:	10 g / 0.5 mL		

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	Q	LCS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	150	91.8		61.2	20 - 130
Chrysene	150	90.3		60.2	20 - 130
Benzo(b)fluoranthene	150	89.8		59.9	20 - 130
Benzo(k)fluoranthene	150	94.5		63.0	20 - 130
Benzo(a)pyrene	150	88.2		58.8	20 - 130
Indeno(1,2,3-cd)pyrene	150	99.0		66.0	20 - 130
Dibenzo(a,h)anthracene	150	101		67.4	20 - 130

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

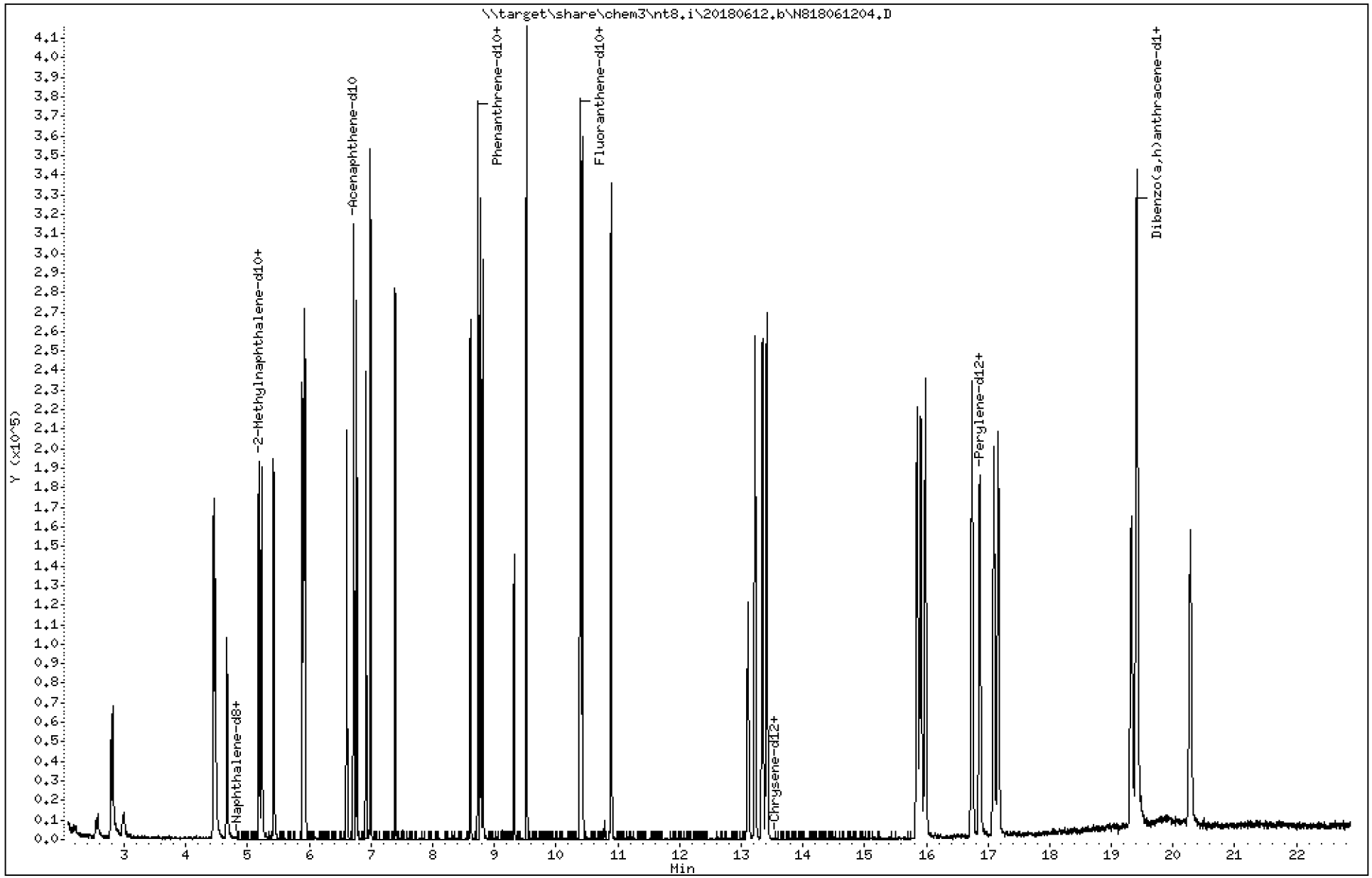
Instrument: nt8.i

Sample Info: BGE0773-BS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

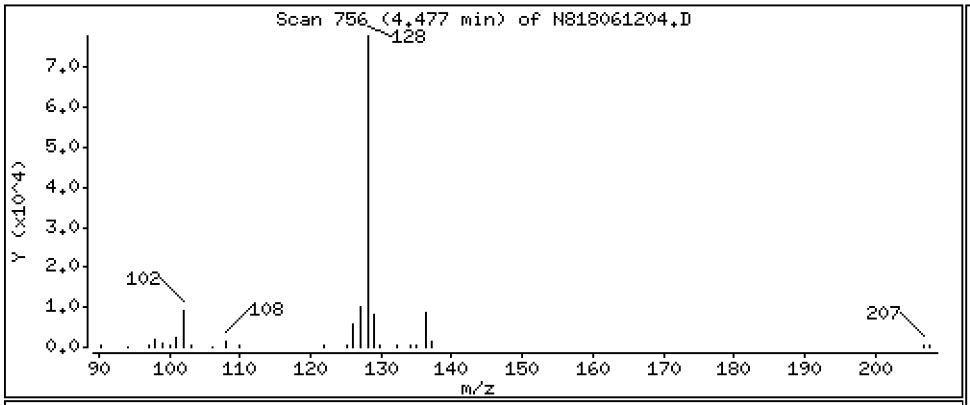
Operator: JZ

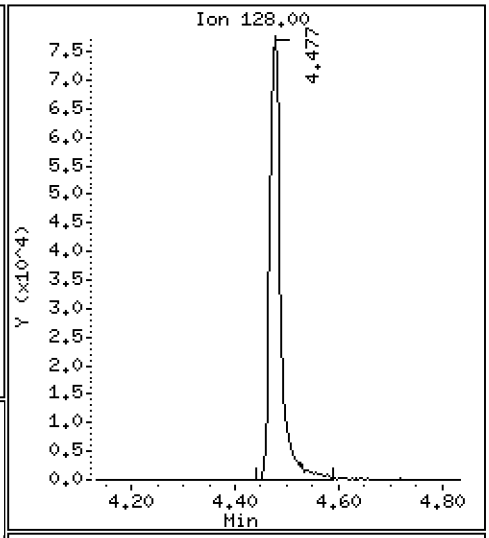
Column phase: Rxi-17sil

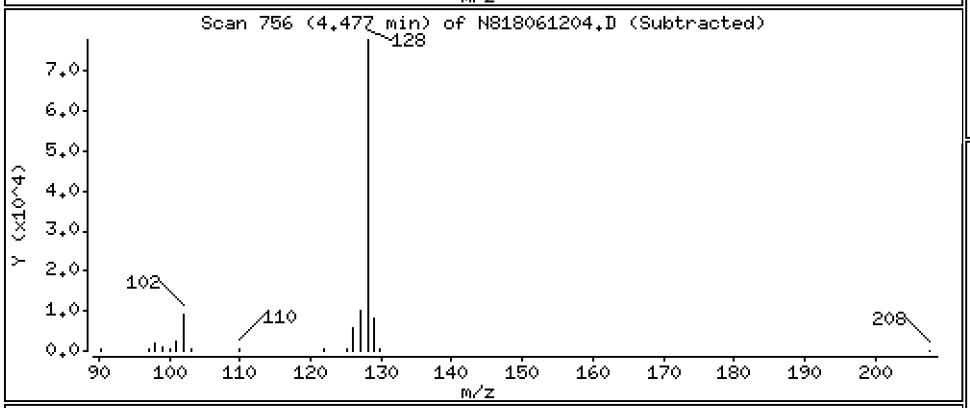
Column diameter: 0.25

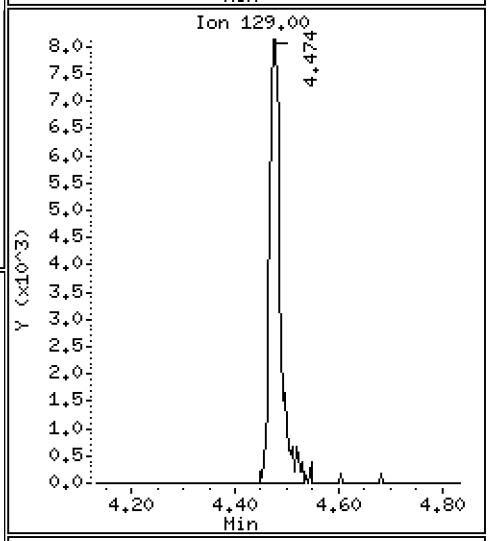
2 Naphthalene

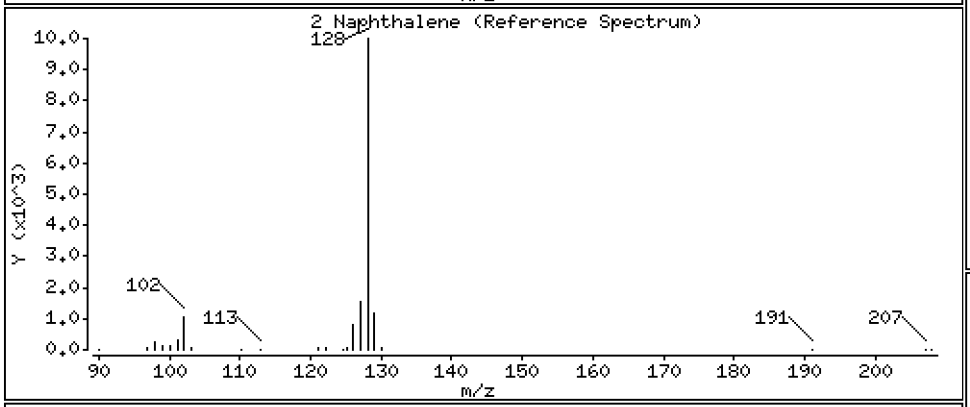
Concentration: 1.245 ug/mL

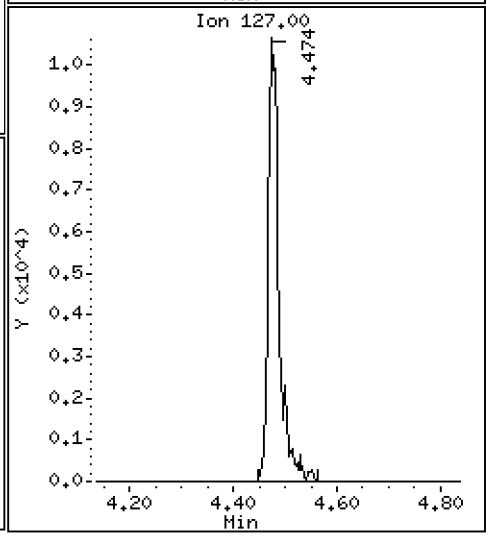


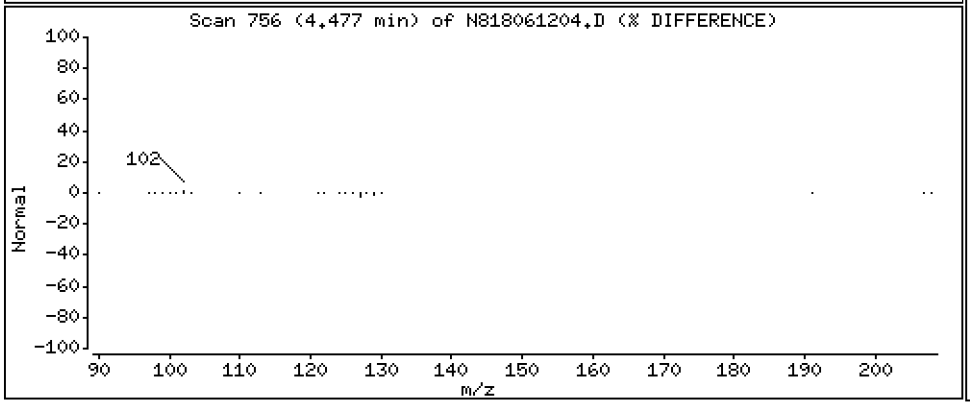












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

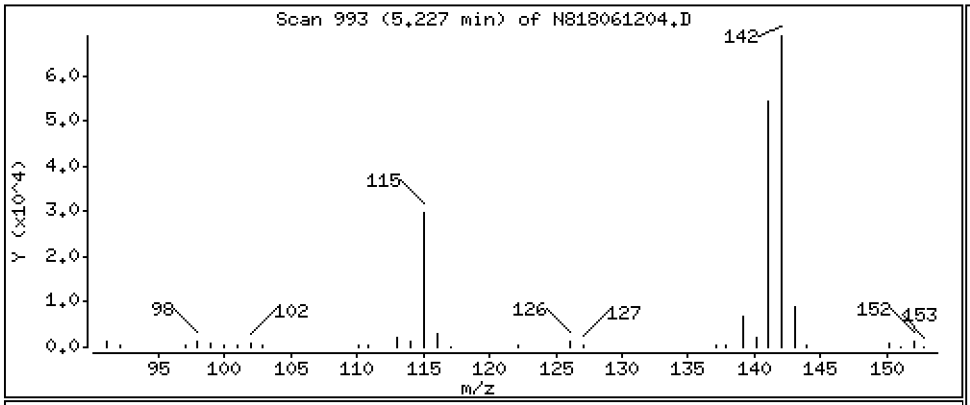
Operator: JZ

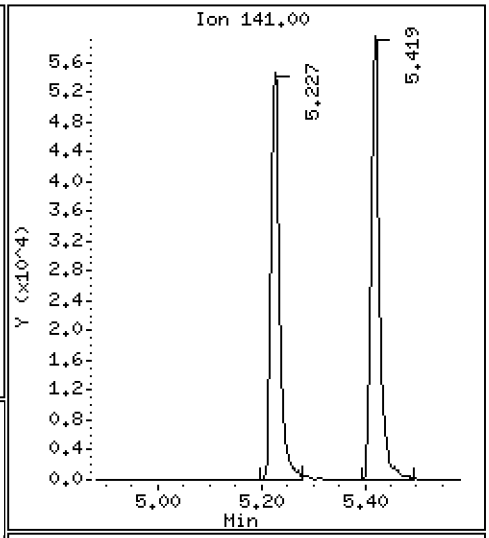
Column phase: Rxi-17sil

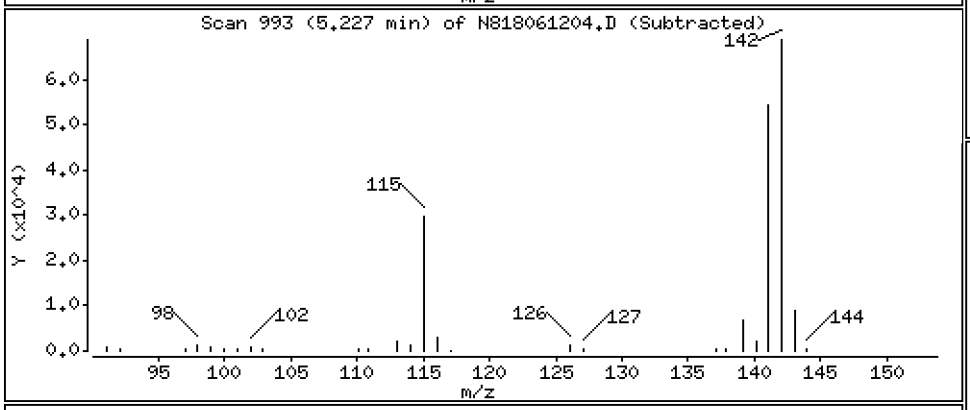
Column diameter: 0.25

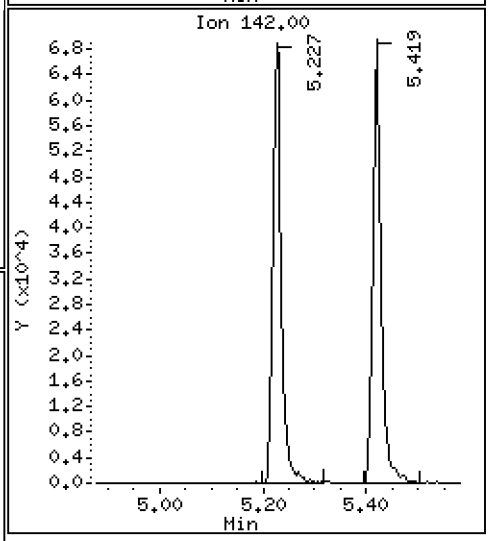
4 2-Methylnaphthalene

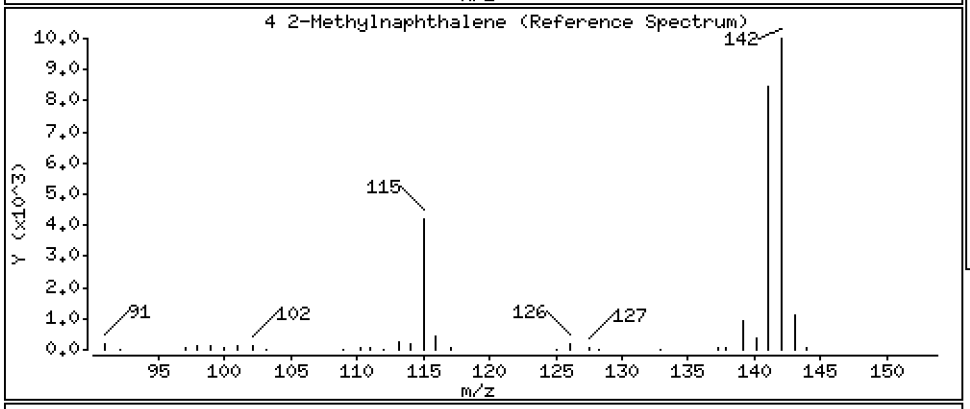
Concentration: 1.256 ug/mL

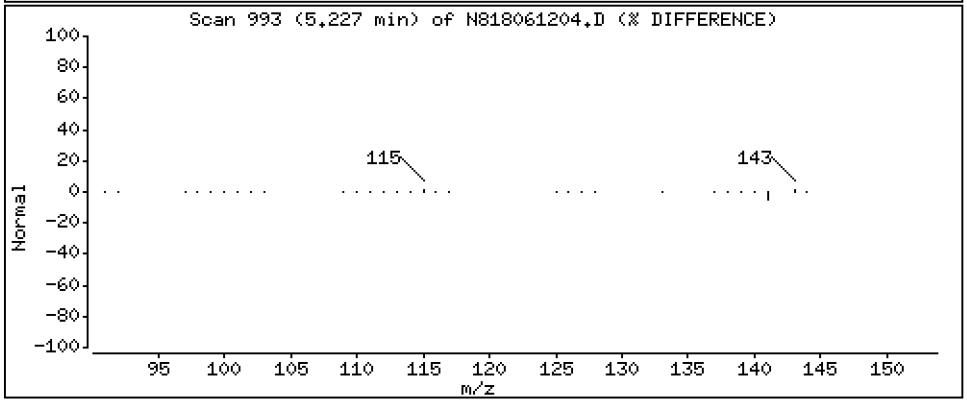












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

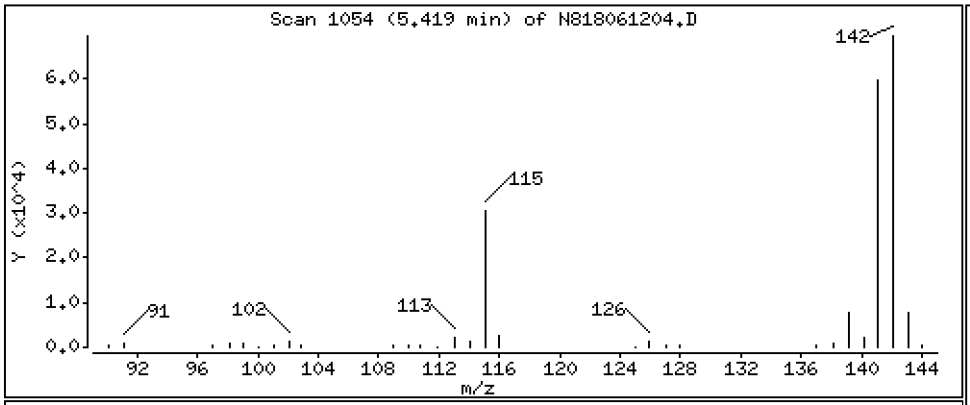
Operator: JZ

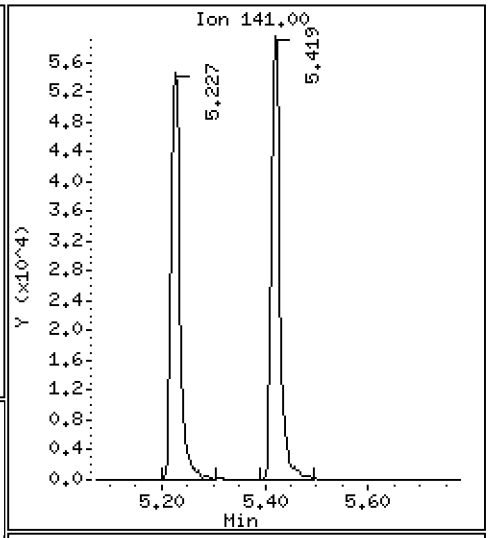
Column phase: Rxi-17sil

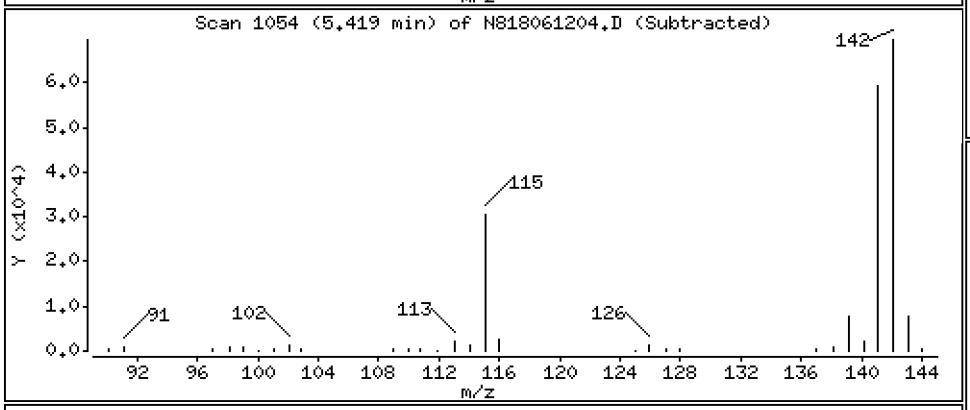
Column diameter: 0.25

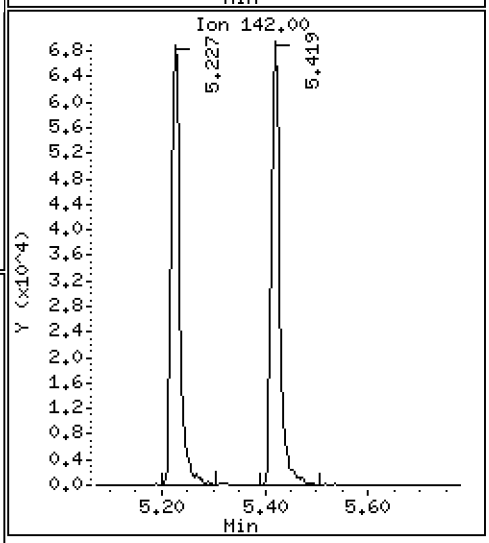
5 1-methylnaphthalene

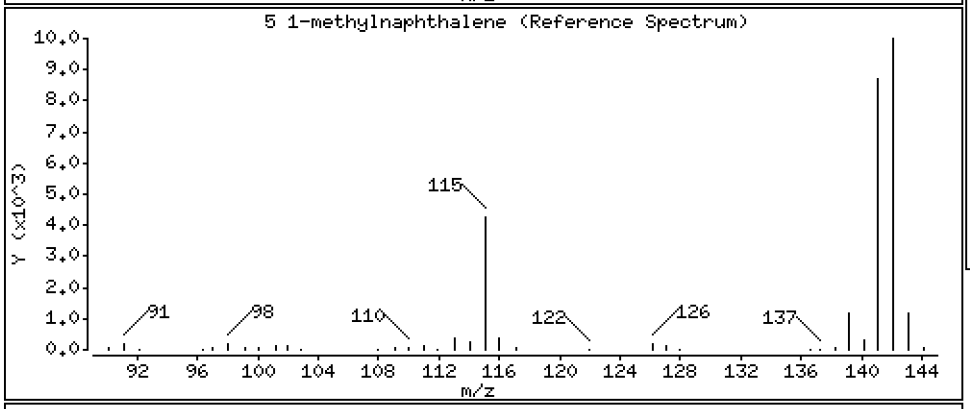
Concentration: 1.274 ug/mL

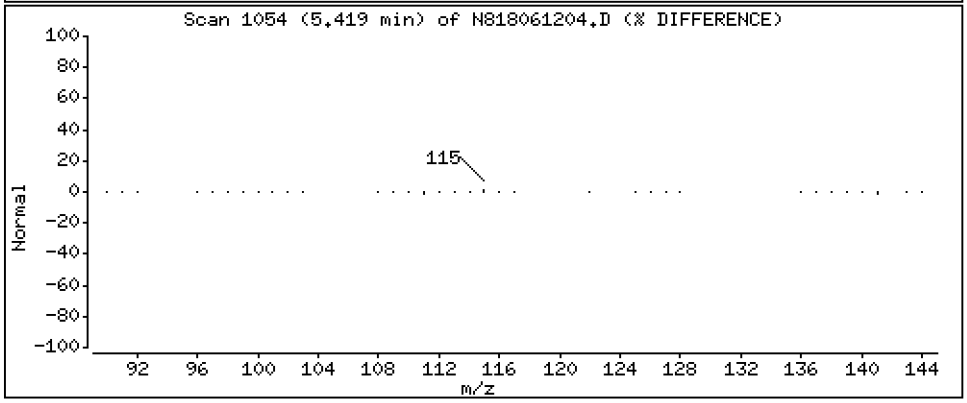












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

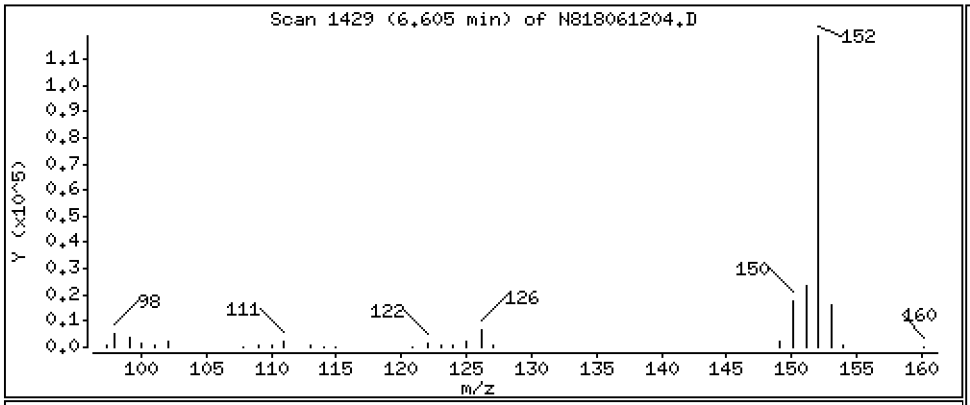
Operator: JZ

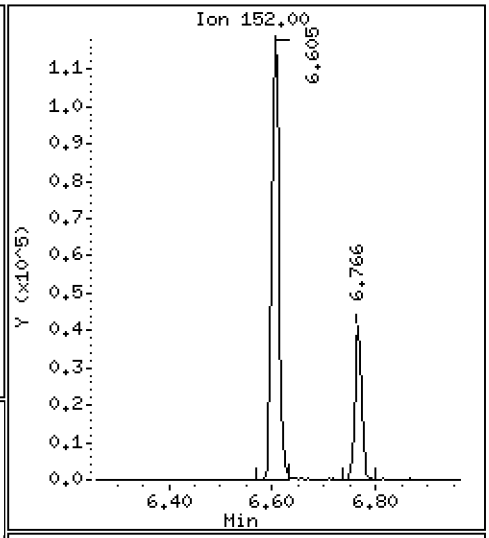
Column phase: Rxi-17sil

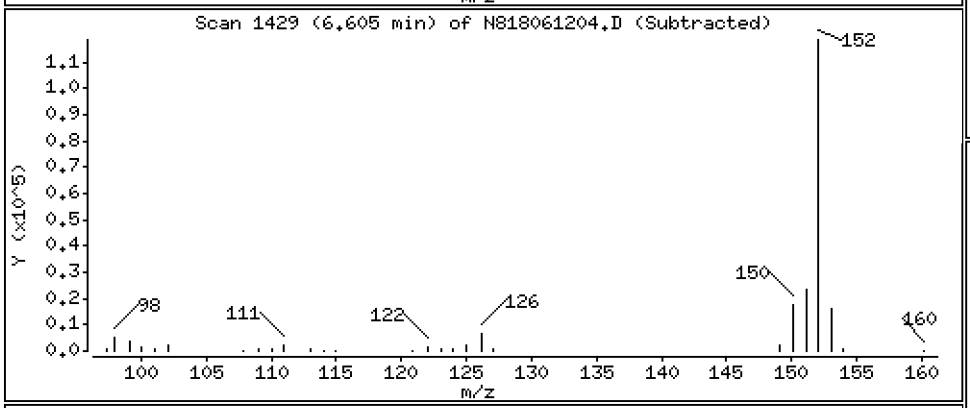
Column diameter: 0.25

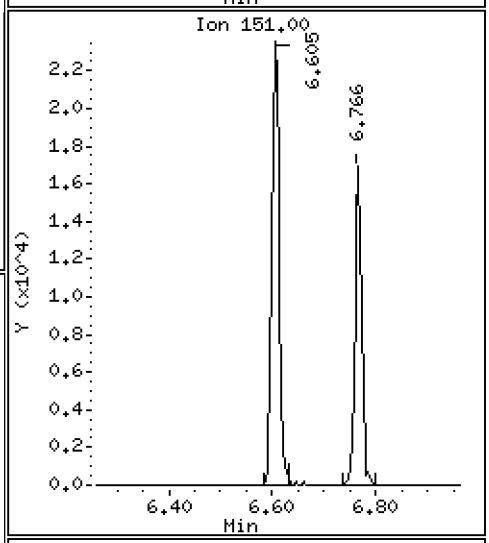
9 Acenaphthylene

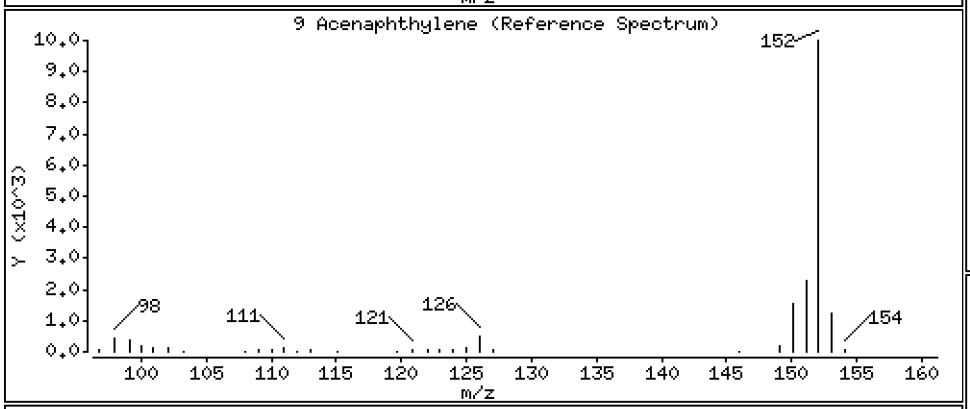
Concentration: 1.321 ug/mL

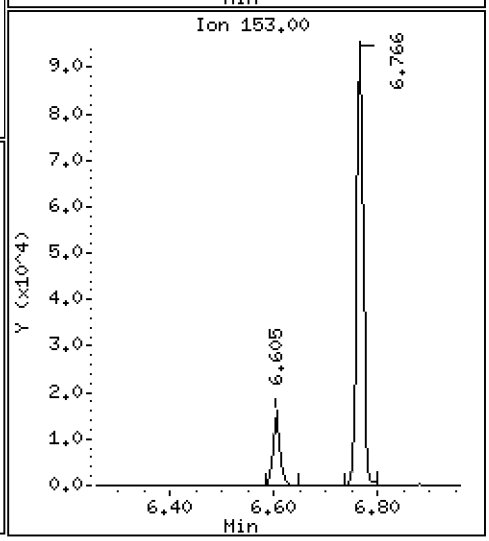


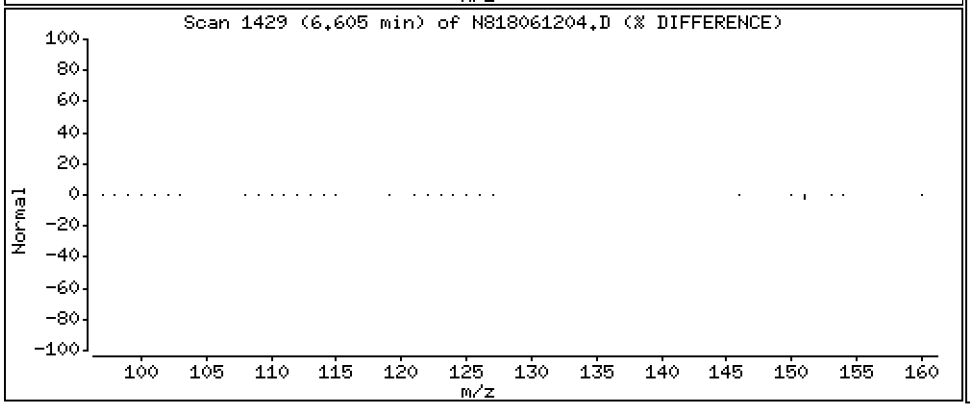












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

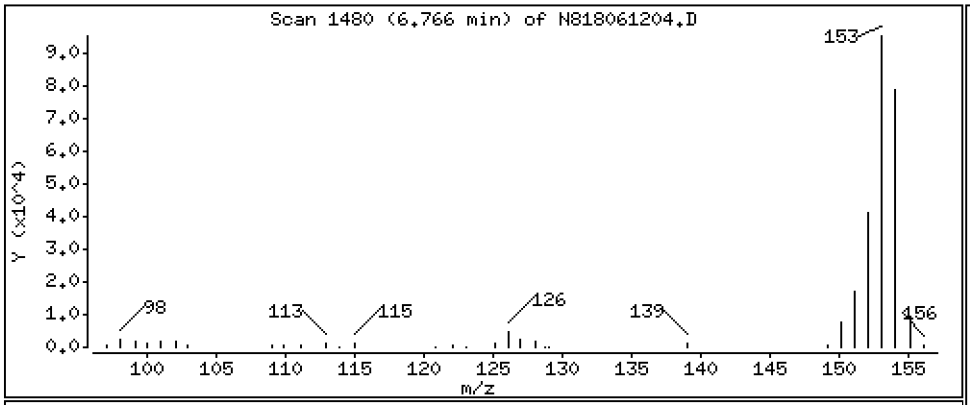
Operator: JZ

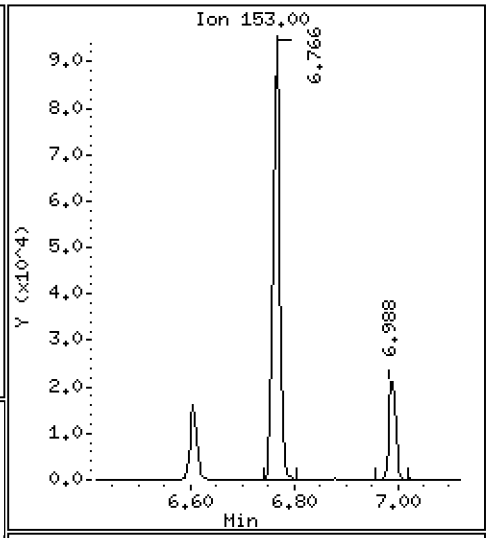
Column phase: Rxi-17sil

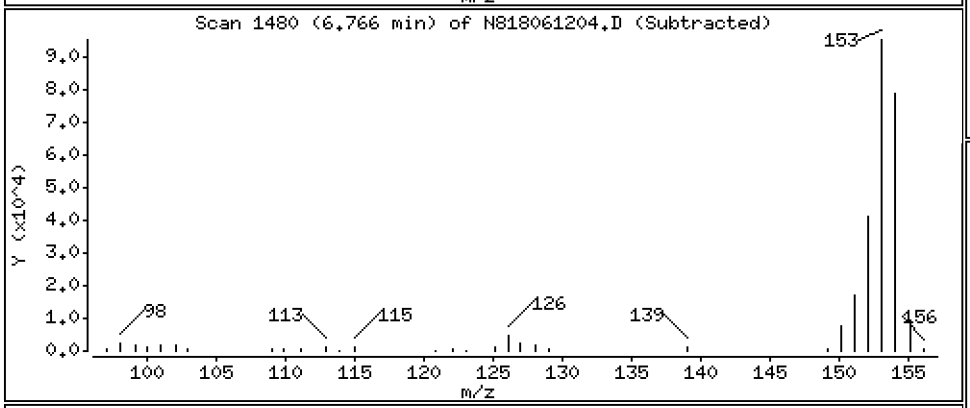
Column diameter: 0.25

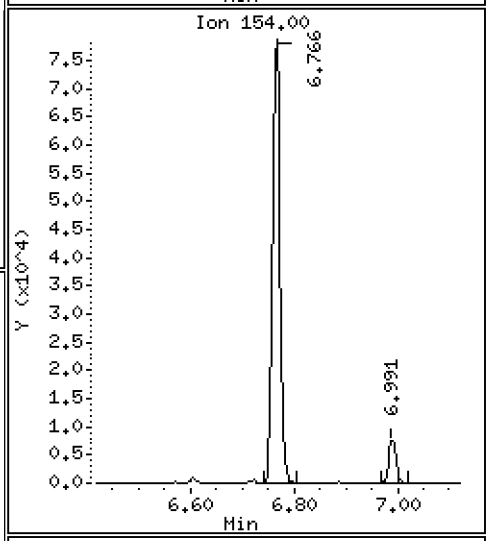
11 Acenaphthene

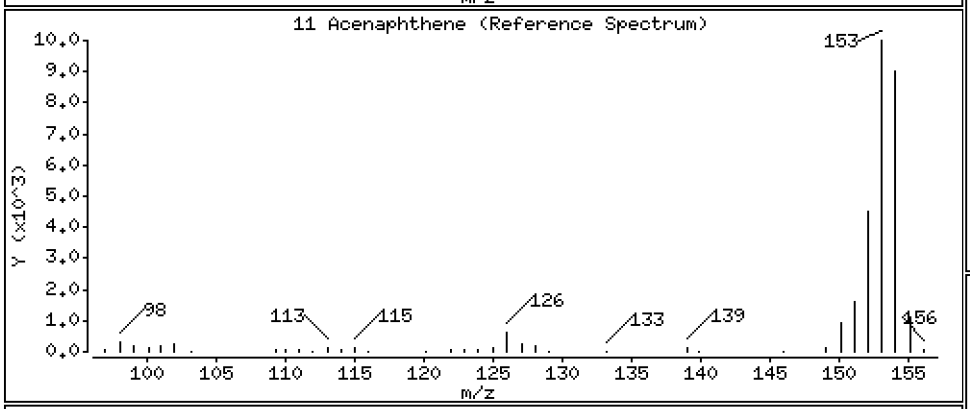
Concentration: 1.285 ug/mL

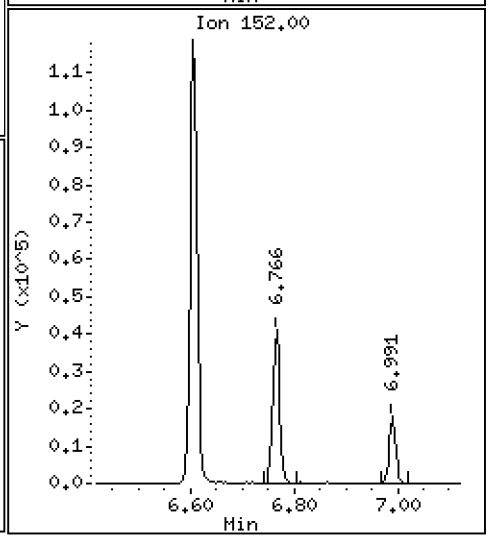


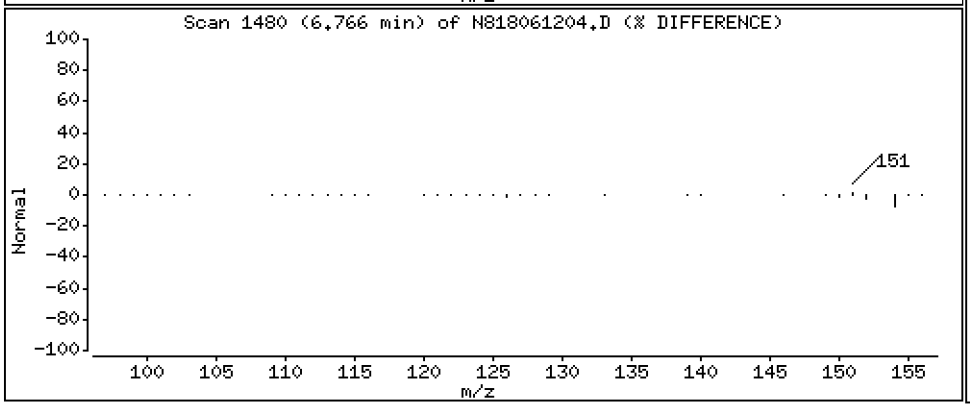












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

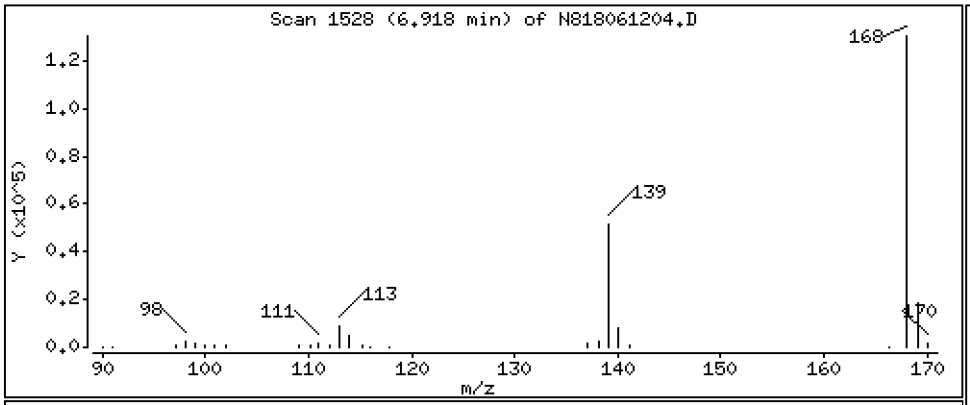
Operator: JZ

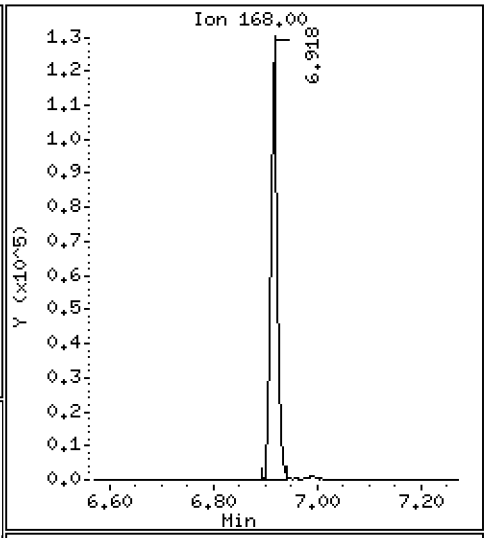
Column phase: Rxi-17sil

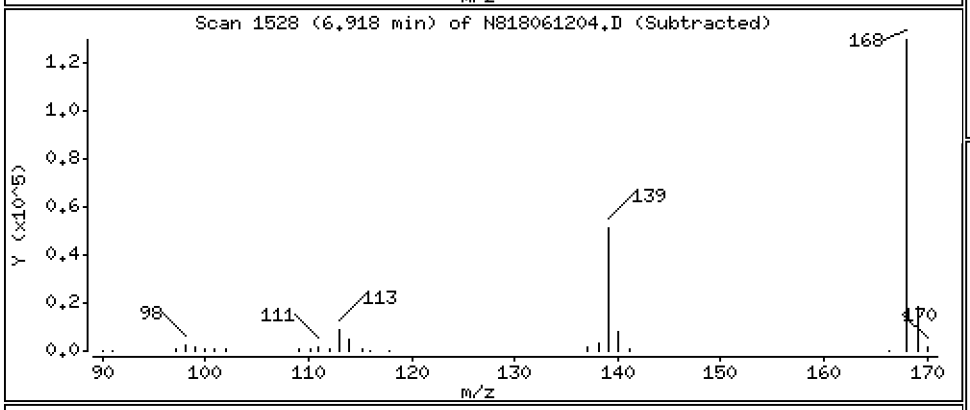
Column diameter: 0.25

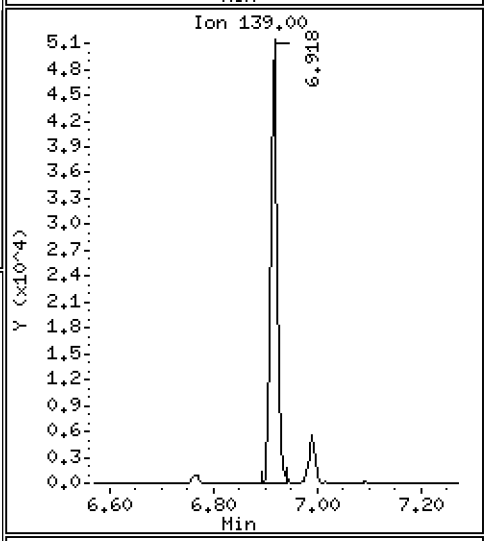
12 Dibenzofuran

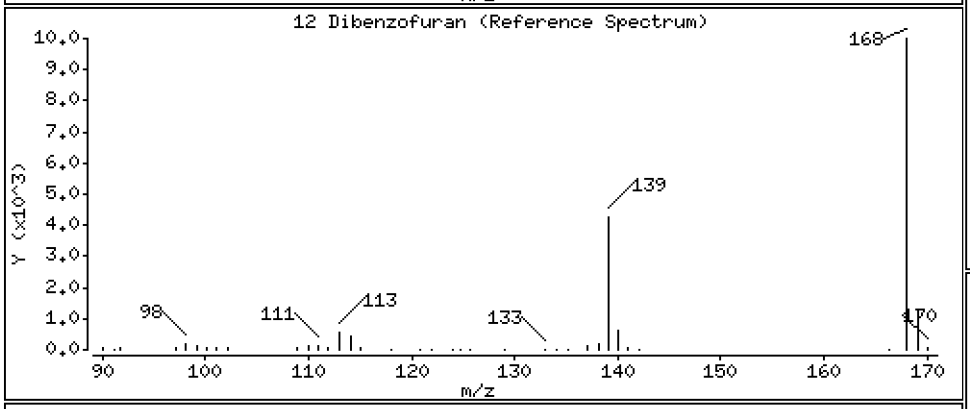
Concentration: 1.302 ug/mL

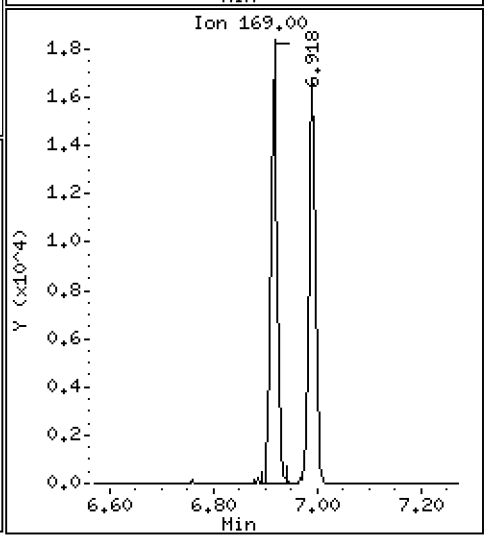


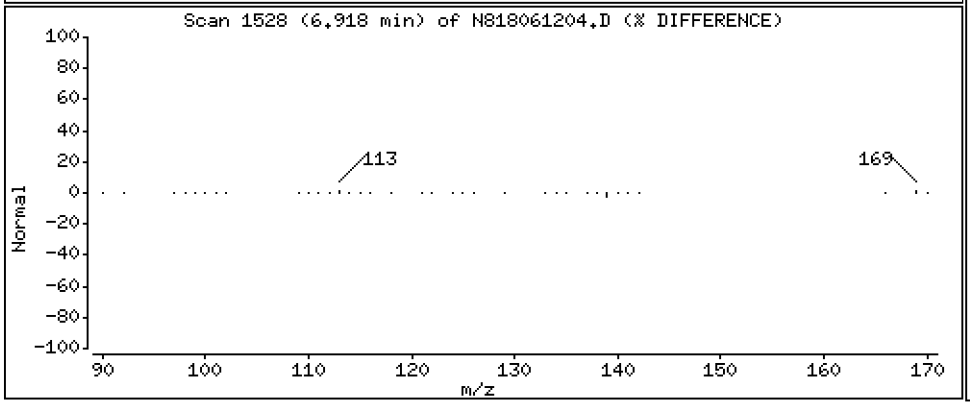












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

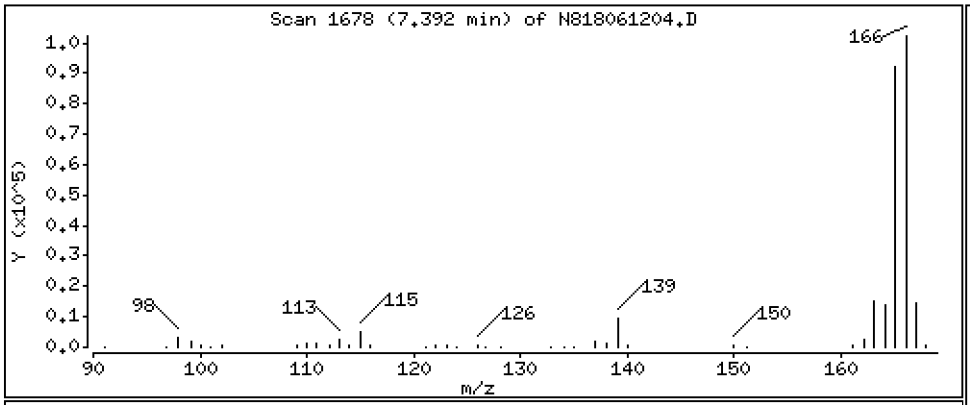
Operator: JZ

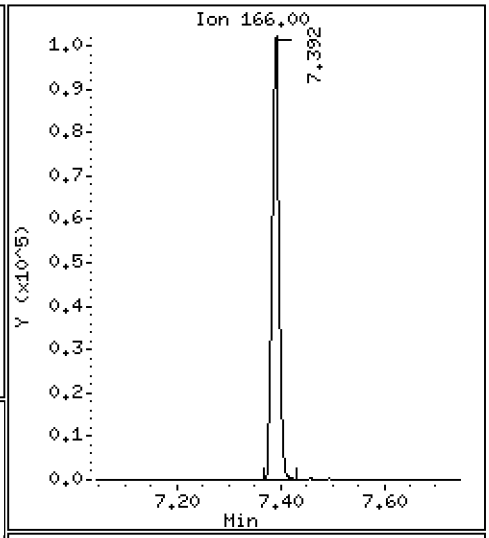
Column phase: Rxi-17sil

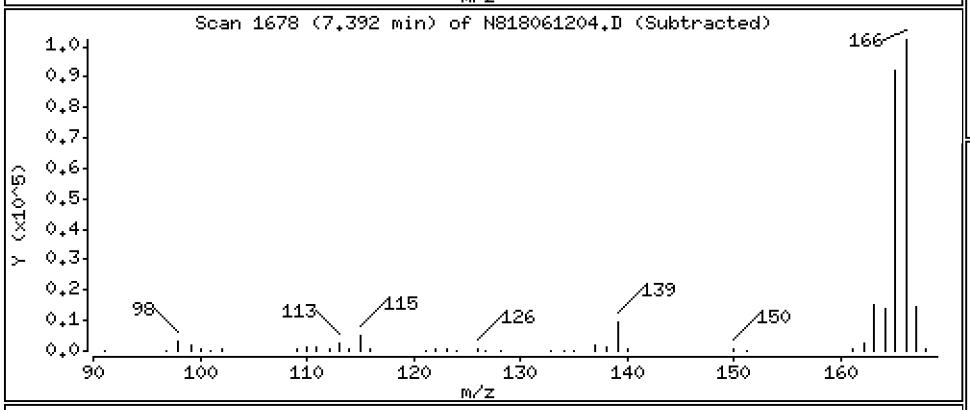
Column diameter: 0.25

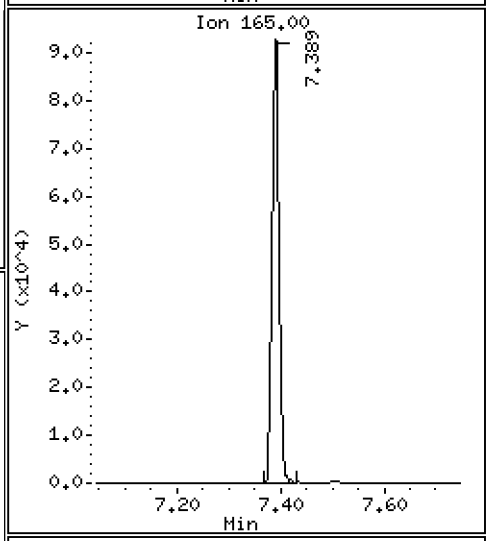
14 Fluorene

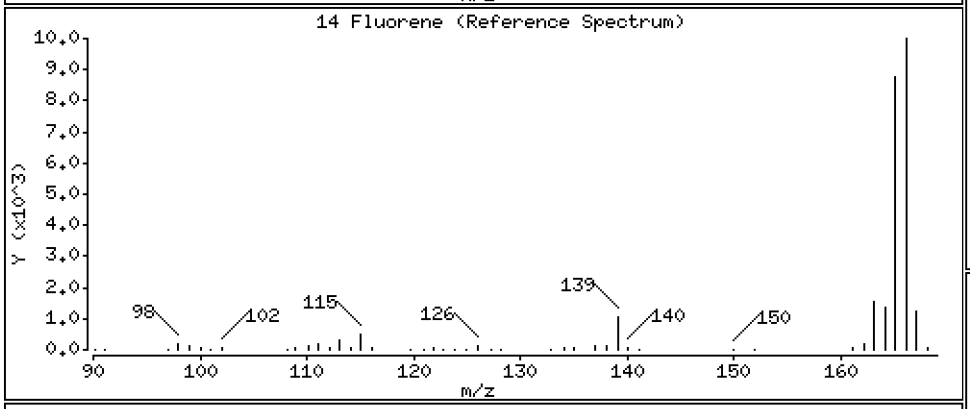
Concentration: 1.424 ug/mL

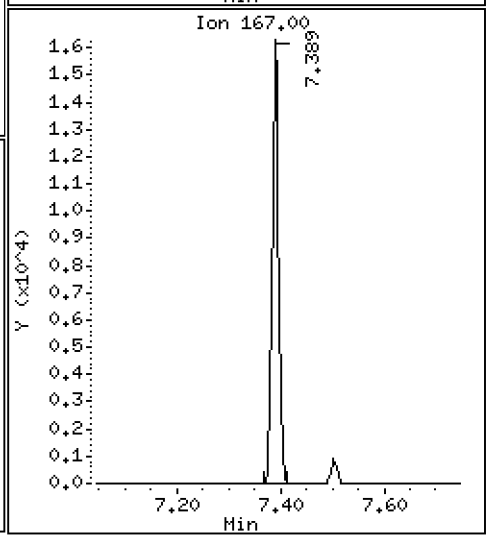


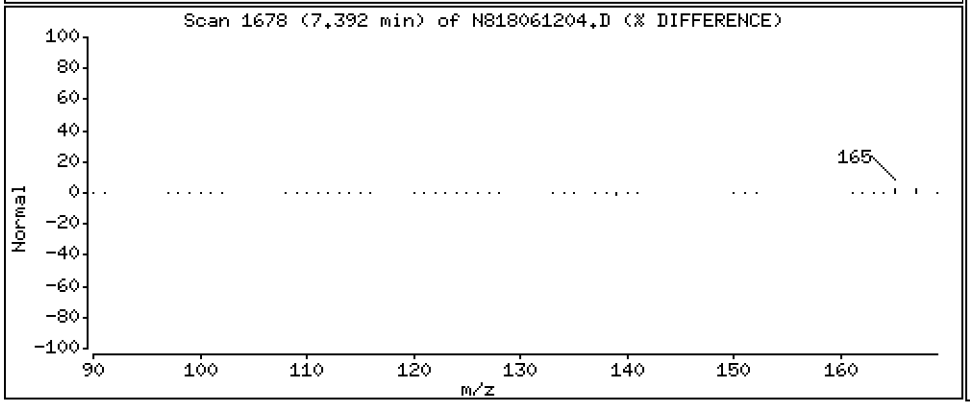












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

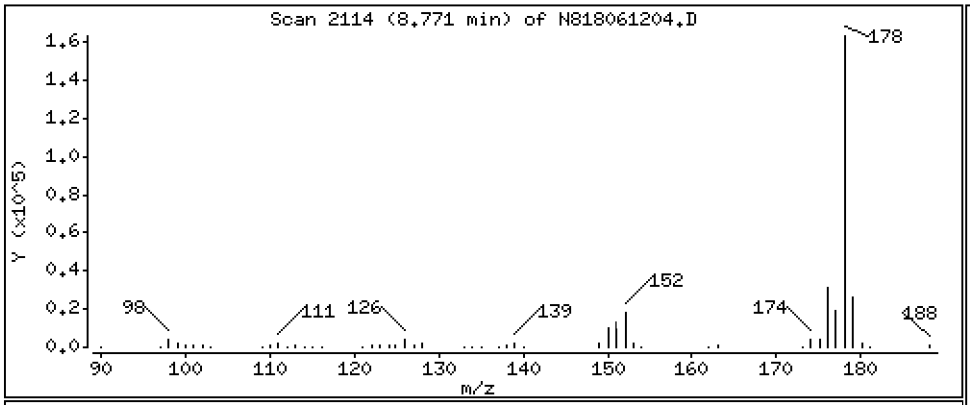
Operator: JZ

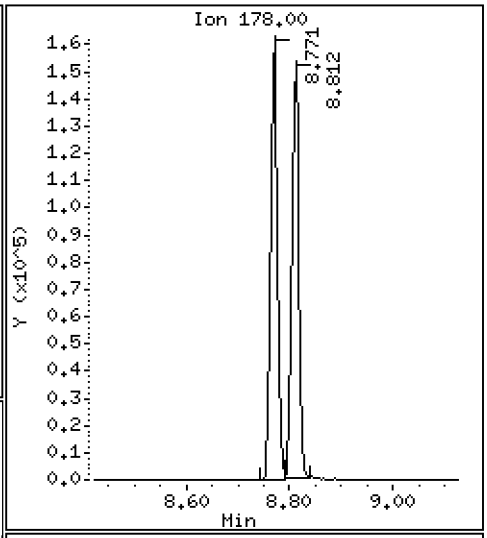
Column phase: Rxi-17sil

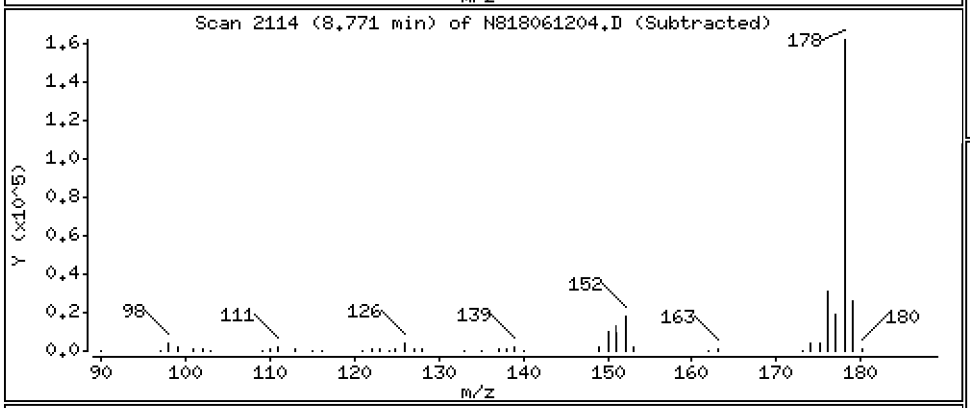
Column diameter: 0.25

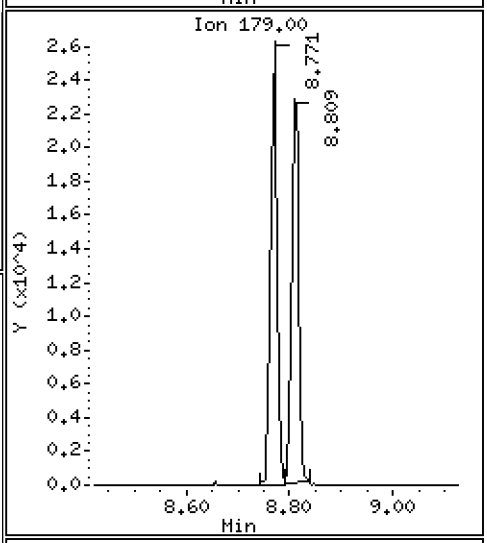
16 Phenanthrene

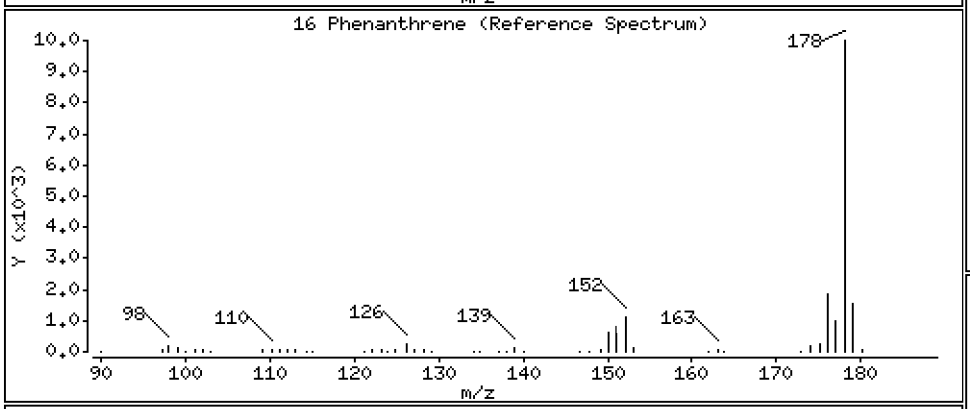
Concentration: 1.548 ug/mL

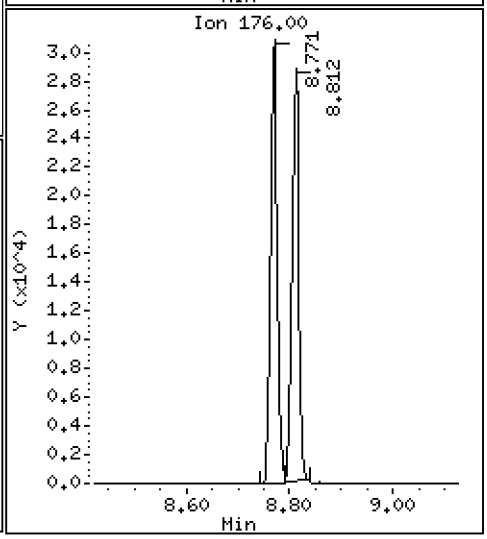


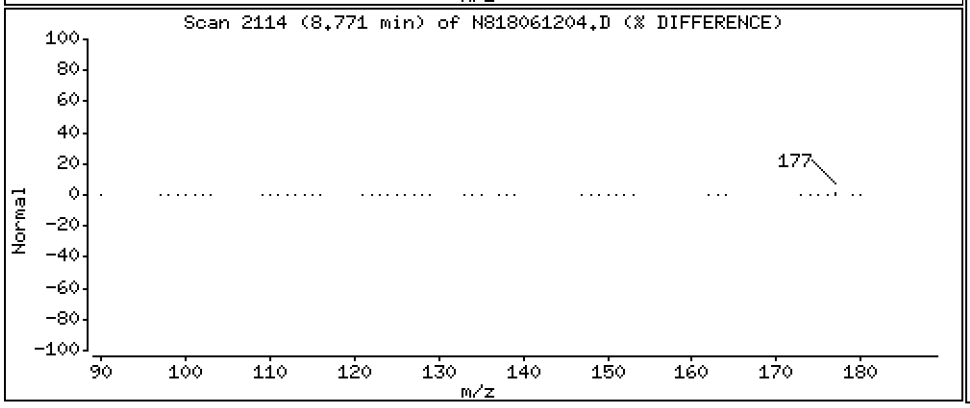












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

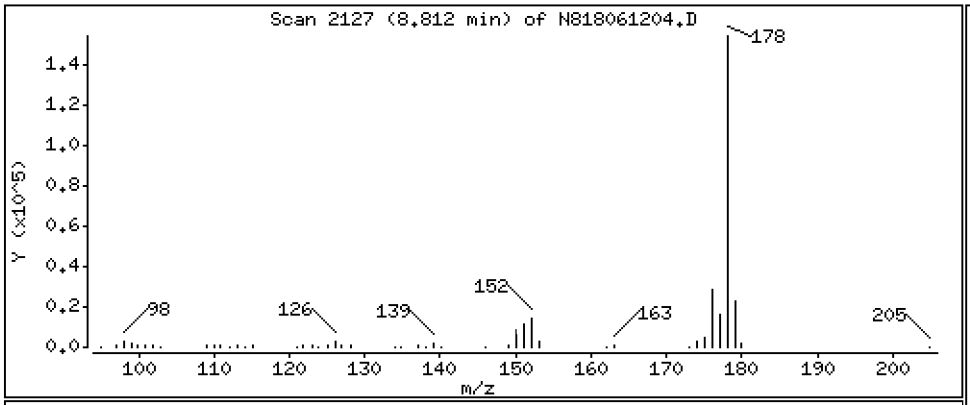
Operator: JZ

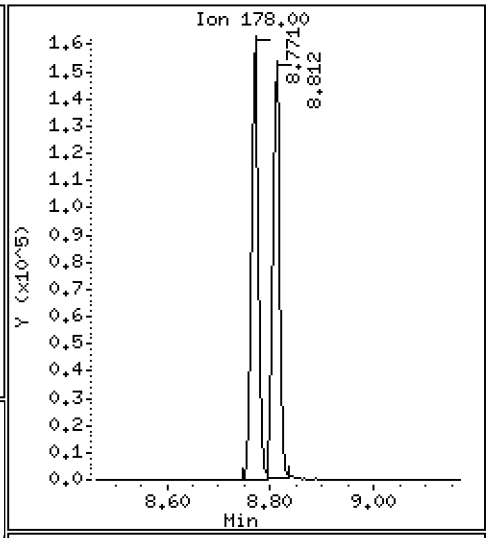
Column phase: Rxi-17sil

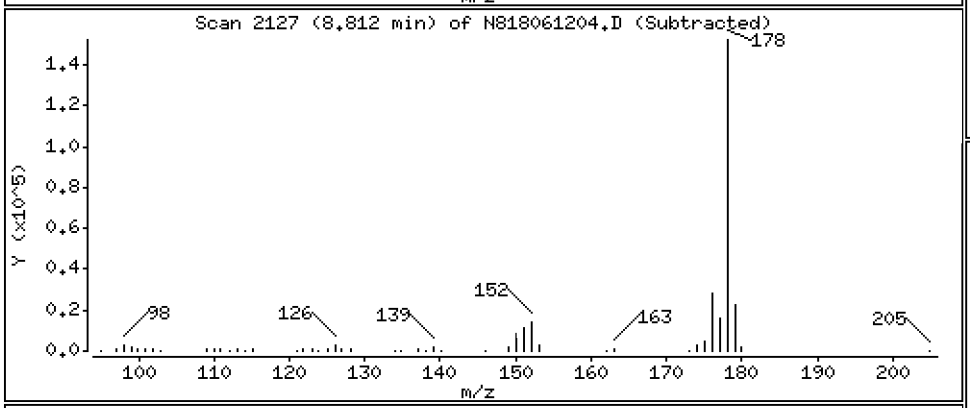
Column diameter: 0.25

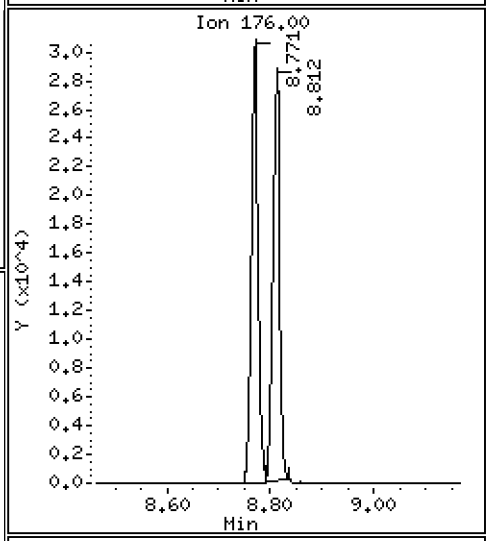
17 Anthracene

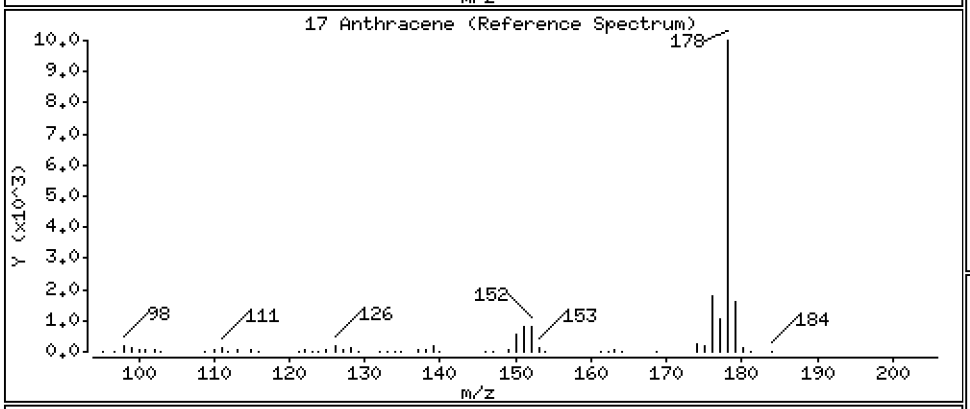
Concentration: 1.562 ug/mL

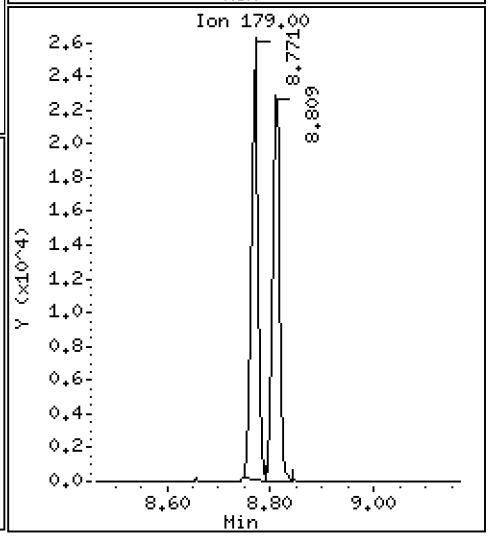


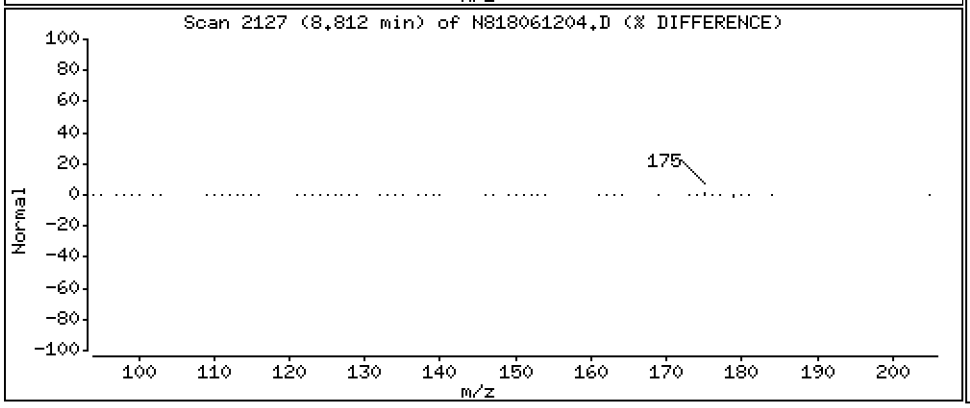












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

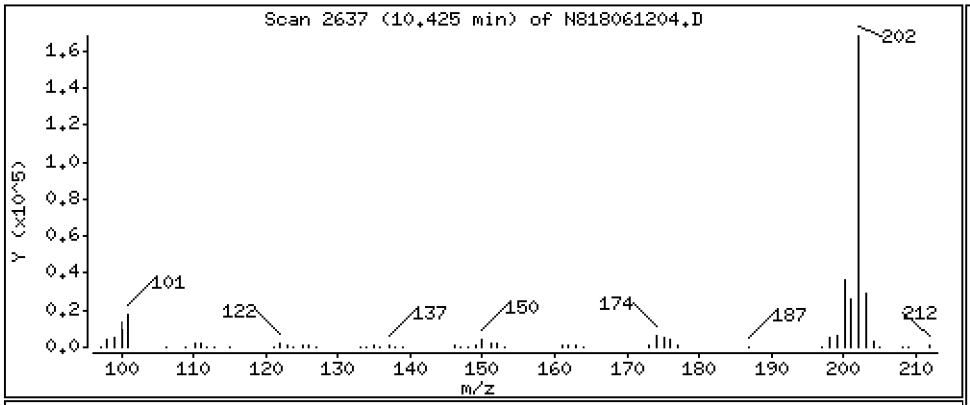
Operator: JZ

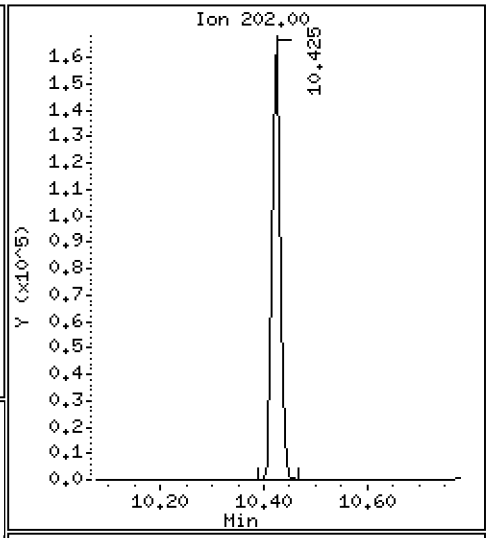
Column phase: Rxi-17sil

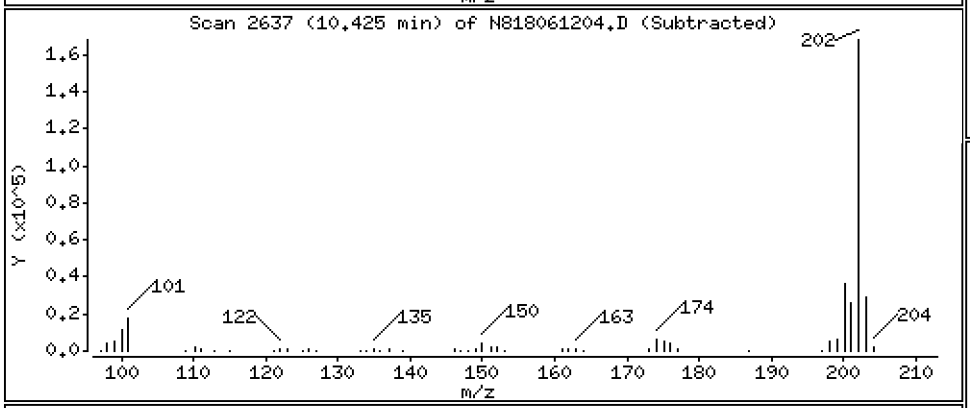
Column diameter: 0.25

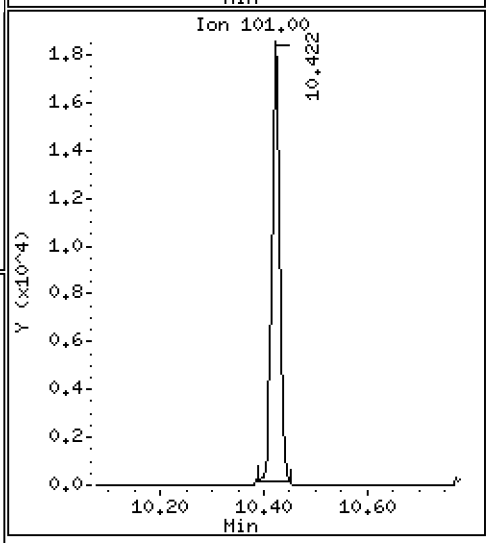
22 Fluoranthene

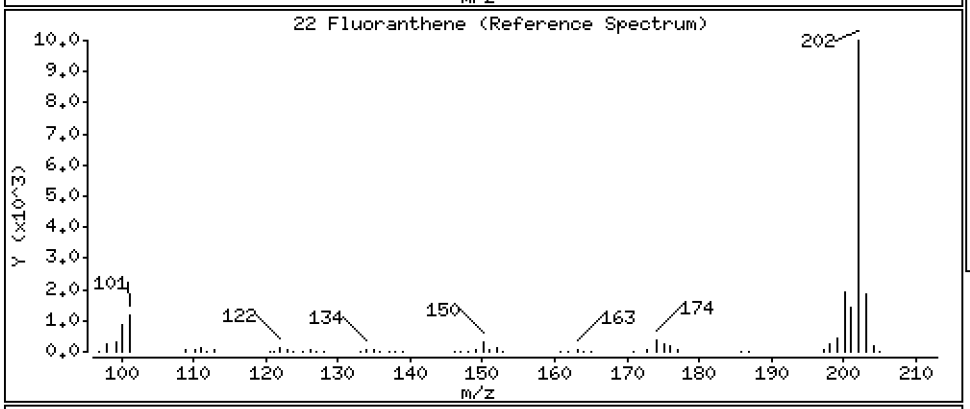
Concentration: 1.711 ug/mL

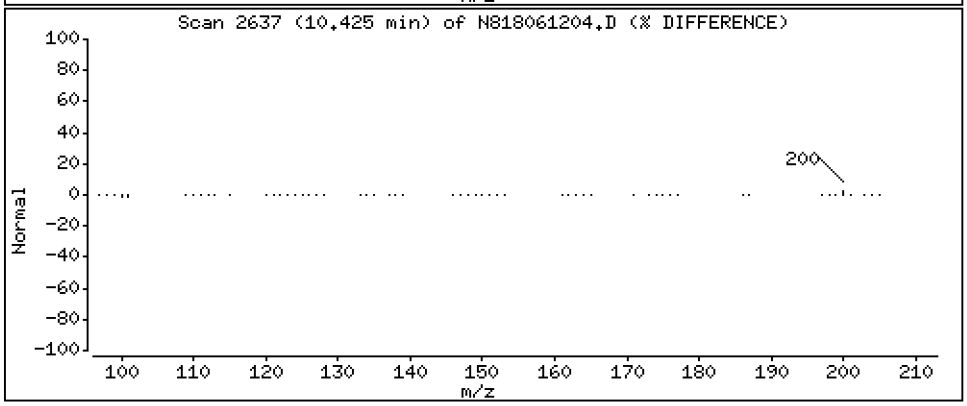












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

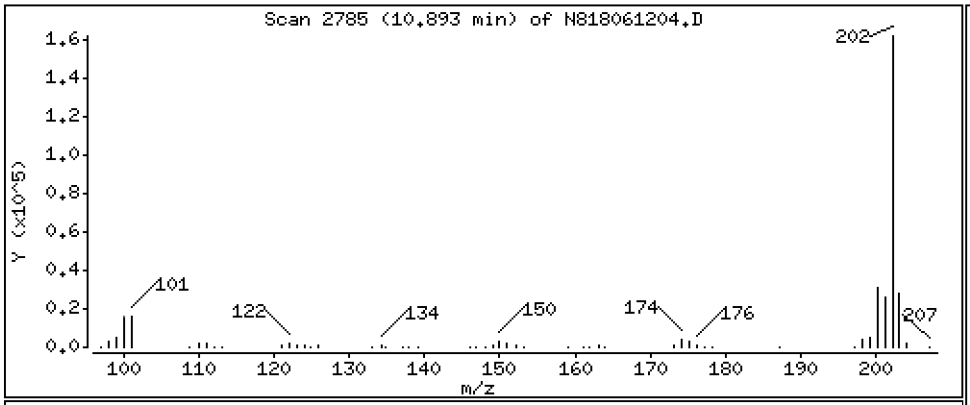
Operator: JZ

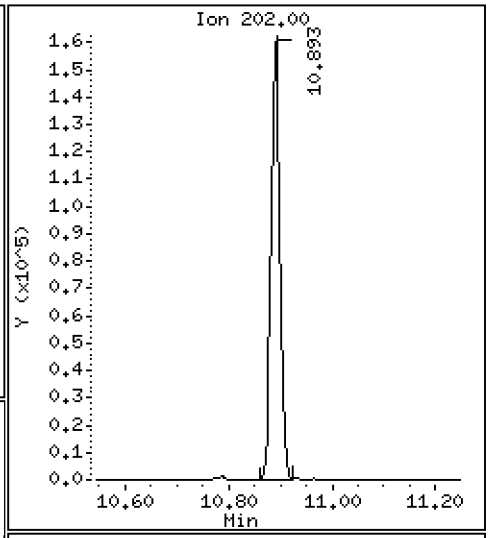
Column phase: Rxi-17sil

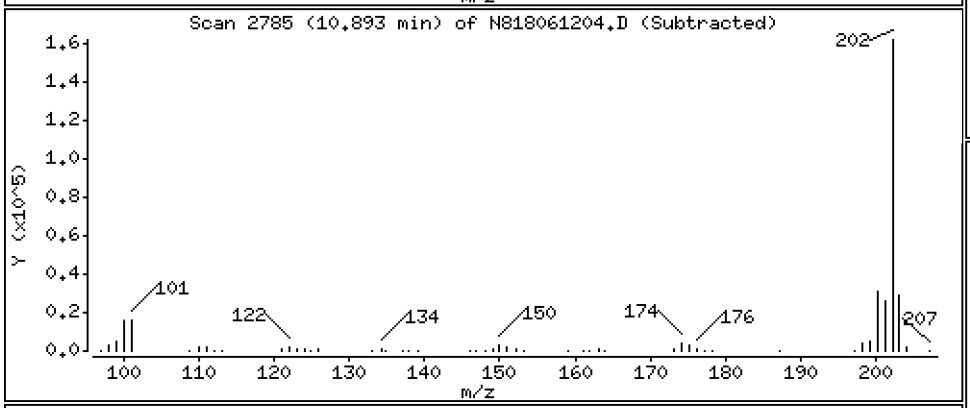
Column diameter: 0.25

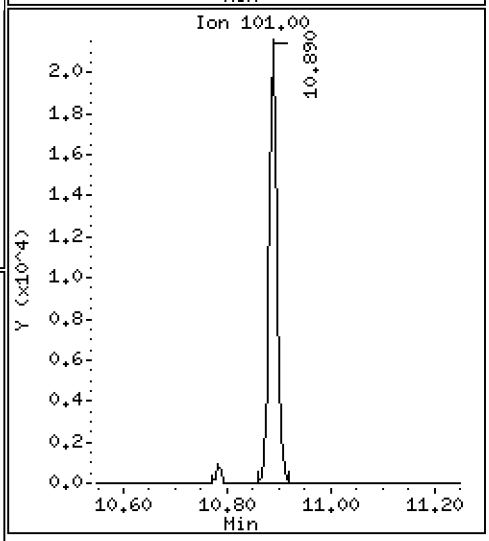
23 Pyrene

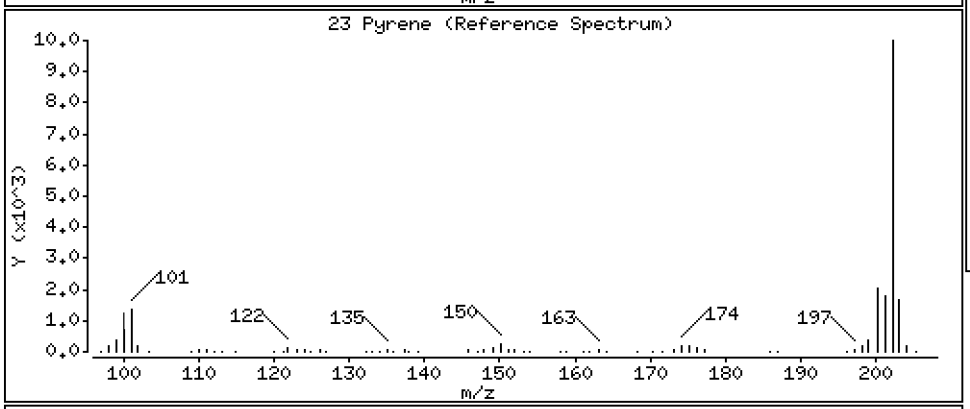
Concentration: 1.911 ug/mL

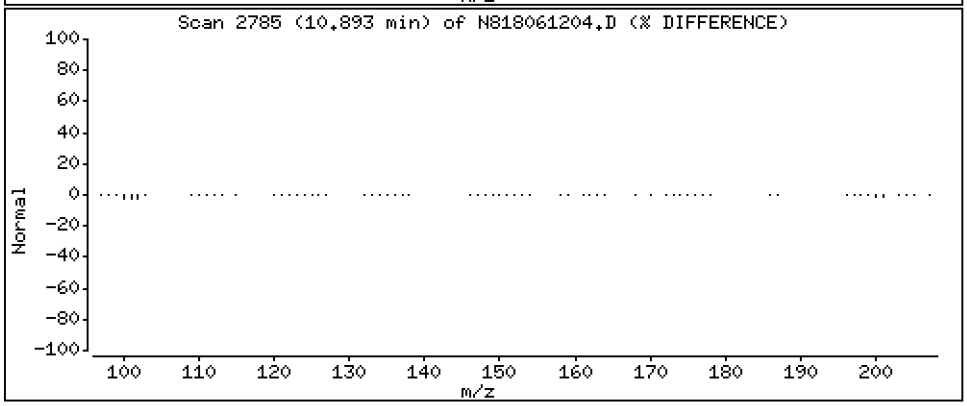












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

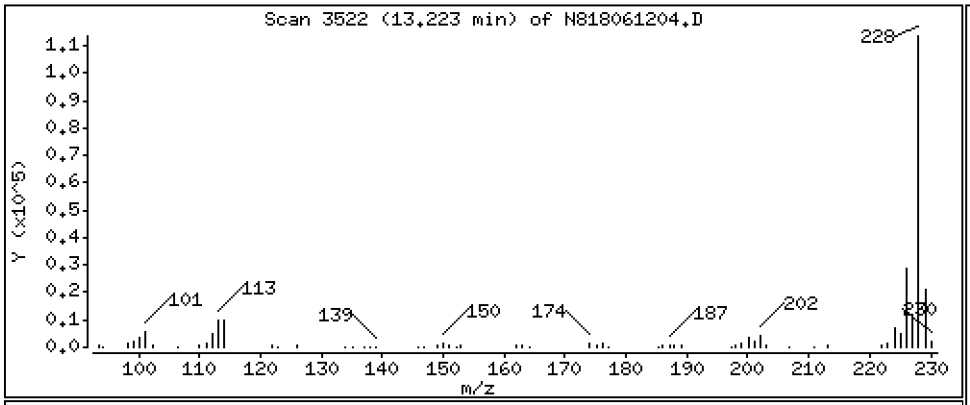
Operator: JZ

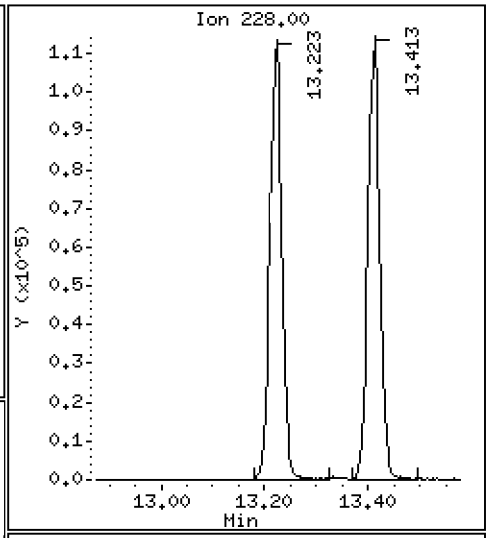
Column phase: Rxi-17sil

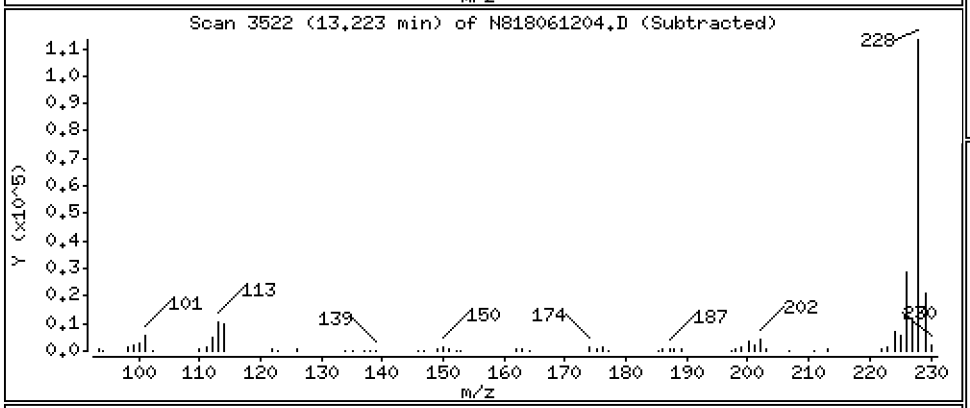
Column diameter: 0.25

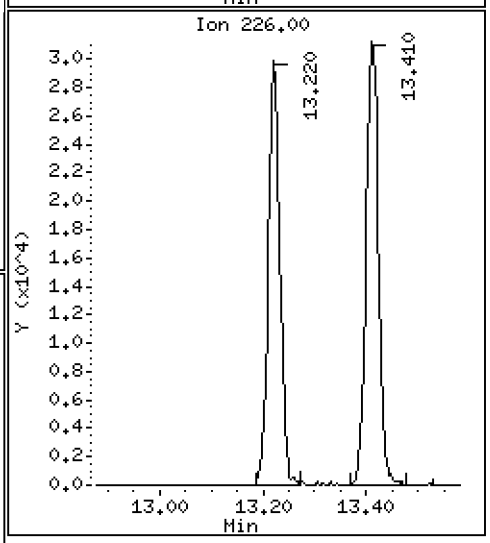
24 Benzo(a)anthracene

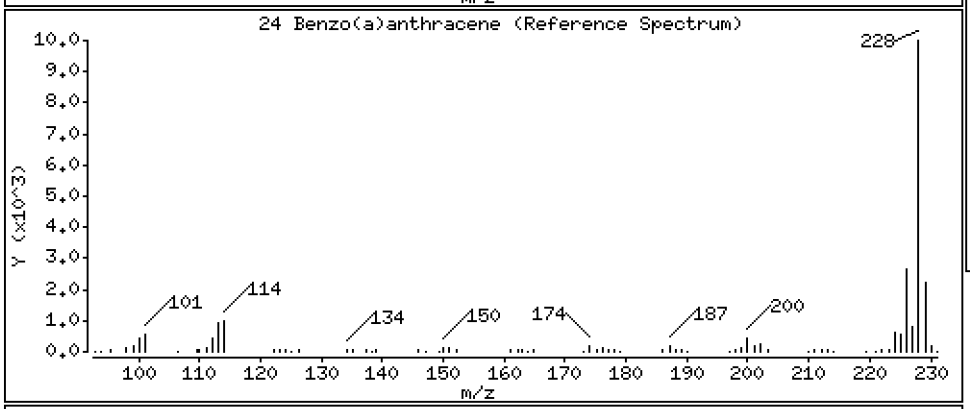
Concentration: 1.836 ug/mL

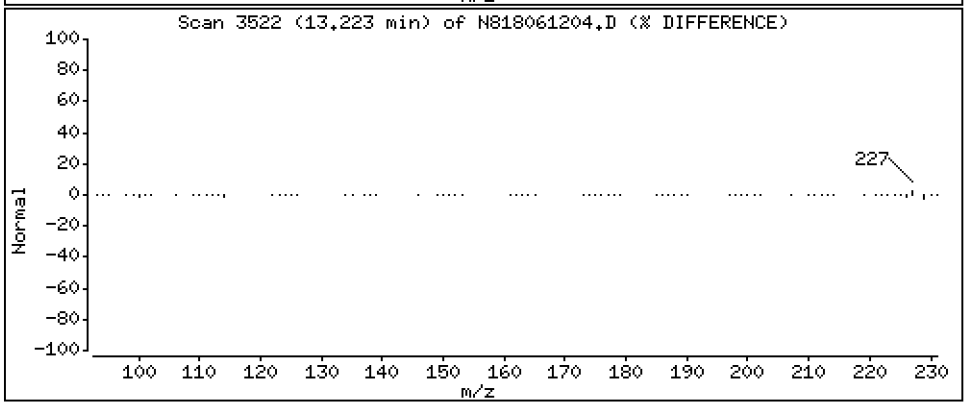












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

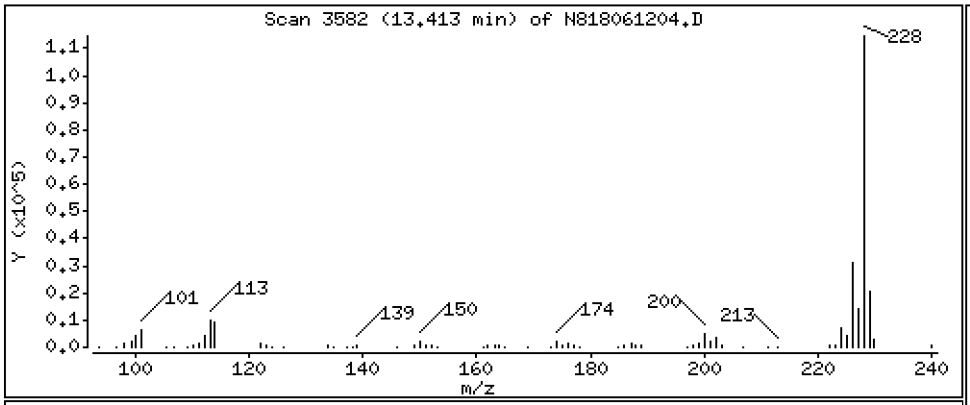
Operator: JZ

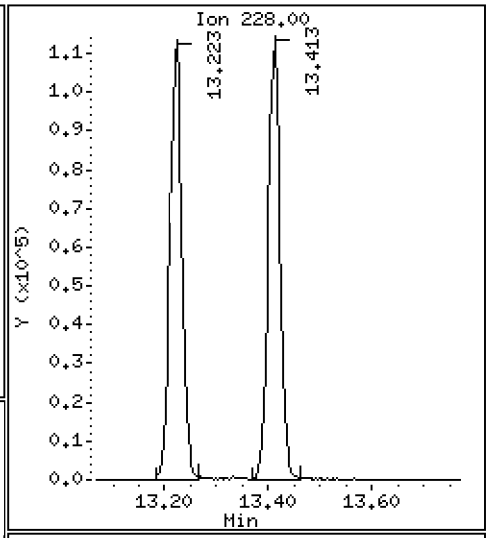
Column phase: Rxi-17sil

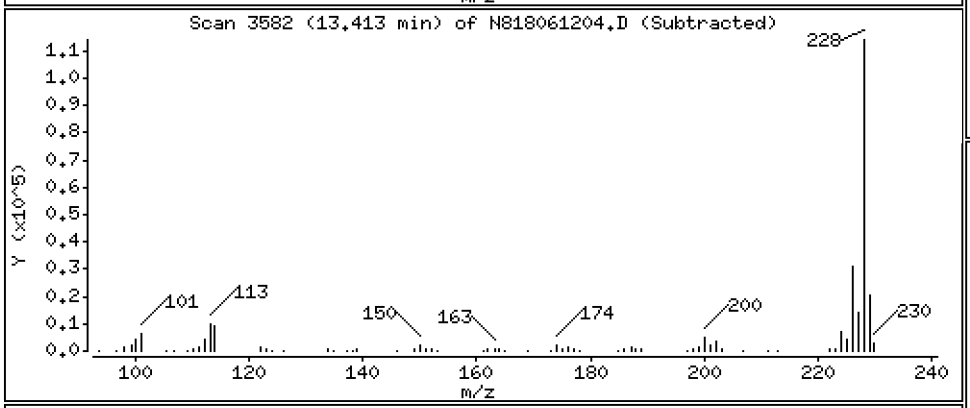
Column diameter: 0.25

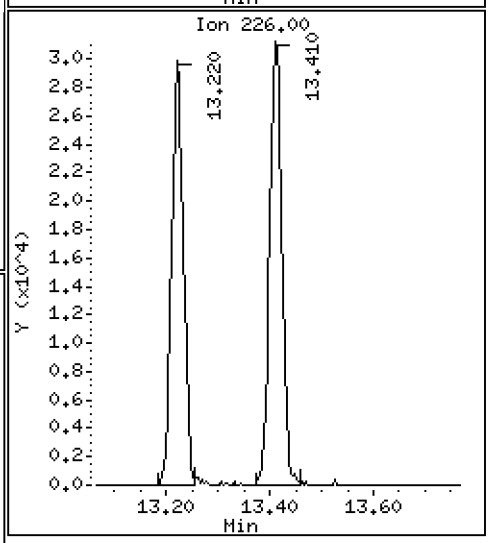
27 Chrysene

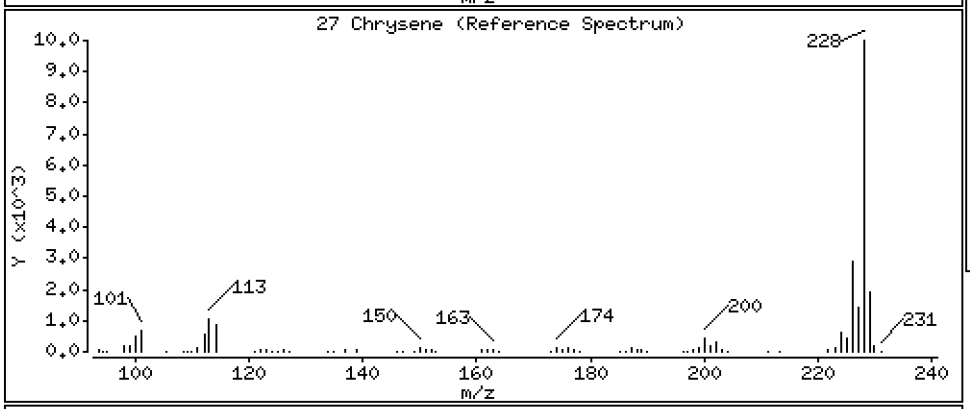
Concentration: 1.805 ug/mL

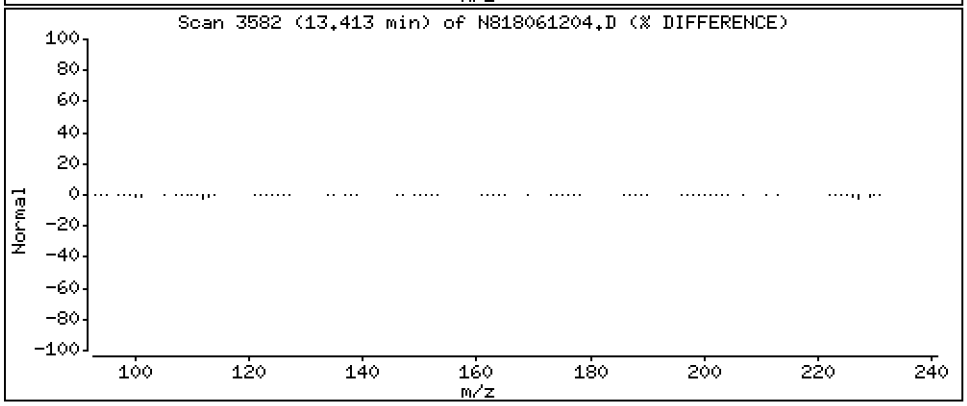












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

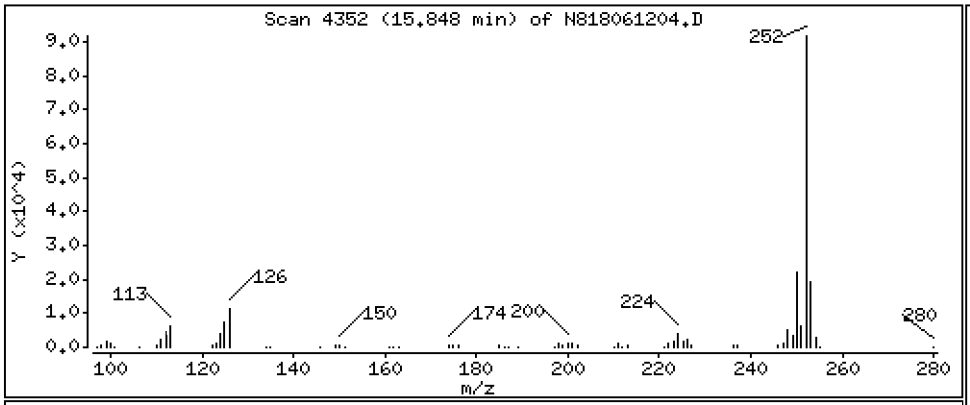
Operator: JZ

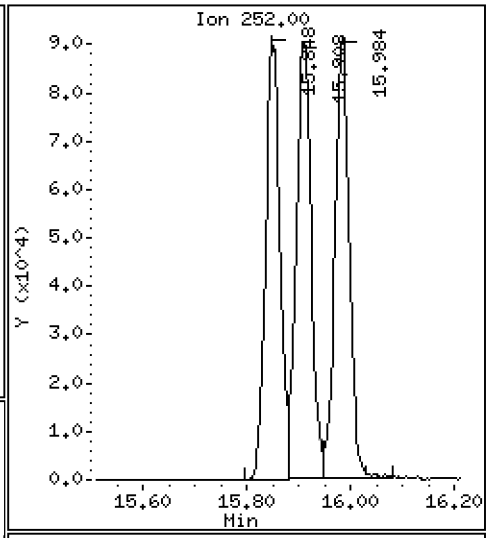
Column phase: Rxi-17sil

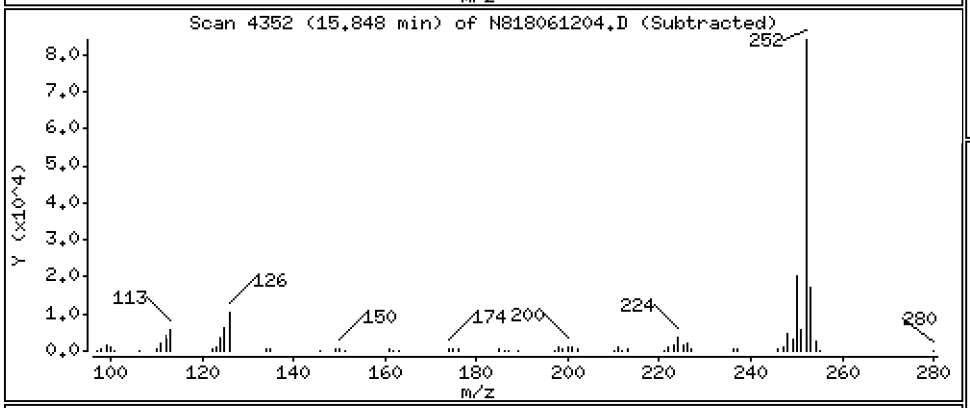
Column diameter: 0.25

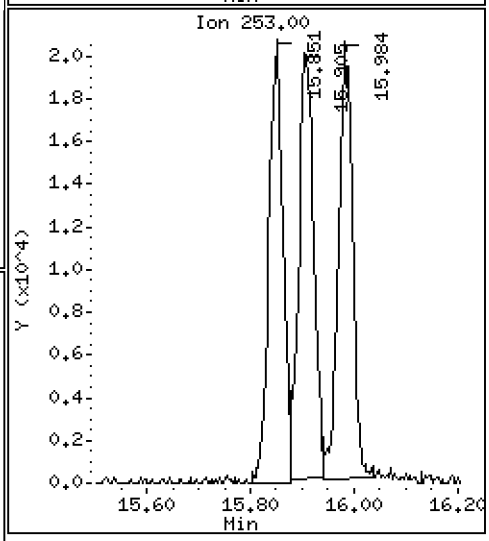
28 Benzo(b)fluoranthene

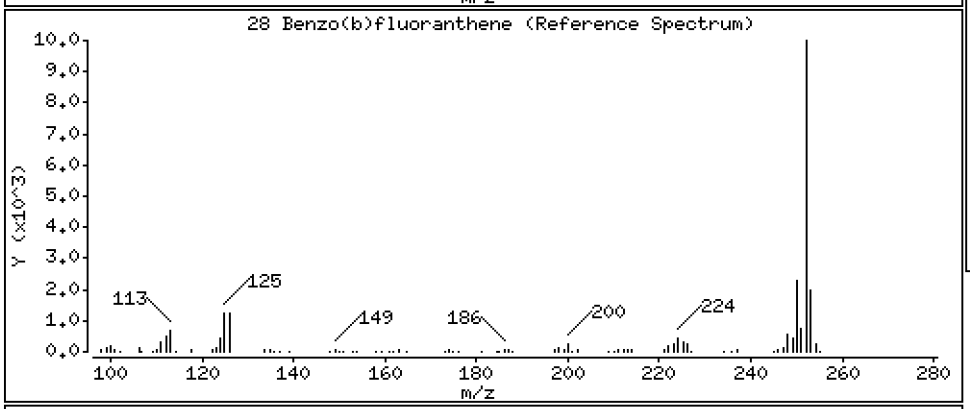
Concentration: 1.796 ug/mL

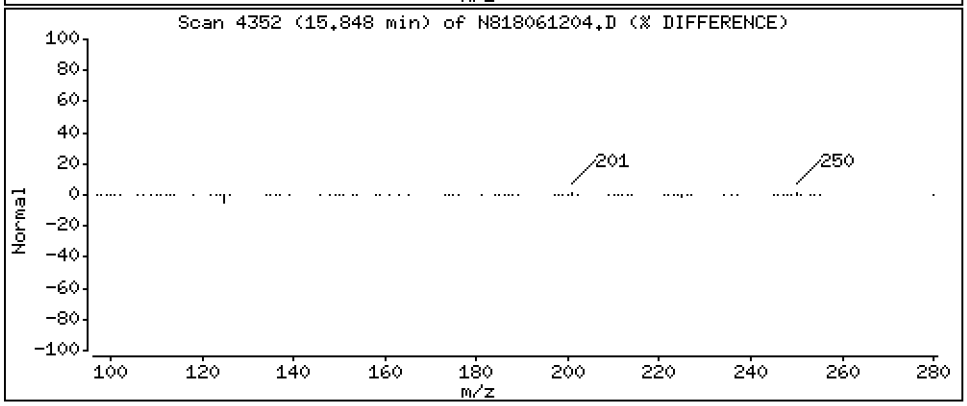












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

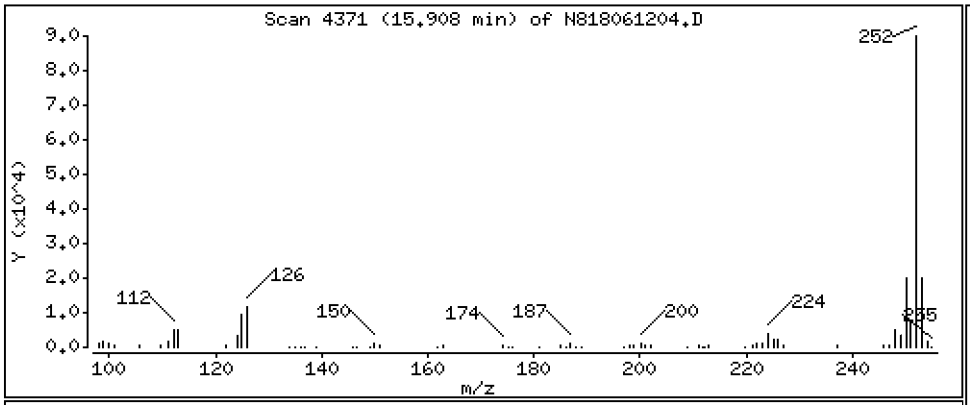
Operator: JZ

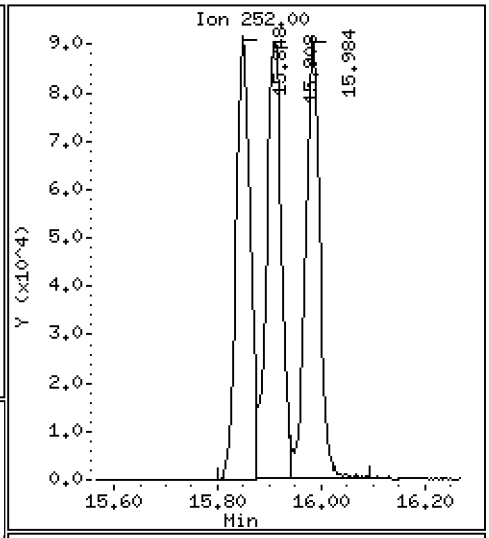
Column phase: Rxi-17sil

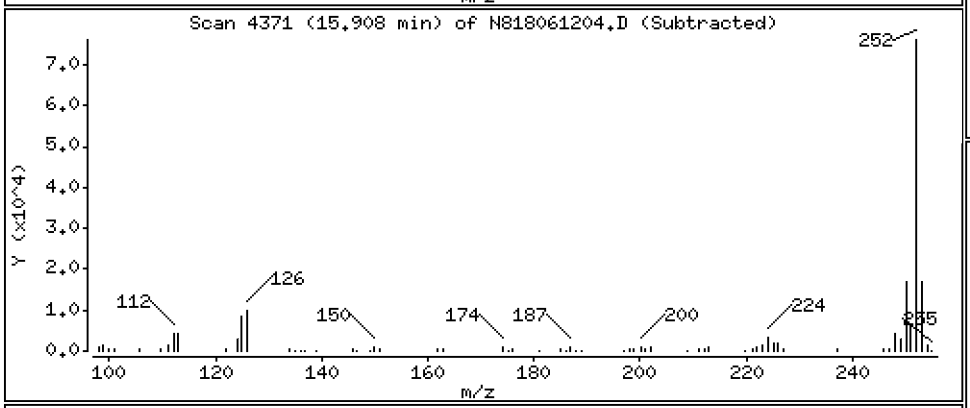
Column diameter: 0.25

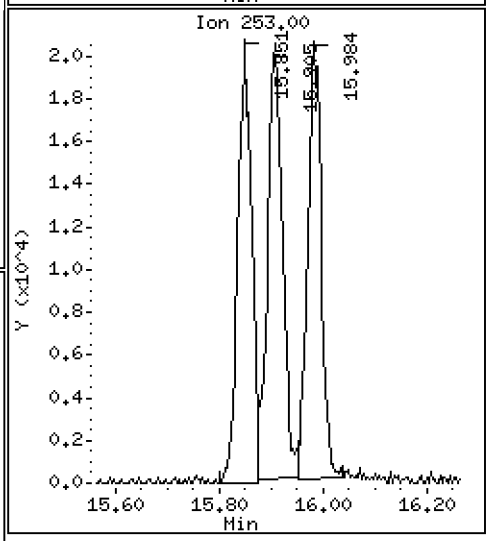
29 Benzo(k)fluoranthene

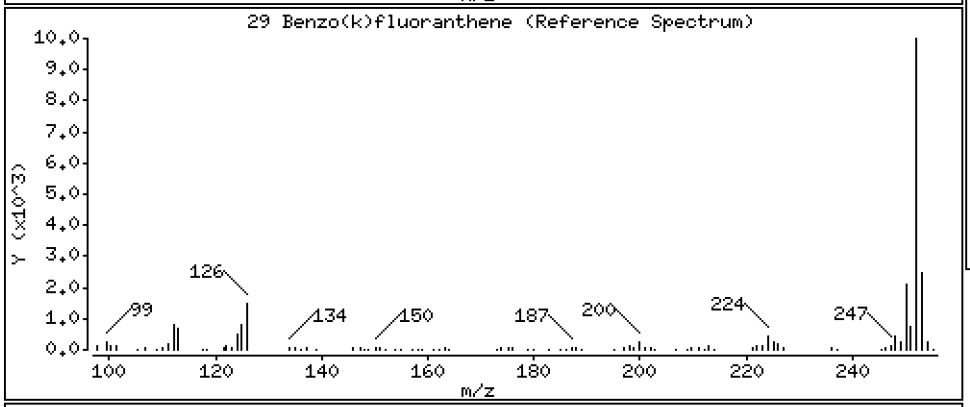
Concentration: 1.890 ug/mL

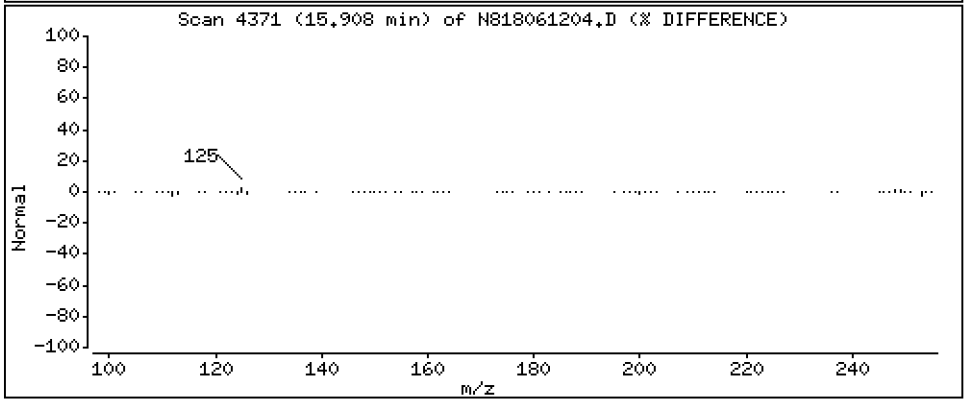












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

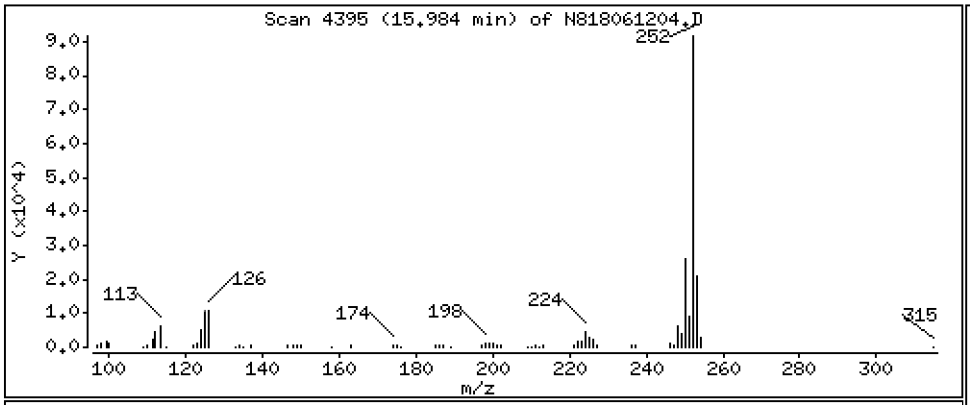
Operator: JZ

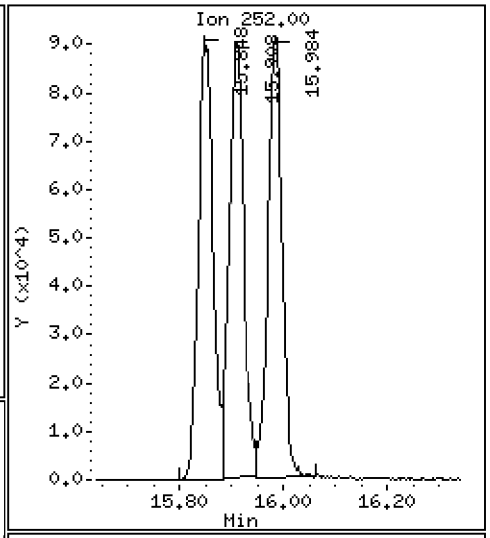
Column phase: Rxi-17sil

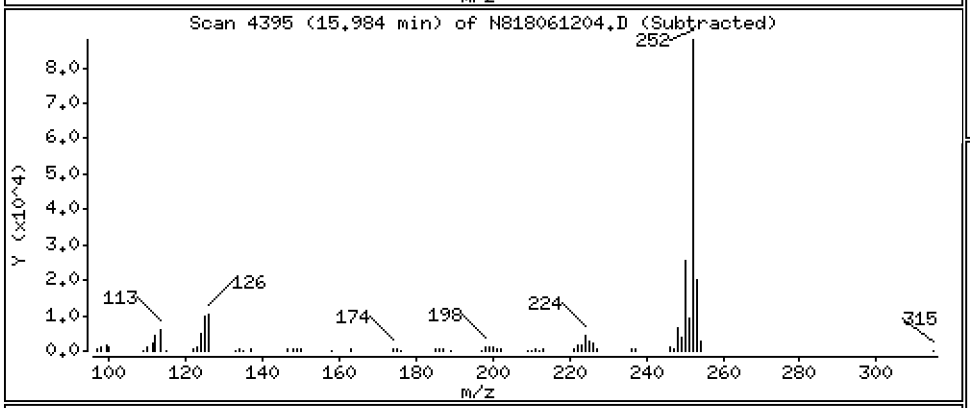
Column diameter: 0.25

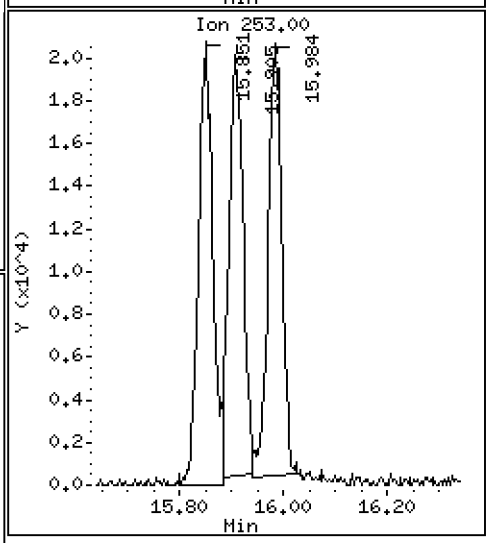
30 Benzo(j)fluoranthene

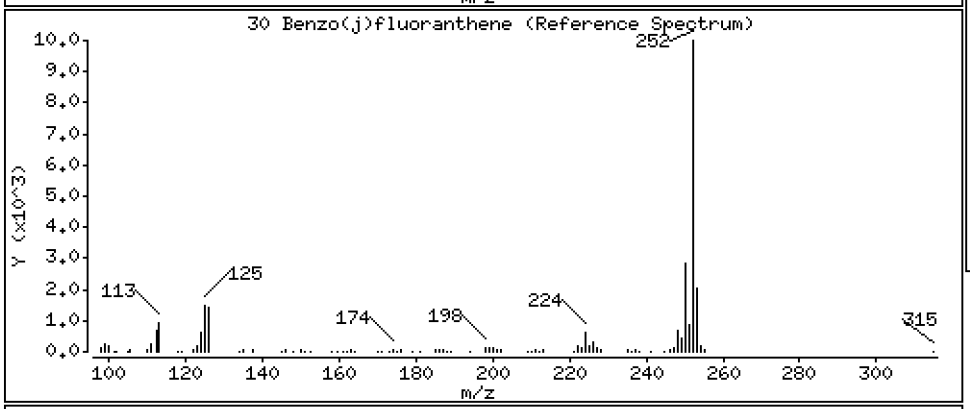
Concentration: 1.778 ug/mL

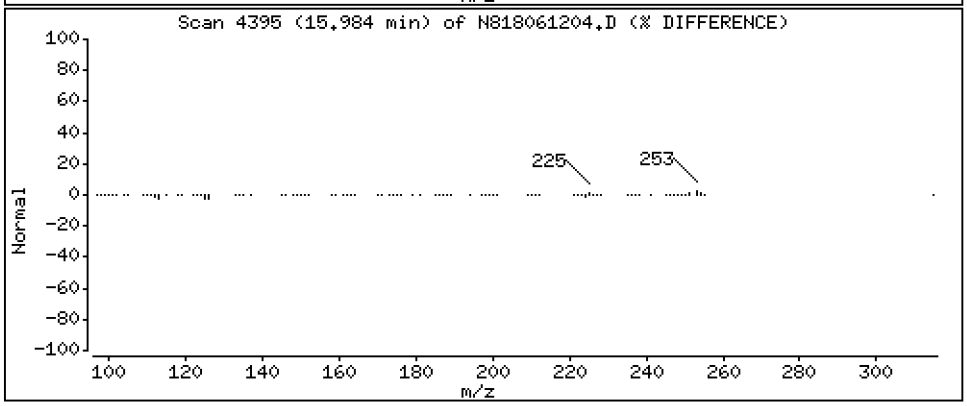












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

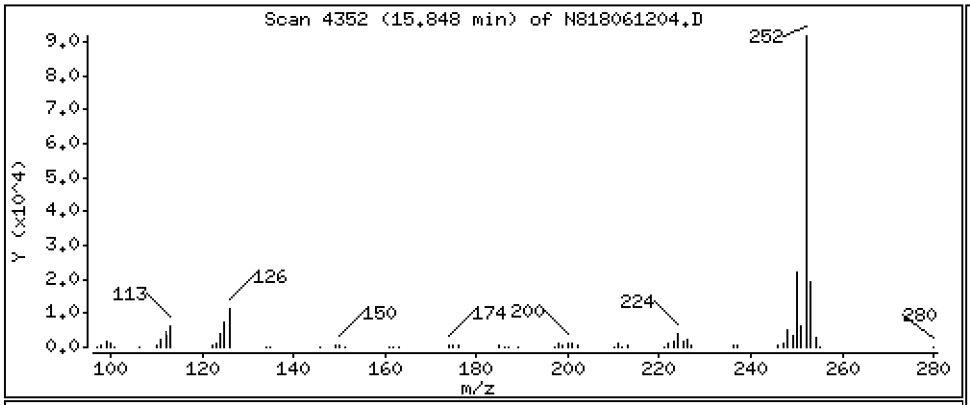
Operator: JZ

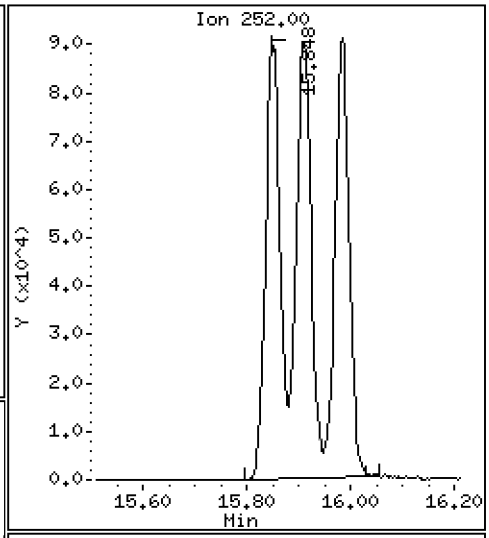
Column phase: Rxi-17sil

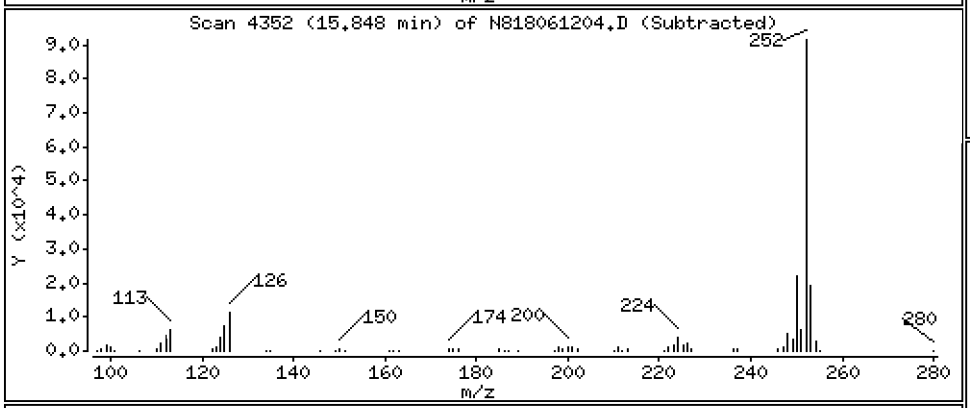
Column diameter: 0.25

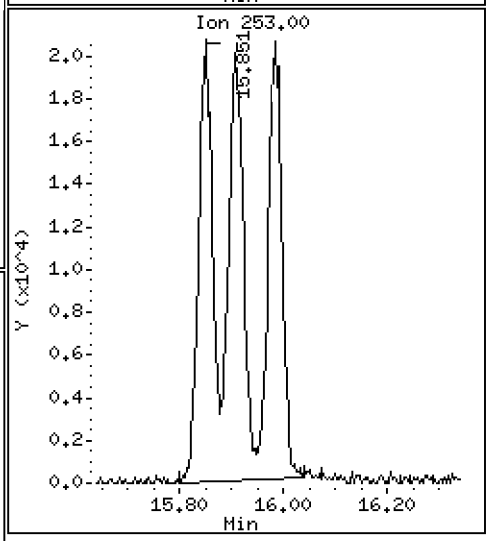
31 Total Benzofluoranthenes

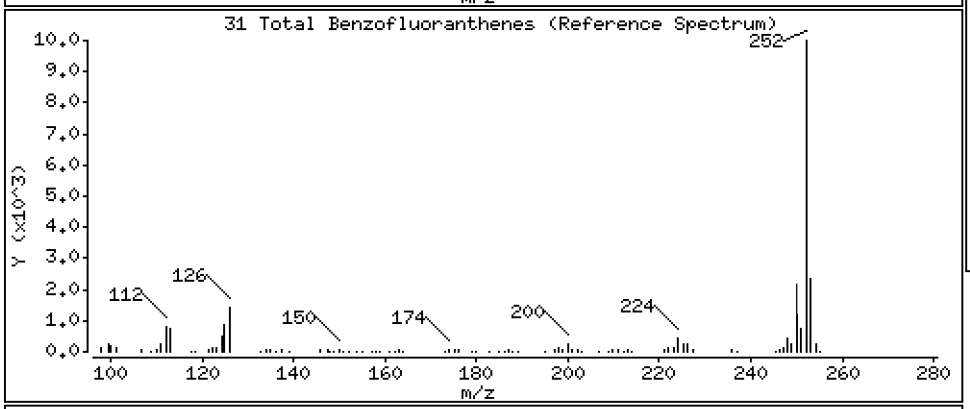
Concentration: 5.469 ug/mL

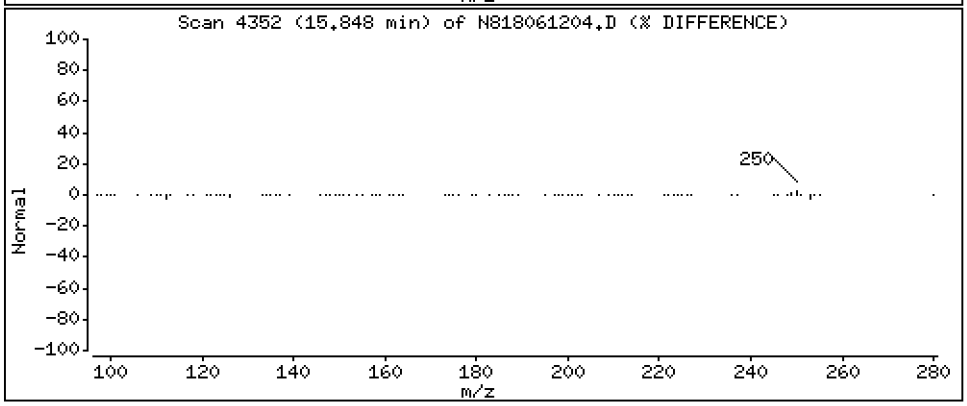












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

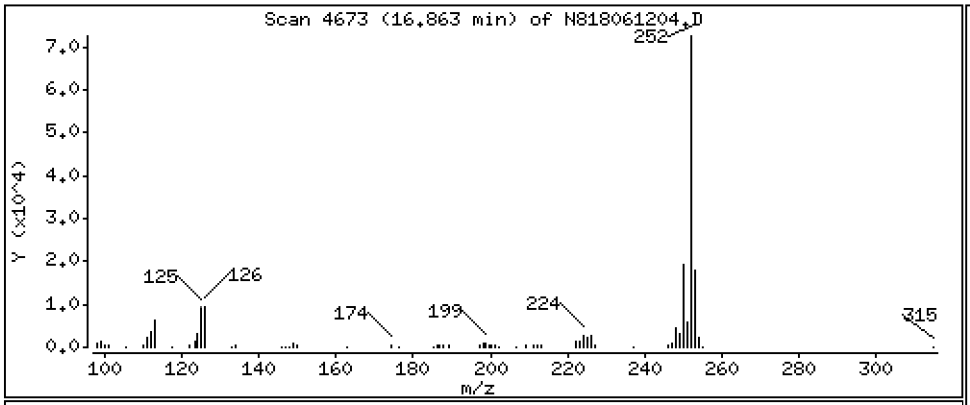
Operator: JZ

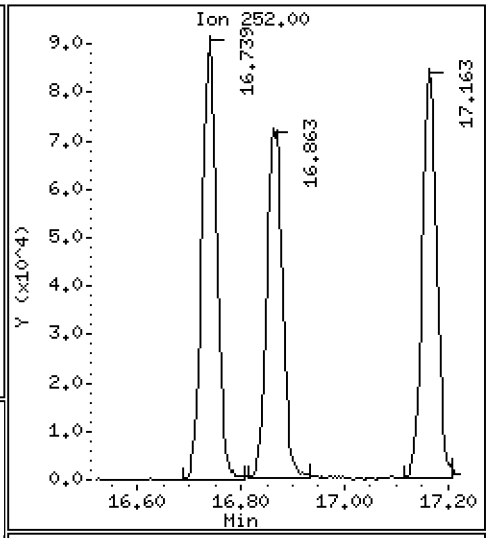
Column phase: Rxi-17sil

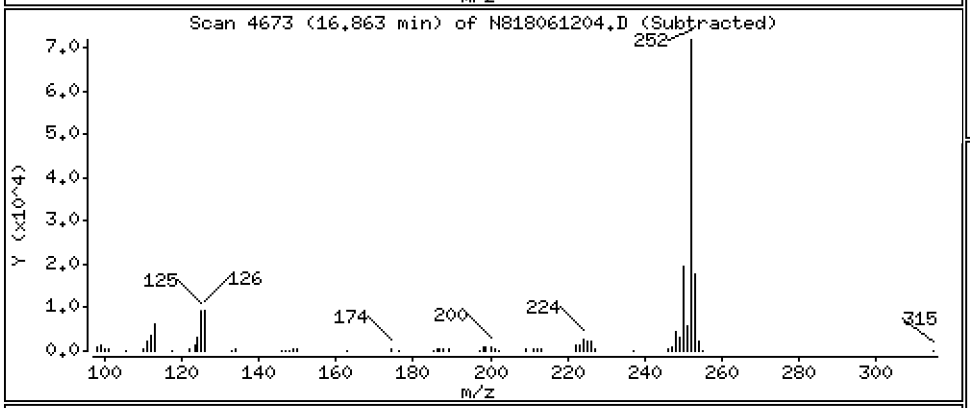
Column diameter: 0.25

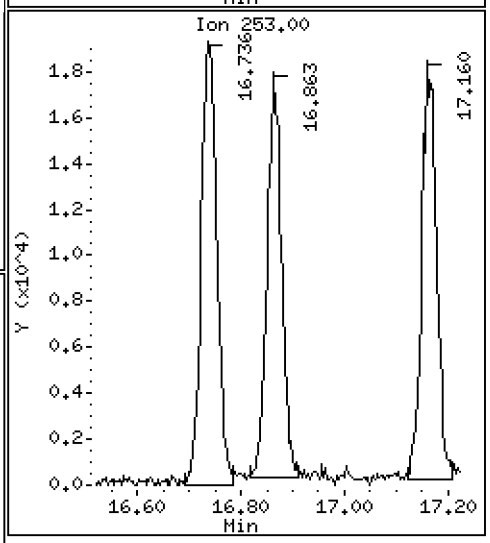
32 Benzo(a)pyrene

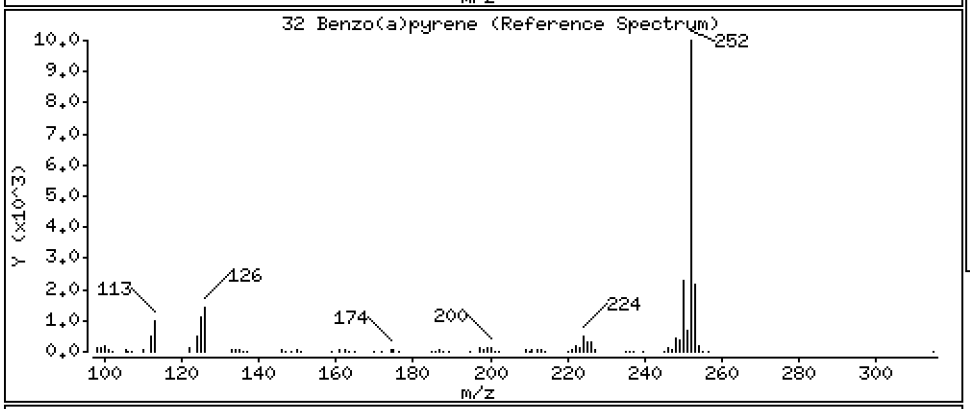
Concentration: 1.764 ug/mL

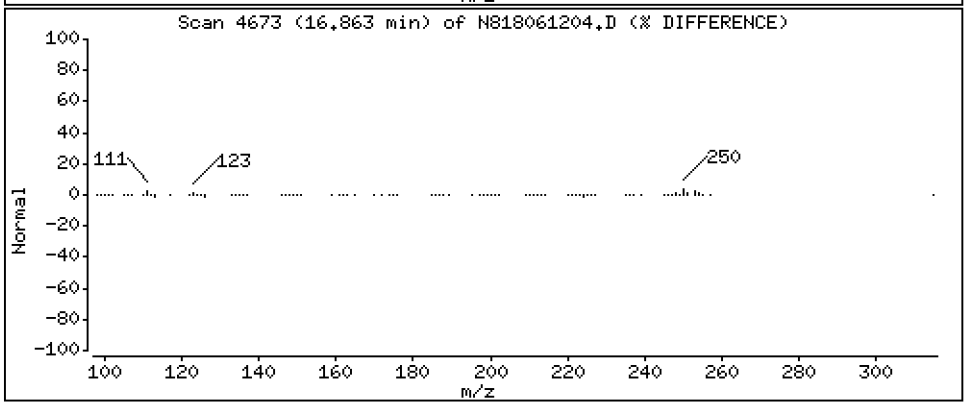












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

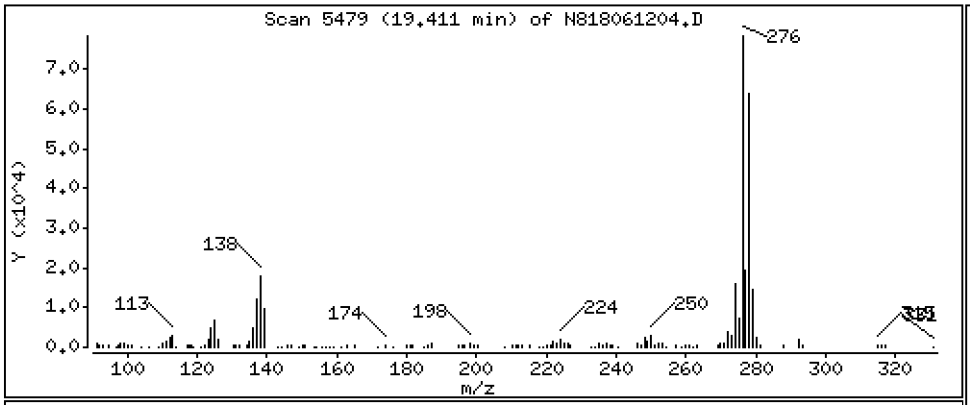
Operator: JZ

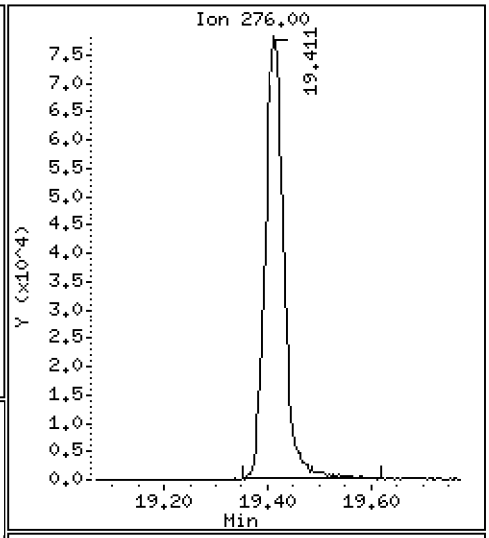
Column phase: Rxi-17sil

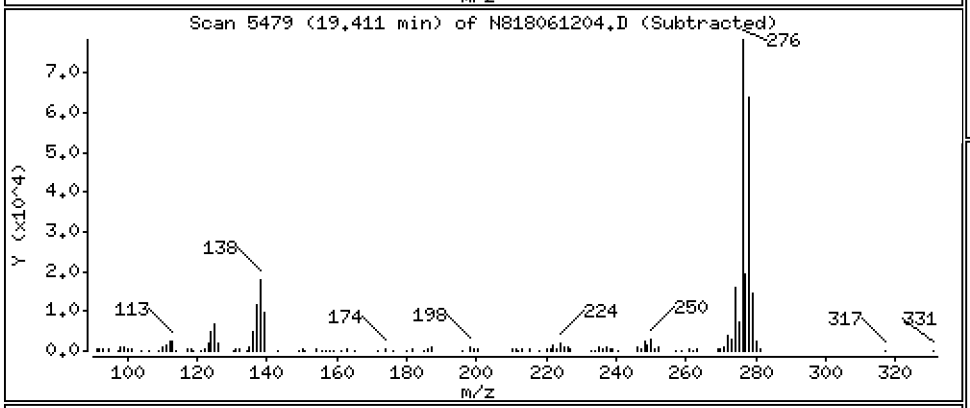
Column diameter: 0.25

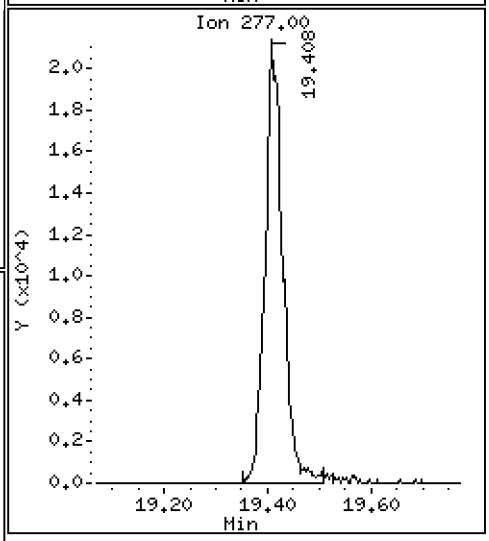
37 Indeno(1,2,3-cd)pyrene

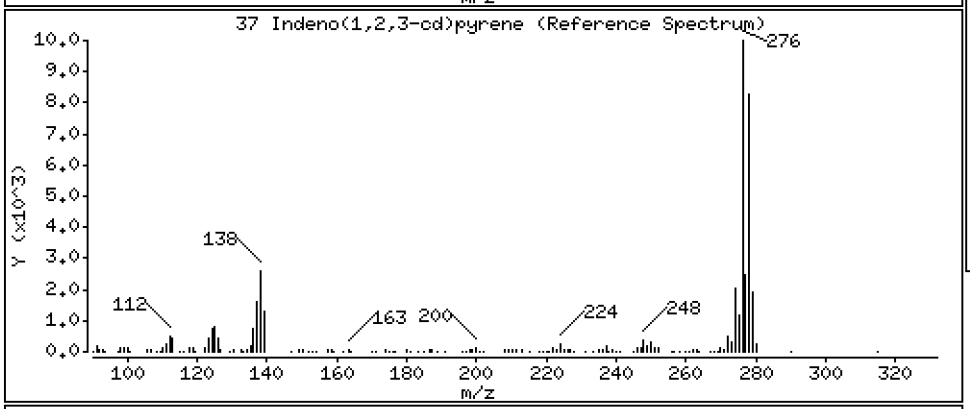
Concentration: 1.980 ug/mL

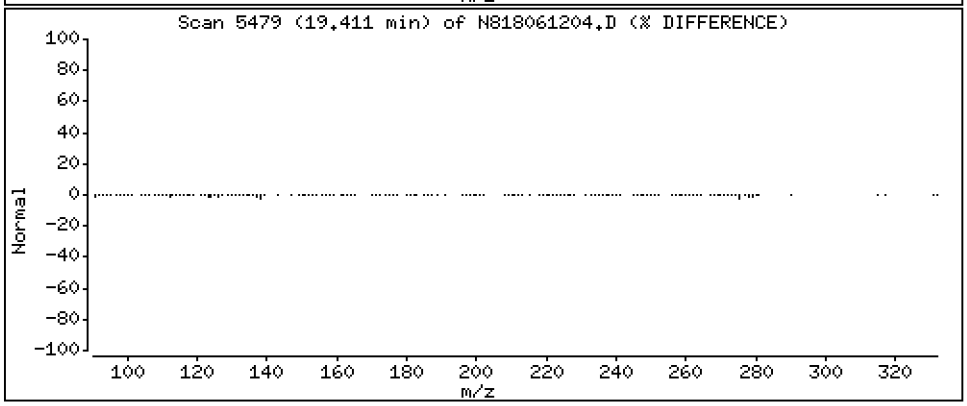












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

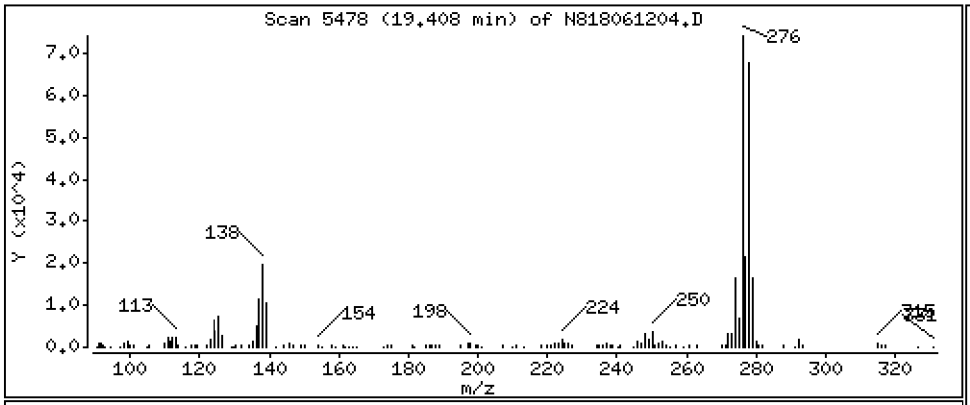
Operator: JZ

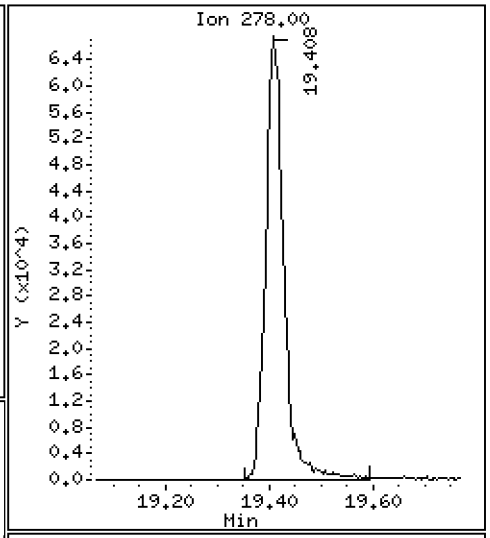
Column phase: Rxi-17sil

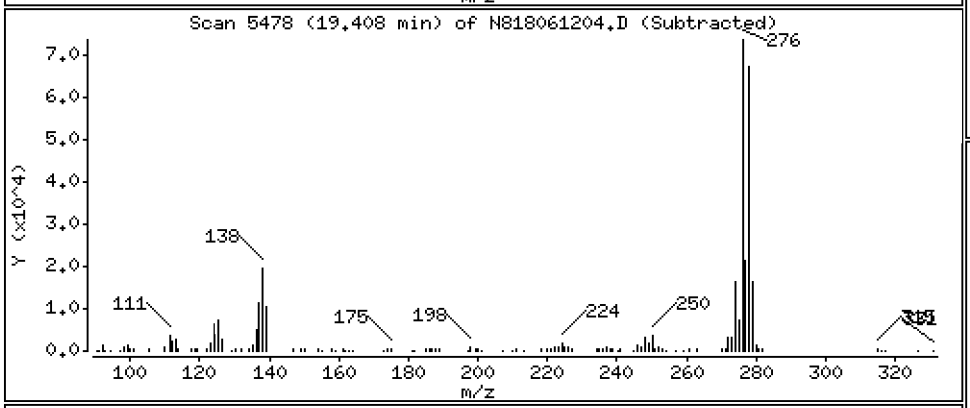
Column diameter: 0.25

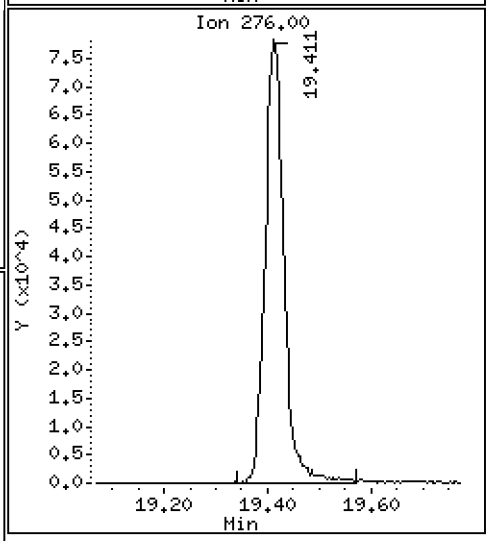
38 Dibenzo(a,h)anthracene

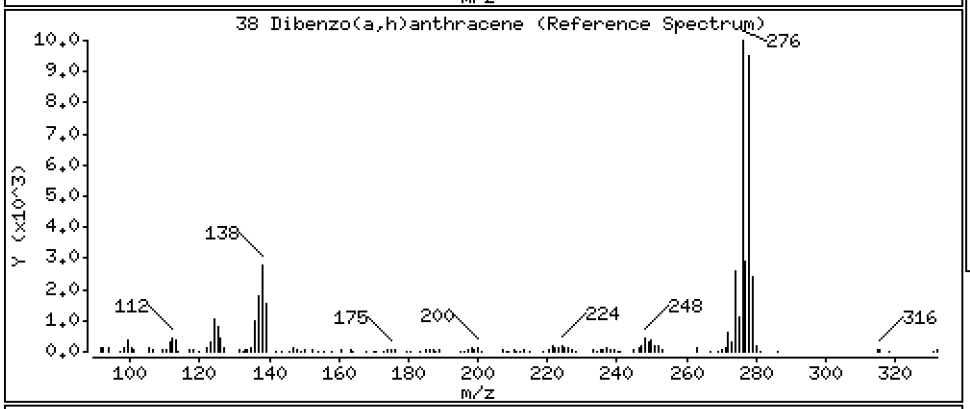
Concentration: 2.023 ug/mL

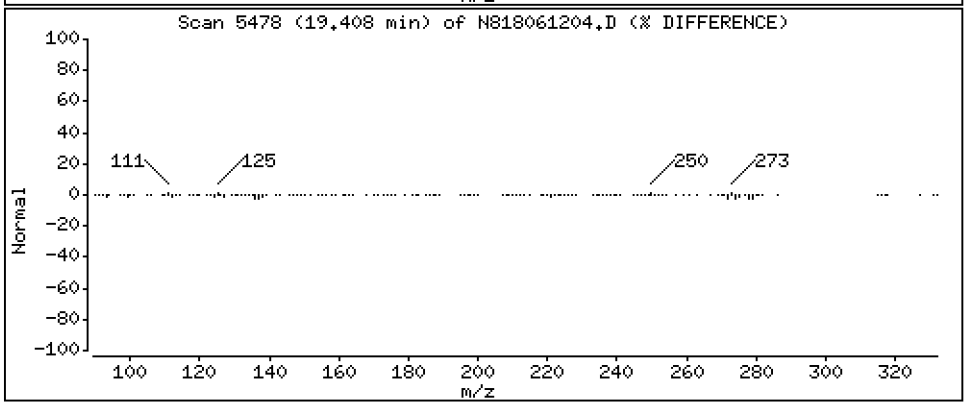












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

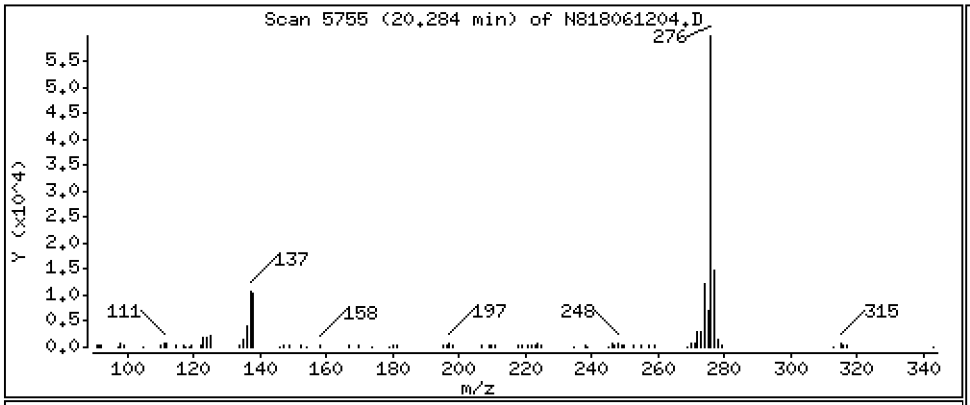
Operator: JZ

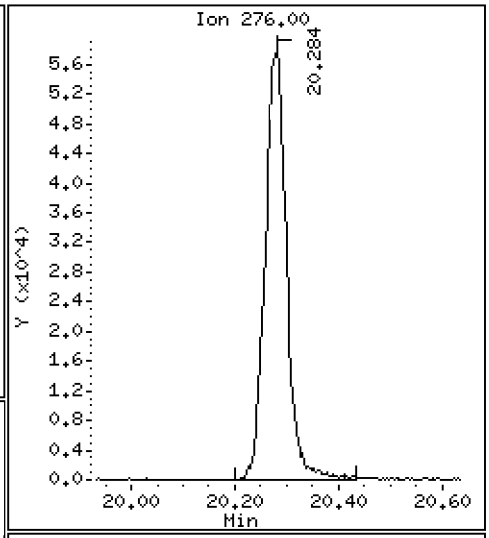
Column phase: Rxi-17sil

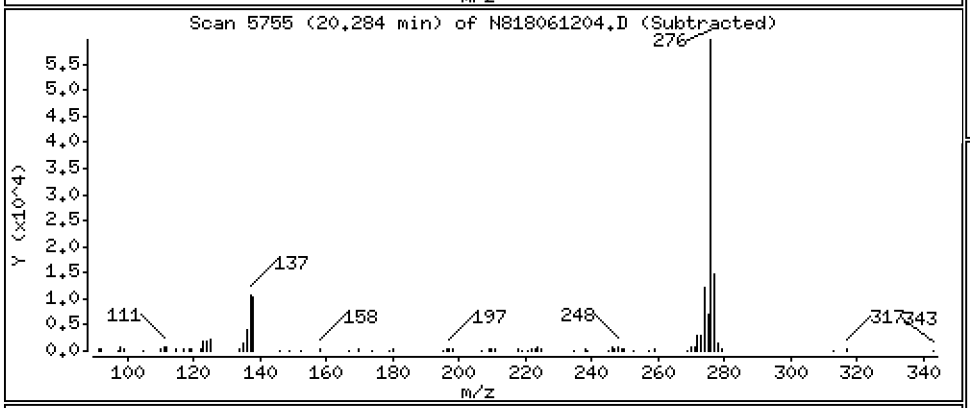
Column diameter: 0.25

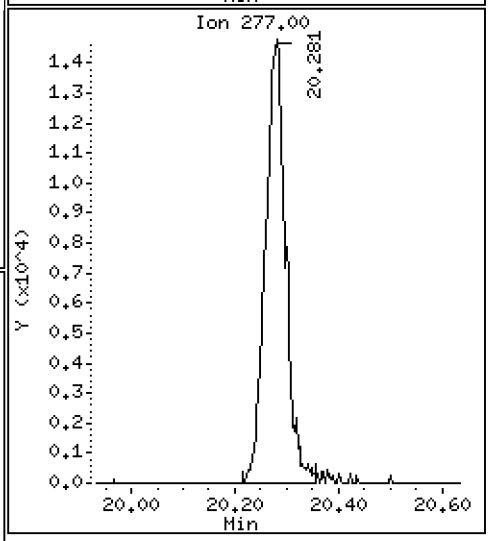
39 Benzo(g,h,i)perylene

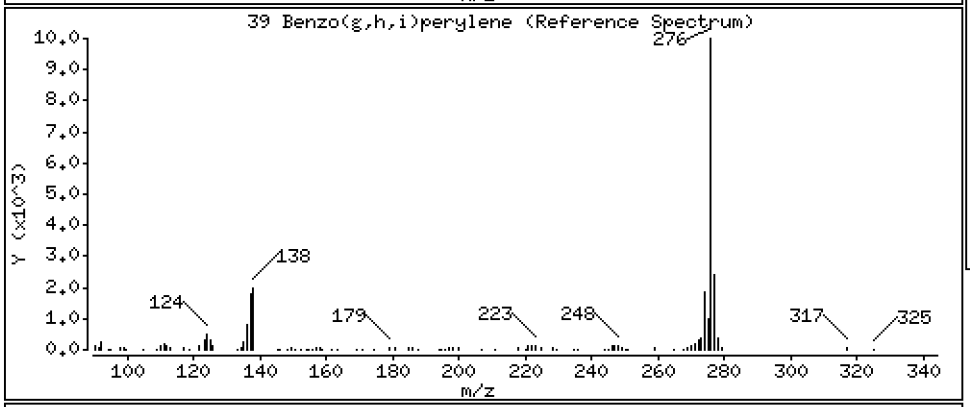
Concentration: 1.924 ug/mL

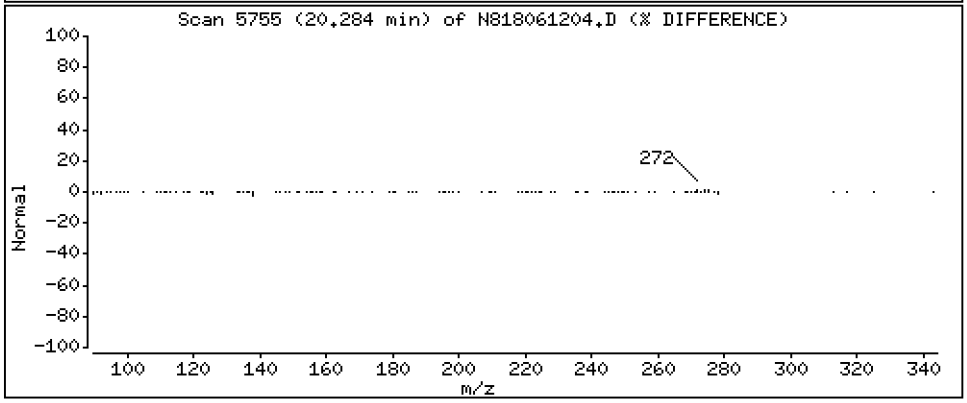












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061204.D

Date : 12-JUN-2018 15:50

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-BS1,

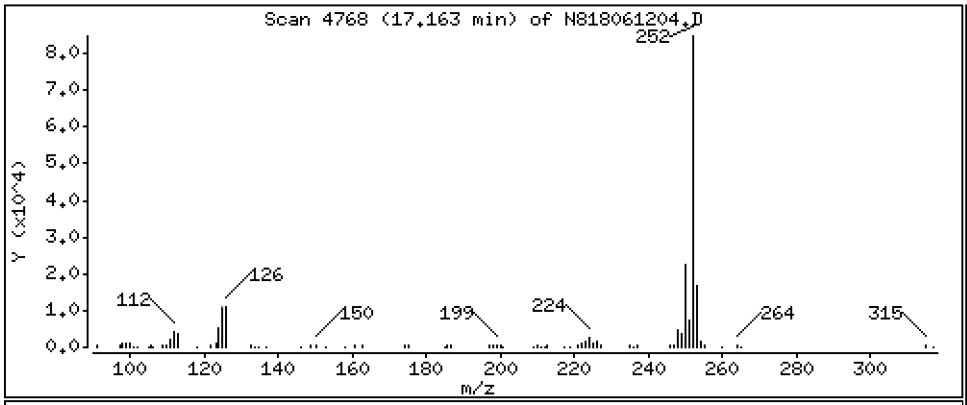
Operator: JZ

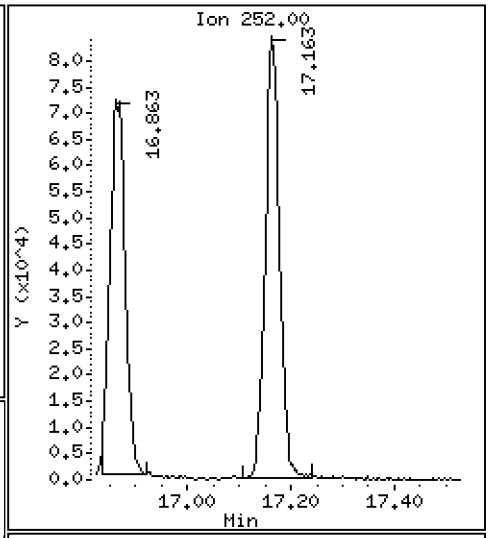
Column phase: Rxi-17sil

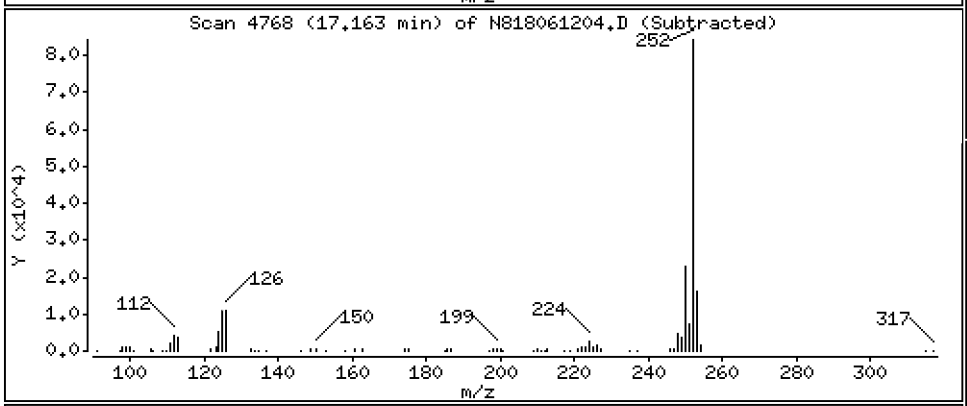
Column diameter: 0.25

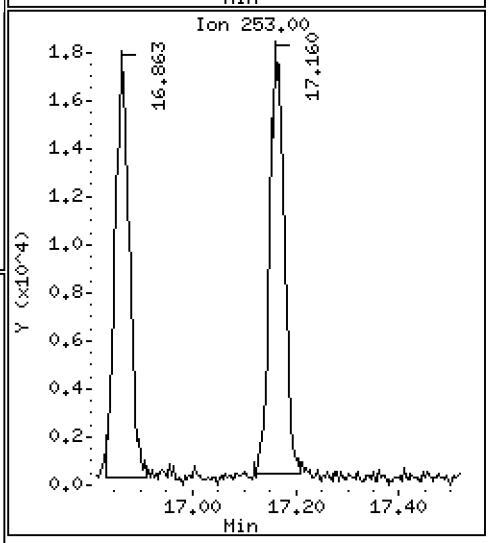
35 Perylene

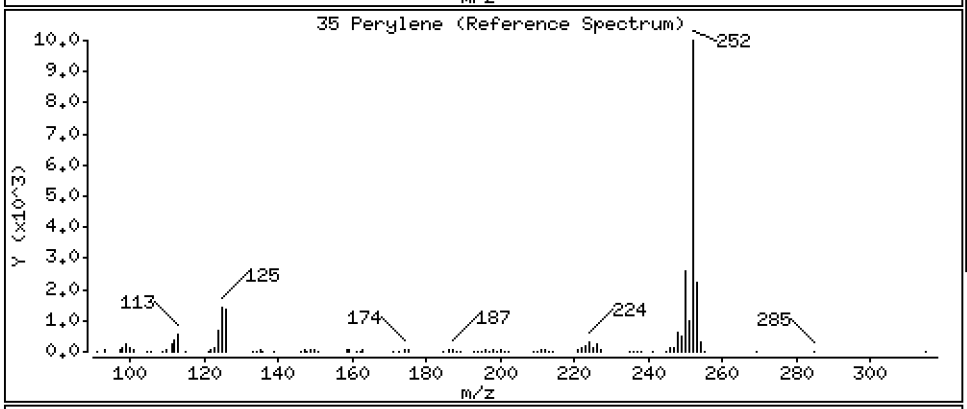
Concentration: 1.740 ug/mL

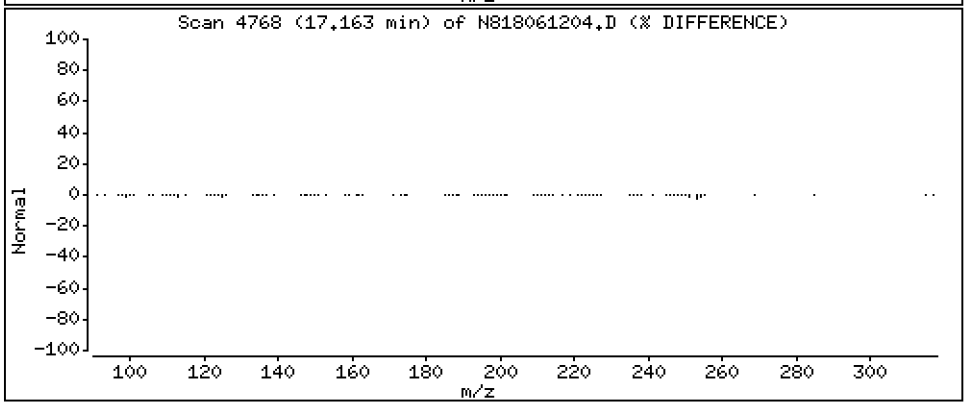












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061204.D
Lab Smp Id: BGE0773-BS1
Inj Date : 12-JUN-2018 15:50
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0773-BS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.448	4.455	(1.000)	158709	2.00000	
	2 Naphthalene	128	4.477	4.483	(1.006)	114805	1.24470	1.245
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.164)	72626	1.25444	1.254
	4 2-Methylnaphthalene	141	5.226	5.233	(1.175)	65267	1.25631	1.256
	5 1-methylnaphthalene	141	5.419	5.425	(1.218)	68134	1.27412	1.274
	9 Acenaphthylene	152	6.605	6.611	(0.984)	113814	1.32081	1.321
*	10 Acenaphthene-d10	164	6.715	6.722	(1.000)	86790	2.00000	
	11 Acenaphthene	153	6.766	6.769	(1.008)	84915	1.28546	1.285
	12 Dibenzofuran	168	6.918	6.921	(1.030)	115682	1.30244	1.302
	14 Fluorene	166	7.392	7.395	(1.101)	97728	1.42399	1.424
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	161828	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	153568	1.54829	1.548
	17 Anthracene	178	8.812	8.815	(1.009)	141187	1.56230	1.562
	22 Fluoranthene	202	10.424	10.428	(1.193)	191235	1.71078	1.711
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	190602	1.79907	1.799
	23 Pyrene	202	10.892	10.896	(0.816)	196685	1.91097	1.911
	24 Benzo(a)anthracene	228	13.223	13.226	(0.991)	182698	1.83599	1.836
*	25 Chrysene-d12	240	13.343	13.349	(1.000)	171268	2.00000	
	27 Chrysene	228	13.412	13.419	(1.005)	180843	1.80538	1.805
	28 Benzo(b)fluoranthene	252	15.847	15.860	(0.927)	179037	1.79583	1.796
	29 Benzo(k)fluoranthene	252	15.907	15.917	(0.930)	185267	1.88984	1.890
	30 Benzo(j)fluoranthene	252	15.983	15.990	(0.935)	174558	1.77831	1.778
	31 Total Benzofluoranthenes	252	15.847	15.860	(0.927)	531706	5.46856	5.469(M)
	32 Benzo(a)pyrene	252	16.862	16.872	(0.986)	154167	1.76433	1.764
*	33 Perylene-d12	264	17.096	17.099	(1.000)	156871	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.411	19.420	(1.135)	198045	1.97972	1.980
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	157557	2.14430	2.144
	38 Dibenzo(a,h)anthracene	278	19.407	19.417	(1.135)	166922	2.02281	2.023
	39 Benzo(g,h,i)perylene	276	20.283	20.284	(1.186)	168254	1.92442	1.924
	35 Perylene	252	17.162	17.175	(1.004)	165079	1.73989	1.740

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061204.D
Lab Smp Id: BGE0773-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	158709	29.89
10 Acenaphthene-d10	65789	32895	131578	86790	31.92
15 Phenanthrene-d10	128644	64322	257288	161828	25.80
25 Chrysene-d12	166669	83335	333338	171268	2.76
33 Perylene-d12	140483	70242	280966	156871	11.67

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.15
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061204.D

Lab ID: BGE0773-BS1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 15:50

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

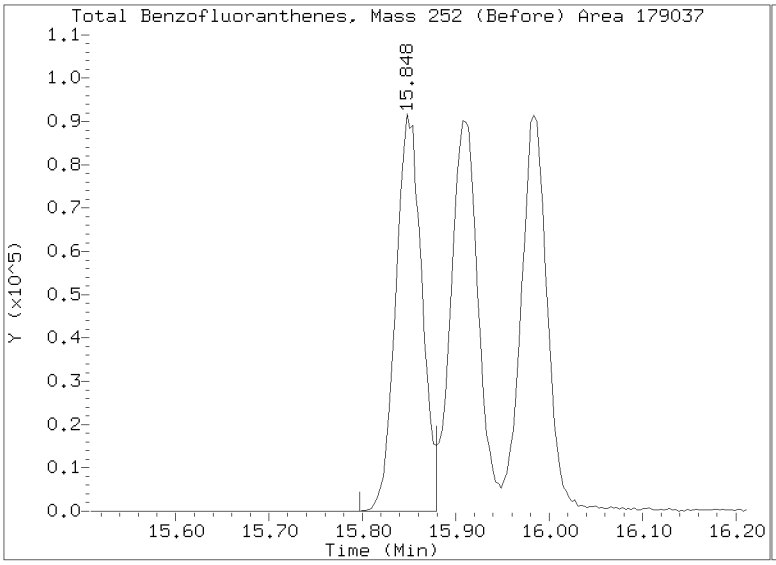
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

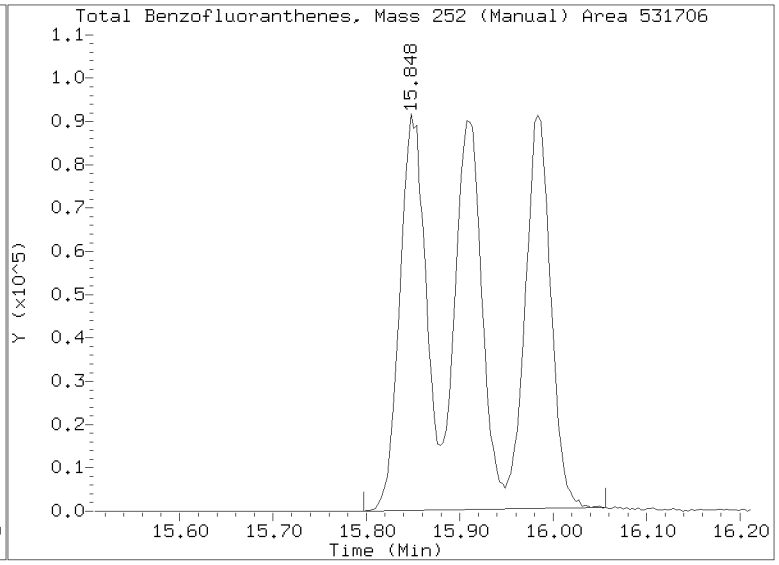
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061204.D
Injection Date: 12-JUN-2018 15:50
Lab ID:BGE0773-BS1 Client ID:
Report Date: 06/12/2018 16:16





MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Solid	Analyzed:	06/02/18 00:40
Batch:	BGE0626	Laboratory ID:	BGE0626-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	12.09 g / 0.5 mL	Source Sample:	LDW18-SSCL-A10

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	143	37.3	110		50.6	42 - 120
Chrysene	143	50.6	121		49.3	48 - 120
Benzo(b)fluoranthene	143	39.4	110		49.7	35 - 127
Benzo(k)fluoranthene	143	21.5	101		55.9	37 - 129
Benzo(a)pyrene	143	40.0	103		43.8	36 - 120
Indeno(1,2,3-cd)pyrene	143	24.7	106		56.9	40 - 120
Dibenzo(a,h)anthracene	143	8.01	107		69.1	38 - 120

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Solid	Analyzed:	06/02/18 01:07
Batch:	BGE0626	Laboratory ID:	BGE0626-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	12.07 g / 0.5 mL	Source Sample:	LDW18-SSCL-A10

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)anthracene	143	112		52.1	2.06	30	42 - 120
Chrysene	143	124		51.5	2.68	30	48 - 120
Benzo(b)fluoranthene	143	118		55.2	6.95	30	35 - 127
Benzo(k)fluoranthene	143	103		56.8	1.45	30	37 - 129
Benzo(a)pyrene	143	105		45.4	2.32	30	36 - 120
Indeno(1,2,3-cd)pyrene	143	111		60.0	4.30	30	40 - 120
Dibenzo(a,h)anthracene	143	106		68.8	0.341	30	38 - 120

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

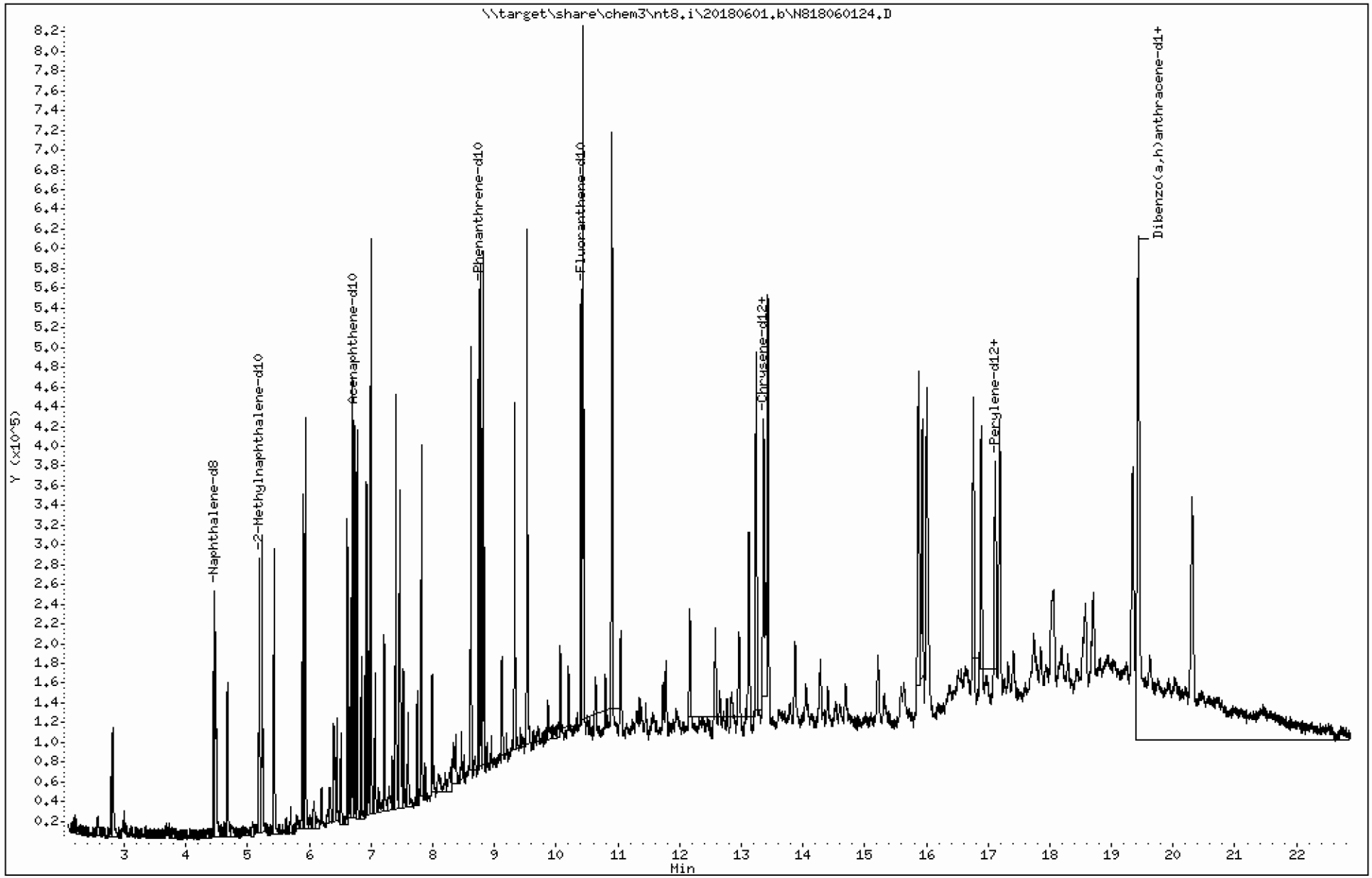
Instrument: nt8.i

Sample Info: BGE0626-MS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

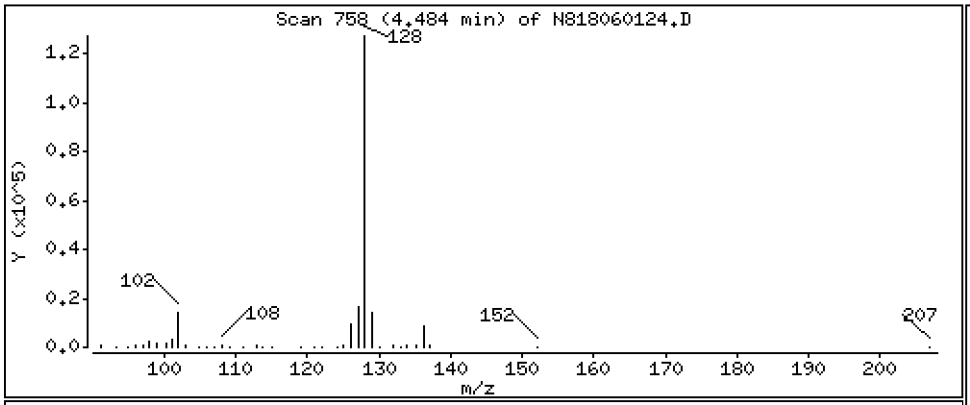
Operator: JZ

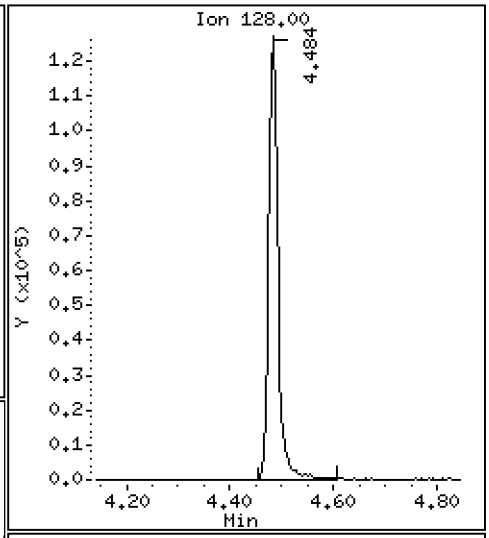
Column phase: Rxi-17sil

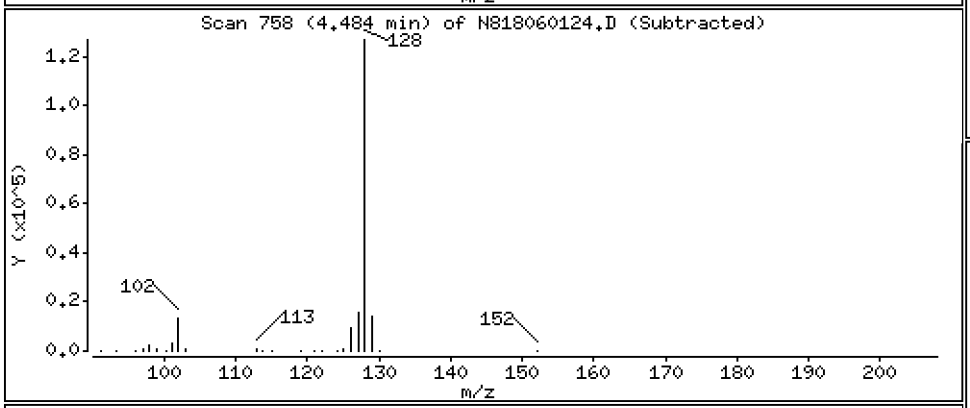
Column diameter: 0.25

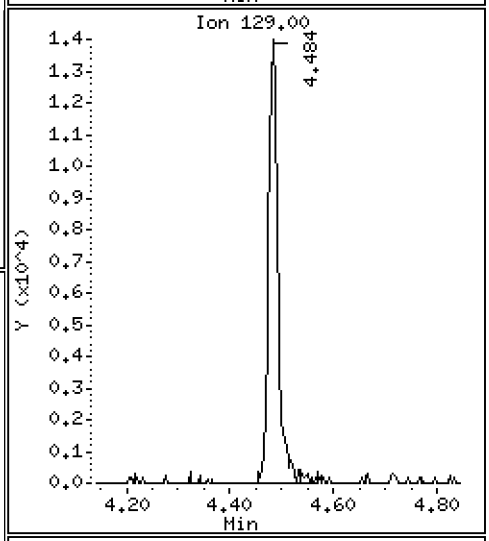
2 Naphthalene

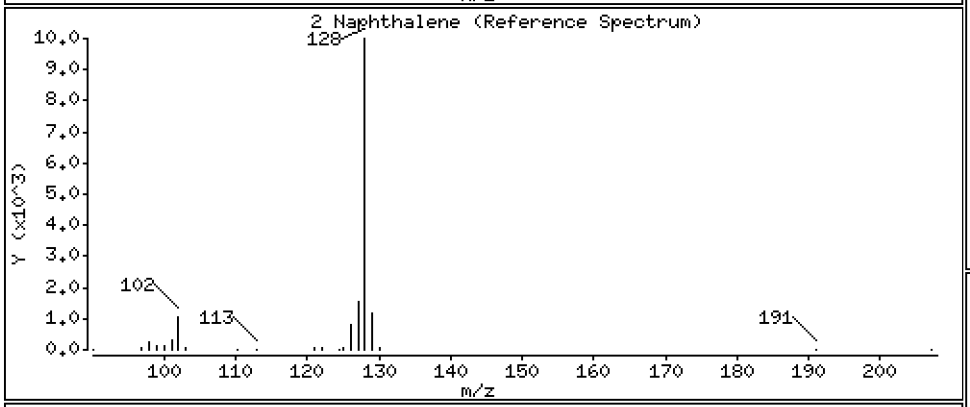
Concentration: 1.281 ug/mL

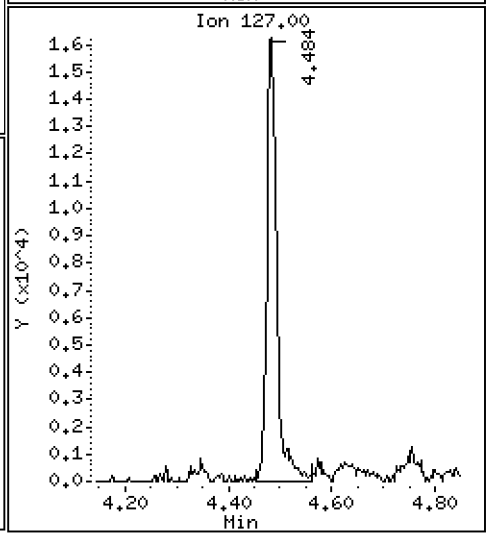


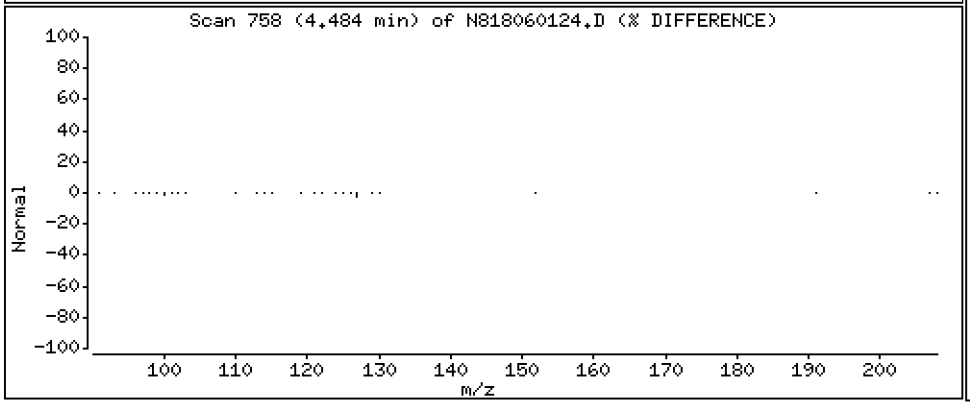












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

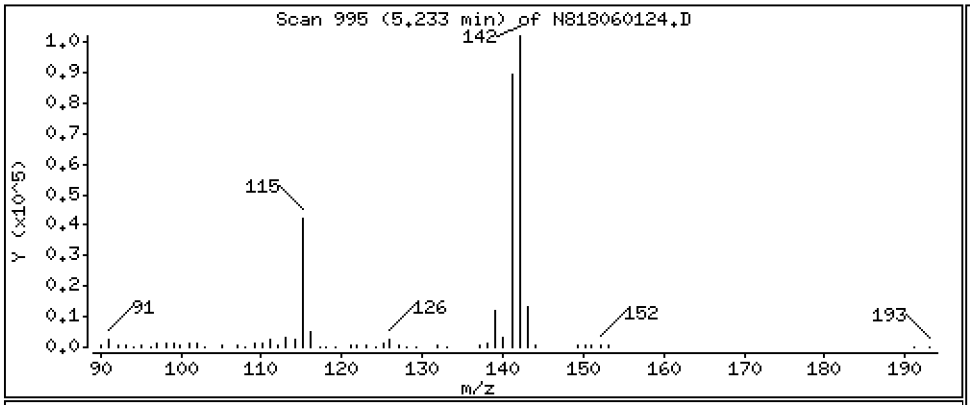
Operator: JZ

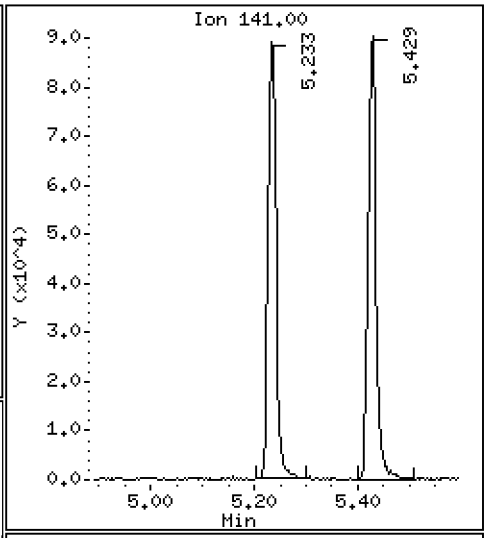
Column phase: Rxi-17sil

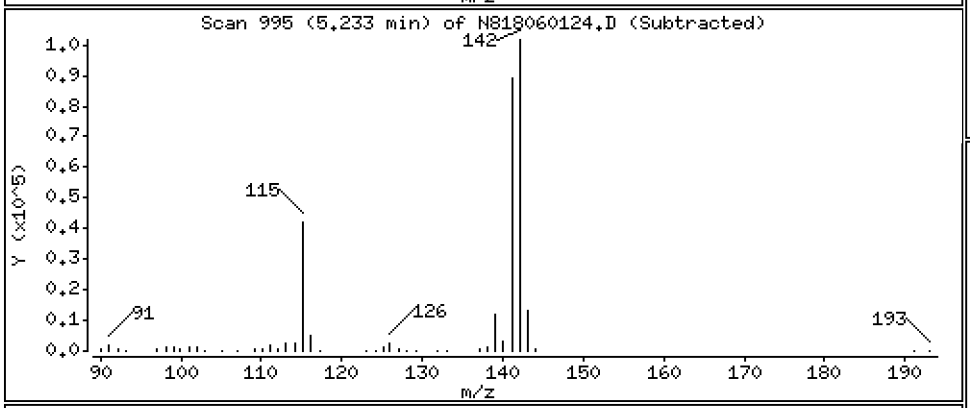
Column diameter: 0.25

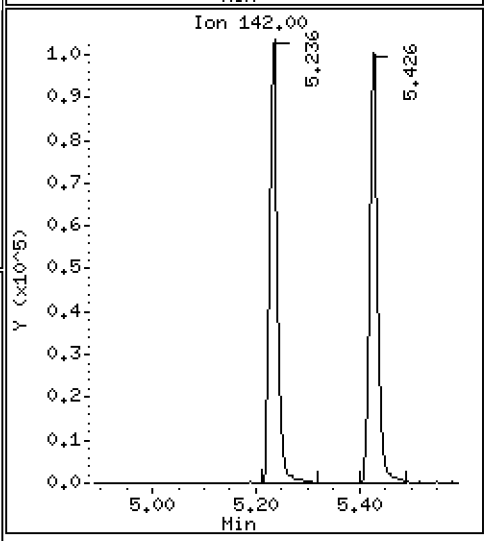
4 2-Methylnaphthalene

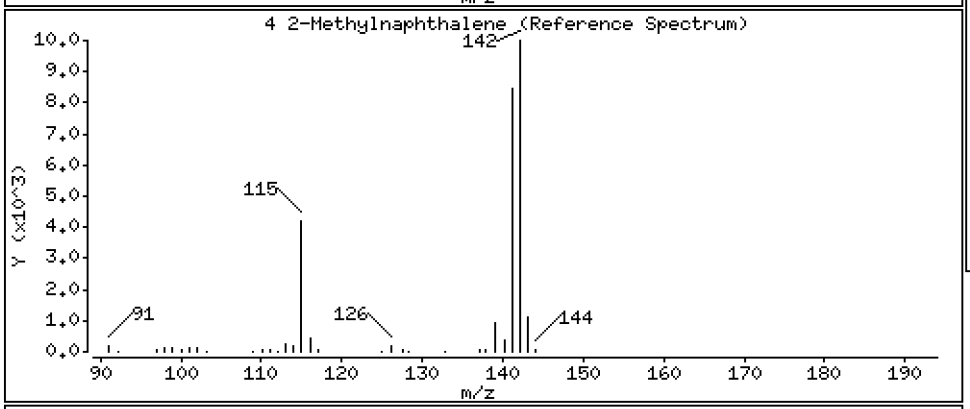
Concentration: 1.375 ug/mL

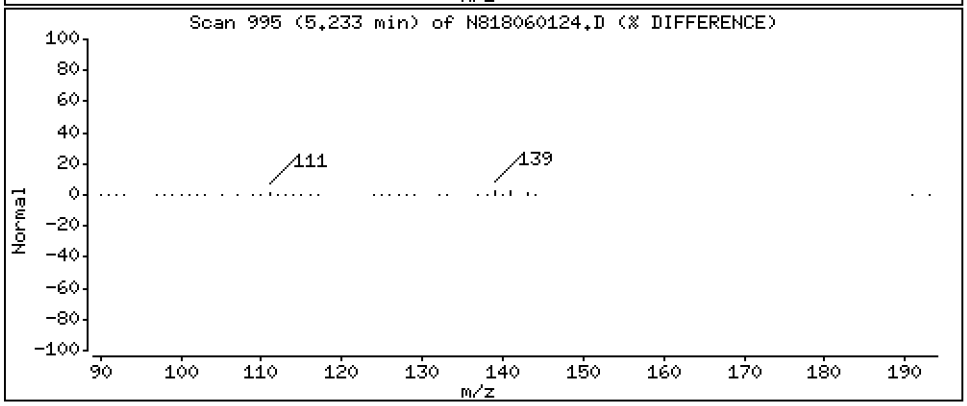












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

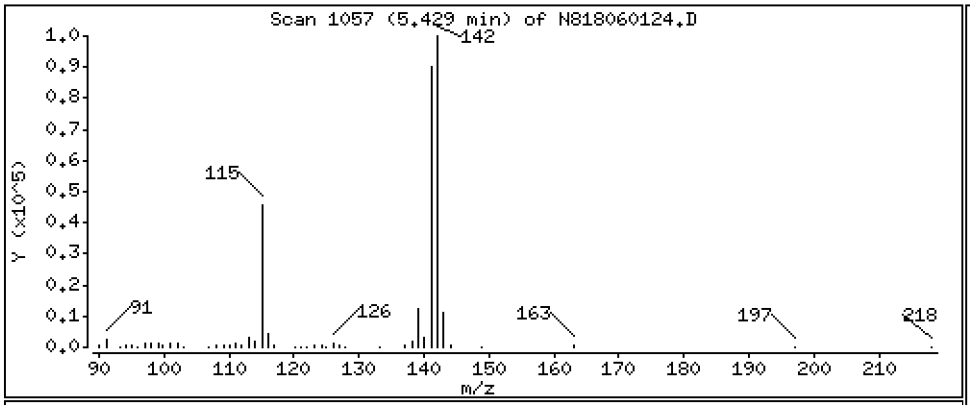
Operator: JZ

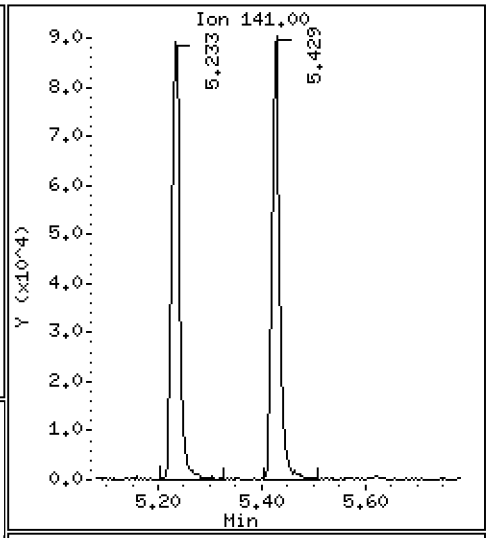
Column phase: Rxi-17sil

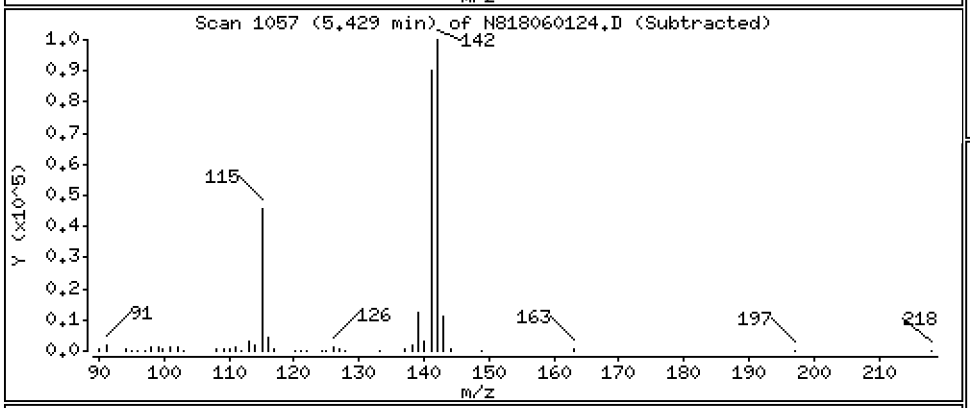
Column diameter: 0.25

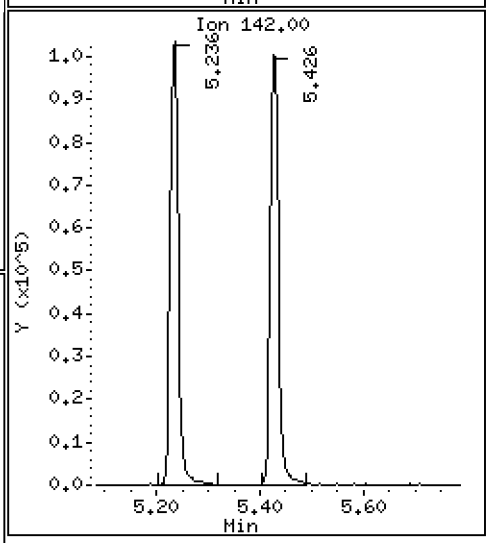
5 1-methylnaphthalene

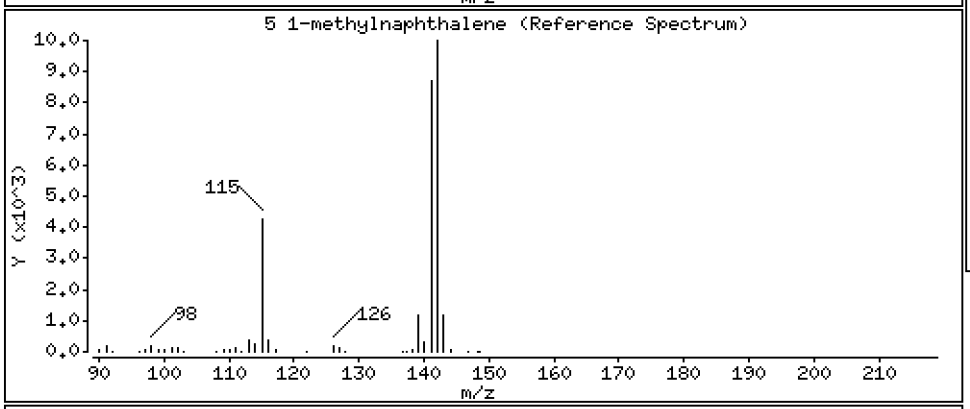
Concentration: 1.338 ug/mL

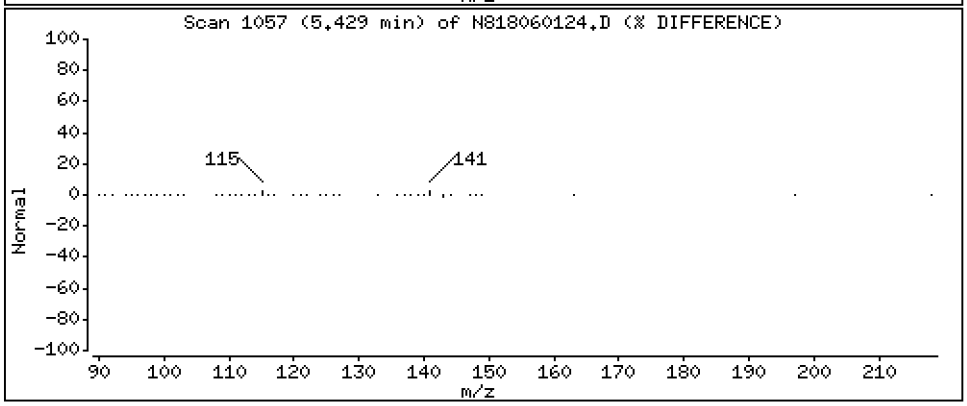












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

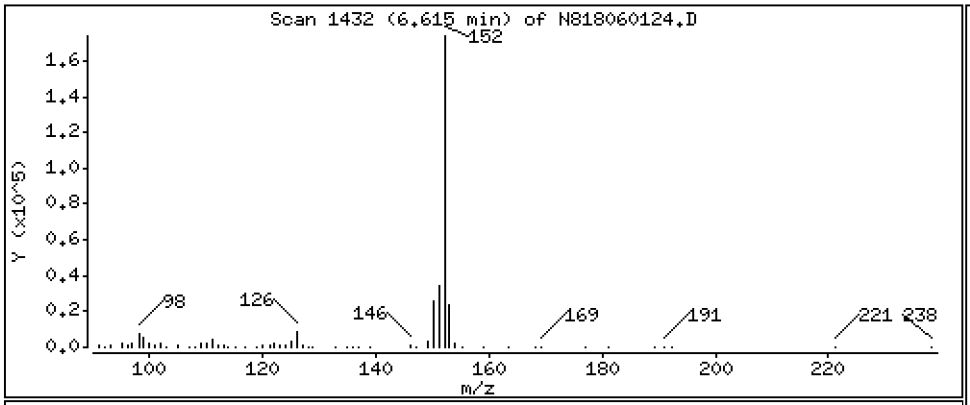
Operator: JZ

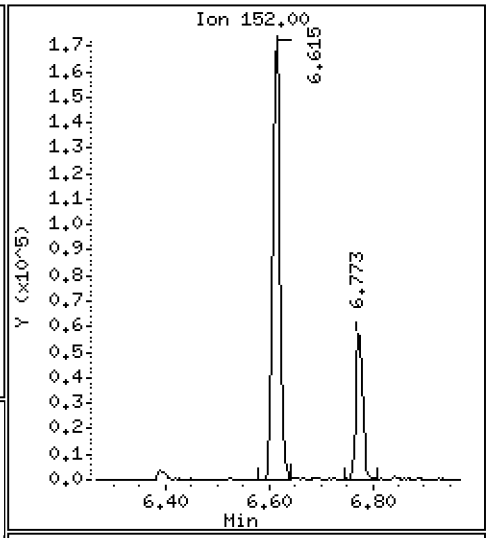
Column phase: Rxi-17sil

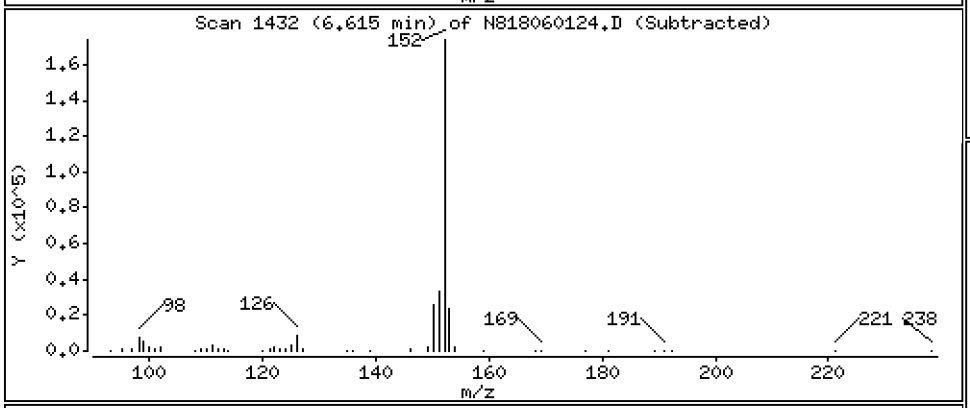
Column diameter: 0.25

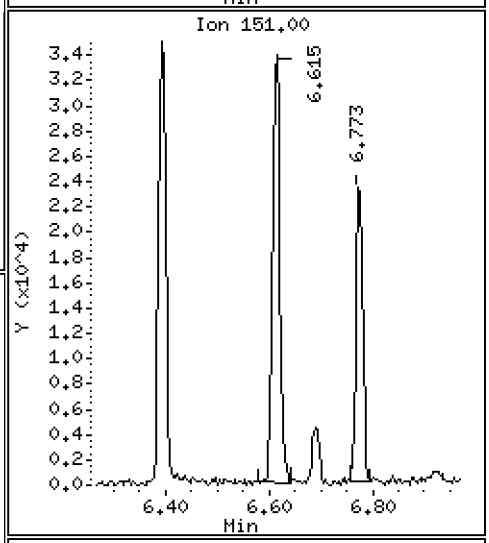
9 Acenaphthylene

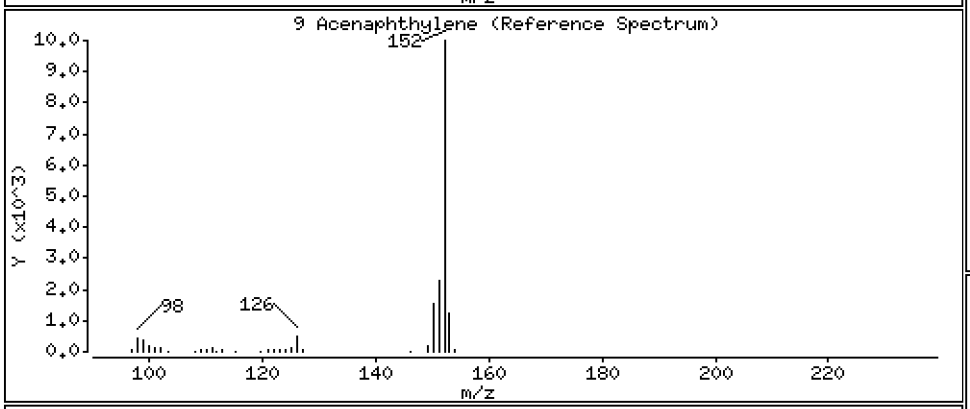
Concentration: 1.522 ug/mL

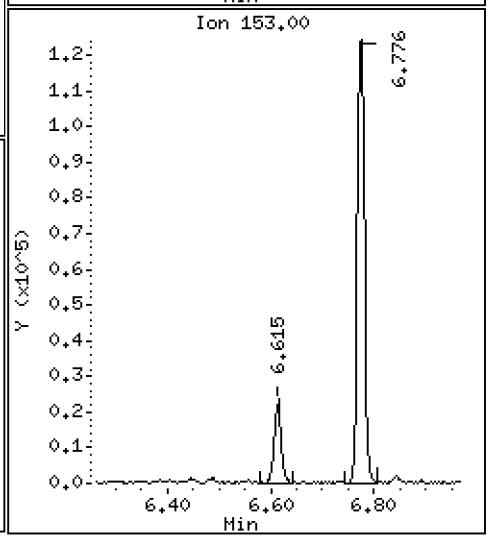


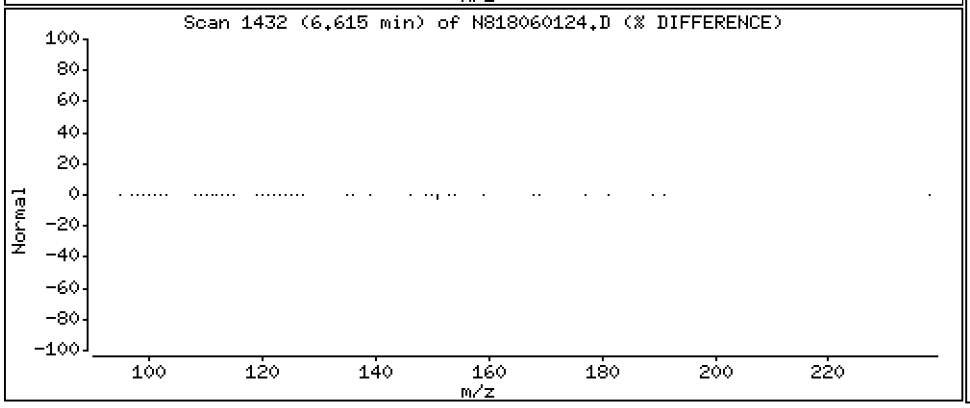












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

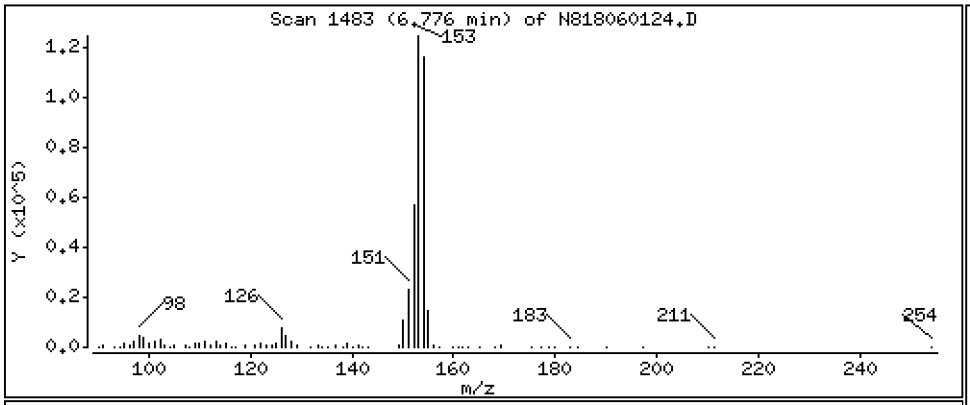
Operator: JZ

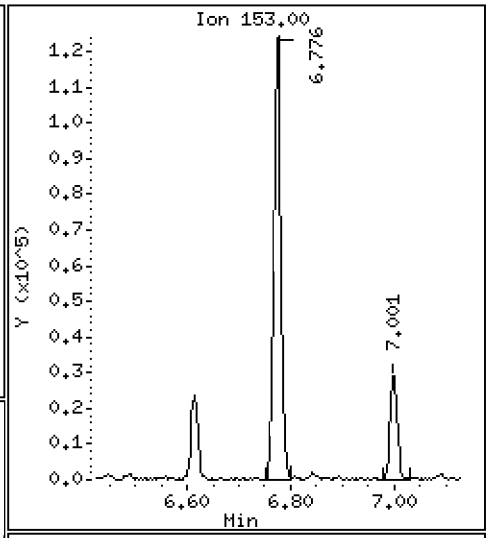
Column phase: Rxi-17sil

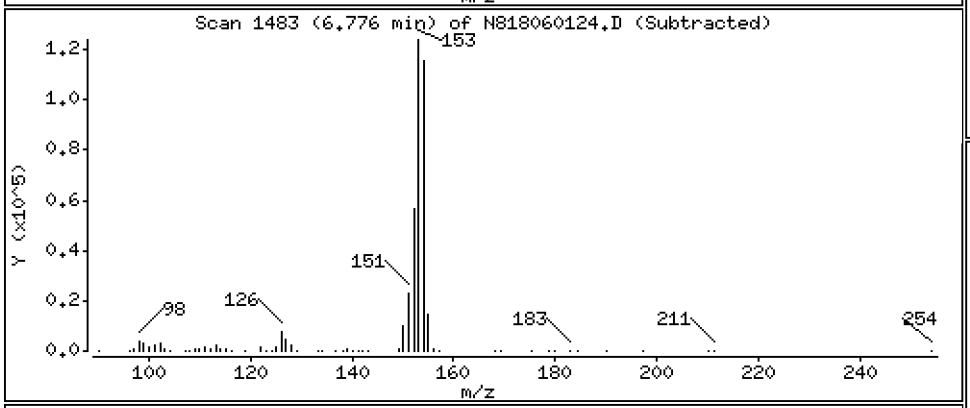
Column diameter: 0.25

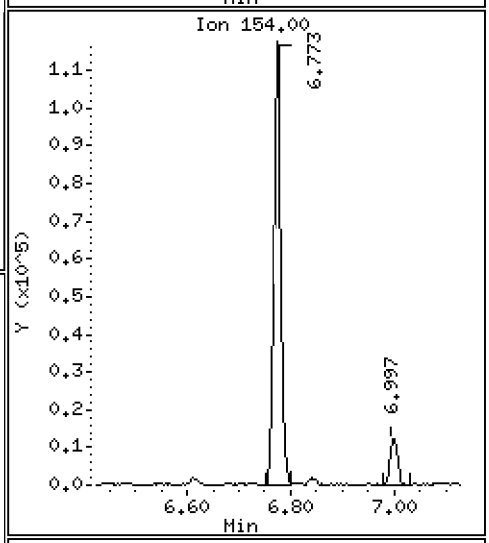
11 Acenaphthene

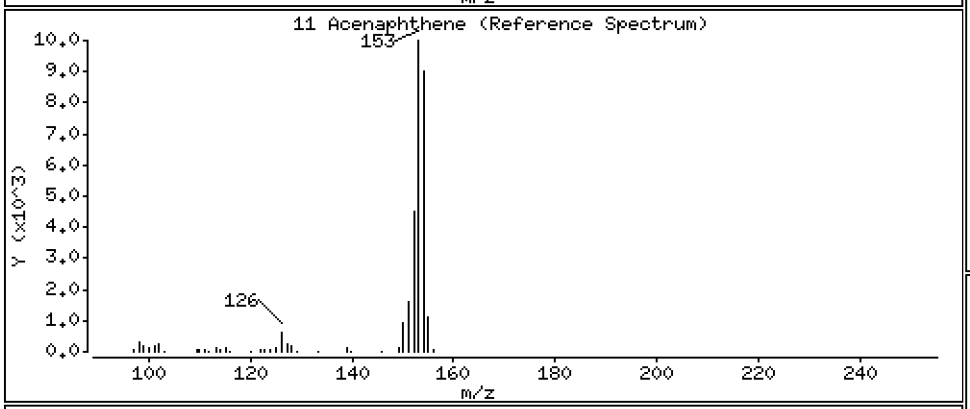
Concentration: 1.407 ug/mL

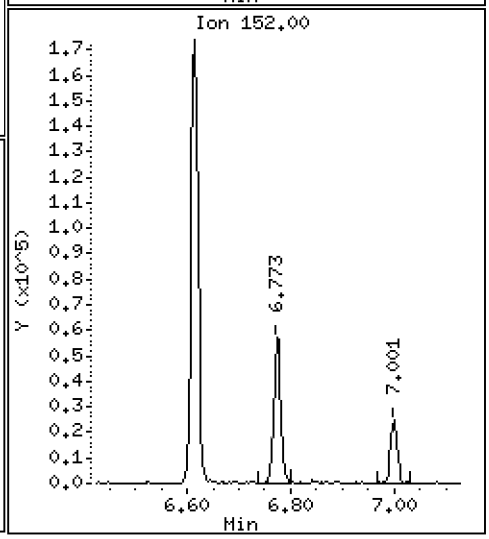


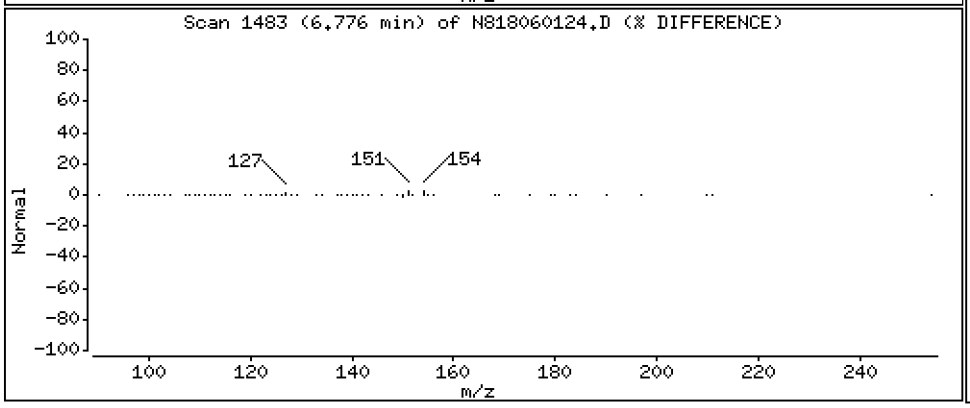












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

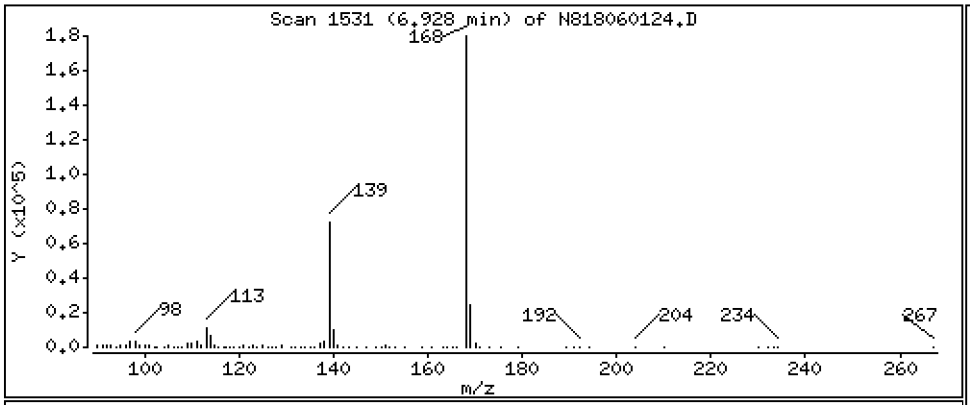
Operator: JZ

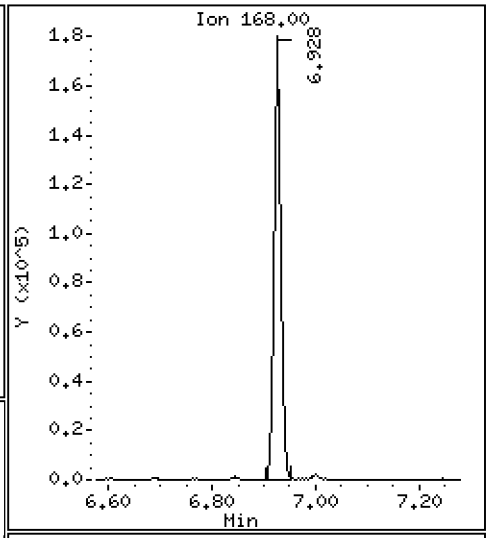
Column phase: Rxi-17sil

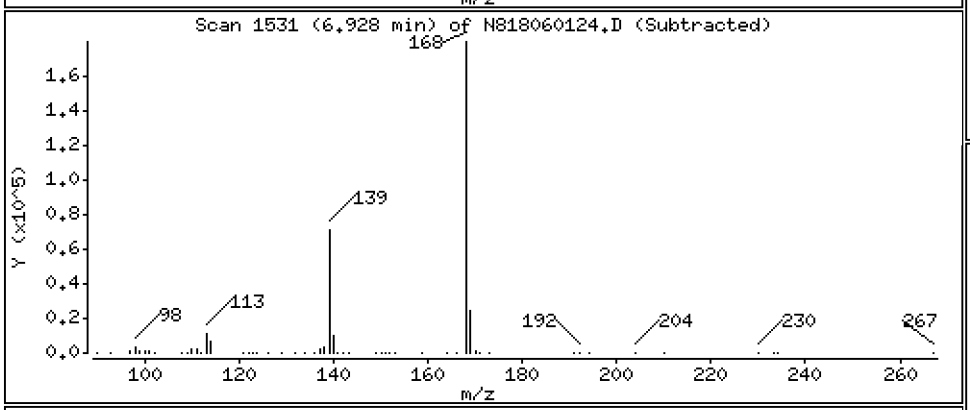
Column diameter: 0.25

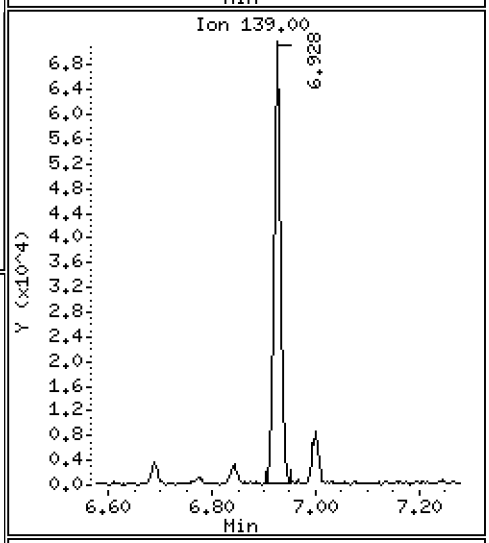
12 Dibenzofuran

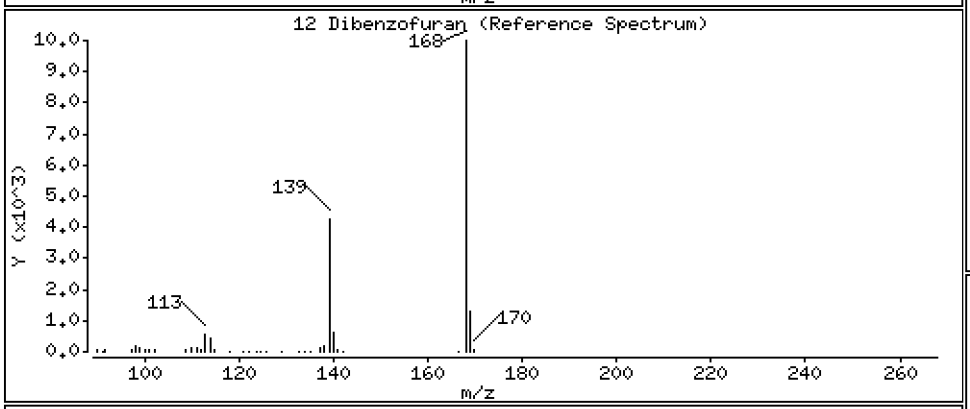
Concentration: 1.491 ug/mL

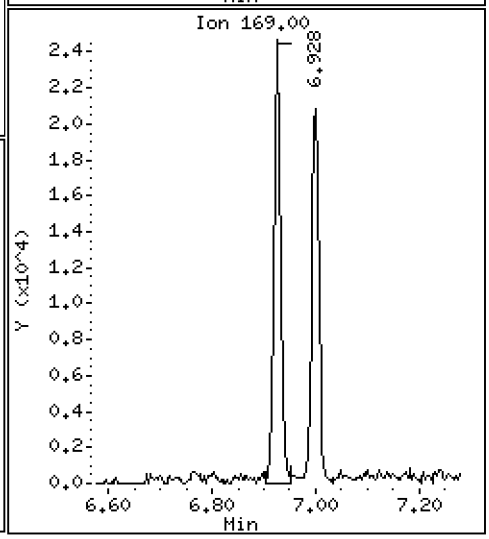


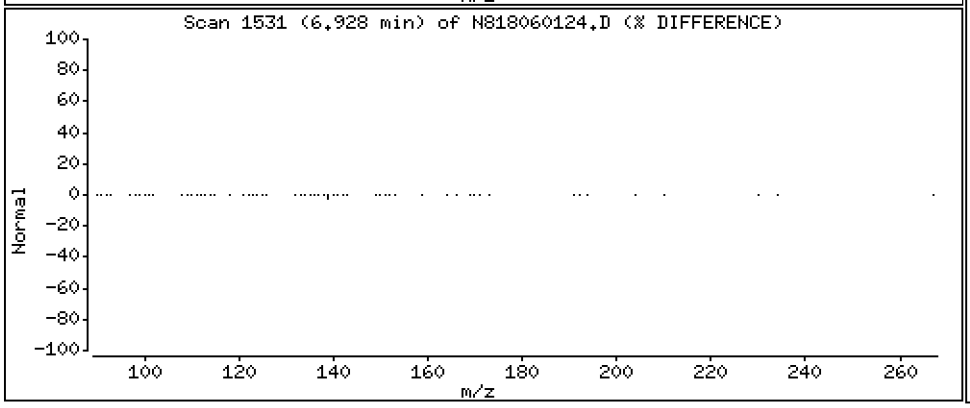












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

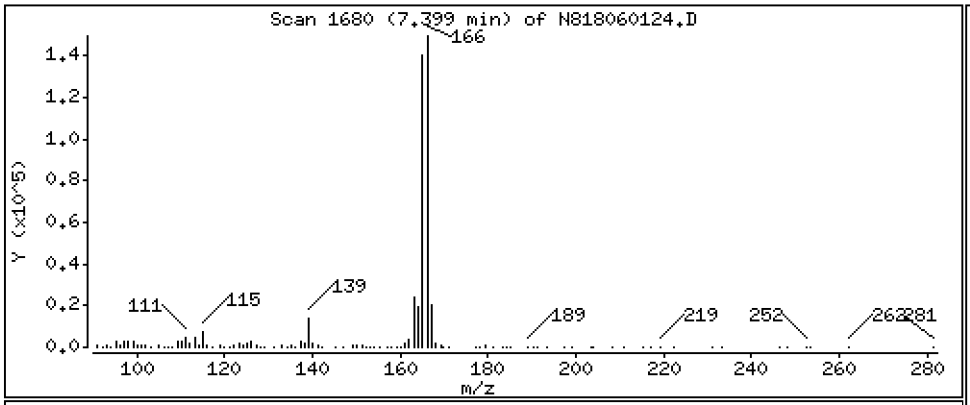
Operator: JZ

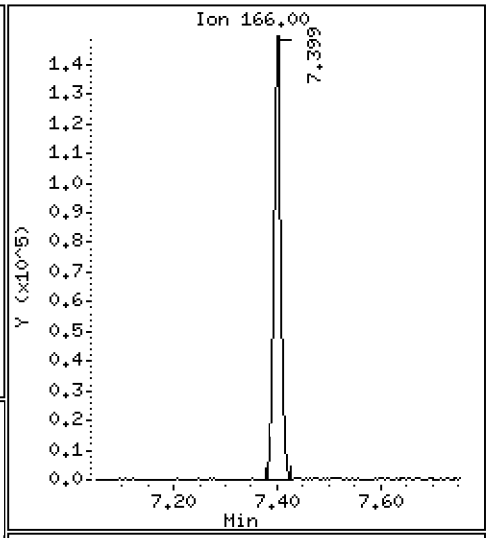
Column phase: Rxi-17sil

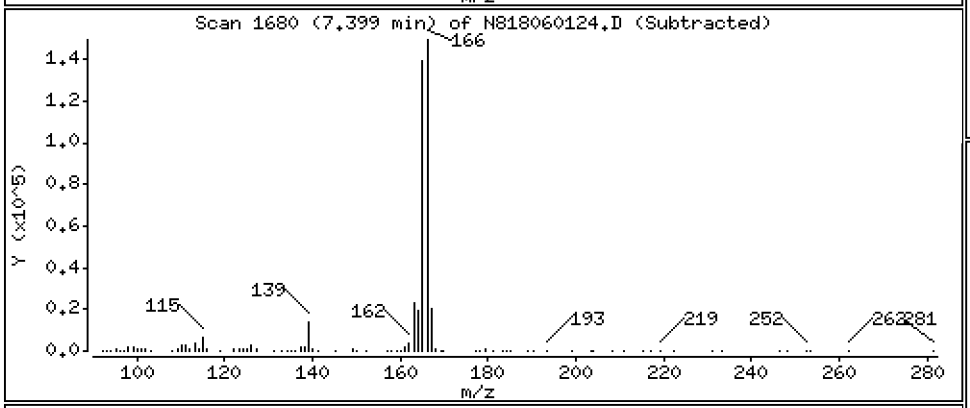
Column diameter: 0.25

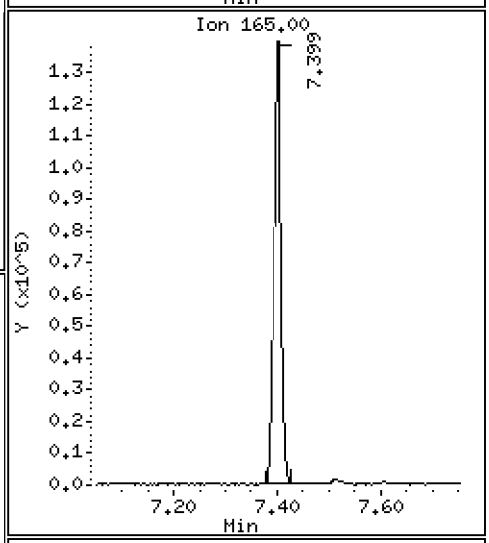
14 Fluorene

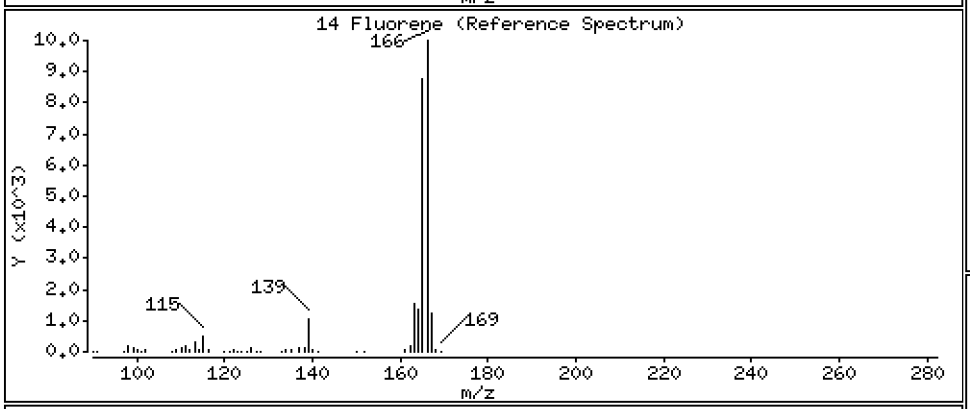
Concentration: 1.618 ug/mL

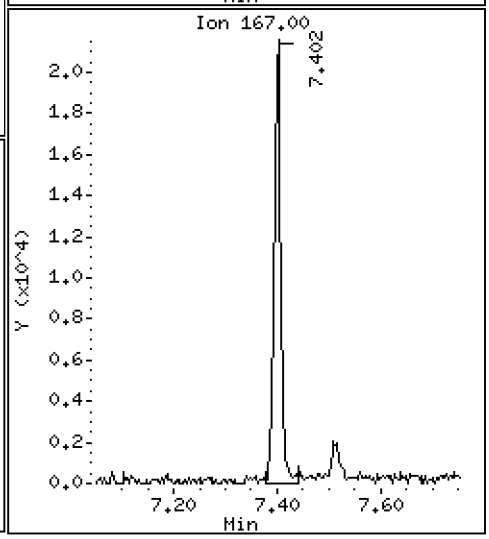


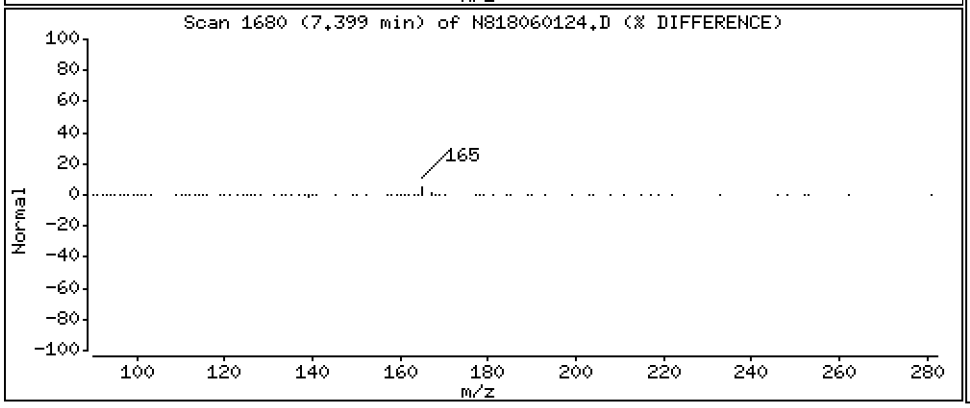












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

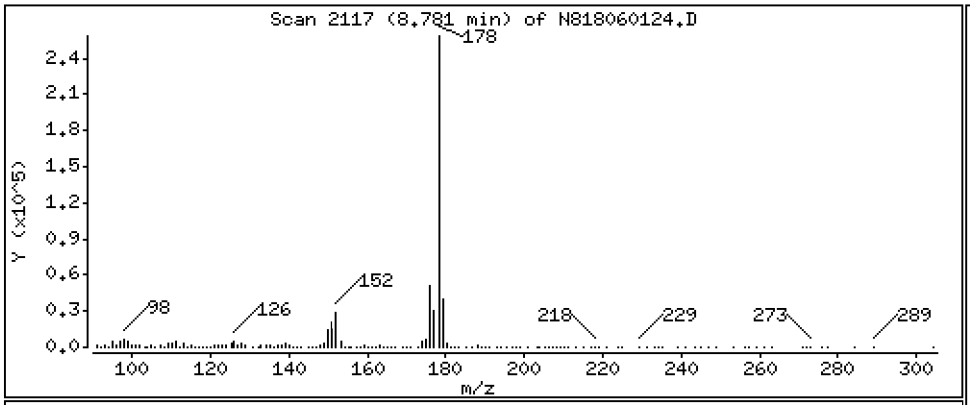
Operator: JZ

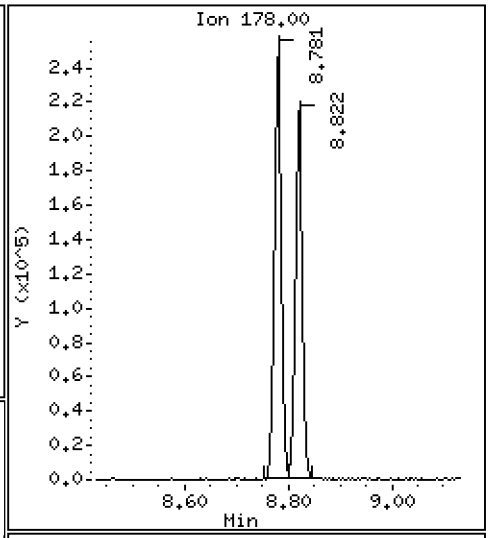
Column phase: Rxi-17sil

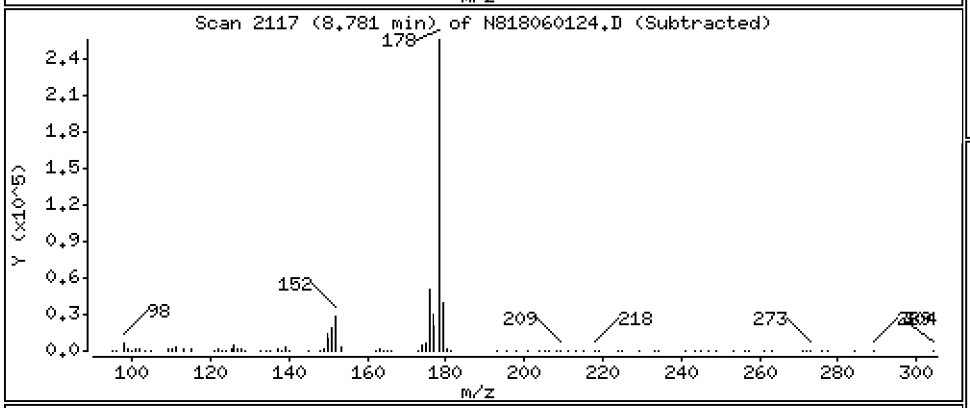
Column diameter: 0.25

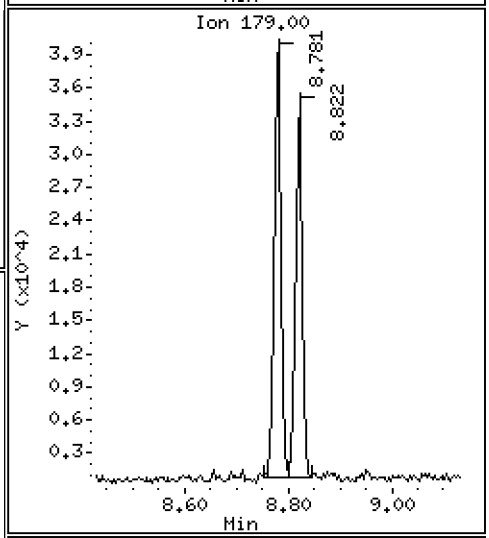
16 Phenanthrene

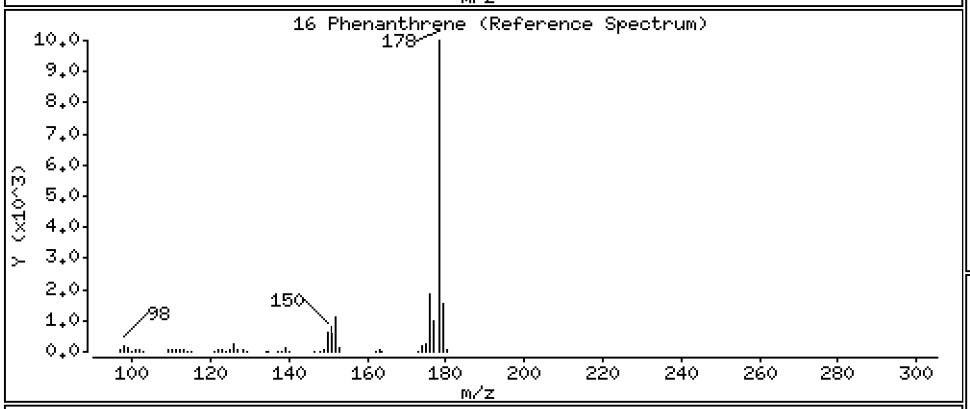
Concentration: 1.957 ug/mL

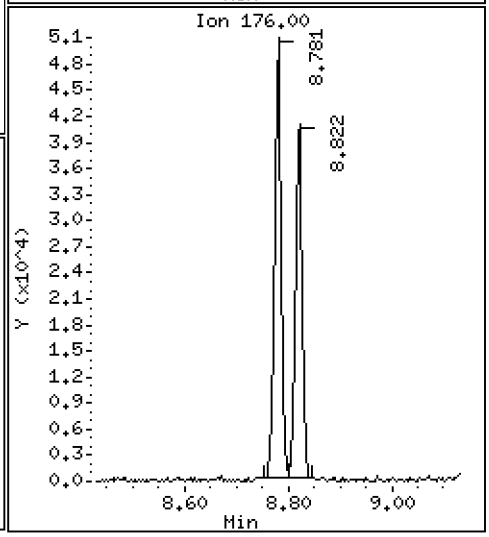


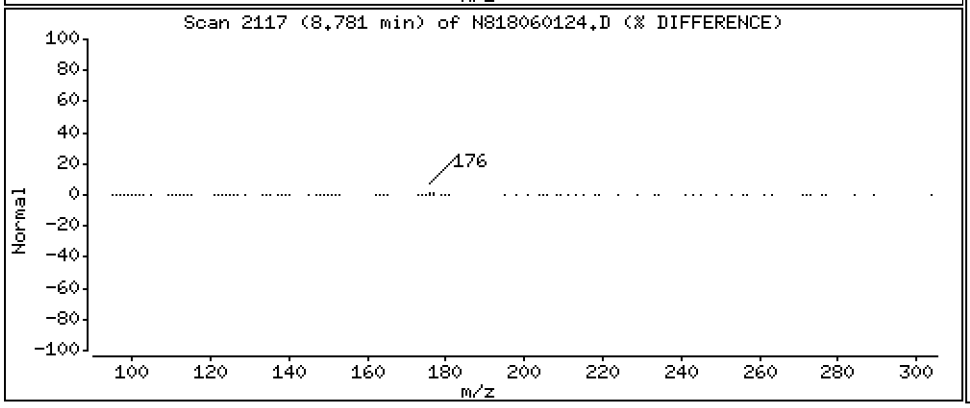












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

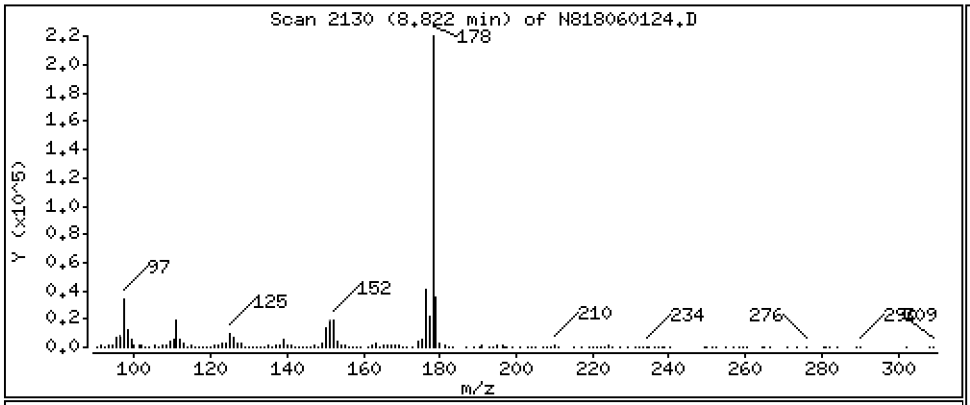
Operator: JZ

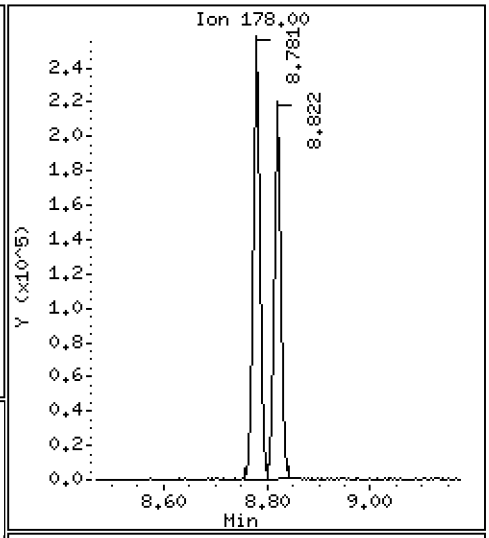
Column phase: Rxi-17sil

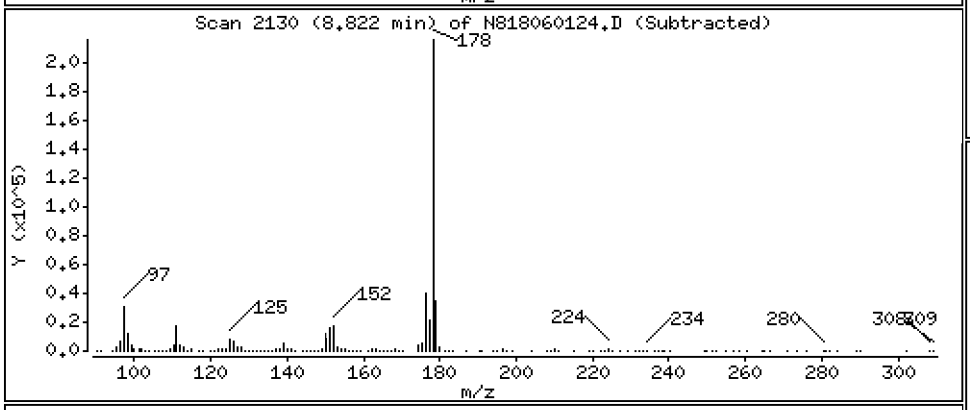
Column diameter: 0.25

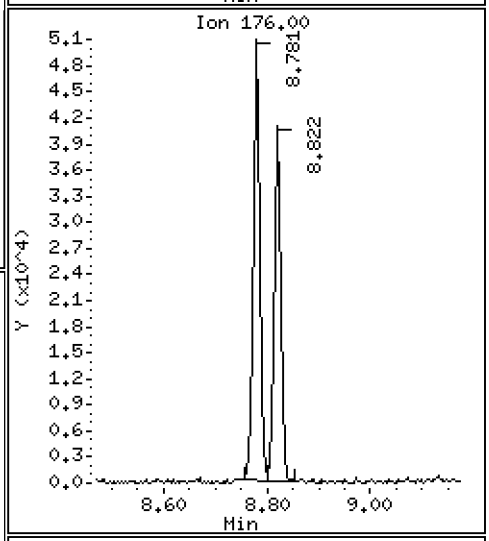
17 Anthracene

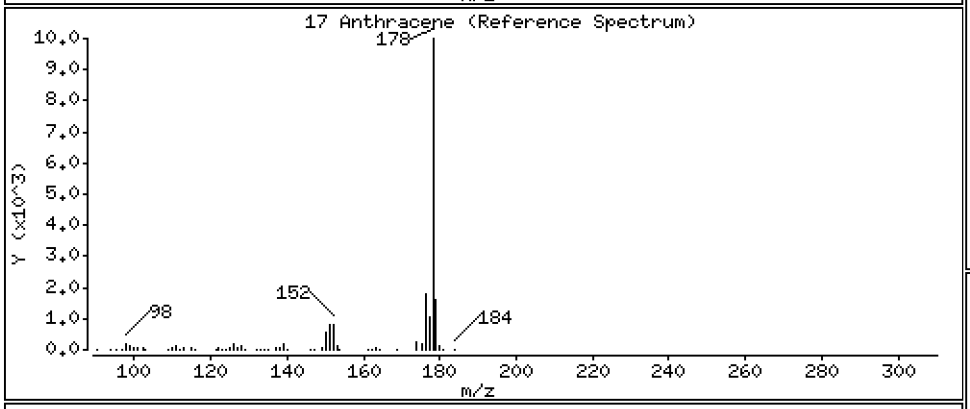
Concentration: 1.831 ug/mL

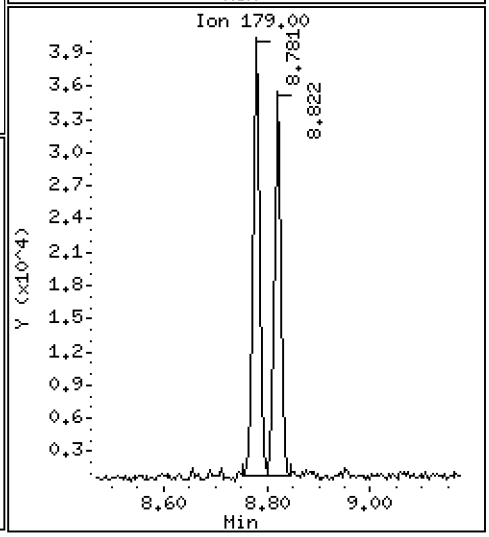


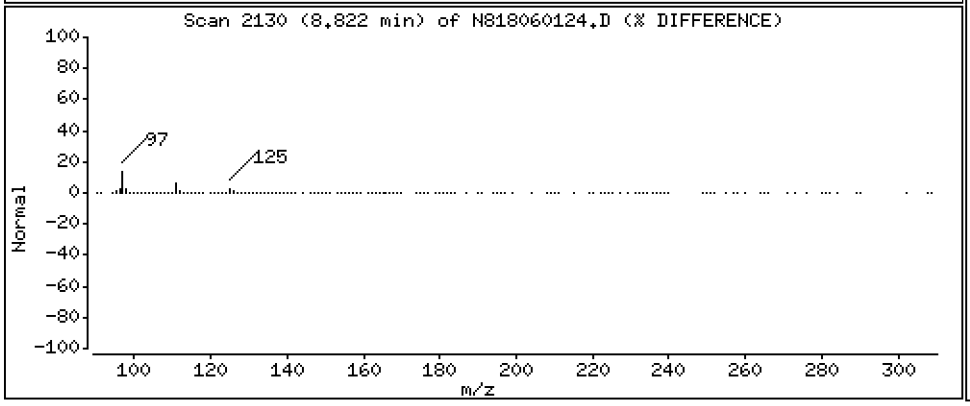












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

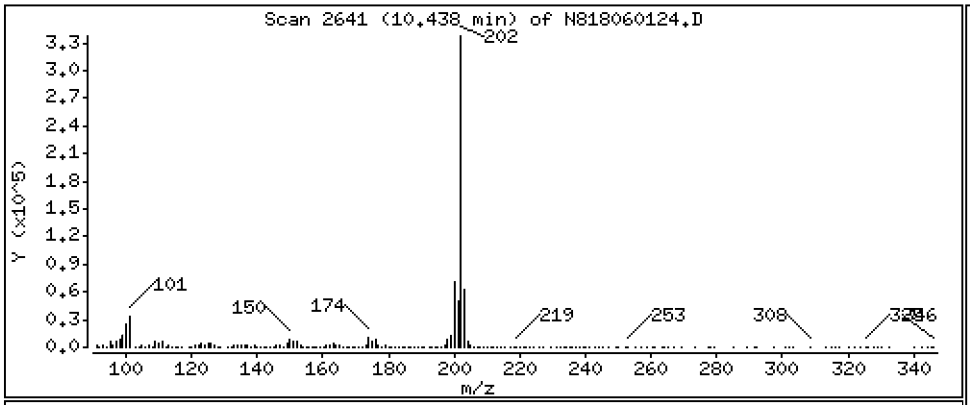
Operator: JZ

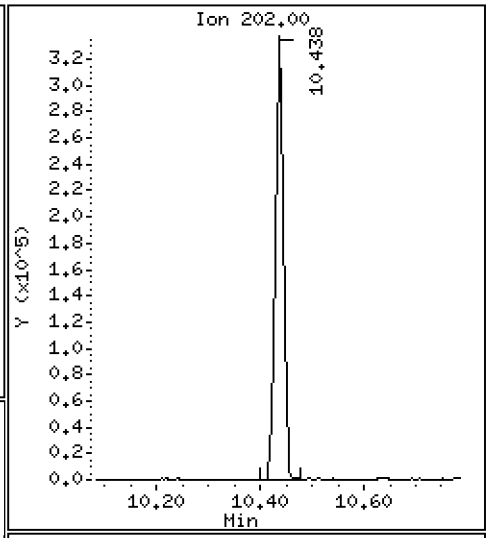
Column phase: Rxi-17sil

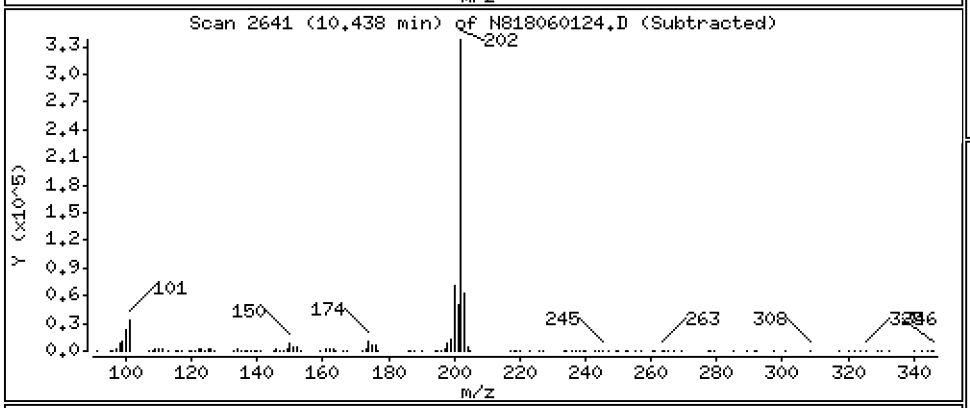
Column diameter: 0.25

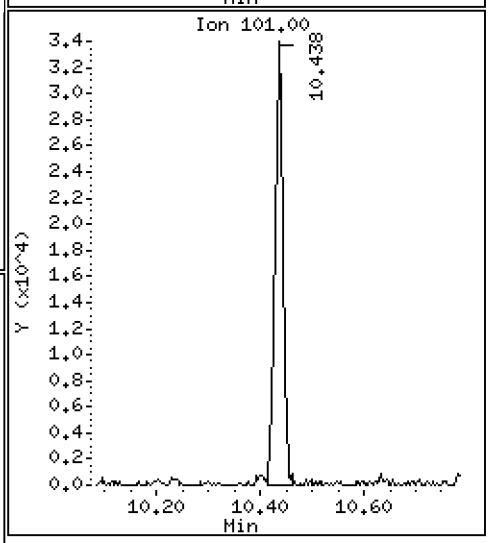
22 Fluoranthene

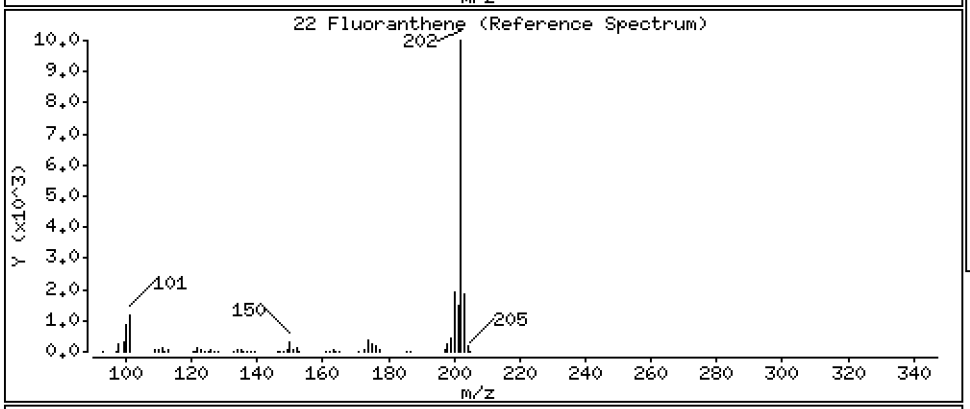
Concentration: 2.711 ug/mL

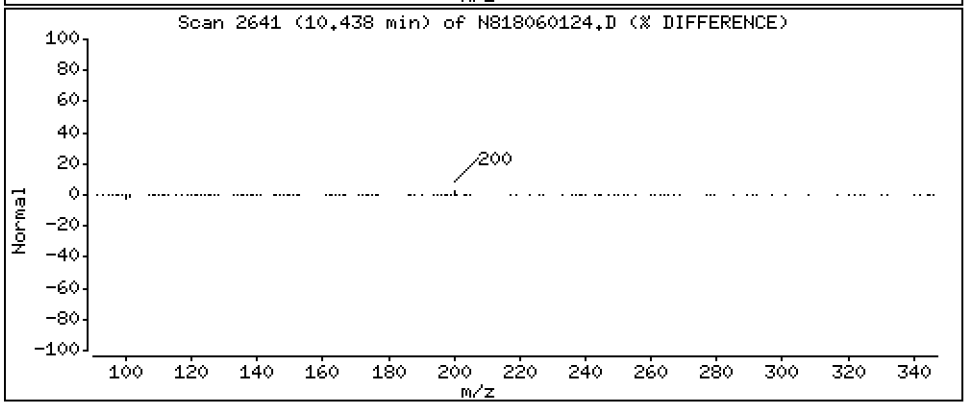












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

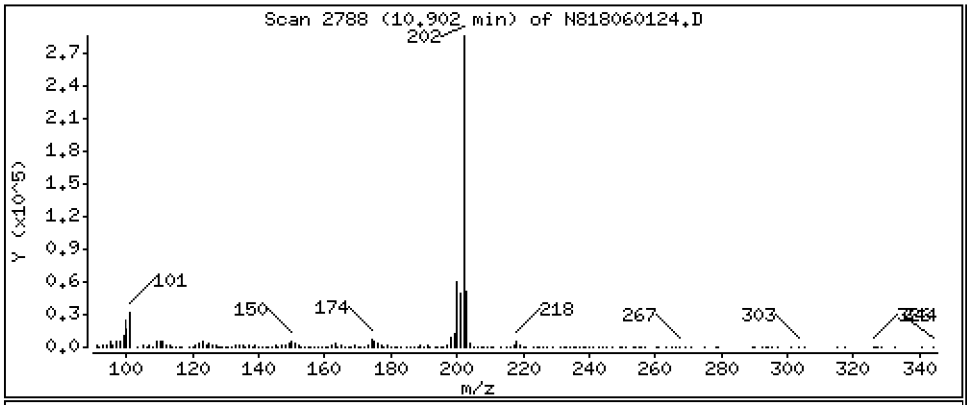
Operator: JZ

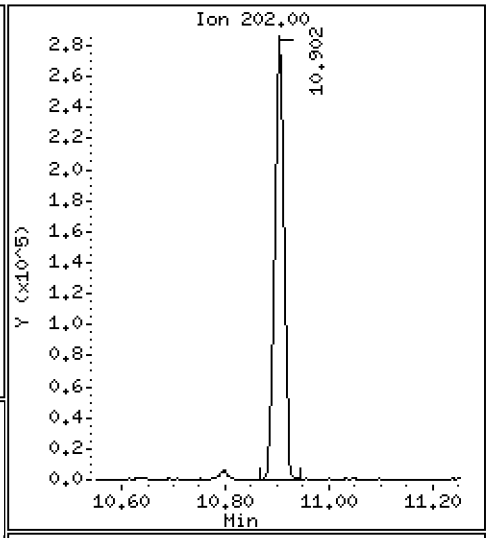
Column phase: Rxi-17sil

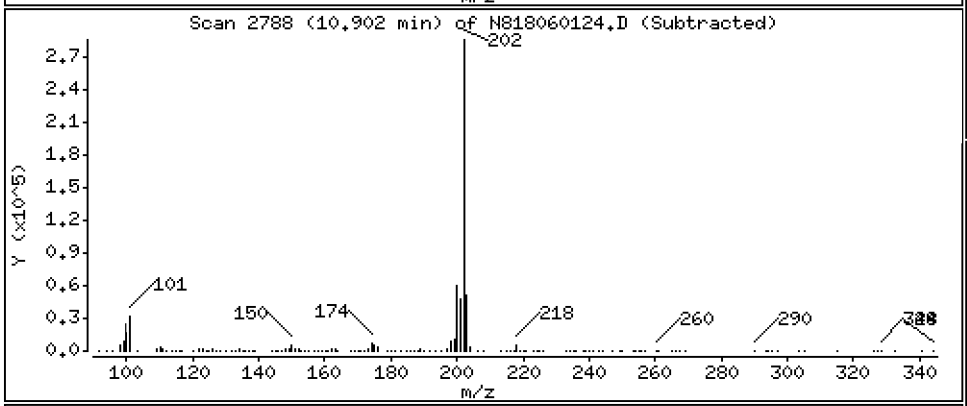
Column diameter: 0.25

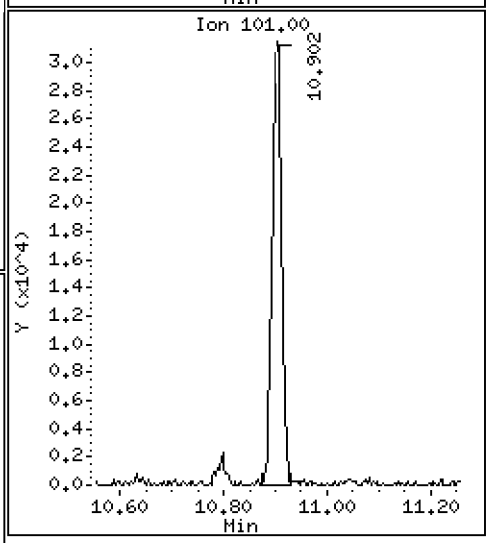
23 Pyrene

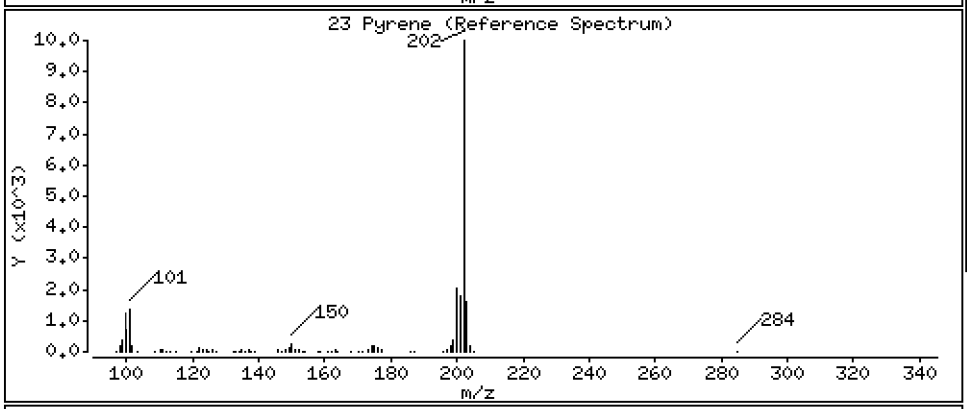
Concentration: 3.056 ug/mL

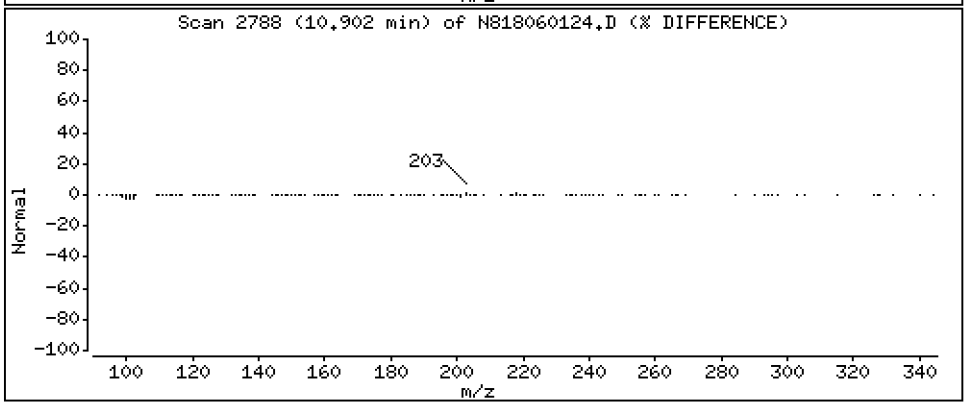












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

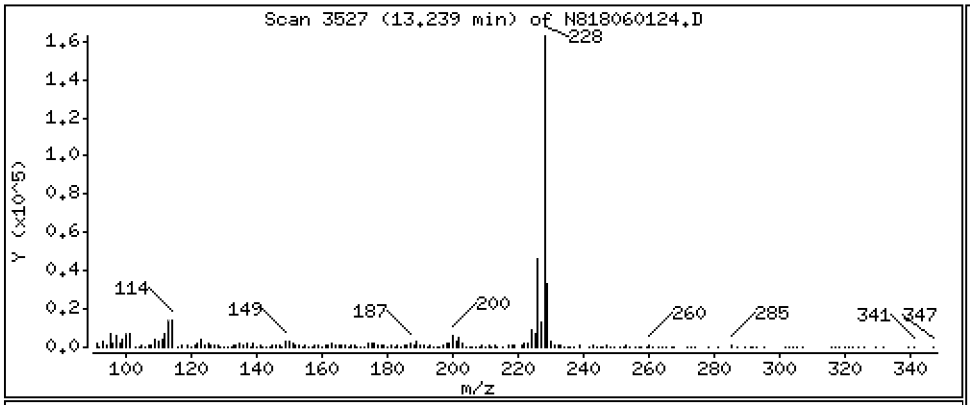
Operator: JZ

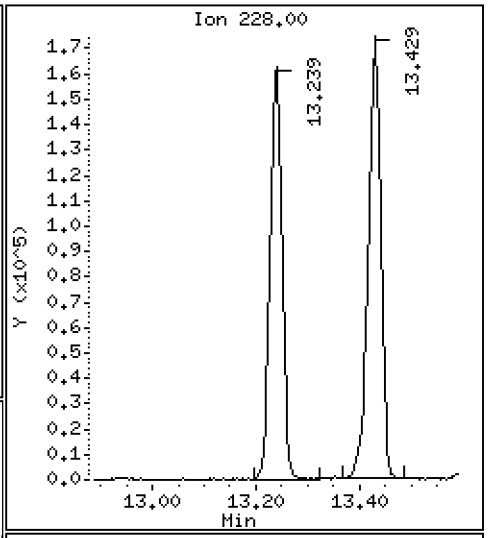
Column phase: Rxi-17sil

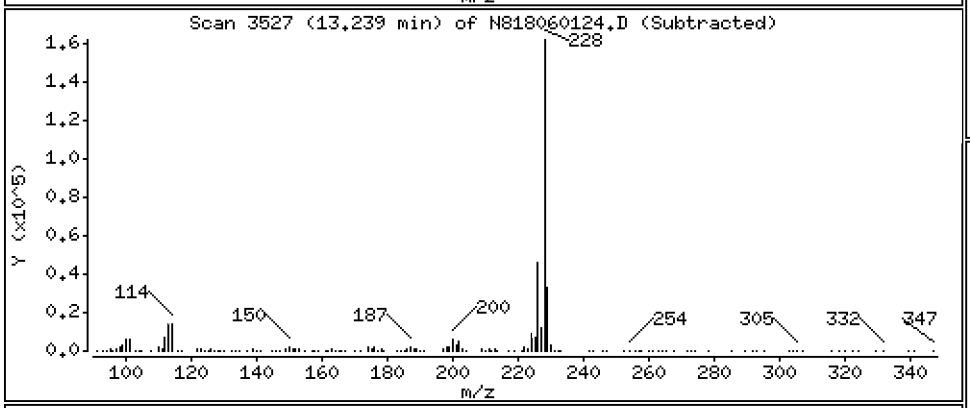
Column diameter: 0.25

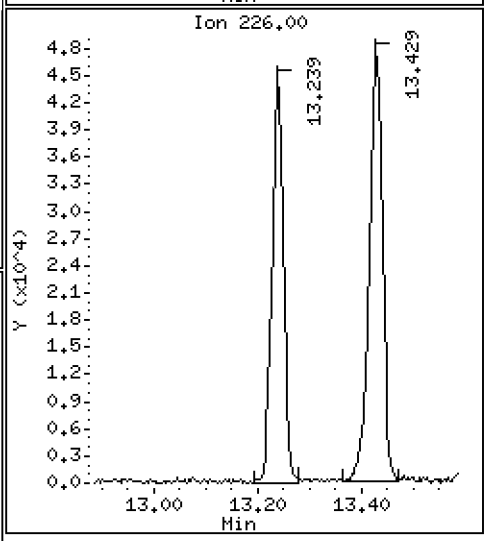
24 Benzo(a)anthracene

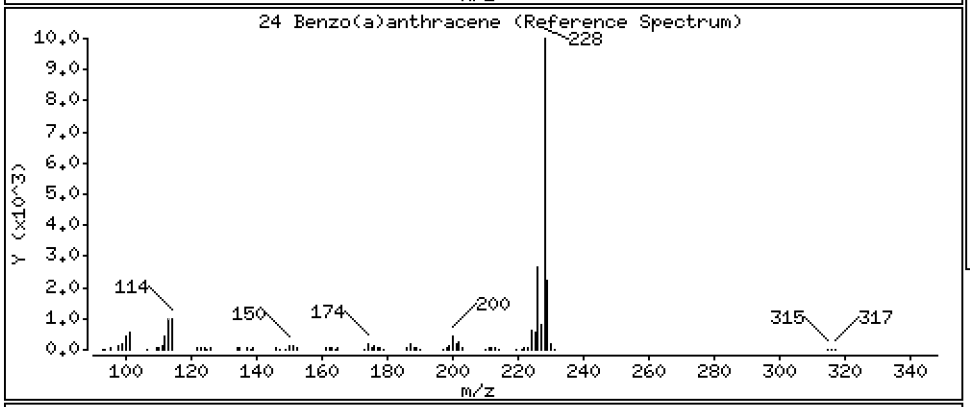
Concentration: 2.303 ug/mL

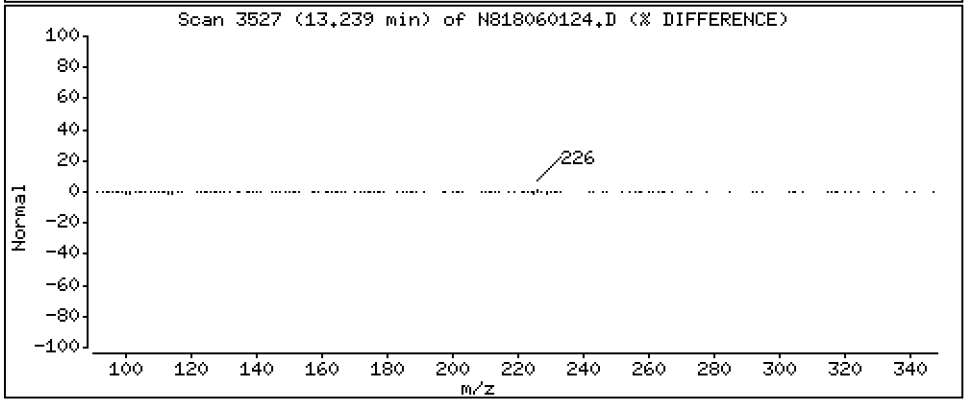












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

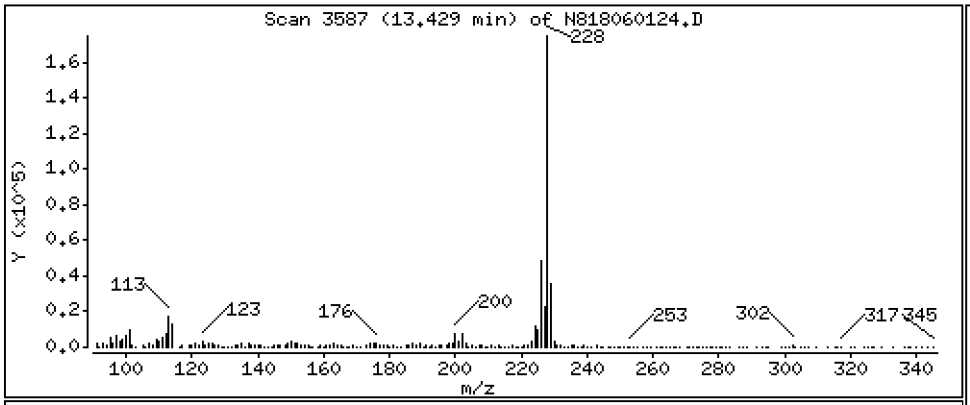
Operator: JZ

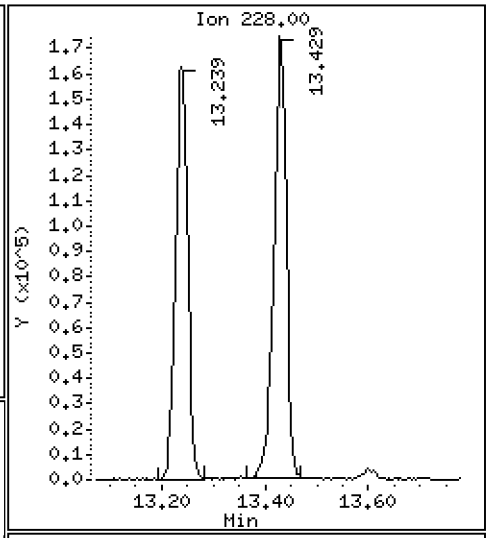
Column phase: Rxi-17sil

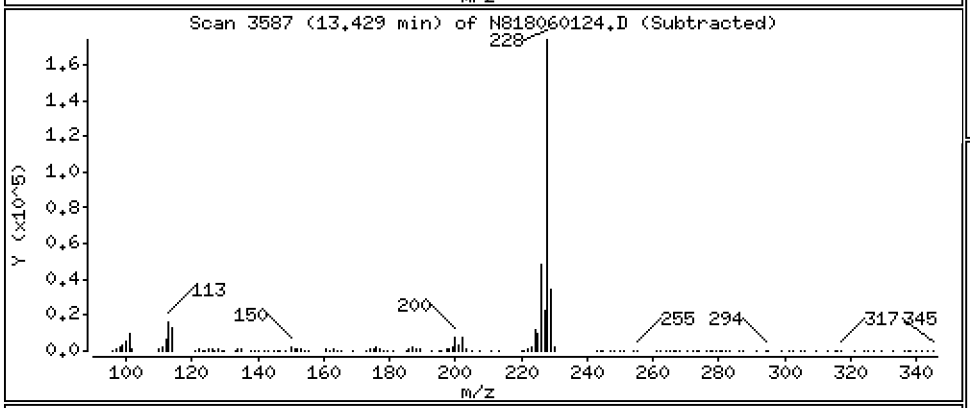
Column diameter: 0.25

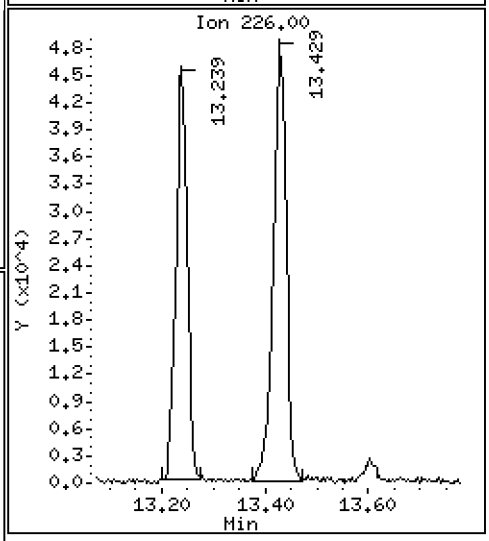
27 Chrysene

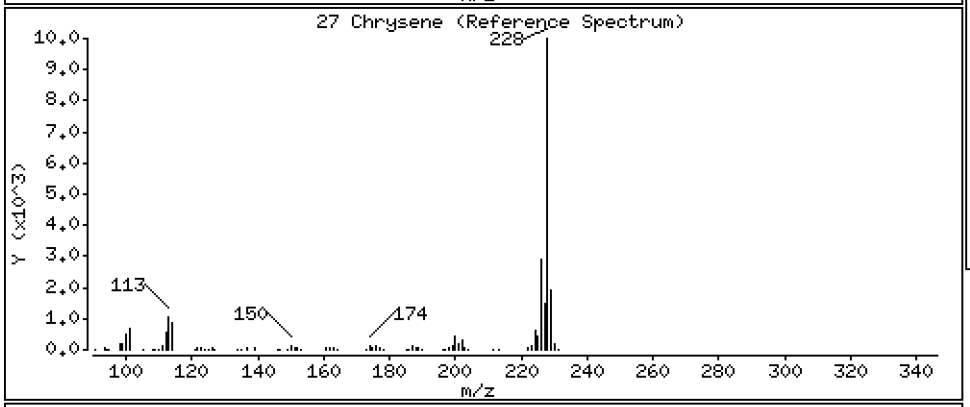
Concentration: 2.542 ug/mL

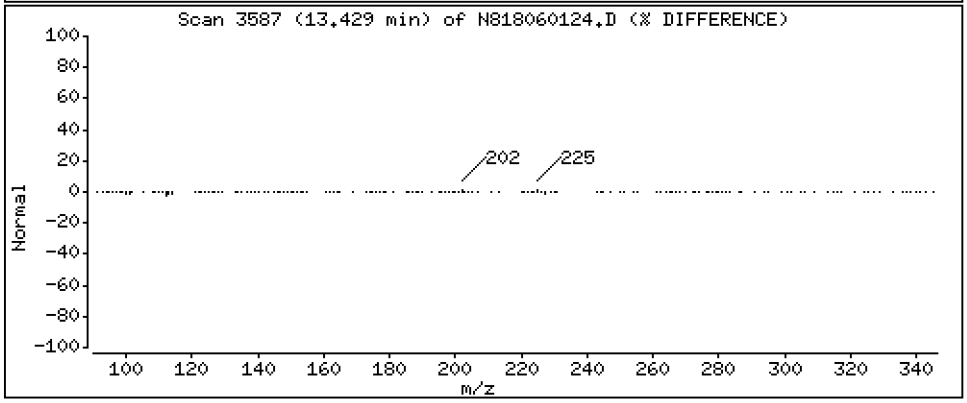












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

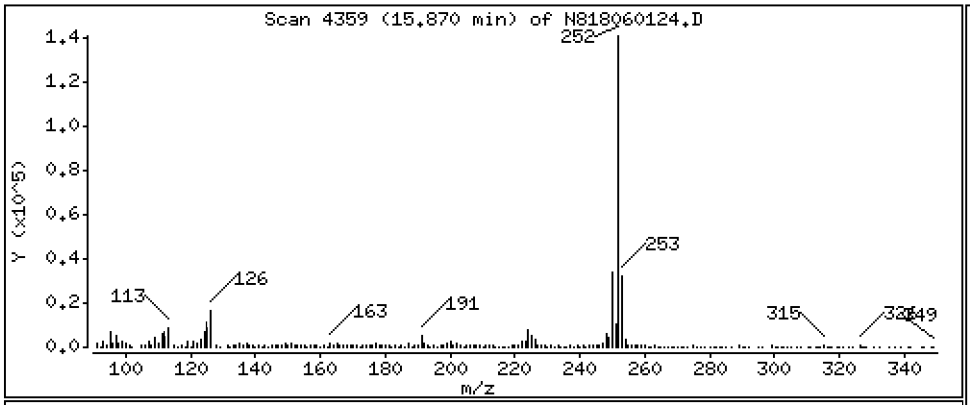
Operator: JZ

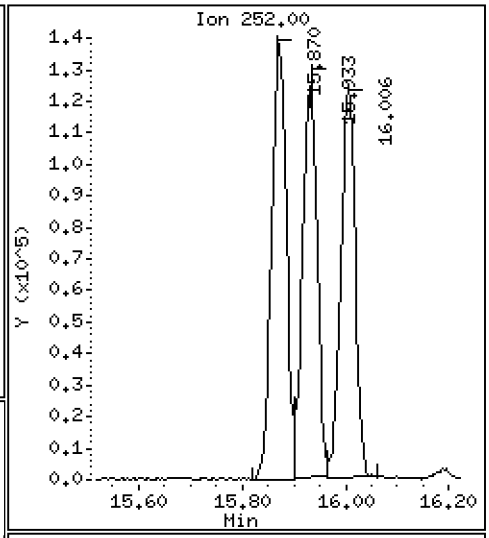
Column phase: Rxi-17sil

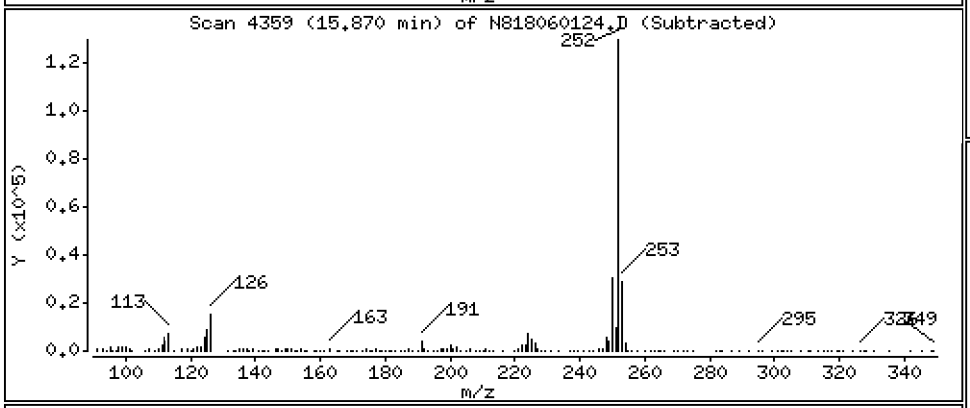
Column diameter: 0.25

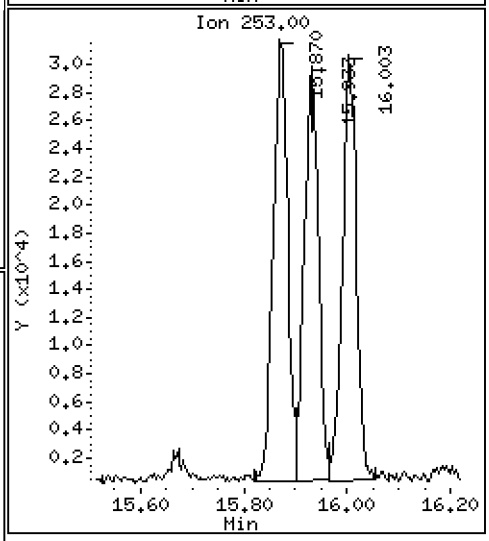
28 Benzo(b)fluoranthene

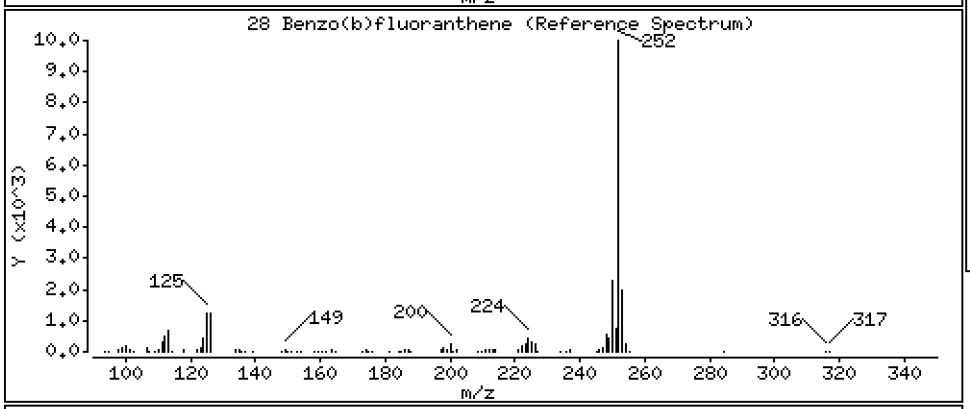
Concentration: 2.318 ug/mL

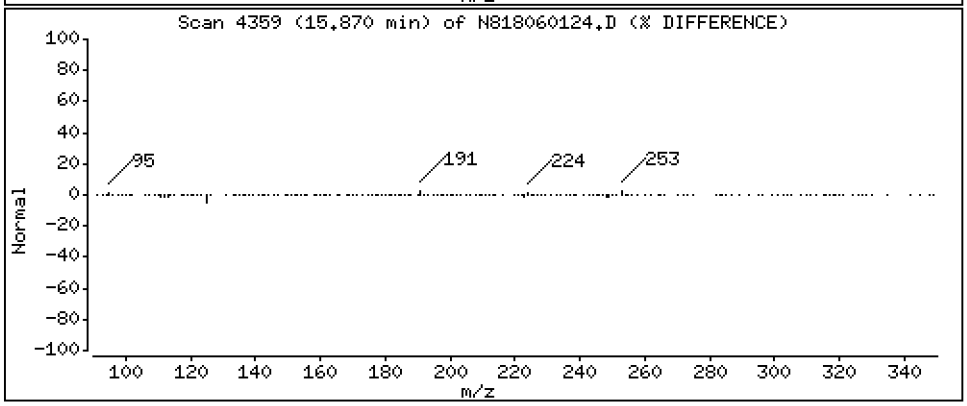












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

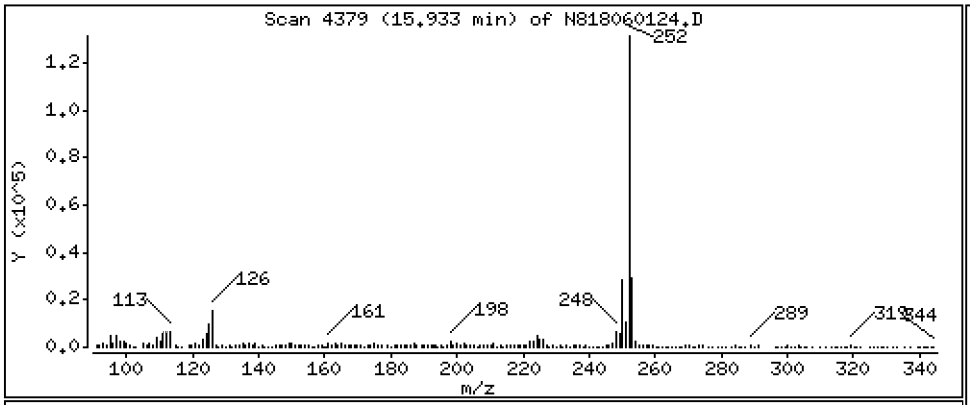
Operator: JZ

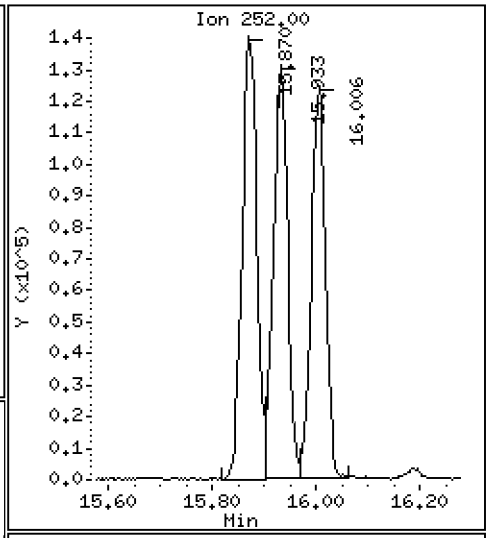
Column phase: Rxi-17sil

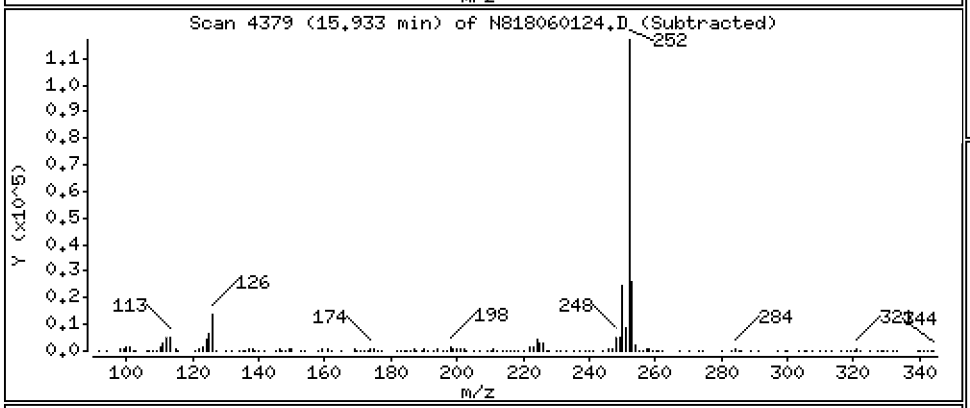
Column diameter: 0.25

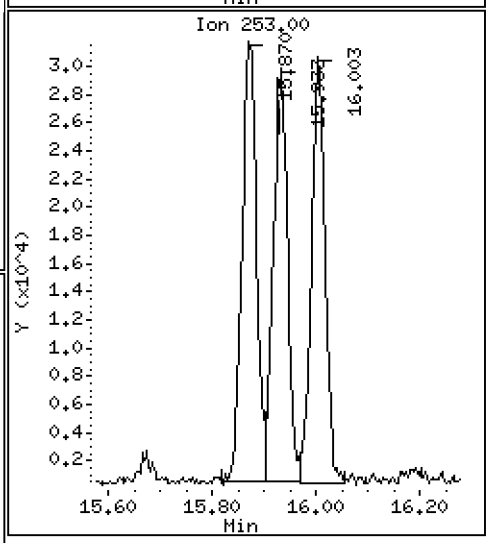
29 Benzo(k)fluoranthene

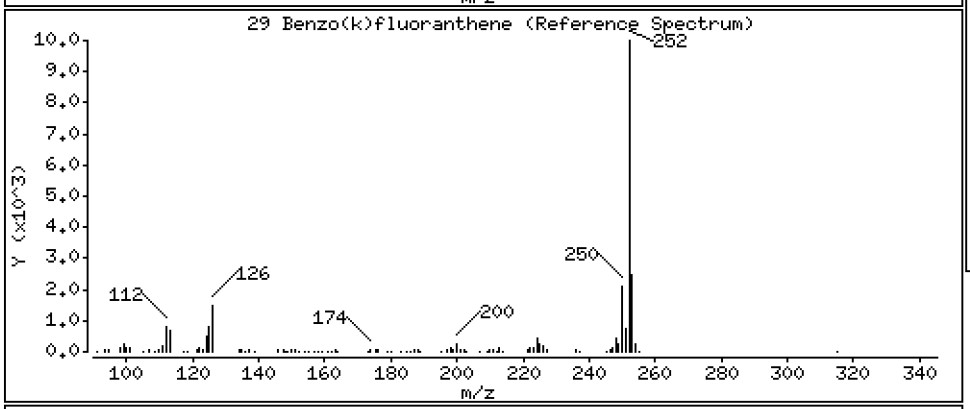
Concentration: 2.126 ug/mL

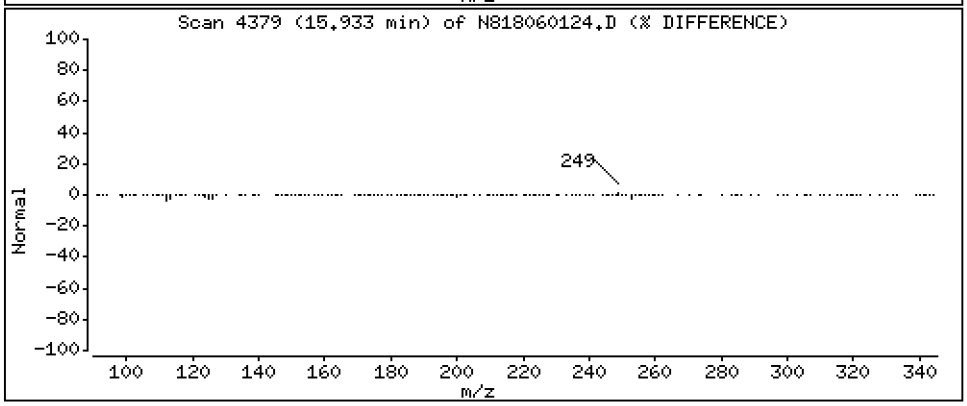












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

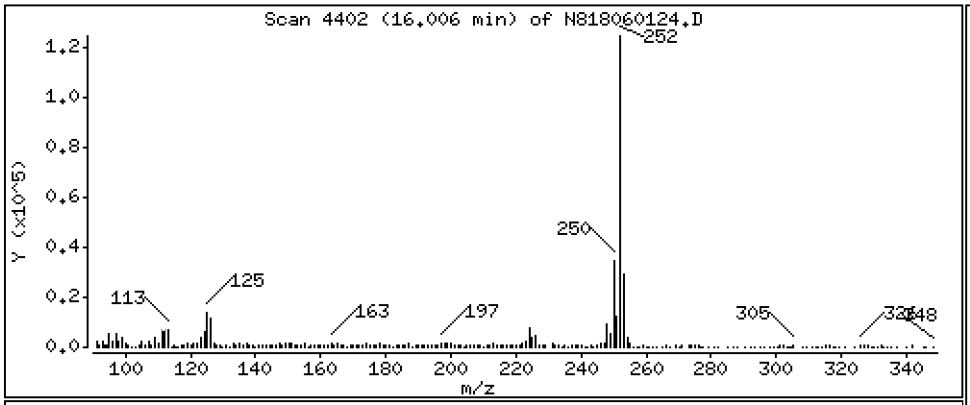
Operator: JZ

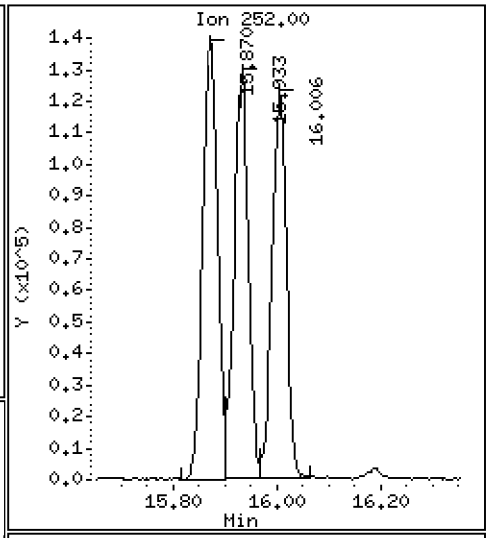
Column phase: Rxi-17sil

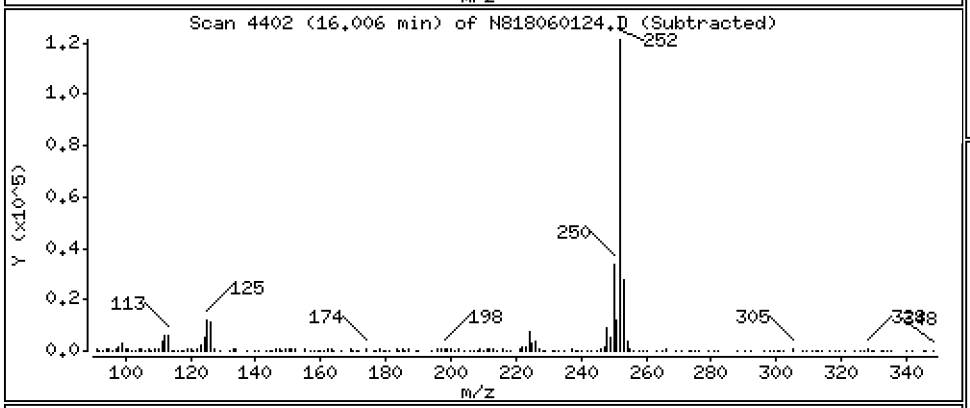
Column diameter: 0.25

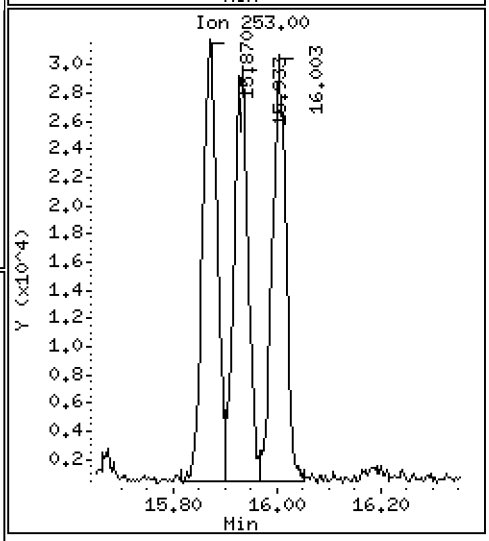
30 Benzo(j)fluoranthene

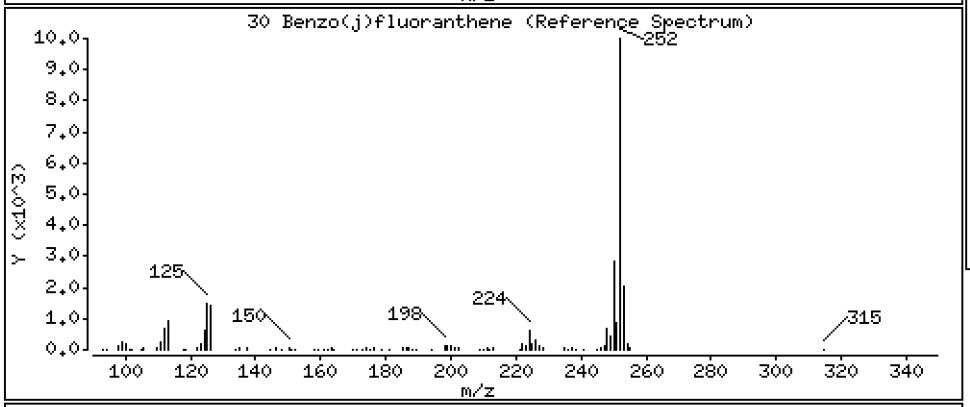
Concentration: 2.014 ug/mL

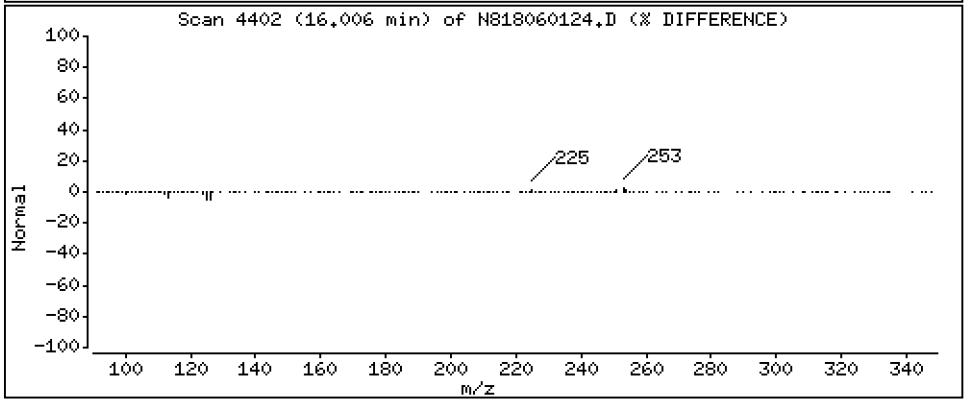












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

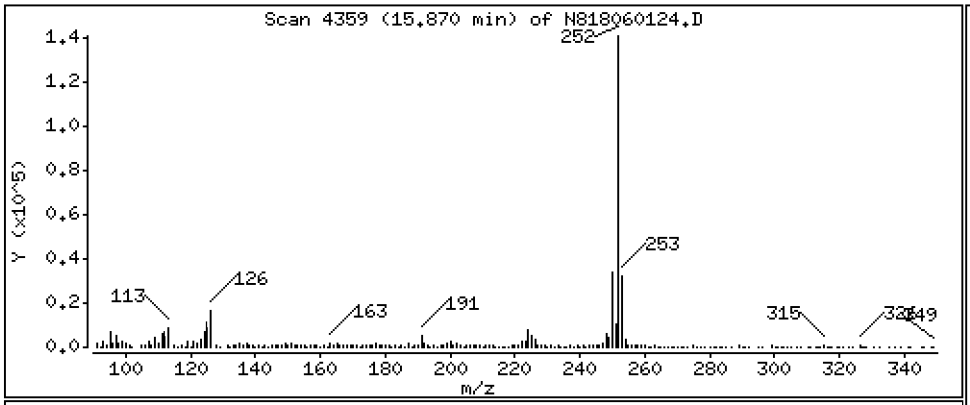
Operator: JZ

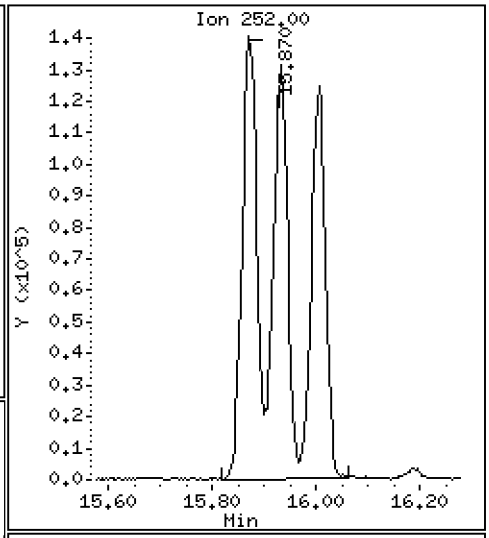
Column phase: Rxi-17sil

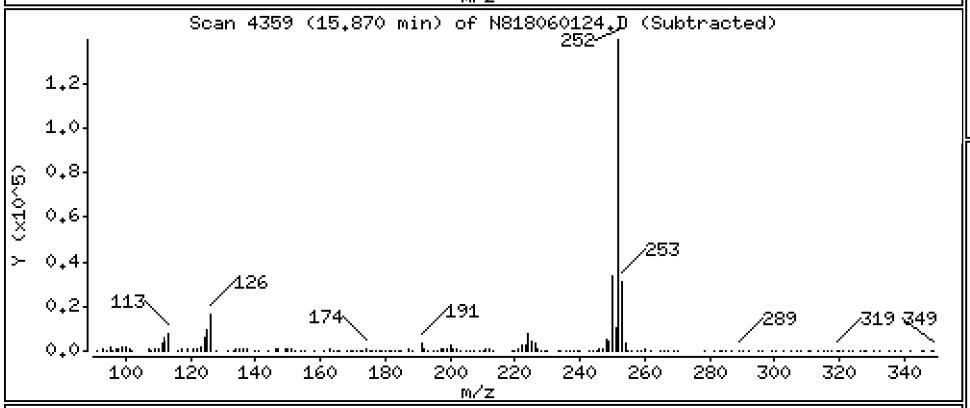
Column diameter: 0.25

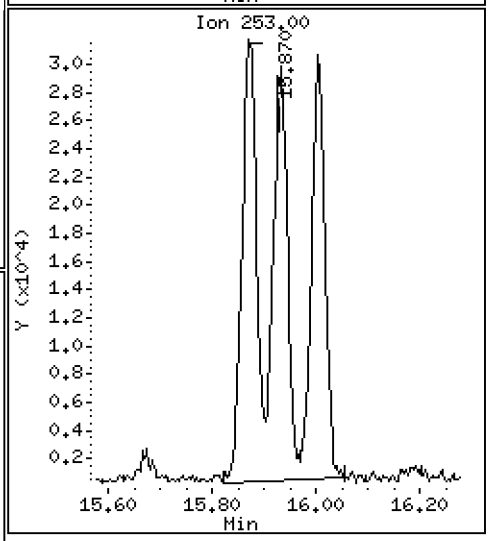
31 Total Benzofluoranthenes

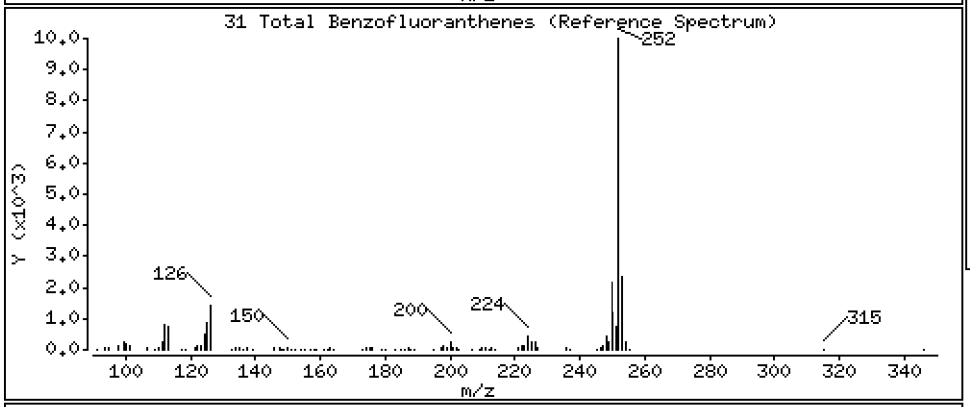
Concentration: 6.512 ug/mL

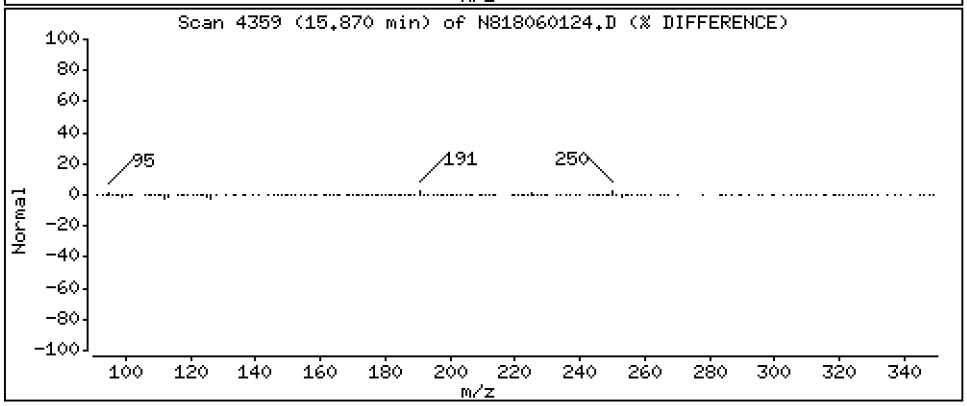












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

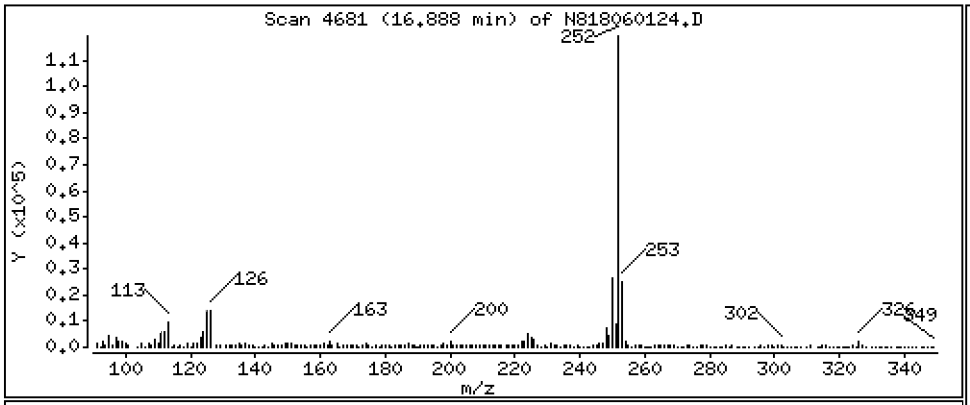
Operator: JZ

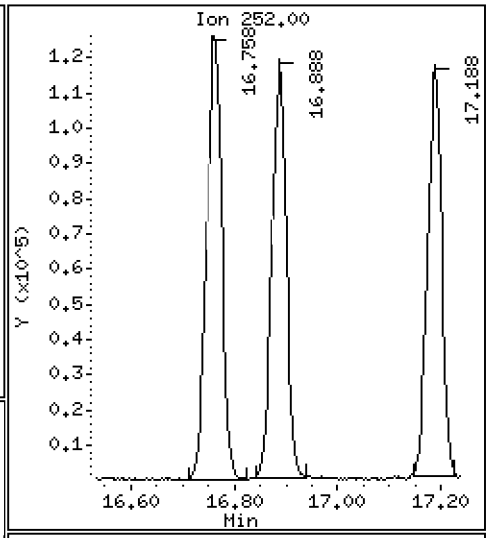
Column phase: Rxi-17sil

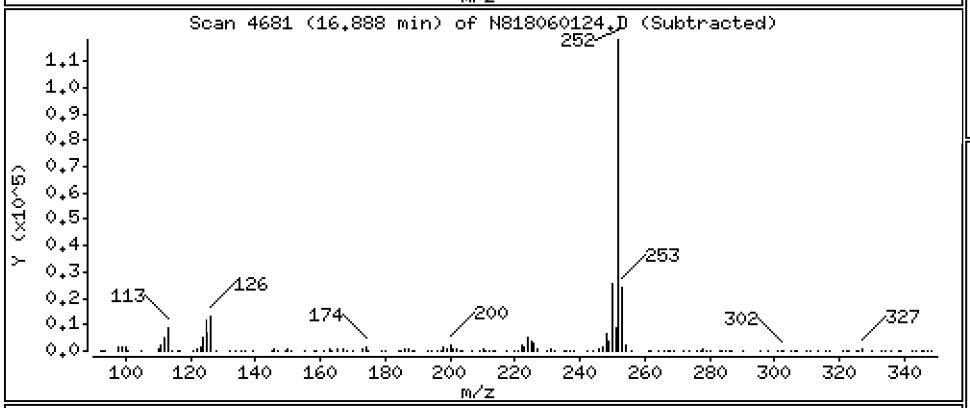
Column diameter: 0.25

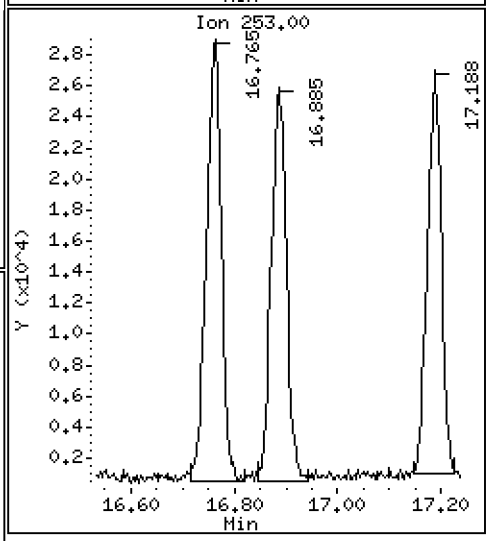
32 Benzo(a)pyrene

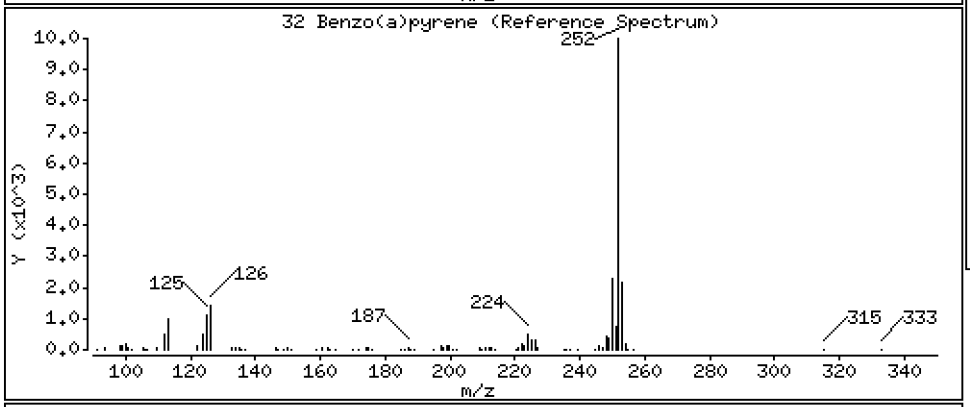
Concentration: 2.152 ug/mL

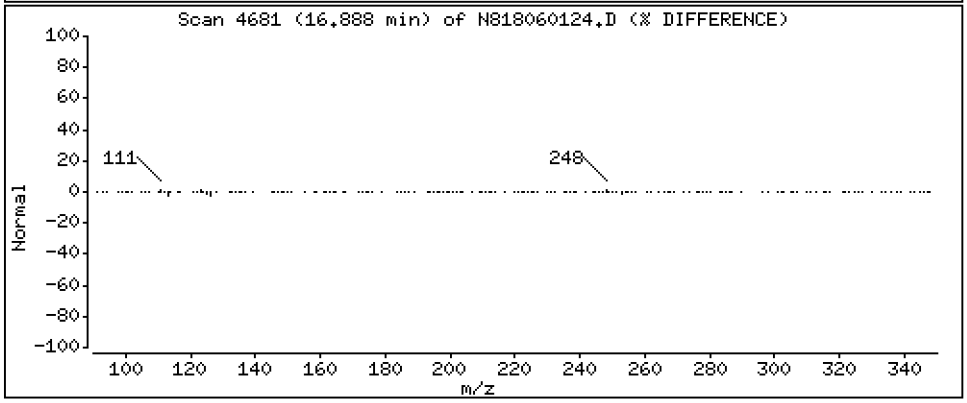












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

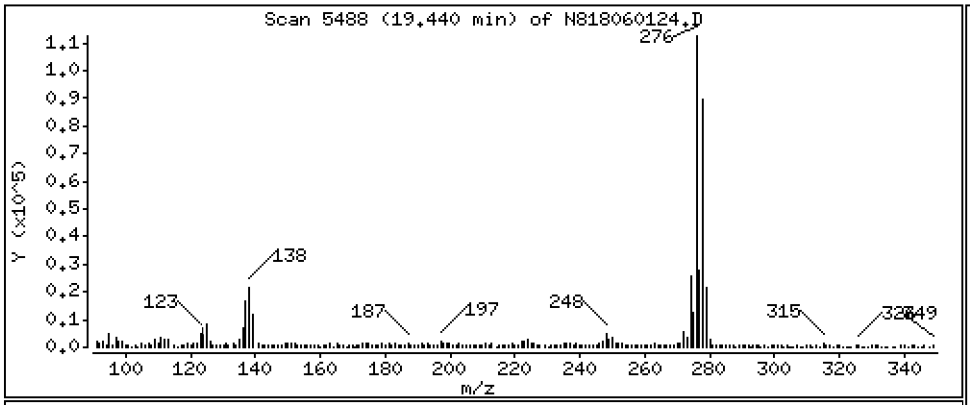
Operator: JZ

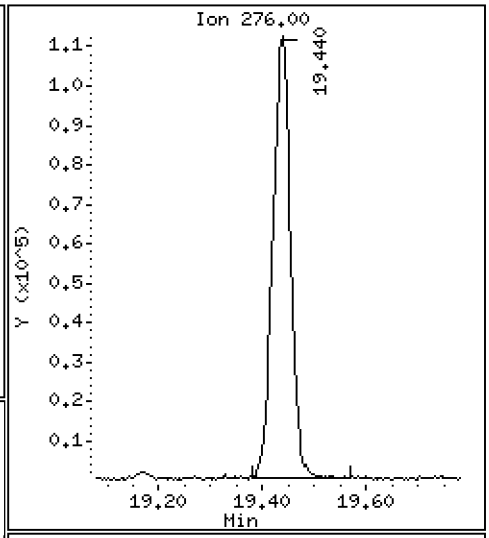
Column phase: Rxi-17sil

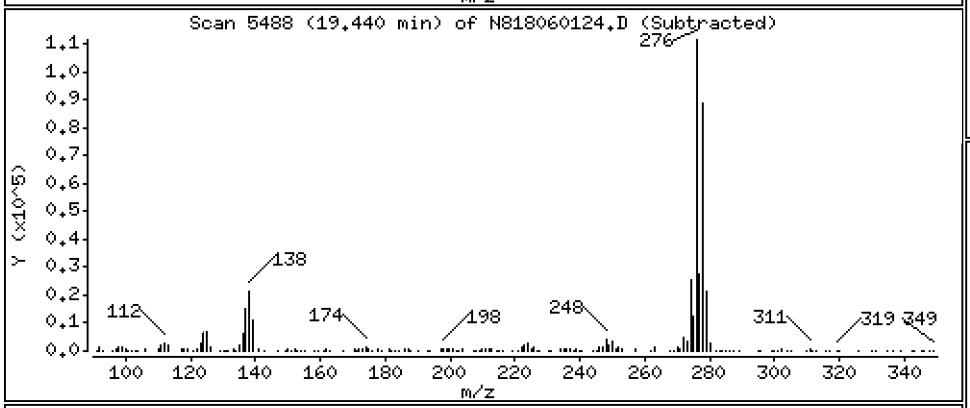
Column diameter: 0.25

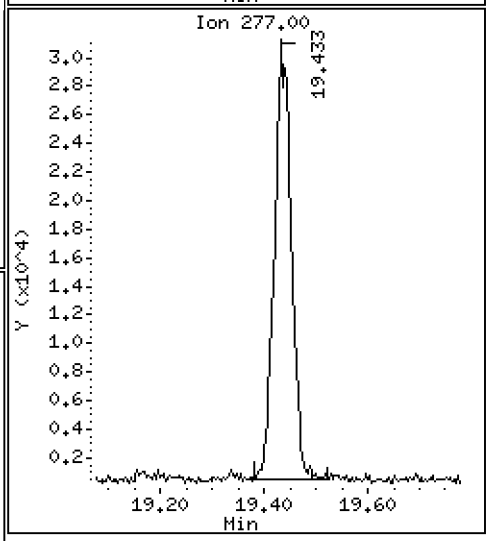
37 Indeno(1,2,3-cd)pyrene

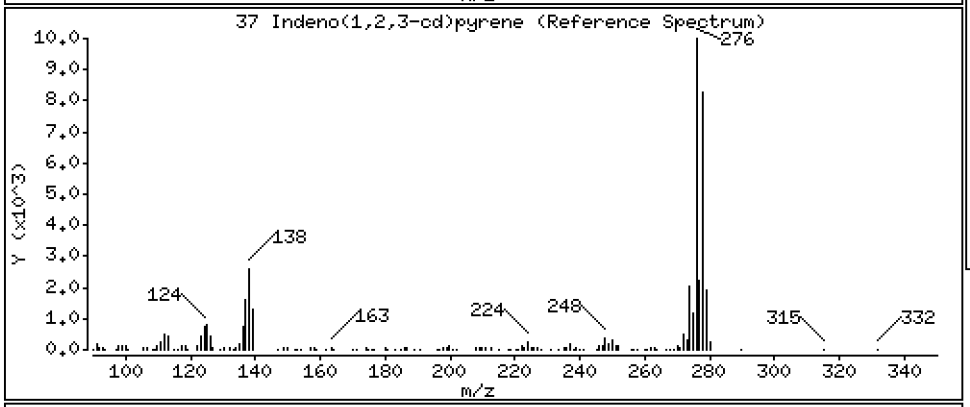
Concentration: 2.224 ug/mL

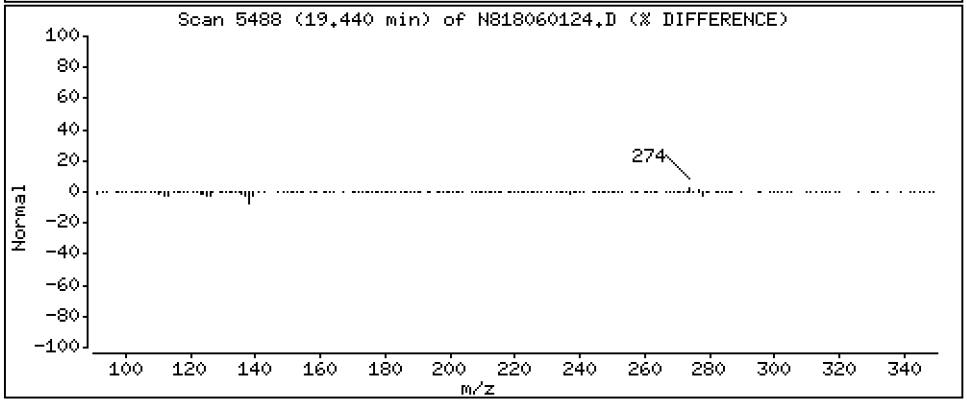












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

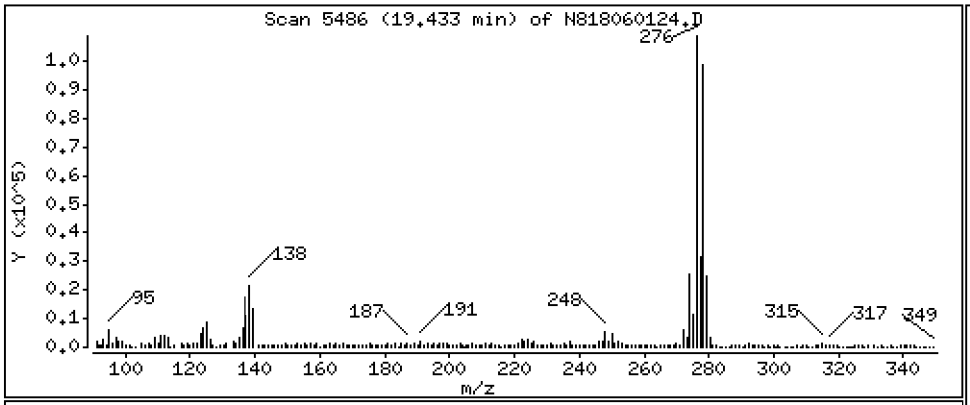
Operator: JZ

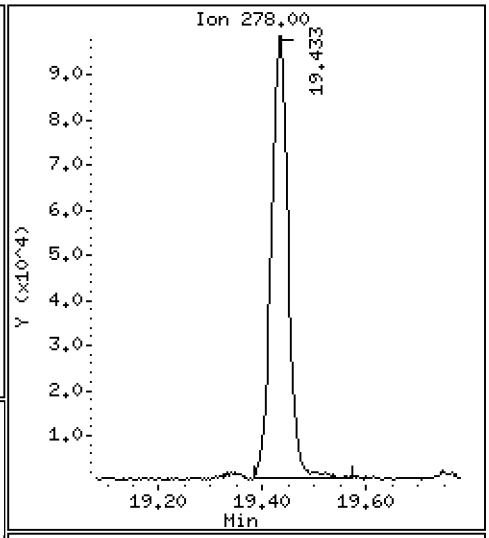
Column phase: Rxi-17sil

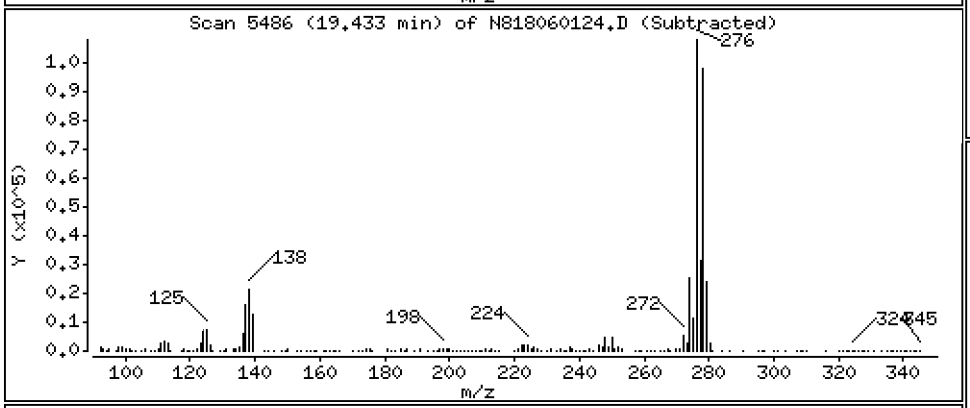
Column diameter: 0.25

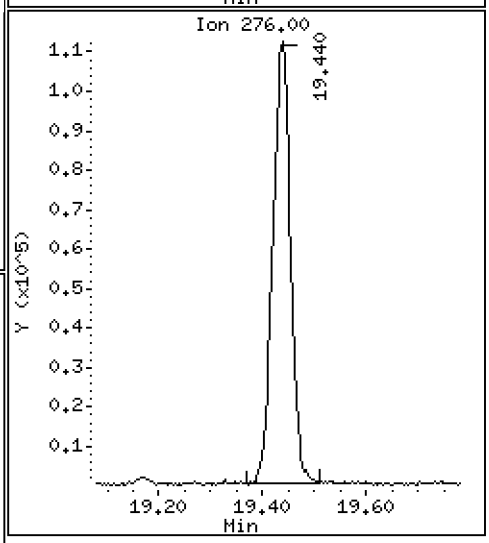
38 Dibenzo(a,h)anthracene

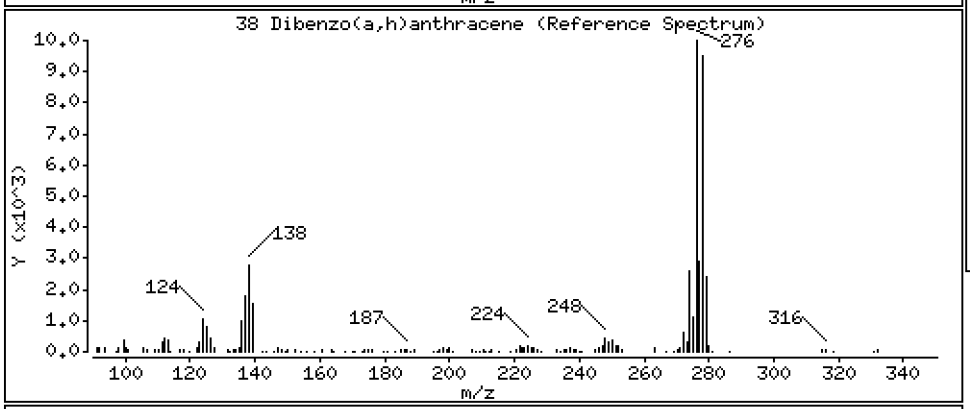
Concentration: 2.242 ug/mL

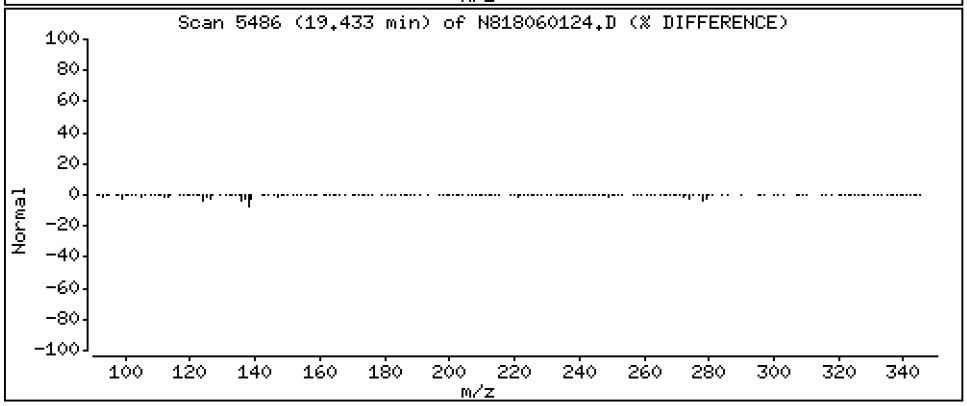












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

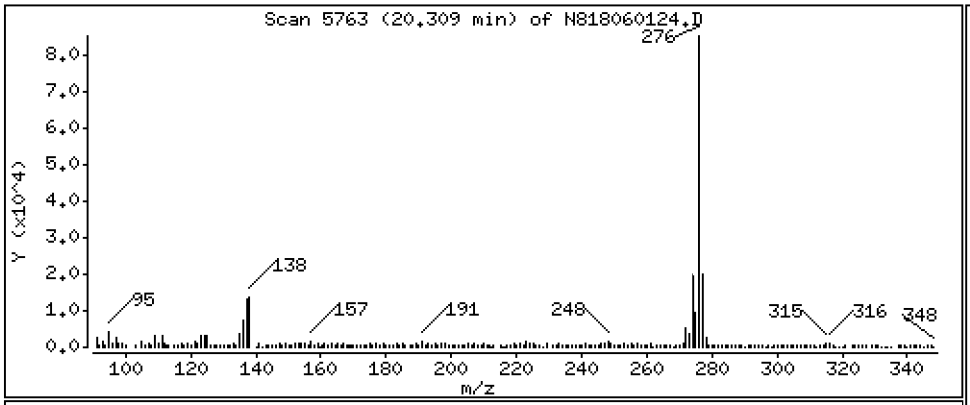
Operator: JZ

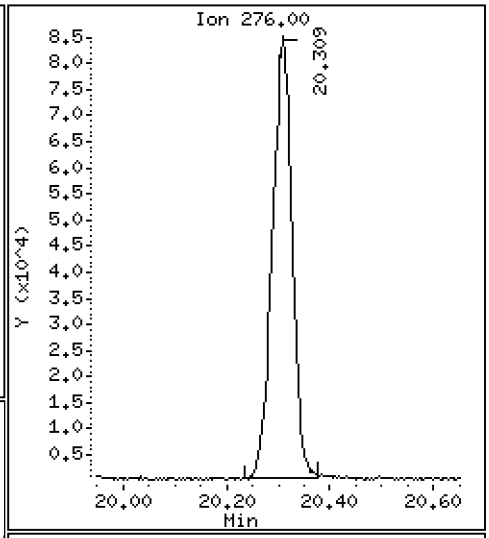
Column phase: Rxi-17sil

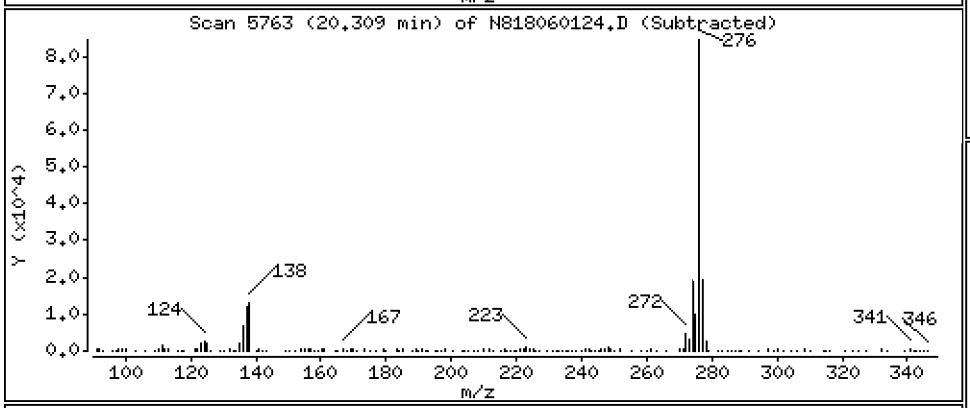
Column diameter: 0.25

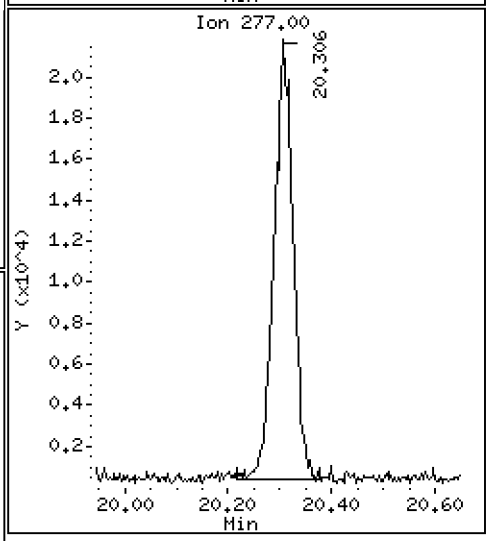
39 Benzo(g,h,i)perylene

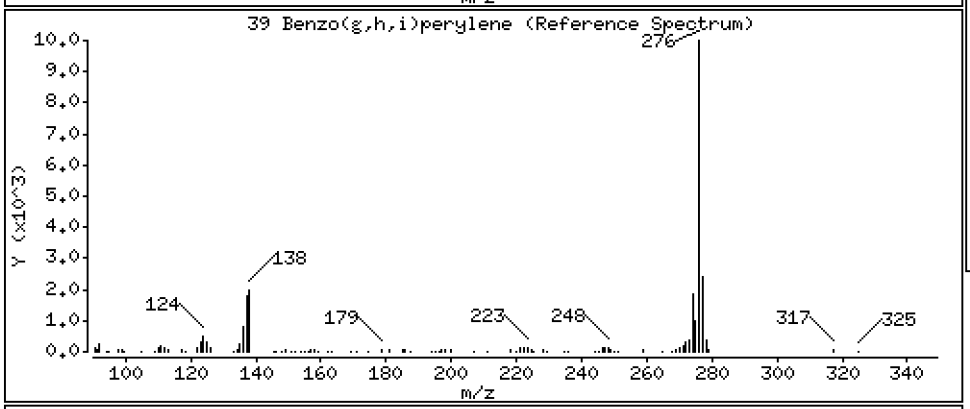
Concentration: 2.140 ug/mL

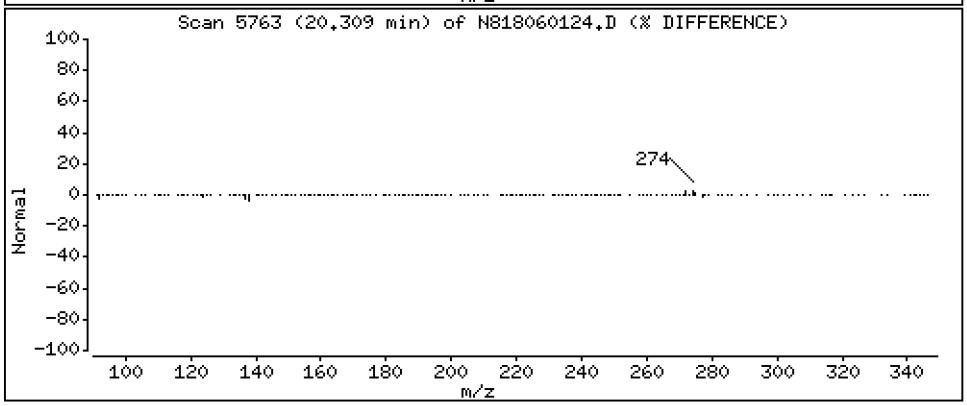












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060124.D

Date : 02-JUN-2018 00:40

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MS1,

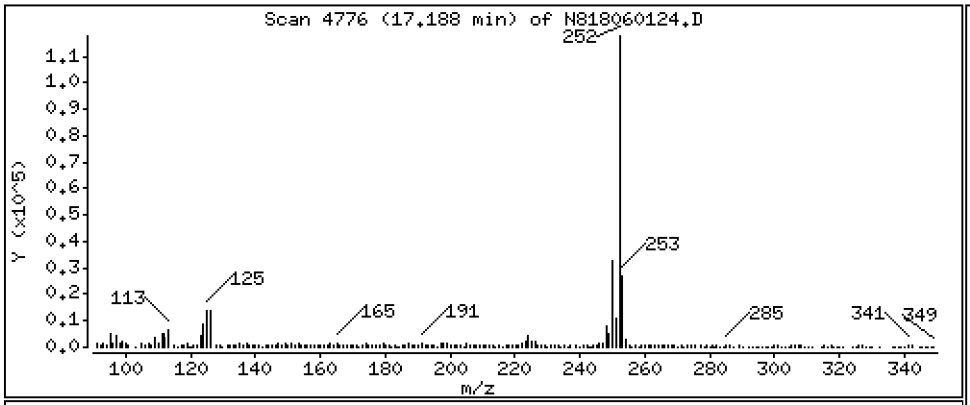
Operator: JZ

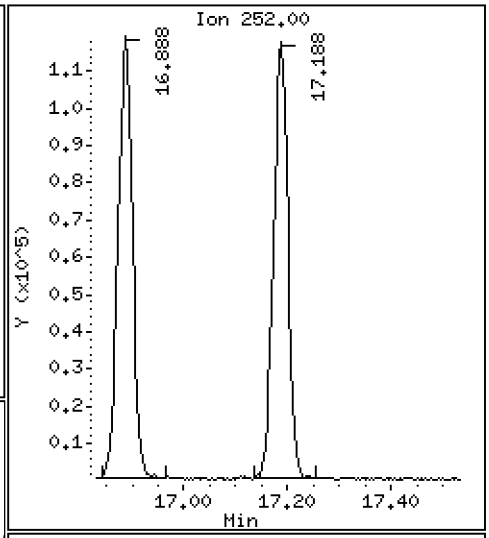
Column phase: Rxi-17sil

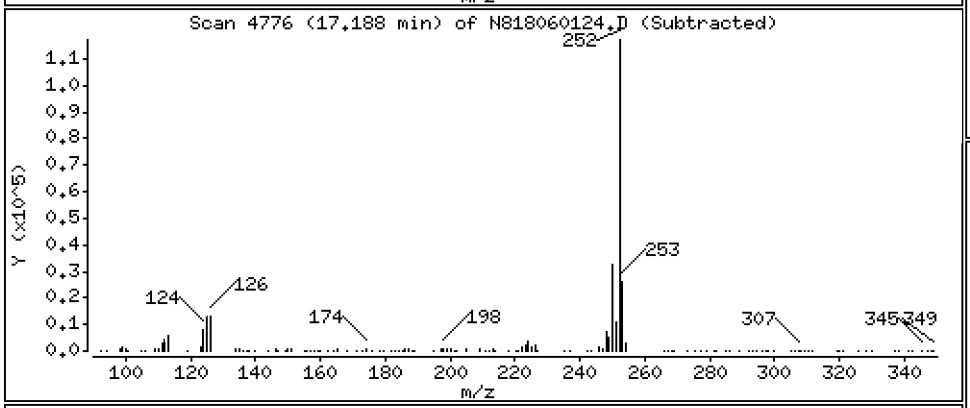
Column diameter: 0.25

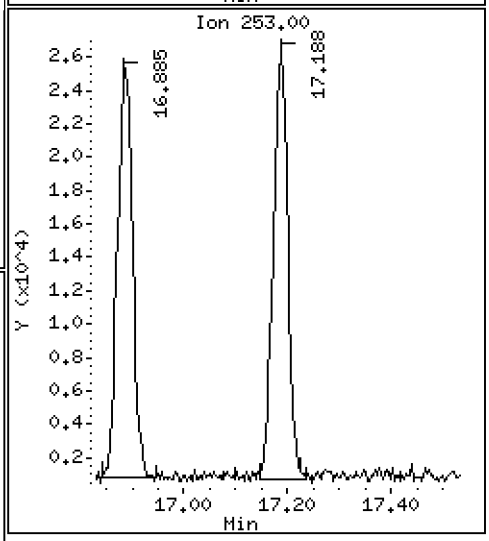
35 Perylene

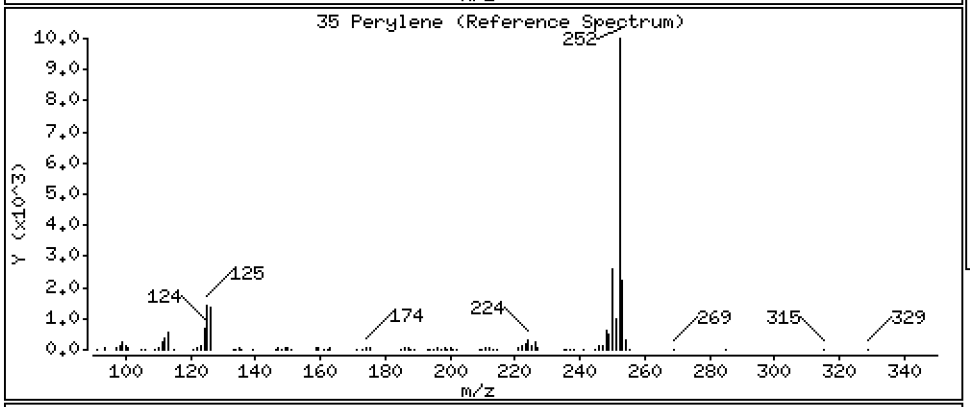
Concentration: 1.974 ug/mL

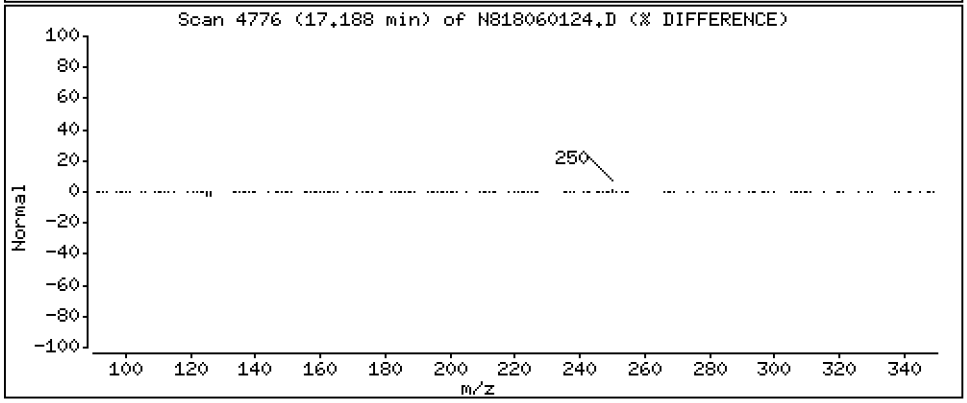












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060124.D
Lab Smp Id: BGE0626-MS1
Inj Date : 02-JUN-2018 00:40
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0626-MS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	209864	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	156197	1.28068	1.281
$	3 2-Methylnaphthalene-d10	152	5.185	5.191	(1.164)	100448	1.31208	1.312
	4 2-Methylnaphthalene	141	5.233	5.242	(1.175)	94478	1.37530	1.375
	5 1-methylnaphthalene	141	5.429	5.432	(1.219)	94602	1.33786	1.338
	9 Acenaphthylene	152	6.614	6.617	(0.984)	166569	1.52210	1.522
*	10 Acenaphthene-d10	164	6.725	6.728	(1.000)	110221	2.00000	
	11 Acenaphthene	153	6.776	6.775	(1.008)	118003	1.40661	1.407
	12 Dibenzofuran	168	6.927	6.927	(1.030)	168232	1.49144	1.491
	14 Fluorene	166	7.399	7.402	(1.100)	140998	1.61773	1.618
*	15 Phenanthrene-d10	188	8.746	8.745	(1.000)	200146	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	240093	1.95721	1.957
	17 Anthracene	178	8.821	8.821	(1.009)	204697	1.83142	1.831
	22 Fluoranthene	202	10.437	10.434	(1.193)	374730	2.71051	2.711
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	227438	1.73577	1.736
	23 Pyrene	202	10.902	10.902	(0.816)	363717	3.05617	3.056
	24 Benzo(a)anthracene	228	13.239	13.239	(0.991)	264944	2.30263	2.303
*	25 Chrysene-d12	240	13.359	13.356	(1.000)	198036	2.00000	
	27 Chrysene	228	13.428	13.425	(1.005)	294387	2.54167	2.542
	28 Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	280294	2.31831	2.318
	29 Benzo(k)fluoranthene	252	15.933	15.926	(0.931)	252795	2.12634	2.126
	30 Benzo(j)fluoranthene	252	16.005	16.002	(0.935)	239731	2.01385	2.014
	31 Total Benzofluoranthenes	252	15.869	15.926	(0.927)	767833	6.51185	6.512(M)
	32 Benzo(a)pyrene	252	16.888	16.884	(0.987)	228018	2.15176	2.152
*	33 Perylene-d12	264	17.112	17.112	(1.000)	190242	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.439	19.430	(1.136)	269805	2.22396	2.224
$	36 Dibenzo(a,h)anthracene-d14	292	19.344	19.338	(1.130)	201906	2.26586	2.266
	38 Dibenzo(a,h)anthracene	278	19.433	19.430	(1.136)	224398	2.24232	2.242
	39 Benzo(g,h,i)perylene	276	20.309	20.299	(1.187)	226906	2.14002	2.140
	35 Perylene	252	17.188	17.181	(1.004)	227118	1.97387	1.974

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060124.D
Lab Smp Id: BGE0626-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	209864	71.75
10 Acenaphthene-d10	65789	32895	131578	110221	67.54
15 Phenanthrene-d10	128644	64322	257288	200146	55.58
25 Chrysene-d12	166669	83335	333338	198036	18.82
33 Perylene-d12	140483	70242	280966	190242	35.42

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.04
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.02
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060124.D

Lab ID: BGE0626-MS1
nt8.i, 20180601.b\FSIMPNA180305.m,   02-JUN-2018 00:40

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

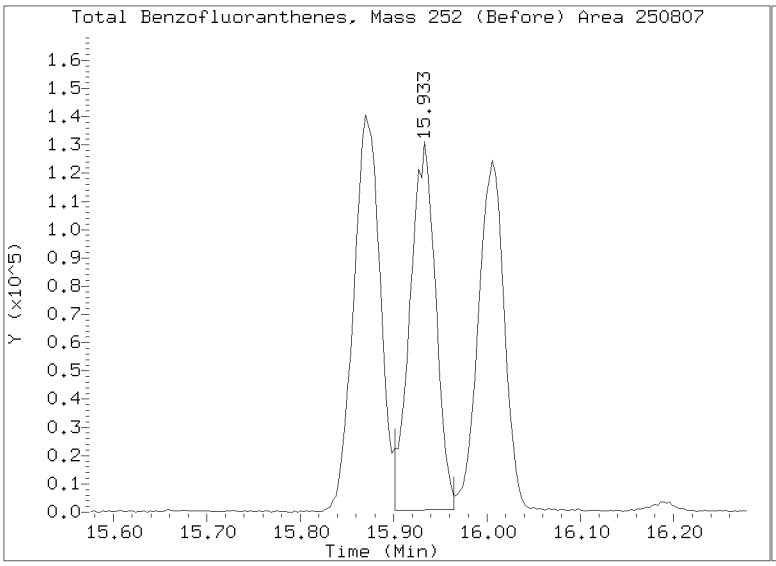
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

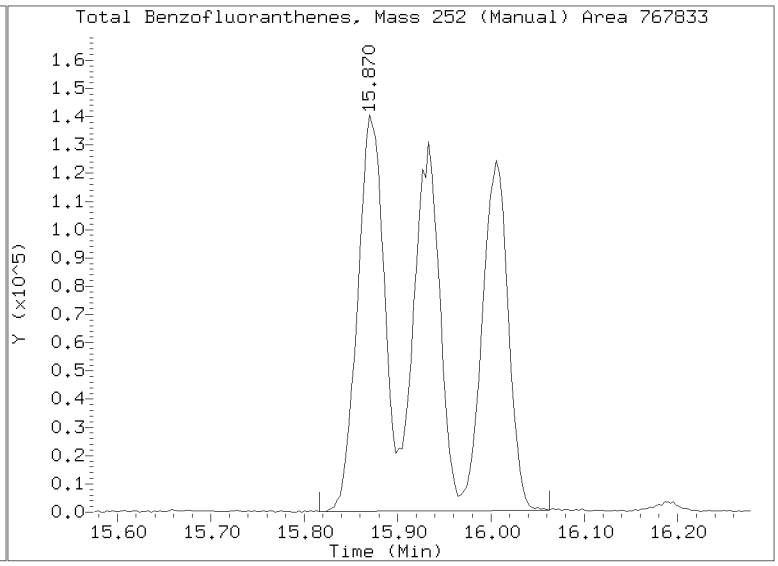
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060124.D
Injection Date: 02-JUN-2018 00:40
Lab ID:BGE0626-MS1 Client ID:
Report Date: 06/04/2018 11:46





Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

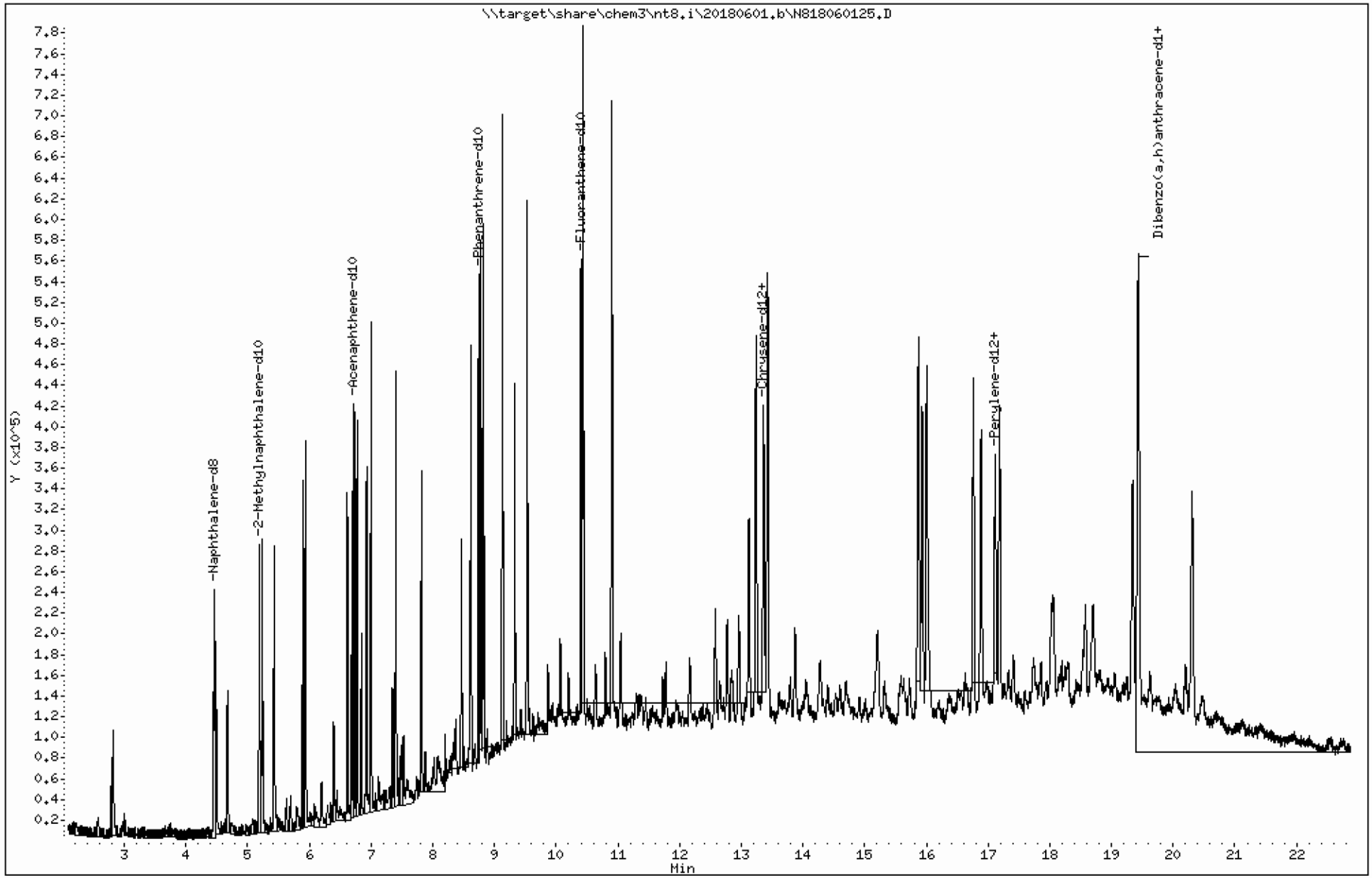
Instrument: nt8.i

Sample Info: BGE0626-MSD1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

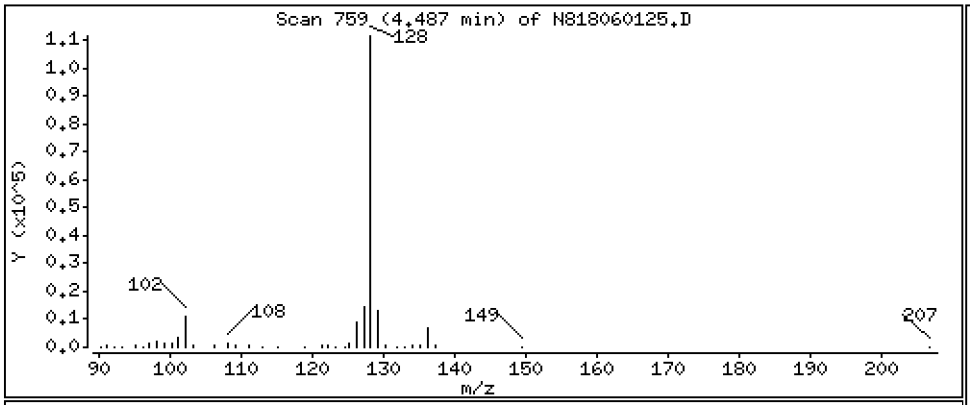
Operator: JZ

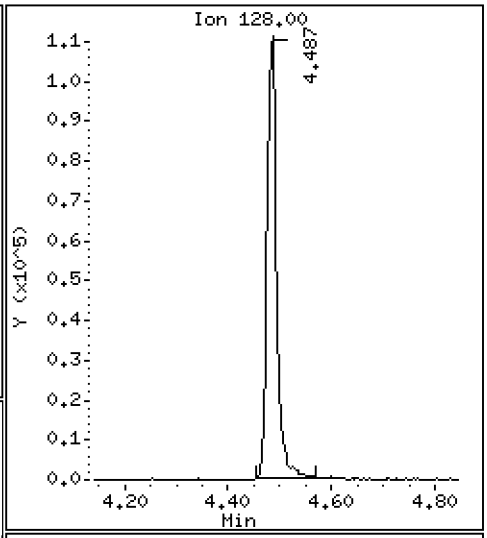
Column phase: Rxi-17sil

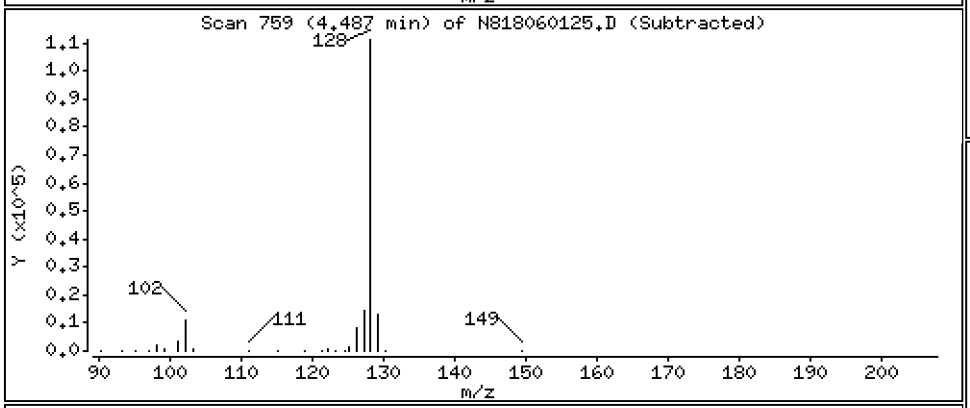
Column diameter: 0.25

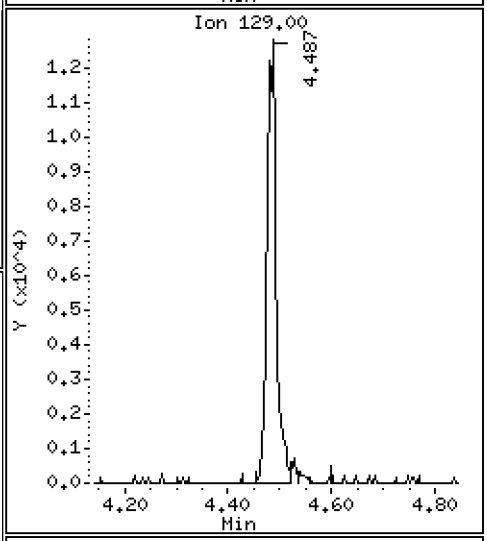
2 Naphthalene

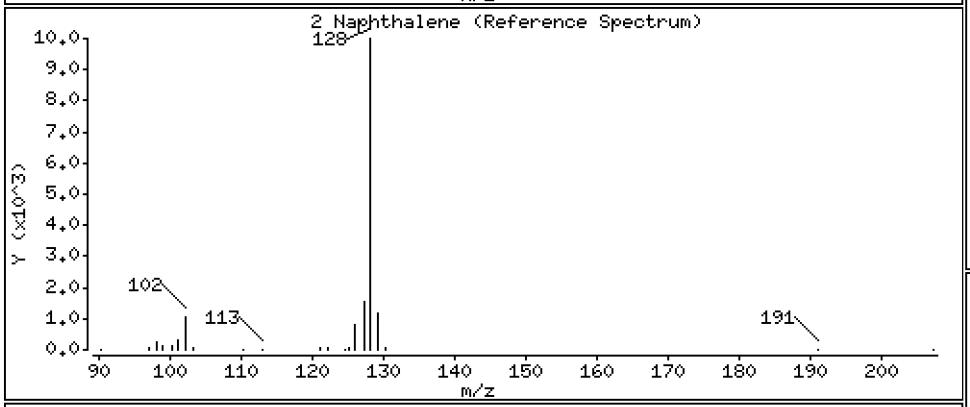
Concentration: 1.239 ug/mL

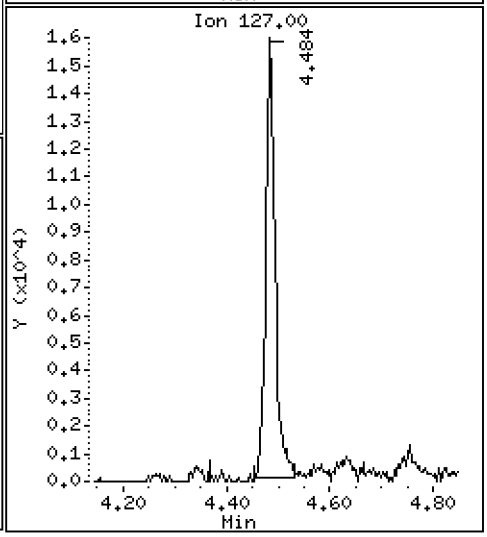


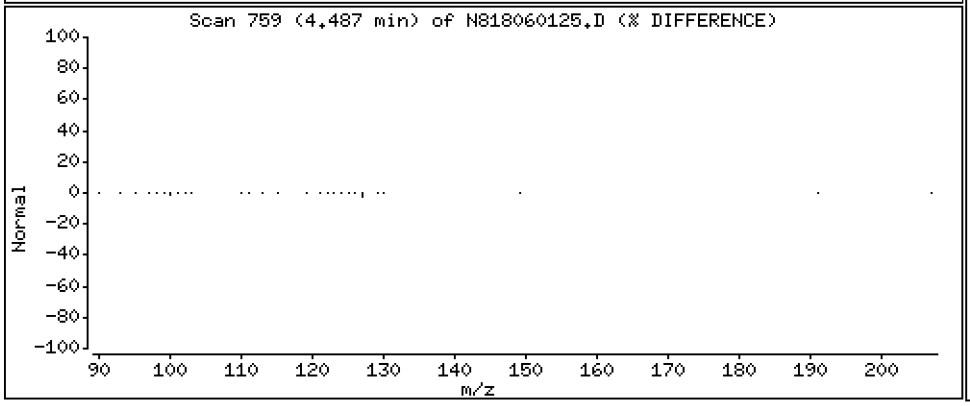












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

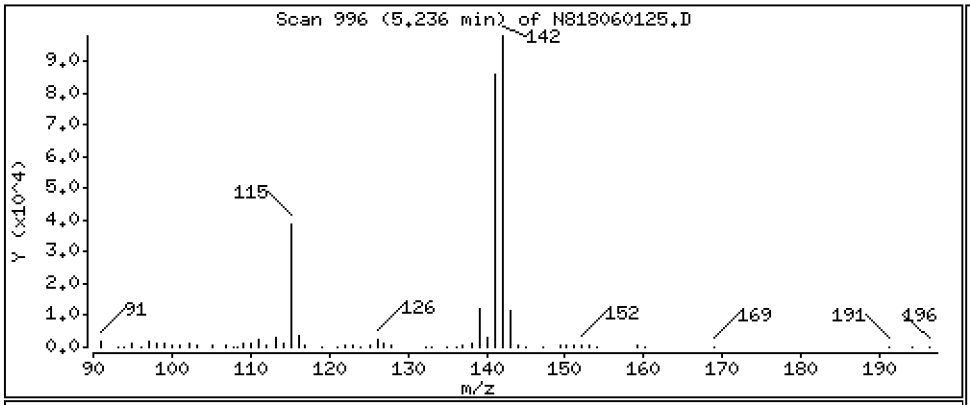
Operator: JZ

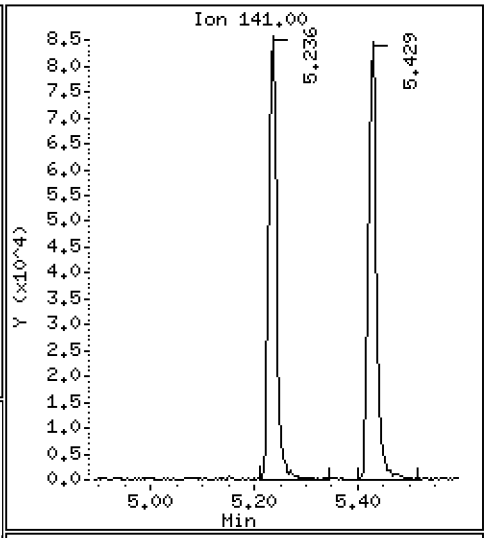
Column phase: Rxi-17sil

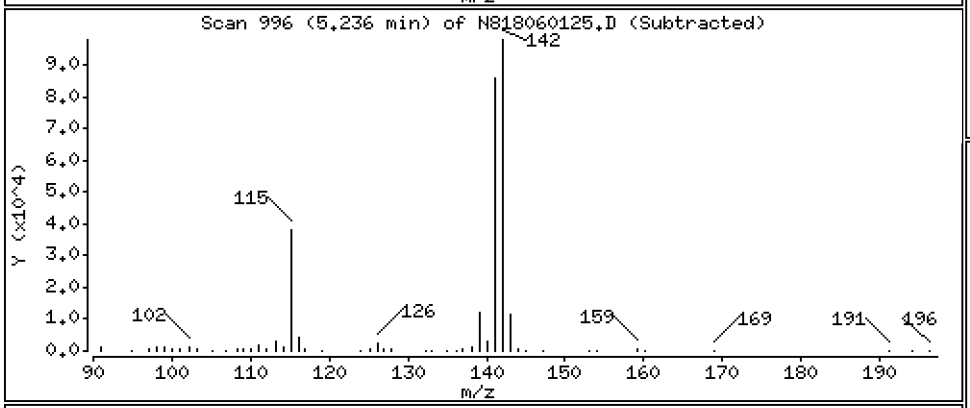
Column diameter: 0.25

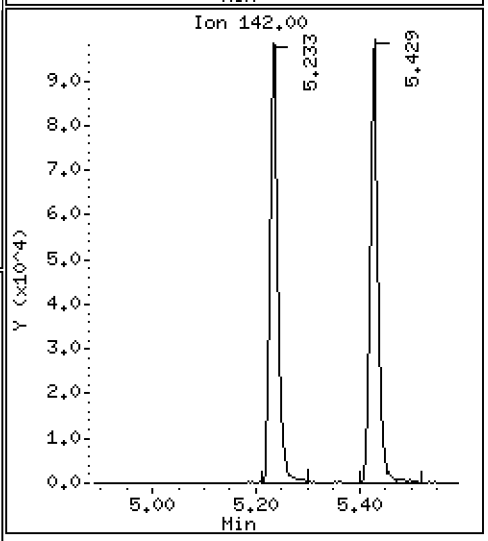
4 2-Methylnaphthalene

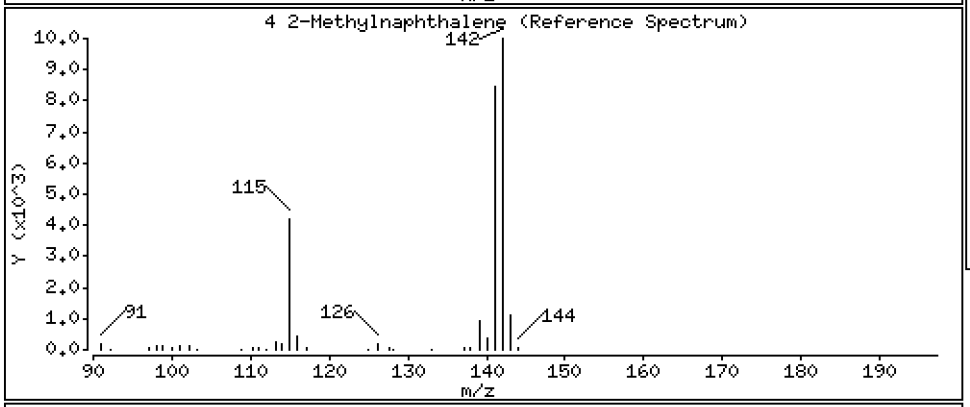
Concentration: 1.356 ug/mL

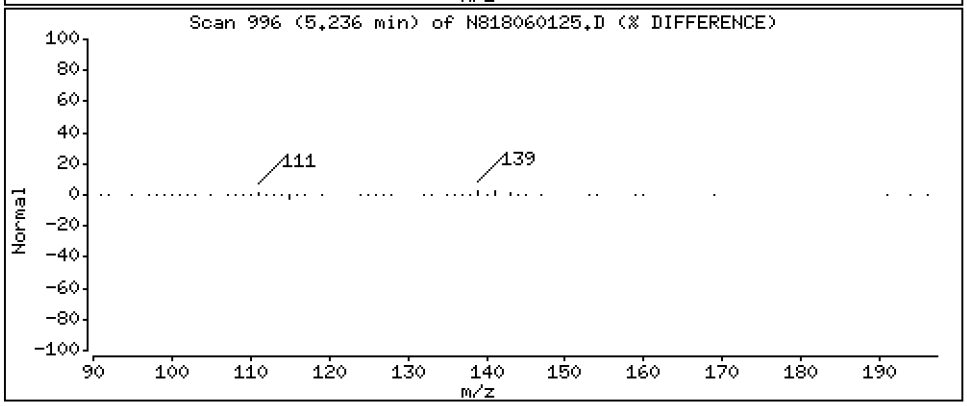












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

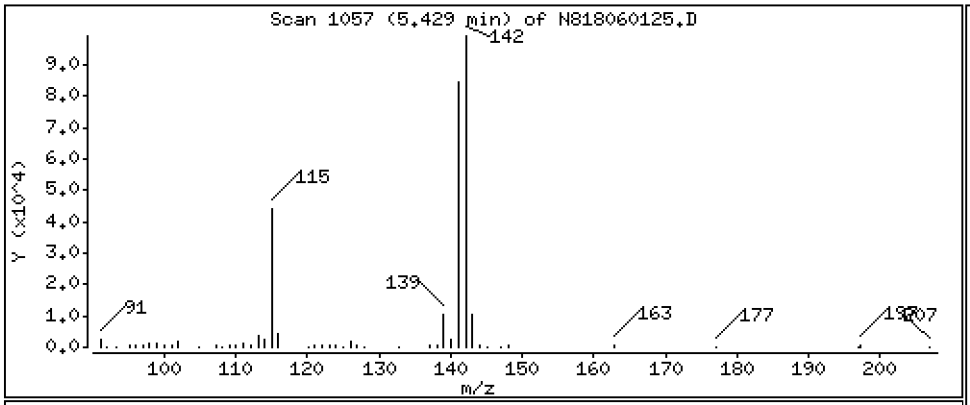
Operator: JZ

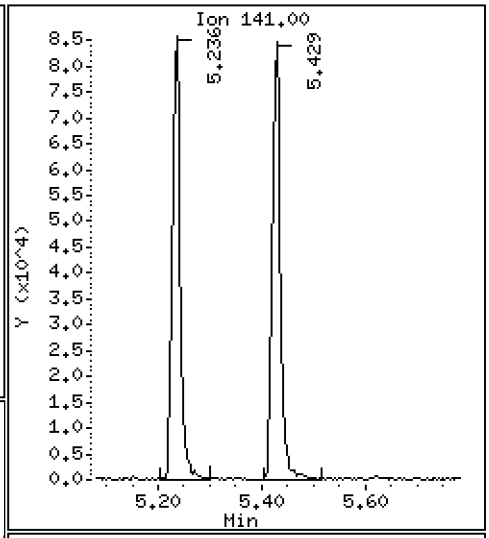
Column phase: Rxi-17sil

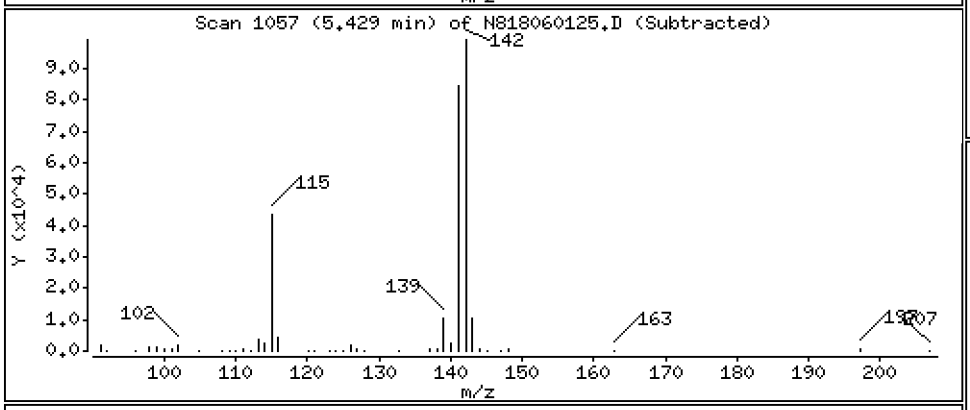
Column diameter: 0.25

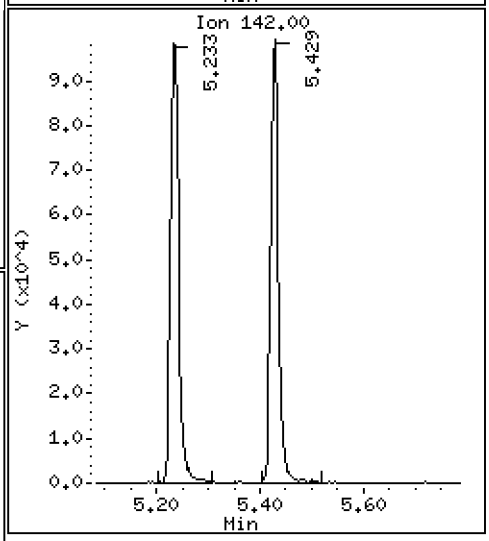
5 1-methylnaphthalene

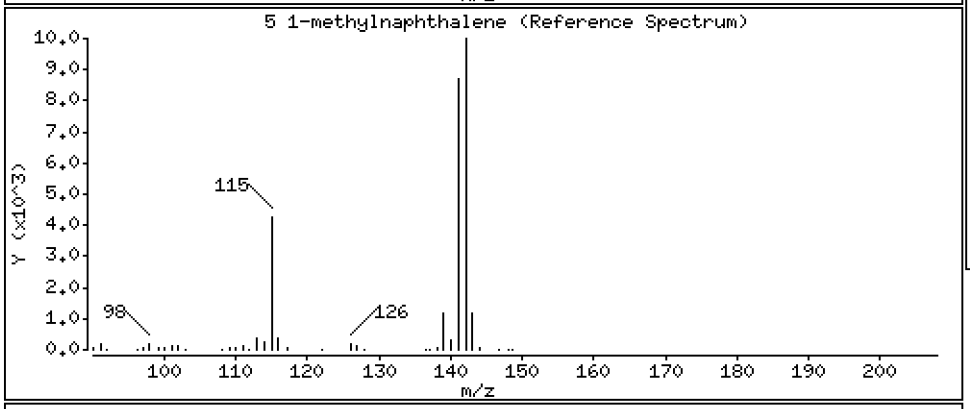
Concentration: 1.359 ug/mL

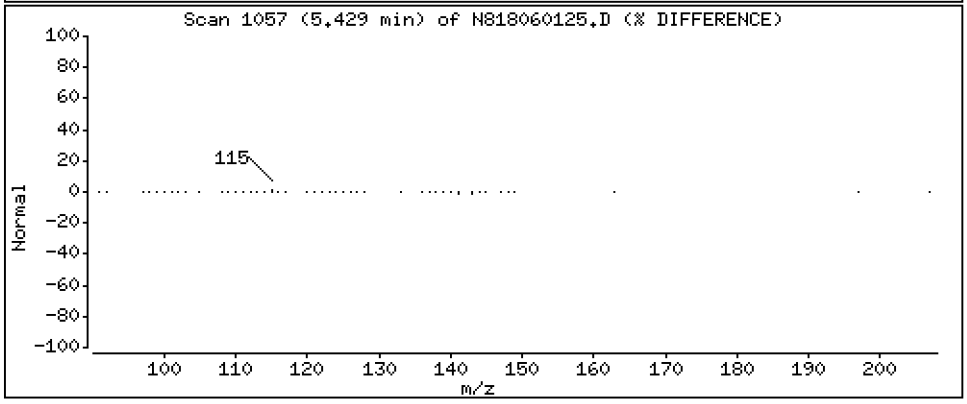












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

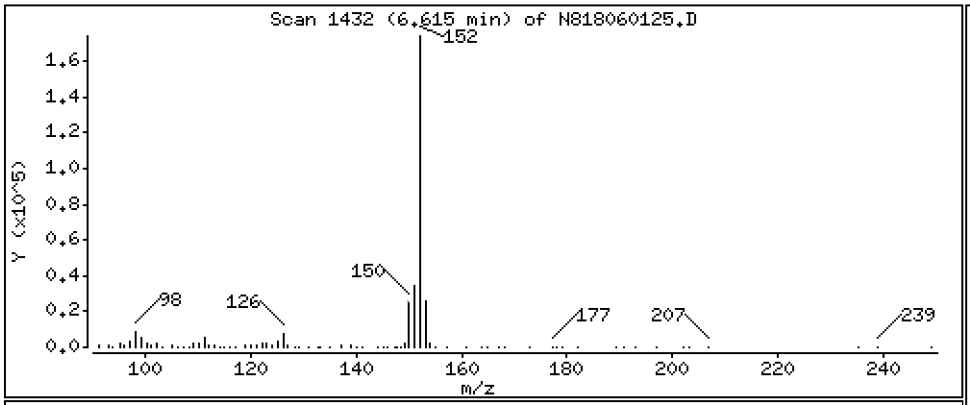
Operator: JZ

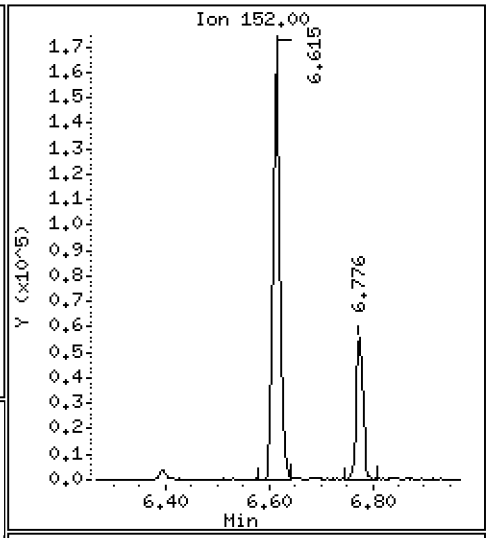
Column phase: Rxi-17sil

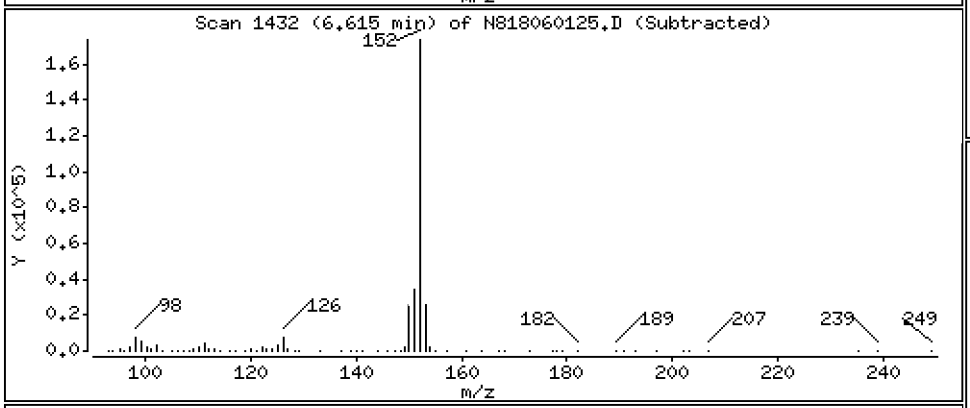
Column diameter: 0.25

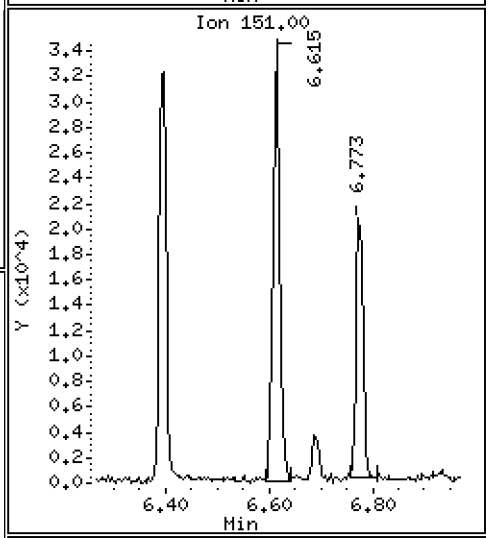
9 Acenaphthylene

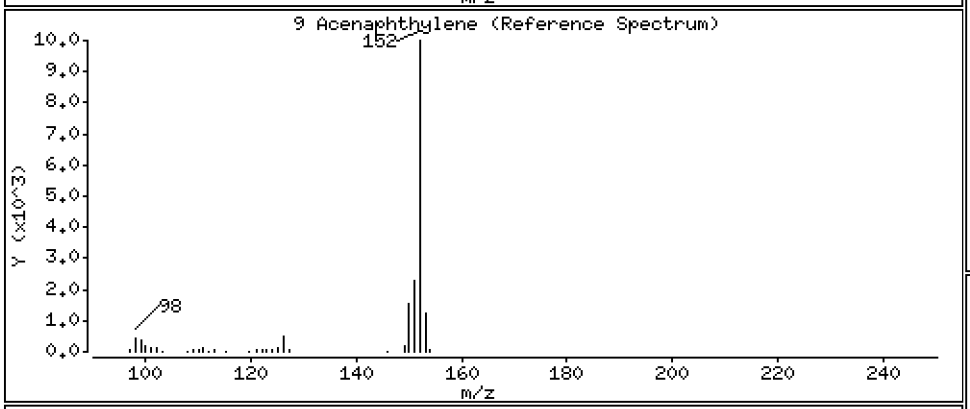
Concentration: 1.502 ug/mL

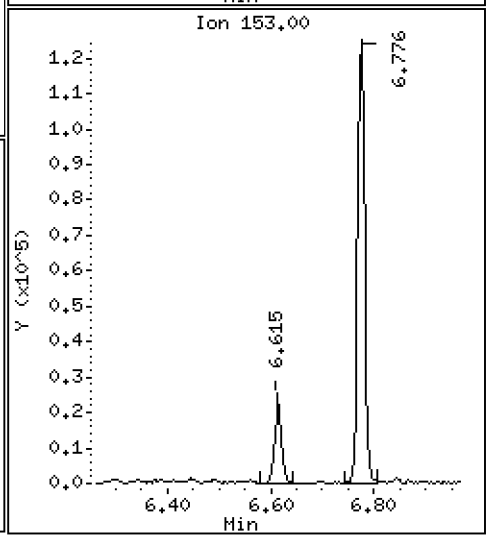


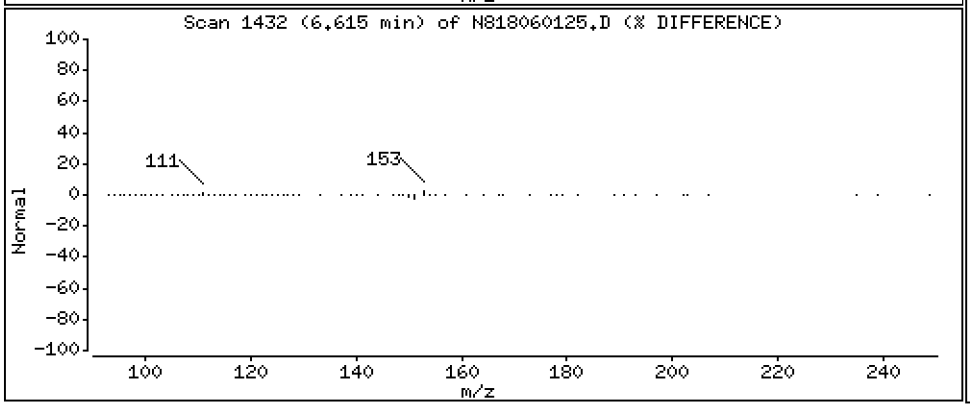












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

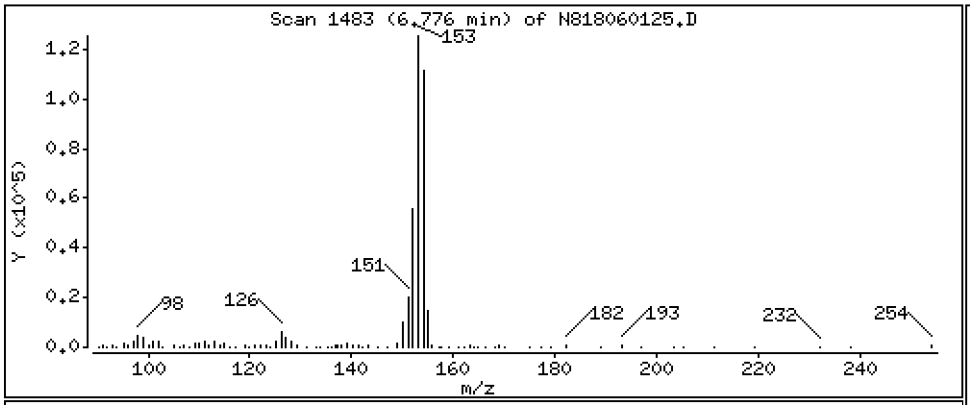
Operator: JZ

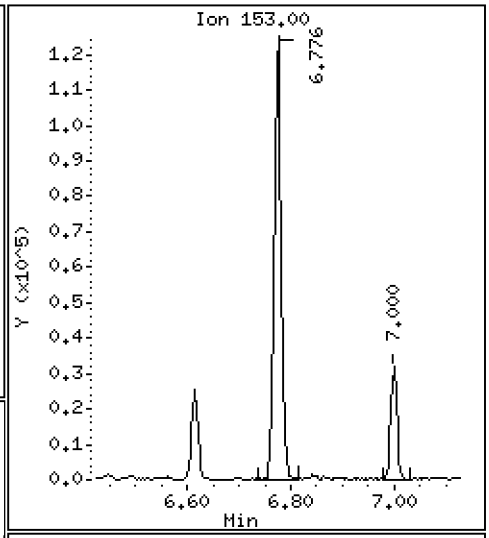
Column phase: Rxi-17sil

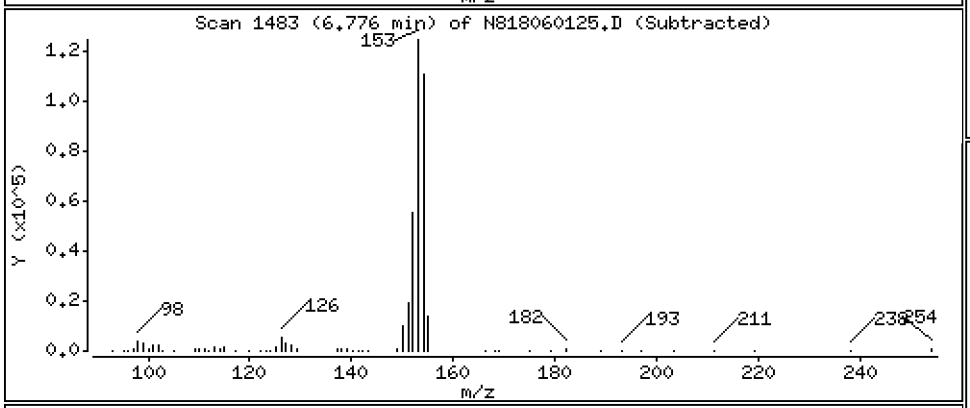
Column diameter: 0.25

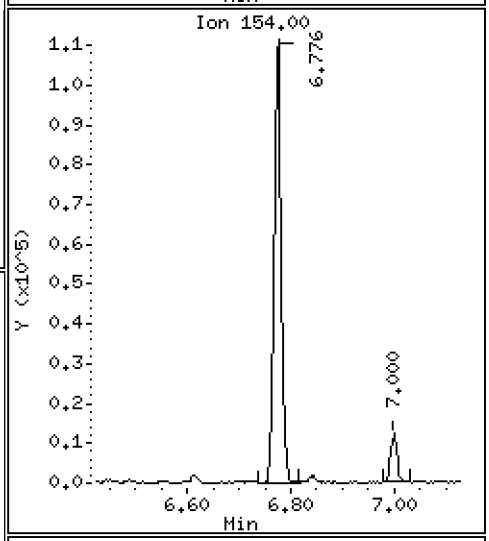
11 Acenaphthene

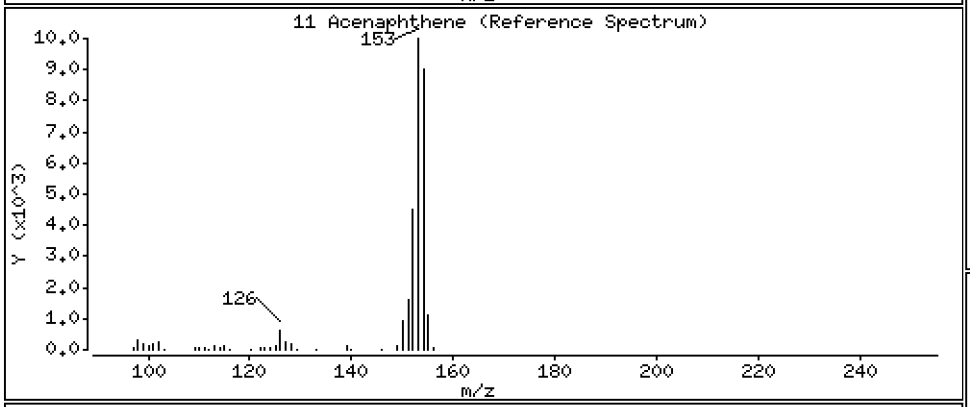
Concentration: 1.424 ug/mL

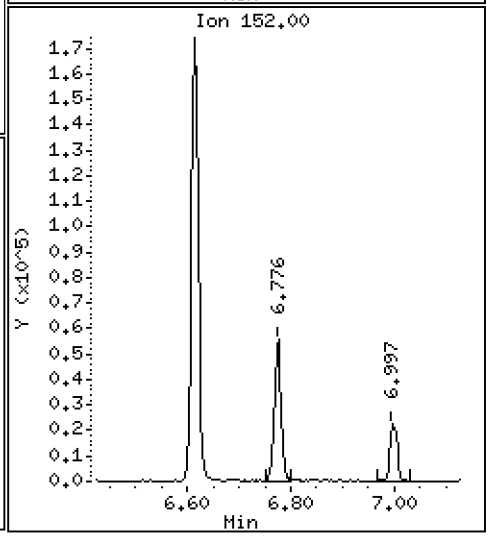


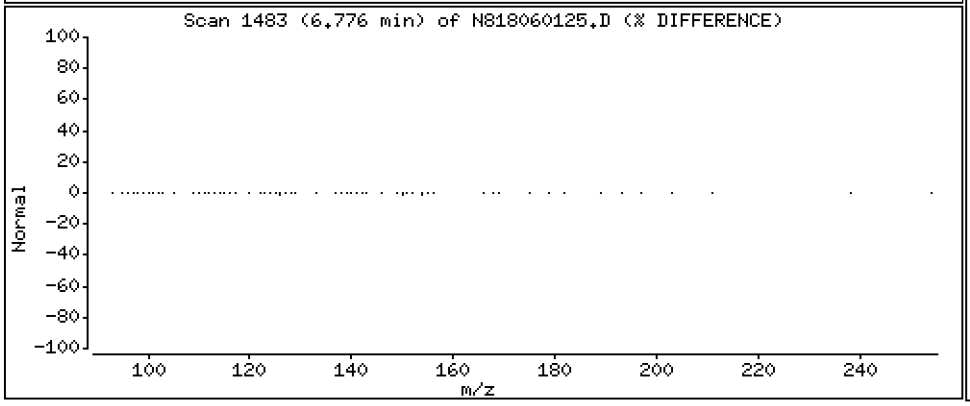












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

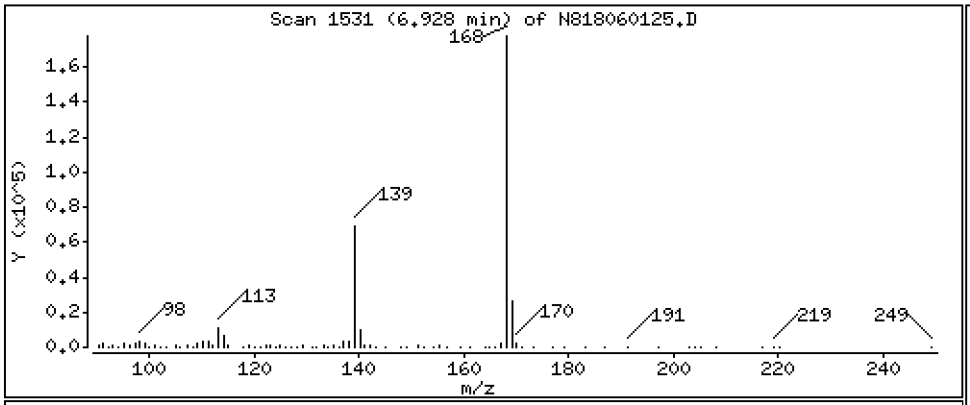
Operator: JZ

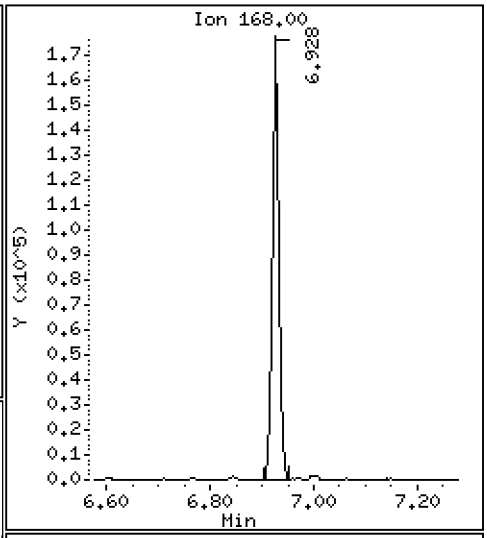
Column phase: Rxi-17sil

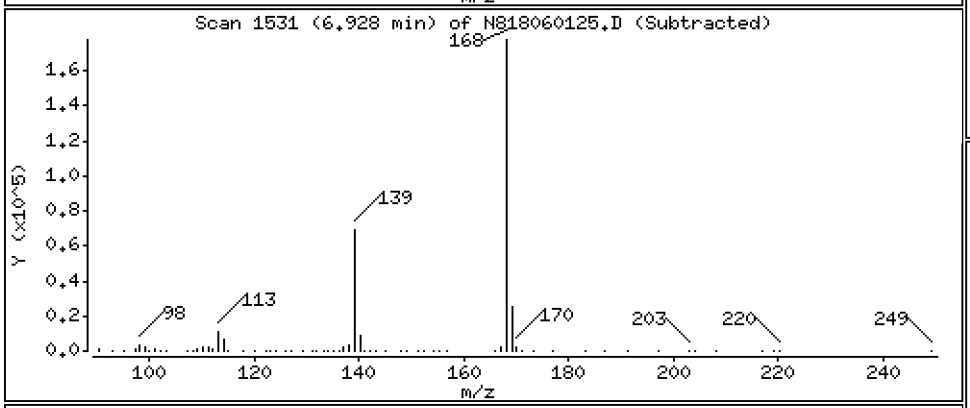
Column diameter: 0.25

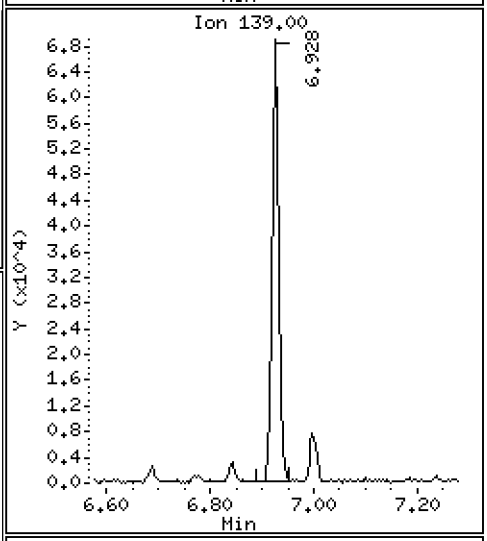
12 Dibenzofuran

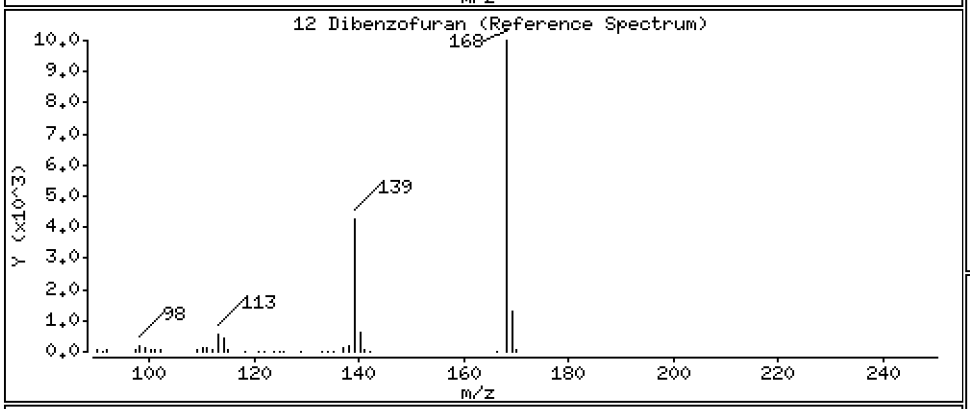
Concentration: 1.436 ug/mL

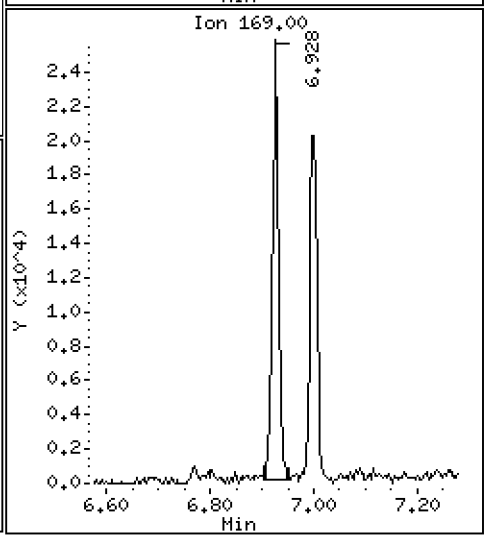


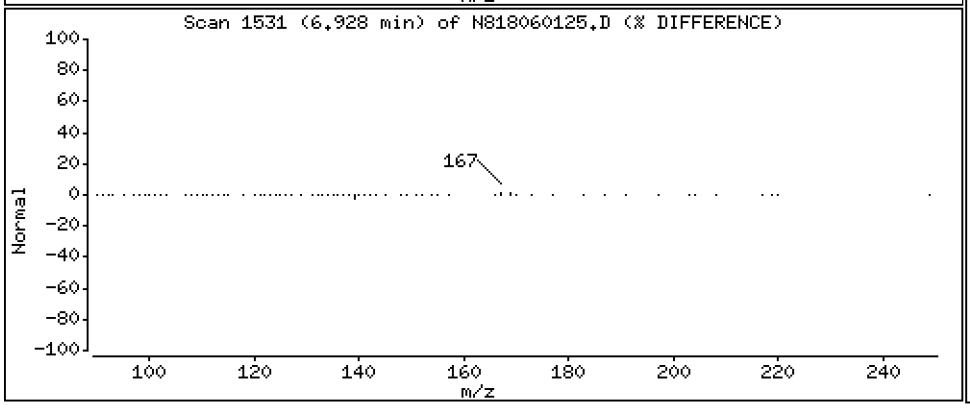












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

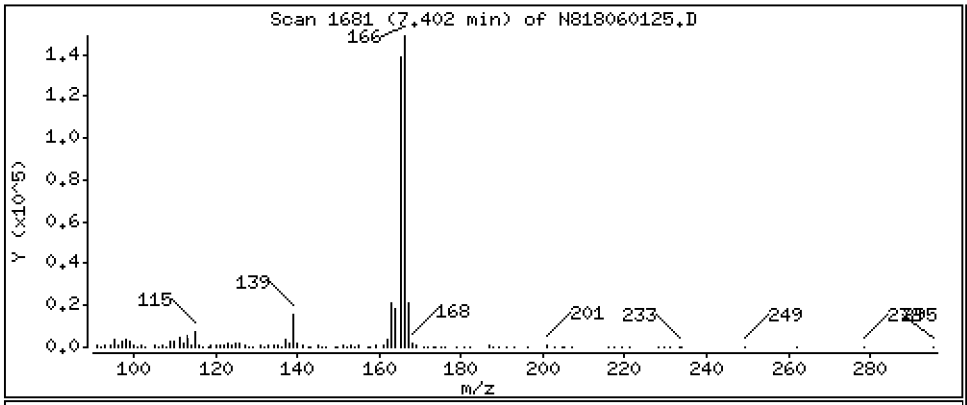
Operator: JZ

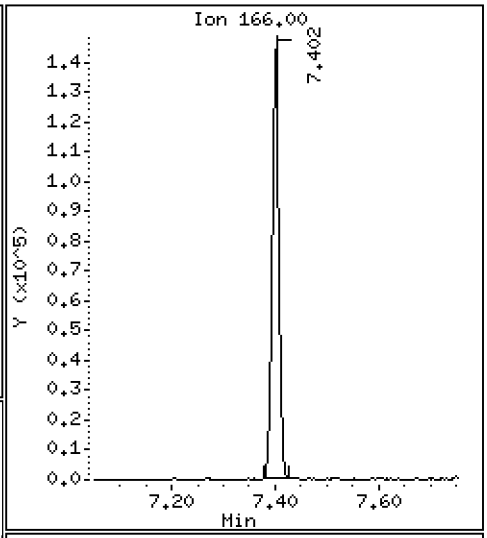
Column phase: Rxi-17sil

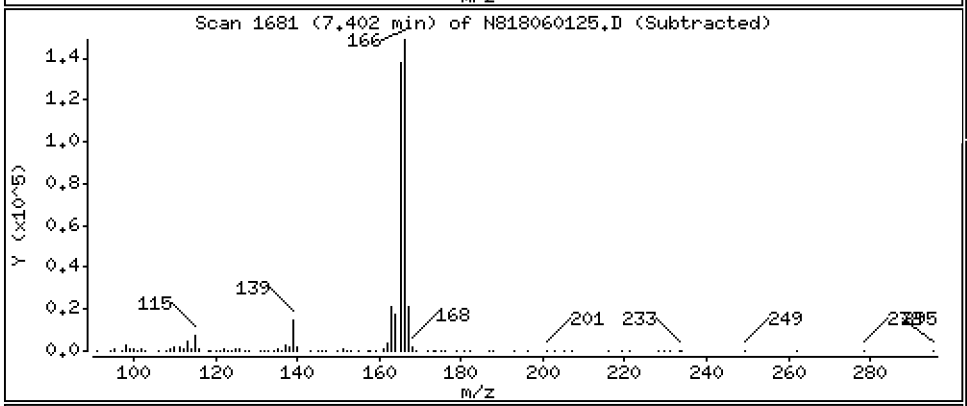
Column diameter: 0.25

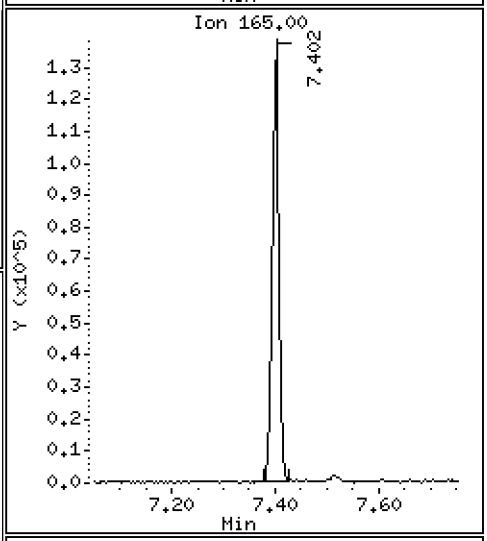
14 Fluorene

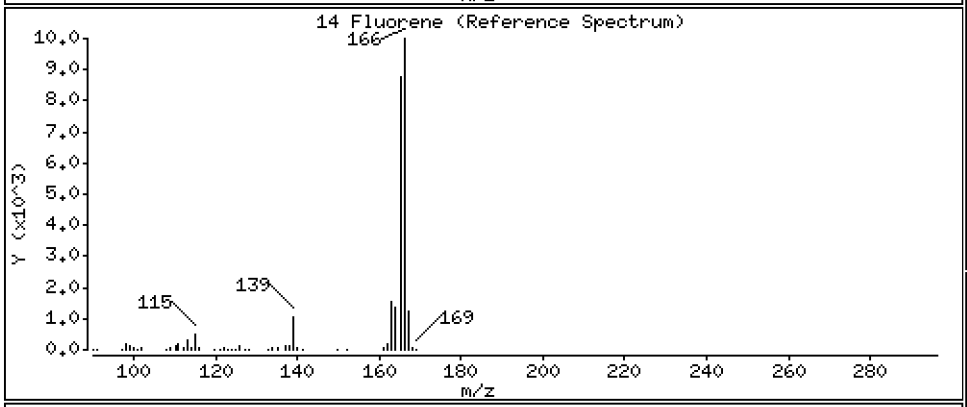
Concentration: 1.567 ug/mL

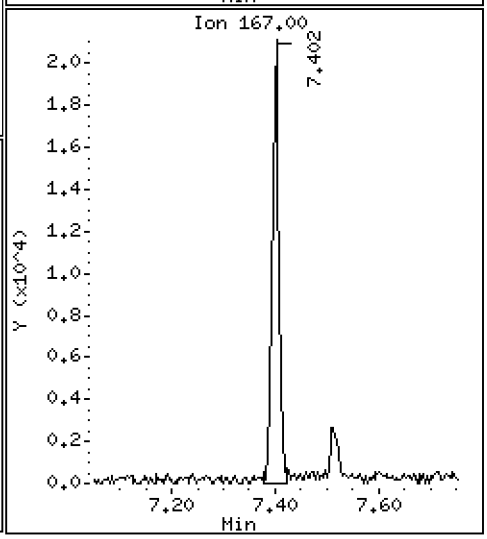


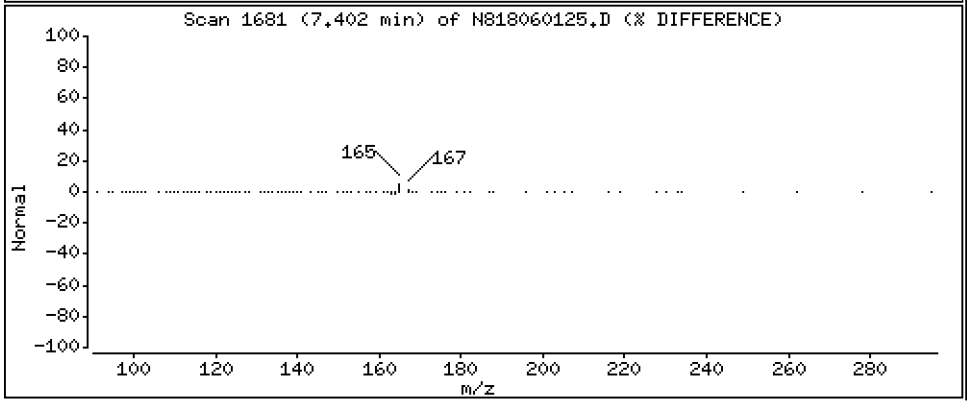












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

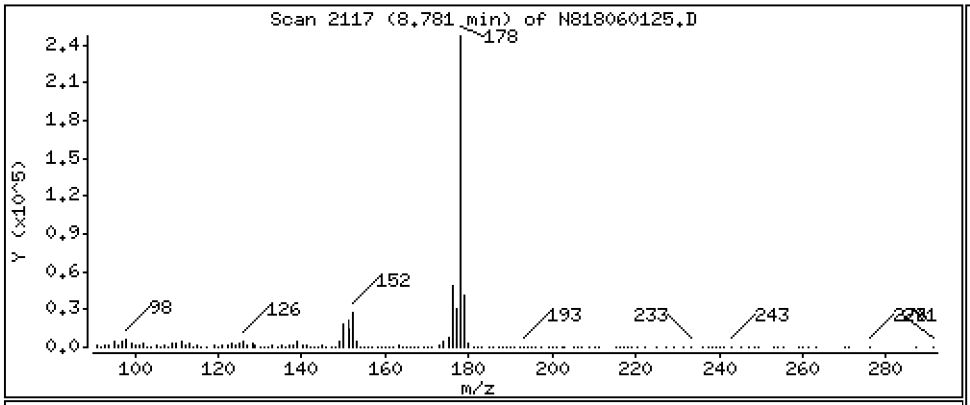
Operator: JZ

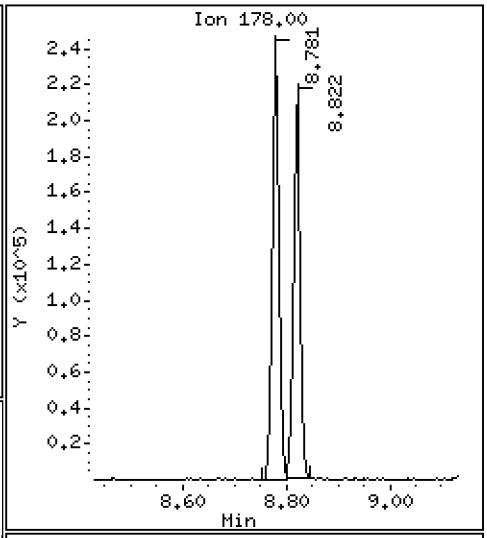
Column phase: Rxi-17sil

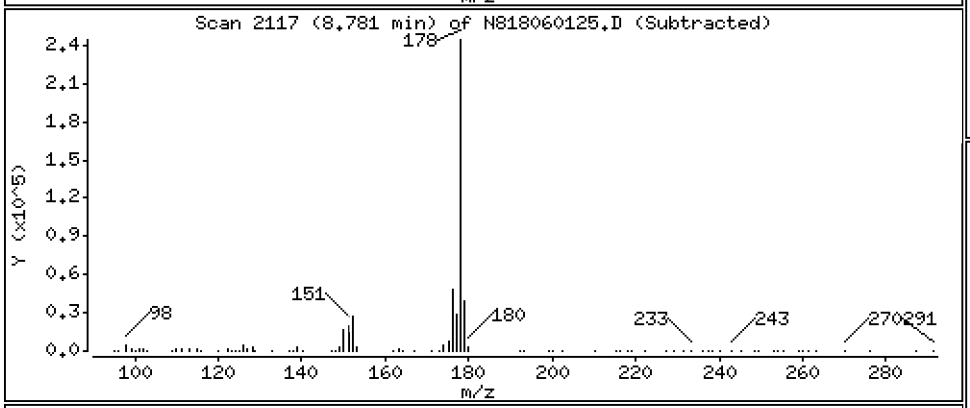
Column diameter: 0.25

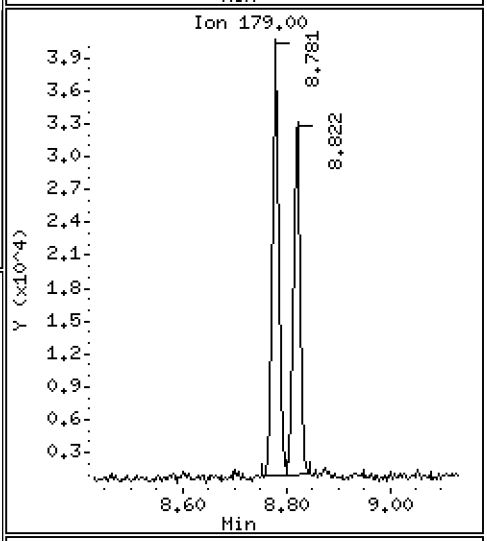
16 Phenanthrene

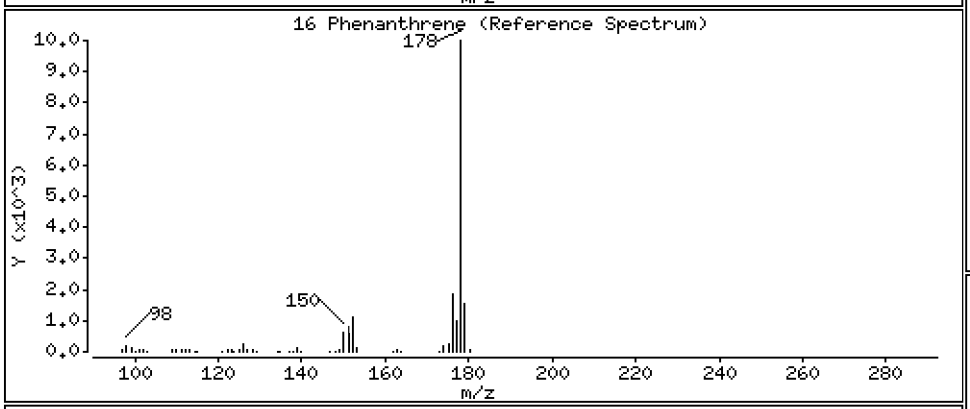
Concentration: 1.957 ug/mL

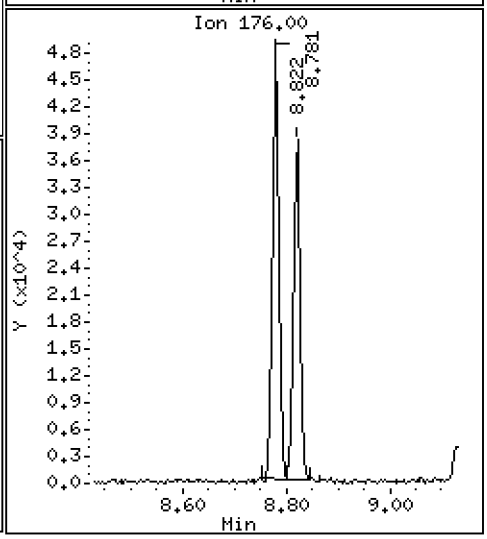


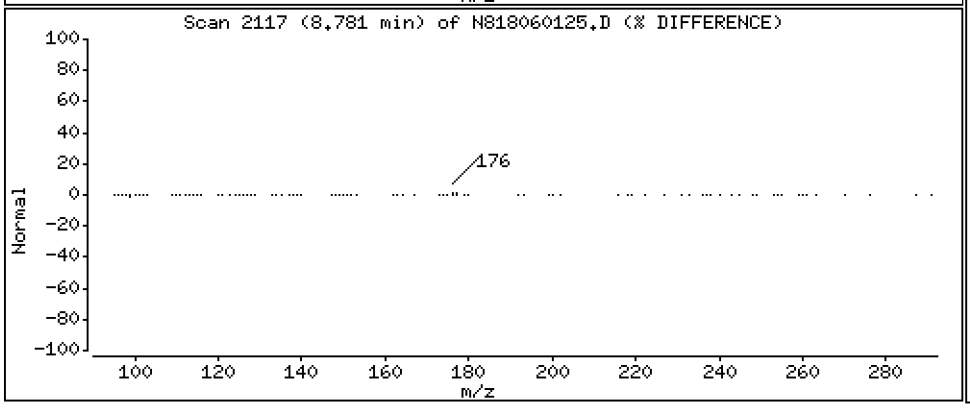












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

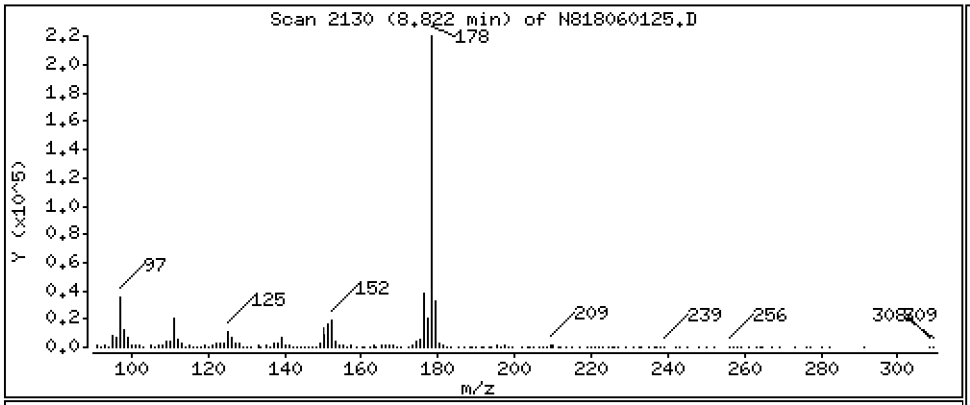
Operator: JZ

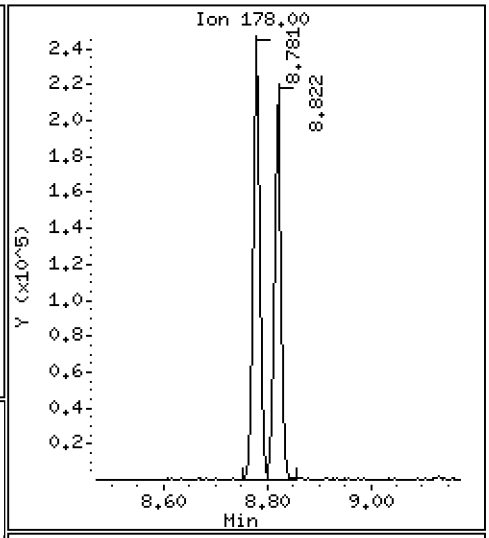
Column phase: Rxi-17sil

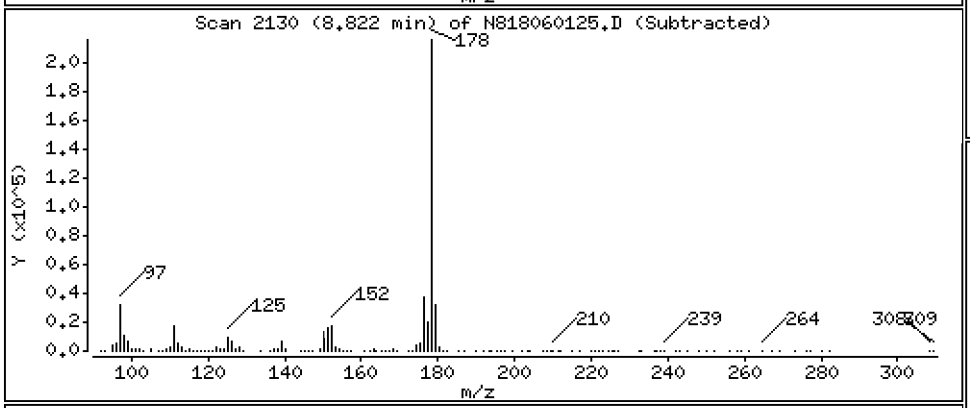
Column diameter: 0.25

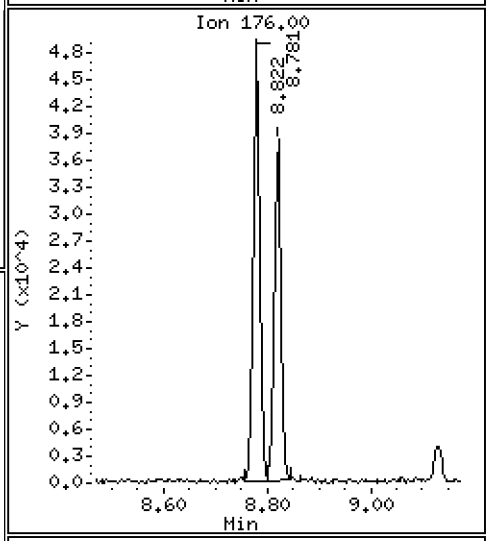
17 Anthracene

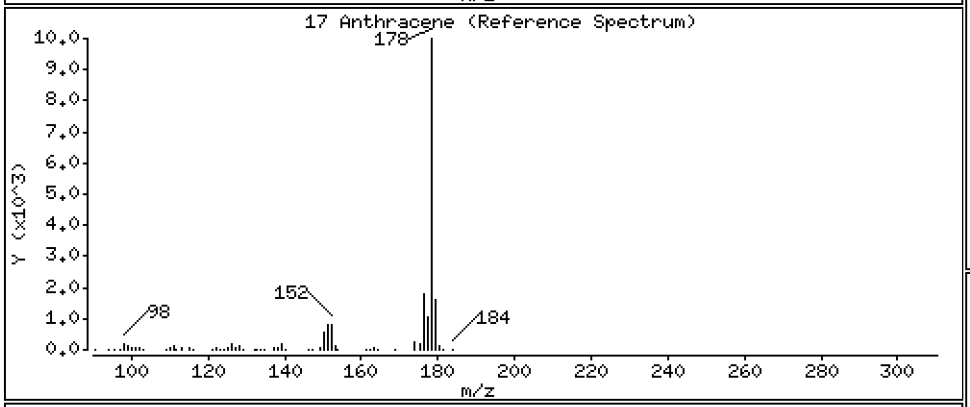
Concentration: 1.848 ug/mL

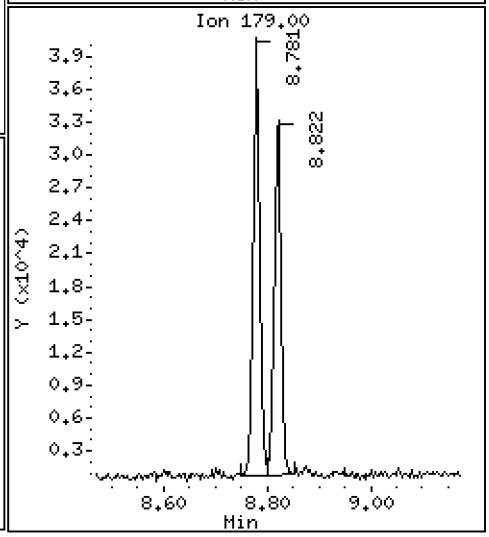


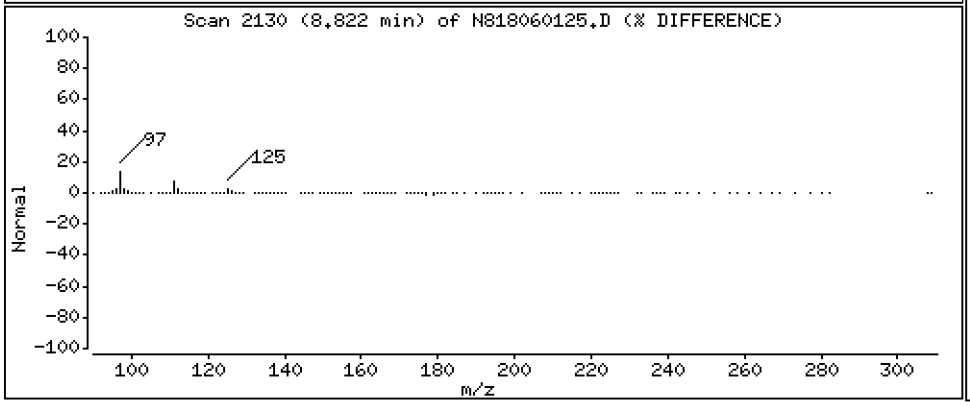












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

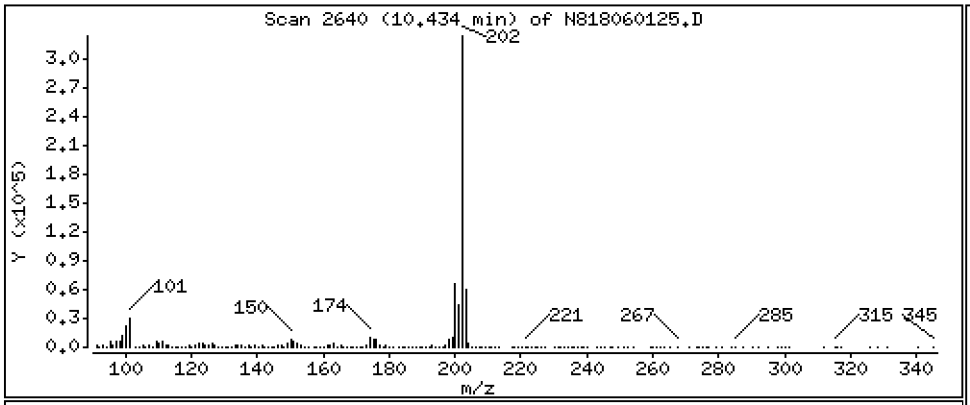
Operator: JZ

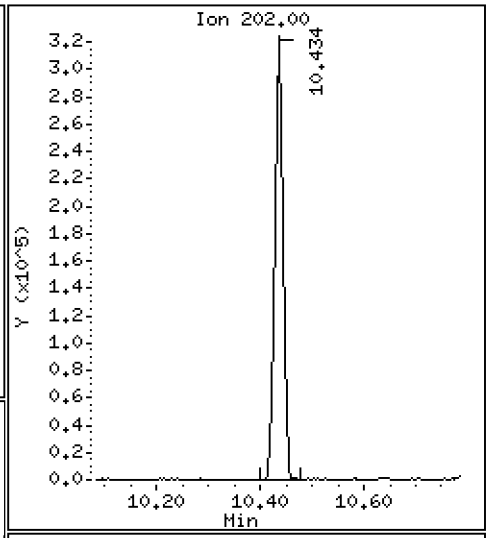
Column phase: Rxi-17sil

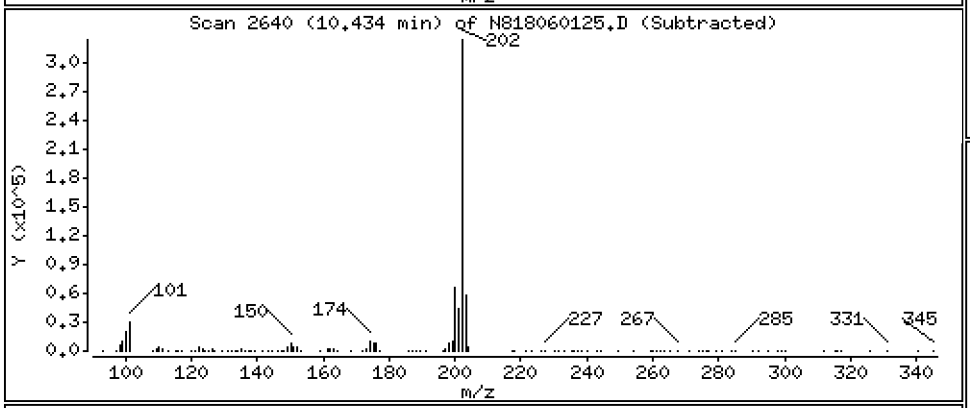
Column diameter: 0.25

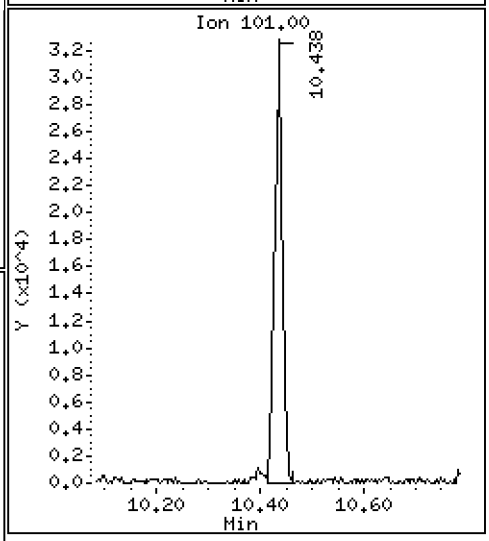
22 Fluoranthene

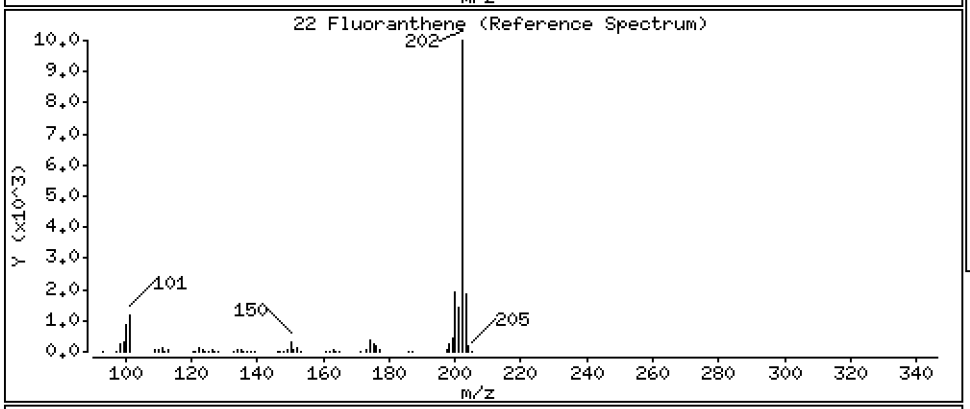
Concentration: 2.767 ug/mL

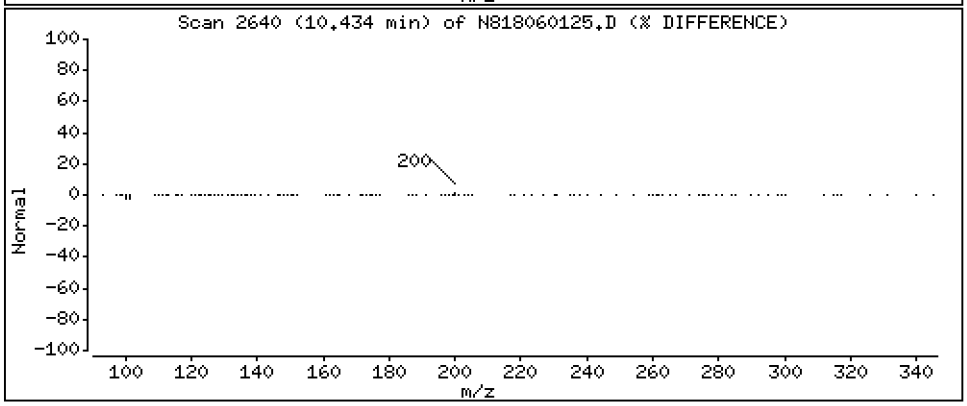












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

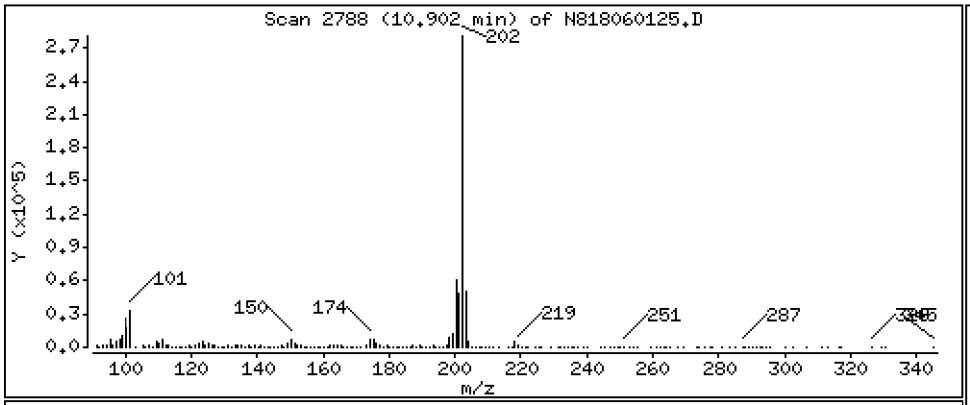
Operator: JZ

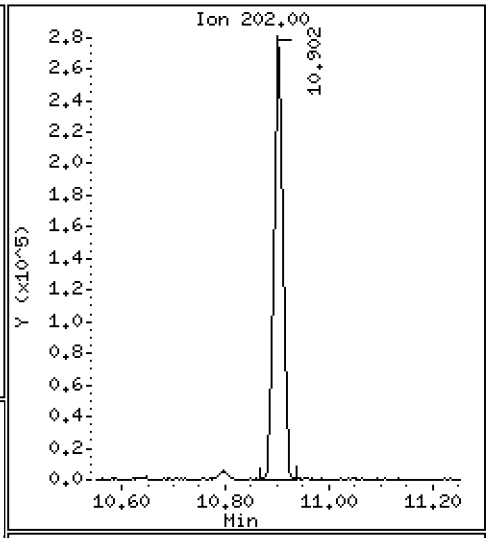
Column phase: Rxi-17sil

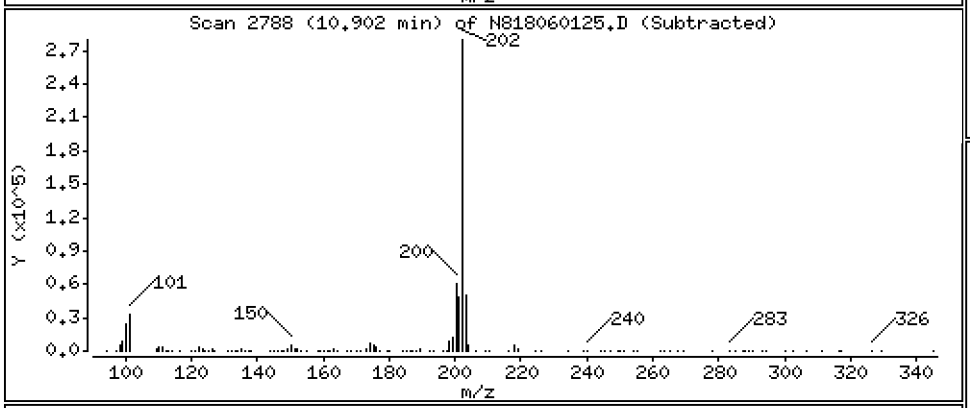
Column diameter: 0.25

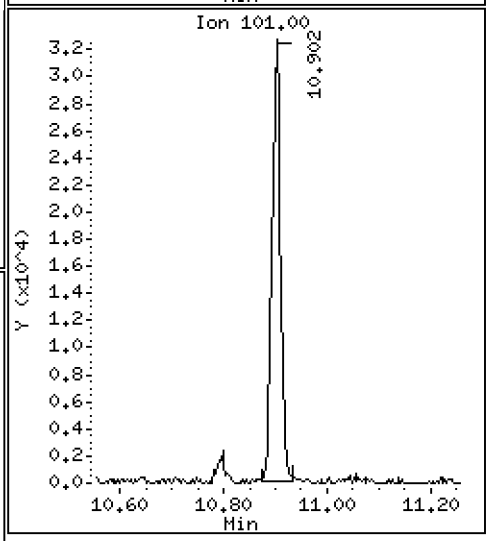
23 Pyrene

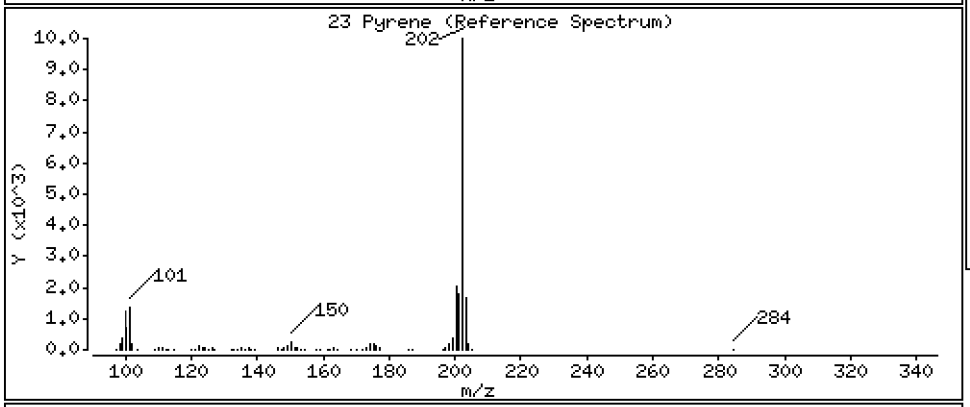
Concentration: 2.962 ug/mL

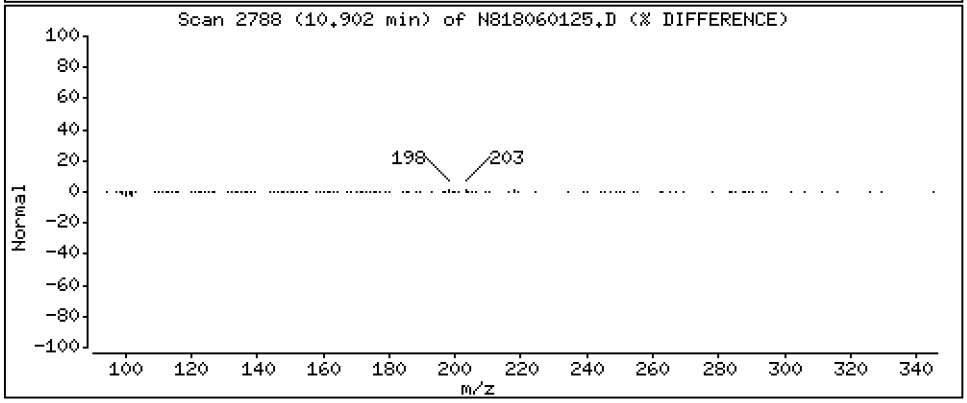












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

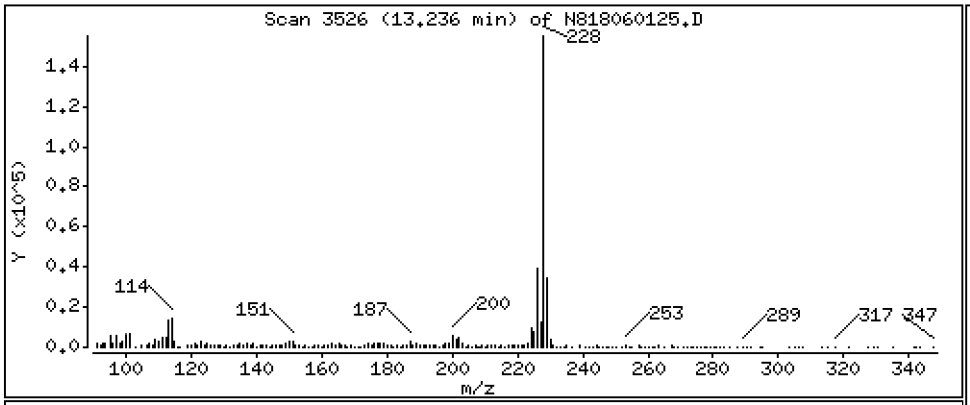
Operator: JZ

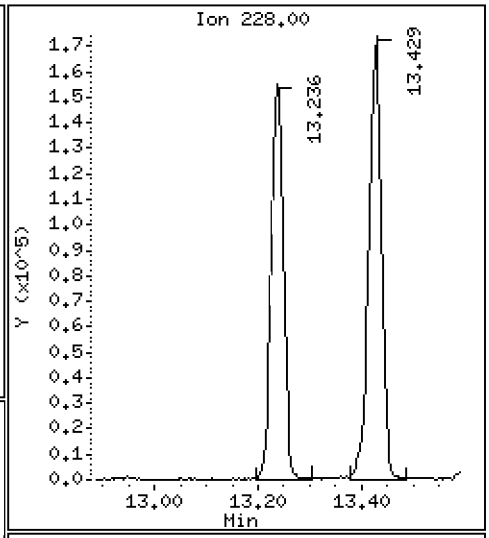
Column phase: Rxi-17sil

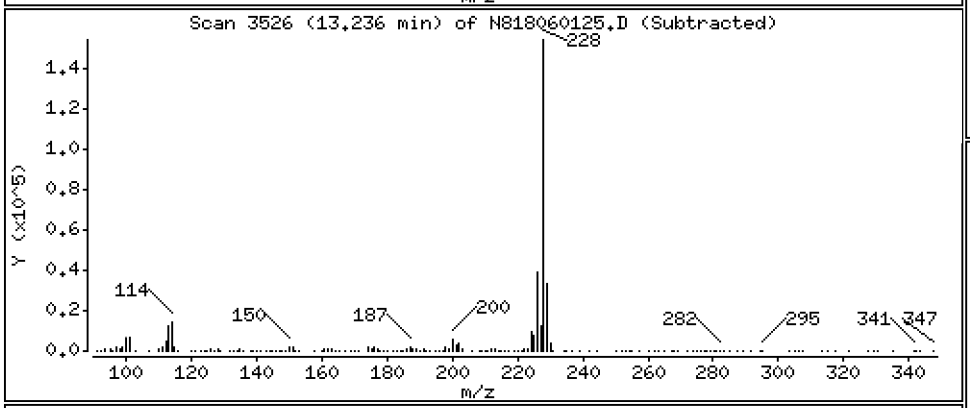
Column diameter: 0.25

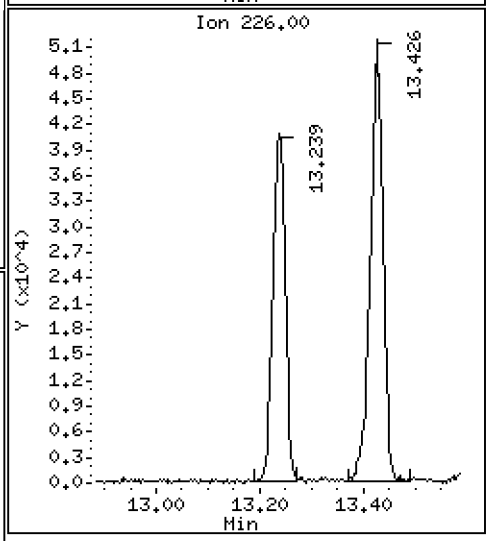
24 Benzo(a)anthracene

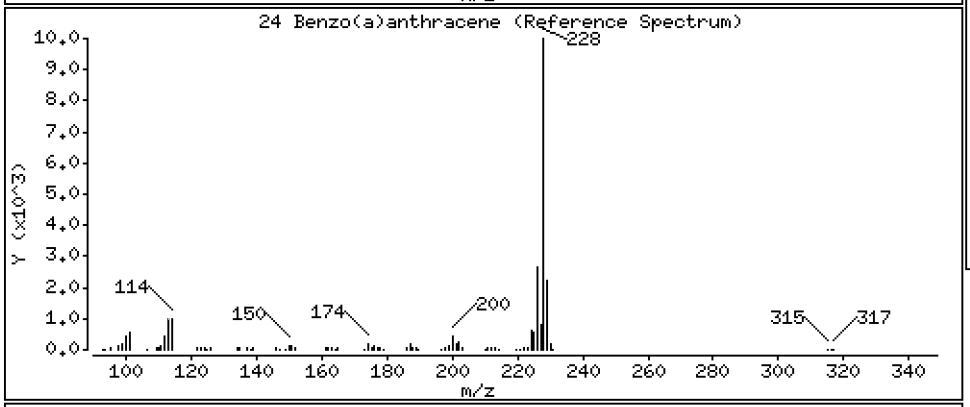
Concentration: 2.347 ug/mL

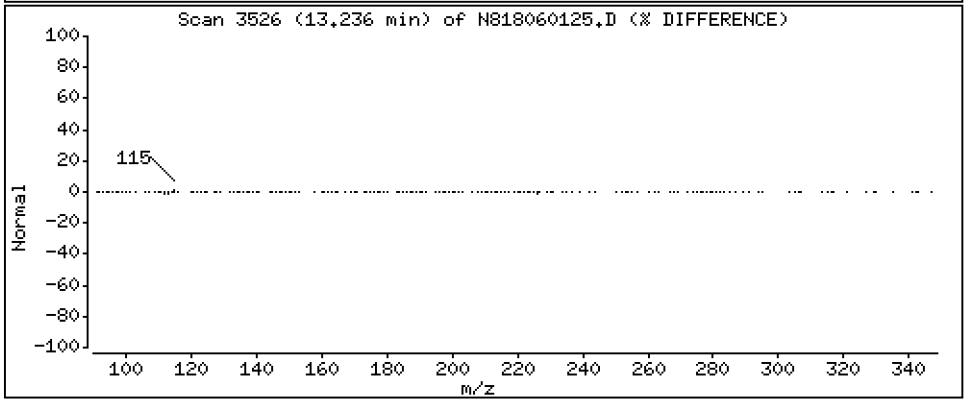












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

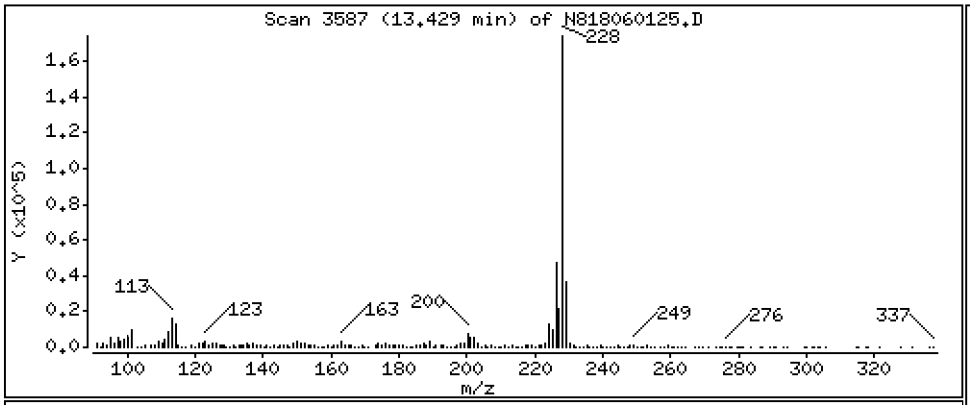
Operator: JZ

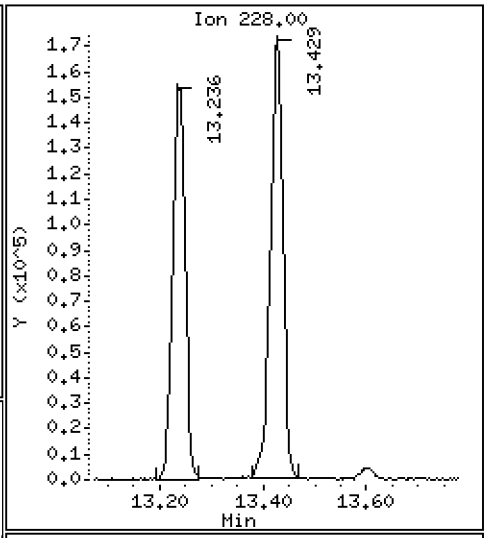
Column phase: Rxi-17sil

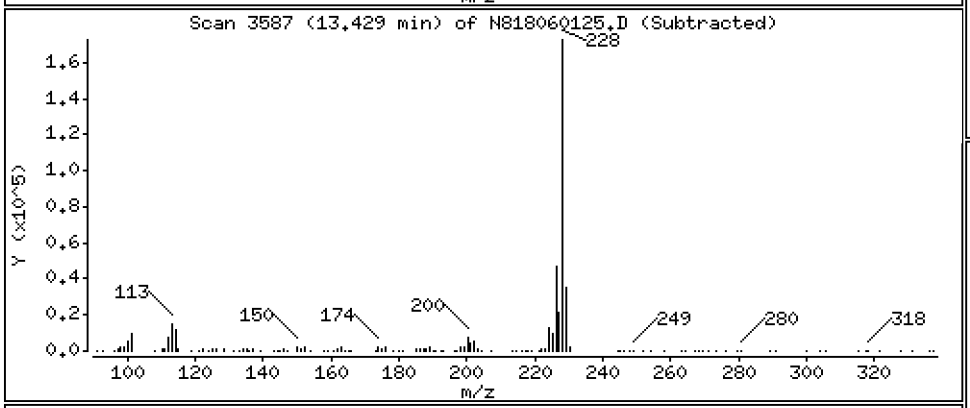
Column diameter: 0.25

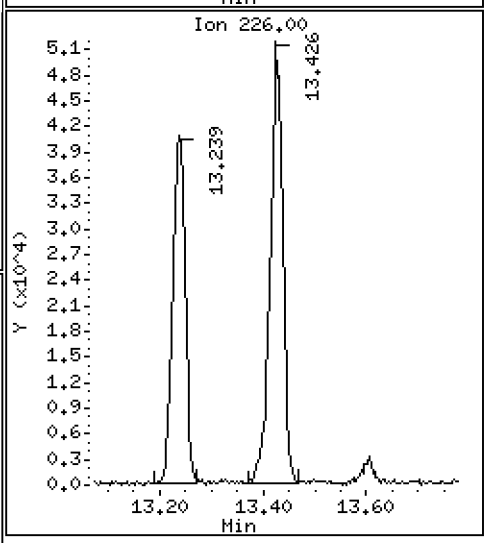
27 Chrysene

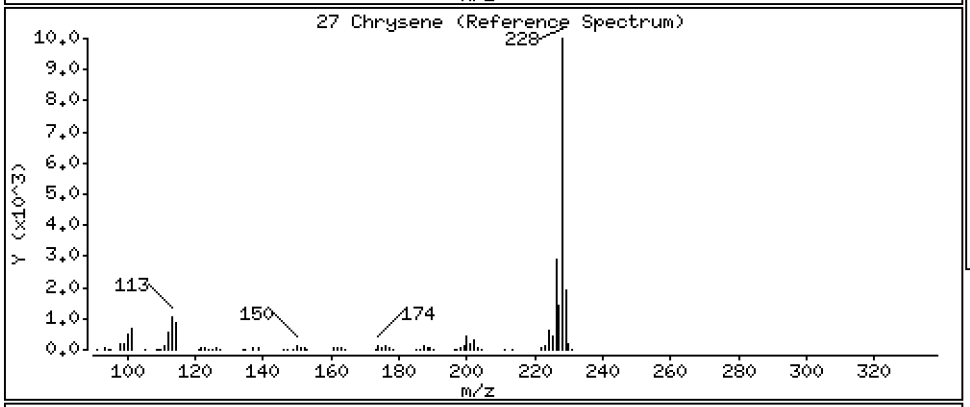
Concentration: 2.606 ug/mL

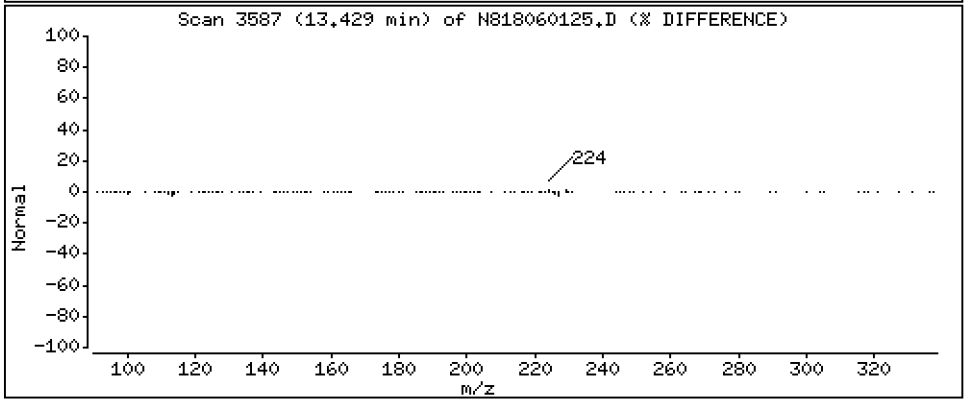












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

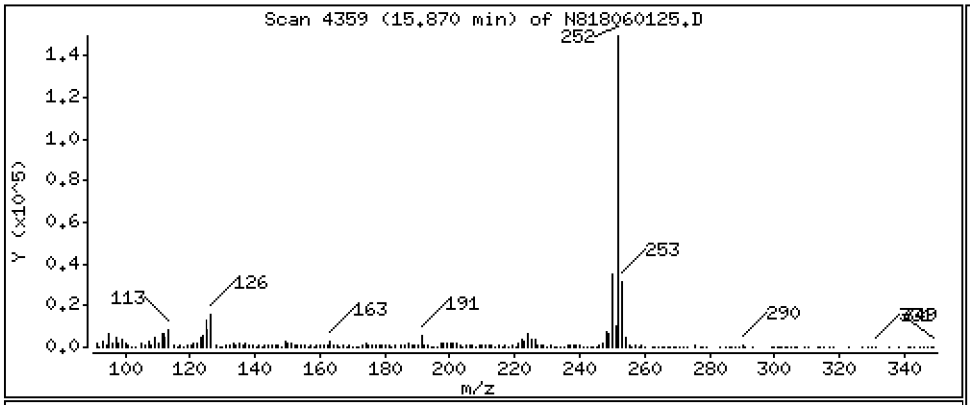
Operator: JZ

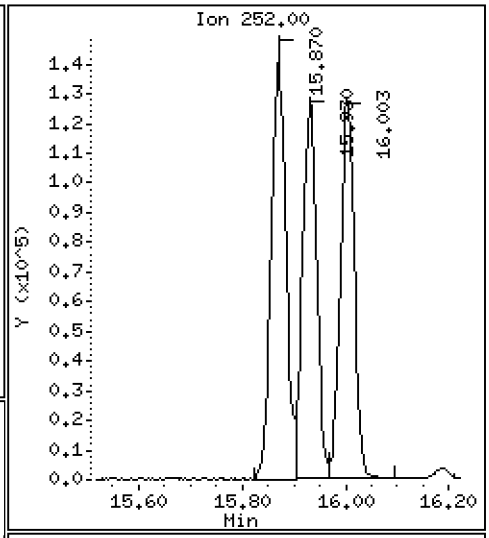
Column phase: Rxi-17sil

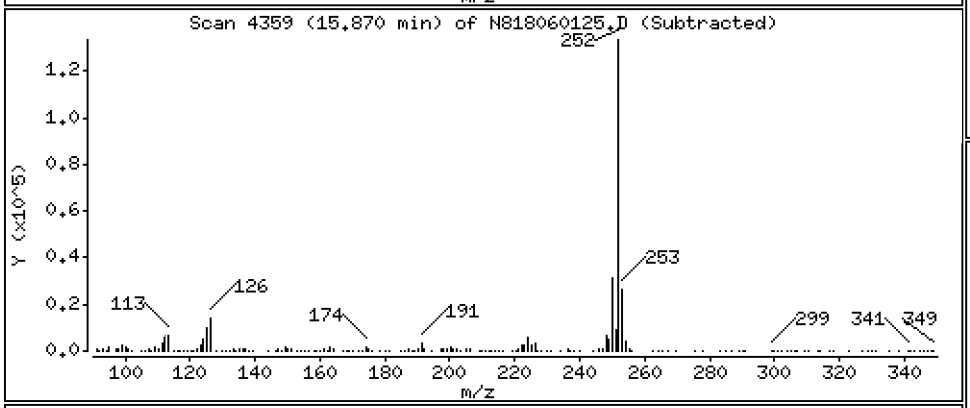
Column diameter: 0.25

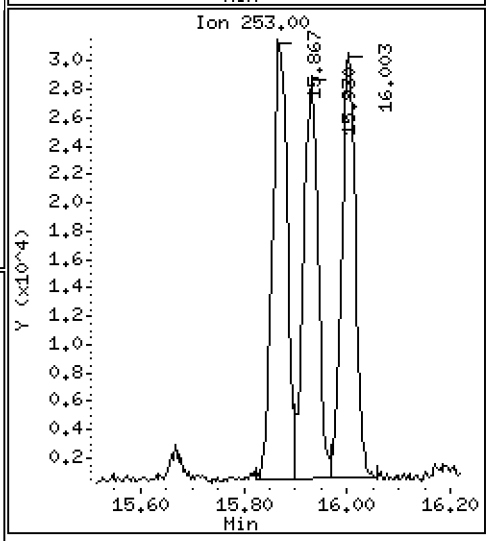
28 Benzo(b)fluoranthene

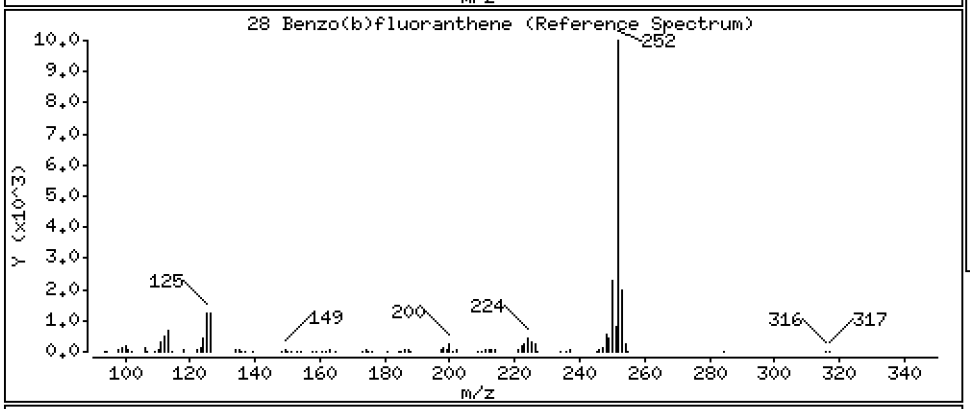
Concentration: 2.481 ug/mL

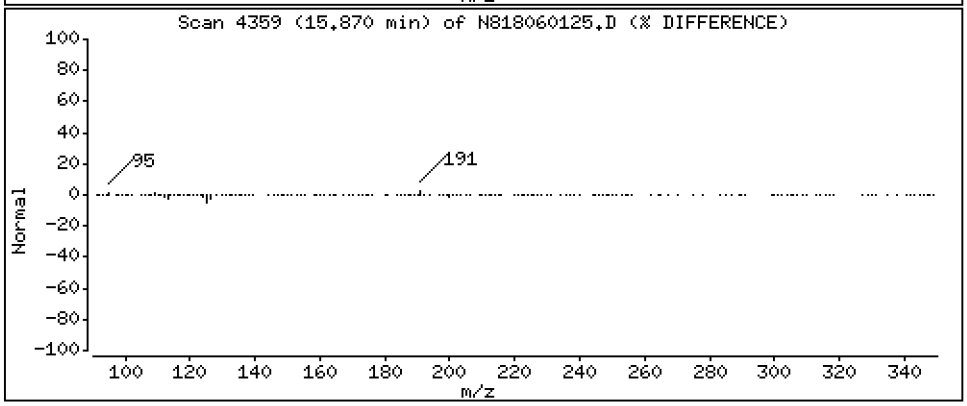












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

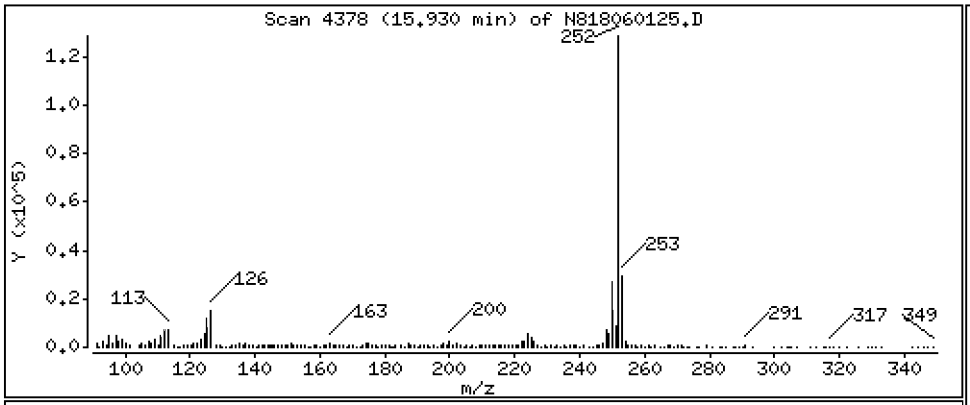
Operator: JZ

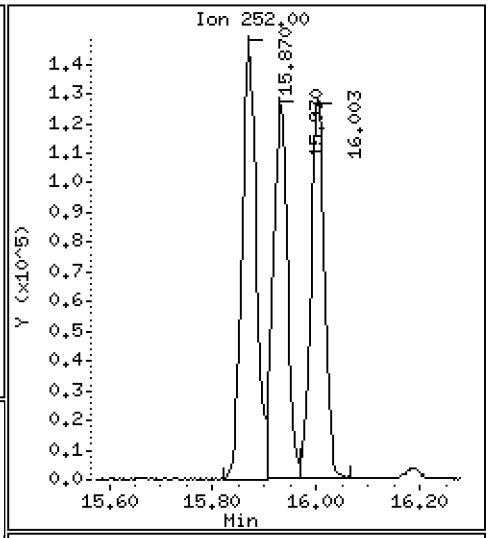
Column phase: Rxi-17sil

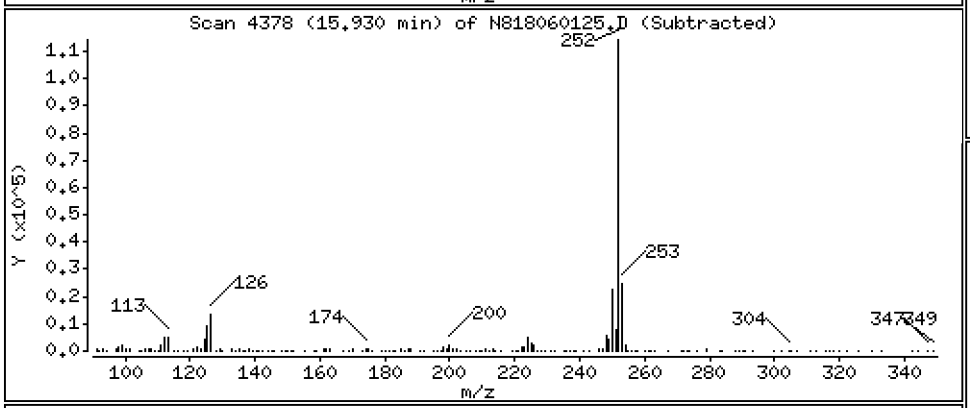
Column diameter: 0.25

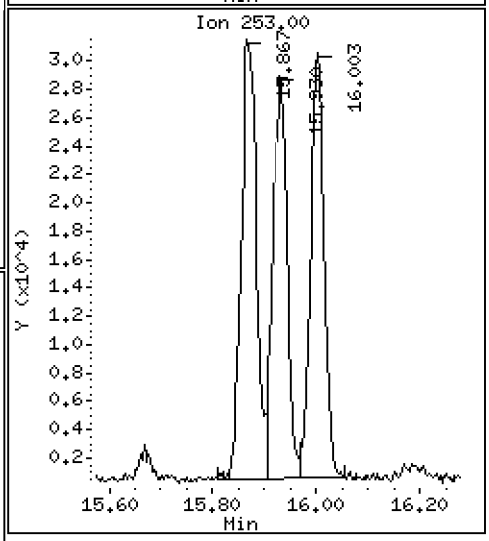
29 Benzo(k)fluoranthene

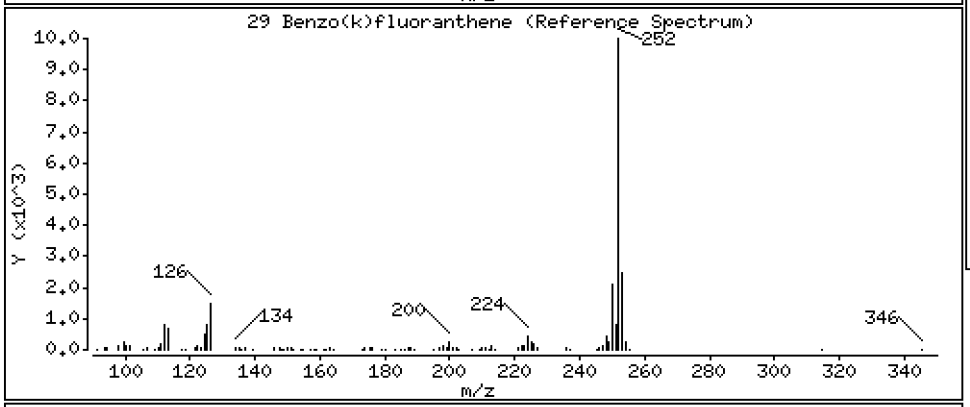
Concentration: 2.154 ug/mL

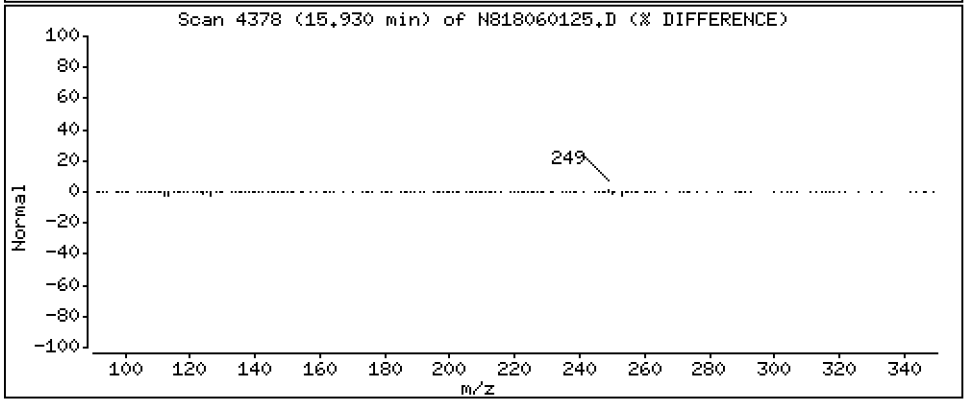












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

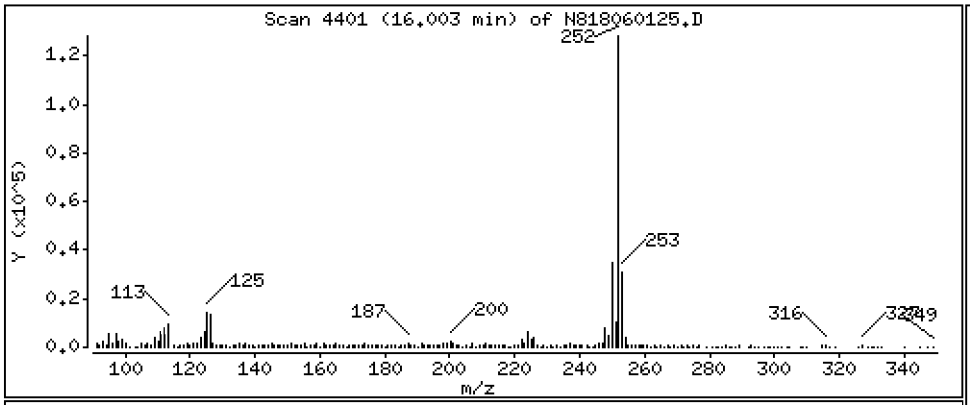
Operator: JZ

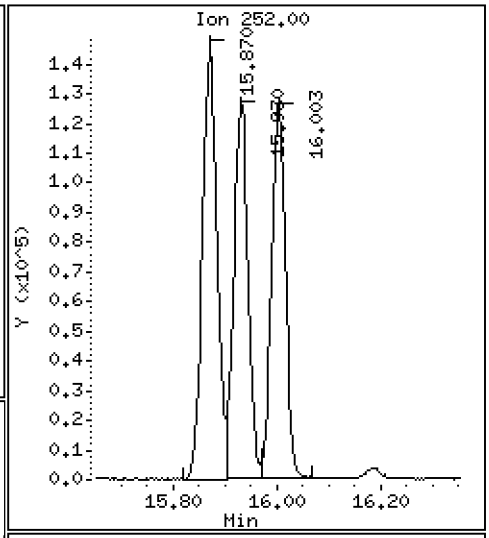
Column phase: Rxi-17sil

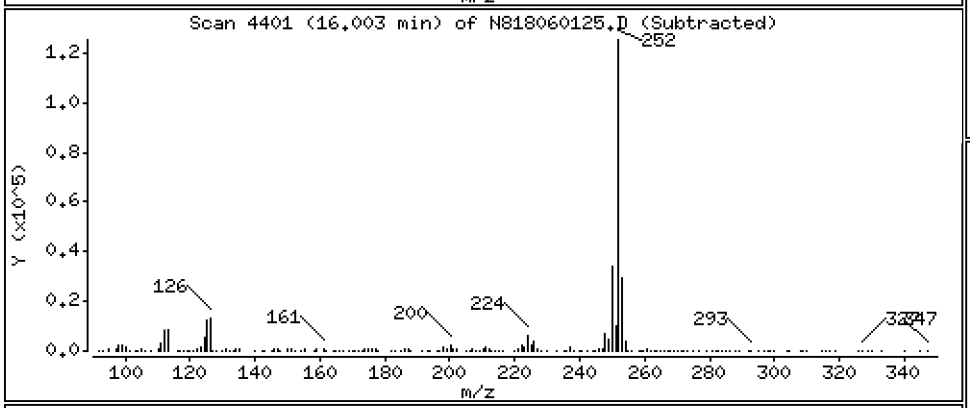
Column diameter: 0.25

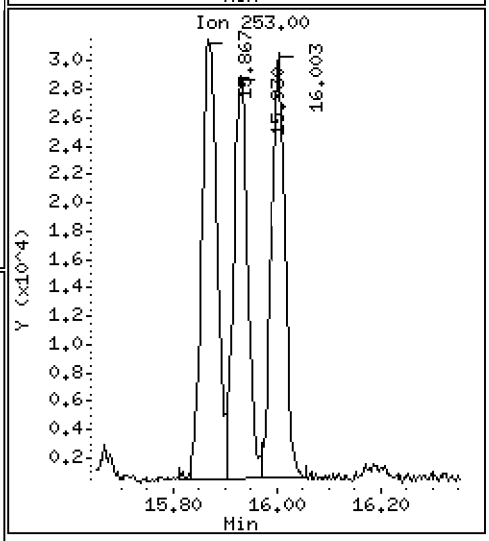
30 Benzo(j)fluoranthene

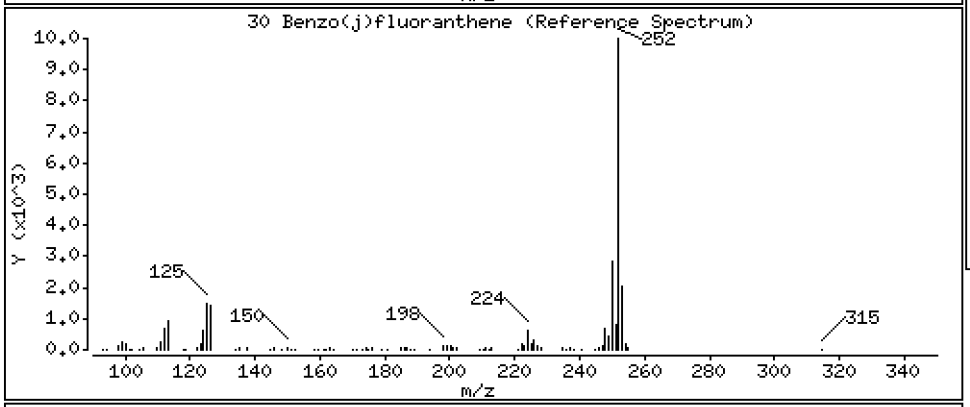
Concentration: 2.086 ug/mL

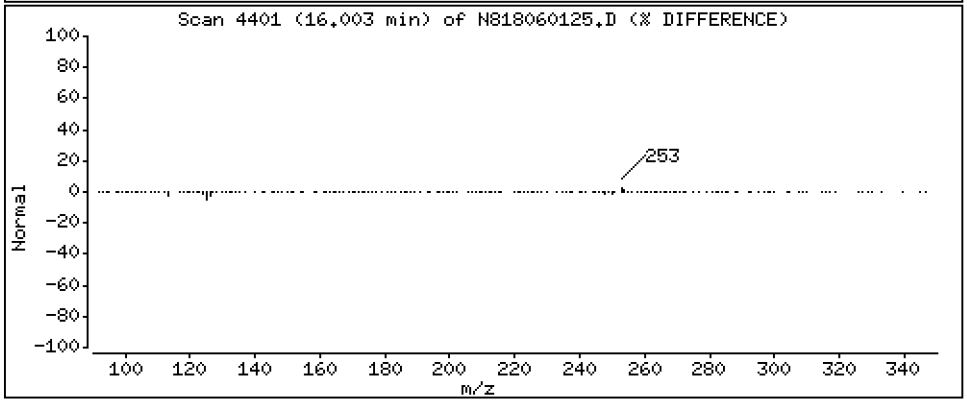












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

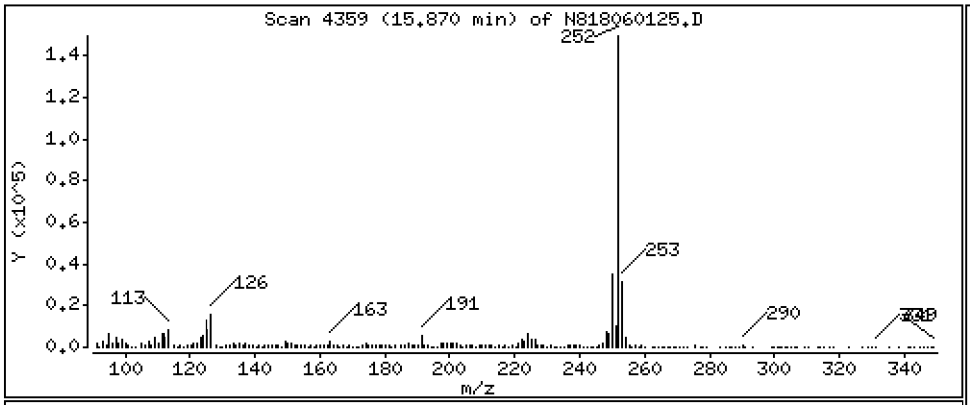
Operator: JZ

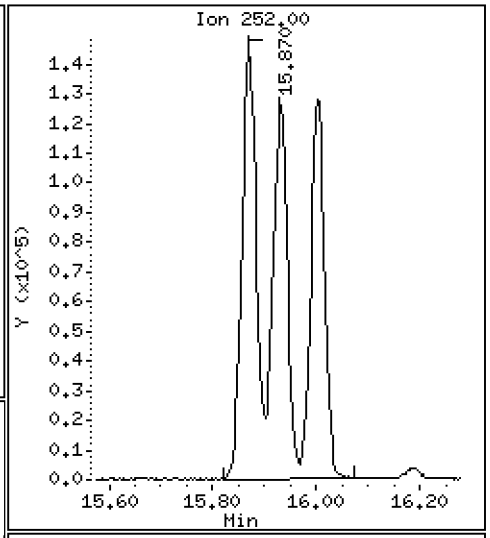
Column phase: Rxi-17sil

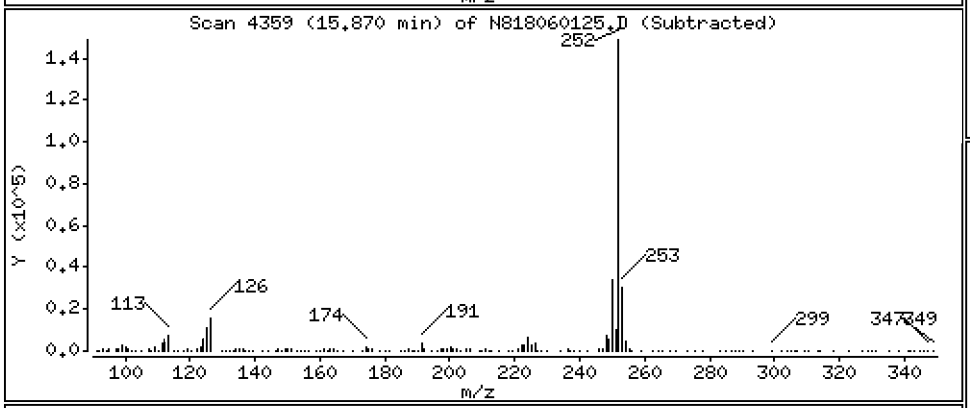
Column diameter: 0.25

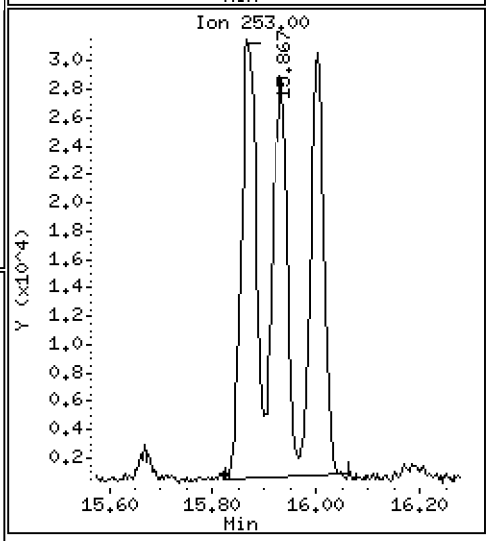
31 Total Benzofluoranthenes

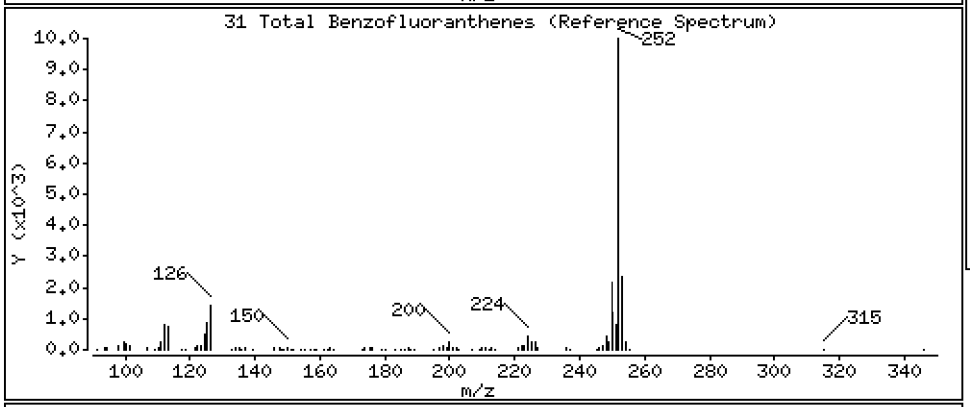
Concentration: 6.773 ug/mL

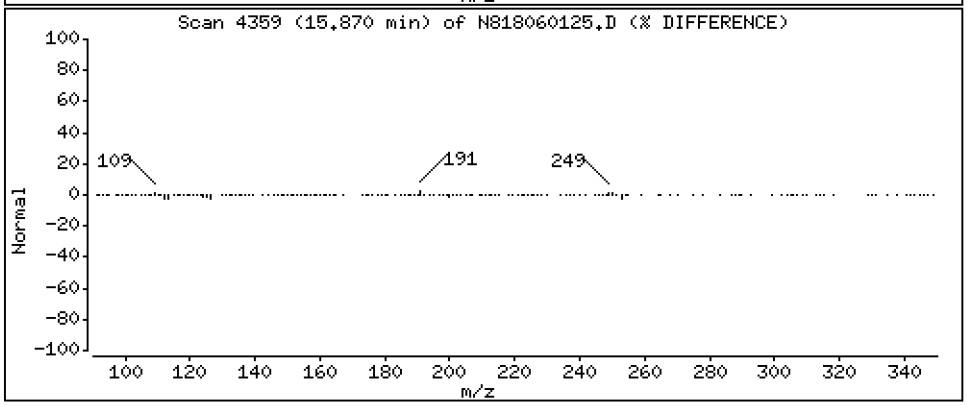












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

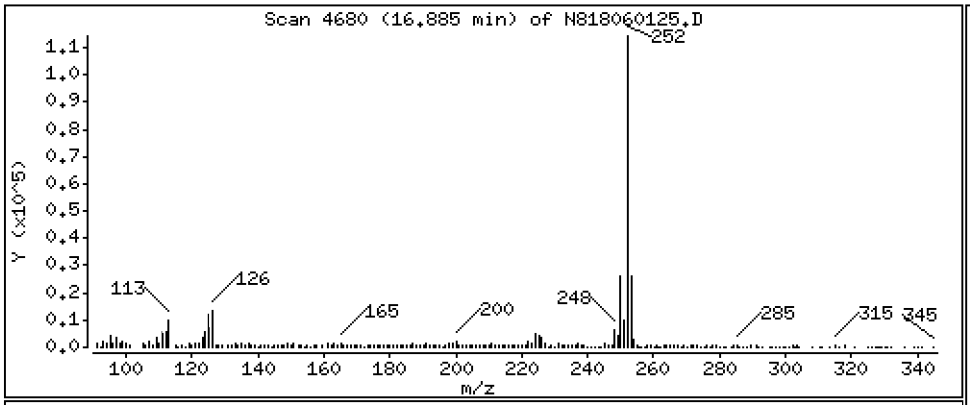
Operator: JZ

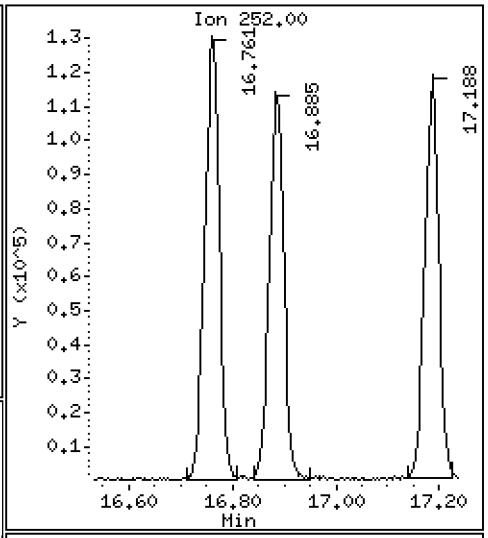
Column phase: Rxi-17sil

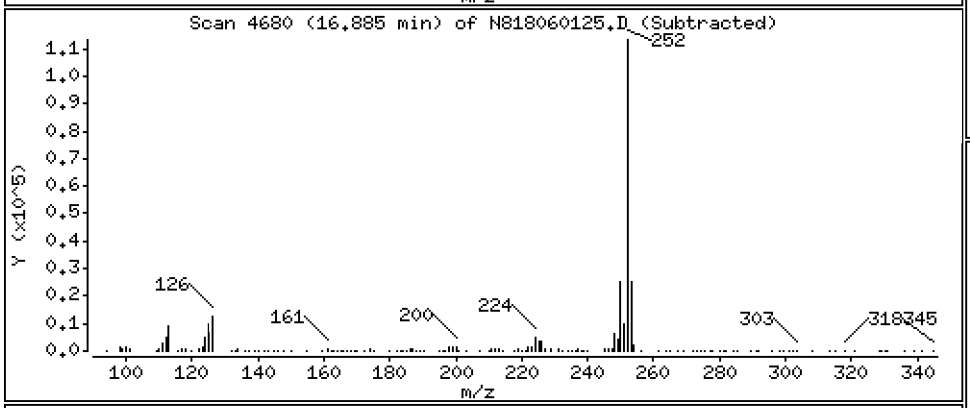
Column diameter: 0.25

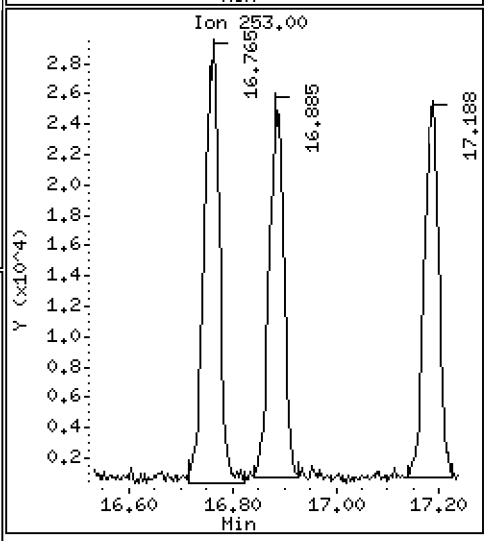
32 Benzo(a)pyrene

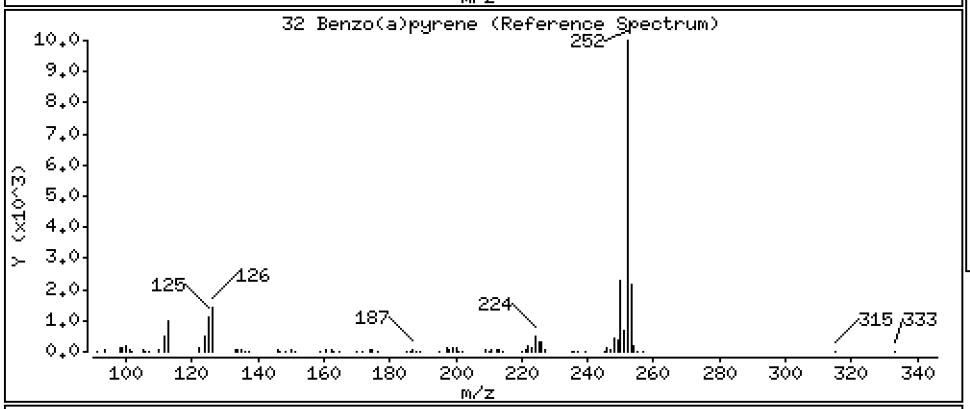
Concentration: 2.199 ug/mL

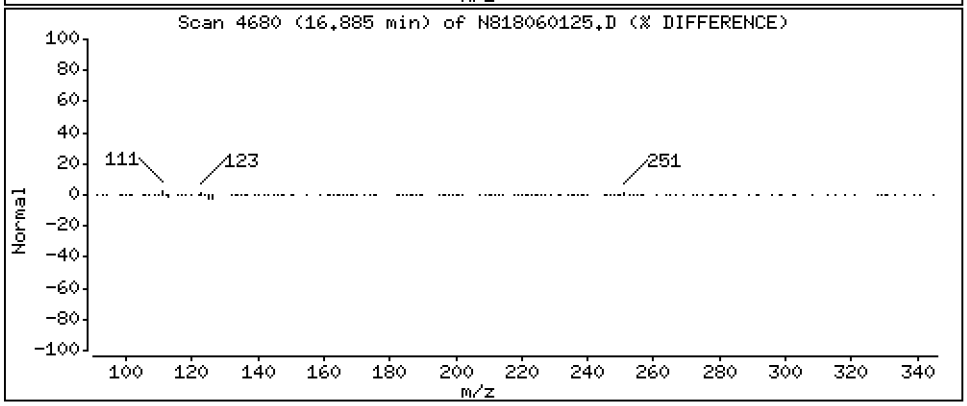












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

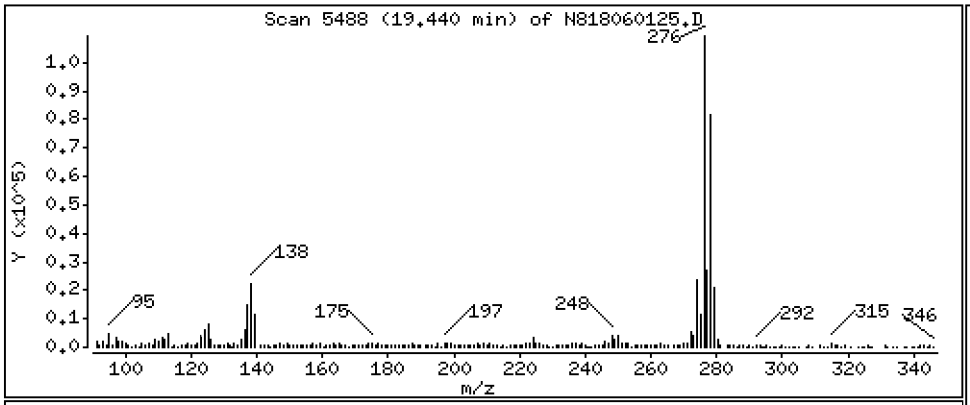
Operator: JZ

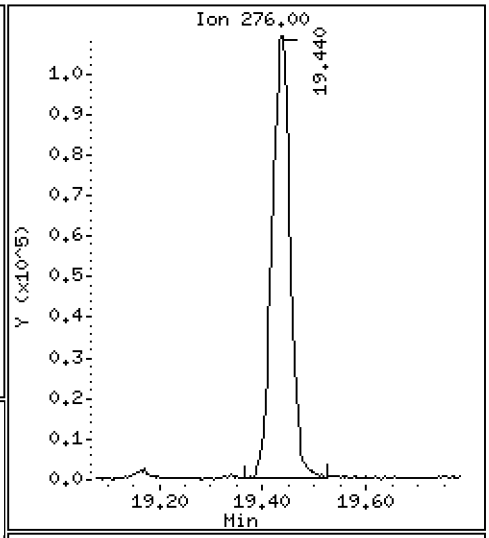
Column phase: Rxi-17sil

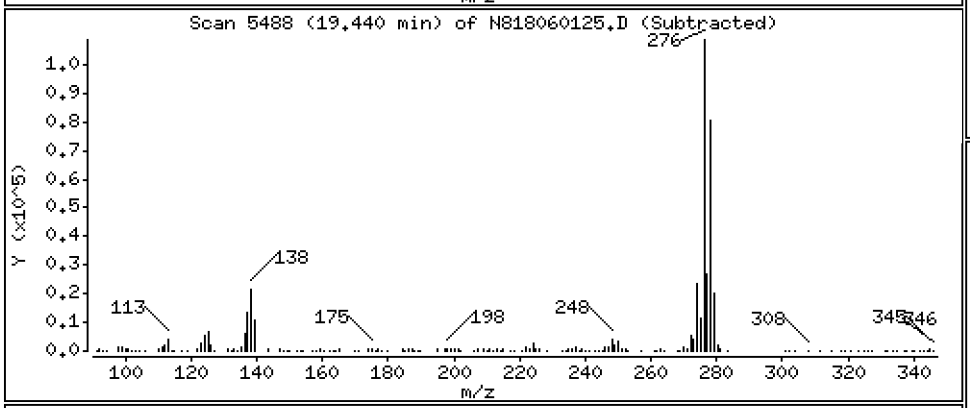
Column diameter: 0.25

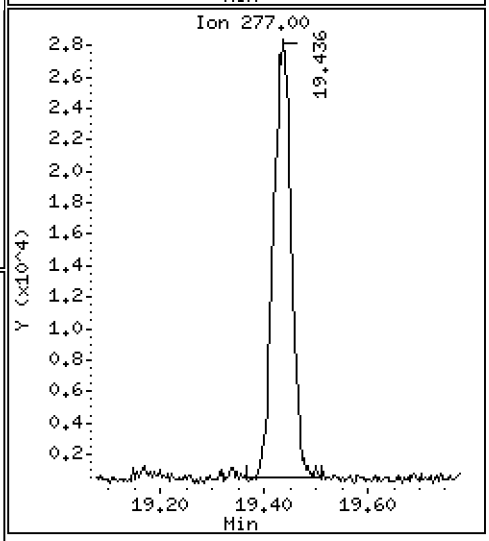
37 Indeno(1,2,3-cd)pyrene

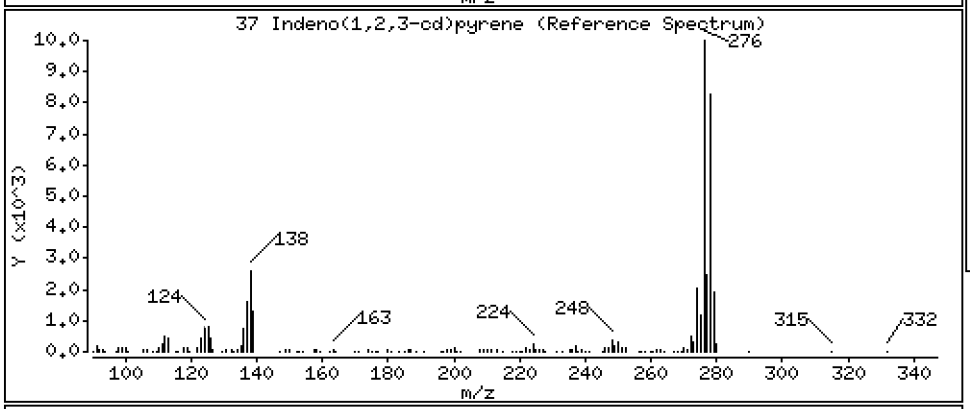
Concentration: 2.318 ug/mL

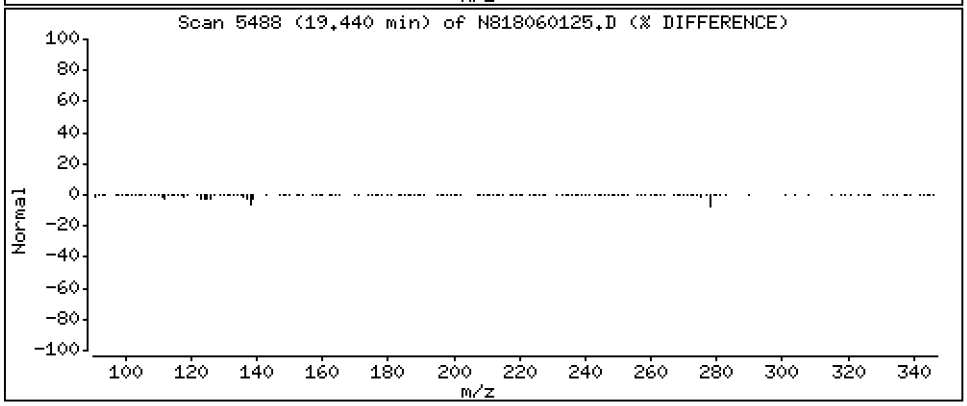












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

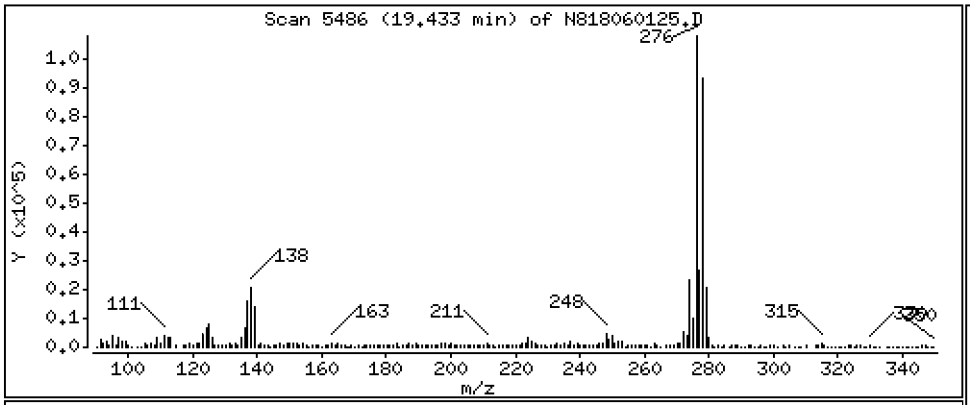
Operator: JZ

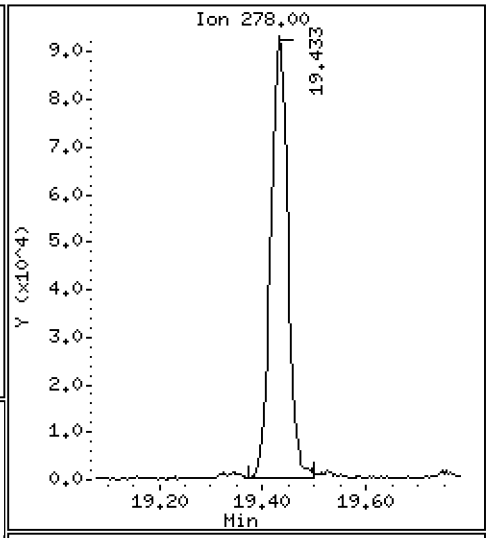
Column phase: Rxi-17sil

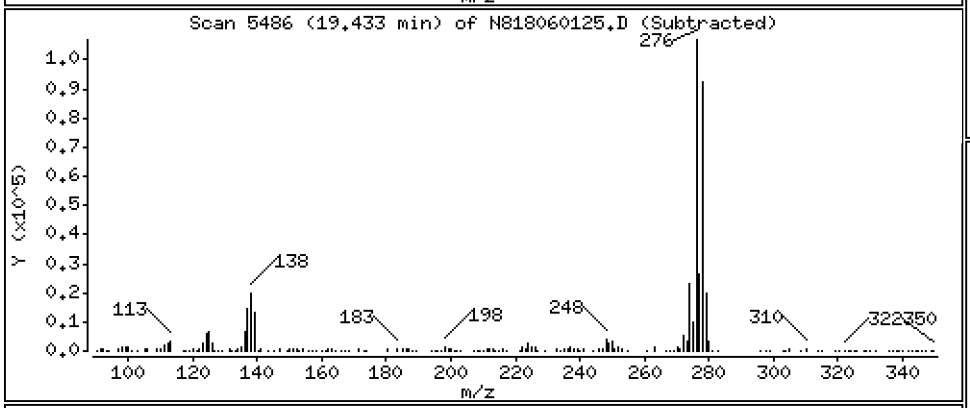
Column diameter: 0.25

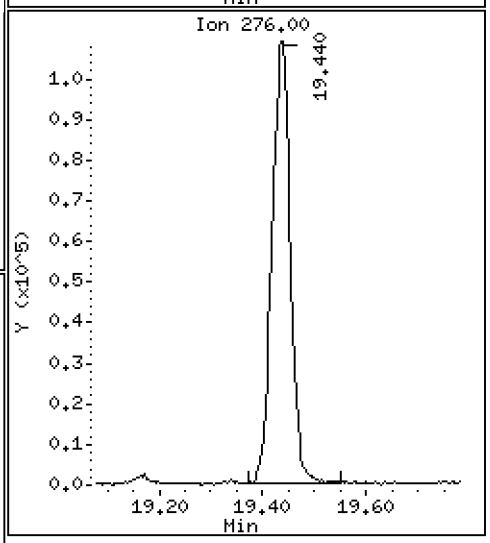
38 Dibenzo(a,h)anthracene

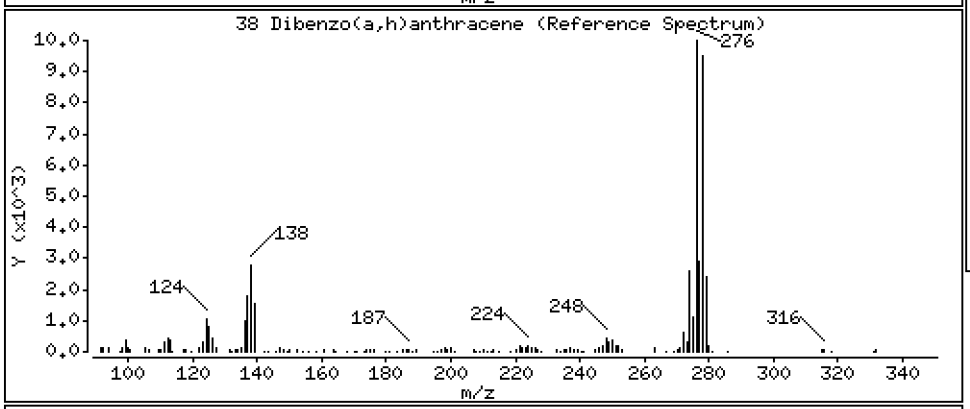
Concentration: 2.231 ug/mL

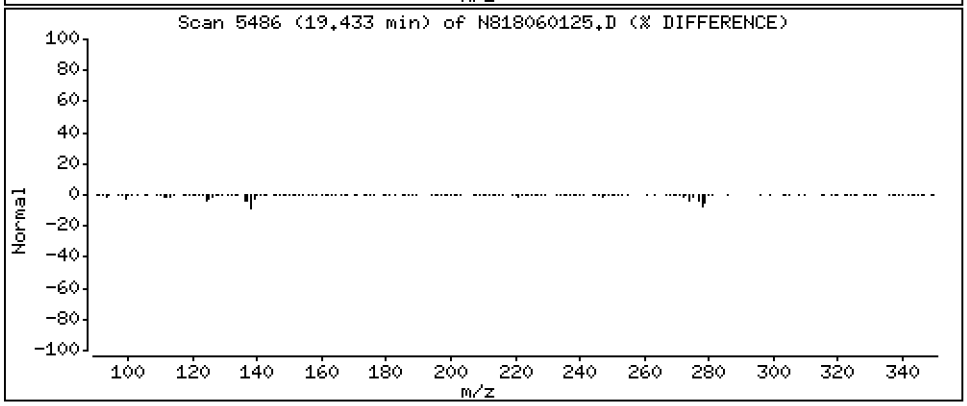












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

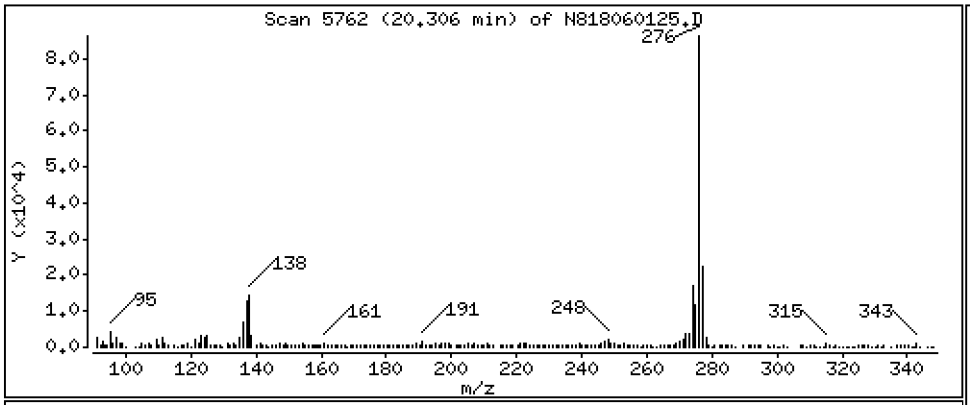
Operator: JZ

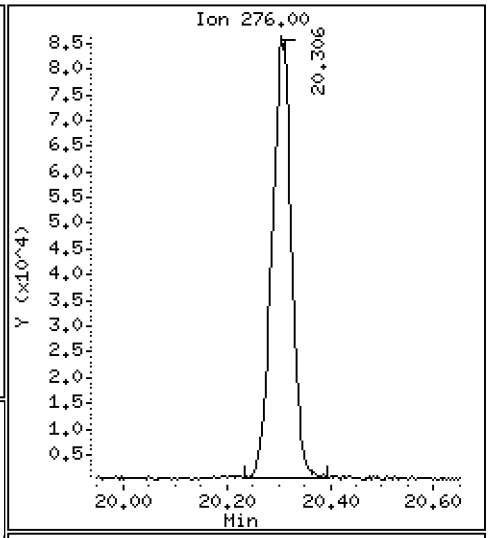
Column phase: Rxi-17sil

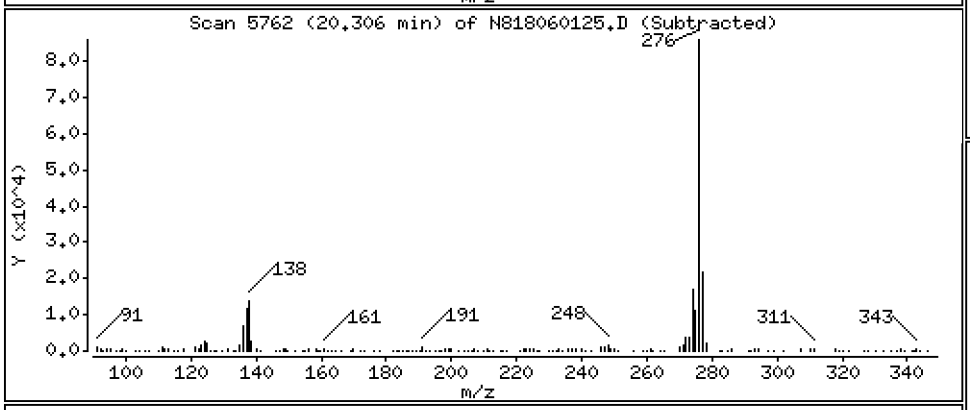
Column diameter: 0.25

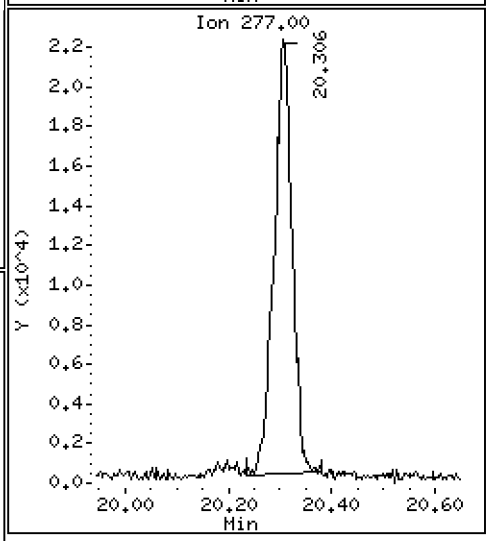
39 Benzo(g,h,i)perylene

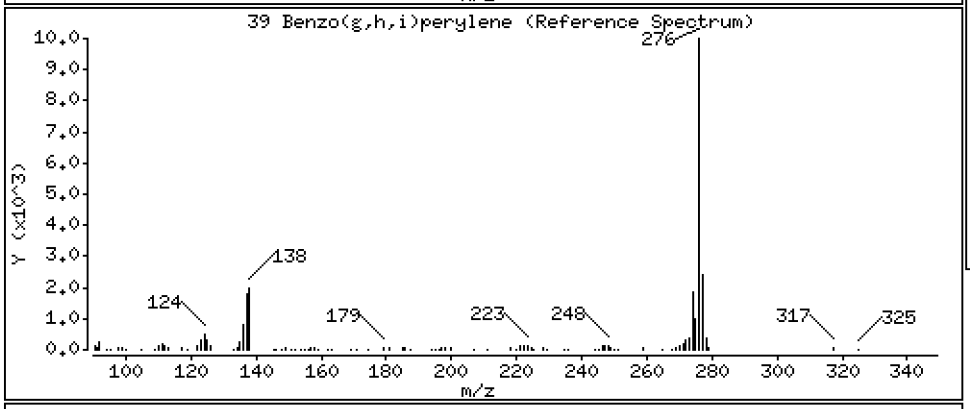
Concentration: 2.213 ug/mL

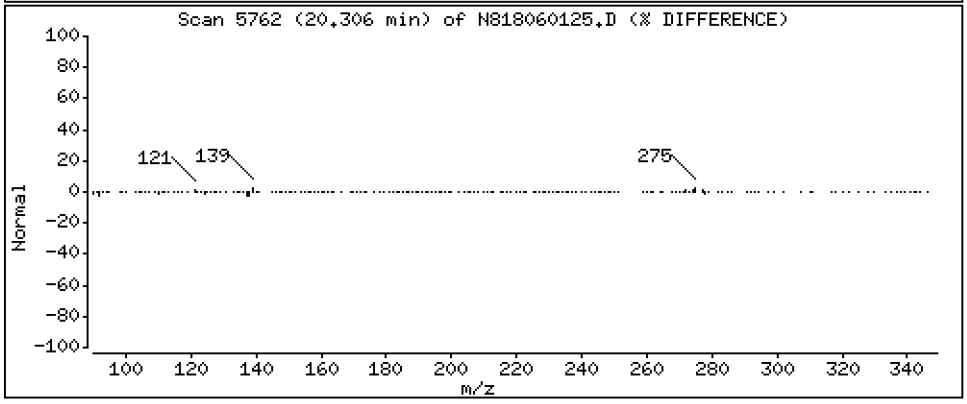












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060125.D

Date : 02-JUN-2018 01:07

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-MSD1,

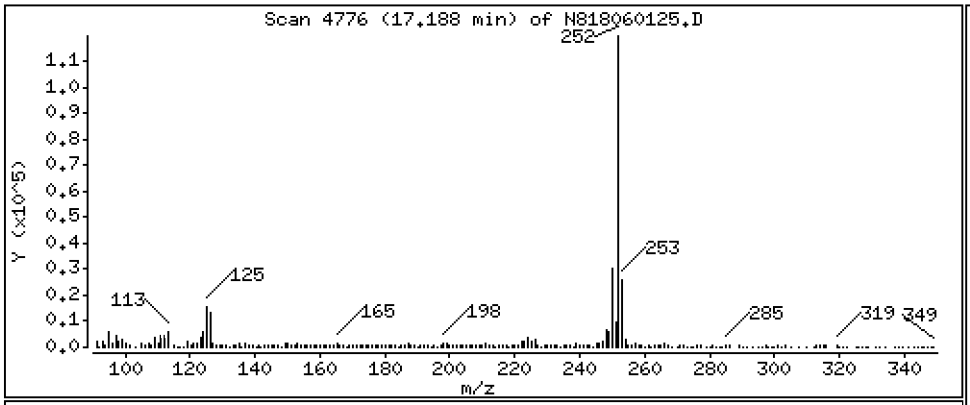
Operator: JZ

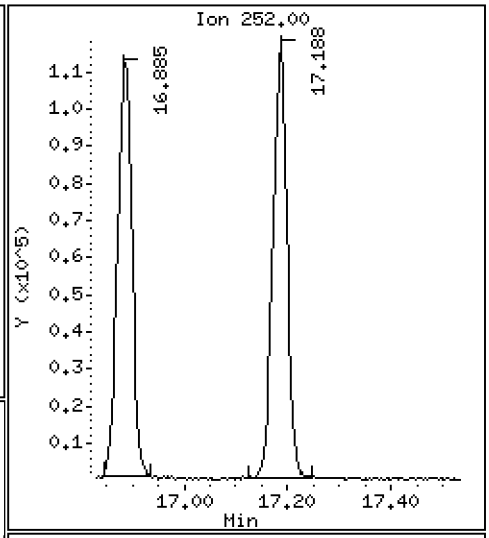
Column phase: Rxi-17sil

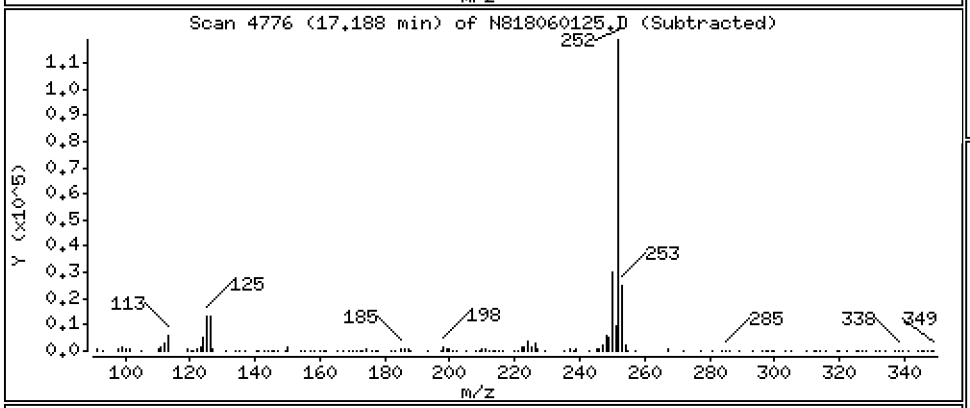
Column diameter: 0.25

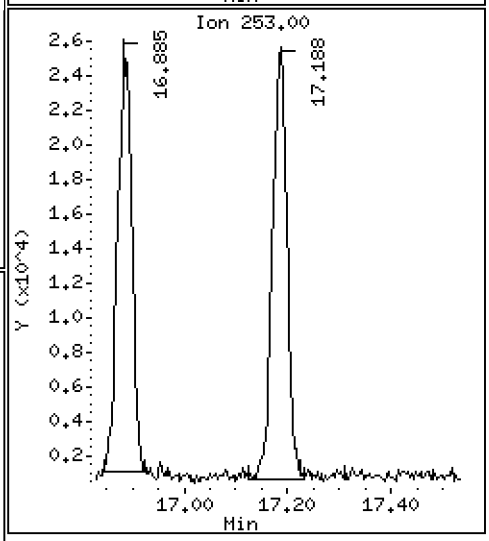
35 Perylene

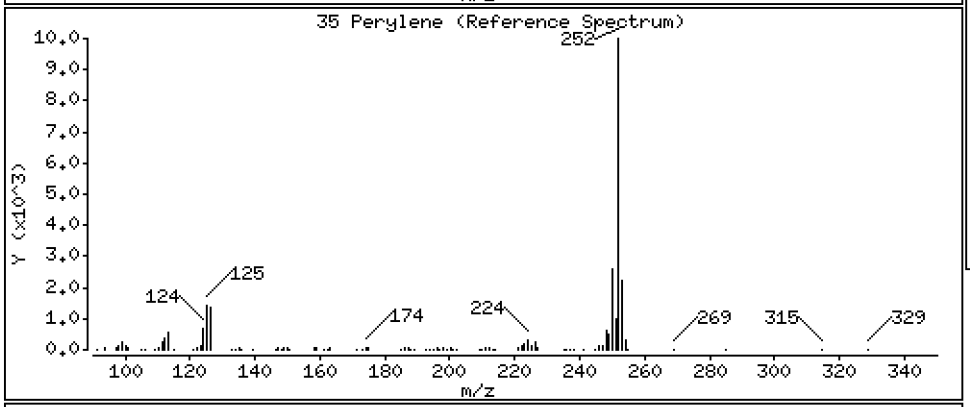
Concentration: 2.031 ug/mL

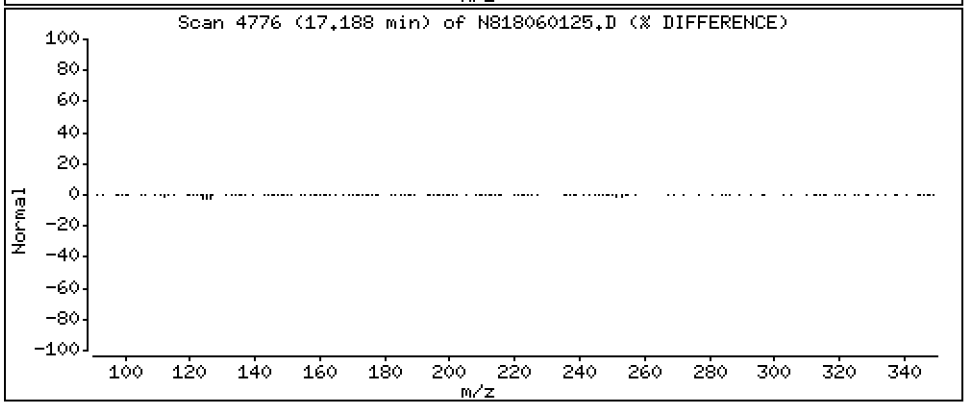












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060125.D
Lab Smp Id: BGE0626-MSD1
Inj Date : 02-JUN-2018 01:07
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0626-MSD1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.455	4.464	(1.000)	202603	2.00000	
	2	Naphthalene	128	4.486	4.492	(1.007)	145860	1.23878	1.239
$	3	2-Methylnaphthalene-d10	152	5.188	5.191	(1.165)	97487	1.31904	1.319
	4	2-Methylnaphthalene	141	5.236	5.242	(1.175)	89898	1.35553	1.356
	5	1-methylnaphthalene	141	5.428	5.432	(1.219)	92745	1.35860	1.359
	9	Acenaphthylene	152	6.614	6.617	(0.984)	162232	1.50193	1.502
*	10	Acenaphthene-d10	164	6.725	6.728	(1.000)	108793	2.00000	
	11	Acenaphthene	153	6.775	6.775	(1.008)	117907	1.42391	1.424
	12	Dibenzofuran	168	6.927	6.927	(1.030)	159874	1.43595	1.436
	14	Fluorene	166	7.402	7.402	(1.101)	134770	1.56657	1.567
*	15	Phenanthrene-d10	188	8.745	8.745	(1.000)	191209	2.00000	
	16	Phenanthrene	178	8.780	8.780	(1.004)	229349	1.95701	1.957
	17	Anthracene	178	8.821	8.821	(1.009)	197287	1.84762	1.848
	22	Fluoranthene	202	10.434	10.434	(1.193)	365456	2.76698	2.767
$	21	Fluoranthene-d10	212	10.402	10.402	(1.189)	222587	1.77814	1.778
	23	Pyrene	202	10.902	10.902	(0.816)	340199	2.96188	2.962
	24	Benzo(a)anthracene	228	13.235	13.239	(0.991)	260586	2.34661	2.347
*	25	Chrysene-d12	240	13.359	13.356	(1.000)	191128	2.00000	
	27	Chrysene	228	13.428	13.425	(1.005)	291353	2.60639	2.606
	28	Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	287797	2.48124	2.481
	29	Benzo(k)fluoranthene	252	15.929	15.926	(0.931)	245650	2.15380	2.154
	30	Benzo(j)fluoranthene	252	16.002	16.002	(0.935)	238258	2.08629	2.086
	31	Total Benzofluoranthenes	252	15.869	15.926	(0.927)	766144	6.77287	6.773(M)
	32	Benzo(a)pyrene	252	16.884	16.884	(0.987)	223516	2.19866	2.199
*	33	Perylene-d12	264	17.115	17.112	(1.000)	182508	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	19.439	19.430	(1.136)	269777	2.31796	2.318
$	36	Dibenzo(a,h)anthracene-d14	292	19.341	19.338	(1.130)	196813	2.30230	2.302
	38	Dibenzo(a,h)anthracene	278	19.433	19.430	(1.135)	214189	2.23100	2.231
	39	Benzo(g,h,i)perylene	276	20.306	20.299	(1.186)	225066	2.21261	2.213
	35	Perylene	252	17.188	17.181	(1.004)	224215	2.03122	2.031

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060125.D
Lab Smp Id: BGE0626-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	202603	65.81
10 Acenaphthene-d10	65789	32895	131578	108793	65.37
15 Phenanthrene-d10	128644	64322	257288	191209	48.63
25 Chrysene-d12	166669	83335	333338	191128	14.68
33 Perylene-d12	140483	70242	280966	182508	29.91

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	-0.05
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	-0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.02
33 Perylene-d12	17.11	16.61	17.61	17.12	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060125.D

Lab ID: BGE0626-MSD1
nt8.i, 20180601.b\FSIMPNA180305.m,   02-JUN-2018 01:07

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

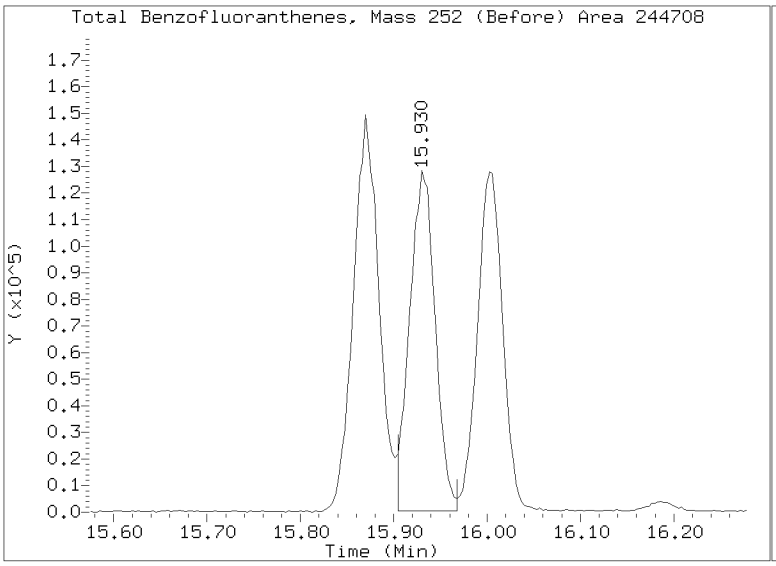
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

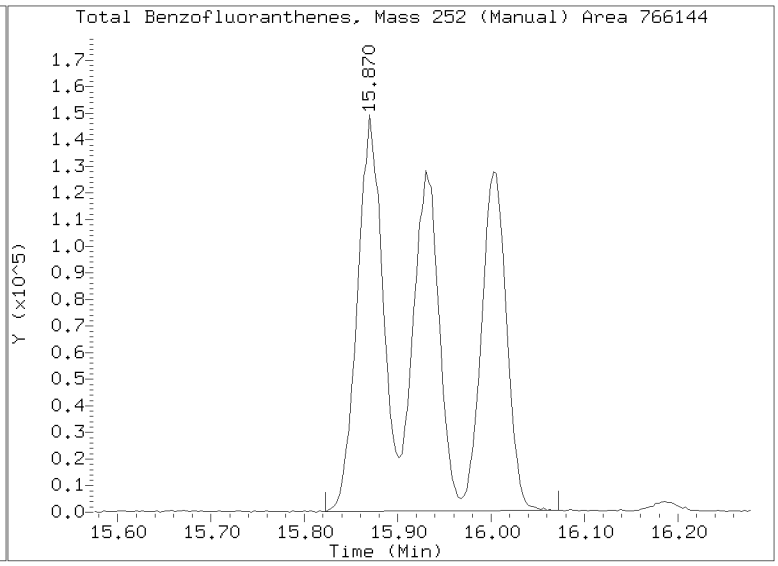
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060125.D
Injection Date: 02-JUN-2018 01:07
Lab ID:BGE0626-MSD1 Client ID:
Report Date: 06/04/2018 11:46





MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Tissue	Analyzed:	06/12/18 23:26
Batch:	BGE0773	Laboratory ID:	BGE0773-MS1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike
Initial/Final:	10.03 g / 0.5 mL	Source Sample:	LDW18-A11-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	Q	MS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	150	3.68	93.0		59.8	20 - 130
Chrysene	150	6.38	89.7		55.7	20 - 130
Benzo(b)fluoranthene	150	2.47	86.9		56.5	20 - 130
Benzo(k)fluoranthene	150	1.53	85.0		55.8	20 - 130
Benzo(a)pyrene	150	ND	88.7		59.3	20 - 130
Indeno(1,2,3-cd)pyrene	150	ND	97.0		64.8	20 - 130
Dibenzo(a,h)anthracene	150	ND	97.4		65.1	20 - 130

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Tissue	Analyzed:	06/12/18 23:53
Batch:	BGE0773	Laboratory ID:	BGE0773-MSD1
Preparation:	EPA 3550C-Mod (Ultrasonic)	Sequence Name:	Matrix Spike Dup
Initial/Final:	10.03 g / 0.5 mL	Source Sample:	LDW18-A11-CLWB-Comp1

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)anthracene	150	107		68.9	13.7	35	20 - 130
Chrysene	150	102		64.0	13.0	35	20 - 130
Benzo(b)fluoranthene	150	96.3		62.7	10.2	35	20 - 130
Benzo(k)fluoranthene	150	99.0		65.2	15.3	35	20 - 130
Benzo(a)pyrene	150	102		68.1	13.8	35	20 - 130
Indeno(1,2,3-cd)pyrene	150	112		75.0	14.5	35	20 - 130
Dibenzo(a,h)anthracene	150	115		77.1	16.8	35	20 - 130

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

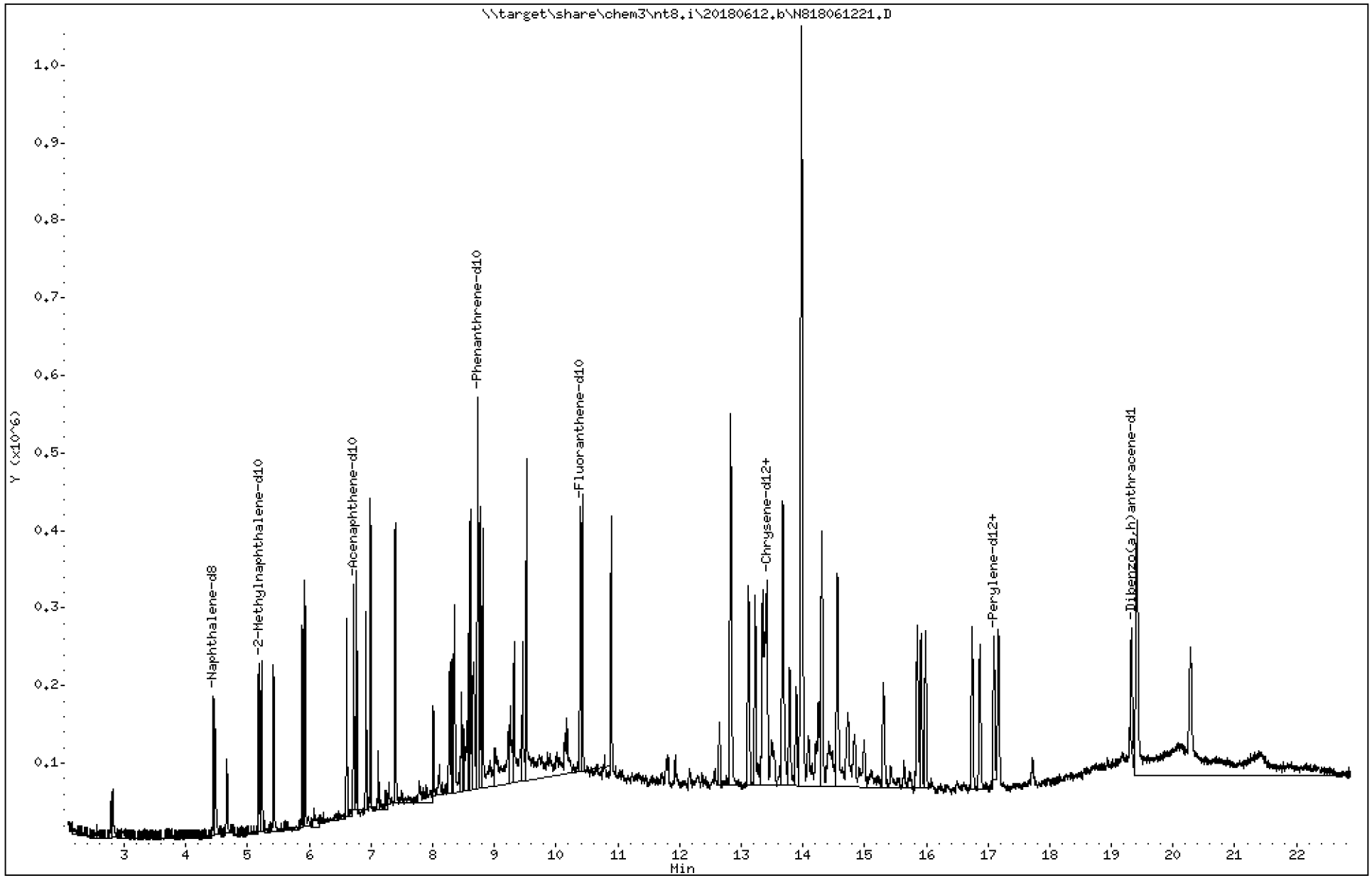
Instrument: nt8.i

Sample Info: BGE0773-MS1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

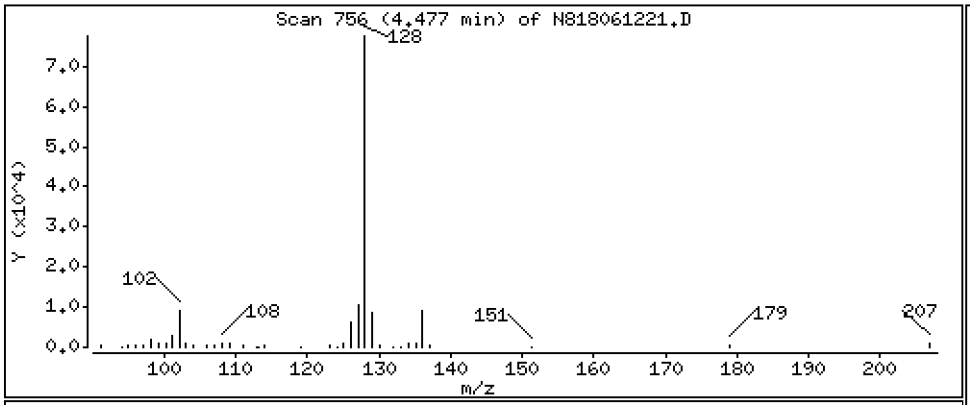
Operator: JZ

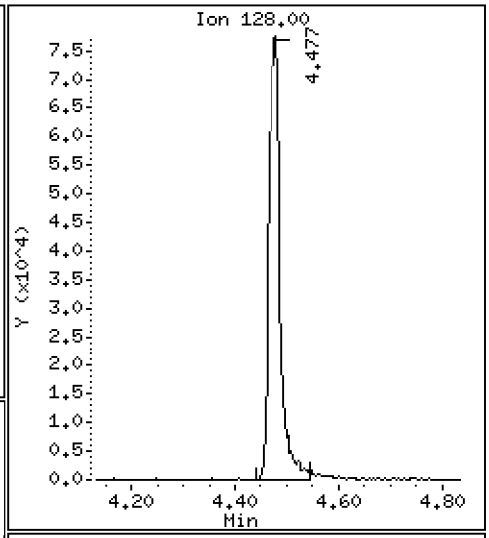
Column phase: Rxi-17sil

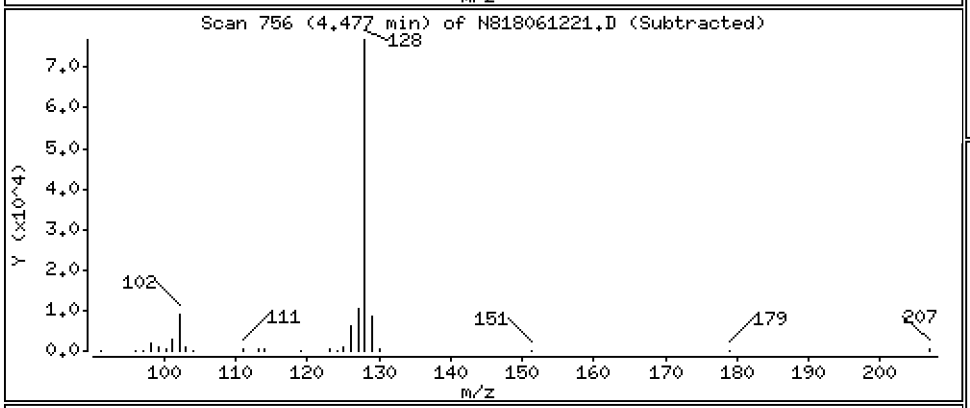
Column diameter: 0.25

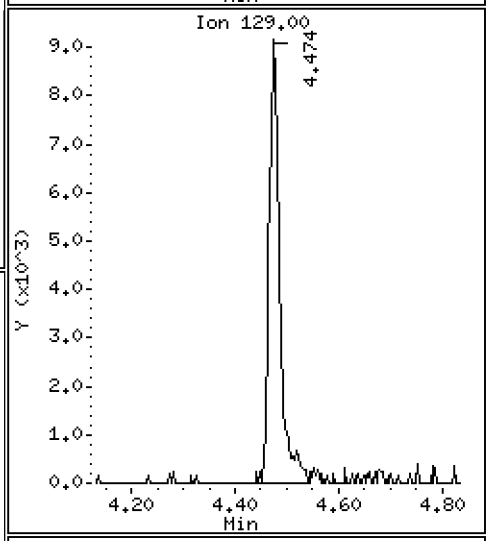
2 Naphthalene

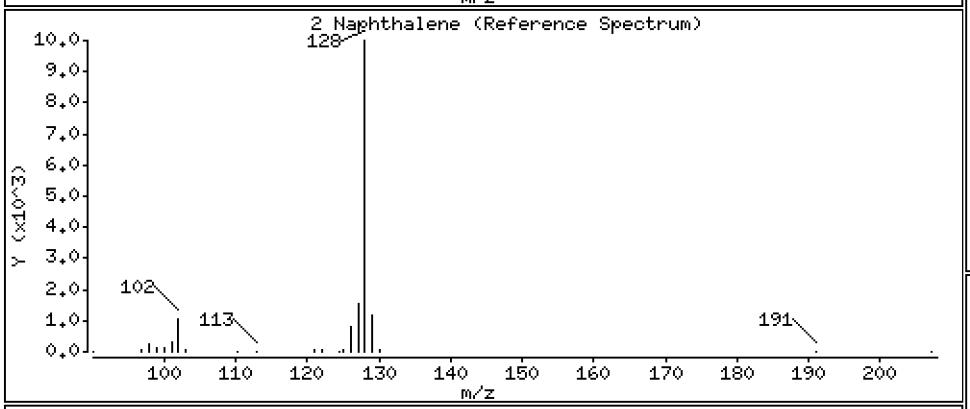
Concentration: 1.190 ug/mL

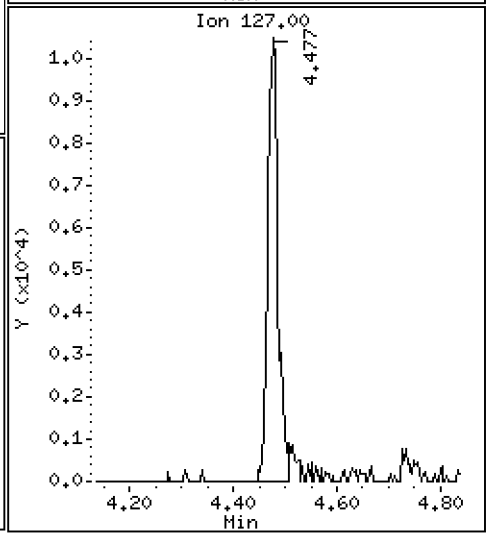


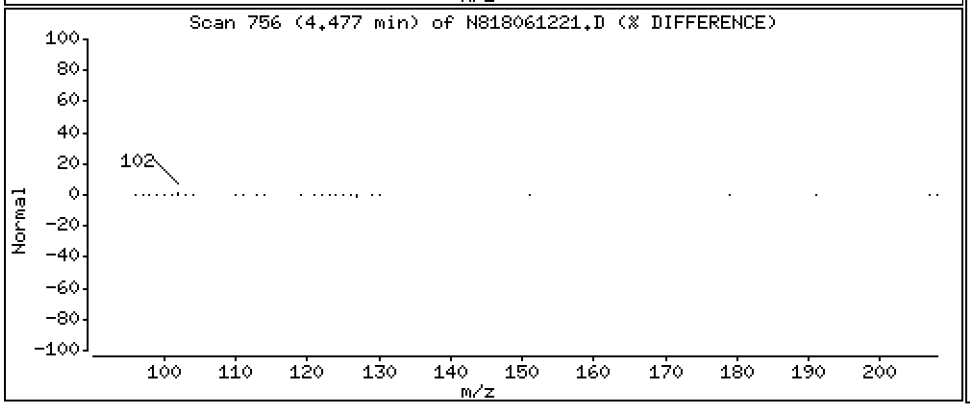












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

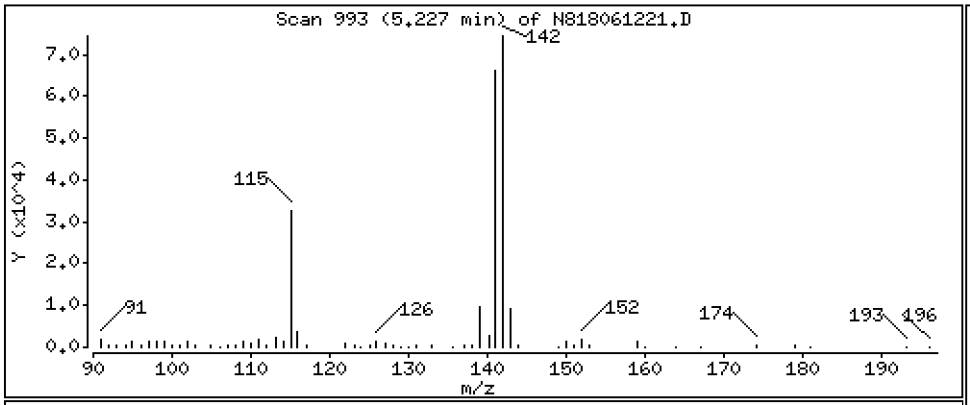
Operator: JZ

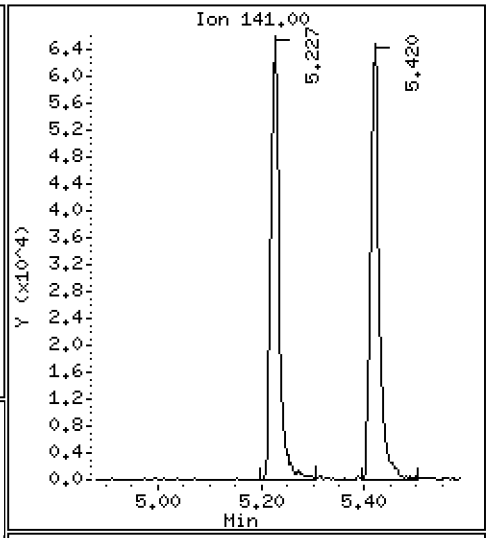
Column phase: Rxi-17sil

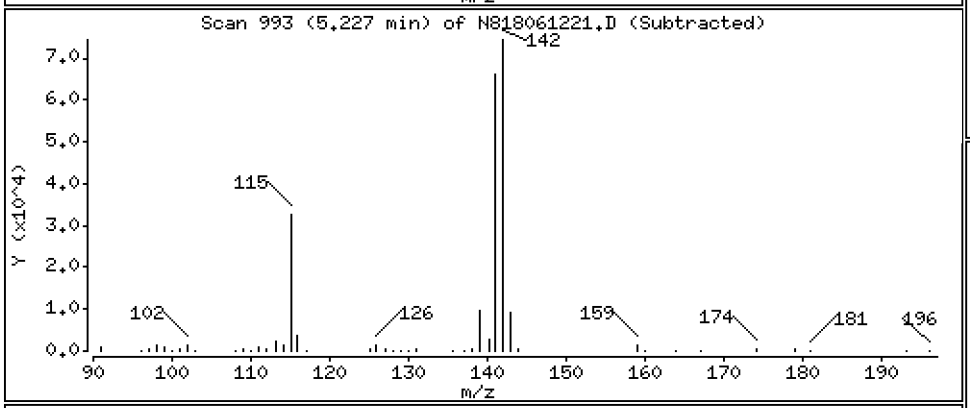
Column diameter: 0.25

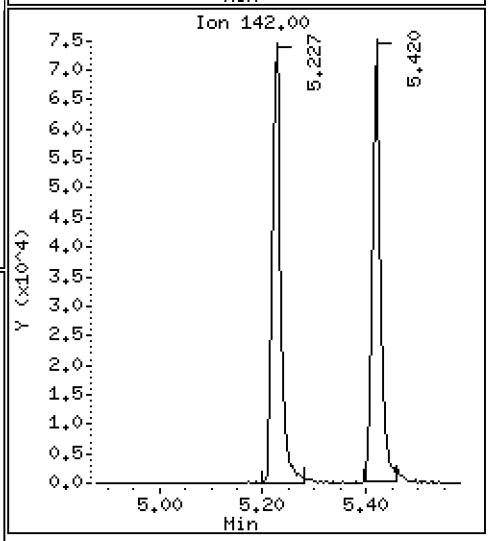
4 2-Methylnaphthalene

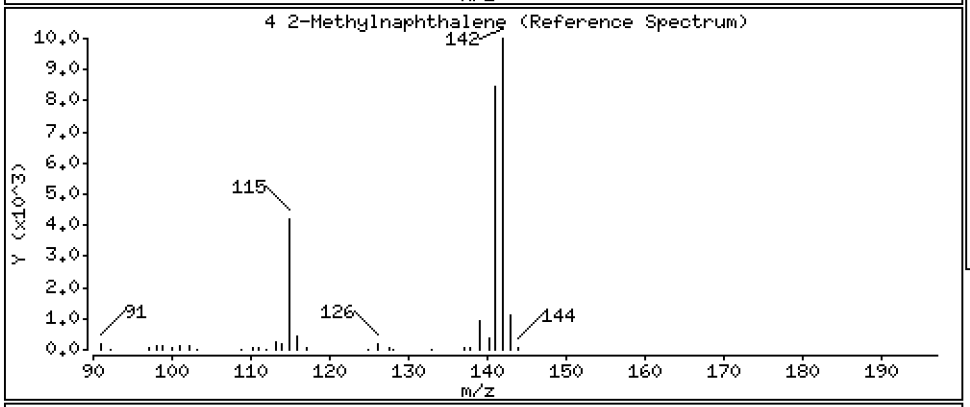
Concentration: 1.354 ug/mL

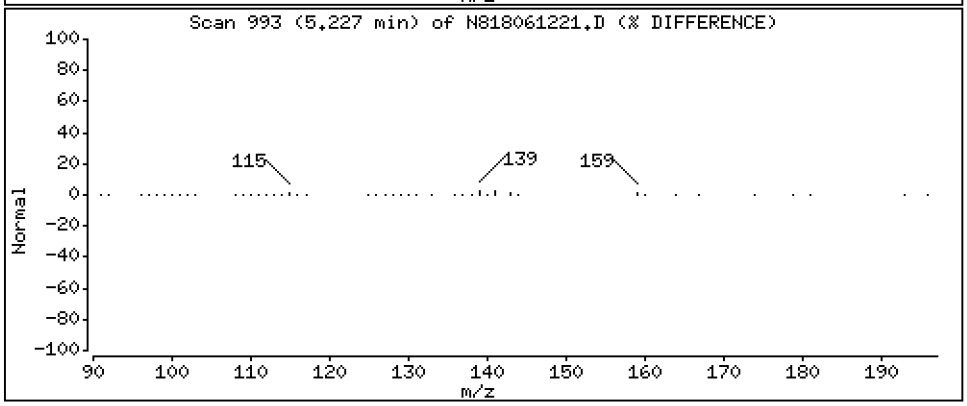












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

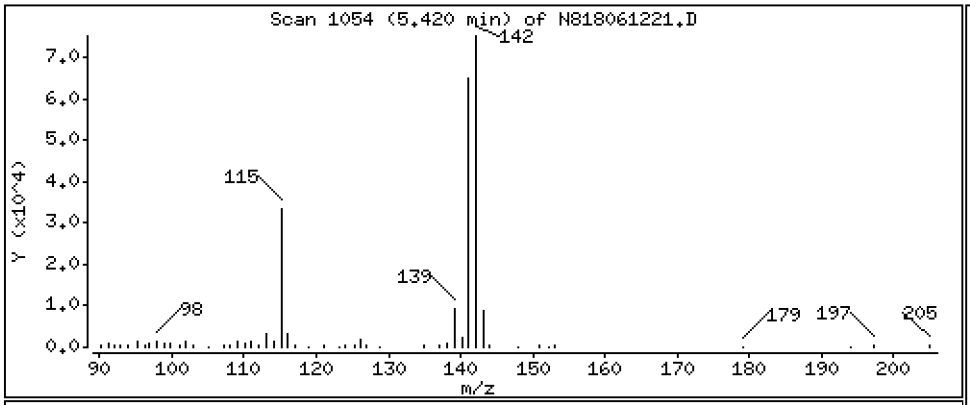
Operator: JZ

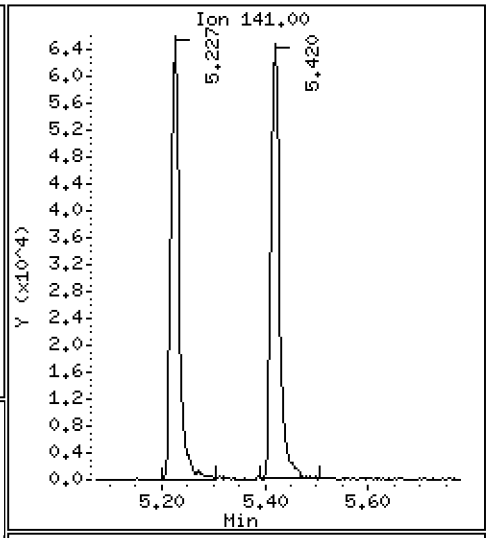
Column phase: Rxi-17sil

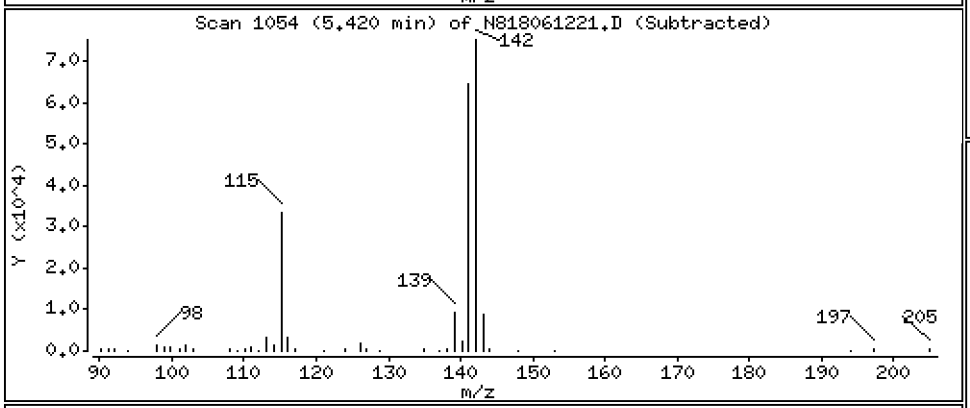
Column diameter: 0.25

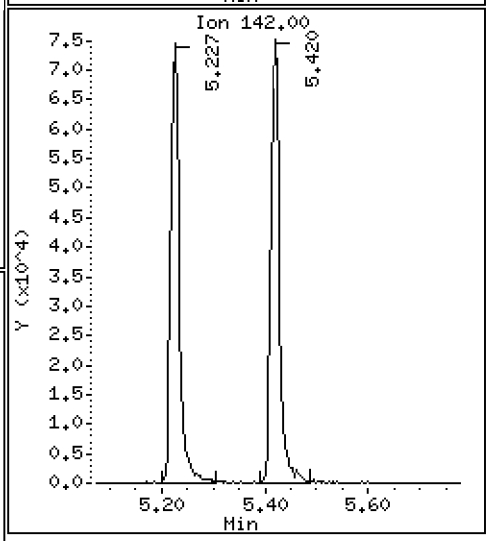
5 1-methylnaphthalene

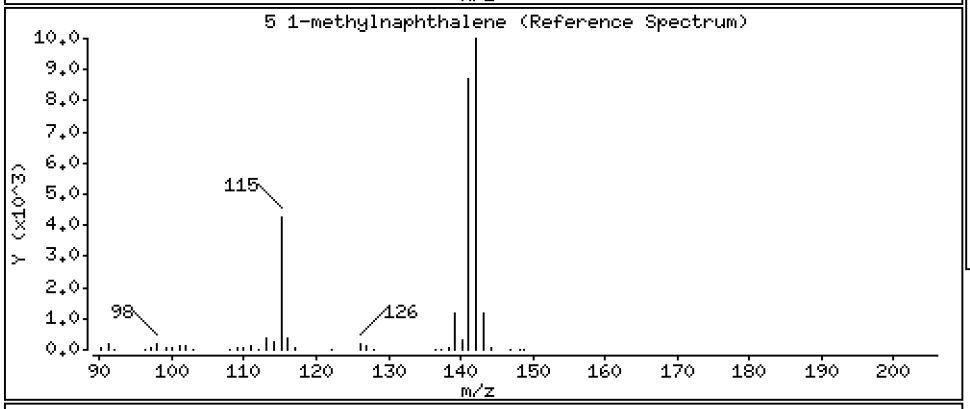
Concentration: 1.353 ug/mL

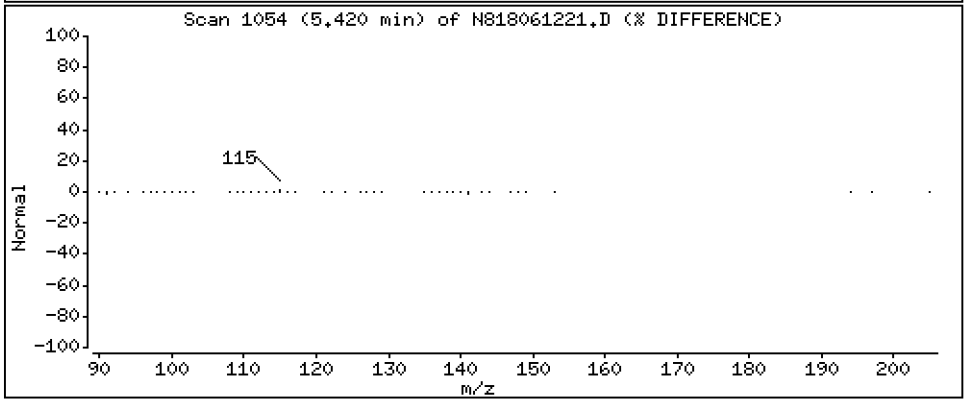












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

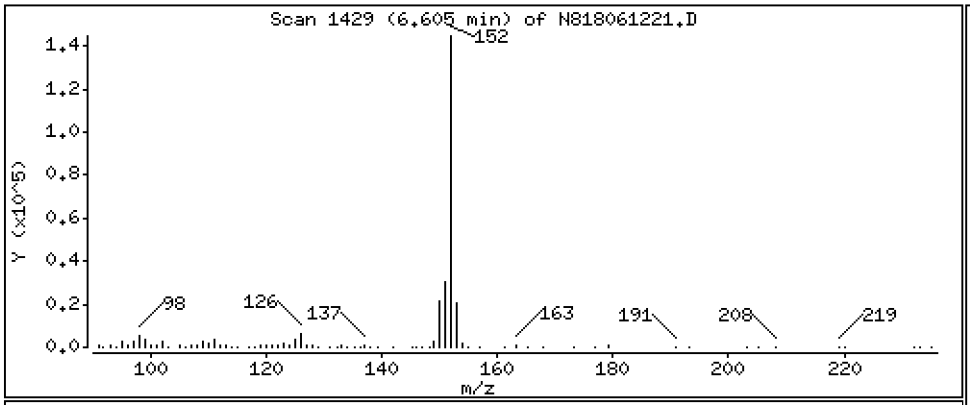
Operator: JZ

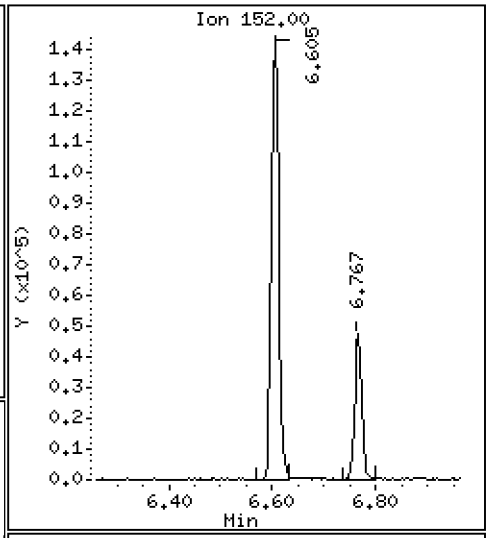
Column phase: Rxi-17sil

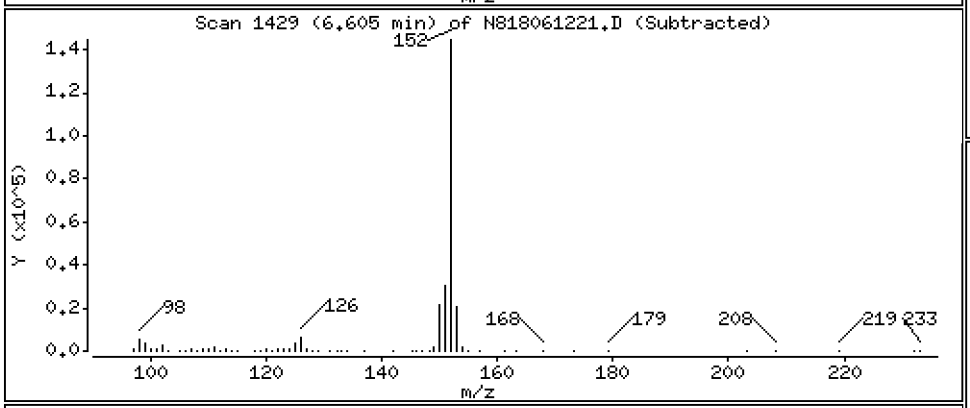
Column diameter: 0.25

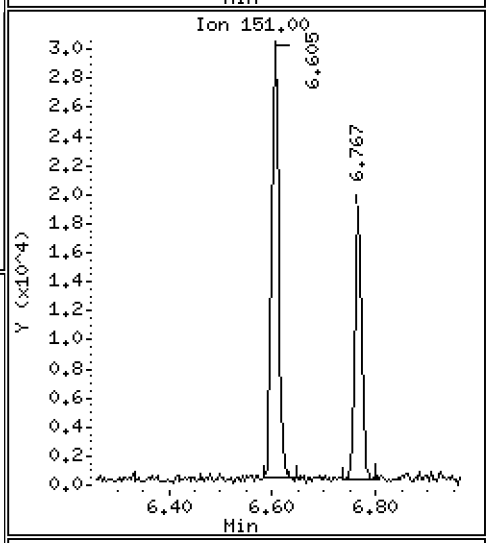
9 Acenaphthylene

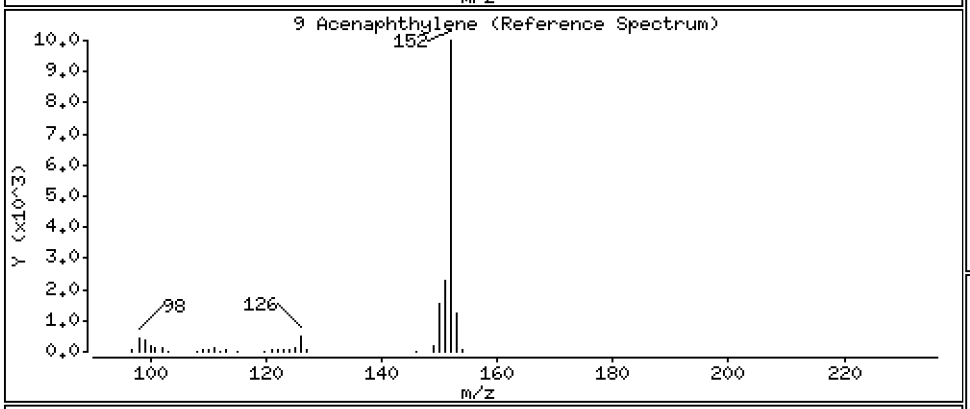
Concentration: 1.621 ug/mL

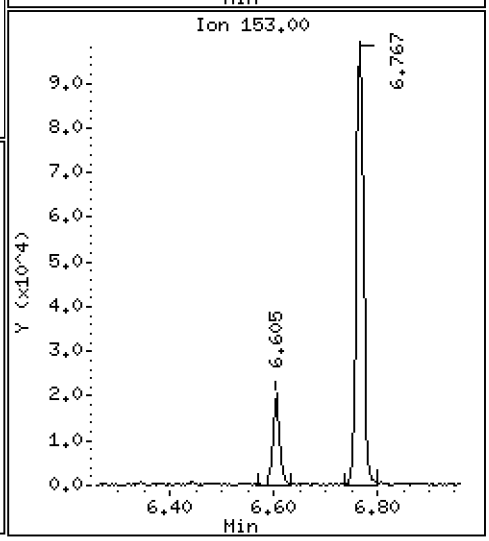


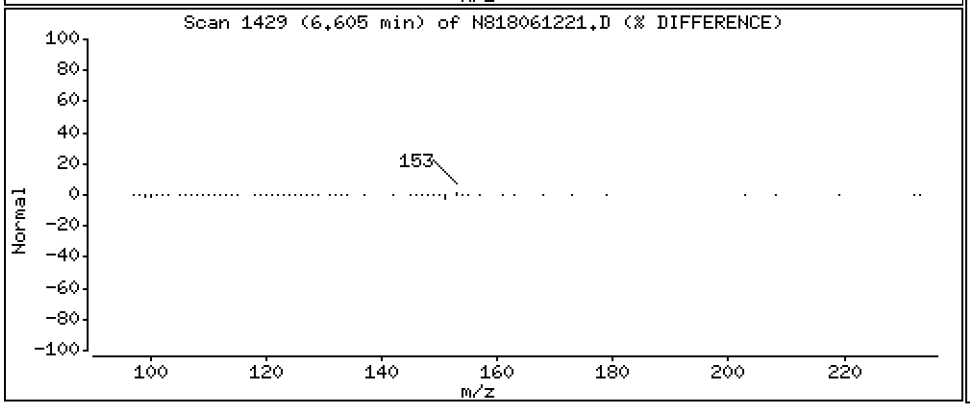












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

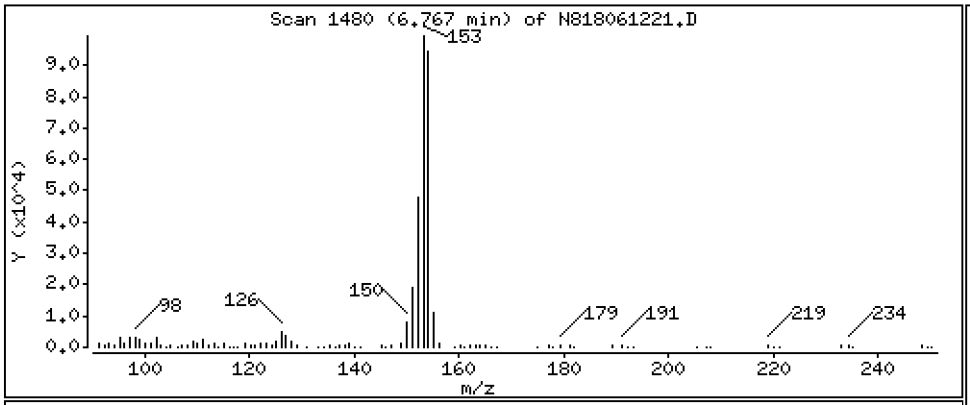
Operator: JZ

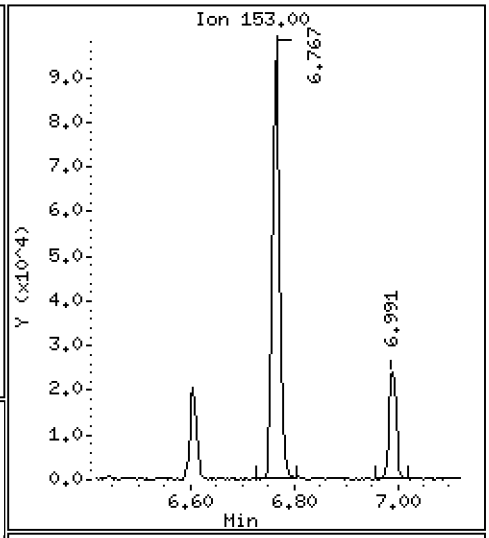
Column phase: Rxi-17sil

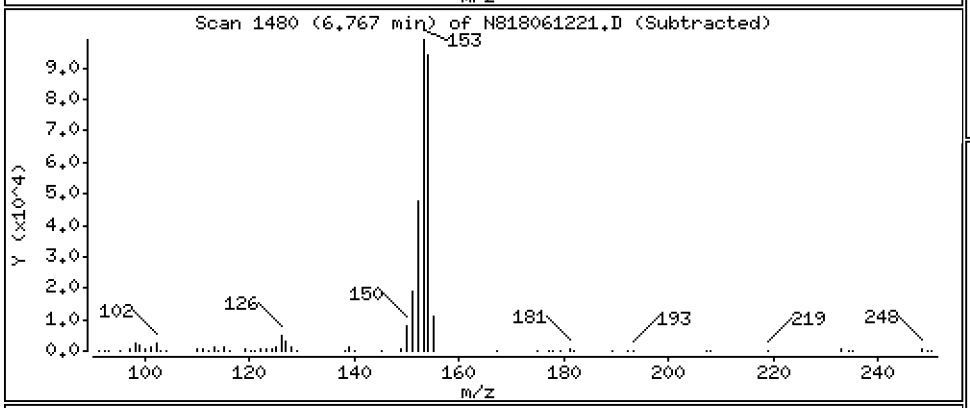
Column diameter: 0.25

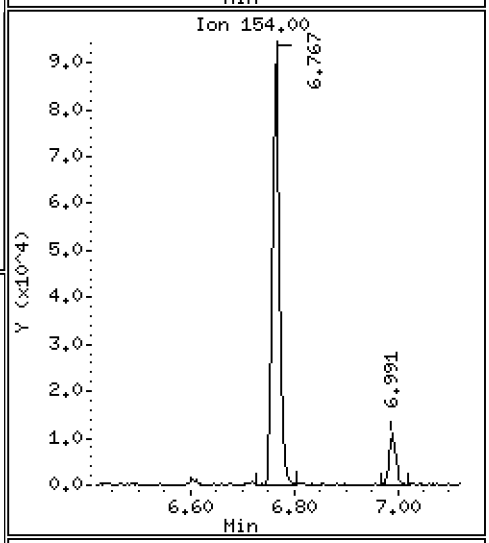
11 Acenaphthene

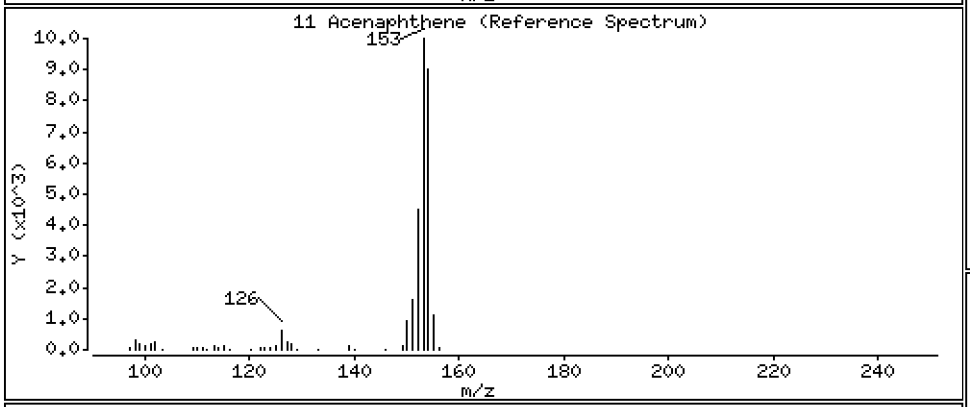
Concentration: 1.481 ug/mL

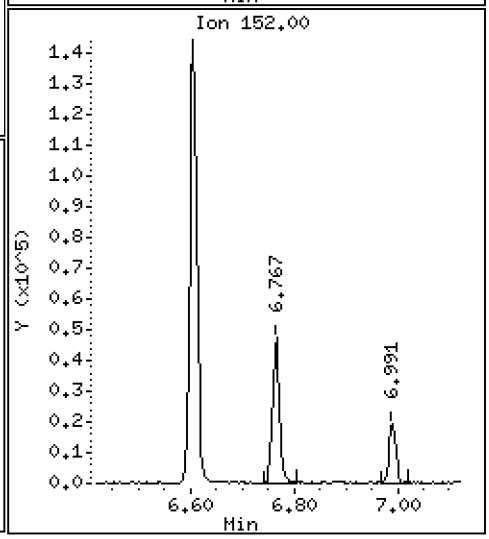


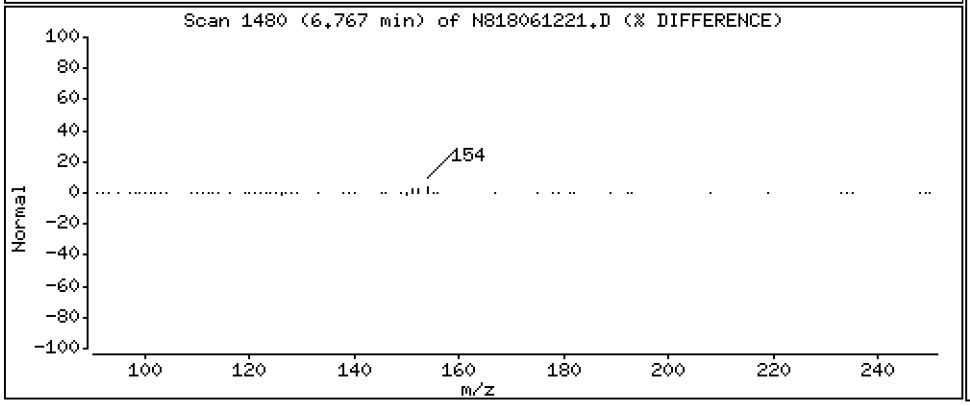












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

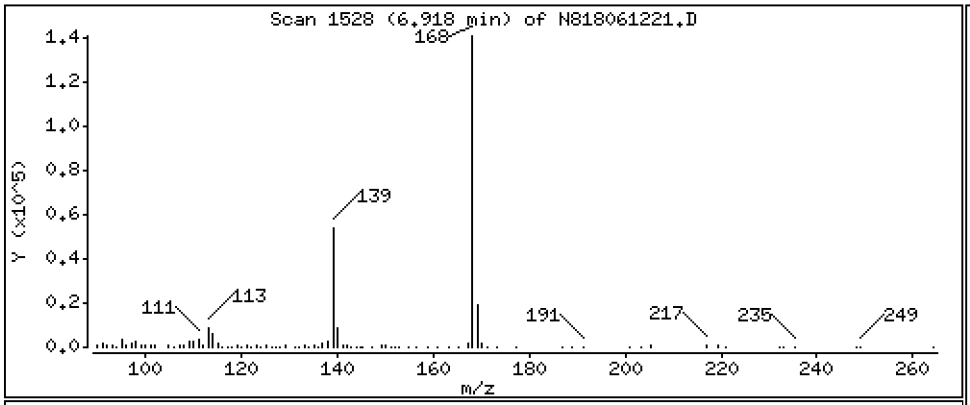
Operator: JZ

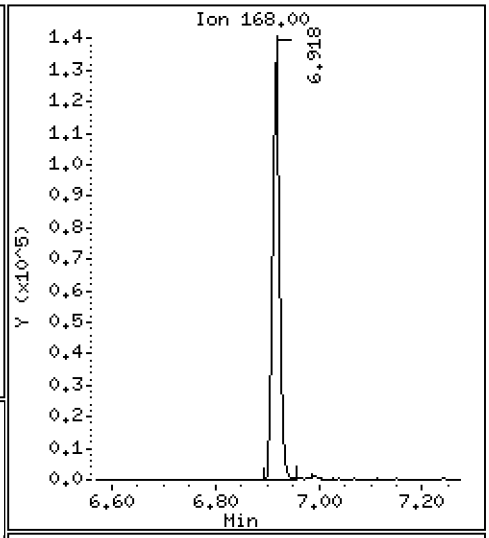
Column phase: Rxi-17sil

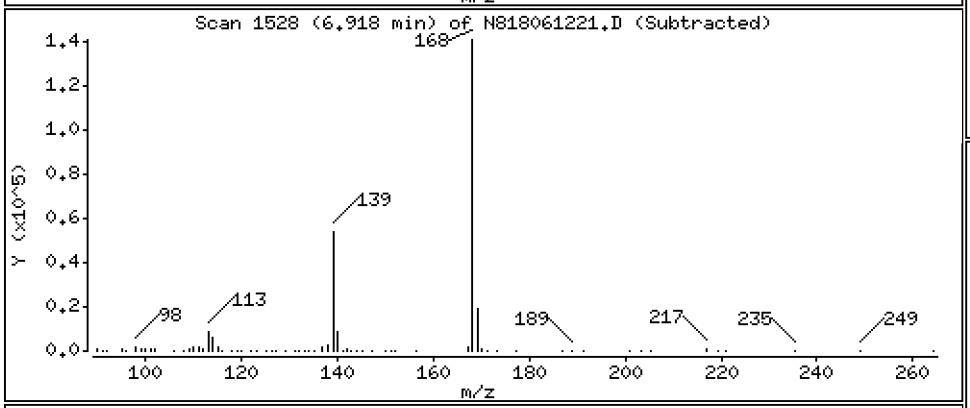
Column diameter: 0.25

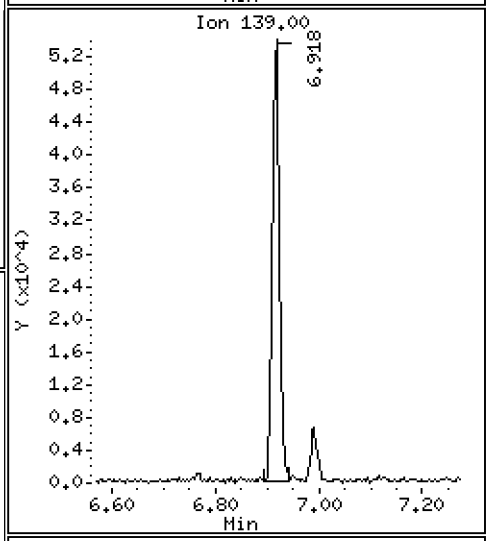
12 Dibenzofuran

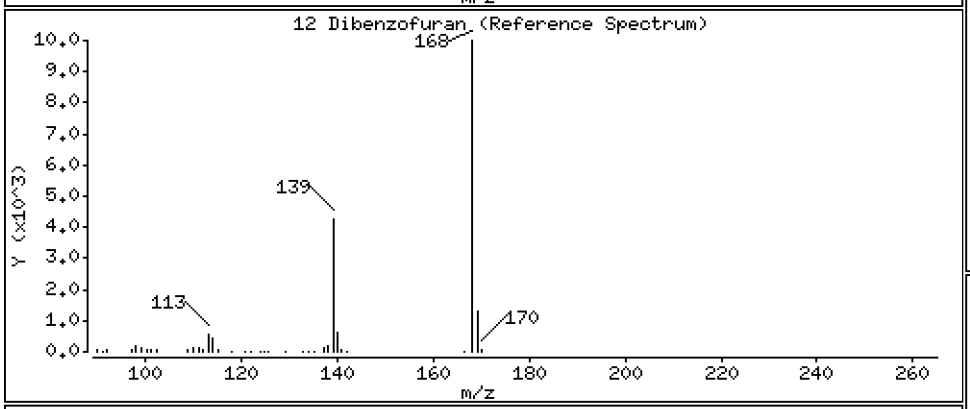
Concentration: 1.490 ug/mL

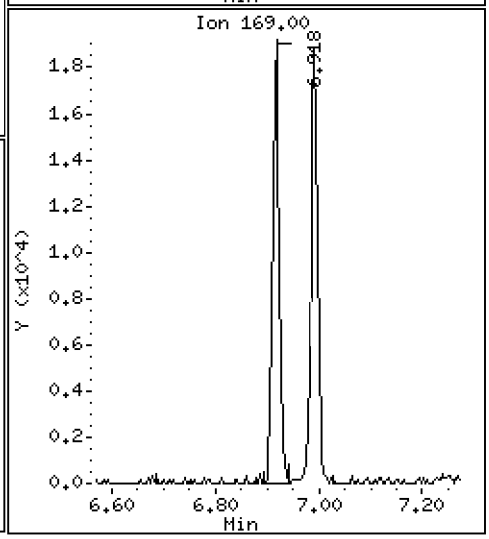


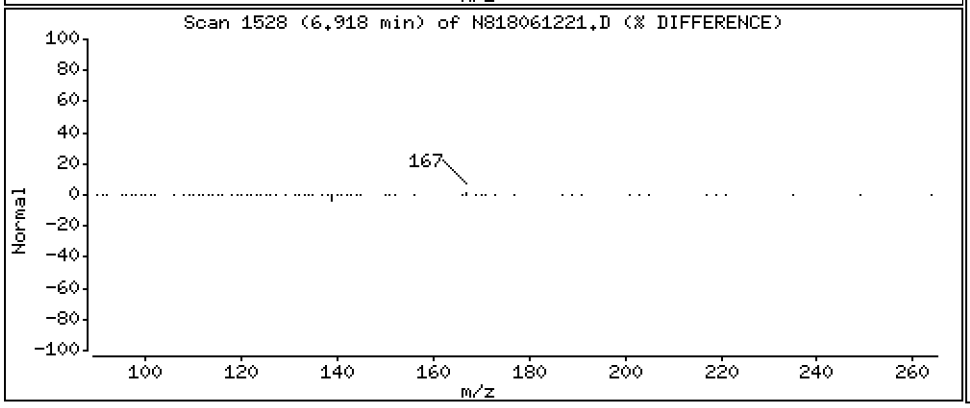












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

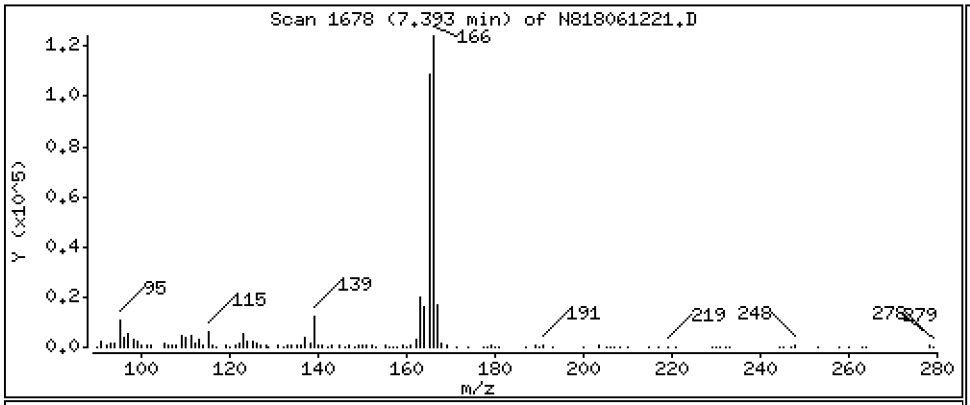
Operator: JZ

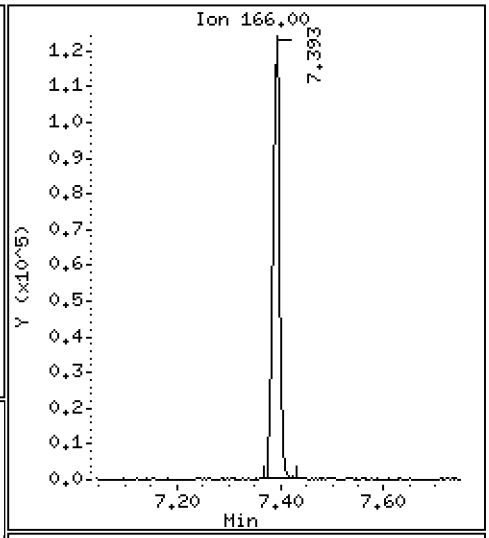
Column phase: Rxi-17sil

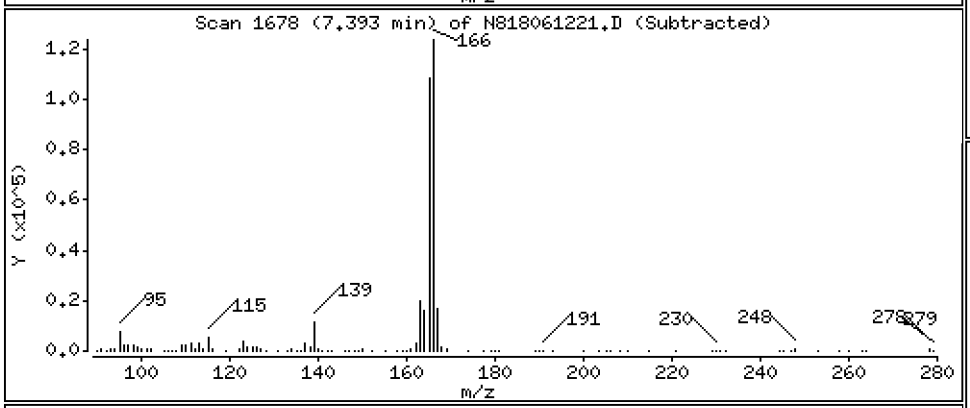
Column diameter: 0.25

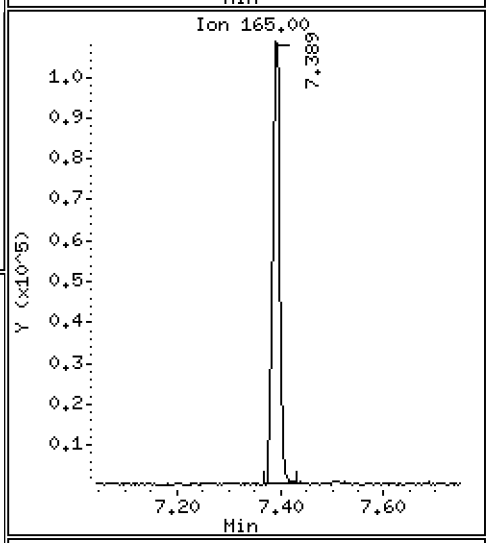
14 Fluorene

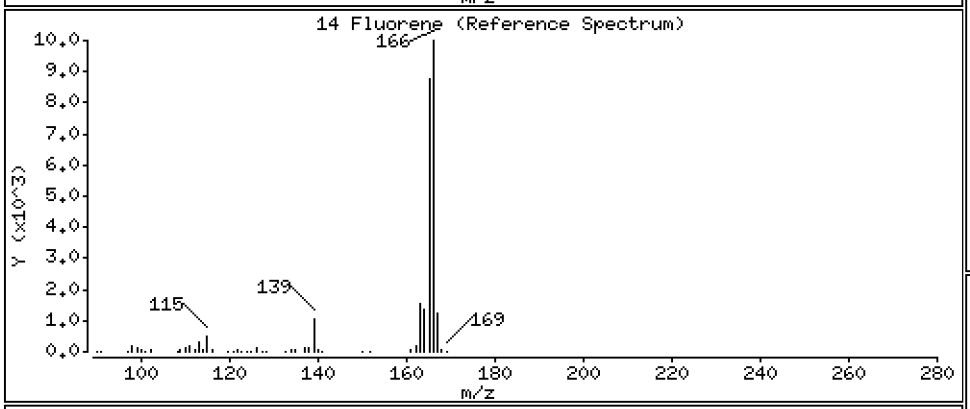
Concentration: 1.610 ug/mL

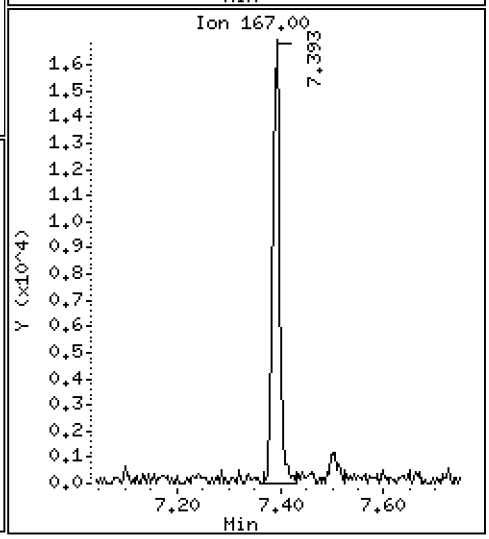


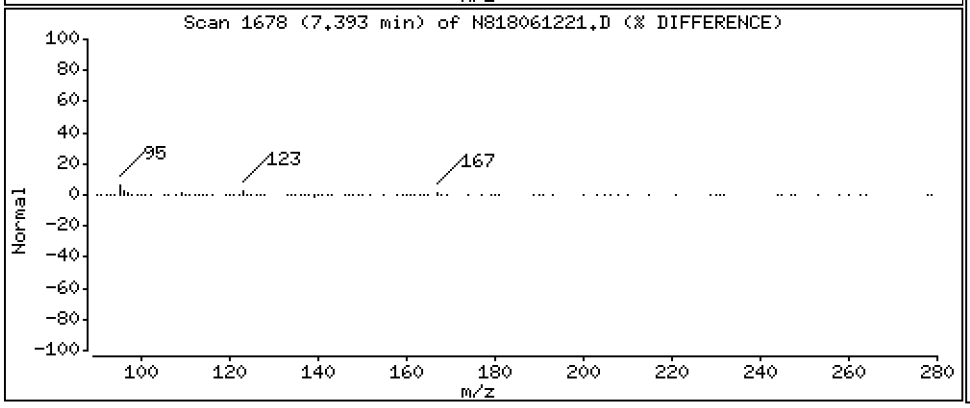












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

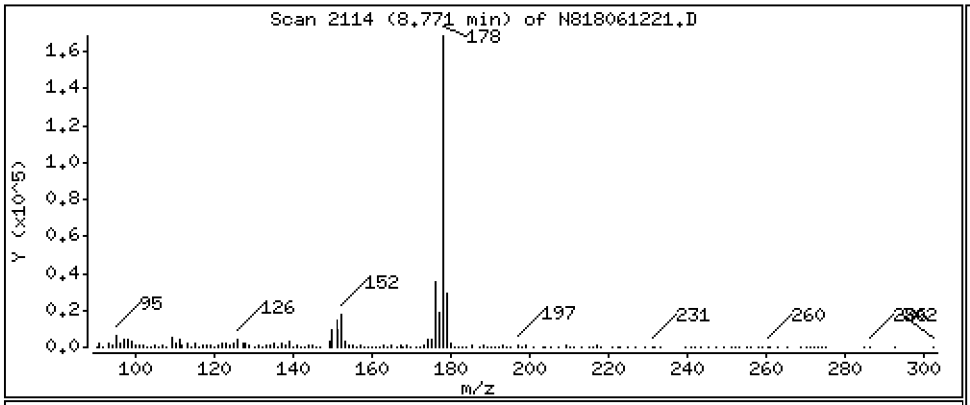
Operator: JZ

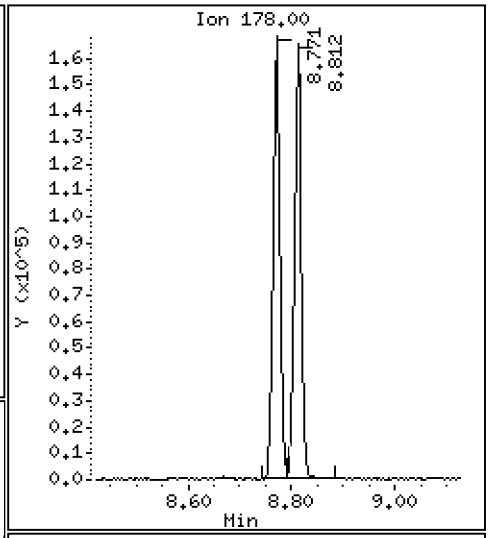
Column phase: Rxi-17sil

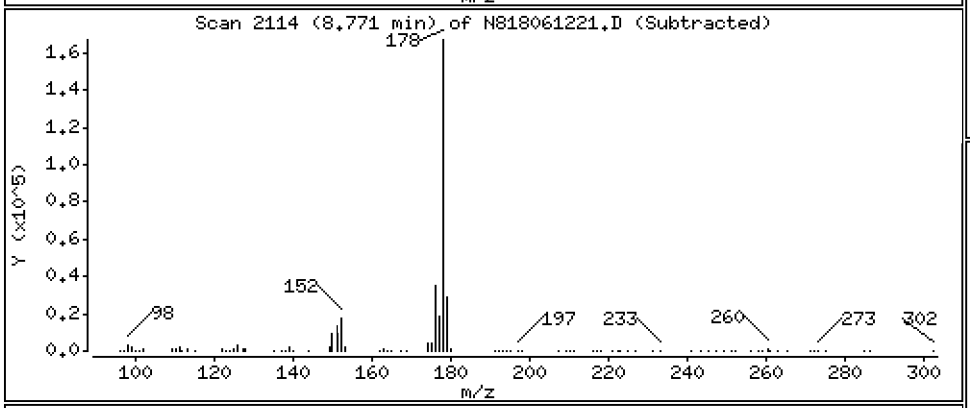
Column diameter: 0.25

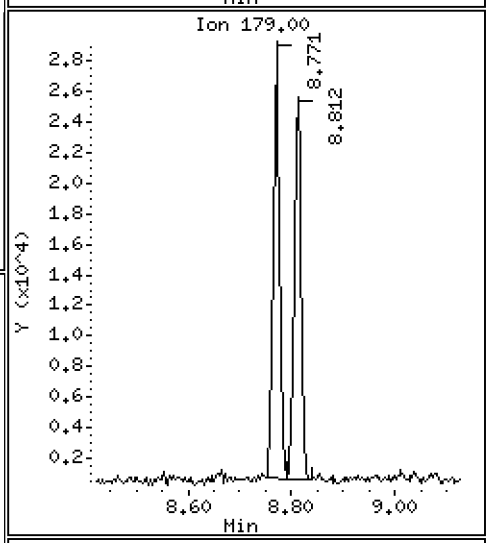
16 Phenanthrene

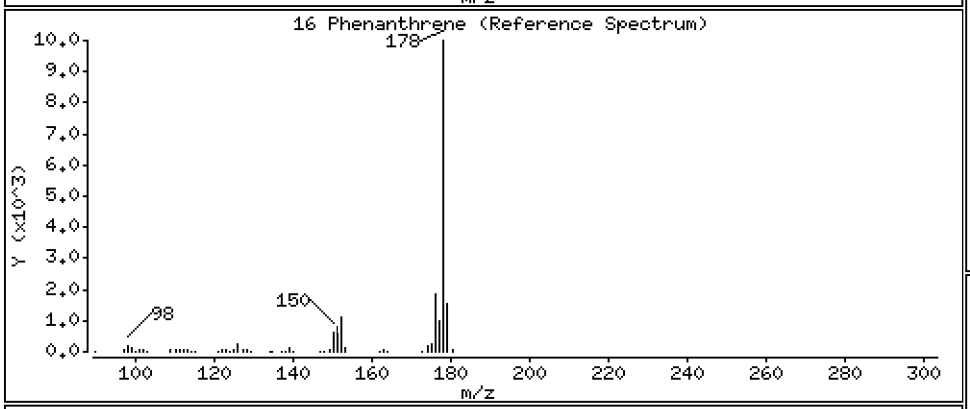
Concentration: 1.706 ug/mL

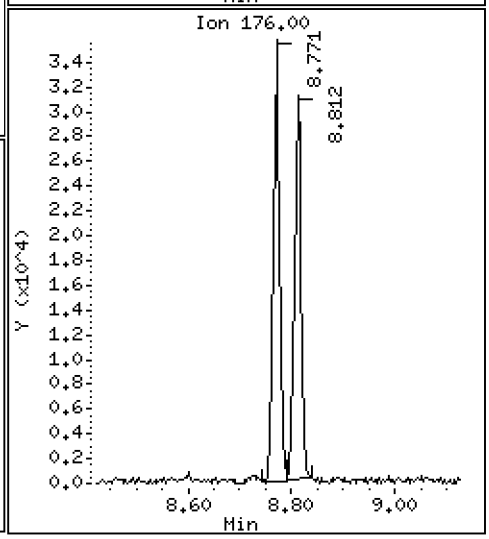


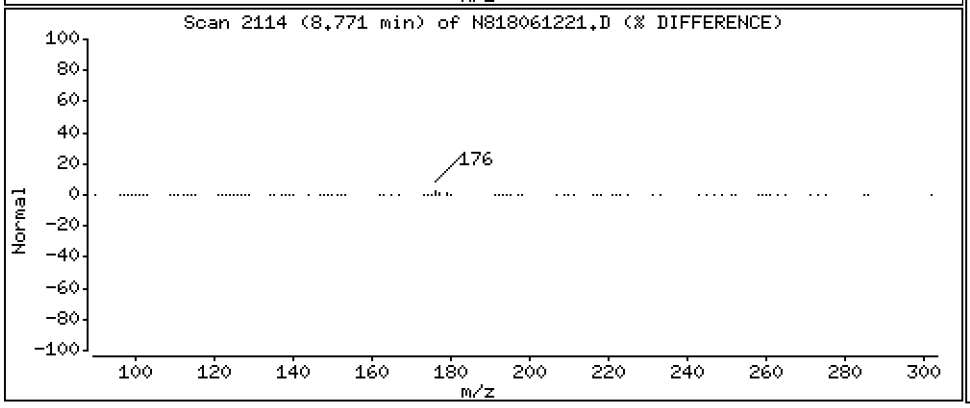












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

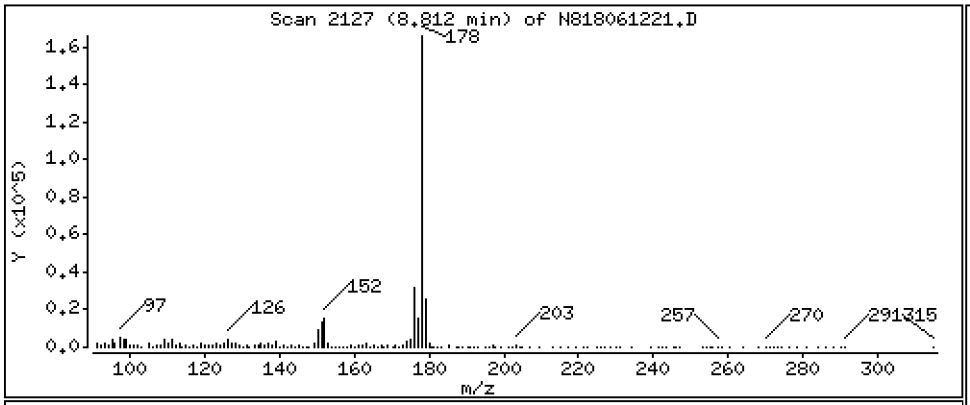
Operator: JZ

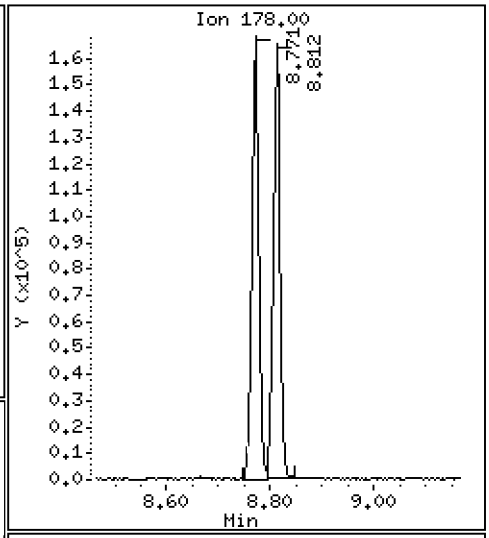
Column phase: Rxi-17sil

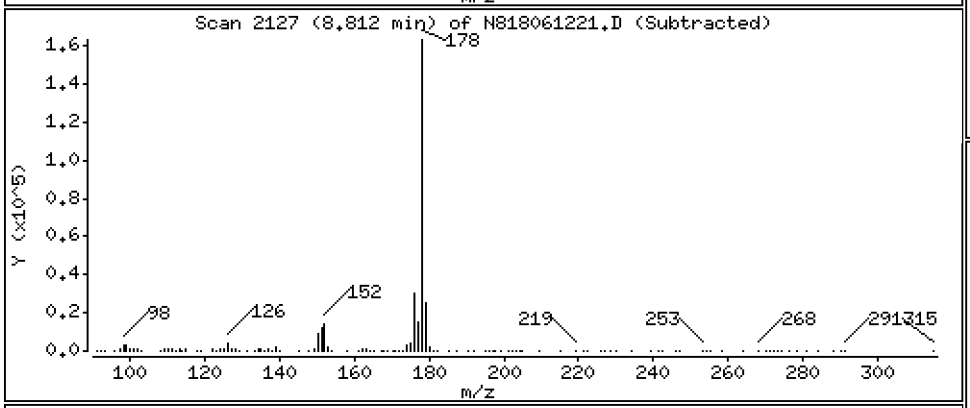
Column diameter: 0.25

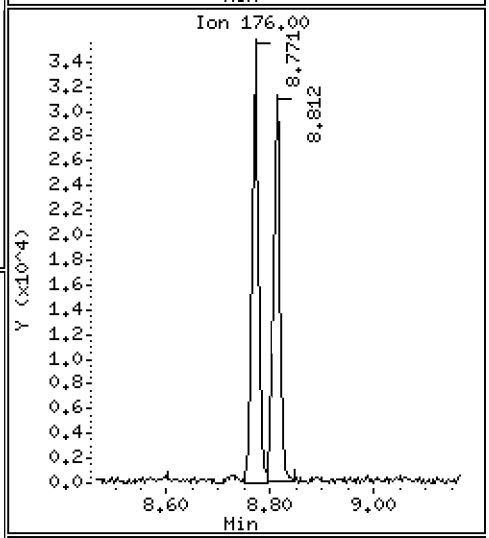
17 Anthracene

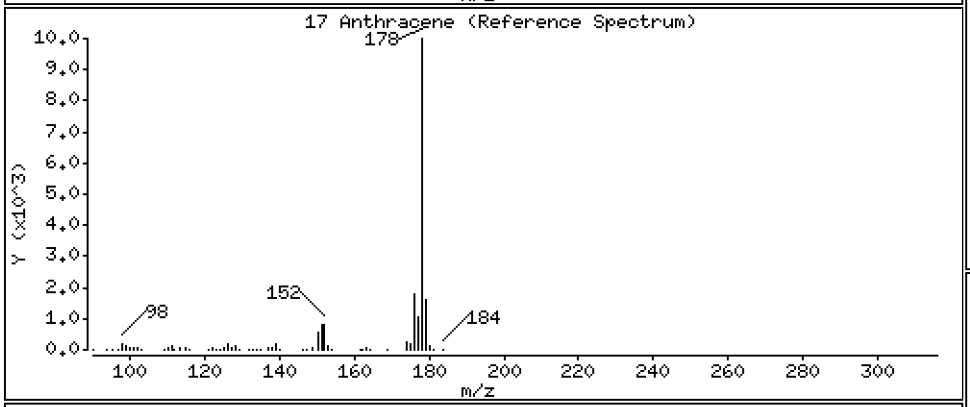
Concentration: 1.758 ug/mL

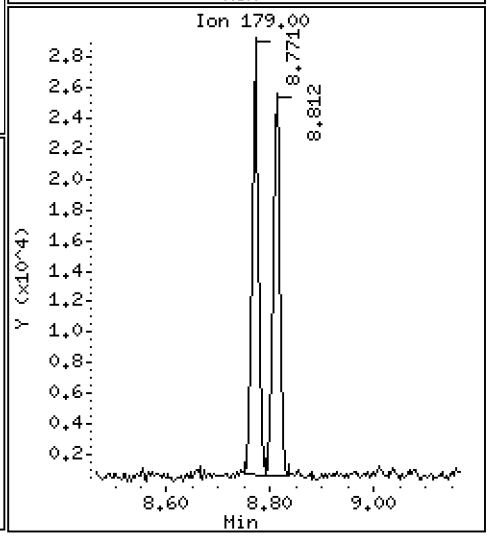


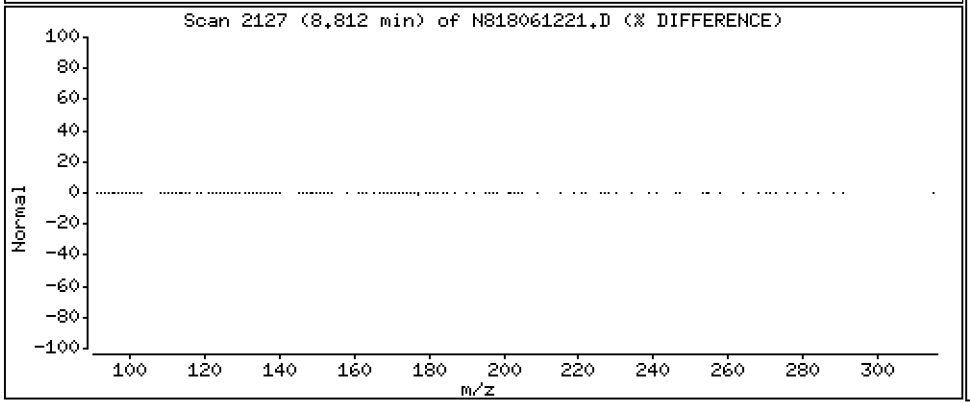












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

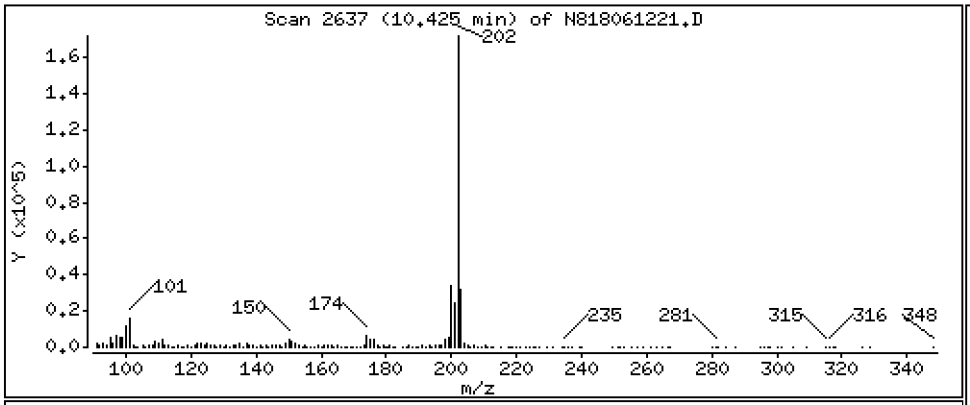
Operator: JZ

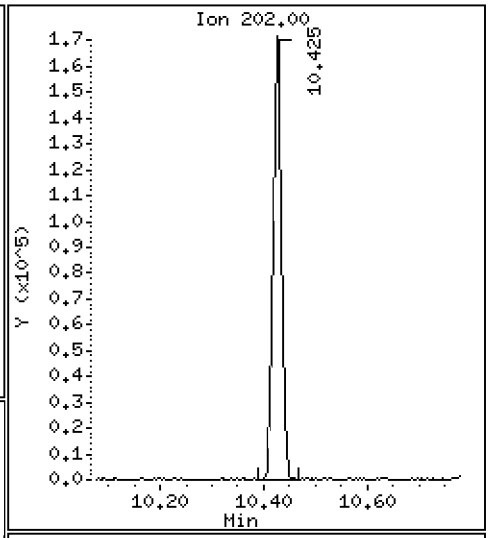
Column phase: Rxi-17sil

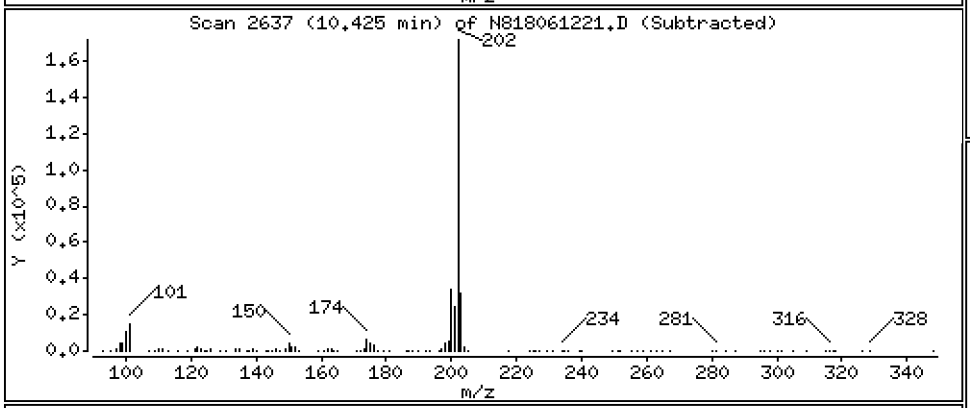
Column diameter: 0.25

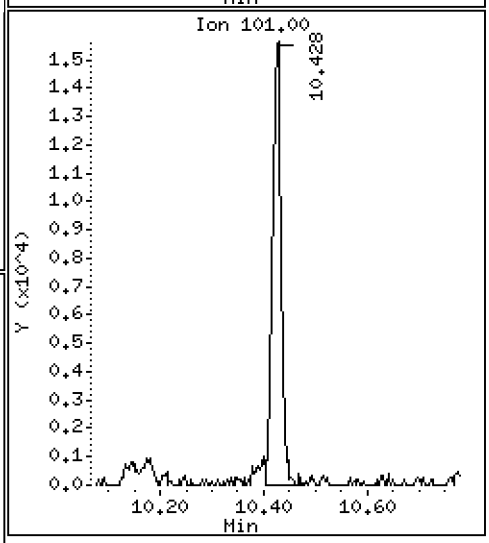
22 Fluoranthene

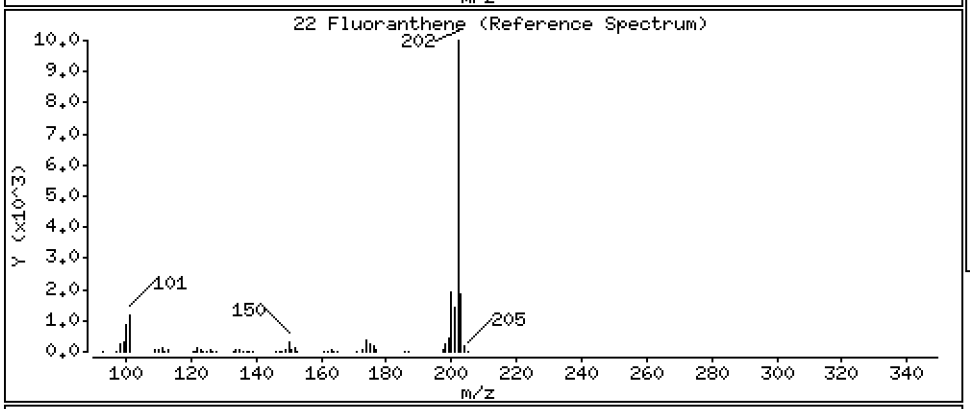
Concentration: 1.852 ug/mL

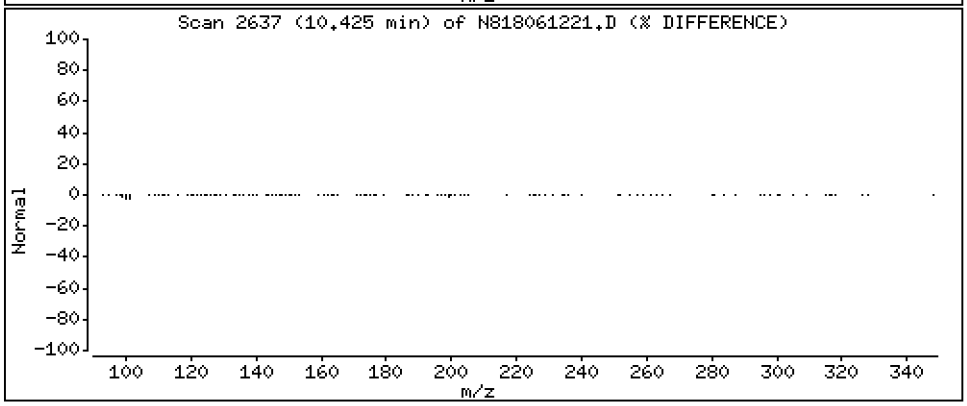












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

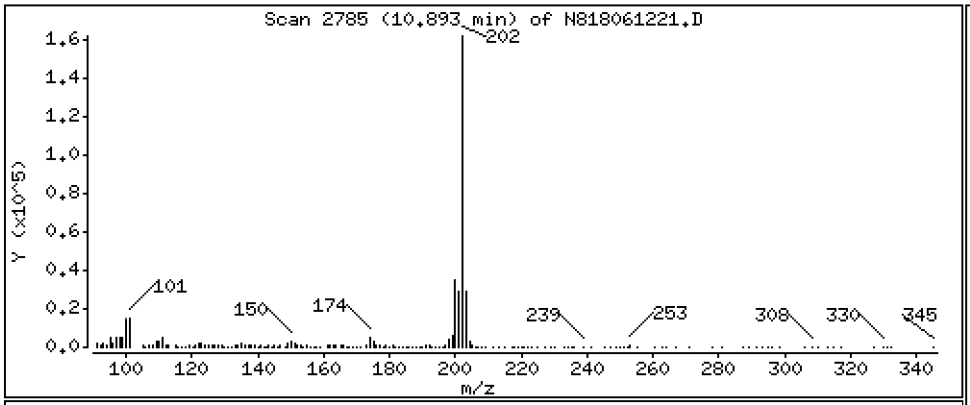
Operator: JZ

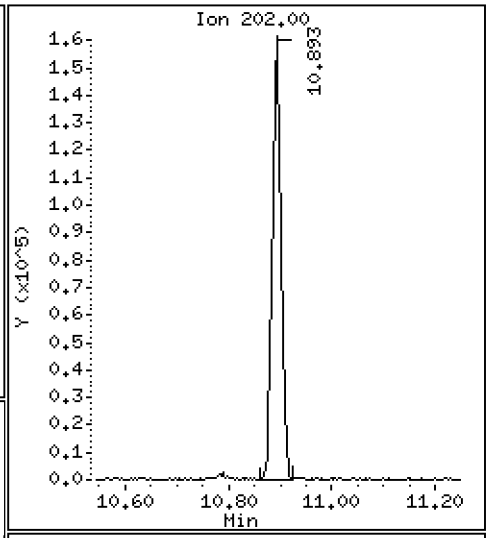
Column phase: Rxi-17sil

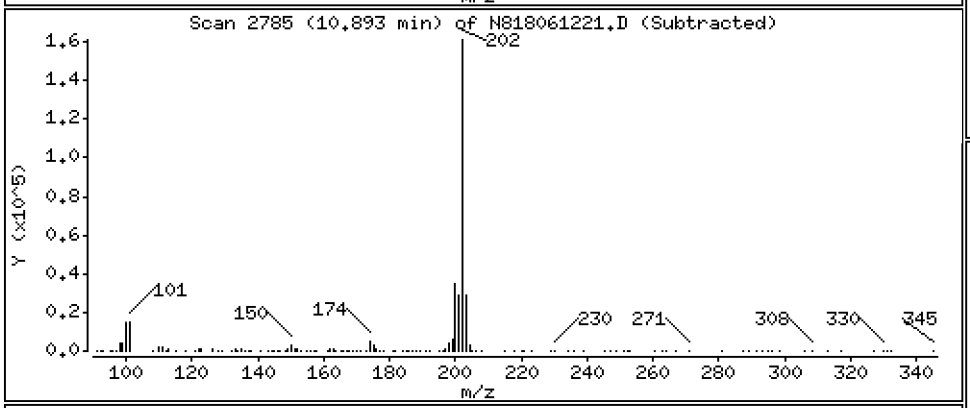
Column diameter: 0.25

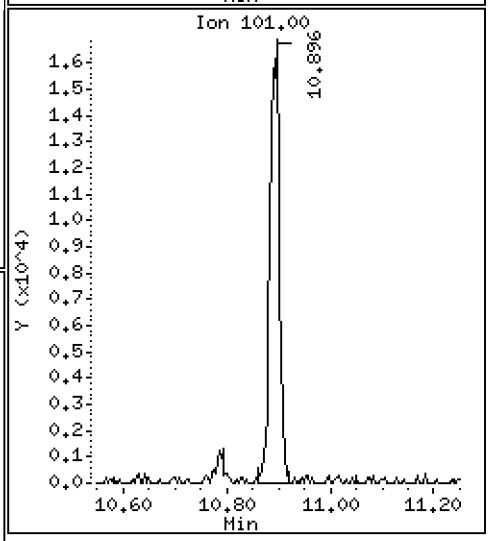
23 Pyrene

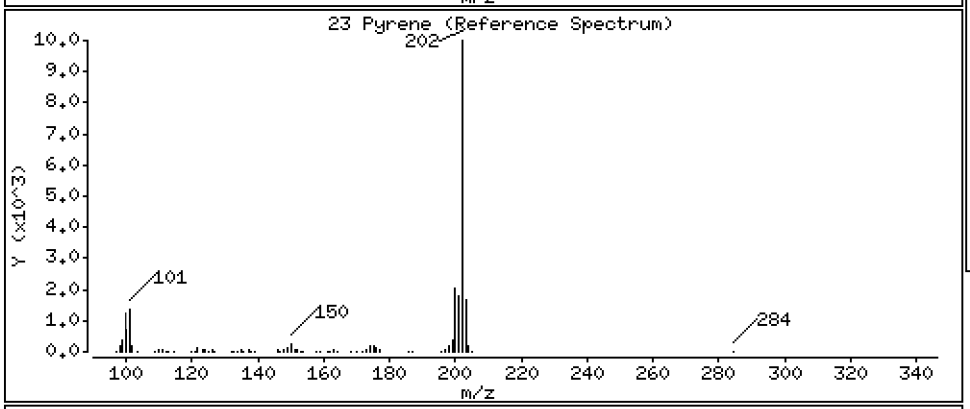
Concentration: 2.043 ug/mL

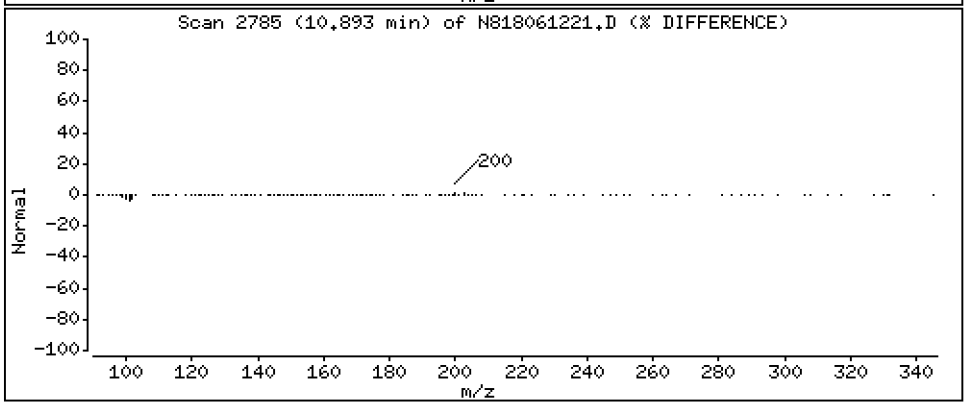












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

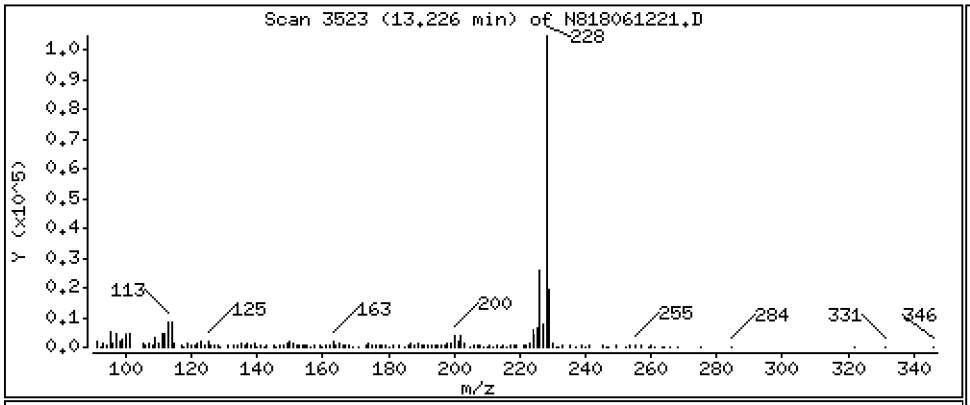
Operator: JZ

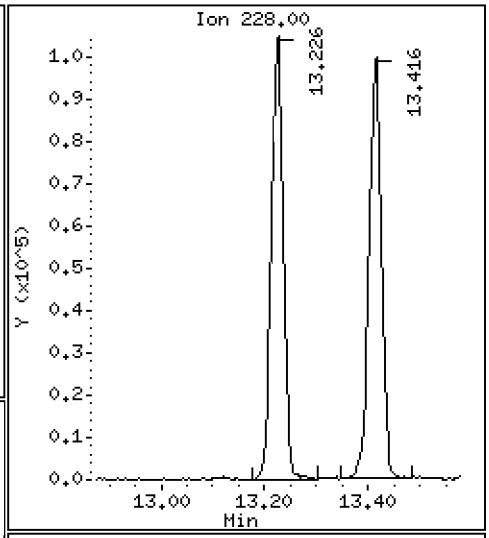
Column phase: Rxi-17sil

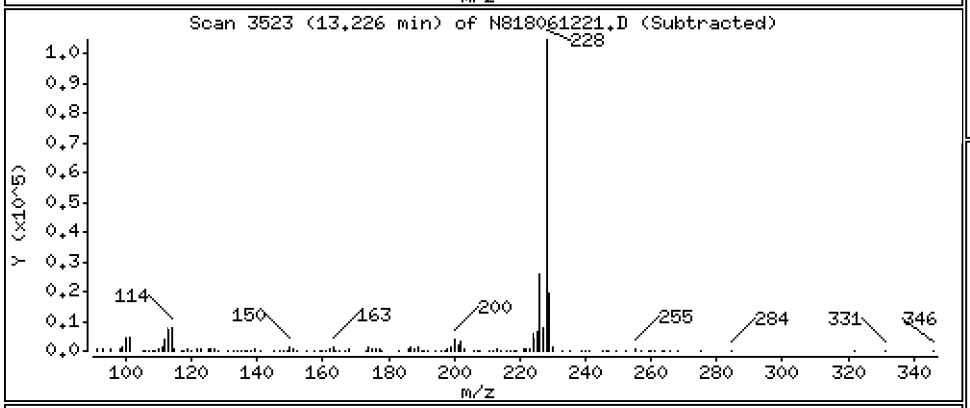
Column diameter: 0.25

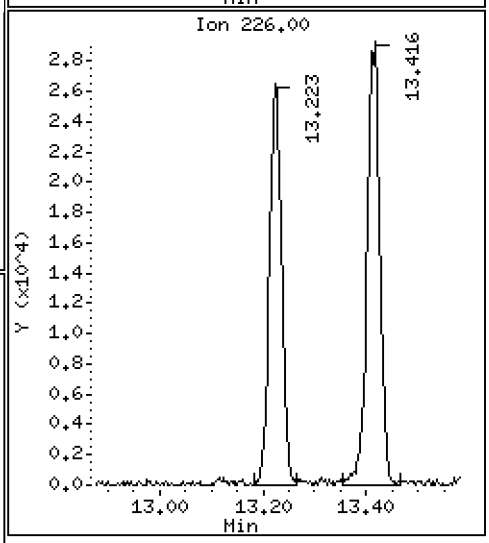
24 Benzo(a)anthracene

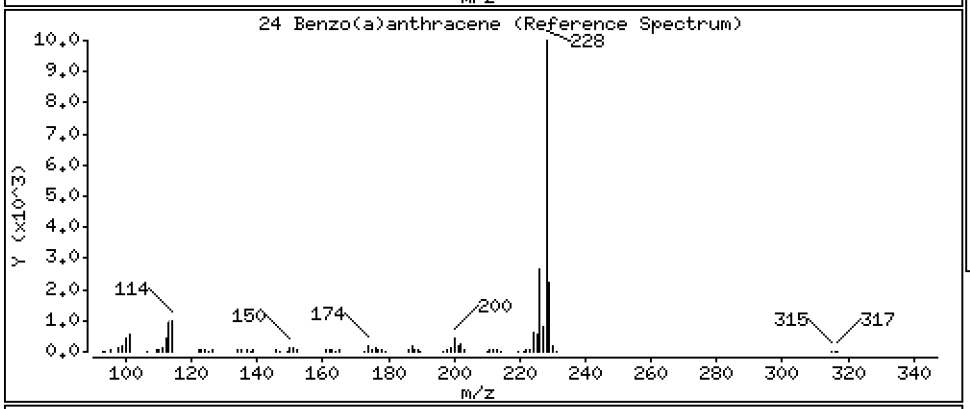
Concentration: 1.866 ug/mL

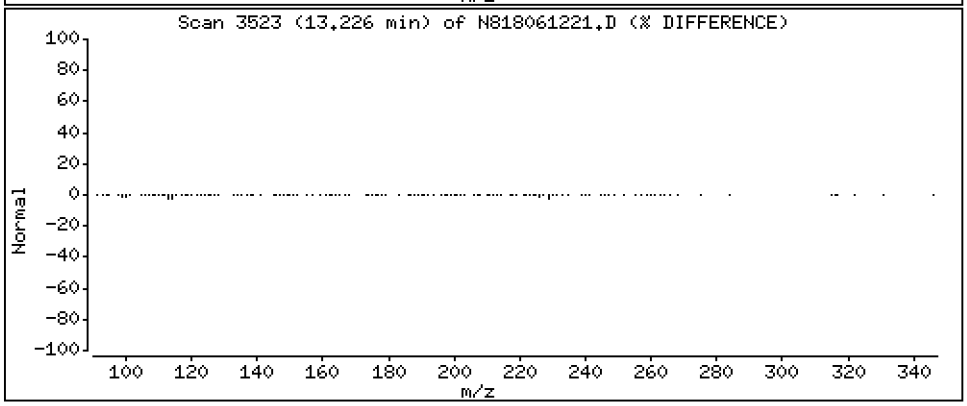












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

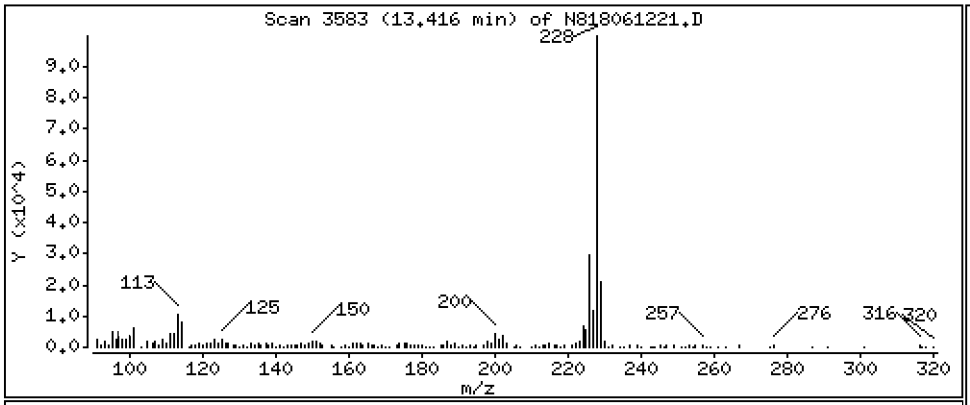
Operator: JZ

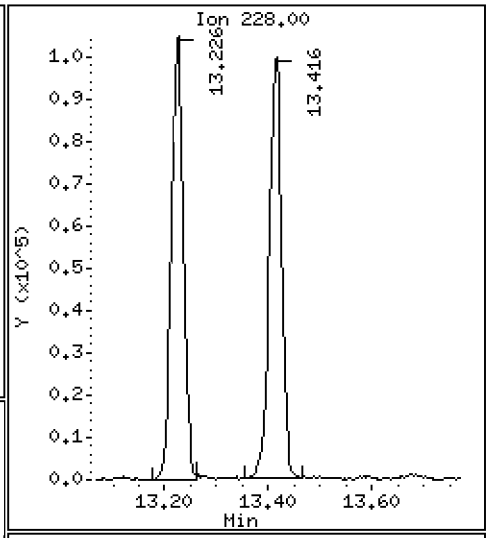
Column phase: Rxi-17sil

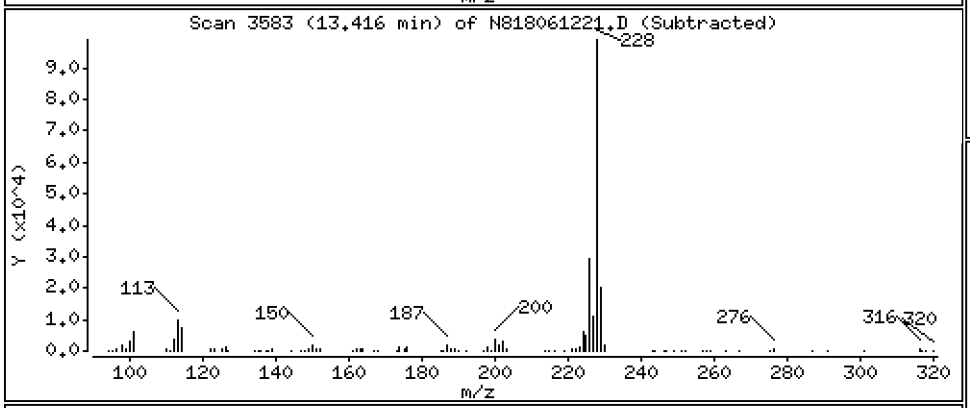
Column diameter: 0.25

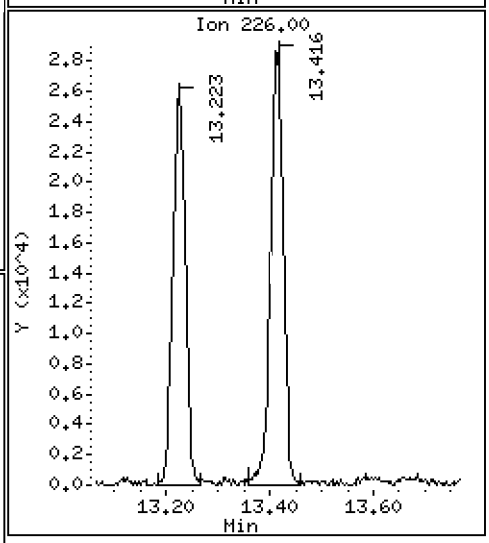
27 Chrysene

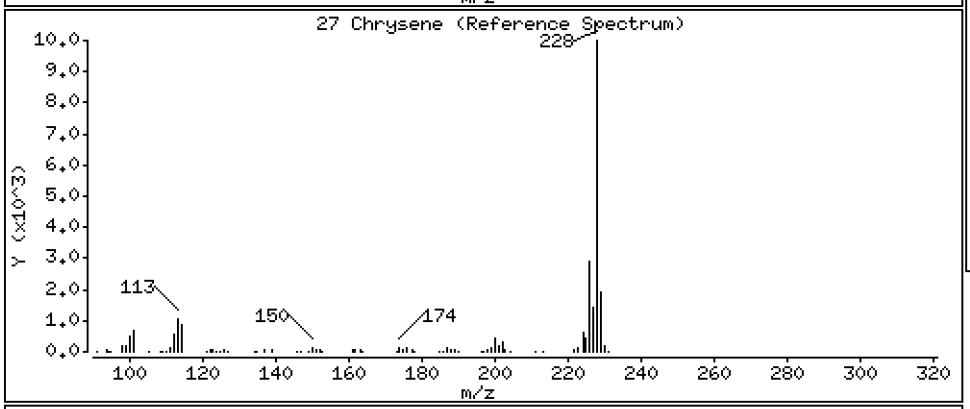
Concentration: 1.799 ug/mL

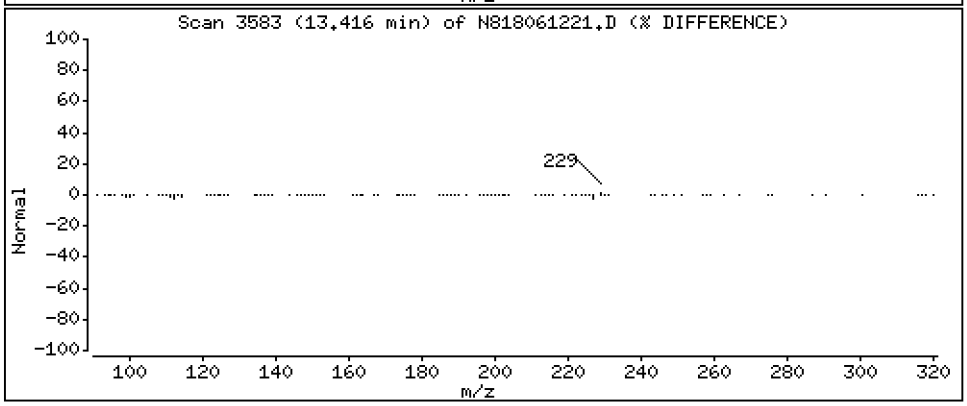












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

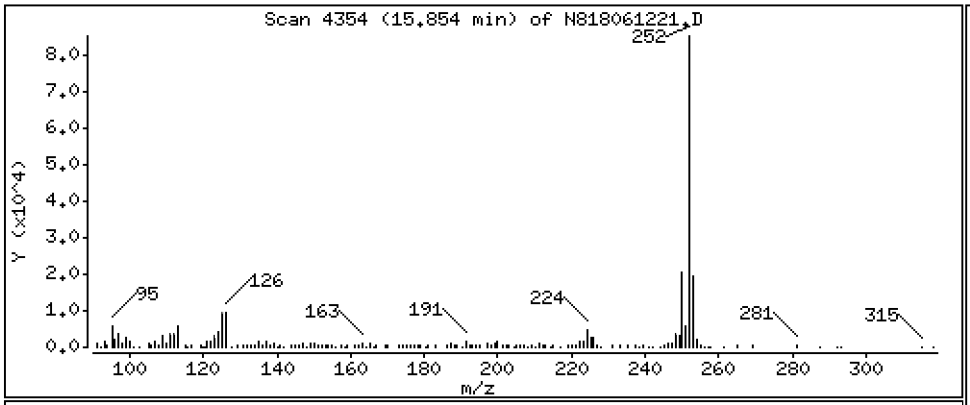
Operator: JZ

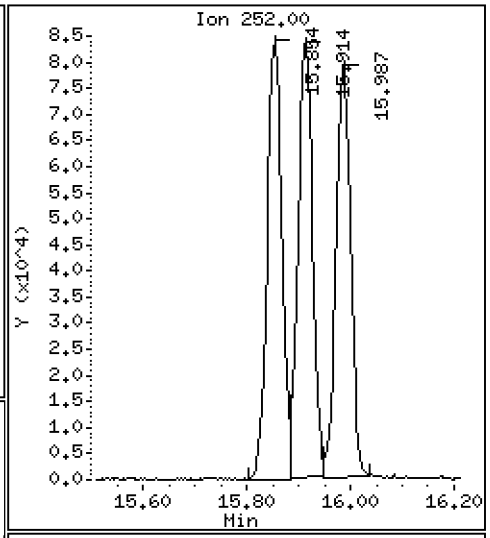
Column phase: Rxi-17sil

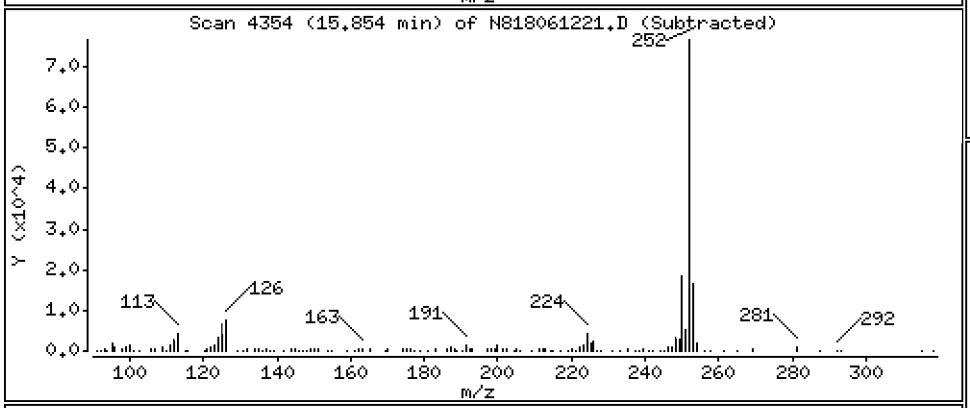
Column diameter: 0.25

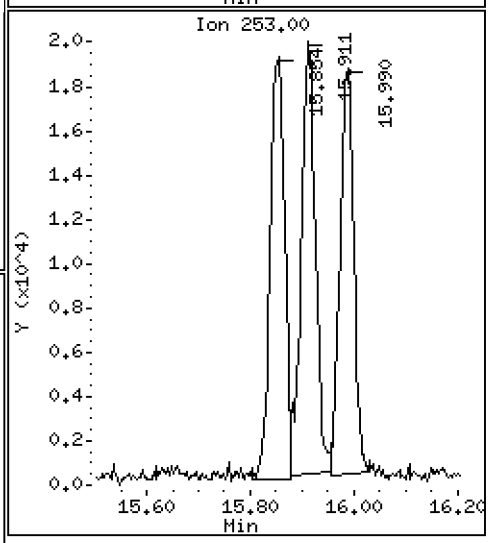
28 Benzo(b)fluoranthene

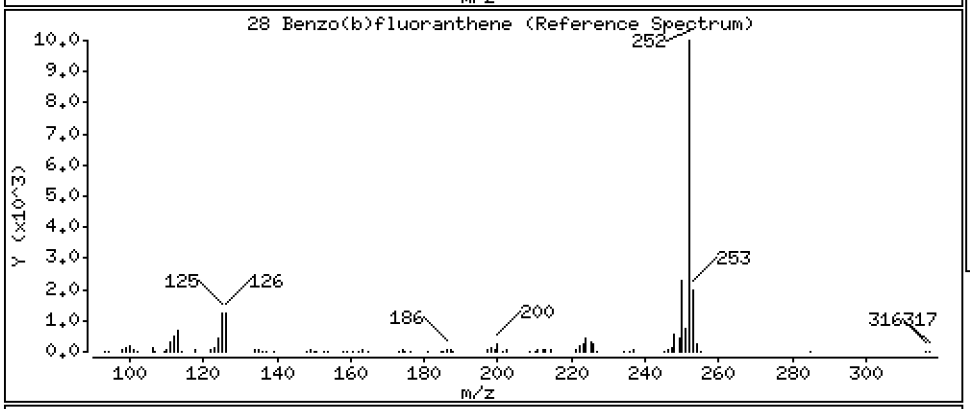
Concentration: 1.743 ug/mL

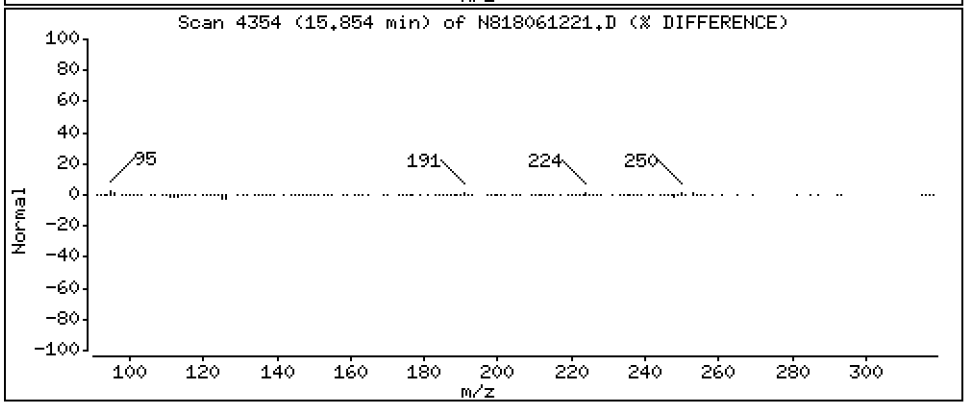












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

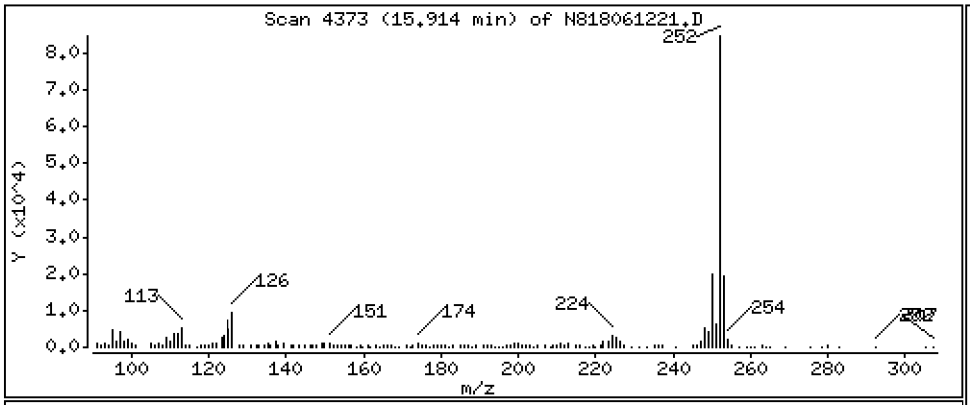
Operator: JZ

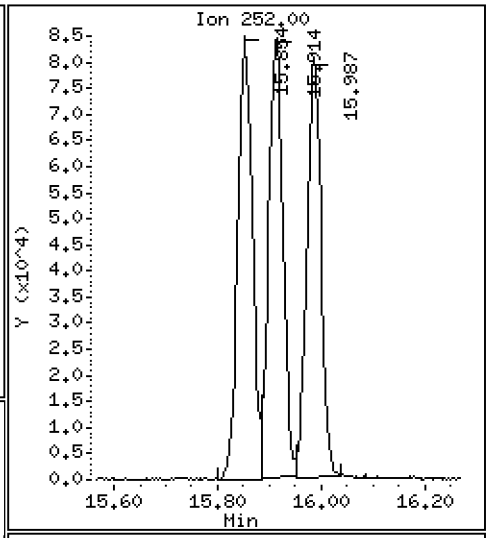
Column phase: Rxi-17sil

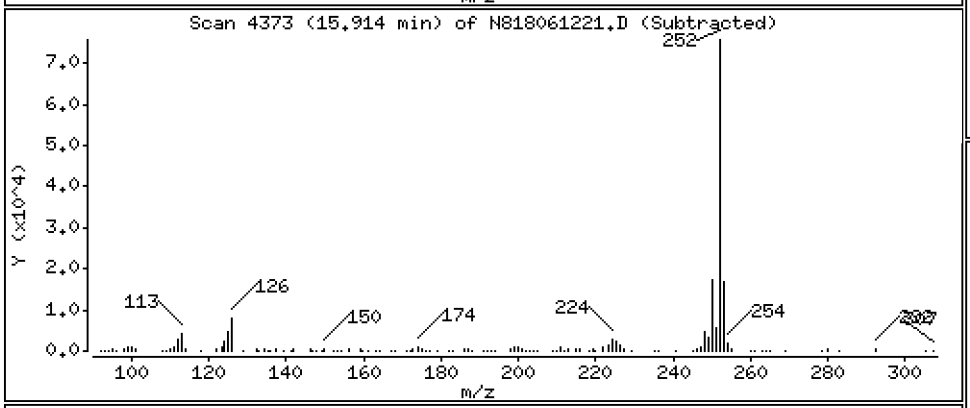
Column diameter: 0.25

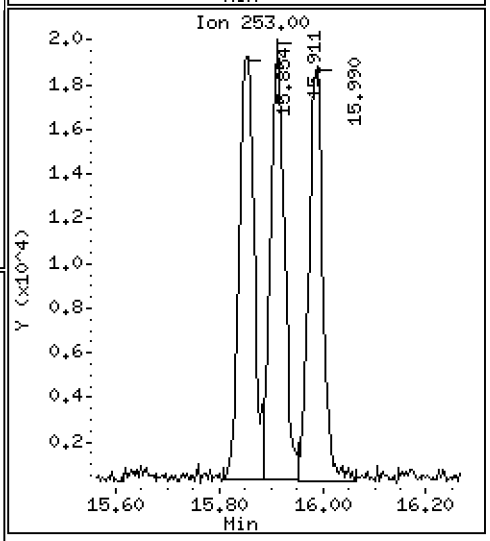
29 Benzo(k)fluoranthene

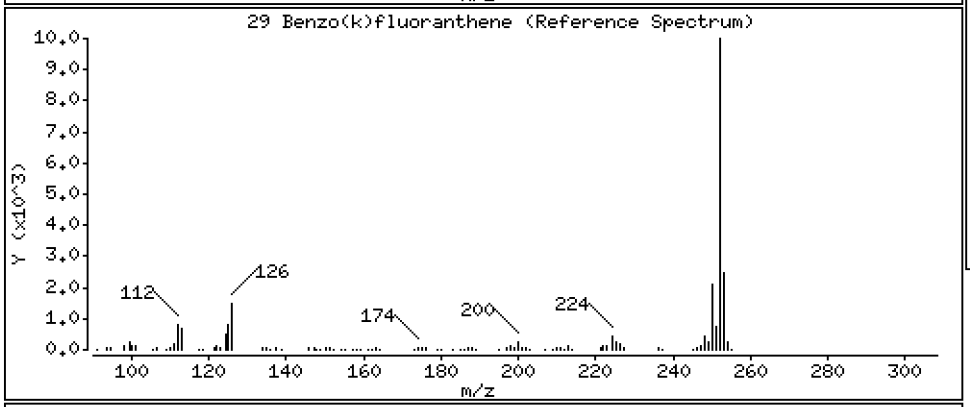
Concentration: 1.704 ug/mL

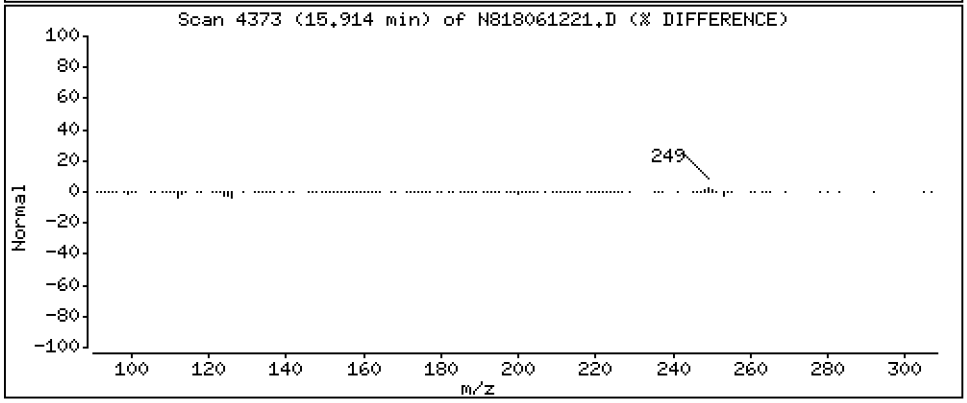












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

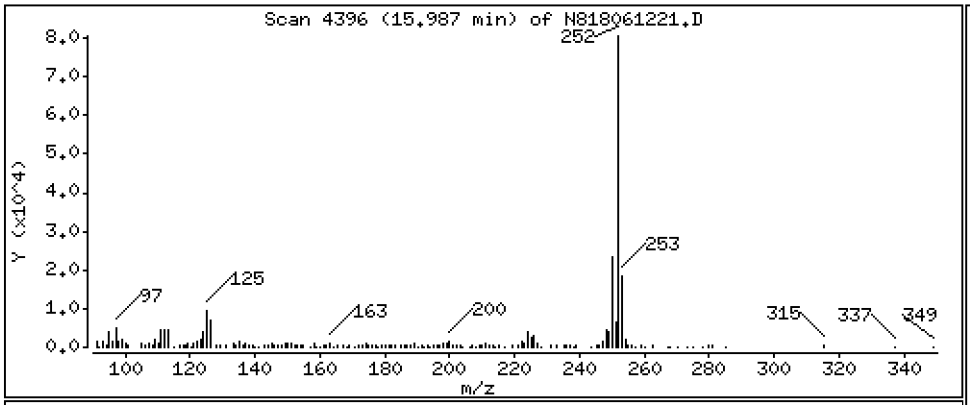
Operator: JZ

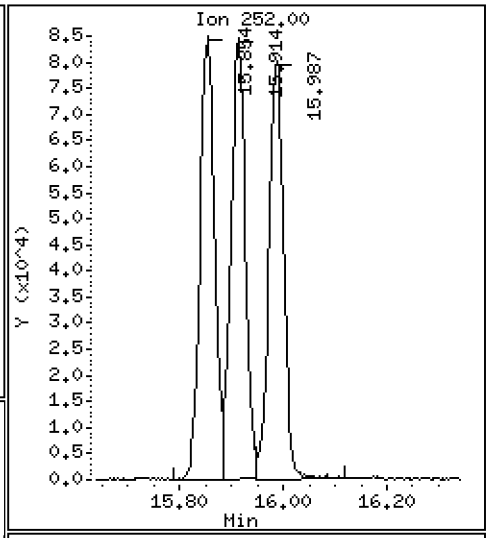
Column phase: Rxi-17sil

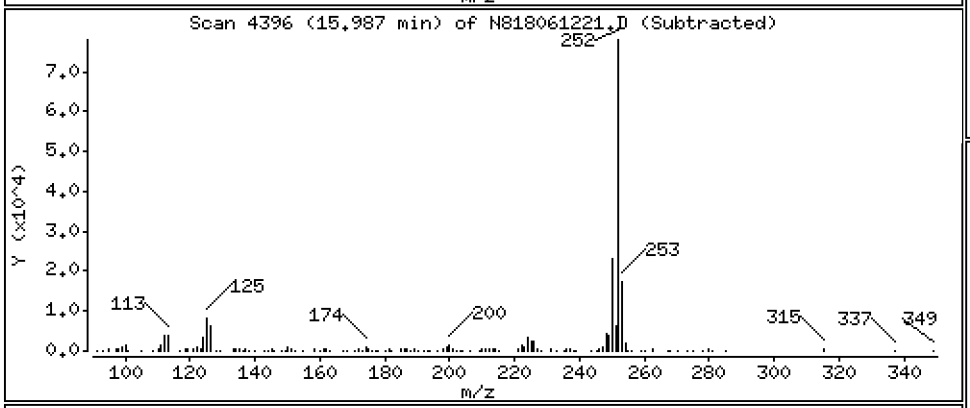
Column diameter: 0.25

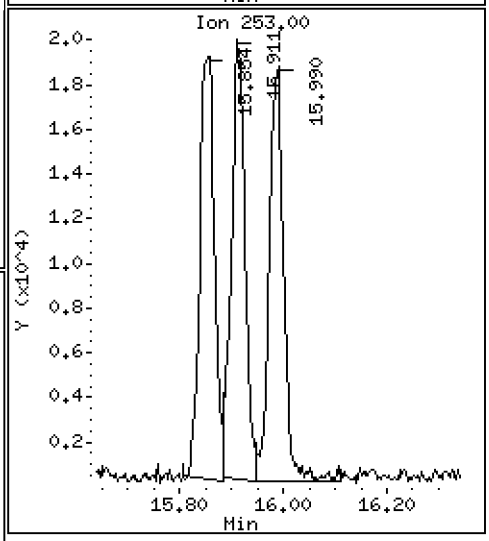
30 Benzo(j)fluoranthene

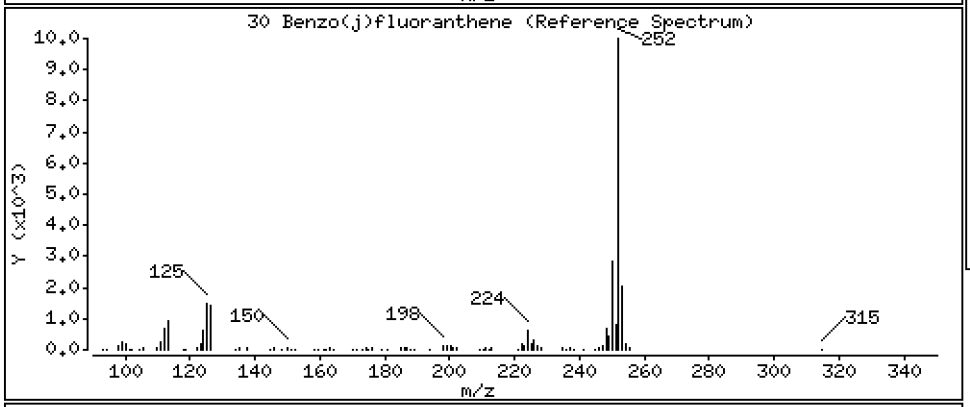
Concentration: 1.662 ug/mL

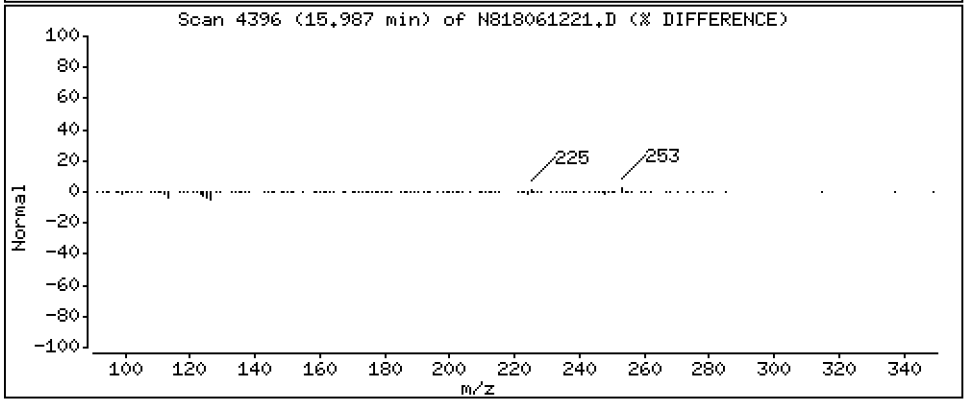












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

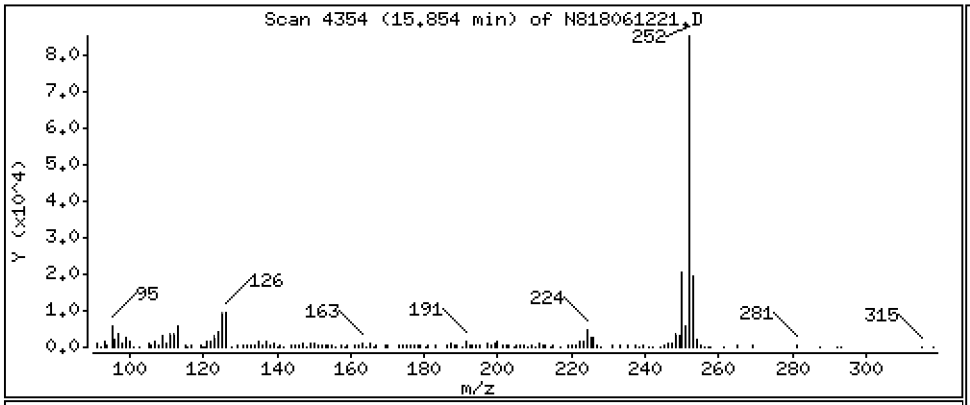
Operator: JZ

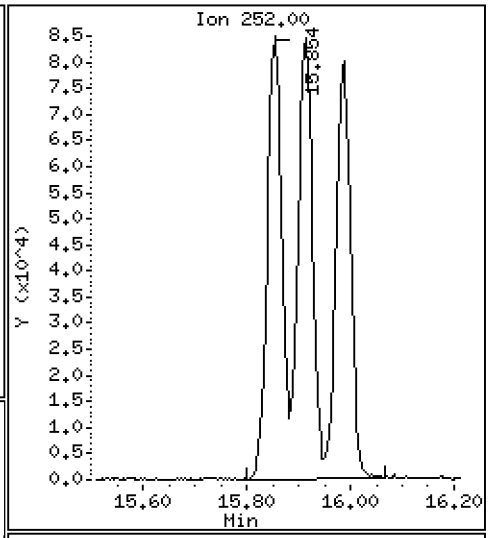
Column phase: Rxi-17sil

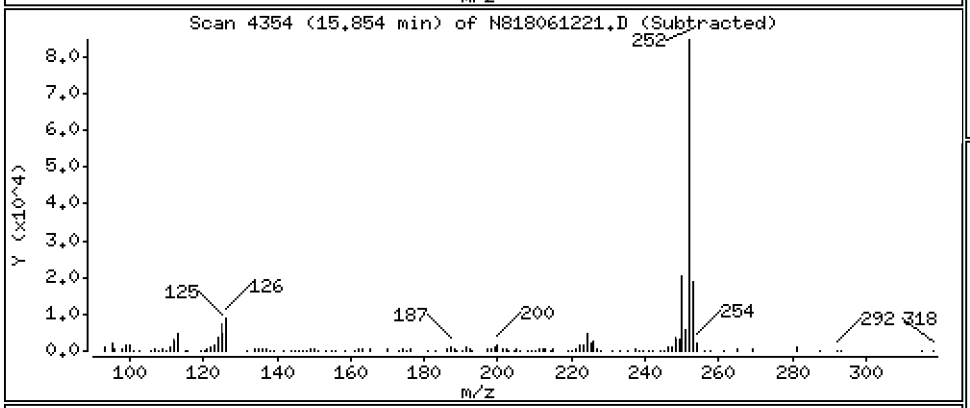
Column diameter: 0.25

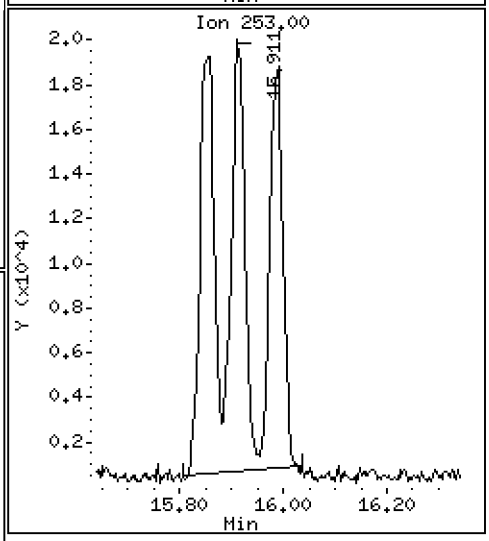
31 Total Benzofluoranthenes

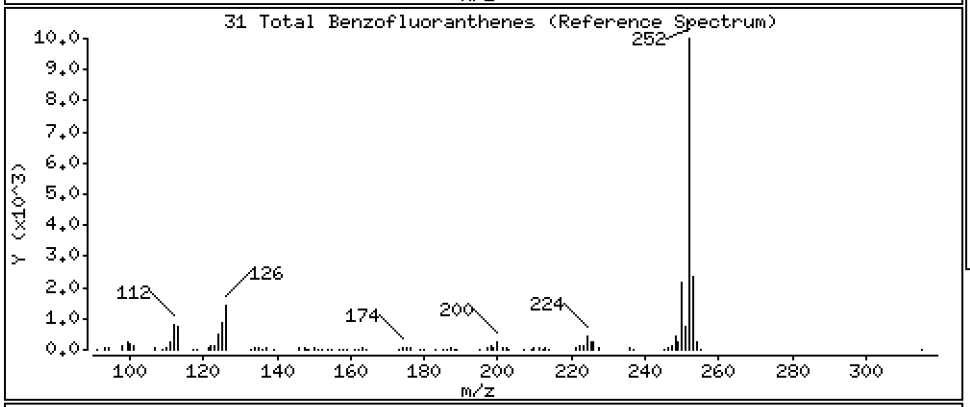
Concentration: 5.129 ug/mL

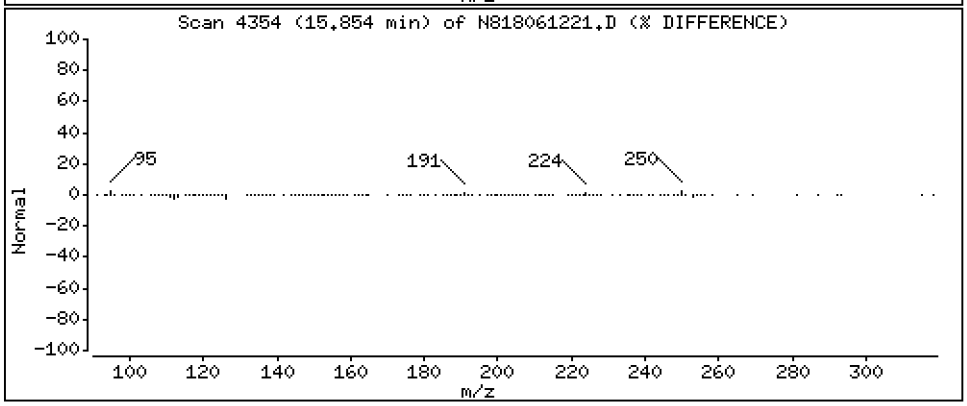












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

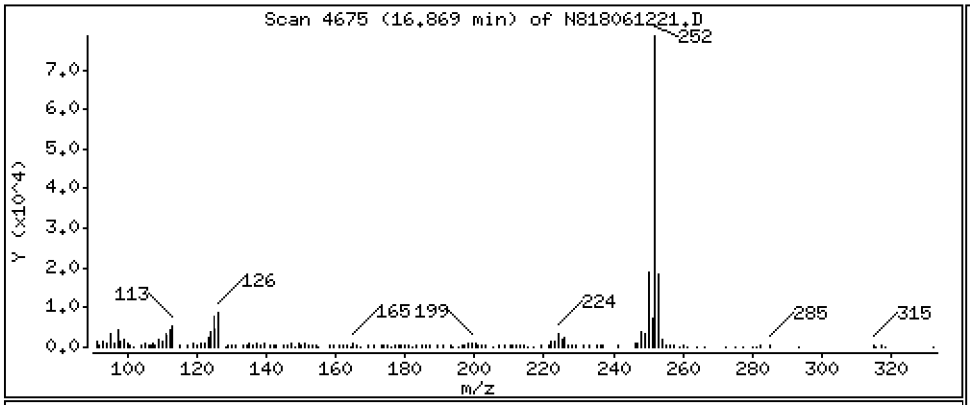
Operator: JZ

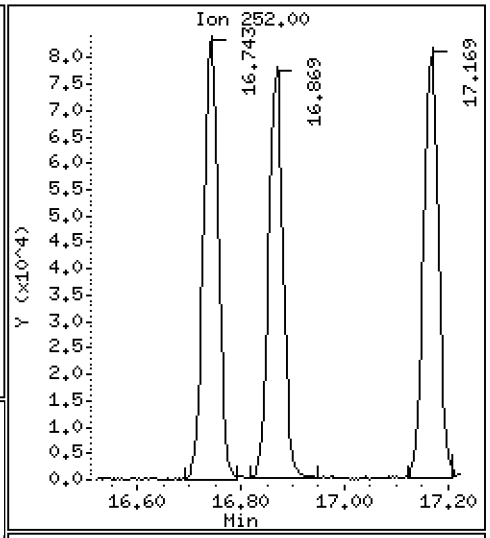
Column phase: Rxi-17sil

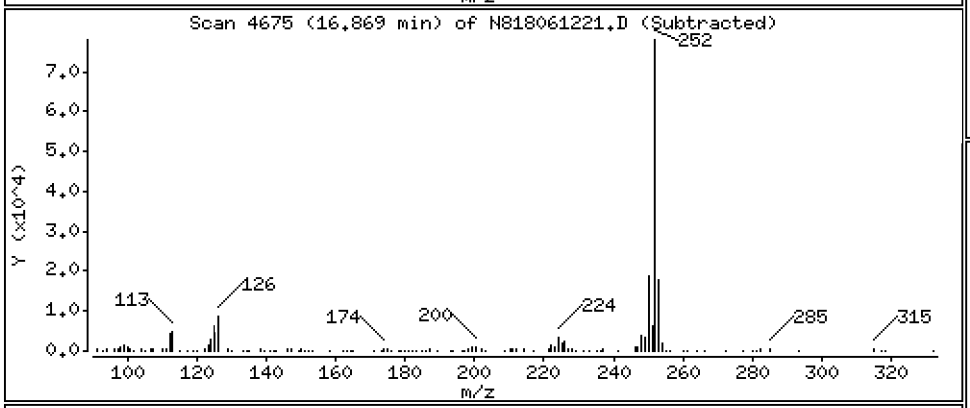
Column diameter: 0.25

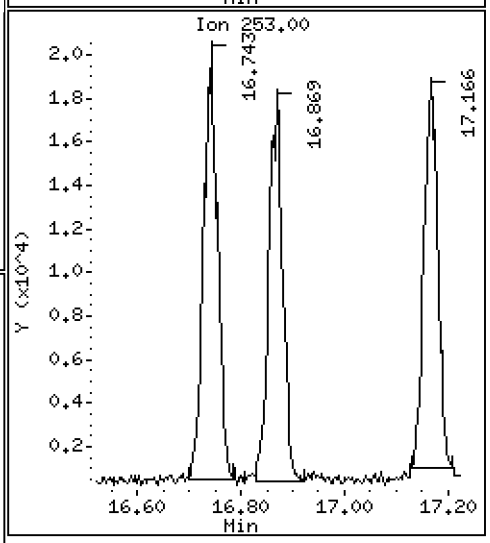
32 Benzo(a)pyrene

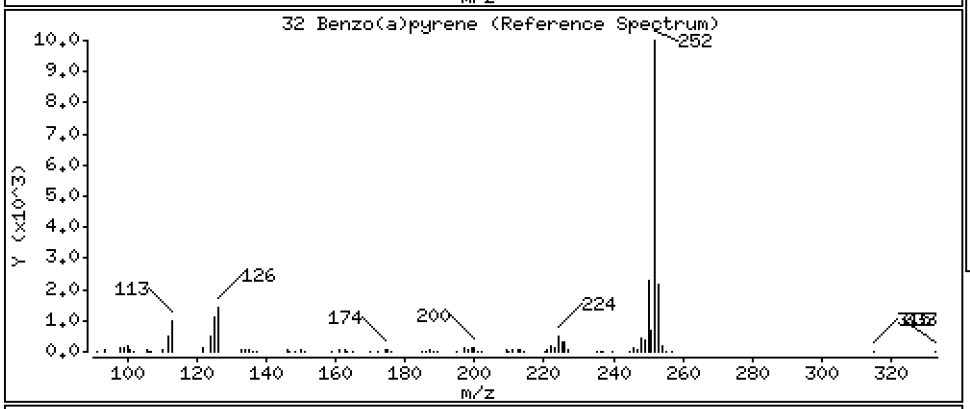
Concentration: 1.779 ug/mL

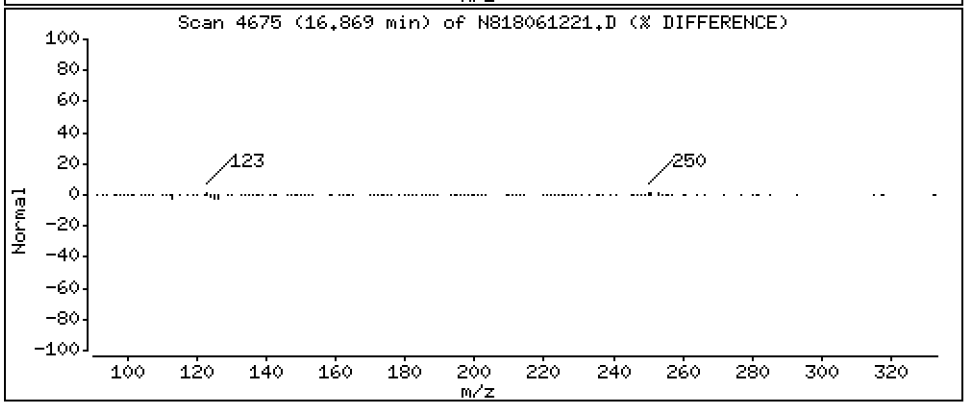












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

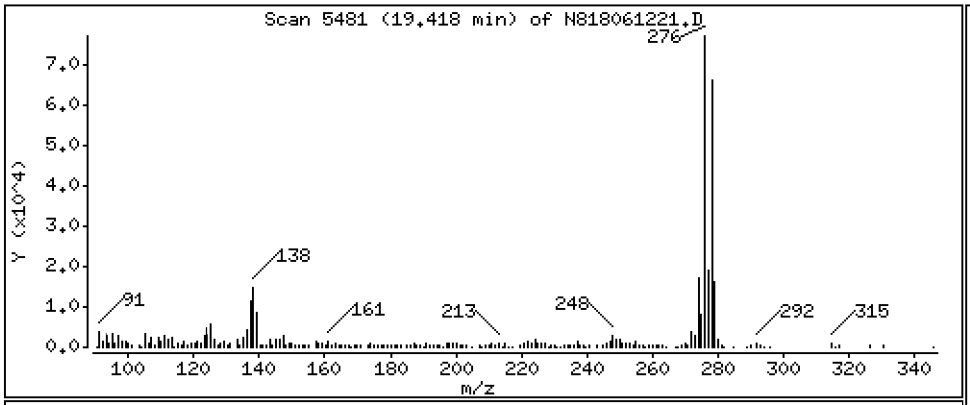
Operator: JZ

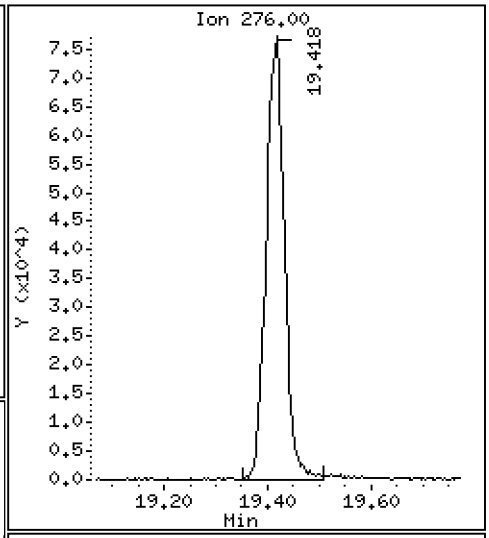
Column phase: Rxi-17sil

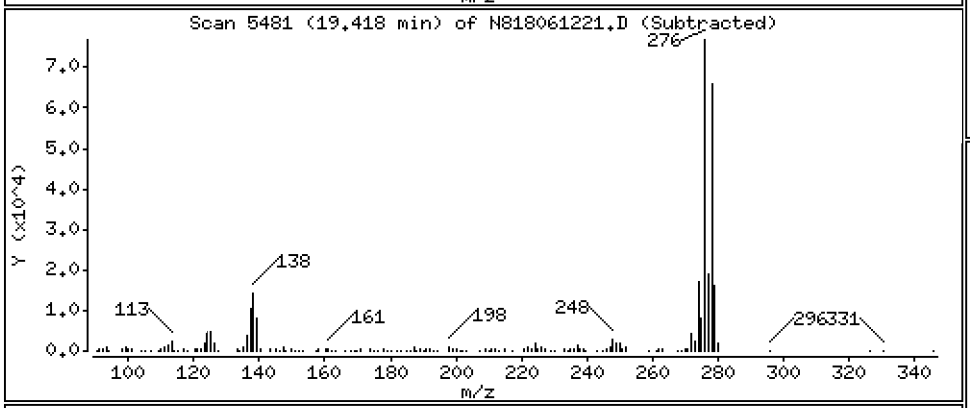
Column diameter: 0.25

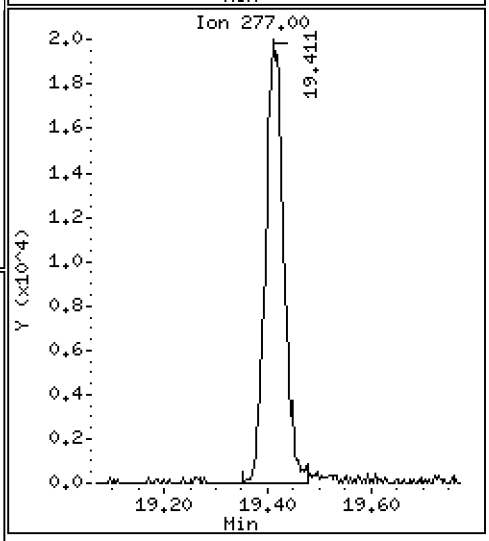
37 Indeno(1,2,3-cd)pyrene

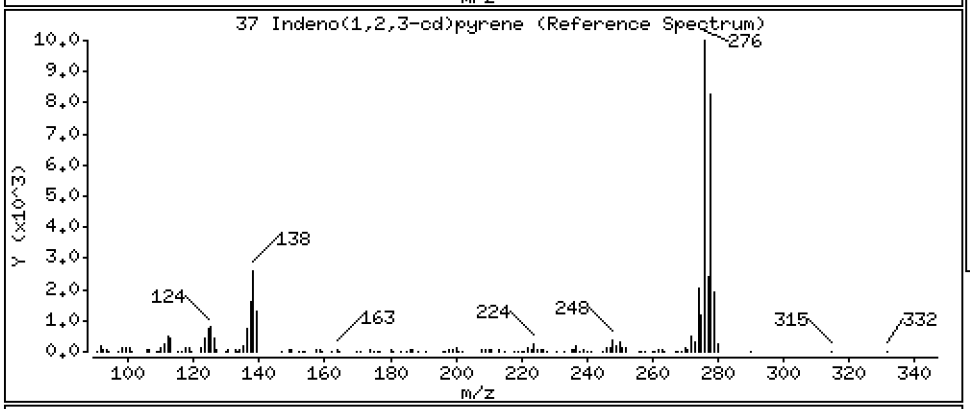
Concentration: 1.945 ug/mL

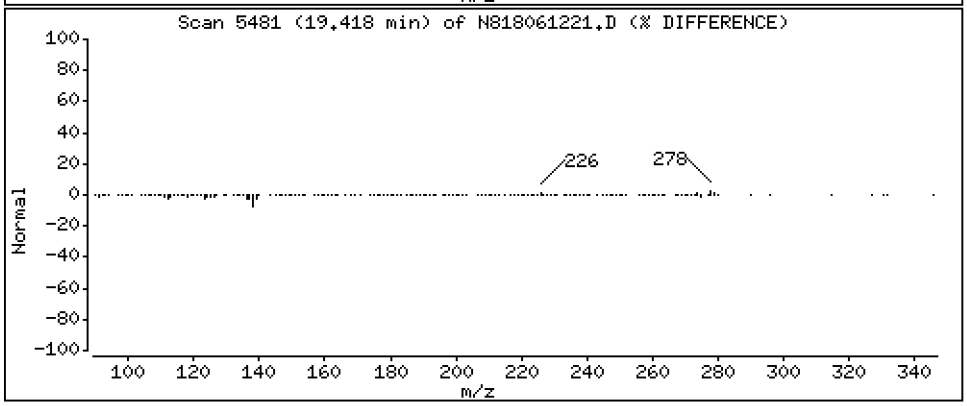












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

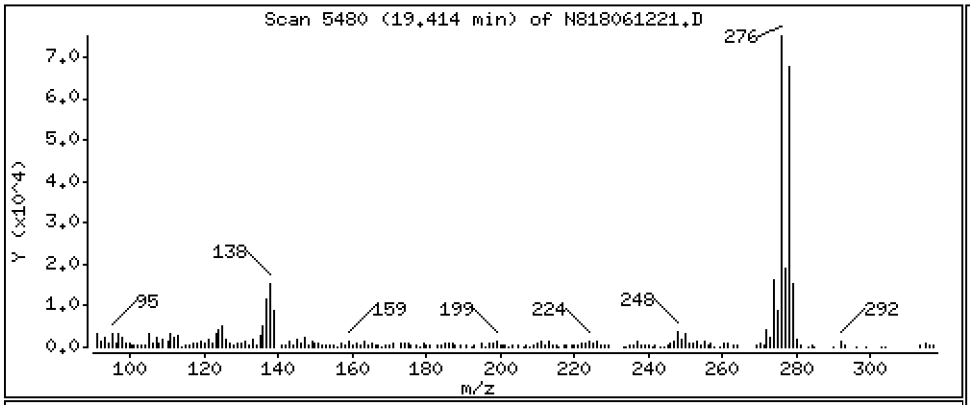
Operator: JZ

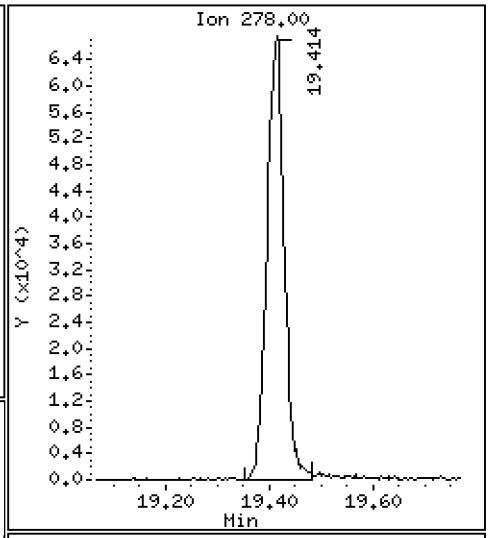
Column phase: Rxi-17sil

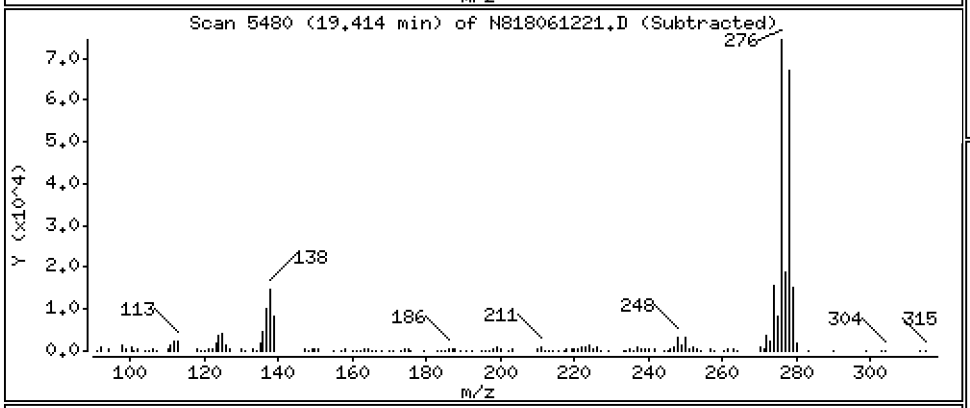
Column diameter: 0.25

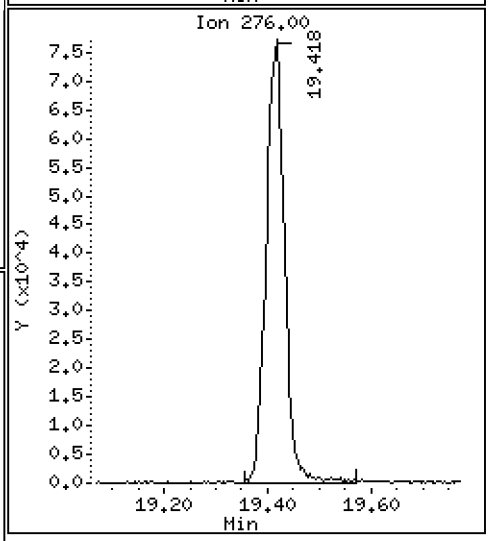
38 Dibenzo(a,h)anthracene

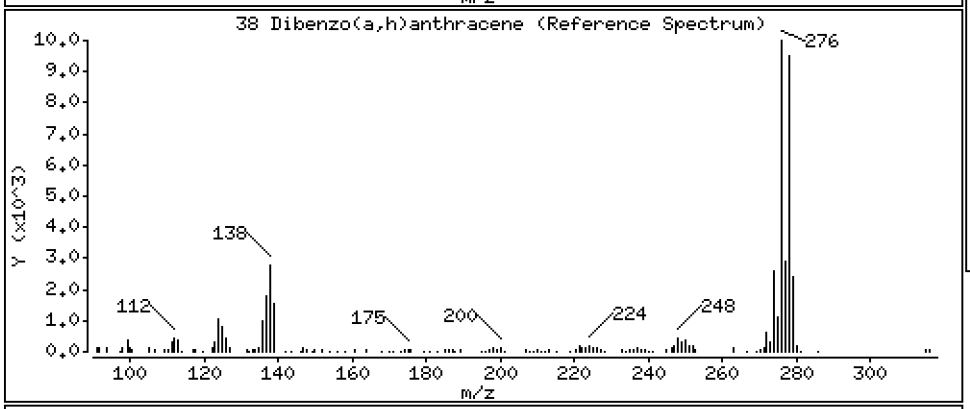
Concentration: 1.954 ug/mL

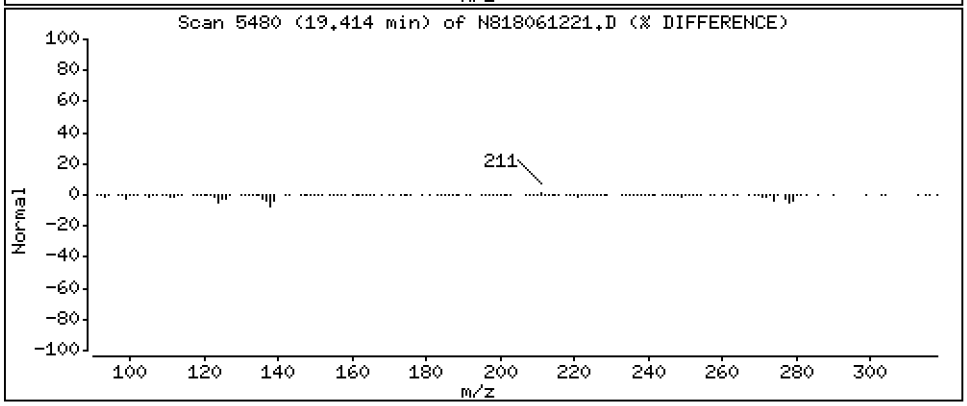












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

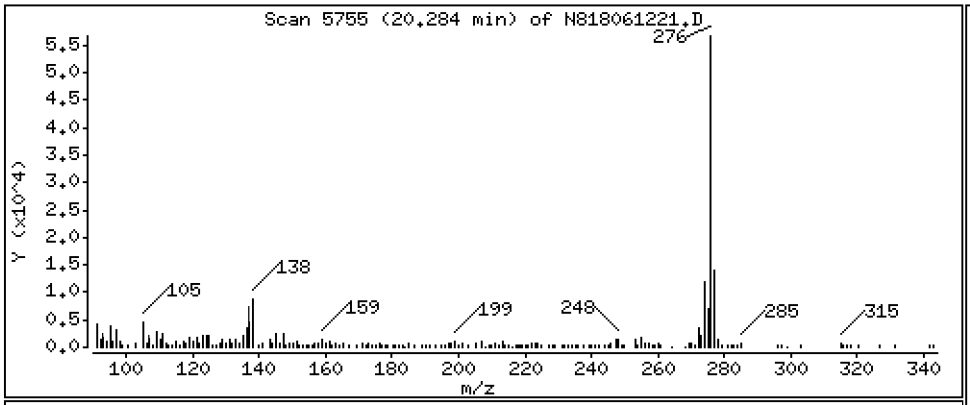
Operator: JZ

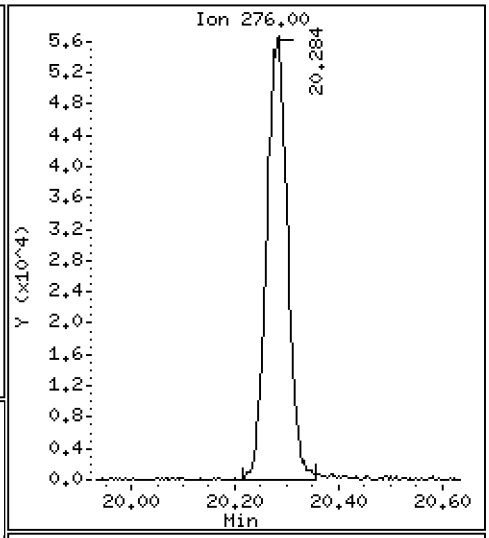
Column phase: Rxi-17sil

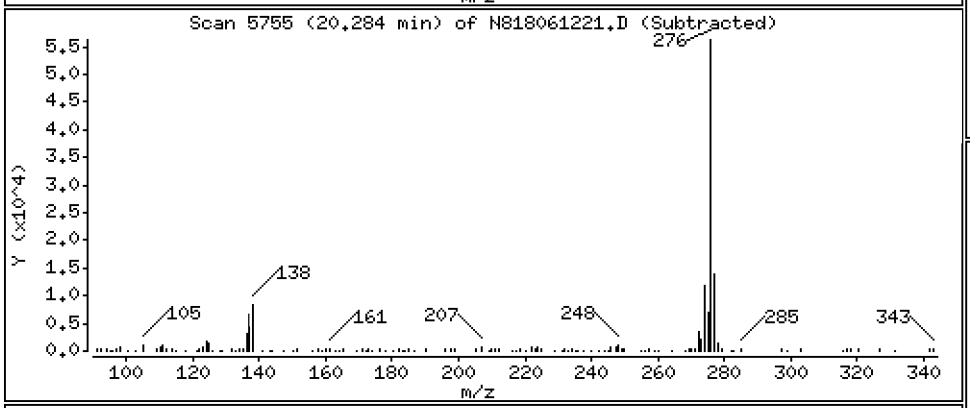
Column diameter: 0.25

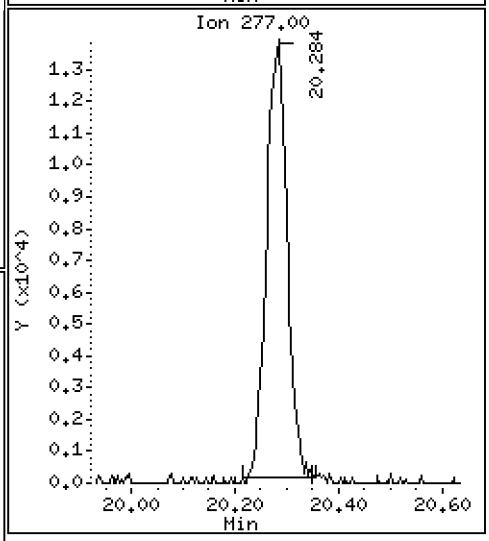
39 Benzo(g,h,i)perylene

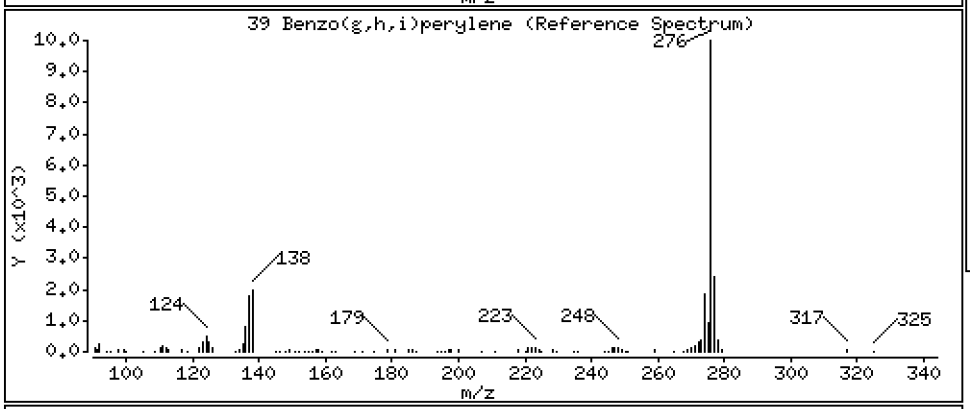
Concentration: 1.871 ug/mL

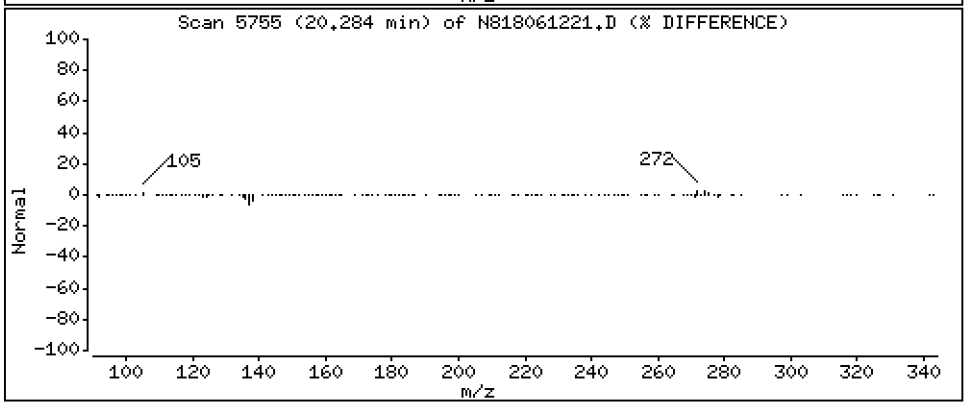












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061221.D

Date : 12-JUN-2018 23:26

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MS1,

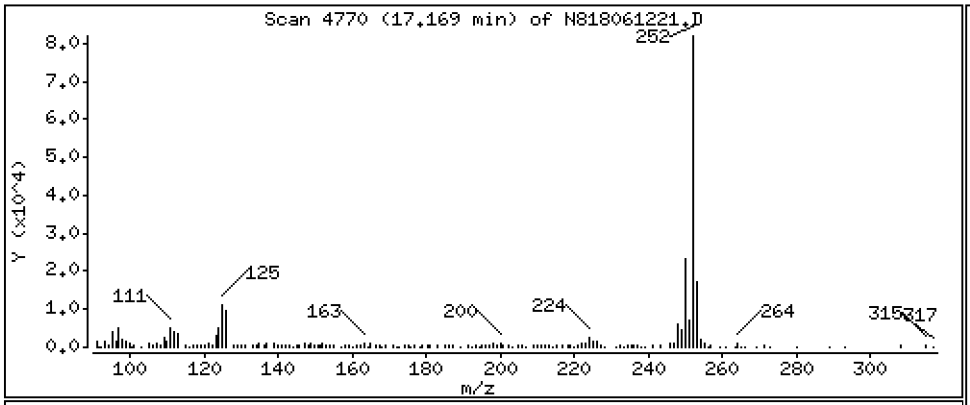
Operator: JZ

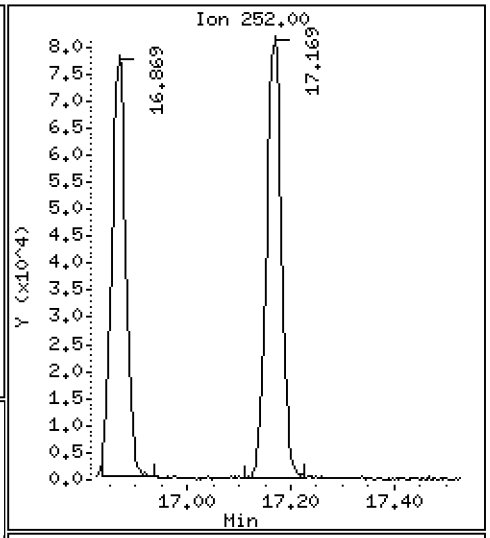
Column phase: Rxi-17sil

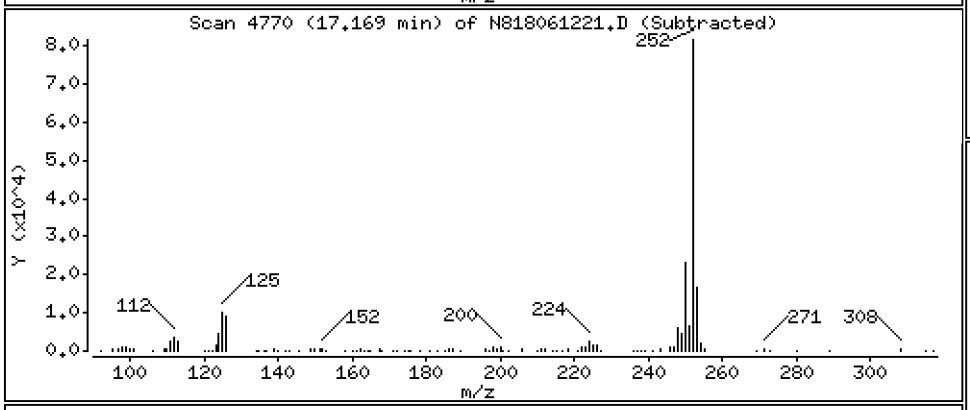
Column diameter: 0.25

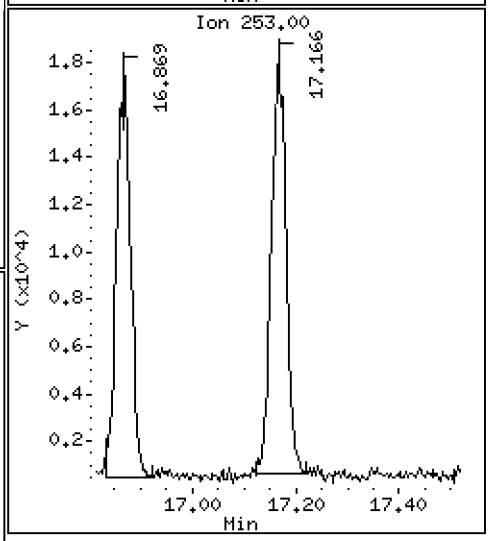
35 Perylene

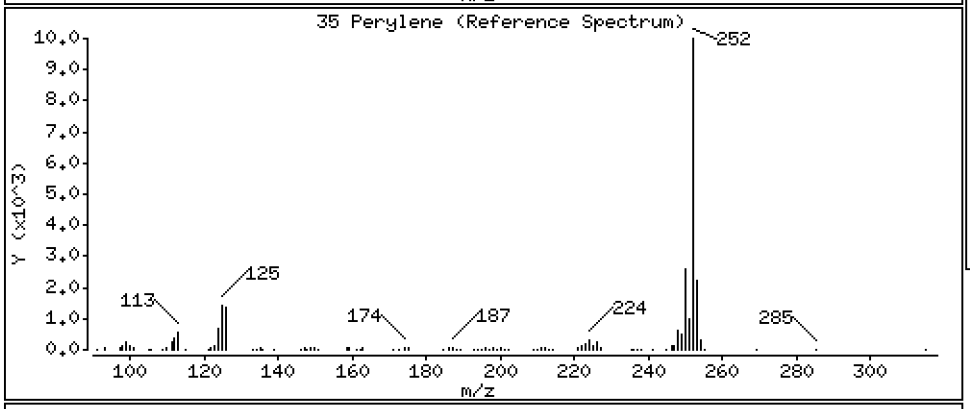
Concentration: 1.779 ug/mL

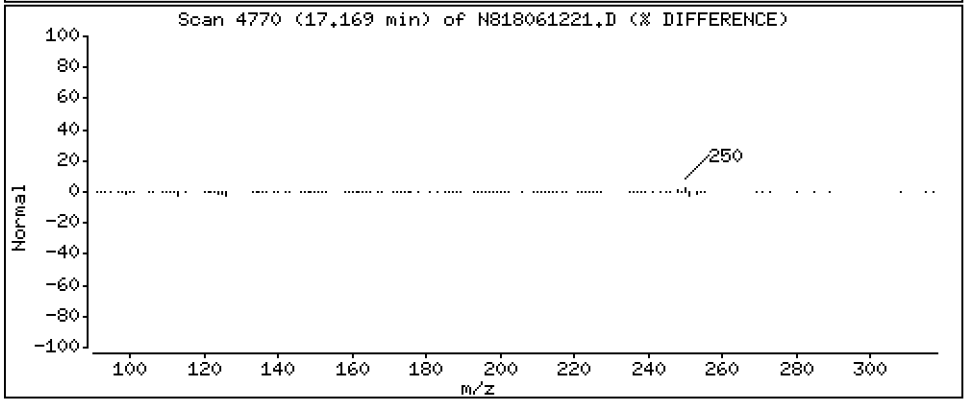












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061221.D
Lab Smp Id: BGE0773-MS1
Inj Date : 12-JUN-2018 23:26
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0773-MS1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.448	4.455	(1.000)	163450	2.00000	
	2	Naphthalene	128	4.477	4.483	(1.006)	112993	1.18952	1.190
$	3	2-Methylnaphthalene-d10	152	5.179	5.185	(1.164)	81722	1.37060	1.371
	4	2-Methylnaphthalene	141	5.226	5.233	(1.175)	72449	1.35411	1.354
	5	1-methylnaphthalene	141	5.419	5.425	(1.218)	74489	1.35256	1.353
	9	Acenaphthylene	152	6.605	6.611	(0.984)	139598	1.62110	1.621
*	10	Acenaphthene-d10	164	6.715	6.722	(1.000)	86733	2.00000	
	11	Acenaphthene	153	6.766	6.769	(1.008)	97787	1.48130	1.481
	12	Dibenzofuran	168	6.918	6.921	(1.030)	132241	1.48985	1.490
	14	Fluorene	166	7.392	7.395	(1.101)	110421	1.60999	1.610
*	15	Phenanthrene-d10	188	8.736	8.739	(1.000)	152249	2.00000	
	16	Phenanthrene	178	8.771	8.774	(1.004)	159221	1.70628	1.706
	17	Anthracene	178	8.812	8.815	(1.009)	149455	1.75784	1.758
	22	Fluoranthene	202	10.424	10.428	(1.193)	194751	1.85185	1.852
$	21	Fluoranthene-d10	212	10.393	10.396	(1.190)	173663	1.74232	1.742
	23	Pyrene	202	10.892	10.896	(0.816)	193458	2.04274	2.043
	24	Benzo(a)anthracene	228	13.226	13.226	(0.991)	170885	1.86632	1.866
*	25	Chrysene-d12	240	13.346	13.349	(1.000)	157591	2.00000	
	27	Chrysene	228	13.416	13.419	(1.005)	165771	1.79854	1.799
	28	Benzo(b)fluoranthene	252	15.854	15.860	(0.927)	170281	1.74309	1.743
	29	Benzo(k)fluoranthene	252	15.914	15.917	(0.931)	163713	1.70429	1.704
	30	Benzo(j)fluoranthene	252	15.986	15.990	(0.935)	159872	1.66215	1.662
	31	Total Benzofluoranthenes	252	15.854	15.860	(0.927)	488619	5.12866	5.129(M)
	32	Benzo(a)pyrene	252	16.869	16.872	(0.987)	152325	1.77907	1.779
*	33	Perylene-d12	264	17.096	17.099	(1.000)	153713	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	19.417	19.420	(1.136)	190664	1.94510	1.945
$	36	Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	149129	2.07129	2.071
	38	Dibenzo(a,h)anthracene	278	19.414	19.417	(1.136)	157994	1.95395	1.954
	39	Benzo(g,h,i)perylene	276	20.283	20.284	(1.186)	160299	1.87110	1.871
	35	Perylene	252	17.169	17.175	(1.004)	165352	1.77858	1.779

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061221.D
Lab Smp Id: BGE0773-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	163450	33.77
10 Acenaphthene-d10	65789	32895	131578	86733	31.84
15 Phenanthrene-d10	128644	64322	257288	152249	18.35
25 Chrysene-d12	166669	83335	333338	157591	-5.45
33 Perylene-d12	140483	70242	280966	153713	9.42

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.14
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.35	-0.02
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061221.D

Lab ID: BGE0773-MS1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 23:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

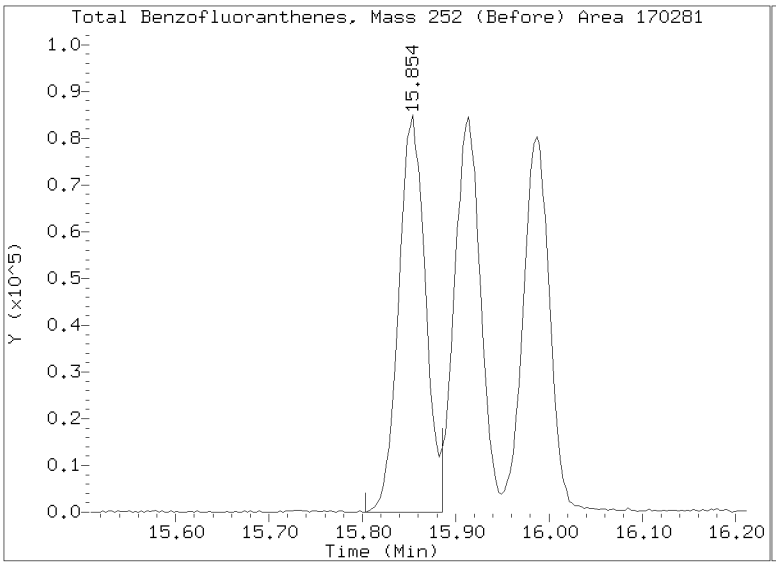
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

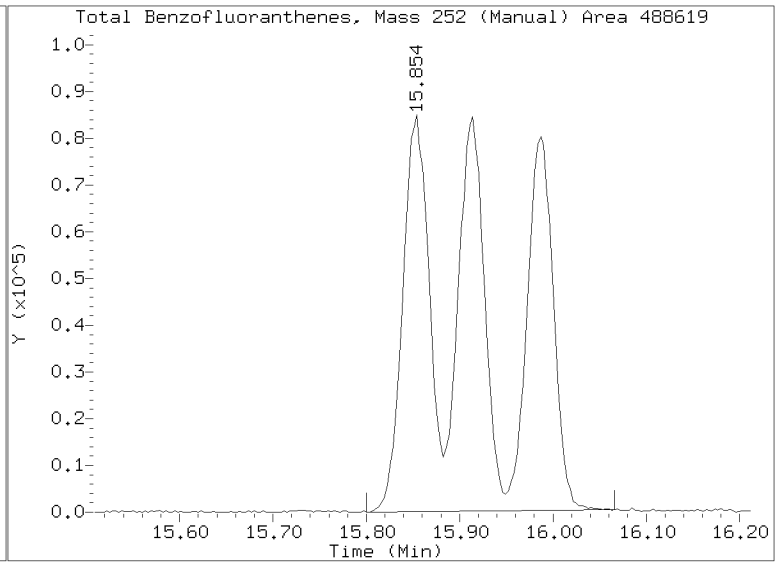
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061221.D
Injection Date: 12-JUN-2018 23:26
Lab ID:BGE0773-MS1 Client ID:
Report Date: 06/13/2018 14:00





Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

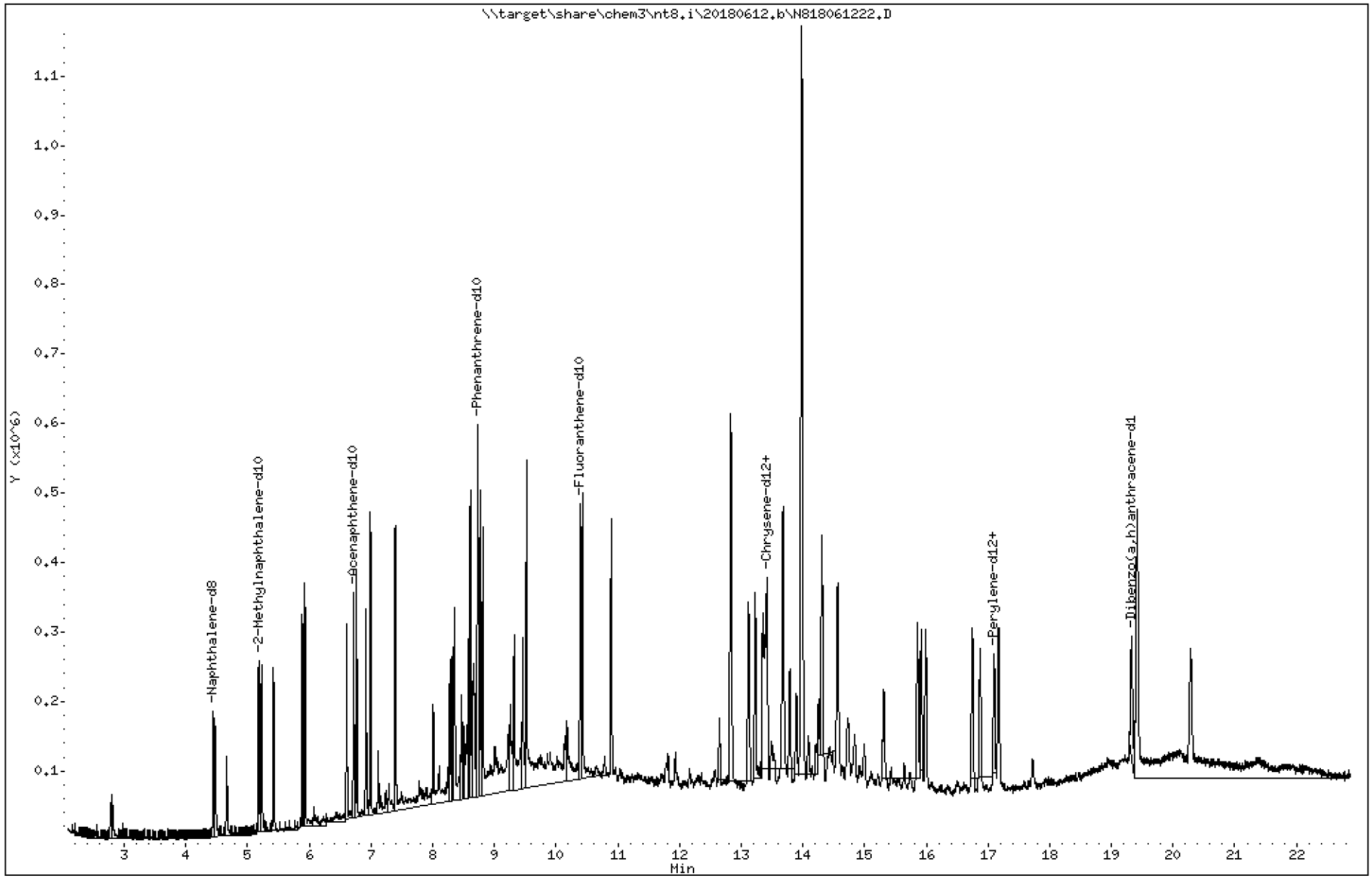
Instrument: nt8.i

Sample Info: BGE0773-MSD1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

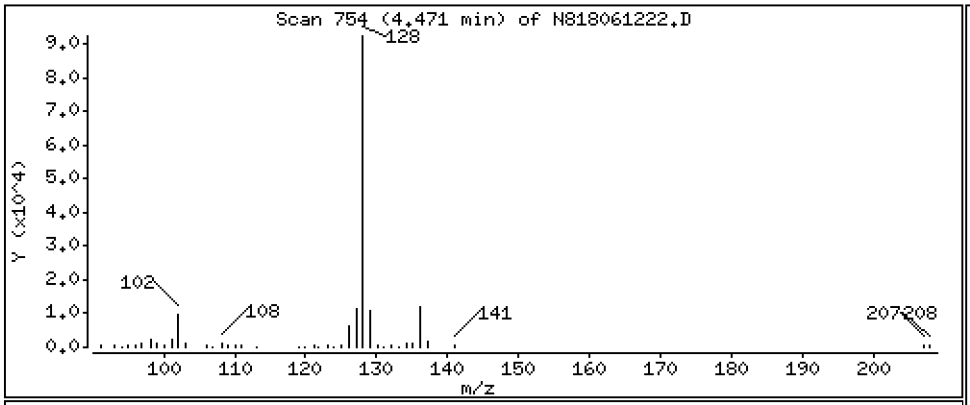
Operator: JZ

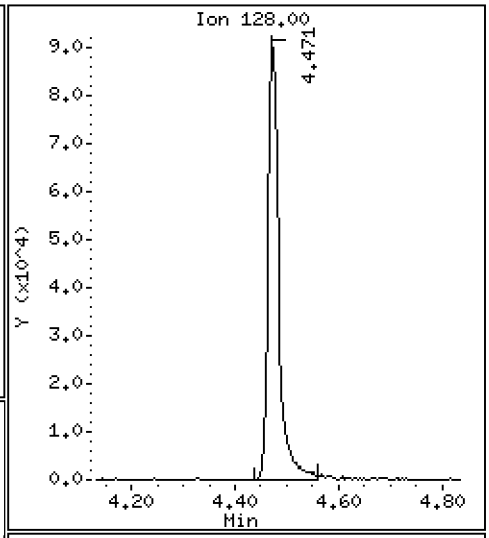
Column phase: Rxi-17sil

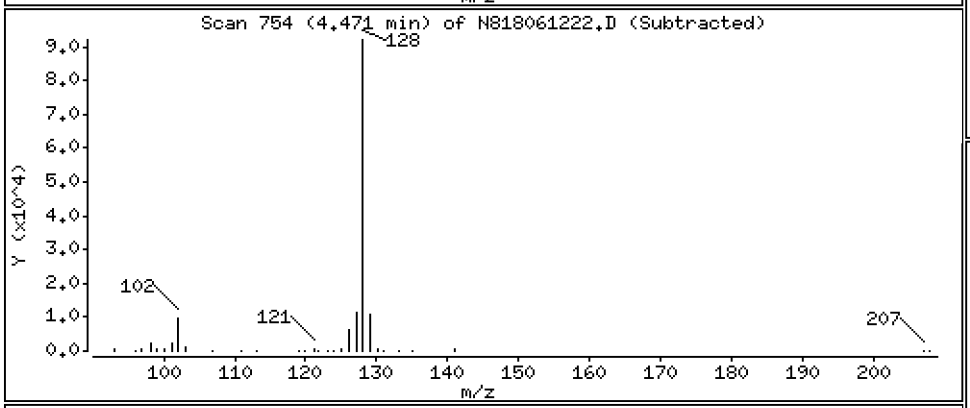
Column diameter: 0.25

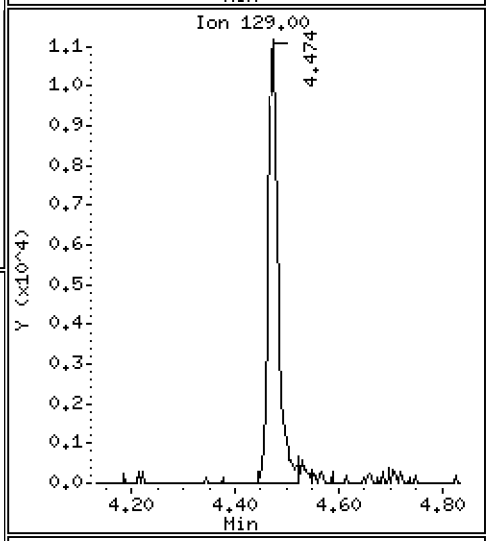
2 Naphthalene

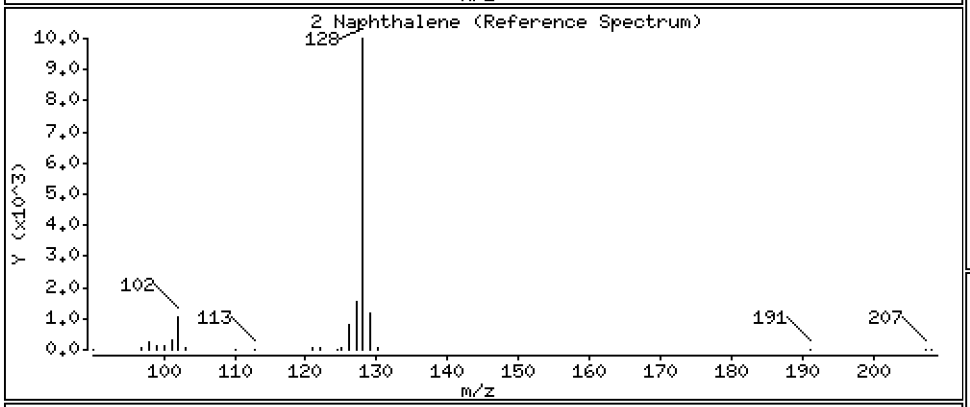
Concentration: 1.364 ug/mL

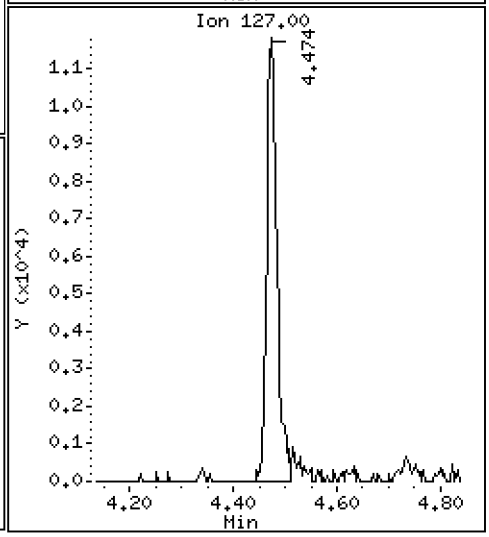


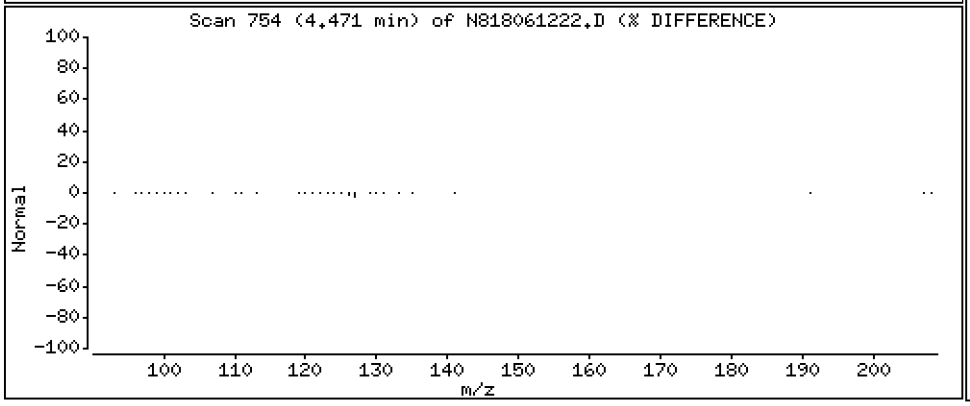












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

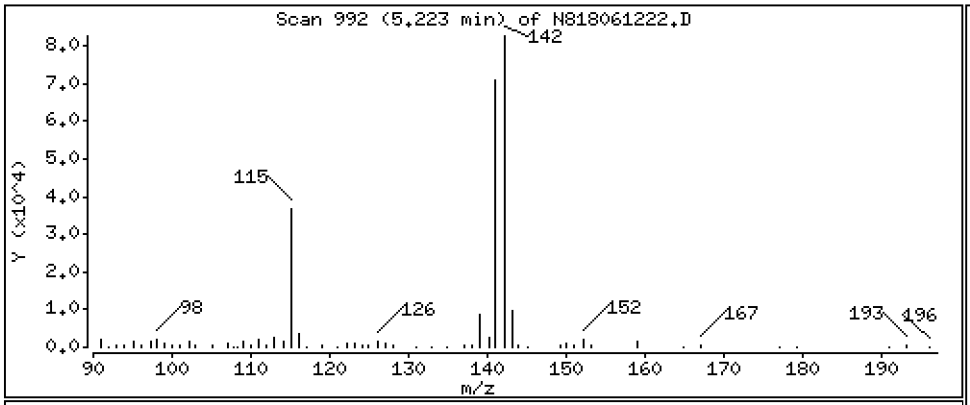
Operator: JZ

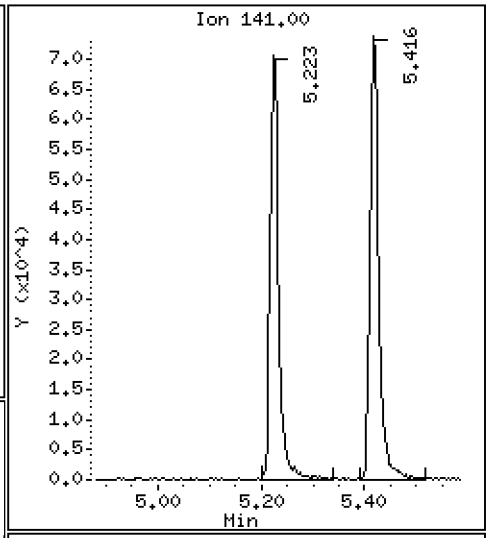
Column phase: Rxi-17sil

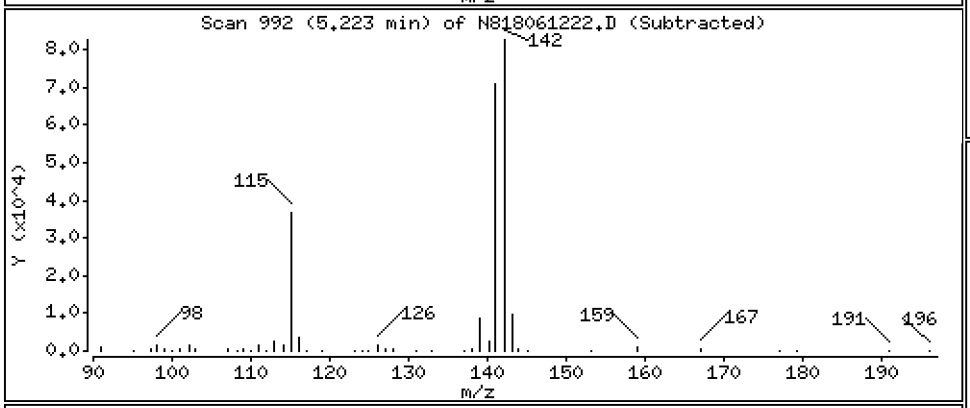
Column diameter: 0.25

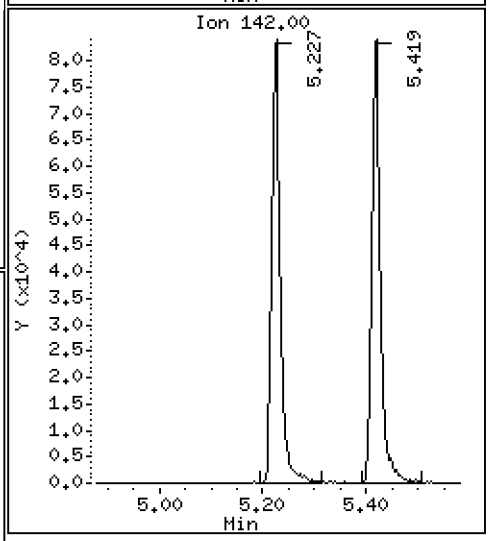
4 2-Methylnaphthalene

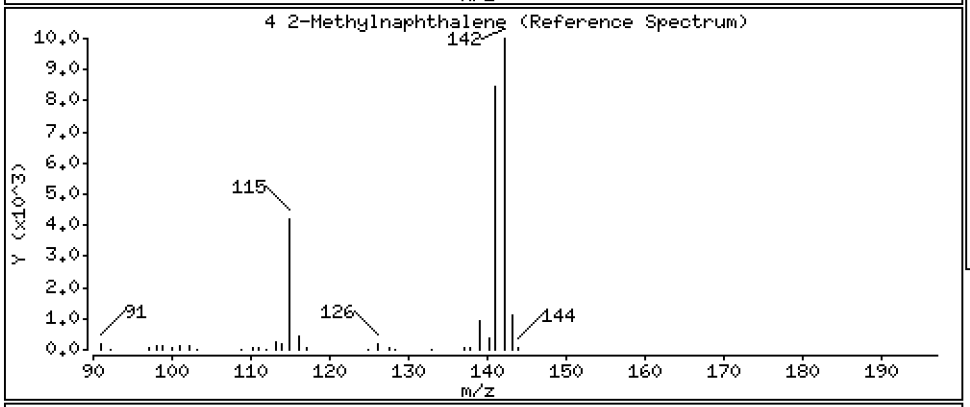
Concentration: 1.511 ug/mL

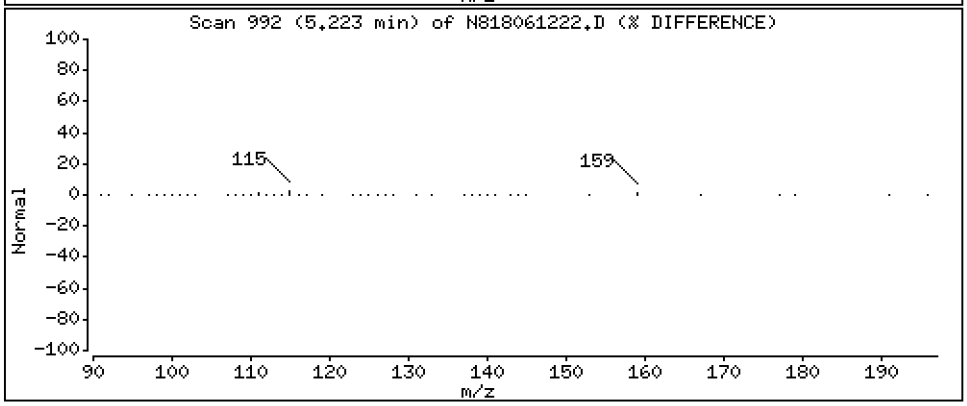












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

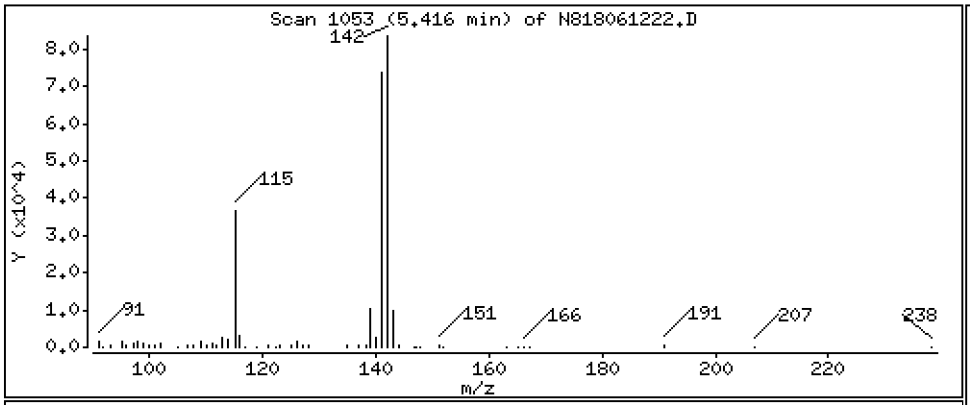
Operator: JZ

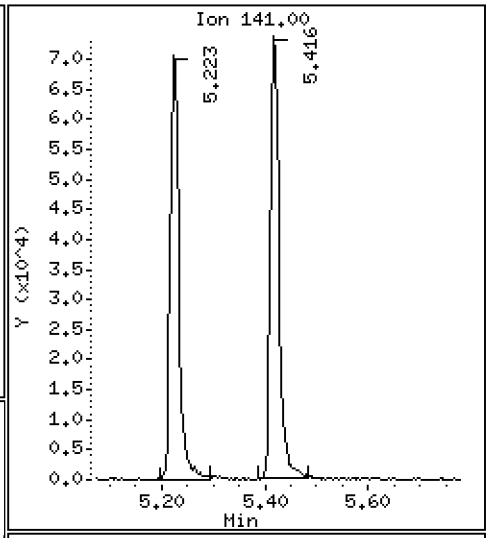
Column phase: Rxi-17sil

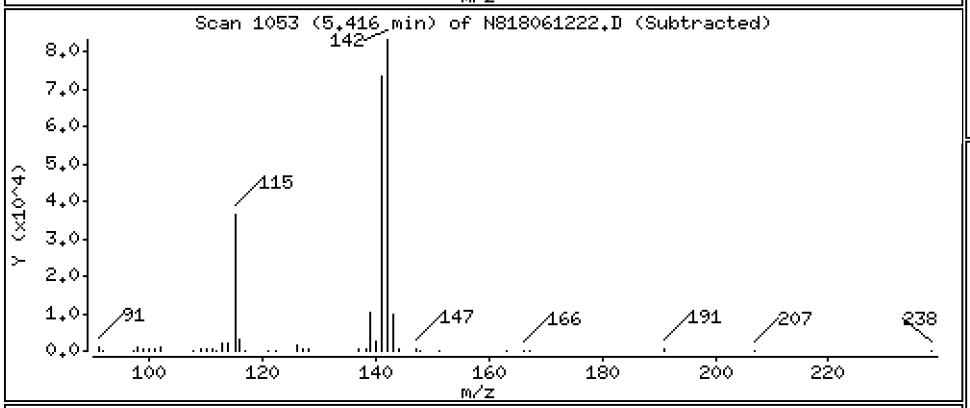
Column diameter: 0.25

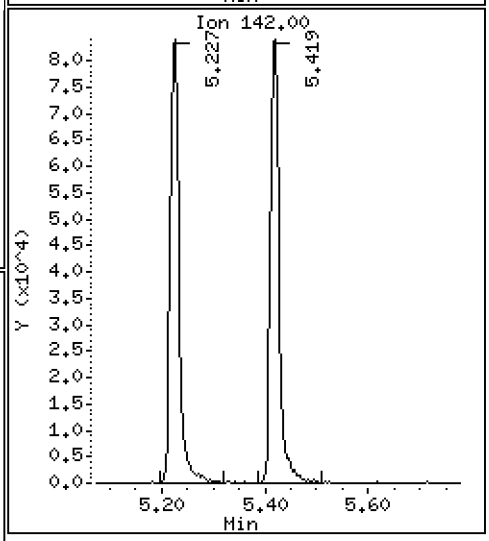
5 1-methylnaphthalene

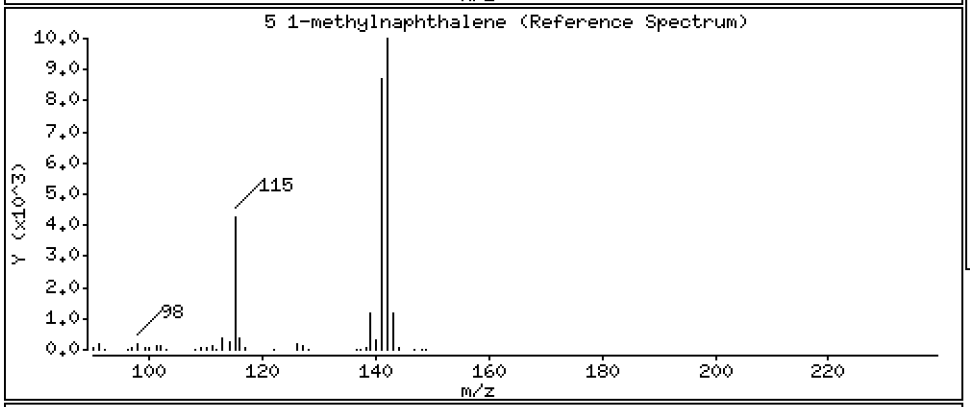
Concentration: 1.509 ug/mL

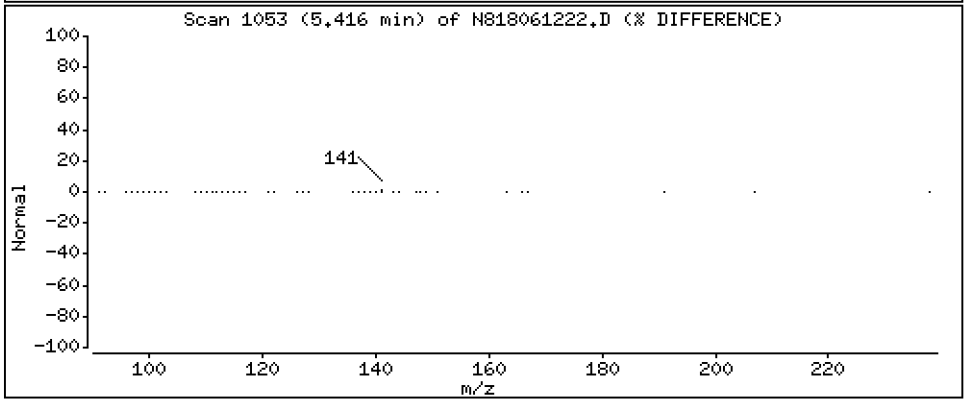












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

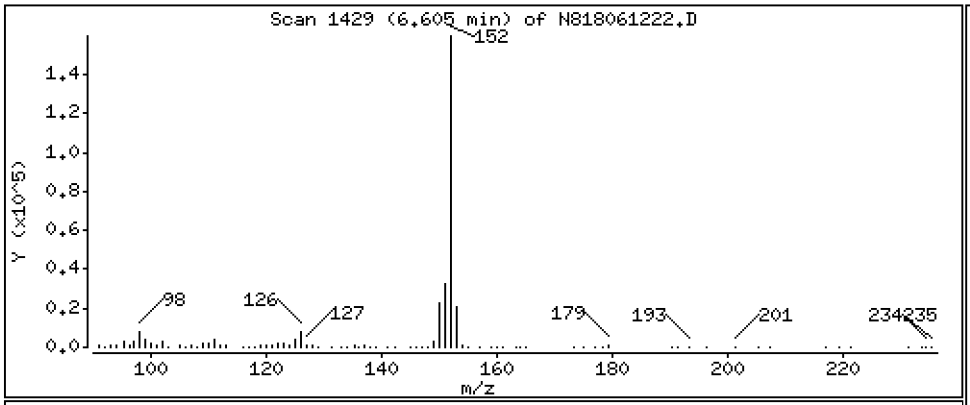
Operator: JZ

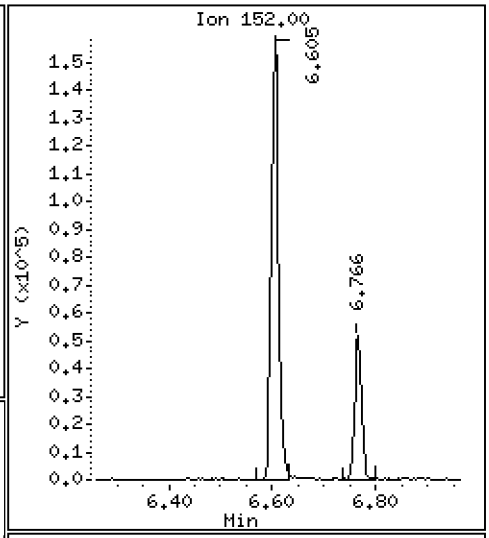
Column phase: Rxi-17sil

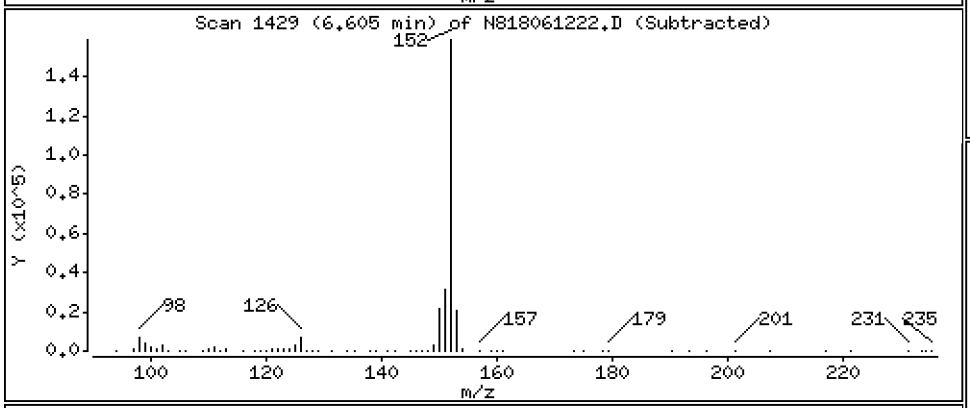
Column diameter: 0.25

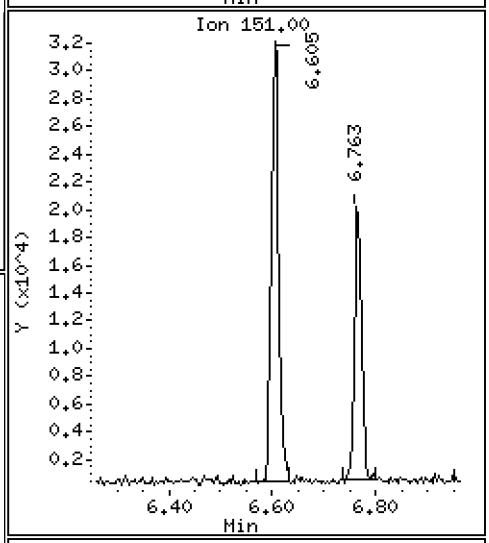
9 Acenaphthylene

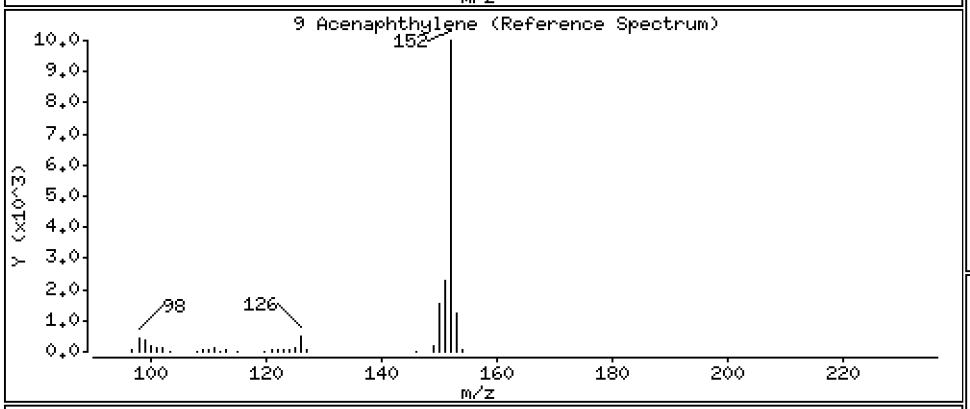
Concentration: 1.828 ug/mL

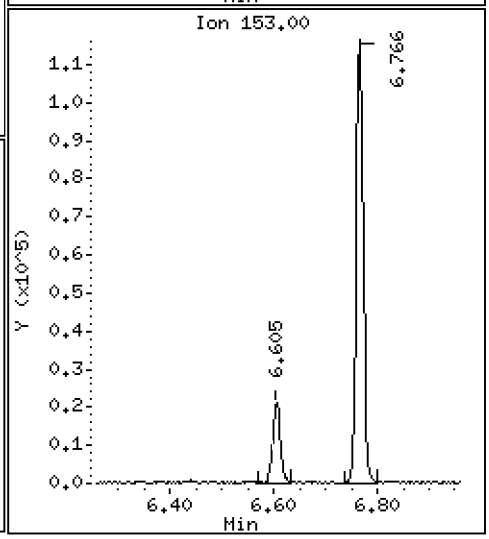


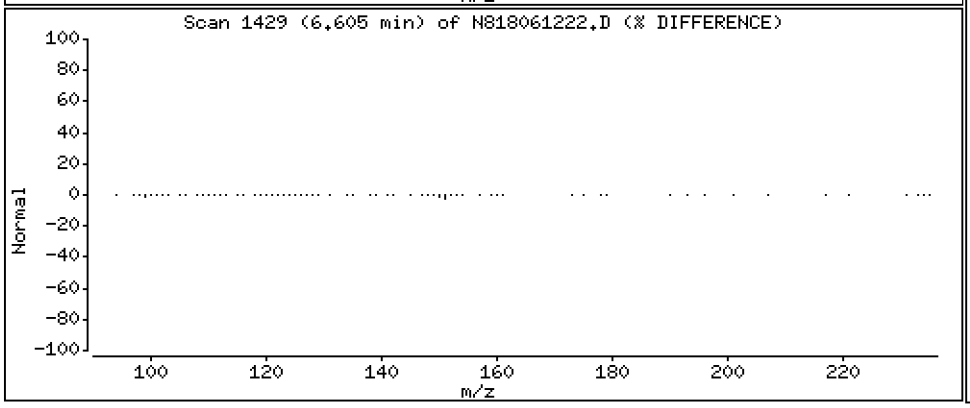












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

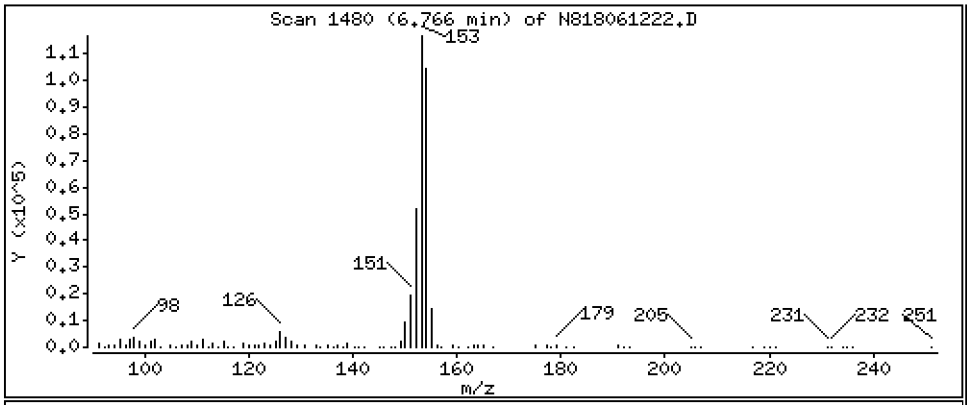
Operator: JZ

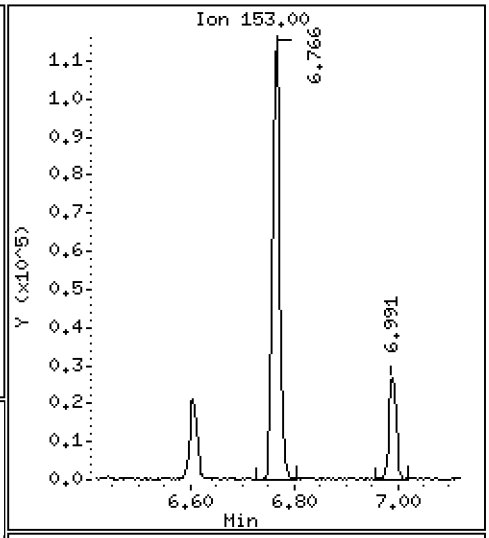
Column phase: Rxi-17sil

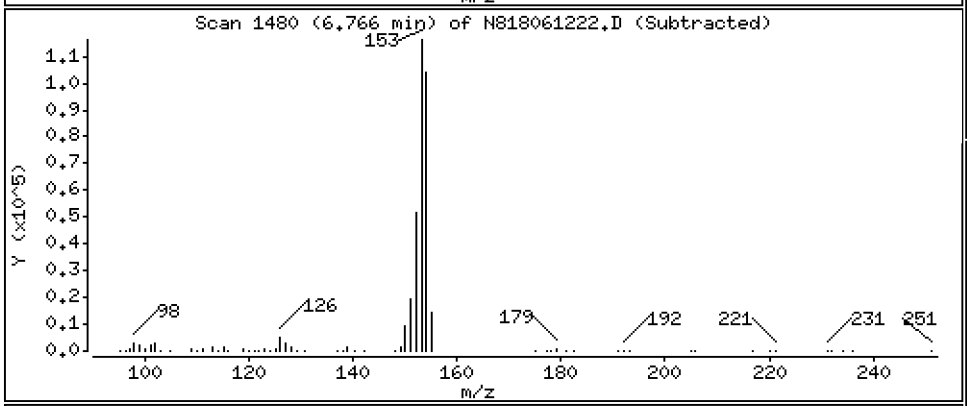
Column diameter: 0.25

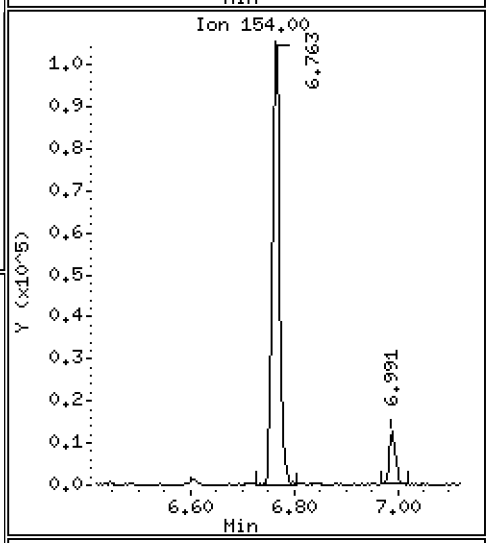
11 Acenaphthene

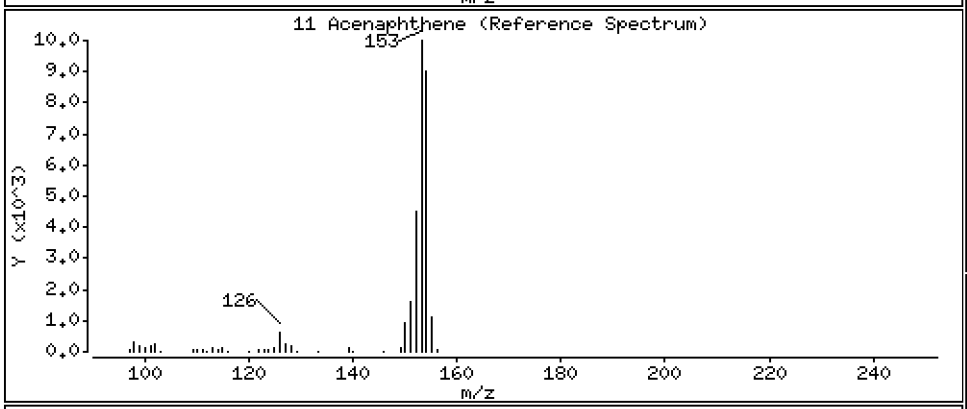
Concentration: 1.685 ug/mL

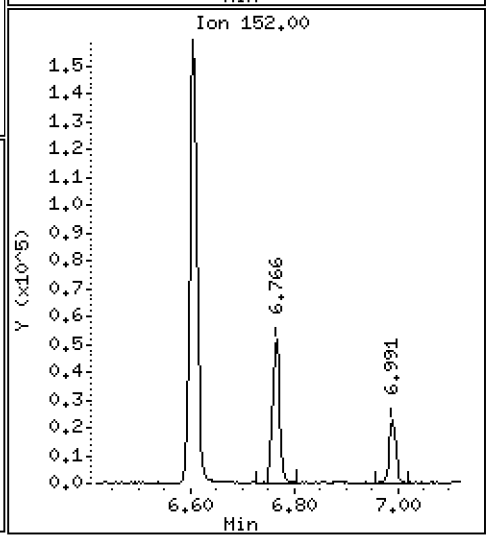


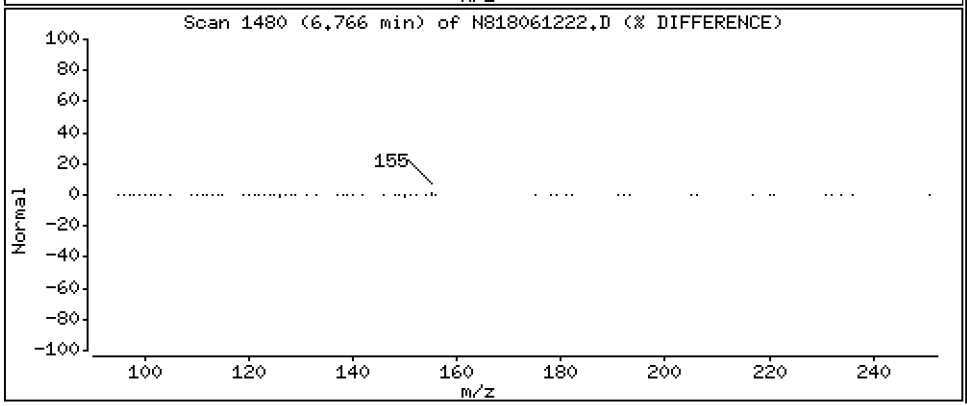












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

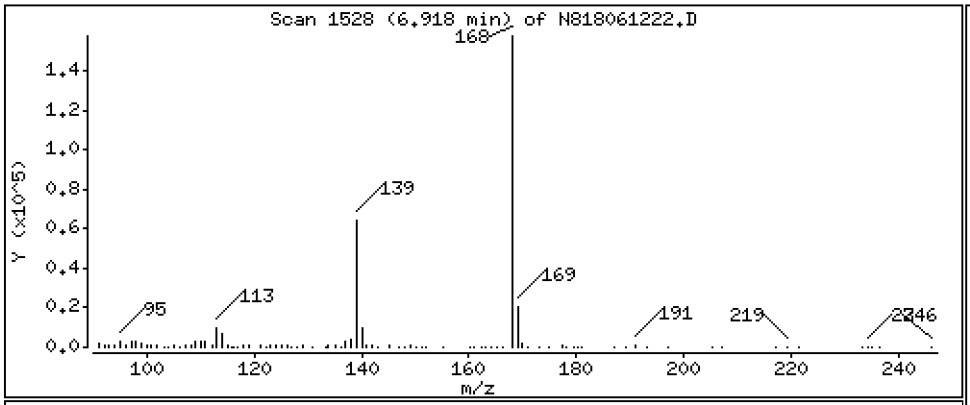
Operator: JZ

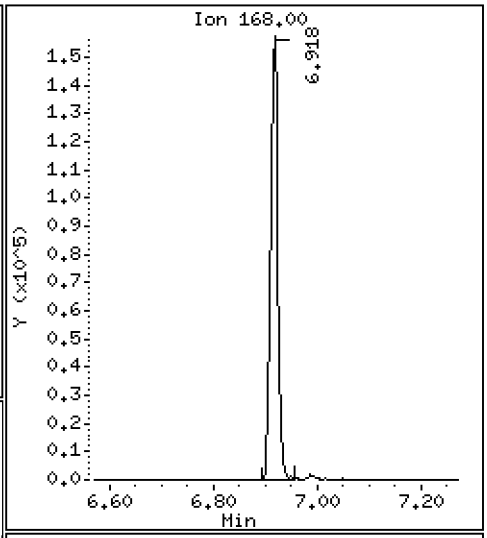
Column phase: Rxi-17sil

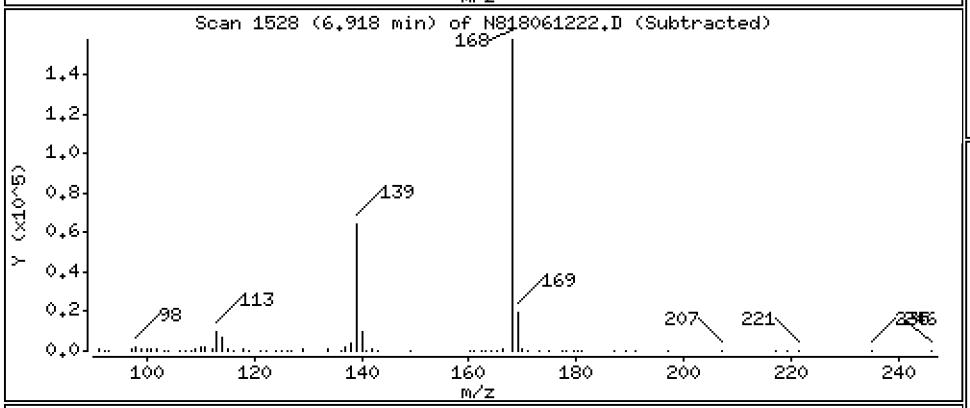
Column diameter: 0.25

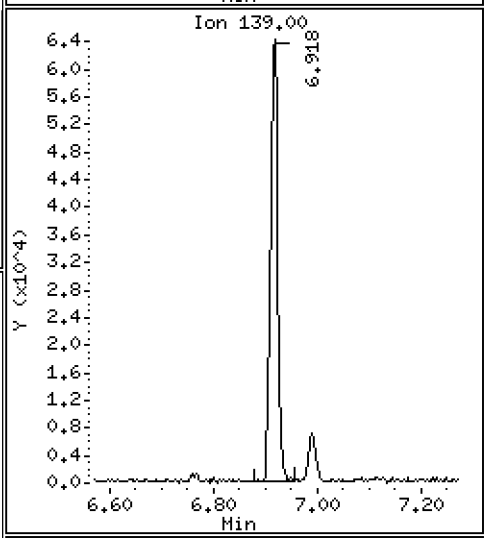
12 Dibenzofuran

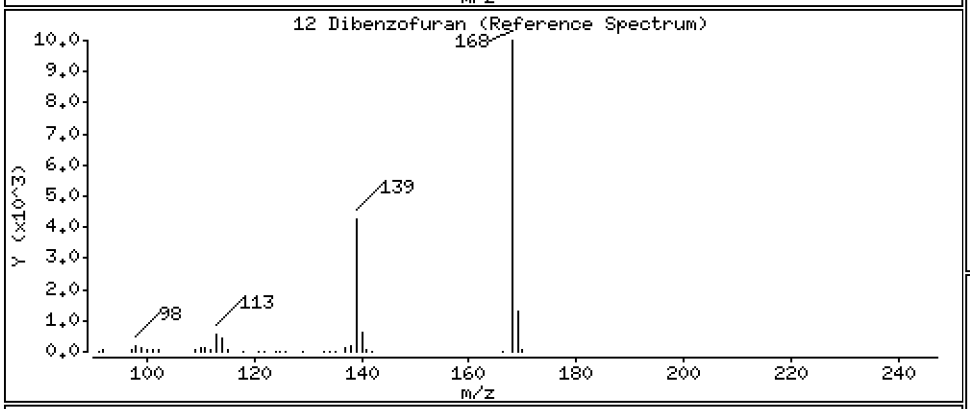
Concentration: 1.695 ug/mL

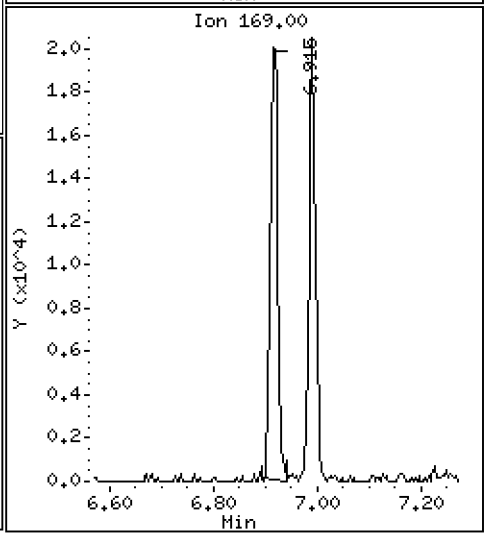


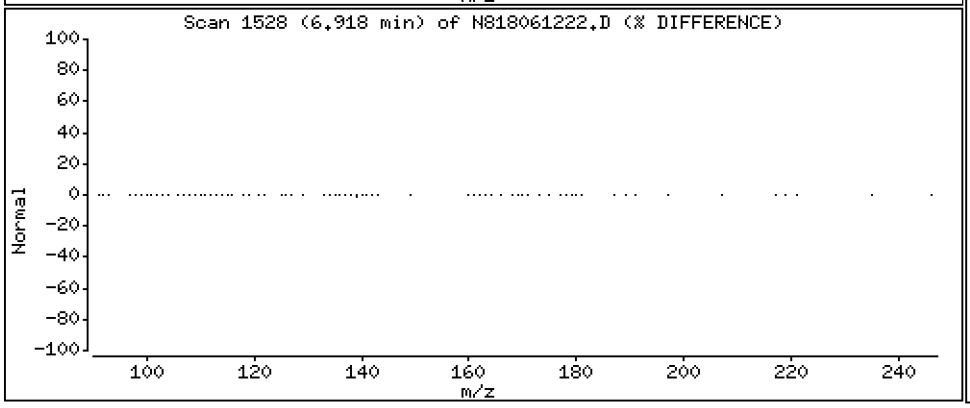












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

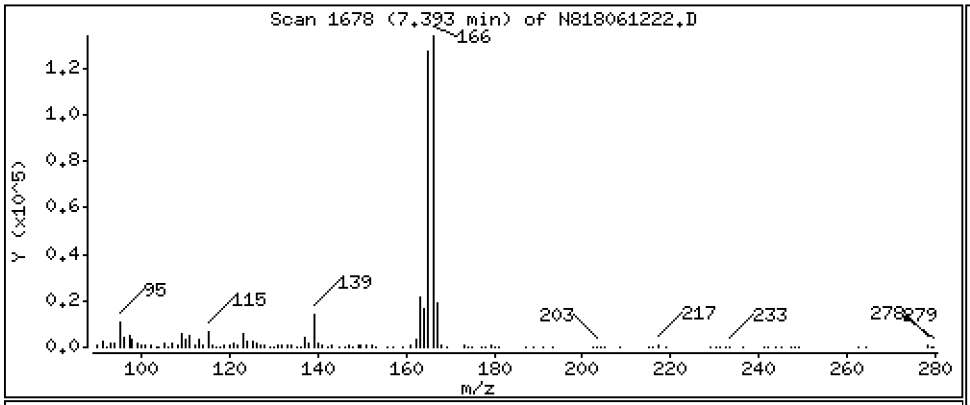
Operator: JZ

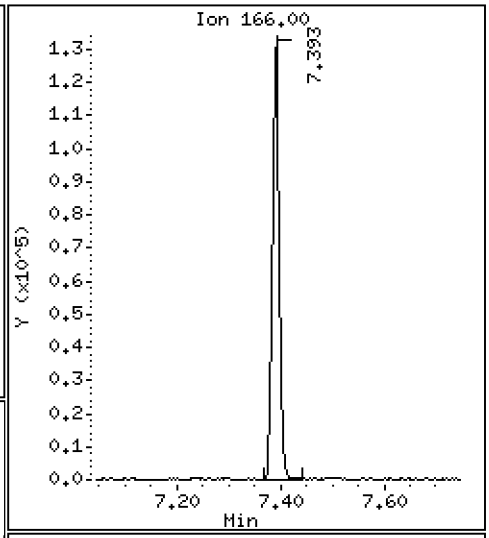
Column phase: Rxi-17sil

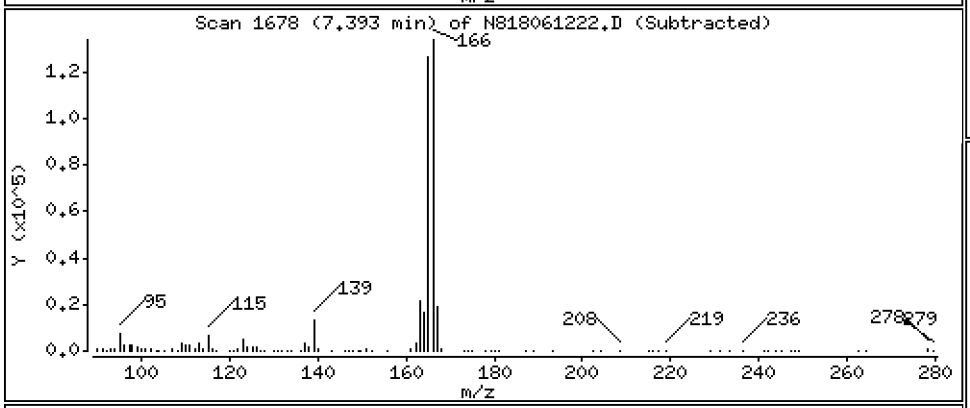
Column diameter: 0.25

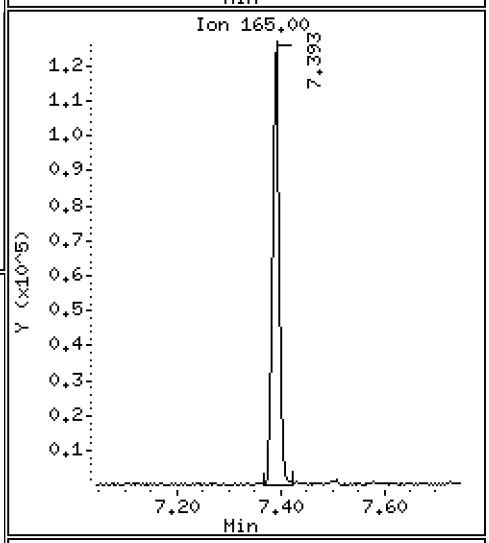
14 Fluorene

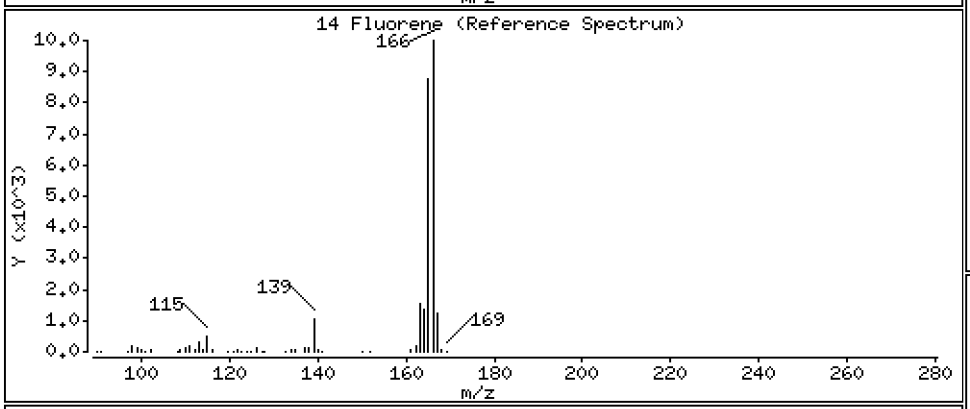
Concentration: 1.805 ug/mL

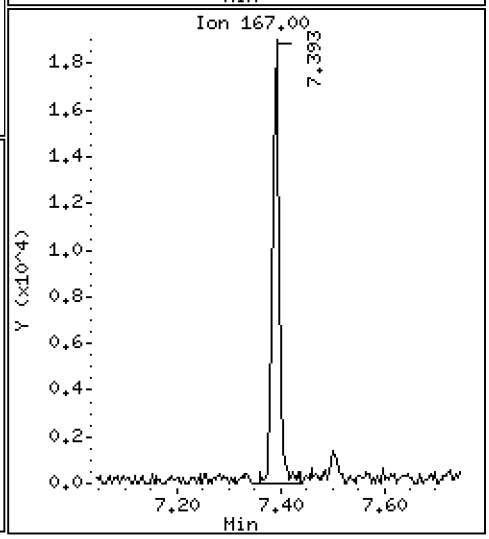


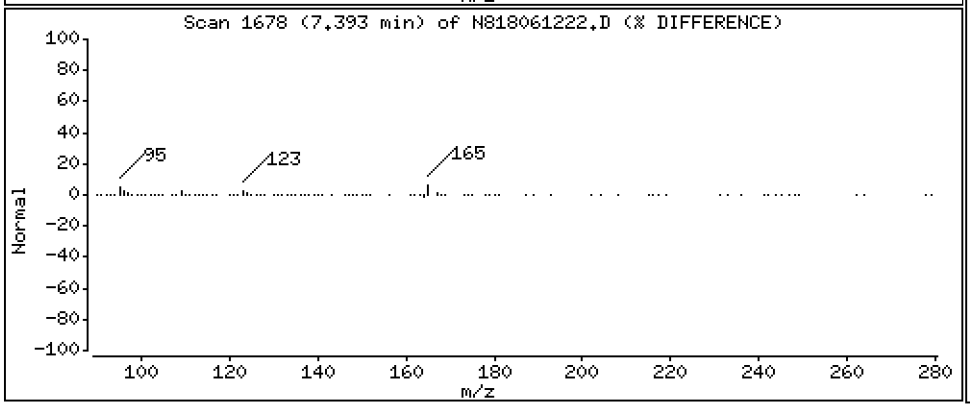












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

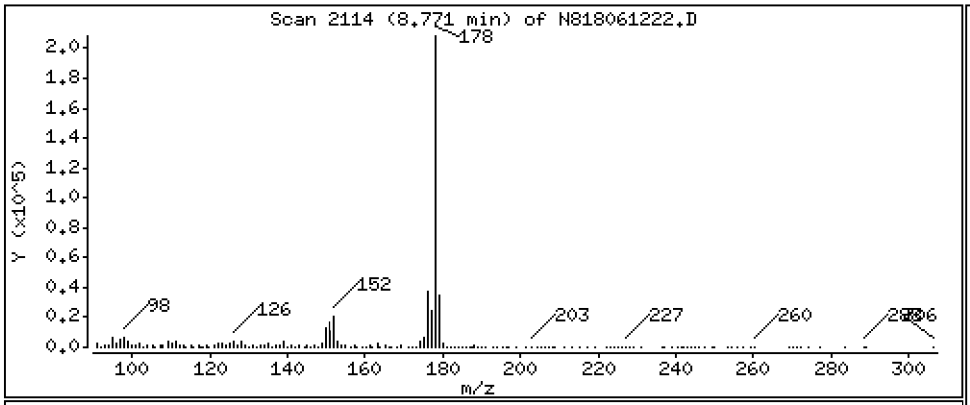
Operator: JZ

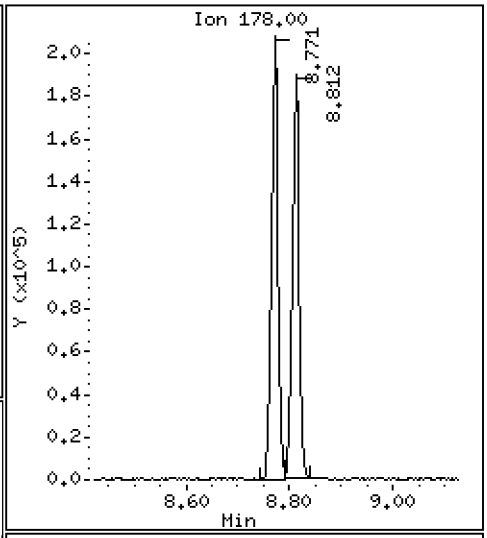
Column phase: Rxi-17sil

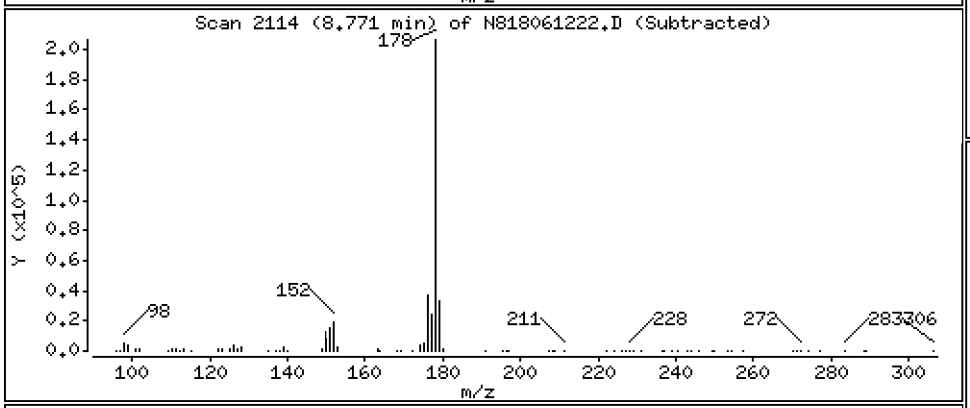
Column diameter: 0.25

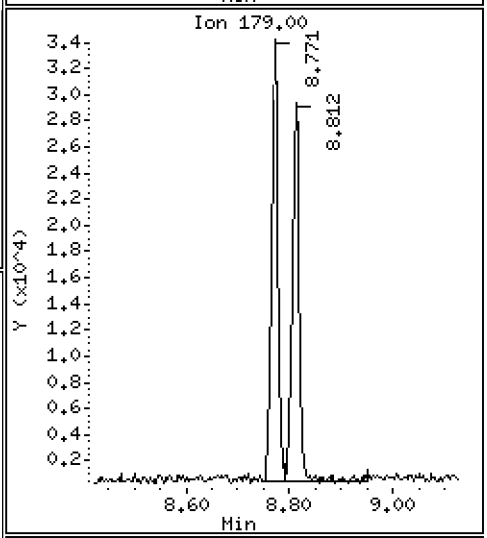
16 Phenanthrene

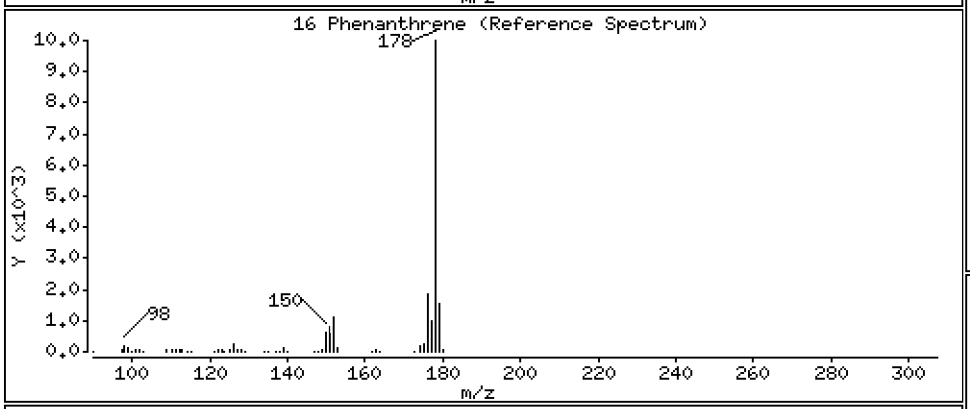
Concentration: 1.924 ug/mL

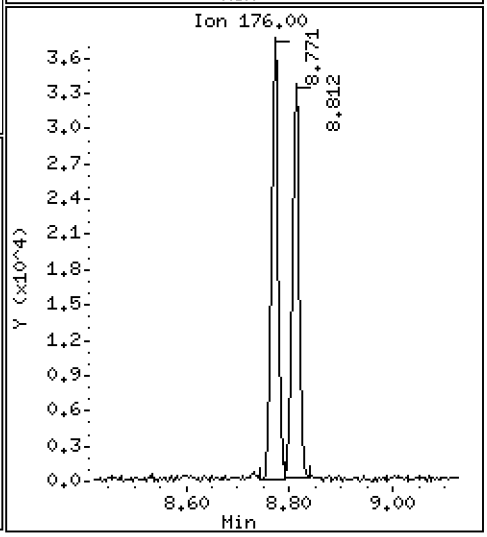


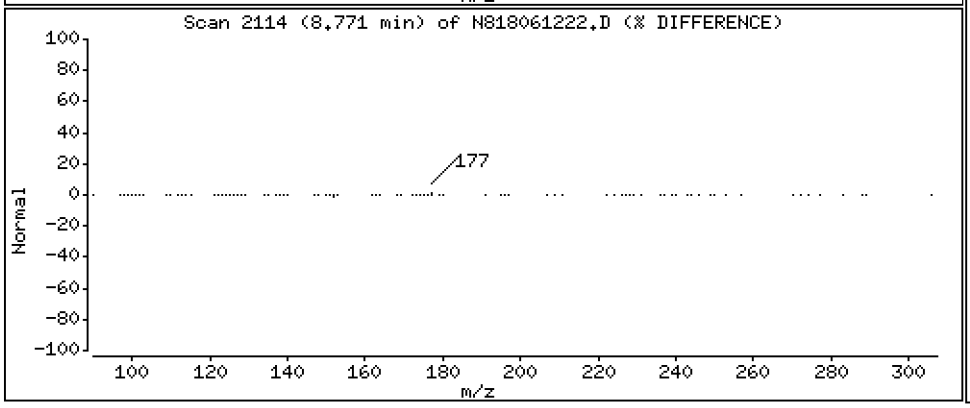












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

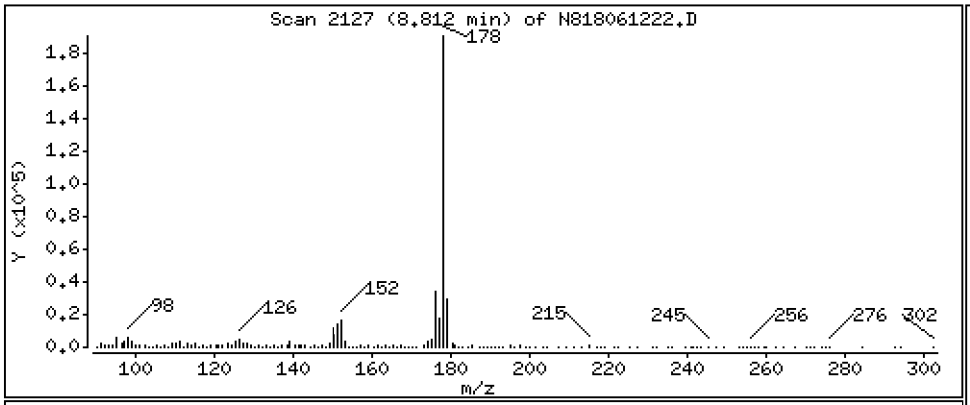
Operator: JZ

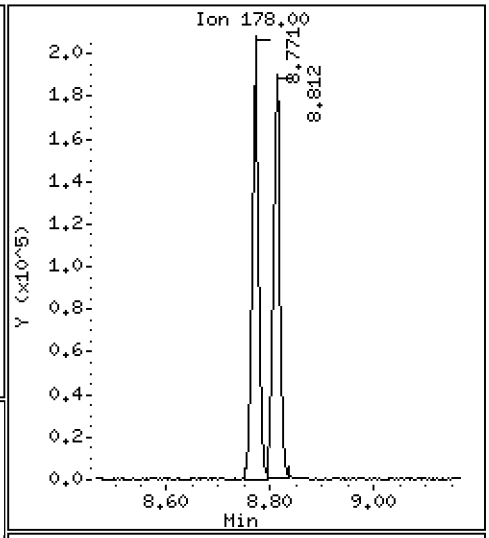
Column phase: Rxi-17sil

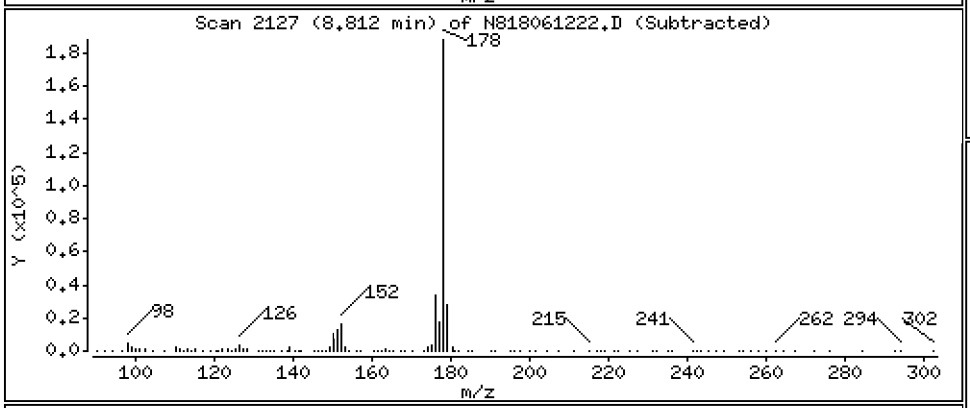
Column diameter: 0.25

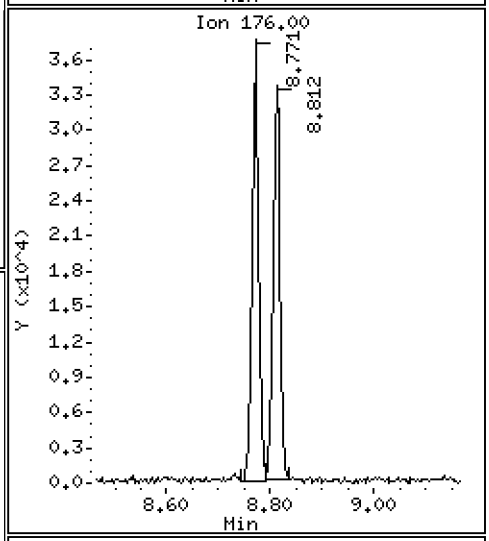
17 Anthracene

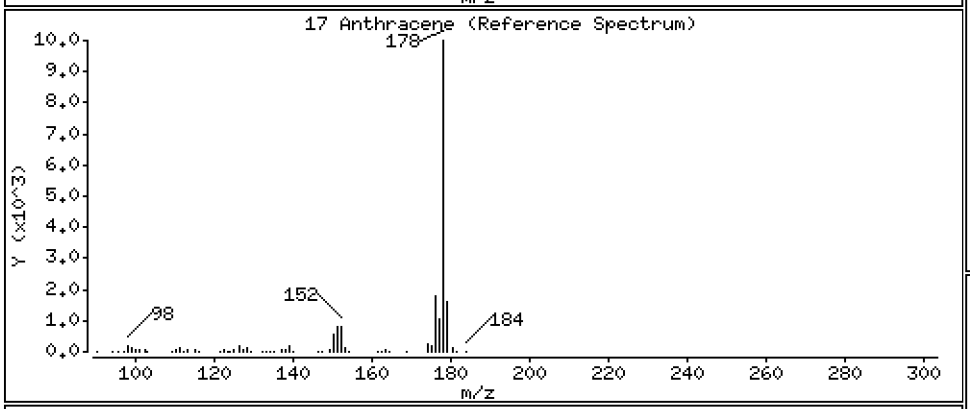
Concentration: 1.981 ug/mL

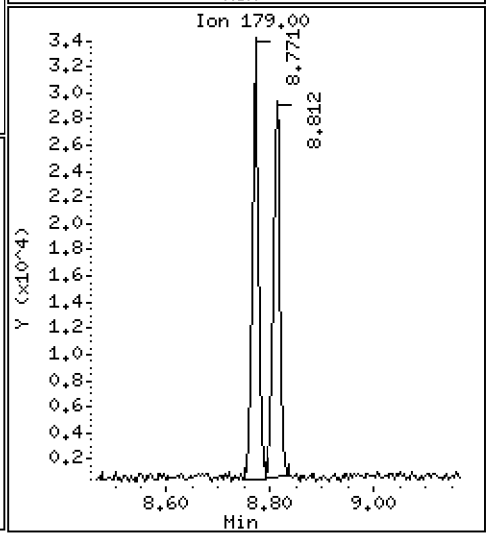


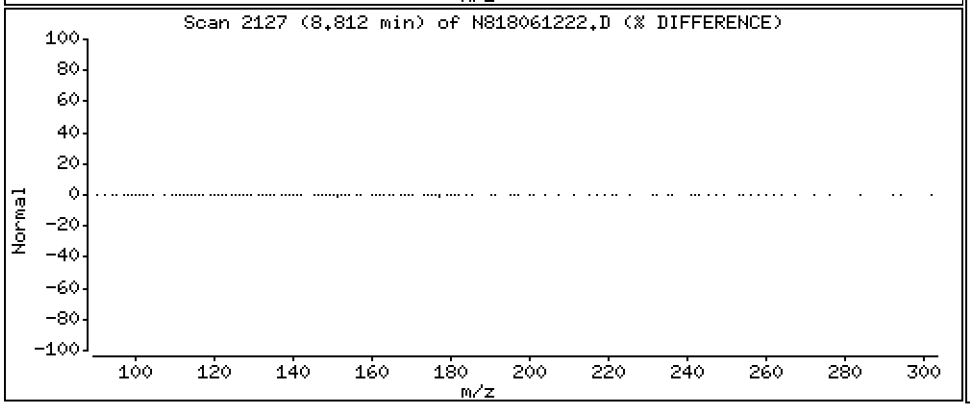












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

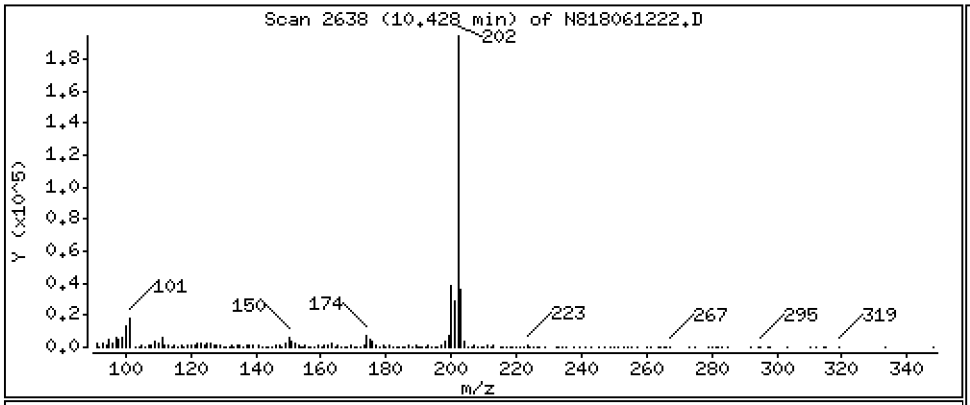
Operator: JZ

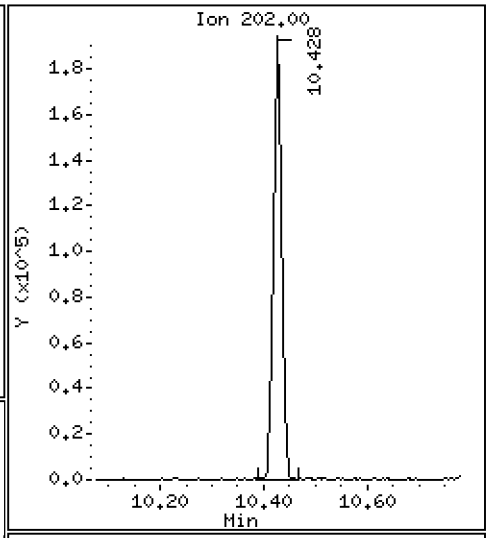
Column phase: Rxi-17sil

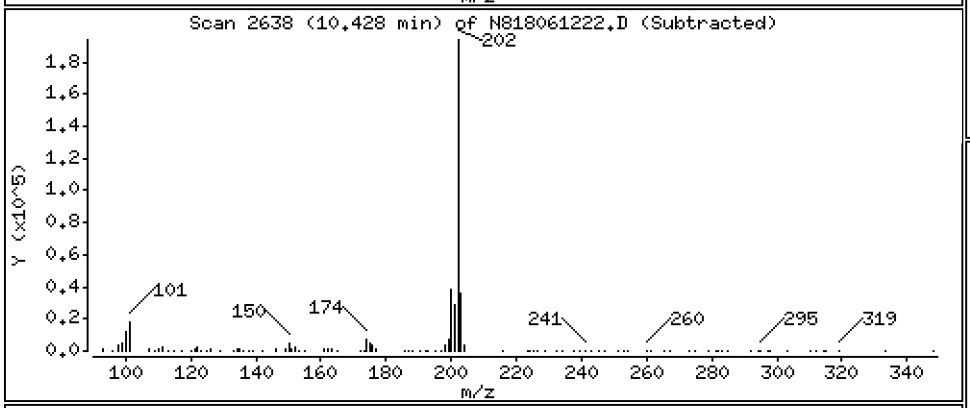
Column diameter: 0.25

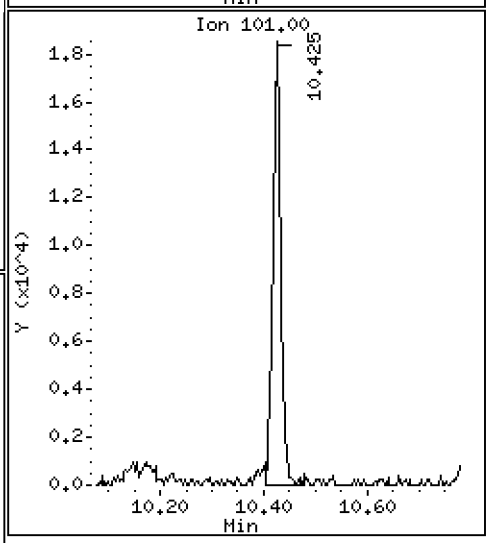
22 Fluoranthene

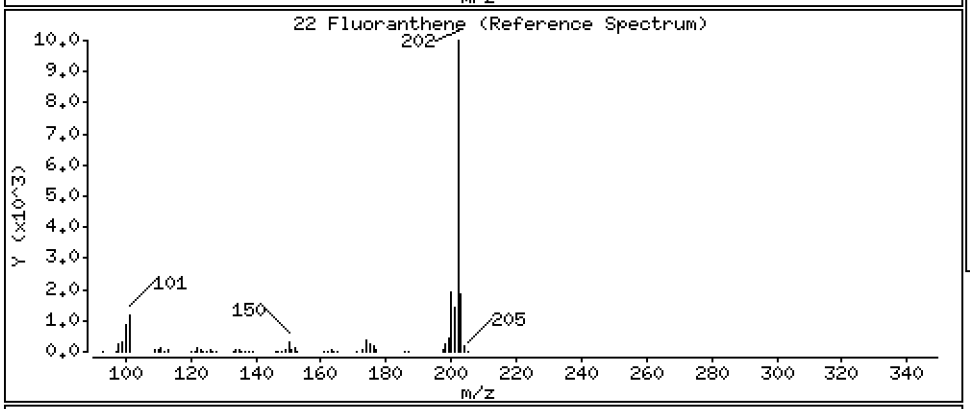
Concentration: 2.071 ug/mL

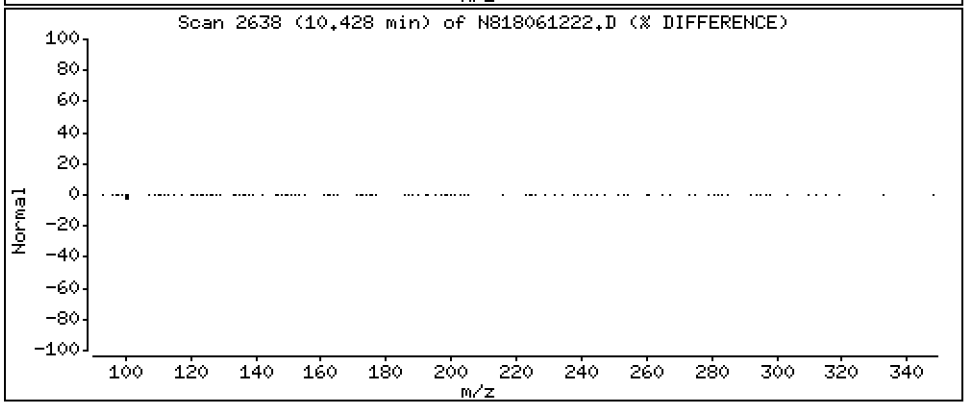












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

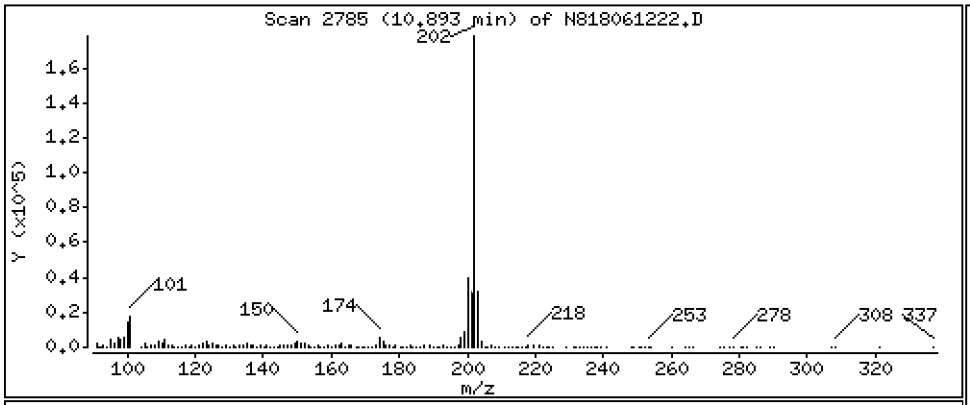
Operator: JZ

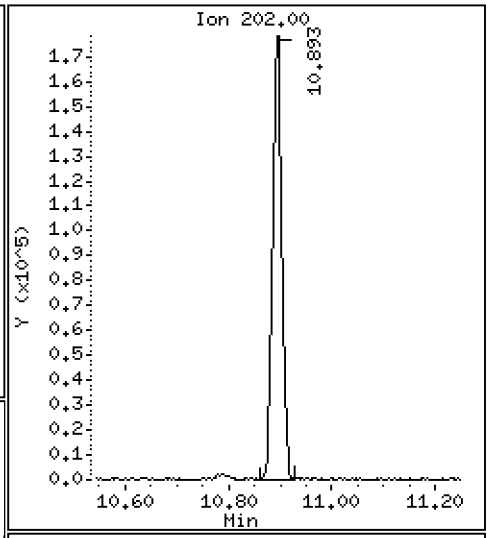
Column phase: Rxi-17sil

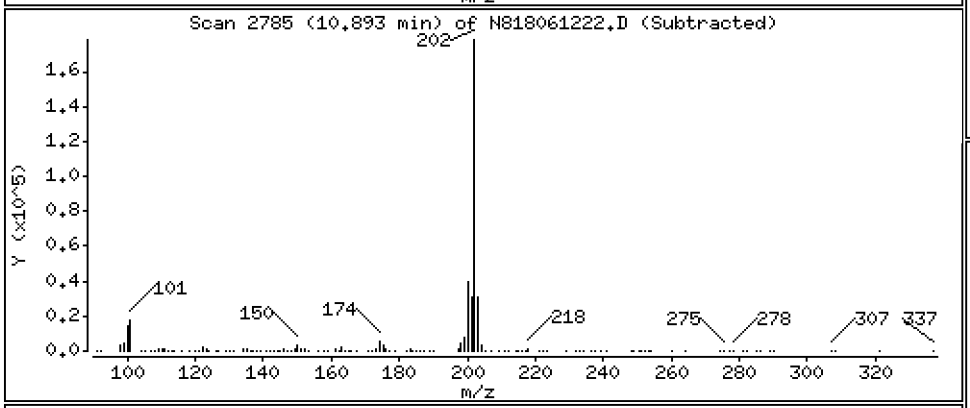
Column diameter: 0.25

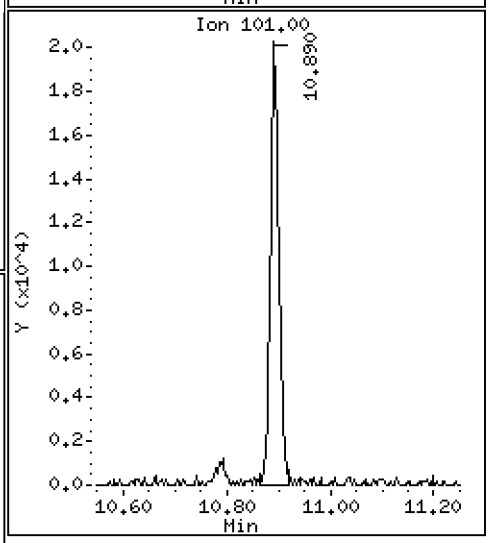
23 Pyrene

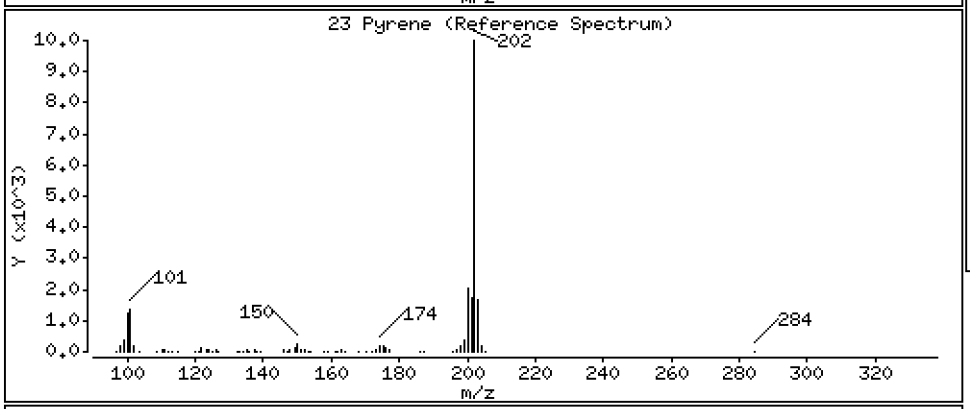
Concentration: 2.378 ug/mL

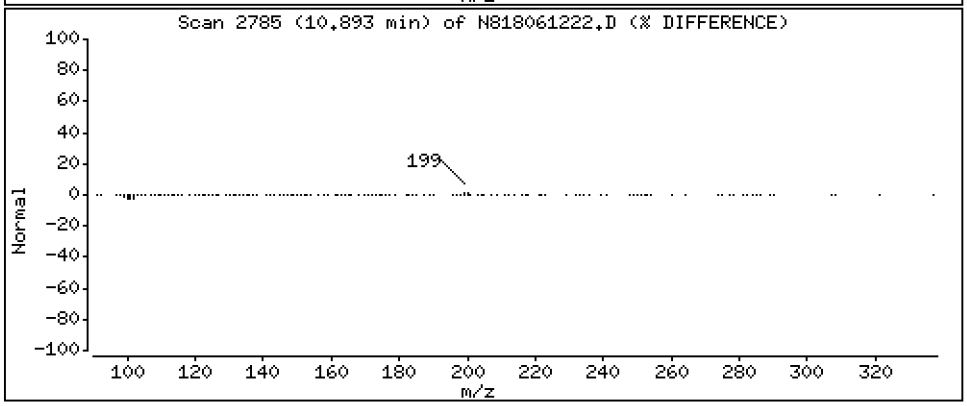












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

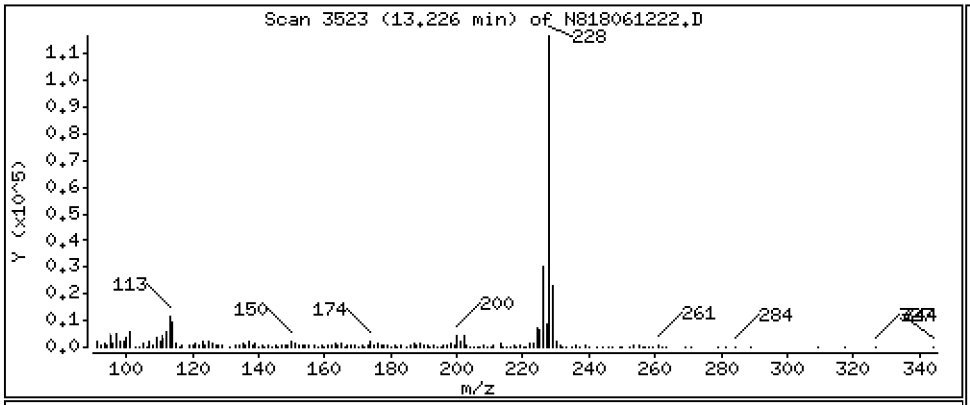
Operator: JZ

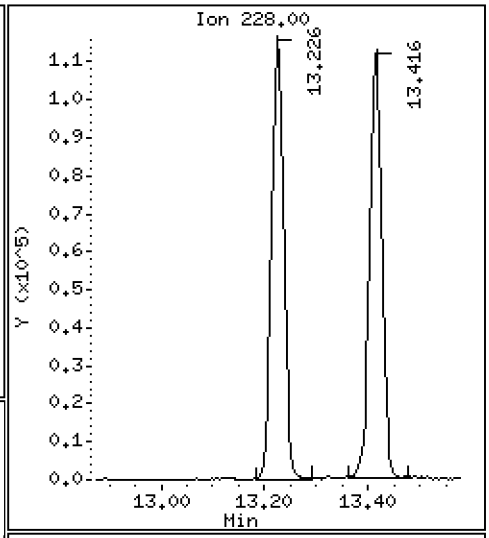
Column phase: Rxi-17sil

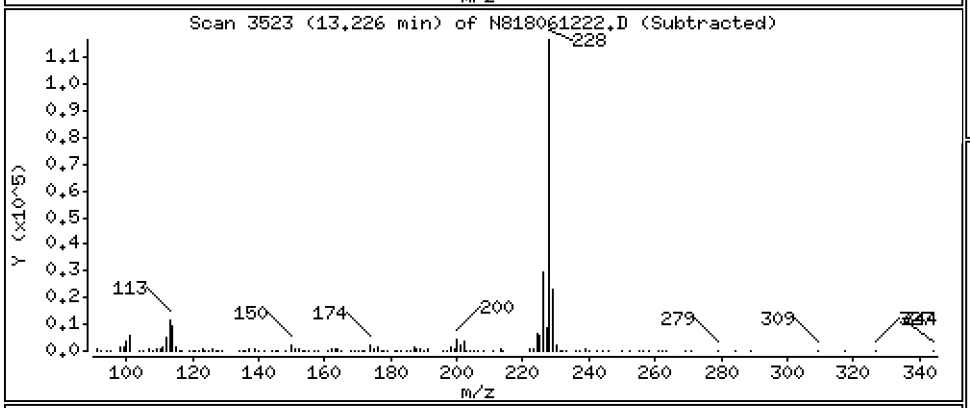
Column diameter: 0.25

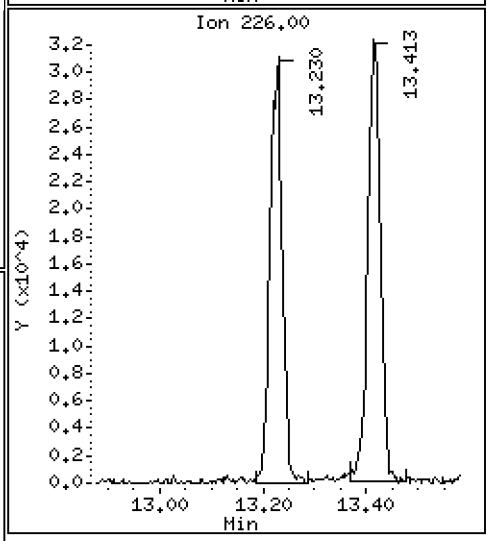
24 Benzo(a)anthracene

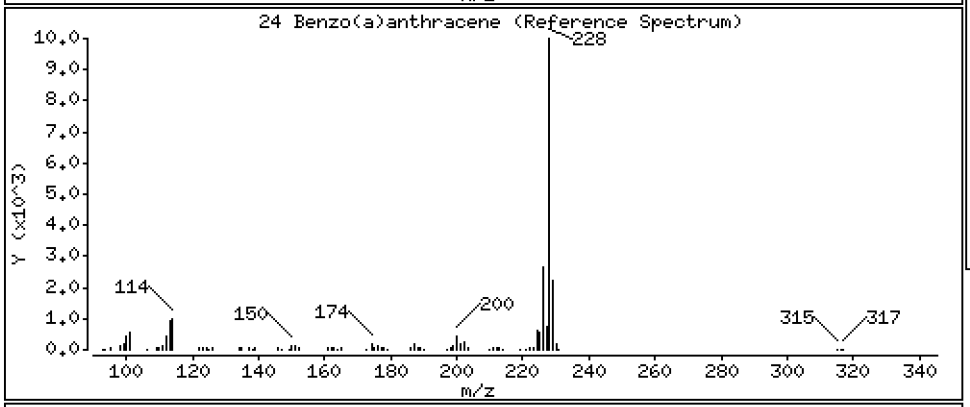
Concentration: 2.141 ug/mL

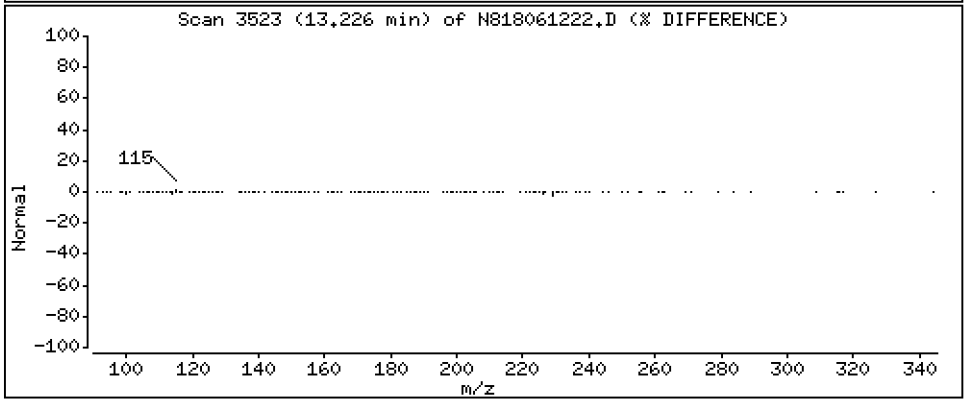












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

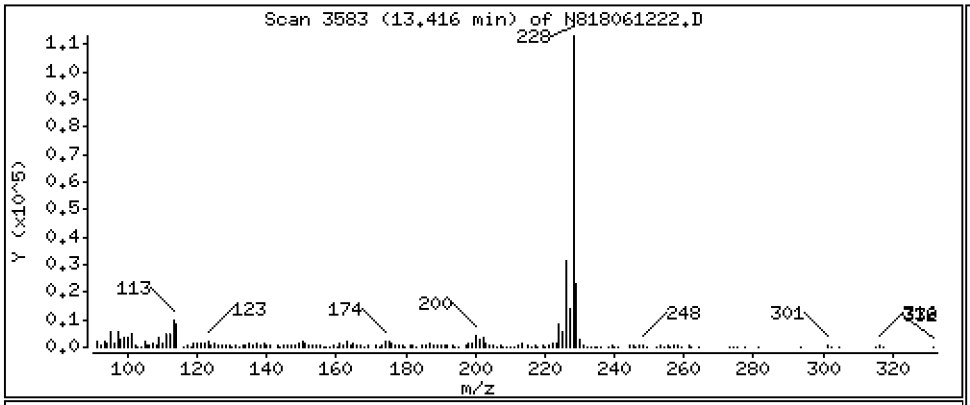
Operator: JZ

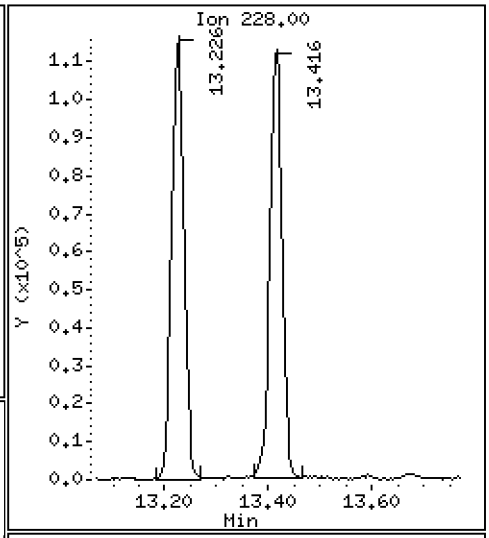
Column phase: Rxi-17sil

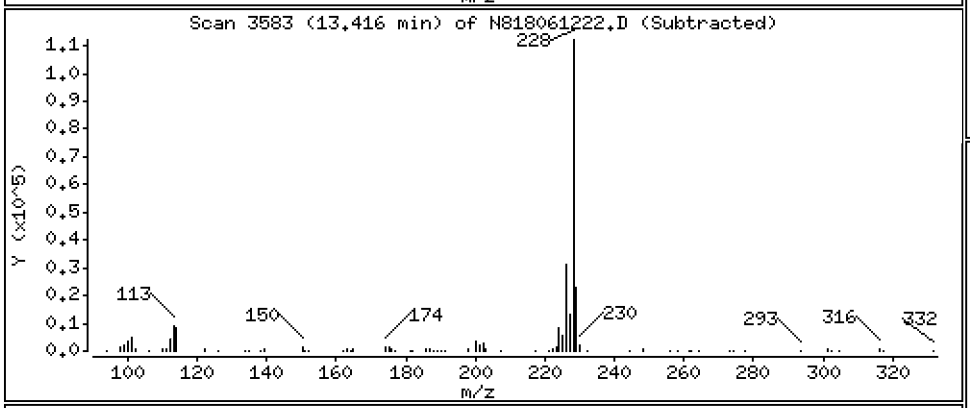
Column diameter: 0.25

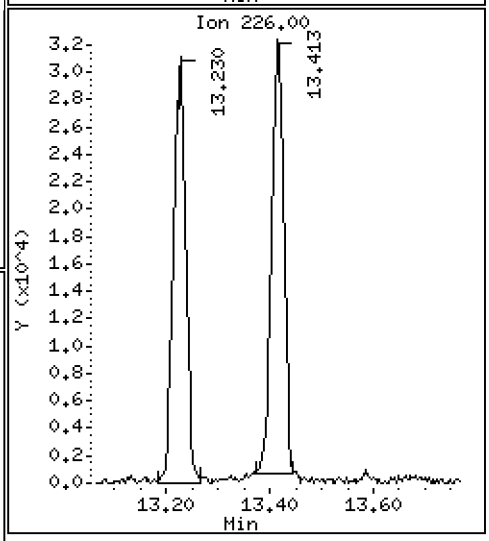
27 Chrysene

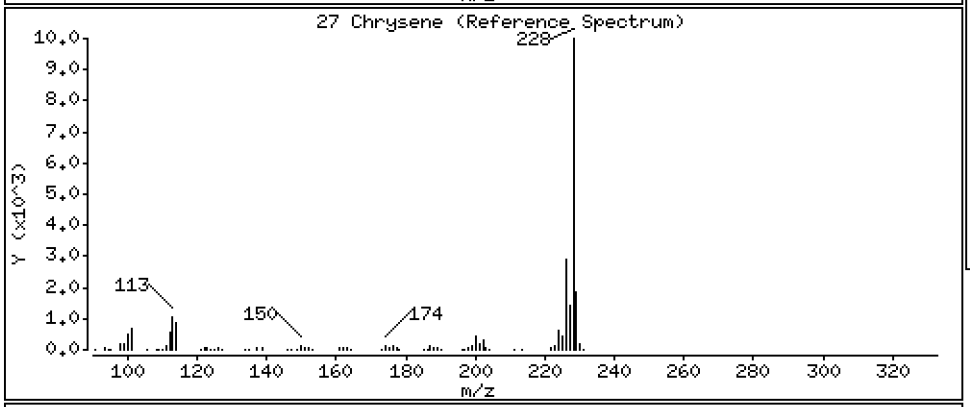
Concentration: 2.049 ug/mL

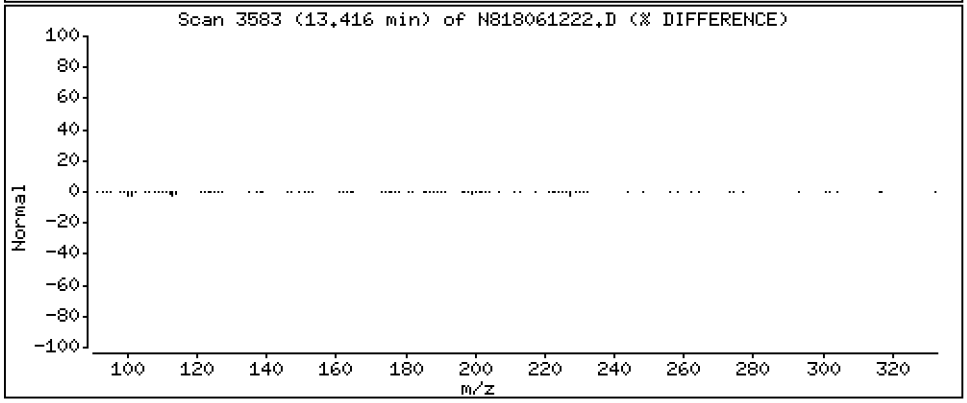












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

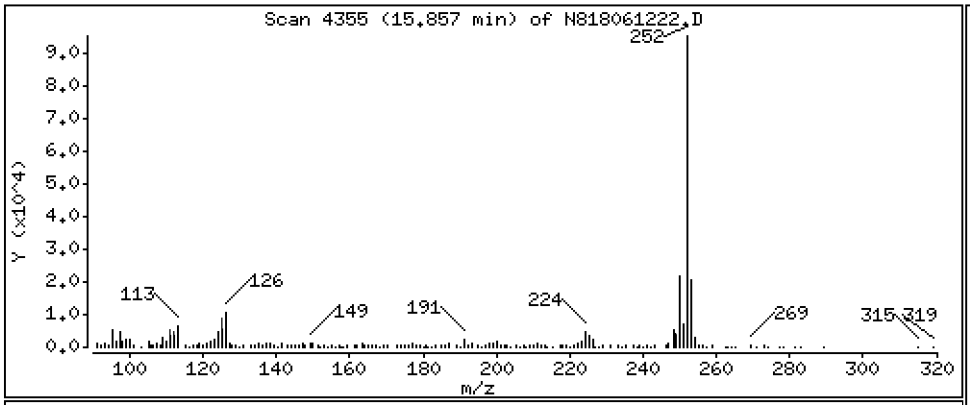
Operator: JZ

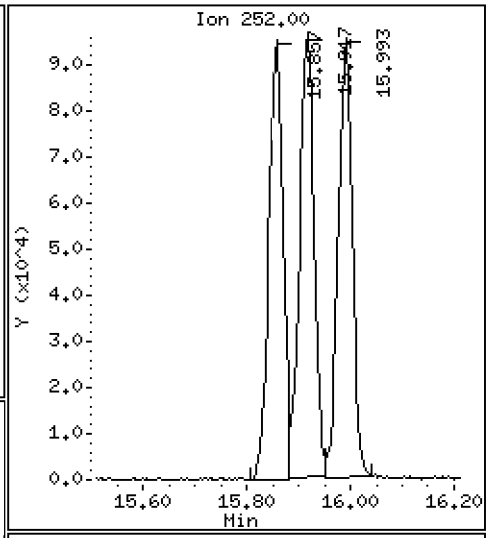
Column phase: Rxi-17sil

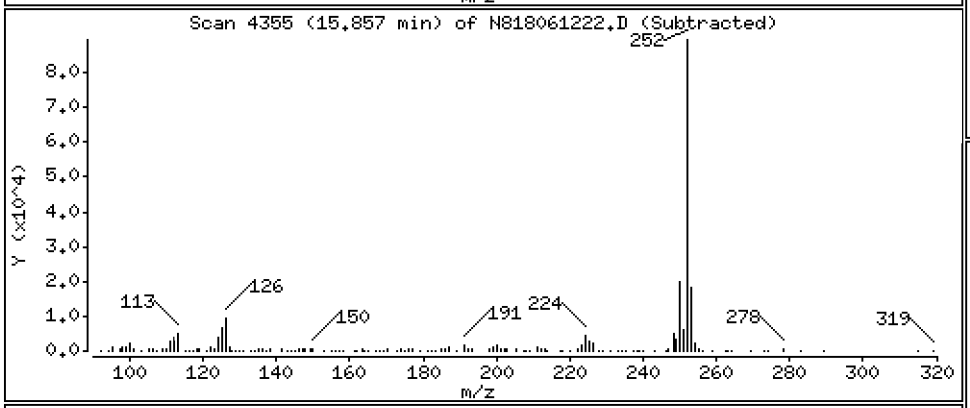
Column diameter: 0.25

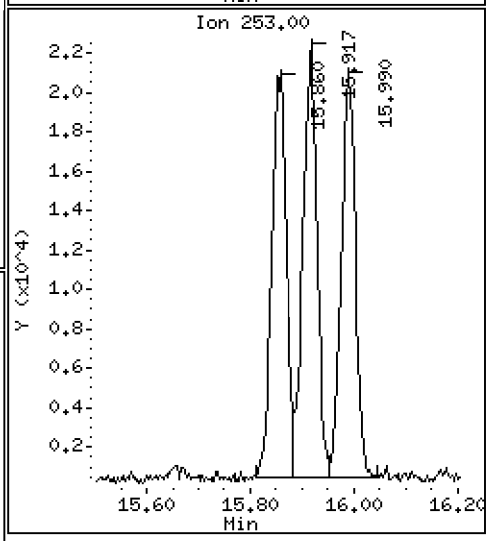
28 Benzo(b)fluoranthene

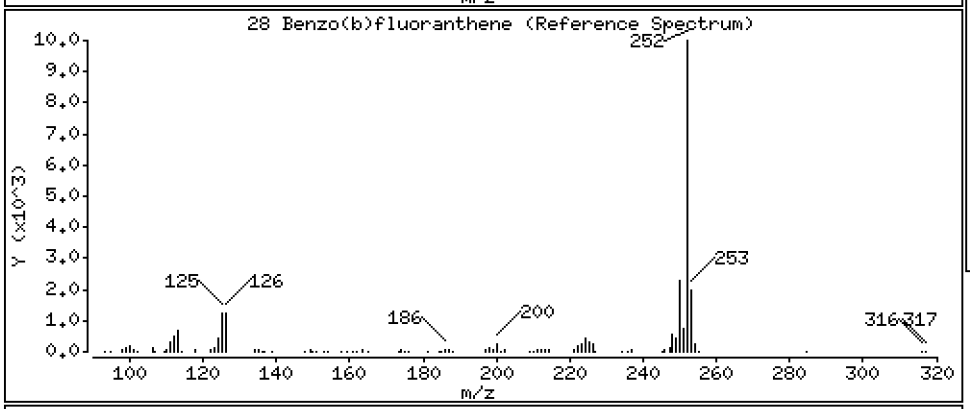
Concentration: 1.931 ug/mL

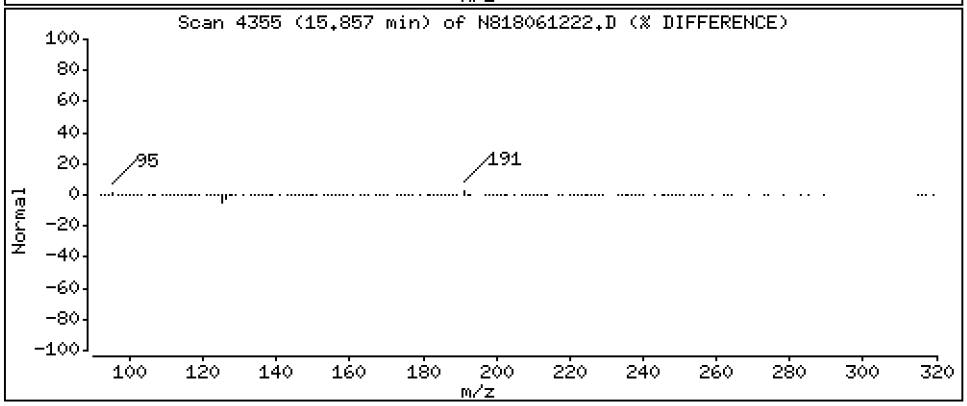












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

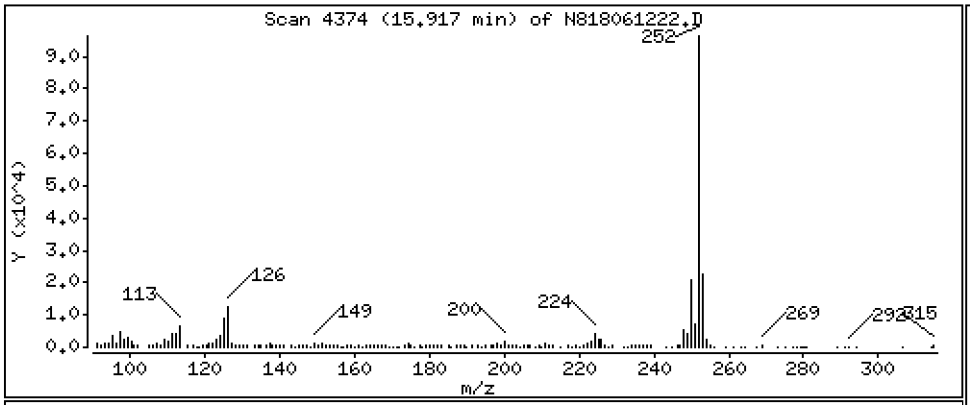
Operator: JZ

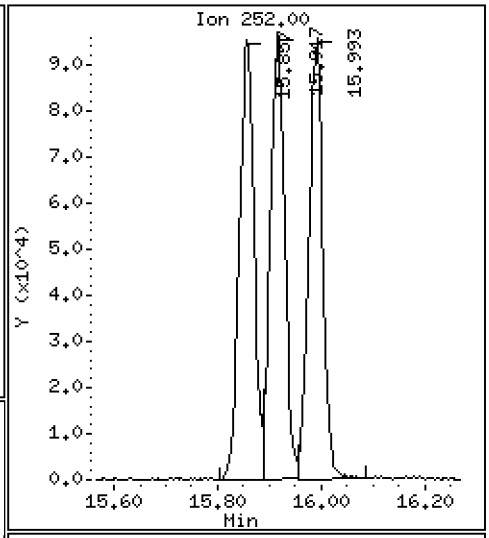
Column phase: Rxi-17sil

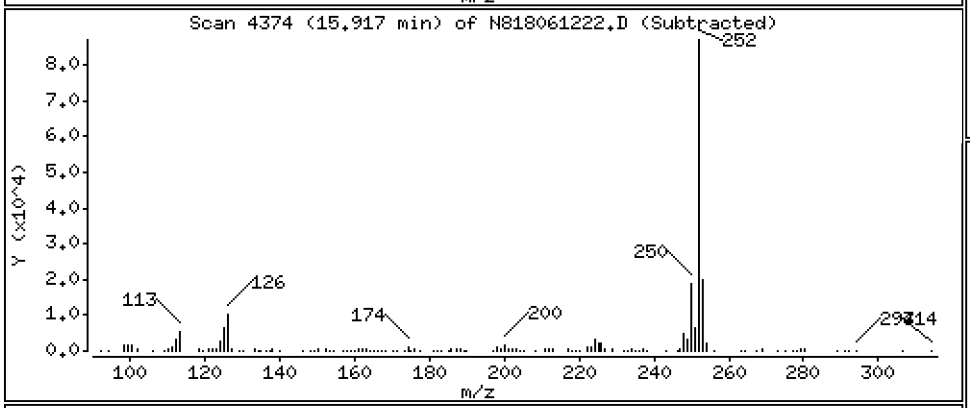
Column diameter: 0.25

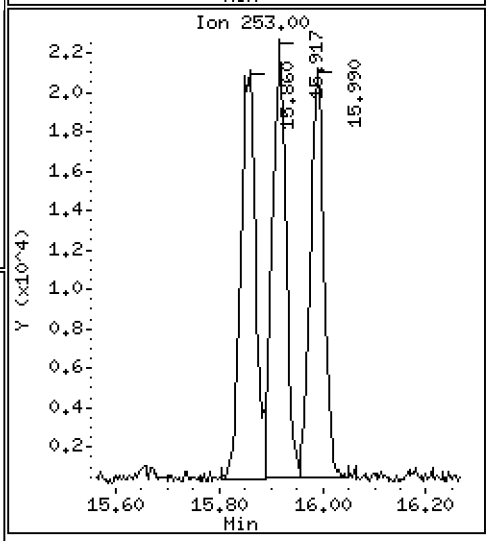
29 Benzo(k)fluoranthene

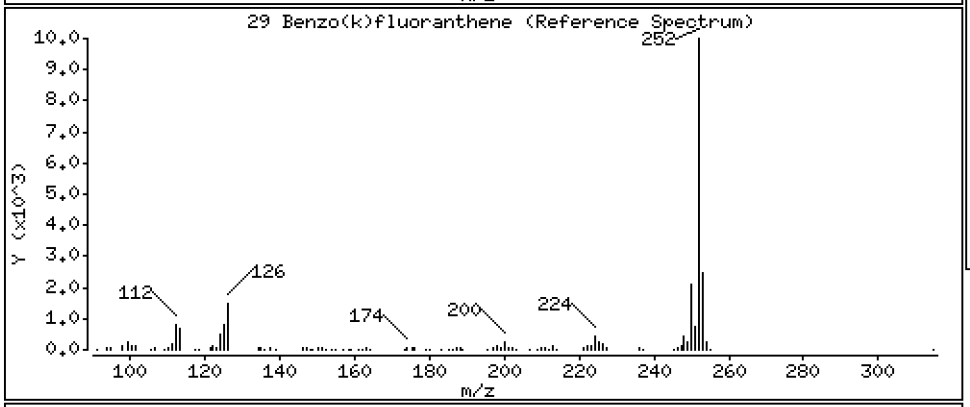
Concentration: 1.987 ug/mL

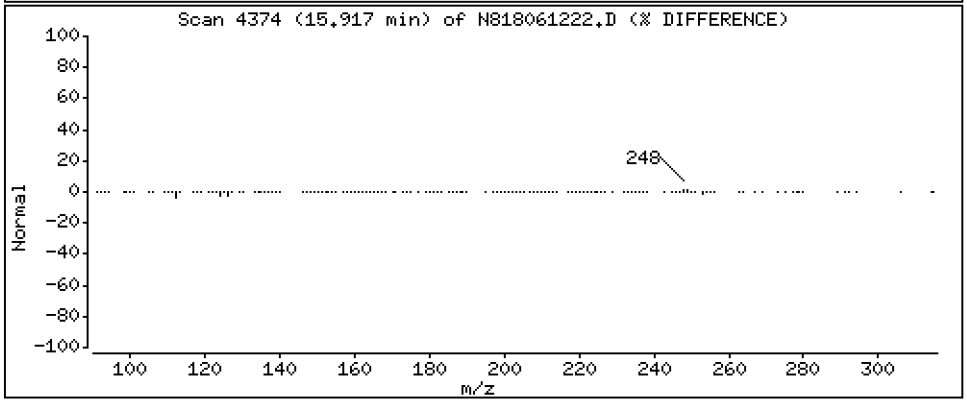












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

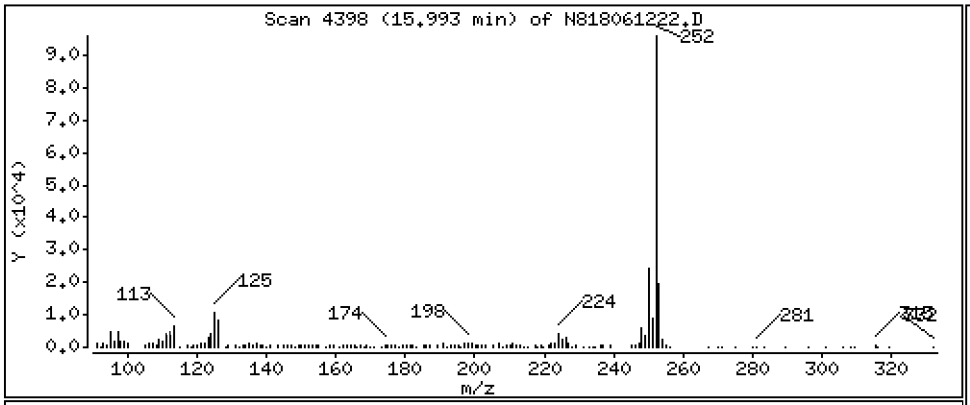
Operator: JZ

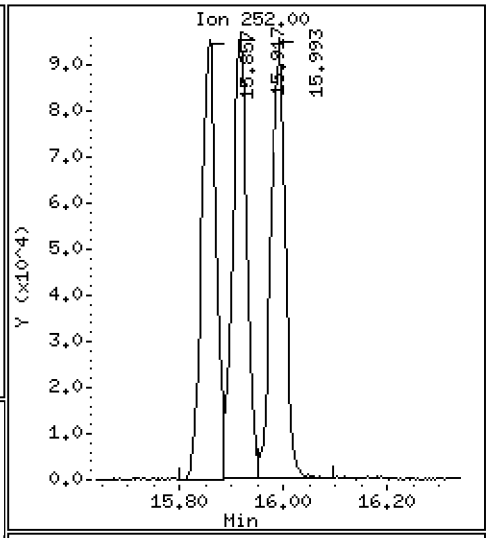
Column phase: Rxi-17sil

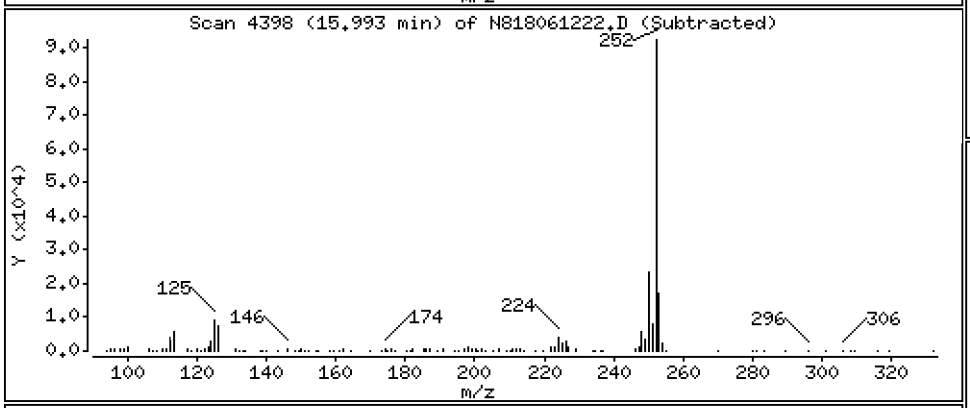
Column diameter: 0.25

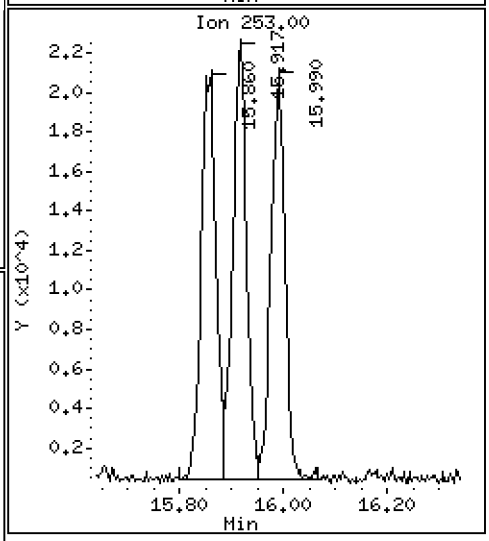
30 Benzo(j)fluoranthene

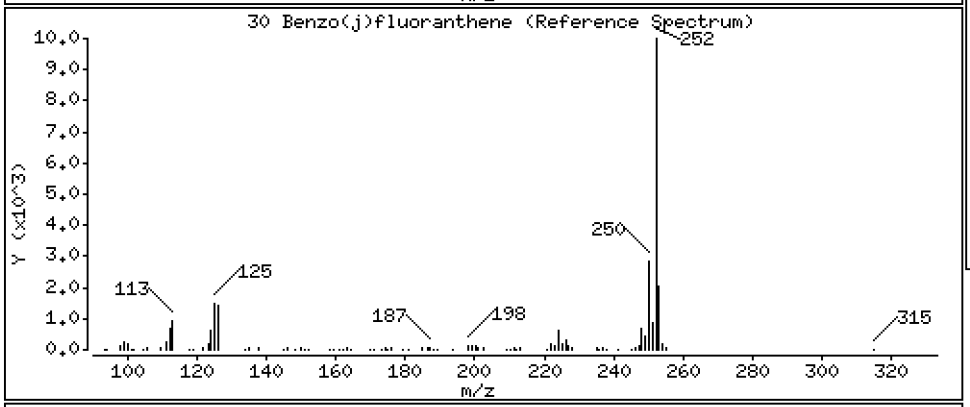
Concentration: 1.925 ug/mL

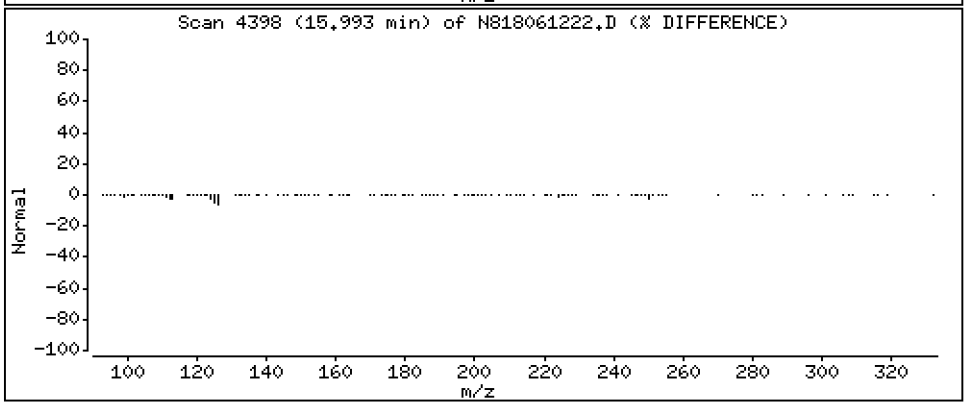












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

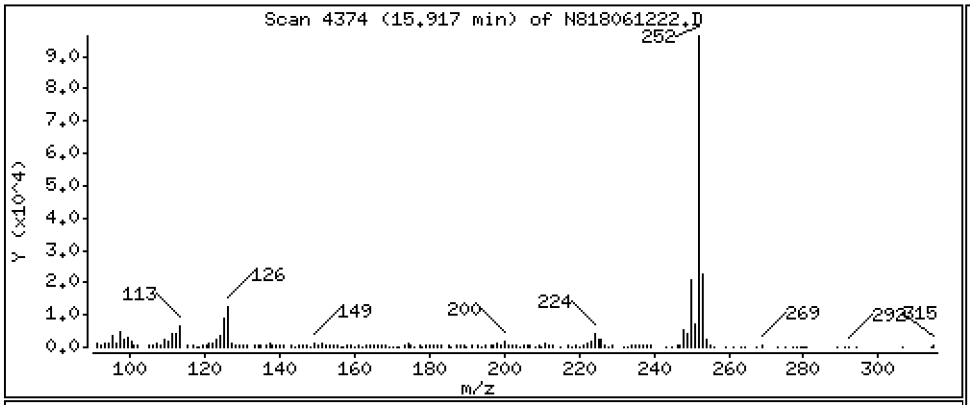
Operator: JZ

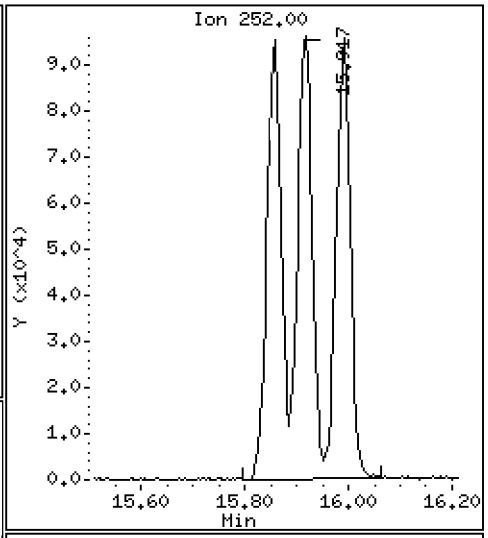
Column phase: Rxi-17sil

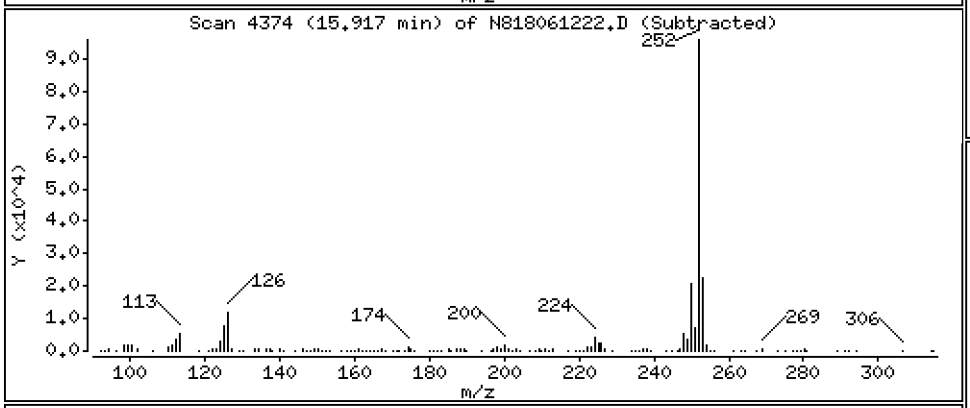
Column diameter: 0.25

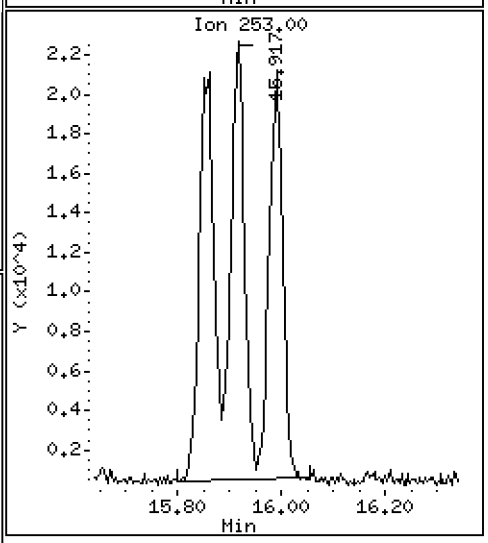
31 Total Benzofluoranthenes

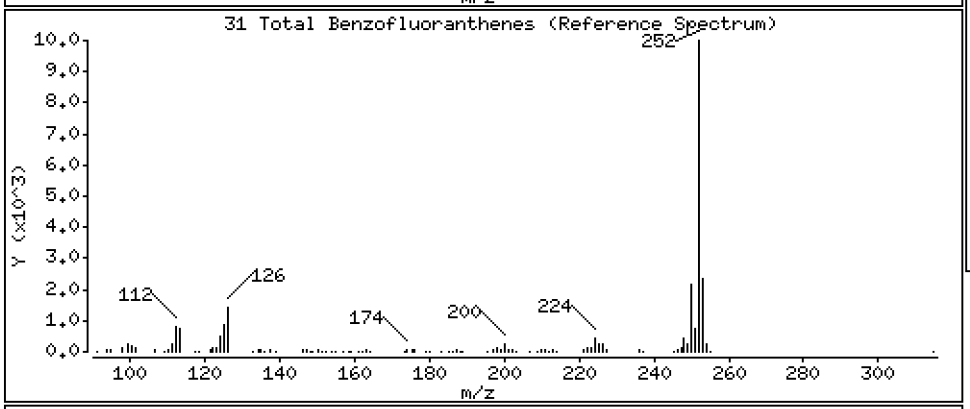
Concentration: 5.916 ug/mL

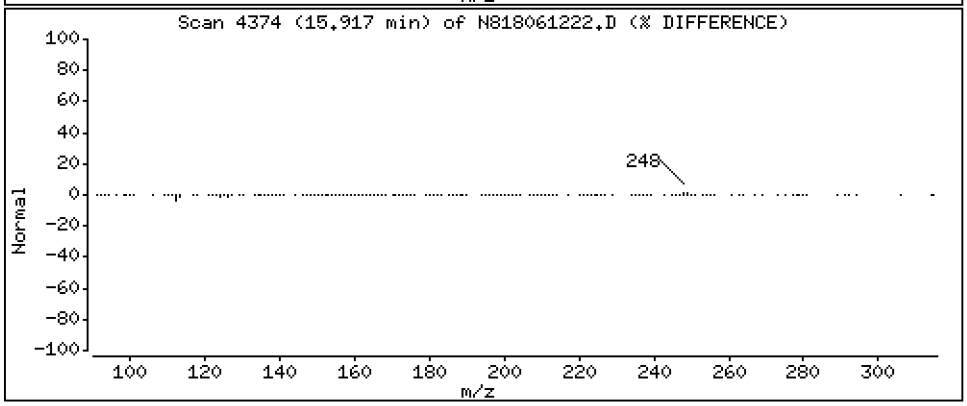












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

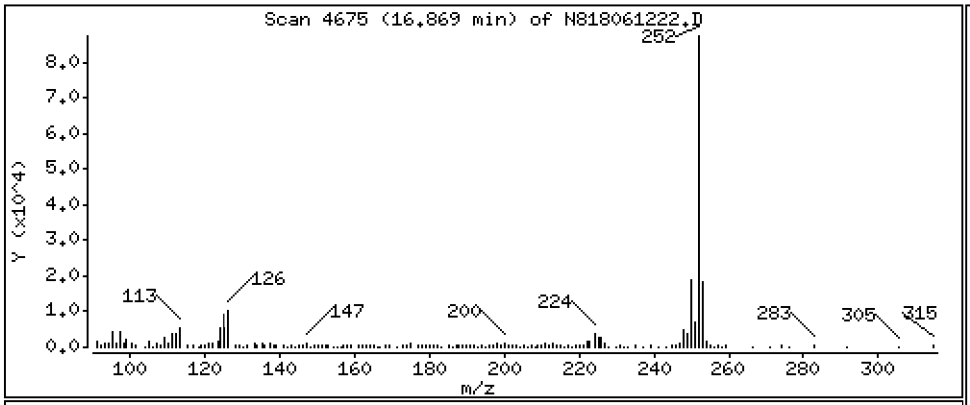
Operator: JZ

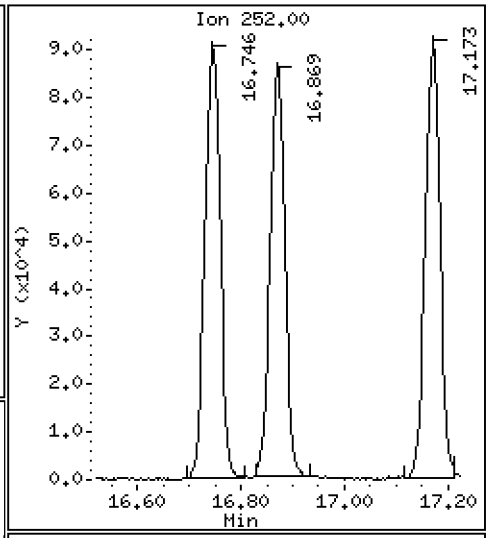
Column phase: Rxi-17sil

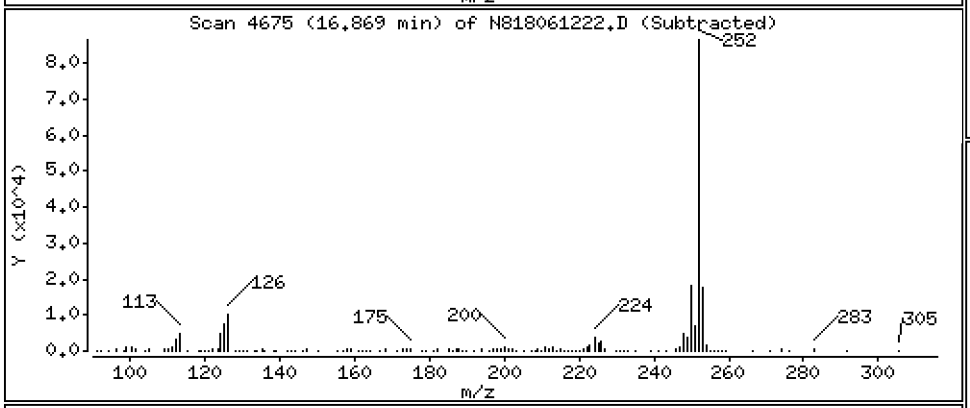
Column diameter: 0.25

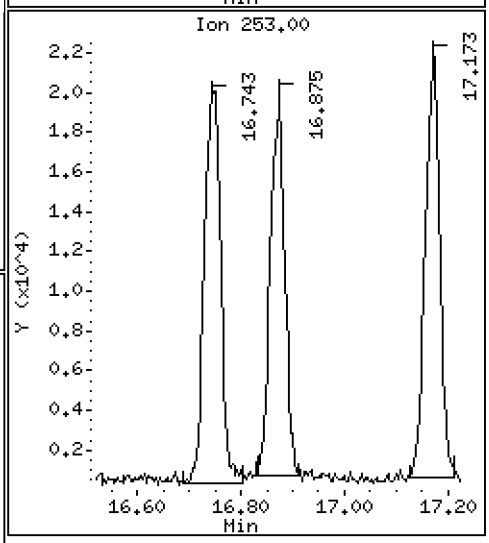
32 Benzo(a)pyrene

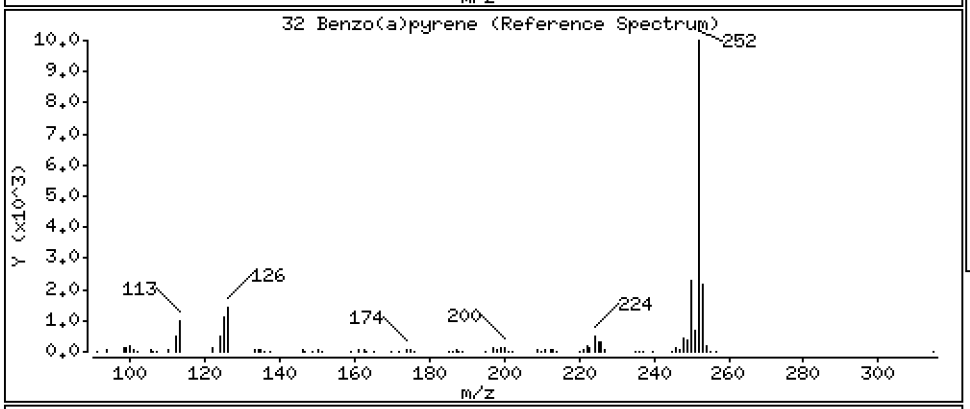
Concentration: 2.044 ug/mL

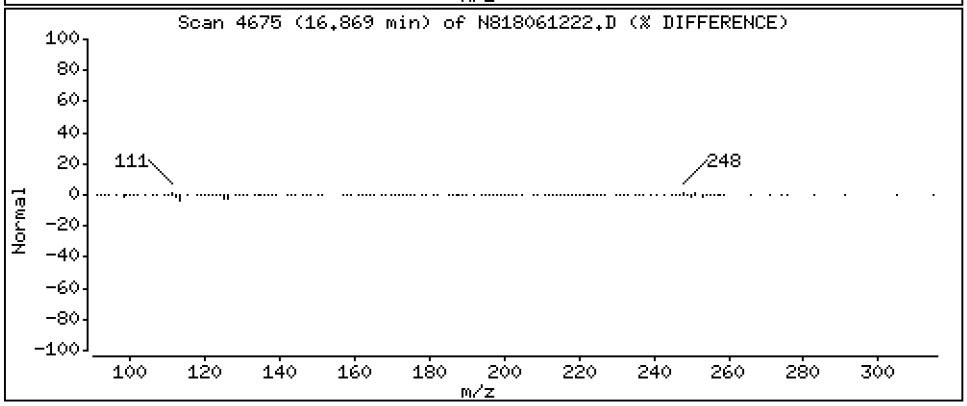












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

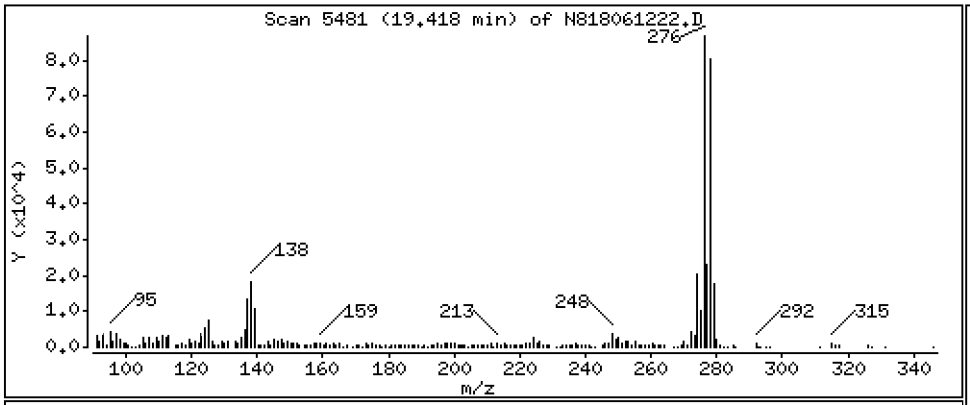
Operator: JZ

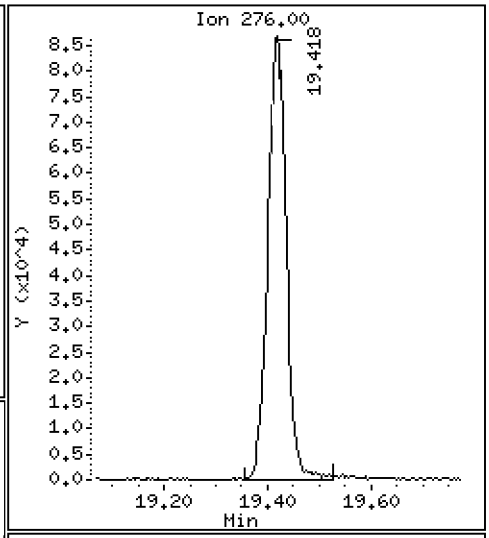
Column phase: Rxi-17sil

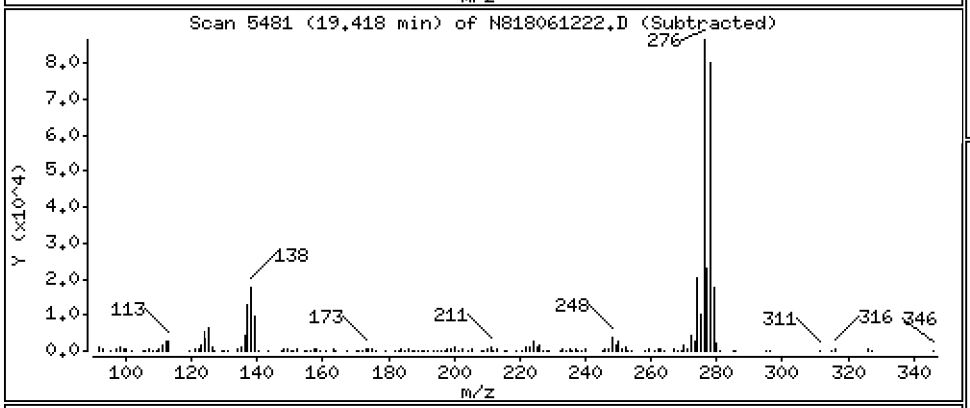
Column diameter: 0.25

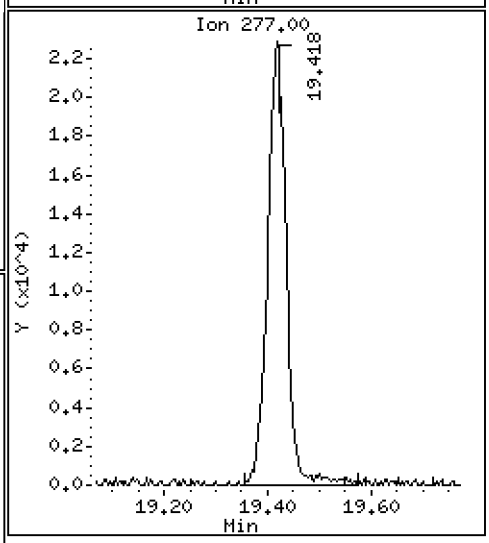
37 Indeno(1,2,3-cd)pyrene

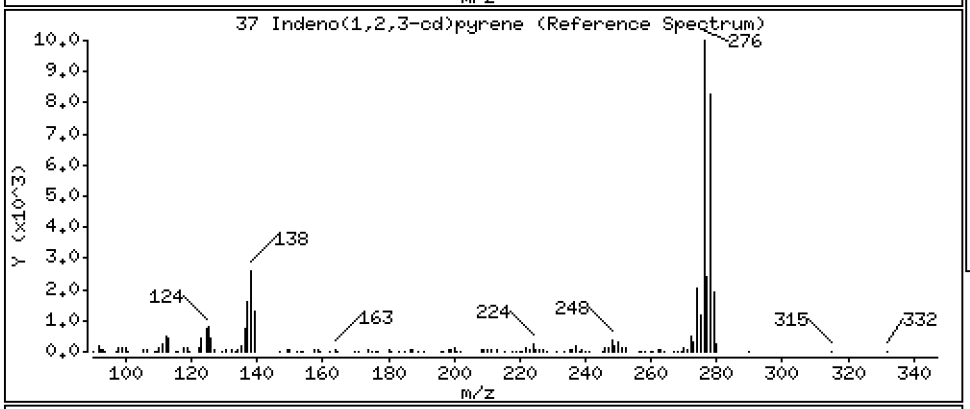
Concentration: 2.250 ug/mL

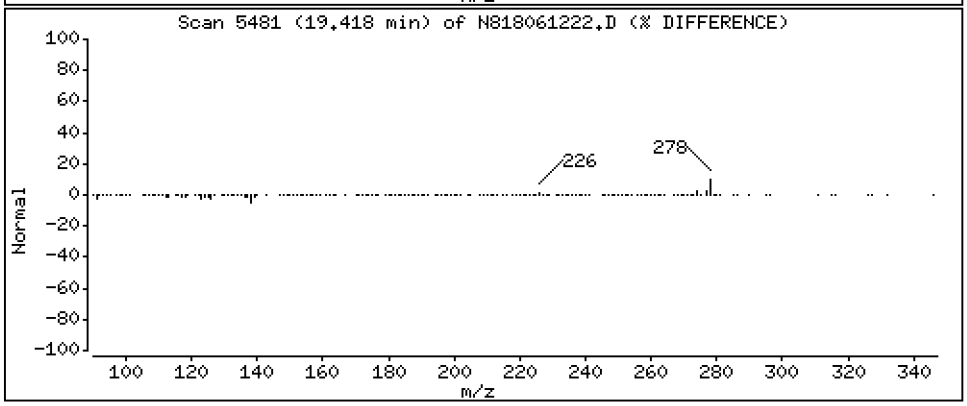












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

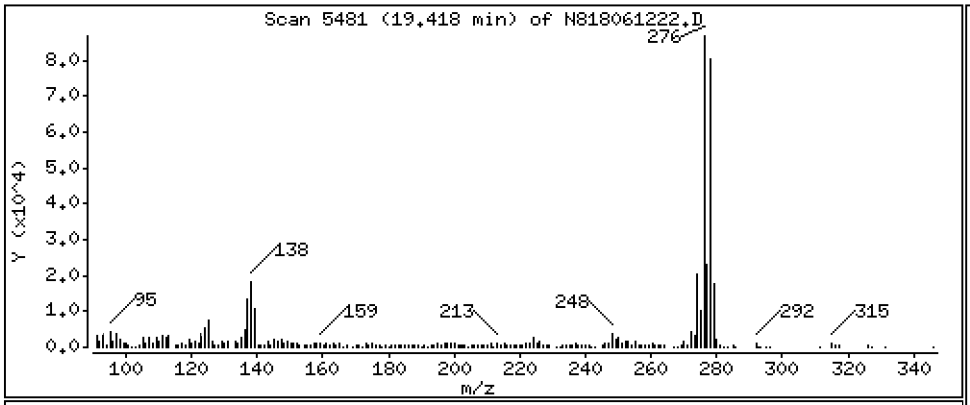
Operator: JZ

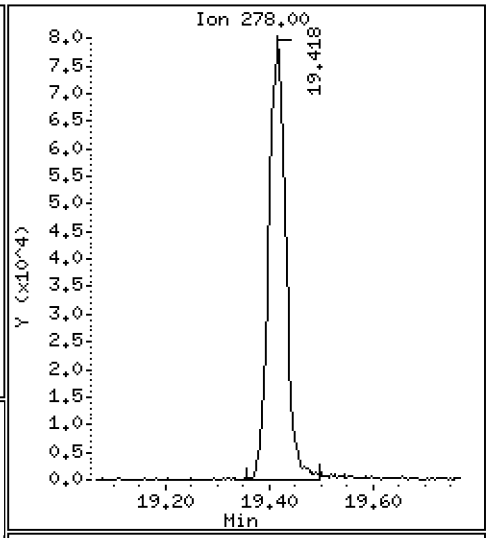
Column phase: Rxi-17sil

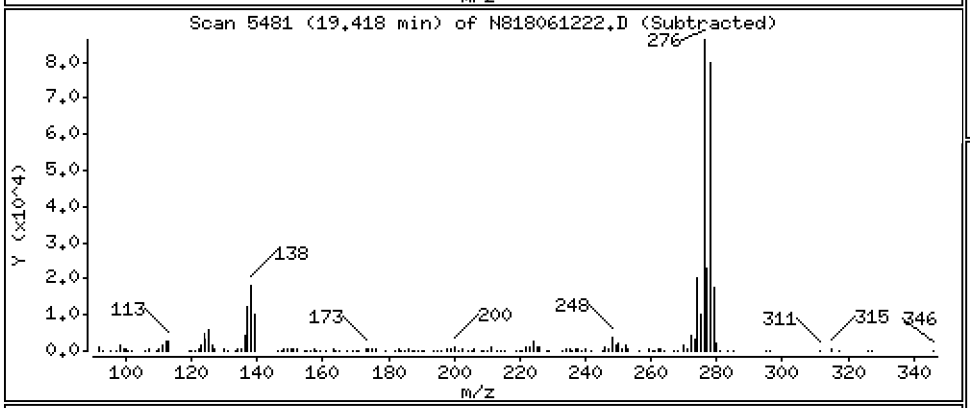
Column diameter: 0.25

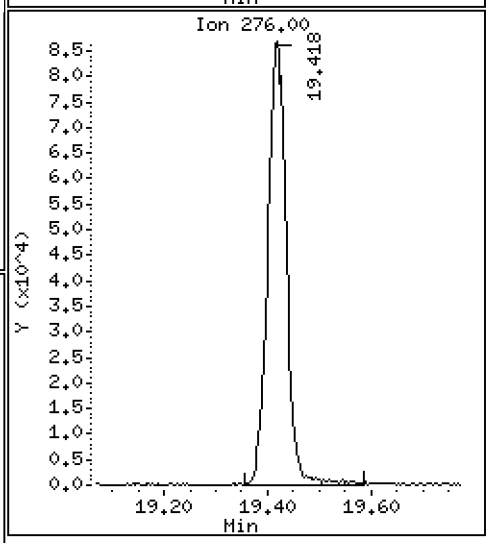
38 Dibenzo(a,h)anthracene

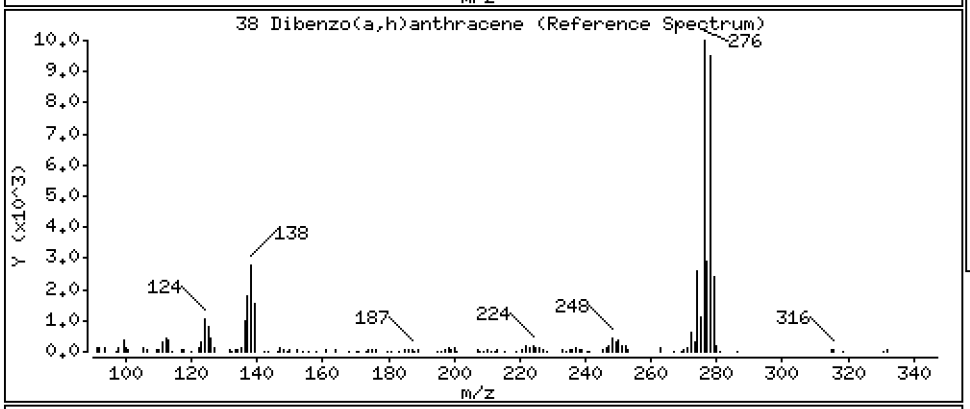
Concentration: 2.312 ug/mL

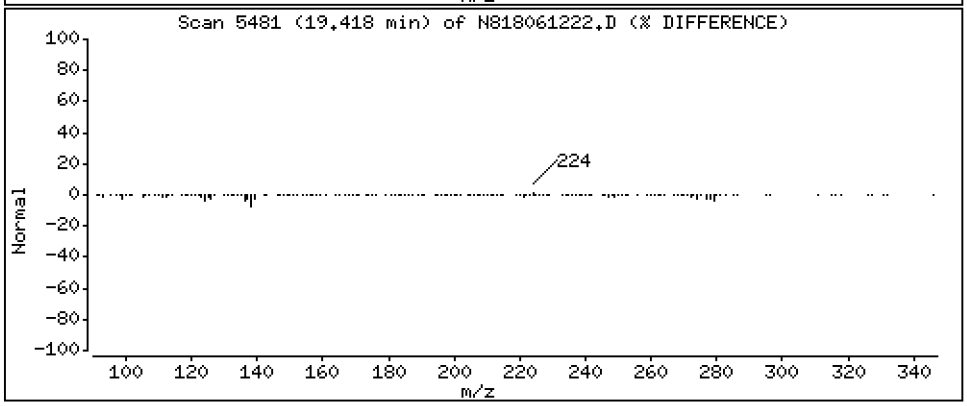












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

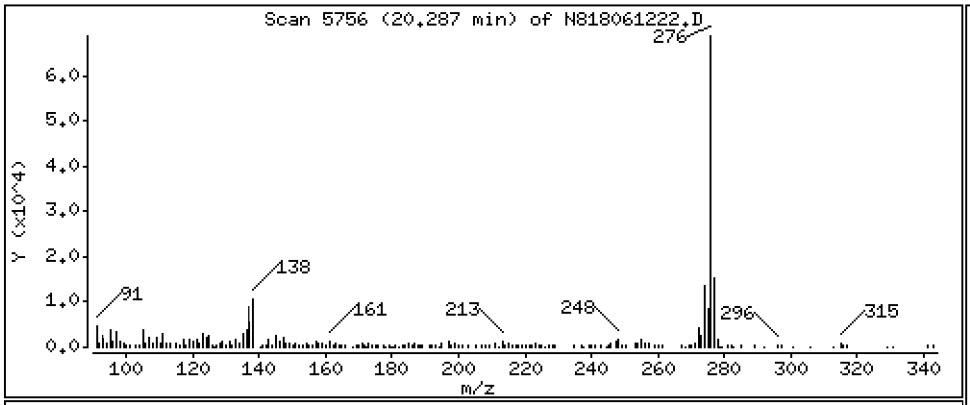
Operator: JZ

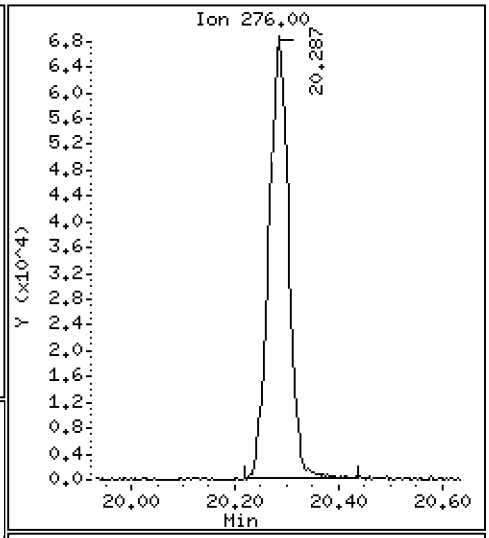
Column phase: Rxi-17sil

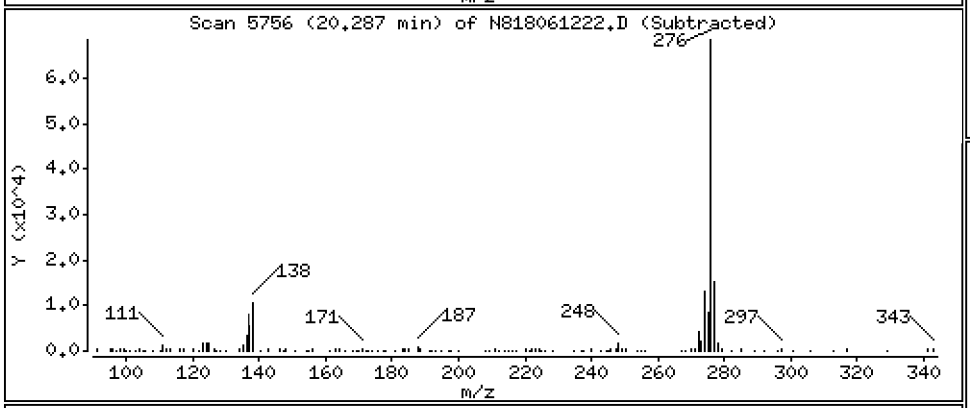
Column diameter: 0.25

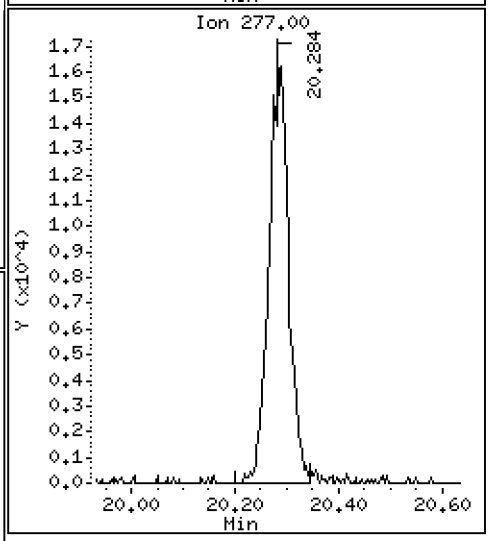
39 Benzo(g,h,i)perylene

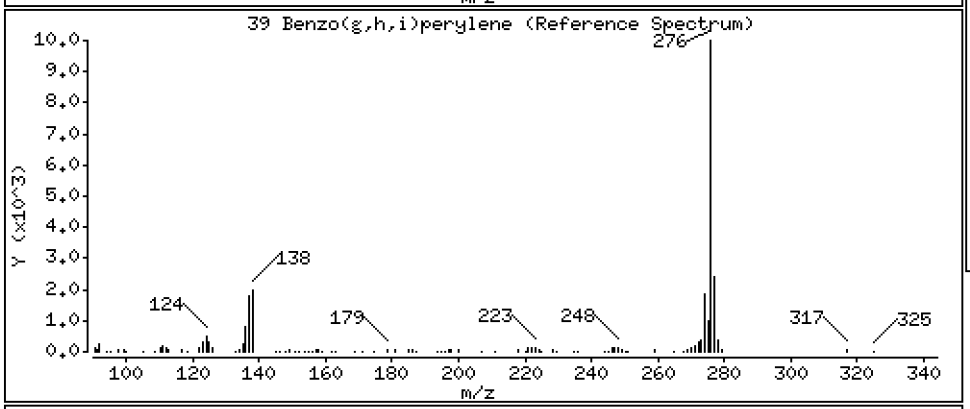
Concentration: 2.166 ug/mL

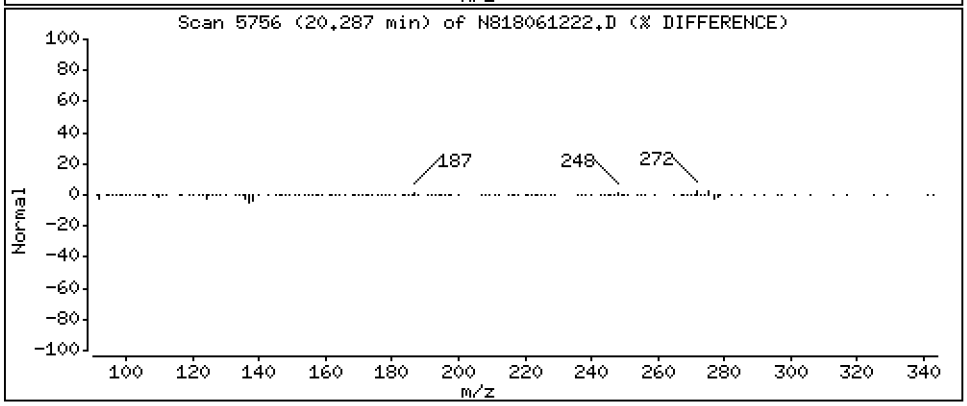












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061222.D

Date : 12-JUN-2018 23:53

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-MSD1,

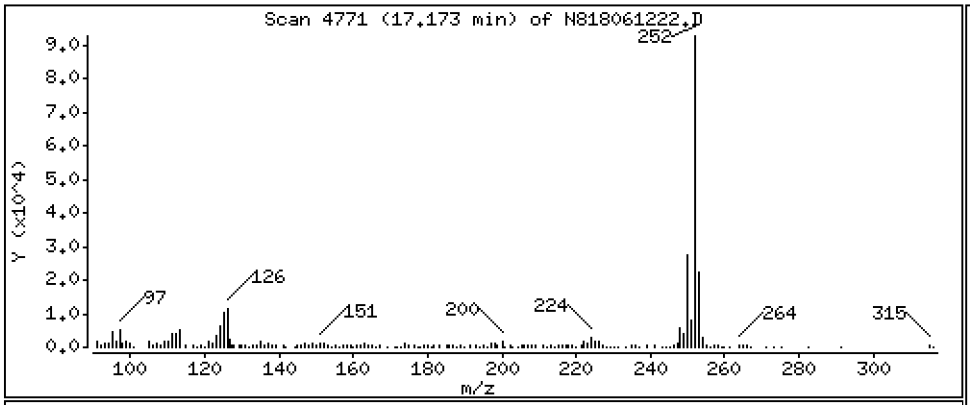
Operator: JZ

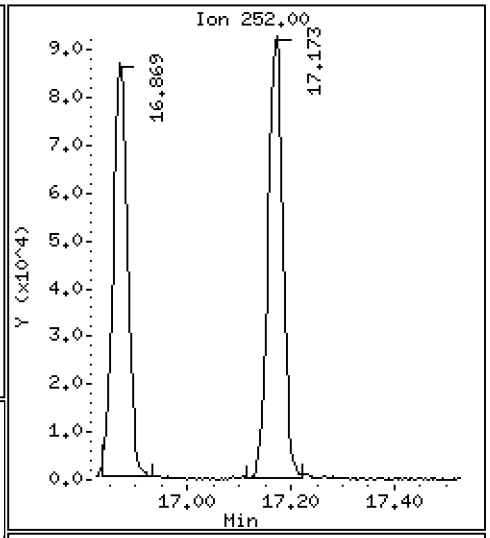
Column phase: Rxi-17sil

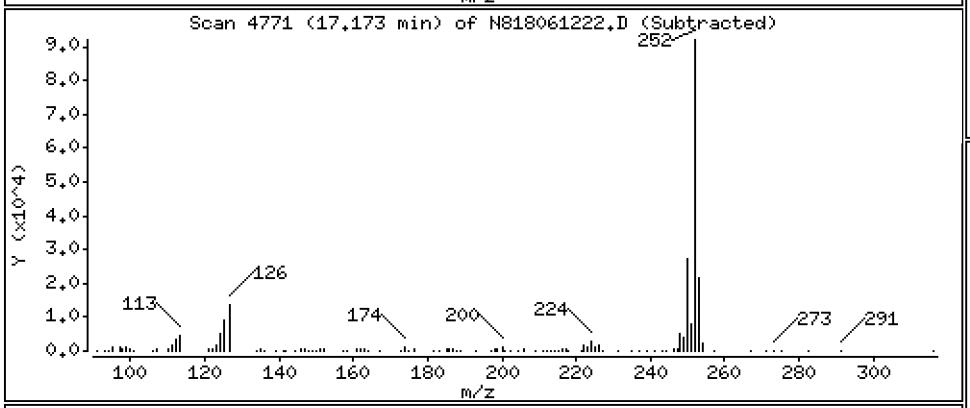
Column diameter: 0.25

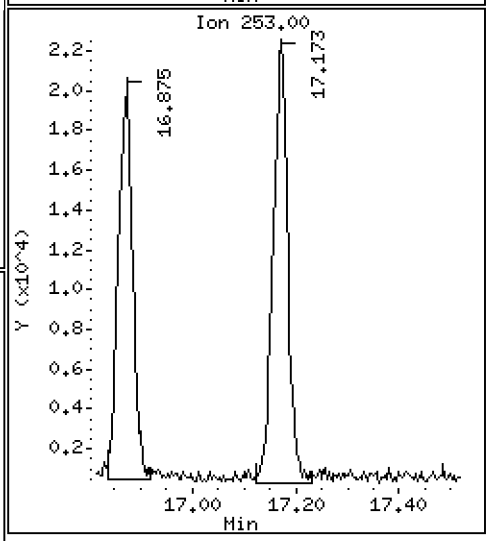
35 Perylene

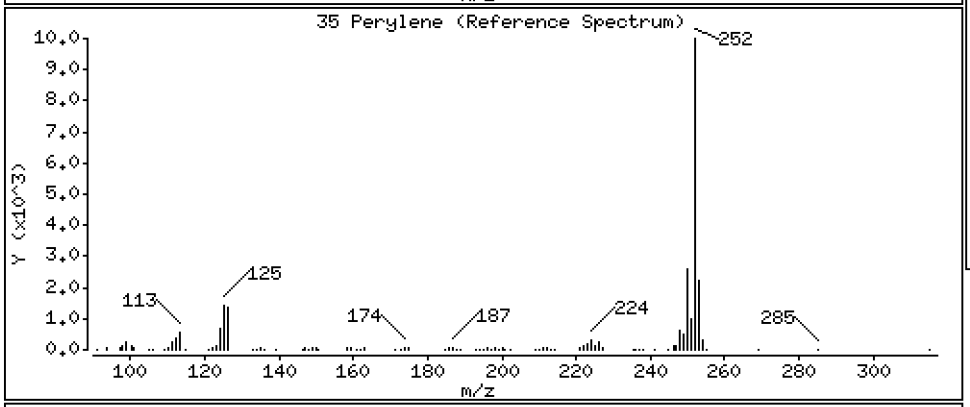
Concentration: 2.023 ug/mL

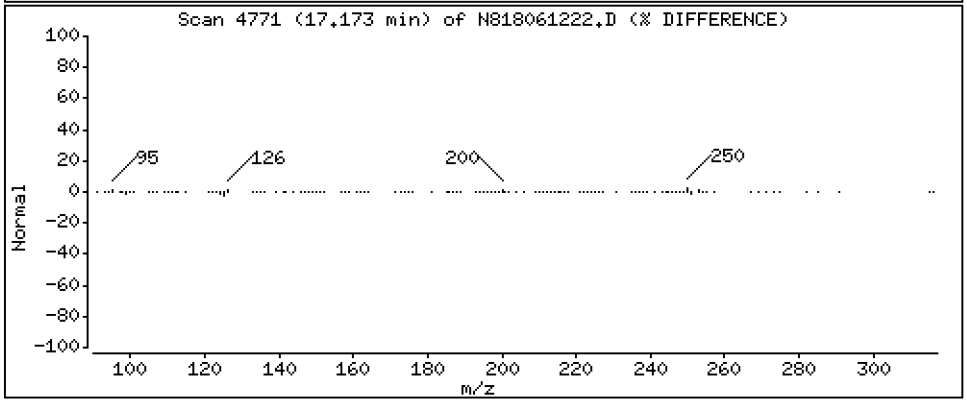












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061222.D
Lab Smp Id: BGE0773-MSD1
Inj Date : 12-JUN-2018 23:53
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0773-MSD1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1	Naphthalene-d8	136	4.445	4.455	(1.000)	167125	2.00000	
	2	Naphthalene	128	4.470	4.483	(1.006)	132489	1.36409	1.364
$	3	2-Methylnaphthalene-d10	152	5.179	5.185	(1.165)	89718	1.47162	1.472
	4	2-Methylnaphthalene	141	5.223	5.233	(1.175)	82654	1.51087	1.511
	5	1-methylnaphthalene	141	5.416	5.425	(1.218)	84963	1.50882	1.509
	9	Acenaphthylene	152	6.605	6.611	(0.984)	158290	1.82781	1.828
*	10	Acenaphthene-d10	164	6.715	6.722	(1.000)	87224	2.00000	
	11	Acenaphthene	153	6.766	6.769	(1.008)	111844	1.68470	1.685
	12	Dibenzofuran	168	6.918	6.921	(1.030)	151259	1.69452	1.695
	14	Fluorene	166	7.392	7.395	(1.101)	124480	1.80476	1.805
*	15	Phenanthrene-d10	188	8.736	8.739	(1.000)	152999	2.00000	
	16	Phenanthrene	178	8.771	8.774	(1.004)	180440	1.92419	1.924
	17	Anthracene	178	8.812	8.815	(1.009)	169257	1.98098	1.981
	22	Fluoranthene	202	10.428	10.428	(1.194)	218840	2.07070	2.071
$	21	Fluoranthene-d10	212	10.393	10.396	(1.190)	193797	1.93479	1.935
	23	Pyrene	202	10.892	10.896	(0.816)	222429	2.37772	2.378
	24	Benzo(a)anthracene	228	13.226	13.226	(0.991)	193624	2.14084	2.141
*	25	Chrysene-d12	240	13.343	13.349	(1.000)	155664	2.00000	
	27	Chrysene	228	13.416	13.419	(1.005)	186557	2.04912	2.049
	28	Benzo(b)fluoranthene	252	15.857	15.860	(0.927)	186002	1.93082	1.931
	29	Benzo(k)fluoranthene	252	15.917	15.917	(0.931)	188178	1.98655	1.987
	30	Benzo(j)fluoranthene	252	15.993	15.990	(0.935)	182565	1.92481	1.925
	31	Total Benzofluoranthenes	252	15.917	15.860	(0.931)	555840	5.91636	5.916(M)
	32	Benzo(a)pyrene	252	16.868	16.872	(0.987)	172552	2.04368	2.044
*	33	Perylene-d12	264	17.099	17.099	(1.000)	151579	2.00000	
	37	Indeno(1,2,3-cd)pyrene	276	19.417	19.420	(1.136)	217498	2.25009	2.250
$	36	Dibenzo(a,h)anthracene-d14	292	19.322	19.325	(1.130)	174742	2.46121	2.461
	38	Dibenzo(a,h)anthracene	278	19.417	19.417	(1.136)	184344	2.31193	2.312
	39	Benzo(g,h,i)perylene	276	20.287	20.284	(1.186)	182998	2.16613	2.166
	35	Perylene	252	17.172	17.175	(1.004)	185453	2.02287	2.023

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061222.D
Lab Smp Id: BGE0773-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	167125	36.77
10 Acenaphthene-d10	65789	32895	131578	87224	32.58
15 Phenanthrene-d10	128644	64322	257288	152999	18.93
25 Chrysene-d12	166669	83335	333338	155664	-6.60
33 Perylene-d12	140483	70242	280966	151579	7.90

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.22
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.10
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.05
33 Perylene-d12	17.10	16.60	17.60	17.10	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061222.D

Lab ID: BGE0773-MSD1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 23:53

RT	CO-ELUTION COMPOUNDS
19.418	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
19.418	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

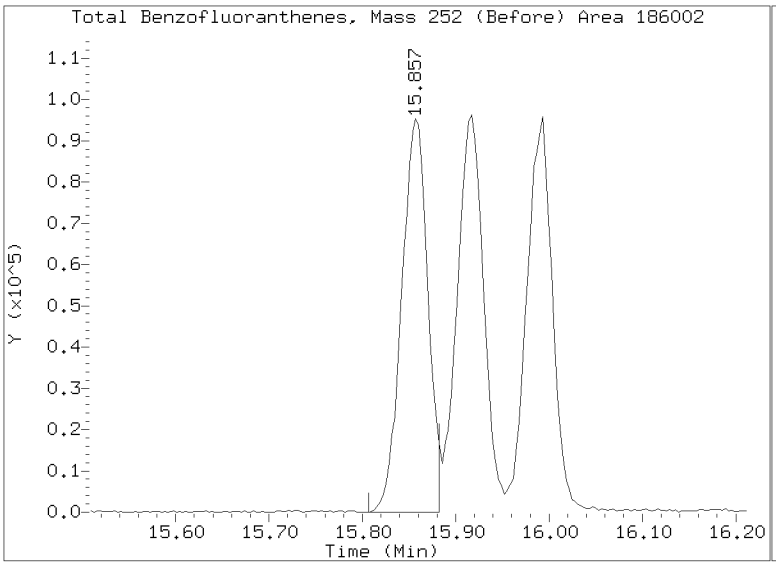
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

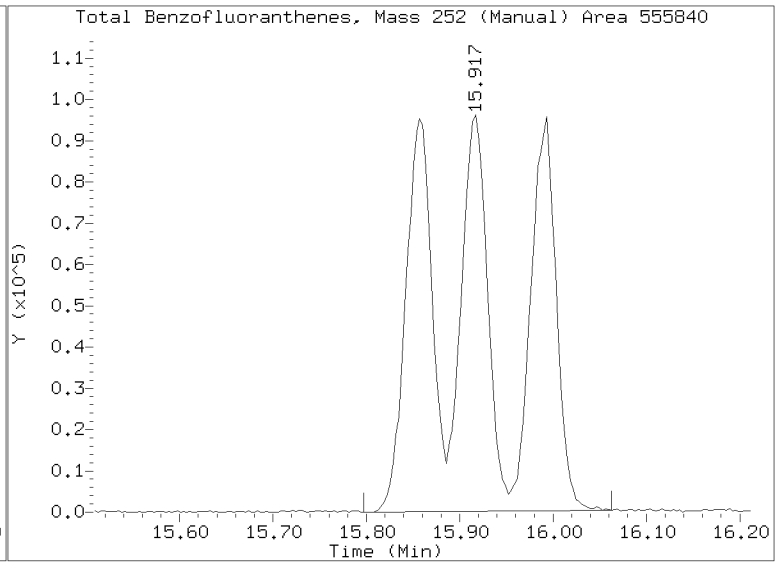
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061222.D
Injection Date: 12-JUN-2018 23:53
Lab ID:BGE0773-MSD1 Client ID:
Report Date: 06/13/2018 14:00





Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. **SDG:** 18E0231

Client: Windward Environmental, LLC **Project:** LDW AOC3 Task 4

Matrix: Solid **Laboratory ID:** BGE0626-SRM1

Batch: BGE0626 **Initial/Final:** 5 g / 0.5 mL

Preparation: EPA 3546 (Microwave) **Analyzed:** 06/01/2018 16:11

Standard ID: F011861 **Description:** CRM142-50g PAHs Silty Loam S **Expires:** 12/31/2019

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Benzo(a)anthracene	311.00	190	1.65	10.0		61.0	44 - 157
Chrysene	333.00	246	2.11	10.0		73.9	63 - 137
Benzo(b)fluoranthene	225.00	174	2.74	10.0		77.2	54 - 146
Benzo(k)fluoranthene	219.00	156	1.52	10.0		71.2	70 - 130
Benzo(a)pyrene	55.700	19.3	1.23	10.0		34.7	16 - 184
Indeno(1,2,3-cd)pyrene	293.00	205	2.10	10.0		70.0	35 - 165

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

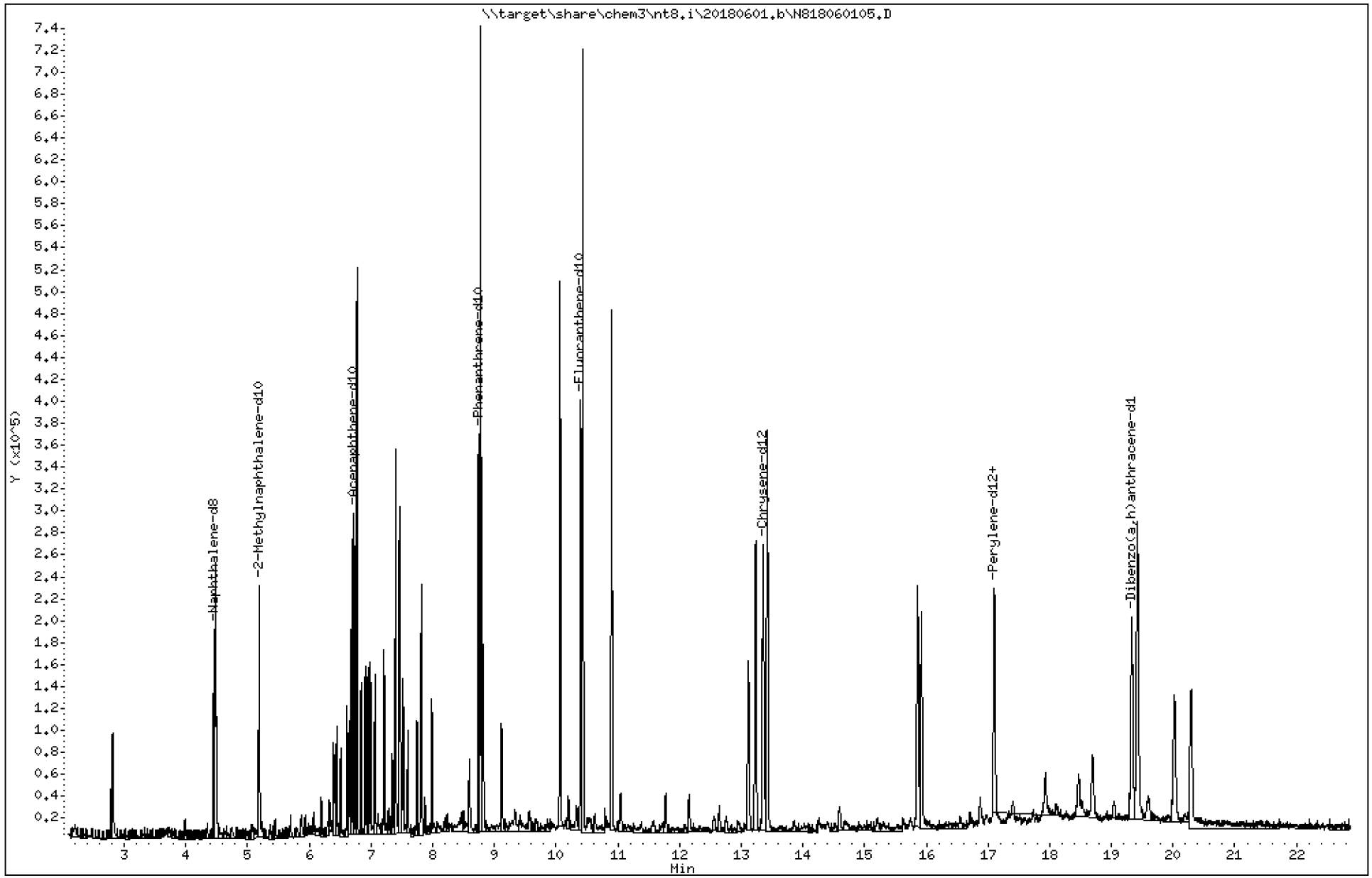
Instrument: nt8.i

Sample Info: BGE0626-SRM1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

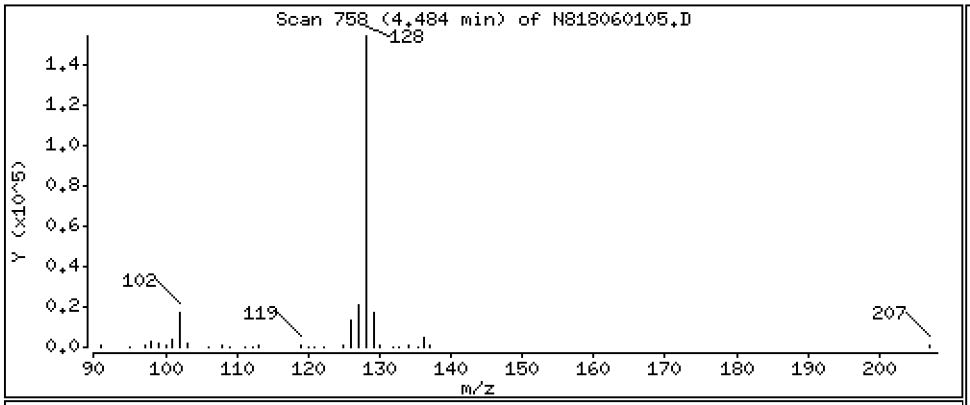
Operator: JZ

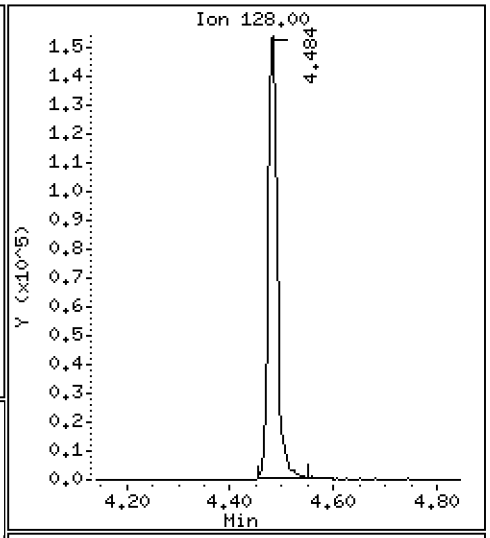
Column phase: Rxi-17sil

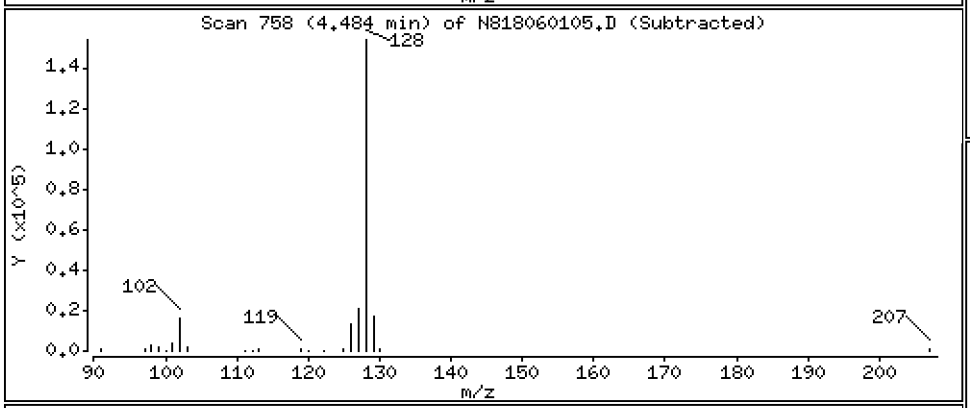
Column diameter: 0.25

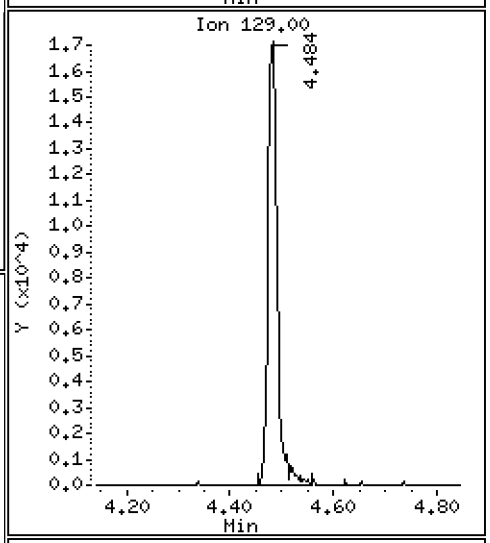
2 Naphthalene

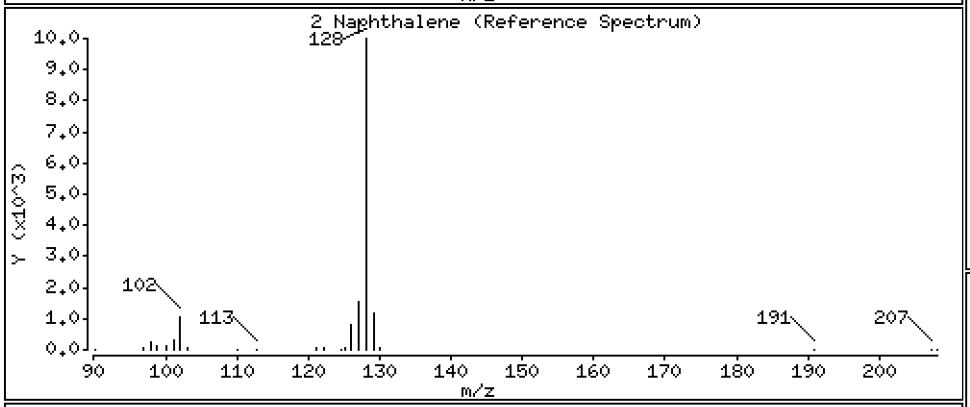
Concentration: 2.183 ug/mL

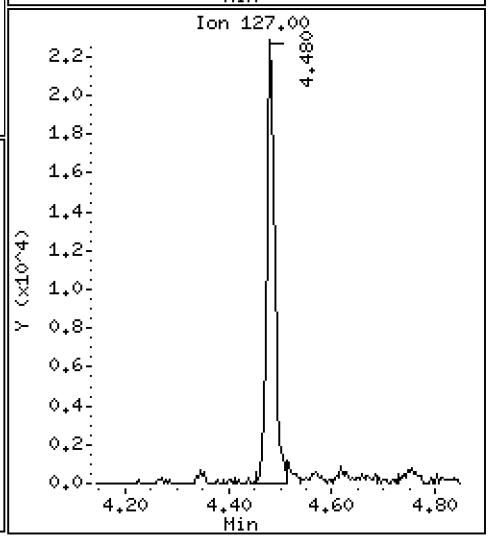


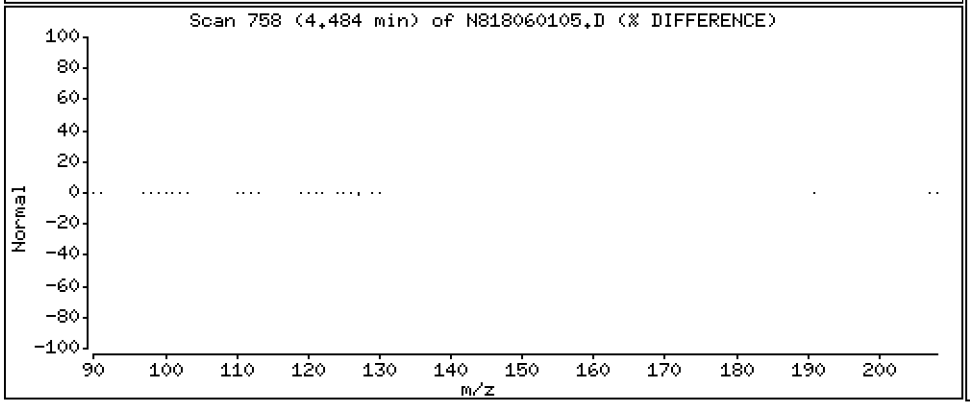












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

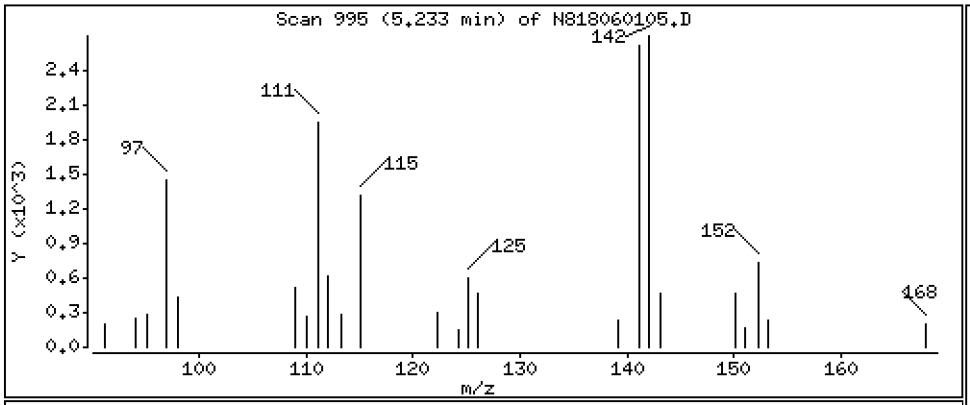
Operator: JZ

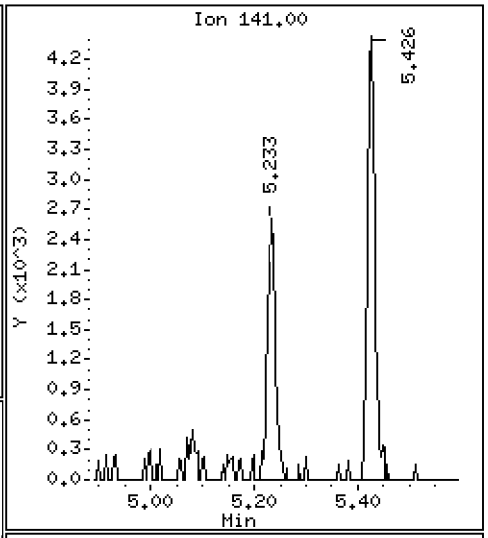
Column phase: Rxi-17sil

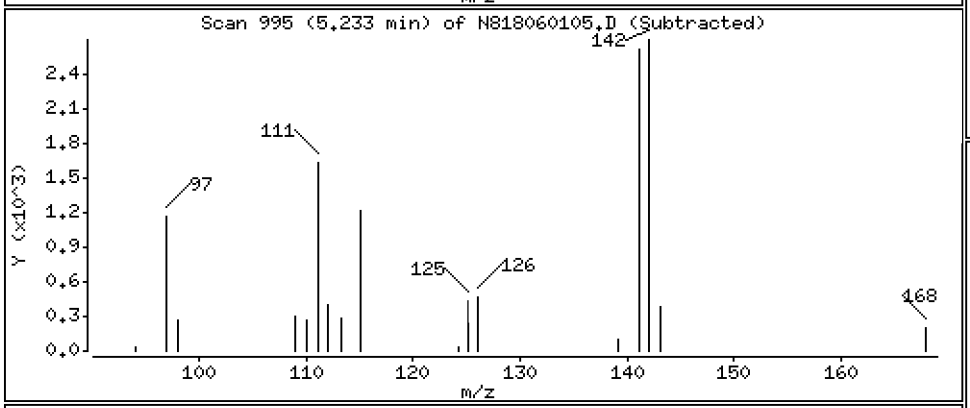
Column diameter: 0.25

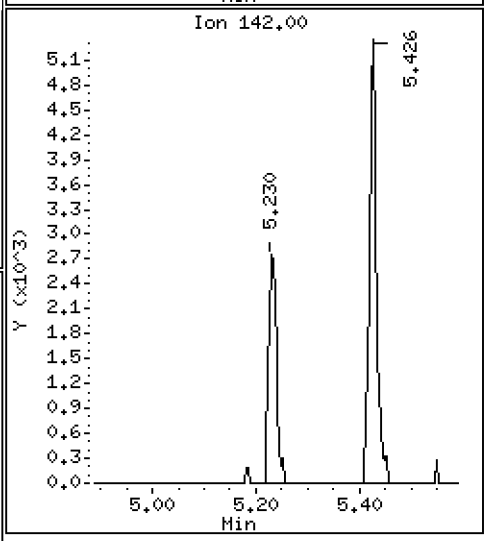
4 2-Methylnaphthalene

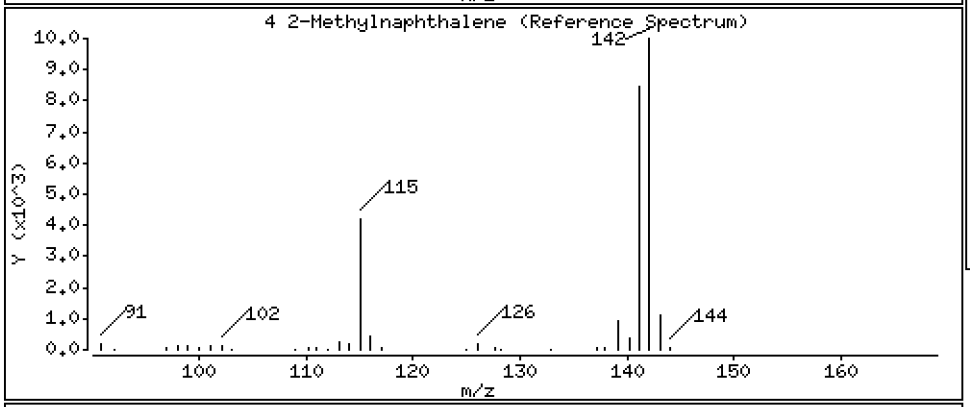
Concentration: 0.05843 ug/mL

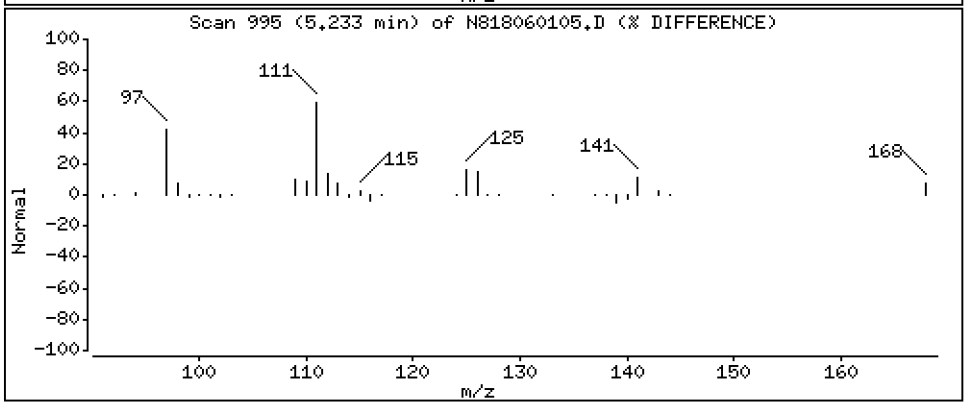












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

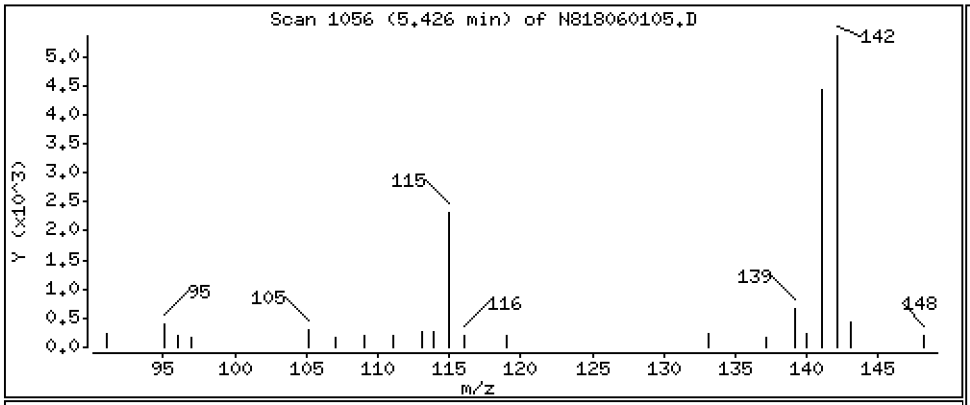
Operator: JZ

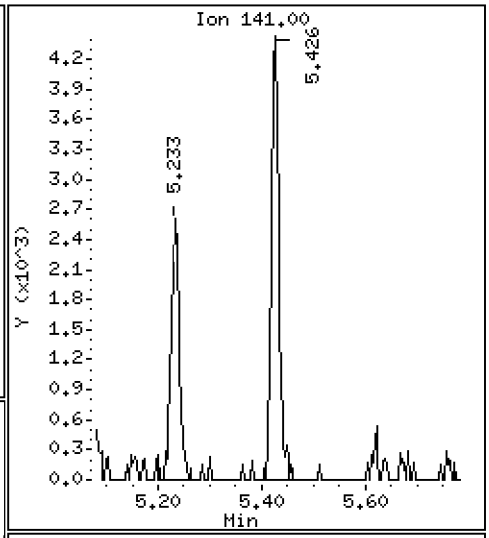
Column phase: Rxi-17sil

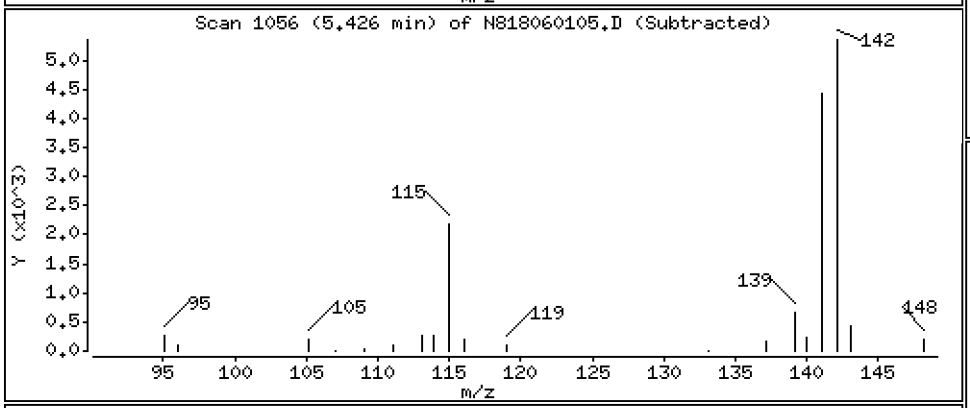
Column diameter: 0.25

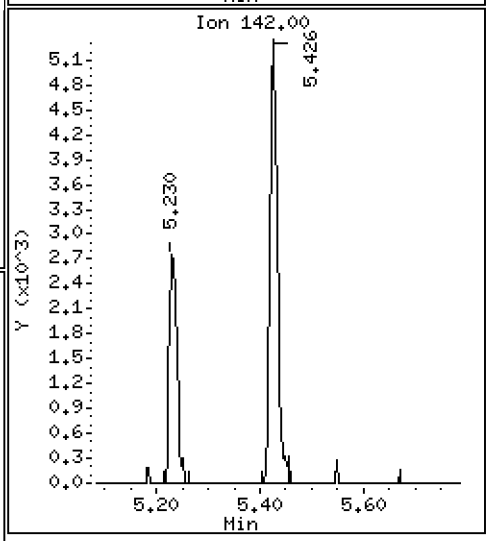
5 1-methylnaphthalene

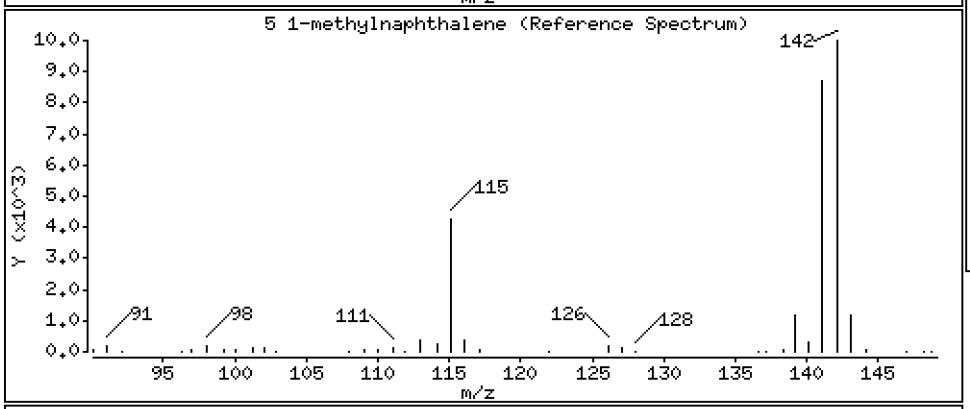
Concentration: 0.08839 ug/mL

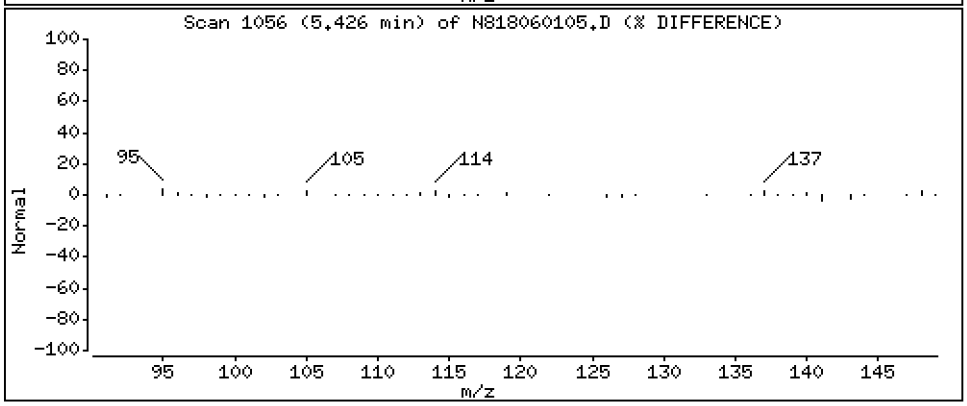












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

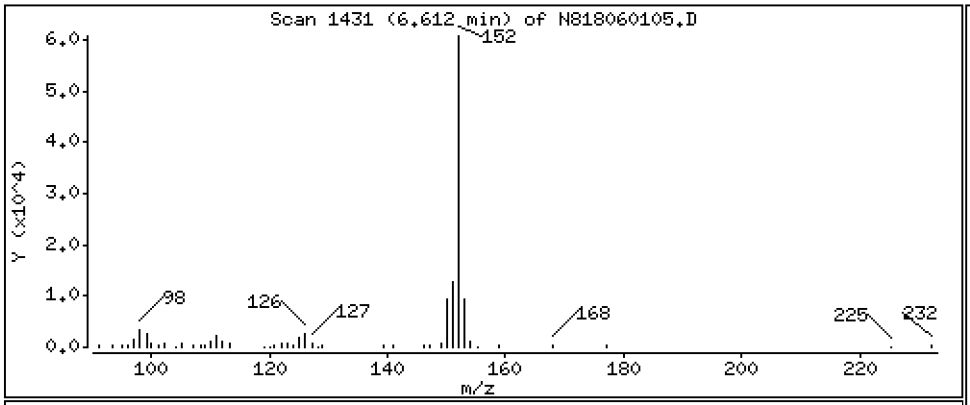
Operator: JZ

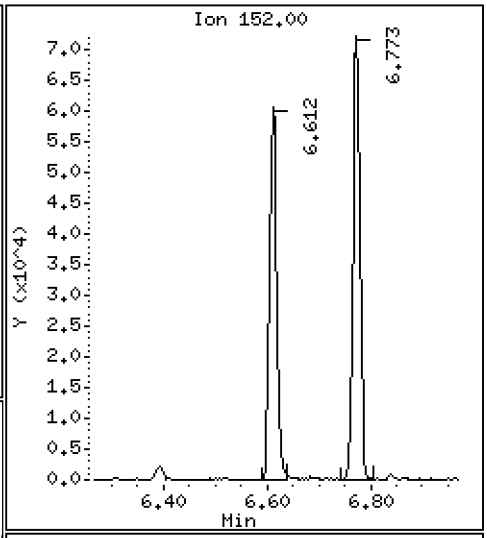
Column phase: Rxi-17sil

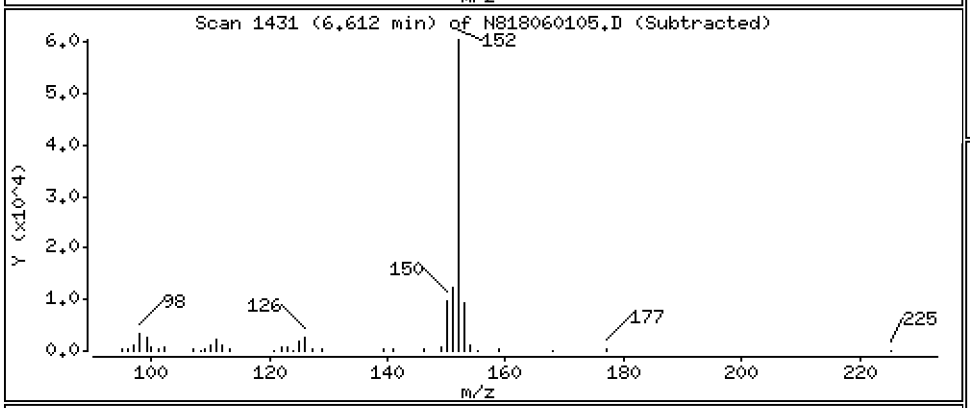
Column diameter: 0.25

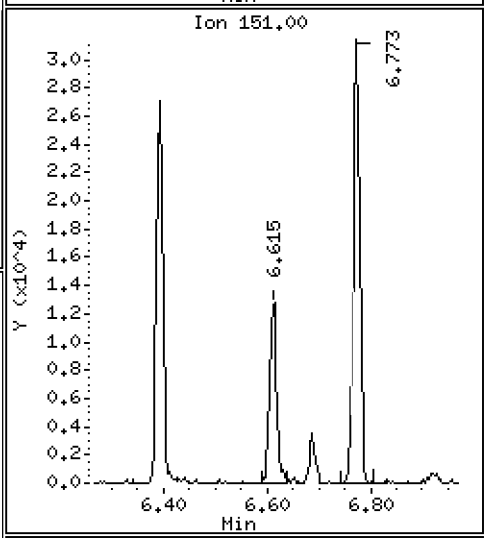
9 Acenaphthylene

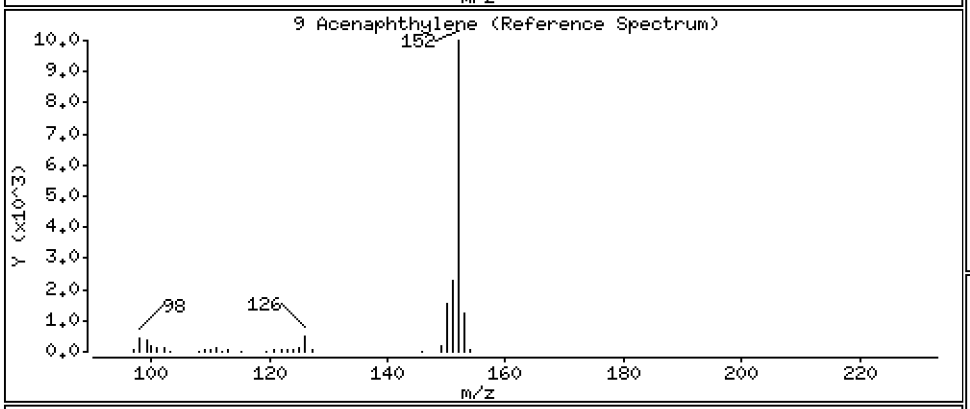
Concentration: 0.7845 ug/mL

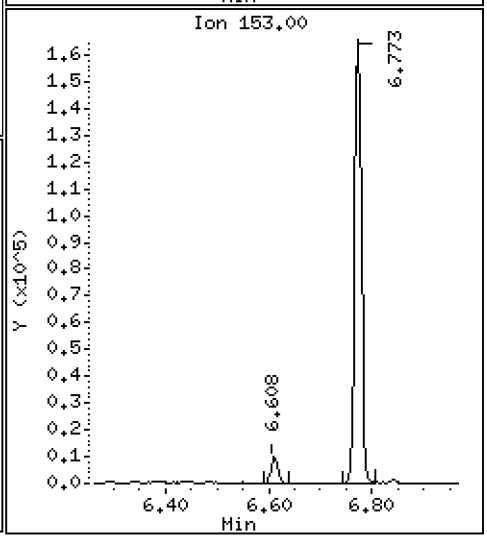


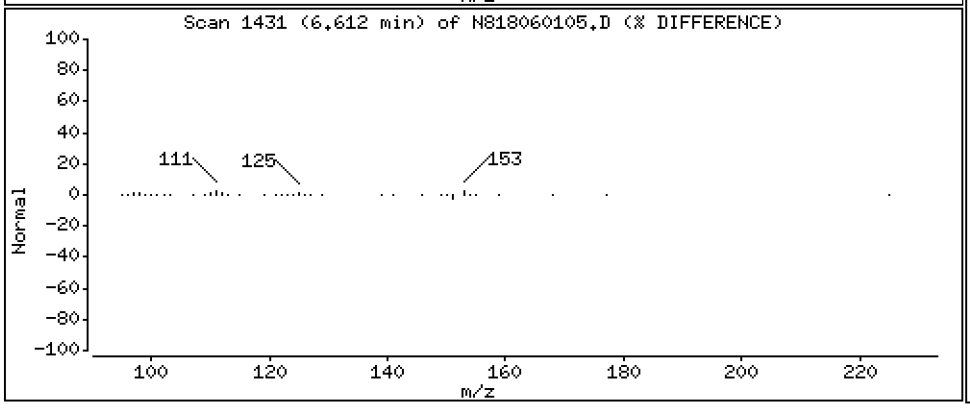












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

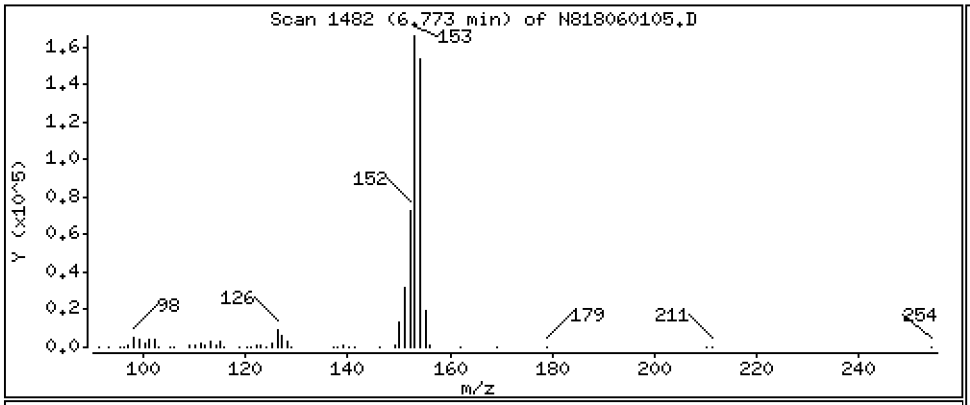
Operator: JZ

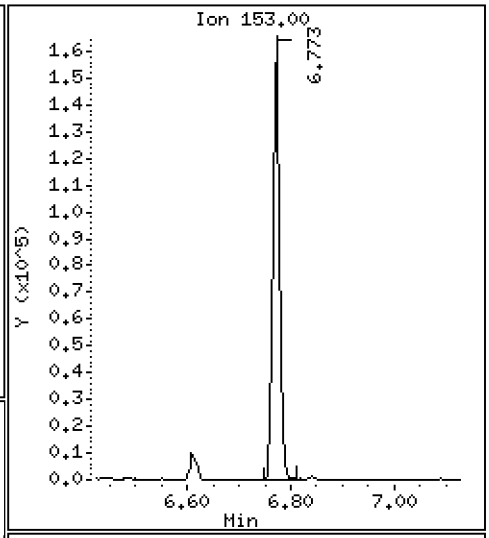
Column phase: Rxi-17sil

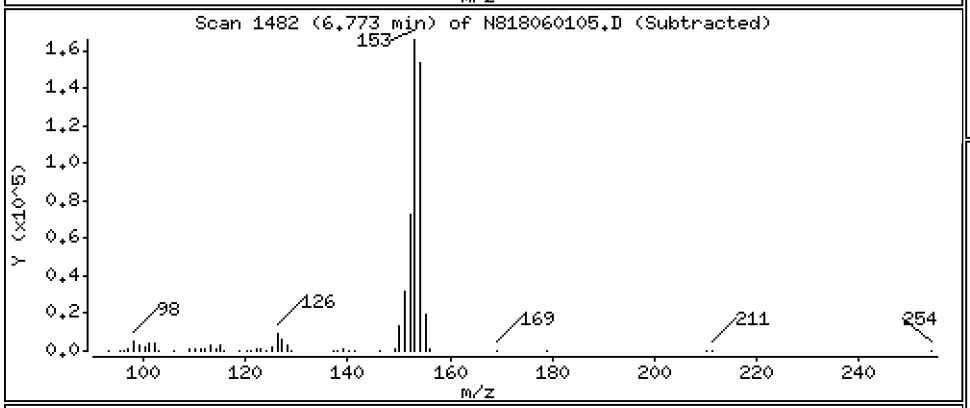
Column diameter: 0.25

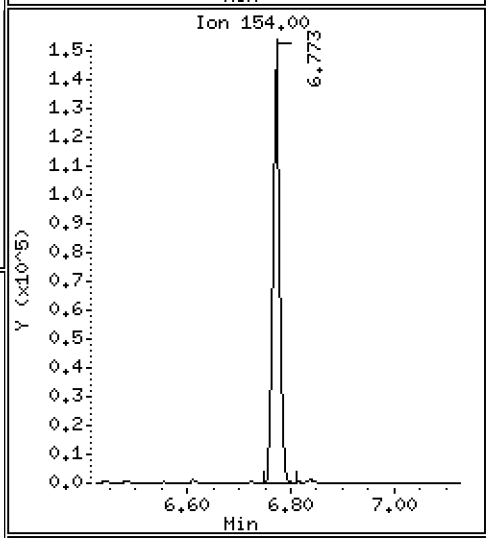
11 Acenaphthene

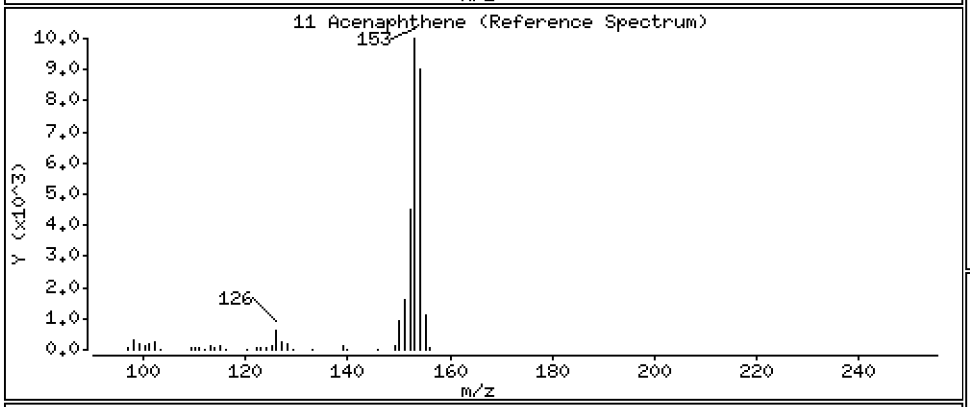
Concentration: 2.561 ug/mL

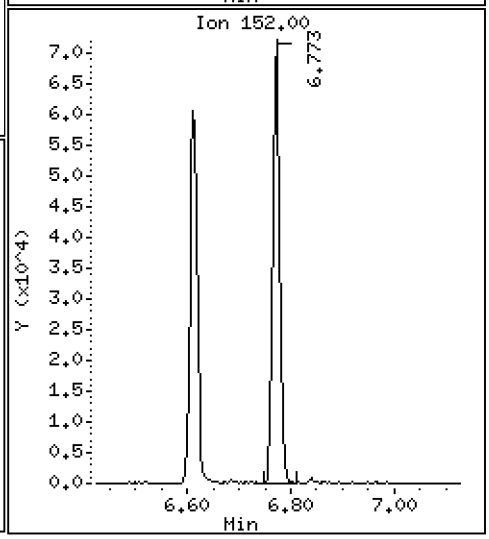


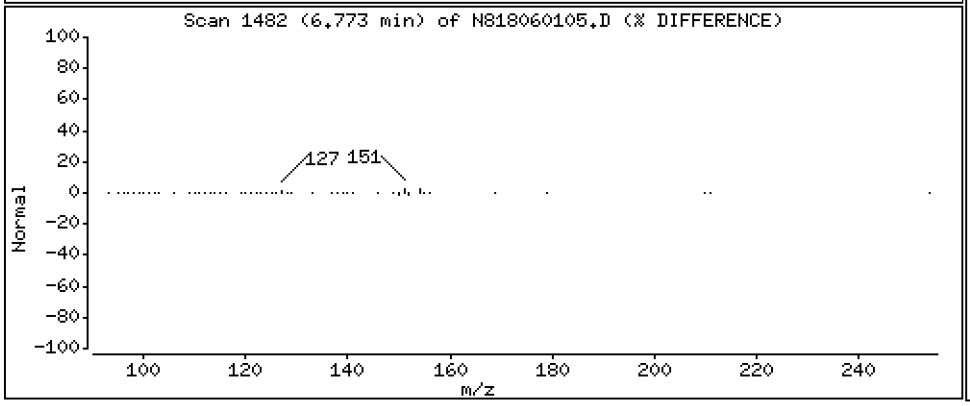












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

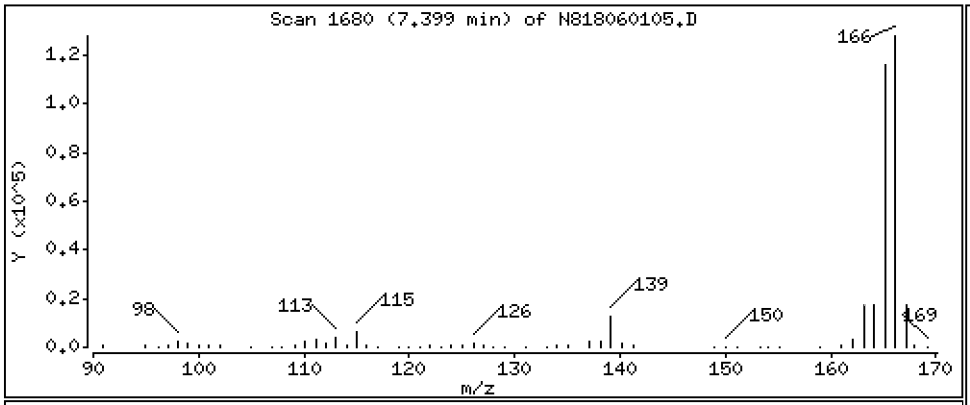
Operator: JZ

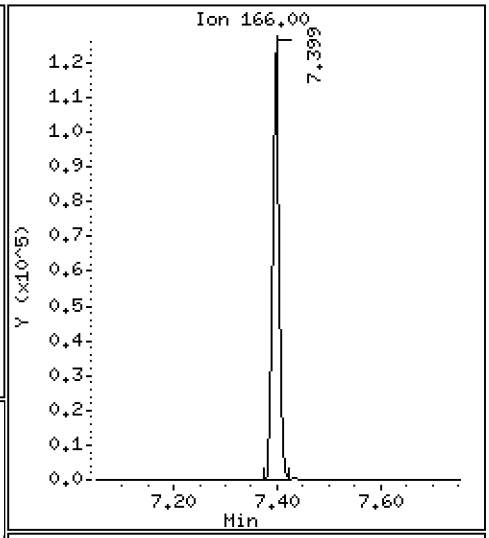
Column phase: Rxi-17sil

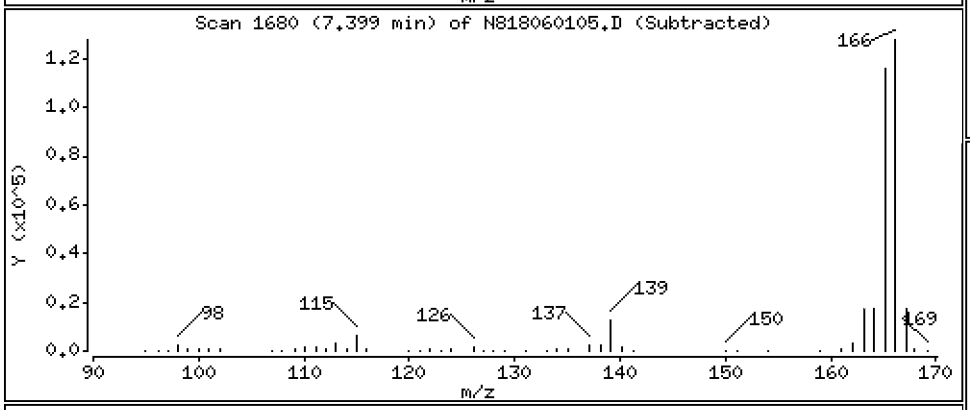
Column diameter: 0.25

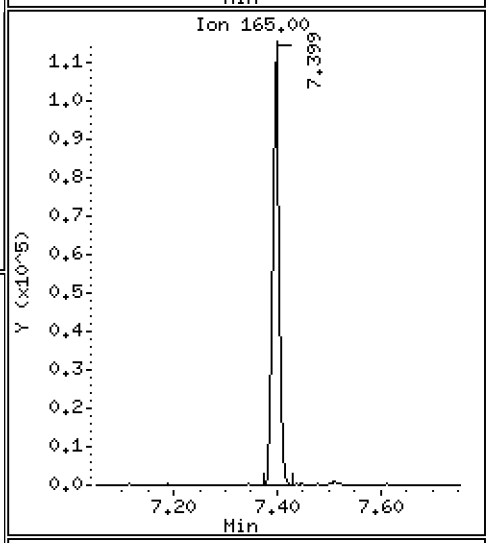
14 Fluorene

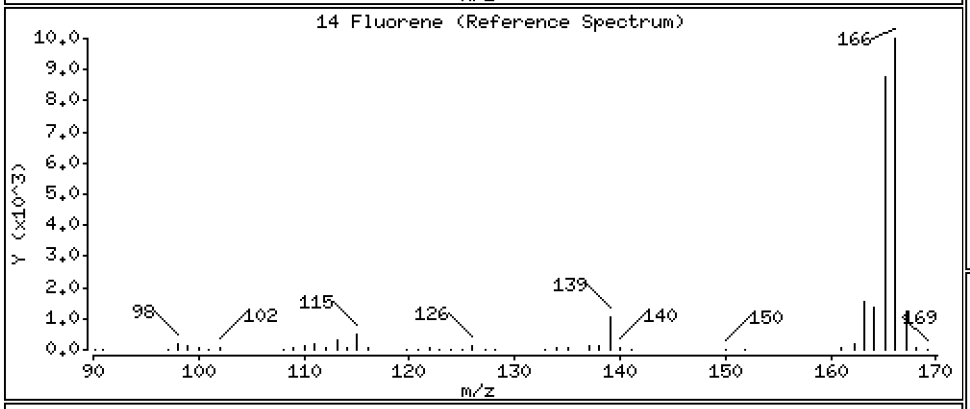
Concentration: 1.833 ug/mL

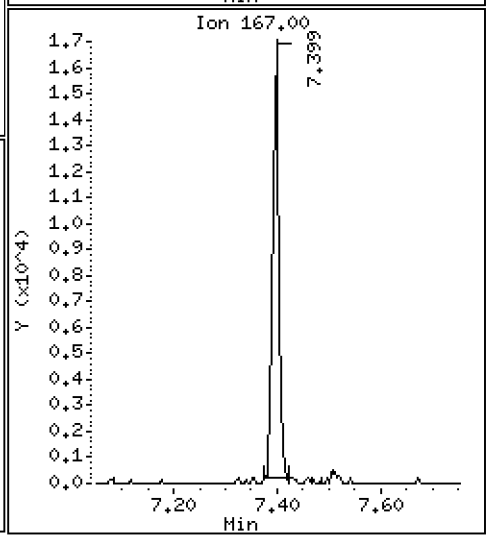


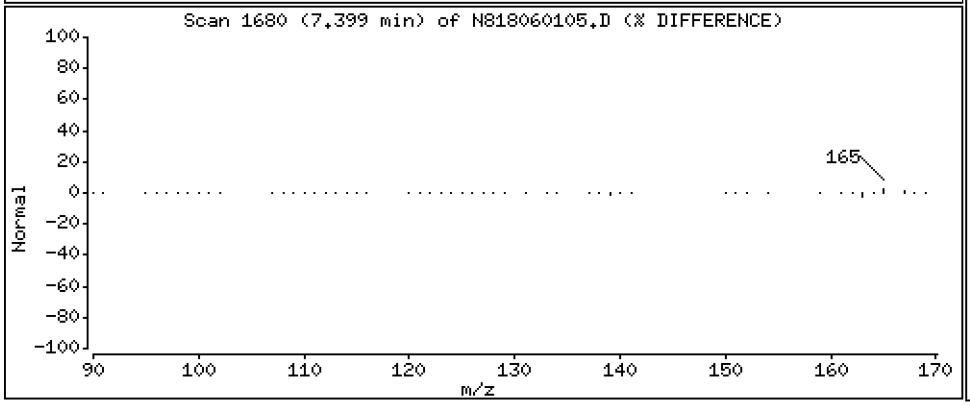












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

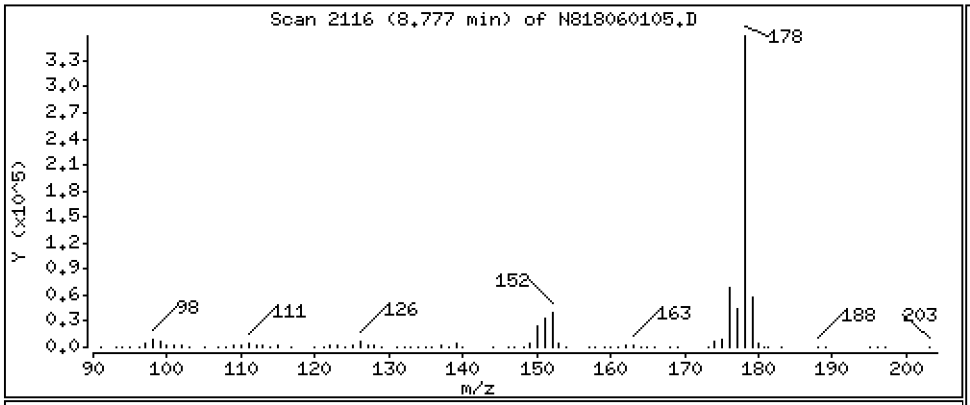
Operator: JZ

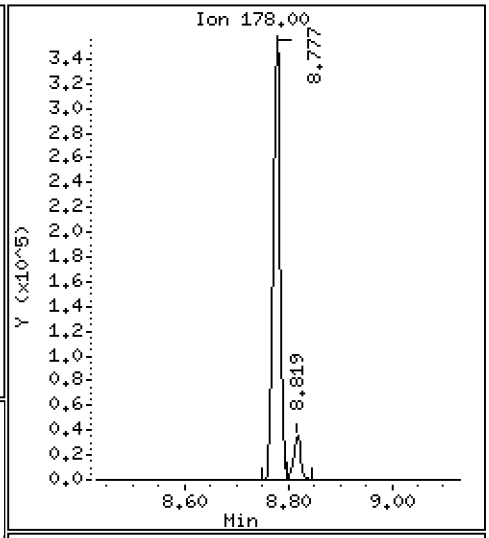
Column phase: Rxi-17sil

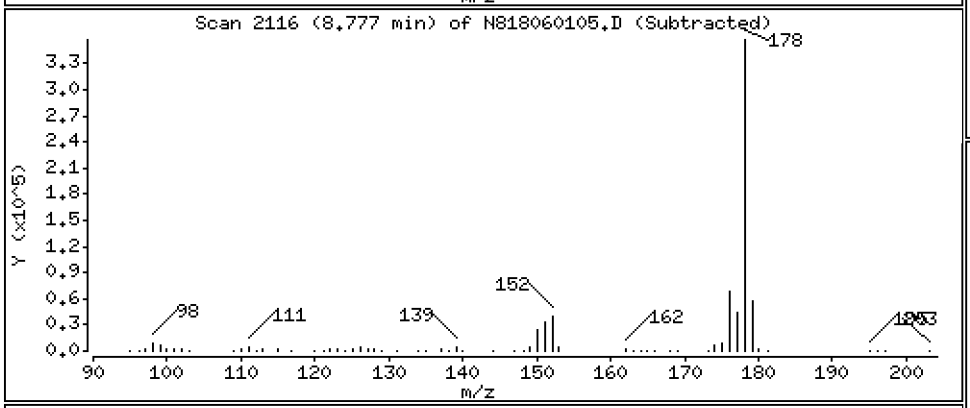
Column diameter: 0.25

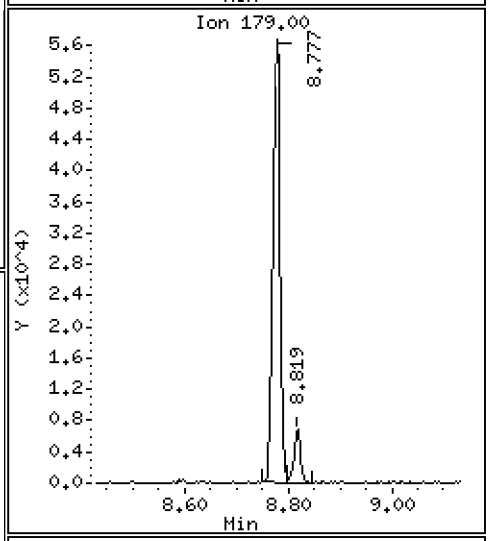
16 Phenanthrene

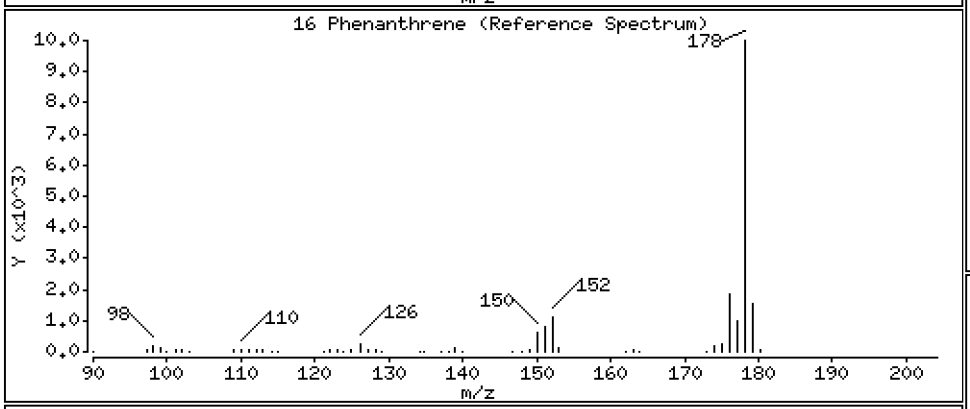
Concentration: 3.792 ug/mL

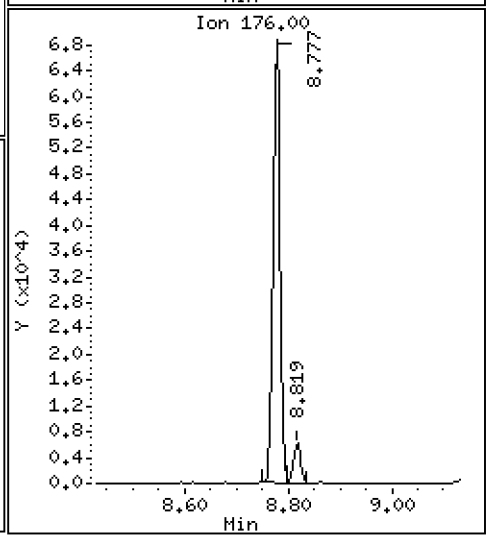


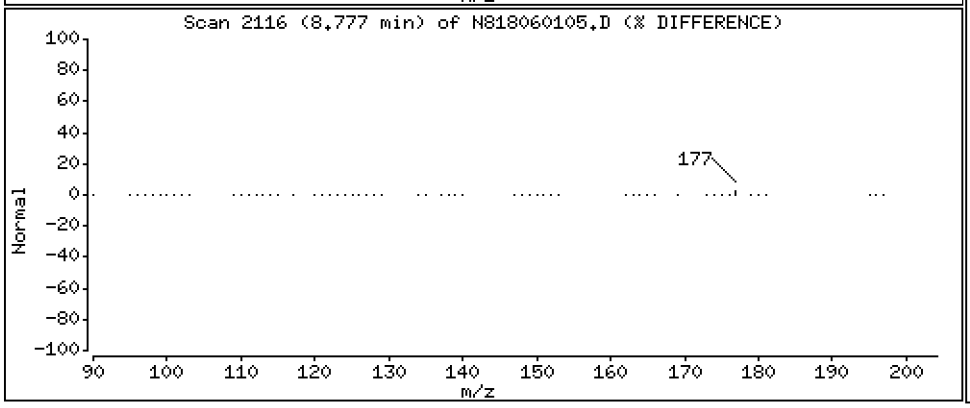












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

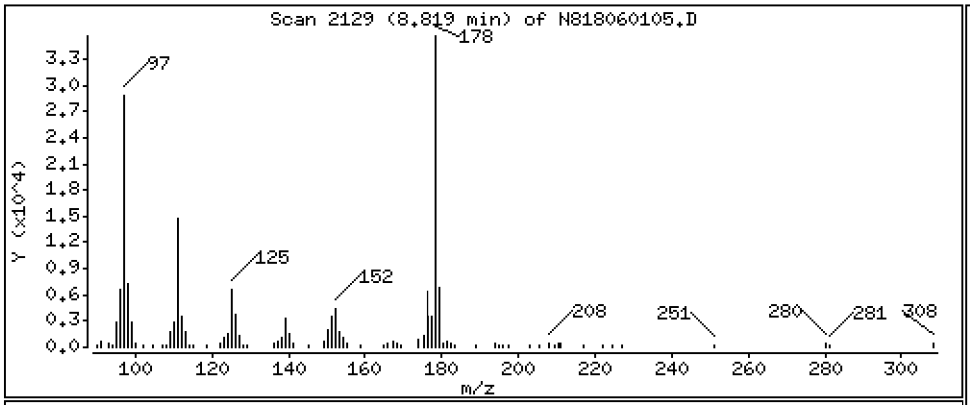
Operator: JZ

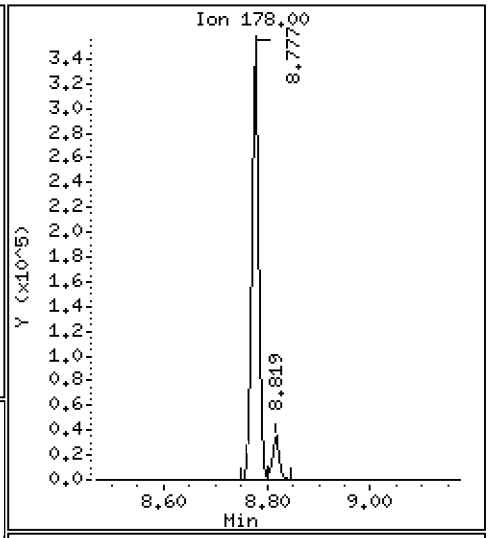
Column phase: Rxi-17sil

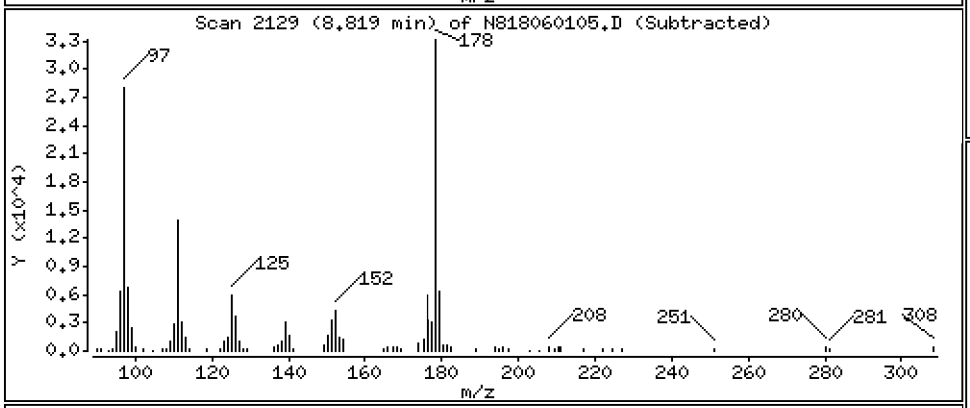
Column diameter: 0.25

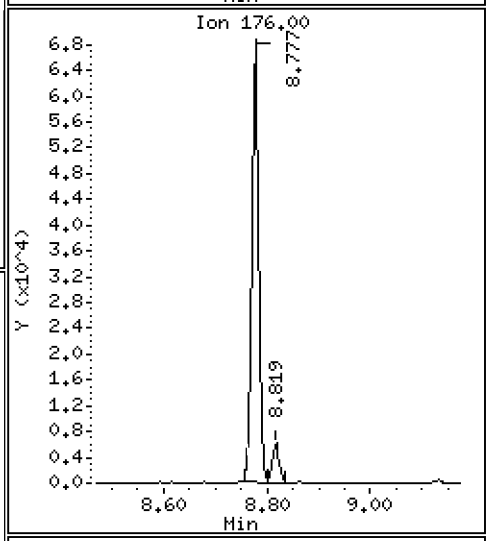
17 Anthracene

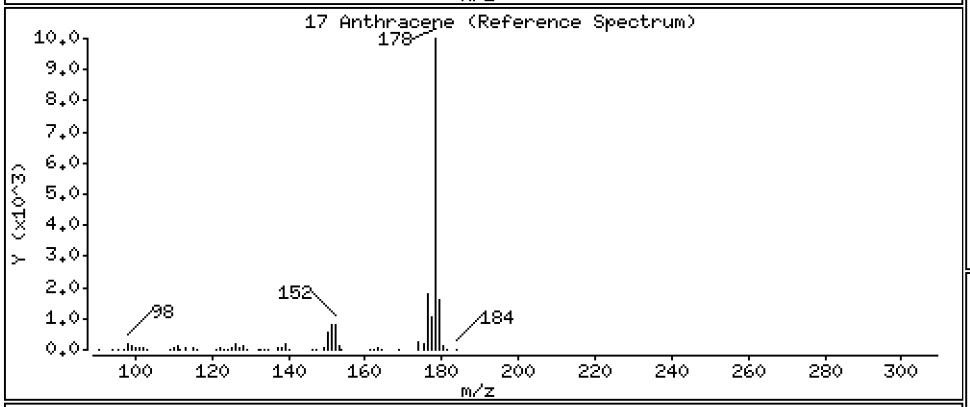
Concentration: 0.4104 ug/mL

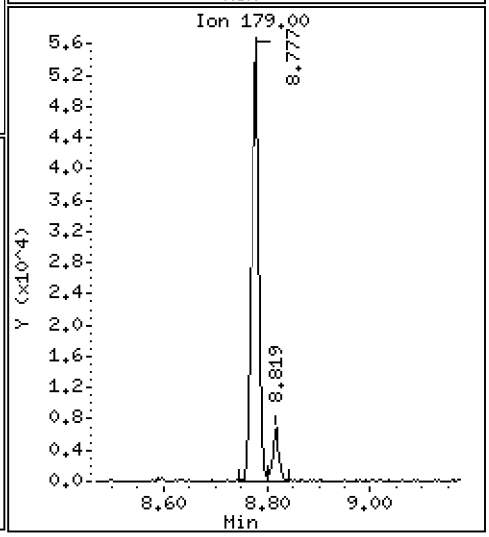


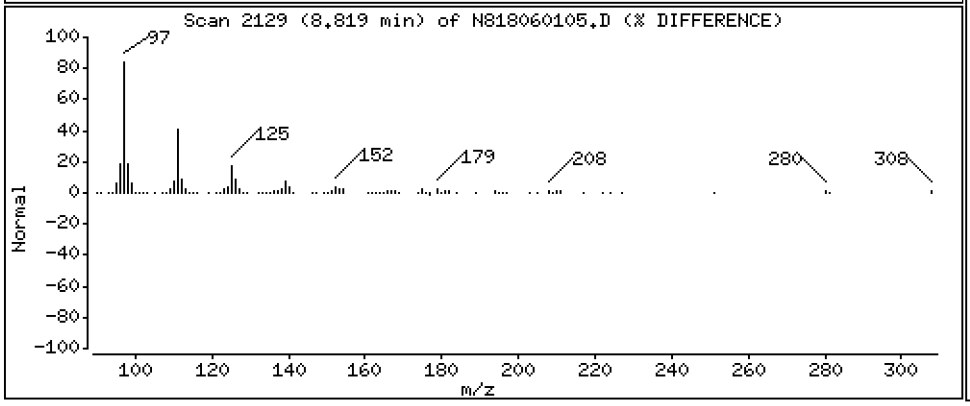












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

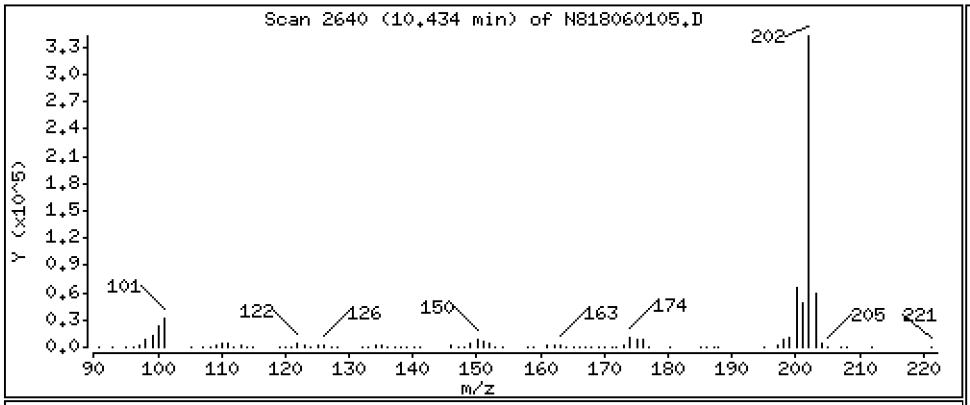
Operator: JZ

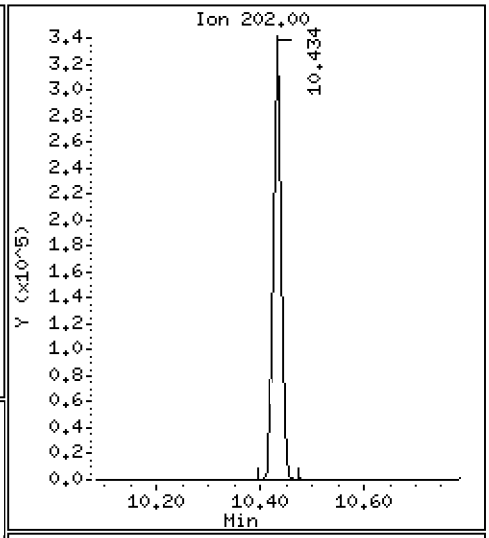
Column phase: Rxi-17sil

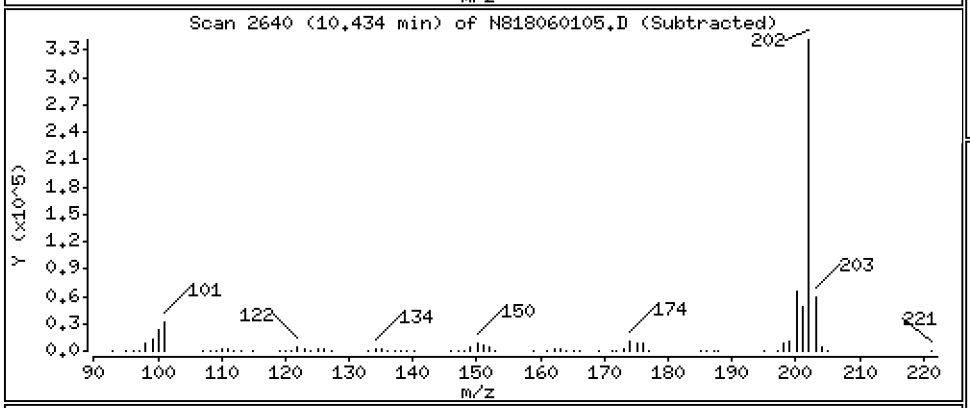
Column diameter: 0.25

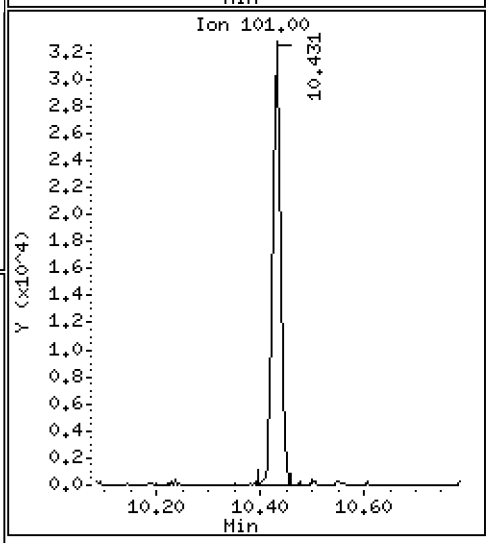
22 Fluoranthene

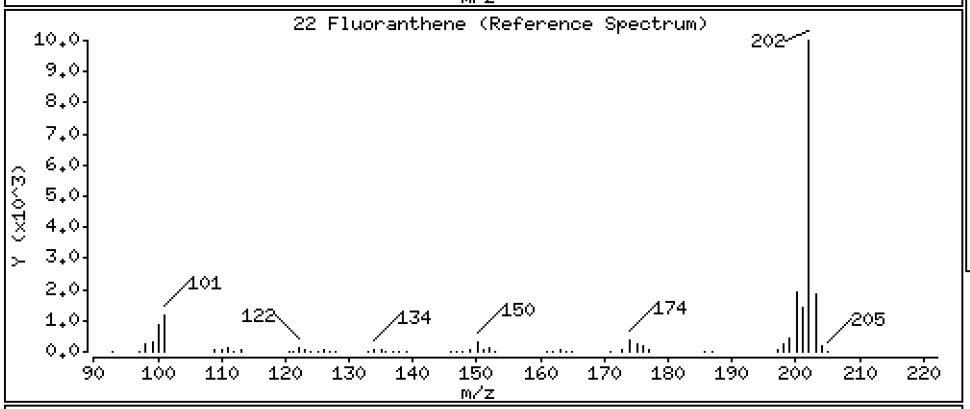
Concentration: 3.664 ug/mL

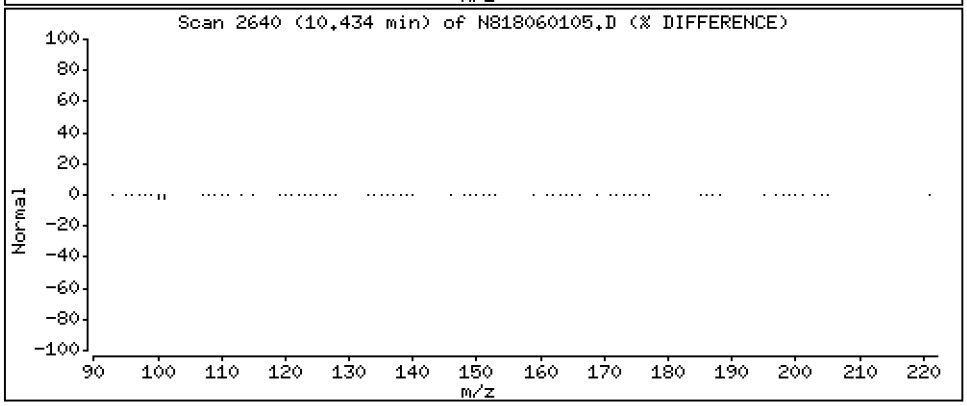












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

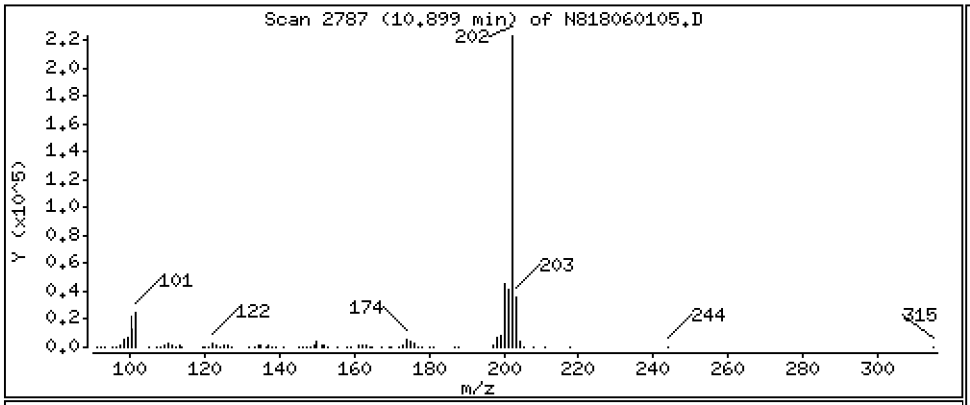
Operator: JZ

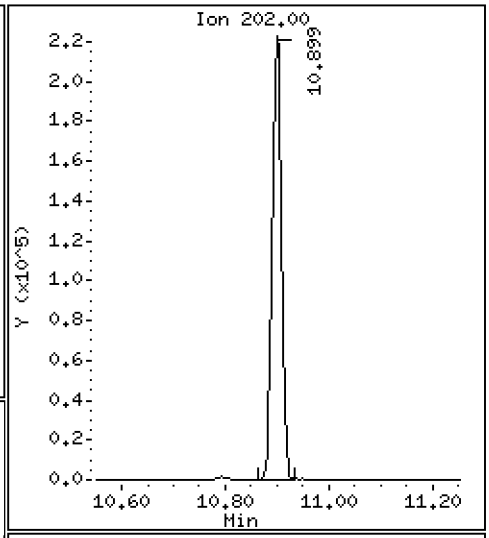
Column phase: Rxi-17sil

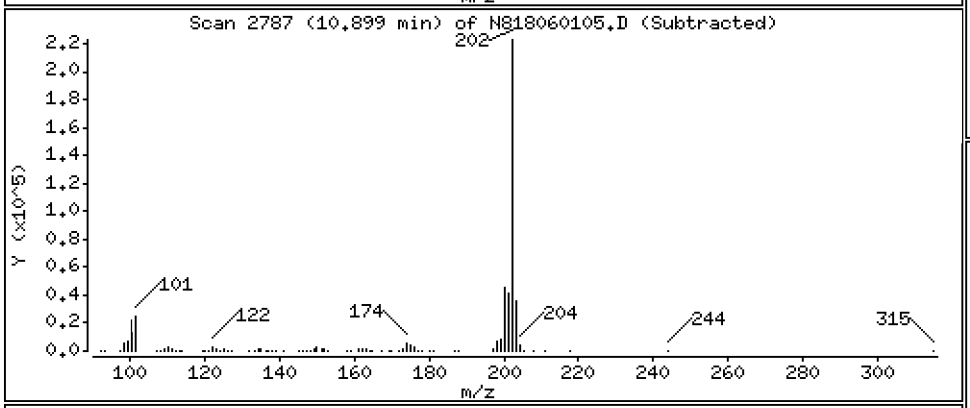
Column diameter: 0.25

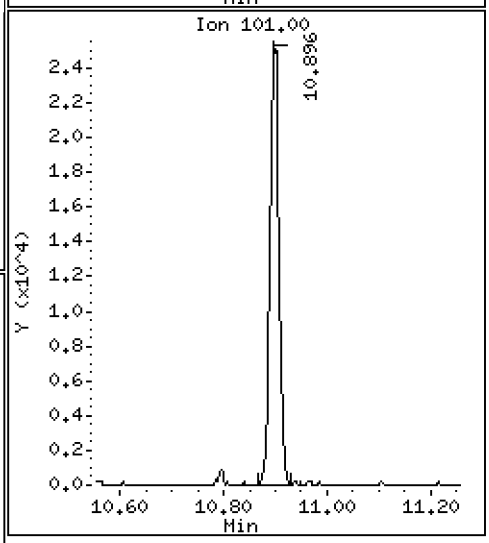
23 Pyrene

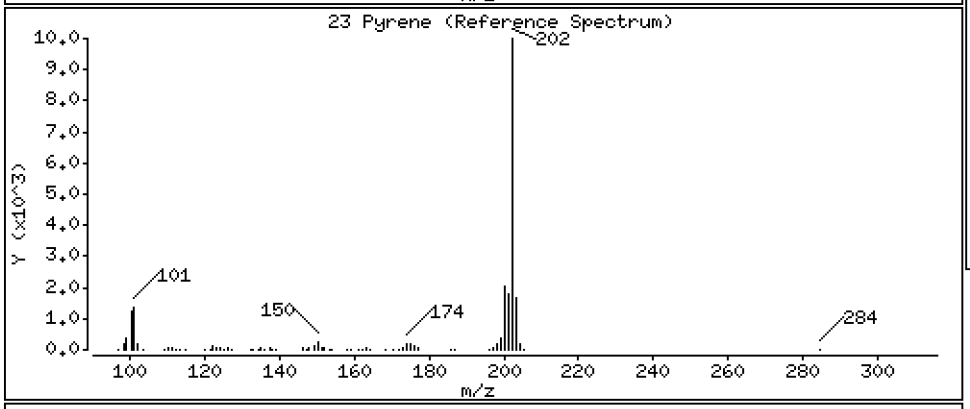
Concentration: 2.756 ug/mL

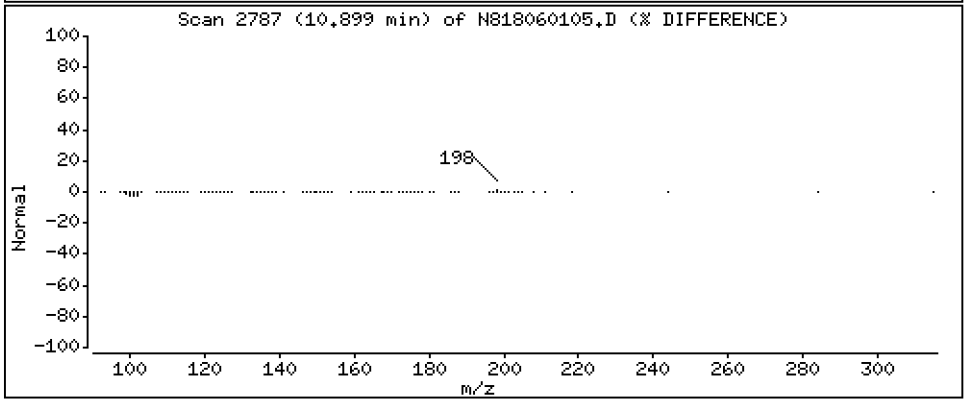












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

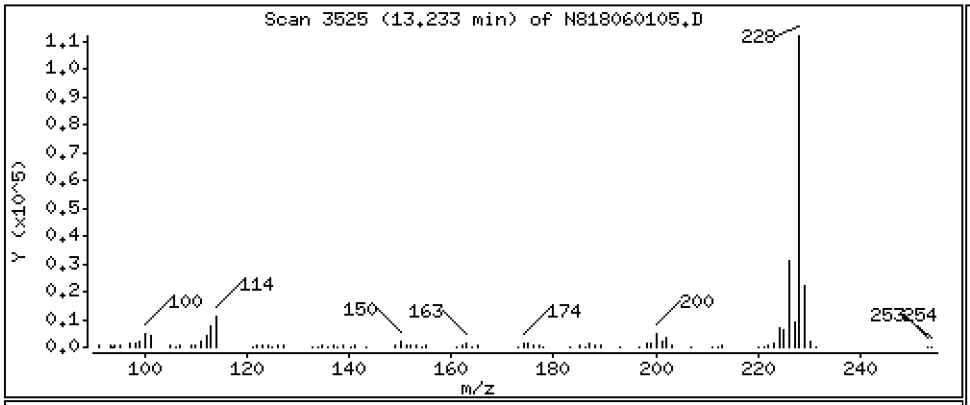
Operator: JZ

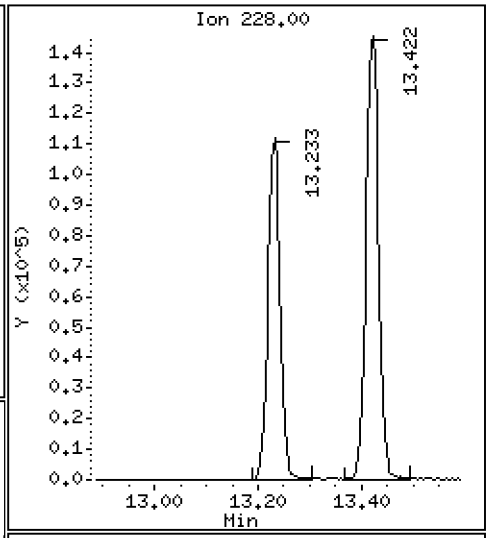
Column phase: Rxi-17sil

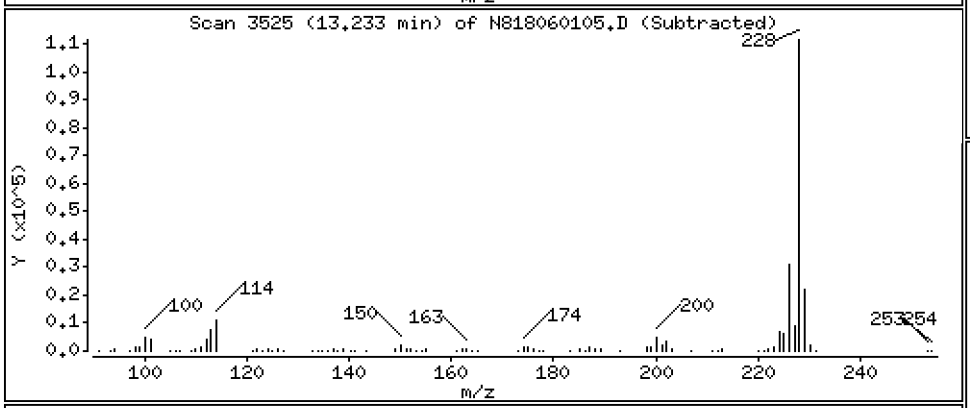
Column diameter: 0.25

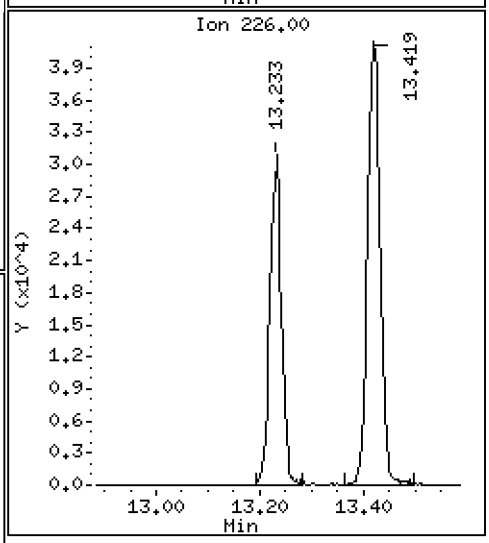
24 Benzo(a)anthracene

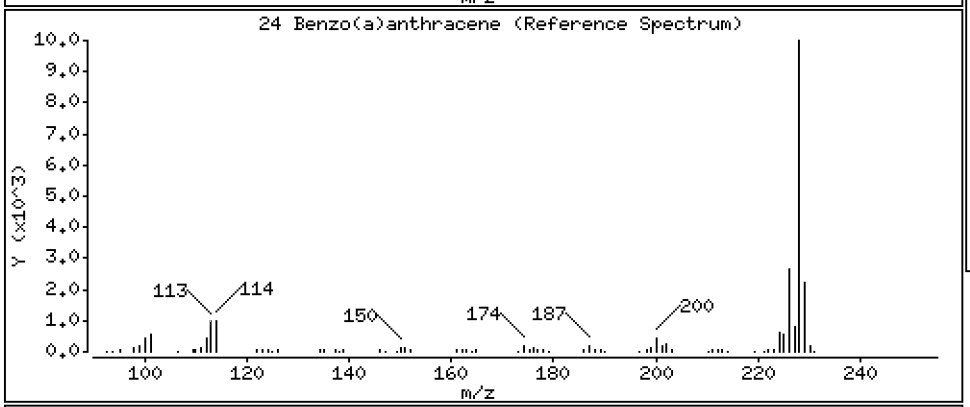
Concentration: 1.897 ug/mL

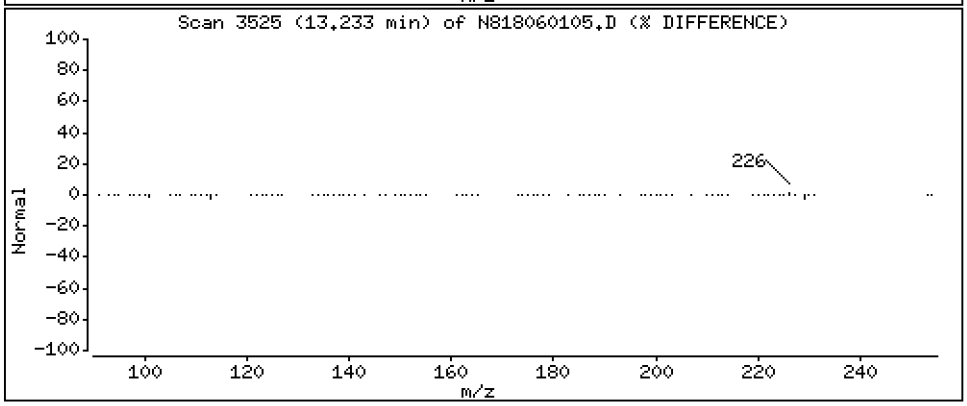












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

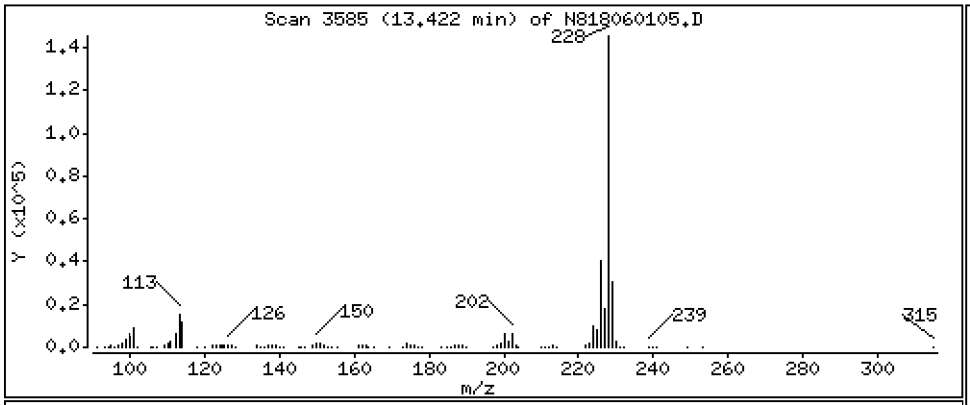
Operator: JZ

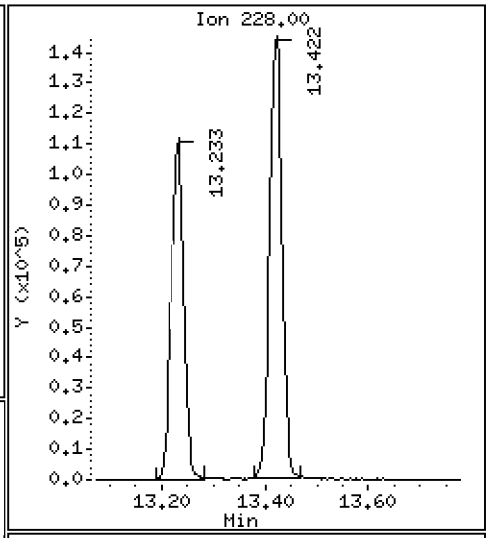
Column phase: Rxi-17sil

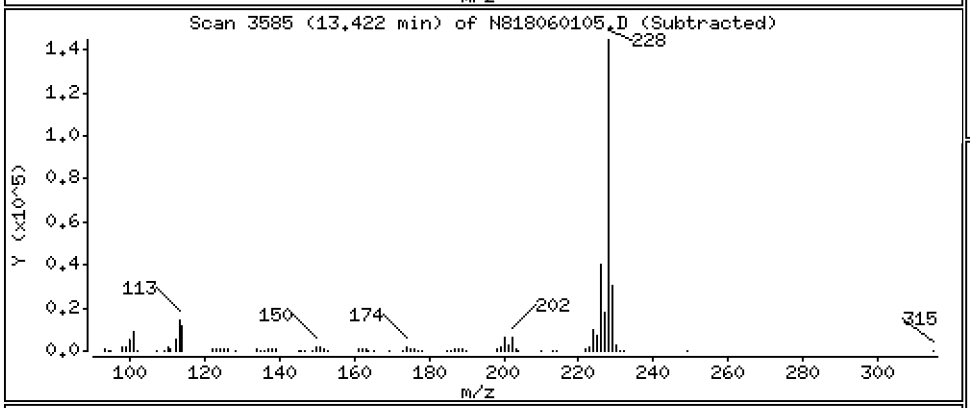
Column diameter: 0.25

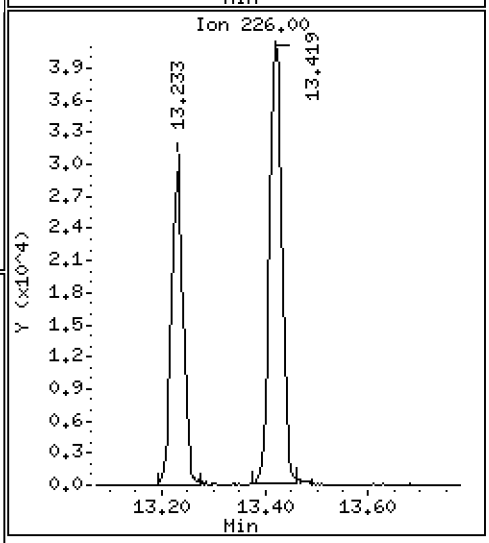
27 Chrysene

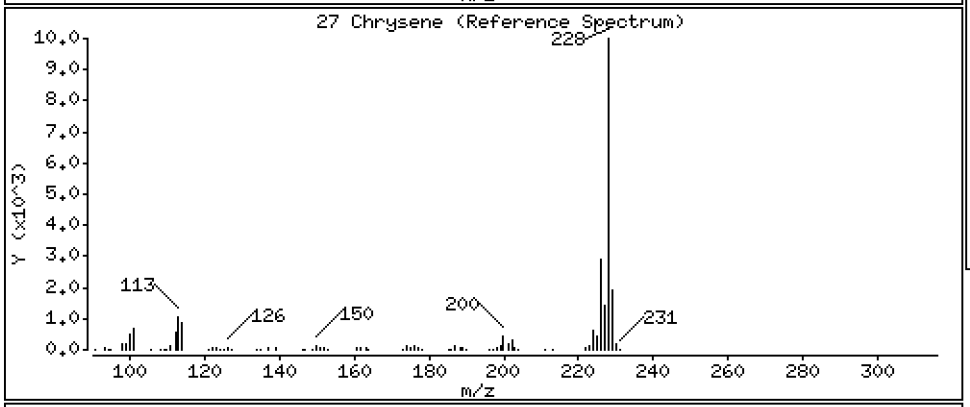
Concentration: 2.461 ug/mL

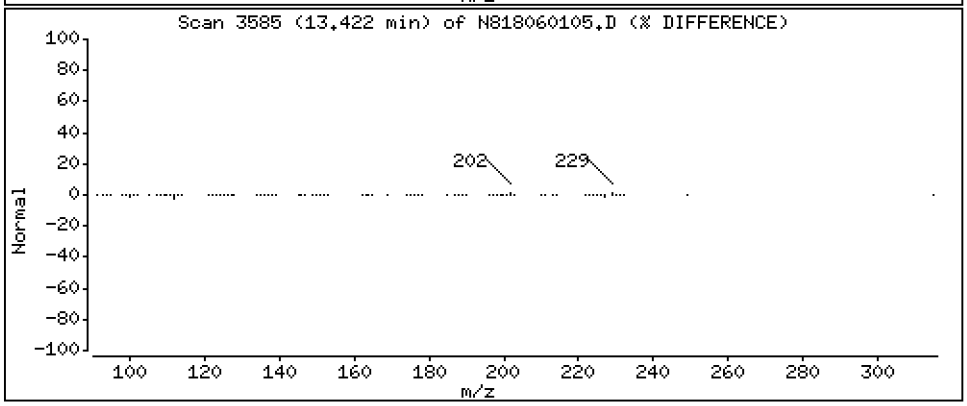












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

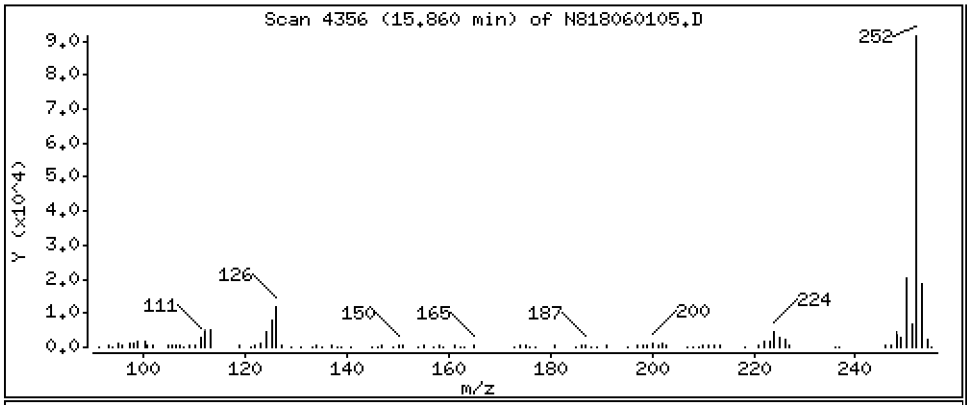
Operator: JZ

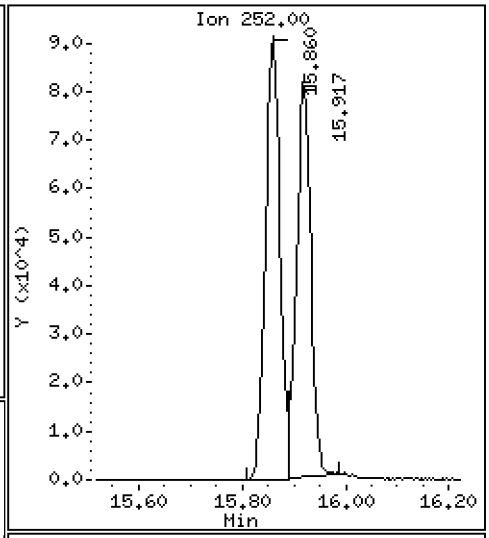
Column phase: Rxi-17sil

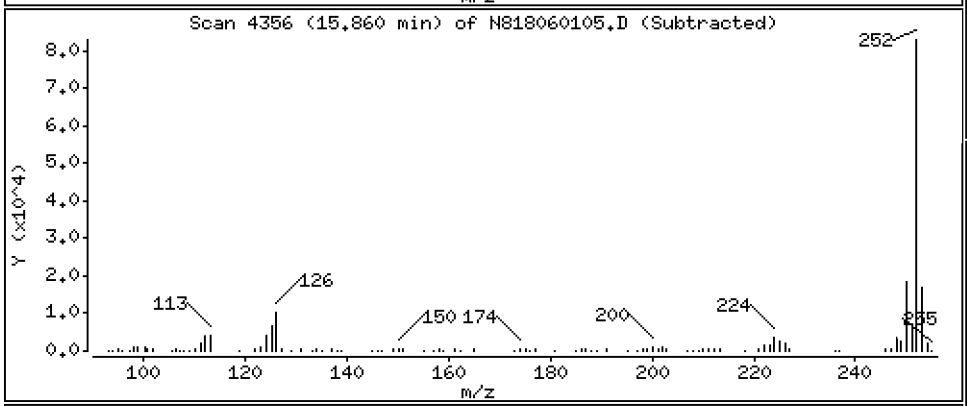
Column diameter: 0.25

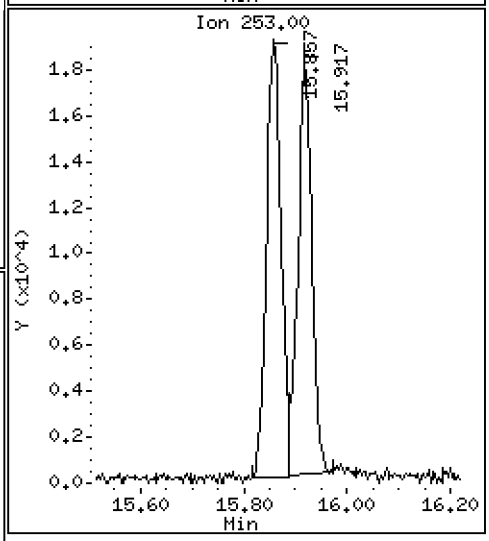
28 Benzo(b)fluoranthene

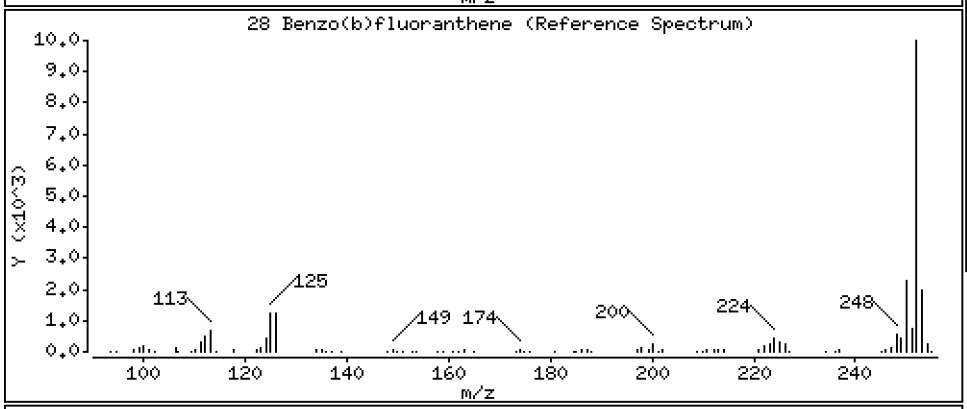
Concentration: 1.736 ug/mL

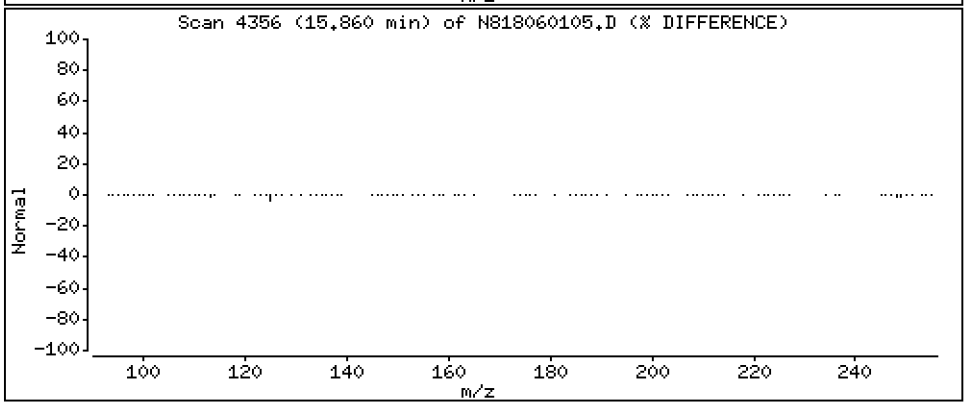












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

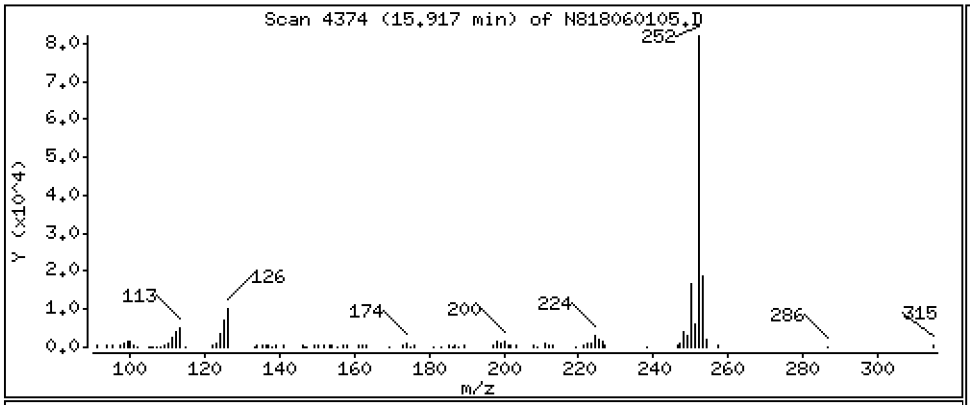
Operator: JZ

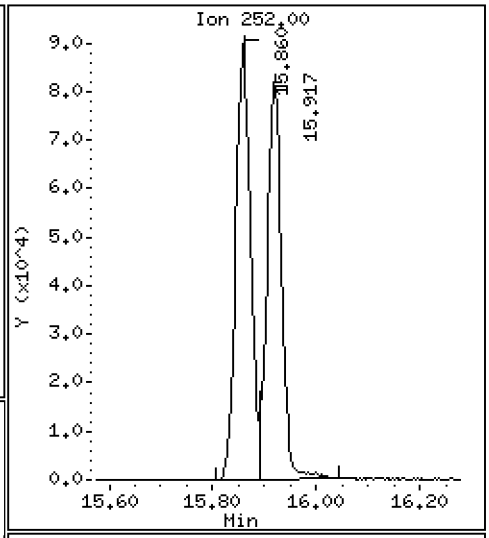
Column phase: Rxi-17sil

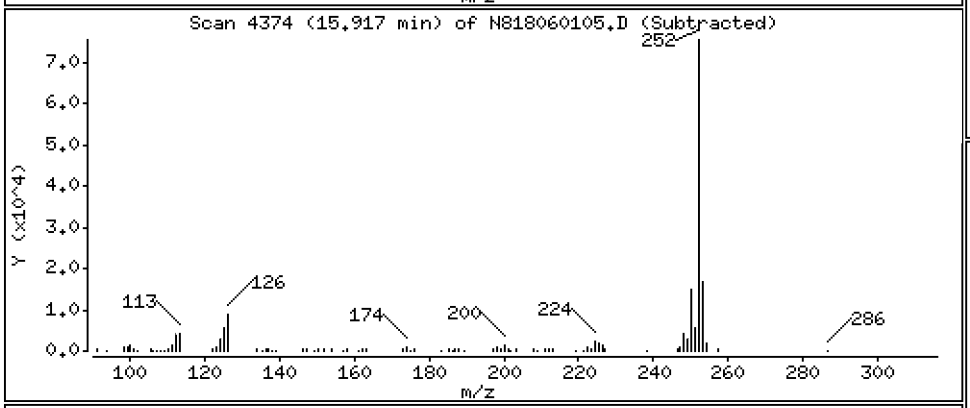
Column diameter: 0.25

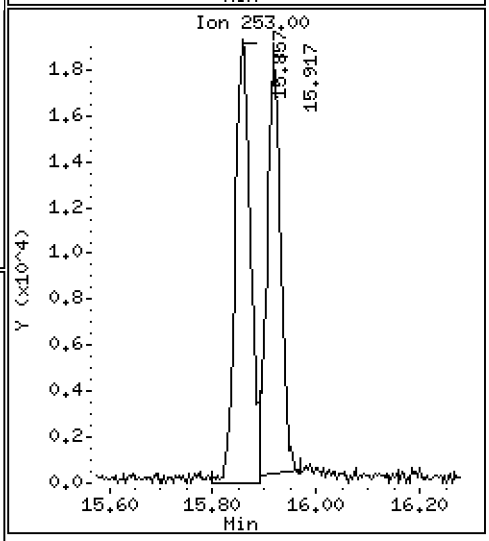
29 Benzo(k)fluoranthene

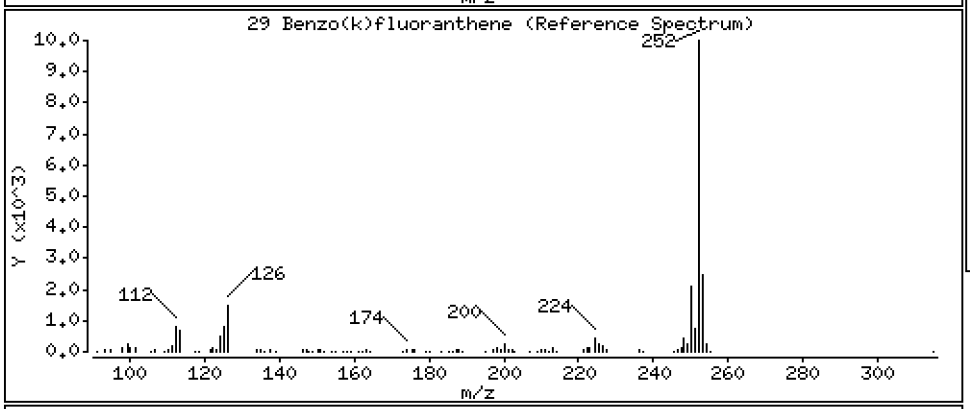
Concentration: 1.559 ug/mL

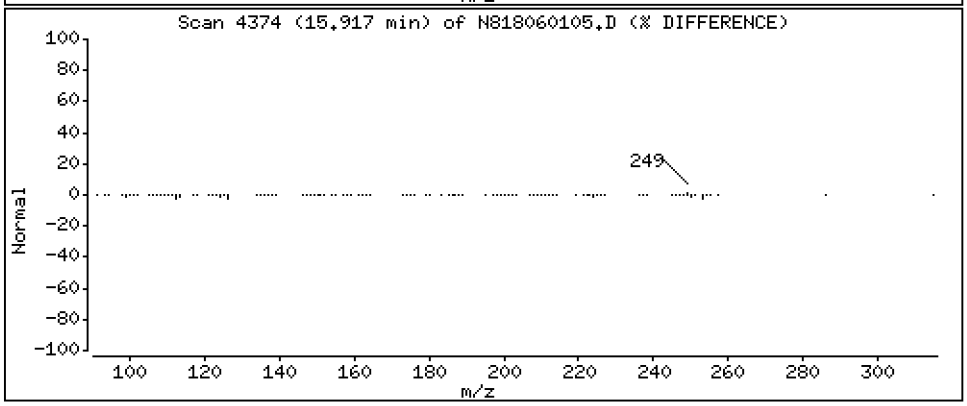












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

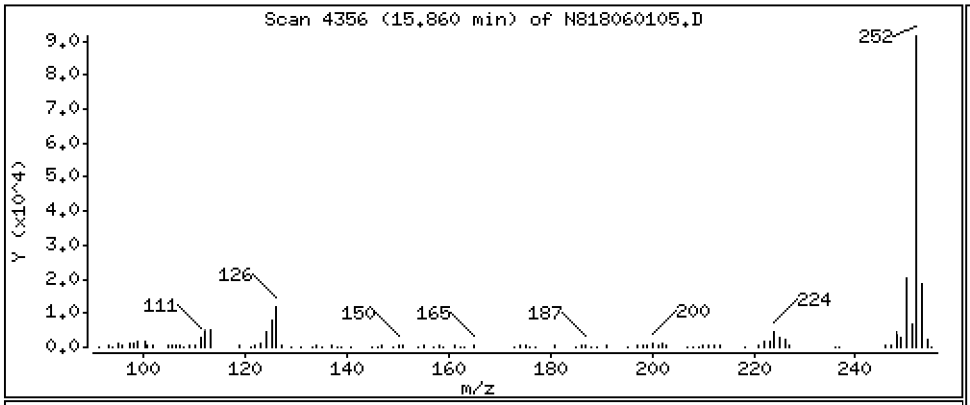
Operator: JZ

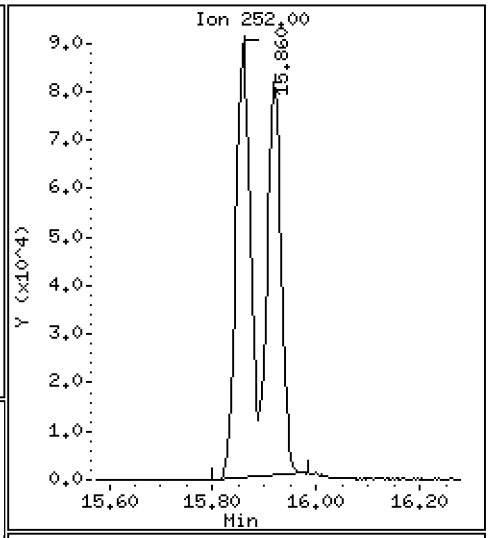
Column phase: Rxi-17sil

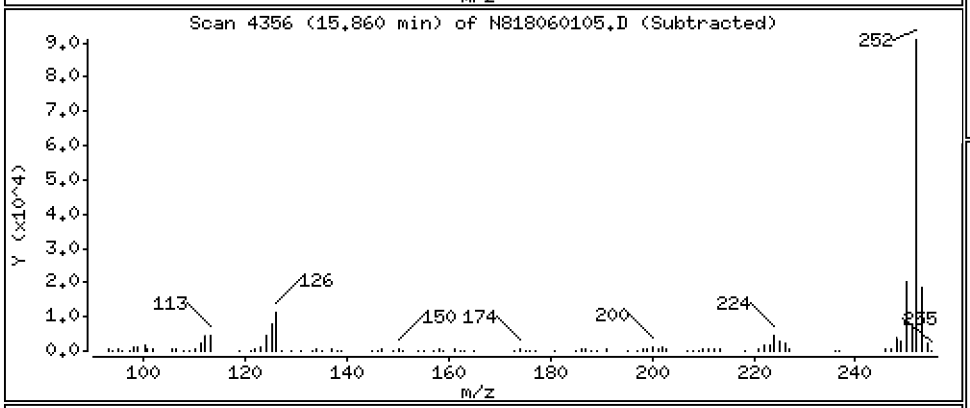
Column diameter: 0.25

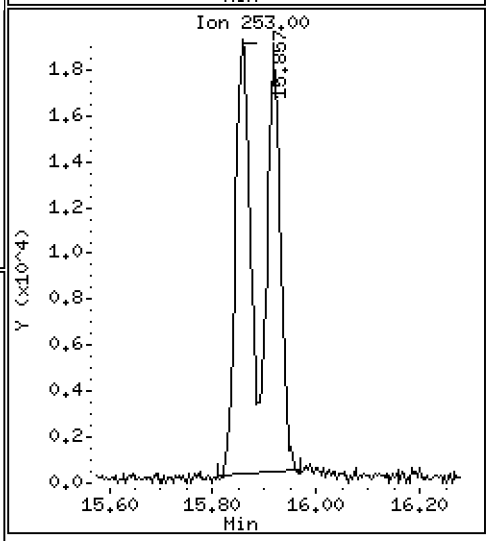
31 Total Benzofluoranthenes

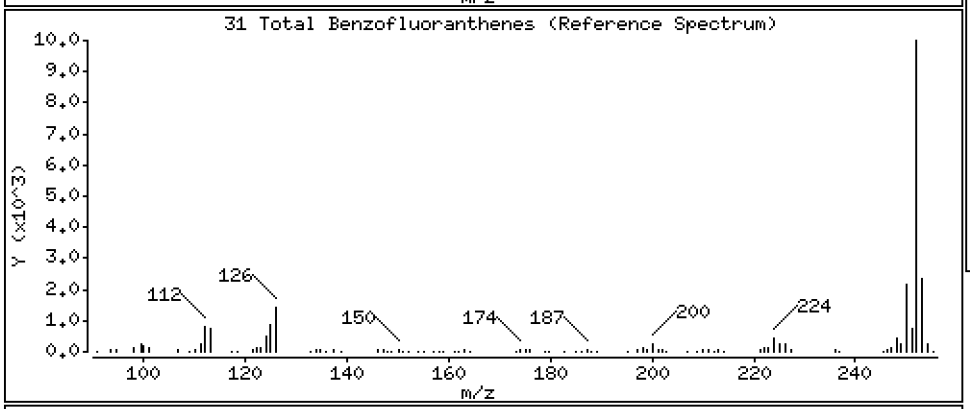
Concentration: 3.229 ug/mL

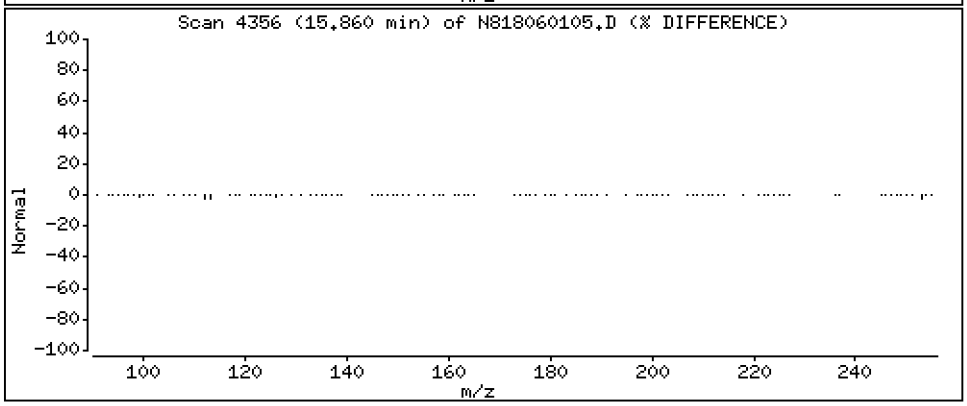












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

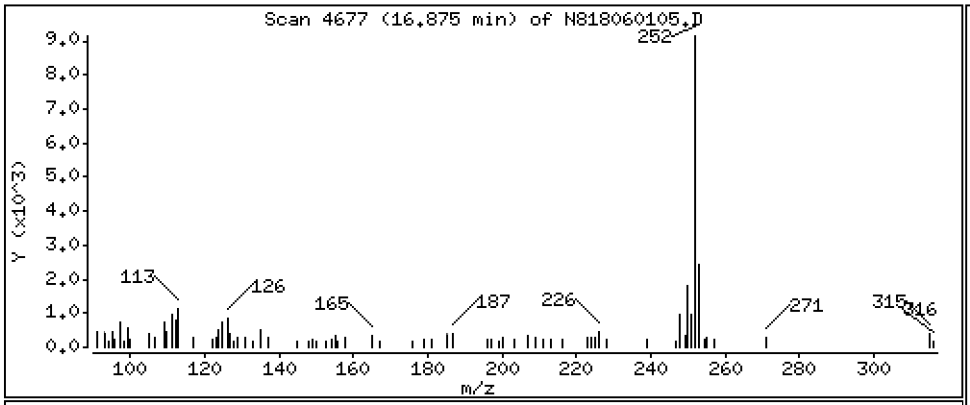
Operator: JZ

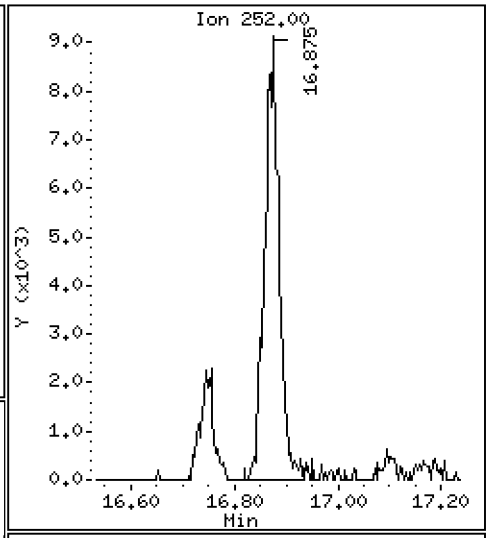
Column phase: Rxi-17sil

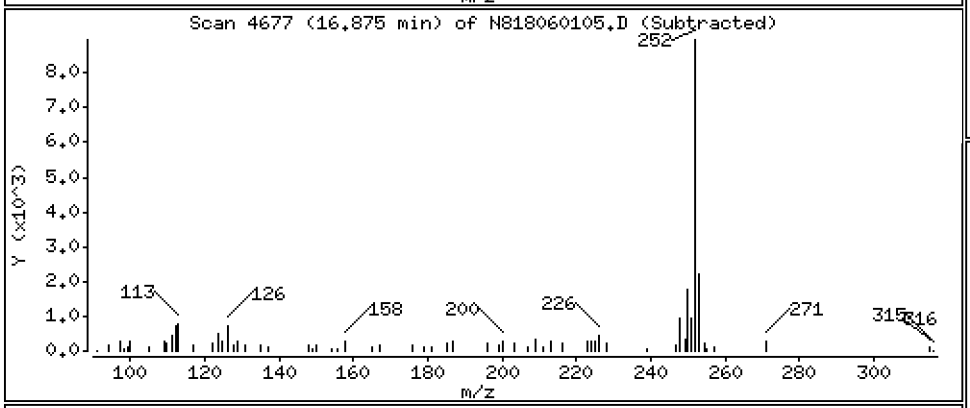
Column diameter: 0.25

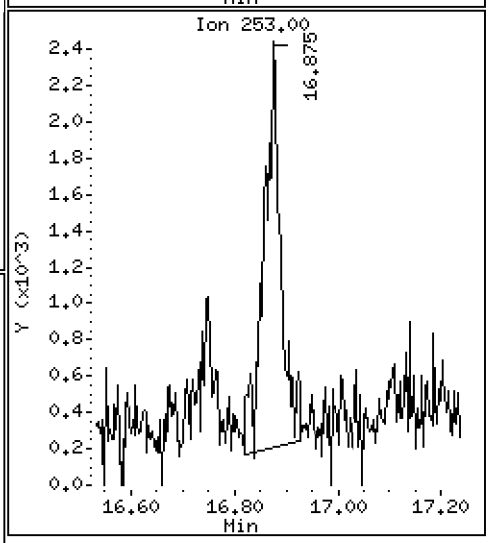
32 Benzo(a)pyrene

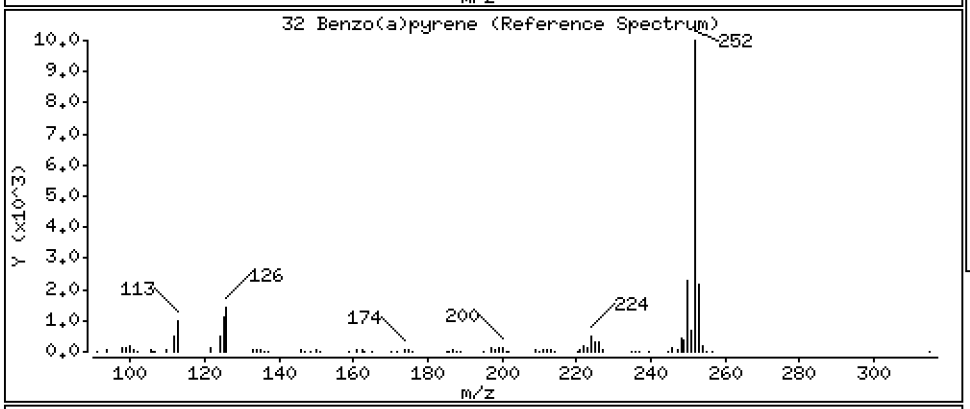
Concentration: 0.1933 ug/mL

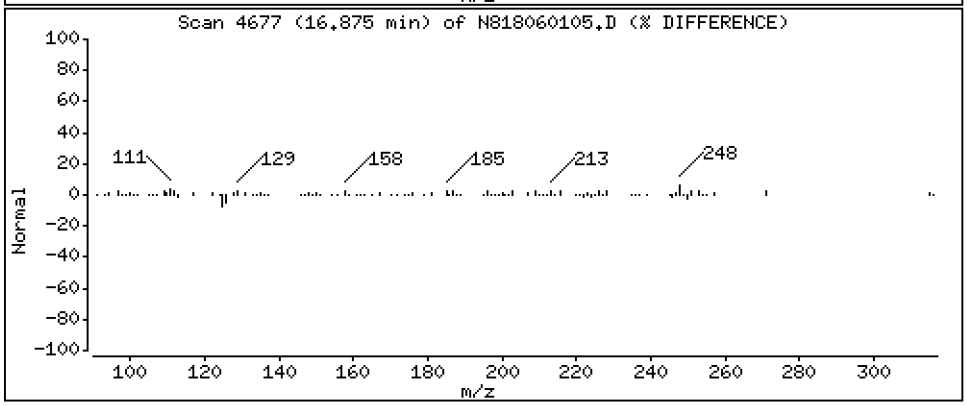












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

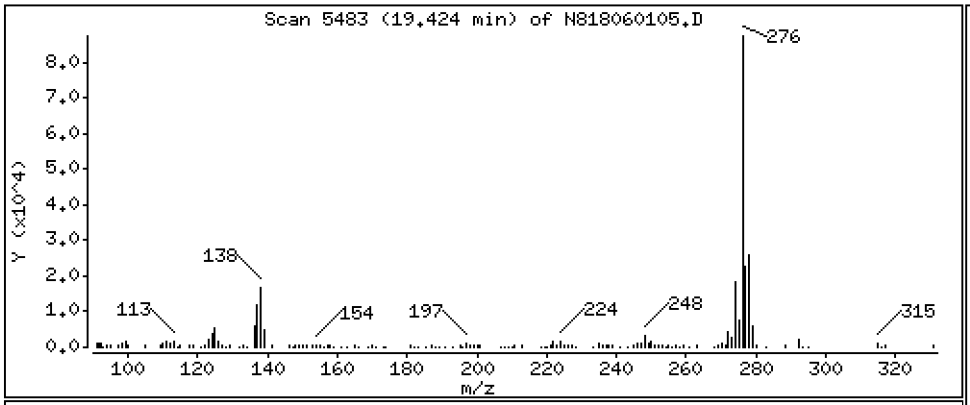
Operator: JZ

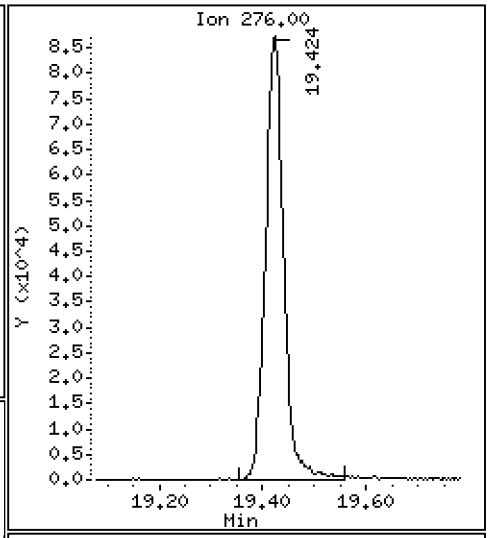
Column phase: Rxi-17sil

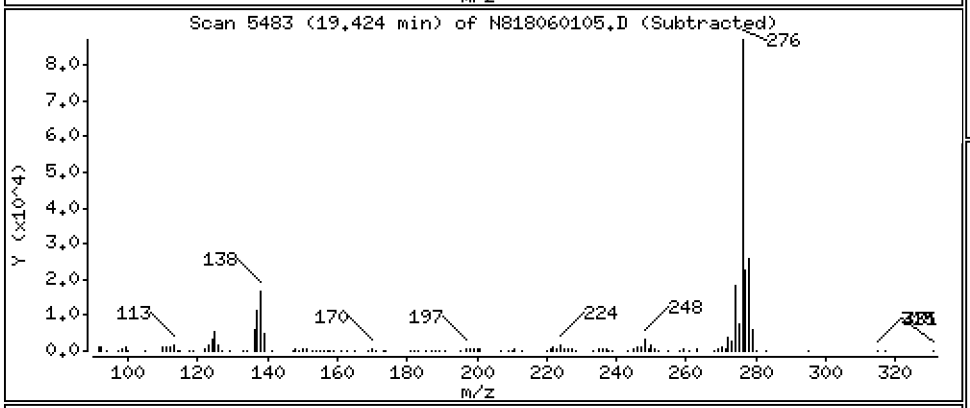
Column diameter: 0.25

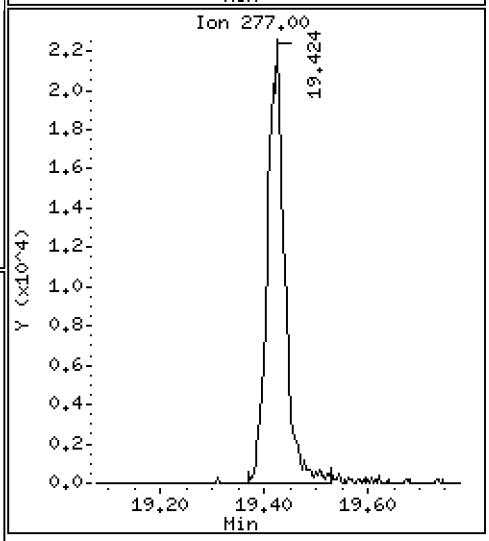
37 Indeno(1,2,3-cd)pyrene

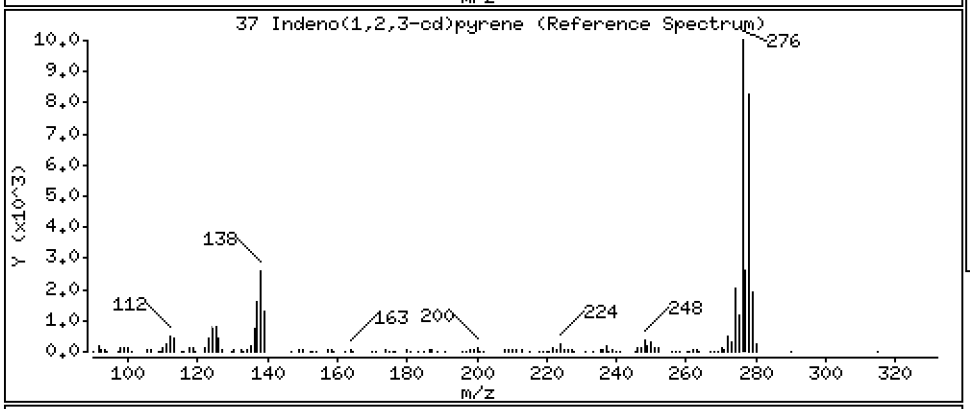
Concentration: 2.051 ug/mL

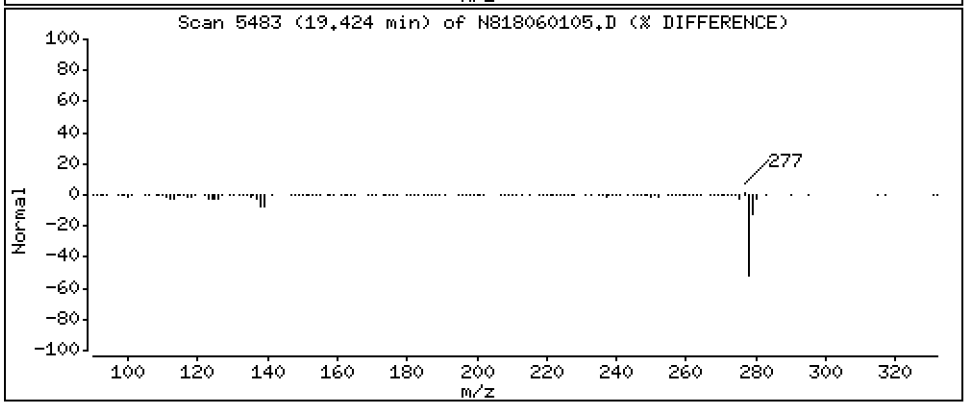












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

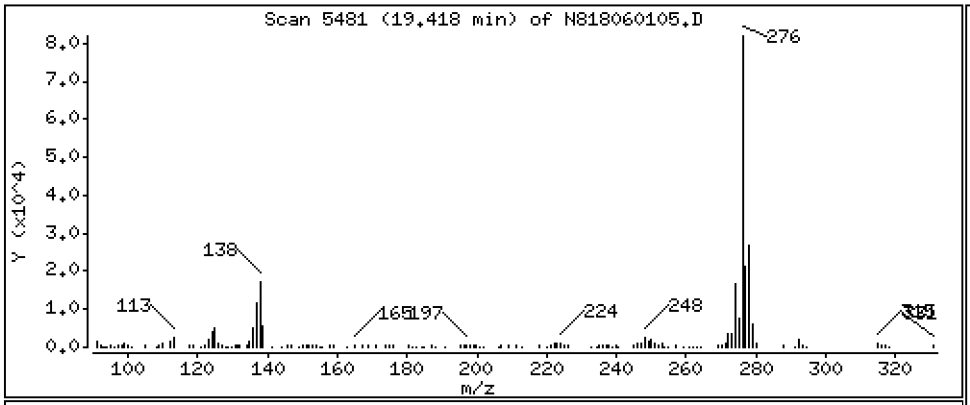
Operator: JZ

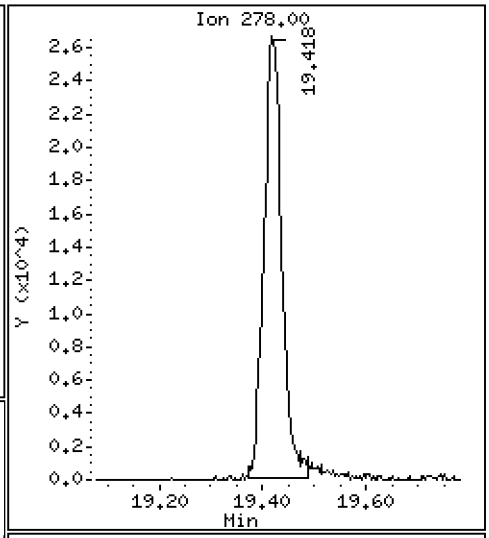
Column phase: Rxi-17sil

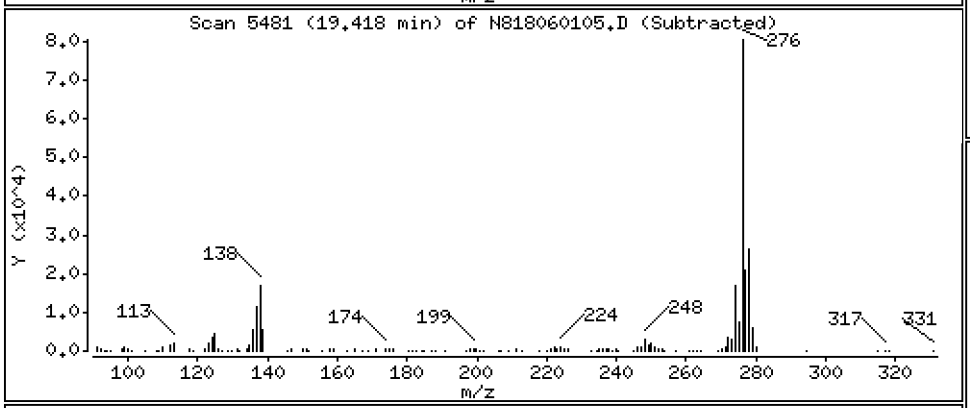
Column diameter: 0.25

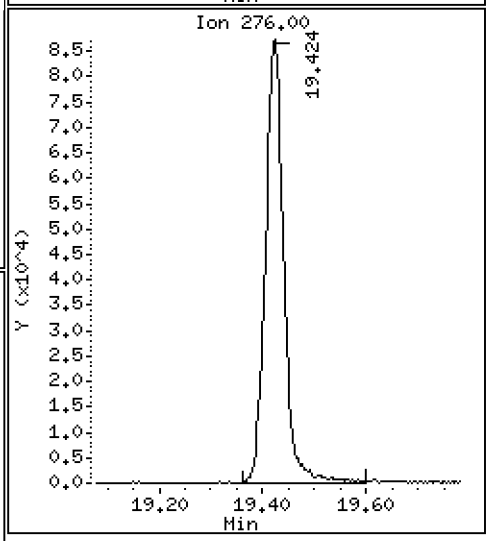
38 Dibenzo(a,h)anthracene

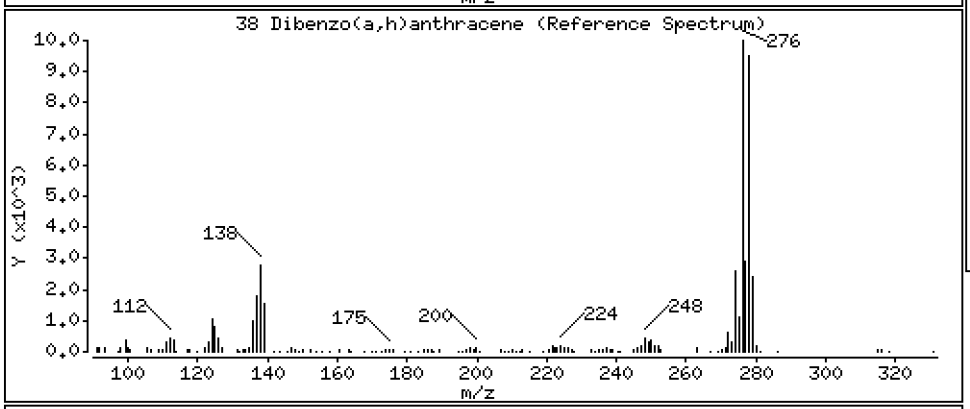
Concentration: 0.7369 ug/mL

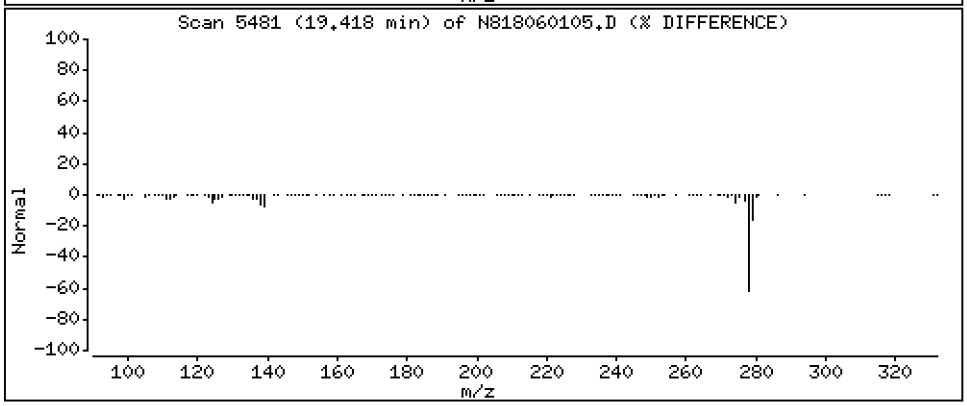












Data File: \\target\share\chem3\nt8.i\20180601.b\N818060105.D

Date : 01-JUN-2018 16:11

Client ID:

Instrument: nt8.i

Sample Info: BGE0626-SRM1,

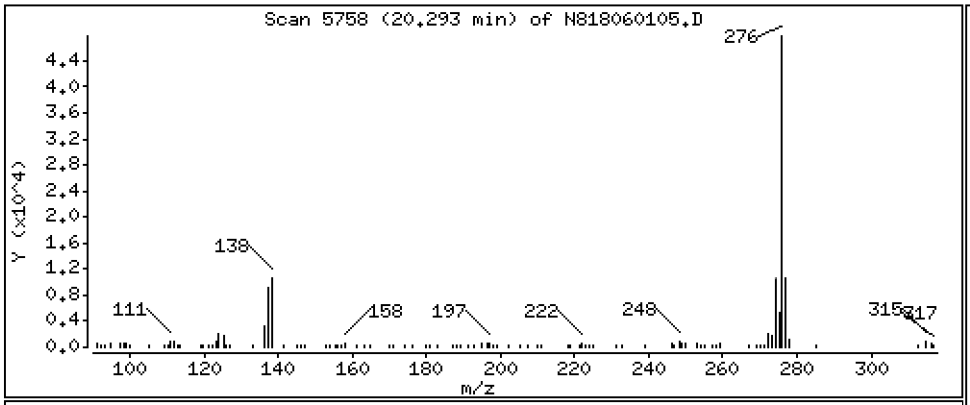
Operator: JZ

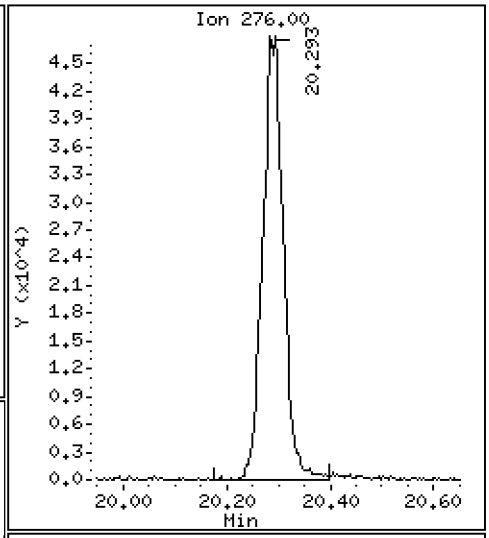
Column phase: Rxi-17sil

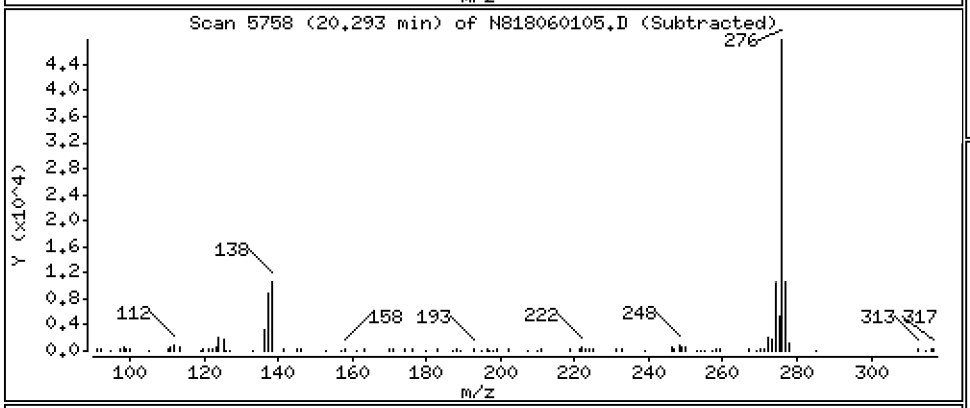
Column diameter: 0.25

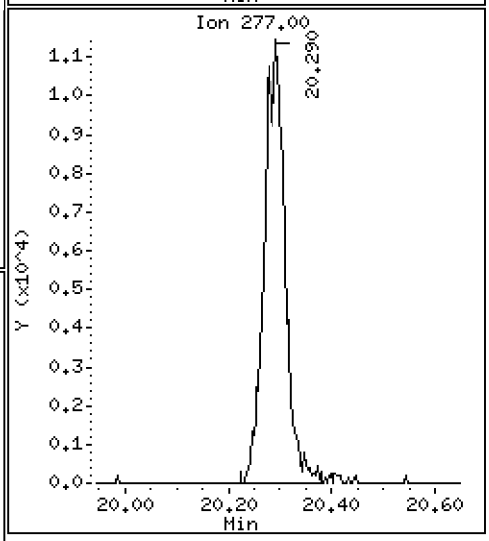
39 Benzo(g,h,i)perylene

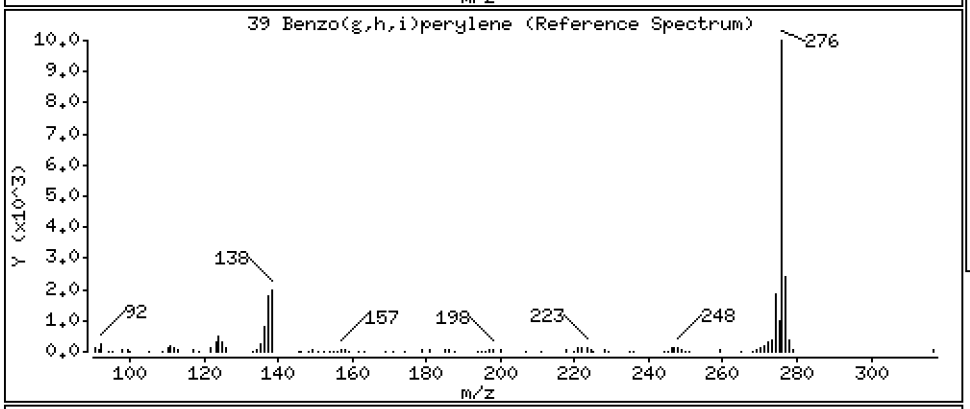
Concentration: 1.464 ug/mL

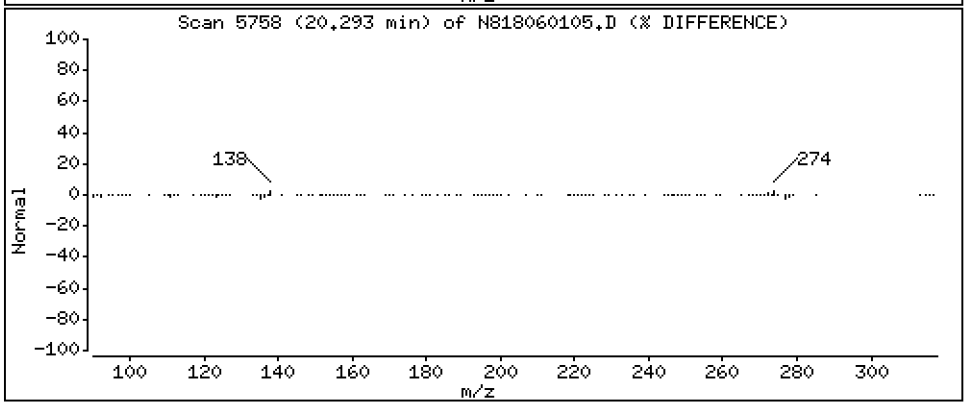












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060105.D
Lab Smp Id: BGE0626-SRM1
Inj Date : 01-JUN-2018 16:11
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0626-SRM1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.464	(1.000)	146295	2.00000	
	2 Naphthalene	128	4.483	4.492	(1.006)	185620	2.18323	2.183
$	3 2-Methylnaphthalene-d10	152	5.185	5.191	(1.164)	73908	1.38491	1.385
	4 2-Methylnaphthalene	141	5.232	5.242	(1.175)	2798	0.05843	0.05843
	5 1-methylnaphthalene	141	5.425	5.432	(1.218)	4357	0.08839	0.08839
	9 Acenaphthylene	152	6.611	6.617	(0.984)	60692	0.78453	0.7845
*	10 Acenaphthene-d10	164	6.722	6.728	(1.000)	77918	2.00000	
	11 Acenaphthene	153	6.772	6.775	(1.008)	151862	2.56069	2.561
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.398	7.402	(1.101)	112942	1.83305	1.833
*	15 Phenanthrene-d10	188	8.742	8.745	(1.000)	145392	2.00000	
	16 Phenanthrene	178	8.777	8.780	(1.004)	337927	3.79216	3.792
	17 Anthracene	178	8.818	8.821	(1.009)	33325	0.41044	0.4104
	22 Fluoranthene	202	10.434	10.434	(1.193)	368021	3.66448	3.664
$	21 Fluoranthene-d10	212	10.399	10.402	(1.190)	195609	2.05506	2.055
	23 Pyrene	202	10.899	10.902	(0.816)	279709	2.75616	2.756
	24 Benzo(a)anthracene	228	13.232	13.239	(0.991)	186108	1.89679	1.897
*	25 Chrysene-d12	240	13.352	13.356	(1.000)	168873	2.00000	
	27 Chrysene	228	13.422	13.425	(1.005)	243104	2.46136	2.461
	28 Benzo(b)fluoranthene	252	15.860	15.869	(0.927)	181718	1.73609	1.736
	29 Benzo(k)fluoranthene	252	15.917	15.926	(0.931)	160511	1.55949	1.559
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.860	15.926	(0.927)	329653	3.22931	3.229(M)
	32 Benzo(a)pyrene	252	16.875	16.884	(0.987)	17729	0.19325	0.1933(M)
*	33 Perylene-d12	264	17.102	17.112	(1.000)	164699	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.423	19.430	(1.136)	215414	2.05100	2.051
$	36 Dibenzo(a,h)anthracene-d14	292	19.328	19.338	(1.130)	175351	2.27304	2.273
	38 Dibenzo(a,h)anthracene	278	19.417	19.430	(1.135)	63839	0.73685	0.7369
	39 Benzo(g,h,i)perylene	276	20.293	20.299	(1.187)	134412	1.46428	1.464
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060105.D
Lab Smp Id: BGE0626-SRM1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	146295	19.73
10 Acenaphthene-d10	65789	32895	131578	77918	18.44
15 Phenanthrene-d10	128644	64322	257288	145392	13.02
25 Chrysene-d12	166669	83335	333338	168873	1.32
33 Perylene-d12	140483	70242	280966	164699	17.24

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	-0.21
10 Acenaphthene-d10	6.73	6.23	7.23	6.72	-0.09
15 Phenanthrene-d10	8.75	8.25	9.25	8.74	-0.04
25 Chrysene-d12	13.36	12.86	13.86	13.35	-0.02
33 Perylene-d12	17.11	16.61	17.61	17.10	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060105.D

Lab ID: BGE0626-SRM1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 16:11

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

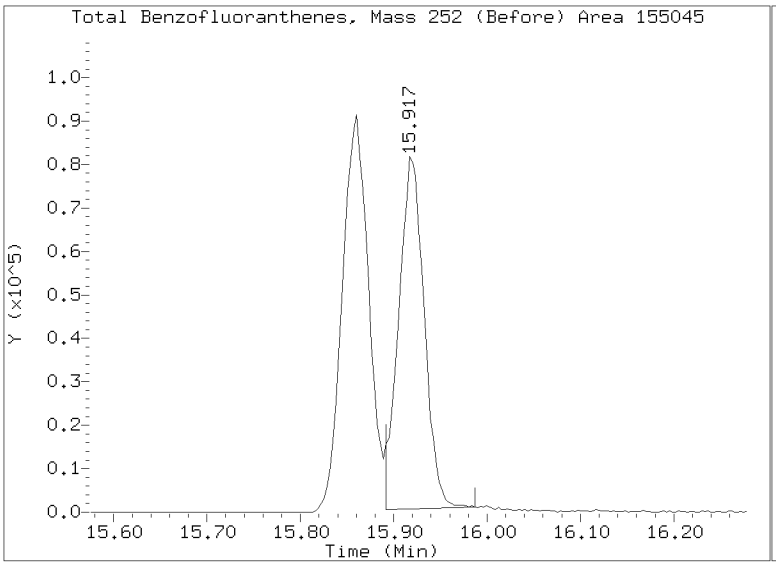
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, pnax.sub = 0.0500

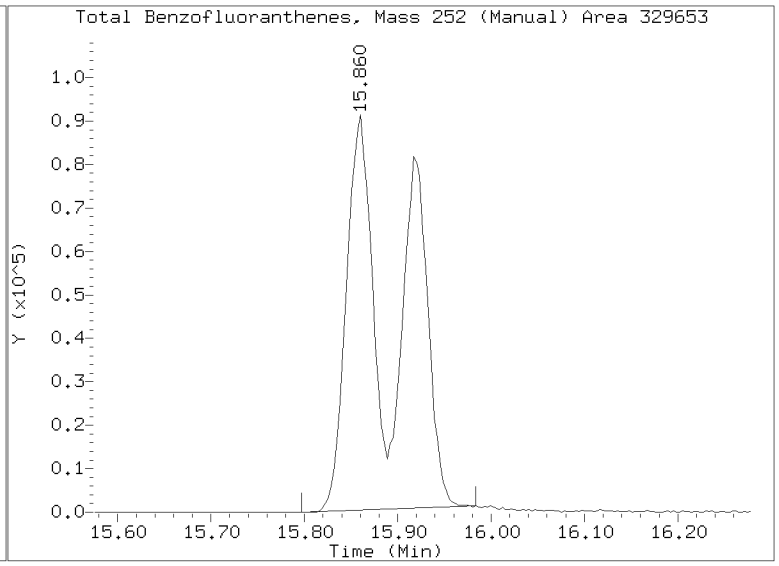
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

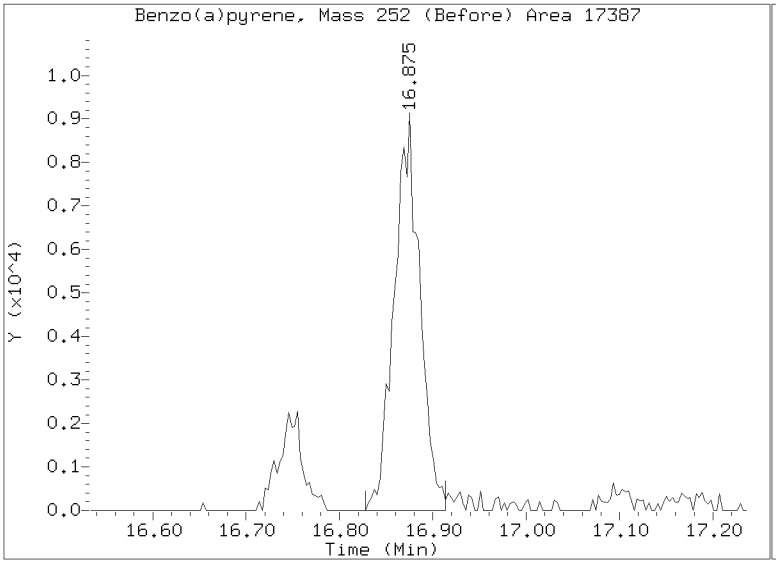
* Only compounds listed in the work order have been verified by the analyst *

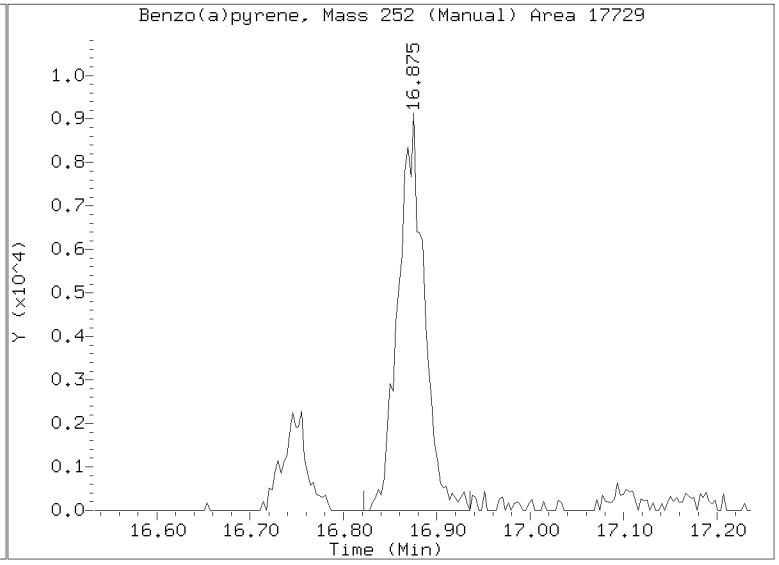
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060105.D
Injection Date: 01-JUN-2018 16:11
Lab ID:BGE0626-SRM1 Client ID:
Report Date: 06/01/2018 16:38









Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. **SDG:** 18E0231

Client: Windward Environmental, LLC **Project:** LDW AOC3 Task 4

Matrix: Tissue **Laboratory ID:** BGE0773-SRM1

Batch: BGE0773 **Initial/Final:** 5.05 g / 0.5 mL

Preparation: EPA 3550C-Mod (Ultrasonic) **Analyzed:** 06/12/2018 16:16

Standard ID: F011861 **Description:** CRM142-50g PAHs Silty Loam S **Expires:** 12/31/2019

ANALYTE	TRUE (ug/kg)	FOUND (ug/kg)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Benzo(a)anthracene	307.92	181	1.06	9.90		58.7	44 - 157
Chrysene	329.70	235	0.97	9.90		71.4	63 - 137
Benzo(b)fluoranthene	222.77	166	1.99	9.90		74.7	54 - 146
Benzo(k)fluoranthene	216.83	152	1.41	9.90	*	69.9 *	70 - 130
Benzo(a)pyrene	55.149	18.1	1.81	9.90		32.8	16 - 184
Indeno(1,2,3-cd)pyrene	290.10	217	1.14	9.90		74.8	35 - 165

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

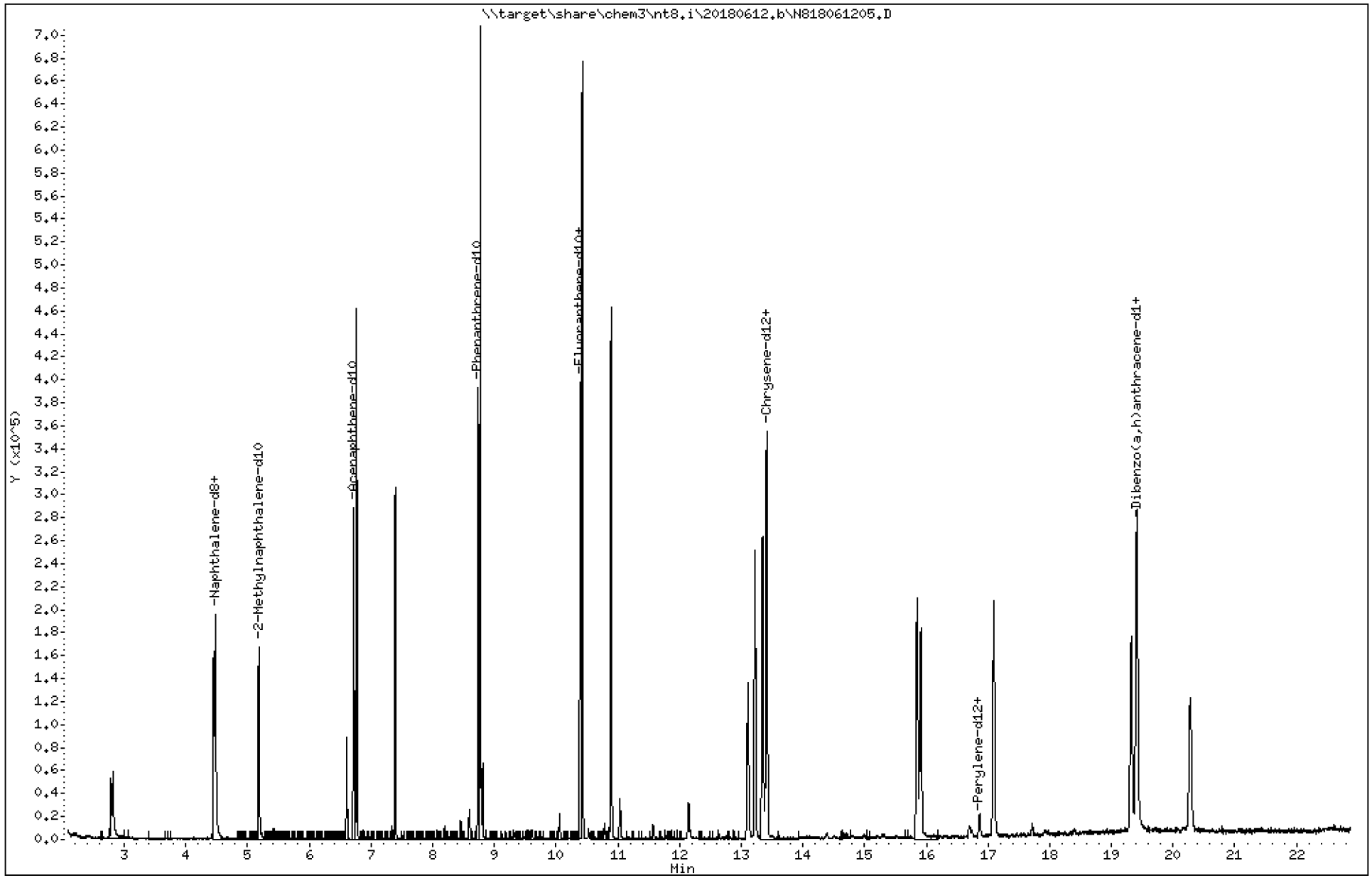
Instrument: nt8.i

Sample Info: BGE0773-SRM1,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

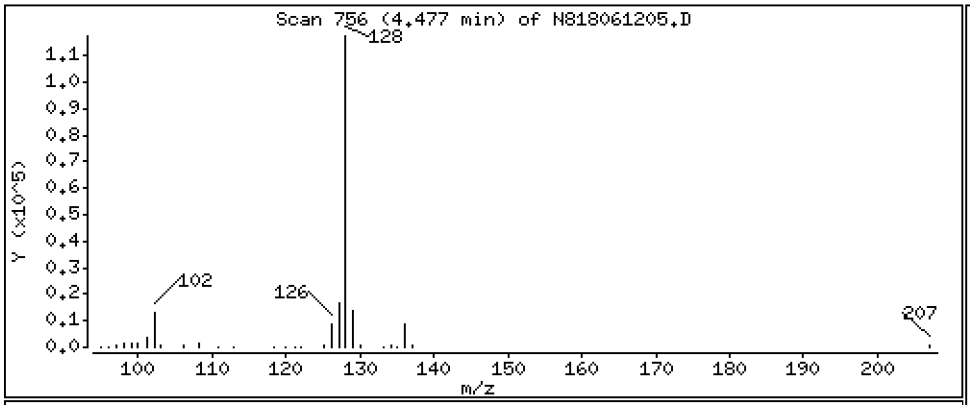
Operator: JZ

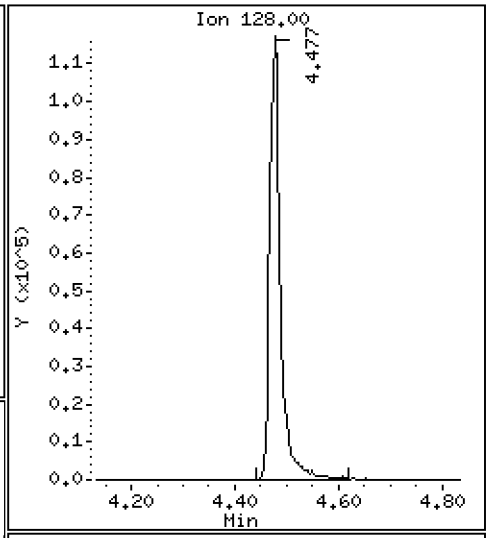
Column phase: Rxi-17sil

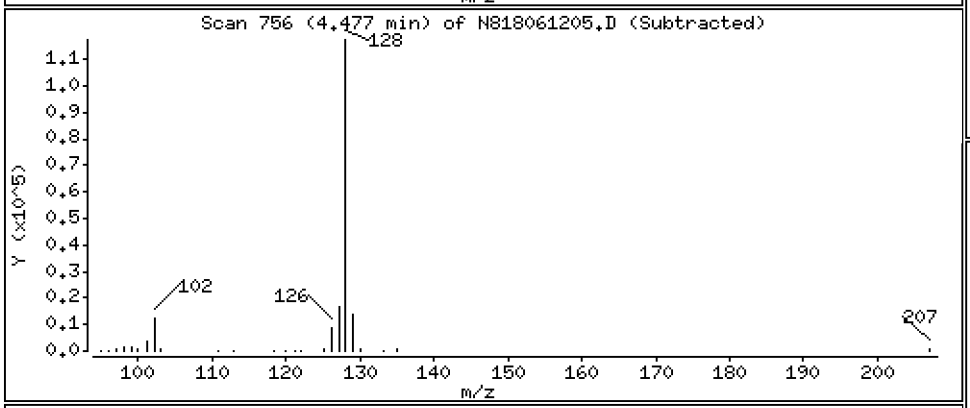
Column diameter: 0.25

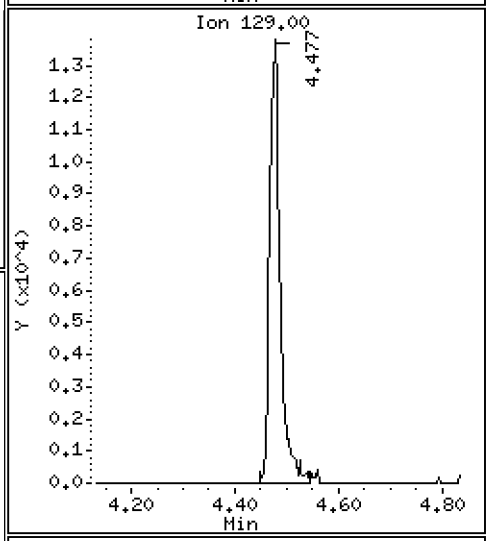
2 Naphthalene

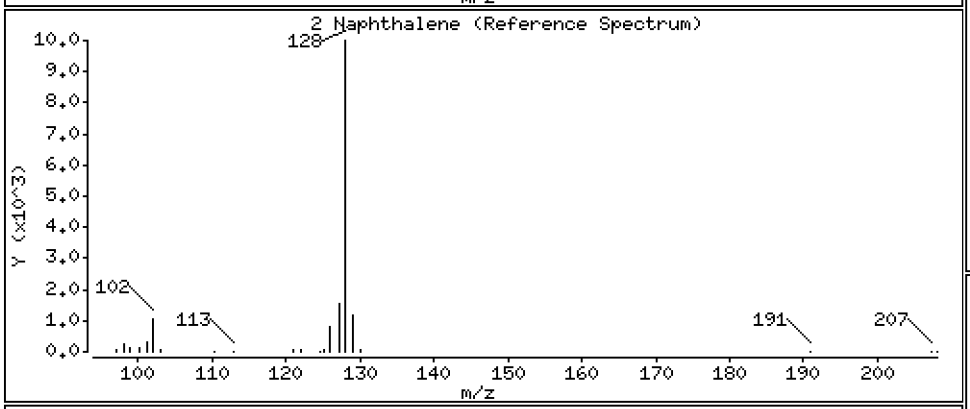
Concentration: 1.985 ug/mL

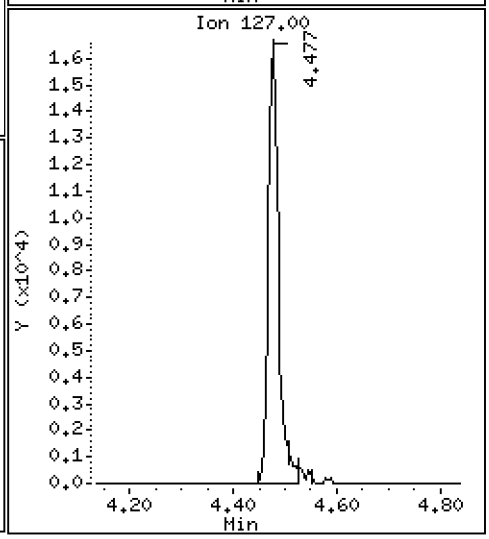


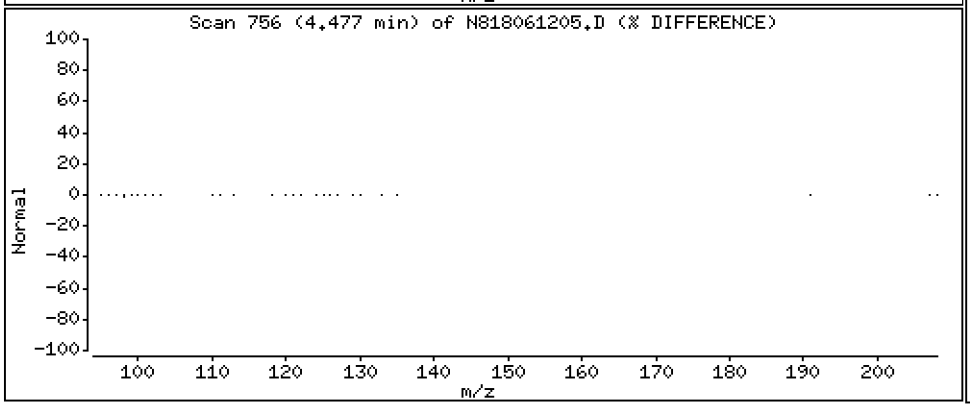












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

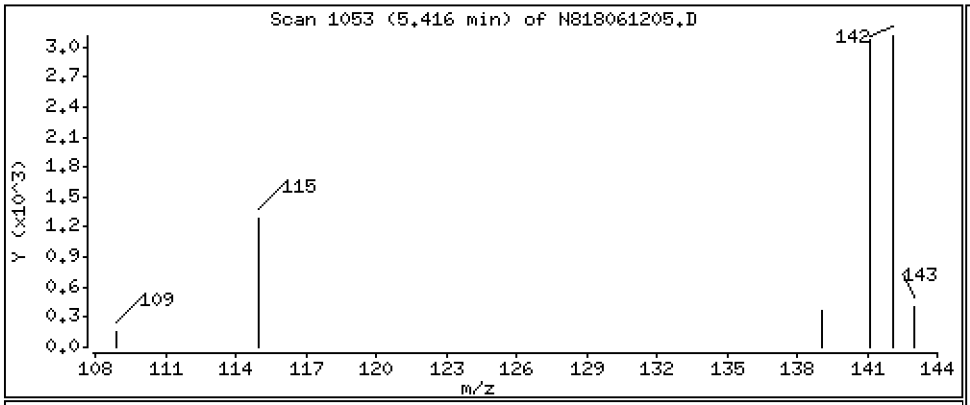
Operator: JZ

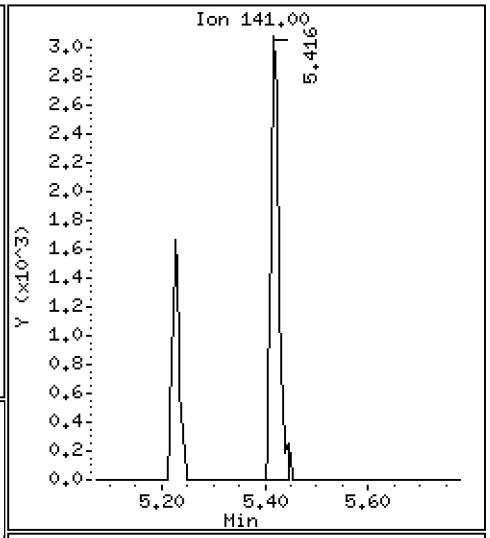
Column phase: Rxi-17sil

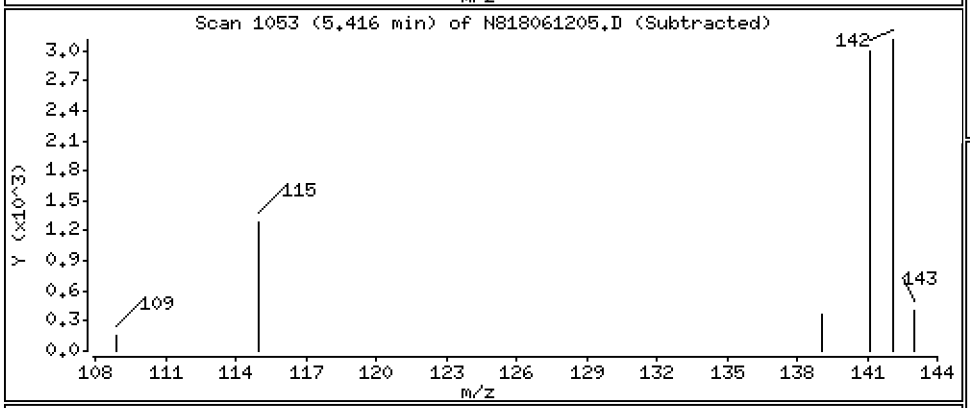
Column diameter: 0.25

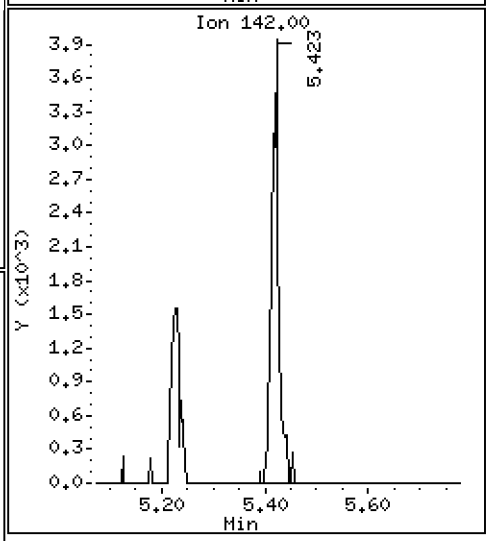
5 1-methylnaphthalene

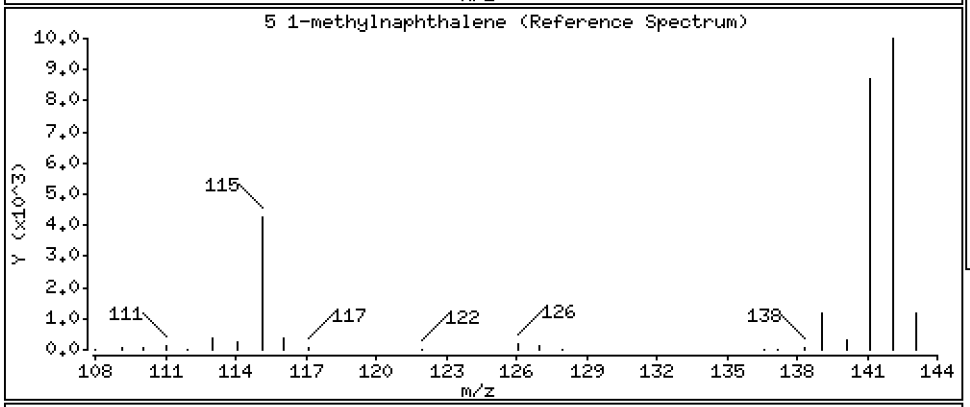
Concentration: 0.06779 ug/mL

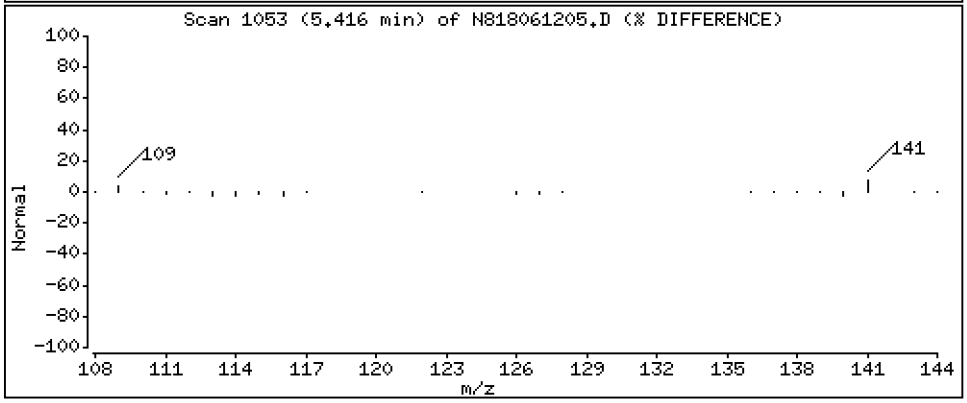












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

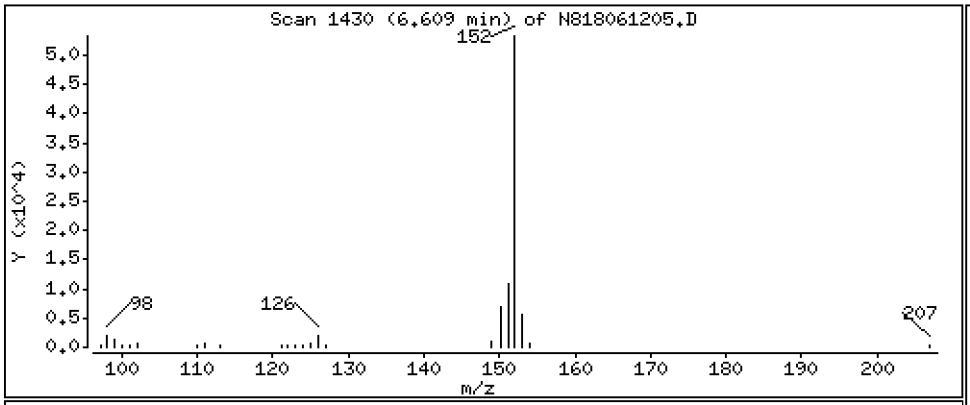
Operator: JZ

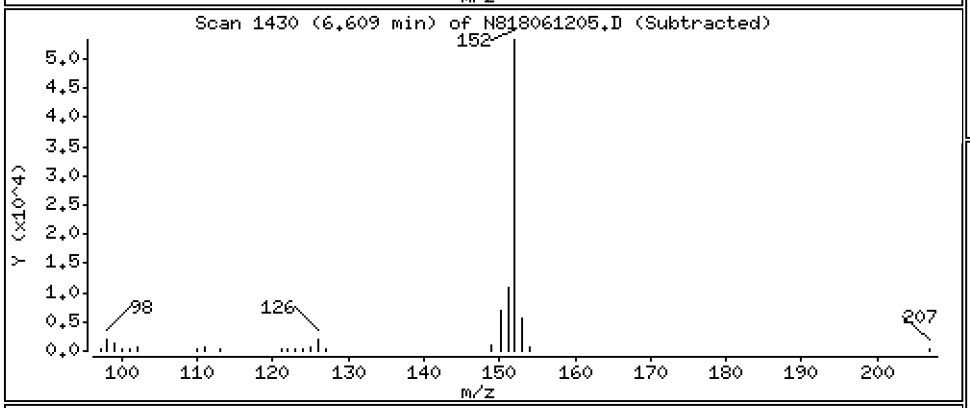
Column phase: Rxi-17sil

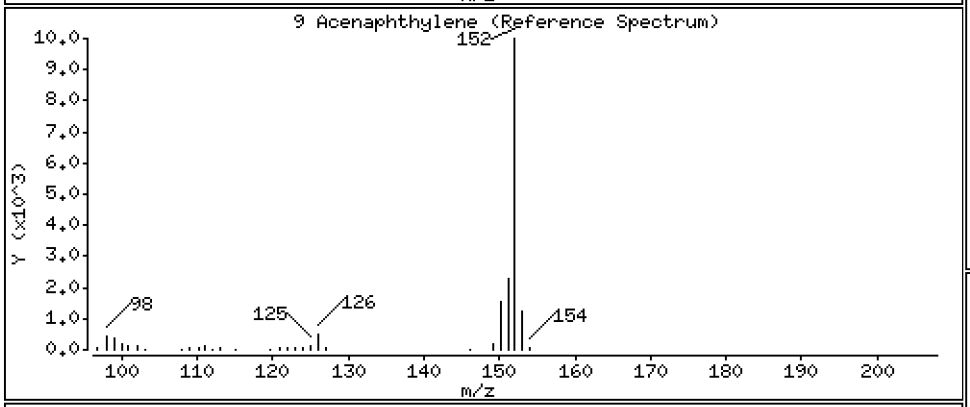
Column diameter: 0.25

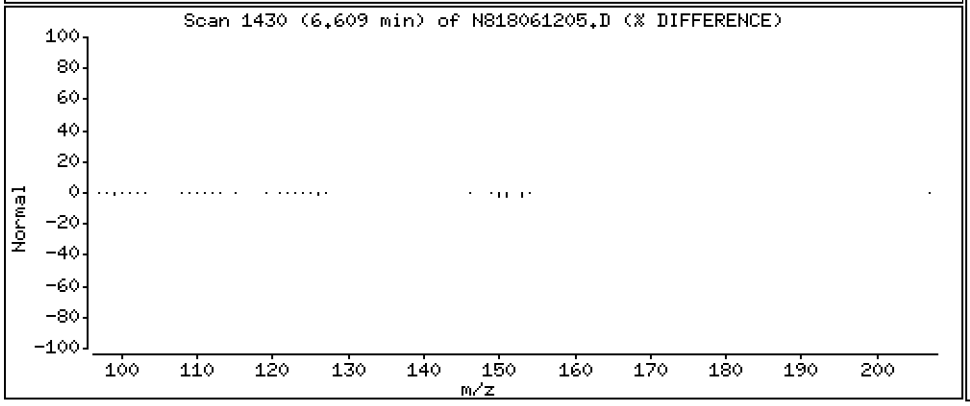
9 Acenaphthylene

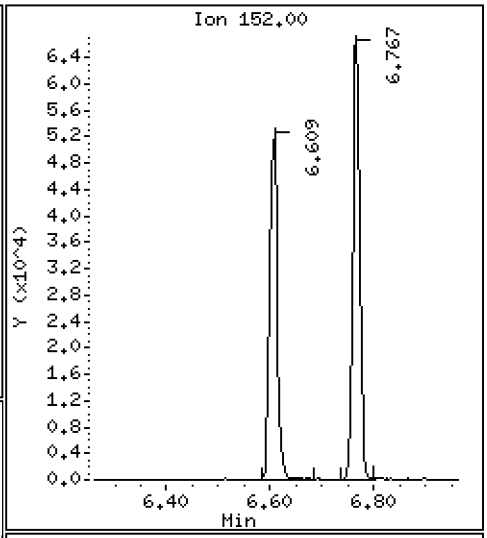
Concentration: 0.6595 ug/mL

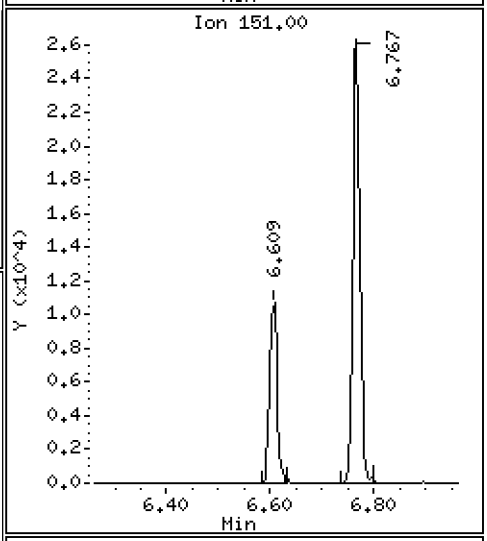


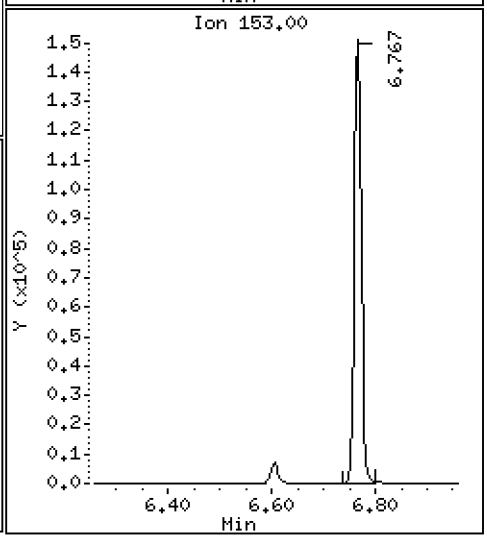












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

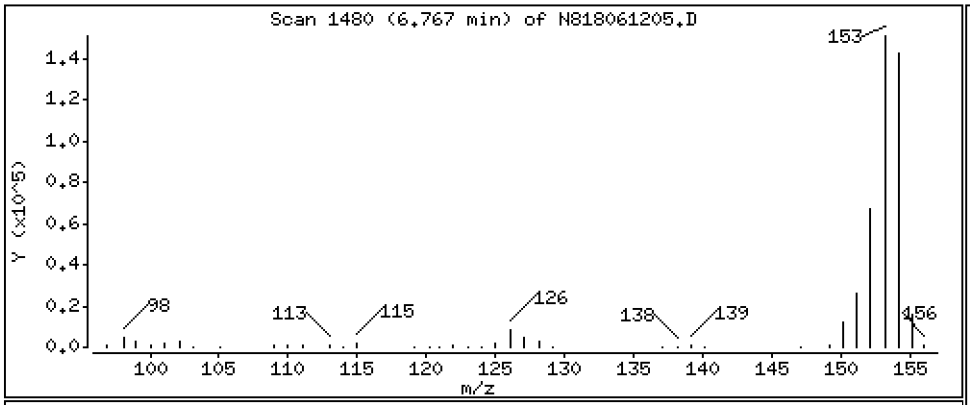
Operator: JZ

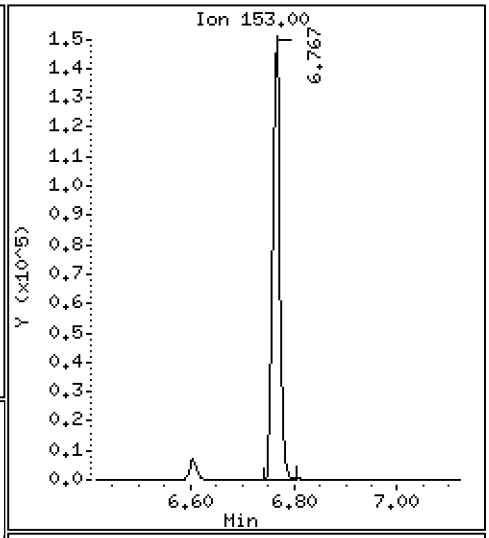
Column phase: Rxi-17sil

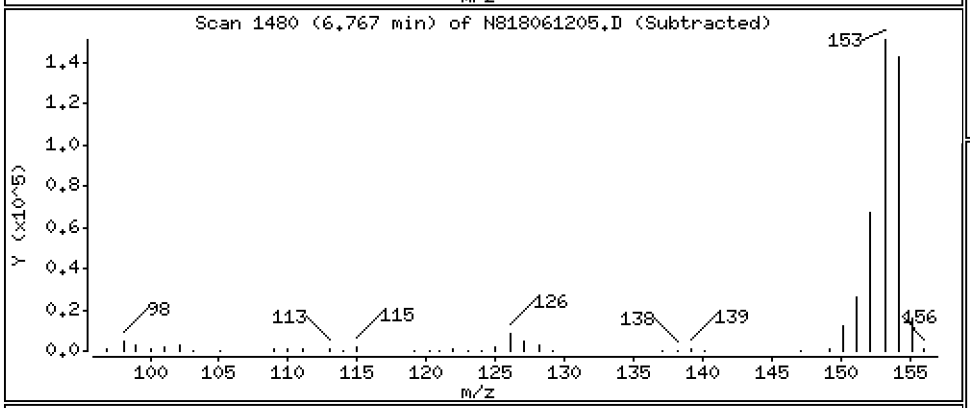
Column diameter: 0.25

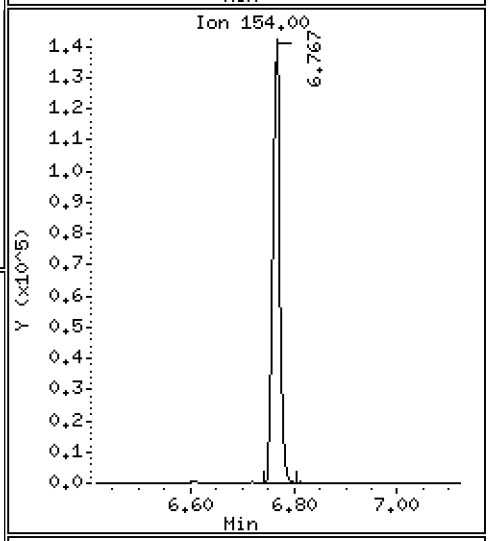
11 Acenaphthene

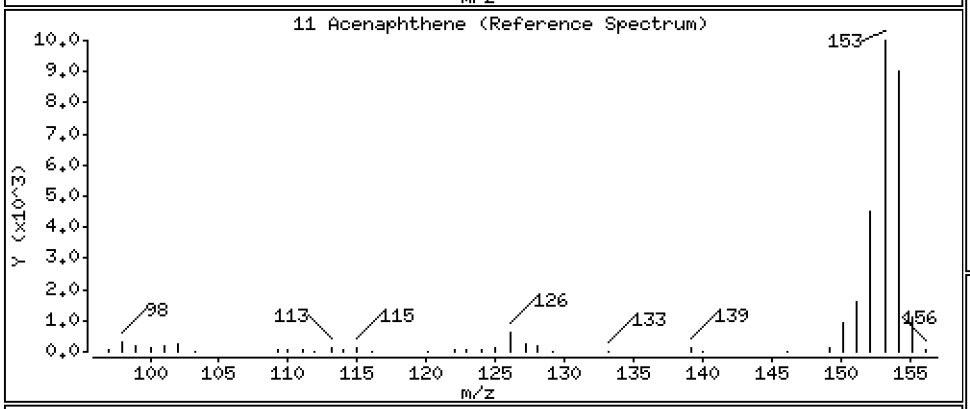
Concentration: 2.305 ug/mL

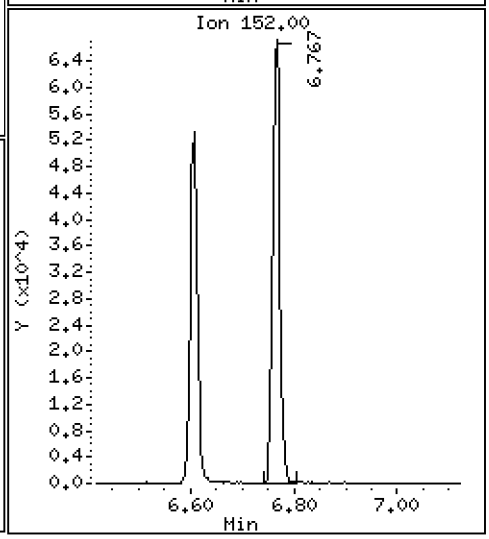


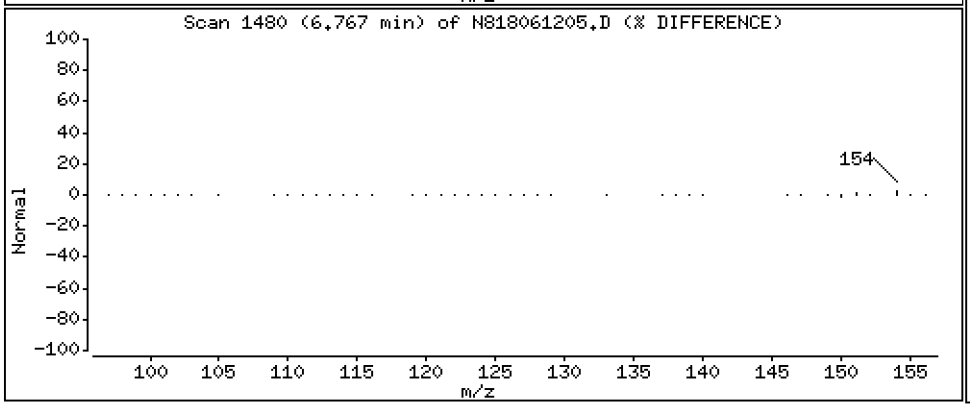












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

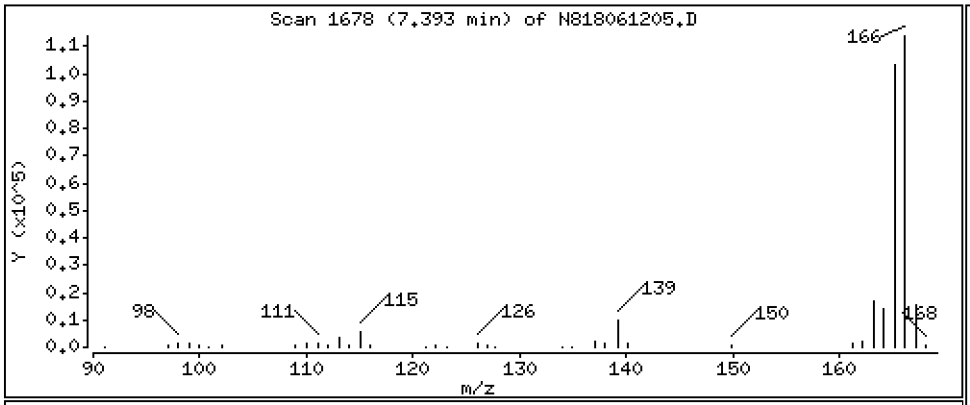
Operator: JZ

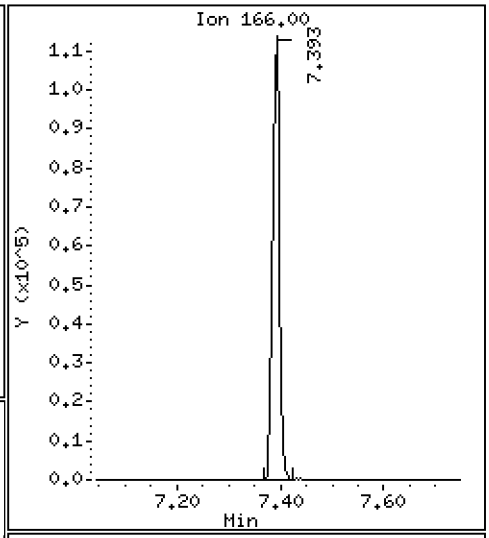
Column phase: Rxi-17sil

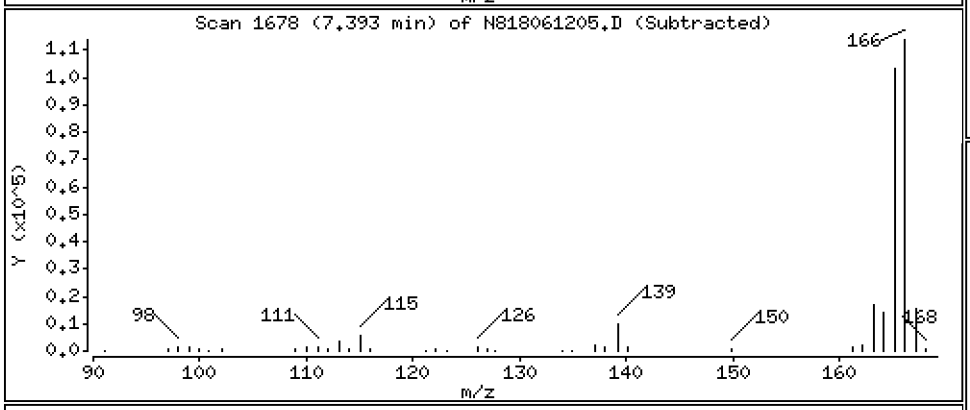
Column diameter: 0.25

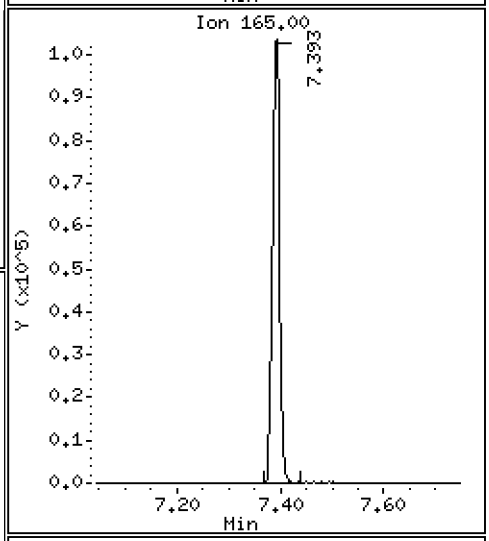
14 Fluorene

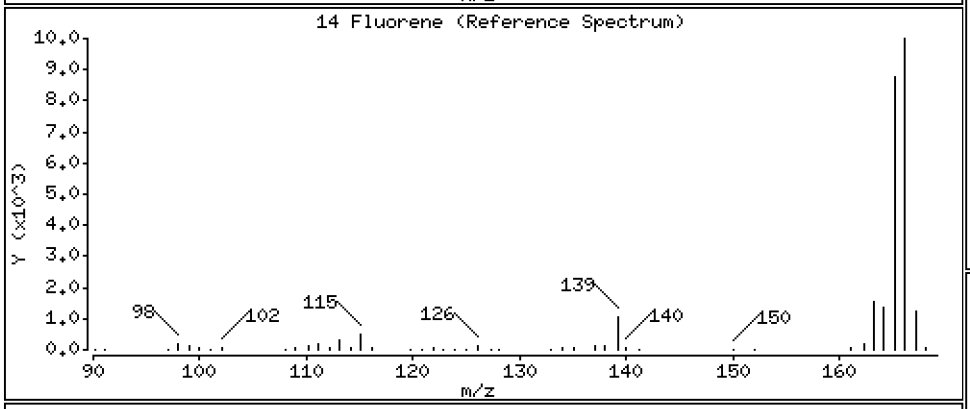
Concentration: 1.591 ug/mL

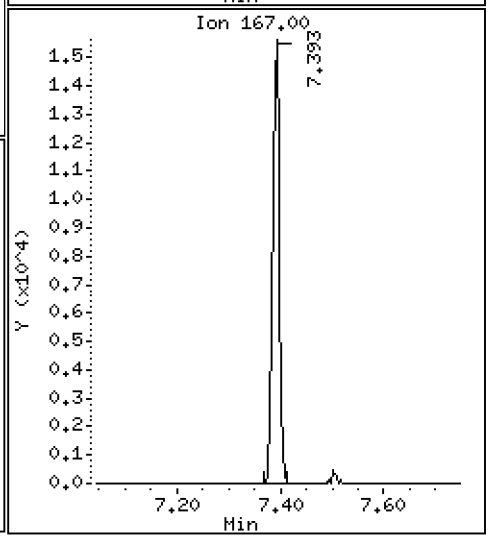


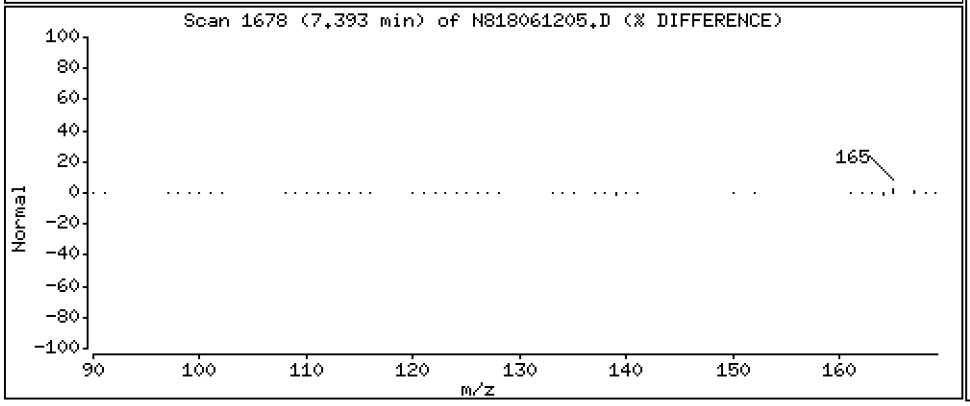












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

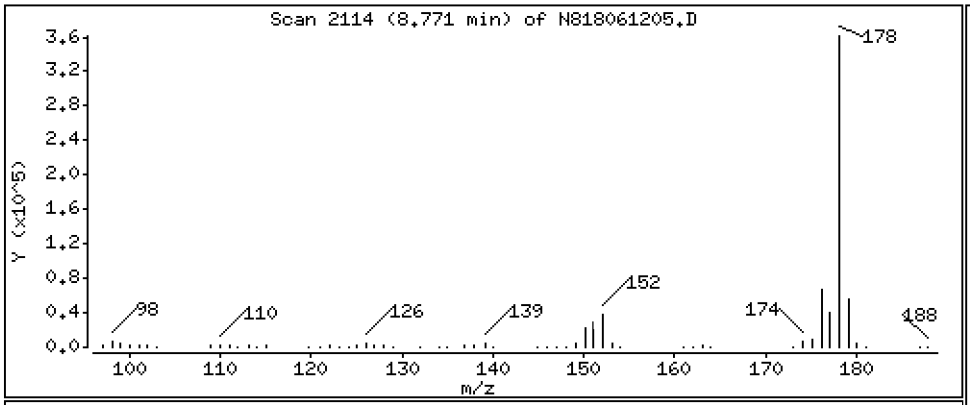
Operator: JZ

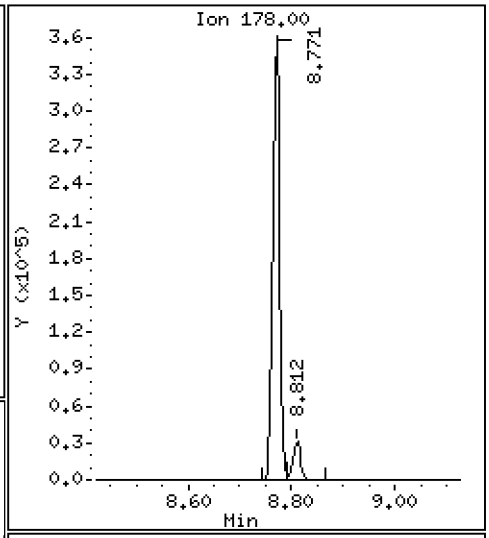
Column phase: Rxi-17sil

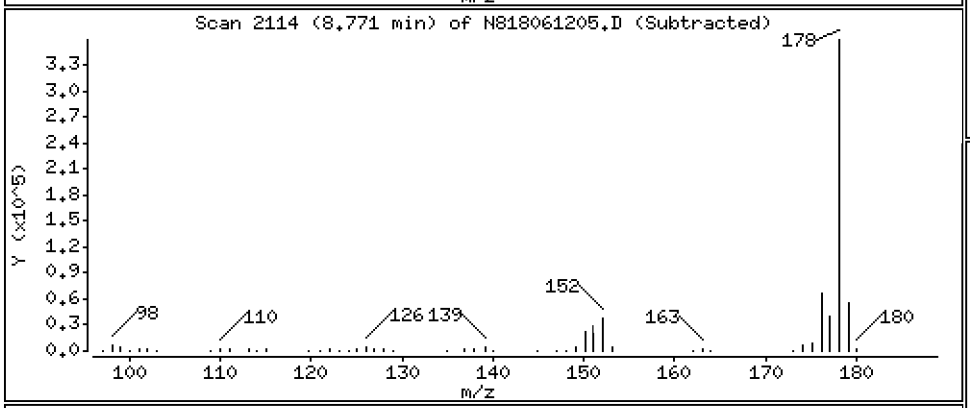
Column diameter: 0.25

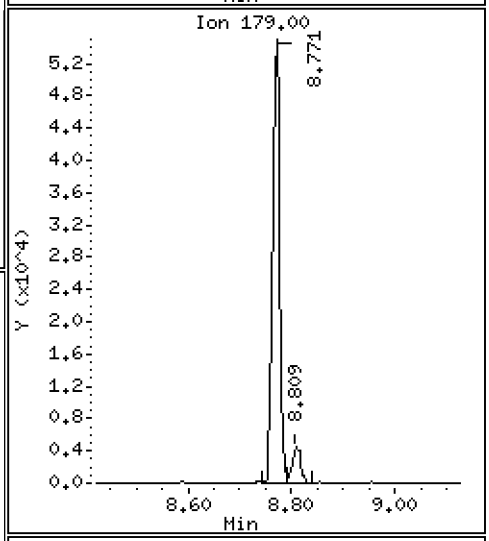
16 Phenanthrene

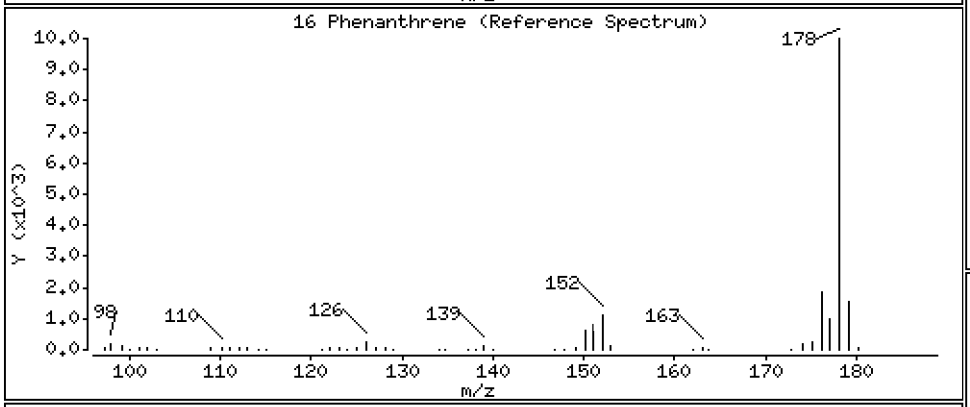
Concentration: 3.320 ug/mL

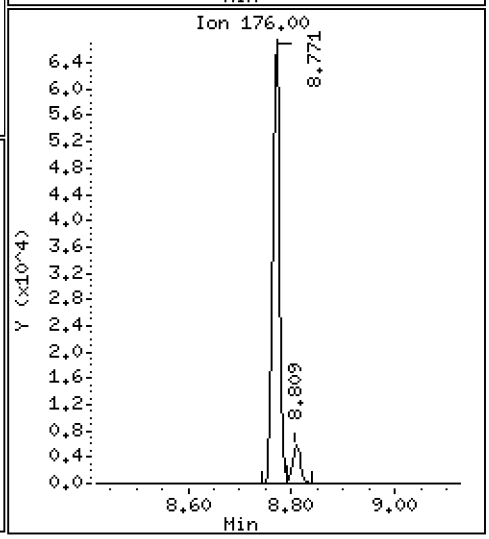


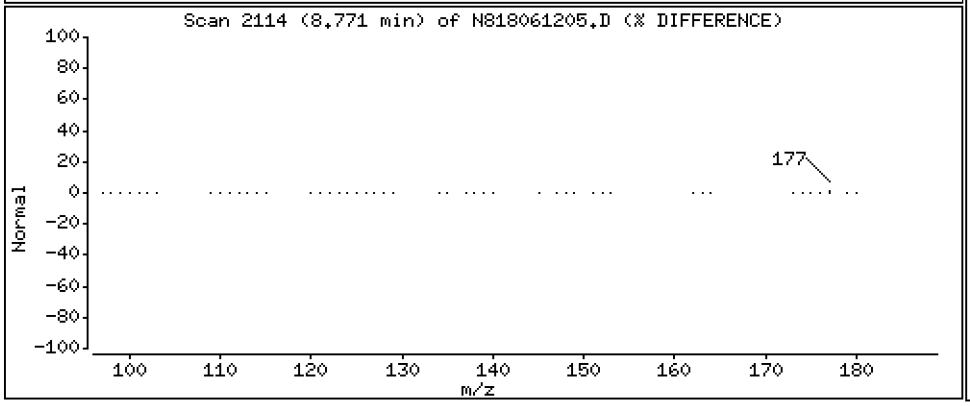












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

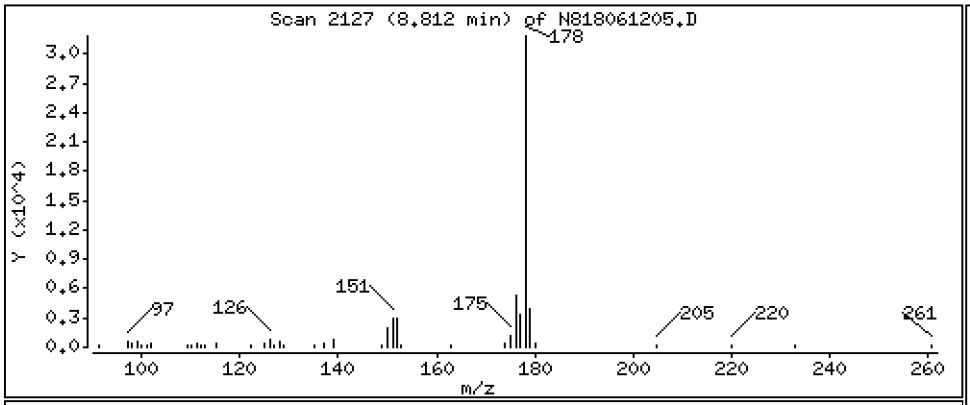
Operator: JZ

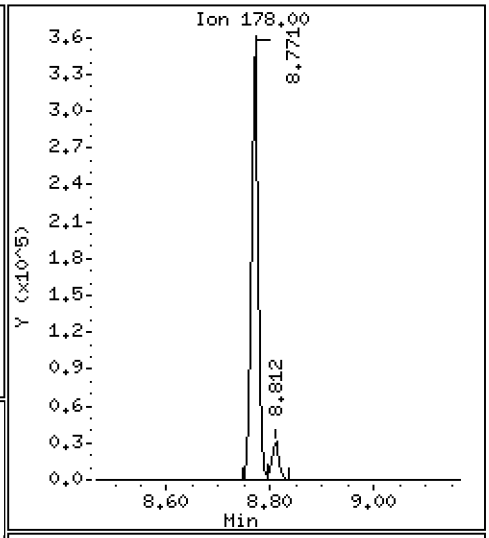
Column phase: Rxi-17sil

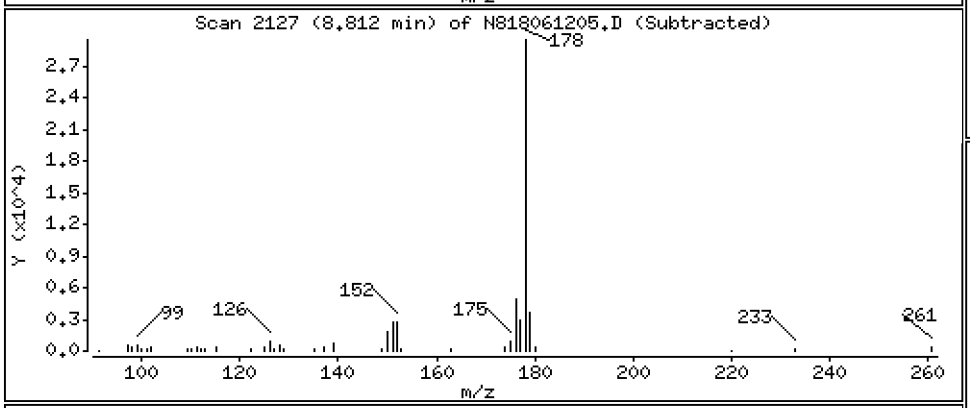
Column diameter: 0.25

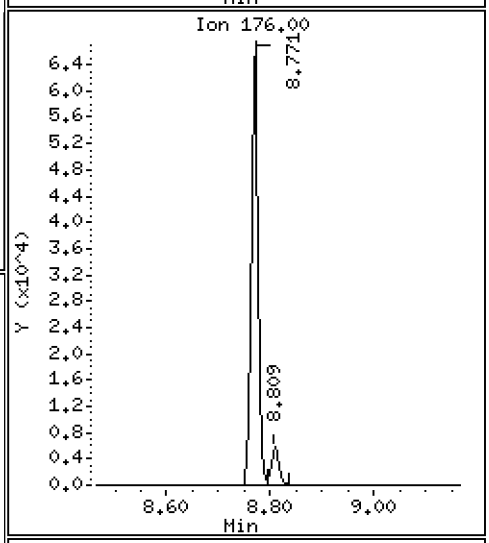
17 Anthracene

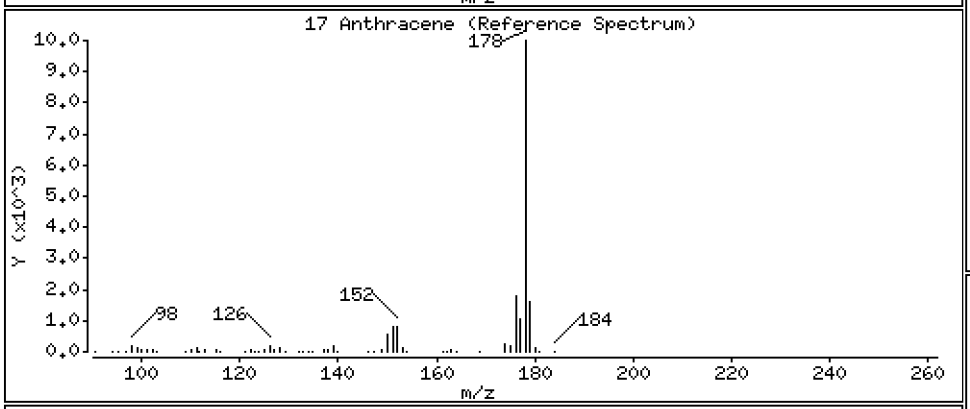
Concentration: 0.3359 ug/mL

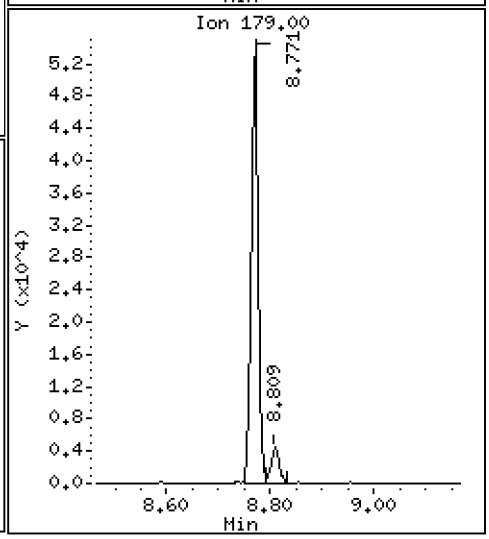


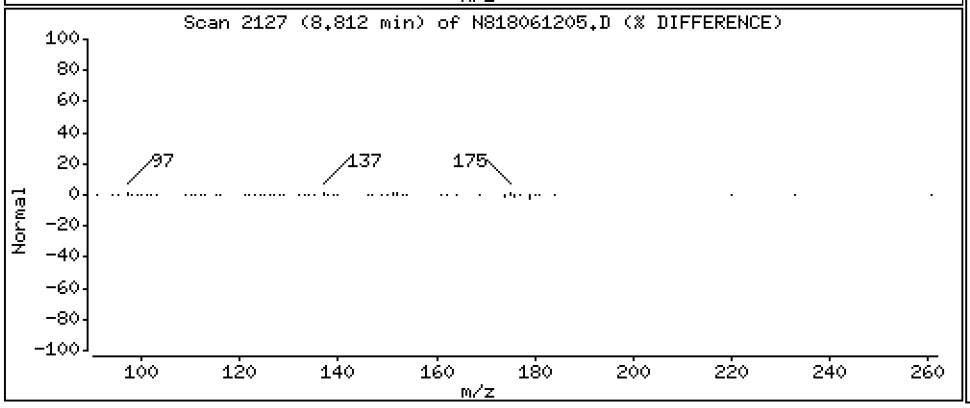












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

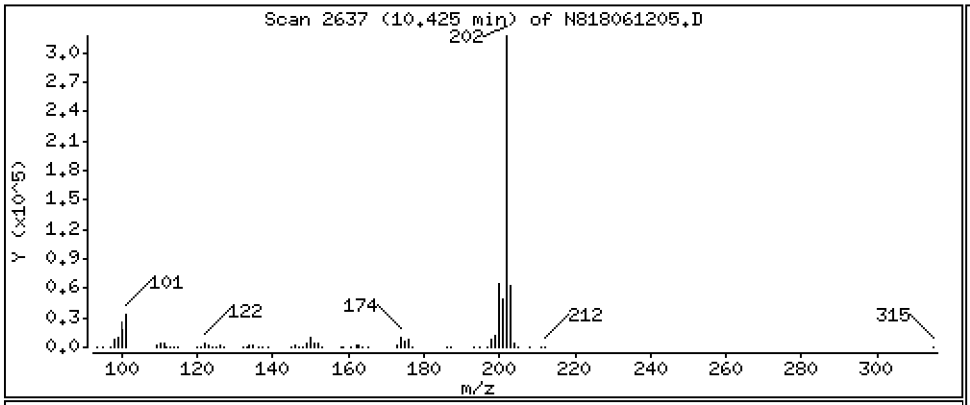
Operator: JZ

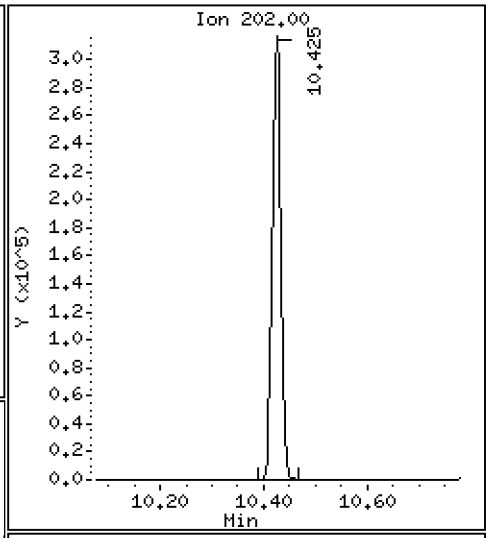
Column phase: Rxi-17sil

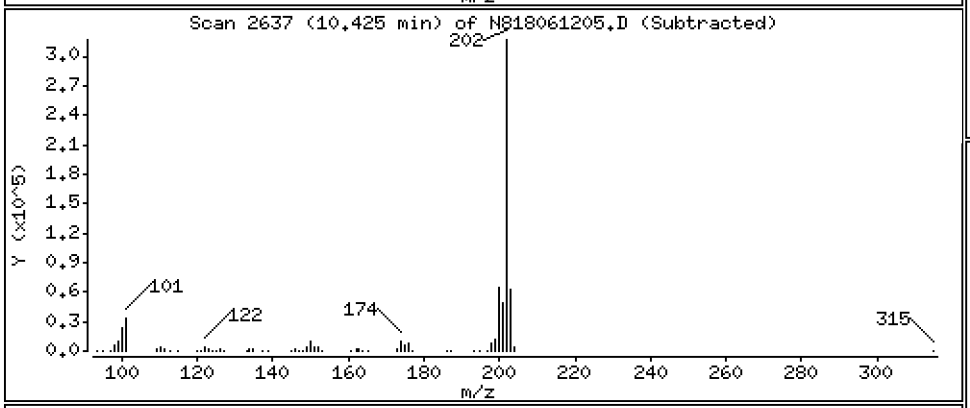
Column diameter: 0.25

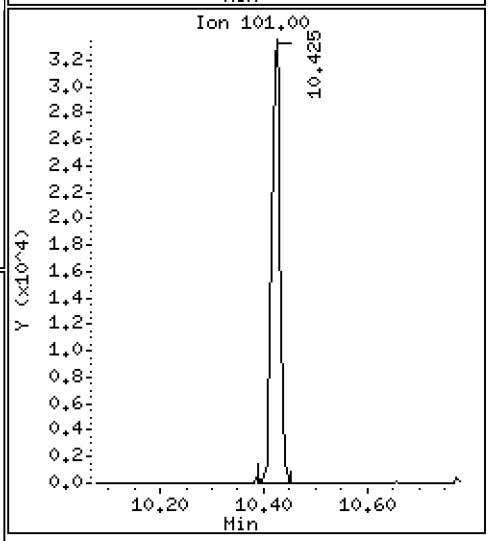
22 Fluoranthene

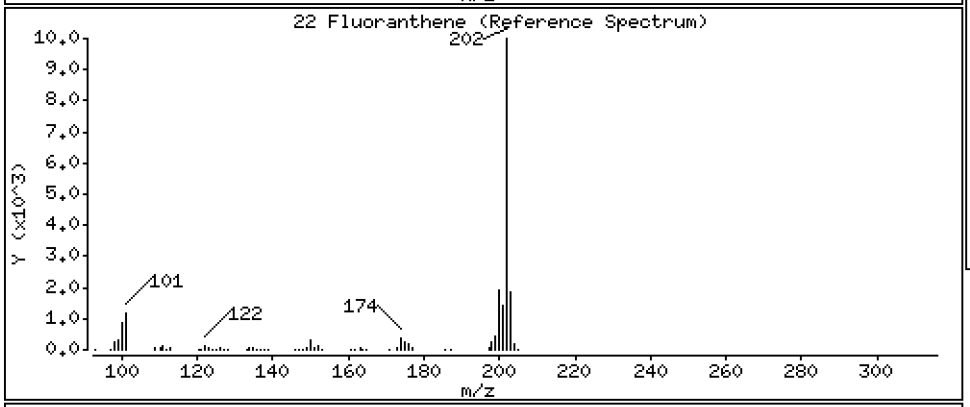
Concentration: 3.257 ug/mL

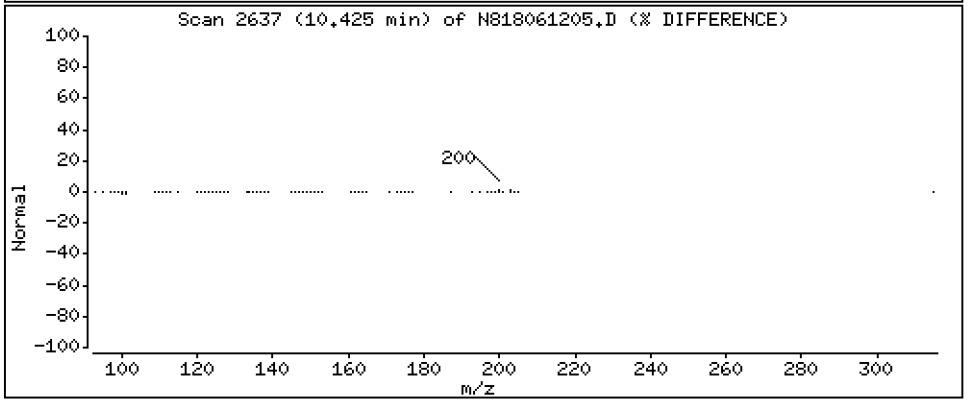












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

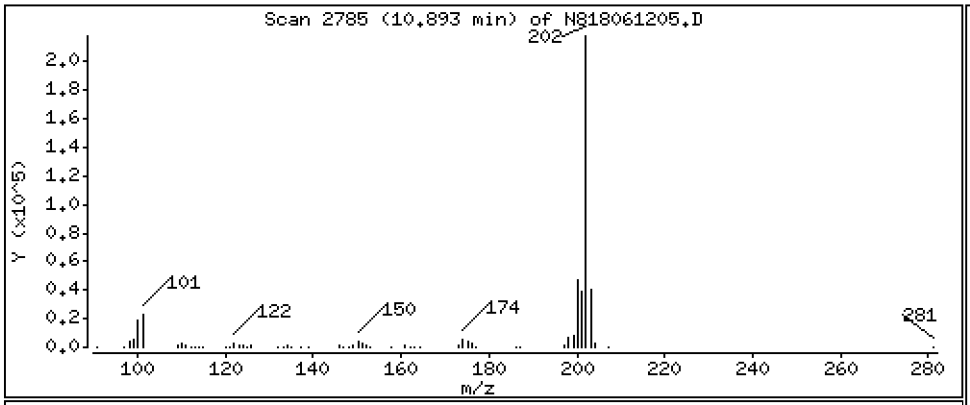
Operator: JZ

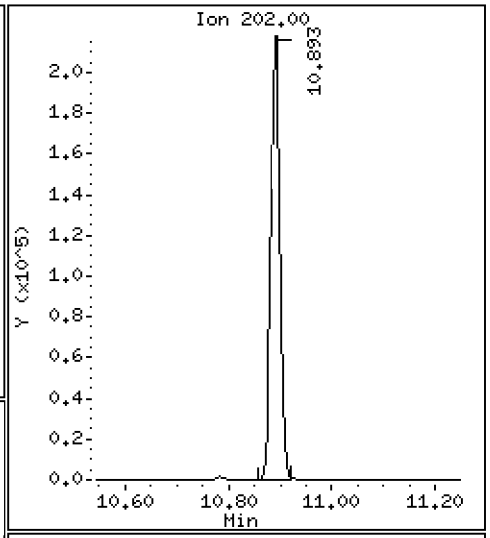
Column phase: Rxi-17sil

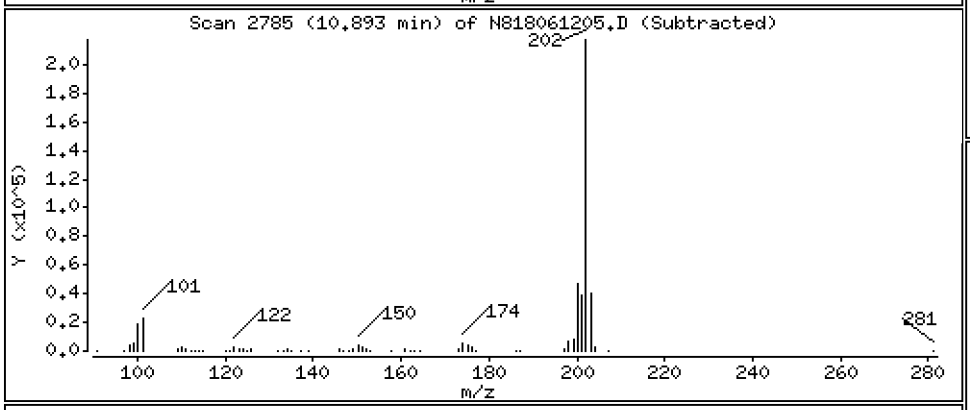
Column diameter: 0.25

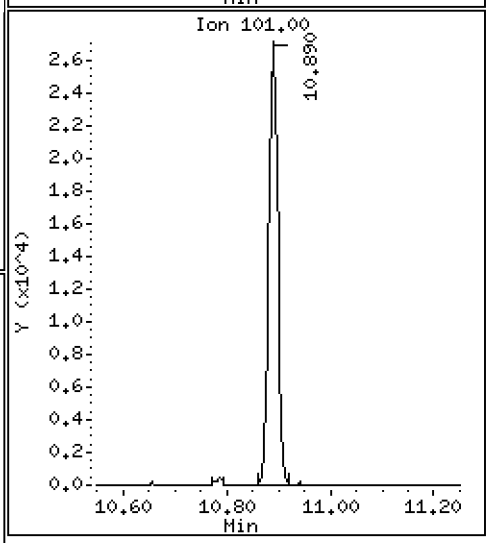
23 Pyrene

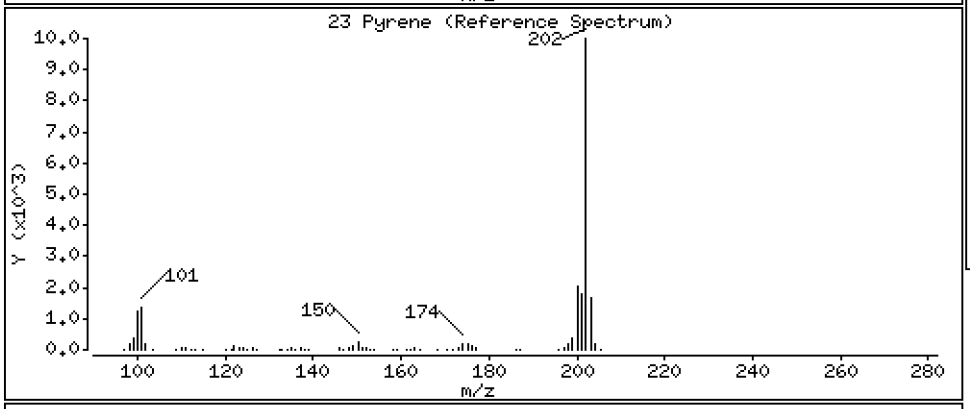
Concentration: 2.686 ug/mL

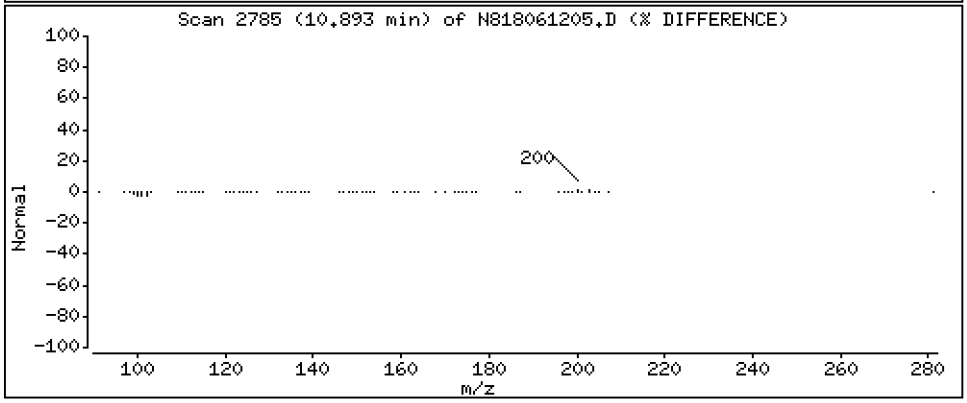












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

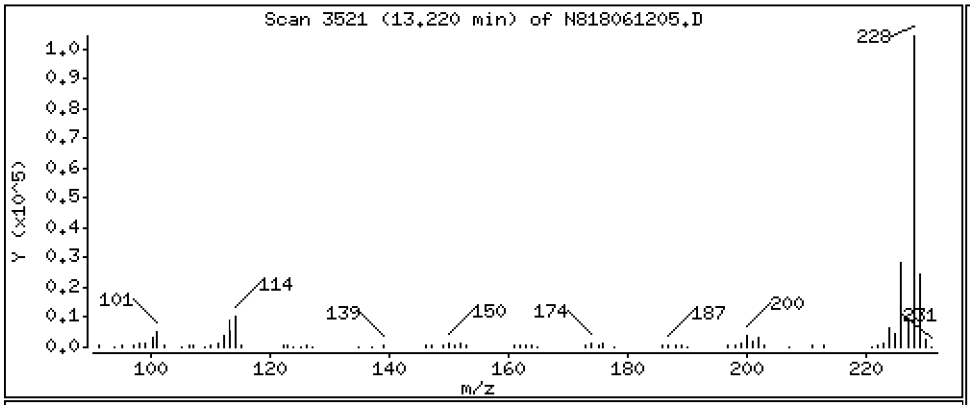
Operator: JZ

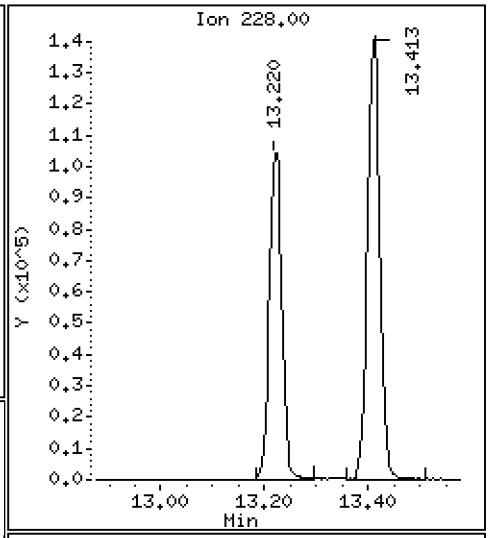
Column phase: Rxi-17sil

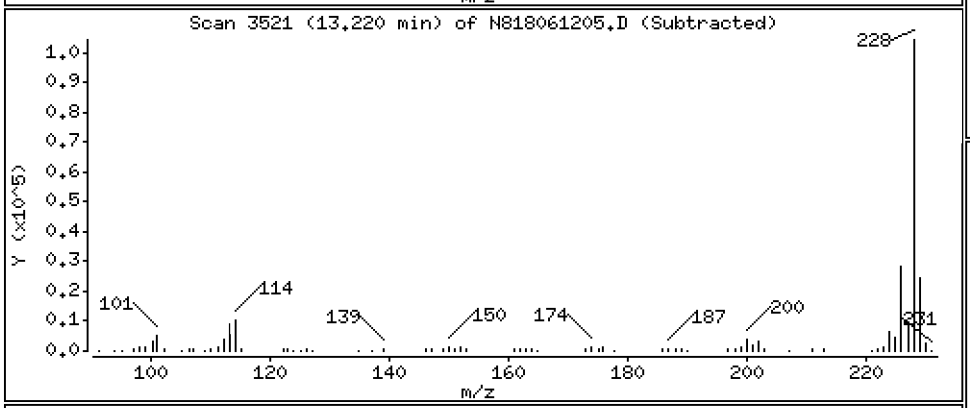
Column diameter: 0.25

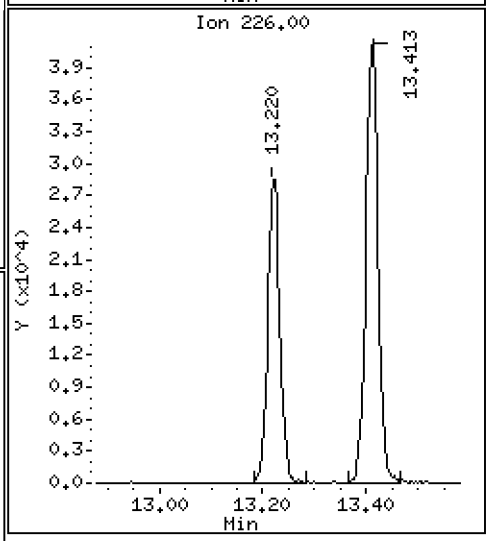
24 Benzo(a)anthracene

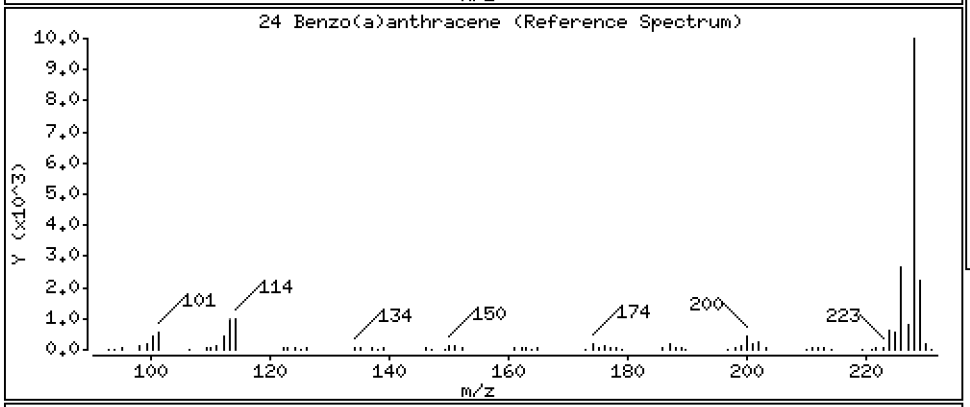
Concentration: 1.824 ug/mL

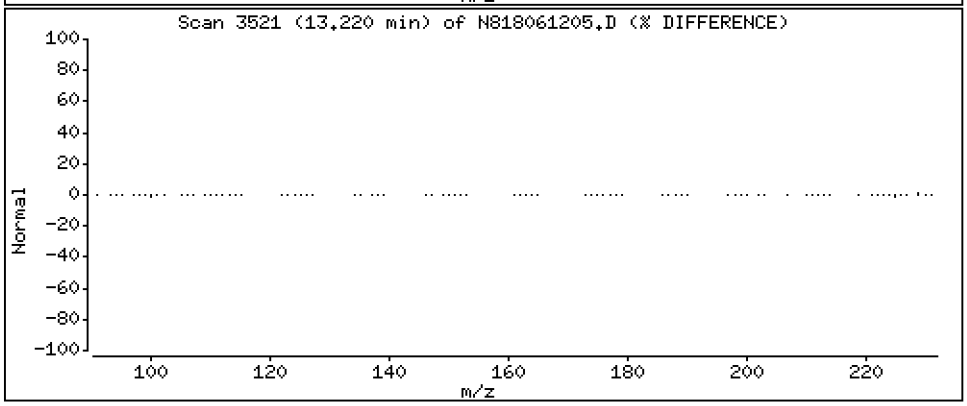












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

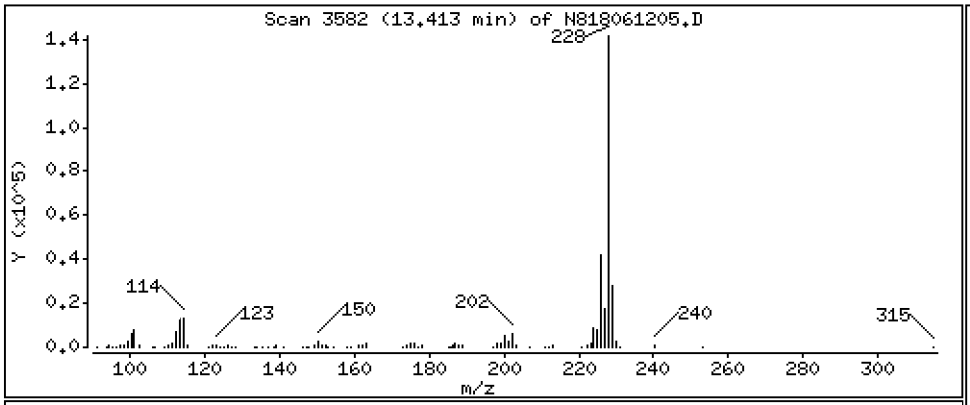
Operator: JZ

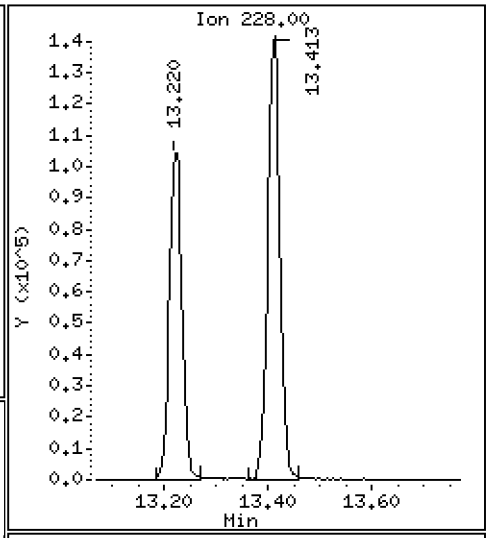
Column phase: Rxi-17sil

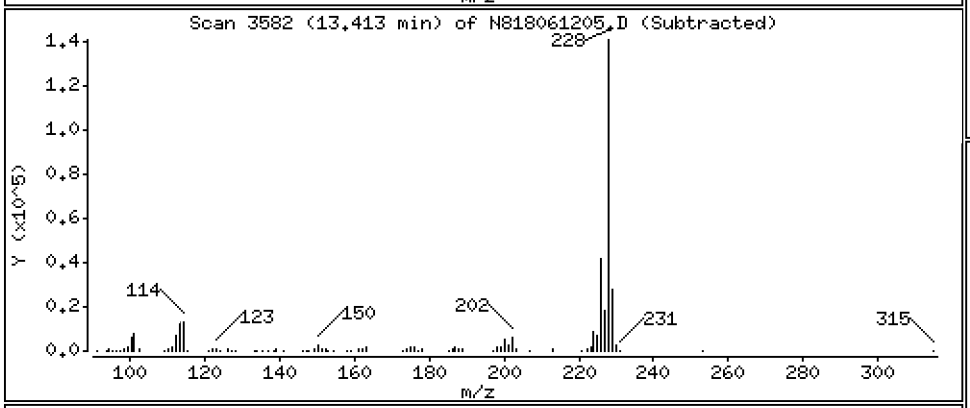
Column diameter: 0.25

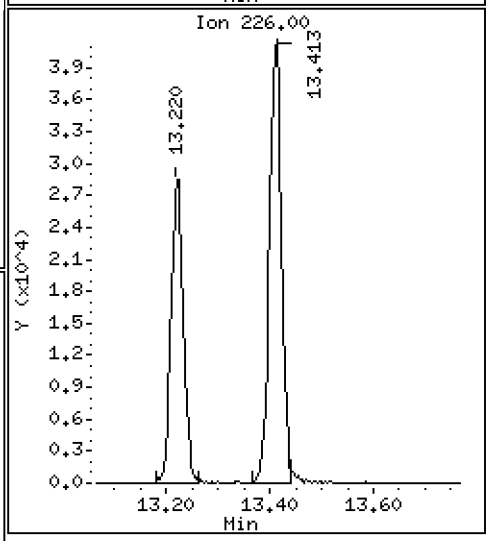
27 Chrysene

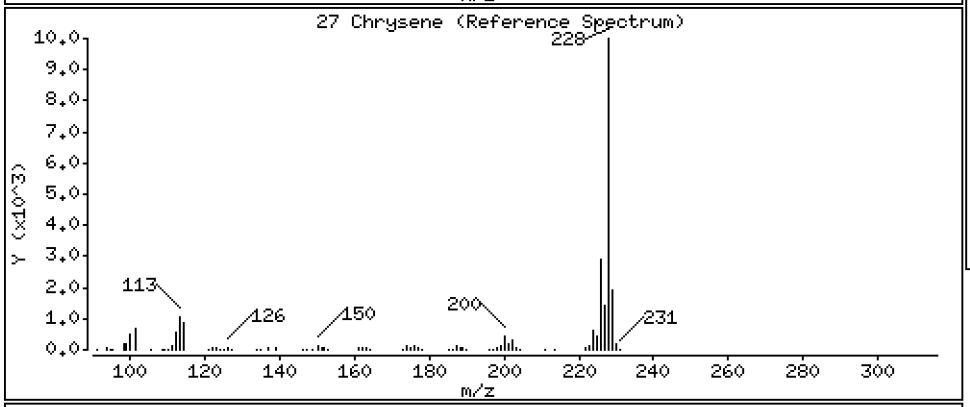
Concentration: 2.377 ug/mL

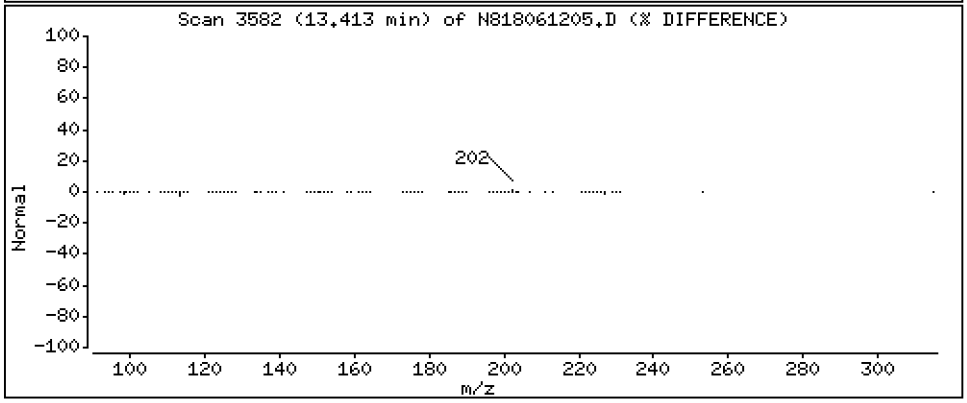












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

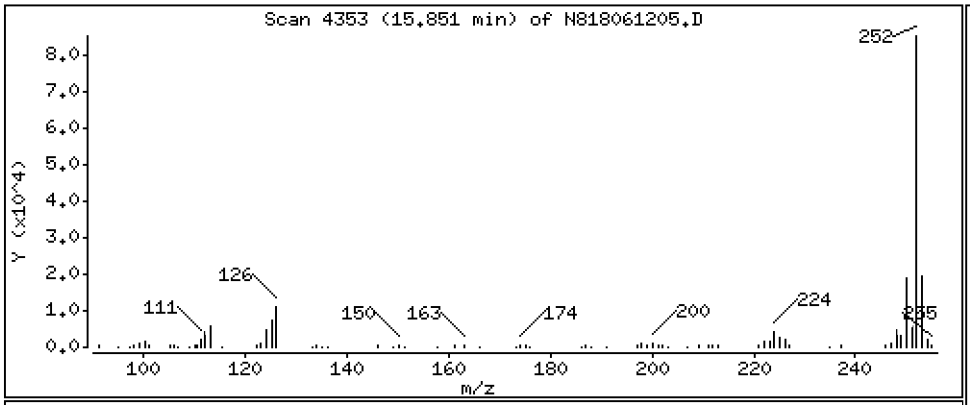
Operator: JZ

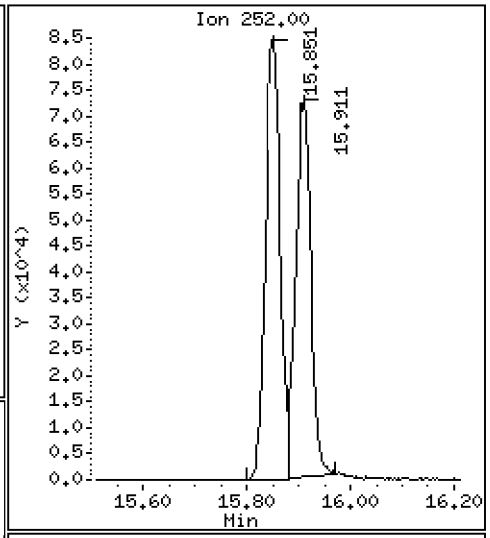
Column phase: Rxi-17sil

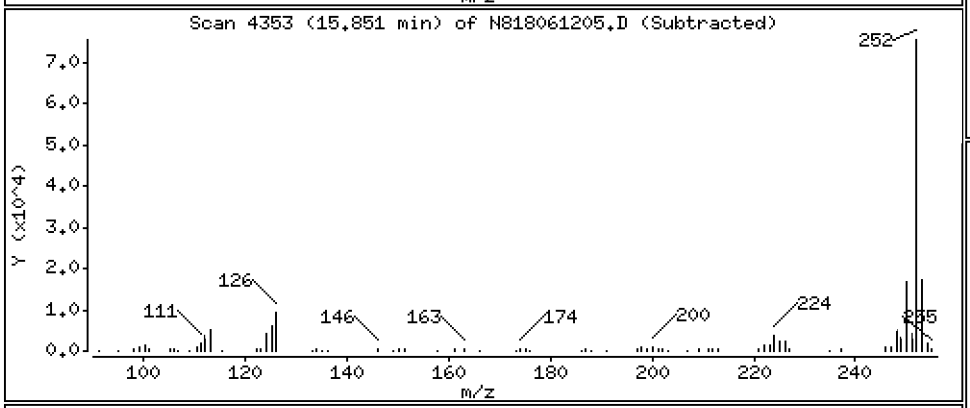
Column diameter: 0.25

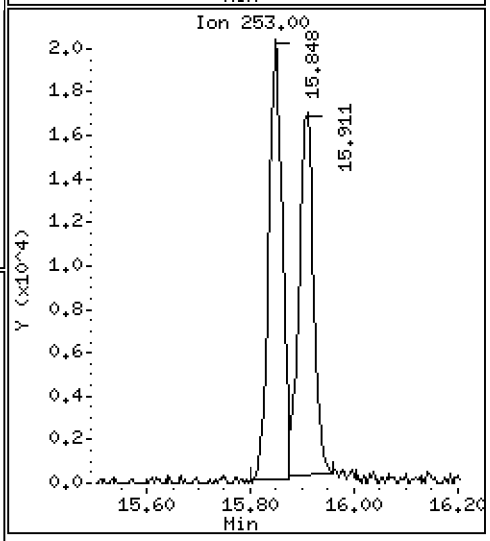
28 Benzo(b)fluoranthene

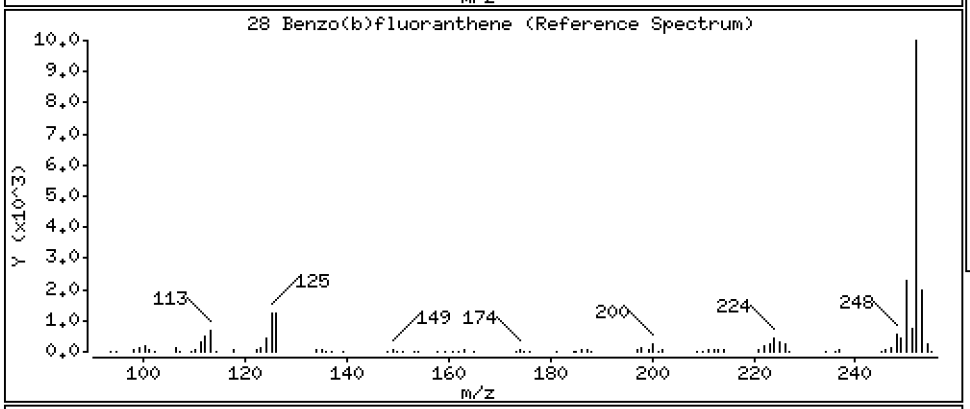
Concentration: 1.680 ug/mL

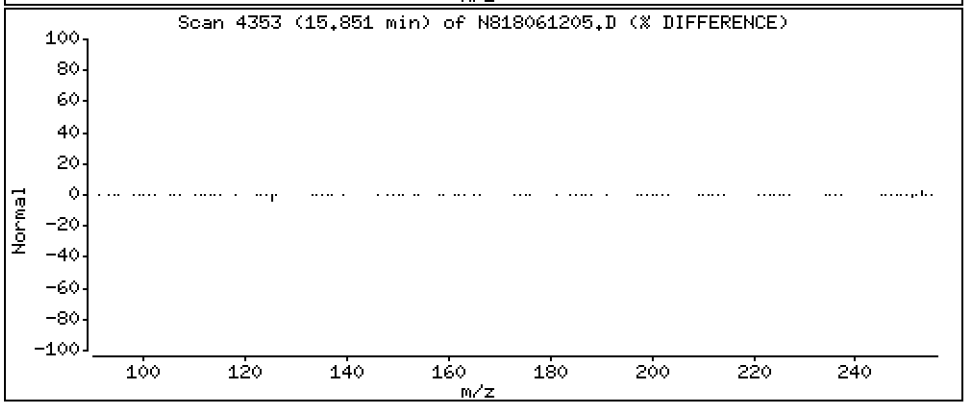












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

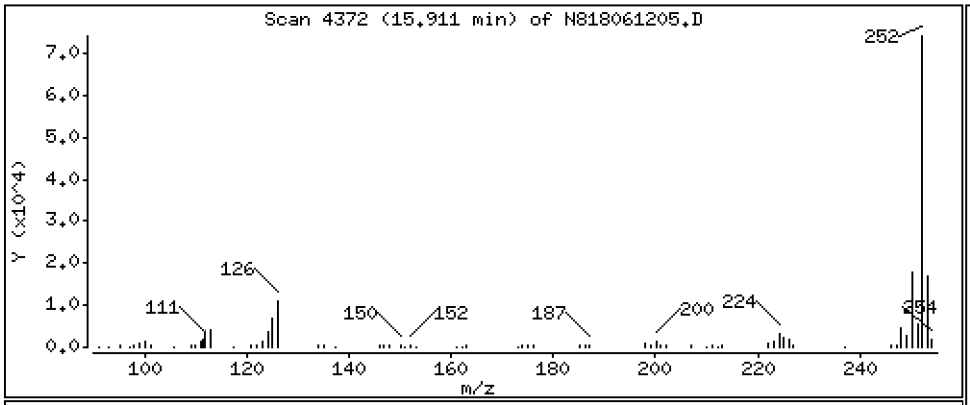
Operator: JZ

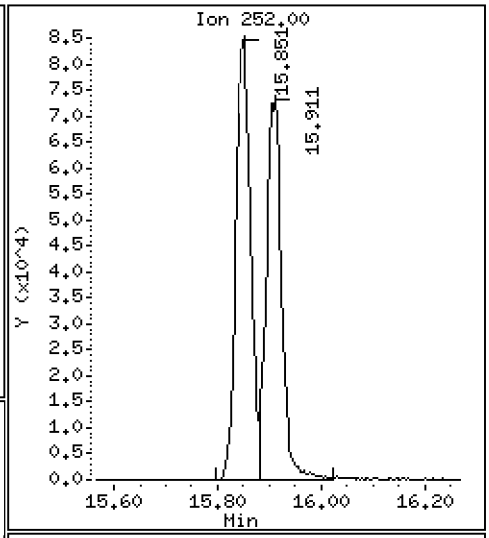
Column phase: Rxi-17sil

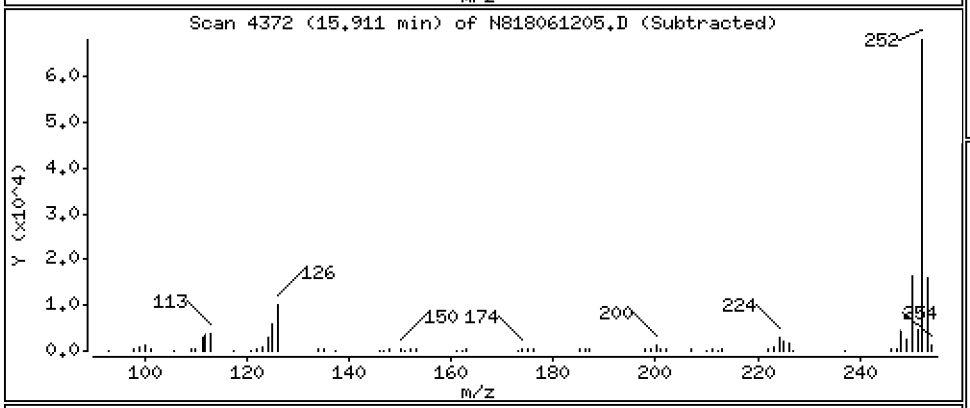
Column diameter: 0.25

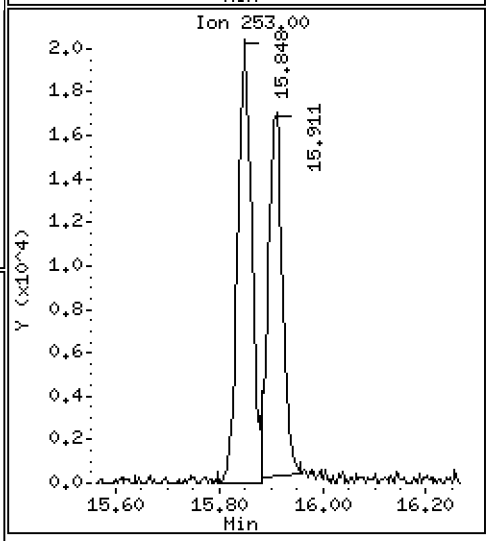
29 Benzo(k)fluoranthene

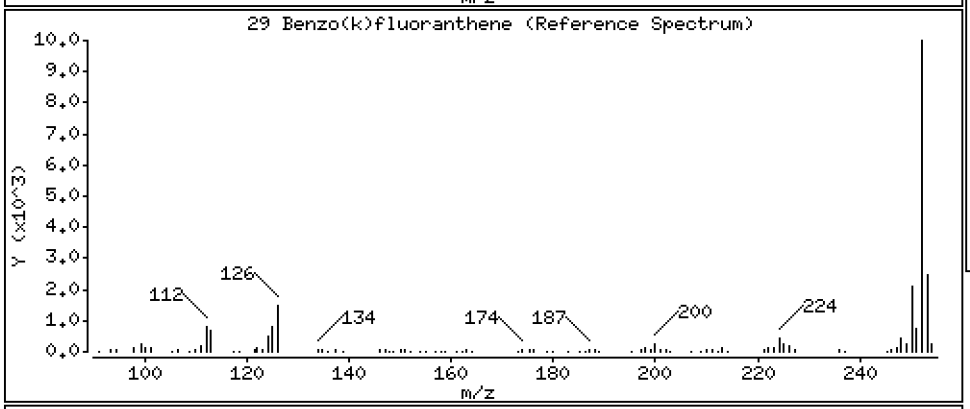
Concentration: 1.532 ug/mL

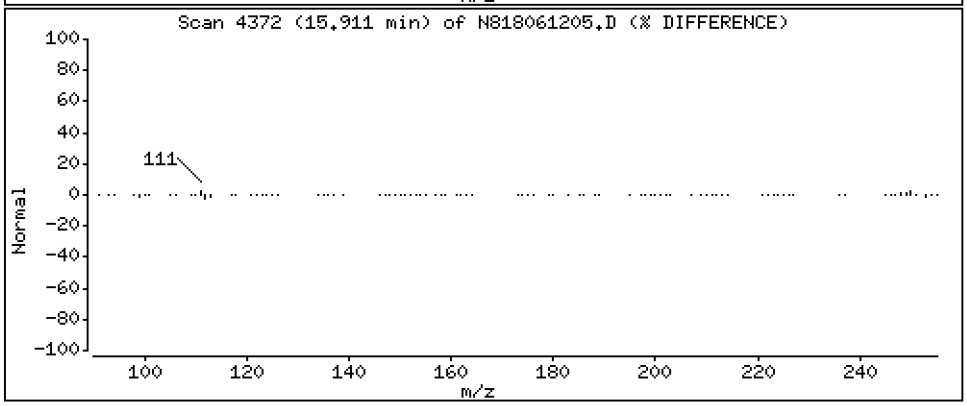












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

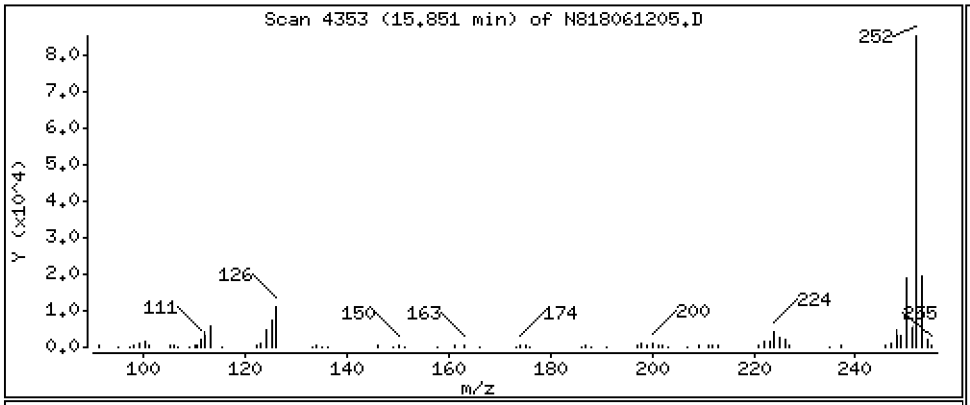
Operator: JZ

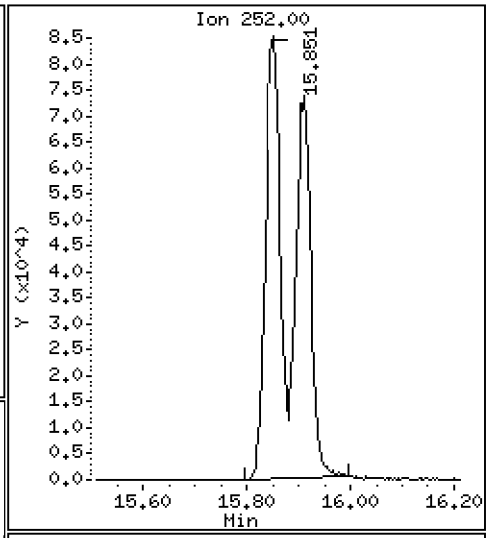
Column phase: Rxi-17sil

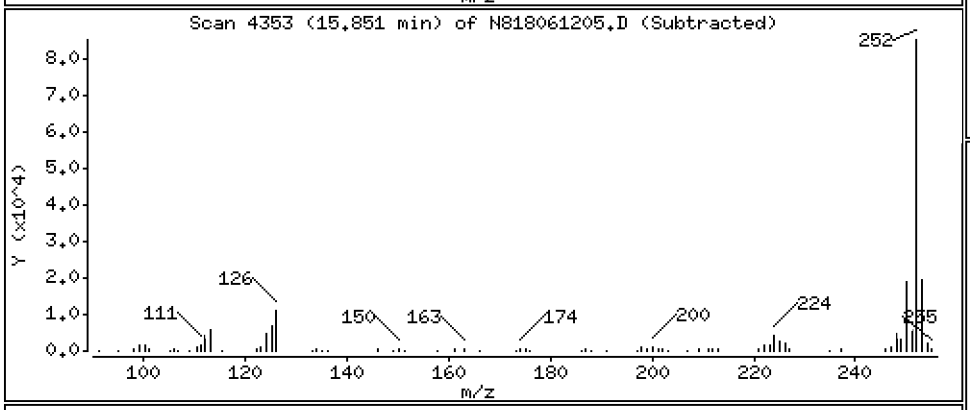
Column diameter: 0.25

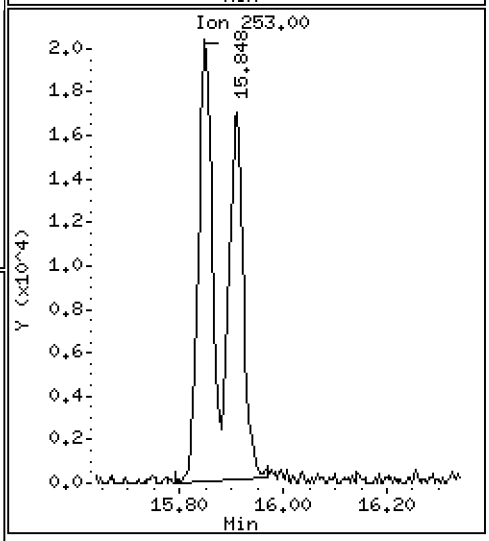
31 Total Benzofluoranthenes

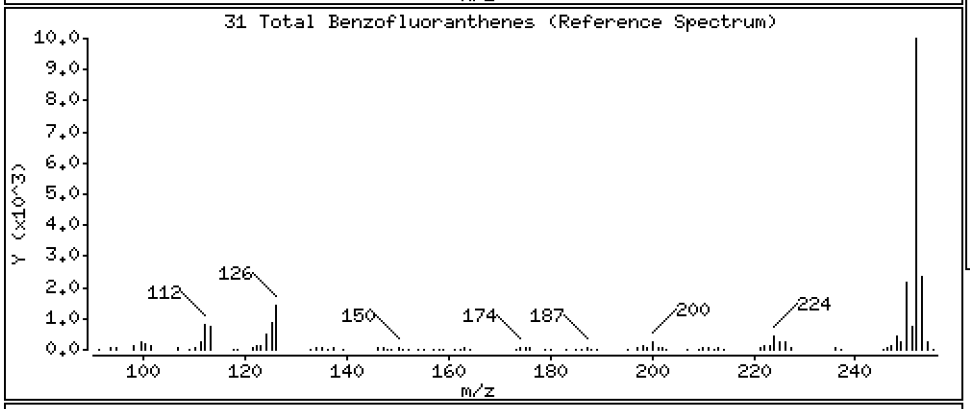
Concentration: 3.181 ug/mL

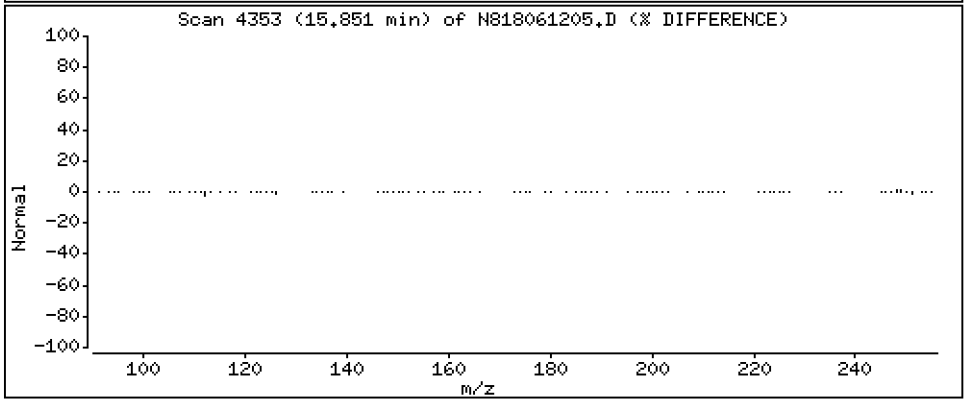












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

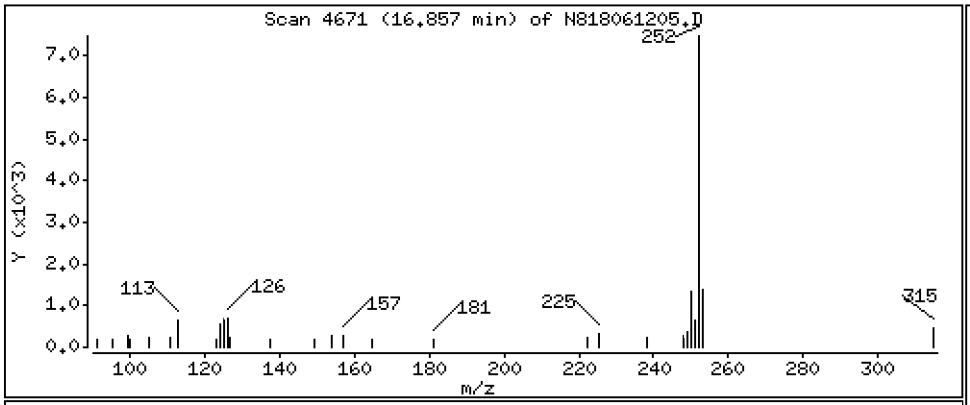
Operator: JZ

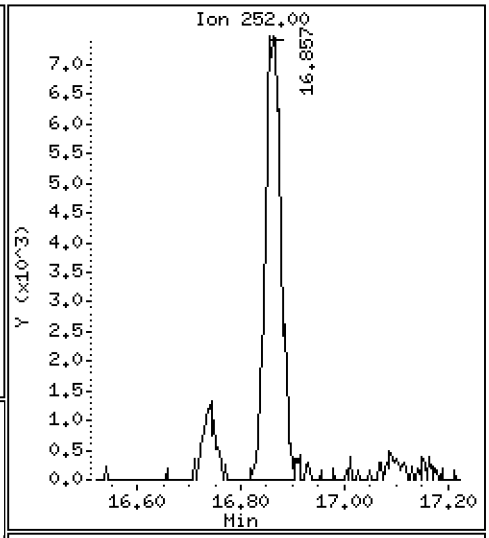
Column phase: Rxi-17sil

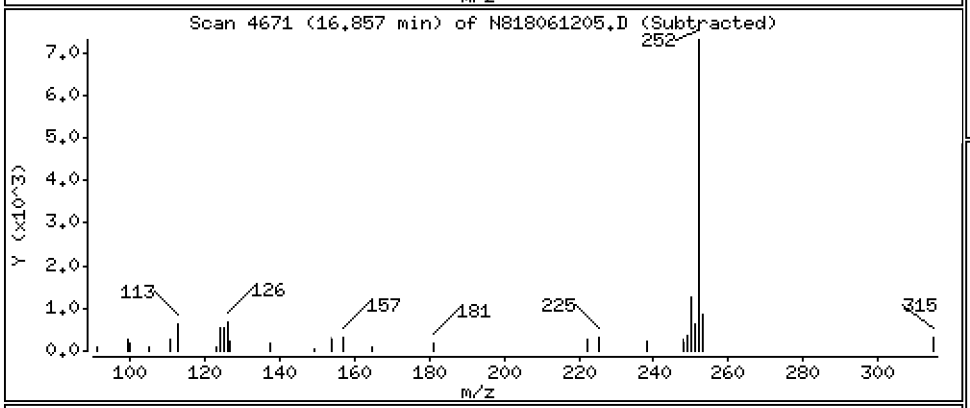
Column diameter: 0.25

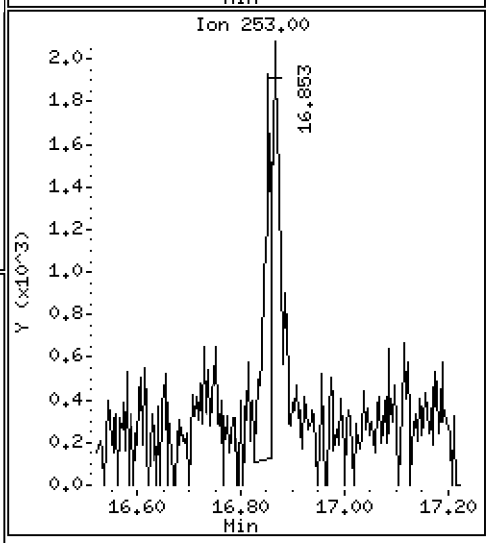
32 Benzo(a)pyrene

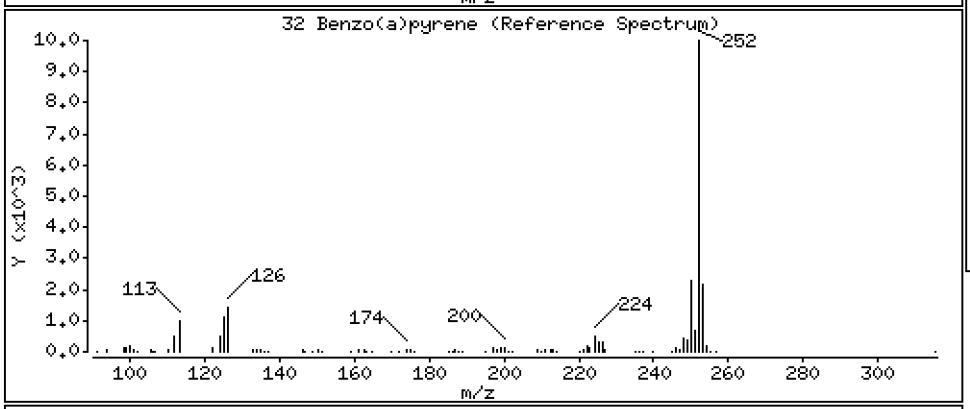
Concentration: 0.1826 ug/mL

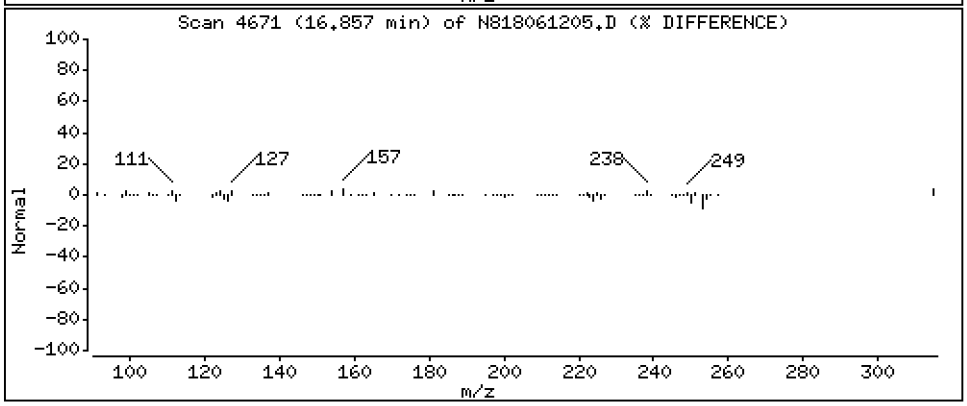












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

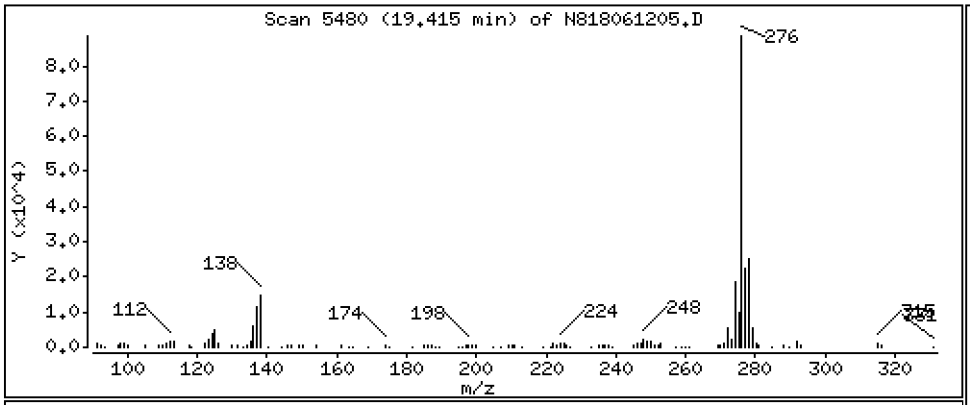
Operator: JZ

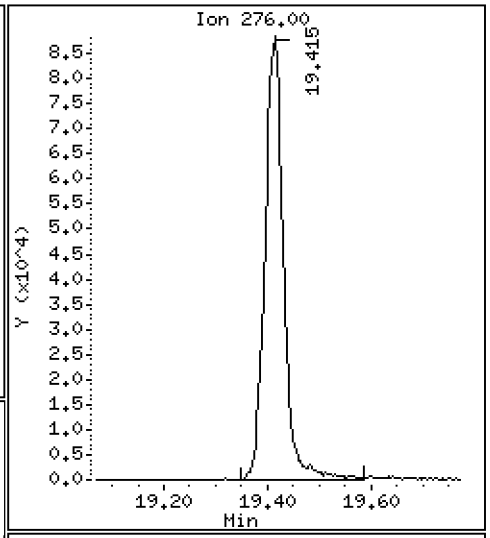
Column phase: Rxi-17sil

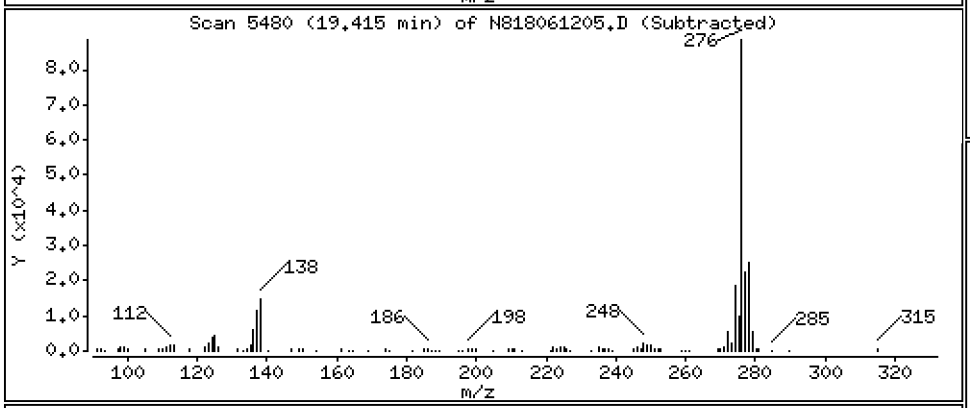
Column diameter: 0.25

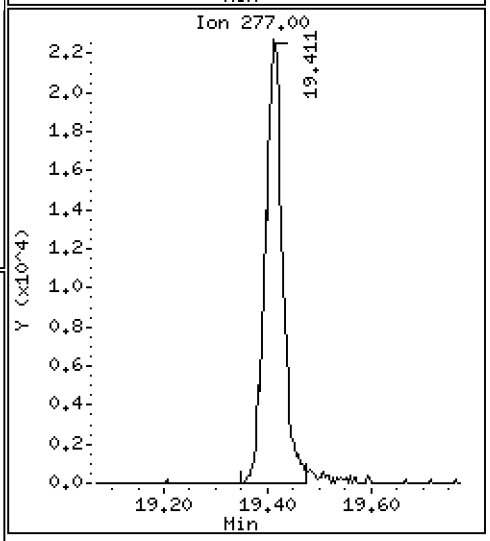
37 Indeno(1,2,3-cd)pyrene

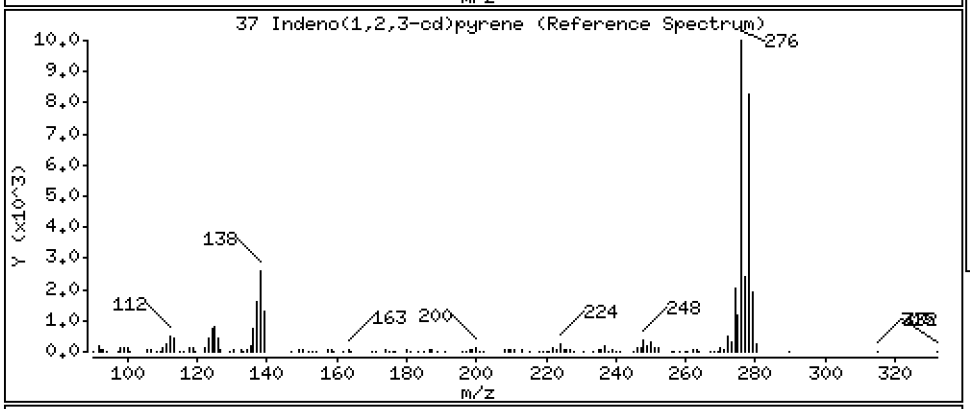
Concentration: 2.192 ug/mL

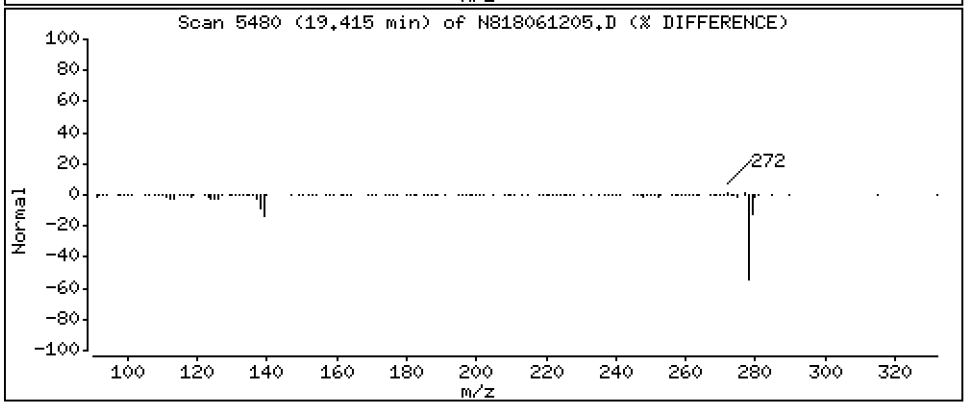












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

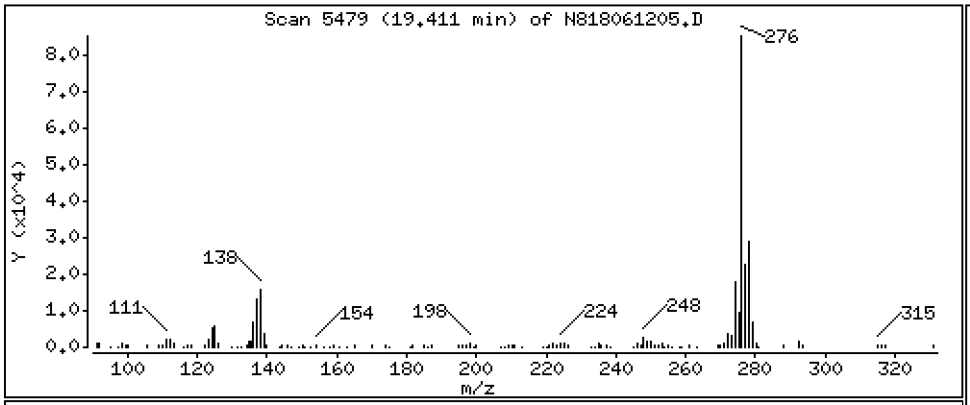
Operator: JZ

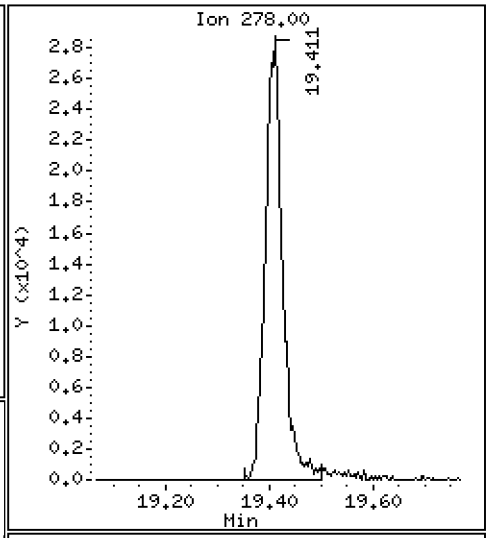
Column phase: Rxi-17sil

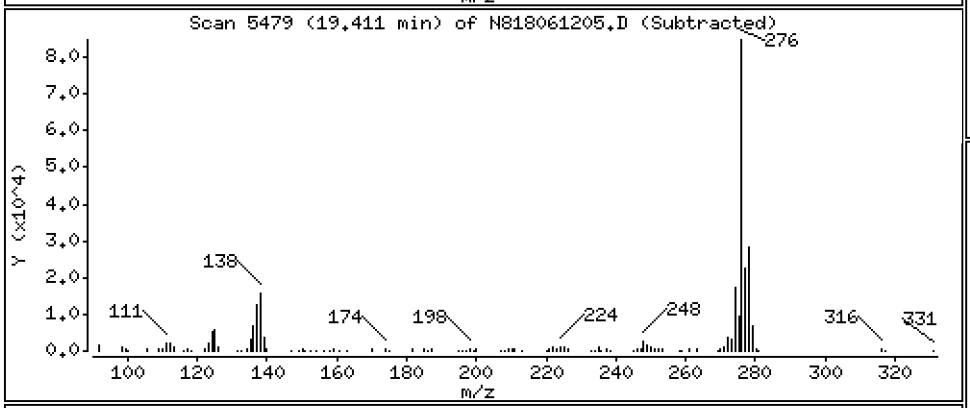
Column diameter: 0.25

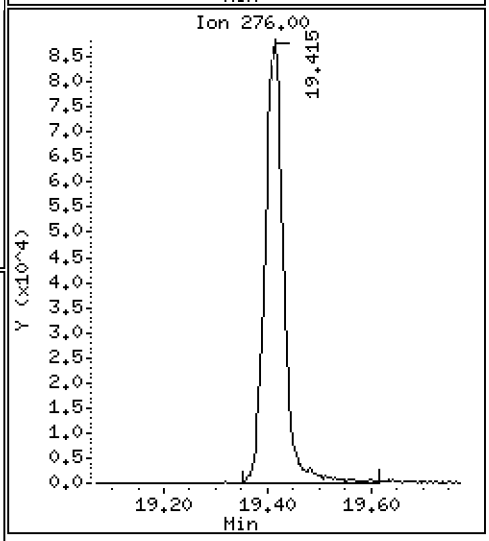
38 Dibenzo(a,h)anthracene

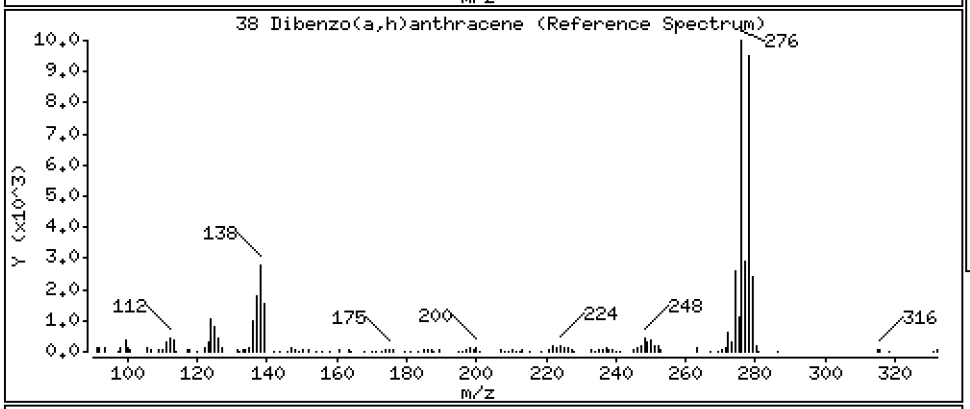
Concentration: 0.7961 ug/mL

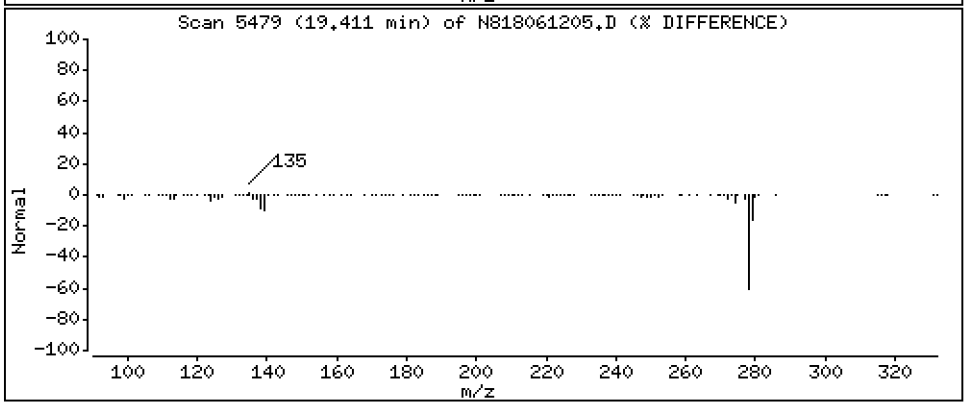












Data File: \\target\share\chem3\nt8.i\20180612.b\N818061205.D

Date : 12-JUN-2018 16:16

Client ID:

Instrument: nt8.i

Sample Info: BGE0773-SRM1,

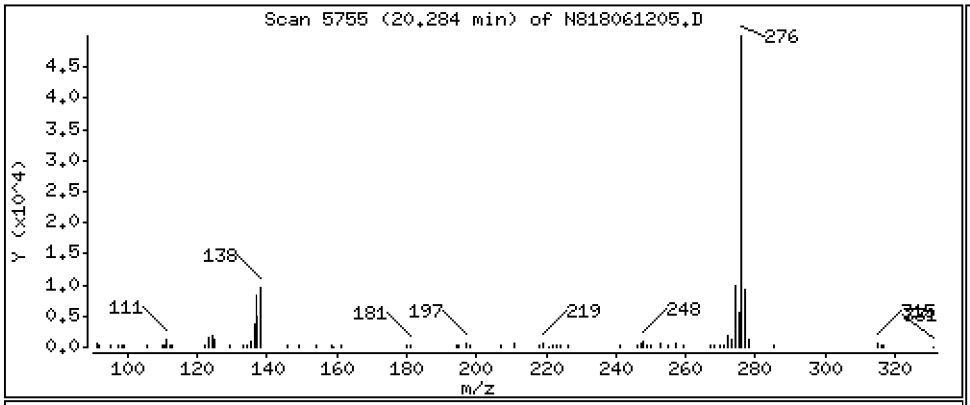
Operator: JZ

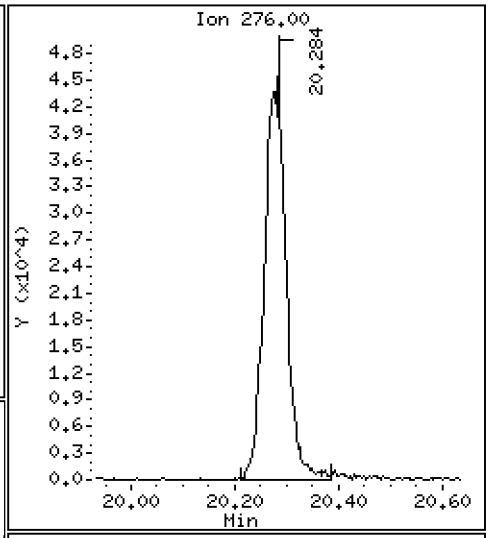
Column phase: Rxi-17sil

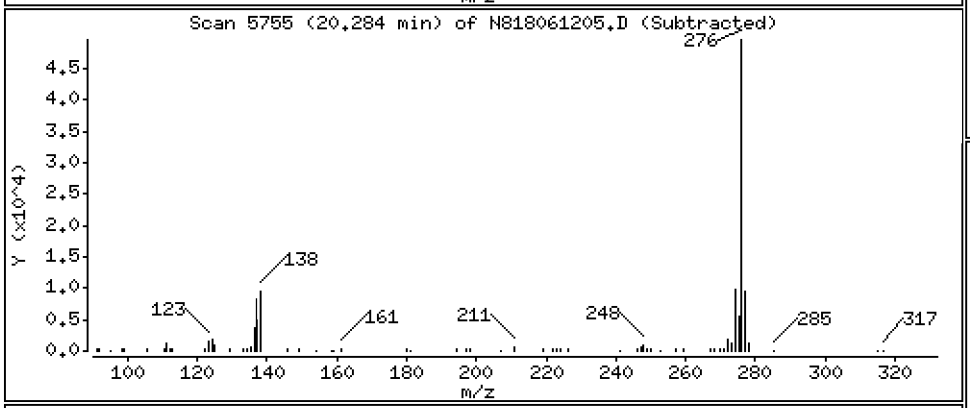
Column diameter: 0.25

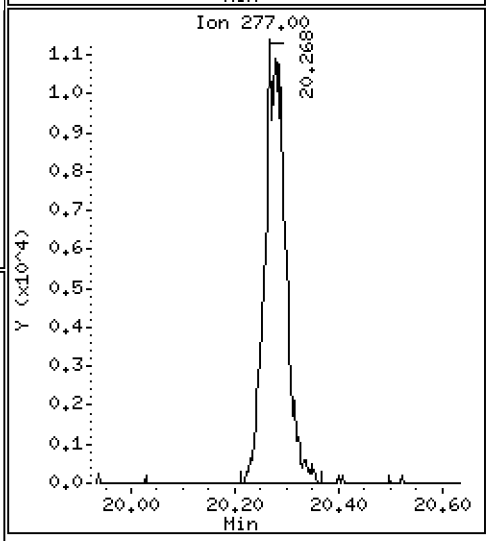
39 Benzo(g,h,i)perylene

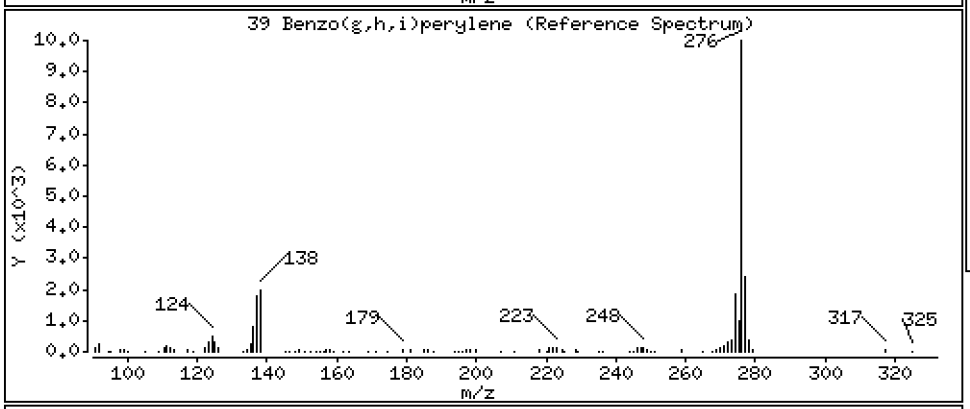
Concentration: 1.499 ug/mL

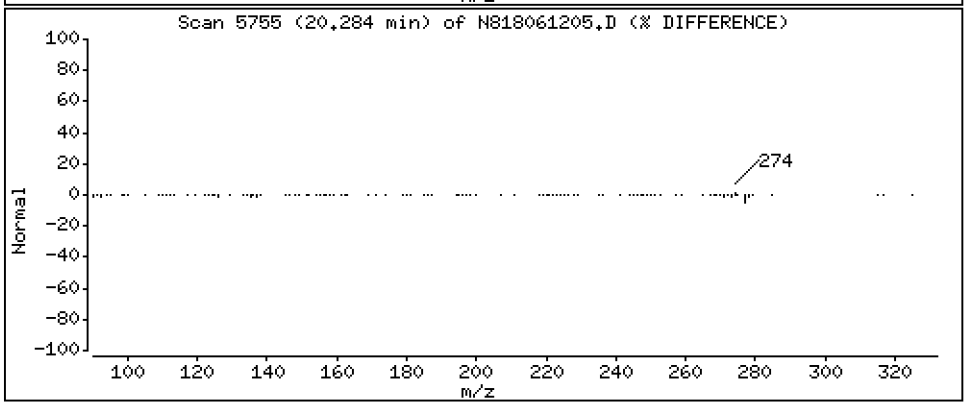












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061205.D
Lab Smp Id: BGE0773-SRM1
Inj Date : 12-JUN-2018 16:16
Operator : JZ Inst ID: nt8.i
Smp Info : BGE0773-SRM1,
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnax.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.448	4.455	(1.000)	151838	2.00000	
	2 Naphthalene	128	4.477	4.483	(1.006)	175124	1.98459	1.985
$	3 2-Methylnaphthalene-d10	152	5.179	5.185	(1.164)	62562	1.12951	1.130
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	5.416	5.425	(1.217)	3468	0.06779	0.06779
	9 Acenaphthylene	152	6.608	6.611	(0.984)	53804	0.65949	0.6595
*	10 Acenaphthene-d10	164	6.716	6.722	(1.000)	82171	2.00000	
	11 Acenaphthene	153	6.766	6.769	(1.008)	144142	2.30471	2.305
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.392	7.395	(1.101)	103371	1.59088	1.591
*	15 Phenanthrene-d10	188	8.736	8.739	(1.000)	162456	2.00000	
	16 Phenanthrene	178	8.771	8.774	(1.004)	330555	3.31980	3.320
	17 Anthracene	178	8.812	8.815	(1.009)	30478	0.33595	0.3359
	22 Fluoranthene	202	10.425	10.428	(1.193)	365485	3.25697	3.257
$	21 Fluoranthene-d10	212	10.390	10.396	(1.189)	194499	1.82876	1.829
	23 Pyrene	202	10.893	10.896	(0.817)	272106	2.68589	2.686
	24 Benzo(a)anthracene	228	13.220	13.226	(0.991)	178672	1.82415	1.824
*	25 Chrysene-d12	240	13.340	13.349	(1.000)	168581	2.00000	
	27 Chrysene	228	13.413	13.419	(1.005)	234372	2.37707	2.377
	28 Benzo(b)fluoranthene	252	15.851	15.860	(0.927)	170261	1.68043	1.680
	29 Benzo(k)fluoranthene	252	15.911	15.917	(0.931)	152602	1.53169	1.532
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	15.851	15.860	(0.927)	314371	3.18147	3.181(M)
	32 Benzo(a)pyrene	252	16.856	16.872	(0.986)	16216	0.18261	0.1826
*	33 Perylene-d12	264	17.093	17.099	(1.000)	159426	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	19.414	19.420	(1.136)	222833	2.19181	2.192
$	36 Dibenzo(a,h)anthracene-d14	292	19.319	19.325	(1.130)	162057	2.17020	2.170
	38 Dibenzo(a,h)anthracene	278	19.411	19.417	(1.136)	66764	0.79610	0.7961
	39 Benzo(g,h,i)perylene	276	20.284	20.284	(1.187)	133222	1.49932	1.499
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061205.D
Lab Smp Id: BGE0773-SRM1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 12-JUN-2018
Calibration Time: 14:49
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	151838	24.26
10 Acenaphthene-d10	65789	32895	131578	82171	24.90
15 Phenanthrene-d10	128644	64322	257288	162456	26.28
25 Chrysene-d12	166669	83335	333338	168581	1.15
33 Perylene-d12	140483	70242	280966	159426	13.48

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.45	-0.14
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	-0.09
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	-0.04
25 Chrysene-d12	13.35	12.85	13.85	13.34	-0.07
33 Perylene-d12	17.10	16.60	17.60	17.09	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061205.D

Lab ID: BGE0773-SRM1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 16:16

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

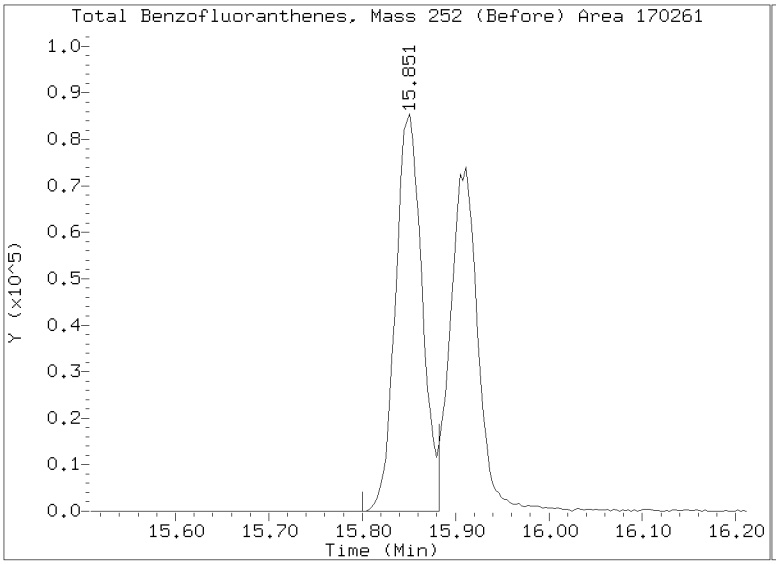
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, pnax.sub = 0.0500

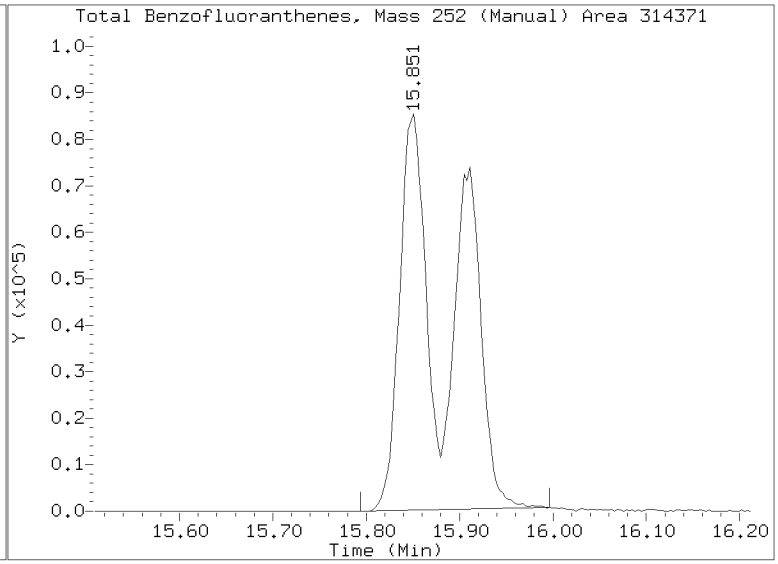
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Benzo(j)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061205.D
Injection Date: 12-JUN-2018 16:16
Lab ID:BGE0773-SRM1 Client ID:
Report Date: 06/13/2018 11:35





Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

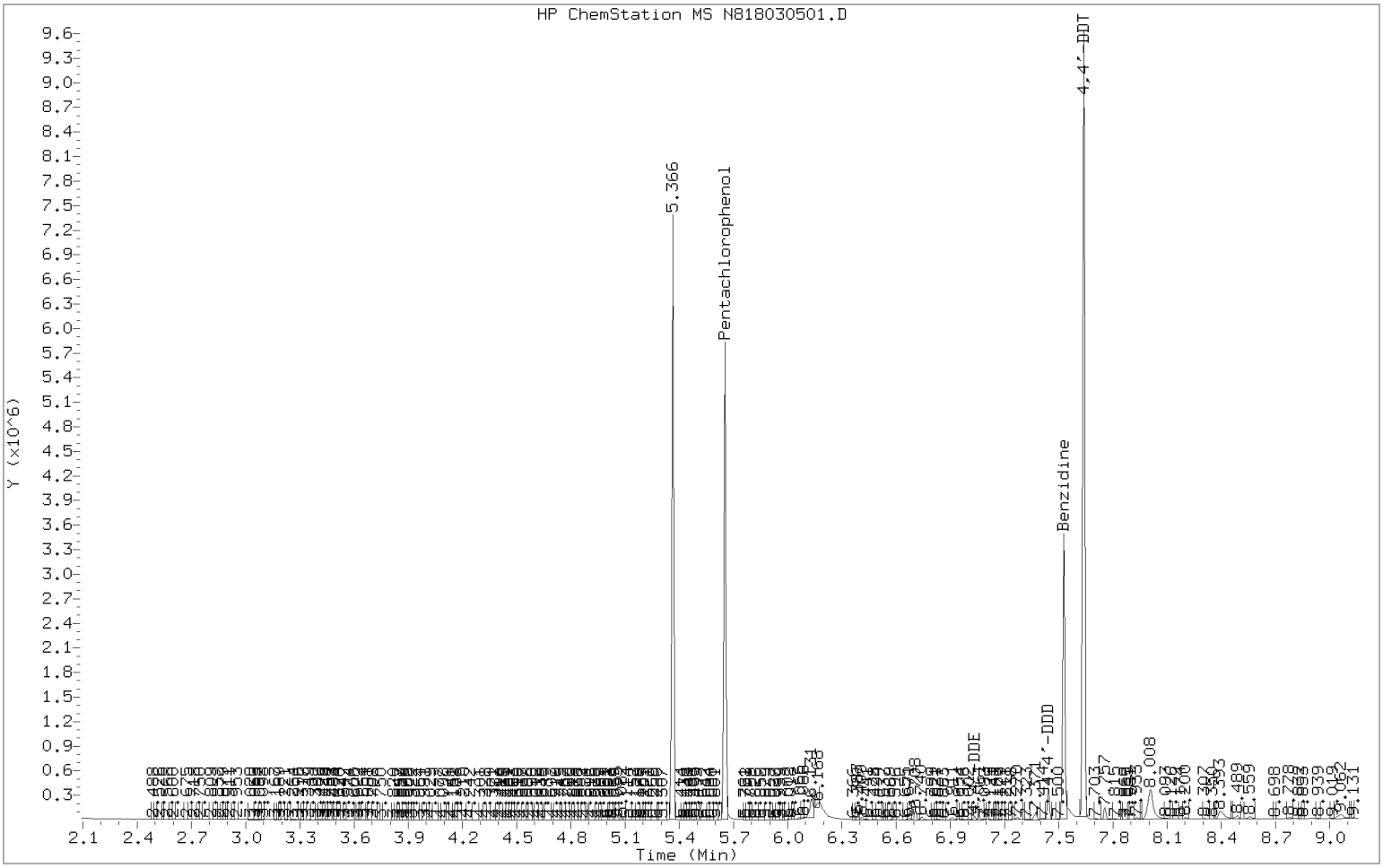
Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818030501.D	Injection Date:	03/05/18
Instrument ID:	NT8	Injection Time:	10:13
Sequence:	SGC0048	Lab Sample ID:	SGC0048-TUN1

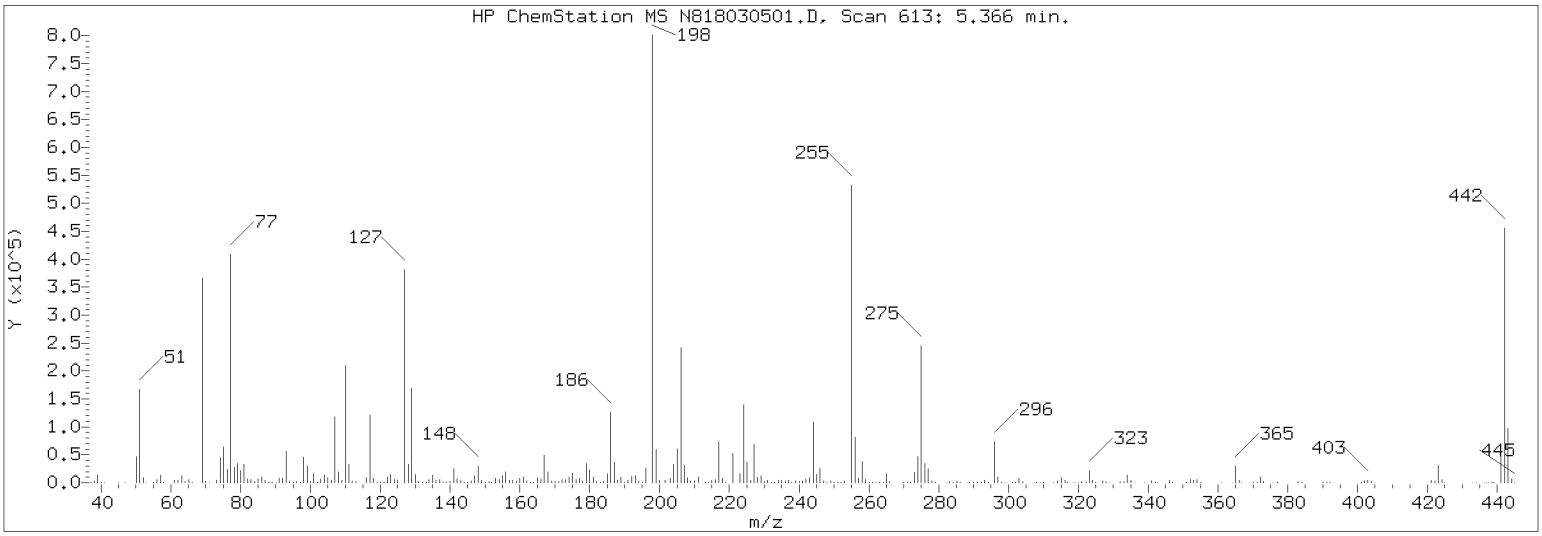
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	21	PASS
68	Less than 2% of 69	0.348	PASS
69	Less than 100% of 198	47.1	PASS
70	Less than 2% of 69	0.608	PASS
127	10 - 80% of 198	47.8	PASS
197	Less than 2% of 198	0.671	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.27	PASS
275	10 - 60% of 198	30.6	PASS
365	1 - 100% of 198	4.03	PASS
441	0.1 - 24% of 442	14.8	PASS
442	50 - 200% of 198	64.1	PASS
443	15 - 24% of 442	20.4	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGC0048-TUN1	N818030501.D	03/05/2018	10:13
Cal Standard	SGC0048-CAL1	N818030502.D	03/05/2018	10:30
Cal Standard	SGC0048-CAL2	N818030503.D	03/05/2018	10:57
Cal Standard	SGC0048-CAL3	N818030504.D	03/05/2018	11:24
Cal Standard	SGC0048-CAL4	N818030505.D	03/05/2018	11:51
Cal Standard	SGC0048-CAL5	N818030506.D	03/05/2018	12:18
Cal Standard	SGC0048-CAL6	N818030507.D	03/05/2018	12:45
Secondary Cal Check	SGC0048-SCV1	N818030508.D	03/05/2018	13:29

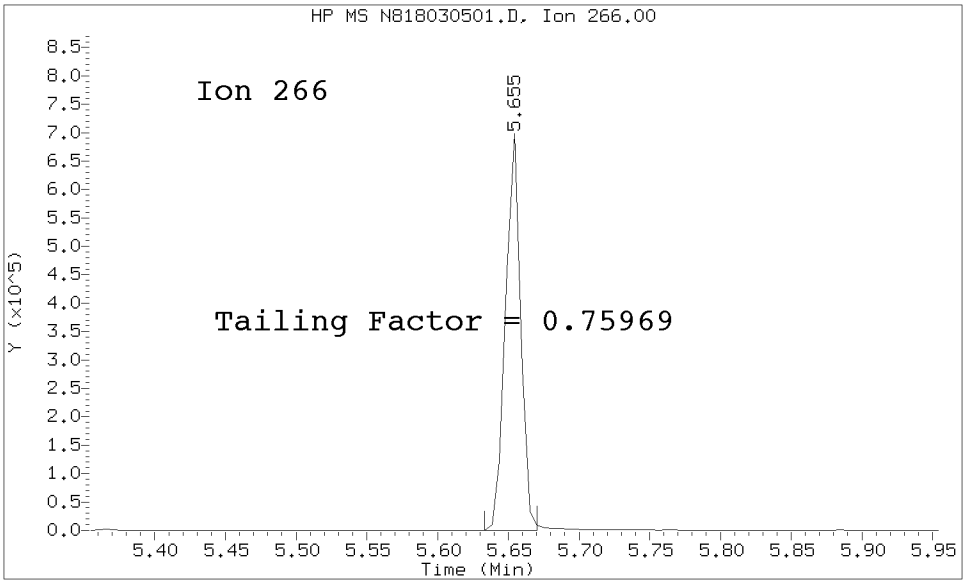
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180305.b/tune.b/N818030501.D/N818030501.D
Method Used: \20180305.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 05-MAR-2018 10:13 Operator: JZ
Sample Info: SGC0048-TUN1 DFTPP180305
Report Date: 03/05/2018 17:18



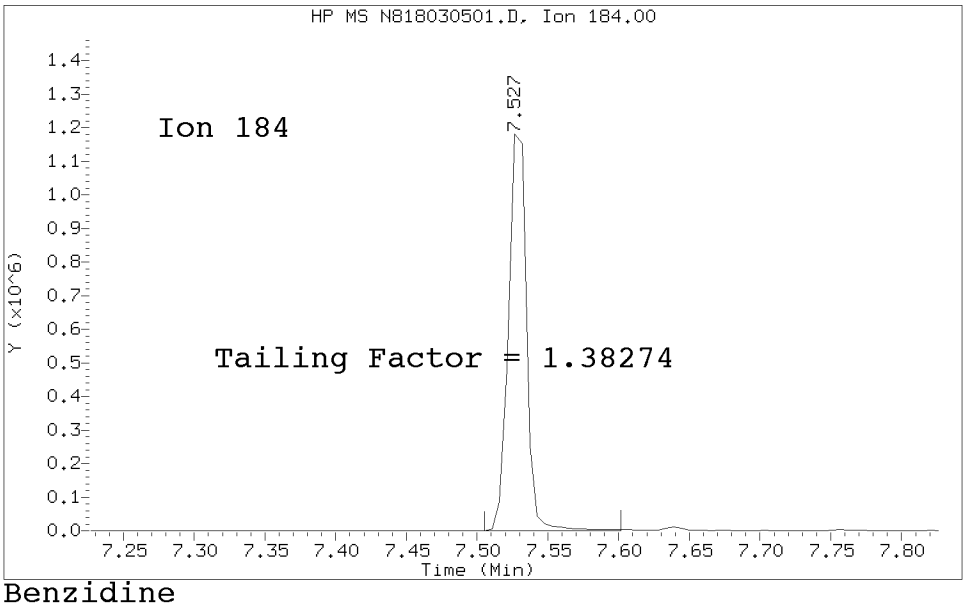


Datafile Analyzed: /20180305.b/tune.b/N818030501.D/N818030501.D
Method Used: \20180305.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 05-MAR-2018 10:13 Operator: JZ
Sample Info: DFTPP180305
Report Date: 03/05/2018 17:18



Pentachlorophenol
==========
Exp. RT = 5.660
Found RT = 5.655

Tail Factor = 0.760 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.526
Found RT = 7.527

Tail Factor = 1.383 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.7596899	2.000	PASS
Benzidine	1.3827362	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1207474			N/A
4,4-DDE	4325	0.4	20.0	PASS
4,4-DDD	57606	4.6	20.0	PASS
4,4-DDD + DDE	61931	4.9	20.0	PASS

Tuning Sample, /nt8.i/20180305.b/tune.b/N818030501.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	21.01
68	Less than 2.00% of mass 69	0.16 (0.35)
69	Mass 69 relative abundance	47.07
70	Less than 2.00% of mass 69	0.29 (0.61)
127	10.00 - 80.00% of mass 198	47.80
197	Less than 2.00% of mass 198	0.67
199	5.00 - 9.00% of mass 198	7.27
275	10.00 - 60.00% of mass 198	30.63
365	Greater than 1.00% of mass 198	4.03
441	0.01 - 24.00% of mass 442	9.49 (14.81)
442	50.00 - 200.00% of mass 198	64.07
443	15.00 - 24.00% of mass 442	13.07 (20.40)

Data File: N818030501.D
Spectrum: Avg. Scans 612-614 (5.37), Background Scan 606
Location of Maximum: 198.00
Number of points: 324

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	686	130.00	9717	212.00	1263	302.00	998
38.00	2330	131.00	1709	213.00	641	303.00	6192
39.00	9092	132.00	937	214.00	206	304.00	1808
40.00	511	133.00	529	215.00	2388	308.00	766
41.00	83	134.00	4031	216.00	4200	309.00	465
45.00	97	135.00	9277	217.00	47176	310.00	545
47.00	111	136.00	3754	218.00	5677	313.00	300
49.00	994	137.00	3735	219.00	553	314.00	2669
50.00	33720	138.00	858	220.00	91	315.00	6217
51.00	112944	139.00	561	221.00	33344	316.00	3619
52.00	5861	140.00	1672	222.00	1543	317.00	629
53.00	228	141.00	15540	223.00	10275	319.00	97
55.00	1004	142.00	4520	224.00	92856	320.00	95
56.00	4363	143.00	3314	225.00	24120	321.00	1604
57.00	9557	144.00	854	226.00	2730	322.00	831
58.00	497	145.00	710	227.00	46560	323.00	14809
61.00	3006	146.00	2833	228.00	6695	324.00	3096
62.00	3040	147.00	8505	229.00	8748	325.00	201
63.00	8726	148.00	19632	230.00	1234	326.00	203
64.00	1513	149.00	3754	231.00	3235	327.00	3066
65.00	4139	150.00	1010	232.00	729	328.00	1634
66.00	238	151.00	1715	233.00	756	329.00	179
67.00	286	152.00	1093	234.00	2967	332.00	1195
68.00	881	153.00	5328	235.00	3081	333.00	1731
69.00	252992	154.00	3943	236.00	2040	334.00	9776
70.00	1537	155.00	7861	237.00	3392	335.00	2531
71.00	101	156.00	12621	238.00	438	336.00	175
73.00	2792	157.00	2574	239.00	2149	339.00	217
74.00	31000	158.00	3072	240.00	1399	340.00	102
75.00	43176	159.00	2093	241.00	2469	341.00	1786
76.00	16185	160.00	5307	242.00	4836	342.00	460
77.00	279040	161.00	6951	243.00	5835	346.00	3273
78.00	19120	162.00	2159	244.00	71952	347.00	638
79.00	23120	163.00	760	245.00	10107	351.00	320
80.00	16325	164.00	752	246.00	17384	352.00	4195
81.00	22112	165.00	5923	247.00	2979	353.00	2574
82.00	5261	166.00	4660	248.00	788	354.00	4147
83.00	4248	167.00	32696	249.00	2423	355.00	951
84.00	872	168.00	13593	250.00	531	359.00	286
85.00	4370	169.00	2489	251.00	784	361.00	148
86.00	6958	170.00	1260	252.00	649	364.00	133
87.00	2653	171.00	1596	253.00	1876	365.00	21648
88.00	989	172.00	3347	254.00	866	366.00	3163
89.00	399	173.00	3566	255.00	357952	367.00	362
90.00	141	174.00	6327	256.00	54064	370.00	521
91.00	5364	175.00	12083	257.00	4942	371.00	1242
92.00	5606	176.00	3480	258.00	25344	372.00	6561
93.00	38472	177.00	5601	259.00	3574	373.00	1810
94.00	2348	178.00	2022	260.00	825	377.00	466

95.00	590	179.00	22952	261.00	987	383.00	2092
96.00	1484	180.00	14870	262.00	89	384.00	497
97.00	507	181.00	6974	263.00	375	390.00	874
98.00	32440	182.00	1482	264.00	611	391.00	608
99.00	19896	183.00	431	265.00	11469	392.00	306
100.00	1900	184.00	2235	266.00	1459	401.00	424
101.00	10080	185.00	11109	270.00	297	402.00	3100
102.00	473	186.00	83720	271.00	916	403.00	3482
103.00	4290	187.00	25008	272.00	1120	404.00	1459
104.00	8304	188.00	2821	273.00	11955	405.00	107
105.00	6523	189.00	6650	274.00	31080	421.00	3313
106.00	3189	190.00	1005	275.00	164672	422.00	2358
107.00	81488	191.00	2886	276.00	22776	423.00	22160
108.00	12708	192.00	7233	277.00	17032	424.00	4540
109.00	3011	193.00	8049	278.00	2738	425.00	309
110.00	141504	194.00	1557	279.00	547	428.00	109
111.00	22304	195.00	1160	282.00	437	429.00	113
112.00	2870	196.00	18112	283.00	1695	433.00	85
113.00	1203	197.00	3608	284.00	1161	434.00	205
115.00	277	198.00	537536	285.00	2838	436.00	308
116.00	5871	199.00	39056	286.00	689	437.00	432
117.00	85024	200.00	3058	288.00	172	438.00	1000
118.00	5715	201.00	3076	289.00	803	439.00	931
119.00	781	202.00	401	290.00	474	440.00	284
120.00	1102	203.00	5483	291.00	478	441.00	51008
121.00	451	204.00	22304	292.00	893	442.00	344384
122.00	6403	205.00	39768	293.00	3049	443.00	70248
123.00	9242	206.00	160704	294.00	915	444.00	5865
124.00	3950	207.00	20720	295.00	527	445.00	464
125.00	3689	208.00	5876	296.00	50472		
127.00	256960	209.00	1962	297.00	7594		
128.00	22280	210.00	2718	298.00	627		
129.00	113624	211.00	7216	301.00	717		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818060101.D	Injection Date:	06/01/18
Instrument ID:	NT8	Injection Time:	14:37
Sequence:	SGF0017	Lab Sample ID:	SGF0017-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	21.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	48.8	PASS
70	Less than 2% of 69	0.594	PASS
127	10 - 80% of 198	50.5	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.56	PASS
275	10 - 60% of 198	32.8	PASS
365	1 - 100% of 198	4.26	PASS
441	0.1 - 24% of 442	15.1	PASS
442	50 - 200% of 198	72.7	PASS
443	15 - 24% of 442	20.4	PASS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818060101.D	Injection Date:	06/01/18
Instrument ID:	NT8	Injection Time:	14:37
Sequence:	SGF0017	Lab Sample ID:	SGF0017-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	21.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	48.8	PASS
70	Less than 2% of 69	0.594	PASS
127	10 - 80% of 198	50.5	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.56	PASS
275	10 - 60% of 198	32.8	PASS
365	1 - 100% of 198	4.26	PASS
441	0.1 - 24% of 442	15.1	PASS
442	50 - 200% of 198	72.7	PASS
443	15 - 24% of 442	20.4	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0017-TUN1	N818060101.D	06/01/2018	14:37
Initial Cal Check	SGF0017-ICV1	N818060102.D	06/01/2018	14:50
Blank	BGE0626-BLK1	N818060103.D	06/01/2018	15:17
LCS	BGE0626-BS1	N818060104.D	06/01/2018	15:44
Reference	BGE0626-SRM1	N818060105.D	06/01/2018	16:11
LDW18-SSCL-A11	18E0231-02	N818060106.D	06/01/2018	16:37
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	06/01/2018	17:04
LDW18-SSCL-A01	18E0243-01	N818060108.D	06/01/2018	17:31
LDW18-SSCL-A02	18E0243-02	N818060109.D	06/01/2018	17:58
LDW18-SSCL-A05	18E0243-04	N818060111.D	06/01/2018	18:52
LDW18-SSCL-A04	18E0243-05	N818060112.D	06/01/2018	19:18
LDW18-SSCL-A06	18E0243-06	N818060113.D	06/01/2018	19:45
LDW18-SSCL-A01	18E0243-01RE1	N818060114.D	06/01/2018	20:12
LDW18-SSCL-A03	18E0243-03	N818060115.D	06/01/2018	20:39
LDW18-SSCL-A03	18E0243-03RE1	N818060116.D	06/01/2018	21:06
LDW18-SSCL-A13	18E0262-01	N818060117.D	06/01/2018	21:32
LDW18-SSCL-A19	18E0262-02	N818060118.D	06/01/2018	21:59
LDW18-SSCL-A12	18E0282-01	N818060119.D	06/01/2018	22:26
LDW18-SSCL-A17	18E0282-02	N818060120.D	06/01/2018	22:53
LDW18-SSCL-A18	18E0282-03	N818060121.D	06/01/2018	23:20
LDW18-SSCL-A09	18E0282-04	N818060122.D	06/01/2018	23:47
LDW18-SSCL-A10	18E0282-05	N818060123.D	06/02/2018	0:13
Matrix Spike	BGE0626-MS1	N818060124.D	06/02/2018	0:40
Matrix Spike Dup	BGE0626-MSD1	N818060125.D	06/02/2018	1:07
LDW18-SSCL-A07	18E0309-01	N818060126.D	06/02/2018	1:34
LDW18-SSCL-A08	18E0309-02	N818060127.D	06/02/2018	2:01

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

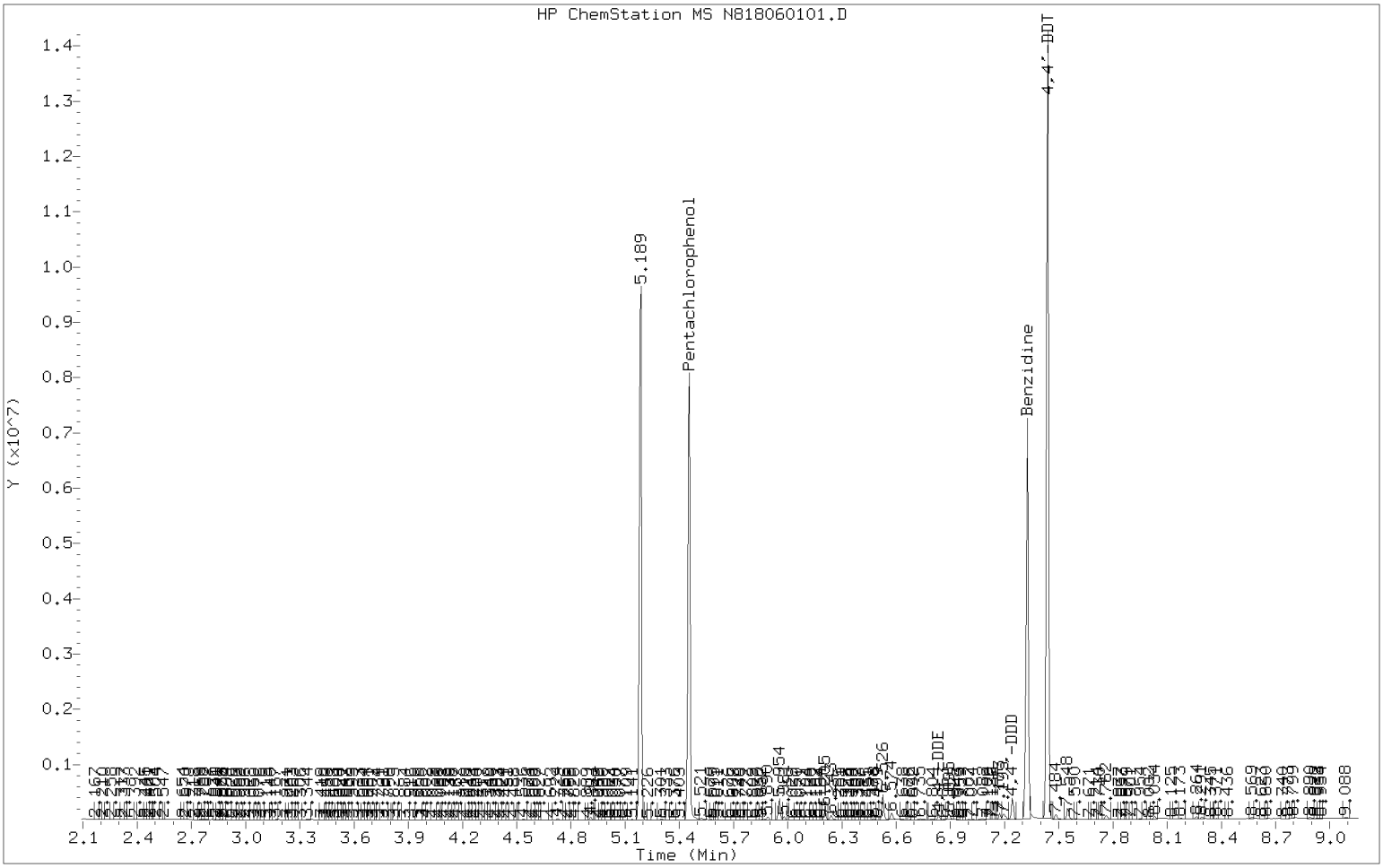
Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818060101.D	Injection Date:	06/01/18
Instrument ID:	NT8	Injection Time:	14:37
Sequence:	SGF0017	Lab Sample ID:	SGF0017-TUN1

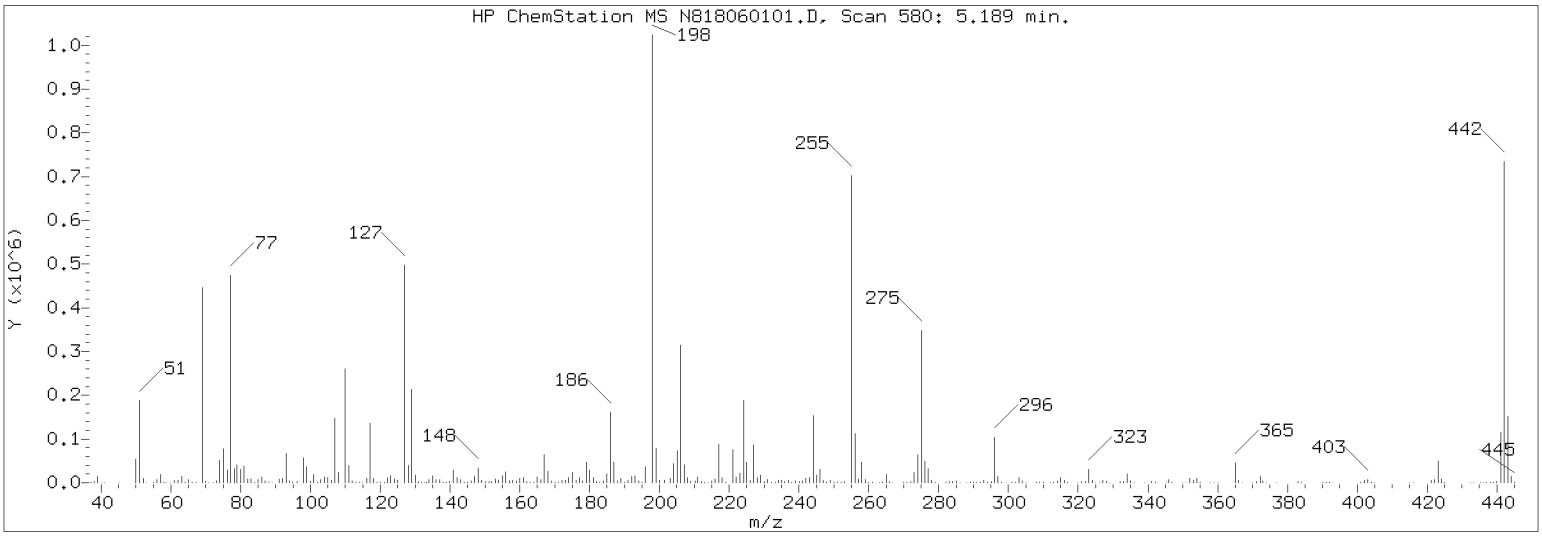
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	21.1	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	48.8	PASS
70	Less than 2% of 69	0.594	PASS
127	10 - 80% of 198	50.5	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.56	PASS
275	10 - 60% of 198	32.8	PASS
365	1 - 100% of 198	4.26	PASS
441	0.1 - 24% of 442	15.1	PASS
442	50 - 200% of 198	72.7	PASS
443	15 - 24% of 442	20.4	PASS

Calibration Check	SGF0017-CCV1	N818060128.D	06/02/2018	2:27

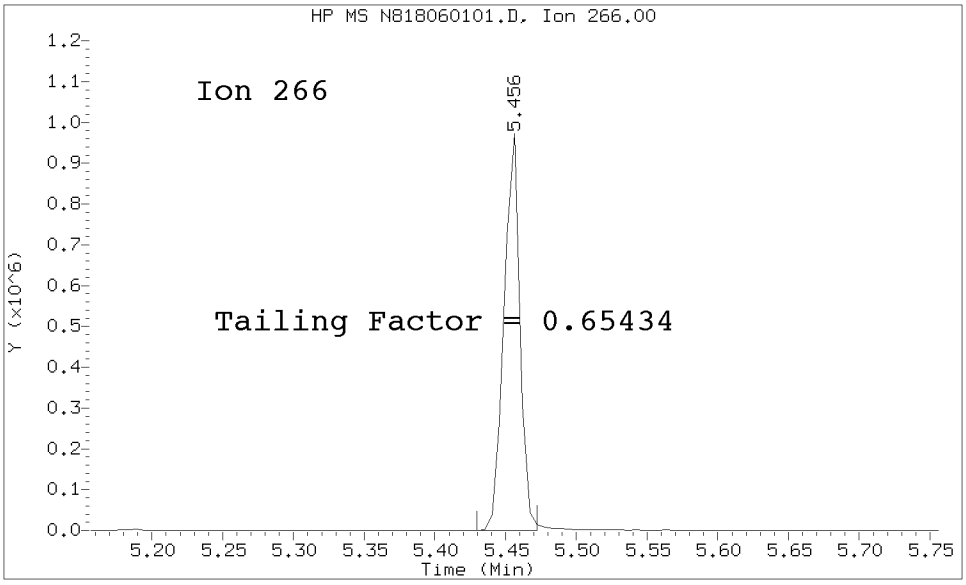
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180601.b/tune.b/N818060101.D/N818060101.D
Method Used: \20180601.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 01-JUN-2018 14:37 Operator: JZ
Sample Info: SGF0017-TUN1 DFTPP180601
Report Date: 06/01/2018 15:07



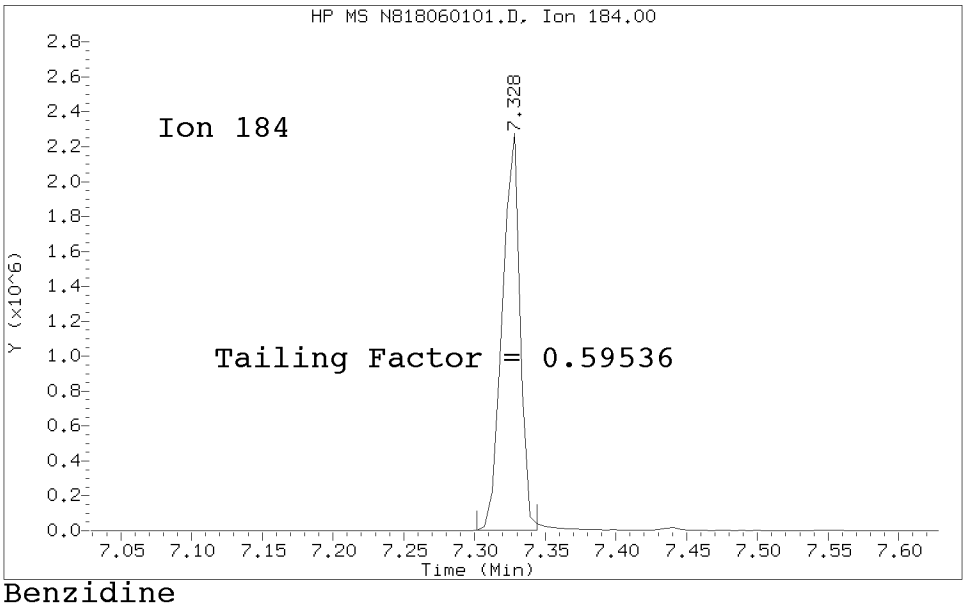


Datafile Analyzed: /20180601.b/tune.b/N818060101.D/N818060101.D
Method Used: \20180601.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 01-JUN-2018 14:37 Operator: JZ
Sample Info: DFTPP180601
Report Date: 06/01/2018 15:07



Pentachlorophenol
==========
Exp. RT = 5.510
Found RT = 5.456

Tail Factor = 0.654 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.377
Found RT = 7.328

Tail Factor = 0.595 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.6543353	2.000	PASS
Benzidine	0.5953635	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1802355			N/A
4,4-DDE	9490	0.5	20.0	PASS
4,4-DDD	55529	3.0	20.0	PASS
4,4-DDD + DDE	65019	3.5	20.0	PASS

Tuning Sample, /nt8.i/20180601.b/tune.b/N818060101.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	21.09
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	48.85
70	Less than 2.00% of mass 69	0.29 (0.59)
127	10.00 - 80.00% of mass 198	50.51
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.56
275	10.00 - 60.00% of mass 198	32.82
365	Greater than 1.00% of mass 198	4.26
441	0.01 - 24.00% of mass 442	10.95 (15.05)
442	50.00 - 200.00% of mass 198	72.73
443	15.00 - 24.00% of mass 442	14.84 (20.40)

Data File: N818060101.D
Spectrum: Avg. Scans 579-581 (5.19), Background Scan 574
Location of Maximum: 198.00
Number of points: 334

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1199	130.00	14154	216.00	6149	309.00	688
38.00	2865	131.00	2361	217.00	62072	310.00	1012
39.00	12565	132.00	1427	218.00	8089	311.00	89
40.00	523	133.00	745	219.00	985	312.00	157
41.00	294	134.00	5158	220.00	713	313.00	610
45.00	316	135.00	11610	221.00	50472	314.00	3169
49.00	112	136.00	5198	222.00	8991	315.00	8000
50.00	43712	137.00	5742	223.00	15015	316.00	4638
51.00	150336	138.00	733	224.00	128064	317.00	734
52.00	8003	139.00	794	225.00	32368	320.00	344
53.00	289	140.00	2062	226.00	3826	321.00	1941
55.00	1157	141.00	21928	227.00	60128	322.00	1507
56.00	6576	142.00	7589	228.00	8304	323.00	21136
57.00	15269	143.00	5152	229.00	11915	324.00	4235
58.00	604	144.00	1453	230.00	1599	325.00	170
59.00	185	145.00	1126	231.00	4653	326.00	539
60.00	216	146.00	3901	232.00	743	327.00	4068
61.00	4175	147.00	10118	233.00	1113	328.00	2126
62.00	4654	148.00	25224	234.00	3835	329.00	372
63.00	12111	149.00	4200	235.00	4590	332.00	1756
64.00	1775	150.00	1347	236.00	2598	333.00	2224
65.00	5743	151.00	2221	237.00	4582	334.00	13558
66.00	453	152.00	1810	238.00	763	335.00	3451
67.00	340	153.00	6448	239.00	2584	336.00	479
69.00	348224	154.00	4955	240.00	1813	339.00	220
70.00	2070	155.00	11070	241.00	3544	340.00	165
71.00	273	156.00	17176	242.00	6696	341.00	2383
72.00	173	157.00	3485	243.00	7667	342.00	506
73.00	3415	158.00	3915	244.00	103712	345.00	102
74.00	41888	159.00	2931	245.00	13561	346.00	4997
75.00	60328	160.00	6904	246.00	22336	347.00	1020
76.00	22504	161.00	8798	247.00	4382	350.00	230
77.00	368704	162.00	2370	248.00	1000	351.00	273
78.00	27936	163.00	770	249.00	3762	352.00	6819
79.00	31624	164.00	913	250.00	510	353.00	4398
80.00	23288	165.00	9117	251.00	957	354.00	6912
81.00	29552	166.00	5882	252.00	1323	355.00	1210
82.00	6743	167.00	43152	253.00	2513	358.00	103
83.00	7036	168.00	19424	255.00	484480	359.00	564
84.00	907	169.00	3088	256.00	75456	360.00	91
85.00	5333	170.00	1280	257.00	5834	364.00	138
86.00	9236	171.00	1702	258.00	32856	365.00	30376
87.00	3393	172.00	4176	259.00	5462	366.00	4018
88.00	1528	173.00	4193	260.00	855	367.00	387
89.00	588	174.00	8391	261.00	816	370.00	579
90.00	219	175.00	15975	263.00	266	371.00	1437
91.00	7223	176.00	4257	264.00	982	372.00	10529
92.00	8228	177.00	8140	265.00	13218	373.00	2661
93.00	51144	178.00	3058	266.00	1845	374.00	365

94.00	3439	179.00	31728	267.00	301	377.00	255
95.00	640	180.00	20416	270.00	469	383.00	2527
96.00	1950	181.00	9204	271.00	1278	384.00	746
97.00	741	182.00	1781	272.00	1848	390.00	1215
98.00	42072	183.00	892	273.00	15785	391.00	946
99.00	27536	184.00	2735	274.00	42216	392.00	959
100.00	2089	185.00	15111	275.00	233984	401.00	538
101.00	14446	186.00	113752	276.00	32352	402.00	3952
102.00	1004	187.00	33600	277.00	23072	403.00	5313
103.00	5493	188.00	3559	278.00	3482	404.00	1617
104.00	10724	189.00	7597	279.00	786	405.00	289
105.00	9024	190.00	1235	281.00	85	415.00	292
106.00	3755	191.00	3652	282.00	592	416.00	88
107.00	110552	192.00	10162	283.00	2533	420.00	120
108.00	17216	193.00	11265	284.00	1670	421.00	4005
109.00	227	194.00	2573	285.00	3455	422.00	4611
110.00	197504	195.00	2171	286.00	477	423.00	33504
111.00	31016	196.00	25864	288.00	257	424.00	7059
112.00	3947	198.00	712896	289.00	906	425.00	721
113.00	1168	199.00	53888	290.00	785	426.00	96
114.00	408	200.00	4069	291.00	482	432.00	231
115.00	628	201.00	4413	292.00	1012	433.00	99
116.00	7502	203.00	6832	293.00	4444	435.00	282
117.00	103072	204.00	30392	294.00	1004	436.00	277
118.00	7363	205.00	53112	295.00	1793	437.00	889
119.00	721	206.00	217344	296.00	70960	438.00	1081
120.00	1347	207.00	28752	297.00	9910	439.00	1353
121.00	474	208.00	8017	298.00	546	440.00	1829
122.00	9070	209.00	2446	301.00	987	441.00	78040
123.00	12490	210.00	3398	302.00	1320	442.00	518464
124.00	6477	211.00	9193	303.00	8640	443.00	105776
125.00	4517	212.00	1035	304.00	2584	444.00	9952
127.00	360064	213.00	907	305.00	345	445.00	505
128.00	29256	214.00	234	306.00	85		
129.00	156096	215.00	3282	308.00	977		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

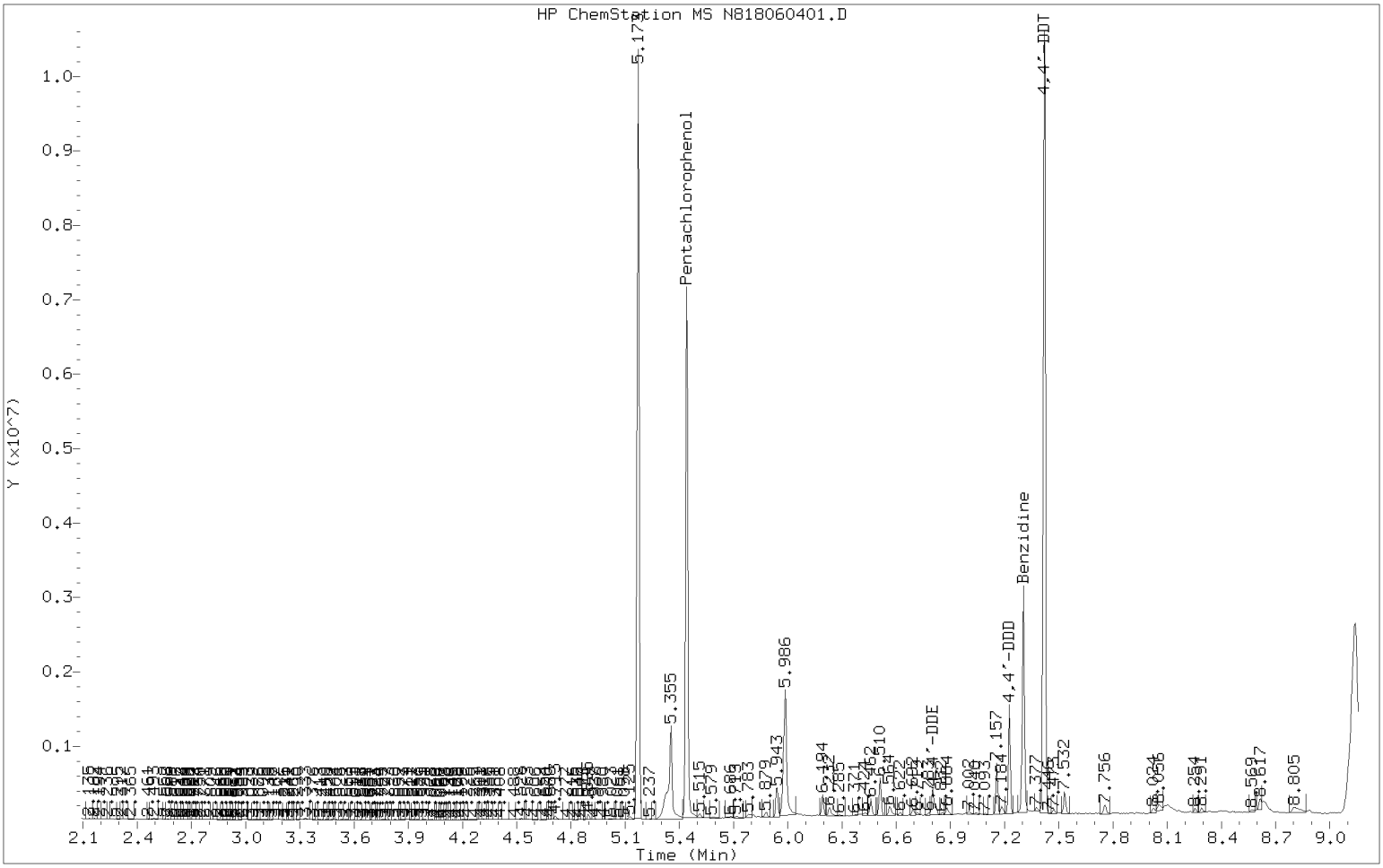
Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818060401.D	Injection Date:	06/04/18
Instrument ID:	NT8	Injection Time:	10:21
Sequence:	SGF0027	Lab Sample ID:	SGF0027-TUN1

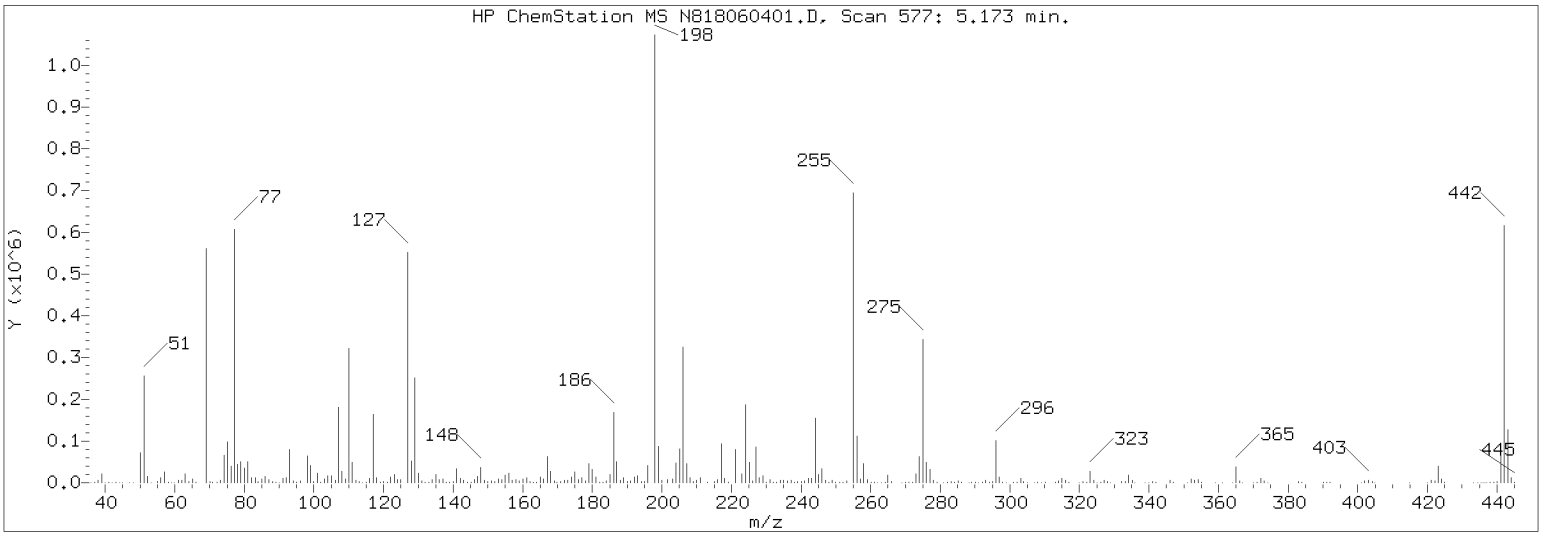
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	22	PASS
68	Less than 2% of 69	0.484	PASS
69	Less than 100% of 198	49.4	PASS
70	Less than 2% of 69	0.493	PASS
127	10 - 80% of 198	50.2	PASS
197	Less than 2% of 198	0.241	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.94	PASS
275	10 - 60% of 198	32.1	PASS
365	1 - 100% of 198	3.91	PASS
441	0.1 - 24% of 442	15.4	PASS
442	50 - 200% of 198	63.9	PASS
443	15 - 24% of 442	20.9	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0027-TUN1	N818060401.D	06/04/2018	10:21
Initial Cal Check	SGF0027-ICV1	N818060402.D	06/04/2018	10:34
LDW18-SSCL-A18	18E0282-03RE1	N818060406.D	06/04/2018	12:34
Calibration Check	SGF0027-CCV1	N818060407.D	06/04/2018	13:13

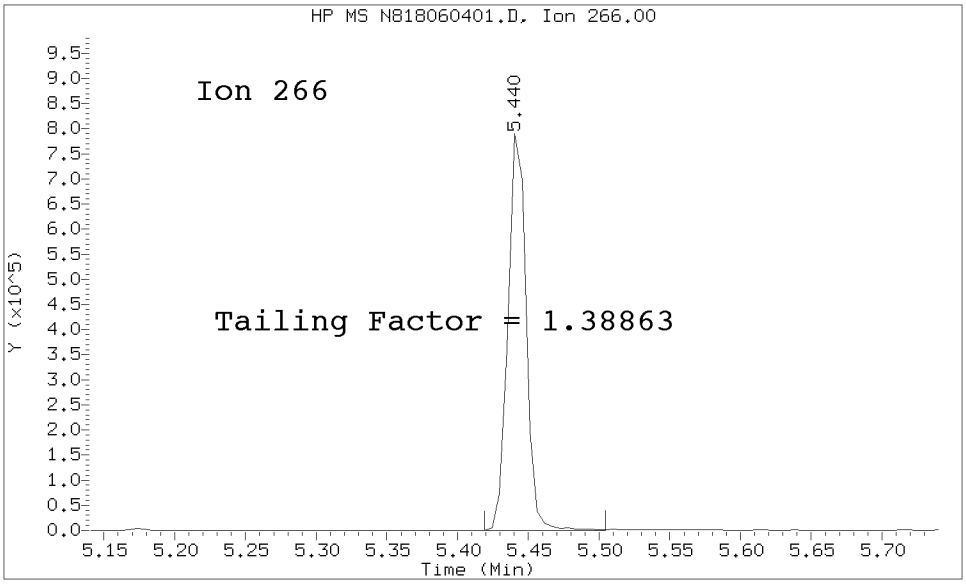
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180604.b/tune.b/N818060401.D/N818060401.D
Method Used: \20180604.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 04-JUN-2018 10:21 Operator: JZ
Sample Info: SGF0027-TUN1 DFTPP180604
Report Date: 06/04/2018 13:05



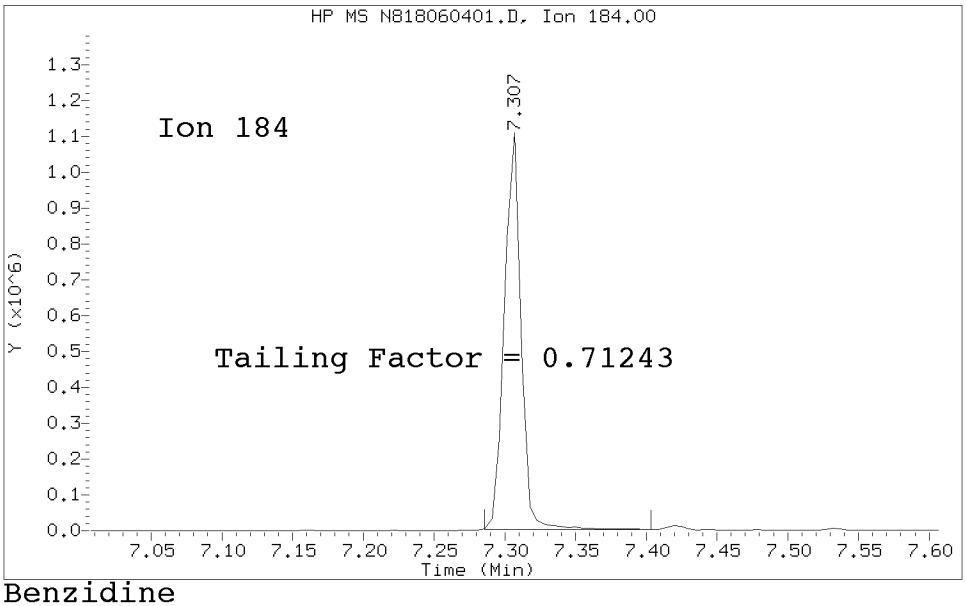


Datafile Analyzed: /20180604.b/tune.b/N818060401.D/N818060401.D
Method Used: \20180604.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 04-JUN-2018 10:21 Operator: JZ
Sample Info: DFTPP180604
Report Date: 06/04/2018 13:05



Pentachlorophenol
==========
Exp. RT = 5.510
Found RT = 5.440

Tail Factor = 1.389 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.377
Found RT = 7.307

Tail Factor = 0.712 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.3886256	2.000	PASS
Benzidine	0.7124260	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1480802			N/A
4,4-DDE	8262	0.6	20.0	PASS
4,4-DDD	196593	11.7	20.0	PASS
4,4-DDD + DDE	204855	12.2	20.0	PASS

Tuning Sample, /nt8.i/20180604.b/tune.b/N818060401.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	22.01
68	Less than 2.00% of mass 69	0.24 (0.48)
69	Mass 69 relative abundance	49.40
70	Less than 2.00% of mass 69	0.24 (0.49)
127	10.00 - 80.00% of mass 198	50.22
197	Less than 2.00% of mass 198	0.24
199	5.00 - 9.00% of mass 198	7.94
275	10.00 - 60.00% of mass 198	32.09
365	Greater than 1.00% of mass 198	3.91
441	0.01 - 24.00% of mass 442	9.83 (15.38)
442	50.00 - 200.00% of mass 198	63.92
443	15.00 - 24.00% of mass 442	13.35 (20.89)

Data File: N818060401.D
Spectrum: Avg. Scans 576-578 (5.17), Background Scan 570
Location of Maximum: 198.00
Number of points: 337

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	169	127.00	415808	213.00	1016	305.00	134
37.00	1287	128.00	36128	214.00	260	307.00	97
38.00	3431	129.00	186176	215.00	3098	308.00	1058
39.00	14520	130.00	16816	216.00	6299	309.00	681
40.00	793	131.00	3374	217.00	70944	310.00	837
41.00	183	132.00	1589	218.00	9036	313.00	716
43.00	175	133.00	860	219.00	951	314.00	4300
44.00	3	134.00	5586	220.00	884	315.00	9213
45.00	222	135.00	14199	221.00	55680	316.00	5214
48.00	411	136.00	5894	223.00	16090	317.00	834
49.00	952	137.00	6572	224.00	146496	320.00	379
50.00	52144	138.00	1764	225.00	37920	321.00	2299
51.00	182272	139.00	776	226.00	4097	322.00	1406
52.00	10583	140.00	2317	227.00	68016	323.00	23792
53.00	485	141.00	25408	228.00	9869	324.00	4740
54.00	119	142.00	8179	229.00	13420	325.00	335
55.00	1495	143.00	4821	230.00	1748	326.00	730
56.00	8876	144.00	1408	231.00	5501	327.00	4576
57.00	18024	145.00	1453	232.00	966	328.00	2171
58.00	1007	146.00	5385	233.00	1309	329.00	444
60.00	394	147.00	10776	234.00	4709	332.00	1860
61.00	4261	148.00	28248	235.00	4967	333.00	2499
62.00	5175	149.00	5283	236.00	3496	334.00	15322
63.00	15428	150.00	1694	237.00	4896	335.00	4675
64.00	2108	151.00	3008	238.00	661	336.00	460
65.00	7329	152.00	2027	239.00	2844	339.00	304
66.00	676	153.00	7379	240.00	2083	340.00	527
67.00	377	154.00	5850	241.00	3824	341.00	2589
68.00	1978	155.00	13576	242.00	8185	342.00	710
69.00	409024	156.00	18032	243.00	8612	346.00	5444
70.00	2018	157.00	4208	244.00	118864	347.00	1000
71.00	197	158.00	5269	245.00	15497	348.00	118
72.00	150	159.00	3771	246.00	24912	350.00	98
73.00	1029	160.00	7024	247.00	5935	351.00	465
74.00	48192	161.00	9965	248.00	1232	352.00	6483
75.00	70008	162.00	2844	249.00	4298	353.00	4848
76.00	27736	163.00	1019	250.00	884	354.00	6592
77.00	440704	164.00	1350	251.00	1170	355.00	266
78.00	31488	165.00	10399	252.00	1106	357.00	91
79.00	36168	166.00	6862	253.00	3256	359.00	327
80.00	24672	167.00	48256	254.00	1533	361.00	202
81.00	35792	168.00	21024	255.00	549824	364.00	594
82.00	8396	169.00	4189	256.00	85888	365.00	32360
83.00	7229	170.00	1778	257.00	7260	366.00	4450
84.00	1011	171.00	2433	258.00	38680	367.00	261
85.00	5884	172.00	5012	259.00	6096	370.00	701
86.00	10205	173.00	5394	260.00	1057	371.00	1575
87.00	4461	174.00	10118	261.00	1046	372.00	10304
88.00	1293	175.00	19384	262.00	83	373.00	3029

89.00	809	176.00	5660	263.00	250	374.00	332
90.00	165	177.00	9821	264.00	923	383.00	2753
91.00	8290	178.00	3368	265.00	16049	384.00	895
92.00	9430	179.00	36248	266.00	2565	385.00	169
93.00	58304	180.00	24040	269.00	195	390.00	1531
94.00	3585	181.00	11020	270.00	740	391.00	1089
95.00	1049	182.00	1752	271.00	1381	392.00	850
96.00	2284	183.00	999	272.00	1815	401.00	662
98.00	47016	184.00	3310	273.00	17424	402.00	3842
99.00	31112	185.00	16568	274.00	47904	403.00	4950
100.00	2363	186.00	130168	275.00	265664	404.00	2056
101.00	16384	187.00	39360	276.00	37952	405.00	252
102.00	1213	188.00	4088	277.00	25152	415.00	329
103.00	6439	189.00	9072	278.00	4634	420.00	103
104.00	12650	190.00	1788	279.00	897	421.00	5020
105.00	11373	191.00	4163	282.00	65	422.00	4442
106.00	2755	192.00	11033	283.00	2722	423.00	34368
107.00	133120	193.00	12894	284.00	1777	424.00	7835
108.00	19528	194.00	2780	285.00	4496	425.00	991
109.00	6240	195.00	1442	286.00	801	431.00	143
110.00	230720	196.00	30848	288.00	420	433.00	136
111.00	34688	197.00	1994	289.00	949	434.00	480
112.00	4741	198.00	827968	290.00	996	435.00	97
113.00	1869	199.00	65752	291.00	424	436.00	597
114.00	652	200.00	5092	292.00	1293	437.00	604
115.00	219	201.00	5100	293.00	5055	438.00	809
116.00	8493	203.00	7455	294.00	1305	439.00	1838
117.00	123816	204.00	35920	295.00	1644	440.00	2034
118.00	8603	205.00	60336	296.00	79344	441.00	81384
119.00	455	206.00	250944	297.00	11221	442.00	529216
120.00	2029	207.00	34016	298.00	819	443.00	110552
121.00	987	208.00	9838	299.00	91	444.00	9478
122.00	9910	209.00	2651	301.00	1234	445.00	649
123.00	14411	210.00	4286	302.00	1329		
124.00	6040	211.00	10421	303.00	8952		
125.00	5220	212.00	597	304.00	2802		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM

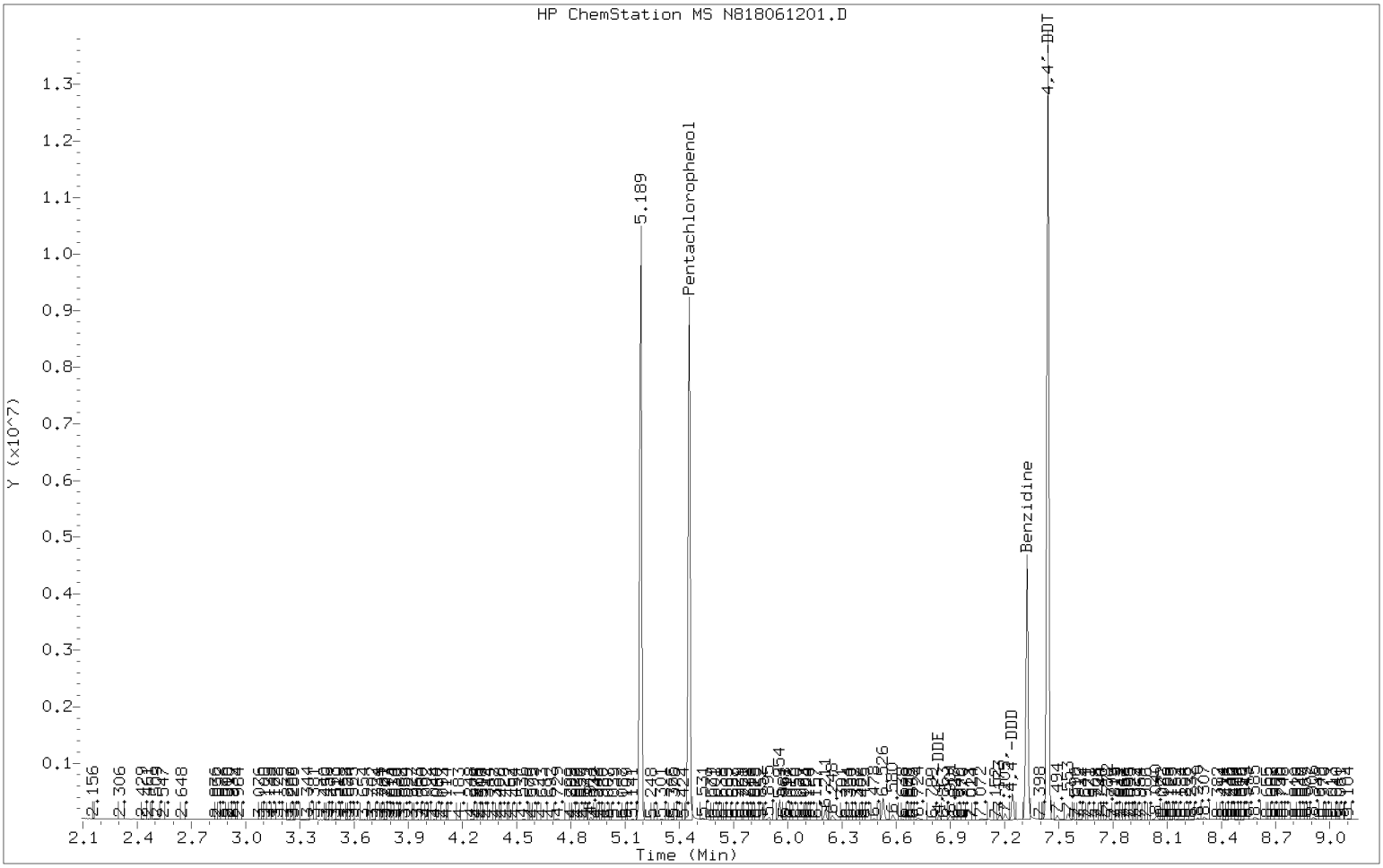
Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Lab File ID:	N818061201.D	Injection Date:	06/12/18
Instrument ID:	NT8	Injection Time:	14:36
Sequence:	SGF0149	Lab Sample ID:	SGF0149-TUN1

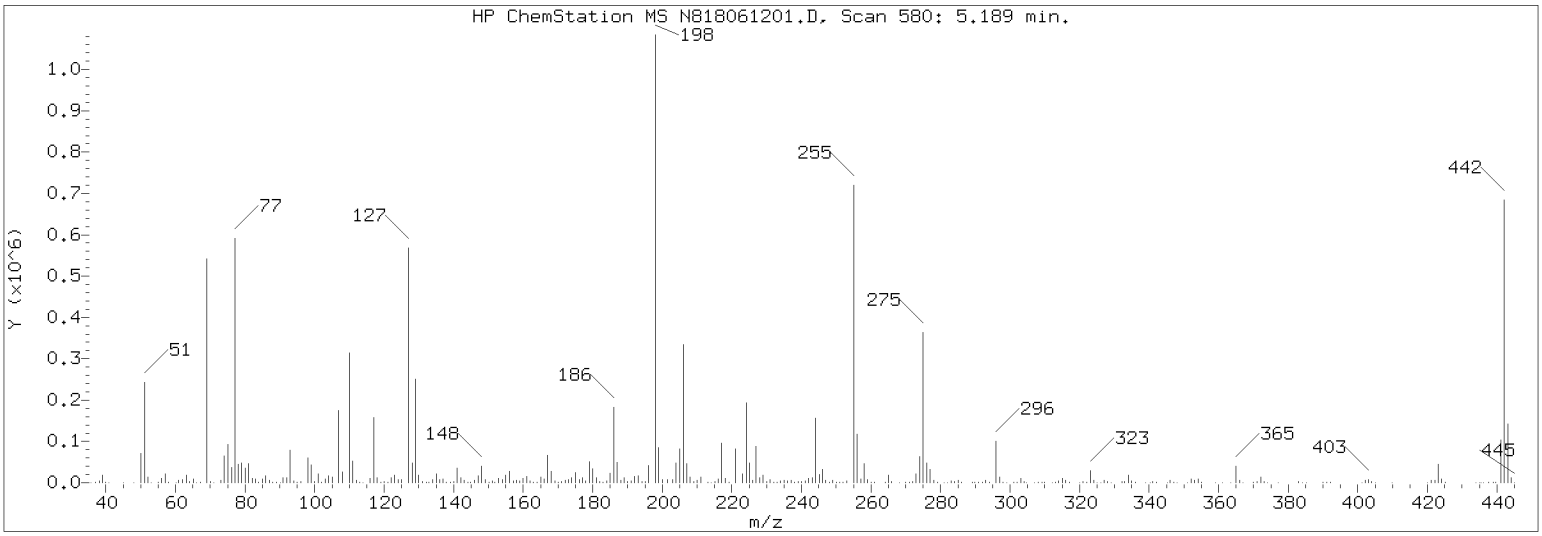
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	22	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	50.7	PASS
70	Less than 2% of 69	0.593	PASS
127	10 - 80% of 198	50.8	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.57	PASS
275	10 - 60% of 198	33.1	PASS
365	1 - 100% of 198	4.08	PASS
441	0.1 - 24% of 442	15	PASS
442	50 - 200% of 198	71.3	PASS
443	15 - 24% of 442	20.7	PASS

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SGF0149-TUN1	N818061201.D	06/12/2018	14:36
Initial Cal Check	SGF0149-ICV1	N818061202.D	06/12/2018	14:49
Blank	BGE0773-BLK1	N818061203.D	06/12/2018	15:23
LCS	BGE0773-BS1	N818061204.D	06/12/2018	15:50
Reference	BGE0773-SRM1	N818061205.D	06/12/2018	16:16
LDW18-A19-CLWB-Comp	18E0262-03	N818061206.D	06/12/2018	16:43
LDW18-A01-CLWB-Comp	18E0243-07	N818061207.D	06/12/2018	17:10
LDW18-A02-CLWB-Comp	18E0243-08	N818061208.D	06/12/2018	17:37
LDW18-A06-CLWB-Comp	18E0243-09	N818061209.D	06/12/2018	18:04
LDW18-A04-CLWB-Comp	18E0243-10	N818061210.D	06/12/2018	18:31
LDW18-A03-CLWB-Comp	18E0243-11	N818061211.D	06/12/2018	18:58
LDW18-A05-CLWB-Comp	18E0243-12	N818061212.D	06/12/2018	19:25
LDW18-A12-CLWB-Comp	18E0282-06	N818061213.D	06/12/2018	19:52
LDW18-A09-CLWB-Comp	18E0282-07	N818061214.D	06/12/2018	20:18
LDW18-A10-CLWB-Comp	18E0282-08	N818061215.D	06/12/2018	20:45
LDW18-A18-CLWB-Comp	18E0282-09	N818061216.D	06/12/2018	21:12
LDW18-A17-CLWB-Comp	18E0282-10	N818061217.D	06/12/2018	21:39
LDW18-A07-CLWB-Comp	18E0309-03	N818061218.D	06/12/2018	22:06
LDW18-A08-CLWB-Comp	18E0309-04	N818061219.D	06/12/2018	22:33
LDW18-A11-CLWB-Comp	18E0231-01	N818061220.D	06/12/2018	23:00
Matrix Spike	BGE0773-MS1	N818061221.D	06/12/2018	23:26
Matrix Spike Dup	BGE0773-MSD1	N818061222.D	06/12/2018	23:53
LDW18-A13-CLWB-Comp	18E0389-01	N818061223.D	06/13/2018	0:20
Calibration Check	SGF0149-CCV1	N818061224.D	06/13/2018	0:47

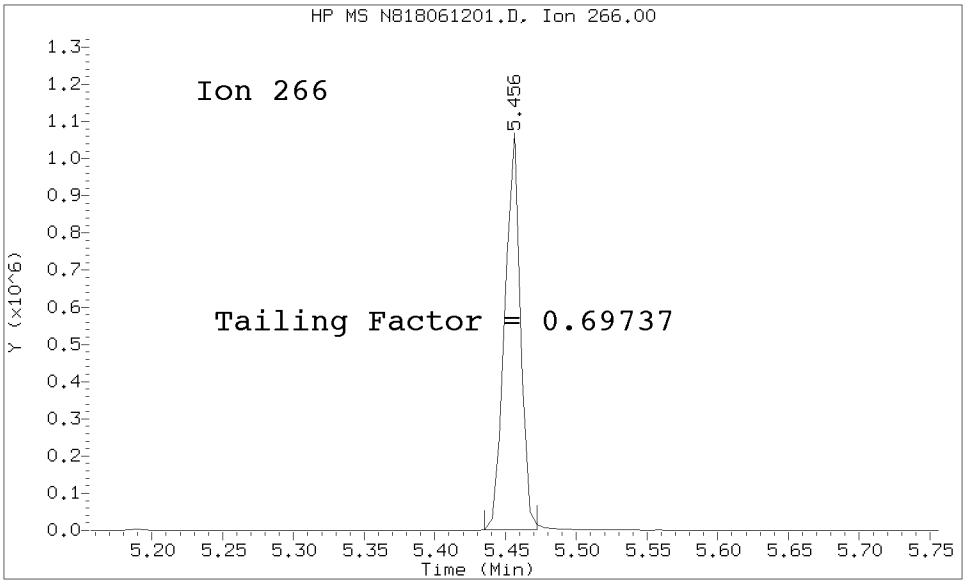
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180612.b/tune.b/N818061201.D/N818061201.D
Method Used: \20180612.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 12-JUN-2018 14:36 Operator: JZ
Sample Info: SGF0149-TUN1 DFTPP180612
Report Date: 06/12/2018 16:09



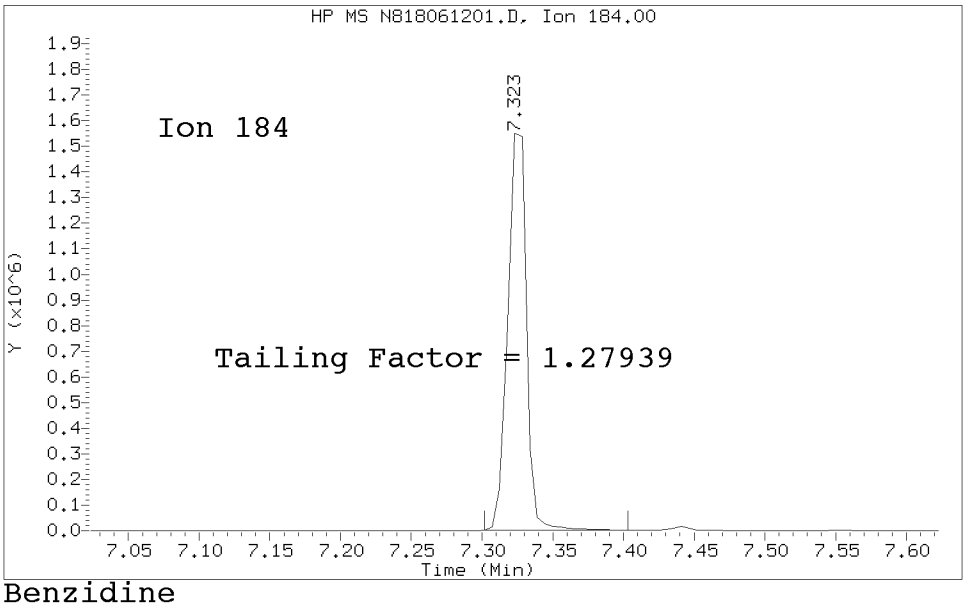


Datafile Analyzed: /20180612.b/tune.b/N818061201.D/N818061201.D
Method Used: \20180612.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 12-JUN-2018 14:36 Operator: JZ
Sample Info: DFTPP180612
Report Date: 06/12/2018 16:09



Pentachlorophenol
==========
Exp. RT = 5.510
Found RT = 5.456

Tail Factor = 0.697 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.377
Found RT = 7.323

Tail Factor = 1.279 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.6973684	2.000	PASS
Benzidine	1.2793893	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1763252			N/A
4,4-DDE	7226	0.4	20.0	PASS
4,4-DDD	67654	3.7	20.0	PASS
4,4-DDD + DDE	74880	4.1	20.0	PASS

Tuning Sample, /nt8.i/20180612.b/tune.b/N818061201.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	21.97
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	50.67
70	Less than 2.00% of mass 69	0.30 (0.59)
127	10.00 - 80.00% of mass 198	50.80
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.57
275	10.00 - 60.00% of mass 198	33.13
365	Greater than 1.00% of mass 198	4.08
441	0.01 - 24.00% of mass 442	10.68 (14.97)
442	50.00 - 200.00% of mass 198	71.32
443	15.00 - 24.00% of mass 442	14.74 (20.66)

Data File: N818061201.D
Spectrum: Avg. Scans 579-581 (5.19), Background Scan 574
Location of Maximum: 198.00
Number of points: 339

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	137	129.00	169856	217.00	66984	308.00	996
37.00	1126	130.00	13185	218.00	8262	309.00	789
38.00	2899	131.00	2882	219.00	661	310.00	836
39.00	13713	132.00	1444	220.00	314	312.00	272
40.00	667	133.00	620	221.00	52232	313.00	716
41.00	403	134.00	5614	222.00	1772	314.00	3647
44.00	103	135.00	13784	223.00	14582	315.00	8391
45.00	237	136.00	5381	224.00	133184	316.00	4217
47.00	104	137.00	6370	225.00	33376	317.00	872
48.00	290	138.00	1542	226.00	4094	320.00	410
49.00	780	139.00	1175	227.00	62024	321.00	2224
50.00	49160	140.00	2510	228.00	8762	322.00	1246
51.00	166400	141.00	24024	229.00	12180	323.00	21824
52.00	9779	142.00	7580	230.00	1457	324.00	4412
53.00	674	143.00	4834	231.00	4845	325.00	358
55.00	1397	144.00	1320	232.00	849	326.00	471
56.00	7287	145.00	1306	233.00	1286	327.00	4432
57.00	15381	146.00	4384	234.00	3981	328.00	1813
58.00	711	147.00	11109	235.00	4271	329.00	159
59.00	133	148.00	28016	236.00	3133	332.00	1658
60.00	225	149.00	5259	237.00	4804	333.00	2241
61.00	4424	150.00	1501	238.00	558	334.00	14416
62.00	5816	151.00	3337	239.00	2084	335.00	4069
63.00	12876	152.00	1504	240.00	1644	336.00	625
64.00	1840	153.00	7209	241.00	3072	339.00	303
65.00	6474	154.00	5144	242.00	7030	340.00	334
66.00	315	155.00	12768	243.00	8169	341.00	2327
67.00	1194	156.00	18648	244.00	108040	342.00	576
69.00	383744	157.00	3455	245.00	13890	345.00	166
70.00	2277	158.00	4084	246.00	22952	346.00	4960
71.00	263	159.00	3198	247.00	4654	347.00	879
73.00	3827	160.00	6917	248.00	1035	348.00	88
74.00	46376	161.00	10070	249.00	4133	351.00	357
75.00	66008	162.00	2757	250.00	856	352.00	6941
76.00	25552	163.00	843	251.00	981	353.00	4501
77.00	414016	164.00	1155	252.00	1150	354.00	6562
78.00	30568	165.00	8839	253.00	3167	355.00	1344
79.00	34224	166.00	6242	254.00	1580	359.00	288
80.00	25104	167.00	46080	255.00	509760	361.00	113
81.00	32704	168.00	19808	256.00	80184	363.00	202
82.00	7694	169.00	3382	257.00	6730	364.00	200
83.00	6964	170.00	1538	258.00	35112	365.00	30864
84.00	956	171.00	2039	259.00	5388	366.00	4572
85.00	6078	172.00	4297	260.00	822	367.00	285
86.00	11060	173.00	5516	261.00	1062	370.00	890
87.00	4305	174.00	8750	263.00	127	371.00	1705
88.00	1589	175.00	16632	264.00	827	372.00	10533
89.00	639	176.00	4695	265.00	14021	373.00	2732
90.00	317	177.00	8229	266.00	2047	374.00	186

91.00	7936	178.00	3167	267.00	131	377.00	466
92.00	8892	179.00	34824	268.00	240	383.00	2354
93.00	55240	180.00	22224	270.00	591	384.00	617
94.00	3523	181.00	9290	271.00	988	385.00	157
95.00	765	182.00	2237	272.00	1635	390.00	1328
96.00	2405	183.00	960	273.00	16358	391.00	958
97.00	925	184.00	2844	274.00	44912	392.00	812
98.00	42664	185.00	15176	275.00	250944	401.00	636
99.00	29312	186.00	122584	276.00	34088	402.00	4216
100.00	2557	187.00	34280	277.00	23760	403.00	5439
101.00	15454	188.00	3626	278.00	4156	404.00	2041
102.00	1109	189.00	8889	279.00	720	405.00	195
103.00	6282	190.00	1412	281.00	208	410.00	136
104.00	11596	191.00	3097	282.00	499	419.00	91
105.00	10244	192.00	9659	283.00	3032	420.00	225
106.00	1972	193.00	10969	284.00	1768	421.00	4735
107.00	119952	194.00	2591	285.00	3908	422.00	4038
108.00	18496	195.00	1713	286.00	784	423.00	35416
110.00	216064	196.00	27728	288.00	101	424.00	7891
111.00	34344	198.00	757376	289.00	1067	425.00	808
112.00	4689	199.00	57352	290.00	694	430.00	151
113.00	1653	200.00	4565	291.00	393	432.00	141
114.00	149	201.00	4665	292.00	1093	433.00	179
115.00	316	203.00	6411	293.00	4932	434.00	100
116.00	8191	204.00	33072	294.00	1259	435.00	478
117.00	111920	205.00	57576	295.00	955	436.00	365
118.00	8281	206.00	230336	296.00	72072	437.00	483
119.00	842	207.00	30368	297.00	9572	438.00	1240
120.00	1865	208.00	9696	298.00	789	439.00	965
121.00	848	209.00	2610	299.00	117	440.00	1573
122.00	9775	210.00	3931	301.00	1344	441.00	80888
123.00	12769	211.00	10100	302.00	1451	442.00	540160
124.00	5724	213.00	755	303.00	7931	443.00	111616
125.00	5478	214.00	209	304.00	2321	444.00	9918
127.00	384768	215.00	2704	305.00	281	445.00	559
128.00	32584	216.00	6318	307.00	122		

INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Calibration:	BC00011	Instrument:	NT8
Calibration Date:	03/05/2018 10:05	Column (1):	RXI-17Sil ms

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Naphthalene	0.1	1.299393	0.5	1.027899	1	1.116215	2.5	1.176469	5	1.15852	10	1.195418
2-Methylnaphthalene	0.1	0.685061	0.5	0.6332933	1	0.6249545	2.5	0.6641525	5	0.6524056	10	0.6681702
1-Methylnaphthalene	0.1	0.7482841	0.5	0.608017	1	0.6423018	2.5	0.689261	5	0.6678471	10	0.687564
Acenaphthylene	0.1	1.787116	0.5	1.686645	1	1.904671	2.5	2.096557	5	2.174605	10	2.264654
Acenaphthene	0.1	1.726246	0.5	1.358314	1	1.444126	2.5	1.519512	5	1.529646	10	1.555637
Dibenzofuran	0.1	2.261527	0.5	1.840715	1	1.96757	2.5	2.057596	5	2.060563	10	2.092628
Fluorene	0.1	1.481699	0.5	1.452175	1	1.527864	2.5	1.640055	5	1.66503	10	1.722264
Phenanthrene	0.1	1.379727	0.5	1.130784	1	1.178741	2.5	1.220453	5	1.205101	10	1.240096
Anthracene	0.1	1.075484	0.5	0.9807331	1	1.094341	2.5	1.165785	5	1.175037	10	1.209913
Fluoranthene	0.1	1.400158	0.5	1.276248	1	1.369405	2.5	1.406486	5	1.403534	10	1.433156
Pyrene	0.1	1.301363	0.5	1.109523	1	1.214231	2.5	1.085879	5	1.227548	10	1.272915
Benzo(a)anthracene	0.1	1.232046	0.5	1.06106	1	1.122291	2.5	1.059124	5	1.219026	10	1.278618
Chrysene	0.1	1.291892	0.5	1.137645	1	1.125891	2.5	1.037894	5	1.19894	10	1.226122
Benzo(b)fluoranthene	0.1	1.376633	0.5	1.132154	1	1.204935	2.5	1.204314	5	1.327905	10	1.380413
Benzo(k)fluoranthene	0.1	1.306653	0.5	1.119606	1	1.175655	2.5	1.210504	5	1.363461	10	1.323256
Benzo(j)fluoranthene	0.1	1.3481	0.5	1.163655	1	1.209479	2.5	1.195629	5	1.281769	10	1.31019
Benzo(a)pyrene	0.1	1.183361	0.5	0.9495208	1	1.033642	2.5	1.068001	5	1.205313	10	1.244364
Indeno(1,2,3-cd)pyrene	0.1	1.242379	0.5	1.107356	1	1.195378	2.5	1.248111	5	1.404343	10	1.454846
Dibenzo(a,h)anthracene	0.1	0.9340742	0.5	0.8713957	1	0.9929495	2.5	1.056538	5	1.198097	10	1.259383
Benzo(g,h,i)perylene	0.1	1.168644	0.5	1.002716	1	1.047105	2.5	1.074875	5	1.15853	10	1.236241
Benzofluoranthenes, Total	0.3	1.319568	1.5	1.128247	3	1.183652	7.5	1.181429	15	1.303922	30	1.320858
2-Methylnaphthalene-d10	0.1	0.7670489	0.5	0.6837811	1	0.7033819	2.5	0.7363745	5	0.7305546	10	0.7563294
Dibenzo[a,h]anthracene-d14	0.1	0.8381138	0.5	0.7799305	1	0.9139961	2.5	0.9019113	5	1.04379	10	1.142966
Fluoranthene-d10	0.1	1.293555	0.5	1.152525	1	1.242887	2.5	1.33785	5	1.379327	10	1.449936

INITIAL CALIBRATION DATA
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Calibration:	BC00011	Instrument:	NT8
Calibration Date:	03/05/2018 10:05	Column (1):	RXI-17Sil ms

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Naphthalene	1.162319	7.7			RSD (15)	
2-Methylnaphthalene	0.6546729	3.4			RSD (15)	
1-Methylnaphthalene	0.6738792	7.1			RSD (15)	
Acenaphthylene	1.985708	11.5			RSD (15)	
Acenaphthene	1.522247	8.1			RSD (15)	
Dibenzofuran	2.046767	6.8			RSD (15)	
Fluorene	1.581514	6.9			RSD (15)	
Phenanthrene	1.225817	6.9			RSD (15)	
Anthracene	1.116882	7.5			RSD (15)	
Fluoranthene	1.381498	4.0			RSD (15)	
Pyrene	1.20191	7.2			RSD (15)	
Benzo(a)anthracene	1.162027	8.1			RSD (15)	
Chrysene	1.169731	7.6			RSD (15)	
Benzo(b)fluoranthene	1.271059	8.2			RSD (15)	
Benzo(k)fluoranthene	1.249856	7.6			RSD (15)	
Benzo(j)fluoranthene	1.25147	5.8			RSD (15)	
Benzo(a)pyrene	1.114034	10.3			RSD (15)	
Indeno(1,2,3-cd)pyrene	1.275402	10.2			RSD (15)	
Dibenzo(a,h)anthracene	1.052073	14.4			RSD (15)	
Benzo(g,h,i)perylene	1.114685	7.9			RSD (15)	
Benzofluoranthenes, Total	1.239613	6.8			RSD (15)	
2-Methylnaphthalene-d10	0.7295784	4.3			RSD (15)	
Dibenzo[a,h]anthracene-d14	0.9367846	14.3			RSD (15)	
Fluoranthene-d10	1.309347	8.0			RSD (15)	

ANALYSIS SEQUENCE

SGC0048

Instrument: NT8

Calibnration ID: BC00011

Printed: 3/6/2018 10:39:00AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SGC0048-TUN1	QC		1		G000074			
SGC0048-CAL1	QC		2		F010860	F010225		
SGC0048-CAL2	QC		3		F010861	F010225		
SGC0048-CAL3	QC		4		F010862	F010225		
SGC0048-CAL4	QC		5		F010863	F010225		
SGC0048-CAL5	QC		6		F010864	F010225		
SGC0048-CAL6	QC		7		F010865	F010225		
SGC0048-SCV1	QC		8		F010866	F010225		

Samples Loaded By 3/5/18 Date

Data Processed By 3/5/18 Date

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAR-2018 10:30
End Cal Date : 05-MAR-2018 12:45
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Last Edit : 05-Mar-2018 15:16 jianqing
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem3\nt8.i\20180305.b\N818030502.D
Level 2: \\target\share\chem3\nt8.i\20180305.b\N818030503.D
Level 3: \\target\share\chem3\nt8.i\20180305.b\N818030504.D
Level 4: \\target\share\chem3\nt8.i\20180305.b\N818030505.D
Level 5: \\target\share\chem3\nt8.i\20180305.b\N818030506.D
Level 6: \\target\share\chem3\nt8.i\20180305.b\N818030507.D

AR 03/04/18

Compound	0.10000 Level 1	0.50000 Level 2	1.000 Level 3	2.500 Level 4	5.000 Level 5	10.000 Level 6	___ RRF	% RSD
2 Naphthalene	1.29939	1.02790	1.11621	1.17647	1.15852	1.19542	1.16232	7.723
4 2-Methylnaphthalene	0.68506	0.63329	0.62495	0.66415	0.65241	0.66817	0.65467	3.443
5 1-methylnaphthalene	0.74828	0.60802	0.64230	0.68926	0.66785	0.68756	0.67388	7.064
6 2-Chloronaphthalene	0.66846	0.60844	0.64030	0.67321	0.65942	0.67156	0.65356	3.858
7 Biphenyl	1.96358	1.68149	1.85802	1.88311	1.88050	1.92017	1.86448	5.203
8 2,6-Dimethylnaphthalene	1.33833	1.24263	1.32076	1.36318	1.38697	1.41449	1.34439	4.467
9 Acenaphthylene	1.78712	1.68665	1.90467	2.09656	2.17460	2.26465	1.98571	11.511
11 Acenaphthene	1.72625	1.35831	1.44413	1.51951	1.52965	1.55564	1.52225	8.087
12 Dibenzofuran	2.26153	1.84072	1.96757	2.05760	2.06056	2.09263	2.04677	6.814
13 1,6,7-Trimethylnaphthalene	1.29375	1.21971	1.29199	1.35697	1.35996	1.40963	1.32200	5.075
14 Fluorene	1.48170	1.45218	1.52786	1.64006	1.66503	1.72226	1.58151	6.914
16 Phenanthrene	1.37973	1.13078	1.17874	1.22045	1.20510	1.24010	1.22582	6.883
17 Anthracene	1.07548	0.98073	1.09434	1.16578	1.17504	1.20991	1.11688	7.511
18 Dibenzothiophene	1.19849	1.00386	1.07675	1.12936	1.12863	1.16280	1.11665	6.133
19 Carbazole	0.99765	0.86895	0.95458	1.01961	1.02555	1.09231	0.99311	7.604
20 1-Methylphenanthrene	0.93052	0.82804	0.89814	0.95674	0.95980	1.00368	0.92949	6.534
22 Fluoranthene	1.40016	1.27625	1.36940	1.40649	1.40353	1.43316	1.38150	4.011
23 Pyrene	1.30136	1.10952	1.21423	1.08588	1.22755	1.27291	1.20191	7.228
24 Benzo(a)anthracene	1.23205	1.06106	1.12229	1.05912	1.21903	1.27862	1.16203	8.083
27 Chrysene	1.29189	1.13764	1.12589	1.03789	1.19894	1.22612	1.16973	7.578
28 Benzo(b)fluoranthene	1.37663	1.13215	1.20494	1.20431	1.32790	1.38041	1.27106	8.211
29 Benzo(k)fluoranthene	1.30665	1.11961	1.17565	1.21050	1.36346	1.32326	1.24986	7.636
30 Benzo(j)fluoranthene	1.34810	1.16365	1.20948	1.19563	1.28177	1.31019	1.25147	5.795
31 Total Benzofluoranthenes	1.31957	1.12825	1.18365	1.18143	1.30392	1.32086	1.23961	6.850
32 Benzo(a)pyrene	1.18336	0.94952	1.03364	1.06800	1.20531	1.24436	1.11403	10.295
34 Benzo(e)pyrene	1.43310	1.15705	1.21884	1.19954	1.32011	1.34287	1.27858	8.152
35 Perylene	1.19748	1.08754	1.20111	1.17909	1.28557	1.30706	1.20964	6.542
37 Indeno(1,2,3-cd)pyrene	1.24238	1.10736	1.19538	1.24811	1.40434	1.45485	1.27540	10.241

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 05-MAR-2018 10:30
End Cal Date : 05-MAR-2018 12:45
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Last Edit : 05-Mar-2018 15:16 jianqing
Curve Type : Average

Compound	0.10000 Level 1	0.50000 Level 2	1.000 Level 3	2.500 Level 4	5.000 Level 5	10.000 Level 6	RRF	% RSD
38 Dibenzo(a,h)anthracene	0.93407	0.87140	0.99295	1.05654	1.19810	1.25938	1.05207	14.376
39 Benzo(g,h,i)perylene	1.16864	1.00272	1.04710	1.07487	1.15853	1.23624	1.11468	7.852
$ 3 2-Methylnaphthalene-d10	0.76705	0.68378	0.70338	0.73637	0.73055	0.75633	0.72958	4.313
$ 21 Fluoranthene-d10	1.29356	1.15252	1.24289	1.33785	1.37933	1.44994	1.30935	7.991
$ 36 Dibenzo(a,h)anthracene-d14	0.83811	0.77993	0.91400	0.90191	1.04379	1.14297	0.93678	14.325

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Batch File: \\target\share\chem3\nt8.i\20180305.b
Inst ID: nt8.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	N818030502	N818030503	N818030504	N818030505	N818030506	N818030507
INJ.DATE:	05-MAR-2018	05-MAR-2018	05-MAR-2018	05-MAR-2018	05-MAR-2018	05-MAR-2018
INJ.TIME:	10:30	10:57	11:24	11:51	12:18	12:45

03/06/18

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 1 Naphthalene-d8	4.711	4.705	4.705	4.708	4.705	4.705	4.711	1.711-7.711	4.707	0.003
2 Naphthalene	4.740	4.737	4.733	4.734	4.733	4.733	4.740	1.740-7.740	4.735	0.003
$ 3 2-Methylnaphthalene-d1	5.442	5.435	5.435	5.435	5.435	5.438	5.442	2.442-8.442	5.437	0.003
4 2-Methylnaphthalene	5.486	5.486	5.483	5.483	5.483	5.486	5.486	2.486-8.486	5.484	0.002
5 1-methylnaphthalene	5.682	5.679	5.679	5.679	5.679	5.679	5.682	2.682-8.682	5.679	0.001
6 2-Chloronaphthalene	6.172	6.169	6.169	6.169	6.169	6.172	6.172	3.172-9.172	6.170	0.002
7 Biphenyl	6.147	6.140	6.140	6.141	6.144	6.144	6.147	3.147-9.147	6.143	0.003
8 2,6-Dimethylnaphthalen	6.188	6.185	6.185	6.185	6.185	6.188	6.188	3.188-9.188	6.186	0.002
9 Acenaphthylene	6.877	6.874	6.871	6.871	6.871	6.874	6.877	3.877-9.877	6.873	0.003
* 10 Acenaphthene-d10	6.988	6.982	6.981	6.982	6.981	6.982	6.988	3.988-9.988	6.983	0.003
11 Acenaphthene	7.035	7.029	7.029	7.032	7.032	7.032	7.035	4.035-10.035	7.032	0.002
12 Dibenzofuran	7.187	7.184	7.181	7.181	7.184	7.184	7.187	4.187-10.187	7.183	0.002
13 1,6,7-Trimethylnaphtha	7.254	7.250	7.250	7.250	7.250	7.253	7.254	4.254-10.254	7.251	0.002
14 Fluorene	7.661	7.658	7.658	7.658	7.658	7.658	7.661	4.661-10.661	7.659	0.001
* 15 Phenanthrene-d10	9.015	9.008	9.008	9.008	9.008	9.012	9.015	6.015-12.015	9.010	0.003
16 Phenanthrene	9.050	9.043	9.043	9.043	9.046	9.049	9.050	6.050-12.050	9.046	0.003
17 Anthracene	9.088	9.084	9.084	9.084	9.087	9.087	9.088	6.088-12.088	9.086	0.002

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Batch File: \\target\share\chem3\nt8.i\20180305.b
Inst ID: nt8.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 Dibenzothiophene	8.888	8.885	8.882	8.882	8.885	8.885	8.888	5.888-11.888	8.885	0.002
	19 Carbazole	9.600	9.590	9.593	9.593	9.593	9.596	9.600	6.600-12.600	9.594	0.003
	20 1-Methylphenanthrene	9.808	9.802	9.802	9.802	9.805	9.805	9.808	6.808-12.808	9.804	0.003
$	21 Fluoranthene-d10	10.729	10.722	10.725	10.722	10.725	10.728	10.729	7.729-13.729	10.725	0.003
	22 Fluoranthene	10.767	10.760	10.760	10.763	10.763	10.766	10.767	7.767-13.767	10.763	0.003
	23 Pyrene	11.260	11.253	11.256	11.257	11.256	11.260	11.260	8.260-14.260	11.257	0.002
	24 Benzo(a)anthracene	13.679	13.675	13.675	13.679	13.679	13.685	13.679	10.679-16.679	13.679	0.003
*	25 Chrysene-d12	13.808	13.802	13.802	13.802	13.805	13.805	13.808	10.808-16.808	13.804	0.003
*	26 Fluorene-d10	+++++	+++++	13.672	13.682	13.679	13.685	13.682	10.682-16.682	13.679	0.005
	27 Chrysene	13.884	13.872	13.871	13.875	13.878	13.884	13.884	10.884-16.884	13.877	0.006
	28 Benzo(b)fluoranthene	16.376	16.369	16.369	16.370	16.379	16.385	16.376	13.376-19.376	16.375	0.007
	29 Benzo(k)fluoranthene	16.436	16.426	16.429	16.433	16.436	16.445	16.436	13.436-19.436	16.434	0.007
	30 Benzo(j)fluoranthene	16.515	16.502	16.505	16.509	16.512	16.524	16.515	13.515-19.515	16.511	0.008
	31 Total Benzofluoranthen	16.376	16.426	16.429	16.433	16.512	16.524	16.376	13.376-19.376	16.450	0.057
	32 Benzo(a)pyrene	17.410	17.403	17.403	17.407	17.413	17.419	17.410	14.410-20.410	17.409	0.006
*	33 Perylene-d12	17.641	17.637	17.634	17.641	17.637	17.641	17.641	14.641-20.641	17.638	0.003
	34 Benzo(e)pyrene	17.280	17.277	17.277	17.280	17.286	17.290	17.280	14.280-20.280	17.282	0.005
	35 Perylene	17.717	17.710	17.710	17.713	17.716	17.723	17.717	14.717-20.717	17.715	0.005
$	36 Dibenzo(a,h)anthracene	19.955	19.942	19.949	19.949	19.961	19.971	19.955	16.955-22.955	19.955	0.010
	37 Indeno(1,2,3-cd)pyrene	20.063	20.050	20.053	20.063	20.069	20.085	20.063	17.063-23.063	20.064	0.012
	38 Dibenzo(a,h)anthracene	20.047	20.047	20.050	20.050	20.063	20.078	20.047	17.047-23.047	20.056	0.013
	39 Benzo(g,h,i)perylene	21.033	21.033	21.030	21.037	21.043	21.062	21.033	18.033-24.033	21.040	0.012

Analytical Resources Inc.: Organics Instrument Log

NT-8 Serial No.:GC=CN10540013, MS=US80138354

Date: 3/6/18 Analysis: SimP/NA Analyst: AZ

GC Program: SimP/NA Column No: 1410876 Column Type: Rxi-17Sil MS

Instrument Tune (.U or .CT.): 171120.U EM Voltage: 1800

Calibration File: NB180306.05 Curve Date: 3/6/18 Injection Vol.: 1 µl

BC0011

IS/SS	Ical/Ccal	LCS/ICV
Fn10225	Fn10863	

Document All Maintenance Tasks In Element

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180305.b

	Time	Filename	LabID	ClientId	DF									
1	1013	N818030501.D	SGC0048-TUN1	DFTPP180305	1	NO ISTDS FOUND								
2	1030	N818030502.D	SGC0048-CAL1	IC01180305	1	4.71	138557	6.99	74914	9.01	143898	13.81	152056	17.64	133180
3	1057	N818030503.D	SGC0048-CAL2	IC05180305	1	4.70	123911	6.98	65970	9.01	127317	13.80	137259	17.64	121139
4	1124	N818030504.D	SGC0048-CAL3	IC1180305	1	4.70	129011	6.98	68332	9.01	134289	13.80	150011	17.63	131622
5	1151	N818030505.D	SGC0048-CAL4	IC2.5180305	1	4.71	122190	6.98	65789	9.01	128644	13.80	166669	17.64	140483
6	1218	N818030506.D	SGC0048-CAL5	IC5180305	1	4.70	121880	6.98	63854	9.01	127662	13.80	152445	17.64	136639
7	1245	N818030507.D	SGC0048-CAL6	IC10180305	1	4.70	122998	6.98	63968	9.01	127011	13.81	150793	17.64	137757
8	1329	N818030508.D	SGC0048-SCV1	SCV180305	1	4.71	121767	6.99	64967	9.02	126225	13.82	146413	17.65	128443

AZ 03/06/18

Every line must contain information or be lined out. Make all entries legible.
Start a new page for each QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180305.b

ARI Job No.: SGC0 Method: FSIMPNA180305.m Instrument: nt8.i Date: 05-MAR-2018

03/06/18

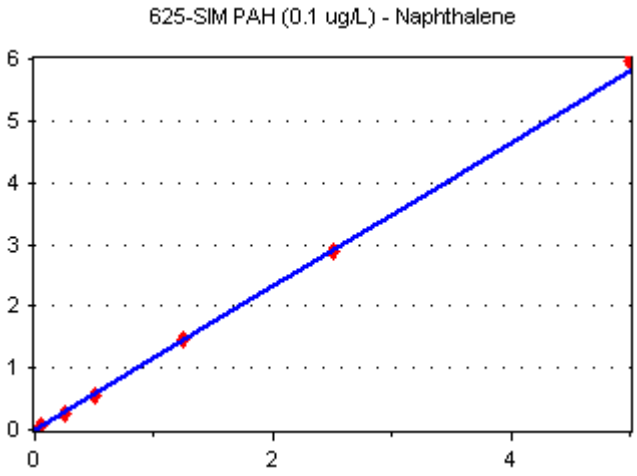
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1030	N818030502.D	SGC0048-CAL1	IC01180305	1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1057	N818030503.D	SGC0048-CAL2	IC05180305	1	2-Chloronaphthalene, Total Benzofluoranthenes,
1124	N818030504.D	SGC0048-CAL3	IC1180305	1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1151	N818030505.D	SGC0048-CAL4	IC2.518030	1	Total Benzofluoranthenes,
1218	N818030506.D	SGC0048-CAL5	IC5180305	1	Total Benzofluoranthenes,
1245	N818030507.D	SGC0048-CAL6	IC10180305	1	Total Benzofluoranthenes,
1329	N818030508.D	SGC0048-SCV1	SCV180305	1	Total Benzofluoranthenes,

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Naphthalene

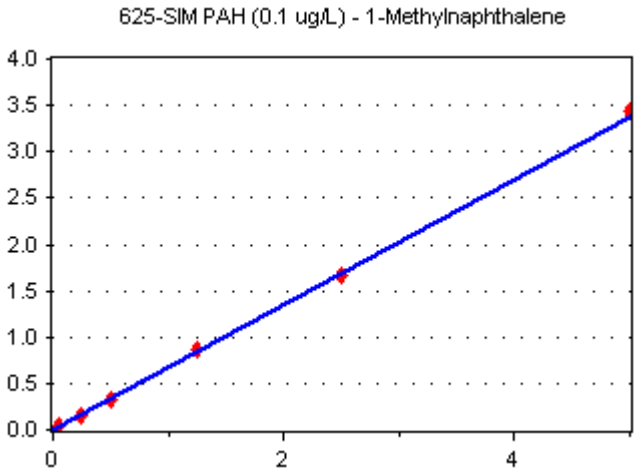


Average RF

RF RSD: 7.723405

[Conc] = 1.162319 * [Response]

1-Methylnaphthalene



Average RF

RF RSD: 7.064359

[Conc] = 0.6738792 * [Response]

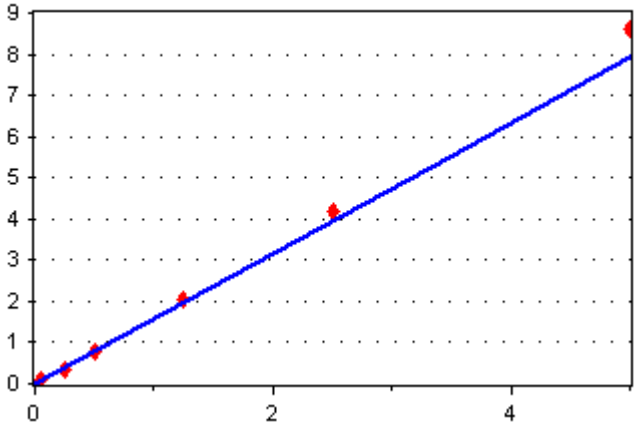
Fluorene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Fluorene



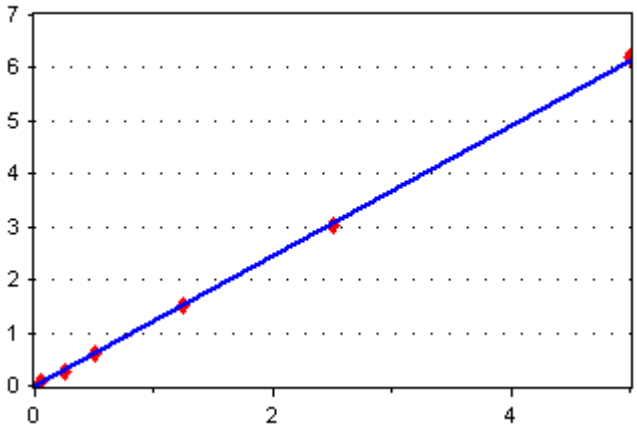
Average RF

RF RSD: 6.913985

[Conc] = 1.581514 * [Response]

Phenanthrene

625-SIM PAH (0.1 ug/L) - Phenanthrene



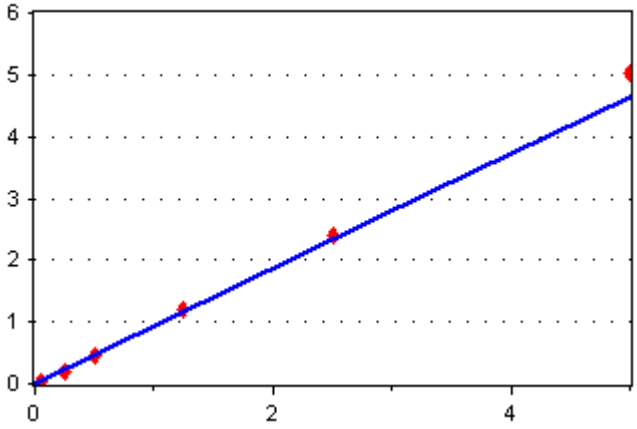
Average RF

RF RSD: 6.883335

[Conc] = 1.225817 * [Response]

1-Methylphenanthrene

625-SIM PAH (0.1 ug/L) - 1-Methylphenanthrene



Average RF

RF RSD: 6.533662

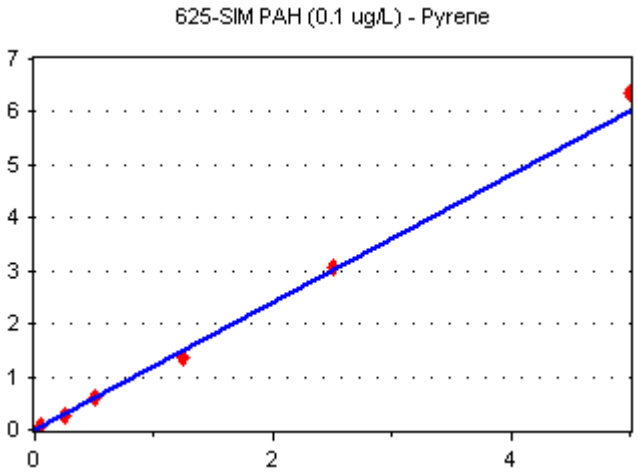
[Conc] = 0.9294863 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Pyrene

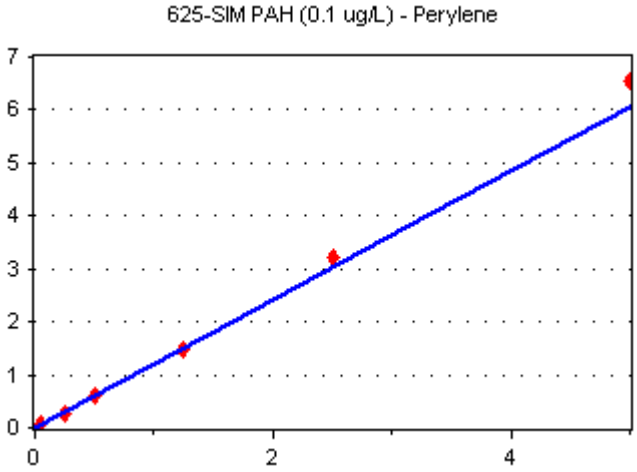


Average RF

RF RSD: 7.228456

[Conc] = 1.20191 * [Response]

Perylene



Average RF

RF RSD: 6.542469

[Conc] = 1.20964 * [Response]

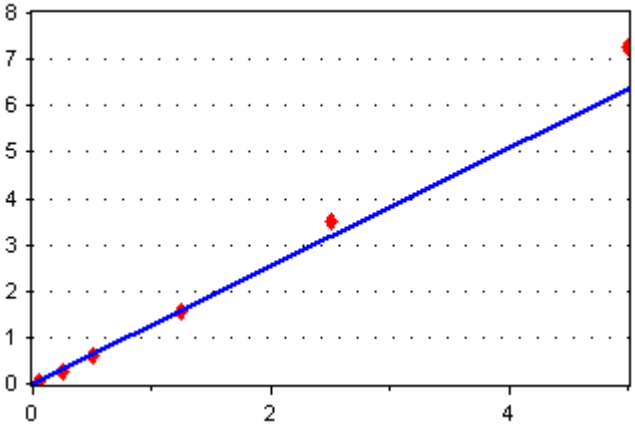
Indeno(1,2,3-cd)pyrene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Indeno(1,2,3-cd)pyrene



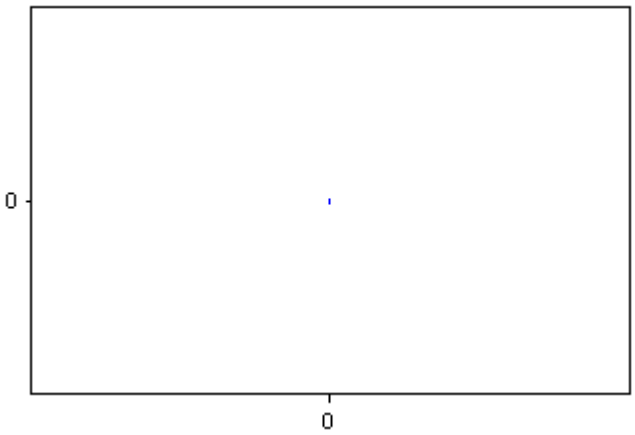
Average RF

RF RSD: 10.24127

[Conc] = 1.275402 * [Response]

Naphthalene-d8

625-SIM PAH (0.1 ug/L) - Naphthalene-d8



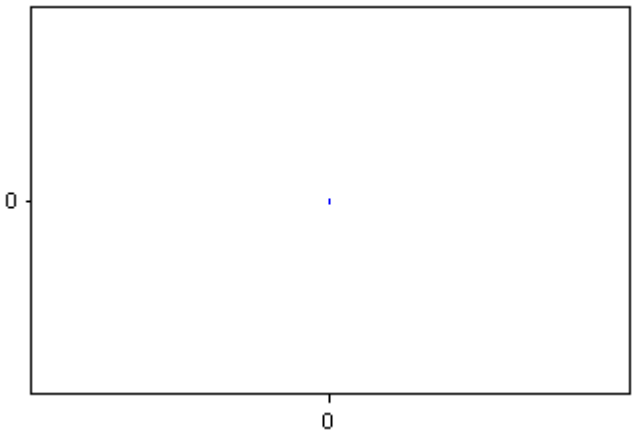
Average RF

RF RSD:

[Conc] = * [Response]

Phenanthrene-d10

625-SIM PAH (0.1 ug/L) - Phenanthrene-d10



Average RF

RF RSD:

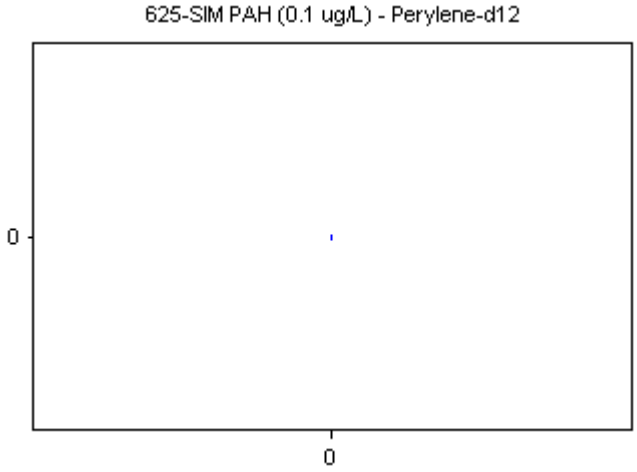
[Conc] = * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Perylene-d12



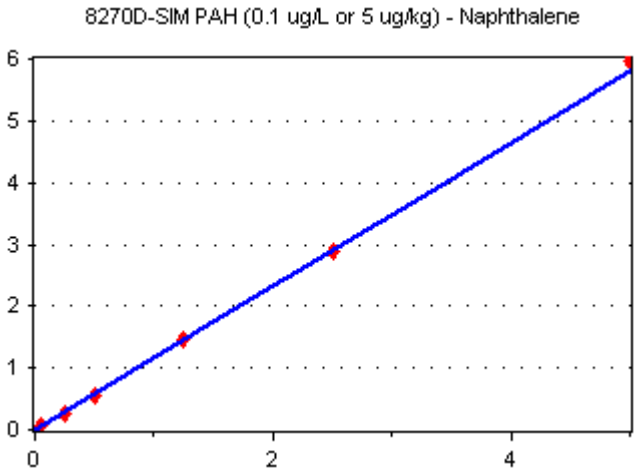
Average RF

RF RSD:

[Conc] = * [Response]

8270D-SIM PAH (0.1 ug/L

Naphthalene



Average RF

RF RSD: 7.723405

[Conc] = 1.162319 * [Response]

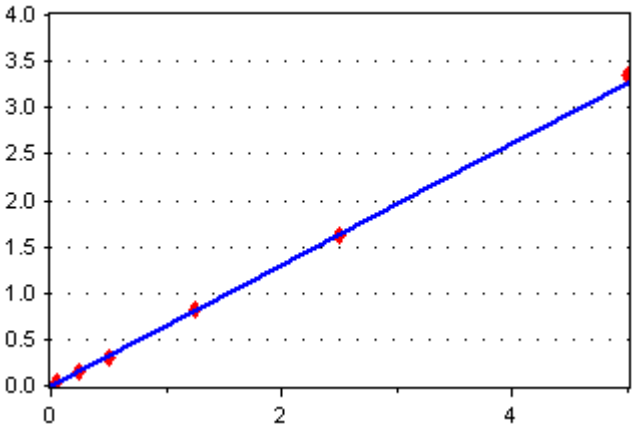
2-Methylnaphthalene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - 2-Methylnaphthalene



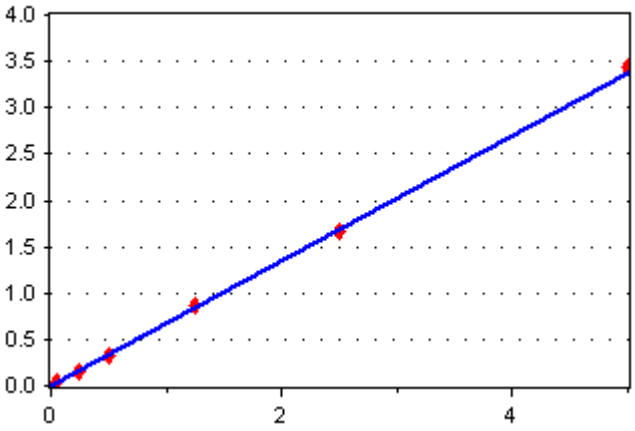
Average RF

RF RSD: 3.443384

[Conc] = 0.6546729 * [Response]

1-Methylnaphthalene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - 1-Methylnaphthalene



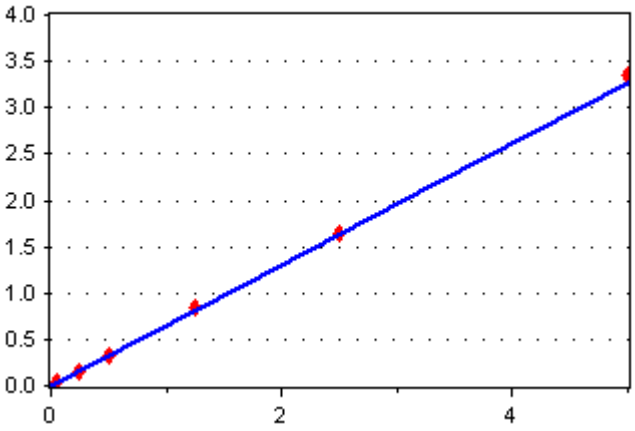
Average RF

RF RSD: 7.064359

[Conc] = 0.6738792 * [Response]

2-Chloronaphthalene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - 2-Chloronaphthalene



Average RF

RF RSD: 3.857705

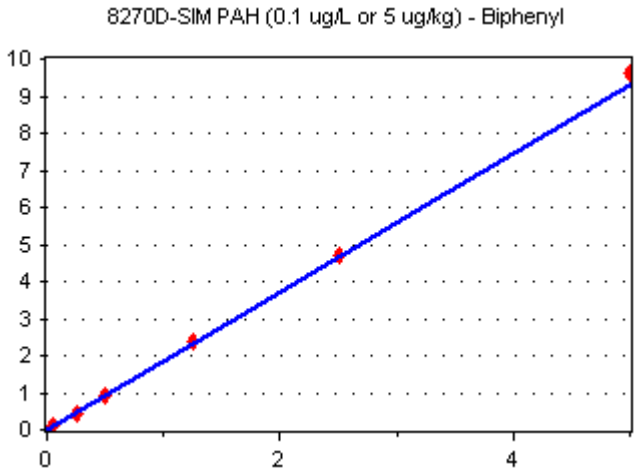
[Conc] = 0.6535645 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Biphenyl

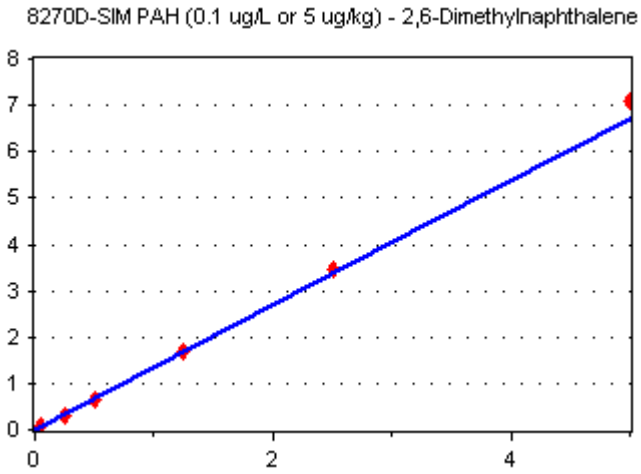


Average RF

RF RSD: 5.202963

[Conc] = 1.864478 * [Response]

2,6-Dimethylnaphthalene



Average RF

RF RSD: 4.466869

[Conc] = 1.344393 * [Response]

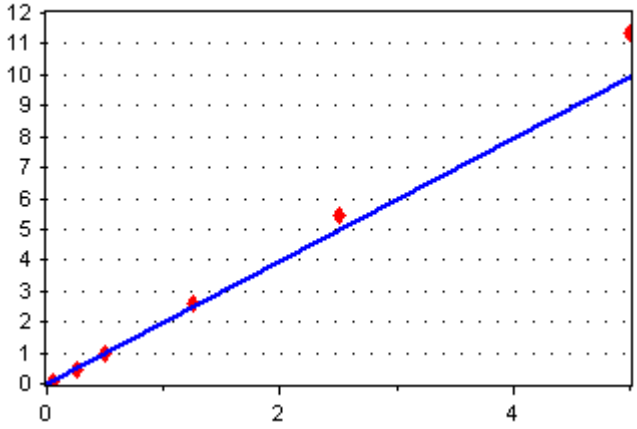
Acenaphthylene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Acenaphthylene



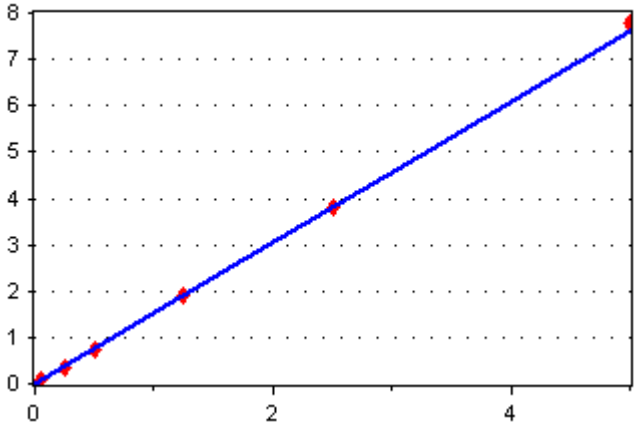
Average RF

RF RSD: 11.51083

[Conc] = 1.985708 * [Response]

Acenaphthene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Acenaphthene



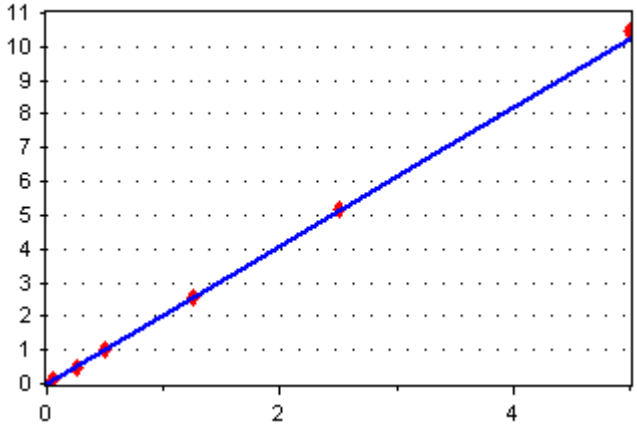
Average RF

RF RSD: 8.086814

[Conc] = 1.522247 * [Response]

Dibenzofuran

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Dibenzofuran



Average RF

RF RSD: 6.814262

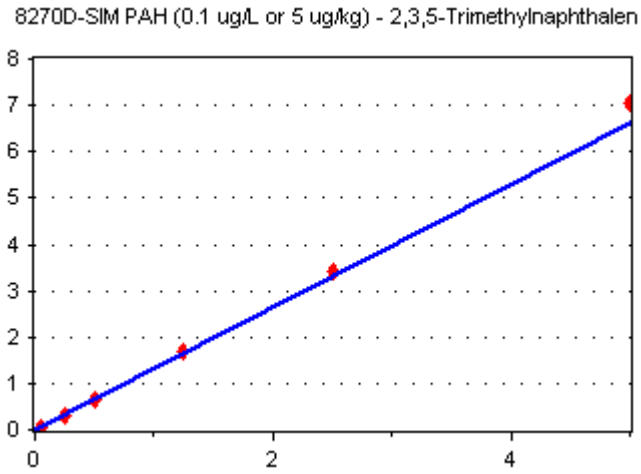
[Conc] = 2.046767 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

2,3,5-Trimethylnaphthalene

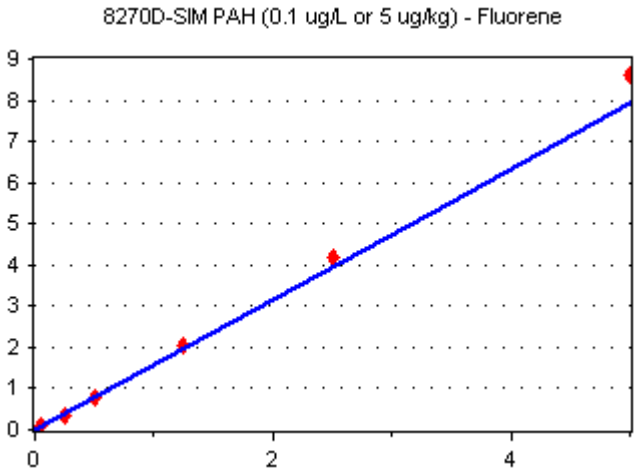


Average RF

RF RSD: 5.074911

[Conc] = 1.322 * [Response]

Fluorene



Average RF

RF RSD: 6.913985

[Conc] = 1.581514 * [Response]

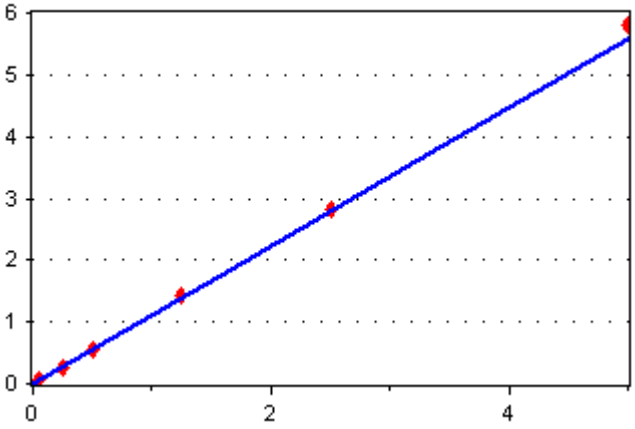
Dibenzothiophene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Dibenzothiophene



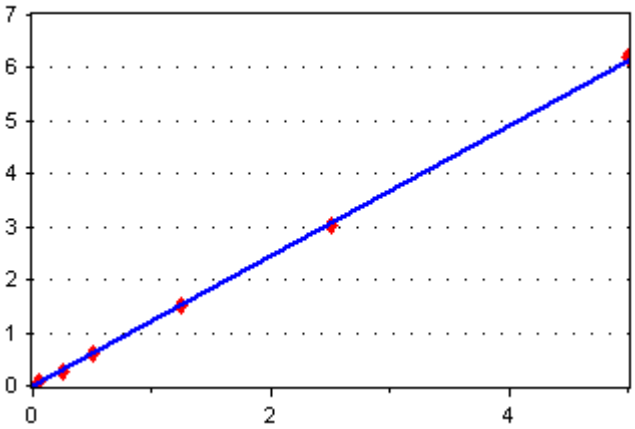
Average RF

RF RSD: 6.132517

[Conc] = 1.116648 * [Response]

Phenanthrene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Phenanthrene



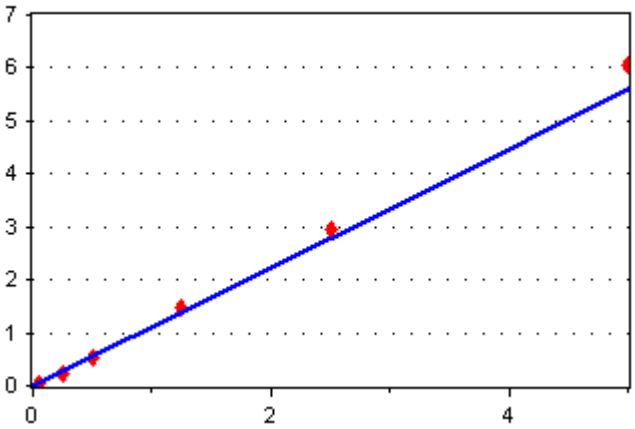
Average RF

RF RSD: 6.883335

[Conc] = 1.225817 * [Response]

Anthracene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Anthracene



Average RF

RF RSD: 7.510992

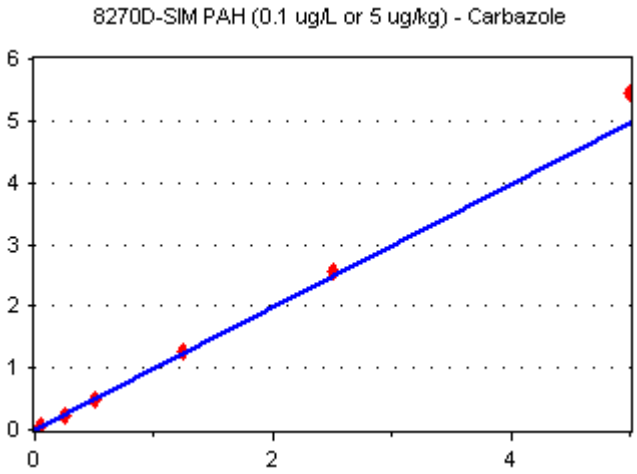
[Conc] = 1.116882 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Carbazole

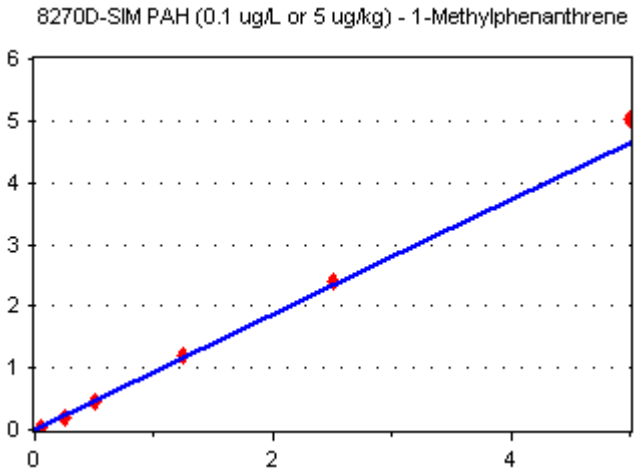


Average RF

RF RSD: 7.604331

[Conc] = 0.9931094 * [Response]

1-Methylphenanthrene



Average RF

RF RSD: 6.533662

[Conc] = 0.9294863 * [Response]

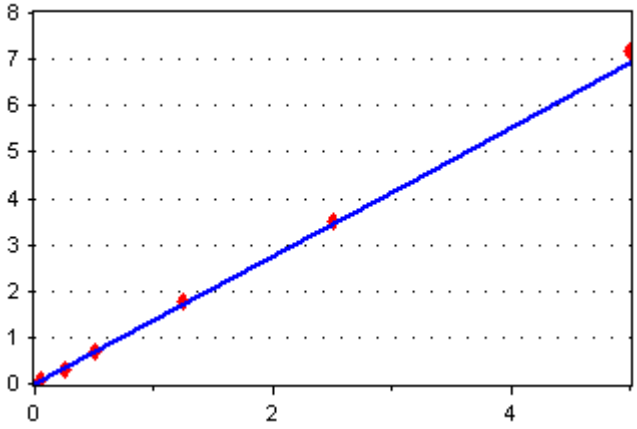
Fluoranthene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Fluoranthene



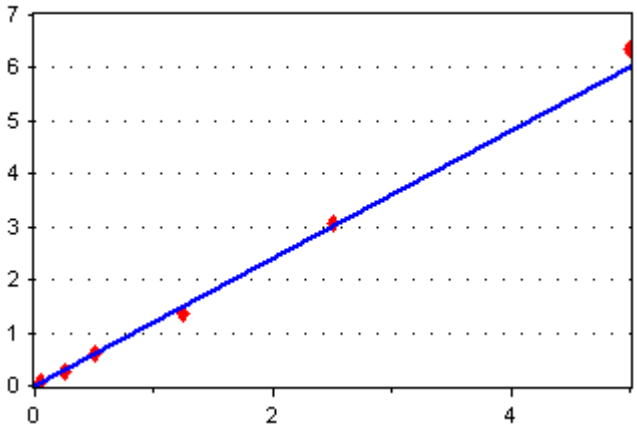
Average RF

RF RSD: 4.010795

[Conc] = 1.381498 * [Response]

Pyrene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Pyrene



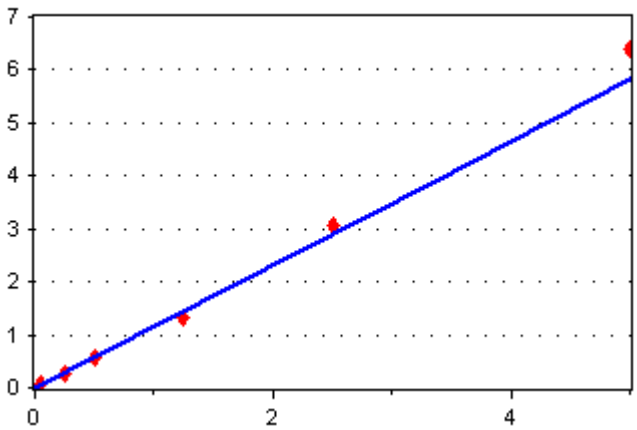
Average RF

RF RSD: 7.228456

[Conc] = 1.20191 * [Response]

Benzo(a)anthracene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Benzo(a)anthracene



Average RF

RF RSD: 8.082657

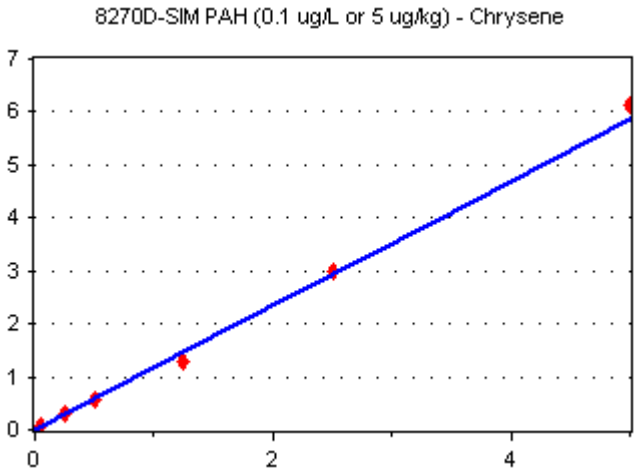
[Conc] = 1.162027 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Chrysene

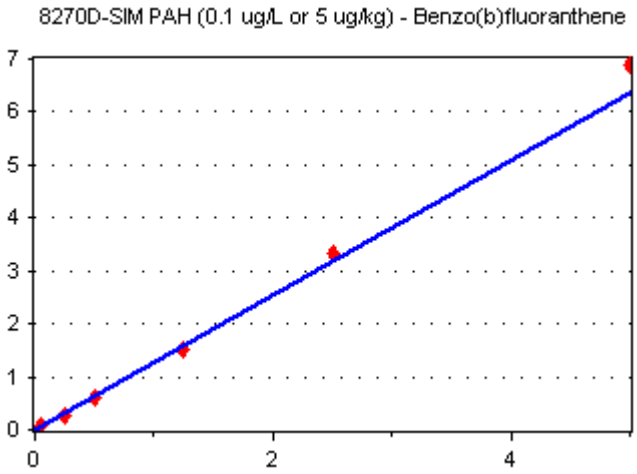


Average RF

RF RSD: 7.578166

[Conc] = 1.169731 * [Response]

Benzo(b)fluoranthene



Average RF

RF RSD: 8.210676

[Conc] = 1.271059 * [Response]

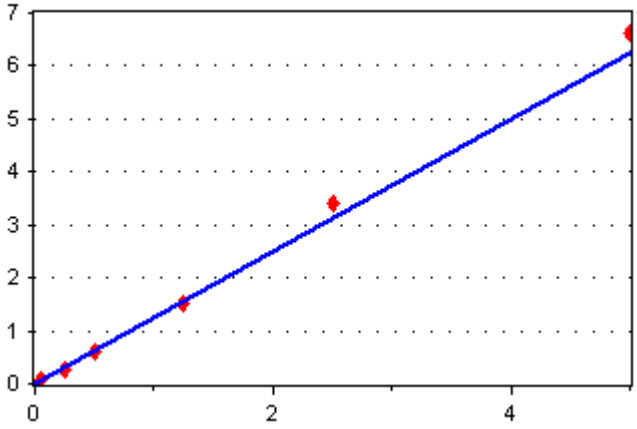
Benzo(k)fluoranthene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Benzo(k)fluoranthene



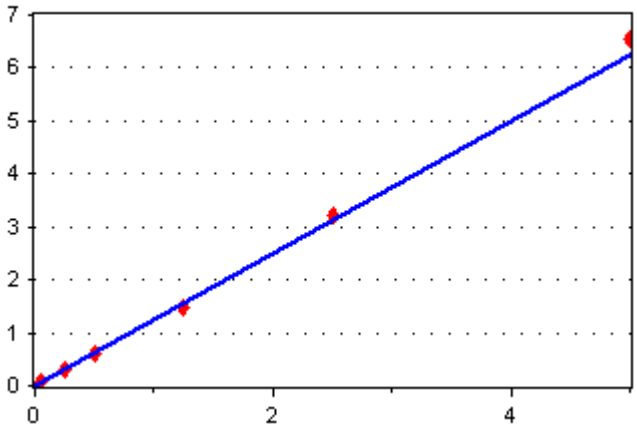
Average RF

RF RSD: 7.63567

[Conc] = 1.249856 * [Response]

Benzo(j)fluoranthene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Benzo(j)fluoranthene



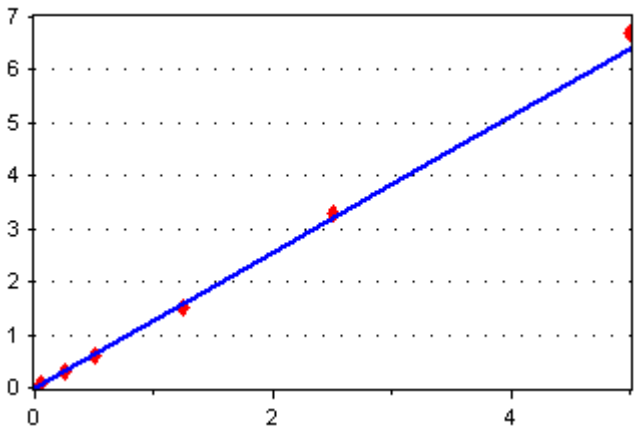
Average RF

RF RSD: 5.794857

[Conc] = 1.25147 * [Response]

Benzo(e)pyrene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Benzo(e)pyrene



Average RF

RF RSD: 8.152006

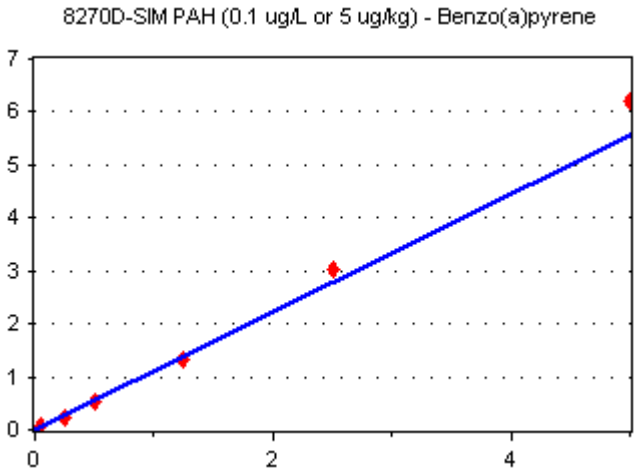
[Conc] = 1.278584 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Benzo(a)pyrene

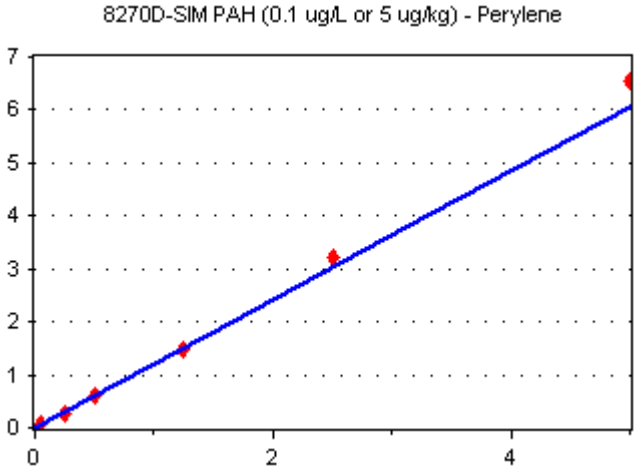


Average RF

RF RSD: 10.29513

[Conc] = 1.114034 * [Response]

Perylene



Average RF

RF RSD: 6.542469

[Conc] = 1.20964 * [Response]

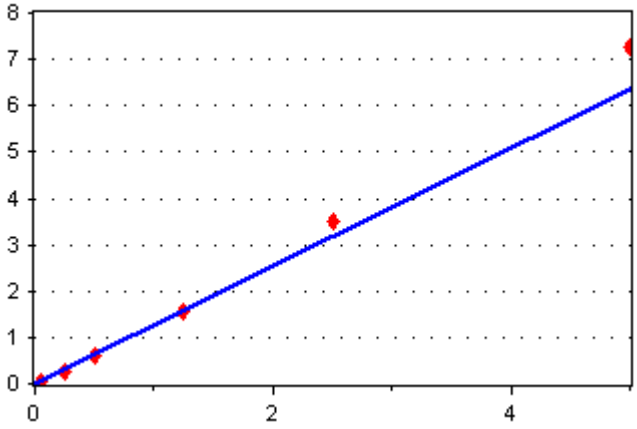
Indeno(1,2,3-cd)pyrene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Indeno(1,2,3-cd)pyrene



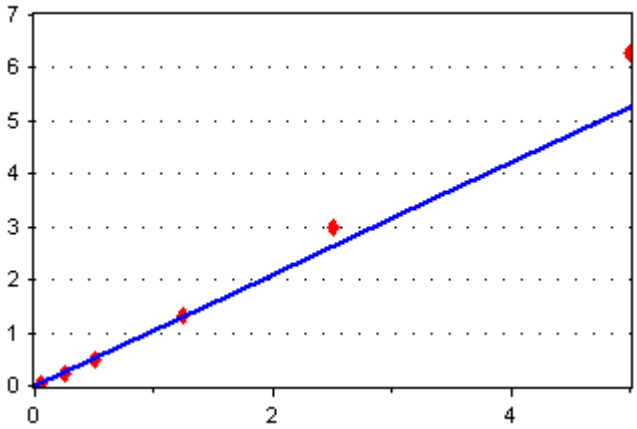
Average RF

RF RSD: 10.24127

[Conc] = 1.275402 * [Response]

Dibenzo(a,h)anthracene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Dibenzo(a,h)anthracene



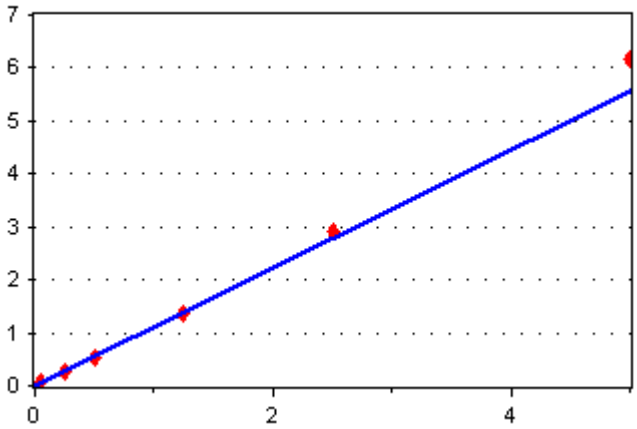
Average RF

RF RSD: 14.37645

[Conc] = 1.052073 * [Response]

Benzo(g,h,i)perylene

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Benzo(g,h,i)perylene



Average RF

RF RSD: 7.851553

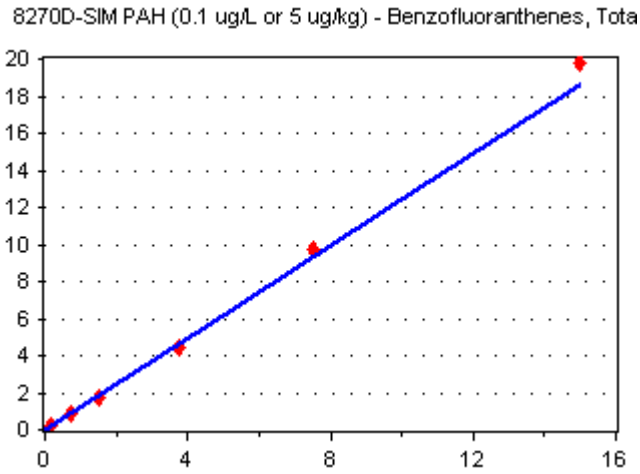
[Conc] = 1.114685 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Benzofluoranthenes, Total

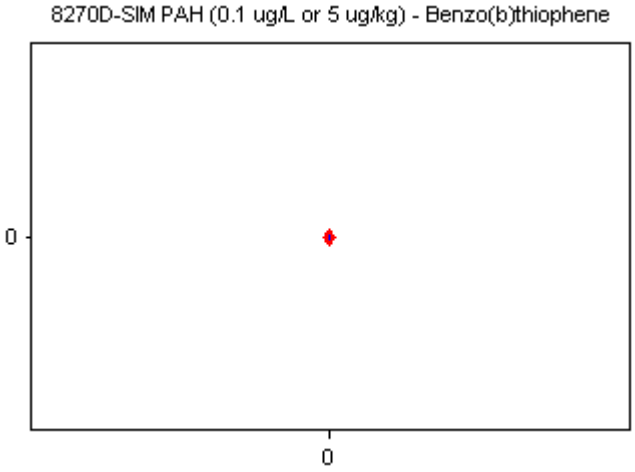


Average RF

RF RSD: 6.849733

[Conc] = 1.239613 * [Response]

Benzo(b)thiophene



Average RF

RF RSD:

[Conc] = * [Response]

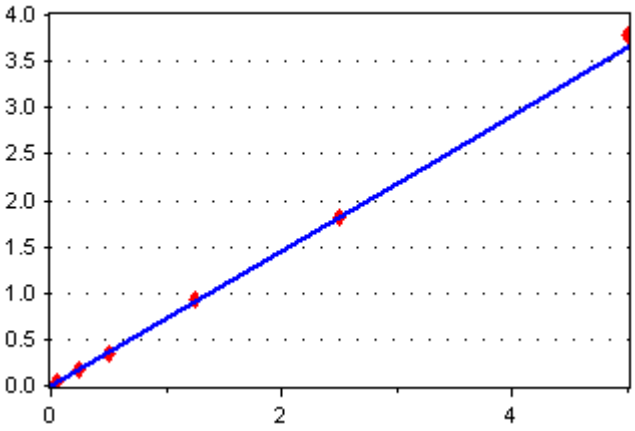
2-Methylnaphthalene-d10

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - 2-Methylnaphthalene-d1



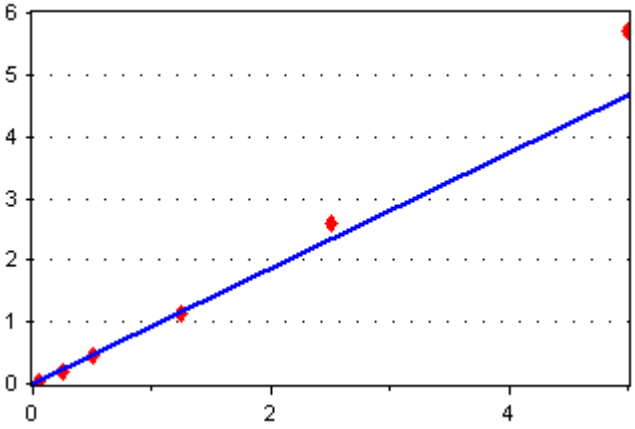
Average RF

RF RSD: 4.312858

[Conc] = 0.7295784 * [Response]

Dibenzo[a,h]anthracene-d14

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Dibenzo[a,h]anthracene-d1



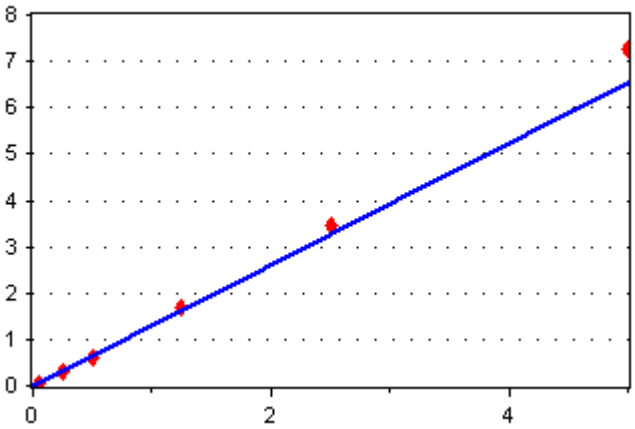
Average RF

RF RSD: 14.3246

[Conc] = 0.9367846 * [Response]

Fluoranthene-d10

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Fluoranthene-d10



Average RF

RF RSD: 7.990804

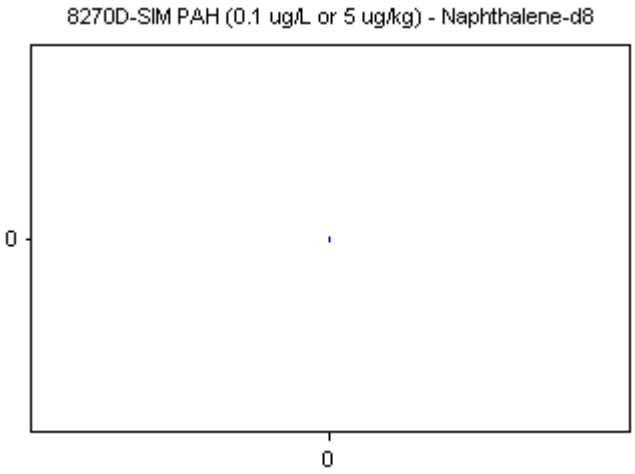
[Conc] = 1.309347 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

Naphthalene-d8

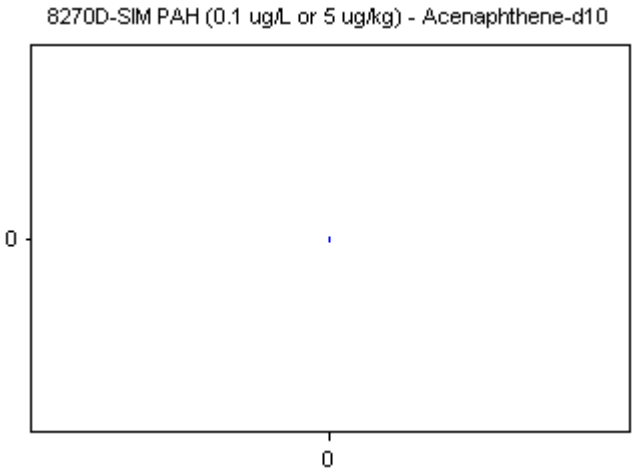


Average RF

RF RSD:

[Conc] = * [Response]

Acenaphthene-d10



Average RF

RF RSD:

[Conc] = * [Response]

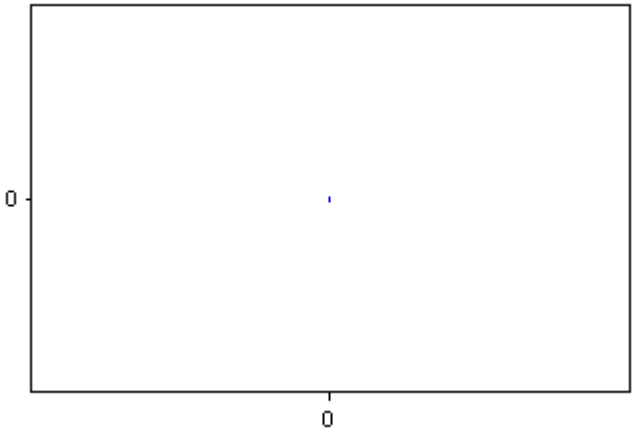
Phenanthrene-d10

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

8270D-SIM PAH (0.1 ug/L

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Phenanthrene-d10



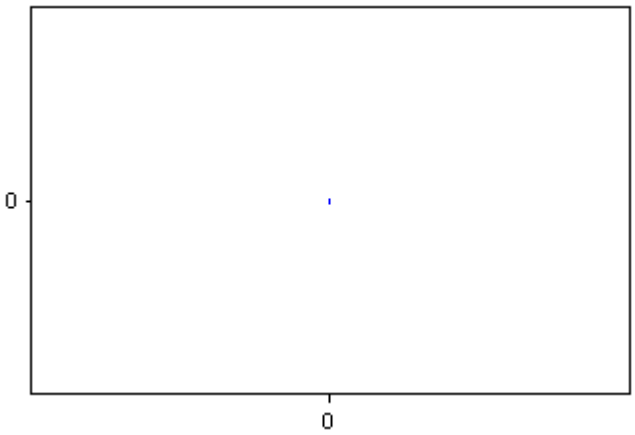
Average RF

RF RSD:

[Conc] = * [Response]

Chrysene-d12

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Chrysene-d12



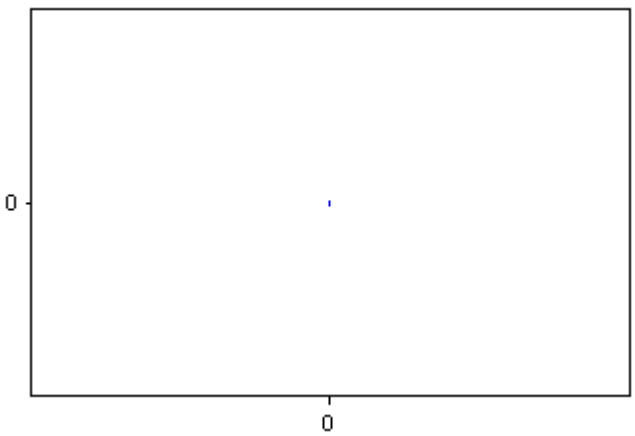
Average RF

RF RSD:

[Conc] = * [Response]

Perylene-d12

8270D-SIM PAH (0.1 ug/L or 5 ug/kg) - Perylene-d12



Average RF

RF RSD:

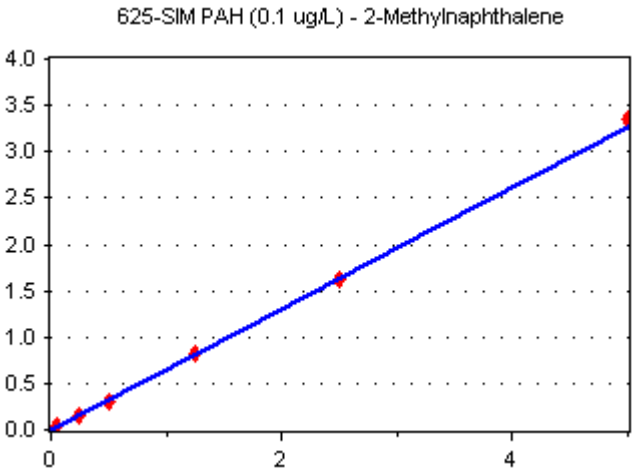
[Conc] = * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

2-Methylnaphthalene

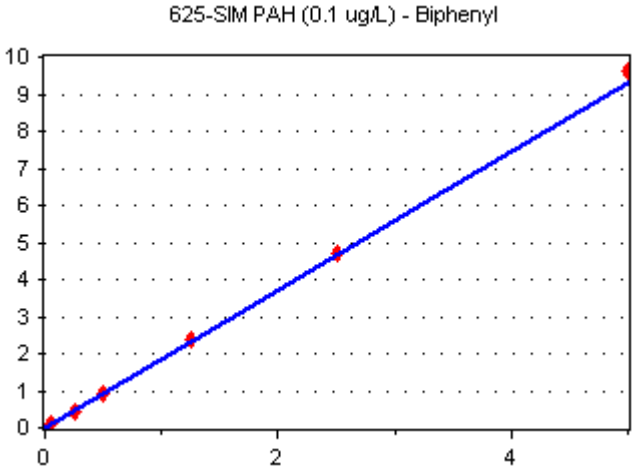


Average RF

RF RSD: 3.443384

[Conc] = 0.6546729 * [Response]

Biphenyl



Average RF

RF RSD: 5.202963

[Conc] = 1.864478 * [Response]

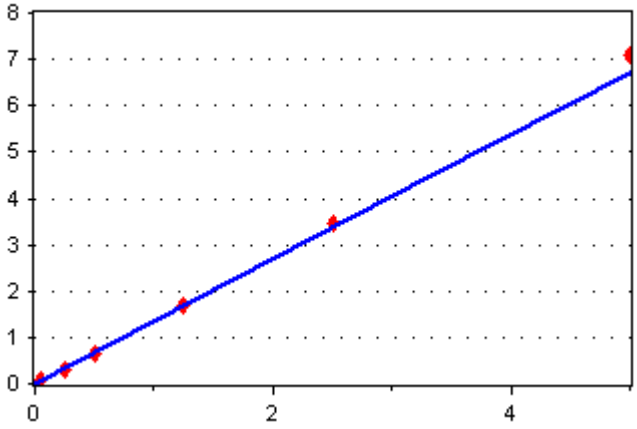
2,6-Dimethylnaphthalene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - 2,6-Dimethylnaphthalene



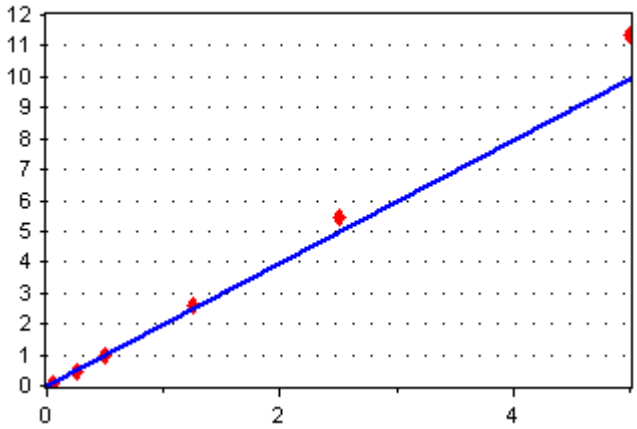
Average RF

RF RSD: 4.466869

[Conc] = 1.344393 * [Response]

Acenaphthylene

625-SIM PAH (0.1 ug/L) - Acenaphthylene



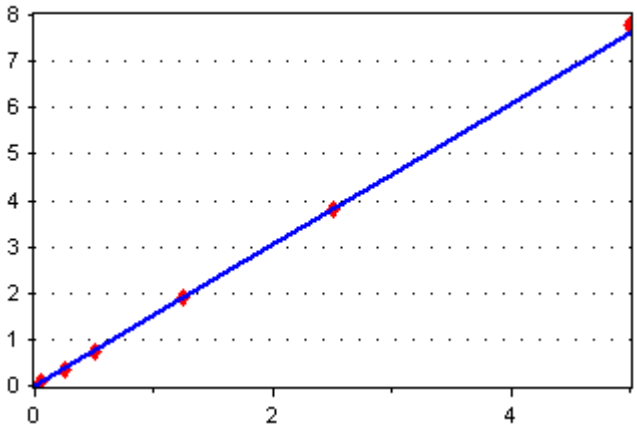
Average RF

RF RSD: 11.51083

[Conc] = 1.985708 * [Response]

Acenaphthene

625-SIM PAH (0.1 ug/L) - Acenaphthene



Average RF

RF RSD: 8.086814

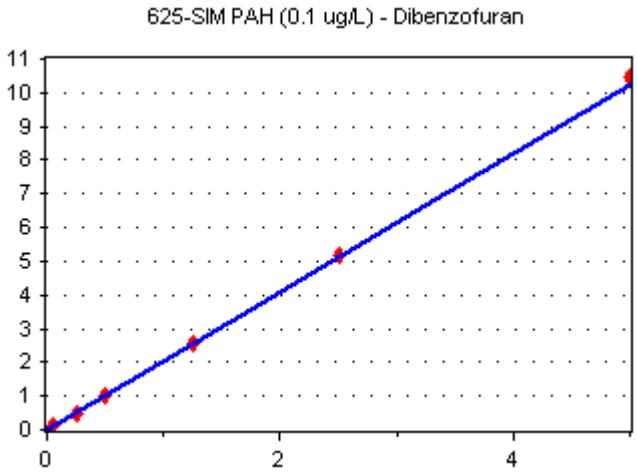
[Conc] = 1.522247 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Dibenzofuran

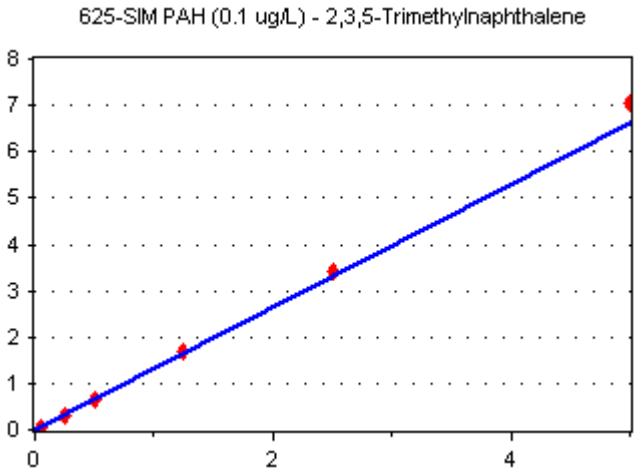


Average RF

RF RSD: 6.814262

[Conc] = 2.046767 * [Response]

2,3,5-Trimethylnaphthalene



Average RF

RF RSD: 5.074911

[Conc] = 1.322 * [Response]

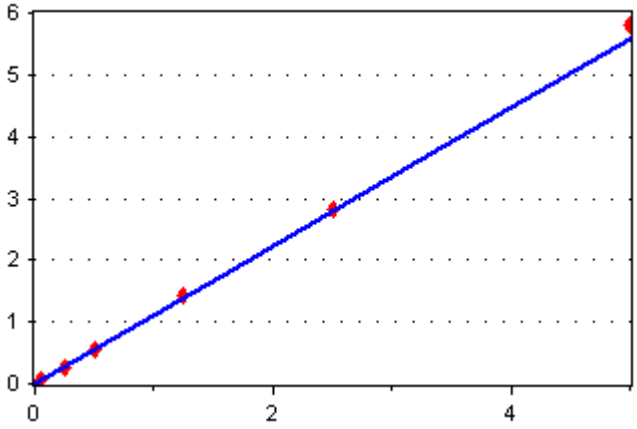
Dibenzothiophene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Dibenzothiophene



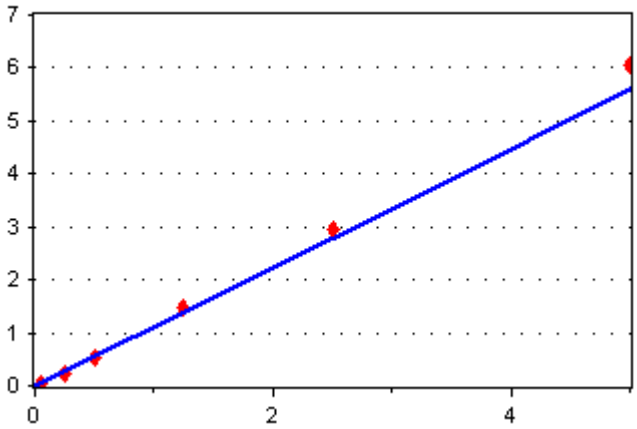
Average RF

RF RSD: 6.132517

[Conc] = 1.116648 * [Response]

Anthracene

625-SIM PAH (0.1 ug/L) - Anthracene



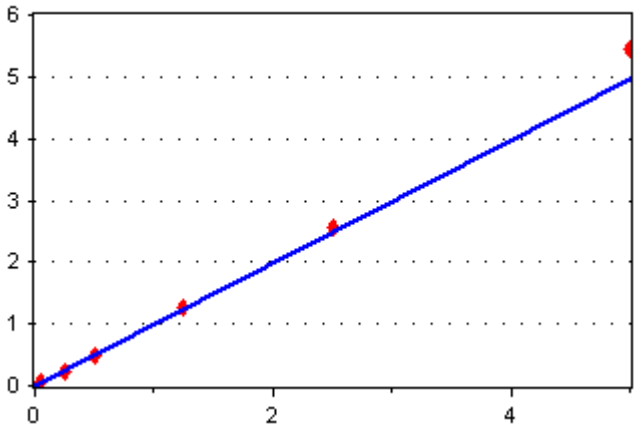
Average RF

RF RSD: 7.510992

[Conc] = 1.116882 * [Response]

Carbazole

625-SIM PAH (0.1 ug/L) - Carbazole



Average RF

RF RSD: 7.604331

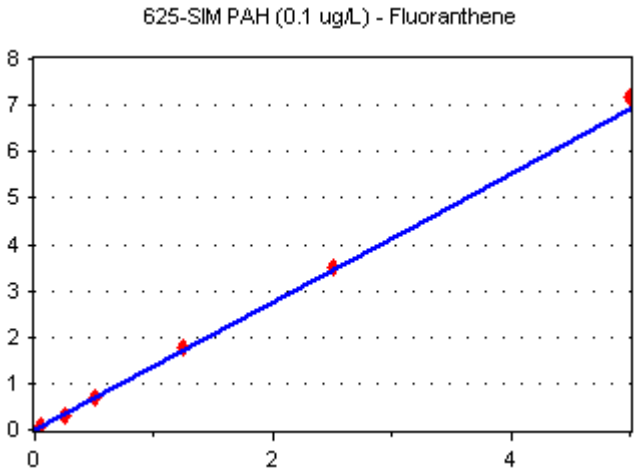
[Conc] = 0.9931094 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Fluoranthene

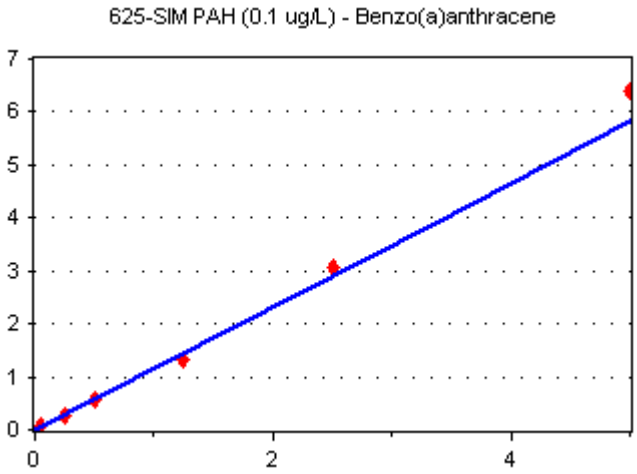


Average RF

RF RSD: 4.010795

[Conc] = 1.381498 * [Response]

Benzo(a)anthracene



Average RF

RF RSD: 8.082657

[Conc] = 1.162027 * [Response]

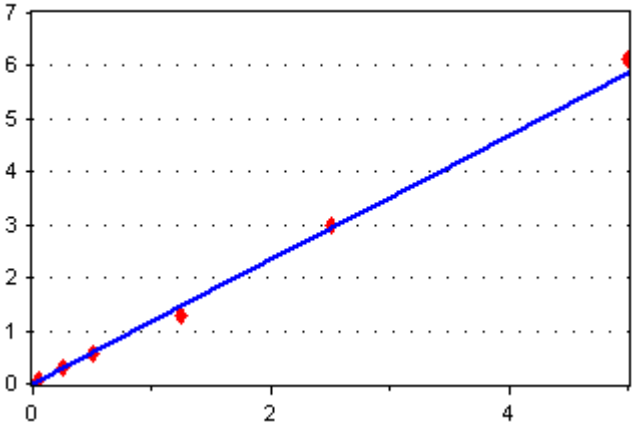
Chrysene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Chrysene



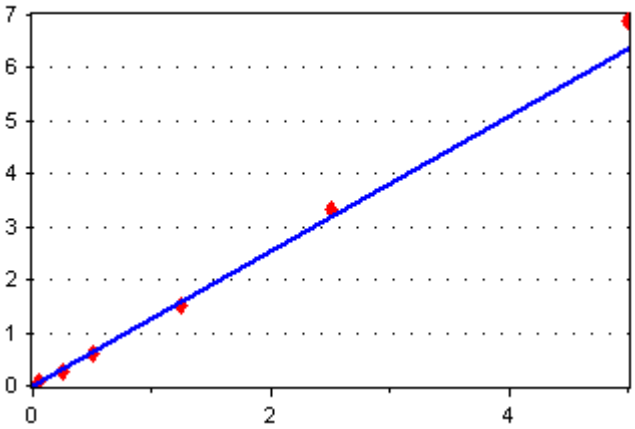
Average RF

RF RSD: 7.578166

[Conc] = 1.169731 * [Response]

Benzo(b)fluoranthene

625-SIM PAH (0.1 ug/L) - Benzo(b)fluoranthene



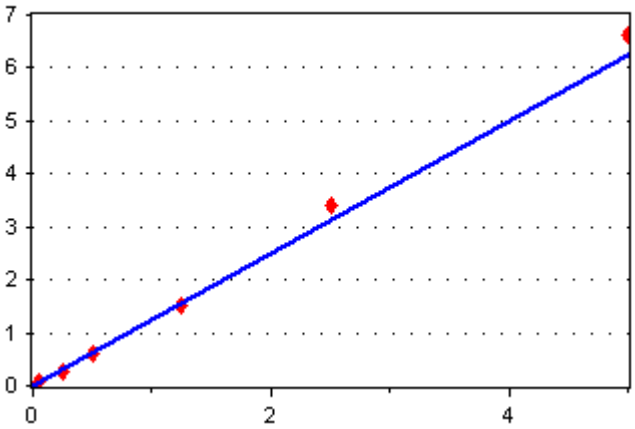
Average RF

RF RSD: 8.210676

[Conc] = 1.271059 * [Response]

Benzo(k)fluoranthene

625-SIM PAH (0.1 ug/L) - Benzo(k)fluoranthene



Average RF

RF RSD: 7.63567

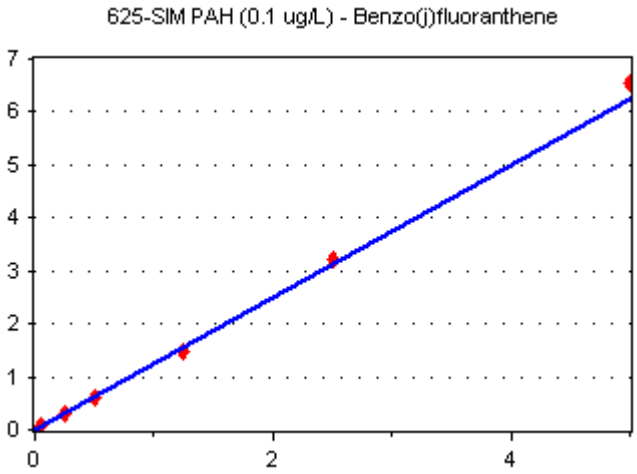
[Conc] = 1.249856 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Benzo(j)fluoranthene

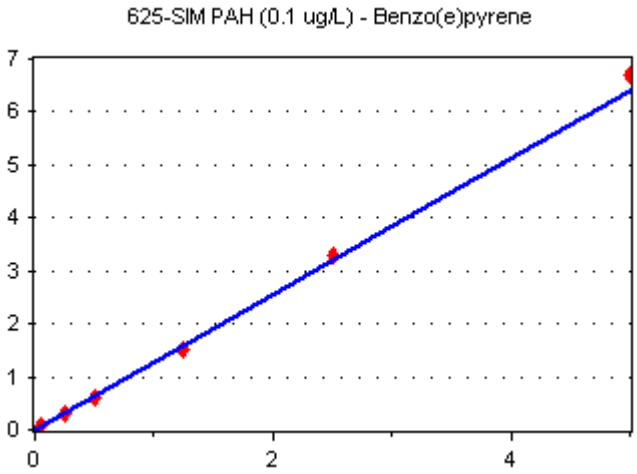


Average RF

RF RSD: 5.794857

[Conc] = 1.25147 * [Response]

Benzo(e)pyrene



Average RF

RF RSD: 8.152006

[Conc] = 1.278584 * [Response]

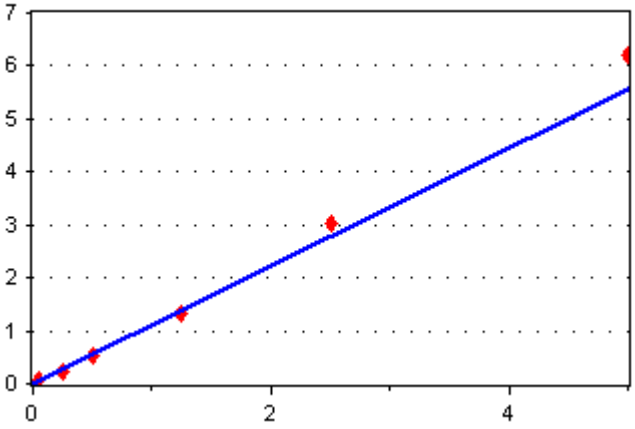
Benzo(a)pyrene

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Benzo(a)pyrene



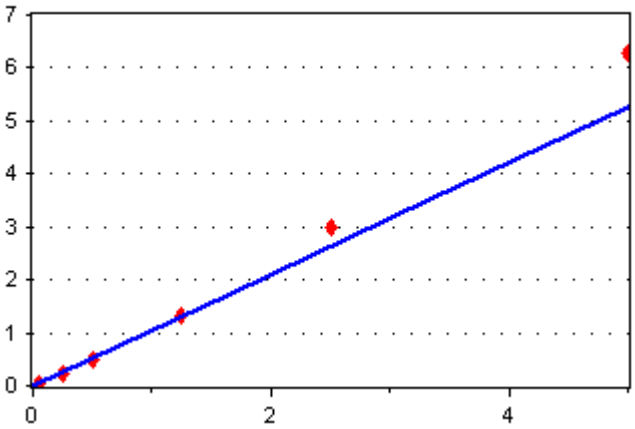
Average RF

RF RSD: 10.29513

[Conc] = 1.114034 * [Response]

Dibenzo(a,h)anthracene

625-SIM PAH (0.1 ug/L) - Dibenzo(a,h)anthracene



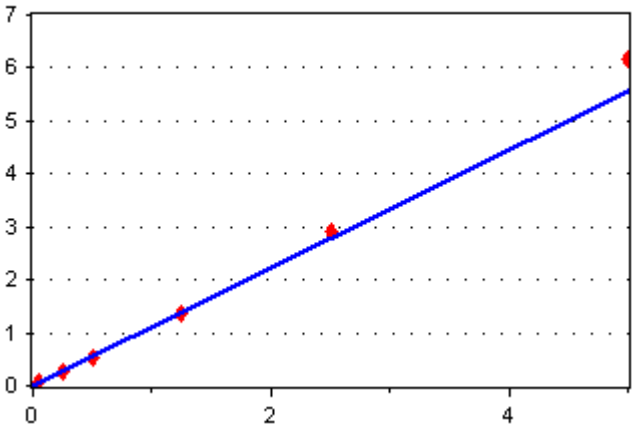
Average RF

RF RSD: 14.37645

[Conc] = 1.052073 * [Response]

Benzo(g,h,i)perylene

625-SIM PAH (0.1 ug/L) - Benzo(g,h,i)perylene



Average RF

RF RSD: 7.851553

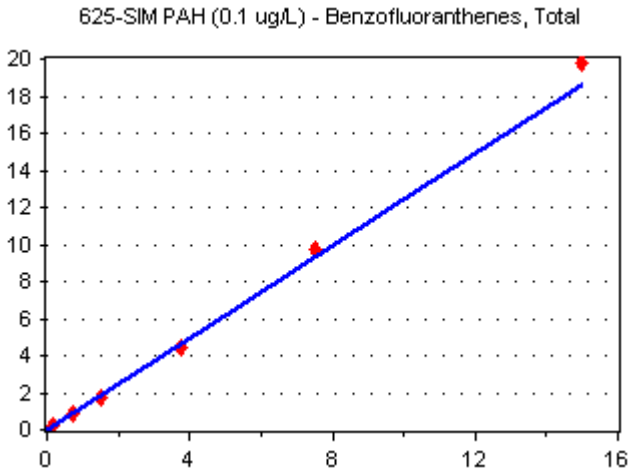
[Conc] = 1.114685 * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Benzofluoranthenes, Total

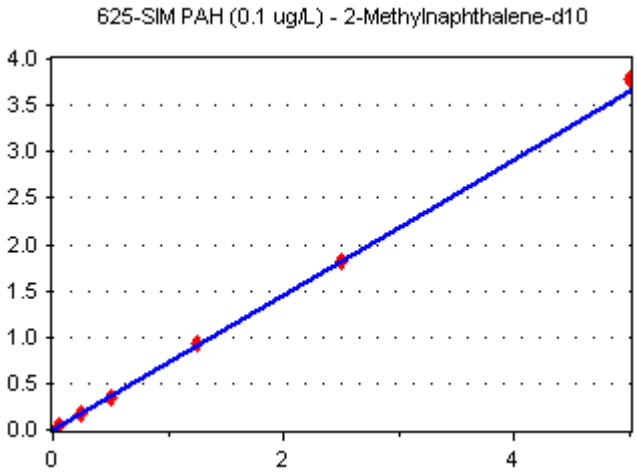


Average RF

RF RSD: 6.849733

[Conc] = 1.239613 * [Response]

2-Methylnaphthalene-d10



Average RF

RF RSD: 4.312858

[Conc] = 0.7295784 * [Response]

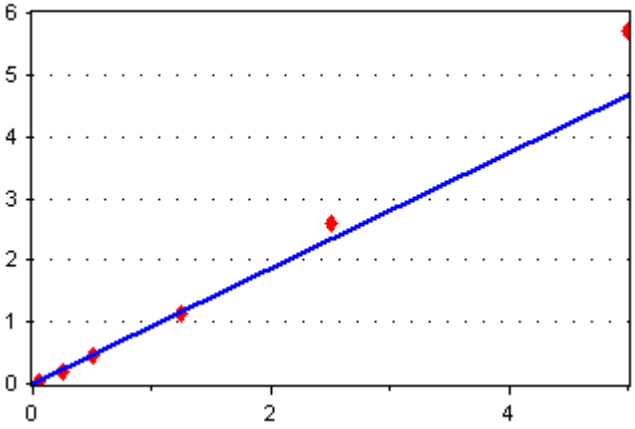
Dibenzo[a,h]anthracene-d14

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

625-SIM PAH (0.1 ug/L) - Dibenzo[a,h]anthracene-d14



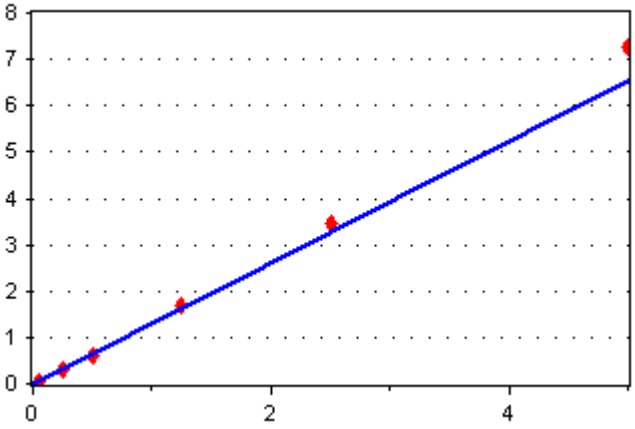
Average RF

RF RSD: 14.3246

[Conc] = 0.9367846 * [Response]

Fluoranthene-d10

625-SIM PAH (0.1 ug/L) - Fluoranthene-d10



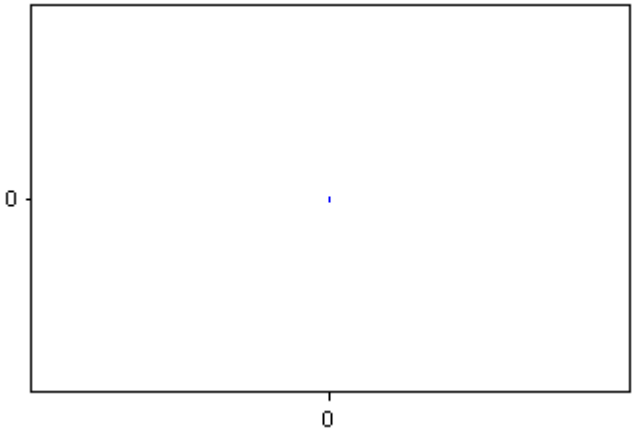
Average RF

RF RSD: 7.990804

[Conc] = 1.309347 * [Response]

Acenaphthene-d10

625-SIM PAH (0.1 ug/L) - Acenaphthene-d10



Average RF

RF RSD:

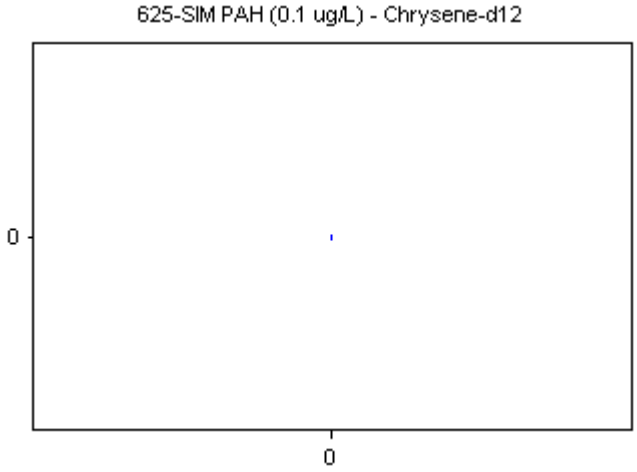
[Conc] = * [Response]

Calibration Report

Instrument:	**NT8**	**Calibration Date:**	**05-Mar-2018 10:05 By JZ**
Calibration ID:	**BC00011**	**Last Edit Date:**	**05-Mar-2018 17:26 By JZ**

625-SIM PAH (0.1 ug/L)

Chrysene-d12



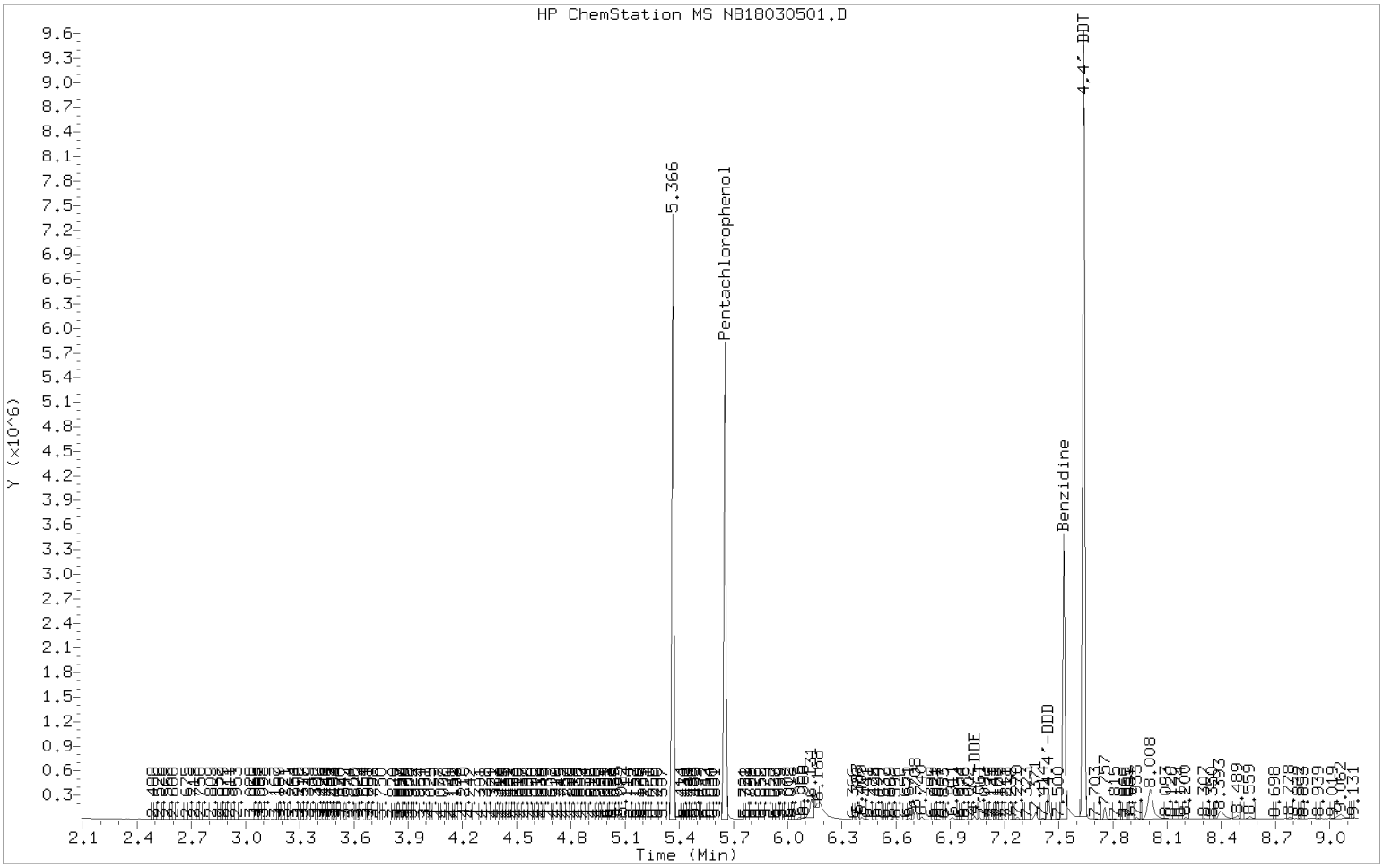
Average RF

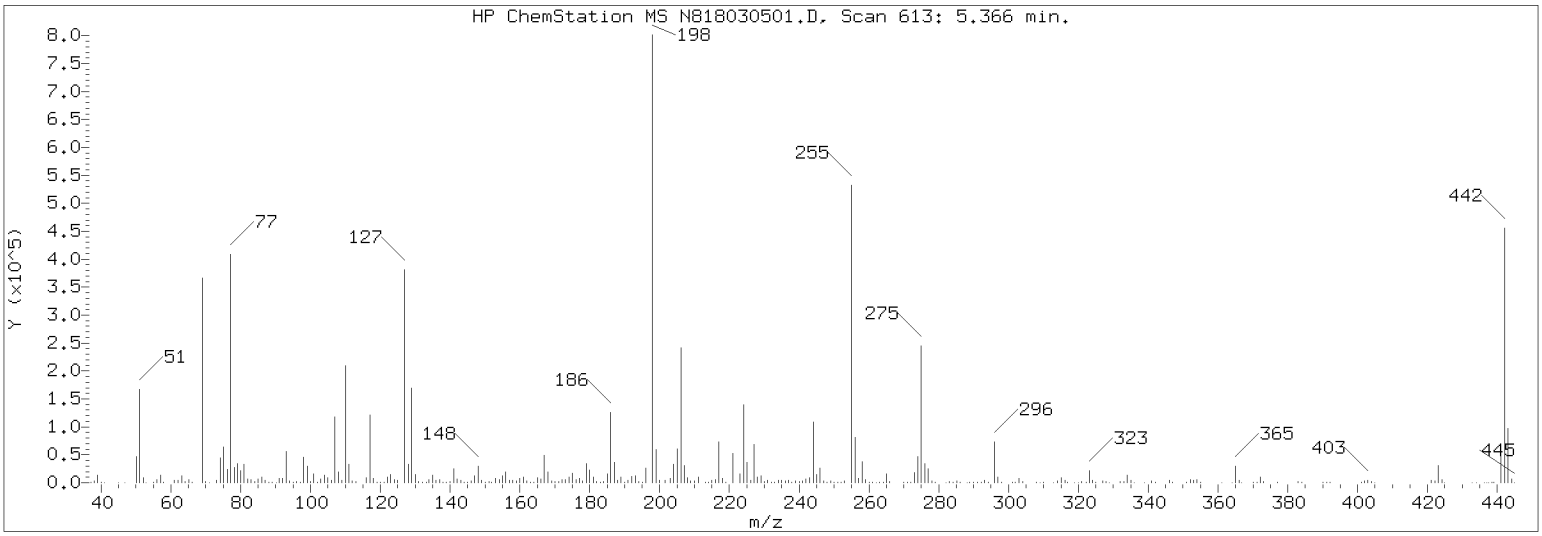
RF RSD:

[Conc] = * [Response]

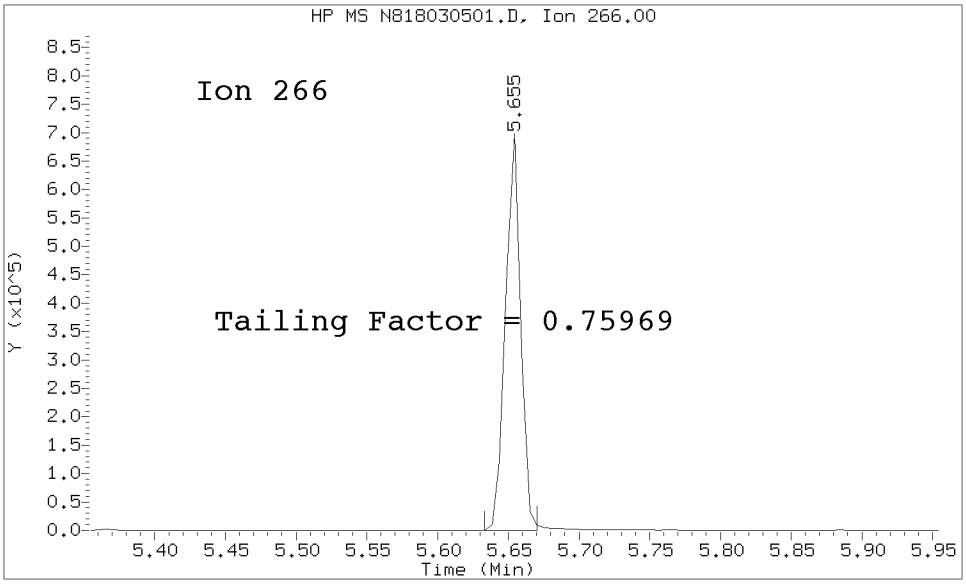
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20180305.b/tune.b/N818030501.D/N818030501.D
Method Used: \20180305.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 05-MAR-2018 10:13 Operator: JZ
Sample Info: SGC0048-TUN1 DFTPP180305
Report Date: 03/05/2018 17:18



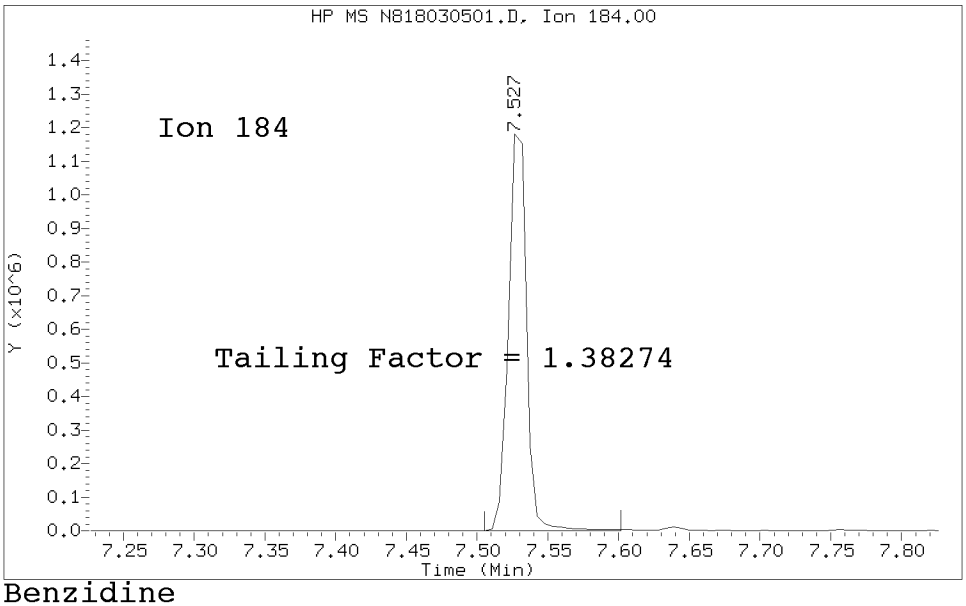


Datafile Analyzed: /20180305.b/tune.b/N818030501.D/N818030501.D
Method Used: \20180305.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 05-MAR-2018 10:13 Operator: JZ
Sample Info: DFTPP180305
Report Date: 03/05/2018 17:18



Pentachlorophenol
==========
Exp. RT = 5.660
Found RT = 5.655

Tail Factor = 0.760 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.526
Found RT = 7.527

Tail Factor = 1.383 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.7596899	2.000	PASS
Benzidine	1.3827362	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1207474			N/A
4,4-DDE	4325	0.4	20.0	PASS
4,4-DDD	57606	4.6	20.0	PASS
4,4-DDD + DDE	61931	4.9	20.0	PASS

Tuning Sample, /nt8.i/20180305.b/tune.b/N818030501.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	21.01
68	Less than 2.00% of mass 69	0.16 (0.35)
69	Mass 69 relative abundance	47.07
70	Less than 2.00% of mass 69	0.29 (0.61)
127	10.00 - 80.00% of mass 198	47.80
197	Less than 2.00% of mass 198	0.67
199	5.00 - 9.00% of mass 198	7.27
275	10.00 - 60.00% of mass 198	30.63
365	Greater than 1.00% of mass 198	4.03
441	0.01 - 24.00% of mass 442	9.49 (14.81)
442	50.00 - 200.00% of mass 198	64.07
443	15.00 - 24.00% of mass 442	13.07 (20.40)

Data File: N818030501.D
Spectrum: Avg. Scans 612-614 (5.37), Background Scan 606
Location of Maximum: 198.00
Number of points: 324

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	686	130.00	9717	212.00	1263	302.00	998
38.00	2330	131.00	1709	213.00	641	303.00	6192
39.00	9092	132.00	937	214.00	206	304.00	1808
40.00	511	133.00	529	215.00	2388	308.00	766
41.00	83	134.00	4031	216.00	4200	309.00	465
45.00	97	135.00	9277	217.00	47176	310.00	545
47.00	111	136.00	3754	218.00	5677	313.00	300
49.00	994	137.00	3735	219.00	553	314.00	2669
50.00	33720	138.00	858	220.00	91	315.00	6217
51.00	112944	139.00	561	221.00	33344	316.00	3619
52.00	5861	140.00	1672	222.00	1543	317.00	629
53.00	228	141.00	15540	223.00	10275	319.00	97
55.00	1004	142.00	4520	224.00	92856	320.00	95
56.00	4363	143.00	3314	225.00	24120	321.00	1604
57.00	9557	144.00	854	226.00	2730	322.00	831
58.00	497	145.00	710	227.00	46560	323.00	14809
61.00	3006	146.00	2833	228.00	6695	324.00	3096
62.00	3040	147.00	8505	229.00	8748	325.00	201
63.00	8726	148.00	19632	230.00	1234	326.00	203
64.00	1513	149.00	3754	231.00	3235	327.00	3066
65.00	4139	150.00	1010	232.00	729	328.00	1634
66.00	238	151.00	1715	233.00	756	329.00	179
67.00	286	152.00	1093	234.00	2967	332.00	1195
68.00	881	153.00	5328	235.00	3081	333.00	1731
69.00	252992	154.00	3943	236.00	2040	334.00	9776
70.00	1537	155.00	7861	237.00	3392	335.00	2531
71.00	101	156.00	12621	238.00	438	336.00	175
73.00	2792	157.00	2574	239.00	2149	339.00	217
74.00	31000	158.00	3072	240.00	1399	340.00	102
75.00	43176	159.00	2093	241.00	2469	341.00	1786
76.00	16185	160.00	5307	242.00	4836	342.00	460
77.00	279040	161.00	6951	243.00	5835	346.00	3273
78.00	19120	162.00	2159	244.00	71952	347.00	638
79.00	23120	163.00	760	245.00	10107	351.00	320
80.00	16325	164.00	752	246.00	17384	352.00	4195
81.00	22112	165.00	5923	247.00	2979	353.00	2574
82.00	5261	166.00	4660	248.00	788	354.00	4147
83.00	4248	167.00	32696	249.00	2423	355.00	951
84.00	872	168.00	13593	250.00	531	359.00	286
85.00	4370	169.00	2489	251.00	784	361.00	148
86.00	6958	170.00	1260	252.00	649	364.00	133
87.00	2653	171.00	1596	253.00	1876	365.00	21648
88.00	989	172.00	3347	254.00	866	366.00	3163
89.00	399	173.00	3566	255.00	357952	367.00	362
90.00	141	174.00	6327	256.00	54064	370.00	521
91.00	5364	175.00	12083	257.00	4942	371.00	1242
92.00	5606	176.00	3480	258.00	25344	372.00	6561
93.00	38472	177.00	5601	259.00	3574	373.00	1810
94.00	2348	178.00	2022	260.00	825	377.00	466

95.00	590	179.00	22952	261.00	987	383.00	2092
96.00	1484	180.00	14870	262.00	89	384.00	497
97.00	507	181.00	6974	263.00	375	390.00	874
98.00	32440	182.00	1482	264.00	611	391.00	608
99.00	19896	183.00	431	265.00	11469	392.00	306
100.00	1900	184.00	2235	266.00	1459	401.00	424
101.00	10080	185.00	11109	270.00	297	402.00	3100
102.00	473	186.00	83720	271.00	916	403.00	3482
103.00	4290	187.00	25008	272.00	1120	404.00	1459
104.00	8304	188.00	2821	273.00	11955	405.00	107
105.00	6523	189.00	6650	274.00	31080	421.00	3313
106.00	3189	190.00	1005	275.00	164672	422.00	2358
107.00	81488	191.00	2886	276.00	22776	423.00	22160
108.00	12708	192.00	7233	277.00	17032	424.00	4540
109.00	3011	193.00	8049	278.00	2738	425.00	309
110.00	141504	194.00	1557	279.00	547	428.00	109
111.00	22304	195.00	1160	282.00	437	429.00	113
112.00	2870	196.00	18112	283.00	1695	433.00	85
113.00	1203	197.00	3608	284.00	1161	434.00	205
115.00	277	198.00	537536	285.00	2838	436.00	308
116.00	5871	199.00	39056	286.00	689	437.00	432
117.00	85024	200.00	3058	288.00	172	438.00	1000
118.00	5715	201.00	3076	289.00	803	439.00	931
119.00	781	202.00	401	290.00	474	440.00	284
120.00	1102	203.00	5483	291.00	478	441.00	51008
121.00	451	204.00	22304	292.00	893	442.00	344384
122.00	6403	205.00	39768	293.00	3049	443.00	70248
123.00	9242	206.00	160704	294.00	915	444.00	5865
124.00	3950	207.00	20720	295.00	527	445.00	464
125.00	3689	208.00	5876	296.00	50472		
127.00	256960	209.00	1962	297.00	7594		
128.00	22280	210.00	2718	298.00	627		
129.00	113624	211.00	7216	301.00	717		

Data File: \\target\share\chem3\nt8.i\20180305.b\N818030502.D

Date : 05-MAR-2018 10:30

Client ID: IC01180305

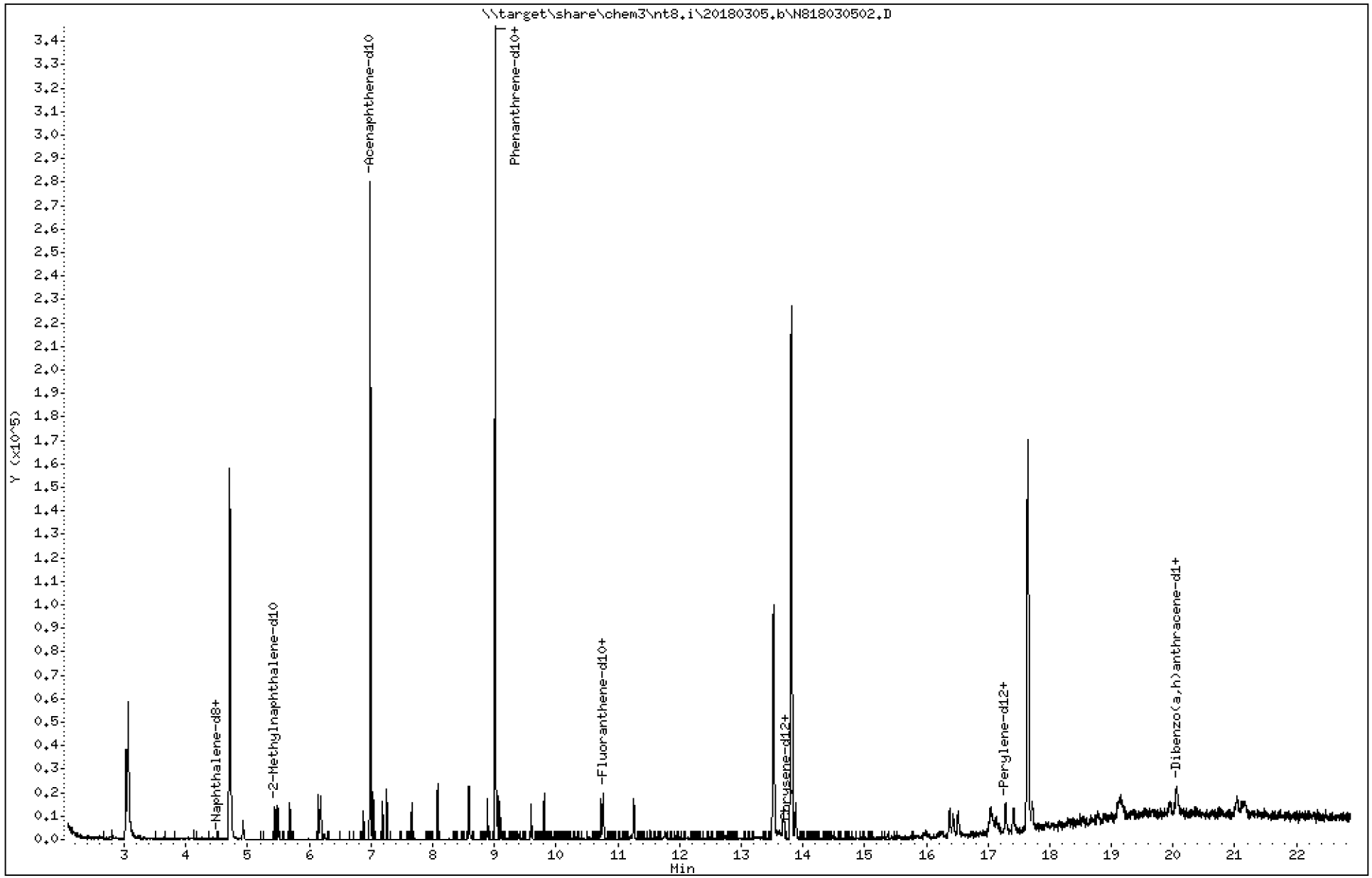
Instrument: nt8.i

Sample Info: IC01180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030502.D
Lab Smp Id: SGC0048-CAL1 Client Smp ID: IC01180305
Inj Date : 05-MAR-2018 10:30
Operator : JZ Inst ID: nt8.i
Smp Info : IC01180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.711	4.704	(1.000)	138557	2.00000	
	2 Naphthalene	128	4.739	4.733	(1.006)	9002	0.10000	0.1118
$	3 2-Methylnaphthalene-d10	152	5.441	5.438	(1.155)	5314	0.10000	0.1051
	4 2-Methylnaphthalene	141	5.486	5.485	(1.164)	4746	0.10000	0.1046
	5 1-methylnaphthalene	141	5.682	5.678	(1.206)	5184	0.10000	0.1110
	6 2-Chloronaphthalene	162	6.172	6.172	(1.310)	4631	0.10000	0.1023
	7 Biphenyl	154	6.146	6.143	(0.880)	7355	0.10000	0.1053
	8 2,6-Dimethylnaphthalene	156	6.187	6.187	(0.886)	5013	0.10000	0.09955
	9 Acenaphthylene	152	6.877	6.874	(0.984)	6694	0.10000	0.09000
*	10 Acenaphthene-d10	164	6.987	6.981	(1.000)	74914	2.00000	
	11 Acenaphthene	153	7.035	7.032	(1.007)	6466	0.10000	0.1134
	12 Dibenzofuran	168	7.187	7.183	(1.029)	8471	0.10000	0.1105
	13 1,6,7-Trimethylnaphthalene	170	7.253	7.253	(1.038)	4846	0.10000	0.09786
	14 Fluorene	166	7.661	7.658	(1.096)	5550	0.10000	0.09369
	18 Dibenzothiophene	184	8.888	8.885	(0.986)	8623	0.10000	0.1073
*	15 Phenanthrene-d10	188	9.014	9.011	(1.000)	143898	2.00000	
	16 Phenanthrene	178	9.049	9.049	(1.004)	9927	0.10000	0.1126
	17 Anthracene	178	9.087	9.087	(1.008)	7738	0.10000	0.09629
	19 Carbazole	167	9.599	9.596	(1.065)	7178	0.10000	0.1005
	20 1-Methylphenanthrene	192	9.808	9.805	(1.088)	6695	0.10000	0.1001
	22 Fluoranthene	202	10.766	10.766	(1.194)	10074	0.10000	0.1014
$	21 Fluoranthene-d10	212	10.728	10.728	(1.190)	9307	0.10000	0.09879
	23 Pyrene	202	11.259	11.259	(0.815)	9894	0.10000	0.1083
	24 Benzo(a)anthracene	228	13.678	13.684	(0.991)	9367	0.10000	0.1060
*	25 Chrysene-d12	240	13.808	13.805	(1.000)	152056	2.00000	
	27 Chrysene	228	13.884	13.884	(1.005)	9822	0.10000	0.1104
	28 Benzo(b)fluoranthene	252	16.375	16.385	(0.928)	9167	0.10000	0.1083
	29 Benzo(k)fluoranthene	252	16.435	16.445	(0.932)	8701	0.10000	0.1045
	30 Benzo(j)fluoranthene	252	16.514	16.524	(0.936)	8977	0.10000	0.1077
	31 Total Benzofluoranthenes	252	16.375	16.524	(0.928)	26361	0.30000	0.3194(M)
	34 Benzo(e)pyrene	252	17.280	17.289	(0.980)	9543	0.10000	0.1121
	32 Benzo(a)pyrene	252	17.409	17.419	(0.987)	7880	0.10000	0.1062
*	33 Perylene-d12	264	17.640	17.640	(1.000)	133180	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.716	17.722	(1.004)	7974	0.10000	0.09899
$	36 Dibenzo(a,h)anthracene-d14	292	19.955	19.970	(1.131)	5581	0.10000	0.08947(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.062	20.084	(1.137)	8273	0.10000	0.09741
	38 Dibenzo(a,h)anthracene	278	20.046	20.078	(1.136)	6220	0.10000	0.08878
	39 Benzo(g,h,i)perylene	276	21.033	21.061	(1.192)	7782	0.10000	0.1048

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030502.D
Lab Smp Id: SGC0048-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC01180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	138557	13.39
10 Acenaphthene-d10	65789	32895	131578	74914	13.87
15 Phenanthrene-d10	128644	64322	257288	143898	11.86
25 Chrysene-d12	166669	83335	333338	152056	-8.77
33 Perylene-d12	140483	70242	280966	133180	-5.20

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.71	0.07
10 Acenaphthene-d10	6.98	6.48	7.48	6.99	0.09
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	0.07
25 Chrysene-d12	13.80	13.30	14.30	13.81	0.05
33 Perylene-d12	17.64	17.14	18.14	17.64	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030502.D

Lab ID: SGC0048-CAL1
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 10:30

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

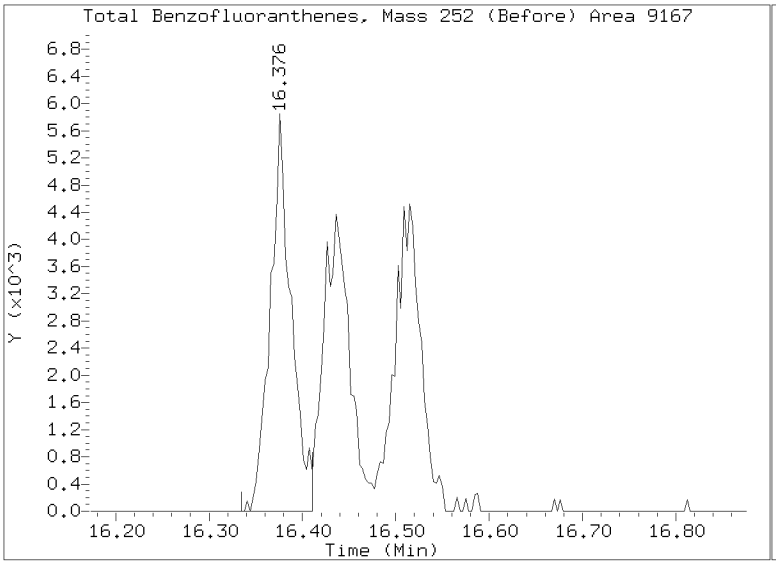
RRT CHECK

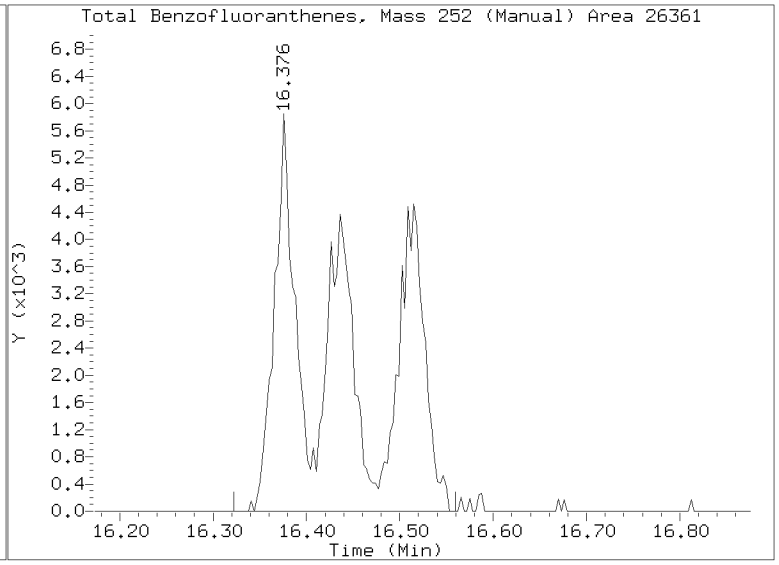
RRT	CCV RRT	DELTA	COMPOUND
NONE			

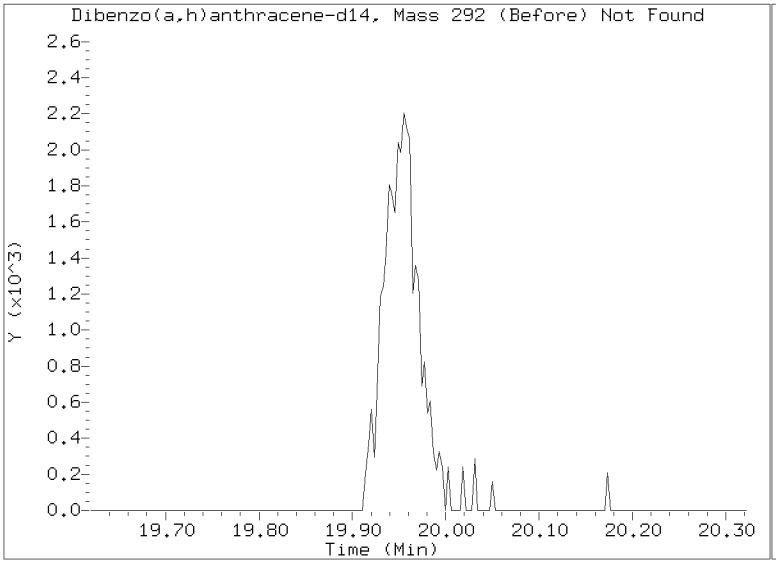
On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

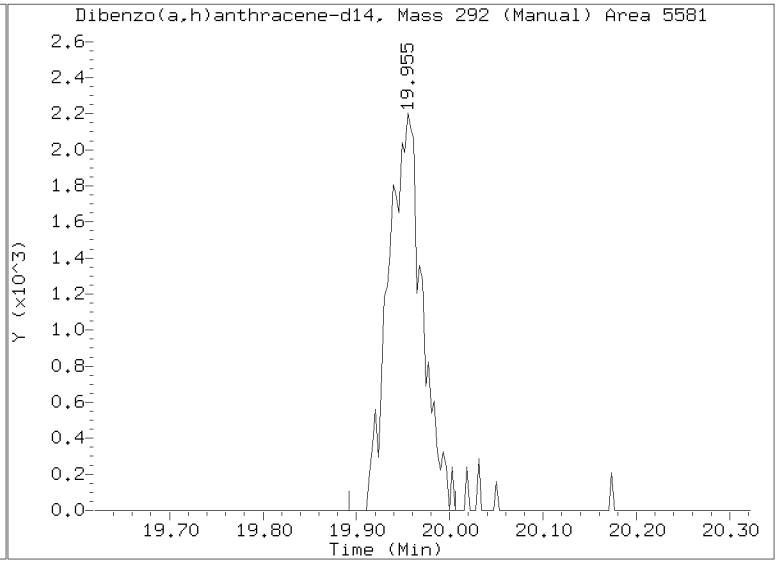
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030502.D
Injection Date: 05-MAR-2018 10:30
Lab ID:SGC0048-CAL1 Client ID:IC01180305
Report Date: 03/05/2018 17:10









Data File: \\target\share\chem3\nt8.i\20180305.b\N818030503.D

Date : 05-MAR-2018 10:57

Client ID: IC05180305

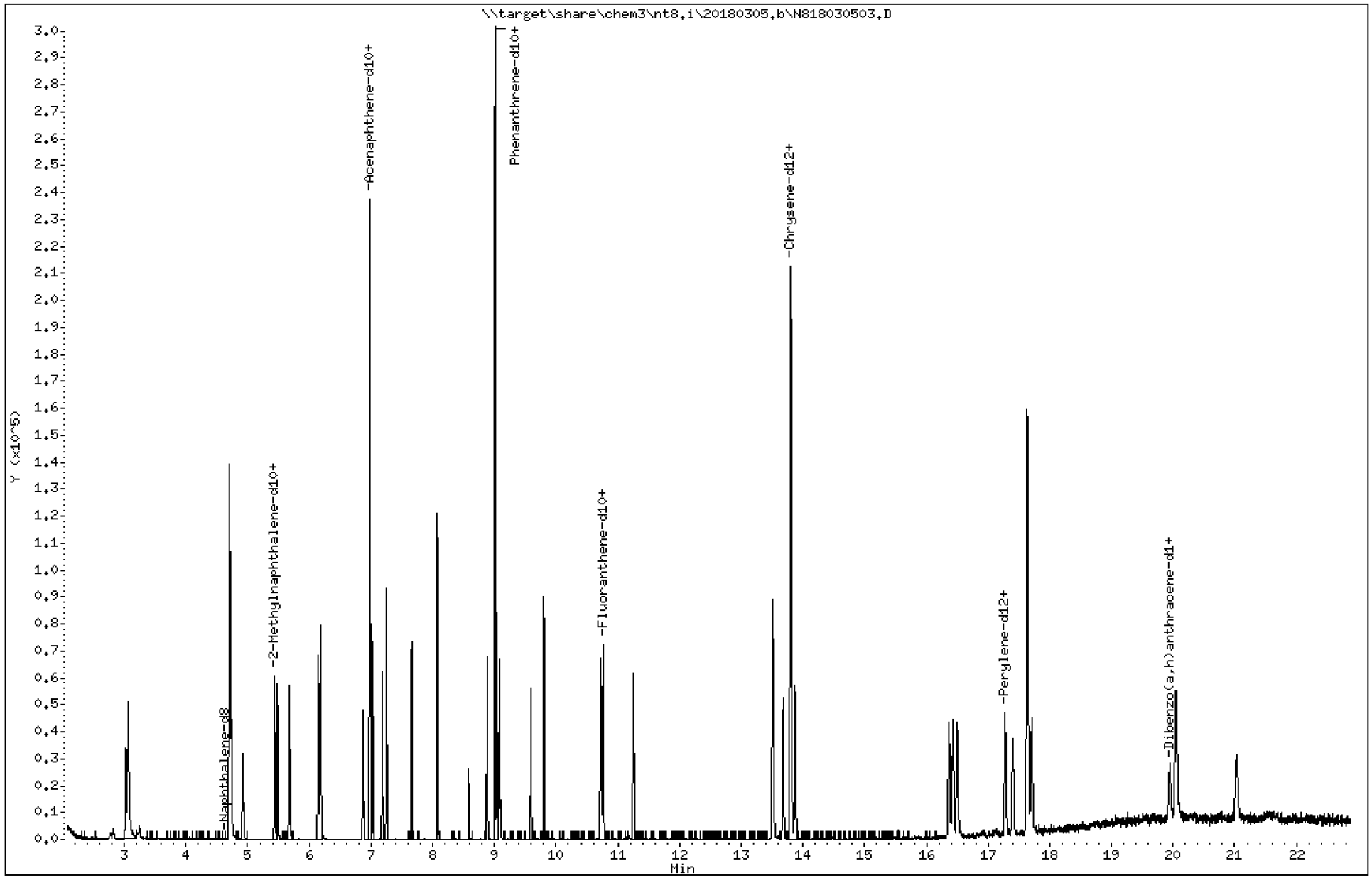
Instrument: nt8.i

Sample Info: IC05180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030503.D
Lab Smp Id: SGC0048-CAL2 Client Smp ID: IC05180305
Inj Date : 05-MAR-2018 10:57
Operator : JZ Inst ID: nt8.i
Smp Info : IC05180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.704	4.704	(1.000)	123911	2.00000	
	2 Naphthalene	128	4.736	4.733	(1.007)	31842	0.50000	0.4422
$	3 2-Methylnaphthalene-d10	152	5.435	5.438	(1.155)	21182	0.50000	0.4686
	4 2-Methylnaphthalene	141	5.485	5.485	(1.166)	19618	0.50000	0.4837
	5 1-methylnaphthalene	141	5.678	5.678	(1.207)	18835	0.50000	0.4511
	6 2-Chloronaphthalene	162	6.168	6.172	(1.311)	18848	0.50000	0.4655(M)
	7 Biphenyl	154	6.140	6.143	(0.880)	27732	0.50000	0.4509
	8 2,6-Dimethylnaphthalene	156	6.184	6.187	(0.886)	20494	0.50000	0.4622
	9 Acenaphthylene	152	6.874	6.874	(0.985)	27817	0.50000	0.4247
*	10 Acenaphthene-d10	164	6.981	6.981	(1.000)	65970	2.00000	
	11 Acenaphthene	153	7.028	7.032	(1.007)	22402	0.50000	0.4462
	12 Dibenzofuran	168	7.183	7.183	(1.029)	30358	0.50000	0.4497
	13 1,6,7-Trimethylnaphthalene	170	7.250	7.253	(1.038)	20116	0.50000	0.4613
	14 Fluorene	166	7.658	7.658	(1.097)	23950	0.50000	0.4591
	18 Dibenzothiophene	184	8.885	8.885	(0.986)	31952	0.50000	0.4495
*	15 Phenanthrene-d10	188	9.008	9.011	(1.000)	127317	2.00000	
	16 Phenanthrene	178	9.043	9.049	(1.004)	35992	0.50000	0.4612
	17 Anthracene	178	9.084	9.087	(1.008)	31216	0.50000	0.4390
	19 Carbazole	167	9.590	9.596	(1.065)	27658	0.50000	0.4375
	20 1-Methylphenanthrene	192	9.802	9.805	(1.088)	26356	0.50000	0.4454
	22 Fluoranthene	202	10.760	10.766	(1.194)	40622	0.50000	0.4619
$	21 Fluoranthene-d10	212	10.722	10.728	(1.190)	36684	0.50000	0.4401
	23 Pyrene	202	11.253	11.259	(0.815)	38073	0.50000	0.4616
	24 Benzo(a)anthracene	228	13.675	13.684	(0.991)	36410	0.50000	0.4566
*	25 Chrysene-d12	240	13.801	13.805	(1.000)	137259	2.00000	
	27 Chrysene	228	13.871	13.884	(1.005)	39038	0.50000	0.4863
	28 Benzo(b)fluoranthene	252	16.369	16.385	(0.928)	34287	0.50000	0.4454
	29 Benzo(k)fluoranthene	252	16.426	16.445	(0.931)	33907	0.50000	0.4479
	30 Benzo(j)fluoranthene	252	16.502	16.524	(0.936)	35241	0.50000	0.4649
	31 Total Benzofluoranthenes	252	16.426	16.524	(0.931)	102506	1.50000	1.365(M)
	34 Benzo(e)pyrene	252	17.276	17.289	(0.980)	35041	0.50000	0.4525
	32 Benzo(a)pyrene	252	17.403	17.419	(0.987)	28756	0.50000	0.4262
*	33 Perylene-d12	264	17.637	17.640	(1.000)	121139	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.710	17.722	(1.004)	32936	0.50000	0.4495
$	36 Dibenzo(a,h)anthracene-d14	292	19.942	19.970	(1.131)	23620	0.50000	0.4163
	37 Indeno(1,2,3-cd)pyrene	276	20.049	20.084	(1.137)	33536	0.50000	0.4341
	38 Dibenzo(a,h)anthracene	278	20.046	20.078	(1.137)	26390	0.50000	0.4141
	39 Benzo(g,h,i)perylene	276	21.033	21.061	(1.193)	30367	0.50000	0.4498

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030503.D
Lab Smp Id: SGC0048-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC05180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	123911	1.41
10 Acenaphthene-d10	65789	32895	131578	65970	0.28
15 Phenanthrene-d10	128644	64322	257288	127317	-1.03
25 Chrysene-d12	166669	83335	333338	137259	-17.65
33 Perylene-d12	140483	70242	280966	121139	-13.77

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.70	-0.07
10 Acenaphthene-d10	6.98	6.48	7.48	6.98	-0.00
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	-0.00
25 Chrysene-d12	13.80	13.30	14.30	13.80	-0.00
33 Perylene-d12	17.64	17.14	18.14	17.64	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030503.D

Lab ID: SGC0048-CAL2
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 10:57

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

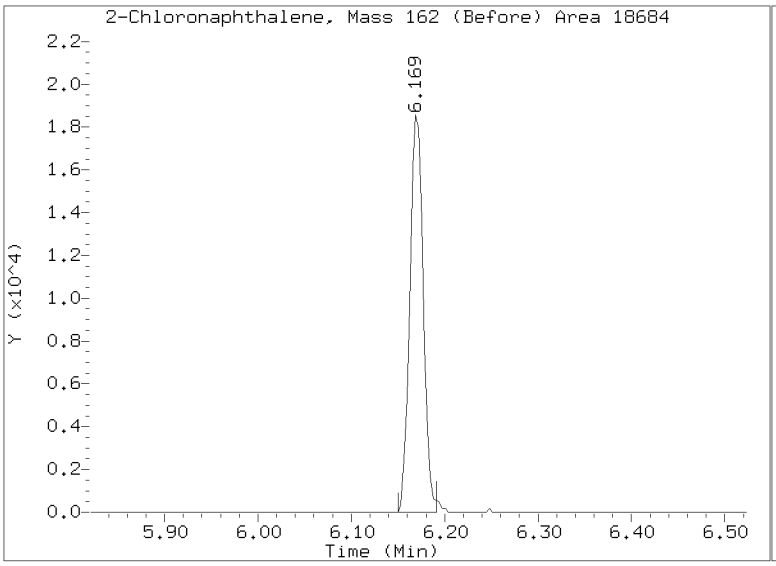
RRT	CCV RRT	DELTA	COMPOUND

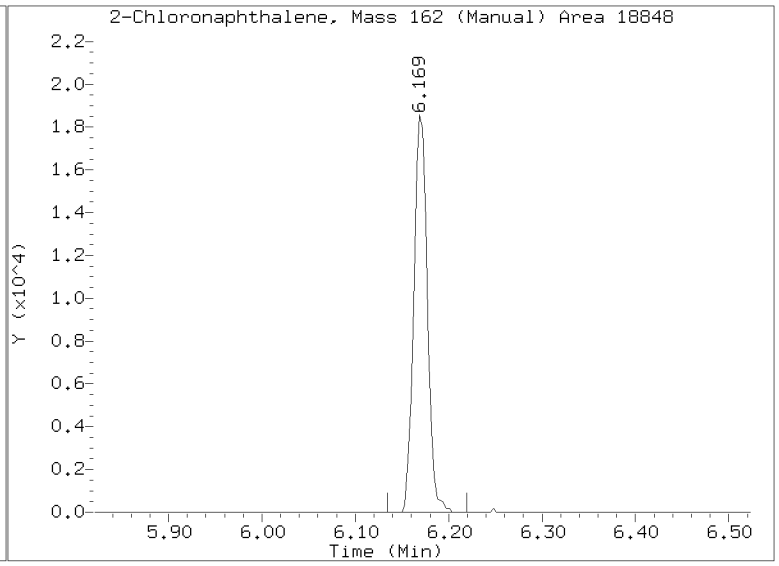
NONE

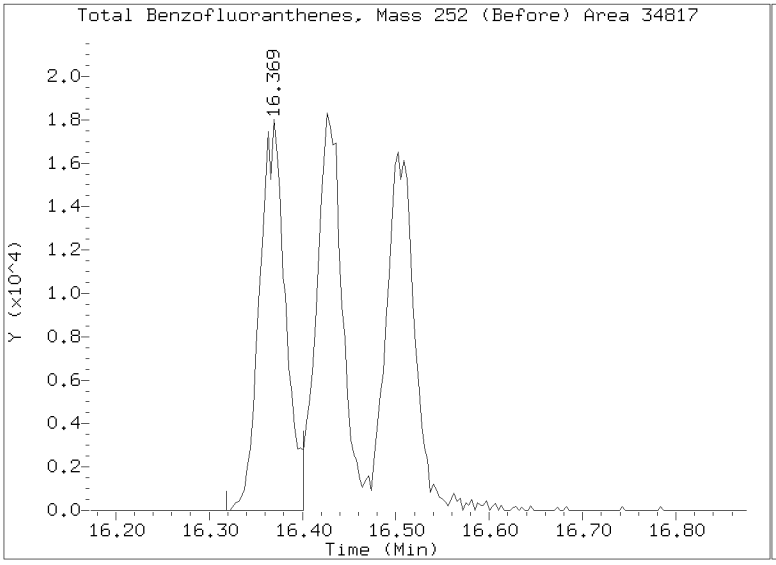
On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

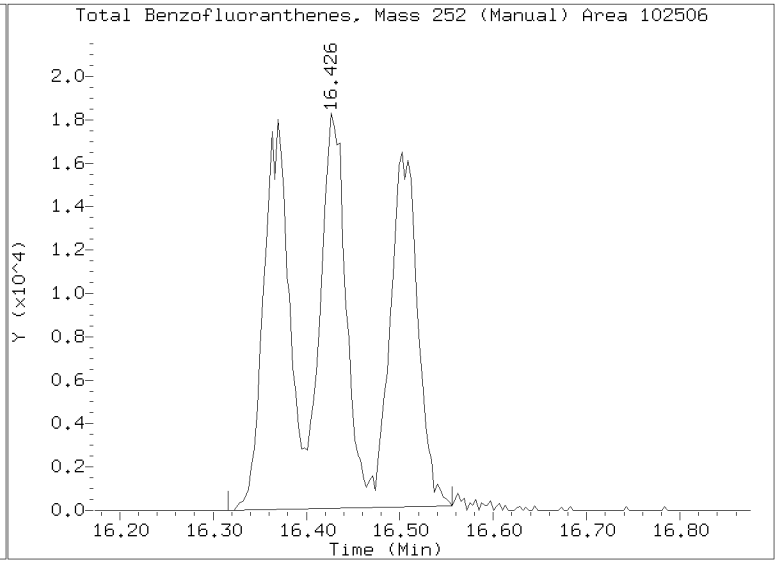
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030503.D
Injection Date: 05-MAR-2018 10:57
Lab ID:SGC0048-CAL2 Client ID:IC05180305
Report Date: 03/05/2018 17:10









Data File: \\target\share\chem3\nt8.i\20180305.b\N818030504.D

Date : 05-MAR-2018 11:24

Client ID: IC1180305

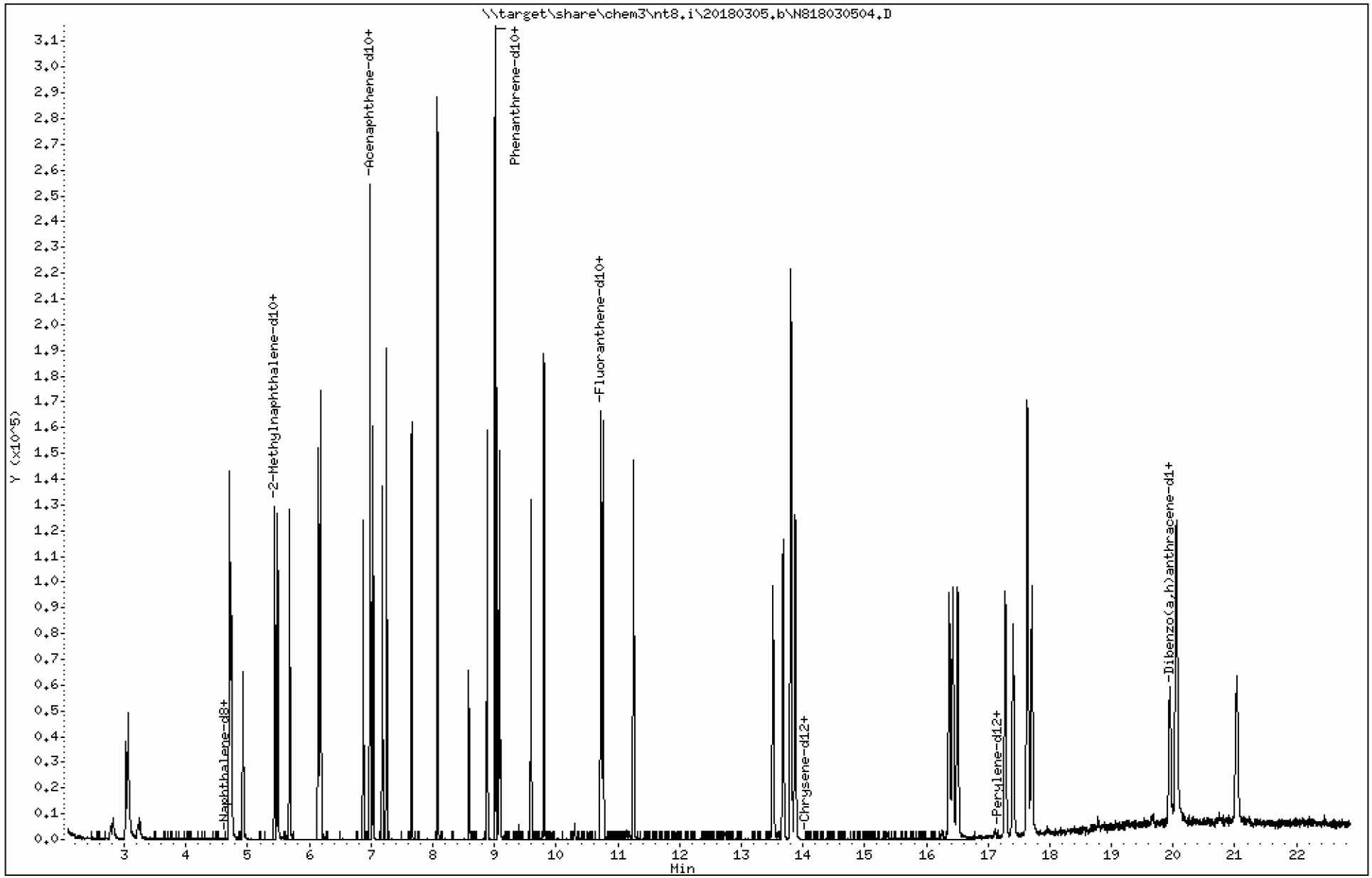
Instrument: nt8.i

Sample Info: IC1180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030504.D
Lab Smp Id: SGC0048-CAL3 Client Smp ID: IC1180305
Inj Date : 05-MAR-2018 11:24
Operator : JZ Inst ID: nt8.i
Smp Info : IC1180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.704	4.704	(1.000)	129011	2.00000	
	2 Naphthalene	128	4.733	4.733	(1.006)	72002	1.00000	0.9603
$	3 2-Methylnaphthalene-d10	152	5.435	5.438	(1.155)	45372	1.00000	0.9641
	4 2-Methylnaphthalene	141	5.482	5.485	(1.165)	40313	1.00000	0.9546
	5 1-methylnaphthalene	141	5.678	5.678	(1.207)	41432	1.00000	0.9531
	6 2-Chloronaphthalene	162	6.168	6.172	(1.311)	41303	1.00000	0.9797
	7 Biphenyl	154	6.140	6.143	(0.880)	63481	1.00000	0.9965
	8 2,6-Dimethylnaphthalene	156	6.184	6.187	(0.886)	45125	1.00000	0.9824
	9 Acenaphthylene	152	6.870	6.874	(0.984)	65075	1.00000	0.9592
*	10 Acenaphthene-d10	164	6.981	6.981	(1.000)	68332	2.00000	
	11 Acenaphthene	153	7.028	7.032	(1.007)	49340	1.00000	0.9487
	12 Dibenzofuran	168	7.180	7.183	(1.029)	67224	1.00000	0.9613
	13 1,6,7-Trimethylnaphthalene	170	7.250	7.253	(1.038)	44142	1.00000	0.9773
	14 Fluorene	166	7.658	7.658	(1.097)	52201	1.00000	0.9661
	18 Dibenzothiophene	184	8.881	8.885	(0.986)	72298	1.00000	0.9643
*	15 Phenanthrene-d10	188	9.008	9.011	(1.000)	134289	2.00000	
	16 Phenanthrene	178	9.043	9.049	(1.004)	79146	1.00000	0.9616
	17 Anthracene	178	9.084	9.087	(1.008)	73479	1.00000	0.9798
	19 Carbazole	167	9.593	9.596	(1.065)	64095	1.00000	0.9612
	20 1-Methylphenanthrene	192	9.801	9.805	(1.088)	60305	1.00000	0.9663
	22 Fluoranthene	202	10.759	10.766	(1.194)	91948	1.00000	0.9912
$	21 Fluoranthene-d10	212	10.725	10.728	(1.191)	83453	1.00000	0.9492
	23 Pyrene	202	11.256	11.259	(0.816)	91074	1.00000	1.010
	24 Benzo(a)anthracene	228	13.675	13.684	(0.991)	84178	1.00000	0.9658
*	25 Chrysene-d12	240	13.801	13.805	(1.000)	150011	2.00000	
	27 Chrysene	228	13.871	13.884	(1.005)	84448	1.00000	0.9625
	28 Benzo(b)fluoranthene	252	16.369	16.385	(0.928)	79298	1.00000	0.9480
	29 Benzo(k)fluoranthene	252	16.429	16.445	(0.932)	77371	1.00000	0.9406
	30 Benzo(j)fluoranthene	252	16.505	16.524	(0.936)	79597	1.00000	0.9664
	31 Total Benzofluoranthenes	252	16.429	16.524	(0.932)	233692	3.00000	2.865(M)
	34 Benzo(e)pyrene	252	17.276	17.289	(0.980)	80213	1.00000	0.9533
	32 Benzo(a)pyrene	252	17.403	17.419	(0.987)	68025	1.00000	0.9278
*	33 Perylene-d12	264	17.634	17.640	(1.000)	131622	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.710	17.722	(1.004)	79046	1.00000	0.9929
$	36 Dibenzo(a,h)anthracene-d14	292	19.948	19.970	(1.131)	60151	1.00000	0.9757(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.053	20.084	(1.137)	78669	1.00000	0.9373
	38 Dibenzo(a,h)anthracene	278	20.049	20.078	(1.137)	65347	1.00000	0.9438
	39 Benzo(g,h,i)perylene	276	21.030	21.061	(1.193)	68911	1.00000	0.9394

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030504.D
Lab Smp Id: SGC0048-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC1180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	129011	5.58
10 Acenaphthene-d10	65789	32895	131578	68332	3.87
15 Phenanthrene-d10	128644	64322	257288	134289	4.39
25 Chrysene-d12	166669	83335	333338	150011	-9.99
33 Perylene-d12	140483	70242	280966	131622	-6.31

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.70	-0.07
10 Acenaphthene-d10	6.98	6.48	7.48	6.98	-0.00
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	-0.00
25 Chrysene-d12	13.80	13.30	14.30	13.80	-0.00
33 Perylene-d12	17.64	17.14	18.14	17.63	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030504.D

Lab ID: SGC0048-CAL3
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 11:24

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

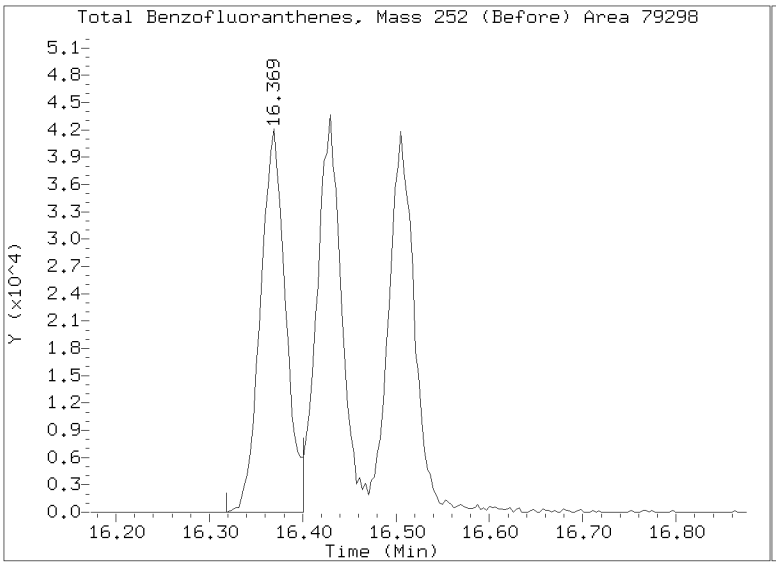
RRT CHECK

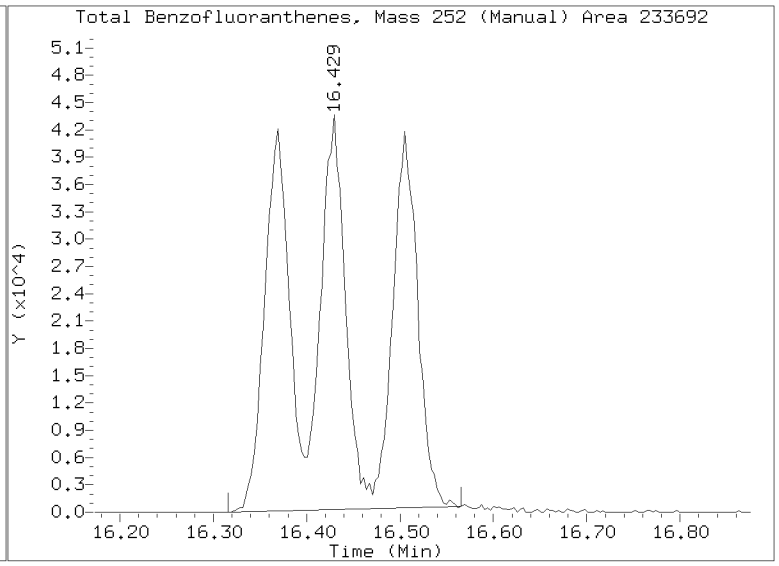
RRT	CCV RRT	DELTA	COMPOUND
NONE			

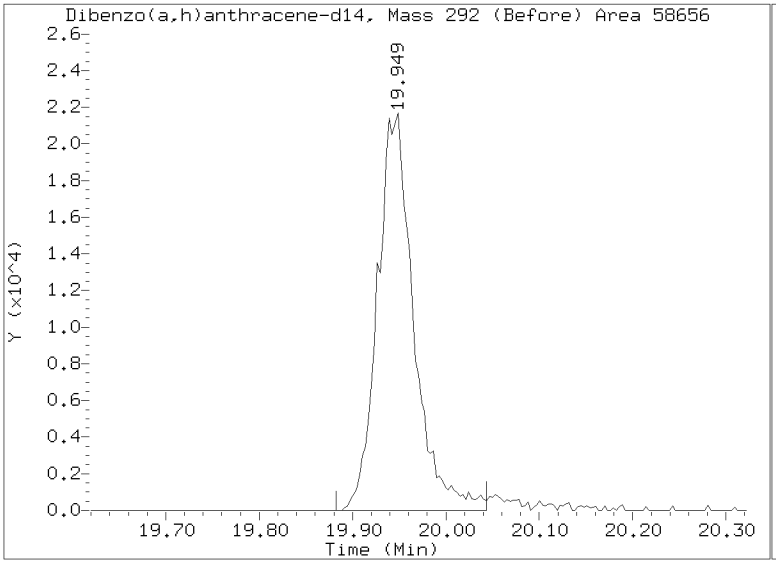
On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

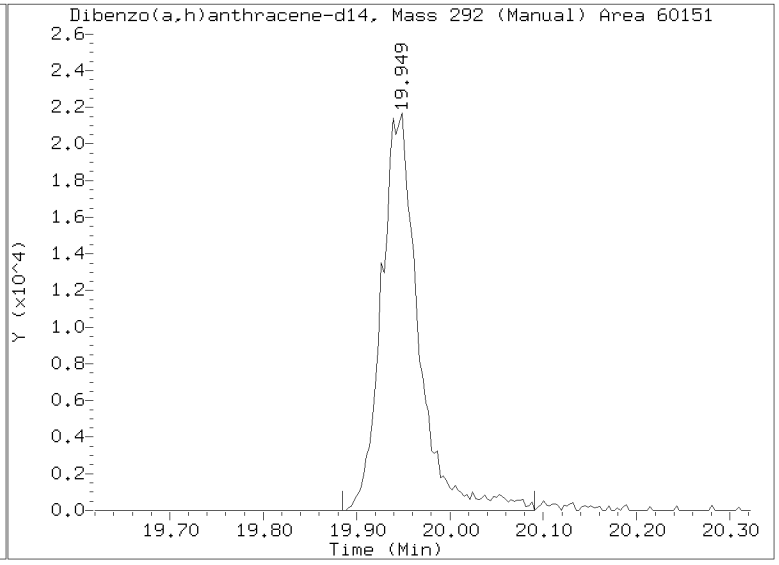
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030504.D
Injection Date: 05-MAR-2018 11:24
Lab ID:SGC0048-CAL3 Client ID:IC1180305
Report Date: 03/05/2018 17:10









Data File: \\target\share\chem3\nt8.i\20180305.b\N818030505.D

Date : 05-MAR-2018 11:51

Client ID: IC2.5180305

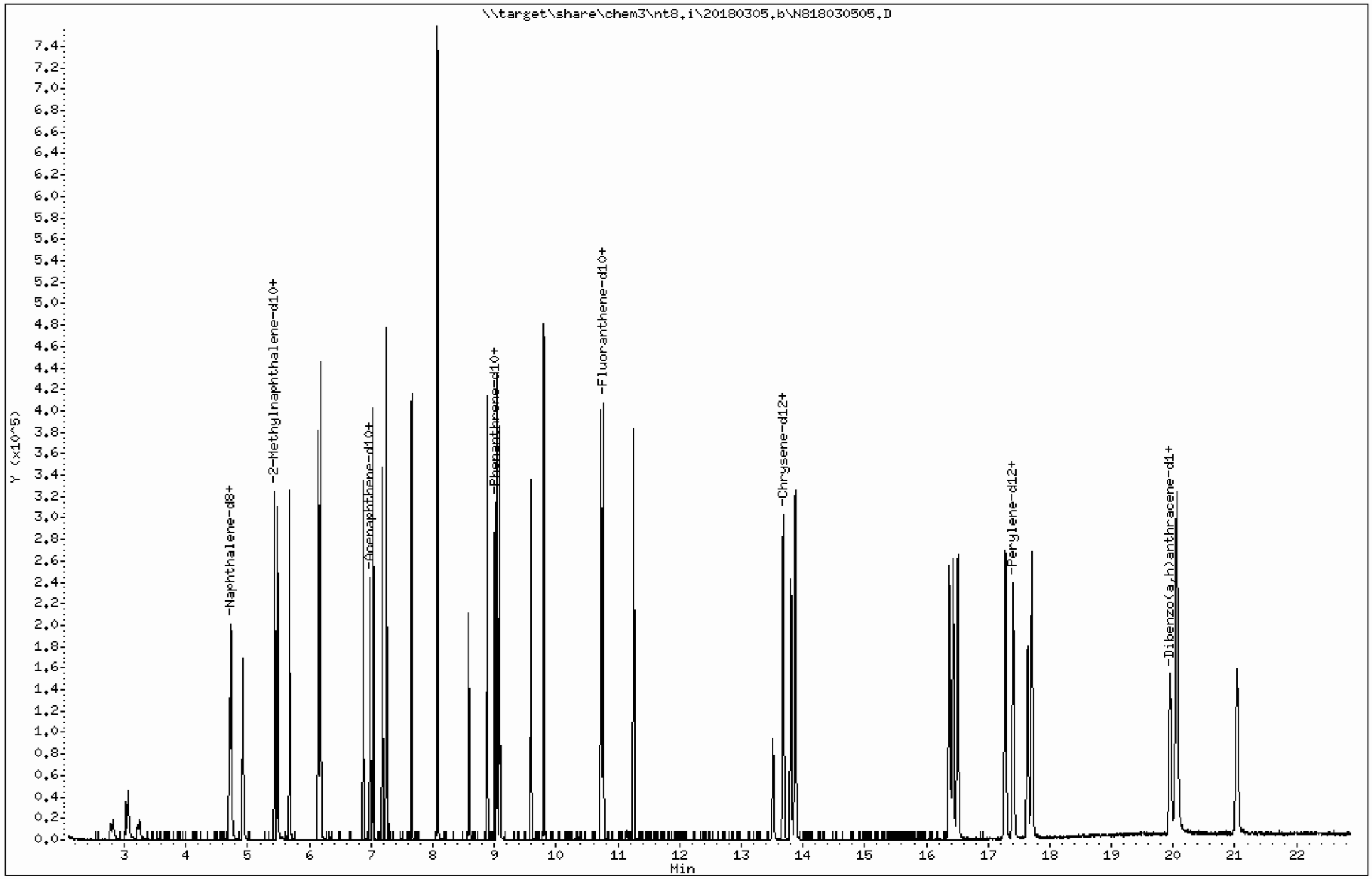
Instrument: nt8.i

Sample Info: IC2.5180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030505.D
Lab Smp Id: SGC0048-CAL4 Client Smp ID: IC2.5180305
Inj Date : 05-MAR-2018 11:51
Operator : JZ Inst ID: nt8.i
Smp Info : IC2.5180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.708	4.704	(1.000)	122190	2.00000	
	2 Naphthalene	128	4.733	4.733	(1.005)	179691	2.50000	2.530
$	3 2-Methylnaphthalene-d10	152	5.435	5.438	(1.154)	112472	2.50000	2.523
	4 2-Methylnaphthalene	141	5.482	5.485	(1.165)	101441	2.50000	2.536
	5 1-methylnaphthalene	141	5.678	5.678	(1.206)	105276	2.50000	2.557
	6 2-Chloronaphthalene	162	6.169	6.172	(1.310)	102824	2.50000	2.575
	7 Biphenyl	154	6.140	6.143	(0.880)	154860	2.50000	2.525
	8 2,6-Dimethylnaphthalene	156	6.184	6.187	(0.886)	112103	2.50000	2.535
	9 Acenaphthylene	152	6.871	6.874	(0.984)	172413	2.50000	2.640
*	10 Acenaphthene-d10	164	6.981	6.981	(1.000)	65789	2.00000	
	11 Acenaphthene	153	7.032	7.032	(1.007)	124959	2.50000	2.496
	12 Dibenzofuran	168	7.180	7.183	(1.029)	169209	2.50000	2.513
	13 1,6,7-Trimethylnaphthalene	170	7.250	7.253	(1.038)	111592	2.50000	2.566
	14 Fluorene	166	7.658	7.658	(1.097)	134872	2.50000	2.593
	18 Dibenzothiophene	184	8.882	8.885	(0.986)	181606	2.50000	2.528
*	15 Phenanthrene-d10	188	9.008	9.011	(1.000)	128644	2.00000	
	16 Phenanthrene	178	9.043	9.049	(1.004)	196255	2.50000	2.489
	17 Anthracene	178	9.084	9.087	(1.008)	187464	2.50000	2.609
	19 Carbazole	167	9.593	9.596	(1.065)	163959	2.50000	2.567
	20 1-Methylphenanthrene	192	9.802	9.805	(1.088)	153848	2.50000	2.573
	22 Fluoranthene	202	10.763	10.766	(1.195)	226170	2.50000	2.545
$	21 Fluoranthene-d10	212	10.722	10.728	(1.190)	215133	2.50000	2.554
	23 Pyrene	202	11.256	11.259	(0.816)	226228	2.50000	2.259
	24 Benzo(a)anthracene	228	13.678	13.684	(0.991)	220654	2.50000	2.279
*	25 Chrysene-d12	240	13.802	13.805	(1.000)	166669	2.00000	
	27 Chrysene	228	13.874	13.884	(1.005)	216231	2.50000	2.218
	28 Benzo(b)fluoranthene	252	16.369	16.385	(0.928)	211482	2.50000	2.369
	29 Benzo(k)fluoranthene	252	16.432	16.445	(0.932)	212569	2.50000	2.421
	30 Benzo(j)fluoranthene	252	16.508	16.524	(0.936)	209957	2.50000	2.388
	31 Total Benzofluoranthenes	252	16.432	16.524	(0.932)	622390	7.50000	7.148(M)
	34 Benzo(e)pyrene	252	17.280	17.289	(0.980)	210643	2.50000	2.345
	32 Benzo(a)pyrene	252	17.406	17.419	(0.987)	187545	2.50000	2.397
*	33 Perylene-d12	264	17.640	17.640	(1.000)	140483	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.713	17.722	(1.004)	207053	2.50000	2.437
$	36 Dibenzo(a,h)anthracene-d14	292	19.948	19.970	(1.131)	158379	2.50000	2.407
	37 Indeno(1,2,3-cd)pyrene	276	20.062	20.084	(1.137)	219173	2.50000	2.447
	38 Dibenzo(a,h)anthracene	278	20.050	20.078	(1.137)	185532	2.50000	2.511
	39 Benzo(g,h,i)perylene	276	21.036	21.061	(1.193)	188752	2.50000	2.411

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030505.D
Lab Smp Id: SGC0048-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC2.5180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	122190	0.00
10 Acenaphthene-d10	65789	32895	131578	65789	0.00
15 Phenanthrene-d10	128644	64322	257288	128644	0.00
25 Chrysene-d12	166669	83335	333338	166669	0.00
33 Perylene-d12	140483	70242	280966	140483	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.71	0.00
10 Acenaphthene-d10	6.98	6.48	7.48	6.98	0.00
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	0.00
25 Chrysene-d12	13.80	13.30	14.30	13.80	0.00
33 Perylene-d12	17.64	17.14	18.14	17.64	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030505.D

Lab ID: SGC0048-CAL4
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 11:51

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

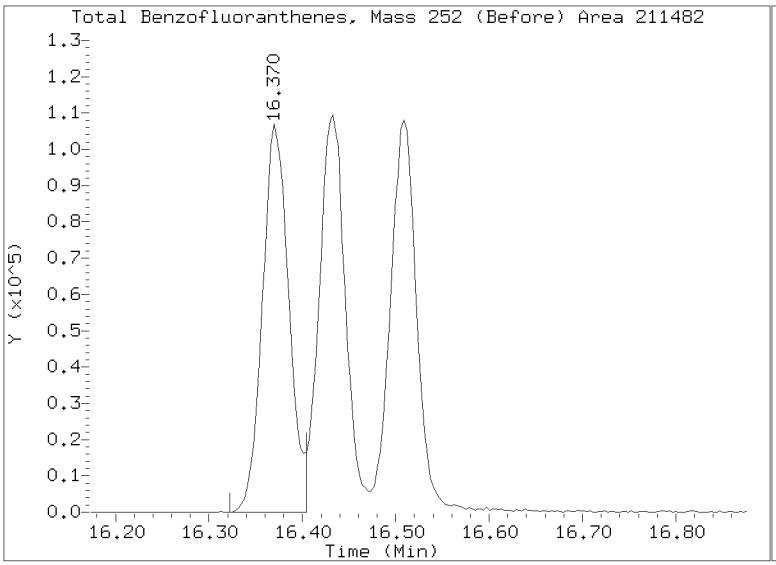
RRT CHECK

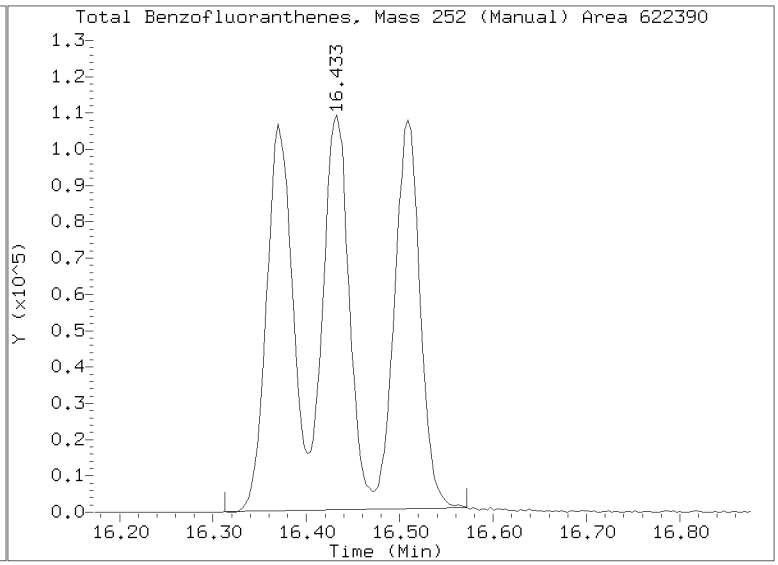
RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030505.D
Injection Date: 05-MAR-2018 11:51
Lab ID:SGC0048-CAL4 Client ID:IC2.5180305
Report Date: 03/05/2018 17:10





Data File: \\target\share\chem3\nt8.i\20180305.b\N818030506.D

Date : 05-MAR-2018 12:18

Client ID: IC5180305

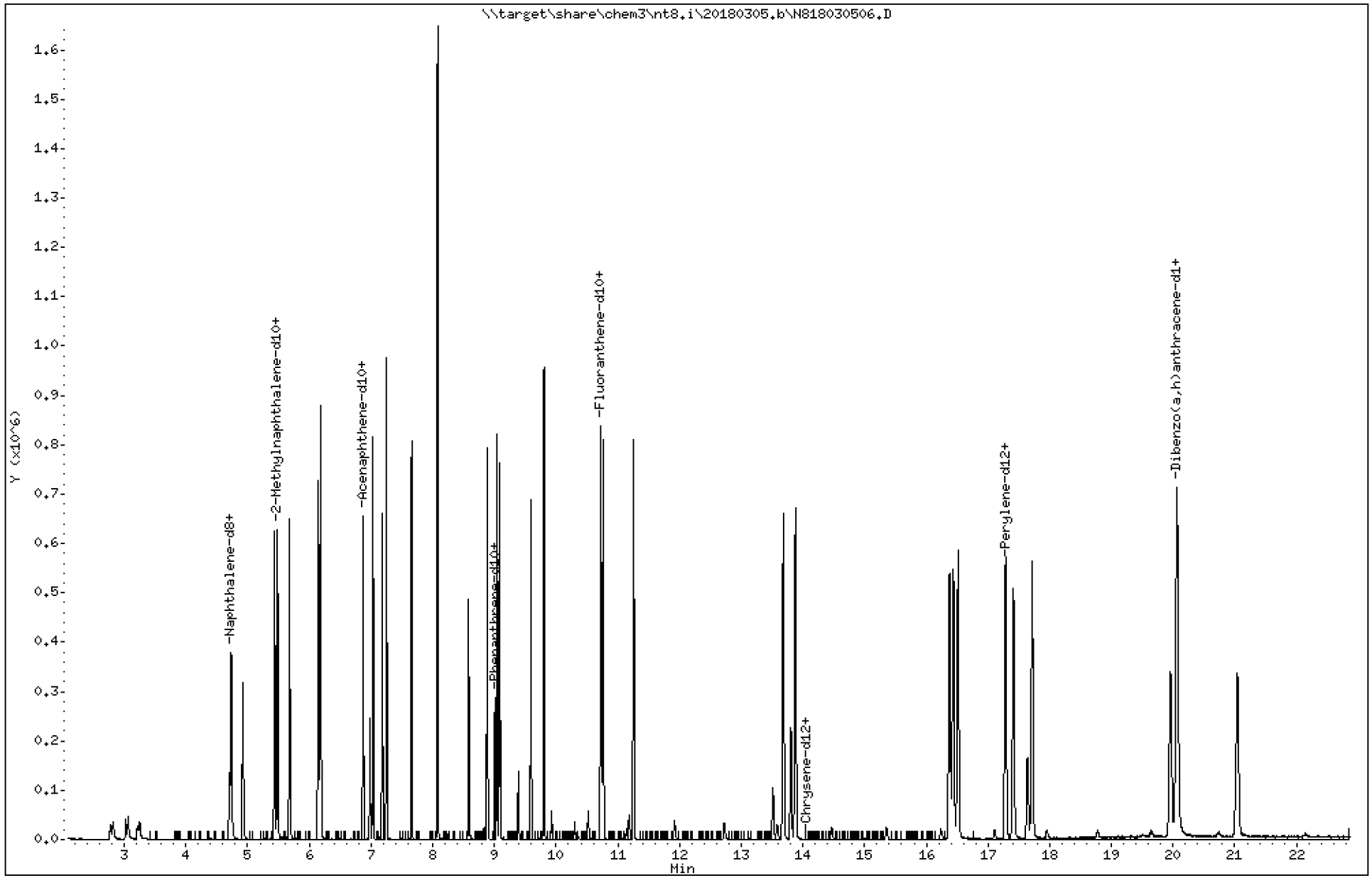
Instrument: nt8.i

Sample Info: IC5180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030506.D
Lab Smp Id: SGC0048-CAL5 Client Smp ID: IC5180305
Inj Date : 05-MAR-2018 12:18
Operator : JZ Inst ID: nt8.i
Smp Info : IC5180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.704	4.704	(1.000)	121880	2.00000	
	2 Naphthalene	128	4.733	4.733	(1.006)	353001	5.00000	4.984
$	3 2-Methylnaphthalene-d10	152	5.435	5.438	(1.155)	222600	5.00000	5.007
	4 2-Methylnaphthalene	141	5.482	5.485	(1.165)	198788	5.00000	4.983
	5 1-methylnaphthalene	141	5.678	5.678	(1.207)	203493	5.00000	4.955
	6 2-Chloronaphthalene	162	6.168	6.172	(1.311)	200924	5.00000	5.045
	7 Biphenyl	154	6.143	6.143	(0.880)	300193	5.00000	5.043
	8 2,6-Dimethylnaphthalene	156	6.184	6.187	(0.886)	221409	5.00000	5.158
	9 Acenaphthylene	152	6.870	6.874	(0.984)	347143	5.00000	5.476
*	10 Acenaphthene-d10	164	6.981	6.981	(1.000)	63854	2.00000	
	11 Acenaphthene	153	7.032	7.032	(1.007)	244185	5.00000	5.024
	12 Dibenzofuran	168	7.183	7.183	(1.029)	328938	5.00000	5.034
	13 1,6,7-Trimethylnaphthalene	170	7.250	7.253	(1.038)	217097	5.00000	5.144
	14 Fluorene	166	7.658	7.658	(1.097)	265797	5.00000	5.264
	18 Dibenzothiophene	184	8.884	8.885	(0.986)	360208	5.00000	5.054
*	15 Phenanthrene-d10	188	9.008	9.011	(1.000)	127662	2.00000	
	16 Phenanthrene	178	9.046	9.049	(1.004)	384614	5.00000	4.916
	17 Anthracene	178	9.087	9.087	(1.009)	375019	5.00000	5.260
	19 Carbazole	167	9.593	9.596	(1.065)	327310	5.00000	5.163
	20 1-Methylphenanthrene	192	9.805	9.805	(1.088)	306326	5.00000	5.163
	22 Fluoranthene	202	10.763	10.766	(1.195)	447945	5.00000	5.080
$	21 Fluoranthene-d10	212	10.725	10.728	(1.191)	440219	5.00000	5.267
	23 Pyrene	202	11.256	11.259	(0.815)	467834	5.00000	5.107
	24 Benzo(a)anthracene	228	13.678	13.684	(0.991)	464586	5.00000	5.245
*	25 Chrysene-d12	240	13.804	13.805	(1.000)	152445	2.00000	
	27 Chrysene	228	13.877	13.884	(1.005)	456931	5.00000	5.125
	28 Benzo(b)fluoranthene	252	16.378	16.385	(0.929)	453609	5.00000	5.224
	29 Benzo(k)fluoranthene	252	16.435	16.445	(0.932)	465755	5.00000	5.454
	30 Benzo(j)fluoranthene	252	16.511	16.524	(0.936)	437849	5.00000	5.121
	31 Total Benzofluoranthenes	252	16.511	16.524	(0.936)	1336249	15.0000	15.78(M)
	34 Benzo(e)pyrene	252	17.286	17.289	(0.980)	450947	5.00000	5.162
	32 Benzo(a)pyrene	252	17.412	17.419	(0.987)	411732	5.00000	5.410
*	33 Perylene-d12	264	17.637	17.640	(1.000)	136639	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.716	17.722	(1.004)	439146	5.00000	5.314
$	36 Dibenzo(a,h)anthracene-d14	292	19.961	19.970	(1.132)	356556	5.00000	5.571
	37 Indeno(1,2,3-cd)pyrene	276	20.068	20.084	(1.138)	479720	5.00000	5.505
	38 Dibenzo(a,h)anthracene	278	20.062	20.078	(1.138)	409267	5.00000	5.694
	39 Benzo(g,h,i)perylene	276	21.042	21.061	(1.193)	395751	5.00000	5.197

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030506.D
Lab Smp Id: SGC0048-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC5180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	121880	-0.25
10 Acenaphthene-d10	65789	32895	131578	63854	-2.94
15 Phenanthrene-d10	128644	64322	257288	127662	-0.76
25 Chrysene-d12	166669	83335	333338	152445	-8.53
33 Perylene-d12	140483	70242	280966	136639	-2.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.70	-0.07
10 Acenaphthene-d10	6.98	6.48	7.48	6.98	-0.00
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	-0.00
25 Chrysene-d12	13.80	13.30	14.30	13.80	0.02
33 Perylene-d12	17.64	17.14	18.14	17.64	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030506.D

Lab ID: SGC0048-CAL5
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 12:18

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

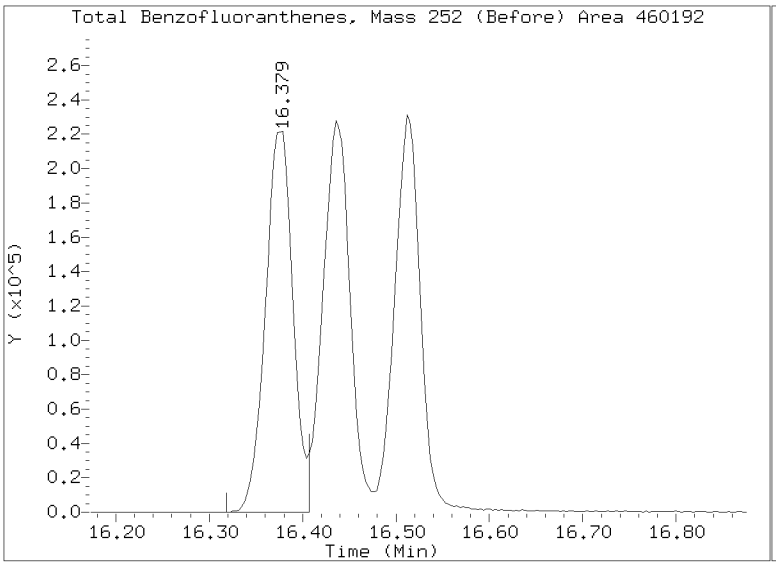
RRT	CCV RRT	DELTA	COMPOUND

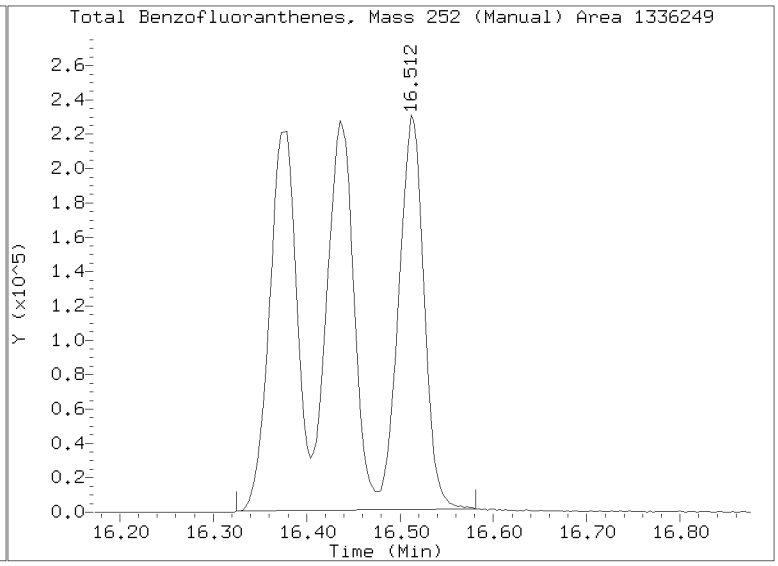
NONE

On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030506.D
Injection Date: 05-MAR-2018 12:18
Lab ID:SGC0048-CAL5 Client ID:IC5180305
Report Date: 03/05/2018 17:10





Data File: \\target\share\chem3\nt8.i\20180305.b\N818030507.D

Date : 05-MAR-2018 12:45

Client ID: IC10180305

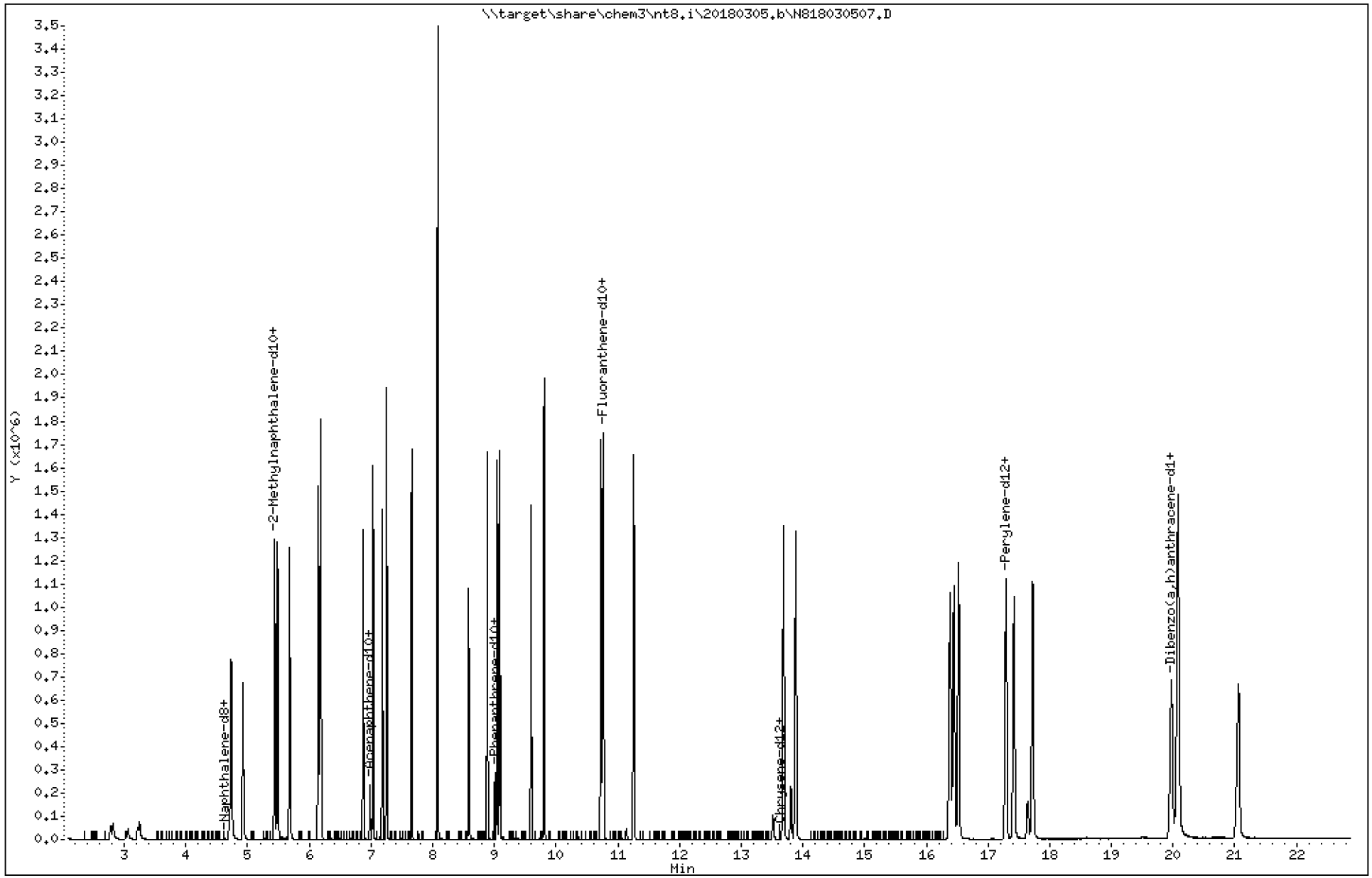
Instrument: nt8.i

Sample Info: IC10180305

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030507.D
Lab Smp Id: SGC0048-CAL6 Client Smp ID: IC10180305
Inj Date : 05-MAR-2018 12:45
Operator : JZ Inst ID: nt8.i
Smp Info : IC10180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.704	4.704	(1.000)	122998	2.00000	
	2 Naphthalene	128	4.733	4.733	(1.006)	735170	10.0000	10.28
$	3 2-Methylnaphthalene-d10	152	5.438	5.438	(1.156)	465135	10.0000	10.37
	4 2-Methylnaphthalene	141	5.485	5.485	(1.166)	410918	10.0000	10.21
	5 1-methylnaphthalene	141	5.678	5.678	(1.207)	422845	10.0000	10.20
	6 2-Chloronaphthalene	162	6.172	6.172	(1.312)	413005	10.0000	10.28
	7 Biphenyl	154	6.143	6.143	(0.880)	614146	10.0000	10.30
	8 2,6-Dimethylnaphthalene	156	6.187	6.187	(0.886)	452410	10.0000	10.52
	9 Acenaphthylene	152	6.874	6.874	(0.985)	724327	10.0000	11.40
*	10 Acenaphthene-d10	164	6.981	6.981	(1.000)	63968	2.00000	
	11 Acenaphthene	153	7.032	7.032	(1.007)	497555	10.0000	10.22
	12 Dibenzofuran	168	7.183	7.183	(1.029)	669306	10.0000	10.22
	13 1,6,7-Trimethylnaphthalene	170	7.253	7.253	(1.039)	450856	10.0000	10.66
	14 Fluorene	166	7.658	7.658	(1.097)	550849	10.0000	10.89
	18 Dibenzothiophene	184	8.885	8.885	(0.986)	738444	10.0000	10.41
*	15 Phenanthrene-d10	188	9.011	9.011	(1.000)	127011	2.00000	
	16 Phenanthrene	178	9.049	9.049	(1.004)	787529	10.0000	10.12
	17 Anthracene	178	9.087	9.087	(1.008)	768361	10.0000	10.83
	19 Carbazole	167	9.596	9.596	(1.065)	693675	10.0000	11.00
	20 1-Methylphenanthrene	192	9.805	9.805	(1.088)	637390	10.0000	10.80
	22 Fluoranthene	202	10.766	10.766	(1.195)	910133	10.0000	10.37
$	21 Fluoranthene-d10	212	10.728	10.728	(1.191)	920789	10.0000	11.07
	23 Pyrene	202	11.259	11.259	(0.816)	959733	10.0000	10.59
	24 Benzo(a)anthracene	228	13.684	13.684	(0.991)	964033	10.0000	11.00
*	25 Chrysene-d12	240	13.805	13.805	(1.000)	150793	2.00000	
	27 Chrysene	228	13.884	13.884	(1.006)	924453	10.0000	10.48
	28 Benzo(b)fluoranthene	252	16.385	16.385	(0.929)	950808	10.0000	10.86
	29 Benzo(k)fluoranthene	252	16.445	16.445	(0.932)	911439	10.0000	10.59
	30 Benzo(j)fluoranthene	252	16.524	16.524	(0.937)	902439	10.0000	10.47
	31 Total Benzofluoranthenes	252	16.524	16.524	(0.937)	2729361	30.0000	31.97(M)
	34 Benzo(e)pyrene	252	17.289	17.289	(0.980)	924946	10.0000	10.50
	32 Benzo(a)pyrene	252	17.419	17.419	(0.987)	857099	10.0000	11.17
*	33 Perylene-d12	264	17.640	17.640	(1.000)	137757	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.722	17.722	(1.005)	900280	10.0000	10.81
$	36 Dibenzo(a,h)anthracene-d14	292	19.970	19.970	(1.132)	787258	10.0000	12.20
	37 Indeno(1,2,3-cd)pyrene	276	20.084	20.084	(1.139)	1002076	10.0000	11.41
	38 Dibenzo(a,h)anthracene	278	20.078	20.078	(1.138)	867444	10.0000	11.97
	39 Benzo(g,h,i)perylene	276	21.061	21.061	(1.194)	851504	10.0000	11.09

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030507.D
Lab Smp Id: SGC0048-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: IC10180305
Level:
Sample Type:
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	122998	0.66
10 Acenaphthene-d10	65789	32895	131578	63968	-2.77
15 Phenanthrene-d10	128644	64322	257288	127011	-1.27
25 Chrysene-d12	166669	83335	333338	150793	-9.53
33 Perylene-d12	140483	70242	280966	137757	-1.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.70	-0.07
10 Acenaphthene-d10	6.98	6.48	7.48	6.98	-0.00
15 Phenanthrene-d10	9.01	8.51	9.51	9.01	0.03
25 Chrysene-d12	13.80	13.30	14.30	13.81	0.02
33 Perylene-d12	17.64	17.14	18.14	17.64	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030507.D

Lab ID: SGC0048-CAL6
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 12:45

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

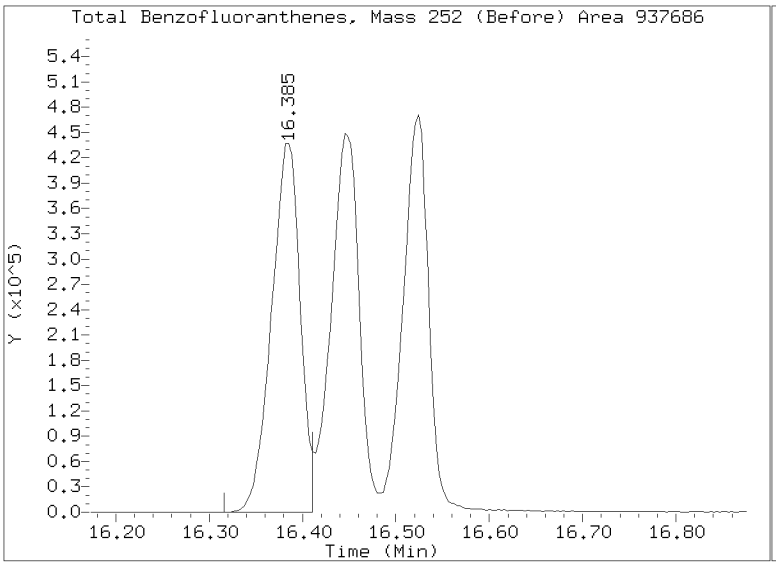
RRT CHECK

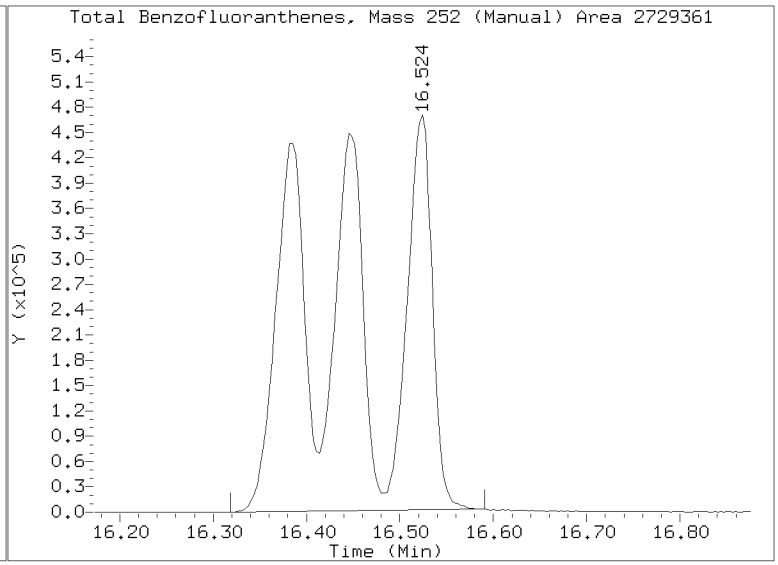
RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030507.D
Injection Date: 05-MAR-2018 12:45
Lab ID:SGC0048-CAL6 Client ID:IC10180305
Report Date: 03/05/2018 17:11





Data File: \\target\share\chem3\nt8.i\20180305.b\N818030508.D

Date : 05-MAR-2018 13:29

Client ID: SCV180305

Instrument: nt8.i

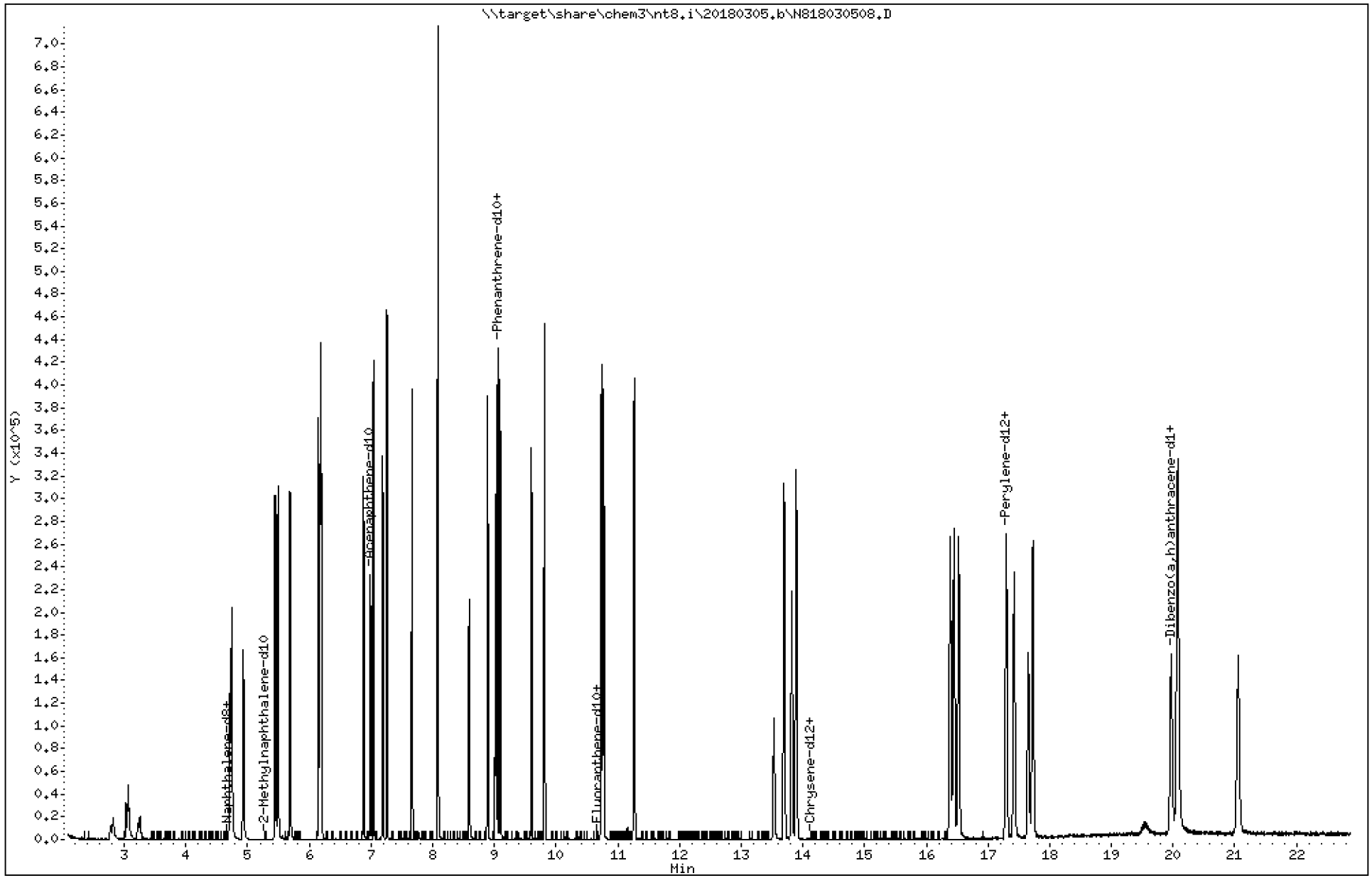
Sample Info: SCV180305

Volume Injected (uL): 1.0

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180305.b\N818030508.D
Lab Smp Id: SGC0048-SCV1 Client Smp ID: SCV180305
Inj Date : 05-MAR-2018 13:29
Operator : JZ Inst ID: nt8.i
Smp Info : SCV180305
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Meth Date : 05-Mar-2018 17:09 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Vo	500.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/L)
*	1 Naphthalene-d8	136	4.711	4.704	(1.000)	121767	2.00000	
	2 Naphthalene	128	4.742	4.733	(1.007)	180789	2.55474	2.555
$	3 2-Methylnaphthalene-d10	152	5.441	5.438	(1.155)	110243	2.48187	2.482
	4 2-Methylnaphthalene	141	5.489	5.485	(1.165)	101564	2.54810	2.548
	5 1-methylnaphthalene	141	5.685	5.678	(1.207)	104906	2.55693	2.557
	6 2-Chloronaphthalene	162	6.175	6.172	(1.311)	111241	2.79561	2.796
	7 Biphenyl	154	6.149	6.143	(0.880)	154726	2.55472	2.555
	8 2,6-Dimethylnaphthalene	156	6.191	6.187	(0.886)	110897	2.53940	2.539
	9 Acenaphthylene	152	6.880	6.874	(0.985)	173607	2.69147	2.691
*	10 Acenaphthene-d10	164	6.987	6.981	(1.000)	64967	2.00000	
	11 Acenaphthene	153	7.038	7.032	(1.007)	121321	2.45351	2.454
	12 Dibenzofuran	168	7.190	7.183	(1.029)	166205	2.49984	2.500
	13 1,6,7-Trimethylnaphthalene	170	7.256	7.253	(1.038)	108690	2.53102	2.531
	14 Fluorene	166	7.664	7.658	(1.097)	134707	2.62213	2.622
	18 Dibenzothiophene	184	8.891	8.885	(0.986)	181565	2.57632	2.576
*	15 Phenanthrene-d10	188	9.017	9.011	(1.000)	126225	2.00000	
	16 Phenanthrene	178	9.052	9.049	(1.004)	193041	2.49522	2.495
	17 Anthracene	178	9.093	9.087	(1.008)	187120	2.65459	2.655
	19 Carbazole	167	9.602	9.596	(1.065)	168033	2.68091	2.681
	20 1-Methylphenanthrene	192	9.811	9.805	(1.088)	153432	2.61552	2.616
	22 Fluoranthene	202	10.769	10.766	(1.194)	224737	2.57756	2.578
$	21 Fluoranthene-d10	212	10.734	10.728	(1.190)	217005	2.62603	2.626

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
	23 Pyrene	202	11.265	11.259	(0.815)	235842	2.68040	2.680
	24 Benzo(a)anthracene	228	13.694	13.684	(0.991)	227914	2.67920	2.679
*	25 Chrysene-d12	240	13.817	13.805	(1.000)	146413	2.00000	
	27 Chrysene	228	13.890	13.884	(1.005)	220194	2.57140	2.571
	28 Benzo(b)fluoranthene	252	16.388	16.385	(0.929)	218250	2.67367	2.674
	29 Benzo(k)fluoranthene	252	16.448	16.445	(0.932)	222047	2.76633	2.766
	30 Benzo(j)fluoranthene	252	16.524	16.524	(0.936)	209238	2.60339	2.603
	31 Total Benzofluoranthenes	252	16.448	16.524	(0.932)	630276	7.91707	7.917(M)
	34 Benzo(e)pyrene	252	17.295	17.289	(0.980)	216110	2.63188	2.632
	32 Benzo(a)pyrene	252	17.422	17.419	(0.987)	192683	2.69318	2.693
*	33 Perylene-d12	264	17.646	17.640	(1.000)	128443	2.00000	
	35 Perylene	252	17.725	17.722	(1.004)	206467	2.65775	2.658
$	36 Dibenzo(a,h)anthracene-d14	292	19.967	19.970	(1.132)	169132	2.81129	2.811
	37 Indeno(1,2,3-cd)pyrene	276	20.078	20.084	(1.138)	221500	2.70425	2.704
	38 Dibenzo(a,h)anthracene	278	20.065	20.078	(1.137)	188550	2.79062	2.791
	39 Benzo(g,h,i)perylene	276	21.055	21.061	(1.193)	186961	2.61167	2.612

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818030508.D
Lab Smp Id: SGC0048-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180305.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 05-MAR-2018
Calibration Time: 11:51
Client Smp ID: SCV180305
Level: LOW
Sample Type: WATER

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	121767	-0.35
10 Acenaphthene-d10	65789	32895	131578	64967	-1.25
15 Phenanthrene-d10	128644	64322	257288	126225	-1.88
25 Chrysene-d12	166669	83335	333338	146413	-12.15
33 Perylene-d12	140483	70242	280966	128443	-8.57

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.71	4.21	5.21	4.71	0.06
10 Acenaphthene-d10	6.98	6.48	7.48	6.99	0.09
15 Phenanthrene-d10	9.01	8.51	9.51	9.02	0.10
25 Chrysene-d12	13.80	13.30	14.30	13.82	0.11
33 Perylene-d12	17.64	17.14	18.14	17.65	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818030508.D

Lab ID: SGC0048-SCV1
nt8.i, 20180305.b\FSIMPNA180305.m,   05-MAR-2018 13:29

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

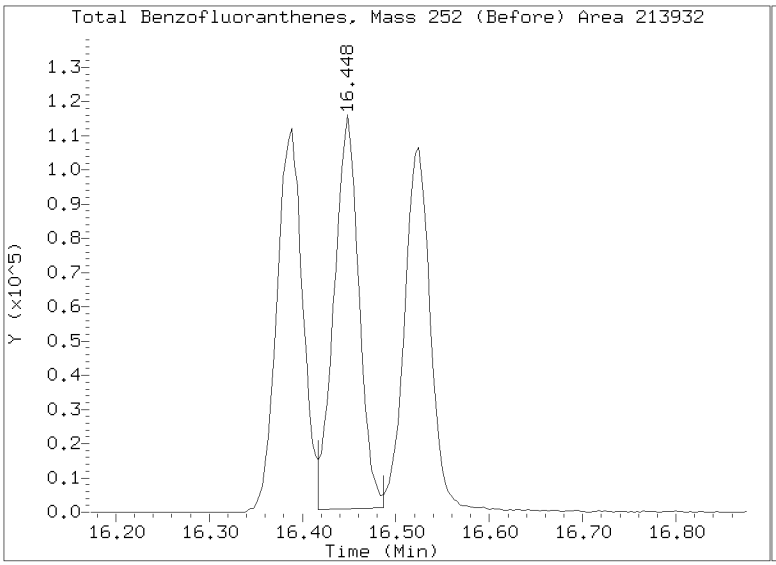
RRT CHECK

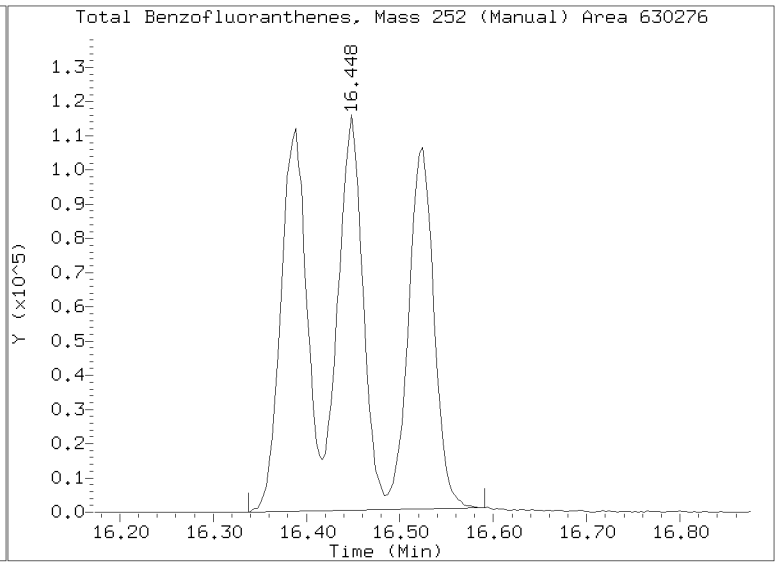
RRT	CCV RRT	DELTA	COMPOUND
NONE			

On Column LOD for nt8.i, 20180305.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180305.b/N818030508.D
Injection Date: 05-MAR-2018 13:29
Lab ID:SGC0048-SCV1 Client ID:SCV180305
Report Date: 03/05/2018 17:11





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Calibration: BC00011
Laboratory ID: SGC0048-SCV1
Sequence: SGC0048
Sequence Name: Secondary Cal Check
Standard ID: F010866

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.55	2.2	
2-Methylnaphthalene	2.5000	2.55	1.9	
1-Methylnaphthalene	2.5000	2.56	2.3	
Acenaphthylene	2.5000	2.69	7.7	
Acenaphthene	2.5000	2.45	-1.9	
Dibenzofuran	2.5000	2.50	-0.006	
Fluorene	2.5000	2.62	4.9	
Phenanthrene	2.5000	2.50	-0.2	
Anthracene	2.5000	2.65	6.2	
Fluoranthene	2.5000	2.58	3.1	
Pyrene	2.5000	2.68	7.2	
Benzo(a)anthracene	2.5000	2.68	7.2	
Chrysene	2.5000	2.57	2.9	
Benzo(b)fluoranthene	2.5000	2.67	6.9	
Benzo(k)fluoranthene	2.5000	2.77	10.7	
Benzo(j)fluoranthene	2.5000	2.60	4.1	
Benzo(a)pyrene	2.5000	2.69	7.7	
Indeno(1,2,3-cd)pyrene	2.5000	2.70	8.2	
Dibenzo(a,h)anthracene	2.5000	2.79	11.6	
Benzo(g,h,i)perylene	2.5000	2.61	4.5	
Benzofluoranthenes, Total	7.5000	7.92	5.6	
2-Methylnaphthalene-d10	2.5000	2.48	-0.7	
Dibenzo[a,h]anthracene-d14	2.5000	2.81	12.5	
Fluoranthene-d10	2.5000	2.63	5.0	

* Indicates values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Calibration: BC00011
Laboratory ID: SGC0048-SCV1
Sequence: SGC0048
Standard ID: F010866

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.55	2.2	
2-Methylnaphthalene	2.5000	2.55	1.9	
1-Methylnaphthalene	2.5000	2.56	2.3	
Acenaphthylene	2.5000	2.69	7.7	
Acenaphthene	2.5000	2.45	-1.9	
Dibenzofuran	2.5000	2.50	-0.006	
Fluorene	2.5000	2.62	4.9	
Phenanthrene	2.5000	2.50	-0.2	
Anthracene	2.5000	2.65	6.2	
Fluoranthene	2.5000	2.58	3.1	
Pyrene	2.5000	2.68	7.2	
Benzo(a)anthracene	2.5000	2.68	7.2	
Chrysene	2.5000	2.57	2.9	
Benzo(b)fluoranthene	2.5000	2.67	6.9	
Benzo(k)fluoranthene	2.5000	2.77	10.7	
Benzo(j)fluoranthene	2.5000	2.60	4.1	
Benzo(a)pyrene	2.5000	2.69	7.7	
Indeno(1,2,3-cd)pyrene	2.5000	2.70	8.2	
Dibenzo(a,h)anthracene	2.5000	2.79	11.6	
Benzo(g,h,i)perylene	2.5000	2.61	4.5	
Benzofluoranthenes, Total	7.5000	7.92	5.6	
2-Methylnaphthalene-d10	2.5000	2.48	-0.7	
Dibenzo[a,h]anthracene-d14	2.5000	2.81	12.5	
Fluoranthene-d10	2.5000	2.63	5.0	

* Values outside of QC limits

INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818060102.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0017	Injection Date:	06/01/18
Lab Sample ID:	SGF0017-ICV1	Injection Time:	14:50
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Naphthalene	A	2.5000	2.55	1.1623190	1.1855550		2.0	20
2-Methylnaphthalene	A	2.5000	2.52	0.6546729	0.6587612		0.6	20
1-Methylnaphthalene	A	2.5000	2.49	0.6738792	0.6708620		-0.4	20
Acenaphthylene	A	2.5000	2.59	1.9857080	2.0584200		3.7	20
Acenaphthene	A	2.5000	2.50	1.5222470	1.5231190		0.04	20
Dibenzofuran	A	2.5000	2.54	2.0467670	2.0800030		1.6	20
Fluorene	A	2.5000	2.65	1.5815140	1.6767950		6.0	20
Phenanthrene	A	2.5000	2.43	1.2258170	1.1907790		-2.8	20
Anthracene	A	2.5000	2.59	1.1168820	1.1560090		3.5	20
Fluoranthene	A	2.5000	2.51	1.3814980	1.3878290		0.4	20
Pyrene	A	2.5000	2.19	1.2019100	1.0540640		-12.3	20
Benzo(a)anthracene	A	2.5000	2.21	1.1620270	1.0257250		-11.7	20
Chrysene	A	2.5000	2.18	1.1697310	1.0205060		-12.8	20
Benzo(b)fluoranthene	A	2.5000	2.35	1.2710590	1.1964780		-5.9	20
Benzo(k)fluoranthene	A	2.5000	2.39	1.2498560	1.1928890		-4.6	20
Benzo(j)fluoranthene	A	2.5000	2.34	1.2514700	1.1691820		-6.6	20
Benzofluoranthenes, Total	A	7.5000	7.12	1.2396130	1.1768530		-5.1	20
Benzo(a)pyrene	A	2.5000	2.39	1.1140340	1.0637040		-4.5	20
Indeno(1,2,3-cd)pyrene	A	2.5000	2.41	1.2754020	1.2272350		-3.8	20
Dibenzo(a,h)anthracene	A	2.5000	2.44	1.0520730	1.0250130		-2.6	20
Benzo(g,h,i)perylene	A	2.5000	2.29	1.1146850	1.0219730		-8.3	20
2-Methylnaphthalene-d10	A	2.5000	2.48	0.7295784	0.7223634		-1.0	20
Dibenzo[a,h]anthracene-d14	A	2.5000	2.65	0.9367846	0.9932737		6.0	20
Fluoranthene-d10	A	2.5000	2.52	1.3093470	1.3198670		0.8	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180601.b\N818060102.D

Date : 01-JUN-2018 14:50

Client ID:

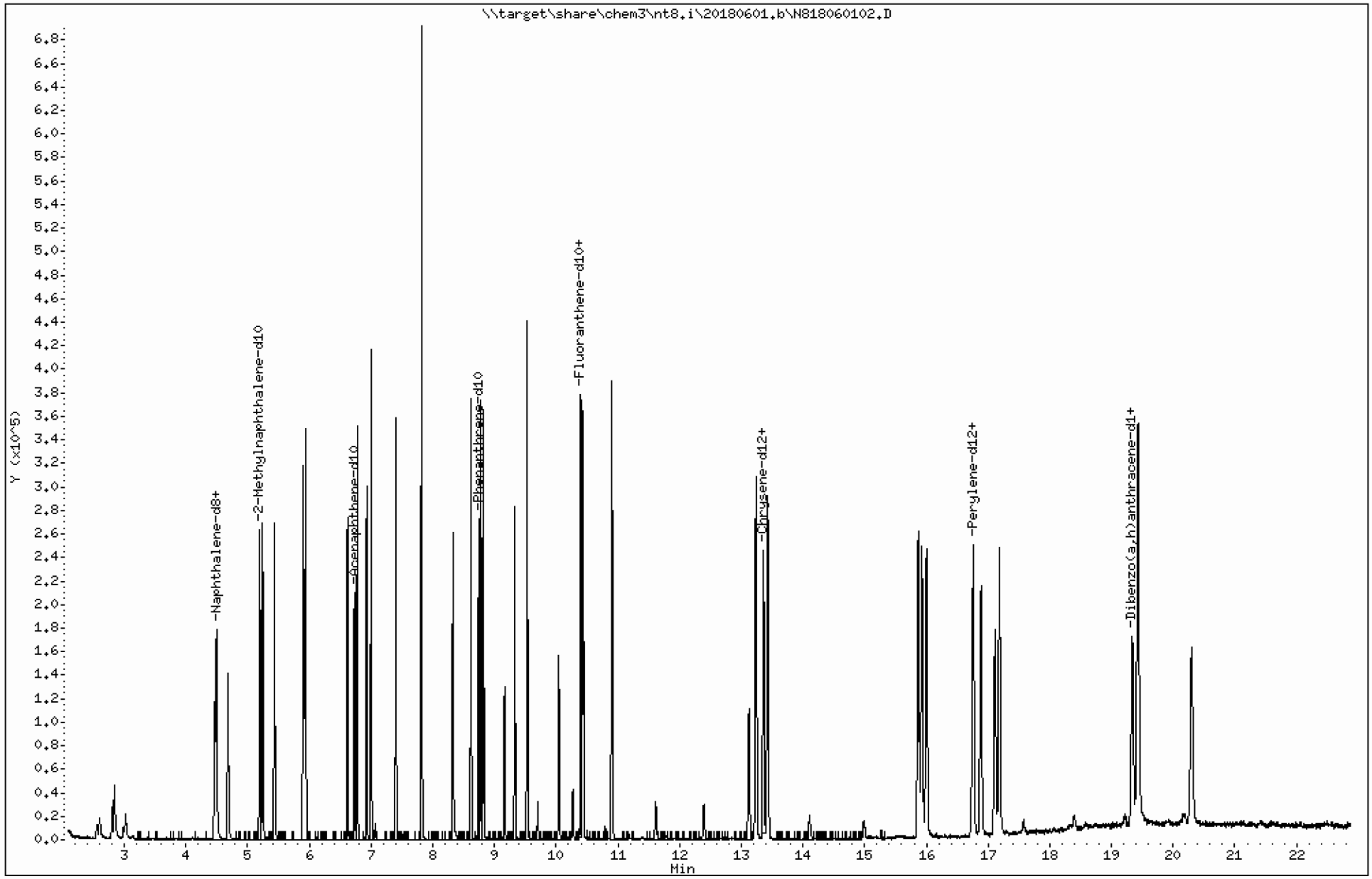
Instrument: nt8.i

Sample Info: ICV180601

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\N818060102.D
Lab Smp Id: SGF0017-ICV1
Inj Date : 01-JUN-2018 14:50
Operator : JZ Inst ID: nt8.i
Smp Info : ICV180601
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Meth Date : 01-Jun-2018 16:16 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.464	4.464	(1.000)	107166	2.00000	
	2 Naphthalene	128	4.492	4.492	(1.006)	158814	2.50000	2.550
$	3 2-Methylnaphthalene-d10	152	5.191	5.191	(1.163)	96766	2.50000	2.475
	4 2-Methylnaphthalene	141	5.242	5.242	(1.174)	88246	2.50000	2.516
	5 1-methylnaphthalene	141	5.432	5.432	(1.217)	89867	2.50000	2.489
	6 2-Chloronaphthalene	162	5.919	5.919	(1.326)	86451	2.50000	2.469
	7 Biphenyl	154	5.896	5.896	(0.876)	127811	2.50000	2.454
	8 2,6-Dimethylnaphthalene	156	5.941	5.941	(0.883)	93276	2.50000	2.484
	9 Acenaphthylene	152	6.617	6.617	(0.984)	143724	2.50000	2.592
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	55858	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.007)	106348	2.50000	2.501
	12 Dibenzofuran	168	6.927	6.927	(1.030)	145231	2.50000	2.541
	13 1,6,7-Trimethylnaphthalene	170	7.000	7.000	(1.040)	93964	2.50000	2.545
	14 Fluorene	166	7.402	7.402	(1.100)	117078	2.50000	2.651
	18 Dibenzothiophene	184	8.619	8.619	(0.986)	159706	2.50000	2.463
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	116125	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	172849	2.50000	2.429
	17 Anthracene	178	8.821	8.821	(1.009)	167802	2.50000	2.588
	19 Carbazole	167	9.330	9.330	(1.067)	148755	2.50000	2.580
	20 1-Methylphenanthrene	192	9.530	9.530	(1.090)	135405	2.50000	2.509
	22 Fluoranthene	202	10.434	10.434	(1.193)	201452	2.50000	2.511
$	21 Fluoranthene-d10	212	10.402	10.402	(1.189)	191587	2.50000	2.520
	23 Pyrene	202	10.902	10.902	(0.816)	206615	2.50000	2.192
	24 Benzo(a)anthracene	228	13.239	13.239	(0.991)	201060	2.50000	2.207
*	25 Chrysene-d12	240	13.356	13.356	(1.000)	156814	2.00000	
	27 Chrysene	228	13.425	13.425	(1.005)	200037	2.50000	2.181
	28 Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	196025	2.50000	2.353
	29 Benzo(k)fluoranthene	252	15.926	15.926	(0.931)	195437	2.50000	2.386
	30 Benzo(j)fluoranthene	252	16.002	16.002	(0.935)	191553	2.50000	2.336
	31 Total Benzofluoranthenes	252	15.926	15.926	(0.931)	578429	7.50000	7.120(M)
	34 Benzo(e)pyrene	252	16.755	16.755	(0.979)	192488	2.50000	2.297
	32 Benzo(a)pyrene	252	16.884	16.884	(0.987)	174272	2.50000	2.387
*	33 Perylene-d12	264	17.112	17.112	(1.000)	131068	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.181	17.181	(1.004)	186907	2.50000	2.358
$	36 Dibenzo(a,h)anthracene-d14	292	19.338	19.338	(1.130)	162733	2.50000	2.651
	37 Indeno(1,2,3-cd)pyrene	276	19.430	19.430	(1.135)	201064	2.50000	2.406
	38 Dibenzo(a,h)anthracene	278	19.430	19.430	(1.135)	167933	2.50000	2.436
	39 Benzo(g,h,i)perylene	276	20.299	20.299	(1.186)	167435	2.50000	2.292

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060102.D
Lab Smp Id: SGF0017-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 30-MAY-2018
Calibration Time: 10:43
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	107166	-12.30
10 Acenaphthene-d10	65789	32895	131578	55858	-15.10
15 Phenanthrene-d10	128644	64322	257288	116125	-9.73
25 Chrysene-d12	166669	83335	333338	156814	-5.91
33 Perylene-d12	140483	70242	280966	131068	-6.70

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.00
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060102.D

Lab ID: SGF0017-ICV1
nt8.i, 20180601.b\FSIMPNA180305.m,   01-JUN-2018 14:50

RT	CO-ELUTION COMPOUNDS
19.430	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
19.430	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

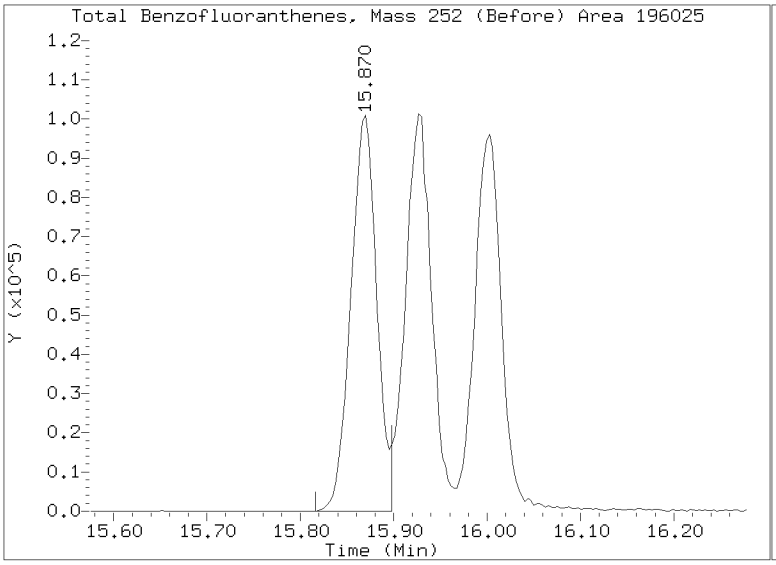
Quant Method: ICAL

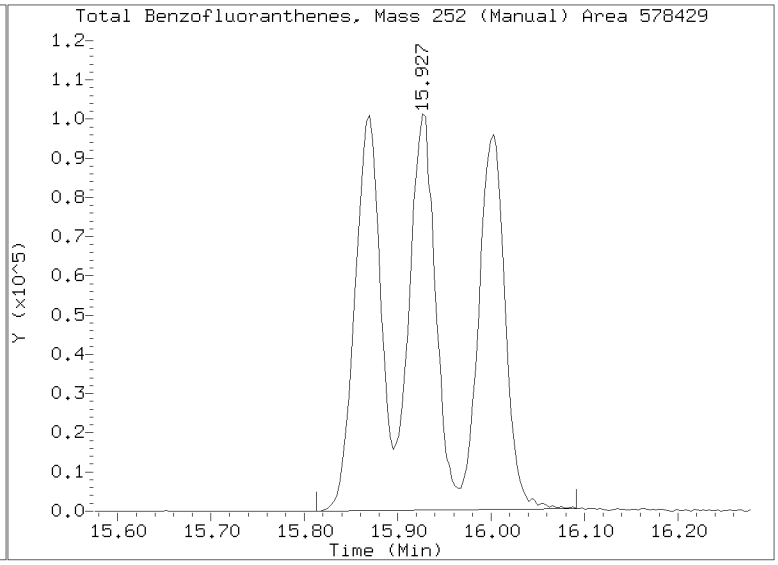
On Column LOD for nt8.i, 20180601.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/N818060102.D
Injection Date: 01-JUN-2018 14:50
Lab ID:SGF0017-ICV1 Client ID:
Report Date: 06/01/2018 16:16





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b

Instrument: nt8.i Date: 01-JUN-2018 Method: 20180601.b\FSIMPNA180305.m

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: N818060102.D 01-JUN-2018 14:50

Compound	%D
NO Q-FLAGS	

INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818060402.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0027	Injection Date:	06/04/18
Lab Sample ID:	SGF0027-ICV1	Injection Time:	10:34
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Naphthalene	A	2.5000	2.52	1.1623190	1.1698060		0.6	20
2-Methylnaphthalene	A	2.5000	2.52	0.6546729	0.6608091		0.9	20
1-Methylnaphthalene	A	2.5000	2.51	0.6738792	0.6753406		0.2	20
Acenaphthylene	A	2.5000	2.62	1.9857080	2.0812930		4.8	20
Acenaphthene	A	2.5000	2.37	1.5222470	1.4451460		-5.1	20
Dibenzofuran	A	2.5000	2.40	2.0467670	1.9653880		-4.0	20
Fluorene	A	2.5000	2.57	1.5815140	1.6231180		2.6	20
Phenanthrene	A	2.5000	2.33	1.2258170	1.1428560		-6.8	20
Anthracene	A	2.5000	2.49	1.1168820	1.1128110		-0.4	20
Fluoranthene	A	2.5000	2.31	1.3814980	1.2751810		-7.7	20
Pyrene	A	2.5000	2.29	1.2019100	1.1015160		-8.4	20
Benzo(a)anthracene	A	2.5000	2.28	1.1620270	1.0574870		-9.0	20
Chrysene	A	2.5000	2.19	1.1697310	1.0264380		-12.2	20
Benzo(b)fluoranthene	A	2.5000	2.31	1.2710590	1.1747320		-7.6	20
Benzo(k)fluoranthene	A	2.5000	2.29	1.2498560	1.1445020		-8.4	20
Benzo(j)fluoranthene	A	2.5000	2.22	1.2514700	1.1125330		-11.1	20
Benzofluoranthenes, Total	A	7.5000	6.95	1.2396130	1.1480530		-7.4	20
Benzo(a)pyrene	A	2.5000	2.32	1.1140340	1.0355640		-7.0	20
Indeno(1,2,3-cd)pyrene	A	2.5000	2.13	1.2754020	1.0840430		-15.0	20
Dibenzo(a,h)anthracene	A	2.5000	2.16	1.0520730	0.9101956		-13.5	20
Benzo(g,h,i)perylene	A	2.5000	2.13	1.1146850	0.9516799		-14.6	20
2-Methylnaphthalene-d10	A	2.5000	2.48	0.7295784	0.7233741		-0.8	20
Dibenzo[a,h]anthracene-d14	A	2.5000	2.32	0.9367846	0.8694681		-7.2	20
Fluoranthene-d10	A	2.5000	2.38	1.3093470	1.2464120		-4.8	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180604.b\N818060402.D

Date : 04-JUN-2018 10:34

Client ID:

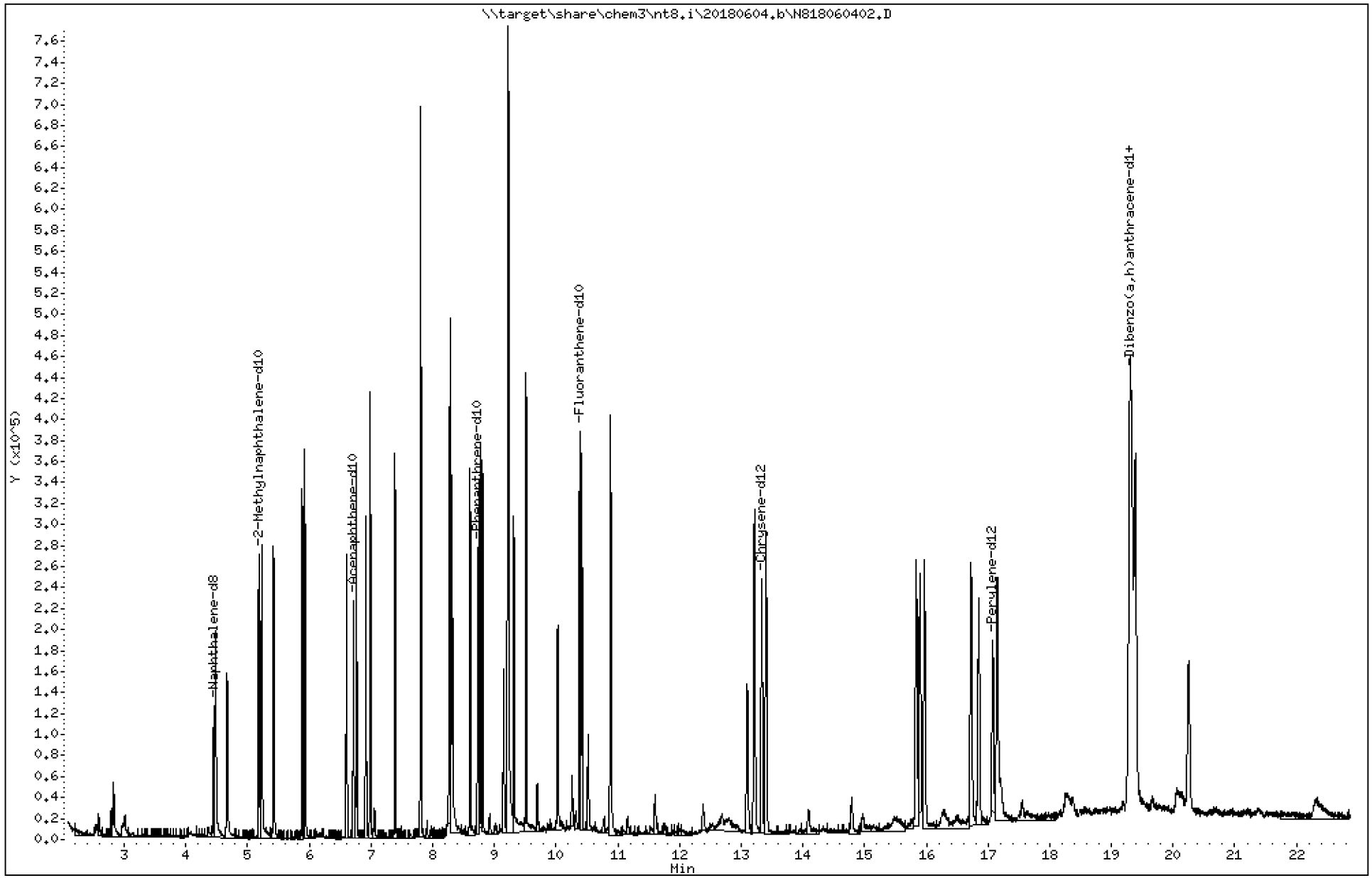
Instrument: nt8.i

Sample Info: ICV180604

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180604.b\N818060402.D
Lab Smp Id: SGF0027-ICV1
Inj Date : 04-JUN-2018 10:34
Operator : JZ Inst ID: nt8.i
Smp Info : ICV180604
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180604.b\FSIMPNA180305.m
Meth Date : 04-Jun-2018 13:06 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1	Naphthalene-d8	136	4.451	4.451	(1.000)	113904	2.00000	
	2	Naphthalene	128	4.480	4.480	(1.006)	166557	2.50000	2.516
$	3	2-Methylnaphthalene-d10	152	5.179	5.179	(1.163)	102994	2.50000	2.479
	4	2-Methylnaphthalene	141	5.226	5.226	(1.174)	94086	2.50000	2.523
	5	1-methylnaphthalene	141	5.419	5.419	(1.217)	96155	2.50000	2.505
	6	2-Chloronaphthalene	162	5.906	5.906	(1.327)	91858	2.50000	2.468
	7	Biphenyl	154	5.884	5.884	(0.876)	135940	2.50000	2.381
	8	2,6-Dimethylnaphthalene	156	5.925	5.925	(0.882)	101139	2.50000	2.456
	9	Acenaphthylene	152	6.602	6.602	(0.983)	159349	2.50000	2.620
*	10	Acenaphthene-d10	164	6.715	6.715	(1.000)	61250	2.00000	
	11	Acenaphthene	153	6.763	6.763	(1.007)	110644	2.50000	2.373
	12	Dibenzofuran	168	6.915	6.915	(1.030)	150475	2.50000	2.401
	13	1,6,7-Trimethylnaphthalene	170	6.987	6.987	(1.040)	96893	2.50000	2.393
	14	Fluorene	166	7.389	7.389	(1.100)	124270	2.50000	2.566
	18	Dibenzothiophene	184	8.606	8.606	(0.986)	159932	2.50000	2.355
*	15	Phenanthrene-d10	188	8.730	8.730	(1.000)	121658	2.00000	
	16	Phenanthrene	178	8.767	8.767	(1.004)	173797	2.50000	2.331
	17	Anthracene	178	8.805	8.805	(1.009)	169228	2.50000	2.491
	19	Carbazole	167	9.314	9.314	(1.067)	145173	2.50000	2.403
	20	1-Methylphenanthrene	192	9.514	9.514	(1.090)	131608	2.50000	2.328
	22	Fluoranthene	202	10.418	10.418	(1.193)	193920	2.50000	2.308
$	21	Fluoranthene-d10	212	10.383	10.383	(1.189)	189545	2.50000	2.380
	23	Pyrene	202	10.883	10.883	(0.816)	204272	2.50000	2.291
	24	Benzo(a)anthracene	228	13.210	13.210	(0.991)	196107	2.50000	2.275
*	25	Chrysene-d12	240	13.333	13.333	(1.000)	148357	2.00000	
	27	Chrysene	228	13.400	13.400	(1.005)	190349	2.50000	2.194
	28	Benzo(b)fluoranthene	252	15.834	15.834	(0.927)	192474	2.50000	2.311
	29	Benzo(k)fluoranthene	252	15.895	15.895	(0.931)	187521	2.50000	2.289
	30	Benzo(j)fluoranthene	252	15.967	15.967	(0.935)	182283	2.50000	2.222
	31	Total Benzofluoranthenes	252	15.895	15.895	(0.931)	564308	7.50000	6.946(M)
	34	Benzo(e)pyrene	252	16.723	16.723	(0.979)	186998	2.50000	2.232
	32	Benzo(a)pyrene	252	16.849	16.849	(0.987)	169672	2.50000	2.324
*	33	Perylene-d12	264	17.077	17.077	(1.000)	131076	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.150	17.150	(1.004)	176497	2.50000	2.226
$	36 Dibenzo(a,h)anthracene-d14	292	19.300	19.300	(1.130)	142458	2.50000	2.320
	37 Indeno(1,2,3-cd)pyrene	276	19.392	19.392	(1.136)	177615	2.50000	2.125
	38 Dibenzo(a,h)anthracene	278	19.389	19.389	(1.135)	149131	2.50000	2.163
	39 Benzo(g,h,i)perylene	276	20.249	20.249	(1.186)	155928	2.50000	2.134

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060402.D
Lab Smp Id: SGF0027-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180604.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 01-JUN-2018
Calibration Time: 14:50
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	113904	-6.78
10 Acenaphthene-d10	65789	32895	131578	61250	-6.90
15 Phenanthrene-d10	128644	64322	257288	121658	-5.43
25 Chrysene-d12	166669	83335	333338	148357	-10.99
33 Perylene-d12	140483	70242	280966	131076	-6.70

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.45	3.95	4.95	4.45	0.00
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	0.00
15 Phenanthrene-d10	8.73	8.23	9.23	8.73	0.00
25 Chrysene-d12	13.33	12.83	13.83	13.33	0.00
33 Perylene-d12	17.08	16.58	17.58	17.08	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060402.D

Lab ID: SGF0027-ICV1
nt8.i, 20180604.b\FSIMPNA180305.m,   04-JUN-2018 10:34

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

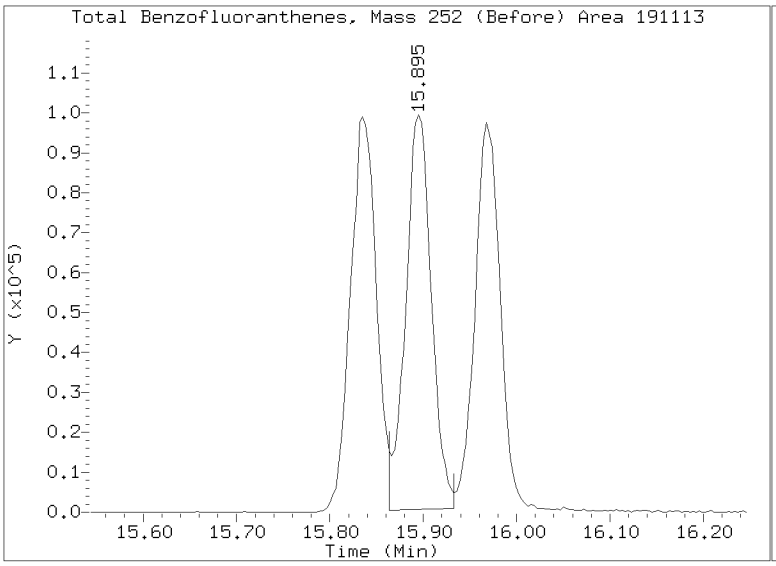
Quant Method: ICAL

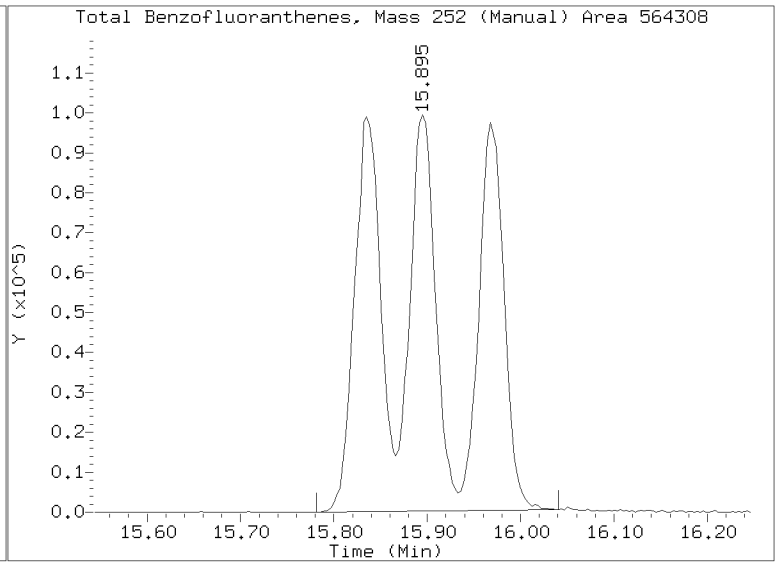
On Column LOD for nt8.i, 20180604.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180604.b/N818060402.D
Injection Date: 04-JUN-2018 10:34
Lab ID:SGF0027-ICV1 Client ID:
Report Date: 06/04/2018 13:06





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180604.b

Instrument: nt8.i Date: 04-JUN-2018 Method: 20180604.b\FSIMPNA180305.m

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: N818060402.D 04-JUN-2018 10:34

Compound	%D
NO Q-FLAGS	

INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818061202.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0149	Injection Date:	06/12/18
Lab Sample ID:	SGF0149-ICV1	Injection Time:	14:49
Sequence Name:	Initial Cal Verification		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzo(a)anthracene	A	2.5000	2.23	1.1620270	1.0345550		-11.0	20
Chrysene	A	2.5000	2.23	1.1697310	1.0442210		-10.7	20
Benzo(b)fluoranthene	A	2.5000	2.33	1.2710590	1.1849880		-6.8	20
Benzo(k)fluoranthene	A	2.5000	2.41	1.2498560	1.2022430		-3.8	20
Benzo(a)pyrene	A	2.5000	2.33	1.1140340	1.0395770		-6.7	20
Indeno(1,2,3-cd)pyrene	A	2.5000	2.55	1.2754020	1.2985990		1.8	20
Dibenzo(a,h)anthracene	A	2.5000	2.53	1.0520730	1.0633110		1.1	20
2-Methylnaphthalene-d10	A	2.5000	2.43	0.7295784	0.7099465		-2.7	20
Dibenzo[a,h]anthracene-d14	A	2.5000	2.69	0.9367846	1.0083730		7.6	20
Fluoranthene-d10	A	2.5000	2.49	1.3093470	1.3048820		-0.4	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180612.b\N818061202.D

Date : 12-JUN-2018 14:49

Client ID:

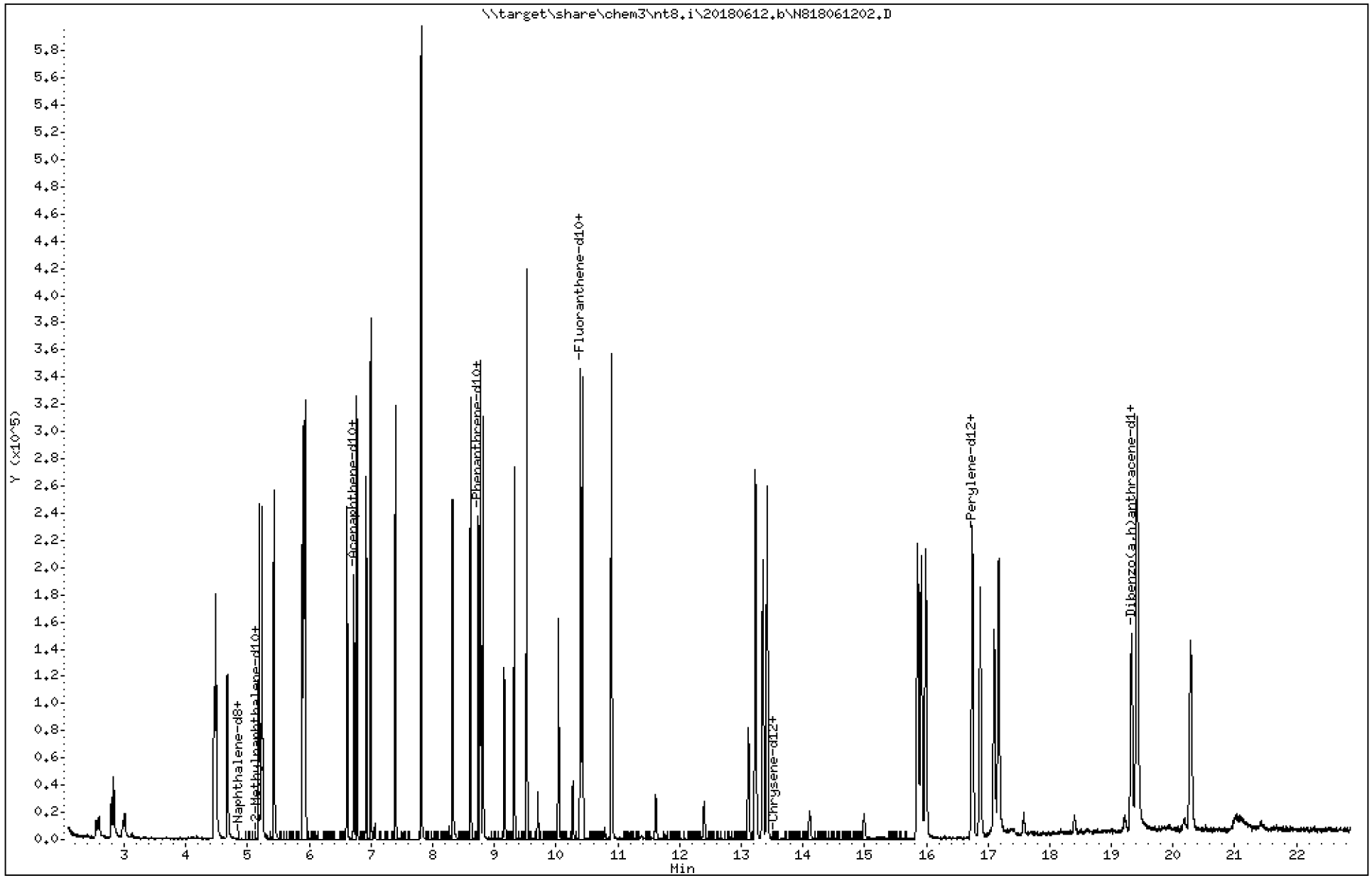
Instrument: nt8.i

Sample Info: ICV180612

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\N818061202.D
Lab Smp Id: SGF0149-ICV1
Inj Date : 12-JUN-2018 14:49
Operator : JZ Inst ID: nt8.i
Smp Info : ICV180612
Misc Info : 18-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Meth Date : 12-Jun-2018 16:11 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.455	(1.000)	104720	2.00000	
	2 Naphthalene	128	4.483	4.483	(1.006)	153965	2.50000	2.530
$	3 2-Methylnaphthalene-d10	152	5.185	5.185	(1.164)	92932	2.50000	2.433
	4 2-Methylnaphthalene	141	5.233	5.233	(1.175)	85293	2.50000	2.488
	5 1-methylnaphthalene	141	5.425	5.425	(1.218)	88566	2.50000	2.510
	6 2-Chloronaphthalene	162	5.912	5.912	(1.327)	83018	2.50000	2.426
	7 Biphenyl	154	5.890	5.890	(0.876)	124428	2.50000	2.453
	8 2,6-Dimethylnaphthalene	156	5.931	5.931	(0.882)	91229	2.50000	2.495
	9 Acenaphthylene	152	6.611	6.611	(0.984)	135966	2.50000	2.517
*	10 Acenaphthene-d10	164	6.722	6.722	(1.000)	54402	2.00000	
	11 Acenaphthene	153	6.769	6.769	(1.007)	100253	2.50000	2.421
	12 Dibenzofuran	168	6.921	6.921	(1.030)	134944	2.50000	2.424
	13 1,6,7-Trimethylnaphthalene	170	6.994	6.994	(1.040)	88403	2.50000	2.458
	14 Fluorene	166	7.395	7.395	(1.100)	104792	2.50000	2.436
	18 Dibenzothiophene	184	8.613	8.613	(0.986)	143459	2.50000	2.406
*	15 Phenanthrene-d10	188	8.739	8.739	(1.000)	106802	2.00000	
	16 Phenanthrene	178	8.774	8.774	(1.004)	160348	2.50000	2.450
	17 Anthracene	178	8.815	8.815	(1.009)	148060	2.50000	2.482
	19 Carbazole	167	9.324	9.324	(1.067)	133740	2.50000	2.522
	20 1-Methylphenanthrene	192	9.523	9.523	(1.090)	122157	2.50000	2.461
	22 Fluoranthene	202	10.428	10.428	(1.193)	178499	2.50000	2.420
$	21 Fluoranthene-d10	212	10.396	10.396	(1.190)	174205	2.50000	2.491
	23 Pyrene	202	10.896	10.896	(0.816)	189212	2.50000	2.325
	24 Benzo(a)anthracene	228	13.226	13.226	(0.991)	175101	2.50000	2.226
*	25 Chrysene-d12	240	13.349	13.349	(1.000)	135402	2.00000	
	27 Chrysene	228	13.419	13.419	(1.005)	176737	2.50000	2.232
	28 Benzo(b)fluoranthene	252	15.860	15.860	(0.927)	168803	2.50000	2.331
	29 Benzo(k)fluoranthene	252	15.917	15.917	(0.931)	171261	2.50000	2.405
	30 Benzo(j)fluoranthene	252	15.990	15.990	(0.935)	161771	2.50000	2.269
	31 Total Benzofluoranthenes	252	15.860	15.860	(0.927)	493875	7.50000	6.992(M)
	34 Benzo(e)pyrene	252	16.748	16.748	(0.979)	167738	2.50000	2.302
	32 Benzo(a)pyrene	252	16.872	16.872	(0.987)	148089	2.50000	2.333
*	33 Perylene-d12	264	17.099	17.099	(1.000)	113961	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.175	17.175	(1.004)	156935	2.50000	2.277
$	36 Dibenzo(a,h)anthracene-d14	292	19.325	19.325	(1.130)	143644	2.50000	2.691
	37 Indeno(1,2,3-cd)pyrene	276	19.420	19.420	(1.136)	184987	2.50000	2.545
	38 Dibenzo(a,h)anthracene	278	19.417	19.417	(1.136)	151470	2.50000	2.527
	39 Benzo(g,h,i)perylene	276	20.284	20.284	(1.186)	155674	2.50000	2.451

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061202.D
Lab Smp Id: SGF0149-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\FSIMPNA180305.m
Misc Info: 18-

Calibration Date: 11-JUN-2018
Calibration Time: 16:46
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	104720	-14.30
10 Acenaphthene-d10	65789	32895	131578	54402	-17.31
15 Phenanthrene-d10	128644	64322	257288	106802	-16.98
25 Chrysene-d12	166669	83335	333338	135402	-18.76
33 Perylene-d12	140483	70242	280966	113961	-18.88

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	0.00
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	0.00
25 Chrysene-d12	13.35	12.85	13.85	13.35	0.00
33 Perylene-d12	17.10	16.60	17.60	17.10	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061202.D

Lab ID: SGF0149-ICV1
nt8.i, 20180612.b\FSIMPNA180305.m,   12-JUN-2018 14:49

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

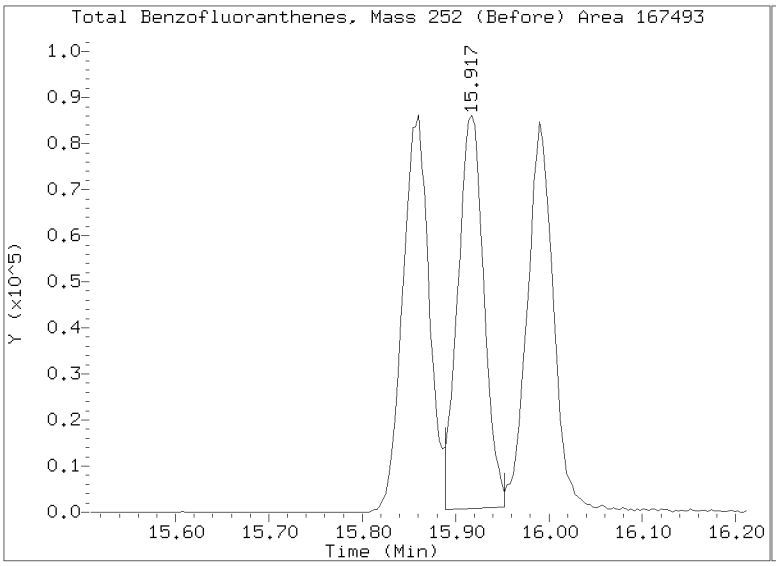
Quant Method: ICAL

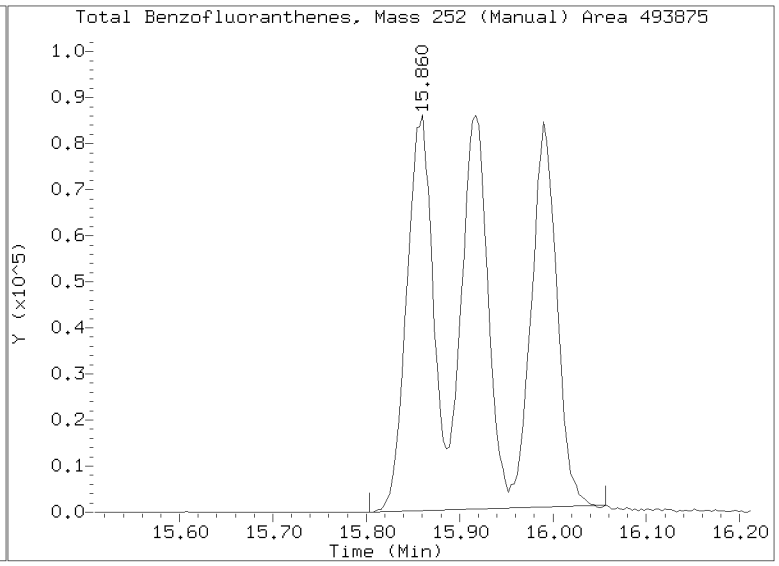
On Column LOD for nt8.i, 20180612.b\FSIMPNA180305.m, FSIMPNAICL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/N818061202.D
Injection Date: 12-JUN-2018 14:49
Lab ID:SGF0149-ICV1 Client ID:
Report Date: 06/12/2018 16:11





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b

Instrument: nt8.i Date: 12-JUN-2018 Method: 20180612.b\FSIMPNA180305.m

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: N818061202.D 12-JUN-2018 14:49

Compound	%D
NO Q-FLAGS	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818030508.D	Calibration Date:	03/05/18 10:05
Sequence:	SGC0048	Injection Date:	03/05/18
Lab Sample ID:	SGC0048-SCV1	Injection Time:	13:29
Sequence Name:	Secondary Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	2.5000	2.55	1.1623190	1.1877700		2.2	
2-Methylnaphthalene	A	2.5000	2.55	0.6546729	0.6672678		1.9	
1-Methylnaphthalene	A	2.5000	2.56	0.6738792	0.6892245		2.3	
Acenaphthylene	A	2.5000	2.69	1.9857080	2.1377870		7.7	
Acenaphthene	A	2.5000	2.45	1.5222470	1.4939400		-1.9	
Dibenzofuran	A	2.5000	2.50	2.0467670	2.0466390		-0.006	
Fluorene	A	2.5000	2.62	1.5815140	1.6587740		4.9	
Phenanthrene	A	2.5000	2.50	1.2258170	1.2234720		-0.2	
Anthracene	A	2.5000	2.65	1.1168820	1.1859460		6.2	
Fluoranthene	A	2.5000	2.58	1.3814980	1.4243580		3.1	
Pyrene	A	2.5000	2.68	1.2019100	1.2886400		7.2	
Benzo(a)anthracene	A	2.5000	2.68	1.1620270	1.2453210		7.2	
Chrysene	A	2.5000	2.57	1.1697310	1.2031390		2.9	
Benzo(b)fluoranthene	A	2.5000	2.67	1.2710590	1.3593580		6.9	
Benzo(k)fluoranthene	A	2.5000	2.77	1.2498560	1.3830070		10.7	
Benzo(j)fluoranthene	A	2.5000	2.60	1.2514700	1.3032270		4.1	
Benzofluoranthenes, Total	A	7.5000	7.92	1.2396130	1.3085460		5.6	
Benzo(a)pyrene	A	2.5000	2.69	1.1140340	1.2001150		7.7	
Indeno(1,2,3-cd)pyrene	A	2.5000	2.70	1.2754020	1.3796000		8.2	
Dibenzo(a,h)anthracene	A	2.5000	2.79	1.0520730	1.1743730		11.6	
Benzo(g,h,i)perylene	A	2.5000	2.61	1.1146850	1.1644760		4.5	
2-Methylnaphthalene-d10	A	2.5000	2.48	0.7295784	0.7242882		-0.7	
Dibenzo[a,h]anthracene-d14	A	2.5000	2.81	0.9367846	1.0534290		12.5	
Fluoranthene-d10	A	2.5000	2.63	1.3093470	1.3753540		5.0	

* Values outside of QC limits

CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818060128.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0017	Injection Date:	06/02/18
Lab Sample ID:	SGF0017-CCV1	Injection Time:	02:27
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	2.5000	2.49	1.1623190	1.1578320		-0.4	50
2-Methylnaphthalene	A	2.5000	2.43	0.6546729	0.6364975		-2.8	50
1-Methylnaphthalene	A	2.5000	2.48	0.6738792	0.6678778		-0.9	50
Acenaphthylene	A	2.5000	2.70	1.9857080	2.1420230		7.9	50
Acenaphthene	A	2.5000	2.39	1.5222470	1.4532040		-4.5	50
Dibenzofuran	A	2.5000	2.47	2.0467670	2.0193020		-1.4	50
Fluorene	A	2.5000	2.56	1.5815140	1.6186690		2.4	50
Phenanthrene	A	2.5000	2.34	1.2258170	1.1455080		-6.6	50
Anthracene	A	2.5000	2.51	1.1168820	1.1222980		0.5	50
Fluoranthene	A	2.5000	2.39	1.3814980	1.3225480		-4.3	50
Pyrene	A	2.5000	2.36	1.2019100	1.1353870		-5.5	50
Benzo(a)anthracene	A	2.5000	2.26	1.1620270	1.0525180		-9.4	50
Chrysene	A	2.5000	2.15	1.1697310	1.0055990		-14.0	50
Benzo(b)fluoranthene	A	2.5000	2.34	1.2710590	1.1883480		-6.5	50
Benzo(k)fluoranthene	A	2.5000	2.39	1.2498560	1.1939410		-4.5	50
Benzo(j)fluoranthene	A	2.5000	2.27	1.2514700	1.1354810		-9.3	50
Benzofluoranthenes, Total	A	7.5000	7.05	1.2396130	1.1649890		-6.0	50
Benzo(a)pyrene	A	2.5000	2.43	1.1140340	1.0841040		-2.7	50
Indeno(1,2,3-cd)pyrene	A	2.5000	2.45	1.2754020	1.2497430		-2.0	50
Dibenzo(a,h)anthracene	A	2.5000	2.58	1.0520730	1.0862580		3.2	50
Benzo(g,h,i)perylene	A	2.5000	2.32	1.1146850	1.0325930		-7.4	50
2-Methylnaphthalene-d10	A	2.5000	2.48	0.7295784	0.7221978		-1.0	50
Dibenzo[a,h]anthracene-d14	A	2.5000	2.72	0.9367846	1.0173750		8.6	50
Fluoranthene-d10	A	2.5000	2.44	1.3093470	1.2801560		-2.2	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180601.b\ccv.b\N818060128.D

Date : 02-JUN-2018 02:27

Client ID:

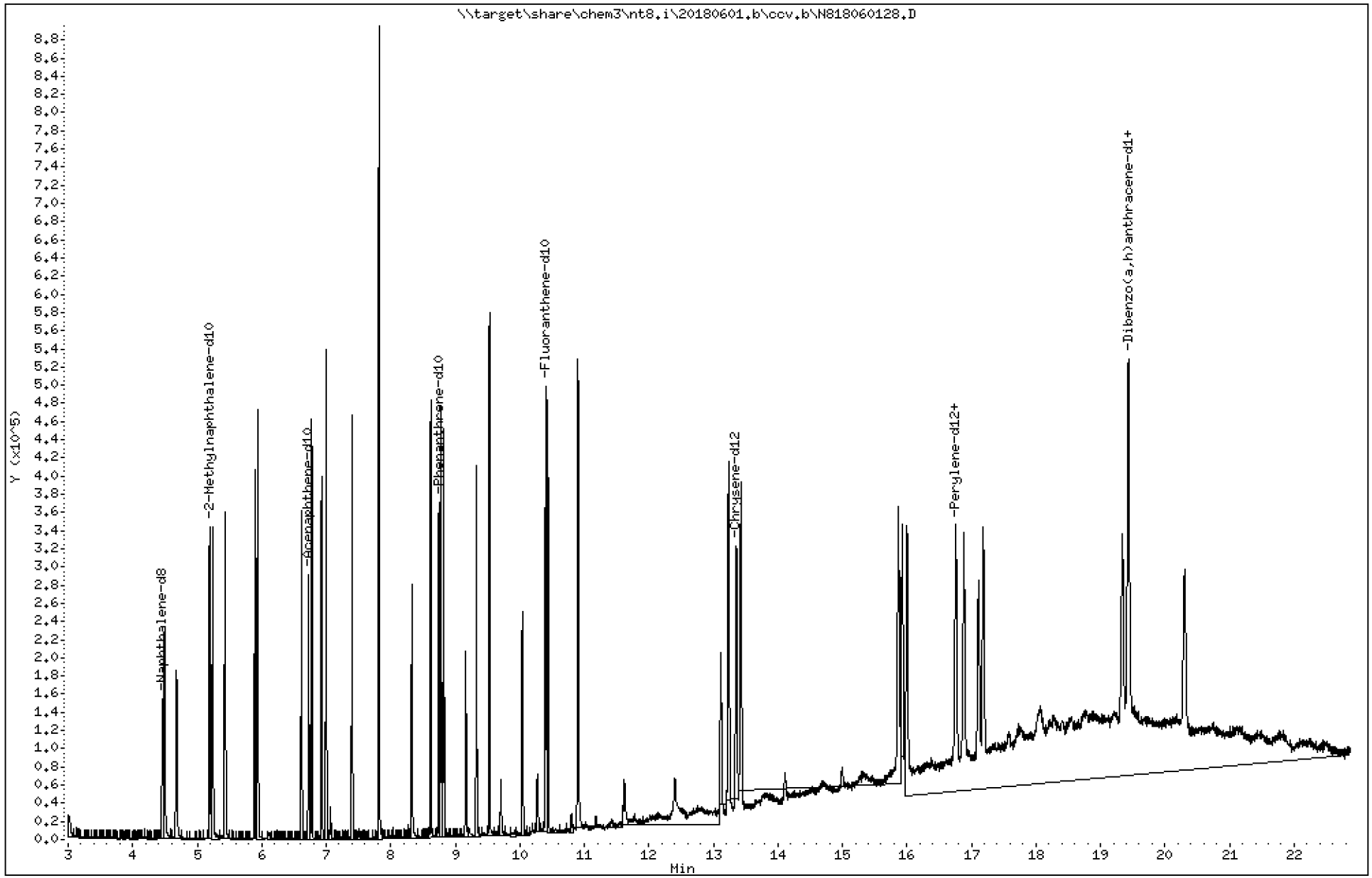
Instrument: nt8.i

Sample Info: CCV180601,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180601.b\ccv.b\N818060128.D
Lab Smp Id: SGF0017-CCV1
Inj Date : 02-JUN-2018 02:27
Operator : JZ Inst ID: nt8.i
Smp Info : CCV180601,
Misc Info : CCV
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180601.b\ccv.b\FSIMPNA180305C.m
Meth Date : 04-Jun-2018 10:52 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.464	4.464	(1.000)	143122	2.00000	
	2 Naphthalene	128	4.493	4.493	(1.006)	207139	2.50000	2.490
$	3 2-Methylnaphthalene-d10	152	5.191	5.191	(1.163)	129203	2.50000	2.475
	4 2-Methylnaphthalene	141	5.239	5.239	(1.174)	113871	2.50000	2.431
	5 1-methylnaphthalene	141	5.432	5.432	(1.217)	119485	2.50000	2.478
	6 2-Chloronaphthalene	162	5.919	5.919	(1.326)	116714	2.50000	2.496
	7 Biphenyl	154	5.896	5.896	(0.876)	172229	2.50000	2.396
	8 2,6-Dimethylnaphthalene	156	5.938	5.938	(0.883)	127964	2.50000	2.469
	9 Acenaphthylene	152	6.614	6.614	(0.983)	206416	2.50000	2.697
*	10 Acenaphthene-d10	164	6.728	6.728	(1.000)	77092	2.00000	
	11 Acenaphthene	153	6.775	6.775	(1.007)	140038	2.50000	2.387
	12 Dibenzofuran	168	6.927	6.927	(1.030)	194590	2.50000	2.466
	13 1,6,7-Trimethylnaphthalene	170	7.000	7.000	(1.040)	124718	2.50000	2.447
	14 Fluorene	166	7.402	7.402	(1.100)	155983	2.50000	2.559
	18 Dibenzothiophene	184	8.619	8.619	(0.986)	207810	2.50000	2.373
*	15 Phenanthrene-d10	188	8.745	8.745	(1.000)	156824	2.00000	
	16 Phenanthrene	178	8.780	8.780	(1.004)	224554	2.50000	2.336
	17 Anthracene	178	8.821	8.821	(1.009)	220004	2.50000	2.512
	19 Carbazole	167	9.327	9.327	(1.067)	194121	2.50000	2.493
	20 1-Methylphenanthrene	192	9.530	9.530	(1.090)	178138	2.50000	2.444
	22 Fluoranthene	202	10.434	10.434	(1.193)	259259	2.50000	2.393
$	21 Fluoranthene-d10	212	10.399	10.399	(1.189)	250949	2.50000	2.444
	23 Pyrene	202	10.902	10.902	(0.816)	265100	2.50000	2.362
	24 Benzo(a)anthracene	228	13.235	13.235	(0.991)	245751	2.50000	2.264
*	25 Chrysene-d12	240	13.356	13.356	(1.000)	186791	2.00000	
	27 Chrysene	228	13.428	13.428	(1.005)	234796	2.50000	2.149
	28 Benzo(b)fluoranthene	252	15.869	15.869	(0.927)	220755	2.50000	2.337
	29 Benzo(k)fluoranthene	252	15.929	15.929	(0.931)	221794	2.50000	2.388
	30 Benzo(j)fluoranthene	252	15.999	15.999	(0.935)	210934	2.50000	2.268
	31 Total Benzofluoranthenes	252	15.929	15.929	(0.931)	649247	7.50000	7.049(M)
	34 Benzo(e)pyrene	252	16.758	16.758	(0.979)	206493	2.50000	2.173
	32 Benzo(a)pyrene	252	16.881	16.881	(0.987)	201390	2.50000	2.433
*	33 Perylene-d12	264	17.112	17.112	(1.000)	148613	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.182	17.182	(1.004)	204249	2.50000	2.272
$	36 Dibenzo(a,h)anthracene-d14	292	19.341	19.341	(1.130)	188994	2.50000	2.715
	37 Indeno(1,2,3-cd)pyrene	276	19.433	19.433	(1.136)	232160	2.50000	2.450
	38 Dibenzo(a,h)anthracene	278	19.430	19.430	(1.135)	201790	2.50000	2.581
	39 Benzo(g,h,i)perylene	276	20.306	20.306	(1.187)	191821	2.50000	2.316

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060128.D
Lab Smp Id: SGF0017-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180601.b\ccv.b\FSIMPNA180305C.m
Misc Info: CCV

Calibration Date: 23-MAY-2018
Calibration Time: 18:39
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	143122	17.13
10 Acenaphthene-d10	65789	32895	131578	77092	17.18
15 Phenanthrene-d10	128644	64322	257288	156824	21.91
25 Chrysene-d12	166669	83335	333338	186791	12.07
33 Perylene-d12	140483	70242	280966	148613	5.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.73	6.23	7.23	6.73	0.00
15 Phenanthrene-d10	8.75	8.25	9.25	8.75	0.00
25 Chrysene-d12	13.36	12.86	13.86	13.36	0.00
33 Perylene-d12	17.11	16.61	17.61	17.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060128.D

Lab ID: SGF0017-CCV1
nt8.i, 20180601.b\ccv.b\FSIMPNA180305C.m,   02-JUN-2018 02:27

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

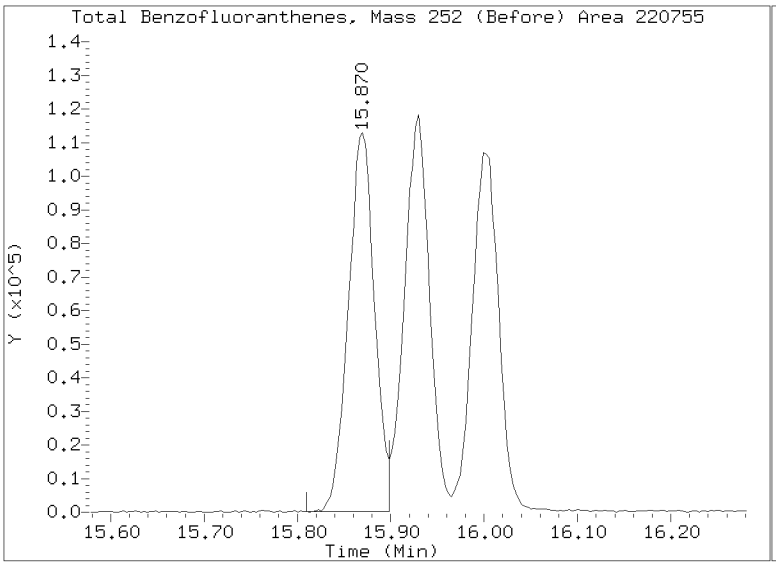
Quant Method: ICAL

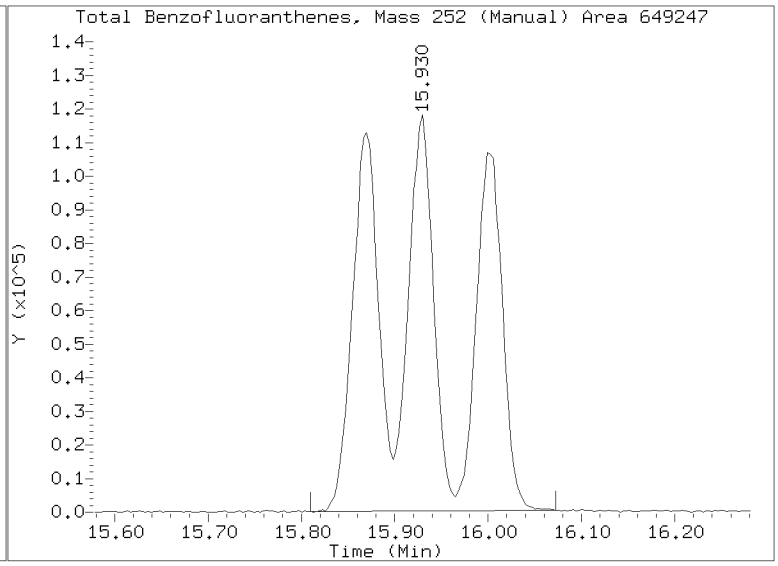
On Column LOD for nt8.i, 20180601.b\ccv.b\FSIMPNA180305C.m, FSIMPNAICL.sub = 0.

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180601.b/ccv.b/N818060128.D
Injection Date: 02-JUN-2018 02:27
Lab ID:SGF0017-CCV1 Client ID:
Report Date: 06/04/2018 10:52





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b\ccv.b

Instrument: nt8.i Date: 02-JUN-2018 Method: 20180601.b\ccv.b\FSIMPNA180305C.

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

CONTINUING CAL: N818060128.D 02-JUN-2018 02:27

Compound	%D
NO Q-FLAGS	

CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818060407.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0027	Injection Date:	06/04/18
Lab Sample ID:	SGF0027-CCV1	Injection Time:	13:13
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	2.5000	2.54	1.1623190	1.1809360		1.6	50
2-Methylnaphthalene	A	2.5000	2.52	0.6546729	0.6586101		0.6	50
1-Methylnaphthalene	A	2.5000	2.49	0.6738792	0.6716397		-0.3	50
Acenaphthylene	A	2.5000	2.78	1.9857080	2.2059410		11.1	50
Acenaphthene	A	2.5000	2.45	1.5222470	1.4925170		-2.0	50
Dibenzofuran	A	2.5000	2.49	2.0467670	2.0368900		-0.5	50
Fluorene	A	2.5000	2.61	1.5815140	1.6503970		4.4	50
Phenanthrene	A	2.5000	2.38	1.2258170	1.1683420		-4.7	50
Anthracene	A	2.5000	2.55	1.1168820	1.1382730		1.9	50
Fluoranthene	A	2.5000	2.42	1.3814980	1.3391220		-3.1	50
Pyrene	A	2.5000	2.38	1.2019100	1.1419000		-5.0	50
Benzo(a)anthracene	A	2.5000	2.26	1.1620270	1.0518980		-9.5	50
Chrysene	A	2.5000	2.16	1.1697310	1.0112610		-13.6	50
Benzo(b)fluoranthene	A	2.5000	2.29	1.2710590	1.1621500		-8.6	50
Benzo(k)fluoranthene	A	2.5000	2.30	1.2498560	1.1474670		-8.2	50
Benzo(j)fluoranthene	A	2.5000	2.18	1.2514700	1.0919150		-12.8	50
Benzofluoranthenes, Total	A	7.5000	6.79	1.2396130	1.1225830		-9.4	50
Benzo(a)pyrene	A	2.5000	2.34	1.1140340	1.0421560		-6.4	50
Indeno(1,2,3-cd)pyrene	A	2.5000	2.26	1.2754020	1.1538650		-9.5	50
Dibenzo(a,h)anthracene	A	2.5000	2.20	1.0520730	0.9240360		-12.2	50
Benzo(g,h,i)perylene	A	2.5000	2.25	1.1146850	1.0040230		-9.9	50
2-Methylnaphthalene-d10	A	2.5000	2.51	0.7295784	0.7312018		0.2	50
Dibenzo[a,h]anthracene-d14	A	2.5000	2.37	0.9367846	0.8873447		-5.3	50
Fluoranthene-d10	A	2.5000	2.46	1.3093470	1.2895660		-1.5	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180604.b\ccv.b\N818060407.D

Date : 04-JUN-2018 13:13

Client ID:

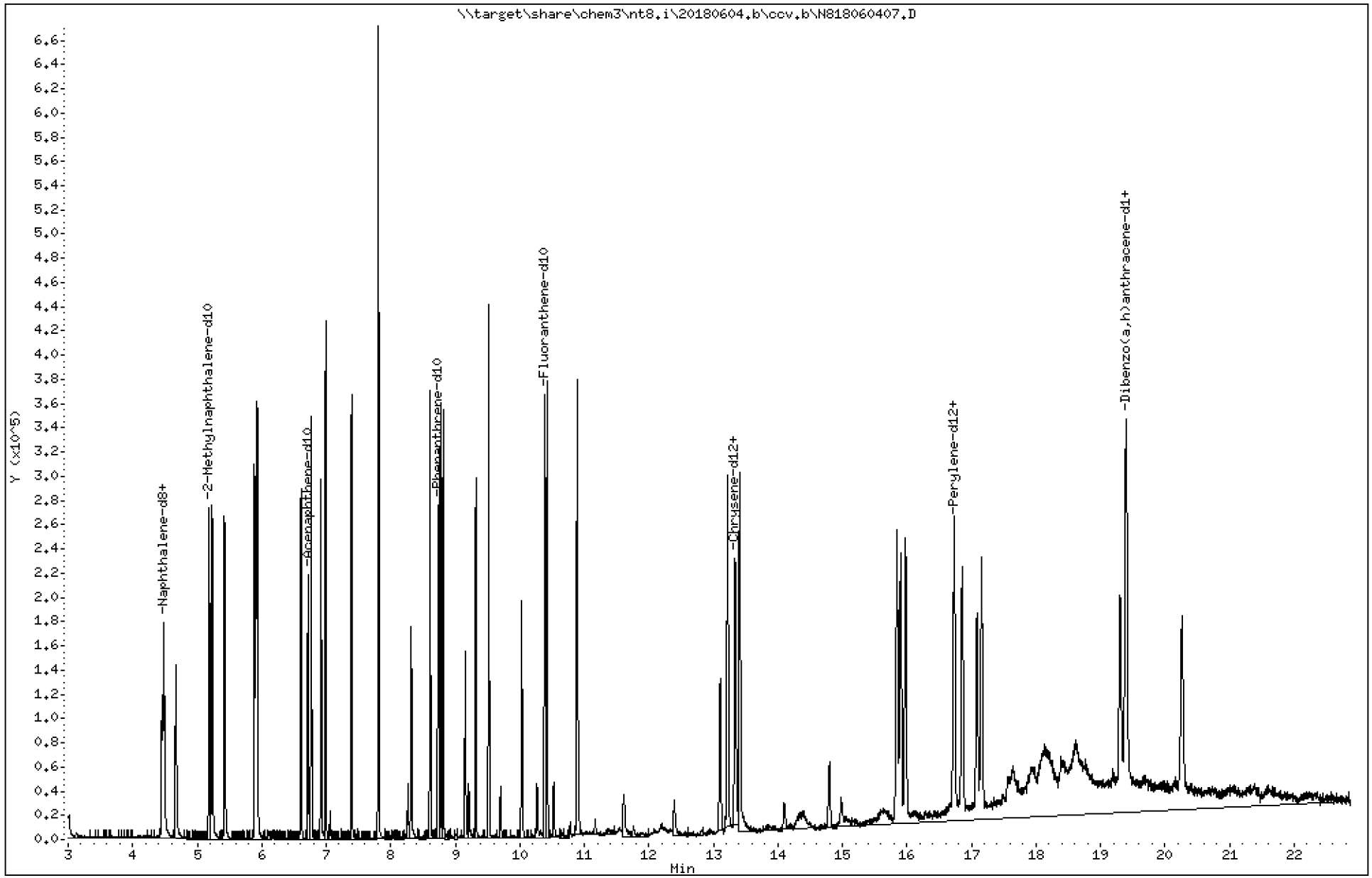
Instrument: nt8.i

Sample Info: CCV180604

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180604.b\ccv.b\N818060407.D
Lab Smp Id: SGF0027-CCV1
Inj Date : 04-JUN-2018 13:13
Operator : JZ Inst ID: nt8.i
Smp Info : CCV180604
Misc Info : CCV
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180604.b\ccv.b\FSIMPNA180305C.m
Meth Date : 04-Jun-2018 13:40 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.455	4.455	(1.000)	111561	2.00000	
	2 Naphthalene	128	4.483	4.483	(1.006)	164683	2.50000	2.540
$	3 2-Methylnaphthalene-d10	152	5.185	5.185	(1.164)	101967	2.50000	2.506
	4 2-Methylnaphthalene	141	5.229	5.229	(1.174)	91844	2.50000	2.515
	5 1-methylnaphthalene	141	5.422	5.422	(1.217)	93661	2.50000	2.492
	6 2-Chloronaphthalene	162	5.912	5.912	(1.327)	91142	2.50000	2.500
	7 Biphenyl	154	5.887	5.887	(0.876)	135277	2.50000	2.456
	8 2,6-Dimethylnaphthalene	156	5.931	5.931	(0.883)	100192	2.50000	2.523
	9 Acenaphthylene	152	6.608	6.608	(0.984)	162917	2.50000	2.777
*	10 Acenaphthene-d10	164	6.719	6.719	(1.000)	59083	2.00000	
	11 Acenaphthene	153	6.766	6.766	(1.007)	110228	2.50000	2.451
	12 Dibenzofuran	168	6.918	6.918	(1.030)	150432	2.50000	2.488
	13 1,6,7-Trimethylnaphthalene	170	6.990	6.990	(1.040)	98411	2.50000	2.520
	14 Fluorene	166	7.392	7.392	(1.100)	121888	2.50000	2.609
	18 Dibenzothiophene	184	8.609	8.609	(0.986)	161751	2.50000	2.439
*	15 Phenanthrene-d10	188	8.736	8.736	(1.000)	118768	2.00000	
	16 Phenanthrene	178	8.771	8.771	(1.004)	173452	2.50000	2.383
	17 Anthracene	178	8.812	8.812	(1.009)	168988	2.50000	2.548
	19 Carbazole	167	9.318	9.318	(1.067)	147463	2.50000	2.500
	20 1-Methylphenanthrene	192	9.517	9.517	(1.089)	135739	2.50000	2.459
	22 Fluoranthene	202	10.421	10.421	(1.193)	198806	2.50000	2.423
$	21 Fluoranthene-d10	212	10.386	10.386	(1.189)	191449	2.50000	2.462
	23 Pyrene	202	10.889	10.889	(0.816)	204510	2.50000	2.375
	24 Benzo(a)anthracene	228	13.216	13.216	(0.991)	188391	2.50000	2.263
*	25 Chrysene-d12	240	13.337	13.337	(1.000)	143277	2.00000	
	27 Chrysene	228	13.409	13.409	(1.005)	181113	2.50000	2.161
	28 Benzo(b)fluoranthene	252	15.844	15.844	(0.927)	180540	2.50000	2.286
	29 Benzo(k)fluoranthene	252	15.904	15.904	(0.931)	178259	2.50000	2.295
	30 Benzo(j)fluoranthene	252	15.977	15.977	(0.935)	169629	2.50000	2.181
	31 Total Benzofluoranthenes	252	15.844	15.844	(0.927)	523180	7.50000	6.792(M)
	34 Benzo(e)pyrene	252	16.732	16.732	(0.979)	174130	2.50000	2.192
	32 Benzo(a)pyrene	252	16.859	16.859	(0.987)	161899	2.50000	2.339
*	33 Perylene-d12	264	17.083	17.083	(1.000)	124280	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.156	17.156	(1.004)	168225	2.50000	2.238
$	36 Dibenzo(a,h)anthracene-d14	292	19.306	19.306	(1.130)	137849	2.50000	2.368
	37 Indeno(1,2,3-cd)pyrene	276	19.398	19.398	(1.135)	179253	2.50000	2.262
	38 Dibenzo(a,h)anthracene	278	19.395	19.395	(1.135)	143549	2.50000	2.196
	39 Benzo(g,h,i)perylene	276	20.264	20.264	(1.186)	155975	2.50000	2.252

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818060407.D
Lab Smp Id: SGF0027-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180604.b\ccv.b\FSIMPNA180305C.m
Misc Info: CCV

Calibration Date: 02-JUN-2018
Calibration Time: 02:27
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	111561	-8.70
10 Acenaphthene-d10	65789	32895	131578	59083	-10.19
15 Phenanthrene-d10	128644	64322	257288	118768	-7.68
25 Chrysene-d12	166669	83335	333338	143277	-14.04
33 Perylene-d12	140483	70242	280966	124280	-11.53

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.46	3.96	4.96	4.46	0.00
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	0.00
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	0.00
25 Chrysene-d12	13.34	12.84	13.84	13.34	0.00
33 Perylene-d12	17.08	16.58	17.58	17.08	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818060407.D

Lab ID: SGF0027-CCV1
nt8.i, 20180604.b\ccv.b\FSIMPNA180305C.m,   04-JUN-2018 13:13

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

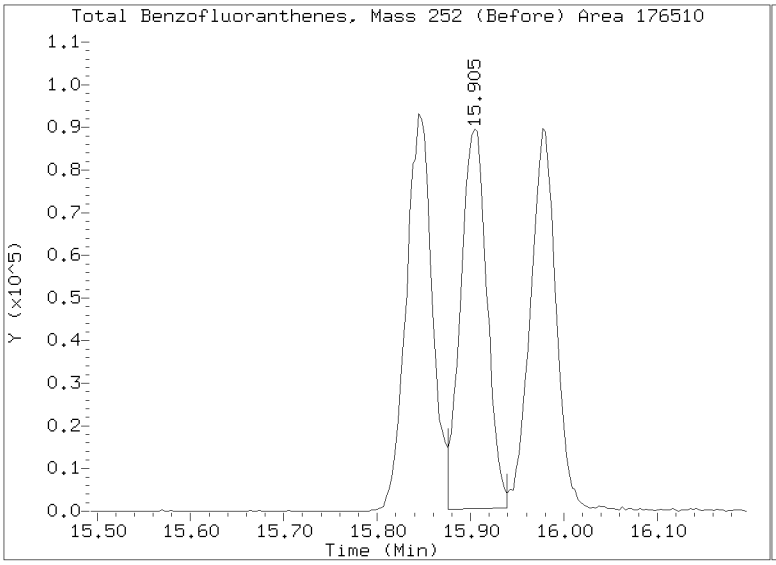
Quant Method: ICAL

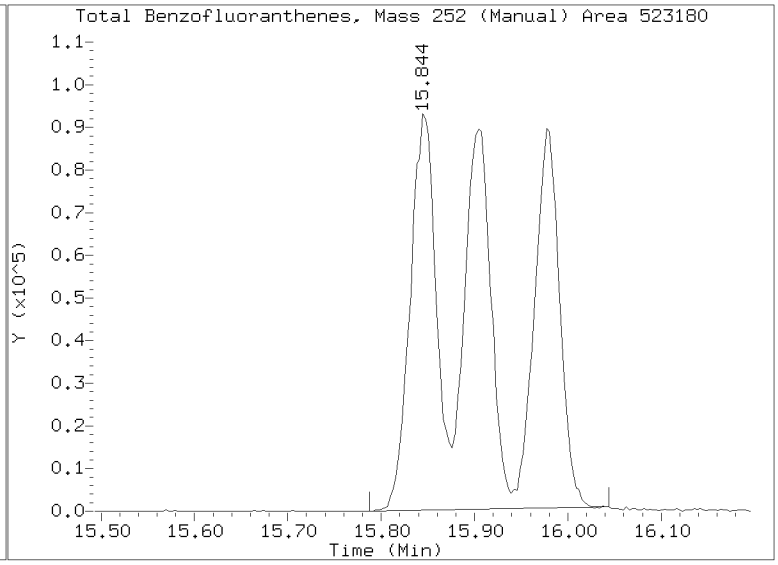
On Column LOD for nt8.i, 20180604.b\ccv.b\FSIMPNA180305C.m, FSIMPNAICL.sub = 0.

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180604.b/ccv.b/N818060407.D
Injection Date: 04-JUN-2018 13:13
Lab ID:SGF0027-CCV1 Client ID:
Report Date: 06/04/2018 13:40





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180604.b\ccv.b

Instrument: nt8.i Date: 04-JUN-2018 Method: 20180604.b\ccv.b\FSIMPNA180305C.

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

CONTINUING CAL: N818060407.D 04-JUN-2018 13:13

Compound	%D
NO Q-FLAGS	

CONTINUING CALIBRATION CHECK
EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Instrument ID:	NT8	Calibration:	BC00011
Lab File ID:	N818061224.D	Calibration Date:	03/05/18 10:05
Sequence:	SGF0149	Injection Date:	06/13/18
Lab Sample ID:	SGF0149-CCV1	Injection Time:	00:47
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Benzo(a)anthracene	A	2.5000	2.24	1.1620270	1.0427940		-10.3	50
Chrysene	A	2.5000	2.17	1.1697310	1.0136120		-13.4	50
Benzo(b)fluoranthene	A	2.5000	2.31	1.2710590	1.1746700		-7.6	50
Benzo(k)fluoranthene	A	2.5000	2.34	1.2498560	1.1720010		-6.2	50
Benzo(a)pyrene	A	2.5000	2.48	1.1140340	1.1040840		-0.9	50
Indeno(1,2,3-cd)pyrene	A	2.5000	2.34	1.2754020	1.1919720		-6.6	50
Dibenzo(a,h)anthracene	A	2.5000	2.41	1.0520730	1.0121440		-3.8	50
2-Methylnaphthalene-d10	A	2.5000	2.42	0.7295784	0.7072943		-3.0	50
Dibenzo[a,h]anthracene-d14	A	2.5000	2.50	0.9367846	0.9368836		0.0	50
Fluoranthene-d10	A	2.5000	2.35	1.3093470	1.2304240		-6.0	50

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20180612.b\ccv.b\N818061224.D

Date : 13-JUN-2018 00:47

Client ID:

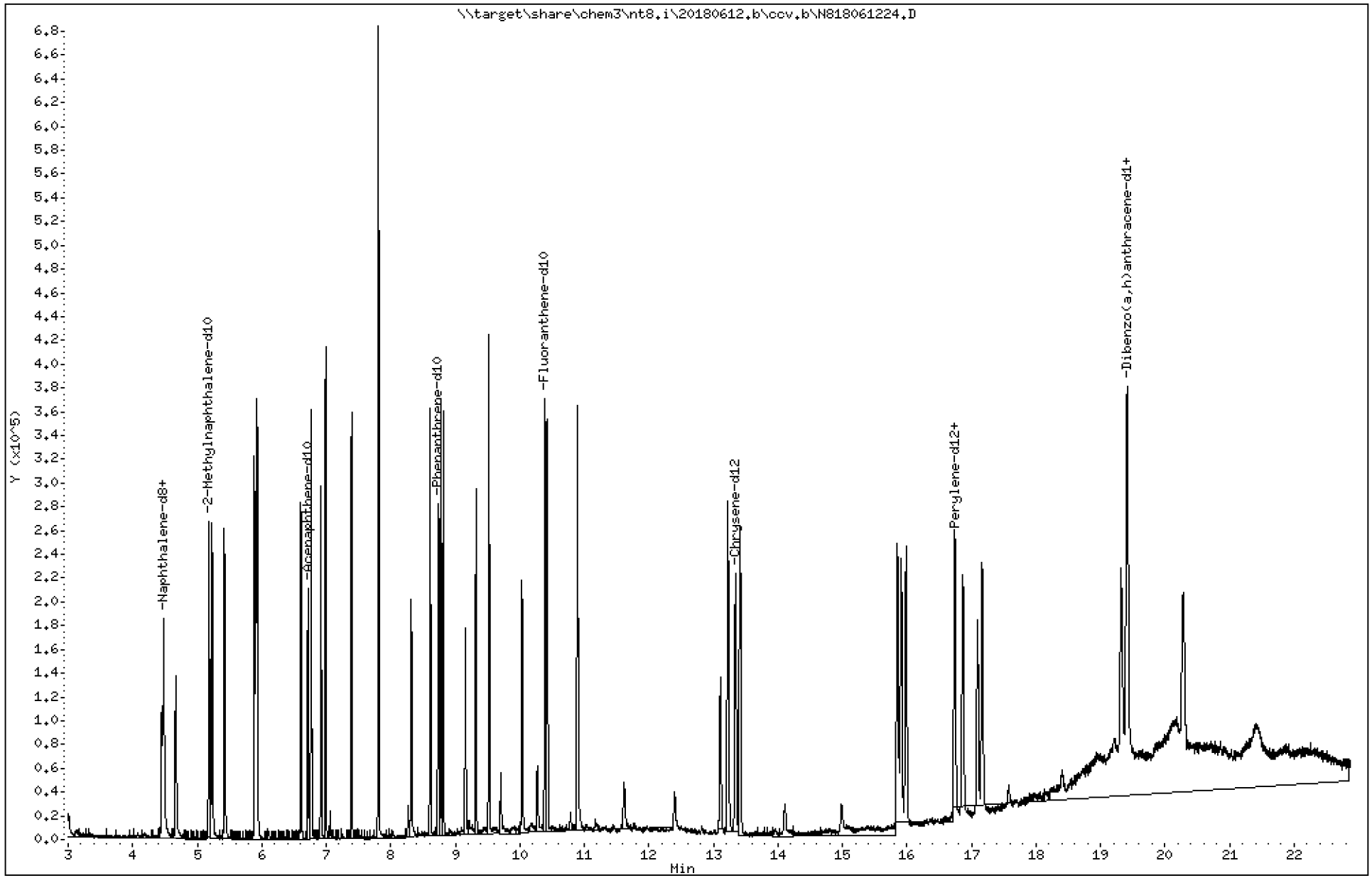
Instrument: nt8.i

Sample Info: CCV180612,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20180612.b\ccv.b\N818061224.D
Lab Smp Id: SGF0149-CCV1
Inj Date : 13-JUN-2018 00:47
Operator : JZ Inst ID: nt8.i
Smp Info : CCV180612,
Misc Info : CCV
Comment : 1ul Injection
Method : \\target\share\chem3\nt8.i\20180612.b\ccv.b\FSIMPNA180305C.m
Meth Date : 13-Jun-2018 11:41 jianqing Quant Type: ISTD
Cal Date : 05-MAR-2018 12:45 Cal File: N818030507.D
Als bottle: 24 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICL.sub
Target Version: 4.14
Processing Host: ORGDATA22

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1	Naphthalene-d8	136	4.451	4.451	(1.000)	113417	2.00000	
	2	Naphthalene	128	4.480	4.480	(1.006)	165456	2.50000	2.510
$	3	2-Methylnaphthalene-d10	152	5.182	5.182	(1.164)	100274	2.50000	2.424
	4	2-Methylnaphthalene	141	5.229	5.229	(1.175)	92270	2.50000	2.485
	5	1-methylnaphthalene	141	5.419	5.419	(1.217)	95516	2.50000	2.499
	6	2-Chloronaphthalene	162	5.909	5.909	(1.327)	89676	2.50000	2.420
	7	Biphenyl	154	5.887	5.887	(0.876)	134031	2.50000	2.399
	8	2,6-Dimethylnaphthalene	156	5.928	5.928	(0.882)	100643	2.50000	2.498
	9	Acenaphthylene	152	6.605	6.605	(0.983)	161040	2.50000	2.706
*	10	Acenaphthene-d10	164	6.719	6.719	(1.000)	59931	2.00000	
	11	Acenaphthene	153	6.766	6.766	(1.007)	110442	2.50000	2.421
	12	Dibenzofuran	168	6.918	6.918	(1.030)	148116	2.50000	2.415
	13	1,6,7-Trimethylnaphthalene	170	6.991	6.991	(1.040)	96001	2.50000	2.423
	14	Fluorene	166	7.392	7.392	(1.100)	122088	2.50000	2.576
	18	Dibenzothiophene	184	8.609	8.609	(0.986)	160701	2.50000	2.436
*	15	Phenanthrene-d10	188	8.736	8.736	(1.000)	118170	2.00000	
	16	Phenanthrene	178	8.771	8.771	(1.004)	172913	2.50000	2.387
	17	Anthracene	178	8.812	8.812	(1.009)	167494	2.50000	2.538
	19	Carbazole	167	9.321	9.321	(1.067)	141082	2.50000	2.404
	20	1-Methylphenanthrene	192	9.523	9.523	(1.090)	133509	2.50000	2.431
	22	Fluoranthene	202	10.428	10.428	(1.194)	185864	2.50000	2.277
$	21	Fluoranthene-d10	212	10.393	10.393	(1.190)	181749	2.50000	2.349
	23	Pyrene	202	10.892	10.892	(0.816)	195905	2.50000	2.324
	24	Benzo(a)anthracene	228	13.223	13.223	(0.991)	182850	2.50000	2.243
*	25	Chrysene-d12	240	13.343	13.343	(1.000)	140277	2.00000	
	27	Chrysene	228	13.413	13.413	(1.005)	177733	2.50000	2.166
	28	Benzo(b)fluoranthene	252	15.850	15.850	(0.927)	179165	2.50000	2.310
	29	Benzo(k)fluoranthene	252	15.910	15.910	(0.931)	178758	2.50000	2.344
	30	Benzo(j)fluoranthene	252	15.986	15.986	(0.935)	171706	2.50000	2.249
	31	Total Benzofluoranthenes	252	15.910	15.910	(0.931)	528851	7.50000	6.993(M)
	34	Benzo(e)pyrene	252	16.745	16.745	(0.979)	175791	2.50000	2.254
	32	Benzo(a)pyrene	252	16.869	16.869	(0.987)	168399	2.50000	2.478
*	33	Perylene-d12	264	17.096	17.096	(1.000)	122019	2.00000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 Perylene	252	17.166	17.166	(1.004)	170408	2.50000	2.309
$	36 Dibenzo(a,h)anthracene-d14	292	19.322	19.322	(1.130)	142897	2.50000	2.500
	37 Indeno(1,2,3-cd)pyrene	276	19.411	19.411	(1.135)	181804	2.50000	2.336
	38 Dibenzo(a,h)anthracene	278	19.411	19.411	(1.135)	154376	2.50000	2.405
	39 Benzo(g,h,i)perylene	276	20.277	20.277	(1.186)	153149	2.50000	2.252

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N818061224.D
Lab Smp Id: SGF0149-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20180612.b\ccv.b\FSIMPNA180305C.m
Misc Info: CCV

Calibration Date: 04-JUN-2018
Calibration Time: 13:13
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	122190	61095	244380	113417	-7.18
10 Acenaphthene-d10	65789	32895	131578	59931	-8.90
15 Phenanthrene-d10	128644	64322	257288	118170	-8.14
25 Chrysene-d12	166669	83335	333338	140277	-15.83
33 Perylene-d12	140483	70242	280966	122019	-13.14

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.45	3.95	4.95	4.45	0.00
10 Acenaphthene-d10	6.72	6.22	7.22	6.72	0.00
15 Phenanthrene-d10	8.74	8.24	9.24	8.74	0.00
25 Chrysene-d12	13.34	12.84	13.84	13.34	0.00
33 Perylene-d12	17.10	16.60	17.60	17.10	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N818061224.D

Lab ID: SGF0149-CCV1
nt8.i, 20180612.b\ccv.b\FSIMPNA180305C.m,   13-JUN-2018 00:47

RT	CO-ELUTION COMPOUNDS
19.411	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
19.411	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

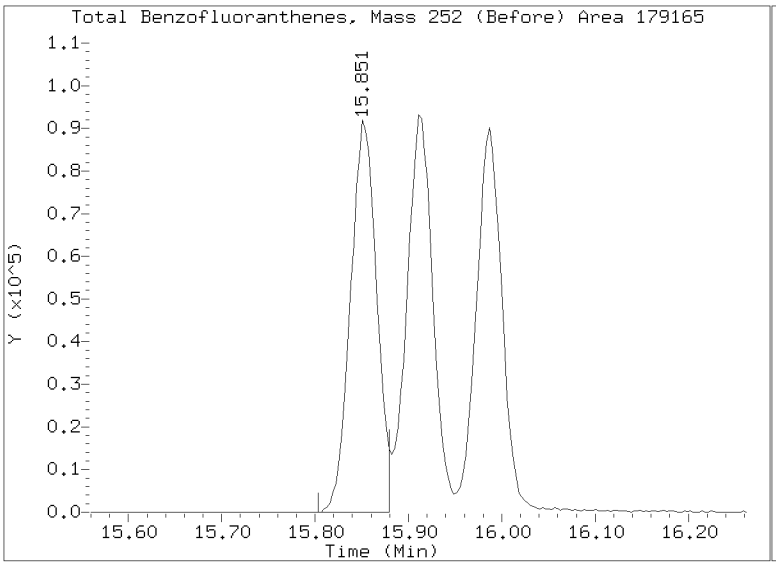
Quant Method: ICAL

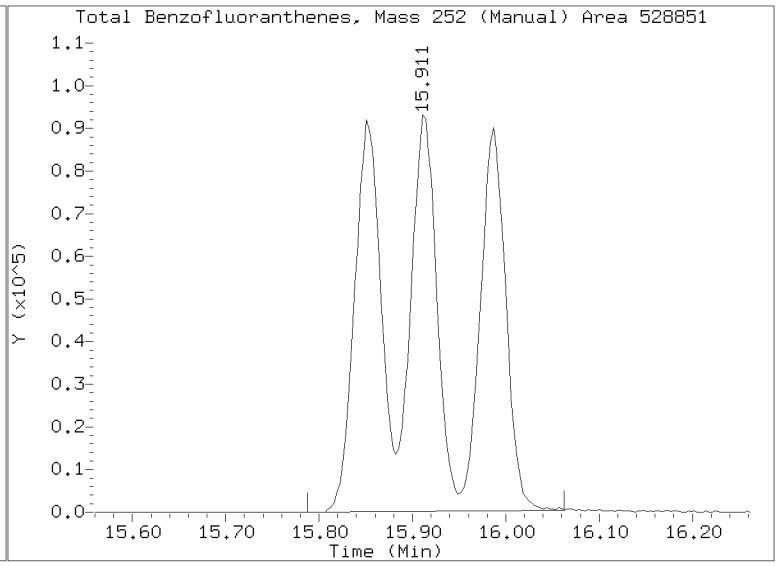
On Column LOD for nt8.i, 20180612.b\ccv.b\FSIMPNA180305C.m, FSIMPNAICL.sub = 0.

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20180612.b/ccv.b/N818061224.D
Injection Date: 13-JUN-2018 00:47
Lab ID:SGF0149-CCV1 Client ID:
Report Date: 06/13/2018 11:41





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b\ccv.b

Instrument: nt8.i Date: 13-JUN-2018 Method: 20180612.b\ccv.b\FSIMPNA180305C.

INITIAL CAL: 05-MAR-2018

Compound	%RSD or R^2
NO Q-FLAGS	

CONTINUING CAL: N818061224.D 13-JUN-2018 00:47

Compound	%D
NO Q-FLAGS	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGC0048	Instrument:	NT8
		Calibration:	BC00011

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGC0048-TUN1	N818030501.D	NA	03/05/18 10:13
Cal Standard	SGC0048-CAL1	N818030502.D	NA	03/05/18 10:30
Cal Standard	SGC0048-CAL2	N818030503.D	NA	03/05/18 10:57
Cal Standard	SGC0048-CAL3	N818030504.D	NA	03/05/18 11:24
Cal Standard	SGC0048-CAL4	N818030505.D	NA	03/05/18 11:51
Cal Standard	SGC0048-CAL5	N818030506.D	NA	03/05/18 12:18
Cal Standard	SGC0048-CAL6	N818030507.D	NA	03/05/18 12:45
Secondary Cal Check	SGC0048-SCV1	N818030508.D	NA	03/05/18 13:29

ANALYSIS SEQUENCE

SGC0048

Instrument: NT8

Calibnration ID: BC00011

Printed: 3/6/2018 10:39:00AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SGC0048-TUN1	QC		1		G000074			
SGC0048-CAL1	QC		2		F010860	F010225		
SGC0048-CAL2	QC		3		F010861	F010225		
SGC0048-CAL3	QC		4		F010862	F010225		
SGC0048-CAL4	QC		5		F010863	F010225		
SGC0048-CAL5	QC		6		F010864	F010225		
SGC0048-CAL6	QC		7		F010865	F010225		
SGC0048-SCV1	QC		8		F010866	F010225		

Samples Loaded By 3/5/18 Date

Data Processed By 3/5/18 Date

Analytical Resources Inc.: Organics Instrument Log

NT-8 Serial No.:GC=CN10540013, MS=US80138354

Date: 3/6/18 Analysis: SimPAH Analyst: AZ

GC Program: SimPAH Column No: 1410876 Column Type: Rxi-17SilMS

Instrument Tune (.U or .CT.): 171120.U EM Voltage: 1800

Calibration File: 180305b10f Curve Date: 3/6/18 Injection Vol.: 1 µl

BC0001

IS/SS	Ical/Ccal	LCS/ICV
Fa10225	Fa10863	

Document All Maintenance Tasks In Element

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180305.b

	Time	Filename	LabID	ClientId	DF									
1	1013	N818030501.D	SGC0048-TUN1	DFTPP180305	1	NO ISTDS FOUND								
2	1030	N818030502.D	SGC0048-CAL1	IC01180305	1	4.71	138557	6.99	74914	9.01	143898	13.81	152056	17.64	133180
3	1057	N818030503.D	SGC0048-CAL2	IC05180305	1	4.70	123911	6.98	65970	9.01	127317	13.80	137259	17.64	121139
4	1124	N818030504.D	SGC0048-CAL3	IC1180305	1	4.70	129011	6.98	68332	9.01	134289	13.80	150011	17.63	131622
5	1151	N818030505.D	SGC0048-CAL4	IC2.5180305	1	4.71	122190	6.98	65789	9.01	128644	13.80	166669	17.64	140483
6	1218	N818030506.D	SGC0048-CAL5	ICS180305	1	4.70	121880	6.98	63854	9.01	127662	13.80	152445	17.64	136639
7	1245	N818030507.D	SGC0048-CAL6	IC10180305	1	4.70	122998	6.98	63968	9.01	127011	13.81	150793	17.64	137757
8	1329	N818030508.D	SGC0048-SCV1	SCV180305	1	4.71	121767	6.99	64967	9.02	126225	13.82	146413	17.65	128443

AZ 03/06/18

Every line must contain information or be lined out. Make all entries legible.
Start a new page for each QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180305.b

ARI Job No.: SGC0 Method: FSIMPNA180305.m Instrument: nt8.i Date: 05-MAR-2018

03/06/18

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1030	N818030502.D	SGC0048-CAL1	IC01180305	1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1057	N818030503.D	SGC0048-CAL2	IC05180305	1	2-Chloronaphthalene, Total Benzofluoranthenes,
1124	N818030504.D	SGC0048-CAL3	IC1180305	1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1151	N818030505.D	SGC0048-CAL4	IC2.518030	1	Total Benzofluoranthenes,
1218	N818030506.D	SGC0048-CAL5	IC5180305	1	Total Benzofluoranthenes,
1245	N818030507.D	SGC0048-CAL6	IC10180305	1	Total Benzofluoranthenes,
1329	N818030508.D	SGC0048-SCV1	SCV180305	1	Total Benzofluoranthenes,

ANALYSIS SEQUENCE

SGC0043

Instrument: NT12

Calibnration ID: AL00049

Printed: 3/5/2018 12:32:51PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SGC0043-TUN1	QC		1		F008972			
SGC0043-ICV1	QC		2		G001779	F003326		
BGC0039-BLK1	QC		3			F003326		
BGC0039-BS1	QC		4			F003326		
18B0371-01	270D SVOC (1-20 ug/L SepF	F 01	5			F003326	The Boeing Company [RTN - Central Puget S	50 mL Prep for Phenol only
18C0028-01	270D SVOC (1-20 ug/L SepF	F 01	6			F003326	The Boeing Company [RTN - Central Puget S	50 mL Prep for Phenol only
BGB0605-BLK1	QC		7			F003326		
BGB0605-BS1	QC		8			F003326		
BGB0605-MRL1	QC		9			F003326		
BGB0605-MRL2	QC		10			F003326		
18B0311-01	4-Dioxane (Low Level H2O	D 01	11			F003326	AECOM	
18B0311-04	4-Dioxane (Low Level H2O	J 01	12			F003326	AECOM	
BGB0605-MS1	QC		13			F003326		
BGB0605-MSD1	QC		14			F003326		
18B0311-05	4-Dioxane (Low Level H2O	D 01	15			F003326	AECOM	
18B0311-06	4-Dioxane (Low Level H2O	D 01	16			F003326	AECOM	
18B0311-08	4-Dioxane (Low Level H2O	D 01	17			F003326	AECOM	
SGC0043-CCV1	QC		18		G001779	F003326		

Samples Loaded By 3/6/18 Date

Data Processed By 3/6/18 Date

Analytical Resources Inc.: Organics Instrument Log

NT-12 Serial No.:GC=US00032558, MS= US01180091

Date: 3/6/18 Analysis: 8270D Analyst: JZ

GC Program: ABN_ALL Column No: 348861 Column Type: ZB-5MSi

Instrument Tune (.U): 17121.U EM Voltage: 1249

Calibration File: A180305.0/ Cali Code: A100449 Injection Vol.: 1 µl

12/16/17

IS/SS	Ical/ICV/CCV	SCV
F0032276	G0A1779	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt12.i\20180305.b

	Time	Filename	LabID	ClientId	DF											
1	1036	N1218030501.D	SGC0043-ICV1	ICV180305	1	8.00	75384	10.04	291065	12.89	139385	15.25	246064	19.55	259010	20.70	353652	21.70	256927
2	1036	N1218030501A.D	SGC0043-TUN1	DFTPP180305	1	(NO ISTDS FOUND)													
3	1123	N1218030502.D	BGC0039-BLK1		1	8.00	85476	10.03	330505	12.88	158635	15.25	276708	19.54	287631	20.69	375908	21.70	274016
4	1156	N1218030503.D	BGC0039-BS1		1	8.00	88585	10.04	348153	12.89	170969	15.25	302307	19.55	301263	20.70	413028	21.70	307381
5	1230	N1218030504.D	18B0371-01		1	8.04	89128	10.05	319128	12.90	173282	15.25	308016	19.54	308343	20.69	443106	21.70	284309
6	1304	N1218030505.D	18C0028-01		1	8.03	92518	10.06	320390	12.90	180076	15.25	322977	19.54	338155	20.70	490712	21.70	311467
7	1337	N1218030506.D	BGB0605-BLK1		1	8.00	89914												
8	1411	N1218030507.D	BGB0605-BS1		1	8.00	90623												
9	1559	N1218030508.D	BGB0605-MRL1		1	8.00	98911												
10	1633	N1218030509.D	BGB0605-MRL2		1	8.00	96218												
11	1706	N1218030510.D	18B0311-01		1	8.00	83698												
12	1740	N1218030511.D	18B0311-04		1	8.00	98562												
13	1814	N1218030512.D	BGB0605-MS1		1	8.00	92592												
14	1847	N1218030513.D	BGB0605-MSD1		1	8.00	96283												
15	1921	N1218030514.D	18B0311-05		1	8.00	91009												
16	1954	N1218030515.D	18B0311-06		1	8.00	99226												
17	2028	N1218030516.D	18B0311-08		1	8.00	99654												
18	2101	N1218030517.D	SGC0043-CCV1	CCV180305	1	8.00	95344	10.04	373046	12.89	180620	15.25	318273	19.55	335218	20.70	461876	21.70	328964

3/6/18

Every line must contain information or be lined out. Make all entries legible.
Start a new 00799ch QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt12.i\20180305.b

ARI Job No.: SGC0 Method: SW846171216.m Instrument: nt12.i Date: 05-MAR-2018

03/06/18

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1036	N1218030501.D	SGC0043-ICV1	ICV180305	1	NO MANUAL INTEGRATION
1123	N1218030502.D	BGC0039-BLK1		1	NO MANUAL INTEGRATION
1156	N1218030503.D	BGC0039-BS1		1	NO MANUAL INTEGRATION
1230	N1218030504.D	18B0371-01		1	Phenol, Benzoic acid, 2-Fluorophenol, Phenol-d5, 2-Chlorophenol-d4,
1304	N1218030505.D	18C0028-01		1	Phenol, Phenol-d5, 2-Chlorophenol-d4,
1337	N1218030506.D	BGB0605-BLK1		1	NO MANUAL INTEGRATION
1411	N1218030507.D	BGB0605-BS1		1	NO MANUAL INTEGRATION
1559	N1218030508.D	BGB0605-MRL1		1	NO MANUAL INTEGRATION
1633	N1218030509.D	BGB0605-MRL2		1	NO MANUAL INTEGRATION
1706	N1218030510.D	18B0311-01		1	NO MANUAL INTEGRATION
1740	N1218030511.D	18B0311-04		1	NO MANUAL INTEGRATION
1814	N1218030512.D	BGB0605-MS1		1	NO MANUAL INTEGRATION
1847	N1218030513.D	BGB0605-MSD1		1	NO MANUAL INTEGRATION
1921	N1218030514.D	18B0311-05		1	NO MANUAL INTEGRATION
1954	N1218030515.D	18B0311-06		1	NO MANUAL INTEGRATION
2028	N1218030516.D	18B0311-08		1	NO MANUAL INTEGRATION
2101	N1218030517.D	SGC0043-CCV1	CCV180305	1	NO MANUAL INTEGRATION

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0017	Instrument:	NT8
		Calibration:	BC00011

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGF0017-TUN1	N818060101.D	NA	06/01/18 14:37
Initial Cal Verification	SGF0017-ICV1	N818060102.D	NA	06/01/18 14:50
Blank	BGE0626-BLK1	N818060103.D	Solid	06/01/18 15:17
LCS	BGE0626-BS1	N818060104.D	Solid	06/01/18 15:44
Reference	BGE0626-SRM1	N818060105.D	Solid	06/01/18 16:11
LDW18-SSCL-A11	18E0231-02	N818060106.D	Solid	06/01/18 16:37
LDW18-SSCL-A11-FD	18E0231-03	N818060107.D	Solid	06/01/18 17:04
LDW18-SSCL-A01	18E0243-01	N818060108.D	Solid	06/01/18 17:31
LDW18-SSCL-A02	18E0243-02	N818060109.D	Solid	06/01/18 17:58
LDW18-SSCL-A05	18E0243-04	N818060111.D	Solid	06/01/18 18:52
LDW18-SSCL-A04	18E0243-05	N818060112.D	Solid	06/01/18 19:18
LDW18-SSCL-A06	18E0243-06	N818060113.D	Solid	06/01/18 19:45
LDW18-SSCL-A01	18E0243-01RE1	N818060114.D	Solid	06/01/18 20:12
LDW18-SSCL-A03	18E0243-03	N818060115.D	Solid	06/01/18 20:39
LDW18-SSCL-A03	18E0243-03RE1	N818060116.D	Solid	06/01/18 21:06
LDW18-SSCL-A13	18E0262-01	N818060117.D	Solid	06/01/18 21:32
LDW18-SSCL-A19	18E0262-02	N818060118.D	Solid	06/01/18 21:59
LDW18-SSCL-A12	18E0282-01	N818060119.D	Solid	06/01/18 22:26
LDW18-SSCL-A17	18E0282-02	N818060120.D	Solid	06/01/18 22:53
LDW18-SSCL-A18	18E0282-03	N818060121.D	Solid	06/01/18 23:20
LDW18-SSCL-A09	18E0282-04	N818060122.D	Solid	06/01/18 23:47
LDW18-SSCL-A10	18E0282-05	N818060123.D	Solid	06/02/18 00:13
LDW18-SSCL-A10	BGE0626-MS1	N818060124.D	Solid	06/02/18 00:40
LDW18-SSCL-A10	BGE0626-MSD1	N818060125.D	Solid	06/02/18 01:07
LDW18-SSCL-A07	18E0309-01	N818060126.D	Solid	06/02/18 01:34
LDW18-SSCL-A08	18E0309-02	N818060127.D	Solid	06/02/18 02:01
Calibration Check	SGF0017-CCV1	N818060128.D	NA	06/02/18 02:27

Printed: 6/4/2018 12:40:33PM

ANALYSIS SEQUENCE

SGF0017

Instrument: NT8
Element Column ID: E006479
Calibration ID: BC00011
Tune File: 171120.U
EM Voltage: 1776

18E0282-03RE1 rebatched on SGF0027.

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGF0017-TUN1	MS Tune	QC		1	G000074		
SGF0017-ICV1	Initial Cal Verification	QC		2	F010863	G003194	
BGE0626-BLK1	Blank	QC		3		G003194	
BGE0626-BS1	LCS	QC		4		G003194	
BGE0626-SRM1	Reference	QC		5		G003194	
18E0231-02	LDW18-SSCL-A11	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	6		G003194	
18E0231-03	LDW18-SSCL-A11-FD	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	7		G003194	
18E0243-01	LDW18-SSCL-A01	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	8		G003194	
18E0243-01RE1	LDW18-SSCL-A01	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	9		G003194	Added 6/1/2018 by JZ
18E0243-02	LDW18-SSCL-A02	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	10		G003194	
18E0243-03	LDW18-SSCL-A03	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	11		G003194	
18E0243-03RE1	LDW18-SSCL-A03	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	12		G003194	Added 6/4/2018 by JZ
18E0243-04	LDW18-SSCL-A05	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	13		G003194	
18E0243-05	LDW18-SSCL-A04	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	14		G003194	
18E0243-06	LDW18-SSCL-A06	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	15		G003194	
18E0262-01	LDW18-SSCL-A13	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	16		G003194	
18E0262-02	LDW18-SSCL-A19	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	17		G003194	
18E0282-01	LDW18-SSCL-A12	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	18		G003194	
18E0282-02	LDW18-SSCL-A17	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	19		G003194	
18E0282-03	LDW18-SSCL-A18	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	20		G003194	
18E0282-04	LDW18-SSCL-A09	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	21		G003194	
18E0282-05	LDW18-SSCL-A10	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	22		G003194	

Printed: 6/4/2018 12:40:33PM

ANALYSIS SEQUENCE

SGF0017

Instrument: NT8 Element Column ID: E006479
Calibration ID: BC00011 Tune File: 171120.U
EM Voltage: 1776

18E0282-03RE1 rebatched on SGF0027.

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
BGE0626-MS1	Matrix Spike	QC		23		G003194	
BGE0626-MSD1	Matrix Spike Dup	QC		24		G003194	
18E0309-01	LDW18-SSCL-A07	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	25		G003194	
18E0309-02	LDW18-SSCL-A08	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	26		G003194	
SGF0017-CCV1	Calibration Check	QC		27	F010863	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b

	Time	Filename	LabID	ClientId	DF											
1	1437	N818060101.D	SGF0017-TUN1		1	|NO ISTDS FOUND||										
2	1450	N818060102.D	SGF0017-ICV1		1	| 4.46	107166||	6.73	55858||	8.75	116125||	13.36	156814||	17.11	131068|
3	1517	N818060103.D	BGE0626-BLK1		1	| 4.46	136656||	6.72	73418||	8.74	146262||	13.35	174707||	17.10	160751|
4	1544	N818060104.D	BGE0626-BS1		1	| 4.46	154320||	6.73	81269||	8.74	161355||	13.35	188183||	17.11	174825|
5	1611	N818060105.D	BGE0626-SRM1		1	| 4.46	146295||	6.72	77918||	8.74	145392||	13.35	168873||	17.10	164699|
6	1637	N818060106.D	18E0231-02		1	| 4.46	169357||	6.73	85711||	8.75	162513||	13.37	205743||	17.13	219394|
7	1704	N818060107.D	18E0231-03		1	| 4.46	195224||	6.73	98366||	8.75	182108||	13.37	223155||	17.13	227520|
8	1731	N818060108.D	18E0243-01		1	| 4.46	210470||	6.73	106530||	8.75	194755||	13.37	220984||	17.13	224187|
9	1758	N818060109.D	18E0243-02		1	| 4.46	197235||	6.73	99695||	8.75	180950||	13.36	195315||	17.11	188548|
10	1825	N818060110.D	18E0243-03	IS out, NR	1	| 4.46	189617||	6.73	97833||	8.76	210912||	13.44	292210||	17.23	337378|
11	1852	N818060111.D	18E0243-04		1	| 4.46	218829||	6.73	108069||	8.75	200441||	13.37	225406||	17.13	233168|
12	1918	N818060112.D	18E0243-05		1	| 4.46	215463||	6.73	109765||	8.75	195604||	13.36	204426||	17.11	198564|
13	1945	N818060113.D	18E0243-06		1	| 4.46	194040||	6.73	98030||	8.75	174318||	13.36	183393||	17.12	177151|
14	2012	N818060114.D	18E0243-01RE1		3	| 4.46	192239||	6.73	100182||	8.75	178300||	13.36	186339||	17.12	184819|
15	2039	N818060115.D	18E0243-03		10	| 4.46	181133||	6.73	91639||	8.75	169530||	13.37	186277||	17.13	187148|
16	2106	N818060116.D	18E0243-03RE1		100	| 4.46	198694||	6.73	109149||	8.74	204659||	13.36	208963||	17.11	199072|
17	2132	N818060117.D	18E0262-01		1	| 4.45	183378||	6.73	90840||	8.74	168484||	13.37	189115||	17.14	194545|
18	2159	N818060118.D	18E0262-02		1	| 4.46	205154||	6.73	103668||	8.75	184582||	13.36	200863||	17.13	205465|
19	2226	N818060119.D	18E0282-01		1	| 4.46	202705||	6.73	100867||	8.75	180670||	13.37	201443||	17.13	204254|
20	2253	N818060120.D	18E0282-02		1	| 4.46	208944||	6.73	99593||	8.75	188007||	13.38	214717||	17.13	221697|

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b

	Time	Filename	LabID	ClientId	DF											
21	2320	N818060121.D	18E0282-03		1	4.46	190248	6.73	95353	8.75	180952	13.38	210488	17.15	220756
22	2347	N818060122.D	18E0282-04		1	4.46	199888	6.73	98901	8.75	187294	13.36	196096	17.12	198530
23	0013	N818060123.D	18E0282-05		1	4.46	209359	6.73	110195	8.75	196168	13.36	197738	17.11	191575
24	0040	N818060124.D	BGE0626-MS1		1	4.46	209864	6.73	110221	8.75	200146	13.36	198036	17.11	190242
25	0107	N818060125.D	BGE0626-MSD1		1	4.46	202603	6.73	108793	8.75	191209	13.36	191128	17.12	182508
26	0134	N818060126.D	18E0309-01		1	4.45	188311	6.73	98076	8.75	175676	13.37	185938	17.12	185160
27	0201	N818060127.D	18E0309-02		1	4.46	191669	6.73	96336	8.75	179161	13.37	198306	17.13	203597
28	0227	N818060128.D	SGF0017-CCV1		1	4.46	143122	6.73	77092	8.75	156824	13.36	186791	17.11	148613

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b

ARI Job No.: SGF0 Method: FSIMPNA180305.m Instrument: nt8.i Date: 01-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1450	N818060102.D	SGF0017-ICV1		1	Total Benzofluoranthenes,
1517	N818060103.D	BGE0626-BLK1		1	NO MANUAL INTEGRATION
1544	N818060104.D	BGE0626-BS1		1	Total Benzofluoranthenes,
1611	N818060105.D	BGE0626-SRM1		1	Benzo(a)pyrene, Total Benzofluoranthenes,
1637	N818060106.D	18E0231-02		1	Total Benzofluoranthenes,
1704	N818060107.D	18E0231-03		1	Total Benzofluoranthenes,
1731	N818060108.D	18E0243-01		1	Total Benzofluoranthenes,
1758	N818060109.D	18E0243-02		1	Total Benzofluoranthenes,
1852	N818060111.D	18E0243-04		1	Total Benzofluoranthenes,
1918	N818060112.D	18E0243-05		1	Indeno(1,2,3-cd)pyrene, Total Benzofluoranthenes,
1945	N818060113.D	18E0243-06		1	Total Benzofluoranthenes,
2012	N818060114.D	18E0243-01RE1		3	Dibenzofuran, Total Benzofluoranthenes,
2039	N818060115.D	18E0243-03		10	Total Benzofluoranthenes,
2106	N818060116.D	18E0243-03RE1		100	Total Benzofluoranthenes,
2132	N818060117.D	18E0262-01		1	Total Benzofluoranthenes,
2159	N818060118.D	18E0262-02		1	Total Benzofluoranthenes,
2226	N818060119.D	18E0282-01		1	Total Benzofluoranthenes,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180601.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2253	N818060120.D	18E0282-02		1	Total Benzofluoranthenes,
2320	N818060121.D	18E0282-03		1	Total Benzofluoranthenes,
2347	N818060122.D	18E0282-04		1	Total Benzofluoranthenes,
0013	N818060123.D	18E0282-05		1	Indeno(1,2,3-cd)pyrene, Total Benzofluoranthenes,
0040	N818060124.D	BGE0626-MS1		1	Total Benzofluoranthenes,
0107	N818060125.D	BGE0626-MSD1		1	Total Benzofluoranthenes,
0134	N818060126.D	18E0309-01		1	Total Benzofluoranthenes,
0201	N818060127.D	18E0309-02		1	Total Benzofluoranthenes,
0227	N818060128.D	SGF0017-CCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 04-Jun-2018 12:32

N818060101.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060102.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060103.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060104.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060105.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060106.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060107.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060108.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060109.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060111.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060112.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060113.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060114.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060115.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060116.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060117.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060118.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060119.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060120.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060121.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060122.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060123.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060124.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060125.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060126.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060127.D	Data Locked	jianqing, 04-Jun-2018 12:32
N818060128.D	Data Locked	jianqing, 04-Jun-2018 12:32

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SGF0017
Analyst: [signature] Date: 6/4/18

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
18E0243-01RE1	100	6003838	200	3				
18E0243-03	30	"	270	10				
18E0243-03RE1	3	"	297	100				

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0027	Instrument:	NT8
		Calibration:	BC00011

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGF0027-TUN1	N818060401.D	NA	06/04/18 10:21
Initial Cal Verification	SGF0027-ICV1	N818060402.D	NA	06/04/18 10:34
LDW18-SSCL-A18	18E0282-03RE1	N818060406.D	Solid	06/04/18 12:34
Calibration Check	SGF0027-CCV1	N818060407.D	NA	06/04/18 13:13

Printed: 6/4/2018 1:43:54PM

ANALYSIS SEQUENCE

SGF0027

Instrument: NT8 Element Column ID: E006479
Calibration ID: BC00011 Tune File: 171120.U
EM Voltage: 1776

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGF0027-TUN1	MS Tune	QC		1	G000074		
SGF0027-ICV1	Initial Cal Verification	QC		2	F010863	G003194	
BGE0761-BLK1	Blank	QC		3		G003194	
BGE0761-BS1	LCS	QC		4		G003194	
18E0395-01	EP-1	625-SIM PAH (0.1 ug/L)	A 01	5		G003194	
18E0282-03RE1	LDW18-SSCL-A18	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	B 01	6		G003194	Added 6/4/2018 by JZ
SGF0027-CCV1	Calibration Check	QC		7	F010863	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180604.b

	Time	Filename	LabID	ClientId	DF																			
1	1021	N818060401.D	SGF0027-TUN1		1	|NO ISTDS FOUND||																		
2	1034	N818060402.D	SGF0027-ICV1		1	| 4.45	113904	|| 6.72	61250	|| 8.73	121658	||13.33	148357	||17.08	131076	|								
3	1114	N818060403.D	BGE0761-BLK1		1	| 4.44	176770	|| 6.72	96597	|| 8.73	187073	||13.34	195442	||17.08	138861	|								
4	1141	N818060404.D	BGE0761-BS1		1	| 4.44	150800	|| 6.71	82737	|| 8.73	164140	||13.33	169124	||17.07	122612	|								
5	1208	N818060405.D	18E0395-01		1	| 4.44	162102	|| 6.71	92910	|| 8.73	179397	||13.33	195629	||17.07	139178	|								
6	1234	N818060406.D	18E0282-03RE1		5	| 4.45	165019	|| 6.71	86916	|| 8.73	162921	||13.33	158554	||17.08	161750	|								
7	1313	N818060407.D	SGF0027-CCV1		1	| 4.46	111561	|| 6.72	59083	|| 8.74	118768	||13.34	143277	||17.08	124280	|								

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180604.b

ARI Job No.: SGF0 Method: FSIMPNA180305.m Instrument: nt8.i Date: 04-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1034	N818060402.D	SGF0027-ICV1		1	Total Benzofluoranthenes,
1114	N818060403.D	BGE0761-BLK1		1	NO MANUAL INTEGRATION
1141	N818060404.D	BGE0761-BS1		1	Total Benzofluoranthenes,
1208	N818060405.D	18E0395-01		1	Naphthalene,
1234	N818060406.D	18E0282-03RE1		5	Total Benzofluoranthenes,
1313	N818060407.D	SGF0027-CCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 04-Jun-2018 13:44

N818060401.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060402.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060403.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060404.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060405.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060406.D	Data Locked	jianqing, 04-Jun-2018 13:44
N818060407.D	Data Locked	jianqing, 04-Jun-2018 13:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SG70027
Analyst: [redacted] Date: 6/4/18

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
18E0732-03RE1	60	G003838	240	5				

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
Client: Windward Environmental, LLC
Sequence: SGF0149
SDG: 18E0231
Project: LDW AOC3 Task 4
Instrument: NT8
Calibration: BC00011

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SGF0149-TUN1	N818061201.D	NA	06/12/18 14:36
Initial Cal Verification	SGF0149-ICV1	N818061202.D	NA	06/12/18 14:49
Blank	BGE0773-BLK1	N818061203.D	Tissue	06/12/18 15:23
LCS	BGE0773-BS1	N818061204.D	Tissue	06/12/18 15:50
Reference	BGE0773-SRM1	N818061205.D	Tissue	06/12/18 16:16
LDW18-A19-CLWB-Comp1	18E0262-03	N818061206.D	Tissue	06/12/18 16:43
LDW18-A01-CLWB-Comp1	18E0243-07	N818061207.D	Tissue	06/12/18 17:10
LDW18-A02-CLWB-Comp1	18E0243-08	N818061208.D	Tissue	06/12/18 17:37
LDW18-A06-CLWB-Comp1	18E0243-09	N818061209.D	Tissue	06/12/18 18:04
LDW18-A04-CLWB-Comp1	18E0243-10	N818061210.D	Tissue	06/12/18 18:31
LDW18-A03-CLWB-Comp1	18E0243-11	N818061211.D	Tissue	06/12/18 18:58
LDW18-A05-CLWB-Comp1	18E0243-12	N818061212.D	Tissue	06/12/18 19:25
LDW18-A12-CLWB-Comp1	18E0282-06	N818061213.D	Tissue	06/12/18 19:52
LDW18-A09-CLWB-Comp1	18E0282-07	N818061214.D	Tissue	06/12/18 20:18
LDW18-A10-CLWB-Comp1	18E0282-08	N818061215.D	Tissue	06/12/18 20:45
LDW18-A18-CLWB-Comp1	18E0282-09	N818061216.D	Tissue	06/12/18 21:12
LDW18-A17-CLWB-Comp1	18E0282-10	N818061217.D	Tissue	06/12/18 21:39
LDW18-A07-CLWB-Comp1	18E0309-03	N818061218.D	Tissue	06/12/18 22:06
LDW18-A08-CLWB-Comp1	18E0309-04	N818061219.D	Tissue	06/12/18 22:33
LDW18-A11-CLWB-Comp1	18E0231-01	N818061220.D	Tissue	06/12/18 23:00
LDW18-A11-CLWB-Comp1	BGE0773-MS1	N818061221.D	Tissue	06/12/18 23:26
LDW18-A11-CLWB-Comp1	BGE0773-MSD1	N818061222.D	Tissue	06/12/18 23:53
LDW18-A13-CLWB-Comp1	18E0389-01	N818061223.D	Tissue	06/13/18 00:20
Calibration Check	SGF0149-CCV1	N818061224.D	NA	06/13/18 00:47

Printed: 6/13/2018 3:03:23PM

ANALYSIS SEQUENCE

SGF0149

Instrument: NT8 Element Column ID: E006479
Calibration ID: BC00011 Tune File: 171120.U
EM Voltage: 1776

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SGF0149-TUN1	MS Tune	QC		1	G000074		
SGF0149-ICV1	Initial Cal Verification	QC		2	F010863	G003194	
BGE0773-BLK1	Blank	QC		3		G003194	
BGE0773-BS1	LCS	QC		4		G003194	
BGE0773-SRM1	Reference	QC		5		G003194	
18E0262-03	LDW18-A19-CLWB-Comp01	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	6		G003194	
18E0243-07	LDW18-SSCL-A01-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	7		G003194	
18E0243-08	LDW18-SSCL-A02-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	8		G003194	
18E0243-09	LDW18-SSCL-A06-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	9		G003194	
18E0243-10	LDW18-SSCL-A04-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	10		G003194	
18E0243-11	LDW18-SSCL-A03-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	11		G003194	
18E0243-12	LDW18-SSCL-A05-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	12		G003194	
18E0231-01	LDW18-A11-CLWB-Comp01	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	13		G003194	
BGE0773-MS1	Matrix Spike	QC		14		G003194	
BGE0773-MSD1	Matrix Spike Dup	QC		15		G003194	
18E0282-06	LDW18-A12-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	16		G003194	
18E0282-07	LDW18-A09-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	17		G003194	
18E0282-08	LDW18-A10-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	18		G003194	
18E0282-09	LDW18-A18-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	19		G003194	
18E0282-10	LDW18-A17-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	20		G003194	
18E0309-03	LDW18-A07-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	21		G003194	
18E0309-04	LDW18-A08-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	22		G003194	

ANALYSIS SEQUENCE

SGF0149

Instrument: NT8 Element Column ID: E006479
Calibration ID: BC00011 Tune File: 171120.U
EM Voltage: 1776

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
18E0389-01	LDW18-A13-CLWB-Comp1	8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	A 01	23		G003194	
SGF0149-CCV1	Calibration Check	QC		24	F010863	G003194	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b

	Time	Filename	LabID	ClientId	DF											
1	1436	N818061201.D	SGF0149-TUN1		1	|NO ISTDS FOUND||										
2	1449	N818061202.D	SGF0149-ICV1		1	| 4.46	104720||	6.72	54402||	8.74	106802||	13.35	135402||	17.10	113961|
3	1523	N818061203.D	BGE0773-BLK1		1	| 4.46	148577||	6.72	78533||	8.74	155209||	13.35	161959||	17.10	154347|
4	1550	N818061204.D	BGE0773-BS1		1	| 4.45	158709||	6.72	86790||	8.74	161828||	13.34	171268||	17.10	156871|
5	1616	N818061205.D	BGE0773-SRM1		1	| 4.45	151838||	6.72	82171||	8.74	162456||	13.34	168581||	17.09	159426|
6	1643	N818061206.D	18E0262-03		1	| 4.45	156243||	6.72	81848||	8.74	145161||	13.34	153574||	17.09	150341|
7	1710	N818061207.D	18E0243-07		1	| 4.44	160756||	6.72	84324||	8.74	147724||	13.35	149406||	17.09	147191|
8	1737	N818061208.D	18E0243-08		1	| 4.45	170975||	6.72	90843||	8.74	160561||	13.34	158274||	17.10	156689|
9	1804	N818061209.D	18E0243-09		1	| 4.45	171137||	6.72	89160||	8.74	156164||	13.34	157189||	17.09	150051|
10	1831	N818061210.D	18E0243-10		1	| 4.44	175165||	6.72	90403||	8.74	160361||	13.34	162214||	17.09	159435|
11	1858	N818061211.D	18E0243-11		1	| 4.44	163726||	6.72	86975||	8.74	147460||	13.34	156153||	17.10	149861|
12	1925	N818061212.D	18E0243-12		1	| 4.44	168097||	6.72	88888||	8.74	157393||	13.34	163261||	17.09	155440|
13	1952	N818061213.D	18E0282-06		1	| 4.45	176179||	6.72	93249||	8.74	163200||	13.34	162671||	17.10	161739|
14	2018	N818061214.D	18E0282-07		1	| 4.45	166777||	6.72	84951||	8.74	151589||	13.35	157060||	17.09	155083|
15	2045	N818061215.D	18E0282-08		1	| 4.45	164768||	6.72	82444||	8.74	153866||	13.34	155723||	17.09	152989|
16	2112	N818061216.D	18E0282-09		1	| 4.45	175307||	6.72	91874||	8.74	159146||	13.34	158159||	17.09	155295|
17	2139	N818061217.D	18E0282-10		1	| 4.45	171666||	6.72	92585||	8.74	157684||	13.35	161979||	17.09	157190|
18	2206	N818061218.D	18E0309-03		1	| 4.45	170369||	6.72	83918||	8.74	161141||	13.34	163312||	17.09	159609|
19	2233	N818061219.D	18E0309-04		1	| 4.44	166985||	6.72	85596||	8.74	156939||	13.35	164990||	17.09	160712|
20	2300	N818061220.D	18E0231-01		1	| 4.44	159361||	6.72	83363||	8.74	145655||	13.34	151153||	17.09	150149|

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b

	Time	Filename	LabID	ClientId	DF											
21	2326	N818061221.D	BGE0773-MS1		1	4.45	163450	6.72	86733	8.74	152249	13.35	157591	17.10	153713
22	2353	N818061222.D	BGE0773-MSD1		1	4.45	167125	6.72	87224	8.74	152999	13.34	155664	17.10	151579
23	0020	N818061223.D	18E0389-01		1	4.44	158470	6.72	84534	8.74	148094	13.35	151961	17.10	144833
24	0047	N818061224.D	SGF0149-CCV1		1	4.45	113417	6.72	59931	8.74	118170	13.34	140277	17.10	122019

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b

ARI Job No.: SGF0 Method: FSIMPNA180305.m Instrument: nt8.i Date: 12-JUN-2018

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1449	N818061202.D	SGF0149-ICV1		1	Total Benzofluoranthenes,
1523	N818061203.D	BGE0773-BLK1		1	NO MANUAL INTEGRATION
1550	N818061204.D	BGE0773-BS1		1	Total Benzofluoranthenes,
1616	N818061205.D	BGE0773-SRM1		1	Total Benzofluoranthenes,
1643	N818061206.D	18E0262-03		1	Total Benzofluoranthenes,
1710	N818061207.D	18E0243-07		1	Total Benzofluoranthenes,
1737	N818061208.D	18E0243-08		1	Total Benzofluoranthenes,
1804	N818061209.D	18E0243-09		1	Chrysene, Benzo(k)fluoranthene, Total Benzofluoranthenes,
1831	N818061210.D	18E0243-10		1	Total Benzofluoranthenes,
1858	N818061211.D	18E0243-11		1	Total Benzofluoranthenes,
1925	N818061212.D	18E0243-12		1	Chrysene, Total Benzofluoranthenes,
1952	N818061213.D	18E0282-06		1	NO MANUAL INTEGRATION
2018	N818061214.D	18E0282-07		1	Benzo(k)fluoranthene, Total Benzofluoranthenes,
2045	N818061215.D	18E0282-08		1	Chrysene, Total Benzofluoranthenes,
2112	N818061216.D	18E0282-09		1	Total Benzofluoranthenes,
2139	N818061217.D	18E0282-10		1	Chrysene, Total Benzofluoranthenes,
2206	N818061218.D	18E0309-03		1	2-Methylnaphthalene, Phenanthrene, Chrysene, 1-methylnaphthalene, Total Benzofluoranthenes,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20180612.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2233	N818061219.D	18E0309-04		1	Phenanthrene, Chrysene, Total Benzofluoranthenes,
2300	N818061220.D	18E0231-01		1	Benzo(a)anthracene, Chrysene, Benzo(k)fluoranthene, Total Benzofluoranthenes, Perylene,
2326	N818061221.D	BGE0773-MS1		1	Total Benzofluoranthenes,
2353	N818061222.D	BGE0773-MSD1		1	Total Benzofluoranthenes,
0020	N818061223.D	18E0389-01		1	Pyrene, Chrysene, Total Benzofluoranthenes,
0047	N818061224.D	SGF0149-CCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 13-Jun-2018 15:05

N818061201.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061202.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061203.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061204.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061205.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061206.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061207.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061208.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061209.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061210.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061211.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061212.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061213.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061214.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061215.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061216.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061217.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061218.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061219.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061220.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061221.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061222.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061223.D	Data Locked	jianqing, 13-Jun-2018 15:05
N818061224.D	Data Locked	jianqing, 13-Jun-2018 15:05

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGC0048	Instrument:	NT8
Calibration:	BC00011	Calibration Date:	03/05/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGC0048-SCV1 (Water)			Lab File ID: N818030508.D			Analyzed: 03/05/18 13:29		
2-Methylnaphthalene-d10	2.5000	99.3	0 - 200	5.441	5.4365	0.0045	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	112	0 - 200	19.967	19.954	0.0130	N/A	
Fluoranthene-d10	2.5000	105	0 - 200	10.734	10.725	0.0090	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011
Calibration Date: 03/05/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0017-ICV1 (Water)			Lab File ID: N818060102.D			Analyzed: 06/01/18 14:50		
2-Methylnaphthalene-d10	2.5000	99.0	80 - 120	5.191	5.4365	-0.2455	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	106	80 - 120	19.338	19.954	-0.6160	N/A	
Fluoranthene-d10	2.5000	101	80 - 120	10.402	10.725	-0.3230	N/A	
BGE0626-BLK1 (Solid)			Lab File ID: N818060103.D			Analyzed: 06/01/18 15:17		
2-Methylnaphthalene-d10	150.00	45.8	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	150.00	70.2	21 - 133	19.325	19.954	-0.6290	N/A	
Fluoranthene-d10	150.00	68.1	36 - 134	10.396	10.725	-0.3290	N/A	
BGE0626-BS1 (Solid)			Lab File ID: N818060104.D			Analyzed: 06/01/18 15:44		
2-Methylnaphthalene-d10	150.00	44.5	32 - 120	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	150.00	76.9	21 - 133	19.332	19.954	-0.6220	N/A	
Fluoranthene-d10	150.00	67.2	36 - 134	10.399	10.725	-0.3260	N/A	
BGE0626-SRM1 (Solid)			Lab File ID: N818060105.D			Analyzed: 06/01/18 16:11		
2-Methylnaphthalene-d10	300.00	46.2	32 - 120	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	300.00	75.8	21 - 133	19.328	19.954	-0.6260	N/A	
Fluoranthene-d10	300.00	68.5	36 - 134	10.399	10.725	-0.3260	N/A	
18E0231-02 (Solid)			Lab File ID: N818060106.D			Analyzed: 06/01/18 16:37		
2-Methylnaphthalene-d10	146.12	42.8	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	146.12	69.7	21 - 133	19.363	19.954	-0.5910	N/A	
Fluoranthene-d10	146.12	64.6	36 - 134	10.405	10.725	-0.3200	N/A	
18E0231-03 (Solid)			Lab File ID: N818060107.D			Analyzed: 06/01/18 17:04		
2-Methylnaphthalene-d10	145.53	37.6	32 - 120	5.191	5.4365	-0.2455	N/A	
Dibenzo[a,h]anthracene-d14	145.53	60.9	21 - 133	19.363	19.954	-0.5910	N/A	
Fluoranthene-d10	145.53	52.4	36 - 134	10.405	10.725	-0.3200	N/A	
18E0243-01 (Solid)			Lab File ID: N818060108.D			Analyzed: 06/01/18 17:31		
2-Methylnaphthalene-d10	148.43	43.1	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	148.43	77.1	21 - 133	19.367	19.954	-0.5870	N/A	
Fluoranthene-d10	148.43	59.7	36 - 134	10.409	10.725	-0.3160	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011
Calibration Date: 03/05/2018

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18E0243-02 (Solid)				Lab File ID: N818060109.D			Analyzed: 06/01/18 17:58	
2-Methylnaphthalene-d10	143.47	35.4	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	143.47	62.3	21 - 133	19.341	19.954	-0.6130	N/A	
Fluoranthene-d10	143.47	51.0	36 - 134	10.399	10.725	-0.3260	N/A	
18E0243-04 (Solid)				Lab File ID: N818060111.D			Analyzed: 06/01/18 18:52	
2-Methylnaphthalene-d10	149.38	43.5	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	149.38	69.0	21 - 133	19.363	19.954	-0.5910	N/A	
Fluoranthene-d10	149.38	58.6	36 - 134	10.412	10.725	-0.3130	N/A	
18E0243-05 (Solid)				Lab File ID: N818060112.D			Analyzed: 06/01/18 19:18	
2-Methylnaphthalene-d10	143.62	40.1	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	143.62	72.8	21 - 133	19.344	19.954	-0.6100	N/A	
Fluoranthene-d10	143.62	56.3	36 - 134	10.402	10.725	-0.3230	N/A	
18E0243-06 (Solid)				Lab File ID: N818060113.D			Analyzed: 06/01/18 19:45	
2-Methylnaphthalene-d10	143.74	46.0	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	143.74	79.3	21 - 133	19.341	19.954	-0.6130	N/A	
Fluoranthene-d10	143.74	61.6	36 - 134	10.402	10.725	-0.3230	N/A	
18E0243-01RE1 (Solid)				Lab File ID: N818060114.D			Analyzed: 06/01/18 20:12	
2-Methylnaphthalene-d10	148.43	47.9	32 - 120	5.191	5.4365	-0.2455	N/A	
Dibenzo[a,h]anthracene-d14	148.43	81.0	21 - 133	19.341	19.954	-0.6130	N/A	
Fluoranthene-d10	148.43	62.2	36 - 134	10.402	10.725	-0.3230	N/A	
18E0243-03 (Solid)				Lab File ID: N818060115.D			Analyzed: 06/01/18 20:39	
2-Methylnaphthalene-d10	148.28	50.9	32 - 120	5.191	5.4365	-0.2455	N/A	
Dibenzo[a,h]anthracene-d14	148.28	52.5	21 - 133	19.36	19.954	-0.5940	N/A	
Fluoranthene-d10	148.28	59.3	36 - 134	10.406	10.725	-0.3190	N/A	
18E0243-03RE1 (Solid)				Lab File ID: N818060116.D			Analyzed: 06/01/18 21:06	
2-Methylnaphthalene-d10	148.28		32 - 120		5.4365	-5.4365	N/A	D1
Dibenzo[a,h]anthracene-d14	148.28		21 - 133		19.954	-19.9540	N/A	D1
Fluoranthene-d10	148.28		36 - 134		10.725	-10.7250	N/A	D1

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011
Calibration Date: 03/05/2018

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18E0262-01 (Solid)				Lab File ID: N818060117.D			Analyzed: 06/01/18 21:32	
2-Methylnaphthalene-d10	142.19	44.9	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	142.19	70.7	21 - 133	19.373	19.954	-0.5810	N/A	
Fluoranthene-d10	142.19	56.4	36 - 134	10.402	10.725	-0.3230	N/A	
18E0262-02 (Solid)				Lab File ID: N818060118.D			Analyzed: 06/01/18 21:59	
2-Methylnaphthalene-d10	145.89	42.3	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	145.89	74.3	21 - 133	19.354	19.954	-0.6000	N/A	
Fluoranthene-d10	145.89	58.5	36 - 134	10.406	10.725	-0.3190	N/A	
18E0282-01 (Solid)				Lab File ID: N818060119.D			Analyzed: 06/01/18 22:26	
2-Methylnaphthalene-d10	147.09	41.2	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	147.09	71.5	21 - 133	19.354	19.954	-0.6000	N/A	
Fluoranthene-d10	147.09	57.9	36 - 134	10.405	10.725	-0.3200	N/A	
18E0282-02 (Solid)				Lab File ID: N818060120.D			Analyzed: 06/01/18 22:53	
2-Methylnaphthalene-d10	148.41	30.8	32 - 120	5.188	5.4365	-0.2485	N/A	*
Dibenzo[a,h]anthracene-d14	148.41	39.3	21 - 133	19.36	19.954	-0.5940	N/A	
Fluoranthene-d10	148.41	39.7	36 - 134	10.409	10.725	-0.3160	N/A	
18E0282-03 (Solid)				Lab File ID: N818060121.D			Analyzed: 06/01/18 23:20	
2-Methylnaphthalene-d10	149.20	32.9	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	149.20	42.1	21 - 133	19.385	19.954	-0.5690	N/A	
Fluoranthene-d10	149.20	38.8	36 - 134	10.409	10.725	-0.3160	N/A	
18E0282-04 (Solid)				Lab File ID: N818060122.D			Analyzed: 06/01/18 23:47	
2-Methylnaphthalene-d10	144.96	31.8	32 - 120	5.188	5.4365	-0.2485	N/A	*
Dibenzo[a,h]anthracene-d14	144.96	45.3	21 - 133	19.344	19.954	-0.6100	N/A	
Fluoranthene-d10	144.96	40.8	36 - 134	10.406	10.725	-0.3190	N/A	
18E0282-05 (Solid)				Lab File ID: N818060123.D			Analyzed: 06/02/18 00:13	
2-Methylnaphthalene-d10	143.80	38.3	32 - 120	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	143.80	70.8	21 - 133	19.344	19.954	-0.6100	N/A	
Fluoranthene-d10	143.80	54.9	36 - 134	10.402	10.725	-0.3230	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0017	Instrument:	NT8
Calibration:	BC00011	Calibration Date:	03/05/2018

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BGE0626-MS1 (Solid)				Lab File ID: N818060124.D			Analyzed: 06/02/18 00:40	
2-Methylnaphthalene-d10	142.97	43.7	32 - 120	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	142.97	75.5	21 - 133	19.344	19.954	-0.6100	N/A	
Fluoranthene-d10	142.97	57.9	36 - 134	10.402	10.725	-0.3230	N/A	
BGE0626-MSD1 (Solid)				Lab File ID: N818060125.D			Analyzed: 06/02/18 01:07	
2-Methylnaphthalene-d10	143.21	44.0	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	143.21	76.7	21 - 133	19.341	19.954	-0.6130	N/A	
Fluoranthene-d10	143.21	59.3	36 - 134	10.402	10.725	-0.3230	N/A	
18E0309-01 (Solid)				Lab File ID: N818060126.D			Analyzed: 06/02/18 01:34	
2-Methylnaphthalene-d10	149.02	50.8	32 - 120	5.188	5.4365	-0.2485	N/A	
Dibenzo[a,h]anthracene-d14	149.02	76.9	21 - 133	19.347	19.954	-0.6070	N/A	
Fluoranthene-d10	149.02	62.6	36 - 134	10.402	10.725	-0.3230	N/A	
18E0309-02 (Solid)				Lab File ID: N818060127.D			Analyzed: 06/02/18 02:01	
2-Methylnaphthalene-d10	149.11	41.8	32 - 120	5.191	5.4365	-0.2455	N/A	
Dibenzo[a,h]anthracene-d14	149.11	67.8	21 - 133	19.36	19.954	-0.5940	N/A	
Fluoranthene-d10	149.11	57.5	36 - 134	10.408	10.725	-0.3170	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0027	Instrument:	NT8
Calibration:	BC00011	Calibration Date:	03/05/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0027-ICV1 (Water)			Lab File ID: N818060402.D				Analyzed: 06/04/18 10:34	
2-Methylnaphthalene-d10	2.5000	99.2	80 - 120	5.179	5.4365	-0.2575	N/A	
2-Methylnaphthalene-d10	2.5000	99.2	80 - 120	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	92.8	80 - 120	19.3	19.954	-0.6540	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	92.8	80 - 120	19.3	19.954	-0.6540	N/A	
Fluoranthene-d10	2.5000	95.2	0 - 200	10.383	10.725	-0.3420	N/A	
Fluoranthene-d10	2.5000	95.2	0 - 200	10.383	10.725	-0.3420	N/A	
18E0282-03RE1 (Solid)			Lab File ID: N818060406.D				Analyzed: 06/04/18 12:34	
2-Methylnaphthalene-d10	149.20	32.1	32 - 120	5.176	5.4365	-0.2605	N/A	
2-Methylnaphthalene-d10	149.20	32.1	32 - 120	5.176	5.4365	-0.2605	N/A	
Dibenzo[a,h]anthracene-d14	149.20	51.5	21 - 133	19.3	19.954	-0.6540	N/A	
Dibenzo[a,h]anthracene-d14	149.20	51.5	21 - 133	19.3	19.954	-0.6540	N/A	
Fluoranthene-d10	149.20	36.6	36 - 134	10.38	10.725	-0.3450	N/A	
Fluoranthene-d10	149.20	36.6	36 - 134	10.38	10.725	-0.3450	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011
Calibration Date: 03/05/2018

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SGF0149-ICV1 (Tissue)				Lab File ID: N818061202.D			Analyzed: 06/12/18 14:49	
2-Methylnaphthalene-d10	2.5000	97.3	80 - 120	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	108	80 - 120	19.325	19.954	-0.6290	N/A	
Fluoranthene-d10	2.5000	99.6	80 - 120	10.396	10.725	-0.3290	N/A	
BGE0773-BLK1 (Tissue)				Lab File ID: N818061203.D			Analyzed: 06/12/18 15:23	
2-Methylnaphthalene-d10	150.00	39.8	20 - 130	5.185	5.4365	-0.2515	N/A	
Dibenzo[a,h]anthracene-d14	150.00	84.5	20 - 130	19.325	19.954	-0.6290	N/A	
Fluoranthene-d10	150.00	71.1	20 - 130	10.396	10.725	-0.3290	N/A	
BGE0773-BS1 (Tissue)				Lab File ID: N818061204.D			Analyzed: 06/12/18 15:50	
2-Methylnaphthalene-d10	150.00	41.8	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	150.00	71.5	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	150.00	60.0	20 - 130	10.39	10.725	-0.3350	N/A	
BGE0773-SRM1 (Tissue)				Lab File ID: N818061205.D			Analyzed: 06/12/18 16:16	
2-Methylnaphthalene-d10	297.03	37.7	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	297.03	72.3	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	297.03	61.0	20 - 130	10.39	10.725	-0.3350	N/A	
18E0262-03 (Tissue)				Lab File ID: N818061206.D			Analyzed: 06/12/18 16:43	
2-Methylnaphthalene-d10	149.85	37.8	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.85	70.1	20 - 130	19.316	19.954	-0.6380	N/A	
Fluoranthene-d10	149.85	59.3	20 - 130	10.39	10.725	-0.3350	N/A	
18E0243-07 (Tissue)				Lab File ID: N818061207.D			Analyzed: 06/12/18 17:10	
2-Methylnaphthalene-d10	150.00	41.4	20 - 130	5.176	5.4365	-0.2605	N/A	
Dibenzo[a,h]anthracene-d14	150.00	68.7	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	150.00	57.0	20 - 130	10.39	10.725	-0.3350	N/A	
18E0243-08 (Tissue)				Lab File ID: N818061208.D			Analyzed: 06/12/18 17:37	
2-Methylnaphthalene-d10	149.70	41.0	20 - 130	5.176	5.4365	-0.2605	N/A	
Dibenzo[a,h]anthracene-d14	149.70	69.0	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	149.70	56.4	20 - 130	10.39	10.725	-0.3350	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG/WO: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011
Calibration Date: 03/05/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18E0243-09 (Tissue)				Lab File ID: N818061209.D			Analyzed: 06/12/18 18:04	
2-Methylnaphthalene-d10	149.55	39.2	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.55	72.6	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	149.55	59.1	20 - 130	10.39	10.725	-0.3350	N/A	
18E0243-10 (Tissue)				Lab File ID: N818061210.D			Analyzed: 06/12/18 18:31	
2-Methylnaphthalene-d10	148.96	39.9	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.96	62.3	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	148.96	50.5	20 - 130	10.39	10.725	-0.3350	N/A	
18E0243-11 (Tissue)				Lab File ID: N818061211.D			Analyzed: 06/12/18 18:58	
2-Methylnaphthalene-d10	149.11	43.8	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.11	68.5	20 - 130	19.326	19.954	-0.6280	N/A	
Fluoranthene-d10	149.11	59.3	20 - 130	10.393	10.725	-0.3320	N/A	
18E0243-12 (Tissue)				Lab File ID: N818061212.D			Analyzed: 06/12/18 19:25	
2-Methylnaphthalene-d10	147.93	40.1	20 - 130	5.176	5.4365	-0.2605	N/A	
Dibenzo[a,h]anthracene-d14	147.93	64.1	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	147.93	52.9	20 - 130	10.393	10.725	-0.3320	N/A	
18E0282-06 (Tissue)				Lab File ID: N818061213.D			Analyzed: 06/12/18 19:52	
2-Methylnaphthalene-d10	149.25	36.3	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.25	62.9	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	149.25	50.1	20 - 130	10.39	10.725	-0.3350	N/A	
18E0282-07 (Tissue)				Lab File ID: N818061214.D			Analyzed: 06/12/18 20:18	
2-Methylnaphthalene-d10	148.81	41.4	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.81	67.6	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	148.81	57.3	20 - 130	10.393	10.725	-0.3320	N/A	
18E0282-08 (Tissue)				Lab File ID: N818061215.D			Analyzed: 06/12/18 20:45	
2-Methylnaphthalene-d10	148.08	37.4	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.08	60.0	20 - 130	19.316	19.954	-0.6380	N/A	
Fluoranthene-d10	148.08	49.9	20 - 130	10.393	10.725	-0.3320	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0149	Instrument:	NT8
Calibration:	BC00011	Calibration Date:	03/05/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18E0282-09 (Tissue)			Lab File ID: N818061216.D			Analyzed: 06/12/18 21:12		
2-Methylnaphthalene-d10	148.66	41.8	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.66	68.6	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	148.66	55.1	20 - 130	10.393	10.725	-0.3320	N/A	
18E0282-10 (Tissue)			Lab File ID: N818061217.D			Analyzed: 06/12/18 21:39		
2-Methylnaphthalene-d10	149.25	40.6	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.25	68.9	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	149.25	55.2	20 - 130	10.39	10.725	-0.3350	N/A	
18E0309-03 (Tissue)			Lab File ID: N818061218.D			Analyzed: 06/12/18 22:06		
2-Methylnaphthalene-d10	148.22	35.6	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.22	63.2	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	148.22	49.6	20 - 130	10.393	10.725	-0.3320	N/A	
18E0309-04 (Tissue)			Lab File ID: N818061219.D			Analyzed: 06/12/18 22:33		
2-Methylnaphthalene-d10	147.78	38.1	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	147.78	62.3	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	147.78	52.1	20 - 130	10.393	10.725	-0.3320	N/A	
18E0231-01 (Tissue)			Lab File ID: N818061220.D			Analyzed: 06/12/18 23:00		
2-Methylnaphthalene-d10	148.96	46.2	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	148.96	68.9	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	148.96	58.4	20 - 130	10.39	10.725	-0.3350	N/A	
BGE0773-MS1 (Tissue)			Lab File ID: N818061221.D			Analyzed: 06/12/18 23:26		
2-Methylnaphthalene-d10	149.55	45.7	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.55	69.0	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	149.55	58.1	20 - 130	10.393	10.725	-0.3320	N/A	
BGE0773-MSD1 (Tissue)			Lab File ID: N818061222.D			Analyzed: 06/12/18 23:53		
2-Methylnaphthalene-d10	149.55	49.1	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	149.55	82.0	20 - 130	19.322	19.954	-0.6320	N/A	
Fluoranthene-d10	149.55	64.5	20 - 130	10.393	10.725	-0.3320	N/A	

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG/WO:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0149	Instrument:	NT8
Calibration:	BC00011	Calibration Date:	03/05/2018

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
18E0389-01 (Tissue)				Lab File ID: N818061223.D			Analyzed: 06/13/18 00:20	
2-Methylnaphthalene-d10	147.78	42.7	20 - 130	5.179	5.4365	-0.2575	N/A	
Dibenzo[a,h]anthracene-d14	147.78	68.9	20 - 130	19.319	19.954	-0.6350	N/A	
Fluoranthene-d10	147.78	55.2	20 - 130	10.393	10.725	-0.3320	N/A	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGC0048	Instrument:	NT8
		Calibration:	BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SGC0048-SCV1)		(Water)		Lab File ID: N818030508.D				Analyzed: 03/05/18 13:29	
Naphthalene-d8	121767	4.711	122190	4.708	100	50 - 200	-0.0030	+/-0.50	
Acenaphthene-d10	64967	6.987	65789	6.981	99	50 - 200	-0.0060	+/-0.50	
Phenanthrene-d10	126225	9.017	128644	9.008	98	50 - 200	-0.0090	+/-0.50	
Chrysene-d12	146413	13.817	166669	13.802	88	50 - 200	-0.0150	+/-0.50	
Perylene-d12	128443	17.646	140483	17.64	91	50 - 200	-0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGF0017-ICV1)		(Water)		Lab File ID: N818060102.D				Analyzed: 06/01/18 14:50	
Naphthalene-d8	107166	4.464	122190	4.464	88	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	55858	6.728	65789	6.728	85	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	116125	8.745	128644	8.745	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12	156814	13.356	166669	13.356	94	50 - 200	0.0000	+/-0.50	
Perylene-d12	131068	17.112	140483	17.112	93	50 - 200	0.0000	+/-0.50	
Blank (BGE0626-BLK1)		(Solid)		Lab File ID: N818060103.D				Analyzed: 06/01/18 15:17	
Naphthalene-d8	136656	4.455	122190	4.464	112	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	73418	6.722	65789	6.728	112	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	146262	8.742	128644	8.745	114	50 - 200	0.0030	+/-0.50	
Chrysene-d12	174707	13.349	166669	13.356	105	50 - 200	0.0070	+/-0.50	
Perylene-d12	160751	17.103	140483	17.112	114	50 - 200	0.0090	+/-0.50	
LCS (BGE0626-BS1)		(Solid)		Lab File ID: N818060104.D				Analyzed: 06/01/18 15:44	
Naphthalene-d8	154320	4.455	122190	4.464	126	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	81269	6.725	65789	6.728	124	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	161355	8.742	128644	8.745	125	50 - 200	0.0030	+/-0.50	
Chrysene-d12	188183	13.352	166669	13.356	113	50 - 200	0.0040	+/-0.50	
Perylene-d12	174825	17.106	140483	17.112	124	50 - 200	0.0060	+/-0.50	
Reference (BGE0626-SRM1)		(Solid)		Lab File ID: N818060105.D				Analyzed: 06/01/18 16:11	
Naphthalene-d8	146295	4.455	122190	4.464	120	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	77918	6.722	65789	6.728	118	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	145392	8.742	128644	8.745	113	50 - 200	0.0030	+/-0.50	
Chrysene-d12	168873	13.352	166669	13.356	101	50 - 200	0.0040	+/-0.50	
Perylene-d12	164699	17.102	140483	17.112	117	50 - 200	0.0100	+/-0.50	
LDW18-SSCL-A11 (18E0231-02)		(Solid)		Lab File ID: N818060106.D				Analyzed: 06/01/18 16:37	
Naphthalene-d8	169357	4.458	122190	4.464	139	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	85711	6.725	65789	6.728	130	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	162513	8.745	128644	8.745	126	50 - 200	0.0000	+/-0.50	
Chrysene-d12	205743	13.368	166669	13.356	123	50 - 200	-0.0120	+/-0.50	
Perylene-d12	219394	17.134	140483	17.112	156	50 - 200	-0.0220	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-SSCL-A11-FD (18E0231-03)		(Solid)		Lab File ID: N818060107.D				Analyzed: 06/01/18 17:04	
Naphthalene-d8	195224	4.461	122190	4.464	160	50 - 200	0.0030	+/-0.50	
Acenaphthene-d10	98366	6.725	65789	6.728	150	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	182108	8.745	128644	8.745	142	50 - 200	0.0000	+/-0.50	
Chrysene-d12	223155	13.371	166669	13.356	134	50 - 200	-0.0150	+/-0.50	
Perylene-d12	227520	17.134	140483	17.112	162	50 - 200	-0.0220	+/-0.50	
LDW18-SSCL-A01 (18E0243-01)		(Solid)		Lab File ID: N818060108.D				Analyzed: 06/01/18 17:31	
Naphthalene-d8	210470	4.455	122190	4.464	172	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	106530	6.725	65789	6.728	162	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	194755	8.746	128644	8.745	151	50 - 200	-0.0010	+/-0.50	
Chrysene-d12	220984	13.368	166669	13.356	133	50 - 200	-0.0120	+/-0.50	
Perylene-d12	224187	17.134	140483	17.112	160	50 - 200	-0.0220	+/-0.50	
LDW18-SSCL-A02 (18E0243-02)		(Solid)		Lab File ID: N818060109.D				Analyzed: 06/01/18 17:58	
Naphthalene-d8	197235	4.458	122190	4.464	161	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	99695	6.725	65789	6.728	152	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	180950	8.745	128644	8.745	141	50 - 200	0.0000	+/-0.50	
Chrysene-d12	195315	13.356	166669	13.356	117	50 - 200	0.0000	+/-0.50	
Perylene-d12	188548	17.112	140483	17.112	134	50 - 200	0.0000	+/-0.50	
LDW18-SSCL-A05 (18E0243-04)		(Solid)		Lab File ID: N818060111.D				Analyzed: 06/01/18 18:52	
Naphthalene-d8	218829	4.455	122190	4.464	179	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	108069	6.728	65789	6.728	164	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	200441	8.752	128644	8.745	156	50 - 200	-0.0070	+/-0.50	
Chrysene-d12	225406	13.374	166669	13.356	135	50 - 200	-0.0180	+/-0.50	
Perylene-d12	233168	17.134	140483	17.112	166	50 - 200	-0.0220	+/-0.50	
LDW18-SSCL-A04 (18E0243-05)		(Solid)		Lab File ID: N818060112.D				Analyzed: 06/01/18 19:18	
Naphthalene-d8	215463	4.458	122190	4.464	176	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	109765	6.725	65789	6.728	167	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	195604	8.745	128644	8.745	152	50 - 200	0.0000	+/-0.50	
Chrysene-d12	204426	13.362	166669	13.356	123	50 - 200	-0.0060	+/-0.50	
Perylene-d12	198564	17.112	140483	17.112	141	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-SSCL-A06 (18E0243-06)		(Solid)		Lab File ID: N818060113.D				Analyzed: 06/01/18 19:45	
Naphthalene-d8	194040	4.455	122190	4.464	159	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	98030	6.725	65789	6.728	149	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	174318	8.745	128644	8.745	136	50 - 200	0.0000	+/-0.50	
Chrysene-d12	183393	13.359	166669	13.356	110	50 - 200	-0.0030	+/-0.50	
Perylene-d12	177151	17.115	140483	17.112	126	50 - 200	-0.0030	+/-0.50	
LDW18-SSCL-A01 (18E0243-01RE1)		(Solid)		Lab File ID: N818060114.D				Analyzed: 06/01/18 20:12	
Naphthalene-d8	192239	4.461	122190	4.464	157	50 - 200	0.0030	+/-0.50	
Acenaphthene-d10	100182	6.725	65789	6.728	152	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	178300	8.745	128644	8.745	139	50 - 200	0.0000	+/-0.50	
Chrysene-d12	186339	13.362	166669	13.356	112	50 - 200	-0.0060	+/-0.50	
Perylene-d12	184819	17.118	140483	17.112	132	50 - 200	-0.0060	+/-0.50	
LDW18-SSCL-A03 (18E0243-03)		(Solid)		Lab File ID: N818060115.D				Analyzed: 06/01/18 20:39	
Naphthalene-d8	181133	4.464	122190	4.464	148	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	91639	6.728	65789	6.728	139	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	169530	8.746	128644	8.745	132	50 - 200	-0.0010	+/-0.50	
Chrysene-d12	186277	13.368	166669	13.356	112	50 - 200	-0.0120	+/-0.50	
Perylene-d12	187148	17.125	140483	17.112	133	50 - 200	-0.0130	+/-0.50	
LDW18-SSCL-A03 (18E0243-03RE1)		(Solid)		Lab File ID: N818060116.D				Analyzed: 06/01/18 21:06	
Naphthalene-d8	198694	4.464	122190	4.464	163	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	109149	6.725	65789	6.728	166	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	204659	8.742	128644	8.745	159	50 - 200	0.0030	+/-0.50	
Chrysene-d12	208963	13.359	166669	13.356	125	50 - 200	-0.0030	+/-0.50	
Perylene-d12	199072	17.109	140483	17.112	142	50 - 200	0.0030	+/-0.50	
LDW18-SSCL-A13 (18E0262-01)		(Solid)		Lab File ID: N818060117.D				Analyzed: 06/01/18 21:32	
Naphthalene-d8	183378	4.451	122190	4.464	150	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	90840	6.725	65789	6.728	138	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	168484	8.742	128644	8.745	131	50 - 200	0.0030	+/-0.50	
Chrysene-d12	189115	13.368	166669	13.356	113	50 - 200	-0.0120	+/-0.50	
Perylene-d12	194545	17.137	140483	17.112	138	50 - 200	-0.0250	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-SSCL-A19 (18E0262-02)		(Solid)		Lab File ID: N818060118.D				Analyzed: 06/01/18 21:59	
Naphthalene-d8	205154	4.455	122190	4.464	168	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	103668	6.725	65789	6.728	158	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	184582	8.746	128644	8.745	143	50 - 200	-0.0010	+/-0.50	
Chrysene-d12	200863	13.362	166669	13.356	121	50 - 200	-0.0060	+/-0.50	
Perylene-d12	205465	17.125	140483	17.112	146	50 - 200	-0.0130	+/-0.50	
LDW18-SSCL-A12 (18E0282-01)		(Solid)		Lab File ID: N818060119.D				Analyzed: 06/01/18 22:26	
Naphthalene-d8	202705	4.455	122190	4.464	166	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	100867	6.728	65789	6.728	153	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	180670	8.745	128644	8.745	140	50 - 200	0.0000	+/-0.50	
Chrysene-d12	201443	13.365	166669	13.356	121	50 - 200	-0.0090	+/-0.50	
Perylene-d12	204254	17.128	140483	17.112	145	50 - 200	-0.0160	+/-0.50	
LDW18-SSCL-A17 (18E0282-02)		(Solid)		Lab File ID: N818060120.D				Analyzed: 06/01/18 22:53	
Naphthalene-d8	208944	4.455	122190	4.464	171	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	99593	6.728	65789	6.728	151	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	188007	8.749	128644	8.745	146	50 - 200	-0.0040	+/-0.50	
Chrysene-d12	214717	13.375	166669	13.356	129	50 - 200	-0.0190	+/-0.50	
Perylene-d12	221697	17.134	140483	17.112	158	50 - 200	-0.0220	+/-0.50	
LDW18-SSCL-A18 (18E0282-03)		(Solid)		Lab File ID: N818060121.D				Analyzed: 06/01/18 23:20	
Naphthalene-d8	190248	4.458	122190	4.464	156	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	95353	6.728	65789	6.728	145	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	180952	8.749	128644	8.745	141	50 - 200	-0.0040	+/-0.50	
Chrysene-d12	210488	13.375	166669	13.356	126	50 - 200	-0.0190	+/-0.50	
Perylene-d12	220756	17.147	140483	17.112	157	50 - 200	-0.0350	+/-0.50	
LDW18-SSCL-A09 (18E0282-04)		(Solid)		Lab File ID: N818060122.D				Analyzed: 06/01/18 23:47	
Naphthalene-d8	199888	4.455	122190	4.464	164	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	98901	6.728	65789	6.728	150	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	187294	8.746	128644	8.745	146	50 - 200	-0.0010	+/-0.50	
Chrysene-d12	196096	13.362	166669	13.356	118	50 - 200	-0.0060	+/-0.50	
Perylene-d12	198530	17.118	140483	17.112	141	50 - 200	-0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0017
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-SSCL-A10 (18E0282-05)		(Solid)		Lab File ID: N818060123.D				Analyzed: 06/02/18 00:13	
Naphthalene-d8	209359	4.455	122190	4.464	171	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	110195	6.725	65789	6.728	167	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	196168	8.745	128644	8.745	152	50 - 200	0.0000	+/-0.50	
Chrysene-d12	197738	13.359	166669	13.356	119	50 - 200	-0.0030	+/-0.50	
Perylene-d12	191575	17.112	140483	17.112	136	50 - 200	0.0000	+/-0.50	
Matrix Spike (BGE0626-MS1)		(Solid)		Lab File ID: N818060124.D				Analyzed: 06/02/18 00:40	
Naphthalene-d8	209864	4.455	122190	4.464	172	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	110221	6.725	65789	6.728	168	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	200146	8.746	128644	8.745	156	50 - 200	-0.0010	+/-0.50	
Chrysene-d12	198036	13.359	166669	13.356	119	50 - 200	-0.0030	+/-0.50	
Perylene-d12	190242	17.112	140483	17.112	135	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (BGE0626-MSD1)		(Solid)		Lab File ID: N818060125.D				Analyzed: 06/02/18 01:07	
Naphthalene-d8	202603	4.455	122190	4.464	166	50 - 200	0.0090	+/-0.50	
Acenaphthene-d10	108793	6.725	65789	6.728	165	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	191209	8.745	128644	8.745	149	50 - 200	0.0000	+/-0.50	
Chrysene-d12	191128	13.359	166669	13.356	115	50 - 200	-0.0030	+/-0.50	
Perylene-d12	182508	17.115	140483	17.112	130	50 - 200	-0.0030	+/-0.50	
LDW18-SSCL-A07 (18E0309-01)		(Solid)		Lab File ID: N818060126.D				Analyzed: 06/02/18 01:34	
Naphthalene-d8	188311	4.454	122190	4.464	154	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	98076	6.725	65789	6.728	149	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	175676	8.745	128644	8.745	137	50 - 200	0.0000	+/-0.50	
Chrysene-d12	185938	13.365	166669	13.356	112	50 - 200	-0.0090	+/-0.50	
Perylene-d12	185160	17.118	140483	17.112	132	50 - 200	-0.0060	+/-0.50	
LDW18-SSCL-A08 (18E0309-02)		(Solid)		Lab File ID: N818060127.D				Analyzed: 06/02/18 02:01	
Naphthalene-d8	191669	4.458	122190	4.464	157	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10	96336	6.728	65789	6.728	146	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	179161	8.748	128644	8.745	139	50 - 200	-0.0030	+/-0.50	
Chrysene-d12	198306	13.371	166669	13.356	119	50 - 200	-0.0150	+/-0.50	
Perylene-d12	203597	17.134	140483	17.112	145	50 - 200	-0.0220	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0027	Instrument:	NT8
		Calibration:	BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGF0027-ICV1)		(Water)		Lab File ID: N818060402.D				Analyzed: 06/04/18 10:34	
Naphthalene-d8	113904	4.451	122190	4.451	93	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	61250	6.715	65789	6.715	93	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	121658	8.73	128644	8.73	95	50 - 200	0.0000	+/-0.50	
Chrysene-d12	148357	13.333	166669	13.333	89	50 - 200	0.0000	+/-0.50	
Perylene-d12	131076	17.077	140483	17.077	93	50 - 200	0.0000	+/-0.50	
LDW18-SSCL-A18 (18E0282-03RE1)		(Solid)		Lab File ID: N818060406.D				Analyzed: 06/04/18 12:34	
Naphthalene-d8	165019	4.448	122190	4.451	135	50 - 200	0.0030	+/-0.50	
Acenaphthene-d10	86916	6.712	65789	6.715	132	50 - 200	0.0030	+/-0.50	
Phenanthrene-d10	162921	8.73	128644	8.73	127	50 - 200	0.0000	+/-0.50	
Chrysene-d12	158554	13.33	166669	13.333	95	50 - 200	0.0030	+/-0.50	
Perylene-d12	161750	17.08	140483	17.077	115	50 - 200	-0.0030	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SGF0149-ICV1)		(Tissue)		Lab File ID: N818061202.D				Analyzed: 06/12/18 14:49	
Naphthalene-d8	104720	4.455	122190	4.455	86	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	54402	6.722	65789	6.722	83	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	106802	8.739	128644	8.739	83	50 - 200	0.0000	+/-0.50	
Chrysene-d12	135402	13.349	166669	13.349	81	50 - 200	0.0000	+/-0.50	
Perylene-d12	113961	17.099	140483	17.099	81	50 - 200	0.0000	+/-0.50	
Blank (BGE0773-BLK1)		(Tissue)		Lab File ID: N818061203.D				Analyzed: 06/12/18 15:23	
Naphthalene-d8	148577	4.455	122190	4.455	122	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	78533	6.722	65789	6.722	119	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	155209	8.742	128644	8.739	121	50 - 200	-0.0030	+/-0.50	
Chrysene-d12	161959	13.349	166669	13.349	97	50 - 200	0.0000	+/-0.50	
Perylene-d12	154347	17.099	140483	17.099	110	50 - 200	0.0000	+/-0.50	
LCS (BGE0773-BS1)		(Tissue)		Lab File ID: N818061204.D				Analyzed: 06/12/18 15:50	
Naphthalene-d8	158709	4.448	122190	4.455	130	50 - 200	0.0070	+/-0.50	
Acenaphthene-d10	86790	6.715	65789	6.722	132	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	161828	8.736	128644	8.739	126	50 - 200	0.0030	+/-0.50	
Chrysene-d12	171268	13.343	166669	13.349	103	50 - 200	0.0060	+/-0.50	
Perylene-d12	156871	17.096	140483	17.099	112	50 - 200	0.0030	+/-0.50	
Reference (BGE0773-SRM1)		(Tissue)		Lab File ID: N818061205.D				Analyzed: 06/12/18 16:16	
Naphthalene-d8	151838	4.448	122190	4.455	124	50 - 200	0.0070	+/-0.50	
Acenaphthene-d10	82171	6.716	65789	6.722	125	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	162456	8.736	128644	8.739	126	50 - 200	0.0030	+/-0.50	
Chrysene-d12	168581	13.34	166669	13.349	101	50 - 200	0.0090	+/-0.50	
Perylene-d12	159426	17.093	140483	17.099	113	50 - 200	0.0060	+/-0.50	
LDW18-A19-CLWB-Comp1 (18E0262-03)		(Tissue)		Lab File ID: N818061206.D				Analyzed: 06/12/18 16:43	
Naphthalene-d8	156243	4.448	122190	4.455	128	50 - 200	0.0070	+/-0.50	
Acenaphthene-d10	81848	6.715	65789	6.722	124	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	145161	8.736	128644	8.739	113	50 - 200	0.0030	+/-0.50	
Chrysene-d12	153574	13.343	166669	13.349	92	50 - 200	0.0060	+/-0.50	
Perylene-d12	150341	17.093	140483	17.099	107	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-A01-CLWB-Comp1 (18E0243-07)		(Tissue)		Lab File ID: N818061207.D				Analyzed: 06/12/18 17:10	
Naphthalene-d8	160756	4.442	122190	4.455	132	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	84324	6.716	65789	6.722	128	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	147724	8.736	128644	8.739	115	50 - 200	0.0030	+/-0.50	
Chrysene-d12	149406	13.346	166669	13.349	90	50 - 200	0.0030	+/-0.50	
Perylene-d12	147191	17.09	140483	17.099	105	50 - 200	0.0090	+/-0.50	
LDW18-A02-CLWB-Comp1 (18E0243-08)		(Tissue)		Lab File ID: N818061208.D				Analyzed: 06/12/18 17:37	
Naphthalene-d8	170975	4.445	122190	4.455	140	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	90843	6.716	65789	6.722	138	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	160561	8.736	128644	8.739	125	50 - 200	0.0030	+/-0.50	
Chrysene-d12	158274	13.343	166669	13.349	95	50 - 200	0.0060	+/-0.50	
Perylene-d12	156689	17.096	140483	17.099	112	50 - 200	0.0030	+/-0.50	
LDW18-A06-CLWB-Comp1 (18E0243-09)		(Tissue)		Lab File ID: N818061209.D				Analyzed: 06/12/18 18:04	
Naphthalene-d8	171137	4.448	122190	4.455	140	50 - 200	0.0070	+/-0.50	
Acenaphthene-d10	89160	6.715	65789	6.722	136	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	156164	8.736	128644	8.739	121	50 - 200	0.0030	+/-0.50	
Chrysene-d12	157189	13.343	166669	13.349	94	50 - 200	0.0060	+/-0.50	
Perylene-d12	150051	17.093	140483	17.099	107	50 - 200	0.0060	+/-0.50	
LDW18-A04-CLWB-Comp1 (18E0243-10)		(Tissue)		Lab File ID: N818061210.D				Analyzed: 06/12/18 18:31	
Naphthalene-d8	175165	4.442	122190	4.455	143	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	90403	6.715	65789	6.722	137	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	160361	8.736	128644	8.739	125	50 - 200	0.0030	+/-0.50	
Chrysene-d12	162214	13.343	166669	13.349	97	50 - 200	0.0060	+/-0.50	
Perylene-d12	159435	17.093	140483	17.099	113	50 - 200	0.0060	+/-0.50	
LDW18-A03-CLWB-Comp1 (18E0243-11)		(Tissue)		Lab File ID: N818061211.D				Analyzed: 06/12/18 18:58	
Naphthalene-d8	163726	4.442	122190	4.455	134	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	86975	6.716	65789	6.722	132	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	147460	8.736	128644	8.739	115	50 - 200	0.0030	+/-0.50	
Chrysene-d12	156153	13.343	166669	13.349	94	50 - 200	0.0060	+/-0.50	
Perylene-d12	149861	17.096	140483	17.099	107	50 - 200	0.0030	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-A05-CLWB-Comp1 (18E0243-12)		(Tissue)		Lab File ID: N818061212.D				Analyzed: 06/12/18 19:25	
Naphthalene-d8	168097	4.442	122190	4.455	138	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	88888	6.715	65789	6.722	135	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	157393	8.736	128644	8.739	122	50 - 200	0.0030	+/-0.50	
Chrysene-d12	163261	13.343	166669	13.349	98	50 - 200	0.0060	+/-0.50	
Perylene-d12	155440	17.093	140483	17.099	111	50 - 200	0.0060	+/-0.50	
LDW18-A12-CLWB-Comp1 (18E0282-06)		(Tissue)		Lab File ID: N818061213.D				Analyzed: 06/12/18 19:52	
Naphthalene-d8	176179	4.445	122190	4.455	144	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	93249	6.715	65789	6.722	142	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	163200	8.736	128644	8.739	127	50 - 200	0.0030	+/-0.50	
Chrysene-d12	162671	13.343	166669	13.349	98	50 - 200	0.0060	+/-0.50	
Perylene-d12	161739	17.096	140483	17.099	115	50 - 200	0.0030	+/-0.50	
LDW18-A09-CLWB-Comp1 (18E0282-07)		(Tissue)		Lab File ID: N818061214.D				Analyzed: 06/12/18 20:18	
Naphthalene-d8	166777	4.445	122190	4.455	136	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	84951	6.715	65789	6.722	129	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	151589	8.736	128644	8.739	118	50 - 200	0.0030	+/-0.50	
Chrysene-d12	157060	13.346	166669	13.349	94	50 - 200	0.0030	+/-0.50	
Perylene-d12	155083	17.093	140483	17.099	110	50 - 200	0.0060	+/-0.50	
LDW18-A10-CLWB-Comp1 (18E0282-08)		(Tissue)		Lab File ID: N818061215.D				Analyzed: 06/12/18 20:45	
Naphthalene-d8	164768	4.445	122190	4.455	135	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	82444	6.716	65789	6.722	125	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	153866	8.736	128644	8.739	120	50 - 200	0.0030	+/-0.50	
Chrysene-d12	155723	13.343	166669	13.349	93	50 - 200	0.0060	+/-0.50	
Perylene-d12	152989	17.093	140483	17.099	109	50 - 200	0.0060	+/-0.50	
LDW18-A18-CLWB-Comp1 (18E0282-09)		(Tissue)		Lab File ID: N818061216.D				Analyzed: 06/12/18 21:12	
Naphthalene-d8	175307	4.445	122190	4.455	143	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	91874	6.716	65789	6.722	140	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	159146	8.736	128644	8.739	124	50 - 200	0.0030	+/-0.50	
Chrysene-d12	158159	13.343	166669	13.349	95	50 - 200	0.0060	+/-0.50	
Perylene-d12	155295	17.093	140483	17.099	111	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Sequence: SGF0149
Instrument: NT8
Calibration: BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW18-A17-CLWB-Comp1 (18E0282-10)		(Tissue)		Lab File ID: N818061217.D				Analyzed: 06/12/18 21:39	
Naphthalene-d8	171666	4.445	122190	4.455	140	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	92585	6.716	65789	6.722	141	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10	157684	8.736	128644	8.739	123	50 - 200	0.0030	+/-0.50	
Chrysene-d12	161979	13.346	166669	13.349	97	50 - 200	0.0030	+/-0.50	
Perylene-d12	157190	17.093	140483	17.099	112	50 - 200	0.0060	+/-0.50	
LDW18-A07-CLWB-Comp1 (18E0309-03)		(Tissue)		Lab File ID: N818061218.D				Analyzed: 06/12/18 22:06	
Naphthalene-d8	170369	4.445	122190	4.455	139	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	83918	6.718	65789	6.722	128	50 - 200	0.0040	+/-0.50	
Phenanthrene-d10	161141	8.739	128644	8.739	125	50 - 200	0.0000	+/-0.50	
Chrysene-d12	163312	13.343	166669	13.349	98	50 - 200	0.0060	+/-0.50	
Perylene-d12	159609	17.093	140483	17.099	114	50 - 200	0.0060	+/-0.50	
LDW18-A08-CLWB-Comp1 (18E0309-04)		(Tissue)		Lab File ID: N818061219.D				Analyzed: 06/12/18 22:33	
Naphthalene-d8	166985	4.442	122190	4.455	137	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	85596	6.718	65789	6.722	130	50 - 200	0.0040	+/-0.50	
Phenanthrene-d10	156939	8.736	128644	8.739	122	50 - 200	0.0030	+/-0.50	
Chrysene-d12	164990	13.346	166669	13.349	99	50 - 200	0.0030	+/-0.50	
Perylene-d12	160712	17.093	140483	17.099	114	50 - 200	0.0060	+/-0.50	
LDW18-A11-CLWB-Comp1 (18E0231-01)		(Tissue)		Lab File ID: N818061220.D				Analyzed: 06/12/18 23:00	
Naphthalene-d8	159361	4.442	122190	4.455	130	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	83363	6.715	65789	6.722	127	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	145655	8.736	128644	8.739	113	50 - 200	0.0030	+/-0.50	
Chrysene-d12	151153	13.343	166669	13.349	91	50 - 200	0.0060	+/-0.50	
Perylene-d12	150149	17.093	140483	17.099	107	50 - 200	0.0060	+/-0.50	
Matrix Spike (BGE0773-MS1)		(Tissue)		Lab File ID: N818061221.D				Analyzed: 06/12/18 23:26	
Naphthalene-d8	163450	4.448	122190	4.455	134	50 - 200	0.0070	+/-0.50	
Acenaphthene-d10	86733	6.715	65789	6.722	132	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	152249	8.736	128644	8.739	118	50 - 200	0.0030	+/-0.50	
Chrysene-d12	157591	13.346	166669	13.349	95	50 - 200	0.0030	+/-0.50	
Perylene-d12	153713	17.096	140483	17.099	109	50 - 200	0.0030	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0149	Instrument:	NT8
		Calibration:	BC00011

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (BGE0773-MSD1)		(Tissue)		Lab File ID: N818061222.D				Analyzed: 06/12/18 23:53	
Naphthalene-d8	167125	4.445	122190	4.455	137	50 - 200	0.0100	+/-0.50	
Acenaphthene-d10	87224	6.715	65789	6.722	133	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	152999	8.736	128644	8.739	119	50 - 200	0.0030	+/-0.50	
Chrysene-d12	155664	13.343	166669	13.349	93	50 - 200	0.0060	+/-0.50	
Perylene-d12	151579	17.099	140483	17.099	108	50 - 200	0.0000	+/-0.50	
LDW18-A13-CLWB-Comp1 (18E0389-01)		(Tissue)		Lab File ID: N818061223.D				Analyzed: 06/13/18 00:20	
Naphthalene-d8	158470	4.442	122190	4.455	130	50 - 200	0.0130	+/-0.50	
Acenaphthene-d10	84534	6.715	65789	6.722	128	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10	148094	8.736	128644	8.739	115	50 - 200	0.0030	+/-0.50	
Chrysene-d12	151961	13.346	166669	13.349	91	50 - 200	0.0030	+/-0.50	
Perylene-d12	144833	17.096	140483	17.099	103	50 - 200	0.0030	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-A11-CLWB-Comp1 18E0231-01	05/15/18 11:38	05/15/18 16:32	06/05/18 12:40	21	365	06/12/18 23:00	7	40	
LDW18-SSCL-A11 18E0231-02	05/15/18 12:01	05/15/18 16:32	05/24/18 10:50	8	14	06/01/18 16:37	8	40	
LDW18-SSCL-A11-FD 18E0231-03	05/15/18 12:01	05/15/18 16:32	05/24/18 10:50	8	14	06/01/18 17:04	8	40	
LDW18-SSCL-A01 18E0243-01	05/16/18 14:00	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 17:31	8	40	
LDW18-SSCL-A01 18E0243-01RE1	05/16/18 14:00	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 20:12	8	40	
LDW18-SSCL-A02 18E0243-02	05/16/18 14:00	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 17:58	8	40	
LDW18-SSCL-A03 18E0243-03	05/16/18 13:20	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 20:39	8	40	
LDW18-SSCL-A03 18E0243-03RE1	05/16/18 13:20	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 21:06	8	40	
LDW18-SSCL-A05 18E0243-04	05/16/18 13:00	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 18:52	8	40	
LDW18-SSCL-A04 18E0243-05	05/16/18 12:32	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 19:18	8	40	
LDW18-SSCL-A06 18E0243-06	05/16/18 12:07	05/16/18 16:25	05/24/18 10:50	7	14	06/01/18 19:45	8	40	
LDW18-A01-CLWB-Comp1 18E0243-07	05/16/18 13:38	05/16/18 16:25	06/05/18 12:40	19	365	06/12/18 17:10	7	40	
LDW18-A02-CLWB-Comp1 18E0243-08	05/16/18 13:15	05/16/18 16:25	06/05/18 12:40	19	365	06/12/18 17:37	7	40	
LDW18-A06-CLWB-Comp1 18E0243-09	05/16/18 11:39	05/16/18 16:25	06/05/18 12:40	20	365	06/12/18 18:04	7	40	
LDW18-A04-CLWB-Comp1 18E0243-10	05/16/18 11:24	05/16/18 16:25	06/05/18 12:40	20	365	06/12/18 18:31	7	40	
LDW18-A03-CLWB-Comp1 18E0243-11	05/16/18 12:12	05/16/18 16:25	06/05/18 12:40	20	365	06/12/18 18:58	7	40	
LDW18-A05-CLWB-Comp1 18E0243-12	05/16/18 12:54	05/16/18 16:25	06/05/18 12:40	19	365	06/12/18 19:25	7	40	
LDW18-SSCL-A13 18E0262-01	05/17/18 13:20	05/17/18 16:32	05/24/18 10:50	6	14	06/01/18 21:32	8	40	
LDW18-SSCL-A19 18E0262-02	05/17/18 14:04	05/17/18 16:32	05/24/18 10:50	6	14	06/01/18 21:59	8	40	
LDW18-A19-CLWB-Comp1 18E0262-03	05/17/18 12:26	05/17/18 16:32	06/05/18 12:40	19	365	06/12/18 16:43	7	40	
LDW18-SSCL-A12 18E0282-01	05/18/18 13:30	05/18/18 17:35	05/24/18 10:50	5	14	06/01/18 22:26	8	40	
LDW18-SSCL-A17 18E0282-02	05/18/18 13:36	05/18/18 17:35	05/24/18 10:50	5	14	06/01/18 22:53	9	40	

HOLDING TIME SUMMARY

Analysis: EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-SSCL-A18 18E0282-03	05/18/18 13:57	05/18/18 17:35	05/24/18 10:50	5	14	06/01/18 23:20	9	40	
LDW18-SSCL-A18 18E0282-03RE1	05/18/18 13:57	05/18/18 17:35	05/24/18 10:50	5	14	06/04/18 12:34	11	40	
LDW18-SSCL-A09 18E0282-04	05/18/18 15:28	05/18/18 17:35	05/24/18 10:50	5	14	06/01/18 23:47	9	40	
LDW18-SSCL-A10 18E0282-05	05/18/18 15:05	05/18/18 17:35	05/24/18 10:50	5	14	06/02/18 00:13	9	40	
LDW18-A12-CLWB-Comp1 18E0282-06	05/18/18 12:41	05/18/18 17:35	06/05/18 12:40	17	365	06/12/18 19:52	7	40	
LDW18-A09-CLWB-Comp1 18E0282-07	05/18/18 15:23	05/18/18 17:35	06/05/18 12:40	17	365	06/12/18 20:18	7	40	
LDW18-A10-CLWB-Comp1 18E0282-08	05/18/18 15:05	05/18/18 17:35	06/05/18 12:40	17	365	06/12/18 20:45	7	40	
LDW18-A18-CLWB-Comp1 18E0282-09	05/18/18 13:13	05/18/18 17:35	06/05/18 12:40	17	365	06/12/18 21:12	7	40	
LDW18-A17-CLWB-Comp1 18E0282-10	05/18/18 12:56	05/18/18 17:35	06/05/18 12:40	17	365	06/12/18 21:39	7	40	
LDW18-SSCL-A07 18E0309-01	05/19/18 14:35	05/21/18 10:10	05/24/18 10:50	4	14	06/02/18 01:34	9	40	
LDW18-SSCL-A08 18E0309-02	05/19/18 15:00	05/21/18 10:10	05/24/18 10:50	4	14	06/02/18 02:01	9	40	
LDW18-A07-CLWB-Comp1 18E0309-03	05/19/18 14:50	05/21/18 10:10	06/05/18 12:40	16	365	06/12/18 22:06	7	40	
LDW18-A08-CLWB-Comp1 18E0309-04	05/19/18 13:15	05/21/18 10:10	06/05/18 12:40	16	14	06/12/18 22:33	7	365	*
LDW18-A13-CLWB-Comp1 18E0389-01	05/17/18 12:20	05/17/18 16:32	06/05/18 12:40	19	365	06/13/18 00:20	7	40	
Matrix Spike BGE0626-MS1	05/18/18 15:05	05/18/18 17:35	05/24/18 10:50	5	14	06/02/18 00:40	9	40	
Matrix Spike Dup BGE0626-MSD1	05/18/18 15:05	05/18/18 17:35	05/24/18 10:50	5	14	06/02/18 01:07	9	40	
Matrix Spike BGE0773-MS1	05/15/18 11:38	05/15/18 16:32	06/05/18 12:40	21	365	06/12/18 23:26	7	40	
Matrix Spike Dup BGE0773-MSD1	05/15/18 11:38	05/15/18 16:32	06/05/18 12:40	21	365	06/12/18 23:53	7	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Matrix: Solid Instrument: NT8

Analyte	MDL	RL	Units
Benzo(a)anthracene	0.82	5.00	ug/kg
Chrysene	1.05	5.00	ug/kg
Benzo(b)fluoranthene	1.37	5.00	ug/kg
Benzo(k)fluoranthene	0.76	5.00	ug/kg
Benzo(a)pyrene	0.61	5.00	ug/kg
Indeno(1,2,3-cd)pyrene	1.05	5.00	ug/kg
Dibenzo(a,h)anthracene	0.89	5.00	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Matrix: Tissue Instrument: NT8

Analyte	MDL	RL	Units
Benzo(a)anthracene	0.54	5.00	ug/kg
Chrysene	0.49	5.00	ug/kg
Benzo(b)fluoranthene	1.00	5.00	ug/kg
Benzo(k)fluoranthene	0.71	5.00	ug/kg
Benzo(a)pyrene	0.92	5.00	ug/kg
Indeno(1,2,3-cd)pyrene	0.58	5.00	ug/kg
Dibenzo(a,h)anthracene	1.53	5.00	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Matrix: Water Instrument: NT8

Analyte	MDL	RL	Units
Naphthalene	0.02	0.10	ug/L
2-Methylnaphthalene	0.03	0.10	ug/L
1-Methylnaphthalene	0.02	0.10	ug/L
Acenaphthylene	0.02	0.10	ug/L
Acenaphthene	0.02	0.10	ug/L
Dibenzofuran	0.02	0.10	ug/L
Fluorene	0.02	0.10	ug/L
Phenanthrene	0.02	0.10	ug/L
Anthracene	0.02	0.10	ug/L
Fluoranthene	0.02	0.10	ug/L
Pyrene	0.03	0.10	ug/L
Benzo(a)anthracene	0.05	0.10	ug/L
Chrysene	0.06	0.10	ug/L
Benzo(b)fluoranthene	0.09	0.10	ug/L
Benzo(k)fluoranthene	0.09	0.10	ug/L
Benzo(j)fluoranthene	0.03	0.10	ug/L
Benzofluoranthenes, Total	0.19	0.20	ug/L
Benzo(a)pyrene	0.06	0.10	ug/L
Indeno(1,2,3-cd)pyrene	0.08	0.10	ug/L
Dibenzo(a,h)anthracene	0.09	0.10	ug/L
Benzo(g,h,i)perylene	0.07	0.10	ug/L

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for 24 PAHs, 29 PCB congeners, and 7 chlorinated pesticides are provided in Tables 1 through 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for 44 additional PAHs (some in combination), 13 additional PCB congeners, and 2 additional chlorinated pesticides are provided in Tables 4 to 7. Reference values for 27 alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1].

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet) will facilitate notification.

The coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Analytical Chemistry Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Analytical Chemistry Division.

Stephen A. Wise, Chief
Analytical Chemistry Division

Gaithersburg, MD 20899
Certificate Issue Date: 10 April 2012
Certificate Revision History on Page 13

Robert L. Watters, Jr., Chief
Measurement Services Division

18E0231 etal Page 1436 of 1723

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Measurement Services Division and B.J. Porter and M.M. Schantz of the NIST Analytical Chemistry Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Measurement Services Division.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are necessarily the best available for the purpose.

selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific, Folsom, CA). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific, Folsom, CA). Perdeuterated dibenzo[*a*,*i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture, clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific, Folsom, CA), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness: DB-5MS, J&W Scientific, Folsom, CA). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon: Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for Selected PAHs in SRM 1941b

PAHs	Mass Fractions[a] µg/kg		
1 Naphthalene[b,c,d,e,f,g]	848	±	95[h]
2 Fluorene[b,c,d,e,f,g]	85	±	15[h]
3 Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
4 Anthracene[b,c,d,e,f,g]	184	±	18[h]
5 3-Methylphenanthrene[b,c,d]	105	±	13[h]
6 2-Methylphenathrene[b,c,d]	128	±	14[h]
7 1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
8 Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
9 Pyrene[b,c,d,e,f,g]	581	±	39[h]
10 Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
11 Chrysene[d,f]	291	±	31[h]
12 Triphenylene[d,f]	108	±	5[i]
13 Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
14 Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
15 Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
16 Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
17 Perylene[b,c,d,f,g]	397	±	45[h]
18 Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
19 Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
20 Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
21 Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
22 Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
23 Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
24 Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis: material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) ~~of isomeric PAH~~ fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].

Table 2. Certified Mass Fraction Values for Selected PCB Congeners[a] in SRM 1941b

PCB Congeners		Mass Fractions[b] µg/kg		
PCB 8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB 18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB 28	(2,4.4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB 31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB 44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB 49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB 52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB 66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB 87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d f,j]	1.14	±	0.16[h]
PCB 95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB 99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB 101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB 105	(2,3,3',4,4'-Pentachlorobiphenyl)[c d,e,f,g,j]	1.43	±	0.10[i]
PCB 110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB 118	(2,3',4,4',5-Pentachlorobiphenyl)[c d,e,f,g,j]	4.23	±	0.19[i]
PCB 128	(2,2',3,3',4.4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB 138	(2,2',3.4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB 149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB 153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB 156	(2,3.3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB 170	(2,2',3,3',4.4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB 180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB 183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB 187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB 194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB 195	(2,2',3,3',4.4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB 201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e j]	0.777	±	0.034[h]
PCB 206	(2,2',3,3',4.4',5,5',6-Nonachlorobiphenyl)[c,e,f,g j]	2.42	±	0.19[i]
PCB 209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules; for the specific congeners mentioned in this SRM, only PCB 201 and PCB 107 (see Table 5) are different in the numbering systems. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200 and the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis: material as received contains approximately 2.4 % moisture.

[c] GC/MS (1A) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (1I) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO Guide [14,15].

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] µg/kg		
Hexachlorobenzene[b,c,d,e]	5.83	±	0.38[f]
cis-Chlordane[b,c,d,e g]	0.85	±	0.11[h]
trans-Chlordane[b,c,c]	0.566	±	0.093[f]
cis-Nonachlor[b,e,g]	0.378	±	0.053[h]
trans-Nonachlor[b,c,d,c,g]	0.438	±	0.073[f]
4,4'-DDE[b,d,e,g]	3.22	±	0.28[h]
4,4'-DDD[b,d,e,g]	4.66	±	0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (1I) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].

Table 4. Reference Mass Fraction Values for Selected PAHs in SRM 1941b

PAHs	Mass Fractions[a] µg/kg		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte.

Table 5. Reference Mass Fraction Values for Selected PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs	Mass Fractions[a,b,c] µg/kg
Coronene	72.6 ± 4.7
Dibenzo[*b,e*]fluoranthene	10.3 ± 0.3
Naphtho[1,2-*b*]fluoranthene	91.0 ± 3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8 ± 2.5
Naphtho[2,3-*b*]fluoranthene	23.5 ± 0.3
Dibenzo[*b,k*]fluoranthene	95.6 ± 3.1
Dibenzo[*a,k*]fluoranthene	26.6 ± 0.4
Dibenzo[*j,l*]fluoranthene	63.8 ± 1.8
Dibenzo[*a,l*]pyrene	11.1 ± 1.0
Naphtho[2,3-*k*]fluoranthene	10.7 ± 0.6
Naphtho[1,2-*a*]pyrene	16.7 ± 1.4
Naphtho[2,3-*e*]pyrene	33.2 ± 2.3
Dibenzo[*a,e*]pyrene	76.1 ± 3.6
Naphtho[2,1-*a*]pyrene	59.2 ± 1.8
Dibenzo[*e,i*]pyrene	35.0 ± 2.4
Naphtho[2,3-*a*]pyrene	16.5 ± 0.6
Benzo[*b*]perylene	38.2 ± 1.2
Dibenzo[*a,i*]pyrene	25.5 ± 1.0
Dibenzo[*a,h*]pyrene	6.94 ± 0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for Selected PCB Congeners[a] in SRM 1941b

PCB Congeners		Mass Fractions[b,c] µg/kg		
PCB 45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB 56	(2,3,3',4-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB 63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB 70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB 74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB 77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB 107	(2,3,3',4,5'-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB 132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB 146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB 158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB 163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB 174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB 193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules; for the specific congeners mentioned in this SRM, only PCB 201 (see Table 2) and PCB 107 are different in the numbering systems. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200 and the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77.

[d] GC-ECD (1A) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (1B) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (1A).

[f] GC/MS (1A) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (1A).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (1) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] µg/kg
2,4'-DDE[c,d]	0.38 ± 0.12
4,4'-DDT[e,f]	1.12 ± 0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].
[c] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (1A).
[d] GC-ECD (1B) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (1A).
[e] GC/MS (1l) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Selected Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] mg/kg
C2-decalins	18 ± 5
C4-decalins	41 ± 4
C2-naphthalenes	187 ± 53
C3-naphthalenes	158 ± 42
C1-benzothiophenes	25 ± 14
C2-benzothiophenes	20 ± 11
C3-benzothiophenes	22 ± 13
C4-benzothiophenes	18 ± 5
C1-fluorenes	57 ± 18
C2-fluorenes	122 ± 43
C3-fluorenes	128 ± 31
C1-phenanthrenes/anthracenes	313 ± 99
C2-phenanthrenes/anthracenes	247 ± 62
C3-phenanthrenes/anthracenes	165 ± 46
C4-phenanthrenes/anthracenes	87 ± 36
C1-dibenzothiophenes	54 ± 13
C2-dibenzothiophenes	91 ± 18
C3-dibenzothiophenes	84 ± 15
C4-dibenzothiophenes	57 ± 13
C1-fluoranthenes/pyrenes	252 ± 48
C2-fluoranthenes/pyrenes	205 ± 38
C3-fluoranthenes/pyrenes	102 ± 22
C4-fluoranthenes/pyrenes	121 ± 59
C1-benzanthraces/chrysenes/triphenylenes	208 ± 43
C2-benzanthraces/chrysenes/triphenylenes	120 ± 24
C3-benzanthraces/chrysenes/triphenylenes	73 ± 31
C4-benzanthraces/chrysenes/triphenylenes	41 ± 11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Selected Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a b] mg/kg
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO Guides [2].

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] %
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Apr 2012).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R.; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (ISO GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Apr 2012); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Apr 2012).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Apr 2012).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 10 April 2012 (This revision adds reference values for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes). 16 August 2004 (This revision removes the reference values for the butyl tins and makes editorial changes). 15 July 2002 (Original certificate date)

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA, USA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX, USA
Battelle Ocean Sciences; Duxbury, MA, USA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA, USA
Central Contra Costa Sanitary District; Martinez, CA, USA
Chesapeake Biological Laboratory; Solomons, MD, USA
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA, USA
City of San Jose Environmental Services Department; San Jose, CA, USA
Columbia Analytical Services; Kelso, WA, USA
East Bay Municipal Utility District; Oakland, CA, USA
Florida Department of Environmental Protection; Tallahassee, FL, USA
Manchester Environmental Laboratory; Port Orchard, WA, USA
Murray State University; Murray, KY. USA
Massachusetts Water Resources Authority Central Lab; Winthrop, MA, USA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK, USA
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC, USA
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ, USA
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA, USA
Orange County Sanitation District; Fountain Valley, CA, USA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA, USA
Southwest Laboratory of Oklahoma; Broken Arrow, OK, USA
Severn Trent Knoxville Laboratory; Knoxville, TN, USA
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX, USA
Texas Parks and Wildlife Department; San Marcos, TX. USA
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA. USA
University of Connecticut, Environmental Research Institute; Storrs, CT. USA
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI, USA
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD, USA
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI, USA
US Geological Survey, National Water Quality Laboratory; Denver, CO. USA
Woods Hole Group Environmental Lab; Raynham, MA, USA
Wright State University; Dayton, OH, USA

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA, USA
Analytical Resources, Inc.; Tukwila, WA, USA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA, USA
Center for Laboratory Sciences; Pasco, WA, USA
Columbia Analytical Services; Jacksonville, FL, USA
Columbia Analytical Services; Rochester, NY, USA
Columbia Analytical Services, Kelso, WA, USA
Florida Department of Environmental Protection; Tallahassee, FL, USA
Florida International University; North Miami, FL, USA
Michigan Department of Natural Resources and Environment; Lansing, MI, USA
Mississippi State Chemical Laboratory; Mississippi State, MS, USA
NIST; Charleston, SC, USA
NIST; Gaithersburg, MD, USA
NOAA/NCCOS/NOS; Charleston, SC, USA
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK, USA
NY State Department of Health; Albany, NY, USA
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN, USA
RJ Lee Group, Inc; Monroeville, PA, USA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL, USA
TestAmerica Laboratories; West Sacramento, CA, USA
TestAmerica Laboratories; University Park, IL, USA
TestAmerica Laboratories; Schriever, LA, USA
TestAmerica Laboratories; Edison, NJ, USA
TestAmerica Laboratories; Knoxville, TN, USA
TestAmerica Laboratories; Pittsburgh, PA, USA
TestAmerica Laboratories; South Burlington, VT, USA
TestAmerica Laboratories; Tacoma, WA, USA
US Army Engineer Research and Development Center; Vicksburg, MS, USA
USGS Columbia Environmental Research Center; Columbia, MO, USA
University of Iowa, State Hygienic Laboratory; Iowa City, IO, USA
Washington State Public Health Laboratories; Shoreline, WA, USA

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

September 18, 2014

Analytical Resources Inc
Dave Mitchell
4611 S 134th Place
Suite 100
Tukwila, WA 98168-3240

Fax Number: (206) 695-6201

Customer Purchase Order Number: O/R# 0000126382
NIST Sales Order Number: 1310741

Dear NIST Standard Reference Material Customer:

This letter is to notify the users of SRM 1941b Organics in Marine Sediment of the revised Certificate of Analysis (COA) dated 10 June 2014. In this revision, the units were corrected from mg/kg to µg/kg in Tables 8 and 9. The certificate revision also includes other editorial changes. Please replace your existing SRM 1941b COA with the revised certificate.

For your convenience, the revised certificate is attached. It is also available on the NIST SRM web site at http://www.nist.gov/srm and can be viewed and printed directly:

https://www-s.nist.gov/srmors/view_detail.cfm?srm=1941B

If you are not the actual user of this material, I sincerely appreciate your help in providing this information to the appropriate person(s). If I can be of further assistance, please do not hesitate to contact me at robert.watters@nist.gov or 301-975-4122. If there are any technical questions or concerns, you may contact John Kucklick of the NIST Chemical Sciences Division at john.kucklick@nist.gov or 843-725-4816. Thank you for your assistance in this matter.

Sincerely,

Robert L. Watters, Jr.

Dr. Robert L. Watters, Jr., Director
Office of Reference Materials

Enclosure

cc: John Kucklick

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1].

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 10 June 2014
Certificate Revision History on Page 13

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[(1)]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 µm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

[(1)] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are necessarily the best available for the purpose.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 µm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (µBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 µm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture, clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 µm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon: Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4,5'-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the constituent listed as determined by the methods or method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the interlaboratory study as indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the interlaboratory study as indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in percent per sample on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Jun 2014).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R..; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Jun 2014); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Jun 2014).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Jun 2014).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a −10 °C shelf temperature and a −50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the

LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture,

clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)
Naphthalene[b,c,d,e,f,g]	848 ± 95[h]
Fluorene[b,c,d,e,f,g]	85 ± 15[h]
Phenanthrene[b,c,d,e,f,g]	406 ± 44[h]
Anthracene[b,c,d,e,f,g]	184 ± 18[h]
3-Methylphenanthrene[b,c,d]	105 ± 13[h]
2-Methylphenathrene[b,c,d]	128 ± 14[h]
1-Methylphenanthrene[b,c,d,g]	73.2 ± 5.9[h]
Fluoranthene[b,c,d,e,f,g]	651 ± 50[h]
Pyrene[b,c,d,e,f,g]	581 ± 39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335 ± 25[h]
Chrysene[d,f]	291 ± 31[h]
Triphenylene[d,f]	108 ± 5[i]
Benzo[*b*]fluoranthene[c,e]	453 ± 21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225 ± 18[h]
Benzo[*e*]pyrene[b,c,d,g]	325 ± 25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358 ± 17[h]
Perylene[b,c,d,f,g]	397 ± 45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307 ± 45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341 ± 57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9 ± 4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7 ± 5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53 ± 10[h]
Benzo[*b*]chrysene[b,c,d,f]	53 ± 12[h]
Picene[b,c,d]	46.6 ± 4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.

[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.

[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Jan 2015).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R..; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Jan 2015); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Jan 2015).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Jan 2015).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

NIST

Date of Issue:
31 March 2014

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements
Symbol
No Symbol/Pictogram

Signal Word
Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Use extinguishing media appropriate for surrounding fire.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. Handling and Storage

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 µm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: __X__ Inhalation __X__ Skin _____ Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes __X__ No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the

Bill to:	68455	Ship to:	68456
	DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205		DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205

Ship via	UPS Ground	Description		Ship from	
Salesmen	MCMIDM2	Instructions		Blanket	
Contact	DAVE MITCHELL	Pro#		Truck#	

Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

1700101

Picked by	
Packed by	
# of pieces	
Weight	

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

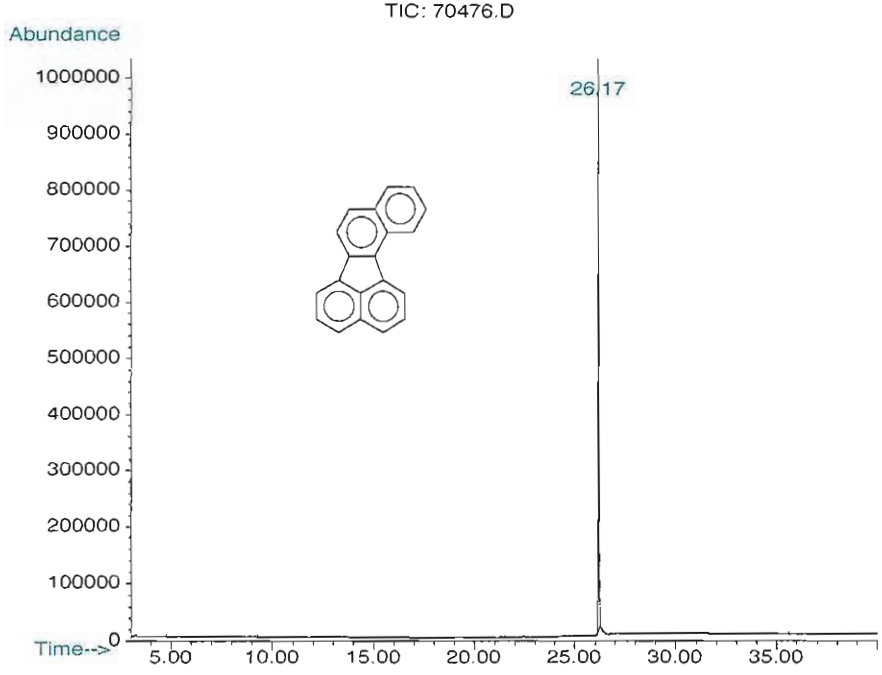
Part Number:	70476	**Solvent(s):**	**Lot#**
Lot Number:	110316	Methylene chloride	76782
Description:	Benzo(j)fluoranthene		
Expiration Date:	110321		
Recommended Storage:	Refrigerate (4 °C)		
Nominal Concentration (µg/mL):	1000		
NIST Test ID#:	822-275872-11	5E-05	Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL):	25.0	0.001	Flask Uncertainty

	110316	
Formulated By:	Bryan Njeba	DATE
	110316	
Reviewed By:	Pedro L. Rentas	DATE

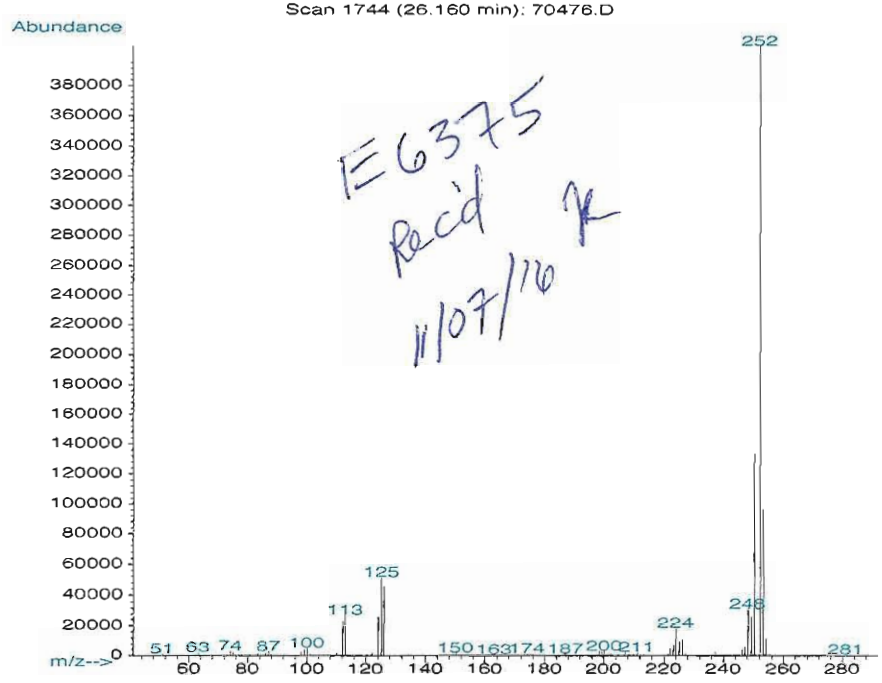
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	ER022108-01	1000	98	0.2	0.02551	0.02552	1000.5	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD-2.M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14 min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Gina McLane.

TIC: 70476.D



Scan 1744 (26.160 min): 70476.D



E6375
Recd
11/07/16

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Cambridge Isotope Laboratories, Inc.

50 Frontage Road, Andover, MA 01810-5413 USA
800.322.1174 (N.AMERICA) 978.749.8000 (INTERNATIONAL)
www.isotope.com

CERTIFICATE OF ANALYSIS

Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 97%)

Lot Number: PR-14764/09163DA2

Catalog Number: DLM-677-0

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	53-70-3
Molecular Weight:	292.5
Chemical Formula:	C22D14
Storage:	Store at room temperature away from light and moisture.
Stability:	Stable if stored under recommended conditions.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible.

Approved by: Deborah E. Costa

Deborah E. Costa, Quality Assurance

Quality Control Tests and Results

GC/MS for Chemical Purity	99.3%
GC/MS for Isotopic Enrichment	97.4%
Melting Point Range Determination	263-265°C
1H NMR for Chemical Purity	Pass

E006466

SVOA-d14-Dibenz(a,h)anthracene-NEAT
Solvent / Lot: NA
Prep: 11/9/2016 by VS
Exp: 5/8/2030
Location:

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0121299

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

TE 7E, 4 5
Read
12/13/16

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4	2,015.2 µg/mL	+/- 11.7165 µg/mL	Gravimetric
	CAS # 3855-82-1 (Lot PR-18488)		+/- 90.7658 µg/mL	Unstressed
	Purity 99%		+/- 100.7159 µg/mL	Stressed
2	Naphthalene-d8	2,018.8 µg/mL	+/- 11.7375 µg/mL	Gravimetric
	CAS # 1146-65-2 (Lot M-1452)		+/- 90.9280 µg/mL	Unstressed
	Purity 99%		+/- 100.8958 µg/mL	Stressed
3	Acenaphthene-d10	2,013.5 µg/mL	+/- 11.7067 µg/mL	Gravimetric
	CAS # 15067-26-2 (Lot PR-25444)		+/- 90.6892 µg/mL	Unstressed
	Purity 99%		+/- 100.6309 µg/mL	Stressed
4	Phenanthrene-d10	2,019.9 µg/mL	+/- 11.7439 µg/mL	Gravimetric
	CAS # 1517-22-2 (Lot PR-23065)		+/- 90.9775 µg/mL	Unstressed
	Purity 99%		+/- 100.9508 µg/mL	Stressed
5	Chrysene-d12	2,013.4 µg/mL	+/- 11.7061 µg/mL	Gravimetric
	CAS # 1719-03-5 (Lot PR-26994)		+/- 90.6852 µg/mL	Unstressed
	Purity 98%		+/- 100.6264 µg/mL	Stressed
6	Perylene-d12	2,013.2 µg/mL	+/- 11.7049 µg/mL	Gravimetric
	CAS # 1520-96-3 (Lot PR-24113)		+/- 90.6757 µg/mL	Unstressed
	Purity 99%		+/- 100.6159 µg/mL	Stressed

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 33913 **Lot No.:** A0131716

Description : SOM01.0 SIM Analysis Standard

SOM01.0 SIM Analysis Standard 2000µg/mL, Methylene chloride, 1mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Methylnaphthalene-d10		2,000.1 µg/mL	+/- 11.8802	µg/mL	Gravimetric
	CAS # 7297-45-2	(Lot AC-257)		+/- 90.1203	µg/mL	Unstressed
	Purity 97%			+/- 99.9927	µg/mL	Stressed
2	Fluoranthene-d10		2,001.2 µg/mL	+/- 11.8863	µg/mL	Gravimetric
	CAS # 93951-69-0	(Lot PR-20668)		+/- 90.1662	µg/mL	Unstressed
	Purity 98%			+/- 100.0437	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

F010455
SOMO 1.0 SIM DMC
Solvent / Lot: METHYLENE CHLORIDE
Prep: 11/9/2017 by VS
Exp: 9/30/2023
Location:

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

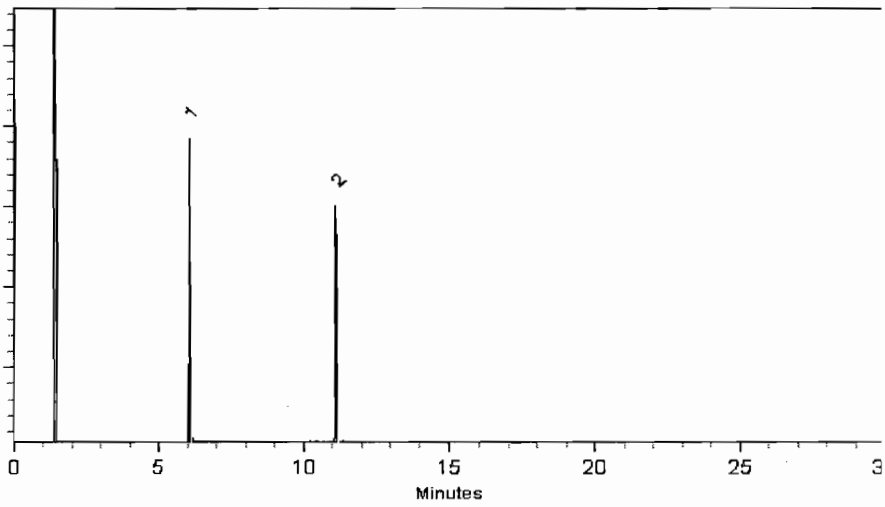
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Greg Dawson - Mix Technician

Date Mixed: 17-Oct-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 19-Oct-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

F010639
SVOA PAH STD-RMP-1000ug/ml
Solvent / Lot: DCM
Prep: 11/15/2017 by VS
Exp: 2/21/2022
Location:

RM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 934
Lot Number: 022117
Description: PAH Standard
30 components
Expiration Date: 022122
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11

Methylene chloride 76782

5E-05 Balance Uncertainty
0.002 Flask Uncertainty

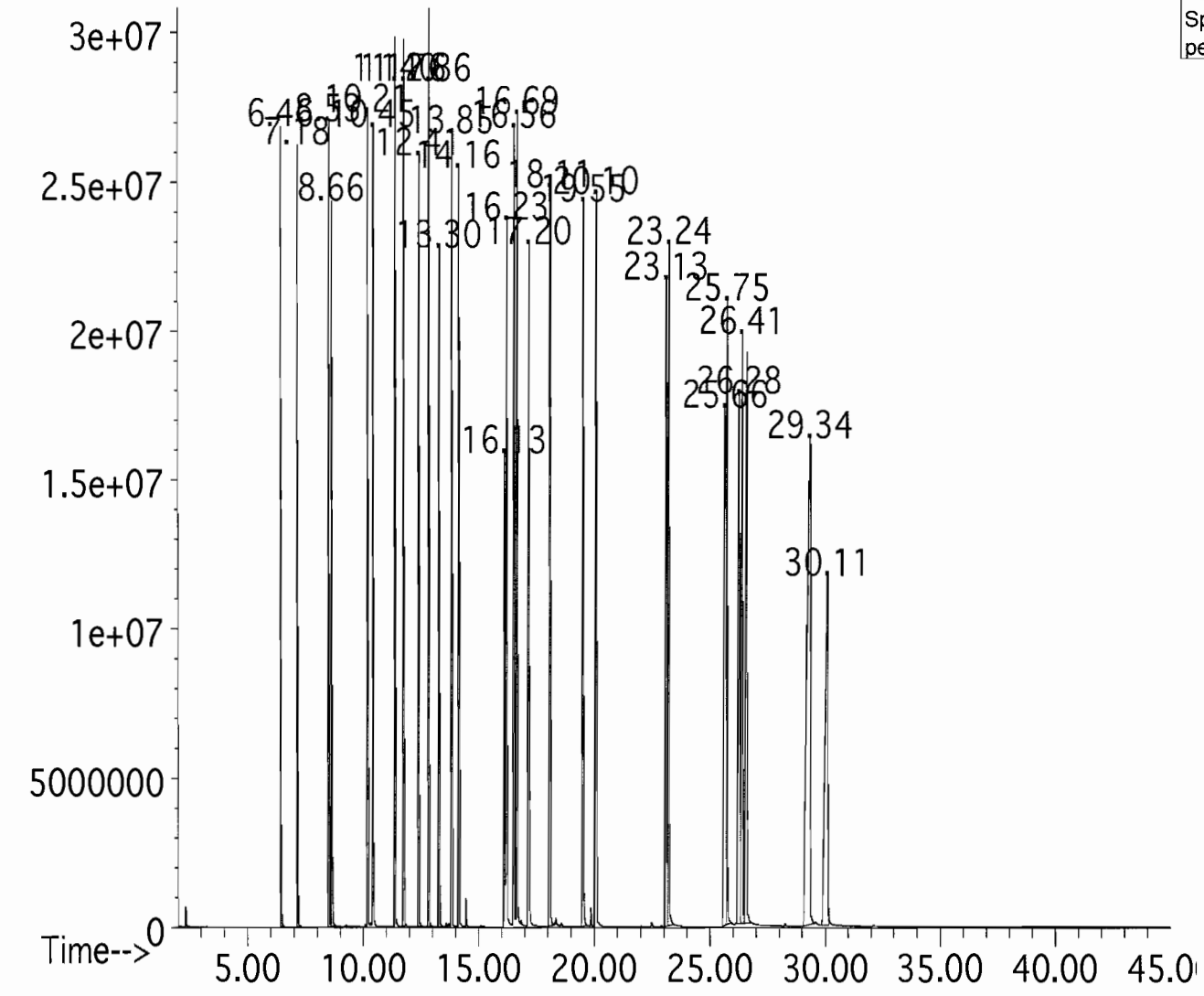
Volume(s) shown below were combined and diluted to (mL): 20.0

Gabriel Helland 022117
Formulated By: Gabriel Helland DATE

Pedro Rentas 022117
Reviewed By: Pedro L. Rentas DATE

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	MSDS Information (Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50
1. Acenaphthene	10007	080116	0.50	10.00	0.006	2005.2	1003.3	4.2	83-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	10007	080116	0.50	10.00	0.006	2001.2	1001.4	4.2	208-96-8	N/A	N/A
3. Anthracene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	10007	080116	0.50	10.00	0.006	2001.2	1001.3	4.2	56-55-3	N/A	N/A
5. Benzo(a)pyrene	10007	080116	0.50	10.00	0.006	2001.9	1001.7	4.2	50-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	10007	080116	0.50	10.00	0.006	2000.2	1000.8	4.2	207-08-9	N/A	N/A
8. Benzo(g,h,i)perylene	10007	080116	0.50	10.00	0.006	2001.8	1001.6	4.2	191-24-2	N/A	N/A
9. Carbazole	10007	080116	0.50	10.00	0.006	2020.8	1011.2	4.3	86-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.3	218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	10007	080116	0.50	10.00	0.006	2001.5	1001.5	4.2	53-70-3	0.2mg/m3	N/A
12. Fluoranthene	10007	080116	0.50	10.00	0.006	2001.3	1001.4	4.3	206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	10007	080116	0.50	10.00	0.006	2001.7	1001.6	4.3	86-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	080116	0.50	10.00	0.006	2000.8	1001.1	4.2	193-39-5	N/A	N/A
15. Naphthalene	10007	080116	0.50	10.00	0.006	2001.6	1001.5	4.2	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	10007	080116	0.50	10.00	0.006	2001.4	1001.4	4.2	85-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	10007	080116	0.50	10.00	0.006	2000.5	1001.0	4.3	129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg
18. Benzo(e)pyrene	94851	031416	0.50	10.00	0.006	2001.9	1001.7	4.3	192-97-2	N/A	N/A
19. Biphenyl	94851	031416	0.50	10.00	0.006	2000.7	1001.1	4.3	92-52-4	0.2 ppm(1mg/m3/8H)	orl-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	91-17-8	N/A	N/A
21. Dibenzofuran	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-64-9	N/A	N/A
22. Dibenzothiophene	94851	031416	0.50	10.00	0.006	2001.3	1001.4	4.4	132-65-0	N/A	orl-mus 470 mg/kg
23. 2,6-Dimethylnaphthalene	94851	031416	0.50	10.00	0.006	2004.9	1003.2	4.4	581-42-0	N/A	N/A
24. 1-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2003.5	1002.5	4.4	90-12-0	N/A	orl-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	031416	0.50	10.00	0.006	2006.1	1003.8	4.4	91-57-6	N/A	orl-rat 1630mg/kg
26. 1-Methylphenanthrene	94851	031416	0.50	10.00	0.006	2004.4	1002.9	10.2	832-69-9	N/A	N/A
27. Pentachlorophenol	94851	031416	0.50	10.00	0.006	2006.6	1004.0	4.4	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg
28. Perylene	94851	031416	0.50	10.00	0.006	2002.1	1001.8	4.4	198-55-0	N/A	N/A
29. Thianaphthene	94851	031416	0.50	10.00	0.006	2003.9	1002.7	4.4	95-15-8	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	031416	0.50	10.00	0.006	2002.9	1002.2	4.5	2245-38-7	N/A	N/A

- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**



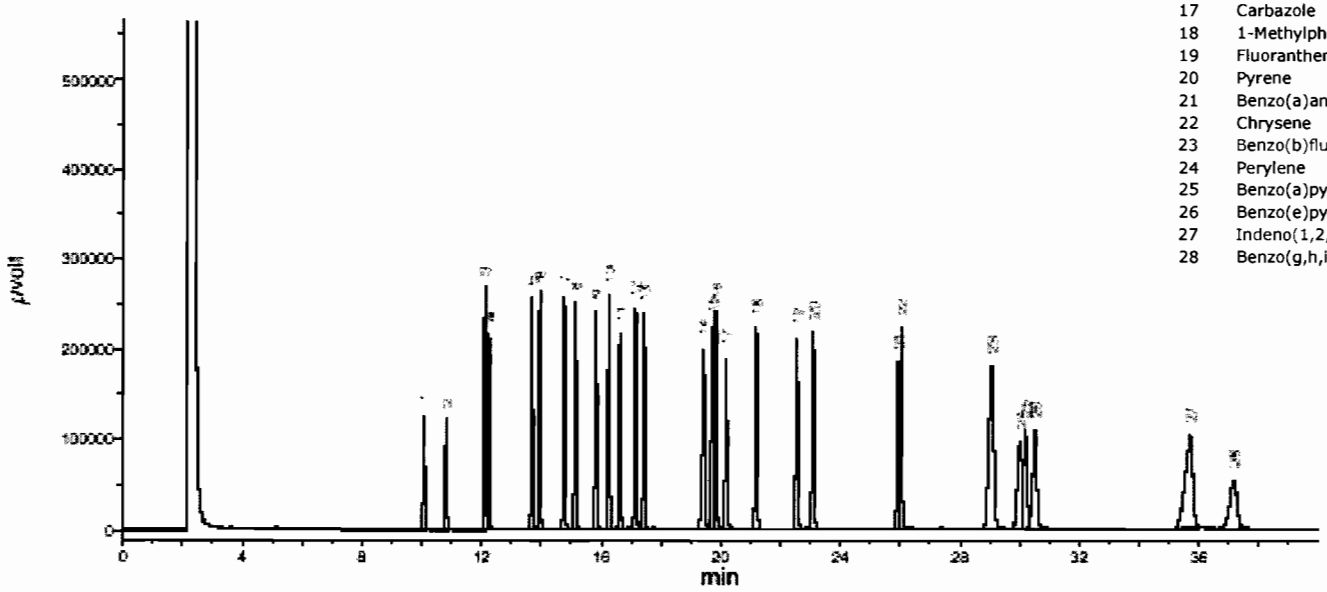
Method GC8MSD-2Long: Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

Retention Time (min.)	
Decahydronaphthalene (Decalin) (isomer)	6.46
Decahydronaphthalene (Decalin) (isomer)	7.18
Naphthalene	8.53
Thianaphthene	8.66
2-Methylnaphthalene	10.21
1-Methylnaphthalene	10.45
Biphenyl	11.4
2,6-Dimethylnaphthalene	11.76
Acenaphthylene	12.41
Acenaphthene	12.86
Dibenzofuran	13.3
2,3,5-Trimethylnaphthalene	13.85
Fluorene	14.16
Pentachlorophenol	16.13
Dibenzothiophene	16.23
Phenanthrene	16.56
Anthracene	16.69
Carbazole	17.2
1-Methylphenanthrene	18.11
Fluoranthene	19.55
Pyrene	20.1
Benzo(a)anthracene	23.13
Chrysene	23.24
Benzo(b)fluoranthene	25.66
Benzo(k)fluoranthene	25.75
Perylene	26.28
Benzo(a)pyrene	26.41
Benzo(e)pyrene	26.61
Indeno(1,2,3-cd)pyrene	29.34
Dibenzo(a,h)anthracene	29.34
Benzo(g,h,i)perylene	30.11

Run 28, "P93462 L022117 [1000µg/mL in MeCl2]"

Run Length: 40.00 min, 23998 points at 10 points/second.
Created: Thu, Mar 16, 2017 at 10:15:46 AM.
Sampled: Sequence "031517-GC4M2", Method "GC4-M2".
Analyzed using Method "GC4-M2".

Comments
GC4-M2 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) =360 mLOven Temp 1 = 50°C (1 min).
Rate = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes. Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 4



Peak No.	Name	FID RT (min.)
1	Decahydronaphthalene (Decalin) (isomer)	9.58
2	Decahydronaphthalene (Decalin) (isomer)	10.30
3	Naphthalene	11.58
4	Thianaphthene	11.71
5	2-Methylnaphthalene	13.14
6	1-Methylnaphthalene	13.39
7	Biphenyl	14.22
8	2,6-Dimethylnaphthalene	14.58
9	Acenaphthylene	15.24
10	Acenaphthene	15.67
11	Dibenzofuran	16.04
12	2,3,5-Trimethylnaphthalene	16.56
13	Fluorene	16.85
14	Pentachlorophenol/Dibenzothiophene	18.80
15	Phenanthrene	19.09
16	Anthracene	19.20
17	Carbazole	19.57
18	1-Methylphenanthrene	20.56
19	Fluoranthene	21.90
20	Pyrene	22.43
21	Benzo(a)anthracene	25.25
22	Chrysene	25.35
23	Benzo(b)fluoranthene/Benzo(k)fluoranthene	28.02
24	Perylene	28.82
25	Benzo(a)pyrene	28.99
26	Benzo(e)pyrene	29.26
27	Indeno(1,2,3-cd)pyrene/Dibenzo(a,h)anthracene	33.68
28	Benzo(g,h,i)perylene	34.92

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number:	**70476**
Lot Number:	110316
Description:	Benzo(j)fluoranthene
Expiration Date:	110321
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	1000
NIST Test ID#:	822-275872-11

5E-05 Balance Uncertainty

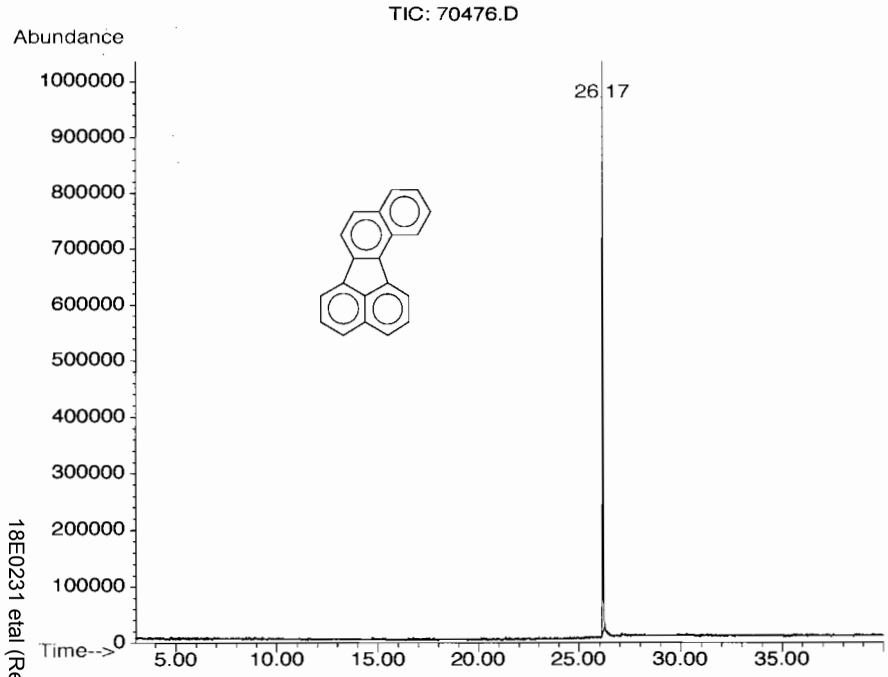
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

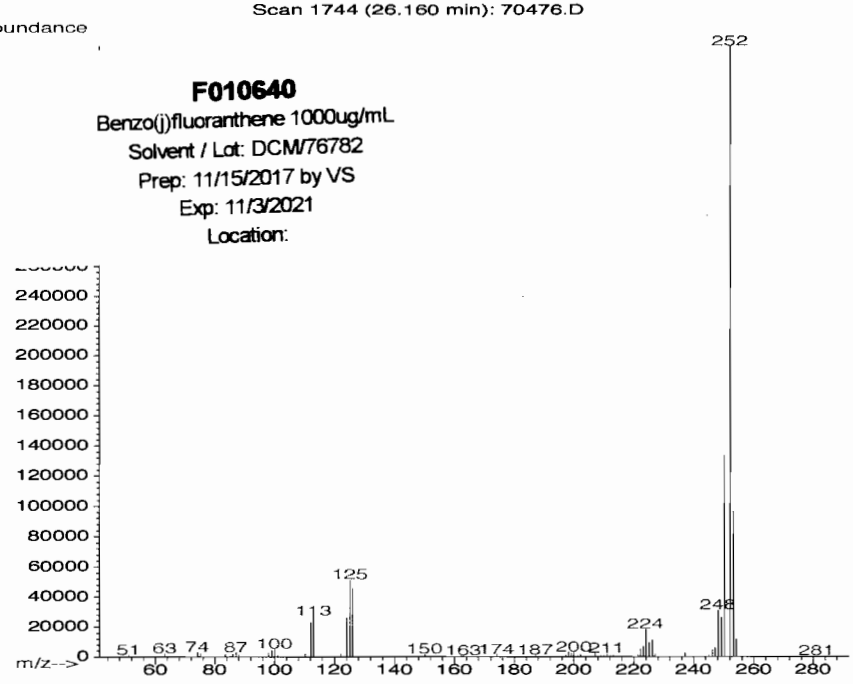
Solvent(s):	**Lot#**
Methylene chloride	76782

Formulated By:	Bryan Njeba	110316 DATE
Reviewed By:	Pedro L. Rentas	110316 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	ER022108-01	1000	98	0.2	0.02551	0.02552	1000.5	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD-2.M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14 min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Gina McLane.





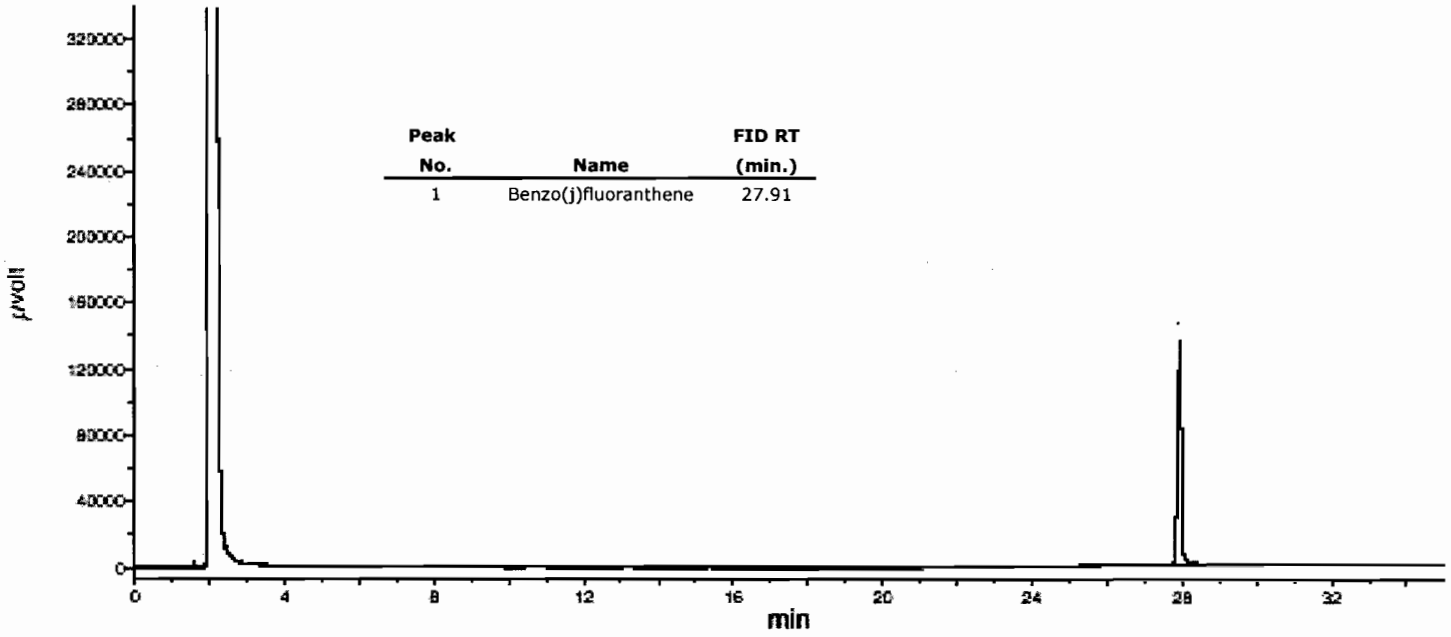
- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 18, "P70476 L110316 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Tue, Nov 8, 2016 at 2:59:30 AM.
Sampled: Sequence "110716-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min.)
1	Benzo(j)fluoranthene	27.91

Certificate of Analysis

F 011961

Certifi

Referer

Materi

PAHs - Silty Loam Soil

Product ID CRM142-50G
Lot LRAA9528
Expiration Date December 31, 2019
Storage Conditions Store at room temperature

Analyte	*Units*	*Certified Value* [1,4]	*k* [5]	*Standard Deviation* [2]	*Confidence Interval*	*Prediction Interval*
Naphthalene	ug/Kg	433 ± 92.7	2.00	145	343 to 523	112 to 753
Acenaphthene	ug/Kg	535 ± 47.4	2.00	77.8	484 to 586	363 to 707
Acenaphthylene	ug/Kg	269 ± 43.4	2.00	71.2	224 to 313	112 to 425
Anthracene	ug/Kg	297 ± 54.5	2.00	89.4	242 to 352	101 to 493
Benzo(a)anthracene	ug/Kg	311 ± 48.7	2.00	80.0	263 to 360	136 to 487
Benzo(a)pyrene	ug/Kg	55.7 ± 13.5	2.00	21.1	41.6 to 102.0	8.87 to 10
Benzo(b)fluoranthene	ug/Kg	225 ± 28.5	2.00	46.8	196 to 254	122 to 328
Benzo(g,h,i)perylene	ug/Kg	173 ± 29.2	2.00	48.0	145 to 202	68.2 to 27
Benzo(k)fluoranthene	ug/Kg	219 ± 18.1	2.00	29.6	201 to 237	154 to 284
Chrysene	ug/Kg	333 ± 35.4	2.00	55.4	298 to 368	211 to 456
Dibenzo(a,h)anthracene	ug/Kg	92.7 ± 20.6	2.00	33.9	72.4 to 113	18.4 to 16
Fluoranthene	ug/Kg	477 ± 71.5	2.00	117	408 to 547	220 to 734
Fluorene	ug/Kg	292 ± 33.7	2.00	55.3	255 to 328	169 to 414
Indeno(1,2,3-cd) pyrene	ug/Kg	293 ± 52.9	2.00	86.8	244 to 341	103 to 482
Phenanthrene	ug/Kg	561 ± 67.5	2.00	111	490 to 632	317 to 805
Pyrene	ug/Kg	358 ± 27.8	2.00	45.7	327 to 389	257 to 460

Sample Information

DESCRIPTION

The organic sample is a soil containing extractable PAHs for analysis by 8100, 8270, 8310 or equivalent methods.

This product consist of a 5 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested show homogeneity. Only one vial is need for test the remaining vials are to be used for multiple methods or routine testing.

The soil has been sterilized to minimize degradation of the sample.

The sample has been sized to 100 mesh.

Required storage condition is 4°C.

The sample has been intentionally prepared with an apparent headspace.

STORAGE

The sample should be stored at 4°C. It has been determined to be stable for the duration of the expiration date.

After sub-sampling replace cap securely and store remaining sample at 4°C.

The shelf life of the product was determined by historic stability of similar CRM's. The expiration date may be extended based on st and popularity upon successful stability testing by a 17025 accredited laboratory.

Stability and shelf life after opening must be determined by the user, taking into account sampling frequency/volume and all local conditions.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extrac

solvent.

Assume a 10g sample size for all calculations.

Note: Sample extracts and calibration solutions should be in the same solvent.

Report all results on a wet weight basis, do not correct for moisture.

NOTE: For method 8100 and using a packed column gas chromatographic method or cannot adequately resolve the following may coelute in four pairs of compounds: anthracene and phenanthrene; chrysene and benzo(a)anthracene; benzo(b)fluoranthene and benzo(k)fluoranthene; and dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

SCOPE AND APPLICATION

The Polyaromatic Hydrocarbons (PAHs) in Soil Certified Reference Material (CRM) consists of a single amber glass sample jar, wit Teflon lined closure containing approximately 100 grams of soil, fortified with 116 PAHs. Being a natural matrix waste sample the ana is challenged by the same preparation problems, analytical interferences, etc. as is typical for similar matrices received by the laborato for analysis. Rigorous analyses identified, quantified, and certified various aliphatic and aromatic banding which are listed on the enclosed Certificate of Analysis. The sample has been analyzed by a minimum of 12 independent laboratories in a round-robin to meet requirements specified by the ISO Guides 34 and 35, and ISO 17025.

EVALUATION OF RESULTS

The Reference Value, 95% confidence interval(C.I.) for the Reference Value and 95% Prediction Interval (P.I.) around the Reference Value were obtained by the methods identified in the 'Scope and Application' section of this Certificate of Analysis. Samples were sele in a random fashion from the beginning to the end of the bottling sequence and sent for analysis by an independent laboratory round-robin. The data produced in the round-robin was used to calculate reference values by the USEPA EMSL-CINN's computer program "BIWEIGHT".

The generated BIWEIGHT mean, BIWEIGHT standard deviation and BIWEIGHT standard deviation of the mean are used to calcul the 95% Confidence Interval (CI) for the mean and the 95% Prediction Interval (PI). For normally distributed data, the BIWEIGHT 9 CI compares well to the classical calculation method used to generate a 95% CI. For non-Gaussian data sets, the BIWEIGHT method i more robust in data treatment.

BIWEIGHT data are also used to calculate a 95% PI. The 95% PI compares well to a 95% tolerance limit calculated using classical methods. For normally distributed data, the BIWEIGHT 95% PI typically represents approximately a ±2 BIWEIGHT standard deviati window around the BIWEIGHT mean. Again, the BIWEIGHT method is more robust than classical methods when handling non-Gaussian data sets.

Laboratories performing the same analytical procedures on a sample whose values have been determined by the BIWEIGHT method can assume that the true mean, as determined by the method, is within the 95% CI window. Laboratories analyzing the sample should have results within the 95% PI window 19 out of 20 analyses. Laboratories should use the PI as guidance for laboratory performance.

Additional information on the program may be obtained by referring to the reference or by downloading the program from the EMSL-CINN web site. Additionally contact SigmaAldrich for additional guidance - 1(307)742-5452 - RTCTechGRoup@sial.com - www.sigmaaldrich.com

HEALTH AND SAFETY INFORMATION

Certified Reference Materials are intended only for professional use by properly trained laboratory personnel. This CRM has been reviewed for both health and safety and shipping risks. It is classified as non hazardous and is not classified as hazardous goods for shipping by road, sea or air transport.

A full international MSDS as a downloadable pdf file is available at www.sigmaaldrich.com

Certificate of Analysis

PAHs - Silty Loam Soil

Certifi
Referer
Materi

Product ID CRM142-50G
Lot LRAA9528
Expiration Date December 31, 2019
Storage Conditions Store at room temperature

1 Certified value - based on the robust mean of round robin, interlaboratory study and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2 The standard deviation is the robust statistical standard deviation from the round robin interlaboratory study.
3 Acceptance limits are based on Interlaboratory Study Results. These ranges are recommendations only.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multipli the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{hom\ ogeneity}^2 + u_{stability}^2}$$

5 ***k***: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calib regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (AClass Cert AT-1467) and GUIDE 34:2009 (AClass Cert AR-1470).

Robert O'Brien - QC Supervisor

Mark Pooler - QA Supervisor

Certification Date October 15, 2015
Version 285-10152015

SIGMA-ALDRICH®

SIGMA-ALDRICH®

TO: ANALYTICAL RESOURCES

F011861

4611 S 134TH PLACE STE 100
TUKWILA, WA 98168-3240

FROM: SIGMA-ALDRICH, INC.

6000 N. TEUTONIA AVE.
MILWAUKEE, WI 53209
414-438-3850 or 800-558-9160

PO: 60167

DATE: 12/15/2017 TIME: 4:29:29PM

CARTON: 981047173

Sales Order No: 3019769157

Catalog No. - Unit	Description	Batch	Orig. Pkt Qty	Units Packed
CRM142-50G	PAHS - SILTY LOAM SOIL	LRAA9528	1	1

DELIVERY No.	SOLD TO ACCT.	SHIP TO No.	REQUESTED ROUTING TERMS-NET 30 DAYS F.O.B. PLANT
0858511579	49432933	49647437	R07P - RPS/FXG

All sales are expressly limited to and conditioned upon the terms and conditions appearing on the front and back of this form. Sigma-Aldrich brand products are sold exclusively through Sigma-Aldrich, Inc.

Hazardous materials are packed according to UN performance oriented packaging requirements for protection from breakage and/or leakage. Although not required, we follow similar processes for non-hazardous materials to prevent breakage and/or leakage.

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A11

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-02	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	05311356.prn
% Solids:	59.52	Preparation:	PSEP 1986 (modified)	Analyzed:	05/31/18 14:03
Batch:	BGE0592	Sequence:	SGE0487	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.39	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A11-FD

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-03	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	05311407.prn
% Solids:	60.97	Preparation:	PSEP 1986 (modified)	Analyzed:	05/31/18 14:14
Batch:	BGE0592	Sequence:	SGE0487	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.34	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A01

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-01	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	06010855.prn
% Solids:	78.17	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:03
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.64	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A02

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-02	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	06010919.prn
% Solids:	72.20	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:25
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.74	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A03

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-03	SDG:	18E0231
Sampled:	05/16/18 13:20	Prepared:	05/23/18 09:20	File ID:	06010927.prn
% Solids:	62.47	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:34
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.78	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A05

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-04	SDG:	18E0231
Sampled:	05/16/18 13:00	Prepared:	05/23/18 09:20	File ID:	06010936.prn
% Solids:	63.98	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:42
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.26	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A04

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-05	SDG:	18E0231
Sampled:	05/16/18 12:32	Prepared:	05/23/18 09:20	File ID:	06010944.prn
% Solids:	73.13	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:49
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.50	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A06

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-06	SDG:	18E0231
Sampled:	05/16/18 12:07	Prepared:	05/23/18 09:20	File ID:	06010953.prn
% Solids:	73.08	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 09:59
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.53	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A13

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-01	SDG:	18E0231
Sampled:	05/17/18 13:20	Prepared:	05/23/18 09:20	File ID:	06011040.prn
% Solids:	71.87	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 10:44
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.68	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A19

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-02	SDG:	18E0231
Sampled:	05/17/18 14:04	Prepared:	05/23/18 09:20	File ID:	06011046.prn
% Solids:	58.42	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 10:51
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.84	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A12

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-01	SDG:	18E0231
Sampled:	05/18/18 13:30	Prepared:	05/23/18 09:20	File ID:	06011053.prn
% Solids:	79.03	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 10:56
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.61	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A17

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-02	SDG:	18E0231
Sampled:	05/18/18 13:36	Prepared:	05/23/18 09:20	File ID:	06011059.prn
% Solids:	59.28	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:04
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.05	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A18

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-03	SDG:	18E0231
Sampled:	05/18/18 13:57	Prepared:	05/23/18 09:20	File ID:	06011108.prn
% Solids:	72.17	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:13
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.77	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A09

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-04	SDG:	18E0231
Sampled:	05/18/18 15:28	Prepared:	05/23/18 09:20	File ID:	06011118.prn
% Solids:	76.27	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:22
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.77	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A10

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-05	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	05/23/18 09:20	File ID:	06011127.prn
% Solids:	87.94	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:31
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.40	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A07

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-01	SDG:	18E0231
Sampled:	05/19/18 14:35	Prepared:	05/23/18 09:20	File ID:	06011134.prn
% Solids:	65.52	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:37
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.90	1	0.02	0.02	

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW18-SSCL-A08

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-02	SDG:	18E0231
Sampled:	05/19/18 15:00	Prepared:	05/23/18 09:20	File ID:	06011142.prn
% Solids:	72.41	Preparation:	PSEP 1986 (modified)	Analyzed:	06/01/18 11:46
Batch:	BGE0592	Sequence:	SGF0001	Initial/Final:	1 g Wet / 1 mL
Instrument:	APOLLO1			Calibration:	BE00079

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.57	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0592 Batch Matrix: Solid Preparation: PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-SSCL-A11	18E0231-02	05311356.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	18E0231-03	05311407.prn	05/23/18 09:20	
LDW18-SSCL-A01	18E0243-01	06010855.prn	05/23/18 09:20	
LDW18-SSCL-A02	18E0243-02	06010919.prn	05/23/18 09:20	
LDW18-SSCL-A03	18E0243-03	06010927.prn	05/23/18 09:20	
LDW18-SSCL-A05	18E0243-04	06010936.prn	05/23/18 09:20	
LDW18-SSCL-A04	18E0243-05	06010944.prn	05/23/18 09:20	
LDW18-SSCL-A06	18E0243-06	06010953.prn	05/23/18 09:20	
LDW18-SSCL-A13	18E0262-01	06011040.prn	05/23/18 09:20	
LDW18-SSCL-A19	18E0262-02	06011046.prn	05/23/18 09:20	
LDW18-SSCL-A12	18E0282-01	06011053.prn	05/23/18 09:20	
LDW18-SSCL-A17	18E0282-02	06011059.prn	05/23/18 09:20	
LDW18-SSCL-A18	18E0282-03	06011108.prn	05/23/18 09:20	
LDW18-SSCL-A09	18E0282-04	06011118.prn	05/23/18 09:20	
LDW18-SSCL-A10	18E0282-05	06011127.prn	05/23/18 09:20	
LDW18-SSCL-A07	18E0309-01	06011134.prn	05/23/18 09:20	
LDW18-SSCL-A08	18E0309-02	06011142.prn	05/23/18 09:20	
Blank	BGE0592-BLK1	05311257.prn	05/23/18 09:20	
Blank	BGE0592-BLK1	05311257.prn	05/23/18 09:20	
Blank	BGE0592-BLK1	05311257.prn	05/23/18 09:20	
Blank	BGE0592-BLK1	05311257.prn	05/23/18 09:20	
Blank	BGE0592-BLK1	05311257.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	05/23/18 09:20	
MRL Check	BGE0592-MRL1	05311242.prn	05/23/18 09:20	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0592 Batch Matrix: Solid Preparation: PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
MRL Check	BGE0592-MRL1	05311242.prn	05/23/18 09:20	
MRL Check	BGE0592-MRL1	05311242.prn	05/23/18 09:20	
MRL Check	BGE0592-MRL1	05311242.prn	05/23/18 09:20	
MRL Check	BGE0592-MRL1	05311242.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	05/23/18 09:20	
Reference	BGE0592-SRM1	05311343.prn	05/23/18 09:20	
Reference	BGE0592-SRM1	05311343.prn	05/23/18 09:20	
Reference	BGE0592-SRM1	05311343.prn	05/23/18 09:20	
Reference	BGE0592-SRM1	05311343.prn	05/23/18 09:20	
Reference	BGE0592-SRM1	05311343.prn	05/23/18 09:20	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BGE0592
Date:	5/23/2018 11:32
Analyst:	KLE

Instrumentation

Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	N / A		

Batch drying time

record times as mm/dd/yy hh:mm

date/time in oven:	5/23/2018 11:32	
date/time out:	5/24/2018 7:08	
elapsed hrs =	19.6	OK

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places

Cal Weight ID:	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02
Date & Time:	5/23/18 5:40	5/23/18 11:32	5/24/18 7:28						
Cal Wt (g): 10.0000	9.9999	9.9999	9.9999						
	Cal OK!	Cal OK!	Cal OK!						

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	TVS (%)	Notes
BGE0592-BLK1	1	1.1351	0.0000	1.1350			-0.0001	0.01%								
18E0231-02	5	1.1343	7.9396	5.1851			4.0508	59.52%								
18E0231-03	2	1.1197	7.0716	4.7484			3.6287	60.97%								
BGE0592-DUP1	3	1.1264	7.8359	5.2141			4.0877	60.92%	RPD=0.1							
BGE0592-DUP2	4	1.1283	7.3248	4.8810			3.7527	60.56%	RSD=0.4							
18E0243-01	6	1.1308	9.3498	7.5556			6.4248	78.17%								
18E0243-02	7	1.1550	7.7095	5.8873			4.7323	72.20%								
18E0243-03	8	1.1218	6.6173	4.5546			3.4328	62.47%								
18E0243-04	9	1.1420	7.1131	4.9626			3.8206	63.98%								
18E0243-05	10	1.1458	9.5421	7.2860			6.1402	73.13%								
18E0243-06	11	1.1157	8.9014	6.8056			5.6899	73.08%								
18E0262-01	12	1.1034	9.5028	7.1401			6.0367	71.87%								
18E0262-02	13	1.1082	6.7274	4.3912			3.2830	58.42%								
18E0282-01	14	1.1175	7.9023	6.4794			5.3619	79.03%								
18E0282-02	15	1.1137	7.6750	5.0032			3.8895	59.28%								
18E0282-03	16	1.1322	8.6053	6.5259			5.3937	72.17%								
18E0282-04	17	1.1185	8.0766	6.4251			5.3066	76.27%								
18E0282-05	18	1.0940	8.9767	8.0261			6.9321	87.94%								
18E0309-01	19	1.1566	7.6233	5.3939			4.2373	65.52%								
18E0309-02	20	1.1668	7.7430	5.9289			4.7621	72.41%								

TS 70 C Benchsheet

Batch: **BGE0592**

Dry at 70ºC

70ºC Prep Date: 5/23/2018 11:52

Acidification Date: 5/25/2018 13:58

Balance ID: BAL2

Analyst: KLE

Analyst: YOUNG

KHP Spike Standard: F000167

Initial 70 Sample Prep							Acidification Prep						
Sample ID	Tare Wt. (g)	KHP Matrix Spike (g)	Wet wt. (g)	70ºC Dry wt (g)	70C % Solids	Sample Descriptions & Notes	Vial Tare (g)	70C dried Sample + Tare (g)	Initial Sample (g)	Eff Test.	Post Treatment (g)	Final Sample (g)	Acidification %
BGE0592-BLK1	13.1588		13.4940	13.4932	99.76%		13.2014	13.4308	*0.2294*	-	13.4681	0.2667	116.26%
BGE0592-MRL1	13.1104		13.5150	13.5143	99.83%		13.1555	13.4952	*0.3397*	-	13.5380	0.3825	112.60%
18E0231-02	13.1061		20.1358	17.4697	62.07%	SADY/CLAYISH	13.1434	13.2672	*0.1238*	-	13.3046	0.1612	130.21%
18E0231-03	13.1560		19.6822	17.1457	61.13%	SADY/CLAYISH	13.2109	13.3165	*0.1056*	-	13.3560	0.1451	137.41%
BGE0592-DUP1	13.1343		22.7774	19.0568	61.42%	TS RPD=0.46%	13.1794	13.4375	*0.2581*	-	13.4712	0.2918	113.06%
BGE0592-DUP2	13.0932		21.2825	18.1268	61.47%	TS RPD=0.54% TS RSD=0.29	13.1515	13.4630	*0.3115*	-	13.4793	0.3278	105.23%
BGE0592-MS1	13.1292	0.2298	20.1490	17.6629	61.31%	Wet Wt 6.79	13.1567	13.3313	*0.1746*	-	13.3757	0.2190	125.43%
18E0243-01	13.1271		22.0754	20.1344	78.31%	SANDY - SED	13.1989	13.7030	*0.5041*	-	13.7424	0.5435	107.82%
18E0243-02	13.1021		20.1129	18.1441	71.92%	CLAYISH	13.2086	13.5087	*0.3001*	-	13.5442	0.3356	111.83%
18E0243-03	13.1047		22.7903	19.1005	61.90%	SED	13.2896	13.4904	*0.2008*	-	13.5634	0.2738	136.35%
18E0243-04	12.0704		22.5946	19.1950	67.70%	WET SED / ROK	13.1348	13.3854	*0.2506*	-	13.4236	0.2888	115.24%
18E0243-05	13.1204		21.3690	19.1716	73.36%	SED	13.2232	13.5162	*0.2930*	-	13.5524	0.3292	112.35%
18E0243-06	13.1966		22.5157	20.0145	73.16%	SANDY - SED / ROK	13.1568	13.6426	*0.4858*	-	13.7205	0.5637	116.04%
18E0262-01	13.2157		24.1659	21.0967	71.97%	WET SED /	13.2347	13.4510	*0.2163*	-	13.4904	0.2557	118.22%
18E0262-02	13.1650		24.1780	19.6656	59.03%	SANDY SED	13.2432	13.4542	*0.2110*	-	13.5113	0.2681	127.06%
18E0282-01	13.1269		22.0436	20.1115	78.33%	SANDY / SED	13.2194	14.0165	*0.7971*	-	14.0789	0.8595	107.83%
18E0282-02	13.1633		25.4587	20.4368	59.16%	SED / ROK	13.1109	13.5453	*0.4344*	-	13.6152	0.5043	116.09%
18E0282-03	13.1192		21.8918	19.6282	74.20%	SED / ROK	13.1734	13.6610	*0.4876*	-	13.7280	0.5546	113.74%
18E0282-04	13.2360		21.8818	19.7239	75.04%	SED / ROK	13.2317	13.5578	*0.3261*	-	13.6631	0.4314	132.29%
18E0282-05	13.0987		24.2659	22.4412	83.66%	SED / ROK	13.1739	14.0535	*0.8796*	-	14.1011	0.9272	105.41%
18E0309-01	13.1233		22.5654	19.3554	66.00%	SED / ROK	13.2291	14.1843	*0.9552*	-	14.2370	1.0079	105.52%
18E0309-02	13.1256		26.3511	22.8060	73.19%	SED / ROK	13.2062	14.0202	*0.8140*	-	14.1367	0.9305	114.31%

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Batch: BGE0592 Laboratory ID: BGE0592-BLK1 Prepared: 05/23/18 09:20

Matrix: Solid Preparation: PSEP 1986 (modified) Analyzed: 05/31/18 13:14

Sequence: SGE0487 Calibration: BE00079 Instrument: APOLLO1

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

LDW18-SSCL-A11-FD

DUPLICATES

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Laboratory ID: BGE0592-DUP1
Batch: BGE0592
Lab Source ID: 18E0231-03
Preparation: PSEP 1986 (modified)
Initial/Final: 1 g / 1 mL
Source Sample Name: LDW18-SSCL-A11-FD
% Solids: 60.97

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Organic Carbon	20	1.34	1.21	10.1	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

LDW18-SSCL-A11-FD

DUPLICATES

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Laboratory ID: BGE0592-DUP2
Batch: BGE0592
Lab Source ID: 18E0231-03
Preparation: PSEP 1986 (modified)
Initial/Final: 1 g / 1 mL
Source Sample Name: LDW18-SSCL-A11-FD
% Solids: 60.97

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Organic Carbon	20	1.34	0.89	39.7	*

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

*

MS / MS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Matrix:	Solid	Analyzed:	05/31/18 14:59
Batch:	BGE0592	Laboratory ID:	BGE0592-MS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	Matrix Spike
Initial/Final:	4.139665 g / 4.139665 mL	Source Sample:	LDW18-SSCL-A11-FD

COMPOUND	SPIKE ADDED (%)	SAMPLE CONCENTRATION (%)	MS CONCENTRATION (%)	Q	MS % REC. #		QC LIMITS REC.
Total Organic Carbon	2.61	1.34	1.78	*	17.2	*	75 - 125

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGE0419	Instrument:	APOLLO1
		Calibration:	BE00079

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SGE0419-CAL1	5240836	NA	05/24/18 08:45
Cal Standard	SGE0419-CAL2	5240853	NA	05/24/18 09:13
Cal Standard	SGE0419-CAL3	5240935	NA	05/24/18 09:47
Cal Standard	SGE0419-CAL4	5241021	NA	05/24/18 10:32
Cal Standard	SGE0419-CAL5	5241044	NA	05/24/18 10:58
Initial Cal Check	SGE0419-ICV1	5241100	NA	05/24/18 11:04
Initial Cal Blank	SGE0419-ICB1	5241106	NA	05/24/18 11:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGE0487	Instrument:	APOLLO1
		Calibration:	BE00079

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SGE0487-ICV1	05311155.prn	NA	05/31/18 12:03
Initial Cal Blank	SGE0487-ICB1	05311234.prn	NA	05/31/18 12:39
MRL Check	BGE0592-MRL1	05311242.prn	Solid	05/31/18 12:47
Blank	BGE0592-BLK1	05311257.prn	Solid	05/31/18 13:14
Reference	BGE0592-SRM1	05311343.prn	Solid	05/31/18 13:50
LDW18-SSCL-A11	18E0231-02	05311356.prn	Solid	05/31/18 14:03
LDW18-SSCL-A11-FD	18E0231-03	05311407.prn	Solid	05/31/18 14:14
LDW18-SSCL-A11-FD	BGE0592-DUP1	05311418.prn	Solid	05/31/18 14:25
LDW18-SSCL-A11-FD	BGE0592-DUP2	05311428.prn	Solid	05/31/18 14:35
LDW18-SSCL-A11-FD	BGE0592-MS1	05311452.prn	Solid	05/31/18 14:59
Calibration Check	SGE0487-CCV1	05311514.prn	NA	05/31/18 15:21
Calibration Blank	SGE0487-CCB1	05311527.prn	NA	05/31/18 15:29

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Corrective Actions
Inorganic Analyses

Criteria Flagged:

ARI Job No.: 18E0231 / 18GE0487 / 18GE0592

Unacceptable Blank:	☐	Date of Event:	5-31-18
Unacceptable Duplicate:	☑	Client ID:	
Unacceptable Spike:	☑	Method/Element:	TOC
Unacceptable Reference:	☐	Prep Code:	

Details of Problem/Recommended Corrective Action:

high Dup 2 -

SPK - Low 17.2%

Samples Affected: 03

Corrective Action Taken: Dup 2 Reran with Client Results Report as is Possible Heterogeneity issue

SPike - Reran with Same Result
Possible Matrix Interference

Analyst Initials: (W) **Supervisor:** CDK

Date: 5-31-18 **Date:** 5-31-18

5049F

Revision 007
6/11/10

Detailed Analysis Report Print Date/Time: 2018/05/31 15:33:20

Sample ID: SGE0487-ICV1 Mode: TOC
Method: Boat Sampler Filename: 05311155
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:03
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1006.7629	40.2705	8405363	4.753	6.012	361

Last Message: Max Integration Time Reached

Sample ID: SGE0487-ICB1 Mode: TOC
Method: Boat Sampler Filename: 05311234
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:39
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	57.4344	2.2974	411691	4.405	5.403	215

Sample ID: BGE0592-MRL1 Mode: TOC
Method: Boat Sampler Filename: 05311242
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:47
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	173.5642	11.3858	2396811	4.759	5.759	181

Sample ID: BGE0592-BLK1 Mode: TOC
Method: Boat Sampler Filename: 05311257
Cal. Curve: BE00079 Timestamp: 2018/05/31 13:14
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	157.9806	10.4899	2208217	4.502	5.501	147

Sample ID: BGE0592-SRM1 Mode: TOC
Method: Boat Sampler Filename: 05311343
Cal. Curve: BE00079 Timestamp: 2018/05/31 13:50
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	28233.3164	45.1733	9509369	5.258	6.257	355

Sample ID: 18E0231-02 Mode: TOC
Method: Boat Sampler Filename: 05311356
Cal. Curve: BE00079 Timestamp: 2018/05/31 14:03
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10216.0781	27.5834	5806545	5.405	8.012	360

Last Message: Max Integration Time Reached

Sample ID: 18E0231-03 Mode: TOC
Method: Boat Sampler Filename: 05311407
Cal. Curve: BE00079 Timestamp: 2018/05/31 14:14
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9692.0234	9.6920	2040254	5.442	6.535	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP1
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311418
Timestamp: 2018/05/31 14:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10602.3252	11.6626	2455069	5.654	7.197	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311428
Timestamp: 2018/05/31 14:35
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8418.0049	9.2598	1949269	5.815	7.295	359

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311442
Timestamp: 2018/05/31 14:49
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6690.2754	7.3593	1549197	6.415	7.665	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-MS1
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311452
Timestamp: 2018/05/31 14:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	14149.4756	15.5644	3276445	6.736	7.849	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-MS2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311505
Timestamp: 2018/05/31 15:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22132.4062	30.9854	6522687	7.646	9.014	361

Last Message: Max Integration Time Reached

Sample ID: SGE0487-CCV1
Method: Boat Sampler
Cal. Curve: BE00079
Mode: TOC
Filename: 05311514
Timestamp: 2018/05/31 15:21

Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1019.0378	40.7615	8508722	7.965	9.561	360

Last Message: Max Integration Time Reached

Sample ID: SGE0487-CCB1 Mode: TOC
Method: Boat Sampler Filename: 05311527
Cal. Curve: BE00079 Timestamp: 2018/05/31 15:29
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	21.6124	0.8645	110057	8.453	9.451	59

TOC, Solids Data Analysis

		Select Mode:	TOC	Sequence:	SGE0487
				Date:	5/31/2018 12:02
Instrument:	APOLLO1	**Balance ID:**	BAL3	Analyst:	KLE

Verification Standard		**KHP Spiking Standard**		**SRM Standard**	**Source: NIST 1941B**	Conc.	
CVS ID:	**G004922**	47.051%	% Carbon	Standard ID:	**G002759**	**25,832**	ppm
1,000	**ppm**			Prep Date:	**4/2/2018**	**OK**	Status

Calibration Data	Cal Curve ID:	**BE00079**	Cal Curve Stock Std ID:	**G001627**	5,000	ppm	Curve Range :		
40 µL injection	Curve Date:	**05/24/18**					200	to	2,500
							8	to	**100**

NOTE: "Diluted, Acidified PPM" = ("TOC obs" * Dilution Factor * Acidifcation%)

Sample ID	Sample Data						Combustion Data					Comments
	Prep Data			Dilution Data								
	TS 104 %	TS 70 %	Acidification %	Sample wt. (mg)	Final wt. (mg)	Dilution Factor	Burn wt. (mg)	obs µg C	PPM C	Full Corrected PPM C	%C	
SGE0487-ICV1							40.0	40.2705	1006.7629	1006.7629	100.7% OK	
SGE0487-ICB1							40.0	2.2974	57.4344	57.4344		Low, increase wt
BGE0592-MRL1	100.00%	99.83%	112.60%			1.00	65.6	11.3858	173.5642	195.0942	0.02	
BGE0592-BLK1	100.00%	99.76%	116.26%			1.00	66.4	10.4899	157.9806	183.2295	0.02	
BGE0592-SRM1							1.6	45.1733	28233.3160	28233.3160	1.09	
18E0231-02	59.52%	62.07%	130.21%			1.00	2.7	27.5834	10216.0778	13872.1347	1.39	
18E0231-03	60.97%	61.13%	137.41%			1.00	1.0	9.6920	9692.0238	13353.7260	1.34	
BGE0592-DUP1	60.97%	61.42%	113.06%			1.00	1.1	11.6626	10602.3249	12075.1268	1.21	RPD=10.06%
BGE0592-DUP2	60.97%	61.47%	105.23%			1.00	1.1	9.2598	8418.0048	8930.9270	0.89	
~~BGE0592-DUP3~~	~~60.97%~~	~~61.47%~~	~~105.23%~~			~~1.00~~	~~1.1~~	~~7.3593~~	~~6690.2755~~	~~7097.9245~~	~~0.71~~	-
BGE0592-MS1	60.97%	61.31%	125.43%			1.00	1.1	15.5644	14149.4756	17847.7144	1.78	
MS DATA	**0.2298**	g of KPH	**4.1397**	g WET wt =	42601	mg/kg 70C	2.6119	%C @ 104C	% Rec =	17.2%	104C % REC	
~~BGE0592-MS2~~	~~60.97%~~	~~61.31%~~	~~125.43%~~			~~1.00~~	~~1.4~~	~~30.9854~~	~~22132.4069~~	~~27917.1390~~	~~2.79~~	-
~~**MS DATA**~~	~~**0.2298**~~	~~g of KPH~~	~~**4.1397**~~	~~g WET wt =~~	~~42601~~	~~mg/kg 70C~~	~~2.6119~~	~~%C @ 104C~~	~~% Rec =~~	~~55.8%~~	~~104C % REC~~	
SGE0487-CCV1							40.0	40.7615	1019.0378	1019.0378	101.9% OK	
SGE0487-CCB1							40.0	0.8645	21.6124	21.6124		Low, increase wt

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGF0001	Instrument:	APOLLO1
		Calibration:	BE00079

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SGF0001-ICV1	06010654.prn	NA	06/01/18 07:00
Initial Cal Blank	SGF0001-ICB1	06010701.prn	NA	06/01/18 07:03
LDW18-SSCL-A01	18E0243-01	06010855.prn	Solid	06/01/18 09:03
LDW18-SSCL-A02	18E0243-02	06010919.prn	Solid	06/01/18 09:25
LDW18-SSCL-A03	18E0243-03	06010927.prn	Solid	06/01/18 09:34
LDW18-SSCL-A05	18E0243-04	06010936.prn	Solid	06/01/18 09:42
LDW18-SSCL-A04	18E0243-05	06010944.prn	Solid	06/01/18 09:49
LDW18-SSCL-A06	18E0243-06	06010953.prn	Solid	06/01/18 09:59
Calibration Check	SGF0001-CCV1	06011001.prn	NA	06/01/18 10:08
Calibration Blank	SGF0001-CCB1	06011035.prn	NA	06/01/18 10:38
LDW18-SSCL-A13	18E0262-01	06011040.prn	Solid	06/01/18 10:44
LDW18-SSCL-A19	18E0262-02	06011046.prn	Solid	06/01/18 10:51
LDW18-SSCL-A12	18E0282-01	06011053.prn	Solid	06/01/18 10:56
LDW18-SSCL-A17	18E0282-02	06011059.prn	Solid	06/01/18 11:04
LDW18-SSCL-A18	18E0282-03	06011108.prn	Solid	06/01/18 11:13
LDW18-SSCL-A09	18E0282-04	06011118.prn	Solid	06/01/18 11:22
LDW18-SSCL-A10	18E0282-05	06011127.prn	Solid	06/01/18 11:31
LDW18-SSCL-A07	18E0309-01	06011134.prn	Solid	06/01/18 11:37
LDW18-SSCL-A08	18E0309-02	06011142.prn	Solid	06/01/18 11:46
Calibration Check	SGF0001-CCV2	06011147.prn	NA	06/01/18 11:52
Calibration Blank	SGF0001-CCB2	06011154.prn	NA	06/01/18 11:56
Calibration Check	SGF0001-CCV3	06011314.prn	NA	06/01/18 13:19
Calibration Blank	SGF0001-CCB3	06011321.prn	NA	06/01/18 13:24
Calibration Check	SGF0001-CCV4	06011348.prn	NA	06/01/18 13:56
Calibration Blank	SGF0001-CCB4	06011359.prn	NA	06/01/18 14:03
Calibration Check	SGF0001-CCV6	06011440.prn	NA	06/01/18 14:46
Calibration Blank	SGF0001-CCB5	06011448.prn	NA	06/01/18 14:54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Corrective Actions
Inorganic Analyses

Criteria Flagged:

ARI Job No.: 18E0285 | SGF0001 / BGE0530

Unacceptable Blank: ☑

Date of Event: 6-1-18

Unacceptable Duplicate: ☐

Client ID:

Unacceptable Spike: ☑

Method/Element: TOC

Unacceptable Reference: ☐

Prep Code:

Details of Problem/Recommended Corrective Action:
High Blank / Low Spike

Samples Affected: 09

Corrective Action Taken: SPK - Reran with higher Sample Volume with Exceptable Results - Reported
Reran Blank with Exceptable Results

Analyst Initials: (W)

Supervisor: CDC

Date: 6-1-18

Date: 6-1-18

5049F

Revision 007
6/11/10

Detailed Analysis Report Print Date/Time: 2018/06/01 14:57:47

```
Sample ID:   SGF0001-ICV1                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010654
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 07:00
Operator ID: KLE                             Sample Type: Cal. Verification

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1    986.2920    39.4517   8232991         2.992       3.992       247
```

```
Sample ID:   SGF0001-ICB1                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010701
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 07:03
Operator ID: KLE                             Sample Type: Cal. Verification

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1     20.7937     0.8317    103164         2.792       3.791        62
```

```
Sample ID:   BGE0530-MRL1                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010724
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 07:32
Operator ID: KLE                             Sample Type: Sample

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1    658.2852    43.7101   9201360         3.140       4.720       360
--------------------------------------------------------------------------------
Last Message: Max Integration Time Reached
```

```
Sample ID:   BGE0530-MRL2                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010736
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 07:52
Operator ID: KLE                             Sample Type: Sample

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1    548.9987    33.4889   7049706         3.391       4.501       360
--------------------------------------------------------------------------------
Last Message: Max Integration Time Reached
```

```
Sample ID:   BGE0530-BLK1                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010838
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 08:41
Operator ID: KLE                             Sample Type: Sample

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1    194.6867    13.0051   2737679         3.260       4.259       138
```

```
Sample ID:   BGE0530-SRM1                    Mode:        TOC
Method:      Boat Sampler                    Filename:    06010845
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 08:51
Operator ID: KLE                             Sample Type: Sample

Rep #     ppm C     ug C    Raw Data      Beginning    Ending     Integration
                                          Baseline    Baseline       Time
  1   29228.9531    49.6892  10460008         3.128       4.127       310
```

```
Sample ID:   18E0243-01                      Mode:        TOC
Method:      Boat Sampler                    Filename:    06010855
Cal. Curve:  BE00079                         Timestamp:   2018/06/01 09:03
Operator ID: KLE                             Sample Type: Sample
```

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5943.9160	12.4822	2627615	3.360	4.359	209

Sample ID: 18E0243-02 Mode: TOC
Method: Boat Sampler Filename: 06010919
Cal. Curve: BE00079 Timestamp: 2018/06/01 09:25
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6627.2197	14.5799	3069191	3.148	4.146	273

Sample ID: 18E0243-03 Mode: TOC
Method: Boat Sampler Filename: 06010927
Cal. Curve: BE00079 Timestamp: 2018/06/01 09:34
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	13157.6348	17.1049	3600734	3.315	6.040	361

Last Message: Max Integration Time Reached

Sample ID: 18E0243-04 Mode: TOC
Method: Boat Sampler Filename: 06010936
Cal. Curve: BE00079 Timestamp: 2018/06/01 09:42
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10297.1611	26.7726	5635866	3.066	4.061	290

Sample ID: 18E0243-05 Mode: TOC
Method: Boat Sampler Filename: 06010944
Cal. Curve: BE00079 Timestamp: 2018/06/01 09:49
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4440.1899	10.2124	2149806	3.255	4.248	199

Sample ID: 18E0243-06 Mode: TOC
Method: Boat Sampler Filename: 06010953
Cal. Curve: BE00079 Timestamp: 2018/06/01 09:59
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4580.4360	10.5350	2217709	3.342	4.338	336

Sample ID: SGF0001-CCV1 Mode: TOC
Method: Boat Sampler Filename: 06011001
Cal. Curve: BE00079 Timestamp: 2018/06/01 10:08
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	980.1928	39.2077	8181634	3.213	4.679	360

Last Message: Max Integration Time Reached

Sample ID: SGF0001-CCB1 Mode: TOC
Method: Boat Sampler Filename: 06011035
Cal. Curve: BE00079 Timestamp: 2018/06/01 10:38
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	41.4076	1.6563	276740	3.144	4.141	83

Sample ID: 18E0262-01 Mode: TOC
Method: Boat Sampler Filename: 06011040
Cal. Curve: BE00079 Timestamp: 2018/06/01 10:44
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5776.4321	13.2858	2796774	3.235	4.235	182

Sample ID: 18E0262-02 Mode: TOC
Method: Boat Sampler Filename: 06011046
Cal. Curve: BE00079 Timestamp: 2018/06/01 10:51
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6538.0684	18.9604	3991327	3.271	4.270	221

Sample ID: 18E0282-01 Mode: TOC
Method: Boat Sampler Filename: 06011053
Cal. Curve: BE00079 Timestamp: 2018/06/01 10:56
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5672.0112	18.7176	3940224	3.382	4.376	134

Sample ID: 18E0282-02 Mode: TOC
Method: Boat Sampler Filename: 06011059
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:04
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9024.1055	26.1699	5508990	3.336	4.334	263

Sample ID: 18E0282-03 Mode: TOC
Method: Boat Sampler Filename: 06011108
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:13
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6567.1157	17.0745	3594329	3.819	4.816	240

Sample ID: 18E0282-04 Mode: TOC
Method: Boat Sampler Filename: 06011118
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:22
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5933.2285	16.0197	3372288	4.069	5.069	203

Sample ID: 18E0282-05 Mode: TOC
Method: Boat Sampler Filename: 06011127
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:31
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3957.9868	18.2067	3832675	4.338	5.337	169

Sample ID: 18E0282-05 Mode: TOC
Method: Boat Sampler Filename: 06011134
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:37
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	17880.0625	50.0642	10538940	4.590	5.589	173

Sample ID: 18E0309-02 Mode: TOC
Method: Boat Sampler Filename: 06011142
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:46
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4908.2251	13.2522	2789704	4.891	5.889	186

Sample ID: SGF0001-CCV2 Mode: TOC
Method: Boat Sampler Filename: 06011147
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:52
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1015.8438	40.6338	8481827	4.613	5.611	237

Sample ID: SGF0001-CCB2 Mode: TOC
Method: Boat Sampler Filename: 06011154
Cal. Curve: BE00079 Timestamp: 2018/06/01 11:56
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	25.4656	1.0186	142503	4.782	5.778	63

Sample ID: 18E0285-09 Mode: TOC
Method: Boat Sampler Filename: 06011158
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:03
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5880.4556	28.2262	5941855	4.675	5.673	253

Sample ID: BGE0530-DUP1 Mode: TOC
Method: Boat Sampler Filename: 06011206
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:11
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5837.5400	28.0202	5898491	4.716	5.715	243

Sample ID: BGE0530-DUP2 Mode: TOC
Method: Boat Sampler Filename: 06011213
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:17
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5533.0405	26.5586	5590812	4.909	5.908	198

Sample ID: BGE0530-MS1 Mode: TOC
Method: Boat Sampler Filename: 06011219
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:25
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	12440.7949	24.8816	5237789	4.737	5.733	318

Sample ID: BGE0530-MS2 Mode: TOC
Method: Boat Sampler Filename: 06011227
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:34
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	17647.3984	58.2364	12259265	4.741	5.738	306

Sample ID: 18E0285-16 Mode: TOC
Method: Boat Sampler Filename: 06011240
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:45
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5936.1826	21.9639	4623584	4.971	5.969	197

Sample ID: 18E0285-17 Mode: TOC
Method: Boat Sampler Filename: 06011248
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:52
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7255.7451	18.1394	3818492	5.184	6.183	140

Sample ID: 18E0285-25 Mode: TOC
Method: Boat Sampler Filename: 06011254
Cal. Curve: BE00079 Timestamp: 2018/06/01 12:56
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	661.9901	2.9128	613160	5.096	6.094	101

Sample ID: 18E0285-25 Mode: TOC
Method: Boat Sampler Filename: 06011301
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:05
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	792.3293	14.7373	3102334	5.321	6.320	181

Sample ID: 18E0285-33 Mode: TOC
Method: Boat Sampler Filename: 06011307
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:12
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1719.9689	33.1954	6987917	5.274	6.272	183

Sample ID: SGF0001-CCV3 Mode: TOC
Method: Boat Sampler Filename: 06011314
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:19
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	965.3343	38.6134	8056520	5.208	6.207	197

Sample ID: SGF0001-CCB3 Mode: TOC
Method: Boat Sampler Filename: 06011321
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:24
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	21.0180	0.8407	105053	5.396	6.389	54

Sample ID: 18E0285-42 Mode: TOC
Method: Boat Sampler Filename: 06011329
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:36
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2393.6265	50.9842	10732621	5.074	6.247	360

Last Message: Max Integration Time Reached

Sample ID: 18E0285-52 Mode: TOC
Method: Boat Sampler Filename: 06011341
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:46
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	896.0317	13.3509	2810473	4.991	5.988	220

Sample ID: SGF0001-CCV4 Mode: TOC
Method: Boat Sampler Filename: 06011348
Cal. Curve: BE00079 Timestamp: 2018/06/01 13:56
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1023.5712	40.9428	8546895	4.962	5.961	242

Sample ID: SGF0001-CCB4 Mode: TOC
Method: Boat Sampler Filename: 06011359
Cal. Curve: BE00079 Timestamp: 2018/06/01 14:03
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	18.9872	0.7595	87952	4.885	5.106	120

Last Message: Low Sample Detected

Sample ID: BGE0530-BLK2 Mode: TOC
Method: Boat Sampler Filename: 06011422
Cal. Curve: BE00079 Timestamp: 2018/06/01 14:26
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	139.8990	4.4908	945343	4.784	5.782	112

Sample ID: SGF0001-CCV5 Mode: TOC
Method: Boat Sampler Filename: 06011432
Cal. Curve: BE00079 Timestamp: 2018/06/01 14:38
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	880.6440	35.2258	7343399	4.610	5.607	279

Last Message: Out of Calibration

Sample ID: SGF0001-CCV5 Mode: TOC
Method: Boat Sampler Filename: 06011440
Cal. Curve: BE00079 Timestamp: 2018/06/01 14:46
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	904.0485	36.1619	7540473	4.725	5.723	287

Sample ID: SEQ-CCB Mode: TOC
Method: Boat Sampler Filename: 06011448
Cal. Curve: BE00079 Timestamp: 2018/06/01 14:54
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	48.8670	1.9547	339551	4.574	5.573	234

TOC, Solids Data Analysis

		Select Mode:	TOC	Sequence:	SGF0001
				Date:	6/1/2018 7:00
Instrument:	APOLLO1	**Balance ID:**	BAL3	Analyst:	KLE

Verification Standard		**KHP Spiking Standard**		**SRM Standard**	**Source: NIST 1941B**	Conc.	
CVS ID:	**G004922**	47.051%	% Carbon	Standard ID:	**G002759**	**25,831**	ppm
1,000	**ppm**			Prep Date:	**4/2/2018**	**OK**	Status

Calibration Data	Cal Curve ID:	**BE00079**	Cal Curve Stock Std ID:	**G001627**	5,000	ppm	Curve Range :	
40 µL injection	Curve Date:	**05/24/18**				200	to	2,500
						8	to	**100**

Sample ID	Sample Data						NOTE: "Diluted, Acidified PPM" = ("TOC obs" * Dilution Factor * Acidifcation%)					
	Prep Data			Dilution Data			Combustion Data					
	TS 104 %	TS 70 %	Acidification %	Sample wt. (mg)	Final wt. (mg)	Dilution Factor	Burn wt. (mg)	obs µg C	PPM C	Full Corrected PPM C	%C	Comments
SGF0001-ICV1							40.0	39.4517	986.2920	986.2920	98.6% OK	
SGF0001-ICB1							40.0	0.8317	20.7937	20.7937		Low, increase wt
BGE0530-MRL1	~~100.00%~~	99.79%	113.02%			1.00	66.4	43.7101	658.2852	742.4332	0.07	
~~BGE0530-MRL2~~	~~100.00%~~	~~99.79%~~	~~113.02%~~			~~1.00~~	~~61.0~~	~~33.4889~~	~~548.9987~~	~~619.1767~~	~~0.06~~	-
~~BGE0530-BLK1~~	~~100.00%~~	~~99.58%~~	~~121.33%~~			~~1.00~~	~~66.8~~	~~13.0051~~	~~194.6867~~	~~235.2364~~	~~0.02~~	-
BGE0530-SRM1							1.7	49.6892	29228.9532	29228.9532	1.13	
18E0243-01	78.17%	78.31%	107.82%			1.00	2.1	12.4822	5943.9158	6419.8497	0.64	
18E0243-02	72.20%	71.92%	111.83%			1.00	2.2	14.5799	6627.2195	7382.2677	0.74	
18E0243-03	62.47%	61.90%	136.35%			1.00	1.3	17.1049	13157.6349	17779.8097	1.78	
18E0243-04	63.98%	67.70%	115.24%			1.00	2.6	26.7726	10297.1612	12555.3175	1.26	
18E0243-05	73.13%	73.36%	112.35%			1.00	2.3	10.2124	4440.1901	5004.4934	0.50	
18E0243-06	73.08%	73.16%	116.04%			1.00	2.3	10.5350	4580.4359	5320.6783	0.53	
SGF0001-CCV1							40.0	39.2077	980.1928	980.1928	98% OK	
SGF0001-CCB1							40.0	1.6563	41.4076	41.4076		Low, increase wt
18E0262-01	71.87%	71.97%	118.22%			1.00	2.3	13.2858	5776.4322	6838.1993	0.68	
18E0262-02	58.42%	59.03%	127.06%			1.00	2.9	18.9604	6538.0685	8392.9597	0.84	
18E0282-01	79.03%	78.33%	107.83%			1.00	3.3	18.7176	5672.0114	6062.1427	0.61	
18E0282-02	59.28%	59.16%	116.09%			1.00	2.9	26.1699	9024.1056	10454.4358	1.05	
18E0282-03	72.17%	74.20%	113.74%			1.00	2.6	17.0745	6567.1159	7678.7532	0.77	
18E0282-04	76.27%	75.04%	132.29%			1.00	2.7	16.0197	5933.2284	7723.1399	0.77	
18E0282-05	87.94%	83.66%	105.41%			1.00	4.6	18.2067	3957.9867	3969.0979	0.40	
18E0309-01	65.52%	66.00%	105.52%			1.00	2.8	50.0642	17880.0633	19004.2818	1.90	

Sample ID	Sample Data						NOTE: "Diluted, Acidified PPM" = ("TOC obs" * Dilution Factor * Acidifcation%)					
	Prep Data			Dilution Data			Combustion Data					
	TS 104 %	TS 70 %	Acidification %	Sample wt. (mg)	Final wt. (mg)	Dilution Factor	Burn wt. (mg)	obs µg C	PPM C	Full Corrected PPM C	%C	Comments
18E0309-02	72.41%	73.20%	114.31%			1.00	2.7	13.2522	4908.2253	5671.1904	0.57	
SGF0001-CCV2							40.0	40.6338	1015.8438	1015.8438	101.6% OK	
SGF0001-CCB2							40.0	1.0186	25.4656	25.4656		Low, increase wt
18E0285-09	83.90%	85.55%	110.75%			1.00	4.8	28.2262	5880.4555	6641.0215	0.66	
BGE0530-DUP1	84.72%	85.17%	109.24%			1.00	4.8	28.0202	5837.5398	6410.8980	0.64	RPD=3.53%
BGE0530-DUP2	85.34%	85.42%	128.85%			1.00	4.8	26.5586	5533.0404	7135.5549	0.71	
~~BGE0530-MS1~~	~~83.90%~~	~~83.69%~~	~~122.87%~~			~~1.00~~	~~2.0~~	~~24.8816~~	~~12440.7953~~	~~15249.6908~~	~~1.52~~	-
~~**MS DATA**~~	~~**0.2266**~~	~~g of KPH~~	~~**7.5244**~~	~~g WET wt =~~	~~16930~~	~~mg/kg 70C~~	~~1.4169~~	~~%C @ 104C~~	~~% Rec =~~	~~60.8%~~	~~104C % REC~~	
BGE0530-MS2	83.90%	83.69%	122.87%			1.00	3.3	58.2364	17647.3978	21631.8454	2.16	
MS DATA	**0.2266**	g of KPH	**7.5244**	g WET wt =	16930	mg/kg 70C	1.4169	%C @ 104C	% Rec =	106.0%	104C % REC	
18E0285-16	79.02%	82.20%	125.73%			1.00	3.7	21.9639	5936.1825	7763.6417	0.78	
18E0285-17	75.77%	83.15%	120.28%			1.00	2.5	18.1394	7255.7452	9575.9203	0.96	
~~18E0285-25~~	~~86.80%~~	~~88.71%~~	~~102.80%~~			~~1.00~~	~~4.4~~	~~2.9128~~	~~661.9901~~	~~695.4647~~	~~0.07~~	**Low, increase wt**
18E0285-25RE1	86.80%	88.71%	102.80%			1.00	18.6	14.7373	792.3293	832.3947	0.08	
18E0285-33	86.81%	88.00%	106.60%			1.00	19.3	33.1954	1719.9689	1858.4721	0.19	
SGF0001-CCV3							40.0	38.6134	965.3343	965.3343	96.5% OK	
SGF0001-CCB3							40.0	0.8407	21.0180	21.0180		Low, increase wt
18E0285-42	86.21%	87.40%	105.70%			1.00	21.3	50.9842	2393.6264	2564.9571	0.26	
18E0285-52	91.43%	91.45%	113.17%			1.00	14.9	13.3509	896.0317	1014.1899	0.10	
SGF0001-CCV4							40.0	40.9428	1023.5712	1023.5712	102.4% OK	
SGF0001-CCB4							40.0	1.9547	48.8670	48.8670		Low, increase wt
BGE0530-BLK2	100.00%	99.58%	121.33%			1.00	32.1	4.4908	139.8990	169.0374	0.02	Low, increase wt
~~SGF0001-CCV5~~							~~40.0~~	~~35.2258~~	~~880.6440~~	~~880.6440~~	~~88.1% Error~~	-
SGF0001-CCV6							40.0	36.1619	904.0485	904.0485	90.4% OK	
SGF0001-CCB5							40.0	1.9547	48.8670	48.8670		Low, increase wt

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Calibration: BE00079
Instrument: APOLLO1
Calibration Date: 05/24/2018 8:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0	0	200.02	8387.597	500.05	8008.403	1000.1	8222.479	2500.2	8419.511		

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Calibration:	BE00079	Instrument:	APOLLO1
Calibration Date:	05/24/2018 8:00		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	6607.598	56.0	0.9998			

Detailed Analysis Report Print Date/Time: 2018/05/24 11:30:03

Sample ID: SEQ-CAL1 Mode: TOC
Method: Boat Sampler Filename: 05240753
Cal. Curve: BD00020 Timestamp: 2018/05/24 07:57
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			249527	3.974	4.969	68

Sample ID: SEQ-CAL1 Mode: TOC
Method: Boat Sampler Filename: 05240802
Cal. Curve: BE00079 Timestamp: 2018/05/24 08:17
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			173691	3.686	4.685	70
2			176391	3.904	4.902	70
3			-17157442	155.841	7.805	120

Last Message: Over-range
<<<Statistics>>> Mean: -5602454 Std Dev: 10006914 RSD: -178.62

Sample ID: SEQ-CAL1 Mode: TOC
Method: Boat Sampler Filename: 05240819
Cal. Curve: BE00079 Timestamp: 2018/05/24 08:26
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			33916	4.548	4.125	120
2			62589	4.061	5.056	48
3			140387	4.007	5.005	55

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 78964 Std Dev: 55092 RSD: 69.77

Sample ID: SEQ-CAL1 Mode: TOC
Method: Boat Sampler Filename: 05240828
Cal. Curve: BE00079 Timestamp: 2018/05/24 08:35
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			38753	3.595	3.561	120
2			231901	3.457	4.456	78

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 135327 Std Dev: 136576 RSD: 100.92

Sample ID: SEQ-CAL1 Mode: TOC
Method: Boat Sampler Filename: 05240836
Cal. Curve: BE00079 Timestamp: 2018/05/24 08:45
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			58190	3.568	3.653	120
2			66530	3.580	4.572	45
3			24549	3.495	3.383	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 49756 Std Dev: 22225 RSD: 44.67

Sample ID: SEQ-CAL2 Mode: TOC
Method: Boat Sampler Filename: 05240853
Cal. Curve: BE00079 Timestamp: 2018/05/24 09:13
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1678524	3.457	4.455	88
2			1704780	3.420	4.417	84
3			1649757	3.255	4.253	84

<<<Statistics>>> Mean: 1677687 Std Dev: 27521 RSD: 1.64

Sample ID: SEQ-CAL2 Mode: TOC
Method: Boat Sampler Filename: 05240923
Cal. Curve: BE00079 Timestamp: 2018/05/24 09:33
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4003766	3.191	4.185	109
2			3922844	3.413	4.410	106
3			3997599	3.352	4.350	106

<<<Statistics>>> Mean: 3974736 Std Dev: 45046 RSD: 1.13

Sample ID: SEQ-CAL3 Mode: TOC
Method: Boat Sampler Filename: 05240935
Cal. Curve: BE00079 Timestamp: 2018/05/24 09:47
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			4018970	3.192	4.190	111
2			3994910	3.283	4.282	107
3			3999926	3.168	4.165	111

<<<Statistics>>> Mean: 4004602 Std Dev: 12693 RSD: 0.32

Sample ID: SEQ-CAL4 Mode: TOC
Method: Boat Sampler Filename: 05241021
Cal. Curve: BE00079 Timestamp: 2018/05/24 10:32
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			8405115	2.937	3.936	147
2			8125946	3.337	4.337	127
3			8138844	3.338	4.337	128

<<<Statistics>>> Mean: 8223302 Std Dev: 157587 RSD: 1.92

Sample ID: SEQ-CAL5 Mode: TOC
Method: Boat Sampler Filename: 05241044
Cal. Curve: BE00079 Timestamp: 2018/05/24 10:58
Operator ID: KLE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			21398526	3.020	4.019	209
2			20873600	3.563	4.559	174
3			20879268	3.729	4.728	185

Last Message: Over-range
<<<Statistics>>> Mean: 21050466 Std Dev: 301443 RSD: 1.43

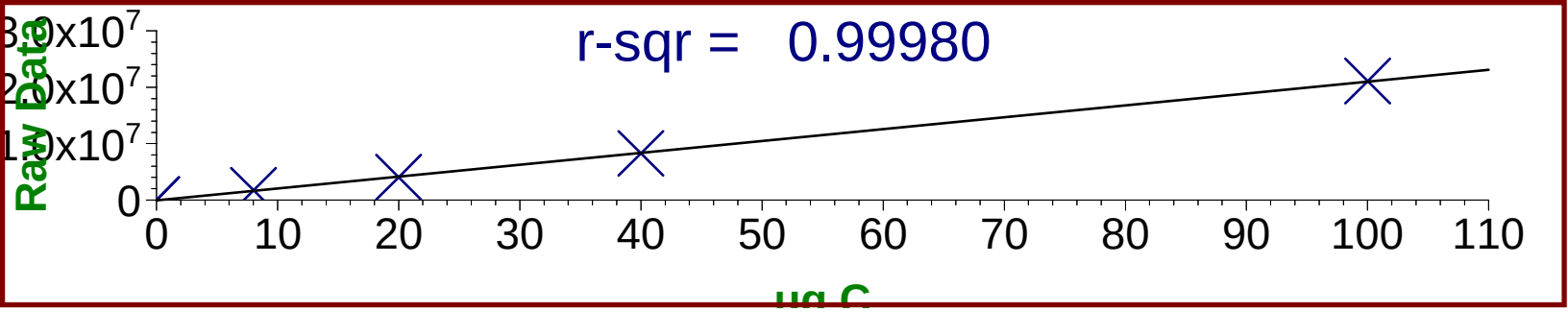
Sample ID: SEQ-ICV Mode: TOC

Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Filename: 05241100
Timestamp: 2018/05/24 11:04
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1080.4218	43.2169	9025597	3.749	4.748	168

Sample ID: SEQ-ICB
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05241106
Timestamp: 2018/05/24 11:09
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	38.0300	1.5212	248299	3.505	4.503	68


r-sqr = 0.99980
Raw Data
3.0x10^7
2.0x10^7
1.0x10^7
0
0
10
20
30
40
50
60
70
80
90
100
110

Calibration Report Print Date/Time: 2018/05/24 11:31:27

Cal. Curve ID: BE00079
Created: 2018/05/24 10:58
Calibration Factor (m): 2.105e+05
Y Intercept (b): -71926
r-squared: 0.99980

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
SEQ-CAL1	49756	0.000	0.578	Low Sample De	2018/05/24 08:45
SEQ-CAL2	1677687	8.000	8.311		2018/05/24 09:13
SEQ-CAL3	4004602	20.000	19.365		2018/05/24 09:47
SEQ-CAL4	8223302	40.000	39.406		2018/05/24 10:32
SEQ-CAL5	21050464	100.000	100.340		2018/05/24 10:58

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
Client: Windward Environmental, LLC
Instrument ID: APOLLO1
Sequence: SGE0419

SDG: 18E0231
Project: LDW AOC3 Task 4
Calibration: BE00079
Date Analyzed: 05/24/18 11:09

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SGE0419-ICB1	Total Organic Carbon	38.0	200	200	ppm	

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Instrument ID: APOLLO1
Calibration: BE00079
Sequence: SGE0487
Date Analyzed: 05/31/18 12:39

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SGE0487-ICB1	Total Organic Carbon	57.4	200	200	ppm	
SGE0487-CCB1	Total Organic Carbon	21.6	200	200	ppm	

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
Client: Windward Environmental, LLC
Instrument ID: APOLLO1
Sequence: SGF0001

SDG: 18E0231
Project: LDW AOC3 Task 4
Calibration: BE00079
Date Analyzed: 06/01/18 07:03

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SGF0001-ICB1	Total Organic Carbon	20.8	200	200	ppm	
SGF0001-CCB1	Total Organic Carbon	41.4	200	200	ppm	
SGF0001-CCB2	Total Organic Carbon	25.5	200	200	ppm	
SGF0001-CCB3	Total Organic Carbon	21.0	200	200	ppm	
SGF0001-CCB4	Total Organic Carbon	19.0	200	200	ppm	
SGF0001-CCB5	Total Organic Carbon	48.9	200	200	ppm	

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Instrument ID: APOLLO1
Calibration: BE00079
Control Limt: +/- 10.00%
Sequence: SGE0419

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SGE0419-ICV1	Total Organic Carbon	1000.0	1080	108	ppm	EPA 9060A m

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Instrument ID: APOLLO1
Calibration: BE00079
Control Limt: +/- 10.00%
Sequence: SGE0487

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SGE0487-ICV1	Total Organic Carbon	1000.0	1010	101	ppm	EPA 9060A m
SGE0487-CCV1	Total Organic Carbon	1000.0	1020	102	ppm	EPA 9060A m

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Instrument ID: APOLLO1
Calibration: BE00079
Control Limt: +/- 10.00%
Sequence: SGF0001

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SGF0001-ICV1	Total Organic Carbon	1000.0	986	98.6	ppm	EPA 9060A m
SGF0001-CCV1	Total Organic Carbon	1000.0	980	98.0	ppm	EPA 9060A m
SGF0001-CCV2	Total Organic Carbon	1000.0	1020	102	ppm	EPA 9060A m
SGF0001-CCV3	Total Organic Carbon	1000.0	965	96.5	ppm	EPA 9060A m
SGF0001-CCV4	Total Organic Carbon	1000.0	1020	102	ppm	EPA 9060A m
SGF0001-CCV6	Total Organic Carbon	1000.0	904	90.4	ppm	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, Inc. **SDG:** 18E0231

Client: Windward Environmental, LLC **Project:** LDW AOC3 Task 4

Matrix: Solid **Laboratory ID:** BGE0592-SRM1

Batch: BGE0592 **Initial/Final:** 1 g / 1 mL

Preparation: PSEP 1986 (modified) **Analyzed:** 05/31/2018 13:50

Standard ID: G002759 **Description:** NIST 1941 B prepped for TOC **Expires:** 07/01/2018

ANALYTE	TRUE (%)	FOUND (%)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.5832	2.82	0.02	0.02		109	75 - 125

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-SSCL-A11 18E0231-02	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/31/18 14:03			
LDW18-SSCL-A11-FD 18E0231-03	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/31/18 14:14			
LDW18-SSCL-A01 18E0243-01	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:03			
LDW18-SSCL-A02 18E0243-02	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:25			
LDW18-SSCL-A03 18E0243-03	05/16/18 13:20	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:34			
LDW18-SSCL-A05 18E0243-04	05/16/18 13:00	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:42			
LDW18-SSCL-A04 18E0243-05	05/16/18 12:32	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:49			
LDW18-SSCL-A06 18E0243-06	05/16/18 12:07	05/16/18 16:25	05/23/18 09:20	6	14	06/01/18 09:59			
LDW18-SSCL-A13 18E0262-01	05/17/18 13:20	05/17/18 16:32	05/23/18 09:20	5	14	06/01/18 10:44			
LDW18-SSCL-A19 18E0262-02	05/17/18 14:04	05/17/18 16:32	05/23/18 09:20	5	14	06/01/18 10:51			
LDW18-SSCL-A12 18E0282-01	05/18/18 13:30	05/18/18 17:35	05/23/18 09:20	4	14	06/01/18 10:56			
LDW18-SSCL-A17 18E0282-02	05/18/18 13:36	05/18/18 17:35	05/23/18 09:20	4	14	06/01/18 11:04			
LDW18-SSCL-A18 18E0282-03	05/18/18 13:57	05/18/18 17:35	05/23/18 09:20	4	14	06/01/18 11:13			
LDW18-SSCL-A09 18E0282-04	05/18/18 15:28	05/18/18 17:35	05/23/18 09:20	4	14	06/01/18 11:22			
LDW18-SSCL-A10 18E0282-05	05/18/18 15:05	05/18/18 17:35	05/23/18 09:20	4	14	06/01/18 11:31			
LDW18-SSCL-A07 18E0309-01	05/19/18 14:35	05/21/18 10:10	05/23/18 09:20	3	14	06/01/18 11:37			
LDW18-SSCL-A08 18E0309-02	05/19/18 15:00	05/21/18 10:10	05/23/18 09:20	3	14	06/01/18 11:46			
Duplicate BGE0592-DUP1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/31/18 14:25			
Duplicate BGE0592-DUP2	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/31/18 14:35			
Matrix Spike BGE0592-MS1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/31/18 14:59			

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Instrument: APOLLO1

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for 24 PAHs, 29 PCB congeners, and 7 chlorinated pesticides are provided in Tables 1 through 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for 44 additional PAHs (some in combination), 13 additional PCB congeners, and 2 additional chlorinated pesticides are provided in Tables 4 to 7. Reference values for 27 alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1].

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet) will facilitate notification.

The coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Analytical Chemistry Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Analytical Chemistry Division.

Stephen A. Wise, Chief
Analytical Chemistry Division

Gaithersburg, MD 20899
Certificate Issue Date: 10 April 2012
Certificate Revision History on Page 13

Robert L. Watters, Jr., Chief
Measurement Services Division

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Measurement Services Division and B.J. Porter and M.M. Schantz of the NIST Analytical Chemistry Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Measurement Services Division.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are necessarily the best available for the purpose.

selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific, Folsom, CA). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific, Folsom, CA). Perdeuterated dibenzo[*a*,*i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture, clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific, Folsom, CA), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific, Folsom, CA). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness: DB-5MS, J&W Scientific, Folsom, CA). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon: Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for Selected PAHs in SRM 1941b

PAHs	Mass Fractions[a] µg/kg		
1 Naphthalene[b,c,d,e,f,g]	848	±	95[h]
2 Fluorene[b,c,d,e,f,g]	85	±	15[h]
3 Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
4 Anthracene[b,c,d,e,f,g]	184	±	18[h]
5 3-Methylphenanthrene[b,c,d]	105	±	13[h]
6 2-Methylphenathrene[b,c,d]	128	±	14[h]
7 1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
8 Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
9 Pyrene[b,c,d,e,f,g]	581	±	39[h]
10 Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
11 Chrysene[d,f]	291	±	31[h]
12 Triphenylene[d,f]	108	±	5[i]
13 Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
14 Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
15 Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
16 Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
17 Perylene[b,c,d,f,g]	397	±	45[h]
18 Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
19 Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
20 Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
21 Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
22 Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
23 Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
24 Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis: material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) ~~of isomeric PAH~~ fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].

Table 2. Certified Mass Fraction Values for Selected PCB Congeners[a] in SRM 1941b

PCB Congeners		Mass Fractions[b] µg/kg		
PCB 8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB 18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB 28	(2,4.4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB 31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB 44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB 49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB 52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB 66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB 87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d f,j]	1.14	±	0.16[h]
PCB 95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB 99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB 101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB 105	(2,3,3',4,4'-Pentachlorobiphenyl)[c d,e,f,g,j]	1.43	±	0.10[i]
PCB 110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB 118	(2,3',4,4',5-Pentachlorobiphenyl)[c d,e,f,g,j]	4.23	±	0.19[i]
PCB 128	(2,2',3,3',4.4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB 138	(2,2',3.4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB 149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB 153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB 156	(2,3.3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB 170	(2,2',3,3',4.4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB 180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB 183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB 187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB 194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB 195	(2,2',3,3',4.4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB 201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e j]	0.777	±	0.034[h]
PCB 206	(2,2',3,3',4.4',5,5',6-Nonachlorobiphenyl)[c,e,f,g j]	2.42	±	0.19[i]
PCB 209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules; for the specific congeners mentioned in this SRM, only PCB 201 and PCB 107 (see Table 5) are different in the numbering systems. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200 and the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis: material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO Guide [14,15].

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] µg/kg		
Hexachlorobenzene[b,c,d,e]	5.83	±	0.38[f]
cis-Chlordane[b,c,d,e g]	0.85	±	0.11[h]
trans-Chlordane[b,c,c]	0.566	±	0.093[f]
cis-Nonachlor[b,e,g]	0.378	±	0.053[h]
trans-Nonachlor[b,c,d,c,g]	0.438	±	0.073[f]
4,4'-DDE[b,d,e,g]	3.22	±	0.28[h]
4,4'-DDD[b,d,e,g]	4.66	±	0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (1I) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].

Table 4. Reference Mass Fraction Values for Selected PAHs in SRM 1941b

PAHs	Mass Fractions[a] µg/kg		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO Guide [14,15].
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte.

Table 5. Reference Mass Fraction Values for Selected PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs	Mass Fractions[a,b,c] µg/kg
Coronene	72.6 ± 4.7
Dibenzo[*b,e*]fluoranthene	10.3 ± 0.3
Naphtho[1,2-*b*]fluoranthene	91.0 ± 3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8 ± 2.5
Naphtho[2,3-*b*]fluoranthene	23.5 ± 0.3
Dibenzo[*b,k*]fluoranthene	95.6 ± 3.1
Dibenzo[*a,k*]fluoranthene	26.6 ± 0.4
Dibenzo[*j,l*]fluoranthene	63.8 ± 1.8
Dibenzo[*a,l*]pyrene	11.1 ± 1.0
Naphtho[2,3-*k*]fluoranthene	10.7 ± 0.6
Naphtho[1,2-*a*]pyrene	16.7 ± 1.4
Naphtho[2,3-*e*]pyrene	33.2 ± 2.3
Dibenzo[*a,e*]pyrene	76.1 ± 3.6
Naphtho[2,1-*a*]pyrene	59.2 ± 1.8
Dibenzo[*e,i*]pyrene	35.0 ± 2.4
Naphtho[2,3-*a*]pyrene	16.5 ± 0.6
Benzo[*b*]perylene	38.2 ± 1.2
Dibenzo[*a,i*]pyrene	25.5 ± 1.0
Dibenzo[*a,h*]pyrene	6.94 ± 0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for Selected PCB Congeners[a] in SRM 1941b

PCB Congeners		Mass Fractions[b,c] µg/kg		
PCB 45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB 56	(2,3,3',4-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB 63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB 70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB 74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB 77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB 107	(2,3,3',4,5'-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB 132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB 146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB 158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB 163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB 174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB 193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules; for the specific congeners mentioned in this SRM, only PCB 201 (see Table 2) and PCB 107 are different in the numbering systems. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200 and the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77.

[d] GC-ECD (1A) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (1B) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (1A).

[f] GC/MS (1A) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (1A).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (1) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] µg/kg
2,4'-DDE[c,d]	0.38 ± 0.12
4,4'-DDT[e,f]	1.12 ± 0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO Guide [14,15].
[c] GC/MS (1B) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (1A).
[d] GC-ECD (1B) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (1A).
[e] GC/MS (1l) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Selected Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] mg/kg
C2-decalins	18 ± 5
C4-decalins	41 ± 4
C2-naphthalenes	187 ± 53
C3-naphthalenes	158 ± 42
C1-benzothiophenes	25 ± 14
C2-benzothiophenes	20 ± 11
C3-benzothiophenes	22 ± 13
C4-benzothiophenes	18 ± 5
C1-fluorenes	57 ± 18
C2-fluorenes	122 ± 43
C3-fluorenes	128 ± 31
C1-phenanthrenes/anthracenes	313 ± 99
C2-phenanthrenes/anthracenes	247 ± 62
C3-phenanthrenes/anthracenes	165 ± 46
C4-phenanthrenes/anthracenes	87 ± 36
C1-dibenzothiophenes	54 ± 13
C2-dibenzothiophenes	91 ± 18
C3-dibenzothiophenes	84 ± 15
C4-dibenzothiophenes	57 ± 13
C1-fluoranthenes/pyrenes	252 ± 48
C2-fluoranthenes/pyrenes	205 ± 38
C3-fluoranthenes/pyrenes	102 ± 22
C4-fluoranthenes/pyrenes	121 ± 59
C1-benzanthraces/chrysenes/triphenylenes	208 ± 43
C2-benzanthraces/chrysenes/triphenylenes	120 ± 24
C3-benzanthraces/chrysenes/triphenylenes	73 ± 31
C4-benzanthraces/chrysenes/triphenylenes	41 ± 11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Selected Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a b] mg/kg
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO Guides [2].

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] %
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Apr 2012).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R.; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (ISO GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Apr 2012); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Apr 2012).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Apr 2012).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 10 April 2012 (This revision adds reference values for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes). 16 August 2004 (This revision removes the reference values for the butyl tins and makes editorial changes). 15 July 2002 (Original certificate date)

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA, USA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX, USA
Battelle Ocean Sciences; Duxbury, MA, USA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA, USA
Central Contra Costa Sanitary District; Martinez, CA, USA
Chesapeake Biological Laboratory; Solomons, MD, USA
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA, USA
City of San Jose Environmental Services Department; San Jose, CA, USA
Columbia Analytical Services; Kelso, WA, USA
East Bay Municipal Utility District; Oakland, CA, USA
Florida Department of Environmental Protection; Tallahassee, FL, USA
Manchester Environmental Laboratory; Port Orchard, WA, USA
Murray State University; Murray, KY. USA
Massachusetts Water Resources Authority Central Lab; Winthrop, MA, USA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK, USA
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC, USA
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ, USA
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA, USA
Orange County Sanitation District; Fountain Valley, CA, USA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA, USA
Southwest Laboratory of Oklahoma; Broken Arrow, OK, USA
Severn Trent Knoxville Laboratory; Knoxville, TN, USA
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX, USA
Texas Parks and Wildlife Department; San Marcos, TX. USA
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA. USA
University of Connecticut, Environmental Research Institute; Storrs, CT. USA
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI, USA
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD, USA
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI, USA
US Geological Survey, National Water Quality Laboratory; Denver, CO. USA
Woods Hole Group Environmental Lab; Raynham, MA, USA
Wright State University; Dayton, OH, USA

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA, USA
Analytical Resources, Inc.; Tukwila, WA, USA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA, USA
Center for Laboratory Sciences; Pasco, WA, USA
Columbia Analytical Services; Jacksonville, FL, USA
Columbia Analytical Services; Rochester, NY, USA
Columbia Analytical Services, Kelso, WA, USA
Florida Department of Environmental Protection; Tallahassee, FL, USA
Florida International University; North Miami, FL, USA
Michigan Department of Natural Resources and Environment; Lansing, MI, USA
Mississippi State Chemical Laboratory; Mississippi State, MS, USA
NIST; Charleston, SC, USA
NIST; Gaithersburg, MD, USA
NOAA/NCCOS/NOS; Charleston, SC, USA
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK, USA
NY State Department of Health; Albany, NY, USA
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN, USA
RJ Lee Group, Inc; Monroeville, PA, USA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL, USA
TestAmerica Laboratories; West Sacramento, CA, USA
TestAmerica Laboratories; University Park, IL, USA
TestAmerica Laboratories; Schriever, LA, USA
TestAmerica Laboratories; Edison, NJ, USA
TestAmerica Laboratories; Knoxville, TN, USA
TestAmerica Laboratories; Pittsburgh, PA, USA
TestAmerica Laboratories; South Burlington, VT, USA
TestAmerica Laboratories; Tacoma, WA, USA
US Army Engineer Research and Development Center; Vicksburg, MS, USA
USGS Columbia Environmental Research Center; Columbia, MO, USA
University of Iowa, State Hygienic Laboratory; Iowa City, IO, USA
Washington State Public Health Laboratories; Shoreline, WA, USA

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

September 18, 2014

Analytical Resources Inc
Dave Mitchell
4611 S 134th Place
Suite 100
Tukwila, WA 98168-3240

Fax Number: (206) 695-6201

Customer Purchase Order Number: O/R# 0000126382
NIST Sales Order Number: 1310741

Dear NIST Standard Reference Material Customer:

This letter is to notify the users of SRM 1941b Organics in Marine Sediment of the revised Certificate of Analysis (COA) dated 10 June 2014. In this revision, the units were corrected from mg/kg to µg/kg in Tables 8 and 9. The certificate revision also includes other editorial changes. Please replace your existing SRM 1941b COA with the revised certificate.

For your convenience, the revised certificate is attached. It is also available on the NIST SRM web site at http://www.nist.gov/srm and can be viewed and printed directly:

https://www-s.nist.gov/srmors/view_detail.cfm?srm=1941B

If you are not the actual user of this material, I sincerely appreciate your help in providing this information to the appropriate person(s). If I can be of further assistance, please do not hesitate to contact me at robert.watters@nist.gov or 301-975-4122. If there are any technical questions or concerns, you may contact John Kucklick of the NIST Chemical Sciences Division at john.kucklick@nist.gov or 843-725-4816. Thank you for your assistance in this matter.

Sincerely,

Robert L. Watters, Jr.

Dr. Robert L. Watters, Jr., Director
Office of Reference Materials

Enclosure

cc: John Kucklick

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1].

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 10 June 2014
Certificate Revision History on Page 13

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[(1)]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 µm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

[(1)] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are necessarily the best available for the purpose.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 µm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (µBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 µm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture, clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 µm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon: Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)
Naphthalene[b,c,d,e,f,g]	848 ± 95[h]
Fluorene[b,c,d,e,f,g]	85 ± 15[h]
Phenanthrene[b,c,d,e,f,g]	406 ± 44[h]
Anthracene[b,c,d,e,f,g]	184 ± 18[h]
3-Methylphenanthrene[b,c,d]	105 ± 13[h]
2-Methylphenathrene[b,c,d]	128 ± 14[h]
1-Methylphenanthrene[b,c,d,g]	73.2 ± 5.9[h]
Fluoranthene[b,c,d,e,f,g]	651 ± 50[h]
Pyrene[b,c,d,e,f,g]	581 ± 39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335 ± 25[h]
Chrysene[d,f]	291 ± 31[h]
Triphenylene[d,f]	108 ± 5[i]
Benzo[*b*]fluoranthene[c,e]	453 ± 21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225 ± 18[h]
Benzo[*e*]pyrene[b,c,d,g]	325 ± 25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358 ± 17[h]
Perylene[b,c,d,f,g]	397 ± 45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307 ± 45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341 ± 57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9 ± 4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7 ± 5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53 ± 10[h]
Benzo[*b*]chrysene[b,c,d,f]	53 ± 12[h]
Picene[b,c,d]	46.6 ± 4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4,5'-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the constituent listed as determined by the methods or method indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the interlaboratory study as indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the interlaboratory study as indicted and the values listed are metrologically traceable to the SI unit of mass fraction in microgram analyte per kilogram sample on a dry-mass basis.

[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of the constituent listed as determined by the methods indicted and the values listed are metrologically traceable to the SI unit of mass fraction in percent per sample on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Jun 2014).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R..; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Jun 2014); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Jun 2014).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Jun 2014).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a −10 °C shelf temperature and a −50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the

LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture,

clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.

[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.

[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.

[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

REFERENCES

[1] May, W.E.; Parris, R.M.; Beck II, C.M.; Fassett, J.D.; Greenberg, R.R.; Guenther, F.R.; Kramer, G.W.; Wise, S.A.; Gills, T.E.; Colbert, J.C.; Gettings, R.J.; MacDonald, B.R.; *Definition of Terms and Modes Used at NIST for Value-Assignment of Reference Materials for Chemical Measurements*; NIST Special Publication 260-136 (2000); available at http://www.nist.gov/srm/publications.cfm (accessed Jan 2015).

[2] Wise, S.A.; Poster, D.L.; Schantz, M.M.; Kucklick, J.R.; Sander, L.C.; Lopez de Alda, M.; Schubert, P.; Parris, R.M.; Porter, B.J.; *Two New Marine Sediment Standard Reference Materials (SRMs) for the Determination of Organic Contaminants*; Anal. Bioanal. Chem., Vol. 378, pp. 1251–1264 (2004).

[3] Wise, S.A.; Chesler, S.N.; Hertz, H.S.; Hilpert, L.R.; May, W.E.; *Chemically-Bonded Aminosilane Stationary Phase for the High Performance Liquid Chromatographic Separation of Polynuclear Aromatic Hydrocarbons*; Anal. Chem., Vol. 49, pp. 2306–2310 (1977).

[4] May, W.E.; Wise, S.A.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbons in Air Particulate Extracts*; Anal. Chem., Vol. 56, pp. 225–232 (1984).

[5] Wise, S.A.; Benner, B.A.; Byrd, G.D.; Chesler, S.N.; Rebbert, R.E.; Schantz, M.M.; *Determination of Polycyclic Aromatic Hydrocarbons in a Coal Tar Standard Reference Material*; Anal. Chem., Vol. 60, pp. 887-894 (1988).

[6] Wise, S.A.; Deissler, A.; Sander, L.C.; *Liquid Chromatographic Determination of Polycyclic Aromatic Hydrocarbon Isomers of Molecular Weight 278 and 302 in Environmental Standard Reference Materials*; Polycyclic Aromat. Compd., Vol. 3, pp. 169–184 (1993).

[7] Schantz, M.M.; Parris, R.M.; Wise, S.A.; *NIST/NOAA Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 1999 Organic Intercomparison Exercises*; NOAA Technical Memorandum NOS NCCOS CCMA 146, Silver Spring, MD (2000).

[8] Schubert, P.; Schantz, M.M.; Sander, L.C.; Wise, S.A.; *Determination of Polycyclic Aromatic Hydrocarbons with Molecular Mass 300 and 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry*; Anal. Chem., Vol. 75, pp. 234–246 (2003).

[9] Ballschmiter, K.; Zell, M.; *Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography - Composition of Technical Aroclor- and Clophen-PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 302, pp. 20–31 (1980).

[10] Schulte, E.; Malisch, R.; *Calculation of the Real PCB Content in Environmental Samples. I. Investigation of the Composition of Two Technical PCB Mixtures*; Fresenius' Z. Anal. Chem., Vol. 314, pp. 545–551 (1983).

[11] Brubaker, W.W., Jr.; Schantz, M.M.; Wise, S.A.; *Determination of Non-ortho Polychlorinated Biphenyls in Environmental Standard Reference Materials*; Fresenius' J. Anal. Chem., Vol. 367, pp. 401–406 (2000).

[12] Schantz, M.M.; Kucklick, J.R..; *NIST Interlaboratory Analytical Comparison Study to Support Deepwater Horizon Natural Resource Damage Assessment: Description and Results for Crude Oil QA10OIL01*; NISTIR 7793 (2011).

[13] Ruhkin, A.L.; Vangel, M.G.; *Estimation of a Common Mean and Weighted Means Statistics*; J. Am. Statist. Assoc., Vol. 93, pp. 303–308 (1998).

[14] JCGM 100:2008; *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement* (GUM 1995 with Minor Corrections); Joint Committee for Guides in Metrology (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed Jan 2015); see also Taylor, B.N.; Kuyatt, C.E.; *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*; NIST Technical Note 1297; U.S. Government Printing Office: Washington, DC (1994); available at http://www.nist.gov/pml/pubs/tn1297/index.cfm (accessed Jan 2015).

[15] JCGM 101:2008; *Evaluation of measurement data – Supplement 1 to the "Guide to the expression of uncertainty in measurement" - Propagation of distributions using a Monte Carlo method*; JCGM (2008); available at http://www.bipm.org/utils/common/documents/jcgm/JCGM_101_2008_E.pdf (accessed Jan 2015).

[16] Levenson, M.S.; Banks, D.L.; Eberhardt, K.R.; Gill, L.M.; Guthrie, W.F.; Liu, H.-K.; Vangel, M.G.; Yen, J.H.; Zhang, N.F.; *An Approach to Combining Results from Multiple Methods Motivated by the ISO GUM*; J. Res. Natl. Inst. Stand. Technol., Vol. 105, pp. 571–579 (2000).

Certificate Revision History: 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

NIST

Date of Issue:
31 March 2014

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements
Symbol
No Symbol/Pictogram

Signal Word
Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Use extinguishing media appropriate for surrounding fire.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. Handling and Storage

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 µm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: __X__ Inhalation __X__ Skin _____ Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes __X__ No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the

Bill to:	68455	Ship to:	68456
	DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205		DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205

Ship via	UPS Ground	Description		Ship from	
Salesmen	MCMIDM2	Instructions		Blanket	
Contact	DAVE MITCHELL	Pro#		Truck#	

Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

1700101

Picked by	
Packed by	
# of pieces	
Weight	

G 000135

ERA
A Waters Company

Reference Material

▪ Certificate of Analysis ▪

Product: Custom TOC Standard
Catalog Number: 092
Lot No: 11161701A
Certificate Issue Date: January 2, 2018
Expiration Date: January 2, 2019
Revision Number: Original

CERTIFICATION

Parameter	Certified Value [1]	Uncertainty [2]	QC Performance Acceptance Limits [3]			NIST Traceability [4]	
	mg/L	%	mg/L			SRM#	Recovery %
Total Organic Carbon	5,000	0.403	NA	-	NA	185h	101

Matrix: 18 megohm deionized water w/ 0.5% (v/v) H2SO4
Density: 1.0076 ± 0.0002 g/mL
Storage: 4 ± 2°C
Manufacturing Notes: The standard was manufactured using Glucose.

1. The Certified Value is equal to 100% of the "made to" values as determined by volumetric and/or gravimetric measurements made during the manufacture of this product.

2. The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and (as noted) internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The Performance Acceptance Limits (PALs™) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALs™ are based on analytical verification data generated by ERA, independent referee laboratory results and/or data from USEPA methods, WP, WS and CLP interlaboratory studies. Recovery and advisory range data for these studies are based on ERA's normal manufacturing ranges. If your result falls outside of the PALs™, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

4. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. Traceability Recovery % = [(% recovery certified standard)/(% recovery NIST SRM)]*100. The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer:
Brian Miller

Brian Miller

Quality Officer:
David Kilhefner

David D. Kilhefner

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A11

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-02	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	
% Solids:	59.52	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	59.52	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A11-FD

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-03	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	
% Solids:	60.97	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	60.97	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A01

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-01	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	78.17	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	78.17	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A02

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-02	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.20	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	72.20	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A19

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-02	SDG:	18E0231
Sampled:	05/17/18 14:04	Prepared:	05/23/18 09:20	File ID:	
% Solids:	58.42	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	58.42	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A05

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-04	SDG:	18E0231
Sampled:	05/16/18 13:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	63.98	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	63.98	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A04

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-05	SDG:	18E0231
Sampled:	05/16/18 12:32	Prepared:	05/23/18 09:20	File ID:	
% Solids:	73.13	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	73.13	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A06

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-06	SDG:	18E0231
Sampled:	05/16/18 12:07	Prepared:	05/23/18 09:20	File ID:	
% Solids:	73.08	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	73.08	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A13

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-01	SDG:	18E0231
Sampled:	05/17/18 13:20	Prepared:	05/23/18 09:20	File ID:	
% Solids:	71.87	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	71.87	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A19

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-02	SDG:	18E0231
Sampled:	05/17/18 14:04	Prepared:	05/23/18 09:20	File ID:	
% Solids:	58.42	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	58.42	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A12

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-01	SDG:	18E0231
Sampled:	05/18/18 13:30	Prepared:	05/23/18 09:20	File ID:	
% Solids:	79.03	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	79.03	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A17

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-02	SDG:	18E0231
Sampled:	05/18/18 13:36	Prepared:	05/23/18 09:20	File ID:	
% Solids:	59.28	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	59.28	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A18

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-03	SDG:	18E0231
Sampled:	05/18/18 13:57	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.17	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	72.17	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A09

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-04	SDG:	18E0231
Sampled:	05/18/18 15:28	Prepared:	05/23/18 09:20	File ID:	
% Solids:	76.27	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	76.27	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A10

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-05	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	05/23/18 09:20	File ID:	
% Solids:	87.94	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	87.94	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A07

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-01	SDG:	18E0231
Sampled:	05/19/18 14:35	Prepared:	05/23/18 09:20	File ID:	
% Solids:	65.52	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	65.52	1	0.04	0.04	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-SSCL-A08

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-02	SDG:	18E0231
Sampled:	05/19/18 15:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.41	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:32
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	72.41	1	0.04	0.04	

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0592 Batch Matrix: Solid Preparation: PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-SSCL-A11	18E0231-02		05/23/18 09:20	
LDW18-SSCL-A11-FD	18E0231-03		05/23/18 09:20	
LDW18-SSCL-A01	18E0243-01		05/23/18 09:20	
LDW18-SSCL-A02	18E0243-02		05/23/18 09:20	
LDW18-SSCL-A03	18E0243-03		05/23/18 09:20	
LDW18-SSCL-A05	18E0243-04		05/23/18 09:20	
LDW18-SSCL-A04	18E0243-05		05/23/18 09:20	
LDW18-SSCL-A06	18E0243-06		05/23/18 09:20	
LDW18-SSCL-A13	18E0262-01		05/23/18 09:20	
LDW18-SSCL-A19	18E0262-02		05/23/18 09:20	
LDW18-SSCL-A12	18E0282-01		05/23/18 09:20	
LDW18-SSCL-A17	18E0282-02		05/23/18 09:20	
LDW18-SSCL-A18	18E0282-03		05/23/18 09:20	
LDW18-SSCL-A09	18E0282-04		05/23/18 09:20	
LDW18-SSCL-A10	18E0282-05		05/23/18 09:20	
LDW18-SSCL-A07	18E0309-01		05/23/18 09:20	
LDW18-SSCL-A08	18E0309-02		05/23/18 09:20	
Blank	BGE0592-BLK1		05/23/18 09:20	
Blank	BGE0592-BLK1		05/23/18 09:20	
Blank	BGE0592-BLK1		05/23/18 09:20	
Blank	BGE0592-BLK1		05/23/18 09:20	
Blank	BGE0592-BLK1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP1		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2		05/23/18 09:20	
LDW18-SSCL-A11-FD	BGE0592-DUP2		05/23/18 09:20	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BGE0592
Date:	5/23/2018 11:32
Analyst:	KLE

Instrumentation

Drying Ovens:	12
Muffle Furnace:	N / A
Analytical Balance:	BAL2

Batch drying time

record times as mm/dd/yy hh:mm

date/time in oven: 5/23/2018 11:32

date/time out: 5/24/2018 7:08

elapsed hrs = 19.6 OK

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places

Cal Weight ID:	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02
Date & Time:	5/23/18 5:40	5/23/18 11:32	5/24/18 7:28						
Cal Wt (g): 10.0000	9.9999	9.9999	9.9999						
	Cal OK!	Cal OK!	Cal OK!						

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	TVS (%)	Notes
BGE0592-BLK1	1	1.1351	0.0000	1.1350			-0.0001	0.01%								
18E0231-02	5	1.1343	7.9396	5.1851			4.0508	59.52%								
18E0231-03	2	1.1197	7.0716	4.7484			3.6287	60.97%								
BGE0592-DUP1	3	1.1264	7.8359	5.2141			4.0877	60.92%	RPD=0.1							
BGE0592-DUP2	4	1.1283	7.3248	4.8810			3.7527	60.56%	RSD=0.4							
18E0243-01	6	1.1308	9.3498	7.5556			6.4248	78.17%								
18E0243-02	7	1.1550	7.7095	5.8873			4.7323	72.20%								
18E0243-03	8	1.1218	6.6173	4.5546			3.4328	62.47%								
18E0243-04	9	1.1420	7.1131	4.9626			3.8206	63.98%								
18E0243-05	10	1.1458	9.5421	7.2860			6.1402	73.13%								
18E0243-06	11	1.1157	8.9014	6.8056			5.6899	73.08%								
18E0262-01	12	1.1034	9.5028	7.1401			6.0367	71.87%								
18E0262-02	13	1.1082	6.7274	4.3912			3.2830	58.42%								
18E0282-01	14	1.1175	7.9023	6.4794			5.3619	79.03%								
18E0282-02	15	1.1137	7.6750	5.0032			3.8895	59.28%								
18E0282-03	16	1.1322	8.6053	6.5259			5.3937	72.17%								
18E0282-04	17	1.1185	8.0766	6.4251			5.3066	76.27%								
18E0282-05	18	1.0940	8.9767	8.0261			6.9321	87.94%								
18E0309-01	19	1.1566	7.6233	5.3939			4.2373	65.52%								
18E0309-02	20	1.1668	7.7430	5.9289			4.7621	72.41%								

TS 70 C Benchsheet

Batch: **BGE0592**

Dry at 70ºC

70ºC Prep Date: 5/23/2018 11:52

Acidification Date: 5/25/2018 13:58

Balance ID: BAL2

Analyst: KLE

Analyst: YOUNG

KHP Spike Standard: F000167

Initial 70 Sample Prep							Acidification Prep						
Sample ID	Tare Wt. (g)	KHP Matrix Spike (g)	Wet wt. (g)	70ºC Dry wt (g)	70C % Solids	Sample Descriptions & Notes	Vial Tare (g)	70C dried Sample + Tare (g)	Initial Sample (g)	Eff Test.	Post Treatment (g)	Final Sample (g)	Acidification %
BGE0592-BLK1	13.1588		13.4940	13.4932	99.76%		13.2014	13.4308	*0.2294*	-	13.4681	0.2667	116.26%
BGE0592-MRL1	13.1104		13.5150	13.5143	99.83%		13.1555	13.4952	*0.3397*	-	13.5380	0.3825	112.60%
18E0231-02	13.1061		20.1358	17.4697	62.07%	SADY/CLAYISH	13.1434	13.2672	*0.1238*	-	13.3046	0.1612	130.21%
18E0231-03	13.1560		19.6822	17.1457	61.13%	SADY/CLAYISH	13.2109	13.3165	*0.1056*	-	13.3560	0.1451	137.41%
BGE0592-DUP1	13.1343		22.7774	19.0568	61.42%	TS RPD=0.46%	13.1794	13.4375	*0.2581*	-	13.4712	0.2918	113.06%
BGE0592-DUP2	13.0932		21.2825	18.1268	61.47%	TS RPD=0.54% TS RSD=0.29	13.1515	13.4630	*0.3115*	-	13.4793	0.3278	105.23%
BGE0592-MS1	13.1292	0.2298	20.1490	17.6629	61.31%	Wet Wt 6.79	13.1567	13.3313	*0.1746*	-	13.3757	0.2190	125.43%
18E0243-01	13.1271		22.0754	20.1344	78.31%	SANDY - SED	13.1989	13.7030	*0.5041*	-	13.7424	0.5435	107.82%
18E0243-02	13.1021		20.1129	18.1441	71.92%	CLAYISH	13.2086	13.5087	*0.3001*	-	13.5442	0.3356	111.83%
18E0243-03	13.1047		22.7903	19.1005	61.90%	SED	13.2896	13.4904	*0.2008*	-	13.5634	0.2738	136.35%
18E0243-04	12.0704		22.5946	19.1950	67.70%	WET SED / ROK	13.1348	13.3854	*0.2506*	-	13.4236	0.2888	115.24%
18E0243-05	13.1204		21.3690	19.1716	73.36%	SED	13.2232	13.5162	*0.2930*	-	13.5524	0.3292	112.35%
18E0243-06	13.1966		22.5157	20.0145	73.16%	SANDY - SED / ROK	13.1568	13.6426	*0.4858*	-	13.7205	0.5637	116.04%
18E0262-01	13.2157		24.1659	21.0967	71.97%	WET SED /	13.2347	13.4510	*0.2163*	-	13.4904	0.2557	118.22%
18E0262-02	13.1650		24.1780	19.6656	59.03%	SANDY SED	13.2432	13.4542	*0.2110*	-	13.5113	0.2681	127.06%
18E0282-01	13.1269		22.0436	20.1115	78.33%	SANDY / SED	13.2194	14.0165	*0.7971*	-	14.0789	0.8595	107.83%
18E0282-02	13.1633		25.4587	20.4368	59.16%	SED / ROK	13.1109	13.5453	*0.4344*	-	13.6152	0.5043	116.09%
18E0282-03	13.1192		21.8918	19.6282	74.20%	SED / ROK	13.1734	13.6610	*0.4876*	-	13.7280	0.5546	113.74%
18E0282-04	13.2360		21.8818	19.7239	75.04%	SED / ROK	13.2317	13.5578	*0.3261*	-	13.6631	0.4314	132.29%
18E0282-05	13.0987		24.2659	22.4412	83.66%	SED / ROK	13.1739	14.0535	*0.8796*	-	14.1011	0.9272	105.41%
18E0309-01	13.1233		22.5654	19.3554	66.00%	SED / ROK	13.2291	14.1843	*0.9552*	-	14.2370	1.0079	105.52%
18E0309-02	13.1256		26.3511	22.8060	73.19%	SED / ROK	13.2062	14.0202	*0.8140*	-	14.1367	0.9305	114.31%

Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Batch: BGE0592 Laboratory ID: BGE0592-BLK1 Prepared: 05/23/18 09:20

Matrix: Solid Preparation: PSEP 1986 (modified) Analyzed: 05/23/18 11:32

Sequence: SGE0487 Calibration: BE00079 Instrument: APOLLO1

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

LDW18-SSCL-A11-FD

DUPLICATES

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Laboratory ID: BGE0592-DUP1
Batch: BGE0592
Lab Source ID: 18E0231-03
Preparation: PSEP 1986 (modified)
Initial/Final: 1 g / 1 mL
Source Sample Name: LDW18-SSCL-A11-FD
% Solids: 60.97

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Solids	20	60.97	60.92	0.0706	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

LDW18-SSCL-A11-FD

DUPLICATES

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Laboratory ID: BGE0592-DUP2
Batch: BGE0592
Lab Source ID: 18E0231-03
Preparation: PSEP 1986 (modified)
Initial/Final: 1 g / 1 mL
Source Sample Name: LDW18-SSCL-A11-FD
% Solids: 60.97

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Solids	20	60.97	60.56	0.667	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM 2540 G-97

Laboratory:	Analytical Resources, Inc.	SDG:	18E0231
Client:	Windward Environmental, LLC	Project:	LDW AOC3 Task 4
Sequence:	SGE0487	Instrument:	APOLLO1
		Calibration:	BE00079

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Blank	BGE0592-BLK1		Solid	05/23/18 11:32
LDW18-SSCL-A11-FD	BGE0592-DUP1		Solid	05/23/18 11:32
LDW18-SSCL-A11-FD	BGE0592-DUP2		Solid	05/23/18 11:32

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Corrective Actions
Inorganic Analyses

Criteria Flagged:

ARI Job No.: 18E0231 / 18GE0487 / 18GE0592

Unacceptable Blank:	☐	Date of Event:	5-31-18
Unacceptable Duplicate:	☑	Client ID:	
Unacceptable Spike:	☑	Method/Element:	TOC
Unacceptable Reference:	☐	Prep Code:	

Details of Problem/Recommended Corrective Action:

high Dup 2 -

SPK - Low 17.2%

Samples Affected: 03

Corrective Action Taken: Dup 2 Reran with Client Results Report as is Possible Heterogeneity issue

SPike - Reran with Same Result
Possible Matrix Interference

Analyst Initials: (W) **Supervisor:** CDK

Date: 5-31-18 **Date:** 5-31-18

5049F

Revision 007
6/11/10

Detailed Analysis Report Print Date/Time: 2018/05/31 15:33:20

Sample ID: SGE0487-ICV1 Mode: TOC
Method: Boat Sampler Filename: 05311155
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:03
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1006.7629	40.2705	8405363	4.753	6.012	361

Last Message: Max Integration Time Reached

Sample ID: SGE0487-ICB1 Mode: TOC
Method: Boat Sampler Filename: 05311234
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:39
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	57.4344	2.2974	411691	4.405	5.403	215

Sample ID: BGE0592-MRL1 Mode: TOC
Method: Boat Sampler Filename: 05311242
Cal. Curve: BE00079 Timestamp: 2018/05/31 12:47
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	173.5642	11.3858	2396811	4.759	5.759	181

Sample ID: BGE0592-BLK1 Mode: TOC
Method: Boat Sampler Filename: 05311257
Cal. Curve: BE00079 Timestamp: 2018/05/31 13:14
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	157.9806	10.4899	2208217	4.502	5.501	147

Sample ID: BGE0592-SRM1 Mode: TOC
Method: Boat Sampler Filename: 05311343
Cal. Curve: BE00079 Timestamp: 2018/05/31 13:50
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	28233.3164	45.1733	9509369	5.258	6.257	355

Sample ID: 18E0231-02 Mode: TOC
Method: Boat Sampler Filename: 05311356
Cal. Curve: BE00079 Timestamp: 2018/05/31 14:03
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10216.0781	27.5834	5806545	5.405	8.012	360

Last Message: Max Integration Time Reached

Sample ID: 18E0231-03 Mode: TOC
Method: Boat Sampler Filename: 05311407
Cal. Curve: BE00079 Timestamp: 2018/05/31 14:14
Operator ID: KLE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9692.0234	9.6920	2040254	5.442	6.535	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP1
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311418
Timestamp: 2018/05/31 14:25
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10602.3252	11.6626	2455069	5.654	7.197	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311428
Timestamp: 2018/05/31 14:35
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8418.0049	9.2598	1949269	5.815	7.295	359

Last Message: Max Integration Time Reached

Sample ID: BGE0592-DUP2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311442
Timestamp: 2018/05/31 14:49
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6690.2754	7.3593	1549197	6.415	7.665	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-MS1
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311452
Timestamp: 2018/05/31 14:59
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	14149.4756	15.5644	3276445	6.736	7.849	360

Last Message: Max Integration Time Reached

Sample ID: BGE0592-MS2
Method: Boat Sampler
Cal. Curve: BE00079
Operator ID: KLE
Mode: TOC
Filename: 05311505
Timestamp: 2018/05/31 15:12
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22132.4062	30.9854	6522687	7.646	9.014	361

Last Message: Max Integration Time Reached

Sample ID: SGE0487-CCV1
Method: Boat Sampler
Cal. Curve: BE00079
Mode: TOC
Filename: 05311514
Timestamp: 2018/05/31 15:21

Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1019.0378	40.7615	8508722	7.965	9.561	360

Last Message: Max Integration Time Reached

Sample ID: SGE0487-CCB1 Mode: TOC
Method: Boat Sampler Filename: 05311527
Cal. Curve: BE00079 Timestamp: 2018/05/31 15:29
Operator ID: KLE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	21.6124	0.8645	110057	8.453	9.451	59

TOC, Solids Data Analysis

		Select Mode:	TOC	Sequence:	SGE0487
				Date:	5/31/2018 12:02
Instrument:	APOLLO1	**Balance ID:**	BAL3	Analyst:	KLE

Verification Standard		**KHP Spiking Standard**		**SRM Standard**	**Source: NIST 1941B**	Conc.	
CVS ID:	**G004922**	47.051%	% Carbon	Standard ID:	**G002759**	**25,832**	ppm
1,000	**ppm**			Prep Date:	**4/2/2018**	**OK**	Status

Calibration Data	Cal Curve ID:	**BE00079**	Cal Curve Stock Std ID:	**G001627**	5,000	ppm	Curve Range :		
40 µL injection	Curve Date:	**05/24/18**					200	to	2,500
							8	to	**100**

NOTE: "Diluted, Acidified PPM" = ("TOC obs" * Dilution Factor * Acidifcation%)

Sample ID	Sample Data											
	Prep Data			Dilution Data			Combustion Data					
	TS 104 %	TS 70 %	Acidification %	Sample wt. (mg)	Final wt. (mg)	Dilution Factor	Burn wt. (mg)	obs µg C	PPM C	Full Corrected PPM C	%C	Comments
SGE0487-ICV1							40.0	40.2705	1006.7629	1006.7629	100.7% OK	
SGE0487-ICB1							40.0	2.2974	57.4344	57.4344		Low, increase wt
BGE0592-MRL1	100.00%	99.83%	112.60%			1.00	65.6	11.3858	173.5642	195.0942	0.02	
BGE0592-BLK1	100.00%	99.76%	116.26%			1.00	66.4	10.4899	157.9806	183.2295	0.02	
BGE0592-SRM1							1.6	45.1733	28233.3160	28233.3160	1.09	
18E0231-02	59.52%	62.07%	130.21%			1.00	2.7	27.5834	10216.0778	13872.1347	1.39	
18E0231-03	60.97%	61.13%	137.41%			1.00	1.0	9.6920	9692.0238	13353.7260	1.34	
BGE0592-DUP1	60.97%	61.42%	113.06%			1.00	1.1	11.6626	10602.3249	12075.1268	1.21	RPD=10.06%
BGE0592-DUP2	60.97%	61.47%	105.23%			1.00	1.1	9.2598	8418.0048	8930.9270	0.89	
~~BGE0592-DUP3~~	~~60.97%~~	~~61.47%~~	~~105.23%~~			~~1.00~~	~~1.1~~	~~7.3593~~	~~6690.2755~~	~~7097.9245~~	~~0.71~~	-
BGE0592-MS1	60.97%	61.31%	125.43%			1.00	1.1	15.5644	14149.4756	17847.7144	1.78	
MS DATA	**0.2298**	g of KPH	**4.1397**	g WET wt =	42601	mg/kg 70C	2.6119	%C @ 104C	% Rec =	17.2%	104C % REC	
~~BGE0592-MS2~~	~~60.97%~~	~~61.31%~~	~~125.43%~~			~~1.00~~	~~1.4~~	~~30.9854~~	~~22132.4069~~	~~27917.1390~~	~~2.79~~	-
~~**MS DATA**~~	~~**0.2298**~~	~~g of KPH~~	~~**4.1397**~~	~~g WET wt =~~	~~42601~~	~~mg/kg 70C~~	~~2.6119~~	~~%C @ 104C~~	~~% Rec =~~	~~55.8%~~	~~104C % REC~~	
SGE0487-CCV1							40.0	40.7615	1019.0378	1019.0378	101.9% OK	
SGE0487-CCB1							40.0	0.8645	21.6124	21.6124		Low, increase wt

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-A11-CLWB-Comp1 18E0231-01	05/15/18 11:38	05/15/18 16:32	05/31/18 11:54	16	365	06/04/18 10:24	20	365	
LDW18-SSCL-A11 18E0231-02	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
LDW18-SSCL-A11-FD 18E0231-03	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
LDW18-SSCL-A01 18E0243-01	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A02 18E0243-02	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A03 18E0243-03	05/16/18 13:20	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A05 18E0243-04	05/16/18 13:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A04 18E0243-05	05/16/18 12:32	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A06 18E0243-06	05/16/18 12:07	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-A01-CLWB-Comp1 18E0243-07	05/16/18 13:38	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A02-CLWB-Comp1 18E0243-08	05/16/18 13:15	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A06-CLWB-Comp1 18E0243-09	05/16/18 11:39	05/16/18 16:25	05/31/18 11:54	15	365	06/04/18 10:24	19	365	
LDW18-A04-CLWB-Comp1 18E0243-10	05/16/18 11:24	05/16/18 16:25	05/31/18 11:54	15	365	06/04/18 10:24	19	365	
LDW18-A03-CLWB-Comp1 18E0243-11	05/16/18 12:12	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A05-CLWB-Comp1 18E0243-12	05/16/18 12:54	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-SSCL-A13 18E0262-01	05/17/18 13:20	05/17/18 16:32	05/23/18 09:20	5	28	05/23/18 11:32	6	28	
LDW18-SSCL-A19 18E0262-02	05/17/18 14:04	05/17/18 16:32	05/23/18 09:20	5	28	05/23/18 11:32	6	28	
LDW18-A19-CLWB-Comp1 18E0262-03	05/17/18 12:26	05/17/18 16:32	05/31/18 11:54	13	365	06/04/18 10:24	18	365	
LDW18-SSCL-A12 18E0282-01	05/18/18 13:30	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A17 18E0282-02	05/18/18 13:36	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A18 18E0282-03	05/18/18 13:57	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A09 18E0282-04	05/18/18 15:28	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-SSCL-A10 18E0282-05	05/18/18 15:05	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-A12-CLWB-Comp1 18E0282-06	05/18/18 12:41	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A09-CLWB-Comp1 18E0282-07	05/18/18 15:23	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A10-CLWB-Comp1 18E0282-08	05/18/18 15:05	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A18-CLWB-Comp1 18E0282-09	05/18/18 13:13	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A17-CLWB-Comp1 18E0282-10	05/18/18 12:56	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-SSCL-A07 18E0309-01	05/19/18 14:35	05/21/18 10:10	05/23/18 09:20	3	28	05/23/18 11:32	4	28	
LDW18-SSCL-A08 18E0309-02	05/19/18 15:00	05/21/18 10:10	05/23/18 09:20	3	28	05/23/18 11:32	4	28	
LDW18-A07-CLWB-Comp1 18E0309-03	05/19/18 14:50	05/21/18 10:10	05/31/18 11:54	11	365	06/04/18 10:24	16	365	
LDW18-A08-CLWB-Comp1 18E0309-04	05/19/18 13:15	05/21/18 10:10	05/31/18 11:54	11	365	06/04/18 10:24	16	365	
LDW18-A13-CLWB-Comp1 18E0389-01	05/17/18 12:20	05/17/18 16:32	05/31/18 11:54	13	365	06/04/18 10:24	18	365	
Duplicate BGE0592-DUP1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
Duplicate BGE0592-DUP2	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.0400	0.0400	%

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Instrument: APOLLO1

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A11-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0231-01	SDG:	18E0231
Sampled:	05/15/18 11:38	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.07 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.68	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A01-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-07	SDG:	18E0231
Sampled:	05/16/18 13:38	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.52	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A02-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-08	SDG:	18E0231
Sampled:	05/16/18 13:15	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.02 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.45	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A06-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-09	SDG:	18E0231
Sampled:	05/16/18 11:39	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.03 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.56	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A04-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-10	SDG:	18E0231
Sampled:	05/16/18 11:24	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.07 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.63	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A03-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-11	SDG:	18E0231
Sampled:	05/16/18 12:12	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.06 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.45	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A05-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-12	SDG:	18E0231
Sampled:	05/16/18 12:54	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.14 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.39	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A19-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0262-03	SDG:	18E0231
Sampled:	05/17/18 12:26	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.01 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.26	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A09-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-07	SDG:	18E0231
Sampled:	05/18/18 15:23	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.08 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.35	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A09-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-07	SDG:	18E0231
Sampled:	05/18/18 15:23	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.08 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.35	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A10-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-08	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.13 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.45	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A18-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-09	SDG:	18E0231
Sampled:	05/18/18 13:13	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.09 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.42	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A17-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-10	SDG:	18E0231
Sampled:	05/18/18 12:56	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.05 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.40	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A07-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-03	SDG:	18E0231
Sampled:	05/19/18 14:50	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.12 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.42	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A08-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-04	SDG:	18E0231
Sampled:	05/19/18 13:15	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.15 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.47	1	0.010	0.010	

Form I
INORGANIC ANALYSIS DATA SHEET
Bligh & Dyer (Mod)

LDW18-A13-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0389-01	SDG:	18E0231
Sampled:	05/17/18 12:20	Prepared:	06/05/18 12:40	File ID:	
% Solids:	0.00	Preparation:	EPA 3550C-Mod (Ultrasonic)	Analyzed:	06/08/18 08:54
Batch:	BGE0772	Sequence:		Initial/Final:	10.15 g Wet / 5 mL
Instrument:	Inst			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.34	1	0.010	0.010	

PREPARATION BATCH SUMMARY

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0772 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-A11-CLWB-Comp1	18E0231-01		06/05/18 12:40	
LDW18-A01-CLWB-Comp1	18E0243-07		06/05/18 12:40	
LDW18-A02-CLWB-Comp1	18E0243-08		06/05/18 12:40	
LDW18-A06-CLWB-Comp1	18E0243-09		06/05/18 12:40	
LDW18-A04-CLWB-Comp1	18E0243-10		06/05/18 12:40	
LDW18-A03-CLWB-Comp1	18E0243-11		06/05/18 12:40	
LDW18-A05-CLWB-Comp1	18E0243-12		06/05/18 12:40	
LDW18-A19-CLWB-Comp1	18E0262-03		06/05/18 12:40	
LDW18-A12-CLWB-Comp1	18E0282-06		06/05/18 12:40	
LDW18-A09-CLWB-Comp1	18E0282-07		06/05/18 12:40	
LDW18-A10-CLWB-Comp1	18E0282-08		06/05/18 12:40	
LDW18-A18-CLWB-Comp1	18E0282-09		06/05/18 12:40	
LDW18-A17-CLWB-Comp1	18E0282-10		06/05/18 12:40	
LDW18-A07-CLWB-Comp1	18E0309-03		06/05/18 12:40	
LDW18-A08-CLWB-Comp1	18E0309-04		06/05/18 12:40	
LDW18-A13-CLWB-Comp1	18E0389-01		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
Blank	BGE0772-BLK1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	
LDW18-A11-CLWB-Comp1	BGE0772-DUP1		06/05/18 12:40	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0772

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Matrix: Tissue **Date Prepared:** 06/05/18 **Balance ID:** B139298002 **Set Up By:** CS 6/4/18

Analysis: Lipids, Percent

Lab Number & Container	Initial (g) Target Dry: 5 (Wet)	Actual	(split aliquot) (Y)/N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
18E0231-01 A	(5.00)	10.07	(1:5) (Y)/N	(1000 µL)	1.1193	1.1319	5	NA	
18E0243-07 A	(5.00)	10.00	( )(Y)/N	(µL)	1.0761	1.0865	5	NA	
18E0243-08 A	(5.00)	10.02	( )(Y)/N	(µL)	1.1058	1.1148	5	NA	
18E0243-09 A	(5.00)	10.03	( )(Y)/N	(µL)	1.0843	1.0955	5	NA	
18E0243-10 A	(5.00)	10.07	( )(Y)/N	(µL)	1.0966	1.1093	5	NA	
18E0243-11 A	(5.00)	10.06	( )(Y)/N	(µL)	1.1088	1.1179	5	NA	
18E0243-12 A	(5.00)	10.14	( )(Y)/N	(µL)	1.0988	1.1067	5	NA	
18E0262-03 A	(5.00)	10.01	( )(Y)/N	(µL)	1.0847	1.0899	5	NA	
18E0282-06 A	(5.00)	10.05	( )(Y)/N	(µL)	1.0935	1.0988	5	NA	
18E0282-07 A	(5.00)	10.08	( )(Y)/N	(µL)	1.0930	1.1000	5	NA	
18E0282-08 A	(5.00)	10.13	( )(Y)/N	(µL)	1.1157	1.1248	5	NA	
18E0282-09 A	(5.00)	10.09	( )(Y)/N	(µL)	1.1036	1.1120	5	NA	
18E0282-10 A	(5.00)	10.05	( )(Y)/N	(µL)	1.0956	1.1037	5	NA	
18E0309-03 A	(5.00)	10.12	( )(Y)/N	(µL)	1.0951	1.1037	5	NA	
18E0309-04 A	(5.00)	10.15	( )(Y)/N	(µL)	1.1088	1.1183	5	NA	
18E0389-01 A	(5.00)	10.15	( )(Y)/N	(µL)	1.0951	1.1021	5	NA	

Batch QC

Lab Number	Initial (g) Target Dry: 5 (Wet)	Actual	(split aliquot) (Y)/N	Volume Taken (µL)	Tare Weight	Tare + Sample Weight	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BGE0772-BLK1	(5.00)	10.04	(1:5) (Y)/N	(1000 µL)	1.1009	1.1018	5 see 6/6/18	NA	
BGE0772-DUP1	(5.00)	10.03	(1:5) (Y)/N	(µL)	1.1261	1.1395	5	NA	Use 18E0231-01 (BGE0773-MS)

06/05/18 — Client ID Verified By — Date

CS 6/7/18 — Preparation Reviewed By — Date

06/05/18 12:40 — Extraction Date and Time

Printed: 6/5/2018 2:40:32PM

3074F
Page 1 of 2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0772

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Steps

KD 100°C

1 2 3 4 5 6

CA 6/7/18

Analyst/Date

TurboVap

1 2 3 4 5

6/7/18

Analyst/Date

Vialing

6/7/18

Analyst/Date

Reagents Used

Station/Reagent	Standard ID
TissueMizing Analyst: AJ/ET Date: 6/6/5/18	
Anhydrous Sodium Sulfate	GBB4348
1:1 Methylene Chloride/Acetone	GBB5105
Methylene Chloride	GBB4967
Neutral Glass Wool	GBB3192
KD Analyst: CA Date: 6/7/18	
Anhydrous Sodium Sulfate	NA
Neutral Glass Wool	NA
Methylene Chloride	G003838
Vialing Analyst: MW Date: 6/7/18	
Methylene Chloride	GBB4967

Surrogates & Spike Standards Used

Type	Standard ID	Vol uL	Analyst	Witness

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

ORGANICS PREPARATION BENCH SHEET

Batch: BGE0772

Prepared using: EPA 3550C-Mod (Ultrasonic)

Lipids, Percent in Tissue

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizzing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 100°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.	

Sample ID	Sample Weight(g)	Split Taken (mL)	FEV (mL)	Tare Weight(g)	Tare+Sample(g)	% Lipids
BGE0772-BLK1	10.0000	1.0000	5.0000	1.1009	1.1011	0.0100%
BGE0772-DUP 1	10.0300	1.0000	5.0000	1.1261	1.1395	0.6680%
18E0231-01	10.0700	1.0000	5.0000	1.1183	1.1319	0.6753%
18E0243-07	10.0000	1.0000	5.0000	1.0761	1.0865	0.5200%
18E0243-08	10.0200	1.0000	5.0000	1.1058	1.1148	0.4491%
18E0243-09	10.0300	1.0000	5.0000	1.0843	1.0955	0.5583%
18E0243-10	10.0700	1.0000	5.0000	1.0966	1.1093	0.6306%
18E0243-11	10.0600	1.0000	5.0000	1.1088	1.1179	0.4523%
18E0243-12	10.1400	1.0000	5.0000	1.0988	1.1067	0.3895%
18E0262-03	10.0100	1.0000	5.0000	1.0847	1.0899	0.2597%
18E0282-06	10.0500	1.0000	5.0000	1.0935	1.0988	0.2637%
18E0282-07	10.0800	1.0000	5.0000	1.0930	1.1000	0.3472%
18E0282-08	10.1300	1.0000	5.0000	1.1157	1.1248	0.4492%
18E0282-09	10.0900	1.0000	5.0000	1.1036	1.1120	0.4163%
18E0282-10	10.0500	1.0000	5.0000	1.0956	1.1037	0.4030%
18E0309-03	10.1200	1.0000	5.0000	1.0951	1.1037	0.4249%
18E0309-04	10.1500	1.0000	5.0000	1.1088	1.1183	0.4680%
18E0389-01	10.1500	1.0000	5.0000	1.0951	1.1021	0.3448%

Lipids=(((FinalWeight__g -TareWeight__g) * (ExtractVolume_mL / AliquotVolume__mL)) / SampleAmount__g)*100

Form I

METHOD BLANK DATA SHEET

Bligh & Dyer (Mod)

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	18E0231
Client:	Windward Environmental, LLC			Project:	LDW AOC3 Task 4
Matrix:	Tissue	Laboratory ID:	BGE0772-BLK1	File ID:	
Sampled:	N/A	Prepared:	06/05/18 12:40	Analyzed:	06/08/18 08:54
Solids:		Preparation:	EPA 3550C-Mod (Ultrasonic	Initial/Final:	10 g / 5 mL
Batch:	BGE0772	Sequence:		Calibration:	
Instrument:	Inst	Column:			

CAS NO.	COMPOUND	DILUTION	CONC. (%)	Q	DL	RL
	Percent Lipids	1	0.010		0.010	0.010

LDW18-A11-CLWB-Comp1

DUPLICATES

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Tissue
Laboratory ID: BGE0772-DUP1
Batch: BGE0772
Lab Source ID: 18E0231-01
Preparation: EPA 3550C-Mod (Ultrasonic)
Initial/Final: 10.03 g / 5 mL
Source Sample Name: LDW18-A11-CLWB-Comp1
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Percent Lipids	30	0.68	0.67	1.09	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-A11-CLWB-Comp1 18E0231-01	05/15/18 11:38	05/15/18 16:32	06/05/18 12:40	21	365	06/08/18 08:54	24	365	
LDW18-A01-CLWB-Comp1 18E0243-07	05/16/18 13:38	05/16/18 16:25	06/05/18 12:40	19	365	06/08/18 08:54	23	365	
LDW18-A02-CLWB-Comp1 18E0243-08	05/16/18 13:15	05/16/18 16:25	06/05/18 12:40	19	365	06/08/18 08:54	23	365	
LDW18-A06-CLWB-Comp1 18E0243-09	05/16/18 11:39	05/16/18 16:25	06/05/18 12:40	20	365	06/08/18 08:54	23	365	
LDW18-A04-CLWB-Comp1 18E0243-10	05/16/18 11:24	05/16/18 16:25	06/05/18 12:40	20	365	06/08/18 08:54	23	365	
LDW18-A03-CLWB-Comp1 18E0243-11	05/16/18 12:12	05/16/18 16:25	06/05/18 12:40	20	365	06/08/18 08:54	23	365	
LDW18-A05-CLWB-Comp1 18E0243-12	05/16/18 12:54	05/16/18 16:25	06/05/18 12:40	19	365	06/08/18 08:54	23	365	
LDW18-A19-CLWB-Comp1 18E0262-03	05/17/18 12:26	05/17/18 16:32	06/05/18 12:40	19	365	06/08/18 08:54	22	365	
LDW18-A12-CLWB-Comp1 18E0282-06	05/18/18 12:41	05/18/18 17:35	06/05/18 12:40	17	365	06/08/18 08:54	21	365	
LDW18-A09-CLWB-Comp1 18E0282-07	05/18/18 15:23	05/18/18 17:35	06/05/18 12:40	17	365	06/08/18 08:54	21	365	
LDW18-A10-CLWB-Comp1 18E0282-08	05/18/18 15:05	05/18/18 17:35	06/05/18 12:40	17	365	06/08/18 08:54	21	365	
LDW18-A18-CLWB-Comp1 18E0282-09	05/18/18 13:13	05/18/18 17:35	06/05/18 12:40	17	365	06/08/18 08:54	21	365	
LDW18-A17-CLWB-Comp1 18E0282-10	05/18/18 12:56	05/18/18 17:35	06/05/18 12:40	17	365	06/08/18 08:54	21	365	
LDW18-A07-CLWB-Comp1 18E0309-03	05/19/18 14:50	05/21/18 10:10	06/05/18 12:40	16	365	06/08/18 08:54	20	365	
LDW18-A08-CLWB-Comp1 18E0309-04	05/19/18 13:15	05/21/18 10:10	06/05/18 12:40	16	365	06/08/18 08:54	20	365	
LDW18-A13-CLWB-Comp1 18E0389-01	05/17/18 12:20	05/17/18 16:32	06/05/18 12:40	19	365	06/08/18 08:54	22	365	
Duplicate BGE0772-DUP1	05/15/18 11:38	05/15/18 16:32	06/05/18 12:40	21	365	06/08/18 08:54	24	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Percent Lipids	0.010	0.010	%

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A11

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-02	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	
% Solids:	59.52	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	130.210	1	1.000	1.000	
	Total Solids, 70C	62.074	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A11-FD

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0231-03	SDG:	18E0231
Sampled:	05/15/18 12:01	Prepared:	05/23/18 09:20	File ID:	
% Solids:	60.97	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	137.405	1	1.000	1.000	
	Total Solids, 70C	61.134	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A01

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-01	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	78.17	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	107.816	1	1.000	1.000	
	Total Solids, 70C	78.309	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A02

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-02	SDG:	18E0231
Sampled:	05/16/18 14:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.20	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	111.829	1	1.000	1.000	
	Total Solids, 70C	71.918	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A03

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-03	SDG:	18E0231
Sampled:	05/16/18 13:20	Prepared:	05/23/18 09:20	File ID:	
% Solids:	62.47	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	136.355	1	1.000	1.000	
	Total Solids, 70C	61.904	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A05

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-04	SDG:	18E0231
Sampled:	05/16/18 13:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	63.98	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	115.243	1	1.000	1.000	
	Total Solids, 70C	67.697	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A04

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-05	SDG:	18E0231
Sampled:	05/16/18 12:32	Prepared:	05/23/18 09:20	File ID:	
% Solids:	73.13	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	112.355	1	1.000	1.000	
	Total Solids, 70C	73.360	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A06

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0243-06	SDG:	18E0231
Sampled:	05/16/18 12:07	Prepared:	05/23/18 09:20	File ID:	
% Solids:	73.08	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	116.035	1	1.000	1.000	
	Total Solids, 70C	73.161	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A13

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-01	SDG:	18E0231
Sampled:	05/17/18 13:20	Prepared:	05/23/18 09:20	File ID:	
% Solids:	71.87	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	118.215	1	1.000	1.000	
	Total Solids, 70C	71.971	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A19

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0262-02	SDG:	18E0231
Sampled:	05/17/18 14:04	Prepared:	05/23/18 09:20	File ID:	
% Solids:	58.42	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	127.062	1	1.000	1.000	
	Total Solids, 70C	59.027	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A12

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-01	SDG:	18E0231
Sampled:	05/18/18 13:30	Prepared:	05/23/18 09:20	File ID:	
% Solids:	79.03	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	107.828	1	1.000	1.000	
	Total Solids, 70C	78.332	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A17

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-02	SDG:	18E0231
Sampled:	05/18/18 13:36	Prepared:	05/23/18 09:20	File ID:	
% Solids:	59.28	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	116.091	1	1.000	1.000	
	Total Solids, 70C	59.156	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A18

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-03	SDG:	18E0231
Sampled:	05/18/18 13:57	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.17	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	113.741	1	1.000	1.000	
	Total Solids, 70C	74.197	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A09

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-04	SDG:	18E0231
Sampled:	05/18/18 15:28	Prepared:	05/23/18 09:20	File ID:	
% Solids:	76.27	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	132.291	1	1.000	1.000	
	Total Solids, 70C	75.041	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A10

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0282-05	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	05/23/18 09:20	File ID:	
% Solids:	87.94	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	105.412	1	1.000	1.000	
	Total Solids, 70C	83.660	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A07

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-01	SDG:	18E0231
Sampled:	05/19/18 14:35	Prepared:	05/23/18 09:20	File ID:	
% Solids:	65.52	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	105.517	1	1.000	1.000	
	Total Solids, 70C	66.003	1	1.000	1.000	

Form I
INORGANIC ANALYSIS DATA SHEET
PSEP 1986

LDW18-SSCL-A08

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Sediment	Laboratory ID:	18E0309-02	SDG:	18E0231
Sampled:	05/19/18 15:00	Prepared:	05/23/18 09:20	File ID:	
% Solids:	72.41	Preparation:	PSEP 1986 (modified)	Analyzed:	05/23/18 11:52
Batch:	BGE0592	Sequence:		Initial/Final:	1 g Wet / 1 mL
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Acidification Percentage	114.312	1	1.000	1.000	
	Total Solids, 70C	73.195	1	1.000	1.000	

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0437
Date:	5/16/2018 16:54
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B146462614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	5/17/2018 12:45	
date/time out:	5/18/2018 7:10	
elapsed hrs:	18.4	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0226-01	1.1100	13.0700	10.2000	9.09	**76.00%**	Yes
18E0226-02	1.1000	12.7600	9.1500	8.05	**69.04%**	Yes
18E0231-02	1.1000	12.4000	7.9200	6.82	**60.35%**	Yes
18E0231-03	1.1200	12.1600	7.7700	6.65	**60.24%**	Yes
18E0239-01	1.0900	12.6900	12.5800	11.49	**99.05%**	No
18E0239-02	1.1100	12.4600	6.5400	5.43	**47.84%**	No
18E0240-01	1.1100	12.0200	10.9800	9.87	**90.47%**	No
18E0242-01	1.1000	12.2100	9.5200	8.42	**75.79%**	No
18E0242-02	1.0900	13.2300	8.3800	7.29	**60.05%**	No
18E0242-03	1.0900	12.7700	9.8800	8.79	**75.26%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0437
Date:	5/16/2018 16:54
Analyst:	MK
Drying Oven:	Ø15
Analytical Balance:	B146462614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	05/17/18 12:45	
date/time out:	05/18/18 Ø710	
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0226-01	1.11	13.Ø7	10.20			~~No~~ Yes
18E0226-02	1.1Ø	12.76	9.15			~~No~~ Yes
18E0231-02	1.1Ø	12.4Ø	7.92			~~No~~ Yes
18E0231-03	1.12	12.16	7.77			~~No~~ Yes
18E0239-01	1.Ø9	12.69	12.58			No
18E0239-02	1.11	12.46	6.54			No
18E0240-01	1.11	12.Ø2	10.98			No
18E0242-01	1.1Ø	12.21	9.52			No
18E0242-02	1.Ø9	13.23	8.38			No
18E0242-03	1.Ø9	12.77	9.88			No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0441
Date:	5/17/2018 8:24
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B146462614

Batch drying time	
record times as mm/dd/yy hh:mm	
date/time in oven:	5/17/2018 12:45
date/time out:	5/18/2018 7:10
elapsed hrs:	18.4

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0243-01	1.1000	12.8000	10.1600	9.06	**77.44%**	No
18E0243-02	1.1200	12.7600	9.1900	8.07	**69.33%**	No
18E0243-03	1.1100	12.3000	8.1500	7.04	**62.91%**	Yes
18E0243-04	1.1000	12.2400	8.4400	7.34	**65.89%**	Yes
18E0243-05	1.1000	12.4800	9.4700	8.37	**73.55%**	Yes
18E0243-06	1.1000	12.6200	9.5300	8.43	**73.18%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0441
Date:	5/17/2018 8:24
Analyst:	MJ
Drying Oven:	#15
Analytical Balance:	B146462614

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	05/17/18	12:45
date/time out:	5/18/18	0710
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0243-01	1.14	12.84	10.16			No
18E0243-02	1.12	12.76	9.19			No
18E0243-03	1.11	12.34	8.15			~~No~~ Yes
18E0243-04	1.14	12.24	8.44			~~No~~ Yes
18E0243-05	1.14	12.48	9.47			~~No~~ Yes
18E0243-06	1.14	12.62	9.53			No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0554
Date:	5/22/2018 13:25
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B146462614

Batch drying time	
record times as mm/dd/yy hh:mm	
date/time in oven:	5/22/2018 15:00
date/time out:	5/23/2018 7:00
elapsed hrs:	16.0

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0262-01	1.1000	12.9600	9.9300	8.83	**74.45%**	Yes
18E0262-02	1.1100	13.1300	8.3800	7.27	**60.48%**	Yes
18E0282-01	1.1000	12.0900	9.6100	8.51	**77.43%**	Yes
18E0282-02	1.0800	12.4500	8.1000	7.02	**61.74%**	Yes
18E0282-03	1.1100	12.0500	8.9100	7.80	**71.30%**	Yes
18E0282-04	1.1000	12.8400	10.3100	9.21	**78.45%**	Yes
18E0282-05	1.1000	12.5200	11.0100	9.91	**86.78%**	Yes
18E0309-01	1.1000	12.1100	9.5400	8.44	**76.66%**	Yes
18E0309-02	1.1300	12.4400	8.6400	7.51	**66.40%**	Yes

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Batch:	BGE0554
Date:	5/22/2018 13:25
Analyst:	MH
Drying Oven:	#15
Analytical Balance:	B146462614

Instrumentation

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	05/22/18	15:04
date/time out:	5/23/18	0700
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0262-01	1.10	12.96	9.93			~~No~~ Yes
18E0262-02	1.11	13.13	9.38			~~No~~ Yes
18E0282-01	1.10	12.09	9.61			~~No~~ Yes
18E0282-02	1.08	12.45	9.10			~~No~~ Yes
18E0282-03	1.11	12.05	8.91			~~No~~ Yes
18E0282-04	1.10	12.84	10.31			~~No~~ Yes
18E0282-05	1.10	12.52	11.01			~~No~~ Yes
18E0309-01	1.10	12.11	9.54			~~No~~ Yes
18E0309-02	1.13	12.44	8.64			~~No~~ Yes

HOLDING TIME SUMMARY

Analysis: PSEP 1986

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-SSCL-A11 18E0231-02	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/23/18 11:52			
LDW18-SSCL-A11-FD 18E0231-03	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/23/18 11:52			
LDW18-SSCL-A01 18E0243-01	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A02 18E0243-02	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A03 18E0243-03	05/16/18 13:20	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A05 18E0243-04	05/16/18 13:00	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A04 18E0243-05	05/16/18 12:32	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A06 18E0243-06	05/16/18 12:07	05/16/18 16:25	05/23/18 09:20	6	14	05/23/18 11:52			
LDW18-SSCL-A13 18E0262-01	05/17/18 13:20	05/17/18 16:32	05/23/18 09:20	5	14	05/23/18 11:52			
LDW18-SSCL-A19 18E0262-02	05/17/18 14:04	05/17/18 16:32	05/23/18 09:20	5	14	05/23/18 11:52			
LDW18-SSCL-A12 18E0282-01	05/18/18 13:30	05/18/18 17:35	05/23/18 09:20	4	14	05/23/18 11:52			
LDW18-SSCL-A17 18E0282-02	05/18/18 13:36	05/18/18 17:35	05/23/18 09:20	4	14	05/23/18 11:52			
LDW18-SSCL-A18 18E0282-03	05/18/18 13:57	05/18/18 17:35	05/23/18 09:20	4	14	05/23/18 11:52			
LDW18-SSCL-A09 18E0282-04	05/18/18 15:28	05/18/18 17:35	05/23/18 09:20	4	14	05/23/18 11:52			
LDW18-SSCL-A10 18E0282-05	05/18/18 15:05	05/18/18 17:35	05/23/18 09:20	4	14	05/23/18 11:52			
LDW18-SSCL-A07 18E0309-01	05/19/18 14:35	05/21/18 10:10	05/23/18 09:20	3	14	05/23/18 11:52			
LDW18-SSCL-A08 18E0309-02	05/19/18 15:00	05/21/18 10:10	05/23/18 09:20	3	14	05/23/18 11:52			
Duplicate BGE0592-DUP1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/23/18 11:52			
Duplicate BGE0592-DUP2	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/23/18 11:52			
Matrix Spike BGE0592-MS1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	14	05/23/18 11:52			

* Indicates hold time exceedance.

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A11-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0231-01	SDG:	18E0231
Sampled:	05/15/18 11:38	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	11.4	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A01-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-07	SDG:	18E0231
Sampled:	05/16/18 13:38	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	11.2	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A02-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-08	SDG:	18E0231
Sampled:	05/16/18 13:15	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.44	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A06-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-09	SDG:	18E0231
Sampled:	05/16/18 11:39	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.71	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A04-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-10	SDG:	18E0231
Sampled:	05/16/18 11:24	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.46	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A03-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-11	SDG:	18E0231
Sampled:	05/16/18 12:12	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	10.0	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A05-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0243-12	SDG:	18E0231
Sampled:	05/16/18 12:54	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.59	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A19-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0262-03	SDG:	18E0231
Sampled:	05/17/18 12:26	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.91	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A12-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-06	SDG:	18E0231
Sampled:	05/18/18 12:41	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	7.69	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A09-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-07	SDG:	18E0231
Sampled:	05/18/18 15:23	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	8.30	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A10-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-08	SDG:	18E0231
Sampled:	05/18/18 15:05	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.39	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A18-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-09	SDG:	18E0231
Sampled:	05/18/18 13:13	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.64	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A17-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0282-10	SDG:	18E0231
Sampled:	05/18/18 12:56	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.24	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A07-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-03	SDG:	18E0231
Sampled:	05/19/18 14:50	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	9.13	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A08-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0309-04	SDG:	18E0231
Sampled:	05/19/18 13:15	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	10.7	1	0.0400	0.0400	

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW18-A13-CLWB-Comp1

Laboratory:	Analytical Resources, Inc.				
Client:	Windward Environmental, LLC				
Project:	LDW AOC3 Task 4				
Matrix:	Tissue	Laboratory ID:	18E0389-01	SDG:	18E0231
Sampled:	05/17/18 12:20	Prepared:	05/31/18 11:54	File ID:	
% Solids:	0.00	Preparation:	No Prep-Organics	Analyzed:	06/04/18 10:24
Batch:	BGE0771	Sequence:		Initial/Final:	1 g Wet / 1 g
Instrument:	NA			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	10.4	1	0.0400	0.0400	

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Batch: BGE0771 Batch Matrix: Tissue Preparation: No Prep-Organics

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW18-A11-CLWB-Comp1	18E0231-01		05/31/18 11:54	
LDW18-A01-CLWB-Comp1	18E0243-07		05/31/18 11:54	
LDW18-A02-CLWB-Comp1	18E0243-08		05/31/18 11:54	
LDW18-A06-CLWB-Comp1	18E0243-09		05/31/18 11:54	
LDW18-A04-CLWB-Comp1	18E0243-10		05/31/18 11:54	
LDW18-A03-CLWB-Comp1	18E0243-11		05/31/18 11:54	
LDW18-A05-CLWB-Comp1	18E0243-12		05/31/18 11:54	
LDW18-A19-CLWB-Comp1	18E0262-03		05/31/18 11:54	
LDW18-A12-CLWB-Comp1	18E0282-06		05/31/18 11:54	
LDW18-A09-CLWB-Comp1	18E0282-07		05/31/18 11:54	
LDW18-A10-CLWB-Comp1	18E0282-08		05/31/18 11:54	
LDW18-A18-CLWB-Comp1	18E0282-09		05/31/18 11:54	
LDW18-A17-CLWB-Comp1	18E0282-10		05/31/18 11:54	
LDW18-A07-CLWB-Comp1	18E0309-03		05/31/18 11:54	
LDW18-A08-CLWB-Comp1	18E0309-04		05/31/18 11:54	
LDW18-A13-CLWB-Comp1	18E0389-01		05/31/18 11:54	

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Batch:	BGE0771
Date:	6/4/2018 10:24
Analyst:	YL
Drying Oven:	15
Analytical Balance:	B139298002

Instrumentation

Batch drying time	
record times as mm/dd/yy hh:mm	
date/time in oven:	6/5/2018 11:35
date/time out:	6/6/2018 7:47
elapsed hrs:	20.2

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0231-01	1.0600	5.1100	1.5200	0.46	**11.36%**	No
18E0243-07	1.0600	5.0600	1.5100	0.45	**11.25%**	No
18E0243-08	1.1000	5.0200	1.4700	0.37	**9.44%**	No
18E0243-09	1.0700	5.1900	1.4700	0.40	**9.71%**	No
18E0243-10	1.1300	5.0400	1.5000	0.37	**9.46%**	No
18E0243-11	1.1300	5.0200	1.5200	0.39	**10.03%**	No
18E0243-12	1.1200	5.0700	1.4200	0.30	**7.59%**	No
18E0262-03	1.1100	5.0400	1.4600	0.35	**8.91%**	No
18E0282-06	1.1100	5.0100	1.4100	0.30	**7.69%**	No
18E0282-07	1.1200	6.3000	1.5500	0.43	**8.30%**	No
18E0282-08	1.1300	6.0300	1.5900	0.46	**9.39%**	No
18E0282-09	1.0900	6.0700	1.5700	0.48	**9.64%**	No
18E0282-10	1.1100	6.0900	1.5700	0.46	**9.24%**	No
18E0309-03	1.0900	6.1300	1.5500	0.46	**9.13%**	No
18E0309-04	1.0900	6.0400	1.6200	0.53	**10.71%**	No
18E0389-01	1.1000	6.1900	1.6300	0.53	**10.41%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BGE0771
Date:	6/4/2018 10:24
Analyst:	AP
Drying Oven:	ϕ15
Analytical Balance:	B139298ϕϕ2

Batch drying time		
record times as mm/dd/yy hh:mm		
date/time in oven:	ϕ6/ϕ5/18	11:35
date/time out:	ϕ6/ϕ6/18	ϕ747
elapsed hrs:	0.0	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
18E0231-01	1.ϕ6	5.11	1.52			No
18E0243-07	1.ϕ6	5.ϕ6	1.51			No
18E0243-08	1.1ϕ	5.ϕ2	1.47			No
18E0243-09	1.ϕ7	5.19	1.47			No
18E0243-10	1.13	5.ϕ4	1.50			No
18E0243-11	1.13	5.ϕ2	1.52			No
18E0243-12	1.ϕ12	5.ϕ7	1.42			No
18E0262-03	1.11	5.ϕ4	1.46			No
18E0282-06	1.11	5.ϕ1	1.41			No
18E0282-07	1.12	6.3ϕ	1.55			No
18E0282-08	1.13	6.ϕ3	1.59			No
18E0282-09	1.ϕ9	6.ϕ7	1.57			No
18E0282-10	1.11	6.ϕ9	1.57			No
18E0309-03	1.ϕ9	6.13	1.55			No
18E0309-04	1.ϕ9	6.ϕ4	1.62			No
18E0389-01	1.1ϕ	6.19	1.63			No

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-A11-CLWB-Comp1 18E0231-01	05/15/18 11:38	05/15/18 16:32	05/31/18 11:54	16	365	06/04/18 10:24	20	365	
LDW18-SSCL-A11 18E0231-02	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
LDW18-SSCL-A11-FD 18E0231-03	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
LDW18-SSCL-A01 18E0243-01	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A02 18E0243-02	05/16/18 14:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A03 18E0243-03	05/16/18 13:20	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A05 18E0243-04	05/16/18 13:00	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A04 18E0243-05	05/16/18 12:32	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-SSCL-A06 18E0243-06	05/16/18 12:07	05/16/18 16:25	05/23/18 09:20	6	28	05/23/18 11:32	7	28	
LDW18-A01-CLWB-Comp1 18E0243-07	05/16/18 13:38	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A02-CLWB-Comp1 18E0243-08	05/16/18 13:15	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A06-CLWB-Comp1 18E0243-09	05/16/18 11:39	05/16/18 16:25	05/31/18 11:54	15	365	06/04/18 10:24	19	365	
LDW18-A04-CLWB-Comp1 18E0243-10	05/16/18 11:24	05/16/18 16:25	05/31/18 11:54	15	365	06/04/18 10:24	19	365	
LDW18-A03-CLWB-Comp1 18E0243-11	05/16/18 12:12	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-A05-CLWB-Comp1 18E0243-12	05/16/18 12:54	05/16/18 16:25	05/31/18 11:54	14	365	06/04/18 10:24	19	365	
LDW18-SSCL-A13 18E0262-01	05/17/18 13:20	05/17/18 16:32	05/23/18 09:20	5	28	05/23/18 11:32	6	28	
LDW18-SSCL-A19 18E0262-02	05/17/18 14:04	05/17/18 16:32	05/23/18 09:20	5	28	05/23/18 11:32	6	28	
LDW18-A19-CLWB-Comp1 18E0262-03	05/17/18 12:26	05/17/18 16:32	05/31/18 11:54	13	365	06/04/18 10:24	18	365	
LDW18-SSCL-A12 18E0282-01	05/18/18 13:30	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A17 18E0282-02	05/18/18 13:36	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A18 18E0282-03	05/18/18 13:57	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-SSCL-A09 18E0282-04	05/18/18 15:28	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 18E0231

Client: Windward Environmental, LLC Project: LDW AOC3 Task 4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW18-SSCL-A10 18E0282-05	05/18/18 15:05	05/18/18 17:35	05/23/18 09:20	4	28	05/23/18 11:32	5	28	
LDW18-A12-CLWB-Comp1 18E0282-06	05/18/18 12:41	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A09-CLWB-Comp1 18E0282-07	05/18/18 15:23	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A10-CLWB-Comp1 18E0282-08	05/18/18 15:05	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A18-CLWB-Comp1 18E0282-09	05/18/18 13:13	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-A17-CLWB-Comp1 18E0282-10	05/18/18 12:56	05/18/18 17:35	05/31/18 11:54	12	365	06/04/18 10:24	17	365	
LDW18-SSCL-A07 18E0309-01	05/19/18 14:35	05/21/18 10:10	05/23/18 09:20	3	28	05/23/18 11:32	4	28	
LDW18-SSCL-A08 18E0309-02	05/19/18 15:00	05/21/18 10:10	05/23/18 09:20	3	28	05/23/18 11:32	4	28	
LDW18-A07-CLWB-Comp1 18E0309-03	05/19/18 14:50	05/21/18 10:10	05/31/18 11:54	11	365	06/04/18 10:24	16	365	
LDW18-A08-CLWB-Comp1 18E0309-04	05/19/18 13:15	05/21/18 10:10	05/31/18 11:54	11	365	06/04/18 10:24	16	365	
LDW18-A13-CLWB-Comp1 18E0389-01	05/17/18 12:20	05/17/18 16:32	05/31/18 11:54	13	365	06/04/18 10:24	18	365	
Duplicate BGE0592-DUP1	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	
Duplicate BGE0592-DUP2	05/15/18 12:01	05/15/18 16:32	05/23/18 09:20	7	28	05/23/18 11:32	8	28	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Tissue
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.0400	0.0400	%

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 18E0231
Client: Windward Environmental, LLC
Project: LDW AOC3 Task 4
Matrix: Solid
Instrument: APOLLO1

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

Axys Analytical Services, Ltd.

SGS AXYS

2045 Mills Road West
Sidney, BC, Canada V8L5X2

TEL: (250) 655-5800
TOLL-FREE: 1-888-373-0881

SGS AXYS Client No.: 4033

Client Address: 200 West Mercer Street
Suite 401
Seattle, WA, US, 98119

The SGS AXYS contact for these data is Georgina Brooks.

PAH ANALYSIS

PLASTIC PASSIVE SAMPLES

PROJECT NAME: CLAM PASSIVES PO# 2018-0065

Contract: 4033
Data Package Identification: DPWG66784

Analysis WG66438

17 January 2019

WINDWARD ENVIRONMENTAL
PPSM SAMPLES

POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS
SGS AXYS METHOD: MLA-021
4033: L30196-2 to -4, L30540-1 to -12

PROJECT NAME: CLAM PASSIVES PO# 2018-0065

17 January 2019

NARRATIVE

This narrative describes the analysis of fifteen PPSM (polyethylene passive sampling material) samples for the determination of polycyclic aromatic hydrocarbons (PAHs) using high-resolution gas chromatography / low-resolution mass spectrometry (HRGC/LRMS).

MEDIA PREPARATION

Polyethylene batch SGS AXYS Lot1805 was cleaned and prepared following the procedures in SGS AXYS SOP SLA-142 Preparation of Polyethylene Passive Sampling Devices: Cleaning, Proofing and Loading with PRCs. Prepared polyethylene was shipped to the client on the 16th of October 2018. The Day Zero samples were logged in as AXYS ID L30196-2, -3 and -4. They were assigned a nominal sample receipt date of 09 October 2018, which was the media preparation date.

SAMPLE RECEIPT AND STORAGE

The samples were received on the 7th of December 2018. Details of sample conditions upon receipt are provided on the Sample Receiving Record form included in this data package. The samples were stored at 4°C in dark prior to extraction and analysis.

At the client's request, the client sample IDs were revised after the data were reported. The hardcopy reports and electronic deliverable included in this data package contain the original client IDs prior to the revision request. A detailed summary of the revised sample IDs appears on the Correlation Table and correspondence is included in the Sample Receiving Documentation section of this data package.

SAMPLE PREPARATION AND ANALYSIS

The samples were extracted in accordance with the standard procedure documented in SLA-126: Extraction of Polyethylene Strip Sampling Devices (PEDs).

Cleanup and analysis procedures were in accordance with SGS AXYS Method MLA-021: Analytical Method for the Determination of Polycyclic Aromatic Hydrocarbons (PAH), Alkylated Polycyclic Aromatic Hydrocarbons, and Alkanes. A summary of the method is included following this narrative.

The samples and QC samples (a procedural blank and a known sample called Ongoing Precision and Recovery (OPR)) were analyzed in a batch named WG66438. The composition of the batch is shown on the Correlation Table and Batch list forms included in this data package.

Clean PPSM was used as the matrix for the Lab Blank and OPR.

Each PPSM sample was spiked with labeled PAH quantification standards and extracted with dichloromethane by swirling. The resulting extract was cleaned up on silica chromatographic columns. The final extract was reduced in volume and spiked with labeled recovery (internal) standards prior to instrumental analysis. The final extract volume was 100µL; 1µL was injected onto HRGC/LRMS.

CALCULATIONS

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures using Micromass ProLAB/Envirolink data system. Formulae used in the conversion of the raw chromatograms to concentrations are provided in the method summary document.

Sample specific detection limits (SDLs) were determined from the analysis data following the same procedures used to convert target peak responses to concentrations. The SDLs were used as the detection qualifier. In cases when the software selected unrepresentative areas for detection limit calculations, the data validation chemists made corrections; these corrections were hand noted on the quantification report pages and/or documented on the audit change reports.

REPORTING CONVENTIONS

The SGS AXYS contract number assigned for internal tracking was 4033. The samples were assigned a unique laboratory identifier of the form LXXXXX-XX, where X is a numeral; all data reports reference this unique AXYS ID plus the client sample identifier. To assist in locating data, a table correlating AXYS ID with the client sample number is included in this data package.

The following laboratory qualifier flags were used in this data package:

B	=	analyte detected in the blank, and analyte in sample is less than 10X the blank level
J	=	indicates an estimated value where the concentration of the analyte is less than the LMCL but greater than the SDL
K	=	identifies a target that could not be confirmed by virtue of not satisfying all method required criteria, the reported value may be interpreted as an estimated maximum possible concentration.
U	=	identifies a compound that was not detected.
V	=	surrogate recovery was not within method/contract control limits.
X	=	result reported separately.

Analysis results for each sample are provided on Analysis Report form 1A and form 2. Results are reported in concentration units of nanograms per gram (ng/g) to three significant figures.

QA/QC NOTES

Samples and QC samples analyzed in an analysis batch were carried intact through the entire analytical process. The sample data were reviewed and evaluated in relation to the batch QC samples.

- Sample analyte concentrations are not blank corrected. Sample data should be evaluated with consideration of analyte levels in the Lab Blank (AXYS ID WG66438-101).
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery corrected for possible losses during extraction and clean up procedures.
- All initial calibrations, calibration verifications, Lab Blank, OPR and labeled compound recovery specifications were met with the following exceptions:

  The percent recovery of d10-Phenanthrene in the Lab Blank (AXYS ID WG66438-101) was below the method lower control limit. The labeled surrogate was flagged with a 'V'. Since the isotope dilution method of quantification produces data that are recovery corrected, the variance from the method acceptance criteria is deemed not to affect the quantification of the analyte. Percent surrogate recoveries are used as general method performance indicator only.

Final ion abundance ratios and associate flag for Chrysene and Indeno[1,2,3-cd]pyrene have been corrected for the effect of 13C-labeled PRCs.

OPR control limits for PRCs have not been established.
The analyst noted on the lab workup sheet that sample LDW18-SSCL-A18 (AXYS ID L30504-12) was probably fortified with double amount of labeled recovery (internal) standards. Analysis data confirmed the

double fortification. The double amount of labeled recovery (internal) standards was taken into account in the quantification of labeled quantification standards. Sample analyte data were not impacted by this kind of variance.

ANALYTICAL DISCUSSION

No analytical difficulty was encountered.

DATA PACKAGE

This data package is assigned a unique identifier, DPWG66784, shown on the front page of this data package. Includes the following documentation after this narrative:

- Method summary (MSU-021)
- Sample Correlation Table
- Sample receiving documentation
- Laboratory extraction logs for each sample
- Sample data reports (in order of AXYS Sample ID)
- Laboratory QC data reports
- Instrumental QC data reports (in order of analysis date)
- Audit change reports
- Sample chromatograms (in order of AXYS Sample ID)
- Laboratory QC chromatograms
- Instrumental QC chromatograms (in order of analysis date)
- Accreditation Scope

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of SGS AXYS Analytical Services Ltd, authorizes the release of the data contained in this data package.

Signed: (Matthew) Ziqing Ou, PhD

Date Signed: January 17, 2019

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018. SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811. This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

SUMMARY OF SGS AXYS METHOD MLA-021 REV. 12 VER. 05:

ANALYTICAL METHOD FOR THE DETERMINATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAH), ALKYLATED POLYCYCLIC AROMATIC HYDROCARBONS, AND ALKANES

SGS AXYS Method MLA-021 describes the determination of concentrations of PAHs, alkylated PAHs and alkanes in solid (sediment, soil, ash), tissue (including blood), aqueous, XAD-2 column (resin and filters), air, and oil samples and in solvent extracts such as those produced by dialysis of SPMD (Semipermeable Membrane Device) samplers.

The method may be used for analysis of samples where USEPA Methods 1625B or 8270C/D have been requested **provided the modifications described in this document are permitted by contract**.

This summary document covers only the analysis of PAHs and alkylated PAHs.

Target Analytes

PAHs and alkylated PAHs - determined by multi-point calibration [2]

List 1 Compounds

Naphthalene [1]	Benzofluoranthenes
Acenaphthylene	Benzo(e)pyrene
Acenaphthene	Benzo(a)pyrene
Fluorene	Perylene
Phenanthrene	Dibenzo(ah)anthracene
Anthracene	Indeno(1,2,3-cd)pyrene
Fluoranthene	Benzo(ghi)perylene
Pyrene	Dibenzothiophene
Benz(a)anthracene	2-Methylnaphthalene [1]
Chrysene	2,6-Dimethylnaphthalene [1]
Benzo(b)fluoranthene	2,3,5-Trimethylnaphthalene [1]
Benzo(j/k)fluoranthenes	1-Methylphenanthrene

List 2 Compounds

1-Methylnaphthalene [1]	C1-Phenanthrenes/Anthracenes
C1-Naphthalenes [1]	1,7-Dimethylphenanthrene
1,2-Dimethylnaphthalene [1]	1,8-Dimethylphenanthrene
C2-Naphthalenes [1]	2,6-Dimethylphenanthrene
2,3,6-Trimethylnaphthalene [1]	3,6-Dimethylphenanthrene
C3-Naphthalenes [1]	C2-Phenanthrenes/Anthracenes
1,4,6,7-Tetramethylnaphthalene [1]	1,2,6-Trimethylphenanthrene
C4-Naphthalenes [1]	C3-Phenanthrenes/Anthracenes
2-Methylphenanthrene	Retene

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

3-Methylphenanthrene
9/4-Methylphenanthrenes
2-Methylanthracene
C4-Phenanthrenes/Anthracenes
Biphenyl

List 3 Compounds

C1-Biphenyls
C2-Biphenyls
C1-Acenaphthenes
2-Methylfluorene
C1-Fluorenes
1,7-Dimethylfluorene
C2-Fluorenes
C3-Fluorenes
2/3-Methyldibenzothiophenes
C1-Dibenzothiophenes
2,4-Dimethyldibenzothiophene
4,6-Dimethyldibenzothiophene
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
3-Methylfluoranthene/Benzo(a)fluorene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
1-Methylchrysene
5/6-Methylchrysenes
C1-Benz(a)anthracenes/Chrysenes
5,9-Dimethylchrysene
C2-Benz(a)anthracenes/Chrysenes
C3-Benz(a)anthracenes/Chrysenes
C4-Benz(a)anthracenes/Chrysenes
7-Methylbenzo(a)pyrene
C1-Benzofluoranthenes/Benzopyrenes
C2-Benzofluoranthenes/Benzopyrenes

[1] Maximum value when determined in XAD-2 adsorbent.

[2] Optionally calibration may be performed by single-point bracketing calibration.

1.0 EXTRACTION AND CLEANUP PROCEDURES

All samples are spiked with deuterated surrogate standards prior to extraction and extracted as per the table below. Optional extraction procedures are shown within parentheses.

Sample Extraction

Matrix	Extraction
Aqueous	Sample with ≤1% suspended solids - Liquid-liquid extraction with dichloromethane. Sample with >1% suspended solids - sample is centrifuged prior to extraction and the particulate fraction separately extracted by Soxhlet extraction with dichloromethane. The two extracts are then combined. (Optional: the supernatant can be added to the extraction solvent for the particulate)
Solid (sediment, soil, sludge, particles on filter paper)	Soxhlet extraction with dichloromethane (Optional: Base digestion and liquid-liquid extraction with hexane)

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018. SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811. This is not a controlled document; it is subject to change without notification.

Matrix	Extraction
Solid (ash)	Soxhlet extraction with toluene
Solid (fly ash)	Sonication with hydrochloric acid and filtering. Liquid-liquid extraction of filtrate using dichloromethane, Soxhlet extraction of particulate using toluene:acetone 80:20. The two extracts are combined.
Tissue	Soxhlet extraction with dichloromethane. (Optional: Base digestion and liquid-liquid extraction with pentane)
Whole blood/serum/plasma	Liquid-liquid extraction with ethanol:hexane:saturated ammonium sulphate.
XAD-2 column and filter	XAD-2 columns and filters are usually co-extracted for multiple analyses (For example: PCB, pesticides) and the resulting extracts are split with a portion being used for PAH analysis
Ambient air (PUF and filter)	The PUF and filter(s) are Soxhlet extracted together using dichloromethane
Stationary Source Air Samples (Stack Gas sample trains)	The filter is sonicated with dilute hydrochloride acid and filtered. Equipment rinsates are collected, filtered, dried and/or extracted depending on sampling conditions.
SPMD samples	SPMD tubes are dialyzed with hexane.

After extraction the extracts are routinely cleaned up using the following procedures:

- column chromatography on silica
- gel permeation (Biobeads) column chromatography
- treatment with activated copper (except tissues)

The extracts may be cleaned up further, as necessary, using some or all of the following procedures:

- washing with base
- column chromatography on Biobeads
- column chromatography on alumina

2.0 INSTRUMENTATION

Instrumental analysis is performed by low-resolution mass spectrometry (LRMS) using an RTX-5 capillary GC column. The LRMS is operated at a unit mass resolution in the electron impact (EI) ionization mode using multiple ion detection (MID) acquiring at least one characteristic ion for each target analyte and surrogate standard.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

Benzo(b)fluoranthene Correction to Remove Surrogate Interference

At low concentrations native benzo(b)fluoranthene results are affected by an interference from the surrogate standard D_{12}-benzo(k)fluoranthene. D_{12}-benzo(k)fluoranthene has the same chromatographic retention time as benzo(b)fluoranthene and produces an artifactual response in the quantifying ion channel m/z 252. To remedy this interference the estimated peak area contribution from D_{12}-benzo(k)fluoranthene is subtracted from the benzo(b)fluoranthene peak area before quantification.

The peak area of d_{12}-benzo(b)fluoranthene in ion channel *m/z* 252 of the procedural blank is divided by the area of the same compound in ion channel *m/z* 264 to calculate the ion abundance ratio, usually around 0.003. (D_{12}-benzo(b)fluoranthene is used rather than d_{12}-benzo(k)fluoranthene because it doesn't coelute with any known native compound.) The corrected peak area of the native benzo(b)fluoranthene is then calculated as:

$$A^{corr.}_{benzo(b)fluoranthene(252)} = A^{sample}_{benzo(b)fluoranthene(252)} - A^{sample}_{d12\text{-}benzo(k)fluoranthene(264)} \left(\frac{A^{blank}_{d12\text{-}benzo(b)fluoranthene(252)}}{A^{blank}_{d12\text{-}benzo(b)fluoranthene(264)}} \right)$$

where $A^{corr.}_{benzo(b)fluoranthene(252)}$ = Corrected peak area for benzo(b)fluoranthene in the sample

$A^{sample}_{benzo(b)fluoranthene(252)}$ = Measured peak area for benzo(b)fluoranthene in the sample

$A^{sample}_{d12\text{-}benzo(k)fluoranthene(264)}$ = Peak area for d_{12}-benzo(k)fluoranthene in the sample

$A^{blank}_{d12\text{-}benzo(b)fluoranthene(252)}$ = Area for d_{12}-benzo(b)fluoranthene (m/z 252) in the blank

$A^{blank}_{d12\text{-}benzo(b)fluoranthene(264)}$ = Area for d_{12}-benzo(b)fluoranthene (m/z 264) in the blank

This correction is performed by the instrument quantification software and the LIMS software.

3.0 CALIBRATION

Initial calibration is performed using a five point calibration series of solutions that encompass the working concentration range. Initial calibration solutions contain the suite of labelled surrogate and recovery standards and authentic target PAHs listed as "PAHs and alkylated PAHs determined by multi-point calibration". Calibration procedures use the mean RRFs determined from the initial calibration to calculate analyte concentrations. Calibration is verified at least once every 12 hours by analysis of a mid-level calibration solution.

Upon the request of the client single-point bracketing calibration protocols may be followed. Bracketing calibration procedures use mean RRFs from the analysis of the mid-level calibration solution to calculate analyte concentration.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Concentration of PAHs/Alkylated PAHs Calibration Standard Solutions

TARGET ANALYTE	Level A (Sens. Std) (ng/mL)	Concentration of Calibration Standard Solutions (ng/mL)					Conc. of Native Std (Low Level) (ng/mL)	Conc. of Native Std (High Level) (ng/mL)
		Level B	Level C	Level D	Level E (Mid-level)	Level F		
Acenaphthene	10	50	100	500	2000	5000	2000	20 000
Acenaphthylene	10	50	100	500	2000	5000	2000	20 000
Anthracene	10	50	100	500	2000	5000	2000	20 000
Benz[a]anthracene	10	50	100	500	2000	5000	2000	20 000
Benzo[b]fluoranthene	10	50	100	500	2000	5000	2000	20 000
Benzo[k]fluoranthene	10	50	100	500	2000	5000	2000	20 000
Benzo[ghi]perylene	10	50	100	500	2000	5000	2000	20 000
Benzo[a]pyrene	10	50	100	500	2000	5000	2000	20 000
Benzo[e]pyrene	10	50	100	500	2000	5000	2000	20 000
Biphenyl	10	50	100	500	2000	5000	2000	20 000
Chrysene	10	50	100	500	2000	5000	2000	20 000
Dibenzo[ah]anthracene	10	50	100	500	2000	5000	2000	20 000
2,6-Dimethylnaphthalene	10	50	100	500	2000	5000	2000	20 000
Fluoranthene	10	50	100	500	2000	5000	2000	20 000
Fluorene	10	50	100	500	2000	5000	2000	20 000
Indeno[1,2,3-cd]pyrene	10	50	100	500	2000	5000	2000	20 000
1-Methylnaphthalene	10	50	100	500	2000	5000	2000	20 000
2-Methylnaphthalene	10	50	100	500	2000	5000	2000	20 000
1-Methylphenanthrene	10	50	100	500	2000	5000	2000	20 000
Naphthalene	10	50	100	500	2000	5000	2000	20 000
Perylene	10	50	100	500	2000	5000	2000	20 000
Phenanthrene	10	50	100	500	2000	5000	2000	20 000
Pyrene	10	50	100	500	2000	5000	2000	20 000
2,3,5-Trimethylnaphthalene	10	50	100	500	2000	5000	2000	20 000
Dibenzothiophene	10	50	100	500	2000	5000	2000	20 000
3,6-Dimethylphenanthrene	10	50	100	500	2000	5000	2000	20 000
Retene	10	50	100	500	2000	5000	2000	20 000
2-Methylanthracene	10	50	100	500	2000	5000	2000	20 000
1,2-Dimethylnaphthalene	10	50	100	500	2000	5000	2000	20 000
2-Methylphenanthrene	10	50	100	500	2000	5000	2000	20 000
1,2,6-Trimethylphenanthrene	10	50	100	500	2000	5000	2000	20 000
2,3,6-Trimethylnaphthalene	10	50	100	500	2000	5000	2000	20 000
1,7-Dimethylphenanthrene	10	50	100	500	2000	5000	2000	20 000
1,4,6,7-Tetramethylnaphthalene	10	50	100	500	2000	5000	2000	20 000
2-Methylfluorene	10	50	100	500	2000	5000	2000	20 000
1,7-Dimethylfluorene	10	50	100	500	2000	5000	2000	20 000
2-Methyldibenzothiophene	10	50	100	500	2000	5000	2000	20 000
2,4-Dimethyldibenzothiophene	10	50	100	500	2000	5000		
4,6-Dimethyldibenzothiophene	10	50	100	500	2000	5000	2000	20 000
5,9-Dimethylchrysene	10	50	100	500	2000	5000	2000	20 000
7-Methylbenzo(a)pyrene	10	50	100	500	2000	5000	2000	20 000
3-Methylfluoranthene	10	50	100	500	2000	5000	2000	20 000
6-Methylchrysene	10	50	100	500	2000	5000	2000	20 000
1-Methylchrysene	10	50	100	500	2000	5000	2000	20 000

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

LABELLED SURROGATE STANDARDS	Level A (Sens. Std) (ng/mL)	Concentration of Calibration Standard Solutions					Conc. of Surrogate Std (Low Level) (ng/mL)	Conc. of Surrogate Std (High Level) (ng/mL)
		Level B	Level C	Level D	Level E	Level F		
d_8-Naphthalene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{10}-2-Methylnaphthalene	2000	2000	2000	2000	2000	2000	2000	20 000
d_8-Acenaphthylene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{10}-Phenanthrene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{10}-Fluoranthene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Benz[a]anthracene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Chrysene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-2,6-Dimethylnaphthalene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Benzo[b]fluoranthene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Benzo[k]fluoranthene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Benzo[a]pyrene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Perylene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Indeno[1,2,3-cd]pyrene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{14}-Dibenzo[ah]anthracene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{12}-Benzo[ghi]perylene	2000	2000	2000	2000	2000	2000	2000	20 000
d_{10}-Biphenyl	2000	2000	2000	2000	2000	2000	2000	20 000
d_8-Dibenzothiophene	2000	2000	2000	2000	2000	2000	2000	20 000
LABELLED RECOVERY STANDARDS							**Conc. of Recovery Std (ng/mL)**	
d_{10}-Acenaphthene	2000	2000	2000	2000	2000	2000	20 000	
d_{10}-Pyrene	2000	2000	2000	2000	2000	2000	20 000	
d_{12}-Benzo[e]pyrene	2000	2000	2000	2000	2000	2000	20 000	

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

4.0 QUANTIFICATION PROCEDURES

Concentrations of target PAHs are calculated using the isotope dilution method of quantification. Compounds are quantified by comparing the area of the quantification ion to that of the corresponding deuterium-labelled standard and correcting for response factors. Response factors are determined daily using authentic PAHs. Calculations are carried out using HP EnviroQuant and Prolab MS-Extended for targeting and quantification.

$$\text{Concentration of Target (ng/g or ng/L)} = \left(\frac{\text{area of Target}}{\text{area of Surr Std}}\right) \times \left(\frac{\text{weight of Surr Std (ng)}}{\text{RRF}}\right) \times \left(\frac{1}{\text{weight of sample (g or L)}}\right)$$

$$\textit{where} \quad \text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Surr Std}}\right) \times \left(\frac{\text{concentration of Surr Std}}{\text{concentration of Target}}\right)$$

and the Surr Std is either the surrogate or the internal standard

4.1 Reporting Limits

Concentrations and detection limits for the target PAHs are reported. Typical reporting units for all data are ng/g, ng/L, or ng/sample. Concentrations for solids are reported on a dry weight basis. Concentrations in tissues (including blood and milk) are reported on a wet weight basis and/or on a lipid weight basis when requested. Concentrations in aqueous are reported on a volume basis. Concentrations in XAD-2 resin, filters and stack gas samples are reported on a per sample basis or a per volume basis. Concentrations in particulate filters are reported on a per sample basis.

The following are commonly requested reporting limits:

Sample Specific Detection Limit or Sample Detection Limit (SDL) – determined individually for every sample analysis run by converting the area equivalent of 3.0 times (2.5 times for EPA 1600 series methods) the estimated chromatographic noise height to a concentration in the same manner that target peak responses are converted to final concentrations. The SDL accounts for any effect of matrix on the detection system and for recovery achieved through the analytical work-up. Equivalent term(s): Estimated Detection Limit (EDL) from EPA method 8290.

Method Detection Limit (MDL) - determined as specified by EPA Fed. Reg. 40 CFR Part 136 Appendix B (no iteration option). The 99% confidence level MDL is determined based on analysis of a minimum of 7 replicate matrix spikes fortified at 1-10 times the estimated detection limit. MDL is determined as required based on accreditation, contract and workload requirements.

Lower Method Calibration Limit (LMCL) - determined by prorating the concentration of the lowest calibration limit for sample size and extract volume. The following equation is used. ((lowest level cal conc.) x (extract volume))/sample size. Typical extract volume for aqueous and tissue samples is 100 µL for all other matrices typical extract volume is 500 µL.

For the analysis of PAHs SGS AXYS standard is to report sample concentrations using the SDL as the reporting limit.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Analyte Ions Monitored, Surrogates Used and RRF Determination For PAH

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
Naphthalene	128	102	0.064	d_8-Naphthalene	6.84	Naphthalene
Acenaphthylene	152	151	0.222	d_8-Acenaphthylene	10.83	Acenaphthylene
Acenaphthene	154	153	1.18	d_8-Acenaphthylene	11.33	Acenaphthene
Fluorene	166	165	1.01	d_{10}-Phenanthrene	12.63	Fluorene
Phenanthrene	178	176	0.202	d_{10}-Phenanthrene	15.04	Phenanthrene
Anthracene	178	176	0.196	d_{10}-Phenanthrene	15.15	Anthracene
Fluoranthene	202	200	0.214	d_{10}-Fluoranthene	18.06	Fluoranthene
Pyrene	202	200	0.219	d_{10}-Fluoranthene	18.60	Pyrene
Benz[a]anthracene[6]	228	226	0.281	d_{12}-Benz[a]anthracene	21.68	Benz[a]anthracene
Chrysene[1]	228	226	0.312	d_{12}-Chrysene	21.79	Chrysene
Benzo[b]fluoranthene	252	253	0.218	d_{12}-Benzo[b]fluoranthene	25.21	Benzo[b]fluoranthene
Benzo[j,k]fluoranthenes	252	253	0.215	d_{12}-Benzo[k]fluoranthene	25.30	Benzo[k]fluoranthene
Benzo[e]pyrene	252	253	0.213	d_{12}-Benzo[a]pyrene	26.36	Benzo[e]pyrene
Benzo[a]pyrene	252	253	0.217	d_{12}-Benzo[a]pyrene	26.58	Benzo[a]pyrene
Perylene	252	253	0.212	d_{12}-Perylene	27.00	Perylene
Dibenzo[ah]anthracene[2]	278	139	0.144	d_{14}-Dibenzo[ah]anthracene	31.86	Dibenz[ah]anthracene
Indeno[1,2,3-cd]pyrene	276	138	0.179	d_{12}-Indeno[1,2,3,cd]pyrene	31.71	Indeno[1,2,3-cd]pyrene
Benzo[ghi]perylene	276	138	0.194	d_{12}-Benzo[ghi]perylene	32.53	Benzo[ghi]perylene
Biphenyl[3]	154	152	0.304	d_{10}- Biphenyl	9.81	Biphenyl
Dibenzothiophene[3]	184	152	0.073	d_8-Dibenzothiophene	14.72	Dibenzothiophene
1-Methylnaphthalene[3]	142	141	0.962	d_{10}-2-Methylnaphthalene	8.81	1-Methylnaphthalene
2-Methylnaphthalene[3]	142	141	0.930	d_{10}-2-Methylnaphthalene	8.55	2-Methylnaphthalene
1-Naphthalenes[3]	142	[4]	[4]	d_{10}-2-Methylnaphthalene	[5]	1- & 2-Methylnaphthalene
2,6-Dimethylnaphthalene[3]	156	141	0.666	d_{12}-2,6 Dimethylnaphthalene	10.17	2,6-Dimethylnaphthalene
1,2-Dimethylnaphthalene	156	141	1.26	d_{12}-2,6 Dimethylnaphthalene	10.90	1,2-Dimethylnaphthalene
C2-Naphthalenes[3]	156	[4]	[4]	d_{12}-2,6 Dimethylnaphthalene	[5]	2,6- & 1,2-Dimethylnaphthalene

[1] Coelutes with Triphenylene
[2] Coelutes with Dibenz[ac]anthracene
[3] These compounds are in addition to the regular suite of analytes, and are analyzed by client request only.
[4] Secondary ion confirmation procedures do not apply
[5] RRT ranges apply to alkylated PAH Totals
[6] Benz(a)anthracene coelutes with cyclopenta(cd)pyrene, which may contribute response in the second ion to cause a failing ion abundance ratio. Therefore quantification of benz(a)anthracene should use response from the first ion only.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
2,3,5-Trimethylnaphthalene[3]	170	155	0.873	d_{12}-2,6 Dimethylnaphthalene	12.35	2,3,5- Trimethylnaphthalene
2,3,6-Trimethylnaphthalene	170	155	0.876	d_{12}-2,6 Dimethylnaphthalene	12.17	2,3,6- Trimethylnaphthalene
C3-Naphthalenes[3]	170			d_{12}-2,6 Dimethylnaphthalene	[5]	2,3,5- & 2,3,6-Trimethylnaphthalene
1,4,6,7-Tetramethylnaphthalene	184	139	0.027	d_{12}-2,6 Dimethylnaphthalene	13.89	1,4,6,7-Tetramethylnaphthalene
C4-Naphthalene		[4]	[4]	d_{12}-2,6 Dimethylnaphthalene	[5]	1,4,6,7-Tetramethylnaphthalene
2-Methylanthracene	192	191	0.531	d_{10}-Phenanthrene	16.45	2-Methylanthracene
3-Methylphenanthrene	192	191	0.608	d_{10}-Phenanthrene	16.27	1- & 2-Methylphenanthrene & 2-Methylanthracene
2-Methylphenanthrene	192	191	0.608	d_{10}-Phenanthrene	16.36	2-Methylphenanthrene
9/4-Methylphenanthrenes	192	191	0.634	d_{10}-Phenanthrene	16.59	1- & 2-Methylphenanthrene & 2-Methylanthracene
1-Methylphenanthrene[3]	192	191	0.634	d_{10}-Phenanthrene	16.64	1-Methylphenanthrene
C1-Phenanthrenes/Anthracenes[3]	192	[4]	[4]	d_{10}-Phenanthrene	[5]	1- & 2-Methylphenanthrene & 2-Methylanthracene
3,6-Dimethylphenanthrene[3]	206	191	0.342	d_{10}-Fluoranthrene	17.46	3,6-Dimethylphenanthrene
2,6-Dimethylphenanthrene	206	191	0.342	d_{10}-Fluoranthrene	17.54	3,6- & 1,7-Dimethyl-phenanthrenes
1,7-Dimethylphenanthrene	206	191	0.332	d_{10}-Fluoranthrene	17.89	1,7-Dimethylphenanthrene
1,8-Dimethylphenanthrene	206	191	0.332	d_{10}-Fluoranthrene	18.13	3,6- & 1,7-Dimethyl-phenanthrenes
C2-Phenanthrenes/Anthracenes[3]	206	[4]	[4]	d_{10}-Fluoranthrene	[5]	3,6- & 1,7-Dimethyl-phenanthrenes
1,2,6-Trimethylphenanthrene	220	205	0.581	d_{10}-Fluoranthrene	19.41	1,2,6-Trimethylphenanthrene
C3-Phenanthrenes/Anthracenes				d_{10}-Fluoranthrene	[5]	1,2,6-Trimethylphenanthrene
Retene[3]	234	219	1.63	d_{10}-Fluoranthene	19.53	Retene
C4-Phenanthrenes/Anthracenes	234	[4]	[4]	d_{10}-Fluoranthrene	[5]	Retene
C1-Biphenyls	168	[4]	[4]	d_{10}- Biphenyl	[5]	Biphenyl
C2-Biphenyls	182	[4]	[4]	d_{10}- Biphenyl	[5]	Biphenyl
C1-Acenaphthenes	168	[4]	[4]	d_8-Acenaphthylene	[5]	Acenaphthene
2-Methylfluorene	180	165	1.23	d_{10}-Phenanthrene	14.06	2-Methylfluorene
C1-Fluorenes	180	[4]	[4]	d_{10}-Phenanthrene	[5]	2-Methylfluorene
1,7-Dimethylfluorene	194	177	0.092	d_{10}-Phenanthrene	15.49	1,7-Dimethylfluorene
C2-Fluorenes	194	[4]	[4]	d_{10}-Phenanthrene	[5]	1,7-Dimethylfluorene

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
C3-Fluorenes	208	[4]	[4]	d_{10}-Phenanthrene	[5]	1,7-Dimethylfluorene
2/3-Methyldibenzothiophenes	198	197	0.738	d_8-Dibenzothiophene	16.07	2/3-Methyldibenzothiophenes
C1-Dibenzothiophenes	198	[4]	[4]	d_8-Dibenzothiophene	[5]	2/3-Methyldibenzothiophenes
2,4-Dimethyldibenzothiophene	212	197	0.514	d_8-Dibenzothiophene	17.08	2,4-Dimethyldibenzothiophene
4,6-Dimethyldibenzothiophene	212	197	0.160	d_8-Dibenzothiophene	16.94	4,6-Dimethyldibenzothiophene
C2-Dibenzothiophenes	212	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
C3-Dibenzothiophenes	226	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
C4-Dibenzothiophenes	240	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
3-Methylfluoranthene/Benzo(a)fluorene	216	215	0.880	d_{10}-Fluoranthrene	19.53	3-Methylfluoranthene
C1-Fluoranthenes/Pyrenes	216	[4]	[4]	d_{10}-Fluoranthrene	[5]	3-Methylfluoranthene
C2-Fluoranthenes/Pyrenes	230	[4]	[4]	d_{10}-Fluoranthrene	[5]	3-Methylfluoranthene
C3-Fluoranthenes/Pyrenes	244	[4]	[4]	d_{10}-Fluoranthrene	[5]	3-Methylfluoranthene
C4-Fluoranthenes/Pyrenes	258	[4]	[4]	d_{10}-Fluoranthrene	[5]	3-Methylfluoranthene
5/6-Methylchrysenes	242	[4]	[4]	d_{12}-Chrysene	23.15	6-Methylchrysene
1-Methylchrysene	242	[4]	[4]	d_{12}-Chrysene	23.32	1-Methylchrysene
C1-Benz(a)anthracenes/Chrysenes	242	[4]	[4]	d_{12}-Chrysene	[5]	1- & 6-Methylchrysenes
5,9-Dimethylchrysene	256	[4]	[4]	d_{12}-Chrysene	24.49	5,9-Dimethylchrysene
C2-Benz(a)anthracenes/Chrysenes	256	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
C3-Benz(a)anthracenes/Chrysenes	270	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
C4-Benz(a)anthracenes/Chrysenes	284	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
7-Methylbenzo(a)pyrene	266	[4]	[4]	d_{12}-Benzo[a]pyrene	29.35	7-Methylbenzo(a)pyrene
C1-Benzofluoranthenes/Benzopyrenes	266	[4]	[4]	d_{12}-Benzo[a]pyrene	[5]	7-Methylbenzo(a)pyrene
C2-Benzofluoranthenes/Benzopyrenes	280	[4]	[4]	d_{12}-Benzo[a]pyrene	[5]	7-Methylbenzo(a)pyrene
LABELLED SURROGATE STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**		**RECOVERY CALCULATED AGAINST**		
d_8-Naphthalene	136	134	0.095	d_{10}-Acenaphthene	6.80	
d_{10}-2-Methylnaphthalene	152	151	0.195	d_{10}-Acenaphthene	8.47	
d_{10}-Biphenyl	164	[4]	[4]	d_{10}-Acenaphthene	9.75	
d_{12}-2,6-Dimethylnaphthalene	168	150	0.747	d_{10}-Acenaphthene	10.07	
d_8-Acenaphthylene	160	158	0.159	d_{10}-Acenaphthene	10.80	
d_8-Dibenzothiophene	192	160	0.085	d_{10}-Pyrene	14.67	
d_{10}-Phenanthrene	188	184	0.143	d_{10}-Pyrene	14.97	
d_{10}-Fluoranthene	212	208	0.173	d_{10}-Pyrene	18.02	
d_{12}-Benz[a]anthracene	240	236	0.250	d_{10}-Pyrene	21.63	

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
d_{12}-Chrysene	240	236	0.278	d_{10}-Pyrene	21.73	
d_{12}-Benzo[b]fluoranthene	264	260	0.216	d_{12}-Benzo[e]pyrene	25.11	
d_{12}-Benzo[k]fluoranthene	264	260	0.208	d_{12}-Benzo[e]pyrene	25.23	
d_{12}-Benzo[a]pyrene	264	260	0.216	d_{12}-Benzo[e]pyrene	26.47	
d_{12}-Perylene	264	260	0.256	d_{12}-Benzo[e]pyrene	26.88	
d_{12}-Indeno[1,2,3,cd]pyrene	288	284	0.192	d_{12}-Benzo[e]pyrene	31.63	
d_{14}-Dibenzo[ah]anthracene	292	288	0.260	d_{12}-Benzo[e]pyrene	31.75	
d_{12}-Benzo[ghi]perylene	288	284	0.205	d_{12}-Benzo[e]pyrene	32.45	
LABELLED RECOVERY STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**				
d_{10}-Acenaphthene	164	160	0.464		11.24	
d_{10}-Pyrene	212	208	0.176		18.56	
d_{12}-Benzo[e]pyrene	264	260	0.269		26.25	

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

5.0 QUALITY ACCEPTANCE CRITERIA

Samples are analyzed in batches consisting of a maximum of twenty samples, one procedural blank and one spiked matrix (OPR) sample. A duplicate is analyzed, provided there is sufficient sample, with batches containing 7-20 samples. Matrix spike/matrix spike duplicate (MS/MSD) pairs may be analyzed on an individual contract basis. The batch is carried through the complete analytical process as a unit. For sample data to be reportable, the batch QC data must meet the established acceptance criteria presented on the analysis reports.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

PAHs - QC Acceptance Criteria

MATRIX	Typical Sample Specific * Detection Limits							Procedural Blank Level				Acceptable OPR
	Solid	Aqueous	Tissue	XAD-2 Column	PUF & SPMD Extract	Filter	Oil	Solid & SPMD Extract	Aqueous	Tissue	All other matrices	
Analyte:	ng/g	ng/L	ng/g	ng	ng	ng	ng/g	ng (tot)	ng (tot)	ng (tot)	ng (tot)	% Recovery
Naphthalene	0.5	1	0.1	5	5	5	50	≤ 10	≤ 10	≤ 50	≤ 10 [1]	70-130
Acenaphthylene	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-140
Acenaphthene [5]	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Fluorene	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	60-140
Phenanthrene	0.5	1	0.1	5	5	5	50	≤ 10	≤ 10	≤ 10	≤ 10	70-130
Anthracene	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Fluoranthene	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Pyrene	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Benz(a)anthracene	0.5	1	0.1	5	5	5	50	≤ 1.9	≤ 1	≤ 0.9	≤ 5	70-130
Chrysene	0.5	1	0.1	5	5	5	50	≤ 3.0	≤ 1	≤ 1.3	≤ 5	70-130
Benzo(b)fluoranthene	0.5	1	0.1	5	5	5	50	≤ 4.2	≤ 0.6	≤ 1.6	≤ 5	70-130
Benzo(j/k)fluoranthenes	0.5	1	0.1	5	5	5	50	≤ 2.1	≤ 0.4	≤ 1.2	≤ 5	70-130
Benzo(e)pyrene [5]	0.5	1	0.1	5	5	5	50	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Benzo(a)pyrene	0.5	1	0.1	5	5	5	50	≤ 3.6	≤ 0.9	≤ 0.7	≤ 5	70-130
Perylene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	70-130
Dibenzo(ah)anthracene	1.0	2	0.2	10	10	10	100	≤ 2.8	≤ 0.7	≤ 0.7	≤ 5	70-130
Indeno(1,2,3-cd)pyrene	1.0	2	0.2	10	10	10	100	≤ 2.8	≤ 0.8	≤ 1.5	≤ 5	70-130
Benzo(ghi)perylene	1.0	2	0.2	10	10	10	100	≤ 2.4	≤ 0.9	≤ 0.7	≤ 5	70-130
Biphenyl	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	70-130
Dibenzothiophene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	60-140
1-Methylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5 [1]	70-130
2-Methylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5 [1]	70-130
2,6-Dimethylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	70-130
1,2-Dimethylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	60-140
2,3,5-Trimethylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	50-150
2,3,6-Trimethylnaphthalene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	50-150

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

MATRIX	Typical Sample Specific * Detection Limits							Procedural Blank Level				Acceptable OPR
	Solid	Aqueous	Tissue	XAD-2 Column	PUF & SPMD Extract	Filter	Oil	Solid & SPMD Extract	Aqueous	Tissue	All other matrices	
Analyte:	ng/g	ng/L	ng/g	ng	ng	ng	ng/g	ng (tot)	ng (tot)	ng (tot)	ng (tot)	% Recovery
1,4,6,7-Tetramethyl-naphthalene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	50-200
2-Methylanthracene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
3-Methylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	N.A.
2-Methylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
9/4-Methylphenanthrenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	N.A.
1-Methylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
3,6-Dimethylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
2,6-Dimethylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	N.A.
1,7-Dimethyl-phenanthrene [2]	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
1,8-Dimethylphenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	N.A.
1,2,6-Trimethyl-phenanthrene	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
Retene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
2-Methylfluorene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
1,7-Dimethylfluorene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
2/3-Methyldibenzo-thiophenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	50-150
2,4-Dimethyl-dibenzothiophene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
4,6-Dimethyl-dibenzothiophene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
3-Methylfluoranthene [3]/ Benzo(a)fluorene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
5/6-Methylchrysenes	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
1-Methylchrysene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
5,9-Dimethylchrysene [4]	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
7-Methylbenzo(a)pyrene	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	50-150
C1-Biphenyls	1.0	2	0.2	10	10	10	100	≤ 50	≤ 50	≤ 50	≤ 50	

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

MATRIX	Typical Sample Specific * Detection Limits							Procedural Blank Level				Acceptable OPR
	Solid	Aqueous	Tissue	XAD-2 Column	PUF & SPMD Extract	Filter	Oil	Solid & SPMD Extract	Aqueous	Tissue	All other matrices	
Analyte:	ng/g	ng/L	ng/g	ng	ng	ng	ng/g	ng (tot)	ng (tot)	ng (tot)	ng (tot)	% Recovery
C2-Biphenyls	1.0	2	0.2	10	10	10	100	≤ 250	≤ 250	≤ 250	≤ 250	
C1-Naphthalenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10 [1]	
C2-Naphthalenes	1.0	2	0.2	10	10	10	100	≤ 50	≤ 50	≤ 50	≤ 50 [1]	
C3-Naphthalenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15 [1]	
C4-Naphthalenes	1.0	2	0.2	10	10	10	100	≤ 25	≤ 25	≤ 25	≤ 25 [1]	
C1-Acenaphthenes	0.5	1	0.1	5	5	5	50	≤ 10	≤ 10	≤ 10	≤ 10	
C1-Fluorenes	1.0	2	0.2	10	10	10	100	≤ 25	≤ 25	≤ 25	≤ 25	
C2-Fluorenes	1.0	2	0.2	10	10	10	100	≤ 50	≤ 50	≤ 50	≤ 50	
C3-Fluorenes	1.0	2	0.2	10	10	10	100	≤ 20	≤ 20	≤ 20	≤ 20	
C1-Dibenzothiophenes	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	
C2-Dibenzothiophenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	
C3-Dibenzothiophenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C4-Dibenzothiophenes	1.0	2	0.2	10	10	10	100	≤ 25	≤ 25	≤ 25	≤ 25	
C1-Phenanthrenes/ Anthracenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C2-Phenanthrenes/ Anthracenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C3-Phenanthrenes/ Anthracenes	1.0	2	0.2	10	10	10	100	≤ 25	≤ 25	≤ 25	≤ 25	
C4-Phenanthrenes/ Anthracenes	1.0	2	0.2	10	10	10	100	≤ 25	≤ 25	≤ 25	≤ 25	
C1-Fluoranthenes/ Pyrenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C2-Fluoranthenes/ Pyrenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C3-Fluoranthenes/ Pyrenes	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	
C4-Fluoranthenes/ Pyrenes	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

MATRIX	Typical Sample Specific * Detection Limits							Procedural Blank Level				Acceptable OPR
	Solid	Aqueous	Tissue	XAD-2 Column	PUF & SPMD Extract	Filter	Oil	Solid & SPMD Extract	Aqueous	Tissue	All other matrices	
Analyte:	ng/g	ng/L	ng/g	ng	ng	ng	ng/g	ng (tot)	ng (tot)	ng (tot)	ng (tot)	% Recovery
C1-Benz(a)anthracenes/ Chrysenes	1.0	2	0.2	10	10	10	100	≤ 5	≤ 5	≤ 5	≤ 5	
C2-Benz(a)anthracenes/ Chrysenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	
C3-Benz(a)anthracenes/ Chrysenes	1.0	2	0.2	10	10	10	100	≤ 10	≤ 10	≤ 10	≤ 10	
C4-Benz(a)anthracenes/ Chrysenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C1-Benzofluoranthenes/ Benzopyrenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
C2-Benzofluoranthenes/ Benzopyrenes	1.0	2	0.2	10	10	10	100	≤ 15	≤ 15	≤ 15	≤ 15	
Typical Sample Size	10 g (dry)	1 L	10 g (wet)	1 col	1 sample	1 filter	0.1 g					
Typical Final Volume (µL)	500	100	100	500	500	500	500					

* Detection limits quoted are those routinely achieved. Detection limits for alkylated PAH Compound Totals are based on detection of a single component.

[1] Procedural blank level limits don't apply for naphthalene and alkylated naphthalene from XAD-2 resin.

[2] Due to limited availability of 1,7-dimethylphenanthrene standard, this compound may be absent from OPR samples.

[3] Due to limited availablilty of 3-methylfluoranthene standard, this compound may be absent from OPR samples. It may be substituted by 2-methylfluoranthene as the exemplar alkylfluoranthene in the OPR.

[4] Due to limited availablilty of 5,9-dimethylchrysene standard, this compound may be absent from OPR samples. It may be substituted by other alternative dimethylchrysene isomers as the exemplar C2/C3/C4-benz(a)anthracene/chrysene in the OPR; in such cases the recovery specification for 5,9-dimethylchrysene would not apply.

[5] For solid samples extracted by the optional hexane:acetone 1:1 Soxhlet extraction the OPR method limits are 70 – 170 % recovery for acenaphthene and 70-160 % for benzo(e)pyrene.

NOTE: Reference samples are unavailable for Alkylated PAH Compound Totals, data acceptability evaluation is based on recoveries of the associated individual alkylated PAH compounds

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

SURROGATE STANDARD RECOVERIES:	% RECOVERY RANGES ALL MATRICES
d_8-naphthalene	15 – 130
d_8-acenaphthylene	20 – 130
d_{10}-phenanthrene	30 – 130
d_{10}-fluoranthene *	30 – 130
d_{12}-benz[a]anthracene	30 – 130
d_{12}-chrysene	30 – 130
d_{12}-benzo[b]fluoranthene	30 – 130
d_{12}-benzo[k]fluoranthene	30 – 130
d_{12}-benzo[a]pyrene	30 – 130
d_{12}-perylene	30 – 130
d_{14}-dibenz[ah]anthracene *	30 – 130
d_{12}-indeno[1,2,3-cd]pyrene	30 – 130
d_{12}-benzo[ghi]perylene	30 – 130
d_{10}-2-methylnaphthalene	20 – 130
d_{12}-2,6-dimethylnaphthalene	20 – 130
d_{10}-biphenyl	15 – 130
d_8-dibenzothiophene	30 – 130

* Compound not used as surrogate standard for SPMD analysis. Surrogate recovery specifications do not apply for SPMD samples.

Performance Reference Compound (PRC) and Photolysis Standard Recovery Range Specifications for SPMD OPR samples: These ranges can also be used as guidance limits for any Client Day 0 and Field or Trip Blank Samples.

PRC	%RECOVERY RANGES
d_{10}-fluoranthene	70 – 130
d_{14}-dibenz[ah]anthracene	70 – 130
d_{10}-anthracene	70 – 130

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Specification Table: Instrumental Analysis, and Analyte Quantification

Parameter	Acceptance Specification
Procedural Blank	Refer to Table "QC Specification Table: Authentic and Surrogate Standard Recoveries, OPR and Samples" above, or 5 times lower than analogous analyte value detected in the samples.
Analysis Duplicate	Duplicates must fall within ±20% of the mean (applicable to concentrations >10 times the DL) These are guidelines – departures based on professional judgement allowed. (Note that ±20% of the mean is equivalent to 40 relative percent difference)
Instrument Sensitivity	S/N 3:1 for 10 pg of acenaphthene, dibenzo(a,h)anthracene.
Instrument Resolution	Calibration gas PFTBA (FC43) unit mass resolution at m/e 69/70 and 219/220, Unit mass resolution is demonstrated by the presence of a resolved peak at m/z 70 and m/e 220.
Instrument Linearity	Linearity is demonstrated by a 5-point calibration over the working concentration range with a relative standard deviation of the RRFs ≤20% for targets with a labelled analog present and all labelled compounds, ≤35% for targets with no labelled analog present.
Continuing Cal Ver	Opening Cal Ver: Concentrations of native compounds and labelled surrogates must be within ±25% of expected values for all targets. Closing Cal Ver: Concentrations of native compounds must be within ±25% of expected values. Concentrations of labelled surrogates must be within ±25% of expected values, with any two (2) values allowed to be within ±40%
Bracketing Cal (optional)	RRFs for the opening and closing calibrations over a 12 hour period must agree to within ±20% of the mean (i.e., ≤40 RPD between RRFs and for the opening and closing calibrations, which is equivalent to ≤28.3 % RSD).
GC Resolution	Benzo[b] & [k]fluoranthene valley height must be ≤75% for equal concentrations. Phenanthrene/anthracene valley height must be ≤30% for equal concentrations.
Chromatogram Quality	Maximum peak width must be ≤15 seconds for benzo[ghi]perylene peak at 10% peak height.
Retention Time Window for Target Compounds	RT within ± 3 seconds of the predicted retention time determined from the calibration standard and adjusted relative to the peak retention time reference (i.e. labelled surrogate). A second requirement is that an authentic elute after its labelled analog.
Ion Abundance Ratios	CAL VER: Ion ratios for authentic and labelled dibenz[ah]anthracene, indeno[1,2,3-cd]pyrene and benzo[ghi]perylene must be within ±35% of the mid-point of the I-CAL All other native analytes and labelled surrogates must be within ±20% of the mid-point of the I-CAL Samples: Ion ratios for authentic dibenz[ah]anthracene, indeno[1,2,3-cd]pyrene and benzo[ghi]perylene must be within ±35% of the 12 hour CAL VER (or bracketing) calibration standard. All other native analytes and labelled surrogates must be within ±20% of the 12 hour CAL VER (or bracketing) calibration standard.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

APPENDIX 1 – SUMMARY OF KEY ATTRIBUTES OF METHODS MLA-021, EPA 8270C, 8270D AND 1625B

Analysis by GC/LRMS, Key Attributes of SGS AXYS MLA-021, EPA 8270C/D and EPA 1625B				
	MLA-021	**EPA 8270C**	**EPA 8270D**	**EPA 1625B**
MS acquisition mode	SIM[1]	Full Scan or SIM[1]	Full Scan or SIM[1]	Full Scan[1]
Qualitative Identification Criteria	Retention time & ratio of 2 ions	Retention time & ratio of 3 [2] ions	Retention time & ratio of 3 [2] ions	Retention time & ratio of characteristic ions
MS Ion Ratio Criteria	20 %	30 %	30 %	-50 % to +200 %
MS Tuning Type and Check Frequency	PTFBA, daily	DFTTP[1], 12 hrs	DFTTP[1], 12 hrs	DFTTP[1], 8 hrs
Quantification References	Isotopically labeled standards added prior to extraction	Internal standards added prior to instrumental analysis	Internal standards added prior to instrumental analysis	Isotopically labeled standards added prior to extraction
Recovery correction of results	YES	NO	NO	YES
Initial Calibration, # levels	5	5	5	5
Initial Calibration Limit (% RSD)	20 % (35 % if no labeled analog)	15 %	20 %	20 % (35 % if no labeled analog)
Calibration Verification Frequency	12 hrs	12 hrs	12 hrs	8 hrs
Calibration Verification Relative Response Limit (% diff.)	< 25 % of I-CAL	< 20 % of I-CAL	< 20 % of I-CAL	Various; most stringent is -20% to +25% of I-CAL
Calibration Verification IS area (% of I-CAL midpoint)	50-200 %	50-200 %	50-200 %	n.a.
Calibration verification IS RT (diff. from I-CAL midpoint)	n.a.	30 sec.	30 sec.	n.a.
Extraction	DCM (L/L (aqueous) DCM, Soxhlet (solids)	Options specified externally	Options specified externally	DCM, L/L (aqueous), pH>11 or pH other [3]

Notes:

1 SIM (Selected Ion Monitoring) acquisition protocol is permitted by EPA8270 and Federal Register Vol.77 Iss. 97 (May 18, 2012) Part 136

2 Based on availability, use of fewer ions is permitted

3 Modifications are permitted under Federal Register Vol.77 Iss.97 (May 18, 2012) Part 136.6

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

APPENDIX 2 – IDENTIFICATION AND QUANTIFICATION OF ALKYLATED PAH COMPOUND TOTALS

RT windows for Alkylated PAH Compound Totals are determined from a retention time reference extract run at the beginning of the instrumental run list; assignment of the sample RT windows is made based on comparison of the peak retention times and peak patterns in samples to that of the retention time reference standard. Table 13 lists estimated 'typical' values.

Analyte Ions Monitored, Surrogate Used and RRF Determination for Alkylated PAH Compound Totals

Alkylated PAH total parameter	Compounds/peaks	Typical peak/ window RT, min	Quant. ion	Conf. ion	Typical ion ratio	RRF reference	RT reference	Typical RT ref., min
C1-Biphenyls	(2 peaks)	11.22 - 11.44	168			Biphenyl	d10-Biphenyl	9.73
C2-Biphenyls	(6 or 7 peaks)	12.42 - 12.96	182			Biphenyl	d10-Biphenyl	9.73
C1-Naphthalenes	1-methylnaphthalene	8.80	142	141	0.965	1-methylnaphthalene	d_{10}-2-Methylnaphthalene	8.46
	2-methylnaphthalene	8.53	142	141	0.930	2-methylnaphthalene		
C2-Naphthalenes	Ethyl/dimethylnaphthalenes	9.96 - 10.75	156	141		Average of 1,2-dimethylnaphthalene and 2,6-dimethylnaphthalene	d12-2,6-dimethyl-naphthalene	10.05
	1,2-dimethylnaphthalene	10.88	156	141	1.320	1,2-dimethylnaphthalene		
C3-Naphthalenes	(≥2 peaks)	11.65 - 12.95	170			Average of 2,3,5-Trimethylnaphthalene and 2,3,6-Trimethylnaphthalene	d12-2,6-dimethyl-naphthalene	10.05
C4-Naphthalenes	(≥2 peaks)	13.05 - 14.65	184			1,4,6,7-Tetramethylnaphthalene	d12-2,6-dimethyl-naphthalene	10.05
C1-Acenaphthenes	(≥2 peaks)	11.60 - 11.70	168			Acenaphthene	d10-Acenaphthene	11.23
C1-Fluorenes	(≥2 peaks)	13.73 - 14.23	180			2-Methylfluorene	d10-Phenanthrene	14.96
C2-Fluorenes	(≥2 peaks)	14.96 - 16.01	194			1,7-Dimethylfluorene	d10-Phenanthrene	14.96
C3-Fluorenes	(≥2 peaks)	16.25 - 17.70	208			1,7-Dimethylfluorene	d10-Phenanthrene	14.96
C1-Dibenzothiophenes	C1-dibenzothiophenes-1	15.84	198			2/3-Methyldibenzothiophenes	d8-Dibenzothiophene	14.67
	2/3-methyldibenzo-thiophenes	16.05	198					
	C1-dibenzothiophenes-2	16.32	198					
C2-Dibenzothiophenes	(≥2 peaks)	16.35 - 17.95	212			2,4-Dimethyldibenzothiophene	d8-Dibenzothiophene	14.67
C3-Dibenzothiophenes	(≥2 peaks)	17.70 - 19.20	226			2,4-Dimethyldibenzothiophene	d8-Dibenzothiophene	14.67
C4-Dibenzothiophenes	(≥2 peaks)	18.80 - 20.50	240			2,4-Dimethyldibenzothiophene	d8-Dibenzothiophene	14.67
C1-Phenanthrenes/ Anthracenes	3-methylphenanthrene	16.27	192	191	0.618	Average of 1-Methylphenanthrene, 2-Methylphenanthrene and 2-Methylanthracene	d10-Phenanthrene	14.96

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Alkylated PAH total parameter	Compounds/peaks	Typical peak/ window RT, min	Quant. ion	Conf. ion	Typical ion ratio	RRF reference	RT reference	Typical RT ref., min
	2-methylphenanthrene	16.33	192	191	0.610	2-methylphenanthrene		
	2-methylanthracene	16.44	192	191	0.531	2-methylanthracene		
	9/4-methylphenanthrenes	16.56	192	191	0.621	Average of 1-Methylphenanthrene, 2-Methylphenanthrene and 2-Methylanthracene		
	1-methylphenanthrene	16.61	192	191	0.629	1-methylphenanthrene		
C2-Phenanthrenes/ Anthracenes	Ethyl/dimethyl-phenanthrenes/anthracenes	17.22 - 17.95	206			Average of 3,6-Dimethylphenanthrene and 1,7-Dimethylphenanthrene	d10-Fluoranthene	17.99
	1,8-dimethylphenanthrene	18.10	206	191	0.365	Average of 3,6-Dimethylphenanthrene and 1,7-Dimethylphenanthrene		
C3-Phenanthrenes/ Anthracenes	(≥2 peaks)	18.40 - 19.40	220			1,2,6-Trimethylphenanthrene	d10-Fluoranthene	17.99
C4-Phenanthrenes/ Anthracenes	(≥2 peaks)	19.45 - 21.55	234			Retene	d10-Fluoranthene	17.99
C1-Fluoranthenes /Pyrenes	C1-Fluoranthenes/Pyrenes-1 (2 peaks)	19.17 - 19.58	216			3-Methylfluoranthene	d10-Fluoranthene	17.99
	C1-Fluoranthenes/Pyrenes-2 (3 or 4 peaks)	19.70 - 20.07	216			3-Methylfluoranthene		
C2-Fluoranthenes/ Pyrenes	(≥2 peaks)	20.50 - 21.50	230			3-Methylfluoranthene	d10-Fluoranthene	17.99
C3-Fluoranthenes/ Pyrenes	(≥2 peaks)	21.80 - 23.15	244			3-Methylfluoranthene	d10-Fluoranthene	17.99
C4-Fluoranthenes/ Pyrenes	(≥2 peaks)	23.20 - 24.50	258			3-Methylfluoranthene	d10-Fluoranthene	17.99
C1-Benz(a)anthracenes/ Chrysenes	(7 or more peaks)	22.60 - 23.38	242			Average of 5/6-methylchrysenes and 1-methylchrysene	d12-Chrysene	21.70
C2-Benz(a)anthracenes/ Chrysenes	(≥2 peaks)	23.70 - 25.00	256			5,9-Dimethylchrysene	d12-Chrysene	21.70
C3-Benz(a)anthracenes/ Chrysenes	(≥2 peaks)	25.20 - 26.20	270			5,9-Dimethylchrysene	d12-Chrysene	21.70
C4-Benz(a)anthracenes/ Chrysenes	(≥2 peaks)	26.20 - 27.90	284			5,9-Dimethylchrysene	d12-Chrysene	21.70
C1-Benzofluoranthenes/ Benzopyrenes	(≥2 peaks)	27.26 - 29.80	266			7-Methylbenzo(a)pyrene	d12-Benzo(a)pyrene	26.40
C2-Benzofluoranthenes/ Benzopyrenes	(≥2 peaks)	29.80 - 30.85	280			7-Methylbenzo(a)pyrene	d12-Benzo(a)pyrene	26.40

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018. SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811. This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

APPENDIX 3: ANALYSIS OF 2-CHLORONAPHTHALENE BY GC-HRMS

The analysis of 2-chloronaphthalene in solid and ash samples may be carried out by GC-HRMS analysis of the F2 extract cleanup fraction. Method MLA-021 applies for 2-chloronaphthalene analysis with the following modifications:

Quality Assurance/Quality Control:

QC Acceptance Criteria for 2-Chloronaphthalene

Compound	Procedural Blank Level (ng/sample)	OPR and Sample Recovery Range (%)
2-Chloronaphthalene	< 1	50 – 150
d7-2-Chloronaphthalene	n.a.	30 – 150

Cleanup procedures: Fraction F2 from the silica column cleanup is used for the analysis.

GC-HRMS Analysis: High resolution gas chromatography/high resolution mass spectrometry analysis of the F2 fraction is performed using a capillary gas chromatograph coupled to a high-resolution mass spectrometer. A J&W DB-5 chromatography column (60 m, 0.25 mm i.d., 0.10 µm film thickness)) is coupled directly to the HRMS source. The HRMS is operated at a static (8000) mass resolution (10% valley) in the electron ionization (EI) mode using multiple ion detection (MID) acquiring two characteristic ions for each target analyte and surrogate standard. Sample concentrations are determined by bracketing calibration using the SAR solution.

Analyte Ions Monitored, Surrogates Used and RRF Determination for 2-Chloronaphthalene Analysis

Compound	Quantification and RRT Standard	Typical Retention Time (min.)	Quant. Ion (m/z)	Conf. Ion (m/z)	Typical Ion Ratio (Quant./Conf.)	Ion Ratio Tolerance
2-Chloronaphthalene	d7-2-Chloronaphthalene	11:53	162.0236	164.0207	3.12	20 %
d7-2-Chloronaphthalene	d10-Acenaphthene	11:50	169.0676	171.0646	3.12	20 %
d10-Acenaphthene		13:21	162.1269	164.1410	1.1	20 %
Lock-mass			168.9888			

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

APPENDIX 4: QUANTIFICATION OF CLIENT, FIELD (PRC) AND PHOTOLYSIS STANDARDS

This section is applicable for determination of PAHs in PUF (polyurethane foam) and in SPMD (semipermeable membrane device) samples.

Because PUF and SPMD samples require the use of d_{10}-anthracene and d_{10}-fluoranthene as client or field standards, and SPMD samples require the use of d_{14}-dibenzo(ah)anthracene as photolytic standard, the default quantification scheme (the table between sections 4.1 and 5.0) must be modified as per the table below.

Analyte Ions Monitored, Surrogates Used and RRF Determination for PAH using Client, Field, PRC and Photolysis Standards

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
Naphthalene	128	102	0.064	d_8-Naphthalene	6.84	Naphthalene
Acenaphthylene	152	151	0.222	d_8-Acenaphthylene	10.83	Acenaphthylene
Acenaphthene	154	153	1.18	d_8-Acenaphthylene	11.33	Acenaphthene
Fluorene	166	165	1.01	d_{10}-Phenanthrene	12.63	Fluorene
Phenanthrene	178	176	0.202	d_{10}-Phenanthrene	15.04	Phenanthrene
Anthracene	178	176	0.196	d_{10}-Phenanthrene	15.15	Anthracene
Fluoranthene	202	200	0.214	d_{10}-Phenanthrene	18.06	Fluoranthene
Pyrene	202	200	0.219	d_{10}-Phenanthrene	18.60	Pyrene
Benz[a]anthracene [6]	228	226	0.281	d_{12}-Benz[a]anthracene	21.68	Benz[a]anthracene
Chrysene [1]	228	226	0.312	d_{12}-Chrysene	21.79	Chrysene
Benzo[b]fluoranthene	252	253	0.218	d_{12}-Benzo[b]fluoranthene	25.21	Benzo[b]fluoranthene
Benzo[j,k]fluoranthenes	252	253	0.215	d_{12}-Benzo[k]fluoranthene	25.30	Benzo[k]fluoranthene
Benzo[e]pyrene	252	253	0.213	d_{12}-Benzo[a]pyrene	26.36	Benzo[e]pyrene
Benzo[a]pyrene	252	253	0.217	d_{12}-Benzo[a]pyrene	26.58	Benzo[a]pyrene
Perylene	252	253	0.212	d_{12}-Perylene	27.00	Perylene
Dibenzo[ah]anthracene [2]	278	139	0.144	d_{12}-Indeno[1,2,3,cd]pyrene	31.86	Dibenz[ah]anthracene
Indeno[1,2,3-cd]pyrene	276	138	0.179	d_{12}-Indeno[1,2,3,cd]pyrene	31.71	Indeno[1,2,3-cd]pyrene
Benzo[ghi]perylene	276	138	0.194	d_{12}-Benzo[ghi]perylene	32.53	Benzo[ghi]perylene
Biphenyl [3]	154	152	0.304	d_{10}- Biphenyl	9.81	Biphenyl

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
Dibenzothiophene [3]	184	152	0.073	d_8-Dibenzothiophene	14.72	Dibenzothiophene
1-Methylnaphthalene [3]	142	141	0.962	d_{10}-2-Methylnaphthalene	8.81	1-Methylnaphthalene
2-Methylnaphthalene [3]	142	141	0.930	d_{10}-2-Methylnaphthalene	8.55	2-Methylnaphthalene
C1-Naphthalenes [3]	142	[4]	[4]	d_{10}-2-Methylnaphthalene	[5]	1- & 2-Methylnaphthalene
2,6-Dimethylnaphthalene [3]	156	141	0.666	d_{12}-2,6 Dimethylnaphthalene	10.17	2,6-Dimethylnaphthalene
1,2-Dimethylnaphthalene	156	141	1.26	d_{12}-2,6 Dimethylnaphthalene	10.90	1,2-Dimethylnaphthalene
C2-Naphthalenes [3]	156	[4]	[4]	d_{12}-2,6 Dimethylnaphthalene	[5]	2,6- & 1,2-Dimethylnaphthalene
2,3,5-Trimethylnaphthalene [3]	170	155	0.873	d_{12}-2,6 Dimethylnaphthalene	12.35	2,3,5- Trimethylnaphthalene
2,3,6-Trimethylnaphthalene	170	155	0.876	d_{12}-2,6 Dimethylnaphthalene	12.17	2,3,6- Trimethylnaphthalene
C3-Naphthalenes [3]	170			d_{12}-2,6 Dimethylnaphthalene	[5]	2,3,5- & 2,3,6-Trimethylnaphthalene
1,4,6,7-Tetramethylnaphthalene	184	139	0.027	d_{12}-2,6 Dimethylnaphthalene	13.89	1,4,6,7-Tetramethylnaphthalene
C4-Naphthalene	184	[4]	[4]	d_{12}-2,6 Dimethylnaphthalene	[5]	1,4,6,7-Tetramethylnaphthalene
2-Methylanthracene	192	191	0.531	d_{10}-Phenanthrene	16.45	2-Methylanthracene
3-Methylphenanthrene	192	191	0.608	d_{10}-Phenanthrene	16.27	1- & 2-Methylphenanthrene & 2-Methylanthracene
2-Methylphenanthrene	192	191	0.608	d_{10}-Phenanthrene	16.36	2-Methylphenanthrene
9/4-Methylphenanthrenes	192	191	0.634	d_{10}-Phenanthrene	16.59	1- & 2-Methylphenanthrene & 2-Methylanthracene
1-Methylphenanthrene [3]	192	191	0.634	d_{10}-Phenanthrene	16.64	1-Methylphenanthrene
C1-Phenanthrenes/Anthracenes [3]	192	[4]	[4]	d_{10}-Phenanthrene	[5]	1- & 2-Methylphenanthrene & 2-Methylanthracene
3,6-Dimethylphenanthrene [3]	206	191	0.342	d_{10}-Phenanthrene	17.46	3,6-Dimethylphenanthrene
2,6-Dimethylphenanthrene	206	191	0.342	d_{10}-Phenanthrene	17.54	3,6- & 1,7-Dimethyl-phenanthrenes
1,7-Dimethylphenanthrene	206	191	0.332	d_{10}-Phenanthrene	17.89	1,7-Dimethylphenanthrene
1,8-Dimethylphenanthrene	206	191	0.332	d_{10}-Phenanthrene	18.13	3,6- & 1,7-Dimethyl-phenanthrenes
C2-Phenanthrenes/Anthracenes [3]	206	[4]	[4]	d_{10}-Phenanthrene	[5]	3,6- & 1,7-Dimethyl-phenanthrenes
1,2,6-Trimethylphenanthrene	220	205	0.581	d_{10}-Phenanthrene	19.41	1,2,6-Trimethylphenanthrene
C3-Phenanthrenes/Anthracenes	220	[4]	[4]	d_{10}-Phenanthrene	[5]	1,2,6-Trimethylphenanthrene
Retene [3]	234	219	1.63	d_{10}-Phenanthrene	19.53	Retene
C4-Phenanthrenes/Anthracenes	234	[4]	[4]	d_{10}-Phenanthrene	[5]	Retene

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
C1-Biphenyls	168	[4]	[4]	d_{10}- Biphenyl	[5]	Biphenyl
C2-Biphenyls	182	[4]	[4]	d_{10}- Biphenyl	[5]	Biphenyl
C1-Acenaphthenes	168	[4]	[4]	d_8-Acenaphthylene	[5]	Acenaphthene
2-Methylfluorene	180	165	1.23	d_{10}-Phenanthrene	14.06	2-Methylfluorene
C1-Fluorenes	180	[4]	[4]	d_{10}-Phenanthrene	[5]	2-Methylfluorene
1,7-Dimethylfluorene	194	177	0.092	d_{10}-Phenanthrene	15.49	1,7-Dimethylfluorene
C2-Fluorenes	194	[4]	[4]	d_{10}-Phenanthrene	[5]	1,7-Dimethylfluorene
C3-Fluorenes	208	[4]	[4]	d_{10}-Phenanthrene	[5]	1,7-Dimethylfluorene
2/3-Methyldibenzothiophenes	198	197	0.738	d_8-Dibenzothiophene	16.07	2/3-Methyldibenzothiophenes
C1-Dibenzothiophenes	198	[4]	[4]	d_8-Dibenzothiophene	[5]	2/3-Methyldibenzothiophenes
2,4-Dimethyldibenzothiophene	212	197	0.514	d_8-Dibenzothiophene	17.08	2,4-Dimethyldibenzothiophene
4,6-Dimethyldibenzothiophene	212	197	0.160	d_8-Dibenzothiophene	16.94	4,6-Dimethyldibenzothiophene
C2-Dibenzothiophenes	212	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
C3-Dibenzothiophenes	226	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
C4-Dibenzothiophenes	240	[4]	[4]	d_8-Dibenzothiophene	[5]	2,4-Dimethyldibenzothiophene
3-Methylfluoranthene/Benzo(a)fluorene	216	215	0.880	d_{10}-Phenanthrene	19.53	3-Methylfluoranthene
C1-Fluoranthenes/Pyrenes	216	[4]	[4]	d_{10}-Phenanthrene	[5]	3-Methylfluoranthene
C2-Fluoranthenes/Pyrenes	230	[4]	[4]	d_{10}-Phenanthrene	[5]	3-Methylfluoranthene
C3-Fluoranthenes/Pyrenes	244	[4]	[4]	d_{10}-Phenanthrene	[5]	3-Methylfluoranthene
C4-Fluoranthenes/Pyrenes	258	[4]	[4]	d_{10}-Phenanthrene	[5]	3-Methylfluoranthene
5/6-Methylchrysenes	242	[4]	[4]	d_{12}-Chrysene	23.15	6-Methylchrysene
1-Methylchrysene	242	[4]	[4]	d_{12}-Chrysene	23.32	1-Methylchrysene
C1-Benz(a)anthracenes/Chrysenes	242	[4]	[4]	d_{12}-Chrysene	[5]	1- & 6-Methylchrysenes
5,9-Dimethylchrysene	256	[4]	[4]	d_{12}-Chrysene	24.49	5,9-Dimethylchrysene
C2-Benz(a)anthracenes/Chrysenes	256	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
C3-Benz(a)anthracenes/Chrysenes	270	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
C4-Benz(a)anthracenes/Chrysenes	284	[4]	[4]	d_{12}-Chrysene	[5]	5,9-Dimethylchrysene
7-Methylbenzo(a)pyrene	266	[4]	[4]	d_{12}-Benzo[a]pyrene	29.35	7-Methylbenzo(a)pyrene
C1-Benzofluoranthenes/Benzo-pyrenes	266	[4]	[4]	d_{12}-Benzo[a]pyrene	[5]	7-Methylbenzo(a)pyrene
C2-Benzofluoranthenes/Benzo-pyrenes	280	[4]	[4]	d_{12}-Benzo[a]pyrene	[5]	7-Methylbenzo(a)pyrene

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd, 2018.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	Typical Ion Ratio (Conf./Quant.)	SURROGATE	Typical Retention Time (minutes)	RRF DETERMINED FROM
LABELLED CLIENT/FIELD STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**	**Typical Ion Ratio (Conf./Quant.)**	**RECOVERY CALCULATED AGAINST**	**Typical Retention Time (minutes)**	**RRF DETERMINED FROM**
d_{10}-Anthracene	188	184		d_{10}-Phenanthrene	15.1	
d_{10}-Fluoranthene	212	208	0.173	d_{12}-Benz(a)anthracene	18.02	
LABELLED PHOTOLYSIS STANDARD	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**	**Typical Ion Ratio (Conf./Quant.)**	**RECOVERY CALCULATED AGAINST**	**Typical Retention Time (minutes)**	**RRF DETERMINED FROM**
d_{14}-Dibenzo[ah]anthracene	292	288	0.260	d_{12}-Indeno[1,2,3-cd]pyrene	31.75	
LABELLED SURROGATE STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**	**Typical Ion Ratio (Conf./Quant.)**	**RECOVERY CALCULATED AGAINST**	**Typical Retention Time (minutes)**	
d_8-Naphthalene	136	134	0.095	d_{10}-Acenaphthene	6.80	
d_{10}-2-Methylnaphthalene	152	151	0.195	d_{10}-Acenaphthene	8.47	
d_{10}-Biphenyl	164			d_{10}-Acenaphthene	9.75	
d_{12}-2,6-Dimethylnaphthalene	168	150	0.747	d_{10}-Acenaphthene	10.07	
d_8-Acenaphthylene	160	158	0.159	d_{10}-Acenaphthene	10.80	
d_8-Dibenzothiophene	192	160	0.085	d_{10}-Pyrene	14.67	
d_{10}-Phenanthrene	188	184	0.143	d_{10}-Pyrene	14.97	
d_{12}-Benz[a]anthracene	240	236	0.250	d_{10}-Pyrene	21.63	
d_{12}-Chrysene	240	236	0.278	d_{10}-Pyrene	21.73	
d_{12}-Benzo[b]fluoranthene	264	260	0.216	d_{12}-Benzo[e]pyrene	25.11	
d_{12}-Benzo[k]fluoranthene	264	260	0.208	d_{12}-Benzo[e]pyrene	25.23	
d_{12}-Benzo[a]pyrene	264	260	0.216	d_{12}-Benzo[e]pyrene	26.47	
d_{12}-Perylene	264	260	0.256	d_{12}-Benzo[e]pyrene	26.88	
d_{12}-Indeno[1,2,3,cd]pyrene	288	284	0.192	d_{12}-Benzo[e]pyrene	31.63	
d_{12}-Benzo[ghi]perylene	288	284	0.205	d_{12}-Benzo[e]pyrene	32.45	

[1] Coelutes with triphenylene

[2] Coelutes with dibenz[ac]anthracene

[3] These compounds are in addition to the regular suite of analytes, and are analyzed by client request only.

[4] Secondary ion confirmation procedures do not apply

[5] RRT ranges apply to alkylated PAH Totals

[6] Benz(a)anthracene coelutes with cyclopenta(cd)pyrene, which may contribute response in the second ion to cause a failing ion abundance ratio. Therefore quantification of benz(a)anthracene should use response from the first ion only

WINDWARD ENVIRONMENTAL

CORRELATION TABLE

PAH ANALYSIS

Lab Name: SGS AXYS Analytical Services Ltd.	**Project Manager: Georgina Brooks**
Project: N/A	**Contract No: 4033**
Project Name: Clam Passives PO# 2018-0065	**SGS AXYS Method: MLA-021**
Data Package Identification: DPWG66784	**Program: Plastic Passive Samples**
Client Sample No. Received / Revised I.D.	**Lab Sample ID**
LAB BLANK	WG66438-101
OPR	WG66438-102
PAH Day Zero #1 / no change	L30196-2
PAH Day Zero #2 / no change	L30196-3
PAH Day Zero #3 / no change	L30196-4
LDW18-PWPS-EXpBlk-PAH / no change	L30540-1
LDW18-SSCL-A01 / LDW18-PWPS-A01	L30540-2
LDW18-SSCL-A02 / LDW18-PWPS-A02	L30540-3
LDW18-SSCL-A04 / LDW18-PWPS-A04	L30540-4
LDW18-SSCL-A06 / LDW18-PWPS-A06	L30540-5
LDW18-SSCL-A07 / LDW18-PWPSL-A07	L30540-6
LDW18-SSCL-A07Dup / LDW18-SPWPS-A07Dup	L30540-7
LDW18-SSCL-A08 / LDW18-PWPSL-A08	L30540-8
LDW18-SSCL-A10 / LDW18-PWPS-A10	L30540-9
LDW18-SSCL-A11 / LDW18-PWPS-A11	L30540-10
LDW18-SSCL-A17 / LDW18-PWPS-A17	L30540-11
LDW18-SSCL-A18 / LDW18-PWPS-A18	L30540-12

4033

CHAIN OF CUSTODY SHEET AND SAMPLE REQUEST

Chain of Custody No: ###

Georgina Brooks
SGS-Axys Analytical Services LTD
2045 West Mills Road
Sidney, British Columbia V8L 5X2
Canada
250 655 5801

Sample collector: Upal Ghosh
Address: Sediment Solutions
4438 Cross Country Dr
Ellicott City, MD 21042
Tel: 443 629 2136 Fax:
Project/Site Name: LDW AOC3 Task 4
Email : ughosh@umbc.edu
Contact Name: Upal Ghosh

Date Samples Despatched: 5-Dec-18
Sampler :
Additional contact: Amara Vandervort
Windward Env: 206-812-5415
amarav@windwardenv.com

Sheet . 1 of 1

Date/time of Sampling:	Sample Ref. ID	Sample location	Sample Preservation Y/N	passive sampler (P)	Suite Name/Analysis Required	Samplers Signature
Dec 2, 10 pm	LDW18-SSCL-A01		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A02		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A04		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A06		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A07		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A07Dup		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A08		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A10		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A11		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A17		Y	P	PAH	
Dec 2, 10 pm	LDW18-SSCL-A18		Y	P	PAH	
Dec 2, 10 pm	BLANK		Y	P	PAH	
Dec 2, 10 pm	Unexposed PE with PRCs		Y	P	PAH	

Turnaround - please tick

14 day t/a ____ 7 day t/a ____
4 day t/a____ 3 day t/a ____
other ____ (please specify)
or
date results required by :

Comments

L30540-2
two pieces of PE, extract both together
-1
Multiple samplers with initial PRCs triplicate

Report format

Standard___

-3
-4
-5
-6
-6 -7
-7 -8
-8 -9
-9 -10
-10 -11
-11 -12
-12 -13

AMR 07-Dec-2018

Special Instructions:

Date Released: 12/5/2018 Time: 10:00
Signature:
Date Received: Time:
Signature:

AMR 07-Dec-2018

4033

Ice packs Frozen

-0.2°C

5609

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /No
Waybill #: 784203653132
Date Shipped: 05-DEC-18
Date /Time Received: 07-DEC-18 09:25

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number:
Receipt No: WB24960
Login Number:

Received By: ABODDY
Log in by: Ava Vosk[illegible]sen Signature:

Axys Sample ID's: L30540-1 to -13

Matrix Type: PPSM

Condition of Shipping Container: Intact.

Temperature upon Receipt: -.2 Celcius ice packs frozen
Thermometer ID: 5609
Corrected Temperature: .3 Celcius

Custody Seals: Shipping Containers Yes /No Intact Yes /No Seal Numbers Yes /No
Samples Yes /No Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments: logged in as per C.O.C.

Action Taken:

FSA-015 Rev09, 22-Jan-2013

for scanning
gBrooks
11-Dec-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Dec. 11, 2018
11:28 AM

Login Number: L30540
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L30540-1		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-PWPS-EXpBlk-PAH				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-2		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A01				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-3		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A02				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-4		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A04				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Dec. 11, 2018

11:28 AM

Login Number: L30540

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L30540-5		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A06				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-6		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A07				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-7		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A07Dup				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD
L30540-8		07-DEC-18		
	Storage: WIC-2 SHELF 1			
LDW18-SSCL-A08				
02-DEC-18 22:00	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 40 mL vial glass CL	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Dec. 11, 2018

11:28 AM

Login Number: L30540

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L30540-9			07-DEC-18		
		Storage: WIC-2 SHELF 1			
LDW18-SSCL-A10					
02-DEC-18 22:00		Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+			:	USD
Plastic Passive	PH021.PRC			:	USD
EDataDeliv	PH021 EDD			:	USD
Data Package	PH021 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 40 mL vial glass CL	USD
L30540-10			07-DEC-18		
		Storage: WIC-2 SHELF 1			
LDW18-SSCL-A11					
02-DEC-18 22:00		Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+			:	USD
Plastic Passive	PH021.PRC			:	USD
EDataDeliv	PH021 EDD			:	USD
Data Package	PH021 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 40 mL vial glass CL	USD
L30540-11			07-DEC-18		
		Storage: WIC-2 SHELF 1			
LDW18-SSCL-A17					
02-DEC-18 22:00		Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+			:	USD
Plastic Passive	PH021.PRC			:	USD
EDataDeliv	PH021 EDD			:	USD
Data Package	PH021 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 40 mL vial glass CL	USD
L30540-12			07-DEC-18		
		Storage: WIC-2 SHELF 1			
LDW18-SSCL-A18					
02-DEC-18 22:00		Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+			:	USD
Plastic Passive	PH021.PRC			:	USD
EDataDeliv	PH021 EDD			:	USD
Data Package	PH021 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 40 mL vial glass CL	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Dec. 11, 2018

11:28 AM

Login Number: L30540

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L30540-13			07-DEC-18		
		Storage: WIC-2 SHELF 1			
Unexposed PE with PRCs					
02-DEC-18 22:00		Project #: DUWAMISH 2017			
Plastic Passive	HOLD		:		USD

www.axysanalytical.com

DATA PKG. 4033

Brooks, Georgina (Sidney) L30540

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Monday, December 10, 2018 8:09 AM
To: Brooks, Georgina (Sidney)
Subject: cPAH passive sampler benchsheet
Attachments: cPAH Passive Sampler Benchsheet 112618.pdf

Good morning,
Enclosed is a worksheet summarizing the masses for the samplers. Please let me know if you have any questions.
Kind regards,
Amara

www.axysanalytical.com

DATA PKG.

4033

Exposures Setup Benchsheet

AXYS ID	Sample ID	Sediment Mass (g, w.w.)	Passive Sampler Mass (g)	Biocide Solution Volume (ml)
L30540-2	LDW18-SSCL-A01	425.3	0.1629	400
-3	-A02	473.6	0.1593	400
-4	-A04	535.8	0.1503	400
-5	-A06	492.8	0.1628	400
-6	-A07	438.1	0.1541 Rectangle	400
-7	-A07-DUP	"	0.1535 Hexagon	400
-8	-A08	424.0	0.1504	400
-9	-A10	530.1	0.1472	400
-10	-A11	418.0	0.1550	400
-11	-A17	426.6	0.1555	400
-12	-A18	465.9	0.1595	400
-1	BLANK		0.1612	300

Start Date: 10/24/18

Stop Date: 11/26/18

Analyst: Upal Ghosh

www.axysanalytical.com

DATA PKG. L30540 4033

Brooks, Georgina (Sidney)

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Friday, December 07, 2018 11:12 AM
To: Brooks, Georgina (Sidney)
Cc: Pillay, Kalai (Sidney); Susan McGroddy
Subject: RE: cPAH Passive Samplers

Let's use the following ID for the Blank LDW18-PWPS-EXpBlk-PAH and store the "unexposed PE with PRCs", please. Thank you! -Amara L30540-1

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Friday, December 07, 2018 10:49 AM
To: Amara Vandervort <amarav@windwardenv.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>; Susan McGroddy <SusanM@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Hello Amara: Attached is a pdf of the COC. Do you want to change the name for the sample called "BLANK" or shall I proceed as is?

For the container of "Unexposed PE with PRCs" I am assuming I should keep this on hold, please confirm.

I think that is all.

Regards
Georgina

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Friday, December 07, 2018 9:56 AM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>; Susan McGroddy <SusanM@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Thanks for letting me know. -Amara

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Friday, December 07, 2018 9:56 AM
To: Amara Vandervort <amarav@windwardenv.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>; Susan McGroddy <SusanM@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Good Morning: It turns out this chilly weather is good for something- the polyethylene arrived this morning and the temp is 0.3°C.

Regards
Georgina

From: Brooks, Georgina (Sidney)
Sent: Thursday, December 06, 2018 1:43 PM

To: Amara Vandervort <amarav@windwardenv.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>
Subject: RE: cPAH Passive Samplers

Hello Amara: Unfortunately the shipment did not make the connecting flight, so now they will be delivered tomorrow morning. They will likely come over by barge tonight and arrive ~8 am. The temp here is not warm today it was ~4°C, so I expect the receipt temperature will be fine.

Regards
Georgina

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Thursday, December 06, 2018 9:37 AM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>
Subject: RE: cPAH Passive Samplers

I saw that this morning as well. Thanks for the update. –Amara

---

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Thursday, December 06, 2018 9:36 AM
To: Amara Vandervort <amarav@windwardenv.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>
Subject: RE: cPAH Passive Samplers

Hello: I just tracked the shipment and the tracking says it was just released from customs at 8:16 am this morning, which should mean that it will be on the plane over to us and delivered by ~11:30. I will let you know as soon as the samples arrive.

Regards
Georgina

From: Pillay, Kalai (Sidney)
Sent: Wednesday, December 05, 2018 10:50 AM
To: Amara Vandervort <amarav@windwardenv.com>; Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Subject: RE: cPAH Passive Samplers

Hi Amara

I have confirmed that the 3 Day Zero samples are still in our storage.

Kind regards
Kalai

Kalai Pillay
Environment, Health and Safety

SGS AXYS
2045 Mills Road West
Sidney, BC V8L 5X2
Direct: 250-655-5832
Toll free: 1-888-373-0881 Ext.5832
E-mail: kalai.pillay@sgs.com

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Wednesday, December 05, 2018 9:50 AM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>
Subject: RE: cPAH Passive Samplers

Thank you for checking on this. Here is the tracking number for the passive samplers. 784203653132
Regards,
Amara

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Tuesday, December 04, 2018 5:37 PM
To: Amara Vandervort <amarav@windwardenv.com>
Cc: Pillay, Kalai (Sidney) <Kalai.Pillay@sgs.com>
Subject: RE: cPAH Passive Samplers

Hello: I just got your voice message, re Upal will ship tomorrow.

To the best of my knowledge the Day Zero samples were not shipped to him. It could be that Upal assumed he was supposed to cut 3 "Day Zero" pieces but that is just a guess.

Tomorrow I am off but Kalai will have staff here confirm that our Day Zeros are still here. (Kalai, ask Bruno or Sample Receiving to confirm we have the samples identified as L30196-2, -3, -4 still here in storage). Kalai will let you know what he finds out.

We can finalize the Day Zero pieces once the samples are safely here.

Regards
Georgina

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Tuesday, December 04, 2018 3:50 PM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Subject: RE: cPAH Passive Samplers

Hello,
Just heard back from Upal and samples will ship tomorrow. I would like to have a back-up plan for if the samples do not arrive on Friday. Are there any options for a Saturday delivery? Please give me a call as soon as possible so that we can discuss. I can be reached at the office until around 445 and then on my cell after that (206 372-7657). Thanks. -Amara

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Tuesday, December 04, 2018 1:04 PM
To: Amara Vandervort <amarav@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Understood. If they cannot ship by tomorrow I would suggest they hold them until Monday.

Regards
Georgina

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Tuesday, December 04, 2018 12:45 PM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Subject: RE: cPAH Passive Samplers

Hello,
I emailed him this morning to confirm shipment and request a tracking # but have not heard anything so far. I will contact him again tomorrow if I do not hear back. It is a university academic lab so I think they work on a different timeline that we do. -Amara

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Tuesday, December 04, 2018 12:44 PM
To: Amara Vandervort <amarav@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Do you know if these shipped? I don't think we see anything from him in transit to us?

thanks

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Friday, November 30, 2018 10:22 AM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Subject: RE: cPAH Passive Samplers

Thanks for offering. I sent him a commercial invoice and our FedEx acct# so we should be good to go. -Amara

From: Brooks, Georgina (Sidney) [mailto:Georgina.Brooks@sgs.com]
Sent: Friday, November 30, 2018 10:20 AM
To: Amara Vandervort <amarav@windwardenv.com>
Subject: RE: cPAH Passive Samplers

Hello Amara: Thank you -I was thinking the exposure would finish up sometime this week. Let Upal know he will need a commercial invoice with the shipment. I can assist with shipping paperwork if you wish. And of course please send tracking information when available.

Regards
Georgina

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Friday, November 30, 2018 9:52 AM
To: Brooks, Georgina (Sidney) <Georgina.Brooks@sgs.com>
Subject: cPAH Passive Samplers

Hi Georgina,
Upal has completed the ex-situ exposure and will ship the samples to you on Monday.
Regards,
Amara

Information in this email and any attachments is confidential and intended solely for the use of the individual(s) to whom it is addressed or otherwise directed. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should

DATA PKG. L30540. 4033

Brooks, Georgina (Sidney)

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Tuesday, October 23, 2018 2:13 PM
To: Brooks, Georgina (Sidney)
Cc: Susan McGroddy
Subject: cPAH Passive Samplers

HI Georgina,

The cPAH ex-situ exposure started today. The samplers will shake for ~28 days and will be prepped for shipping in late November. It is our understanding that the 0.15 g polys will be cut into one 0.1 g piece for analysis and one 0.05 g piece for archiving. I will email you when the samples are ready to ship.

Kind regards,
Amara

4033

Brooks, Georgina (Sidney) L30540-2 to -12

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Thursday, January 17, 2019 9:28 AM
To: Brooks, Georgina (Sidney)
Subject: Sample ID Exchange Table

	L30540-2
LDW18-SSCL-A01	LDW18-PWPS-A01
LDW18-SSCL-A02	LDW18-PWPS-A02 -3
LDW18-SSCL-A04	LDW18-PWPS-A04 -4
LDW18-SSCL-A06	LDW18-PWPS-A06 -5
LDW18-SSCL-A07	LDW18-PWPS-A07 -6
LDW18-SSCL-A07Dup	LDW18-PWPS-A07Dup -7
LDW18-SSCL-A08	LDW18-PWPS-A08 -8
LDW18-SSCL-A10	LDW18-PWPS-A10 -9
LDW18-SSCL-A11	LDW18-PWPS-A11 -10
LDW18-SSCL-A17	LDW18-PWPS-A17 -11
LDW18-SSCL-A18	LDW18-PWPS-A18 -12.

www.axysanalytical.com

Standard Solution ID:	**PRC Loading Solution 1805_PAH**													
Analysis description:	PRC spiking for LOW DENSITY POLYETHYLENE (LDPE) (25µm)													
Prepared by:	Sarah Meades &													
Preparation date:	24-APR-2018 &		Comments:											
Expiry date:	NA		PRC Loading Solution 1805_PAH was prepared by taking the PRC Loading Solution 1802_PAH, which had already been used											
			to prepare the 1802_PAH PEDs, and spiking it with additional 13C6-INDENO[1,2,3-CD]PYRENE to replenish the amount that											
Volumetric Flask ID#	Bottle 500mL Amber glass wide mouth (GLW500A/DC)		had been taken up by the 1802 plastic.											
Dilution solvent/lot #:	Methanol lot#103032; SS water B# 11-APR-2018		After use for loading the 1802 plastic, the D10-FLUORANTHENE, 13C6-PHENANTHRENE, 13C6-CHRYSENE were at only											
Final Solvent Composition:	77.8% methanol, 19.5% water, 2.67% nonane, 0.06% toluene		~ 80% of there starting levels. The 13C6-INDENO[1,2,3-CD]PYRENE was at only ~ 50% and therefore needed to be											
Storage Requirements:			replenished. These levels are included in the calculations in purple below.											
Validation date/intials:														
Validation WG:														
Calculation checked by/date:	MP.24-Jun-2018 &													
Validation checked by/date:		Spikelot into LIMS by/date:												
Approved for use by/date:														
Non routine preparation:		(If Yes, record all details in comments section above)												
(Routine preparation involves using direct weighing or glass syringe into glass volumetric flasks without derivatization.)											If conversion	2nd source check		
											to ng/mL reqd.	(where applicable)		
Standard Solution ID:	LIMS name	Compound name	Stock #		Original Conc	x Vol. Taken	/ Final Vol	=Final Conc.	Validated Conc.		Validated Conc.	direct on	indirect on	Syringe #
(where applicable)		(generally from supplier)		ampoule checked by	µg/mL	mL	L	µg/L	µg/L		ng/mL	this soln.?	STK/prime?	
These details are for the 1802 sheets. The Same loading (dosing) solution was stored and then used as a basis for 1805 (details of which are in purple).														
	D10-FLUORANTHENE	Fluoranthene-d10	PH332A-STK/02		1712	0.292	0.5	1000						1207/1206
	13C6-PHENANTHRENE	PHENANTHRENE (13C6, 99%)	SC7496/SC7748		100	10	0.5	2000						1205
	13C6-CHRYSENE	CHRYSENE (13C6, 99%)	SC7499		100	2.75	0.5	550						1166
	13C6-INDENO[1,2,3-CD]PYRENE	NDENO[1,2,3-CD]PYRENE (13C6, 99%)	SC7500/SC7747		100	1	0.5	200						1177
Comments:														
Preparation of SAMPLERS LOT # 1802 (ID # AND DETAILS BELOW)														
Every single solution spiked directly into the jar with 400mL of methanol.														
Mix by inversion and then add 100mL of SS water														
Remove ~ 350 µL for testing in WG63671 (i.e. enough for 2x 100 µL plus back up),														
or take 2x 100 µL portions into c-tubes each with 1 mL hexane and 100 µL toluene.														
Plastic sheets are then added and allowed to equilibrate with gentle mixing (roller table, set at 33) for many days														
Start date & time:24-Apr-2018 @ 15:30														
Extra details for 1805_PAH, 03-OCT-2018														
	D10-FLUORANTHENE	Fluoranthene-d10	PRC Loading Solution 1802_PAH		0.7998	500	0.5	800			~80% of 1802_PAH PRC Loading Solution starting conc.			
	13C6-PHENANTHRENE	PHENANTHRENE (13C6, 99%)	(after use for loading 1802 PEDs*)		1.6	500	0.5	1600			~80% of 1802_PAH PRC Loading Solution starting conc.			
	13C6-CHRYSENE	CHRYSENE (13C6, 99%)			0.44	500	0.5	440			~80% of 1802_PAH PRC Loading Solution starting conc.			
	13C6-INDENO[1,2,3-CD]PYRENE	NDENO[1,2,3-CD]PYRENE (13C6, 99%)			0.1	500	0.5	100	199		~50% of 1802_PAH PRC Loading Solution starting conc.			
	13C6-INDENO[1,2,3-CD]PYRENE	NDENO[1,2,3-CD]PYRENE (13C6, 99%)	PH377A-STK/01		18	2.75	0.5	99				03 OCT 2018 14:30	2011	BG

1000
+ 1000
+ 750
2750µL

THE BOTTLE WAS TOPUP WITH 80:20 MEOH:SSWATER BATCH # 1348-04
ADD ON THE ROLLER TABLE AT 16:30 03 OCT 2018 BG

TAKE THE JAR OFF THE TABLE THE 12 OCT 2018 AT 9:50.

1 CLEANING: 10 OCT 2018 AT 11:00. BG OFF AT 11:06 13 OCT 2018

2 CLEANING: 13 OCT 2018 AT 11:20. BG OFF 15 OCT 2018 OFF AT 9:30 15 OCT 2018

3 CLEANING: 15 OCT 2018 AT 10:00 BG OFF AT 10:90 16 OCT 2018

BATCH ID: WG66438

Method ID: MLA-021 R12.05	
Method ID:	SLA-126
Method ID:	
Analyst:	
Start Date:	13-Dec-2018
Batch List Author:	DCLARK
Checked By:	Louis Hamilton
Project Manager:	Georgina B
Glassware Type:	Regular
Glassware Treatment:	Regular
Rotovap Type:	Regular

Matrix:	Plastic Passive
Sample size:	1 PED
Moistures required?	NO
Lipids required?	NO
Extraction Solvent:	DCM
Biohazard Type:	None

Comments:

SLA126, the first step is to clean the poly to remove particulates and biota. Samples are already sufficiently clean to proceed with cutting.
Poly can still collect PAHs from the air- once removed from the jar for cutting work as quickly as possible and get the backup piece into the original container and the sample piece into the extraction jar with the lids on.

Prior to cutting and using a 4 place balance, weight each piece of poly (remove visible water with a Kim wipe if necessary) and compare those weights to the weights recorded prior to shipping using L30540_PAH Passive Sampler Benchsheet.pdf. IF the weights vary by more than +/-0.0005, Do not proceed with that sample and contact the PM.

If the weights do agree with those recorded prior to shipping then using organically clean scissors cut 1/3 for backup (return this piece to the original sample jar, ensure there is moisture in the jar or add a few drops of lab water if necessary to retain poly moist) and transfer the 2/3 portion to a clean, labelled extraction jar for analysis. Secure the extraction jar with a lid.

SLA126 indicates that pieces of the PED material are to be used for the Lab QC. Use a piece of clean polyethylene prepared at SGS-AXYS, using organically clean techniques, cut sufficient pieces for use in the lab blank and OPR.

Additional information L30540-3 tore and so consists of 2 pieces. L30540-6 is a rectangle, L30540-7 is a hexagon (these are field dups).

After extraction dry the PED by blotting DRY with paper towel and re-weigh with 4 place balance – this will be the weight used for quantification.

previous WG's associated with samples:

; #Keep Discards: 0

Contract #	Sample	Wt	Contract #	Sample	Wt
4033	L30196-2	1 PED			
4033	L30196-3	1 PED			
4033	L30196-4	1 PED			
4033	L30540-1	1 PED			
4033	L30540-2	1 PED			
4033	L30540-3	1 PED			
4033	L30540-4	1 PED			
4033	L30540-5	1 PED			
4033	L30540-6	1 PED			
4033	L30540-7	1 PED			
4033	L30540-8	1 PED			
4033	L30540-9	1 PED			
4033	L30540-10	1 PED			
4033	L30540-11	1 PED			
4033	L30540-12	1 PED			

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
PH021.PAR+	L30196-2, 3, 4, L30540-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, WG66438-101, 102, 103	(SI81) FS #1 10uL PH055A-SUR/01	N/A	(SI71) LCM #13 10uL PH031A-REC/04	100 uL	GCMS	none

BATCH ID: WG66438

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG66438-101 BLANK	USE POLYETHYLENE CLEANED AT SGS AXYS, of APPROXIMATELY THE SAME DIMENSIONS AS THE SAMPLE	PH021 PAR+	(5159A) PS	
WG66438-102 SPM	USE POLYETHYLENE CLEANED AT SGS AXYS, of APPROXIMATELY THE SAME DIMENSIONS AS THE SAMPLE	PH021.PAR+ PH021 PRC PH021 PRC	10uL PH088A-AUT/02 #273 (PS) 20uL PH375A-STK/01 #1 (5185) PS 20uL PH332B-STK/01 #2 (5185) PS	The STKs contain 13C or deuterium labelled standards, so use a SUR syringe for them.
WG66438-103 SPR		PH021.PRC PH021 PRC	20uL PH375A-STK 20uL PH332B-STK	The STKs contain 13C or deuterium labelled standards, so use a SUR syringe for them.

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG66438 Date: 13 Dec 2018 Analyst: EK Contract #: 4033

Method: MLA-021 R12.05

Sample ID	Sample Type and Description Small ≈ 2-4cm² Lg ≈ 4cmx 10cm	Original Labelling	LIMS label correct as per client
L30196-2	1x Lg Plastic Sheet	PAH Day Zero #1	☐
L30196-3	3x small Plastic Sheets	PAH Day Zero #2	☐
L30196-4	1x Lg Plastic Sheet	PAH Day Zero #3	CER 27 DEC 2018 ☐
L30540-1	1x Lg Plastic Sheet	Client: BLANK LIMS: LDW18 - PWPS - ExpBlk - PAH	☑
L30540-2	1x Sm 1x Lg Plastic Sheets	LDW18 - SSCL - A01	☐
L30540-3	1x Lg Plastic Sheet	LDW18 - SSCL - A02	☐
L30540-4	1x Lg Plastic Sheet	LDW18 - SSCL - A04	CER. ☐
L30540-5	1x Lg Plastic Sheet	LDW18 - SSCL - A06	27 DEC 2018 ☐
L30540-6	1x Lg Plastic Sheet	LDW18 - SSCL - A07	☐
L30540-7	1x Lg Plastic Sheet	LDW18 - SSCL - A07Dup (LIMS) LDW18 - SSCL - A07 - DUP (Client)	☑
L30540-8	1x Lg Plastic Sheet	LDW18 - SSCL - A08	☐
L30540-9	1x Lg Plastic Sheet	LDW18 - SSCL - A10	☐
L30540-10	1x Lg Plastic Sheet	LDW18 - SSCL - A11	☐
L30540-11	1x Lg Plastic Sheet	LDW18 - SSCL - A17	CER. ☐
L30540-12	1x Lg Plastic Sheet	LDW18 - SSCL - A18	27 DEC 2018 ☐
WG66438-101 (BLANK)	Procedural Blank 1x Lg Plastic Sheet	6"x5" 25µm Plastic Clean. H_2O	☐

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG66438 Date: 13 Dec 2018 Analyst: EK Contract #: NONE

Method: MLA-021 R12.05

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
WG66438-102 (SPM)	Spiked Matrix 1x Lg Plastic sheet	6"x 5" 25µm Plastic Clean. H_2O	☐
WG66438-103 (SPR)	SPR	SPR	CER. 27 DEC 2018
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Reviewed by CER date 27 DEC 2018

SGS AXYS Analytical Services Ltd.

PED Dialysis Information Sheet
SOP reference: SLA-126 rev: _____

Batch ID: WG66438
Method: MLA-021 R12.05

Sample ID	Cleaned? Y or N	residue present after cleaning? Y (with note) or N	Sample wt (g) 1.	Sample wt (g) 2.	Sample wt (g) 3.	Balance ID weighing sample: 3492	Date weighing sample: 20 DEC 2018 Chemist: AK
L30196-2	N	N	0.0736	0.0733		PEDs Cleaning: Rinse with SS water. Dry and weigh.	
L30196-3			0.1112	0.1113			
L30196-4			0.1022	0.1027		**1st Dialysis**	**2nd Dialysis**
L30540-1			0.0960	0.0962		Extraction Solvent: DCM Lot# 103472	Extraction Solvent: DCM Lot# 103472
L30540-2			0.1015	0.1018		Extraction Solvent: DCM Volume ~100 mL	Extraction Solvent: DCM Volume ~100 mL
L30540-3			0.1150	0.1153		Date: 13Dec 2018	Date: 14Dec 2018
L30540-4			0.0983	0.0983	CER	Begin Time: 1530	Begin Time: 1100
L30540-5			0.1037	0.1041	27DEC2018	Chemist: EK	Chemist: EK
L30540-6			0.0943	0.0945			
L30540-7			0.0969	0.0972			
L30540-8			0.0927	0.0930		Date: 14Dec 2018	Date: 14Dec 2018
L30540-9			0.0988	0.0992		End Time: 1030	End Time: 1215
L30540-10			0.0966	0.0970		Chemist: EK	Chemist: EK
L30540-11			0.1085	0.1090			
L30540-12			0.0989	0.0997		Transfer extract to a 500 mL Round bottom ✓	Combine extract in the 500 mL Round bottom ✓
WG66438-101 (BLANK)			0.1253	0.1259			Rinse each jar 2X DCM and combine with extract ✓
WG66438-102 (SPM)	↓	↓	0.1239	0.1244			
WG66438-103 (SPR)	NA	NA	N/A	N/A			Dry extract with Na_2SO_4
							Date: 17 DEC 2018
							Analyst: YFQ
							Add iso-octane keeper if PAH is required:
							Date: 17 DEC 2018
							Analyst: YFQ
							Add Toluene Keeper if ONLY Mres is required:
							Date:
							Analyst:
							CER 27DEC2018

Reviewed by: CER. Date: 27 DEC 2018

SGS AXYS Analytical Services Ltd.

Sample Wt & Moistures: Batch ID: WG66438 Date: 13Dec2018 Chemist: EK Balance or Syringe # 3492

Method: MLA-021 R12.05

Before Extraction

Sample ID	Moisture (SLA-015) (all weights in grams)						Sample Wt or Vol (SLA-085) (g or mL)	Backup (g)
	Tare (a)	Tare + Wet	Tare + dry	Tare (b)	Tare + wet	Tare + dry		
L30196-2							CER 27DEC2018	0
L30196-3								
L30196-4								
L30540-1							0.1622	1/3
L30540-2							0.1628	
L30540-3							0.1590	
L30540-4							0.1504	
L30540-5							0.1630	
L30540-6							0.1557	
L30540-7				CER 27 DEC 2018			0.1544	
L30540-8							0.1510	
L30540-9							0.1481	
L30540-10							0.1562	
L30540-11							0.1551	
L30540-12							0.1602	
WG66438-101 (BLANK)								NA
WG66438-102 (SPM)								
WG66438-103 (SPR)							CER. 27DEC2018	

Moistures into oven: Date: _____ Time: _____ Temperature: _____ Chemist: _____ Oven #: 3264 CER 27 DEC 2018

Out of Oven: Date: _____ Time: _____ Temperature: _____ Chemist: _____

Reviewed by CER date 27 DEC 2018

CER 27DEC2018

AXYS Analytical Services Ltd

Spiking Sheet: Batch ID: WG66438 Method: MLA-021 R12.05

Witness name/ initials: Sam Gooding / SG

Sample ID	Before extraction Surr. ID: PH055A-SUR/01 Date: 13 DEC 2018 Vol.: 10 µL Syringe#: 5181 Ampoule: 1 Analyst: EK		Before extraction Surr. ID: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Analyst: _____		Cleanup Std. Surr.: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	Cleanup Std. Surr.: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	Recovery Surr.: _____ Date: _____ Vol.: _____ µL F.V.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	Recovery Surr.: PH078A-REC106 Date: 21 DEC 2018 Vol.: 10 µL F.V.: 100 µL Syringe#: 5171 Ampoule: 13 DEC 2018 Start time: 2241424 Fin. time: 1435
	Time	Witness	Time	Witness	Analyst: _____	Analyst: _____	Analyst: _____	Analyst: TRP
L30196-2	15:10	SG			☐	☐	☐	☑
L30196-3	15:10	SG			☐	☐	☐	☑
L30196-4	15:10	SG			☐	☐	☐	☑
L30540-1	15:11	SG			☐	☐	☐	☑
L30540-2	15:11	SG			☐	☐	☐	☑
L30540-3	15:11	SG			☐	☐	☐	☑
L30540-4	15:12	SG			☐	☐	☐	☑
L30540-5	15:12	SG			CER 27 DEC 2018	☐	☐	☑
L30540-6	15:13	SG			☐	☐	☐	☑
L30540-7	15:13	SG			☐	☐	☐	☑
L30540-8	15:13	SG			☐	☐	☐	☑
L30540-9	15:14	SG			☐	☐	☐	☑
L30540-10	15:14	SG			☐	☐	☐	☑
L30540-11	15:14	SG			☐	☐	☐	☑
L30540-12	15:14	SG			☐	☐	☐	☑ 1 magnetic bead double spiked
WG66438-101 (BLANK)	15:15	SG			☐	☐	☐	☑
WG66438-102 (SPM)	15:15	SG			☐	☐	☐	☑
WG66438-103 (SPR)	15:15	SG			☐	☐	☐	☑

Sample ID	Authentic Std: PH088A-AUT/02 Date: 13 DEC 2018 Vol.: 10 µL Syringe#: 5159A Ampoule#: 273 Analyst: EK		Authentic Std: PH375A-STK/01 (13 Dec 2018 EK) STK Date: 13 DEC 2018 Vol.: 20 µL Syringe#: 5185 Ampoule#: 1 Analyst: EK		Authentic Std: PH332B-STK/01 (13 Dec 2018 EK) STK Date: 13 DEC 2018 Vol.: 20 µL Syringe#: 5185 Ampoule#: 2 Analyst: EK	
	Time	Witness	Time	Witness	Time	Witness
WG66438-102 SPM	15:02	SG	15:03	SG	15:06	SG CER 27DEC2018
WG66438-103 SPR	13 Dec 2018 EK		15:03	SG	15:07	SG CER 27DEC2018

SGS AXYS Analytical Services Ltd.

Extract Cleanup - Columning, Split, Lipid

WG: WG66438

Method: MLA-021 R12.05

Cleanup Type	Portion	Date	Time	Batch # / Type	Chemist	Pre-Elute	F1 (solvent, batch #, vol [mL])	F2 (solvent, batch #, vol [mL])	F3 (solvent, batch #, vol [mL])
Si (PAH/HC)	PAH	18Dec2018	11:00	337, 5%	EL/MA	N/A	Pent (30ml, 184355)	DCM (120ml, 1034?2)	N/A.
Al (PAH)							Hex	DCM	
BB							1:1 DCM:Hex	1:1 DCM:Hex	
									CER. 27 DEC 2018

Solvent Exchange

Before	Portion	Date	Time	Vol [µL]	Chemist
DCM	PAH	18Dec2018	8:00	300	EL/MA
		CER	27 DEC 2018		

Extract Wash

Date:	
Chemist:	
Start time:	
Acid/Base Wash	**MeCN:H_2O Wash**
20% KOH:	pH 10:
# times:	# times:
Water:	pH 7:
H_2SO_4:	pH 2:
# times:	
Water:	

Extract Splitting	Lipid
Balance #:	Balance #:
Date:	Date:
Time:	Time:
Chemist:	Chemist:

CER 27 DEC 2018

Reviewed by: CER Date: 27 DEC 2018

AXYS Analytical Services Ltd

Notes: Batch ID: WG66438 Method: MLA-021 R12.05

Date:	Analyst	Fraction	Notes:
			CER 27 DEC 2018

Reviewed by CER date 27 DEC 2018

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0740 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		9540	0.582 (S)	0.20	1.003
Fluoranthene d-10	93951-69-0		3890	0.377 (S)	0.16	0.834
13C6-Chrysene			5220	1.05 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6510	2.93 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-2_Form1A_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0740 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	139	38.6	0.13	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-2_Form2_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0740 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	U		0.503 (S)		
Chrysene [4]	218-01-9	K B J	3.64	0.514 (S)	0.40	1.003
Benzo[b]fluoranthene	205-99-2	U		1.30 (S)		
Benzo[j,k]fluoranthenes		U		1.46 (S)		
Benzo[a]pyrene	50-32-8	U		1.94 (S)		
Dibenz[a,h]anthracene [5]	53-70-3	U		1.71 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		0.822 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-2_Form1A_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0740 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	254	62.5	0.23	1.164
Chrysene d-12		392	249	63.4	0.27	1.169
Benzo[b]fluoranthene d-12		394	265	67.2	0.21	0.958
Benzo[k]fluoranthene d-12		400	267	66.7	0.19	0.962
Benzo[a]pyrene d-12		414	268	64.7	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	305	76.6	0.16	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-2_Form2_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.111 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		9260	0.785 (S)	0.20	1.003
Fluoranthene d-10	93951-69-0		4490	0.221 (S)	0.17	0.834
13C6-Chrysene			4800	1.45 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6140	2.36 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-3_Form1A_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.111 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	187	51.8	0.15	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-3_Form2_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.111 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	U		0.295 (S)		
Chrysene [4]	218-01-9	K B J	2.36	0.305 (S)	0.92	1.003
Benzo[b]fluoranthene	205-99-2	U		0.558 (S)		
Benzo[j,k]fluoranthenes		U		0.619 (S)		
Benzo[a]pyrene	50-32-8	U		0.857 (S)		
Dibenz[a,h]anthracene [5]	53-70-3	U		1.41 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		0.745 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-3_Form1A_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.111 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	293	72.2	0.23	1.164
Chrysene d-12		392	281	71.8	0.27	1.169
Benzo[b]fluoranthene d-12		394	330	83.7	0.21	0.958
Benzo[k]fluoranthene d-12		400	327	81.8	0.19	0.962
Benzo[a]pyrene d-12		414	317	76.6	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	326	82.0	0.16	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-3_Form2_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6466.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		10300	33.1 (S)	0.20	1.003
Fluoranthene d-10	93951-69-0		5060	0.155 (S)	0.17	0.834
13C6-Chrysene			7350	0.338 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		8570	3.95 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-4_Form1A_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6466.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	139	38.4	0.15	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30196-4_Form2_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6466.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	U		0.310 (S)		
Chrysene [4]	218-01-9	K B J	3.18	0.323 (S)	0.51	1.003
Benzo[b]fluoranthene	205-99-2	U		0.704 (S)		
Benzo[j,k]fluoranthenes		U		0.808 (S)		
Benzo[a]pyrene	50-32-8	U		1.17 (S)		
Dibenz[a,h]anthracene [5]	53-70-3	U		1.82 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		0.778 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-4_Form1A_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	09-Oct-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6466.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	282	69.4	0.23	1.164
Chrysene d-12		392	283	72.2	0.24	1.169
Benzo[b]fluoranthene d-12		394	308	78.3	0.21	0.958
Benzo[k]fluoranthene d-12		400	306	76.4	0.19	0.962
Benzo[a]pyrene d-12		414	288	69.6	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	332	83.3	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30196-4_Form2_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0960 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6467.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		6770	3.96 (S)	0.20	1.003
Fluoranthene d-10	93951-69-0		3670	0.420 (S)	0.17	0.834
13C6-Chrysene			4830	2.65 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6480	4.28 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-1_Form1A_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0960 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6467.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	156	43.3	0.13	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-1_Form2_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0960 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6467.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	U		0.465 (S)		
Chrysene [4]	218-01-9	K B J	0.975	0.467 (S)	1.34	1.003
Benzo[b]fluoranthene	205-99-2	U		0.563 (S)		
Benzo[j,k]fluoranthenes		U		0.645 (S)		
Benzo[a]pyrene	50-32-8	U		0.908 (S)		
Dibenz[a,h]anthracene [5]	53-70-3	U		1.79 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		1.09 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-1_Form1A_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0960 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6467.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	280	69.1	0.23	1.164
Chrysene d-12		392	283	72.2	0.27	1.169
Benzo[b]fluoranthene d-12		394	319	80.9	0.21	0.958
Benzo[k]fluoranthene d-12		400	319	79.7	0.19	0.962
Benzo[a]pyrene d-12		414	306	73.9	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	332	83.4	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-1_Form2_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6478.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		334	6.31 (S)	0.19	1.004
Fluoranthene d-10	93951-69-0		507	3.13 (S)	0.17	0.834
13C6-Chrysene			1430	3.30 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6140	9.55 (S)	0.19	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-2_Form1A_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6478.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:** **Closing Cal. Data Filename:**	PH8S6473.D PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	244	67.7	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-2_Form2_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6478.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		923	3.17 (S)	0.31	1.002
Chrysene [4]	218-01-9		1310	3.45 (S)	0.29	1.003
Benzo[b]fluoranthene	205-99-2		830	5.79 (S)	0.22	1.004
Benzo[j,k]fluoranthenes			772	6.81 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		621	10.2 (S)	0.22	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	44.2	7.56 (S)	0.35	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		238	10.2 (S)	0.17	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-2_Form1A_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.102 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6478.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	215	53.0	0.23	1.164
Chrysene d-12		392	201	51.2	0.26	1.169
Benzo[b]fluoranthene d-12		394	332	84.2	0.20	0.958
Benzo[k]fluoranthene d-12		400	324	81.1	0.19	0.962
Benzo[a]pyrene d-12		414	294	71.0	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	259	65.2	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-2_Form2_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.115 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6468.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		86.5	0.694 (S)	0.17	1.003
Fluoranthene d-10	93951-69-0		169	0.619 (S)	0.16	0.834
13C6-Chrysene			1550	1.83 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6400	3.06 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-3_Form1A_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.115 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6468.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	139	38.4	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-3_Form2_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.115 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6468.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	J	10.8	0.700 (S)	0.24	1.002
Chrysene [4]	218-01-9	J	18.9	0.709 (S)	0.32	1.003
Benzo[b]fluoranthene	205-99-2	J	13.7	0.631 (S)	0.19	1.004
Benzo[j,k]fluoranthenes		J	9.66	0.737 (S)	0.21	1.002
Benzo[a]pyrene	50-32-8	J	6.29	1.01 (S)	0.22	1.004
Dibenz[a,h]anthracene [5]	53-70-3	U		1.28 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		0.953 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-3_Form1A_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.115 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6468.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	281	69.2	0.23	1.164
Chrysene d-12		392	275	70.1	0.26	1.169
Benzo[b]fluoranthene d-12		394	300	76.1	0.21	0.958
Benzo[k]fluoranthene d-12		400	295	73.8	0.19	0.962
Benzo[a]pyrene d-12		414	289	69.8	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	308	77.5	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-3_Form2_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0980 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6470.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		664	1.96 (S)	0.19	1.004
Fluoranthene d-10	93951-69-0		940	1.69 (S)	0.17	0.834
13C6-Chrysene			3440	1.76 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		7210	1.90 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-4_Form1A_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0980 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6470.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	152	42.2	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-4_Form2_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0980 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6470.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		79.5	0.761 (S)	0.26	1.002
Chrysene [4]	218-01-9		127	0.808 (S)	0.31	1.003
Benzo[b]fluoranthene	205-99-2		72.7	0.585 (S)	0.24	1.004
Benzo[j,k]fluoranthenes			59.5	0.656 (S)	0.23	1.002
Benzo[a]pyrene	50-32-8	J	34.8	0.943 (S)	0.22	1.003
Dibenz[a,h]anthracene [5]	53-70-3	U		1.90 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	K J	9.94	1.00 (S)	0.01	1.002

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-4_Form1A_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0980 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6470.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	299	73.6	0.23	1.164
Chrysene d-12		392	294	75.0	0.27	1.169
Benzo[b]fluoranthene d-12		394	324	82.3	0.21	0.958
Benzo[k]fluoranthene d-12		400	323	80.8	0.19	0.962
Benzo[a]pyrene d-12		414	315	76.0	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	349	87.7	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-4_Form2_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.104 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6476.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		545	1.12 (S)	0.19	1.003
Fluoranthene d-10	93951-69-0		794	1.69 (S)	0.17	0.834
13C6-Chrysene			2400	1.21 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		5650	2.52 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-5_Form1A_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.104 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6476.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	160	44.3	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-5_Form2_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.104 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6476.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		223	1.09 (S)	0.28	1.002
Chrysene [4]	218-01-9		343	1.18 (S)	0.30	1.003
Benzo[b]fluoranthene	205-99-2		266	0.461 (S)	0.21	1.004
Benzo[j,k]fluoranthenes			220	0.539 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		130	0.724 (S)	0.19	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	18.4	1.54 (S)	0.37	1.007
Indeno[1,2,3-cd]pyrene	193-39-5	J	48.0	3.35 (S)	0.15	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-5_Form1A_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.104 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6476.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	287	70.7	0.23	1.164
Chrysene d-12		392	267	68.1	0.27	1.169
Benzo[b]fluoranthene d-12		394	312	79.3	0.21	0.958
Benzo[k]fluoranthene d-12		400	304	75.9	0.19	0.962
Benzo[a]pyrene d-12		414	298	72.1	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	308	77.3	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-5_Form2_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0940 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6479.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		749	3.43 (S)	0.19	1.004
Fluoranthene d-10	93951-69-0		1060	3.91 (S)	0.17	0.834
13C6-Chrysene			3500	2.43 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6730	3.33 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-6_Form1A_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0940 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6479.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:** **Closing Cal. Data Filename:**	PH8S6473.D PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	159	44.1	0.15	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-6_Form2_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0940 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6479.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		431	2.91 (S)	0.32	1.002
Chrysene [4]	218-01-9		629	3.19 (S)	0.29	1.002
Benzo[b]fluoranthene	205-99-2		424	2.04 (S)	0.23	1.003
Benzo[j,k]fluoranthenes			352	2.32 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		273	3.28 (S)	0.22	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	24.1	1.62 (S)	0.39	1.007
Indeno[1,2,3-cd]pyrene	193-39-5	K	100	1.79 (S)	0.04	1.003

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-6_Form1A_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0940 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6479.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	306	75.4	0.23	1.164
Chrysene d-12		392	288	73.4	0.27	1.169
Benzo[b]fluoranthene d-12		394	331	84.0	0.20	0.958
Benzo[k]fluoranthene d-12		400	327	81.6	0.19	0.962
Benzo[a]pyrene d-12		414	317	76.6	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	346	87.1	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-6_Form2_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6480.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		528	10.7 (S)	0.19	1.004
Fluoranthene d-10	93951-69-0		608	3.58 (S)	0.16	0.834
13C6-Chrysene			2240	2.14 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		6710	2.97 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-7_Form1A_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6480.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	170	47.1	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-7_Form2_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6480.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		575	3.07 (S)	0.31	1.002
Chrysene [4]	218-01-9		843	3.31 (S)	0.29	1.003
Benzo[b]fluoranthene	205-99-2		680	2.35 (S)	0.22	1.004
Benzo[j,k]fluoranthenes			596	2.72 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		464	3.70 (S)	0.23	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	34.9	6.33 (S)	0.28	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		150	3.39 (S)	0.17	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-7_Form1A_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6480.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	300	73.9	0.23	1.164
Chrysene d-12		392	283	72.2	0.27	1.169
Benzo[b]fluoranthene d-12		394	319	80.9	0.20	0.958
Benzo[k]fluoranthene d-12		400	315	78.7	0.19	0.962
Benzo[a]pyrene d-12		414	312	75.3	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	341	85.7	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-7_Form2_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0930 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6482.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		40.4	8.14 (S)	0.20	1.004
Fluoranthene d-10	93951-69-0		119	3.63 (S)	0.20	0.834
13C6-Chrysene			1880	5.16 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		7540	3.86 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-8_Form1A_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0930 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6482.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	182	50.5	0.15	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-8_Form2_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0930 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6482.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	K	141	2.63 (S)	0.33	1.003
Chrysene [4]	218-01-9		213	2.83 (S)	0.31	1.003
Benzo[b]fluoranthene	205-99-2		222	2.90 (S)	0.20	1.004
Benzo[j,k]fluoranthenes			167	3.13 (S)	0.23	1.002
Benzo[a]pyrene	50-32-8		188	4.19 (S)	0.19	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	14.5	3.08 (S)	0.47	1.007
Indeno[1,2,3-cd]pyrene	193-39-5	K	75.4	2.04 (S)	0.09	1.003

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-8_Form1A_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0930 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6482.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	310	76.5	0.23	1.164
Chrysene d-12		392	290	74.0	0.27	1.169
Benzo[b]fluoranthene d-12		394	316	80.1	0.21	0.958
Benzo[k]fluoranthene d-12		400	316	79.0	0.19	0.962
Benzo[a]pyrene d-12		414	319	77.0	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	356	89.6	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-8_Form2_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0890 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6469.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		653	4.87 (S)	0.19	1.003
Fluoranthene d-10	93951-69-0		503	3.01 (S)	0.16	0.834
13C6-Chrysene			2230	1.92 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		7280	4.62 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-9_Form1A_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0890 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6469.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	170	47.1	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-9_Form2_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0890 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6469.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		1480	1.80 (S)	0.28	1.002
Chrysene [4]	218-01-9		1890	1.97 (S)	0.30	1.003
Benzo[b]fluoranthene	205-99-2		1010	2.71 (S)	0.23	1.004
Benzo[j,k]fluoranthenes			791	3.04 (S)	0.21	1.002
Benzo[a]pyrene	50-32-8		588	4.12 (S)	0.22	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	53.7	2.60 (S)	0.22	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		182	1.72 (S)	0.19	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-9_Form1A_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0890 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6469.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	299	73.7	0.23	1.164
Chrysene d-12		392	280	71.4	0.27	1.169
Benzo[b]fluoranthene d-12		394	313	79.4	0.21	0.958
Benzo[k]fluoranthene d-12		400	310	77.5	0.20	0.962
Benzo[a]pyrene d-12		414	316	76.2	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	346	86.8	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-9_Form2_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6475.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		191	2.26 (S)	0.18	1.003
Fluoranthene d-10	93951-69-0		288	2.87 (S)	0.16	0.834
13C6-Chrysene			1680	2.13 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		5350	2.47 (S)	0.20	1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-10_Form1A_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6475.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	136	37.6	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-10_Form2_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6475.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		243	1.44 (S)	0.27	1.002
Chrysene [4]	218-01-9		328	1.54 (S)	0.31	1.002
Benzo[b]fluoranthene	205-99-2		305	2.02 (S)	0.23	1.004
Benzo[j,k]fluoranthenes			242	2.21 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		153	3.00 (S)	0.18	1.004
Dibenz[a,h]anthracene [5]	53-70-3	J	21.9	2.77 (S)	0.20	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		77.2	1.19 (S)	0.22	1.003

(1) Where applicable, custom lab flags have been used on this report; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-10_Form1A_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0970 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6475.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	291	71.7	0.23	1.164
Chrysene d-12		392	277	70.6	0.26	1.169
Benzo[b]fluoranthene d-12		394	299	75.9	0.21	0.958
Benzo[k]fluoranthene d-12		400	296	74.1	0.19	0.962
Benzo[a]pyrene d-12		414	297	71.7	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	335	84.2	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-10_Form2_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.109 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6481.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		190	6.43 (S)	0.18	1.003
Fluoranthene d-10	93951-69-0		212	4.88 (S)	0.17	0.834
13C6-Chrysene			1430	4.05 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		5280	4.13 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-11_Form1A_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.109 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6481.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	131	36.3	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-11_Form2_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.109 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6481.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		376	2.80 (S)	0.28	1.003
Chrysene [4]	218-01-9		562	2.93 (S)	0.30	1.003
Benzo[b]fluoranthene	205-99-2		599	2.00 (S)	0.22	1.004
Benzo[j,k]fluoranthenes			452	2.24 (S)	0.23	1.002
Benzo[a]pyrene	50-32-8		329	3.02 (S)	0.23	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	34.0	7.06 (S)	0.25	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		145	3.39 (S)	0.17	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-11_Form1A_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.109 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6481.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	244	60.0	0.23	1.164
Chrysene d-12		392	231	58.9	0.26	1.169
Benzo[b]fluoranthene d-12		394	260	66.0	0.21	0.958
Benzo[k]fluoranthene d-12		400	260	64.9	0.19	0.962
Benzo[a]pyrene d-12		414	259	62.7	0.20	1.008
Indeno[1,2,3-cd]pyrene d-12		398	296	74.4	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-11_Form2_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0990 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6477.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0		204	3.16 (S)	0.17	1.003
Fluoranthene d-10	93951-69-0		215	5.20 (S)	0.16	0.834
13C6-Chrysene			1310	3.42 (S)	0.31	1.003
13C6-Indeno(123cd)pyrene	362044-56-2		5410	3.74 (S)	0.20	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-12_Form1A_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0990 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6477.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6473.D
		Closing Cal. Data Filename:	PH8S6485.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10		361	166	46.1	0.14	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_L30540-12_Form2_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0990 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6477.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3		294	2.26 (S)	0.29	1.003
Chrysene [4]	218-01-9		641	2.40 (S)	0.30	1.002
Benzo[b]fluoranthene	205-99-2		797	2.91 (S)	0.22	1.004
Benzo[j,k]fluoranthenes			670	3.22 (S)	0.22	1.002
Benzo[a]pyrene	50-32-8		465	4.26 (S)	0.22	1.004
Dibenz[a,h]anthracene [5]	53-70-3	K J	44.1	5.26 (S)	0.22	1.007
Indeno[1,2,3-cd]pyrene	193-39-5		216	2.71 (S)	0.16	1.002

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-12_Form1A_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Matrix:	PLASTIC PASSIVE	**Sample Size:**	0.0990 g
Sample Receipt Date:	07-Dec-2018	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6477.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6472.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	291	71.6	0.23	1.164
Chrysene d-12		392	276	70.4	0.26	1.169
Benzo[b]fluoranthene d-12		394	298	75.8	0.20	0.958
Benzo[k]fluoranthene d-12		400	293	73.4	0.20	0.962
Benzo[a]pyrene d-12		414	297	71.8	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	304	76.3	0.17	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_L30540-12_Form2_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A

ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Matrix:	POLYETHYLENE	**Sample Size:**	0.100 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	BRACKETING CAL
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6463.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Opening Cal. Data Filename:**	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng/g		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
13C6-Phenanthrene	1189955-53-0	U		6.30 (S)		
Fluoranthene d-10	93951-69-0		8.73	0.644 (S)	0.17	0.835
13C6-Chrysene		K	4.15	1.39 (S)	0.85	1.003
13C6-Indeno(123cd)pyrene	362044-56-2	U		3.81 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_WG66438-101_Form1A_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	N/A
Matrix:	POLYETHYLENE	**Lab Sample I.D.:**	WG66438-101
Sample Receipt Date:	N/A	**Sample Size:**	0.100 g
Extraction Date:	13-Dec-2018	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH8S6463.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH8S6463.D
		Opening Cal. Data Filename:	PH8S6459.D
		Closing Cal. Data Filename:	PH8S6473.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Phenanthrene d-10	V	361	106	29.4	0.16	0.808
Benzo[a]anthracene d-12	X					
Chrysene d-12	X					
Indeno[1,2,3-cd]pyrene d-12	X					

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; X = result reported separately.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_WG66438-101_Form2_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Matrix:	POLYETHYLENE	**Sample Size:**	0.100 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6463.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D

Concentration Units: ng/g

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
Benz[a]anthracene [3]	56-55-3	U		0.470 (S)		
Chrysene [4]	218-01-9	J	1.44	0.495 (S)	0.31	1.003
Benzo[b]fluoranthene	205-99-2	U		1.01 (S)		
Benzo[j,k]fluoranthenes		U		1.18 (S)		
Benzo[a]pyrene	50-32-8	U		1.61 (S)		
Dibenz[a,h]anthracene [5]	53-70-3	U		1.07 (S)		
Indeno[1,2,3-cd]pyrene	193-39-5	U		1.57 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) May co-elute with Cyclopenta(cd)pyrene.
(4) May co-elute with Triphenylene.
(5) May co-elute with Dibenz[a,c]anthracene.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_WG66438-101_Form1A_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Matrix:	POLYETHYLENE	**Sample Size:**	0.100 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	19-Oct-2018
Extraction Date:	13-Dec-2018	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Sample Data Filename:**	**PH8S6463.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PH8S6463.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PH8S6458.D
Concentration Units:	ng absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Benzo[a]anthracene d-12		406	257	63.4	0.23	1.164
Chrysene d-12		392	261	66.6	0.26	1.169
Benzo[b]fluoranthene d-12		394	280	70.9	0.21	0.958
Benzo[k]fluoranthene d-12		400	282	70.6	0.19	0.962
Benzo[a]pyrene d-12		414	275	66.4	0.20	1.009
Indeno[1,2,3-cd]pyrene d-12		398	305	76.6	0.18	1.207

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_WG66438-101_Form2_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 8A
ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**OPR Data Filename:**	**PH8S6460.D**
Matrix:	POLYETHYLENE	**Lab Sample I.D.:**	WG66438-102
Extraction Date:	13-Dec-2018	**Analysis Date:**	28-Dec-2018 **Time:** 12:49:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C6-Phenanthrene	1189955-53-0		0.19	500	501	-	100
Fluoranthene d-10	93951-69-0		0.18	856	616	-	72.0
13C6-Chrysene			0.31	500	520	-	104
13C6-Indeno(123cd)pyrene	362044-56-2		0.20	500	480	-	96.0

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_WG66438-102_Form8A_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 8B
ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**OPR Data Filename:**	**PH8S6460.D**
Matrix:	POLYETHYLENE	**Lab Sample I.D.:**	WG66438-102
Extraction Date:	13-Dec-2018	**Analysis Date:**	28-Dec-2018 **Time:** 12:49:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Phenanthrene d-10	1517-22-2		0.14	3610	1450	1080-4690	40.2
Benzo[a]anthracene d-12	1718-53-2	X					
Chrysene d-12	1719-03-5	X					
Indeno[1,2,3-cd]pyrene d-12	203578-33-0	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAHPRC_4943_WG66438-102_Form8B_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 8A
ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**OPR Data Filename:**	**PH8S6460.D**
Matrix:	POLYETHYLENE	**Lab Sample I.D.:**	WG66438-102
Extraction Date:	13-Dec-2018	**Analysis Date:**	28-Dec-2018 **Time:** 12:49:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Benz[a]anthracene	56-55-3		0.27	2010	1980	1410 - 2620	98.5
Chrysene	218-01-9		0.30	2010	1980	1410 - 2610	98.6
Benzo[b]fluoranthene	205-99-2		0.22	2010	1940	1410 - 2620	96.5
Benzo[j,k]fluoranthenes			0.22	2020	2060	1410 - 2620	102
Benzo[a]pyrene	50-32-8		0.22	2000	1990	1400 - 2600	99.6
Dibenz[a,h]anthracene	53-70-3		0.15	1970	1650	1380 - 2560	83.6
Indeno[1,2,3-cd]pyrene	193-39-5		0.21	2010	1870	1410 - 2620	92.9

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: PAH_PAH_LO_LPAR_WG66438-102_Form8A_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 8B
ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4033 **OPR Data Filename:** **PH8S6460.D**

Matrix: POLYETHYLENE **Lab Sample I.D.:** WG66438-102

Extraction Date: 13-Dec-2018 **Analysis Date:** 28-Dec-2018 **Time:** 12:49:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Benzo[a]anthracene d-12	1718-53-2		0.23	4060	2580	1220-5280	63.6
Chrysene d-12	1719-03-5		0.26	3920	2590	1180-5100	66.1
Benzo[b]fluoranthene d-12	93951-98-5		0.21	3940	2870	1180-5120	72.9
Benzo[k]fluoranthene d-12	93952-01-3		0.20	4000	2840	1200-5200	71.1
Benzo[a]pyrene d-12	63466-71-7		0.20	4140	2820	1240-5380	68.2
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		0.18	3980	2890	1190-5170	72.7

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2; Report Filename: PAH_PAH_LO_LPAR_WG66438-102_Form8B_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

Injection Log Summary Report

Sample Directory : G:\PROLAB\INST_S\181019PH\

File ID	Sample Name	Misc Info	Date	Time
PH8S5102	TOLUENE,,	1,,1.0uL	19 Oct 2018	08:52
PH8S5103	TOLUENE,,	1,,1.0uL	19 Oct 2018	09:12
PH8S5104	PH036A-CAL/01,,	1,,1.0uL	19 Oct 2018	09:38
PH8S5105	PH036B-CAL/01,,	1,,1.0uL	19 Oct 2018	10:27
PH8S5106	PH036C-CAL/01,,	1,,1.0uL	19 Oct 2018	11:15
PH8S5107	PH036D-CAL/01,,	1,,1.0uL	19 Oct 2018	12:04
PH8S5108	PH036F-CAL/01,,	1,,1.0uL	19 Oct 2018	13:05
PH8S5109	PH036E-CAL/01,,	1,,1.0uL	19 Oct 2018	13:54
PH8S5110	PH006A-SSV/01,,	1,,1.0uL	19 Oct 2018	14:42
PH8S5111	PHWG65398 103A-CAL,,SPR	1,WG65398,1.0/100uL	19 Oct 2018	15:31
PH8S5112	WG65398-102,,SPM	1,WG65398,1.0/100uL	19 Oct 2018	16:20
PH8S5113	PH048B-SUR/01,,	1,,1.0uL	19 Oct 2018	17:09
PH8S5114	TOLUENE,,	1,,1.0uL	19 Oct 2018	17:57
PH8S5115	WG65398-101,,BLK	1,WG65398,1.0/100uL	19 Oct 2018	18:46
PH8S5116	L29990-5,,	1,WG65398,1.0/100uL	19 Oct 2018	19:35
PH8S5117	L29990-12,,	1,WG65398,1.0/100uL	19 Oct 2018	20:24
PH8S5118	L29990-13,,	1,WG65398,1.0/100uL	19 Oct 2018	21:12
PH8S5119	L29990-14,,	1,WG65398,1.0/100uL	19 Oct 2018	22:01
PH8S5120	L29990-15,,	1,WG65398,1.0/100uL	19 Oct 2018	22:50
PH8S5121	L29990-16,,	1,WG65398,1.0/100uL	19 Oct 2018	23:39
PH8S5122	L29990-17,,	1,WG65398,1.0/100uL	20 Oct 2018	00:28
PH8S5123	TOLUENE,,	1,,1.0uL	20 Oct 2018	01:17
PH8S5124	PH036E-CAL/01,,	1,,1.0uL	20 Oct 2018	01:37
PH8S5125	PH036E-CAL/01,,	1,,1.0uL	20 Oct 2018	02:26
PH8S5126	PHWG65398 103A-CAL,,SPR	1,WG65398,1.0/100uL	20 Oct 2018	03:14

SGS AXYS METHOD MLA-021 Rev 12

Form 3A
INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 19-Oct-2018

Instrument ID: LR GC/MS

GC Column ID: RTX5

CS0 Data Filename: N/A
CS1 Data Filename: PH8S5105.D
CS2 Data Filename: PH8S5106.D
CS3 Data Filename: PH8S5107.D
CS4 Data Filename: PH8S5109.D
CS5 Data Filename: PH8S5108.D
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
Naphthalene			1.22	1.16	1.23	1.20	1.17		1.20	2.54
Acenaphthylene			1.26	1.20	1.24	1.21	1.17		1.22	2.77
Acenaphthene			0.68	0.66	0.68	0.69	0.65		0.67	2.41
Fluorene			0.74	0.70	0.72	0.71	0.70		0.71	2.50
Phenanthrene			1.08	1.05	1.11	1.06	1.04		1.07	2.36
Anthracene			1.09	1.06	1.13	1.06	1.07		1.08	2.66
Fluoranthene			1.31	1.24	1.38	1.33	1.30		1.31	3.93
Pyrene			1.40	1.31	1.42	1.36	1.31		1.36	3.78
Benz[a]anthracene			1.35	1.25	1.33	1.27	1.26		1.29	3.29
Chrysene			1.24	1.19	1.28	1.25	1.22		1.23	2.78
Benzo[b]fluoranthene			1.56	1.44	1.45	1.40	1.39		1.45	4.61
Benzo[j,k]fluoranthenes			1.24	1.18	1.32	1.30	1.28		1.26	4.37
Benzo[e]pyrene			1.38	1.30	1.46	1.42	1.39		1.39	4.08
Benzo[a]pyrene			1.31	1.23	1.34	1.34	1.33		1.31	3.57
Perylene			1.38	1.31	1.41	1.40	1.40		1.38	2.75
Dibenz[a,h]anthracene			1.13	1.09	1.16	1.15	1.17		1.14	2.88
Indeno[1,2,3-cd]pyrene			1.24	1.15	1.26	1.23	1.23		1.22	3.42
Benzo[ghi]perylene			1.22	1.13	1.22	1.21	1.20		1.19	3.31
2-Methylnaphthalene			1.24	1.17	1.24	1.20	1.19		1.21	2.60
2,6-Dimethylnaphthalene			1.24	1.17	1.24	1.20	1.19		1.21	2.35
2,3,5-Trimethylnaphthalene			1.17	1.11	1.19	1.17	1.16		1.16	2.38
1-Methylphenanthrene			0.75	0.74	0.85	0.83	0.82		0.80	6.09
Dibenzothiophene			1.23	1.17	1.23	1.18	1.17		1.20	2.91

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limit is 20% for native compounds with a labeled analog, 35% for those without a labeled analog.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_19-Oct-2018_PH8S__Form3A_GS79616.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 3B
INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 19-Oct-2018

Instrument ID: LR GC/MS

GC Column ID: RTX5

CS0 Data Filename: N/A
CS1 Data Filename: PH8S5105.D
CS2 Data Filename: PH8S5106.D
CS3 Data Filename: PH8S5107.D
CS4 Data Filename: PH8S5109.D
CS5 Data Filename: PH8S5108.D
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
LABELED COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
Naphthalene d-8			1.50	1.51	1.52	1.46	1.48		1.50	1.57
2-Methylnaphthalene d-10			1.00	1.01	1.01	0.99	0.99		1.00	1.05
2,6-Dimethylnaphthalene d-12			0.92	0.93	0.92	0.90	0.91		0.92	0.97
Acenaphthylene d-8			1.79	1.79	1.80	1.69	1.78		1.77	2.46
Dibenzothiophene d-8			0.81	0.82	0.81	0.80	0.82		0.81	0.99
Phenanthrene d-10			0.91	0.91	0.91	0.91	0.93		0.91	1.07
Benzo[a]anthracene d-12			0.86	0.86	0.86	0.87	0.85		0.86	0.75
Chrysene d-12			0.91	0.91	0.90	0.88	0.89		0.90	1.76
Benzo[b]fluoranthene d-12			0.91	0.91	0.92	0.94	0.95		0.92	1.76
Benzo[k]fluoranthene d-12			1.02	1.02	1.03	1.01	1.04		1.02	1.03
Benzo[a]pyrene d-12			0.87	0.88	0.87	0.87	0.90		0.88	1.41
Perylene d-12			0.87	0.87	0.87	0.86	0.89		0.87	1.01
Indeno[1,2,3-cd]pyrene d-12			0.87	0.87	0.87	0.92	0.90		0.89	2.52
Benzo[ghi]perylene d-12			1.04	1.07	1.05	1.05	1.06		1.05	0.86
ADDITIONAL STANDARD										
Anthracene d-10			0.98	0.95	0.98	0.96	0.97		0.97	1.11
Fluoranthene d-10			1.08	1.08	1.08	1.07	1.12		1.09	1.85
Dibenzo[a,h]anthracene d-14			0.91	0.91	0.91	0.92	0.93		0.91	1.24

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limit is 35% for labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_19-Oct-2018_PH8S__Form3B_GS79616.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 3C
INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 19-Oct-2018

Instrument ID: LR GC/MS

GC Column ID: RTX5

CS0 Data Filename: N/A
CS1 Data Filename: PH8S5105.D
CS2 Data Filename: PH8S5106.D
CS3 Data Filename: PH8S5107.D
CS4 Data Filename: PH8S5109.D
CS5 Data Filename: PH8S5108.D
CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6
Naphthalene		**128,102**		0.06	0.07	0.07	0.07	0.07	
Acenaphthylene		**152,151**		0.20	0.20	0.20	0.20	0.20	
Acenaphthene		**154,153**		1.17	1.15	1.17	1.16	1.16	
Fluorene		**166,165**		1.02	1.01	1.01	1.00	0.99	
Phenanthrene		**178,176**		0.20	0.19	0.19	0.19	0.19	
Anthracene		**178,176**		0.19	0.18	0.19	0.19	0.19	
Fluoranthene		**202,200**		0.21	0.22	0.21	0.21	0.20	
Pyrene		**202,200**		0.21	0.21	0.21	0.21	0.21	
Benz[a]anthracene		**228,226**		0.27	0.28	0.27	0.27	0.27	
Chrysene		**228,226**		0.31	0.30	0.30	0.30	0.30	
Benzo[b]fluoranthene		**252,253**		0.23	0.22	0.22	0.22	0.22	
Benzo[j,k]fluoranthenes		**252,253**		0.21	0.23	0.22	0.22	0.22	
Benzo[e]pyrene		**252,253**		0.22	0.21	0.21	0.22	0.22	
Benzo[a]pyrene		**252,253**		0.20	0.22	0.22	0.22	0.22	
Perylene		**252,253**		0.23	0.20	0.21	0.22	0.22	
Dibenz[a,h]anthracene		**278,139**		0.15	0.15	0.15	0.16	0.17	
Indeno[1,2,3-cd]pyrene		**276,138**		0.26	0.23	0.20	0.21	0.21	
Benzo[ghi]perylene		**276,138**		0.23	0.21	0.22	0.22	0.22	
2-Methylnaphthalene		**142,141**		0.91	0.92	0.91	0.90	0.90	
2,6-Dimethylnaphthalene		**156,141**		0.72	0.71	0.71	0.71	0.71	
2,3,5-Trimethylnaphthalene		**170,155**		0.94	0.93	0.93	0.92	0.92	
1-Methylphenanthrene		**192,191**		0.61	0.63	0.61	0.61	0.61	
Dibenzothiophene		**184,152**		0.09	0.08	0.09	0.09	0.09	

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_19-Oct-2018_PH8S__Form3C_GS79616.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 3D
INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 19-Oct-2018

Instrument ID: LR GC/MS

GC Column ID: RTX5

CS0 Data Filename: N/A
CS1 Data Filename: PH8S5105.D
CS2 Data Filename: PH8S5106.D
CS3 Data Filename: PH8S5107.D
CS4 Data Filename: PH8S5109.D
CS5 Data Filename: PH8S5108.D
CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG[1]	M/Z's FORMING RATIO	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6
Naphthalene d-8		**136,134**		0.09	0.09	0.09	0.10	0.09	
2-Methylnaphthalene d-10		**152,151**		0.19	0.19	0.19	0.19	0.19	
2,6-Dimethylnaphthalene d-12		**168,150**		0.77	0.77	0.76	0.76	0.77	
Acenaphthylene d-8		**160,158**		0.16	0.16	0.15	0.15	0.15	
Dibenzothiophene d-8		**192,160**		0.09	0.09	0.09	0.09	0.09	
Phenanthrene d-10		**188,184**		0.15	0.15	0.15	0.15	0.14	
Benzo[a]anthracene d-12		**240,236**		0.24	0.24	0.24	0.24	0.24	
Chrysene d-12		**240,236**		0.26	0.26	0.26	0.27	0.27	
Benzo[b]fluoranthene d-12		**264,260**		0.21	0.21	0.21	0.21	0.21	
Benzo[k]fluoranthene d-12		**264,260**		0.19	0.19	0.19	0.20	0.20	
Benzo[a]pyrene d-12		**264,260**		0.20	0.20	0.20	0.21	0.21	
Perylene d-12		**264,260**		0.24	0.25	0.25	0.25	0.25	
Indeno[1,2,3-cd]pyrene d-12		**288,284**		0.18	0.18	0.18	0.18	0.18	
Benzo[ghi]perylene d-12		**288,284**		0.19	0.19	0.19	0.19	0.19	
ADDITIONAL STANDARD									
Anthracene d-10		**188,184**		0.14	0.13	0.13	0.14	0.13	
Fluoranthene d-10		**212,208**		0.17	0.17	0.17	0.17	0.17	
Dibenzo[a,h]anthracene d-14		**292,288**		0.29	0.29	0.27	0.28	0.28	

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form3D.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_19-Oct-2018_PH8S__Form3D_GS79616.html; Workgroup: WG66438; Design ID: 3354]

Injection Log Summary Report

Sample Directory : G:\PROLAB\INST_S\181228PH\

File ID	Sample Name	Misc Info	Date	Time
PH8S6456	TOLUENE,,	1,,1.0uL	28 Dec 2018	09:57
PH8S6457	PH036A-CAL/01,,	1,,1.0uL	28 Dec 2018	10:22
PH8S6458	PH036E-CAL/01,,	1,,1.0uL	28 Dec 2018	11:11
PH8S6459	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	28 Dec 2018	12:00
PH8S6460	WG66438-102,,SPM	1,WG66438,1.0/100uL	28 Dec 2018	12:49
PH8S6461	PH048A-SUR/01,,	1,,1.0uL	28 Dec 2018	13:37
PH8S6462	TOLUENE,,	1,,1.0uL	28 Dec 2018	14:26
PH8S6463	WG66438-101,,BLK	1,WG66438,1.0/100uL	28 Dec 2018	15:15
PH8S6464	L30196-2,,	1,WG66438,1.0/100uL	28 Dec 2018	16:03
PH8S6465	L30196-3,,	1,WG66438,1.0/100uL	28 Dec 2018	16:52
PH8S6466	L30196-4,,	1,WG66438,1.0/100uL	28 Dec 2018	17:41
PH8S6467	L30540-1,,	1,WG66438,1.0/100uL	28 Dec 2018	18:30
PH8S6468	L30540-3,,	1,WG66438,1.0/100uL	28 Dec 2018	19:18
PH8S6469	L30540-9,,	1,WG66438,1.0/100uL	28 Dec 2018	20:07
PH8S6470	L30540-4,,	1,WG66438,1.0/100uL	28 Dec 2018	20:56
PH8S6471	TOLUENE,,	1,,1.0uL	28 Dec 2018	21:45
PH8S6472	PH036E-CAL/01,,	1,,1.0uL	28 Dec 2018	22:05
PH8S6473	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	28 Dec 2018	22:53
PH8S6474	PH048A-SUR/01,,	1,,1.0uL	28 Dec 2018	23:42
PH8S6475	L30540-10,,	1,WG66438,1.0/100uL	29 Dec 2018	00:31
PH8S6476	L30540-5,,	1,WG66438,1.0/100uL	29 Dec 2018	01:20
PH8S6477	L30540-12,,	1,WG66438,1.0/100uL	29 Dec 2018	02:09
PH8S6478	L30540-2,,	1,WG66438,1.0/100uL	29 Dec 2018	02:58
PH8S6479	L30540-6,,	1,WG66438,1.0/100uL	29 Dec 2018	03:47
PH8S6480	L30540-7,,	1,WG66438,1.0/100uL	29 Dec 2018	04:36
PH8S6481	L30540-11,,	1,WG66438,1.0/100uL	29 Dec 2018	05:24
PH8S6482	L30540-8,,	1,WG66438,1.0/100uL	29 Dec 2018	06:13
PH8S6483	TOLUENE,,	1,,1.0uL	29 Dec 2018	07:02
PH8S6484	PH036E-CAL/01,,	1,,1.0uL	29 Dec 2018	07:22
PH8S6485	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	29 Dec 2018	08:10
PH8S6486	WG63671-106,,SPR	1,WG63671,1.0/100uL	29 Dec 2018	08:59

SGS AXYS METHOD MLA-021 Rev 12

Form 4A
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6458.D
Instrument ID:	LR GC/MS	**Analysis Date:**	28-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	11:11:00

COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene	91-20-3		128,102	0.07	0.06-0.08	1950	1480-2470
Acenaphthylene	208-96-8		152,151	0.20	0.16-0.24	1920	1480-2460
Acenaphthene	83-32-9		154,153	1.16	0.93-1.39	2150	1500-2510
Fluorene	86-73-7		166,165	0.99	0.79-1.19	2050	1470-2460
Phenanthrene	85-01-8		178,176	0.19	0.15-0.23	1980	1510-2520
Anthracene	120-12-7		178,176	0.19	0.15-0.23	1930	1500-2510
Fluoranthene	206-44-0		202,200	0.20	0.16-0.24	1870	1480-2470
Pyrene	129-00-0		202,200	0.21	0.17-0.25	1790	1490-2480
Benz[a]anthracene	56-55-3		228,226	0.27	0.22-0.32	1940	1510-2520
Chrysene	218-01-9		228,226	0.30	0.24-0.36	2000	1510-2510
Benzo[b]fluoranthene	205-99-2		252,253	0.22	0.18-0.26	1920	1510-2520
Benzo[j,k]fluoranthenes			252,253	0.22	0.18-0.26	2050	1510-2520
Benzo[e]pyrene	192-97-2		252,253	0.22	0.18-0.26	1970	1500-2500
Benzo[a]pyrene	50-32-8		252,253	0.22	0.18-0.26	2000	1500-2500
Perylene	198-55-0		252,253	0.22	0.18-0.26	1980	1500-2500
Dibenz[a,h]anthracene	53-70-3		278,139	0.16	0.10-0.22	1950	1480-2470
Indeno[1,2,3-cd]pyrene	193-39-5		276,138	0.20	0.13-0.27	1950	1510-2520
Benzo[ghi]perylene	191-24-2		276,138	0.21	0.14-0.28	1970	1480-2460
2-Methylnaphthalene	91-57-6		142,141	0.90	0.72-1.08	1980	1500-2500
2,6-Dimethylnaphthalene	581-42-0		156,141	0.69	0.55-0.83	1980	1500-2500
2,3,5-Trimethylnaphthalene	2245-38-7		170,155	0.92	0.74-1.10	1960	1500-2500
1-Methylphenanthrene	832-69-9		192,191	0.61	0.49-0.73	2020	1500-2500
Dibenzothiophene	132-65-0		184,152	0.08	0.06-0.10	1950	1500-2500
Anthracene d-10			188,184	0.14	0.11-0.17	2010	1530-2550
Fluoranthene d-10	93951-69-0		212,208	0.17	0.14-0.20	2110	1490-2480
Dibenzo[a,h]anthracene d-14	13250-98-1		292,288	0.26	0.17-0.35	1870	1440-2390

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6458.D__Form4A_SJ2491832.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4B
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6458.D
Instrument ID:	LR GC/MS	**Analysis Date:**	28-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	11:11:00

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene d-8	1146-65-2		136,134	0.09	0.07-0.11	1990	1500-2500
2-Methylnaphthalene d-10	7297-45-2		152,151	0.19	0.15-0.23	1950	1480-2460
2,6-Dimethylnaphthalene d-12	350820-12-1		168,150	0.73	0.58-0.88	2060	1540-2570
Acenaphthylene d-8	93951-97-4		160,158	0.15	0.12-0.18	1860	1550-2580
Dibenzothiophene d-8	33262-29-2		192,160	0.09	0.07-0.11	2200	1530-2540
Phenanthrene d-10	1517-22-2		188,184	0.15	0.12-0.18	1940	1350-2260
Benzo[a]anthracene d-12	1718-53-2		240,236	0.24	0.19-0.29	1930	1520-2540
Chrysene d-12	1719-03-5		240,236	0.26	0.21-0.31	1790	1470-2450
Benzo[b]fluoranthene d-12	93951-98-5		264,260	0.21	0.17-0.25	2010	1480-2460
Benzo[k]fluoranthene d-12	93952-01-3		264,260	0.19	0.15-0.23	1990	1500-2500
Benzo[a]pyrene d-12	63466-71-7		264,260	0.20	0.16-0.24	2100	1550-2590
Perylene d-12	1520-96-3		264,260	0.24	0.19-0.29	2190	1610-2690
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		288,284	0.18	0.12-0.24	2270	1490-2490
Benzo[ghi]perylene d-12	93951-66-7		288,284	0.19	0.12-0.26	2110	1490-2480

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6458.D__Form4B_SJ2491832.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4A
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6472.D
Instrument ID:	LR GC/MS	**Analysis Date:**	28-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	22:05:00

COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene	91-20-3		128,102	0.07	0.06-0.08	1970	1480-2470
Acenaphthylene	208-96-8		152,151	0.20	0.16-0.24	1920	1480-2460
Acenaphthene	83-32-9		154,153	1.16	0.93-1.39	2150	1500-2510
Fluorene	86-73-7		166,165	1.00	0.80-1.20	2050	1470-2460
Phenanthrene	85-01-8		178,176	0.19	0.15-0.23	1980	1510-2520
Anthracene	120-12-7		178,176	0.19	0.15-0.23	1930	1500-2510
Fluoranthene	206-44-0		202,200	0.20	0.16-0.24	1850	1480-2470
Pyrene	129-00-0		202,200	0.21	0.17-0.25	1790	1490-2480
Benz[a]anthracene	56-55-3		228,226	0.27	0.22-0.32	1940	1510-2520
Chrysene	218-01-9		228,226	0.30	0.24-0.36	2010	1510-2510
Benzo[b]fluoranthene	205-99-2		252,253	0.22	0.18-0.26	1920	1510-2520
Benzo[j,k]fluoranthenes			252,253	0.22	0.18-0.26	2050	1510-2520
Benzo[e]pyrene	192-97-2		252,253	0.22	0.18-0.26	1990	1500-2500
Benzo[a]pyrene	50-32-8		252,253	0.22	0.18-0.26	2010	1500-2500
Perylene	198-55-0		252,253	0.22	0.18-0.26	2000	1500-2500
Dibenz[a,h]anthracene	53-70-3		278,139	0.16	0.10-0.22	1990	1480-2470
Indeno[1,2,3-cd]pyrene	193-39-5		276,138	0.20	0.13-0.27	1980	1510-2520
Benzo[ghi]perylene	191-24-2		276,138	0.21	0.14-0.28	1960	1480-2460
2-Methylnaphthalene	91-57-6		142,141	0.90	0.72-1.08	1970	1500-2500
2,6-Dimethylnaphthalene	581-42-0		156,141	0.69	0.55-0.83	1980	1500-2500
2,3,5-Trimethylnaphthalene	2245-38-7		170,155	0.91	0.73-1.09	1950	1500-2500
1-Methylphenanthrene	832-69-9		192,191	0.60	0.48-0.72	2050	1500-2500
Dibenzothiophene	132-65-0		184,152	0.08	0.06-0.10	1960	1500-2500
Anthracene d-10			188,184	0.14	0.11-0.17	1980	1530-2550
Fluoranthene d-10	93951-69-0		212,208	0.17	0.14-0.20	2120	1490-2480
Dibenzo[a,h]anthracene d-14	13250-98-1		292,288	0.28	0.18-0.38	1910	1440-2390

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6472.D__Form4A_SJ2491833.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4B
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6472.D
Instrument ID:	LR GC/MS	**Analysis Date:**	28-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	22:05:00

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene d-8	1146-65-2		136,134	0.09	0.07-0.11	1980	1500-2500
2-Methylnaphthalene d-10	7297-45-2		152,151	0.19	0.15-0.23	1970	1480-2460
2,6-Dimethylnaphthalene d-12	350820-12-1		168,150	0.73	0.58-0.88	2080	1540-2570
Acenaphthylene d-8	93951-97-4		160,158	0.15	0.12-0.18	1860	1550-2580
Dibenzothiophene d-8	33262-29-2		192,160	0.09	0.07-0.11	2180	1530-2540
Phenanthrene d-10	1517-22-2		188,184	0.15	0.12-0.18	1940	1350-2260
Benzo[a]anthracene d-12	1718-53-2		240,236	0.24	0.19-0.29	1930	1520-2540
Chrysene d-12	1719-03-5		240,236	0.26	0.21-0.31	1810	1470-2450
Benzo[b]fluoranthene d-12	93951-98-5		264,260	0.21	0.17-0.25	2000	1480-2460
Benzo[k]fluoranthene d-12	93952-01-3		264,260	0.19	0.15-0.23	2020	1500-2500
Benzo[a]pyrene d-12	63466-71-7		264,260	0.20	0.16-0.24	2090	1550-2590
Perylene d-12	1520-96-3		264,260	0.25	0.20-0.30	2160	1610-2690
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		288,284	0.18	0.12-0.24	2190	1490-2490
Benzo[ghi]perylene d-12	93951-66-7		288,284	0.19	0.12-0.26	2080	1490-2480

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6472.D__Form4B_SJ2491833.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4A
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6484.D
Instrument ID:	LR GC/MS	**Analysis Date:**	29-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	07:22:00

COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene	91-20-3		128,102	0.07	0.06-0.08	1960	1480-2470
Acenaphthylene	208-96-8		152,151	0.20	0.16-0.24	1940	1480-2460
Acenaphthene	83-32-9		154,153	1.16	0.93-1.39	2160	1500-2510
Fluorene	86-73-7		166,165	0.99	0.79-1.19	2050	1470-2460
Phenanthrene	85-01-8		178,176	0.19	0.15-0.23	1990	1510-2520
Anthracene	120-12-7		178,176	0.19	0.15-0.23	1940	1500-2510
Fluoranthene	206-44-0		202,200	0.21	0.17-0.25	1900	1480-2470
Pyrene	129-00-0		202,200	0.21	0.17-0.25	1820	1490-2480
Benz[a]anthracene	56-55-3		228,226	0.27	0.22-0.32	1960	1510-2520
Chrysene	218-01-9		228,226	0.30	0.24-0.36	2000	1510-2510
Benzo[b]fluoranthene	205-99-2		252,253	0.22	0.18-0.26	1930	1510-2520
Benzo[j,k]fluoranthenes			252,253	0.22	0.18-0.26	2050	1510-2520
Benzo[e]pyrene	192-97-2		252,253	0.22	0.18-0.26	1980	1500-2500
Benzo[a]pyrene	50-32-8		252,253	0.22	0.18-0.26	2010	1500-2500
Perylene	198-55-0		252,253	0.22	0.18-0.26	2000	1500-2500
Dibenz[a,h]anthracene	53-70-3		278,139	0.16	0.10-0.22	1990	1480-2470
Indeno[1,2,3-cd]pyrene	193-39-5		276,138	0.20	0.13-0.27	1980	1510-2520
Benzo[ghi]perylene	191-24-2		276,138	0.22	0.14-0.30	1980	1480-2460
2-Methylnaphthalene	91-57-6		142,141	0.90	0.72-1.08	1980	1500-2500
2,6-Dimethylnaphthalene	581-42-0		156,141	0.69	0.55-0.83	1970	1500-2500
2,3,5-Trimethylnaphthalene	2245-38-7		170,155	0.92	0.74-1.10	1940	1500-2500
1-Methylphenanthrene	832-69-9		192,191	0.61	0.49-0.73	2030	1500-2500
Dibenzothiophene	132-65-0		184,152	0.09	0.07-0.11	1960	1500-2500
Anthracene d-10			188,184	0.13	0.10-0.16	1960	1530-2550
Fluoranthene d-10	93951-69-0		212,208	0.17	0.14-0.20	2060	1490-2480
Dibenzo[a,h]anthracene d-14	13250-98-1		292,288	0.28	0.18-0.38	1900	1440-2390

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6484.D__Form4A_SJ2491870.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4B
CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	19-Oct-2018	**VER Data Filename:**	PH8S6484.D
Instrument ID:	LR GC/MS	**Analysis Date:**	29-Dec-2018
GC Column ID:	RTX5	**Analysis Time:**	07:22:00

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	SAMPLE QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
Naphthalene d-8	1146-65-2		136,134	0.09	0.07-0.11	2000	1500-2500
2-Methylnaphthalene d-10	7297-45-2		152,151	0.19	0.15-0.23	1970	1480-2460
2,6-Dimethylnaphthalene d-12	350820-12-1		168,150	0.73	0.58-0.88	2070	1540-2570
Acenaphthylene d-8	93951-97-4		160,158	0.15	0.12-0.18	1860	1550-2580
Dibenzothiophene d-8	33262-29-2		192,160	0.09	0.07-0.11	2140	1530-2540
Phenanthrene d-10	1517-22-2		188,184	0.15	0.12-0.18	1900	1350-2260
Benzo[a]anthracene d-12	1718-53-2		240,236	0.23	0.18-0.28	1990	1520-2540
Chrysene d-12	1719-03-5		240,236	0.26	0.21-0.31	1880	1470-2450
Benzo[b]fluoranthene d-12	93951-98-5		264,260	0.21	0.17-0.25	1980	1480-2460
Benzo[k]fluoranthene d-12	93952-01-3		264,260	0.19	0.15-0.23	2040	1500-2500
Benzo[a]pyrene d-12	63466-71-7		264,260	0.20	0.16-0.24	2110	1550-2590
Perylene d-12	1520-96-3		264,260	0.25	0.20-0.30	2170	1610-2690
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		288,284	0.18	0.12-0.24	2200	1490-2490
Benzo[ghi]perylene d-12	93951-66-7		288,284	0.19	0.12-0.26	2060	1490-2480

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: GENERIC-SPECS_PAH_LO_PH8S6484.D__Form4B_SJ2491870.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4C
BRACKETING CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS **GC Column ID:** RTX5

OPENING CAL Data Filename: PH8S6459.D **Analysis Date:** 28-Dec-2018 **Time:** 12:00:00

CLOSING CAL Data Filename: PH8S6473.D **Analysis Date:** 28-Dec-2018 **Time:** 22:53:00

COMPOUND	CAS NO.	LAB FLAG [1]	RELATIVE RESPONSE (RR) OPENING CAL	RELATIVE RESPONSE (RR) CLOSING CAL	MEAN RR	RPD [2]
13C6-Phenanthrene	1189955-53-0		1.13	1.14	1.13	0.795
Fluoranthene d-10	93951-69-0		1.33	1.40	1.36	5.14
13C6-Chrysene			1.13	1.11	1.12	1.96
13C6-Indeno(123cd)pyrene	362044-56-2		1.20	1.30	1.25	7.76

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limits are < 40% RPD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4C.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2; Report Filename: GENERIC-SPECS_PAH_LO_GS79647__Form4C_GS79647.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4D
BRACKETING CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS **GC Column ID:** RTX5

OPENING CAL Data Filename: PH8S6459.D **Analysis Date:** 28-Dec-2018 **Time:** 12:00:00

CLOSING CAL Data Filename: PH8S6473.D **Analysis Date:** 28-Dec-2018 **Time:** 22:53:00

COMPOUND	CAS NO.	LAB FLAG [1]	RELATIVE RESPONSE (RR) OPENING CAL	RELATIVE RESPONSE (RR) CLOSING CAL	MEAN RR	RPD [2]
Phenanthrene d-10	1517-22-2		0.920	0.938	0.929	1.94
Benzo[a]anthracene d-12	1718-53-2		0.634	0.612	0.623	3.53
Chrysene d-12	1719-03-5		0.665	0.669	0.667	0.600
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		0.730	0.714	0.722	2.22

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limits are < 40% RPD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4D.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2; Report Filename: GENERIC-SPECS_PAH_LO_GS79647__Form4D_GS79647.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4C
BRACKETING CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS **GC Column ID:** RTX5

OPENING CAL Data Filename: PH8S6473.D **Analysis Date:** 28-Dec-2018 **Time:** 22:53:00

CLOSING CAL Data Filename: PH8S6485.D **Analysis Date:** 29-Dec-2018 **Time:** 08:10:00

COMPOUND	CAS NO.	LAB FLAG [1]	RELATIVE RESPONSE (RR) OPENING CAL	RELATIVE RESPONSE (RR) CLOSING CAL	MEAN RR	RPD [2]
13C6-Phenanthrene	1189955-53-0		1.14	1.14	1.14	0.264
Fluoranthene d-10	93951-69-0		1.40	1.22	1.31	13.4
13C6-Chrysene			1.11	1.13	1.12	1.96
13C6-Indeno(123cd)pyrene	362044-56-2		1.30	1.23	1.27	5.21

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limits are < 40% RPD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4C.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2; Report Filename: GENERIC-SPECS_PAH_LO_GS79648__Form4C_GS79648.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

Form 4D
BRACKETING CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS **GC Column ID:** RTX5

OPENING CAL Data Filename: PH8S6473.D **Analysis Date:** 28-Dec-2018 **Time:** 22:53:00

CLOSING CAL Data Filename: PH8S6485.D **Analysis Date:** 29-Dec-2018 **Time:** 08:10:00

COMPOUND	CAS NO.	LAB FLAG [1]	RELATIVE RESPONSE (RR) OPENING CAL	RELATIVE RESPONSE (RR) CLOSING CAL	MEAN RR	RPD [2]
Phenanthrene d-10	1517-22-2		0.938	0.877	0.908	6.72
Benzo[a]anthracene d-12	1718-53-2		0.612	0.686	0.649	11.4
Chrysene d-12	1719-03-5		0.669	0.726	0.698	8.17
Indeno[1,2,3-cd]pyrene d-12	203578-33-0		0.714	0.746	0.730	4.38

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limits are < 40% RPD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Pest4D.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2; Report Filename: GENERIC-SPECS_PAH_LO_GS79648__Form4D_GS79648.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-2_Audit1A_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-2_Audit1B_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-2_Audit2A_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-2

Sample Data Filename: **PH8S6464.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:03:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-2_Audit2B_PH8S6464.D_SJ2492351.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							2.68	0.4
BENZO[B]FLUORANTHENE	9.92	0	0					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-2_Audit1A_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE				NDR	ND(R)			VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-2_Audit1B_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-2
Sample Data Filename:	**PH8S6464.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:03:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-2_Audit2A_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #1
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-2

Sample Data Filename: **PH8S6464.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:03:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-2_Audit2B_PH8S6464.D_SJ2491778.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Sample Data Filename:	**PH8S6465.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-3_Audit1A_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Sample Data Filename:	**PH8S6465.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-3_Audit1B_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Sample Data Filename:	**PH8S6465.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-3_Audit2A_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-3

Sample Data Filename: **PH8S6465.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:52:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-3_Audit2B_PH8S6465.D_SJ2492352.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-3

Sample Data Filename: **PH8S6465.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:52:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							4.16	0.92
BENZO[B]FLUORANTHENE	6.43	0	0					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-3_Audit1A_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-3

Sample Data Filename: **PH8S6465.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:52:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE				NDR	ND(R)			VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-3_Audit1B_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-3
Sample Data Filename:	**PH8S6465.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 16:52:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-3_Audit2A_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-3

Sample Data Filename: **PH8S6465.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 16:52:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-3_Audit2B_PH8S6465.D_SJ2491780.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-4_Audit1A_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-4_Audit1B_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-4_Audit2A_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30196-4_Audit2B_PH8S6466.D_SJ2492353.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							4.22	0.51
BENZO[B]FLUORANTHENE	7.34	0	0					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-4_Audit1A_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE				NDR	ND(R)			VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-4_Audit1B_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30196-4
Sample Data Filename:	**PH8S6466.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 17:41:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-4_Audit2A_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
PAH Day Zero #3
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30196-4

Sample Data Filename: **PH8S6466.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 17:41:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30196-4_Audit2B_PH8S6466.D_SJ2491781.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Sample Data Filename:	**PH8S6467.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-1_Audit1A_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Sample Data Filename:	**PH8S6467.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-1_Audit1B_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Sample Data Filename:	**PH8S6467.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-1_Audit2A_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-1

Sample Data Filename: **PH8S6467.D** **Instrument ID:** LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 18:30:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-1_Audit2B_PH8S6467.D_SJ2492354.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-1

Sample Data Filename: **PH8S6467.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 18:30:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							9.23	1.34
BENZO[B]FLUORANTHENE	7.45	0	0					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-1_Audit1A_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-1

Sample Data Filename: **PH8S6467.D** **Instrument ID:** LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 18:30:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE				NDR	ND(R)			VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-1_Audit1B_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-1
Sample Data Filename:	**PH8S6467.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 18:30:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-1_Audit2A_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-PWPS-EXpBlk-PAH
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-1

Sample Data Filename: **PH8S6467.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 18:30:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-1_Audit2B_PH8S6467.D_SJ2491782.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Sample Data Filename:	**PH8S6478.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-2_Audit1A_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Sample Data Filename:	**PH8S6478.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-2_Audit1B_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Sample Data Filename:	**PH8S6478.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-2_Audit2A_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-2

Sample Data Filename: **PH8S6478.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 02:58:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-2_Audit2B_PH8S6478.D_SJ2492379.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-2

Sample Data Filename: **PH8S6478.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 02:58:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	838	830	0.990					
INDENO[123CD]PYRENE							0.60	0.17

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-2_Audit1A_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Sample Data Filename:	**PH8S6478.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-2_Audit1B_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-2
Sample Data Filename:	**PH8S6478.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:58:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-2_Audit2A_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A01
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-2

Sample Data Filename: **PH8S6478.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 02:58:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-2_Audit2B_PH8S6478.D_SJ2491837.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Sample Data Filename:	**PH8S6468.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-3_Audit1A_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Sample Data Filename:	**PH8S6468.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-3_Audit1B_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Sample Data Filename:	**PH8S6468.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-3_Audit2A_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-3

Sample Data Filename: **PH8S6468.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 19:18:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-3_Audit2B_PH8S6468.D_SJ2492355.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-3

Sample Data Filename: **PH8S6468.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 19:18:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.45	0.32
BENZO[B]FLUORANTHENE	21.2	13.7	0.645					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-3_Audit1A_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Sample Data Filename:	**PH8S6468.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE				NDR				VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-3_Audit1B_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-3
Sample Data Filename:	**PH8S6468.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 19:18:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-3_Audit2A_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A02
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-3

Sample Data Filename: **PH8S6468.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 19:18:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-3_Audit2B_PH8S6468.D_SJ2491783.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Sample Data Filename:	**PH8S6470.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-4_Audit1A_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Sample Data Filename:	**PH8S6470.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-4_Audit1B_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Sample Data Filename:	**PH8S6470.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-4_Audit2A_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-4

Sample Data Filename: **PH8S6470.D** **Instrument ID:** LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:56:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-4_Audit2B_PH8S6470.D_SJ2492373.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-4

Sample Data Filename: **PH8S6470.D** **Instrument ID:** LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:56:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.35	0.31
BENZO[B]FLUORANTHENE	81.6	72.7	0.891					
INDENO[123CD]PYRENE							11.71	0.01

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-4_Audit1A_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Sample Data Filename:	**PH8S6470.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-4_Audit1B_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-4
Sample Data Filename:	**PH8S6470.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:56:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-4_Audit2A_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A04
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-4

Sample Data Filename: **PH8S6470.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:56:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-4_Audit2B_PH8S6470.D_SJ2491785.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Sample Data Filename:	**PH8S6476.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-5_Audit1A_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Sample Data Filename:	**PH8S6476.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-5_Audit1B_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Sample Data Filename:	**PH8S6476.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-5_Audit2A_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-5

Sample Data Filename: **PH8S6476.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 01:20:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-5_Audit2B_PH8S6476.D_SJ2492377.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-5

Sample Data Filename: **PH8S6476.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 01:20:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.31	0.3
BENZO[B]FLUORANTHENE	275	266	0.970					
INDENO[123CD]PYRENE							2.15	0.15

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-5_Audit1A_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Sample Data Filename:	**PH8S6476.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-5_Audit1B_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-5
Sample Data Filename:	**PH8S6476.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 01:20:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-5_Audit2A_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A06
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-5

Sample Data Filename: **PH8S6476.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 01:20:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-5_Audit2B_PH8S6476.D_SJ2491835.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Sample Data Filename:	**PH8S6479.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-6_Audit1A_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Sample Data Filename:	**PH8S6479.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-6_Audit1B_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Sample Data Filename:	**PH8S6479.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-6_Audit2A_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-6

Sample Data Filename: **PH8S6479.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 03:47:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-6_Audit2B_PH8S6479.D_SJ2492380.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-6

Sample Data Filename: **PH8S6479.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 03:47:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.30	0.29
BENZO[B]FLUORANTHENE	434	424	0.979					
INDENO[123CD]PYRENE							1.17	0.04

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-6_Audit1A_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Sample Data Filename:	**PH8S6479.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-6_Audit1B_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-6
Sample Data Filename:	**PH8S6479.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 03:47:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-6_Audit2A_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-6

Sample Data Filename: **PH8S6479.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 03:47:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-6_Audit2B_PH8S6479.D_SJ2491838.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Sample Data Filename:	**PH8S6480.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-7_Audit1A_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Sample Data Filename:	**PH8S6480.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-7_Audit1B_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Sample Data Filename:	**PH8S6480.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-7_Audit2A_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-7

Sample Data Filename: **PH8S6480.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 04:36:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-7_Audit2B_PH8S6480.D_SJ2492381.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-7

Sample Data Filename: **PH8S6480.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 04:36:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	689	680	0.987					
INDENO[123CD]PYRENE							0.92	0.17

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-7_Audit1A_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-7

Sample Data Filename: **PH8S6480.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 04:36:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-7_Audit1B_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-7
Sample Data Filename:	**PH8S6480.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 04:36:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-7_Audit2A_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A07Dup
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-7

Sample Data Filename: **PH8S6480.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 04:36:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-7_Audit2B_PH8S6480.D_SJ2491839.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Sample Data Filename:	**PH8S6482.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-8_Audit1A_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Sample Data Filename:	**PH8S6482.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-8_Audit1B_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Sample Data Filename:	**PH8S6482.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-8_Audit2A_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-8

Sample Data Filename: **PH8S6482.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 06:13:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-8_Audit2B_PH8S6482.D_SJ2492383.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-8

Sample Data Filename: **PH8S6482.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 06:13:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.32	0.31
BENZO[B]FLUORANTHENE	231	222	0.959					
INDENO[123CD]PYRENE							1.78	0.09

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-8_Audit1A_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Sample Data Filename:	**PH8S6482.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-8_Audit1B_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-8
Sample Data Filename:	**PH8S6482.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 06:13:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-8_Audit2A_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A08
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-8

Sample Data Filename: **PH8S6482.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 06:13:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-8_Audit2B_PH8S6482.D_SJ2491841.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Sample Data Filename:	**PH8S6469.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-9_Audit1A_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Sample Data Filename:	**PH8S6469.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-9_Audit1B_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Sample Data Filename:	**PH8S6469.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-9_Audit2A_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-9

Sample Data Filename: **PH8S6469.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:07:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-9_Audit2B_PH8S6469.D_SJ2492356.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-9

Sample Data Filename: **PH8S6469.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:07:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	1020	1010	0.990					
INDENO[123CD]PYRENE							0.85	0.19

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-9_Audit1A_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Sample Data Filename:	**PH8S6469.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-9_Audit1B_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-9
Sample Data Filename:	**PH8S6469.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 20:07:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-9_Audit2A_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A10
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-9

Sample Data Filename: **PH8S6469.D**

Instrument ID: LR GC/MS

Analysis Date: 28-Dec-2018 **Time:** 20:07:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-9_Audit2B_PH8S6469.D_SJ2491784.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Sample Data Filename:	**PH8S6475.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-10_Audit1A_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Sample Data Filename:	**PH8S6475.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-10_Audit1B_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Sample Data Filename:	**PH8S6475.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-10_Audit2A_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-10

Sample Data Filename: **PH8S6475.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 00:31:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-10_Audit2B_PH8S6475.D_SJ2492376.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-10

Sample Data Filename: **PH8S6475.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 00:31:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CHRYSENE							0.32	0.31
BENZO[B]FLUORANTHENE	314	305	0.971					
INDENO[123CD]PYRENE							1.39	0.22

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-10_Audit1A_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Sample Data Filename:	**PH8S6475.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-10_Audit1B_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-10
Sample Data Filename:	**PH8S6475.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 00:31:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-10_Audit2A_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A11
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-10

Sample Data Filename: **PH8S6475.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 00:31:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-10_Audit2B_PH8S6475.D_SJ2491834.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Sample Data Filename:	**PH8S6481.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-11_Audit1A_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Sample Data Filename:	**PH8S6481.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-11_Audit1B_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Sample Data Filename:	**PH8S6481.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-11_Audit2A_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-11

Sample Data Filename: **PH8S6481.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 05:24:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-11_Audit2B_PH8S6481.D_SJ2492382.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-11

Sample Data Filename: **PH8S6481.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 05:24:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	607	599	0.987					
INDENO[123CD]PYRENE							0.78	0.17

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-11_Audit1A_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Sample Data Filename:	**PH8S6481.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-11_Audit1B_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PASSIVES PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L30540-11
Sample Data Filename:	**PH8S6481.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 05:24:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-11_Audit2A_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A17
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-11

Sample Data Filename: **PH8S6481.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 05:24:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-11_Audit2B_PH8S6481.D_SJ2491840.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-12_Audit1A_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PASSIVES PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-12_Audit1B_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-12_Audit2A_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_L30540-12_Audit2B_PH8S6477.D_SJ2492378.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L30540-12

Sample Data Filename: **PH8S6477.D** **Instrument ID:** LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 02:09:00 **GC Column ID:** RTX5

Extract Volume (uL): 100 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	806	797	0.989					
INDENO[123CD]PYRENE							0.58	0.16

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-12_Audit1A_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE				NDR				VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-12_Audit1B_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L30540-12
Sample Data Filename:	**PH8S6477.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	29-Dec-2018 **Time:** 02:09:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-12_Audit2A_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-SSCL-A18
Sample Collection:
02-Dec-2018 22:00

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PASSIVES PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L30540-12

Sample Data Filename: **PH8S6477.D**

Instrument ID: LR GC/MS

Analysis Date: 29-Dec-2018 **Time:** 02:09:00

GC Column ID: RTX5

Extract Volume (uL): 100

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_L30540-12_Audit2B_PH8S6477.D_SJ2491836.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-101_Audit1A_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-101_Audit1B_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-101_Audit2A_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	3610	361	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	4060	406	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	3920	392	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	3980	398	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-101_Audit2B_PH8S6463.D_SJ2492350.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO[B]FLUORANTHENE	7.40	0	0					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-101_Audit1A_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO[B]FLUORANTHENE				NDR	ND(R)			VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-101_Audit1B_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-101_Audit2A_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-101
Sample Data Filename:	**PH8S6463.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 15:15:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	2030	406	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	1960	392	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	1970	394	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	2000	400	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	2070	414	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	1990	398	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-101_Audit2B_PH8S6463.D_SJ2491776.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C6-PHENANTHRENE								
D10-FLUORANTHENE								
13C6-CHRYSENE								
13C6-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-102_Audit1A_PH8S6460.D_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C6-PHENANTHRENE								VREESOR	04-JAN-2019
D10-FLUORANTHENE								VREESOR	04-JAN-2019
13C6-CHRYSENE								VREESOR	04-JAN-2019
13C6-INDENO(123CD)PYRENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-102_Audit1B_PH8S6460.D_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D10-PHENANTHRENE								
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-102_Audit2A_PH8S6460.D_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D10-PHENANTHRENE	36100	3610	.1					VREESOR	04-JAN-2019
D12-BENZ(A)ANTHRACENE	40600	4060	.1					VREESOR	04-JAN-2019
D12-CHRYSENE	39200	3920	.1					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	39800	3980	.1					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 11:00:23; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAHPRC_4943_WG66438-102_Audit2B_PH8S6460.D_SJ2492349.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
BENZO(A)ANTHRACENE								
CHRYSENE								
BENZO[B]FLUORANTHENE								
BENZO[J/K]FLUORANTHENES								
BENZO(A)PYRENE								
DIBENZO[AH]ANTHRACENE								
INDENO[123CD]PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-102_Audit1A_PH8S6460.D_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
BENZO(A)ANTHRACENE								VREESOR	04-JAN-2019
CHRYSENE								VREESOR	04-JAN-2019
BENZO[B]FLUORANTHENE								VREESOR	04-JAN-2019
BENZO[J/K]FLUORANTHENES								VREESOR	04-JAN-2019
BENZO(A)PYRENE								VREESOR	04-JAN-2019
DIBENZO[AH]ANTHRACENE								VREESOR	04-JAN-2019
INDENO[123CD]PYRENE								VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-102_Audit1B_PH8S6460.D_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
D12-BENZ(A)ANTHRACENE								
D12-CHRYSENE								
D12-BENZO[B]FLUORANTHENE								
D12-BENZO[K]FLUORANTHENE								
D12-BENZO[A]PYRENE								
D12-INDENO(123CD)PYRENE								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-102_Audit2A_PH8S6460.D_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

SGS AXYS METHOD MLA-021 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG66438-102
Sample Data Filename:	**PH8S6460.D**	**Instrument ID:**	LR GC/MS
Analysis Date:	28-Dec-2018 **Time:** 12:49:00	**GC Column ID:**	RTX5
Extract Volume (uL):	100	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
D12-BENZ(A)ANTHRACENE	20300	4060	.2					VREESOR	04-JAN-2019
D12-CHRYSENE	19600	3920	.2					VREESOR	04-JAN-2019
D12-BENZO[B] FLUORANTHENE	19700	3940	.2					VREESOR	04-JAN-2019
D12-BENZO[K] FLUORANTHENE	20000	4000	.2					VREESOR	04-JAN-2019
D12-BENZO[A]PYRENE	20700	4140	.2					VREESOR	04-JAN-2019
D12-INDENO(123CD)PYRENE	19900	3980	.2					VREESOR	04-JAN-2019

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 09-Jan-2019 10:59:01; Application: XMLTransformer-1.17.2;
Report Filename: AUDIT_PAH_LO_LPAR_WG66438-102_Audit2B_PH8S6460.D_SJ2491774.html; Workgroup: WG66438; Design ID: 3354]

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6464.D
28/12/2018 16:03
L30196-2
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6464.D\PH8S6464.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 9
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:43 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.074	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	456358	11.28	5489.1304 I	0	5489.1304	509		0.45	1
d8-Naphthalene - SURR	313129	6.86	463.5567 S	23.1778	0.8784	109		0.09	0.608
d10-2-Methylnaphthalene - SURR	258521	8.52	570.934 S	28.9814	1.8095	151		0.19	0.755
d10-Biphenyl - SURR	413225	9.8	650.482 S	31.8084	0.8006	94		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	268858	10.1	649.7991 S	31.6204	4.7801	364		0.74	0.896
d8-Acenaphthylene - SURR	517136	10.85	646.454 S	31.3813	3.2141	473		0.15	0.961
d10-Pyrene - REC	893963	18.56	5353.2609 I	0	5353.2609	4206		0.17	1
d10-Phenanthrene - SURR	592986	15	715.5416 S	39.6422	47.9652	7314		0.13	0.808
d8-Dibenzothiophene - SURR	472482	14.7	641.0927 S	31.5033	0.8576	116		0.09	0.792
d12-Benz(a)anthracene - SURR	988490	21.6	1268.36 S	62.4808	169.6383	24326		0.23	1.164
d12-Chrysene - SURR	1011792	21.7	1242.7169 S	63.4039	75.2601	11275		0.27	1.169
d12-Benzo(e)pyrene - REC	786257	26.11	5489.1304 I	0	5489.1304	1421		0.25	1
d12-Benzo(b)Fluoranthene - SURR	953194	25	1323.8748 S	67.2018	488.8478	64763		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1060076	25.11	1333.0237 S	66.6512	150.3321	21997		0.19	0.962
d12-Benzo(a)pyrene - SURR	912719	26.33	1339.8328 S	64.7262	18657.6902	2338630		0.2	1.008
d12-Perylene - SURR	945676	26.72	1392.303 S	64.7583	248.0046	30995		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	1051225	31.5	1523.6458 S	76.5651	2.3092	293		0.16	1.207
d12-Benzo(ghi)perylene - SURR	1131651	32.31	1379.0756 S	69.6503	17.399	2627		0.19	1.238
d8-Naphthalene	313129	6.86	5434.7826 I	0	5434.7826	121		0.09	1
Naphthalene $	1386	6.9	20.0992 T	0	2.8495	196		0.07	1.006
d10-2-Methylnaphthalene	258521	8.52	5353.2609 I	0	5353.2609	163		0.19	1
2-Methylnaphthalene $	436	8.6	7.4616 T	0	2.6873	157		0.94	1.009
1-Methylnaphthalene	268	8.87	4.8578 T	0	2.8462	157		0.85	1.04
C1-Naphthalenes	483	8.6	0 T	0	0	387		-1	1.009
d10-Biphenyl	413225	9.8	5557.0652 I	0	5557.0652	98		-1	1
Biphenyl $	985	9.85	11.924 T	0	3.6962	305		0.26	1.006
C1-Biphenyls $	394	11.33	4.7696 T	0	1.5841	131		0.24	1.156
C2-Biphenyls $	915	12.71	11.0767 T	0	3.1682	262		0.28	1.297
d12-2,6-Dimethylnaphthalene	268858	10.1	5584.2391 I	0	5584.2391	379		0.74	1
2,6-Dimethylnaphthalene $	70	10.22	1.2022 T	0	3.0723	179		0.66	1.011
Ethyl/DiMe-Naphthalenes	181	10.22	3.4358 T	0	3.3958	179		0.25	1.011
1,2-Dimethylnaphthalene	52257	10.84	1108.939 T	0	3.7963	179	#	0	1.073
C2-Naphthalenes	181	10.22	0 T	0	0	450		-1	1.011
2,3,6-Trimethylnaphthalene	123	12.17	2.0897 T	0	2.3946	141	#	0.35	1.205
2,3,5-Trimethylnaphthalene $	109	12.35	1.9516 T	0	2.5235	141		0.79	1.223
C3-Naphthalenes	109	12.35	1.9004 T	0	2.4574	141		0.79	1.223
1,4,6,7-Tetramethylnaphthalene $	4791	14.01	81.3626 T	0	2.8539	168	#	0	1.386
C4-Naphthalenes	4791	14.01	81.3626 T	0	2.8539	168		0	1.386
d8-Acenaphthylene	517136	10.85	5597.8261 I	0	5597.8261	500		0.15	1
Acenaphthylene $	133	10.88	1.1848 T	0	1.4189	159		0.17	1.003
Acenaphthene $	49	11.36	0.7898 T	0	2.4787	154	#	1.53	1.048
C1-Acenaphthenes $	18	11.73	0.2901 T	0	10.8002	670		1.28	1.081
d8-Dibenzothiophene	472482	14.7	5529.8913 I	0	5529.8913	113		0.09	1
Dibenzothiophene $	366	14.76	3.5833 T	0	2.0261	207	#	0.13	1.004
C1-Dibenzothiophenes-1	20	15.84	0.2854 T	0	4.7427	332	#	7.3	1.078
2/3-Methyldibenzothiophenes $	42	16.12	0.5993 T	0	4.7427	332	#	0.55	1.097
C1-Dibenzothiophenes-2	170	16.33	2.4258 T	0	4.7427	332	#	1.19	1.111
C1-Dibenzothiophenes	6	16.03	0 T	0	0	332		-1	1.091
4,6-Dimethyldibenzothiophene	62	16.96	0.8255 T	0	3.006	226	#	1.48	1.154

+ report only.

PH8S6464

checked by vr 03-Jan-19

pv by vr
03-Jan-2019

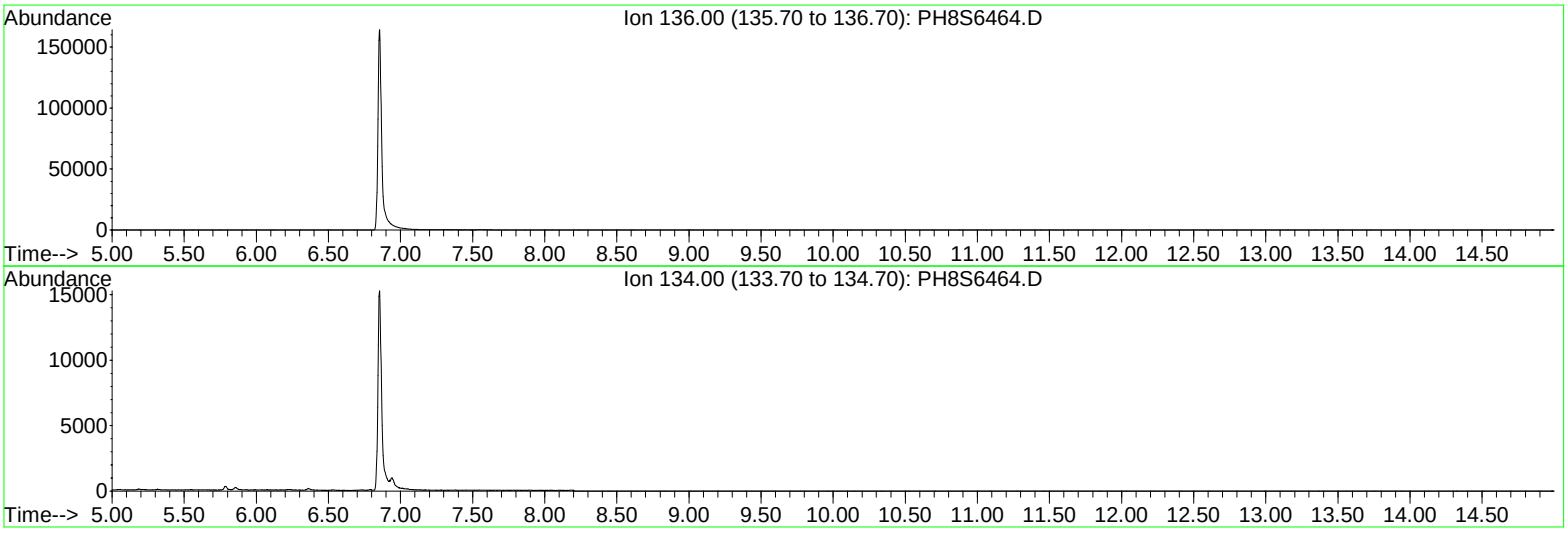
2,4-Dimethyldibenzothiophene $	95	17.07	1.6378 T	0	3.8923	226	0.48	1.161
C2-Dibenzothiophenes	95	17.07	1.6378 T	0	3.8923	226	0.48	1.161
C3-Dibenzothiophenes $	83	18.12	1.431 T	0	1.7299	100 #	-1	1.233
C4-Dibenzothiophenes $	49	18.79	0.8448 T	0	1.6218	94	0.43	1.278
d10-Phenanthrene	592986	15	4904.8913 I	0	4904.8913	6865	0.13	1
Fluorene $	114	12.67	1.3194 T	0	1.6846	146 #	1.99	0.844
2-Methylfluorene $	22	14.1	0.3744 T	0	6.2963	370 #	11.95	0.94
C1-Fluorenes	22	14.1	0.3744 T	0	6.2963	370	11.95	0.94
1,7-Dimethylfluorene $	22	15.51	0.4026 T	0	3.9955	218 #	-1	1.034
C2-Fluorenes	22	15.51	0.4026 T	0	3.9955	218 #	-1	1.034
C3-Fluorenes $	57	16.43	1.0431 T	0	4.2175	230 #	-1	1.096
Phenanthrene $	0	15.05	0 T	0	1.9698	255 #	0	1.003
Anthracene	126	15.18	0.9629 T	0	1.9466	255 #	0.23	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	140	16.31	1.5346 T	0	2.5927	237	0.54	1.088
2-Methylphenanthrene	55	16.4	0.6109 T	0	2.6271	237 #	0.87	1.094
2-Methylanthracene	190	16.47	2.1743 T	0	2.7066	237 #	0.83	1.098
9/4-Methylphenanthrenes	41	16.52	0.4494 T	0	2.5927	237 #	-1	1.101
1-Methylphenanthrene $	143	16.67	1.4856 T	0	2.4572	237	0.54	1.112
C1-Phenanthrenes/Anthracenes	143	16.67	0 T	0	0	497	-1	1.112
Fluoranthene $	713	18.06	4.4886 T	0	0.9545	152	0.16	1.204
Pyrene	594	18.6	3.6168 T	0	0.9232	152 #	0.16	1.24
3,6-Dimethylphenanthrene $	109	17.48	1.2408 T	0	1.3808	121 #	1.25	1.165
2,6-Dimethylphenanthrene	19	17.57	0.2159 T	0	1.3782	121 #	1.63	1.171
1,7-Dimethylphenanthrene	19286	18.01	218.7409 T	0	1.3757	121 #	0.01	1.201
Ethyl/DiMe-Phenanthrenes/Anthracenes	109	17.48	1.2385 T	0	1.3782	121	1.25	1.165
1,8-Dimethylphenanthrene	19339	18.01	219.743 T	0	1.3782	121 #	0.01	1.201
C2-Phenanthrenes/Anthracenes	109	17.48	0 T	0	0	109	-1	1.165
1,2,6-Trimethylphenanthrene $	68	19.42	0.8407 T	0	1.0497	85 #	0.32	1.295
C3-Phenanthrenes/Anthracenes	68	19.42	0.8407 T	0	1.0497	85	0.32	1.295
Retene $	79	19.52	2.5561 T	0	2.9434	91 #	2.7	1.302
C4-Phenanthrenes/Anthracenes	79	19.52	2.5561 T	0	2.9434	91	2.7	1.302
C1-Fluoranthenes/Pyrenes-1	124	19.06	1.3131 T	0	1.156	109	4.35	1.271
3-Methylfluoranthene/Benzo(a)fluorene $	115	19.53	1.2178 T	0	1.156	109	1.17	1.302
C1-Fluoranthenes/Pyrenes-2	15	19.93	0.1588 T	0	1.156	109	0.4	1.329
C1-Fluoranthenes/Pyrenes	115	19.53	0 T	0	0	109	-1	1.302
C2-Fluoranthenes/Pyrenes $	43	20.44	0.4554 T	0	1.0918	103	1.26	1.363
C3-Fluoranthenes/Pyrenes $	7	21.91	0.0741 T	0	1.0276	97 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	18	23.28	0.1906 T	0	0.4496	42	0.89	1.552
d12-Benz(a)anthracene	988490	21.6	5516.3043 I	0	5516.3043	23092	0.23	1
d10-Fluoranthene $	947893	18.02	4872.0911 T	0	0.4729	92	0.16	0.834
+ Benz(a)anthracene	107	21.66	0.4622 T	0	0.5034	117 #	0.56	1.003
d12-Chrysene	1011792	21.7	5326.087 I	0	5326.087	11072	0.27	1
+ Chrysene $	854	21.75	3.6429 T	0	0.5141	121 #	2.68	1.003
5/6-Methylchrysenes $	14	23.09	0.0791 T	0	0.6808	121	-1	1.064
1-Methylchrysene	63	23.28	0.3434 T	0	0.6571	121	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	14	23.09	0.0777 T	0	0.6688	121	-1	1.064
5,9-Dimethylchrysene $	37	24.42	0.2699 T	0	0.6017	82	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	37	24.42	0.2699 T	0	0.6017	82	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	7	25.1	0.0511 T	0	0.8794	121	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	7	26.09	0.0511 T	0	1.0182	140	-1	1.203
d12-Benzo(b)fluoranthene	953194	25	5353.2609 I	0	5353.2609	56595	0.21	1
Benzo(b)fluoranthene-SURR int	2815	25	0 T	0	0	305	0.48	1
+ Benzo(b)fluoranthene $	2557	25.1	9.918 T	0	1.2994	335 #	0.29	1.004
d12-Benzo(k)fluoranthene	1060076	25.11	5434.7826 I	0	5434.7826	20628	0.19	1
+ Benzo(j/k)fluoranthenes	120	25.17	0.4876 T	0	1.4606	359 #	0.75	1.002
Benzofluoranthenes	2865	25.1	0 T	0	0	370	-1	1
d12-Benzo(a)pyrene	912719	26.33	5625 I	0	5625	2520610	0.2	1
Benzo(e)pyrene	114	26.22	0.5063 T	0	1.8349	413 #	0.87	0.996
+ Benzo(a)pyrene	221	26.41	1.0398 T	0	1.944	413 #	0.86	1.003
7-Methylbenzo(a)pyrene $	48	29.15	0.3173 T	0	1.4459	219	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	48	29.15	0.3173 T	0	1.4459	219	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	14	29.88	0.0925 T	0	10.6836	1616	-1	1.135
d12-Perylene	945676	26.72	5842.3913 I	0	5842.3913	35408	0.25	1
Perylene	109	26.81	0.4884 T	0	1.9621	438 #	0.7	1.003
d12-Indeno(123cd)pyrene	1051225	31.5	5407.6087 I	0	5407.6087	318	0.16	1
d14-Dibenzo(ah)anthracene $	10591	31.63	59.554 T	0	3.094	550 #	1.54	1.004
+ Dibenzo(ah)anthracene $	82	31.77	0.3705 T	0	1.7128	379 #	1.46	1.009
+ Indeno(123cd)pyrene $	0	31.58	0 T	0	0.8224	196 #	0	1.002
d12-Benzo(ghi)perylene	1131651	32.31	5380.4348 I	0	5380.4348	2684	0.19	1
Benzo(ghi)perylene	159	32.42	0.633 T	0	0.7339	184 #	0.99	1.003

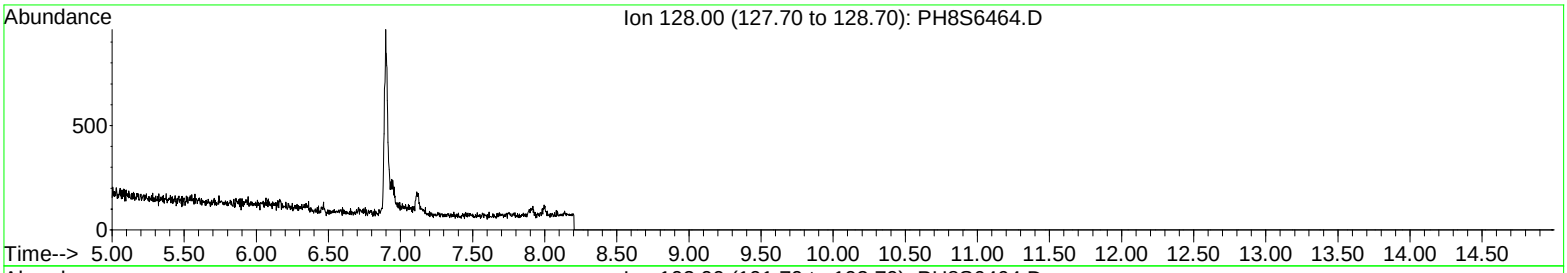
0.40

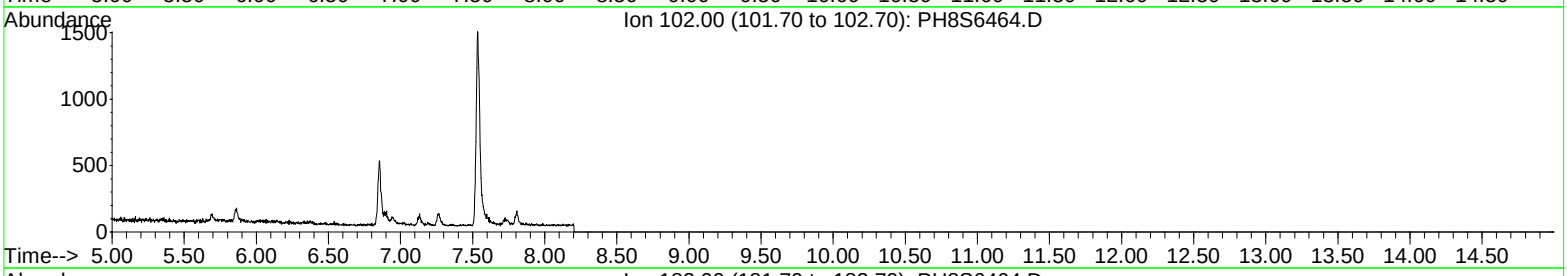
pv by vr
03-Jan-2019

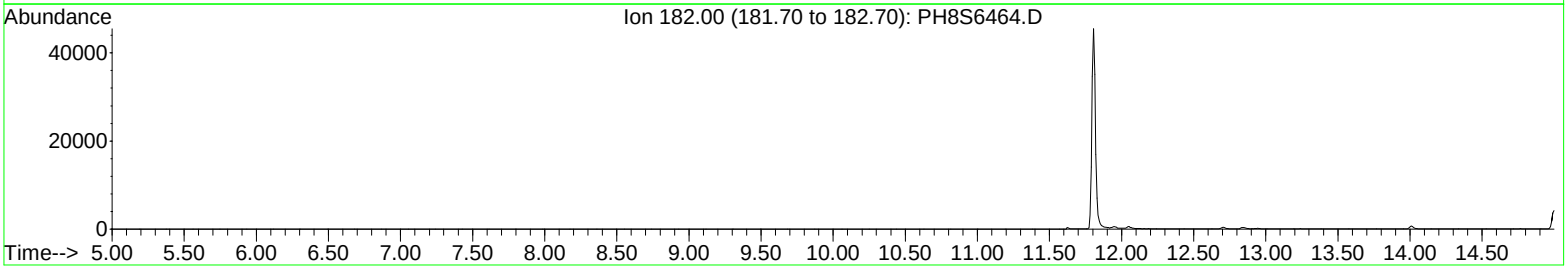
Axys Analytical CHRO Report

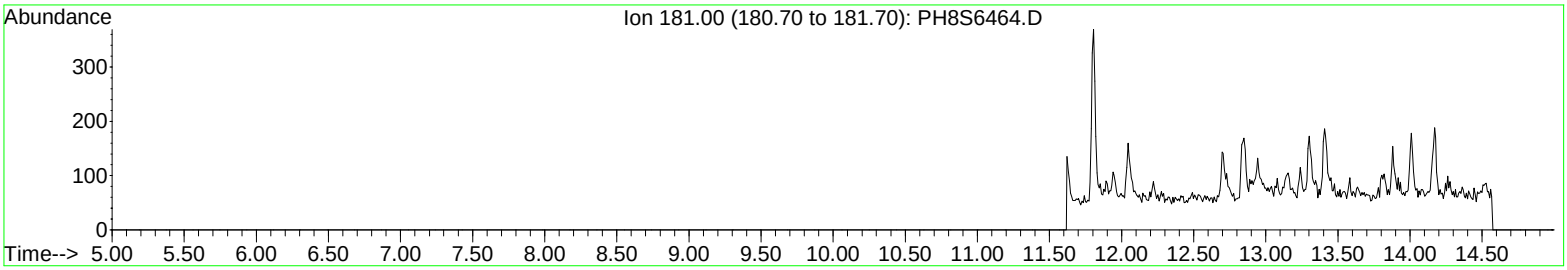
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL







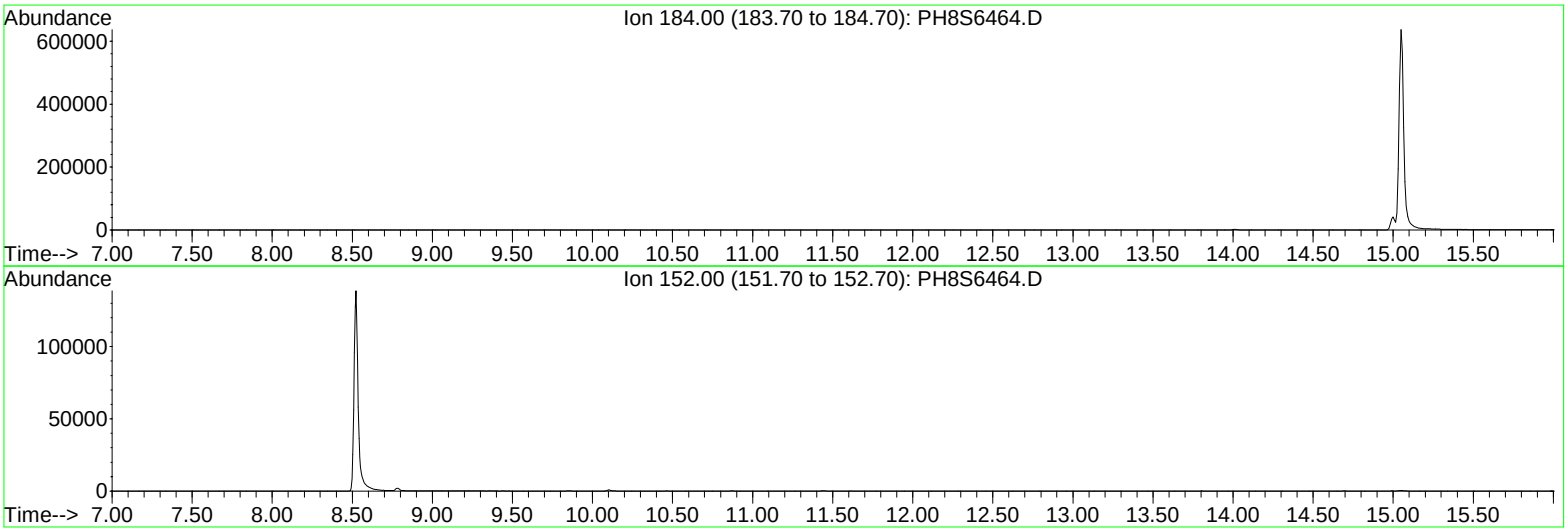


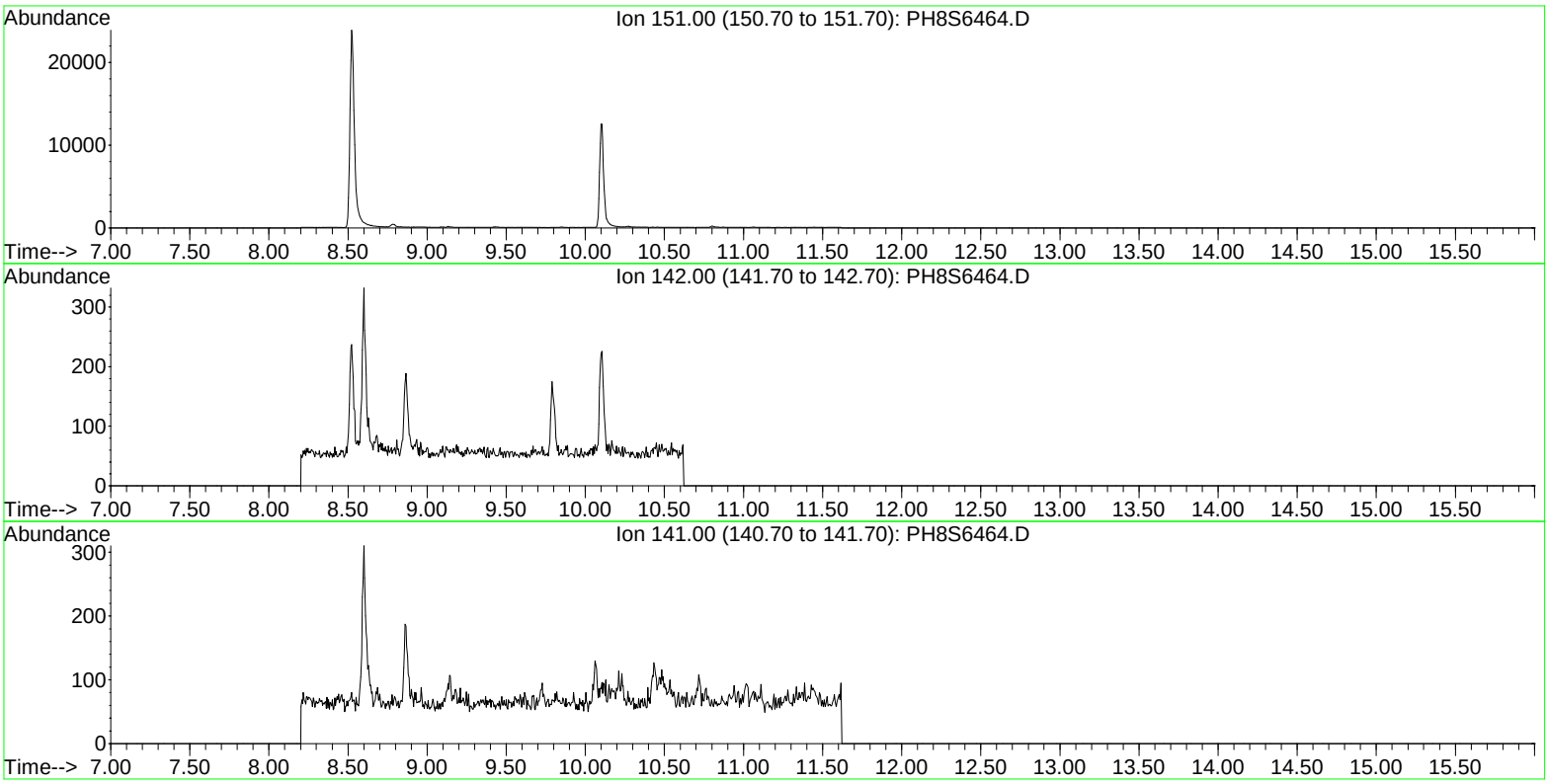


Thu Jan 10 08:39:47 2019

Axys Analytical CHRO Report

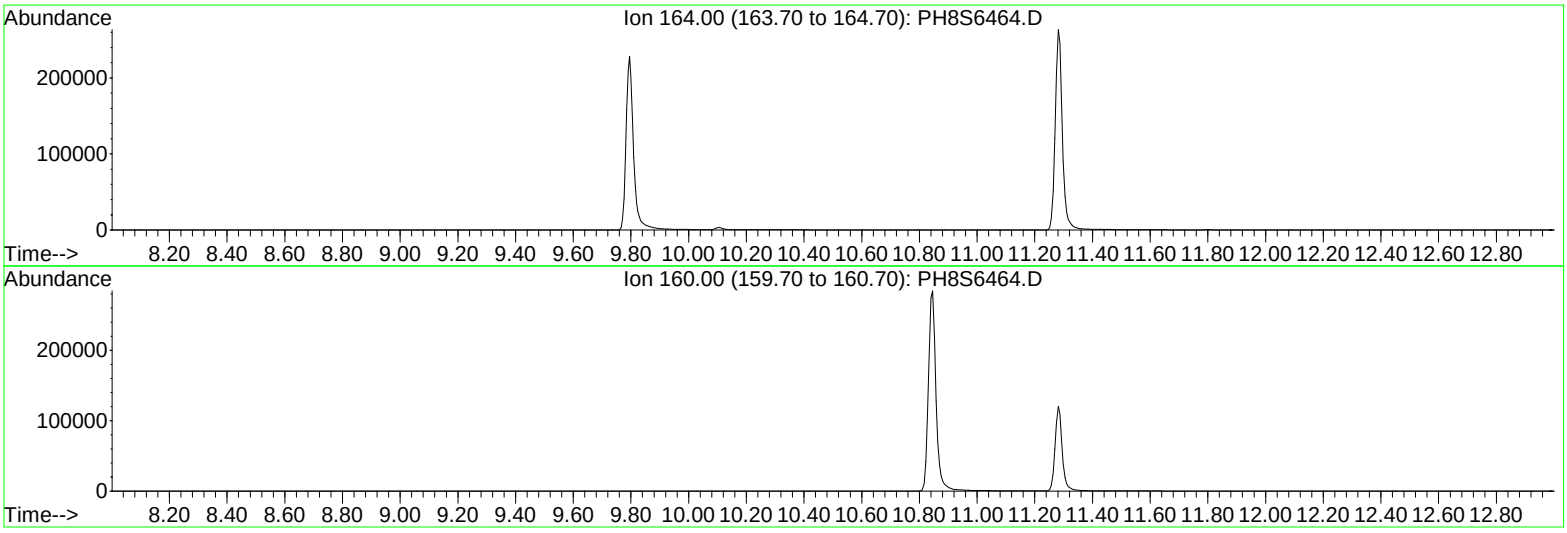
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

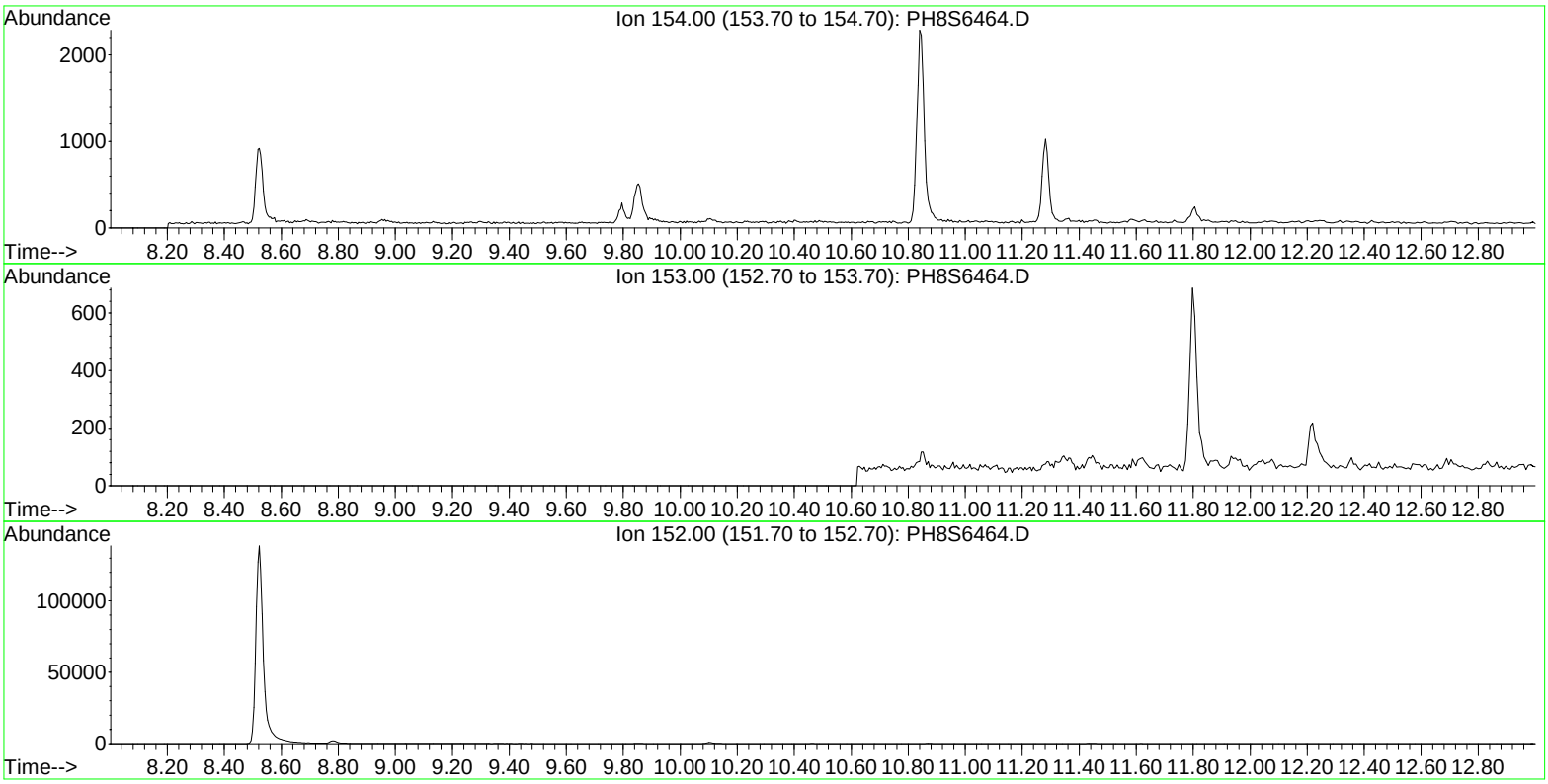




Axys Analytical CHRO Report

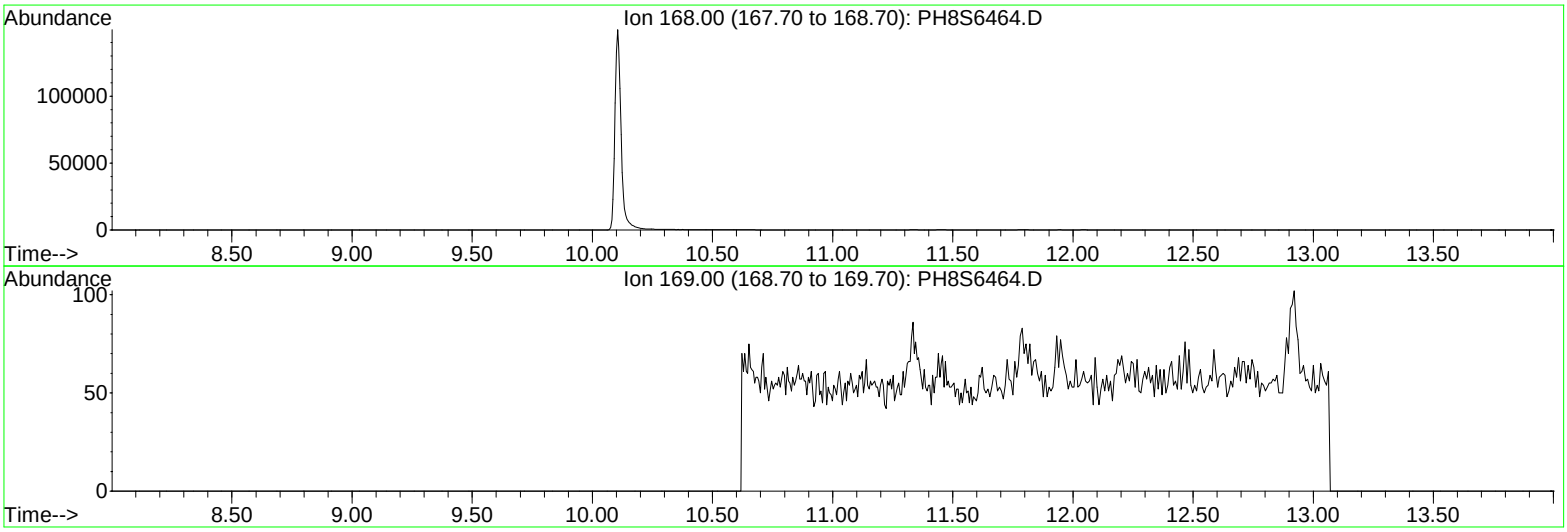
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

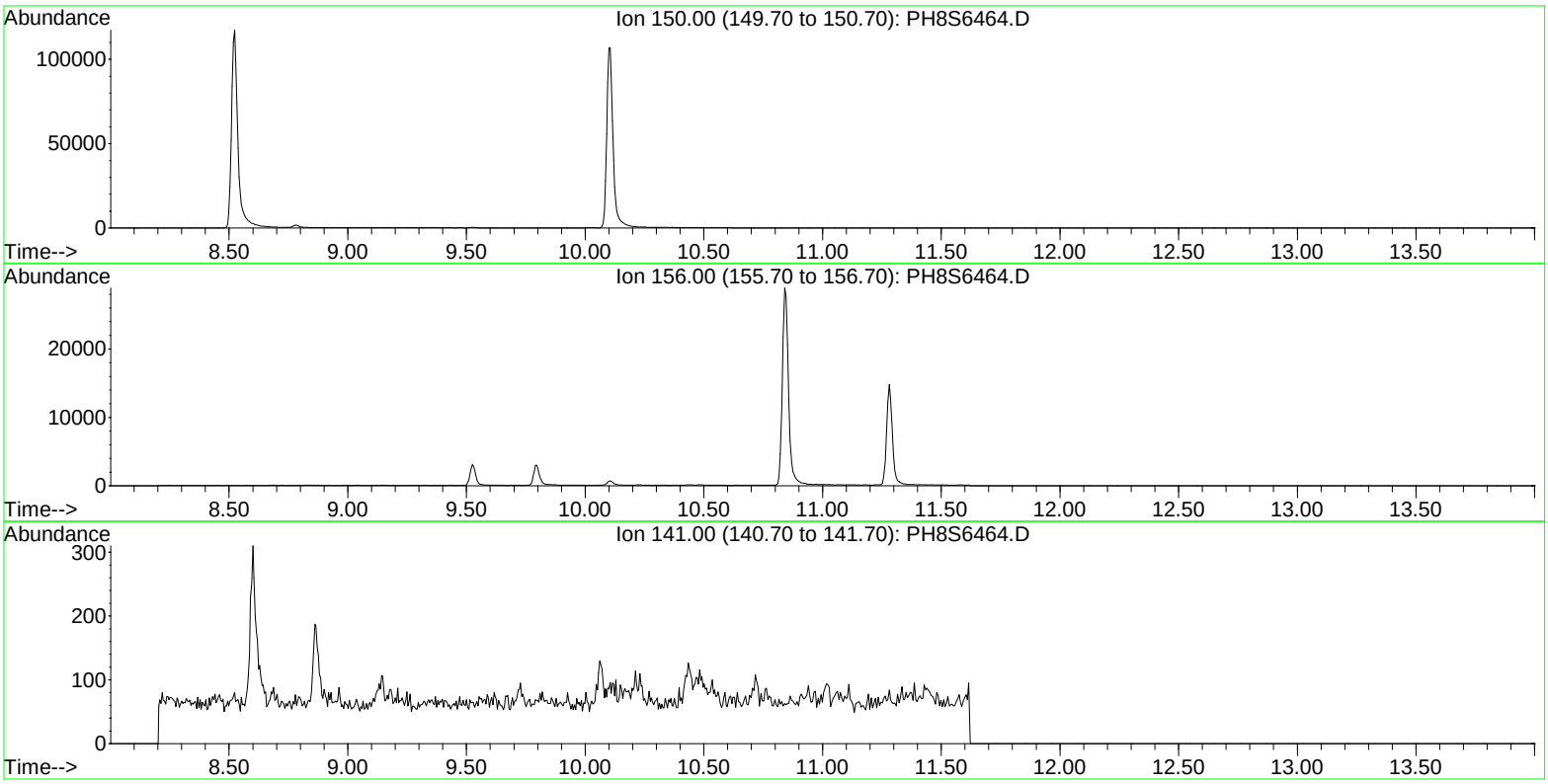




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

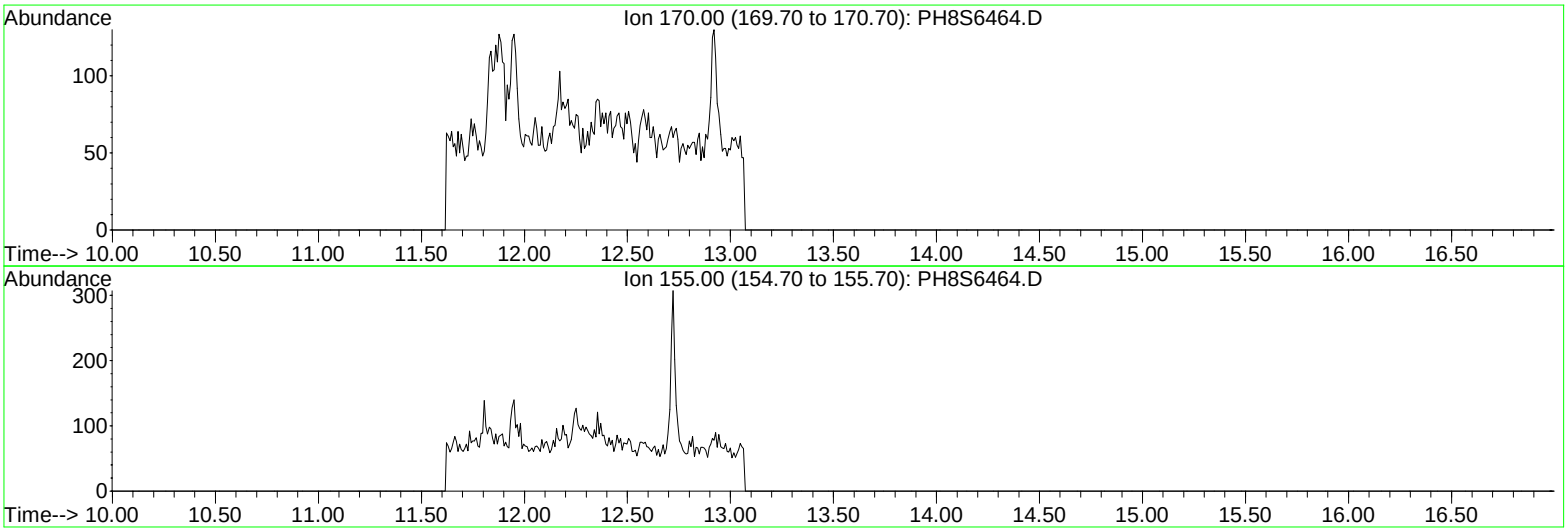


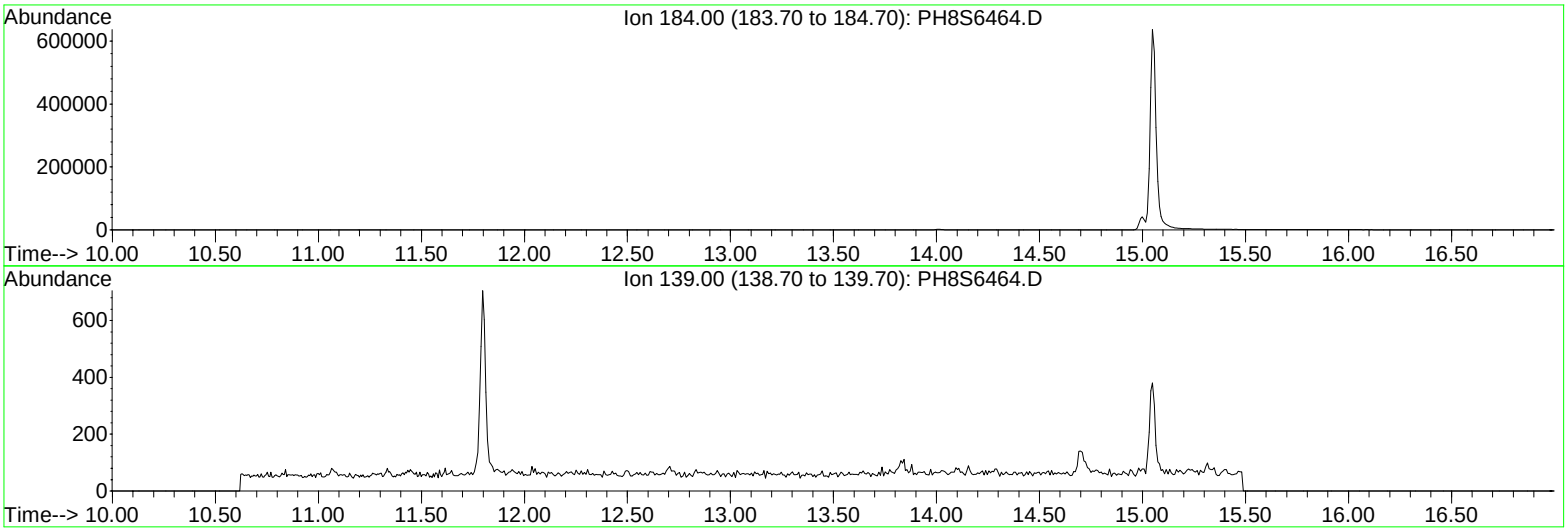


Thu Jan 10 08:39:52 2019

Axys Analytical CHRO Report

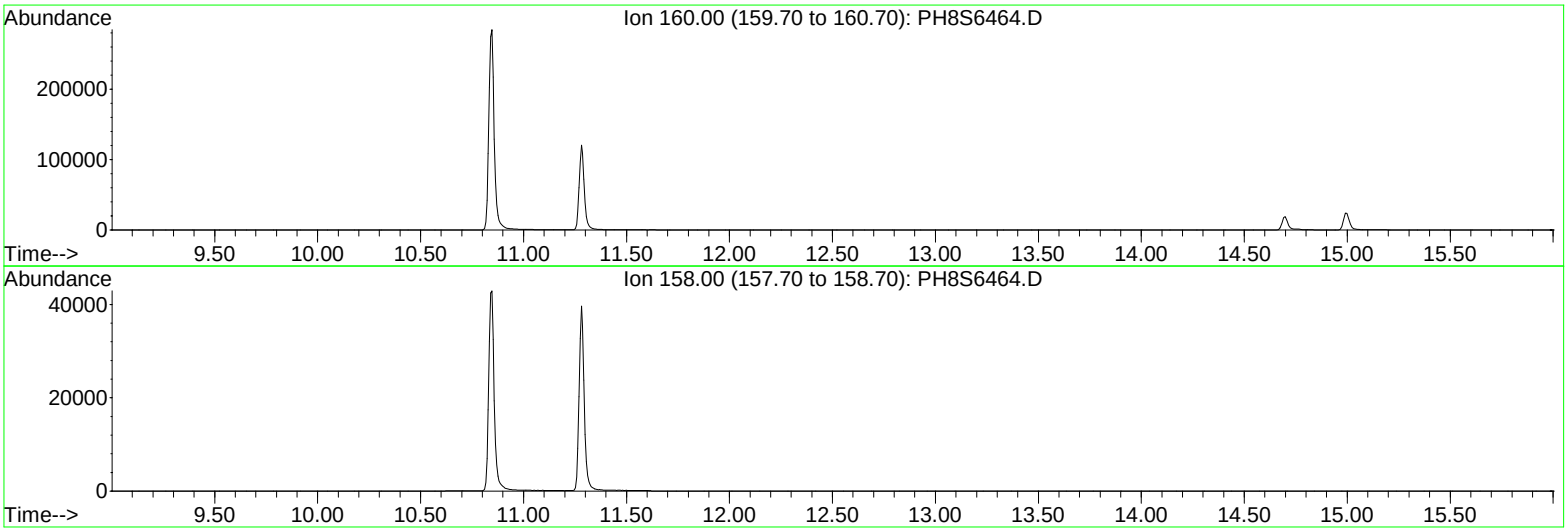
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

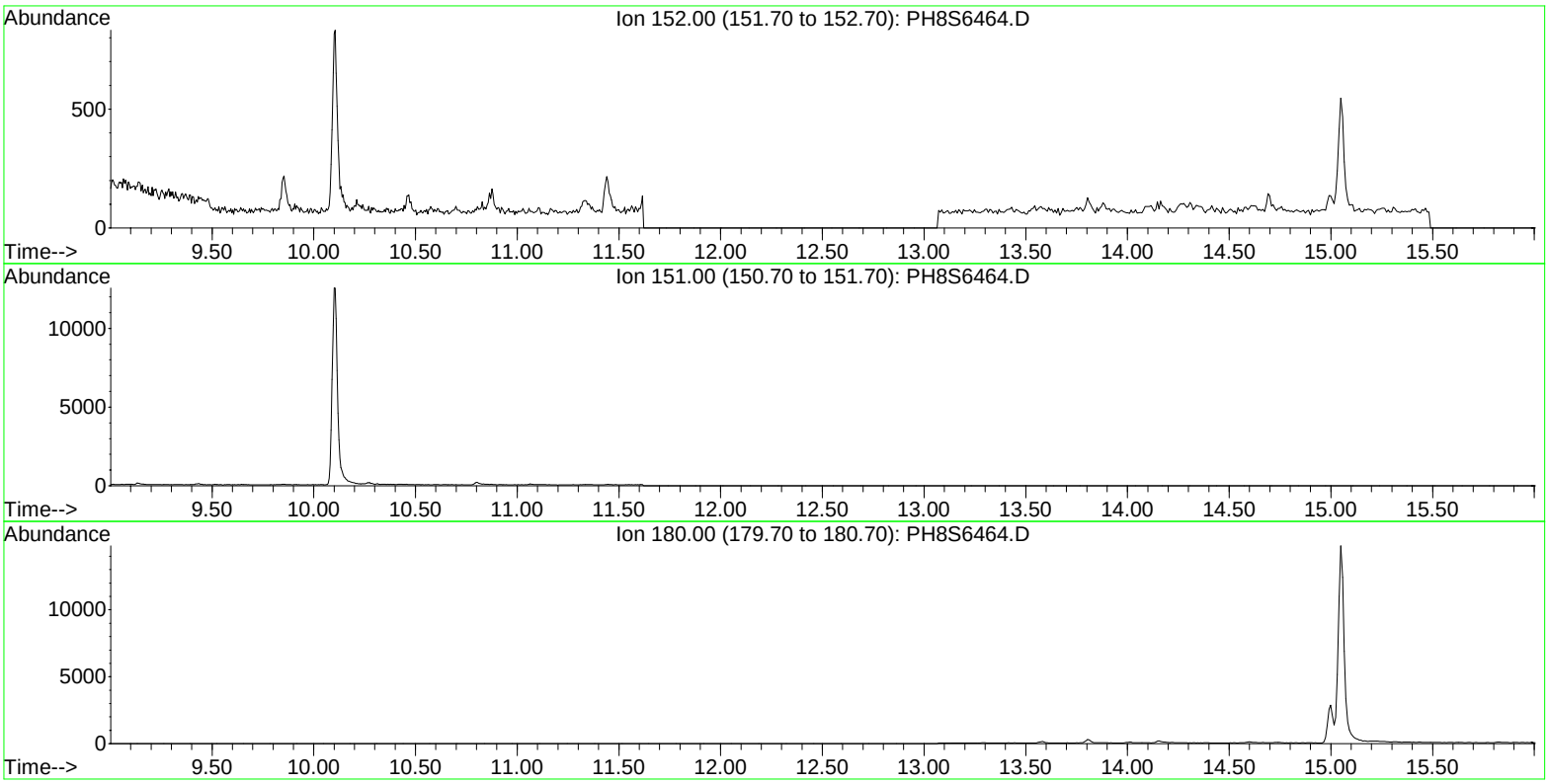


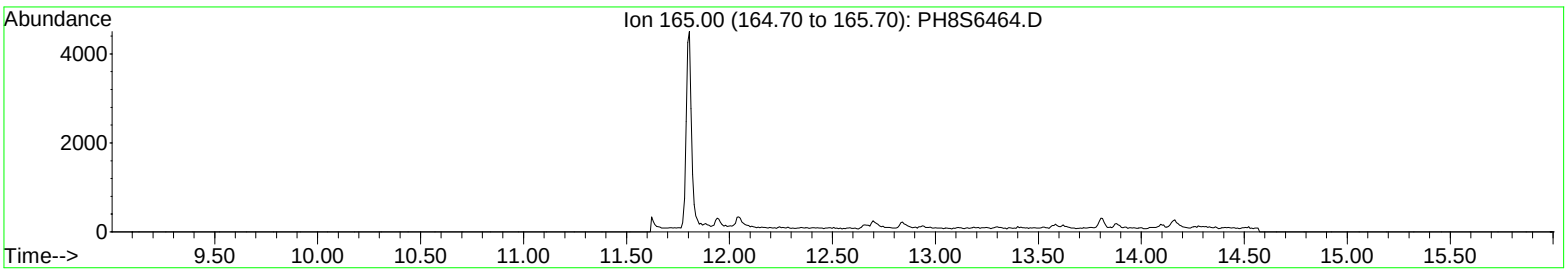


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

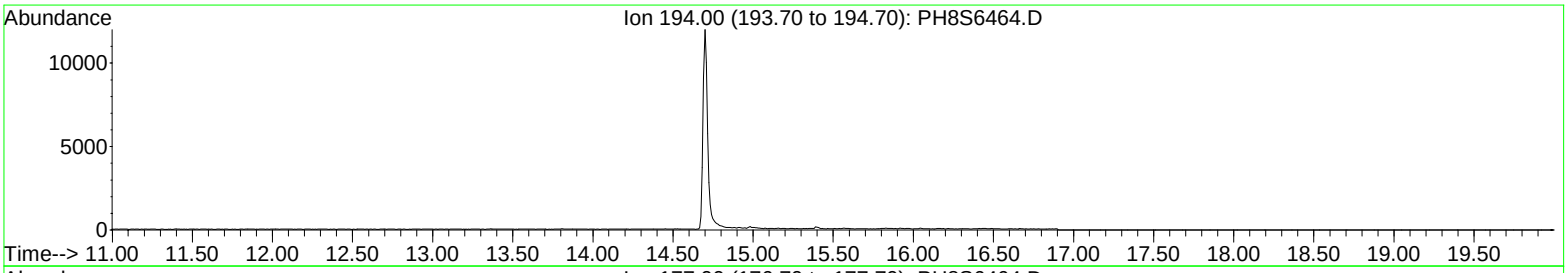


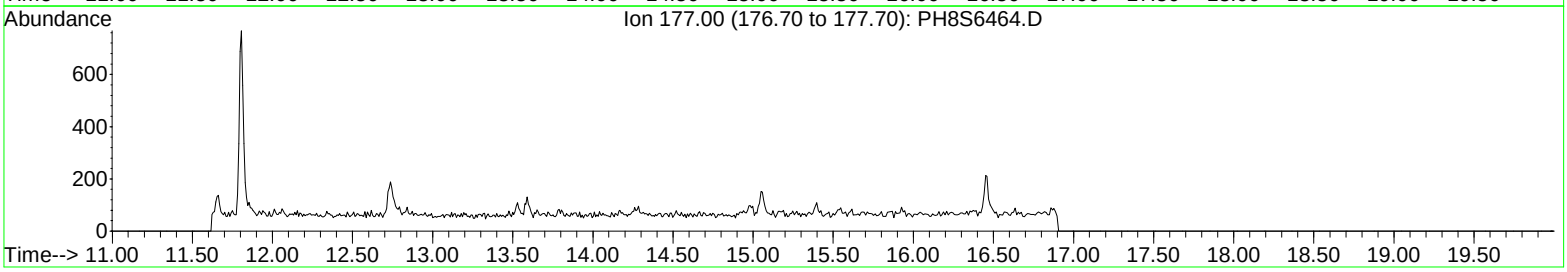


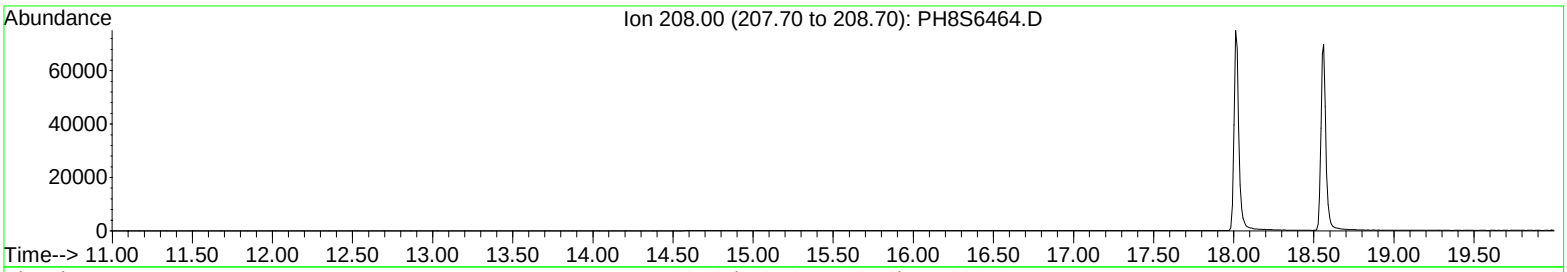


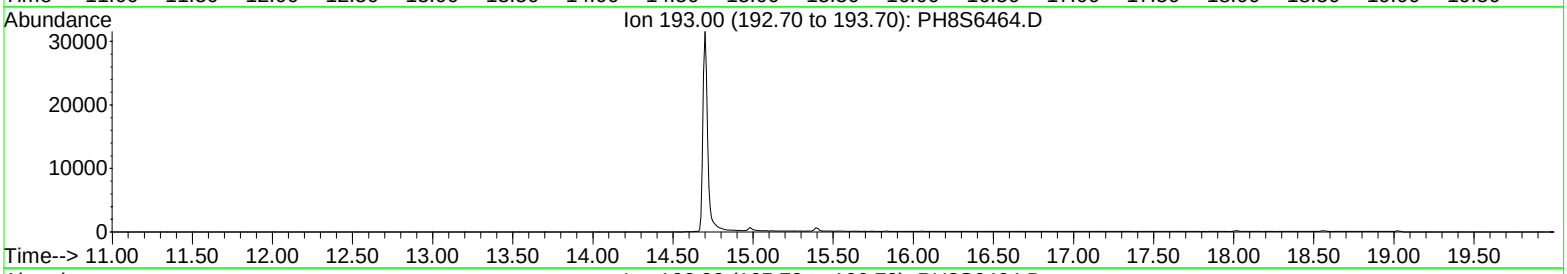
Axys Analytical CHRO Report

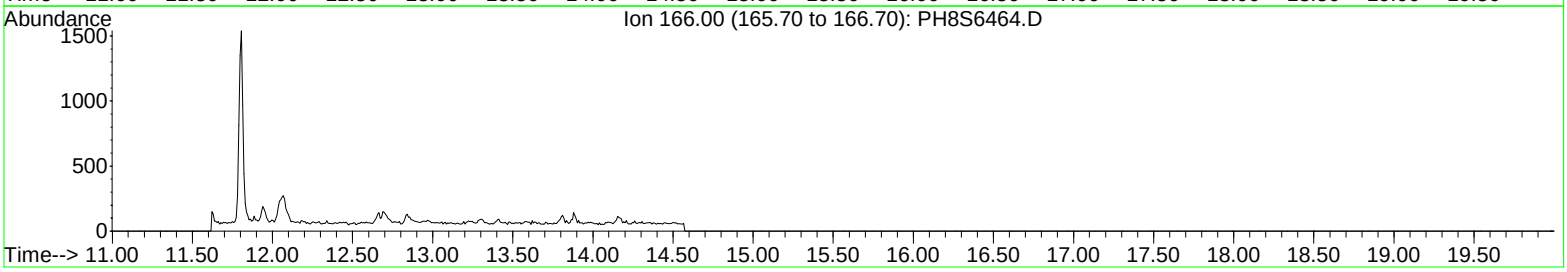
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

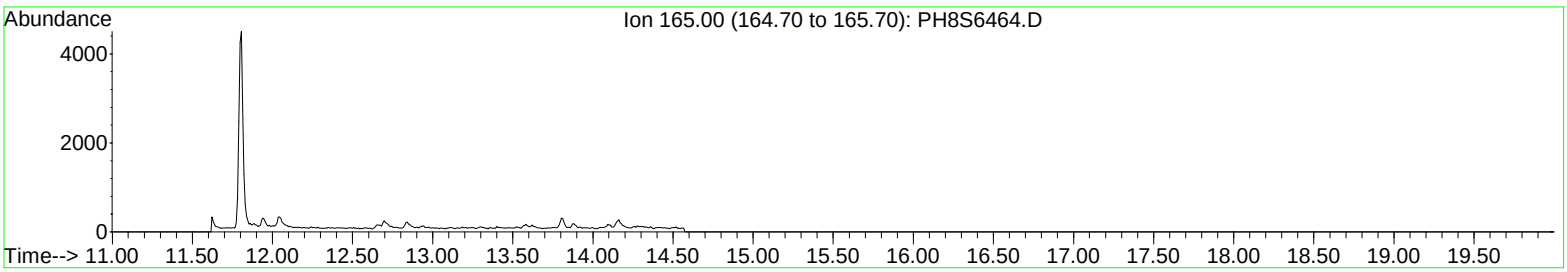








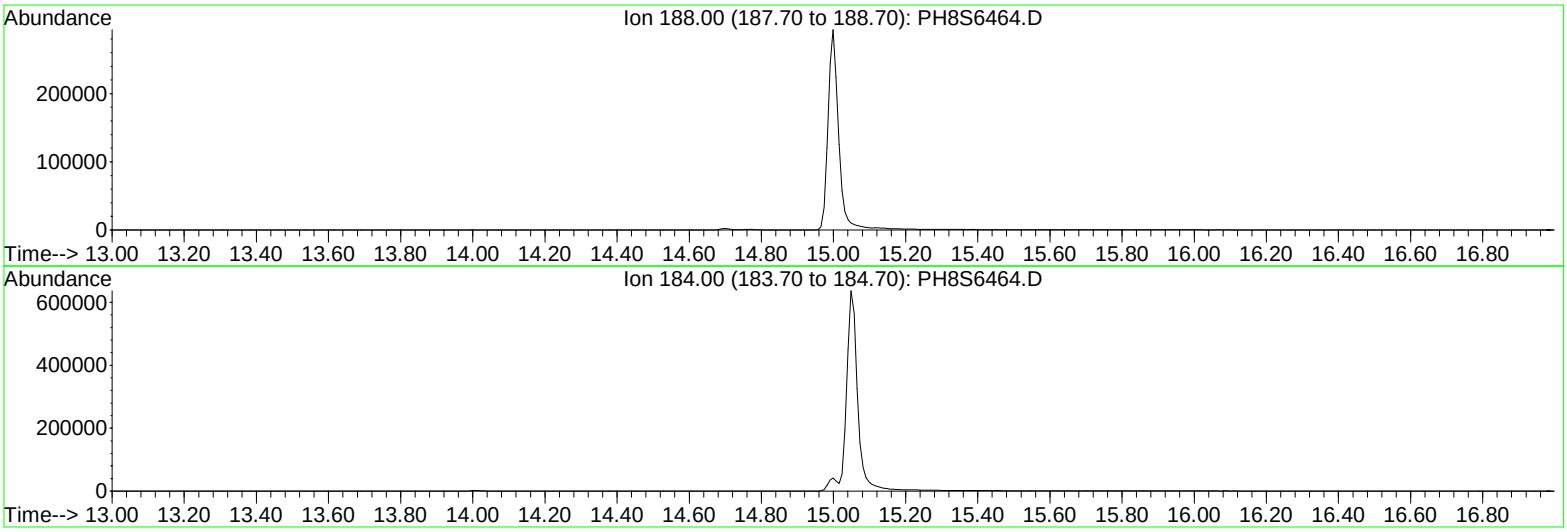


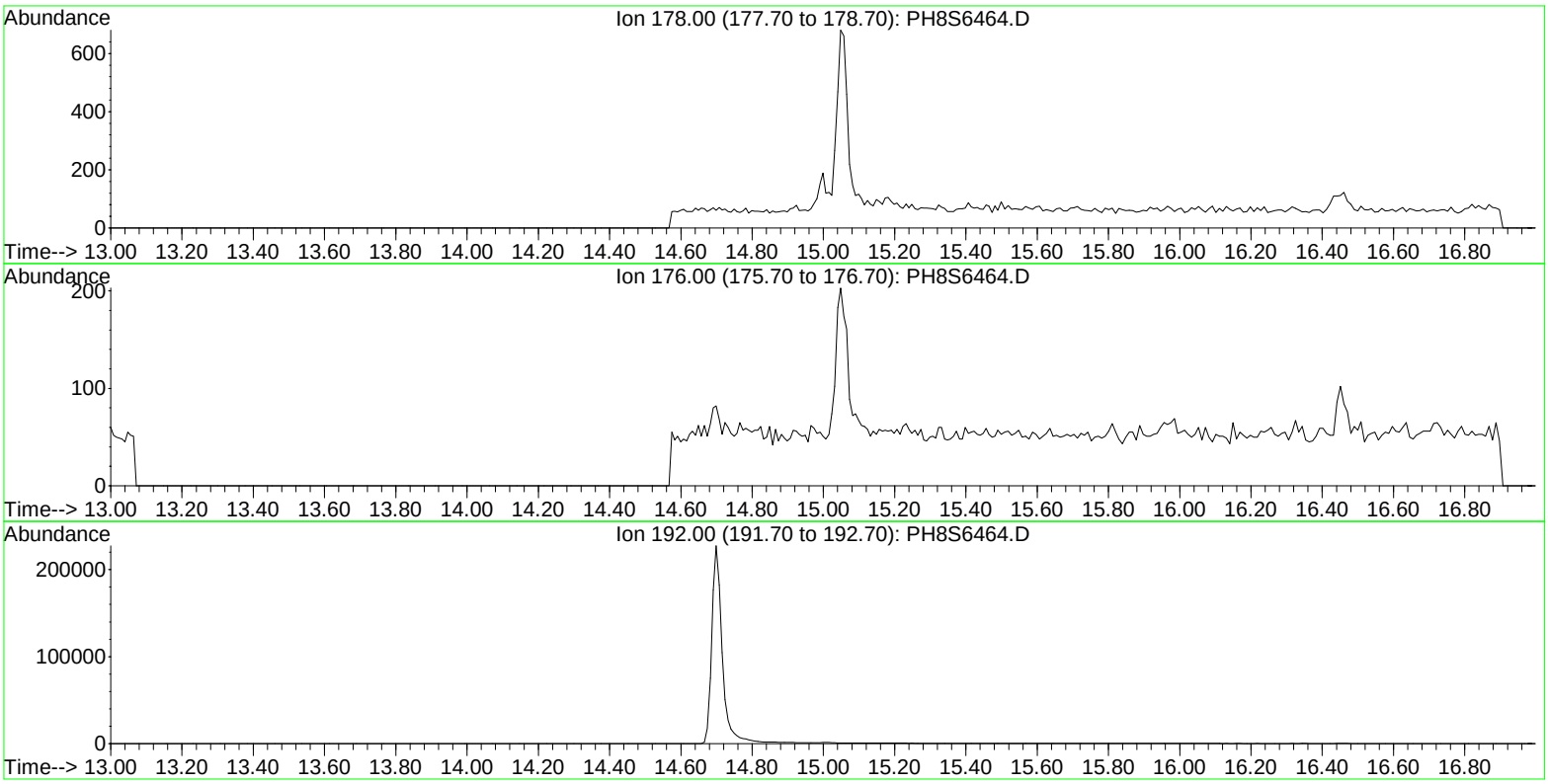


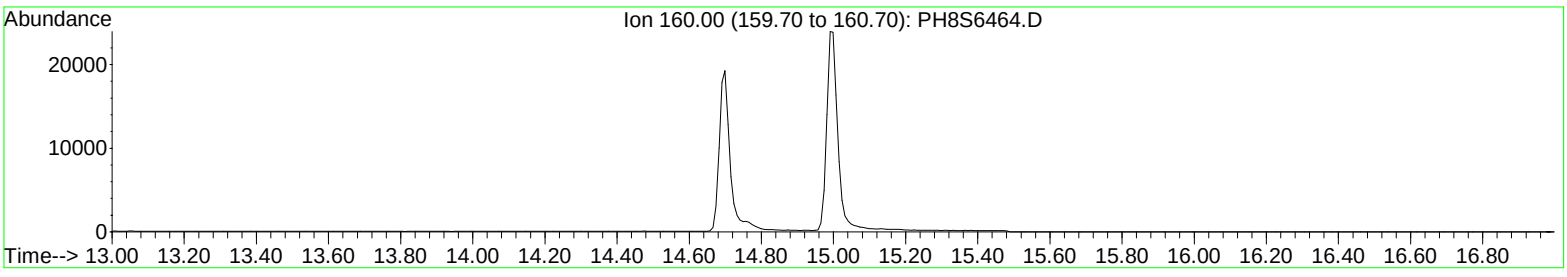
Thu Jan 10 08:39:56 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



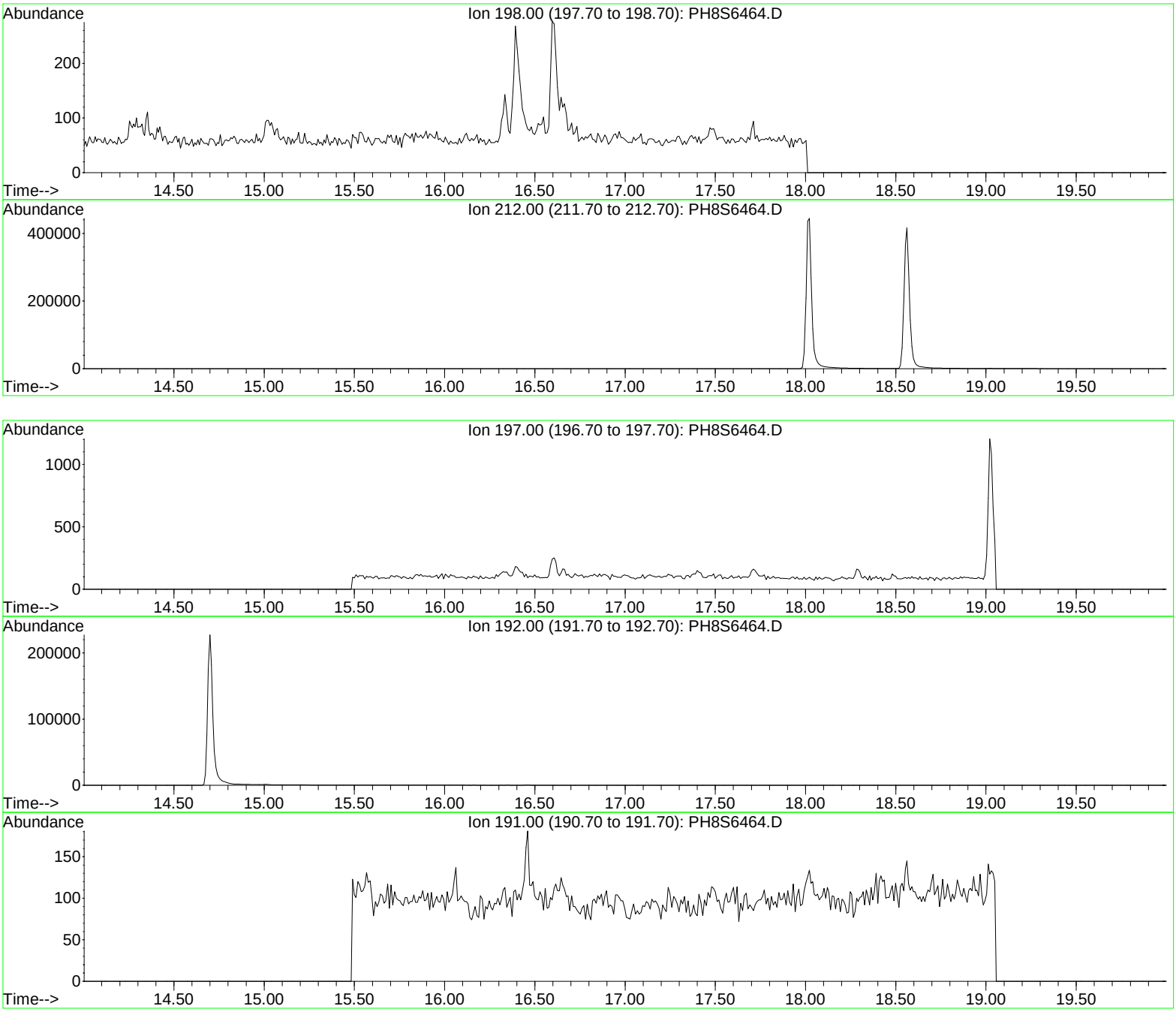




Thu Jan 10 08:39:57 2019

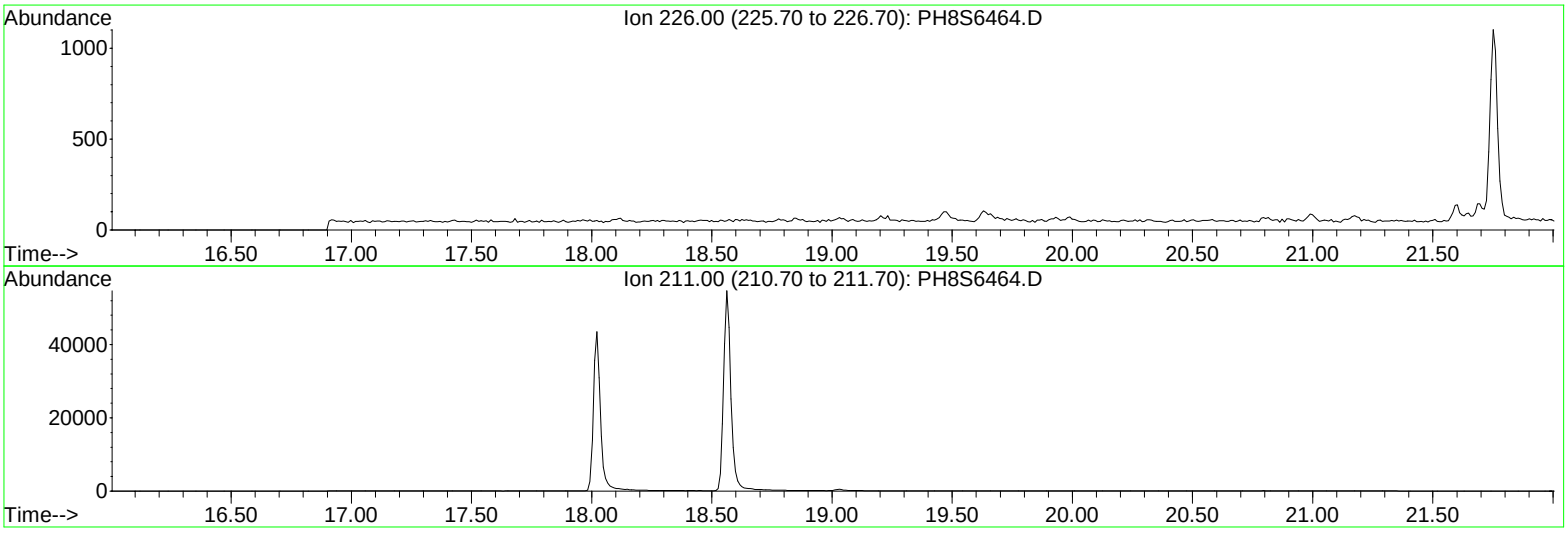
Axys Analytical CHRO Report

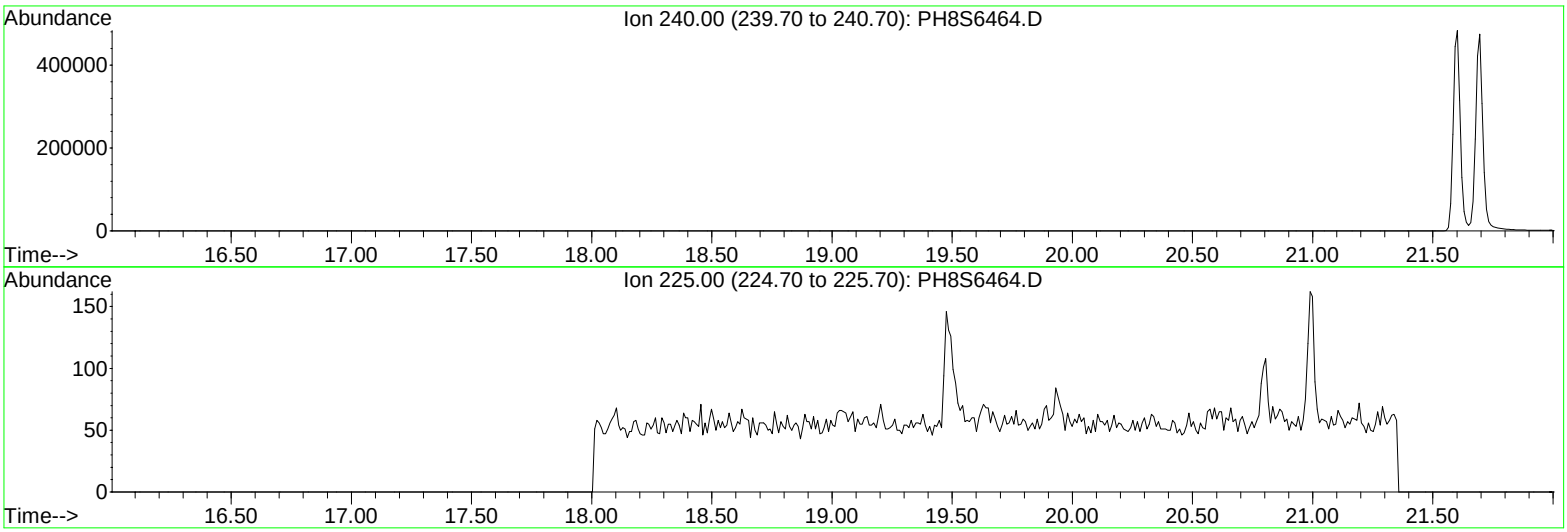
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



Axys Analytical CHRO Report

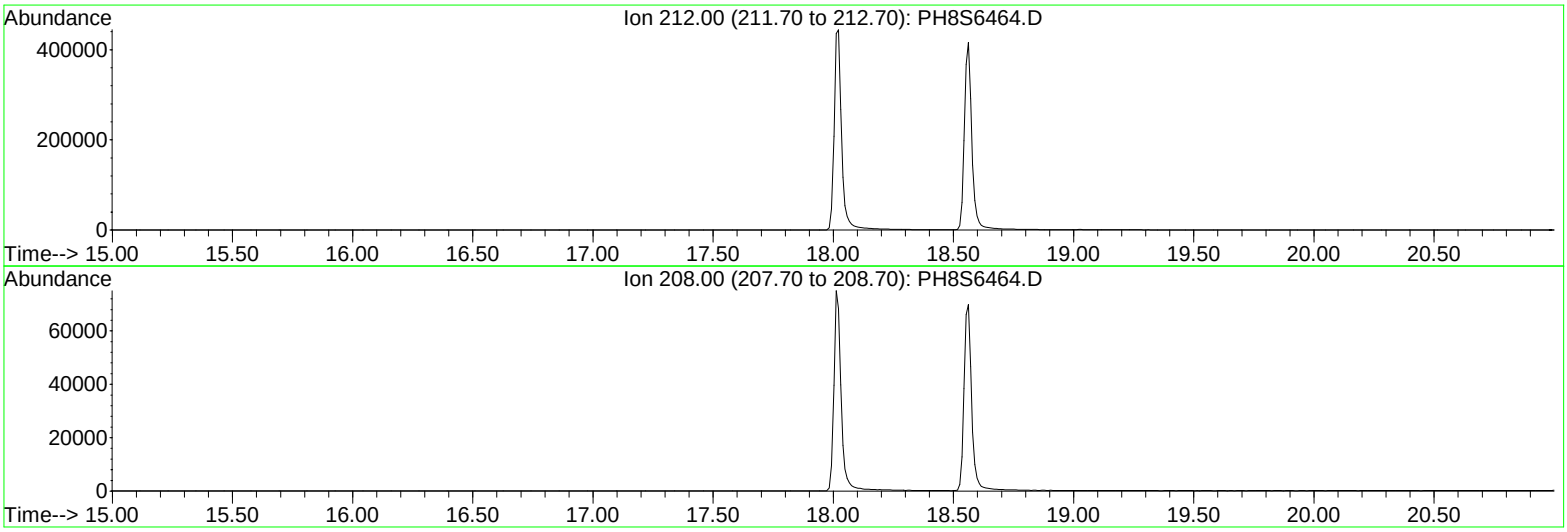
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

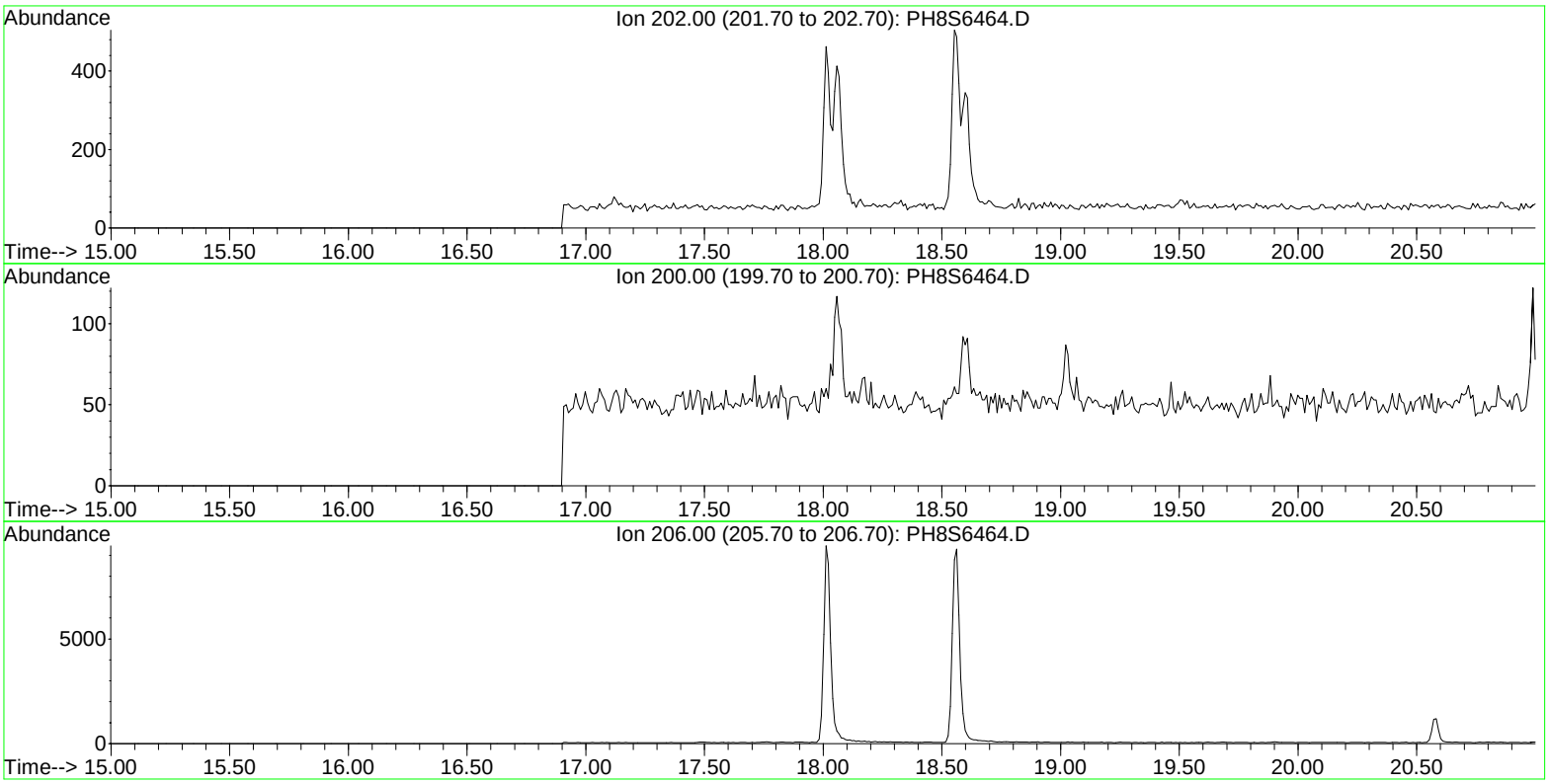


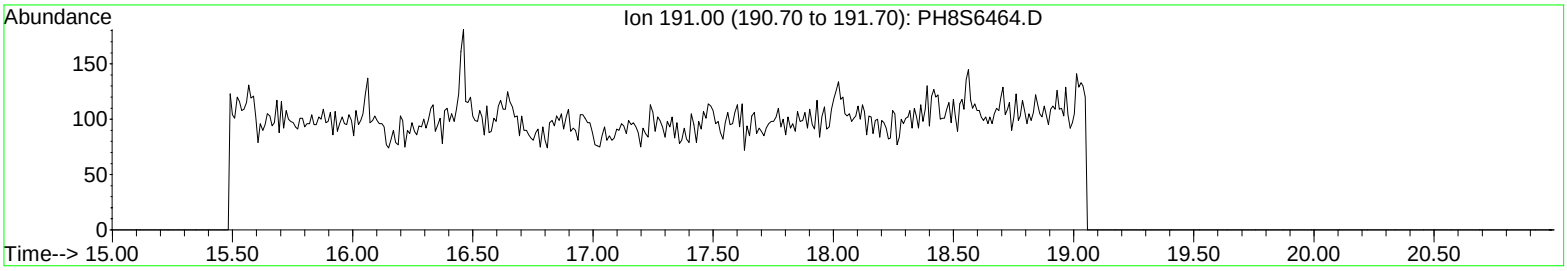


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



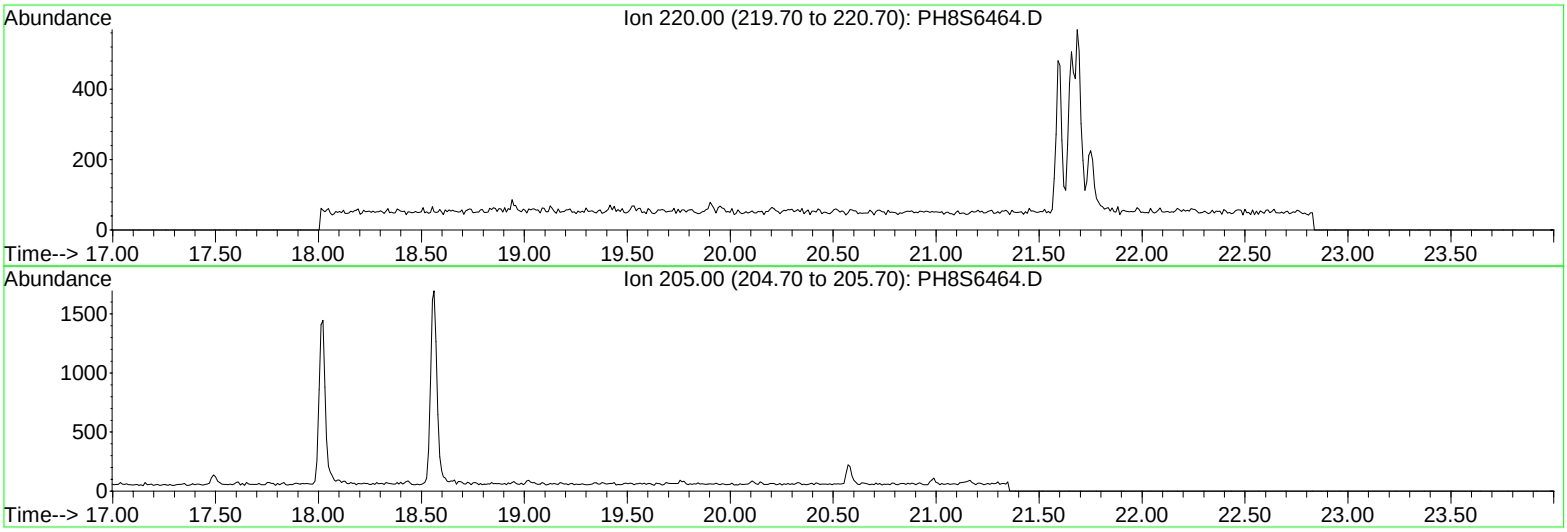


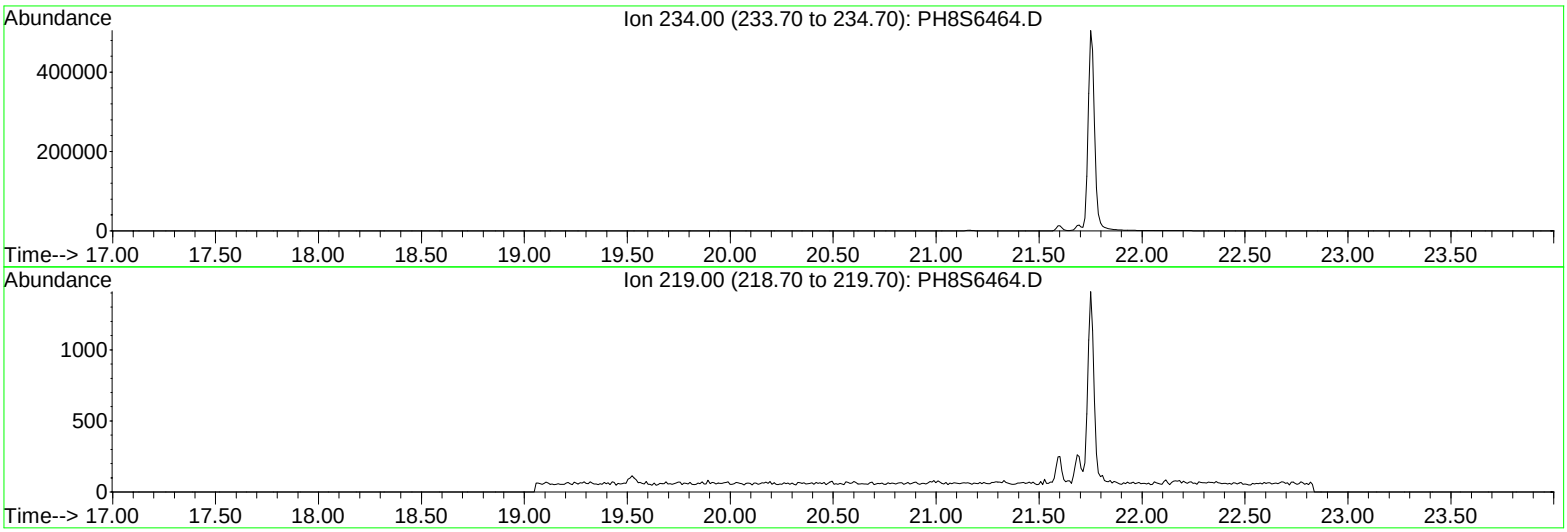


Thu Jan 10 08:40:01 2019

Axys Analytical CHRO Report

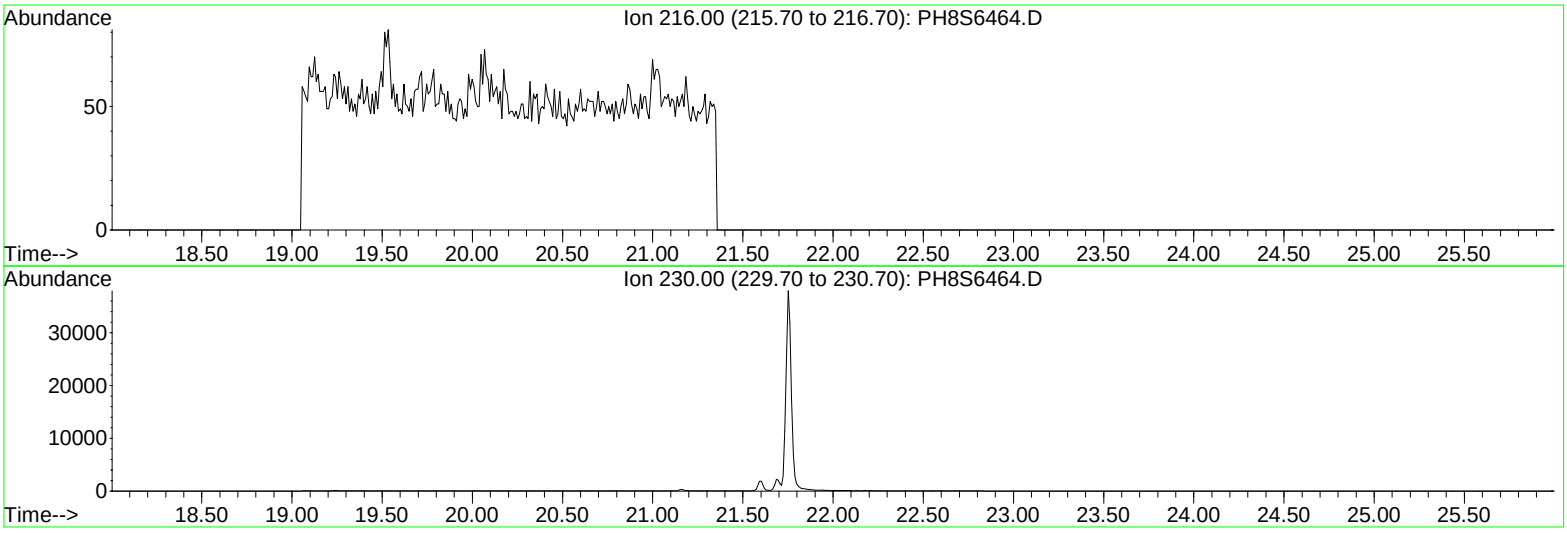
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

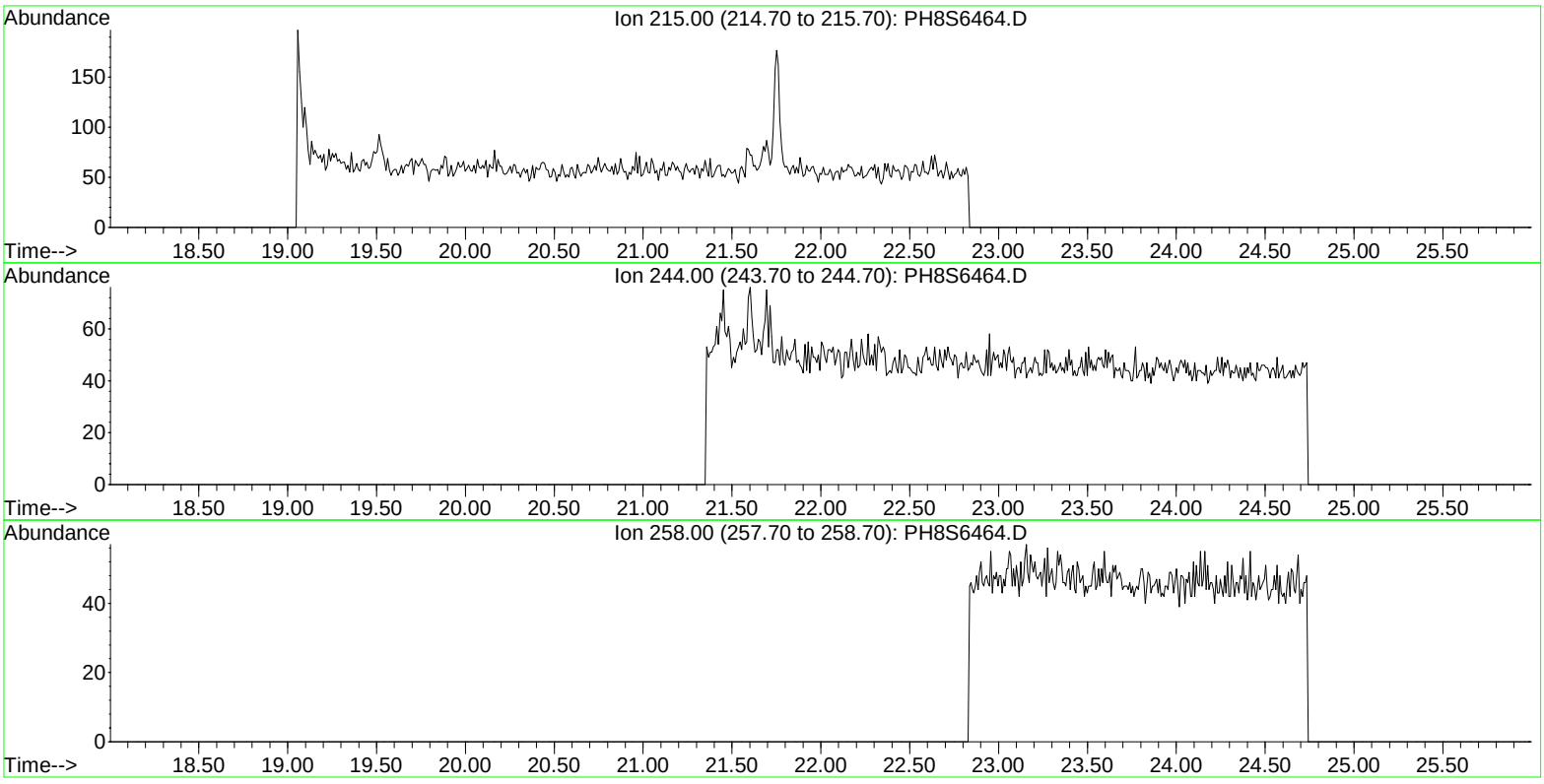


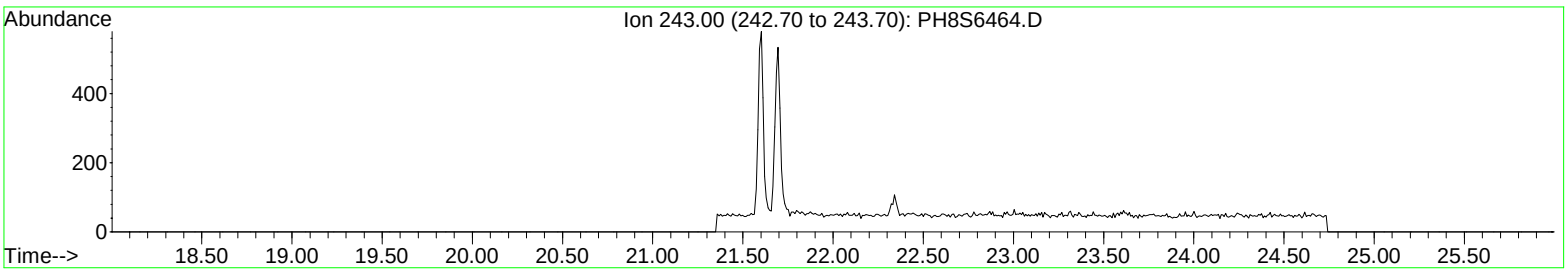


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



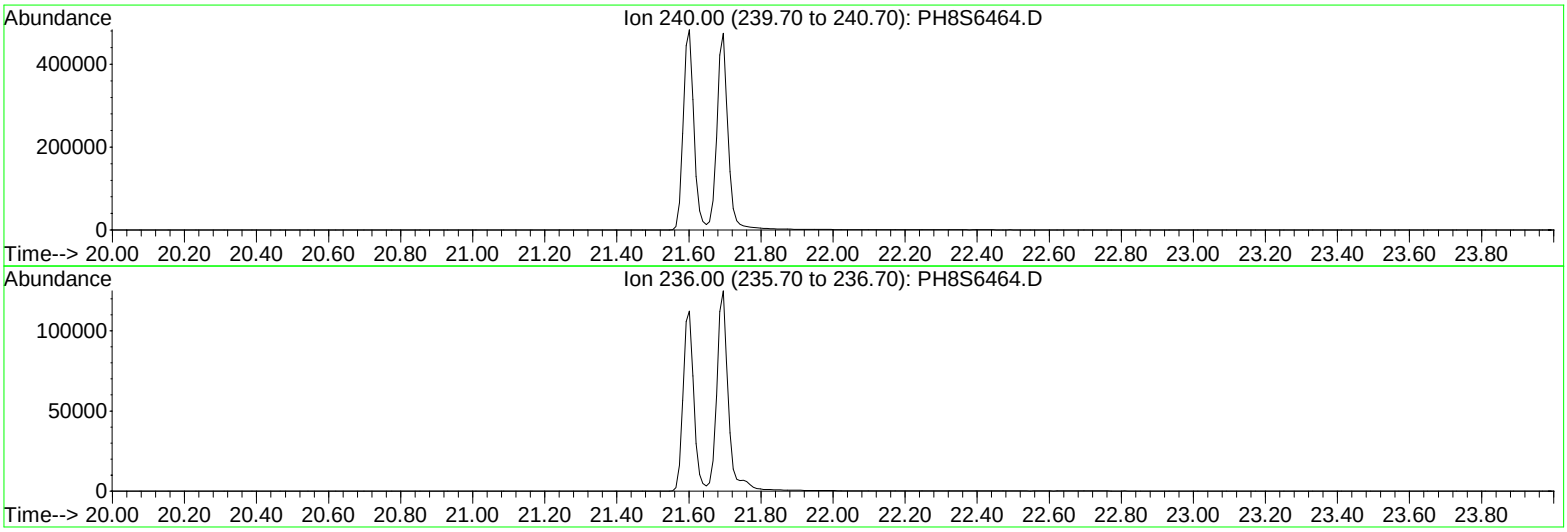


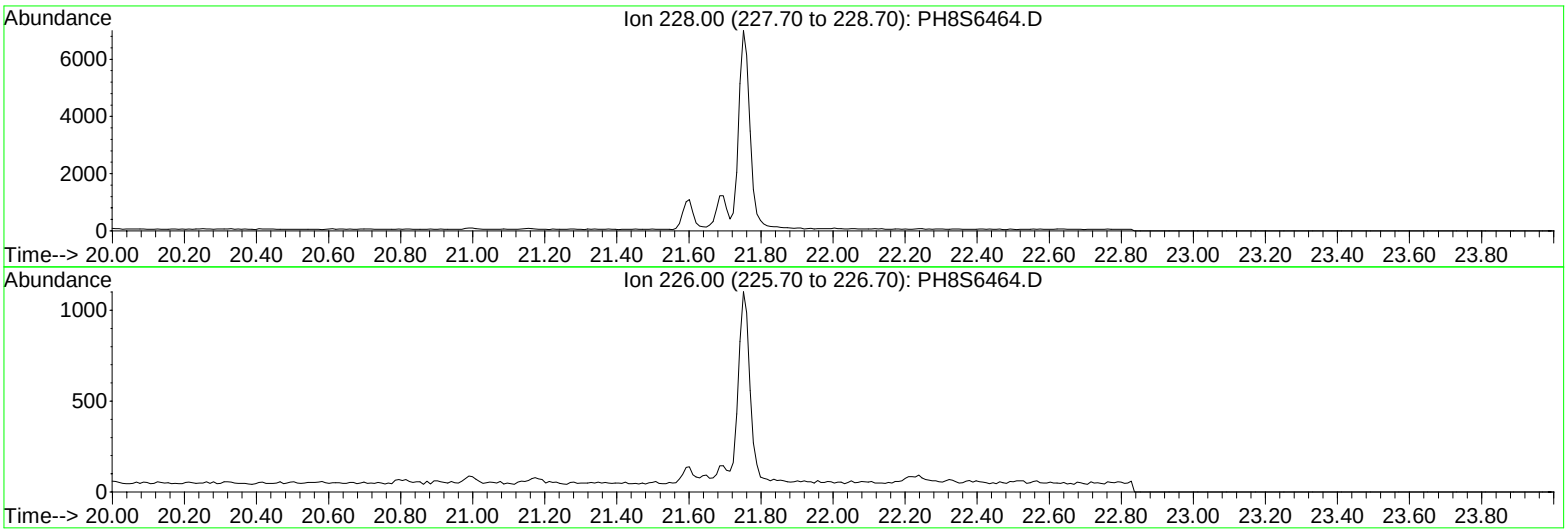


Thu Jan 10 08:40:04 2019

Axys Analytical CHRO Report

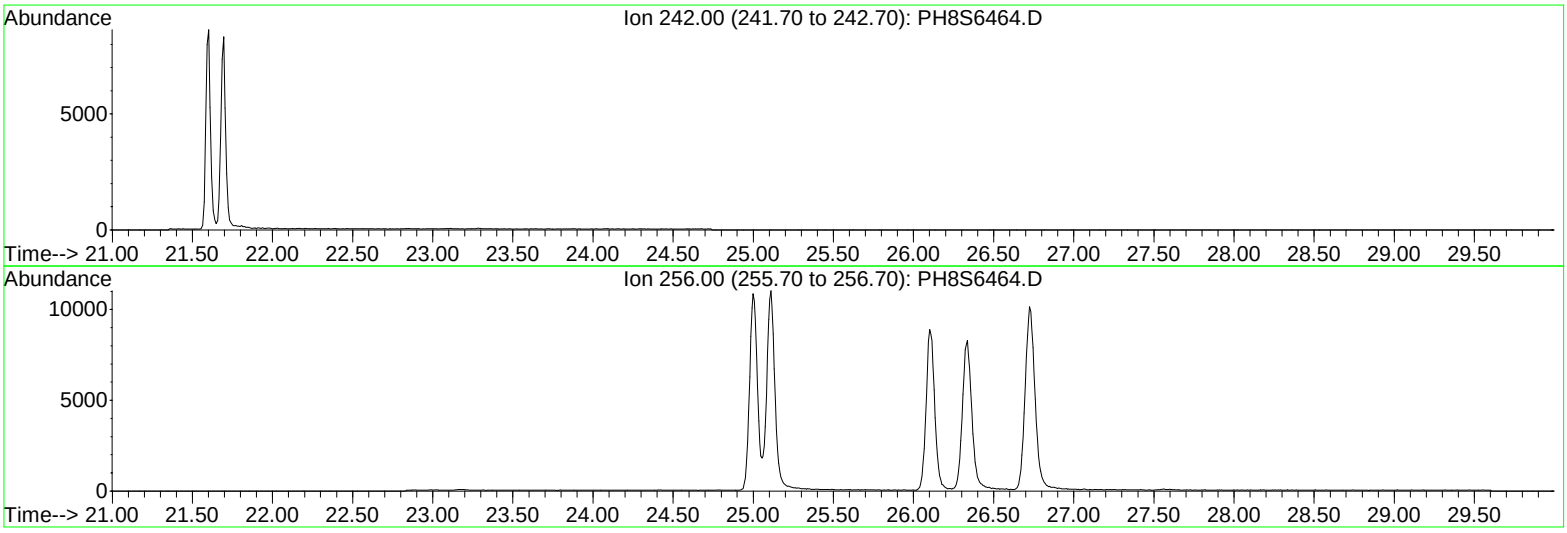
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

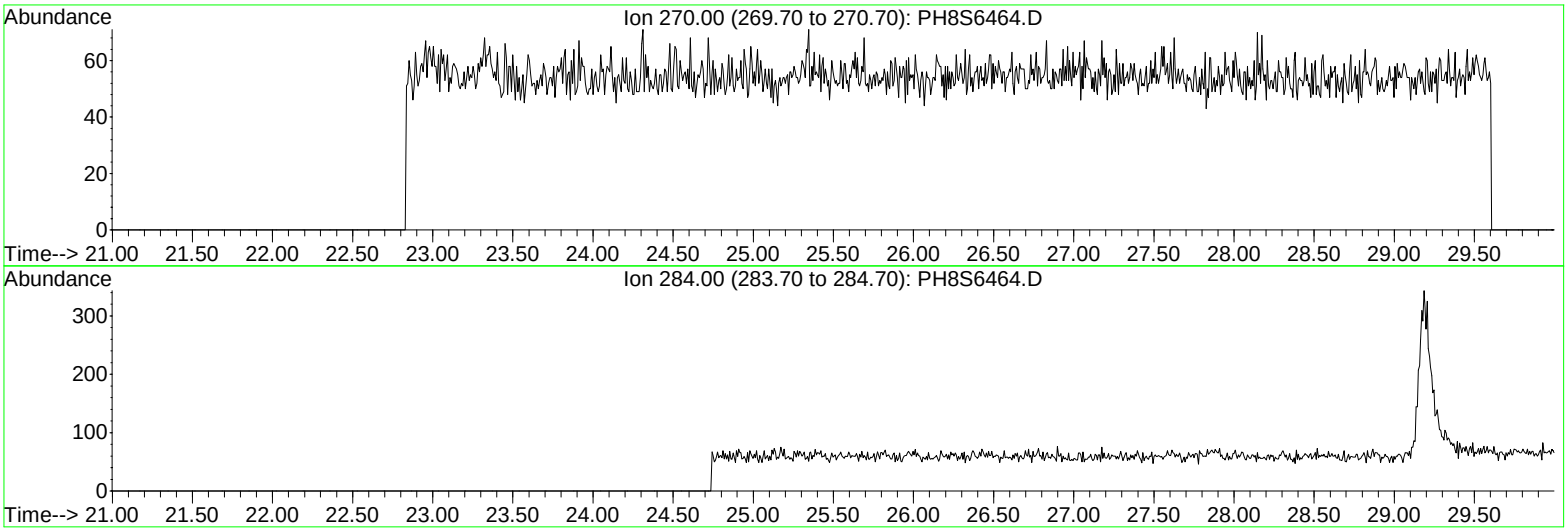




Axys Analytical CHRO Report

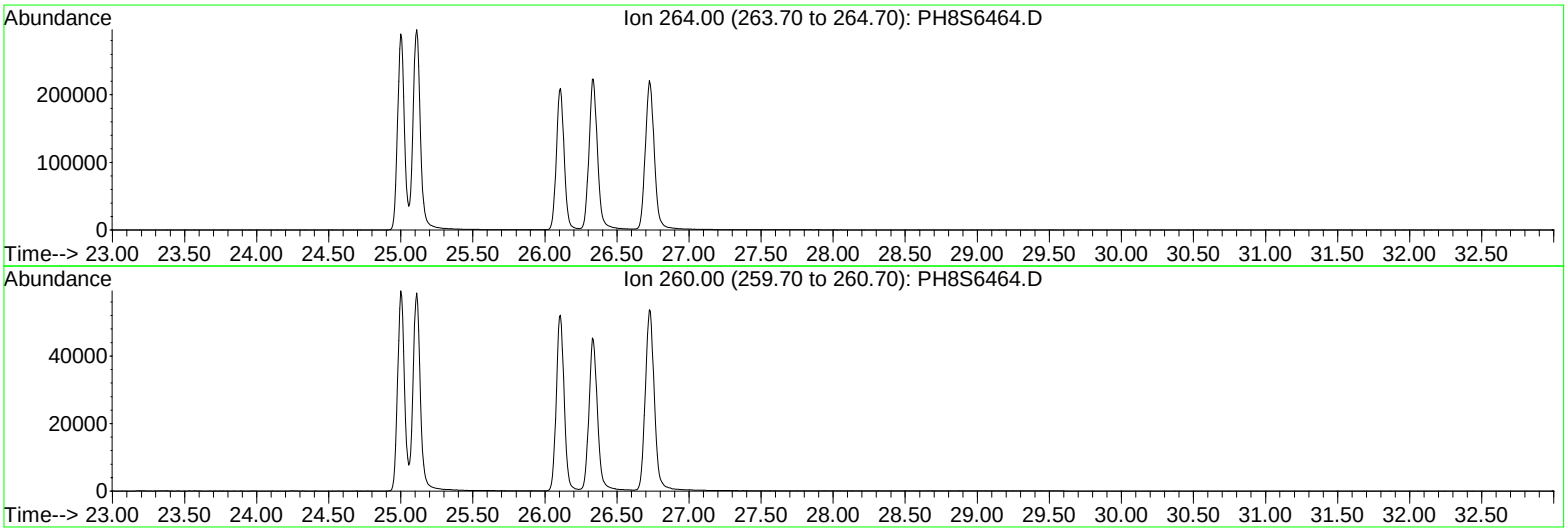
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

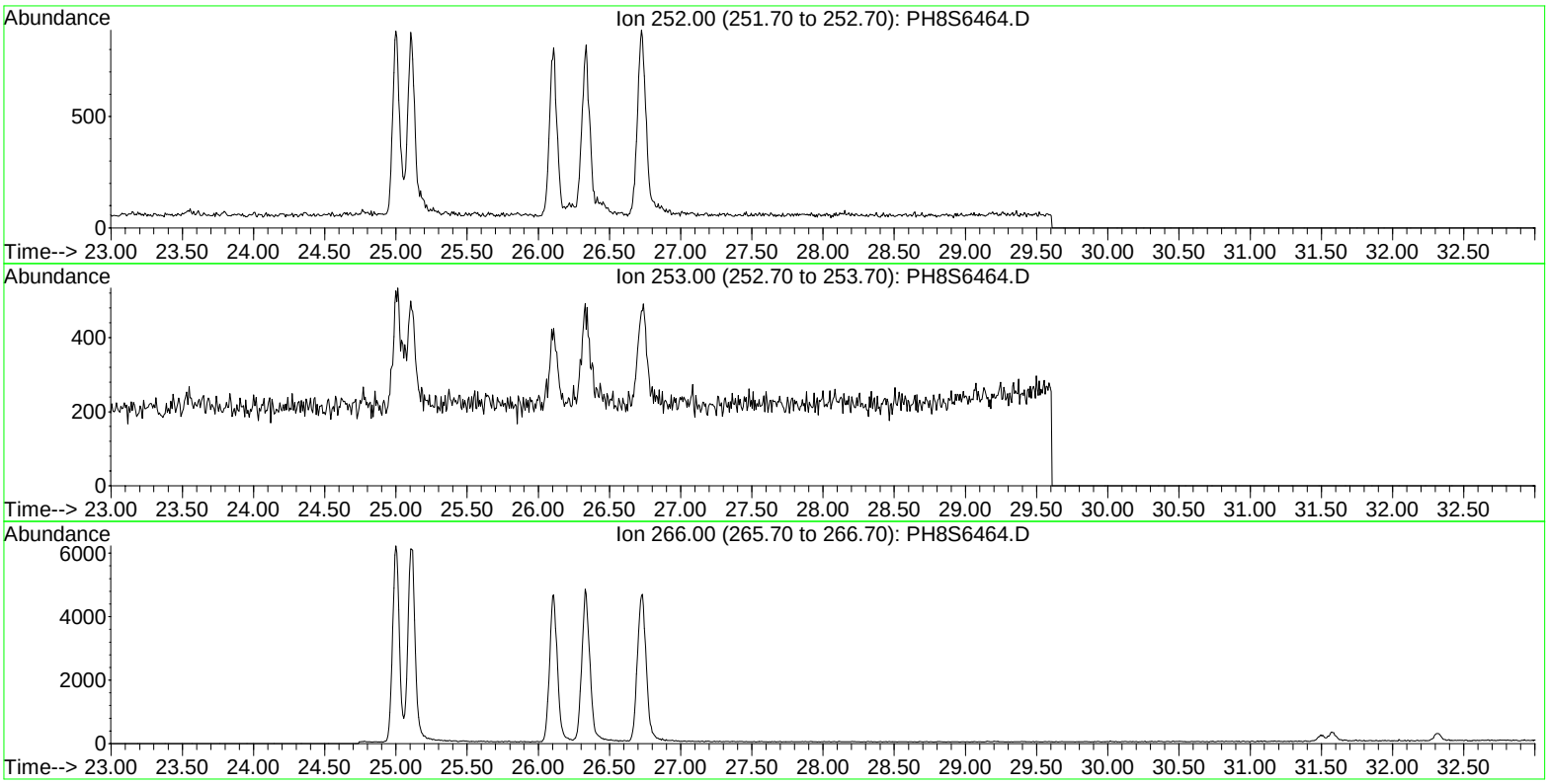


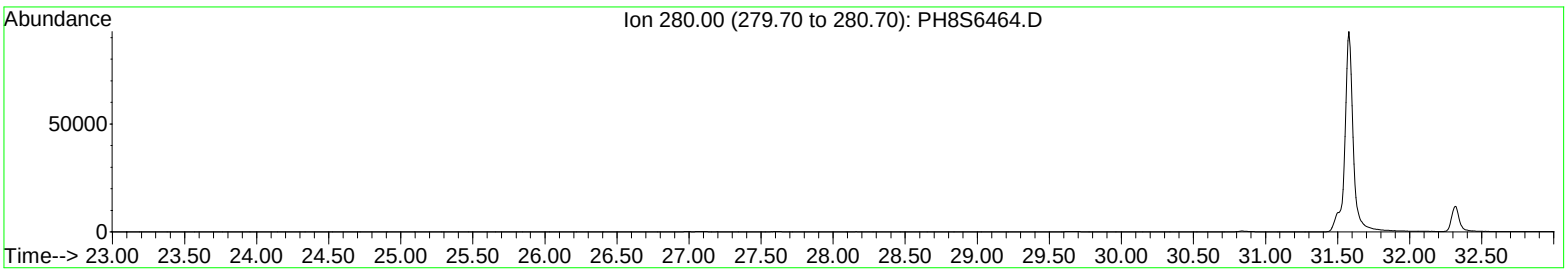


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



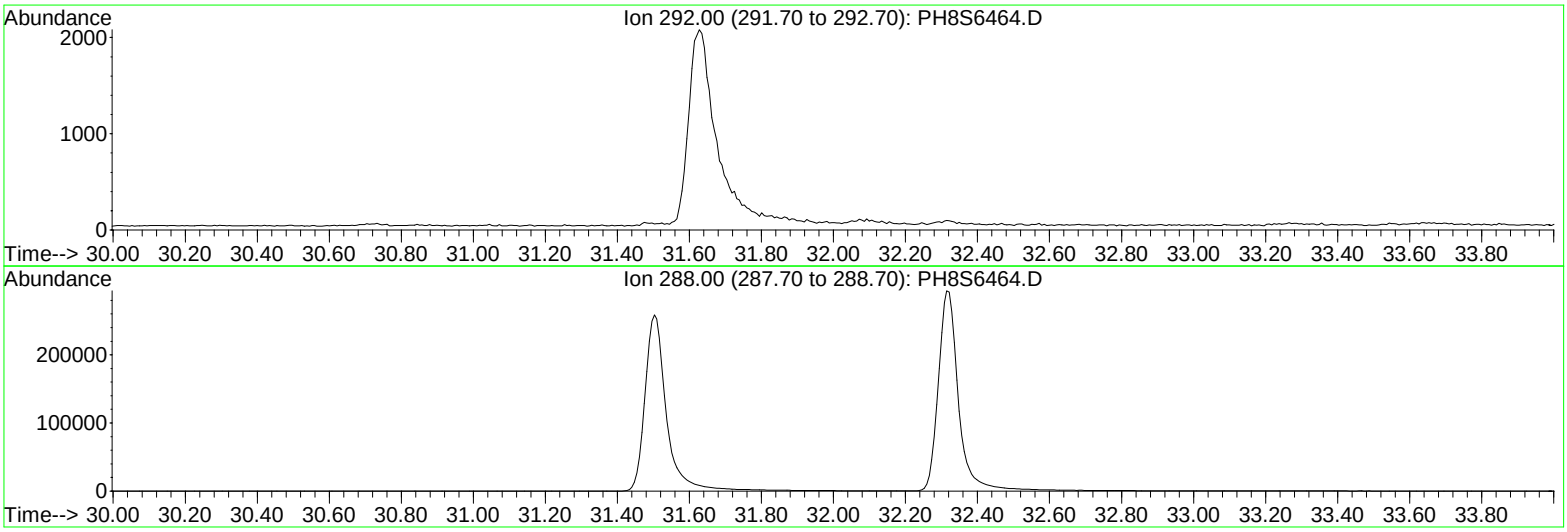


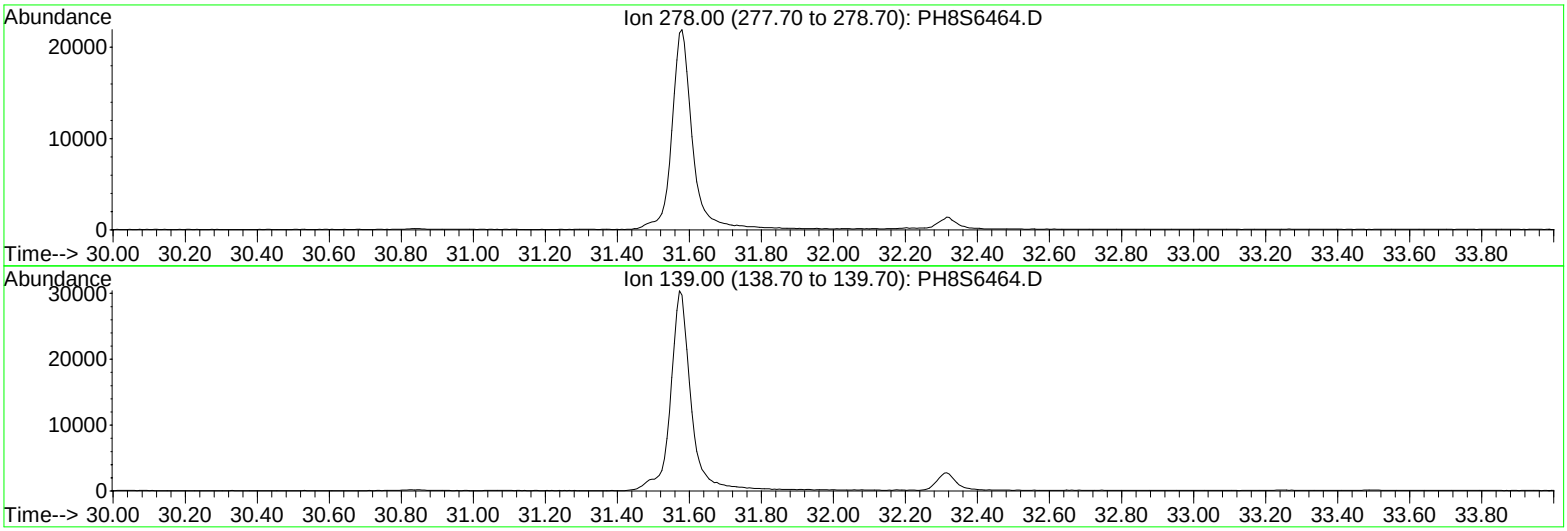


Thu Jan 10 08:40:08 2019

Axys Analytical CHRO Report

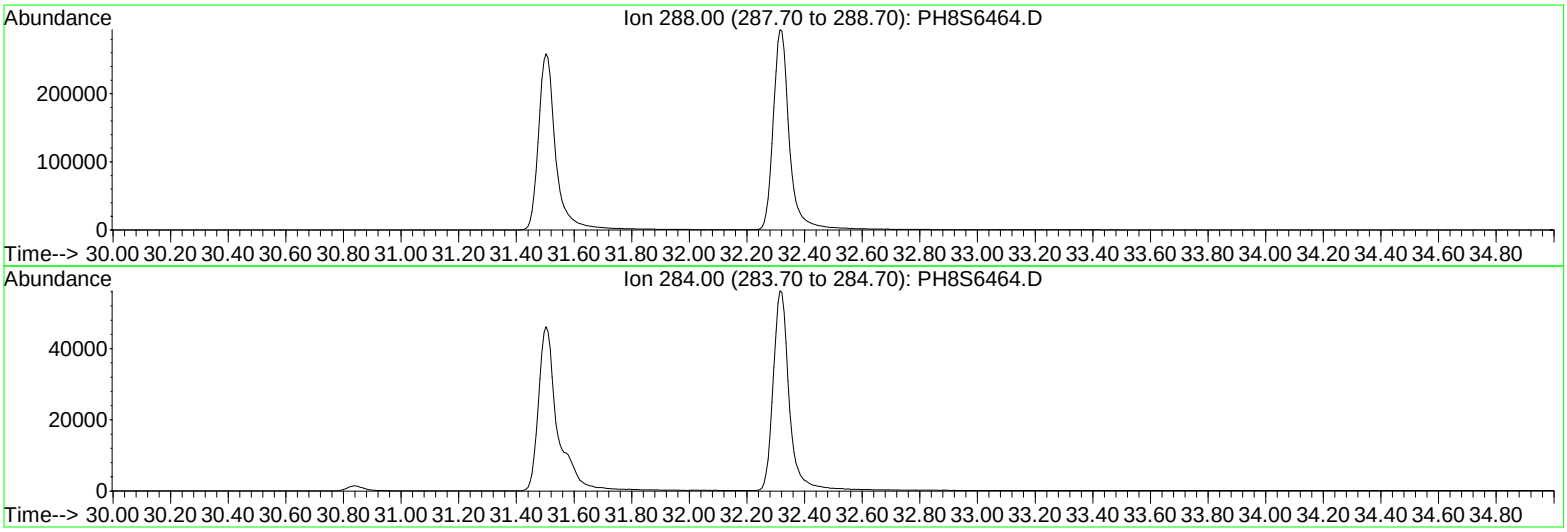
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

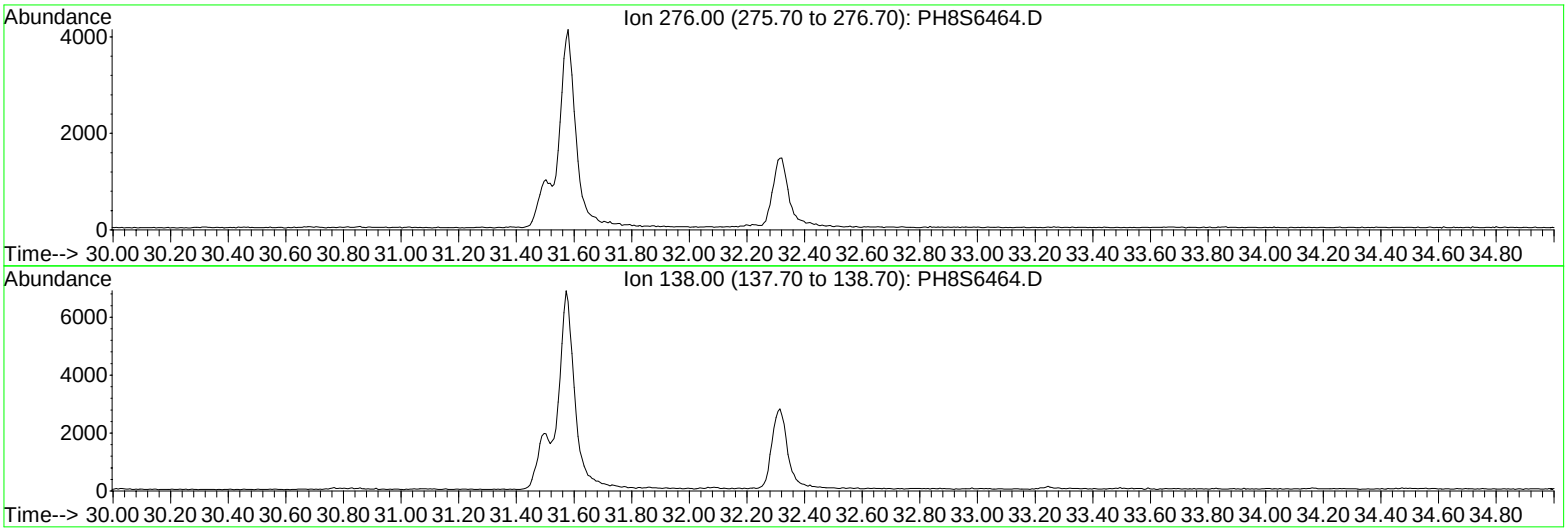




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6464.D
28/12/2018 16:03
L30196-2
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6464.D\618S6464.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 9
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:57 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.074	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	894517	18.56	2676.6304	I	0	2676.6304	3702		0.17	1
d10-Phenanthrene - SURR	587140	15	1392.4716	S	38.5726	23.5678	7314		0.13	0.808
d12-Benz(a)anthracene - SURR	988413	21.6	3495.2875	S	86.0908	107.6595	22407		0.23	1.164
d12-Chrysene - SURR	1001663	21.7	3306.8372	S	84.3581	48.8337	10887		0.26	1.169
d12-Benzo(e)pyrene - REC	786257	26.11	2744.5652	I	0	2744.5652	1421		0.25	1
d12-Indeno(123cd)pyrene - SURR	1048043	31.5	3730.7531	S	93.7375	0.818	169		0.17	1.207
d10-Phenanthrene	587140	15	4904.8913	I	0	4904.8913	6865		0.13	1
13C6-Phenanthrene	1292066	15.05	9537.4613	T	0	0.582	79		0.2	1.003
d12-Benz(a)anthracene	988413	21.6	5516.3043	I	0	5516.3043	21271		0.23	1
d10-Fluoranthene	947893	18.02	3885.2917	T	0	0.3771	92		0.16	0.834
d12-Chrysene	1001663	21.7	5326.087	I	0	5326.087	10701		0.26	1
13C6-Chrysene	1100887	21.75	5219.866	T	0	1.0539	222		0.31	1.003
d12-Indeno(123cd)pyrene	1048043	31.5	5407.6087	I	0	5407.6087	184		0.17	1
13C6-Indeno(123cd)pyrene $	1578269	31.58	6512.9931	T	0	2.9329	711		0.2	1.002

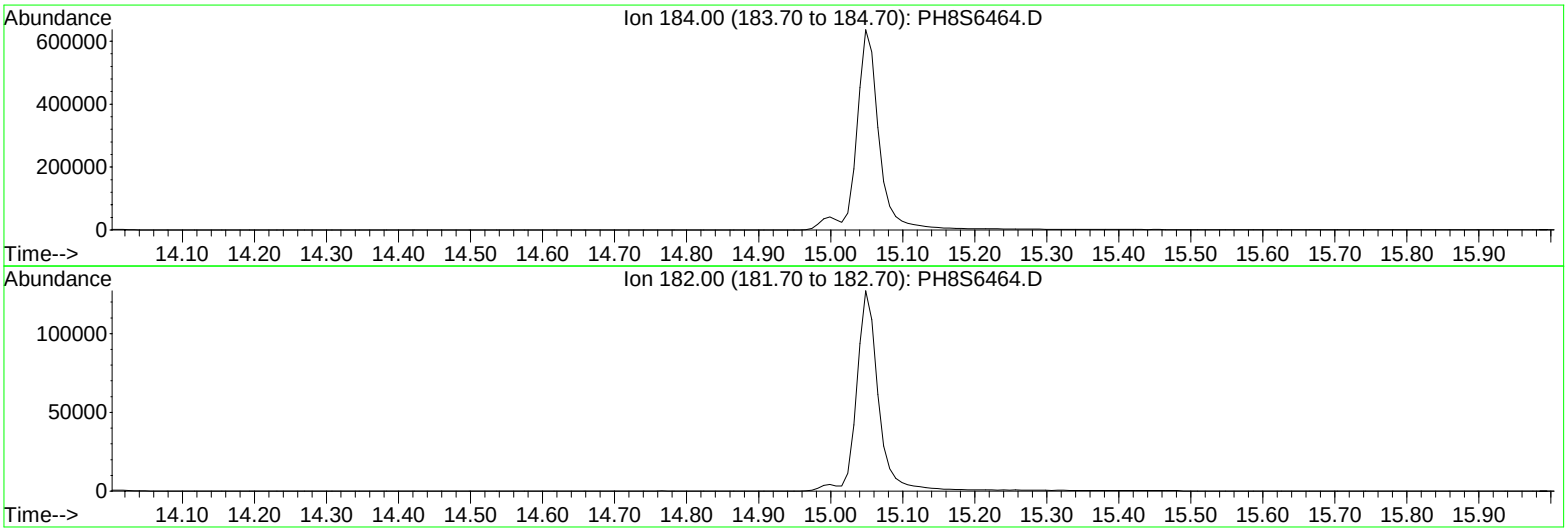
618S6464

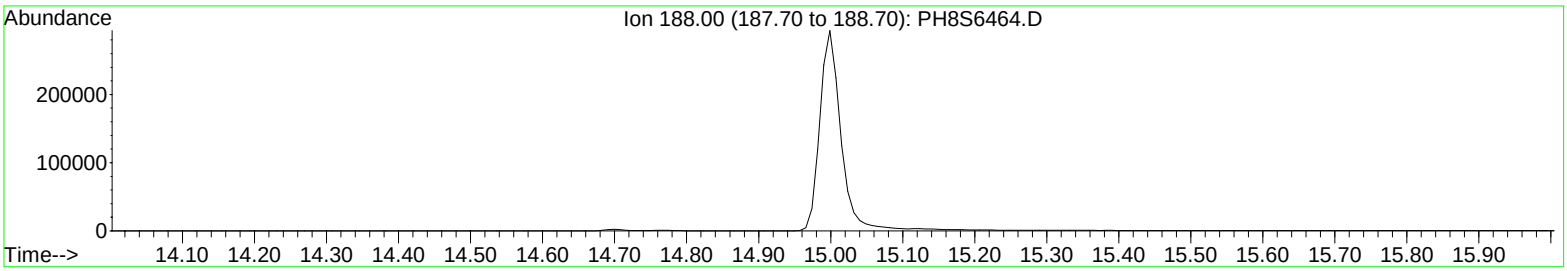
Checked by MS 03-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

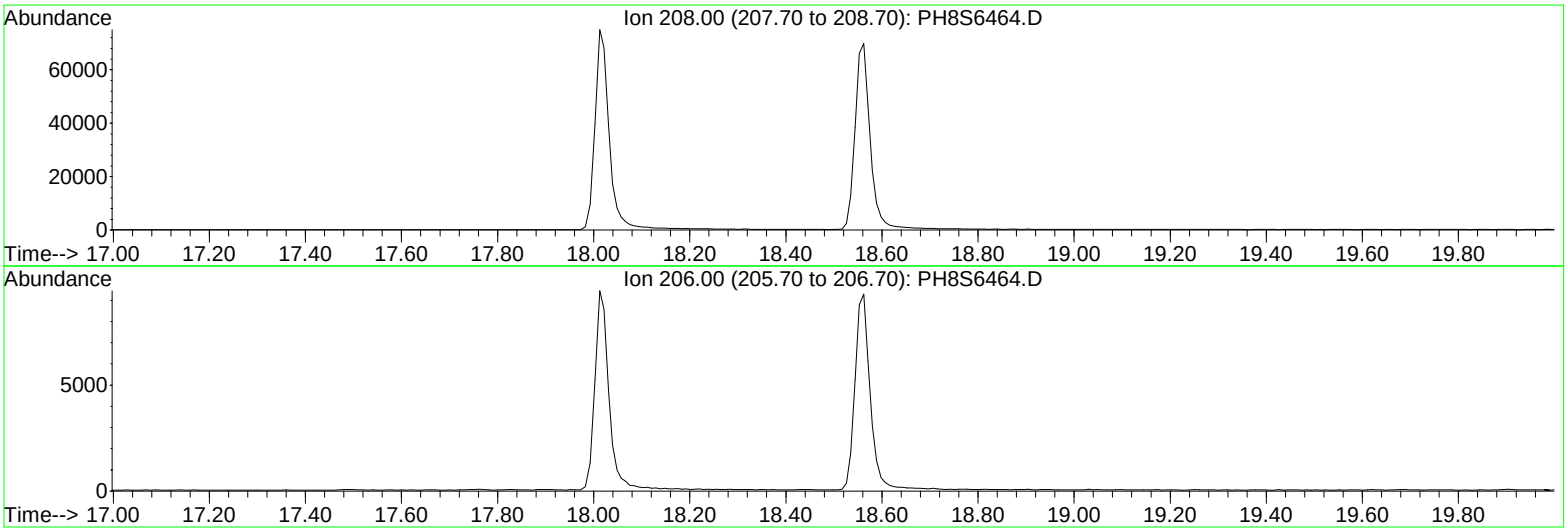
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

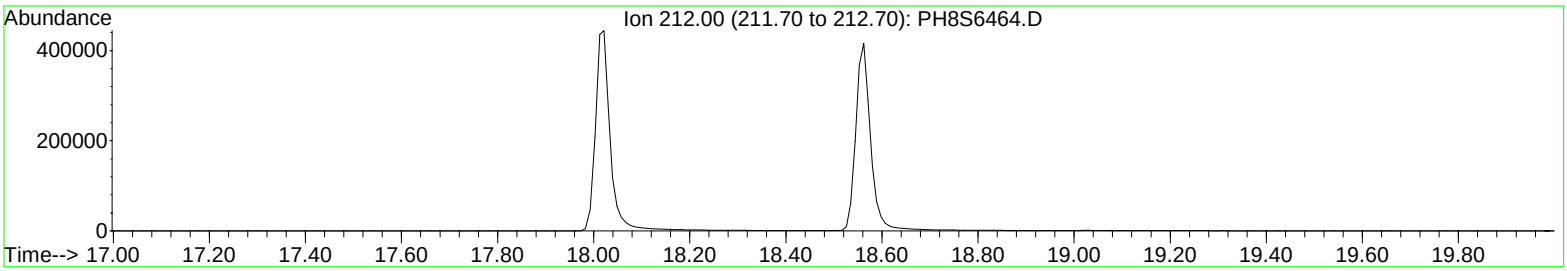




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

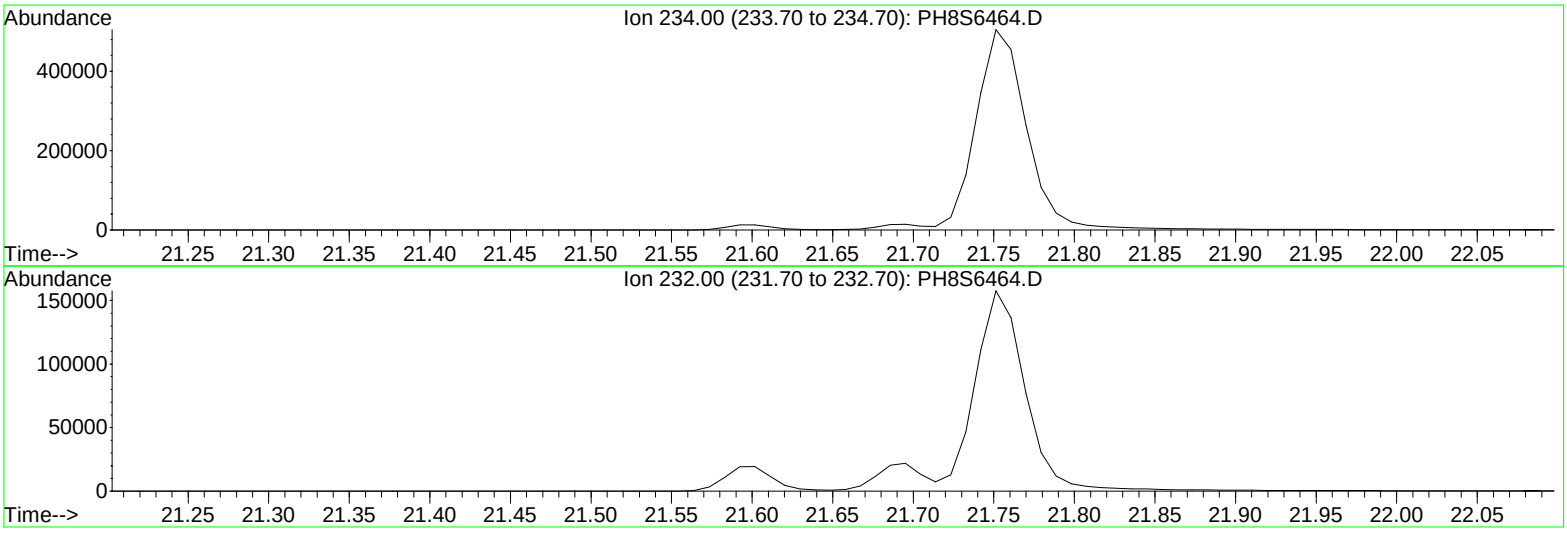


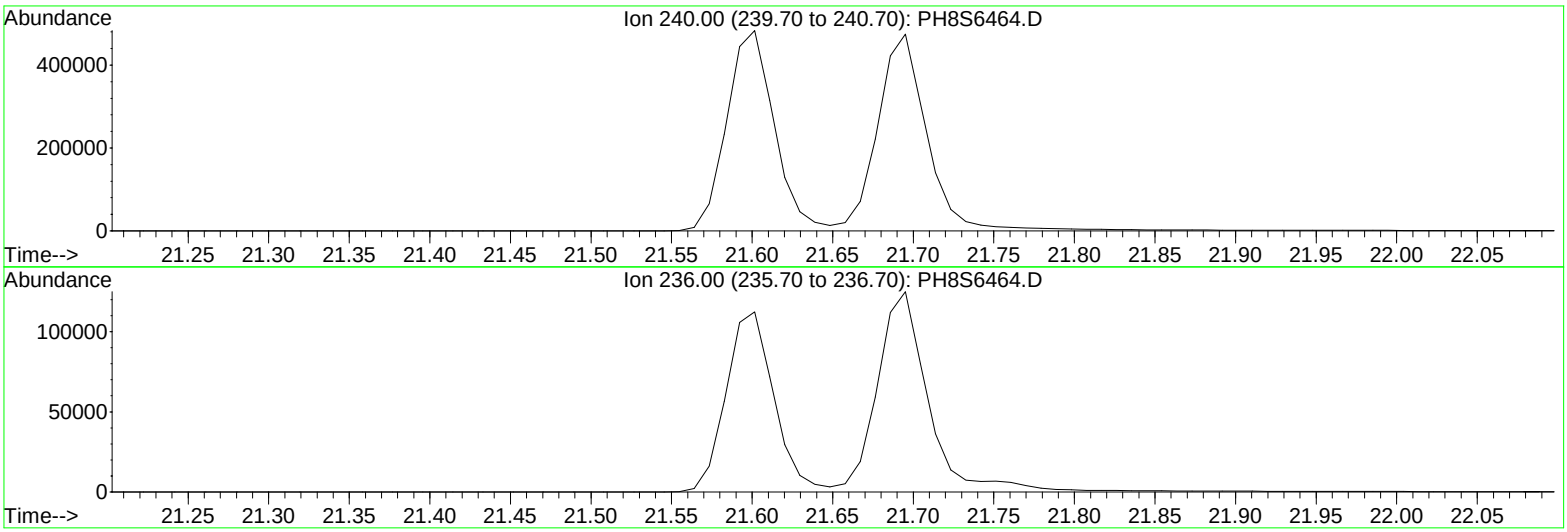


Thu Jan 10 08:55:57 2019

Axys Analytical CHRO Report

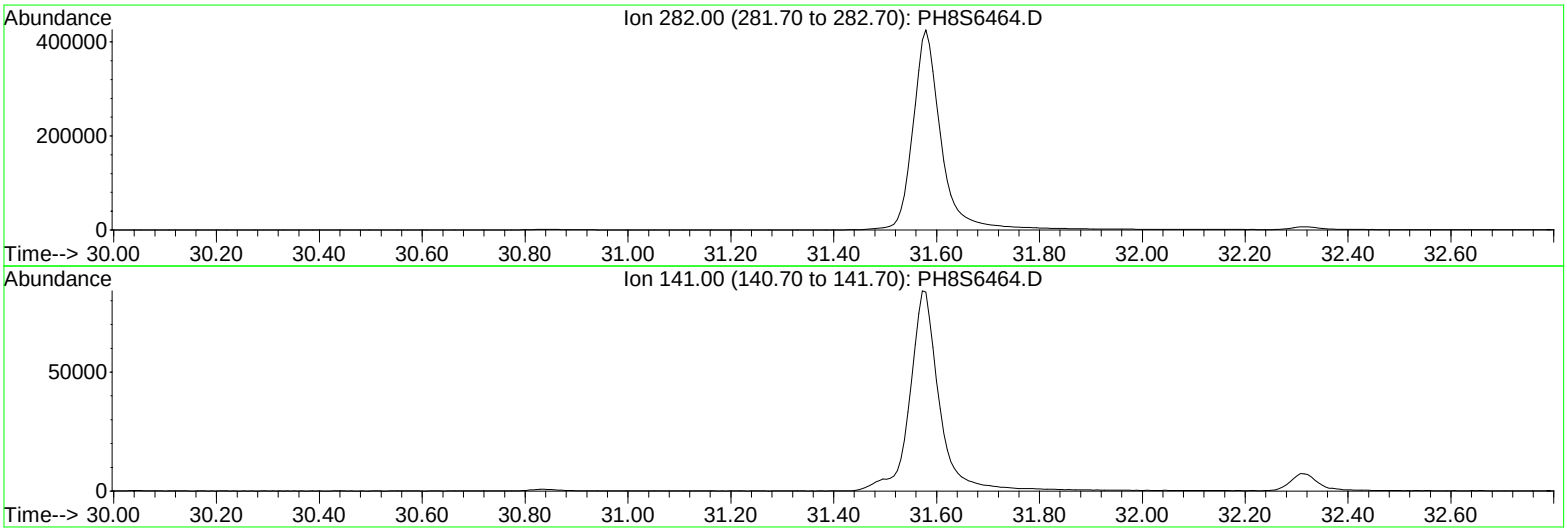
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL

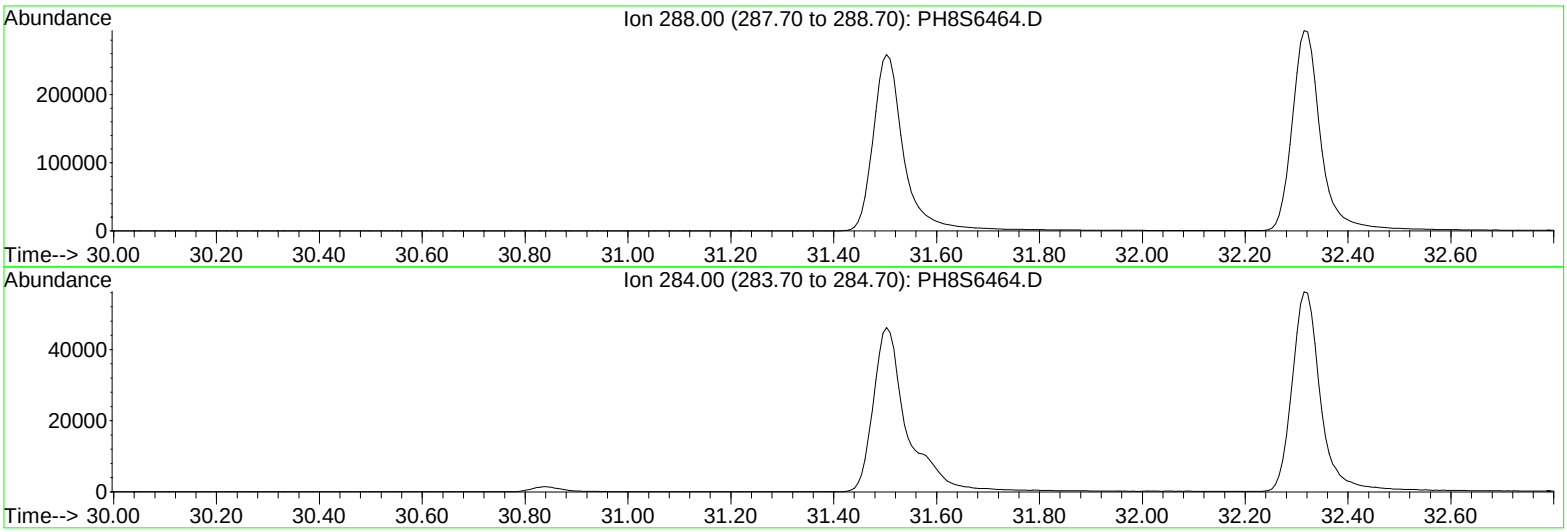




Axys Analytical CHRO Report

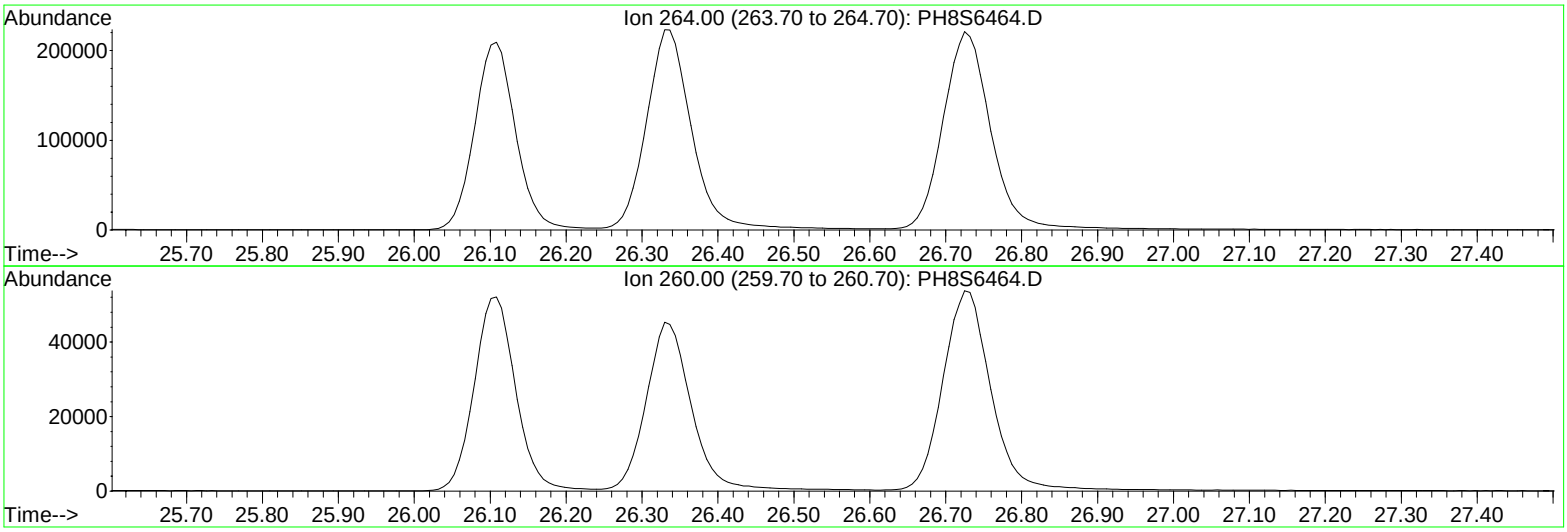
File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6464.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:03
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-2,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6465.D
28/12/2018 16:52
L30196-3
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6465.D\PH8S6465.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 10
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:43 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.111	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	459742	11.29	3633.0935 I	0	3633.0935	508		0.45	1
d8-Naphthalene - SURR	308783	6.87	453.7582 S	22.6879	0.6846	130		0.09	0.609
d10-2-Methylnaphthalene - SURR	238266	8.53	522.3284 S	26.5141	1.1847	150		0.19	0.756
d10-Biphenyl - SURR	428563	9.8	669.6608 S	32.7462	0.5242	93		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	248466	10.11	596.0938 S	29.007	2.3696	275		0.74	0.896
d8-Acenaphthylene - SURR	544133	10.85	675.1953 S	32.7765	1.8268	409		0.15	0.961
d10-Pyrene - REC	880157	18.56	3543.1655 I	0	3543.1655	5980		0.17	1
d10-Phenanthrene - SURR	778548	15	954.1908 S	52.8638	55.554	12601		0.15	0.808
d8-Dibenzothiophene - SURR	553807	14.7	763.2265 S	37.505	0.7136	144		0.08	0.792
d12-Benz(a)anthracene - SURR	1124828	21.6	1465.9386 S	72.2137	136.3664	29089		0.23	1.164
d12-Chrysene - SURR	1127544	21.7	1406.6105 S	71.7658	60.7741	13543		0.27	1.169
d12-Benzo(e)pyrene - REC	701049	26.11	3633.0935 I	0	3633.0935	1944		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1059075	25	1649.7134 S	83.7418	451.4209	80565		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1160010	25.11	1635.9829 S	81.7991	139.2946	27458		0.19	0.962
d12-Benzo(a)pyrene - SURR	963405	26.34	1586.1292 S	76.6246	10089.1727	1703610		0.2	1.009
d12-Perylene - SURR	1013027	26.72	1672.7404 S	77.8019	216.6475	36475		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	1003663	31.5	1631.52 S	81.9859	1.2554	215		0.16	1.207
d12-Benzo(ghi)perylene - SURR	1105603	32.31	1511.0921 S	76.3178	12.5548	2554		0.19	1.238
d8-Naphthalene	308783	6.87	3597.1223 I	0	3597.1223	125		0.09	1
Naphthalene $	1461	6.92	14.2203 T	0	2.5306	260		0.08	1.006
d10-2-Methylnaphthalene	238266	8.53	3543.1655 I	0	3543.1655	149		0.19	1
2-Methylnaphthalene $	454	8.61	5.5797 T	0	1.5166	123		1.07	1.009
1-Methylnaphthalene	273	8.87	3.5536 T	0	1.6063	123		1.01	1.04
C1-Naphthalenes	489	8.61	0 T	0	0	149		-1	1.009
d10-Biphenyl	428563	9.8	3678.0576 I	0	3678.0576	92		-1	1
Biphenyl $	672	9.85	5.1916 T	0	1.9838	257		0.28	1.005
C1-Biphenyls $	609	11.33	4.7049 T	0	1.2697	164		0.14	1.157
C2-Biphenyls $	2004	12.71	15.4821 T	0	3.8486	498		0.26	1.296
d12-2,6-Dimethylnaphthalene	248466	10.11	3696.0432 I	0	3696.0432	268		0.74	1
2,6-Dimethylnaphthalene $	84	10.23	1.0332 T	0	1.6812	137	#	0.55	1.012
Ethyl/DiMe-Naphthalenes	112	10.23	1.5226 T	0	1.8583	137		0.41	1.012
1,2-Dimethylnaphthalene	55005	10.85	835.9771 T	0	2.0774	137	#	0	1.073
C2-Naphthalenes	112	10.23	0 T	0	0	339		-1	1.012
2,3,6-Trimethylnaphthalene	161	12.17	1.959 T	0	1.2936	106	#	0.51	1.204
2,3,5-Trimethylnaphthalene $	48	12.35	0.6155 T	0	1.3632	106	#	1.54	1.222
C3-Naphthalenes	48	12.35	0.5994 T	0	1.3275	106		1.54	1.222
1,4,6,7-Tetramethylnaphthalene $	8825	14.01	107.3352 T	0	2.2782	187	#	0.01	1.386
C4-Naphthalenes	8825	14.01	107.3352 T	0	2.2782	187		0.01	1.386
d8-Acenaphthylene	544133	10.85	3705.036 I	0	3705.036	399		0.15	1
Acenaphthylene $	119	10.87	0.6669 T	0	0.7918	141	#	0.66	1.002
Acenaphthene $	40	11.35	0.4056 T	0	1.228	121	#	3.1	1.046
C1-Acenaphthenes $	587	11.8	5.9519 T	0	4.9631	489		0.1	1.088
d8-Dibenzothiophene	553807	14.7	3660.0719 I	0	3660.0719	138		0.08	1
Dibenzothiophene $	485	14.77	2.6813 T	0	0.73	132		0.08	1.005
C1-Dibenzothiophenes-1	47	15.86	0.3787 T	0	6.9919	868		0.83	1.079
2/3-Methyldibenzothiophenes $	38	16.06	0.3062 T	0	6.9919	868		0.63	1.093
C1-Dibenzothiophenes-2	288	16.32	2.3206 T	0	6.9919	868	#	0.9	1.111
C1-Dibenzothiophenes	38	16.06	0 T	0	0	868		-1	1.093
4,6-Dimethyldibenzothiophene	39	16.97	0.2932 T	0	1.0401	138	#	0.56	1.154

+ Report only.

PH8S6465

Checked by MV 08-Jan-19

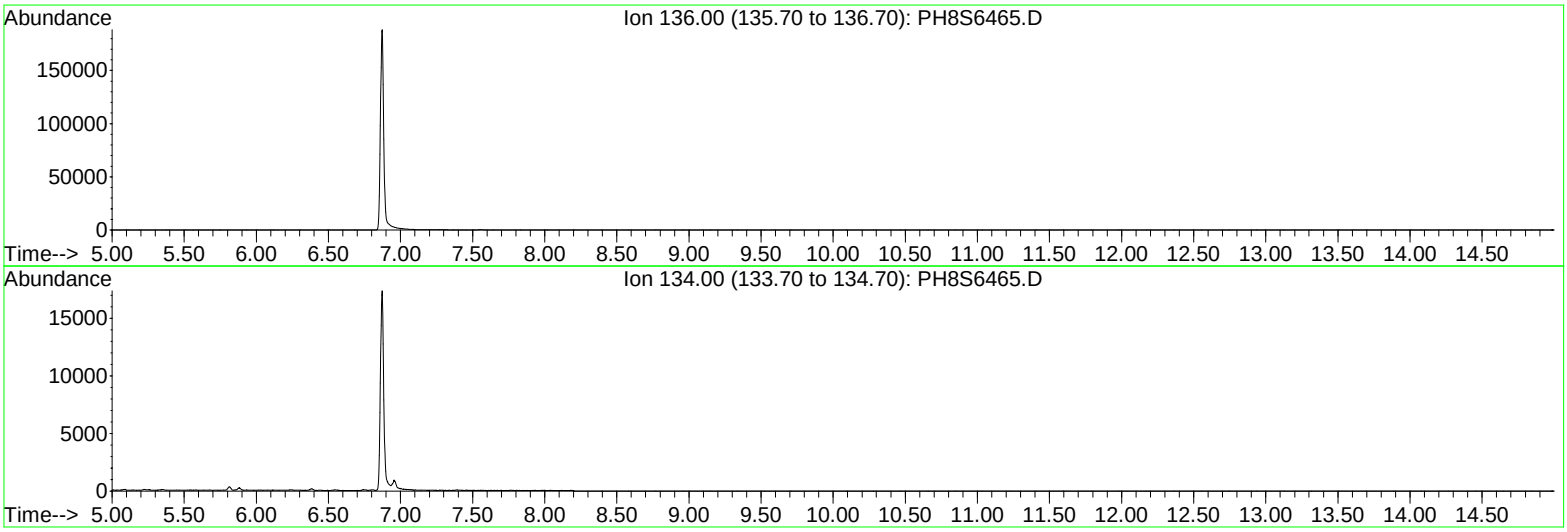
pv by vr
03-Jan-2019

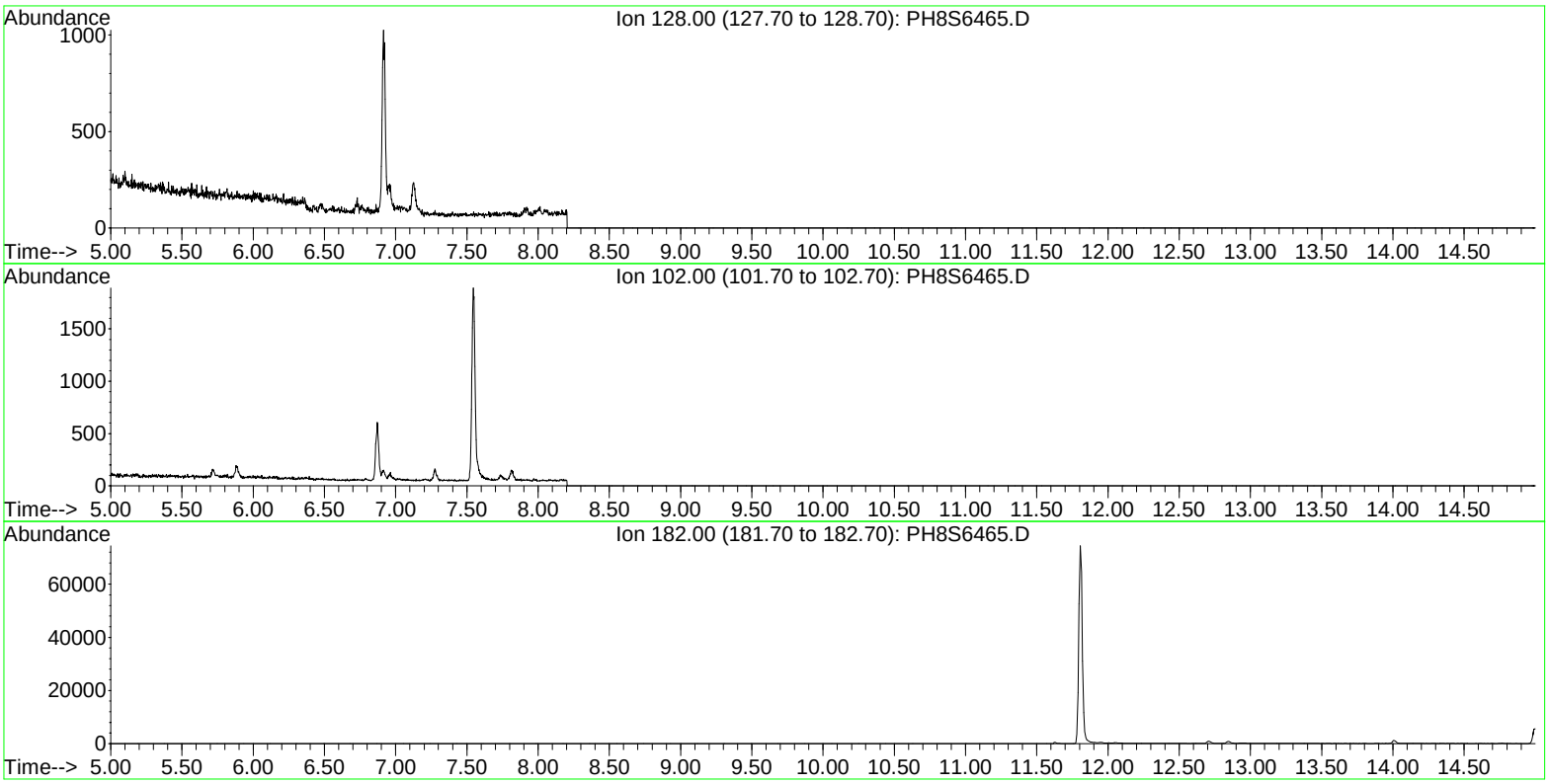
2,4-Dimethyldibenzothiophene $	181	17.09	1.7621 T	0	1.3467	138 #	0.23	1.163
C2-Dibenzothiophenes	181	17.09	1.7621 T	0	1.3467	138	0.23	1.163
C3-Dibenzothiophenes $	36	18.1	0.3505 T	0	0.857	88 #	-1	1.232
C4-Dibenzothiophenes $	88	18.81	0.8567 T	0	0.4897	50	0.4	1.279
d10-Phenanthrene	778548	15	3246.4029 I	0	3246.4029	11684	0.15	1
Fluorene $	118	12.66	0.6885 T	0	0.7433	127	0.92	0.844
2-Methylfluorene $	35	14.1	0.3003 T	0	2.1861	255 #	13.37	0.94
C1-Fluorenes	35	14.1	0.3003 T	0	2.1861	255	13.37	0.94
1,7-Dimethylfluorene $	64	15.51	0.5904 T	0	1.6791	182 #	1.14	1.034
C2-Fluorenes	64	15.51	0.5904 T	0	1.6791	182 #	1.14	1.034
C3-Fluorenes $	34	16.47	0.3137 T	0	2.3507	255	2.03	1.098
Phenanthrene $	0	15.05	0 T	0	0.7095	182 #	0	1.003
Anthracene	128	15.17	0.4931 T	0	0.7012	182 #	0.32	1.011
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	196	16.32	1.0831 T	0	0.8046	146 #	0.35	1.088
2-Methylphenanthrene	125	16.4	0.6999 T	0	0.8152	146	0.5	1.094
2-Methylanthracene	94	16.48	0.5423 T	0	0.8399	146 #	2.03	1.099
9/4-Methylphenanthrenes	79	16.52	0.4366 T	0	0.8046	146 #	-1	1.101
1-Methylphenanthrene $	108	16.6	0.5656 T	0	0.7625	146 #	0.74	1.107
C1-Phenanthrenes/Anthracenes	108	16.6	0 T	0	0	467	-1	1.107
Fluoranthene $	679	18.06	2.1549 T	0	0.5583	176	0.17	1.204
Pyrene	495	18.6	1.5194 T	0	0.54	176 #	0.13	1.24
3,6-Dimethylphenanthrene $	75	17.48	0.4304 T	0	0.4526	79 #	1.93	1.165
2,6-Dimethylphenanthrene	34	17.58	0.1948 T	0	0.4518	79 #	1.71	1.172
1,7-Dimethylphenanthrene	39161	18.01	223.9101 T	0	0.4509	79 #	0.01	1.201
Ethyl/DiMe-Phenanthrenes/Anthracenes	75	17.48	0.4296 T	0	0.4518	79	1.93	1.165
1,8-Dimethylphenanthrene	39073	18.01	223.8154 T	0	0.4518	79 #	0.01	1.201
C2-Phenanthrenes/Anthracenes	75	17.48	0 T	0	0	79	-1	1.165
1,2,6-Trimethylphenanthrene $	30	19.44	0.187 T	0	0.4915	79 #	2.07	1.296
C3-Phenanthrenes/Anthracenes	30	19.44	0.187 T	0	0.4915	79	2.07	1.296
Retene $	71	19.51	1.1581 T	0	1.1874	73 #	2.56	1.301
C4-Phenanthrenes/Anthracenes	71	19.51	1.1581 T	0	1.1874	73	2.56	1.301
C1-Fluoranthenes/Pyrenes-1	187	19.06	0.9983 T	0	0.5829	109	2.06	1.271
3-Methylfluoranthene/Benzo(a)fluorene $	17	19.47	0.0908 T	0	0.5829	109 #	3.82	1.298
C1-Fluoranthenes/Pyrenes-2	24	19.94	0.1281 T	0	0.5829	109	1.29	1.329
C1-Fluoranthenes/Pyrenes	66	19.53	0 T	0	0	109	-1	1.302
C2-Fluoranthenes/Pyrenes $	5	20.4	0.0267 T	0	0.6153	115 #	13	1.36
C3-Fluoranthenes/Pyrenes $	9	21.92	0.048 T	0	0.5829	109 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	13	23.33	0.0694 T	0	0.5829	109	2.15	1.556
d12-Benz(a)anthracene	1124828	21.6	3651.0791 I	0	3651.0791	27483	0.23	1
d10-Fluoranthene $	1883500	18.01	5630.9399 T	0	0.4435	148	0.17	0.834
† Benz(a)anthracene	101	21.66	0.2538 T	0	0.2951	117 #	0.33	1.003
d12-Chrysene	1127544	21.7	3525.1799 I	0	3525.1799	13098	0.27	1
† Chrysene $	932	21.75	2.3608 T	0	0.3045	120 #	~~4.16~~	1.003 0.92
5/6-Methylchrysenes $	91	23.11	0.3052 T	0	0.4457	133	-1	1.065
1-Methylchrysene	39	23.29	0.1263 T	0	0.4302	133	-1	1.074
C1-Benz(a)anthracenes/Chrysenes	91	23.11	0.2998 T	0	0.4378	133	-1	1.065
5,9-Dimethylchrysene $	23	24.39	0.0996 T	0	0.5483	127	-1	1.124
C2-Benz(a)anthracenes/Chrysenes	23	24.39	0.0996 T	0	0.5483	127	-1	1.124
C3-Benz(a)anthracenes/Chrysenes $	12	25.11	0.052 T	0	0.8772	202	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	36	26.11	0.156 T	0	0.6305	146	-1	1.203
d12-Benzo(b)fluoranthene	1059075	25	3543.1655 I	0	3543.1655	71718	0.21	1
Benzo(b)fluoranthene-SURR int	3203	25	0 T	0	0	503	0.45	1
† Benzo(b)fluoranthene $	2781	25.11	6.4257 T	0	0.5578	241 #	0.37	1.004
d12-Benzo(k)fluoranthene	1160010	25.11	3597.1223 I	0	3597.1223	25500	0.19	1
† Benzo(j/k)fluoranthenes	101	25.17	0.2482 T	0	0.619	252 #	0.51	1.002
Benzofluoranthenes	3001	25.11	0 T	0	0	493	-1	1
d12-Benzo(a)pyrene	963405	26.34	3723.0216 I	0	3723.0216	1825020	0.2	1
Benzo(e)pyrene	102	26.17	0.284 T	0	0.809	291 #	0.54	0.994
† Benzo(a)pyrene	87	26.41	0.2567 T	0	0.8571	291 #	0.76	1.003
7-Methylbenzo(a)pyrene $	30	29.16	0.1243 T	0	0.7526	182	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	30	29.16	0.1243 T	0	0.7526	182	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	14	29.89	0.058 T	0	8.1781	1973	-1	1.135
d12-Perylene	1013027	26.72	3866.9065 I	0	3866.9065	40671	0.25	1
Perylene	91	26.86	0.2519 T	0	0.8371	302 #	0.37	1.005
d12-Indeno(123cd)pyrene	1003663	31.5	3579.1367 I	0	3579.1367	231	0.16	1
d14-Dibenzo(ah)anthracene $	9706	31.63	37.8351 T	0	2.7994	718 #	1.71	1.004
† Dibenzo(ah)anthracene $	281	31.72	0.8802 T	0	1.4107	450 #	0.93	1.007
† Indeno(123cd)pyrene $	0	31.58	0 T	0	0.7449	256 #	0	1.002
d12-Benzo(ghi)perylene	1105603	32.31	3561.1511 I	0	3561.1511	2497	0.19	1
Benzo(ghi)perylene	206	32.4	0.5556 T	0	0.6257	232 #	1	1.003

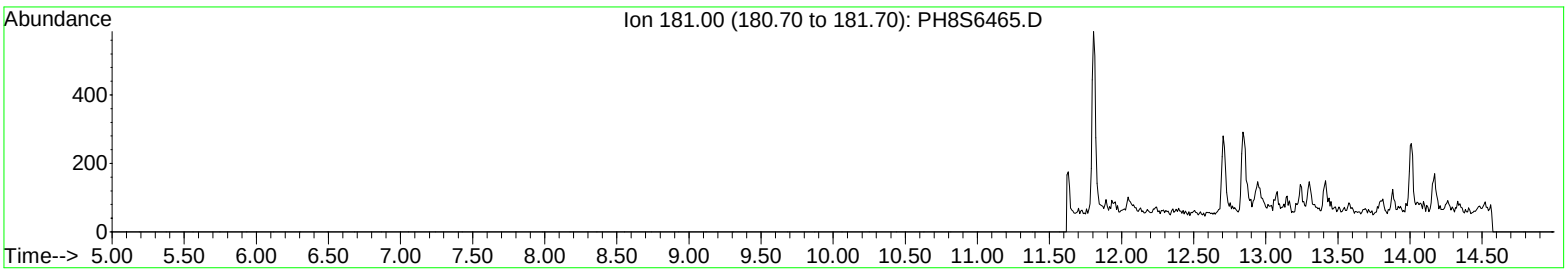
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



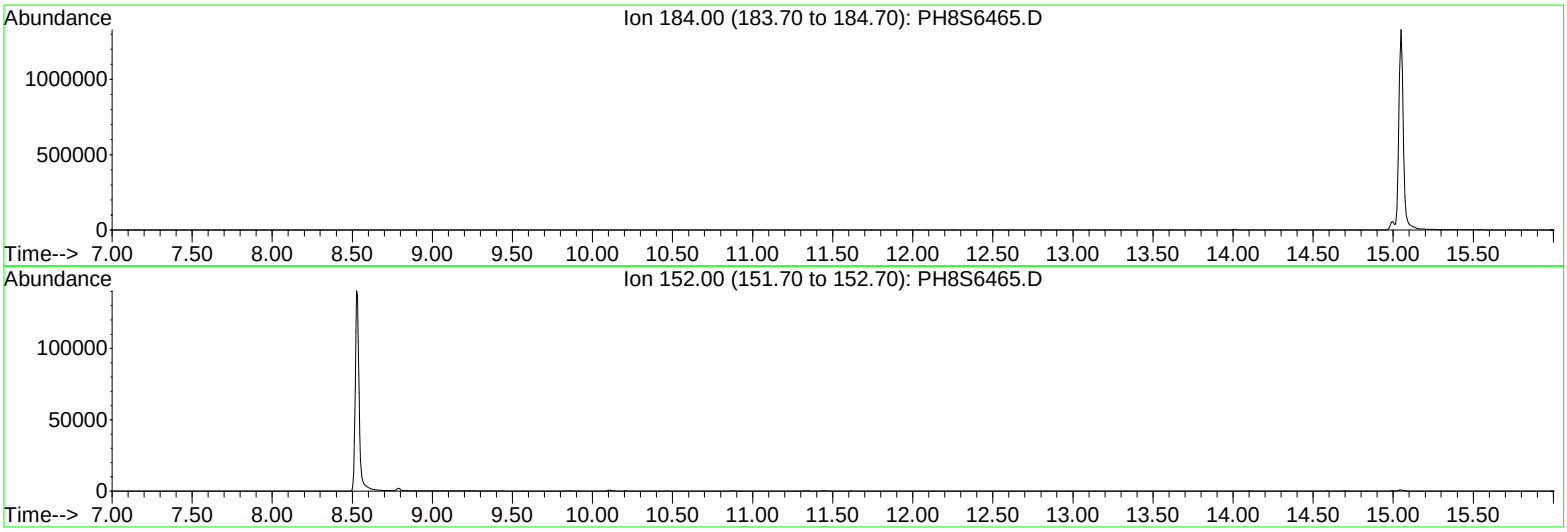


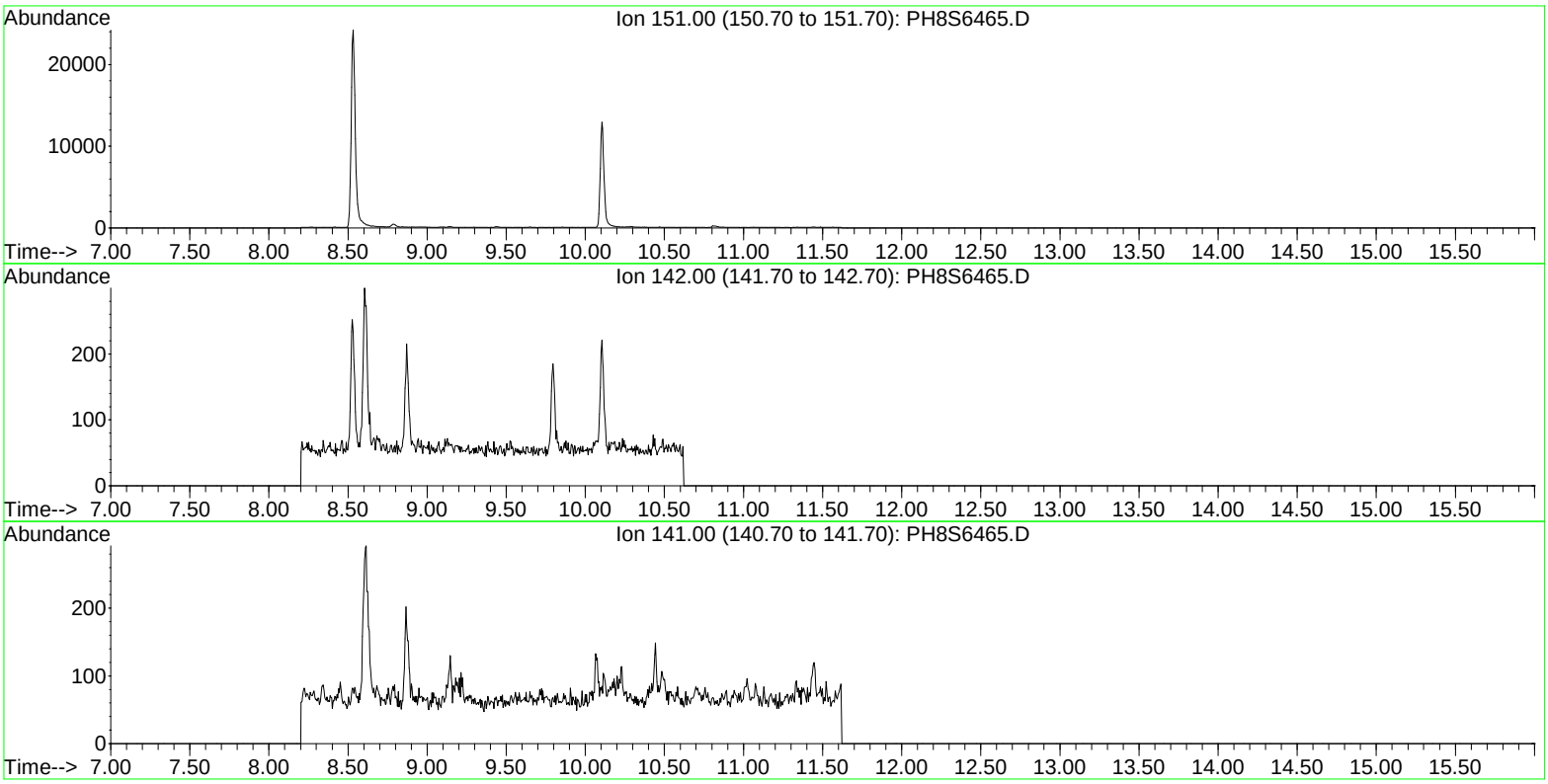


Thu Jan 10 08:40:13 2019

Axys Analytical CHRO Report

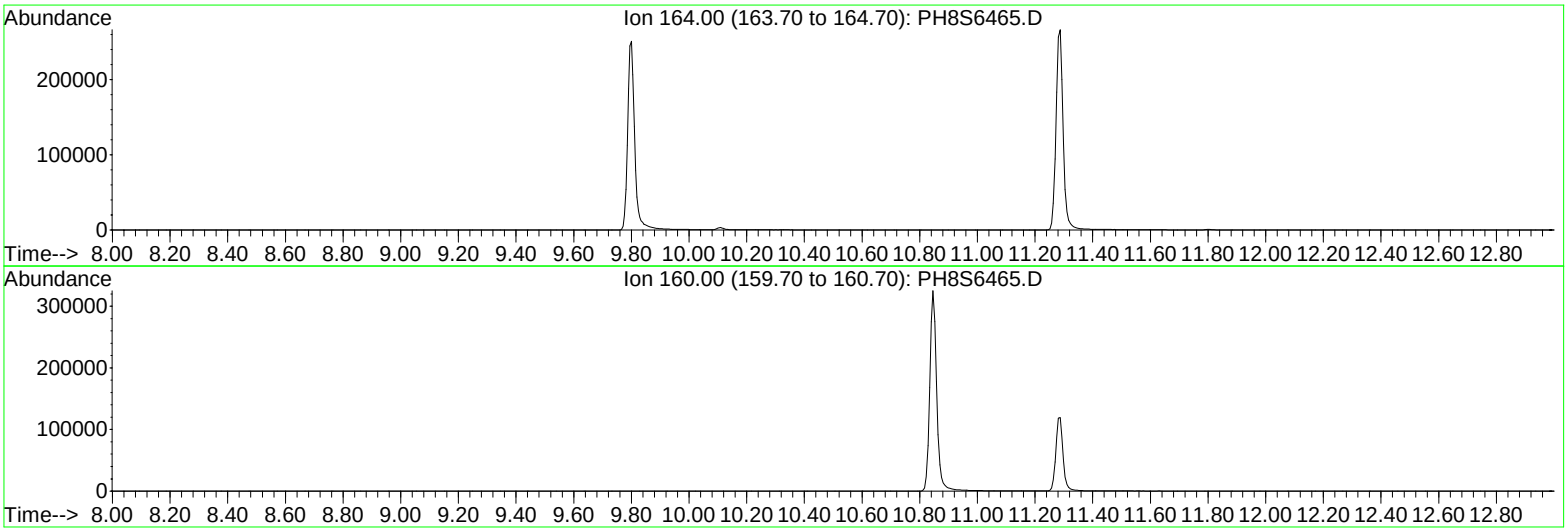
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

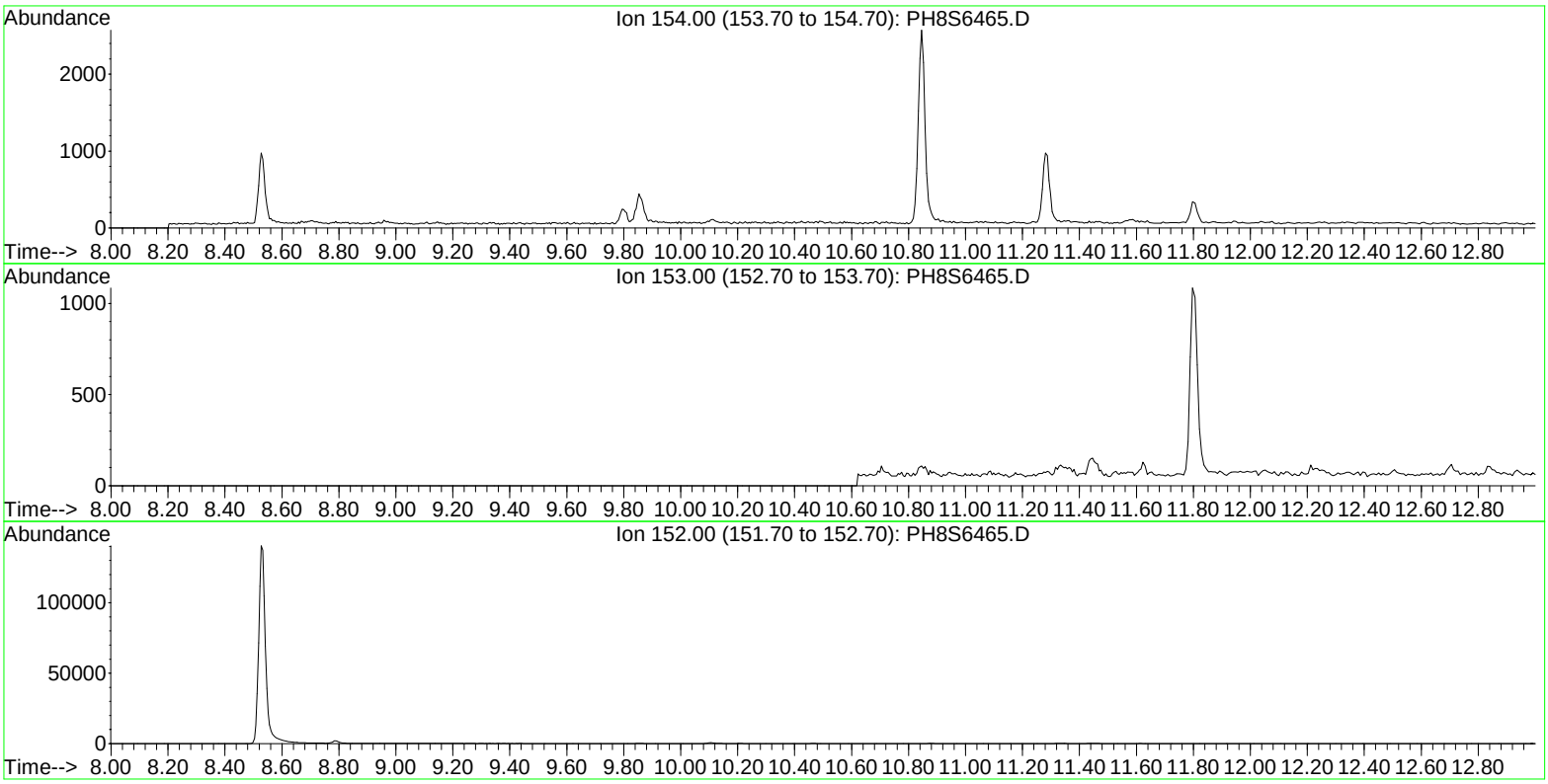




Axys Analytical CHRO Report

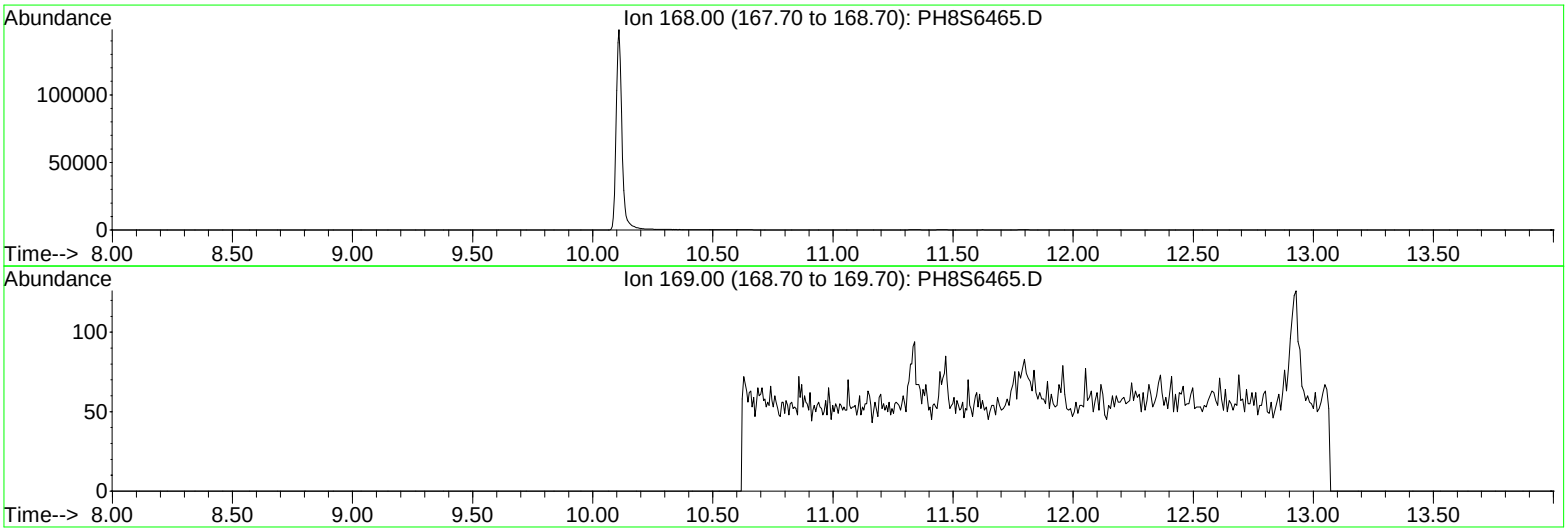
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

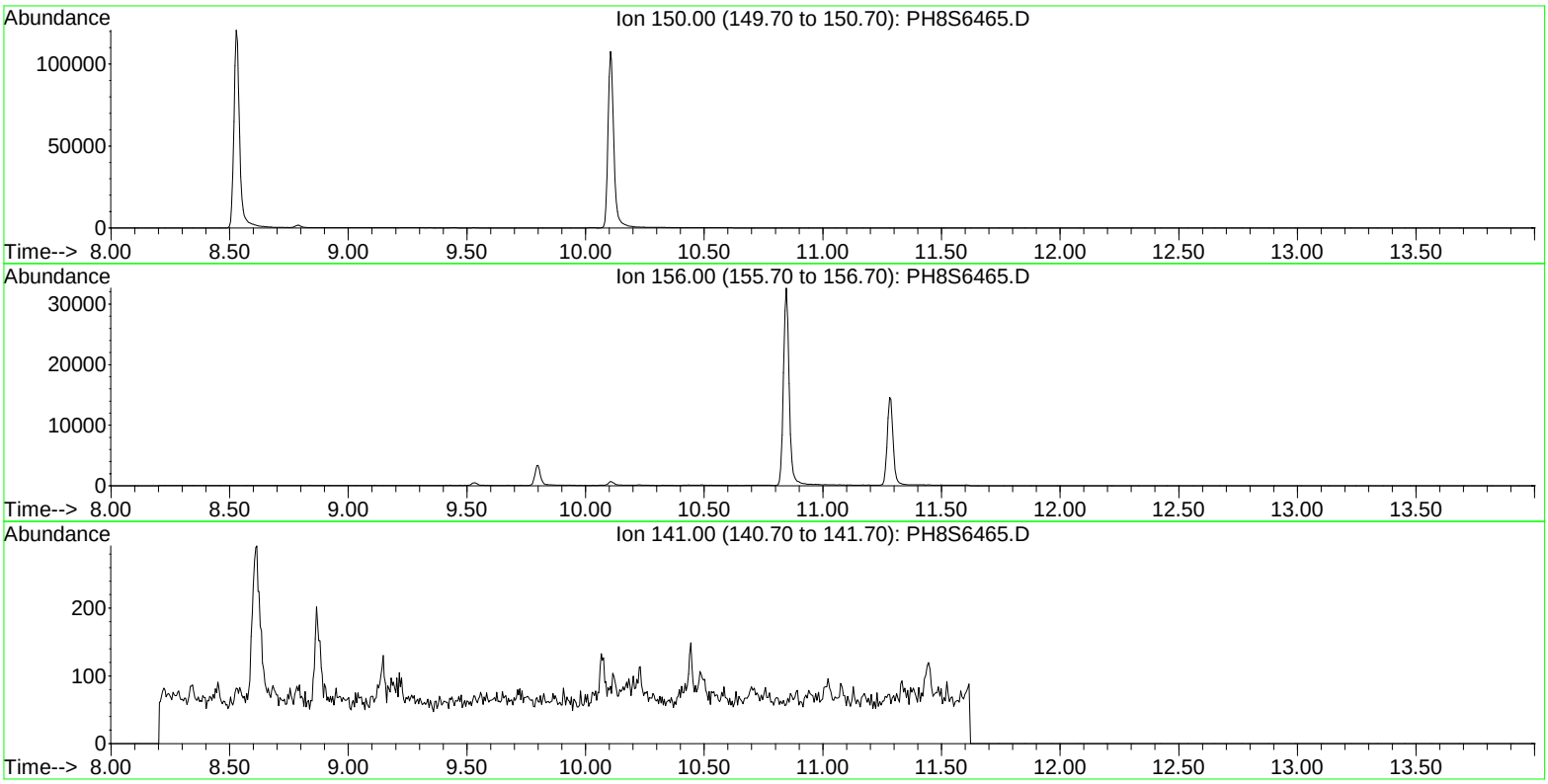




Axys Analytical CHRO Report

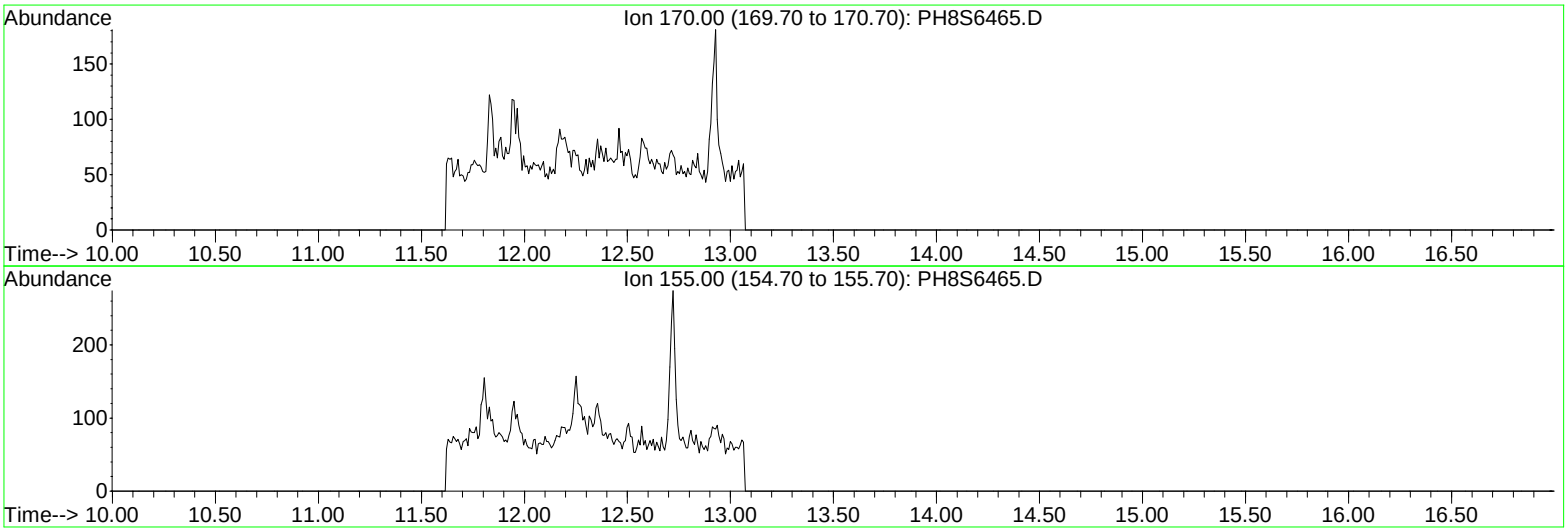
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

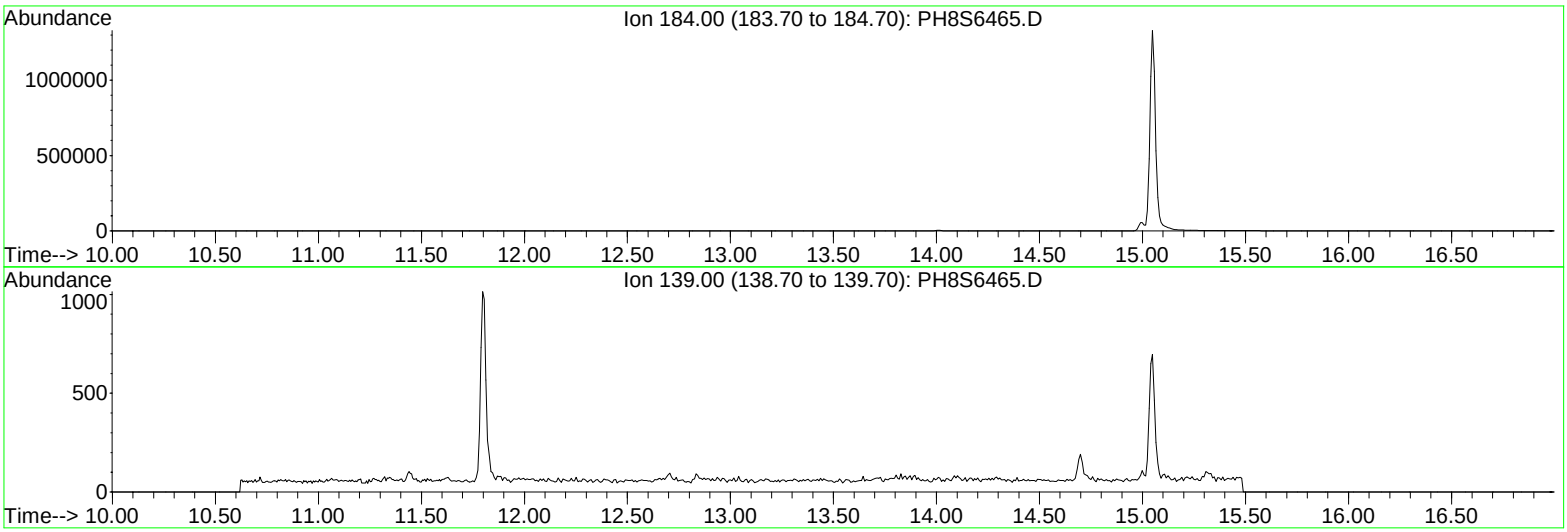




Axys Analytical CHRO Report

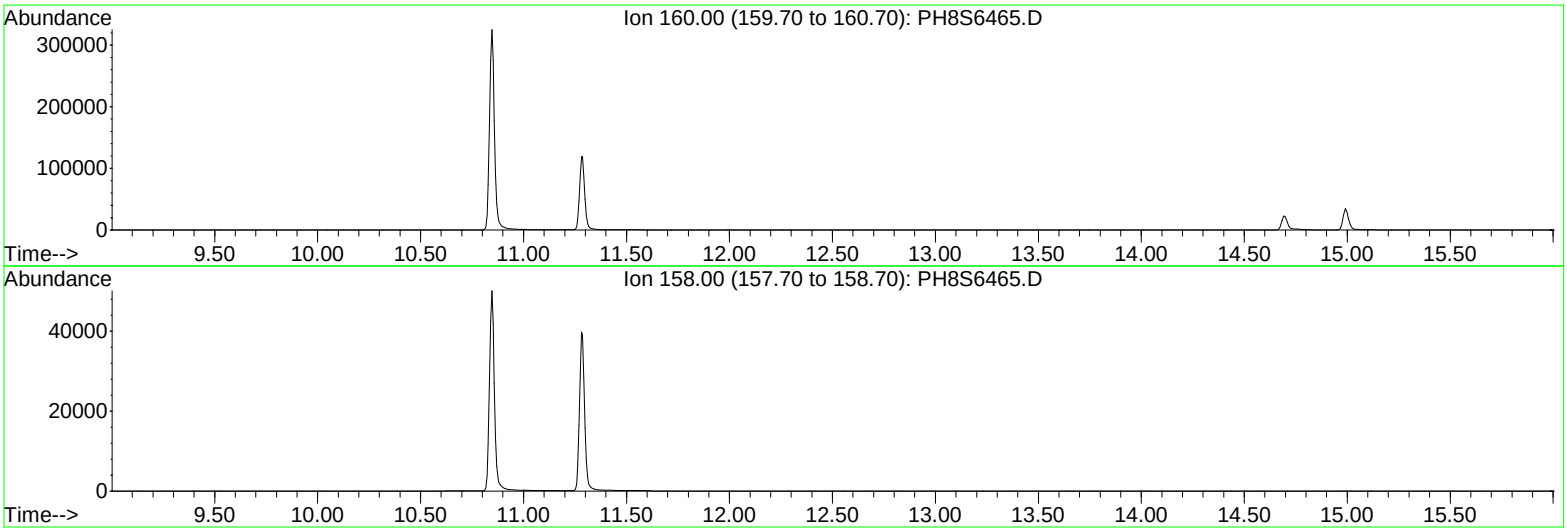
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

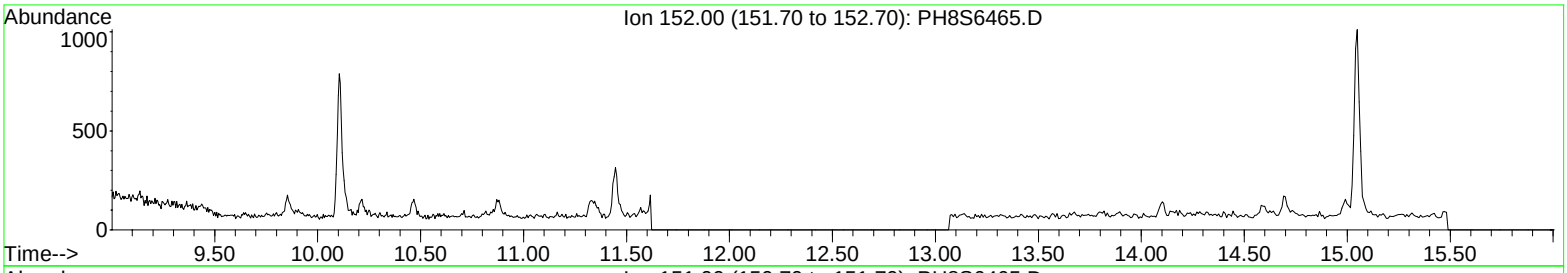


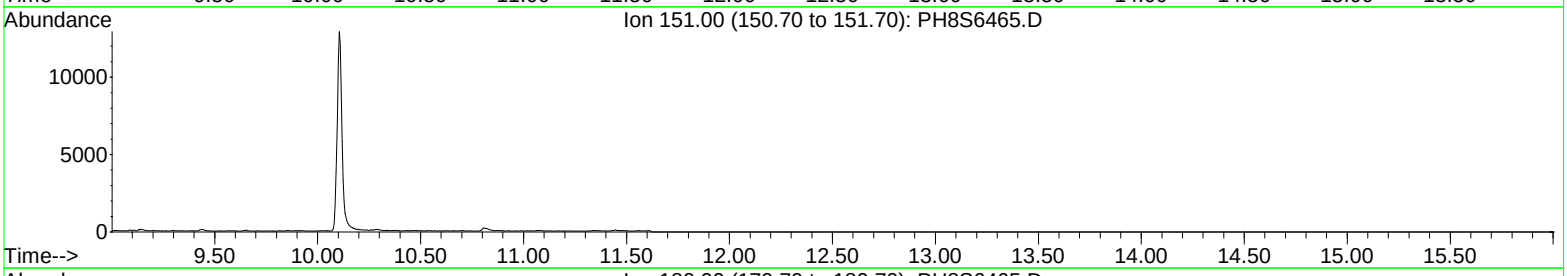


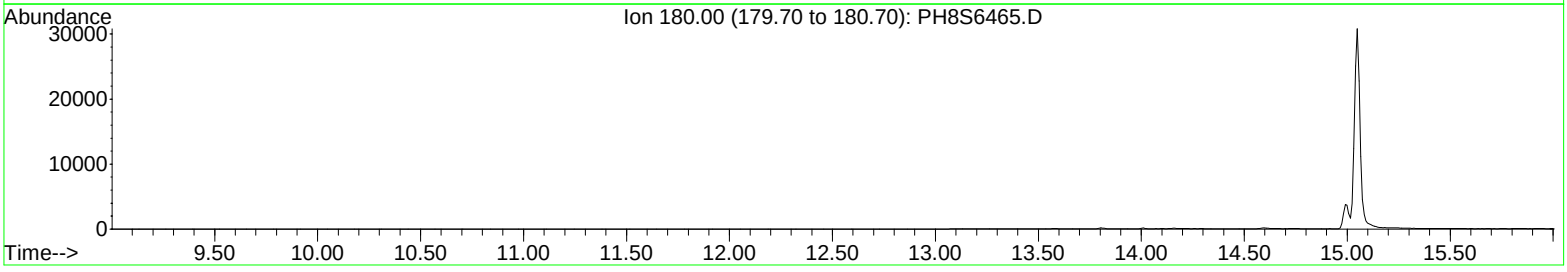
Axys Analytical CHRO Report

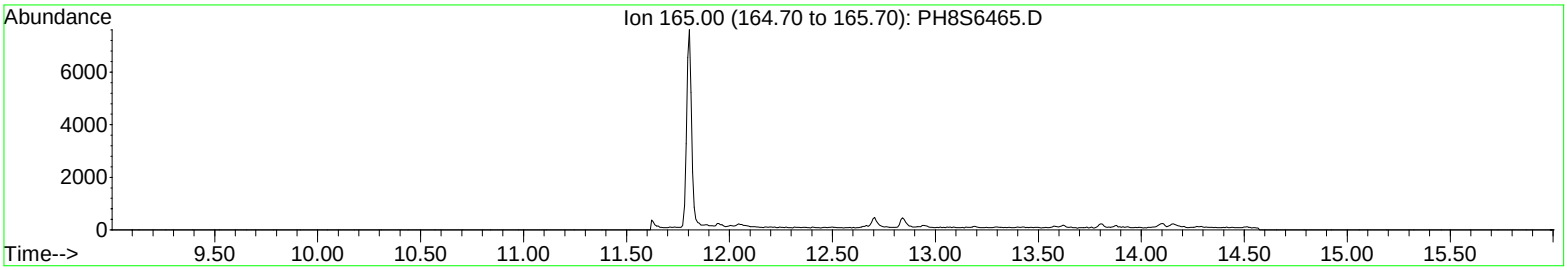
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL







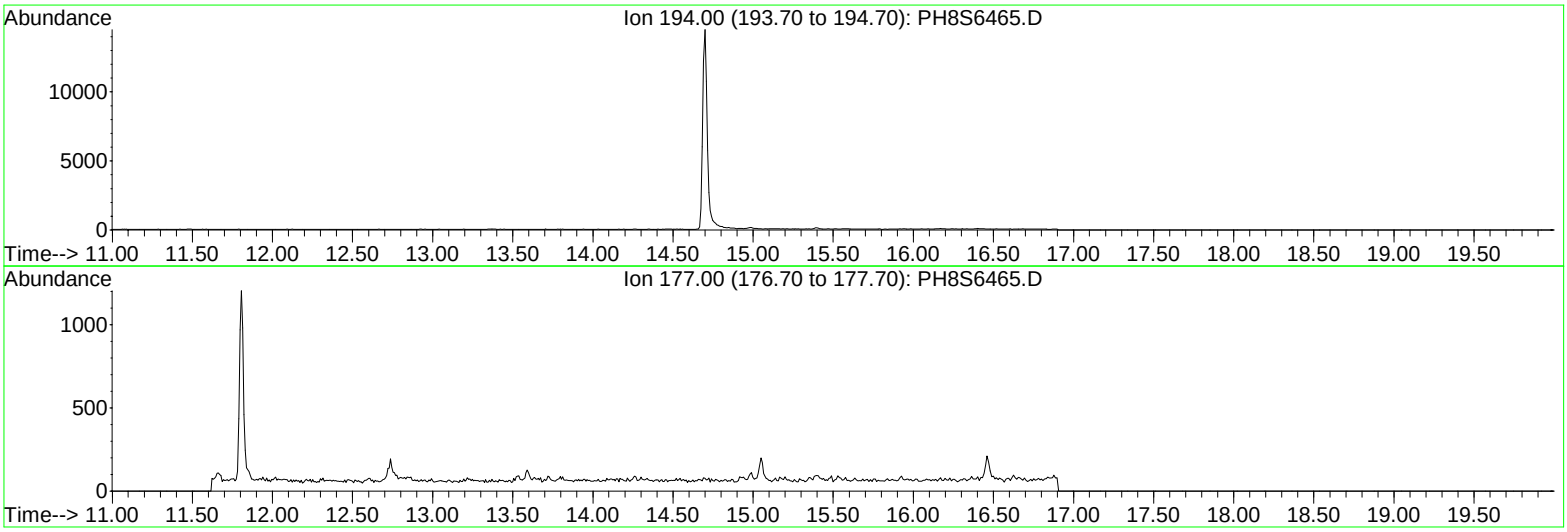


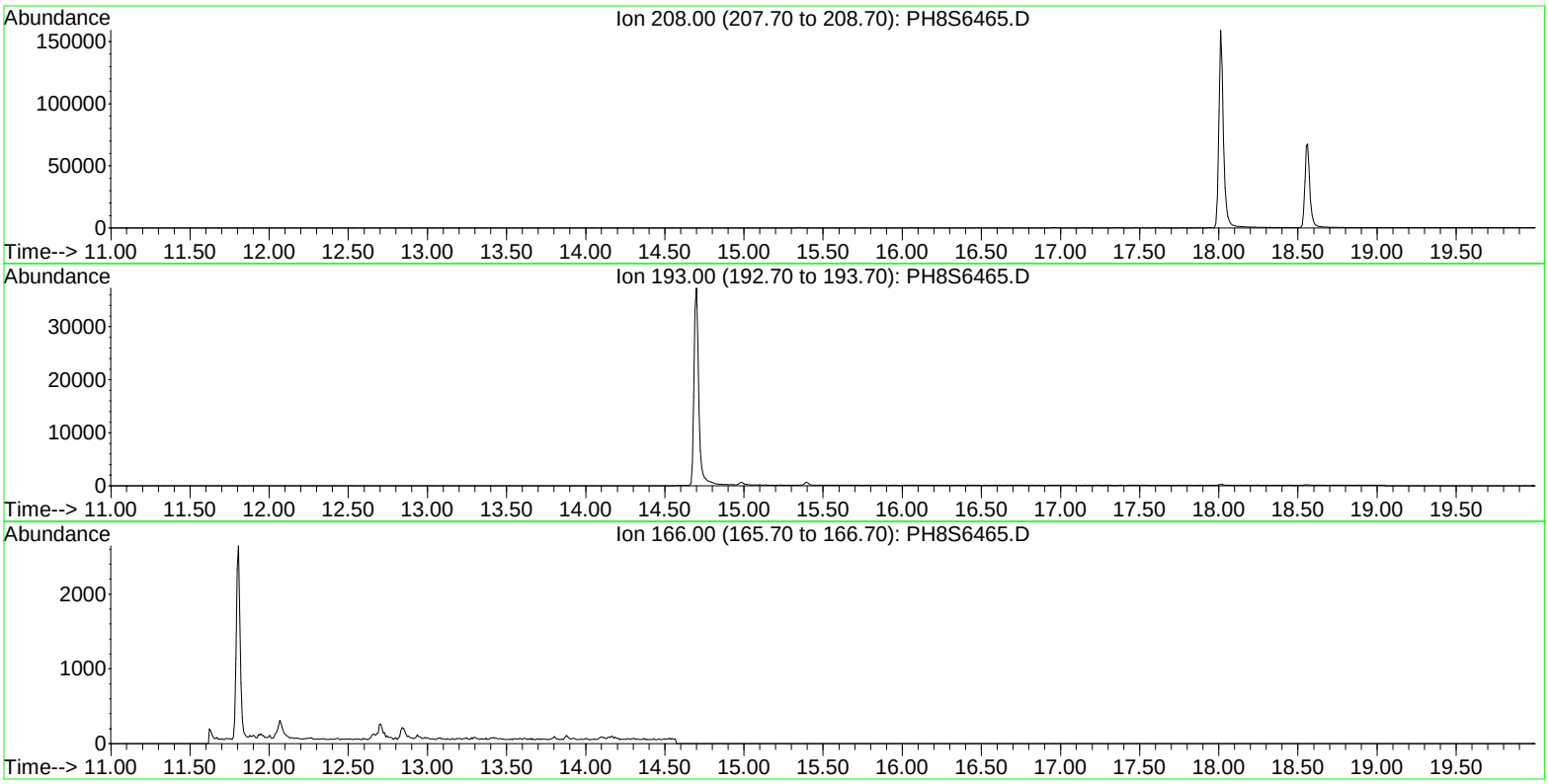


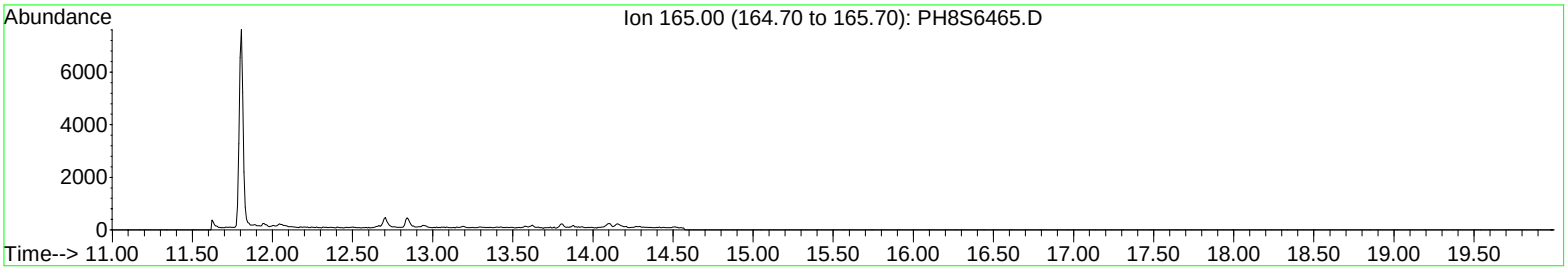
Thu Jan 10 08:40:21 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



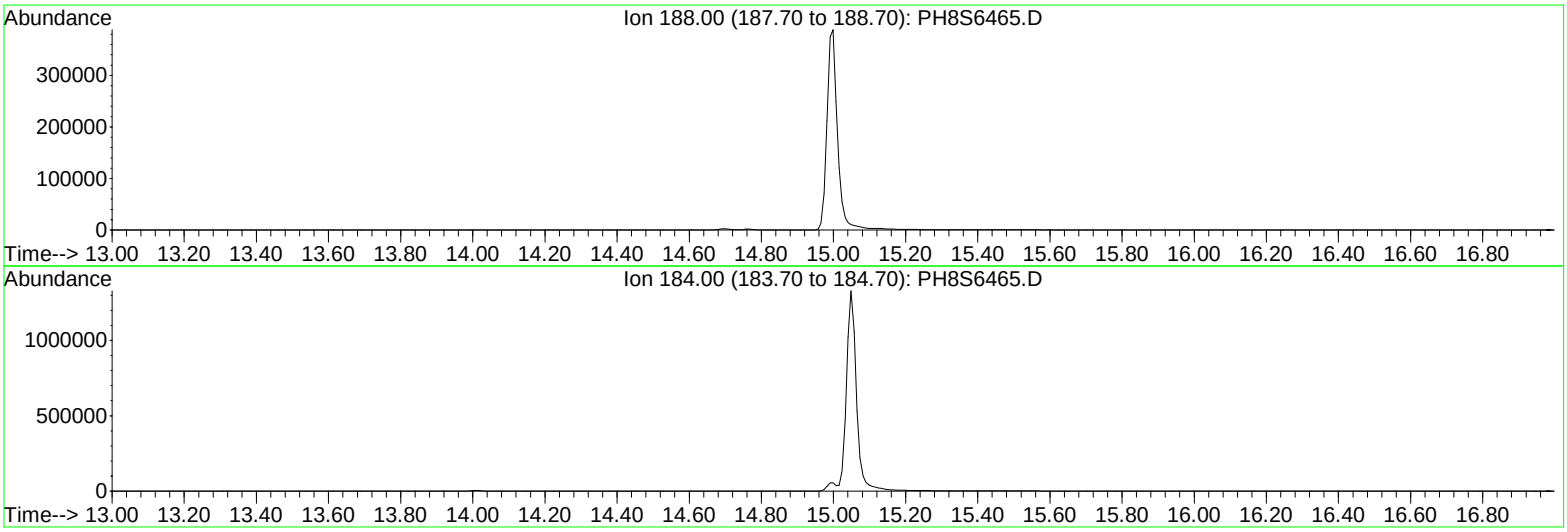


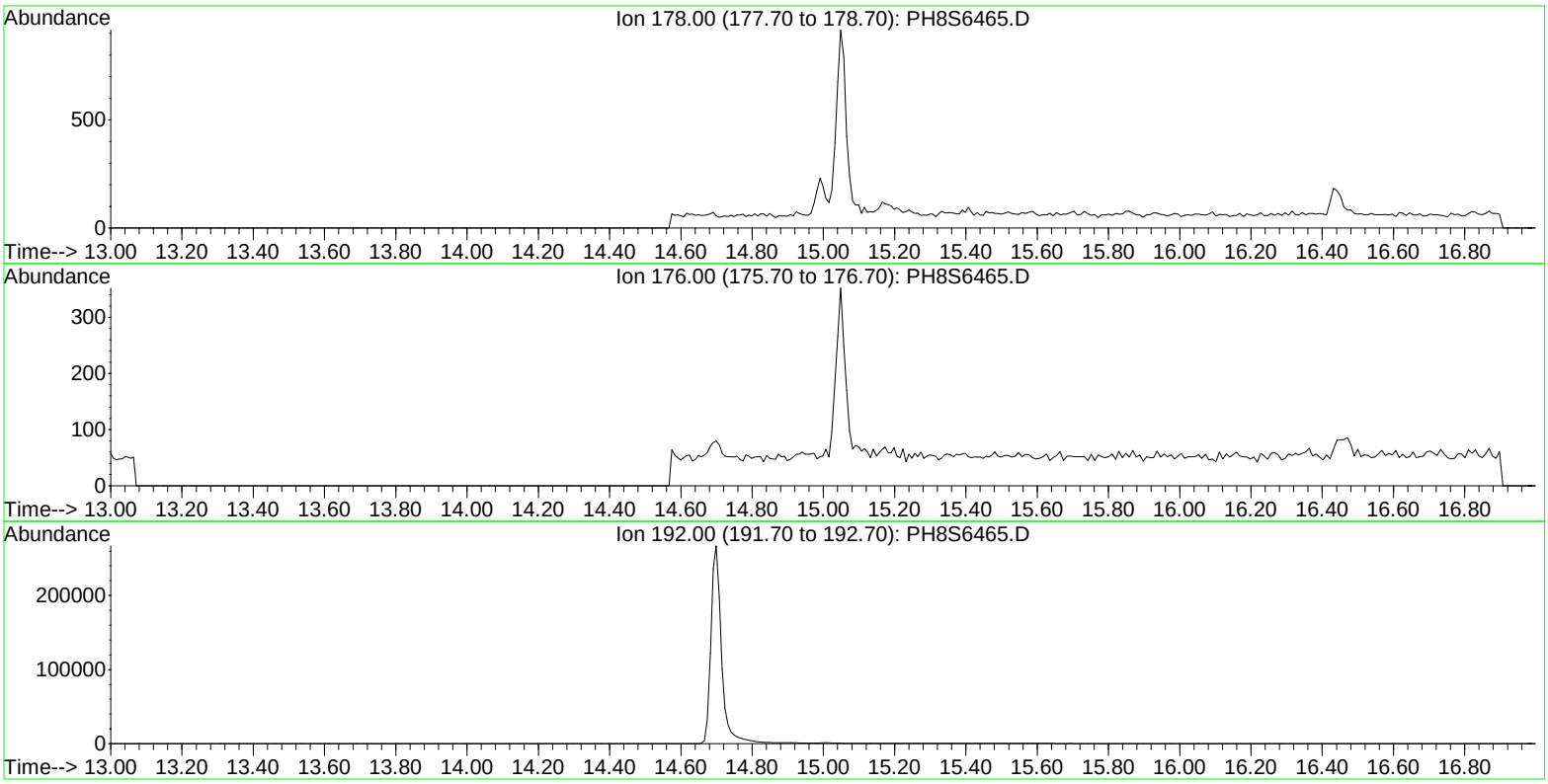


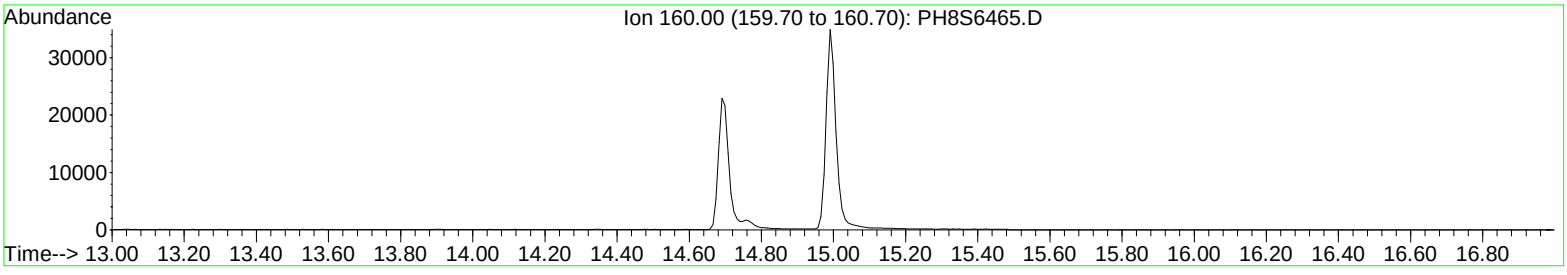
Thu Jan 10 08:40:22 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



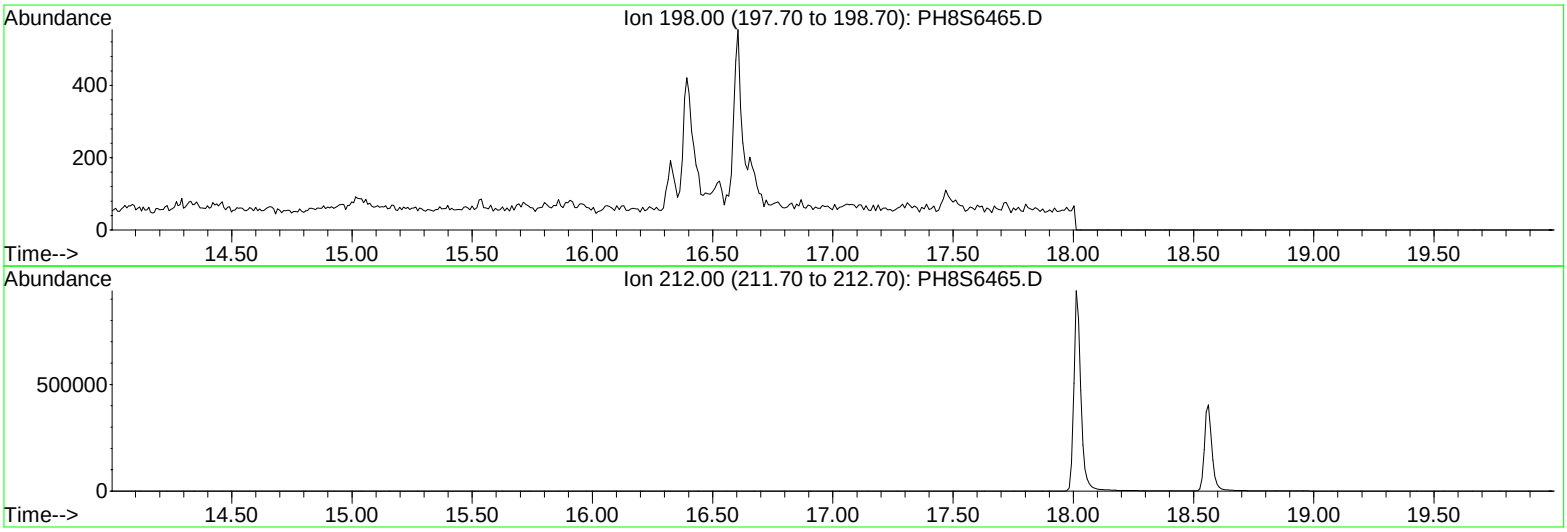


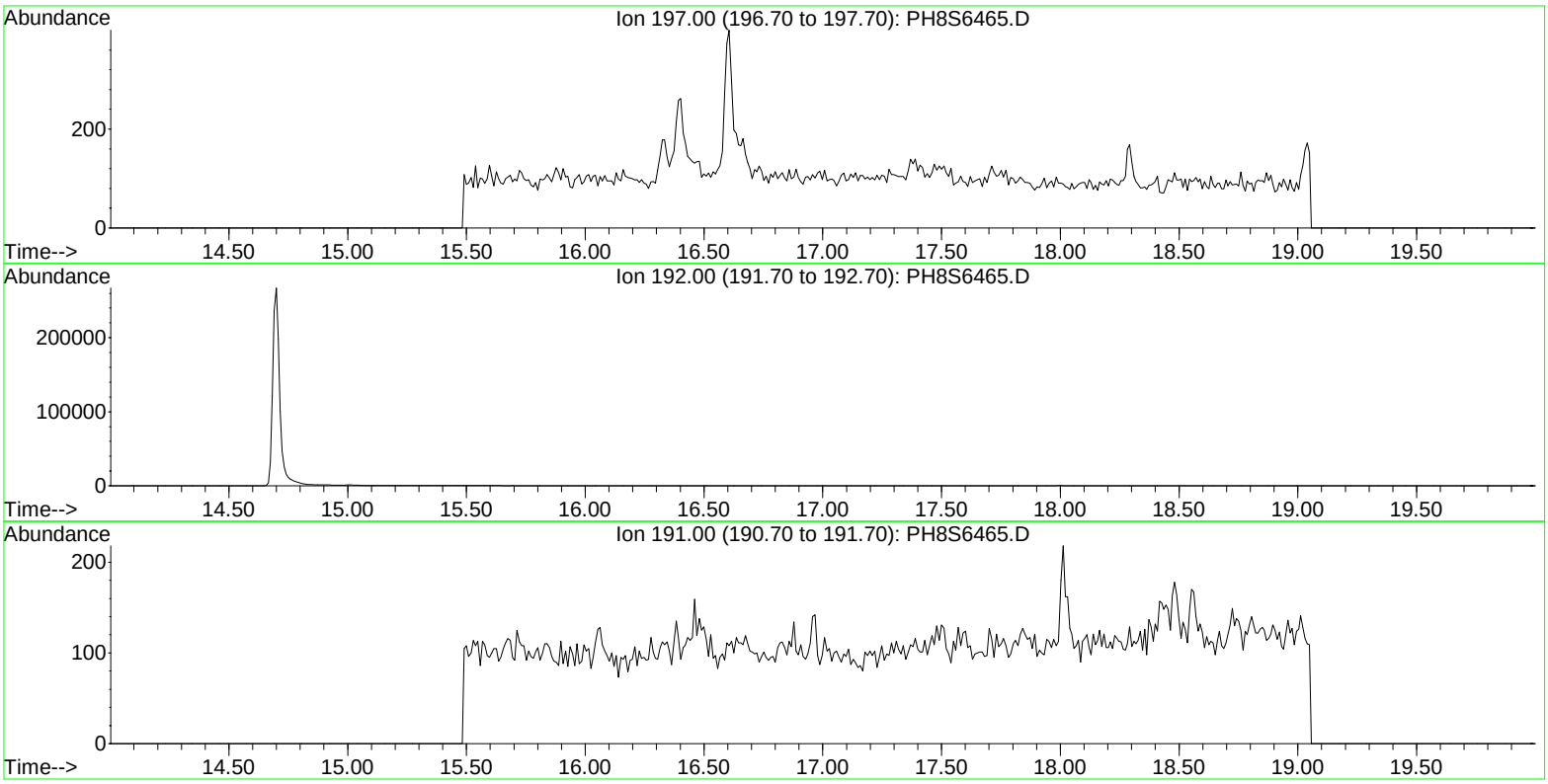


Thu Jan 10 08:40:24 2019

Axys Analytical CHRO Report

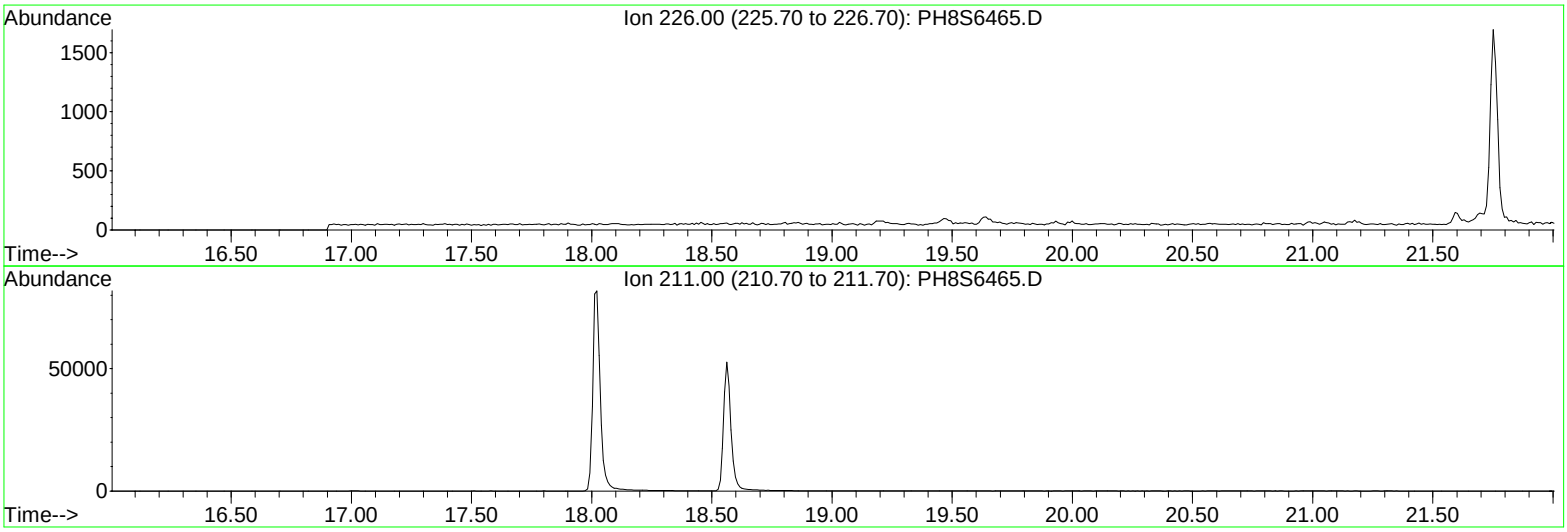
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

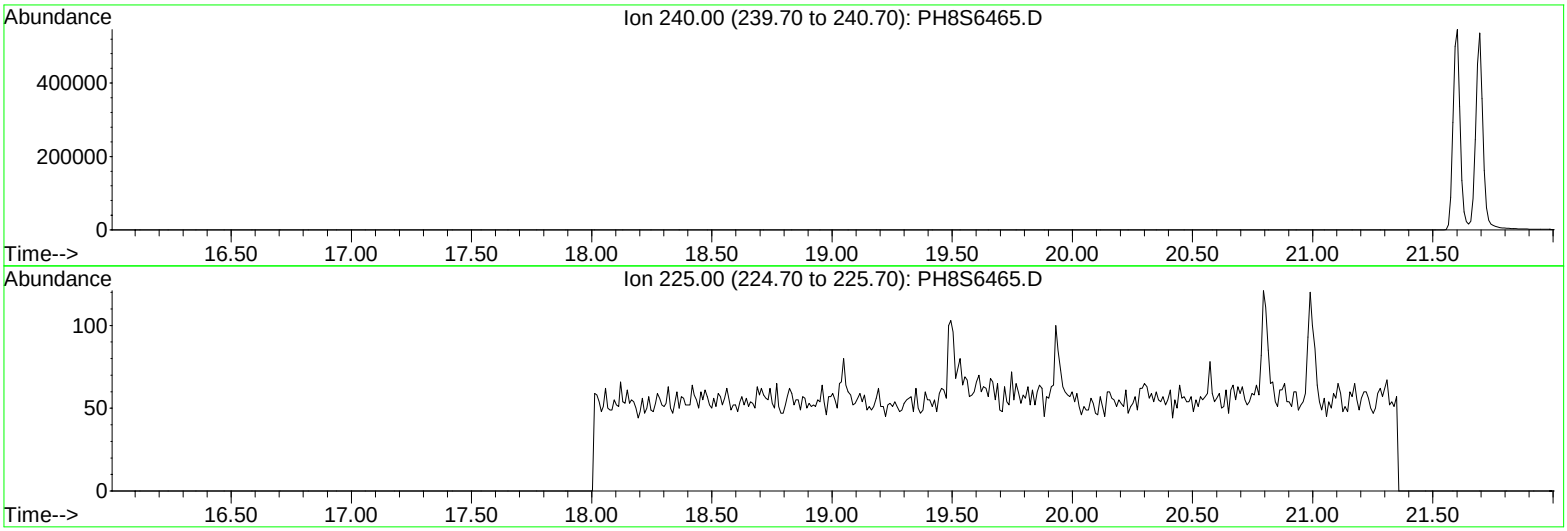




Axys Analytical CHRO Report

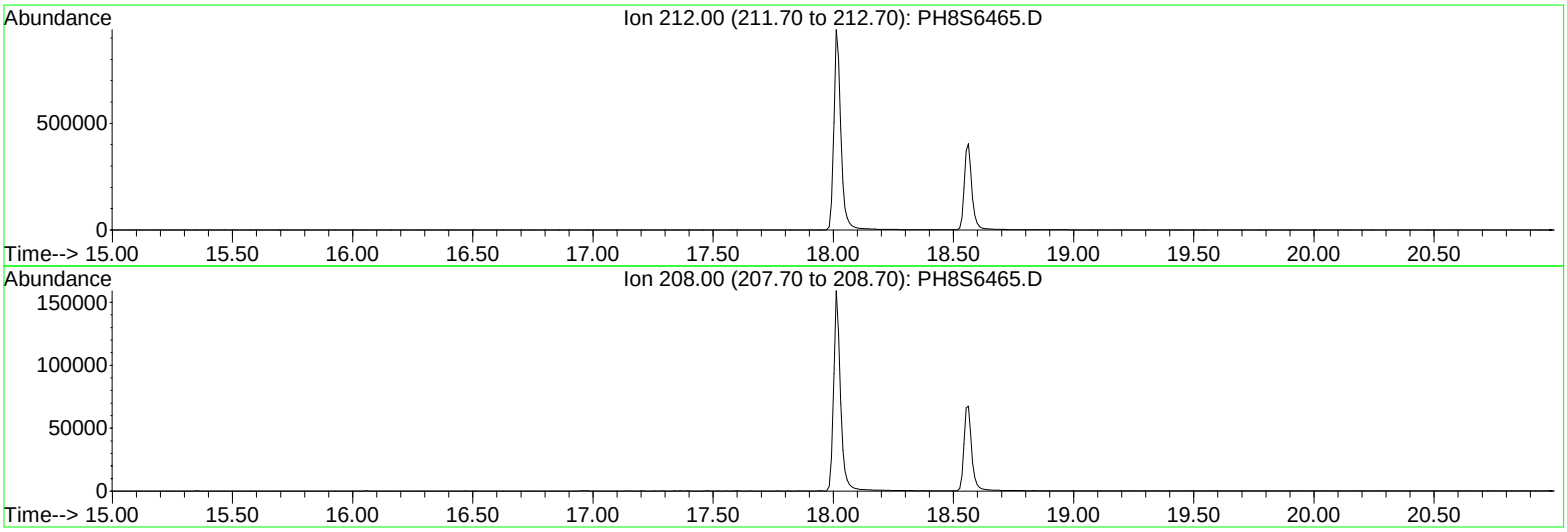
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

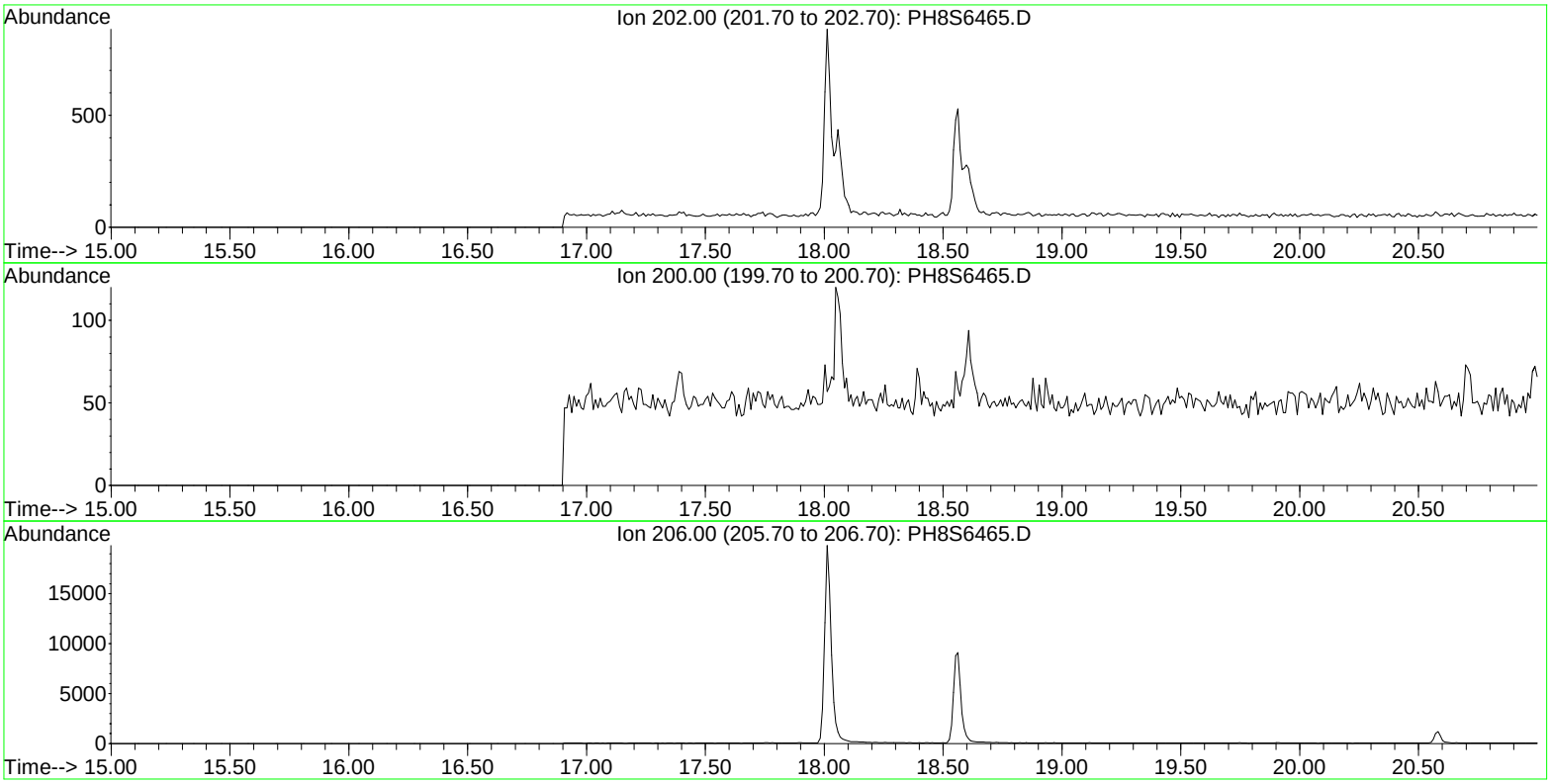


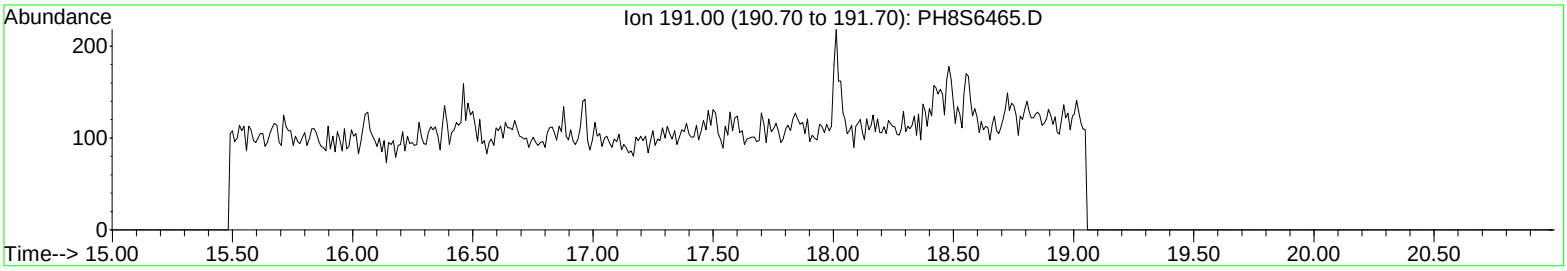


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



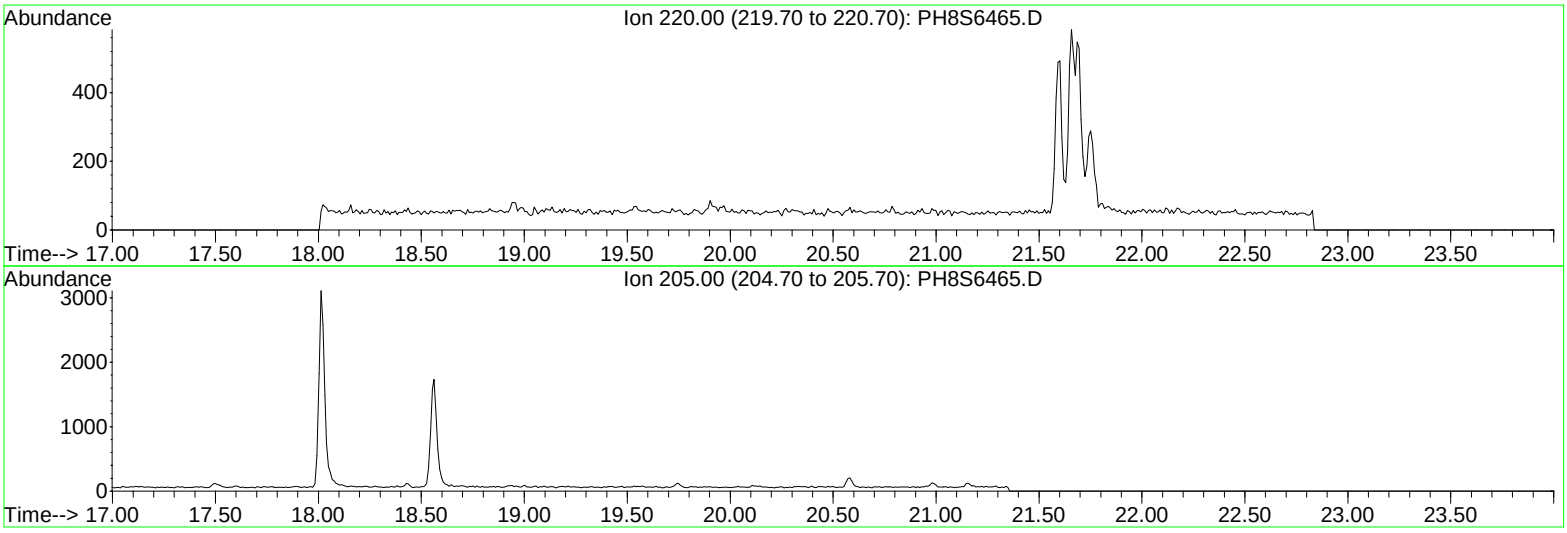


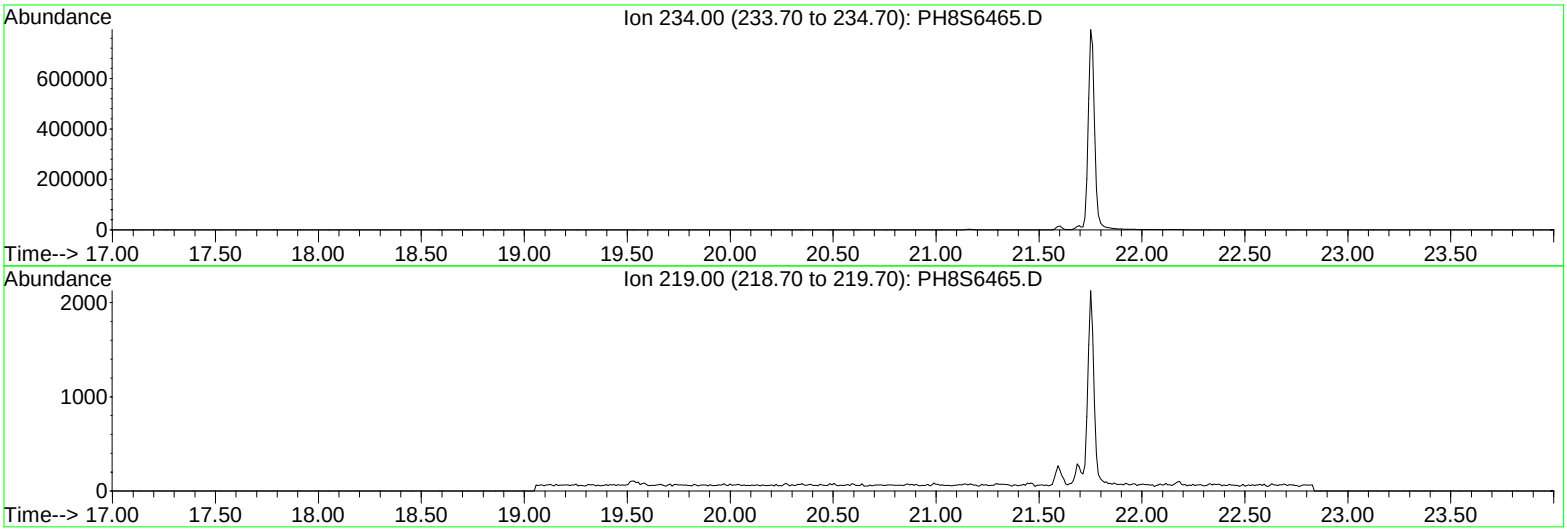


Thu Jan 10 08:40:29 2019

Axys Analytical CHRO Report

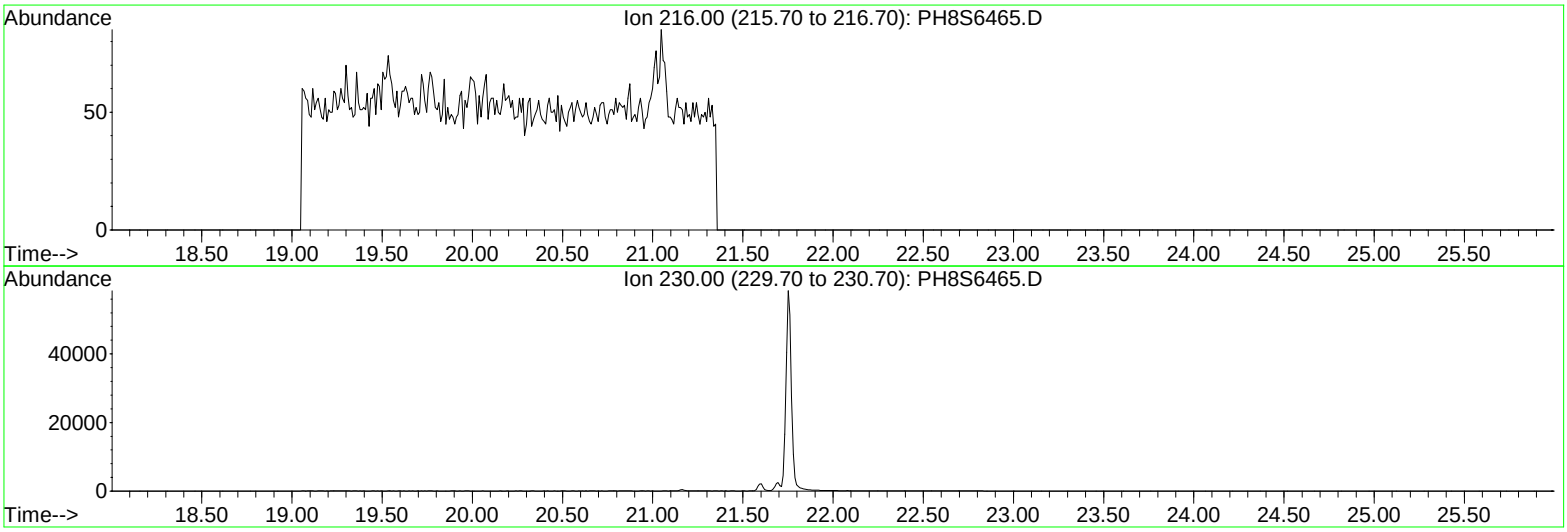
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

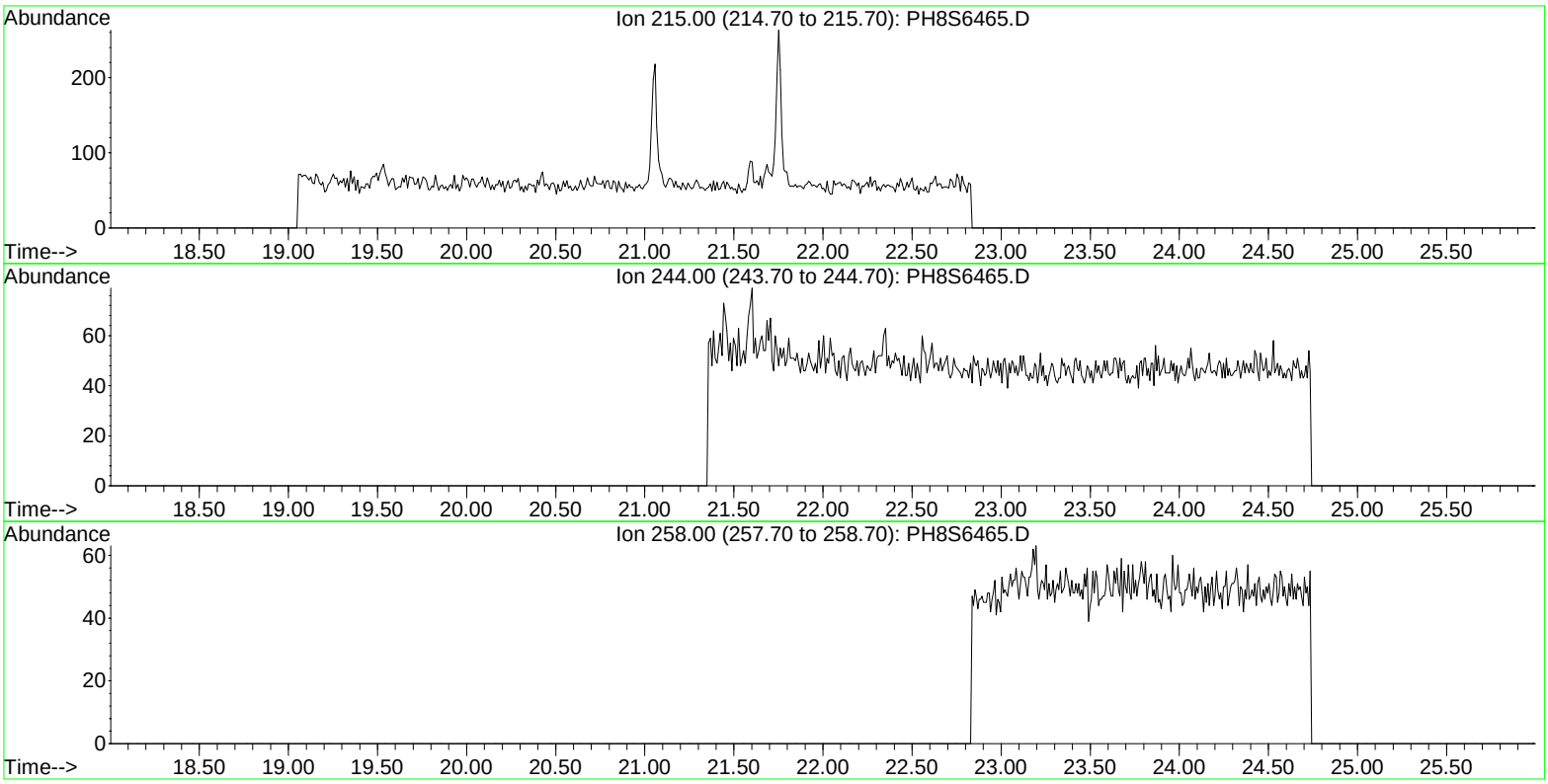


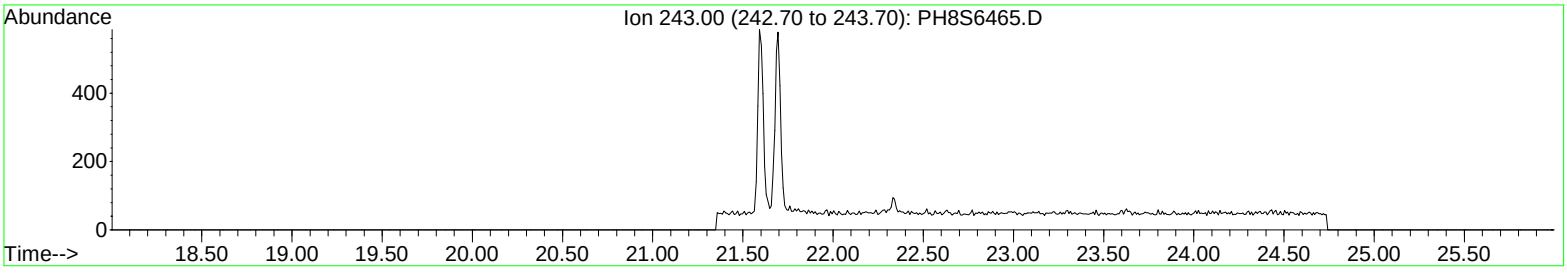


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



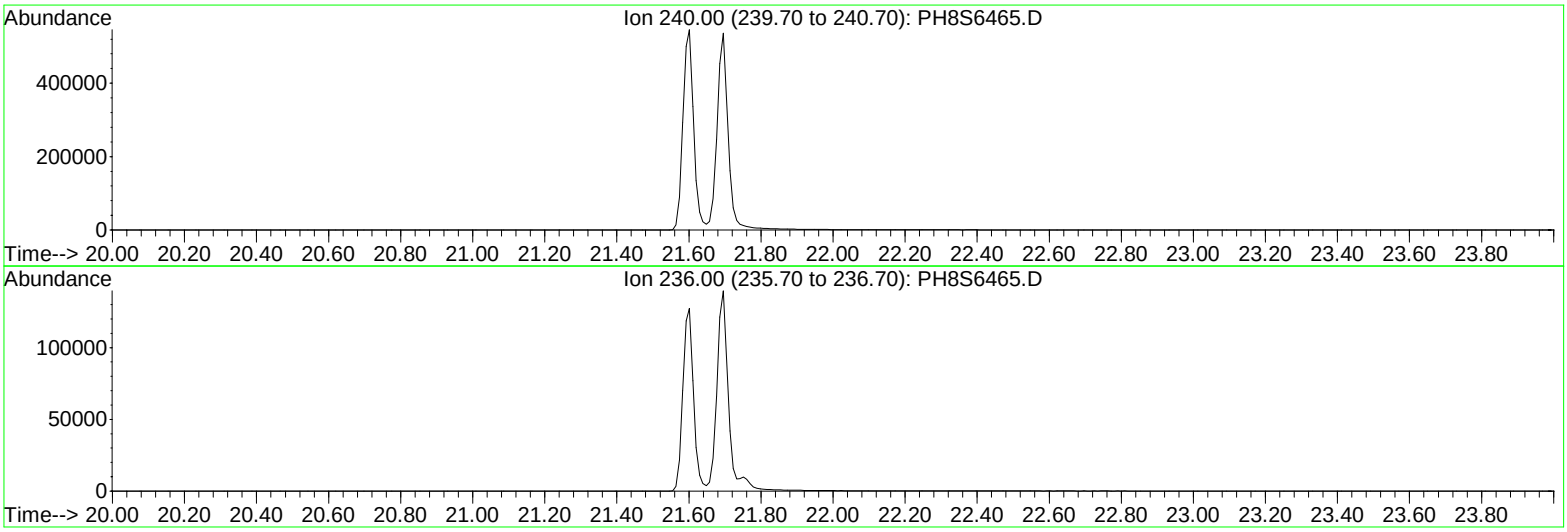


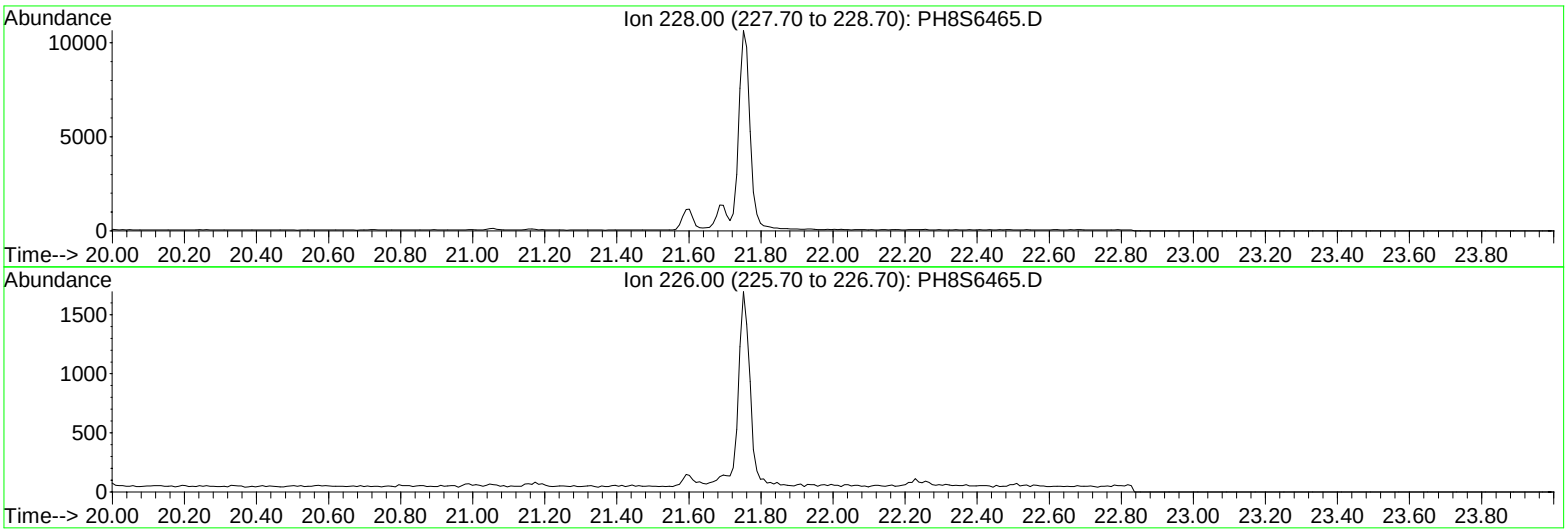


Thu Jan 10 08:40:32 2019

Axys Analytical CHRO Report

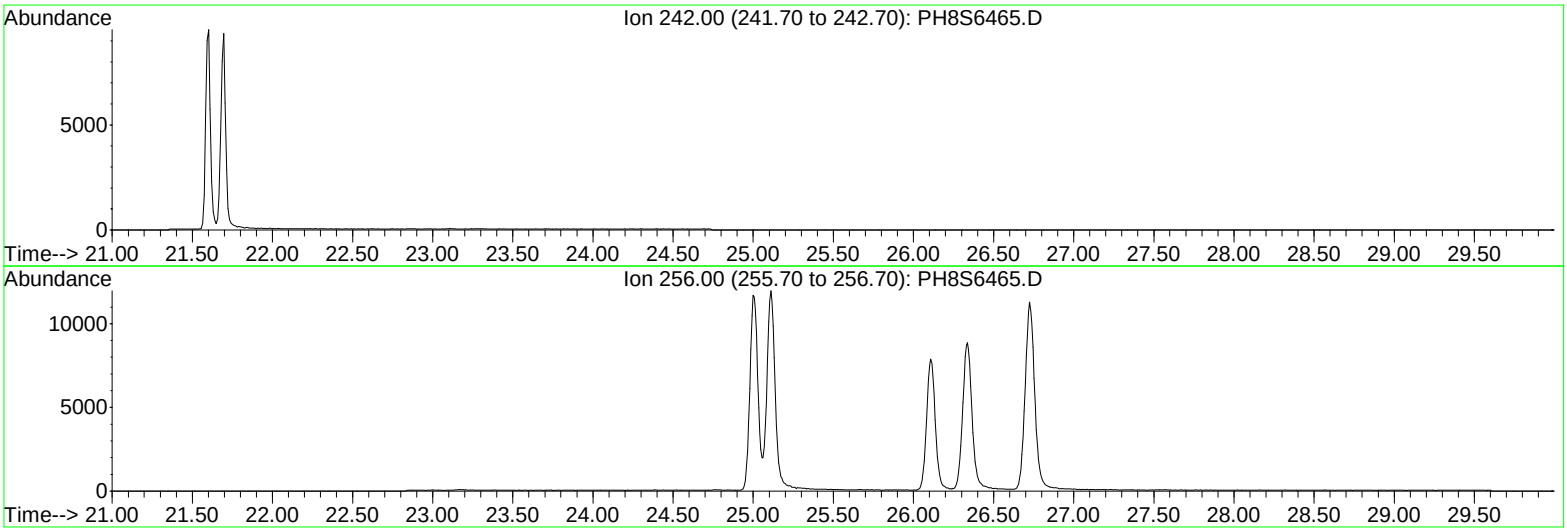
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

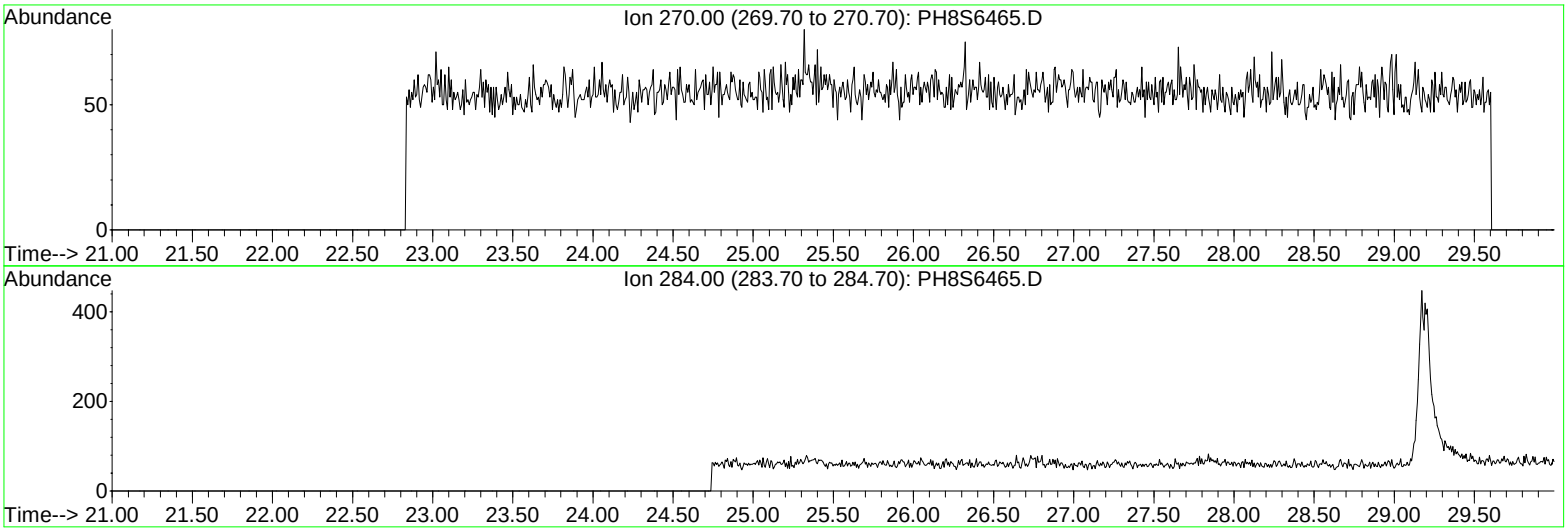




Axys Analytical CHRO Report

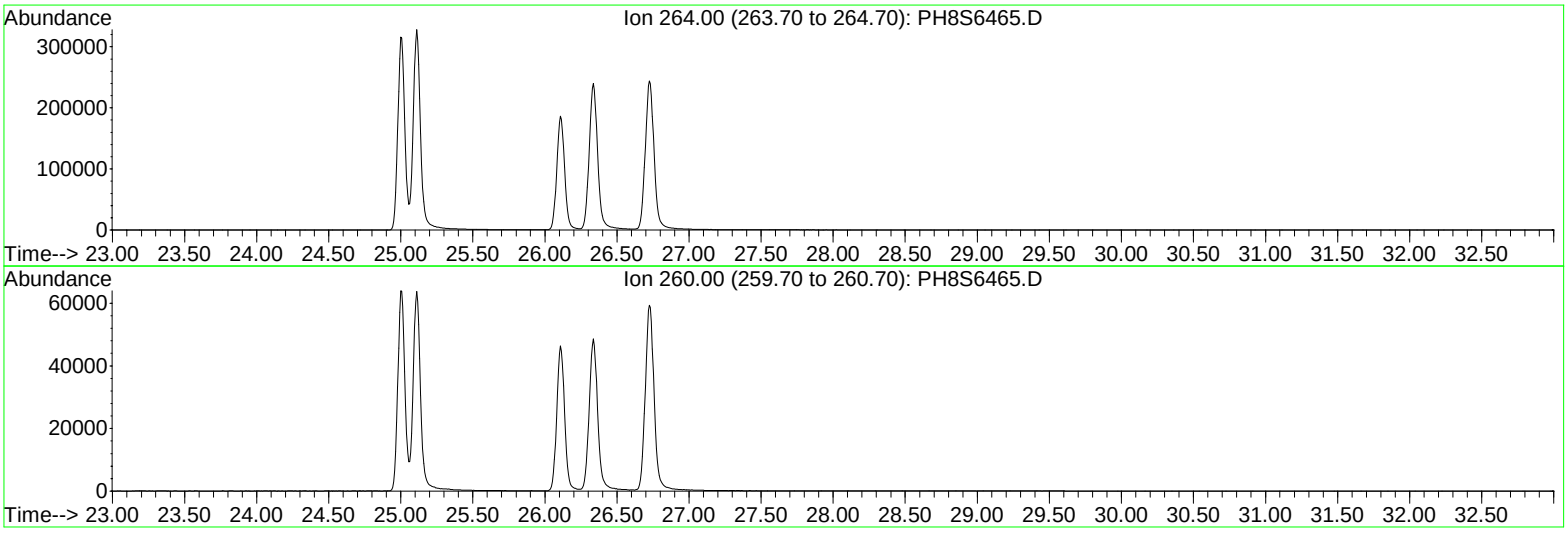
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

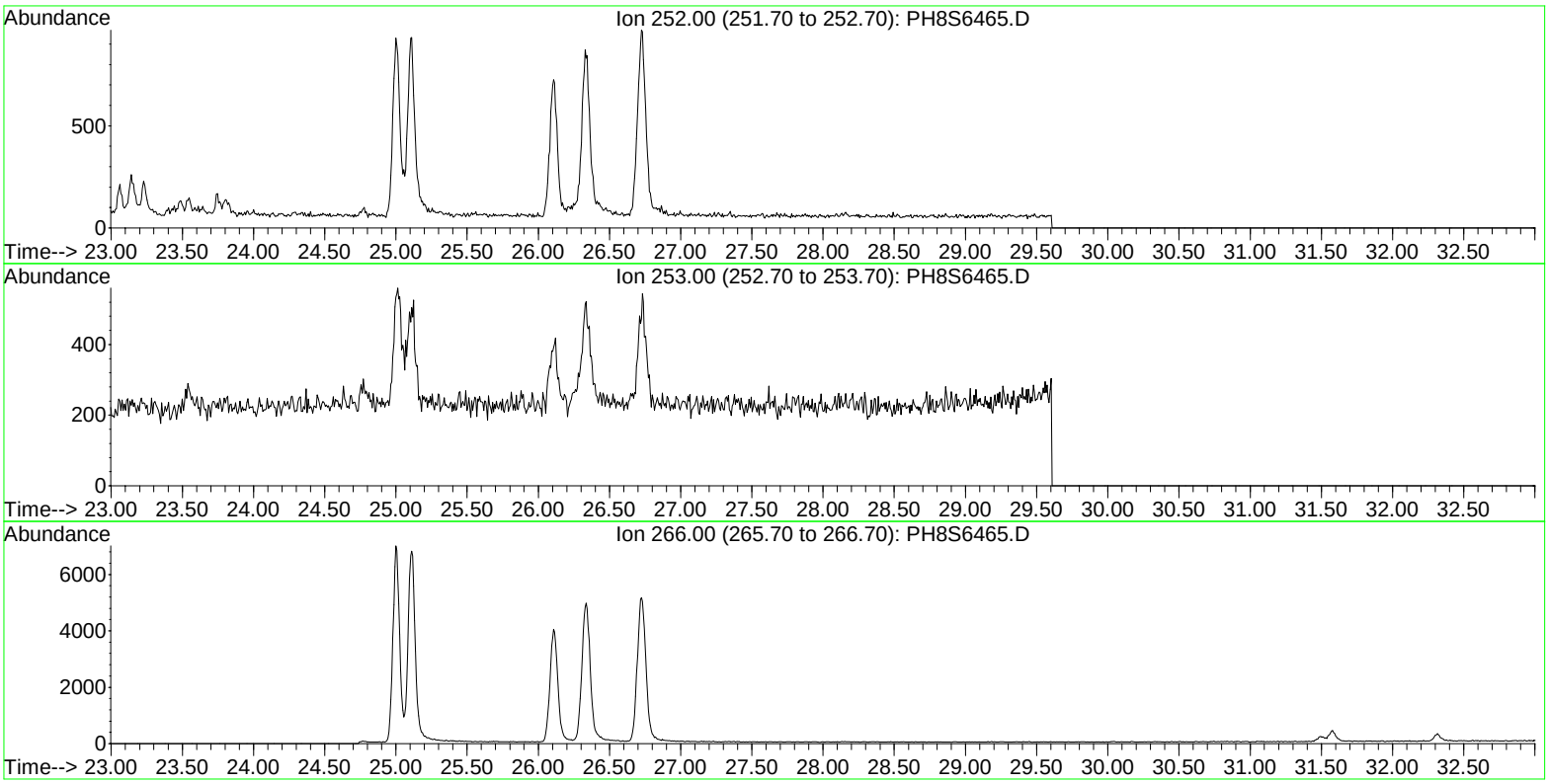


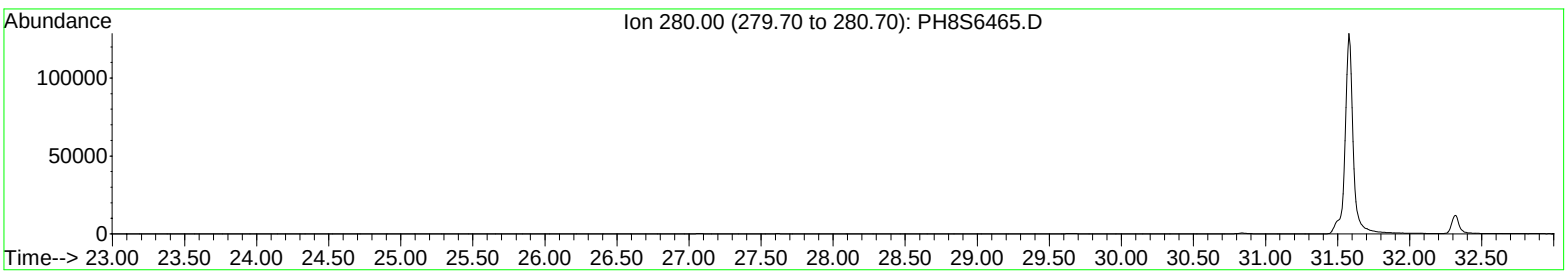


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



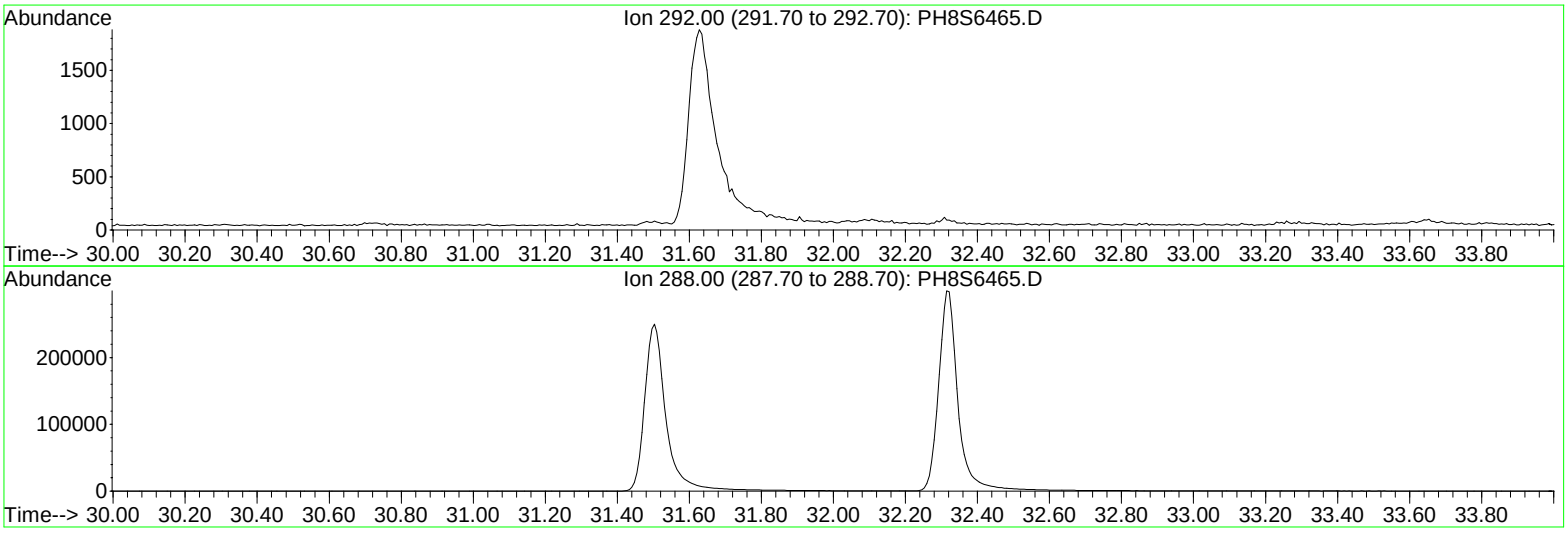


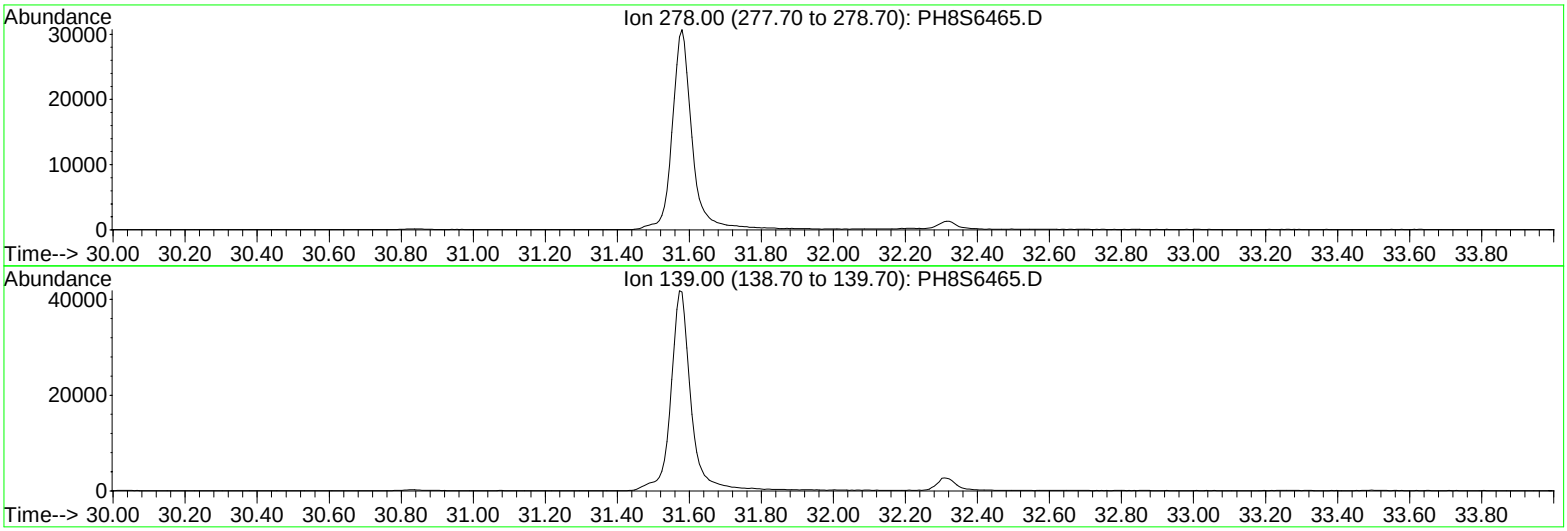


Thu Jan 10 08:40:37 2019

Axys Analytical CHRO Report

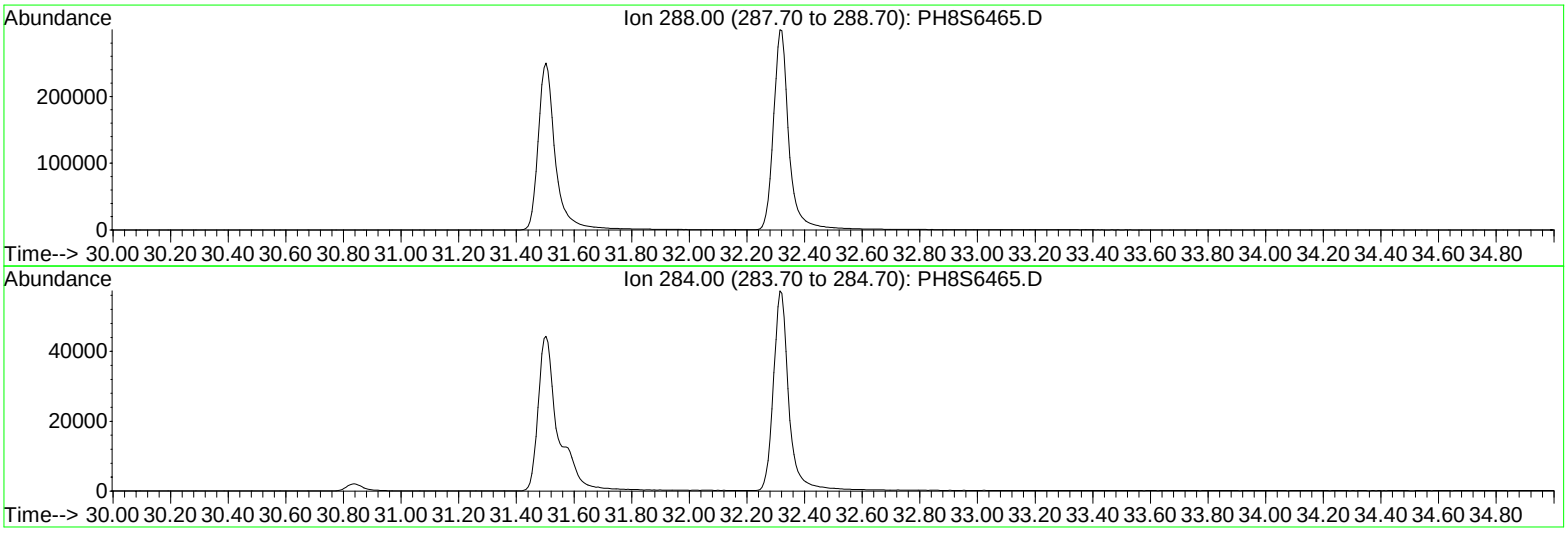
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

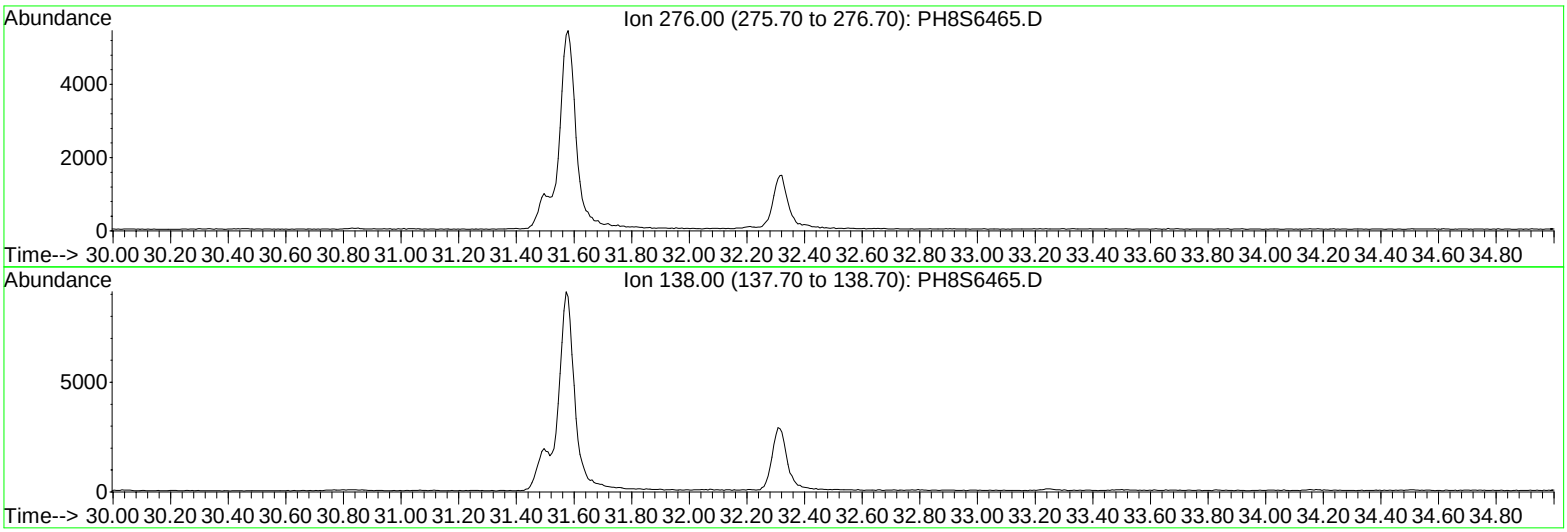




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6465.D
28/12/2018 16:52
L30196-3
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6465.D\618S6465.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 10
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.111	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

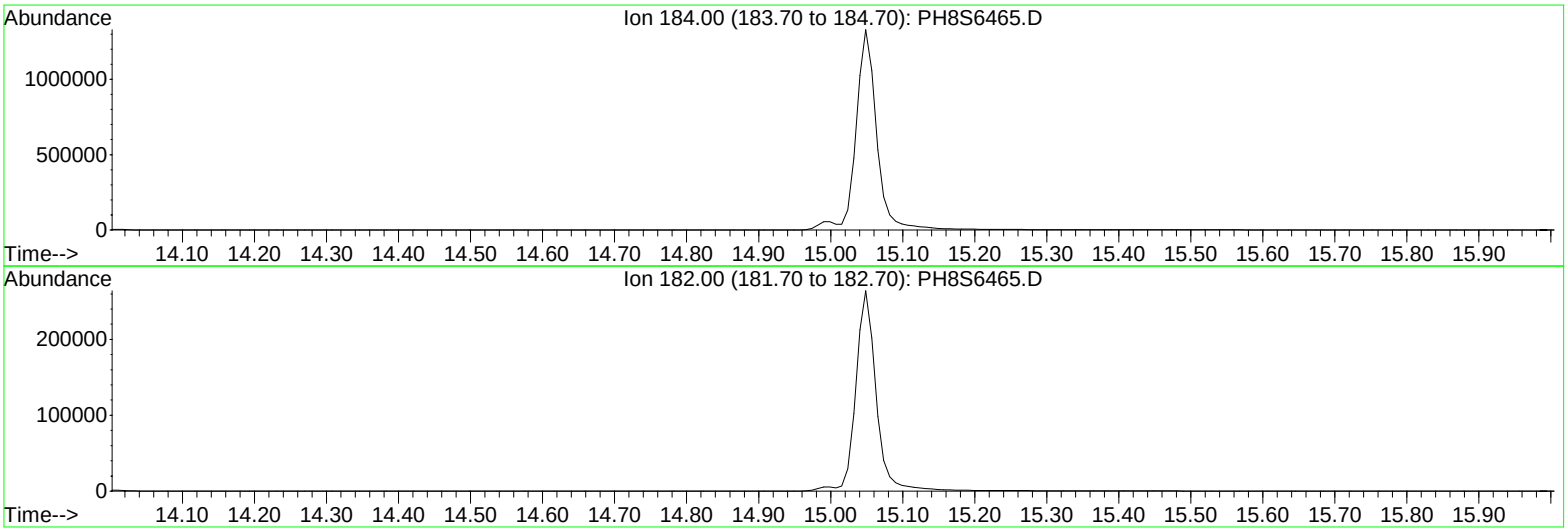
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	880543	18.56	1771.5827	I	0	1771.5827	5858		0.17	1
d10-Phenanthrene - SURR	775463	15	1868.2879	S	51.7531	27.3136	12607		0.15	0.808
d12-Benz(a)anthracene - SURR	1124828	21.6	4040.8116	S	99.5274	83.2505	25770		0.23	1.164
d12-Chrysene - SURR	1116326	21.7	3743.8656	S	95.5068	37.8632	12554		0.26	1.169
d12-Benzo(e)pyrene - REC	701049	26.11	1816.5468	I	0	1816.5468	1944		0.25	1
d12-Indeno(123cd)pyrene - SURR	1005520	31.5	4014.4335	S	100.8652	0.7708	215		0.16	1.207
d10-Phenanthrene	775463	15	3246.4029	I	0	3246.4029	11684		0.15	1
13C6-Phenanthrene	2503330	15.05	9260.1881	T	0	0.7854	212		0.2	1.003
d12-Benz(a)anthracene	1124828	21.6	3651.0791	I	0	3651.0791	24336		0.23	1
d10-Fluoranthene	1883500	18.01	4490.0925	T	0	0.221	93		0.17	0.834
d12-Chrysene	1116326	21.7	3525.1799	I	0	3525.1799	12156		0.26	1
13C6-Chrysene	1704903	21.75	4800.8695	T	0	1.4455	513		0.31	1.003
d12-Indeno(123cd)pyrene	1005520	31.5	3579.1367	I	0	3579.1367	232		0.16	1
13C6-Indeno(123cd)pyrene $	2157999	31.58	6143.4488	T	0	2.3611	829		0.2	1.002

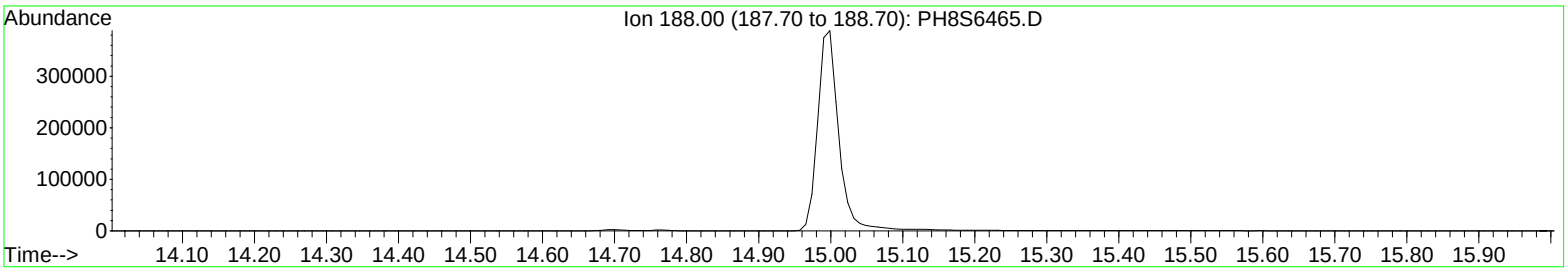
618S6465

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

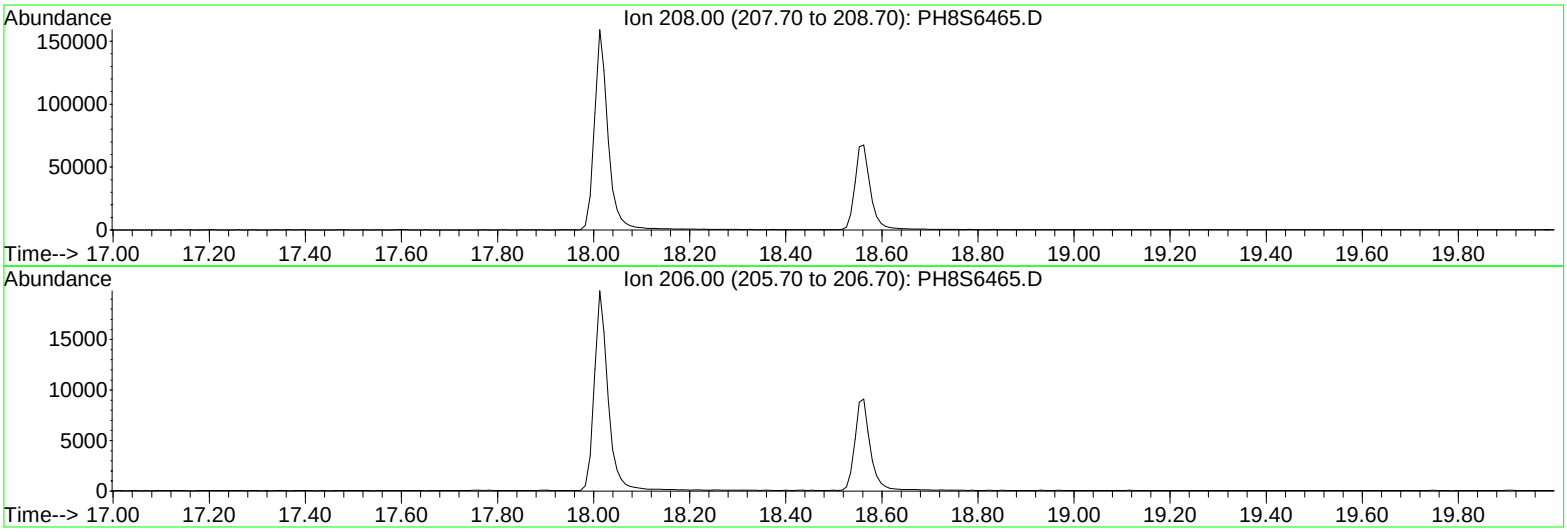
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

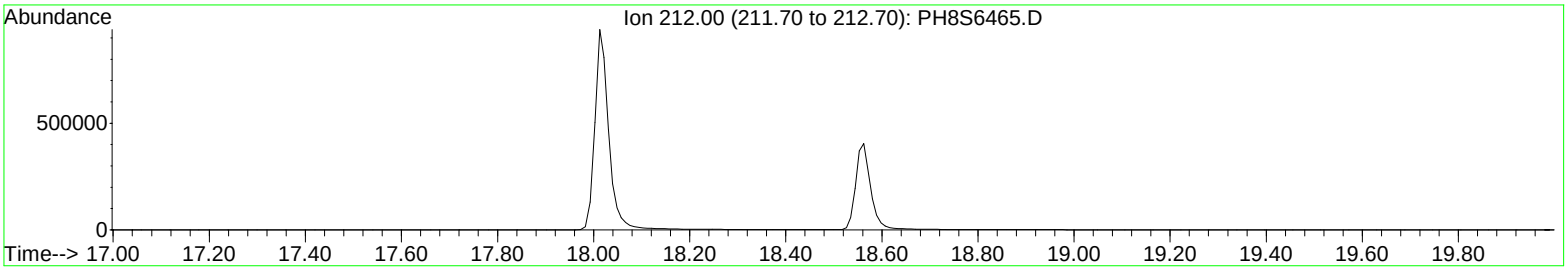




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

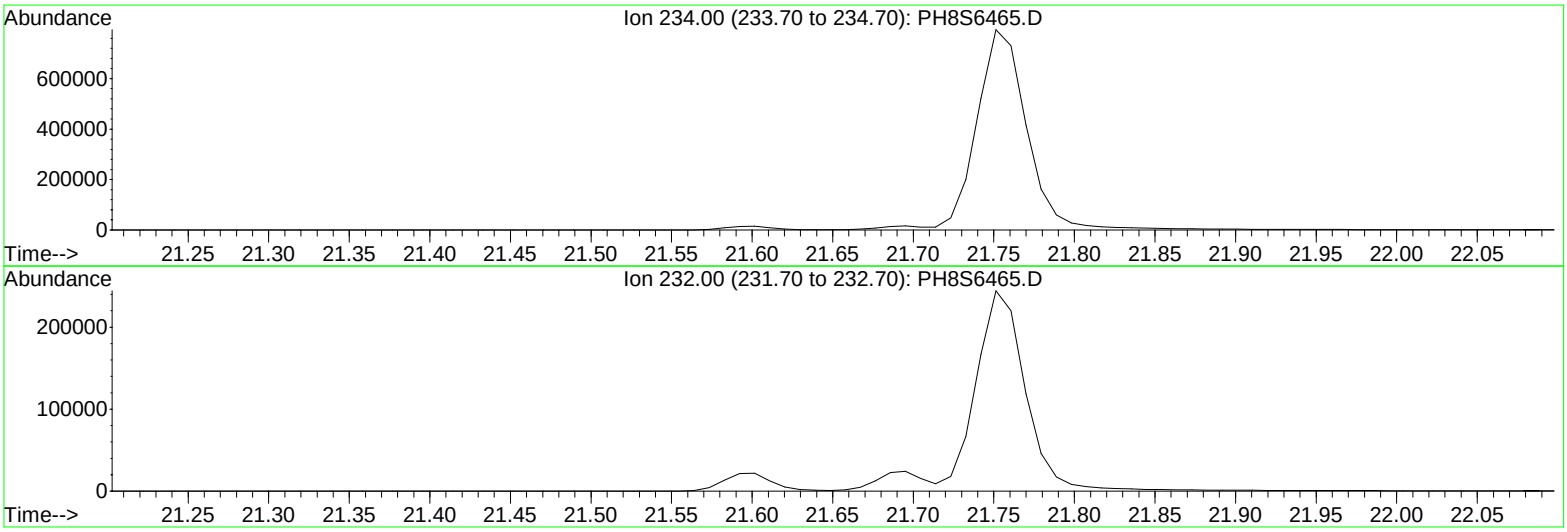


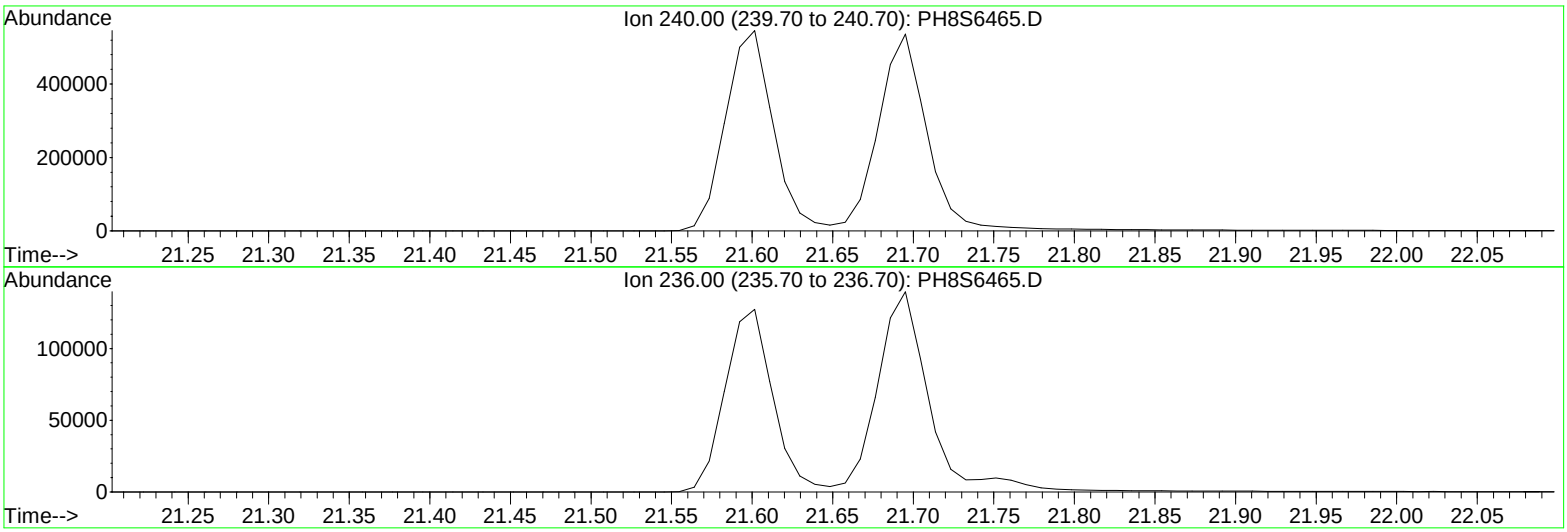


Thu Jan 10 08:56:07 2019

Axys Analytical CHRO Report

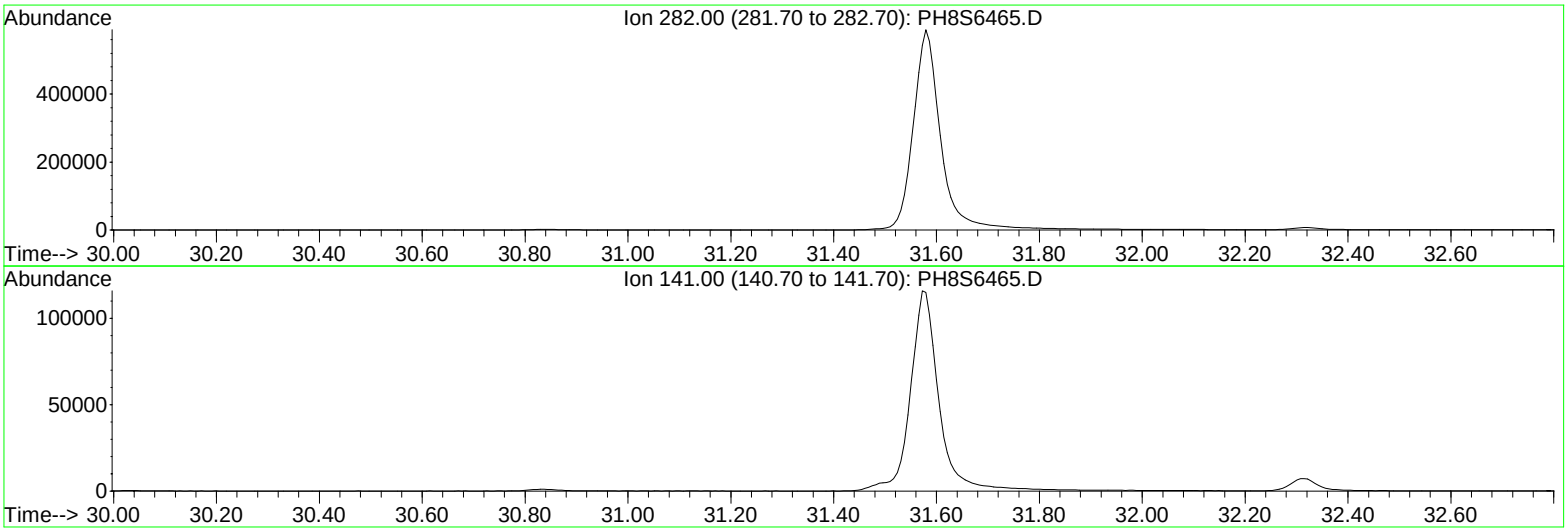
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL

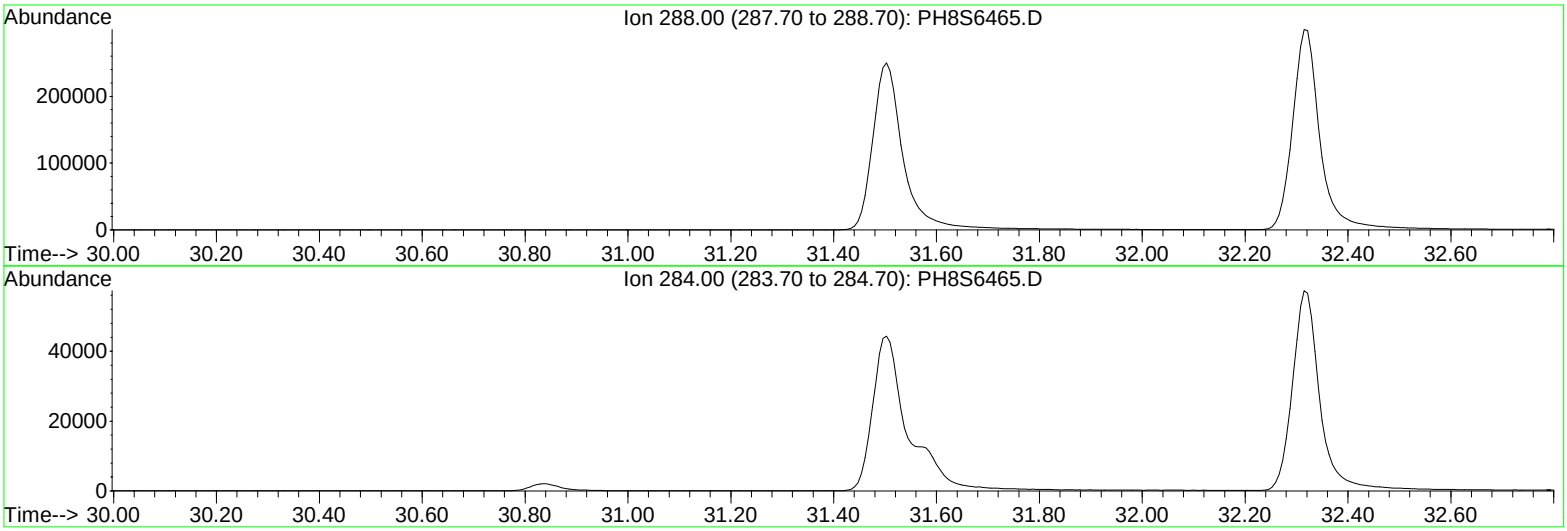




Axys Analytical CHRO Report

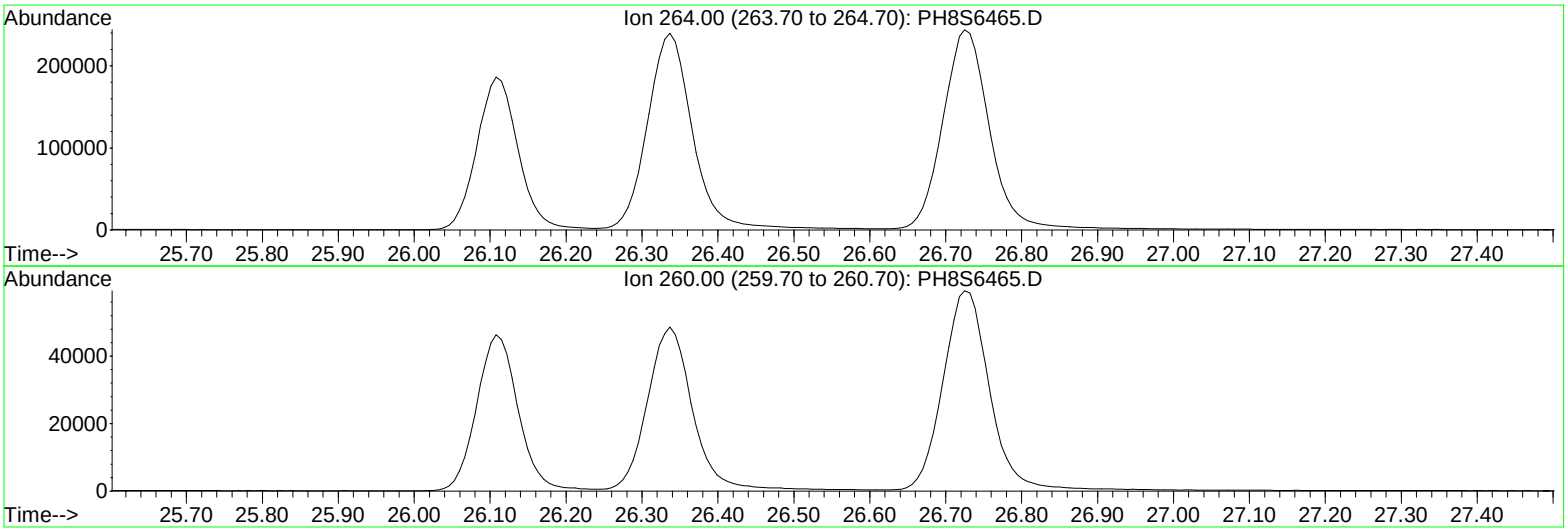
File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6465.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 16:52
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-3,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6466.D
28/12/2018 17:41
L30196-4
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6466.D\PH8S6466.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 11
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:44 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.102	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	464337	11.28	3953.0333 I	0	3953.0333	970		0.45	1
d8-Naphthalene - SURR	294243	6.86	428.1127 S	21.4056	0.7129	125		0.09	0.608
d10-2-Methylnaphthalene - SURR	232741	8.53	505.1674 S	25.643	1.0635	125		0.19	0.756
d10-Biphenyl - SURR	379911	9.8	587.764 S	28.7415	0.7265	120		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	238994	10.1	567.6956 S	27.6251	3.1522	339		0.74	0.896
d8-Acenaphthylene - SURR	468652	10.85	575.7789 S	27.9504	1.9815	412		0.15	0.961
d10-Pyrene - REC	921437	18.56	3855.1859 I	0	3855.1859	6607		0.17	1
d10-Phenanthrene - SURR	610982	15	715.2745 S	39.6274	59.435	12972		0.14	0.808
d8-Dibenzothiophene - SURR	420288	14.7	553.2692 S	27.1877	0.6233	121		0.08	0.792
d12-Benz(a)anthracene - SURR	1131726	21.6	1408.8522 S	69.4016	131.1824	26924		0.23	1.164
d12-Chrysene - SURR	1186981	21.69	1414.4207 S	72.1643	61.7194	13234		0.24	1.169
d12-Benzo(e)pyrene - REC	780406	26.11	3953.0333 I	0	3953.0333	1133		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1101913	25	1541.9023 S	78.2692	400.683	73161		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1206215	25.11	1528.1625 S	76.4081	119.5012	24100		0.19	0.962
d12-Benzo(a)pyrene - SURR	974538	26.34	1441.3061 S	69.6283	13427.4951	2319680		0.2	1.009
d12-Perylene - SURR	1023032	26.72	1517.4854 S	70.5807	194.7753	33550		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	1135413	31.5	1658.0061 S	83.3169	1.1656	204		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1225470	32.31	1504.6039 S	75.9901	13.0675	2719		0.19	1.238
d8-Naphthalene	294243	6.86	3913.8943 I	0	3913.8943	127		0.09	1
Naphthalene $	1600	6.91	17.782 T	0	3.9923	359		0.07	1.007
d10-2-Methylnaphthalene	232741	8.53	3855.1859 I	0	3855.1859	130		0.19	1
2-Methylnaphthalene $	471	8.6	6.4479 T	0	1.8608	136		1.04	1.009
1-Methylnaphthalene	277	8.87	4.0164 T	0	1.9708	136	#	1.15	1.04
C1-Naphthalenes	514	8.6	0 T	0	0	217		-1	1.009
d10-Biphenyl	379911	9.8	4001.9569 I	0	4001.9569	120		-1	1
Biphenyl $	867	9.85	8.2213 T	0	2.5151	265		0.28	1.006
C1-Biphenyls $	508	11.33	4.8171 T	0	1.1343	120		0.2	1.156
C2-Biphenyls $	1307	12.71	12.3935 T	0	3.3042	348		0.21	1.297
d12-2,6-Dimethylnaphthalene	238994	10.1	4021.5264 I	0	4021.5264	346		0.74	1
2,6-Dimethylnaphthalene $	91	10.23	1.2661 T	0	1.9282	139	#	0.52	1.012
Ethyl/DiMe-Naphthalenes	154	10.23	2.3683 T	0	2.1312	139		0.31	1.012
1,2-Dimethylnaphthalene	47341	10.85	813.8858 T	0	2.3825	139	#	0	1.073
C2-Naphthalenes	154	10.23	0 T	0	0	533		-1	1.012
2,3,6-Trimethylnaphthalene	30	12.21	0.4129 T	0	2.2743	165	#	-1	1.208
2,3,5-Trimethylnaphthalene $	97	12.36	1.407 T	0	2.3968	165	#	1.25	1.223
C3-Naphthalenes	112	12.36	1.582 T	0	2.3339	165		1.08	1.223
1,4,6,7-Tetramethylnaphthalene $	6824	14.01	93.8859 T	0	2.7867	203	#	0	1.386
C4-Naphthalenes	6824	14.01	93.8859 T	0	2.7867	203		0	1.386
d8-Acenaphthylene	468652	10.85	4031.3112 I	0	4031.3112	416		0.15	1
Acenaphthylene $	118	10.88	0.8354 T	0	0.9692	137	#	0.3	1.003
Acenaphthene $	75	11.37	0.9607 T	0	2.2932	179	#	0.57	1.048
C1-Acenaphthenes $	20	11.69	0.2562 T	0	4.9911	390		0.65	1.078
d8-Dibenzothiophene	420288	14.7	3982.3875 I	0	3982.3875	110		0.08	1
Dibenzothiophene $	524	14.77	4.1534 T	0	1.2544	158	#	0.04	1.005
C1-Dibenzothiophenes-1	40	15.87	0.4621 T	0	8.5783	743	#	3.25	1.08
2/3-Methyldibenzothiophenes $	52	16.08	0.6007 T	0	8.5783	743	#	0.92	1.094
C1-Dibenzothiophenes-2	338	16.33	3.9046 T	0	8.5783	743		0.8	1.111
C1-Dibenzothiophenes	52	16.08	0 T	0	0	743		-1	1.094
4,6-Dimethyldibenzothiophene	53	16.95	0.5713 T	0	2.0995	195	#	1.47	1.153

+Report only.

Checked by MM 08-Jan-19

pv by vr
03-Jan-2019

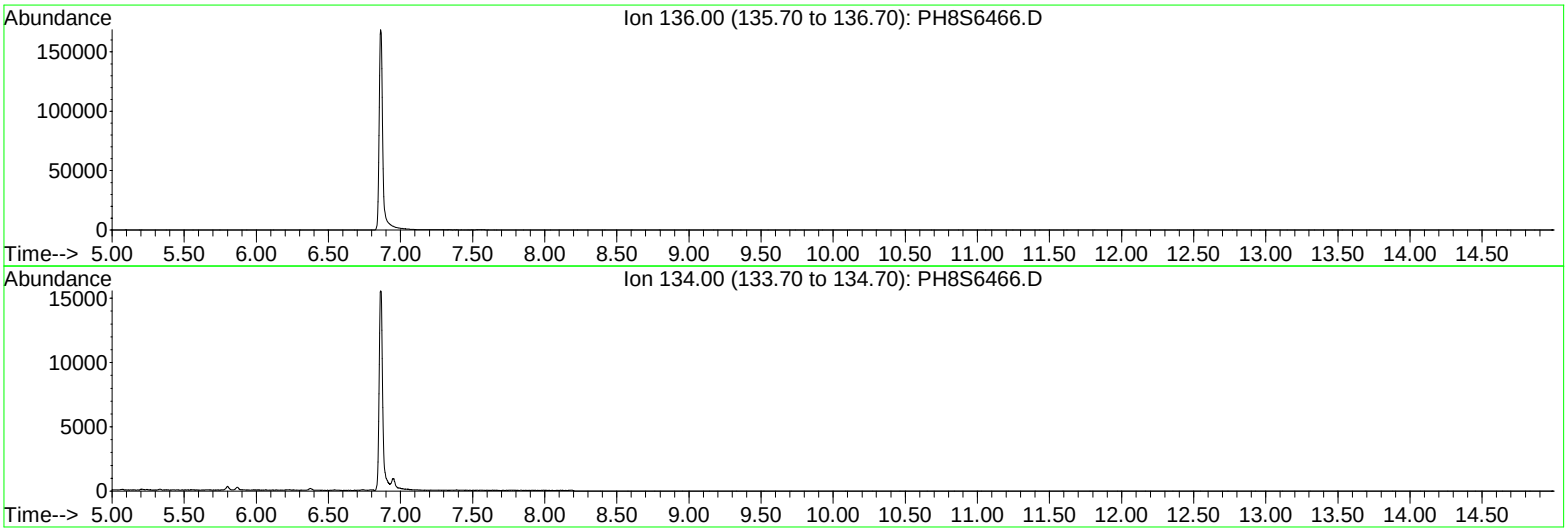
2,4-Dimethyldibenzothiophene $	102	17.07	1.4237 T	0	2.7186	195	0.54	1.161
C2-Dibenzothiophenes	102	17.07	1.4237 T	0	2.7186	195	0.54	1.161
C3-Dibenzothiophenes $	19	18.09	0.2652 T	0	1.6991	122 #	-1	1.231
C4-Dibenzothiophenes $	13	18.87	0.1814 T	0	1.1044	79	0.92	1.284
d10-Phenanthrene	610982	15	3532.2896 I	0	3532.2896	11504	0.14	1
Fluorene $	115	12.67	0.9303 T	0	1.1572	143 #	0.47	0.844
2-Methylfluorene $	28	14.09	0.3331 T	0	4.6797	393 #	11.25	0.94
C1-Fluorenes	28	14.09	0.3331 T	0	4.6797	393	11.25	0.94
1,7-Dimethylfluorene $	165	15.58	2.1105 T	0	3.0497	238 #	0.1	1.039
C2-Fluorenes	165	15.58	2.1105 T	0	3.0497	238	0.1	1.039
C3-Fluorenes $	55	16.43	0.7035 T	0	4.8032	376	1.36	1.096
Phenanthrene $	0	15.05	0 T	0	0.8377	155 #	0	1.003
Anthracene	59	15.17	0.3151 T	0	0.8278	155 #	0.36	1.011
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	213	16.32	1.6319 T	0	1.507	197 #	0.37	1.088
2-Methylphenanthrene	110	16.42	0.854 T	0	1.527	197 #	0.77	1.095
2-Methylanthracene	289	16.45	2.3115 T	0	1.5733	197 #	0.83	1.097
9/4-Methylphenanthrenes	94	16.61	0.7202 T	0	1.507	197 #	1.11	1.107
1-Methylphenanthrene $	102	16.65	0.7406 T	0	1.4283	197	0.51	1.11
C1-Phenanthrenes/Anthracenes	102	16.65	0 T	0	0	519	-1	1.11
Fluoranthene $	757	18.06	3.3309 T	0	0.5245	119	0.2	1.204
Pyrene	762	18.6	3.2429 T	0	0.5073	119	0.19	1.24
3,6-Dimethylphenanthrene $	95	17.49	0.7559 T	0	0.9485	119 #	1.61	1.166
2,6-Dimethylphenanthrene	95	17.49	0.7545 T	0	0.9468	119 #	1.61	1.166
1,7-Dimethylphenanthrene	40559	18.01	321.5274 T	0	0.945	119 #	0.01	1.201
Ethyl/DiMe-Phenanthrenes/Anthracenes	95	17.49	0.7545 T	0	0.9468	119	1.61	1.166
1,8-Dimethylphenanthrene	40495	18.01	321.607 T	0	0.9468	119 #	0.01	1.201
C2-Phenanthrenes/Anthracenes	95	17.49	0 T	0	0	119	-1	1.166
1,2,6-Trimethylphenanthrene $	27	19.42	0.2333 T	0	0.6181	72 #	1.19	1.295
C3-Phenanthrenes/Anthracenes	27	19.42	0.2333 T	0	0.6181	72	1.19	1.295
Retene $	79	19.51	1.7866 T	0	1.7524	77 #	2.71	1.301
C4-Phenanthrenes/Anthracenes	79	19.51	1.7866 T	0	1.7524	77	2.71	1.301
C1-Fluoranthenes/Pyrenes-1	177	19.08	1.3101 T	0	0.8382	113	1.03	1.272
3-Methylfluoranthene/Benzo(a)fluorene $	72	19.51	0.5329 T	0	0.8382	113 #	0.42	1.301
C1-Fluoranthenes/Pyrenes-2	17	19.96	0.1258 T	0	0.8382	113	0.47	1.331
C1-Fluoranthenes/Pyrenes	72	19.51	0 T	0	0	113	-1	1.301
C2-Fluoranthenes/Pyrenes $	19	20.43	0.1406 T	0	0.4412	60	0.21	1.362
C3-Fluoranthenes/Pyrenes $	16	21.91	0.1184 T	0	0.7059	95 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	14	23.25	0.1036 T	0	0.3971	54	0.86	1.55
d12-Benz(a)anthracene	1131726	21.6	3972.6027 I	0	3972.6027	24062	0.23	1
d10-Fluoranthene $	1964539	18.01	6351.4757 T	0	0.602	186	0.17	0.834
† Benz(a)anthracene	80	21.66	0.2174 T	0	0.3101	114 #	0.84	1.003
d12-Chrysene	1186981	21.69	3835.6164 I	0	3835.6164	12793	0.24	1
† Chrysene $	1216	21.75	3.1842 T	0	0.3232	123 #	~~4.22~~	1.003
5/6-Methylchrysenes $	16	23.11	0.0555 T	0	0.7433	214	-1	1.065
1-Methylchrysene	48	23.27	0.1606 T	0	0.7175	214	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	16	23.11	0.0545 T	0	0.7302	214	-1	1.065
5,9-Dimethylchrysene $	49	24.42	0.2194 T	0	0.4655	104	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	49	24.42	0.2194 T	0	0.4655	104	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	17	25.1	0.0761 T	0	0.5528	123	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	10	26.08	0.0448 T	0	0.4073	91	-1	1.202
d12-Benzo(b)fluoranthene	1101913	25	3855.1859 I	0	3855.1859	62684	0.21	1
Benzo(b)fluoranthene-SURR int	3221	25.01	0 T	0	0	320	0.48	1
† Benzo(b)fluoranthene $	3036	25.1	7.3359 T	0	0.7037	291 #	0.27	1.004
d12-Benzo(k)fluoranthene	1206215	25.11	3913.8943 I	0	3913.8943	22276	0.19	1
† Benzo(j/k)fluoranthenes	94	25.18	0.2417 T	0	0.8079	314 #	0.6	1.003
Benzofluoranthenes	3242	25.1	0 T	0	0	230	-1	1
d12-Benzo(a)pyrene	974538	26.34	4050.8806 I	0	4050.8806	2513790	0.2	1
Benzo(e)pyrene	74	26.21	0.2217 T	0	1.1034	368 #	0.65	0.995
† Benzo(a)pyrene	77	26.43	0.2444 T	0	1.169	368 #	1.18	1.003
7-Methylbenzo(a)pyrene $	12	29.19	0.0535 T	0	1.0401	233	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	12	29.19	0.0535 T	0	1.0401	233	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	28	29.88	0.1248 T	0	9.4158	2112	-1	1.134
d12-Perylene	1023032	26.72	4207.4364 I	0	4207.4364	36812	0.24	1
Perylene	87	26.82	0.2595 T	0	1.1124	373 #	0.77	1.004
d12-Indeno(123cd)pyrene	1135413	31.5	3894.3249 I	0	3894.3249	227	0.17	1
d14-Dibenzo(ah)anthracene $	11330	31.61	42.4789 T	0	2.2697	605 #	1.46	1.004
† Dibenzo(ah)anthracene $	152	31.73	0.458 T	0	1.8239	605 #	1.22	1.007
† Indeno(123cd)pyrene $	0	31.59	0 T	0	0.7777	277 #	0	1.003
d12-Benzo(ghi)perylene	1225470	32.31	3874.7554 I	0	3874.7554	2687	0.19	1
Benzo(ghi)perylene	258	32.37	0.6831 T	0	0.652	246 #	0.73	1.002

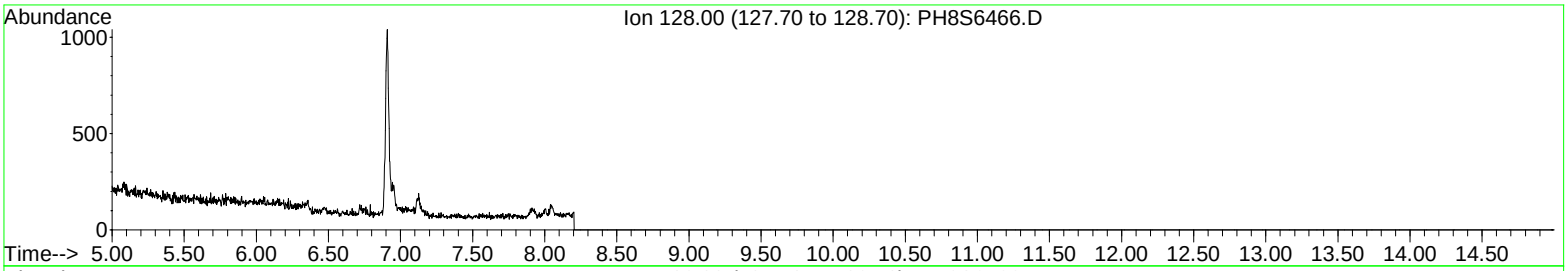
0.51

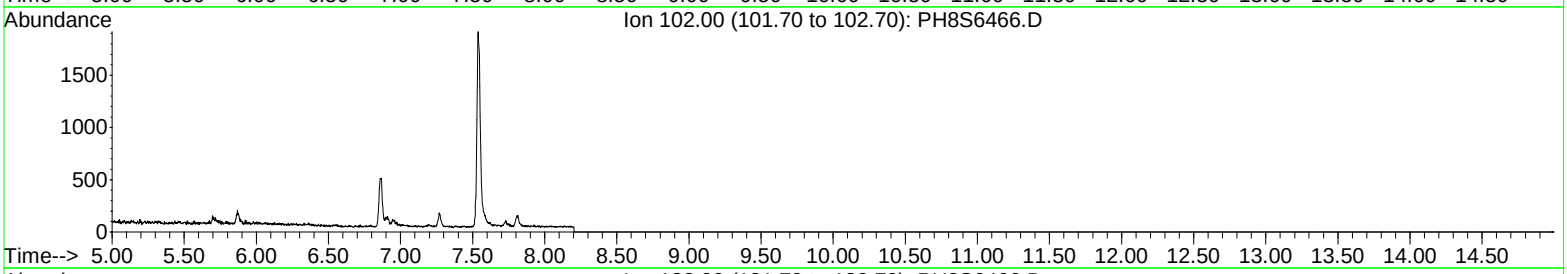
pv by vr
03-Jan-2019

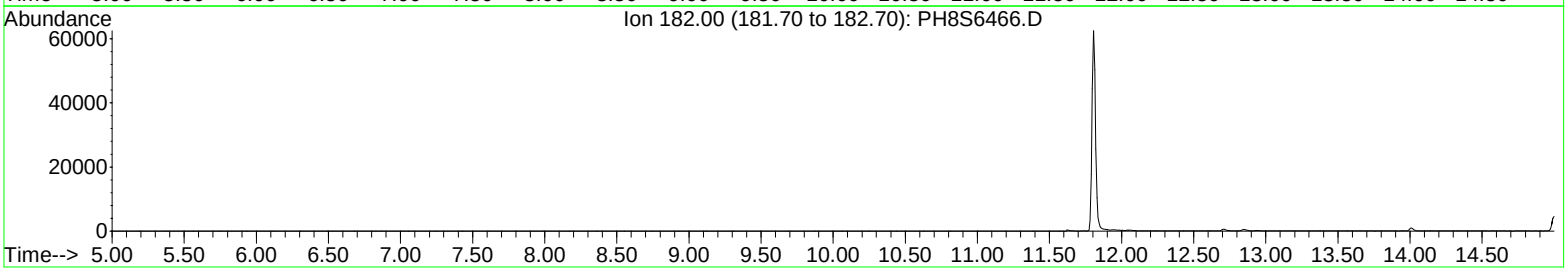
Axys Analytical CHRO Report

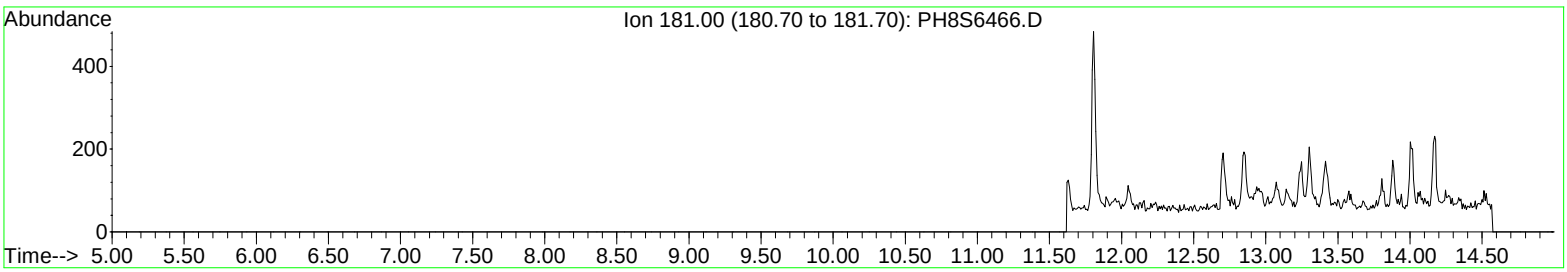
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL







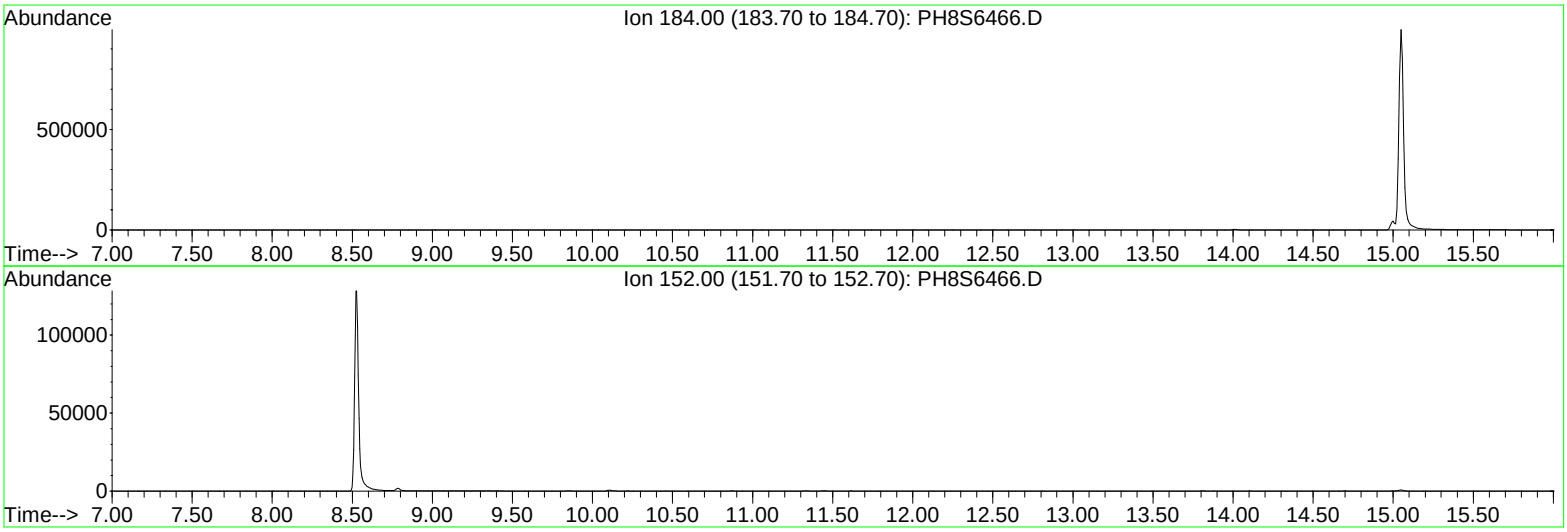


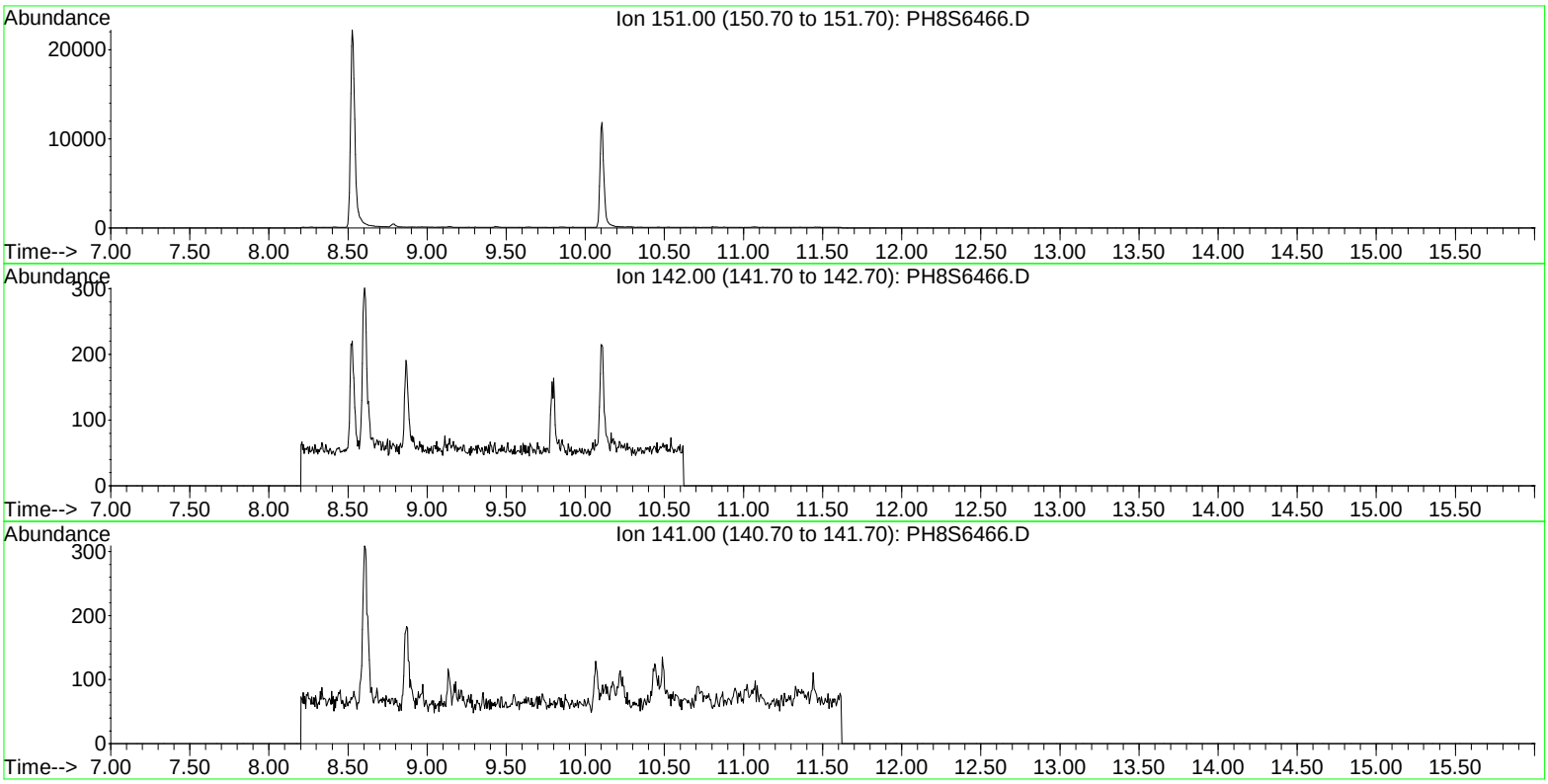


Thu Jan 10 08:40:41 2019

Axys Analytical CHRO Report

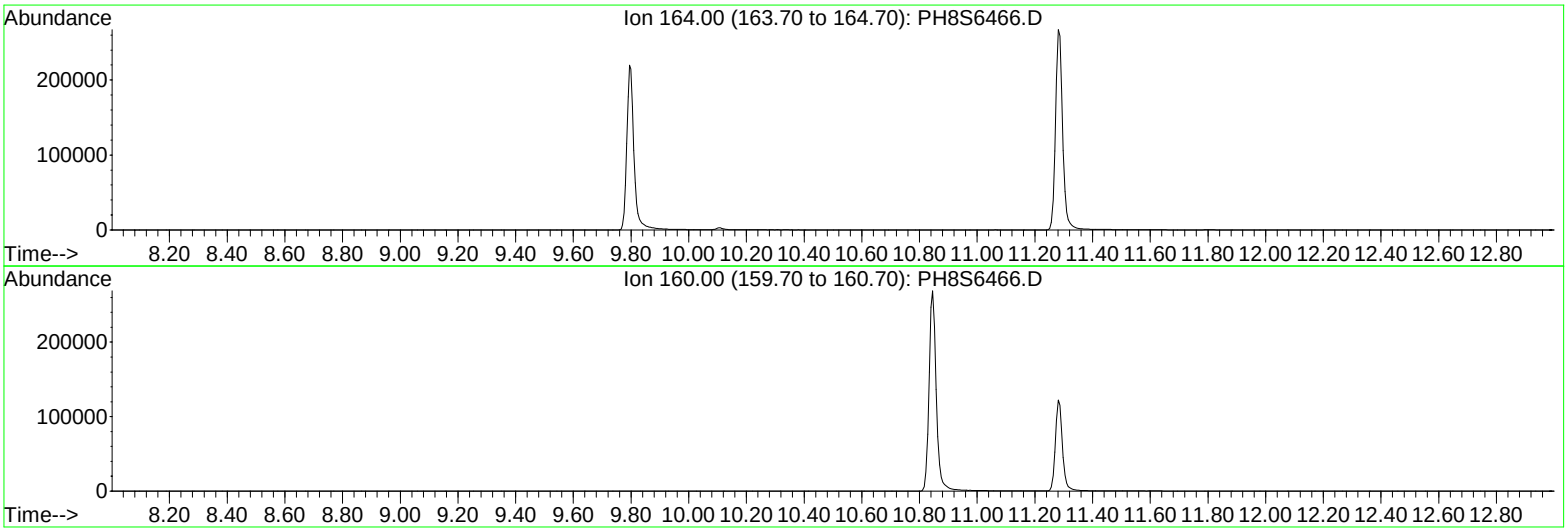
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

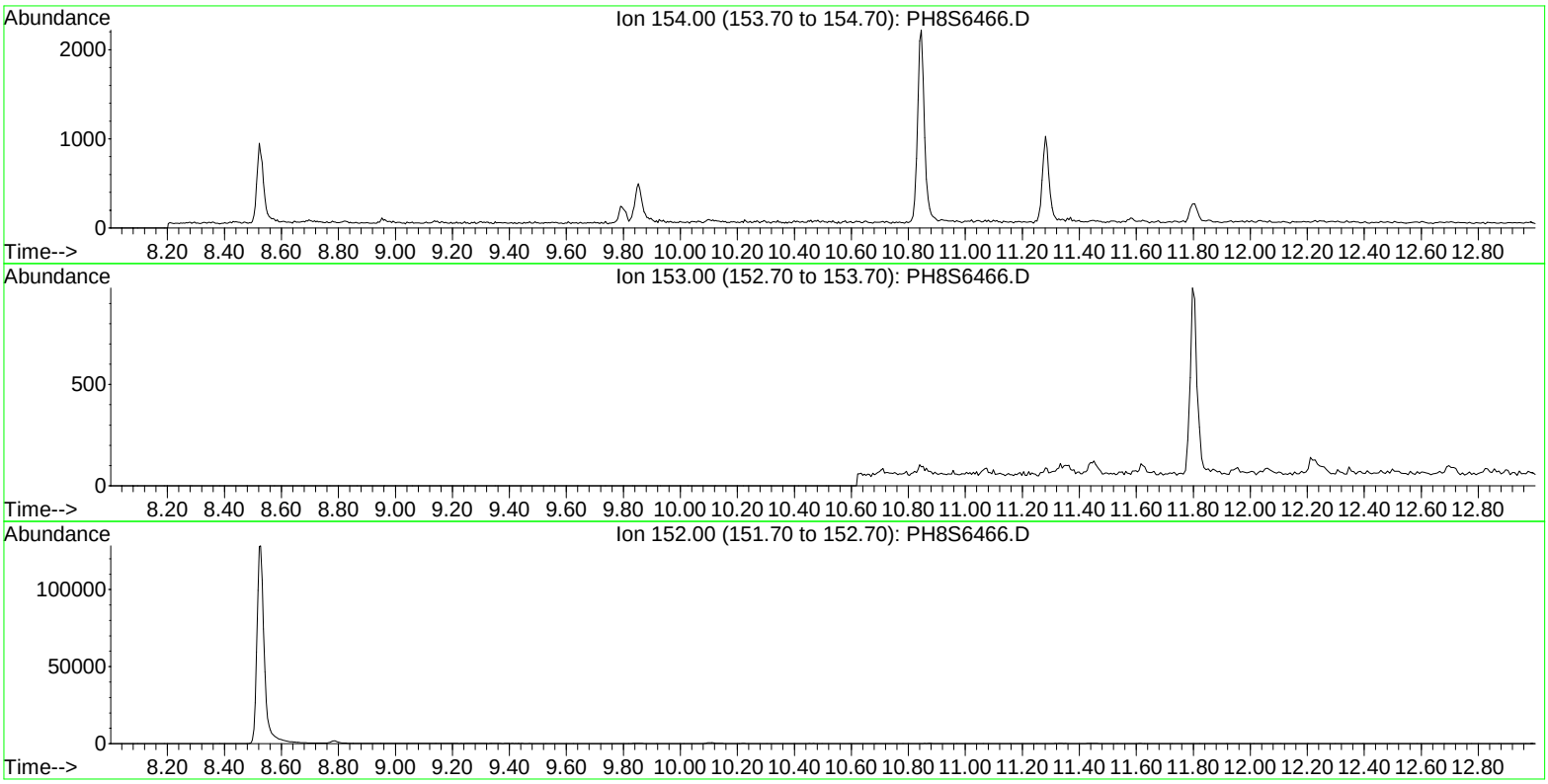




Axys Analytical CHRO Report

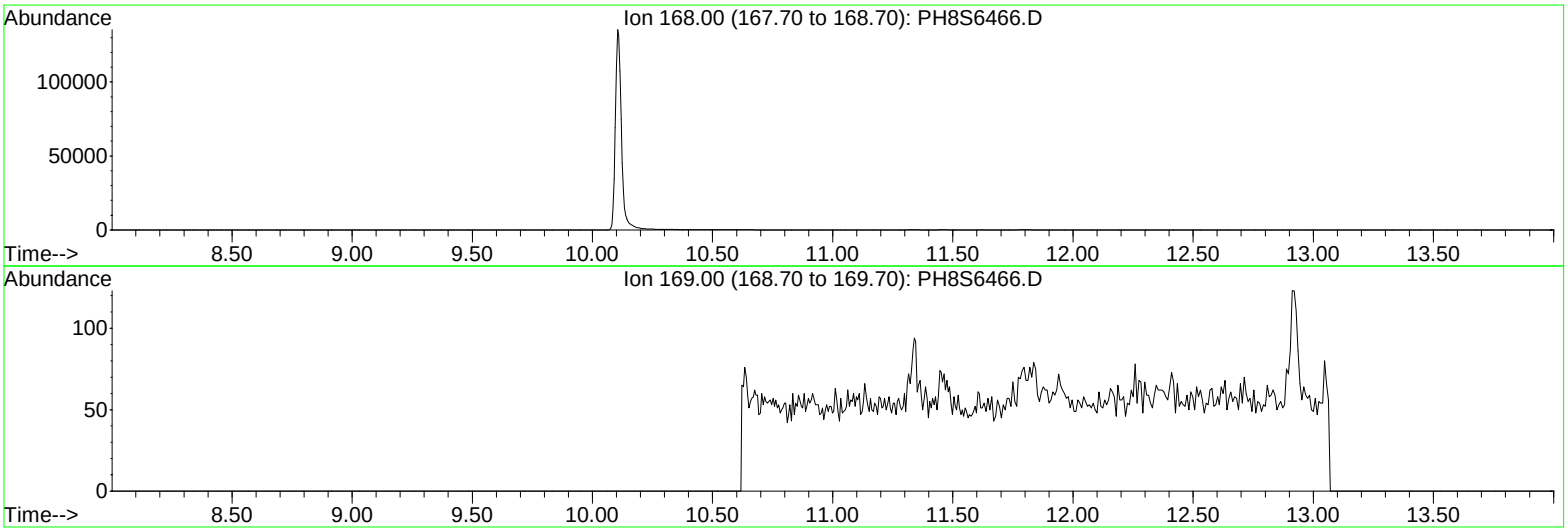
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

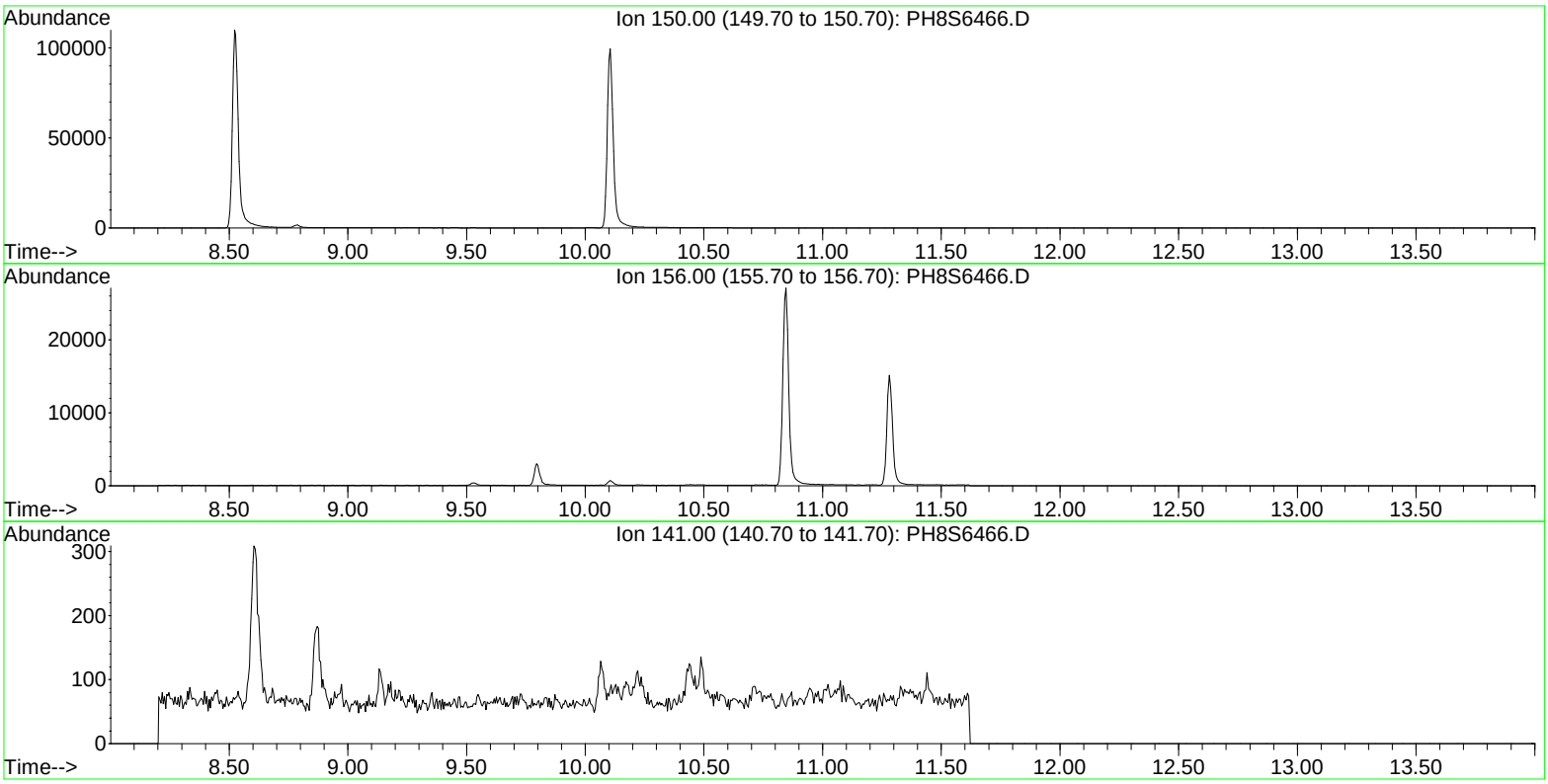




Axys Analytical CHRO Report

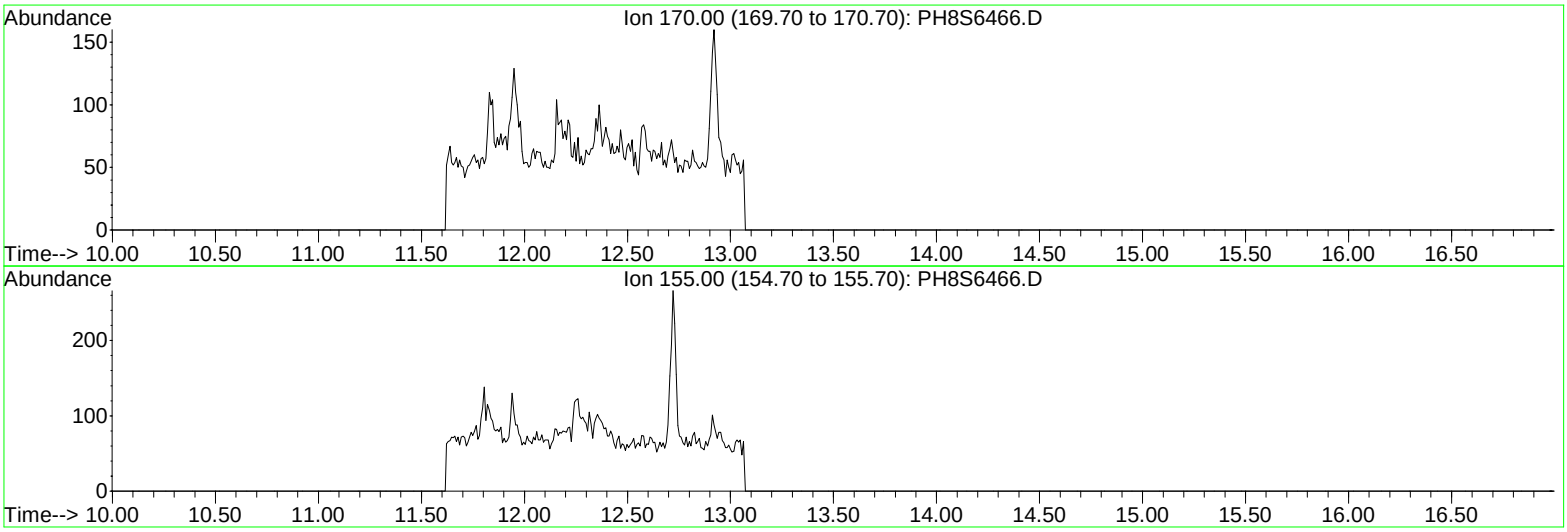
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

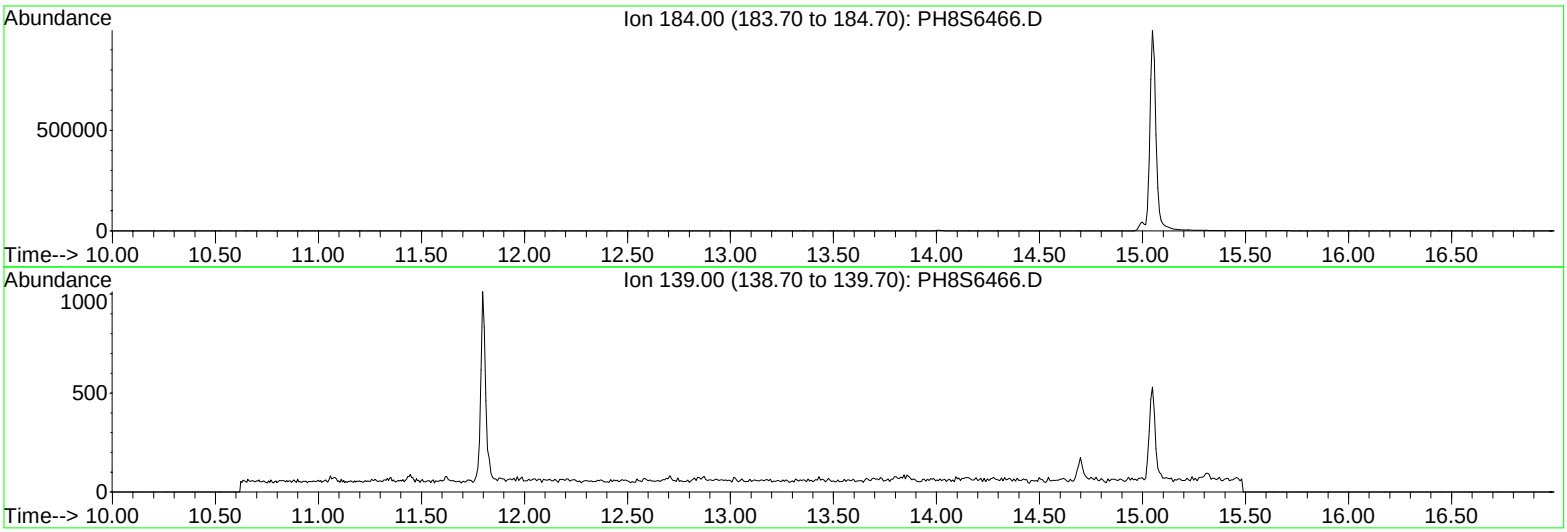




Axys Analytical CHRO Report

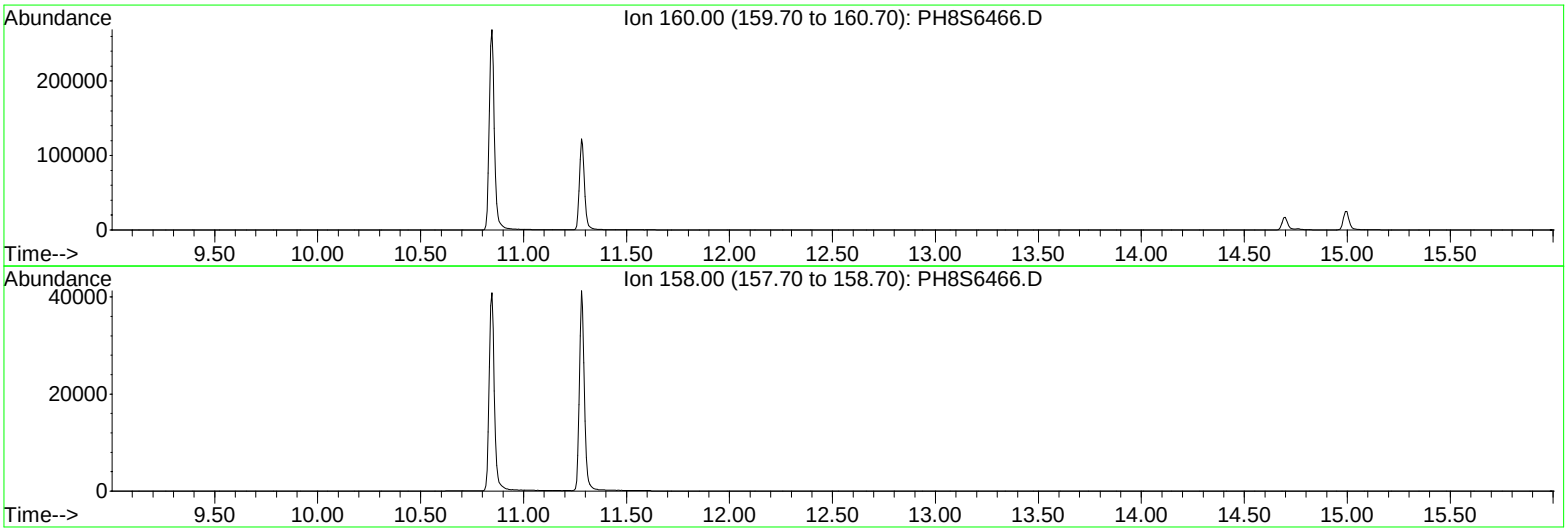
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

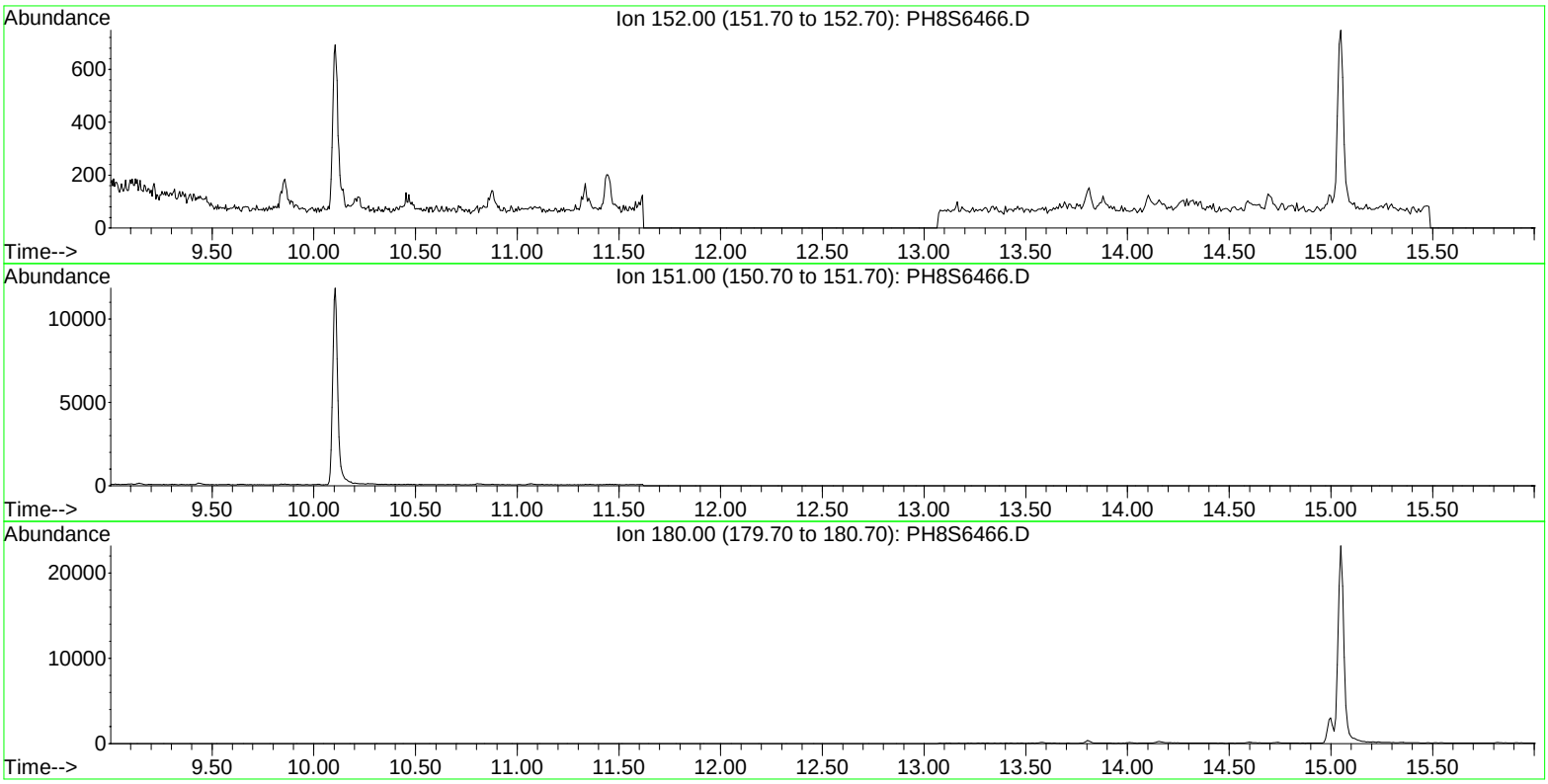


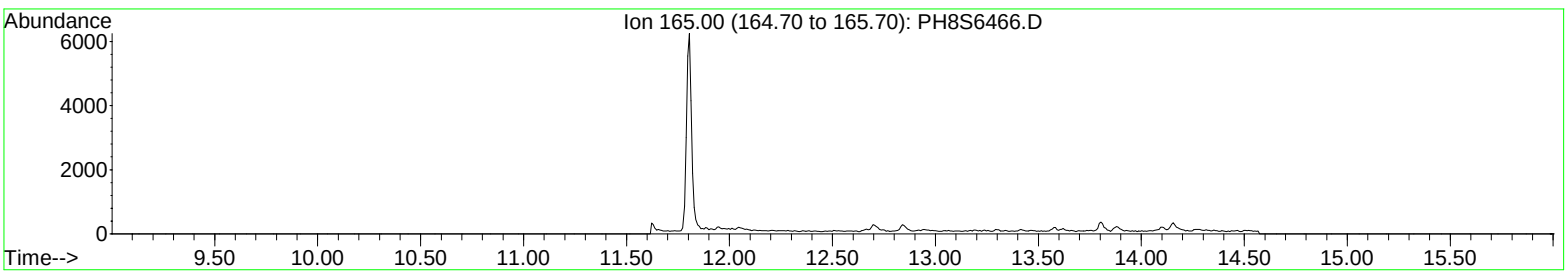


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL



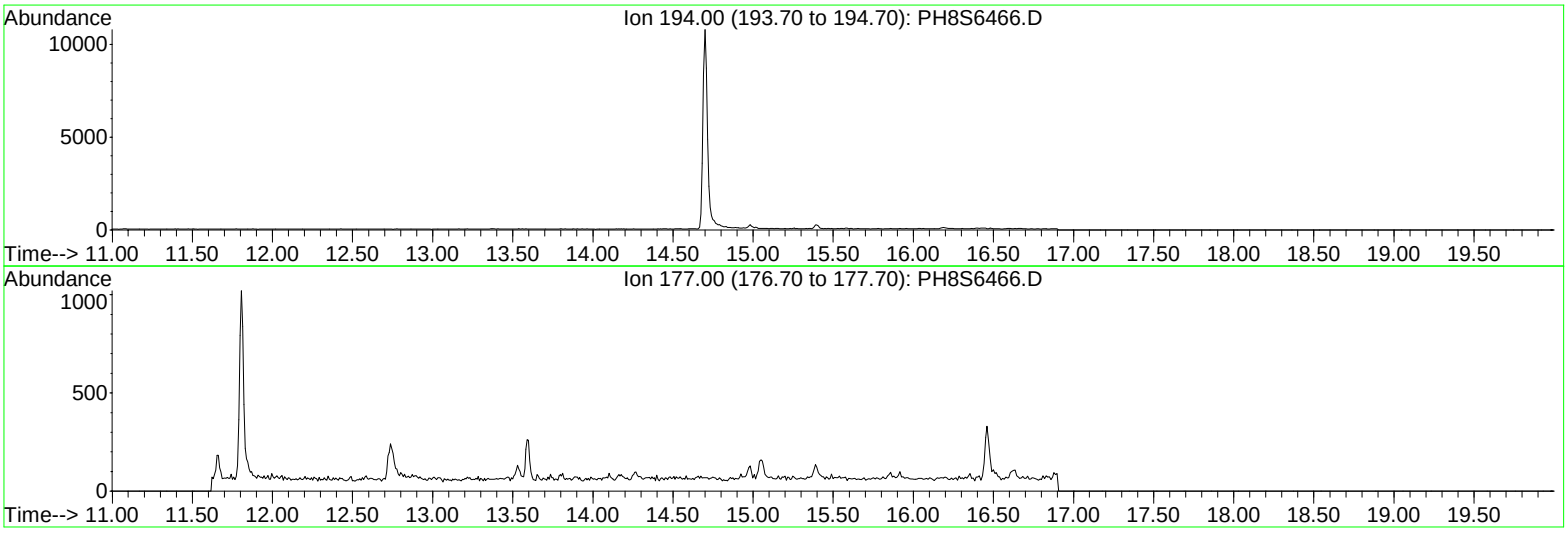


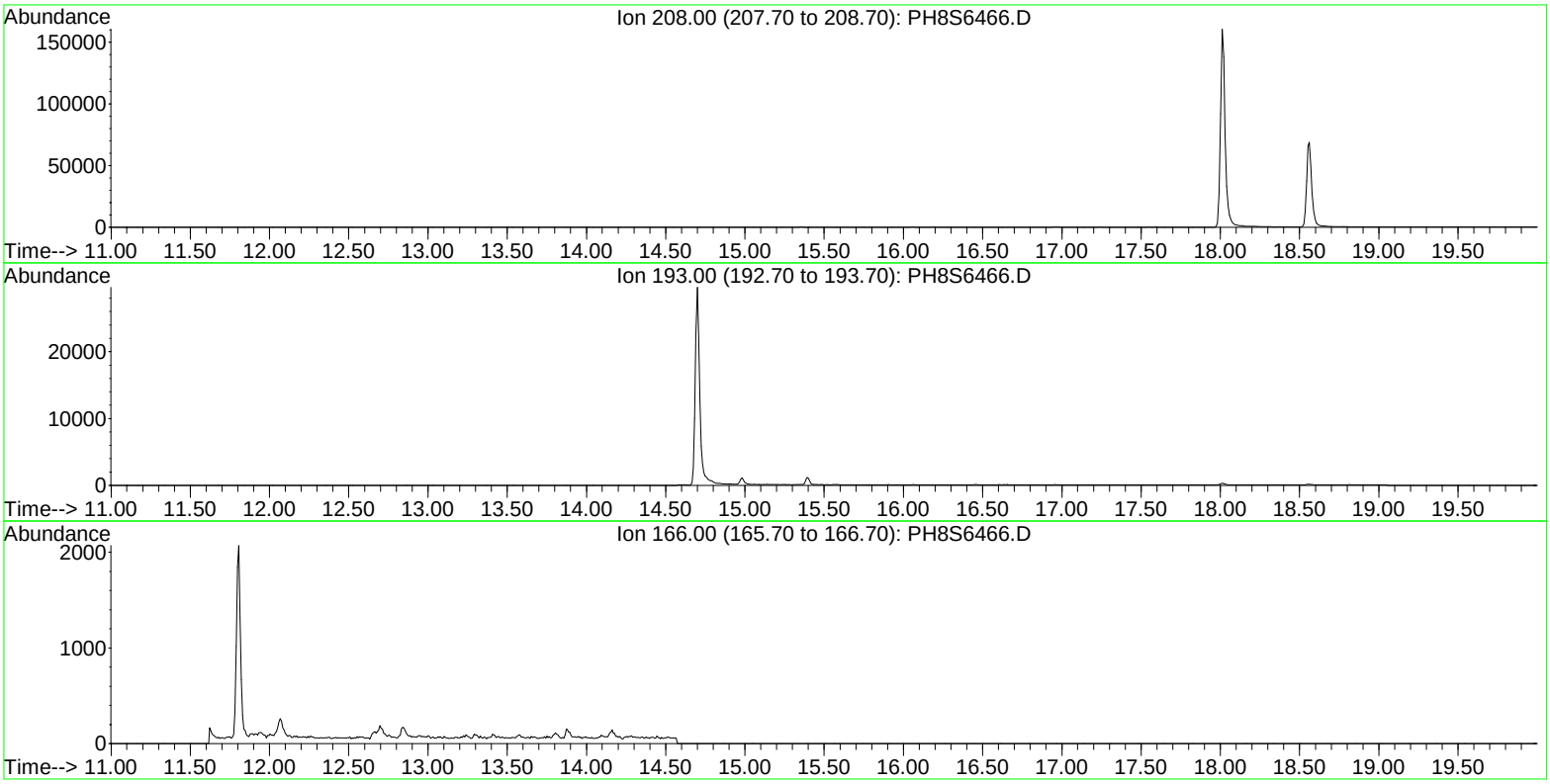


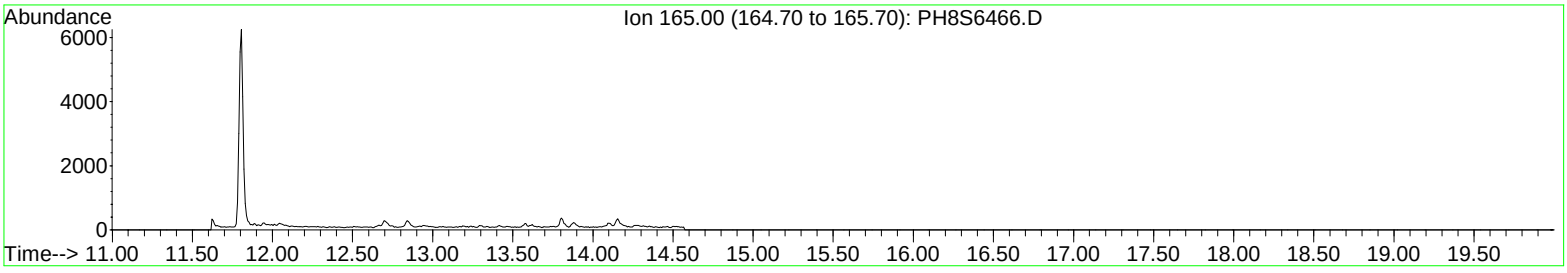
Thu Jan 10 08:40:50 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL



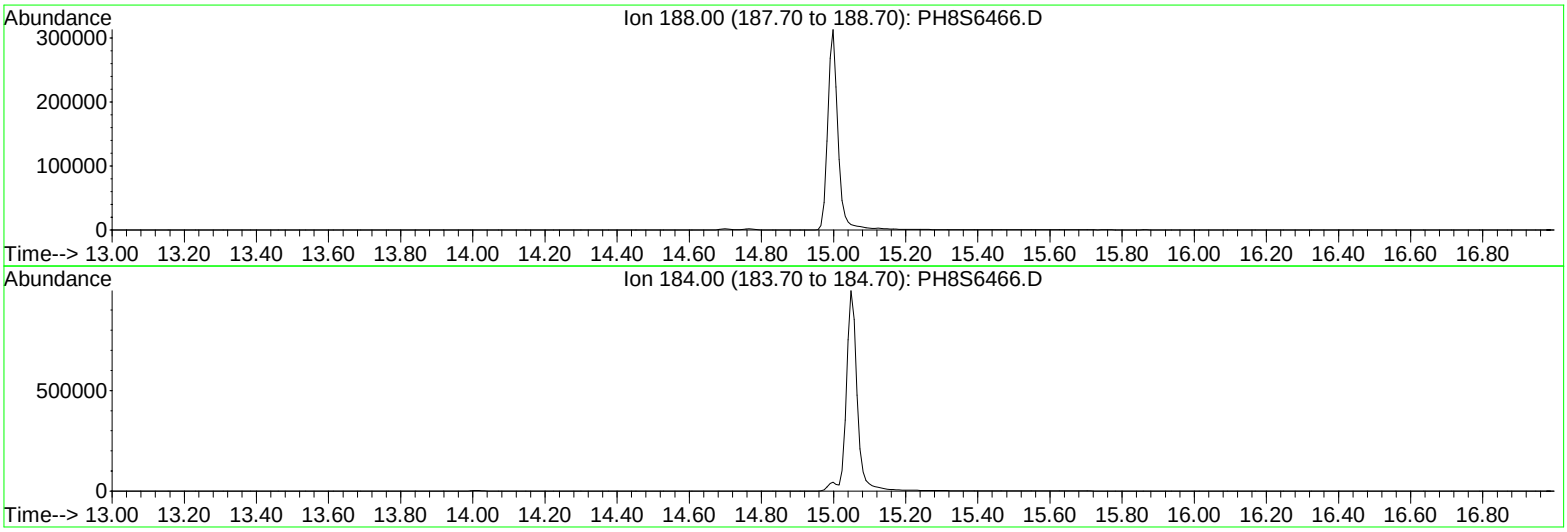


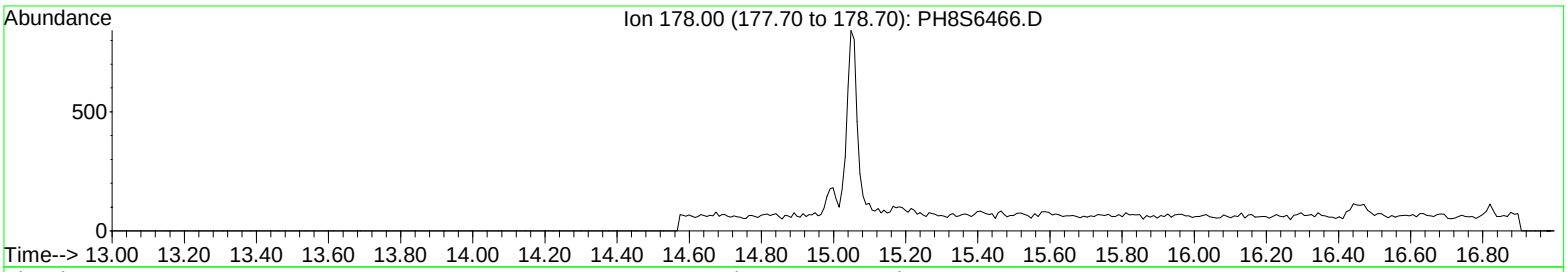


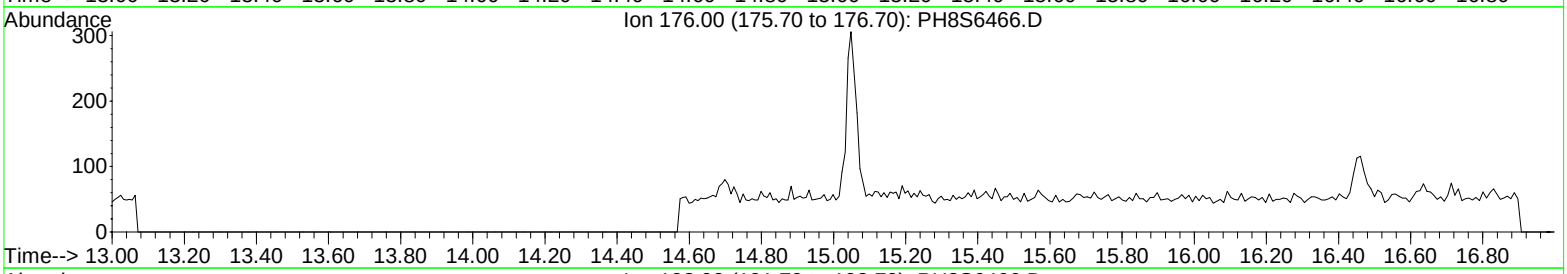
Thu Jan 10 08:40:52 2019

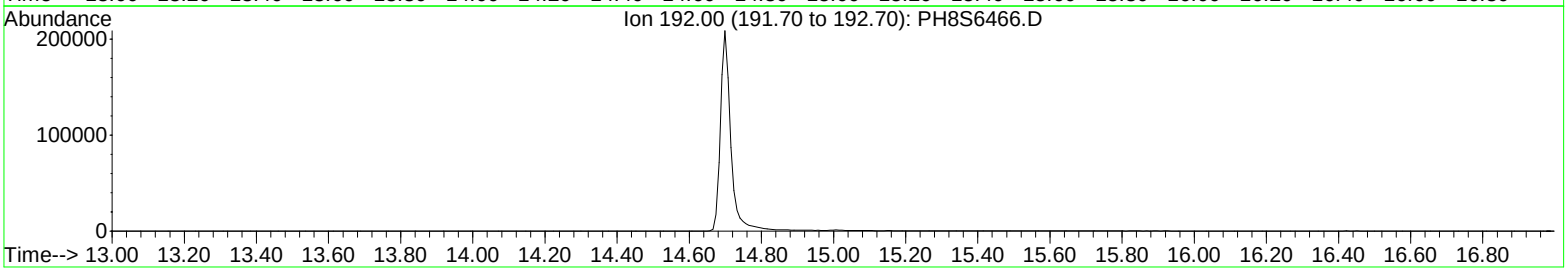
Axys Analytical CHRO Report

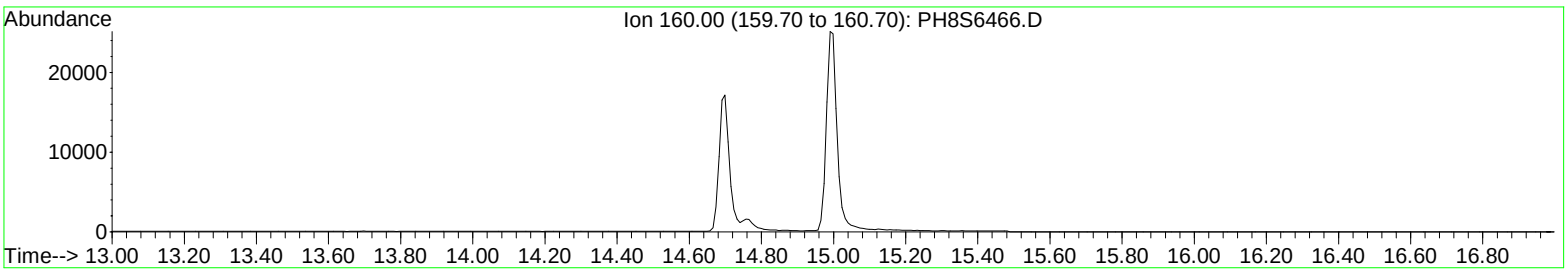
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL







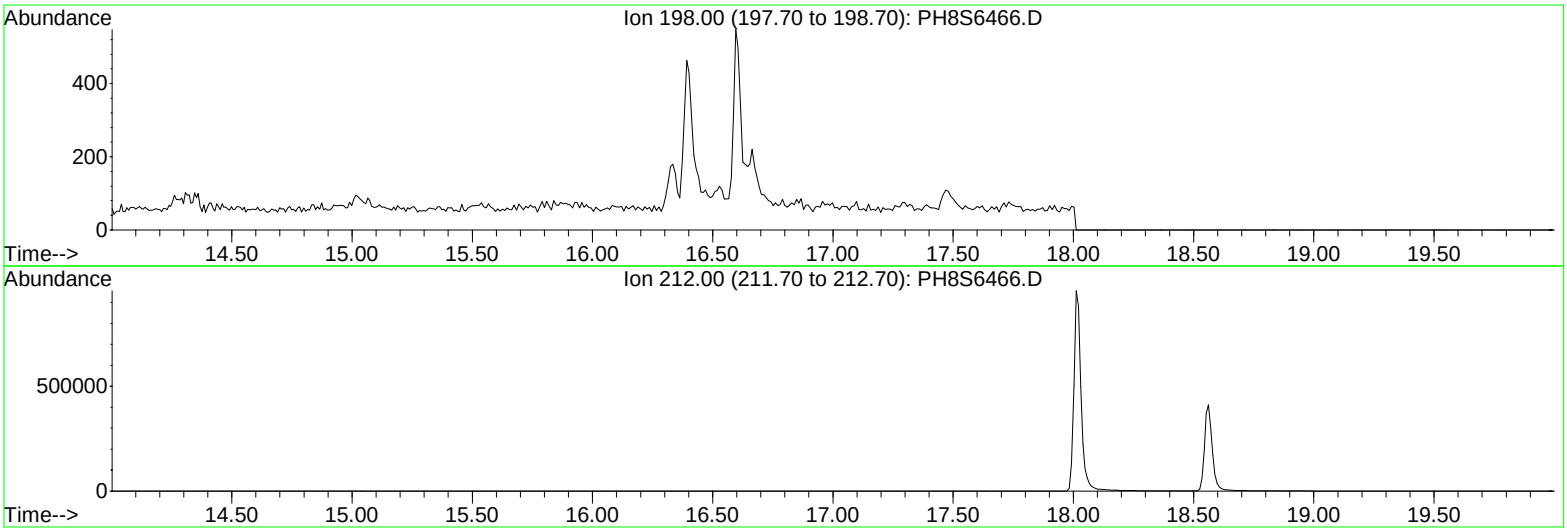


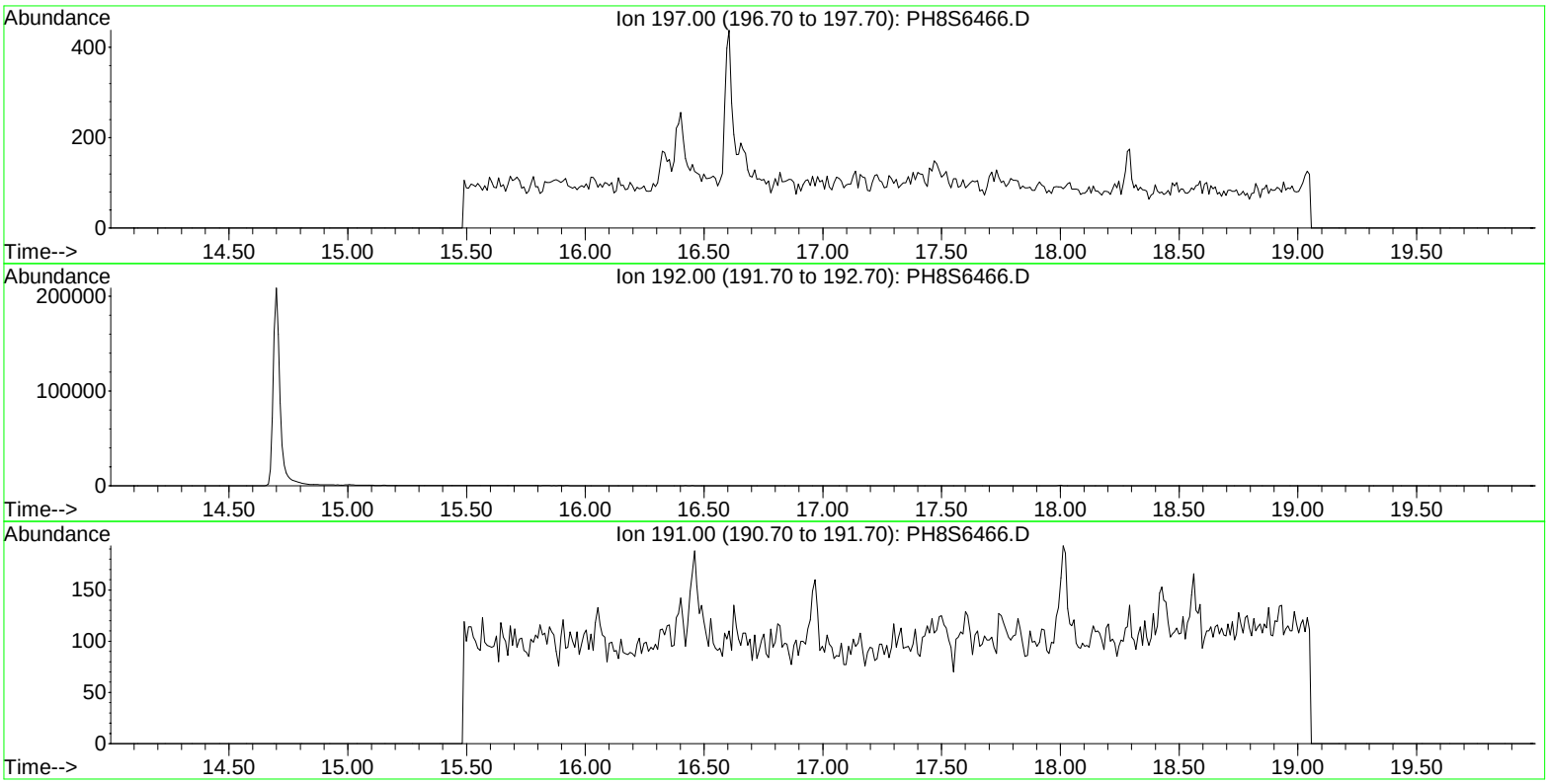


Thu Jan 10 08:40:54 2019

Axys Analytical CHRO Report

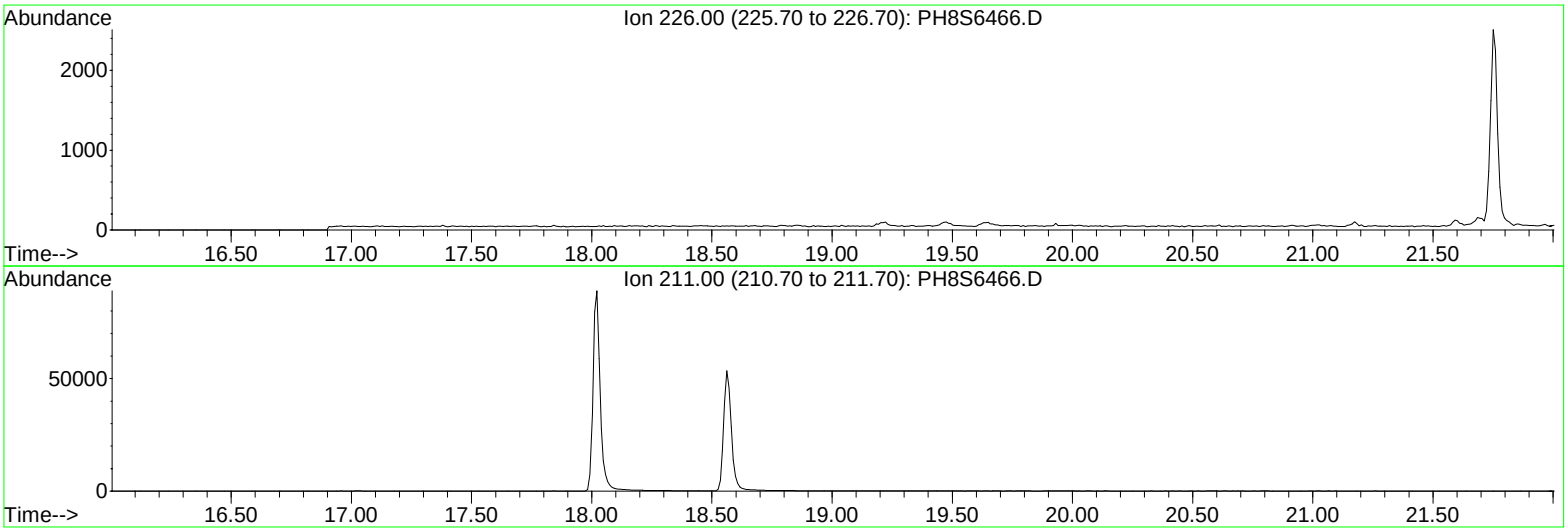
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

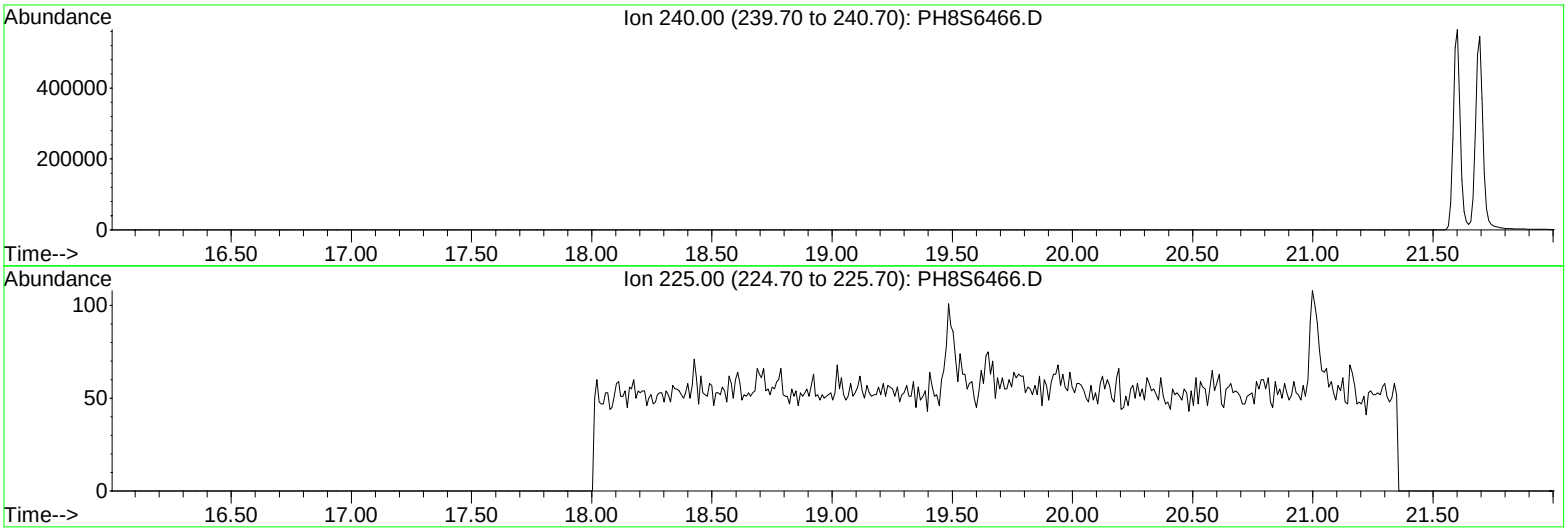




Axys Analytical CHRO Report

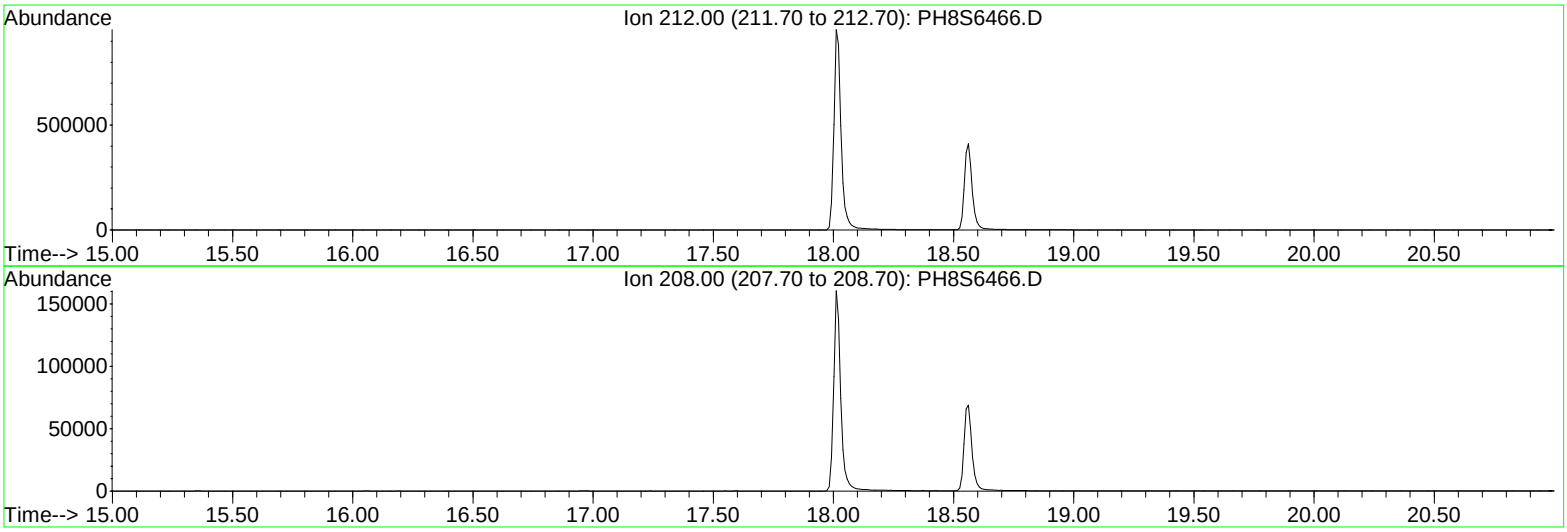
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

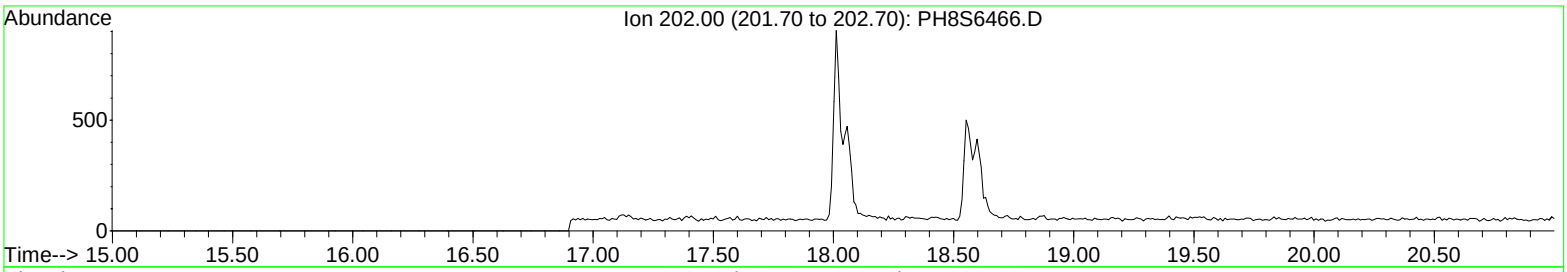


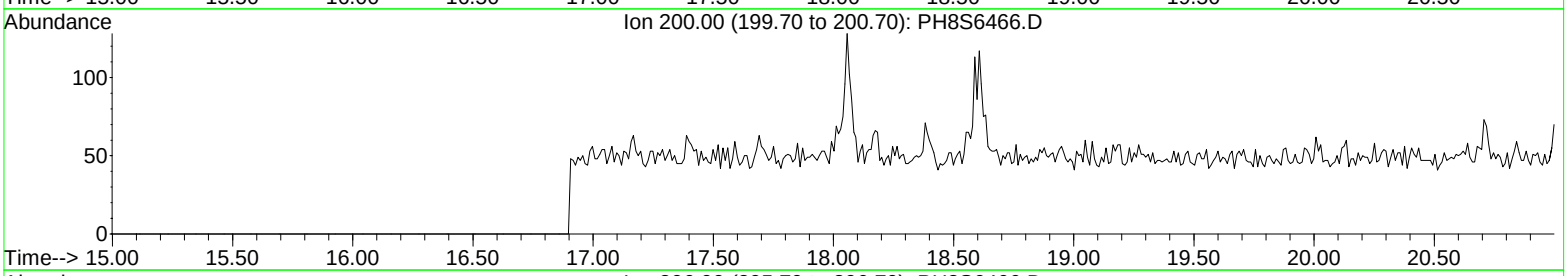


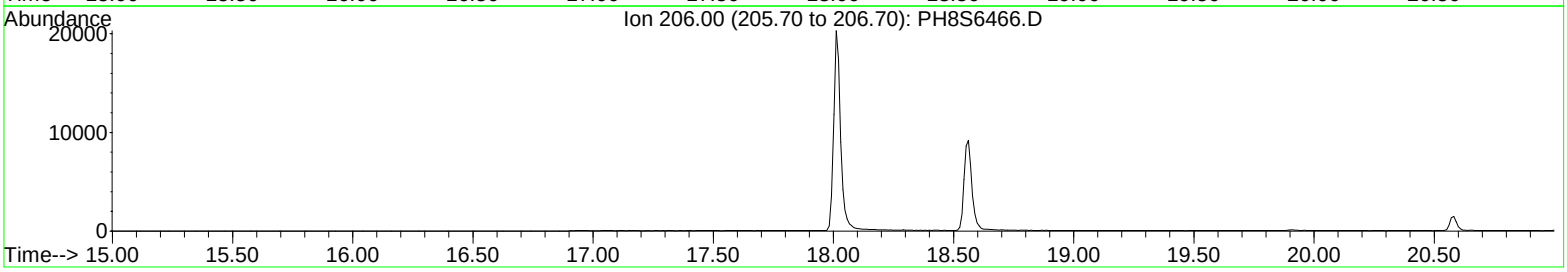
Axys Analytical CHRO Report

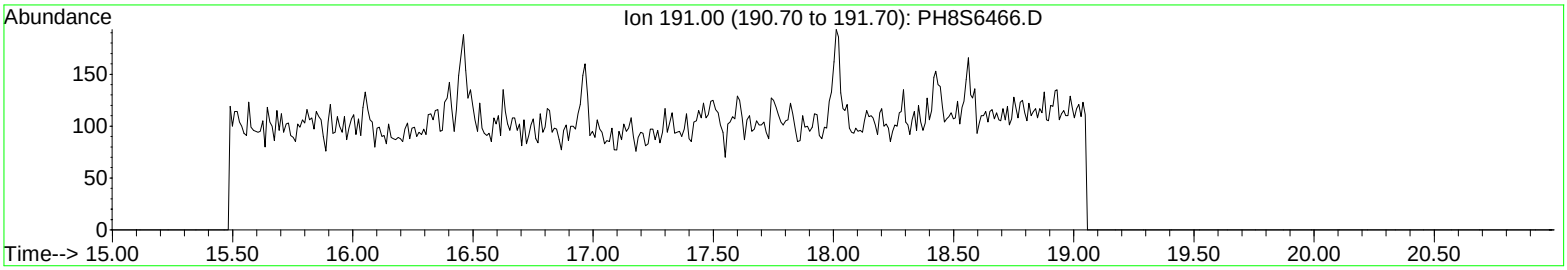
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL







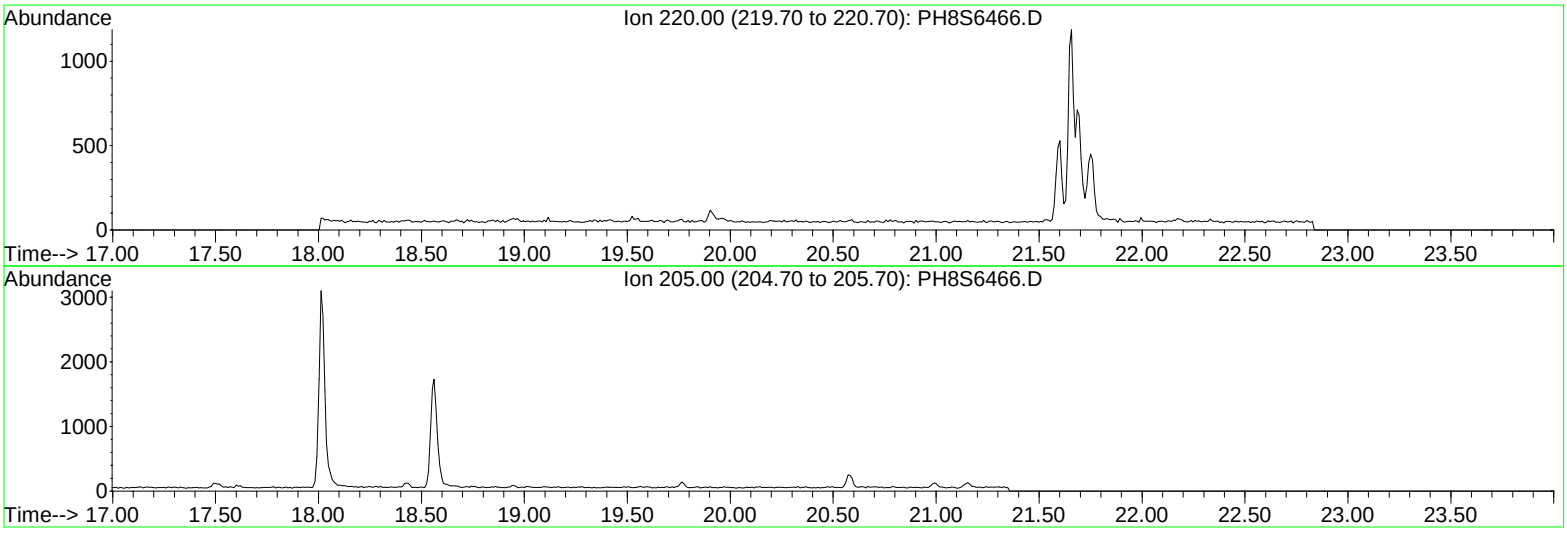


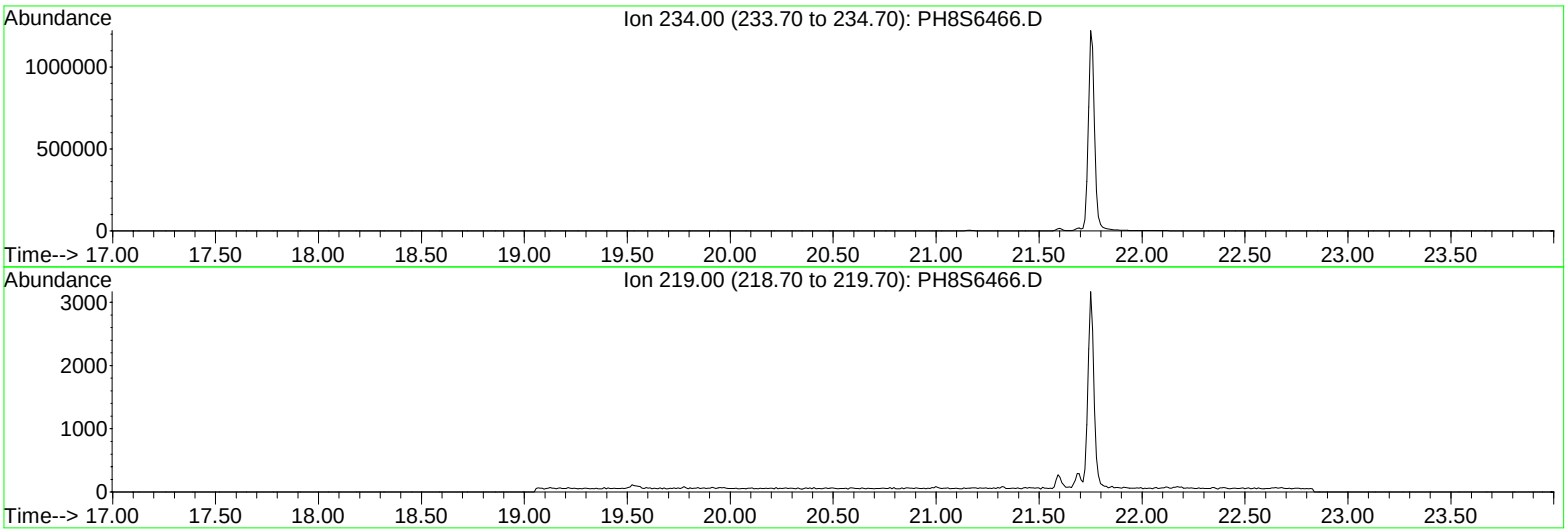


Thu Jan 10 08:40:59 2019

Axys Analytical CHRO Report

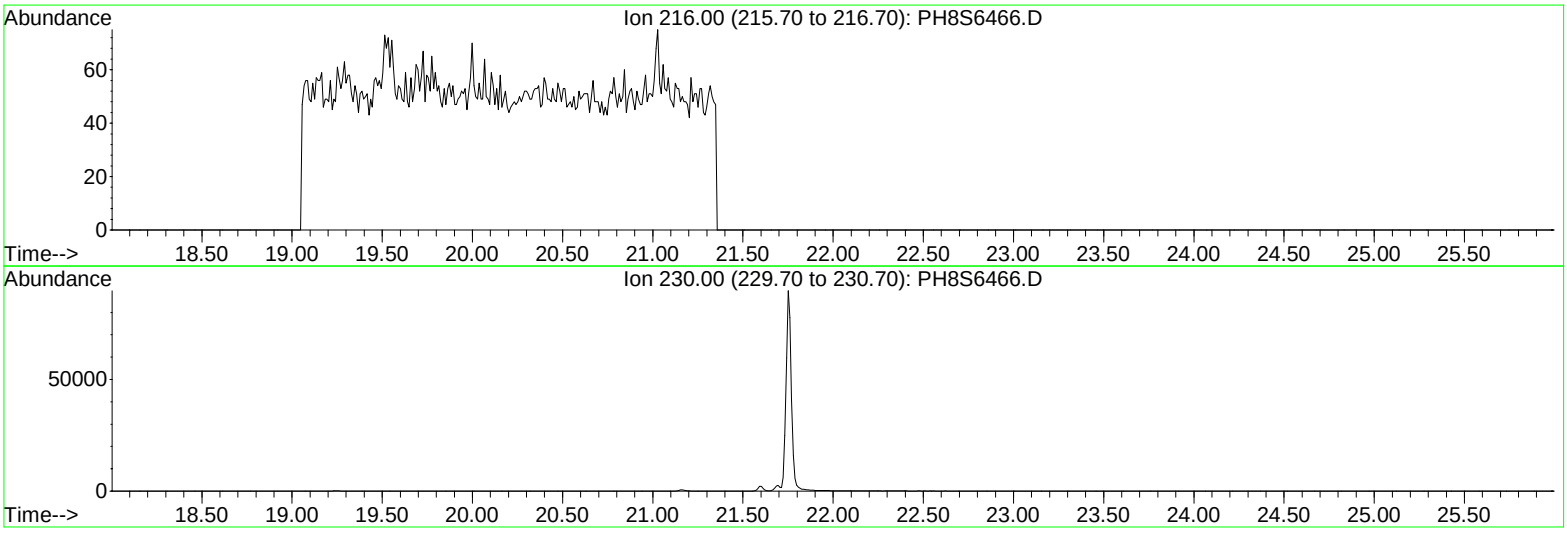
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

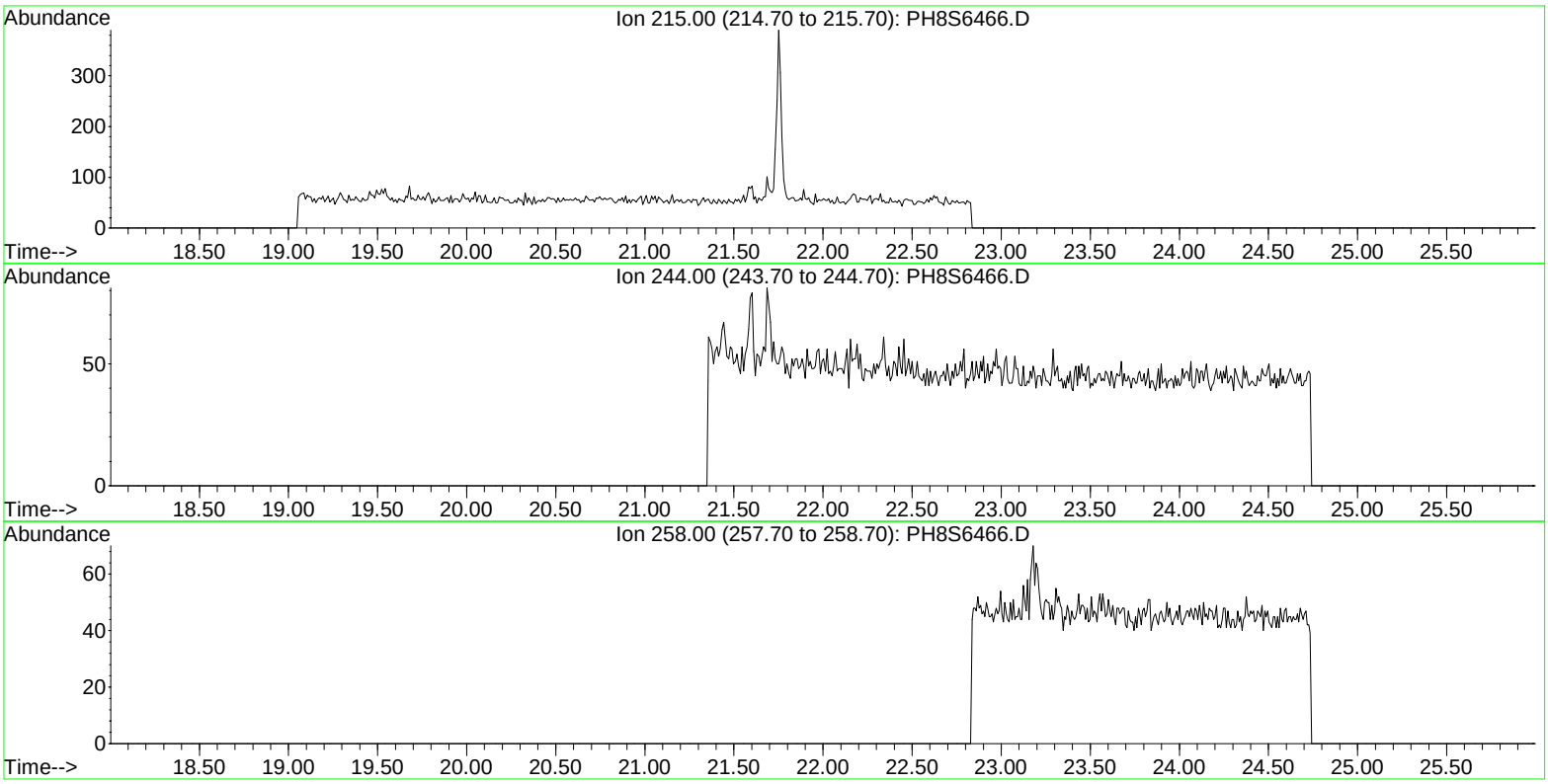


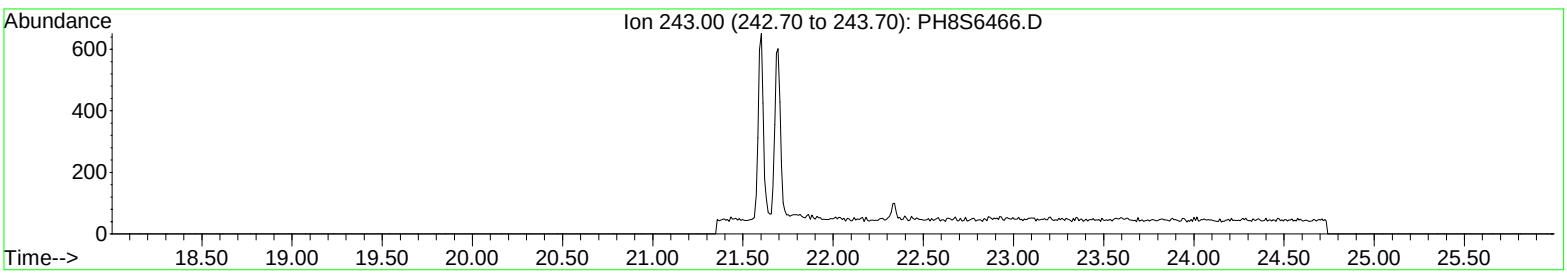


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL



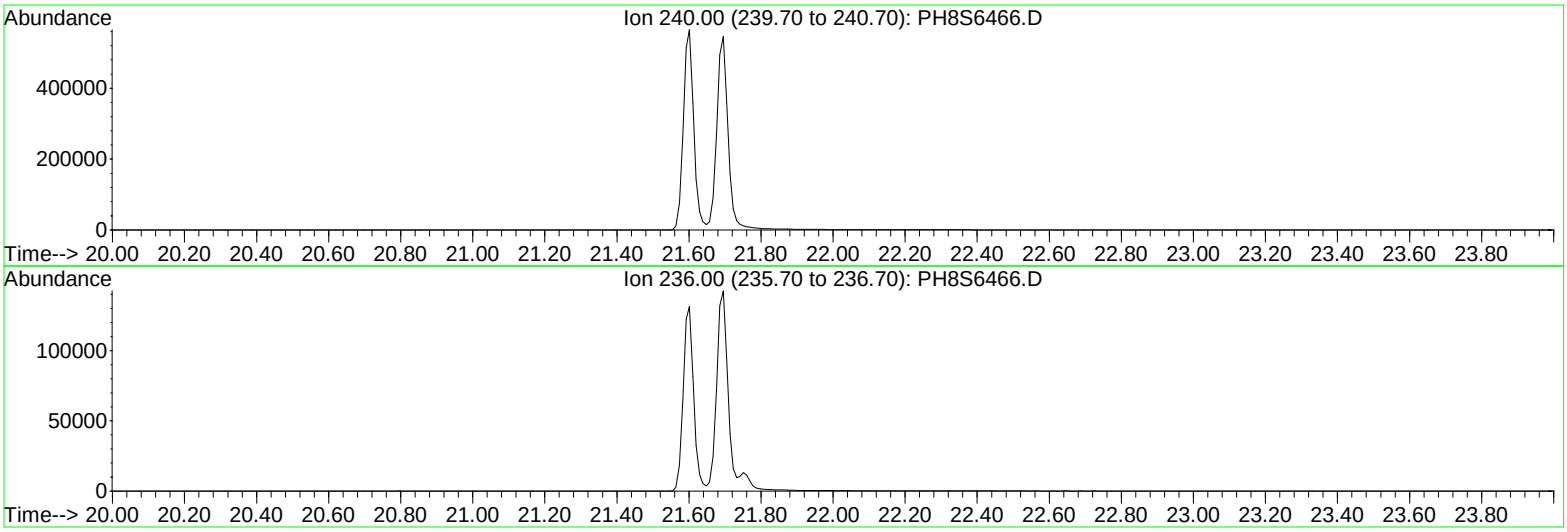


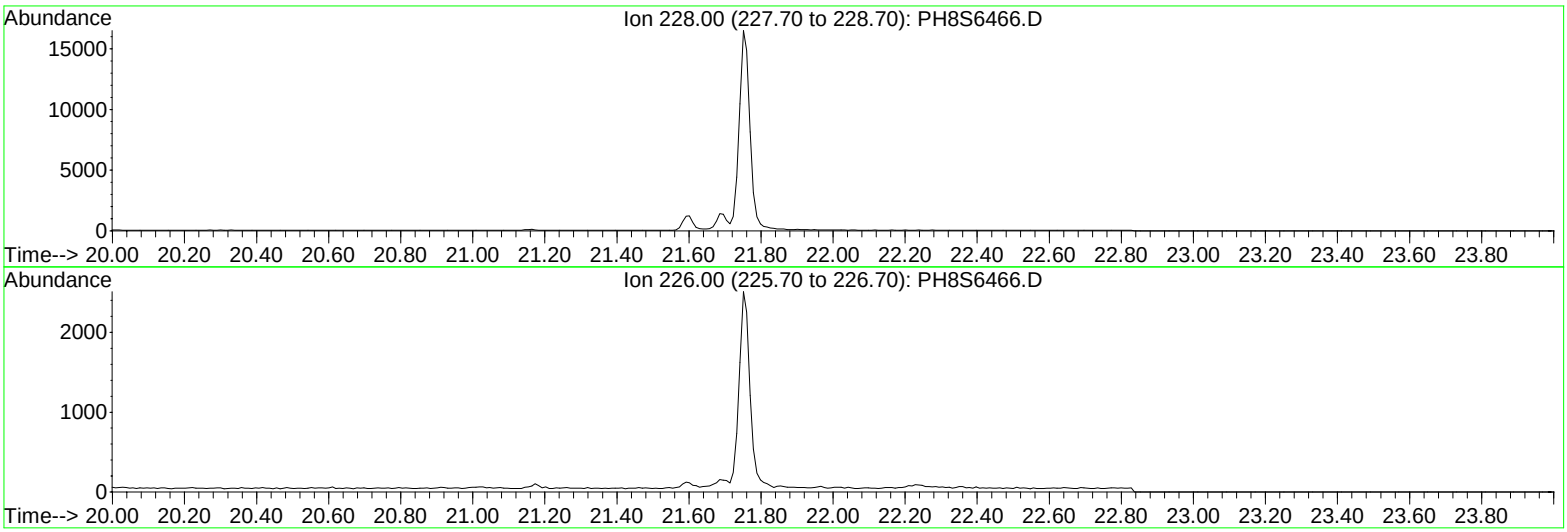


Thu Jan 10 08:41:02 2019

Axys Analytical CHRO Report

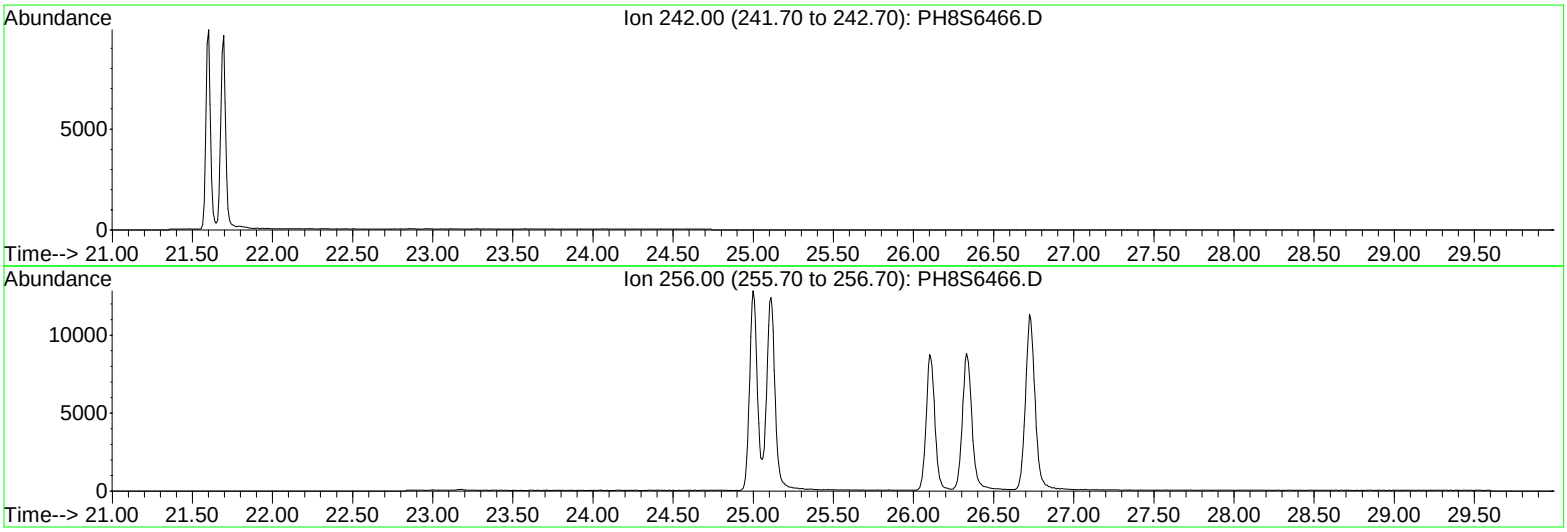
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

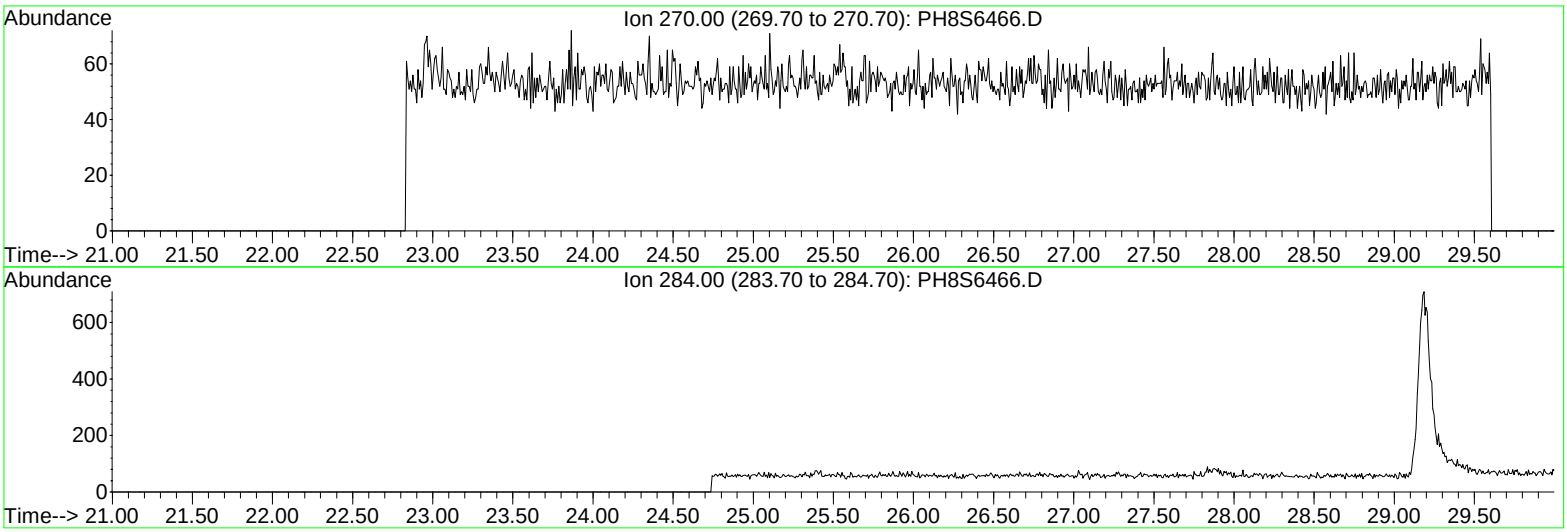




Axys Analytical CHRO Report

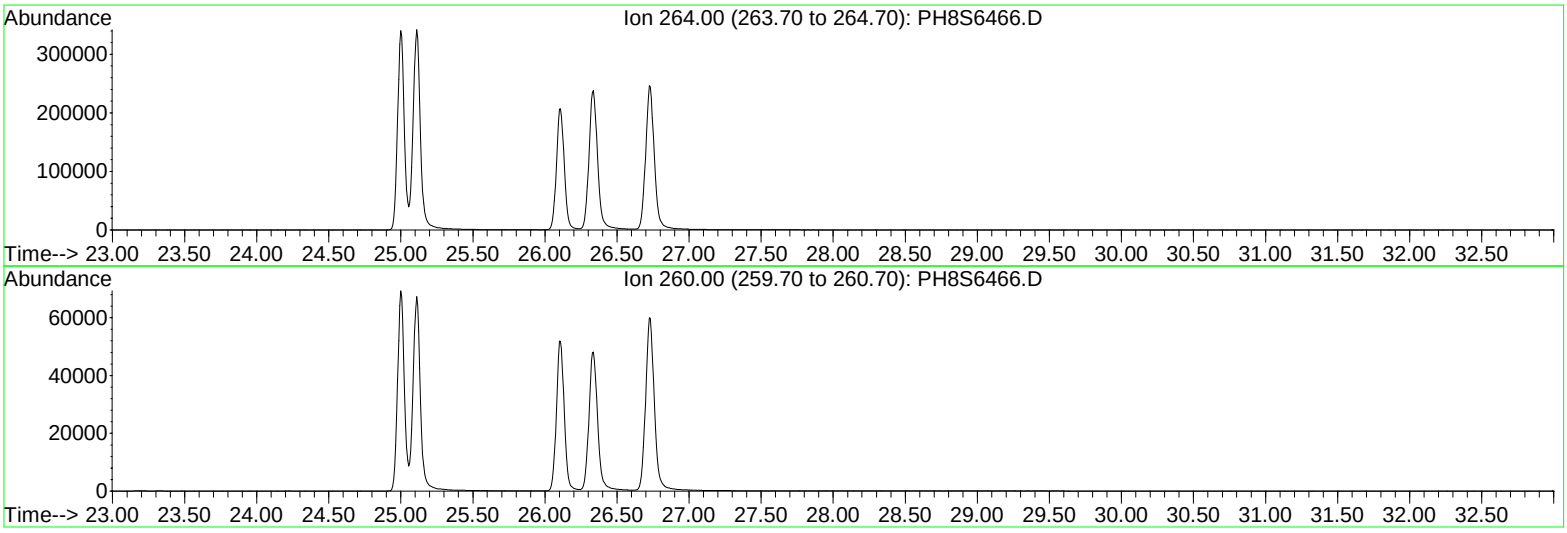
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

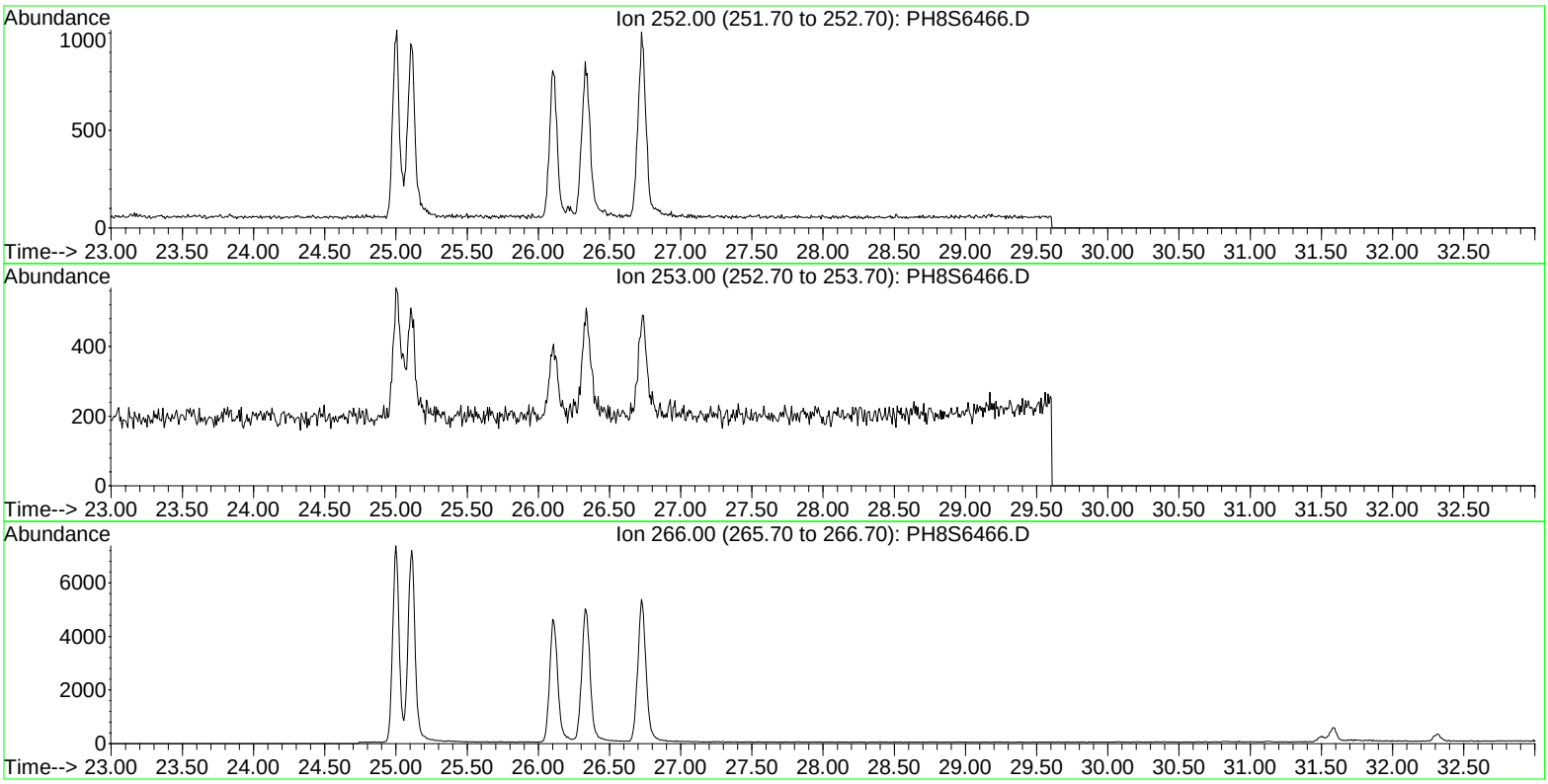


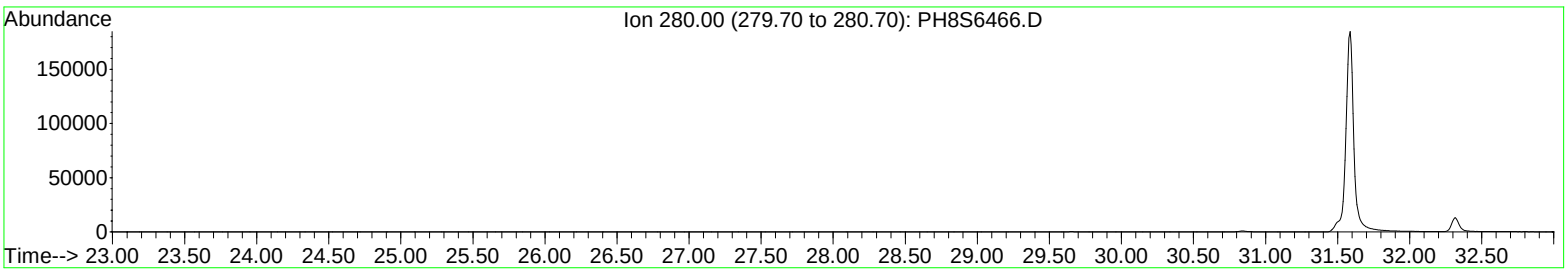


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

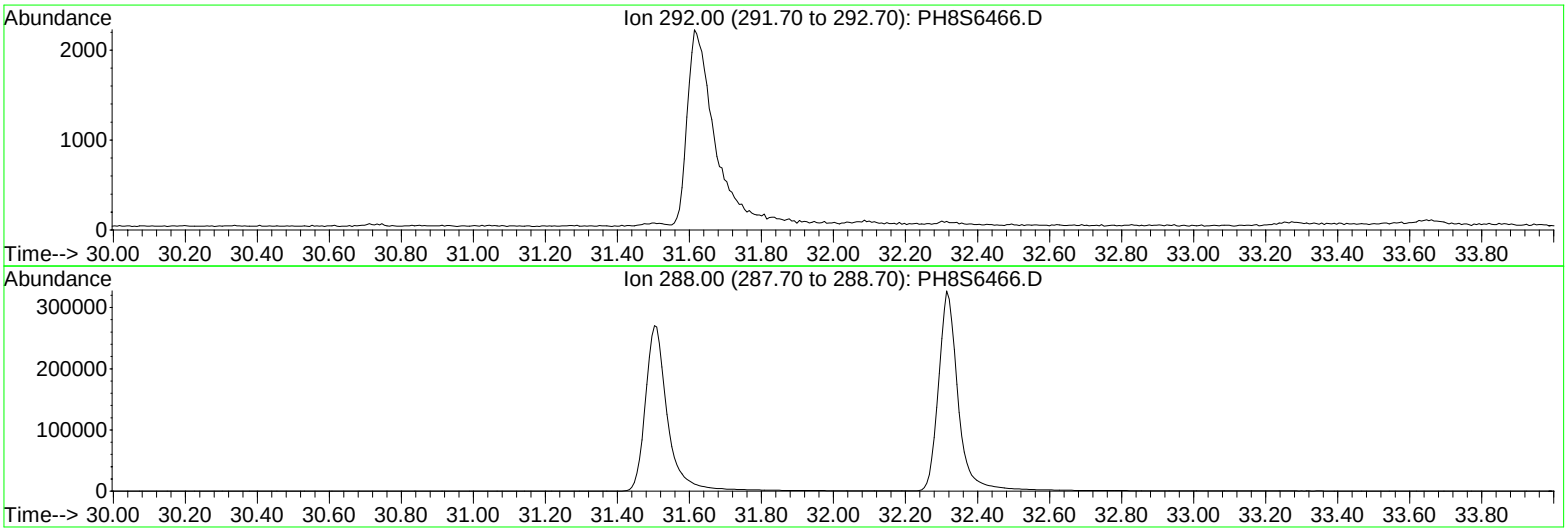


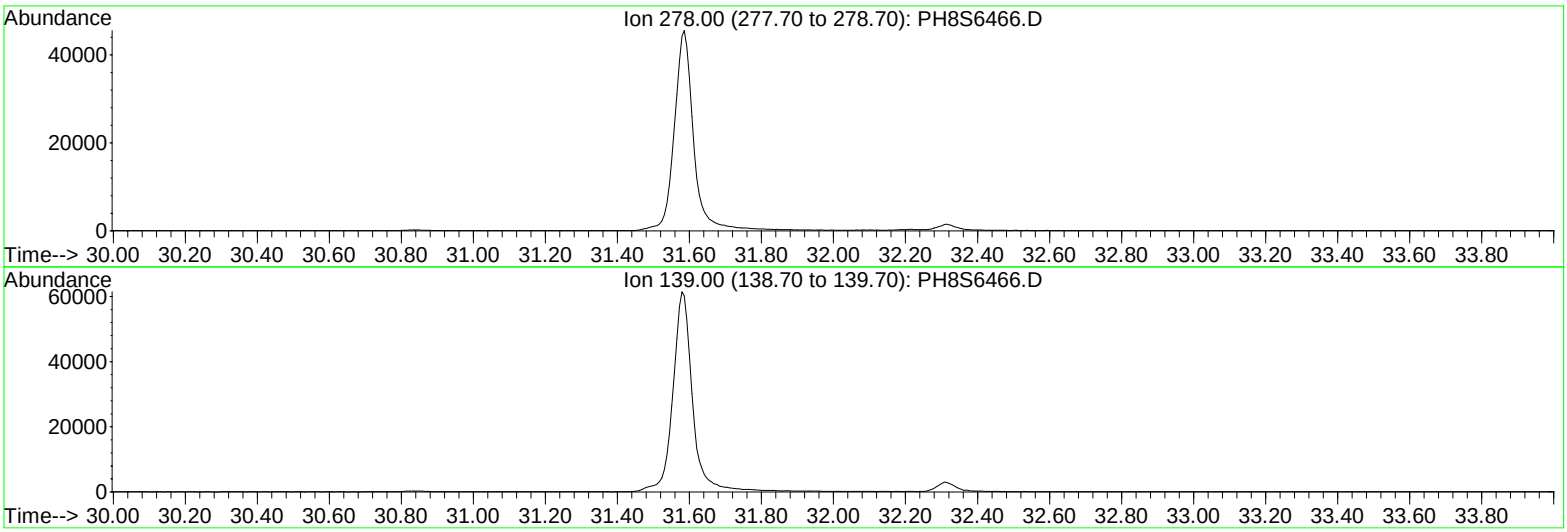




Axys Analytical CHRO Report

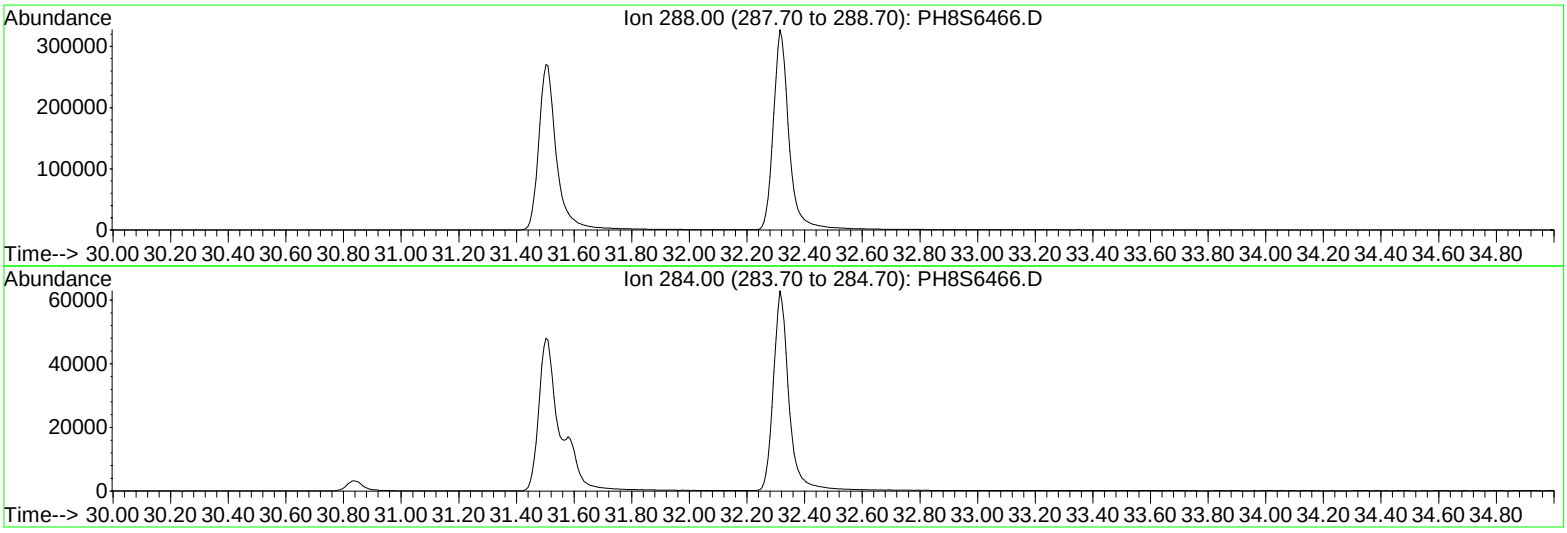
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

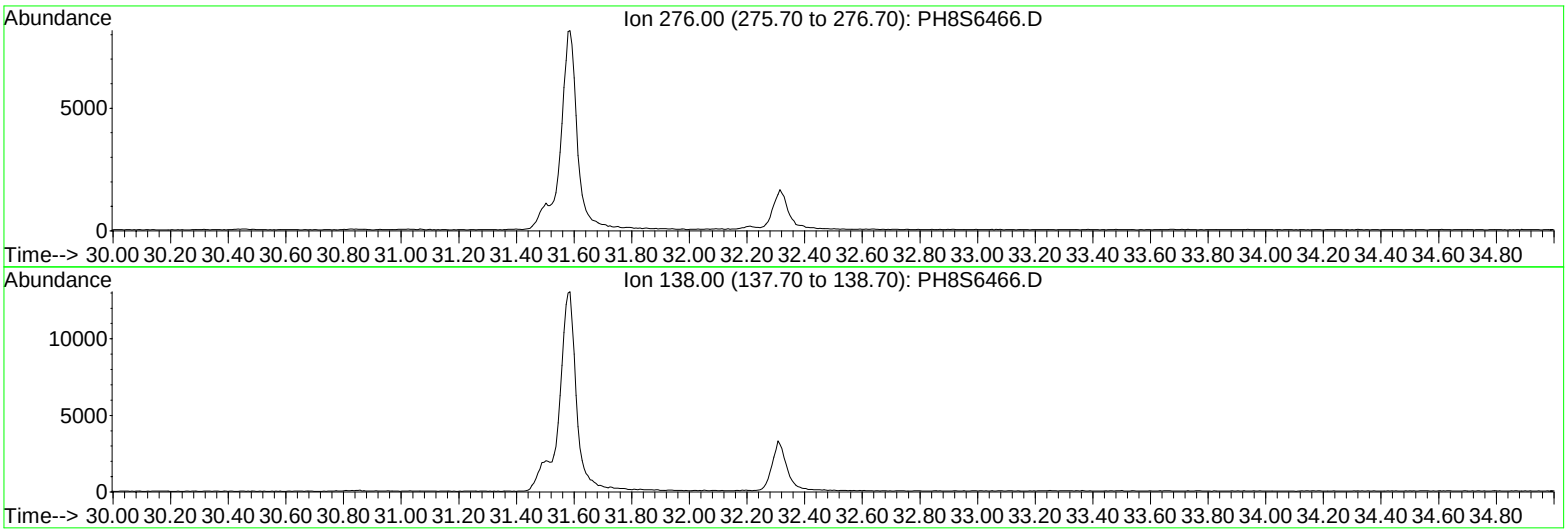




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6466.D
28/12/2018 17:41
L30196-4
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6466.D\618S6466.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 11
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.102	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	921804	18.56	1927.593 I	0	1927.593	6291		0.17	1
d10-Phenanthrene - SURR	602739	15	1387.1518 S	38.4253	29.2101	12972		0.15	0.808
d12-Benz(a)anthracene - SURR	1131819	21.6	3883.9305 S	95.6633	83.0017	24720		0.23	1.164
d12-Chrysene - SURR	1186981	21.69	3802.6378 S	97.0061	37.8801	12084		0.24	1.169
d12-Benzo(e)pyrene - REC	780406	26.11	1976.5166 I	0	1976.5166	1133		0.25	1
d12-Indeno(123cd)pyrene - SURR	1135481	31.5	4072.3135 S	102.3194	0.7157	204		0.17	1.207
d10-Phenanthrene	602739	15	3532.2896 I	0	3532.2896	11513		0.15	1
13C6-Phenanthrene	1980720	15.05	10256.7666 T	0	33.1135	6395		0.2	1.003
d12-Benz(a)anthracene	1131819	21.6	3972.6027 I	0	3972.6027	22091		0.23	1
d10-Fluoranthene	1964539	18.01	5064.2292 T	0	0.1548	60		0.17	0.834
d12-Chrysene	1186981	21.69	3835.6164 I	0	3835.6164	11701		0.24	1
13C6-Chrysene	2550283	21.75	7348.6873 T	0	0.3375	117		0.31	1.003
d12-Indeno(123cd)pyrene	1135481	31.5	3894.3249 I	0	3894.3249	227		0.17	1
13C6-Indeno(123cd)pyrene $	3124844	31.59	8571.4457 T	0	3.9518	1441		0.2	1.003

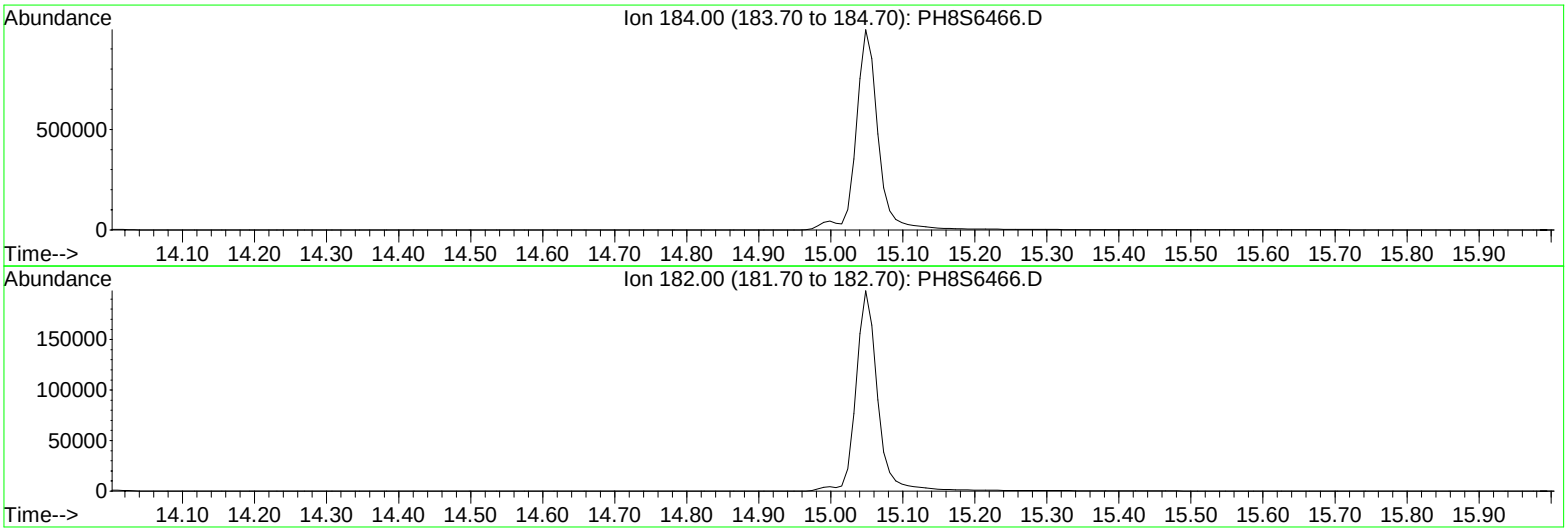
618S6466

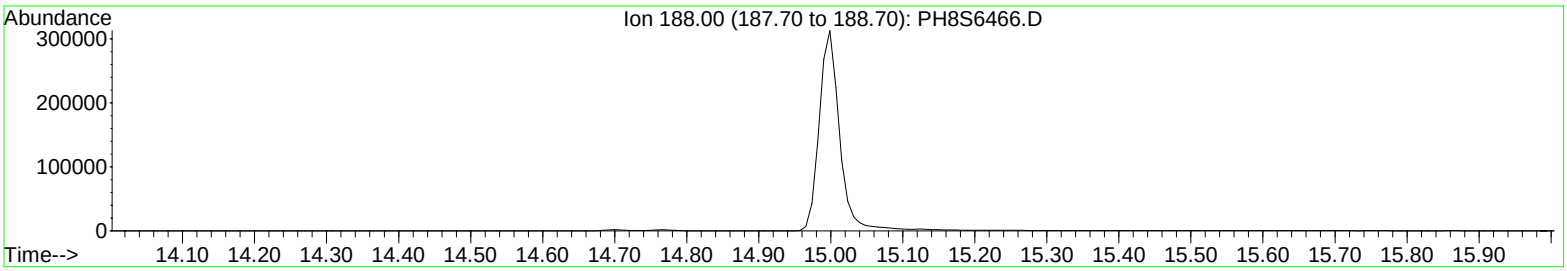
Checked by MV 08-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

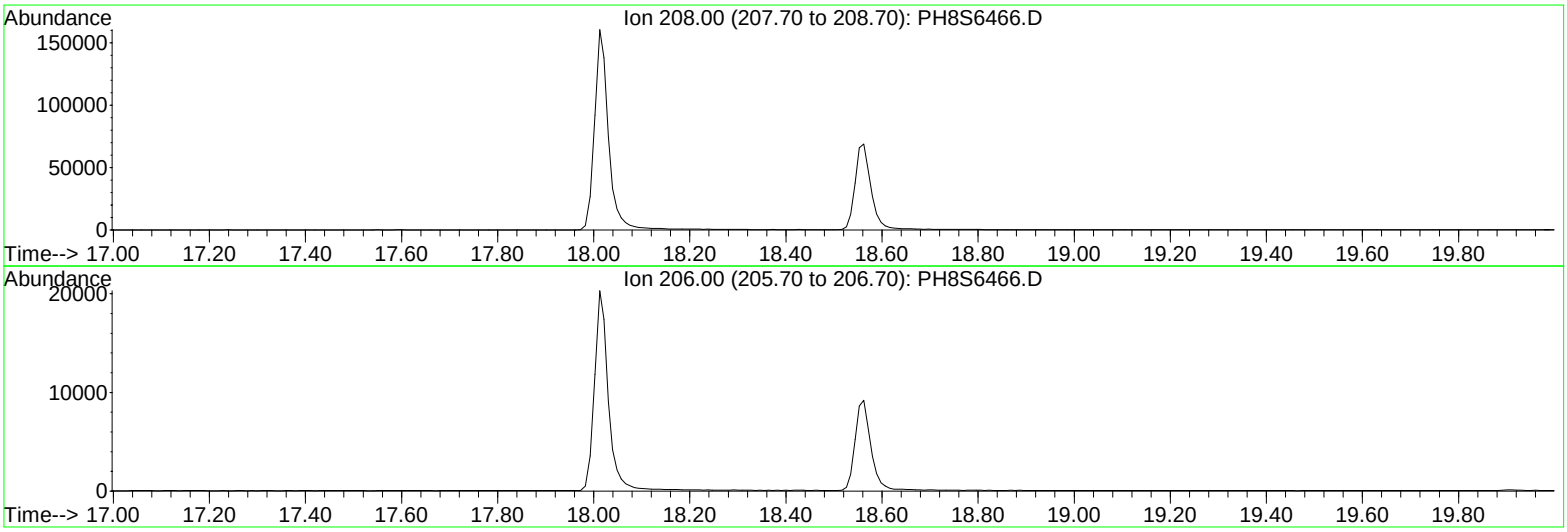
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

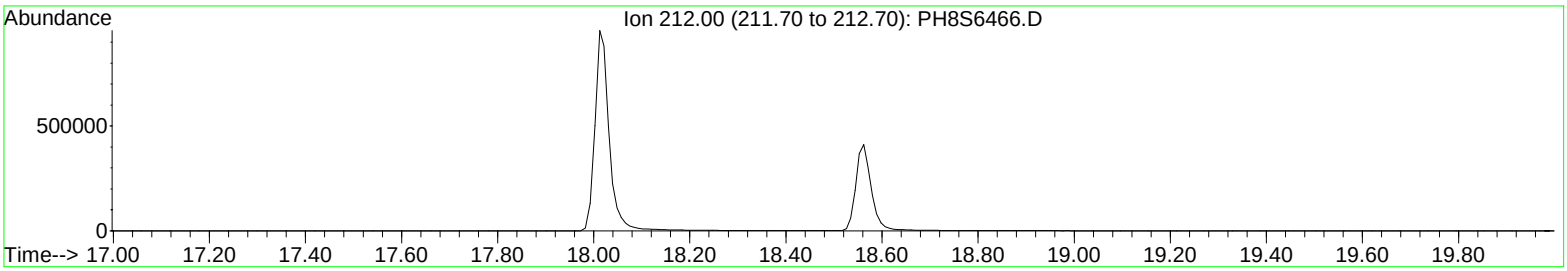




Axys Analytical CHRO Report

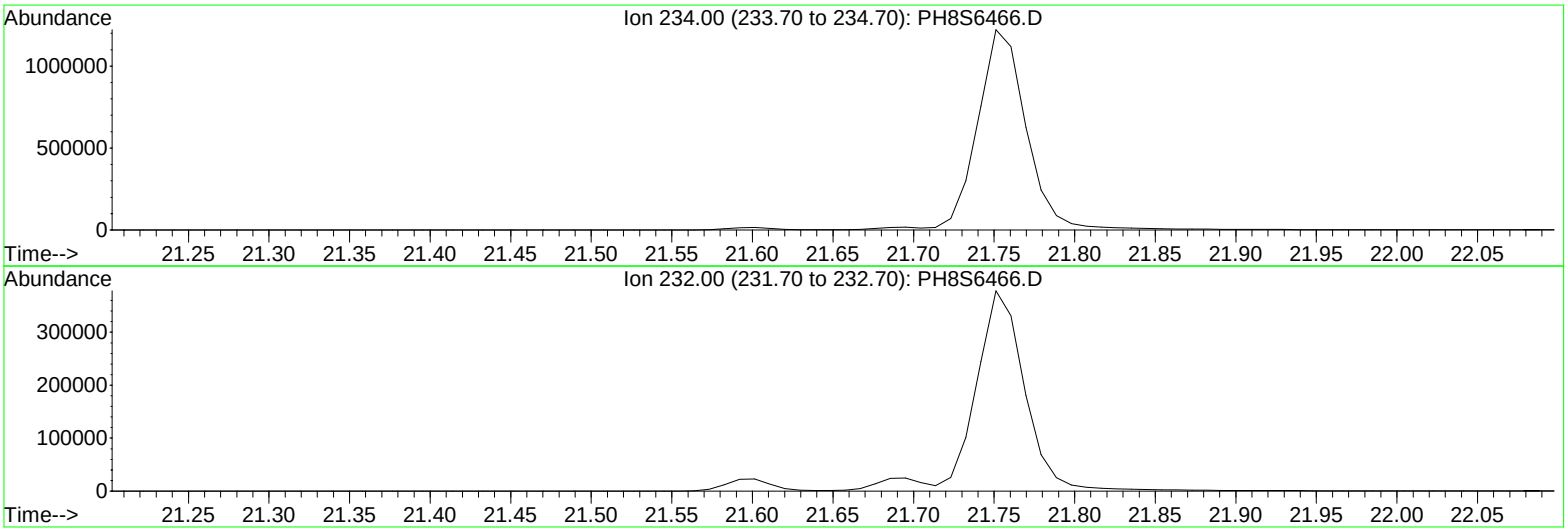
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

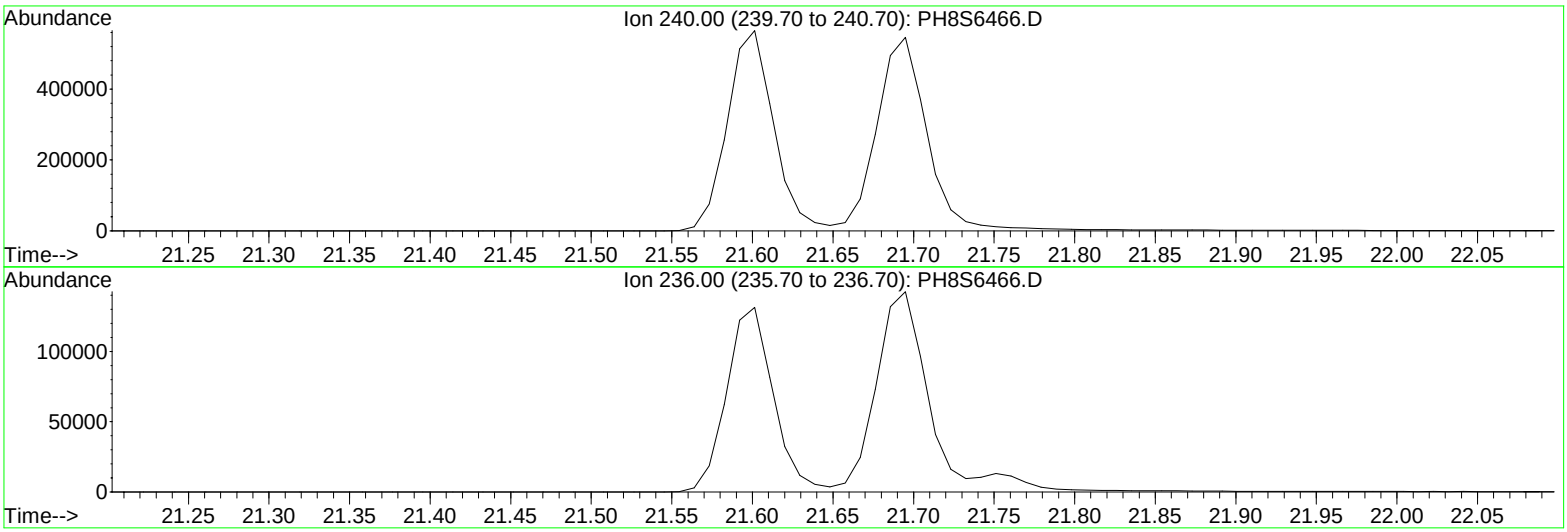




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL

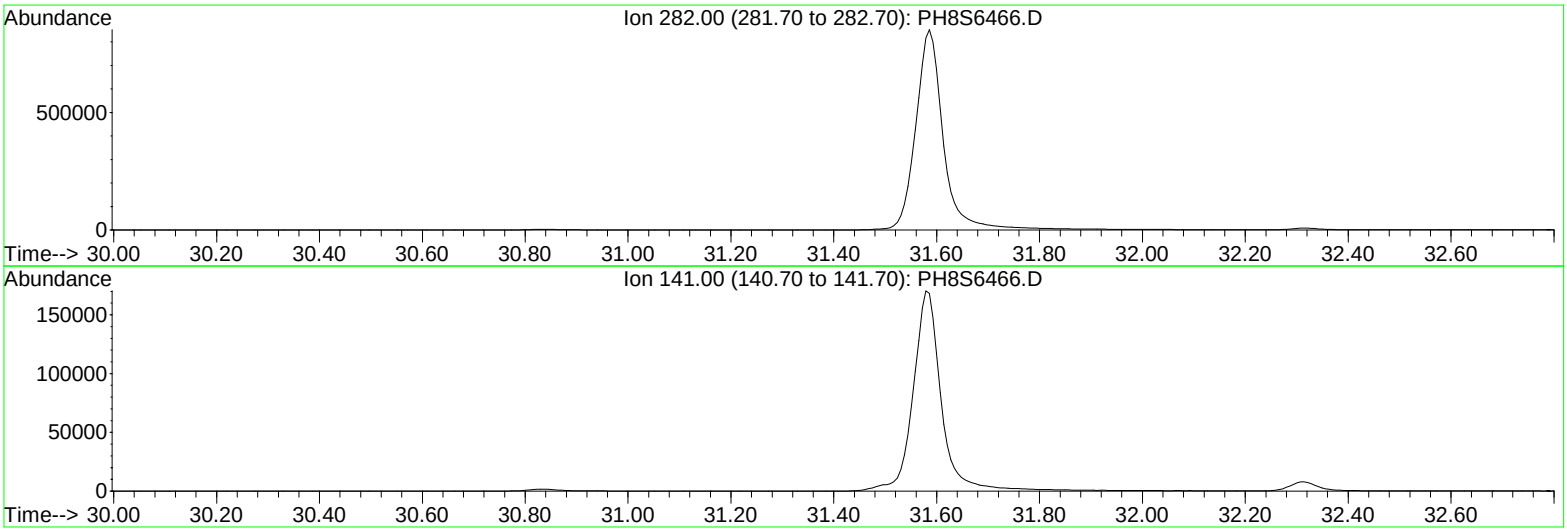


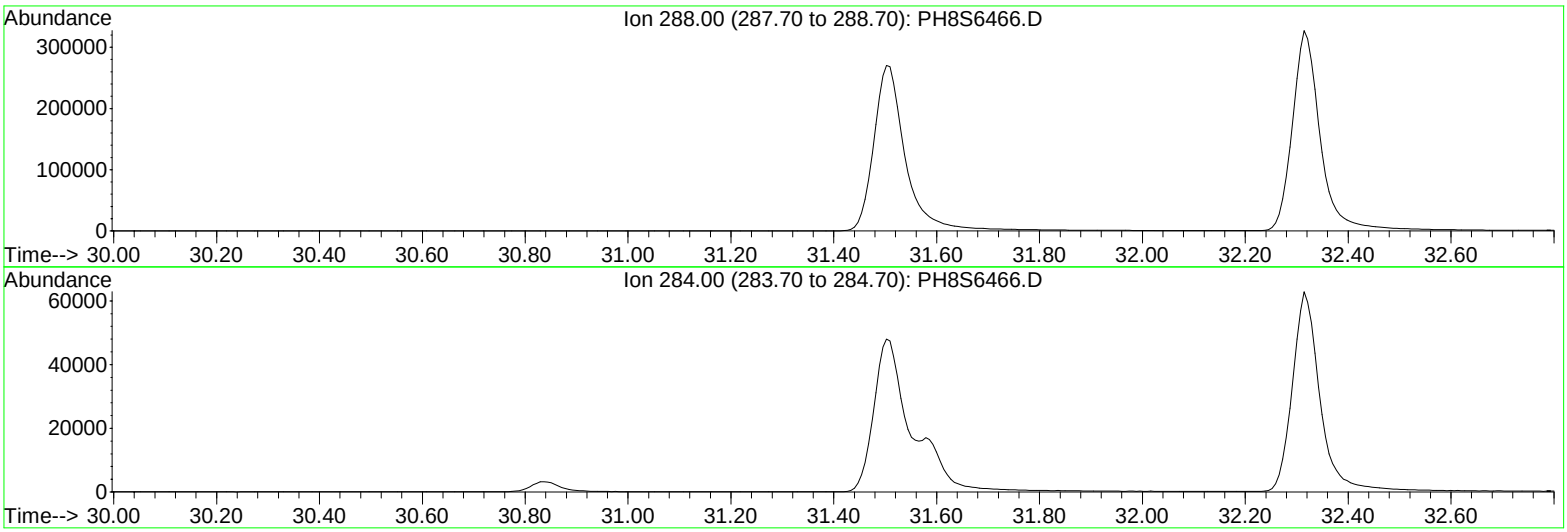


Thu Jan 10 08:56:19 2019

Axys Analytical CHRO Report

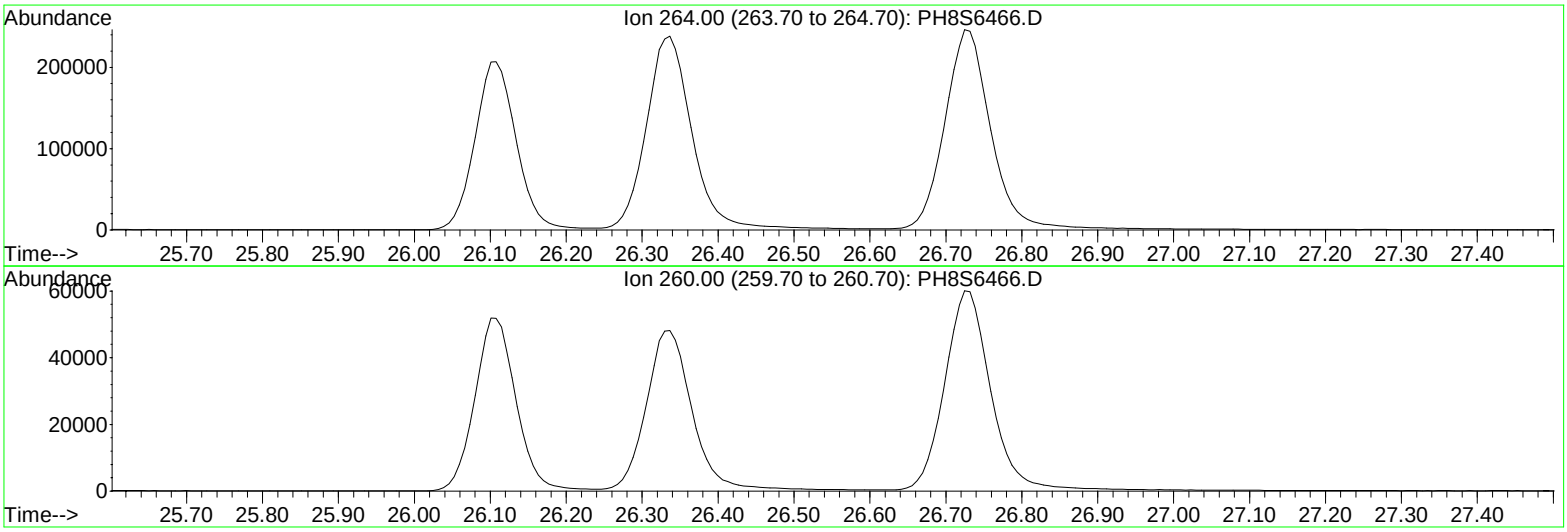
File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6466.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 17:41
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30196-4,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6467.D
28/12/2018 18:30
L30540-1
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6467.D\PH8S6467.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 12
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:44 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.096	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	407804	11.29	4208.3333 I	0	4208.3333	434		0.45	1
d8-Naphthalene - SURR	297748	6.87	493.2676 S	24.6634	0.8766	127		0.09	0.608
d10-2-Methylnaphthalene - SURR	244092	8.53	603.2507 S	30.6219	1.1442	111		0.19	0.756
d10-Biphenyl - SURR	381549	9.8	672.1299 S	32.867	0.5437	74		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	254413	10.11	688.097 S	33.484	3.6969	328		0.74	0.896
d8-Acenaphthylene - SURR	474719	10.85	664.085 S	32.2371	2.5906	444		0.15	0.961
d10-Pyrene - REC	765912	18.56	4104.1667 I	0	4104.1667	5998		0.17	1
d10-Phenanthrene - SURR	572011	15	805.6298 S	44.6332	46.0765	7852		0.13	0.808
d8-Dibenzothiophene - SURR	427299	14.7	676.7186 S	33.254	0.776	118		0.09	0.792
d12-Benz(a)anthracene - SURR	936080	21.6	1401.9221 S	69.0602	192.7025	30881		0.23	1.164
d12-Chrysene - SURR	986785	21.69	1414.6342 S	72.1752	86.9812	14562		0.27	1.169
d12-Benzo(e)pyrene - REC	610975	26.11	4208.3333 I	0	4208.3333	1184		0.25	1
d12-Benzo(b)Fluoranthene - SURR	891619	25	1593.6246 S	80.8947	514.9688	69149		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	985601	25.11	1594.9354 S	79.7468	158.7469	23544		0.19	0.962
d12-Benzo(a)pyrene - SURR	809974	26.34	1530.1207 S	73.9189	14282.0625	1814460		0.2	1.009
d12-Perylene - SURR	851455	26.72	1613.2221 S	75.0336	254.5313	32242		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	889488	31.5	1659.0884 S	83.3713	1.2502	161		0.17	1.207
d12-Benzo(ghi)perylene - SURR	977871	32.31	1533.551 S	77.4521	15.3919	2356		0.19	1.238
d8-Naphthalene	297748	6.87	4166.6667 I	0	4166.6667	123		0.09	1
Naphthalene $	1554	6.91	18.1697 T	0	1.9828	170		0.06	1.006
d10-2-Methylnaphthalene	244092	8.53	4104.1667 I	0	4104.1667	110		0.19	1
2-Methylnaphthalene $	608	8.6	8.4489 T	0	2.4701	178		0.99	1.009
1-Methylnaphthalene	309	8.87	4.5479 T	0	2.6162	178	#	1.16	1.04
C1-Naphthalenes	636	8.6	0 T	0	0	288		-1	1.009
d10-Biphenyl	381549	9.8	4260.4167 I	0	4260.4167	75		-1	1
Biphenyl $	983	9.85	9.8806 T	0	3.7559	374		0.33	1.005
C1-Biphenyls $	651	11.33	6.5435 T	0	1.6097	160		0.19	1.157
C2-Biphenyls $	1384	12.71	13.9113 T	0	4.7754	475		0.28	1.296
d12-2,6-Dimethylnaphthalene	254413	10.11	4281.25 I	0	4281.25	324		0.74	1
2,6-Dimethylnaphthalene $	188	10.22	2.6158 T	0	2.3967	172		0.57	1.011
Ethyl/DiMe-Naphthalenes	236	10.22	3.6295 T	0	2.6491	172		0.67	1.011
1,2-Dimethylnaphthalene	47820	10.85	822.1726 T	0	2.9616	172	#	0	1.073
C2-Naphthalenes	236	10.22	0 T	0	0	668		-1	1.011
2,3,6-Trimethylnaphthalene	38	12.2	0.5231 T	0	1.5088	110	#	1.68	1.206
2,3,5-Trimethylnaphthalene $	185	12.36	2.6836 T	0	1.5901	110	#	0.69	1.223
C3-Naphthalenes	76	12.36	1.0735 T	0	1.5484	110		1.25	1.223
1,4,6,7-Tetramethylnaphthalene $	3722	14.01	51.2112 T	0	2.8728	209	#	0	1.386
C4-Naphthalenes	3722	14.01	51.2112 T	0	2.8728	209		0	1.386
d8-Acenaphthylene	474719	10.85	4291.6667 I	0	4291.6667	427		0.15	1
Acenaphthylene $	92	10.87	0.6845 T	0	0.7937	107	#	0.26	1.002
Acenaphthene $	67	11.45	0.902 T	0	1.8464	137	#	2.67	1.055
C1-Acenaphthenes $	1026	11.79	13.8122 T	0	6.2915	467		0.11	1.087
d8-Dibenzothiophene	427299	14.7	4239.5833 I	0	4239.5833	107		0.09	1
Dibenzothiophene $	122	14.75	1.0126 T	0	1.0431	126	#	0.23	1.003
C1-Dibenzothiophenes-1	163	15.9	1.9717 T	0	4.5608	377	#	0.96	1.082
2/3-Methyldibenzothiophenes $	13	16.04	0.1573 T	0	4.5608	377	#	4.69	1.091
C1-Dibenzothiophenes-2	182	16.33	2.2016 T	0	4.5608	377		0.8	1.111
C1-Dibenzothiophenes	13	16.04	0 T	0	0	377		-1	1.091
4,6-Dimethyldibenzothiophene	92	16.96	1.0384 T	0	1.915	170	#	0.77	1.154

+ Report only.

PH8S6467

Checked MV 08-Jan-19

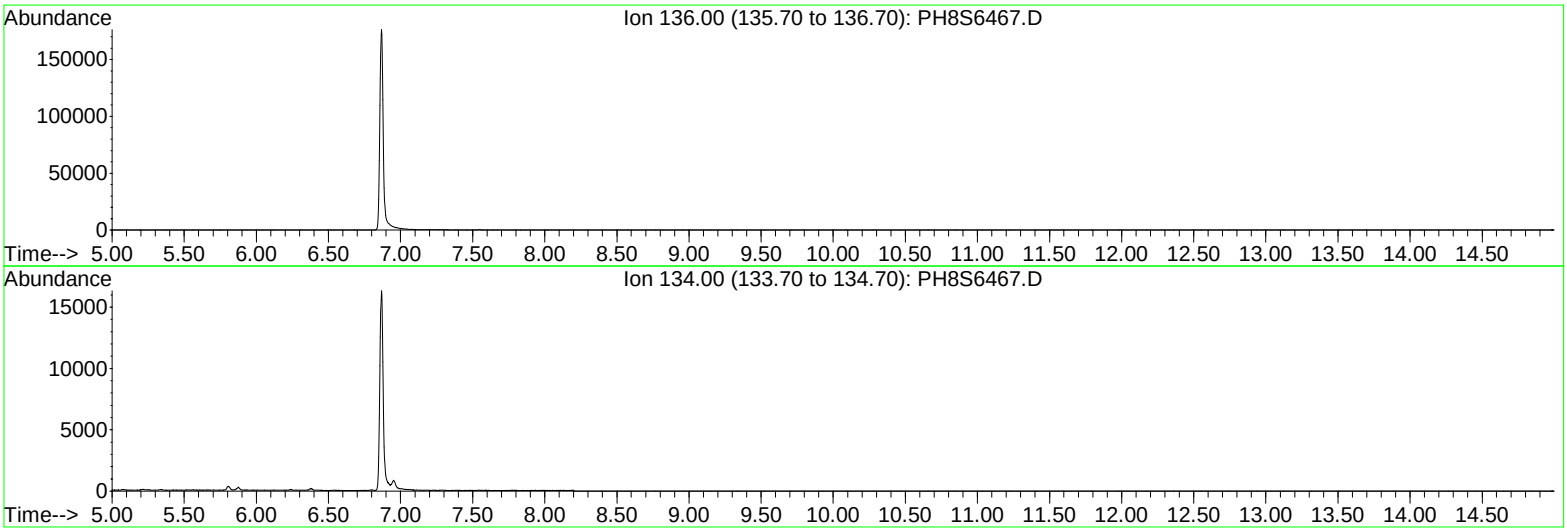
pv by vr
03-Jan-2019

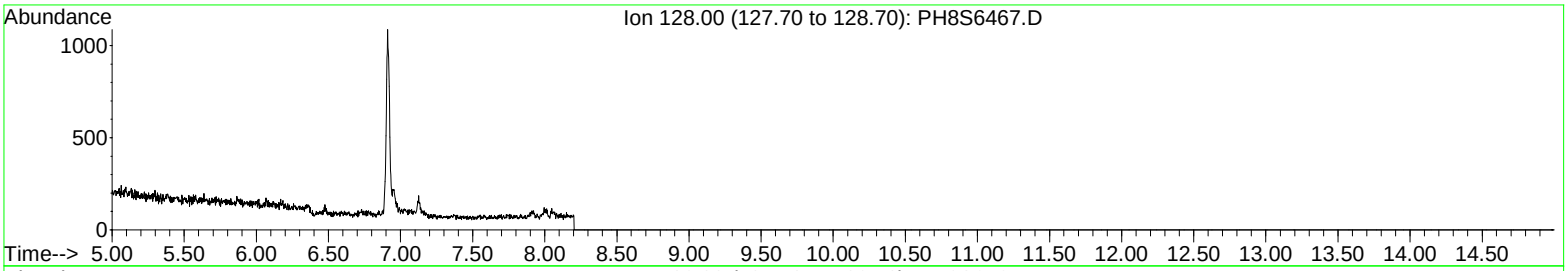
2,4-Dimethyldibenzothiophene $	134	17.11	1.9584 T	0	2.4797	170 #	1.28	1.164
C2-Dibenzothiophenes	134	17.11	1.9584 T	0	2.4797	170	1.28	1.164
C3-Dibenzothiophenes $	85	18.12	1.2423 T	0	2.6634	182 #	-1	1.233
C4-Dibenzothiophenes $	36	18.83	0.5261 T	0	1.8368	126 #	-1	1.281
d10-Phenanthrene	572011	15	3760.4167 I	0	3760.4167	7062	0.13	1
Fluorene $	104	12.67	0.9566 T	0	1.0302	112 #	1.63	0.844
2-Methylfluorene $	43	14.06	0.5817 T	0	1.8516	137 #	0.56	0.938
C1-Fluorenes	702	13.8	9.4958 T	0	1.8516	137	0.03	0.92
1,7-Dimethylfluorene $	92	15.46	1.3381 T	0	1.991	137 #	0.4	1.031
C2-Fluorenes	92	15.46	1.3381 T	0	1.991	137	0.4	1.031
C3-Fluorenes $	36	16.43	0.5236 T	0	4.7965	330	1.47	1.096
Phenanthrene $	3316	15.05	20.3809 T	0	0.8414	137	0.3	1.003
Anthracene	80	15.2	0.4859 T	0	0.8314	137 #	0.34	1.013
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	238	16.33	2.0735 T	0	1.4094	162	0.45	1.089
2-Methylphenanthrene	340	16.4	3.0014 T	0	1.4281	162 #	0.45	1.094
2-Methylanthracene	136	16.46	1.2369 T	0	1.4713	162 #	1.42	1.097
9/4-Methylphenanthrenes	87	16.54	0.758 T	0	1.4094	162 #	-1	1.103
1-Methylphenanthrene $	118	16.67	0.9743 T	0	1.3357	162 #	0.42	1.112
C1-Phenanthrenes/Anthracenes	239	16.67	0 T	0	0	691	-1	1.112
Fluoranthene $	1385	18.06	6.9298 T	0	0.934	187	0.18	1.204
Pyrene	1072	18.61	5.1877 T	0	0.9033	187	0.19	1.241
3,6-Dimethylphenanthrene $	50	17.48	0.4524 T	0	0.6755	75 #	0.72	1.165
2,6-Dimethylphenanthrene	46	17.52	0.4154 T	0	0.6743	75 #	0.91	1.168
1,7-Dimethylphenanthrene	22775	18.01	205.3018 T	0	0.6731	75 #	0.01	1.201
Ethyl/DiMe-Phenanthrenes/Anthracenes	50	17.48	0.4515 T	0	0.6743	75	2.88	1.165
1,8-Dimethylphenanthrene	22822	18.01	206.1016 T	0	0.6743	75 #	0.01	1.201
C2-Phenanthrenes/Anthracenes	50	17.48	0 T	0	0	137	-1	1.165
1,2,6-Trimethylphenanthrene $	53	19.42	0.5208 T	0	0.8559	87	0.68	1.295
C3-Phenanthrenes/Anthracenes	53	19.42	0.5208 T	0	0.8559	87	0.68	1.295
Retene $	94	19.52	2.4173 T	0	3.0401	118 #	2.65	1.302
C4-Phenanthrenes/Anthracenes	94	19.52	2.4173 T	0	3.0401	118	2.65	1.302
C1-Fluoranthenes/Pyrenes-1	24	19.24	0.202 T	0	0.9426	112	1.25	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	79	19.54	0.6649 T	0	0.9426	112	0.96	1.303
C1-Fluoranthenes/Pyrenes-2	13	19.92	0.1094 T	0	0.9426	112	1.31	1.328
C1-Fluoranthenes/Pyrenes	47	19.48	0 T	0	0	112	-1	1.299
C2-Fluoranthenes/Pyrenes $	17	20.44	0.1431 T	0	0.8379	100	0.88	1.363
C3-Fluoranthenes/Pyrenes $	19	21.87	0.1599 T	0	0.7855	93 #	-1	1.458
C4-Fluoranthenes/Pyrenes $	15	23.29	0.1262 T	0	0.7331	87	1.07	1.553
d12-Benz(a)anthracene	936080	21.6	4229.1667 I	0	4229.1667	28258	0.23	1
d10-Fluoranthene $	1106884	18.02	4606.0016 T	0	0.6322	152	0.17	0.834
Benz(a)anthracene	90	21.66	0.3147 T	0	0.4649	133	0.27	1.003
d12-Chrysene	986785	21.69	4083.3333 I	0	4083.3333	13974	0.27	1
Chrysene $	291	21.75	0.9747 T	0	0.4673	139 #	9.23	1.003 1.34
5/6-Methylchrysenes $	46	23.12	0.2042 T	0	0.5304	119	-1	1.066
1-Methylchrysene	66	23.31	0.2828 T	0	0.512	119	-1	1.074
C1-Benz(a)anthracenes/Chrysenes	46	23.12	0.2006 T	0	0.5211	119	-1	1.066
5,9-Dimethylchrysene $	28	24.42	0.1606 T	0	0.5329	93	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	28	24.42	0.1606 T	0	0.5329	93	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	7	25.12	0.0401 T	0	0.5329	93	-1	1.158
C4-Benz(a)anthracenes/Chrysenes $	37	26.09	0.2122 T	0	0.6471	113	-1	1.202
d12-Benzo(b)fluoranthene	891619	25	4104.1667 I	0	4104.1667	59254	0.21	1
Benzo(b)fluoranthene-SURR int	2635	25	0 T	0	0	561	0.52	1
Benzo(b)fluoranthene $	2342	25.1	7.4454 T	0	0.5634	177 #	0.42	1.004
d12-Benzo(k)fluoranthene	985601	25.11	4166.6667 I	0	4166.6667	21903	0.19	1
Benzo(j/k)fluoranthenes	70	25.18	0.2345 T	0	0.6447	192 #	0.77	1.003
Benzofluoranthenes	2342	25.1	0 T	0	0	588	-1	1
d12-Benzo(a)pyrene	809974	26.34	4312.5 I	0	4312.5	1960420	0.2	1
Benzo(e)pyrene	52	26.2	0.1995 T	0	0.8574	223 #	1.69	0.995
Benzo(a)pyrene	100	26.42	0.4065 T	0	0.9083	223 #	0.45	1.003
7-Methylbenzo(a)pyrene $	25	29.16	0.1428 T	0	1.2052	211	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	25	29.16	0.1428 T	0	1.2052	211	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	5	29.91	0.0286 T	0	7.5858	1328	-1	1.136
d12-Perylene	851455	26.72	4479.1667 I	0	4479.1667	35392	0.24	1
Perylene	82	26.79	0.3128 T	0	0.8662	227 #	0.96	1.003
d12-Indeno(123cd)pyrene	889488	31.5	4145.8333 I	0	4145.8333	175	0.17	1
d14-Dibenzo(ah)anthracene $	8225	31.64	41.9056 T	0	2.16	424 #	4.48	1.004
Dibenzo(ah)anthracene $	302	31.72	1.2365 T	0	1.7868	436 #	1.21	1.007
Indeno(123cd)pyrene $	0	31.57	0 T	0	1.0924	287 #	0	1.002
d12-Benzo(ghi)perylene	977871	32.31	4125 I	0	4125	2462	0.19	1
Benzo(ghi)perylene	249	32.38	0.8796 T	0	0.9756	276 #	1.16	1.002

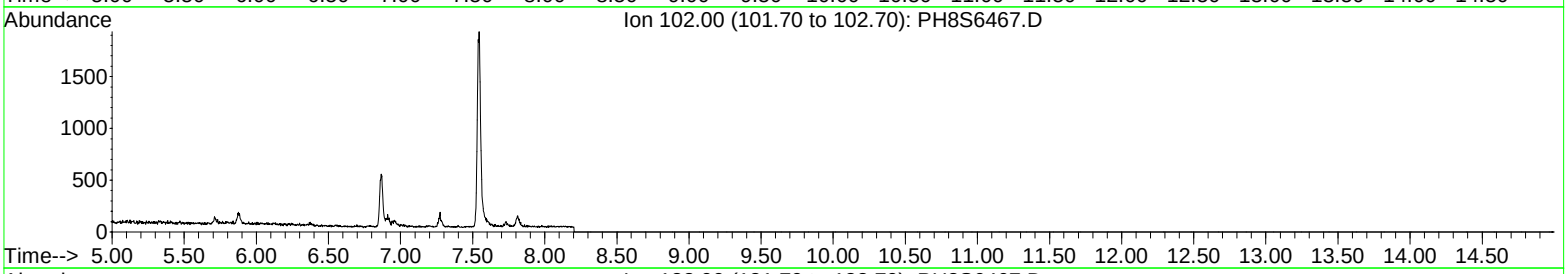
pv by vr
03-Jan-2019

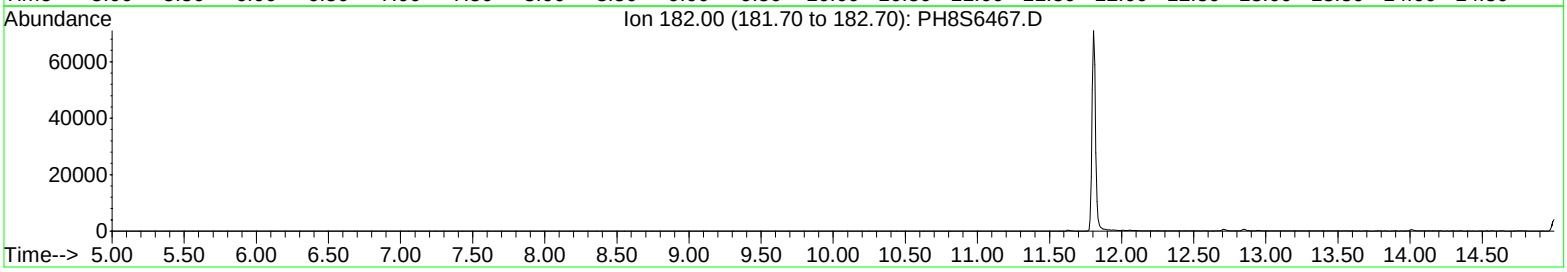
Axys Analytical CHRO Report

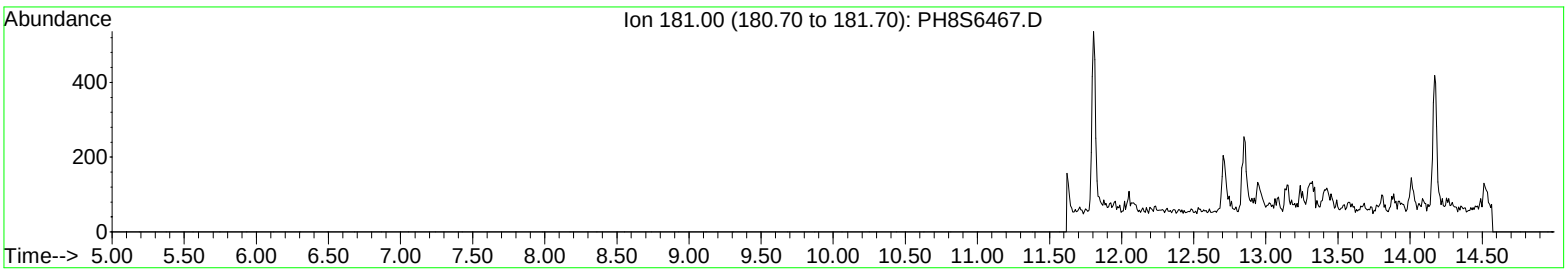
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL







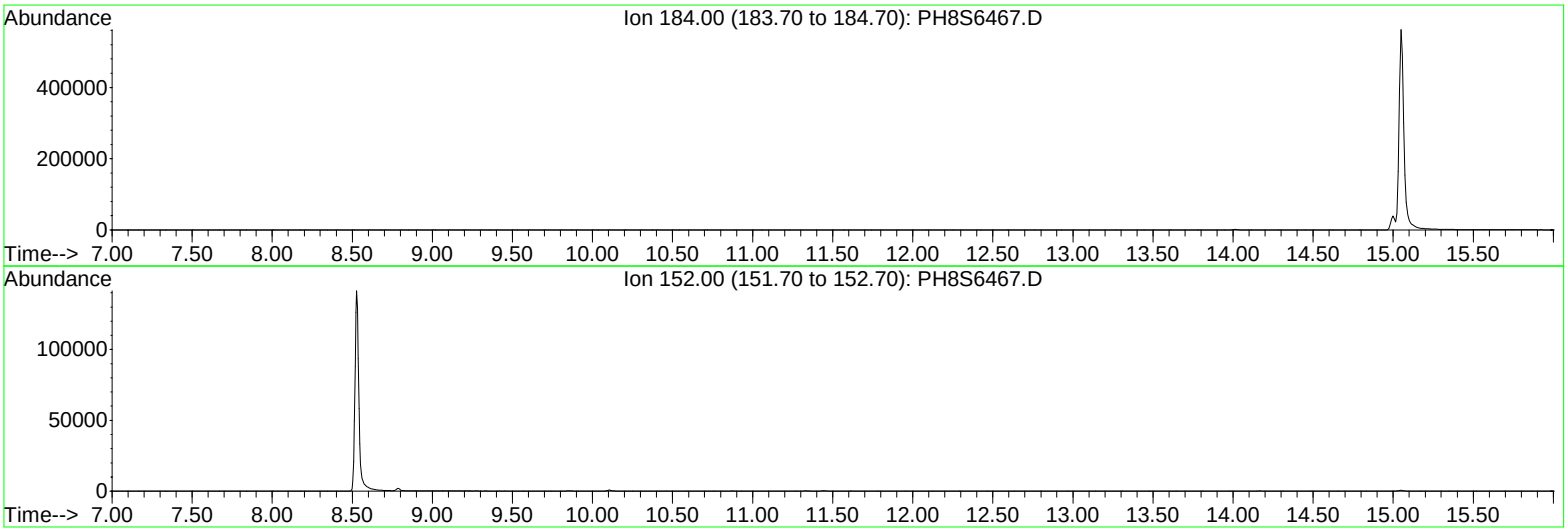


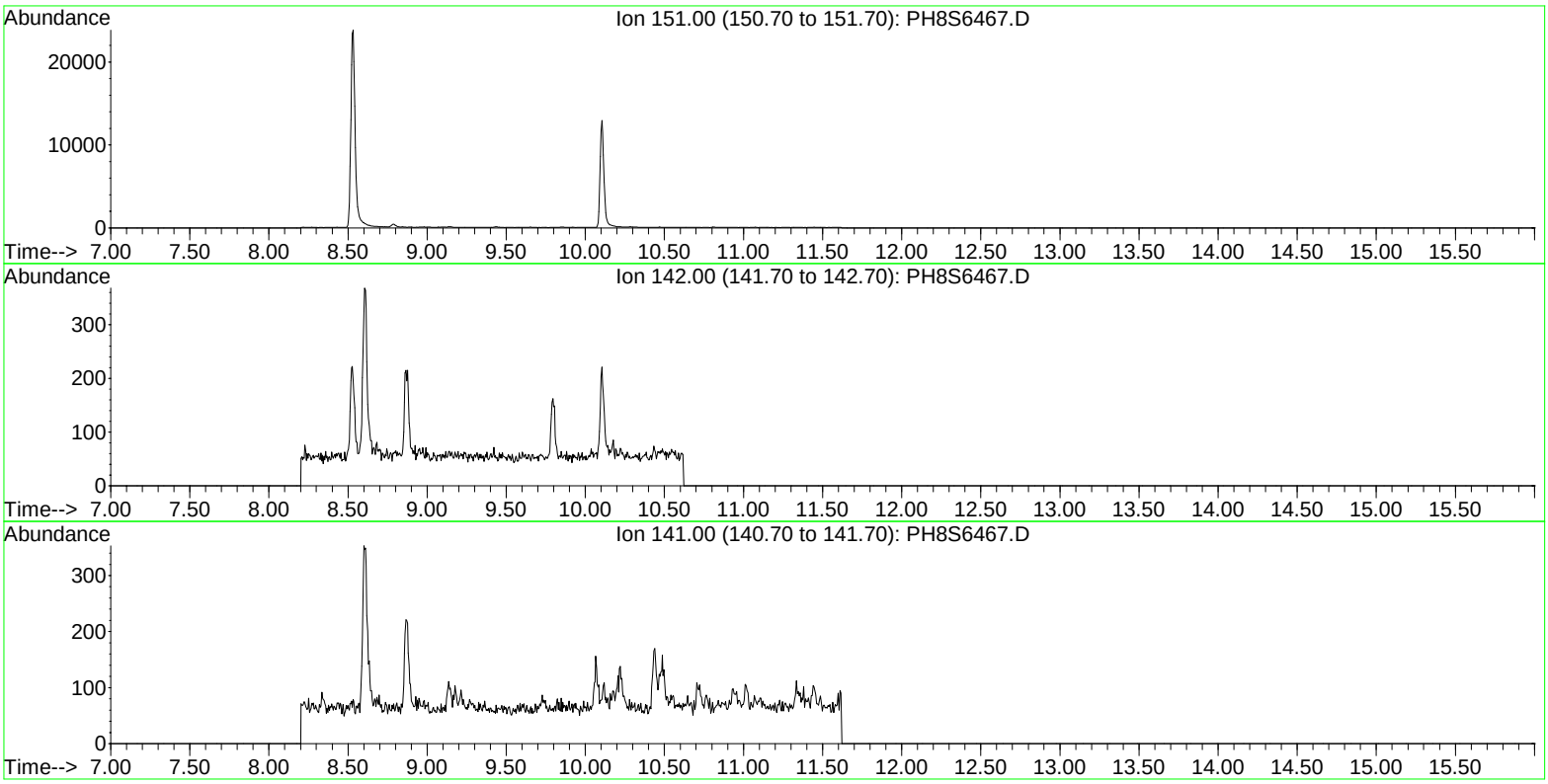


Thu Jan 10 08:41:13 2019

Axys Analytical CHRO Report

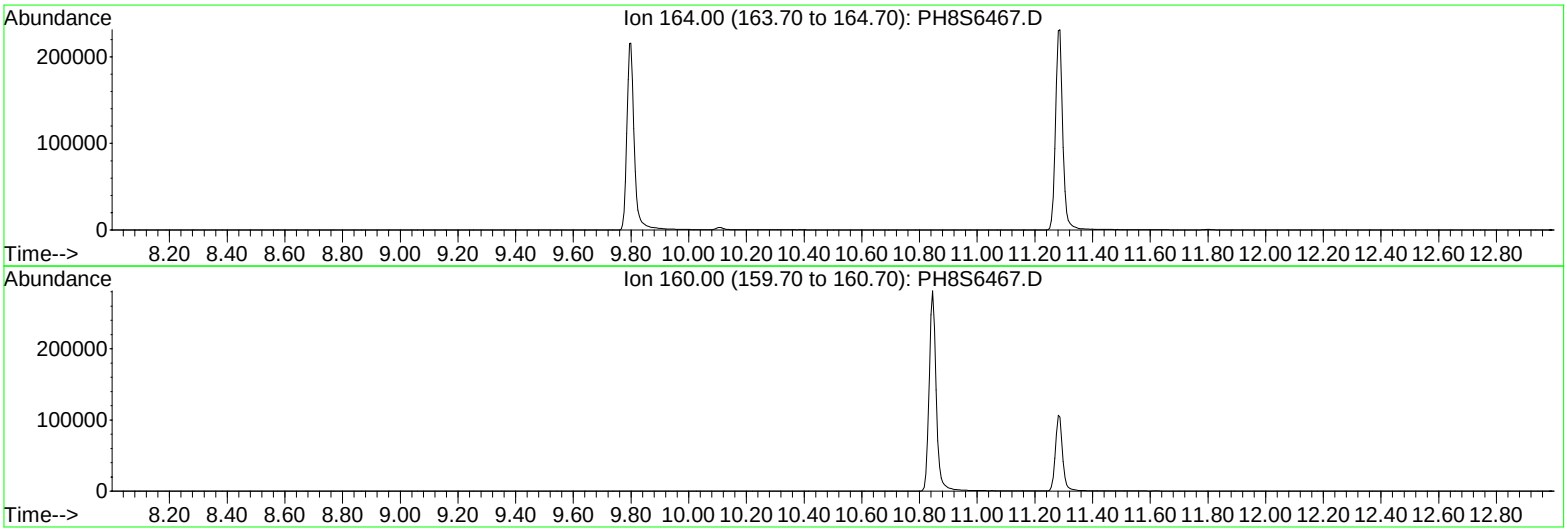
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

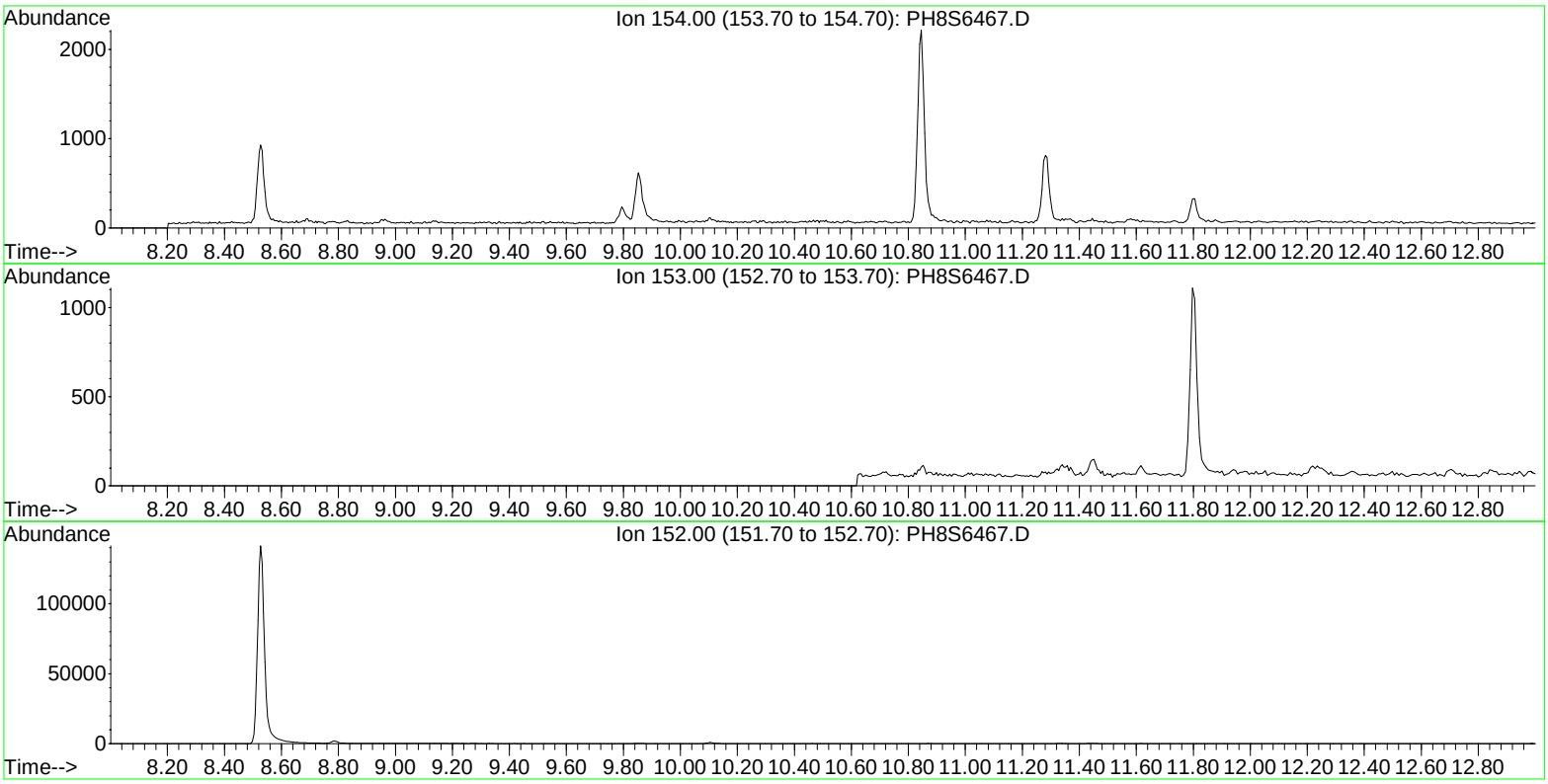




Axys Analytical CHRO Report

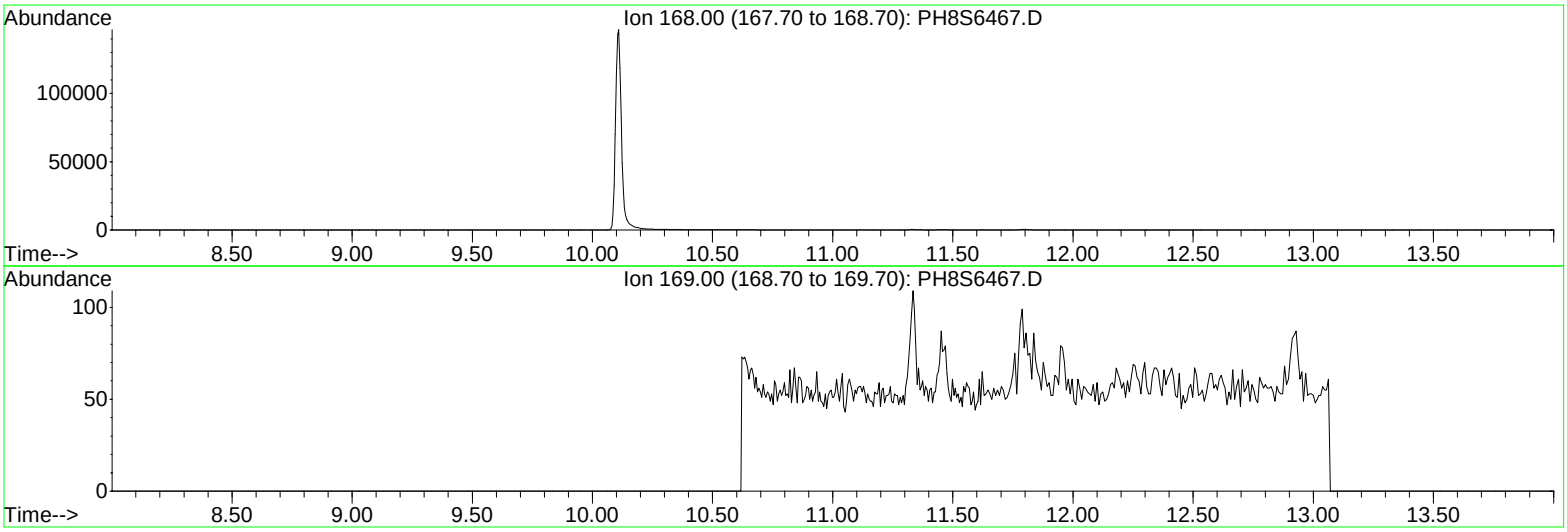
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

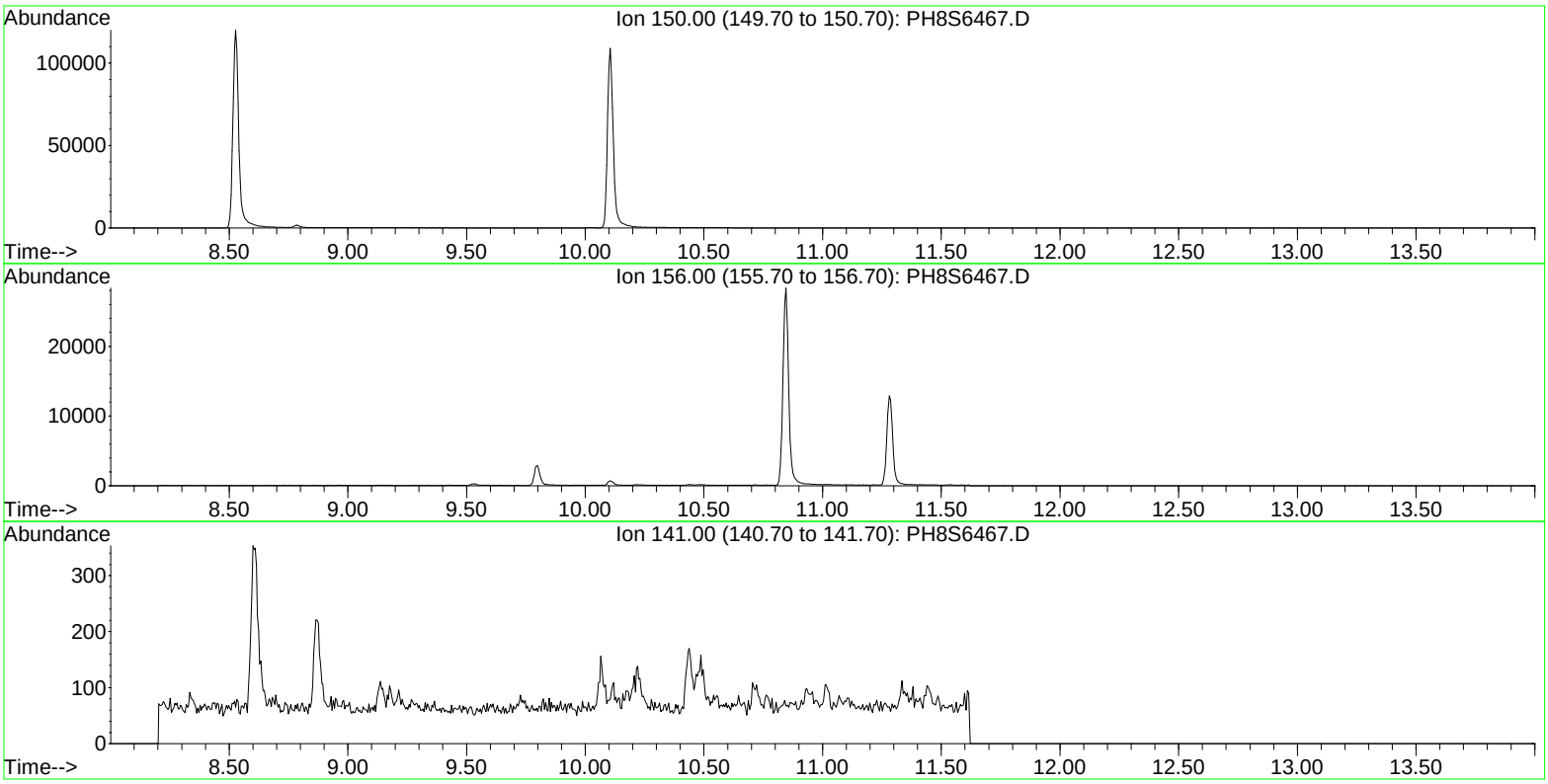




Axys Analytical CHRO Report

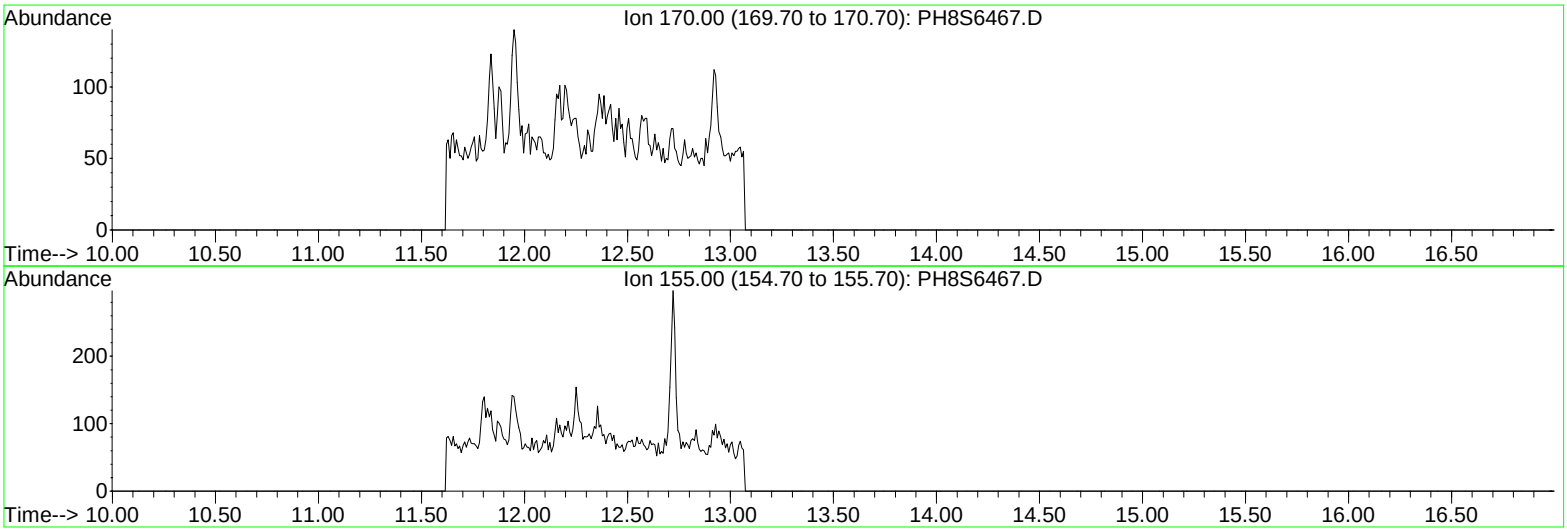
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

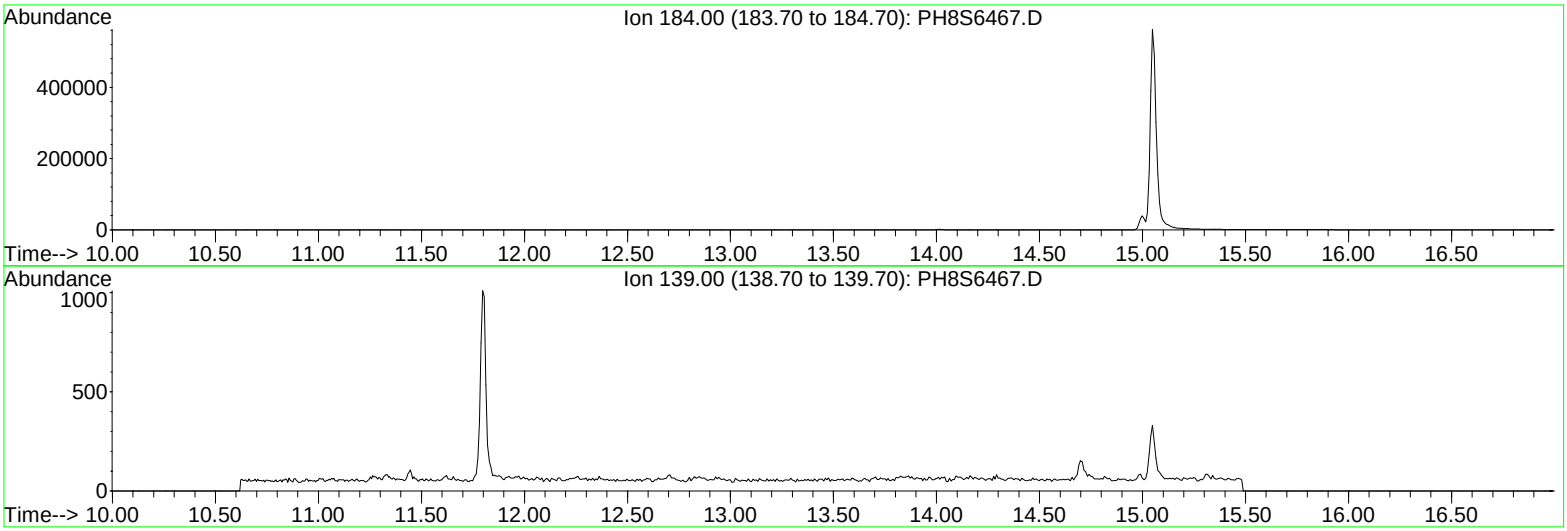




Axys Analytical CHRO Report

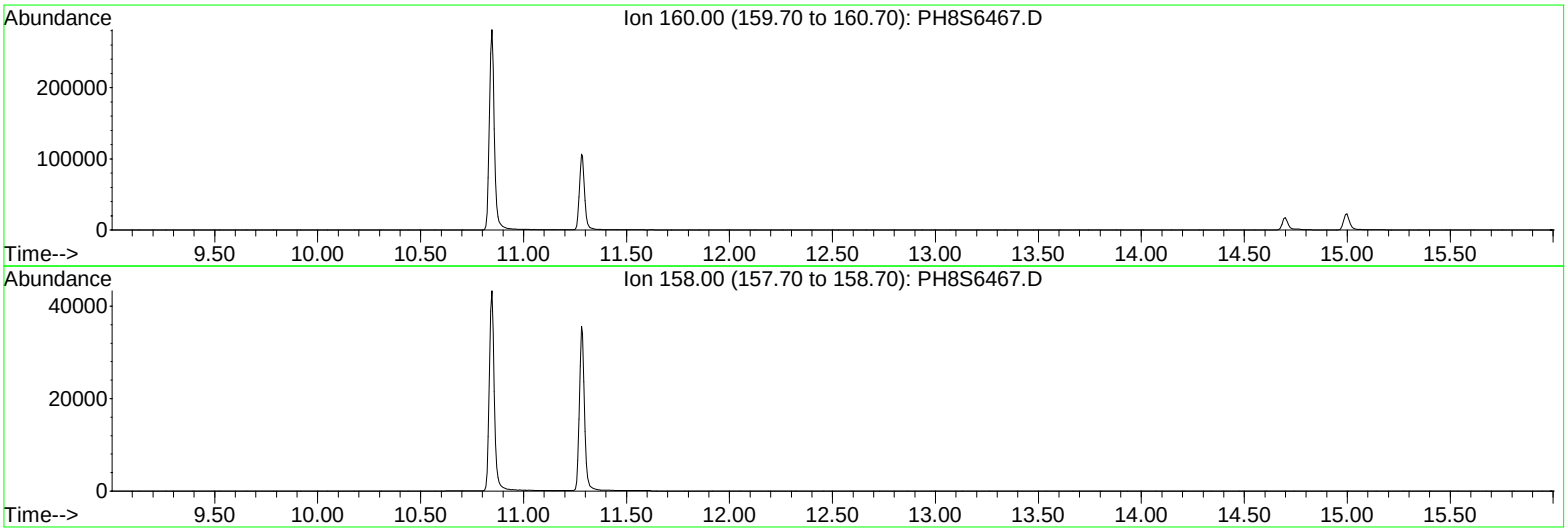
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

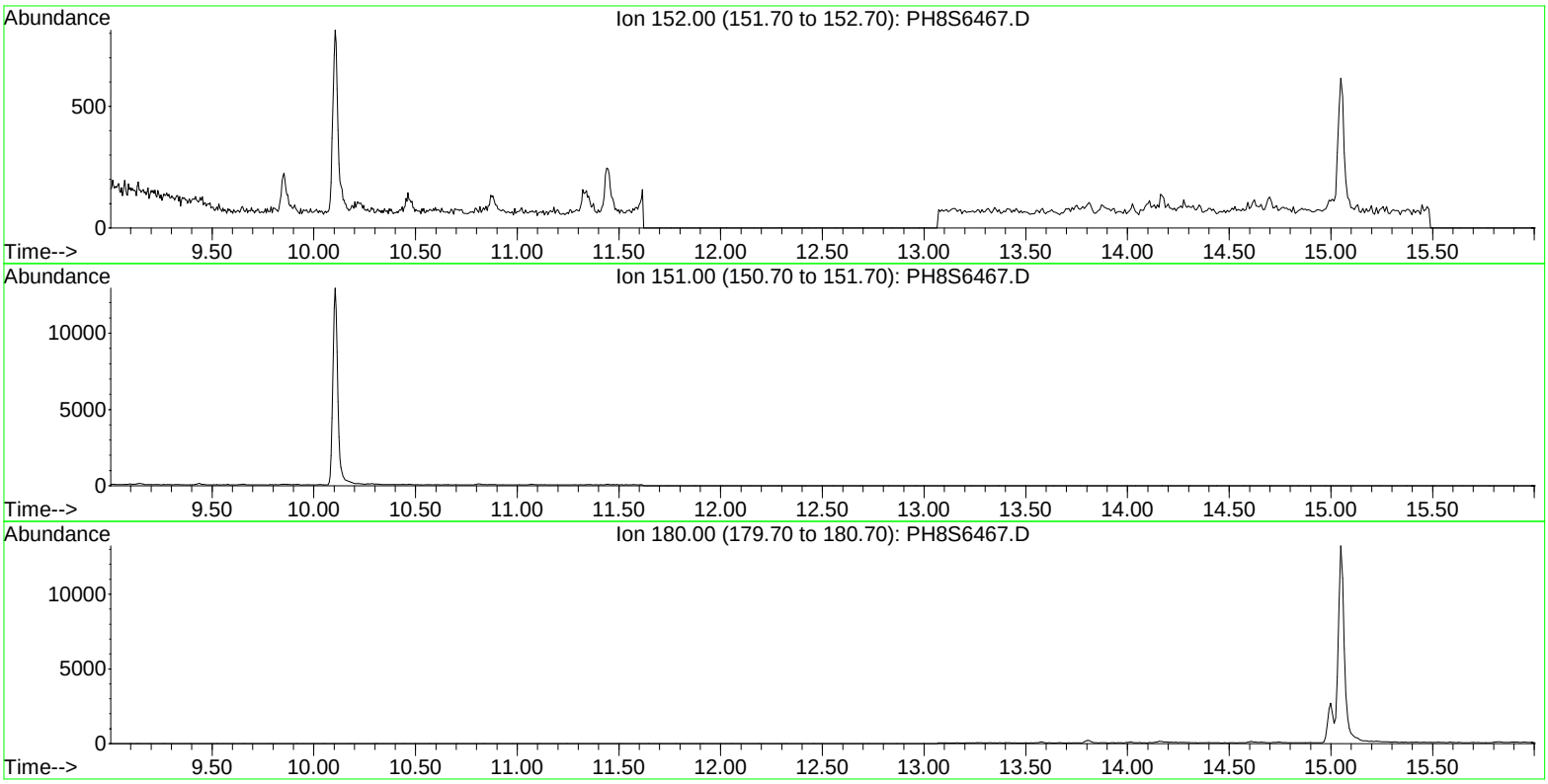


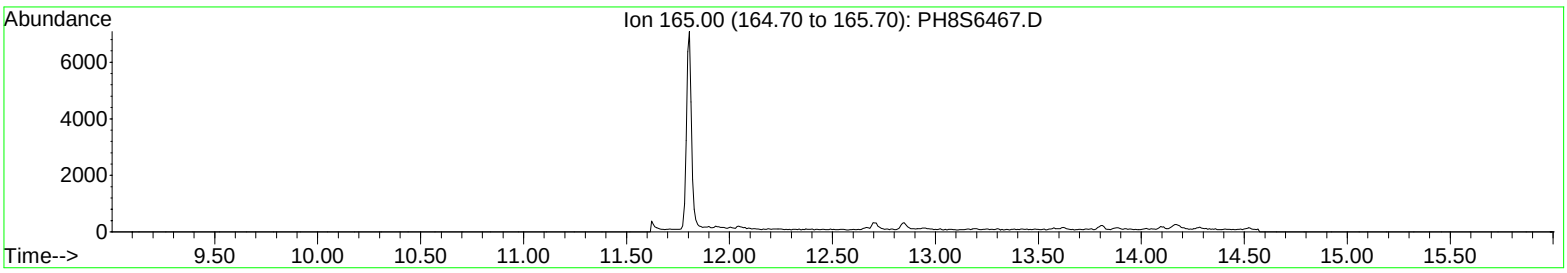


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



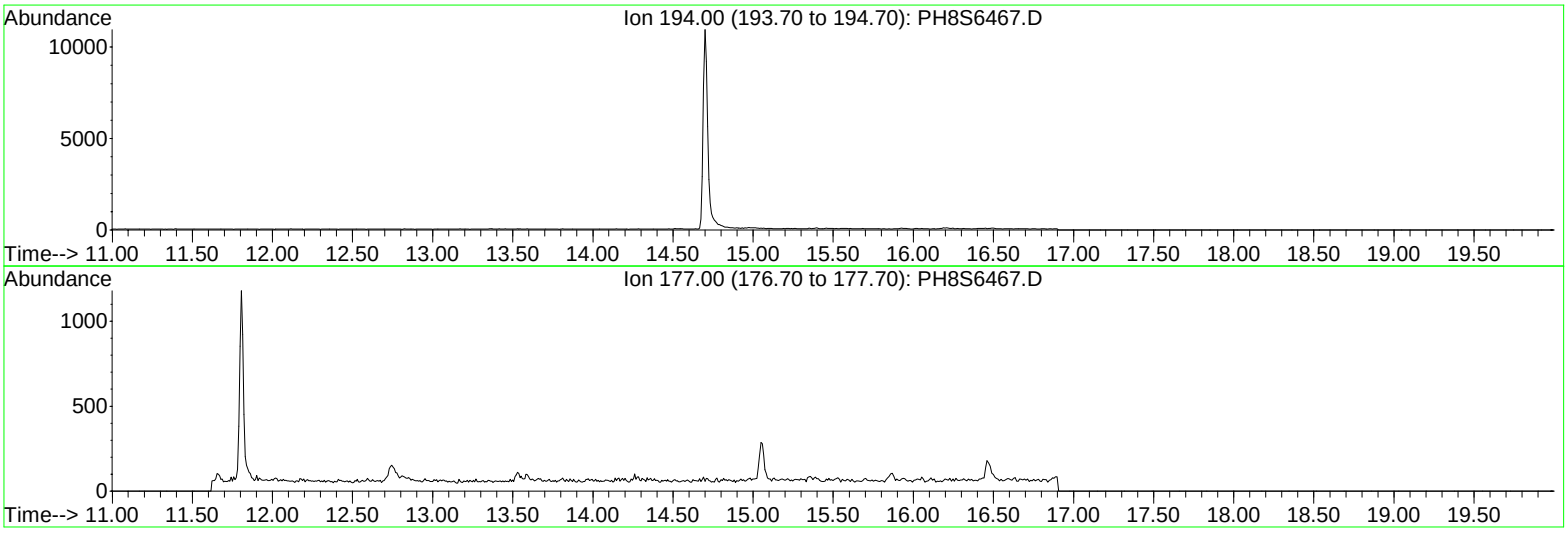


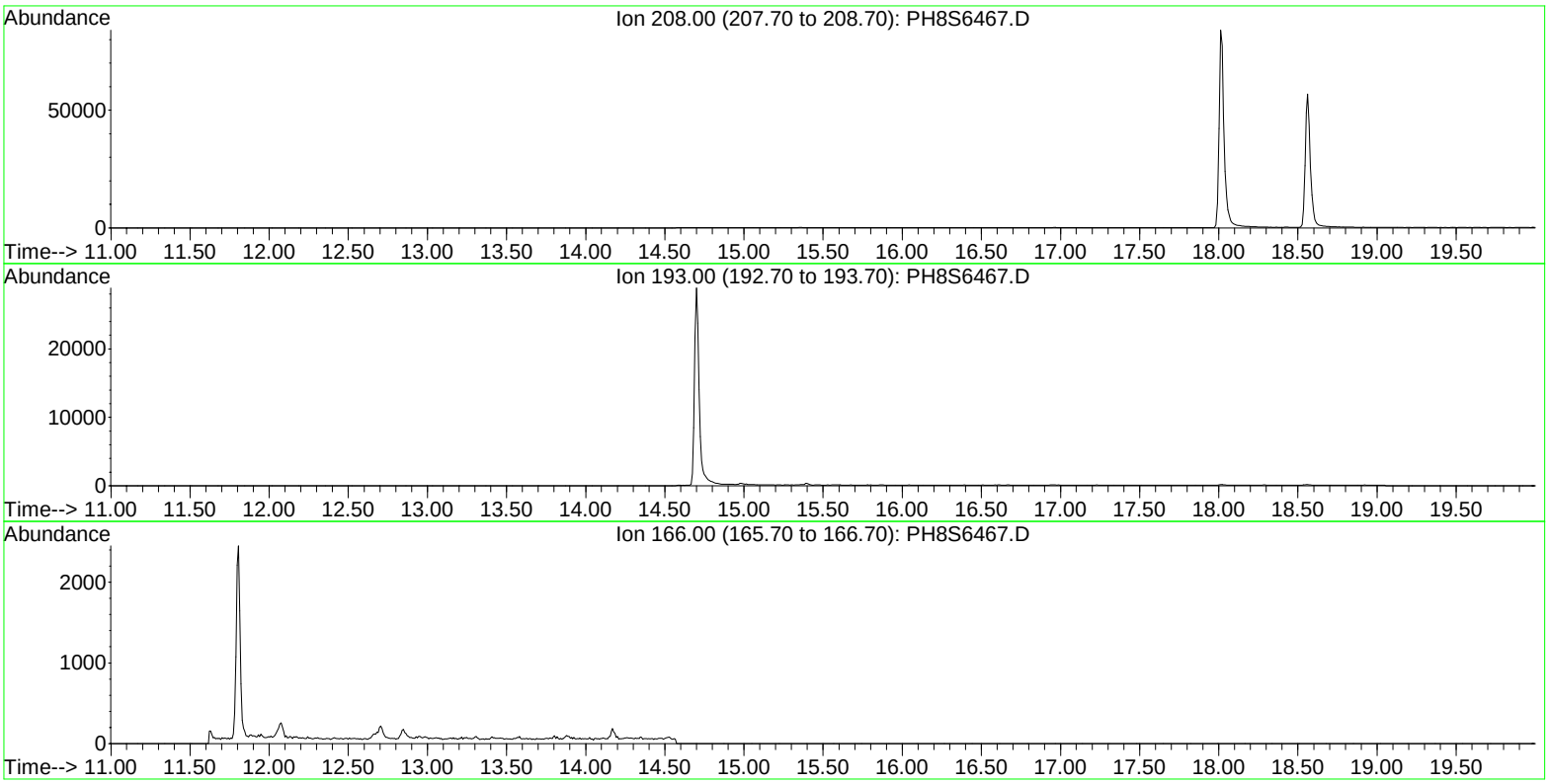


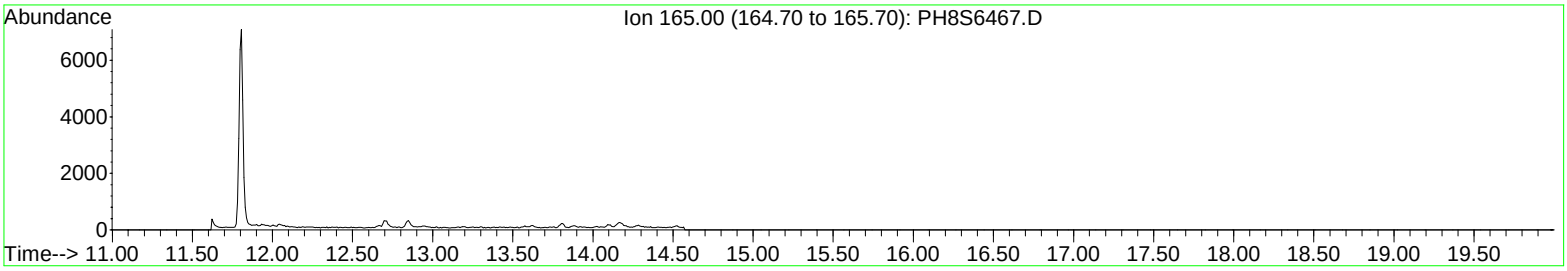
Thu Jan 10 08:41:22 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



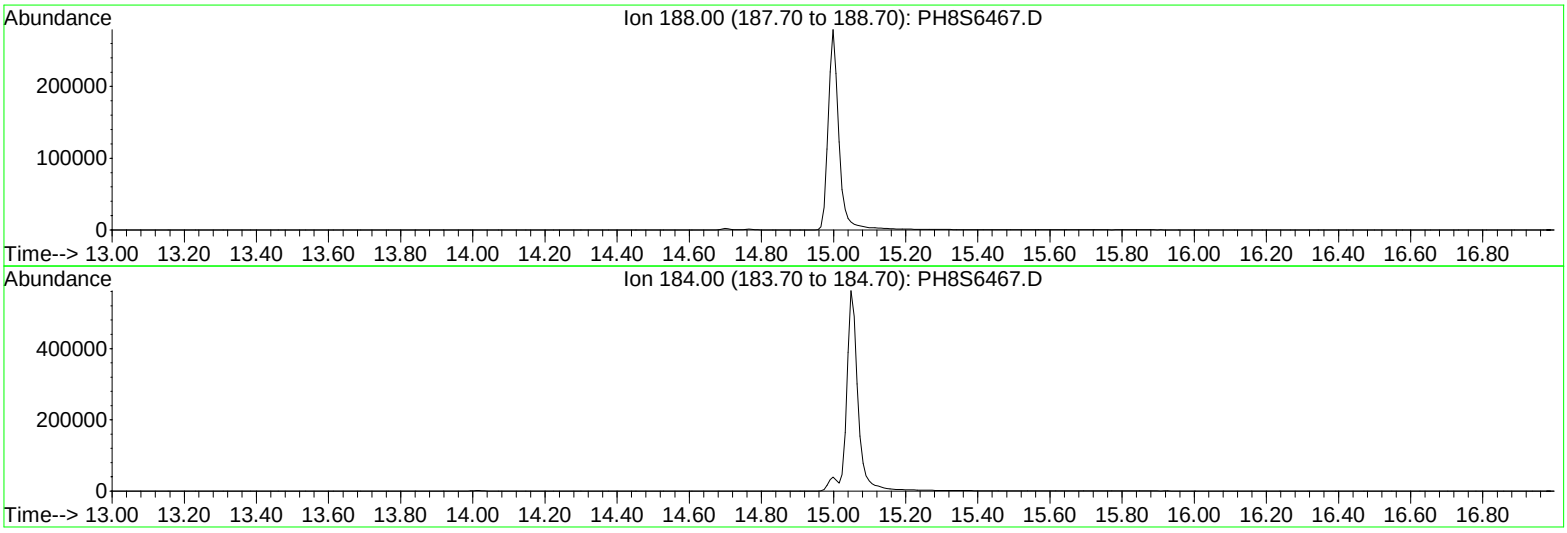


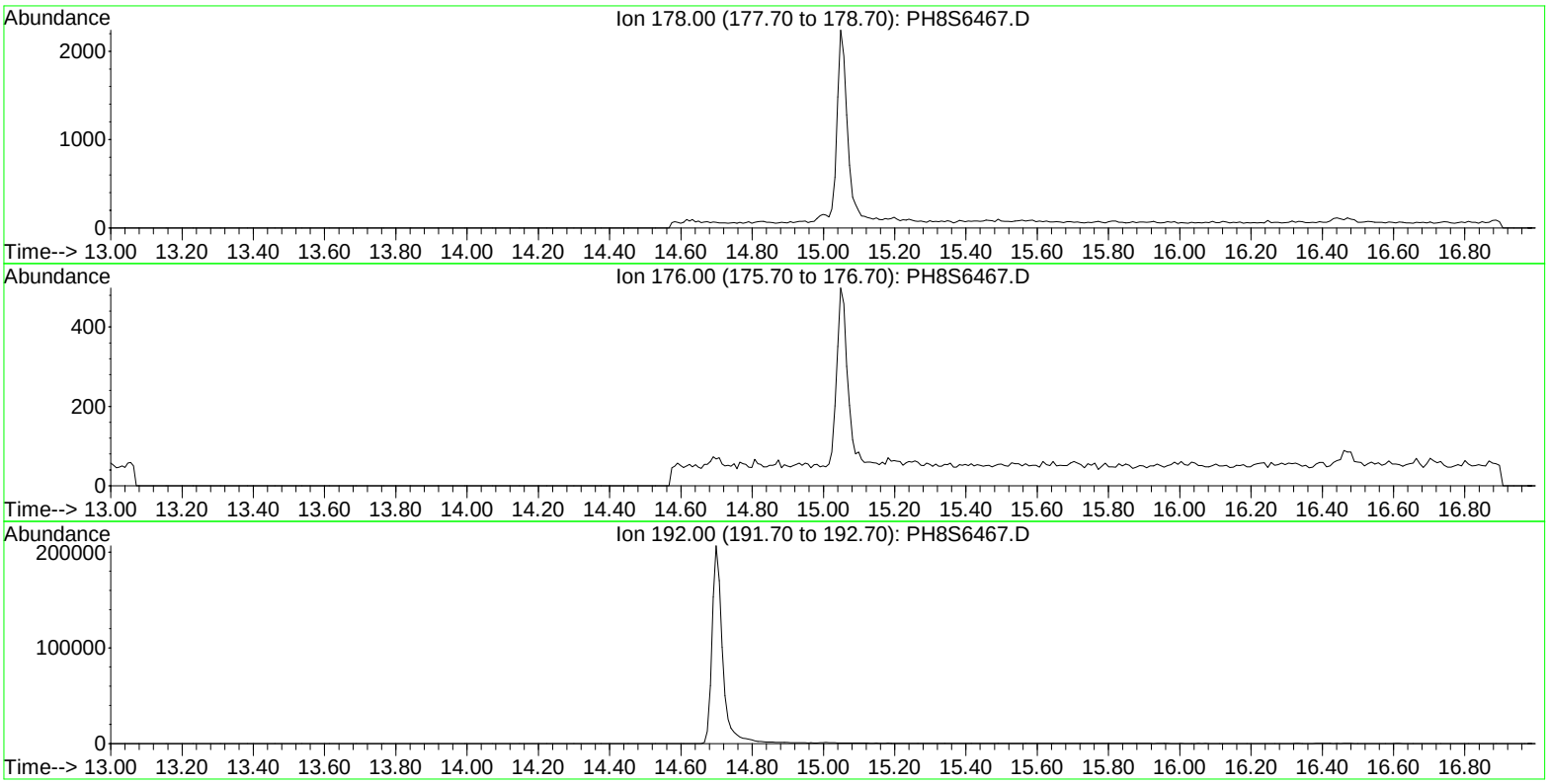


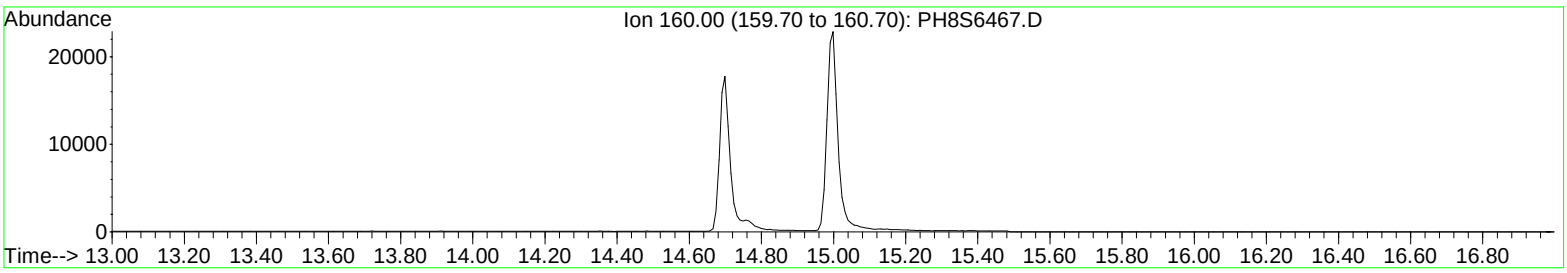
Thu Jan 10 08:41:24 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



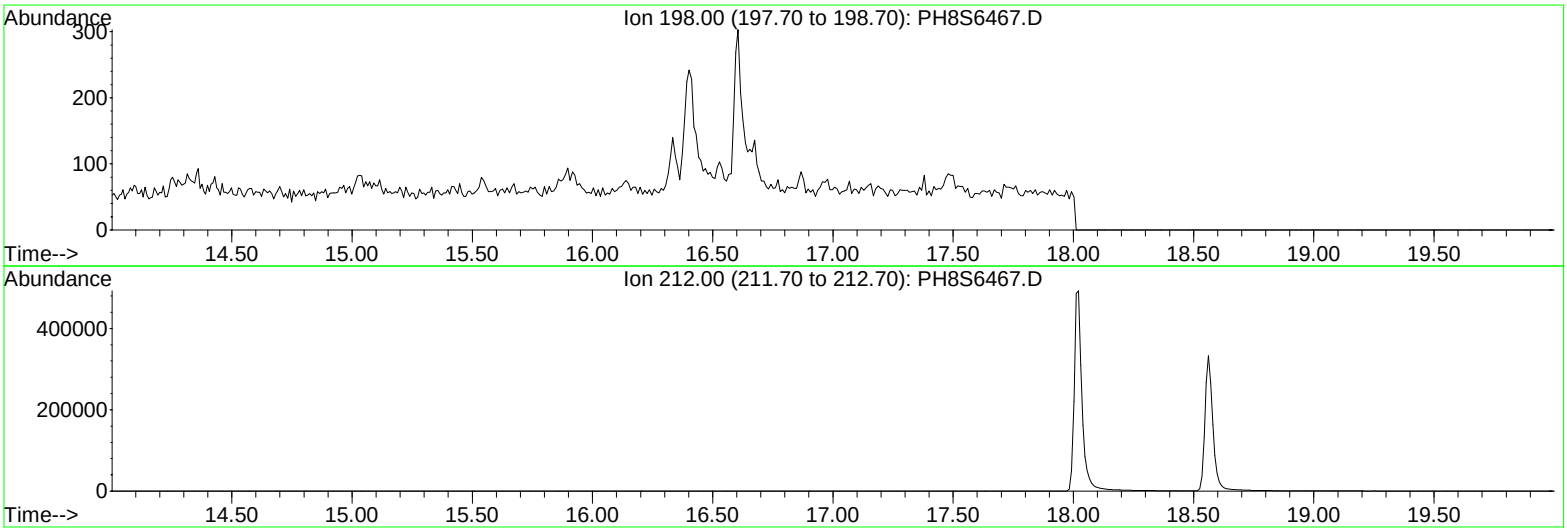


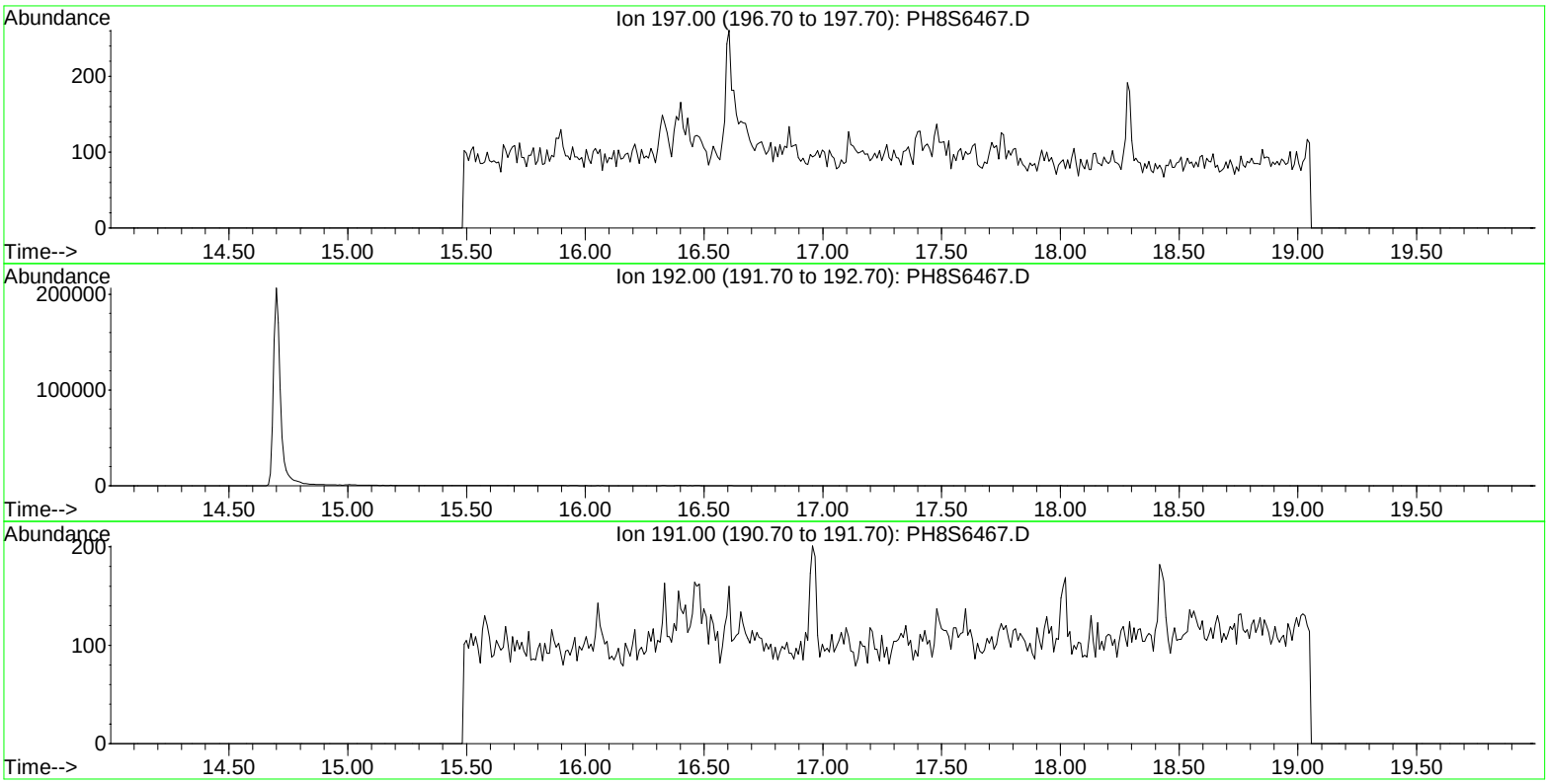


Thu Jan 10 08:41:26 2019

Axys Analytical CHRO Report

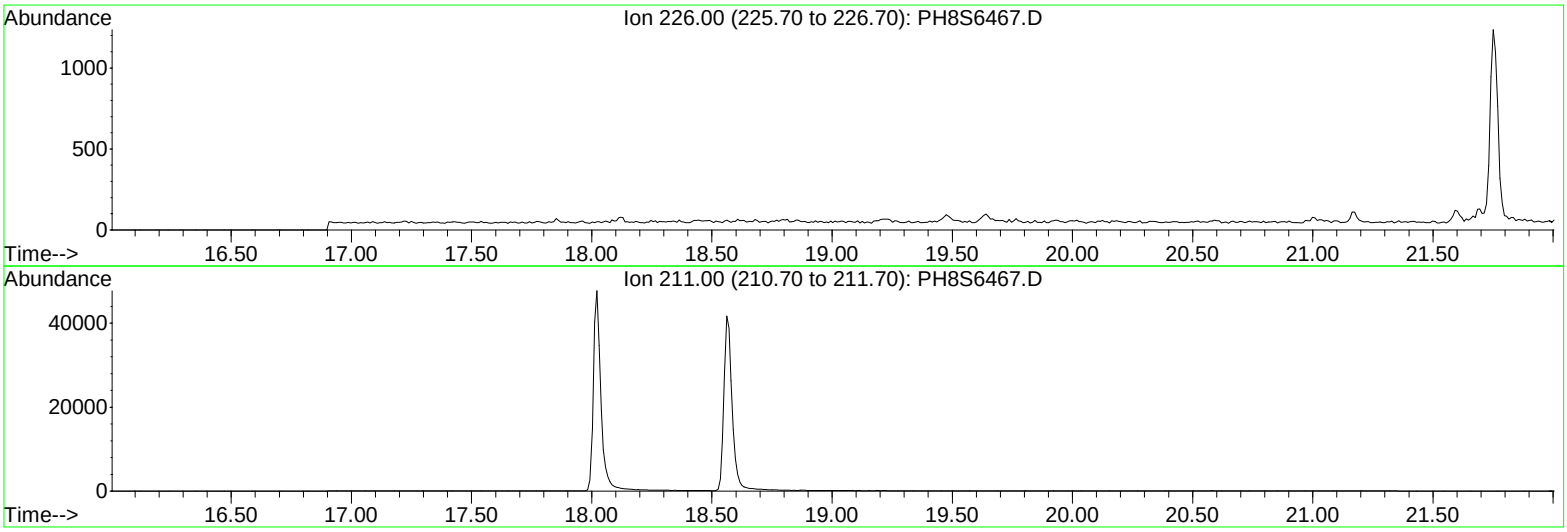
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

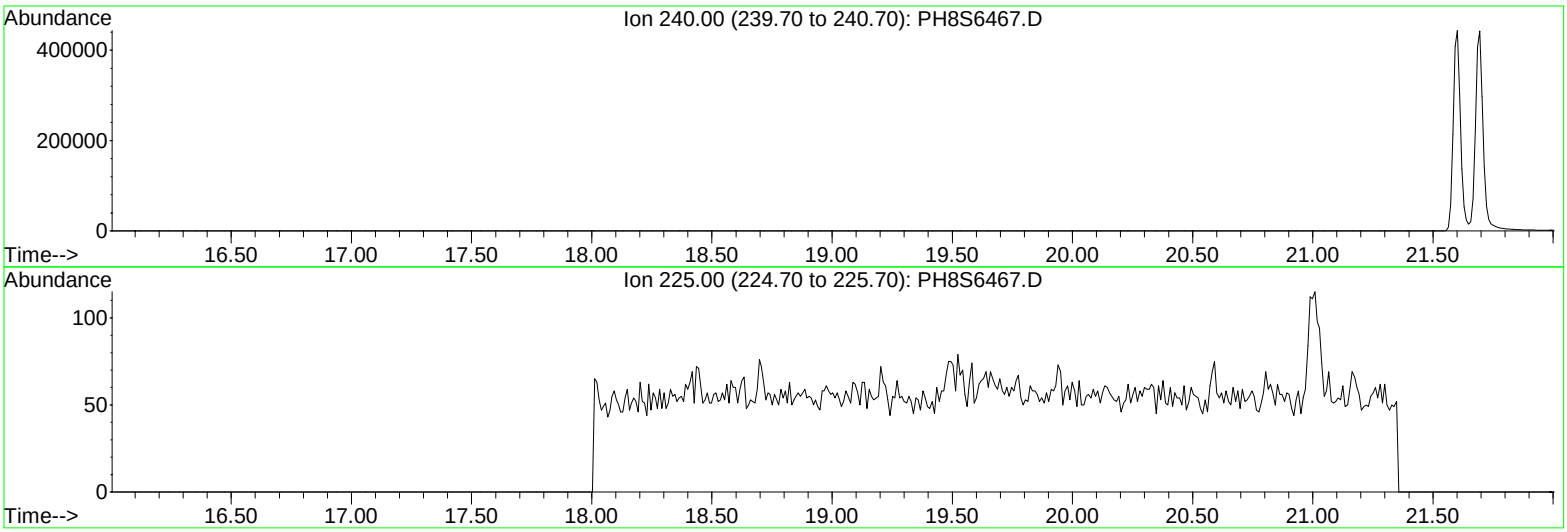




Axys Analytical CHRO Report

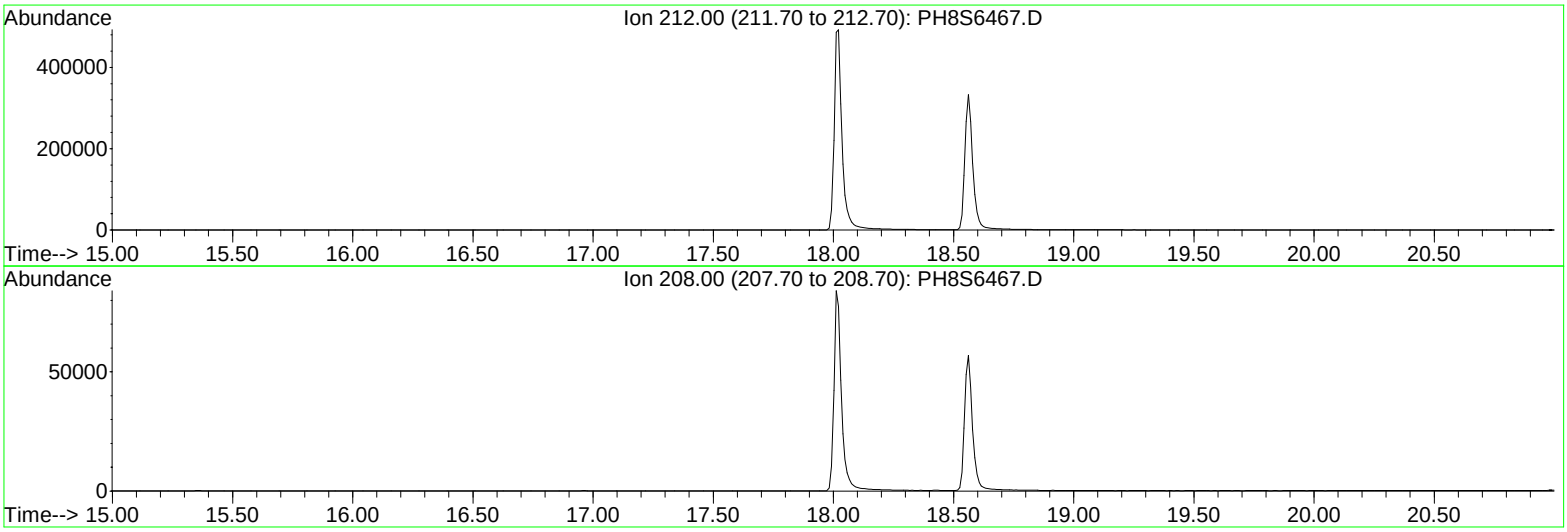
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

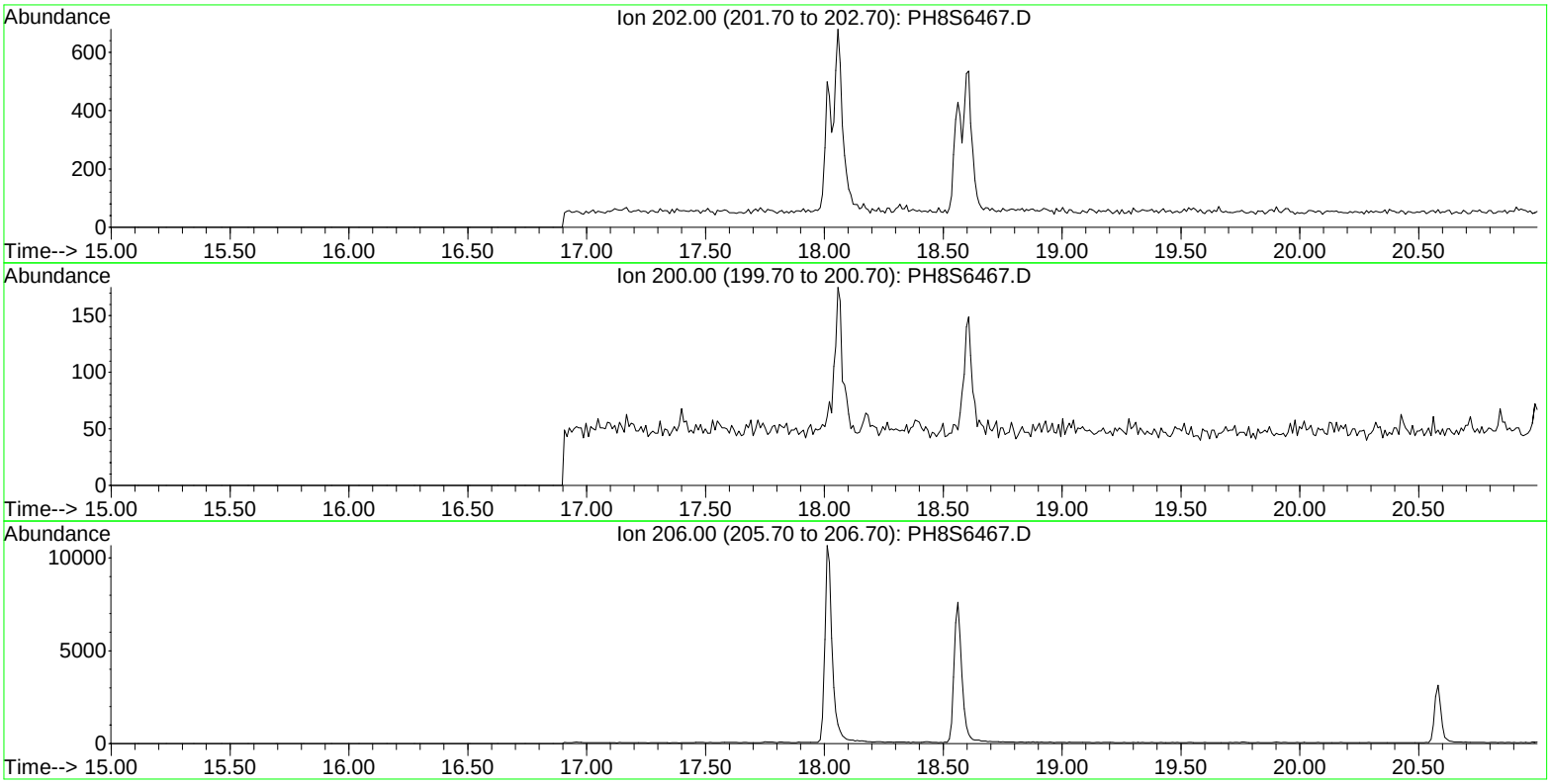


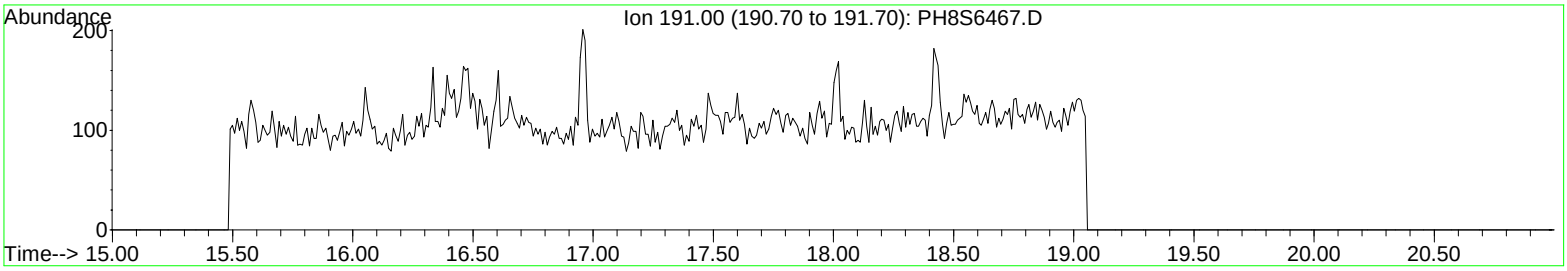


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



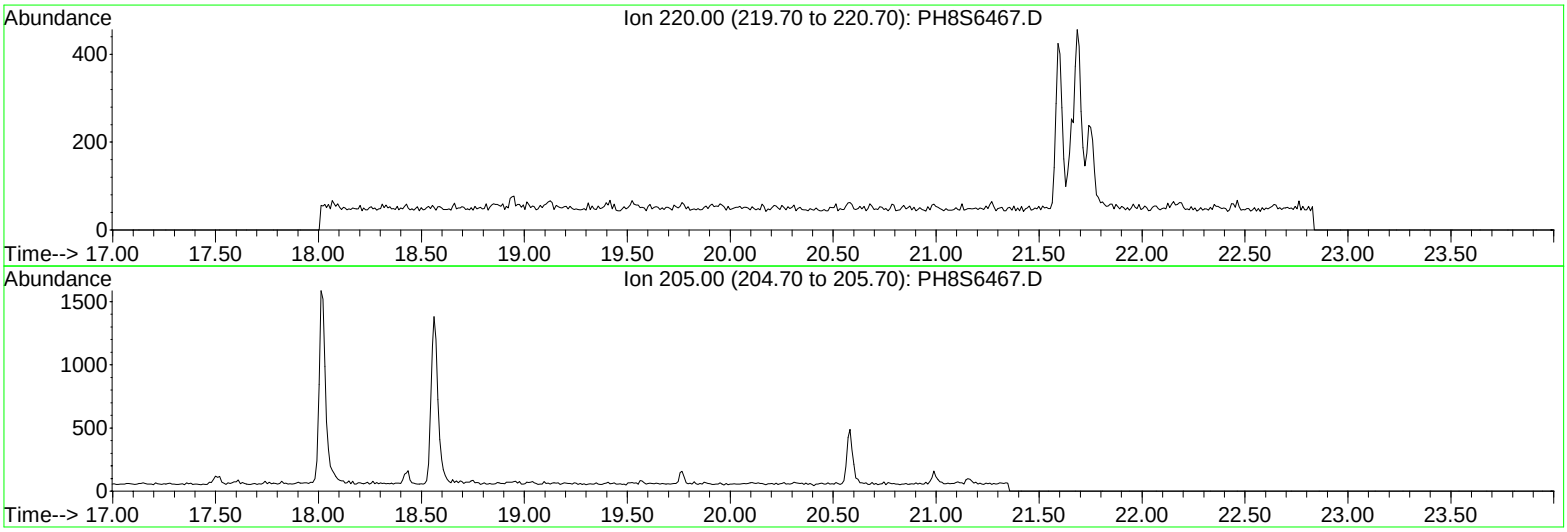


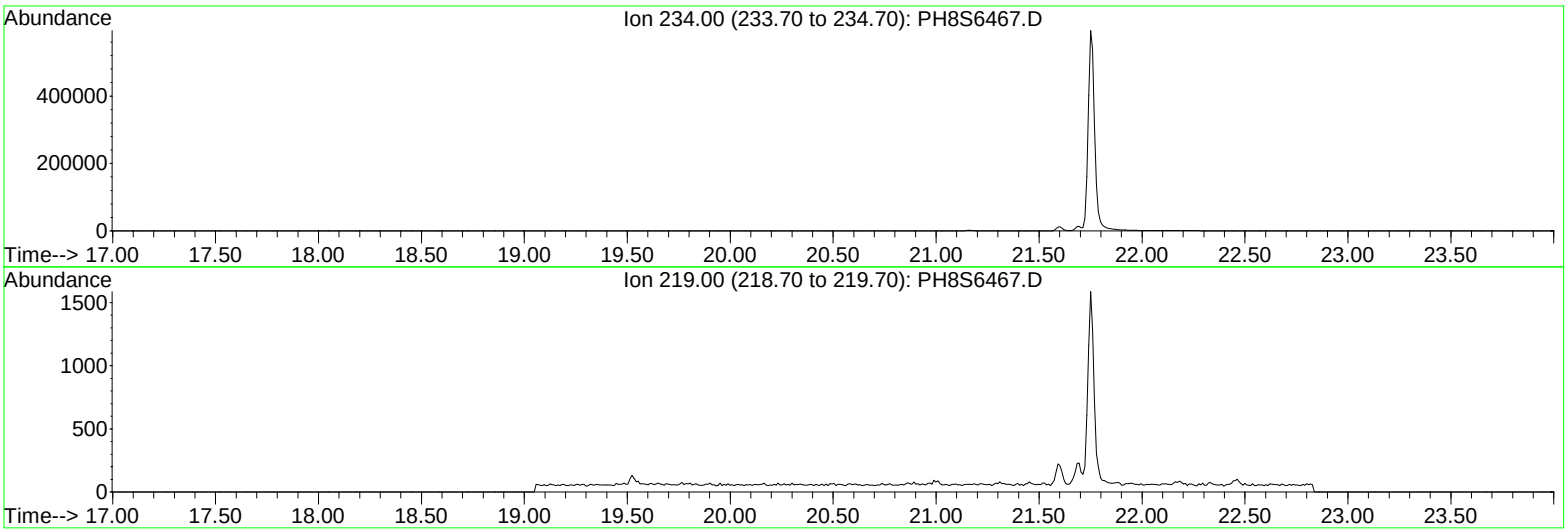


Thu Jan 10 08:41:32 2019

Axys Analytical CHRO Report

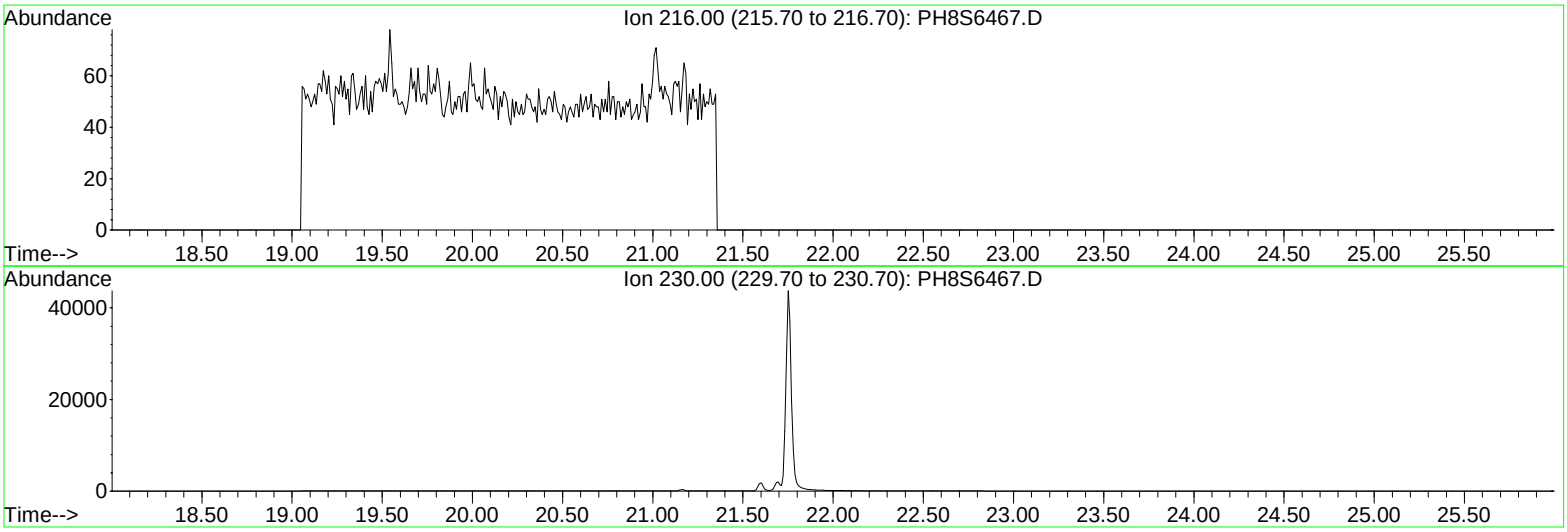
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

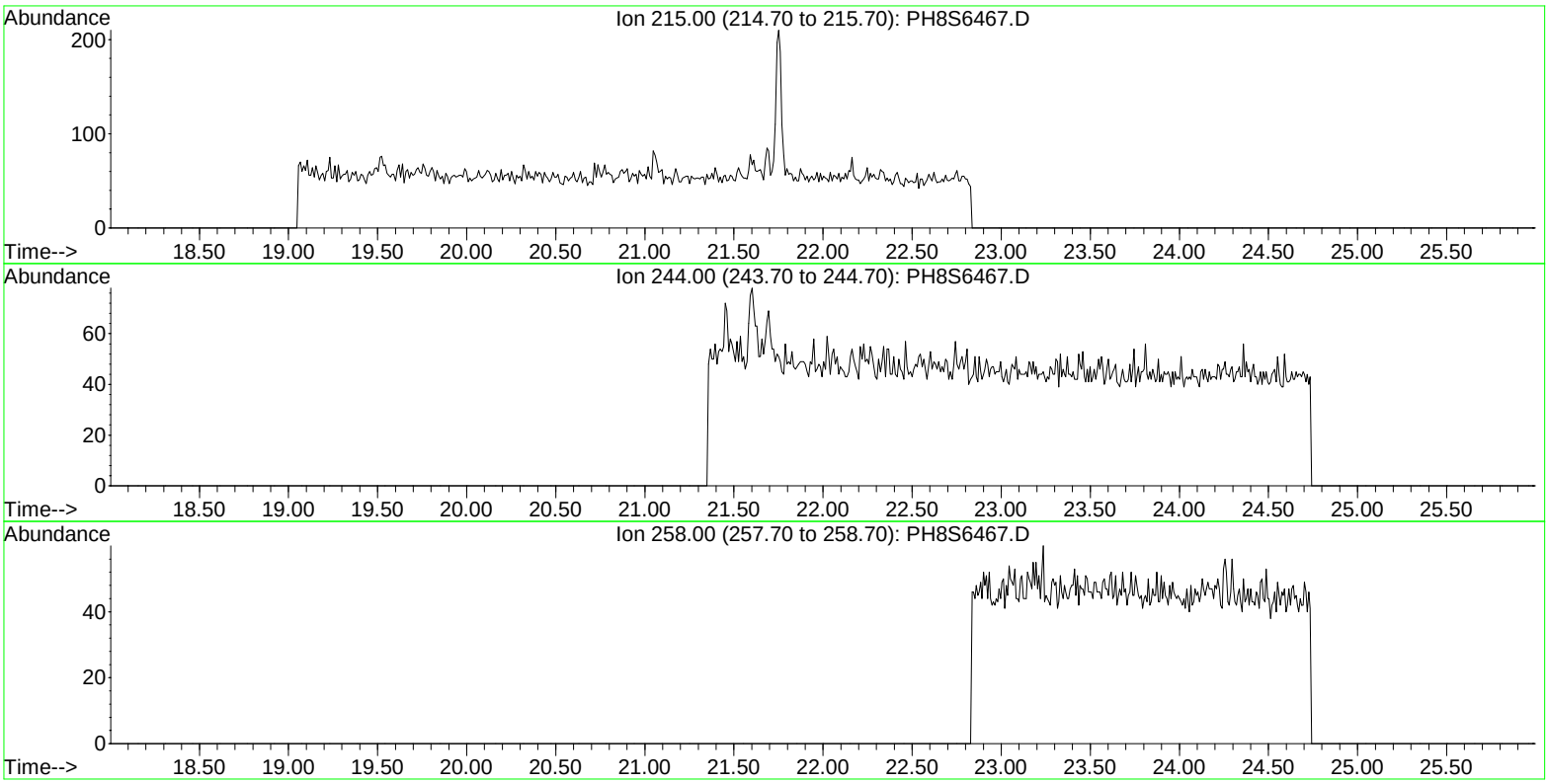


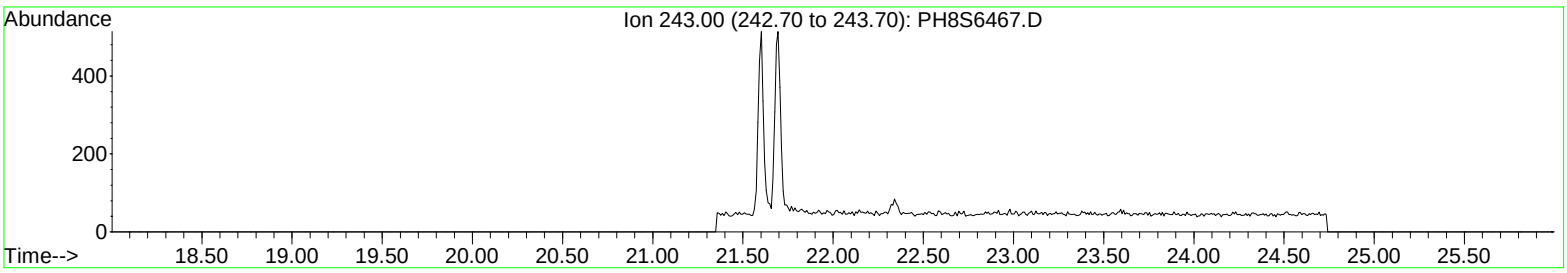


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



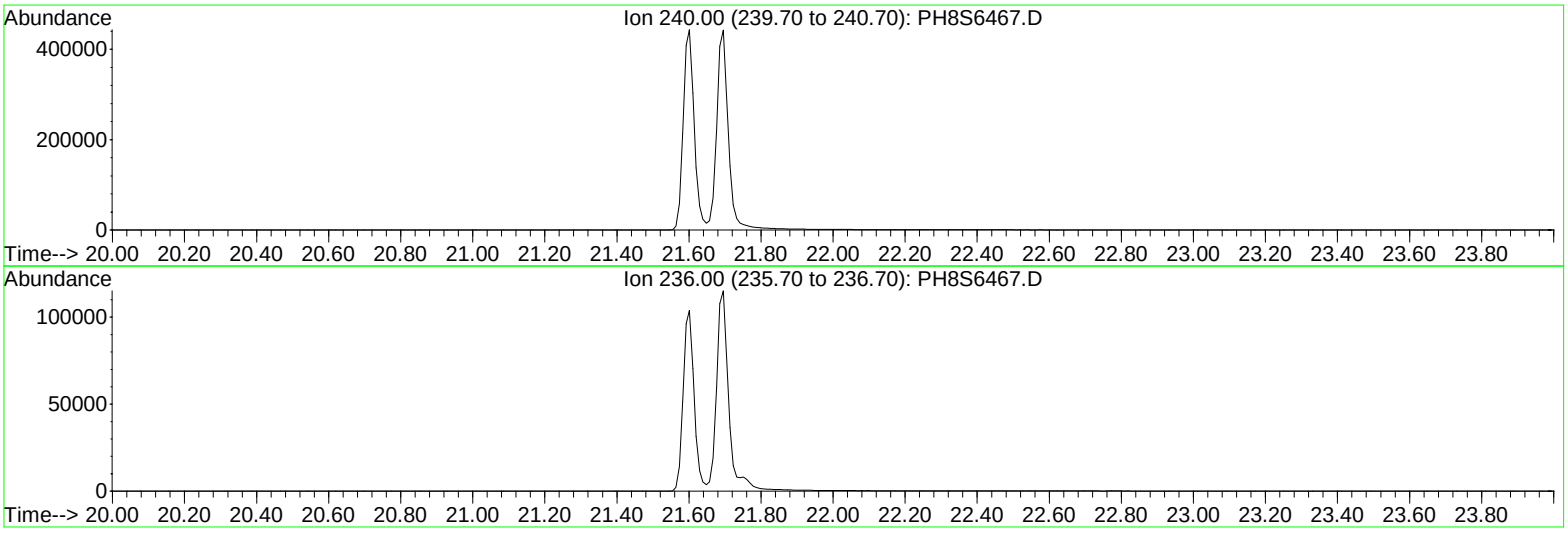


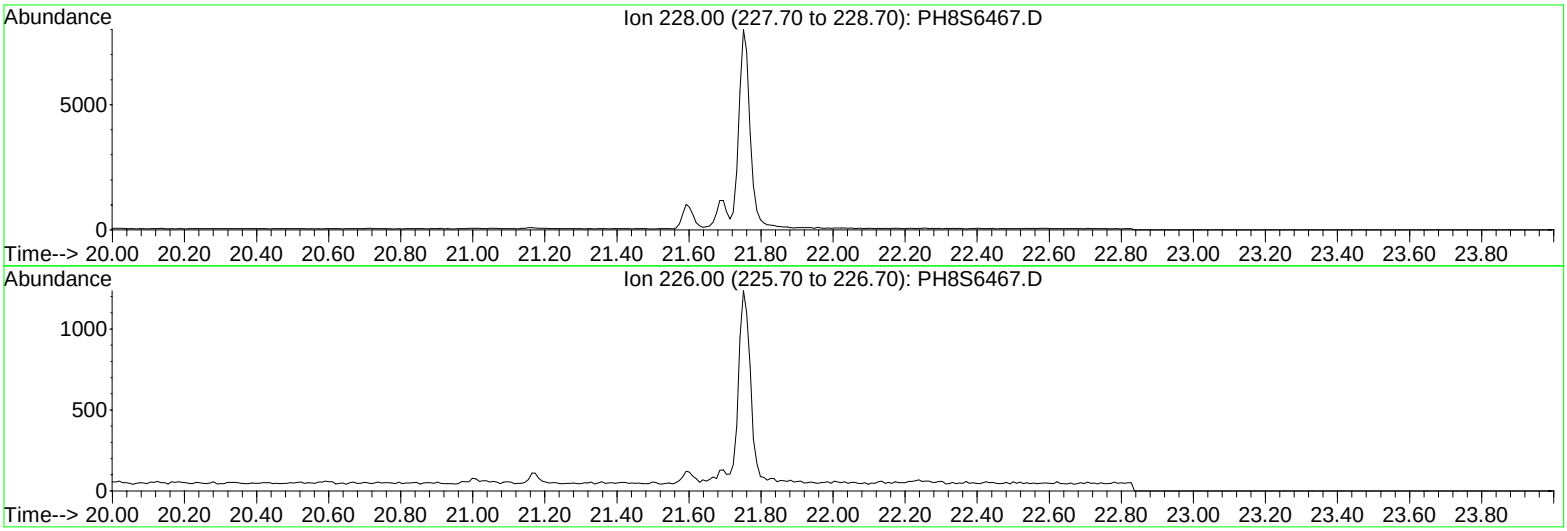


Thu Jan 10 08:41:36 2019

Axys Analytical CHRO Report

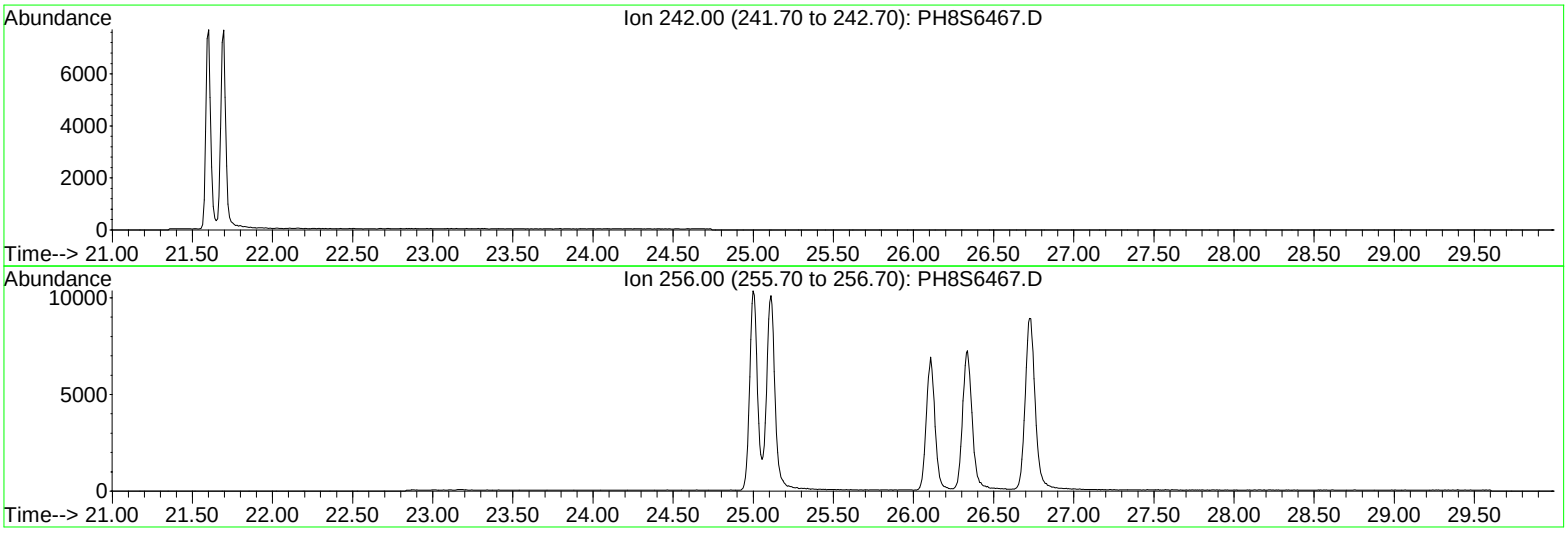
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

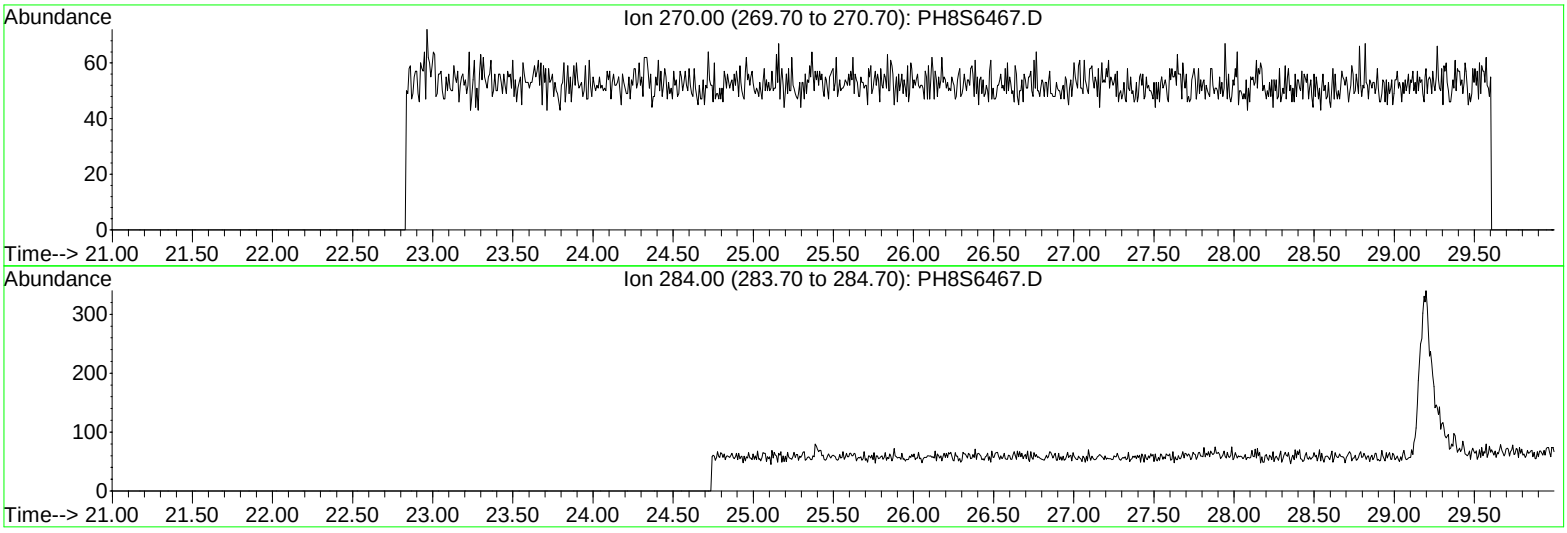




Axys Analytical CHRO Report

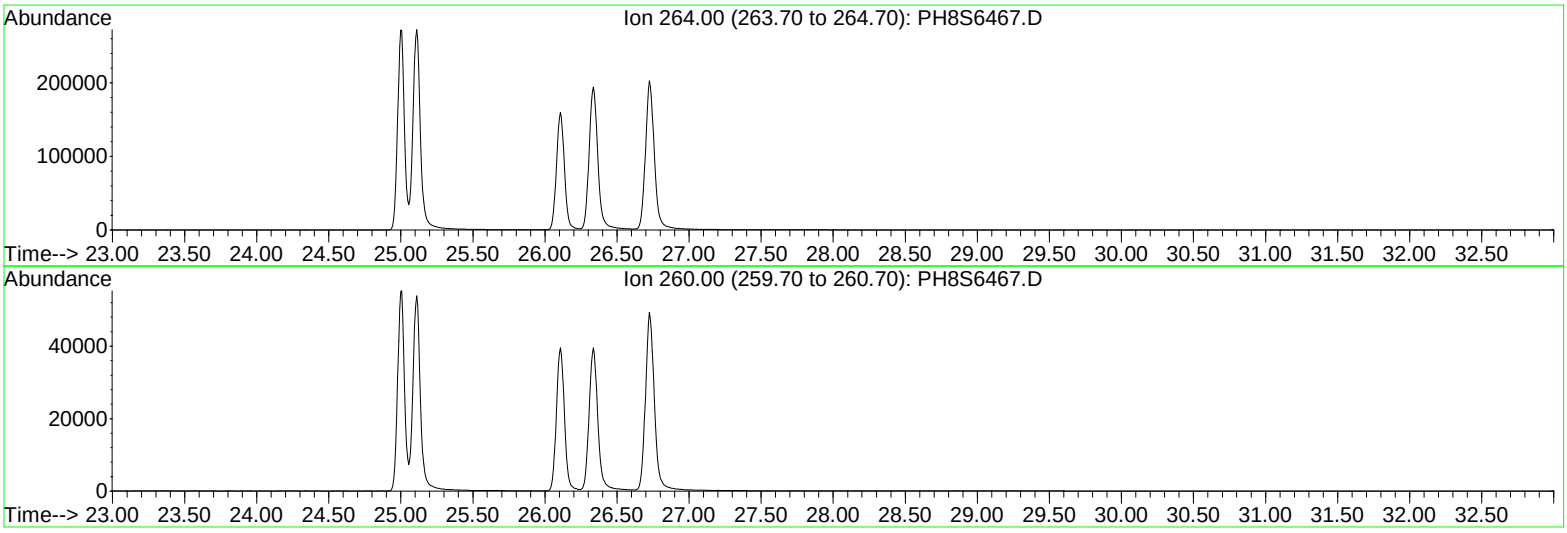
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

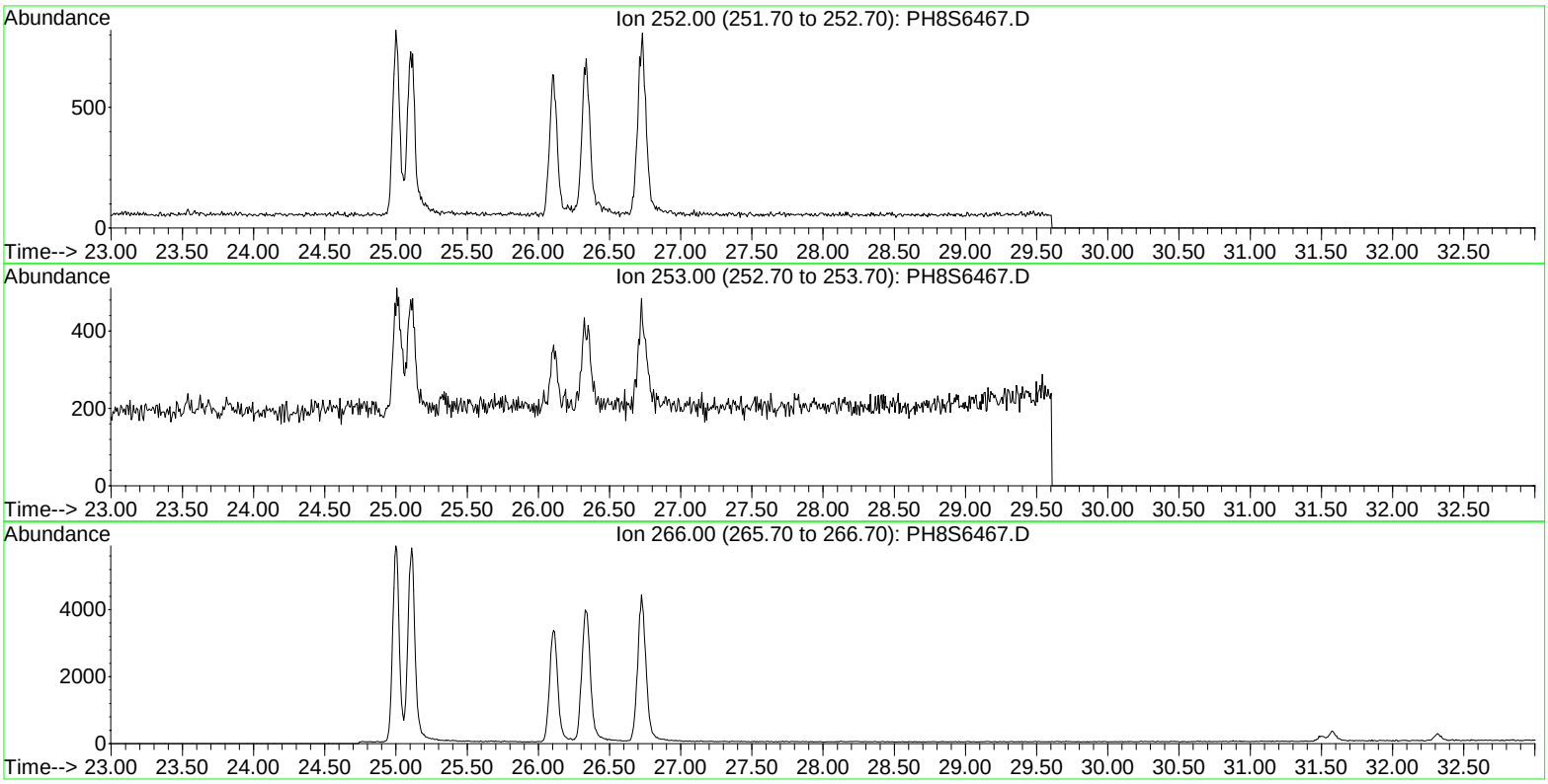


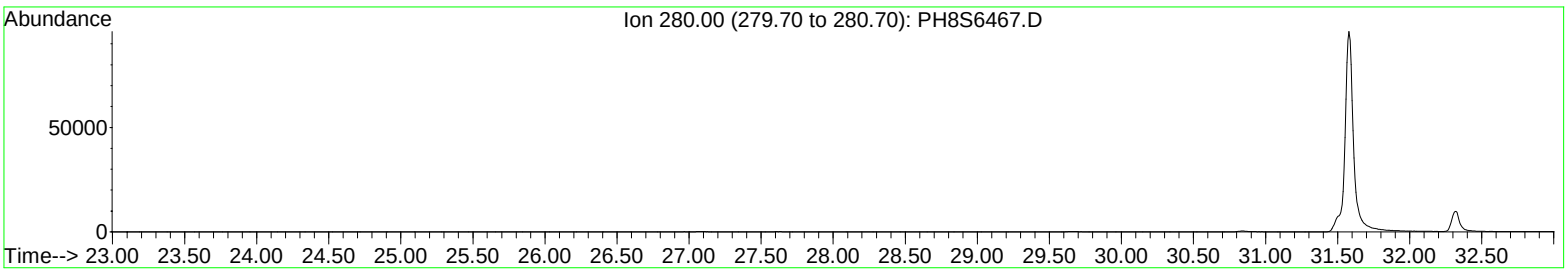


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



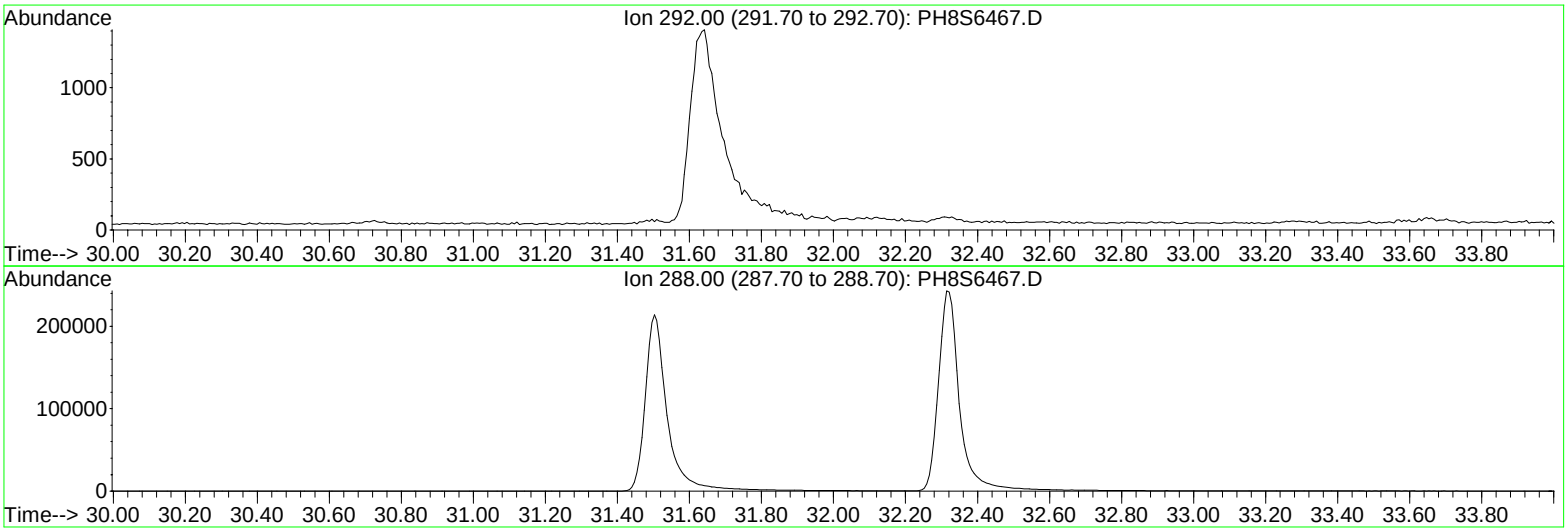


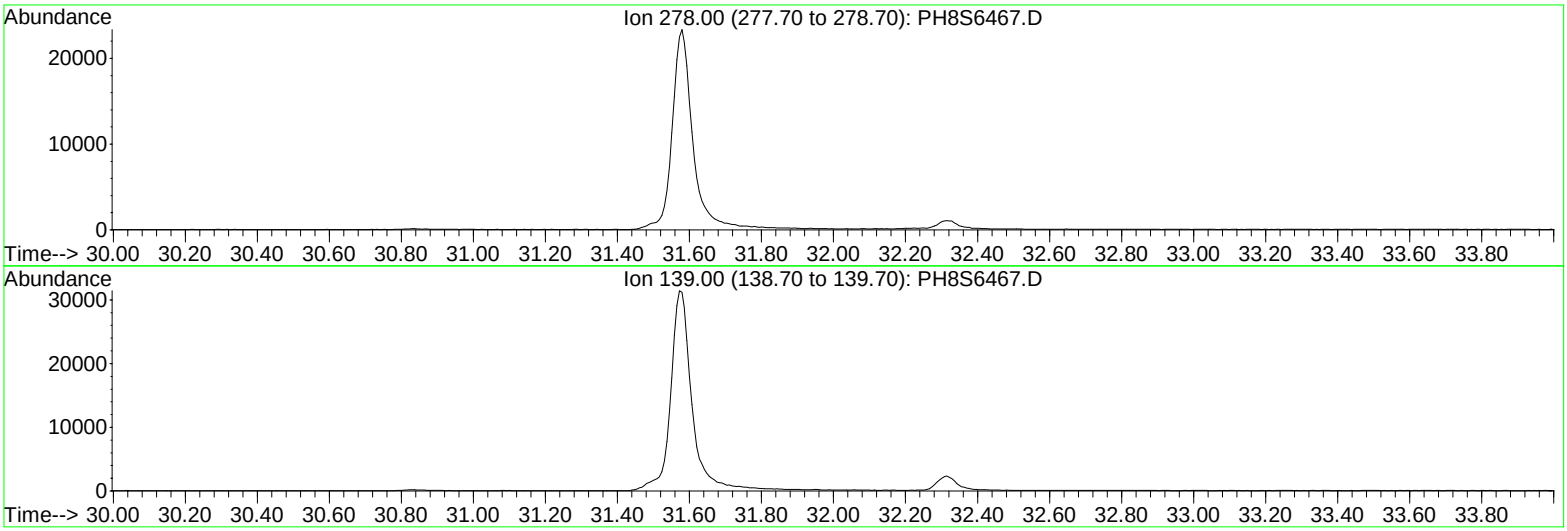


Thu Jan 10 08:41:42 2019

Axys Analytical CHRO Report

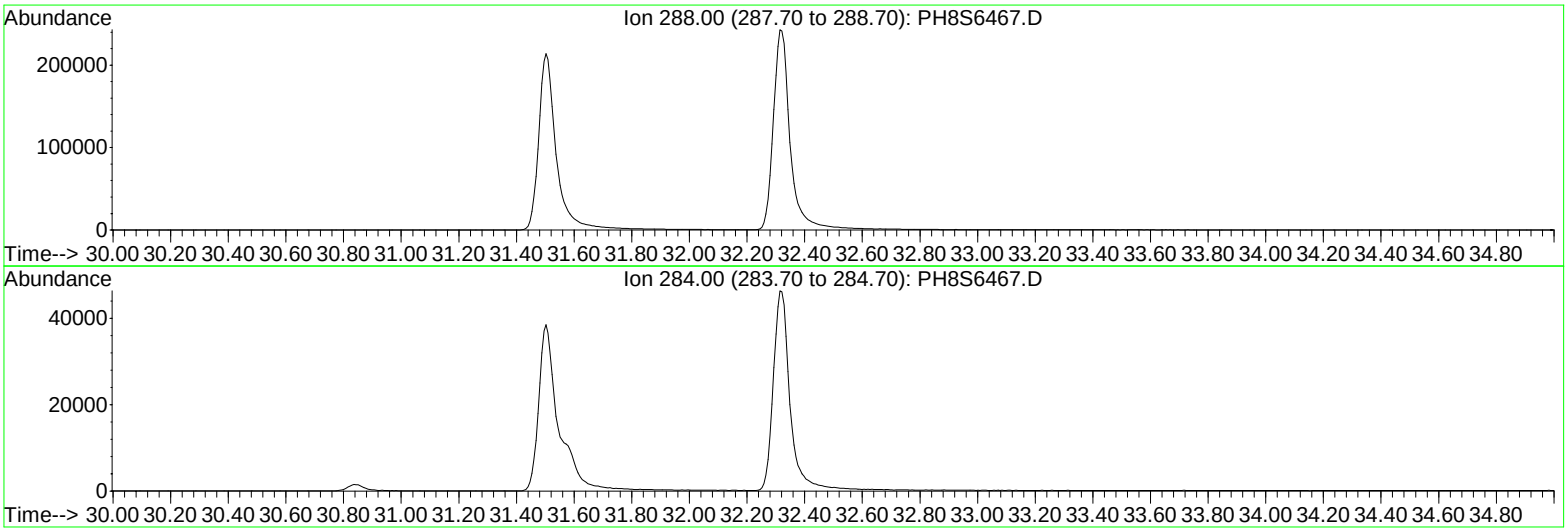
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

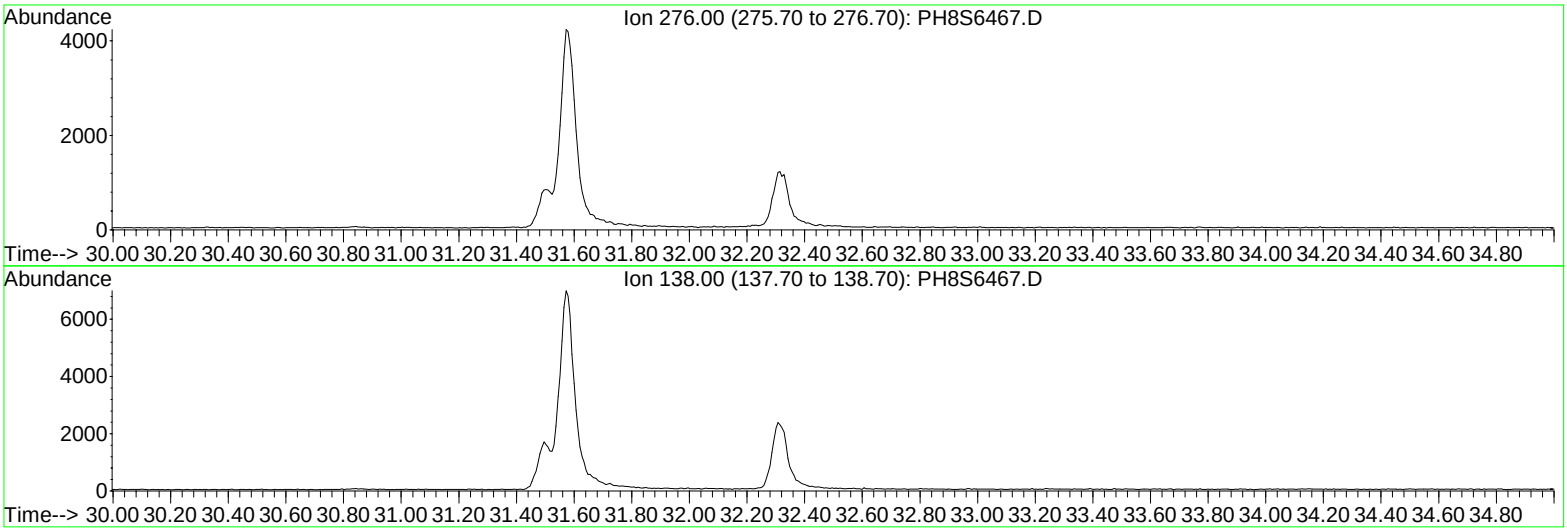




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL





---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6467.D
28/12/2018 18:30
L30540-1
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6467.D\618S6467.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 12
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.096	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

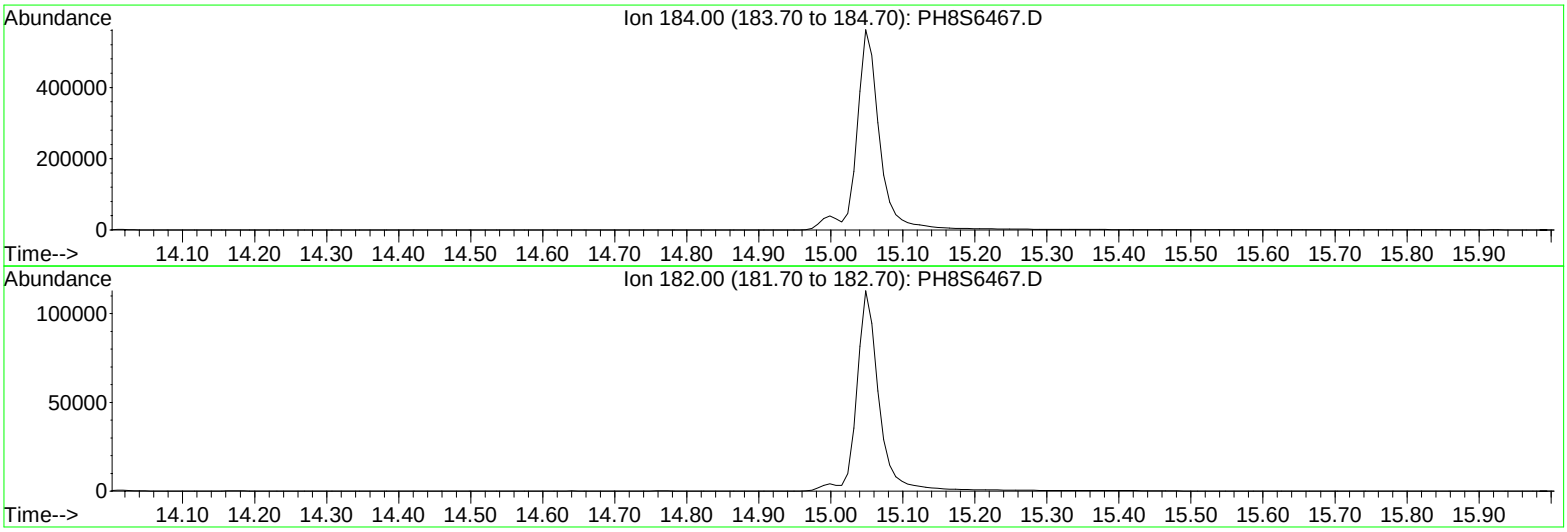
[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	766403	18.56	2052.0833	I	0	2052.0833	5095	0.17	1
d10-Phenanthrene - SURR	564431	15	1562.381	S	43.2793	22.6539	7857	0.13	0.808
d12-Benz(a)anthracene - SURR	936080	21.6	3863.5704	S	95.1618	118.8063	27633	0.23	1.164
d12-Chrysene - SURR	977011	21.69	3764.6277	S	96.0364	54.0675	13471	0.26	1.169
d12-Benzo(e)pyrene - REC	610975	26.11	2104.1667	I	0	2104.1667	1184	0.25	1
d12-Indeno(123cd)pyrene - SURR	880718	31.5	4034.5524	S	101.3707	0.7676	161	0.17	1.207
d10-Phenanthrene	564431	15	3760.4167	I	0	3760.4167	7069	0.13	1
13C6-Phenanthrene	1149173	15.05	6765.0482	T	0	3.9597	673	0.2	1.003
d12-Benz(a)anthracene	936080	21.6	4229.1667	I	0	4229.1667	25270	0.23	1
d10-Fluoranthene	1106884	18.02	3672.8102	T	0	0.4201	127	0.17	0.834
d12-Chrysene	977011	21.69	4083.3333	I	0	4083.3333	12942	0.26	1
13C6-Chrysene	1296698	21.75	4832.6374	T	0	2.6521	712	0.31	1.003
d12-Indeno(123cd)pyrene	880718	31.5	4145.8333	I	0	4145.8333	175	0.17	1
13C6-Indeno(123cd)pyrene $	1720190	31.58	6476.2681	T	0	4.2826	1138	0.2	1.002

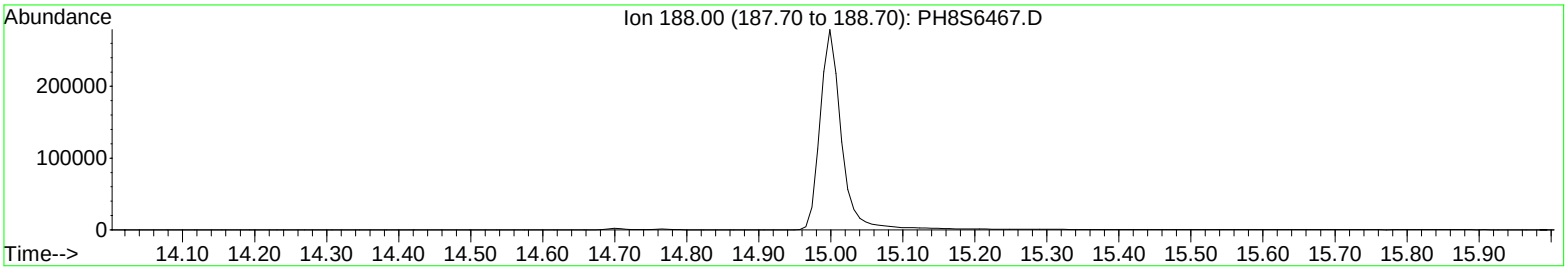
618S6467

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

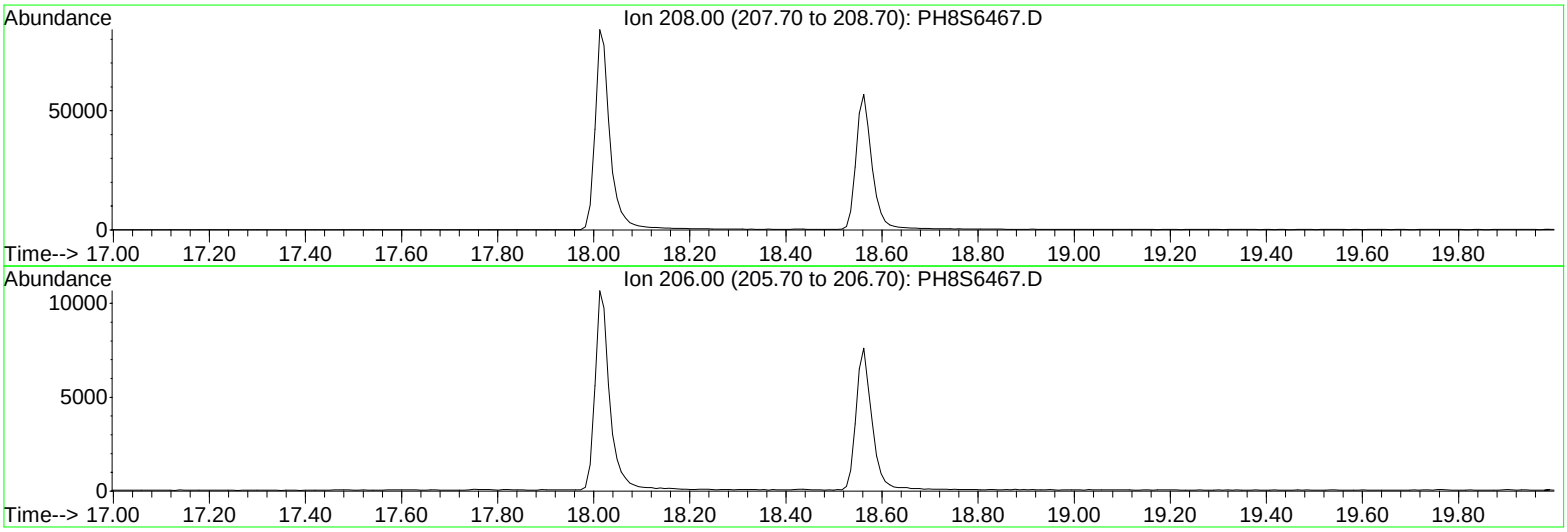
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

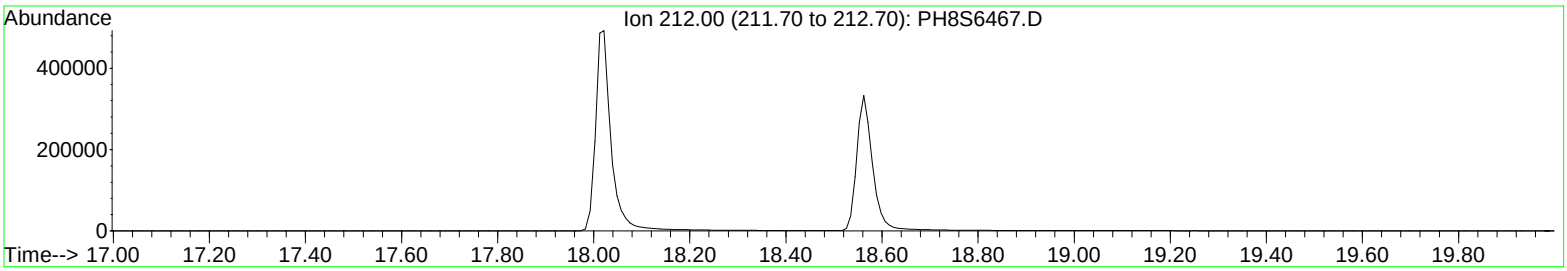




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

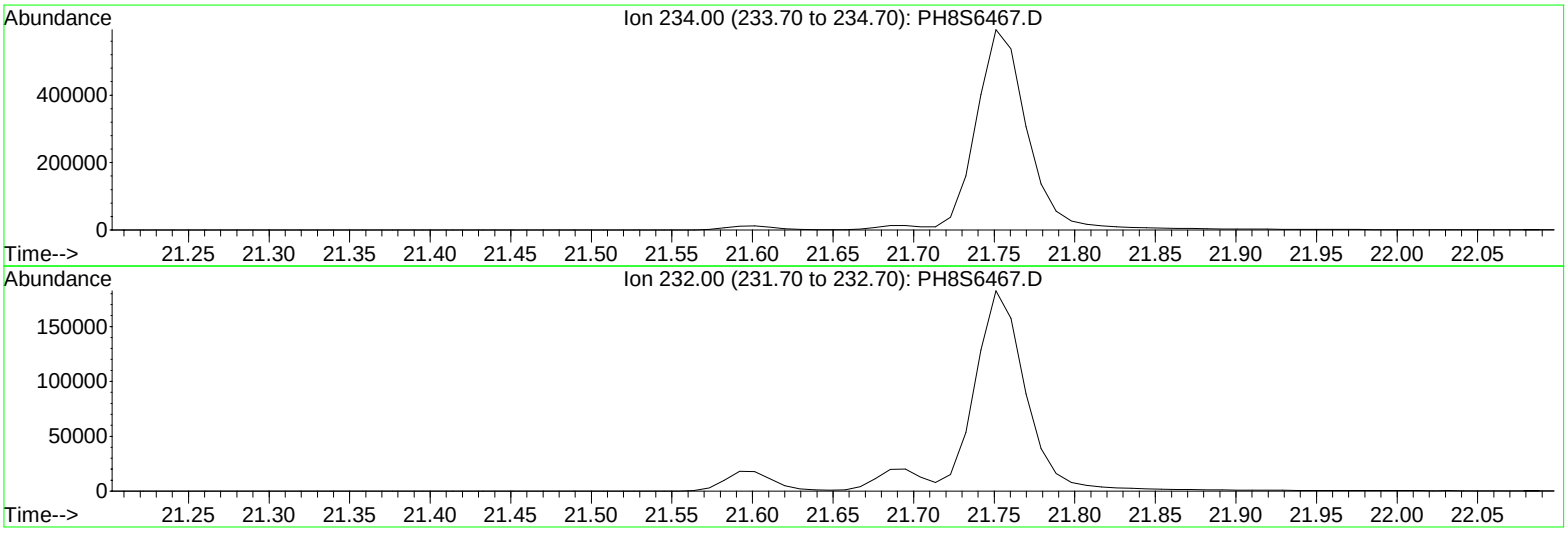


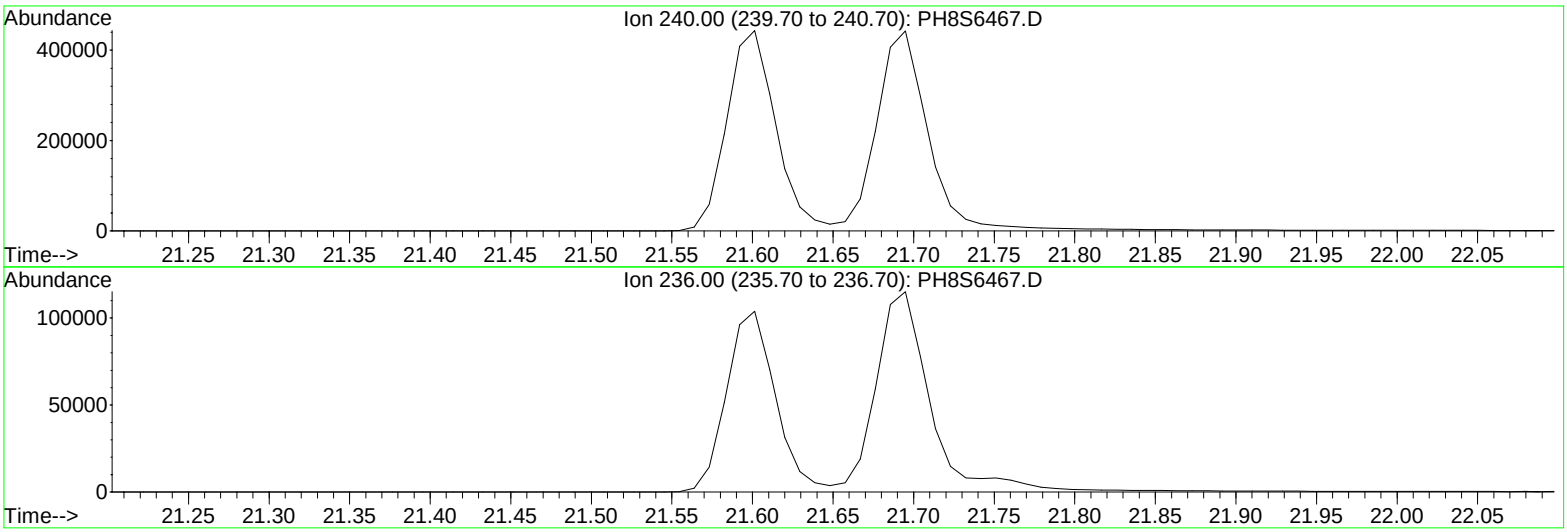


Thu Jan 10 08:56:27 2019

Axys Analytical CHRO Report

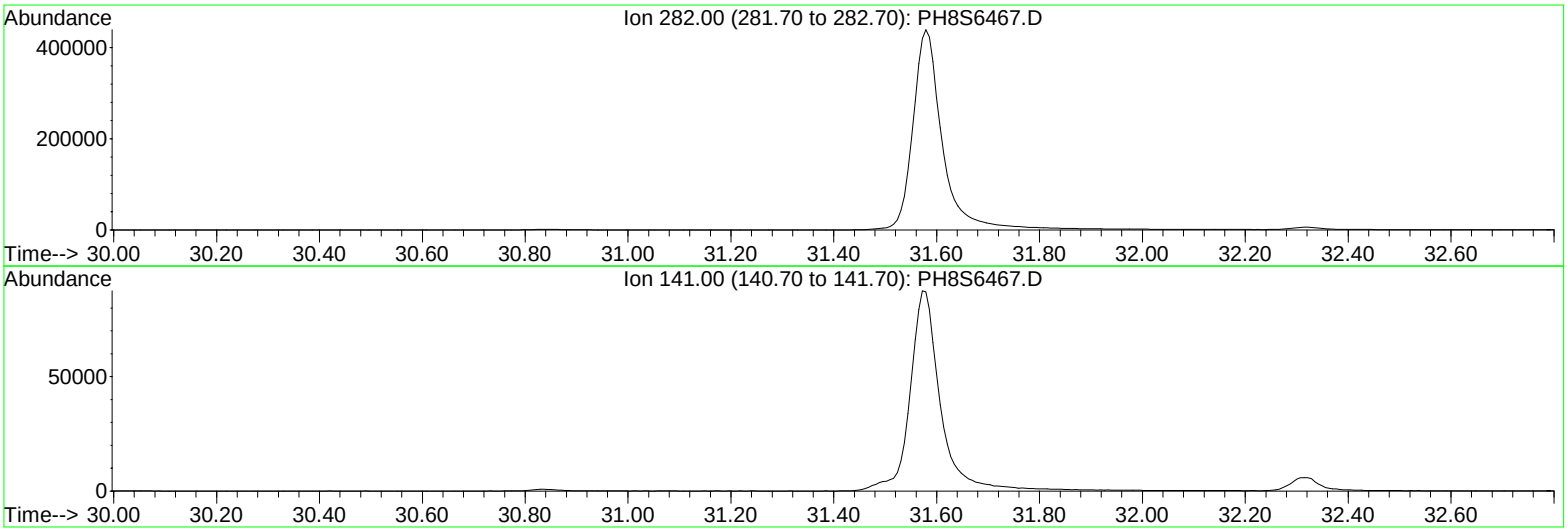
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL

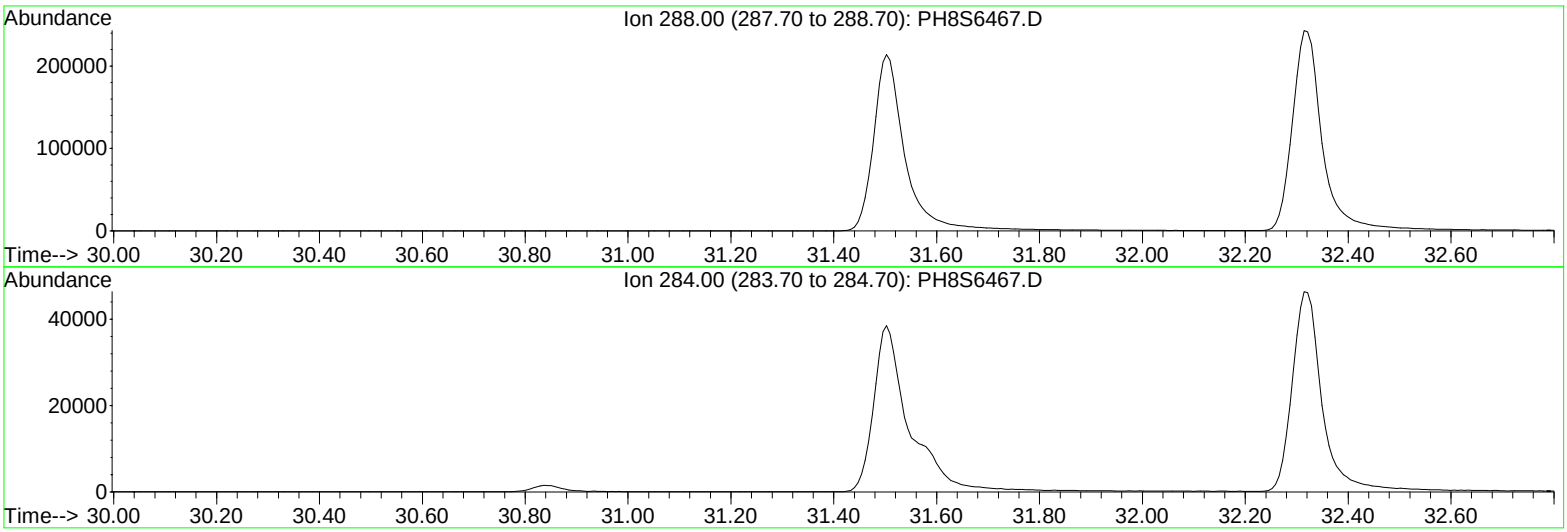




Axys Analytical CHRO Report

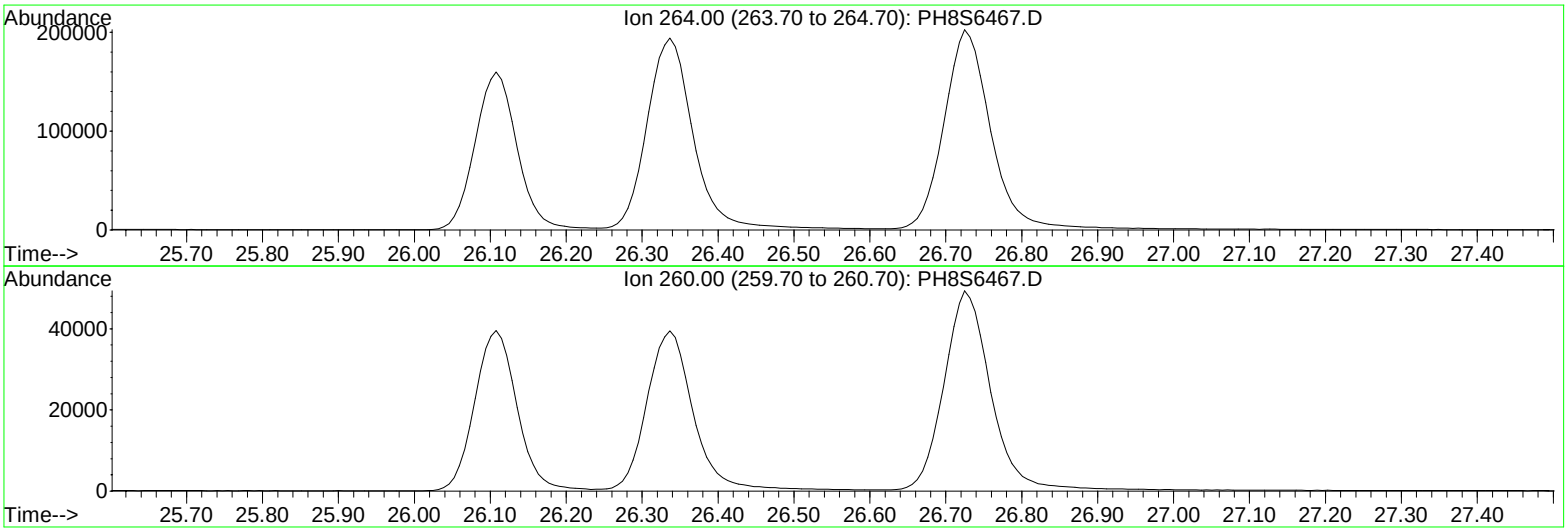
File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6467.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 18:30
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-1,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6478.D
29/12/2018 2:58
L30540-2
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6478.D\PH8S6478.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 21
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:41 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.102	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	446253	11.29	3980.2956 I	0	3980.2956	577		0.45	1
d8-Naphthalene - SURR	401740	6.89	608.2039 S	30.4102	0.5886	99		0.09	0.61
d10-2-Methylnaphthalene - SURR	303910	8.54	686.372 S	34.8412	1.4928	168		0.19	0.756
d10-Biphenyl - SURR	487025	9.8	784.0152 S	38.3382	0.5946	94		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	315738	10.11	780.3825 S	37.9748	3.2674	335		0.74	0.896
d8-Acenaphthylene - SURR	622058	10.85	795.2218 S	38.603	14.4143	2861		0.15	0.961
d10-Pyrene - REC	744670	18.55	3881.7734 I	0	3881.7734	2656		0.18	1
d10-Phenanthrene - SURR	844513	14.99	1223.3549 S	67.7759	12.6864	2222		0.14	0.808
d8-Dibenzothiophene - SURR	676659	14.69	1102.2018 S	54.1623	45.5423	7095		0.09	0.792
d12-Benz(a)anthracene - SURR	698316	21.6	1075.6672 S	52.9885	91.6997	15106		0.23	1.164
d12-Chrysene - SURR	680869	21.69	1003.9225 S	51.2205	44.0012	7572		0.26	1.169
d12-Benzo(e)pyrene - REC	319322	26.11	3980.2956 I	0	3980.2956	998		0.25	1
d12-Benzo(b)Fluoranthene - SURR	484921	25	1658.3351 S	84.1794	584.0729	43338		0.2	0.958
d12-Benzo(k)Fluoranthene - SURR	523847	25.11	1621.9633 S	81.0982	171.7403	14075		0.19	0.962
d12-Benzo(a)pyrene - SURR	406614	26.33	1469.7096 S	71.0005	11399.2906	800267		0.2	1.008
d12-Perylene - SURR	447357	26.73	1621.7403 S	75.4298	289.598	20271		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	363323	31.5	1296.6325 S	65.1574	5.2221	371		0.17	1.207
d12-Benzo(ghi)perylene - SURR	420191	32.31	1260.8342 S	63.6785	23.1886	1961		0.19	1.238
d8-Naphthalene	401740	6.89	3940.8867 I	0	3940.8867	93		0.09	1
Naphthalene $	8536	6.93	69.9616 T	0	1.1065	135		0.07	1.006
d10-2-Methylnaphthalene	303910	8.54	3881.7734 I	0	3881.7734	167		0.19	1
2-Methylnaphthalene $	5633	8.61	59.4633 T	0	3.0078	285		0.91	1.009
1-Methylnaphthalene	6282	8.88	70.2367 T	0	3.1857	285		0.91	1.04
C1-Naphthalenes	5633	8.61	0 T	0	0	914		-1	1.009
d10-Biphenyl	487025	9.8	4029.5567 I	0	4029.5567	96		-1	1
Biphenyl $	4014	9.86	29.8959 T	0	2.9661	398		0.28	1.006
C1-Biphenyls $	3070	11.33	22.8651 T	0	2.8159	378		0.15	1.157
C2-Biphenyls $	6090	12.7	45.3578 T	0	7.6594	1028		0.19	1.296
d12-2,6-Dimethylnaphthalene	315738	10.11	4049.2611 I	0	4049.2611	347		0.74	1
2,6-Dimethylnaphthalene $	8534	10.23	90.4946 T	0	4.1664	393		0.7	1.011
Ethyl/DiMe-Naphthalenes	8531	10.23	99.9896 T	0	4.6052	393		0.75	1.011
1,2-Dimethylnaphthalene	3382	10.94	44.3144 T	0	5.1483	393		1.12	1.082
C2-Naphthalenes	8531	10.23	0 T	0	0	33663		-1	1.011
2,3,6-Trimethylnaphthalene	6439	12.2	67.5471 T	0	4.3359	413	#	1.11	1.206
2,3,5-Trimethylnaphthalene $	15606	12.37	172.5264 T	0	4.5693	413		1.07	1.224
C3-Naphthalenes	11186	12.37	120.4195 T	0	4.4495	413		1.03	1.224
1,4,6,7-Tetramethylnaphthalene $	9855	13.91	103.3387 T	0	91.7647	8751	#	0.1	1.376
C4-Naphthalenes	9855	13.91	103.3387 T	0	91.7647	8751		0.1	1.376
d8-Acenaphthylene	622058	10.85	4059.1133 I	0	4059.1133	2972		0.15	1
Acenaphthylene $	11839	10.88	63.5788 T	0	2.0365	379		0.2	1.003
Acenaphthene $	19077	11.36	185.3692 T	0	2.5395	261		1.19	1.048
C1-Acenaphthenes $	1693	11.72	16.4507 T	0	15.8349	1630		0.15	1.08
d8-Dibenzothiophene	676659	14.69	4009.8522 I	0	4009.8522	7571		0.09	1
Dibenzothiophene $	20877	14.74	103.4907 T	0	6.1421	1239		0.09	1.003
C1-Dibenzothiophenes-1	11934	15.87	86.221 T	0	97.1421	13446	#	0.26	1.08
2/3-Methyldibenzothiophenes $	6760	16.08	48.8398 T	0	97.1421	13446	#	1.57	1.095
C1-Dibenzothiophenes-2	3891	16.35	28.1118 T	0	97.1421	13446	#	4.74	1.113
C1-Dibenzothiophenes	6760	16.08	0 T	0	0	13446		-1	1.095
4,6-Dimethyldibenzothiophene	9175	16.94	61.8529 T	0	27.4167	4067		0.14	1.153

+ Report only.

PH8S6478

checked by MW 08-Jan-19

pv by vr
03-Jan-2019

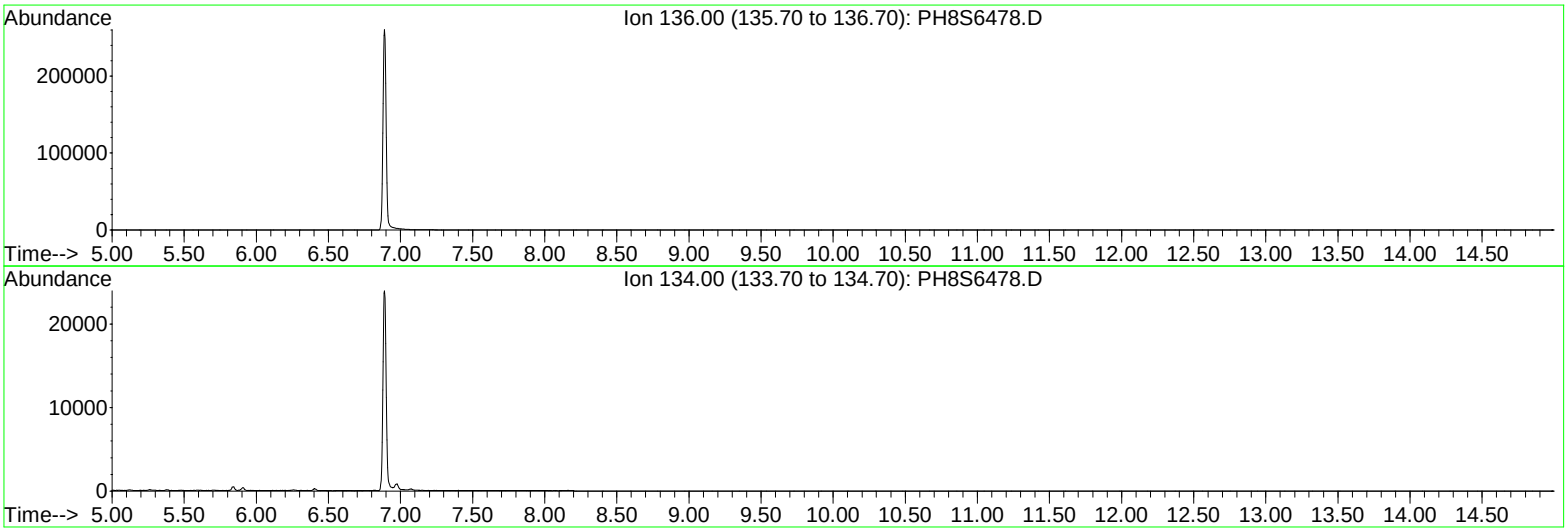
www.axysanalytical.com

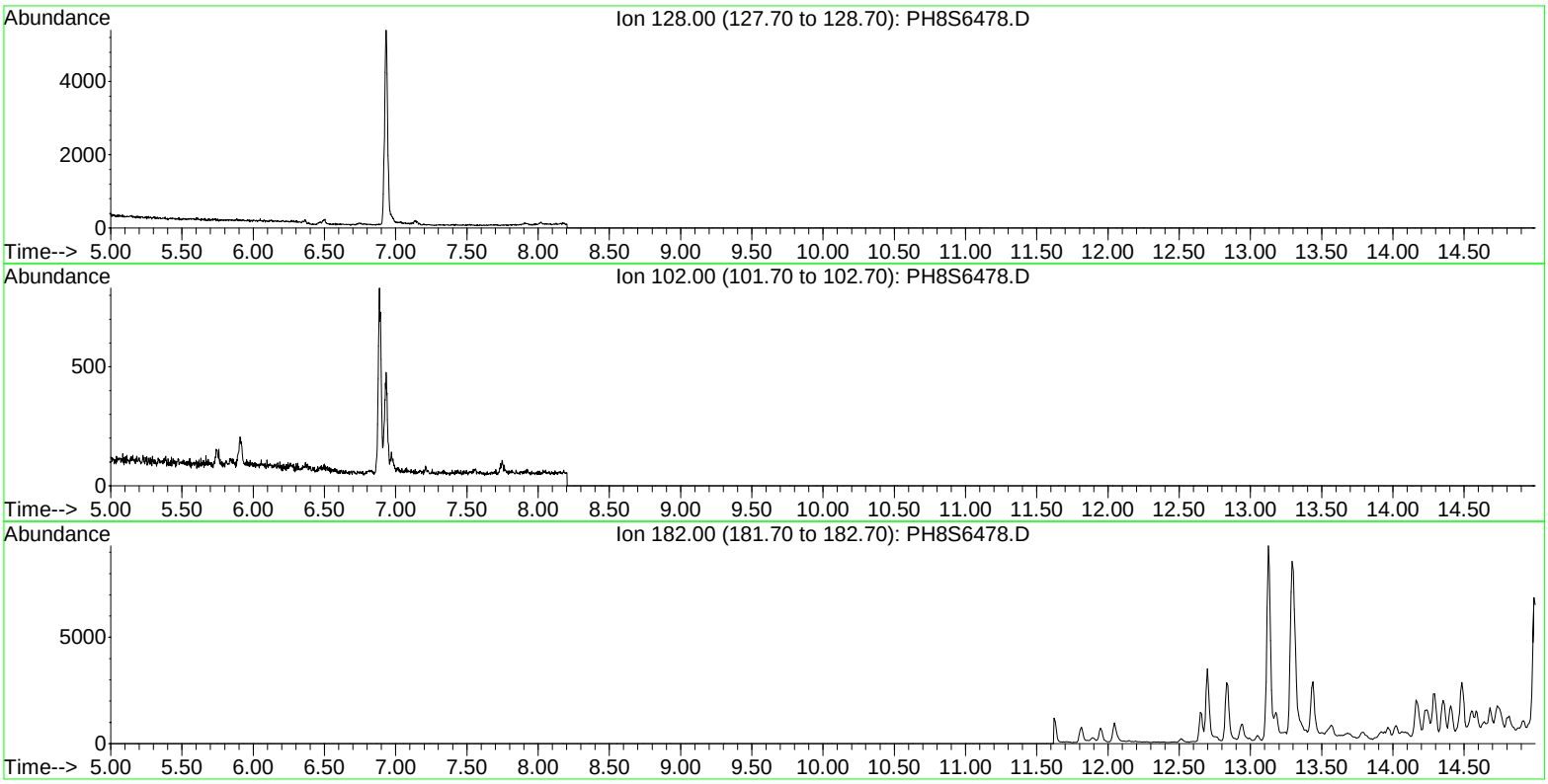
2,4-Dimethyldibenzothiophene $	4983	17.09	43.4976 T	0	35.5005	4067 #	1.18	1.163
C2-Dibenzothiophenes	4983	17.09	43.4976 T	0	35.5005	4067	1.18	1.163
C3-Dibenzothiophenes $	15060	18.09	131.4617 T	0	119.3874	13677	0.76	1.232
C4-Dibenzothiophenes $	1570	18.81	13.7048 T	0	41.9693	4808	0.57	1.28
d10-Phenanthrene	844513	14.99	3556.6502 I	0	3556.6502	2253	0.14	1
Fluorene $	32801	12.65	193.2888 T	0	1.7257	293	1.02	0.844
2-Methylfluorene $	14104	14.08	122.2192 T	0	220.5419	25450	1.47	0.939
C1-Fluorenes	14104	14.08	122.2192 T	0	220.5419	25450	1.47	0.939
1,7-Dimethylfluorene $	5604	15.47	52.2172 T	0	151.1858	16225 #	0.05	1.032
C2-Fluorenes	5604	15.47	52.2172 T	0	151.1858	16225	0.05	1.032
C3-Fluorenes $	7270	16.41	67.7407 T	0	207.0739	22223	1.6	1.095
Phenanthrene $	428864	15.05	1688.6733 T	0	5.9209	1504	0.19	1.004
Anthracene	127364	15.16	495.5792 T	0	5.851	1504	0.21	1.011
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	79587	16.31	444.1908 T	0	6.0979	1093	0.62	1.088
2-Methylphenanthrene	79544	16.37	449.8401 T	0	6.1788	1093	0.54	1.092
2-Methylanthracene	34225	16.47	199.412 T	0	6.3659	1093	0.48	1.099
9/4-Methylphenanthrenes	74355	16.59	414.99 T	0	6.0979	1093 #	0.84	1.106
1-Methylphenanthrene $	63083	16.65	333.6814 T	0	5.7793	1093	0.65	1.11
C1-Phenanthrenes/Anthracenes	63083	16.65	0 T	0	0	59264	-1	1.11
Fluoranthene $	1177772	18.05	3775.1625 T	0	7.293	2275	0.2	1.204
Pyrene	1652093	18.59	5121.75 T	0	7.0537	2275	0.21	1.24
3,6-Dimethylphenanthrene $	23779	17.47	137.8235 T	0	280.2345	48350 #	0.84	1.165
2,6-Dimethylphenanthrene	21759	17.56	125.8838 T	0	279.7202	48350	0.4	1.171
1,7-Dimethylphenanthrene	35432	17.88	204.6131 T	0	279.2099	48350 #	0.45	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	23779	17.47	137.5703 T	0	279.7202	48350	0.84	1.165
1,8-Dimethylphenanthrene	10636	18.13	61.5332 T	0	279.7202	48350	0.41	1.209
C2-Phenanthrenes/Anthracenes	23779	17.47	0 T	0	0	48350	-1	1.165
1,2,6-Trimethylphenanthrene $	11489	19.38	72.3205 T	0	101.8162	16175 #	0.74	1.293
C3-Phenanthrenes/Anthracenes	11489	19.38	72.3205 T	0	101.8162	16175	0.74	1.293
Retene $	24065	19.5	396.4486 T	0	182.7764	11095 #	1.22	1.301
C4-Phenanthrenes/Anthracenes	24065	19.5	396.4486 T	0	182.7764	11095	1.22	1.301
C1-Fluoranthenes/Pyrenes-1	71308	19.24	384.4748 T	0	1781.5823	330427	0.93	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	218517	19.5	1178.1888 T	0	1781.5823	330427	0.94	1.301
C1-Fluoranthenes/Pyrenes-2	108864	19.98	586.9674 T	0	1781.5823	330427	0.55	1.333
C1-Fluoranthenes/Pyrenes	218517	19.5	0 T	0	0	330427	-1	1.301
C2-Fluoranthenes/Pyrenes $	3917	20.46	21.1195 T	0	335.7537	62272	0.39	1.365
C3-Fluoranthenes/Pyrenes $	4076	21.92	21.9768 T	0	140.2286	26008 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	3268	23.16	17.6202 T	0	16.61	3081	0.65	1.545
d12-Benz(a)anthracene	698316	21.6	4000 I	0	4000	17194	0.23	1
d10-Fluoranthene $	115789	18.01	610.8793 T	0	3.2695	620	0.17	0.834
† Benz(a)anthracene	208122	21.65	922.7963 T	0	3.1684	715	0.31	1.002
d12-Chrysene	680869	21.69	3862.069 I	0	3862.069	9051	0.26	1
† Chrysene $	284507	21.75	1307.3347 T	0	3.448	750	0.29	1.003
5/6-Methylchrysenes $	8157	23.1	49.6359 T	0	738.8887	121427	-1	1.065
1-Methylchrysene	18126	23.27	106.4677 T	0	713.2296	121427	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	8157	23.1	48.7591 T	0	725.8365	121427	-1	1.065
5,9-Dimethylchrysene $	10314	24.42	81.0694 T	0	109.6607	13952	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	10314	24.42	81.0694 T	0	109.6607	13952	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	187	25.03	1.4698 T	0	9.8126	1248	-1	1.154
C4-Benz(a)anthracenes/Chrysenes $	51	26.08	0.4009 T	0	3.0795	392	-1	1.203
d12-Benzo(b)fluoranthene	484921	25	3881.7734 I	0	3881.7734	36883	0.2	1
Benzo(b)fluoranthene-SURR int	1221	24.99	0 T	0	0	5066 #	0.2	1
† Benzo(b)fluoranthene $	151600	25.09	838.1358 T	0	5.787	1047	0.22	1.004
d12-Benzo(k)fluoranthene	523847	25.11	3940.8867 I	0	3940.8867	13066	0.19	1
† Benzo(j/k)fluoranthenes	129458	25.17	771.8481 T	0	6.8076	1142	0.22	1.002
Benzofluoranthenes	149161	25.09	0 T	0	0	5407	-1	0.999
d12-Benzo(a)pyrene	406614	26.33	4078.8177 I	0	4078.8177	867584	0.2	1
Benzo(e)pyrene	112717	26.22	814.7849 T	0	9.6387	1333	0.21	0.996
† Benzo(a)pyrene	81140	26.44	621.3926 T	0	10.2116	1333	0.22	1.004
7-Methylbenzo(a)pyrene $	3176	29.2	34.171 T	0	33.971	3157	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	3176	29.2	34.171 T	0	33.971	3157	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	32	29.89	0.3443 T	0	24.3616	2264	-1	1.135
d12-Perylene	447357	26.73	4236.4532 I	0	4236.4532	22665	0.24	1
Perylene	29419	26.84	202.0445 T	0	9.4448	1375	0.23	1.004
d12-Indeno(123cd)pyrene	363323	31.5	3921.1823 I	0	3921.1823	387	0.17	1
d14-Dibenzo(ah)anthracene $	3116	31.64	36.7609 T	0	3.8496	326 #	5.79	1.004
† Dibenzo(ah)anthracene $	4663	31.74	44.2069 T	0	7.562	798 #	0.35	1.007
† Indeno(123cd)pyrene $	27001	31.58	238.1422 T	0	10.2329	1160 #	~~0.6~~ 0.17	1.002
d12-Benzo(ghi)perylene	420191	32.31	3901.4778 I	0	3901.4778	1975	0.19	1
Benzo(ghi)perylene	35212	32.4	273.7756 T	0	8.722	1122	0.22	1.003

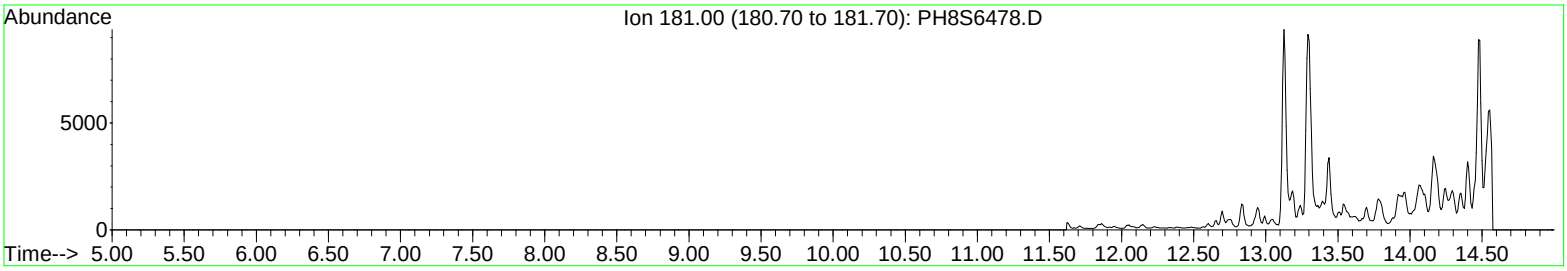
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



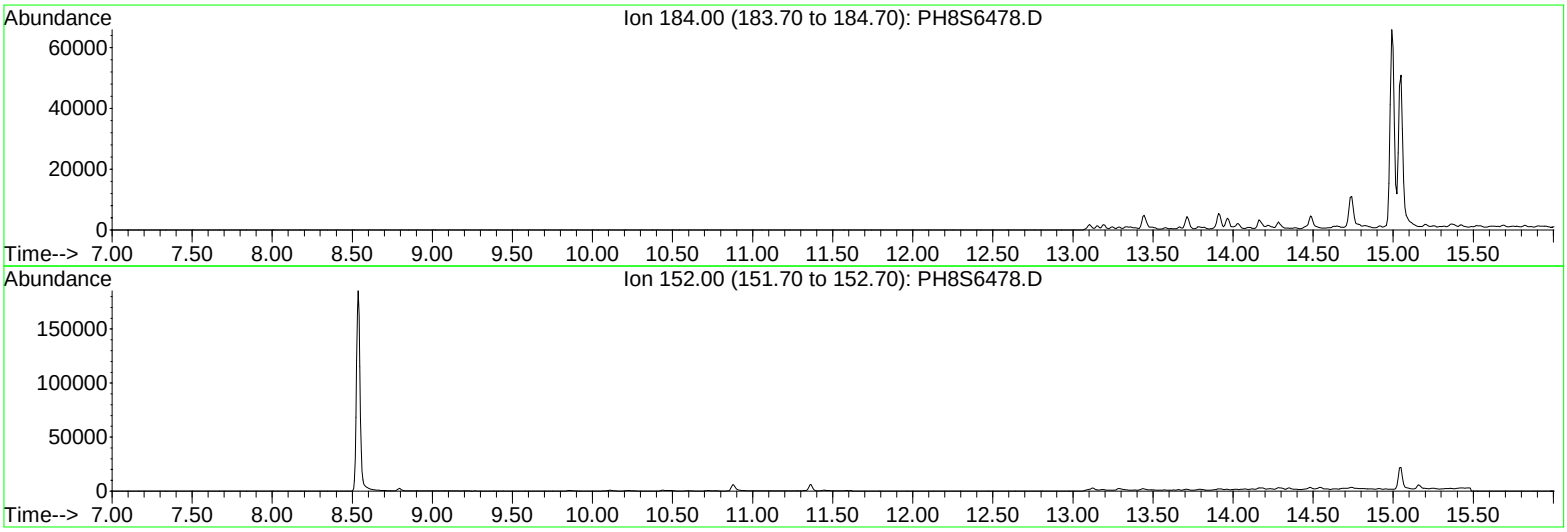


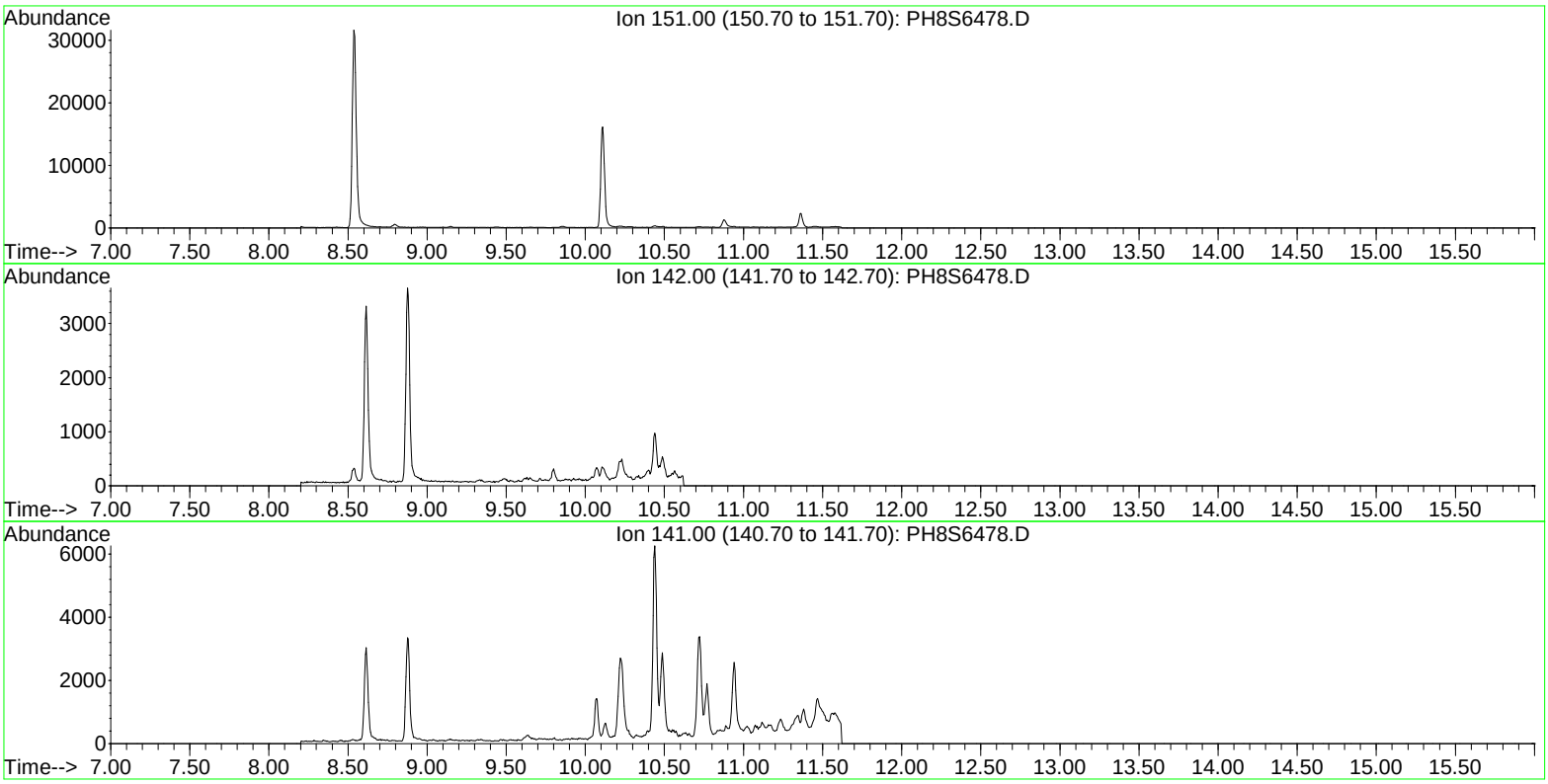


Thu Jan 10 08:47:08 2019

Axys Analytical CHRO Report

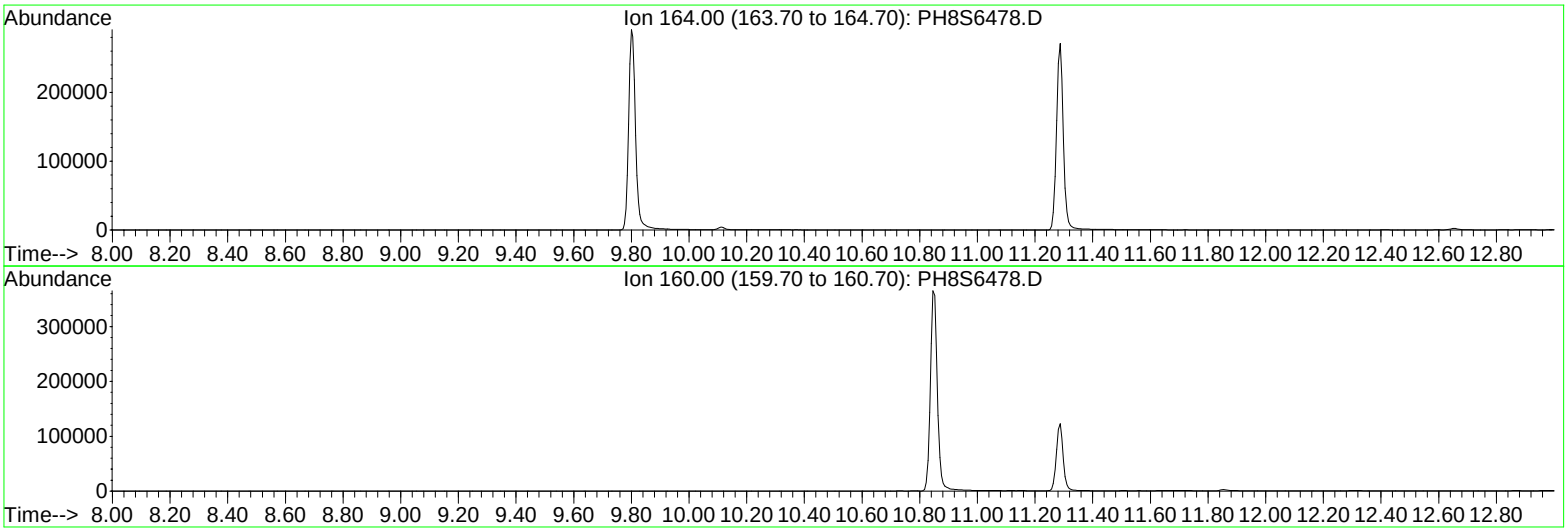
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

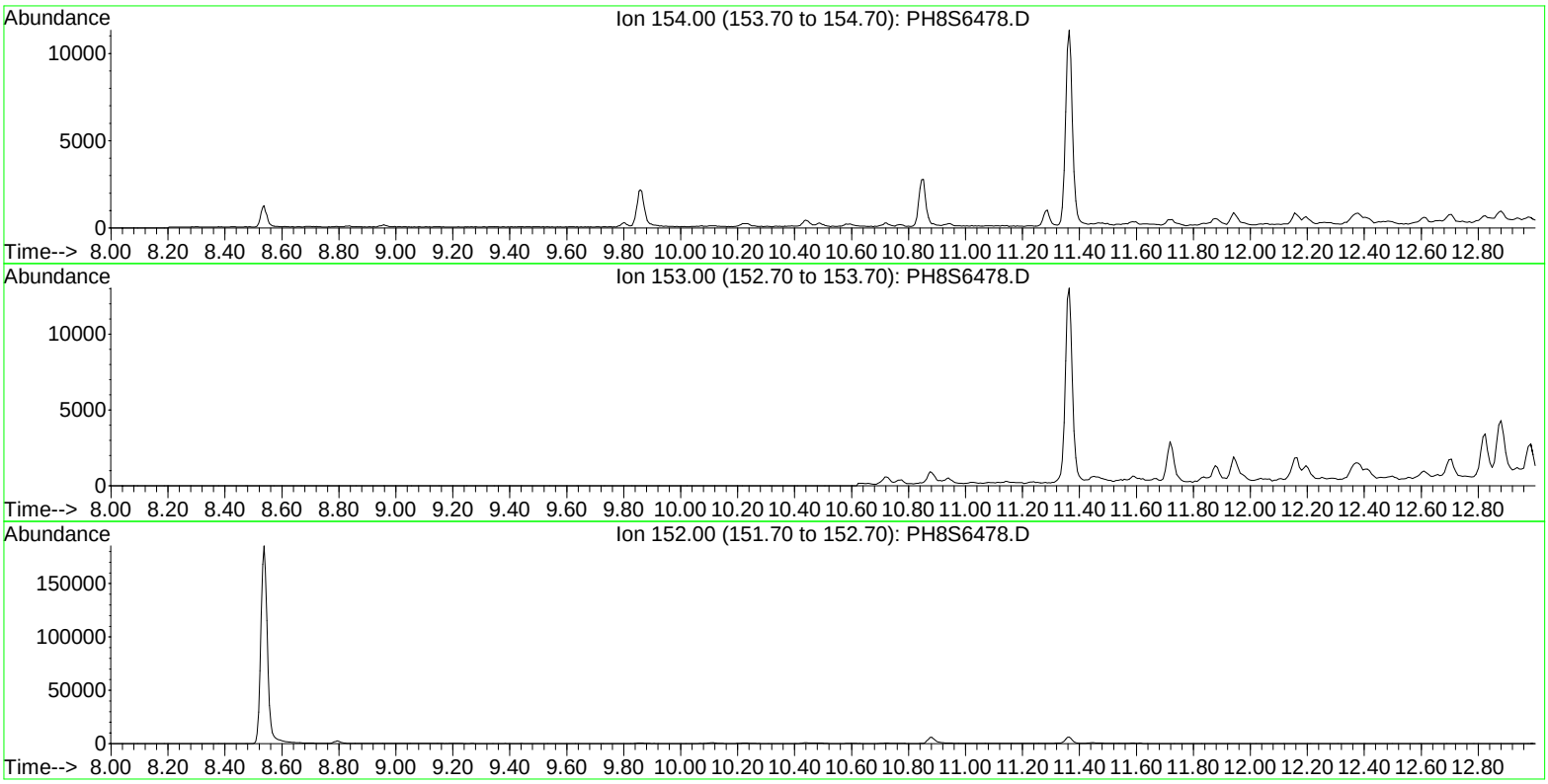




Axys Analytical CHRO Report

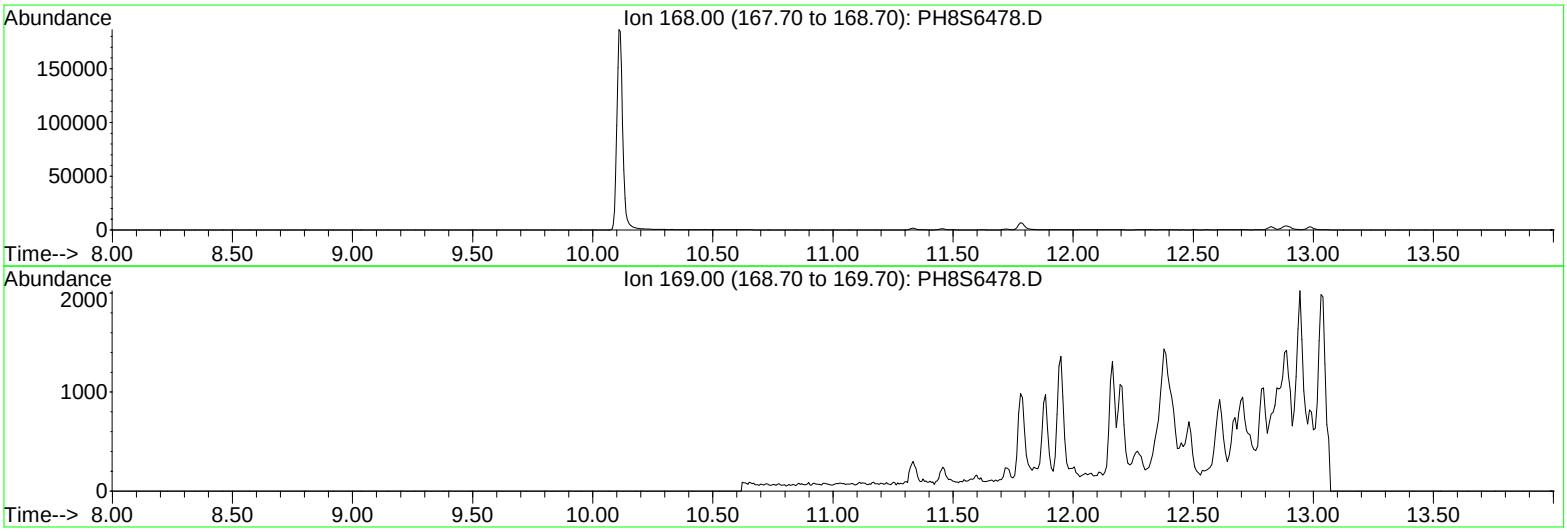
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

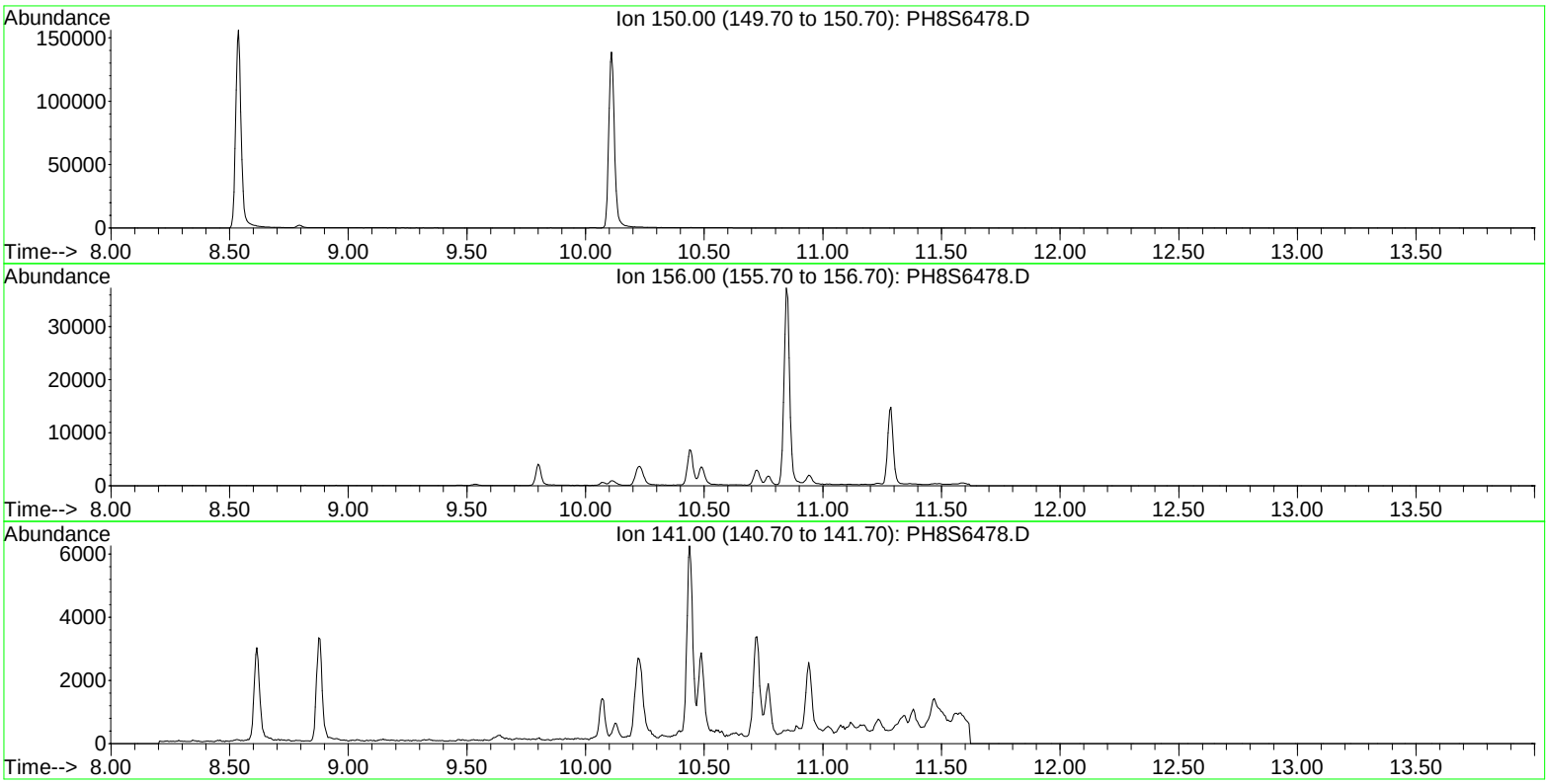




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

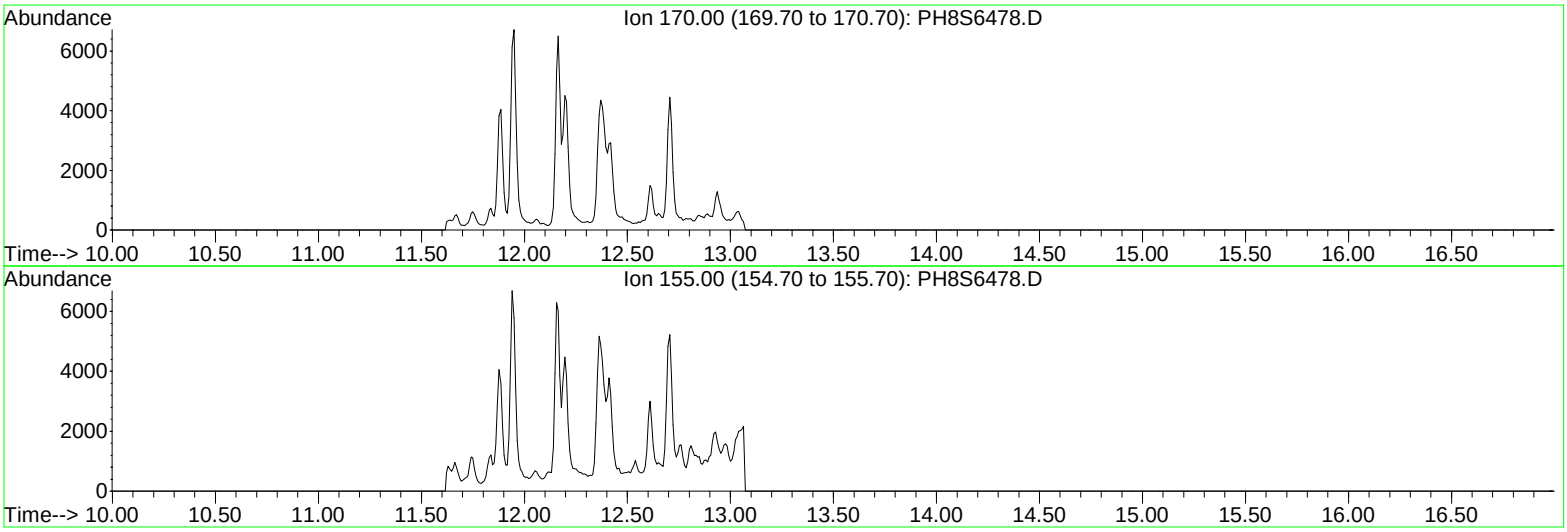


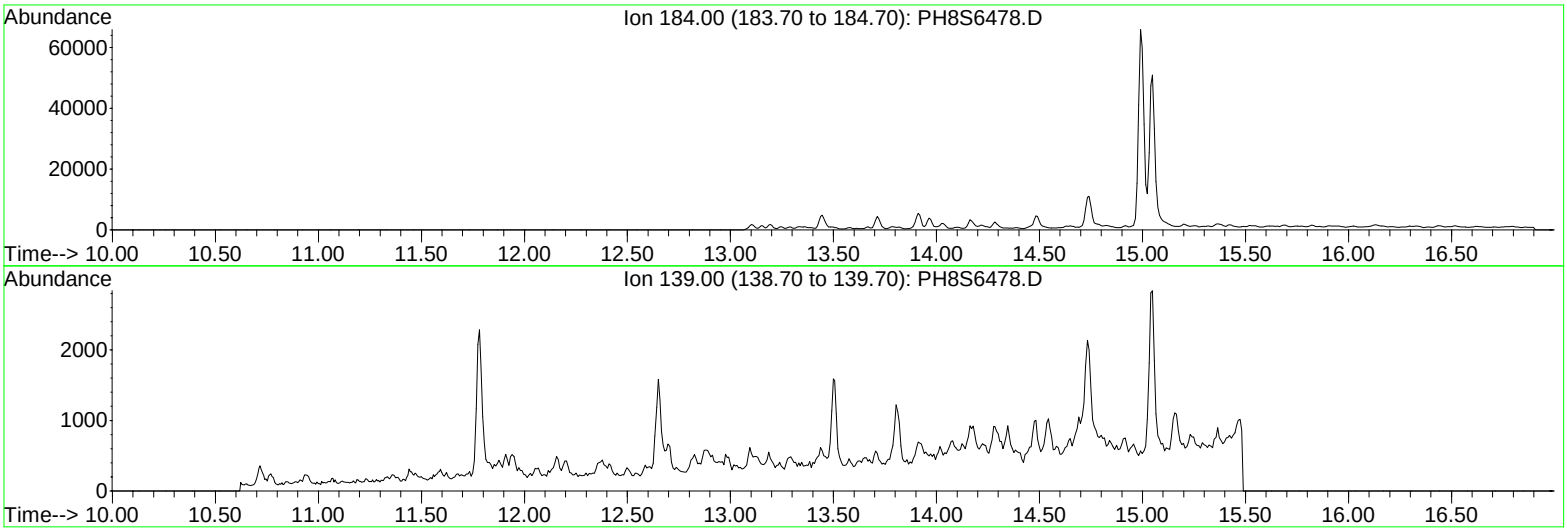


Thu Jan 10 08:47:18 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

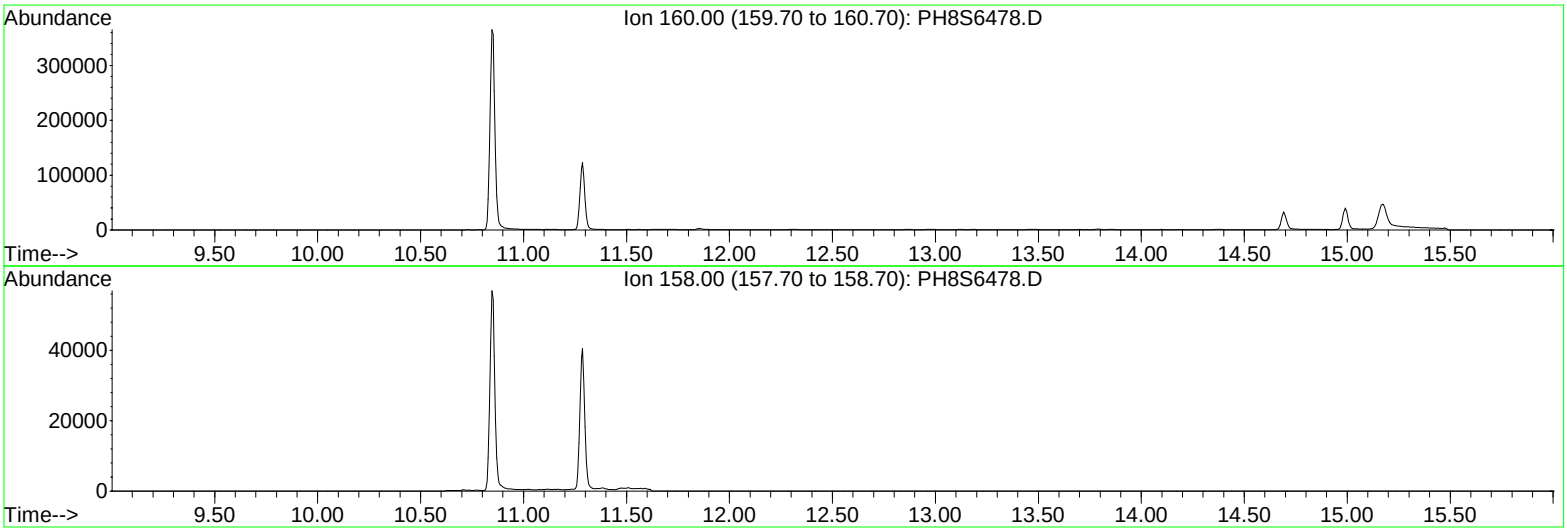


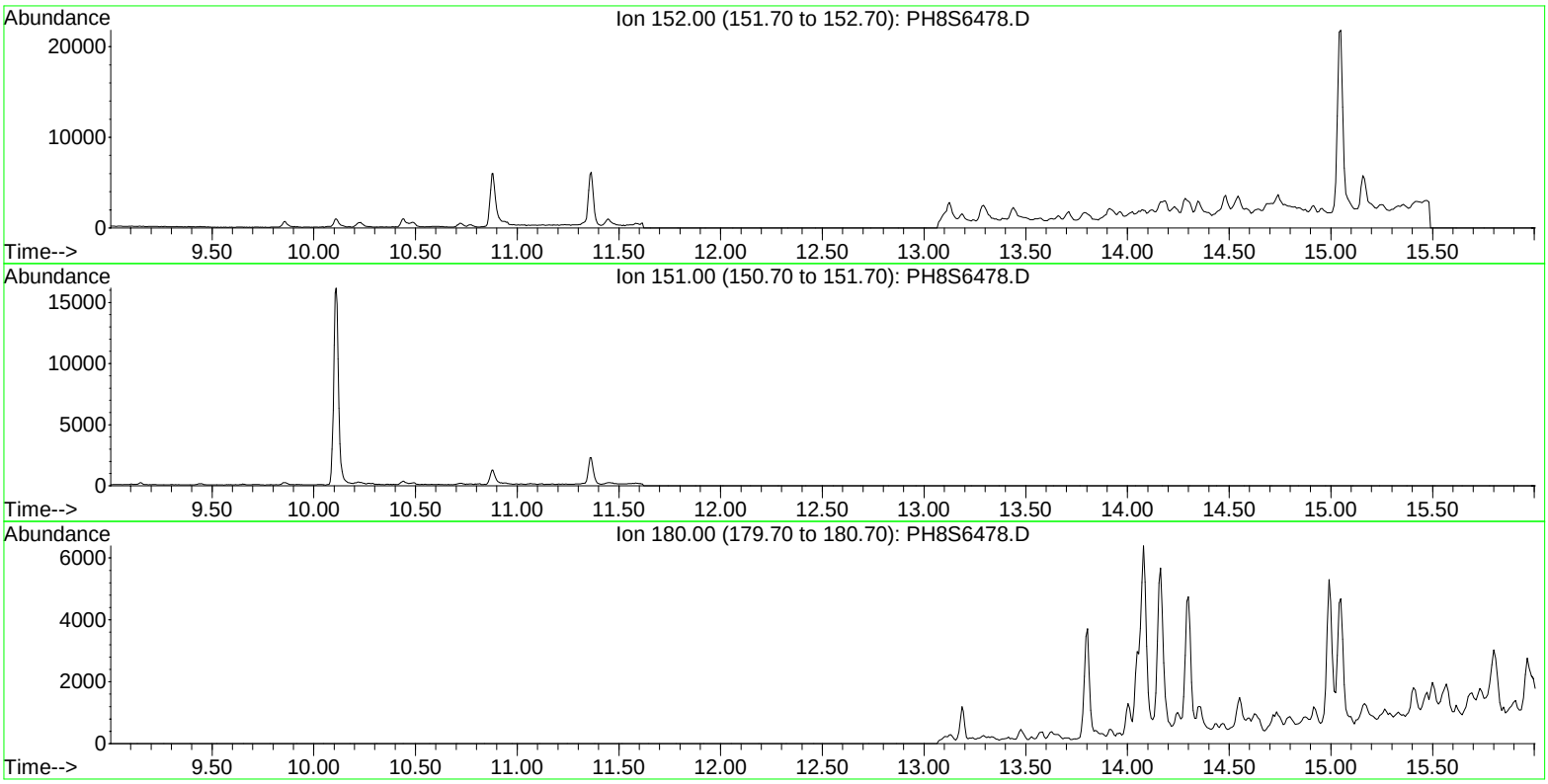


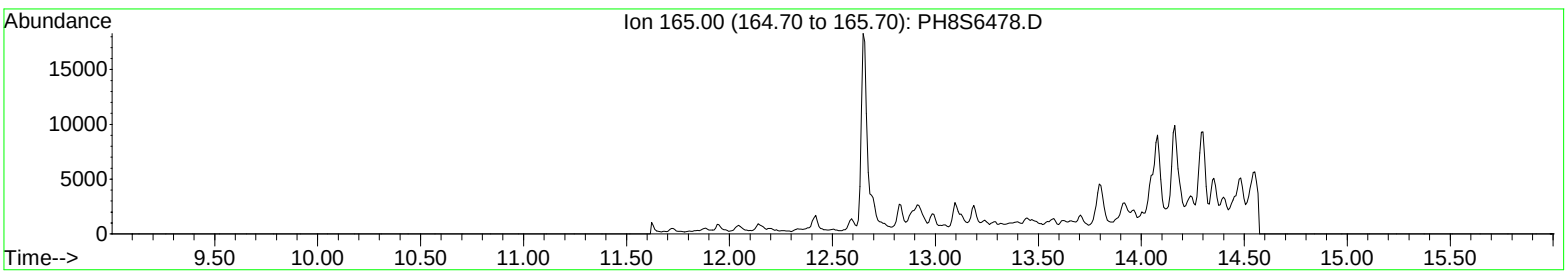
Thu Jan 10 08:47:21 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



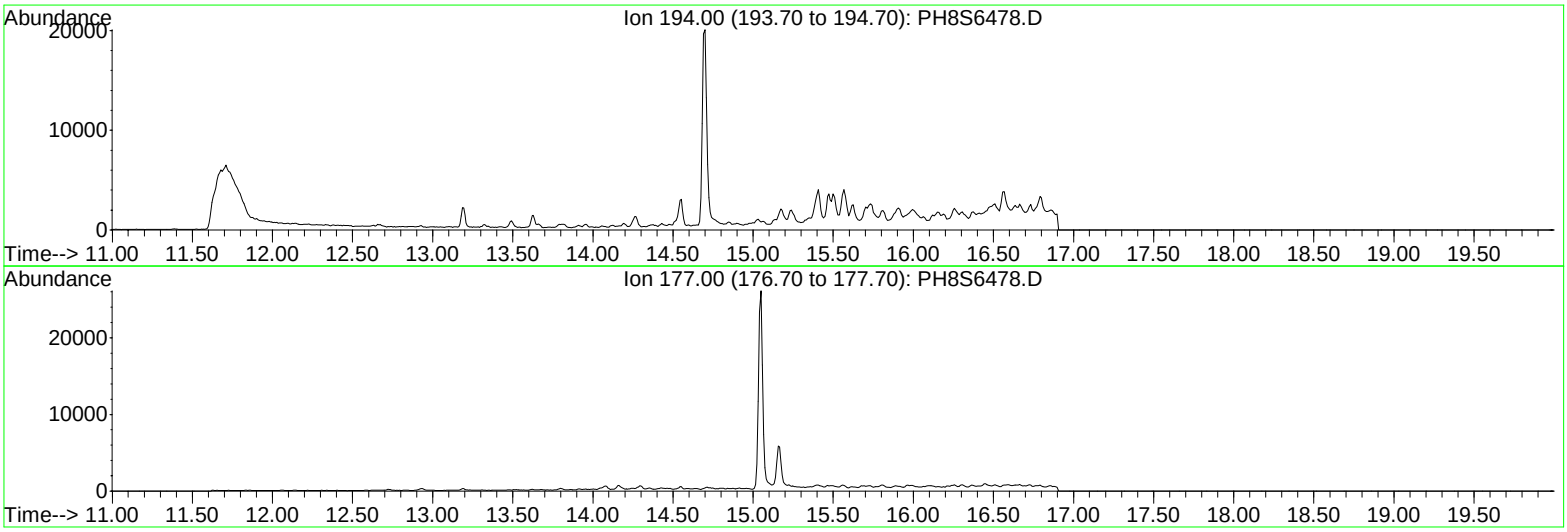


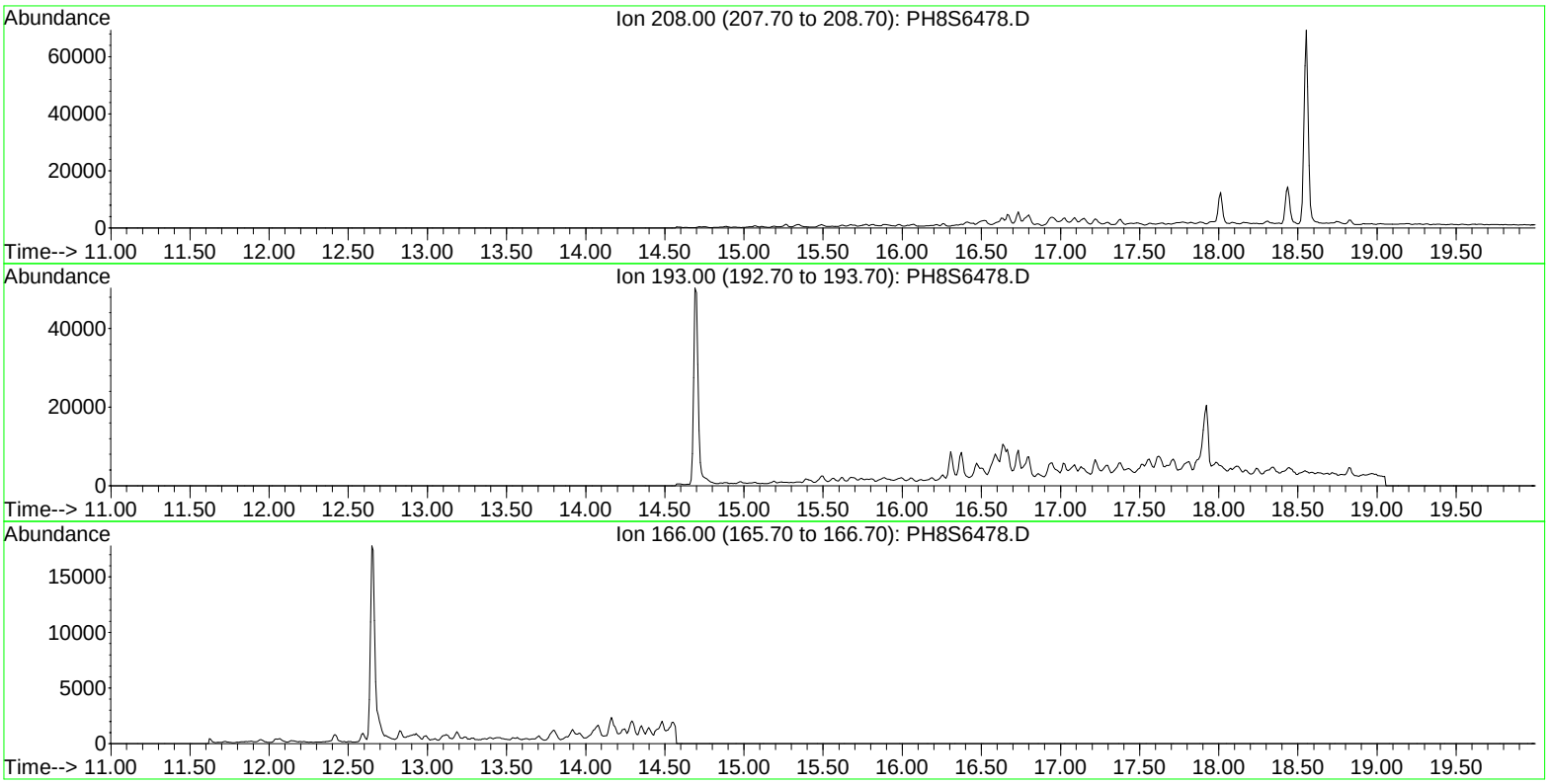


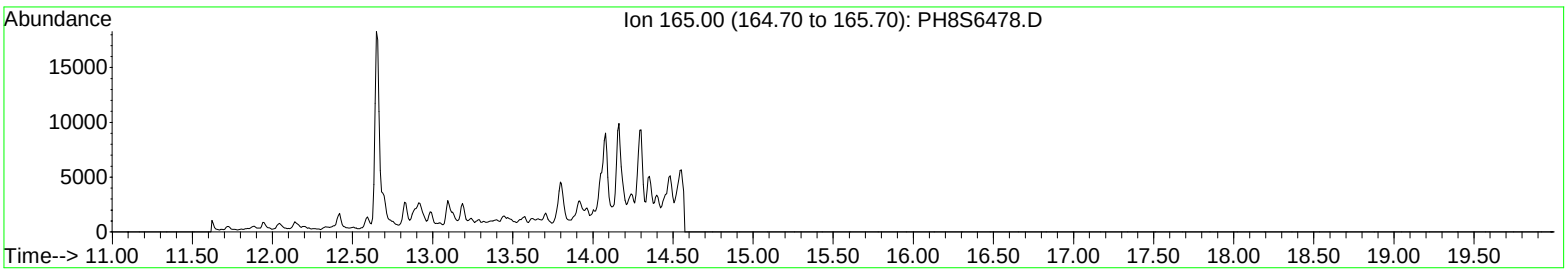
Thu Jan 10 08:47:24 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



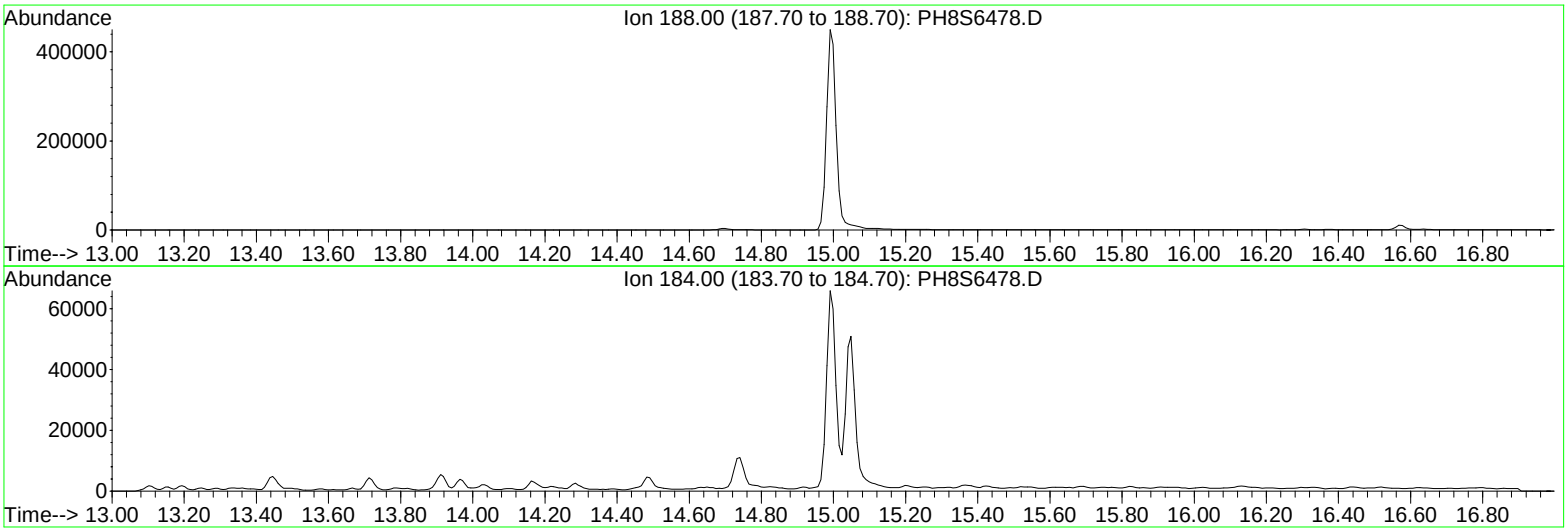


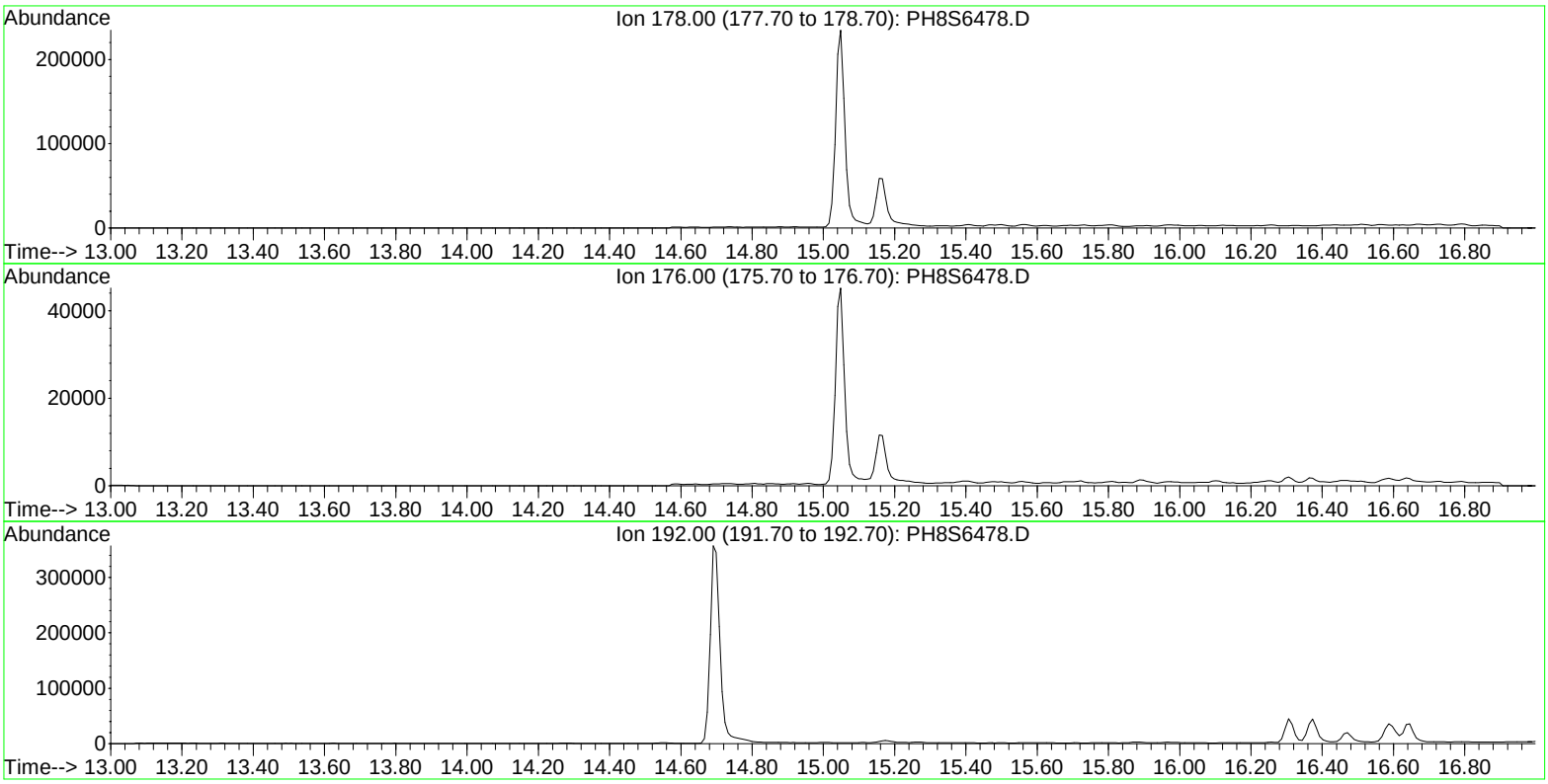


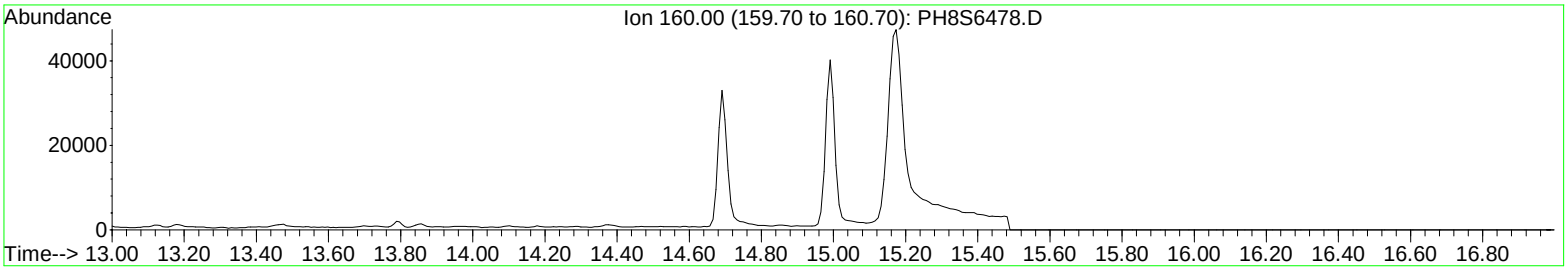
Thu Jan 10 08:47:27 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



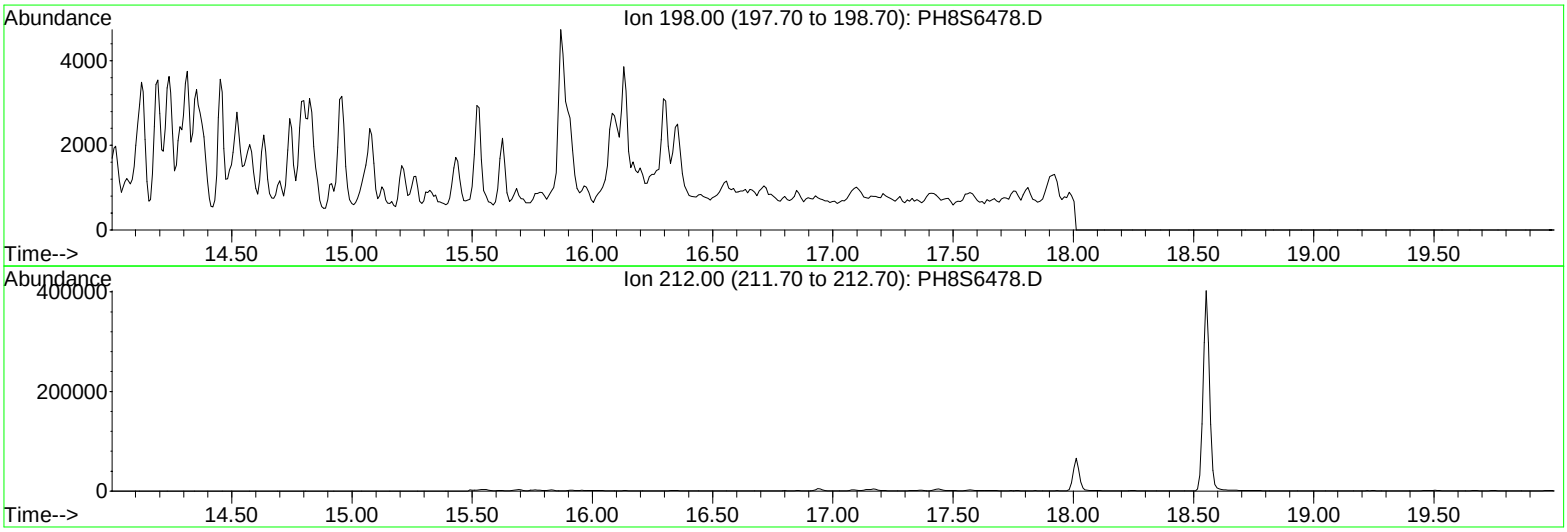


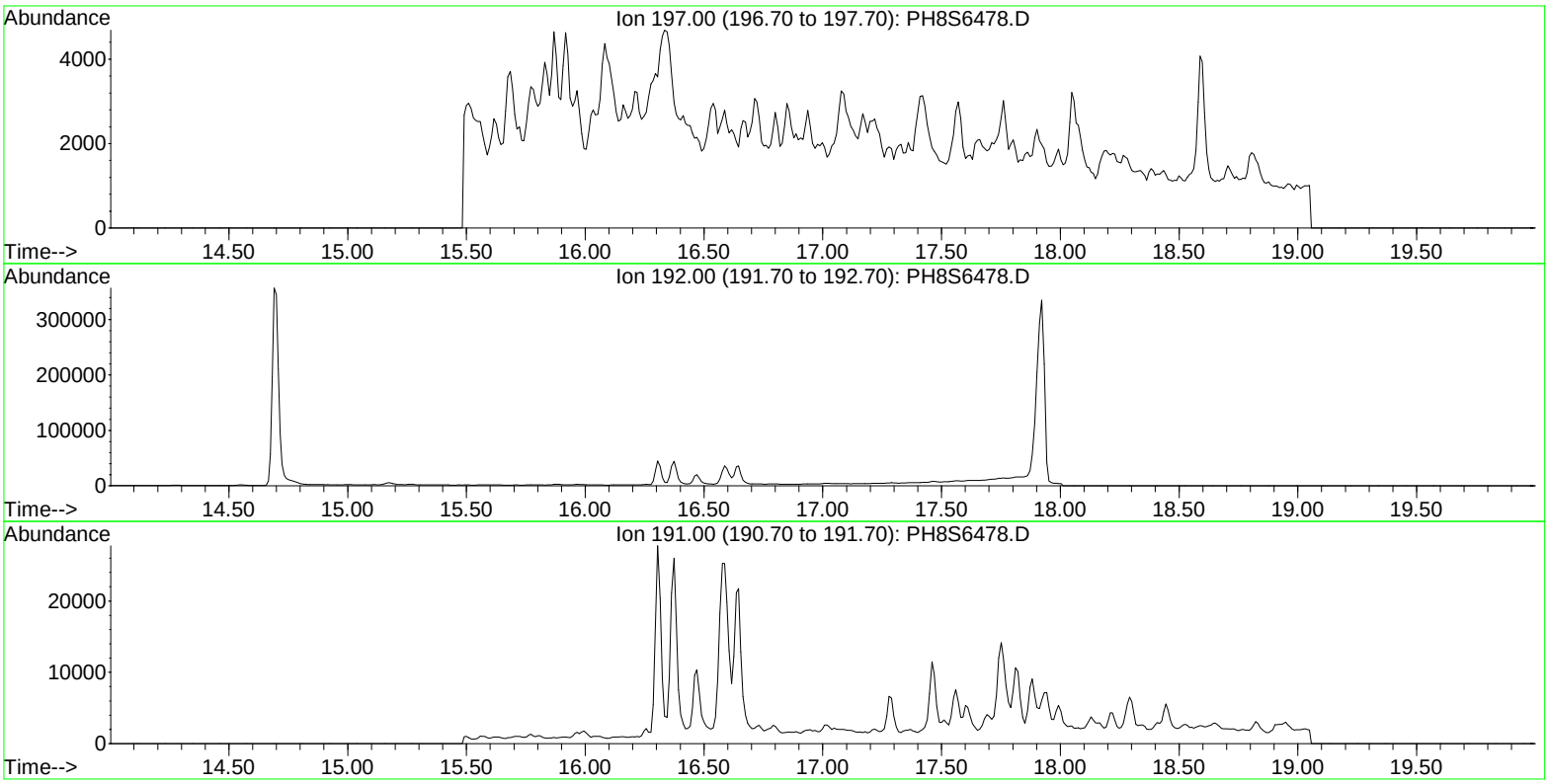


Thu Jan 10 08:47:30 2019

Axys Analytical CHRO Report

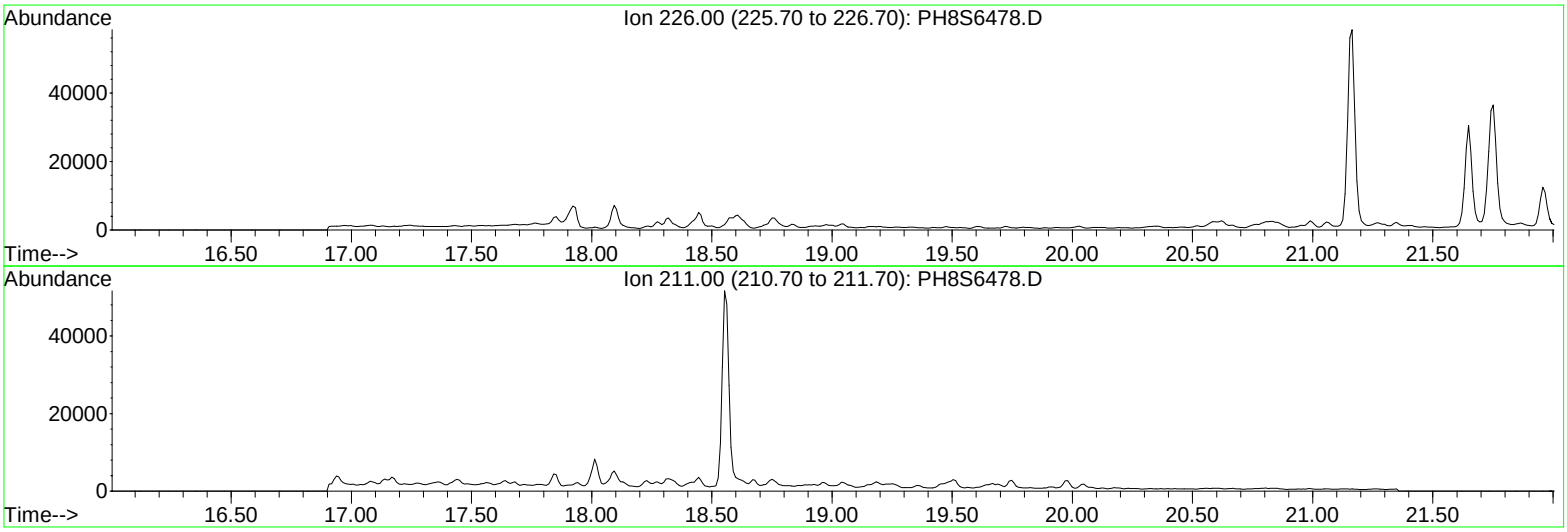
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

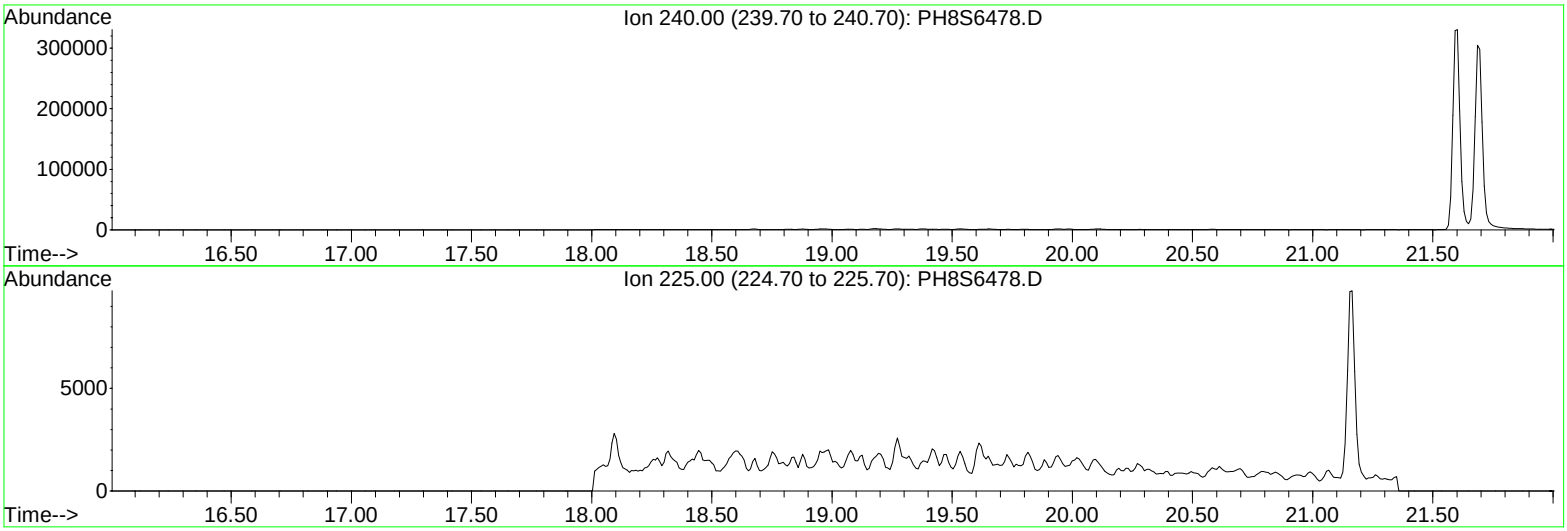




Axys Analytical CHRO Report

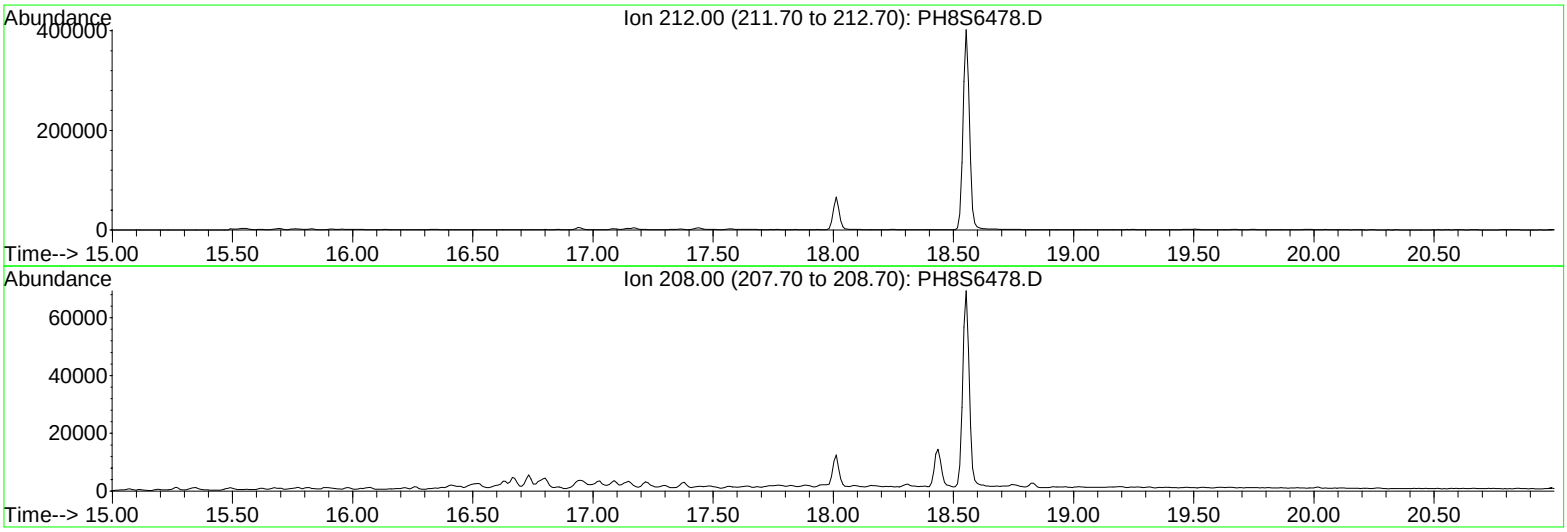
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

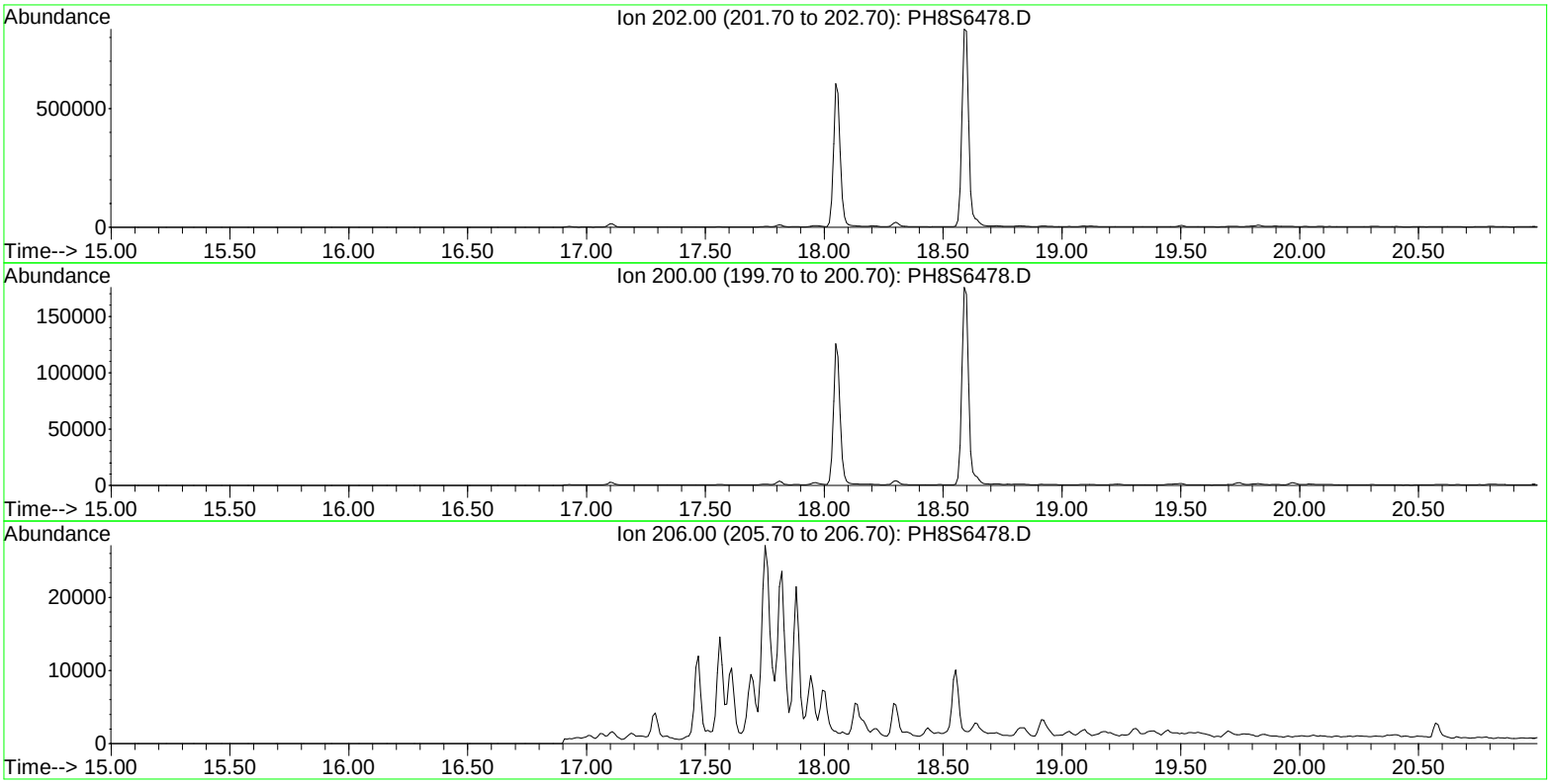


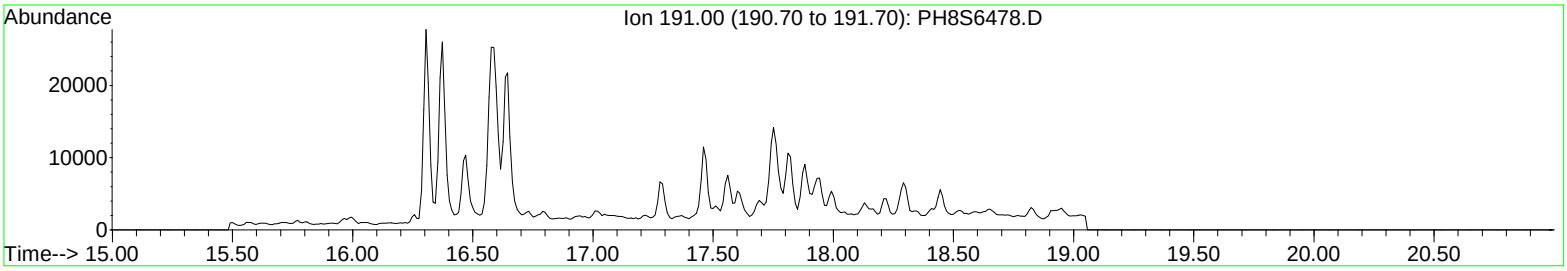


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



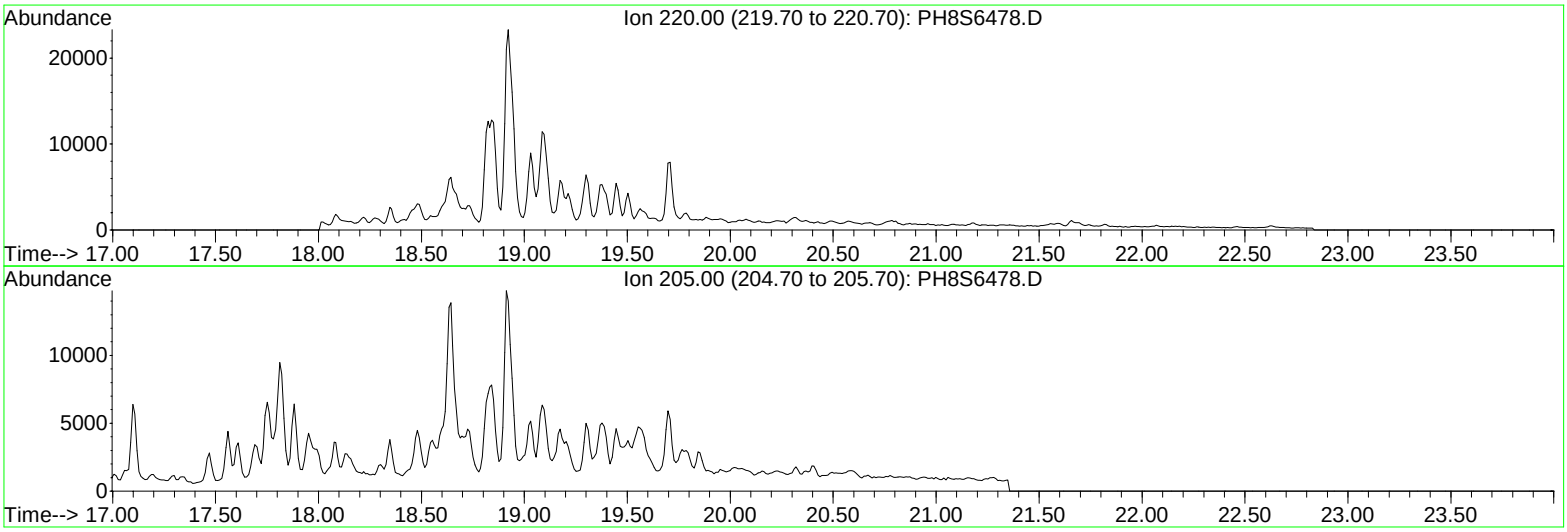


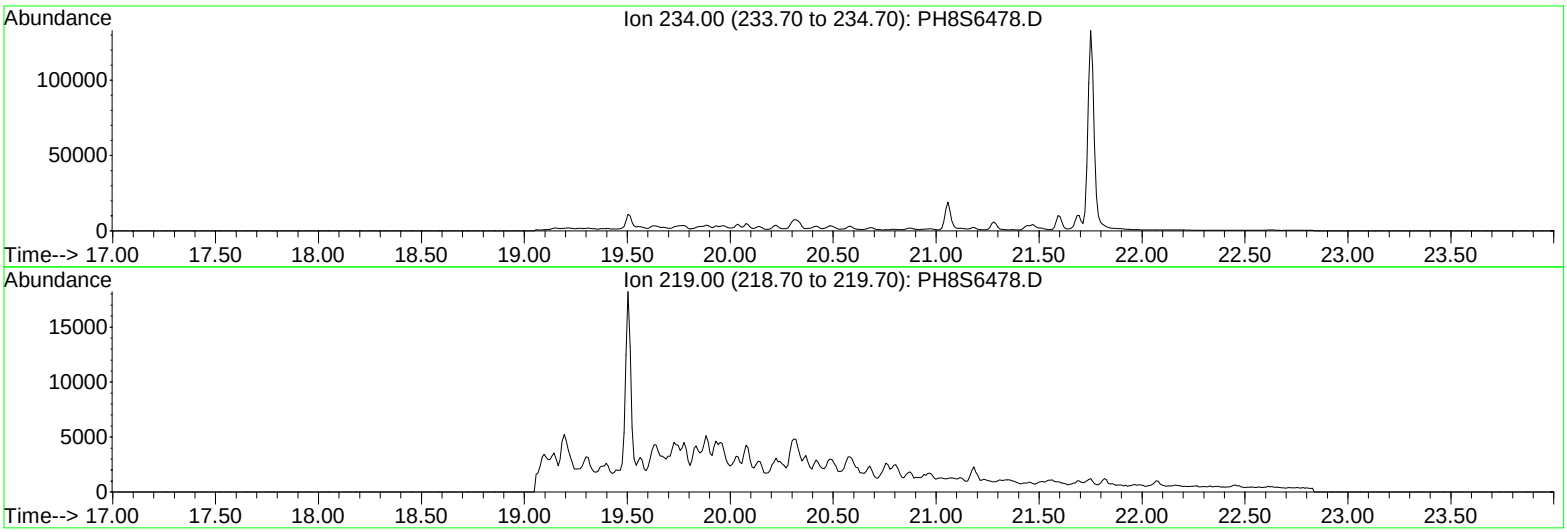


Thu Jan 10 08:47:39 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

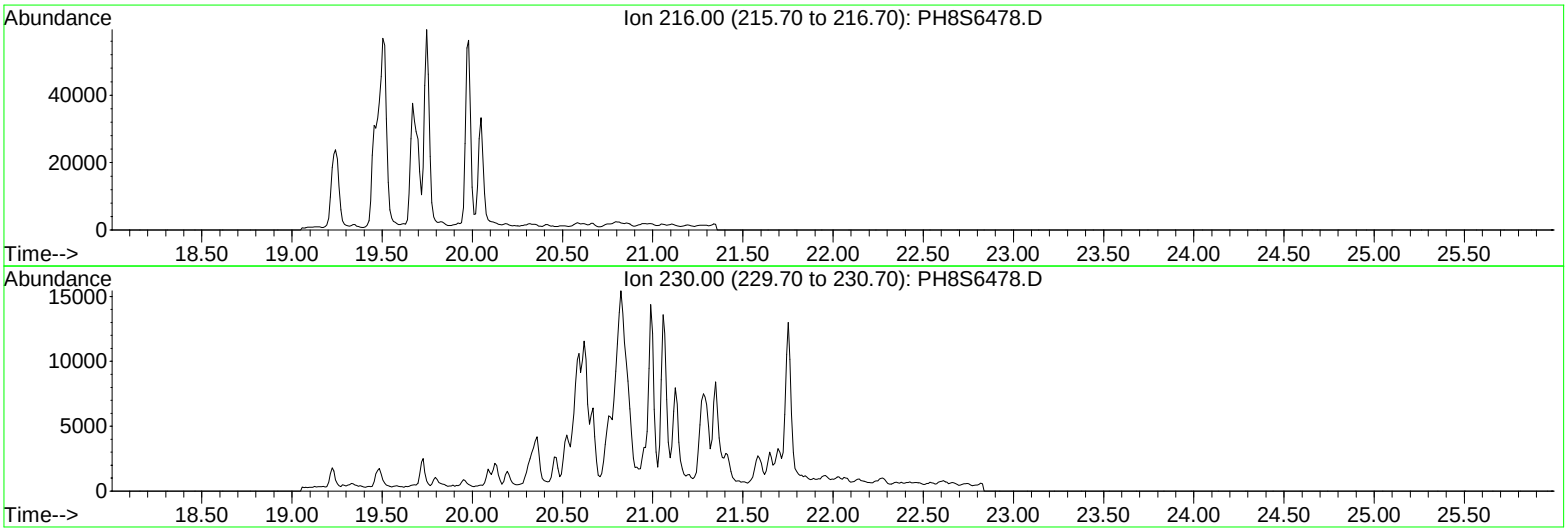


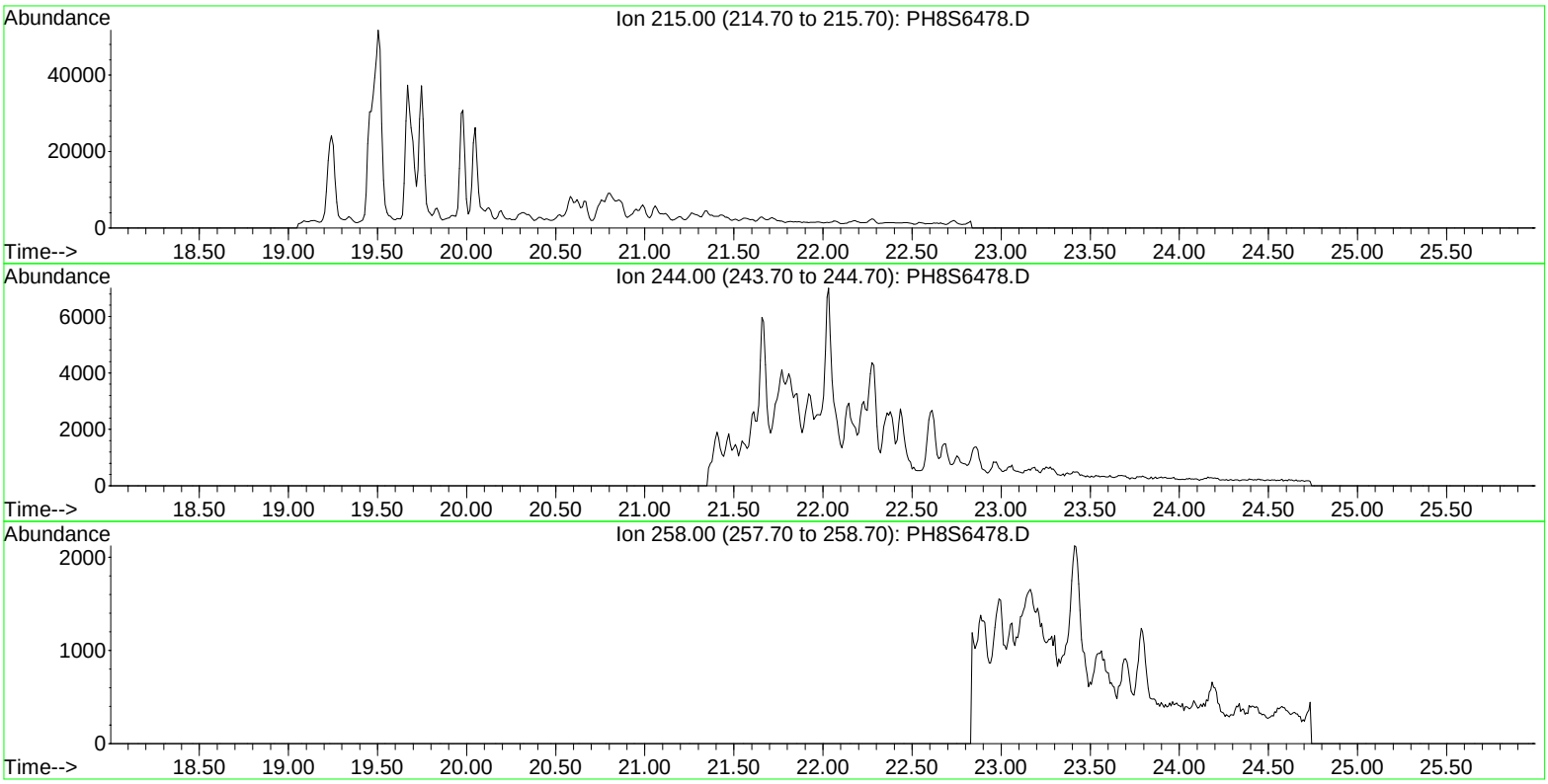


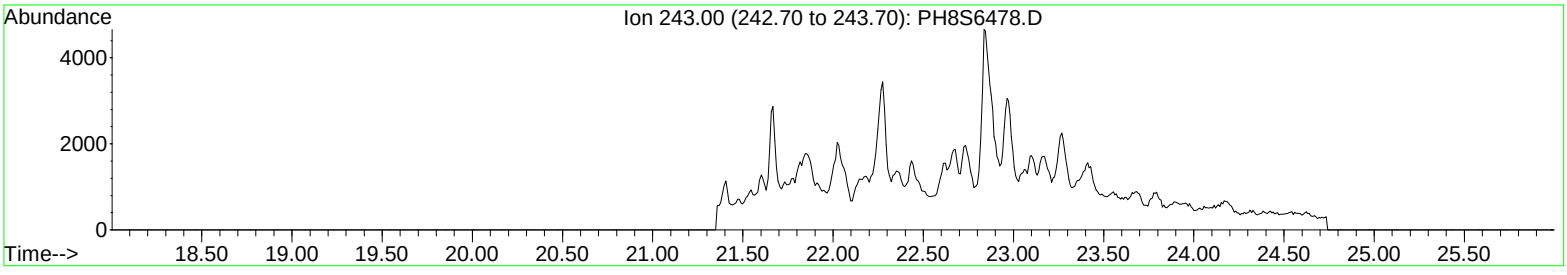
Thu Jan 10 08:47:42 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



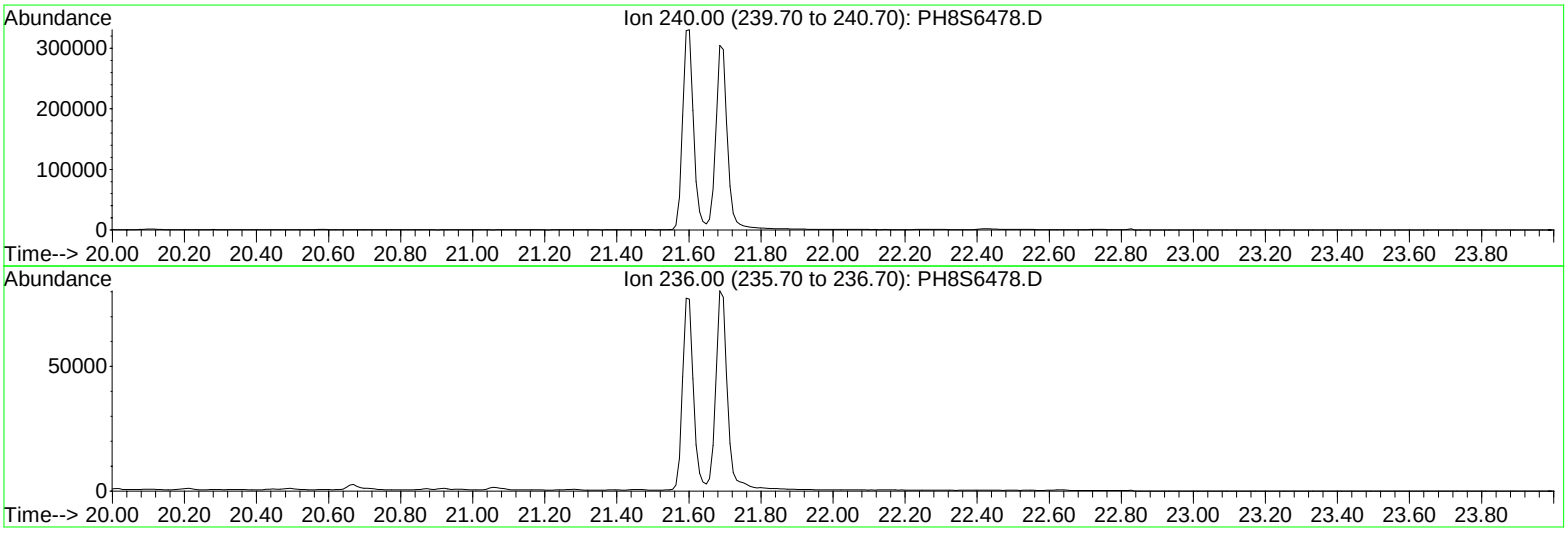


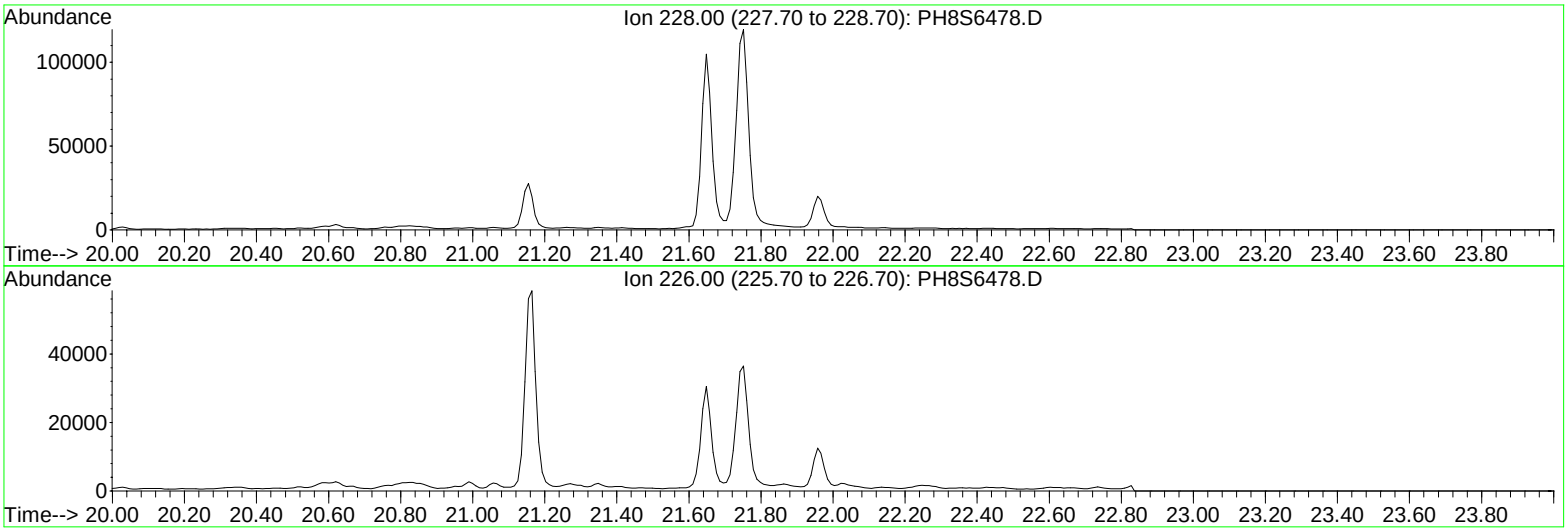


Thu Jan 10 08:47:45 2019

Axys Analytical CHRO Report

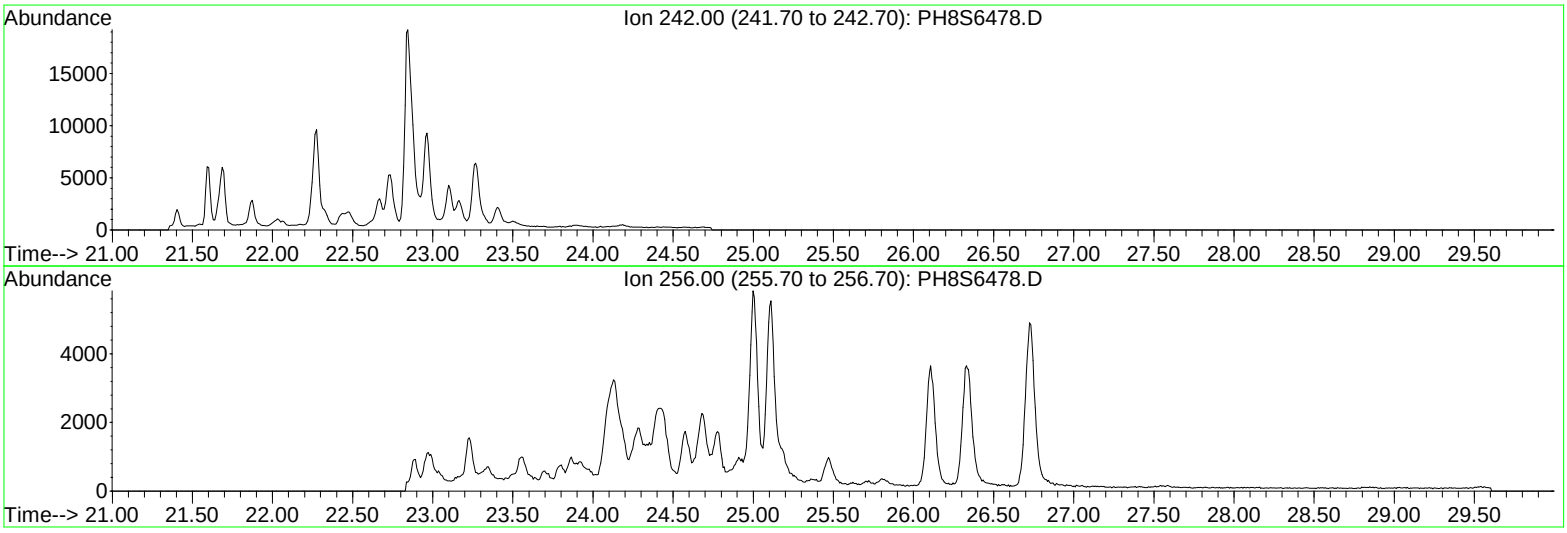
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

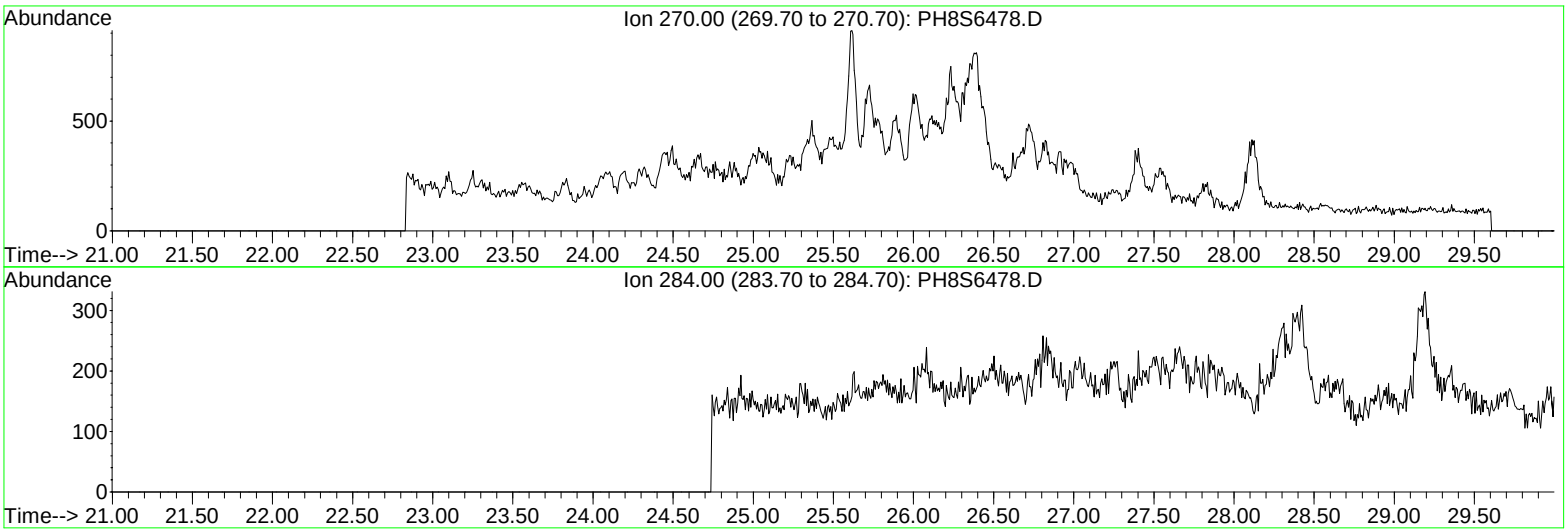




Axys Analytical CHRO Report

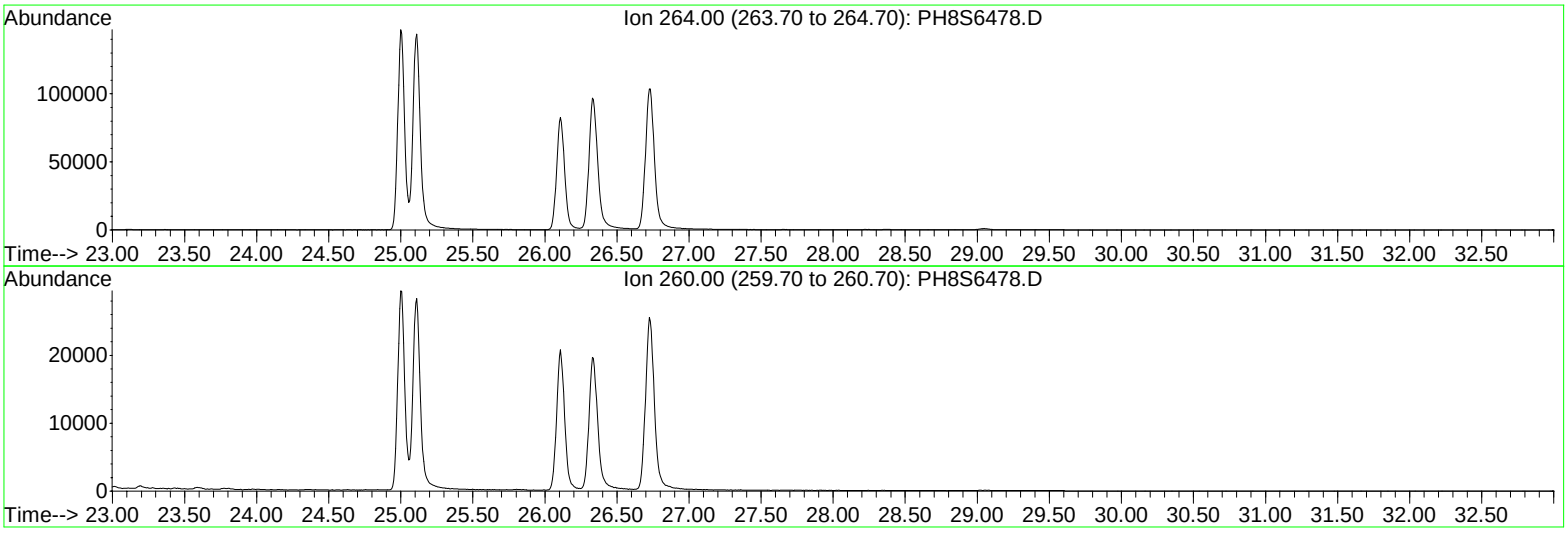
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

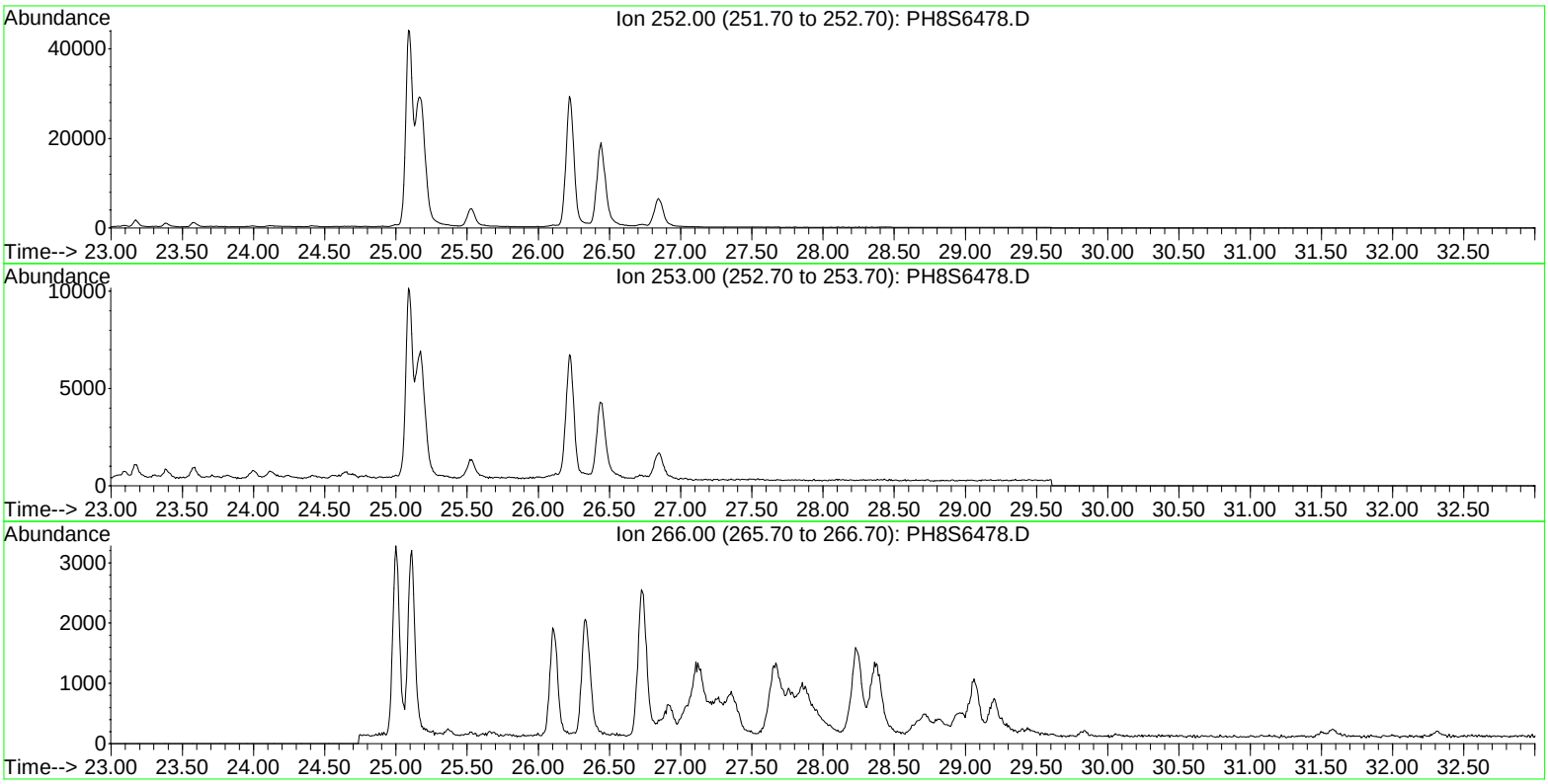


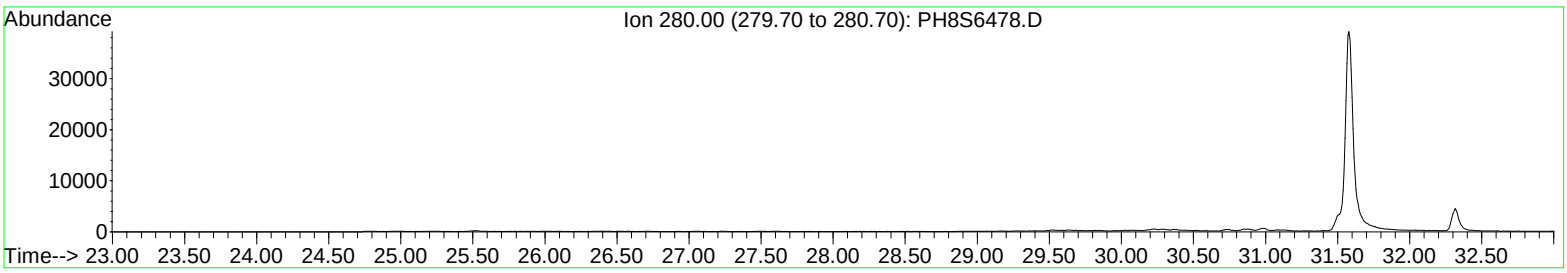


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



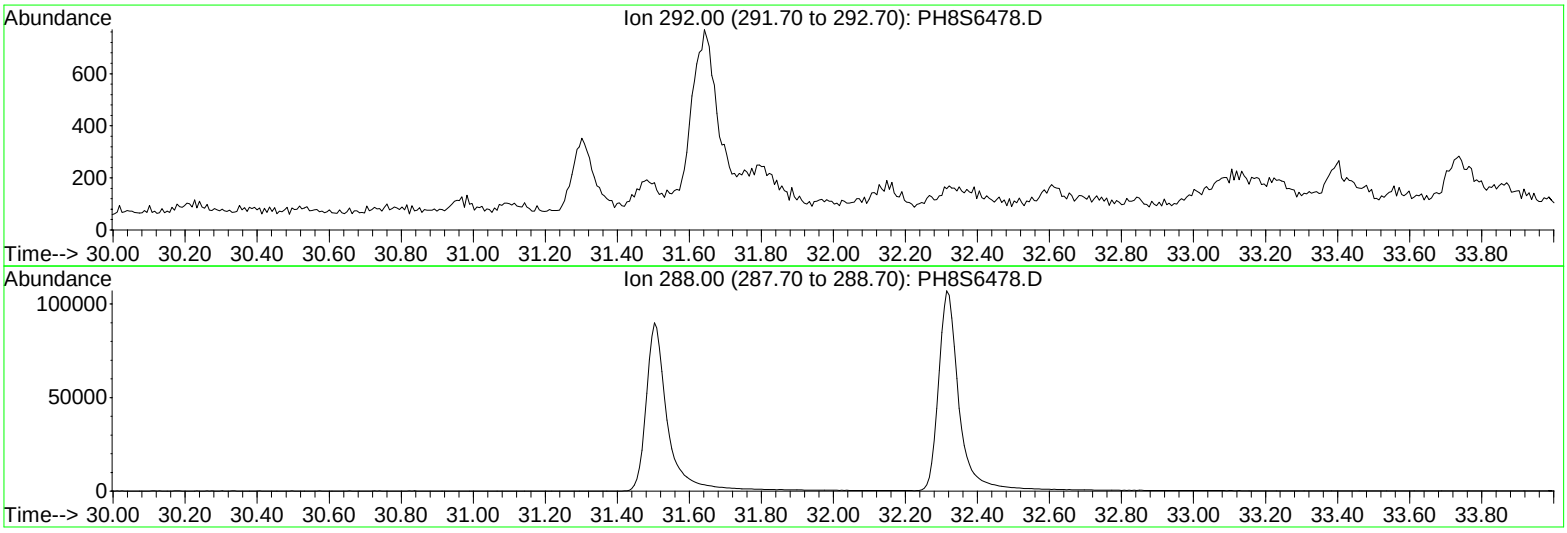


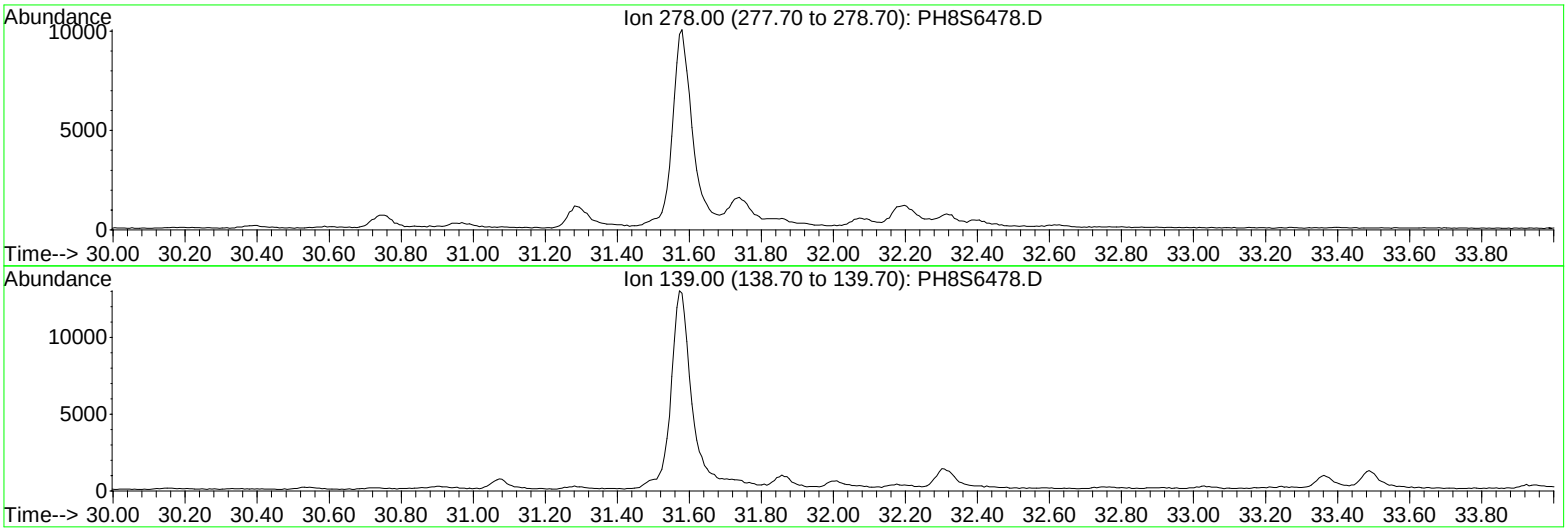


Thu Jan 10 08:47:54 2019

Axys Analytical CHRO Report

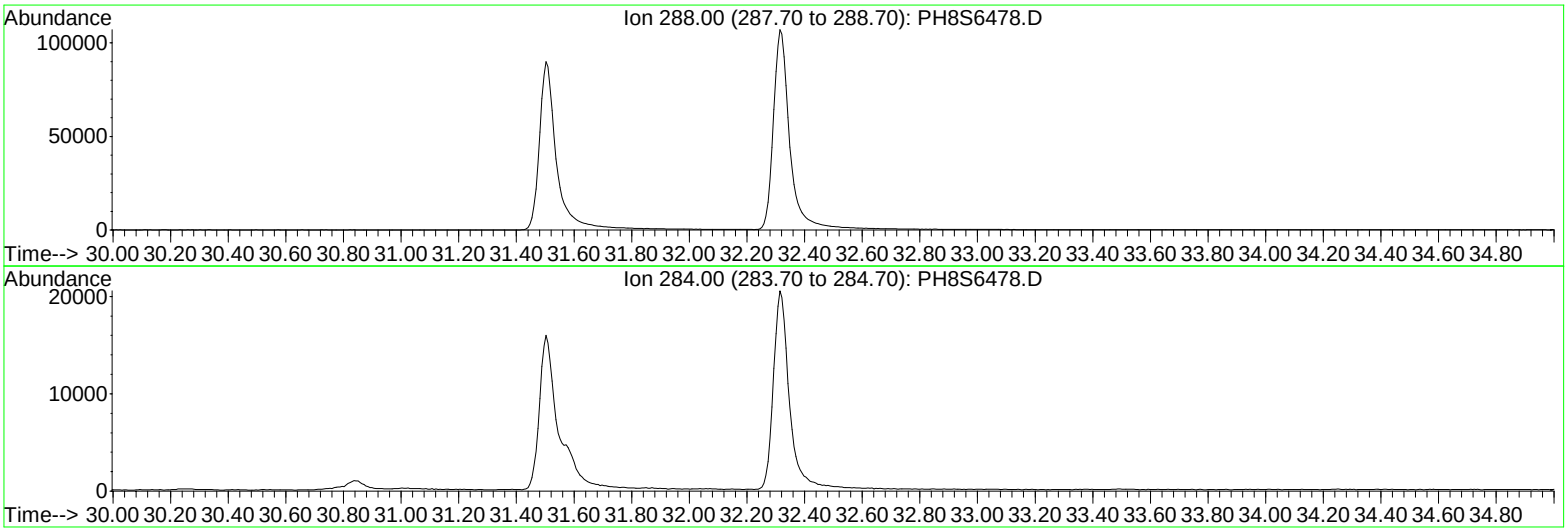
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

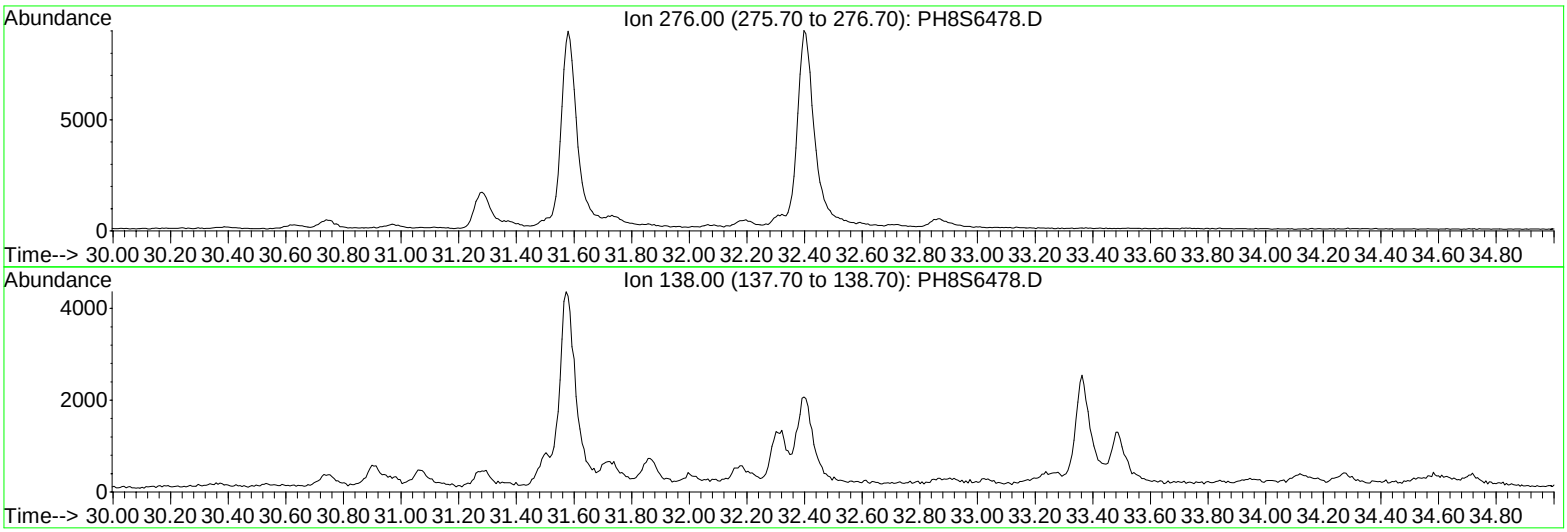




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6478.D
29/12/2018 2:58
L30540-2
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6478.D\618S6478.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 21
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.102	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	749164	18.55	1940.8867	I	0	1940.8867	2675		0.17	1
d10-Phenanthrene - SURR	842574	14.99	2442.4628	S	67.6582	6.3919	2238		0.14	0.808
d12-Benz(a)anthracene - SURR	698189	21.6	2830.6559	S	69.7206	54.8452	13731		0.23	1.164
d12-Chrysene - SURR	679557	21.69	2561.7783	S	65.3515	27.2231	7330		0.26	1.169
d12-Benzo(e)pyrene - REC	319322	26.11	1990.1478	I	0	1990.1478	998		0.25	1
d12-Indeno(123cd)pyrene - SURR	361195	31.5	3130.475	S	78.6551	3.1705	371		0.17	1.207
d10-Phenanthrene	842574	14.99	3556.6502	I	0	3556.6502	2253		0.14	1
13C6-Phenanthrene	89899	15.05	333.5344	T	0	6.3102	1701		0.19	1.004
d12-Benz(a)anthracene	698189	21.6	4000	I	0	4000	15518		0.23	1
d10-Fluoranthene	115789	18.01	506.628	T	0	3.1266	715		0.17	0.834
d12-Chrysene	679557	21.69	3862.069	I	0	3862.069	8708		0.26	1
13C6-Chrysene	281361	21.75	1426.1888	T	0	3.3022	651		0.31	1.003
d12-Indeno(123cd)pyrene	361195	31.5	3921.1823	I	0	3921.1823	387		0.17	1
13C6-Indeno(123cd)pyrene $	715916	31.58	6139.792	T	0	9.5517	1114		0.19	1.002

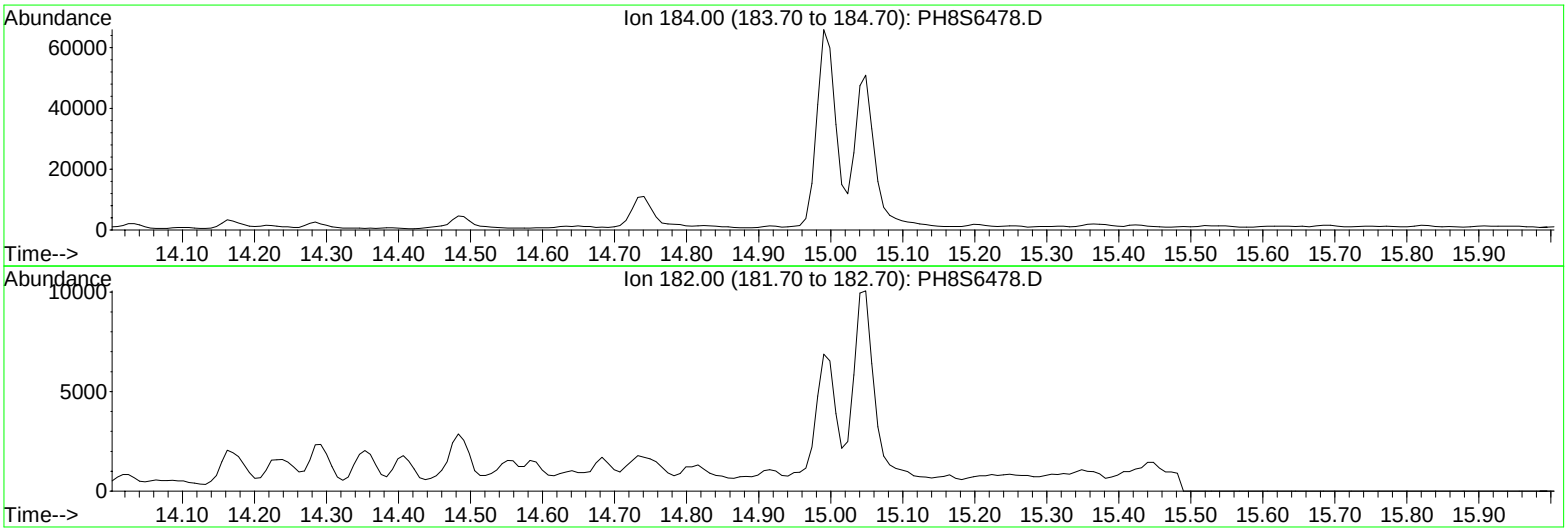
Checked by MO 08-Jan-19

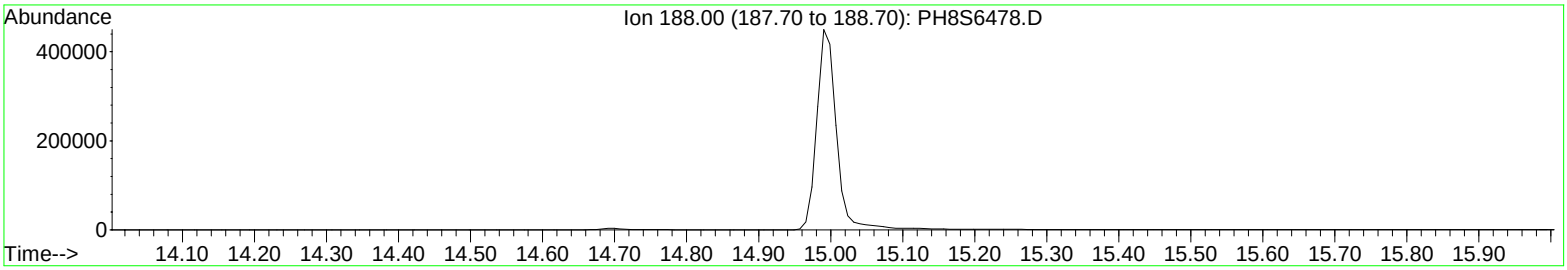
618S6478

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

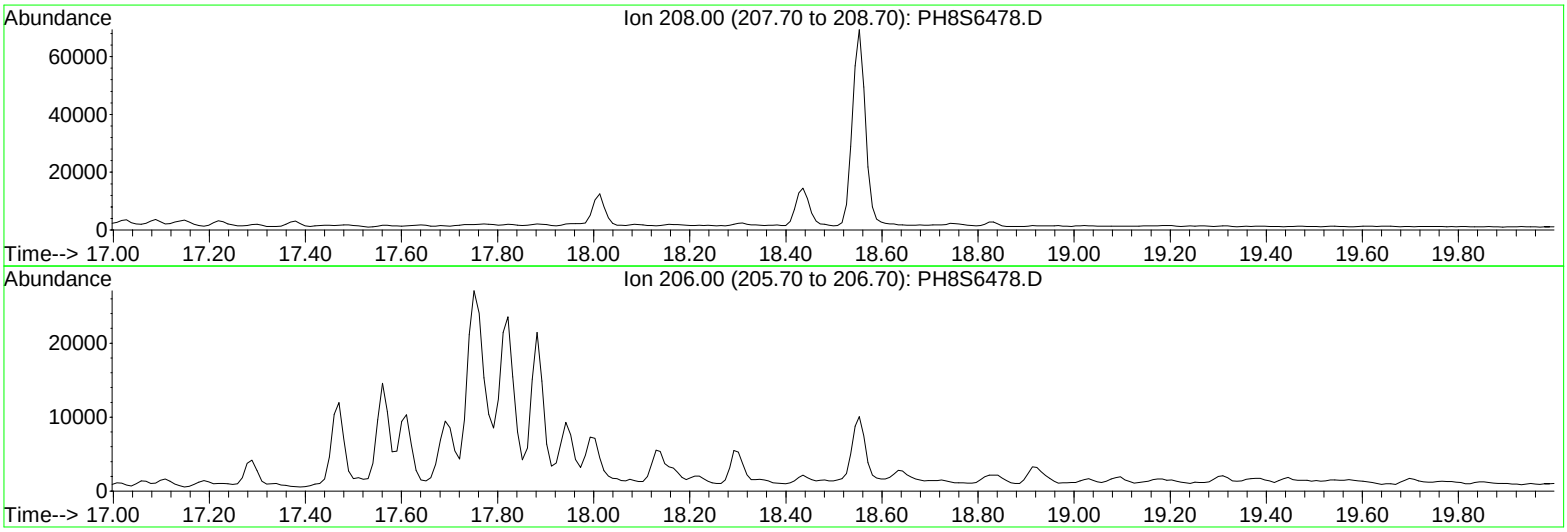
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

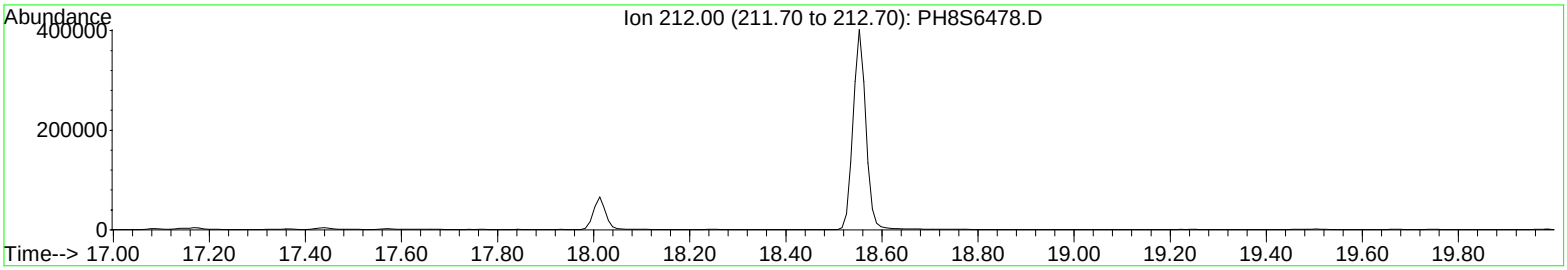




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

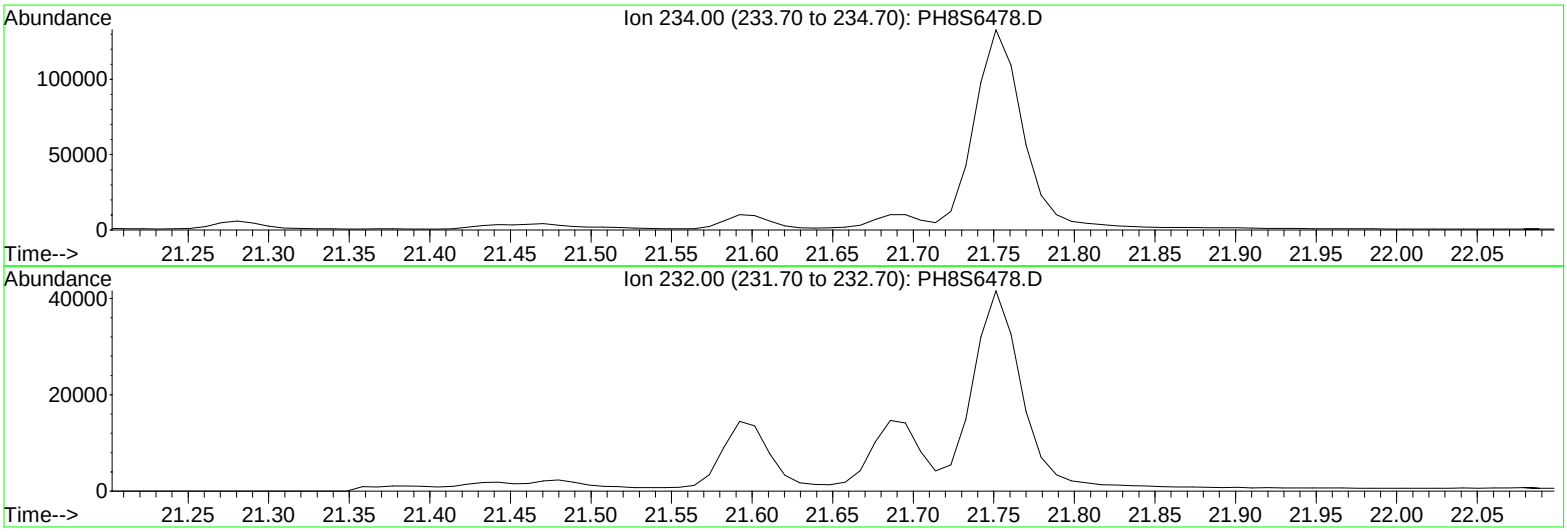


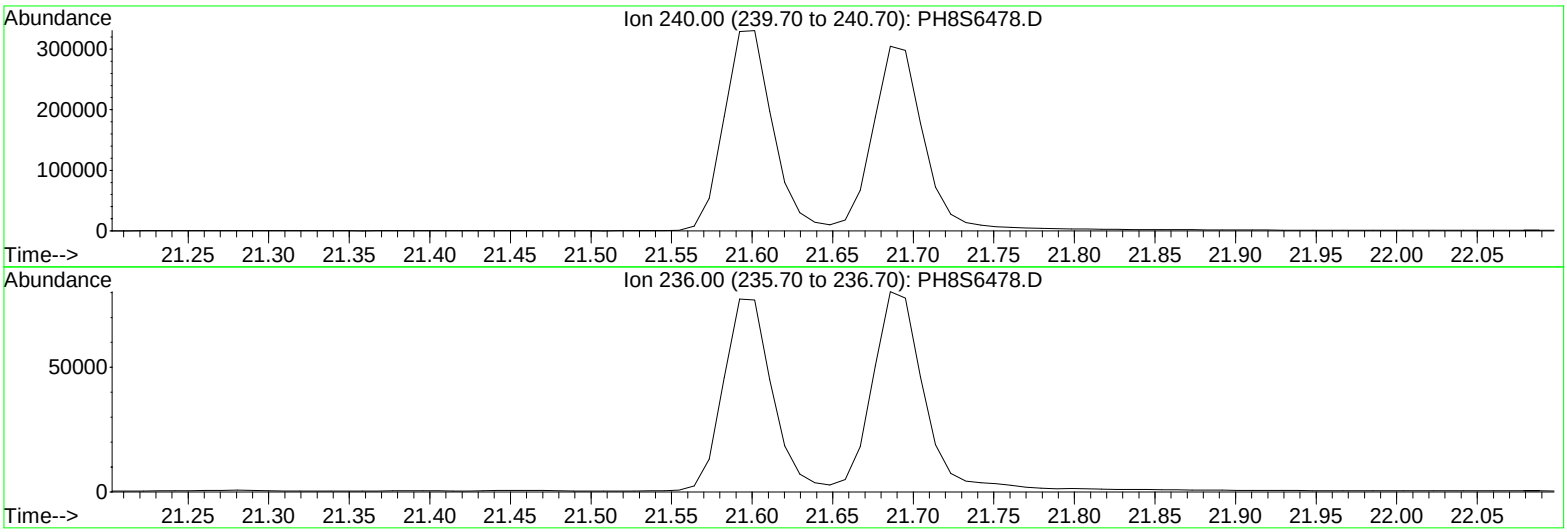


Thu Jan 10 08:57:52 2019

Axys Analytical CHRO Report

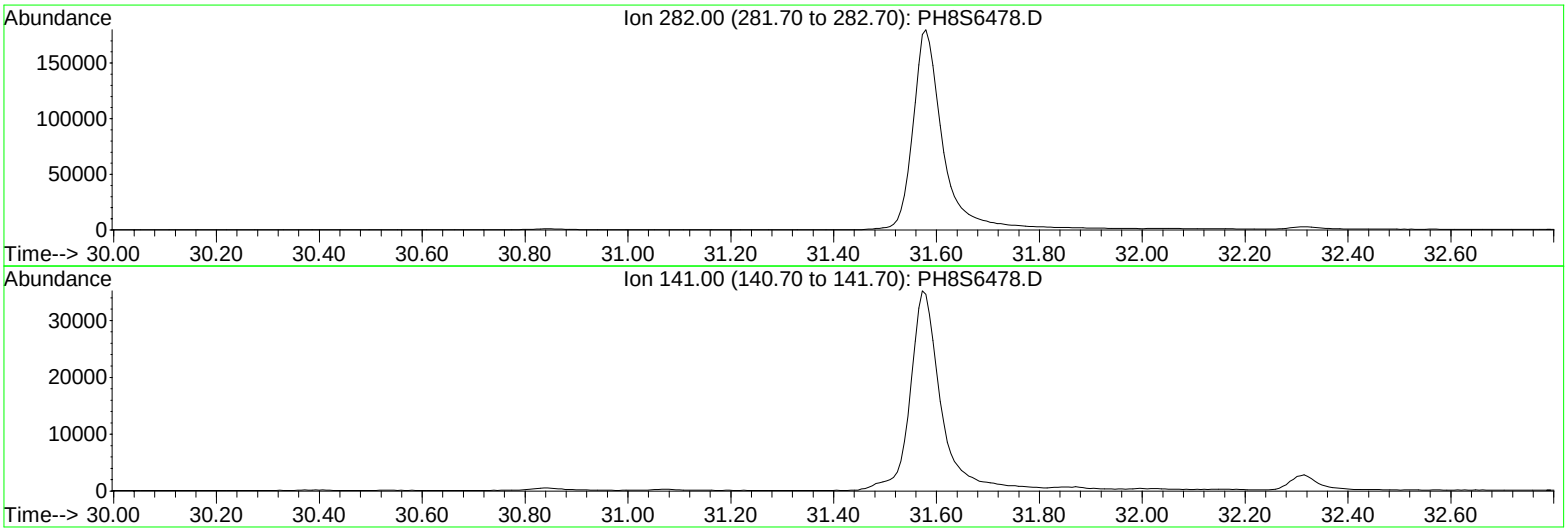
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL

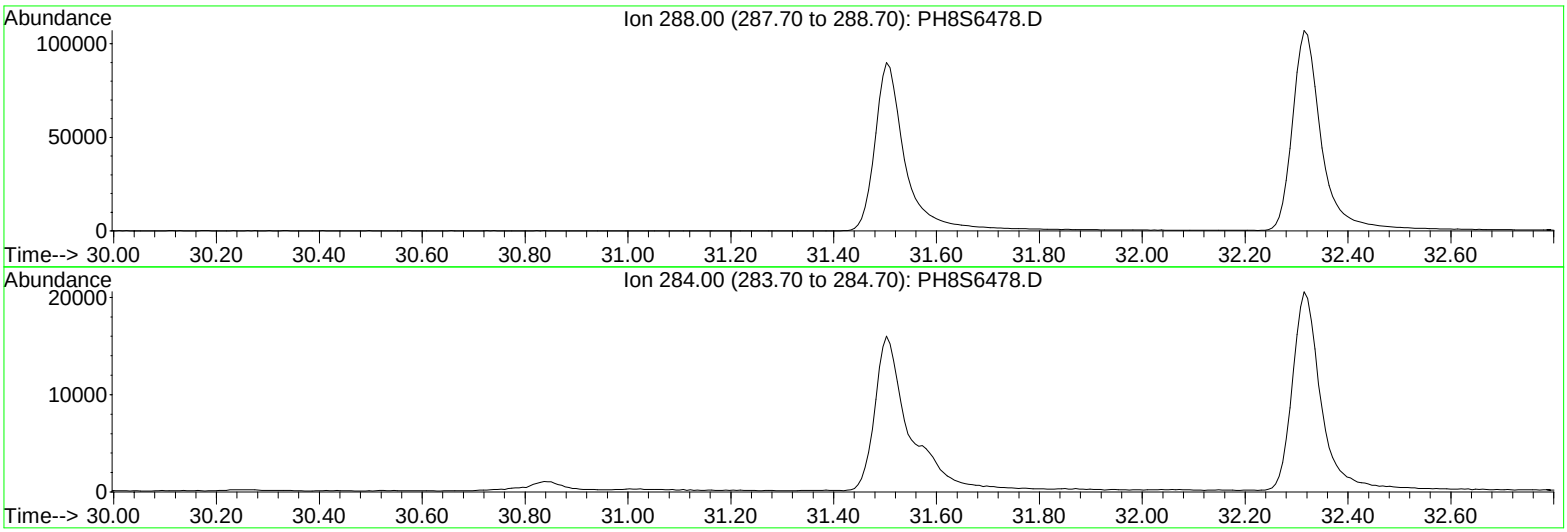




Axys Analytical CHRO Report

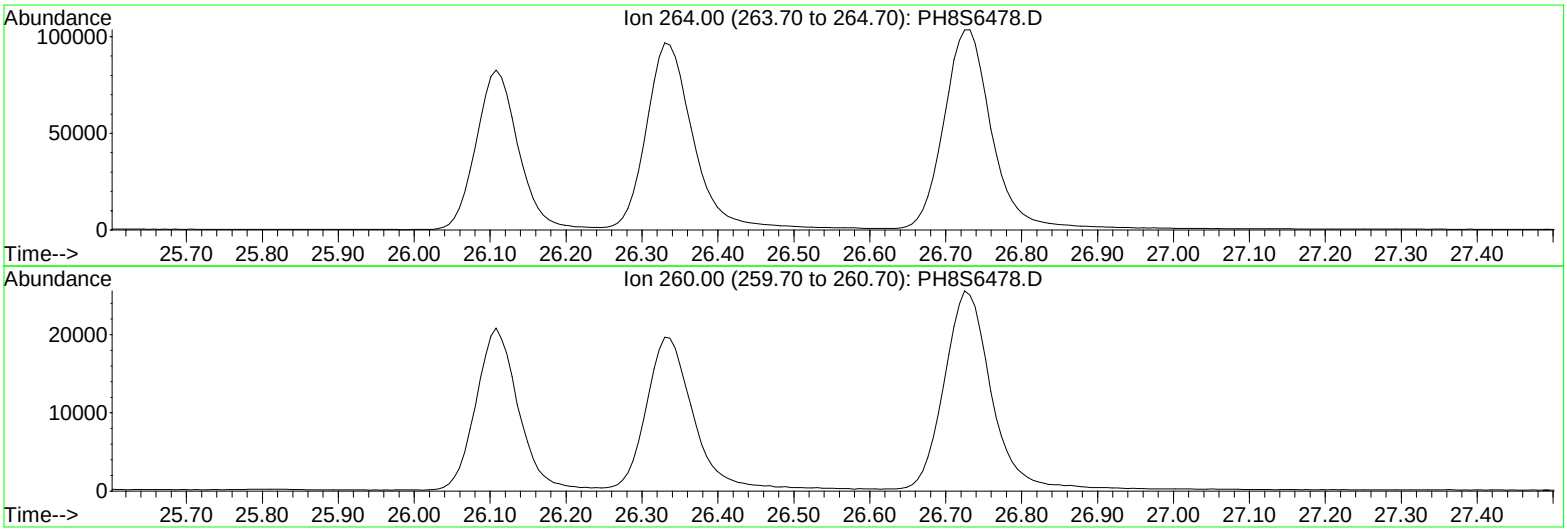
File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6478.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:58
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-2,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6468.D
28/12/2018 19:18
L30540-3
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6468.D\PH8S6468.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 13
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:45 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.115	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	436477	11.29	3513.0435 I	0	3513.0435	381		0.45	1
d8-Naphthalene - SURR	314460	6.87	486.7313 S	24.3366	0.6456	120		0.09	0.608
d10-2-Methylnaphthalene - SURR	228482	8.53	527.5776 S	26.7806	1.0888	136		0.19	0.756
d10-Biphenyl - SURR	345272	9.8	568.2695 S	27.7882	0.4179	73		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	231733	10.11	585.5828 S	28.4955	2.933	334		0.74	0.896
d8-Acenaphthylene - SURR	434232	10.85	567.5433 S	27.5506	2.1096	464		0.16	0.961
d10-Pyrene - REC	876397	18.56	3426.087 I	0	3426.087	1131		0.17	1
d10-Phenanthrene - SURR	584153	15	719.0113 S	39.8344	7.3918	1727		0.13	0.808
d8-Dibenzothiophene - SURR	459773	14.7	636.3524 S	31.2704	1.4649	304		0.09	0.792
d12-Benz(a)anthracene - SURR	1072731	21.6	1404.0409 S	69.1646	139.3139	30602		0.23	1.164
d12-Chrysene - SURR	1096576	21.7	1373.8469 S	70.0942	62.0357	14236		0.26	1.169
d12-Benzo(e)pyrene - REC	739462	26.11	3513.0435 I	0	3513.0435	957		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1014936	25	1498.832 S	76.0828	361.8104	70438		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1103514	25.11	1475.4598 S	73.773	109.617	23570		0.19	0.962
d12-Benzo(a)pyrene - SURR	926282	26.33	1445.7906 S	69.845	11937.4783	2198810		0.2	1.008
d12-Perylene - SURR	970220	26.72	1518.8338 S	70.6434	175.6939	32267		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	1000439	31.5	1541.7985 S	77.4773	1.0997	205		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1104631	32.31	1431.3355 S	72.2897	15.3594	3408		0.19	1.238
d8-Naphthalene	314460	6.87	3478.2609 I	0	3478.2609	118		0.09	1
Naphthalene $	1698	6.91	15.6925 T	0	1.5151	164		0.06	1.006
d10-2-Methylnaphthalene	228482	8.53	3426.087 I	0	3426.087	136		0.19	1
2-Methylnaphthalene $	570	8.6	7.0639 T	0	0.9061	73		1.07	1.009
1-Methylnaphthalene	368	8.87	4.8303 T	0	0.9596	73		1.06	1.04
C1-Naphthalenes	566	8.6	0 T	0	0	329		-1	1.009
d10-Biphenyl	345272	9.8	3556.5217 I	0	3556.5217	74		-1	1
Biphenyl $	801	9.85	7.4272 T	0	3.4193	369		0.33	1.006
C1-Biphenyls $	437	11.33	4.052 T	0	3.4193	369		0.14	1.157
C2-Biphenyls $	1773	12.71	16.44 T	0	3.7123	400		0.31	1.297
d12-2,6-Dimethylnaphthalene	231733	10.11	3573.913 I	0	3573.913	337		0.74	1
2,6-Dimethylnaphthalene $	338	10.22	4.3102 T	0	2.4842	195		0.62	1.011
Ethyl/DiMe-Naphthalenes	449	10.22	6.3286 T	0	2.7459	195		0.7	1.011
1,2-Dimethylnaphthalene	44134	10.85	695.4269 T	0	3.0697	195	#	0	1.073
C2-Naphthalenes	449	10.22	0 T	0	0	1195		-1	1.011
2,3,6-Trimethylnaphthalene	443	12.16	5.5886 T	0	2.2583	179		0.91	1.203
2,3,5-Trimethylnaphthalene $	1307	12.37	17.3759 T	0	2.3799	179		1	1.224
C3-Naphthalenes	1133	12.37	14.6676 T	0	2.3175	179		1.06	1.224
1,4,6,7-Tetramethylnaphthalene $	831	13.93	10.4789 T	0	0.9959	79	#	0.08	1.377
C4-Naphthalenes	5942	14.49	74.9284 T	0	0.9959	79		0.01	1.433
d8-Acenaphthylene	434232	10.85	3582.6087 I	0	3582.6087	473		0.16	1
Acenaphthylene $	433	10.88	2.9401 T	0	1.1897	175		0.23	1.003
Acenaphthene $	836	11.36	10.271 T	0	1.5003	122		1.21	1.047
C1-Acenaphthenes $	93	11.73	1.1426 T	0	5.0227	409		0.52	1.081
d8-Dibenzothiophene	459773	14.7	3539.1304 I	0	3539.1304	285		0.09	1
Dibenzothiophene $	346	14.75	2.2279 T	0	1.0788	168	#	0.15	1.003
C1-Dibenzothiophenes-1	96	15.84	0.9009 T	0	2.3875	254	#	5.77	1.078
2/3-Methyldibenzothiophenes $	1573	16.14	14.7622 T	0	2.3875	254	#	0.15	1.098
C1-Dibenzothiophenes-2	168	16.34	1.5766 T	0	2.3875	254	#	3.52	1.112
C1-Dibenzothiophenes	1573	16.14	0 T	0	0	254		-1	1.098
4,6-Dimethyldibenzothiophene	260	16.95	2.2768 T	0	2.4451	279	#	0.28	1.153

+ report only.

PH8S6468

Checked by vr 08-Jan-19

pv by vr
03-Jan-2019

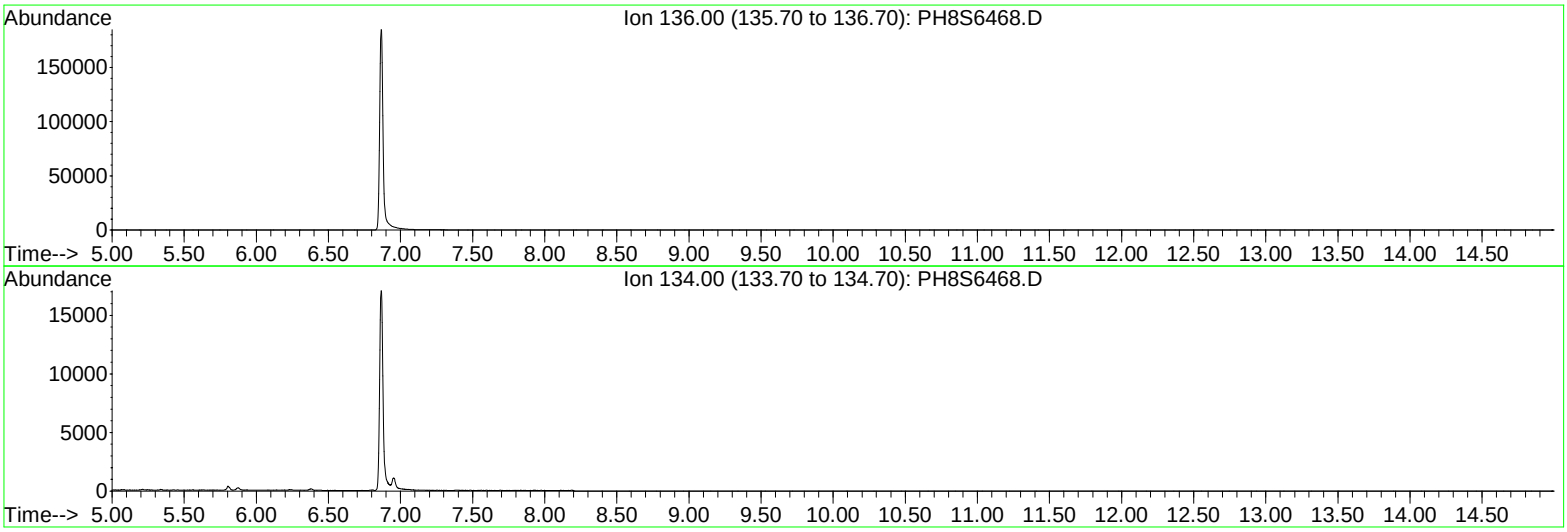
www.axysanalytical.com

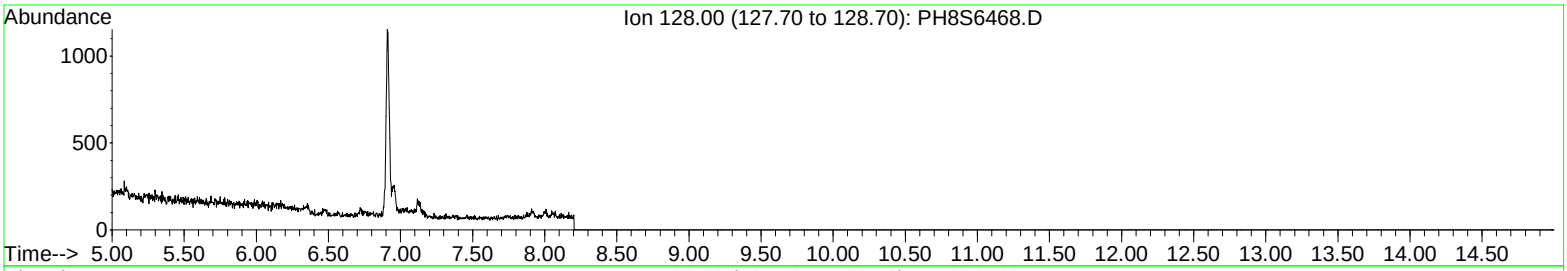
2,4-Dimethyldibenzothiophene $	261	17.08	2.9594 T	0	3.1661	279 #	1.06	1.162
C2-Dibenzothiophenes	261	17.08	2.9594 T	0	3.1661	279	1.06	1.162
C3-Dibenzothiophenes $	272	18.11	3.0842 T	0	11.1868	987 #	-1	1.232
C4-Dibenzothiophenes $	21	18.8	0.2381 T	0	2.5329	223	4.33	1.279
d10-Phenanthrene	584153	15	3139.1304 I	0	3139.1304	1556	0.13	1
Fluorene $	496	12.66	3.7295 T	0	1.1208	149	1.14	0.844
2-Methylfluorene $	162	14.07	1.7913 T	0	5.8015	525	1.41	0.938
C1-Fluorenes	162	14.07	1.7913 T	0	5.8015	525	1.41	0.938
1,7-Dimethylfluorene $	373	15.57	4.4348 T	0	7.656	644 #	0.26	1.038
C2-Fluorenes	373	15.57	4.4348 T	0	7.656	644	0.26	1.038
C3-Fluorenes $	60	16.41	0.7134 T	0	6.8053	572 #	-1	1.094
Phenanthrene $	3528	15.06	17.7257 T	0	1.2881	256	0.22	1.004
Anthracene	1557	15.17	7.7304 T	0	1.2729	256	0.21	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	836	16.31	5.9536 T	0	2.2504	316	0.55	1.088
2-Methylphenanthrene	547	16.38	3.9472 T	0	2.2803	316	0.62	1.092
2-Methylanthracene	578	16.5	4.2972 T	0	2.3493	316 #	0.62	1.1
9/4-Methylphenanthrenes	1364	16.6	9.7138 T	0	2.2504	316 #	0.77	1.107
1-Methylphenanthrene $	1231	16.65	8.3086 T	0	2.1328	316	0.63	1.11
C1-Phenanthrenes/Anthracenes	1395	16.65	0 T	0	0	1282	-1	1.11
Fluoranthene $	25288	18.06	103.4277 T	0	2.0728	507	0.21	1.204
Pyrene	28712	18.6	113.5783 T	0	2.0048	507	0.21	1.24
3,6-Dimethylphenanthrene $	544	17.47	4.0232 T	0	8.3781	1133 #	1.28	1.165
2,6-Dimethylphenanthrene	482	17.57	3.5582 T	0	8.3627	1133 #	0.96	1.171
1,7-Dimethylphenanthrene	2262	17.89	16.6678 T	0	8.3475	1133 #	0.88	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	544	17.47	4.0159 T	0	8.3627	1133	1.28	1.165
1,8-Dimethylphenanthrene	392	18.15	2.8938 T	0	8.3627	1133 #	0.59	1.21
C2-Phenanthrenes/Anthracenes	544	17.47	0 T	0	0	1133	-1	1.165
1,2,6-Trimethylphenanthrene $	841	19.39	6.755 T	0	5.9862	745	0.64	1.293
C3-Phenanthrenes/Anthracenes	841	19.39	6.755 T	0	5.9862	745	0.64	1.293
Retene $	5527	19.51	116.1819 T	0	14.9146	710	1.51	1.301
C4-Phenanthrenes/Anthracenes	5527	19.51	116.1819 T	0	14.9146	710	1.51	1.301
C1-Fluoranthenes/Pyrenes-1	1572	19.25	10.8151 T	0	19.6894	2862	1.3	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	4388	19.49	30.1887 T	0	19.6894	2862	1.11	1.3
C1-Fluoranthenes/Pyrenes-2	2613	19.99	17.977 T	0	19.6894	2862	0.5	1.333
C1-Fluoranthenes/Pyrenes	4388	19.49	0 T	0	0	2862	-1	1.3
C2-Fluoranthenes/Pyrenes $	161	20.46	1.1077 T	0	9.3935	1365	0.39	1.364
C3-Fluoranthenes/Pyrenes $	232	21.95	1.5961 T	0	5.1685	751	0.22	1.463
C4-Fluoranthenes/Pyrenes $	64	23.28	0.4403 T	0	3.3226	483	2.78	1.552
d12-Benz(a)anthracene	1072731	21.6	3530.4348 I	0	3530.4348	28891	0.23	1
d10-Fluoranthene $	69944	18.02	212.0157 T	0	0.7762	256	0.16	0.834
Benz(a)anthracene	4228	21.65	10.7709 T	0	0.7	275	0.24	1.002
d12-Chrysene	1096576	21.7	3408.6957 I	0	3408.6957	13769	0.26	1
Chrysene $	7514	21.75	18.9226 T	0	0.7089	282 #	0.45	1.003 0.32
5/6-Methylchrysenes $	308	23.12	1.0271 T	0	11.2231	3366	-1	1.066
1-Methylchrysene	553	23.28	1.7801 T	0	10.8333	3366	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	308	23.12	1.0089 T	0	11.0248	3366	-1	1.066
5,9-Dimethylchrysene $	163	24.4	0.7021 T	0	3.8309	889	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	163	24.4	0.7021 T	0	3.8309	889	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	26	25.11	0.112 T	0	0.7717	179	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	83	26.08	0.3575 T	0	0.8544	198	-1	1.202
d12-Benzo(b)fluoranthene	1014936	25	3426.087 I	0	3426.087	59703	0.21	1
Benzo(b)fluoranthene-SURR int	2849	24.99	0 T	0	0	2309	0.41	1
Benzo(b)fluoranthene $	9083	25.1	21.1761 T	0	0.6306	270	0.19	1.004
d12-Benzo(k)fluoranthene	1103514	25.11	3478.2609 I	0	3478.2609	21778	0.19	1
Benzo(j/k)fluoranthenes	3866	25.15	9.6574 T	0	0.7366	295	0.21	1.002
Benzofluoranthenes	13425	25.1	0 T	0	0	548	-1	0.999
d12-Benzo(a)pyrene	926282	26.33	3600 I	0	3600	2343980	0.2	1
Benzo(e)pyrene	4042	26.22	11.3203 T	0	0.9528	340	0.22	0.996
Benzo(a)pyrene	2120	26.44	6.2903 T	0	1.0094	340	0.22	1.004
7-Methylbenzo(a)pyrene $	10	29.14	0.0417 T	0	2.6844	644	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	10	29.14	0.0417 T	0	2.6844	644	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	8	29.89	0.0333 T	0	6.1791	1482	-1	1.135
d12-Perylene	970220	26.72	3739.1304 I	0	3739.1304	36006	0.25	1
Perylene	37619	26.84	105.1426 T	0	0.9953	356	0.21	1.004
d12-Indeno(123cd)pyrene	1000439	31.5	3460.8696 I	0	3460.8696	217	0.17	1
d14-Dibenzo(ah)anthracene $	9500	31.62	35.9238 T	0	1.9122	506 #	2.46	1.004
Dibenzo(ah)anthracene $	40	31.71	0.1215 T	0	1.2805	421 #	7.17	1.007
Indeno(123cd)pyrene $	0	31.58	0 T	0	0.9531	337 #	0	1.002
d12-Benzo(ghi)perylene	1104631	32.31	3443.4783 I	0	3443.4783	3365	0.19	1
Benzo(ghi)perylene	2924	32.4	7.6327 T	0	0.8227	315	0.26	1.003

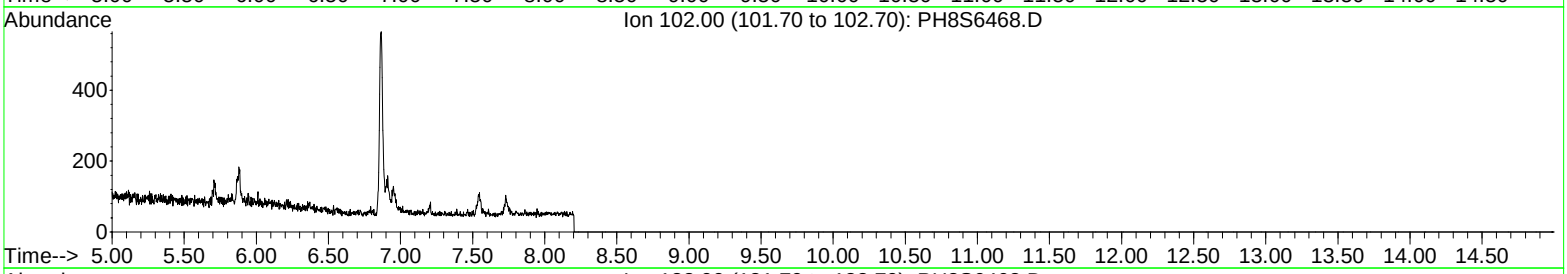
pv by vr
03-Jan-2019

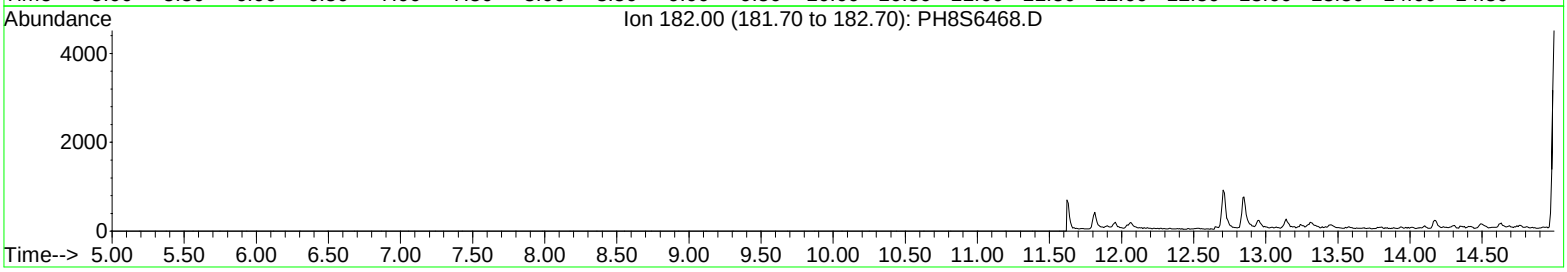
Axys Analytical CHRO Report

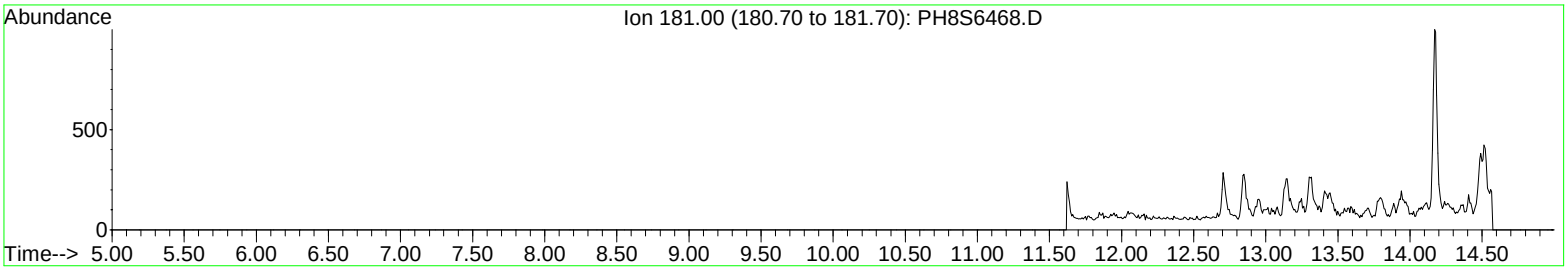
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL







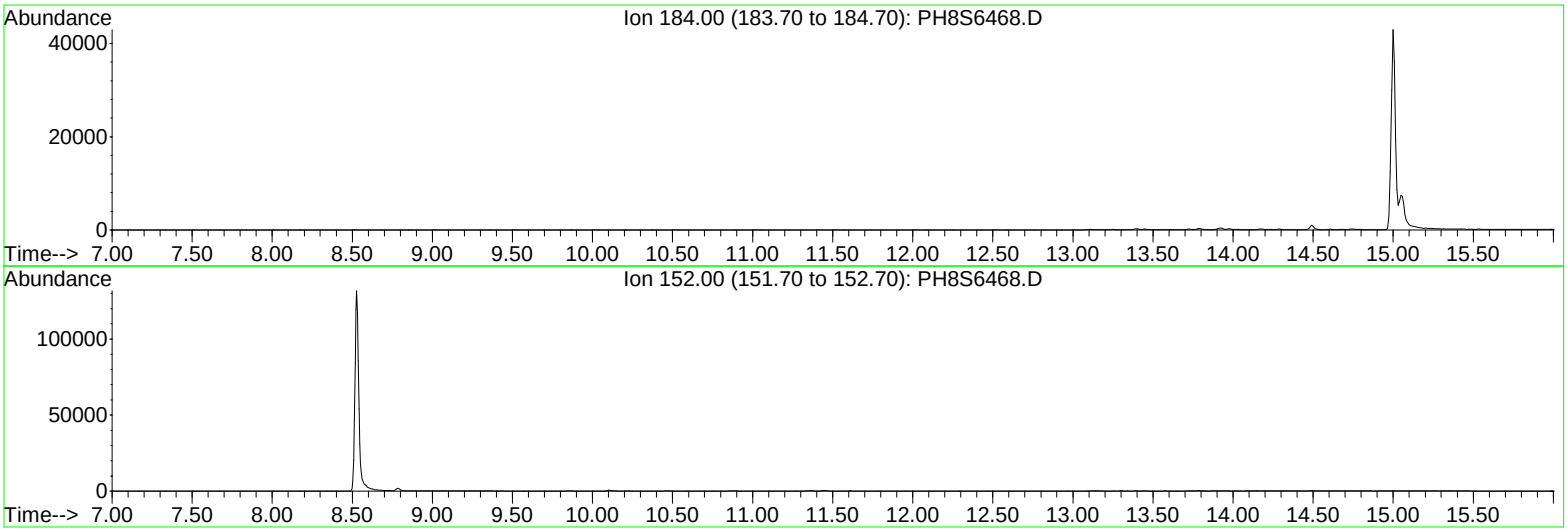


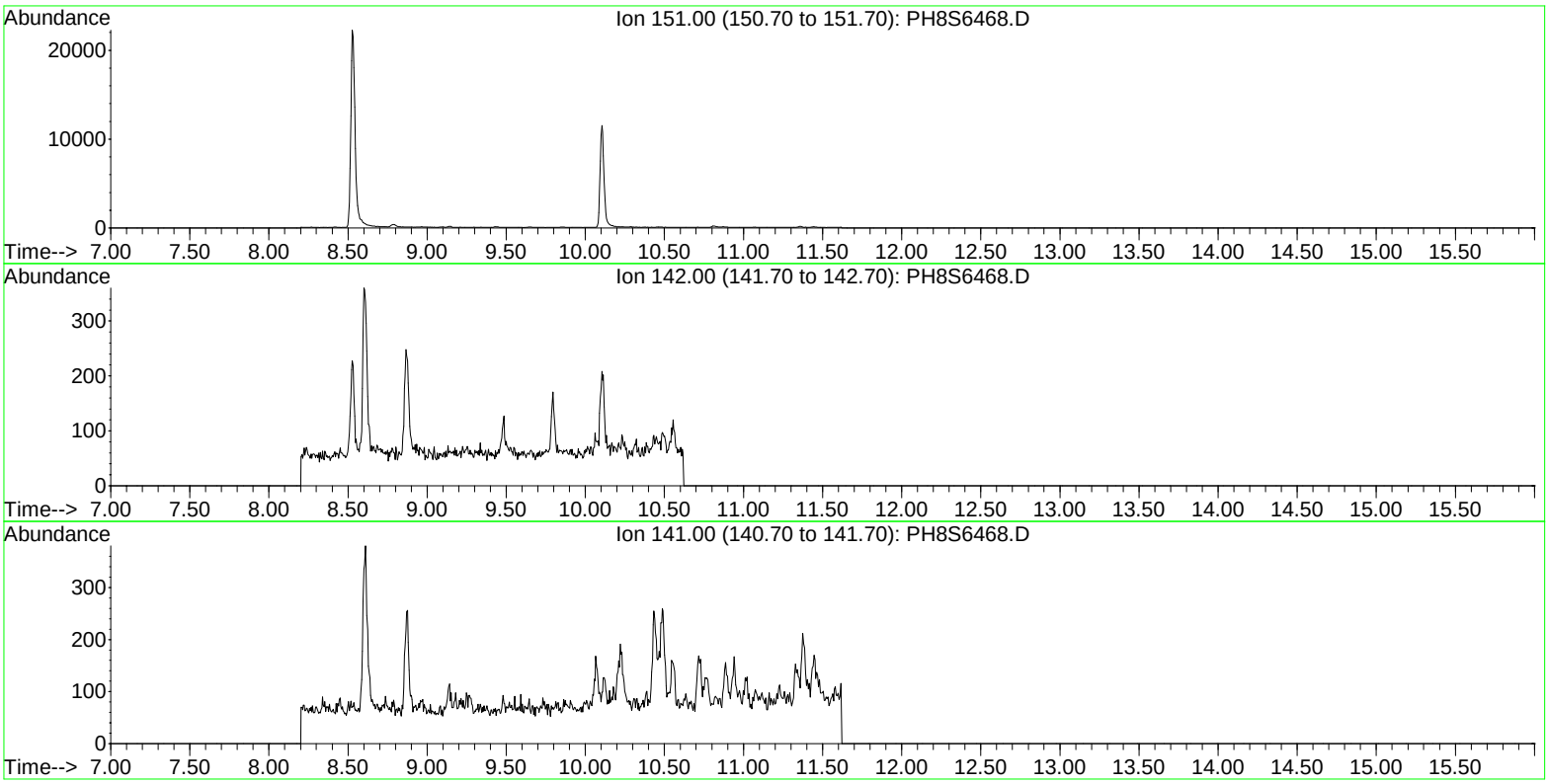


Thu Jan 10 08:41:49 2019

Axys Analytical CHRO Report

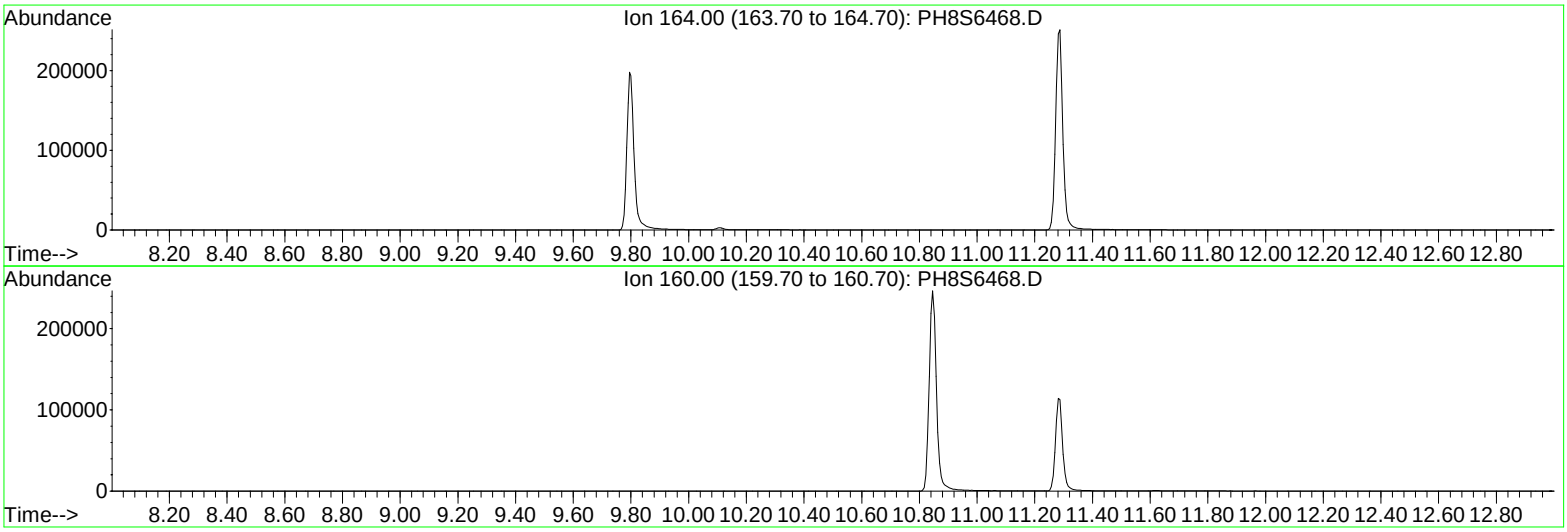
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

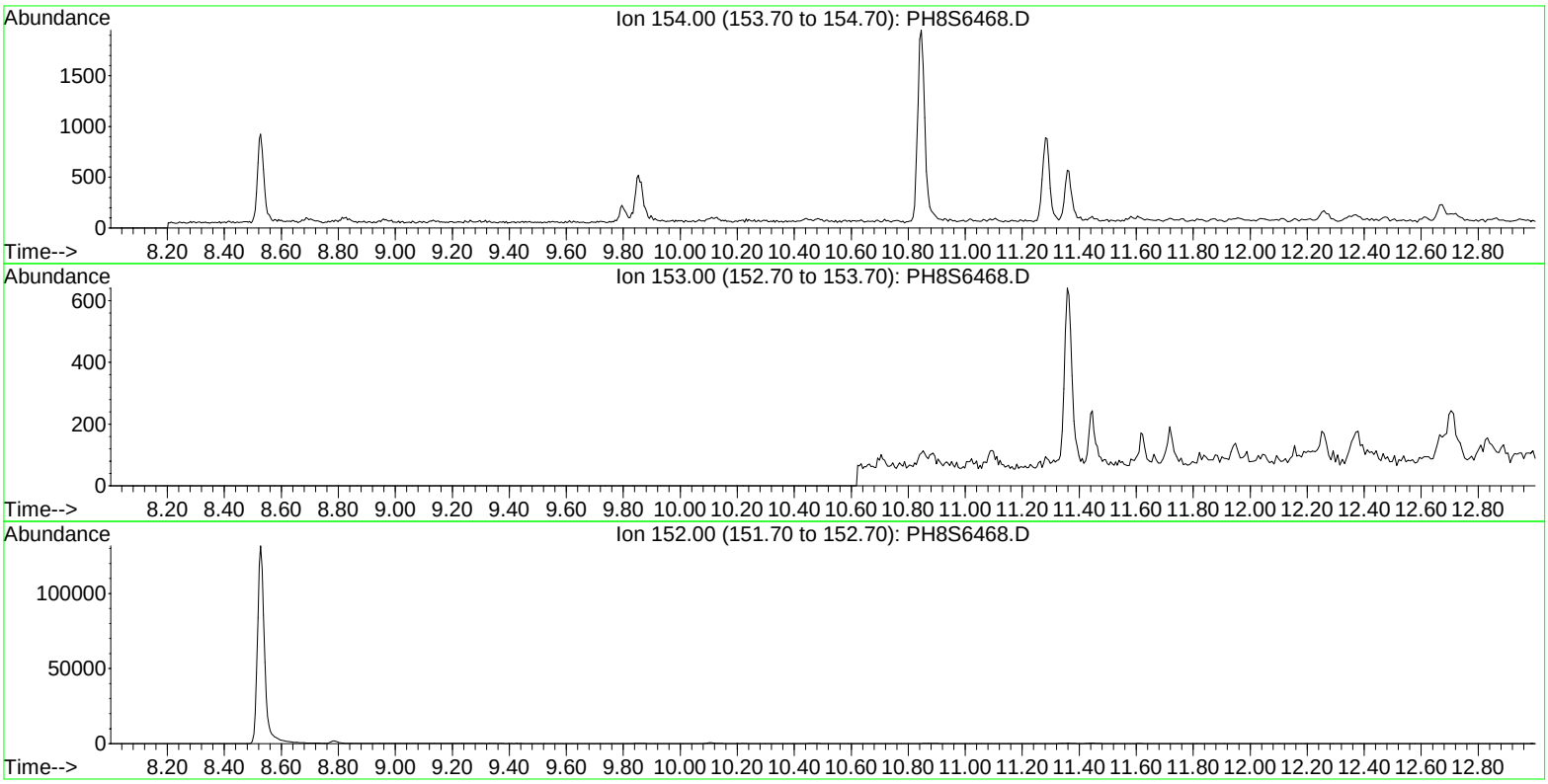




Axys Analytical CHRO Report

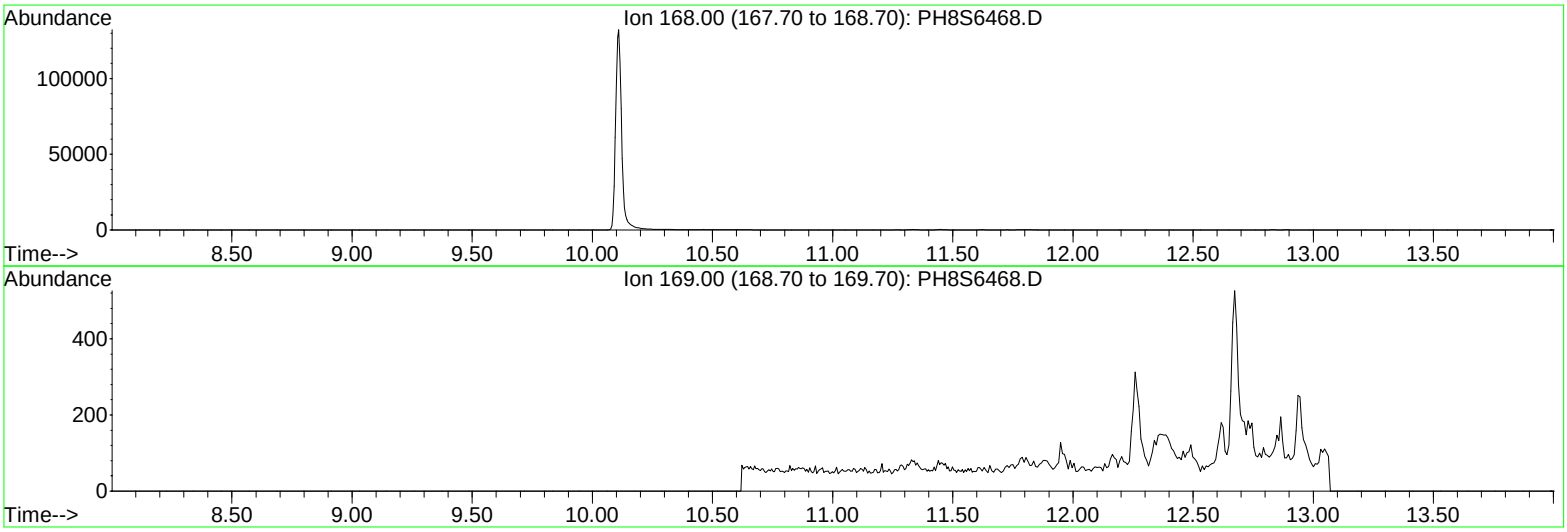
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

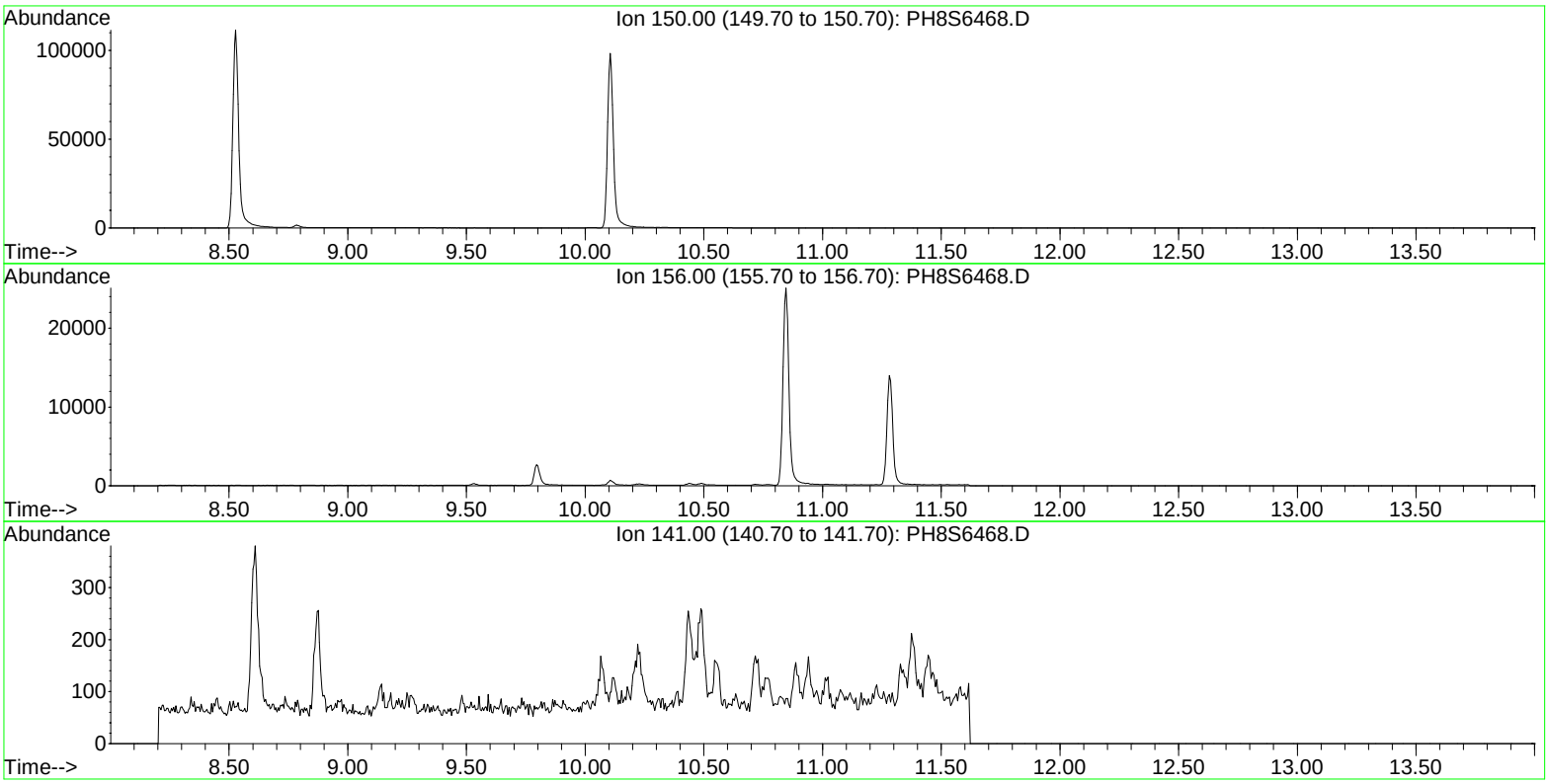




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

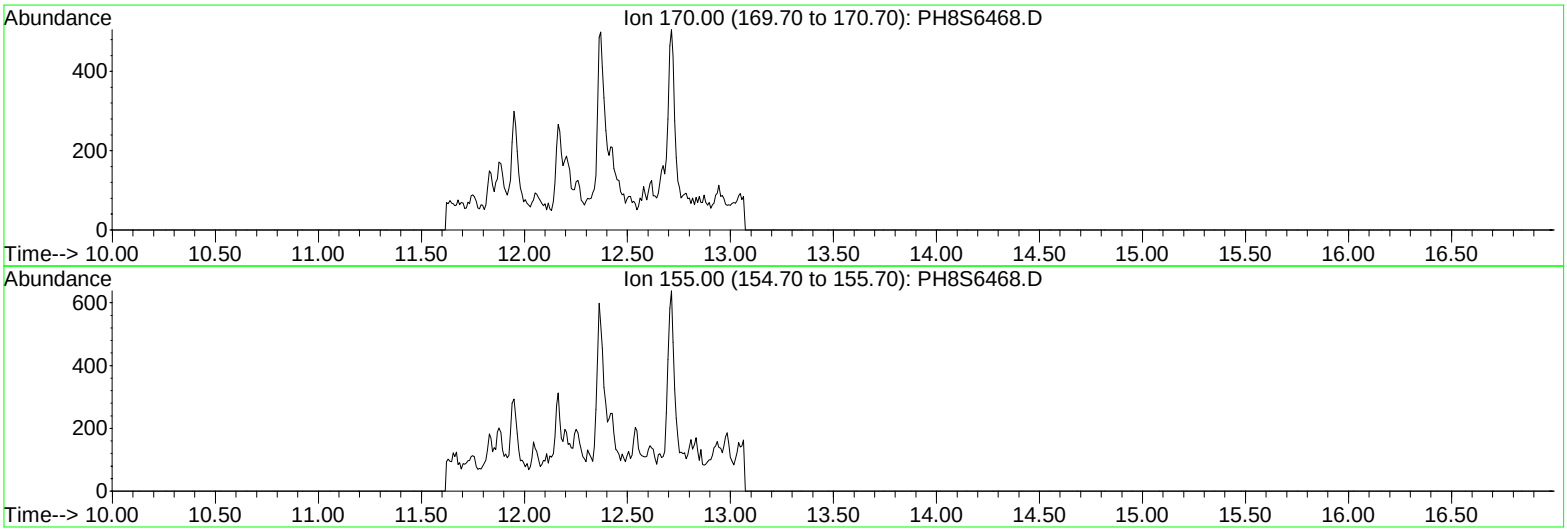


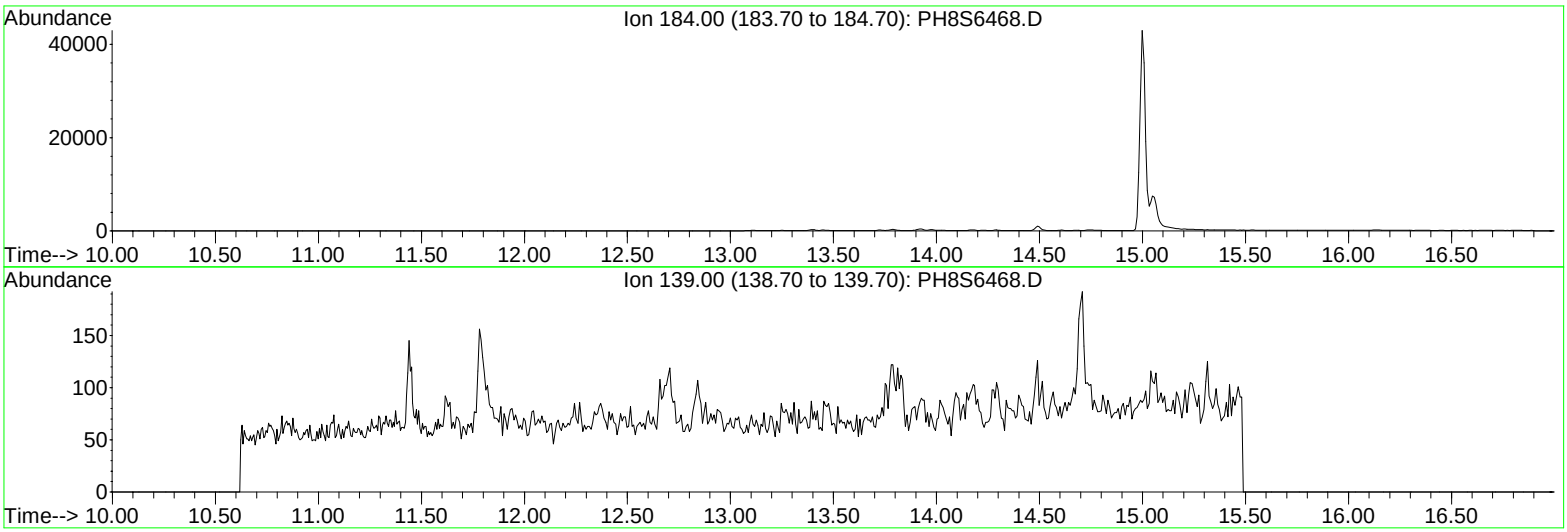


Thu Jan 10 08:41:54 2019

Axys Analytical CHRO Report

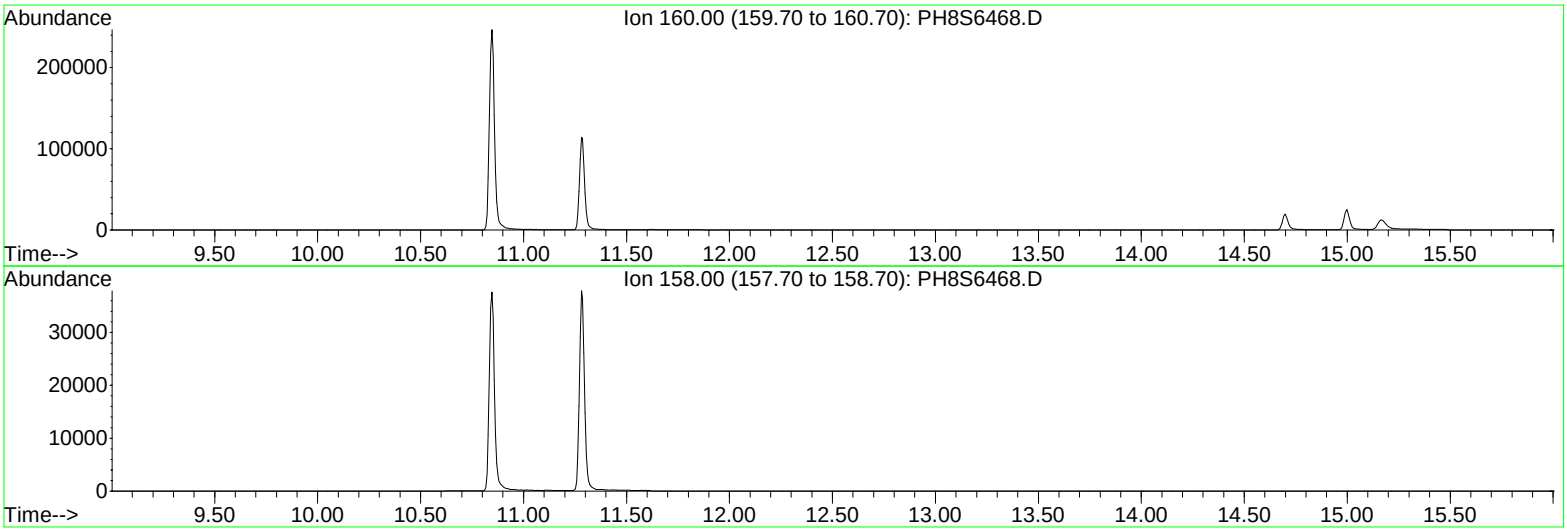
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

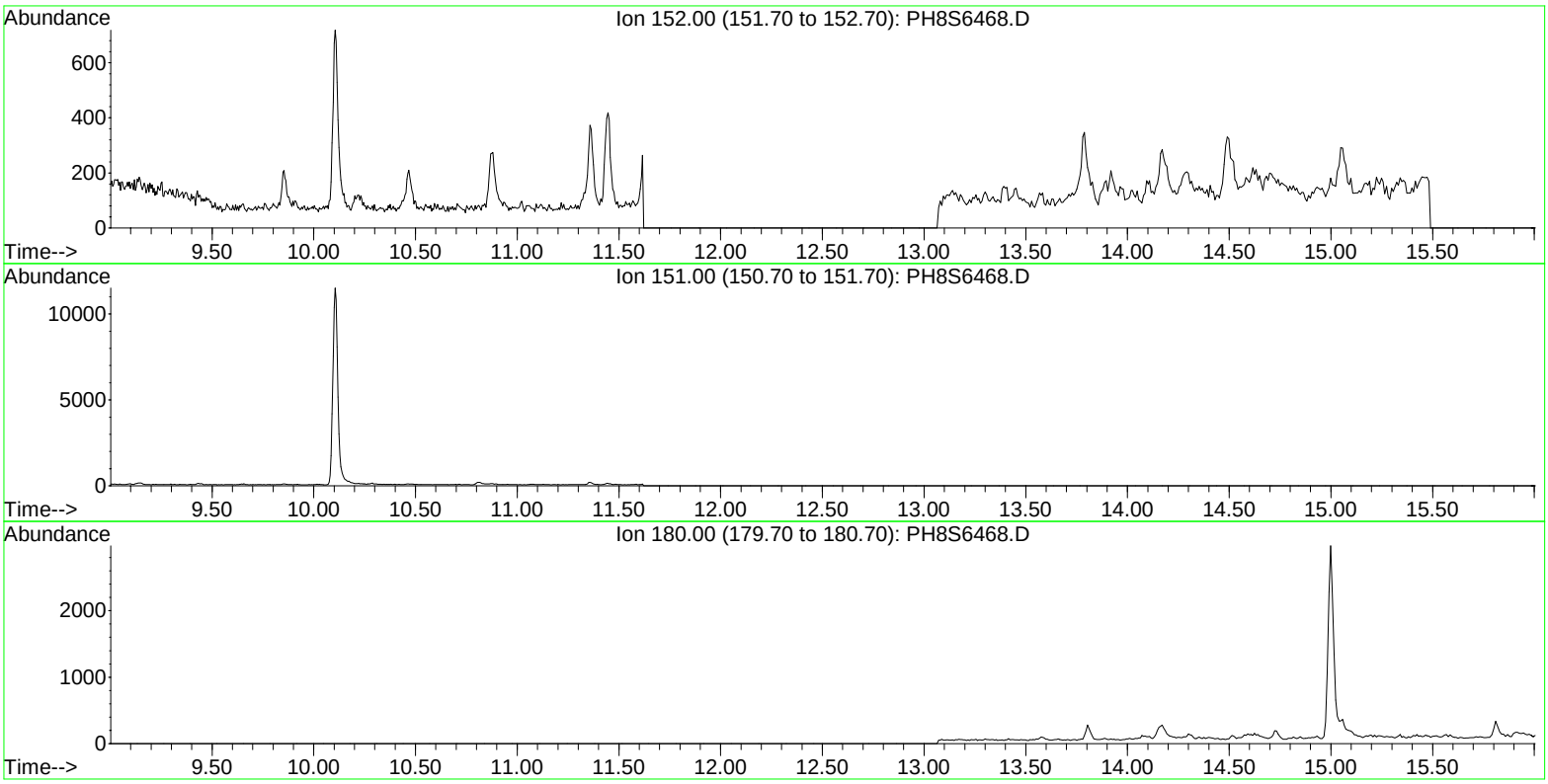


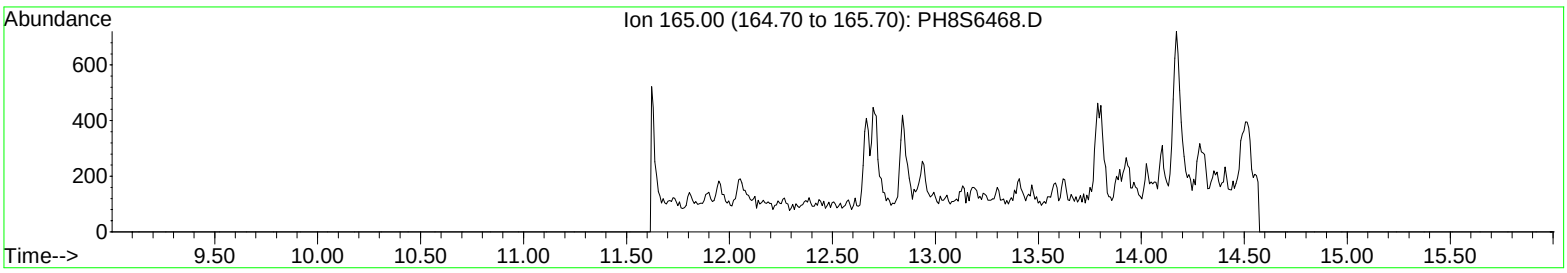


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



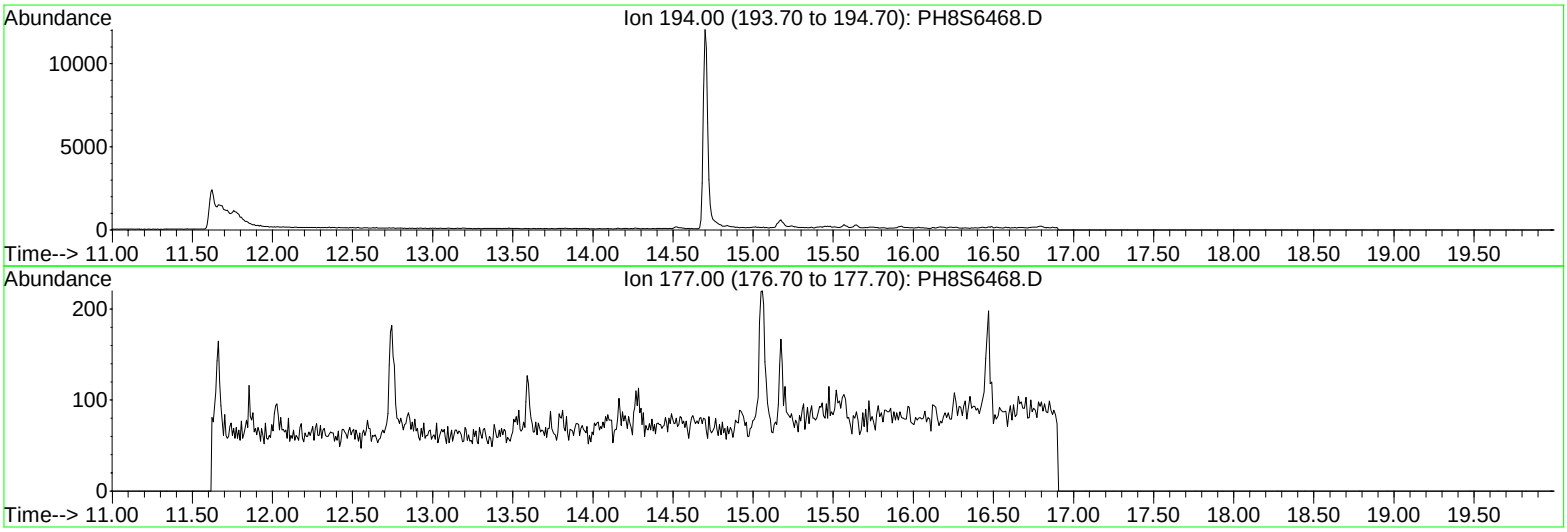


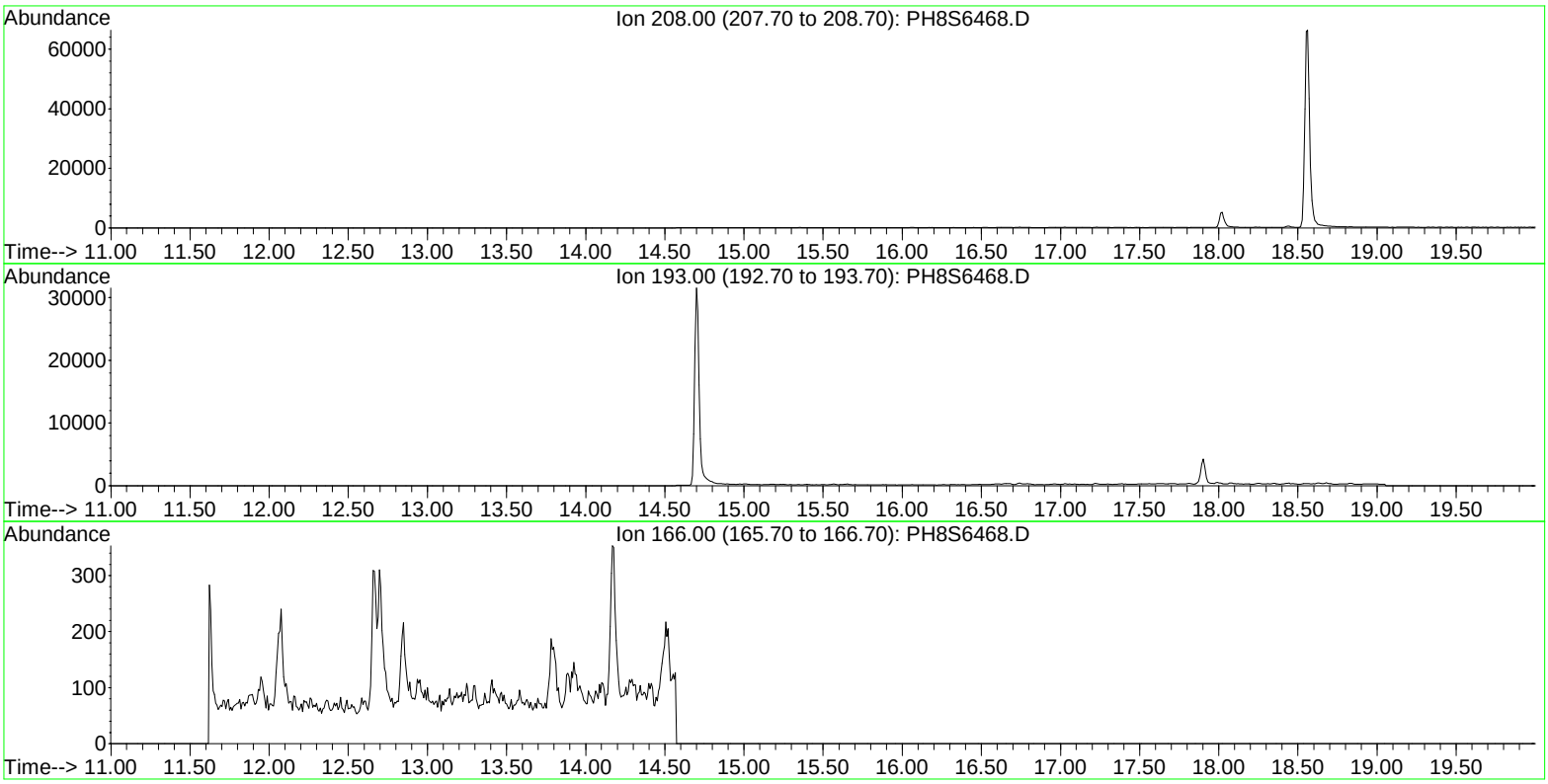


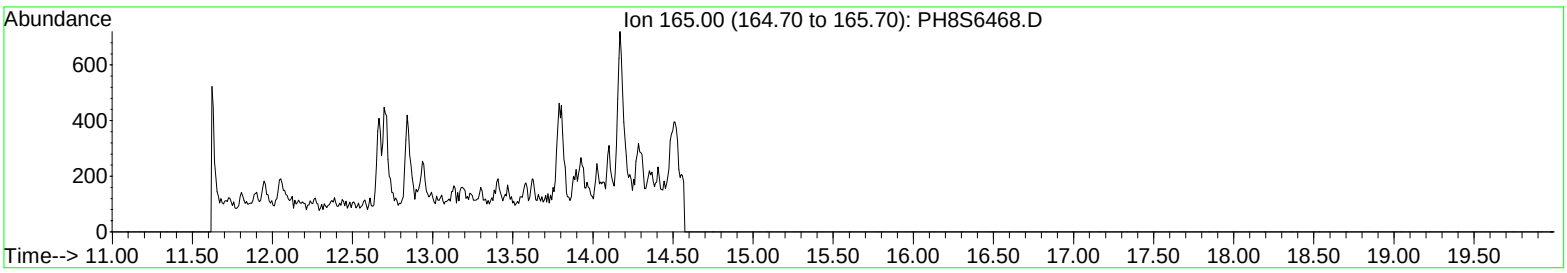
Thu Jan 10 08:41:59 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



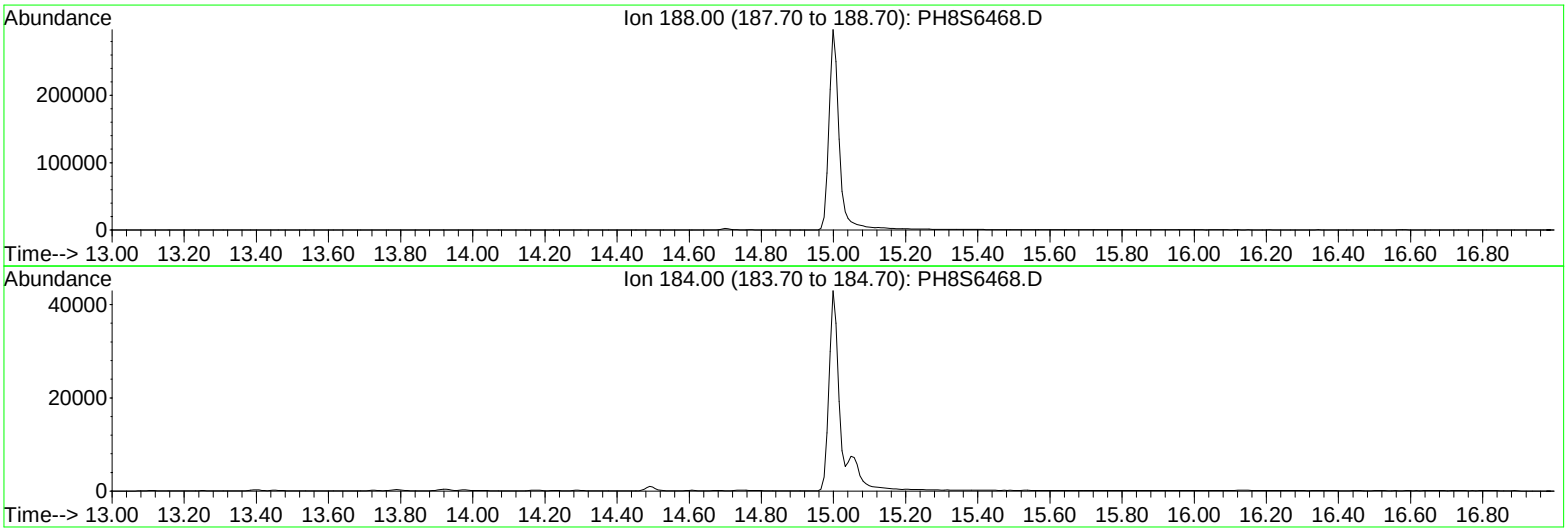


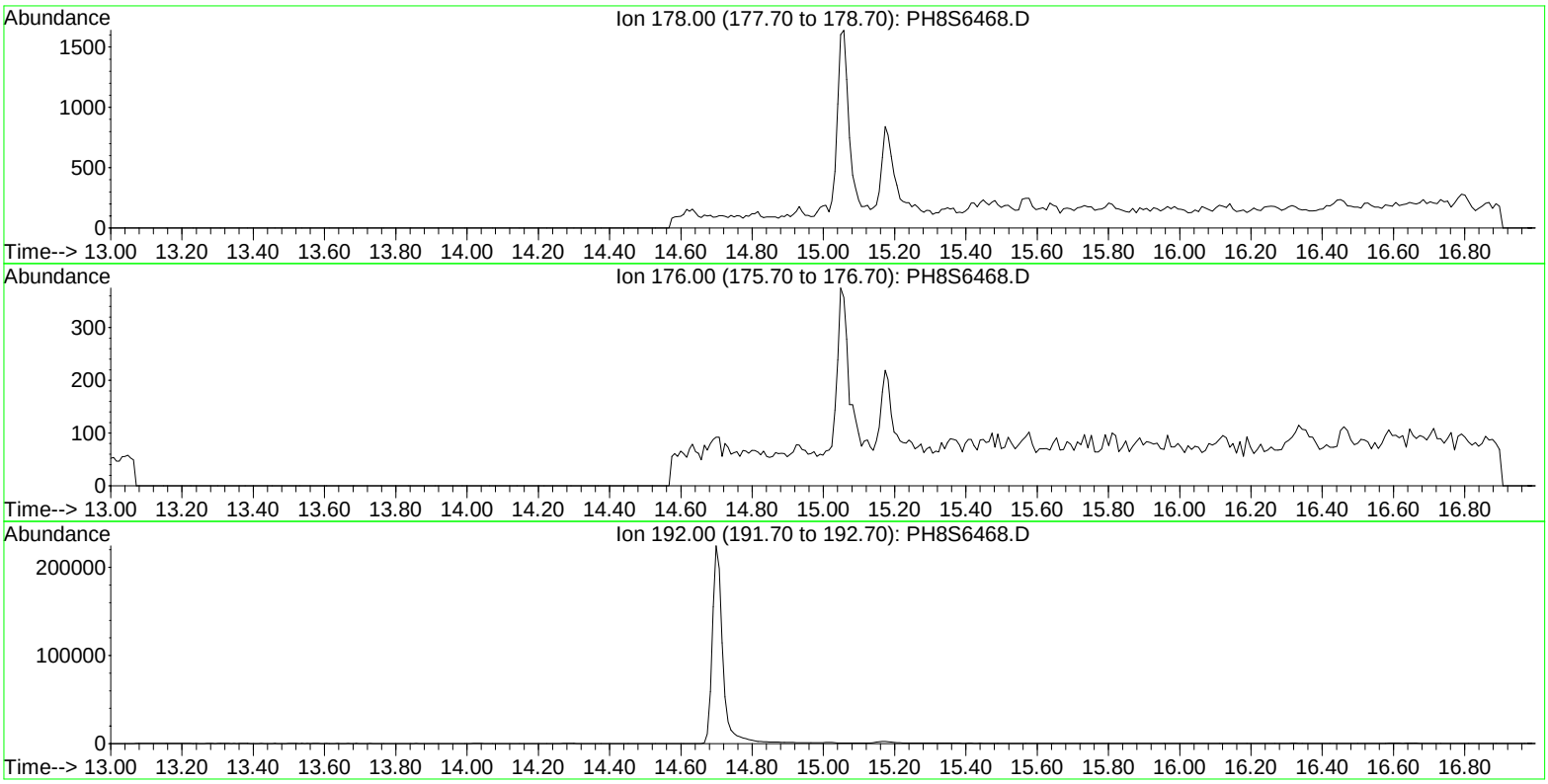


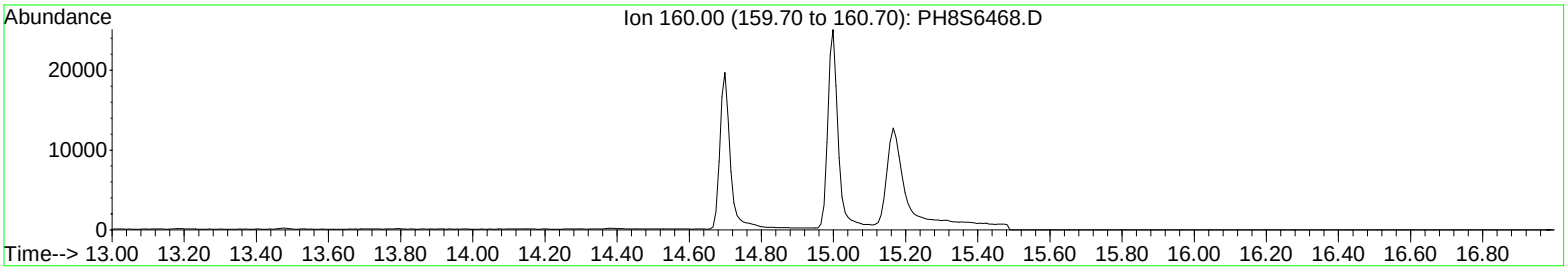
Thu Jan 10 08:42:01 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



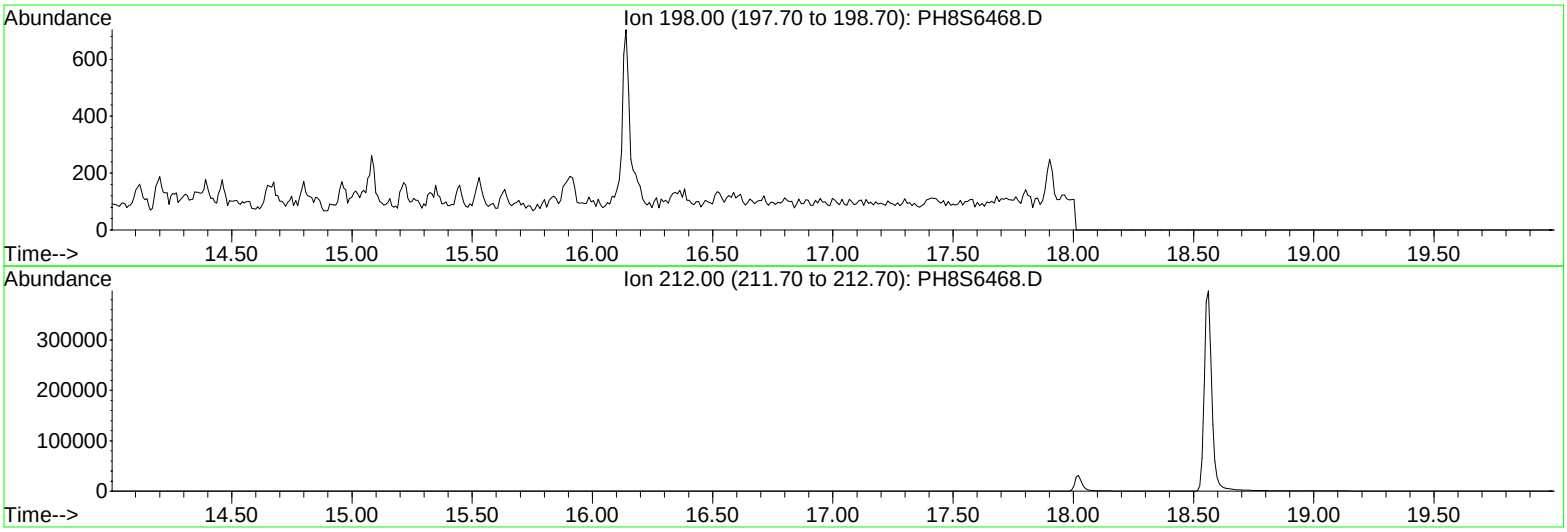


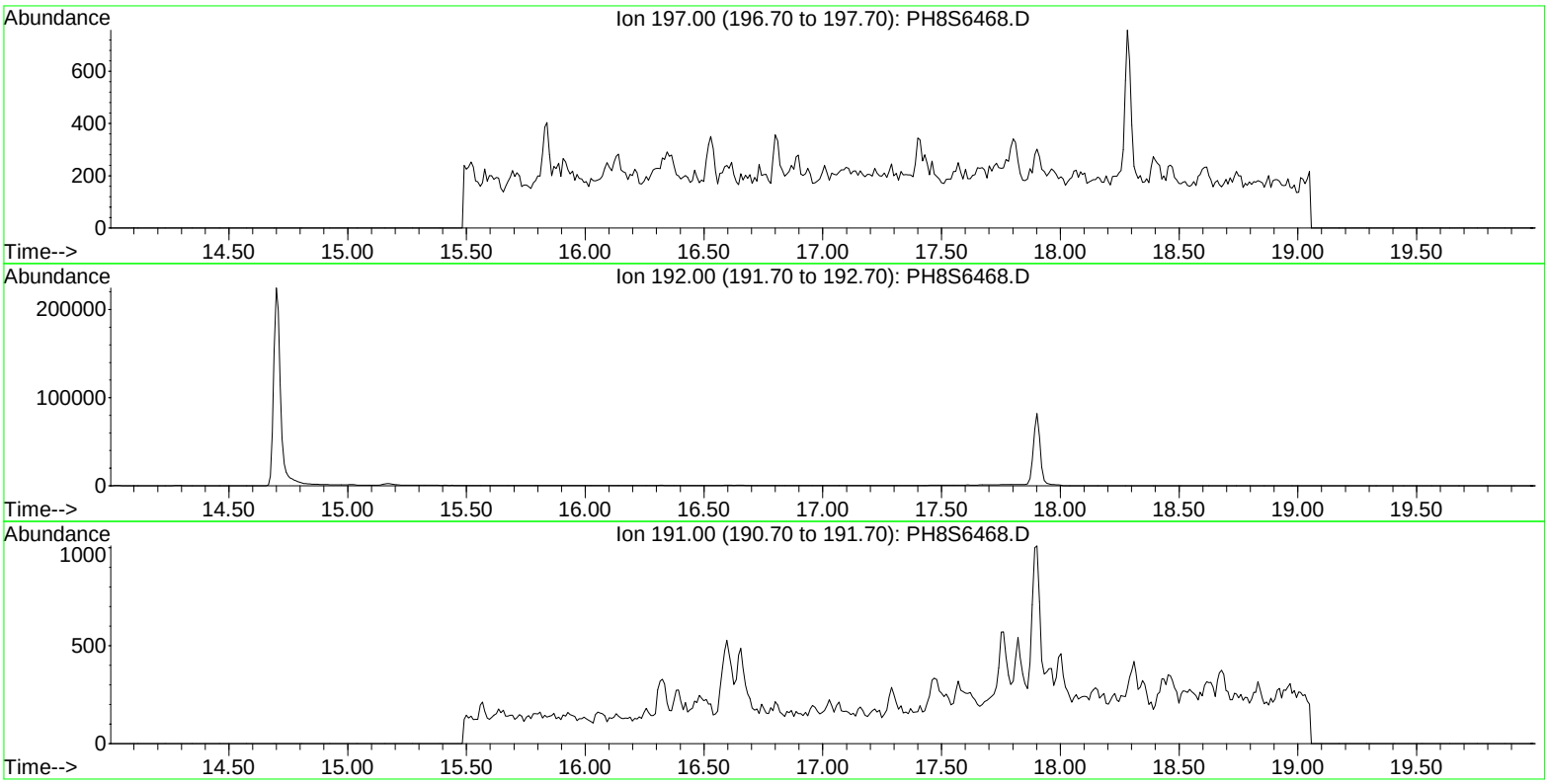


Thu Jan 10 08:42:03 2019

Axys Analytical CHRO Report

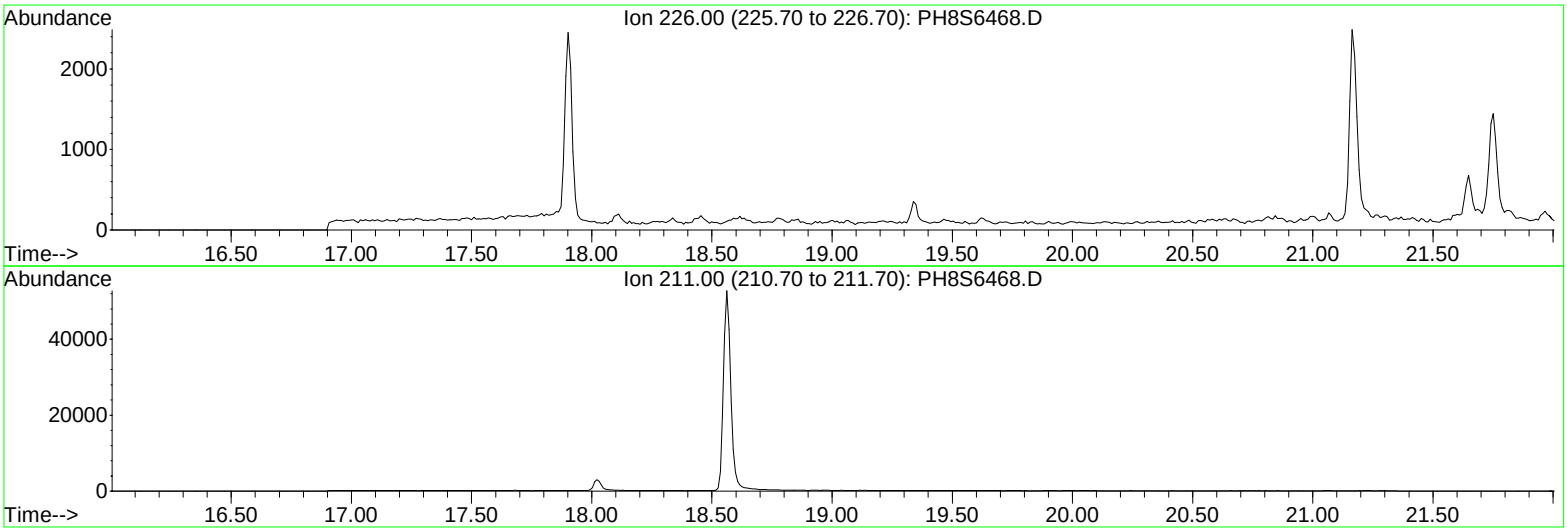
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

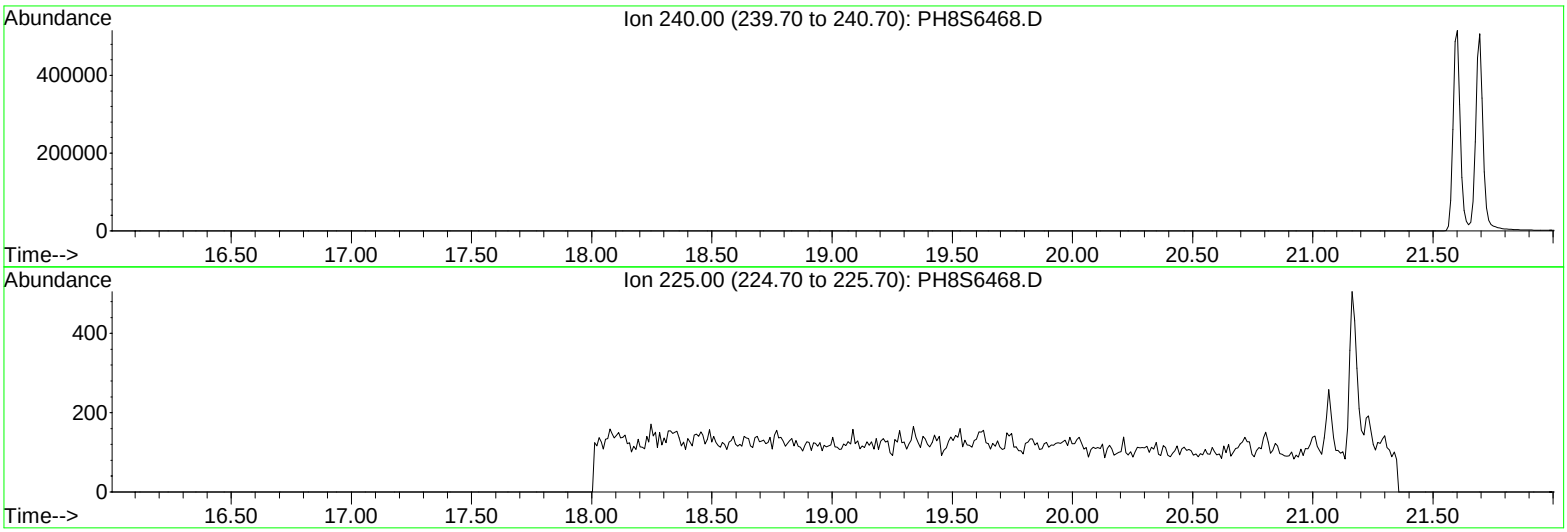




Axys Analytical CHRO Report

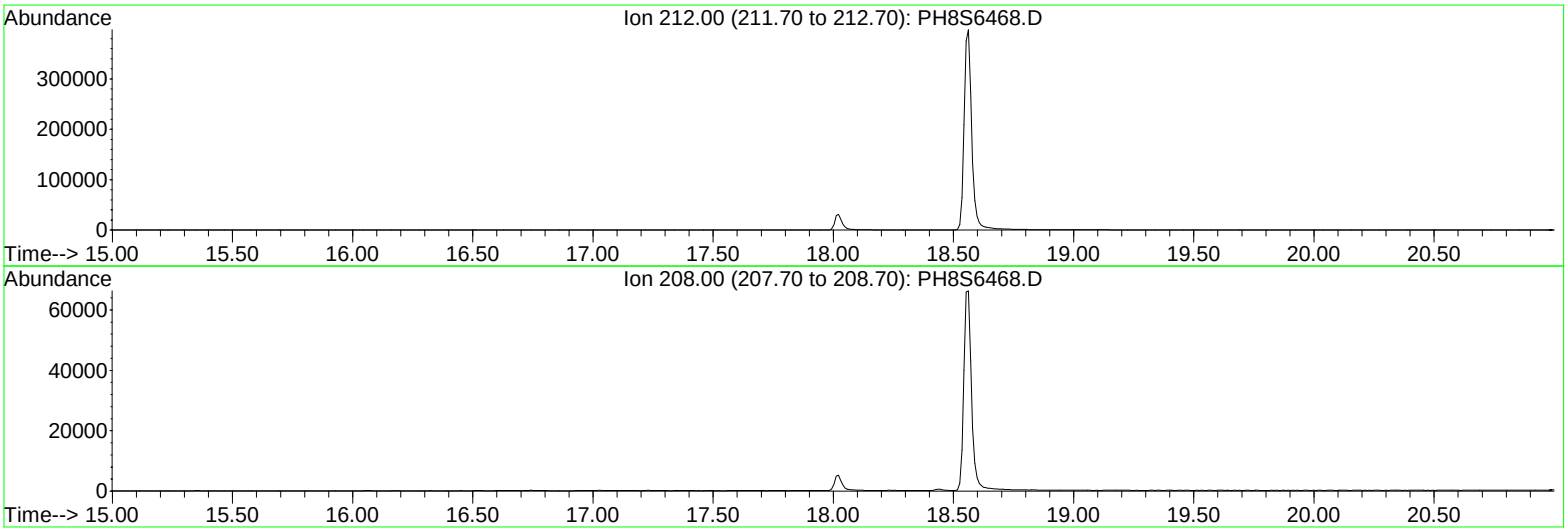
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

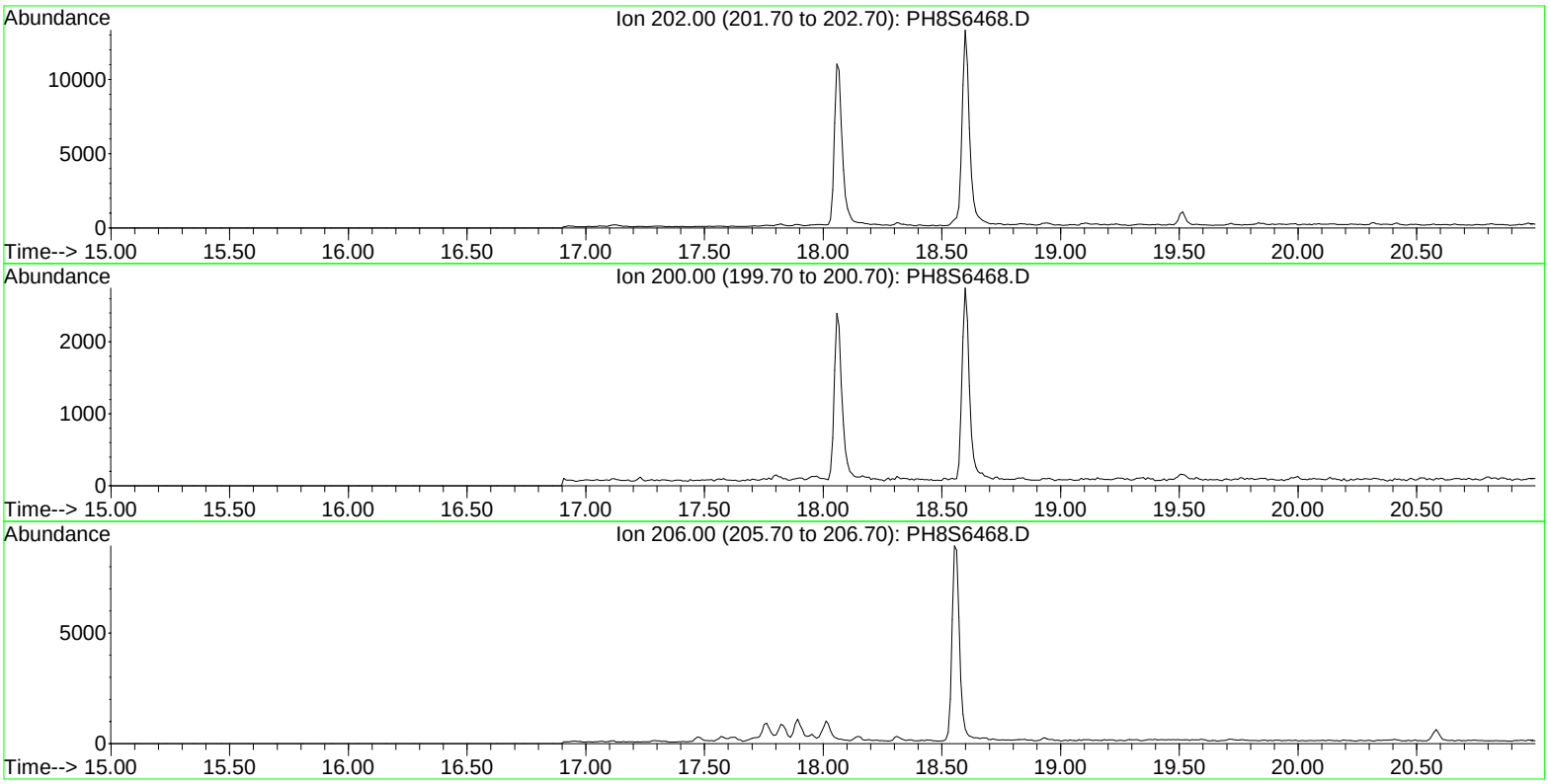


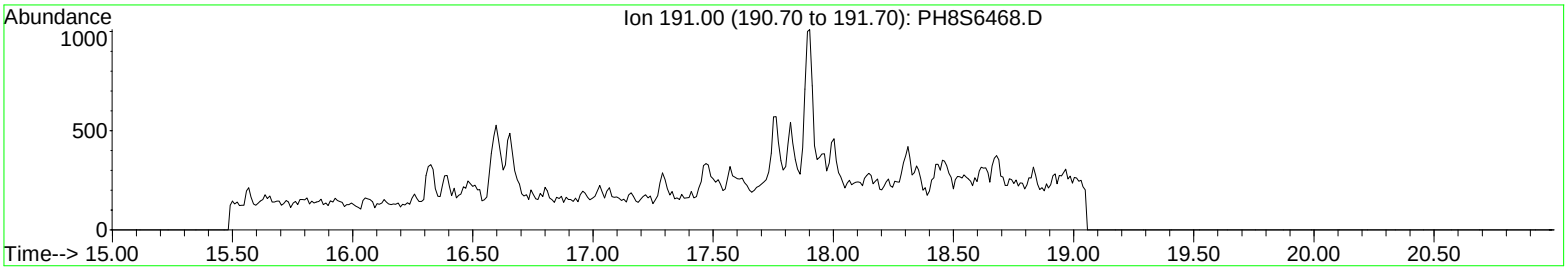


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



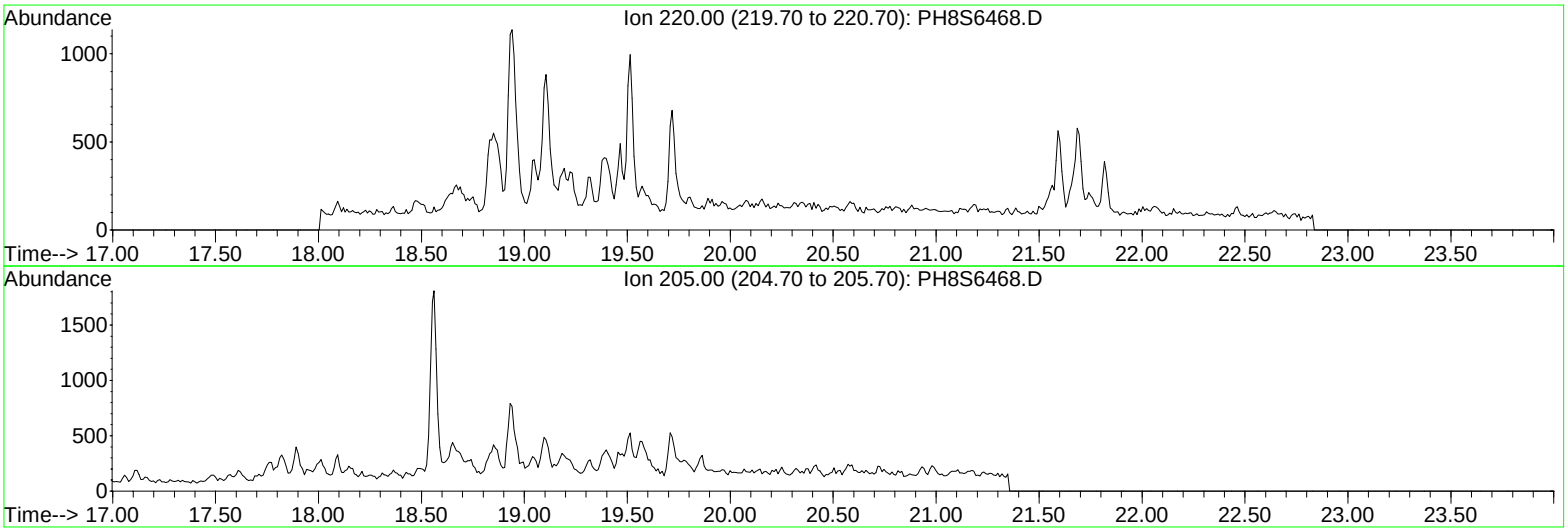


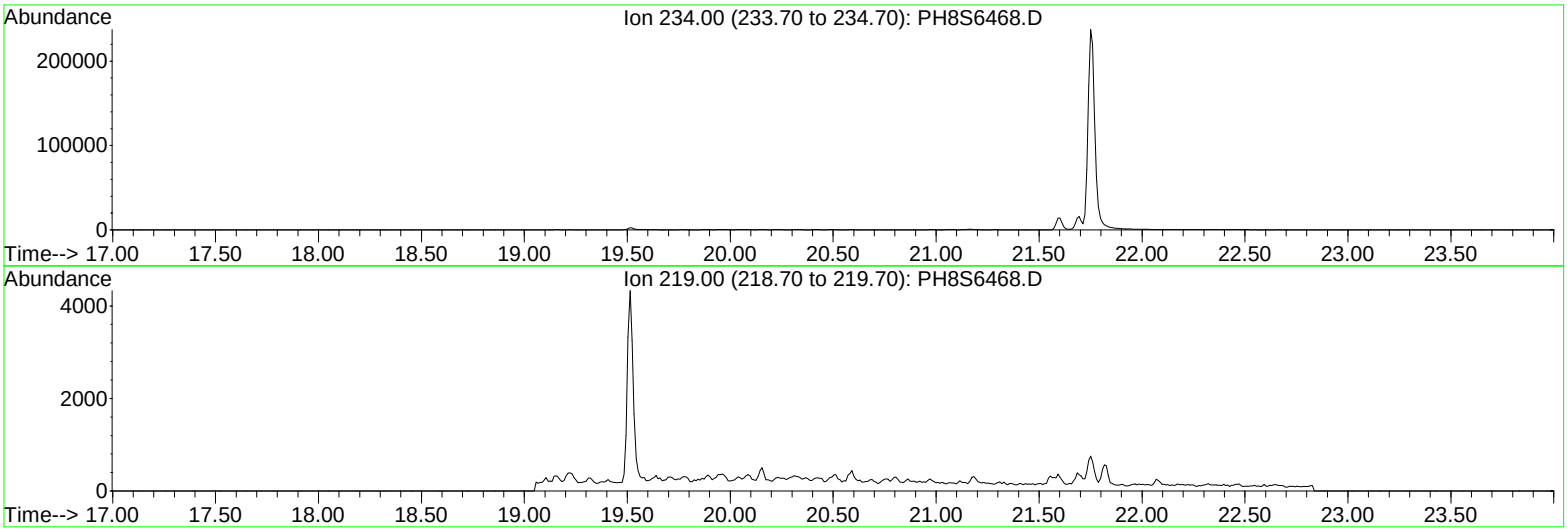


Thu Jan 10 08:42:09 2019

Axys Analytical CHRO Report

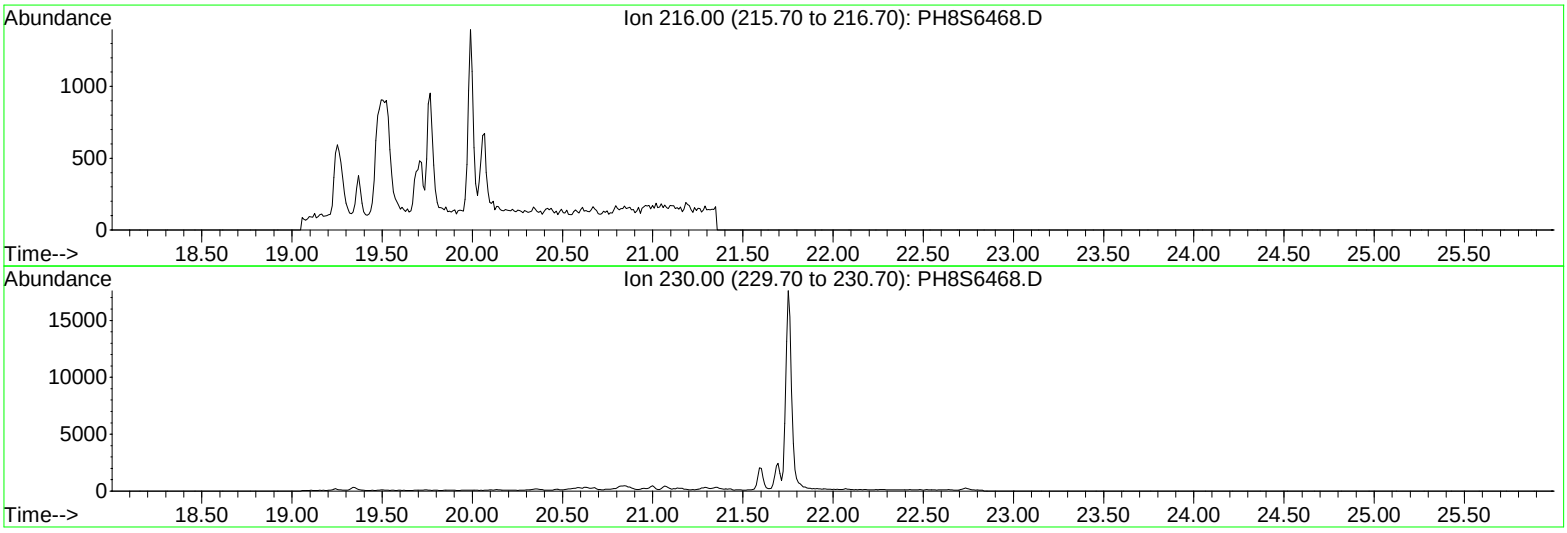
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

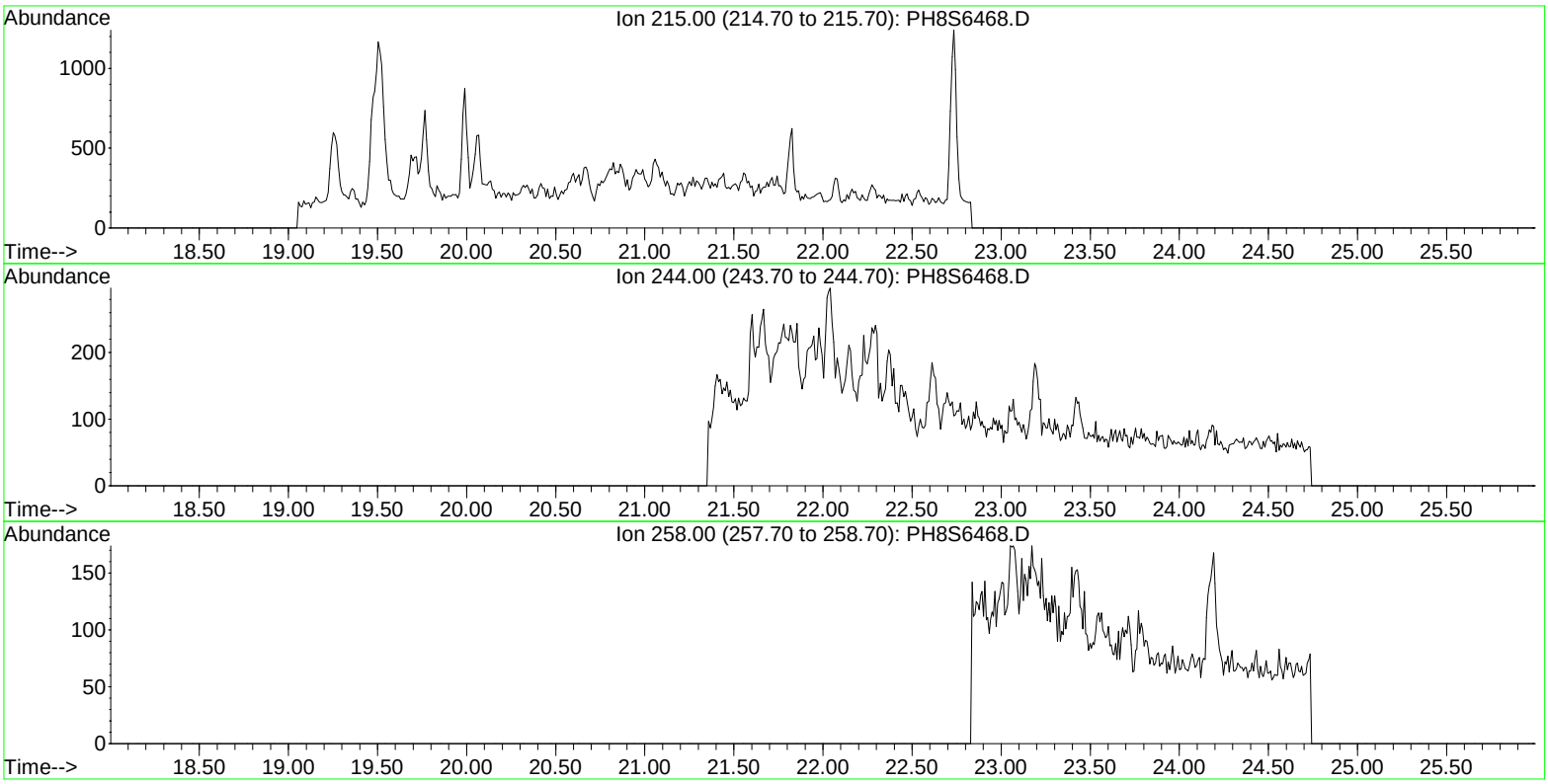


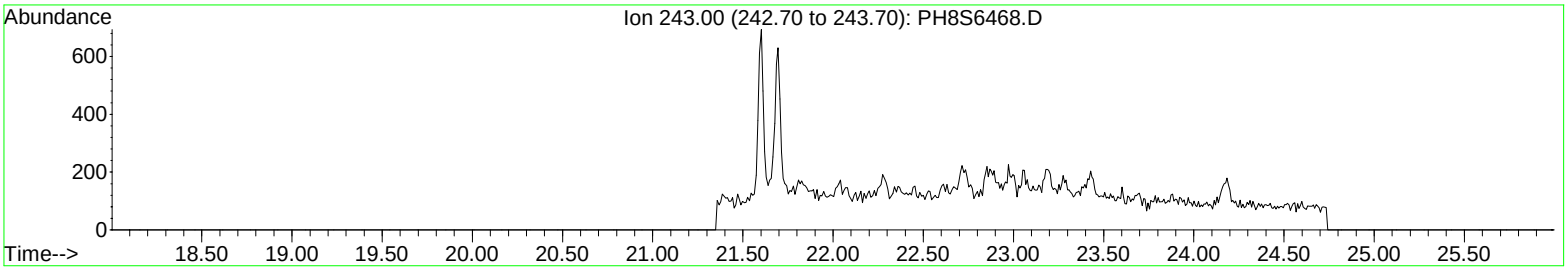


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

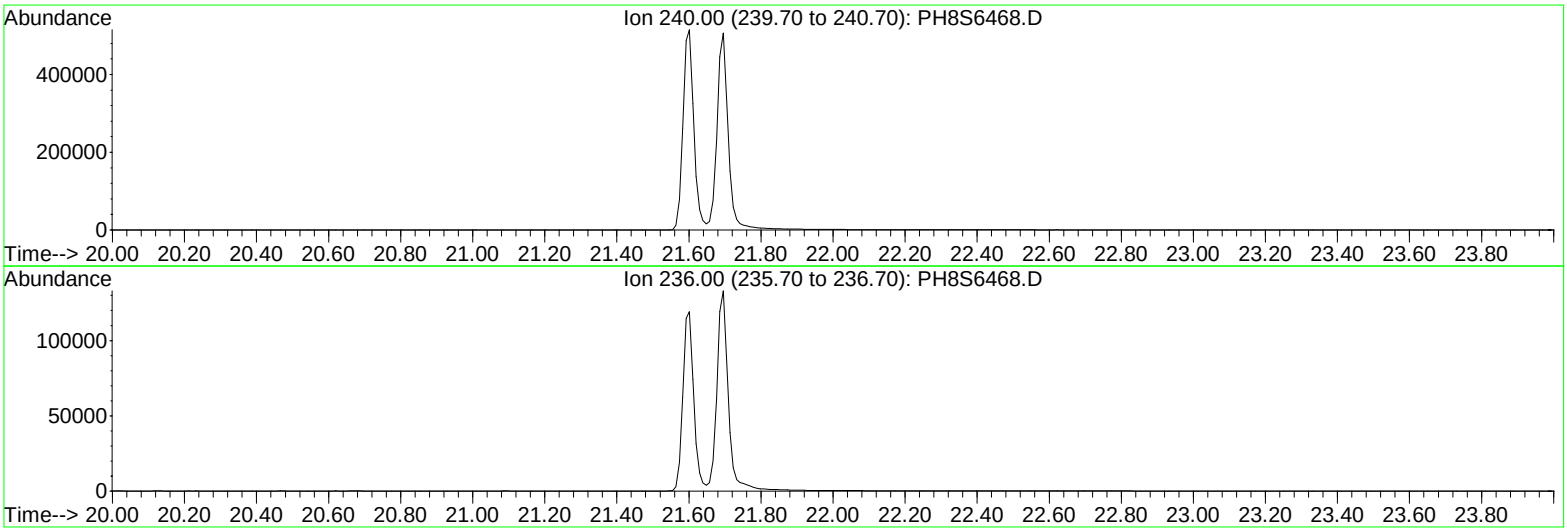


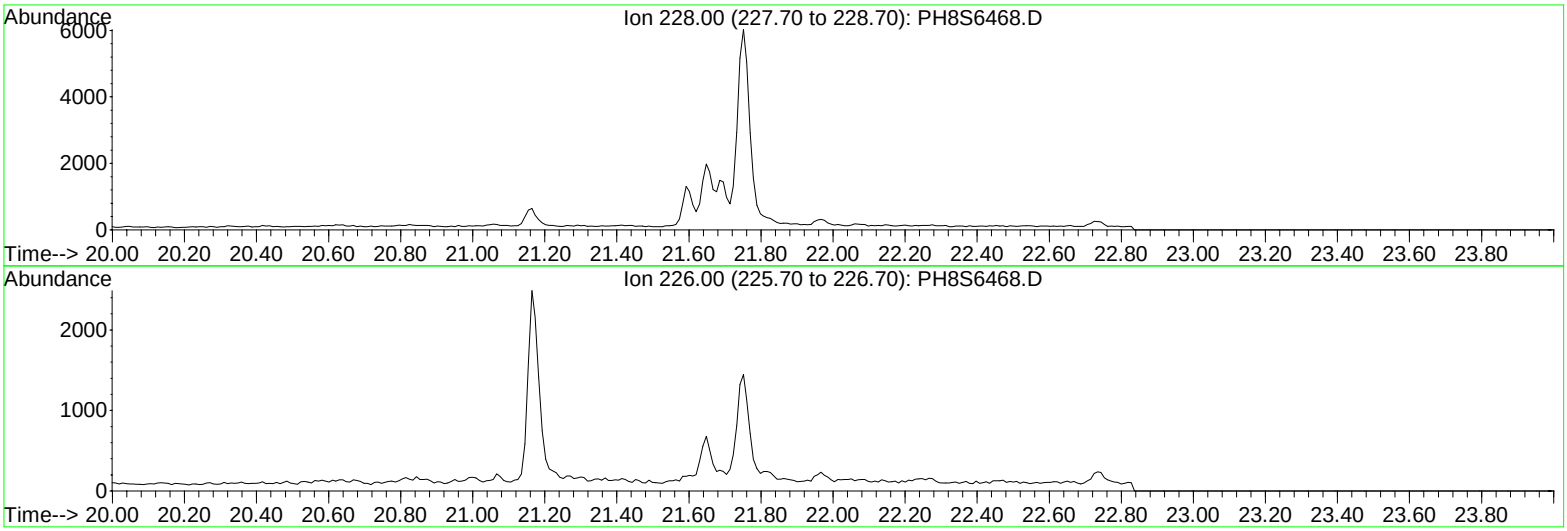




Axys Analytical CHRO Report

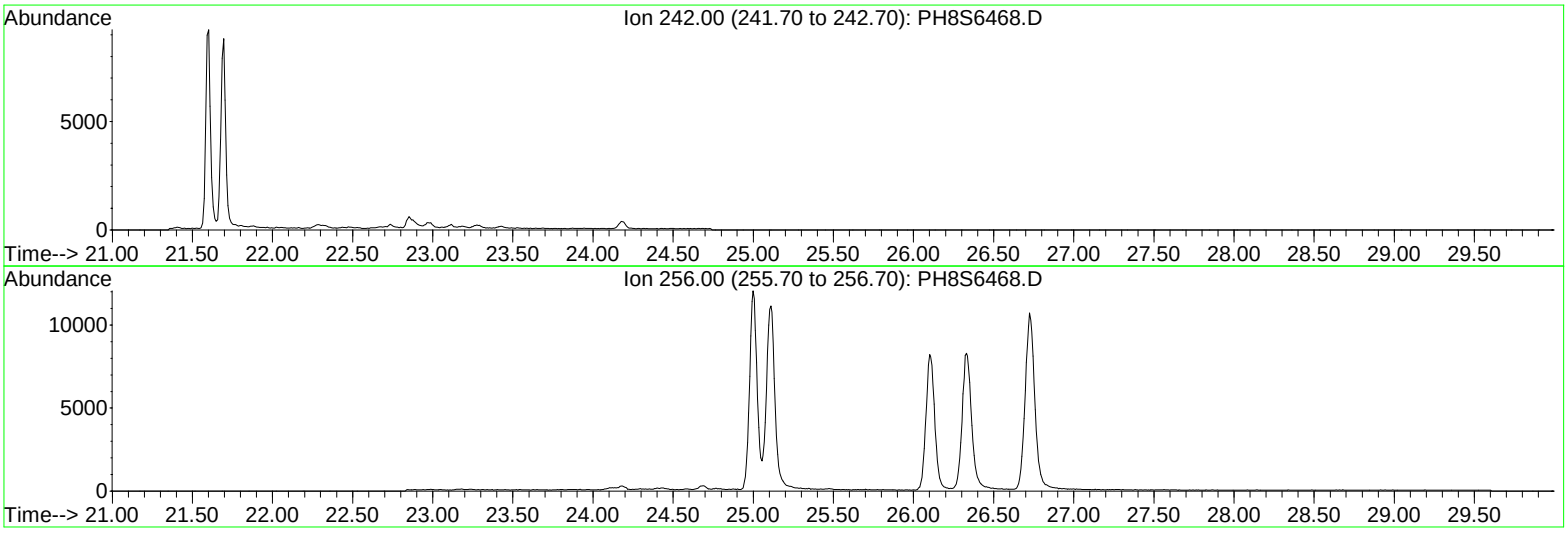
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

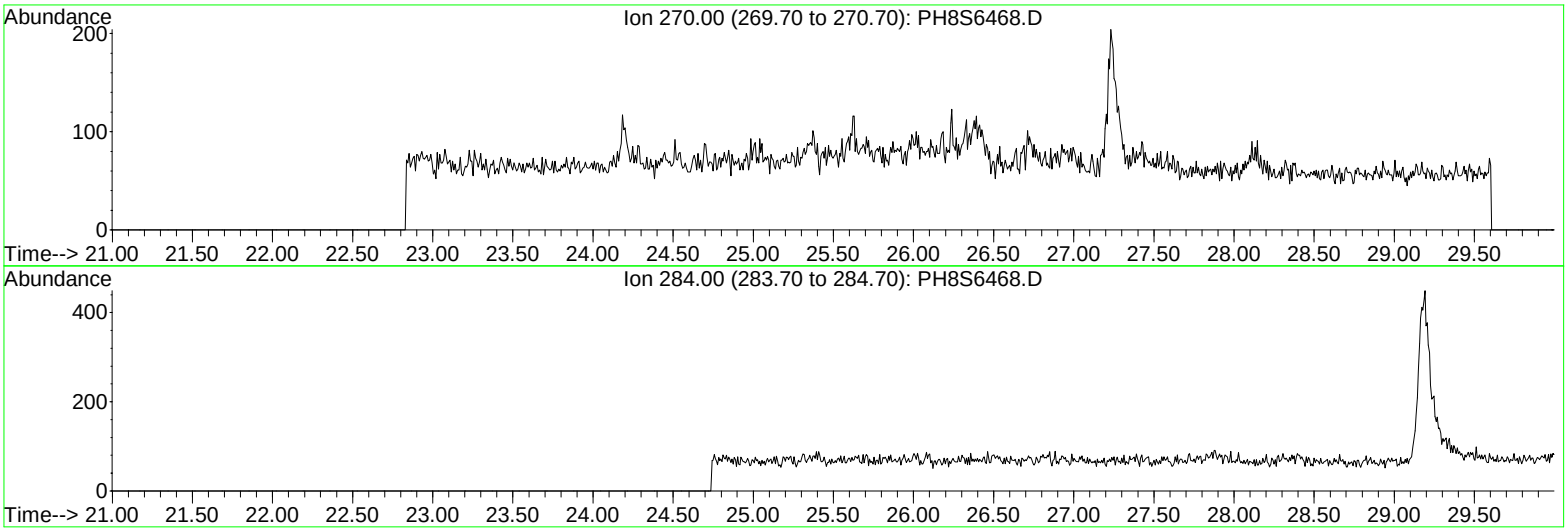




Axys Analytical CHRO Report

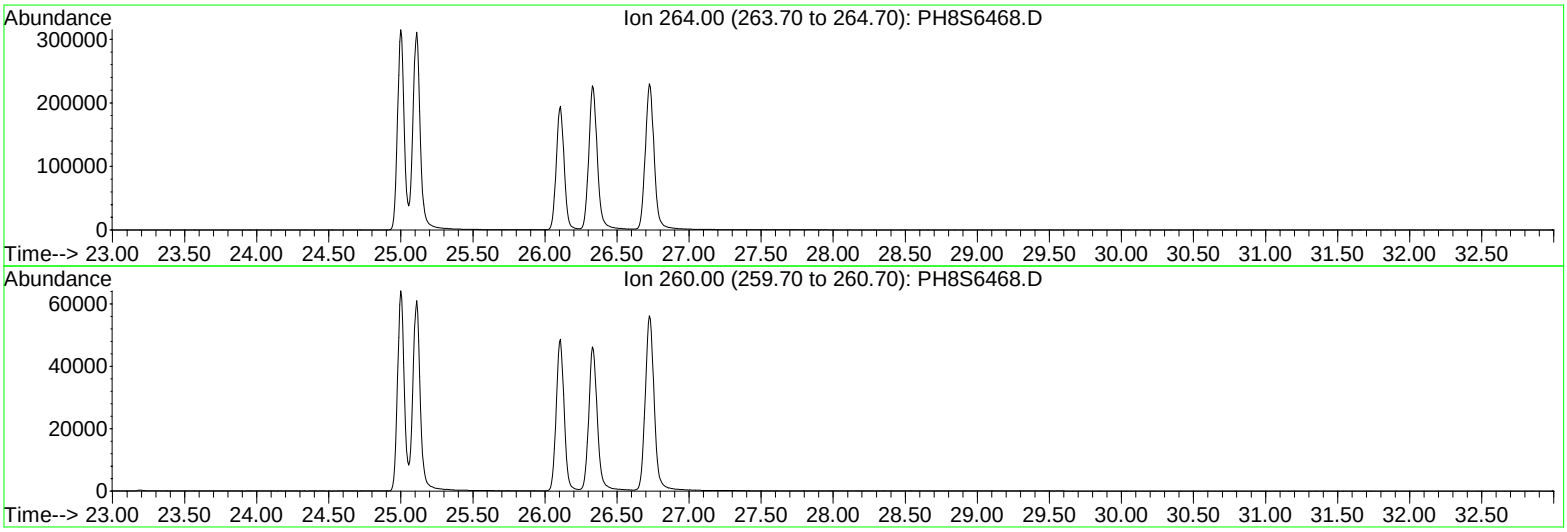
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

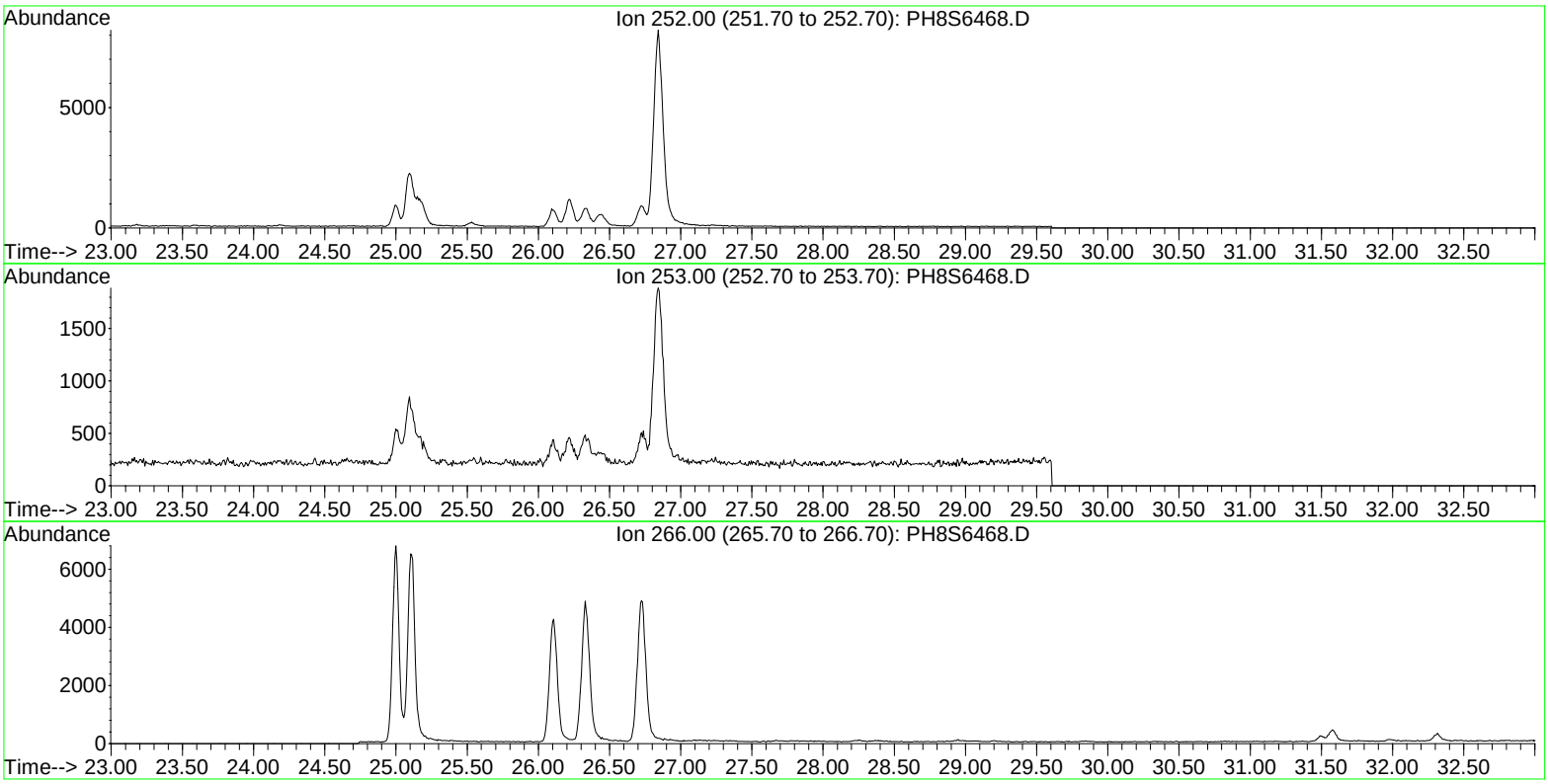


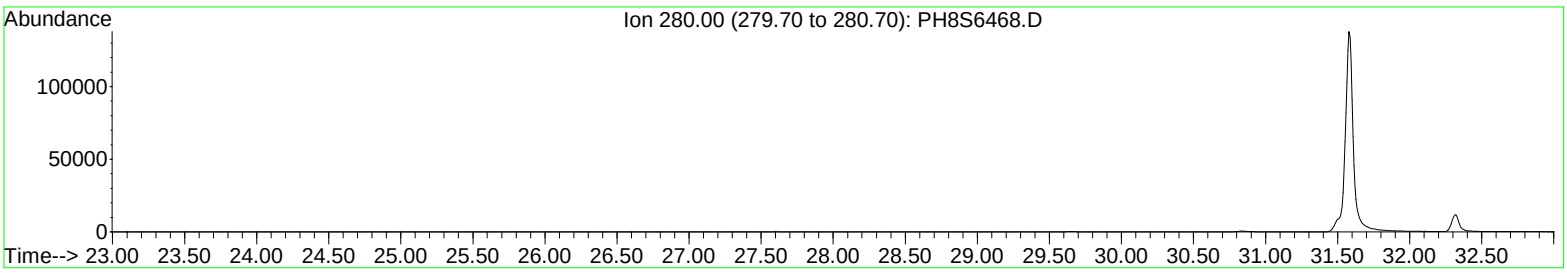


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



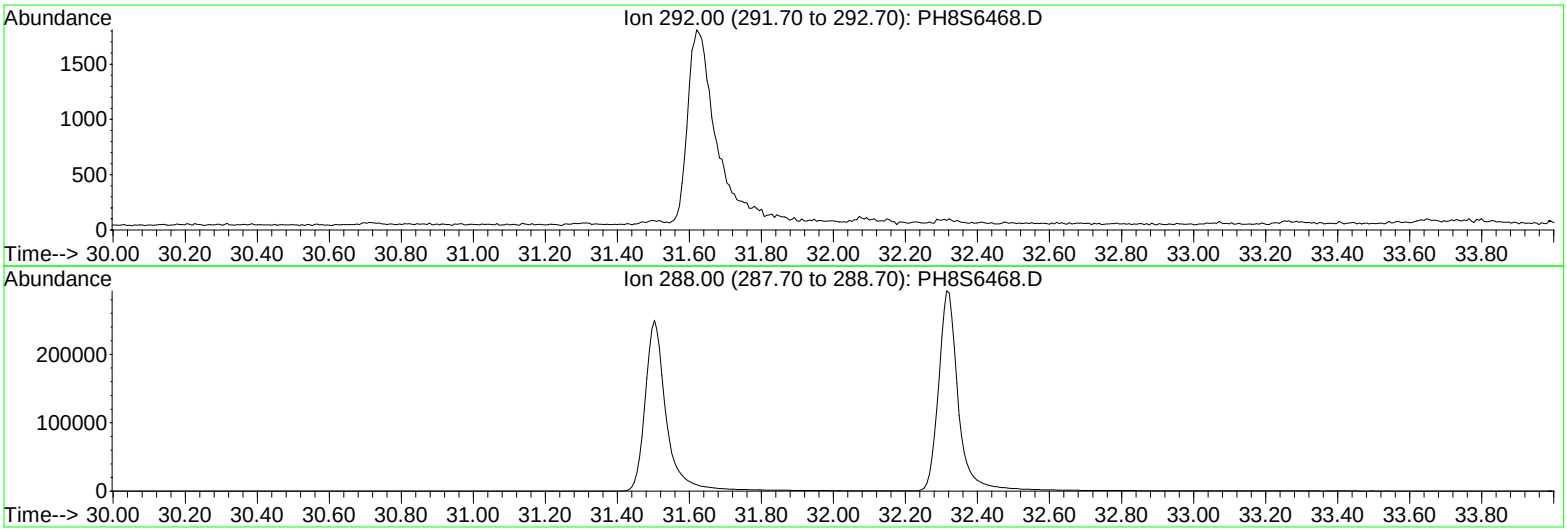


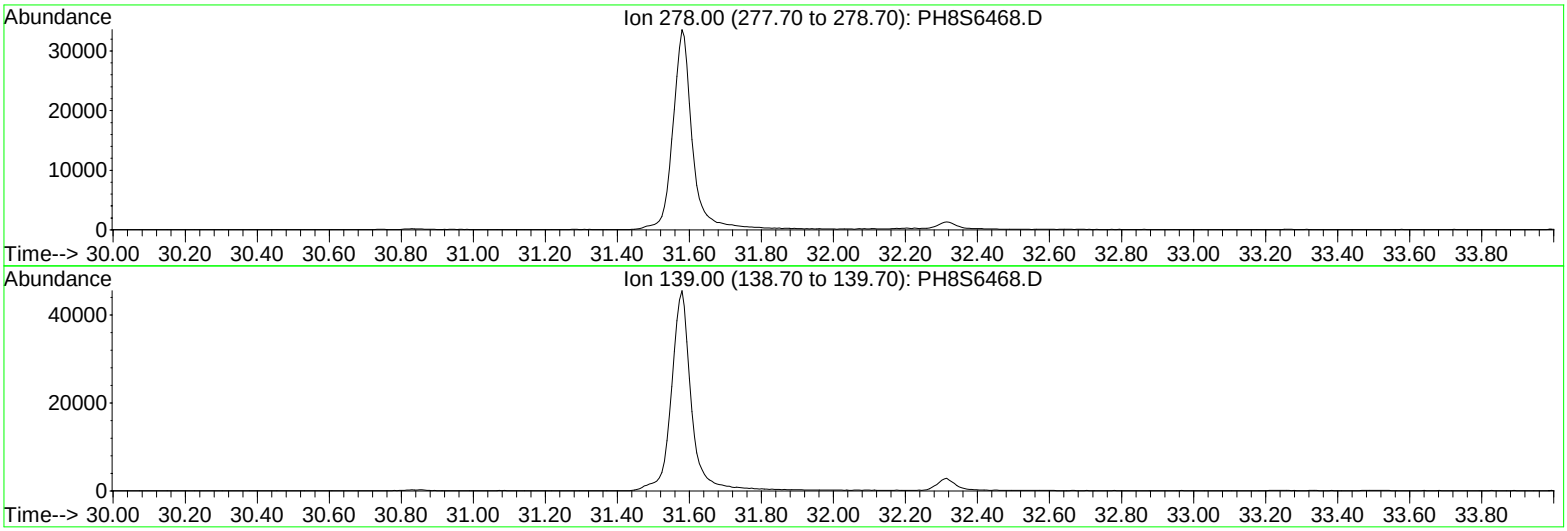


Thu Jan 10 08:42:18 2019

Axys Analytical CHRO Report

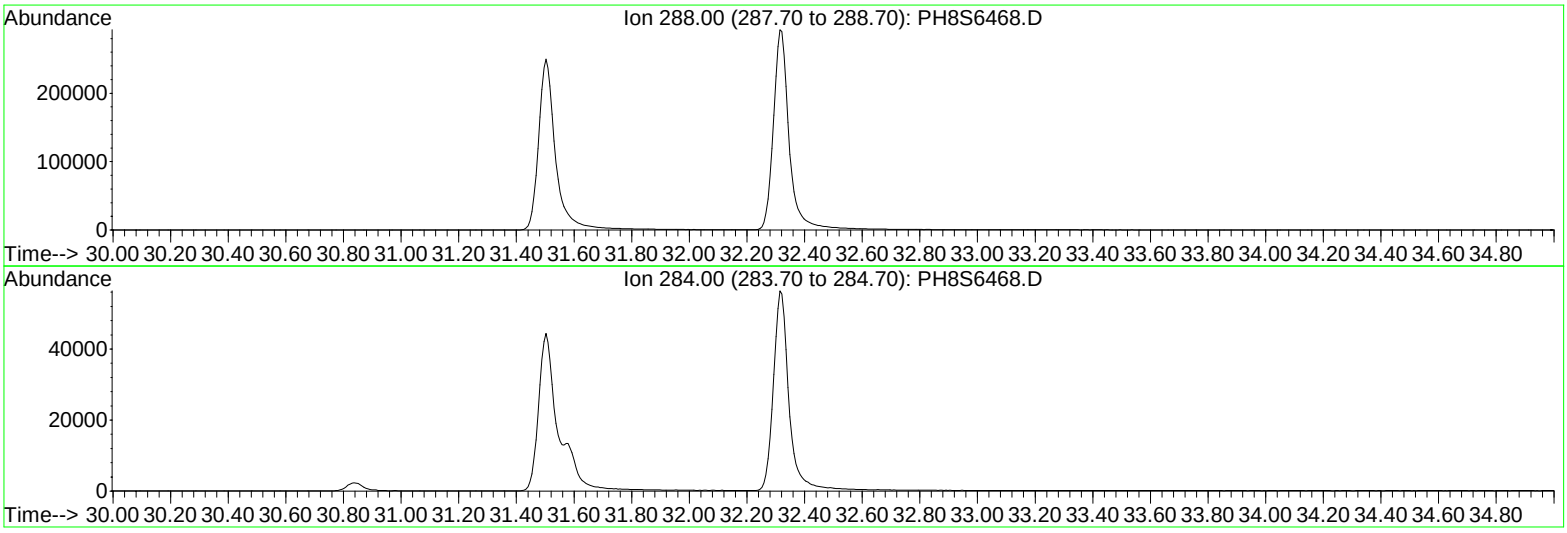
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

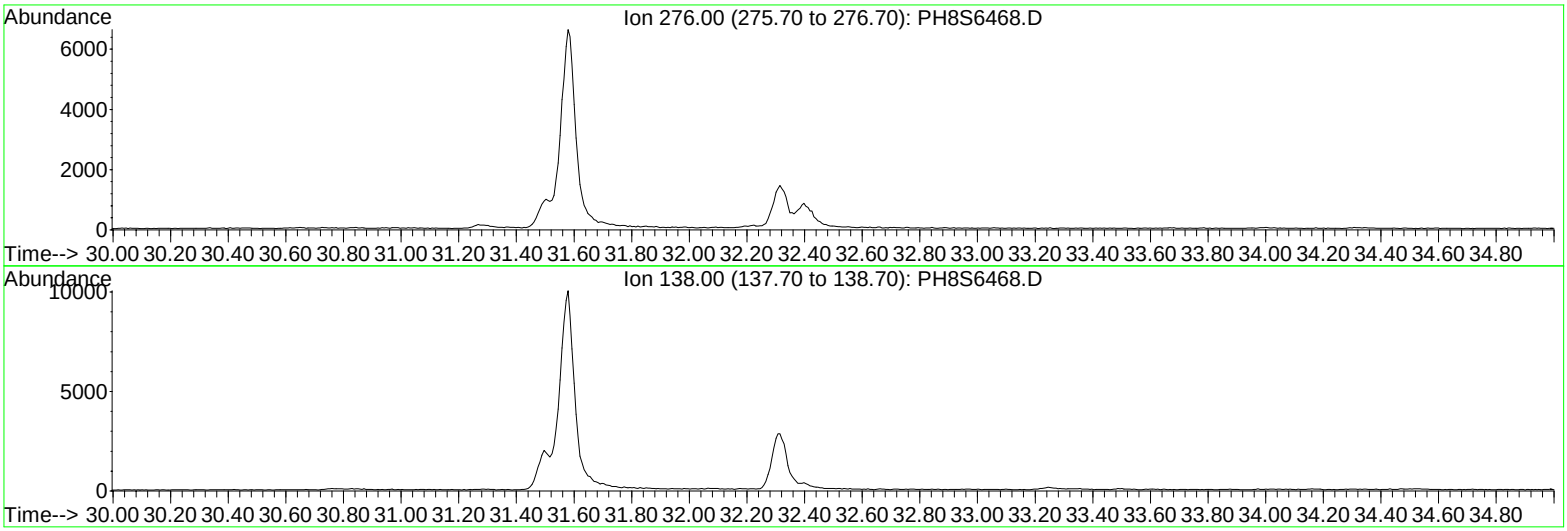




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL





---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6468.D
28/12/2018 19:18
L30540-3
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6468.D\618S6468.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 13
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.115	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	877005	18.56	1713.0435	I	0	1713.0435	1132		0.17	1
d10-Phenanthrene - SURR	573215	15	1386.5922	S	38.4098	3.6342	1728		0.14	0.808
d12-Benz(a)anthracene - SURR	1072679	21.6	3869.0181	S	95.296	89.2565	28458		0.23	1.164
d12-Chrysene - SURR	1087747	21.7	3662.7359	S	93.4371	39.4248	13465		0.27	1.169
d12-Benzo(e)pyrene - REC	739462	26.11	1756.5217	I	0	1756.5217	957		0.25	1
d12-Indeno(123cd)pyrene - SURR	1002967	31.5	3796.2317	S	95.3827	0.6752	205		0.17	1.207
d10-Phenanthrene	573215	15	3139.1304	I	0	3139.1304	1560		0.14	1
13C6-Phenanthrene	17870	15.05	86.4722	T	0	0.6943	143		0.17	1.003
d12-Benz(a)anthracene	1072679	21.6	3530.4348	I	0	3530.4348	26849		0.23	1
d10-Fluoranthene	69944	18.02	169.0688	T	0	0.6189	256		0.16	0.834
d12-Chrysene	1087747	21.7	3408.6957	I	0	3408.6957	13033		0.27	1
13C6-Chrysene	553294	21.75	1546.131	T	0	1.8263	654		0.31	1.003
d12-Indeno(123cd)pyrene	1002967	31.5	3460.8696	I	0	3460.8696	217		0.17	1
13C6-Indeno(123cd)pyrene $	2320444	31.58	6403.8789	T	0	3.0633	1110		0.2	1.002

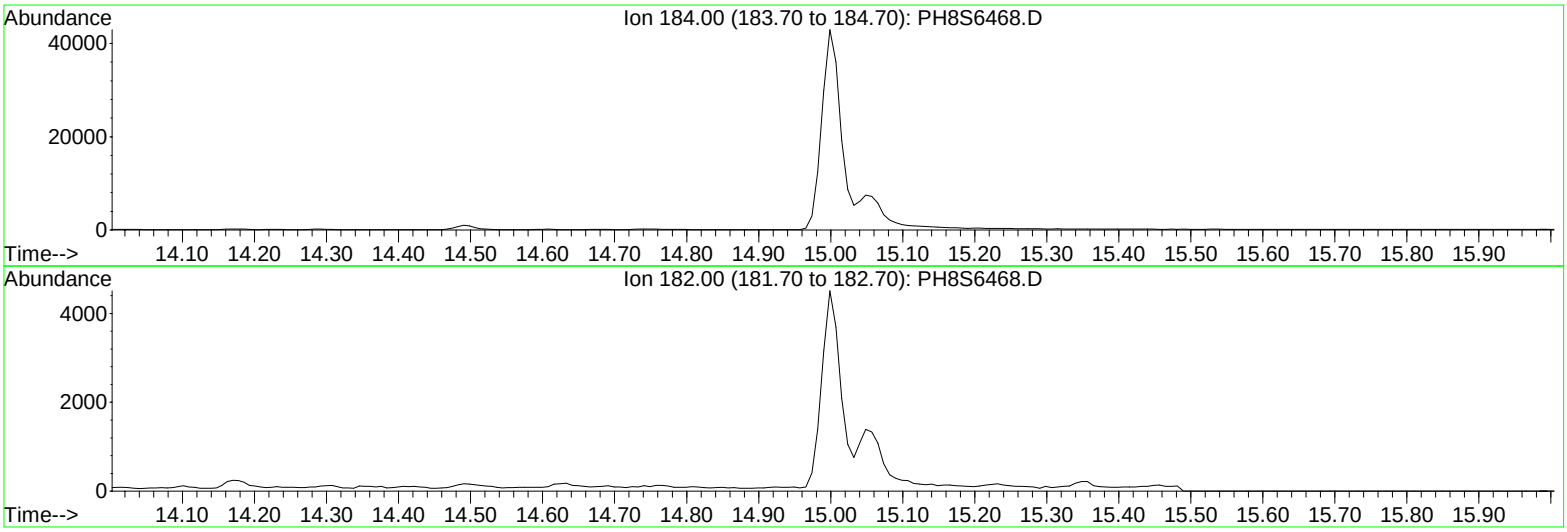
checked by
08-Jan-19

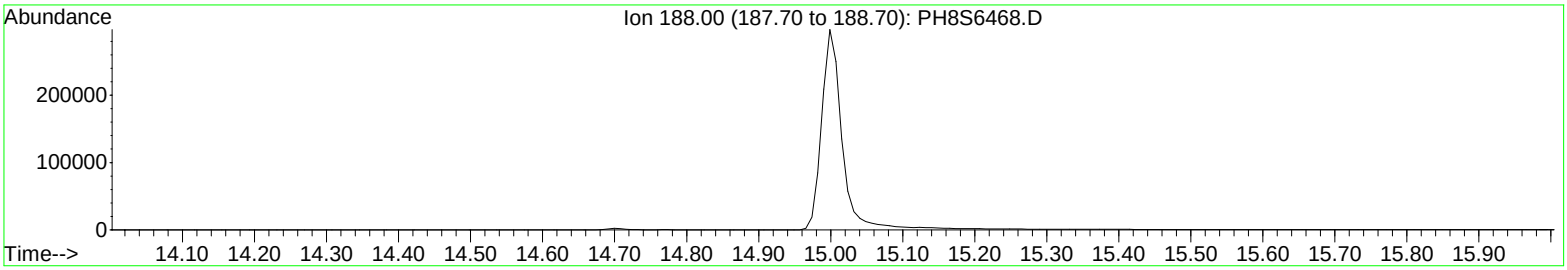
618S6468

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

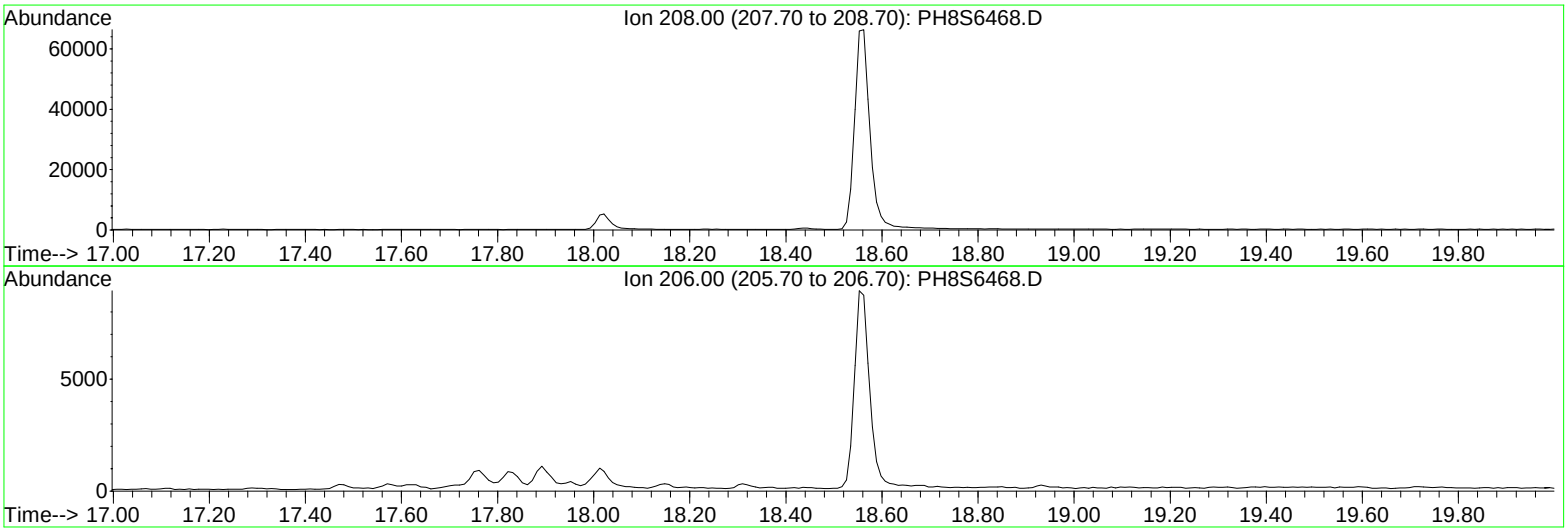
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

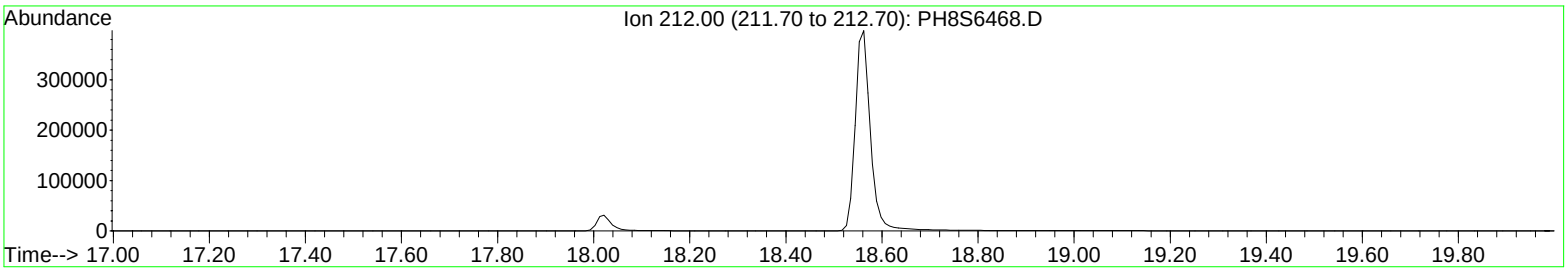




Axys Analytical CHRO Report

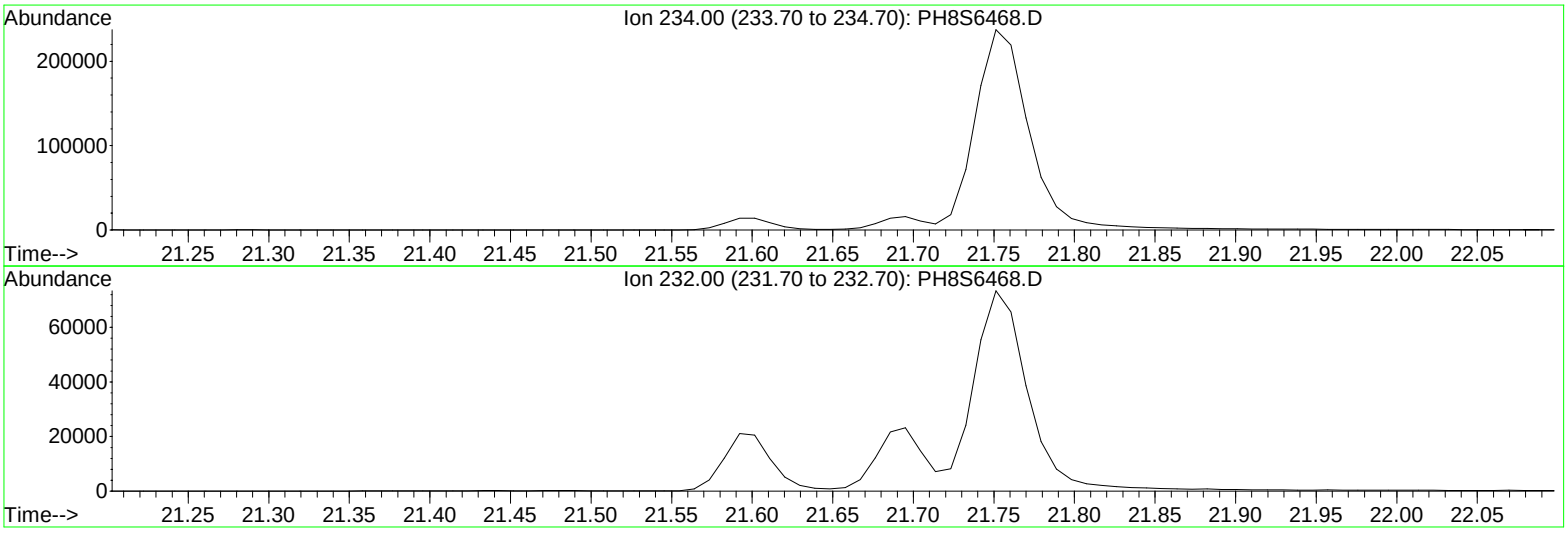
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

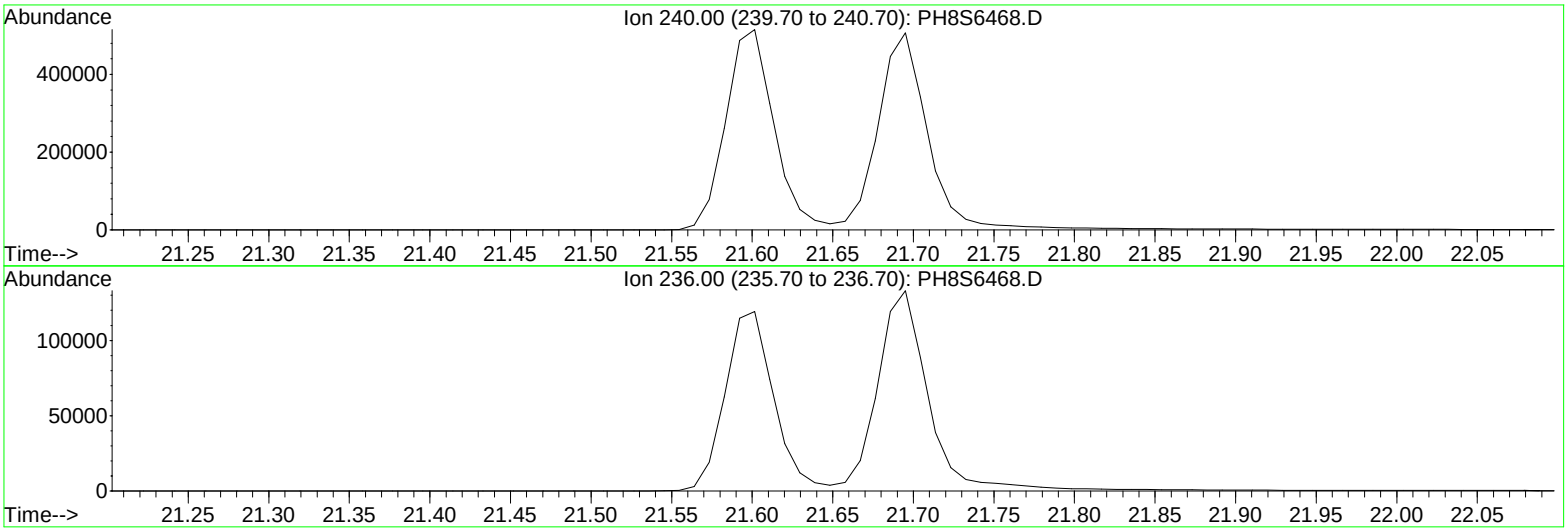




Axys Analytical CHRO Report

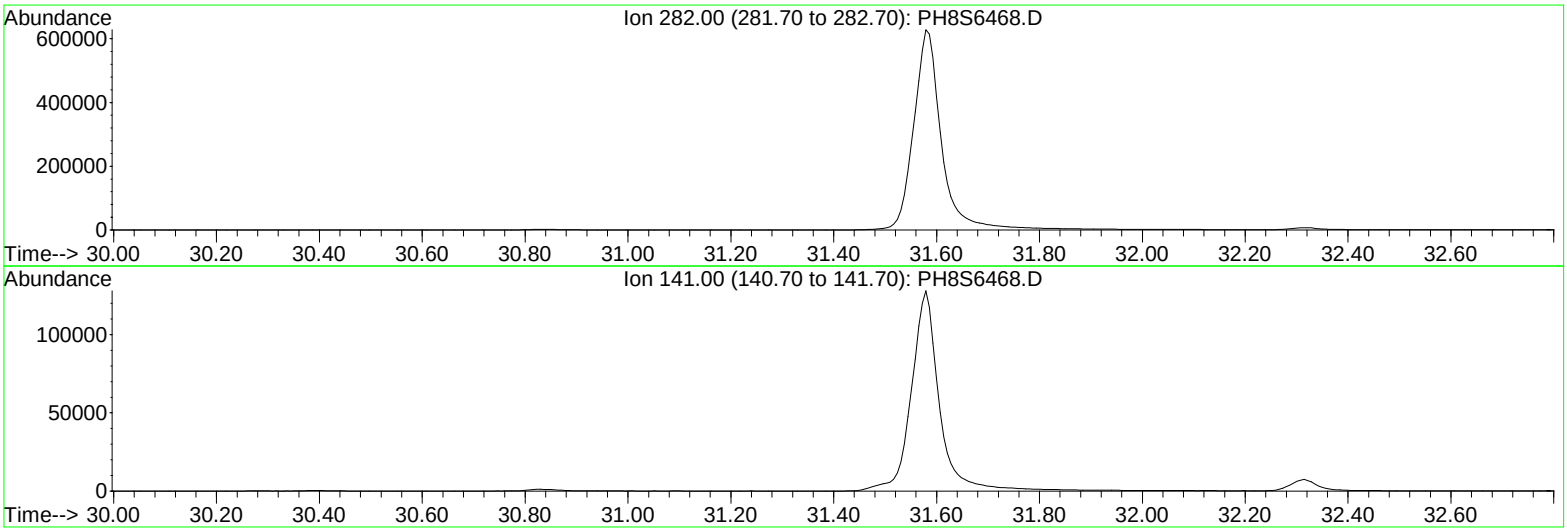
File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

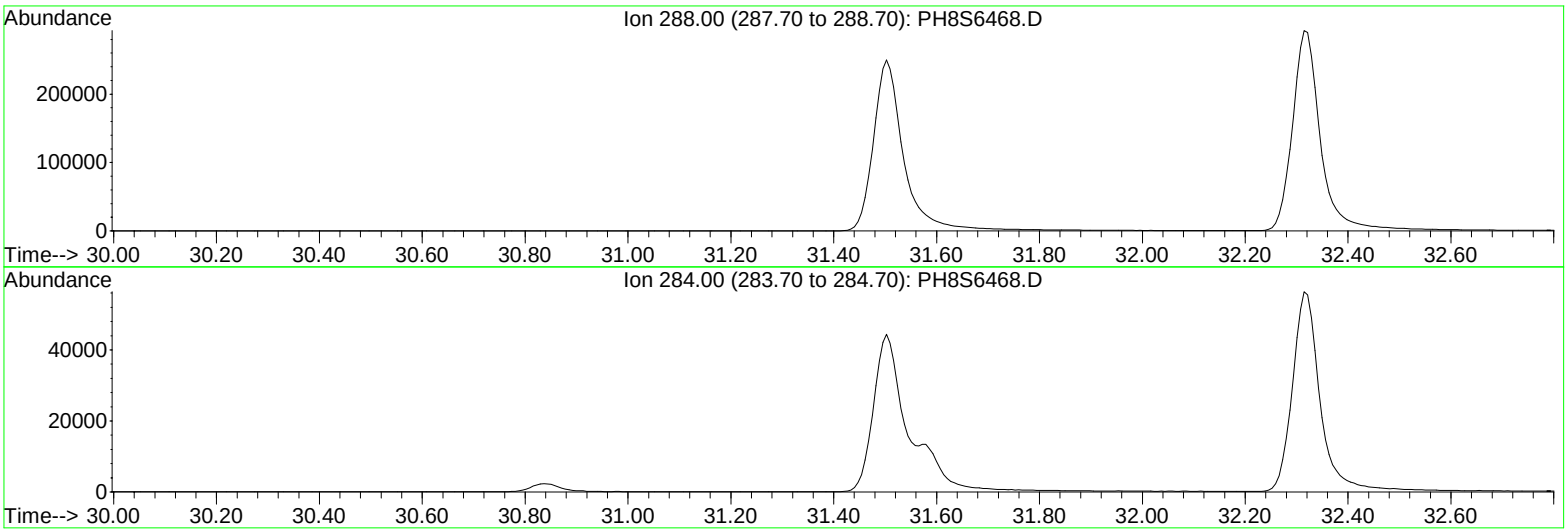




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL

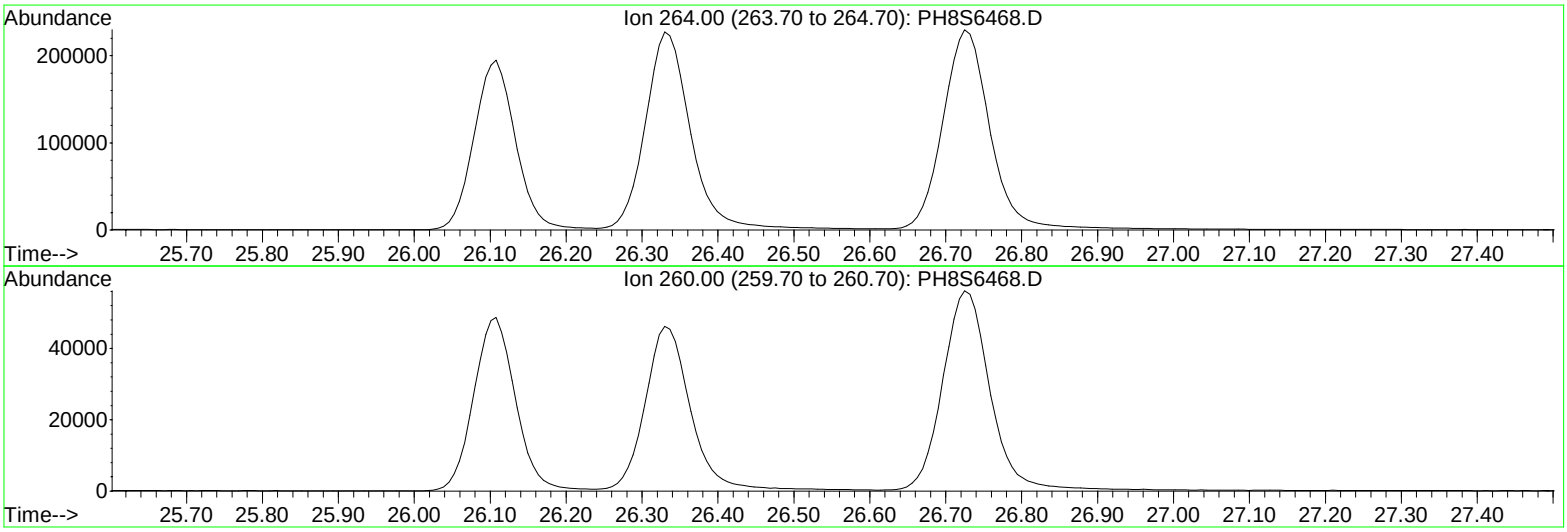




Thu Jan 10 08:56:41 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6468.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 19:18
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-3,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6470.D
28/12/2018 20:56
L30540-4
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6470.D\PH8S6470.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 15
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:46 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.098	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	395222	11.28	4109.8678 I	0	4109.8678	332		0.45	1
d8-Naphthalene - SURR	310016	6.86	529.9419 S	26.4971	0.9519	137		0.09	0.608
d10-2-Methylnaphthalene - SURR	237380	8.52	605.3391 S	30.7279	1.7477	168		0.19	0.755
d10-Biphenyl - SURR	384092	9.8	698.1496 S	34.1393	0.5061	68		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	243975	10.1	680.8729 S	33.1325	3.646	321		0.74	0.896
d8-Acenaphthylene - SURR	482346	10.85	696.2354 S	33.7978	2.8132	479		0.15	0.961
d10-Pyrene - REC	773869	18.56	4008.1384 I	0	4008.1384	1515		0.17	1
d10-Phenanthrene - SURR	561784	15	783.0904 S	43.3845	23.5009	4143		0.13	0.808
d8-Dibenzothiophene - SURR	425065	14.7	666.2589 S	32.74	1.9575	307		0.09	0.792
d12-Benz(a)anthracene - SURR	1007492	21.6	1493.3581 S	73.5644	170.5422	28275		0.23	1.164
d12-Chrysene - SURR	1036534	21.7	1470.6746 S	75.0344	73.0332	12650		0.27	1.169
d12-Benzo(e)pyrene - REC	655190	26.11	4109.8678 I	0	4109.8678	1237		0.25	1
d12-Benzo(b)Fluoranthene - SURR	972968	25	1621.6661 S	82.3181	474.2136	69921		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1071134	25.11	1616.3743 S	80.8187	145.0625	23624		0.19	0.962
d12-Benzo(a)pyrene - SURR	892724	26.34	1572.6352 S	75.9727	11935.2391	1665000		0.2	1.009
d12-Perylene - SURR	929720	26.72	1642.634 S	76.4016	233.5951	32491		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	1003191	31.5	1744.8947 S	87.6832	1.2163	172		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1084624	32.31	1586.1784 S	80.11	13.2264	2223		0.19	1.238
d8-Naphthalene	310016	6.86	4069.176 I	0	4069.176	139		0.09	1
Naphthalene $	1701	6.91	18.6545 T	0	1.5254	139		0.06	1.007
d10-2-Methylnaphthalene	237380	8.52	4008.1384 I	0	4008.1384	175		0.19	1
2-Methylnaphthalene $	858	8.61	11.9732 T	0	1.7533	126		0.99	1.01
1-Methylnaphthalene	821	8.87	12.1345 T	0	1.857	126		0.99	1.041
C1-Naphthalenes	855	8.61	0 T	0	0	869		-1	1.01
d10-Biphenyl	384092	9.8	4160.7325 I	0	4160.7325	69		-1	1
Biphenyl $	962	9.85	9.3808 T	0	2.9123	299		0.31	1.006
C1-Biphenyls $	587	11.33	5.724 T	0	2.1322	219		0.16	1.156
C2-Biphenyls $	1770	12.71	17.2598 T	0	3.9004	400		0.23	1.297
d12-2,6-Dimethylnaphthalene	243975	10.1	4181.0783 I	0	4181.0783	323		0.74	1
2,6-Dimethylnaphthalene $	637	10.22	9.0262 T	0	3.079	217		0.77	1.011
Ethyl/DiMe-Naphthalenes	637	10.22	9.9767 T	0	3.4033	217		0.77	1.011
1,2-Dimethylnaphthalene	48029	10.85	840.947 T	0	3.8047	217	#	0	1.073
C2-Naphthalenes	637	10.22	0 T	0	0	1876		-1	1.011
2,3,6-Trimethylnaphthalene	427	12.2	5.9856 T	0	2.3774	170	#	0.44	1.208
2,3,5-Trimethylnaphthalene $	802	12.37	11.8477 T	0	2.5054	170		0.96	1.224
C3-Naphthalenes	897	12.37	12.9035 T	0	2.4397	170		0.62	1.224
1,4,6,7-Tetramethylnaphthalene $	448	13.92	6.2774 T	0	2.7477	196	#	0.15	1.377
C4-Naphthalenes	448	13.92	6.2774 T	0	2.7477	196		0.15	1.377
d8-Acenaphthylene	482346	10.85	4191.2513 I	0	4191.2513	487		0.15	1
Acenaphthylene $	771	10.88	5.5136 T	0	0.8424	118		0.17	1.003
Acenaphthene $	2704	11.36	34.988 T	0	2.4248	187		1.14	1.047
C1-Acenaphthenes $	237	11.73	3.0666 T	0	5.4038	418		0.13	1.081
d8-Dibenzothiophene	425065	14.7	4140.3866 I	0	4140.3866	281		0.09	1
Dibenzothiophene $	2497	14.74	20.346 T	0	1.2949	159		0.08	1.003
C1-Dibenzothiophenes-1	986	15.89	11.7093 T	0	3.6292	306		0.82	1.081
2/3-Methyldibenzothiophenes $	649	16.14	7.7072 T	0	3.6292	306	#	0.22	1.098
C1-Dibenzothiophenes-2	651	16.37	7.731 T	0	3.6292	306		0.7	1.114
C1-Dibenzothiophenes	649	16.14	0 T	0	0	306		-1	1.098
4,6-Dimethyldibenzothiophene	531	16.96	5.884 T	0	3.5219	318	#	0.36	1.154

† Report only.

PH8S6470

Checked by VR 08-Jan-19

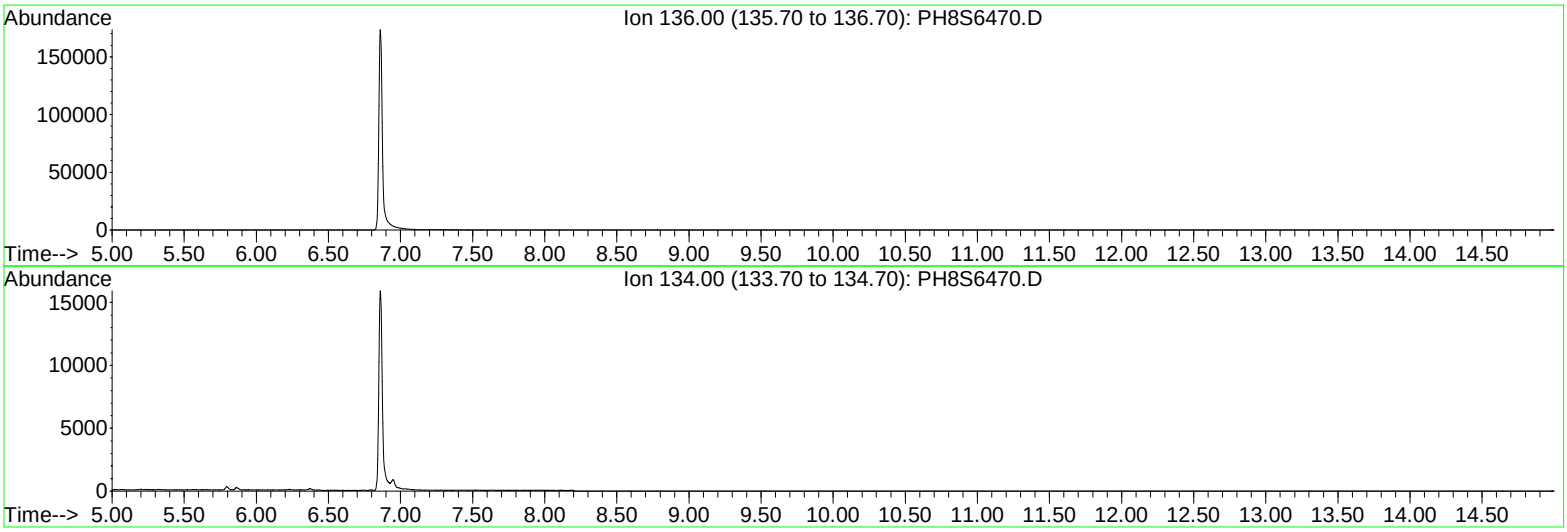
pv by vr
03-Jan-2019

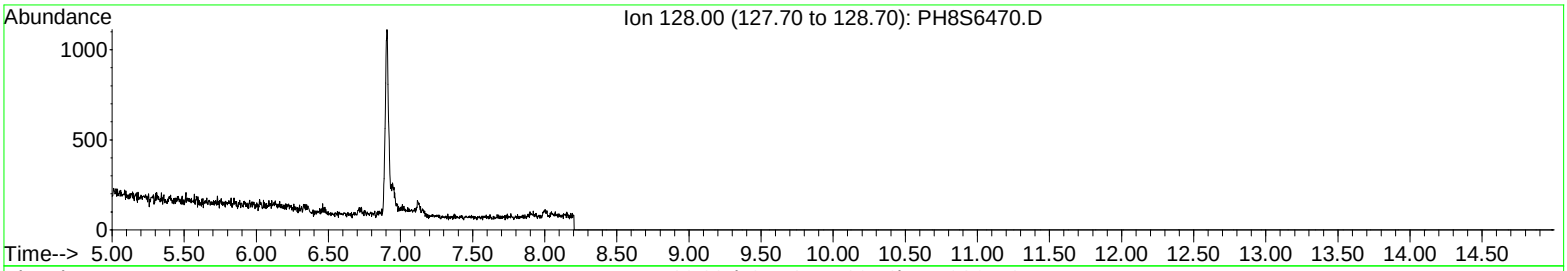
2,4-Dimethyldibenzothiophene $	344	17.1	4.9358 T	0	4.5603	318 #	0.76	1.163
C2-Dibenzothiophenes	344	17.1	4.9358 T	0	4.5603	318	0.76	1.163
C3-Dibenzothiophenes $	662	18.1	9.4986 T	0	12.9792	905 #	-1	1.232
C4-Dibenzothiophenes $	63	18.81	0.9039 T	0	2.894	202	0.41	1.28
d10-Phenanthrene	561784	15	3672.4313 I	0	3672.4313	3596	0.13	1
Fluorene $	3221	12.66	29.4618 T	0	1.0064	110	1.06	0.844
2-Methylfluorene $	546	14.09	7.3441 T	0	15.1111	1123	1.53	0.94
C1-Fluorenes	546	14.09	7.3441 T	0	15.1111	1123	1.53	0.94
1,7-Dimethylfluorene $	612	15.51	8.8515 T	0	10.5532	730	0.08	1.034
C2-Fluorenes	612	15.51	8.8515 T	0	10.5532	730	0.08	1.034
C3-Fluorenes $	59	16.46	0.8533 T	0	12.6471	874 #	-1	1.097
Phenanthrene $	31682	15.06	193.6347 T	0	1.9112	313	0.19	1.004
Anthracene	6277	15.17	37.9112 T	0	1.8887	313	0.17	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	2880	16.32	24.9499 T	0	2.2074	255	0.6	1.088
2-Methylphenanthrene	3044	16.39	26.7205 T	0	2.2367	255	0.53	1.093
2-Methylanthracene	1062	16.49	9.6047 T	0	2.3044	255	0.6	1.099
9/4-Methylphenanthrenes	2618	16.6	22.6802 T	0	2.2074	255 #	0.99	1.107
1-Methylphenanthrene $	2422	16.65	19.8858 T	0	2.092	255	0.58	1.11
C1-Phenanthrenes/Anthracenes	2928	16.65	0 T	0	0	7013	-1	1.11
Fluoranthene $	139458	18.06	693.8528 T	0	2.8524	573	0.21	1.204
Pyrene	131696	18.6	633.7325 T	0	2.7588	573	0.21	1.24
3,6-Dimethylphenanthrene $	1364	17.47	12.2714 T	0	16.359	1818 #	0.91	1.165
2,6-Dimethylphenanthrene	962	17.57	8.6388 T	0	16.329	1818 #	0.55	1.171
1,7-Dimethylphenanthrene	1519	17.89	13.6159 T	0	16.2992	1818 #	0.84	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	1364	17.47	12.2488 T	0	16.329	1818	0.91	1.165
1,8-Dimethylphenanthrene	571	18.15	5.1276 T	0	16.329	1818 #	0.21	1.21
C2-Phenanthrenes/Anthracenes	1364	17.47	0 T	0	0	1818	-1	1.165
1,2,6-Trimethylphenanthrene $	686	19.39	6.7028 T	0	7.2991	747 #	0.77	1.293
C3-Phenanthrenes/Anthracenes	686	19.39	6.7028 T	0	7.2991	747	0.77	1.293
Retene $	3546	19.51	90.6753 T	0	18.2139	712	1.47	1.301
C4-Phenanthrenes/Anthracenes	3546	19.51	90.6753 T	0	18.2139	712	1.47	1.301
C1-Fluoranthenes/Pyrenes-1	5888	19.25	49.2773 T	0	97.9961	11709	0.95	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	18650	19.52	156.0839 T	0	97.9961	11709	0.94	1.302
C1-Fluoranthenes/Pyrenes-2	8778	19.99	73.464 T	0	97.9961	11709	0.53	1.333
C1-Fluoranthenes/Pyrenes	18650	19.52	0 T	0	0	11709	-1	1.302
C2-Fluoranthenes/Pyrenes $	450	20.47	3.7661 T	0	22.5847	2699	0.17	1.364
C3-Fluoranthenes/Pyrenes $	354	21.92	2.9627 T	0	35.1371	4198 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	59	23.29	0.4938 T	0	6.0096	718	6.03	1.553
d12-Benz(a)anthracene	1007492	21.6	4130.2136 I	0	4130.2136	26066	0.23	1
d10-Fluoranthene $	312061	18.02	1178.2855 T	0	0.627	166	0.17	0.834
+ Benz(a)anthracene	25044	21.65	79.4721 T	0	0.7612	240	0.26	1.002
d12-Chrysene	1036534	21.7	3987.7925 I	0	3987.7925	12600	0.27	1
+ Chrysene $	40840	21.75	127.2833 T	0	0.8077	259	~~0.35~~	1.003 0.31
5/6-Methylchrysenes $	777	23.11	3.2069 T	0	53.1536	12879	-1	1.065
1-Methylchrysene	1750	23.28	6.9718 T	0	51.3076	12879	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	777	23.11	3.1502 T	0	52.2146	12879	-1	1.065
5,9-Dimethylchrysene $	1494	24.42	7.9648 T	0	13.002	2439	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	1494	24.42	7.9648 T	0	13.002	2439	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	16	25.11	0.0853 T	0	1.6651	312	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	14	26.09	0.0746 T	0	0.9565	179	-1	1.203
d12-Benzo(b)fluoranthene	972968	25	4008.1384 I	0	4008.1384	59710	0.21	1
Benzo(b)fluoranthene-SURR int	2757	25	0 T	0	0	46903	0.39	1
+ Benzo(b)fluoranthene $	28689	25.09	81.6236 T	0	0.5845	205	0.24	1.004
d12-Benzo(k)fluoranthene	1071134	25.11	4069.176 I	0	4069.176	21395	0.19	1
+ Benzo(j/k)fluoranthenes	19746	25.17	59.4505 T	0	0.656	218	0.23	1.002
Benzofluoranthenes	26581	25.09	0 T	0	0	49742	-1	0.999
d12-Benzo(a)pyrene	892724	26.34	4211.5972 I	0	4211.5972	1812510	0.2	1
Benzo(e)pyrene	17536	26.22	59.6158 T	0	0.8904	262	0.2	0.996
+ Benzo(a)pyrene	9667	26.43	34.8177 T	0	0.9433	262	0.22	1.003
7-Methylbenzo(a)pyrene $	50	29.17	0.253 T	0	3.8496	761	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	50	29.17	0.253 T	0	3.8496	761	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	30	29.89	0.1518 T	0	9.7817	1933	-1	1.135
d12-Perylene	929720	26.72	4374.3642 I	0	4374.3642	36168	0.25	1
Perylene	37109	26.84	126.6231 T	0	0.9138	268	0.22	1.004
d12-Indeno(123cd)pyrene	1003191	31.5	4048.8301 I	0	4048.8301	183	0.17	1
d14-Dibenzo(ah)anthracene $	9694	31.62	42.7675 T	0	1.6124	365 #	3.07	1.004
+ Dibenzo(ah)anthracene $	408	31.71	1.4465 T	0	1.9004	536 #	0.55	1.007
+ Indeno(123cd)pyrene $	3013	31.58	9.9382 T	0	1.0045	305 #	~~11.71~~	1.002 0.01
d12-Benzo(ghi)perylene	1084624	32.31	4028.4842 I	0	4028.4842	2231	0.19	1
Benzo(ghi)perylene	5450	32.4	16.9504 T	0	0.8943	288	0.26	1.003

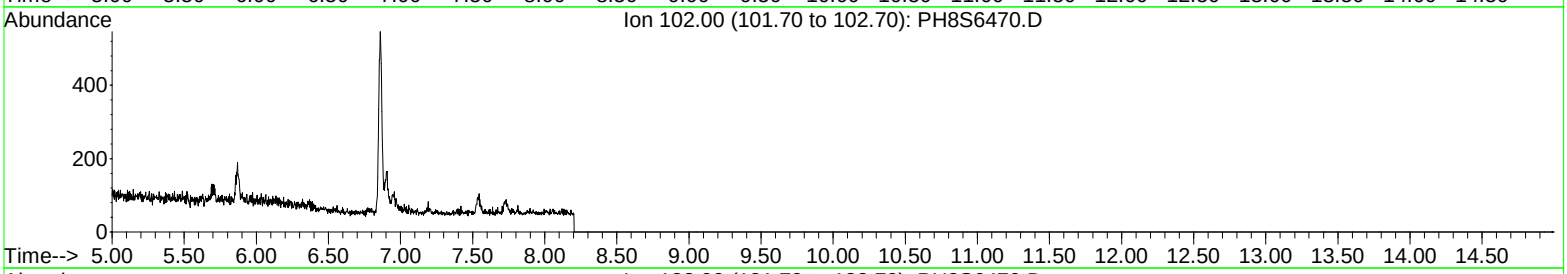
pv by vr
03-Jan-2019

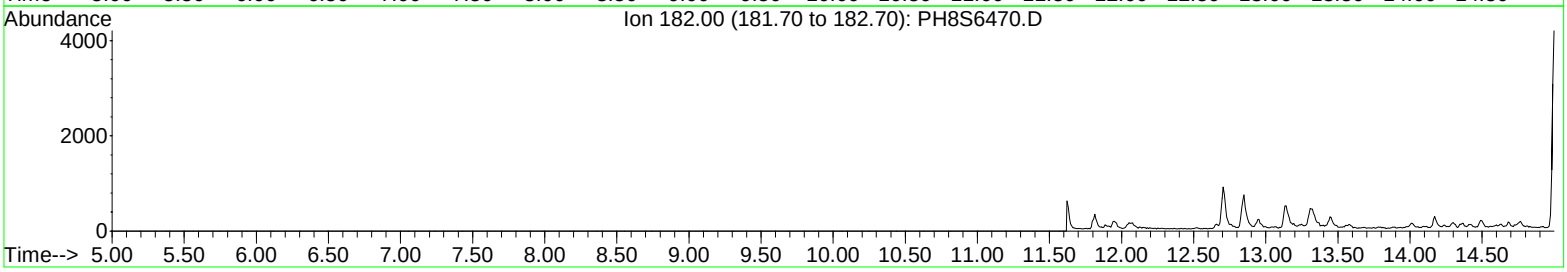
Axys Analytical CHRO Report

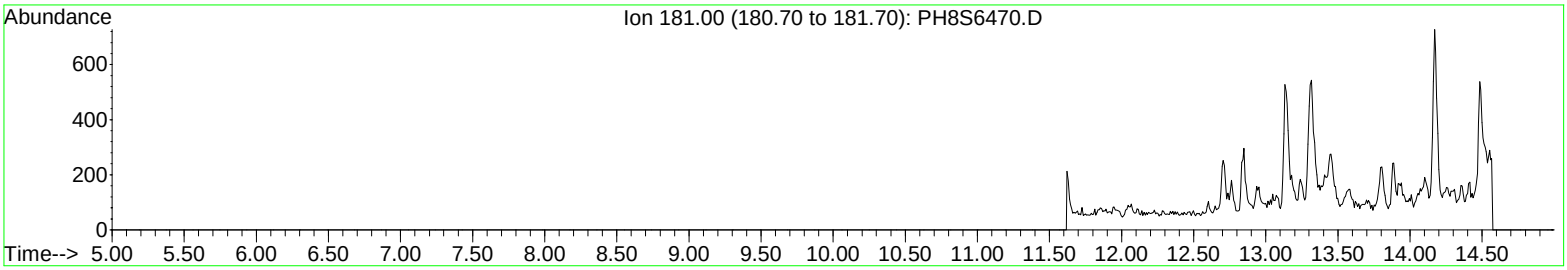
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL







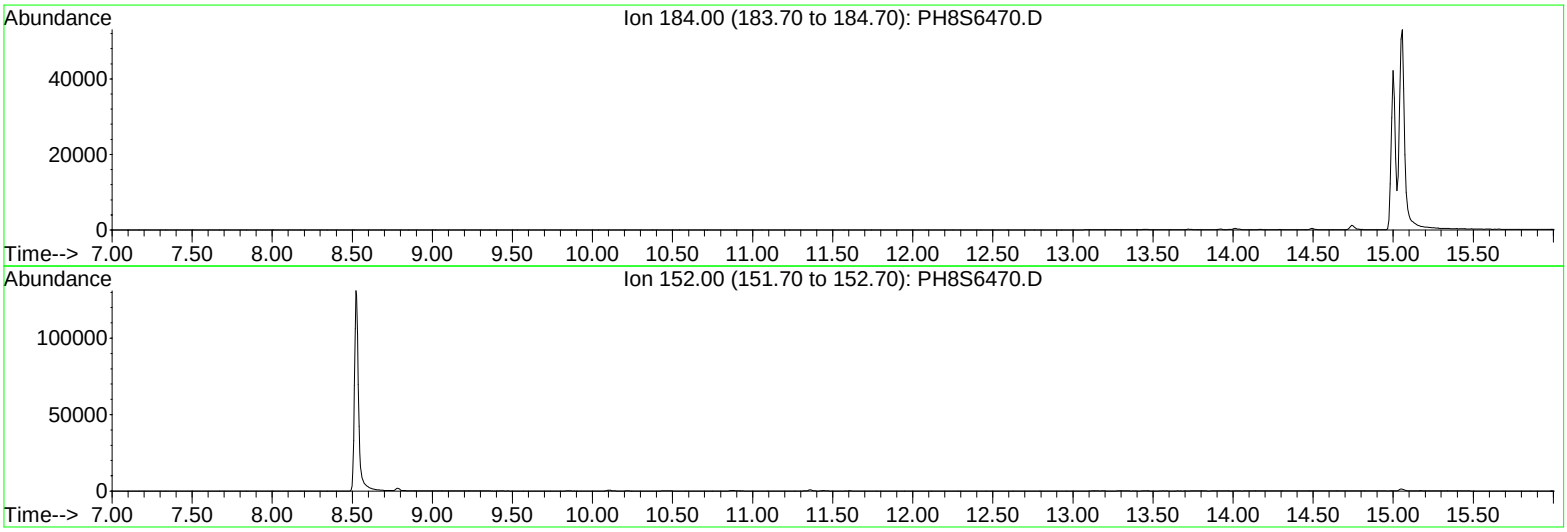


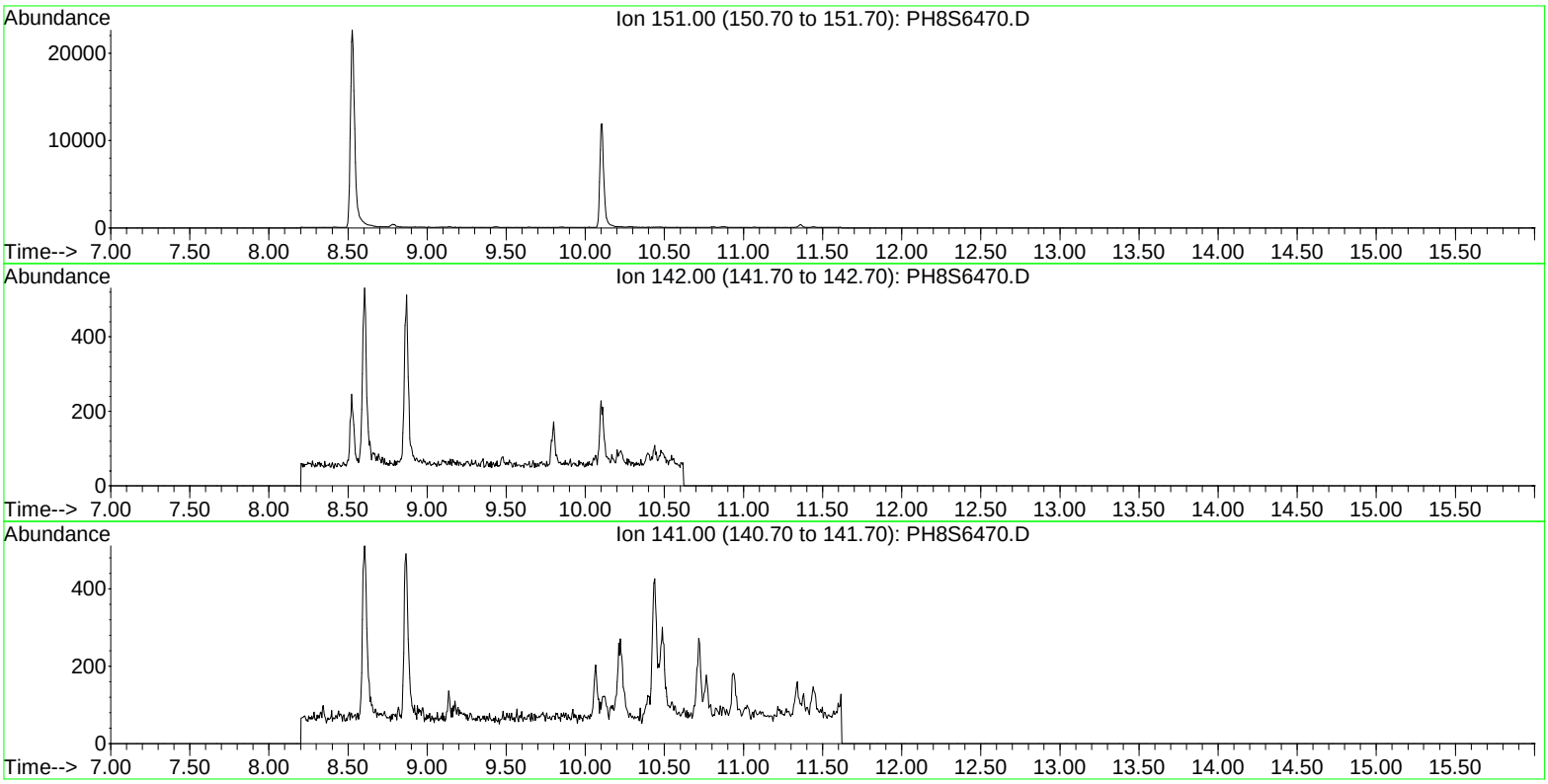


Thu Jan 10 08:43:05 2019

Axys Analytical CHRO Report

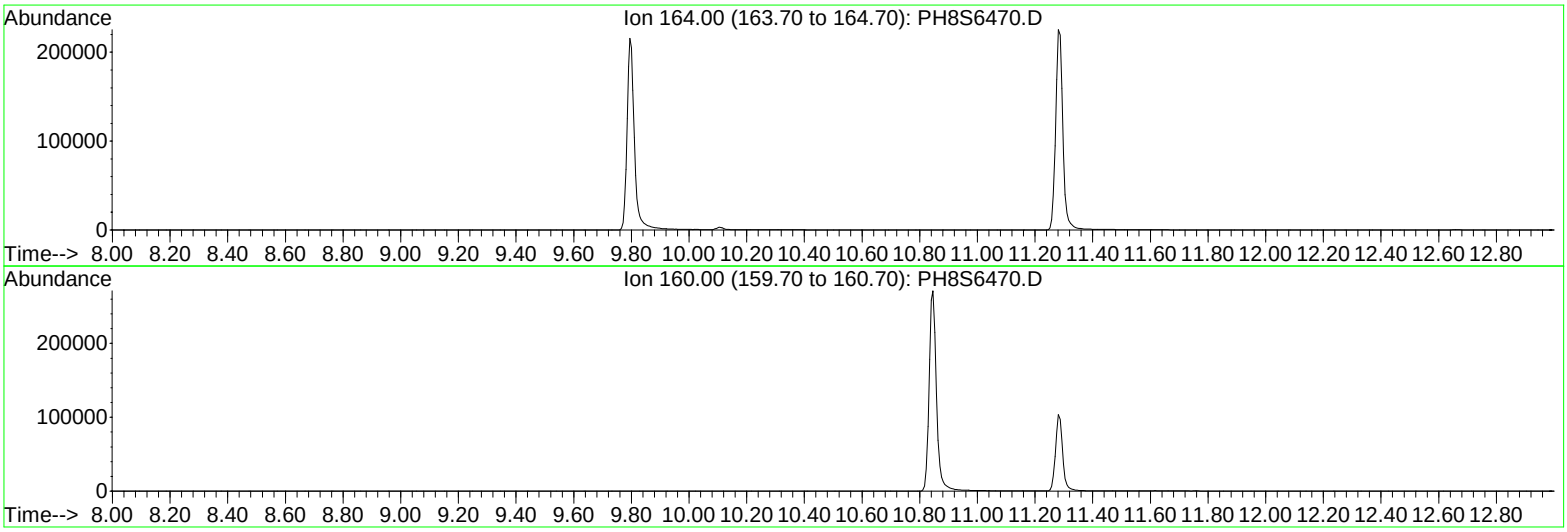
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

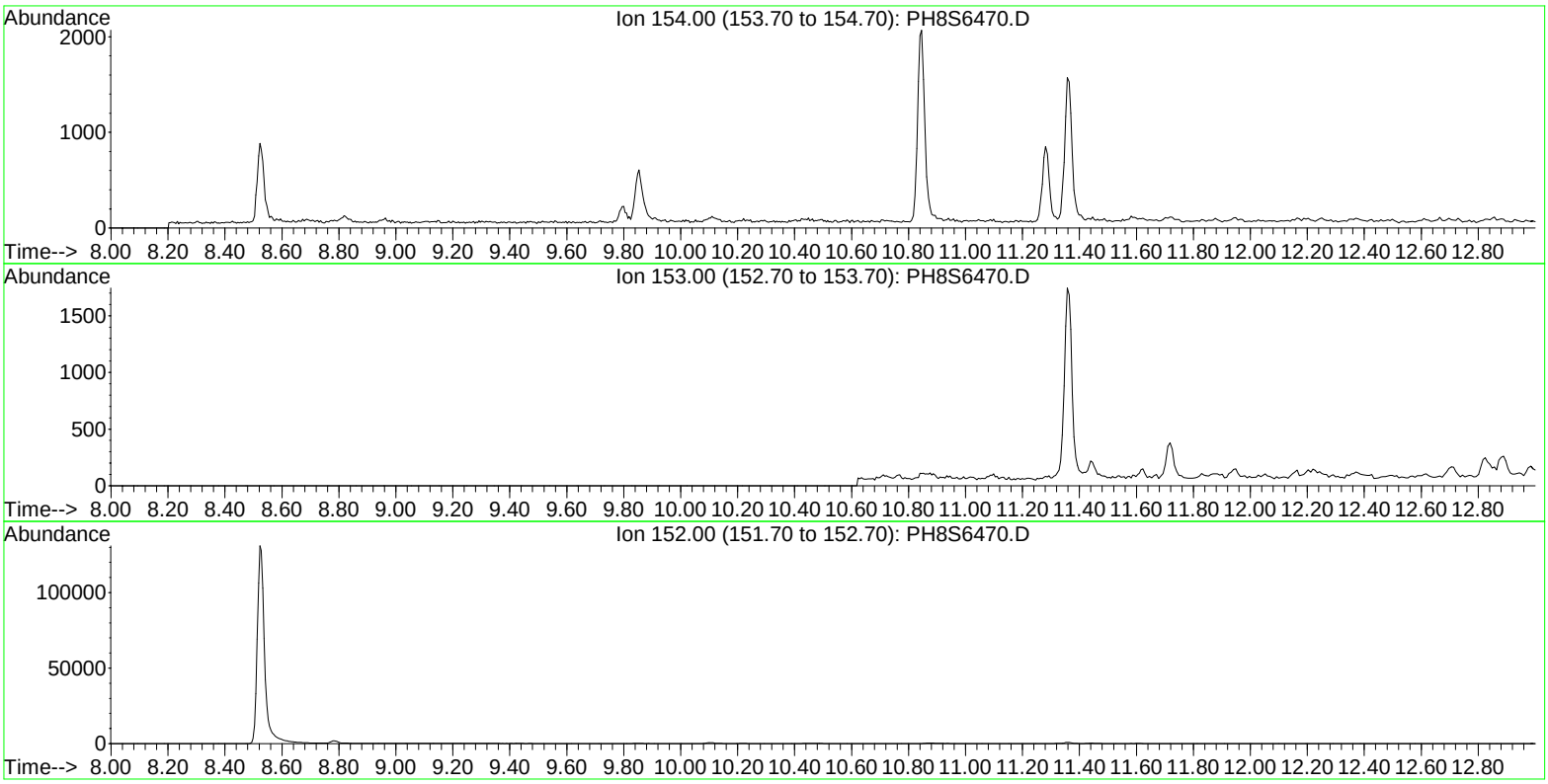




Axys Analytical CHRO Report

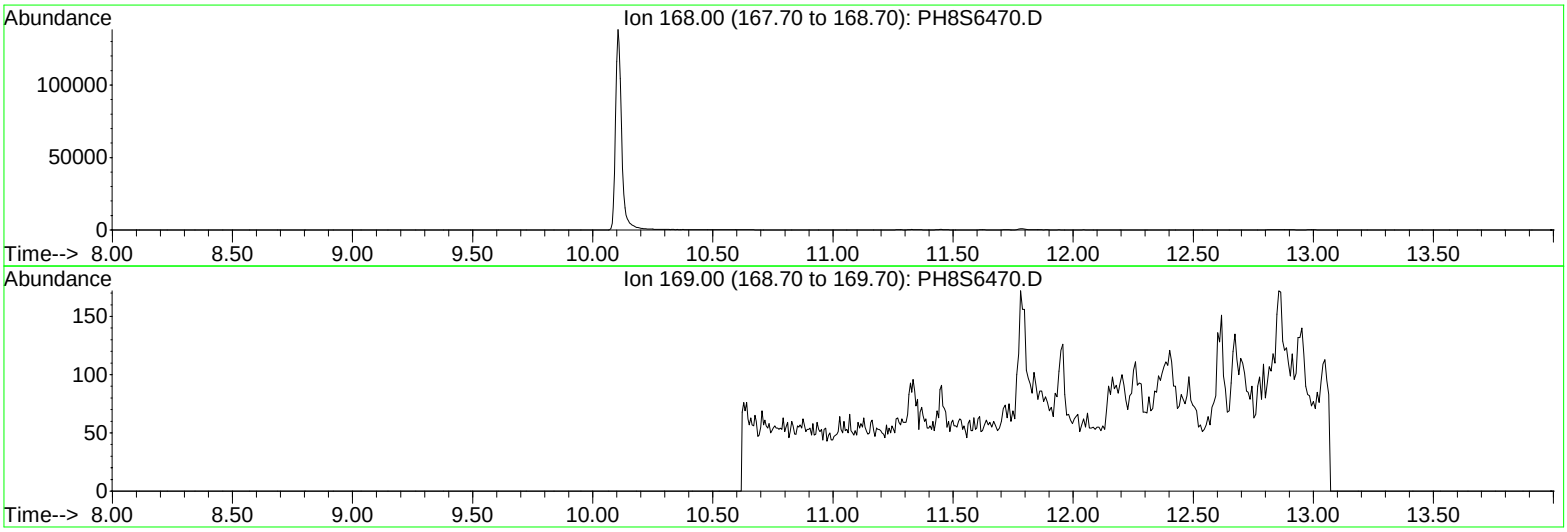
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

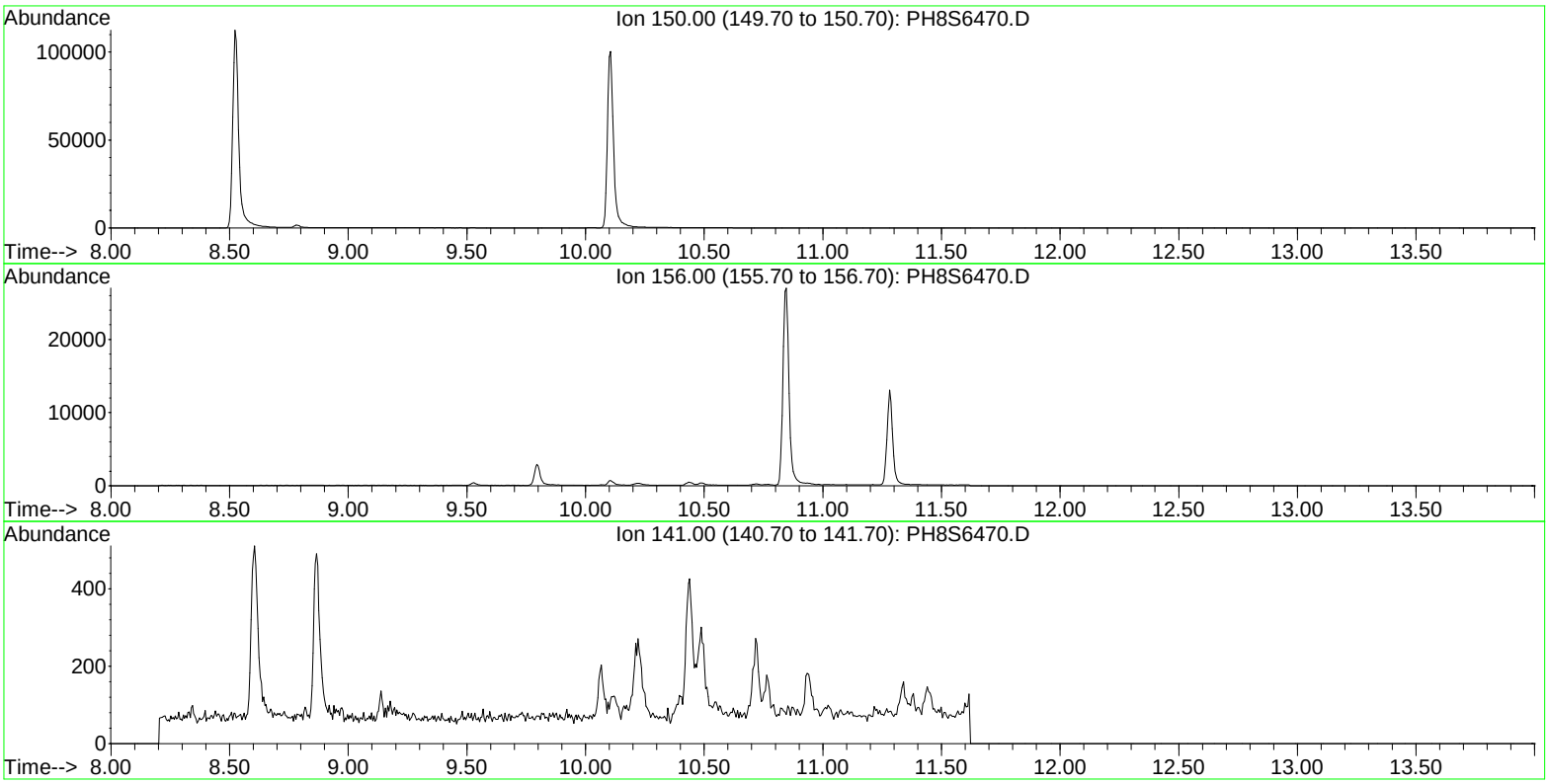




Axys Analytical CHRO Report

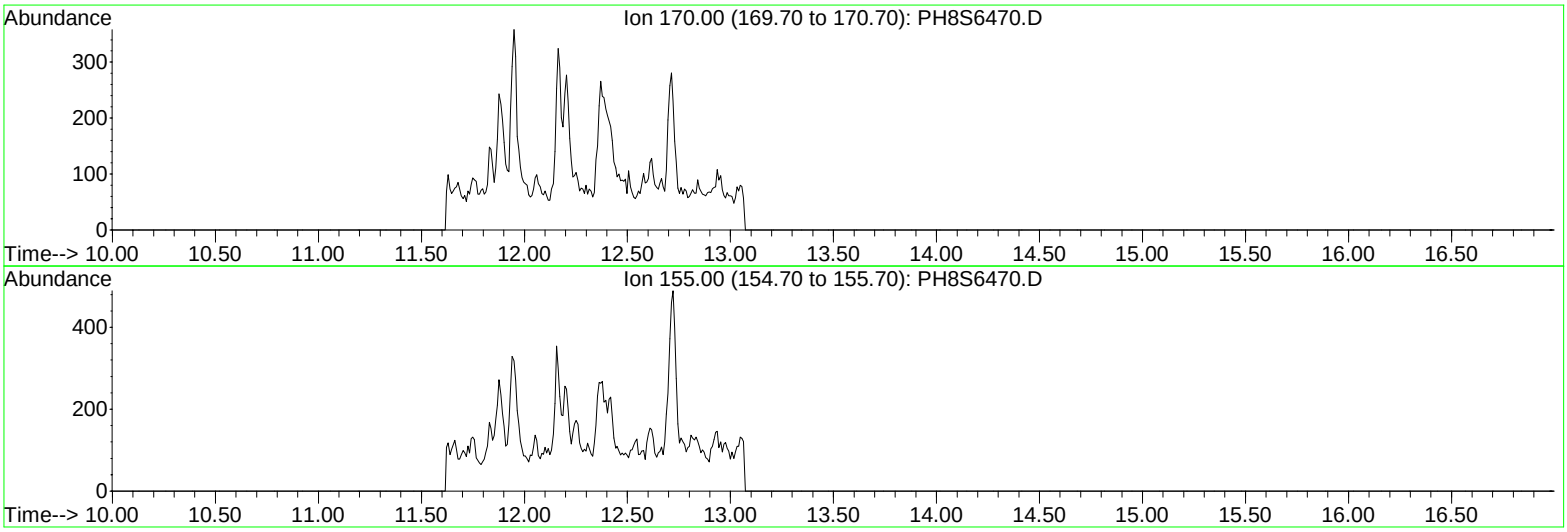
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

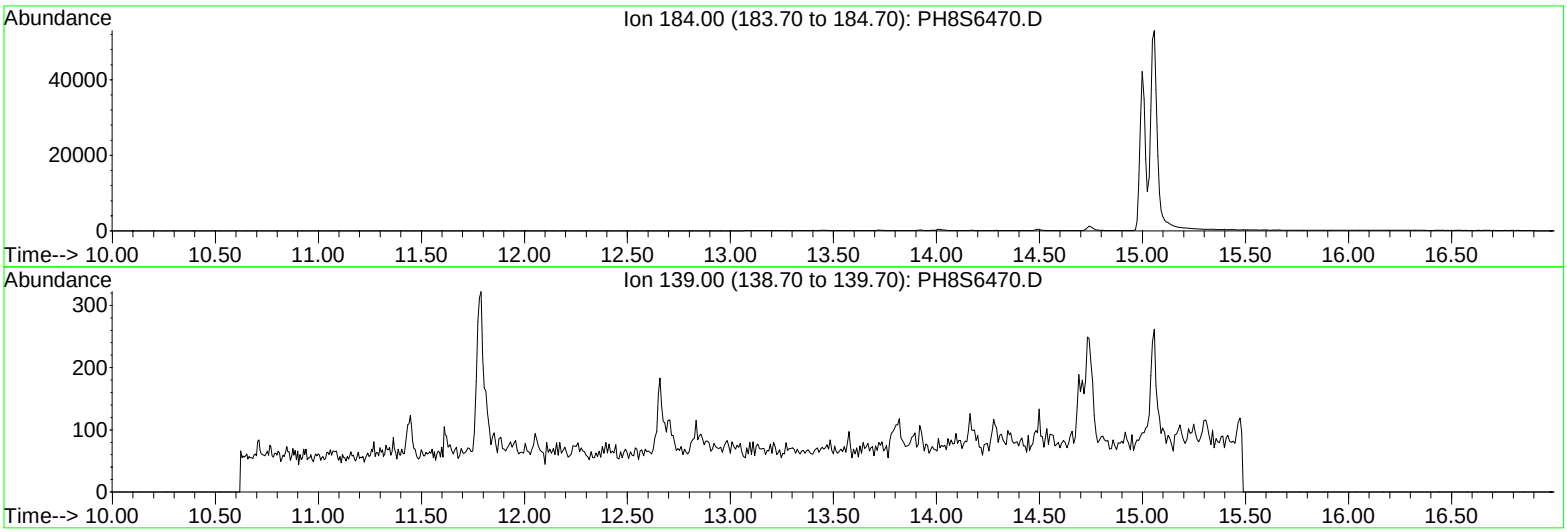




Axys Analytical CHRO Report

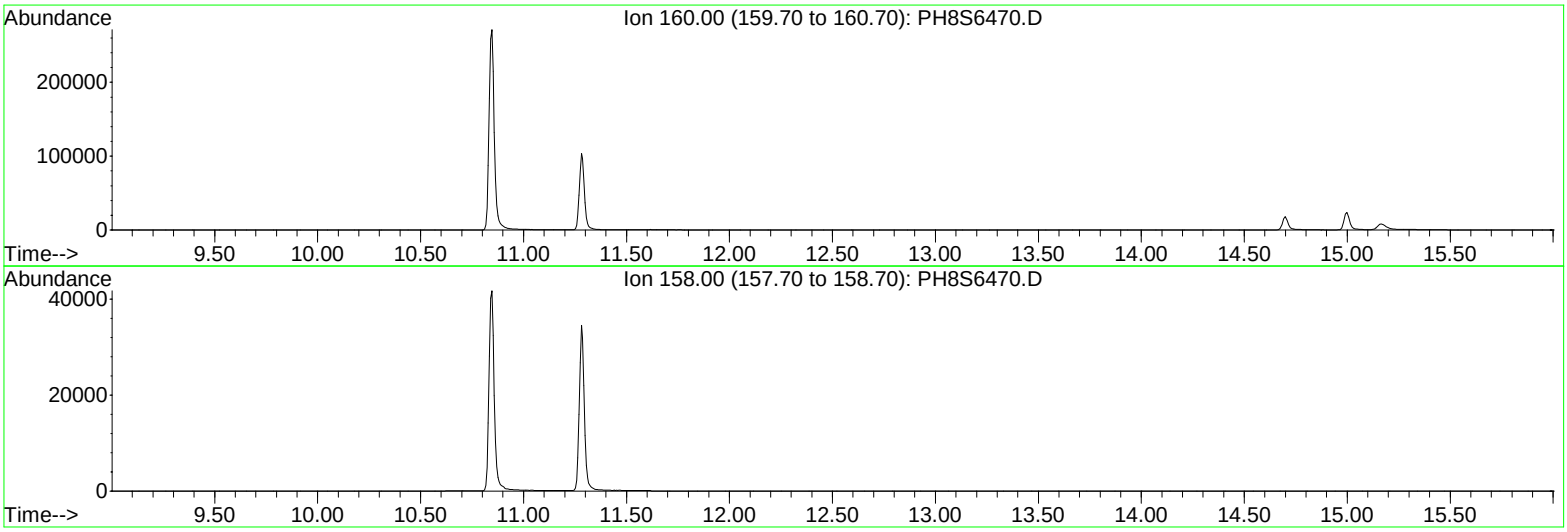
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

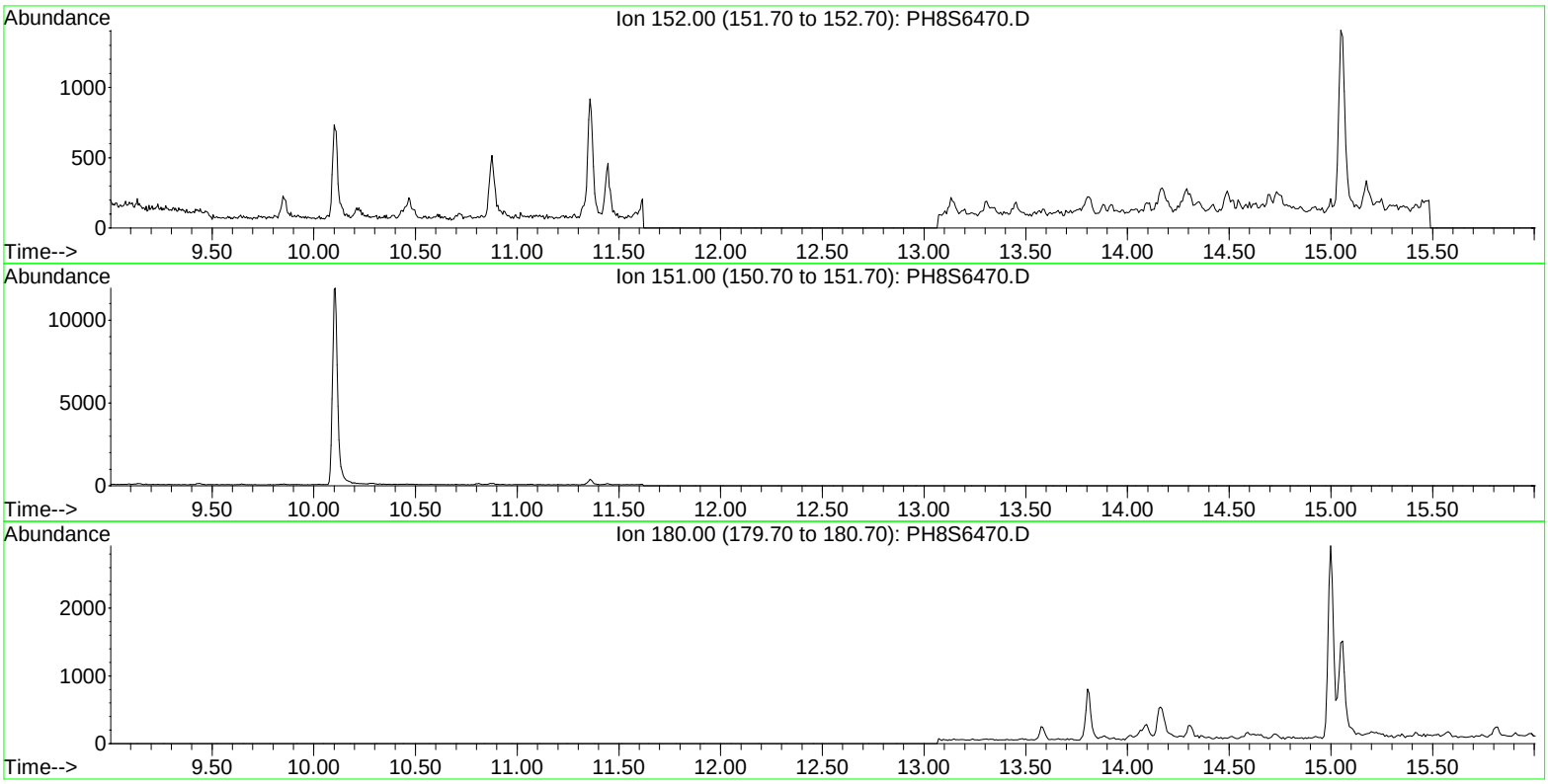


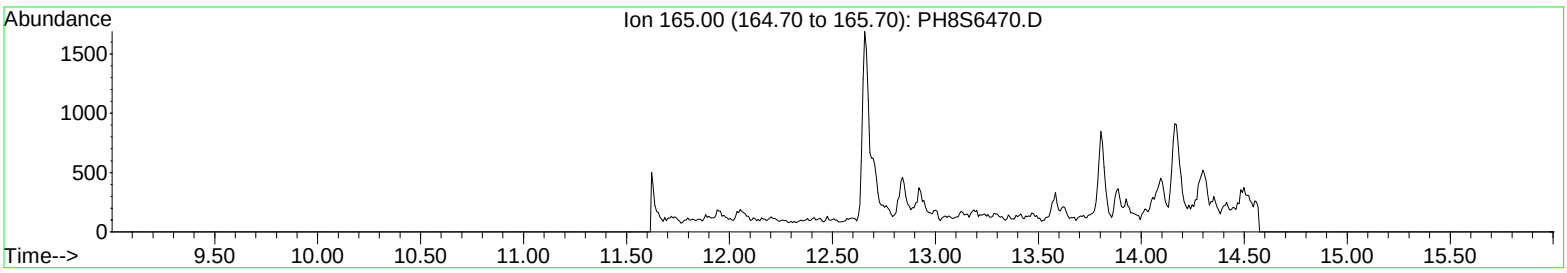


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



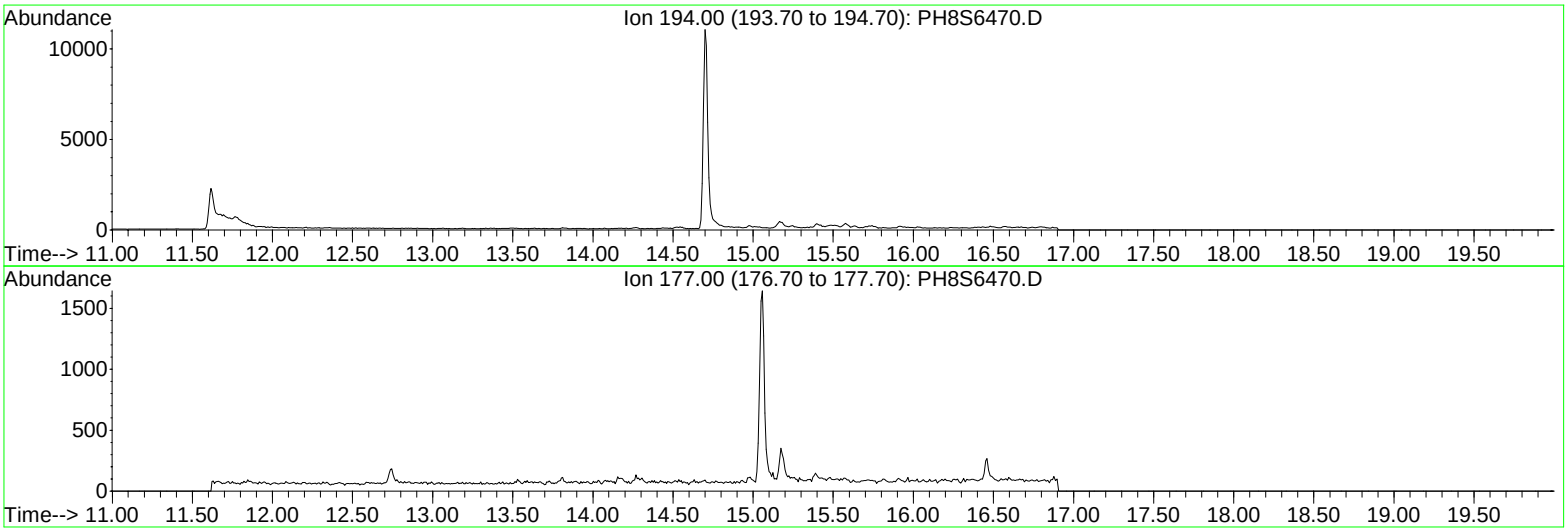


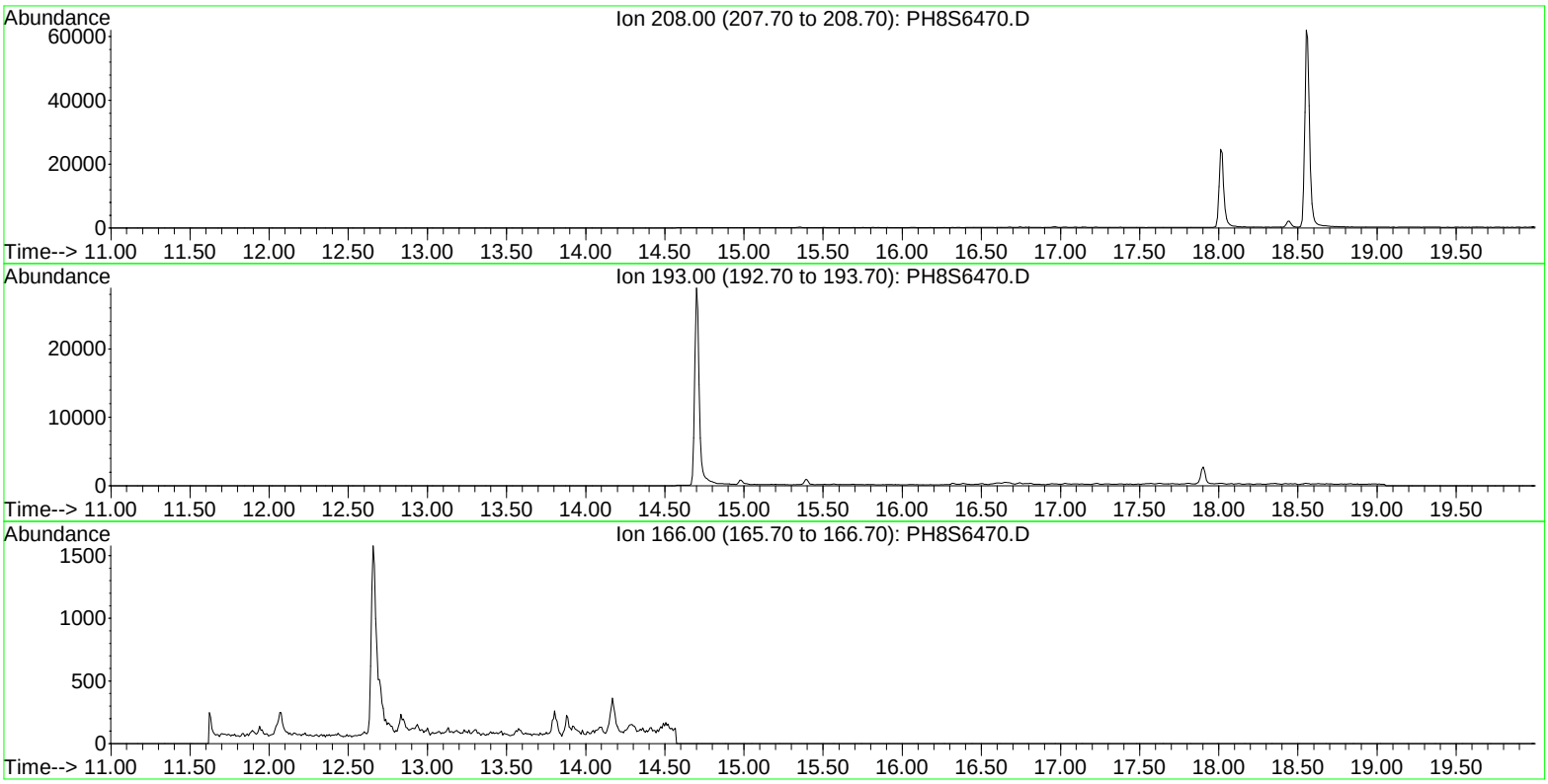


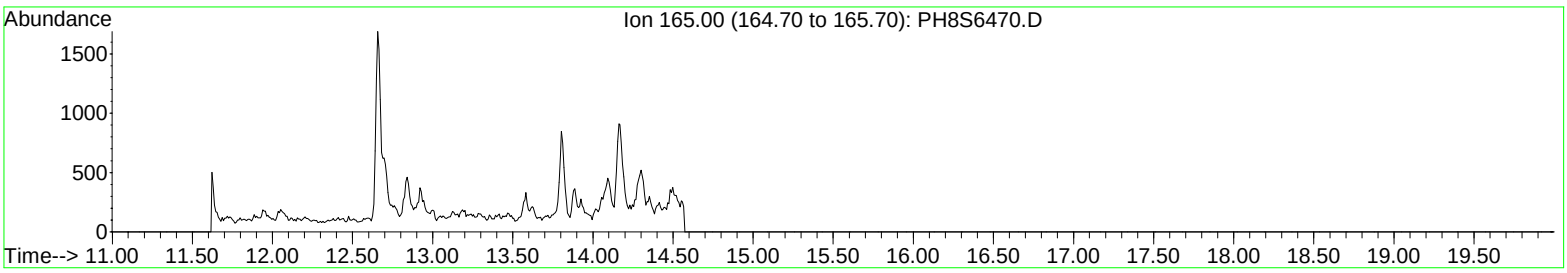
Thu Jan 10 08:43:17 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



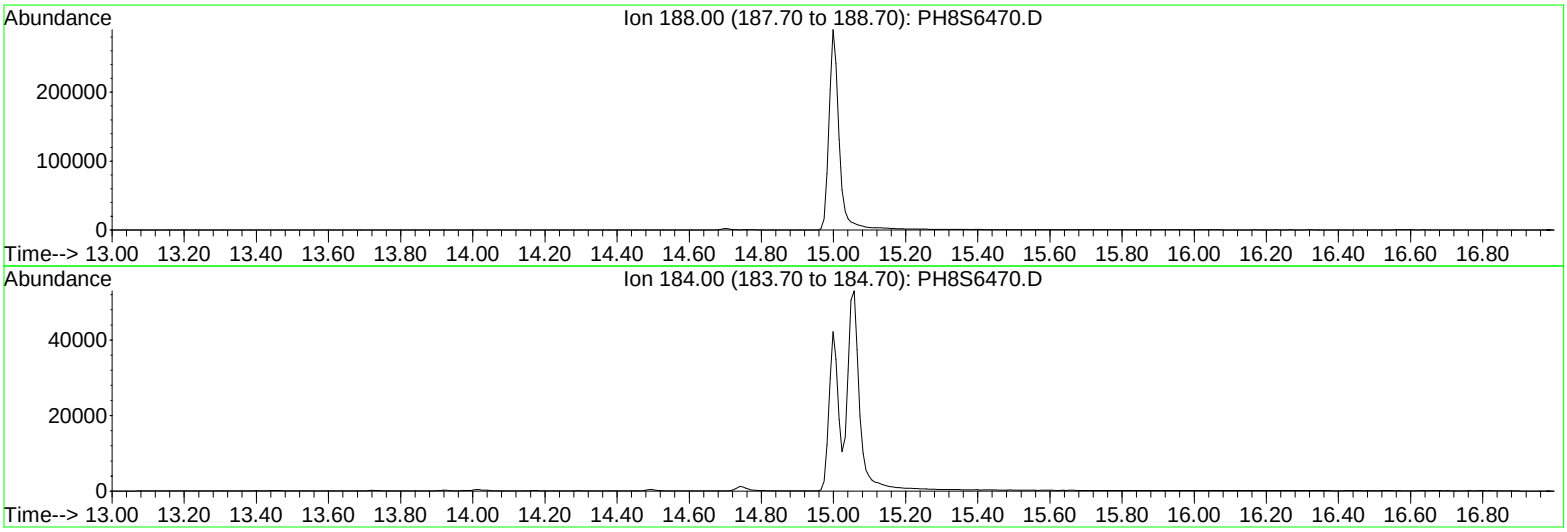


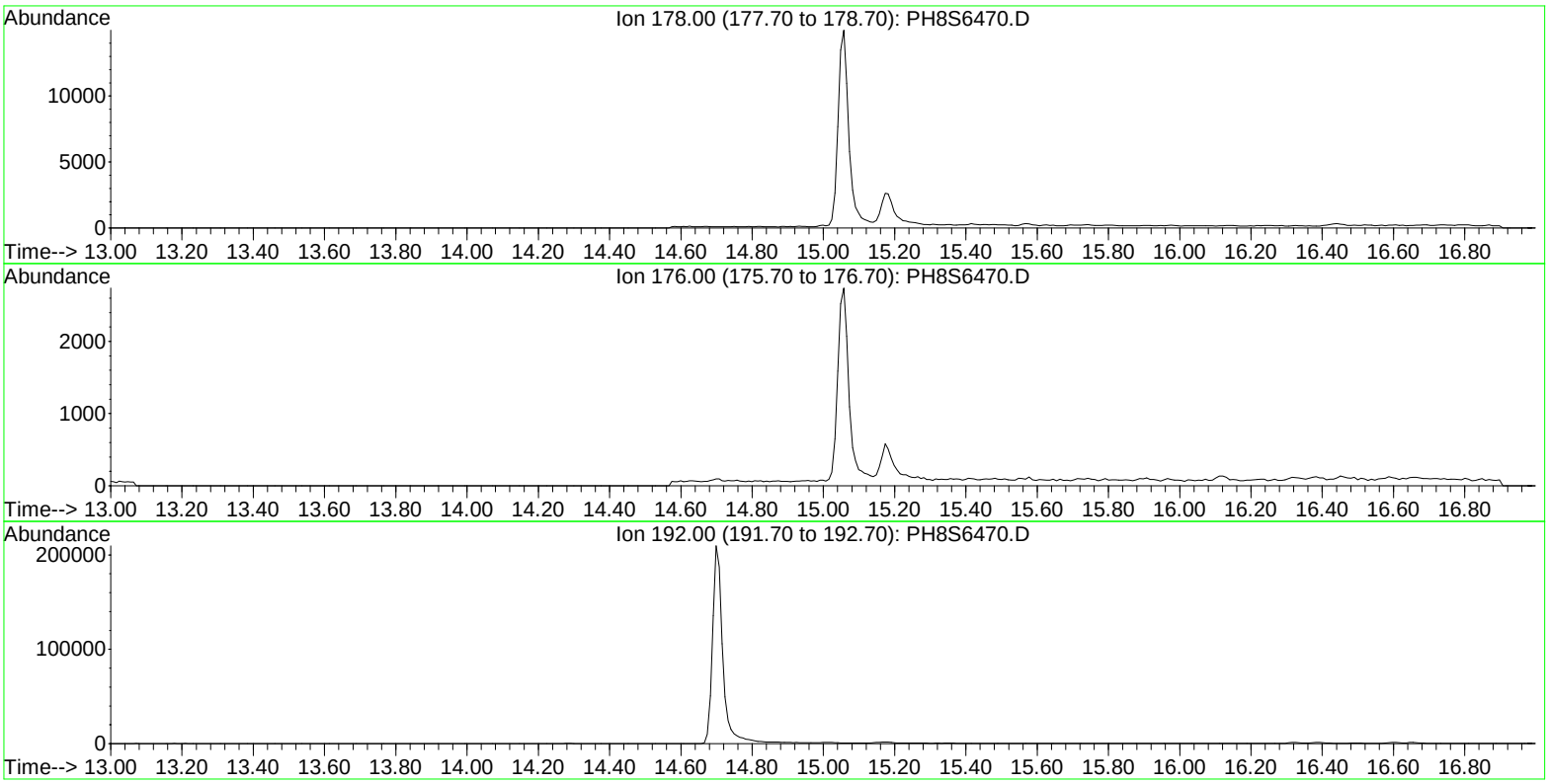


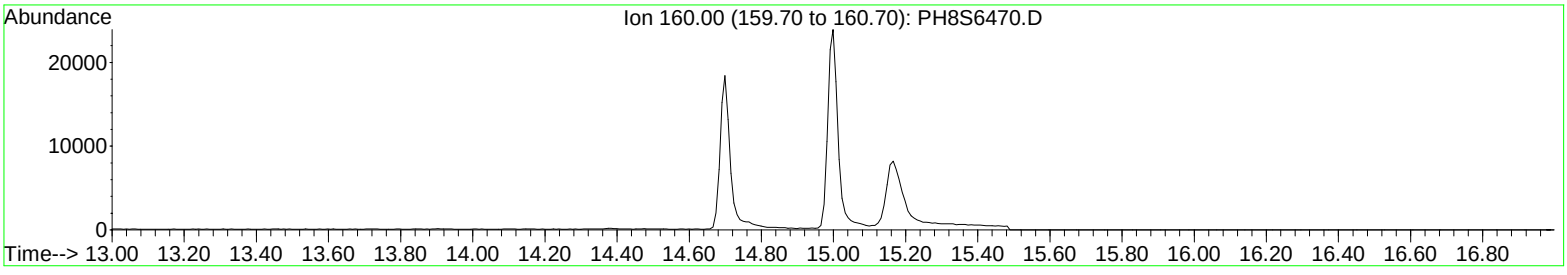
Thu Jan 10 08:43:19 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



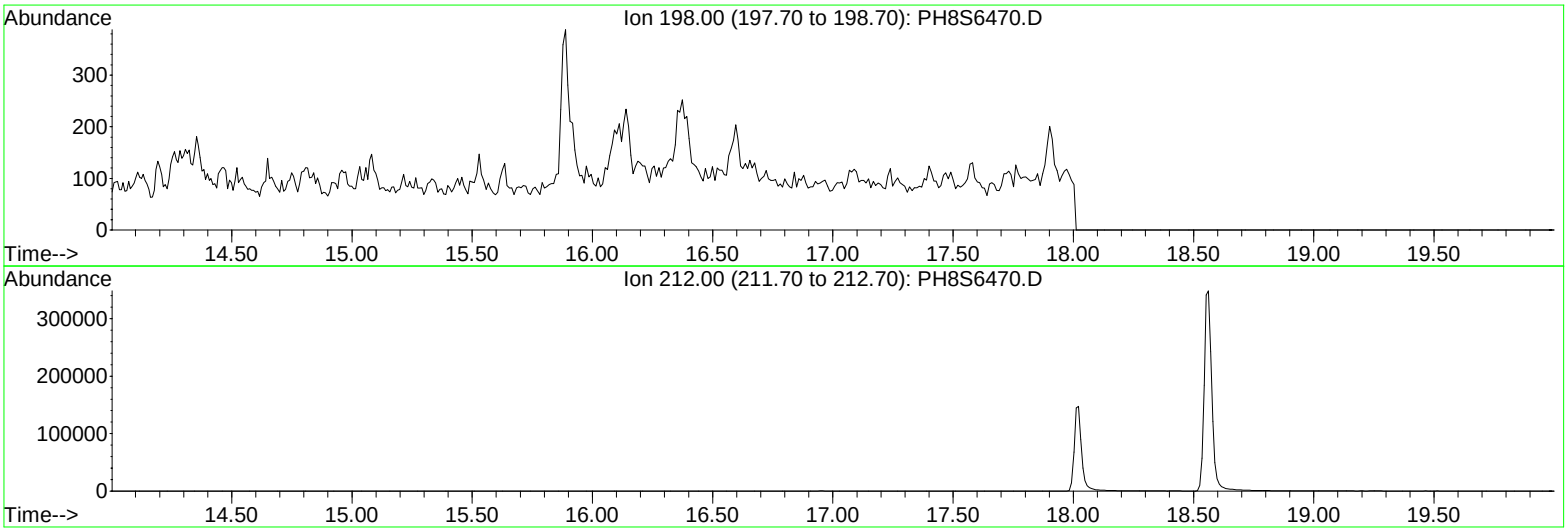


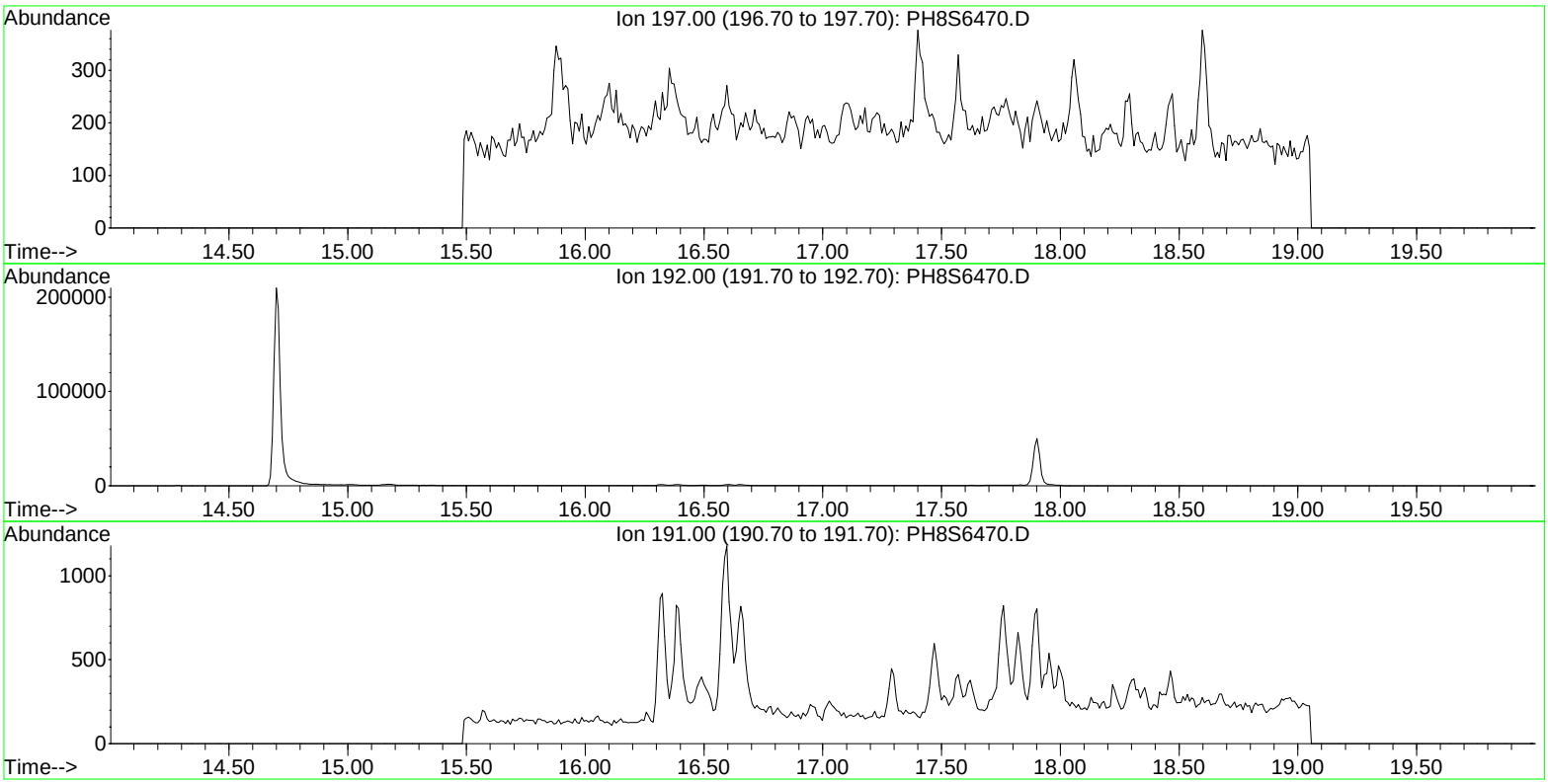


Thu Jan 10 08:43:21 2019

Axys Analytical CHRO Report

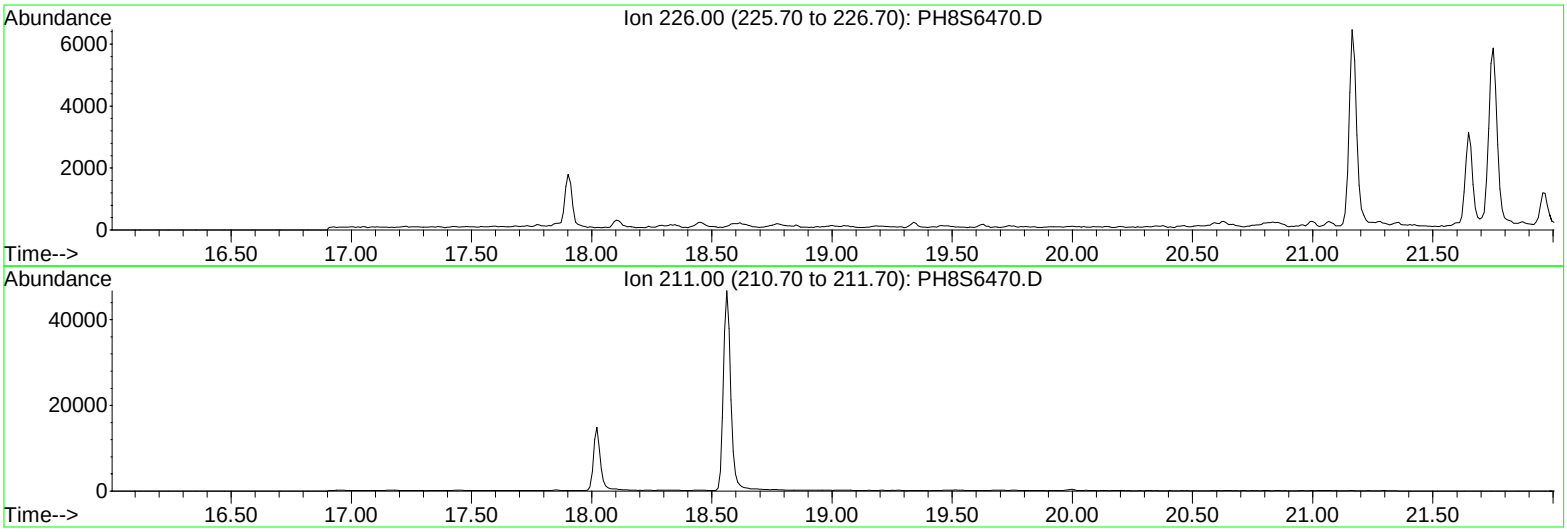
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

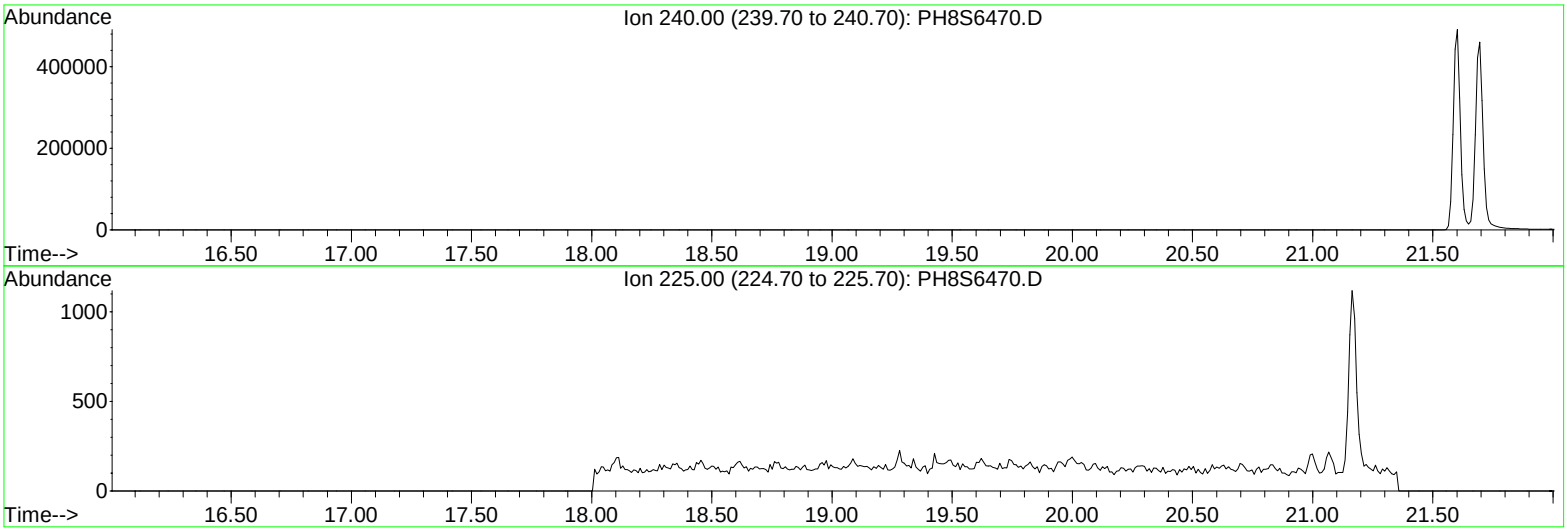




Axys Analytical CHRO Report

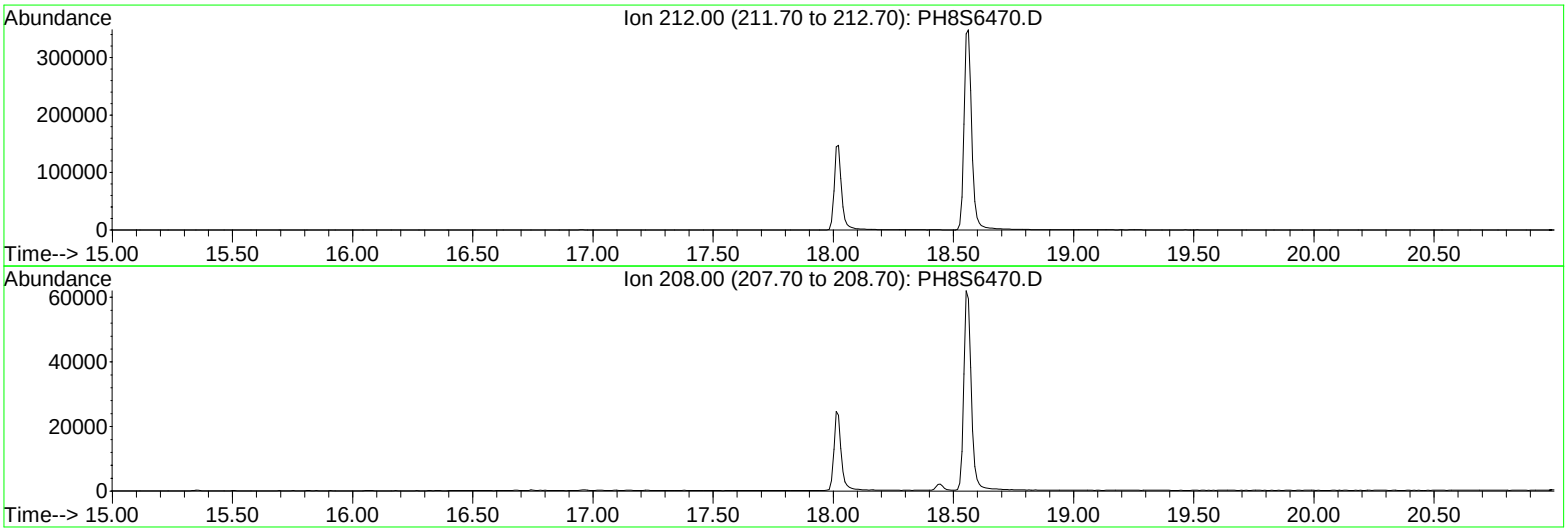
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

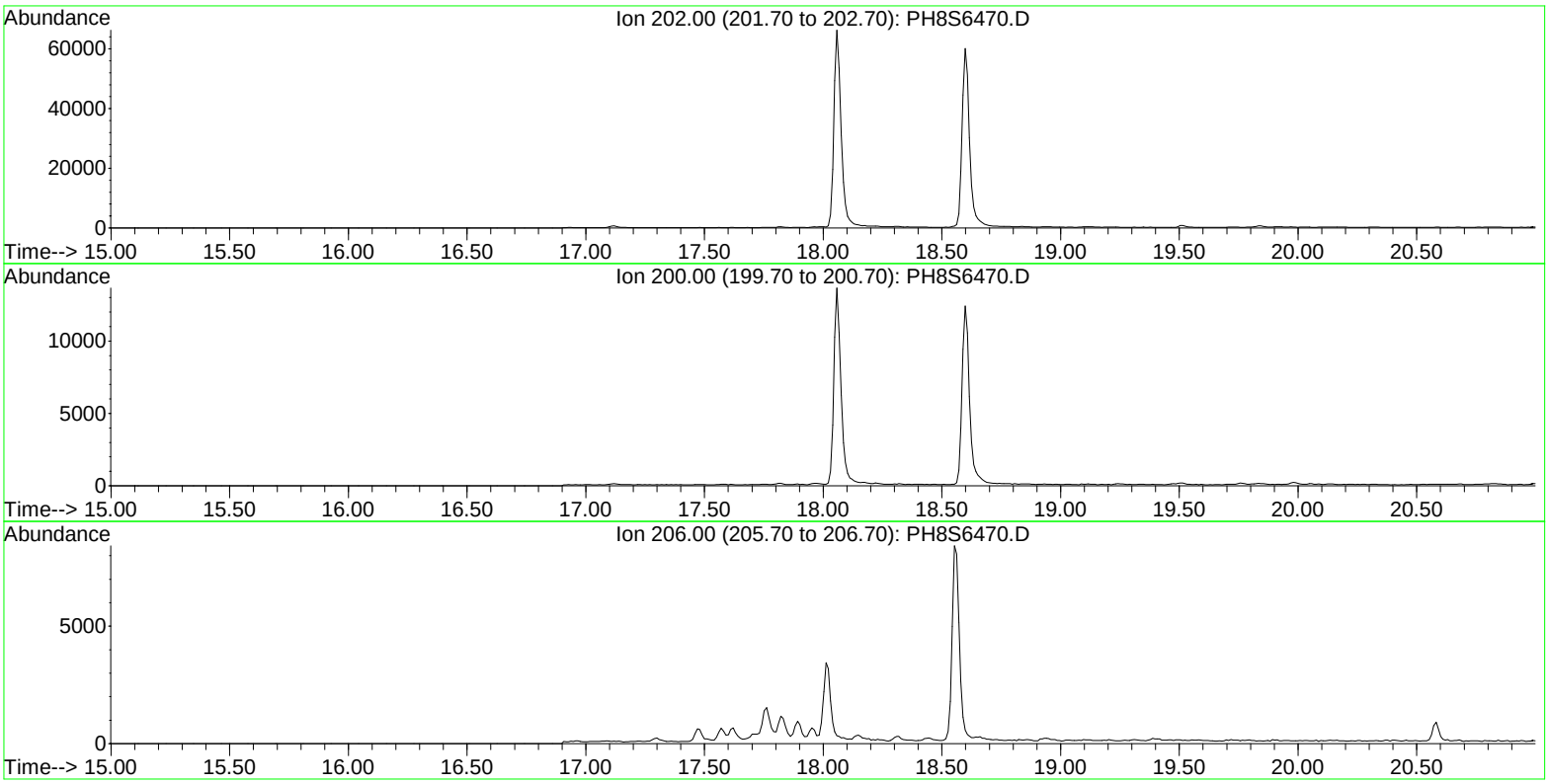


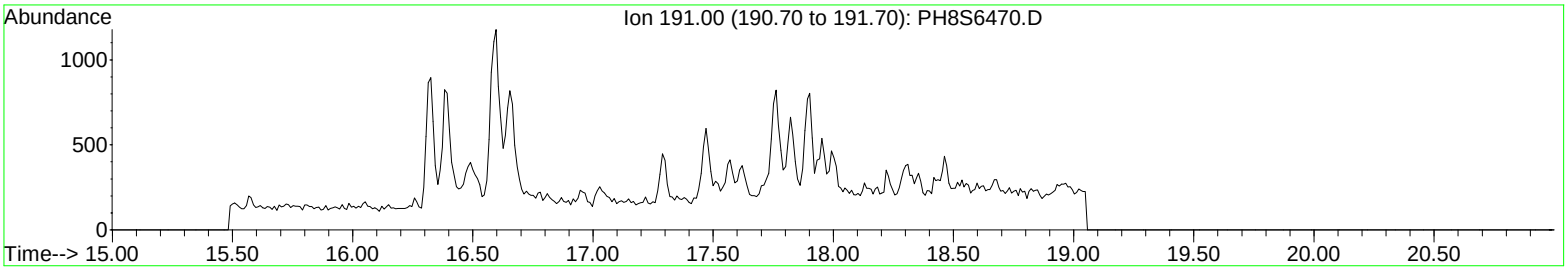


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



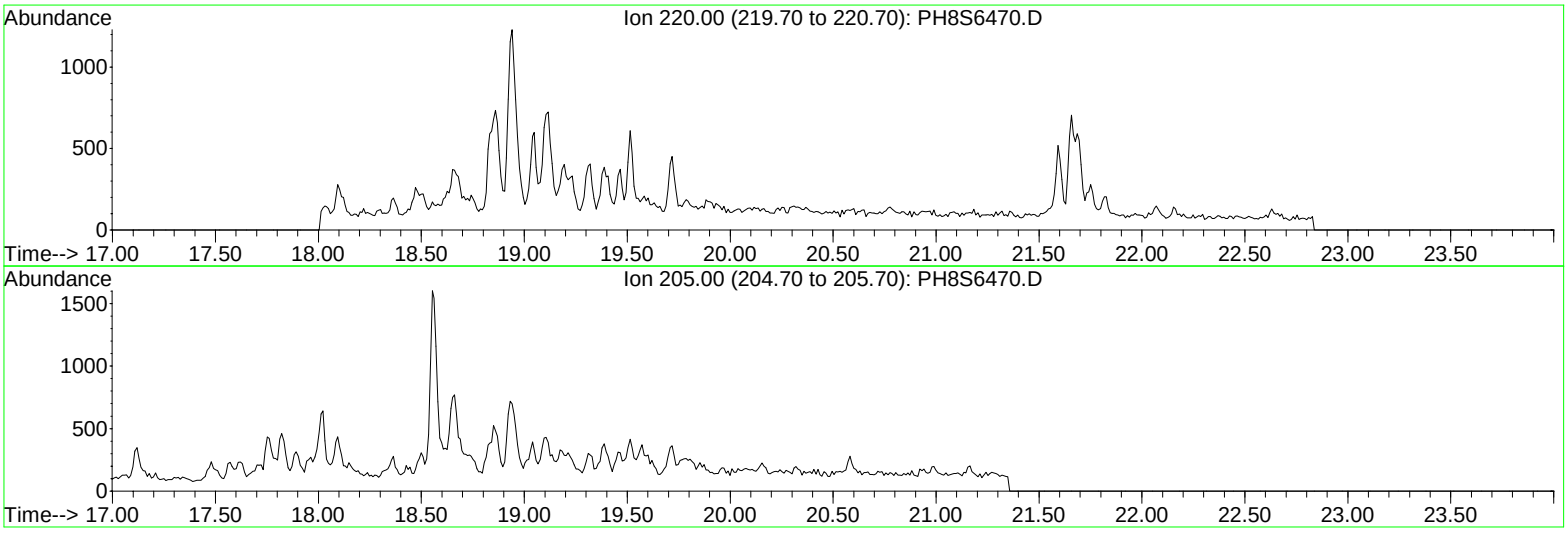


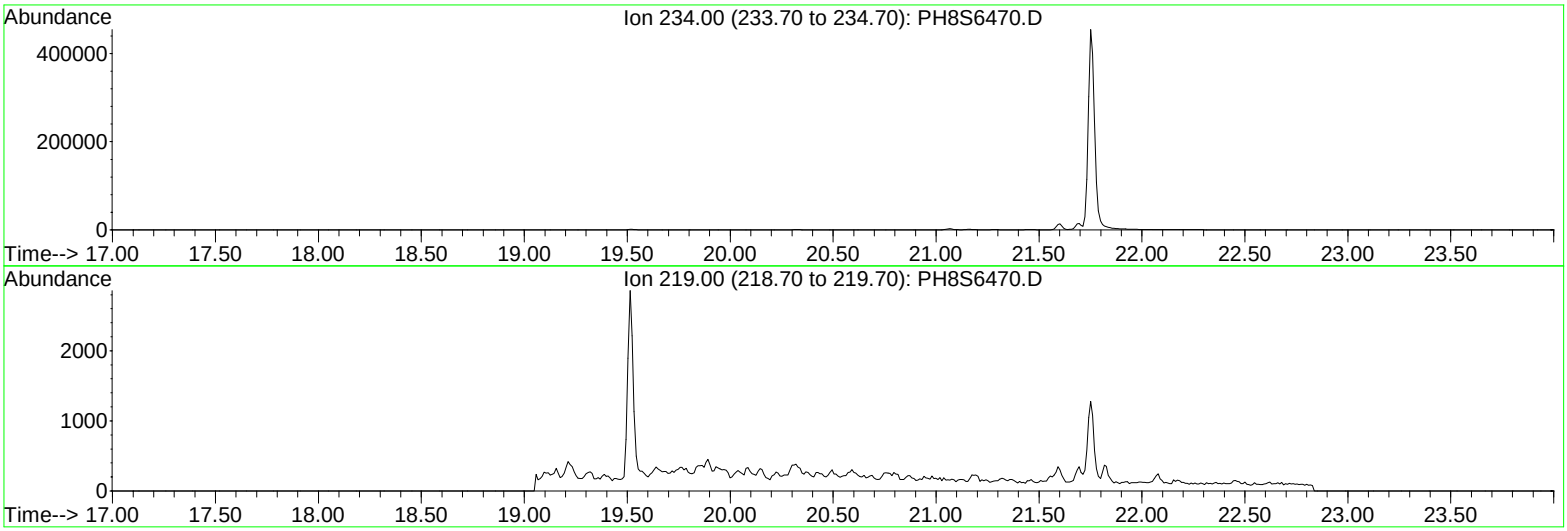


Thu Jan 10 08:43:28 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

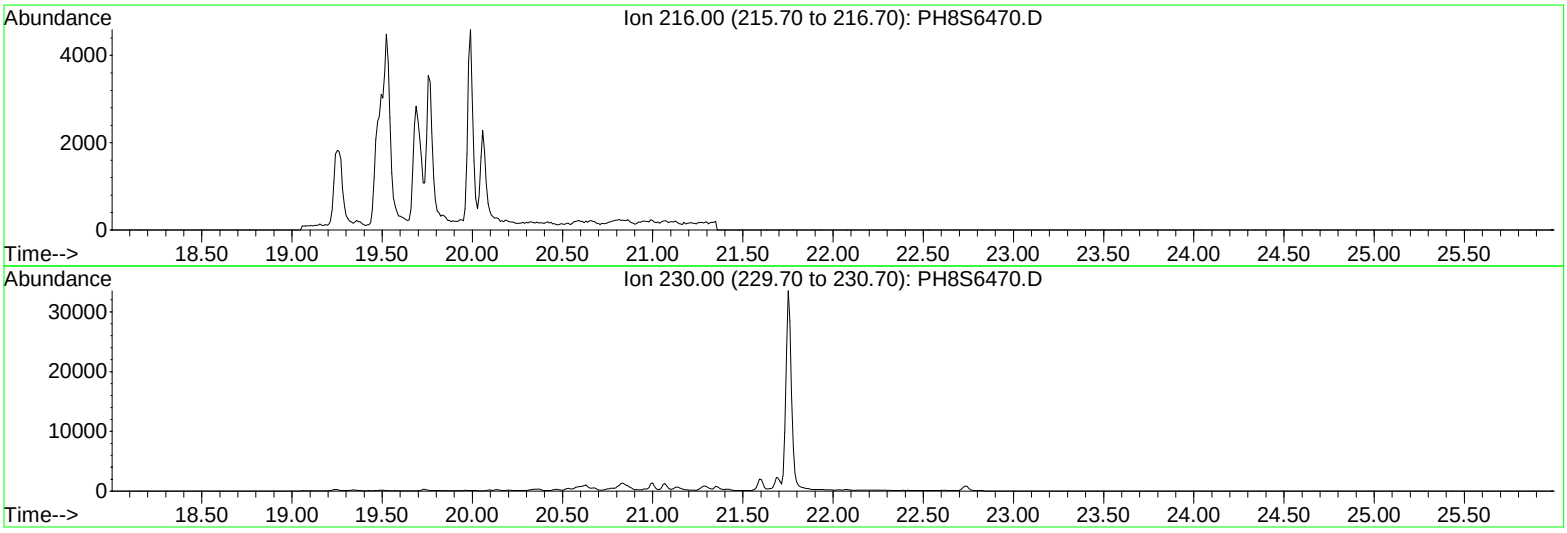


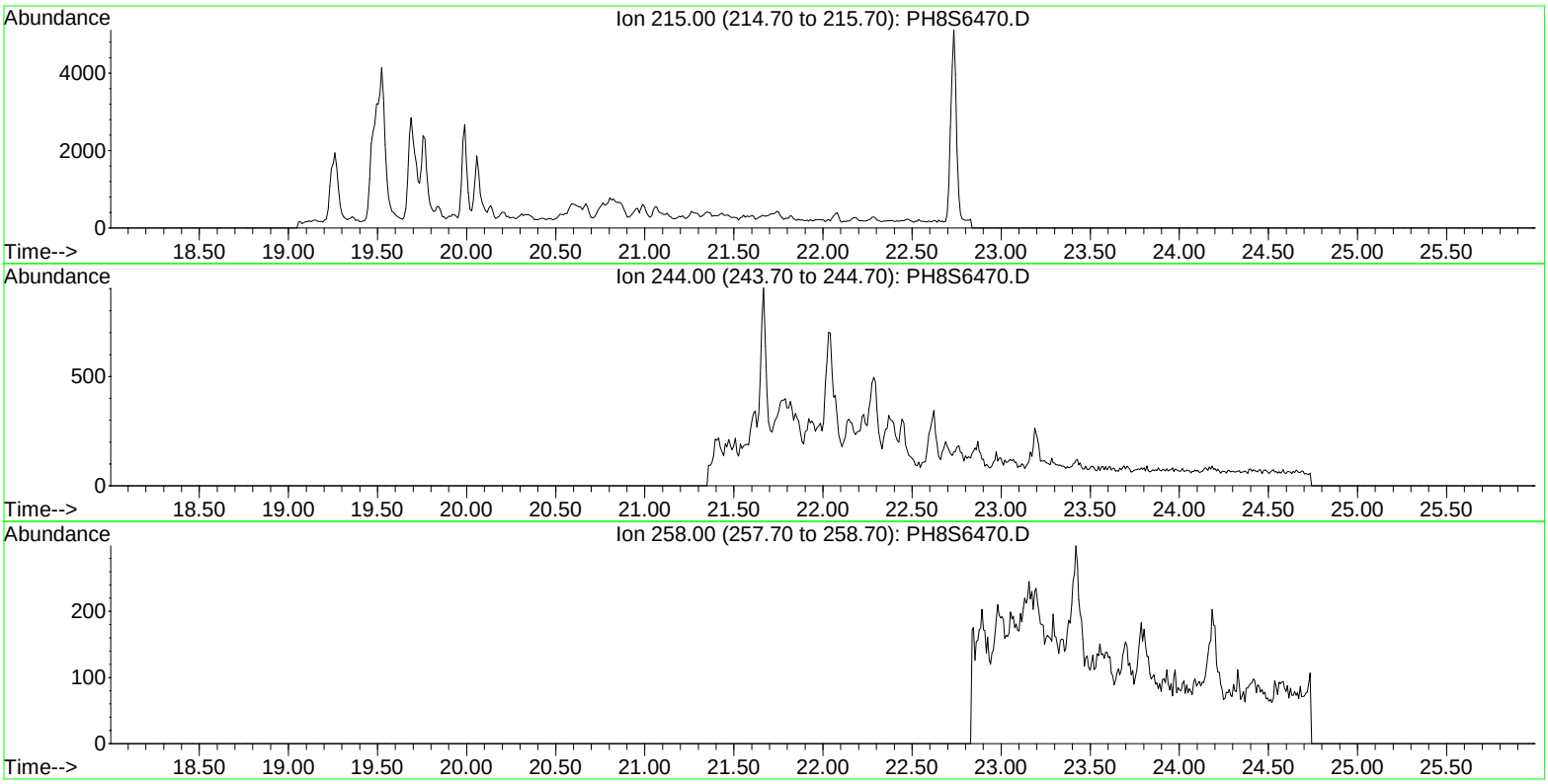


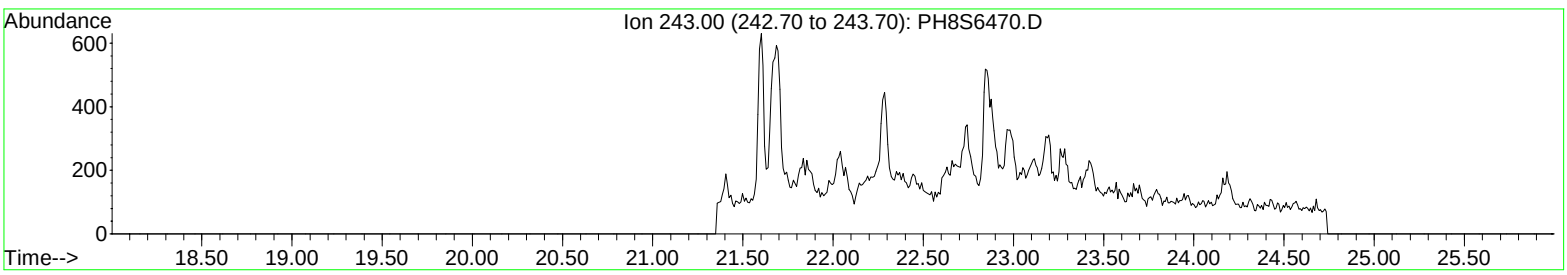
Thu Jan 10 08:43:31 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



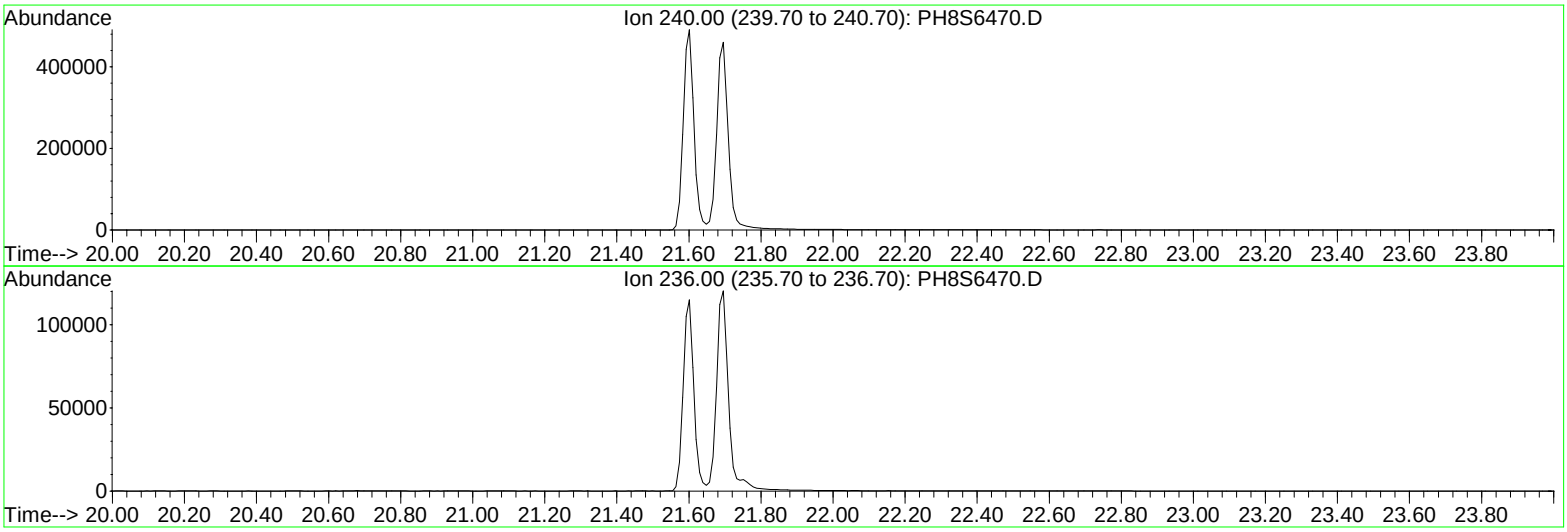


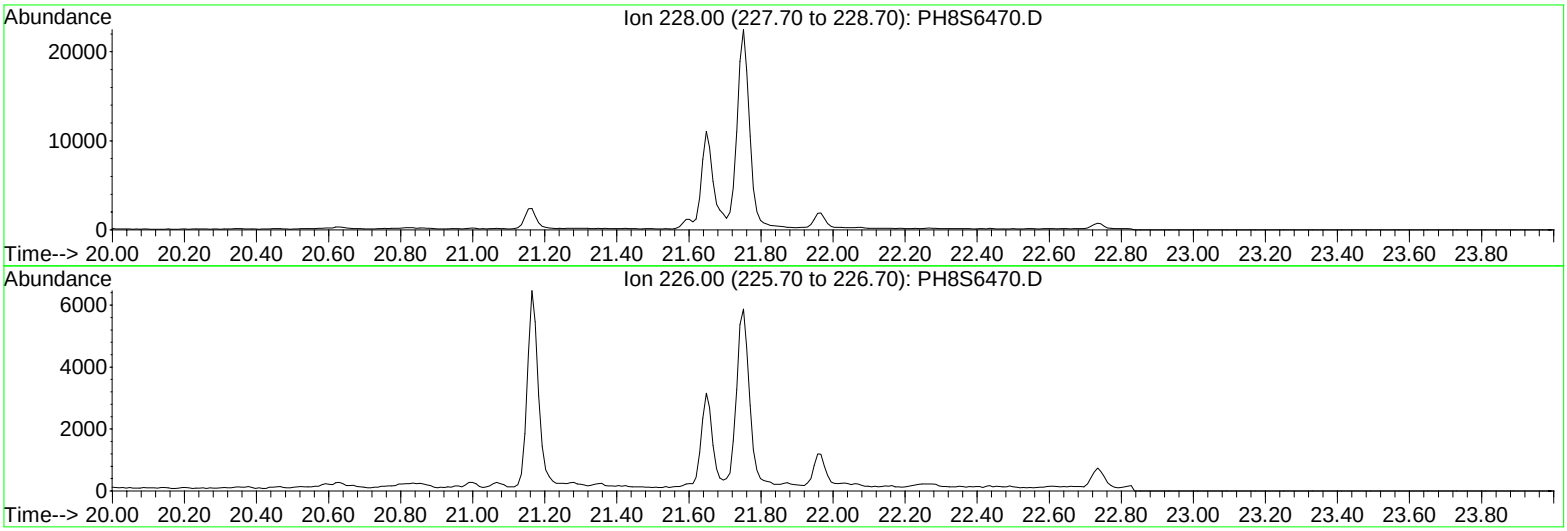


Thu Jan 10 08:43:33 2019

Axys Analytical CHRO Report

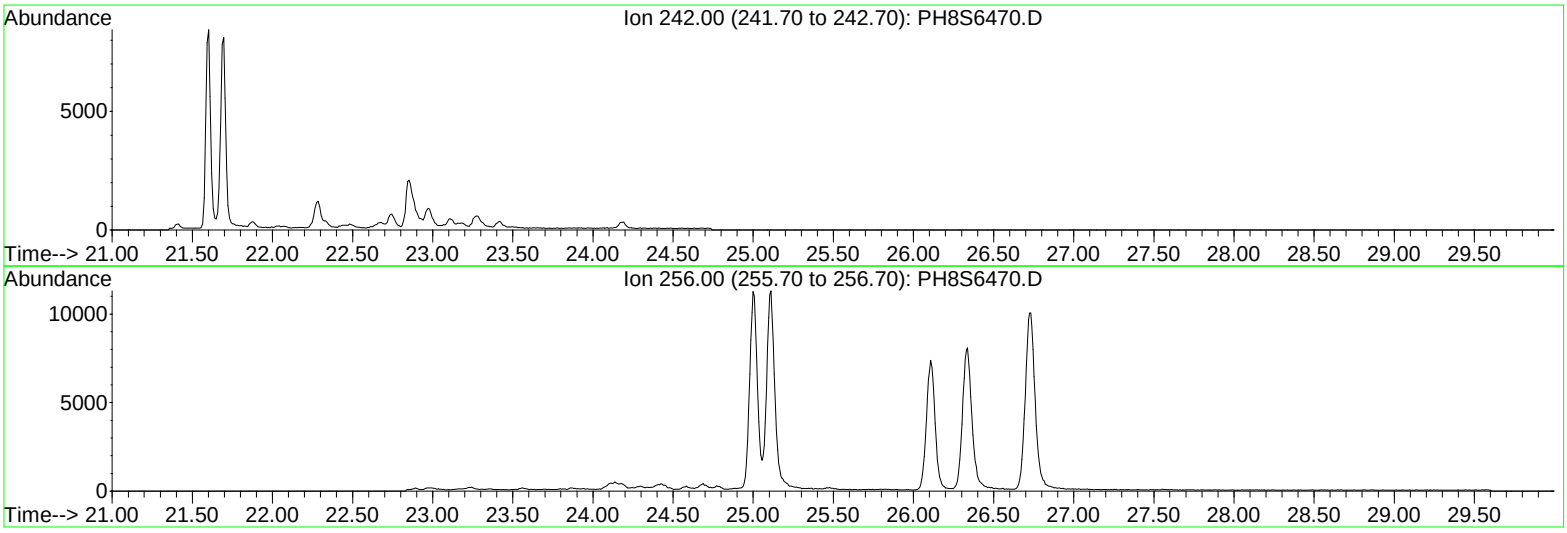
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

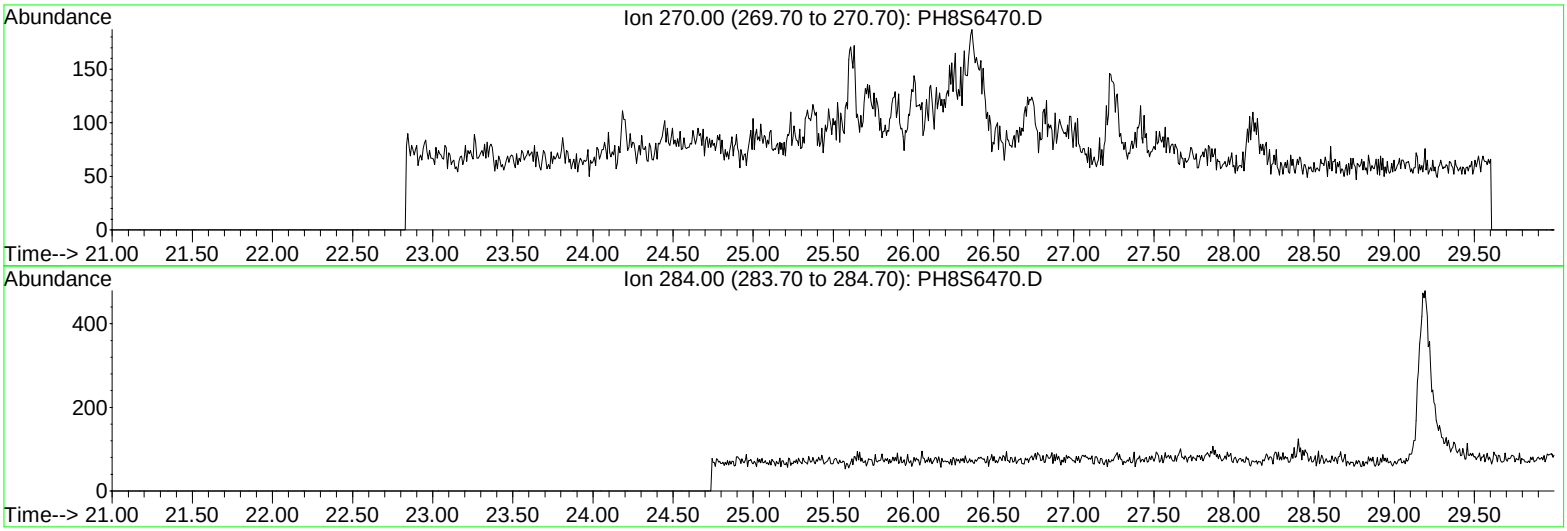




Axys Analytical CHRO Report

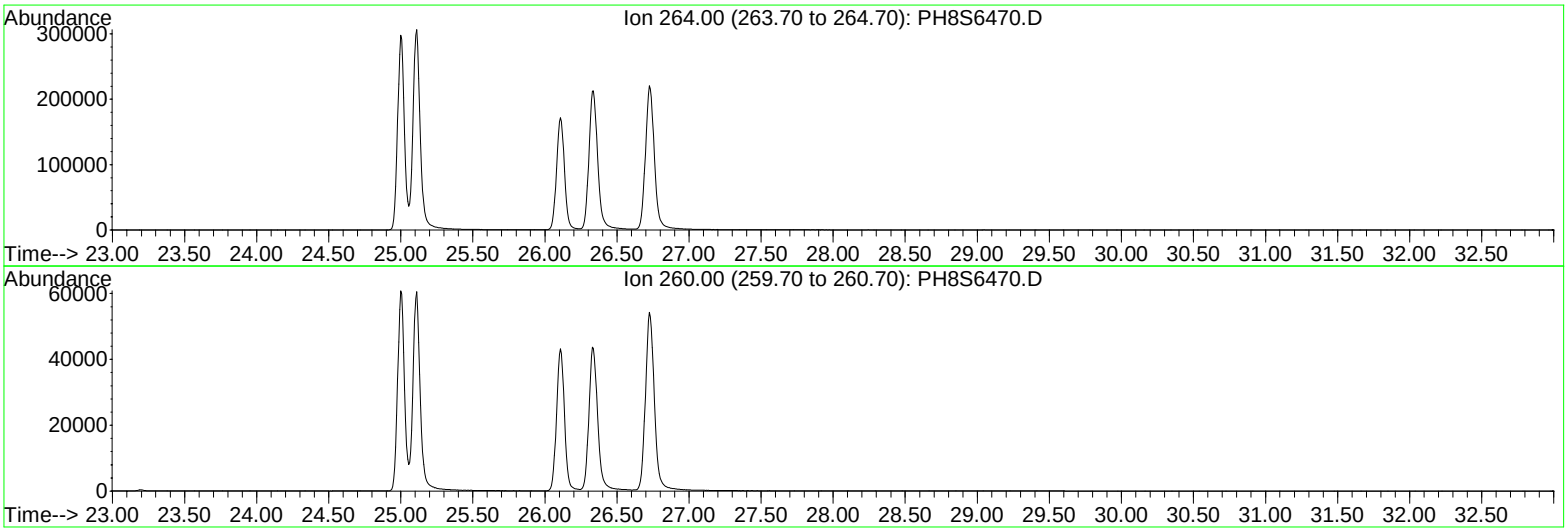
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

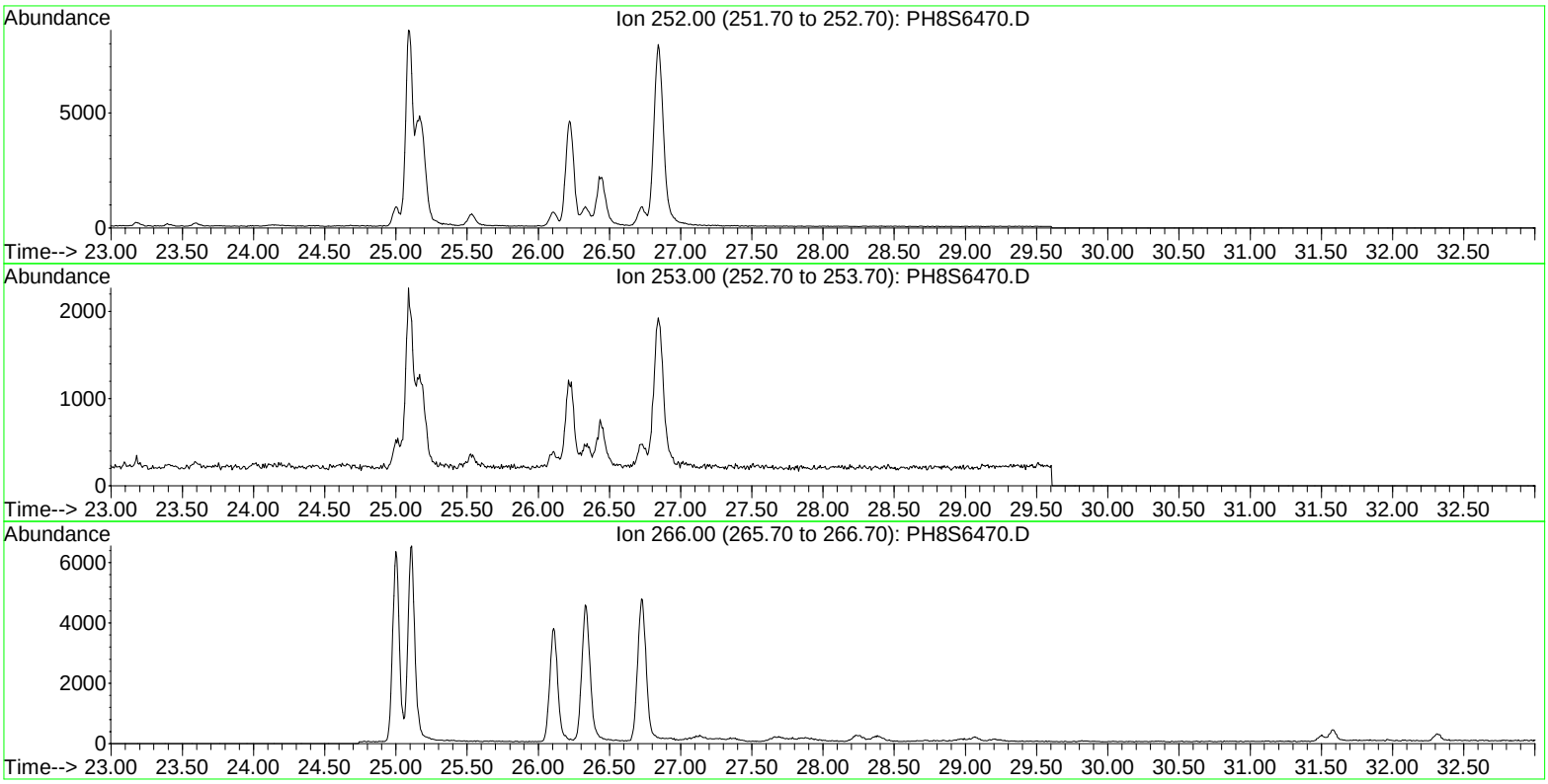


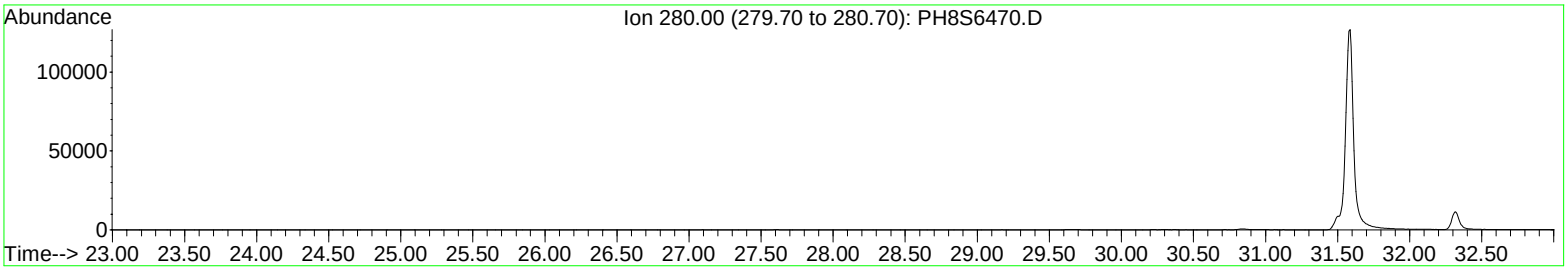


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



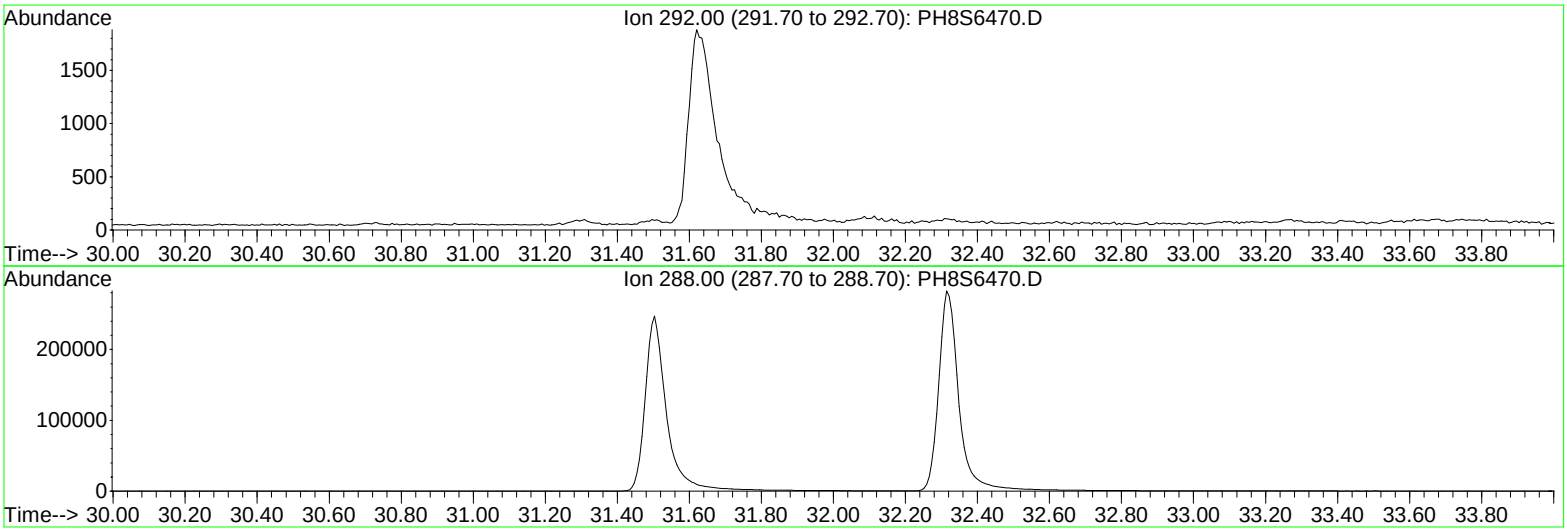


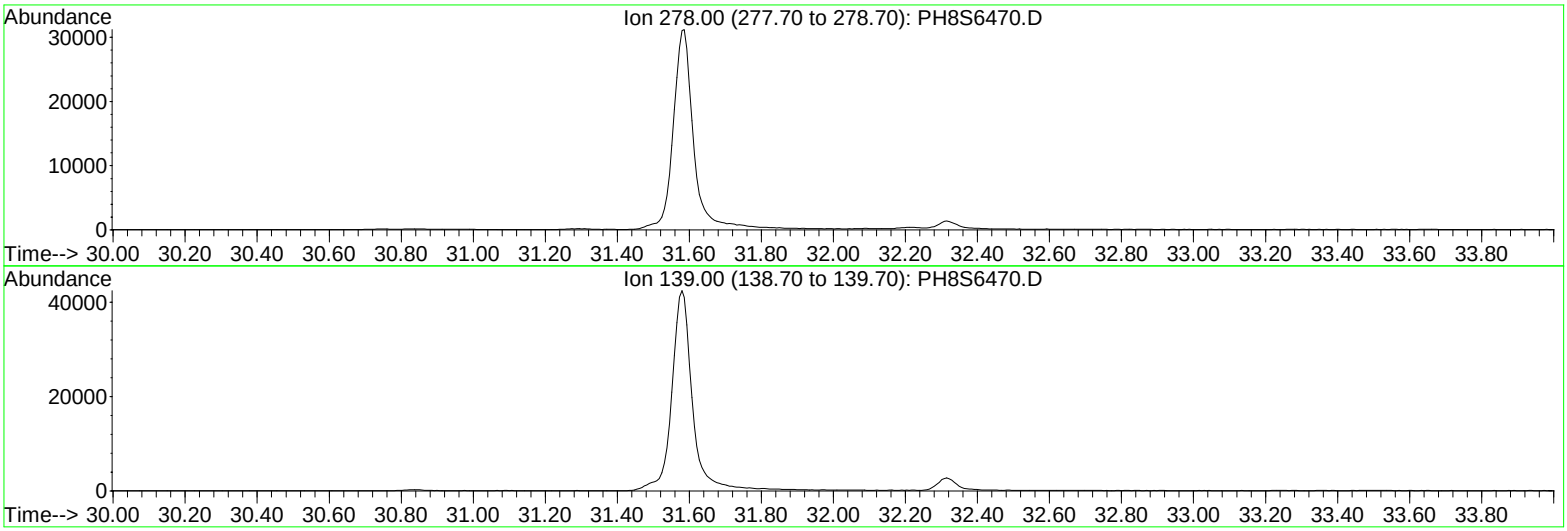


Thu Jan 10 08:43:41 2019

Axys Analytical CHRO Report

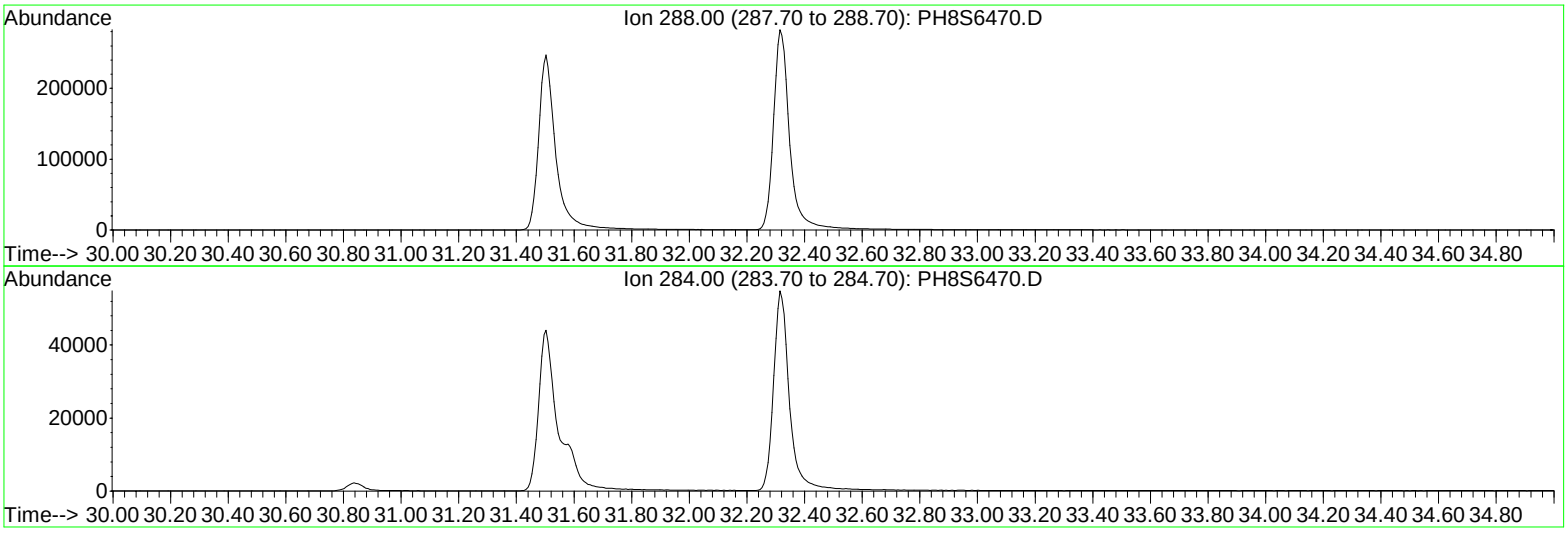
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

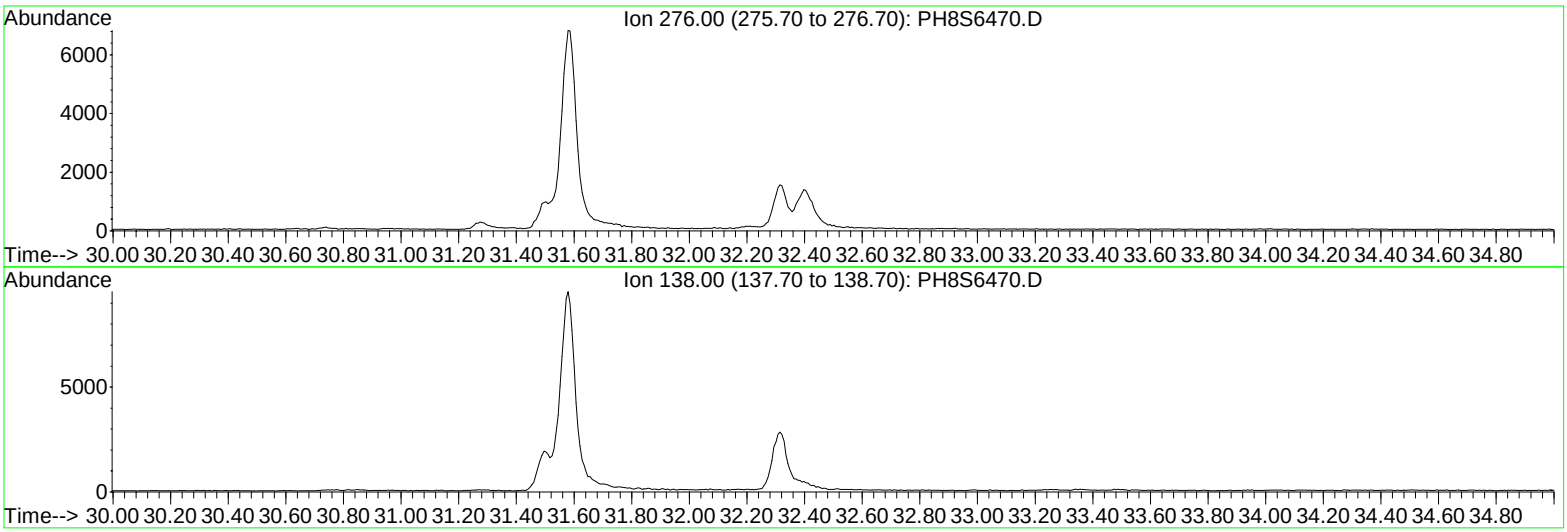




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6470.D
28/12/2018 20:56
L30540-4
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6470.D\618S6470.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 15
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.098	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	774842	18.56	2004.0692	I	0	2004.0692	1515		0.17	1
d10-Phenanthrene - SURR	556707	15	1524.217	S	42.2221	11.547	4146		0.14	0.808
d12-Benz(a)anthracene - SURR	1007455	21.6	4112.8755	S	101.3024	104.3032	25115		0.23	1.164
d12-Chrysene - SURR	1021081	21.7	3891.5877	S	99.2752	49.0753	12658		0.26	1.169
d12-Benzo(e)pyrene - REC	655190	26.11	2054.9339	I	0	2054.9339	1237		0.25	1
d12-Indeno(123cd)pyrene - SURR	997405	31.5	4260.7515	S	107.0541	0.697	160		0.17	1.207
d10-Phenanthrene	556707	15	3672.4313	I	0	3672.4313	3596		0.14	1
13C6-Phenanthrene	113998	15.06	664.4841	T	0	1.9578	336		0.19	1.004
d12-Benz(a)anthracene	1007455	21.6	4130.2136	I	0	4130.2136	23138		0.23	1
d10-Fluoranthene	312061	18.02	939.5954	T	0	1.6852	560		0.17	0.834
d12-Chrysene	1021081	21.7	3987.7925	I	0	3987.7925	12600		0.26	1
13C6-Chrysene	988618	21.75	3442.9511	T	0	1.7589	505		0.31	1.003
d12-Indeno(123cd)pyrene	997405	31.5	4048.8301	I	0	4048.8301	171		0.17	1
13C6-Indeno(123cd)pyrene $	2219763	31.59	7206.7267	T	0	1.9027	586		0.2	1.003

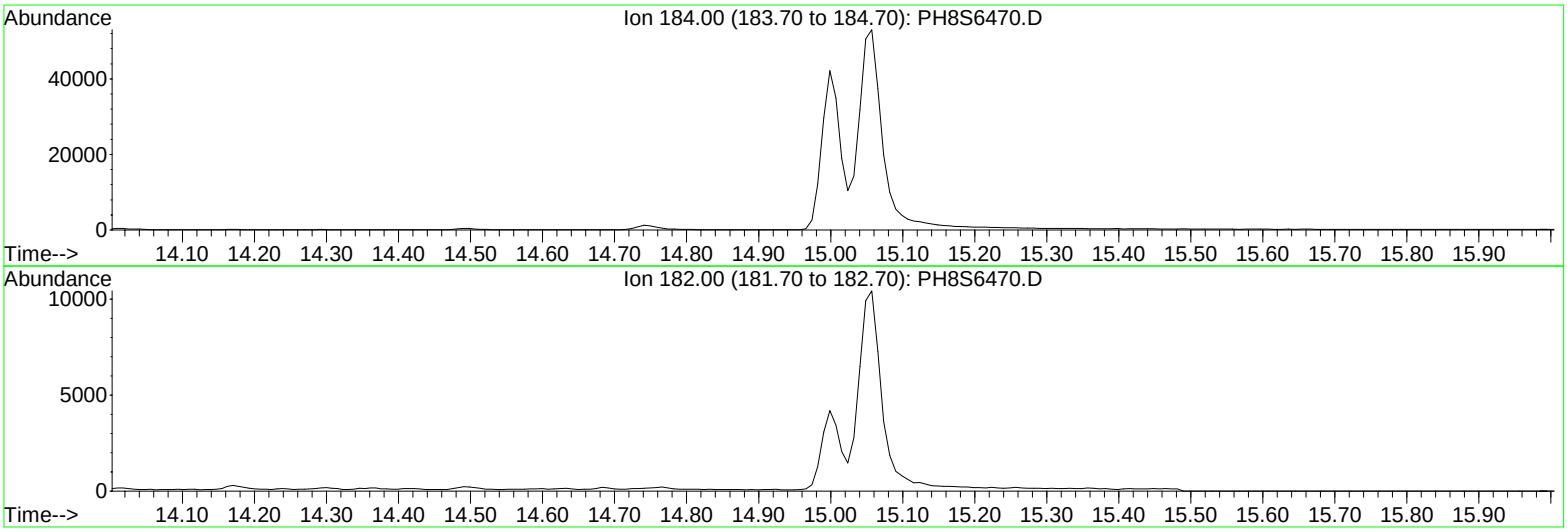
Checked by
03-Jan-19

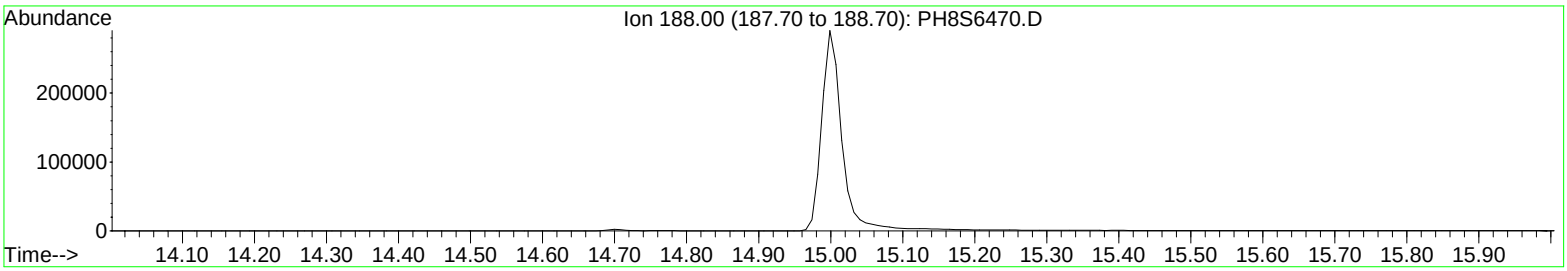
618S6470

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

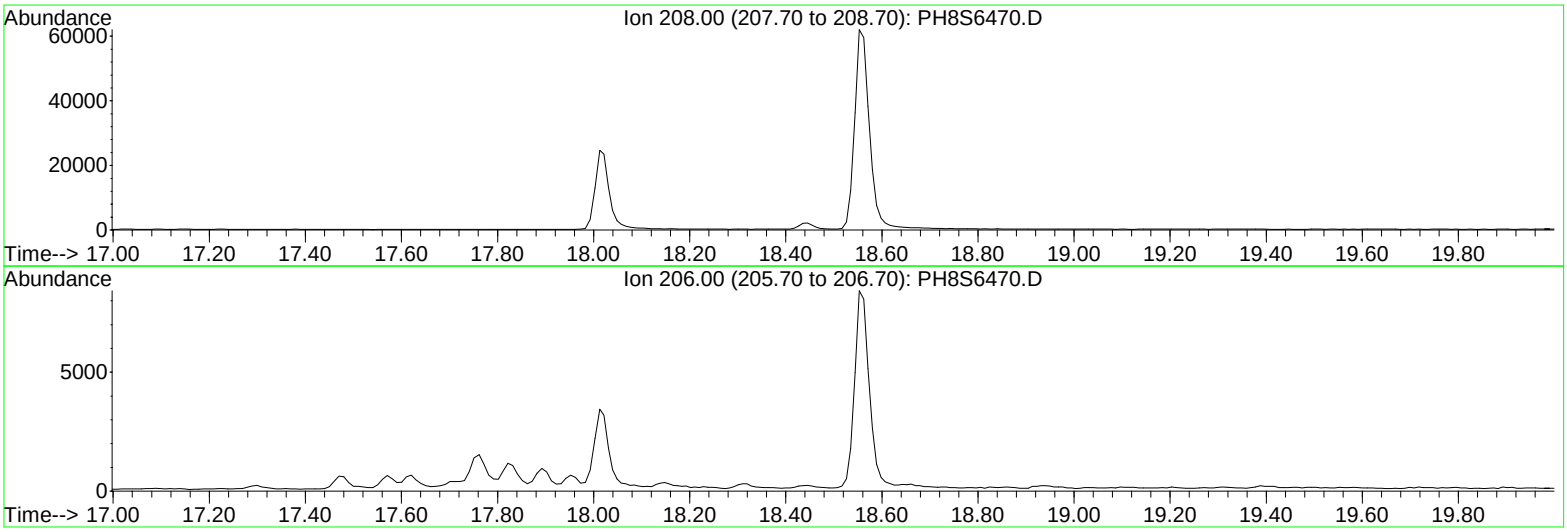
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

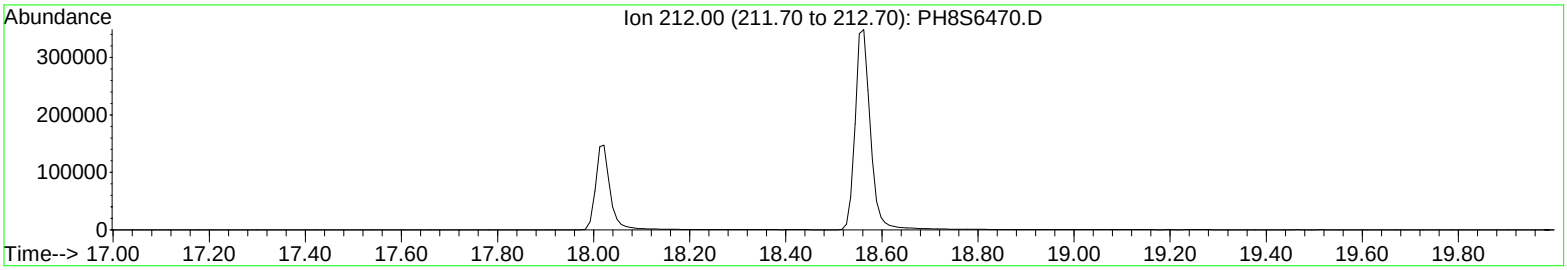




Axys Analytical CHRO Report

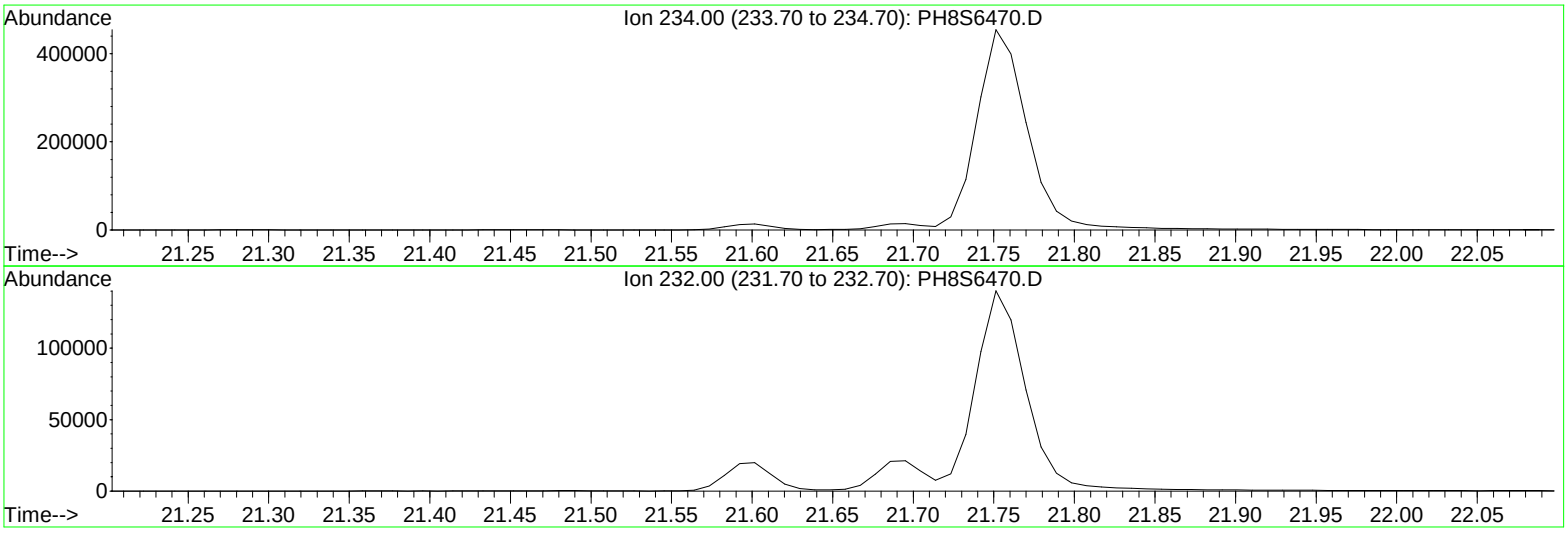
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

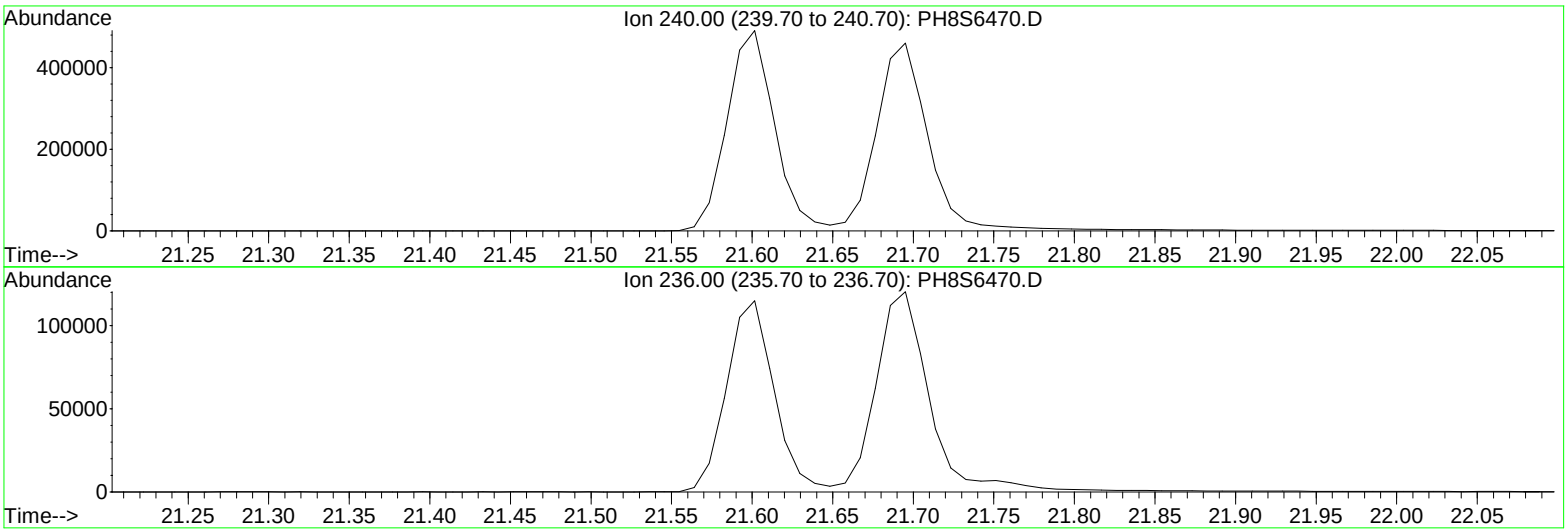




Axys Analytical CHRO Report

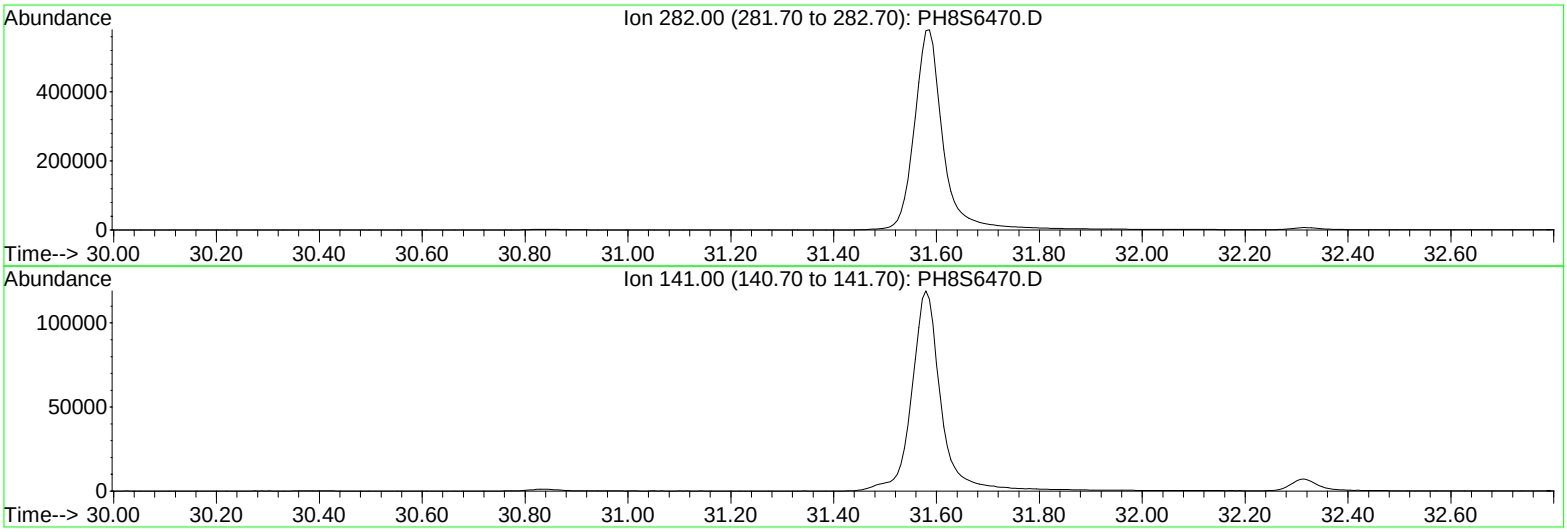
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL

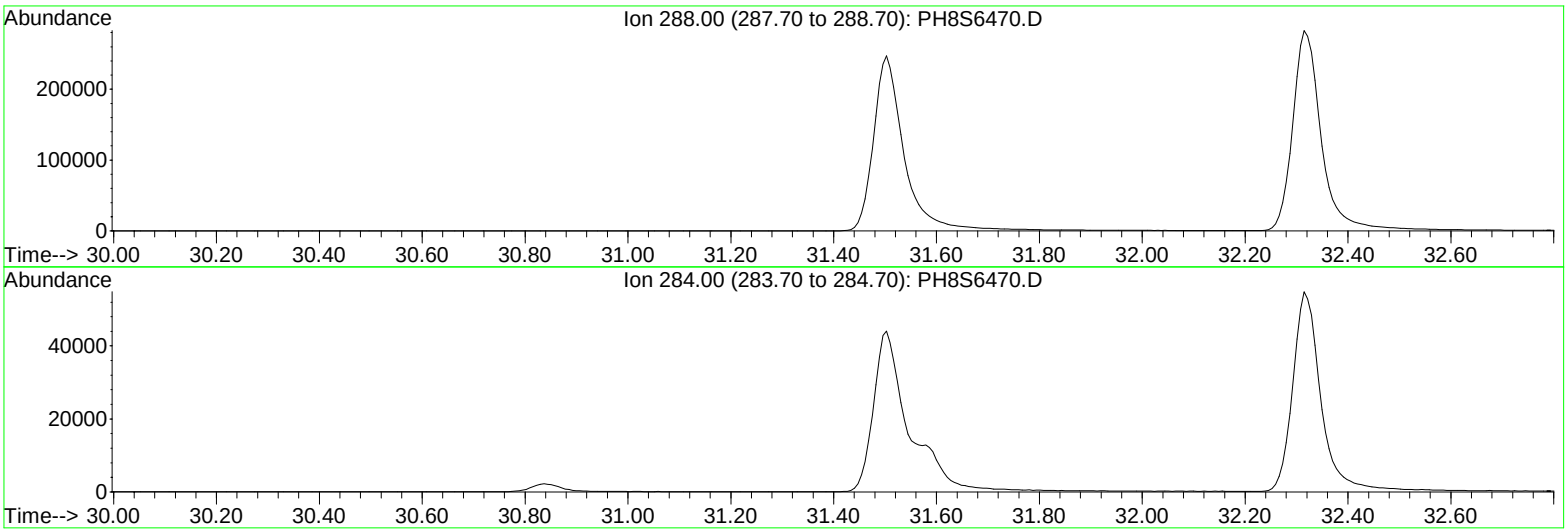




Axys Analytical CHRO Report

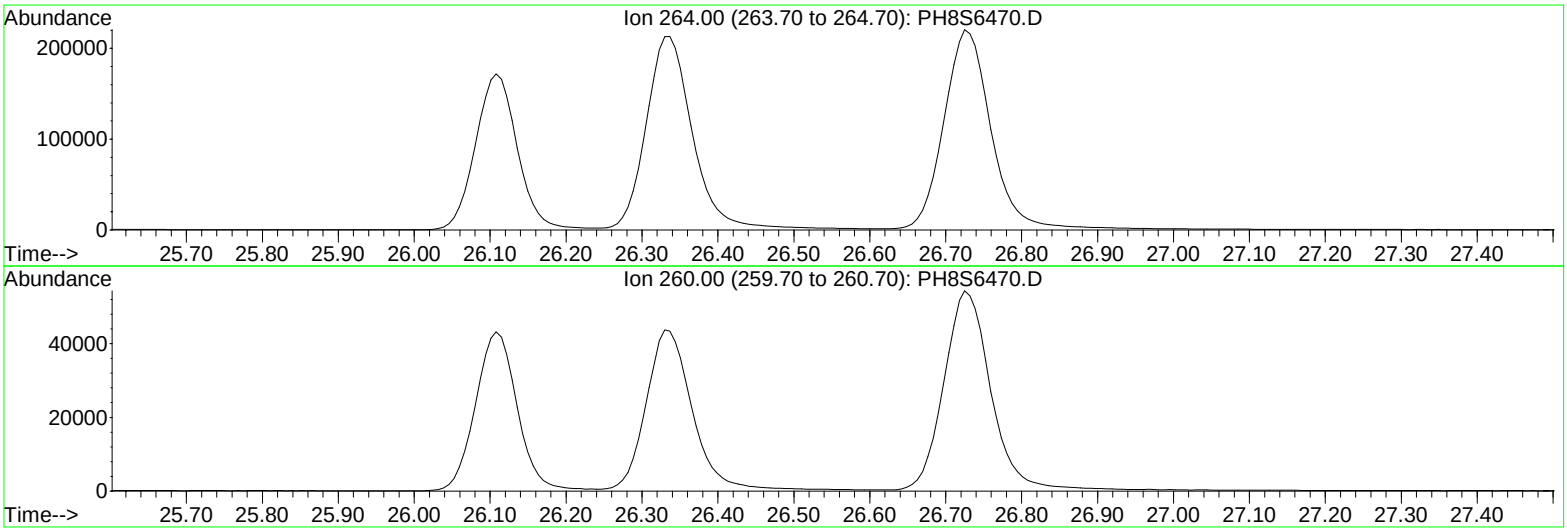
File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6470.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:56
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-4,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6476.D
29/12/2018 1:20
L30540-5
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6476.D\PH8S6476.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 19
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:40 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.104	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	488697	11.29	3895.8534 I	0	3895.8534	300		0.45	1
d8-Naphthalene - SURR	356040	6.87	492.2031 S	24.6102	0.6354	119		0.09	0.608
d10-2-Methylnaphthalene - SURR	259316	8.53	534.7926 S	27.1468	1.0303	130		0.19	0.756
d10-Biphenyl - SURR	392854	9.8	577.4919 S	28.2392	0.4994	88		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	261699	10.11	590.6418 S	28.7417	3.9689	456		0.74	0.896
d8-Acenaphthylene - SURR	499554	10.85	583.1514 S	28.3083	2.4261	539		0.15	0.961
d10-Pyrene - REC	976625	18.55	3799.4214 I	0	3799.4214	1465		0.17	1
d10-Phenanthrene - SURR	729301	15	805.5435 S	44.6284	13.7807	3235		0.14	0.808
d8-Dibenzothiophene - SURR	486699	14.7	604.4881 S	29.7046	11.6084	2423		0.09	0.792
d12-Benz(a)anthracene - SURR	1222728	21.6	1436.1236 S	70.745	99.3344	21926		0.23	1.164
d12-Chrysene - SURR	1187639	21.69	1335.2332 S	68.1241	43.8889	10121		0.27	1.169
d12-Benzo(e)pyrene - REC	782369	26.11	3895.8534 I	0	3895.8534	1187		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1118956	25	1561.822 S	79.2803	389.5796	72360		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1201580	25.11	1518.4708 S	75.9235	119.1047	24434		0.19	0.962
d12-Benzo(a)pyrene - SURR	1011282	26.34	1491.8965 S	72.0723	13230.1832	2324970		0.2	1.009
d12-Perylene - SURR	1080617	26.72	1598.8807 S	74.3665	201.8052	35360		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	1055871	31.5	1537.985 S	77.2857	1.5036	268		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1173096	32.31	1436.6865 S	72.5599	12.6419	2676		0.19	1.238
d8-Naphthalene	356040	6.87	3857.2806 I	0	3857.2806	116		0.09	1
Naphthalene $	2927	6.91	26.4949 T	0	1.466	162		0.06	1.007
d10-2-Methylnaphthalene	259316	8.53	3799.4214 I	0	3799.4214	127		0.19	1
2-Methylnaphthalene $	1186	8.6	14.3614 T	0	1.604	132		1	1.009
1-Methylnaphthalene	1089	8.87	13.9668 T	0	1.6989	132		0.97	1.04
C1-Naphthalenes	1186	8.6	0 T	0	0	851		-1	1.009
d10-Biphenyl	392854	9.8	3944.0694 I	0	3944.0694	88		-1	1
Biphenyl $	1317	9.85	11.9022 T	0	2.9963	332		0.25	1.006
C1-Biphenyls $	641	11.33	5.793 T	0	2.0132	223		0.16	1.157
C2-Biphenyls $	2482	12.71	22.4307 T	0	3.9795	440		0.25	1.297
d12-2,6-Dimethylnaphthalene	261699	10.11	3963.3558 I	0	3963.3558	460		0.74	1
2,6-Dimethylnaphthalene $	948	10.23	11.8711 T	0	1.9638	157		0.61	1.011
Ethyl/DiMe-Naphthalenes	946	10.23	13.0936 T	0	2.1707	157		0.85	1.011
1,2-Dimethylnaphthalene	49155	10.85	760.5904 T	0	2.4267	157	#	0	1.073
C2-Naphthalenes	946	10.23	0 T	0	0	2980		-1	1.011
2,3,6-Trimethylnaphthalene	429	12.2	5.3144 T	0	2.2018	178	#	0.55	1.206
2,3,5-Trimethylnaphthalene $	970	12.36	12.6633 T	0	2.3204	178		0.95	1.223
C3-Naphthalenes	797	12.36	10.1319 T	0	2.2595	178		1.32	1.223
1,4,6,7-Tetramethylnaphthalene $	572	13.92	7.083 T	0	4.9197	397	#	0.06	1.377
C4-Naphthalenes	572	13.92	7.083 T	0	4.9197	397		0.06	1.377
d8-Acenaphthylene	499554	10.85	3972.999 I	0	3972.999	541		0.15	1
Acenaphthylene $	3155	10.88	20.6506 T	0	1.3268	203		0.21	1.003
Acenaphthene $	2262	11.36	26.789 T	0	1.7851	151		1.2	1.047
C1-Acenaphthenes $	292	11.73	3.4582 T	0	5.3553	452		0.19	1.081
d8-Dibenzothiophene	486699	14.7	3924.783 I	0	3924.783	2570		0.09	1
Dibenzothiophene $	2438	14.74	16.4461 T	0	1.7739	263		0.09	1.003
C1-Dibenzothiophenes-1	1648	15.88	16.2025 T	0	6.2871	639	#	0.55	1.08
2/3-Methyldibenzothiophenes $	571	16.09	5.6138 T	0	6.2871	639	#	1.7	1.095
C1-Dibenzothiophenes-2	973	16.35	9.5661 T	0	6.2871	639	#	1.02	1.113
C1-Dibenzothiophenes	571	16.09	0 T	0	0	639		-1	1.095
4,6-Dimethyldibenzothiophene	1649	16.95	15.1276 T	0	23.6305	2576	#	0.22	1.153

+ Report only.

PH8S6476

Checked by vr 08-Jan-19

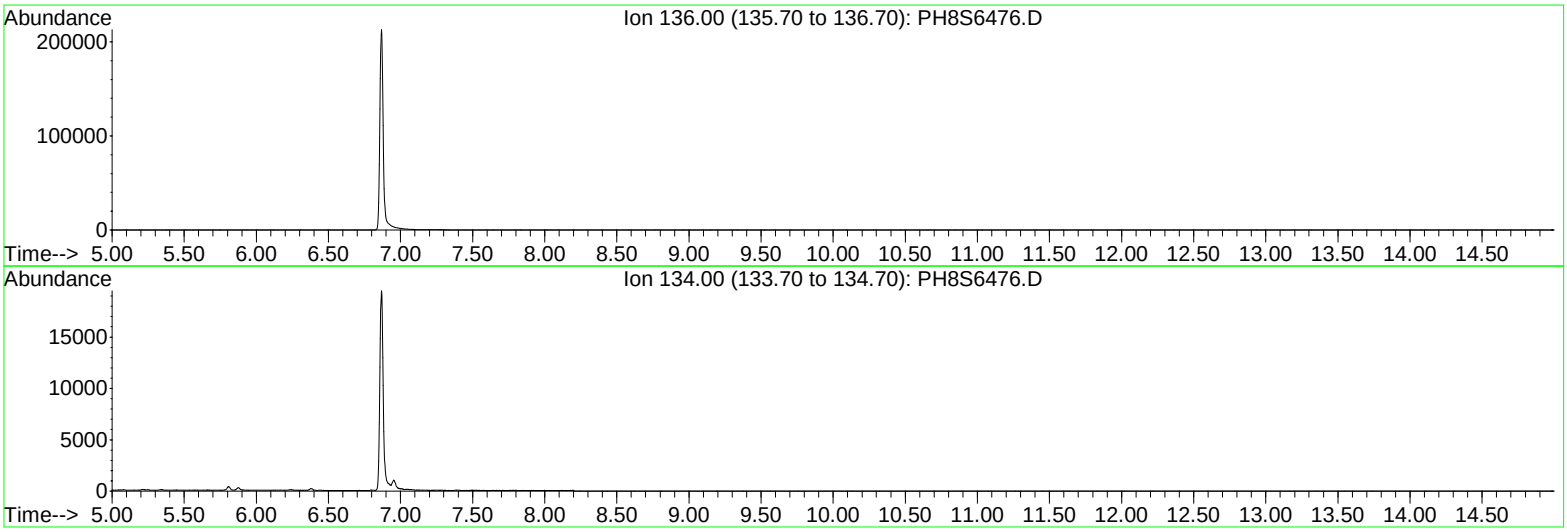
pv by vr
03-Jan-2019

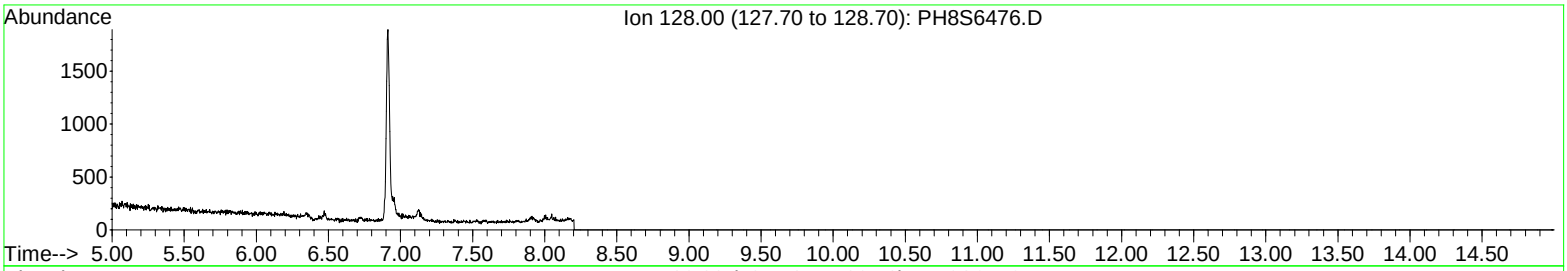
2,4-Dimethyldibenzothiophene $	833	17.09	9.895 T	0	30.5981	2576 #	1	1.163
C2-Dibenzothiophenes	833	17.09	9.895 T	0	30.5981	2576	1	1.163
C3-Dibenzothiophenes $	2418	18.09	28.7228 T	0	632.1234	53215	0.73	1.231
C4-Dibenzothiophenes $	258	18.81	3.0647 T	0	5.3245	448	0.6	1.279
d10-Phenanthrene	729301	15	3481.1958 I	0	3481.1958	3216	0.14	1
Fluorene $	4480	12.66	29.9216 T	0	1.1975	179	1.02	0.844
2-Methylfluorene $	779	14.09	7.6511 T	0	22.1778	2258 #	2.2	0.939
C1-Fluorenes	779	14.09	7.6511 T	0	22.1778	2258	2.2	0.939
1,7-Dimethylfluorene $	251	15.48	2.6508 T	0	42.546	4029 #	0.5	1.032
C2-Fluorenes	251	15.48	2.6508 T	0	42.546	4029	0.5	1.032
C3-Fluorenes $	538	16.4	5.6818 T	0	25.0307	2370	1.09	1.094
Phenanthrene $	35625	15.05	158.989 T	0	1.1503	258	0.19	1.003
Anthracene	22087	15.17	97.407 T	0	1.1367	258	0.19	1.011
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	10248	16.31	64.8266 T	0	7.585	1199 #	0.23	1.088
2-Methylphenanthrene	5216	16.38	33.433 T	0	7.6856	1199 #	0.42	1.092
2-Methylanthracene	6081	16.47	40.1578 T	0	7.9184	1199 #	0.37	1.098
9/4-Methylphenanthrenes	7600	16.6	48.0759 T	0	7.585	1199 #	0.82	1.107
1-Methylphenanthrene $	3192	16.64	19.1368 T	0	7.1887	1199	0.67	1.11
C1-Phenanthrenes/Anthracenes	3190	16.64	0 T	0	0	34823	-1	1.11
Fluoranthene $	359614	18.06	1306.4652 T	0	3.8676	1065	0.2	1.204
Pyrene	462525	18.59	1625.1966 T	0	3.7407	1065	0.21	1.239
3,6-Dimethylphenanthrene $	4205	17.48	27.6237 T	0	63.0893	9604 #	0.73	1.165
2,6-Dimethylphenanthrene	1983	17.58	13.0029 T	0	62.9734	9604 #	0.47	1.172
1,7-Dimethylphenanthrene	3013	17.89	19.7208 T	0	62.8584	9604 #	-1	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	4205	17.48	27.573 T	0	62.9734	9604	0.73	1.165
1,8-Dimethylphenanthrene	2203	18.14	14.4455 T	0	62.9734	9604	0.39	1.209
C2-Phenanthrenes/Anthracenes	4205	17.48	0 T	0	0	9604	-1	1.165
1,2,6-Trimethylphenanthrene $	1945	19.38	13.8767 T	0	19.628	2751 #	0.93	1.292
C3-Phenanthrenes/Anthracenes	1945	19.38	13.8767 T	0	19.628	2751	0.93	1.292
Retene $	6510	19.5	121.5539 T	0	49.7992	2667 #	1.32	1.3
C4-Phenanthrenes/Anthracenes	6510	19.5	121.5539 T	0	49.7992	2667	1.32	1.3
C1-Fluoranthenes/Pyrenes-1	22057	19.24	134.7916 T	0	517.9614	84758	0.96	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	84990	19.51	519.3789 T	0	517.9614	84758	0.92	1.301
C1-Fluoranthenes/Pyrenes-2	40252	19.98	245.9824 T	0	517.9614	84758	0.54	1.332
C1-Fluoranthenes/Pyrenes	84990	19.51	0 T	0	0	84758	-1	1.301
C2-Fluoranthenes/Pyrenes $	2140	20.46	13.0777 T	0	62.0446	10153	0.15	1.364
C3-Fluoranthenes/Pyrenes $	1234	21.93	7.541 T	0	105.5647	17274 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	334	23.28	2.0411 T	0	14.929	2443	5.4	1.552
d12-Benz(a)anthracene	1222728	21.6	3915.1398 I	0	3915.1398	24474	0.23	1
d10-Fluoranthene $	319641	18.01	942.6708 T	0	2.7639	937	0.17	0.834
+ Benz(a)anthracene	90106	21.65	223.332 T	0	1.0913	440	0.28	1.002
d12-Chrysene	1187639	21.69	3780.135 I	0	3780.135	11708	0.27	1
+ Chrysene $	132973	21.75	342.8665 T	0	1.1766	456	~~0.31~~	1.003 0.30
5/6-Methylchrysenes $	3468	23.11	11.8416 T	0	192.2665	56308	-1	1.065
1-Methylchrysene	7487	23.27	24.6769 T	0	185.59	56308	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	3468	23.11	11.6324 T	0	188.8702	56308	-1	1.065
5,9-Dimethylchrysene $	5711	24.42	25.1889 T	0	106.1493	24067	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	5711	24.42	25.1889 T	0	106.1493	24067	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	32	25.03	0.1411 T	0	4.0539	919	-1	1.154
C4-Benz(a)anthracenes/Chrysenes $	15	26.08	0.0662 T	0	1.3226	300	-1	1.202
d12-Benzo(b)fluoranthene	1118956	25	3799.4214 I	0	3799.4214	61108	0.21	1
Benzo(b)fluoranthene-SURR int	3644	25.01	0 T	0	0	10091 #	0.54	1
+ Benzo(b)fluoranthene $	117059	25.09	274.5145 T	0	0.4609	197	0.21	1.004
d12-Benzo(k)fluoranthene	1201580	25.11	3857.2806 I	0	3857.2806	22236	0.19	1
+ Benzo(j/k)fluoranthenes	86649	25.16	220.4477 T	0	0.5388	212	0.22	1.002
Benzofluoranthenes	114477	25.09	0 T	0	0	10874	-1	0.999
d12-Benzo(a)pyrene	1011282	26.34	3992.2854 I	0	3992.2854	2398880	0.2	1
Benzo(e)pyrene	88374	26.22	251.4059 T	0	0.683	240	0.21	0.996
+ Benzo(a)pyrene	43213	26.43	130.2395 T	0	0.7236	240	0.19	1.004
7-Methylbenzo(a)pyrene $	1402	29.2	5.9364 T	0	7.3707	1741	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	1402	29.2	5.9364 T	0	7.3707	1741	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	20	29.91	0.0847 T	0	11.2339	2653	-1	1.136
d12-Perylene	1080617	26.72	4146.5767 I	0	4146.5767	38370	0.24	1
Perylene	50524	26.84	140.6004 T	0	0.7027	253	0.21	1.004
d12-Indeno(123cd)pyrene	1055871	31.5	3837.9942 I	0	3837.9942	270	0.17	1
d14-Dibenzo(ah)anthracene $	9842	31.63	39.1058 T	0	1.726	434 #	3.47	1.004
+ Dibenzo(ah)anthracene $	5770	31.72	18.4234 T	0	1.537	481 #	0.37	1.007
+ Indeno(123cd)pyrene $	16154	31.58	47.9858 T	0	3.348	1127 #	~~2.15~~	1.002 0.15
d12-Benzo(ghi)perylene	1173096	32.31	3818.7078 I	0	3818.7078	2537	0.19	1
Benzo(ghi)perylene	25693	32.4	70.0357 T	0	2.8861	1059	0.19	1.003

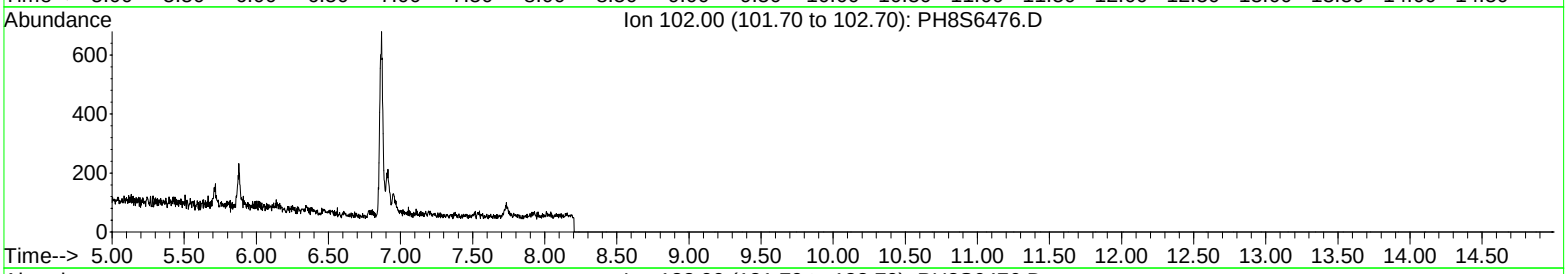
pv by vr
03-Jan-2019

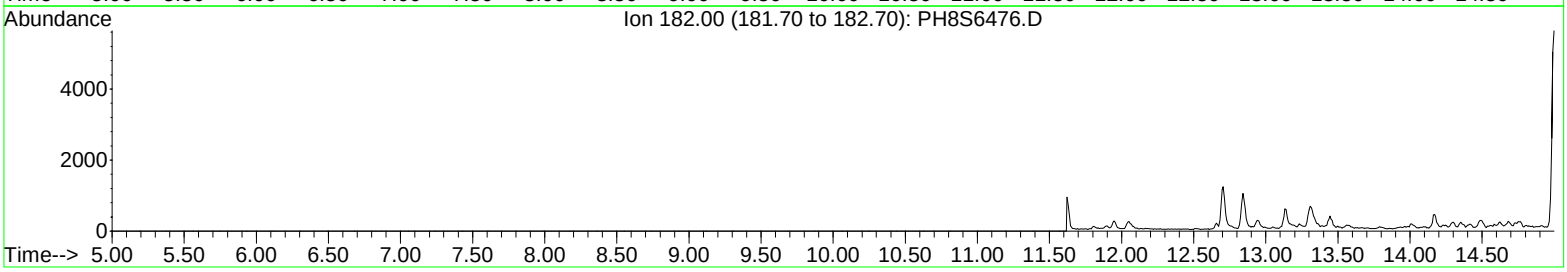
Axys Analytical CHRO Report

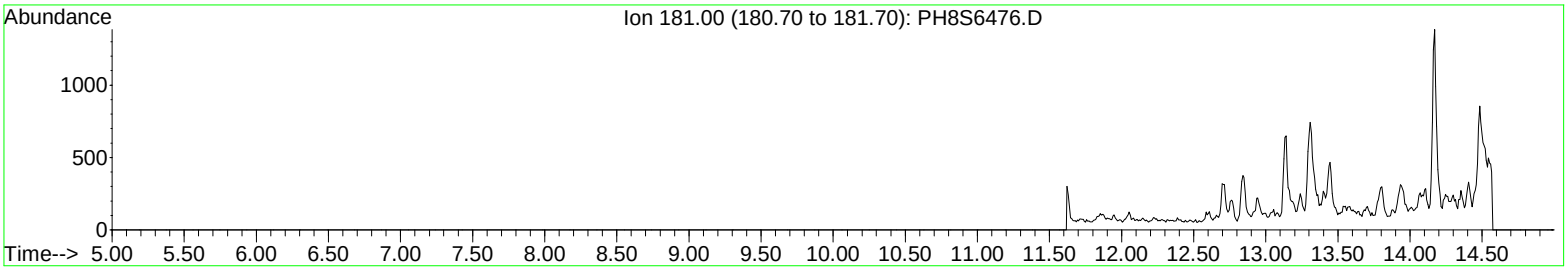
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL







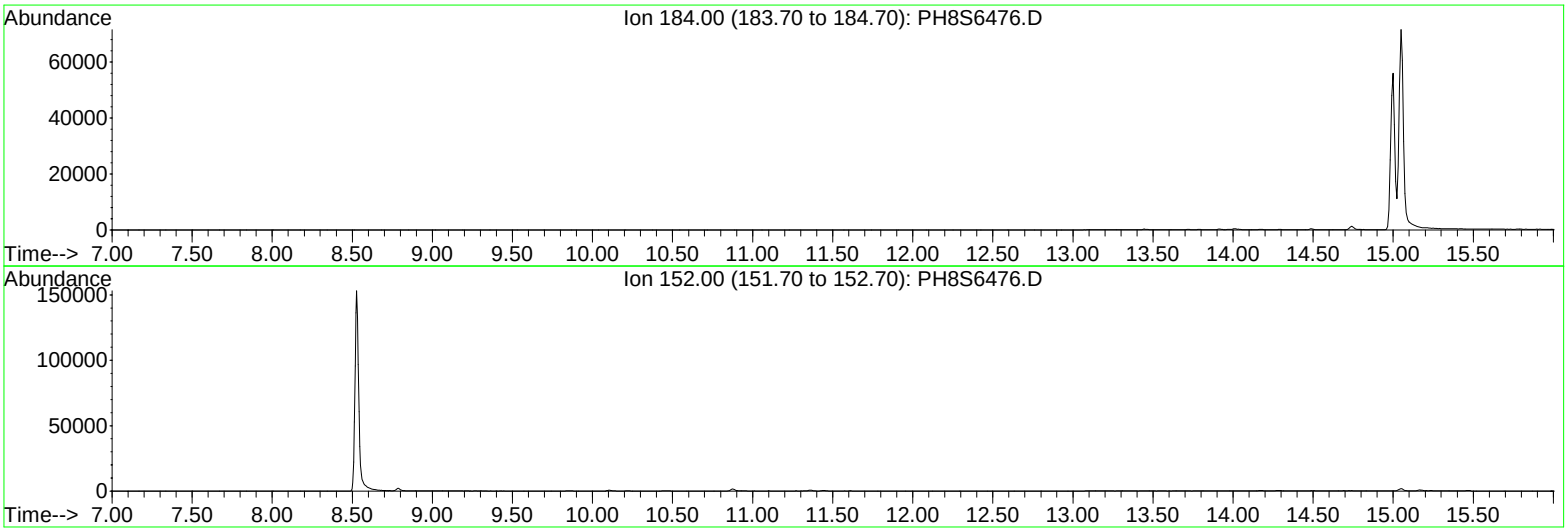


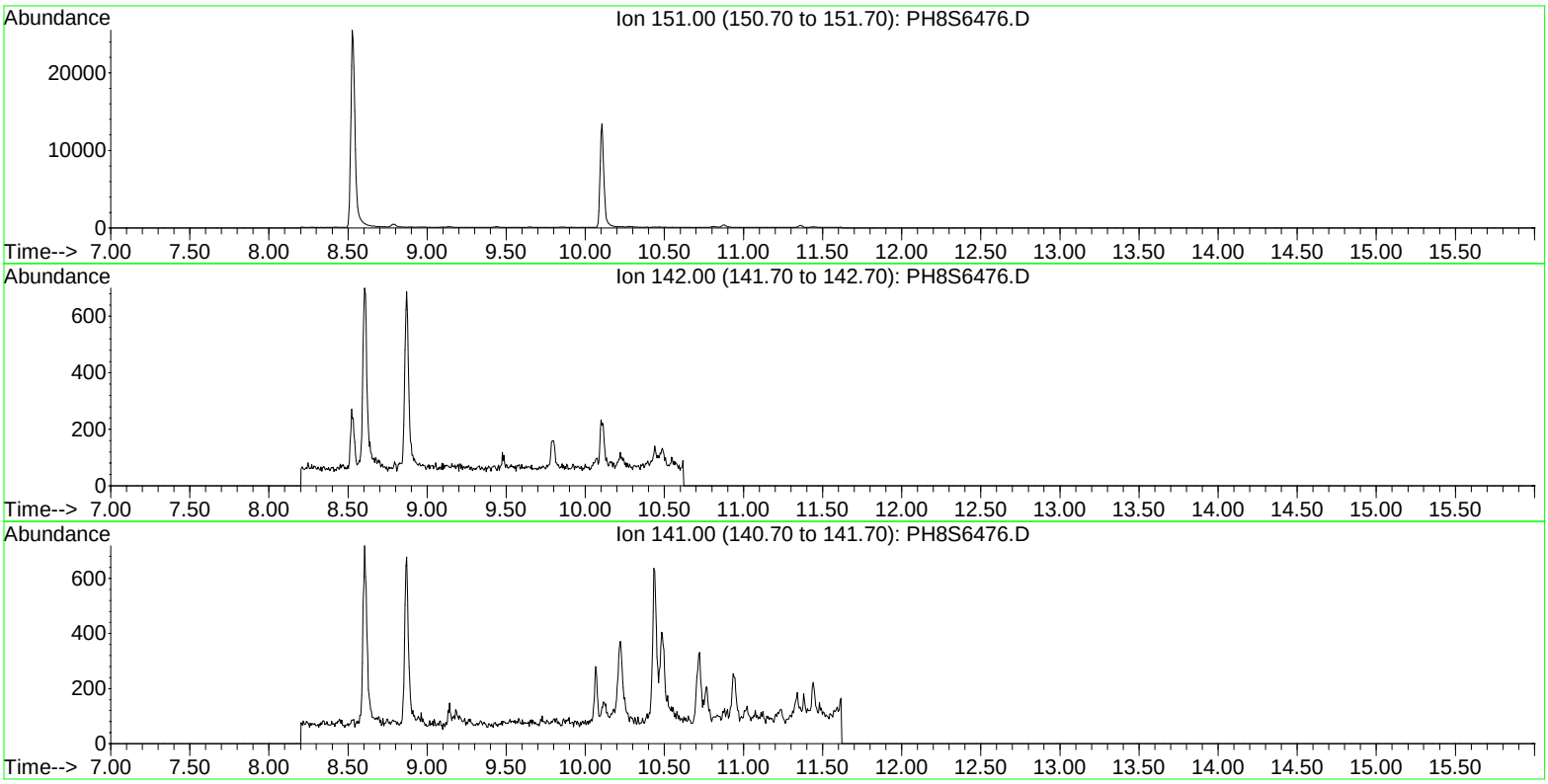


Thu Jan 10 08:45:20 2019

Axys Analytical CHRO Report

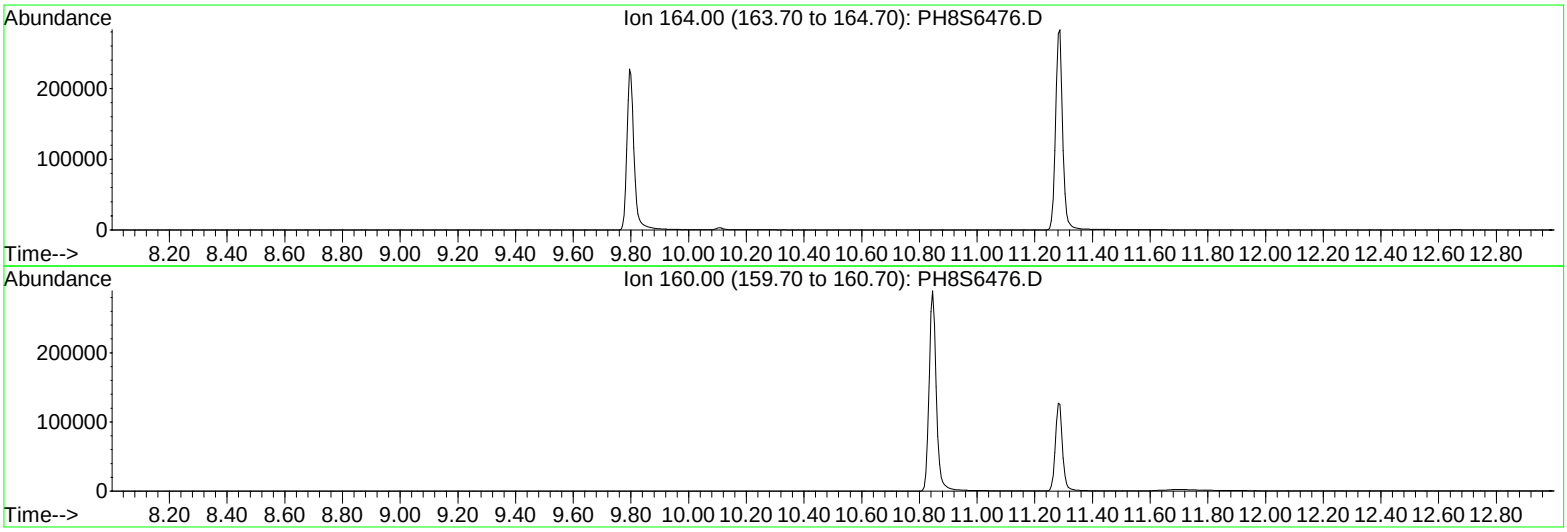
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

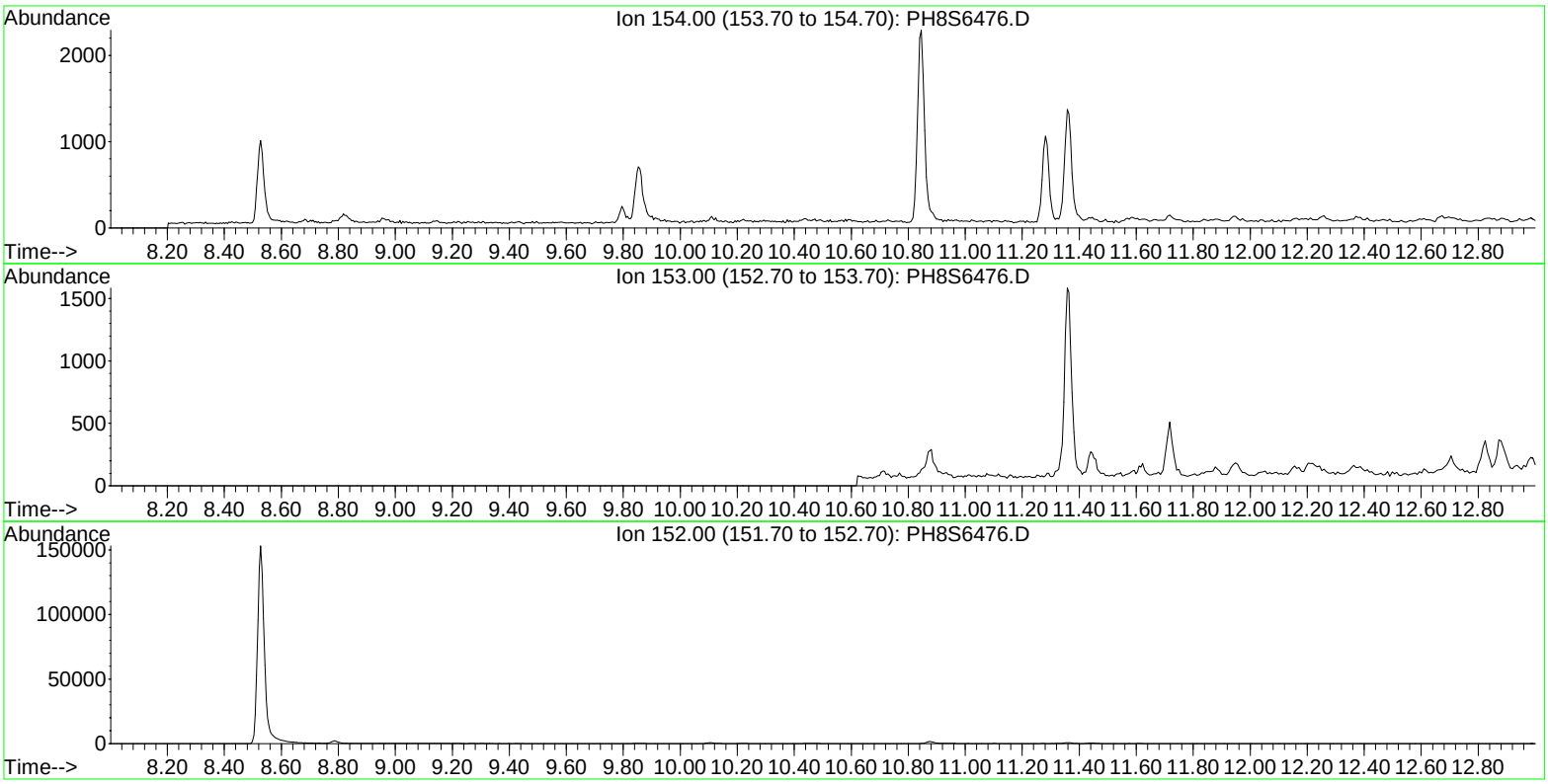




Axys Analytical CHRO Report

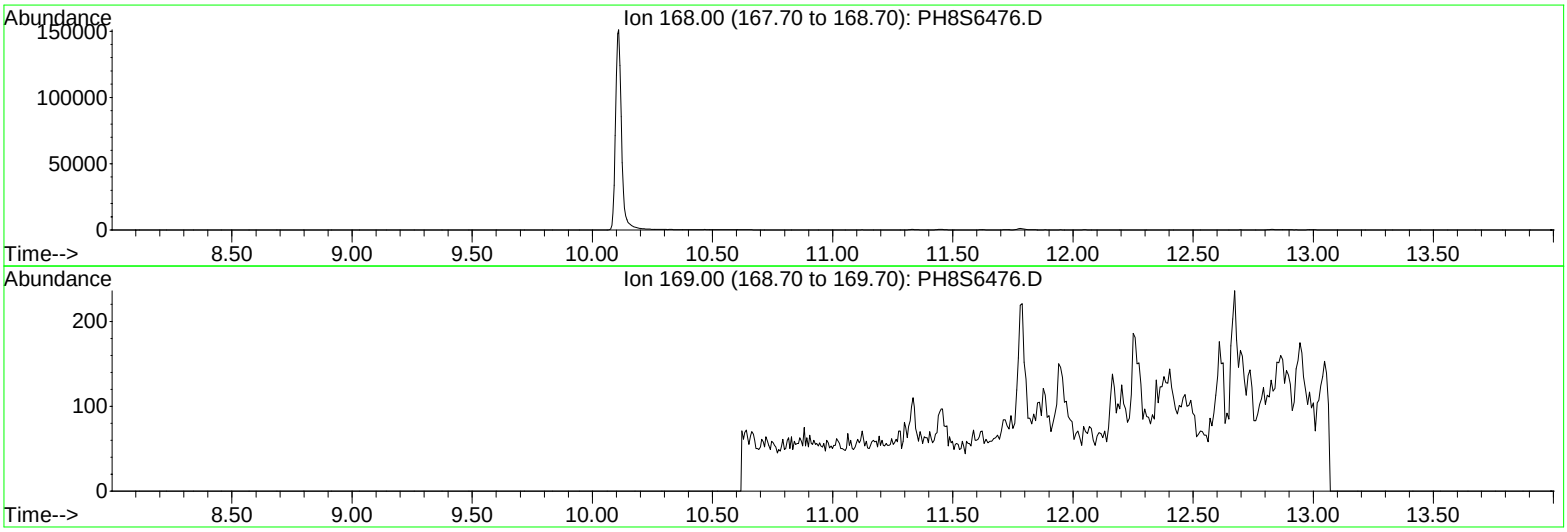
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

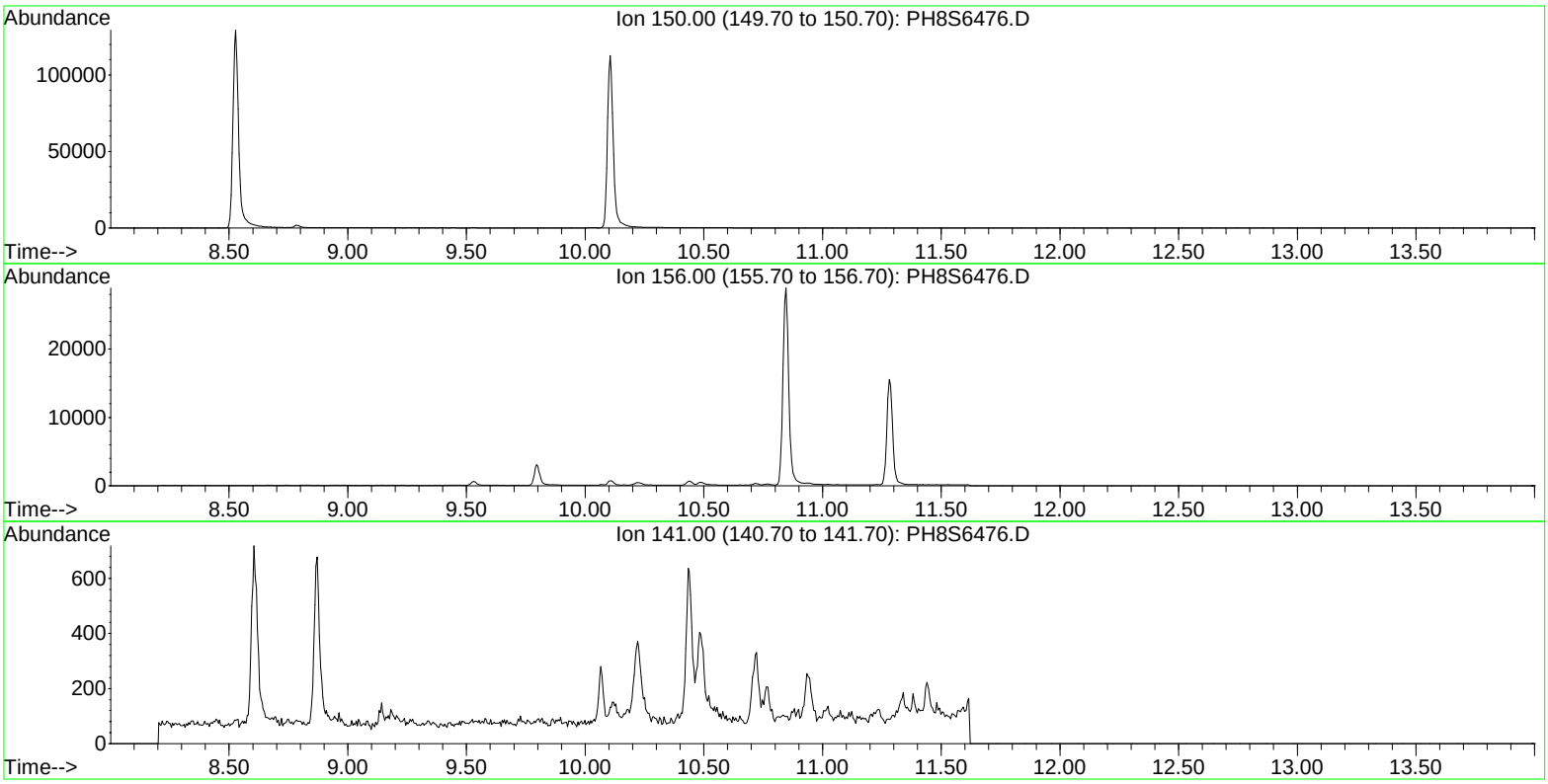




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

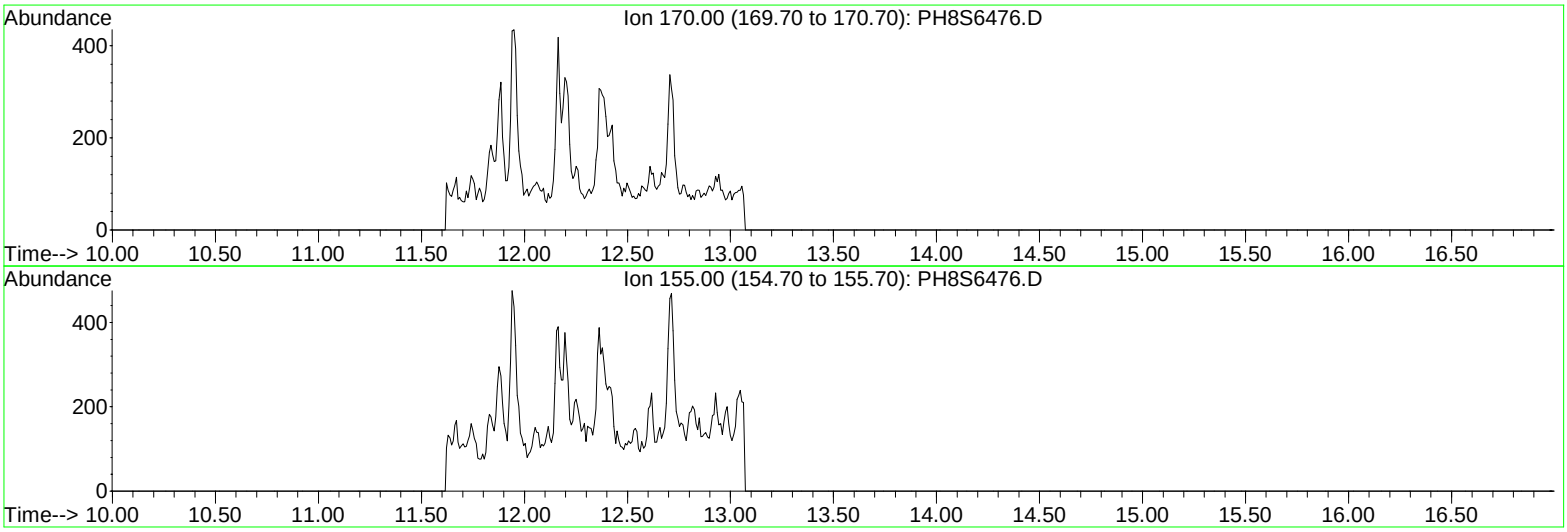


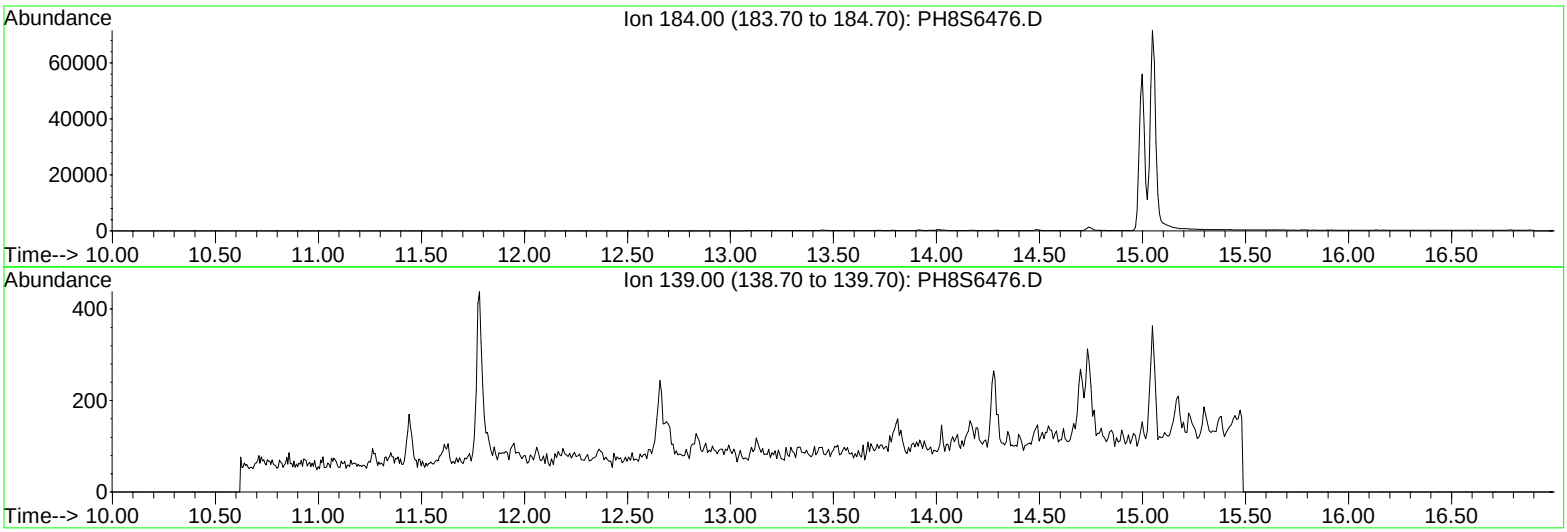


Thu Jan 10 08:45:29 2019

Axys Analytical CHRO Report

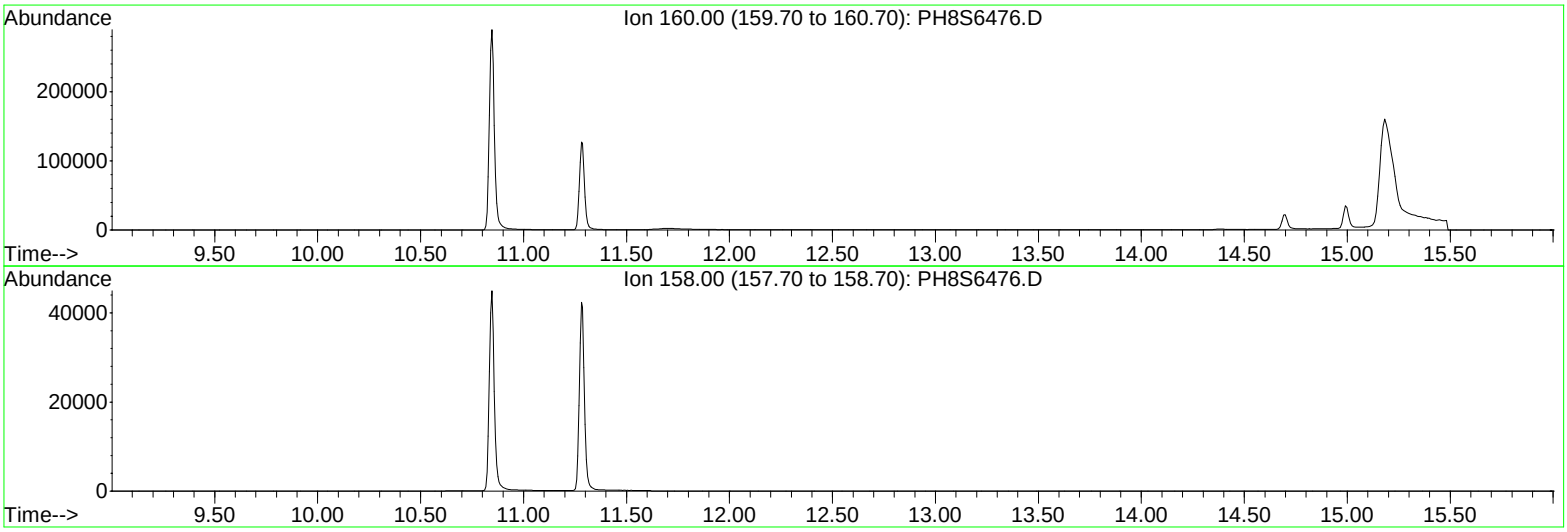
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

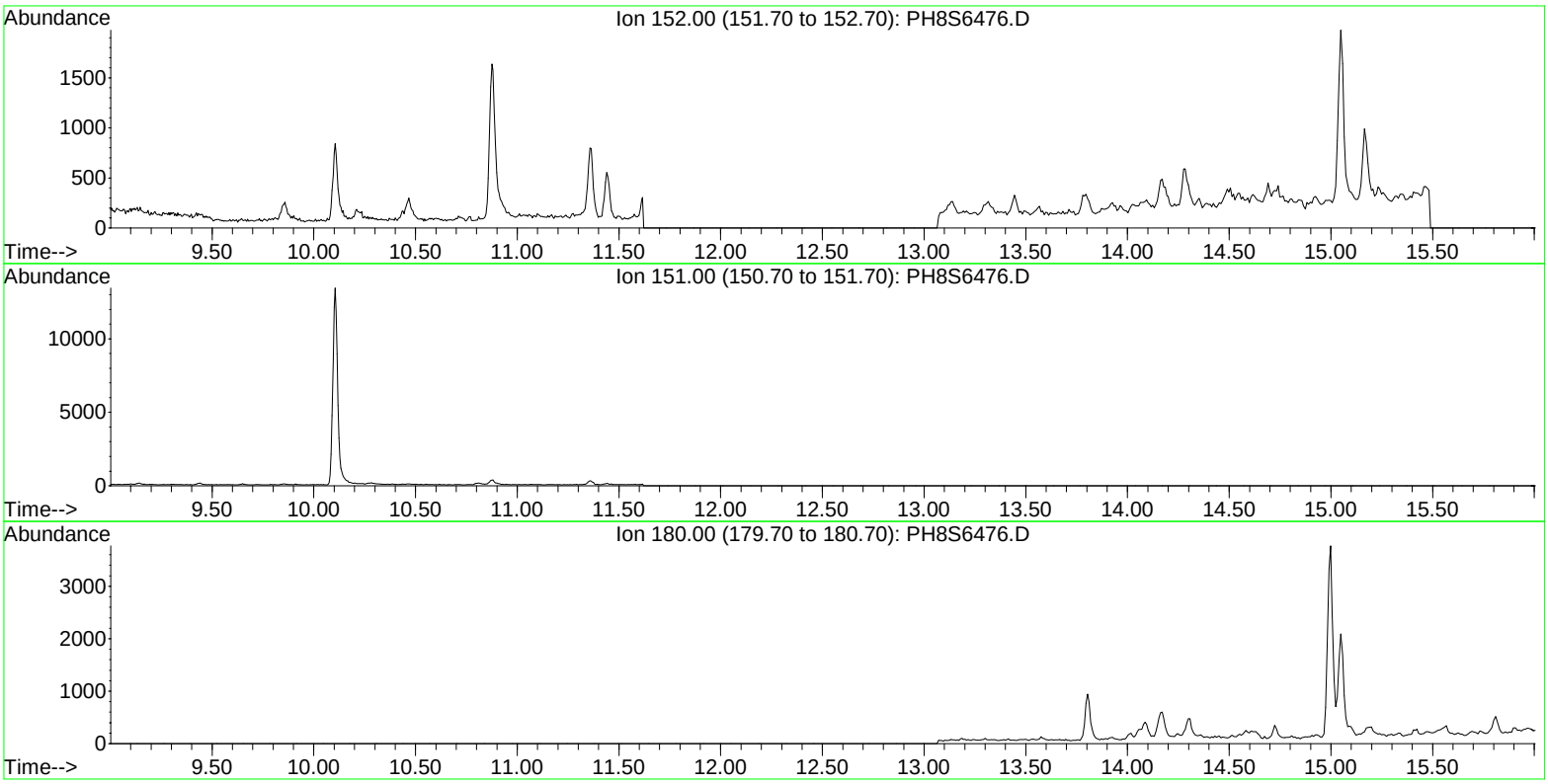


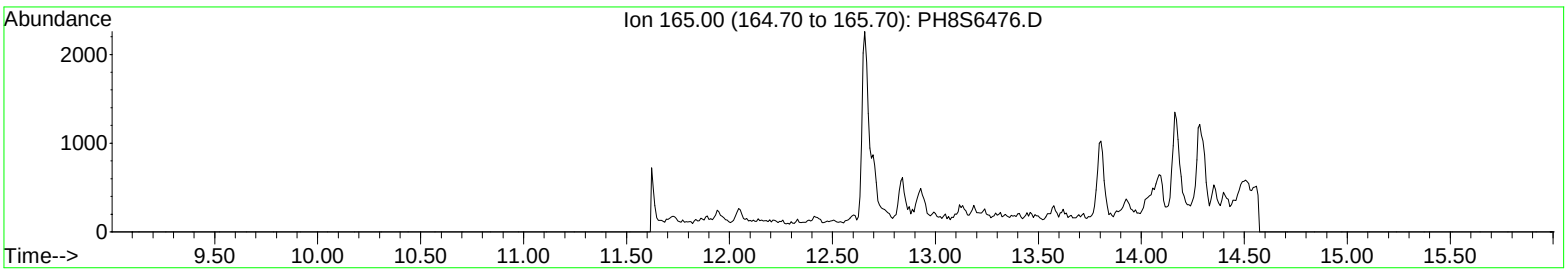


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



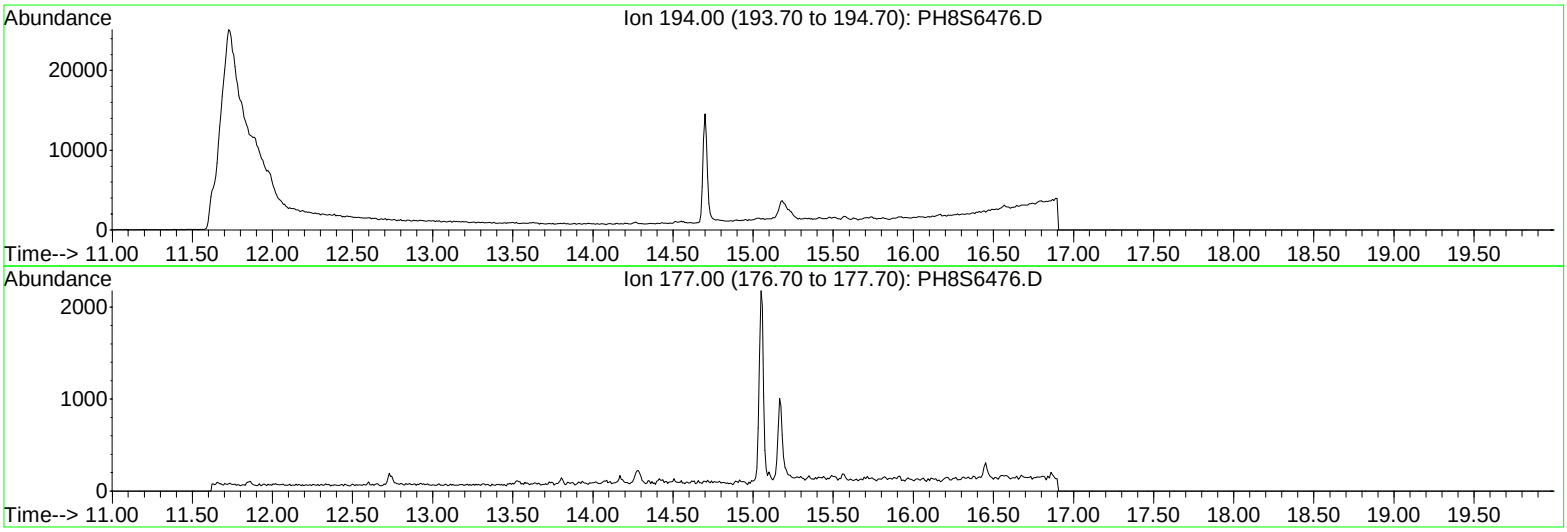


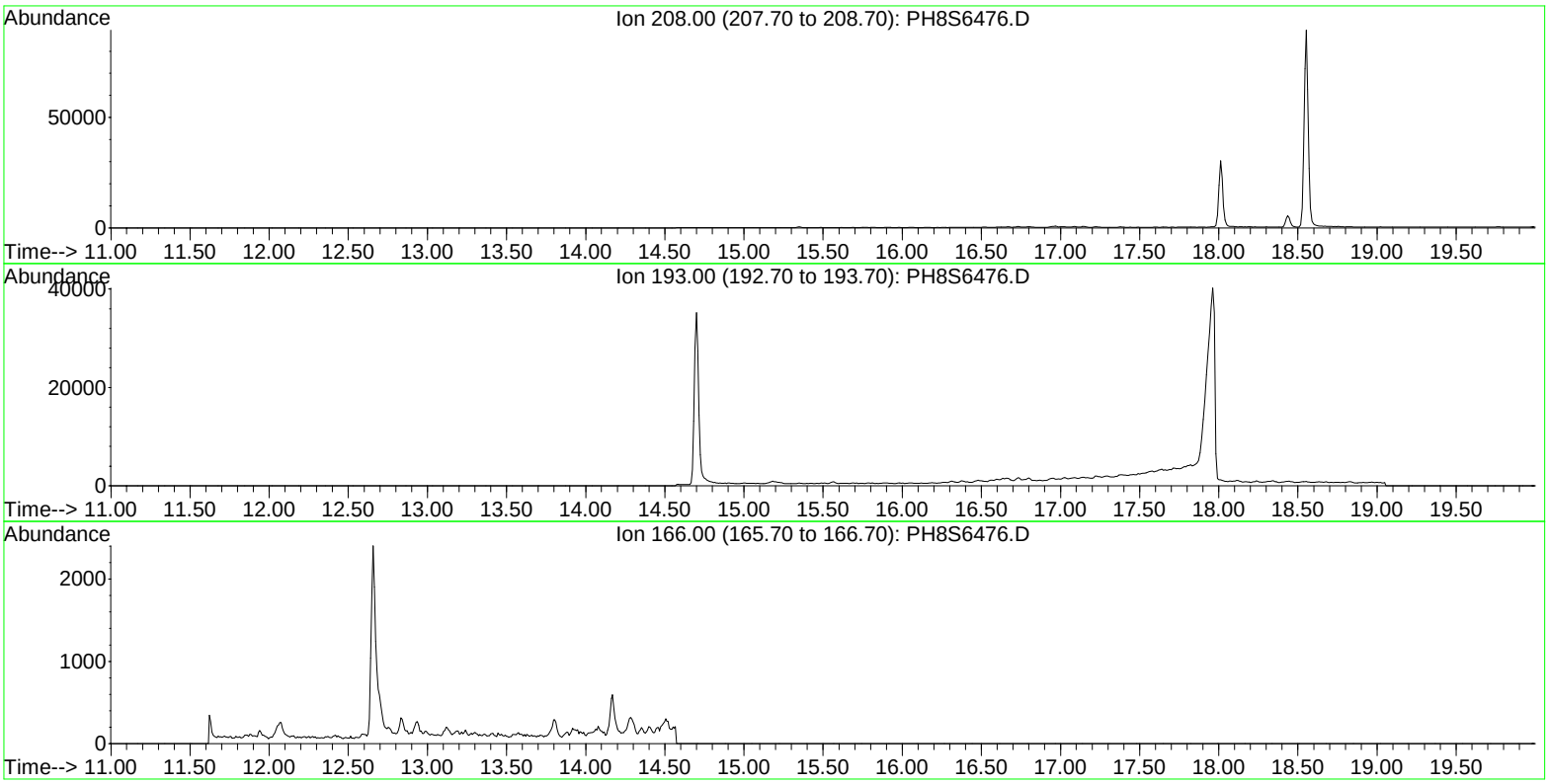


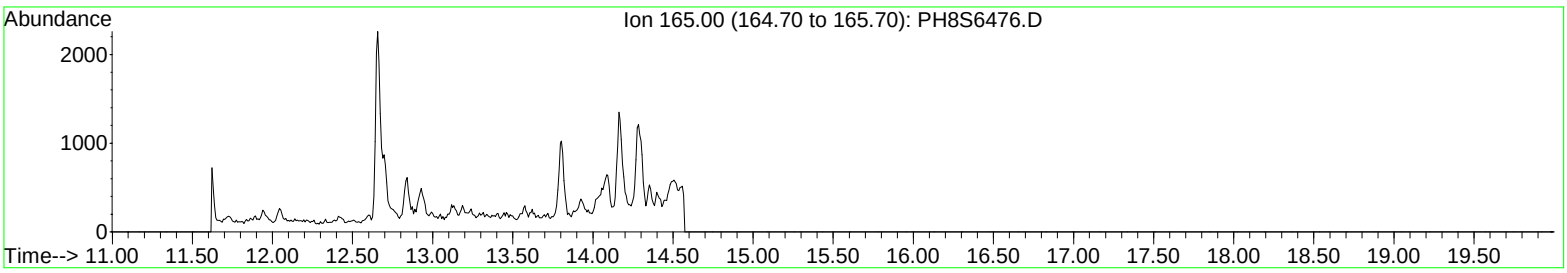
Thu Jan 10 08:45:35 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



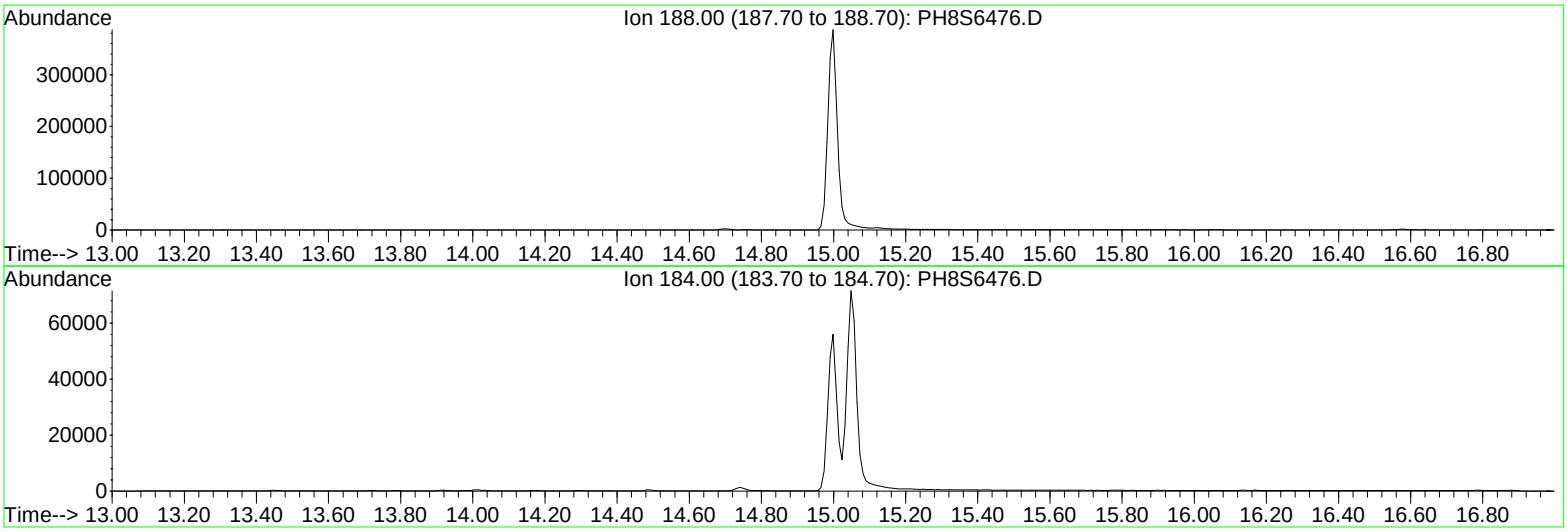


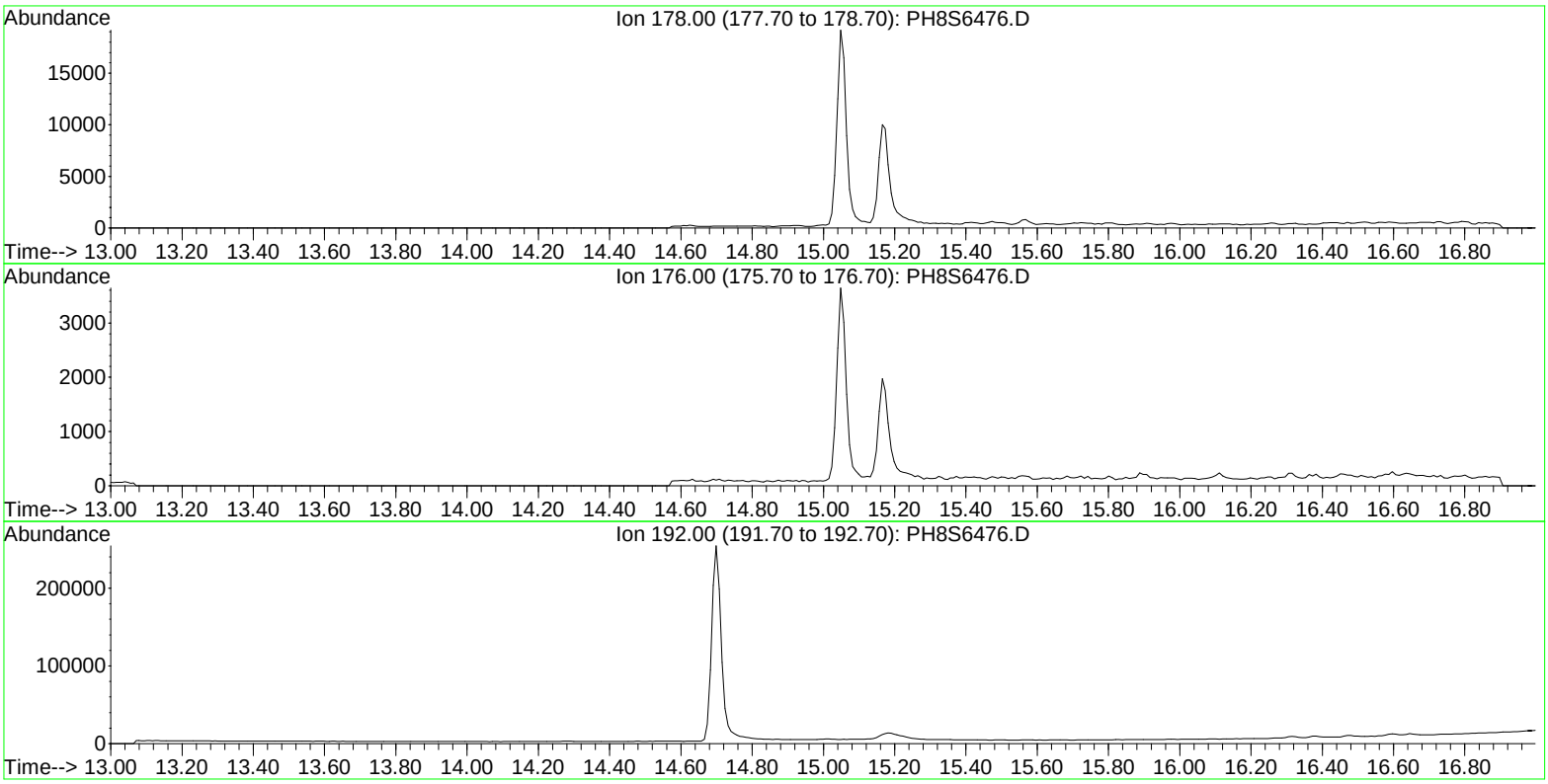


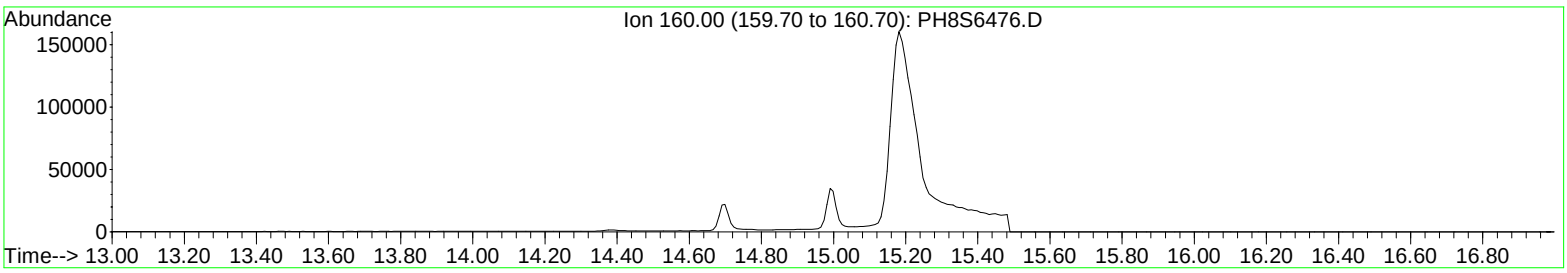
Thu Jan 10 08:45:37 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



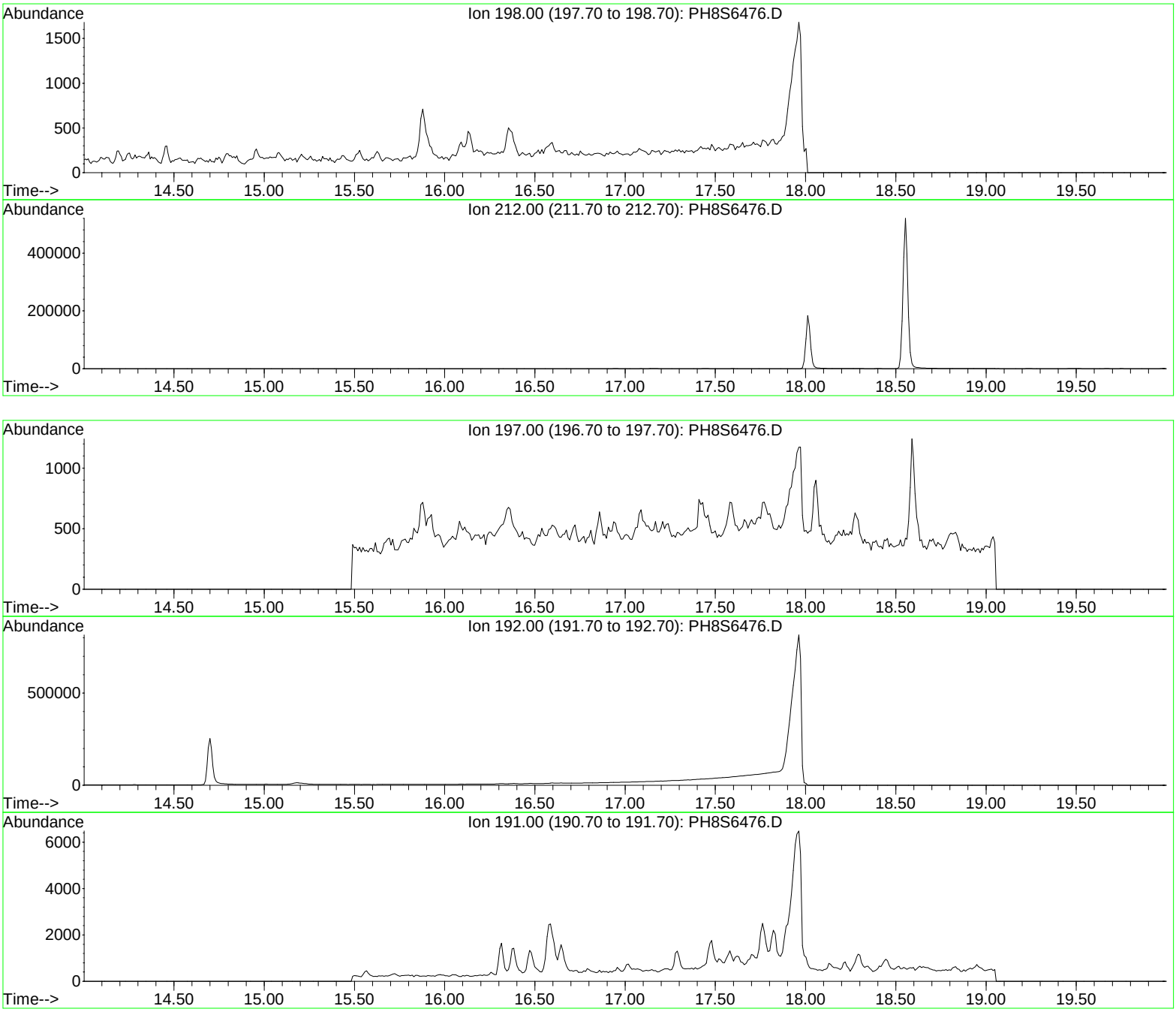




Thu Jan 10 08:45:40 2019

Axys Analytical CHRO Report

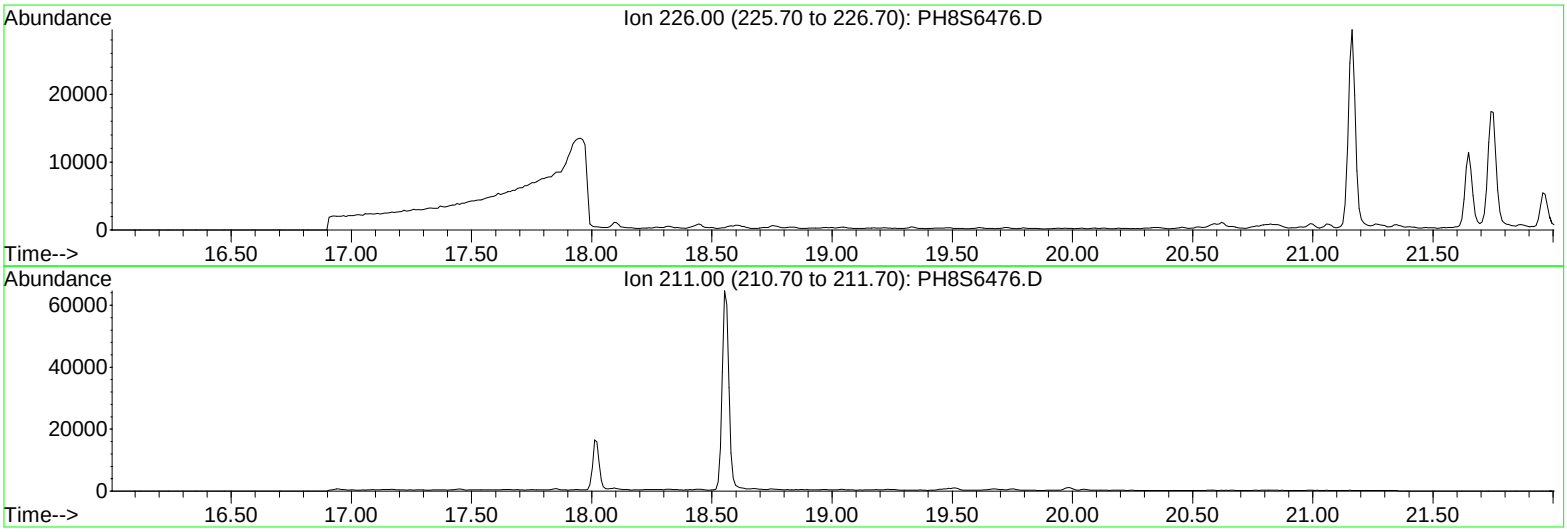
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

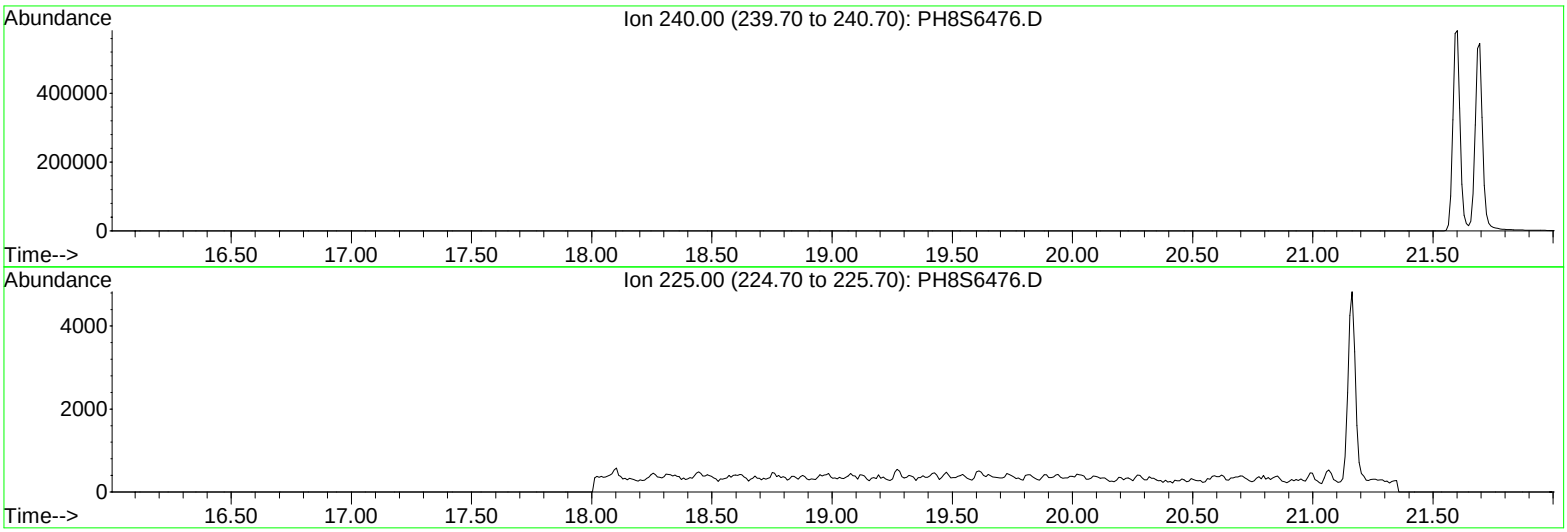


Thu Jan 10 08:45:43 2019

Axys Analytical CHRO Report

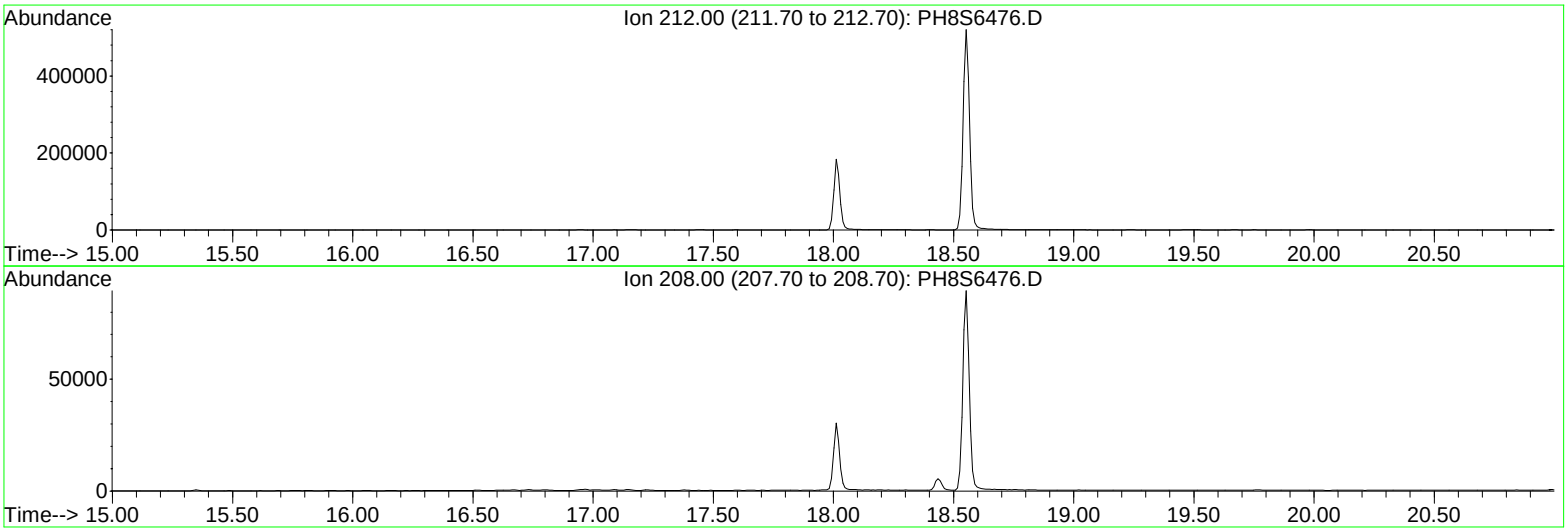
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

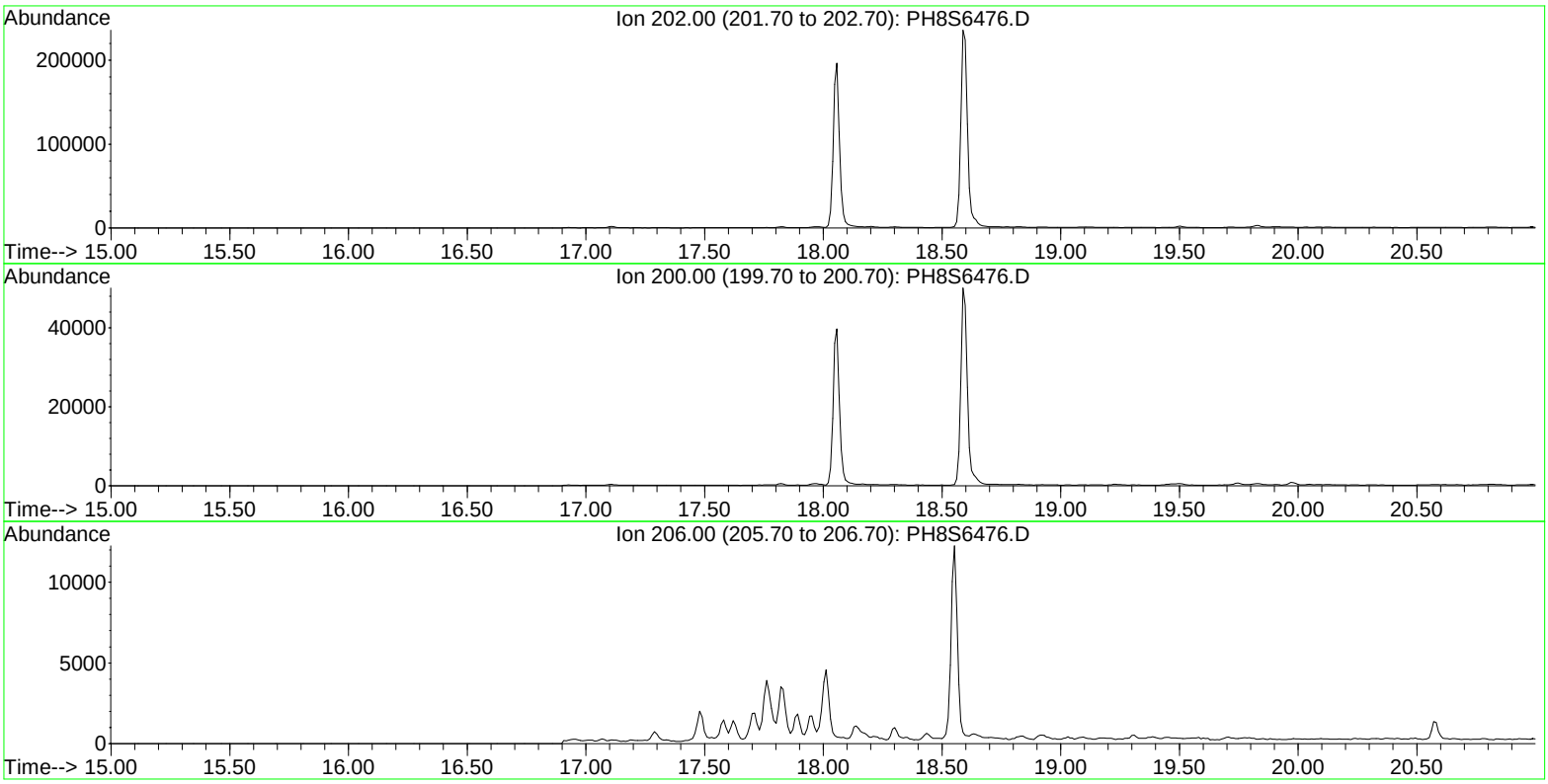


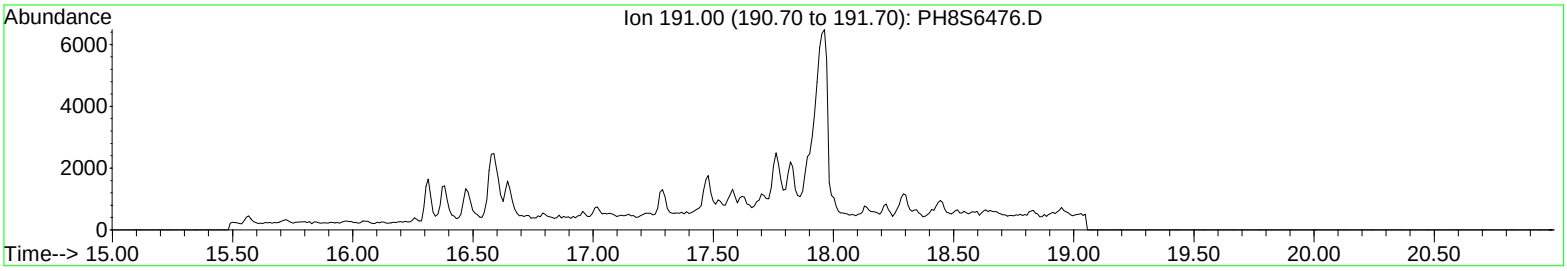


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



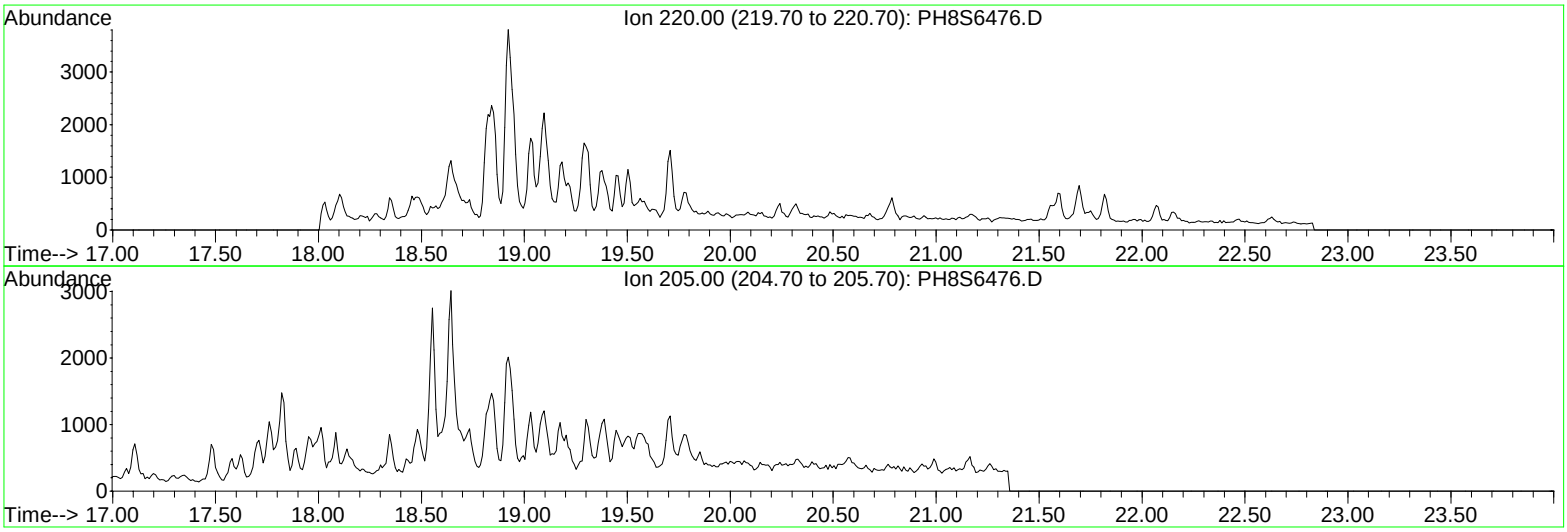


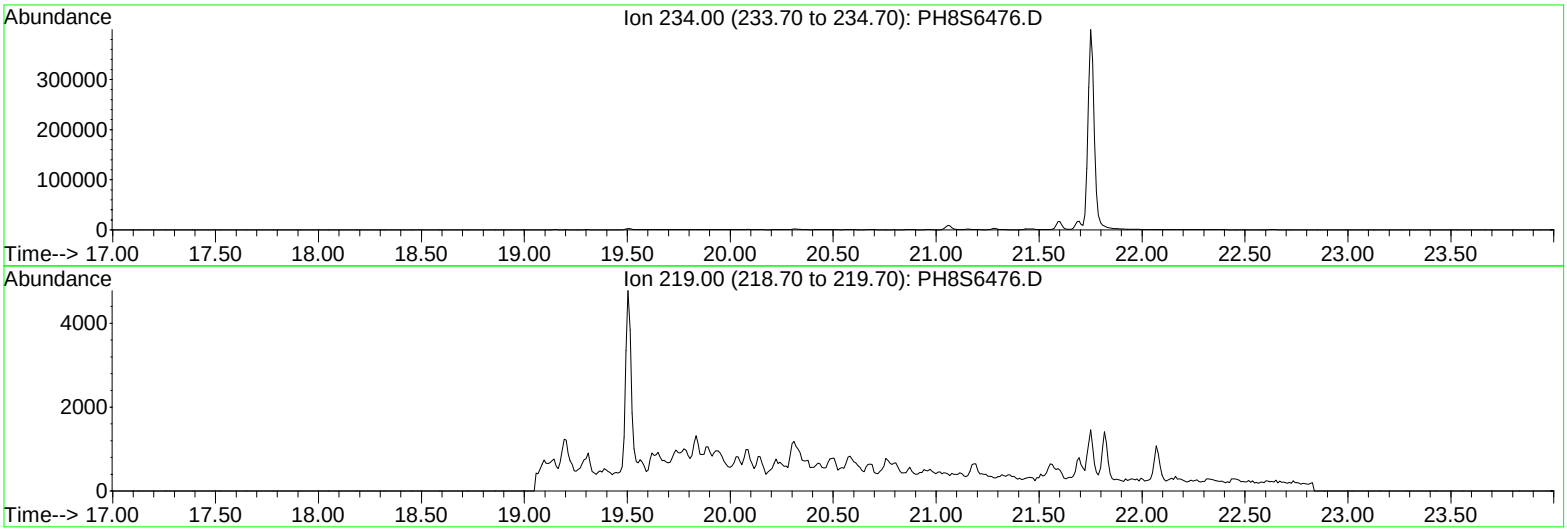


Thu Jan 10 08:45:48 2019

Axys Analytical CHRO Report

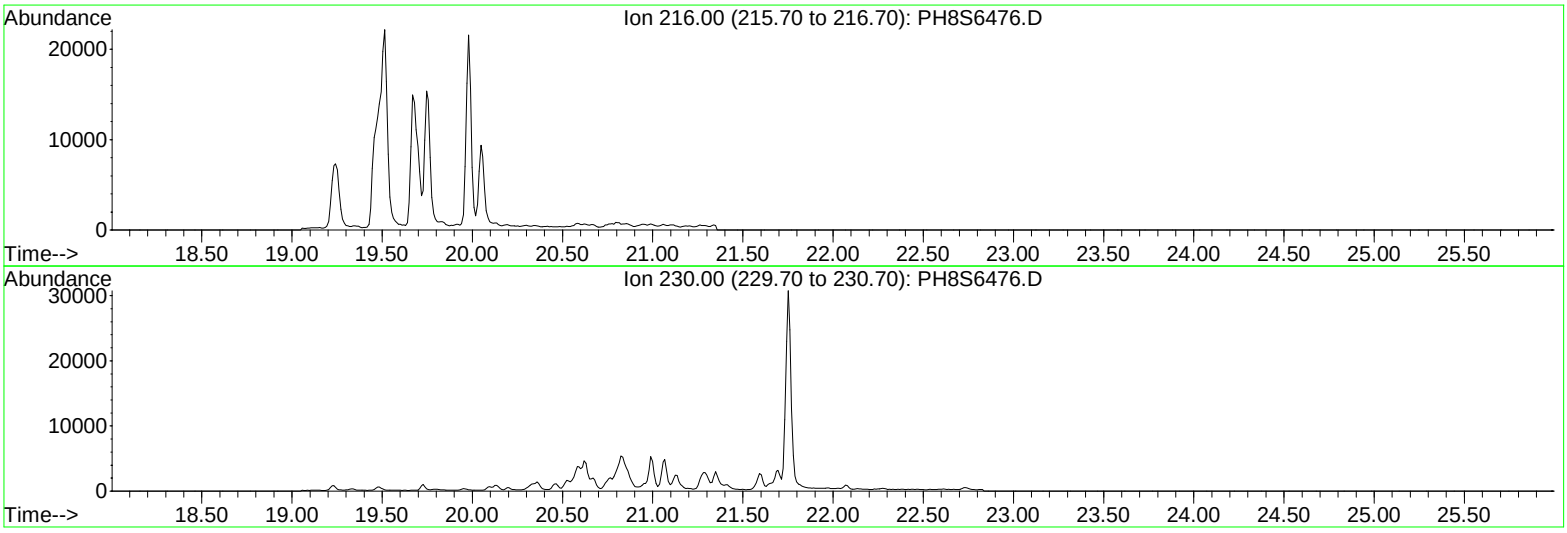
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

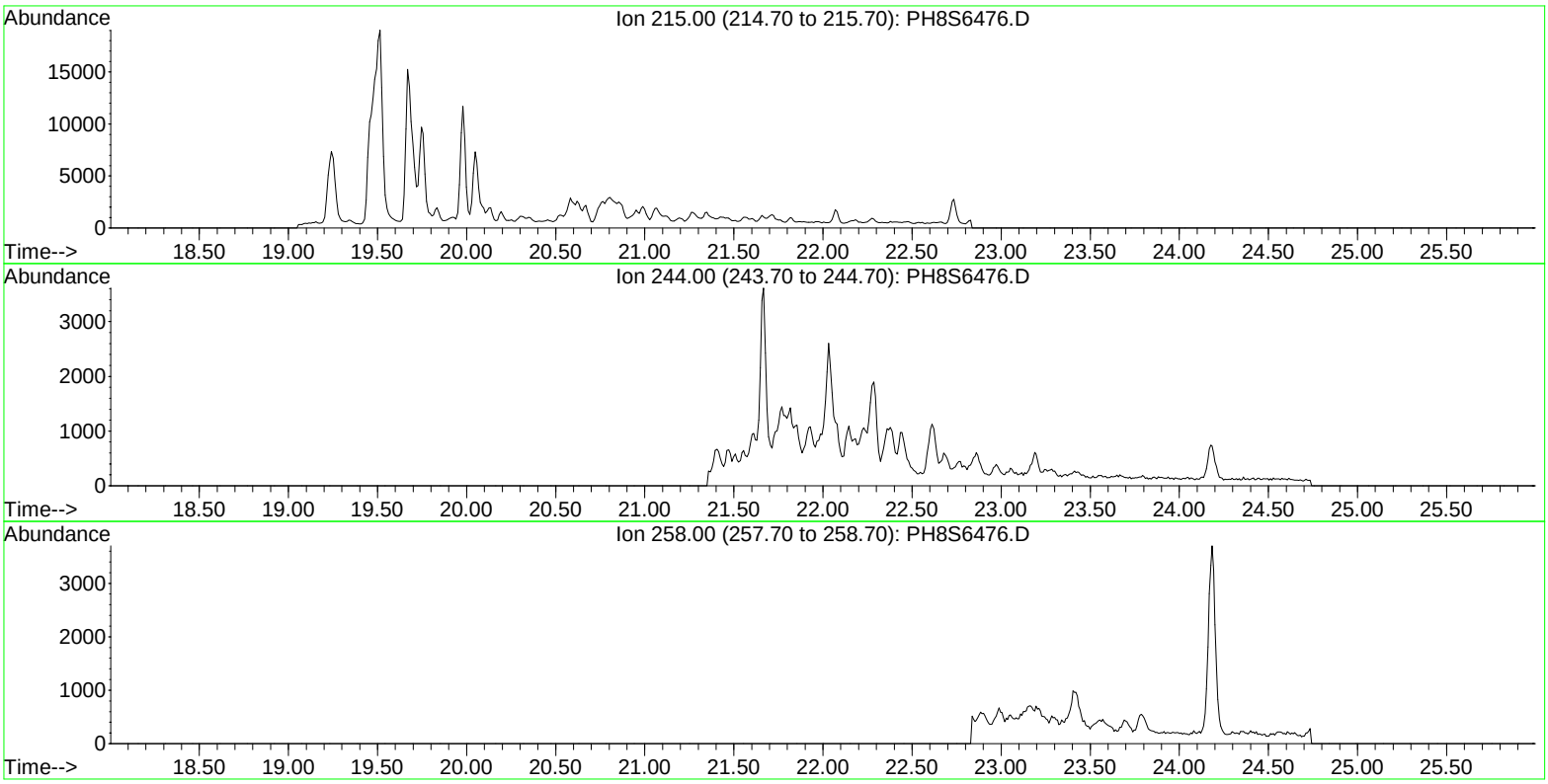


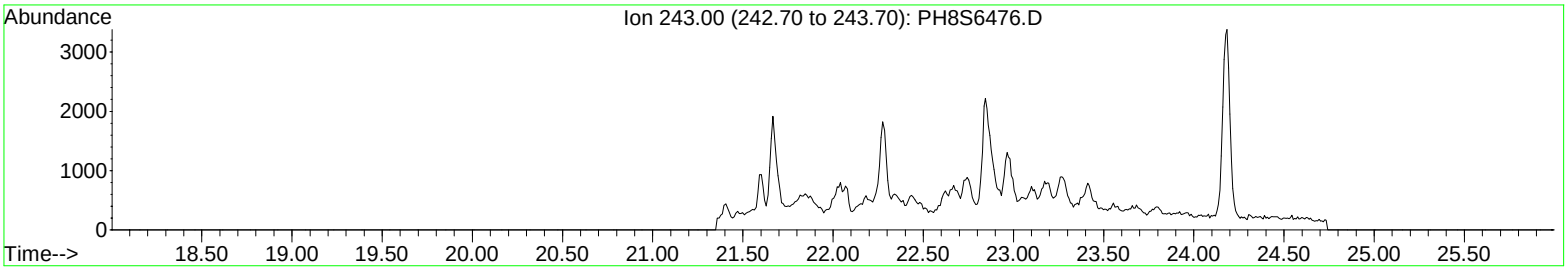


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

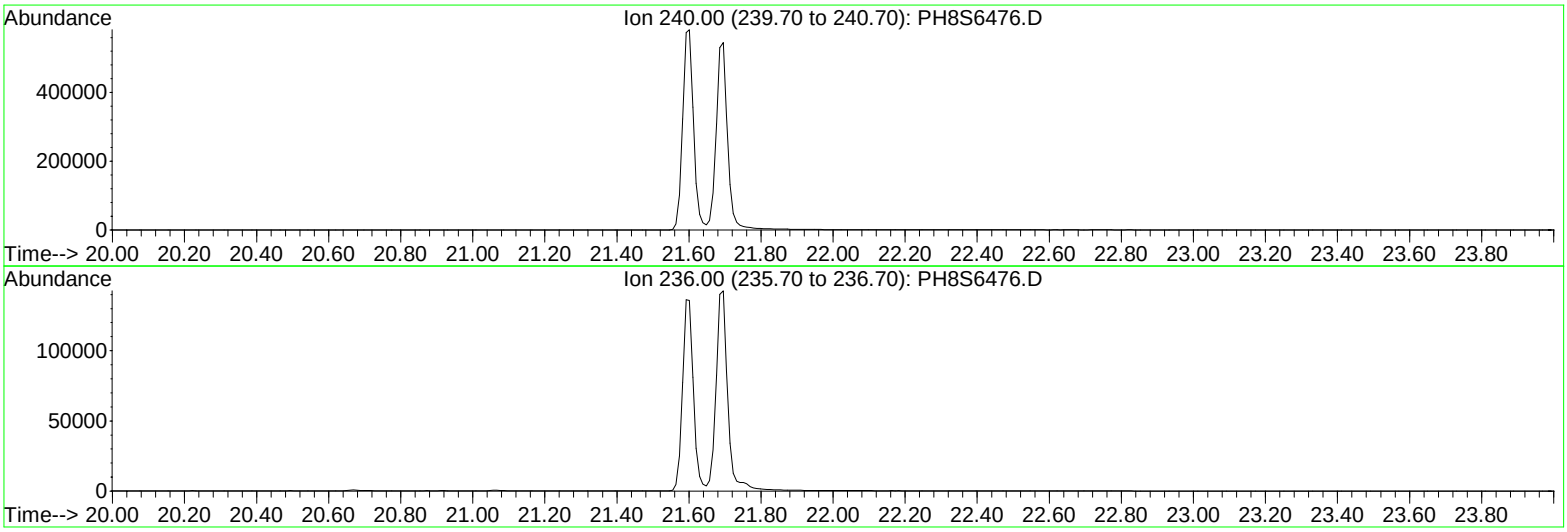


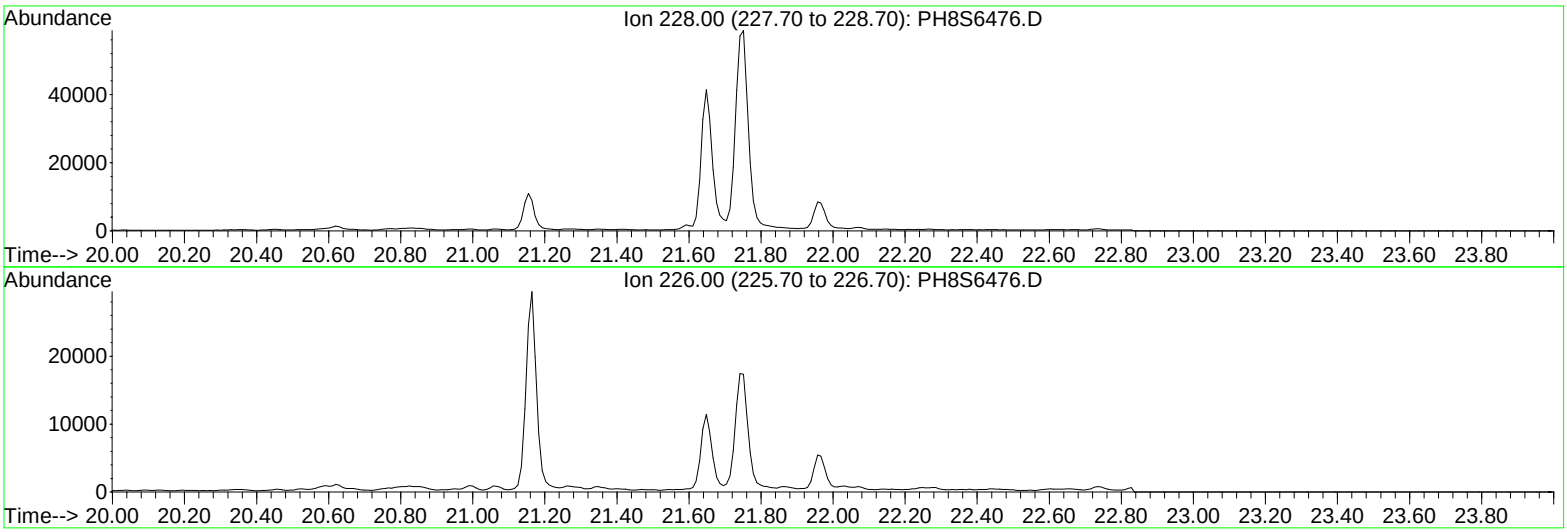




Axys Analytical CHRO Report

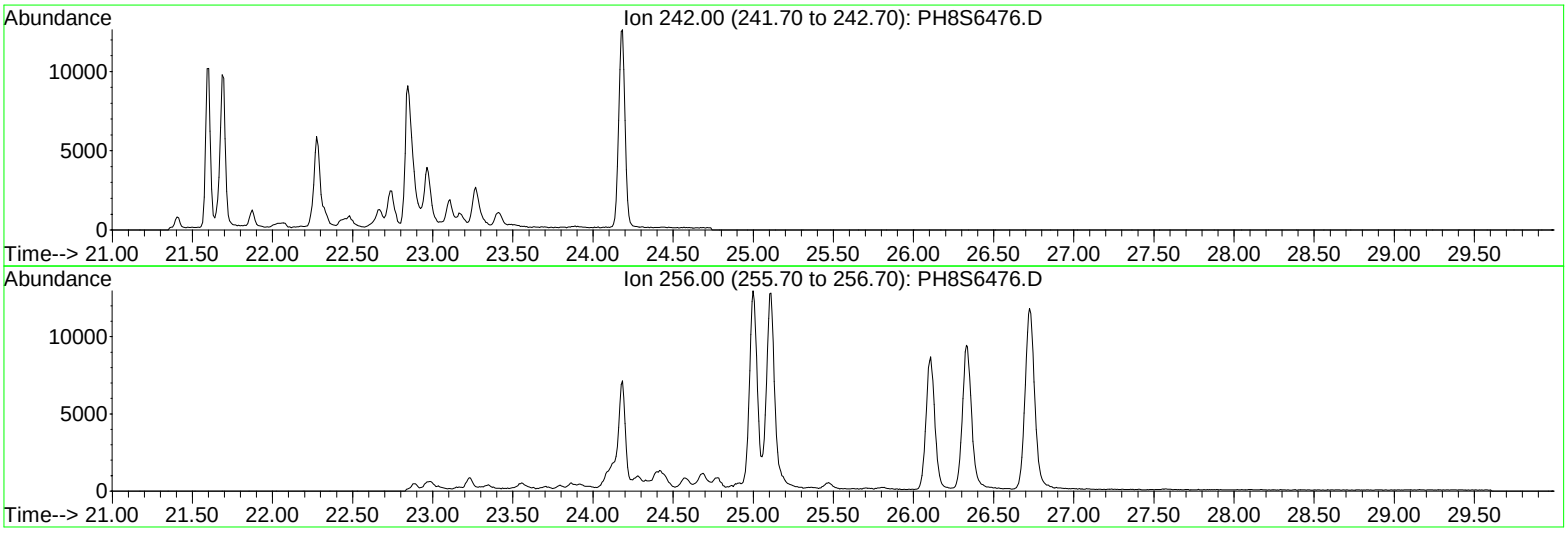
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

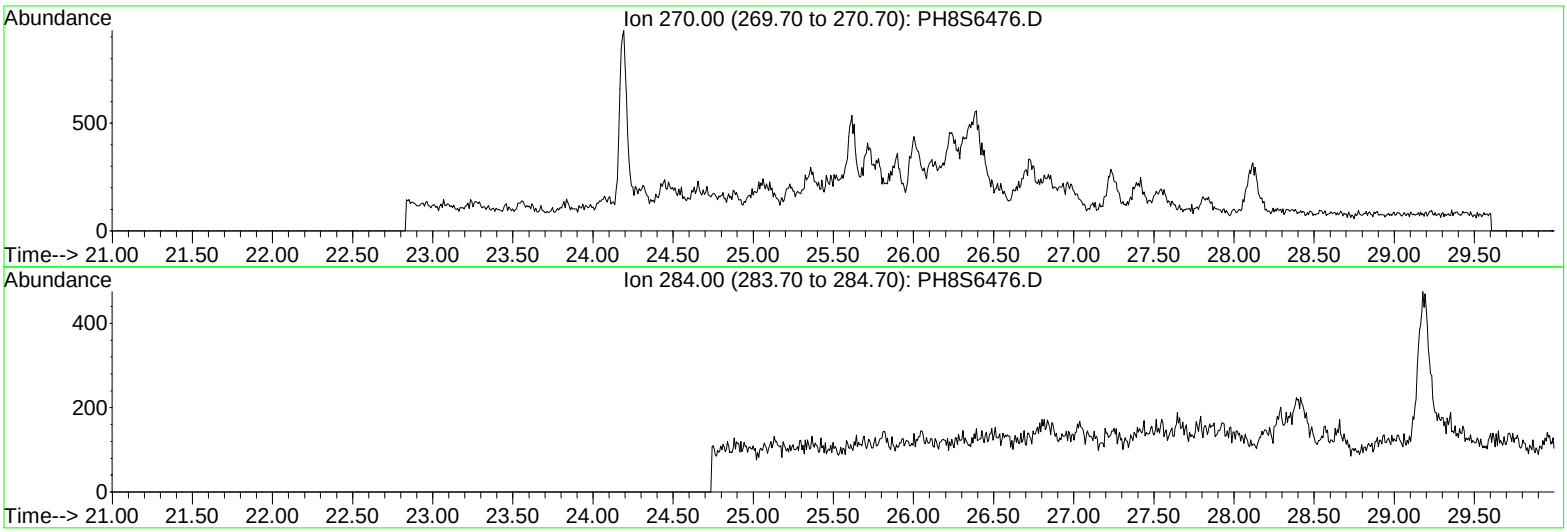




Axys Analytical CHRO Report

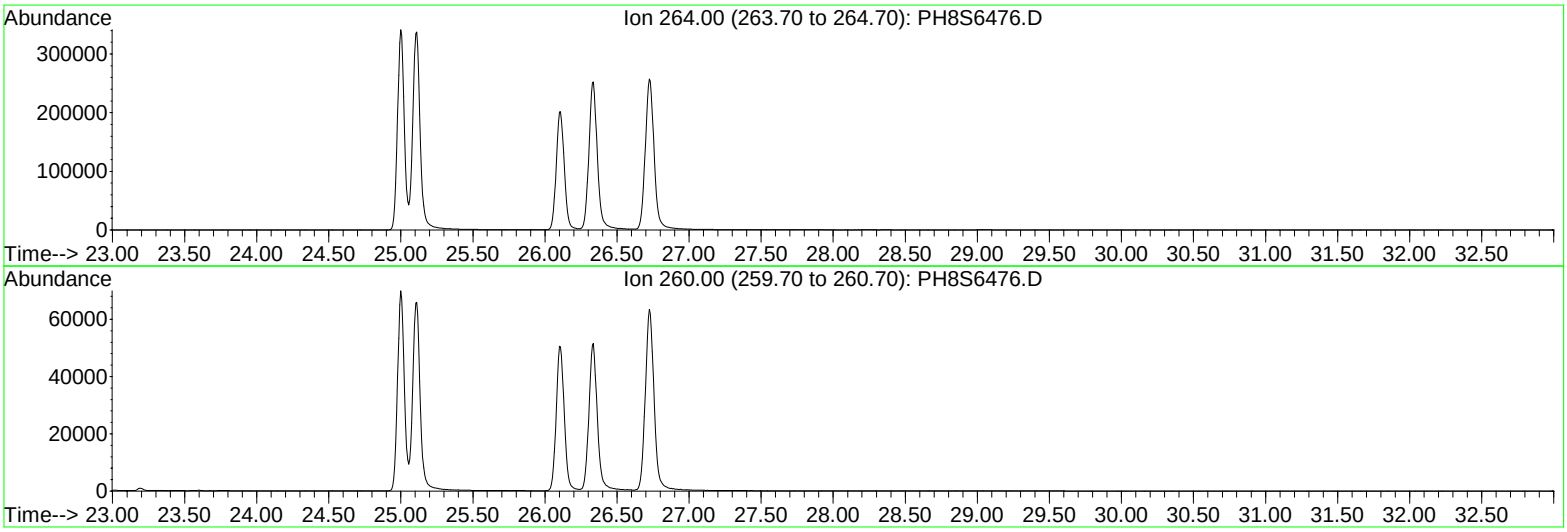
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

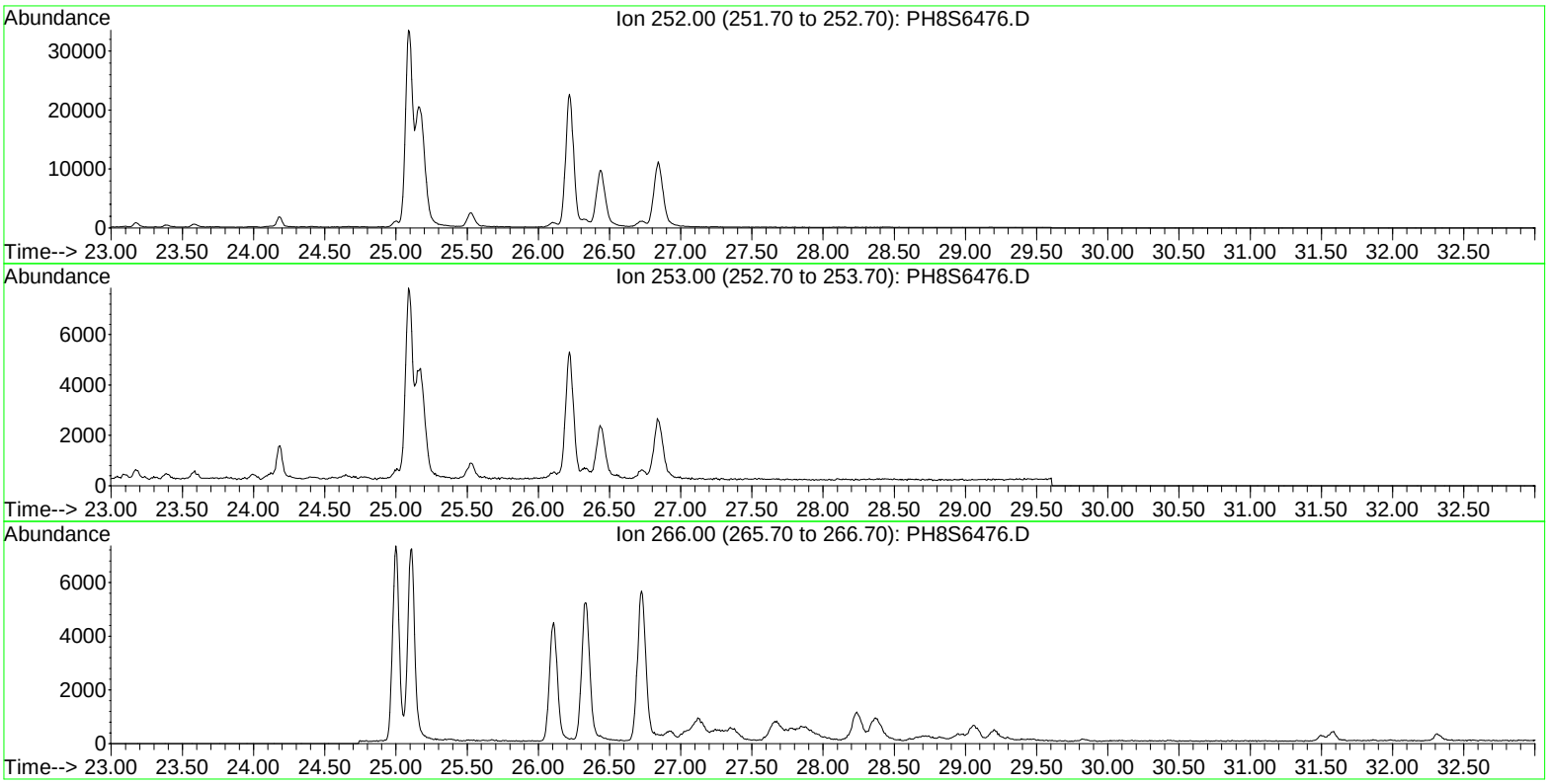


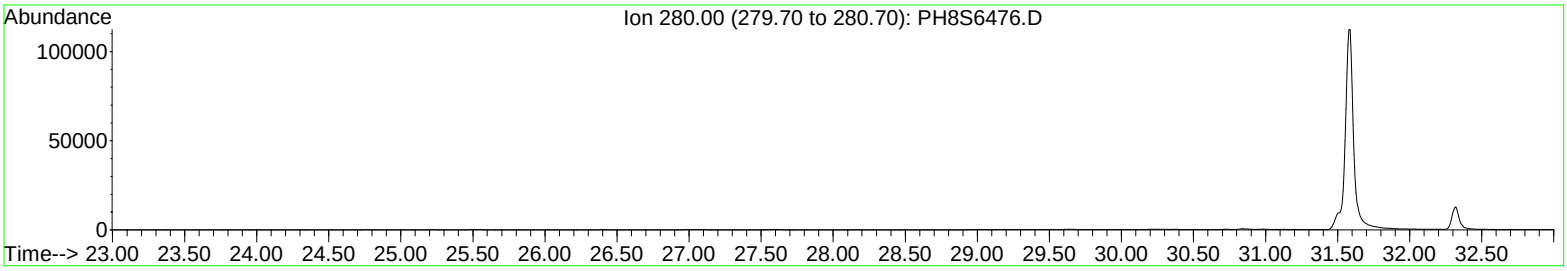


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



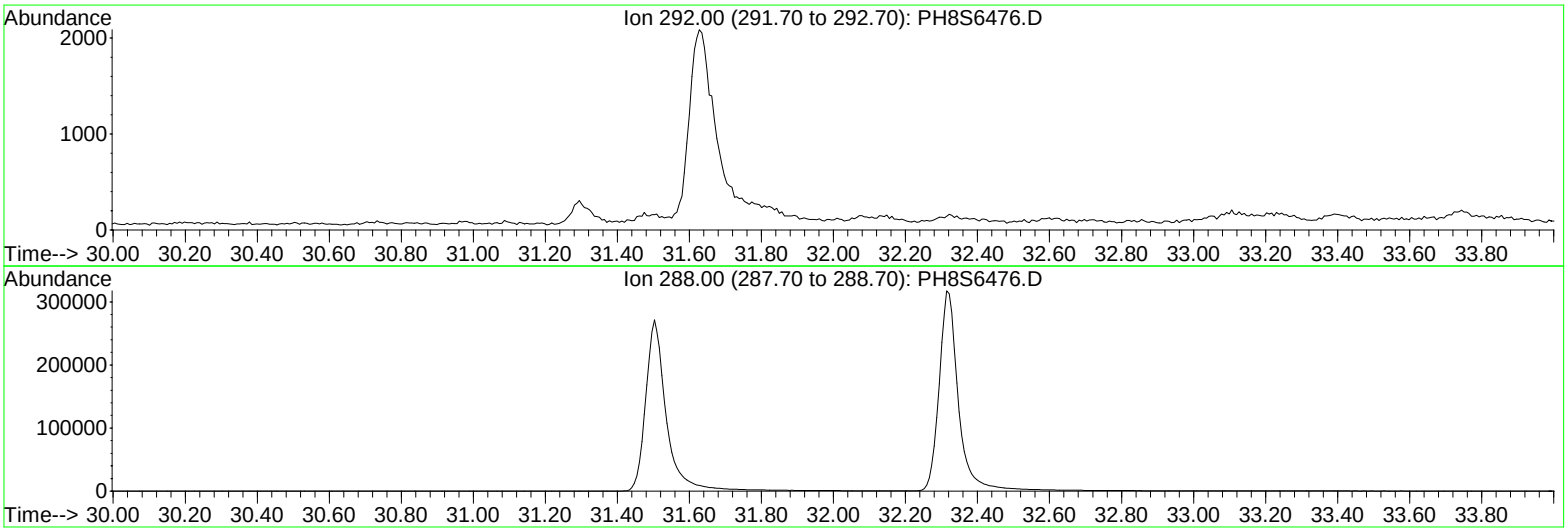


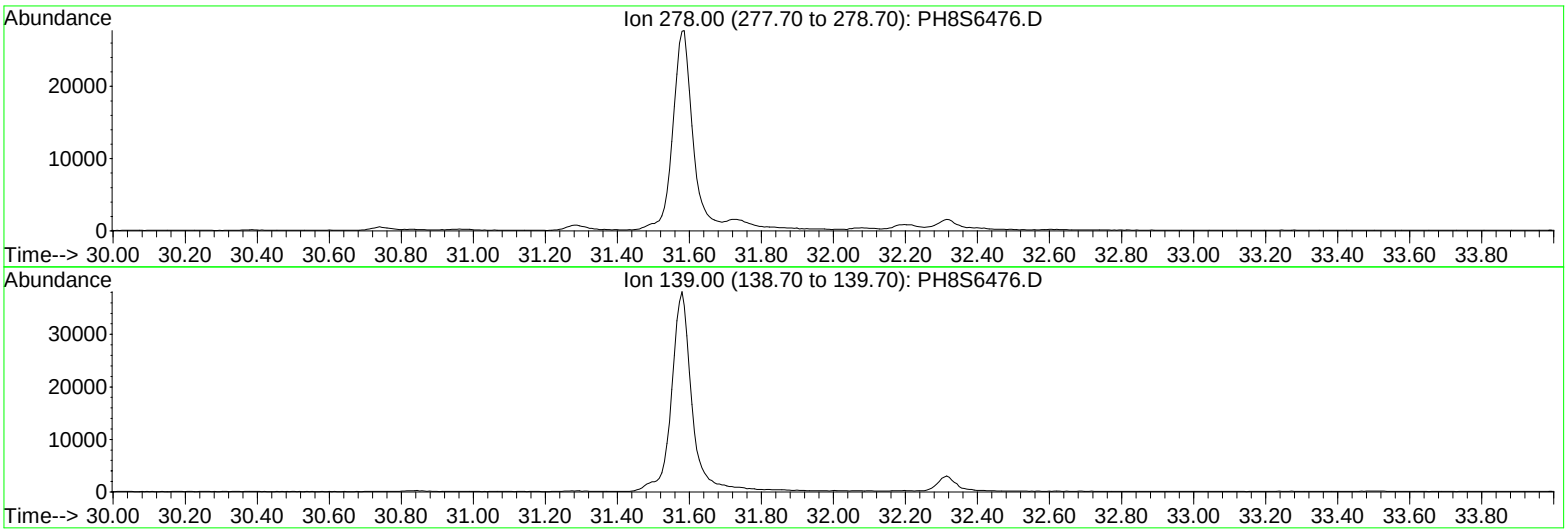


Thu Jan 10 08:46:02 2019

Axys Analytical CHRO Report

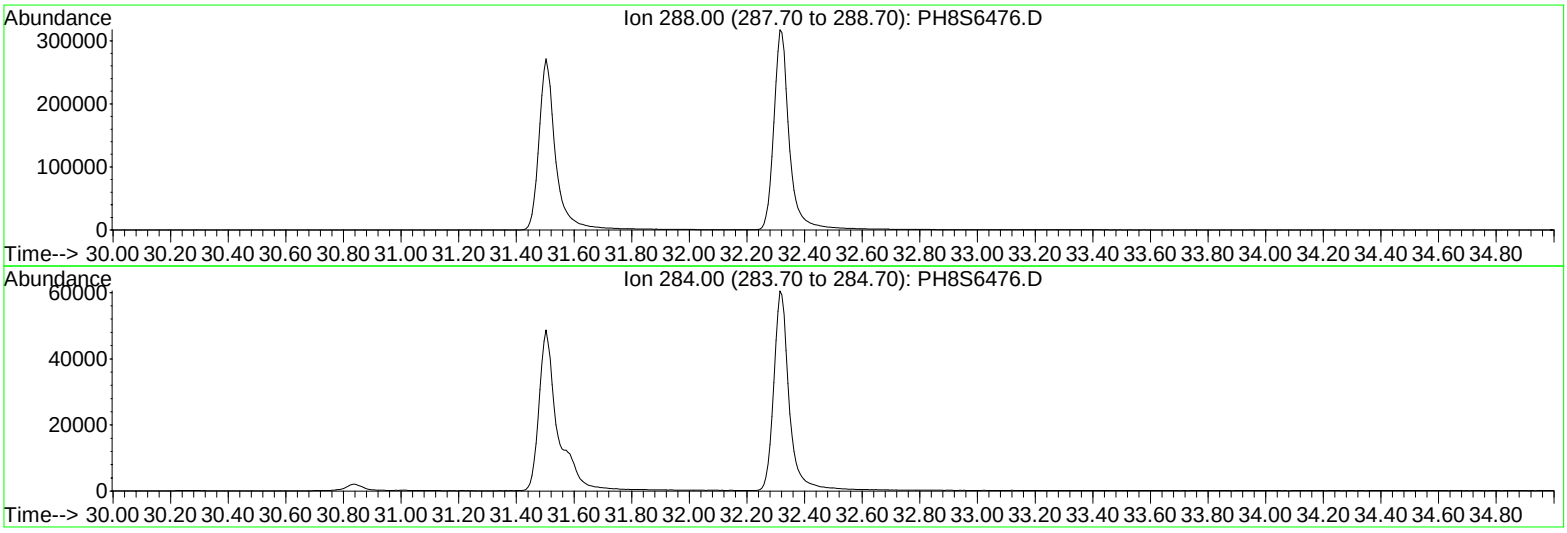
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

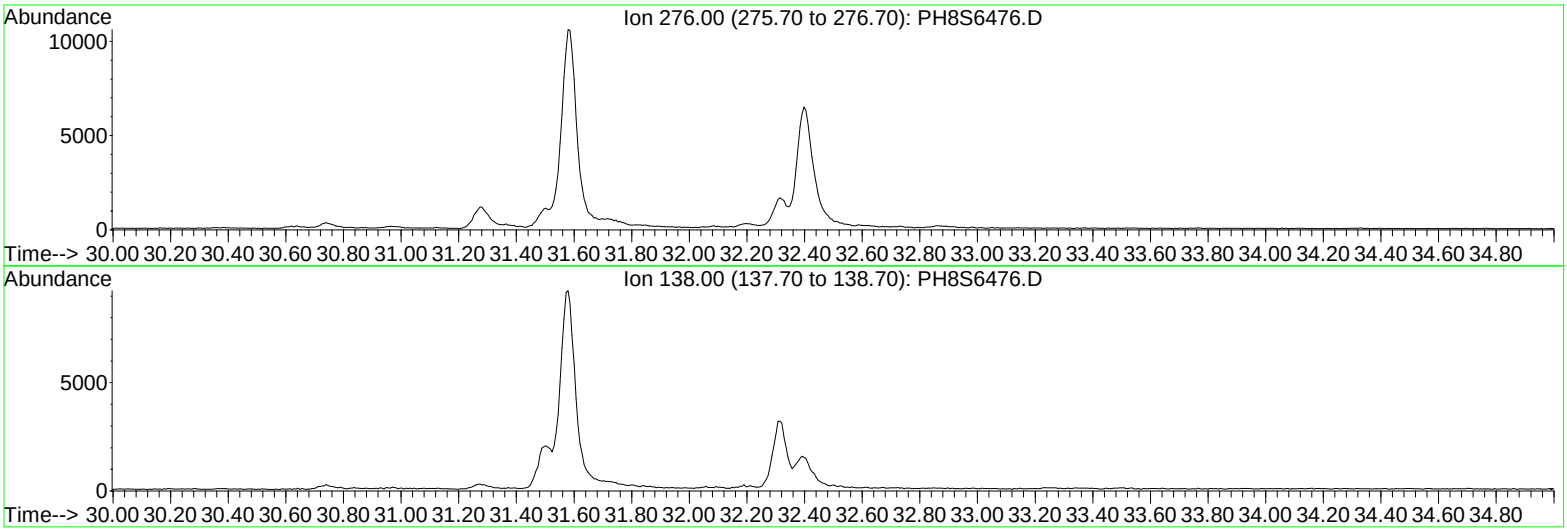




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6476.D
29/12/2018 1:20
L30540-5
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6476.D\618S6476.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 19
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc	
PH8S6473.D	PH8S6485.D	PH7S5480.D	
Analyte List	LPAHPRC4943	ng/g	
Sample Size	0.104		
Surrogate: Authentic Ratio	0.1		
Recovery: Surrogate Ratio	1		
Analyte Calibration Multiplier	1		
Surrogate Calibration Multiplier	1		

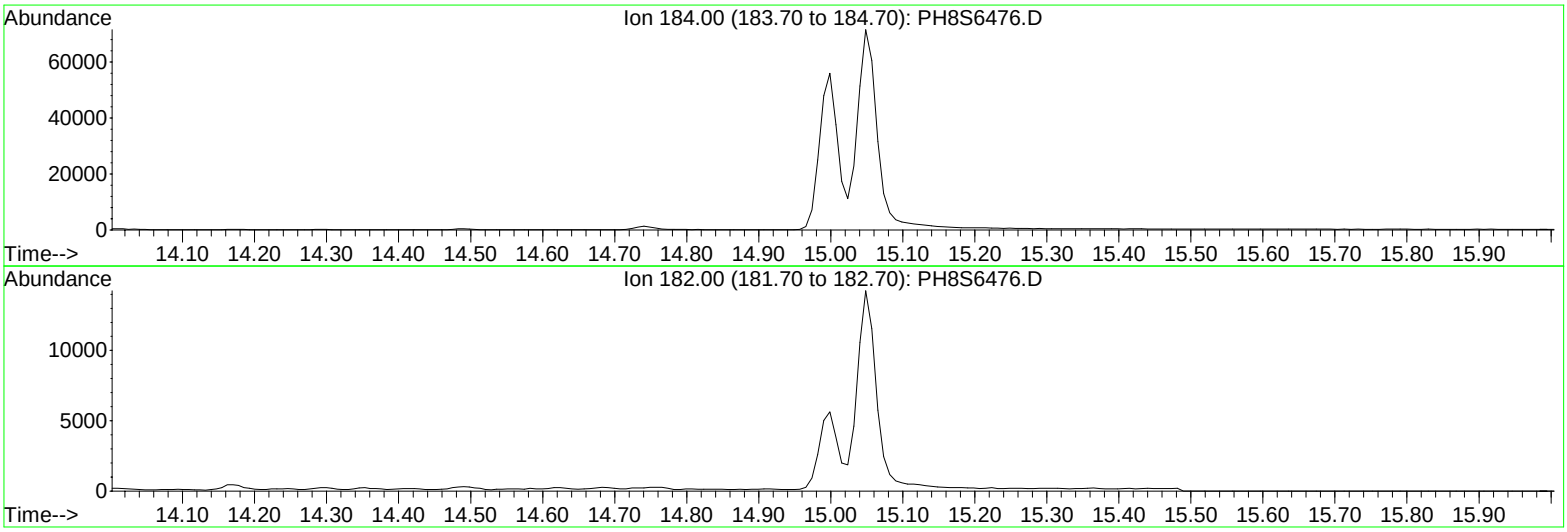
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	977518	18.55	1899.7107	I	0	1899.7107	1466		0.17	1
d10-Phenanthrene - SURR	719169	15	1597.7285	S	44.2584	6.9358	3237		0.14	0.808
d12-Benz(a)anthracene - SURR	1222736	21.6	3799.2591	S	93.5778	60.5012	20192		0.23	1.164
d12-Chrysene - SURR	1185343	21.69	3424.6156	S	87.3626	28.1906	10119		0.27	1.169
d12-Benzo(e)pyrene - REC	782369	26.11	1947.9267	I	0	1947.9267	1187		0.25	1
d12-Indeno(123cd)pyrene - SURR	1060760	31.5	3752.3457	S	94.28	0.9129	268		0.17	1.207
d10-Phenanthrene	719169	15	3481.1958	I	0	3481.1958	3216		0.14	1
13C6-Phenanthrene	128065	15.05	544.8545	T	0	1.1204	263		0.19	1.003
d12-Benz(a)anthracene	1222736	21.6	3915.1398	I	0	3915.1398	22518		0.23	1
d10-Fluoranthene	324830	18.01	794.3385	T	0	1.6919	692		0.17	0.834
d12-Chrysene	1185343	21.69	3780.135	I	0	3780.135	11699		0.27	1
13C6-Chrysene	845235	21.75	2404.1398	T	0	1.2056	424		0.31	1.003
d12-Indeno(123cd)pyrene	1060760	31.5	3837.9942	I	0	3837.9942	270		0.17	1
13C6-Indeno(123cd)pyrene $	1975481	31.59	5646.461	T	0	2.5198	882		0.2	1.003

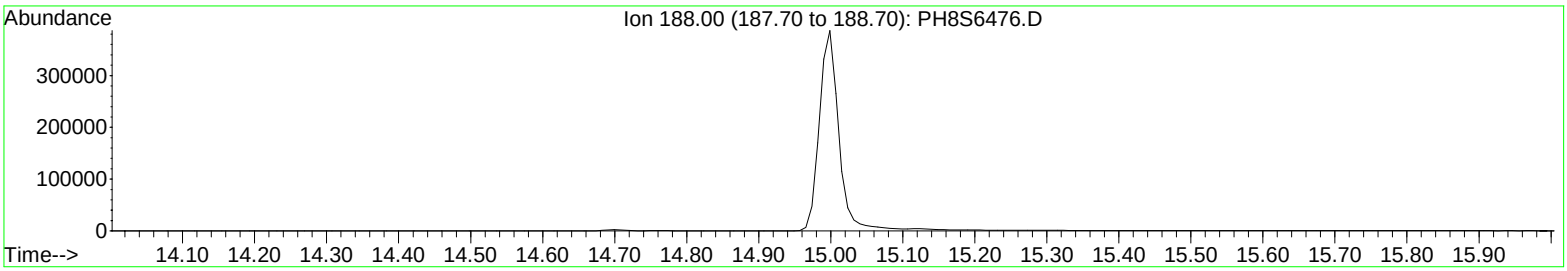
618S6476

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

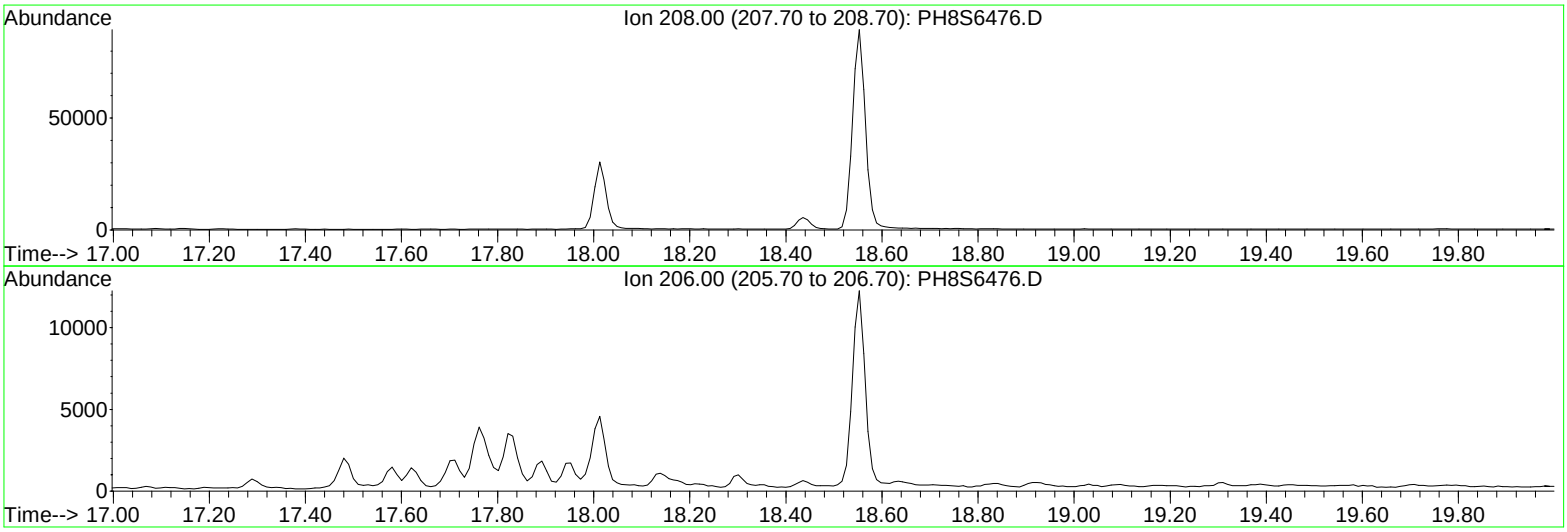
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

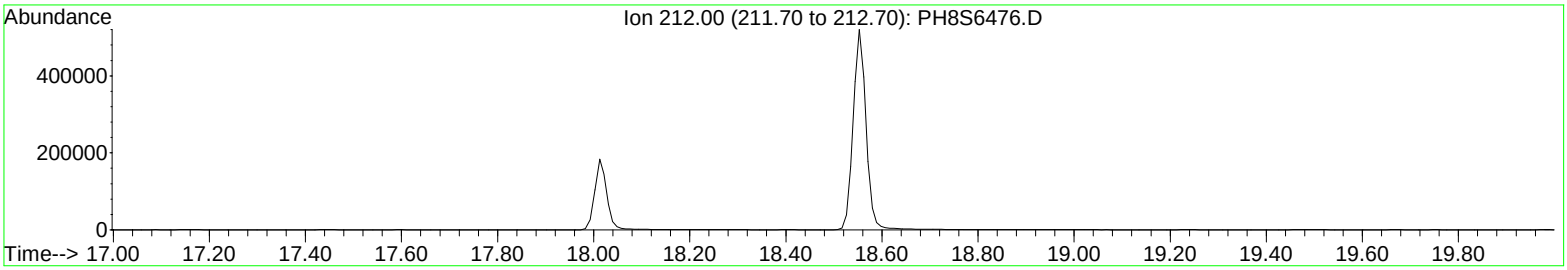




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

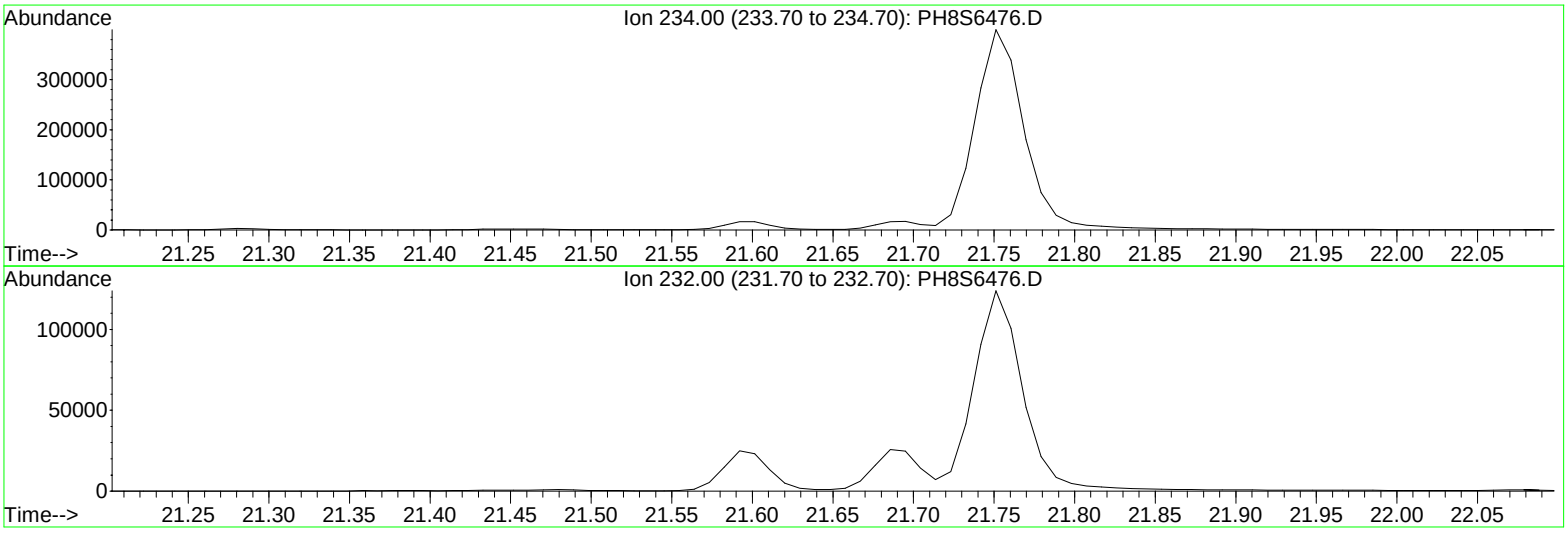


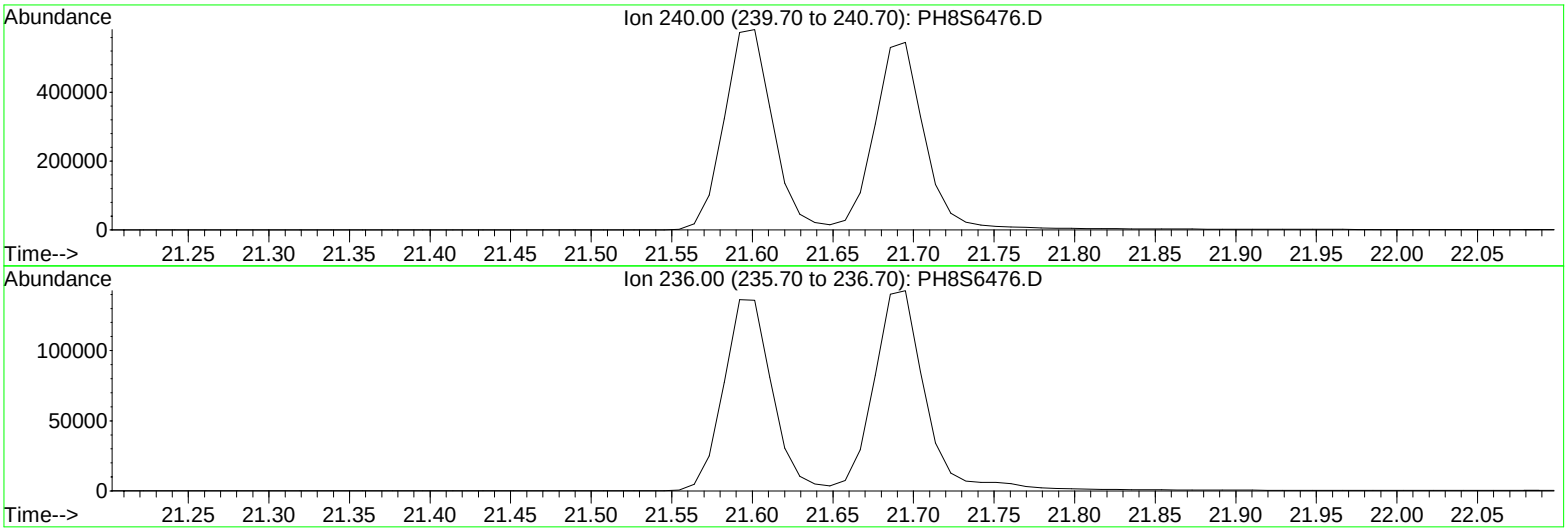


Thu Jan 10 08:57:30 2019

Axys Analytical CHRO Report

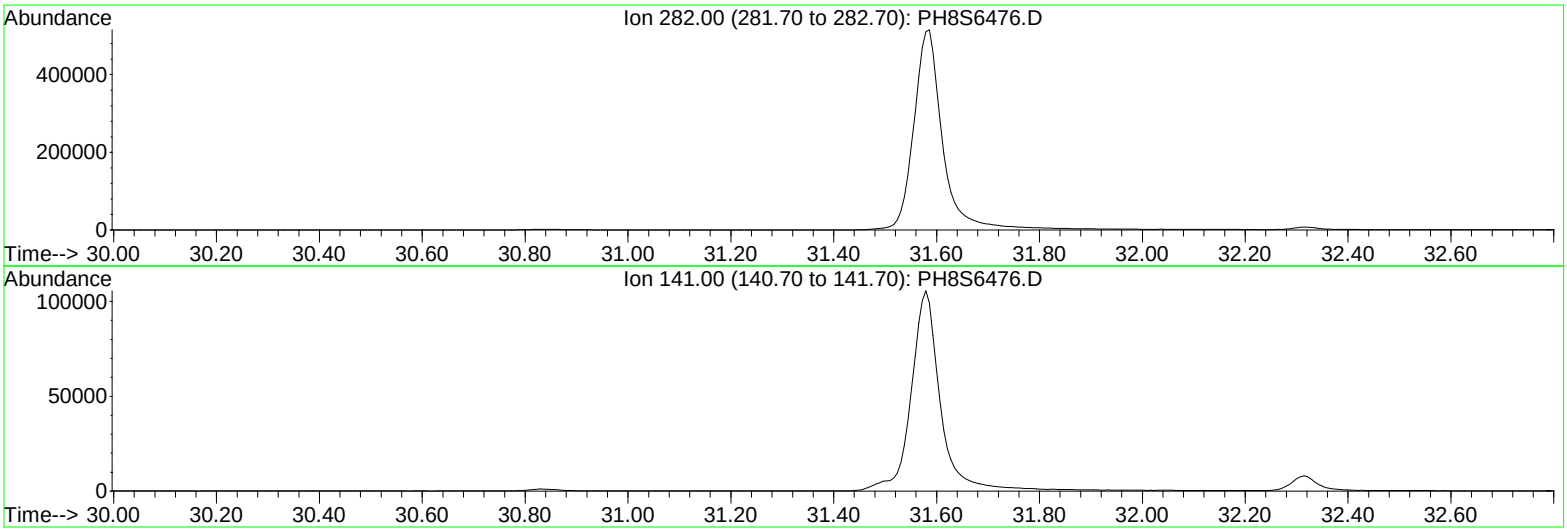
File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

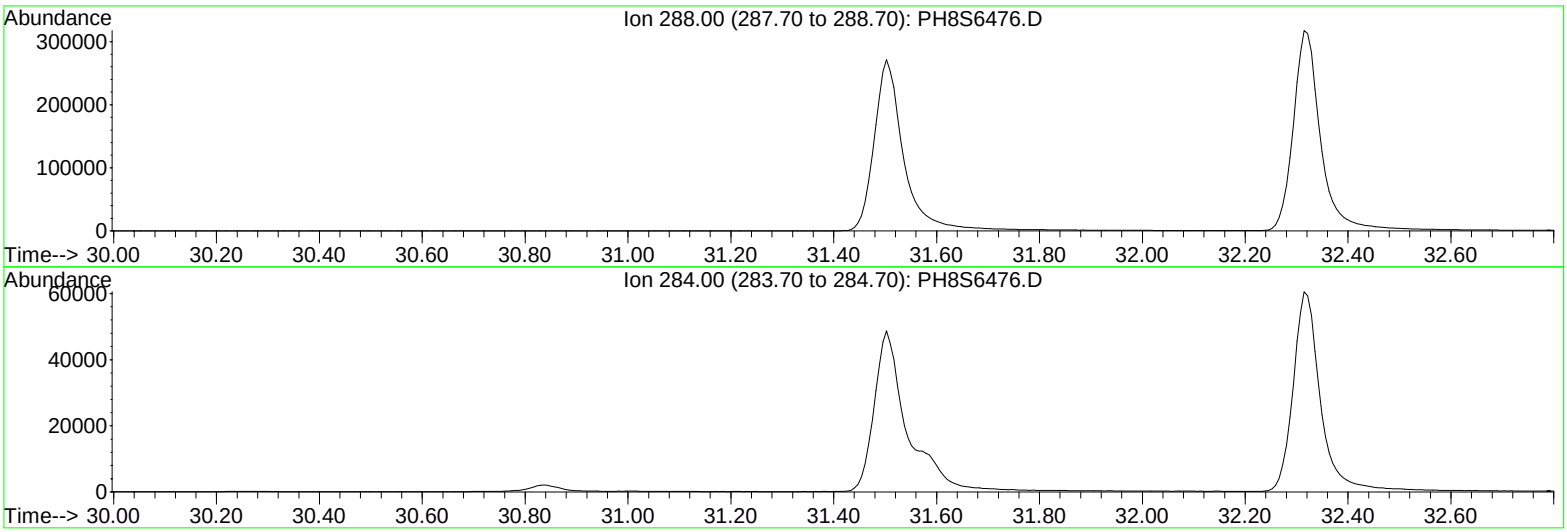




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL

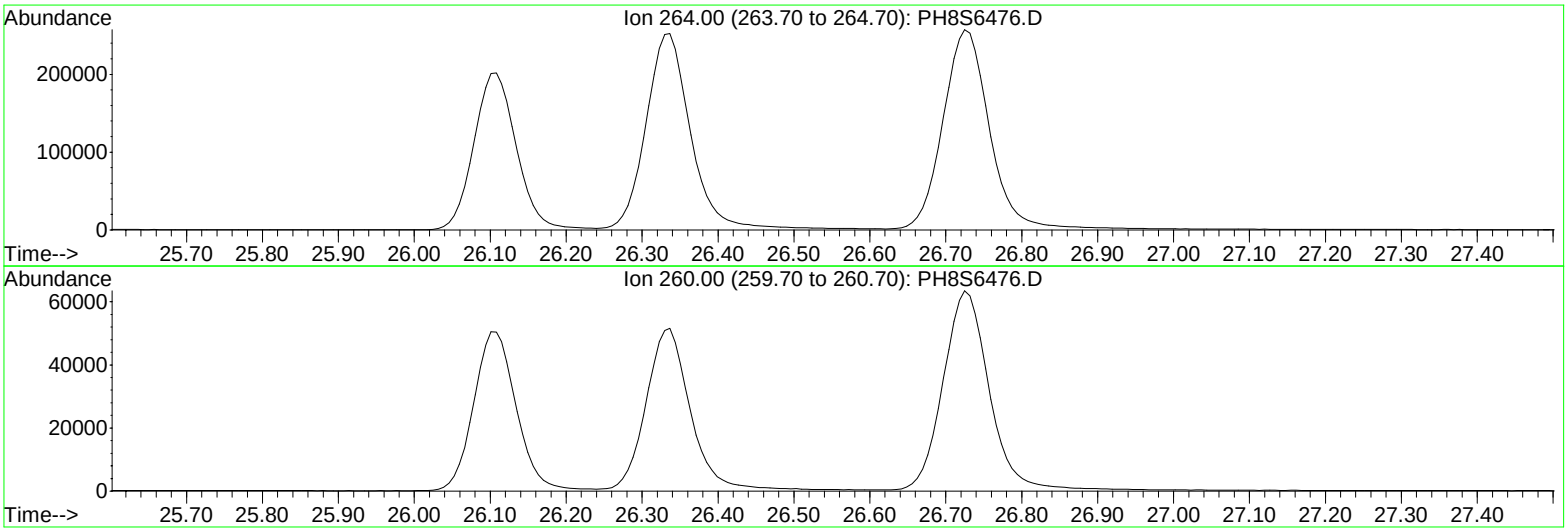




Thu Jan 10 08:57:35 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6476.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 1:20
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-5,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6479.D
29/12/2018 3:47
L30540-6
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6479.D\PH8S6479.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 22
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:41 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.094	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	467310	11.28	4284.1994 I	0	4284.1994	449		0.45	1
d8-Naphthalene - SURR	213551	6.87	308.7321 S	15.4366	0.791	129		0.09	0.609
d10-2-Methylnaphthalene - SURR	210989	8.53	455.041 S	23.0985	1.2271	134		0.19	0.756
d10-Biphenyl - SURR	366530	9.8	563.4545 S	27.5528	0.5383	83		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	246118	10.1	580.8983 S	28.2676	2.8409	284		0.73	0.896
d8-Acenaphthylene - SURR	478014	10.85	583.5447 S	28.3274	13.5716	2621		0.15	0.961
d10-Pyrene - REC	935719	18.55	4178.1548 I	0	4178.1548	1838		0.17	1
d10-Phenanthrene - SURR	685819	14.99	790.6314 S	43.8023	18.3055	3743		0.15	0.808
d8-Dibenzothiophene - SURR	507120	14.7	657.3859 S	32.304	17.4556	3175		0.09	0.792
d12-Benz(a)anthracene - SURR	1248783	21.6	1530.8454 S	75.4111	113.8038	21886		0.23	1.164
d12-Chrysene - SURR	1226038	21.7	1438.6627 S	73.4012	55.2178	11094		0.27	1.169
d12-Benzo(e)pyrene - REC	768446	26.11	4284.1994 I	0	4284.1994	1054		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1164461	25.01	1654.7856 S	83.9993	448.1251	74342		0.2	0.958
d12-Benzo(k)Fluoranthene - SURR	1269002	25.11	1632.7299 S	81.6365	137.3033	25158		0.19	0.962
d12-Benzo(a)pyrene - SURR	1055186	26.33	1584.8702 S	76.5638	12608.1442	1978970		0.2	1.008
d12-Perylene - SURR	1109537	26.72	1671.4152 S	77.7402	227.7688	35646		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	1168227	31.5	1732.4741 S	87.059	1.8345	292		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1264298	32.31	1576.4354 S	79.618	13.763	2602		0.19	1.238
d8-Naphthalene	213551	6.87	4241.7815 I	0	4241.7815	128		0.09	1
Naphthalene $	2166	6.91	35.9469 T	0	2.3805	143		0.08	1.006
d10-2-Methylnaphthalene	210989	8.53	4178.1548 I	0	4178.1548	139		0.19	1
2-Methylnaphthalene $	1415	8.6	23.1582 T	0	2.2696	139		0.97	1.009
1-Methylnaphthalene	1067	8.87	18.4957 T	0	2.4038	139		0.95	1.04
C1-Naphthalenes	1415	8.6	0 T	0	0	923		-1	1.009
d10-Biphenyl	366530	9.8	4337.2216 I	0	4337.2216	84		-1	1
Biphenyl $	3538	9.85	37.6867 T	0	1.9013	178		0.29	1.006
C1-Biphenyls $	1305	11.33	13.9008 T	0	3.0757	289		0.18	1.156
C2-Biphenyls $	5023	12.7	53.5049 T	0	11.6876	1097		0.19	1.296
d12-2,6-Dimethylnaphthalene	246118	10.1	4358.4305 I	0	4358.4305	287		0.73	1
2,6-Dimethylnaphthalene $	1864	10.22	27.2932 T	0	2.4487	167		0.74	1.011
Ethyl/DiMe-Naphthalenes	2083	10.22	33.7118 T	0	2.7066	167	#	27.72	1.011
1,2-Dimethylnaphthalene	47145	10.85	852.9911 T	0	3.0257	167	#	0.01	1.073
C2-Naphthalenes	2083	10.22	0 T	0	0	6715		-1	1.011
2,3,6-Trimethylnaphthalene	8848	12.16	128.1656 T	0	7.1159	491		0.8	1.204
2,3,5-Trimethylnaphthalene $	7462	12.39	113.9087 T	0	7.499	491		0.99	1.226
C3-Naphthalenes	7462	12.39	110.9213 T	0	7.3023	491		0.99	1.226
1,4,6,7-Tetramethylnaphthalene $	5882	13.91	85.1666 T	0	63.108	4359	#	0.11	1.377
C4-Naphthalenes	5882	13.91	85.1666 T	0	63.108	4359		0.11	1.377
d8-Acenaphthylene	478014	10.85	4369.035 I	0	4369.035	2629		0.15	1
Acenaphthylene $	7481	10.88	56.2732 T	0	1.9464	259		0.2	1.003
Acenaphthene $	2159	11.36	29.3849 T	0	2.1131	155		1.15	1.048
C1-Acenaphthenes $	290	11.72	3.947 T	0	8.4523	621	#	-1	1.08
d8-Dibenzothiophene	507120	14.7	4316.0127 I	0	4316.0127	3317		0.09	1
Dibenzothiophene $	4479	14.74	31.888 T	0	8.5069	1195	#	0.74	1.003
C1-Dibenzothiophenes-1	4181	15.87	43.3831 T	0	22.7612	2194	#	2.05	1.08
2/3-Methyldibenzothiophenes $	2433	16.08	25.2454 T	0	22.7612	2194	#	3.96	1.094
C1-Dibenzothiophenes-2	4090	16.35	42.4389 T	0	22.7612	2194	#	2.86	1.113
C1-Dibenzothiophenes	2433	16.08	0 T	0	0	2194		-1	1.094
4,6-Dimethyldibenzothiophene	3427	16.94	33.1804 T	0	31.1381	3216	#	-1	1.152

+ Report only.

PH8S6479

checked by MW 08-Jan-19

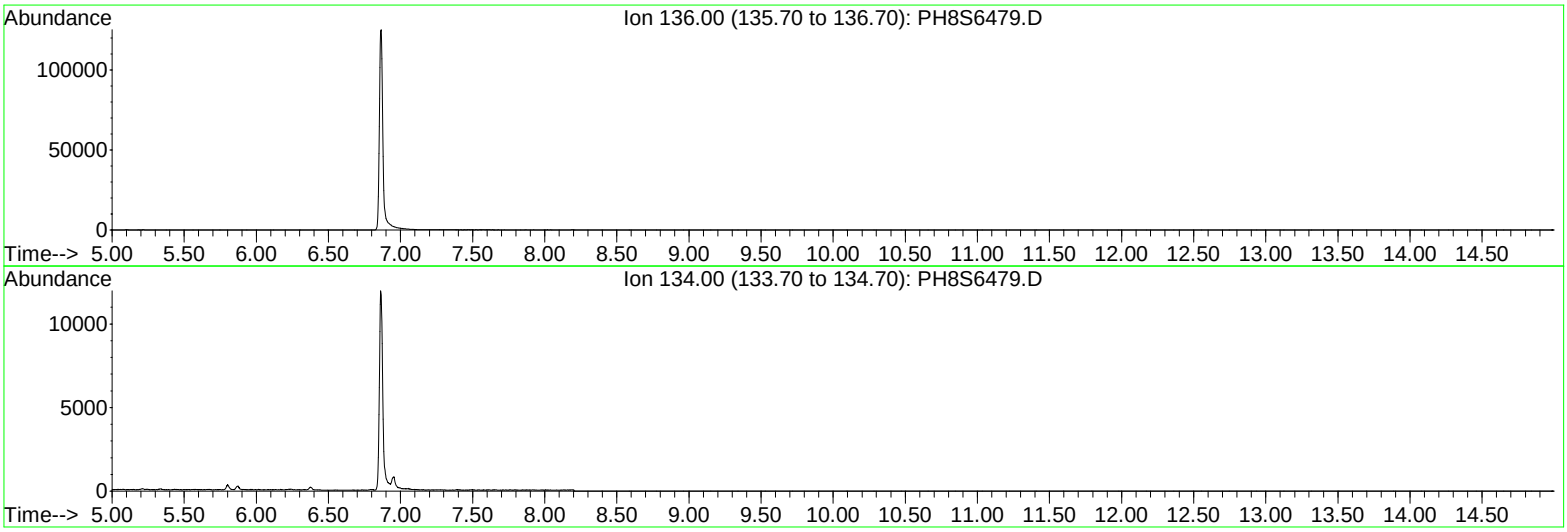
pv by vr
03-Jan-2019

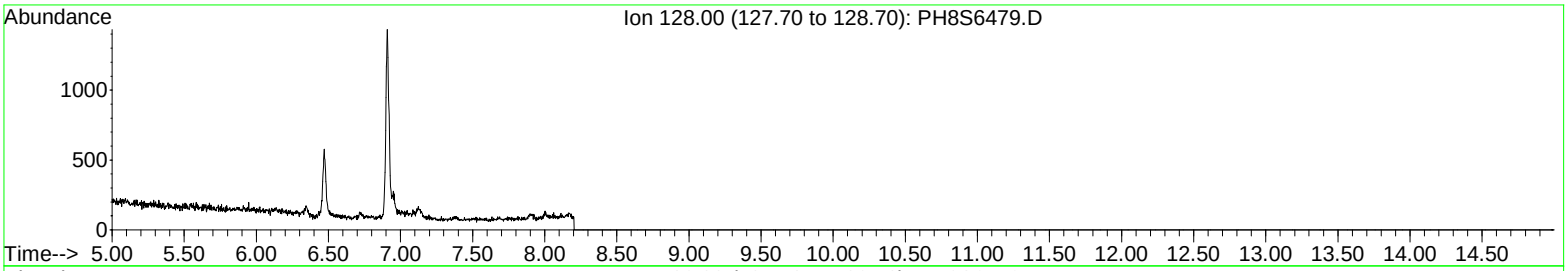
2,4-Dimethyldibenzothiophene $	2419	17.09	30.3266 T	0	40.3192	3216 #	1.69	1.163
C2-Dibenzothiophenes	2419	17.09	30.3266 T	0	40.3192	3216	1.69	1.163
C3-Dibenzothiophenes $	4101	18.09	51.4135 T	0	94.873	7568	0.92	1.231
C4-Dibenzothiophenes $	436	18.85	5.4661 T	0	14.0111	1118	2.18	1.282
d10-Phenanthrene	685819	14.99	3828.2078 I	0	3828.2078	3862	0.15	1
Fluorene $	2922	12.66	22.8219 T	0	1.7876	229	1.06	0.844
2-Methylfluorene $	2762	14.08	31.7228 T	0	71.3133	6209 #	1.94	0.939
C1-Fluorenes	2762	14.08	31.7228 T	0	71.3133	6209	1.94	0.939
1,7-Dimethylfluorene $	4040	15.47	49.8939 T	0	185.8322	15047 #	0.12	1.032
C2-Fluorenes	4040	15.47	49.8939 T	0	185.8322	15047	0.12	1.032
C3-Fluorenes $	3761	16.41	46.4483 T	0	179.3092	14519	0.76	1.095
Phenanthrene $	35951	15.05	187.6235 T	0	5.7274	1097	0.19	1.004
Anthracene	24110	15.17	124.3411 T	0	5.6597	1097	0.18	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	13086	16.31	96.8023 T	0	6.729	910	0.58	1.088
2-Methylphenanthrene	15372	16.37	115.2212 T	0	6.8182	910	0.55	1.092
2-Methylanthracene	7581	16.47	58.5444 T	0	7.0247	910 #	0.64	1.099
9/4-Methylphenanthrenes	27471	16.59	203.2137 T	0	6.729	910 #	0.8	1.106
1-Methylphenanthrene $	15901	16.64	111.4796 T	0	6.3773	910	0.57	1.11
C1-Phenanthrenes/Anthracenes	15901	16.64	0 T	0	0	16608	-1	1.11
Fluoranthene $	305985	18.05	1299.9473 T	0	8.2027	1931	0.2	1.204
Pyrene	1104058	18.59	4536.5631 T	0	7.9336	1931	0.21	1.24
3,6-Dimethylphenanthrene $	13071	17.47	100.413 T	0	195.8428	25493 #	0.83	1.165
2,6-Dimethylphenanthrene	13668	17.56	104.8062 T	0	195.4829	25493	0.42	1.171
1,7-Dimethylphenanthrene	13144	17.88	100.6043 T	0	195.1262	25493 #	0.51	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	13071	17.47	100.2284 T	0	195.4829	25493	0.83	1.165
1,8-Dimethylphenanthrene	7222	18.14	55.3783 T	0	195.4829	25493 #	0.49	1.21
C2-Phenanthrenes/Anthracenes	13071	17.47	0 T	0	0	25493	-1	1.165
1,2,6-Trimethylphenanthrene $	5545	19.38	46.2628 T	0	100.9126	12095 #	0.79	1.293
C3-Phenanthrenes/Anthracenes	5545	19.38	46.2628 T	0	100.9126	12095	0.79	1.293
Retene $	8808	19.51	192.3222 T	0	145.1841	6649 #	0.79	1.302
C4-Phenanthrenes/Anthracenes	8808	19.51	192.3222 T	0	145.1841	6649	0.79	1.302
C1-Fluoranthenes/Pyrenes-1	34117	19.24	243.8101 T	0	2233.0859	312481	1.01	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	197994	19.51	1414.9232 T	0	2233.0859	312481	0.92	1.302
C1-Fluoranthenes/Pyrenes-2	112927	19.98	807.0095 T	0	2233.0859	312481	0.55	1.333
C1-Fluoranthenes/Pyrenes	197994	19.51	0 T	0	0	312481	-1	1.302
C2-Fluoranthenes/Pyrenes $	3877	20.46	27.7062 T	0	446.9438	62542 #	-1	1.365
C3-Fluoranthenes/Pyrenes $	3216	21.92	22.9825 T	0	204.0749	28557 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	78	23.27	0.5574 T	0	18.7467	2623 #	35.53	1.552
d12-Benz(a)anthracene	1248783	21.6	4305.4083 I	0	4305.4083	23413	0.23	1
d10-Fluoranthene $	400959	18.01	1273.2318 T	0	2.0099	633	0.16	0.834
† Benz(a)anthracene	161464	21.65	430.9064 T	0	2.9074	1089	0.32	1.002
d12-Chrysene	1226038	21.7	4156.9459 I	0	4156.9459	12670	0.27	1
† Chrysene $	229008	21.74	629.0118 T	0	3.1944	1163	~~0.3~~	1.002 0.29
5/6-Methylchrysenes $	8988	23.1	32.6921 T	0	388.8038	106894	-1	1.065
1-Methylchrysene	14007	23.27	49.1785 T	0	375.3022	106894	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	8988	23.1	32.1146 T	0	381.9364	106894	-1	1.065
5,9-Dimethylchrysene $	8226	24.42	38.6485 T	0	51.9256	11052	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	8226	24.42	38.6485 T	0	51.9256	11052	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	30	25.15	0.141 T	0	4.7011	1001	-1	1.159
C4-Benz(a)anthracenes/Chrysenes $	10	26.11	0.047 T	0	1.4653	312	-1	1.203
d12-Benzo(b)fluoranthene	1164461	25.01	4178.1548 I	0	4178.1548	65002	0.2	1
Benzo(b)fluoranthene-SURR int	2519	25	0 T	0	0	9984 #	0.27	1
† Benzo(b)fluoranthene $	174979	25.09	433.6122 T	0	2.0414	824	0.23	1.003
d12-Benzo(k)fluoranthene	1269002	25.11	4241.7815 I	0	4241.7815	23380	0.19	1
† Benzo(j/k)fluoranthenes	132958	25.17	352.2199 T	0	2.3195	876	0.22	1.002
Benzofluoranthenes	170947	25.09	0 T	0	0	10611	-1	0.999
d12-Benzo(a)pyrene	1055186	26.33	4390.2439 I	0	4390.2439	2171930	0.2	1
Benzo(e)pyrene	128733	26.22	385.9678 T	0	3.1003	1034	0.21	0.996
† Benzo(a)pyrene	85998	26.44	273.1663 T	0	3.2845	1034	0.22	1.004
7-Methylbenzo(a)pyrene $	3553	29.19	15.8555 T	0	13.9533	3127	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	3553	29.19	15.8555 T	0	13.9533	3127	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	51	29.92	0.2276 T	0	12.7997	2868	-1	1.136
d12-Perylene	1109537	26.72	4559.9152 I	0	4559.9152	41288	0.24	1
Perylene	44606	26.84	132.9472 T	0	3.2526	1091	0.21	1.004
d12-Indeno(123cd)pyrene	1168227	31.5	4220.5726 I	0	4220.5726	315	0.17	1
d14-Dibenzo(ah)anthracene $	10809	31.63	42.6869 T	0	1.8672	473 #	3.19	1.004
† Dibenzo(ah)anthracene $	7609	31.73	24.1475 T	0	1.6159	509 #	0.39	1.007
† Indeno(123cd)pyrene $	34034	31.59	100.4825 T	0	1.7897	606 #	~~1.17~~	1.003 0.04 #
d12-Benzo(ghi)perylene	1264298	32.31	4199.3637 I	0	4199.3637	2584	0.19	1
Benzo(ghi)perylene	40431	32.4	112.4528 T	0	1.549	557	0.22	1.003

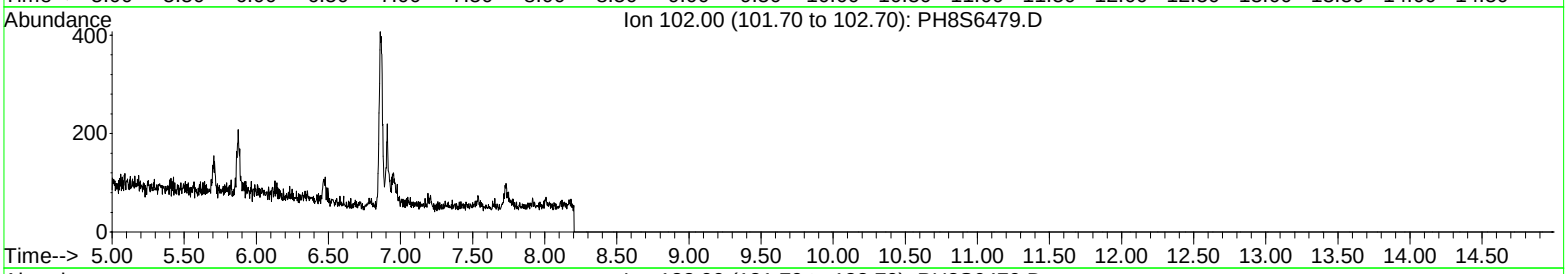
pv by vr
03-Jan-2019

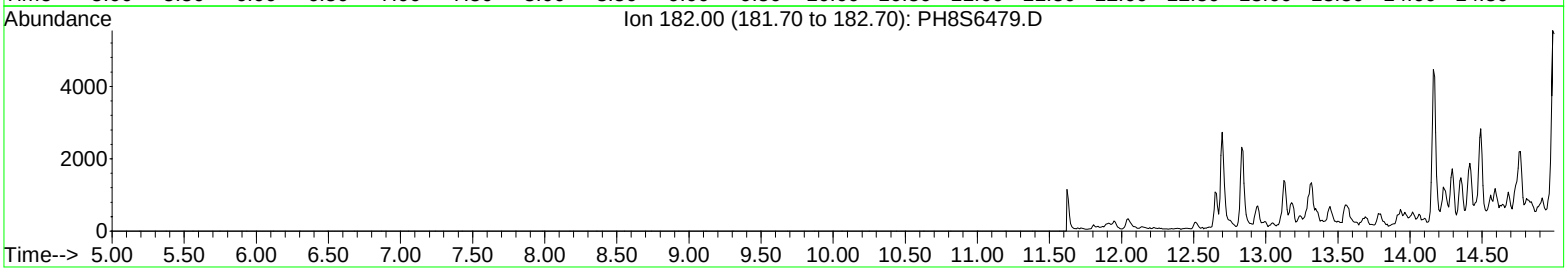
Axys Analytical CHRO Report

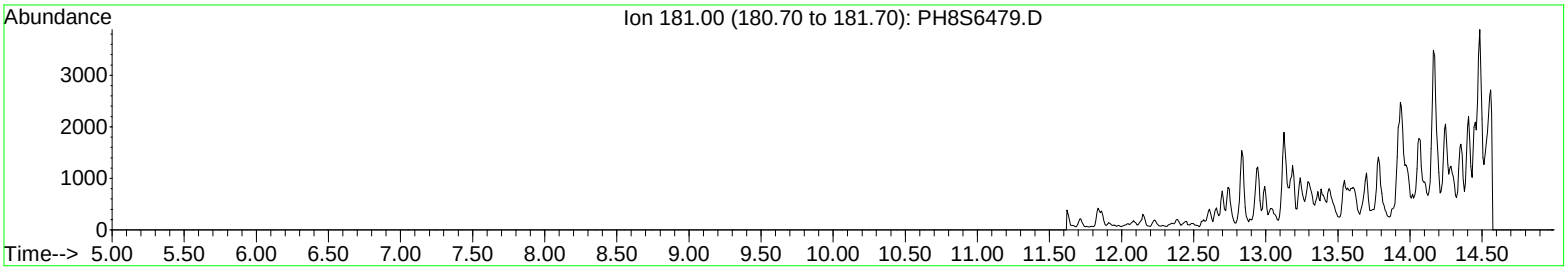
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL







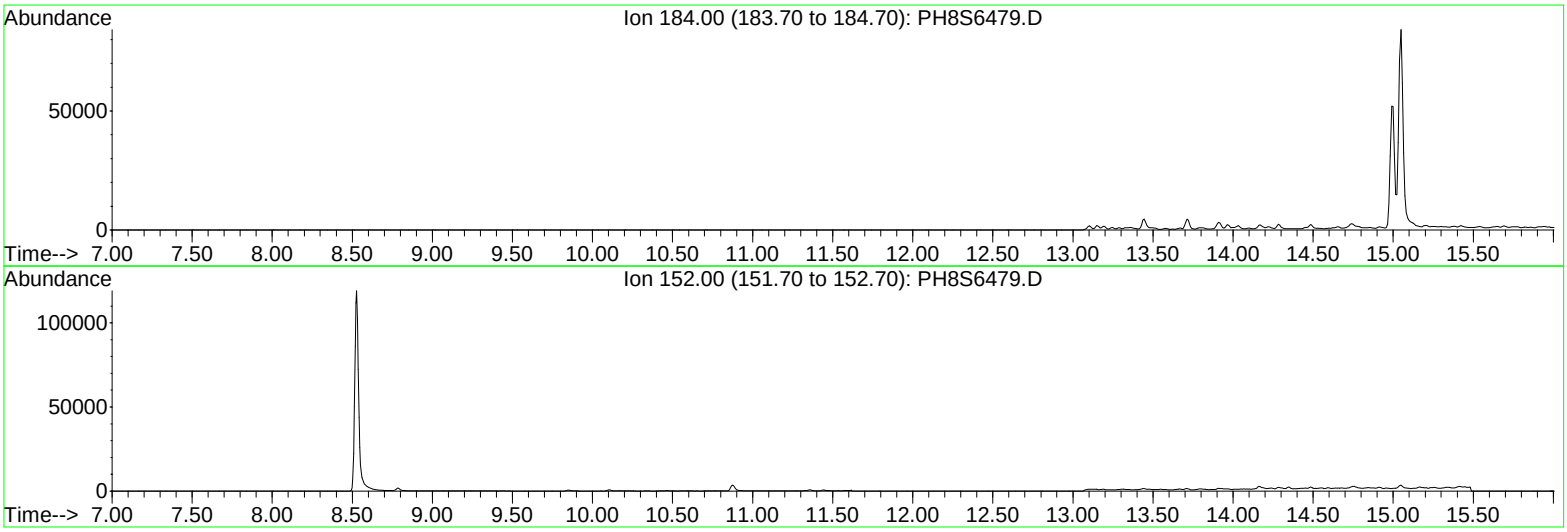


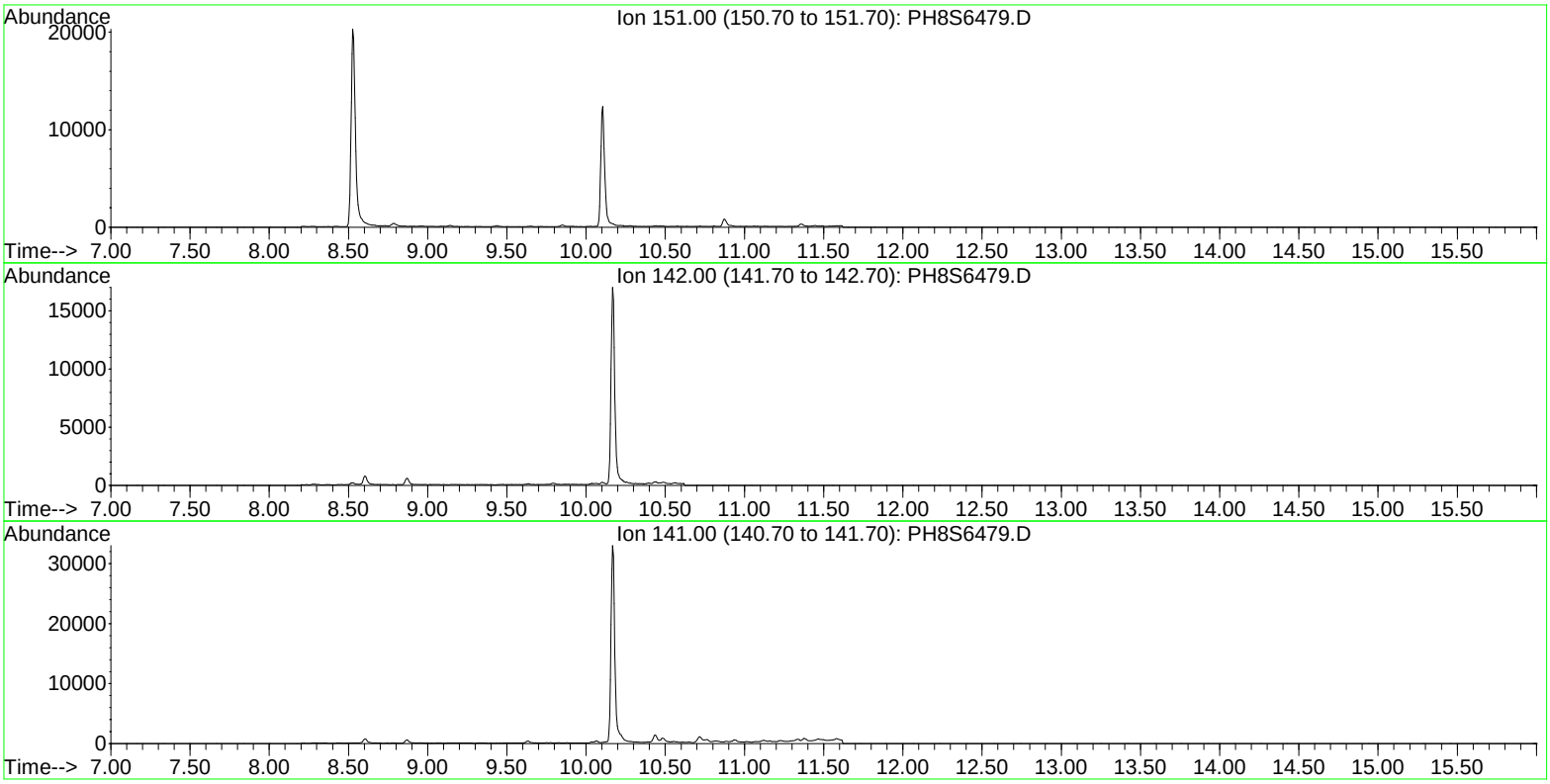


Thu Jan 10 08:48:03 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

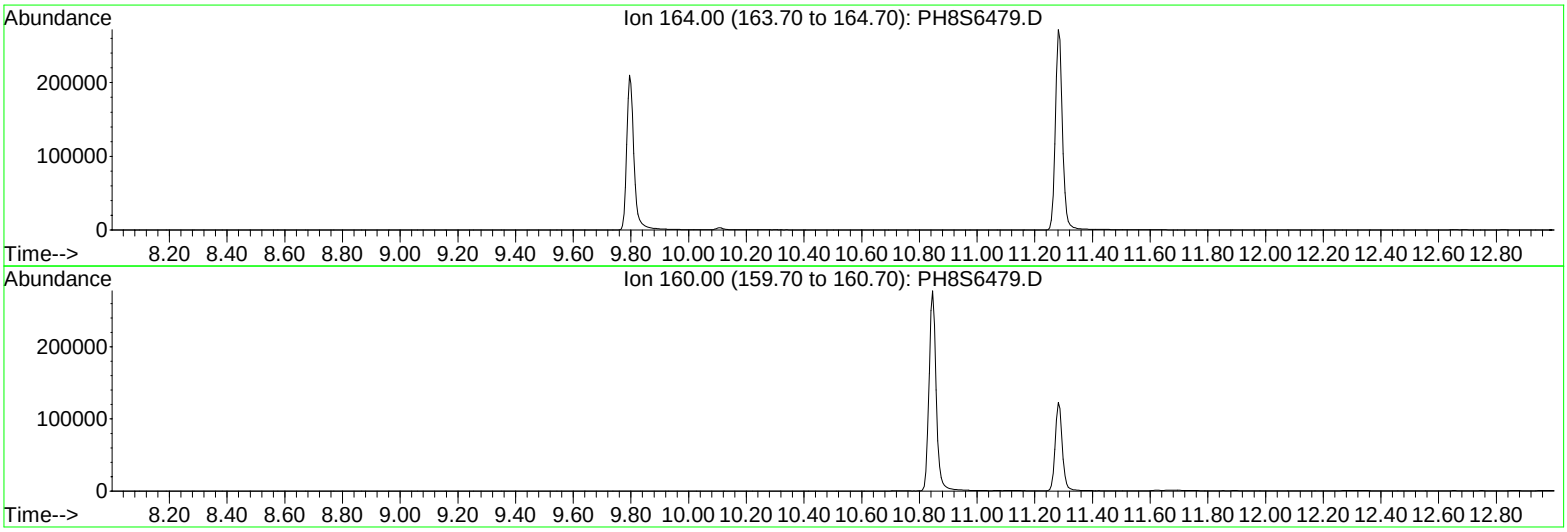


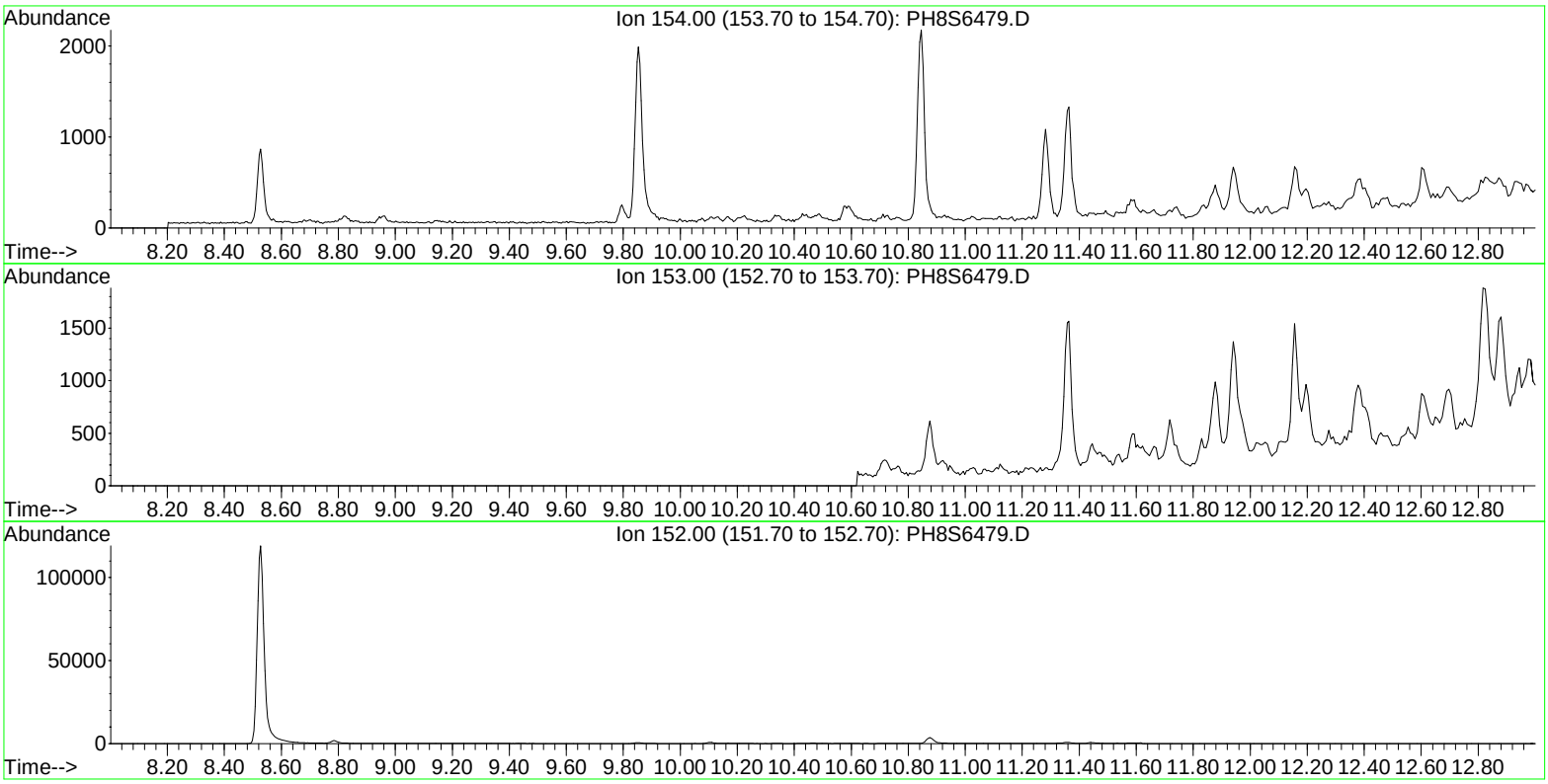


Thu Jan 10 08:48:07 2019

Axys Analytical CHRO Report

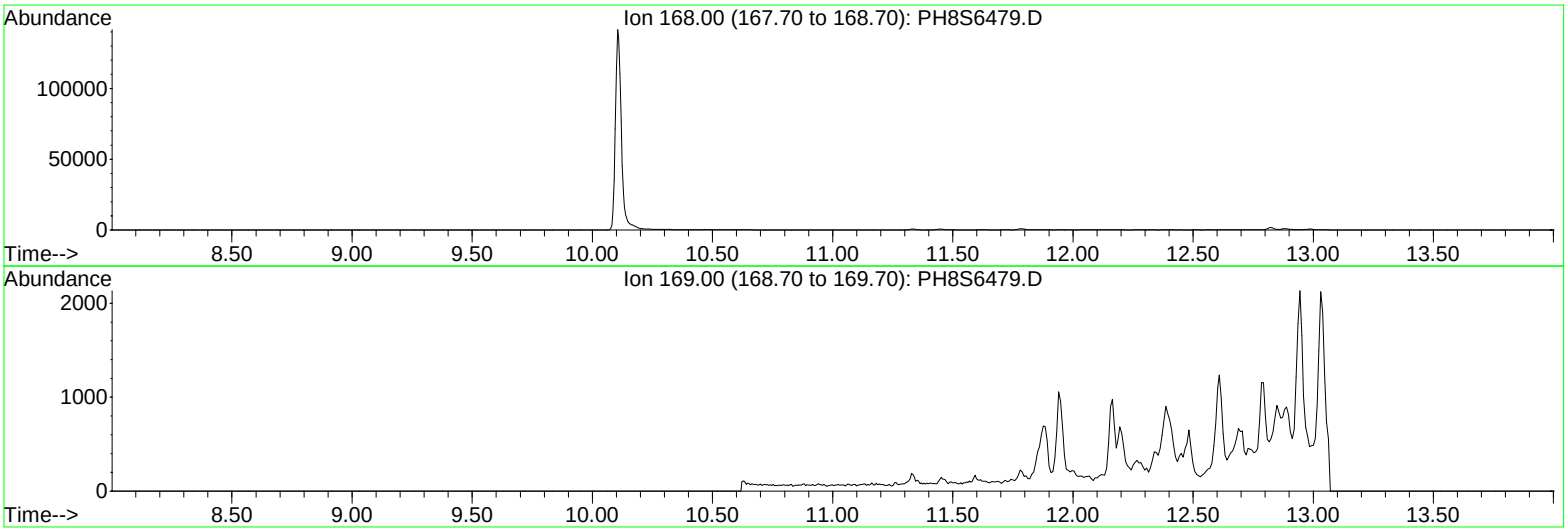
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

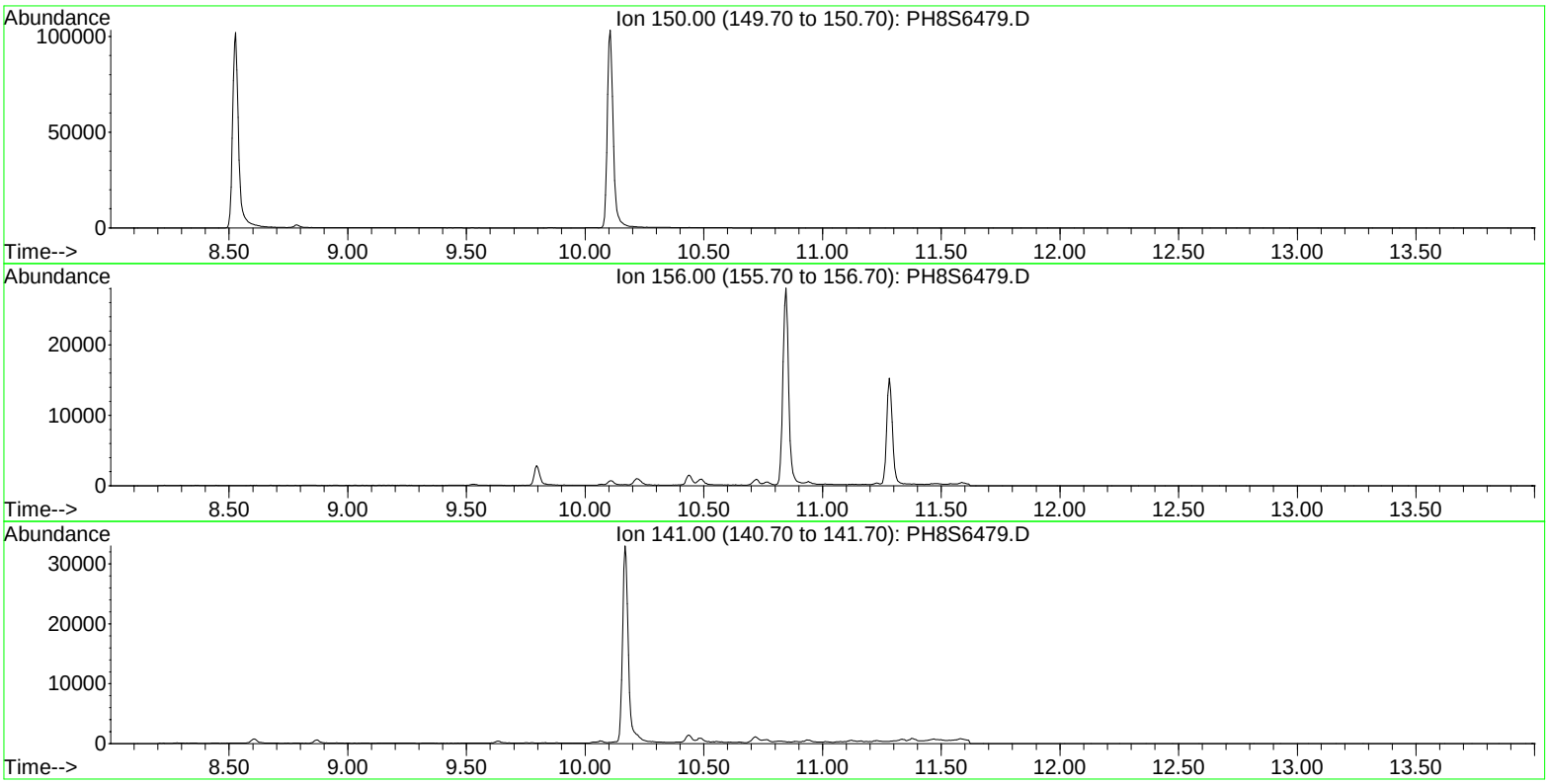




Axys Analytical CHRO Report

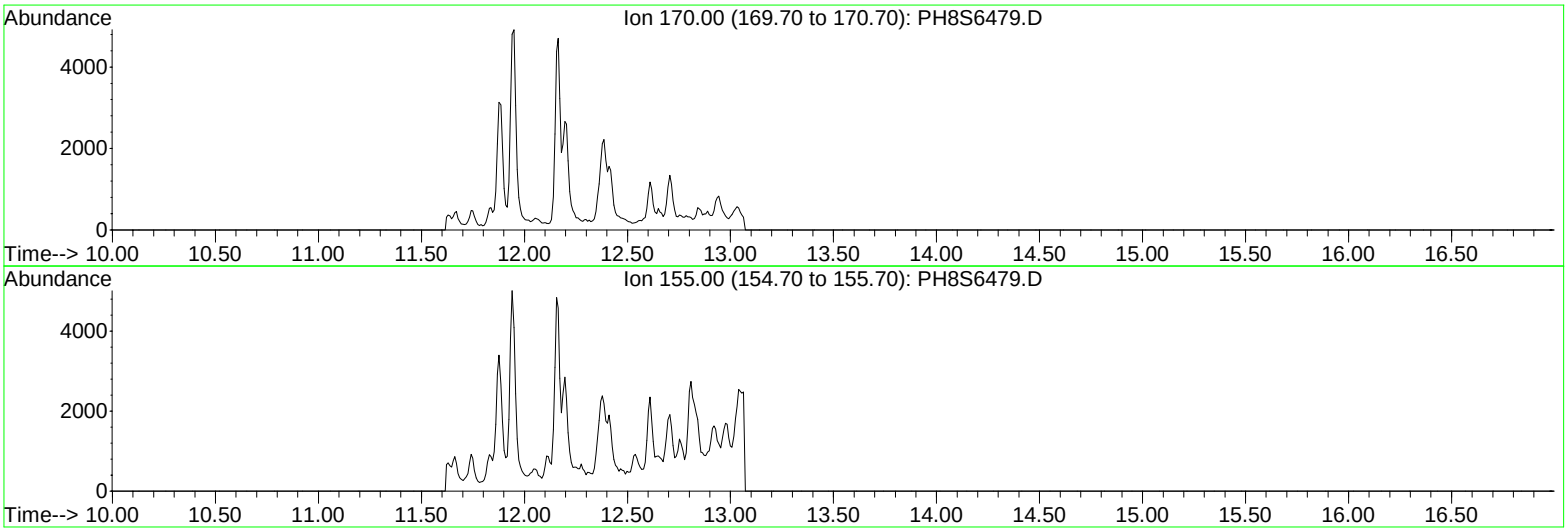
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

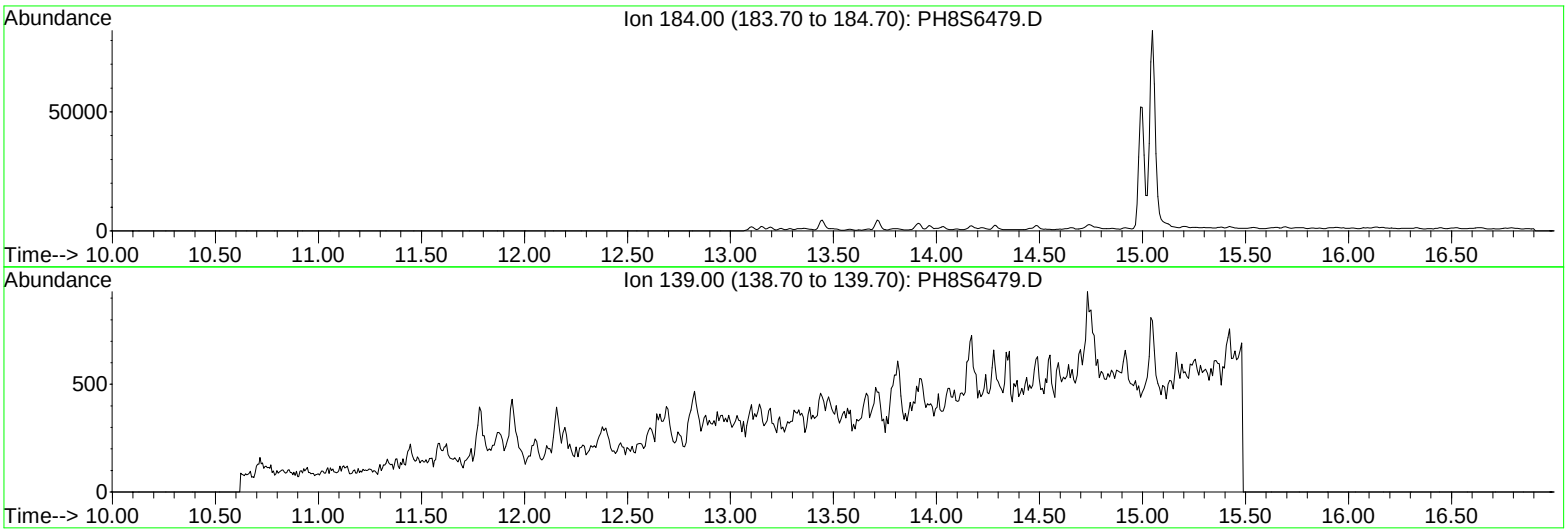




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

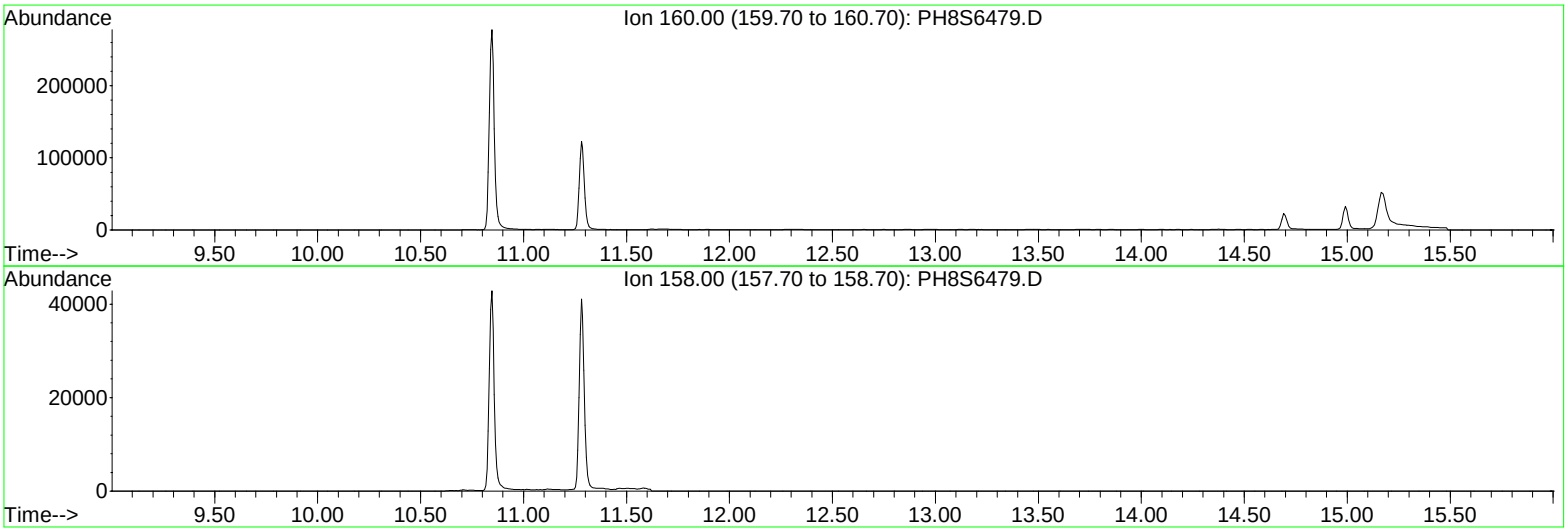


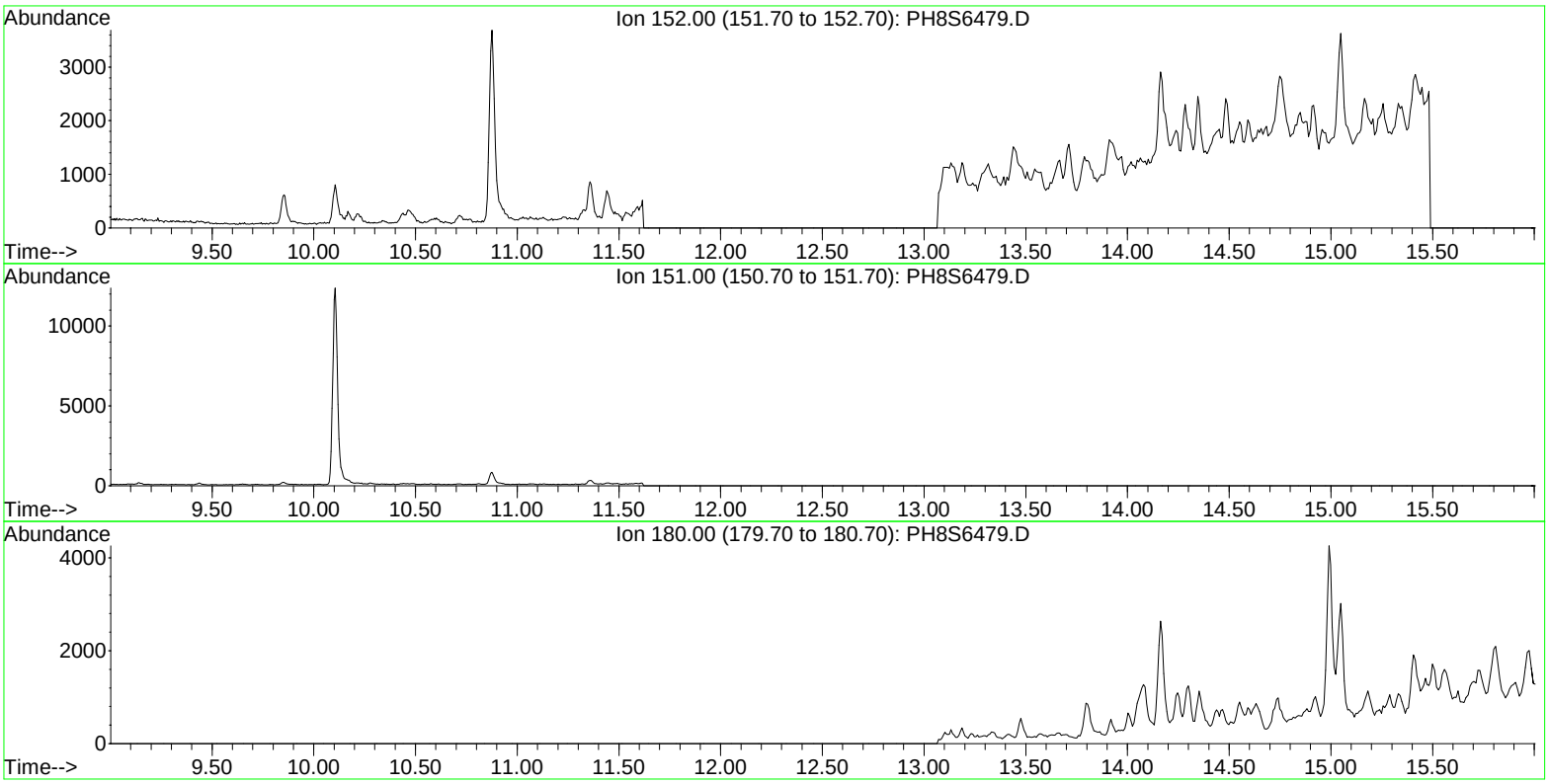


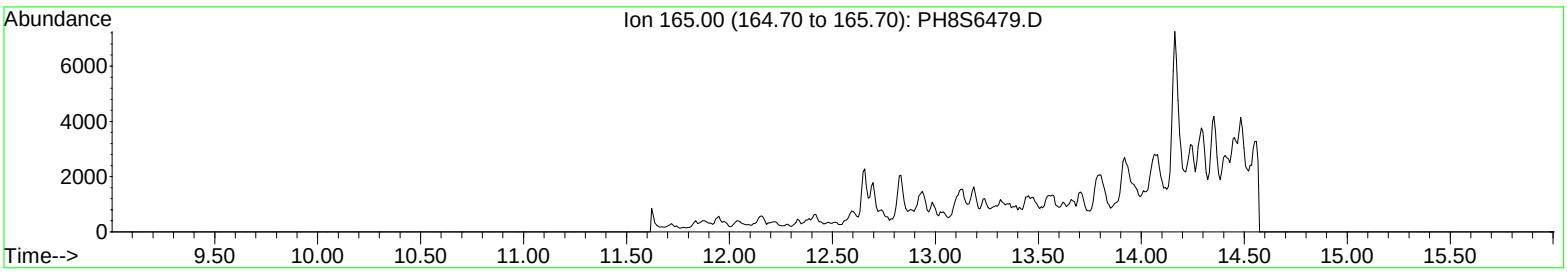
Thu Jan 10 08:48:16 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



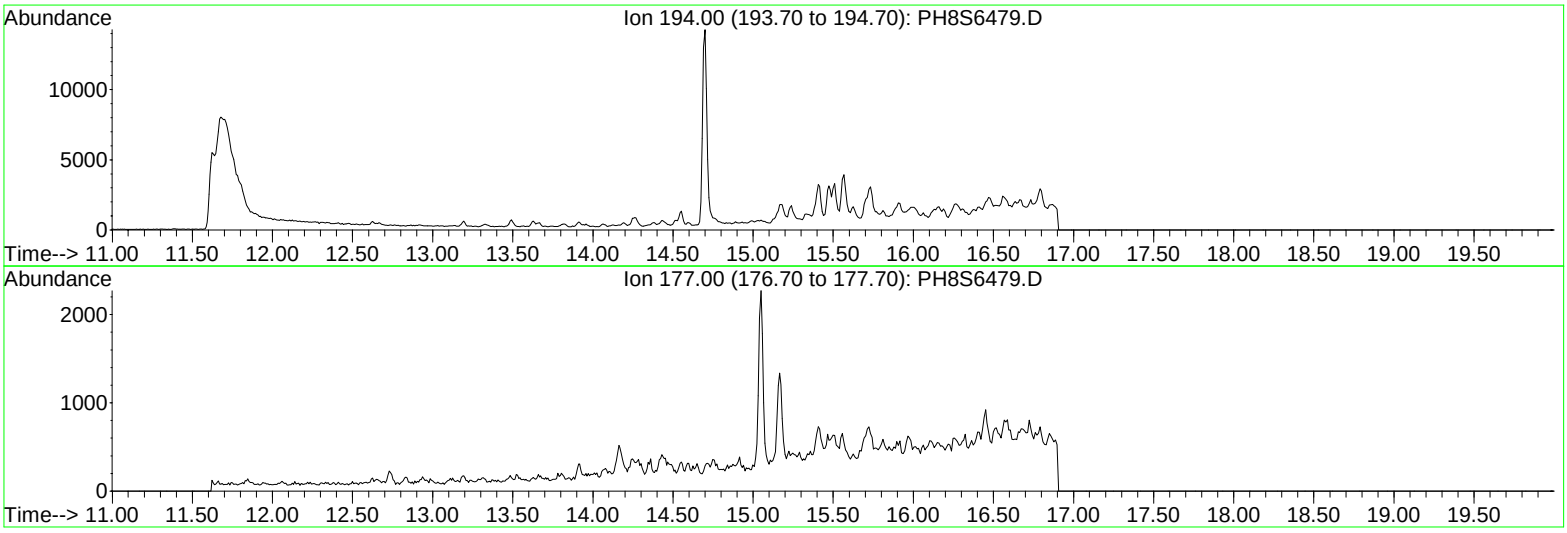


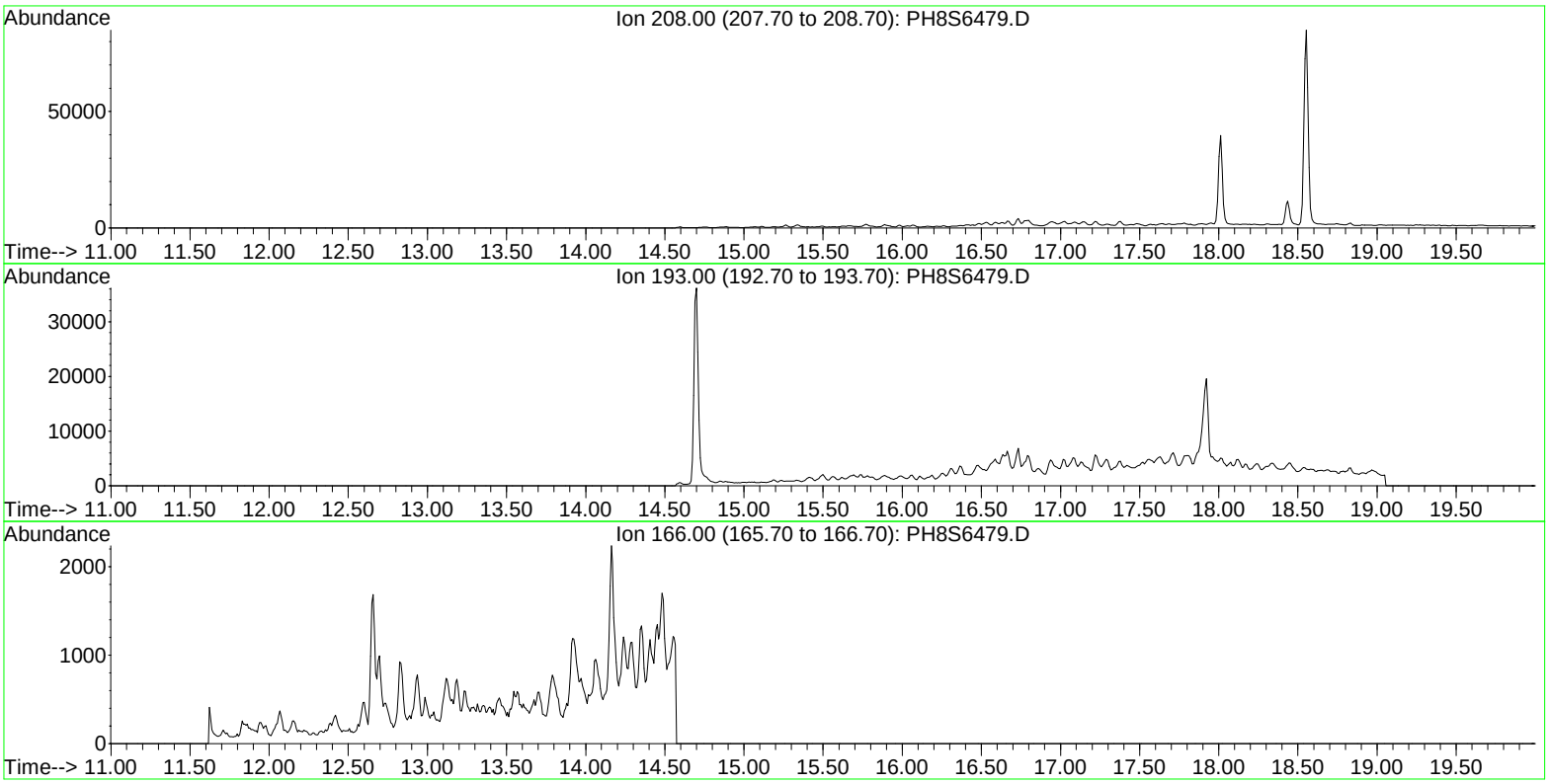


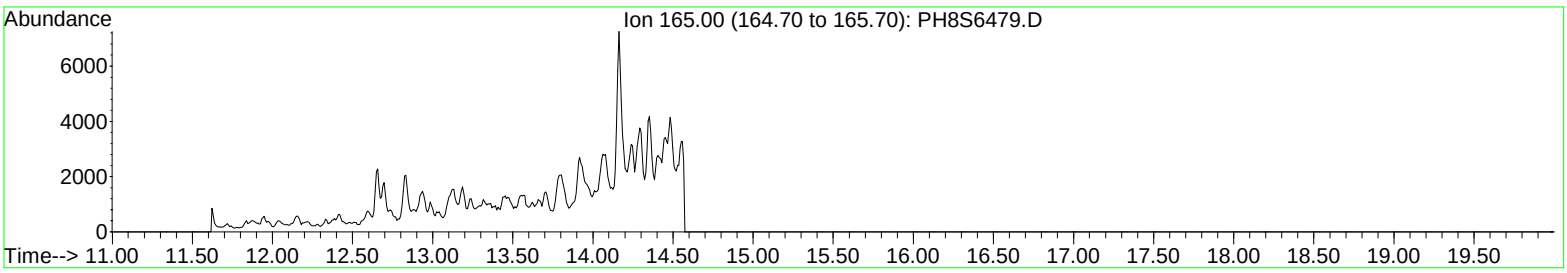
Thu Jan 10 08:48:19 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



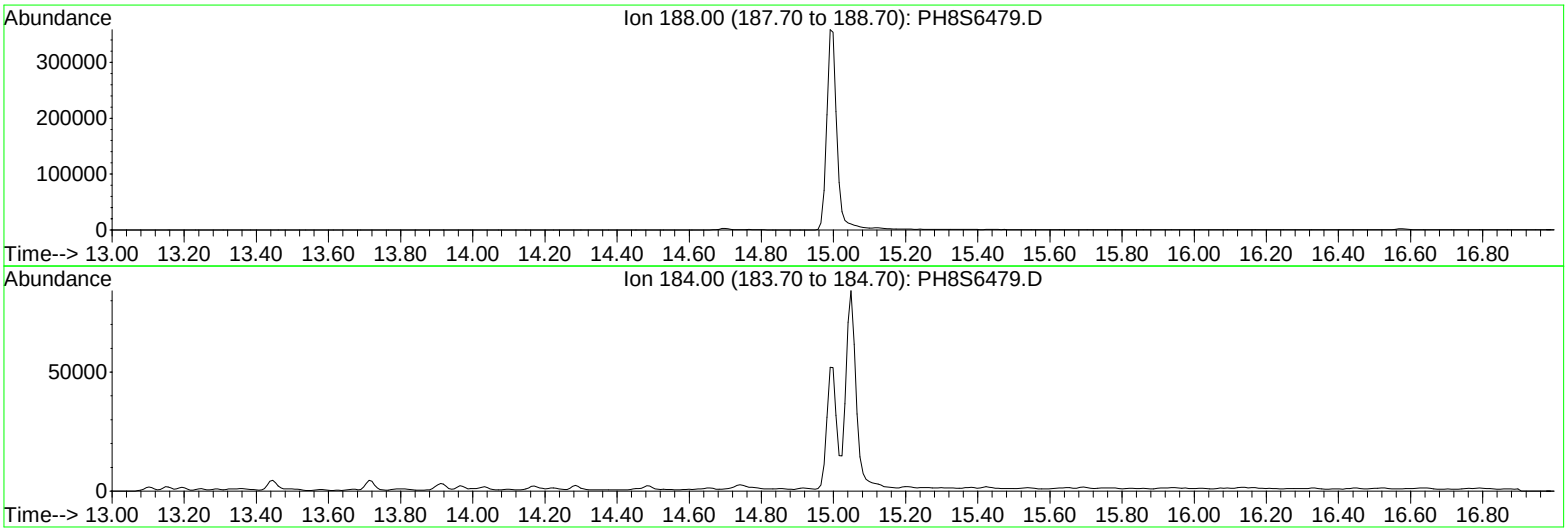


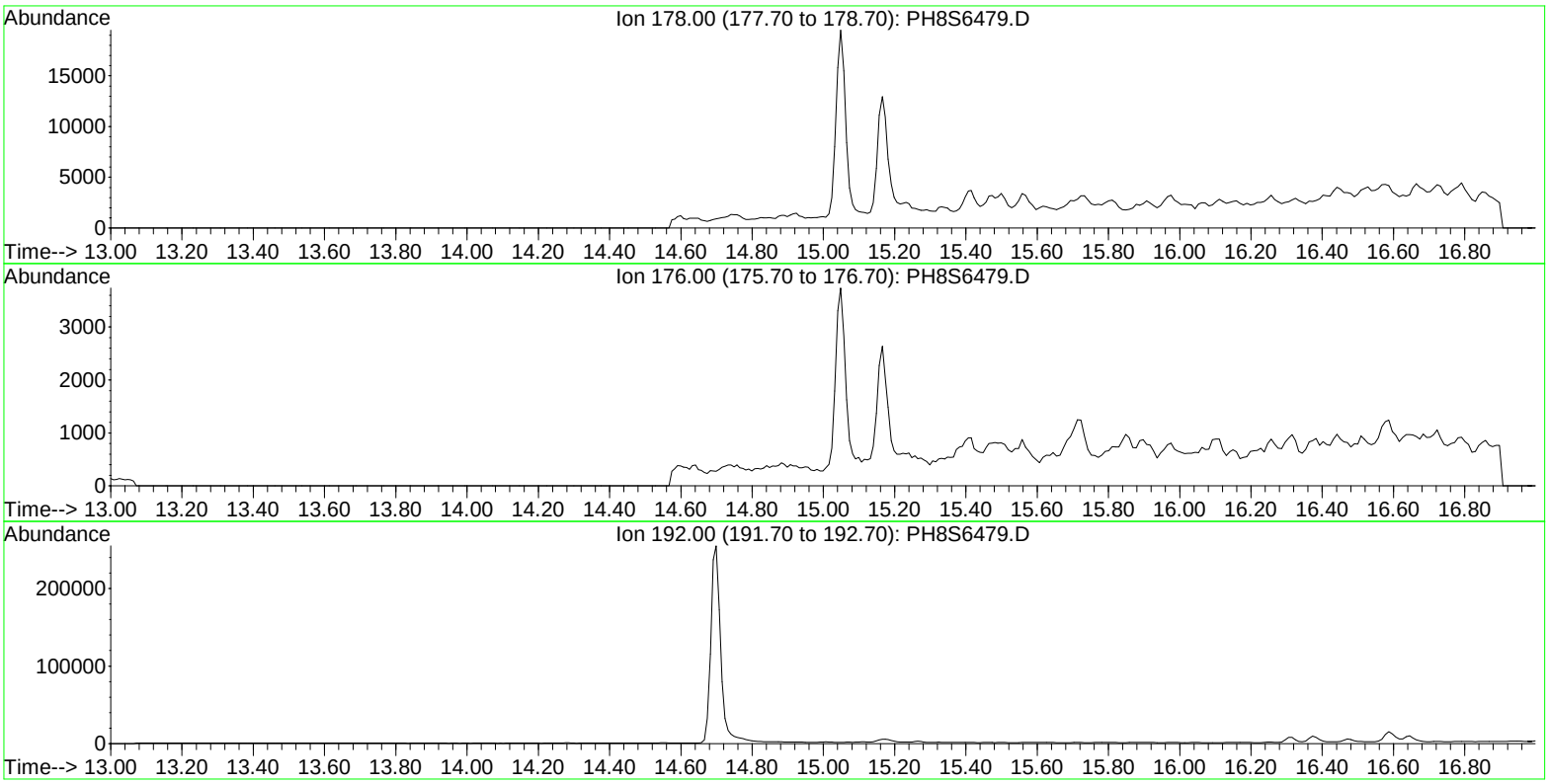


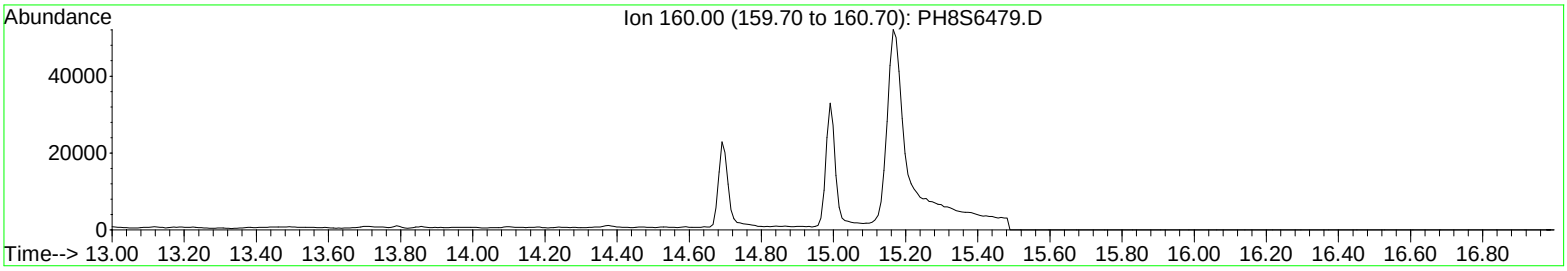
Thu Jan 10 08:48:22 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



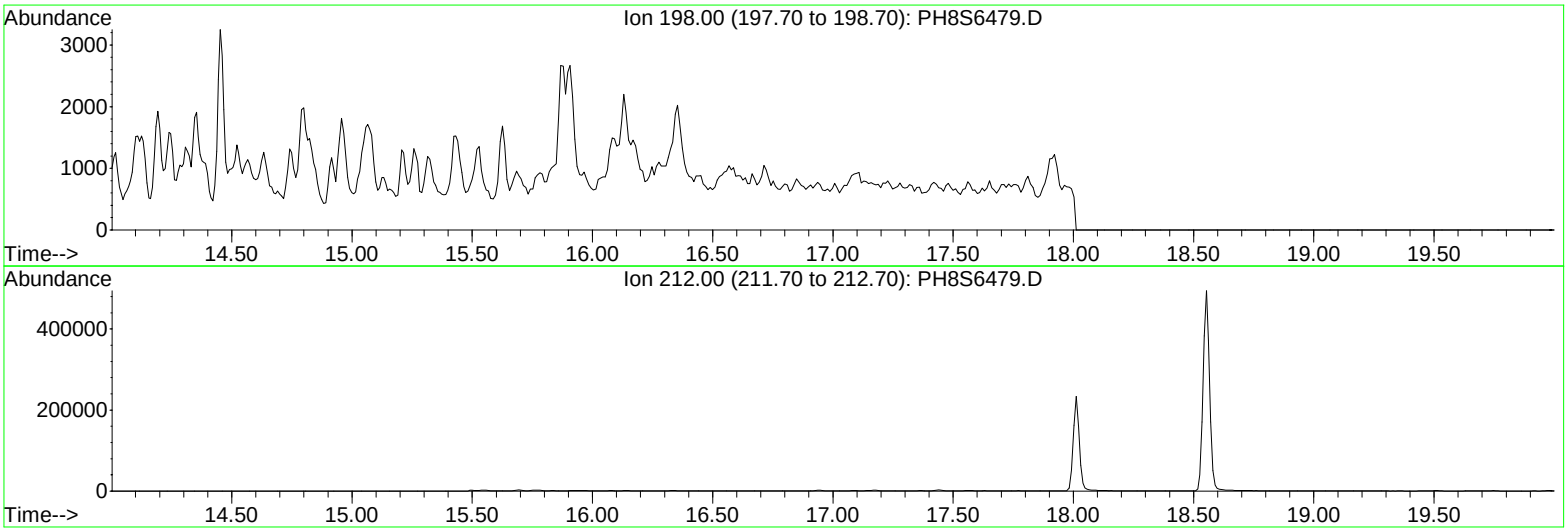


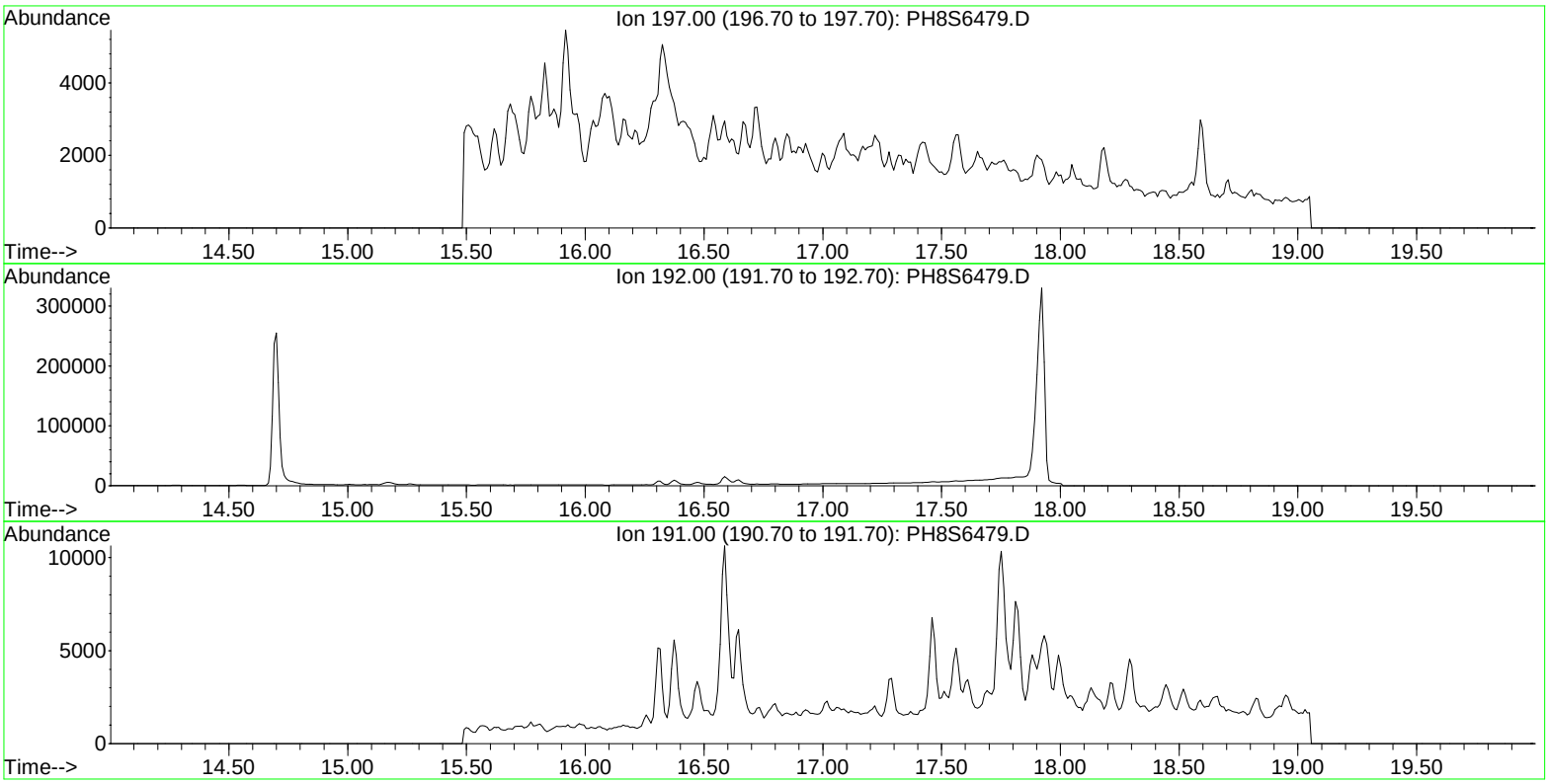


Thu Jan 10 08:48:25 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

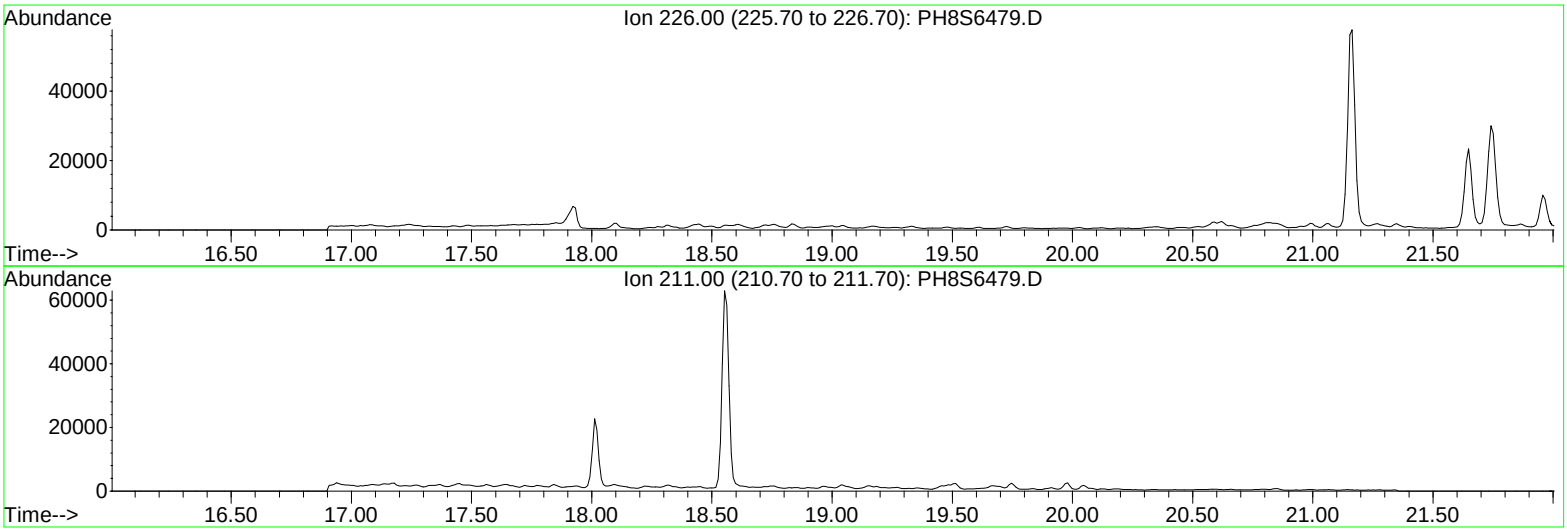


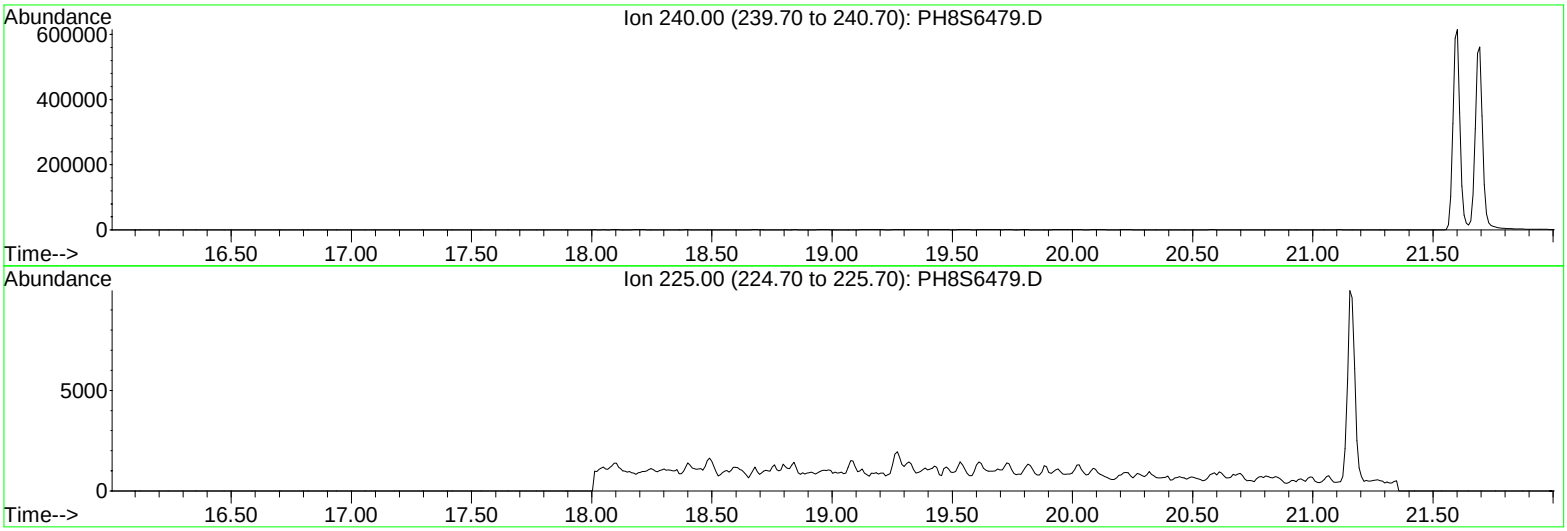


Thu Jan 10 08:48:28 2019

Axys Analytical CHRO Report

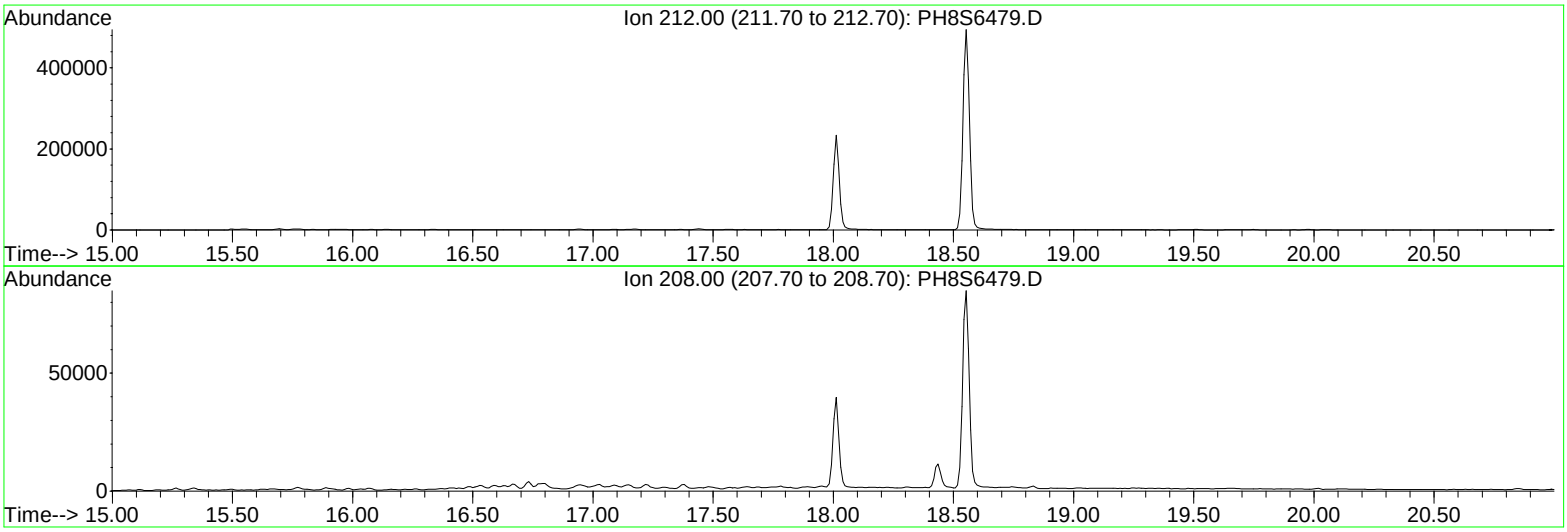
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

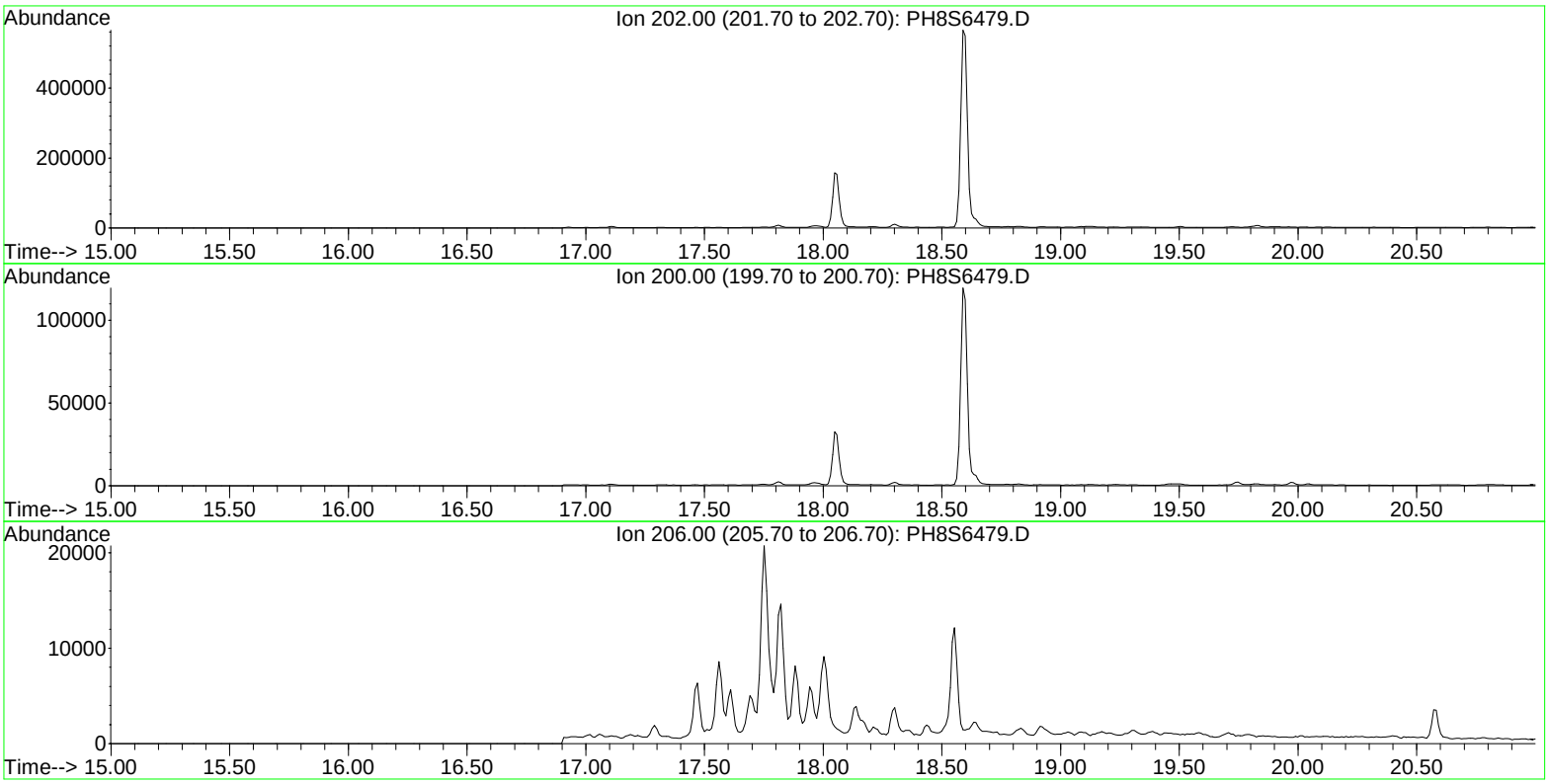


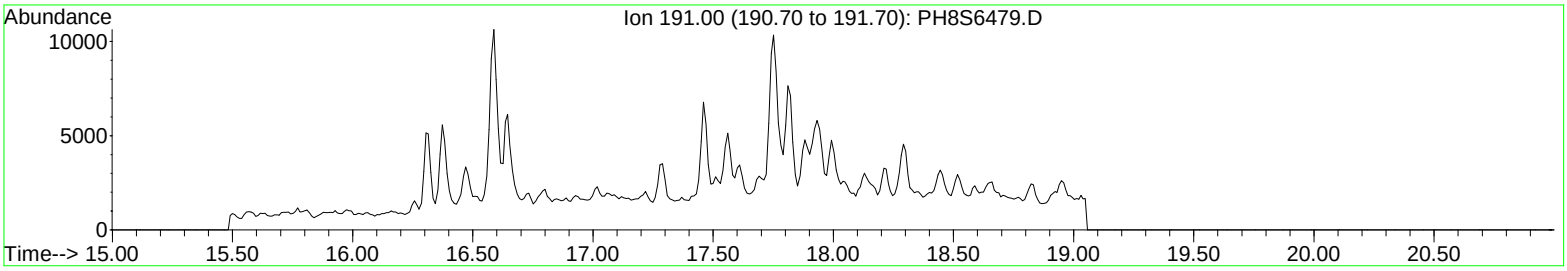


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



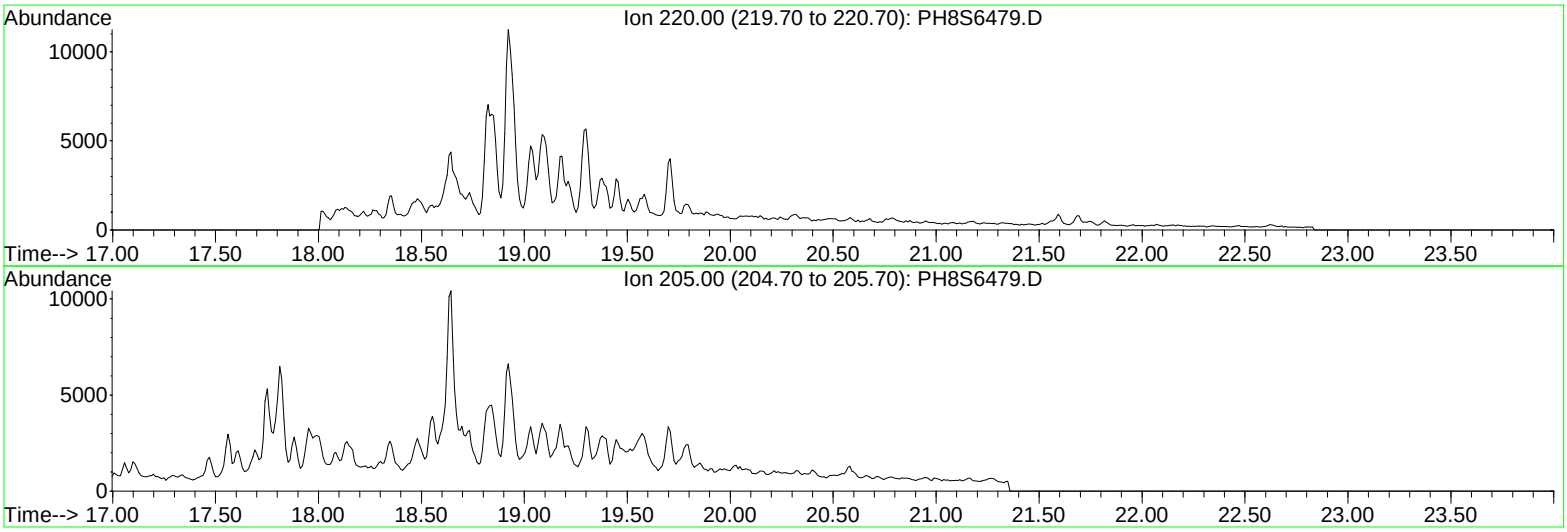


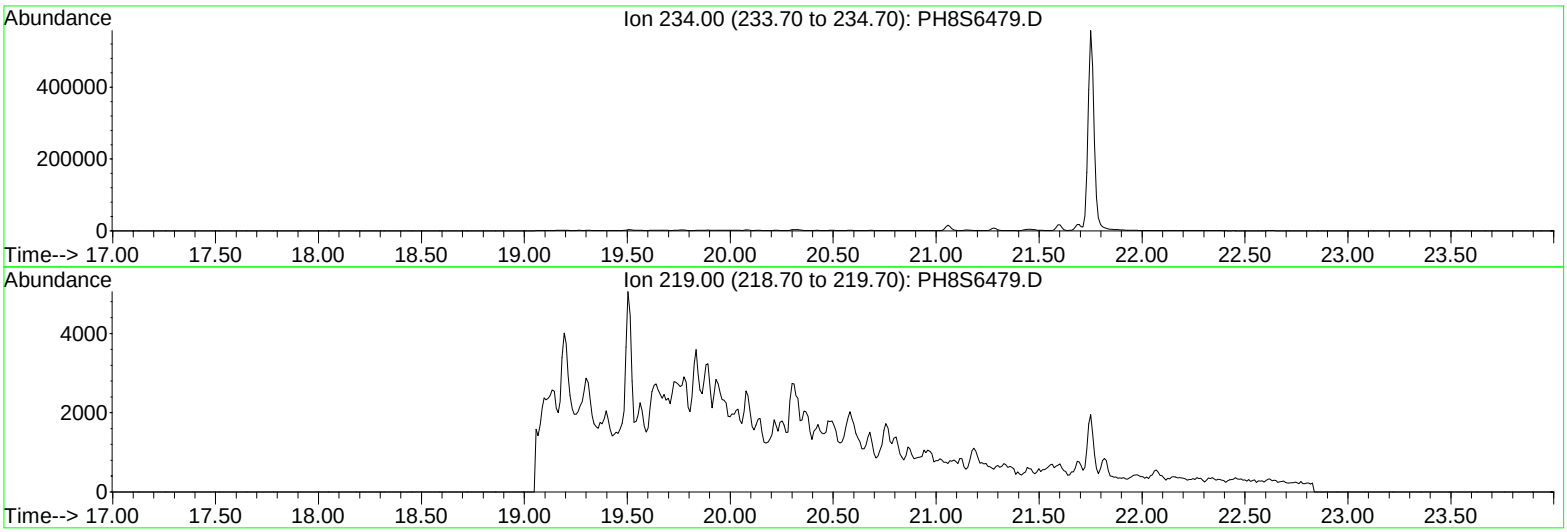


Thu Jan 10 08:48:34 2019

Axys Analytical CHRO Report

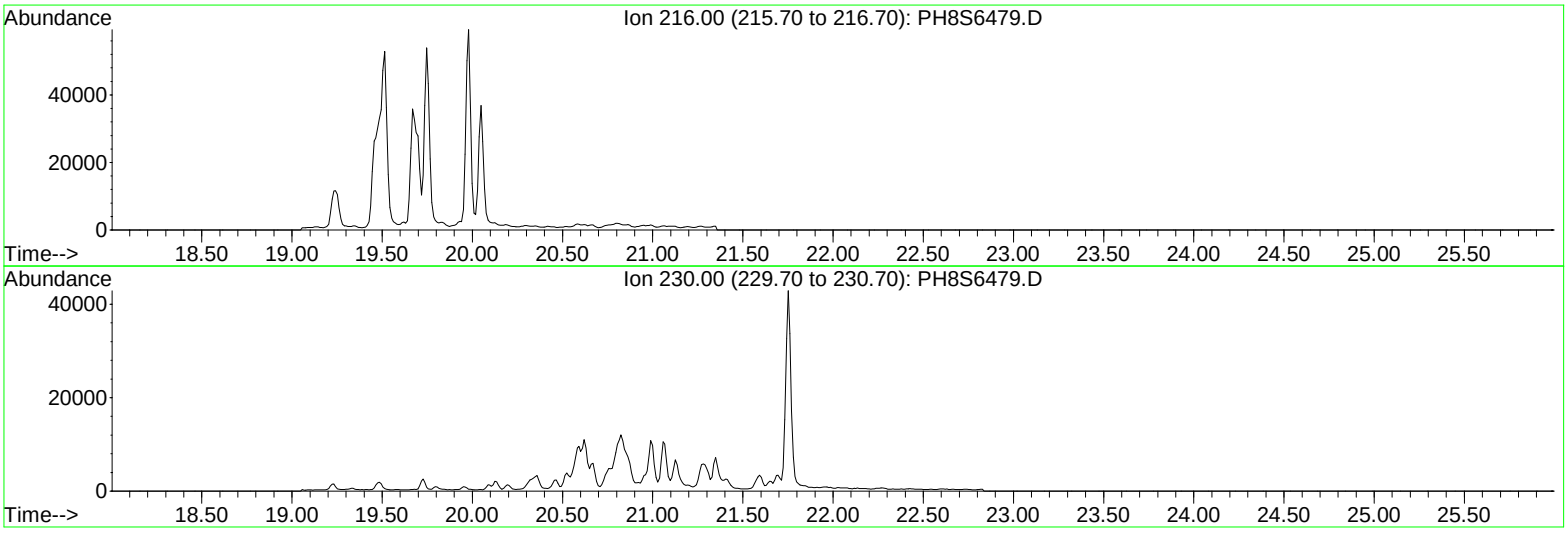
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

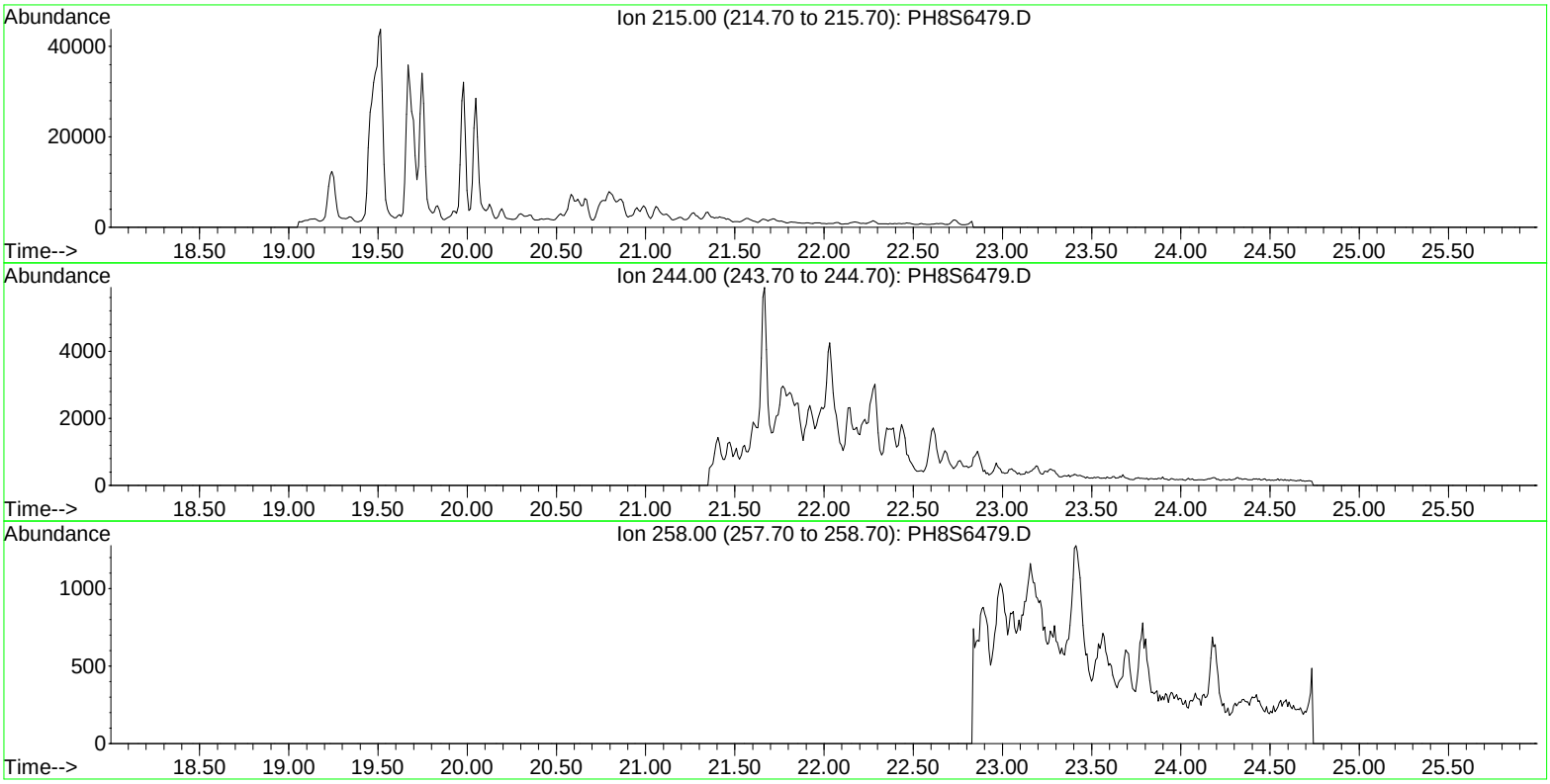


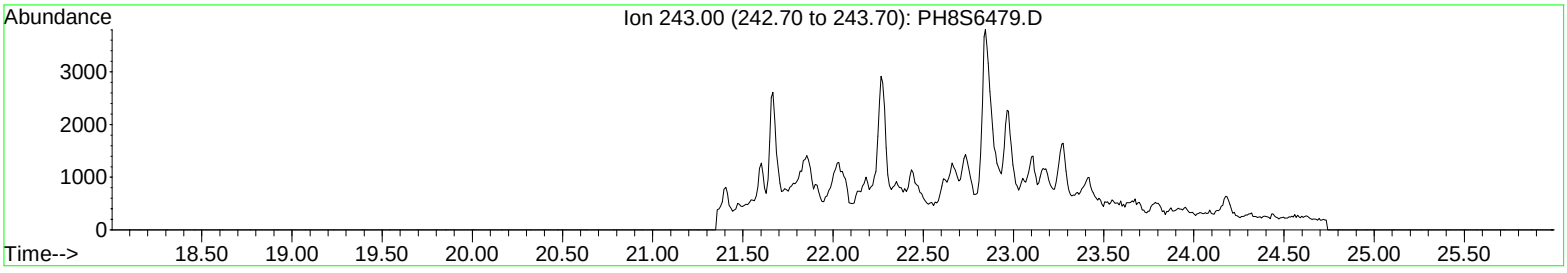


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



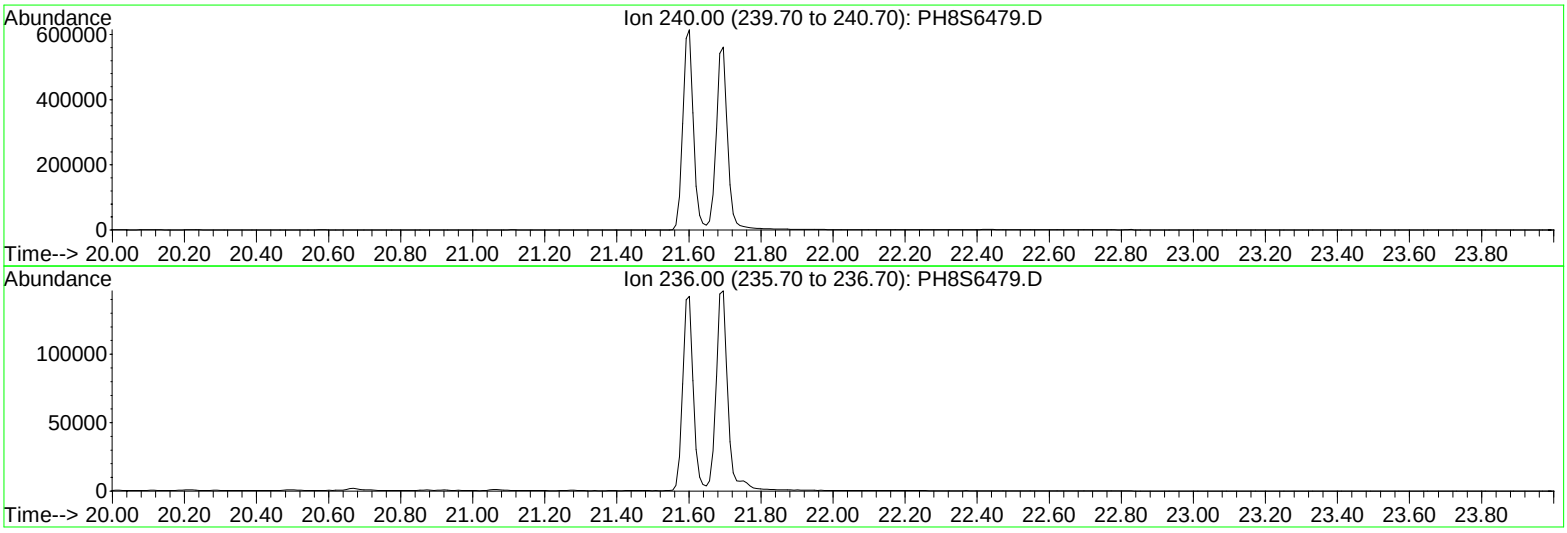


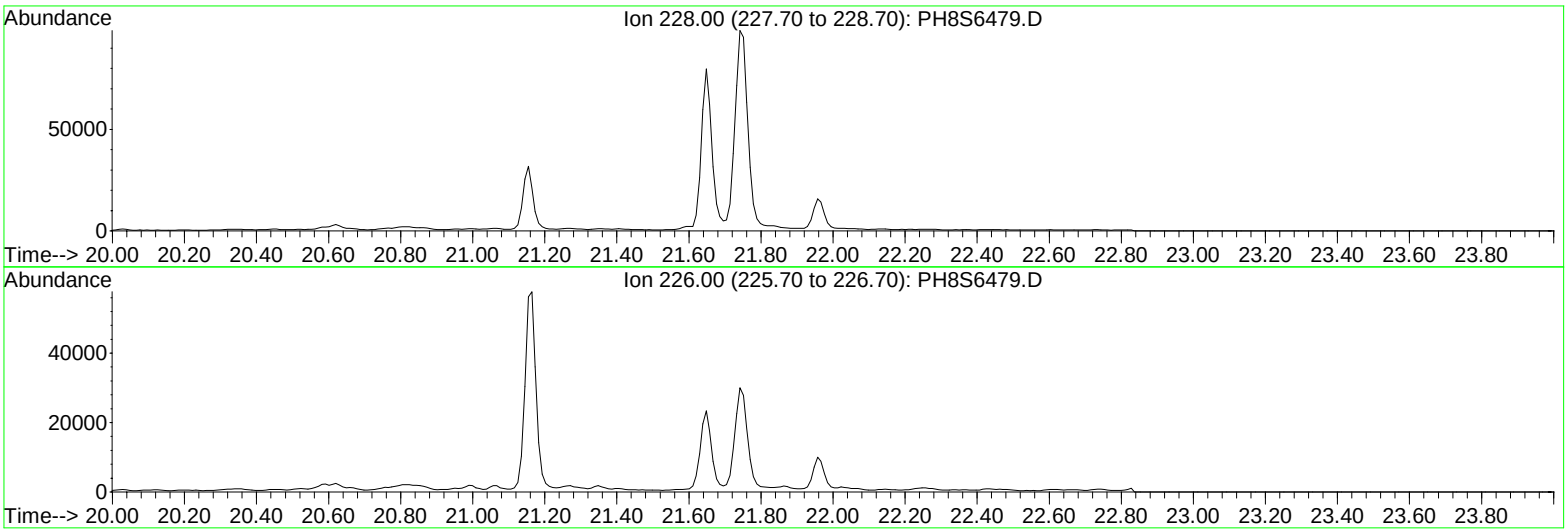


Thu Jan 10 08:48:41 2019

Axys Analytical CHRO Report

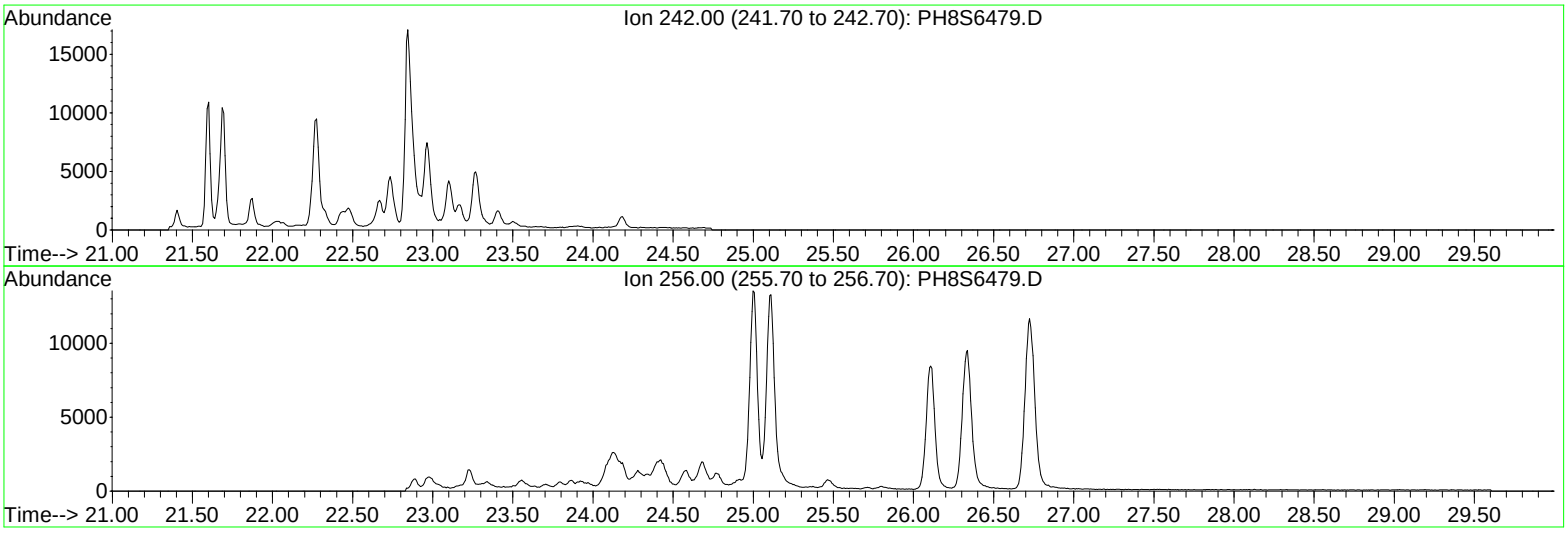
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

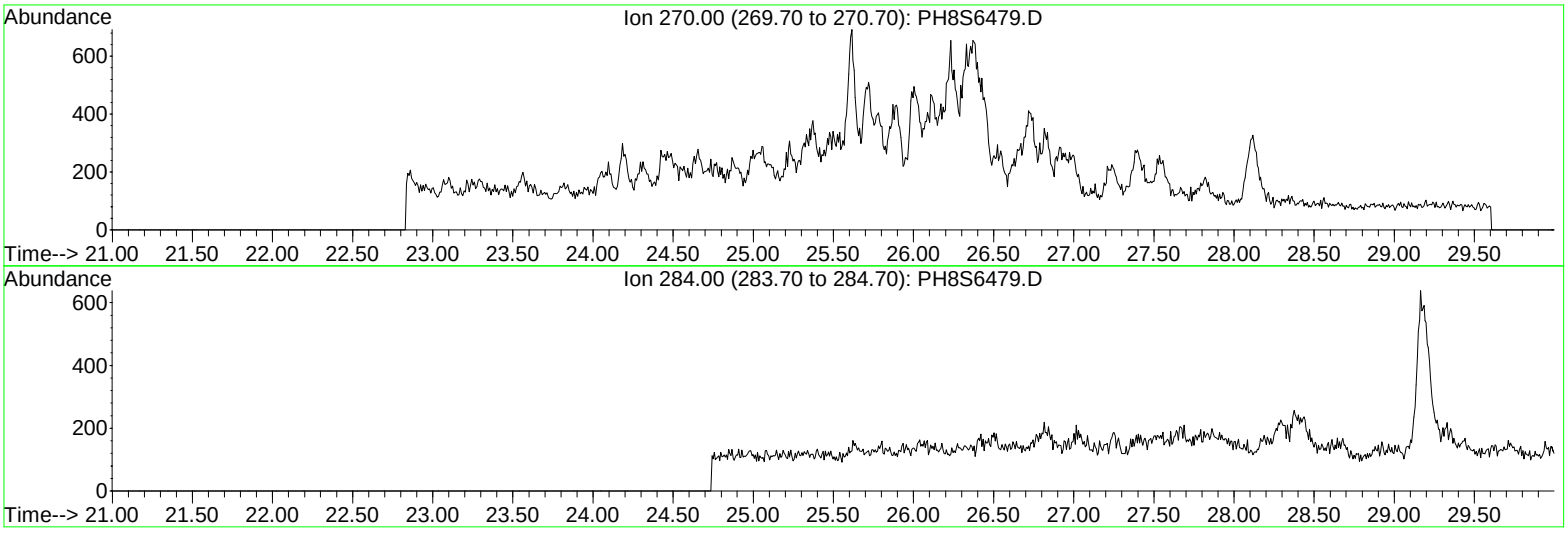




Axys Analytical CHRO Report

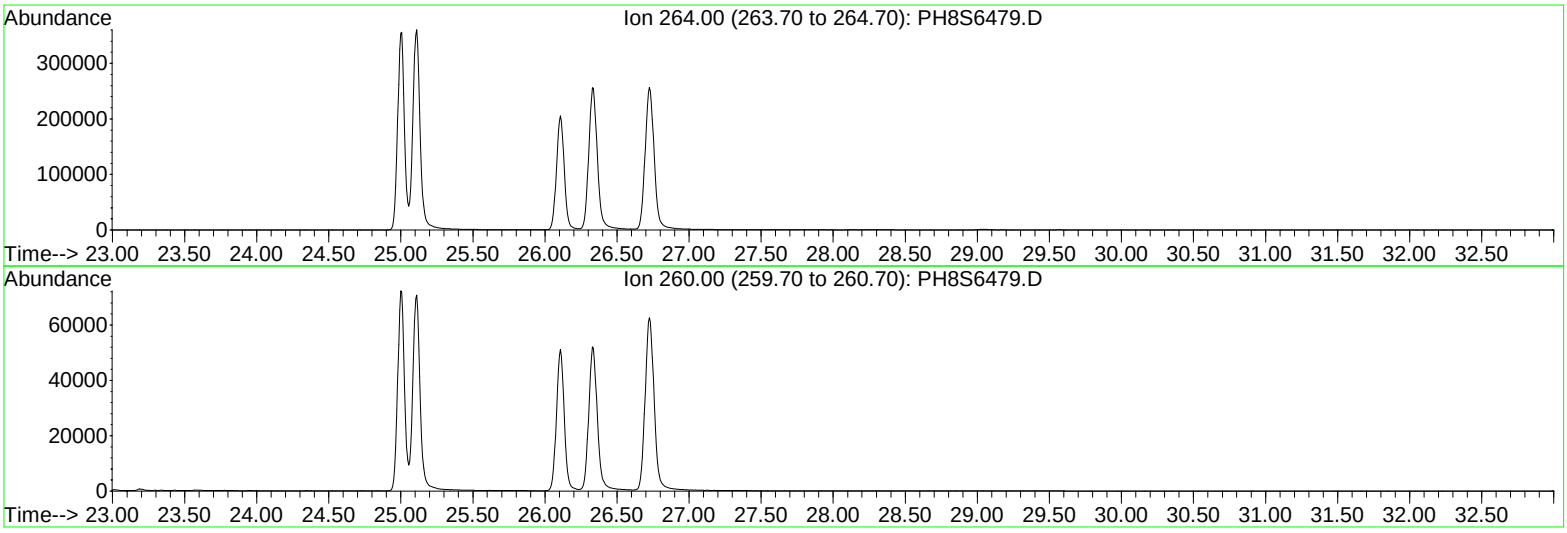
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

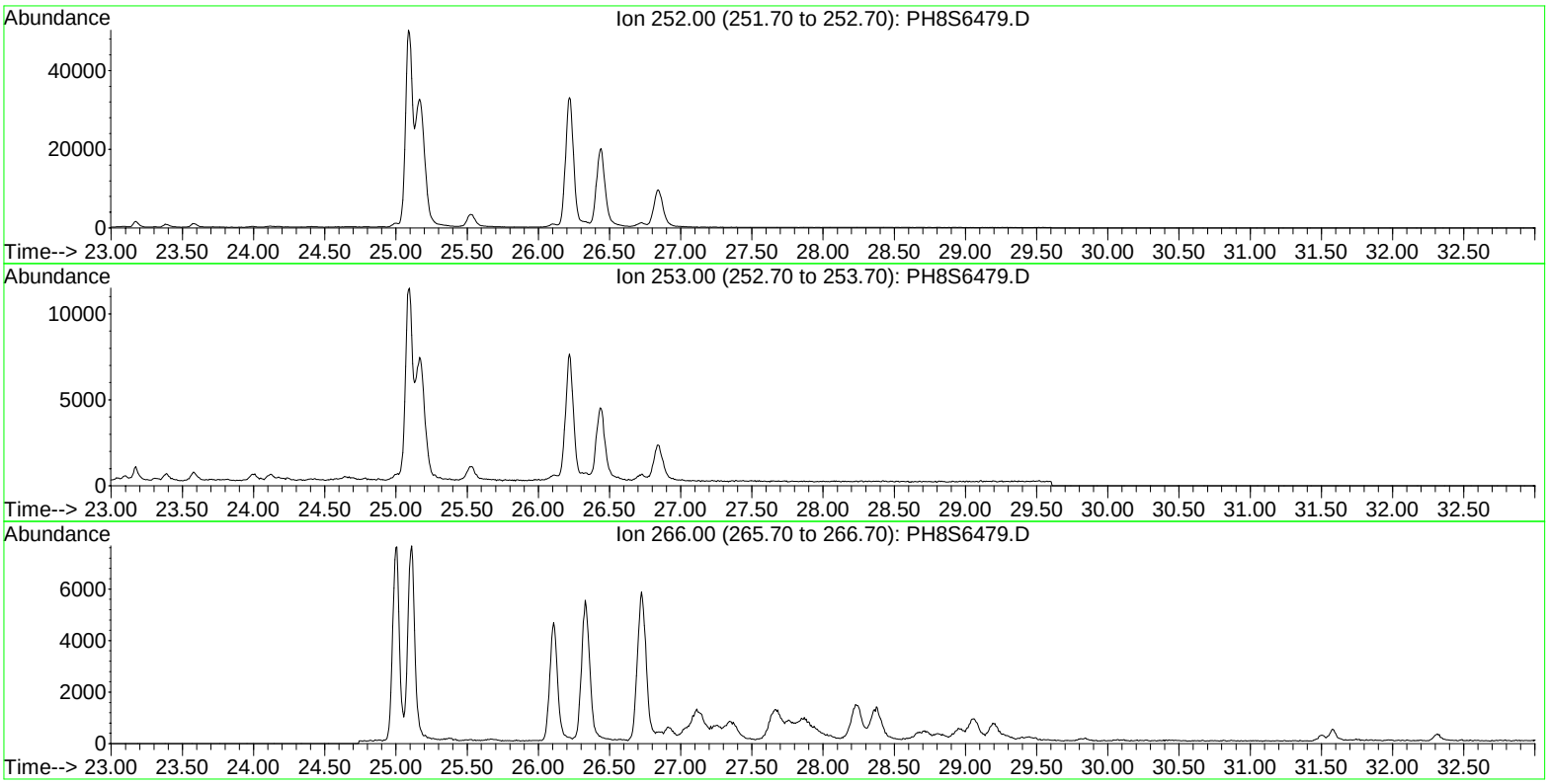


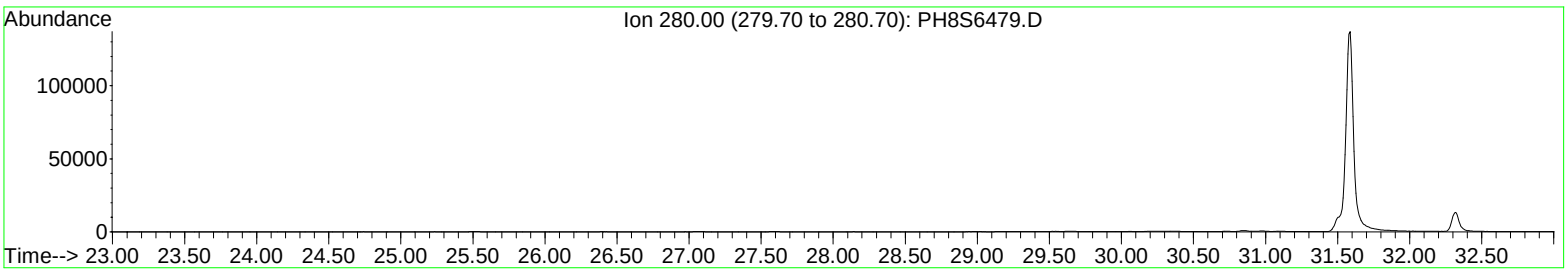


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



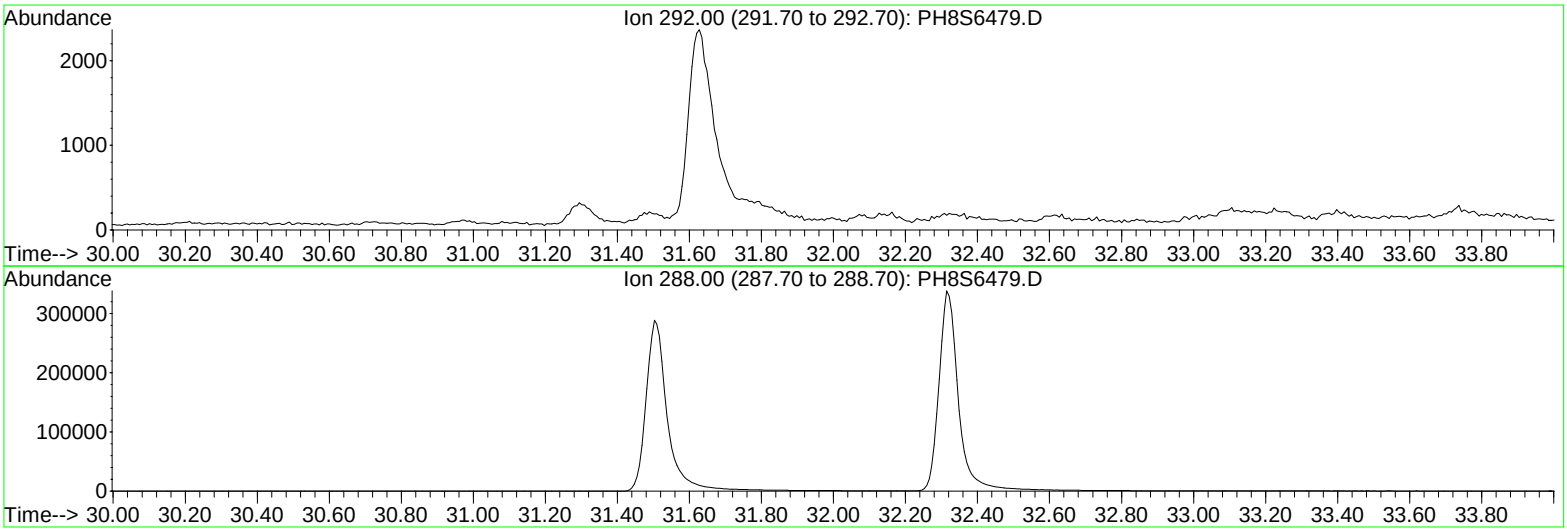


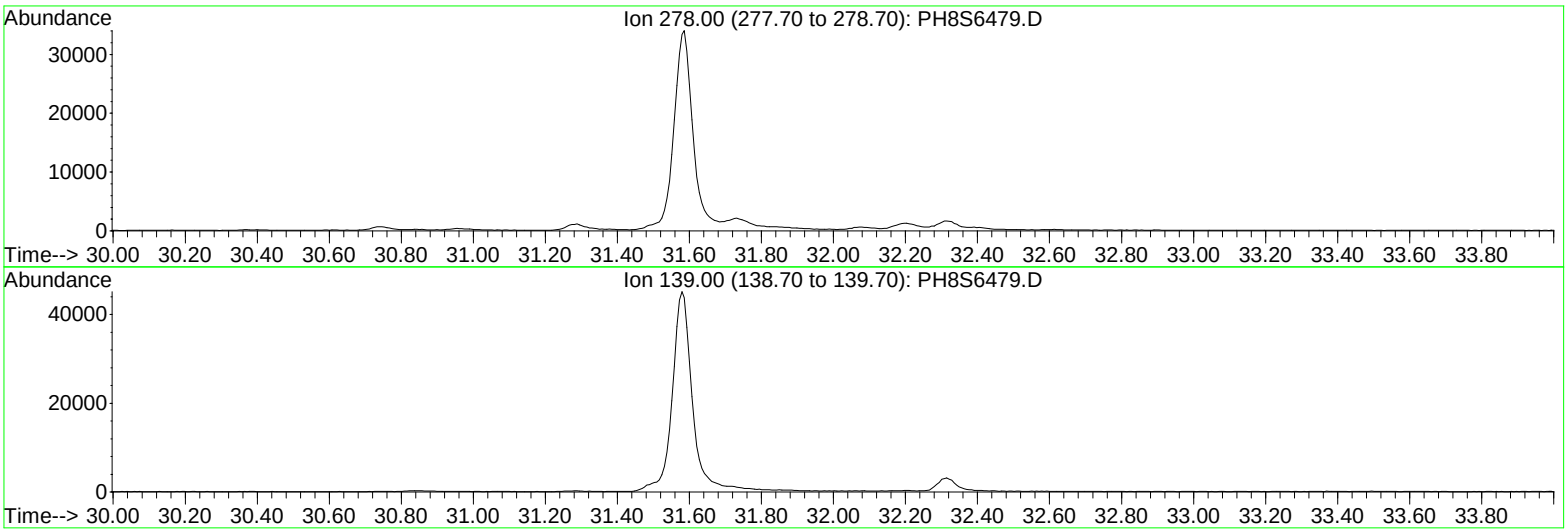


Thu Jan 10 08:48:51 2019

Axys Analytical CHRO Report

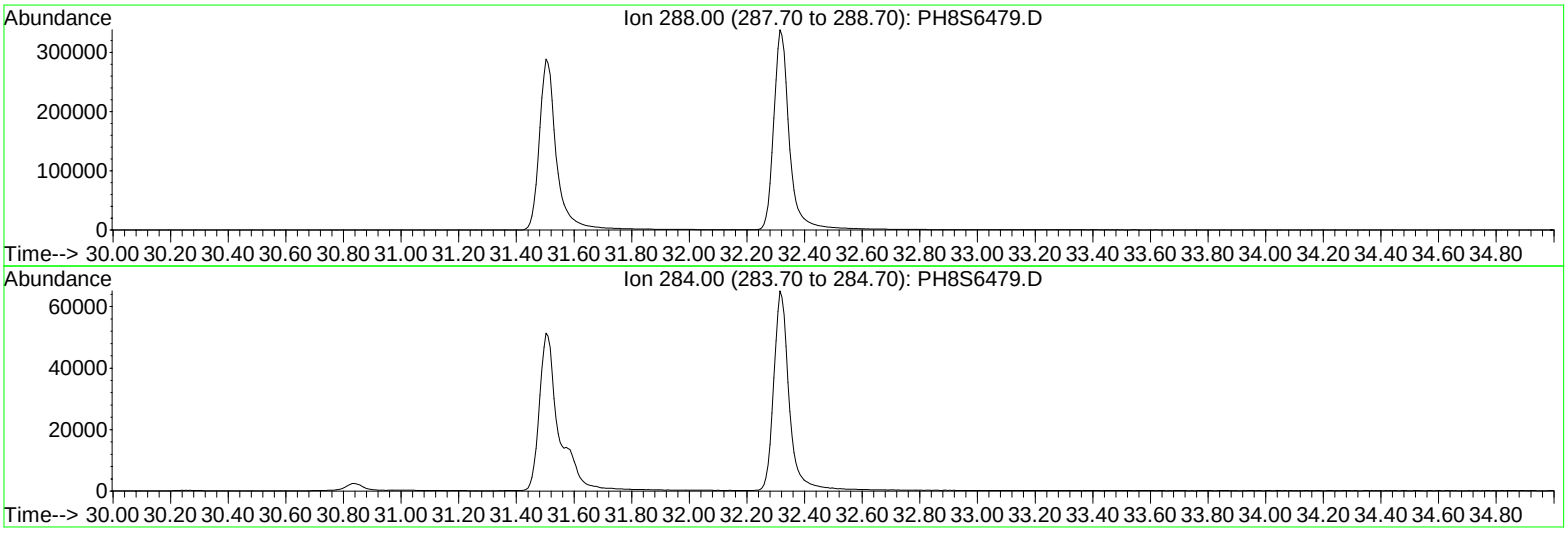
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

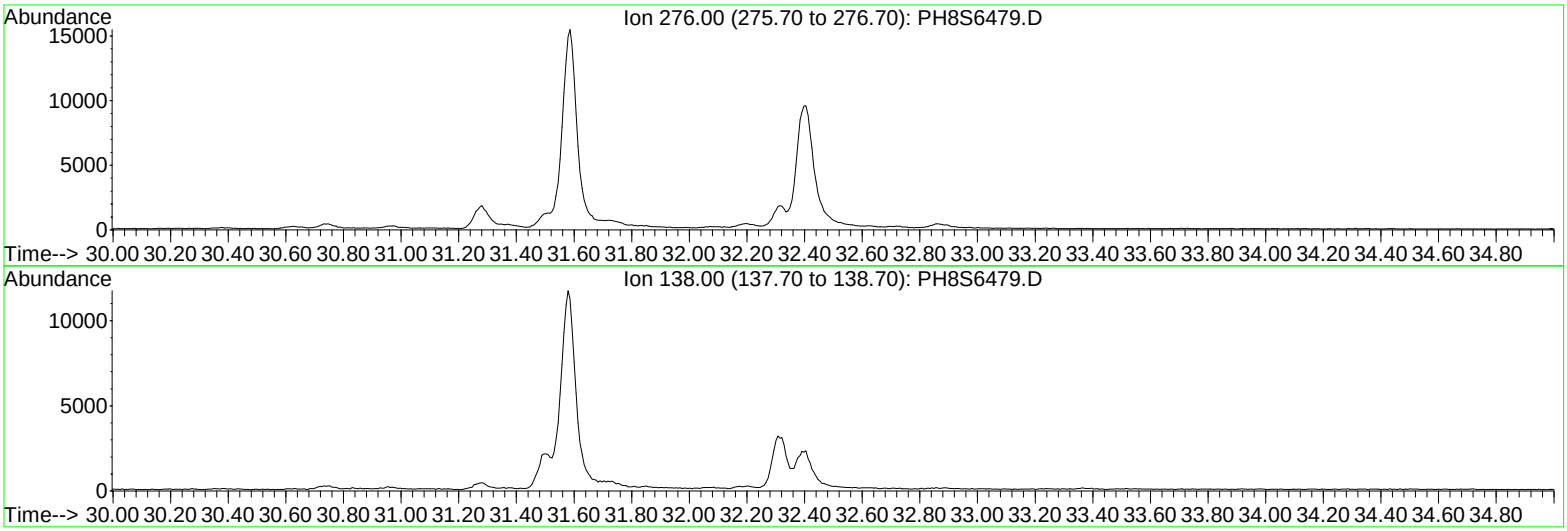




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6479.D
29/12/2018 3:47
L30540-6
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6479.D\618S6479.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 22
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.094	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	936455	18.55	2089.0774	I	0	2089.0774	1838		0.17	1
d10-Phenanthrene - SURR	685819	14.99	1590.4477	S	44.0567	9.2059	3743		0.15	0.808
d12-Benz(a)anthracene - SURR	1249000	21.6	4051.0397	S	99.7793	72.9475	21209		0.23	1.164
d12-Chrysene - SURR	1217823	21.7	3672.7368	S	93.6923	35.1514	10991		0.27	1.169
d12-Benzo(e)pyrene - REC	768446	26.11	2142.0997	I	0	2142.0997	1054		0.25	1
d12-Indeno(123cd)pyrene - SURR	1165486	31.5	4197.5034	S	105.4649	1.1138	292		0.17	1.207
d10-Phenanthrene	685819	14.99	3828.2078	I	0	3828.2078	3862		0.15	1
13C6-Phenanthrene	152641	15.05	748.8759	T	0	3.4263	698		0.19	1.004
d12-Benz(a)anthracene	1249000	21.6	4305.4083	I	0	4305.4083	22689		0.23	1
d10-Fluoranthene	401019	18.01	1055.7273	T	0	3.9094	1485		0.17	0.834
d12-Chrysene	1217823	21.7	4156.9459	I	0	4156.9459	12559		0.27	1
13C6-Chrysene	1149299	21.75	3498.986	T	0	2.4343	800		0.31	1.003
d12-Indeno(123cd)pyrene	1165486	31.5	4220.5726	I	0	4220.5726	315		0.17	1
13C6-Indeno(123cd)pyrene $	2354140	31.59	6734.6169	T	0	3.3294	1164		0.2	1.003

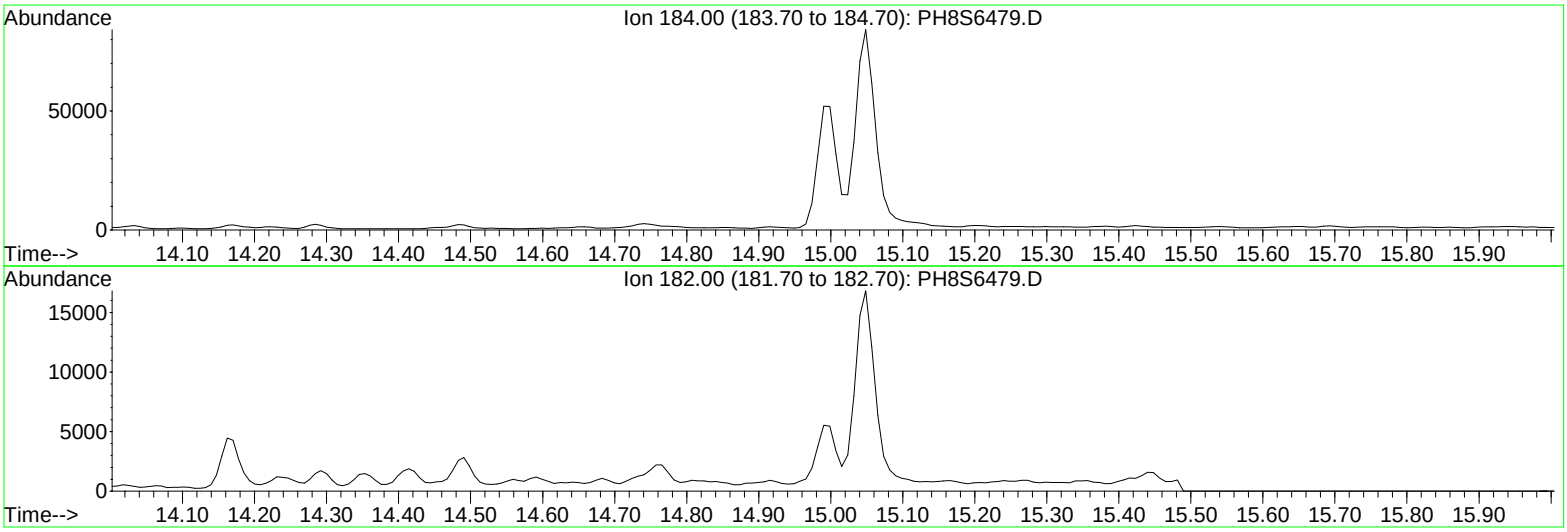
Checked by VR 08-Jan-19

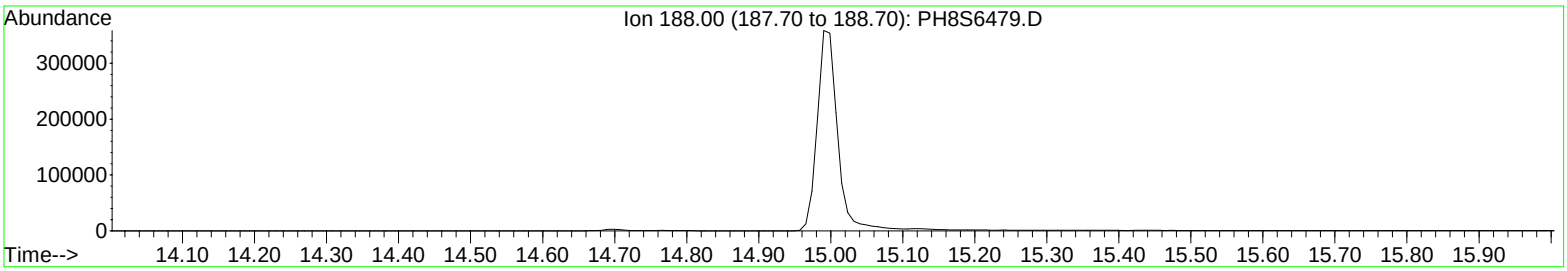
618S6479

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

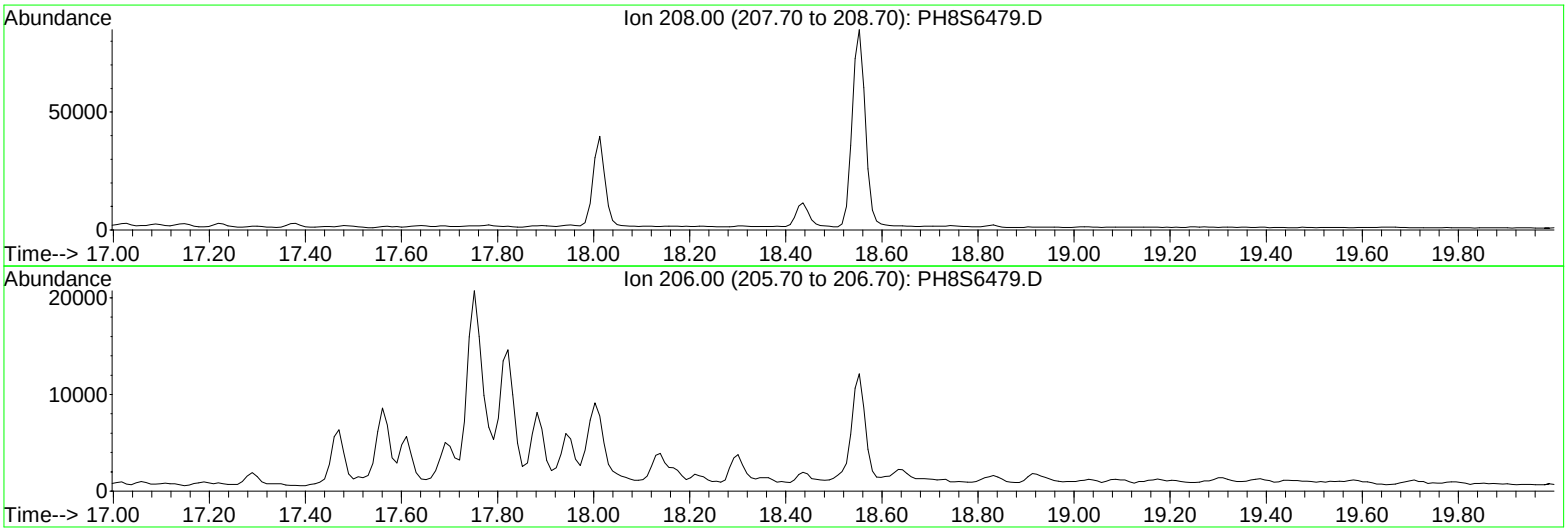
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

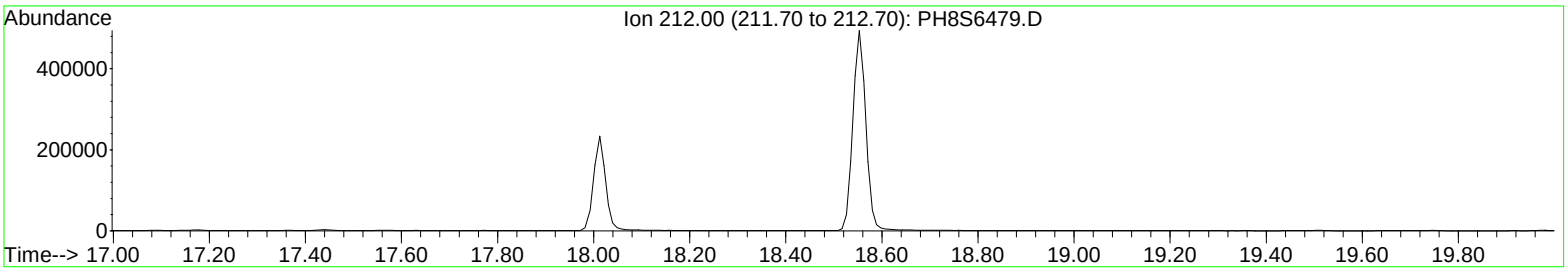




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

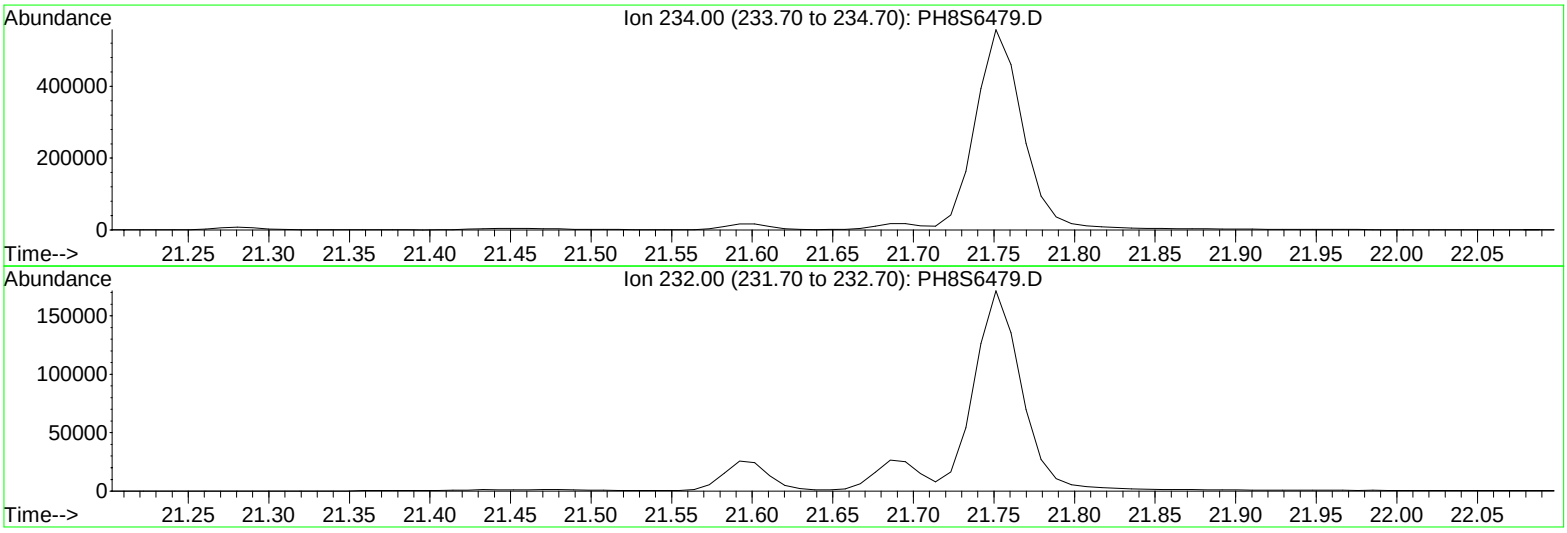


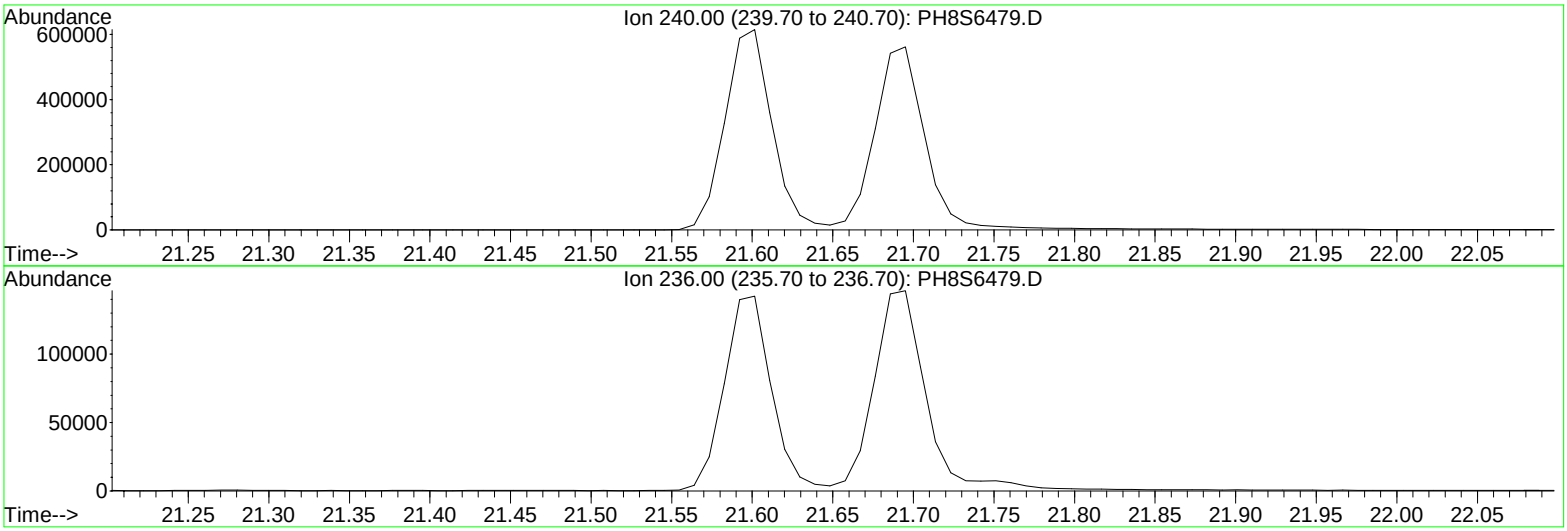


Thu Jan 10 08:58:04 2019

Axys Analytical CHRO Report

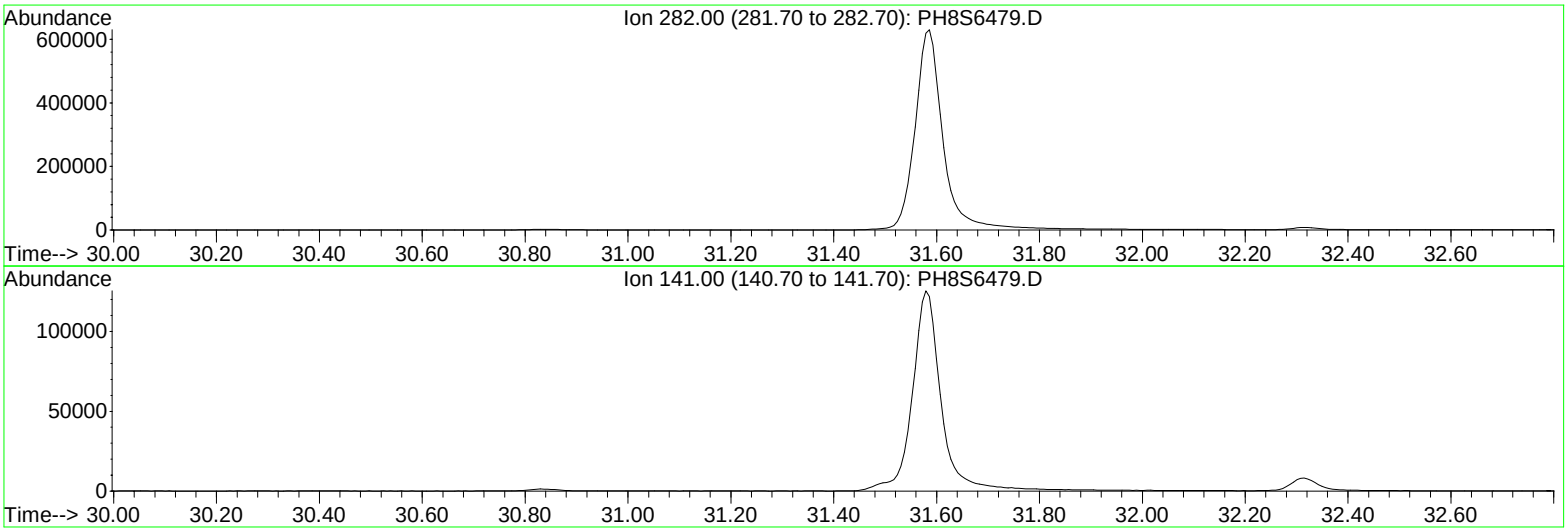
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL

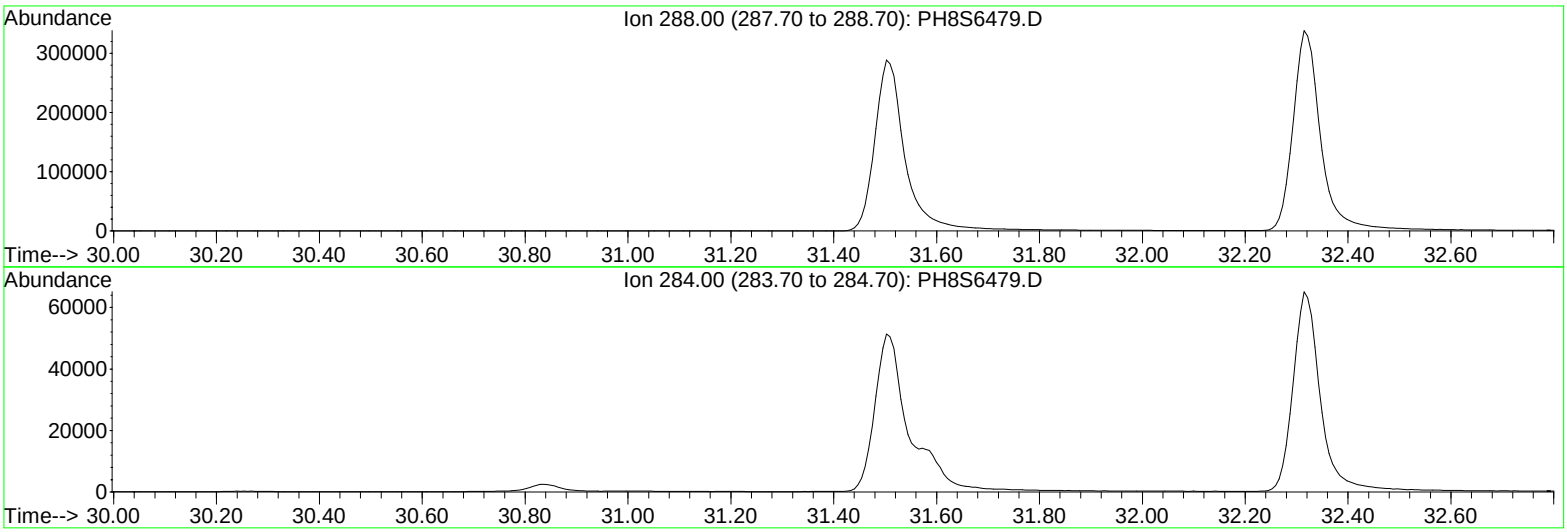




Axys Analytical CHRO Report

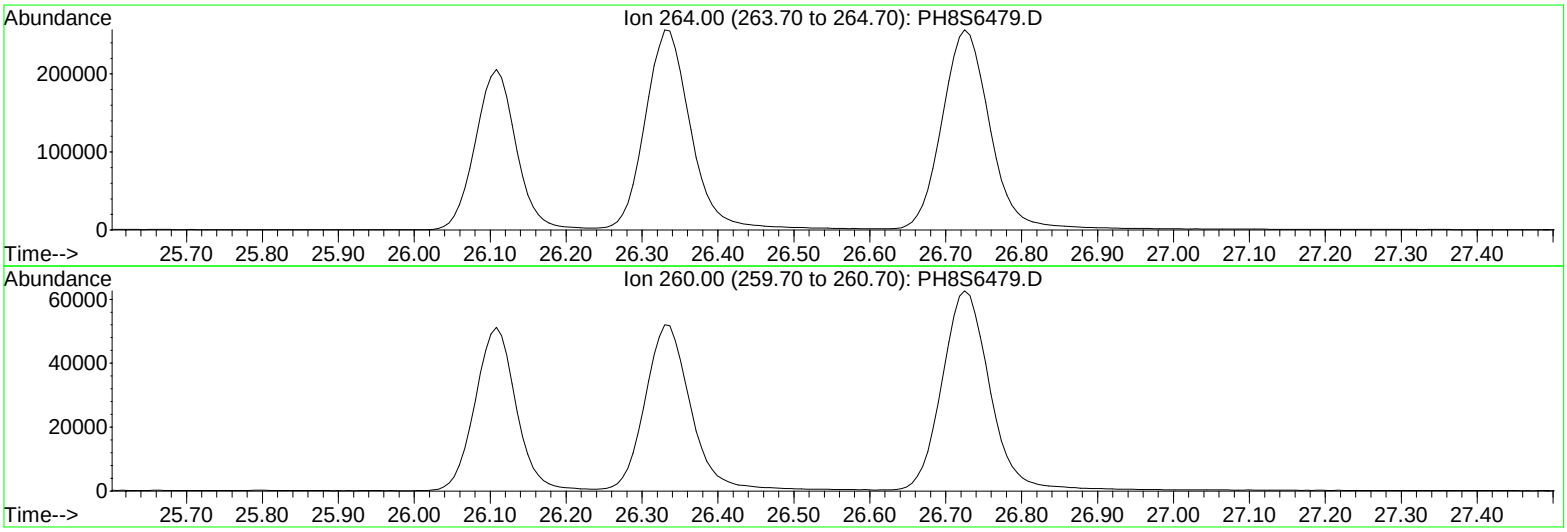
File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6479.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 3:47
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-6,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6480.D
29/12/2018 4:36
L30540-7
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6480.D\PH8S6480.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 23
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:42 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.097	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	339276	11.28	4169.2466	I	0	4169.2466		429	0.45	1
d8-Naphthalene - SURR	247452	6.86	492.746	S	24.6373	0.9025		110	0.09	0.608
d10-2-Methylnaphthalene - SURR	202456	8.52	601.4136	S	30.5286	1.667		136	0.19	0.755
d10-Biphenyl - SURR	312817	9.8	662.3562	S	32.3891	0.8683		99	-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	211279	10.1	686.8549	S	33.4236	4.28		319	0.74	0.896
d8-Acenaphthylene - SURR	401697	10.85	675.4357	S	32.7881	21.0485		3032	0.15	0.961
d10-Pyrene - REC	677308	18.55	4066.0475	I	0	4066.0475		1546	0.17	1
d10-Phenanthrene - SURR	531200	14.99	846.0224	S	46.871	12.5332		1906	0.14	0.808
d8-Dibenzothiophene - SURR	410519	14.7	735.1944	S	36.1275	26.0968		3530	0.09	0.792
d12-Benz(a)anthracene - SURR	885560	21.6	1499.7594	S	73.8798	119.5579		17102	0.23	1.164
d12-Chrysene - SURR	872708	21.69	1414.7615	S	72.1817	59.2239		8850	0.27	1.169
d12-Benzo(e)pyrene - REC	565147	26.11	4169.2466	I	0	4169.2466		885	0.25	1
d12-Benzo(b)Fluoranthene - SURR	824563	25	1593.2817	S	80.8772	462.6646		58005	0.2	0.958
d12-Benzo(k)Fluoranthene - SURR	899197	25.11	1573.109	S	78.6555	137.6941		19067	0.19	0.962
d12-Benzo(a)pyrene - SURR	762852	26.34	1557.9622	S	75.2639	14139.1538		1677140	0.2	1.009
d12-Perylene - SURR	809308	26.72	1657.7091	S	77.1027	252.1713		29824	0.24	1.024
d12-Indeno(123cd)pyrene - SURR	846230	31.5	1706.3961	S	85.7485	1.9133		230	0.17	1.207
d12-Benzo(ghi)perylene - SURR	906318	32.31	1536.5945	S	77.6058	20.5913		2942	0.19	1.238
d8-Naphthalene	247452	6.86	4127.967	I	0	4127.967		111	0.09	1
Naphthalene $	1811	6.9	25.2418	T	0	1.4731		106	0.07	1.006
d10-2-Methylnaphthalene	202456	8.52	4066.0475	I	0	4066.0475		143	0.19	1
2-Methylnaphthalene $	1144	8.6	18.9886	T	0	2.8264		170	0.97	1.01
1-Methylnaphthalene	947	8.87	16.6484	T	0	2.9936		170	0.97	1.04
C1-Naphthalenes	1141	8.6	0	T	0	0		862	-1	1.01
d10-Biphenyl	312817	9.8	4220.8462	I	0	4220.8462		101	-1	1
Biphenyl $	2663	9.85	32.3451	T	0	4.1965		346	0.31	1.006
C1-Biphenyls $	947	11.33	11.5024	T	0	3.2281		266	0.12	1.156
C2-Biphenyls $	3787	12.7	45.9974	T	0	10.8464		893	0.14	1.296
d12-2,6-Dimethylnaphthalene	211279	10.1	4241.4861	I	0	4241.4861		327	0.74	1
2,6-Dimethylnaphthalene $	1633	10.22	27.1062	T	0	2.8449		171 #	1.19	1.011
Ethyl/DiMe-Naphthalenes	1633	10.22	29.9608	T	0	3.1445		171 #	27.58	1.011
1,2-Dimethylnaphthalene	39270	10.85	805.4614	T	0	3.5153		171 #	0.01	1.073
C2-Naphthalenes	1633	10.22	0	T	0	0		4933	-1	1.011
2,3,6-Trimethylnaphthalene	7344	12.16	120.5963	T	0	6.2444		380	0.77	1.204
2,3,5-Trimethylnaphthalene $	6060	12.38	104.8695	T	0	6.5806		380	1.06	1.225
C3-Naphthalenes	6060	12.38	102.1192	T	0	6.408		380	1.06	1.225
1,4,6,7-Tetramethylnaphthalene $	5348	13.91	87.7831	T	0	87.3847		5324 #	0.12	1.377
C4-Naphthalenes	5348	13.91	87.7831	T	0	87.3847		5324	0.12	1.377
d8-Acenaphthylene	401697	10.85	4251.806	I	0	4251.806		3130	0.15	1
Acenaphthylene $	7961	10.88	69.3489	T	0	1.1753		135	0.2	1.003
Acenaphthene $	1825	11.36	28.765	T	0	3.2323		205	1.18	1.048
C1-Acenaphthenes $	276	11.73	4.3502	T	0	9.6118		610	0.24	1.081
d8-Dibenzothiophene	410519	14.7	4200.2064	I	0	4200.2064		3823	0.09	1
Dibenzothiophene $	3541	14.74	30.3067	T	0	9.5532		1116 #	0.68	1.003
C1-Dibenzothiophenes-1	9947	15.91	124.0789	T	0	50.9773		4087 #	1.49	1.082
2/3-Methyldibenzothiophenes $	9230	16.13	115.1351	T	0	50.9773		4087 #	0.31	1.097
C1-Dibenzothiophenes-2	5049	16.34	62.9813	T	0	50.9773		4087 #	3.28	1.112
C1-Dibenzothiophenes	9230	16.13	0	T	0	0		4087	-1	1.097
4,6-Dimethyldibenzothiophene	3524	16.94	41.0175	T	0	33.8764		2910 #	-1	1.152

+ Report only.

PH8S6480

Charlotte 08-Jan-19

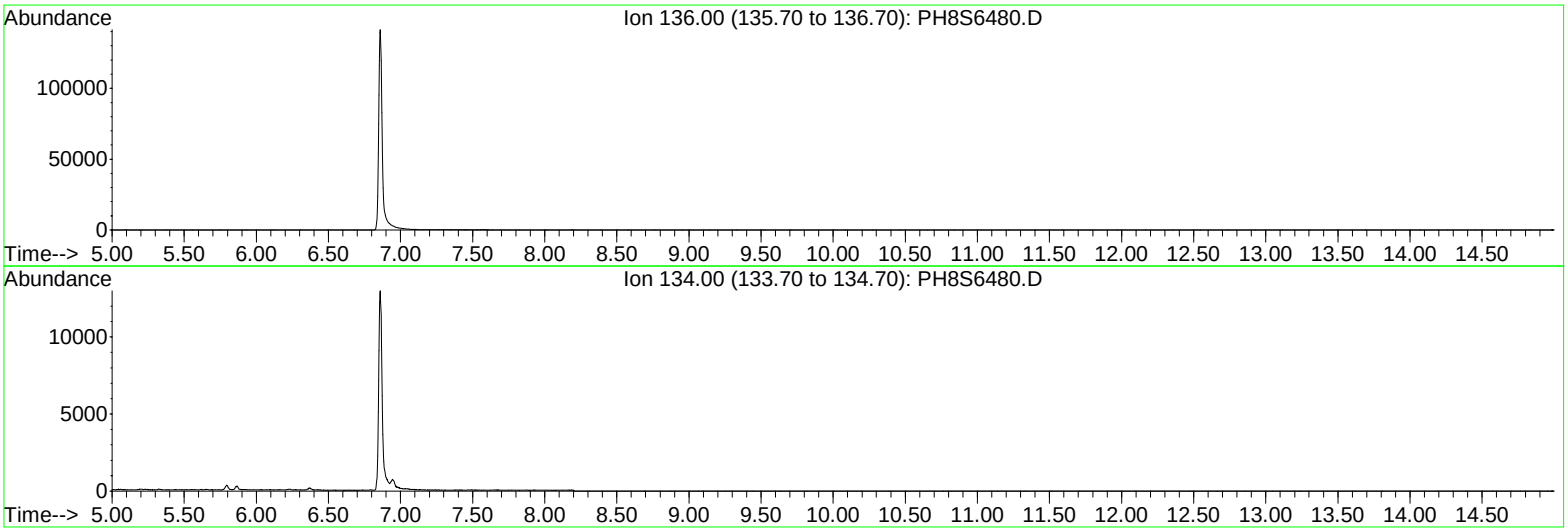
pv by vr
03-Jan-2019

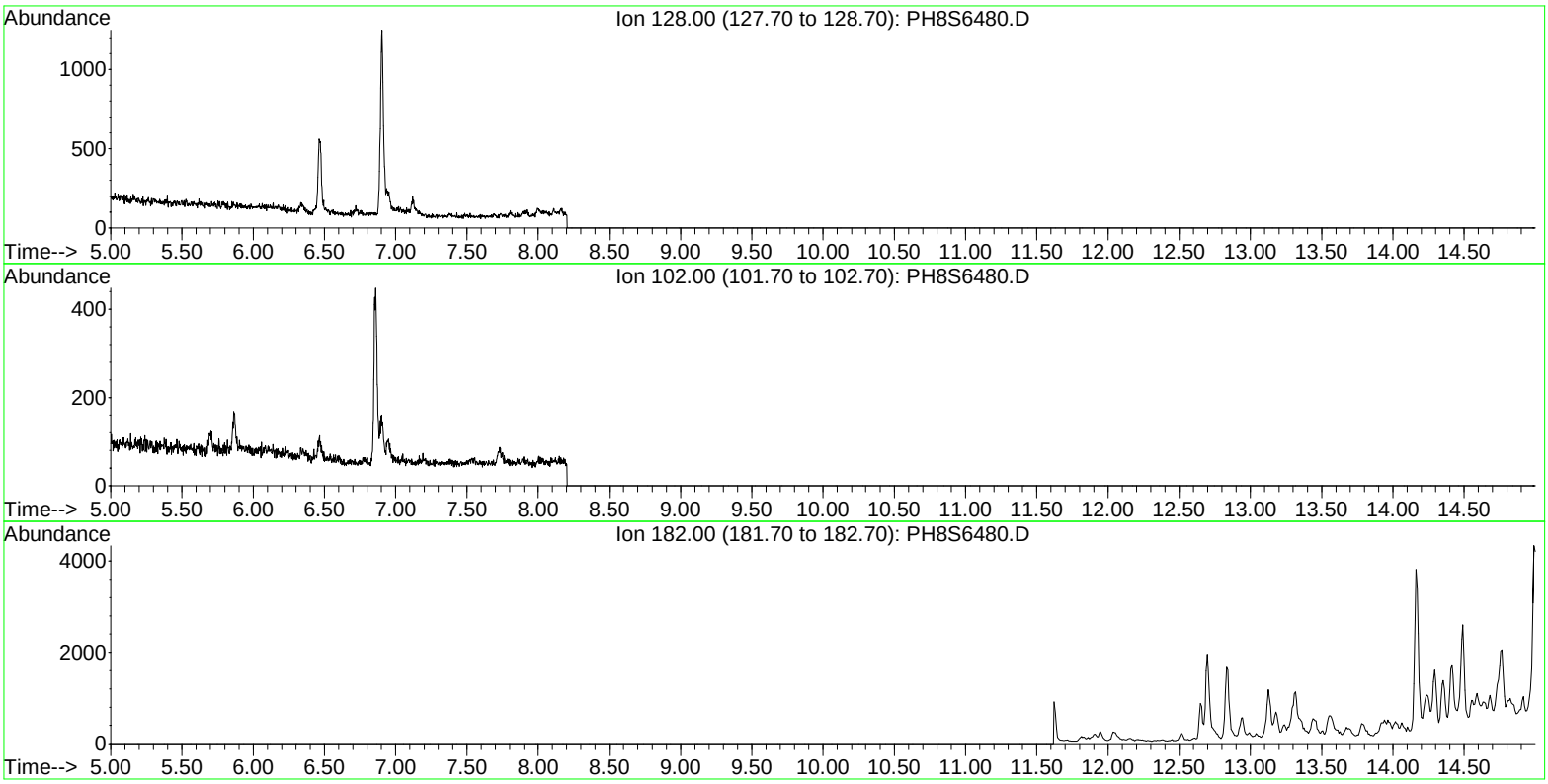
2,4-Dimethyldibenzothiophene $	2352	17.09	35.4479 T	0	43.865	2910 #	2.35	1.163
C2-Dibenzothiophenes	2352	17.09	35.4479 T	0	43.865	2910	2.35	1.163
C3-Dibenzothiophenes $	5385	18.09	81.1594 T	0	124.6308	8269	0.8	1.231
C4-Dibenzothiophenes $	678	18.81	10.2184 T	0	22.4299	1488	1.94	1.279
d10-Phenanthrene	531200	14.99	3725.4902 I	0	3725.4902	2038	0.14	1
Fluorene $	2343	12.66	22.9923 T	0	4.1857	427	0.98	0.844
2-Methylfluorene $	2184	14.08	31.5167 T	0	66.852	4633 #	2.11	0.939
C1-Fluorenes	2184	14.08	31.5167 T	0	66.852	4633	2.11	0.939
1,7-Dimethylfluorene $	3771	15.51	58.5143 T	0	182.0083	11730 #	-1	1.035
C2-Fluorenes	3771	15.51	58.5143 T	0	182.0083	11730 #	-1	1.035
C3-Fluorenes $	3558	16.41	55.2092 T	0	250.031	16114	0.76	1.095
Phenanthrene $	25490	15.05	167.1391 T	0	9.9832	1522	0.2	1.004
Anthracene	19581	15.17	126.8796 T	0	9.8653	1522	0.19	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	8735	16.31	81.1859 T	0	8.8647	954	0.62	1.088
2-Methylphenanthrene	10911	16.37	102.7557 T	0	8.9823	954	0.61	1.092
2-Methylanthracene	6650	16.47	64.5238 T	0	9.2543	954 #	0.61	1.099
9/4-Methylphenanthrenes	19736	16.59	183.4328 T	0	8.8647	954 #	0.76	1.106
1-Methylphenanthrene $	11647	16.65	102.5945 T	0	8.4015	954	0.68	1.11
C1-Phenanthrenes/Anthracenes	11647	16.65	0 T	0	0	12127	-1	1.11
Fluoranthene $	225078	18.06	1201.4287 T	0	5.1543	966	0.2	1.205
Pyrene	850795	18.59	4392.3744 T	0	4.9852	966	0.21	1.24
3,6-Dimethylphenanthrene $	11189	17.47	107.997 T	0	240.3261	24899 #	0.83	1.165
2,6-Dimethylphenanthrene	12210	17.56	117.6352 T	0	239.8844	24899 #	0.5	1.171
1,7-Dimethylphenanthrene	11933	17.88	114.7566 T	0	239.4469	24899 #	0.69	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	11189	17.47	107.7985 T	0	239.8844	24899	0.83	1.165
1,8-Dimethylphenanthrene	7191	18.14	69.2805 T	0	239.8844	24899 #	0.49	1.21
C2-Phenanthrenes/Anthracenes	11189	17.47	0 T	0	0	24899	-1	1.165
1,2,6-Trimethylphenanthrene $	6131	19.37	64.269 T	0	135.4396	12920	0.72	1.292
C3-Phenanthrenes/Anthracenes	6131	19.37	64.269 T	0	135.4396	12920	0.72	1.292
Retene $	10067	19.5	276.1796 T	0	246.0578	8969 #	0.8	1.301
C4-Phenanthrenes/Anthracenes	10067	19.5	276.1796 T	0	246.0578	8969	0.8	1.301
C1-Fluoranthenes/Pyrenes-1	32190	19.23	289.0288 T	0	2991.4138	333164	0.99	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	178698	19.51	1604.5007 T	0	2991.4138	333164	0.93	1.302
C1-Fluoranthenes/Pyrenes-2	114459	19.98	1027.709 T	0	2991.4138	333164	0.56	1.333
C1-Fluoranthenes/Pyrenes	178698	19.51	0 T	0	0	333164	-1	1.302
C2-Fluoranthenes/Pyrenes $	3908	20.46	35.0893 T	0	330.5841	36818	0.37	1.365
C3-Fluoranthenes/Pyrenes $	3795	21.92	34.0747 T	0	276.3818	30782 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	538	23.28	4.8306 T	0	36.2764	4040	7.89	1.553
d12-Benz(a)anthracene	885560	21.6	4189.8865 I	0	4189.8865	19463	0.23	1
d10-Fluoranthene $	165757	18.01	722.331 T	0	3.2706	751	0.17	0.834
Benz(a)anthracene	156915	21.65	574.6833 T	0	3.0721	839	0.31	1.002
d12-Chrysene	872708	21.69	4045.4076 I	0	4045.4076	10582	0.27	1
Chrysene $	224558	21.74	843.256 T	0	3.3094	881	0.29	1.003
5/6-Methylchrysenes $	10789	23.1	53.6517 T	0	631.969	127085	-1	1.065
1-Methylchrysene	18930	23.27	90.8664 T	0	610.0227	127085	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	10789	23.1	52.7039 T	0	620.805	127085	-1	1.065
5,9-Dimethylchrysene $	10920	24.4	70.1438 T	0	94.6607	14737	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	10920	24.4	70.1438 T	0	94.6607	14737	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	553	25.05	3.5522 T	0	8.4701	1319	-1	1.155
C4-Benz(a)anthracenes/Chrysenes $	49	26.09	0.3147 T	0	2.043	318	-1	1.203
d12-Benzo(b)fluoranthene	824563	25	4066.0475 I	0	4066.0475	49013	0.2	1
Benzo(b)fluoranthene-SURR int	1705	25	0 T	0	0	71107 #	0.31	1
Benzo(b)fluoranthene $	202256	25.09	688.8204 T	0	2.3482	690	0.22	1.004
d12-Benzo(k)fluoranthene	899197	25.11	4127.967 I	0	4127.967	17462	0.19	1
Benzo(j/k)fluoranthenes	163700	25.17	595.5847 T	0	2.7189	747	0.22	1.002
Benzofluoranthenes	204440	25.09	0 T	0	0	8757	-1	0.999
d12-Benzo(a)pyrene	762852	26.34	4272.4458 I	0	4272.4458	1778690	0.2	1
Benzo(e)pyrene	151458	26.22	611.2658 T	0	3.4927	865	0.21	0.996
Benzo(a)pyrene	108620	26.44	464.4353 T	0	3.7003	865	0.23	1.004
7-Methylbenzo(a)pyrene $	4162	29.2	25.0013 T	0	22.405	3730	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	4162	29.2	25.0013 T	0	22.405	3730	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	24	29.89	0.1442 T	0	16.8402	2803	-1	1.135
d12-Perylene	809308	26.72	4437.5645 I	0	4437.5645	32737	0.24	1
Perylene	46066	26.84	183.1818 T	0	3.5618	896	0.21	1.004
d12-Indeno(123cd)pyrene	846230	31.5	4107.3271 I	0	4107.3271	252	0.17	1
d14-Dibenzo(ah)anthracene $	7655	31.63	40.6145 T	0	2.0024	377 #	3.16	1.004
Dibenzo(ah)anthracene $	8186	31.74	34.9014 T	0	6.3292	1484 #	0.28	1.007
Indeno(123cd)pyrene $	37847	31.58	150.1224 T	0	3.3932	855 #	~~0.92~~ 0.17	1.002
d12-Benzo(ghi)perylene	906318	32.31	4086.6873 I	0	4086.6873	2966	0.19	1
Benzo(ghi)perylene	47429	32.4	179.0838 T	0	2.9748	788	0.21	1.003

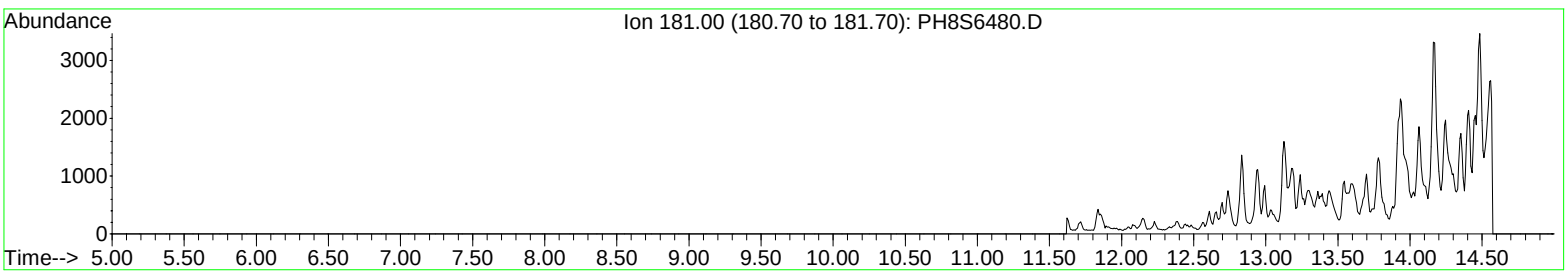
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



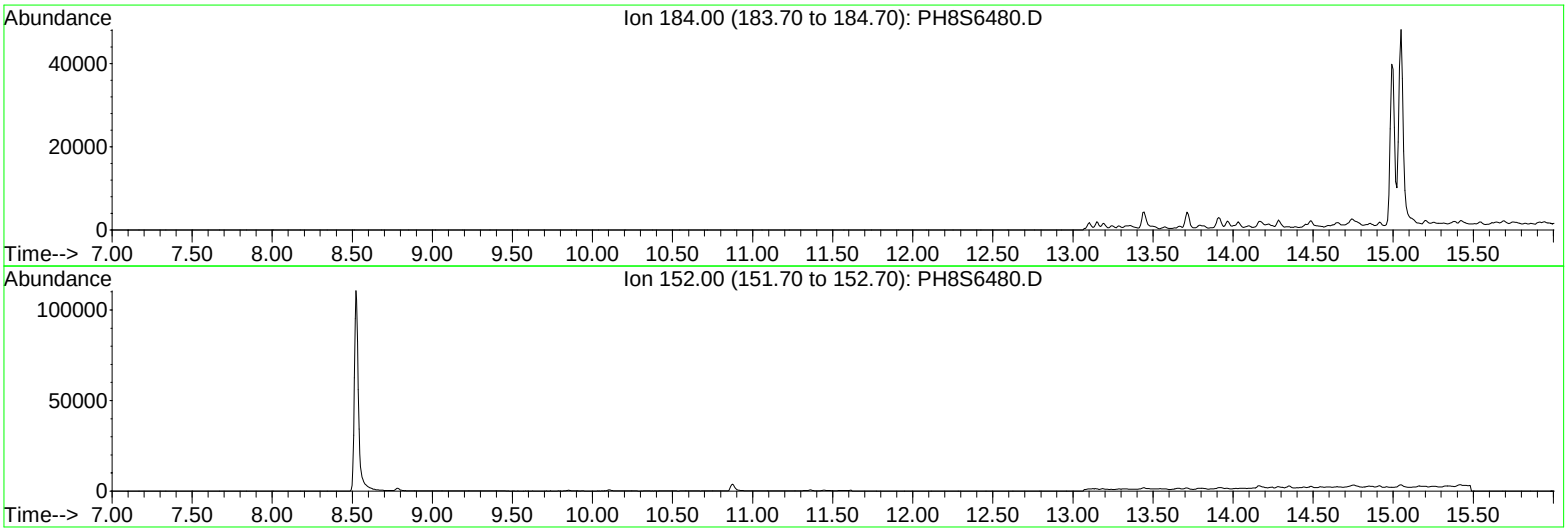


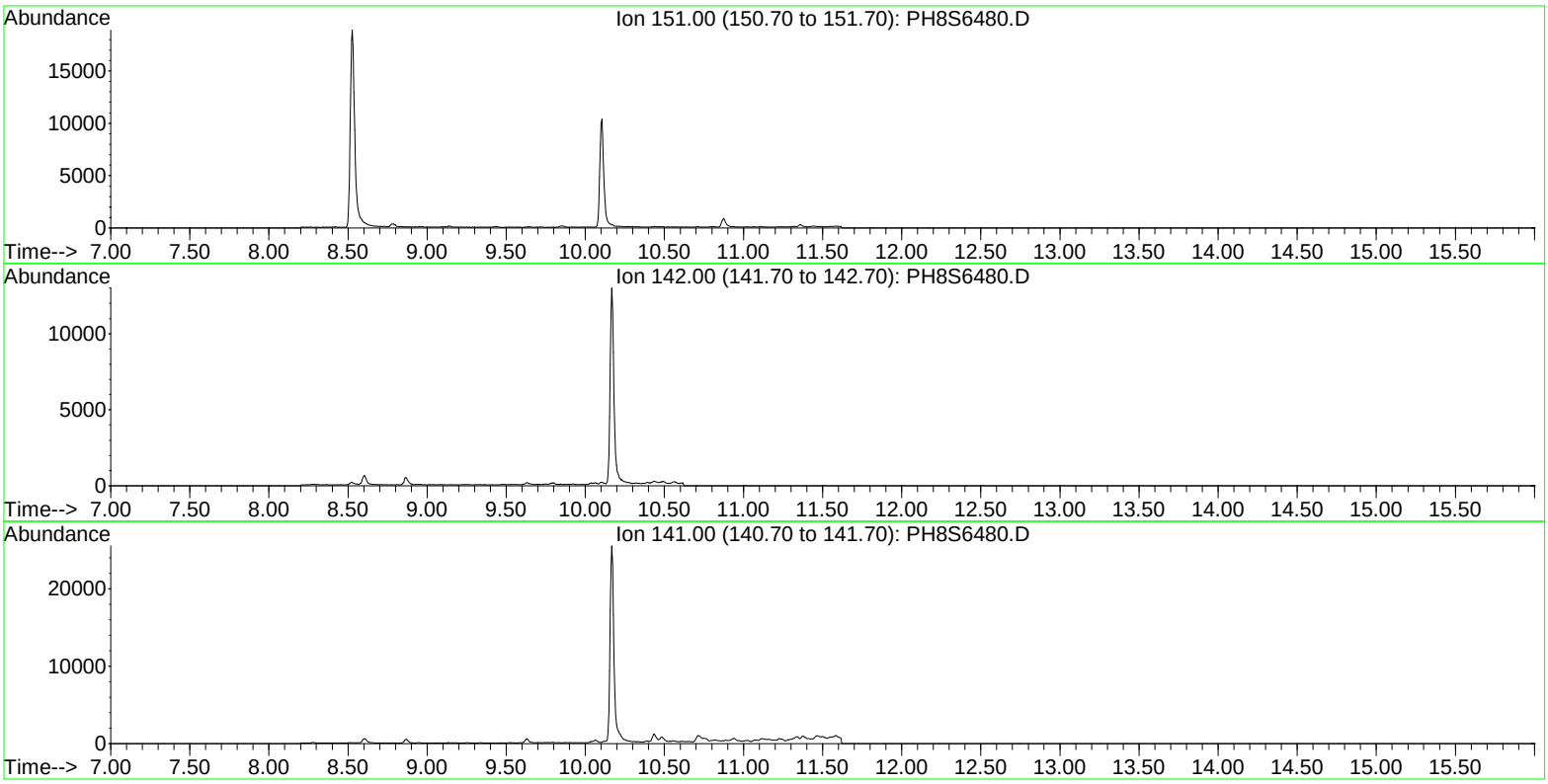


Thu Jan 10 08:49:01 2019

Axys Analytical CHRO Report

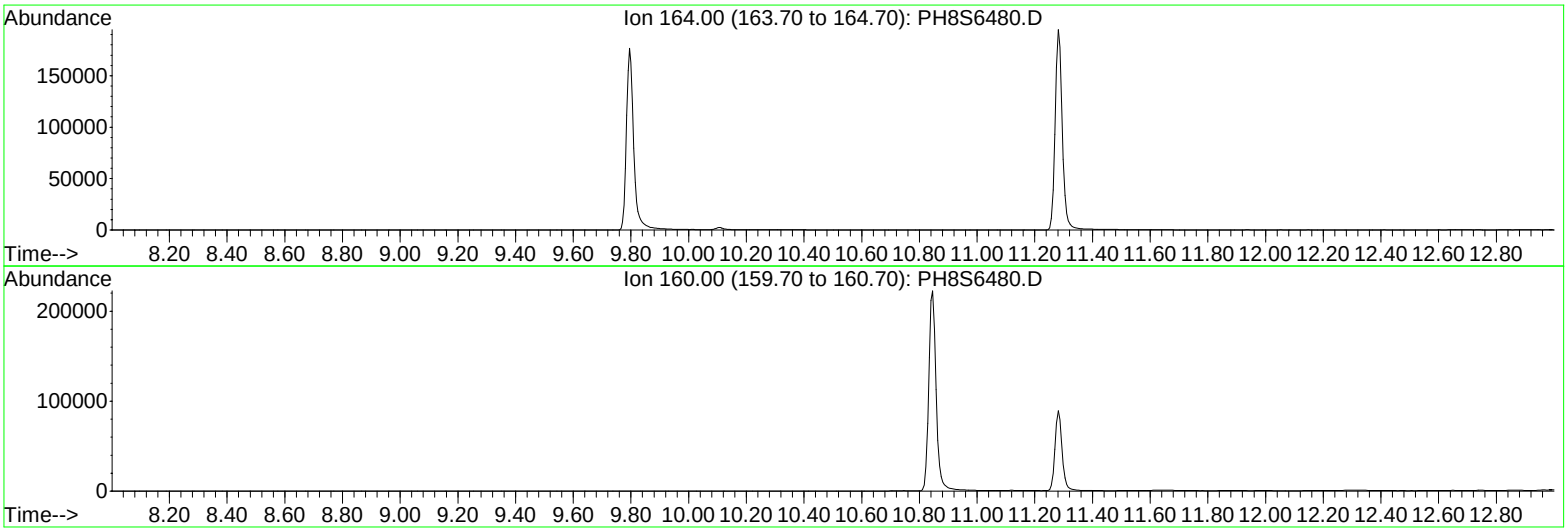
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

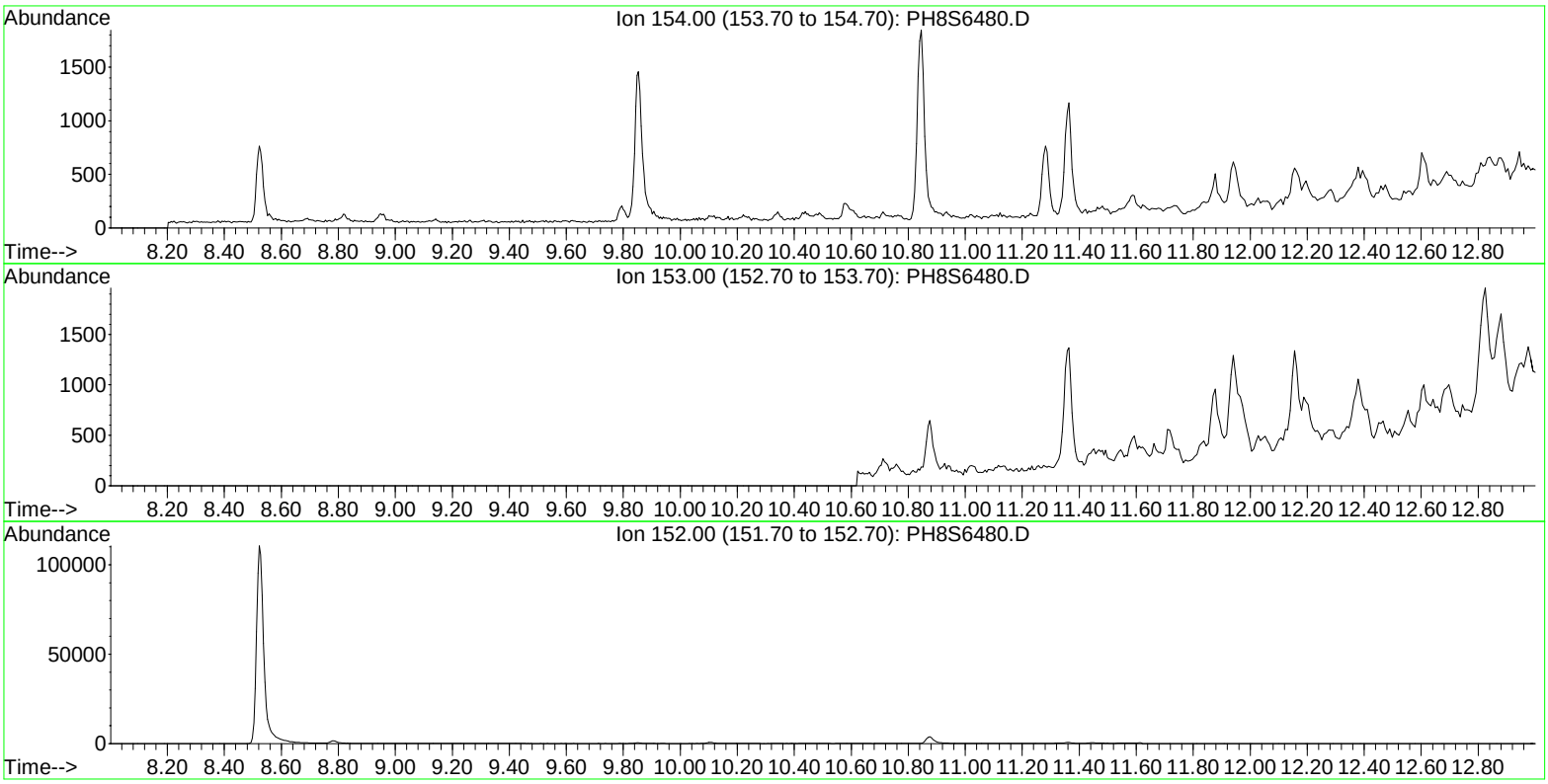




Axys Analytical CHRO Report

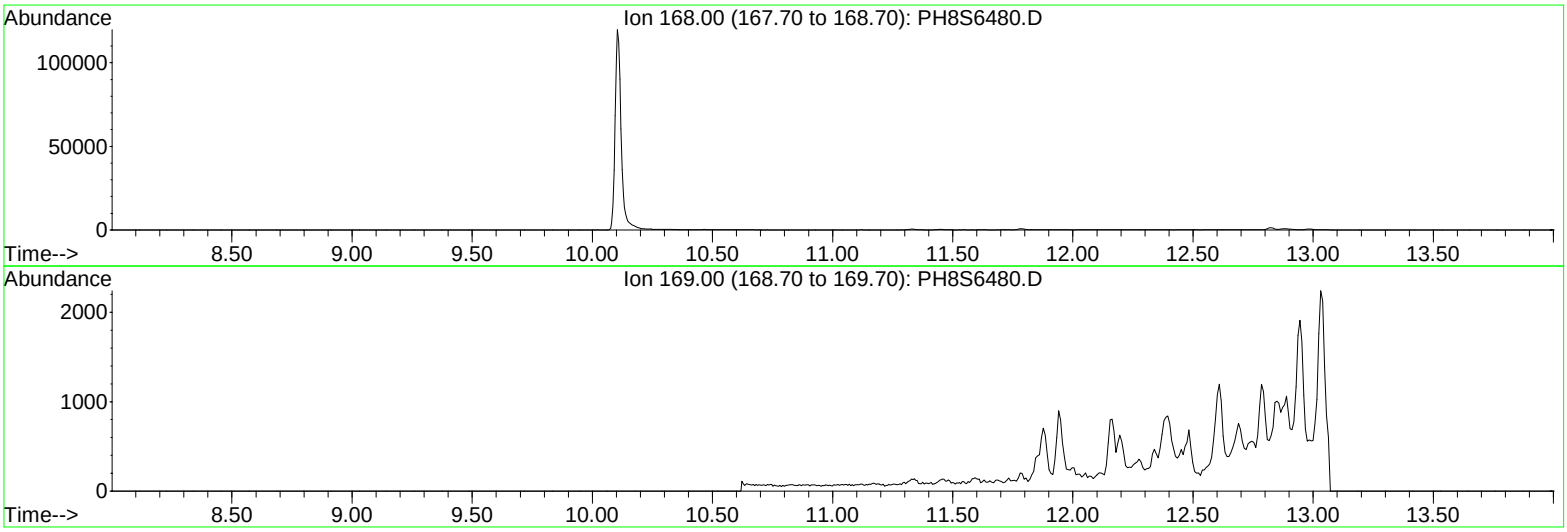
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

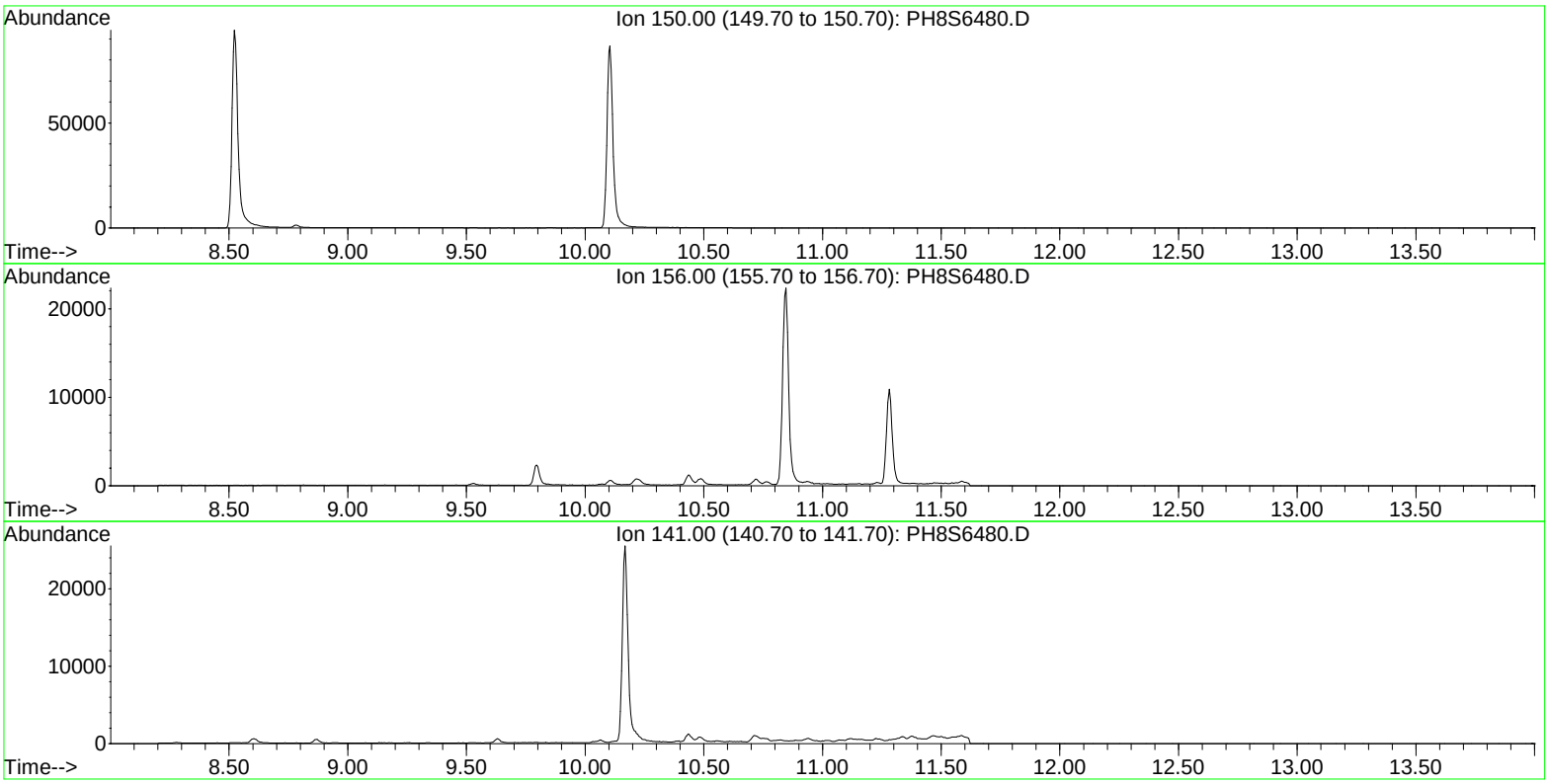




Axys Analytical CHRO Report

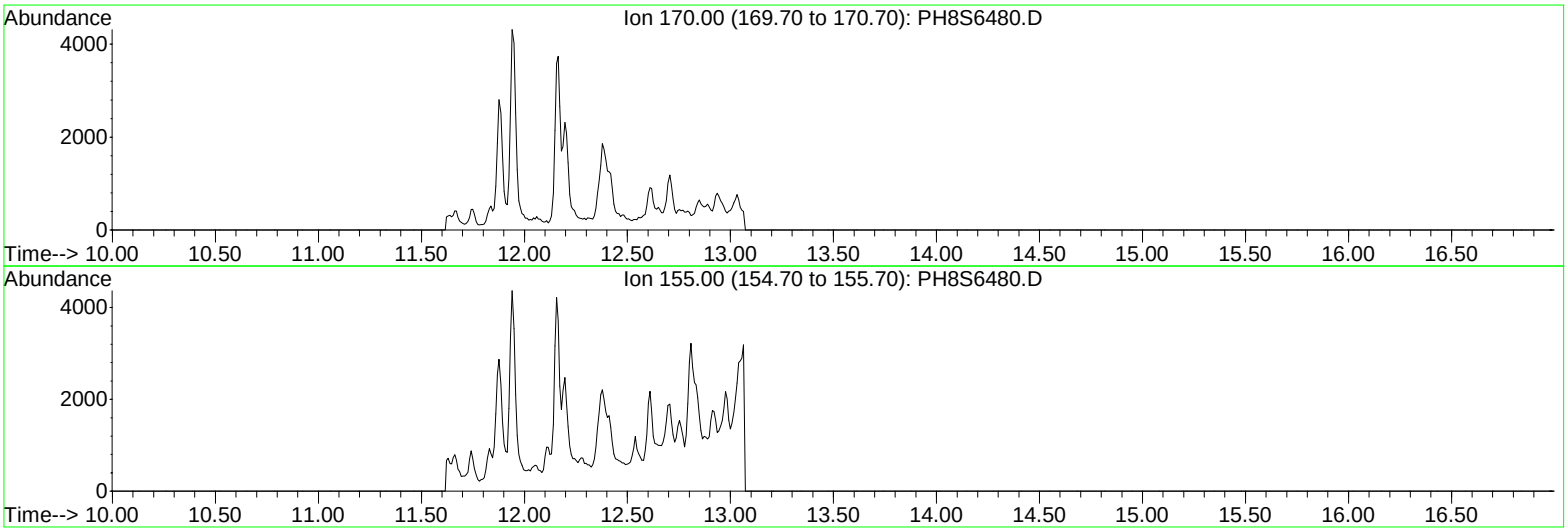
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

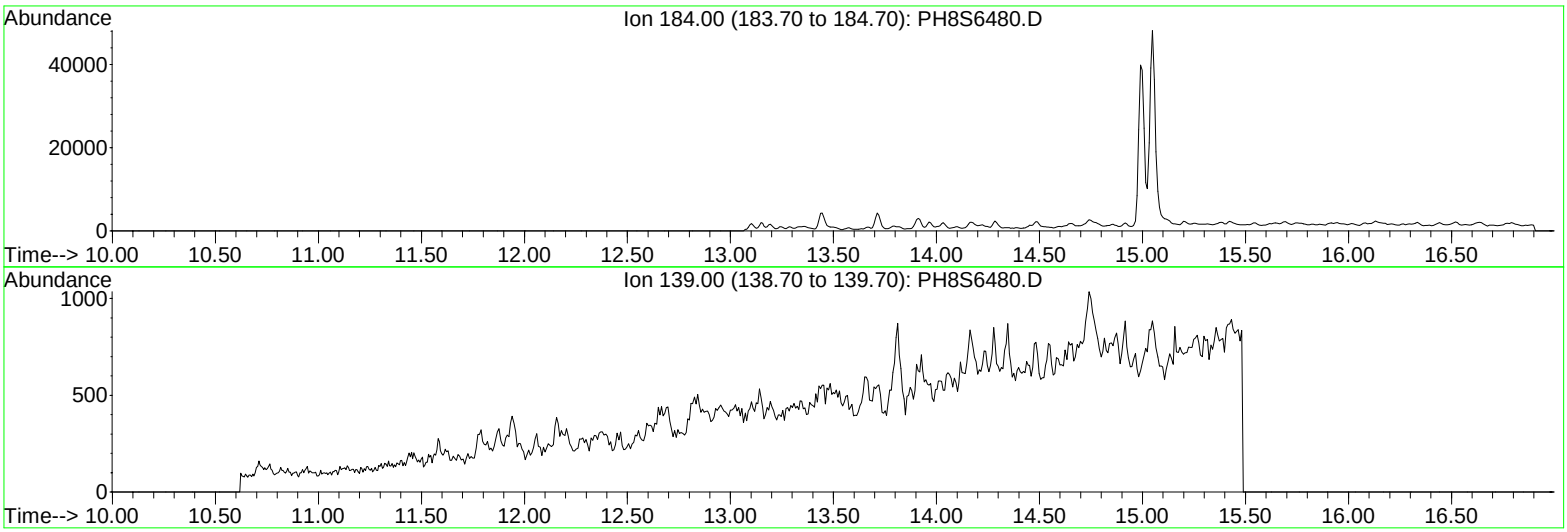




Axys Analytical CHRO Report

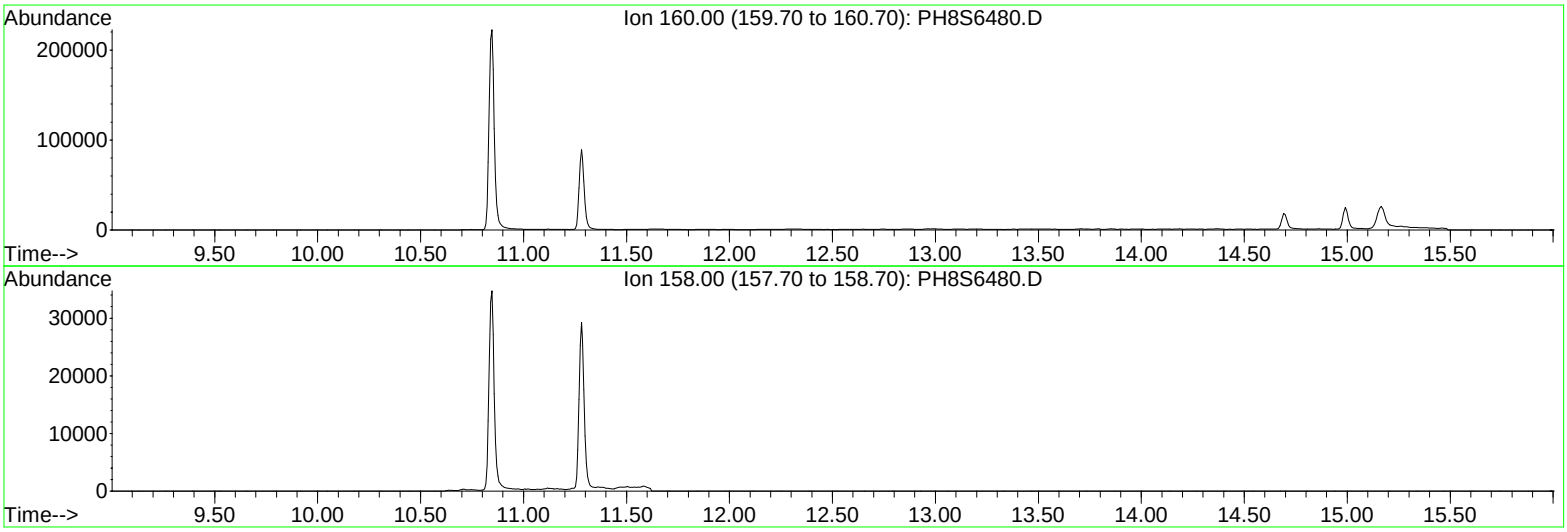
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

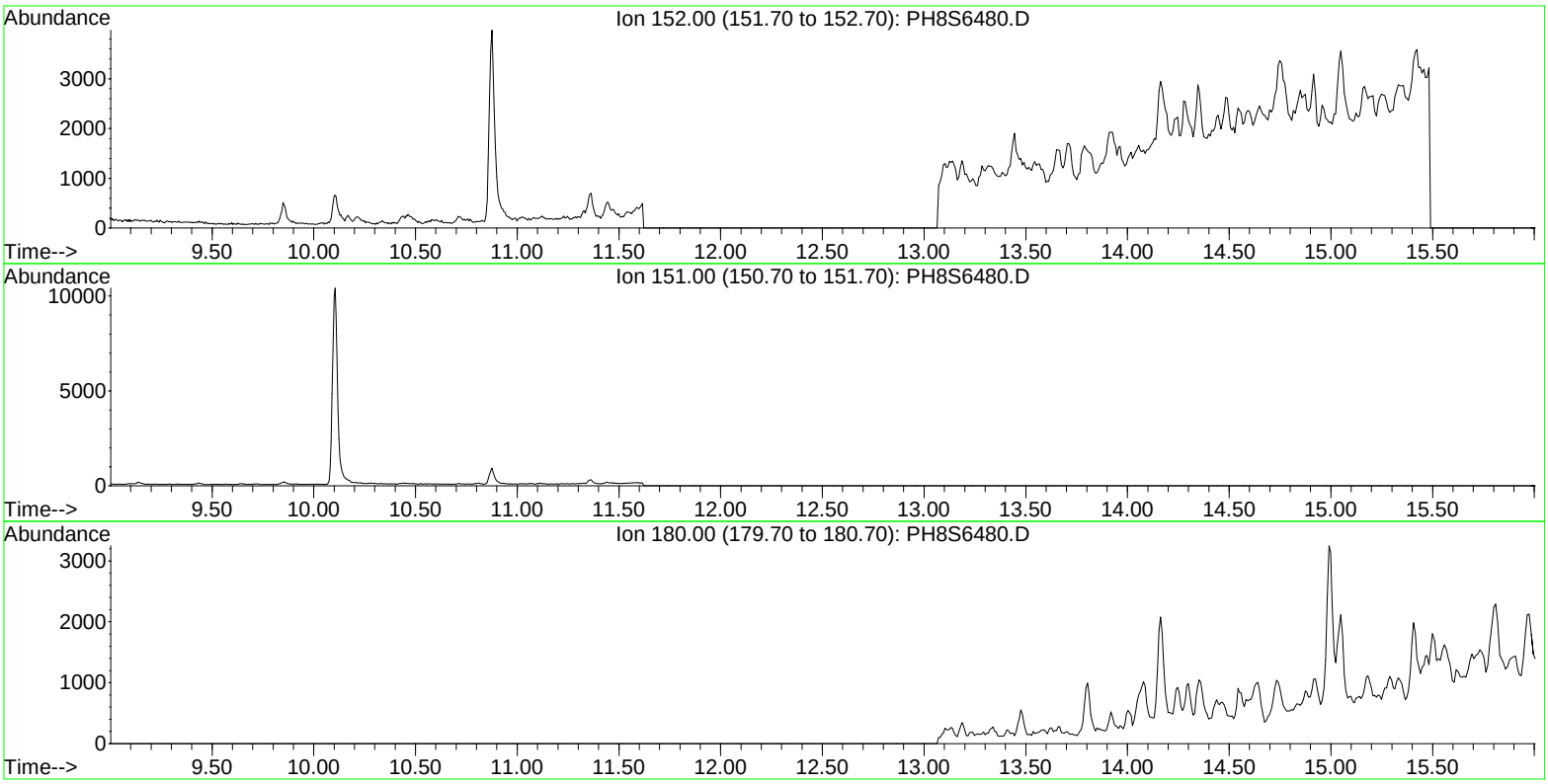


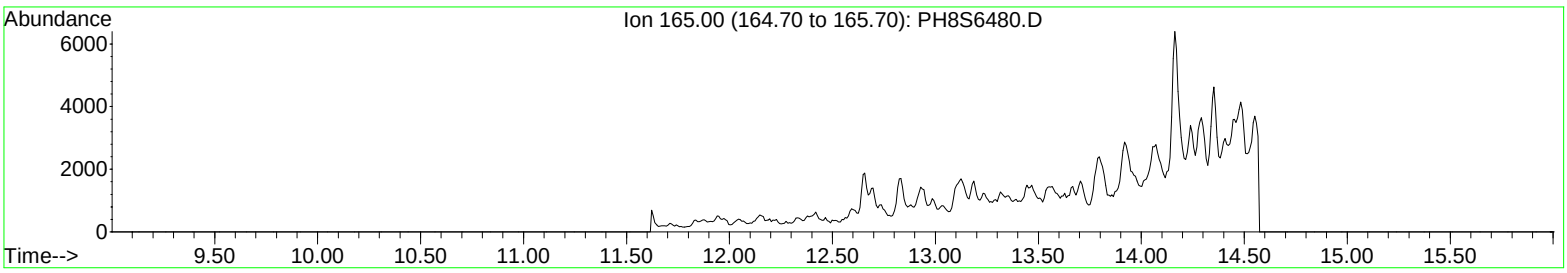


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



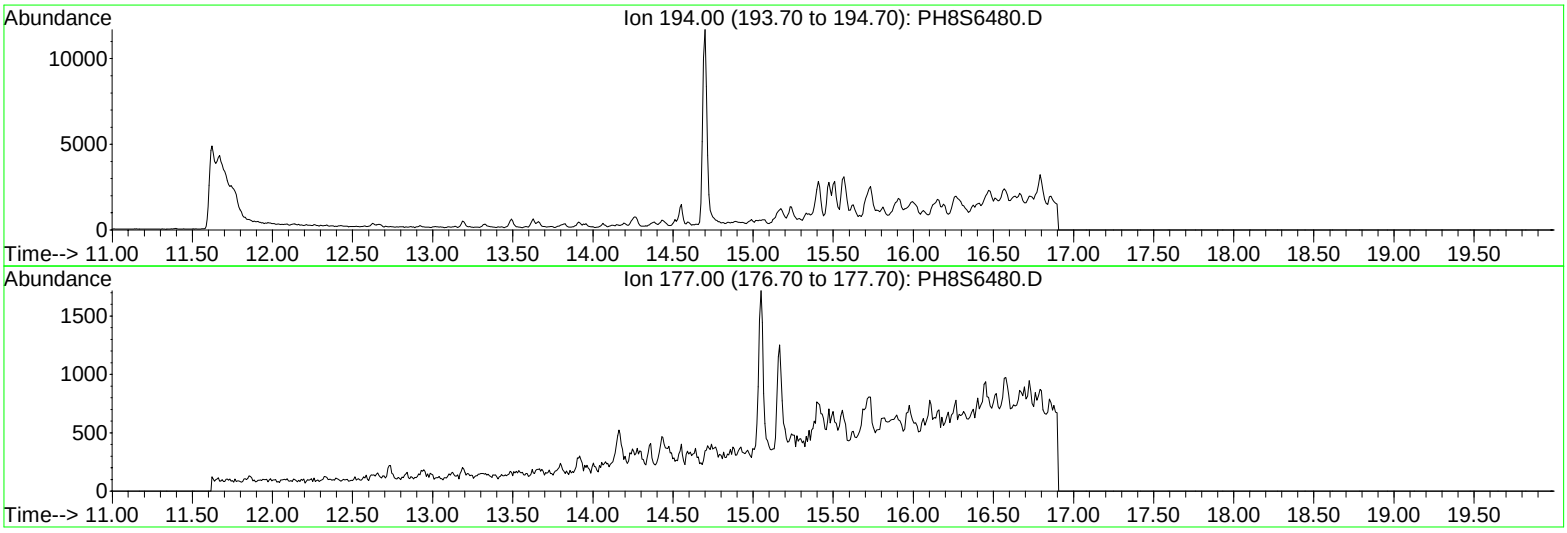


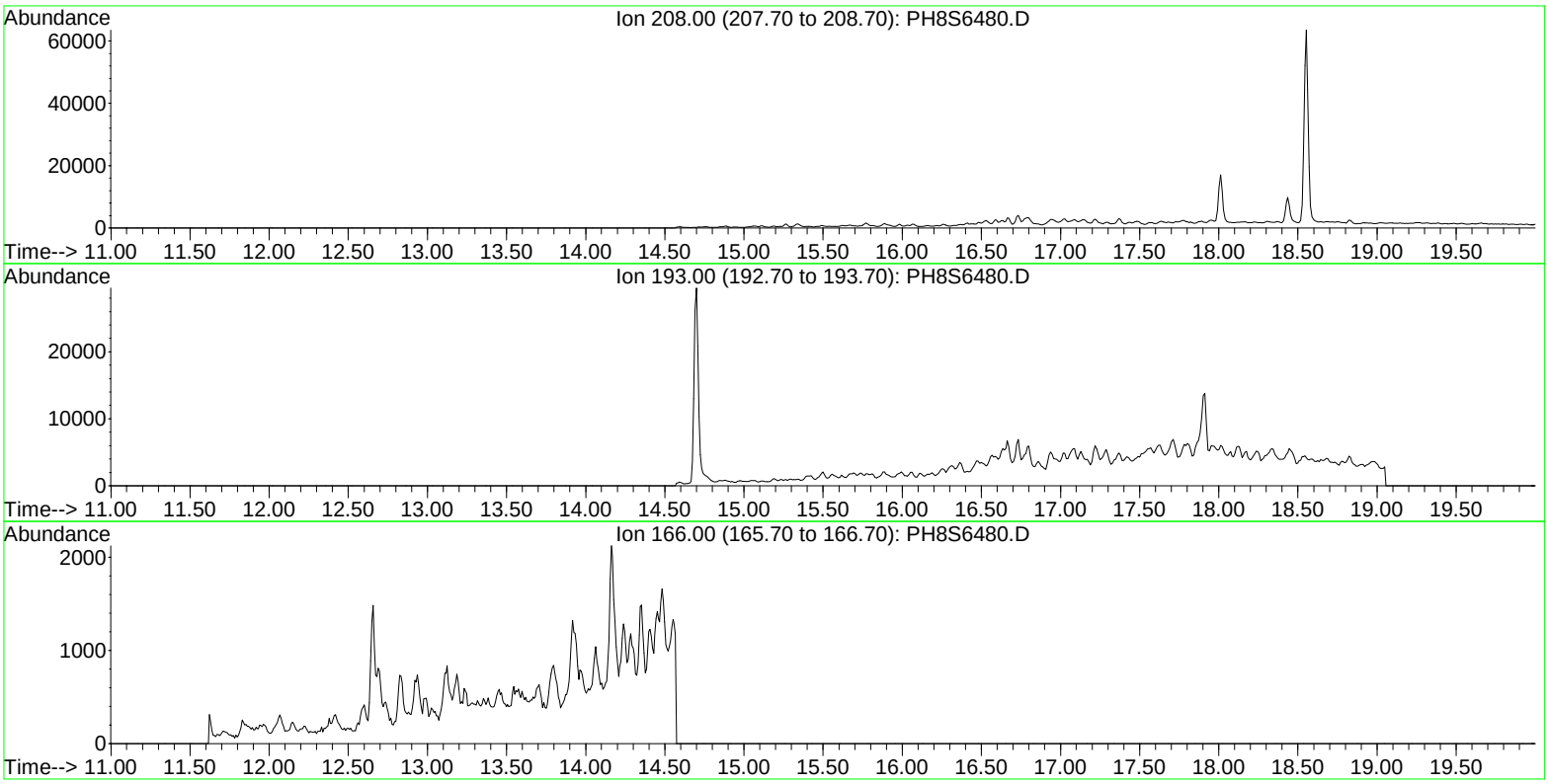


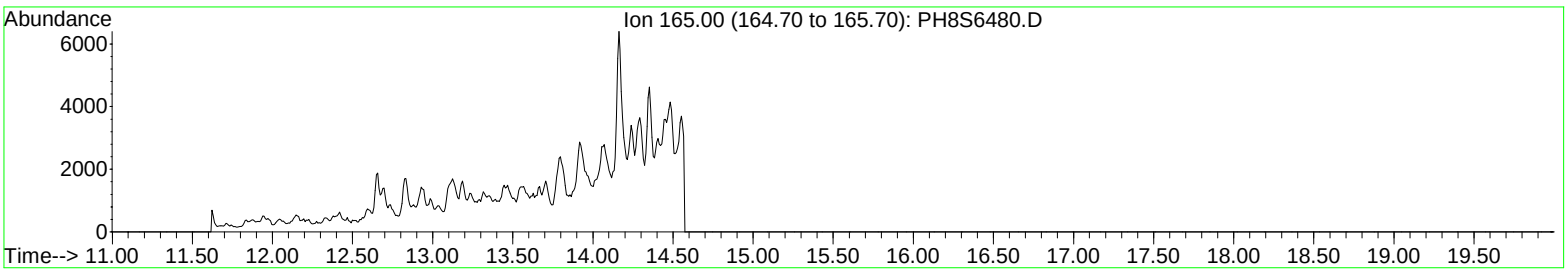
Thu Jan 10 08:49:17 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



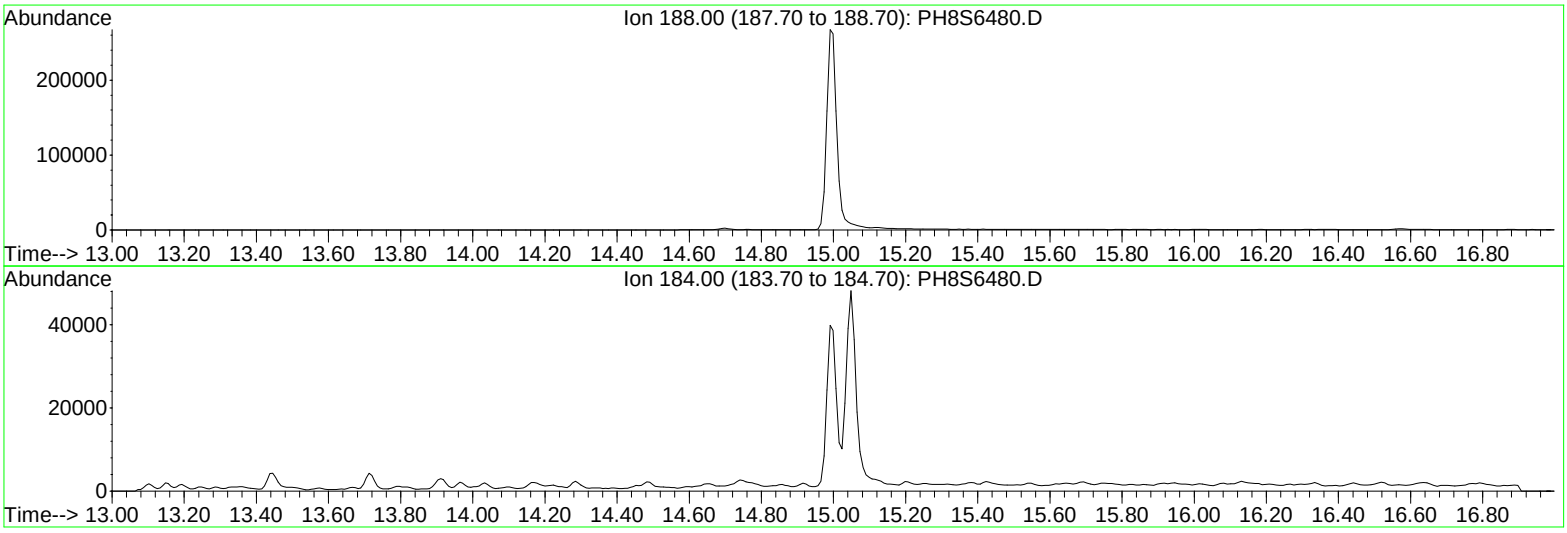


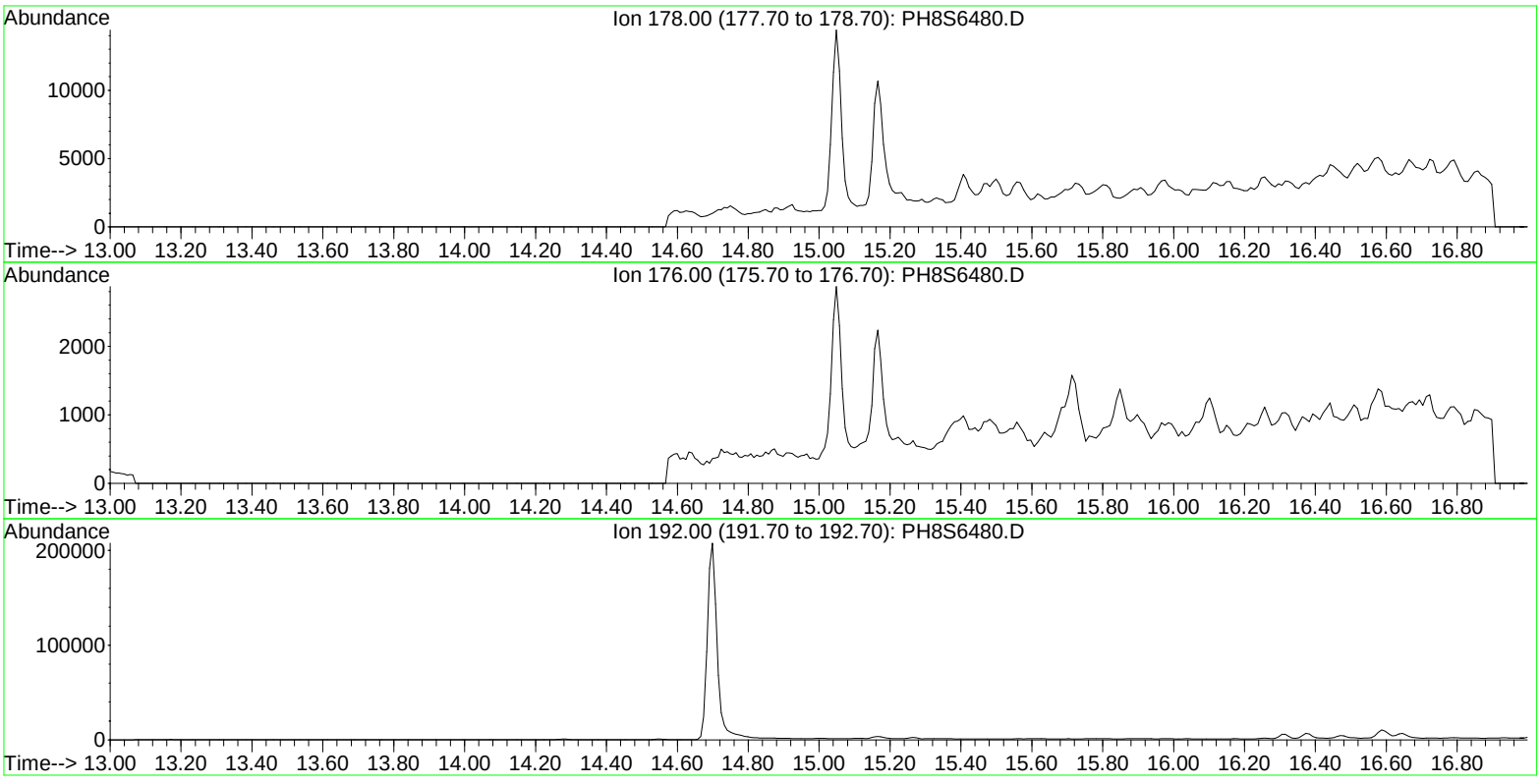


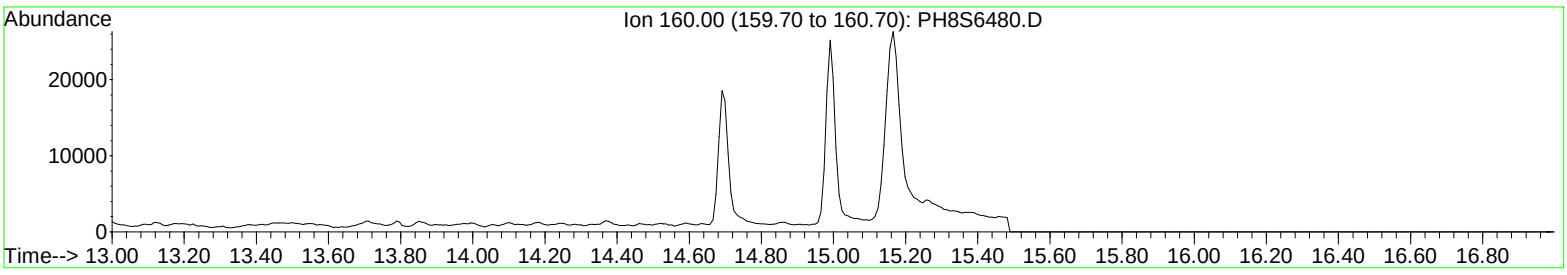
Thu Jan 10 08:49:21 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



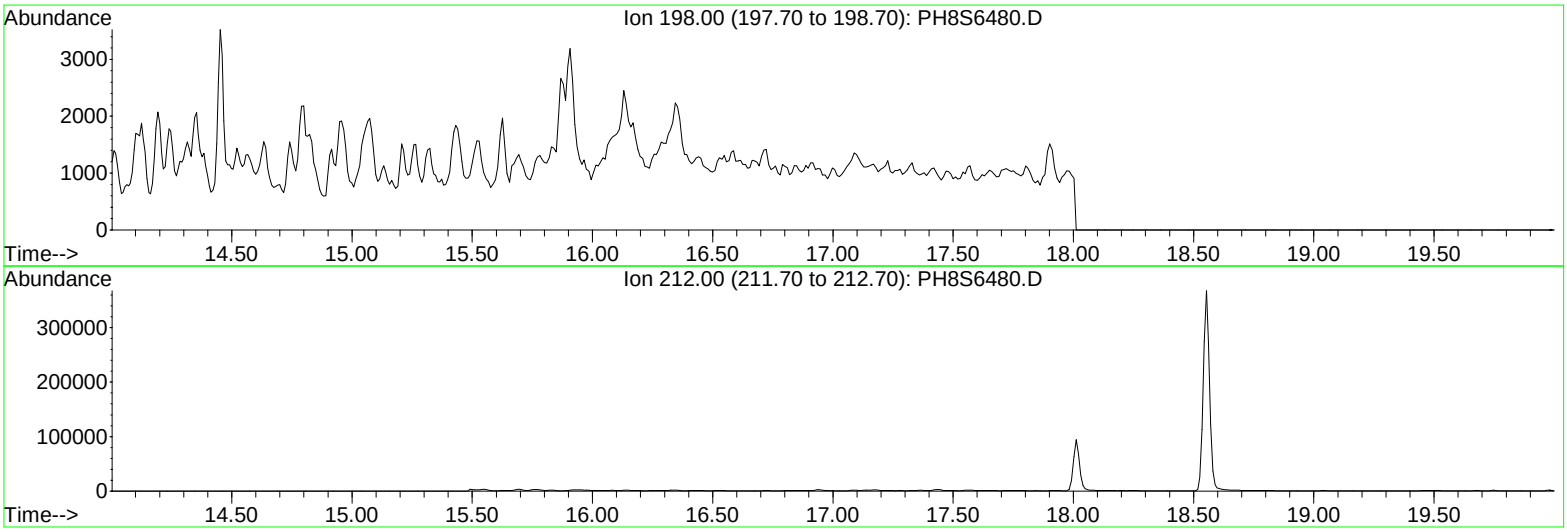


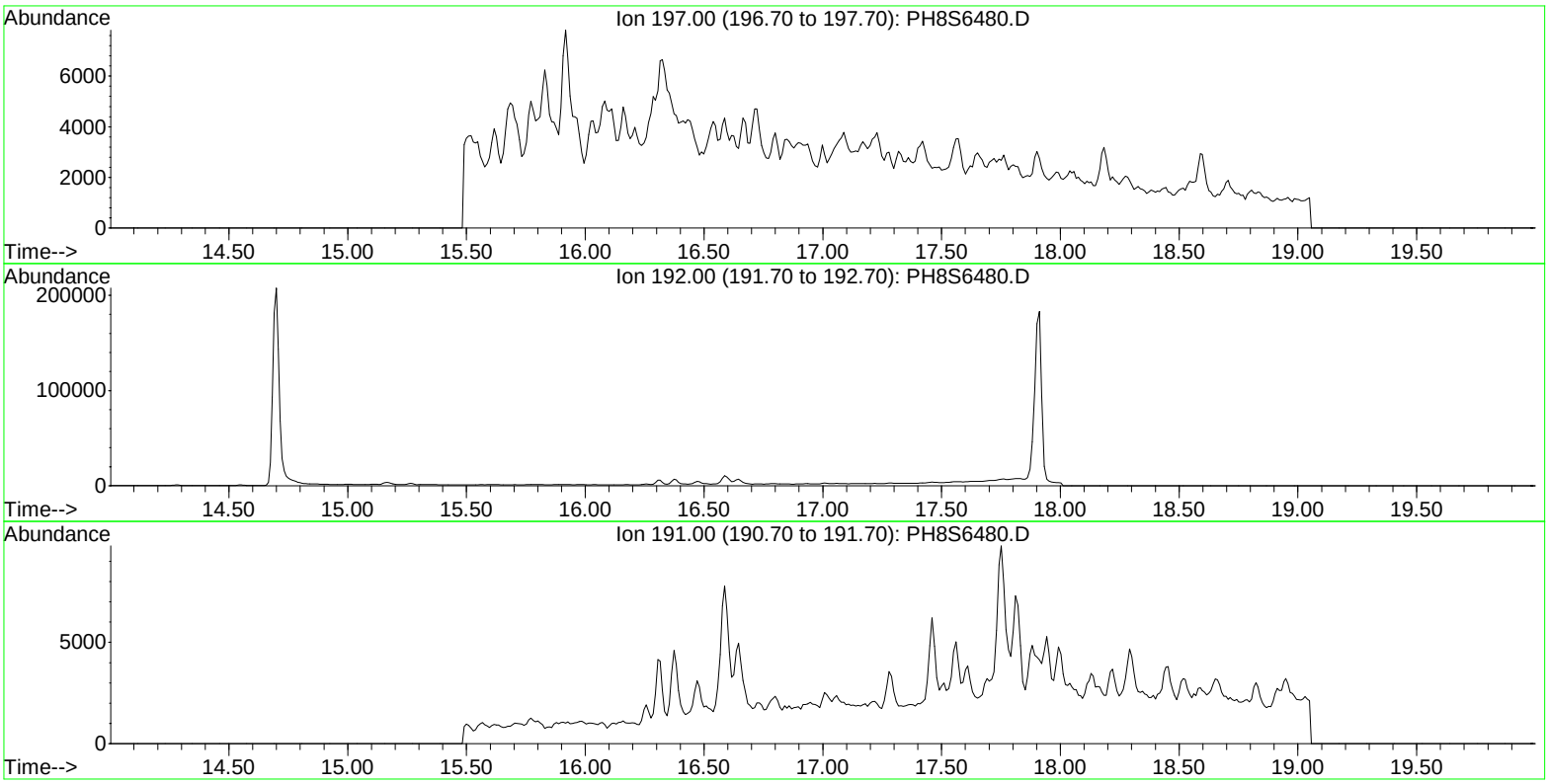


Thu Jan 10 08:49:24 2019

Axys Analytical CHRO Report

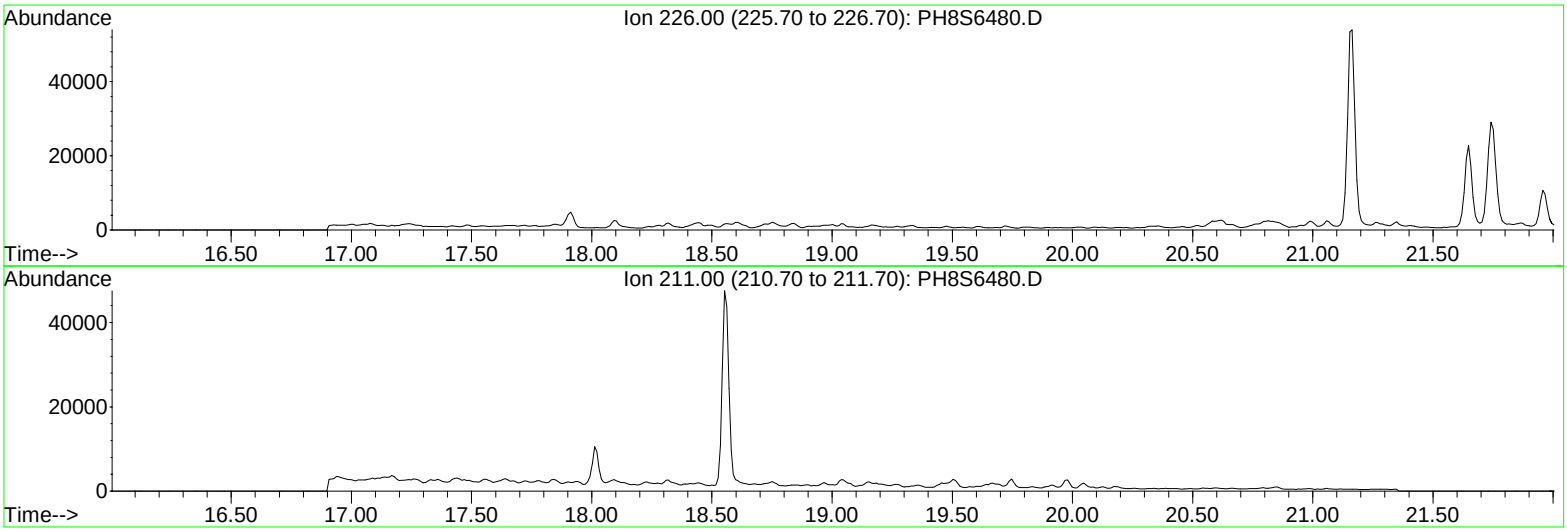
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

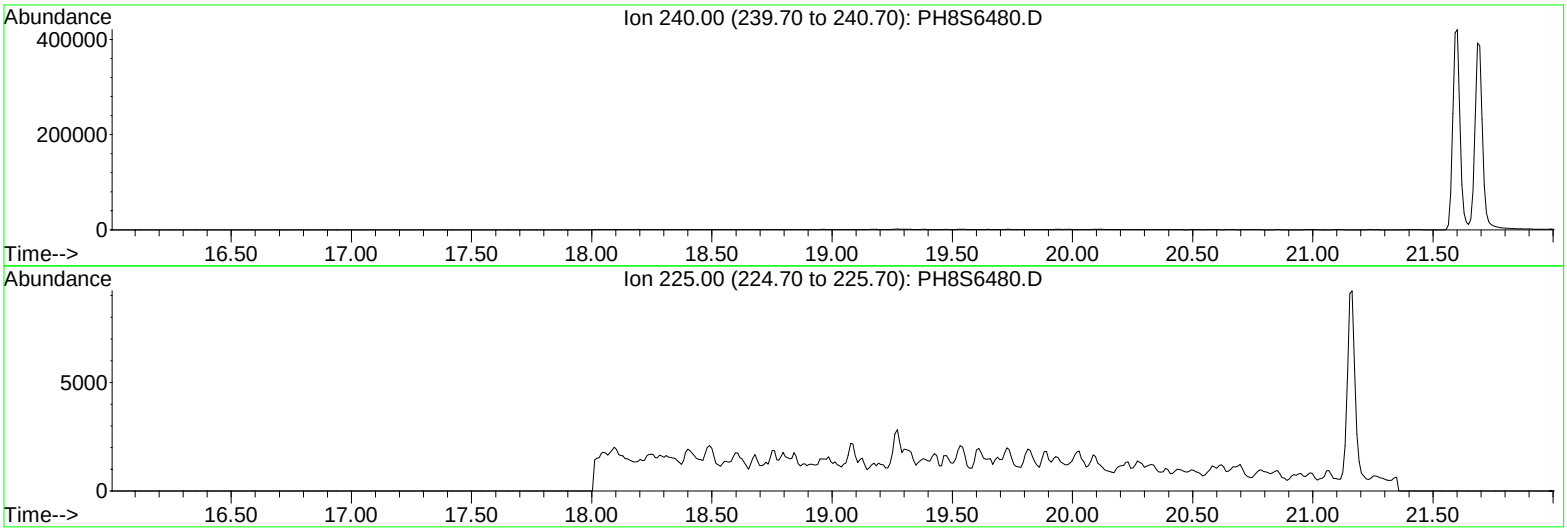




Axys Analytical CHRO Report

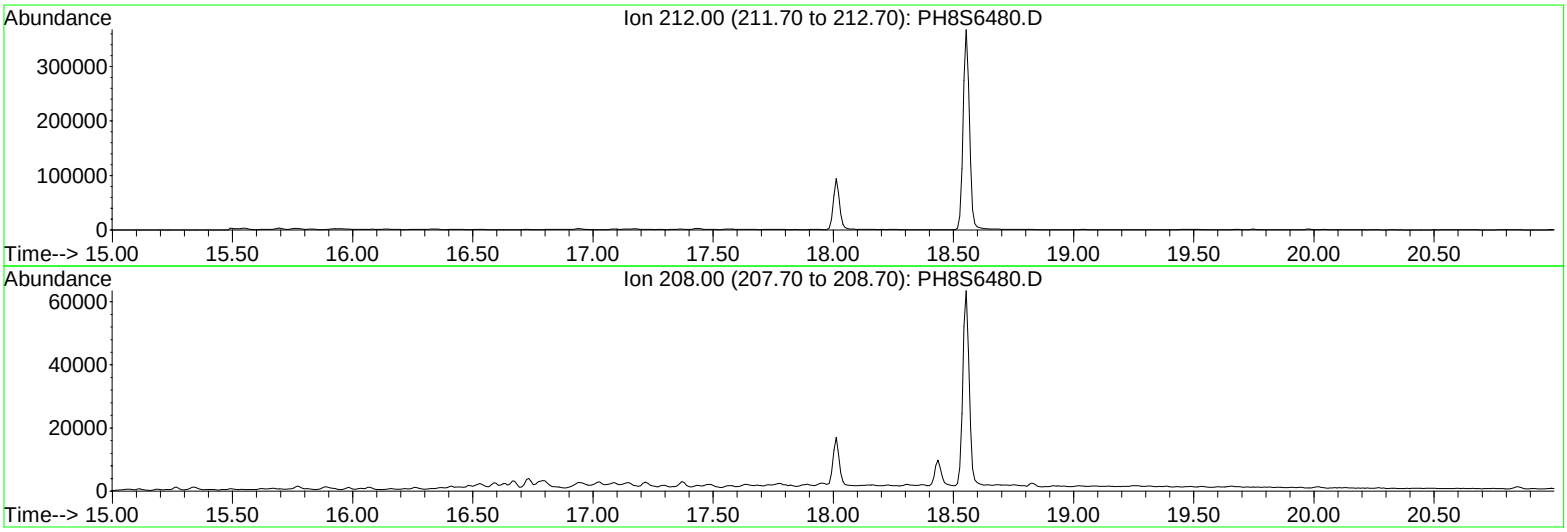
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

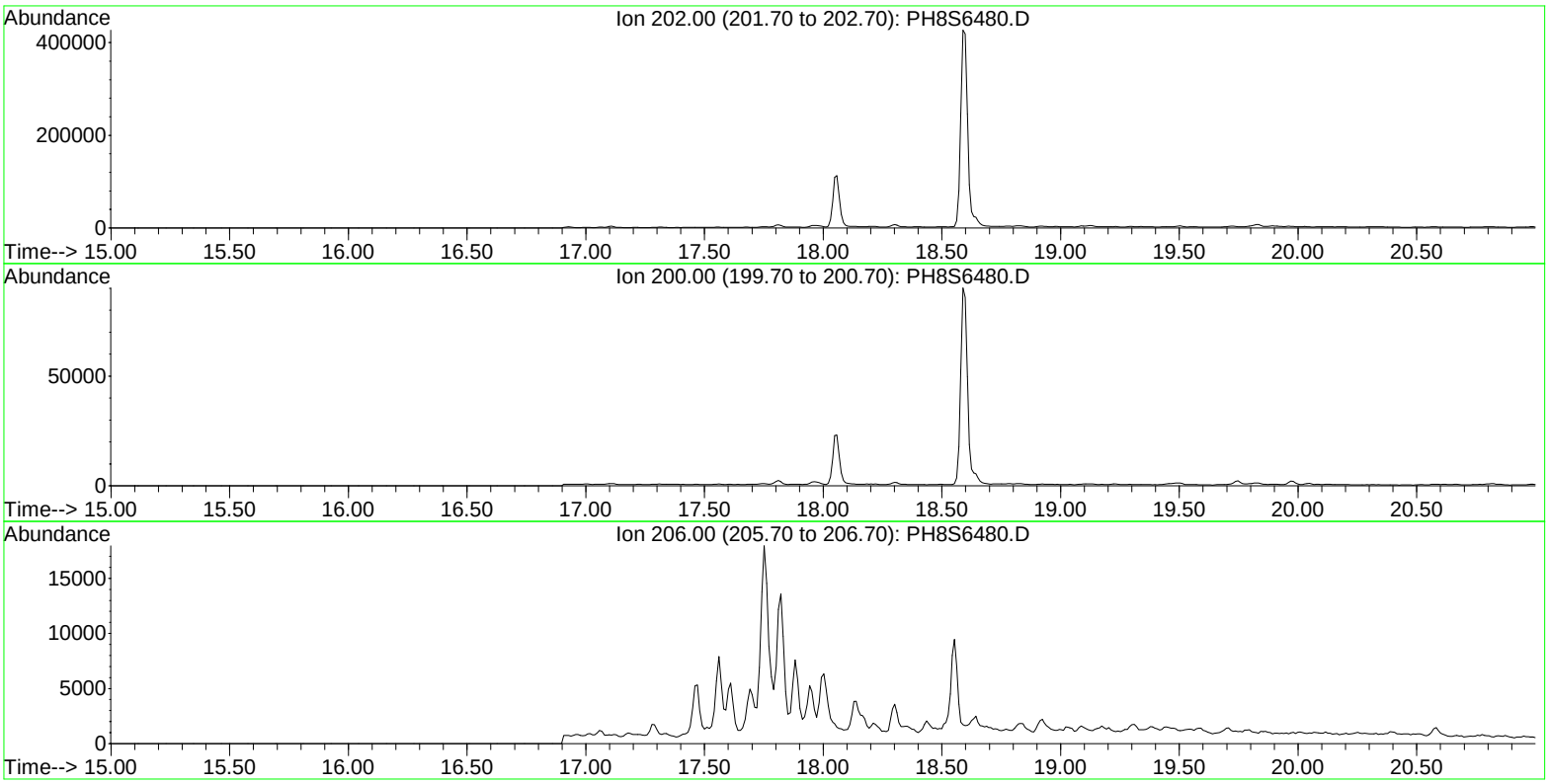


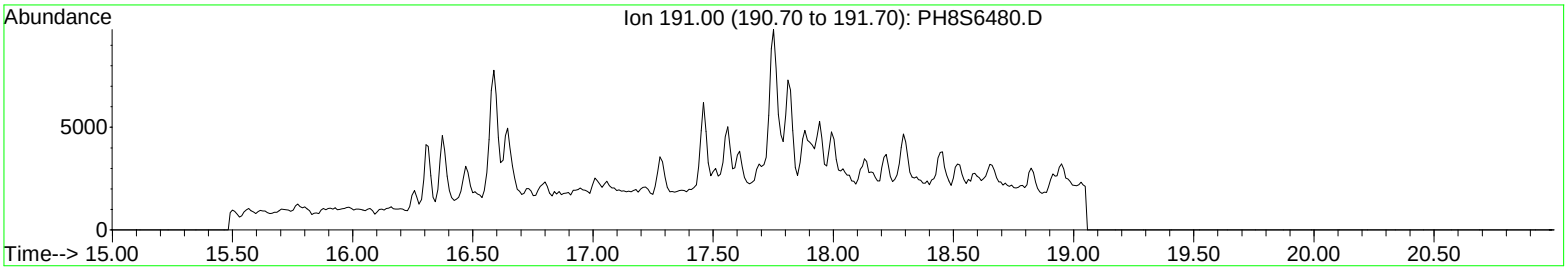


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



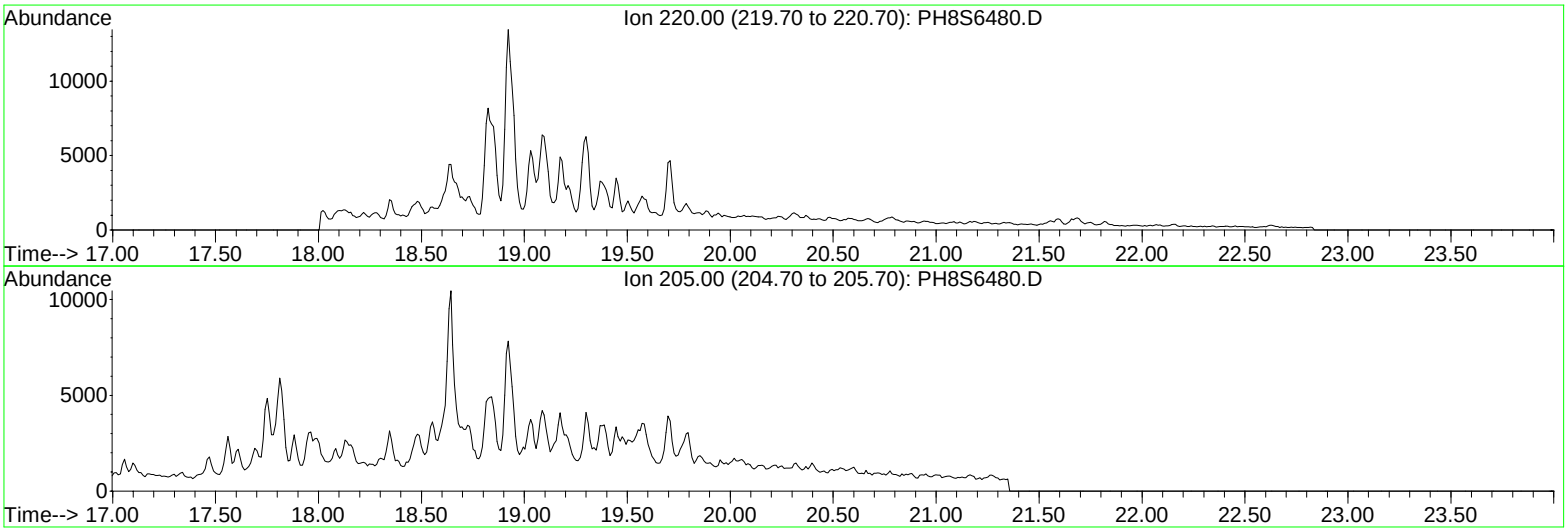


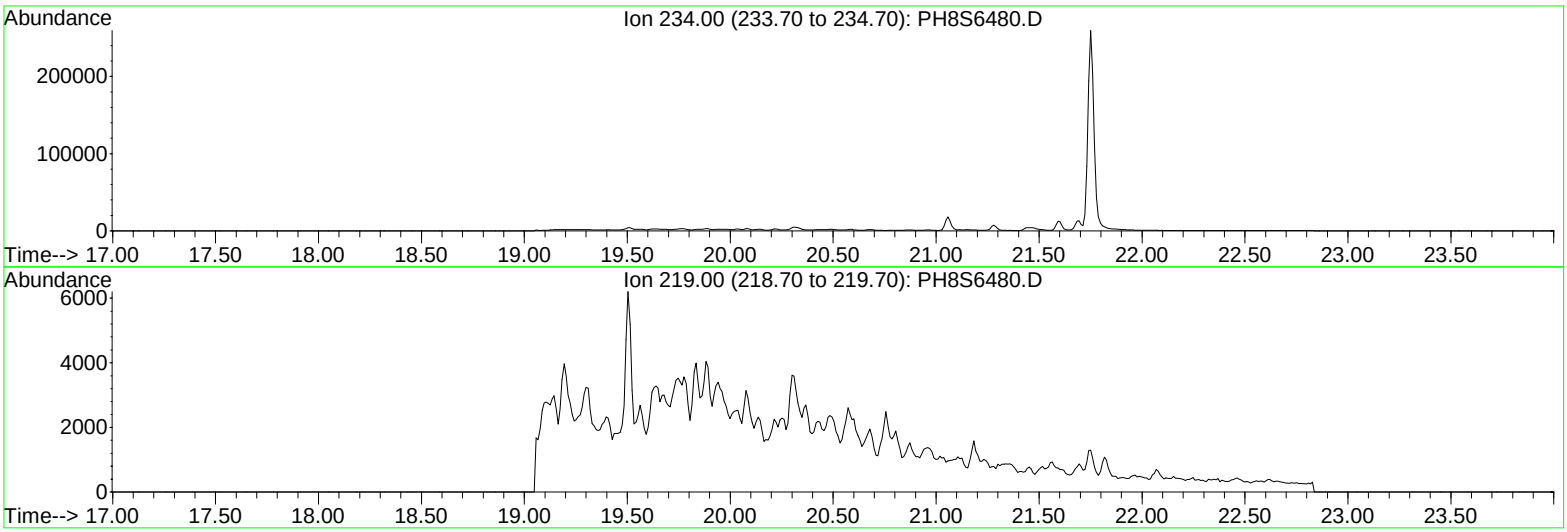


Thu Jan 10 08:49:34 2019

Axys Analytical CHRO Report

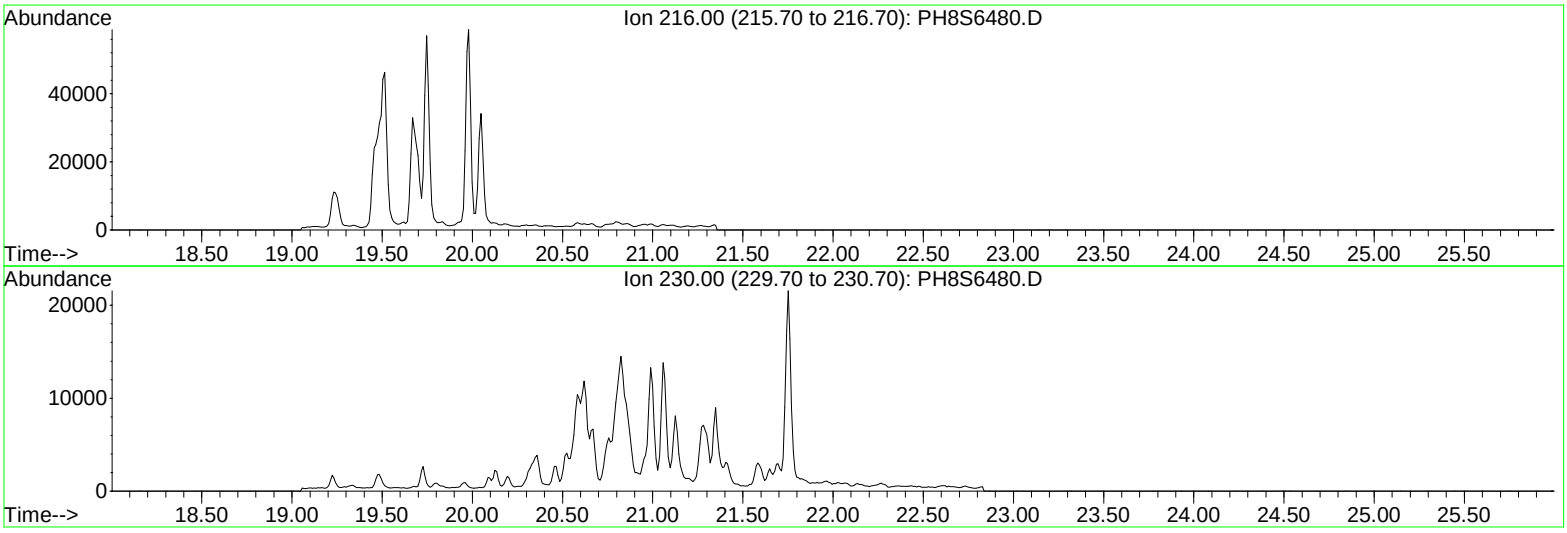
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

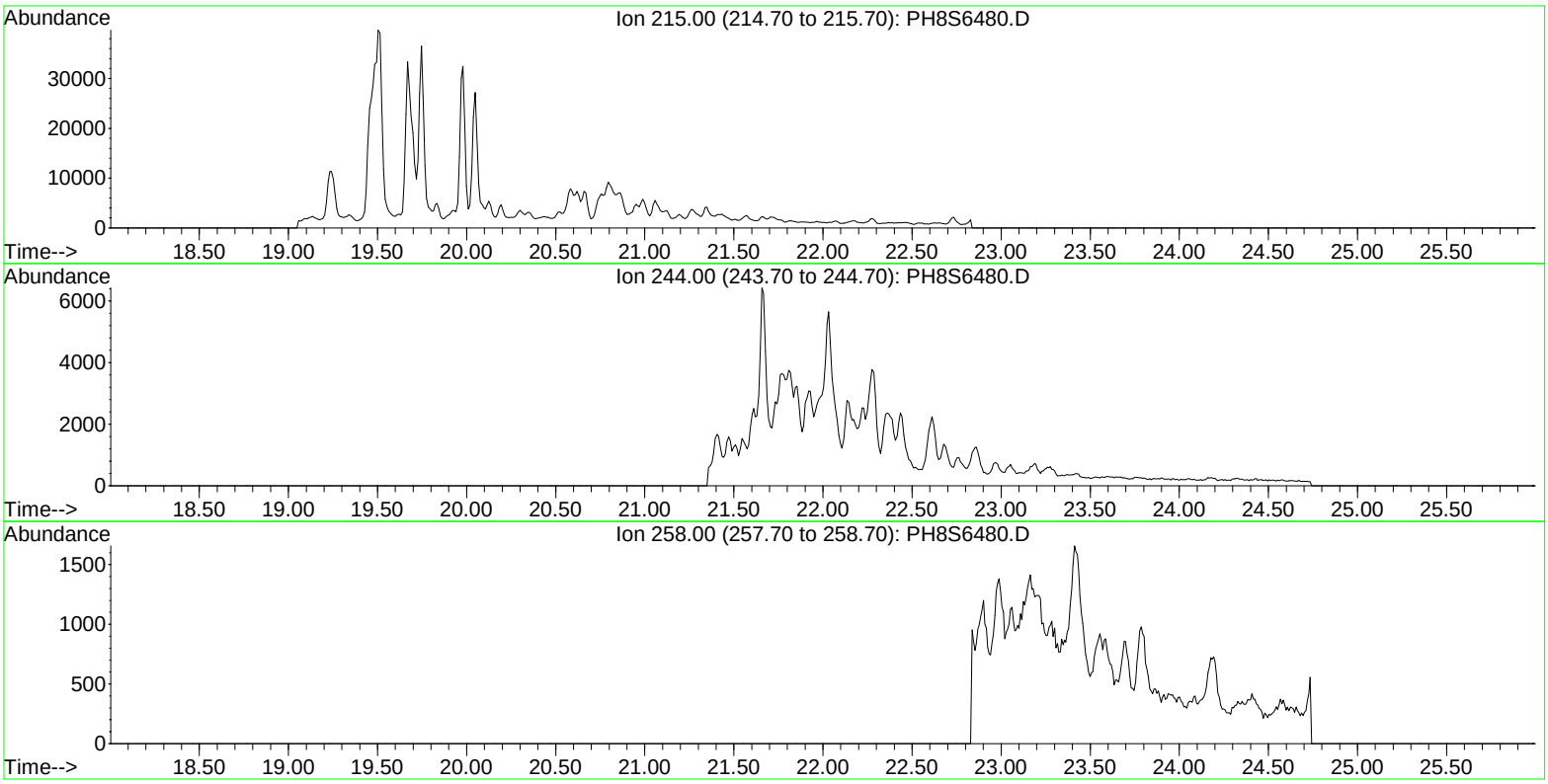


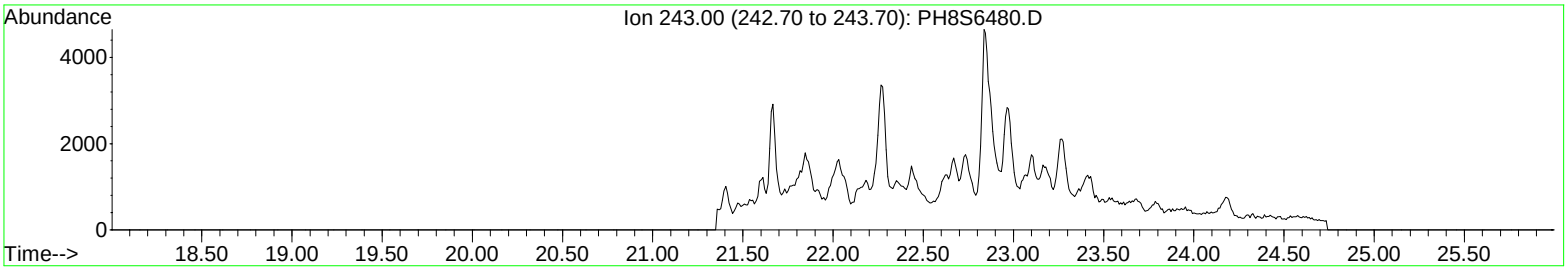


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



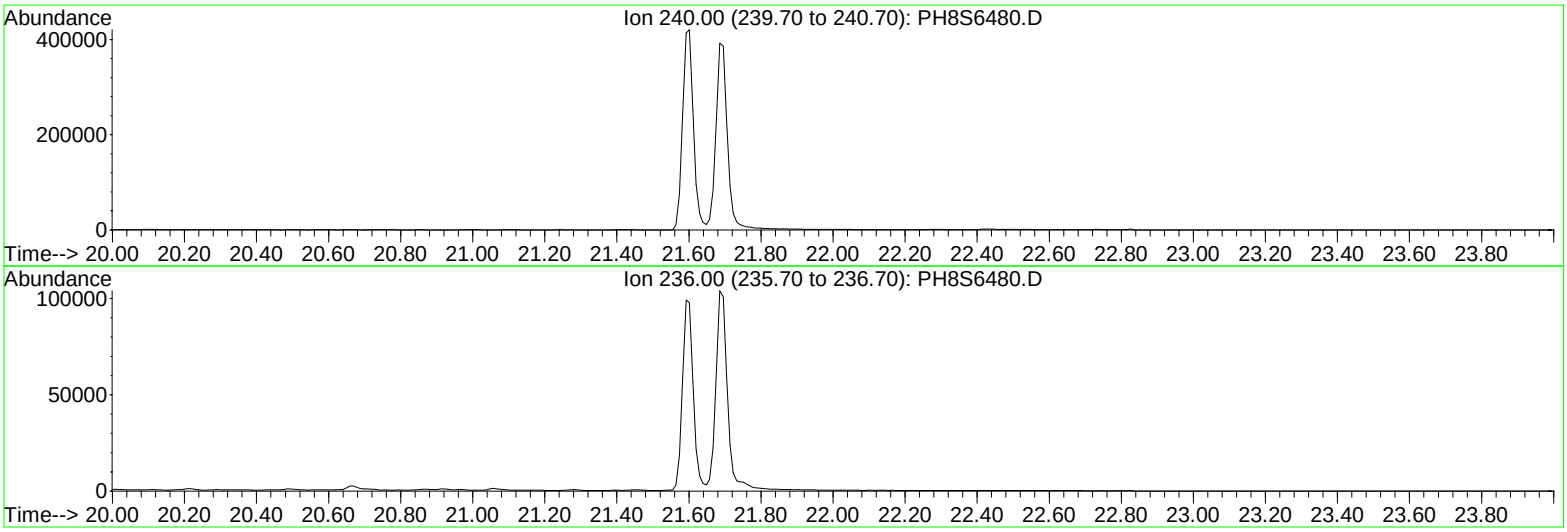


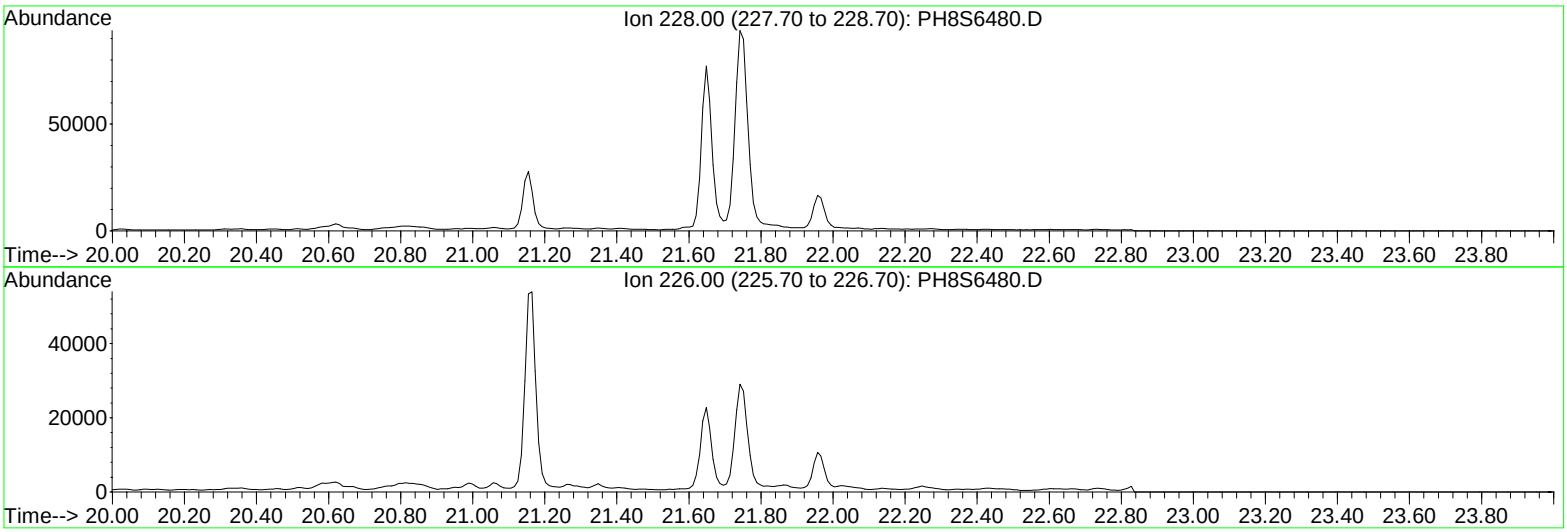


Thu Jan 10 08:49:41 2019

Axys Analytical CHRO Report

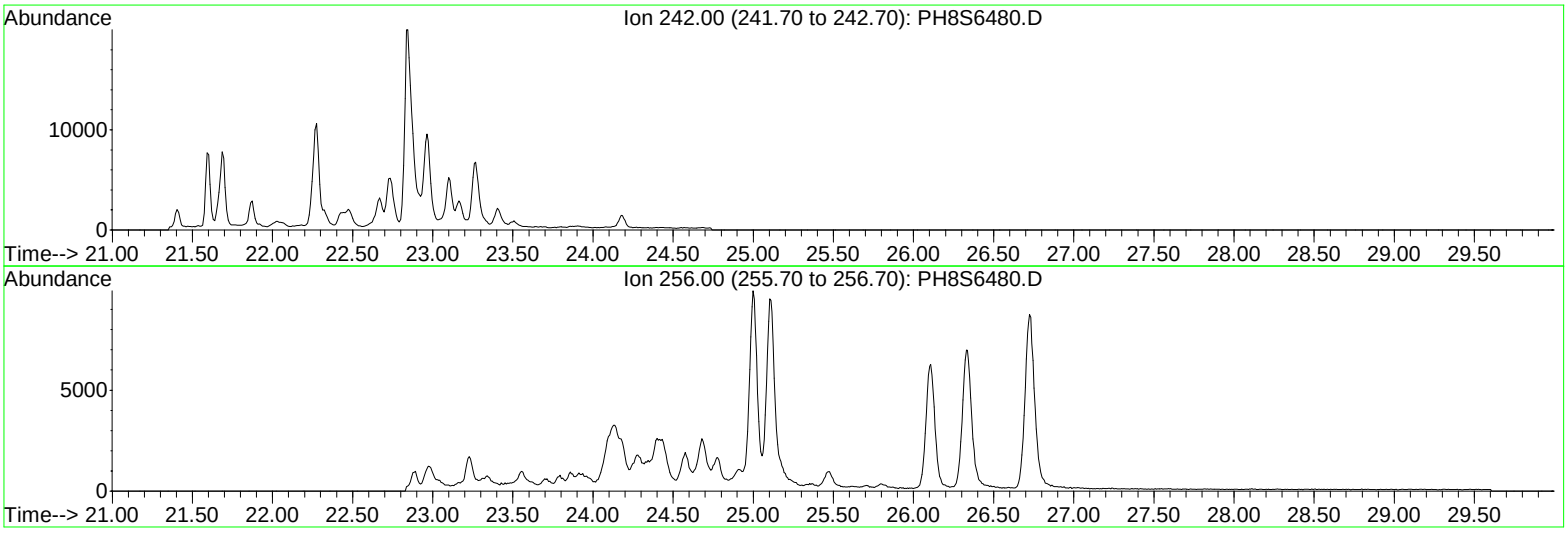
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

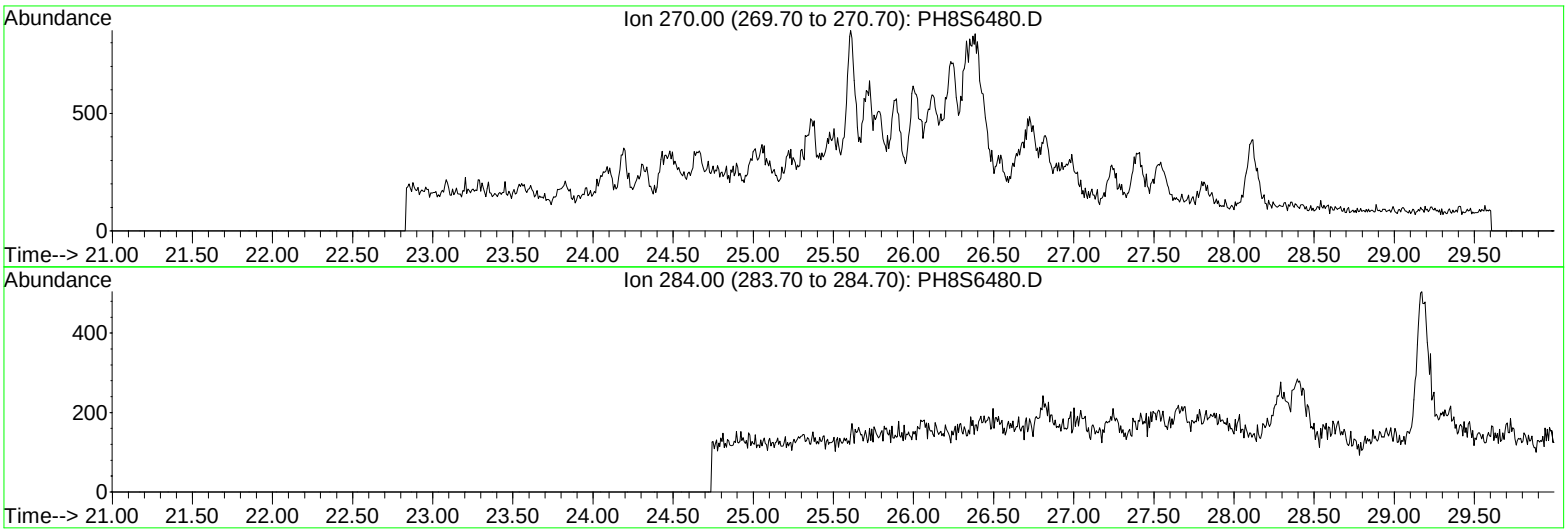




Axys Analytical CHRO Report

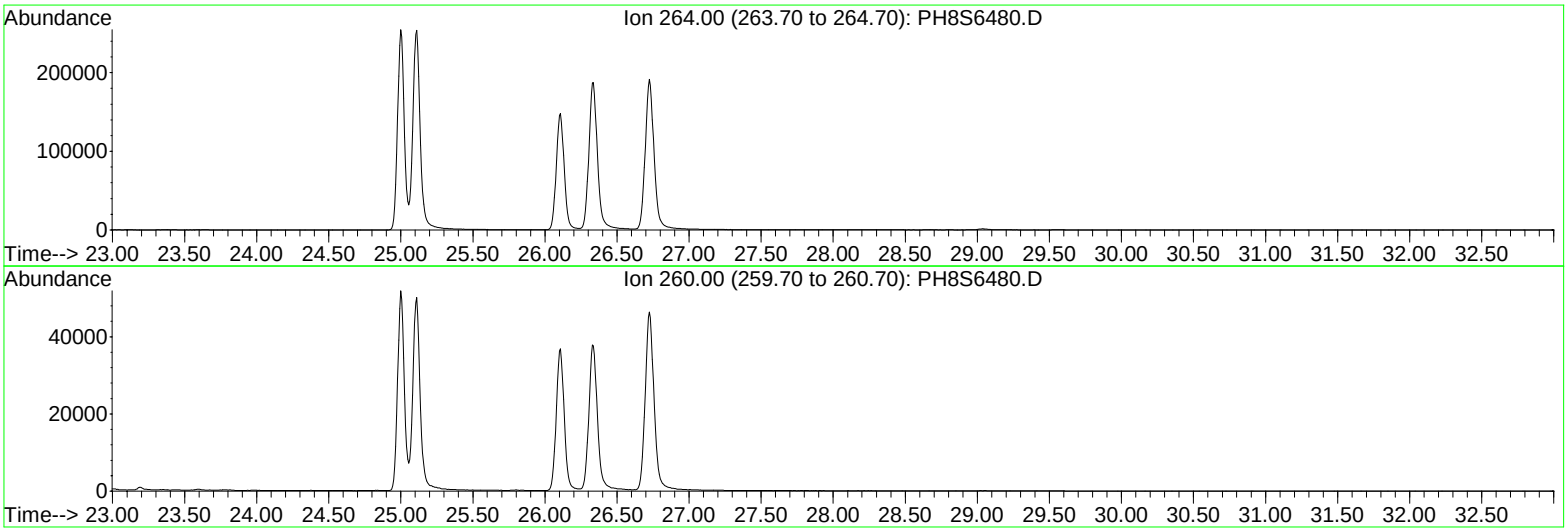
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

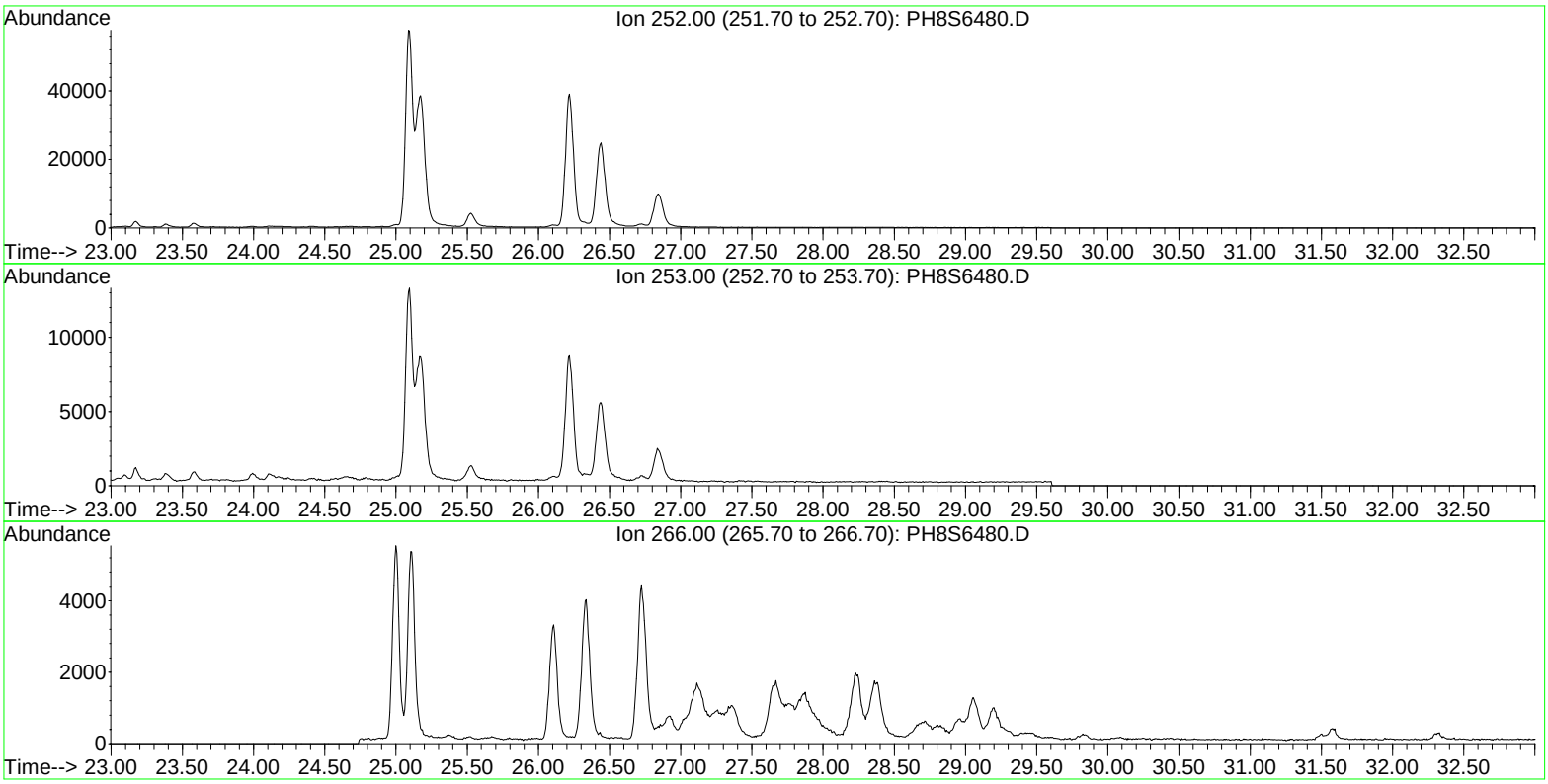


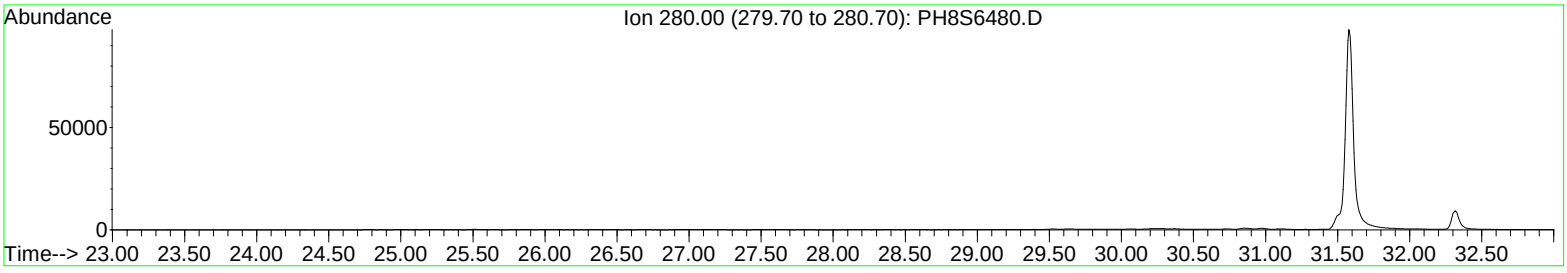


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



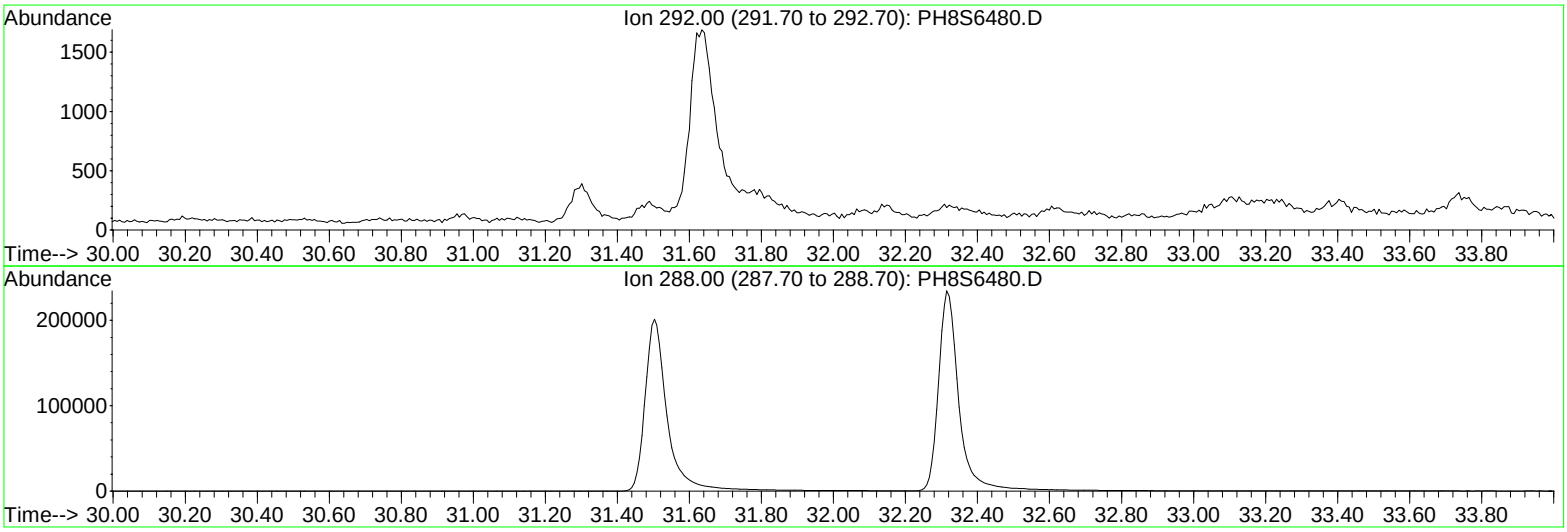


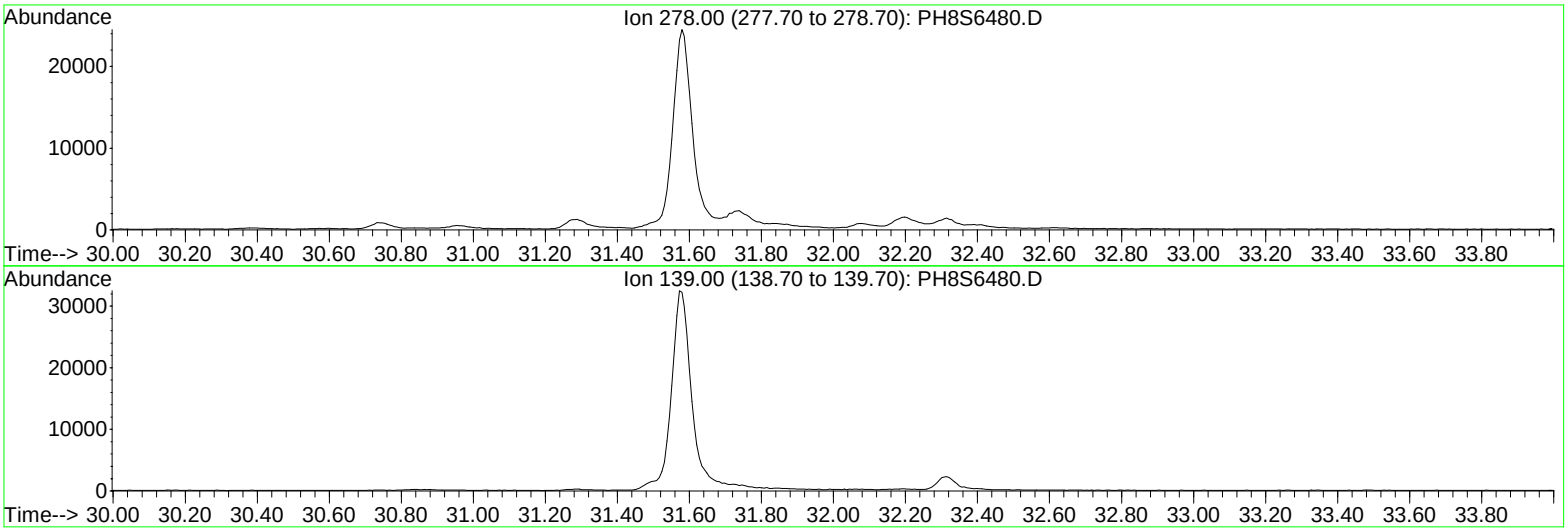


Thu Jan 10 08:49:51 2019

Axys Analytical CHRO Report

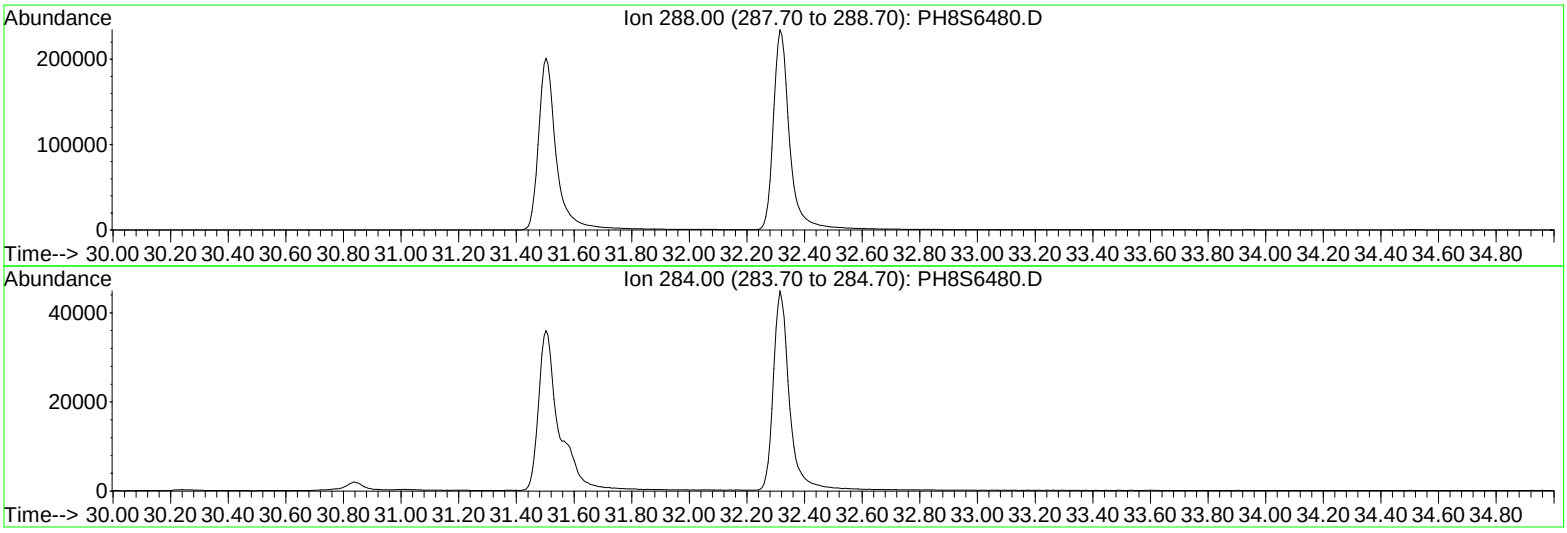
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

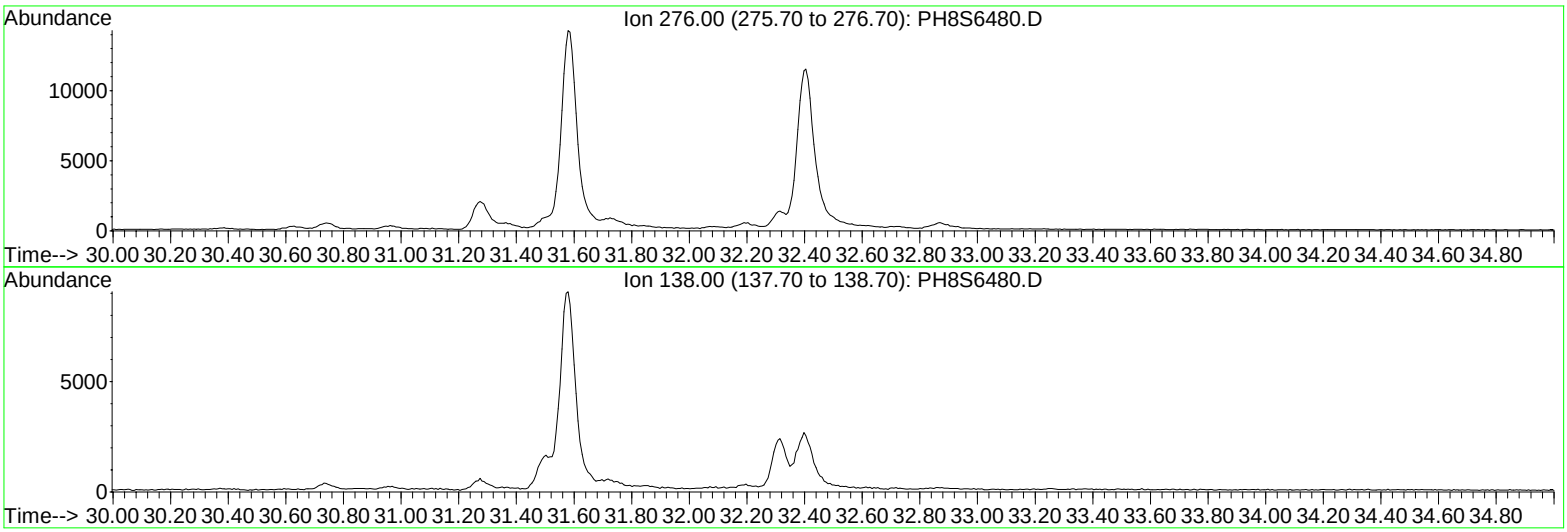




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL





---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6480.D
29/12/2018 4:36
L30540-7
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6480.D\618S6480.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 23
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.097	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	677877	18.55	2033.0237	I	0	2033.0237	1547		0.17	1
d10-Phenanthrene - SURR	531200	14.99	1701.7822	S	47.1408	6.3048	1907		0.14	0.808
d12-Benz(a)anthracene - SURR	885560	21.6	3967.8758	S	97.7309	75.4139	16309		0.23	1.164
d12-Chrysene - SURR	872708	21.69	3635.889	S	92.7523	35.0132	8144		0.27	1.169
d12-Benzo(e)pyrene - REC	565147	26.11	2084.6233	I	0	2084.6233	885		0.25	1
d12-Indeno(123cd)pyrene - SURR	840430	31.5	4115.6408	S	103.4081	1.1616	230		0.17	1.207
d10-Phenanthrene	531200	14.99	3725.4902	I	0	3725.4902	2038		0.14	1
13C6-Phenanthrene	85617	15.05	527.7619	T	0	10.6631	1730		0.19	1.004
d12-Benz(a)anthracene	885560	21.6	4189.8865	I	0	4189.8865	18555		0.23	1
d10-Fluoranthene	168342	18.01	608.2913	T	0	3.578	990		0.16	0.834
d12-Chrysene	872708	21.69	4045.4076	I	0	4045.4076	9750		0.27	1
13C6-Chrysene	541868	21.75	2240.2981	T	0	2.1405	518		0.31	1.003
d12-Indeno(123cd)pyrene	840430	31.5	4107.3271	I	0	4107.3271	252		0.17	1
13C6-Indeno(123cd)pyrene $	1737298	31.58	6707.3097	T	0	2.9667	768		0.2	1.002

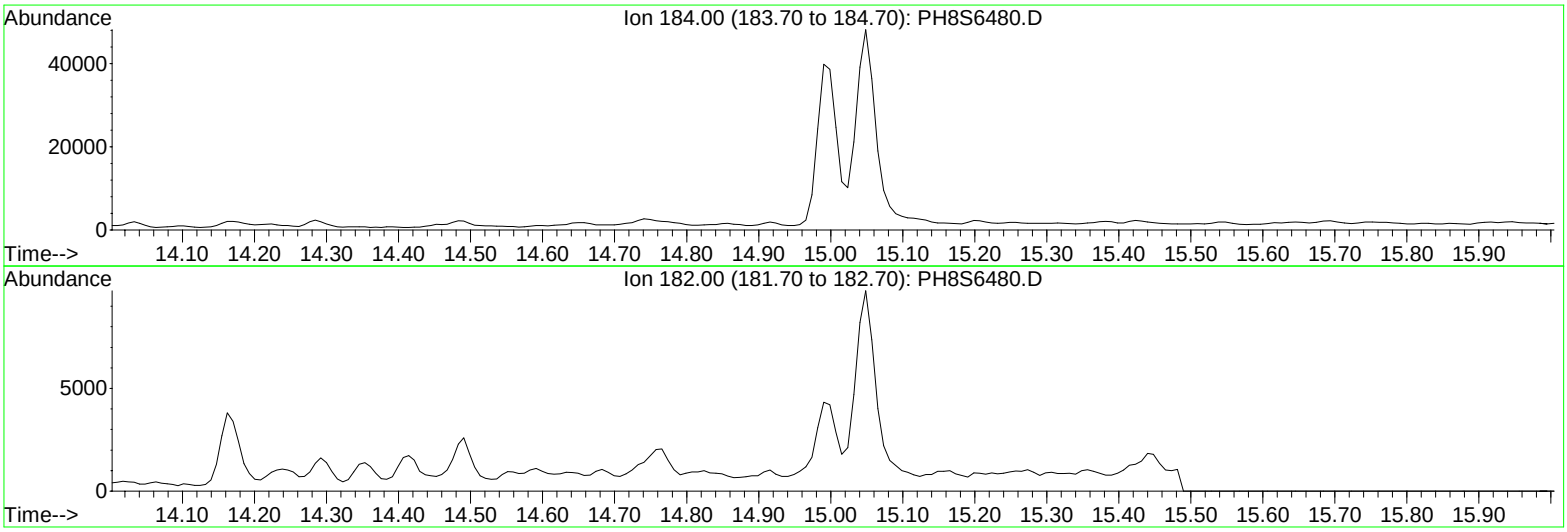
checked by VR 08-Jan-19

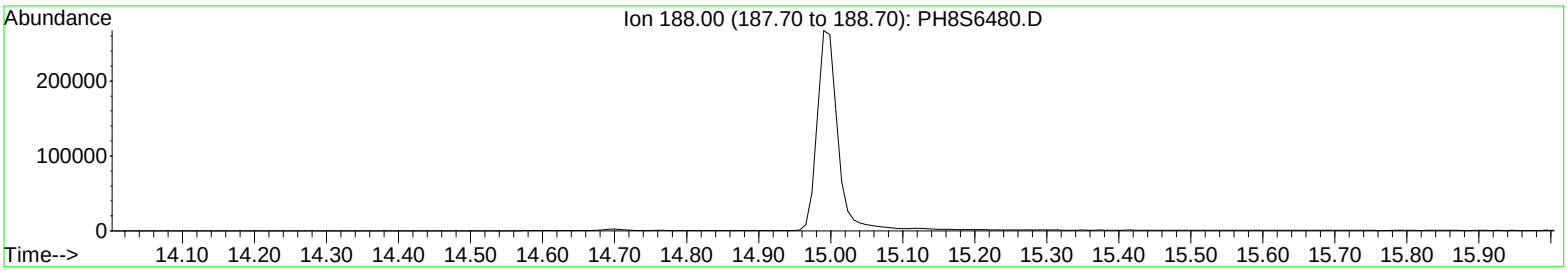
618S6480

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

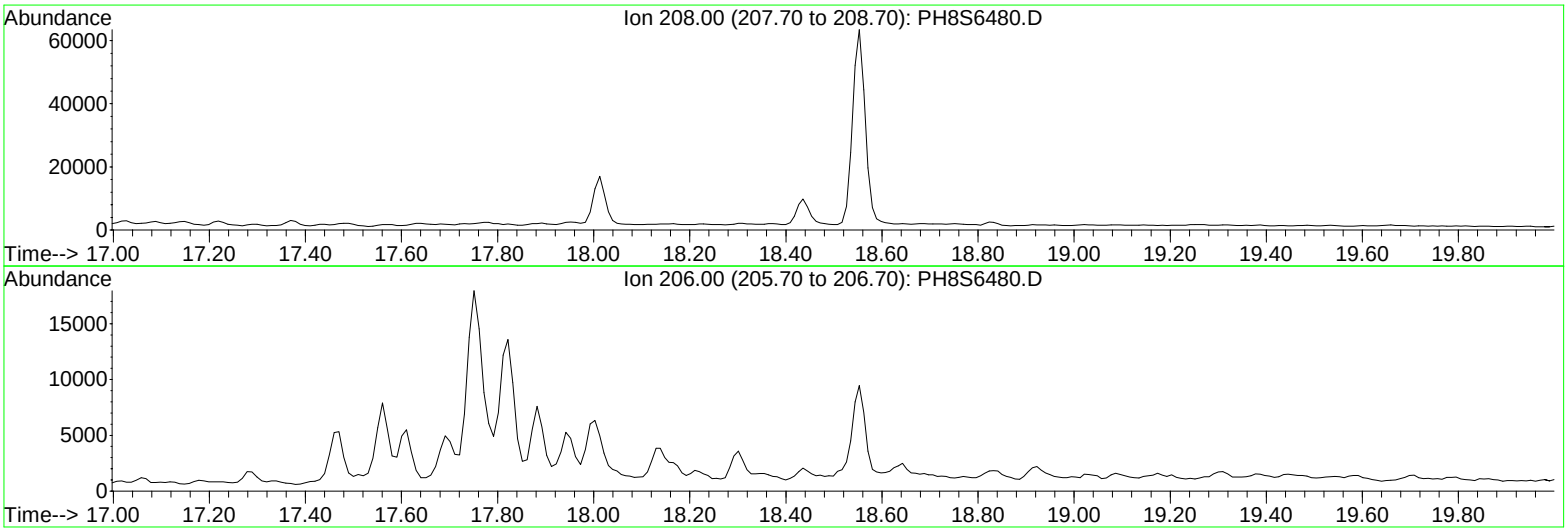
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

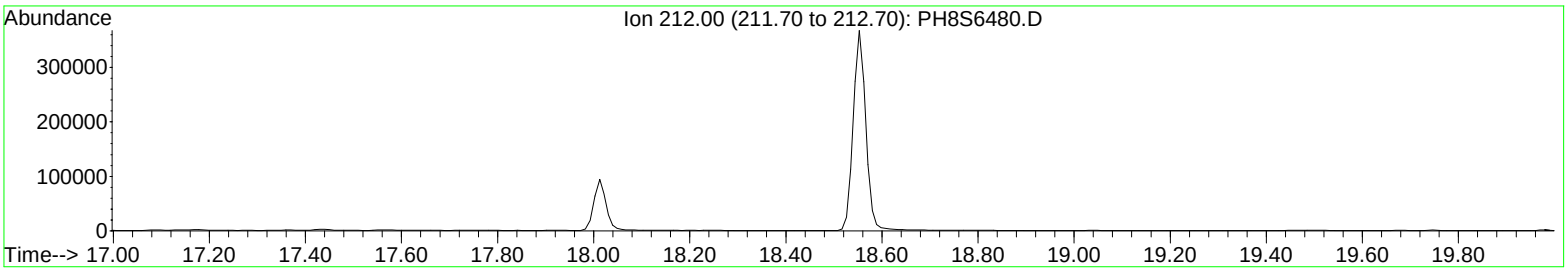




Axys Analytical CHRO Report

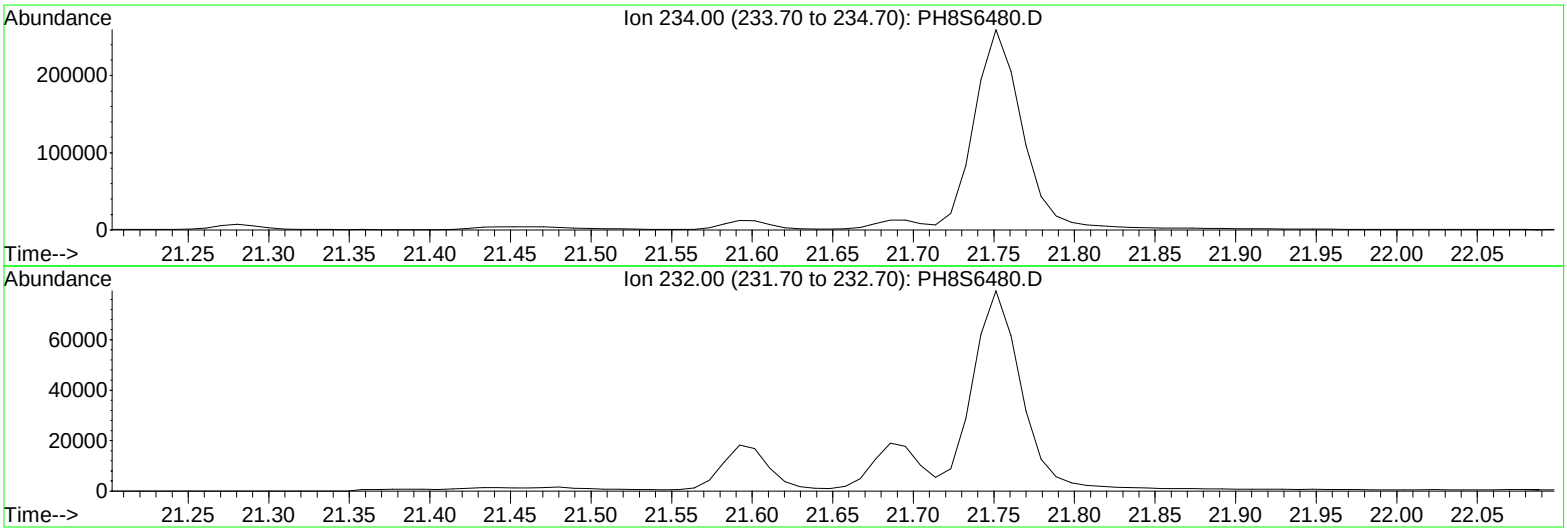
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

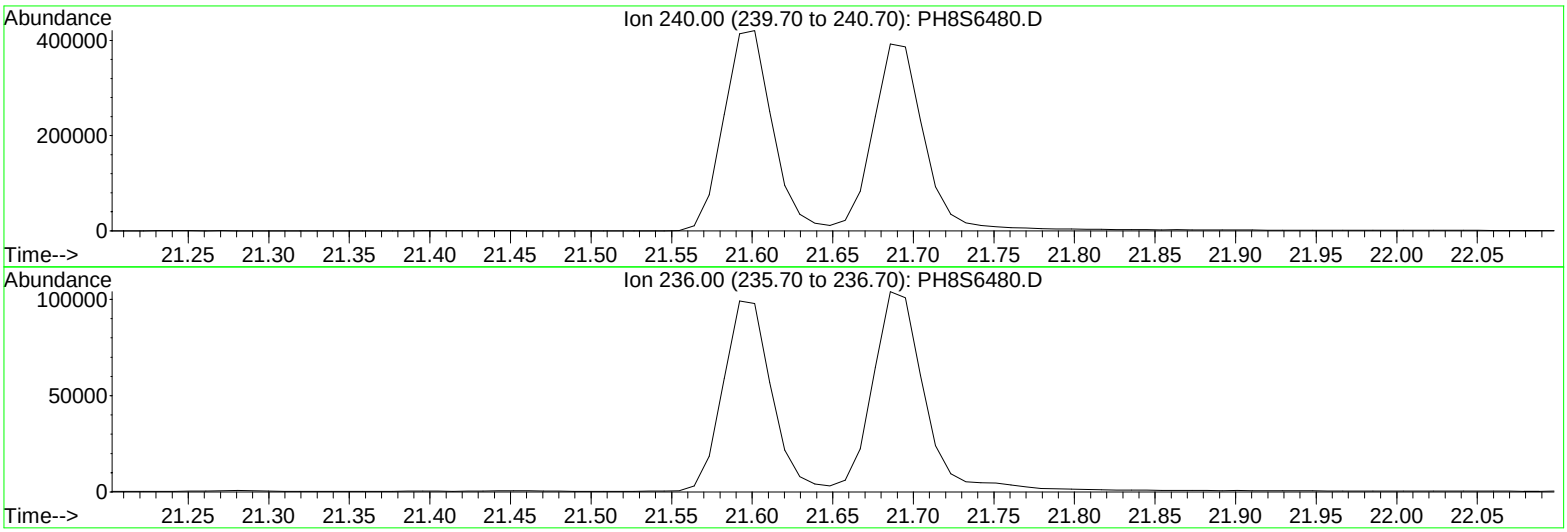




Axys Analytical CHRO Report

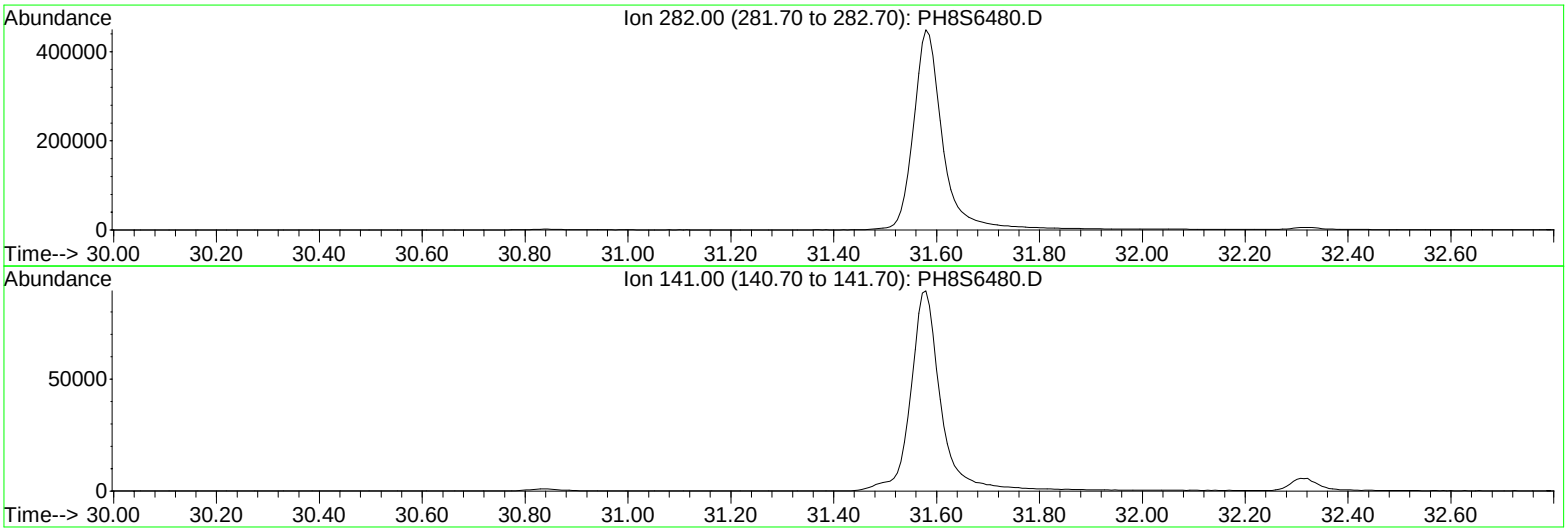
File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

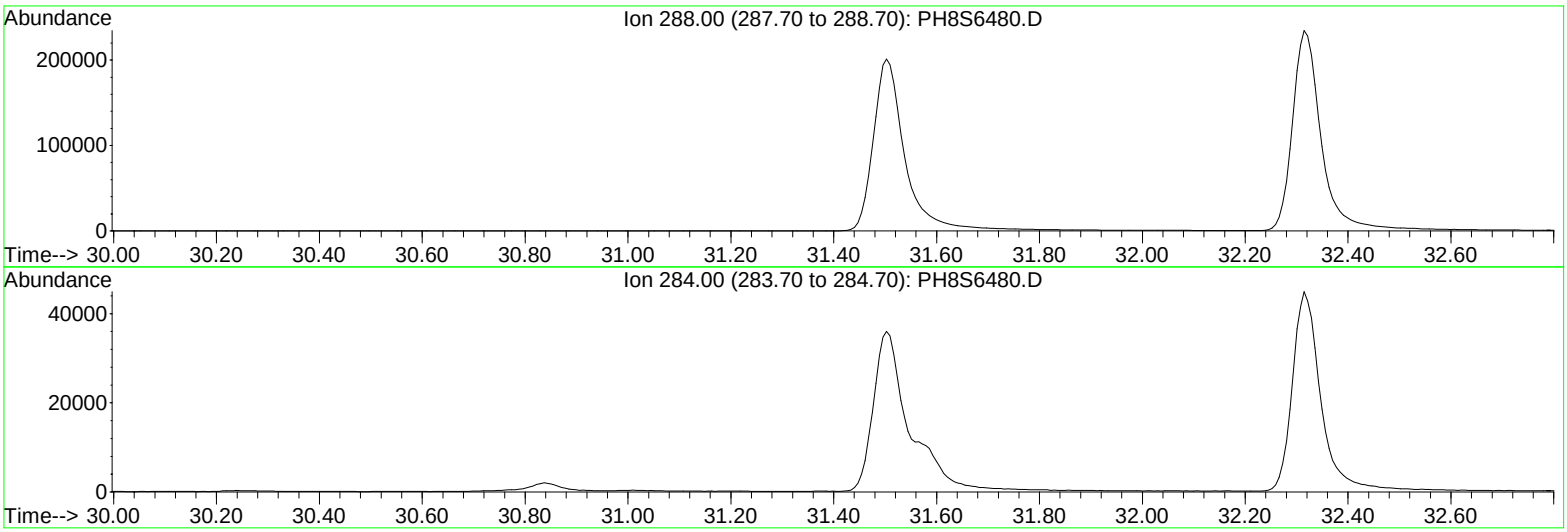




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL

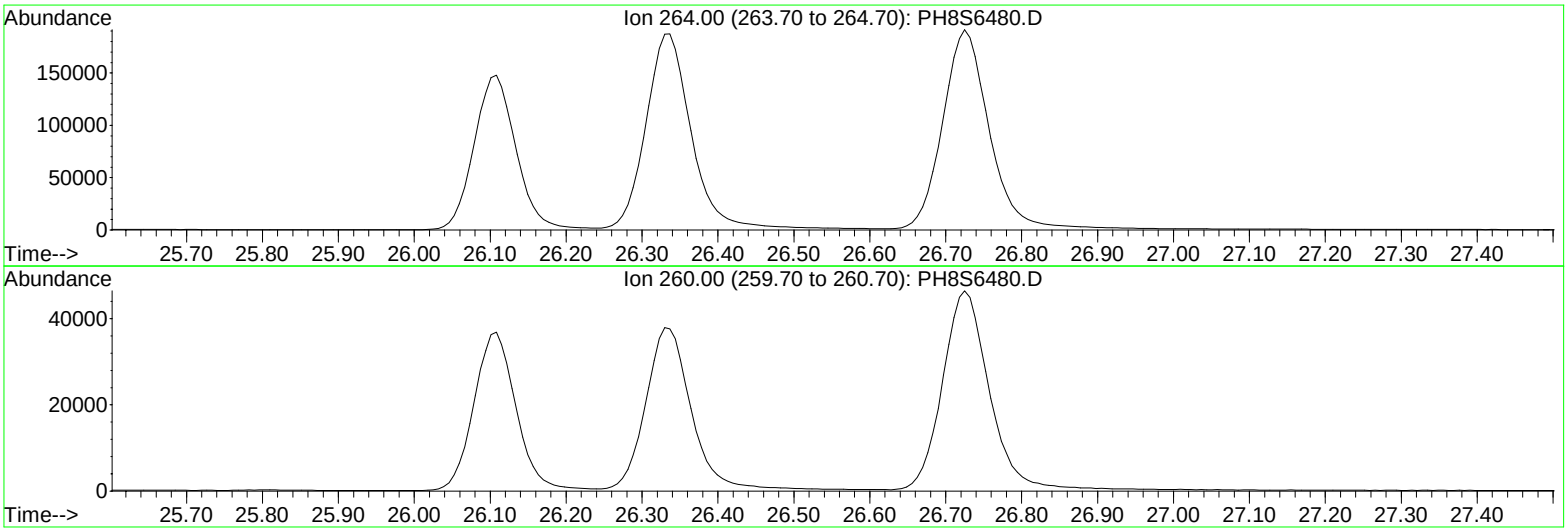




Thu Jan 10 08:58:21 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6480.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 4:36
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-7,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6482.D
29/12/2018 6:13
L30540-8
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6482.D\PH8S6482.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 25
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:43 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.093	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	429824	11.28	4358.1446 I	0	4358.1446	321		0.45	1
d8-Naphthalene - SURR	225549	6.85	354.5157 S	17.7258	0.8218	121		0.09	0.607
d10-2-Methylnaphthalene - SURR	204143	8.52	478.6737 S	24.2982	1.2259	121		0.19	0.755
d10-Biphenyl - SURR	362873	9.8	606.4826 S	29.6569	0.6079	84		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	242075	10.1	621.1852 S	30.228	3.2081	290		0.74	0.896
d8-Acenaphthylene - SURR	490149	10.84	650.543 S	31.5798	10.9213	1907		0.16	0.961
d10-Pyrene - REC	869390	18.55	4250.2697 I	0	4250.2697	4125		0.17	1
d10-Phenanthrene - SURR	729250	14.99	904.84 S	50.1296	8.1288	1518		0.14	0.808
d8-Dibenzothiophene - SURR	601204	14.7	838.8076 S	41.219	56.1191	9322		0.09	0.792
d12-Benz(a)anthracene - SURR	1176579	21.59	1552.3736 S	76.4716	135.8542	23863		0.23	1.164
d12-Chrysene - SURR	1148278	21.69	1450.2167 S	73.9906	61.6958	11321		0.27	1.169
d12-Benzo(e)pyrene - REC	766488	26.11	4358.1446 I	0	4358.1446	1573		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1108152	25	1578.7891 S	80.1416	467.9266	76115		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1224353	25.11	1579.3075 S	78.9654	142.8274	25661		0.19	0.962
d12-Benzo(a)pyrene - SURR	1058108	26.34	1593.3188 S	76.9719	12997.0011	2000280		0.2	1.009
d12-Perylene - SURR	1121415	26.72	1693.6236 S	78.7732	250.4229	38428		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	1198702	31.5	1782.2094 S	89.5583	2.2257	347		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1290355	32.32	1613.0356 S	81.4664	17.4034	3226		0.19	1.238
d8-Naphthalene	225549	6.85	4314.9946 I	0	4314.9946	135		0.09	1
Naphthalene $	1246	6.9	19.9165 T	0	2.1567	135		0.08	1.007
d10-2-Methylnaphthalene	204143	8.52	4250.2697 I	0	4250.2697	132		0.19	1
2-Methylnaphthalene $	526	8.6	9.0509 T	0	1.4867	86		0.99	1.009
1-Methylnaphthalene	401	8.87	7.3082 T	0	1.5746	86		0.89	1.04
C1-Naphthalenes	526	8.6	0 T	0	0	570		-1	1.009
d10-Biphenyl	362873	9.8	4412.082 I	0	4412.082	88		-1	1
Biphenyl $	1882	9.85	20.5986 T	0	1.1496	105		0.32	1.006
C1-Biphenyls $	484	11.33	5.2974 T	0	2.1176	193		0.21	1.157
C2-Biphenyls $	1030	12.7	11.2734 T	0	10.83	989		0.12	1.296
d12-2,6-Dimethylnaphthalene	242075	10.1	4433.657 I	0	4433.657	304		0.74	1
2,6-Dimethylnaphthalene $	911	10.21	13.7959 T	0	3.6004	238	#	1.24	1.011
Ethyl/DiMe-Naphthalenes	908	10.21	15.1986 T	0	3.9795	238	#	17.65	1.011
1,2-Dimethylnaphthalene	48356	10.84	904.8668 T	0	4.4489	238	#	0.01	1.073
C2-Naphthalenes	908	10.21	0 T	0	0	2958		-1	1.011
2,3,6-Trimethylnaphthalene	3793	12.16	56.8243 T	0	4.9699	332	#	1.13	1.203
2,3,5-Trimethylnaphthalene $	3191	12.39	50.3795 T	0	5.2375	332		0.96	1.226
C3-Naphthalenes	3191	12.39	49.0582 T	0	5.1002	332		0.96	1.226
1,4,6,7-Tetramethylnaphthalene $	6400	13.91	95.8406 T	0	74.0207	4943	#	0.16	1.377
C4-Naphthalenes	6400	13.91	95.8406 T	0	74.0207	4943		0.16	1.377
d8-Acenaphthylene	490149	10.84	4444.4444 I	0	4444.4444	1982		0.16	1
Acenaphthylene $	15508	10.88	115.729 T	0	3.3094	443		0.19	1.003
Acenaphthene $	1618	11.36	21.8472 T	0	1.9221	142		1.27	1.048
C1-Acenaphthenes $	277	11.72	3.7402 T	0	7.9101	586		0.19	1.081
d8-Dibenzothiophene	601204	14.7	4390.507 I	0	4390.507	9748		0.09	1
Dibenzothiophene $	1079	14.74	6.5916 T	0	12.8838	2109	#	2.51	1.003
C1-Dibenzothiophenes-1	4048	15.83	36.0414 T	0	50.5711	5680	#	4.72	1.077
2/3-Methyldibenzothiophenes $	2810	16.08	25.0189 T	0	50.5711	5680	#	1.87	1.094
C1-Dibenzothiophenes-2	4961	16.34	44.1703 T	0	50.5711	5680	#	5.13	1.112
C1-Dibenzothiophenes	2810	16.08	0 T	0	0	5680		-1	1.094
4,6-Dimethyldibenzothiophene	4986	16.95	41.4229 T	0	24.888	2996	#	0.48	1.153

+ Report only.

Checked by VR 08-Jan-19

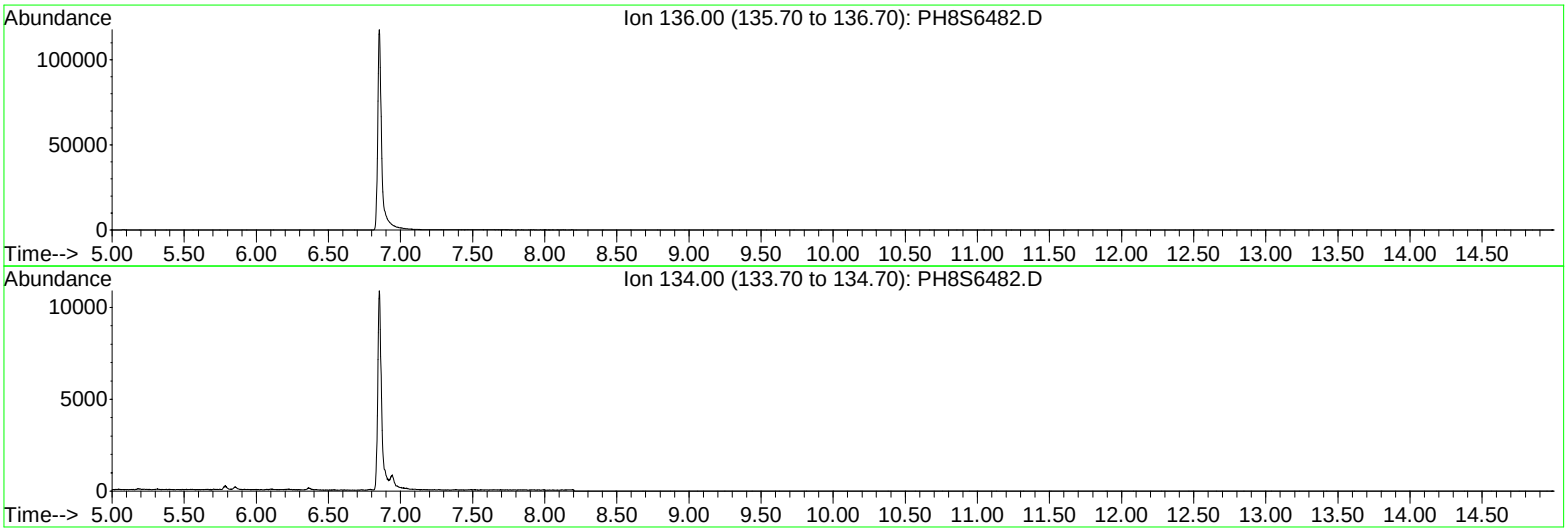
pv by vr
03-Jan-2019

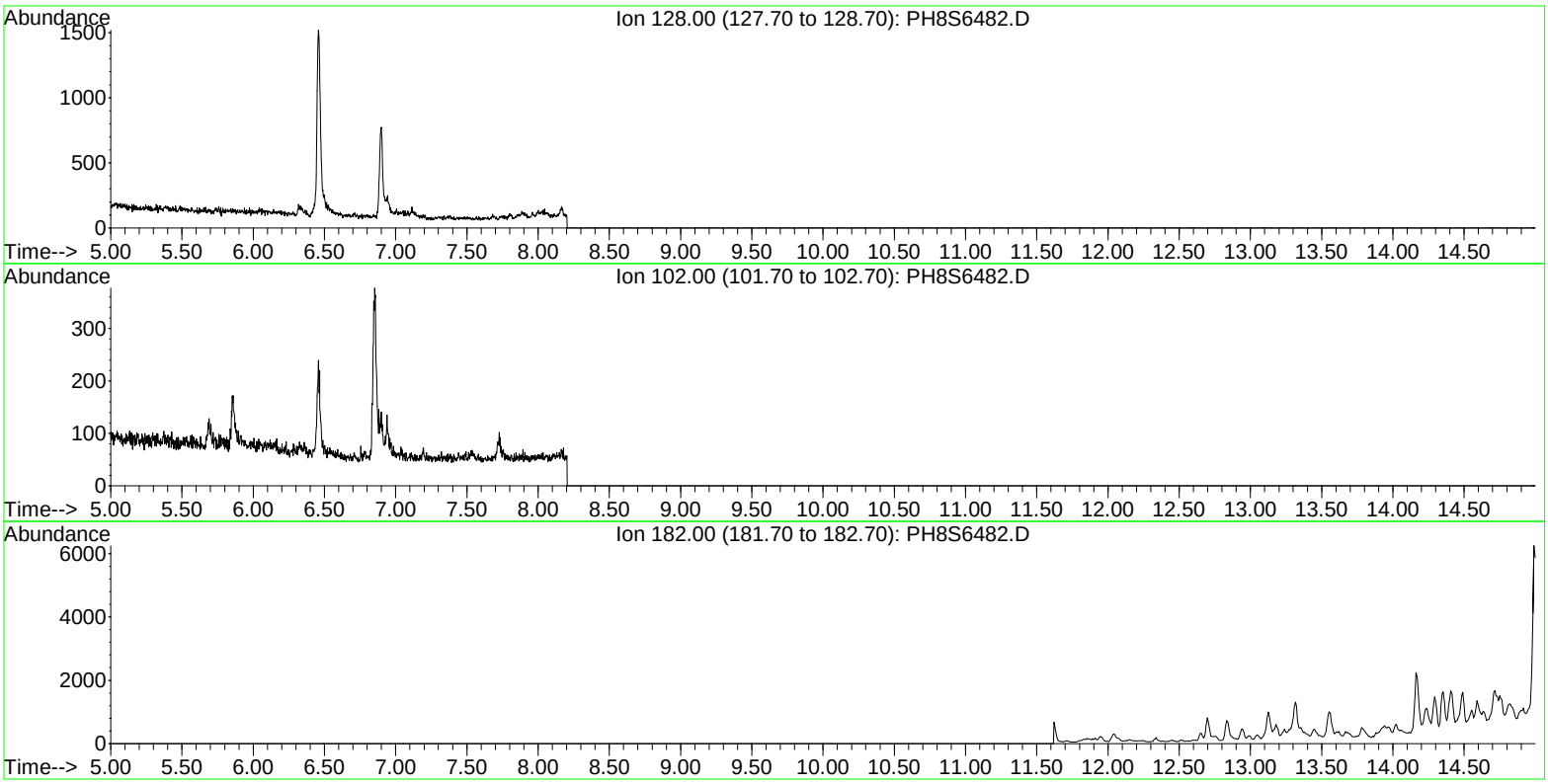
2,4-Dimethyldibenzothiophene $	2615	17.09	28.1307 T	0	32.2263	2996 #	2.33	1.163
C2-Dibenzothiophenes	2615	17.09	28.1307 T	0	32.2263	2996	2.33	1.163
C3-Dibenzothiophenes $	7373	18.09	79.3145 T	0	72.5737	6746	0.81	1.231
C4-Dibenzothiophenes $	388	18.84	4.1739 T	0	58.394	5428	6.48	1.282
d10-Phenanthrene	729250	14.99	3894.2826 I	0	3894.2826	1542	0.14	1
Fluorene $	1313	12.66	9.8107 T	0	2.7823	372 #	1.25	0.844
2-Methylfluorene $	504	14.08	5.5379 T	0	38.805	3532 #	2.23	0.939
C1-Fluorenes	504	14.08	5.5379 T	0	38.805	3532	2.23	0.939
1,7-Dimethylfluorene $	2268	15.51	26.7963 T	0	98.0246	8297 #	0.25	1.035
C2-Fluorenes	2268	15.51	26.7963 T	0	98.0246	8297	0.25	1.035
C3-Fluorenes $	3507	16.4	41.435 T	0	163.466	13836	0.6	1.094
Phenanthrene $	10751	15.05	53.6773 T	0	5.4902	1100	0.21	1.004
Anthracene	12810	15.17	63.2021 T	0	5.4254	1100	0.17	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	3323	16.31	23.5166 T	0	13.8758	1961 #	1.05	1.088
2-Methylphenanthrene	3053	16.37	21.8924 T	0	14.0599	1961	0.66	1.092
2-Methylanthracene	5667	16.48	41.8675 T	0	14.4857	1961 #	0.77	1.099
9/4-Methylphenanthrenes	11710	16.6	82.8706 T	0	13.8758	1961 #	0.85	1.107
1-Methylphenanthrene $	4634	16.64	31.0808 T	0	13.1507	1961	0.5	1.11
C1-Phenanthrenes/Anthracenes	11710	16.6	0 T	0	0	17105	-1	1.107
Fluoranthene $	110004	18.06	447.0943 T	0	9.6716	2380	0.2	1.205
Pyrene	305677	18.6	1201.6081 T	0	9.3542	2380	0.21	1.241
3,6-Dimethylphenanthrene $	7963	17.46	58.5225 T	0	142.0891	19334 #	1.24	1.165
2,6-Dimethylphenanthrene	5160	17.56	37.8527 T	0	141.8278	19334 #	0.85	1.171
1,7-Dimethylphenanthrene	5382	17.88	39.4092 T	0	141.5691	19334 #	-1	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	7963	17.46	58.4149 T	0	141.8278	19334	1.24	1.165
1,8-Dimethylphenanthrene	4592	18.13	33.686 T	0	141.8278	19334 #	-1	1.209
C2-Phenanthrenes/Anthracenes	7963	17.46	0 T	0	0	19334	-1	1.165
1,2,6-Trimethylphenanthrene $	8292	19.37	66.1843 T	0	290.6602	36416 #	0.78	1.292
C3-Phenanthrenes/Anthracenes	8292	19.37	66.1843 T	0	290.6602	36416	0.78	1.292
Retene $	11989	19.5	250.438 T	0	353.3031	16913 #	1.3	1.301
C4-Phenanthrenes/Anthracenes	11989	19.5	250.438 T	0	353.3031	16913	1.3	1.301
C1-Fluoranthenes/Pyrenes-1	19602	19.23	134.0128 T	0	1024.1726	149805	0.96	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	72845	19.51	498.0187 T	0	1024.1726	149805	0.97	1.302
C1-Fluoranthenes/Pyrenes-2	78144	19.98	534.2463 T	0	1024.1726	149805	0.6	1.333
C1-Fluoranthenes/Pyrenes	72845	19.51	0 T	0	0	149805	-1	1.302
C2-Fluoranthenes/Pyrenes $	1436	20.41	9.8175 T	0	183.1722	26793 #	21.82	1.361
C3-Fluoranthenes/Pyrenes $	5232	21.92	35.7696 T	0	87.7875	12841 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	1653	23.17	11.301 T	0	38.8619	5684	1.47	1.546
d12-Benz(a)anthracene	1176579	21.59	4379.7195 I	0	4379.7195	25818	0.23	1
d10-Fluoranthene $	41671	18.01	142.8694 T	0	4.8032	1401	0.17	0.834
† Benz(a)anthracene	49023	21.65	141.2554 T	0	2.6257	911 #	0.33	1.003
d12-Chrysene	1148278	21.69	4228.6947 I	0	4228.6947	12750	0.27	1
† Chrysene $	71401	21.74	213.0104 T	0	2.8297	949	~~0.32~~	1.003 0.31
5/6-Methylchrysenes $	7230	23.11	28.5632 T	0	292.9709	74158	-1	1.066
1-Methylchrysene	13449	23.27	51.2871 T	0	282.7983	74158	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	7230	23.11	28.0586 T	0	287.795	74158	-1	1.066
5,9-Dimethylchrysene $	11583	24.42	59.109 T	0	64.34	12608	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	11583	24.42	59.109 T	0	64.34	12608	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	1179	25.01	6.0165 T	0	8.7257	1710	-1	1.153
C4-Benz(a)anthracenes/Chrysenes $	378	26.07	1.929 T	0	2.4366	477	-1	1.202
d12-Benzo(b)fluoranthene	1108152	25	4250.2697 I	0	4250.2697	66196	0.21	1
Benzo(b)fluoranthene-SURR int	3347	25	0 T	0	0	159948 #	0.33	1
† Benzo(b)fluoranthene $	87243	25.1	231.102 T	0	2.9038	1096	0.2	1.004
d12-Benzo(k)fluoranthene	1224353	25.11	4314.9946 I	0	4314.9946	22823	0.19	1
† Benzo(j/k)fluoranthenes	59851	25.17	167.1701 T	0	3.1314	1121	0.23	1.002
Benzofluoranthenes	85426	25.1	0 T	0	0	163579	-1	0.999
d12-Benzo(a)pyrene	1058108	26.34	4466.0194 I	0	4466.0194	2062780	0.2	1
Benzo(e)pyrene	80973	26.22	246.2819 T	0	3.9536	1300	0.2	0.996
† Benzo(a)pyrene	58478	26.44	188.4353 T	0	4.1887	1300	0.19	1.004
7-Methylbenzo(a)pyrene $	2293	29.19	10.3805 T	0	17.276	3816	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	2293	29.19	10.3805 T	0	17.276	3816	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	72	29.89	0.3259 T	0	14.0907	3113	-1	1.135
d12-Perylene	1121415	26.72	4638.6192 I	0	4638.6192	42413	0.24	1
Perylene	49245	26.84	147.7255 T	0	4.1734	1391	0.2	1.004
d12-Indeno(123cd)pyrene	1198702	31.5	4293.4196 I	0	4293.4196	367	0.17	1
d14-Dibenzo(ah)anthracene $	11436	31.63	44.7745 T	0	2.8283	722 #	2.79	1.004
† Dibenzo(ah)anthracene $	4620	31.73	14.5356 T	0	3.0818	980 #	0.47	1.007
† Indeno(123cd)pyrene $	25743	31.59	75.3519 T	0	2.0428	698 #	~~1.78~~	1.003 0.09
d12-Benzo(ghi)perylene	1290355	32.32	4271.8447 I	0	4271.8447	3107	0.19	1
Benzo(ghi)perylene	35509	32.4	98.4388 T	0	1.7599	635	0.23	1.002

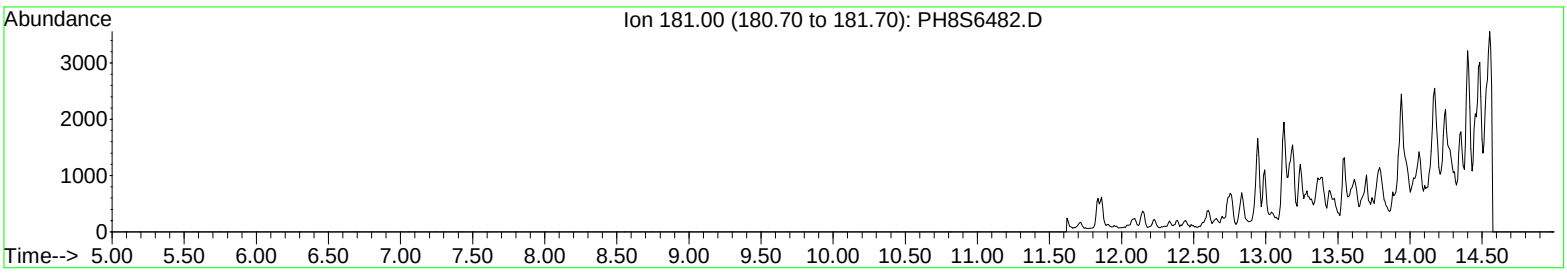
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



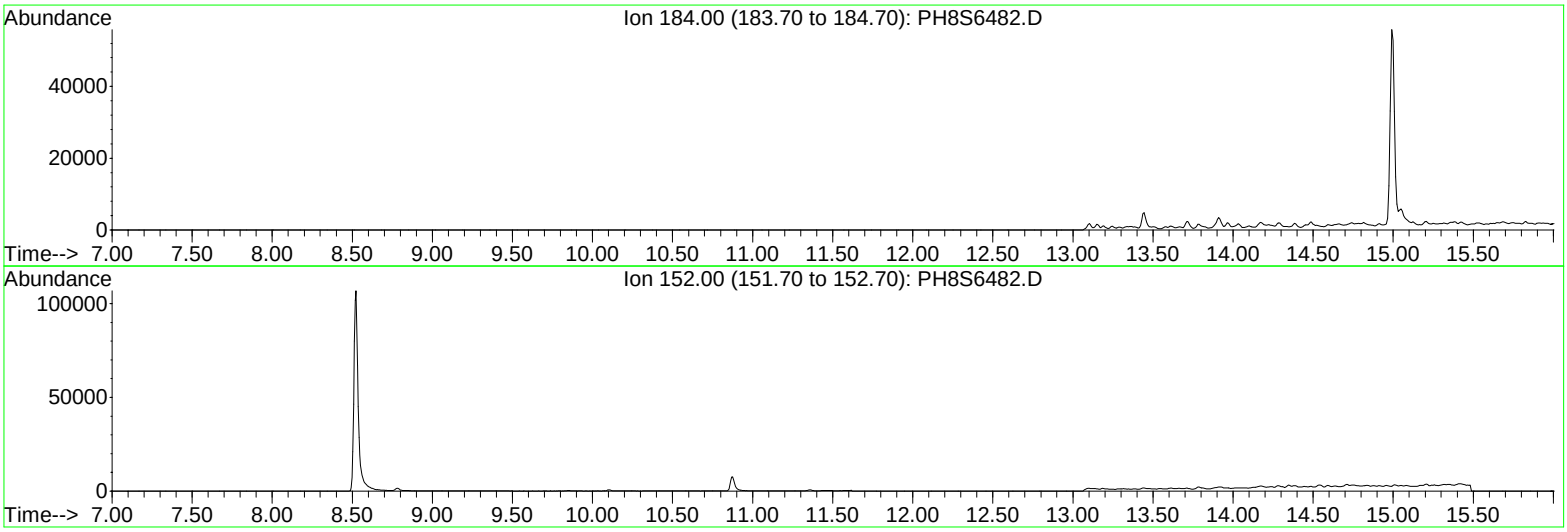


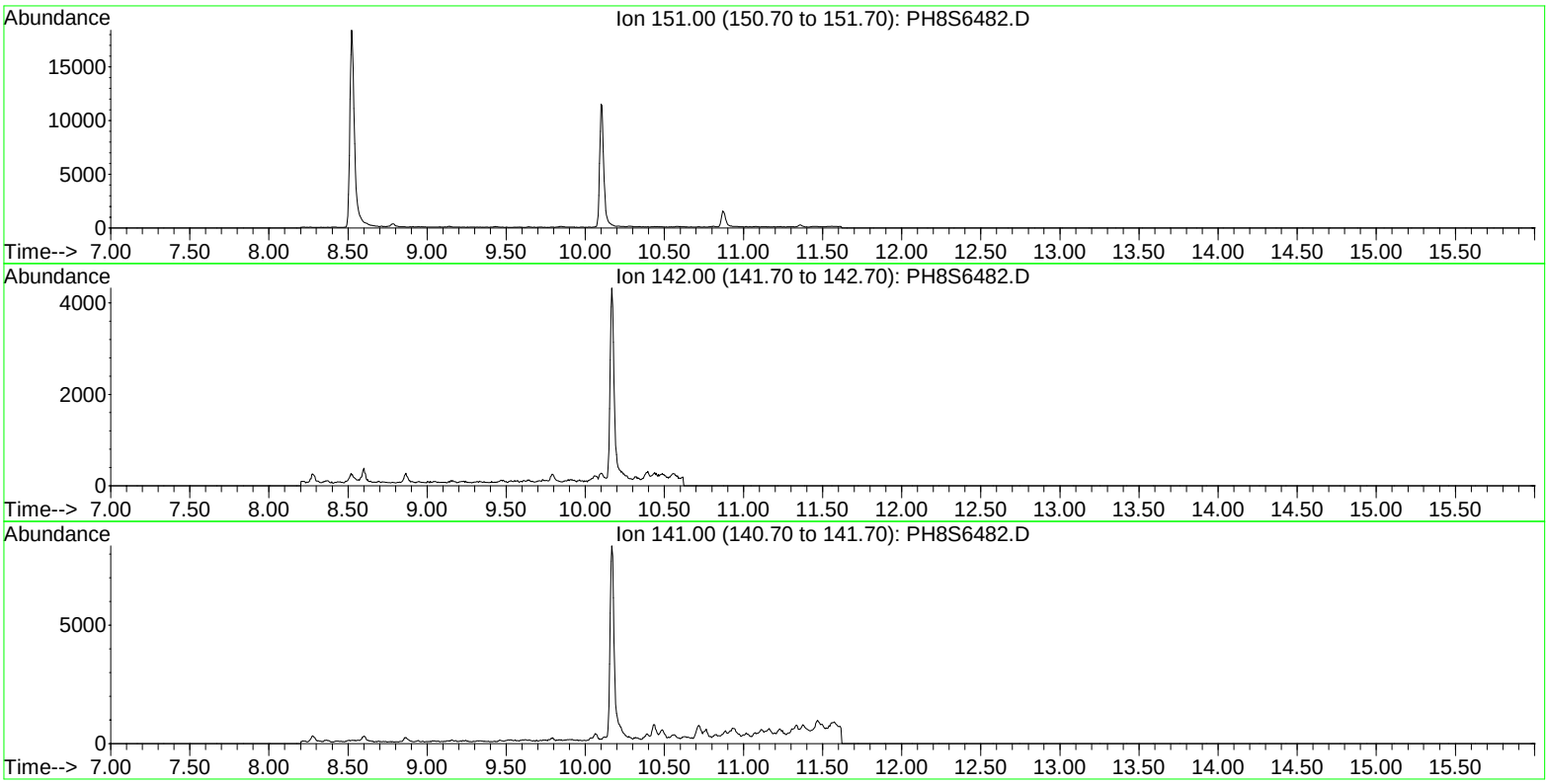


Thu Jan 10 08:51:02 2019

Axys Analytical CHRO Report

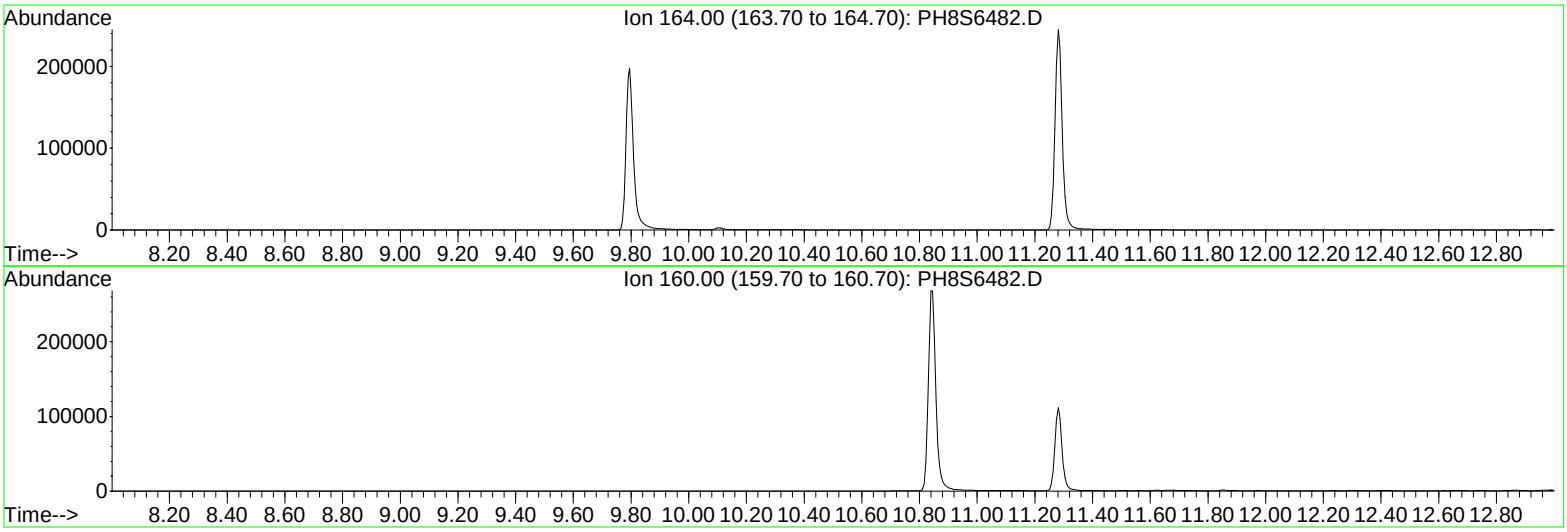
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

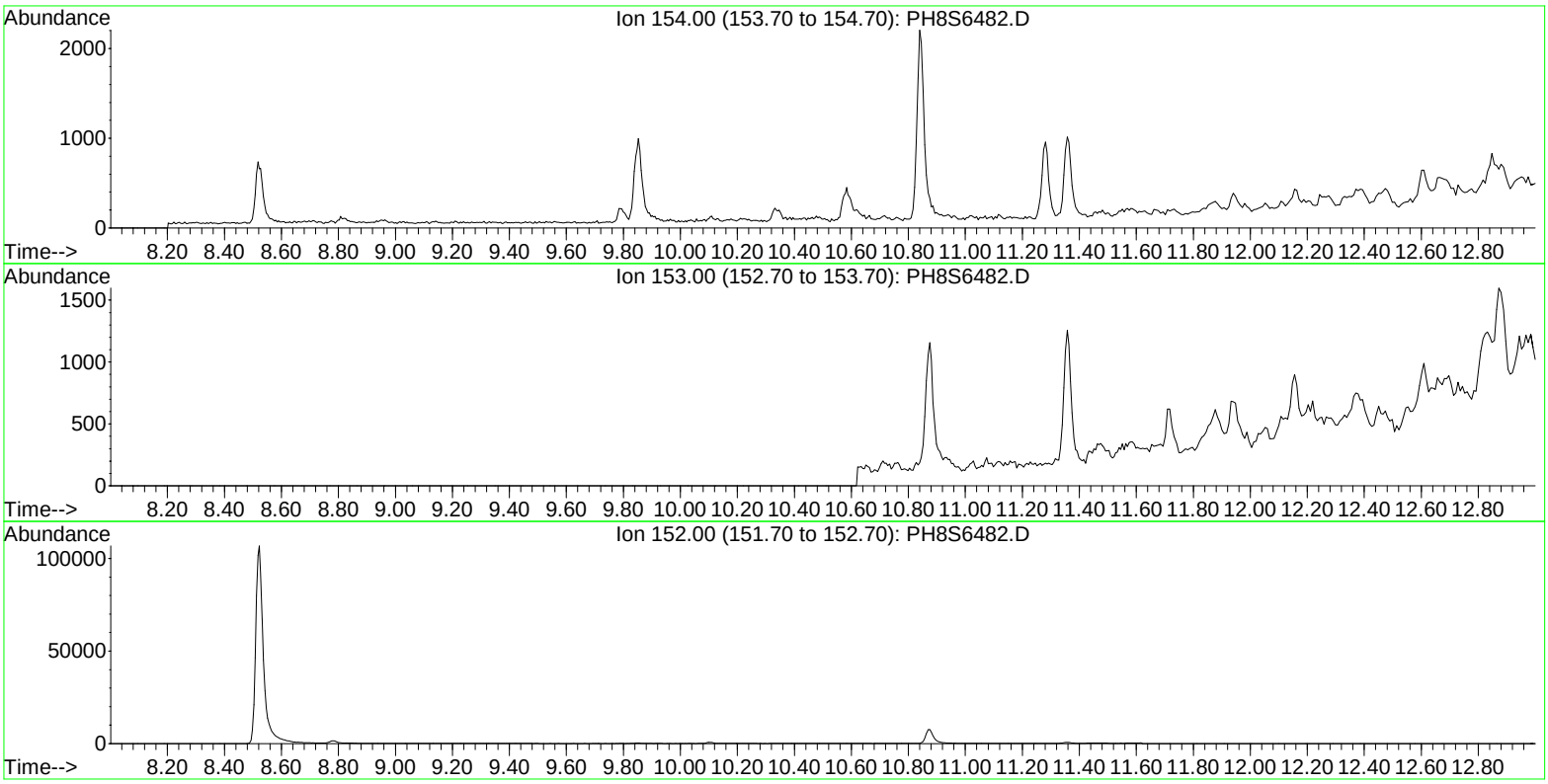




Axys Analytical CHRO Report

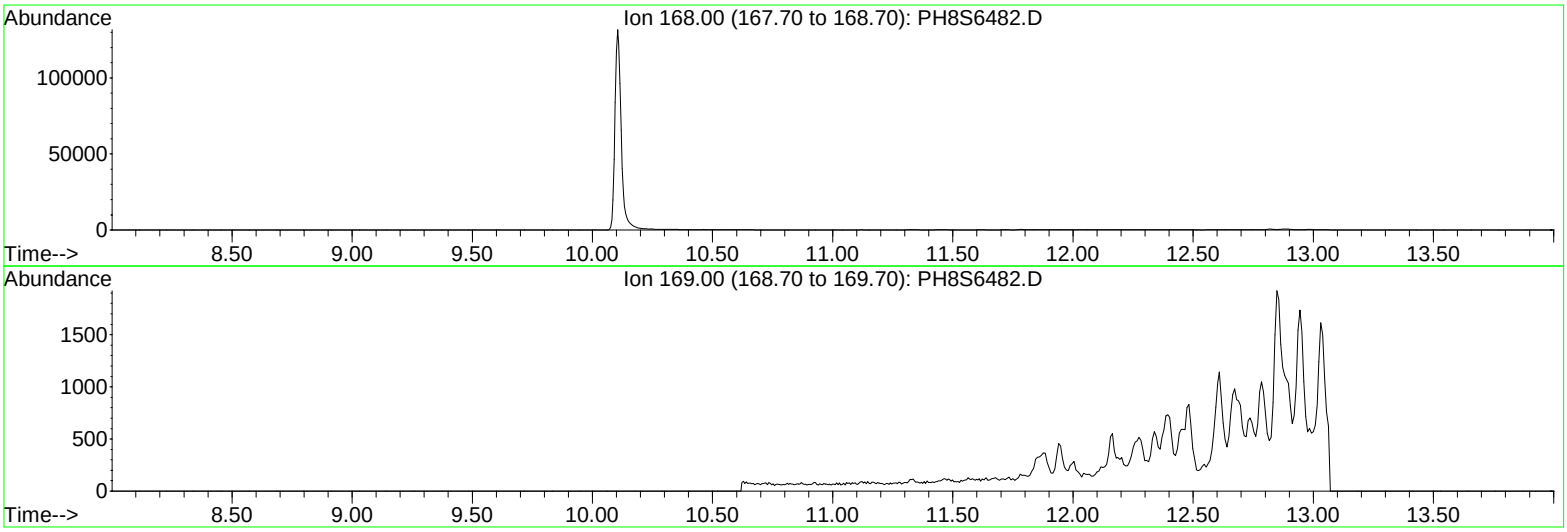
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

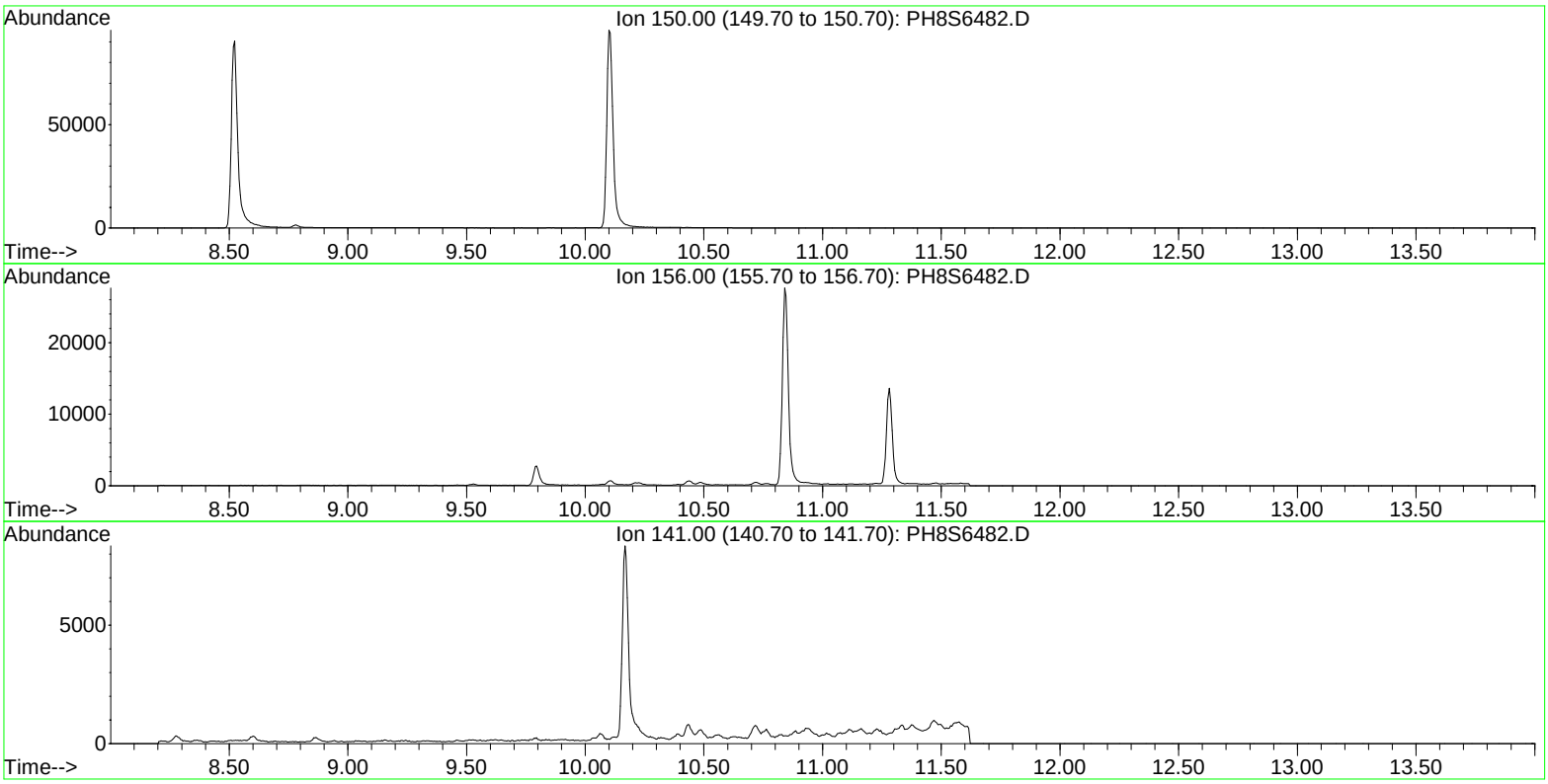




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

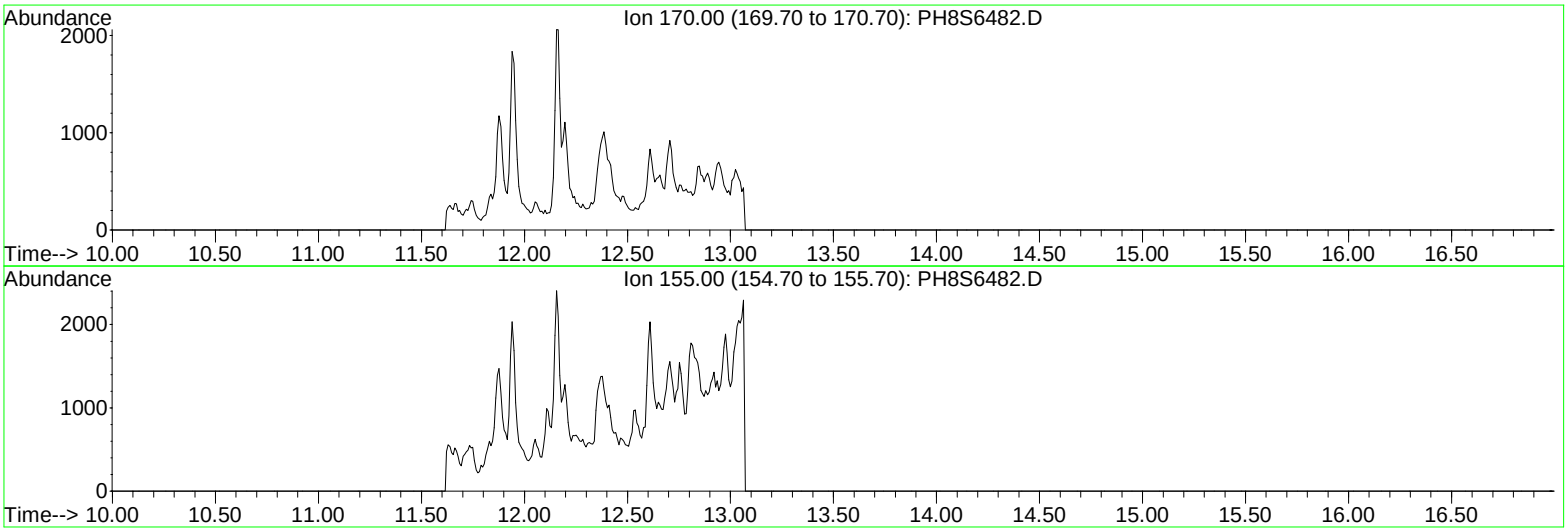


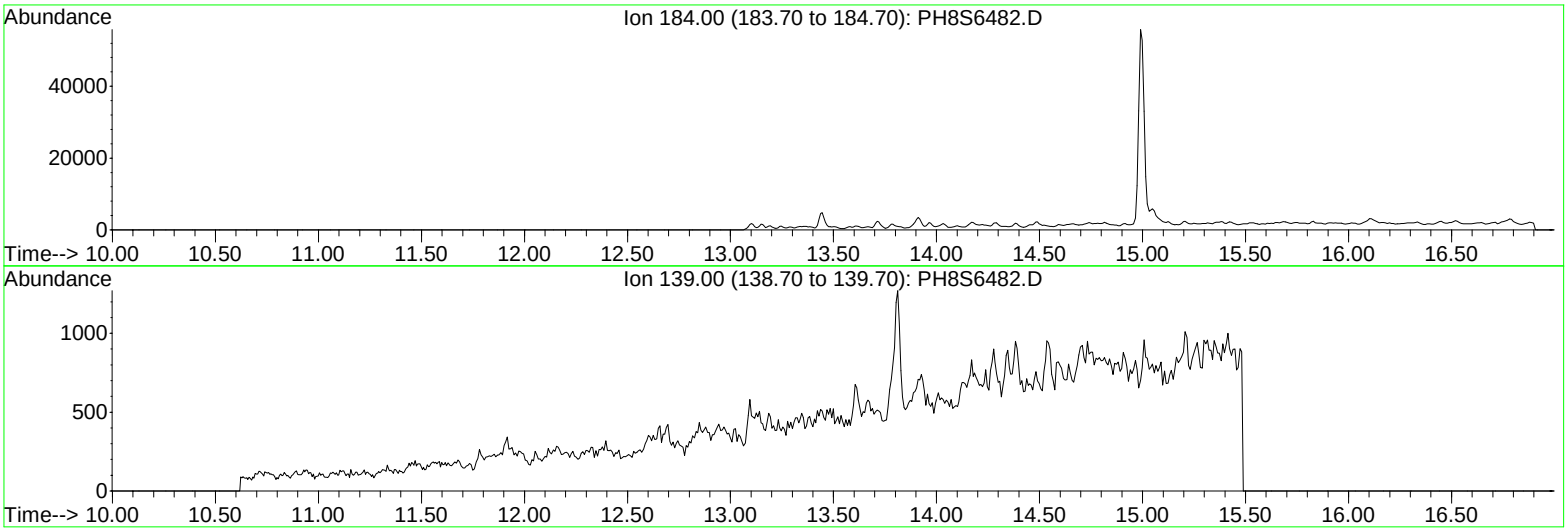


Thu Jan 10 08:51:14 2019

Axys Analytical CHRO Report

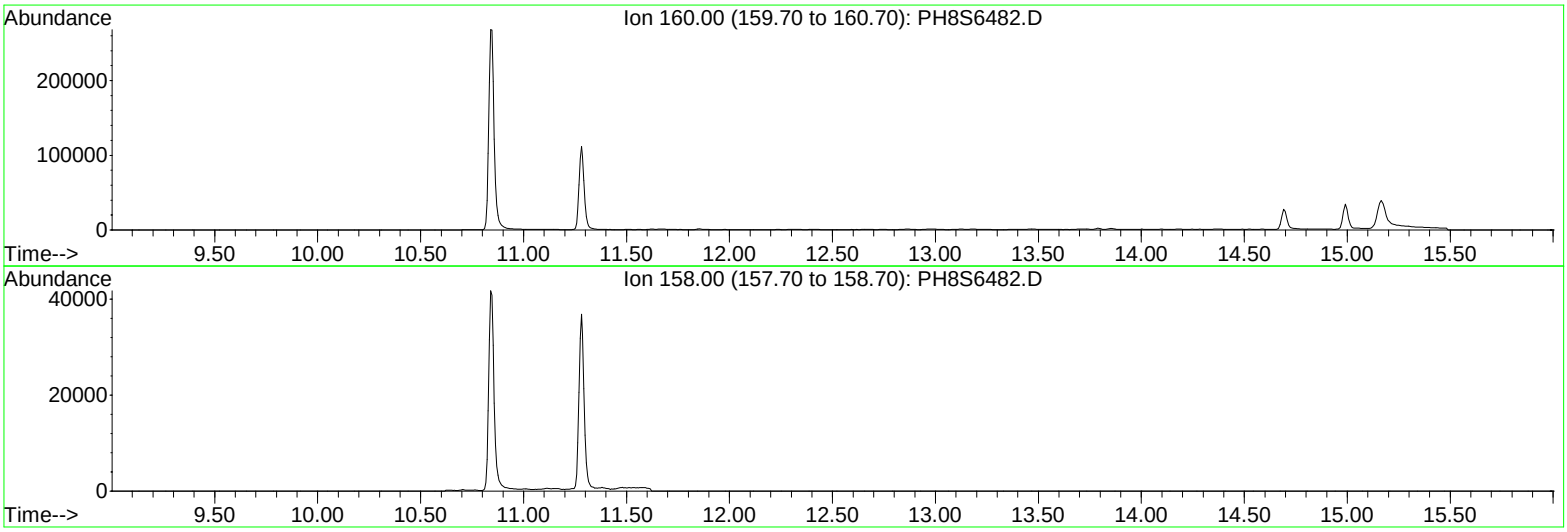
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

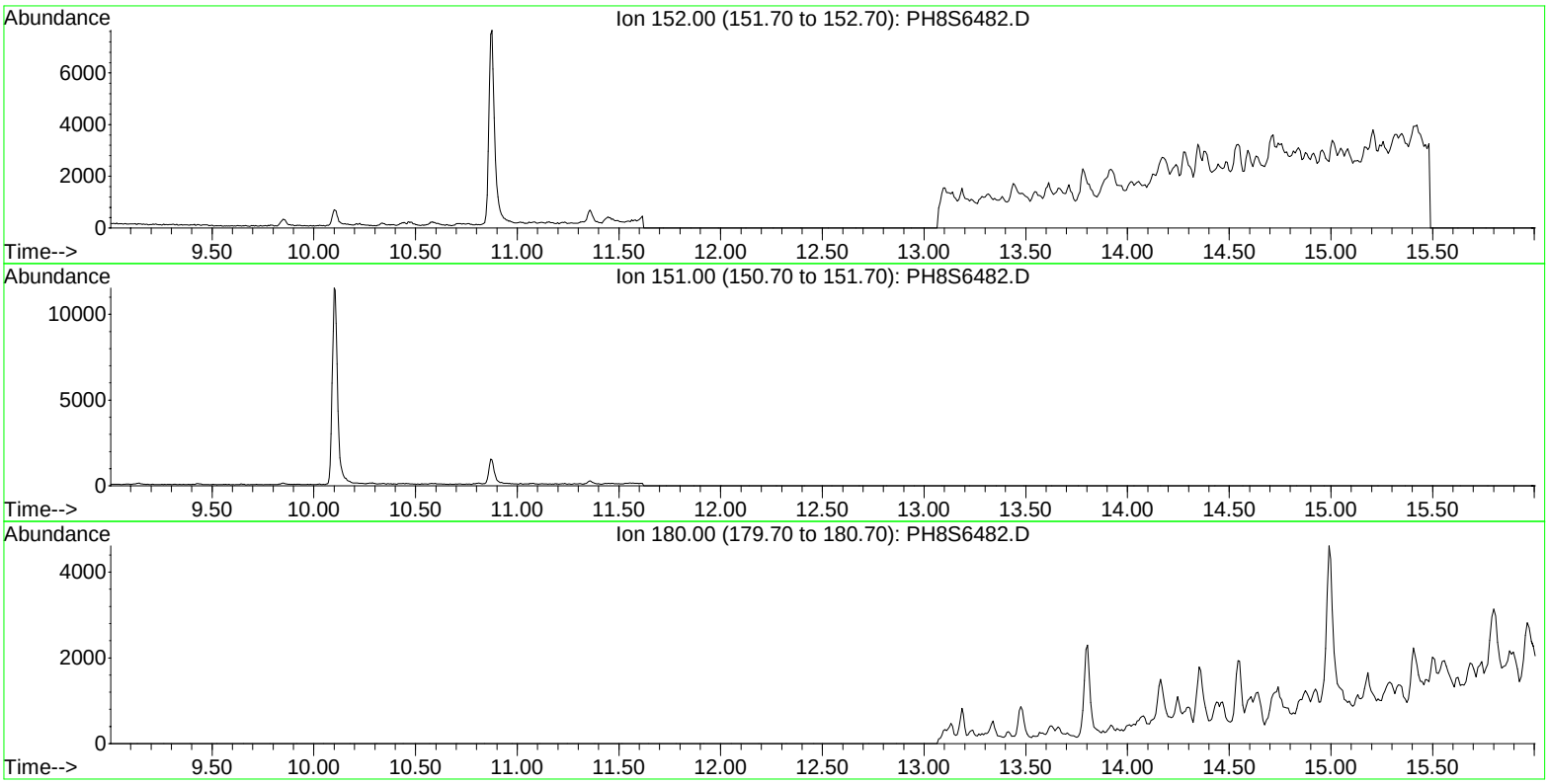


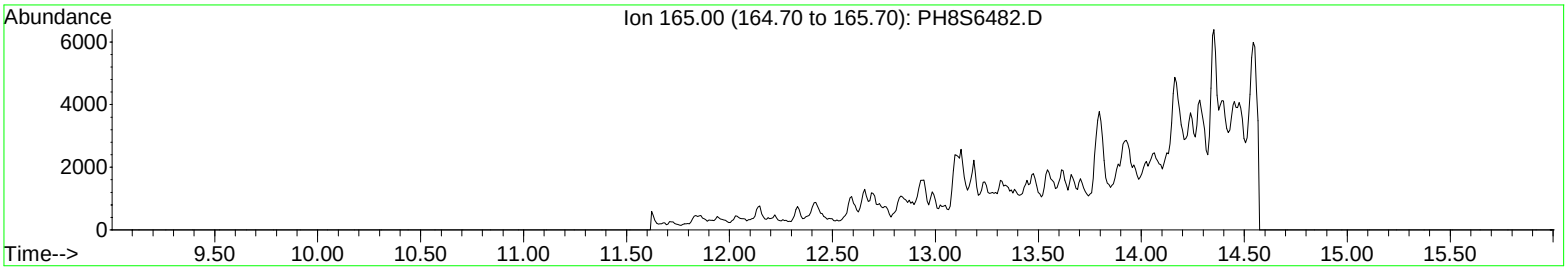


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



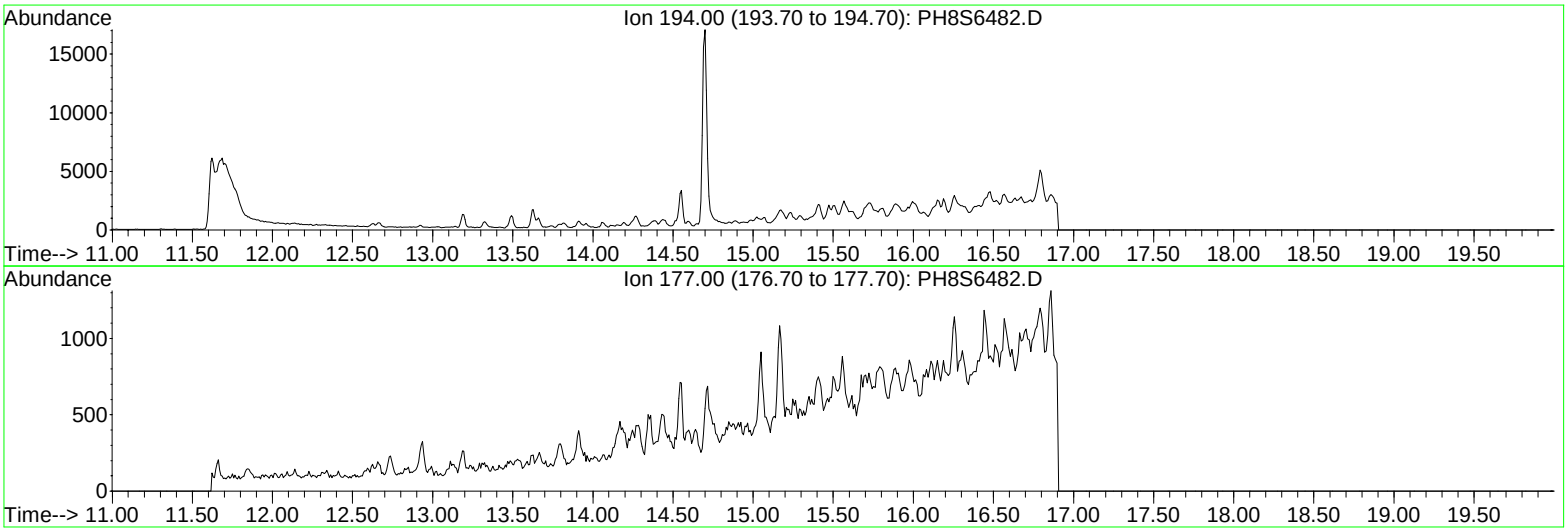


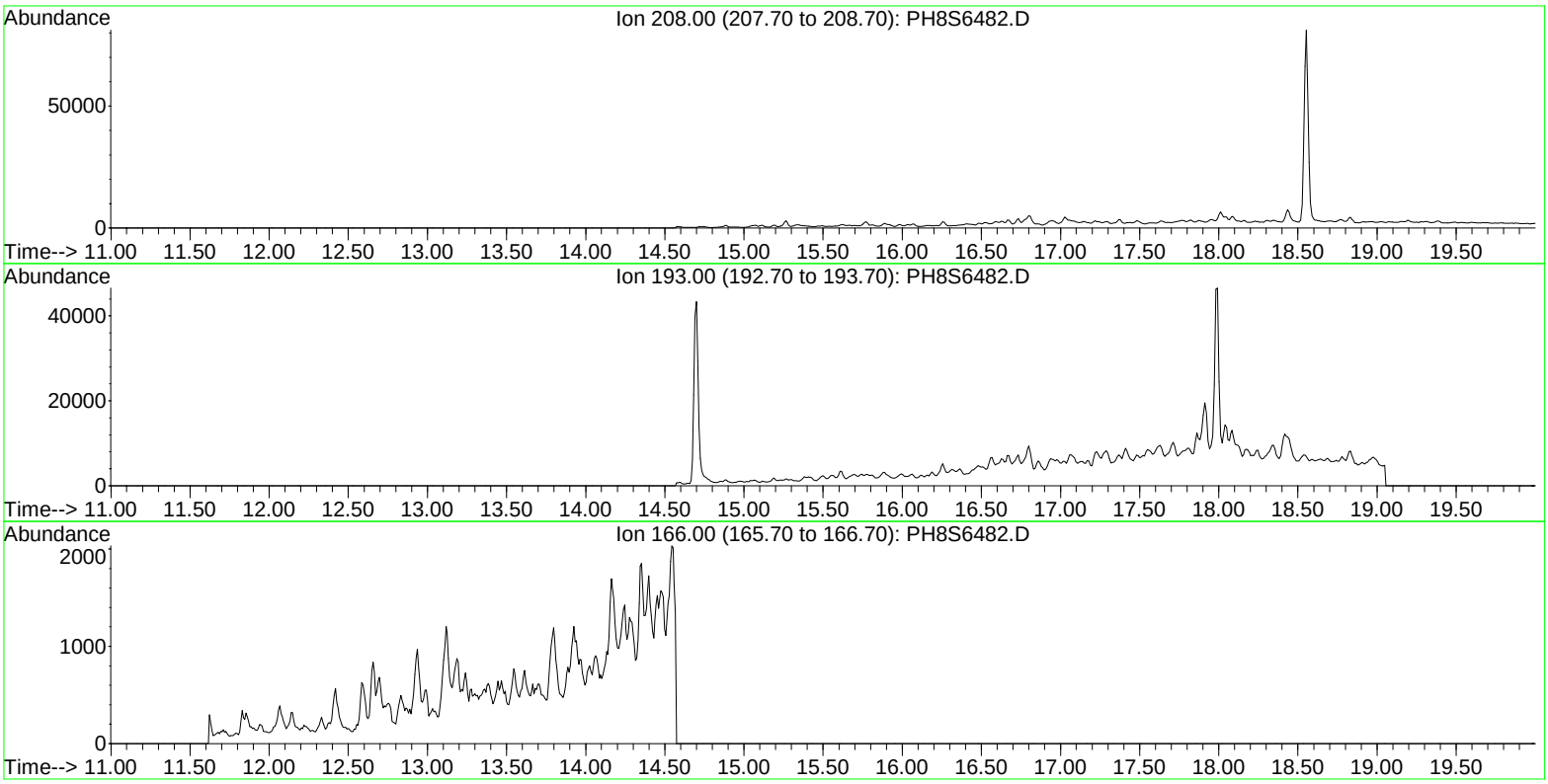


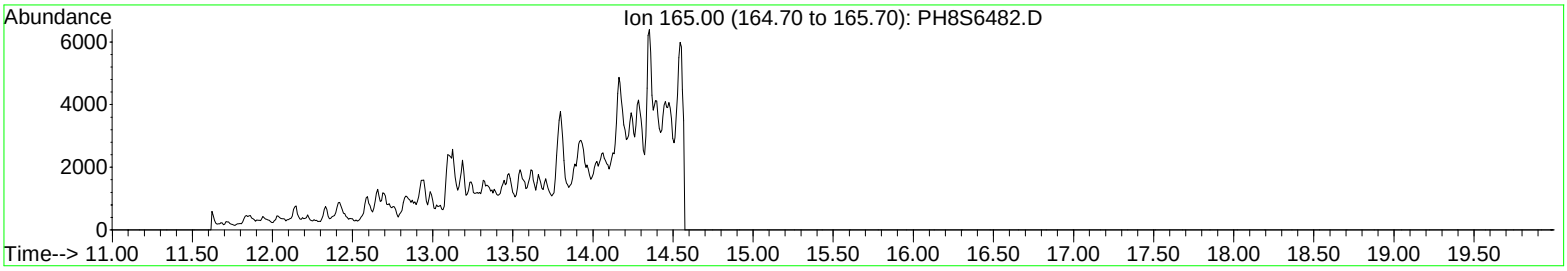
Thu Jan 10 08:51:19 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



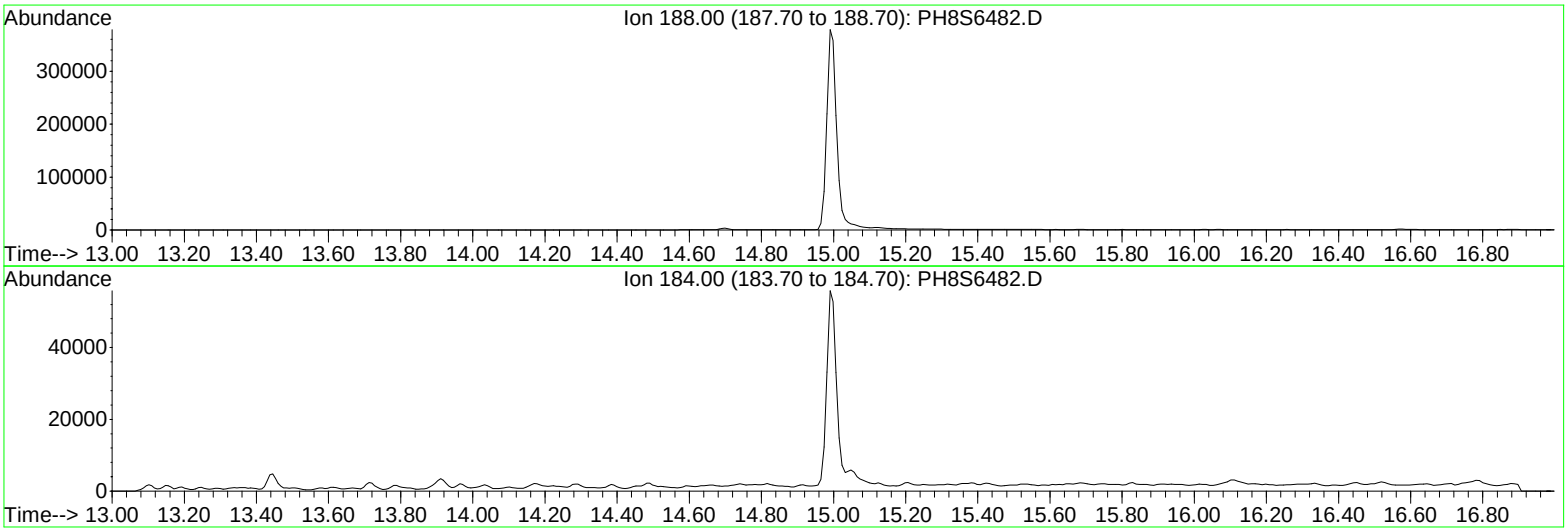


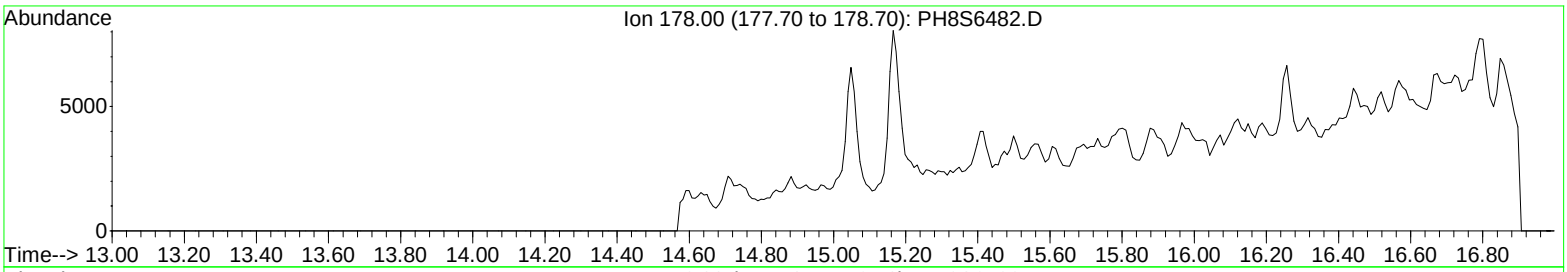


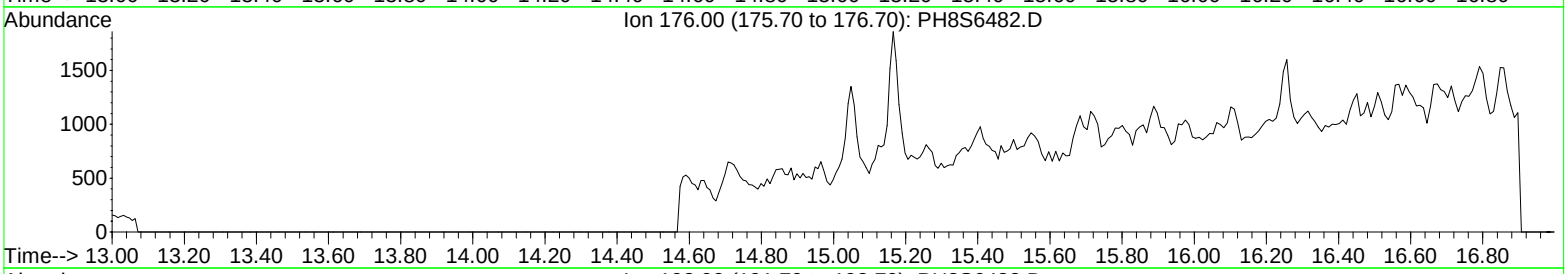
Thu Jan 10 08:51:21 2019

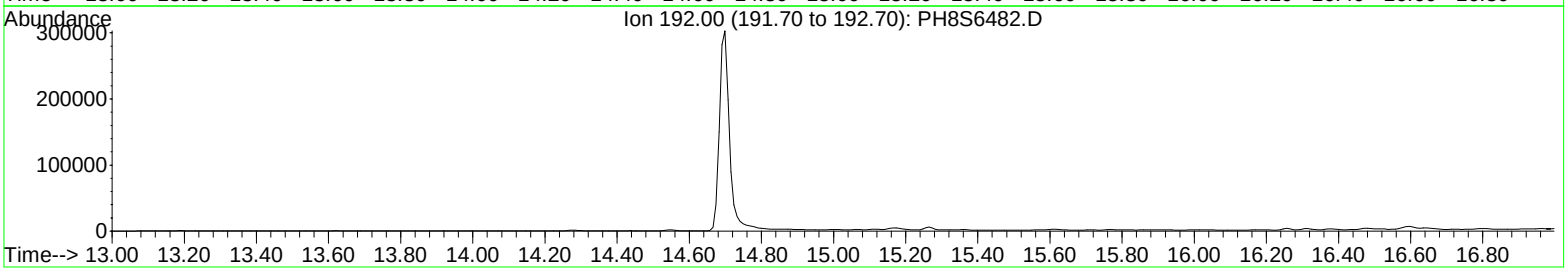
Axys Analytical CHRO Report

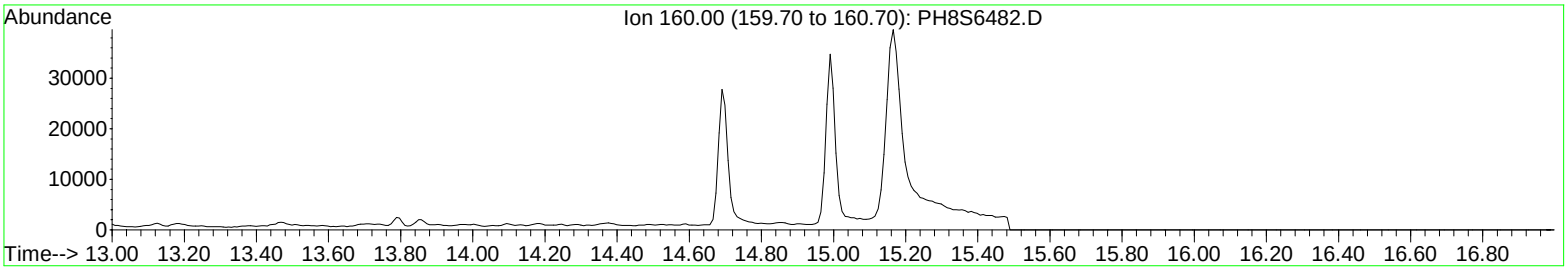
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL







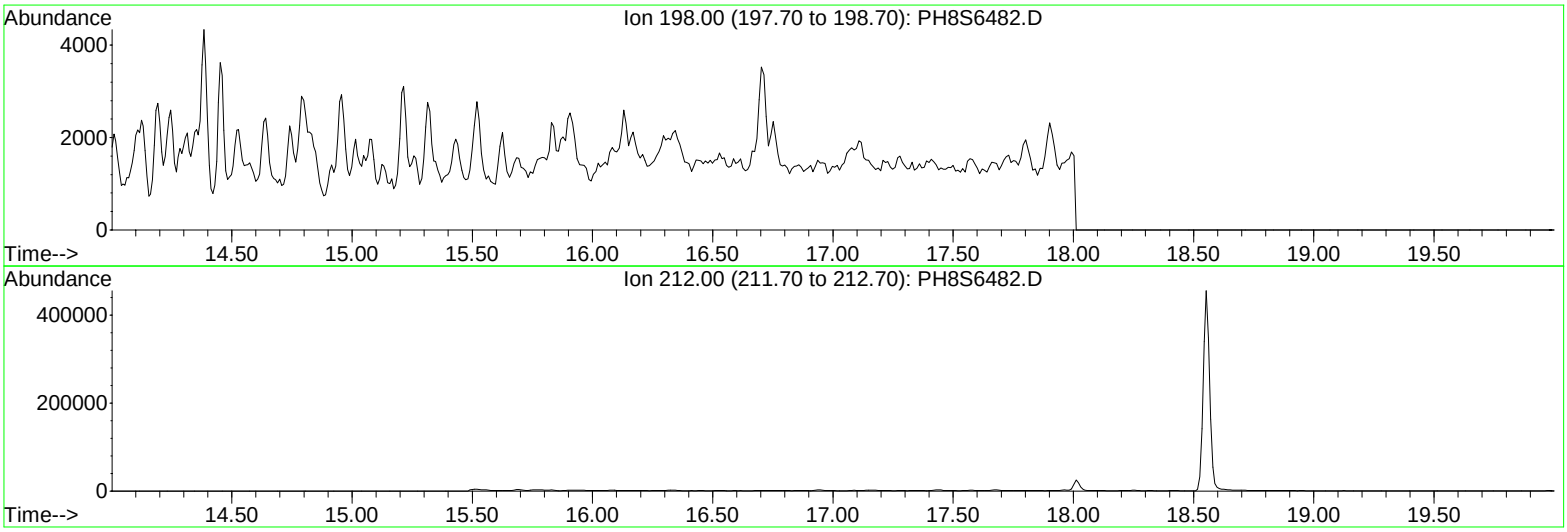


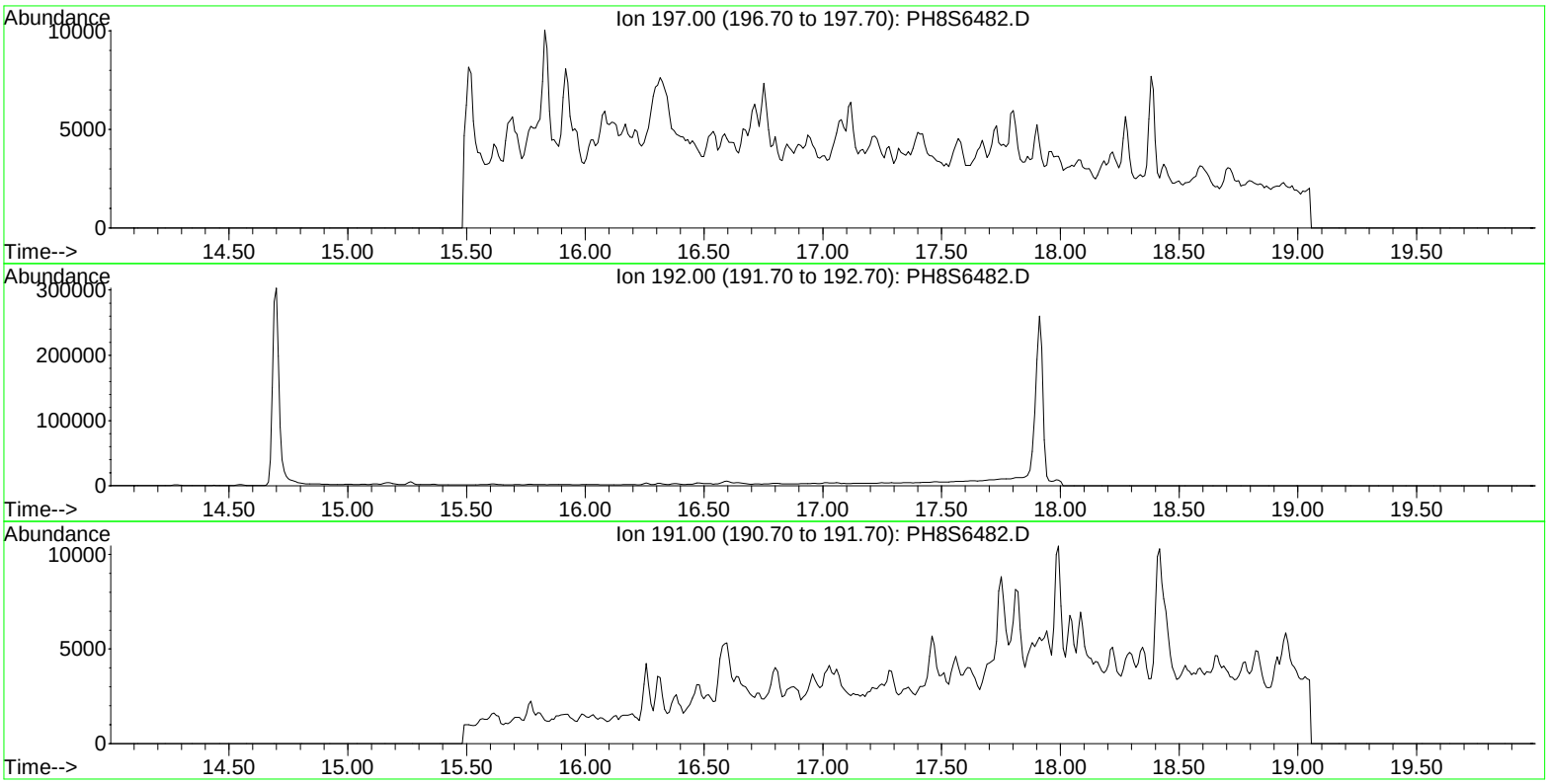


Thu Jan 10 08:51:24 2019

Axys Analytical CHRO Report

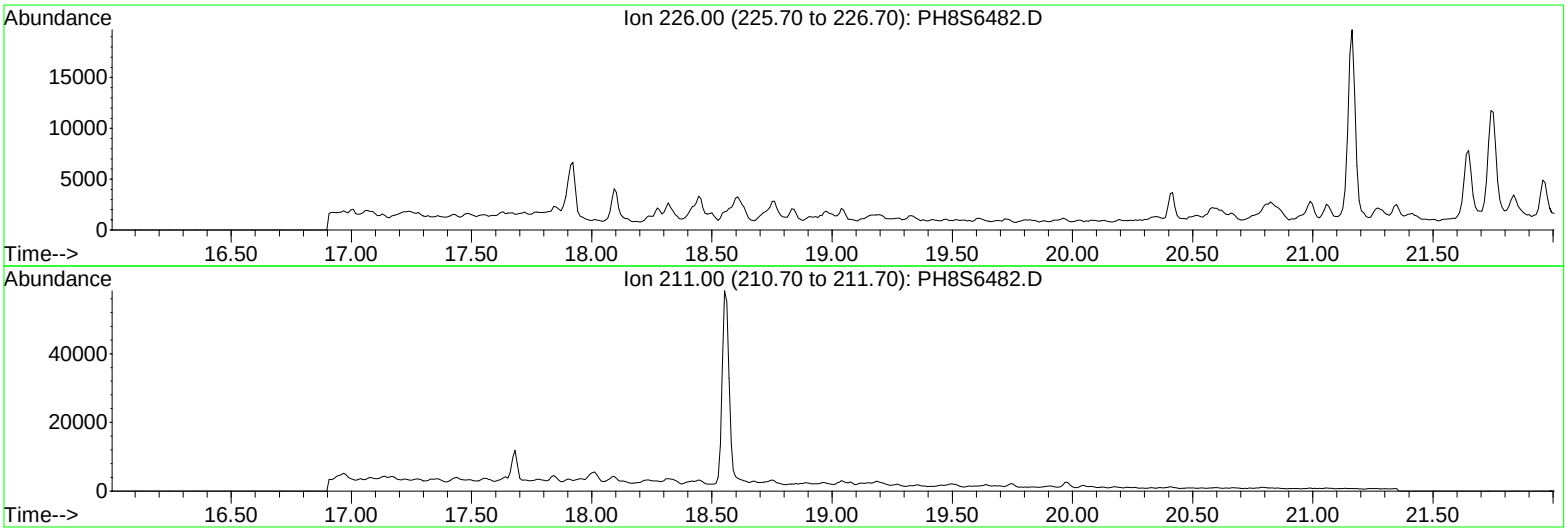
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

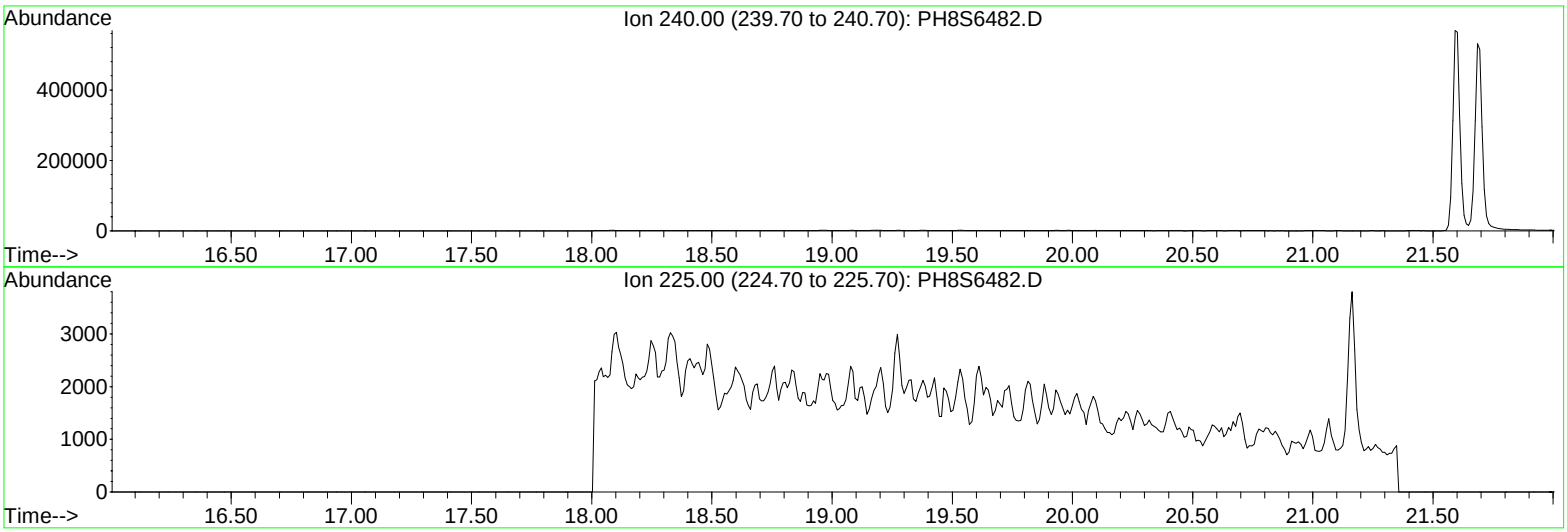




Axys Analytical CHRO Report

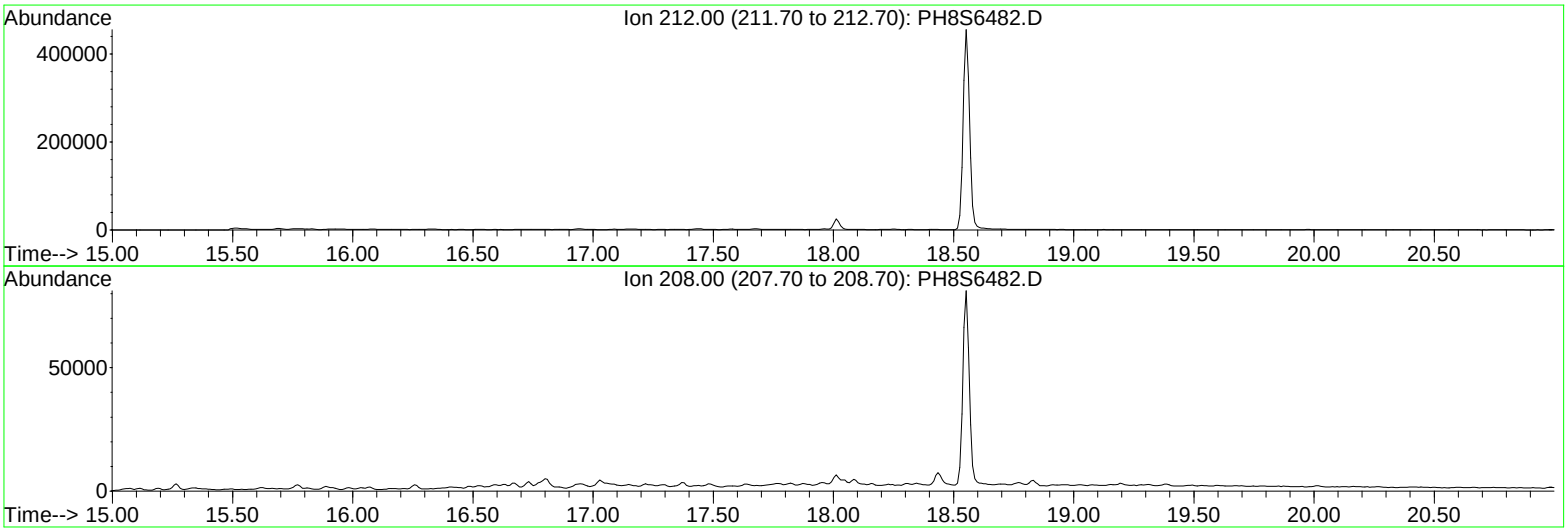
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

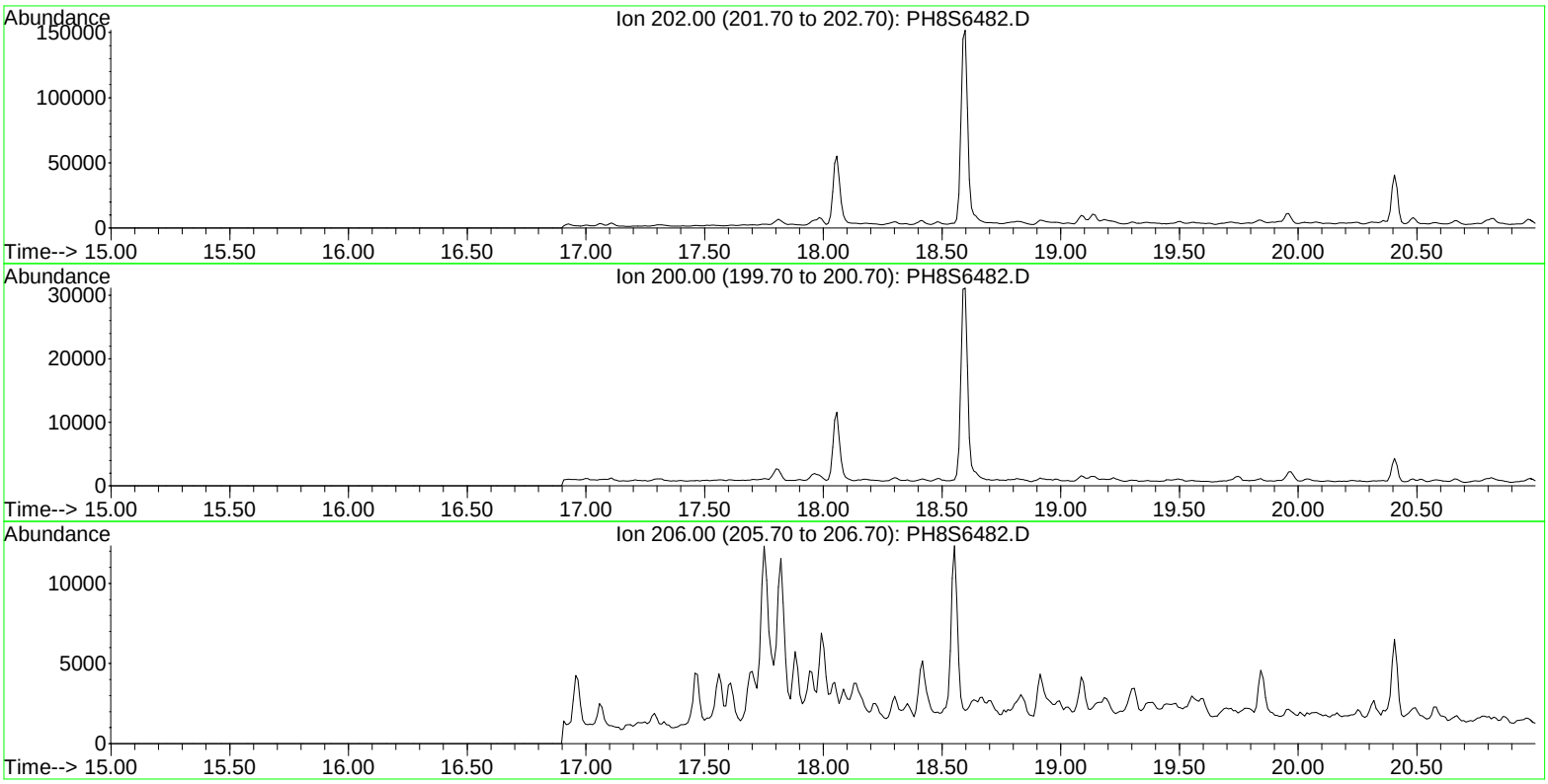


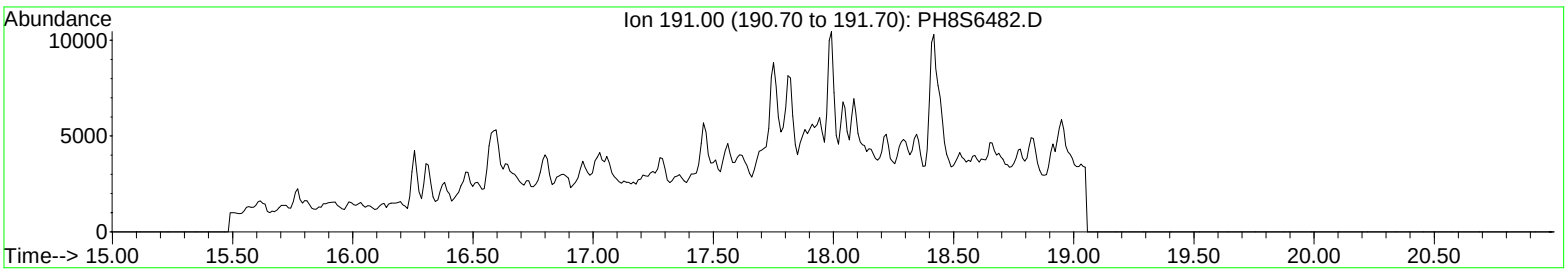


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



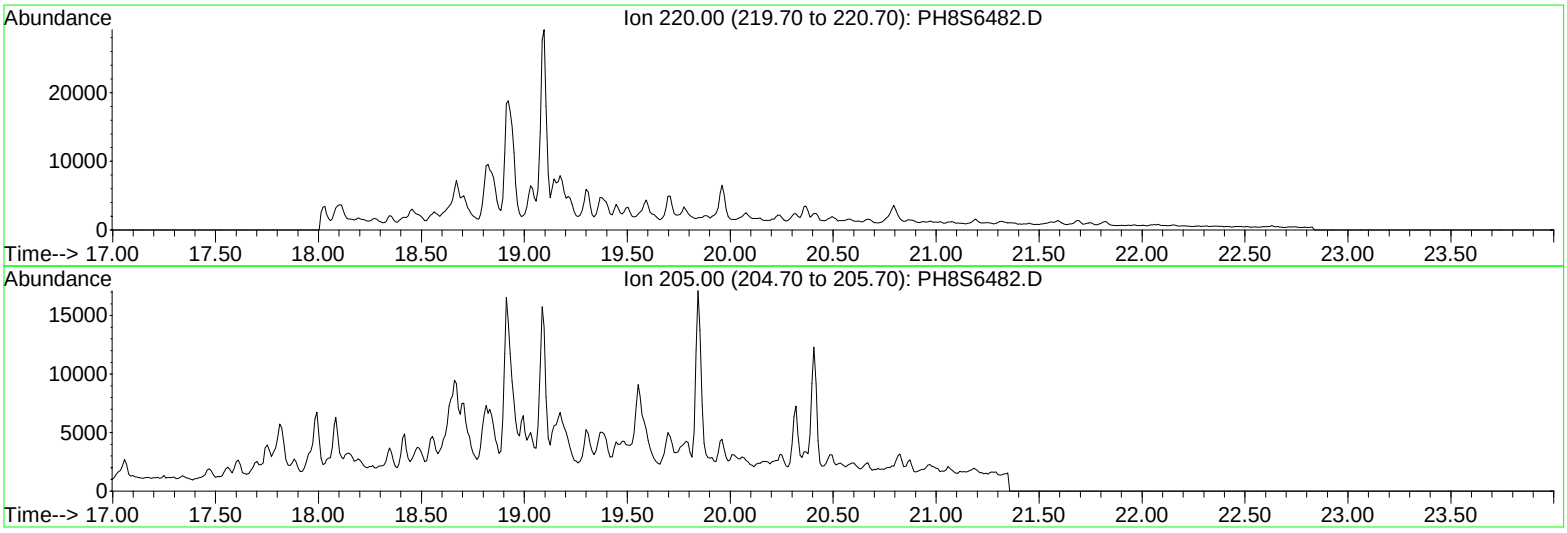


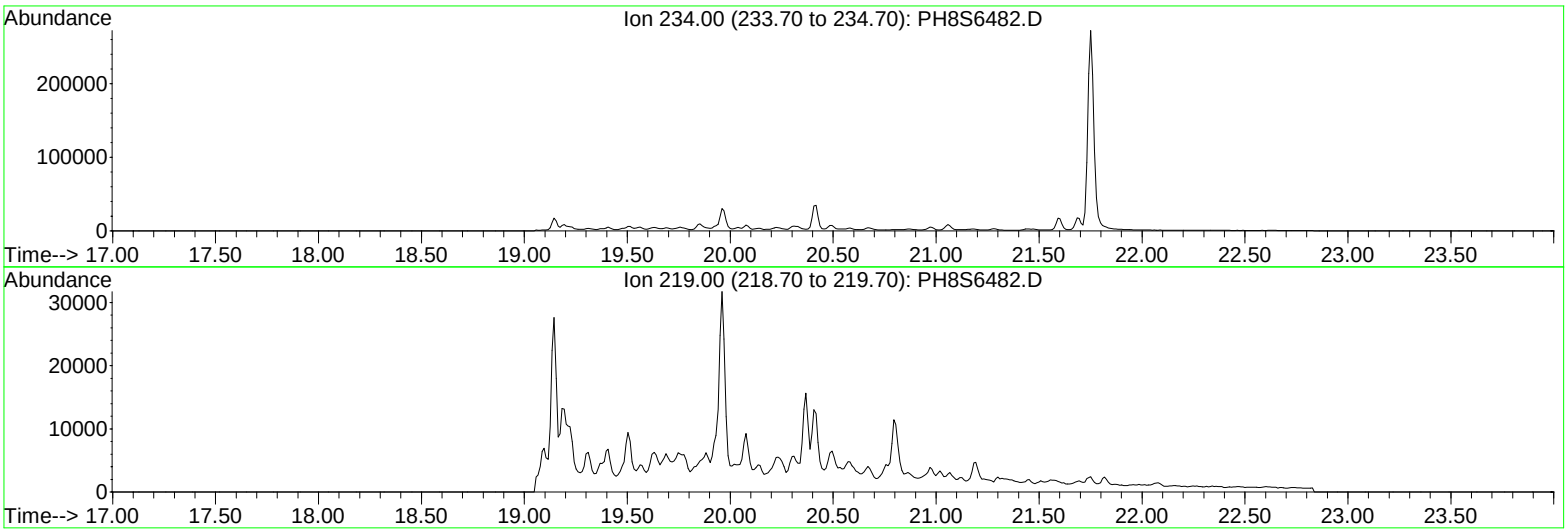


Thu Jan 10 08:51:33 2019

Axys Analytical CHRO Report

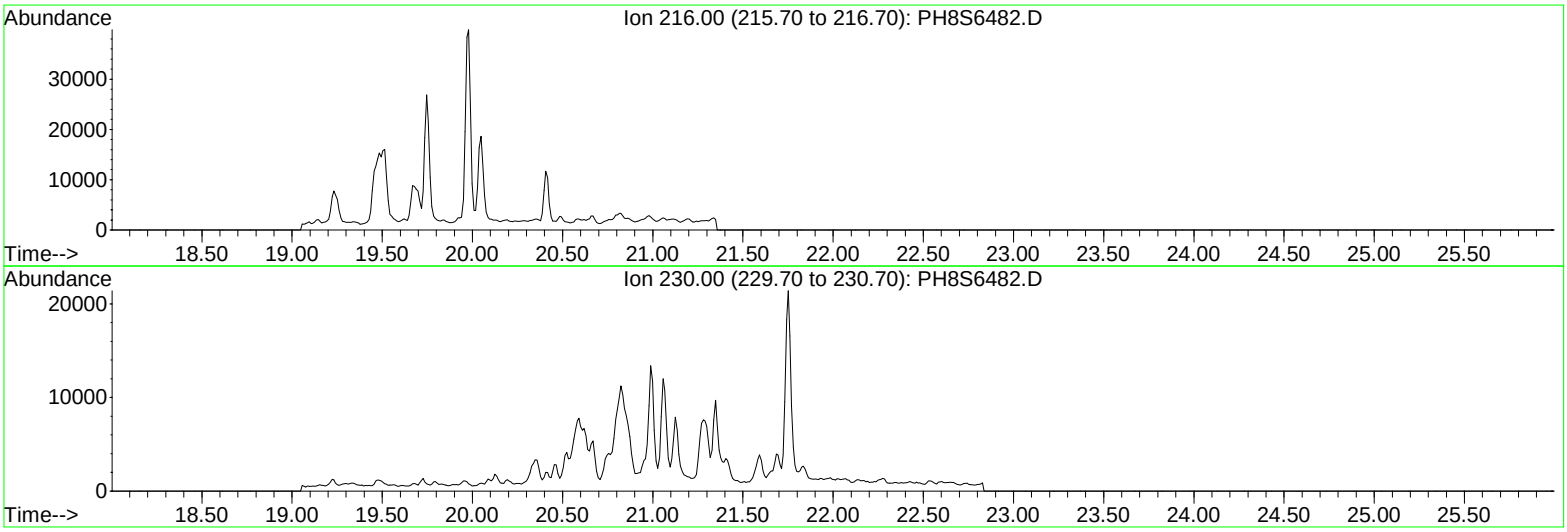
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

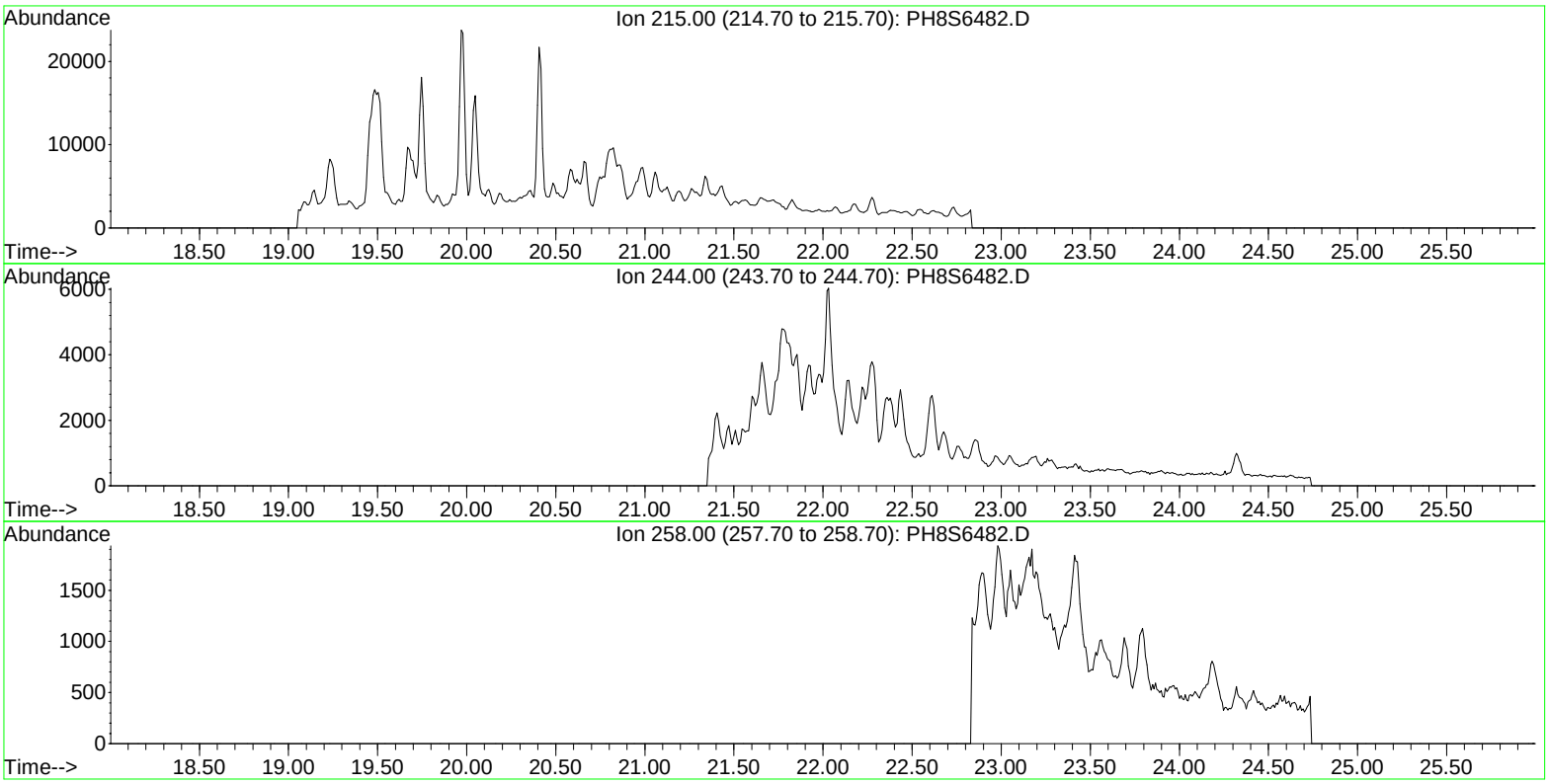


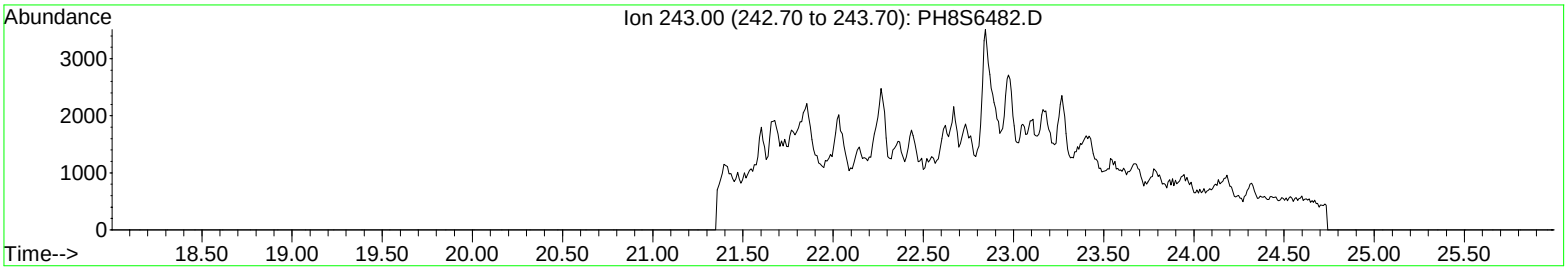


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

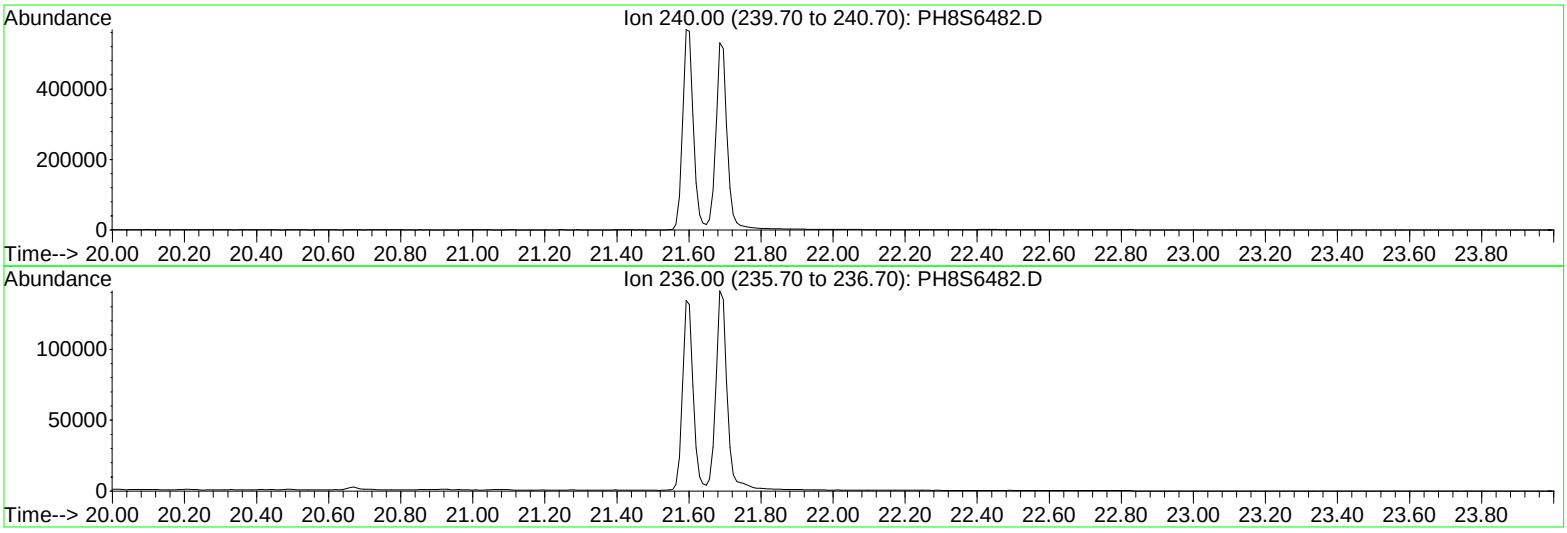


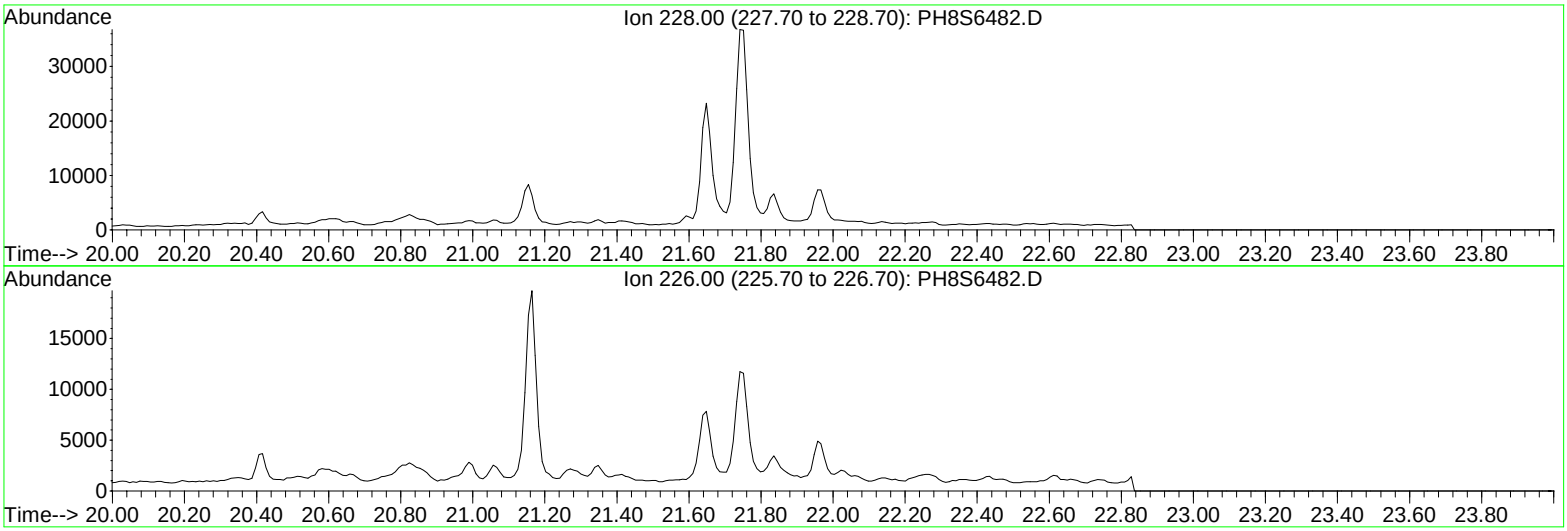




Axys Analytical CHRO Report

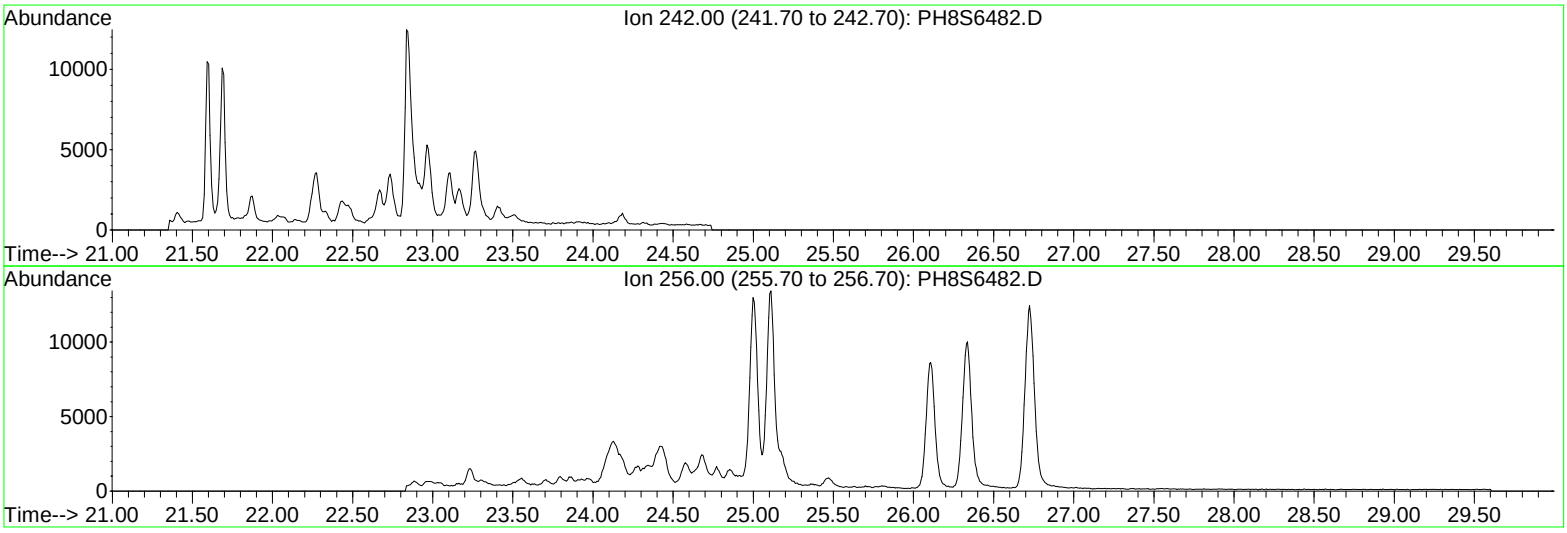
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

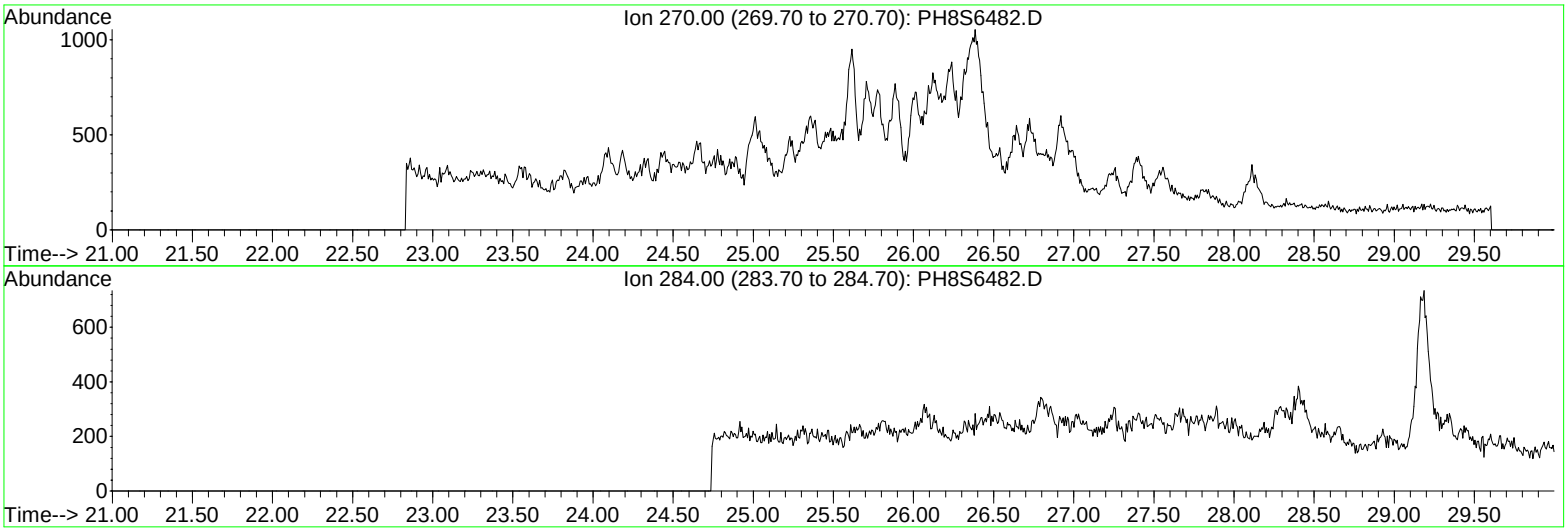




Axys Analytical CHRO Report

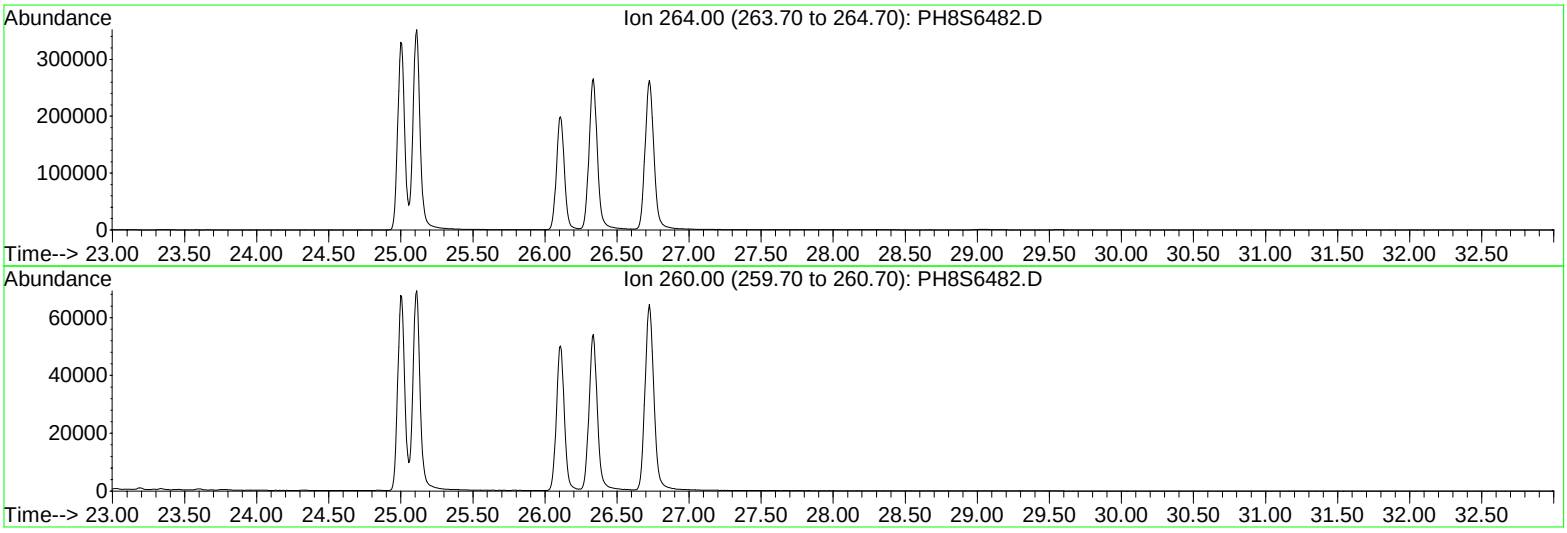
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

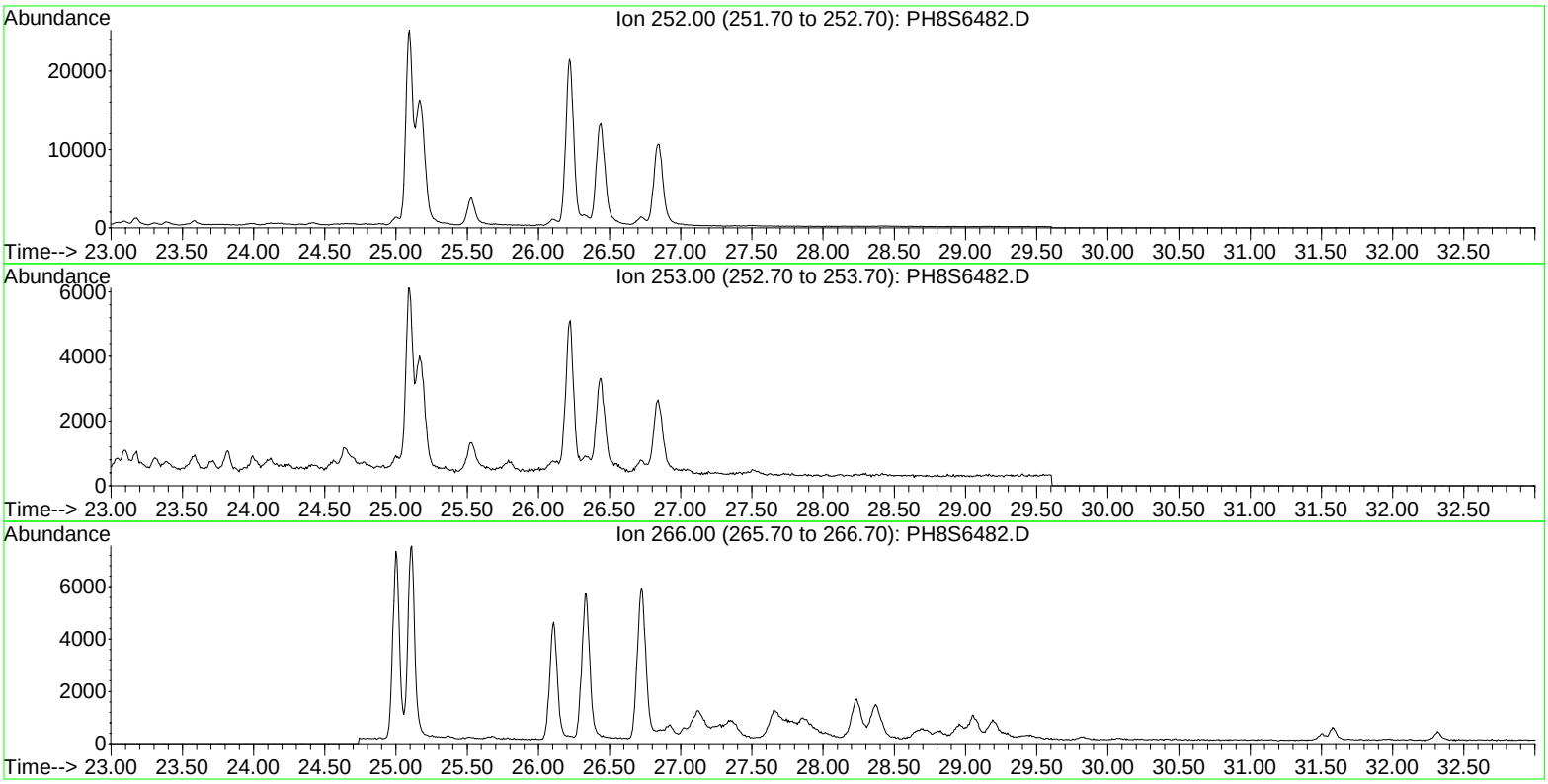


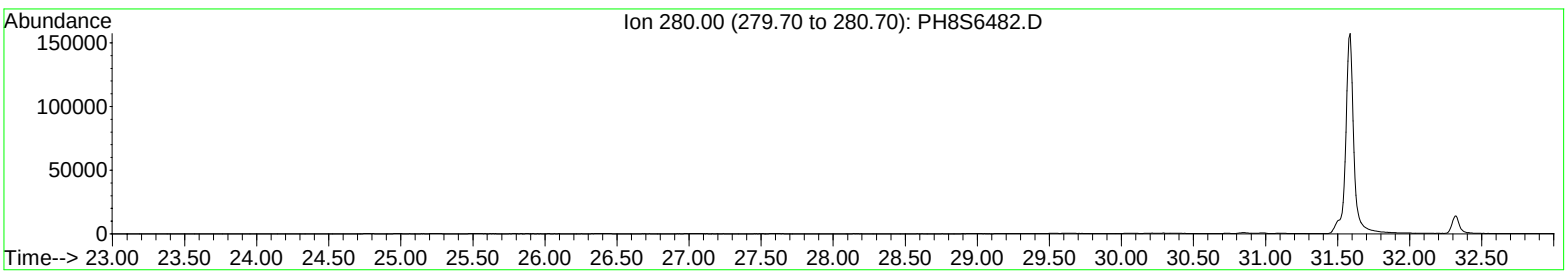


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



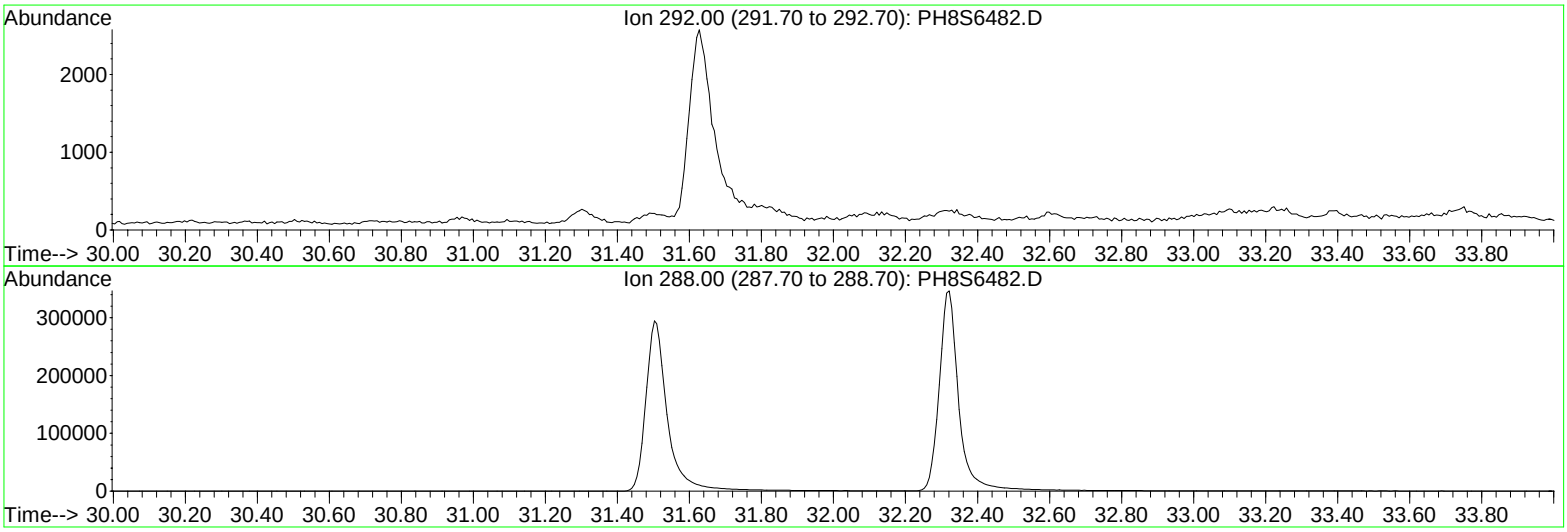


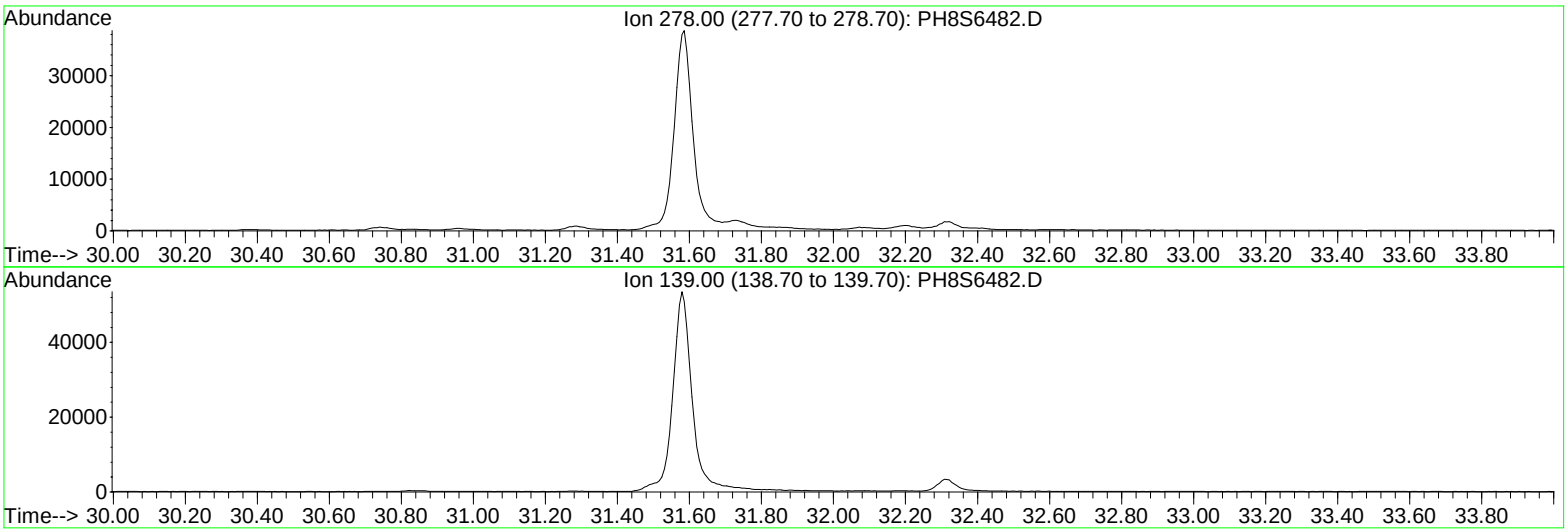


Thu Jan 10 08:51:50 2019

Axys Analytical CHRO Report

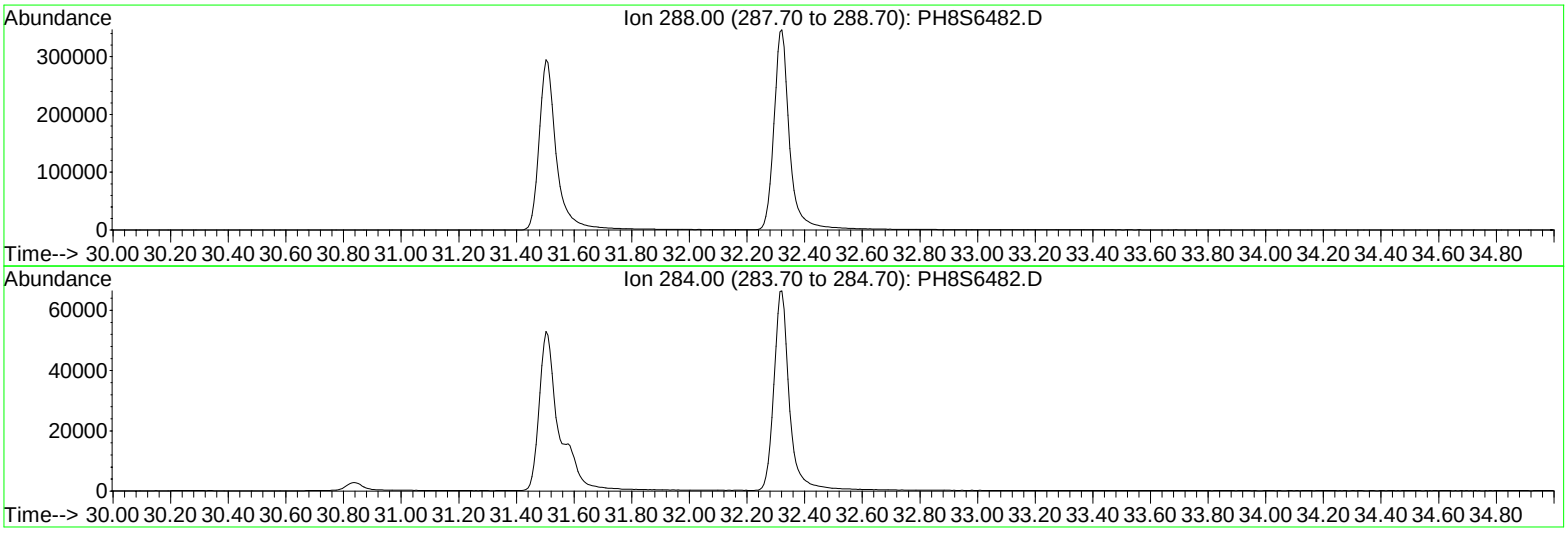
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

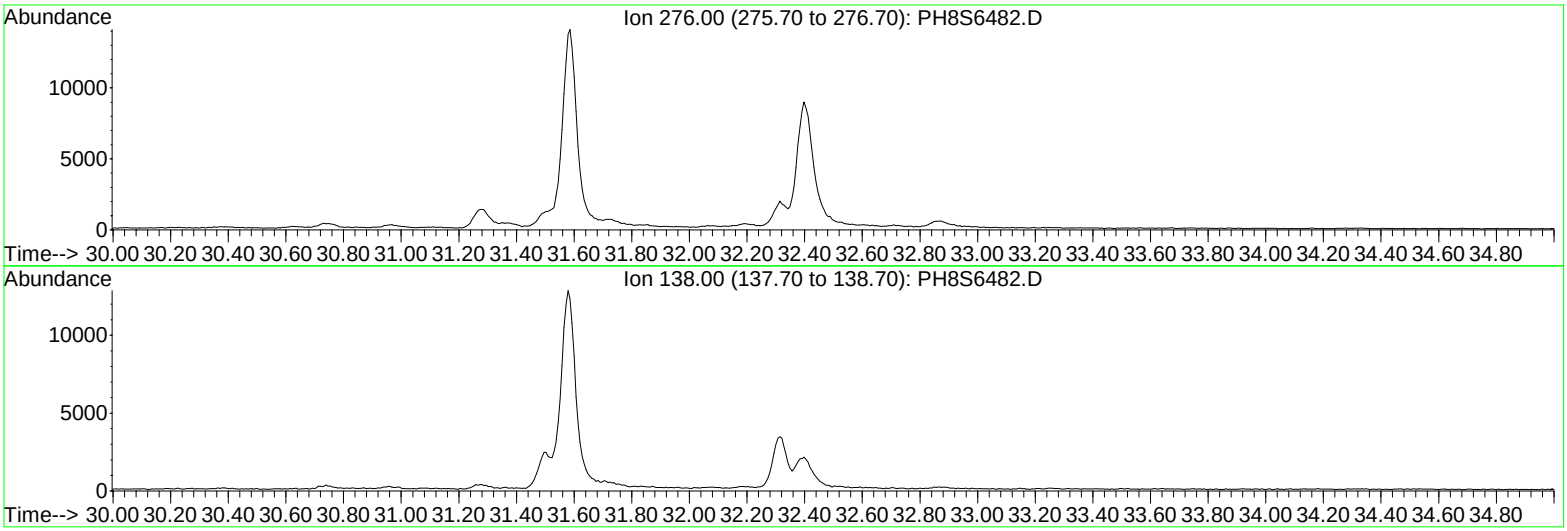




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6482.D
29/12/2018 6:13
L30540-8
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6482.D\618S6482.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 25
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.093	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	859369	18.55	2125.1348	I	0	2125.1348	4085		0.17	1
d10-Phenanthrene - SURR	721913	14.99	1824.324	S	50.5353	4.0986	1503		0.15	0.808
d12-Benz(a)anthracene - SURR	1176894	21.59	4159.5719	S	102.4525	81.831	21463		0.23	1.164
d12-Chrysene - SURR	1142816	21.69	3755.6852	S	95.8083	38.5772	10882		0.27	1.169
d12-Benzo(e)pyrene - REC	766488	26.11	2179.0723	I	0	2179.0723	1573		0.25	1
d12-Indeno(123cd)pyrene - SURR	1192883	31.5	4307.1484	S	108.2198	1.3513	347		0.17	1.207
d10-Phenanthrene	721913	14.99	3894.2826	I	0	3894.2826	1542		0.15	1
13C6-Phenanthrene	8512	15.05	40.3577	T	0	8.1377	1716		0.2	1.004
d12-Benz(a)anthracene	1176894	21.59	4379.7195	I	0	4379.7195	23450		0.23	1
d10-Fluoranthene	41727	18.01	118.5935	T	0	3.6293	1277		0.2	0.834
d12-Chrysene	1142816	21.69	4228.6947	I	0	4228.6947	12386		0.27	1
13C6-Chrysene	571053	21.75	1884.627	T	0	5.1577	1563		0.31	1.003
d12-Indeno(123cd)pyrene	1192883	31.5	4293.4196	I	0	4293.4196	367		0.17	1
13C6-Indeno(123cd)pyrene $	2651482	31.59	7538.9431	T	0	3.8643	1359		0.2	1.003

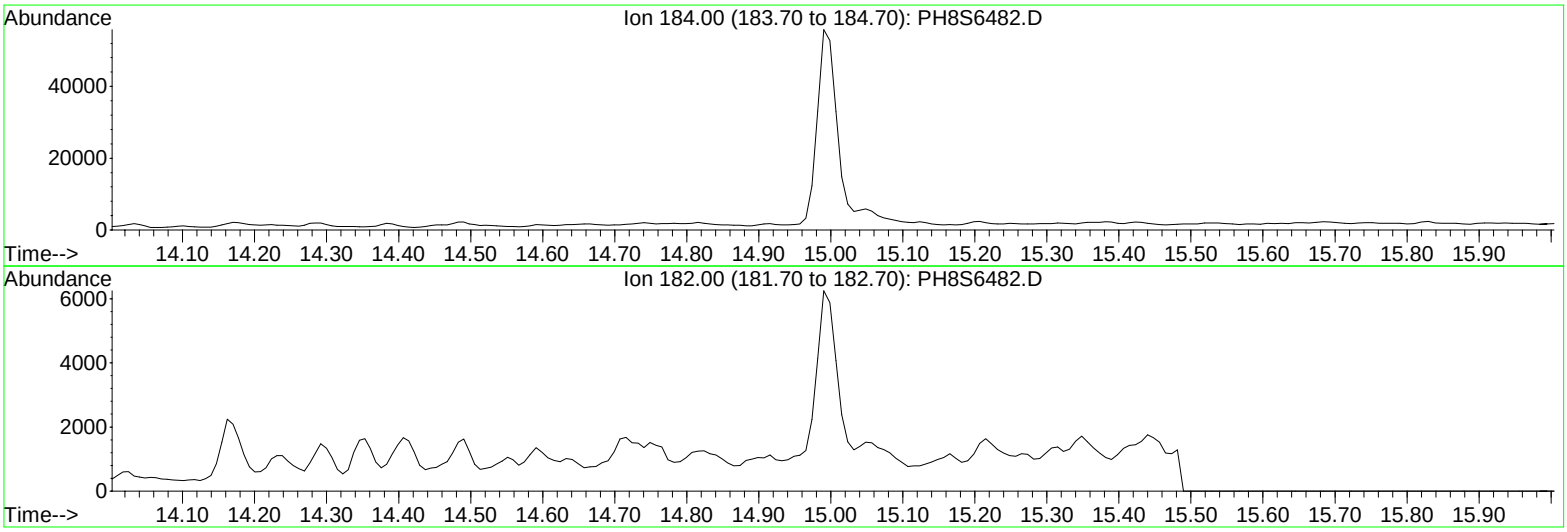
618S6482

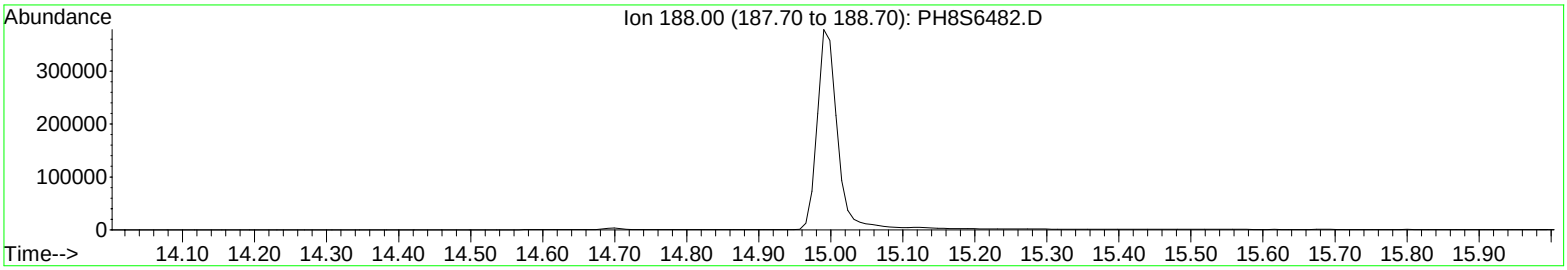
Checked by MV 08-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

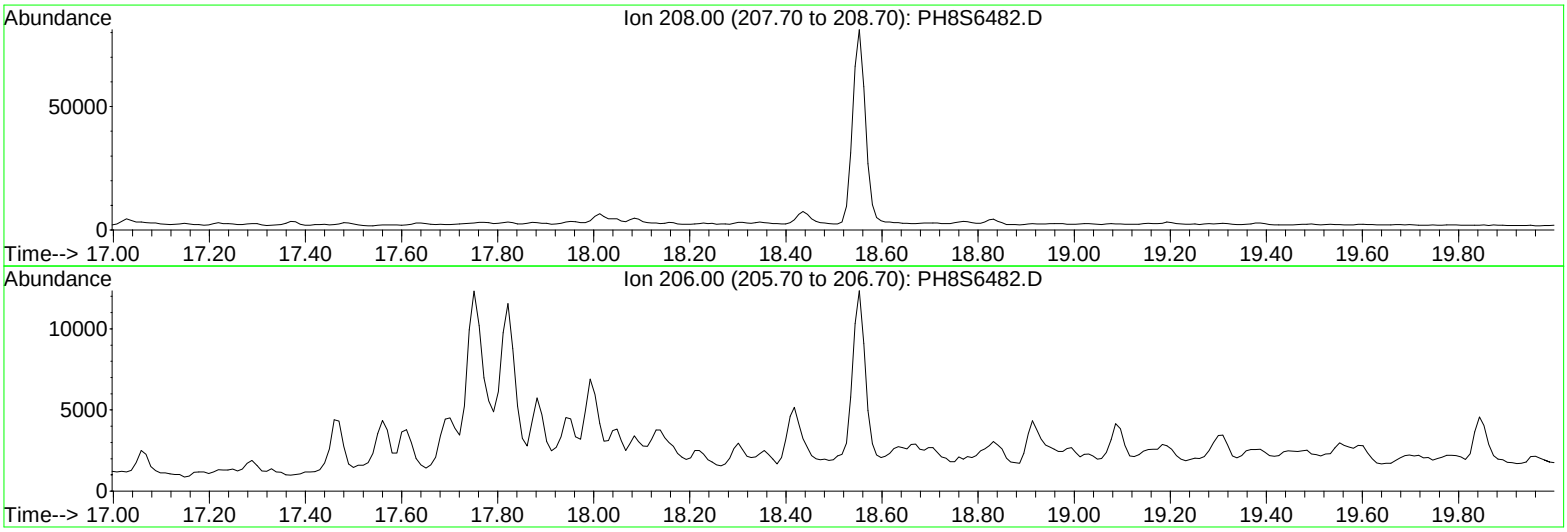
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

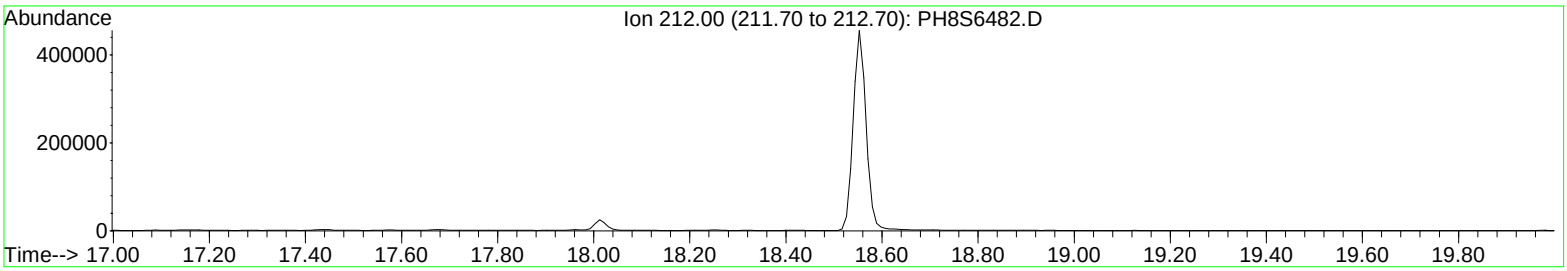




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

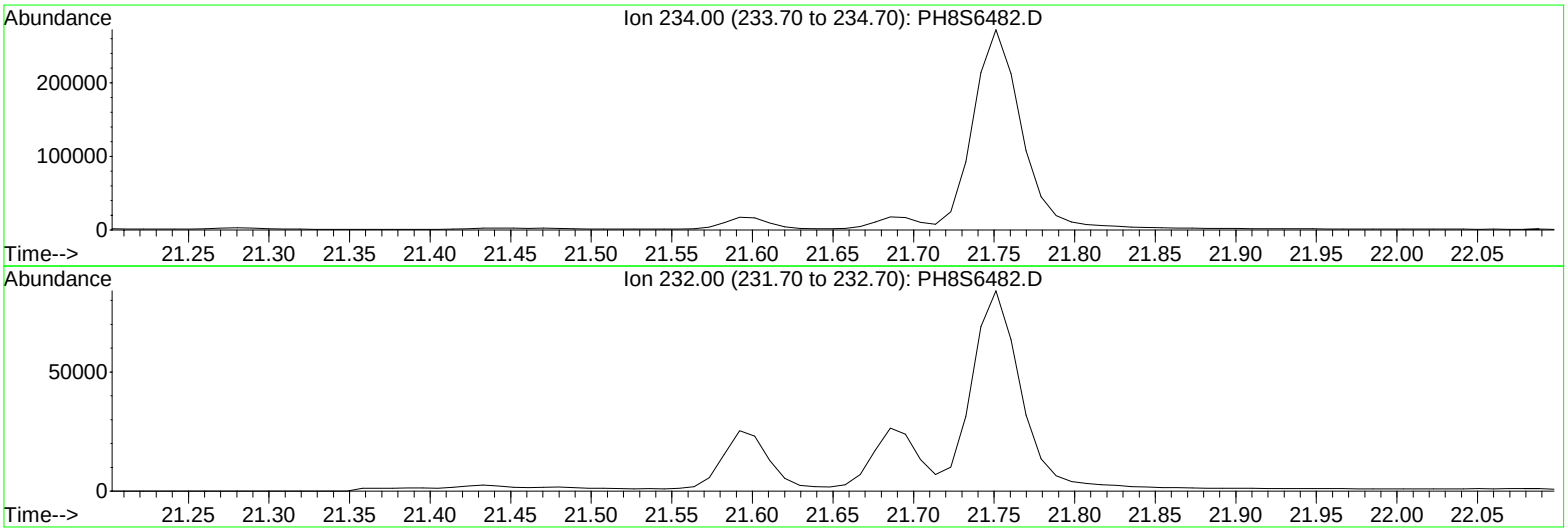


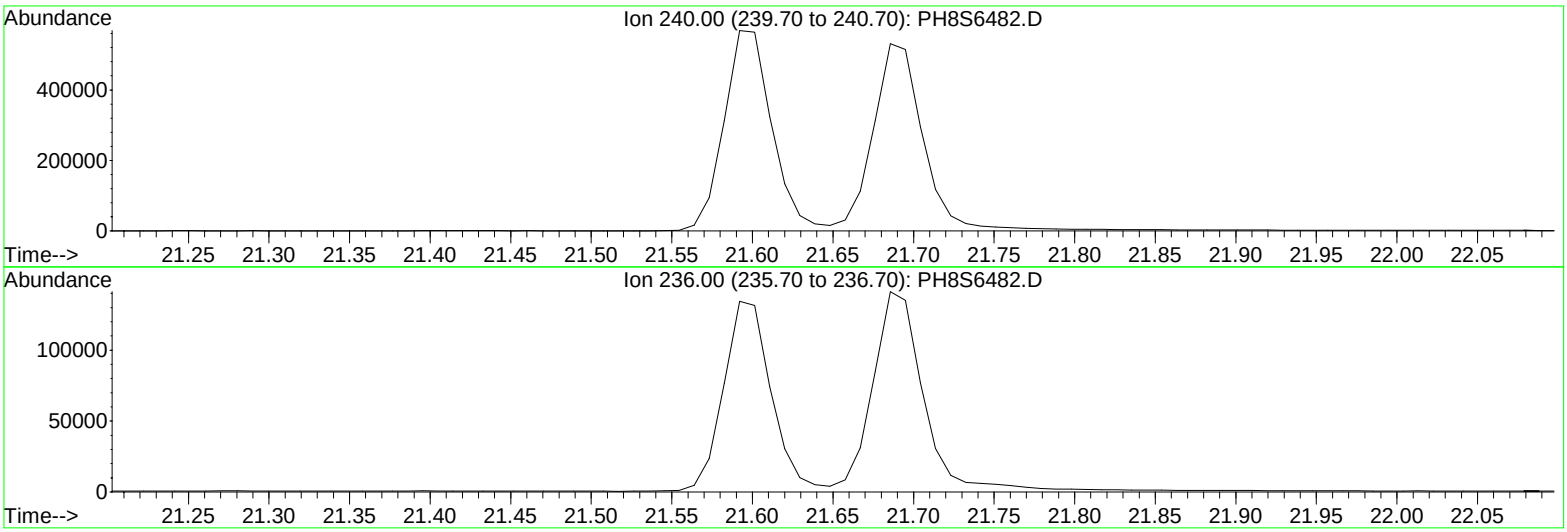


Thu Jan 10 08:58:39 2019

Axys Analytical CHRO Report

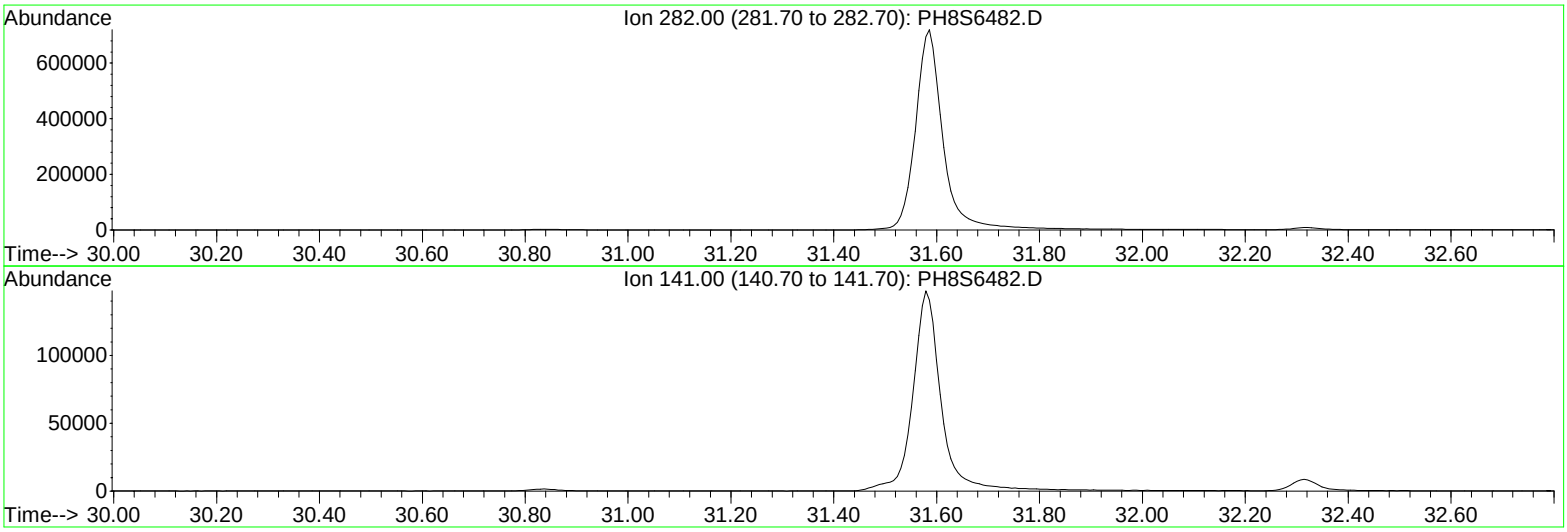
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL

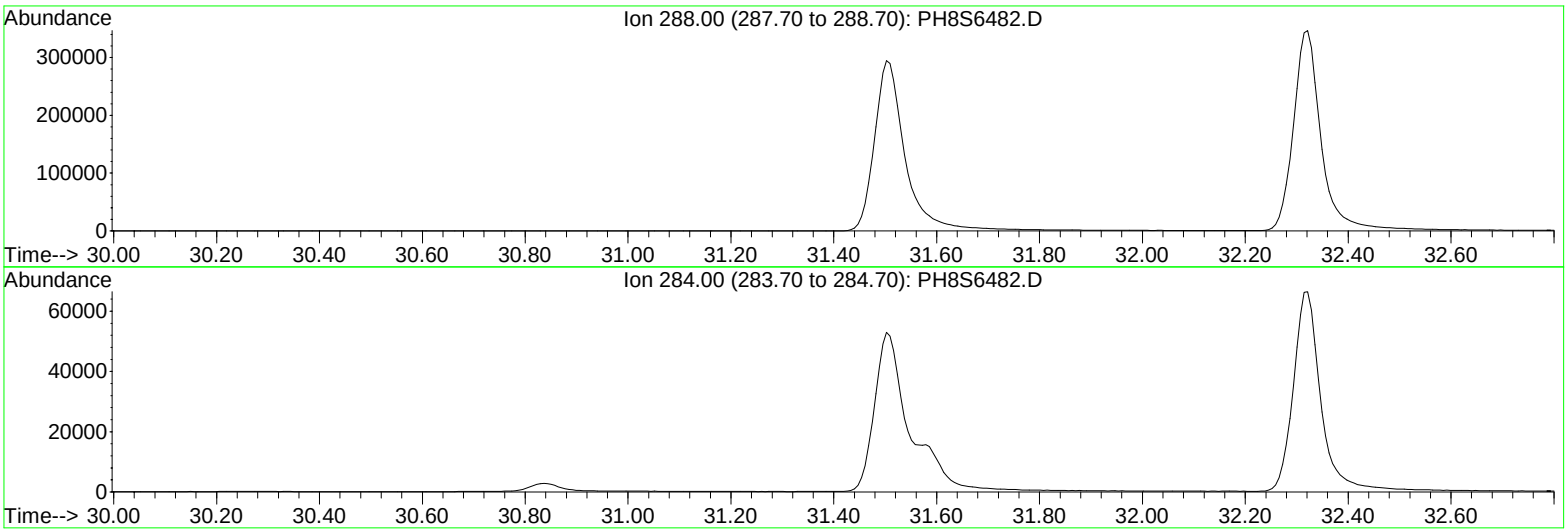




Axys Analytical CHRO Report

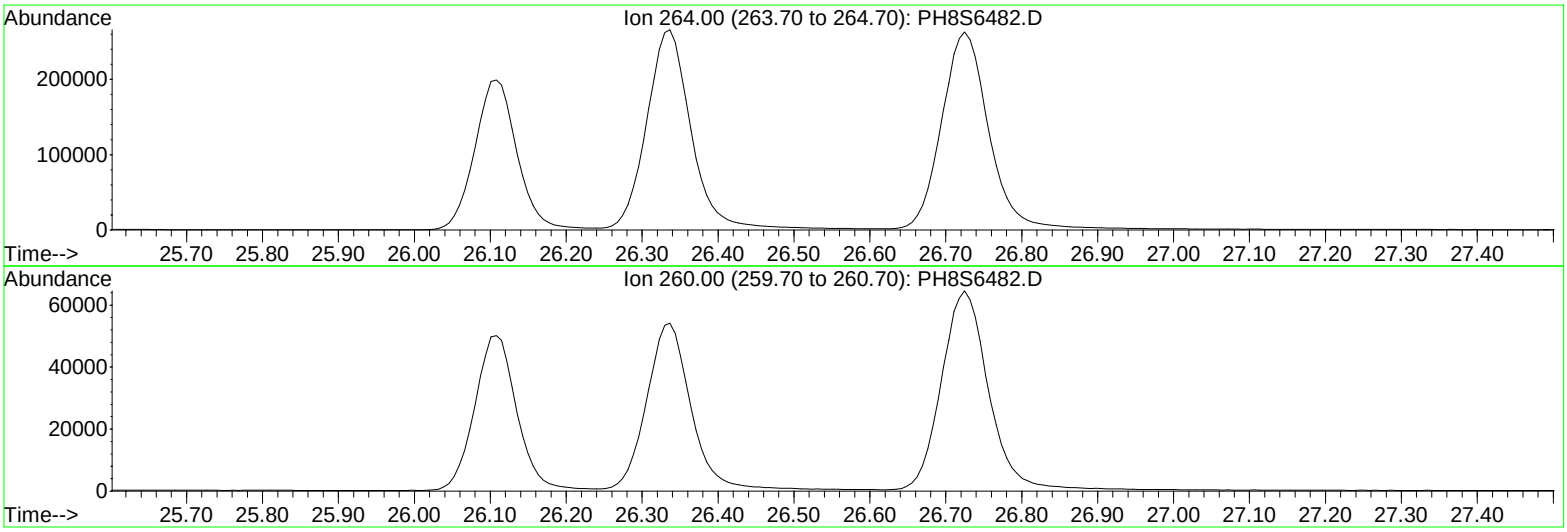
File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6482.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 6:13
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-8,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6469.D
28/12/2018 20:07
L30540-9
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6469.D\PH8S6469.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 14
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:45 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.089	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	418940	11.28	4549.5495 I	0	4549.5495	501		0.45	1
d8-Naphthalene - SURR	326085	6.86	525.8529 S	26.2926	0.9104	125		0.09	0.608
d10-2-Methylnaphthalene - SURR	265734	8.52	639.2799 S	32.4508	1.5279	141		0.19	0.755
d10-Biphenyl - SURR	405142	9.8	694.72 S	33.9716	0.8067	104		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	274864	10.1	723.6488 S	35.2141	4.6446	392		0.74	0.896
d8-Acenaphthylene - SURR	518390	10.85	705.9003 S	34.267	6.3741	1039		0.15	0.961
d10-Pyrene - REC	828552	18.55	4436.9369 I	0	4436.9369	1815		0.17	1
d10-Phenanthrene - SURR	676965	15	881.3663 S	48.8292	13.9627	2381		0.14	0.808
d8-Dibenzothiophene - SURR	553980	14.7	811.016 S	39.8534	17.9009	2715		0.09	0.792
d12-Benz(a)anthracene - SURR	1080391	21.6	1495.7224 S	73.6809	120.225	19279		0.23	1.164
d12-Chrysene - SURR	1056695	21.69	1400.33 S	71.4454	55.4646	9292		0.27	1.169
d12-Benzo(e)pyrene - REC	709244	26.11	4549.5495 I	0	4549.5495	1142		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1016105	25	1564.491 S	79.4158	433.8423	62553		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1111340	25.11	1549.2328 S	77.4616	127.4777	20301		0.2	0.962
d12-Benzo(a)pyrene - SURR	969418	26.33	1577.5875 S	76.212	15444.5495	2106910		0.2	1.008
d12-Perylene - SURR	1019303	26.72	1663.656 S	77.3794	226.2905	30779		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	1075370	31.5	1727.8861 S	86.8284	2.4543	339		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1152997	32.31	1557.6597 S	78.6697	18.4348	3029		0.19	1.238
d8-Naphthalene	326085	6.86	4504.5045 I	0	4504.5045	129		0.09	1
Naphthalene $	3234	6.9	37.3261 T	0	2.3029	200		0.07	1.006
d10-2-Methylnaphthalene	265734	8.52	4436.9369 I	0	4436.9369	149		0.19	1
2-Methylnaphthalene $	6603	8.6	91.1174 T	0	1.9005	138		0.91	1.009
1-Methylnaphthalene	4179	8.87	61.0787 T	0	2.0129	138		0.92	1.04
C1-Naphthalenes	6603	8.6	0 T	0	0	4826		-1	1.009
d10-Biphenyl	405142	9.8	4605.8559 I	0	4605.8559	106		-1	1
Biphenyl $	4029	9.85	41.2315 T	0	3.7855	370		0.29	1.006
C1-Biphenyls $	3396	11.33	34.7536 T	0	4.1099	402		0.13	1.156
C2-Biphenyls $	3453	12.7	35.3369 T	0	12.8705	1258		0.26	1.296
d12-2,6-Dimethylnaphthalene	274864	10.1	4628.3784 I	0	4628.3784	403		0.74	1
2,6-Dimethylnaphthalene $	7915	10.22	110.2004 T	0	2.3172	166		0.71	1.011
Ethyl/DiMe-Naphthalenes	7915	10.22	121.8057 T	0	2.5612	166		0.71	1.011
1,2-Dimethylnaphthalene	50806	10.84	874.0738 T	0	2.8632	166	#	-1	1.073
C2-Naphthalenes	7915	10.22	0 T	0	0	17362		-1	1.011
2,3,6-Trimethylnaphthalene	5121	12.2	70.5351 T	0	2.3663	172		0.88	1.207
2,3,5-Trimethylnaphthalene $	7303	12.39	106.0052 T	0	2.4937	172		1	1.226
C3-Naphthalenes	7303	12.39	103.2251 T	0	2.4283	172		1	1.226
1,4,6,7-Tetramethylnaphthalene $	3968	13.92	54.6311 T	0	34.666	2518	#	0.06	1.377
C4-Naphthalenes	3968	13.92	54.6311 T	0	34.666	2518		0.06	1.377
d8-Acenaphthylene	518390	10.85	4639.6396 I	0	4639.6396	1066		0.15	1
Acenaphthylene $	10439	10.88	76.8924 T	0	1.0262	139		0.17	1.003
Acenaphthene $	38014	11.36	506.6388 T	0	2.3566	177		1.17	1.047
C1-Acenaphthenes $	1731	11.72	23.0702 T	0	17.7103	1329		0.15	1.08
d8-Dibenzothiophene	553980	14.7	4583.3333 I	0	4583.3333	2835		0.09	1
Dibenzothiophene $	25240	14.74	174.6833 T	0	2.4935	360		0.1	1.003
C1-Dibenzothiophenes-1	8569	15.88	86.4343 T	0	5.9577	591		0.6	1.08
2/3-Methyldibenzothiophenes $	6664	16.09	67.2188 T	0	5.9577	591		0.75	1.095
C1-Dibenzothiophenes-2	2940	16.35	29.6554 T	0	5.9577	591		0.72	1.113
C1-Dibenzothiophenes	7871	16.09	0 T	0	0	2670		-1	1.095
4,6-Dimethyldibenzothiophene	6717	16.95	63.2206 T	0	41.7486	4436	#	0.2	1.153

+ Report only.

PH8S6469

Checked by MV 08-Jan-19

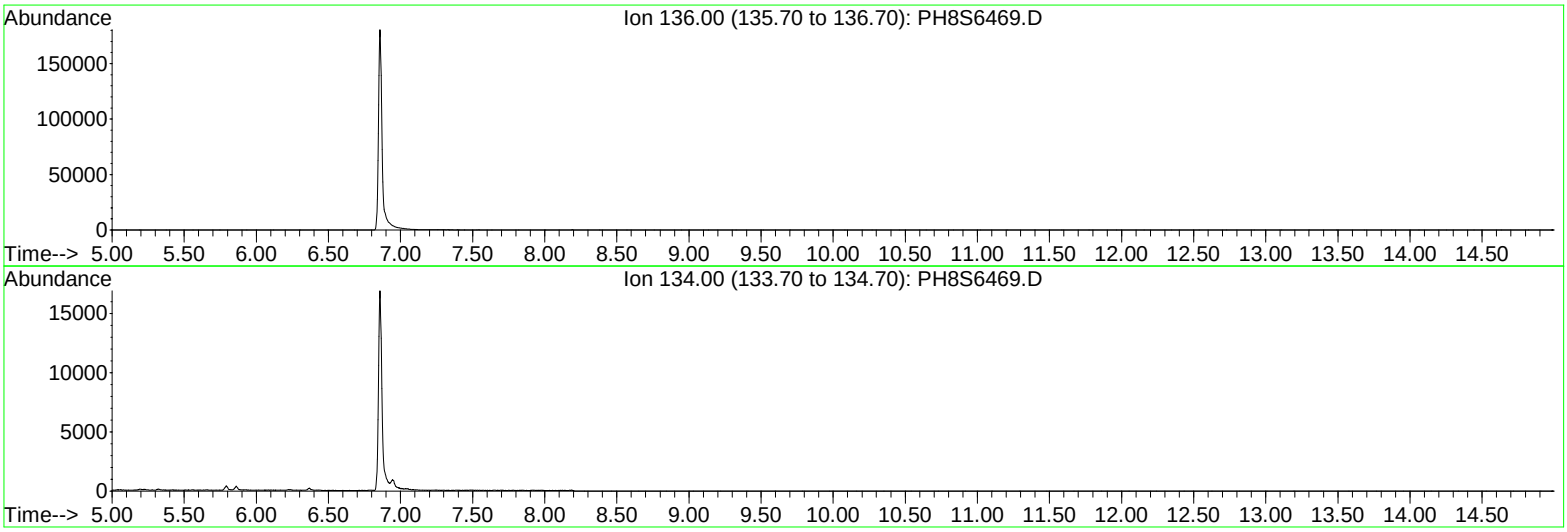
pv by vr
03-Jan-2019

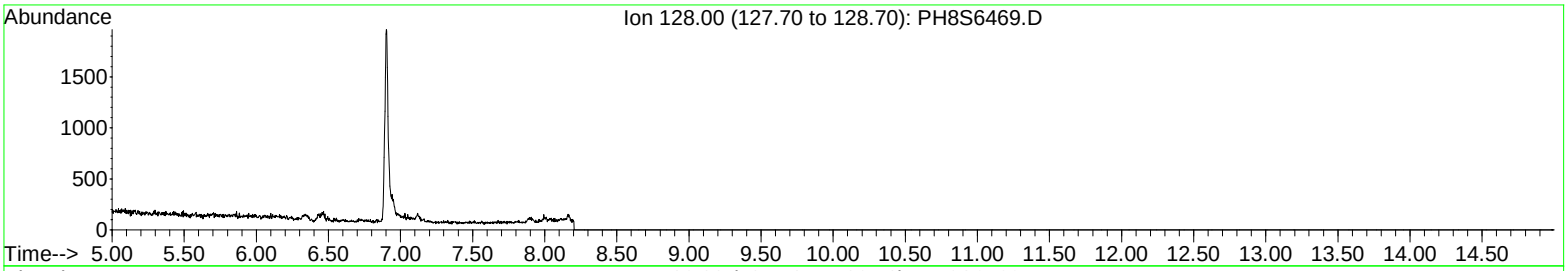
2,4-Dimethyldibenzothiophene $	4594	17.09	55.9879 T	0	54.0586	4436 #	0.94	1.163
C2-Dibenzothiophenes	4594	17.09	55.9879 T	0	54.0586	4436	0.94	1.163
C3-Dibenzothiophenes $	7448	18.09	90.7701 T	0	86.0185	7058	0.69	1.231
C4-Dibenzothiophenes $	566	18.81	6.8979 T	0	23.6101	1937	0.36	1.279
d10-Phenanthrene	676965	15	4065.3153 I	0	4065.3153	2385	0.14	1
Fluorene $	38668	12.65	324.911 T	0	1.3326	159	1.01	0.843
2-Methylfluorene $	8551	14.09	105.6592 T	0	162.4401	13146 #	1.63	0.939
C1-Fluorenes	8551	14.09	105.6592 T	0	162.4401	13146	1.63	0.939
1,7-Dimethylfluorene $	3419	15.47	45.4263 T	0	184.8266	13911 #	0.12	1.032
C2-Fluorenes	3419	15.47	45.4263 T	0	184.8266	13911	0.12	1.032
C3-Fluorenes $	4639	16.41	61.6358 T	0	202.5869	15248	2.26	1.094
Phenanthrene $	467940	15.05	2627.2973 T	0	4.1342	736	0.19	1.003
Anthracene	102640	15.17	569.4771 T	0	4.0854	736	0.18	1.011
d10-Anthracene $	4451	15.12	27.6522 T	0	3293.3559	530111 #	-1	1.008
3-Methylphenanthrene	52363	16.31	416.7208 T	0	7.9334	997 #	0.61	1.087
2-Methylphenanthrene	67201	16.37	541.9007 T	0	8.0387	997	0.57	1.092
2-Methylanthracene	24121	16.47	200.3994 T	0	8.2821	997	0.51	1.098
9/4-Methylphenanthrenes	48406	16.59	385.2297 T	0	7.9334	997 #	0.88	1.106
1-Methylphenanthrene $	39549	16.64	298.2966 T	0	7.5189	997	0.66	1.11
C1-Phenanthrenes/Anthracenes	39549	16.64	0 T	0	0	75343	-1	1.11
Fluoranthene $	1648754	18.06	7535.698 T	0	4.9446	1082	0.2	1.204
Pyrene	1452398	18.6	6420.4095 T	0	4.7823	1082	0.21	1.24
3,6-Dimethylphenanthrene $	20107	17.47	166.1767 T	0	286.2973	34641 #	0.89	1.165
2,6-Dimethylphenanthrene	25050	17.56	206.6483 T	0	285.7725	34641	0.41	1.171
1,7-Dimethylphenanthrene	33266	17.88	273.9249 T	0	285.25	34641 #	0.42	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	20107	17.47	165.8714 T	0	285.7725	34641	0.89	1.165
1,8-Dimethylphenanthrene	7926	18.14	65.385 T	0	285.7725	34641	0.37	1.209
C2-Phenanthrenes/Anthracenes	20107	17.47	0 T	0	0	34641	-1	1.165
1,2,6-Trimethylphenanthrene $	8299	19.38	74.4901 T	0	71.9378	8015	0.71	1.292
C3-Phenanthrenes/Anthracenes	8299	19.38	74.4901 T	0	71.9378	8015	0.71	1.292
Retene $	26705	19.5	627.3166 T	0	165.3838	7040	1.47	1.3
C4-Phenanthrenes/Anthracenes	26705	19.5	627.3166 T	0	165.3838	7040	1.47	1.3
C1-Fluoranthenes/Pyrenes-1	99837	19.24	767.5636 T	0	2474.0315	321798	0.98	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	373598	19.51	2872.2842 T	0	2474.0315	321798	0.9	1.301
C1-Fluoranthenes/Pyrenes-2	124618	19.98	958.0841 T	0	2474.0315	321798	0.55	1.332
C1-Fluoranthenes/Pyrenes	373598	19.51	0 T	0	0	321798	-1	1.301
C2-Fluoranthenes/Pyrenes $	5585	20.46	42.9384 T	0	257.9685	33554	0.33	1.364
C3-Fluoranthenes/Pyrenes $	3521	21.92	27.07 T	0	534.3559	69504 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	405	23.29	3.1137 T	0	27.9131	3631	11.84	1.553
d12-Benz(a)anthracene	1080391	21.6	4572.0721 I	0	4572.0721	21036	0.23	1
d10-Fluoranthene $	160111	18.01	624.0702 T	0	3.8723	993	0.18	0.834
Benz(a)anthracene	452641	21.65	1482.7428 T	0	1.799	549	0.28	1.002
d12-Chrysene	1056695	21.69	4414.4144 I	0	4414.4144	10749	0.27	1
Chrysene $	557587	21.75	1887.0104 T	0	1.9704	582	0.3	1.003
5/6-Methylchrysenes $	9810	23.1	43.9644 T	0	724.4369	161647	-1	1.065
1-Methylchrysene	22169	23.26	95.9023 T	0	699.2793	161647	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	9810	23.1	43.1878 T	0	711.6396	161647	-1	1.065
5,9-Dimethylchrysene $	11823	24.42	68.4423 T	0	89.3383	15433	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	11823	24.42	68.4423 T	0	89.3383	15433	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	862	25.07	4.99 T	0	8.1045	1400	-1	1.156
C4-Benz(a)anthracenes/Chrysenes $	109	26.07	0.631 T	0	2.5374	438	-1	1.202
d12-Benzo(b)fluoranthene	1016105	25	4436.9369 I	0	4436.9369	53966	0.21	1
Benzo(b)fluoranthene-SURR int	2060	24.99	0 T	0	0	1492 #	0.3	1
Benzo(b)fluoranthene $	337059	25.09	1016.4981 T	0	2.7056	897	0.23	1.004
d12-Benzo(k)fluoranthene	1111340	25.11	4504.5045 I	0	4504.5045	18460	0.2	1
Benzo(j/k)fluoranthenes	246194	25.17	790.8443 T	0	3.0376	946	0.21	1.002
Benzofluoranthenes	339258	25.09	0 T	0	0	1429	-1	0.999
d12-Benzo(a)pyrene	969418	26.33	4662.1622 I	0	4662.1622	2270790	0.2	1
Benzo(e)pyrene	239783	26.22	830.9909 T	0	3.8843	1121	0.21	0.996
Benzo(a)pyrene	160091	26.43	587.7902 T	0	4.1152	1121	0.22	1.004
7-Methylbenzo(a)pyrene $	2793	29.2	14.407 T	0	24.1939	4690	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	2793	29.2	14.407 T	0	24.1939	4690	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	38	29.92	0.196 T	0	21.1775	4106	-1	1.136
d12-Perylene	1019303	26.72	4842.3423 I	0	4842.3423	34957	0.24	1
Perylene	96789	26.84	333.4641 T	0	4.0691	1181	0.21	1.004
d12-Indeno(123cd)pyrene	1075370	31.5	4481.982 I	0	4481.982	361	0.17	1
d14-Dibenzo(ah)anthracene $	10377	31.62	47.2769 T	0	2.3014	505 #	1.97	1.004
Dibenzo(ah)anthracene $	14659	31.72	53.6682 T	0	2.5979	710 #	0.22	1.007
Indeno(123cd)pyrene $	53476	31.58	182.1413 T	0	1.7205	505 #	~~0.85~~ 0.19	1.002
d12-Benzo(ghi)perylene	1152997	32.31	4459.4595 I	0	4459.4595	2964	0.19	1
Benzo(ghi)perylene	66294	32.4	214.7088 T	0	1.5043	464	0.22	1.003

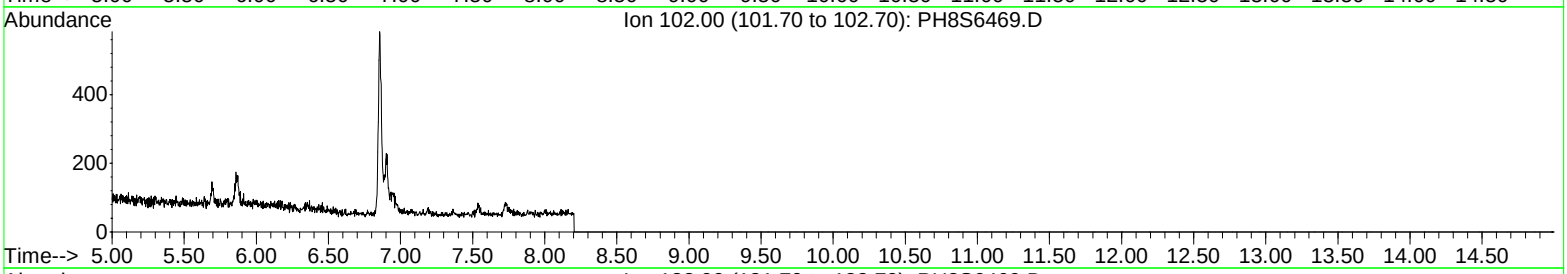
pv by vr
03-Jan-2019

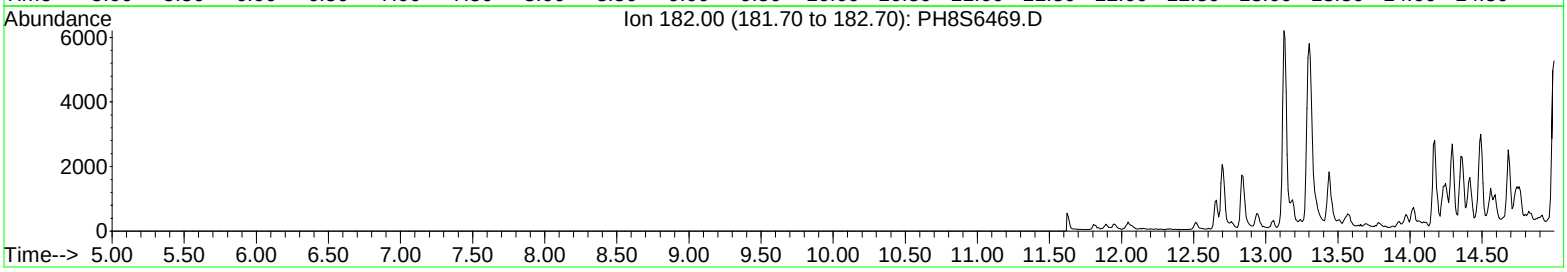
Axys Analytical CHRO Report

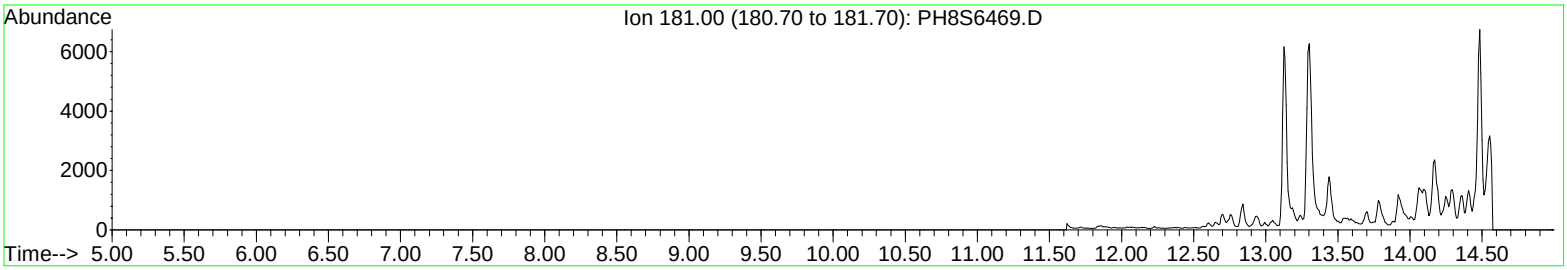
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL







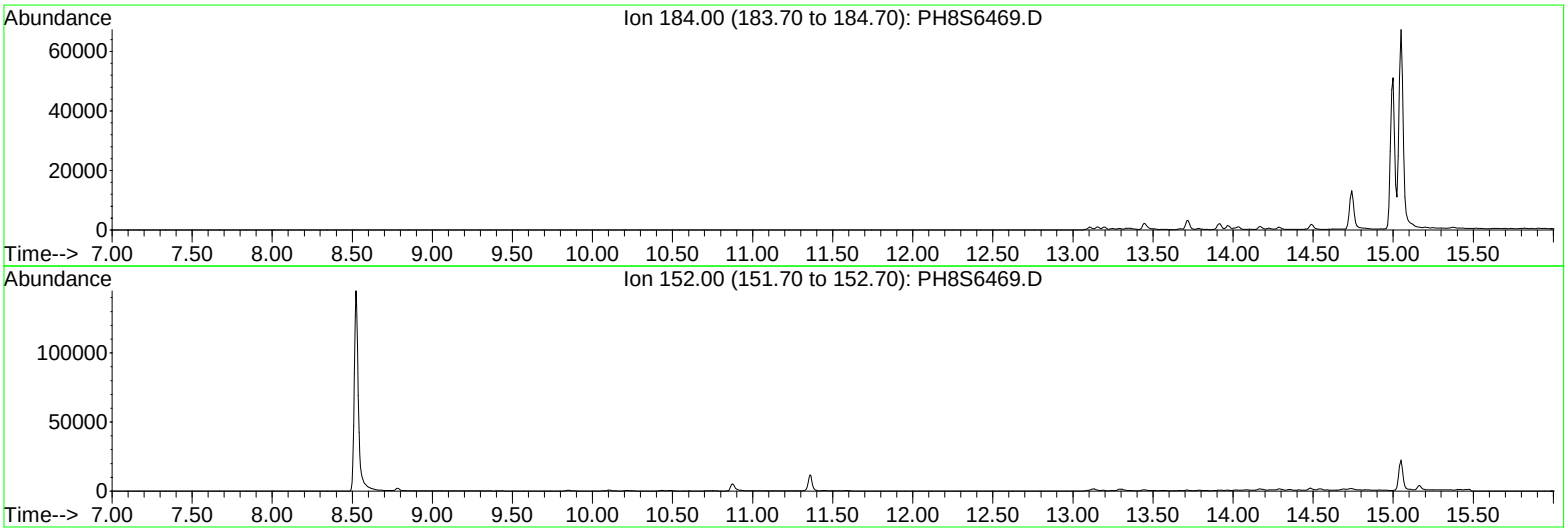


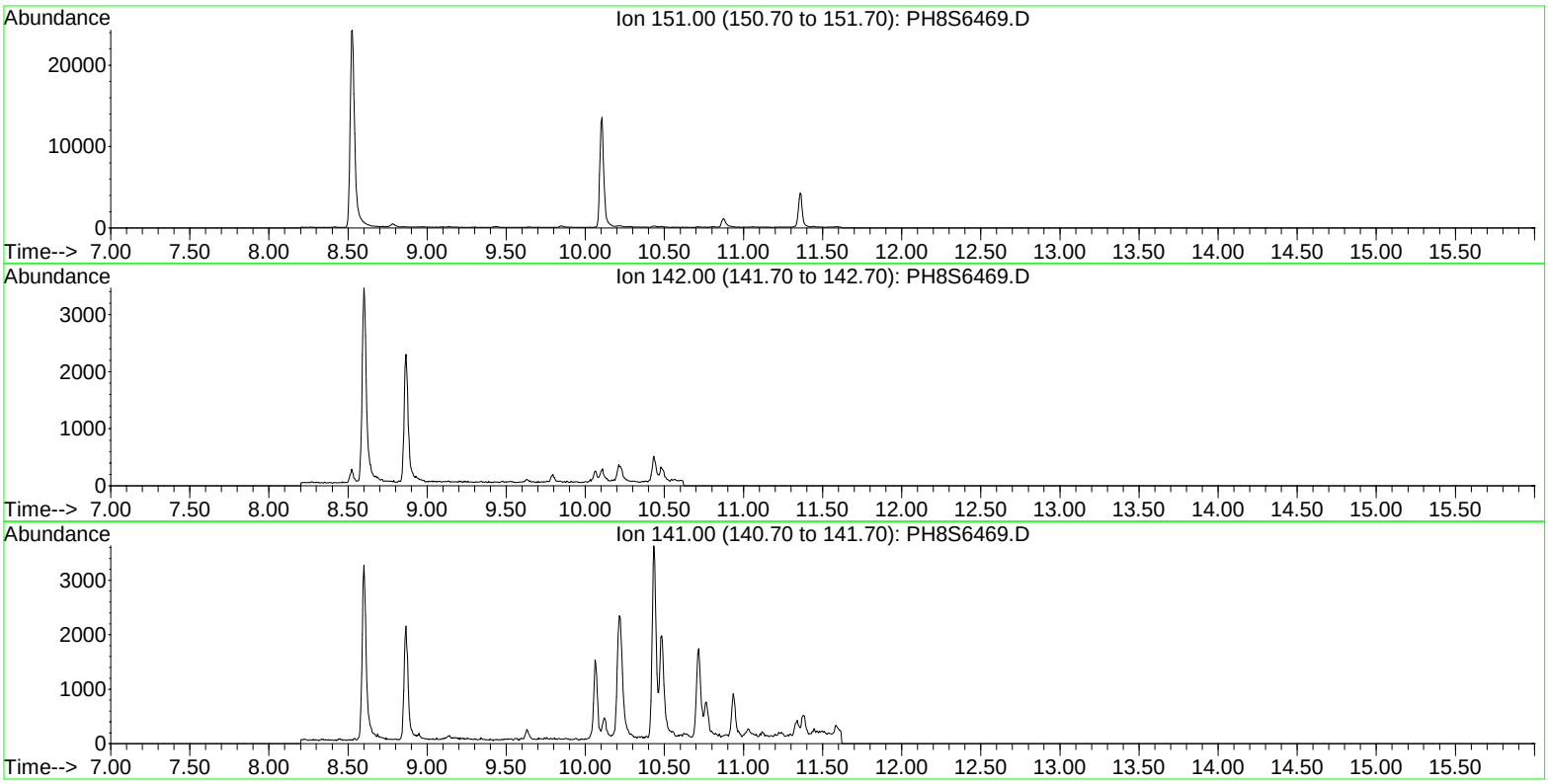


Thu Jan 10 08:42:25 2019

Axys Analytical CHRO Report

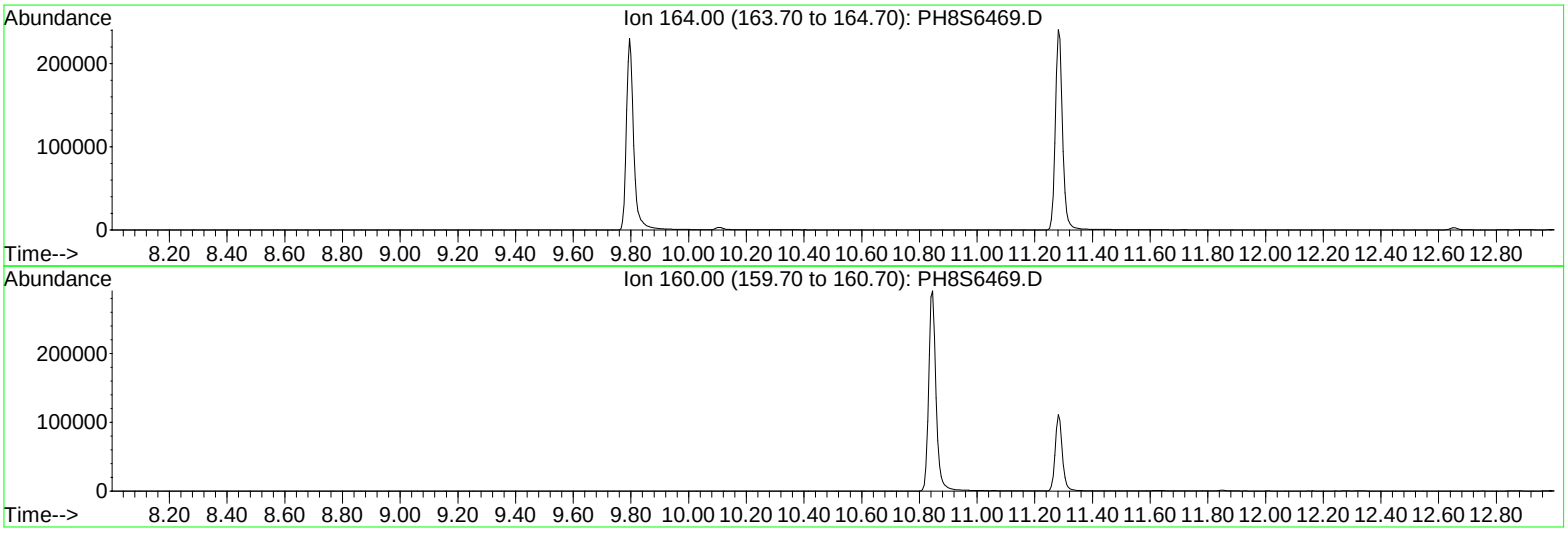
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

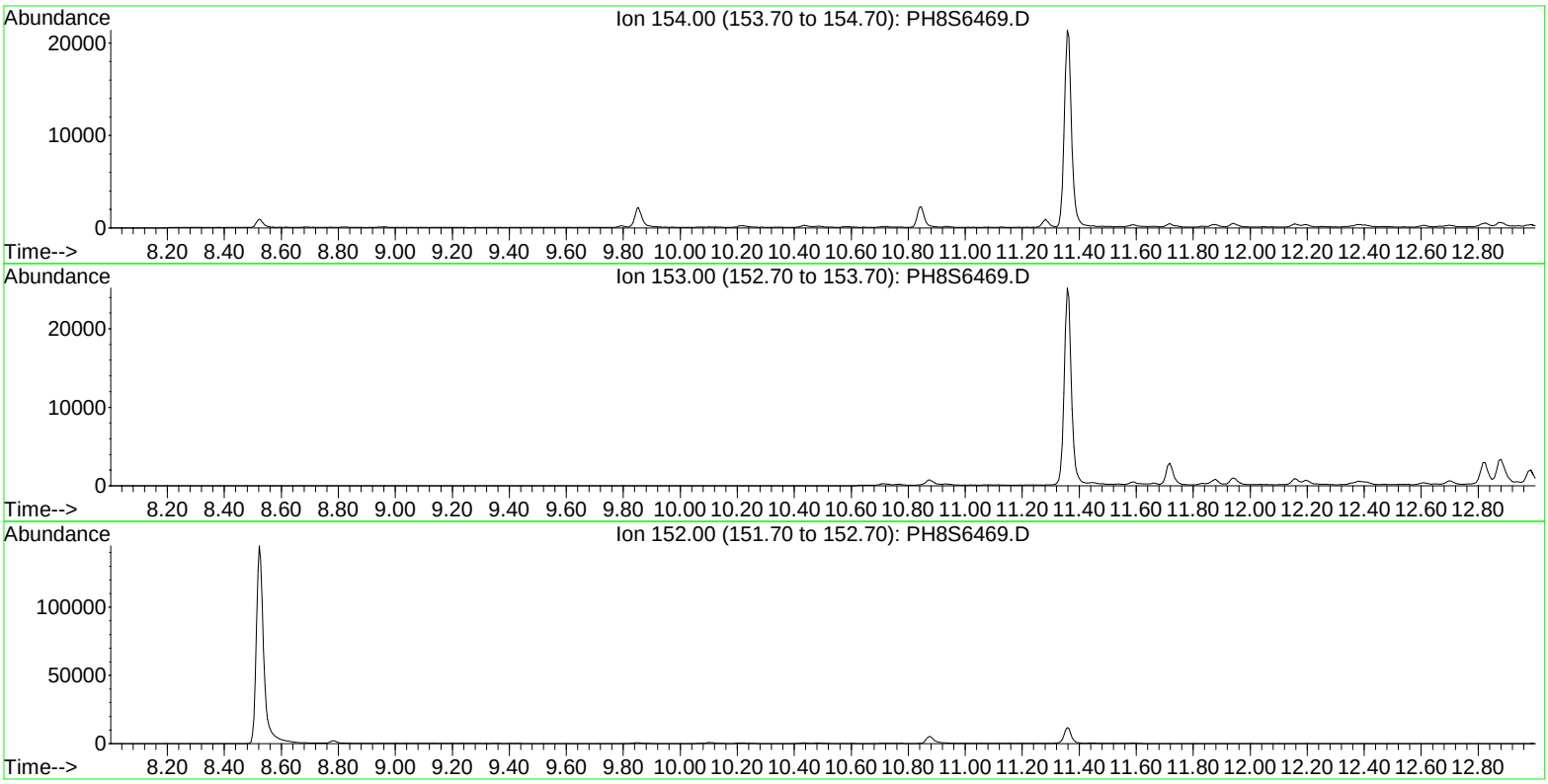




Axys Analytical CHRO Report

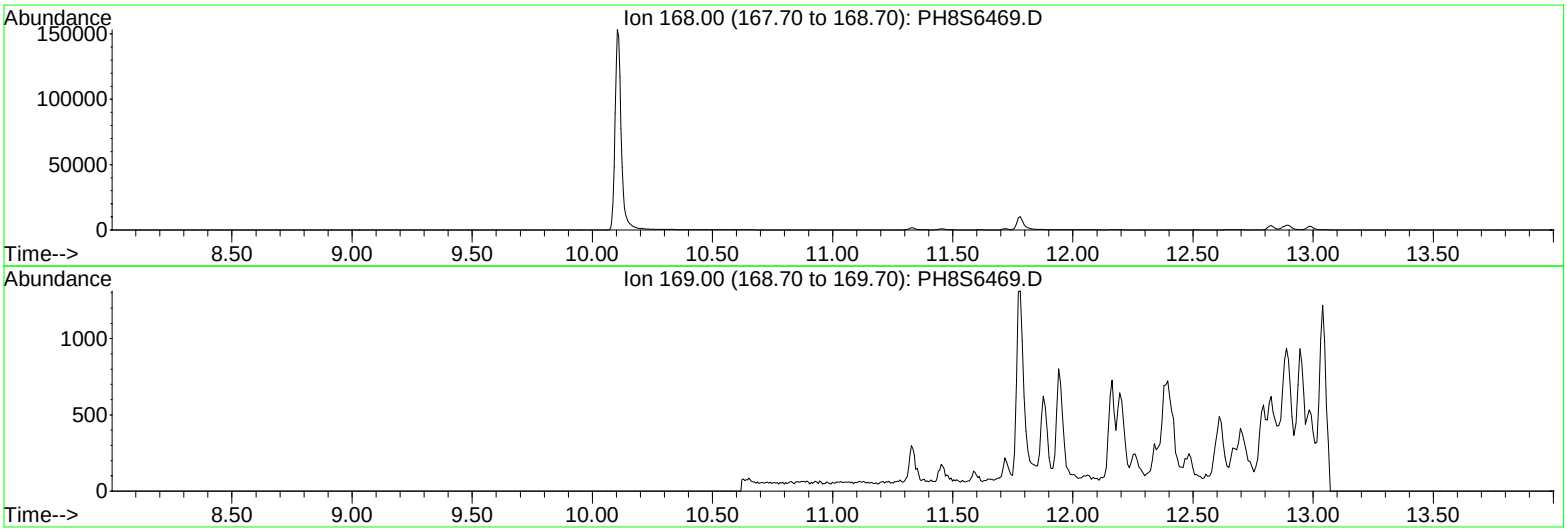
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

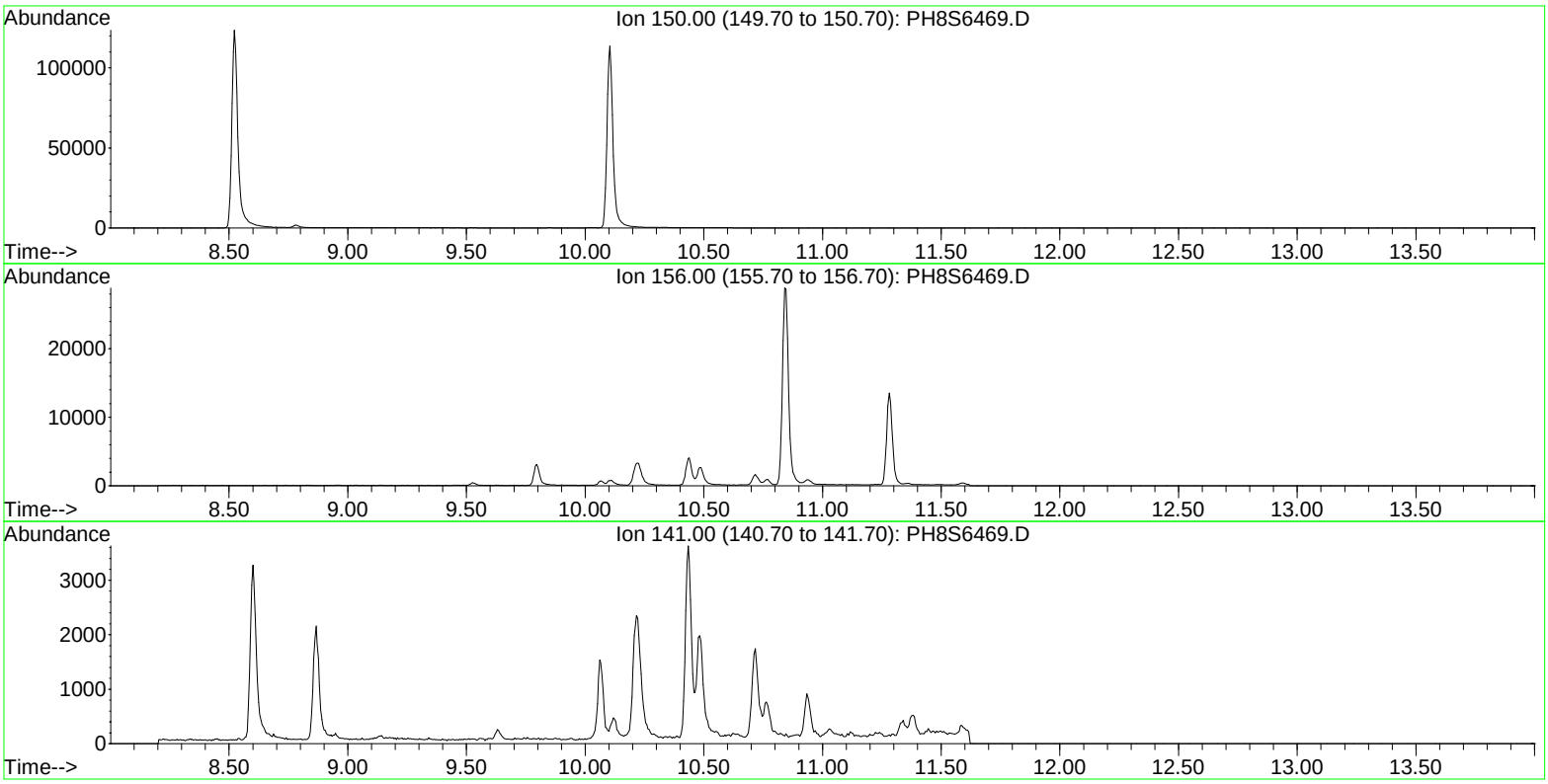




Axys Analytical CHRO Report

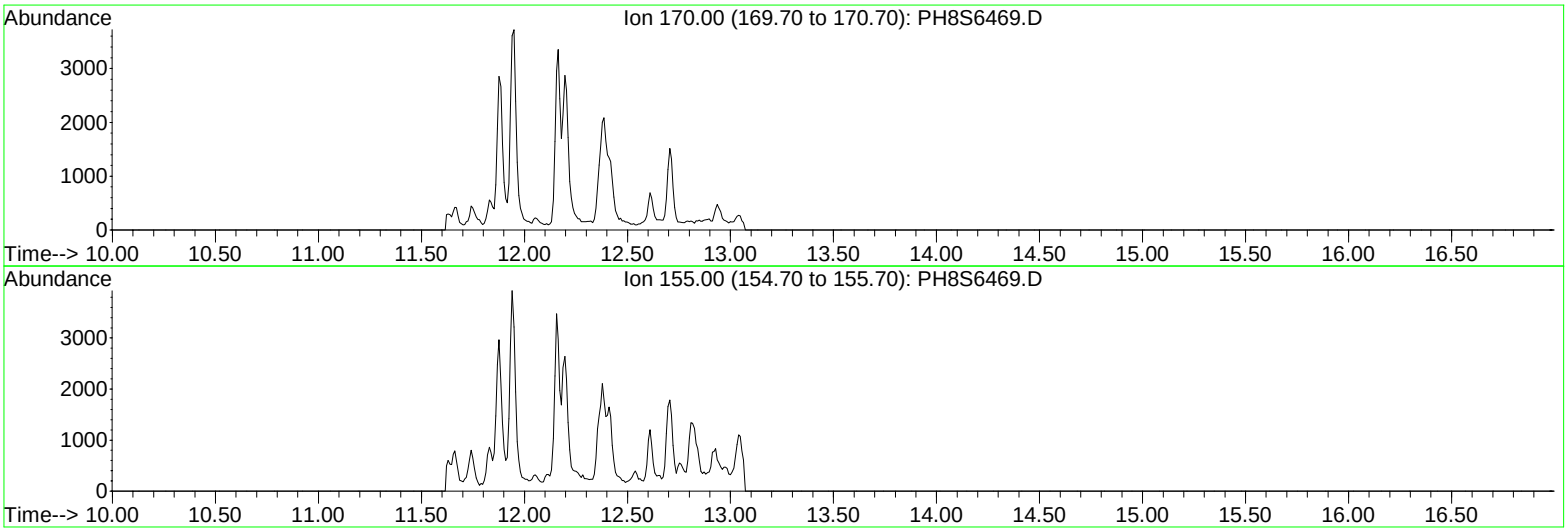
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

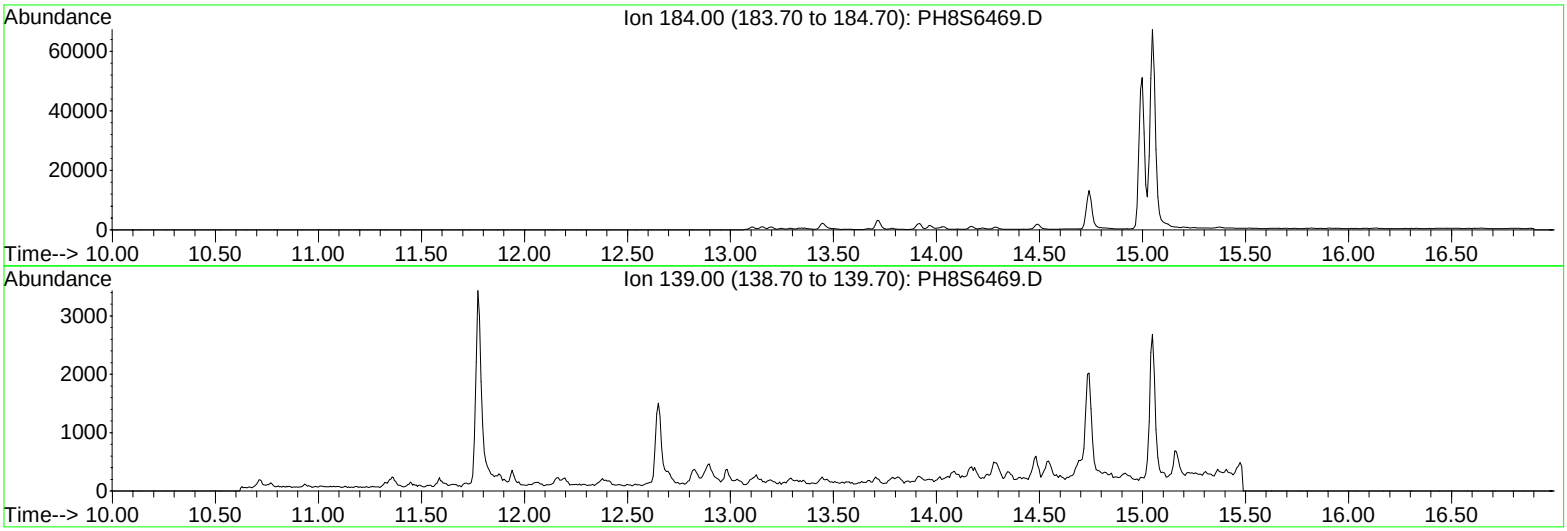




Axys Analytical CHRO Report

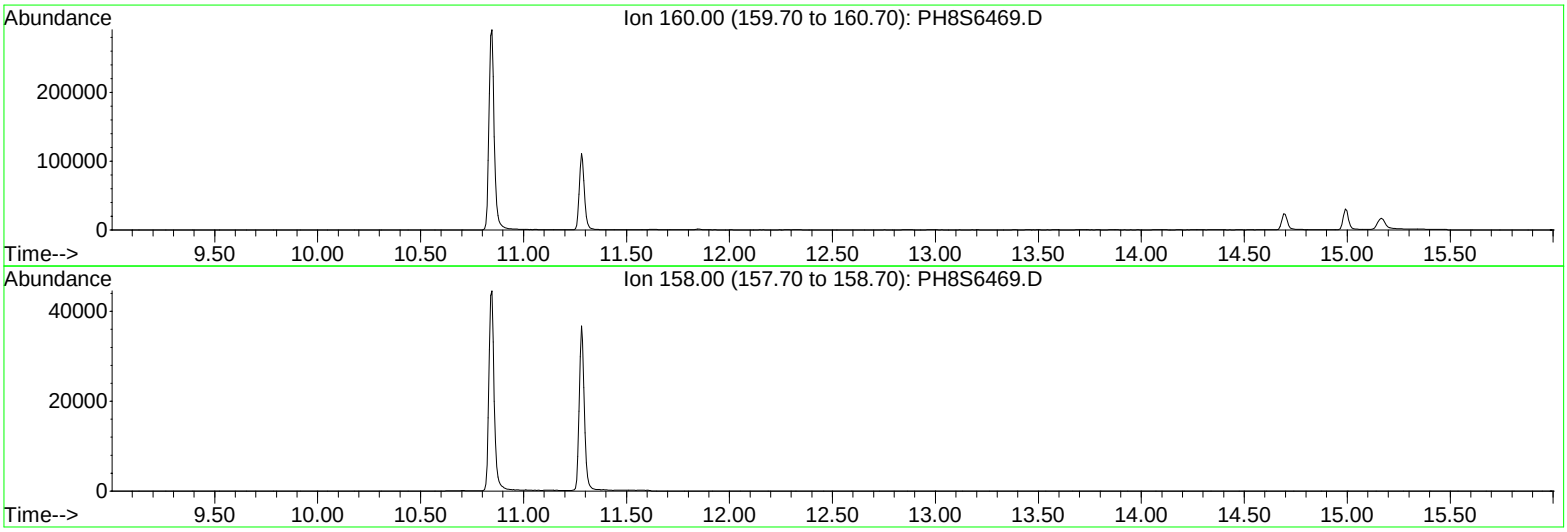
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

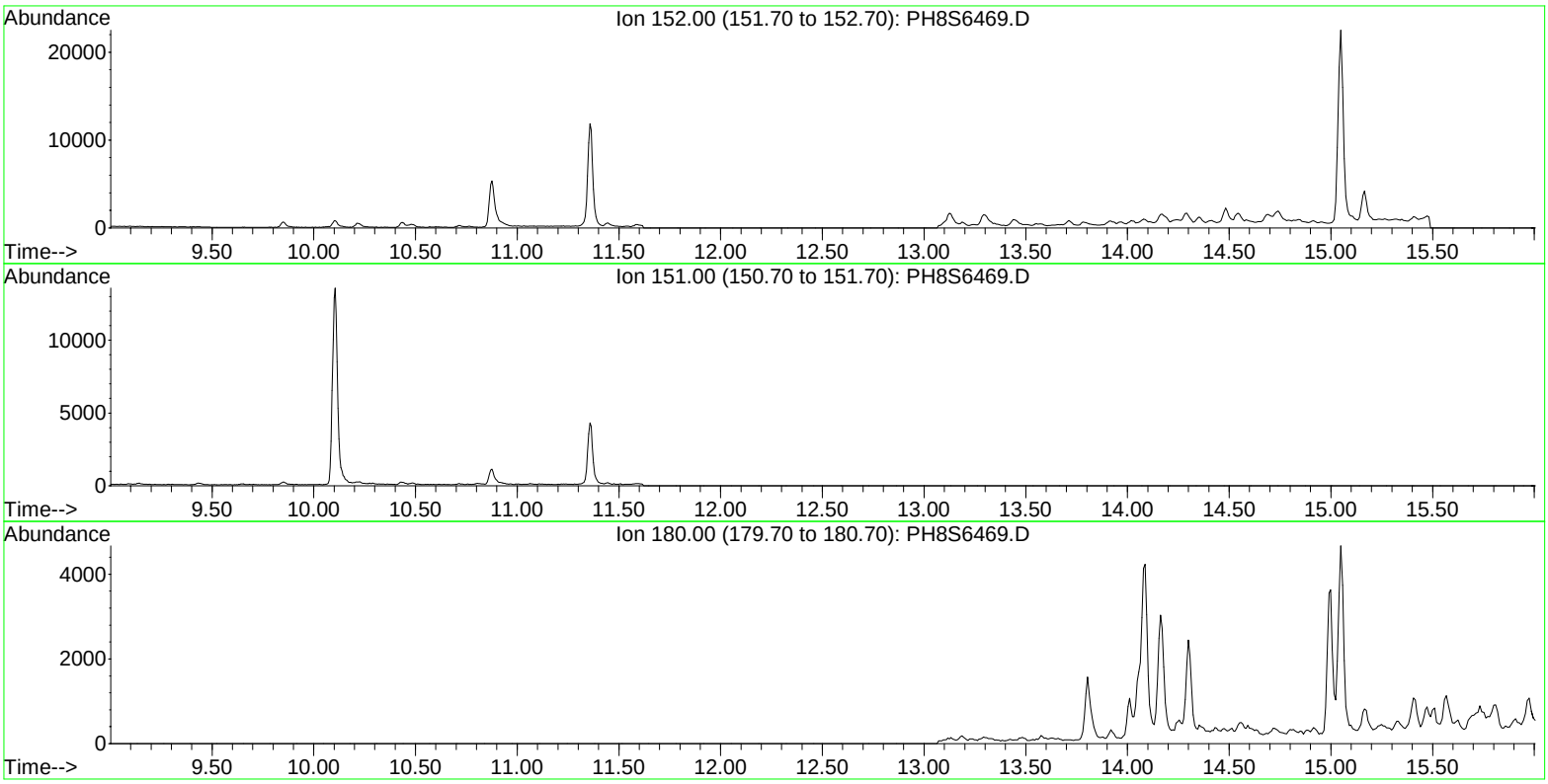


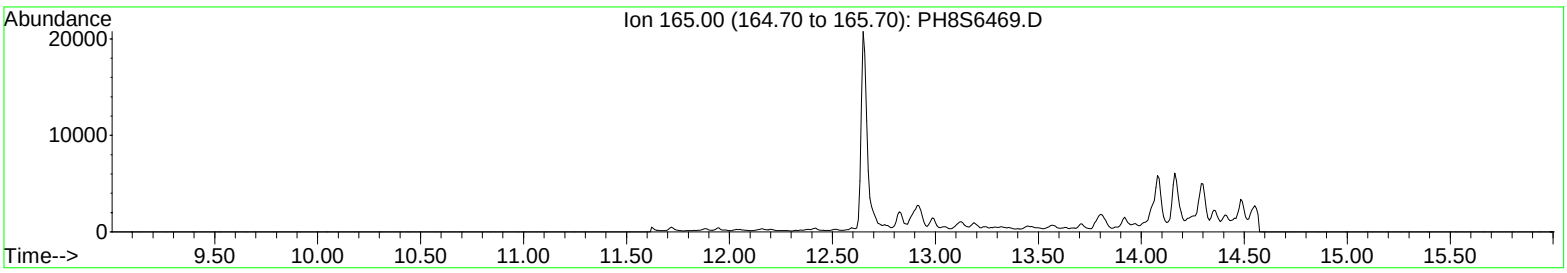


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

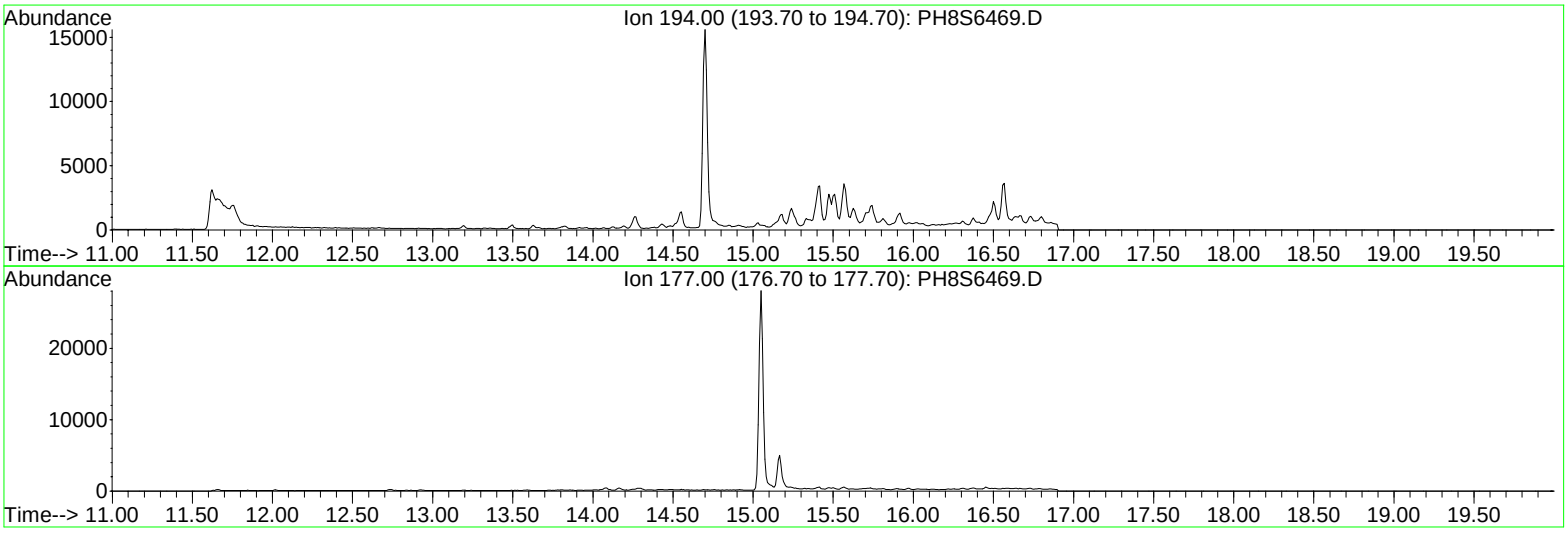


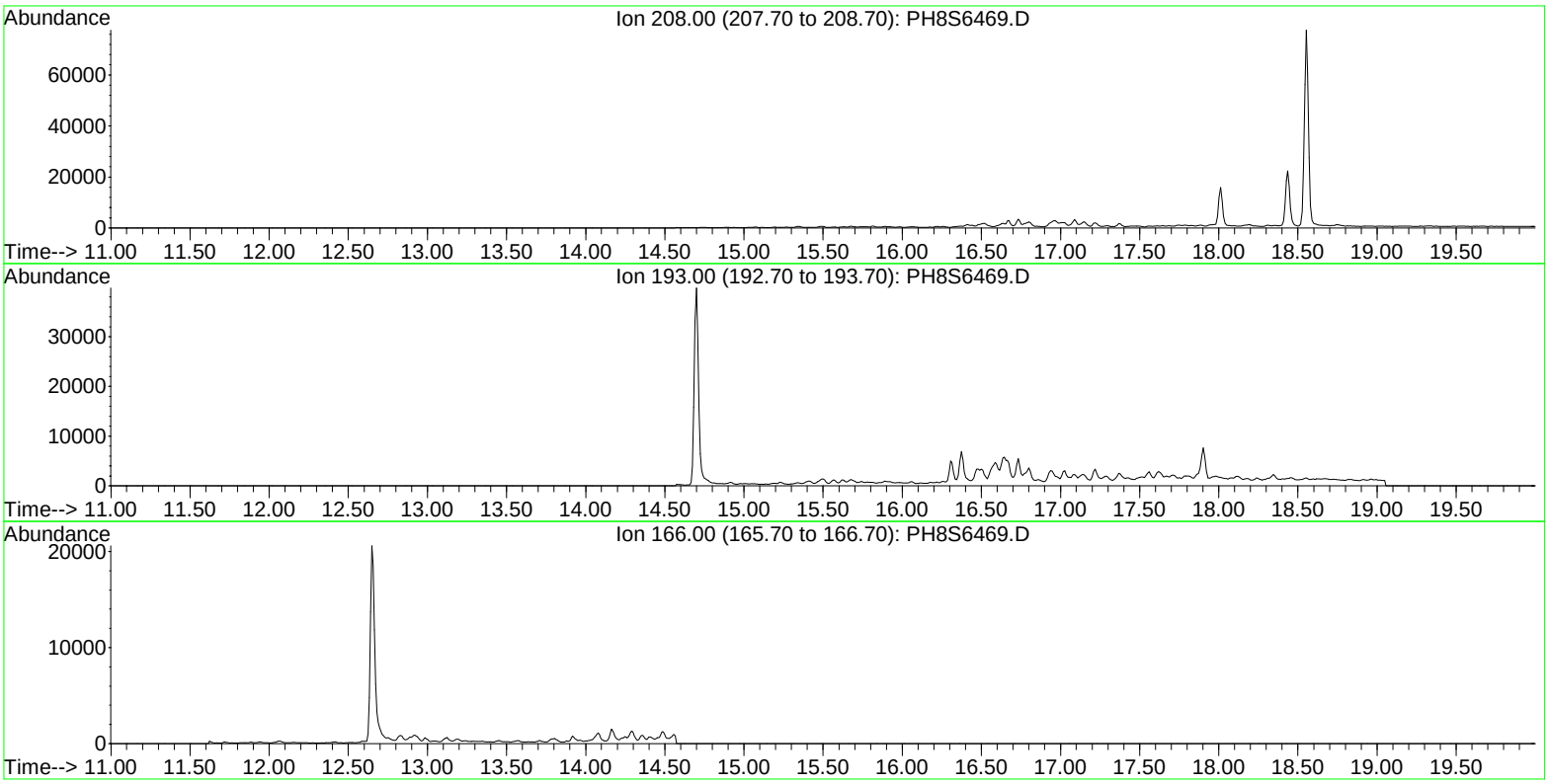


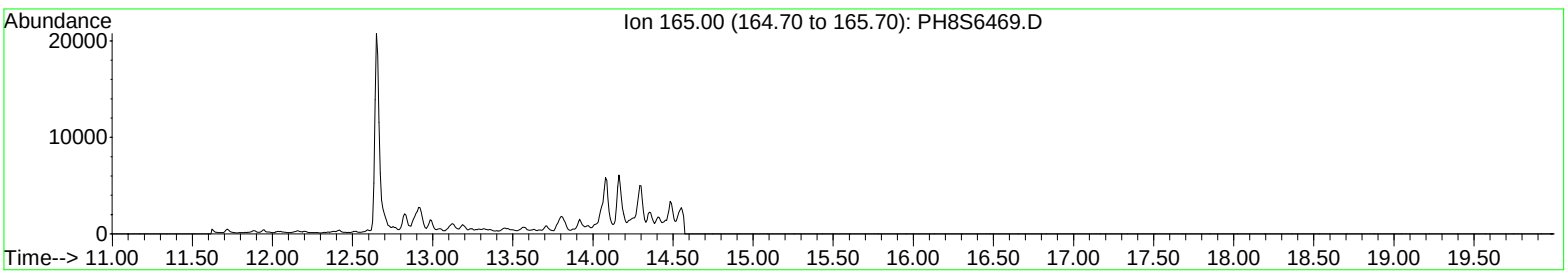


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



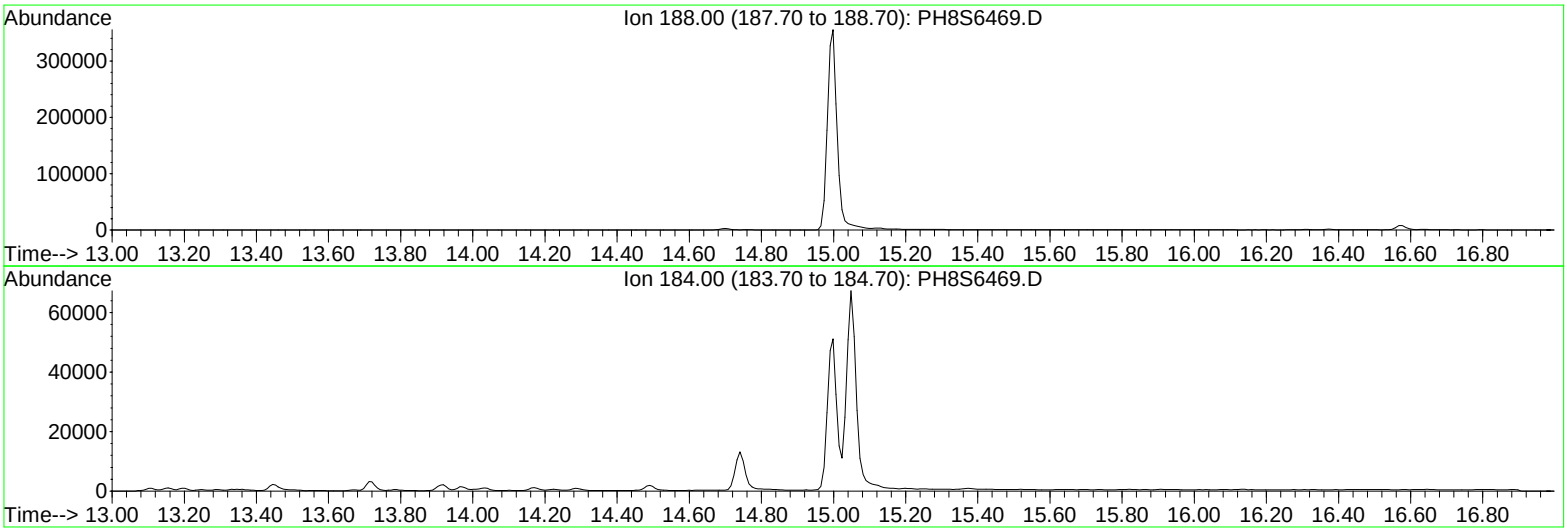


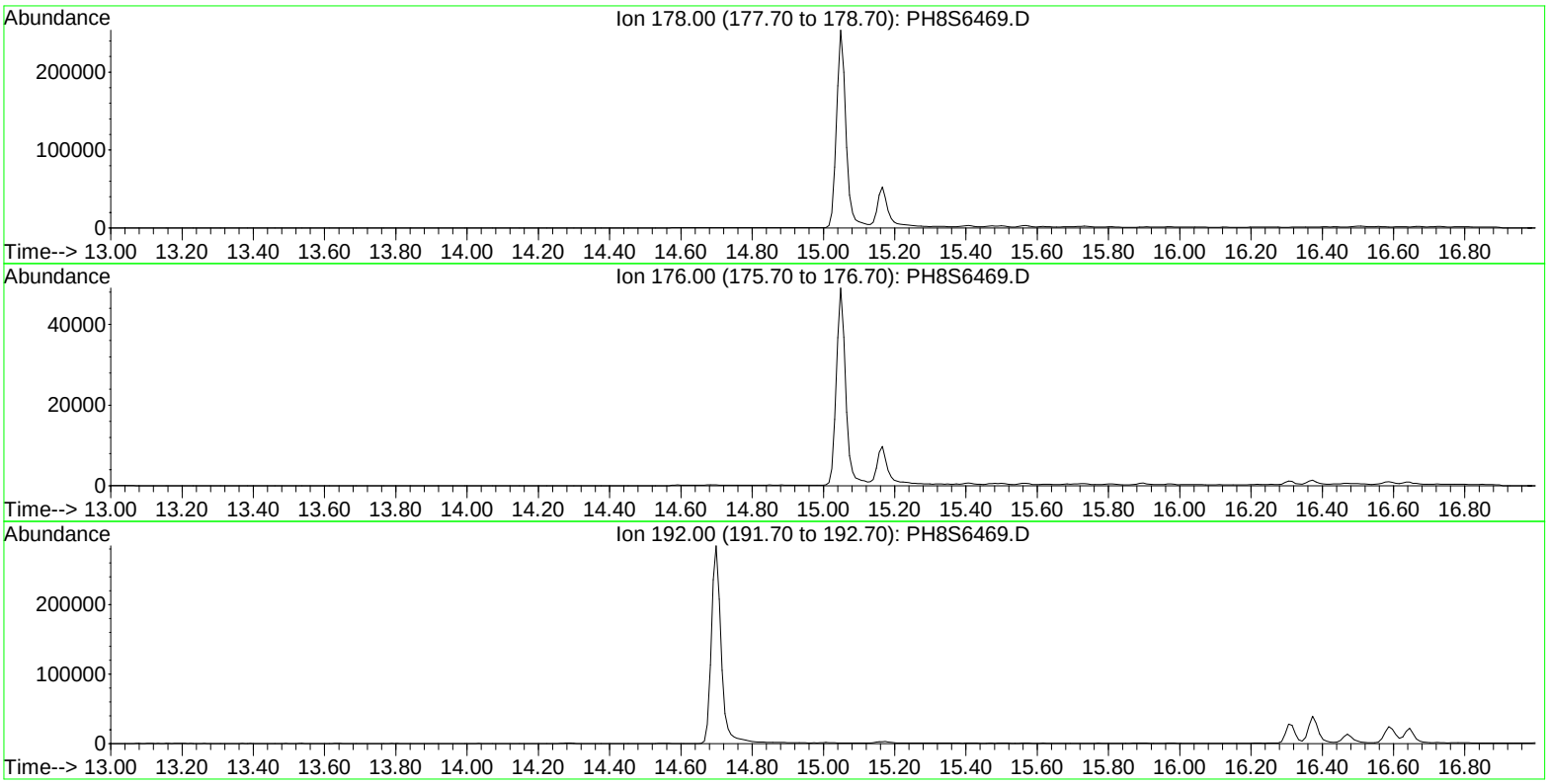


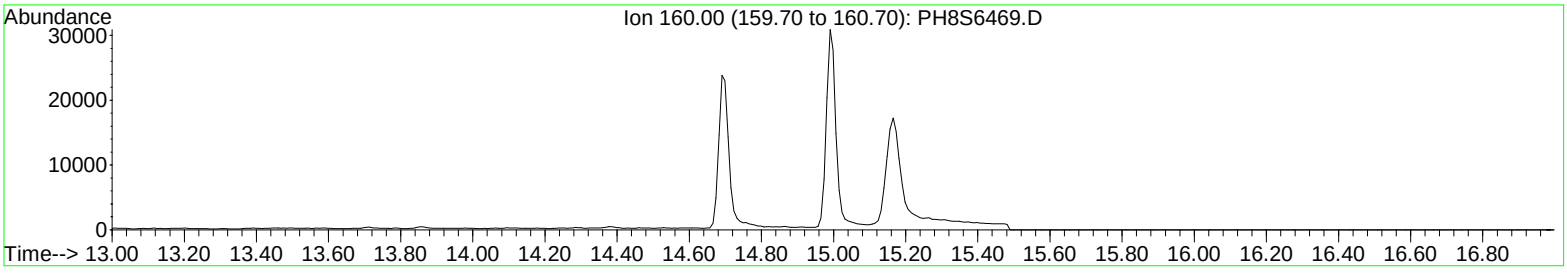
Thu Jan 10 08:42:38 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



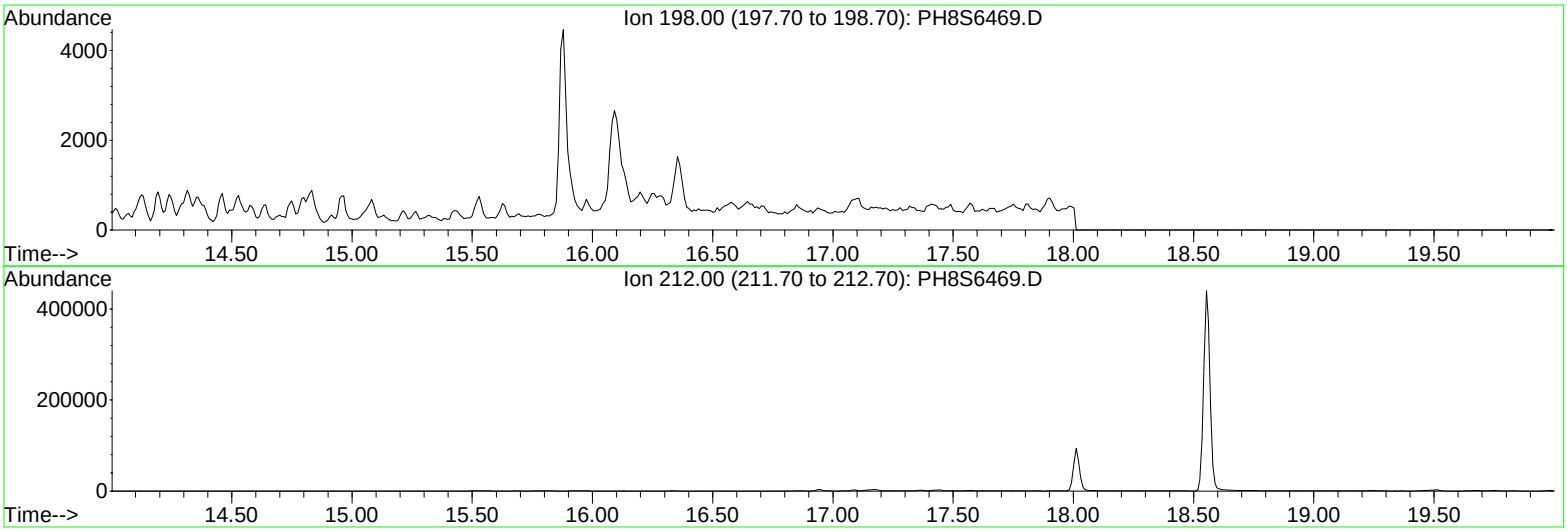


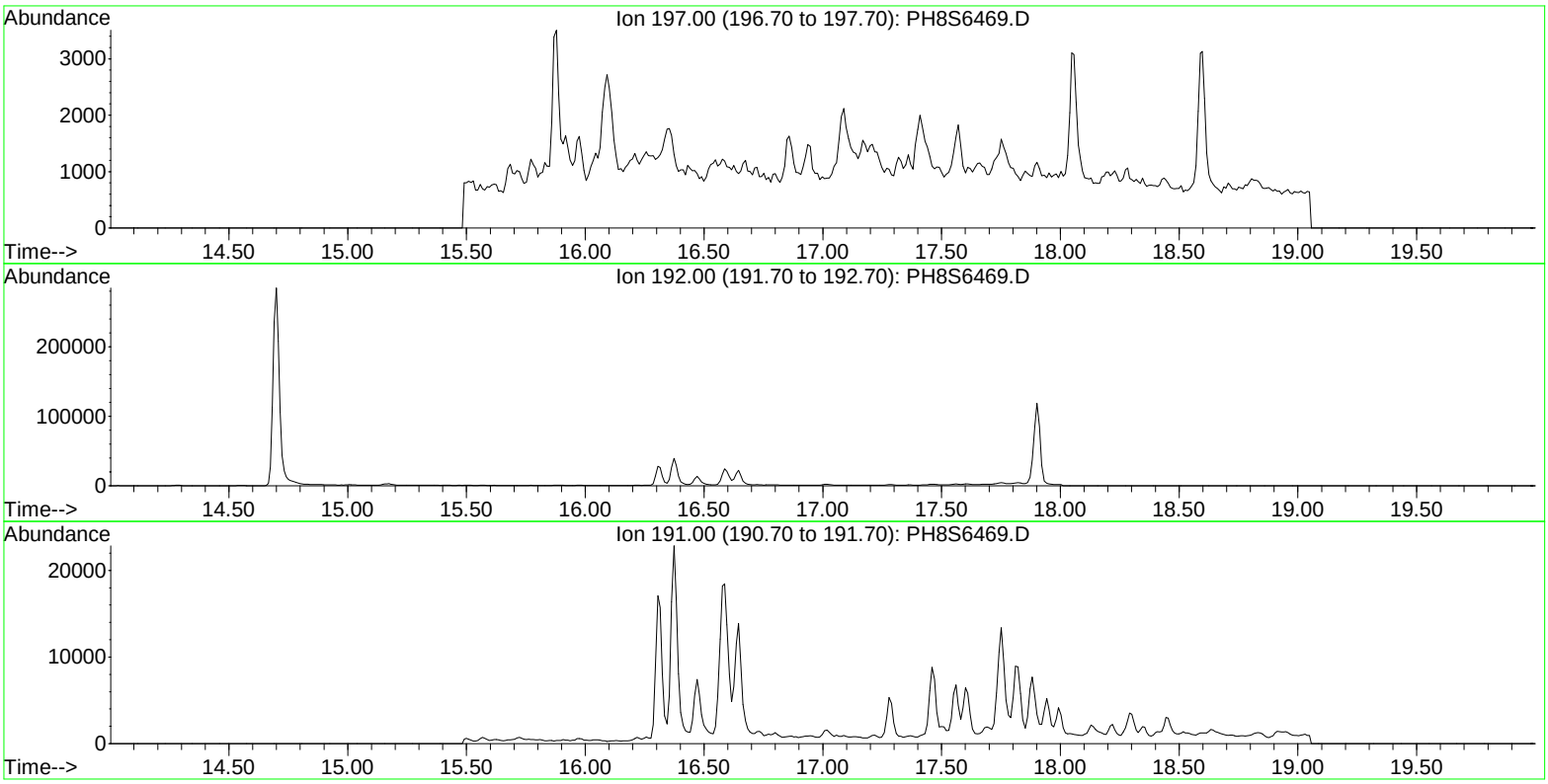


Thu Jan 10 08:42:40 2019

Axys Analytical CHRO Report

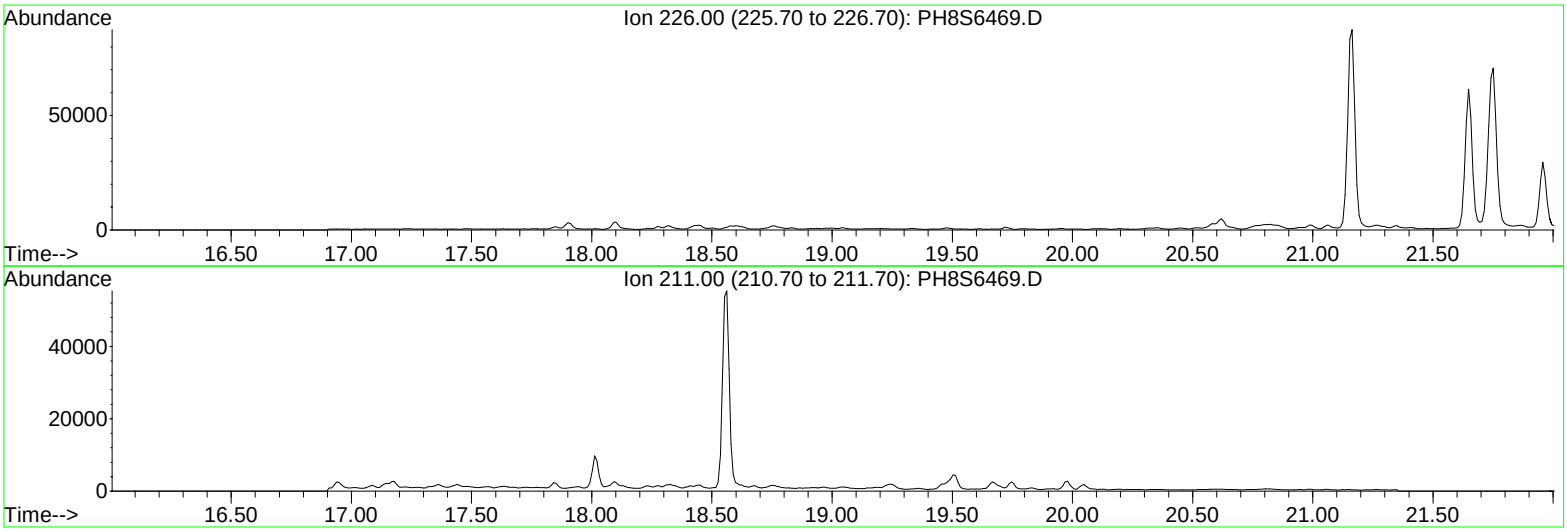
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

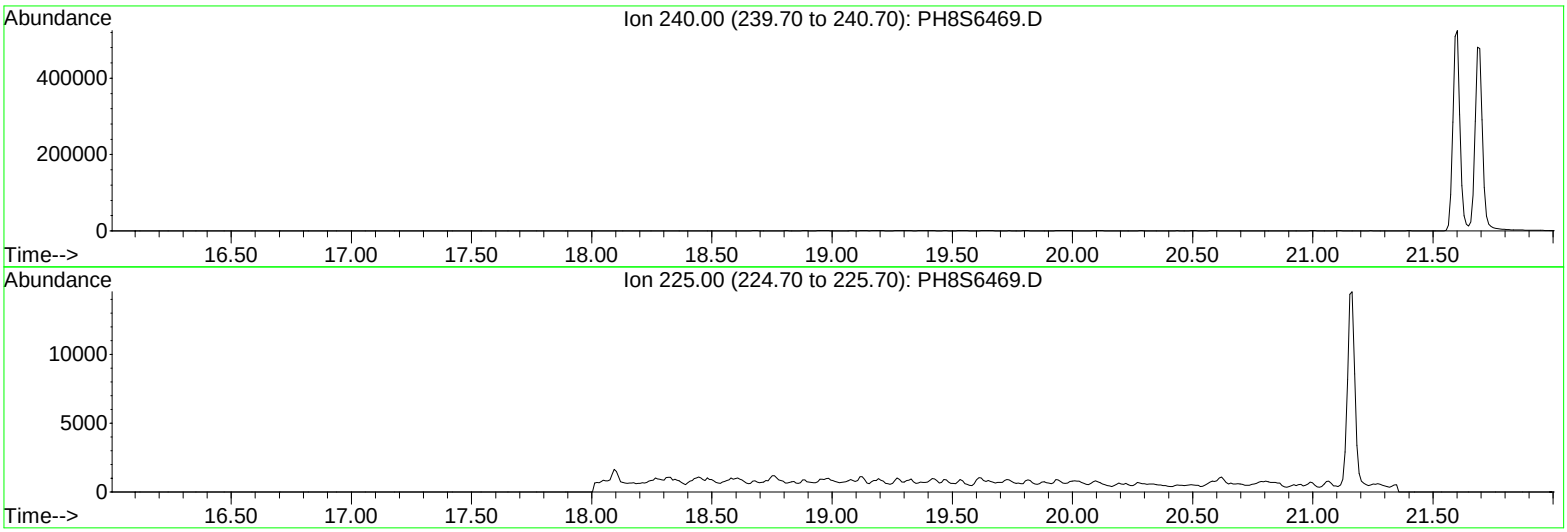




Axys Analytical CHRO Report

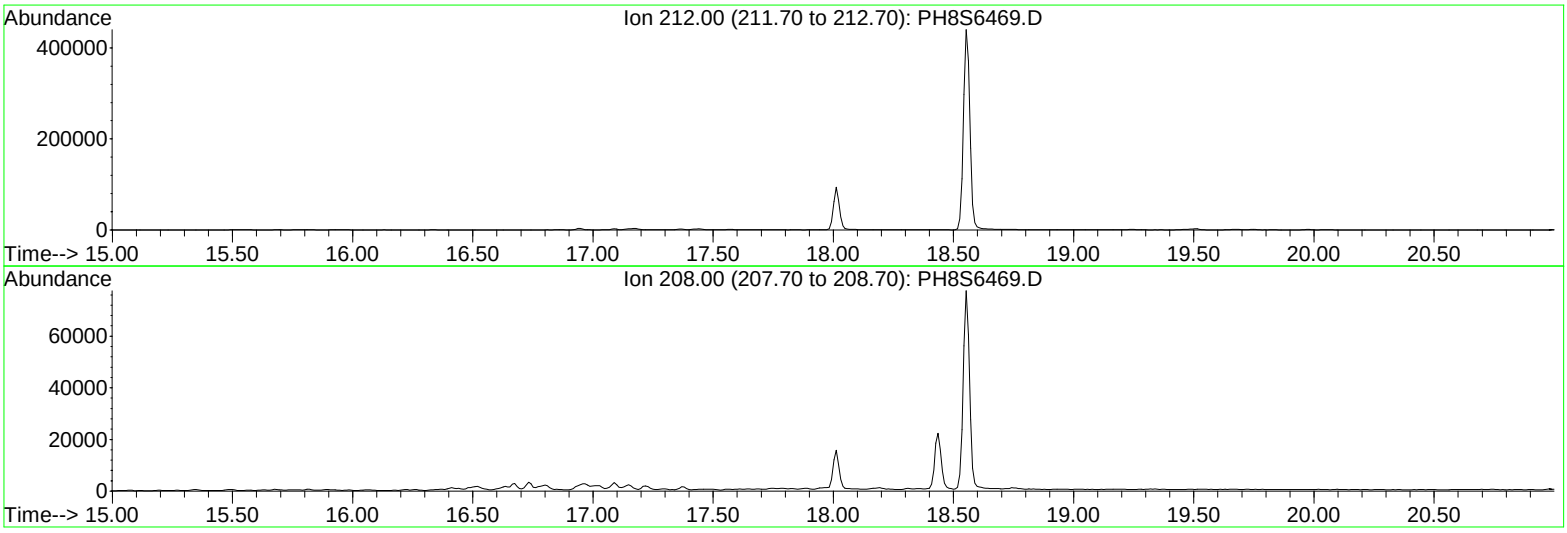
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

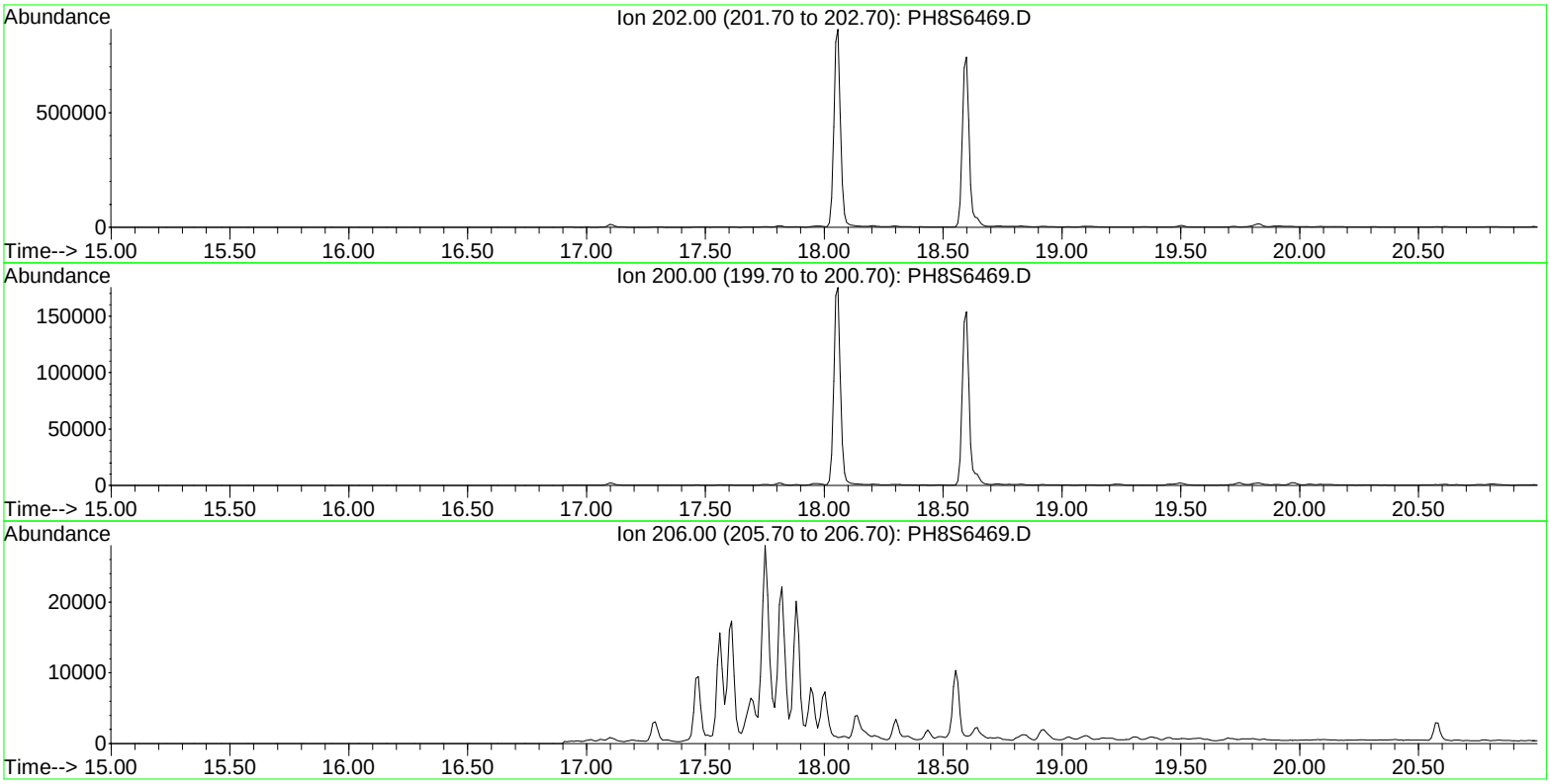


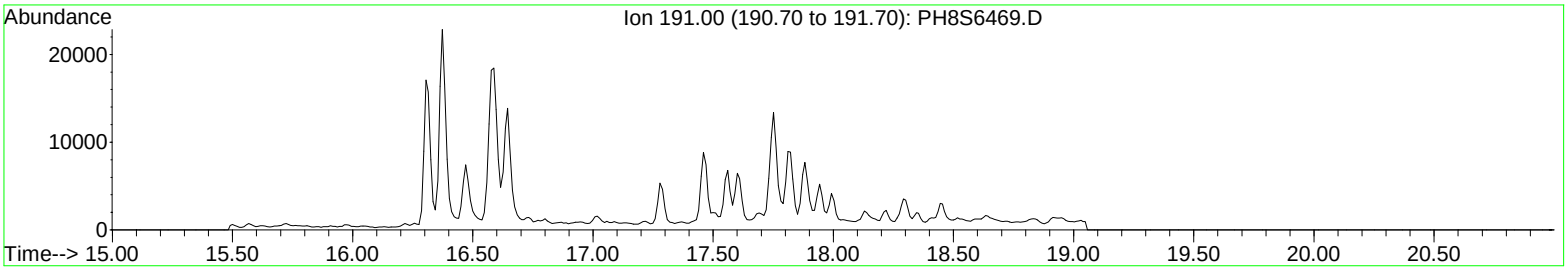


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



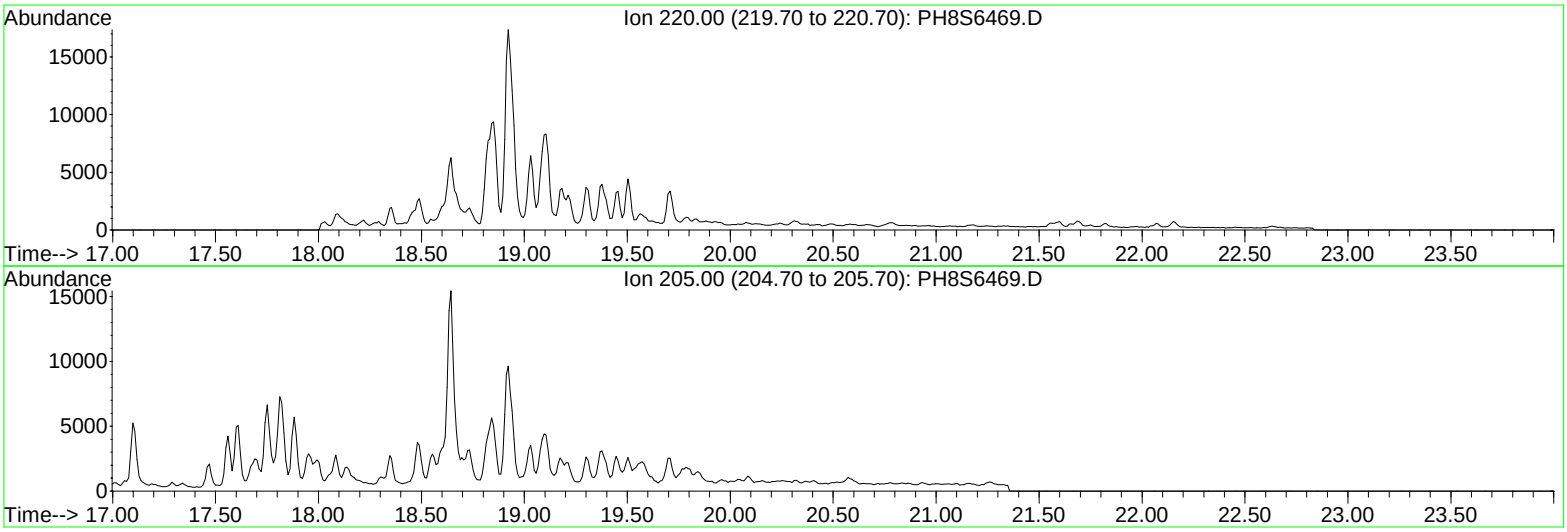


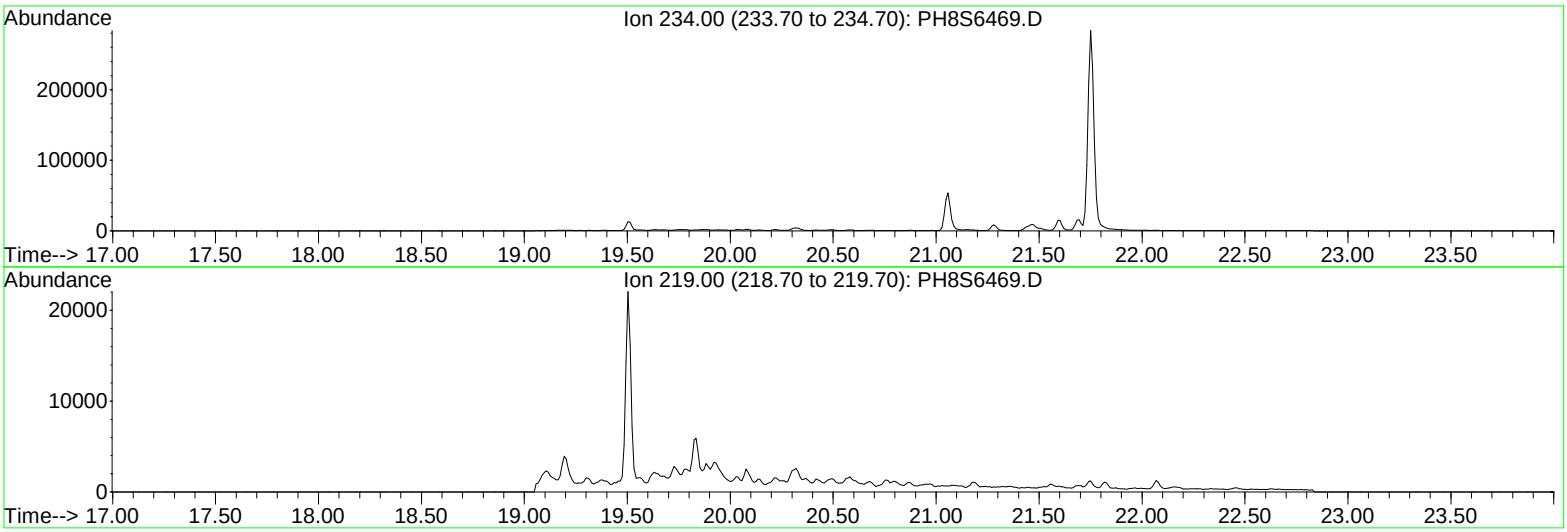


Thu Jan 10 08:42:47 2019

Axys Analytical CHRO Report

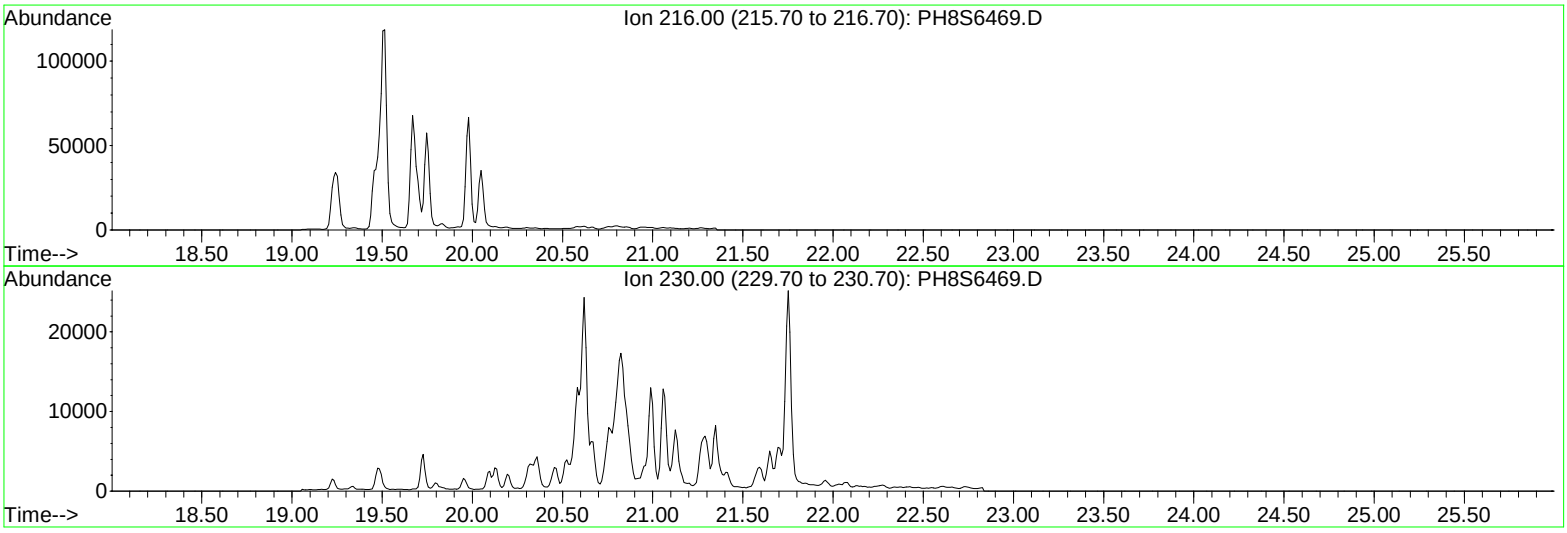
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

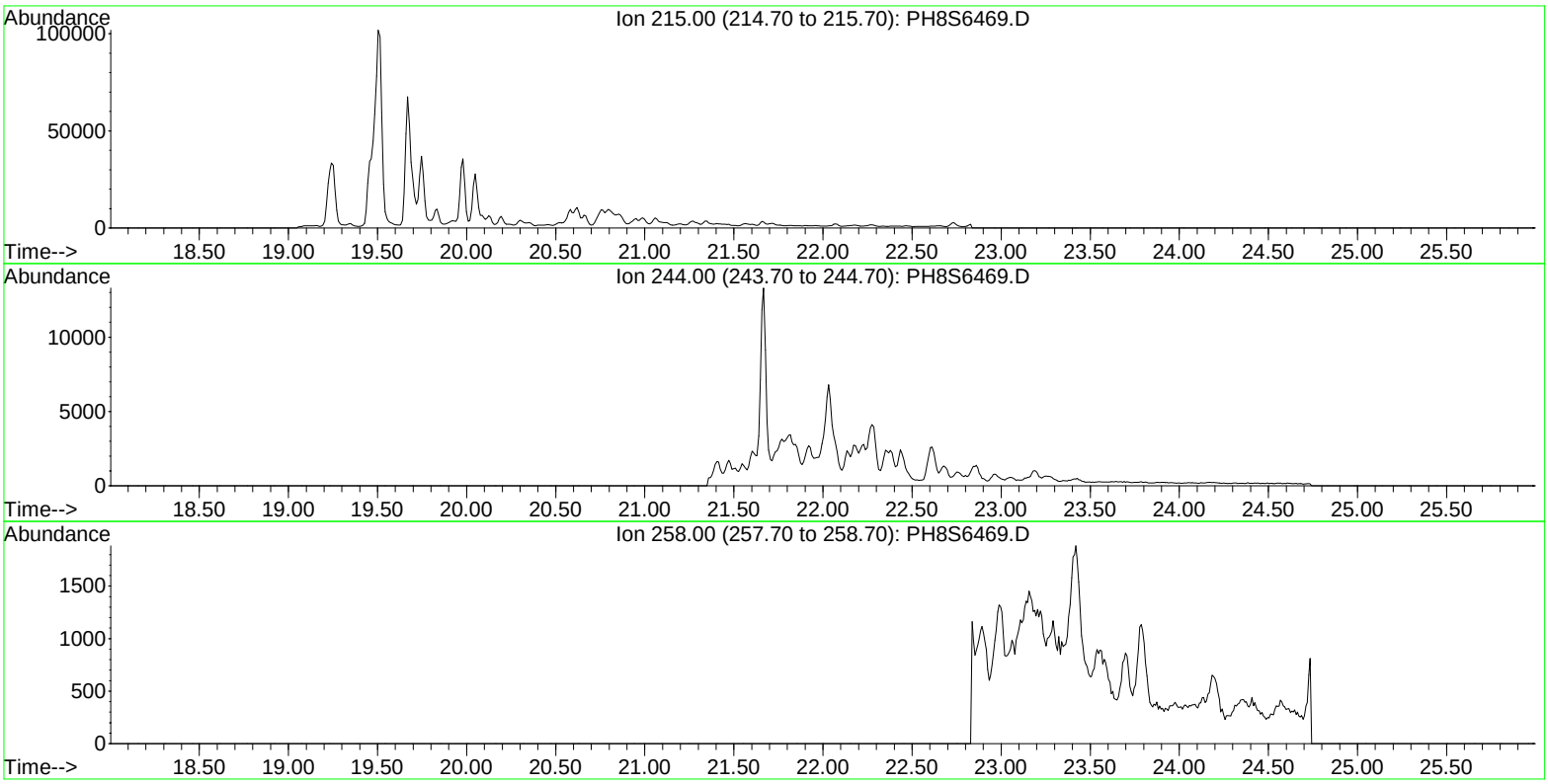


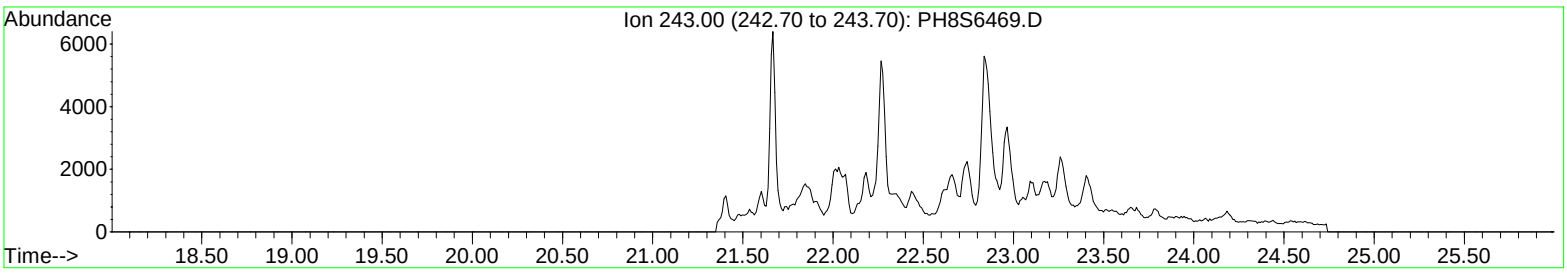


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



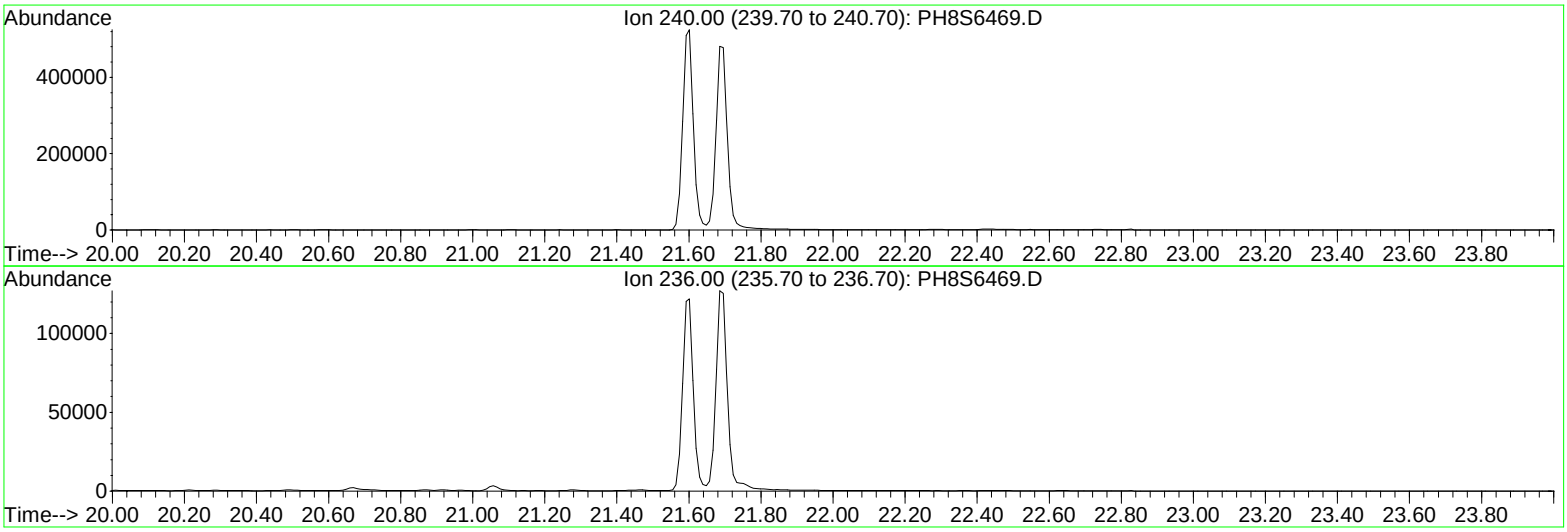


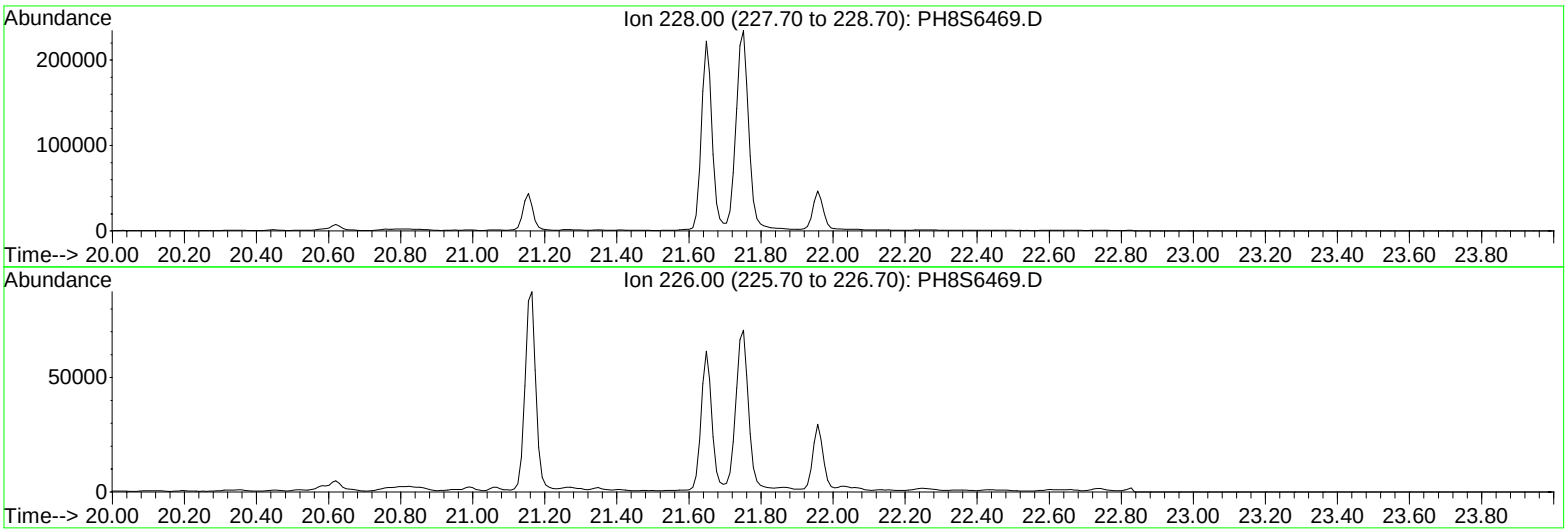


Thu Jan 10 08:42:51 2019

Axys Analytical CHRO Report

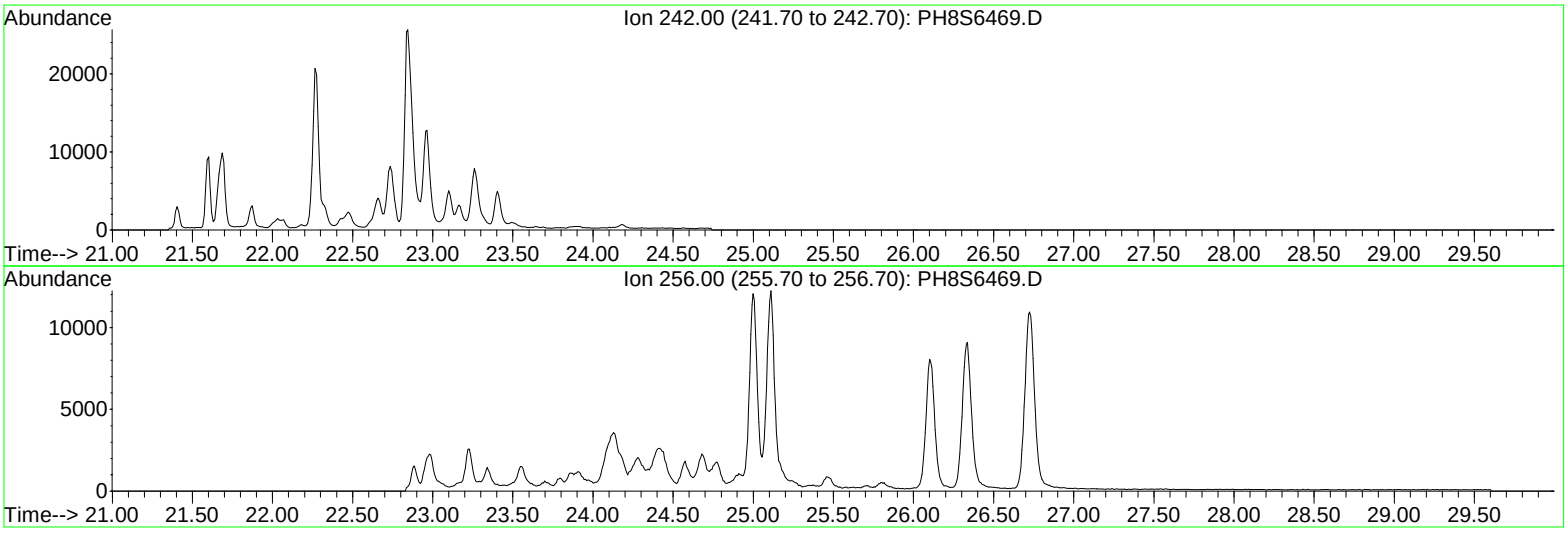
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

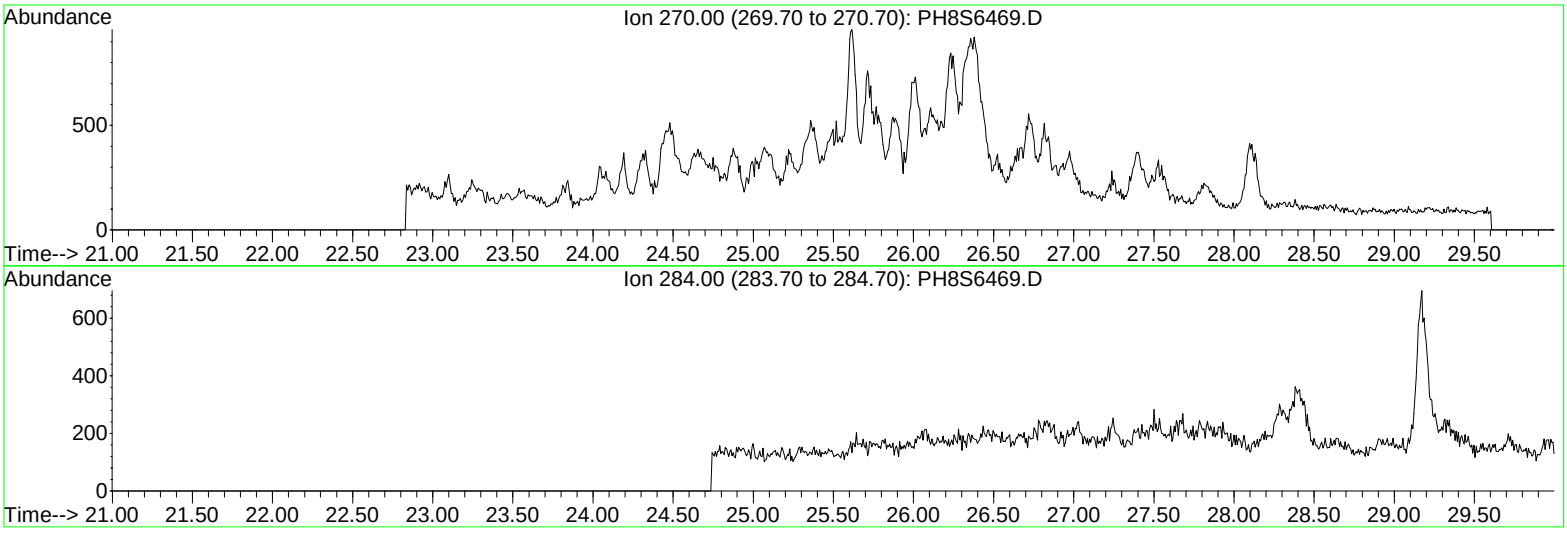




Axys Analytical CHRO Report

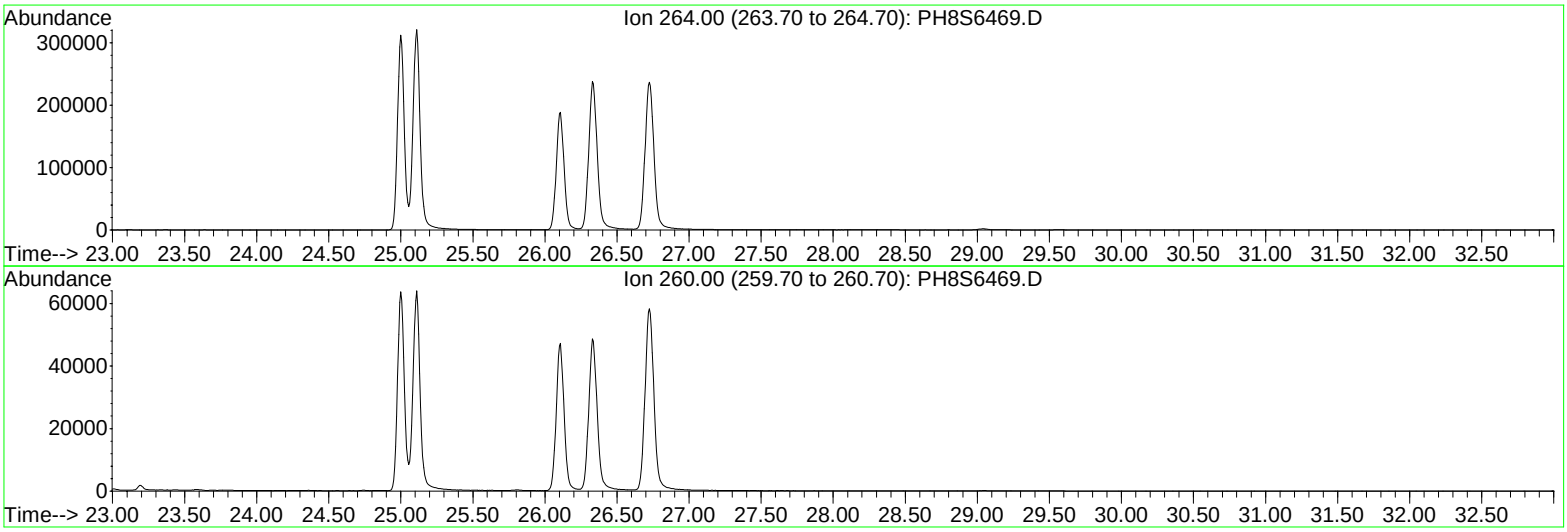
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

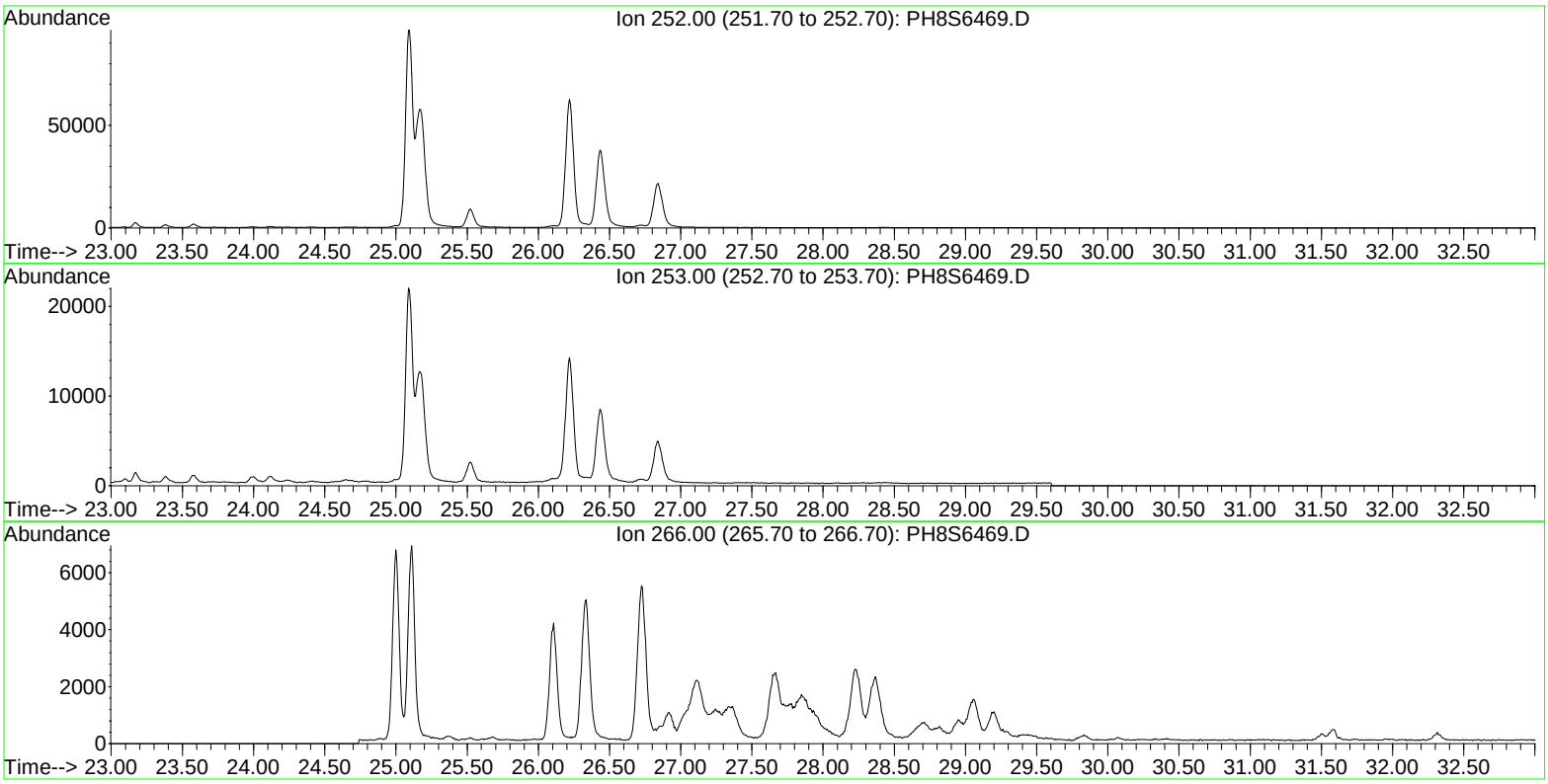


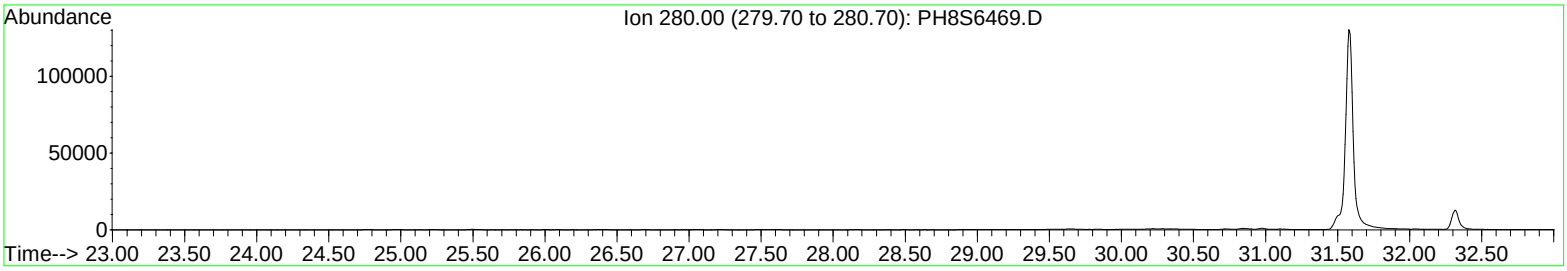


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



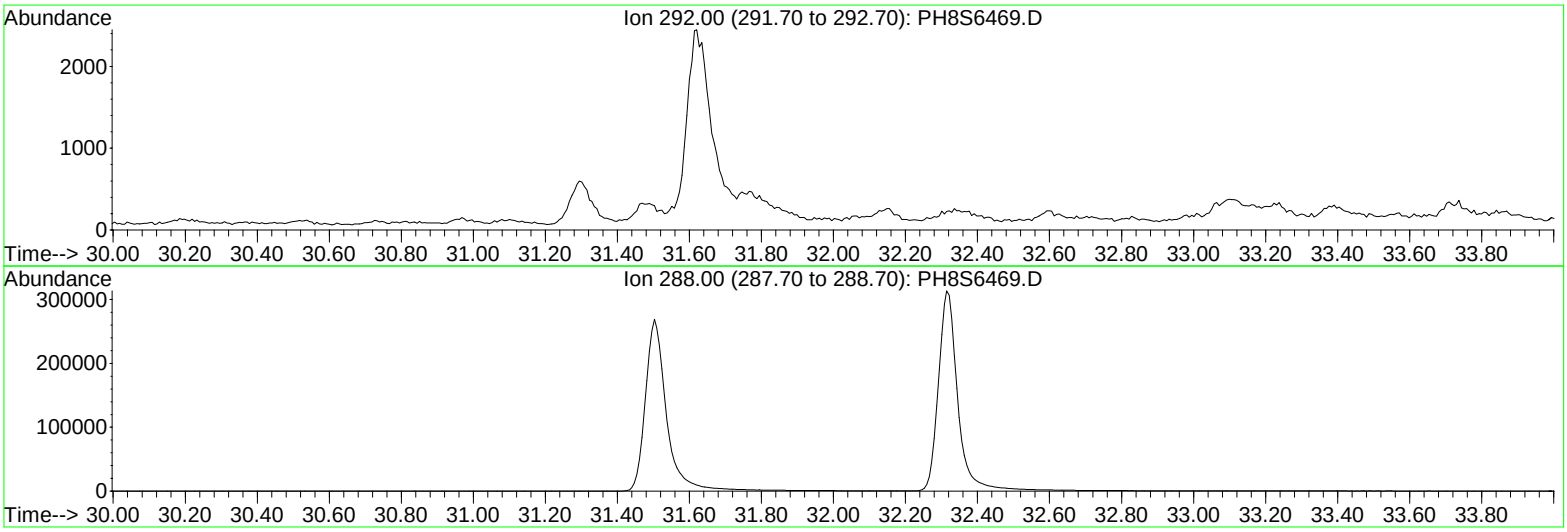


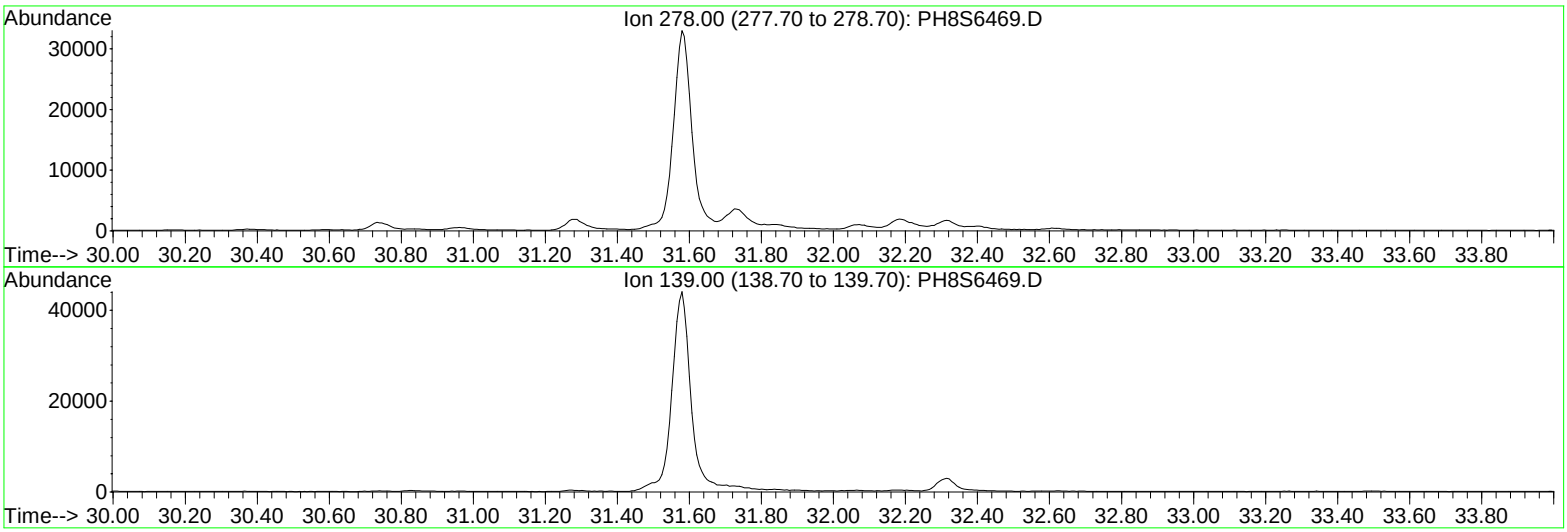


Thu Jan 10 08:42:57 2019

Axys Analytical CHRO Report

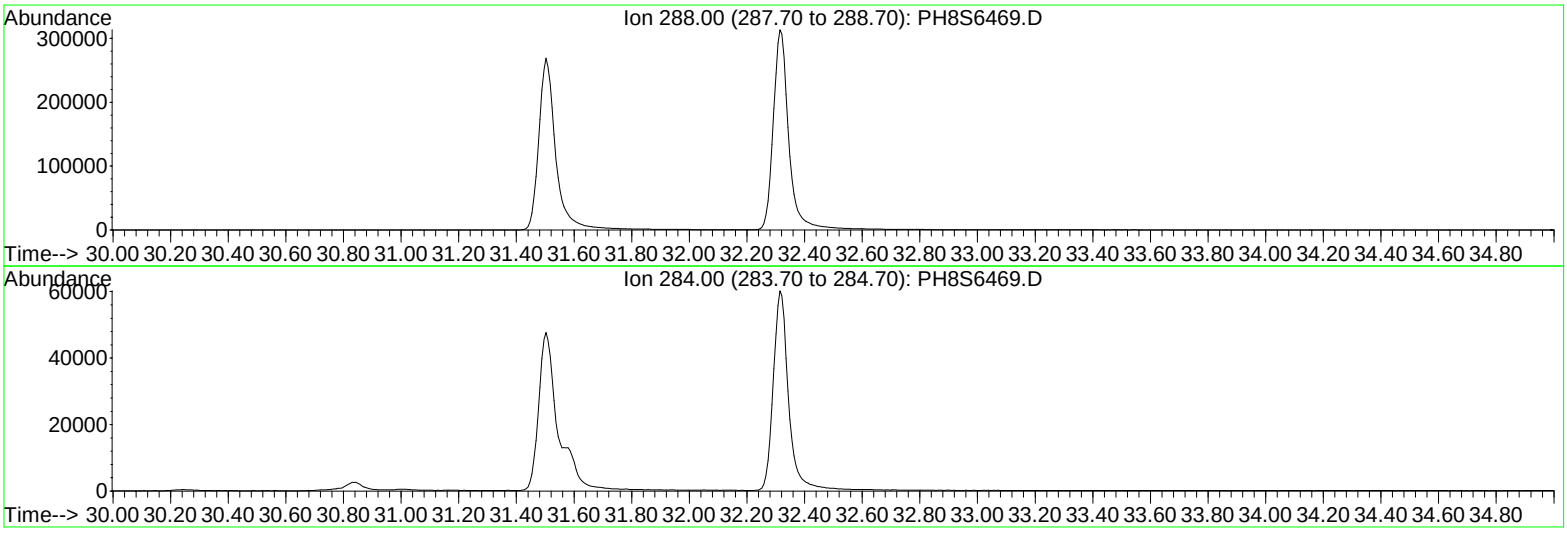
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

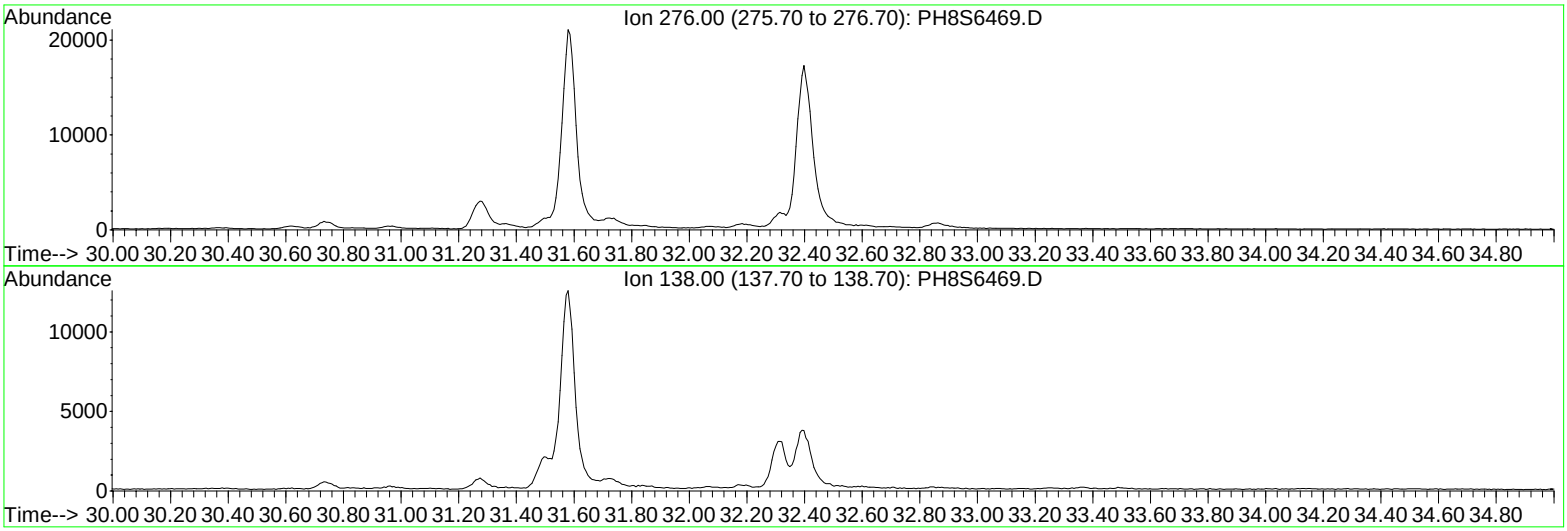




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6469.D
28/12/2018 20:07
L30540-9
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6469.D\618S6469.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 14
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:58 2019
CSV Created By: vr

A	B	cc	
PH8S6459.D	PH8S6473.D	PH7S5480.D	
Analyte List	LPAHPRC4943	ng/g	
Sample Size	0.089		
Surrogate: Authentic Ratio	0.1		
Recovery: Surrogate Ratio	1		
Analyte Calibration Multiplier	1		
Surrogate Calibration Multiplier	1		

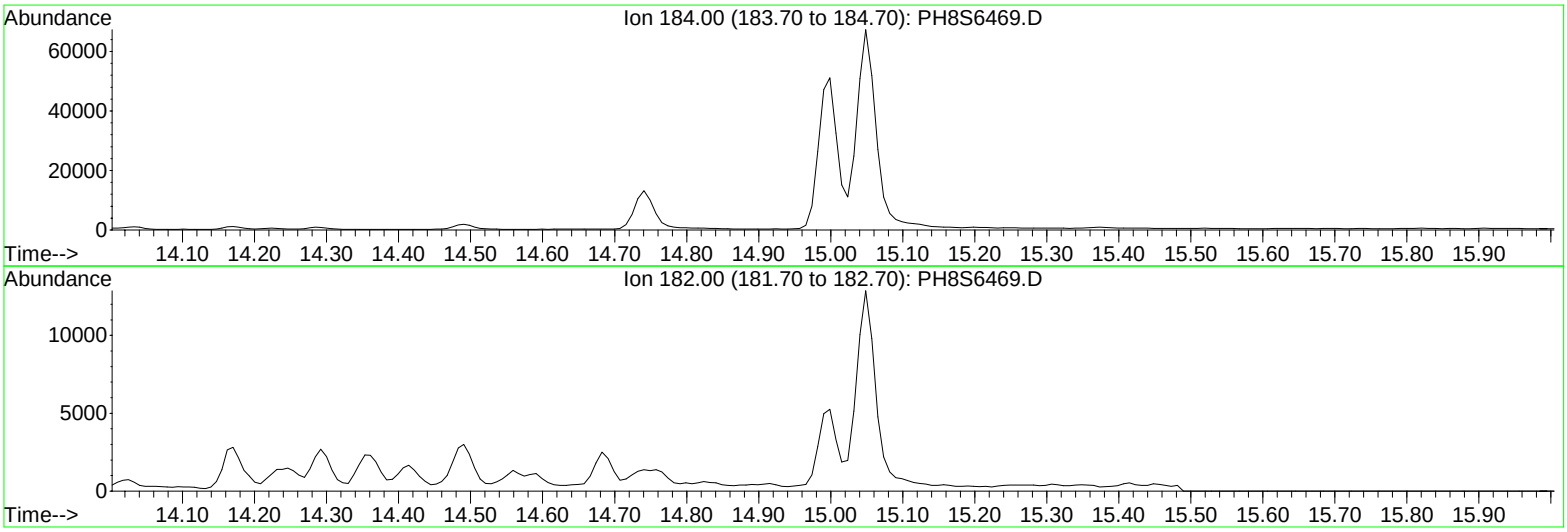
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	828552	18.55	2218.4685	I	0	2218.4685	1815		0.17	1
d10-Phenanthrene - SURR	663691	15	1699.3367	S	47.073	6.8649	2381		0.14	0.808
d12-Benz(a)anthracene - SURR	1080610	21.6	4125.5539	S	101.6146	72.5765	16881		0.23	1.164
d12-Chrysene - SURR	1045860	21.69	3727.6366	S	95.0928	32.8902	8194		0.26	1.169
d12-Benzo(e)pyrene - REC	709244	26.11	2274.7748	I	0	2274.7748	1142		0.25	1
d12-Indeno(123cd)pyrene - SURR	1066708	31.5	4209.5126	S	105.7666	0.7033	158		0.18	1.207
d10-Phenanthrene	663691	15	4065.3153	I	0	4065.3153	2385		0.14	1
13C6-Phenanthrene	120598	15.05	652.7228	T	0	4.8743	901		0.19	1.003
d12-Benz(a)anthracene	1080610	21.6	4572.0721	I	0	4572.0721	18419		0.23	1
d10-Fluoranthene	161851	18.01	502.9375	T	0	3.0104	969		0.16	0.834
d12-Chrysene	1045860	21.69	4414.4144	I	0	4414.4144	9498		0.26	1
13C6-Chrysene	593333	21.75	2233.2022	T	0	1.9244	511		0.31	1.003
d12-Indeno(123cd)pyrene	1066708	31.5	4481.982	I	0	4481.982	169		0.18	1
13C6-Indeno(123cd)pyrene $	2166977	31.58	7282.0271	T	0	4.6174	1374		0.2	1.002

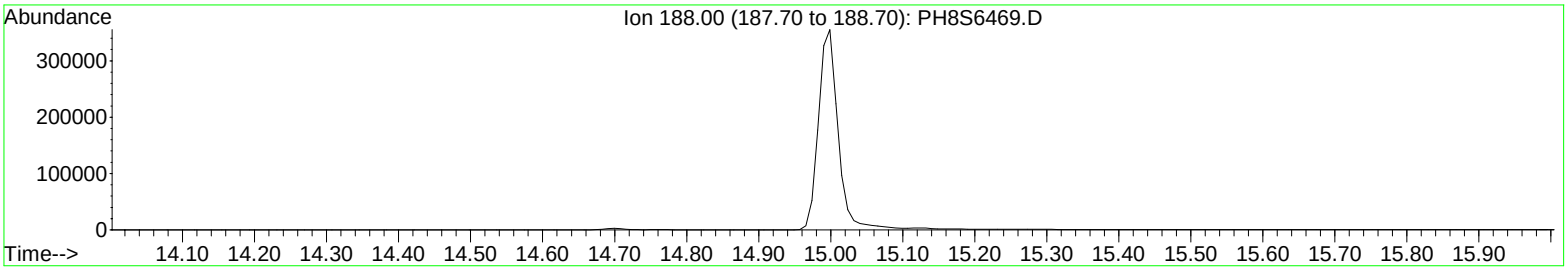
Checked by MW 08-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

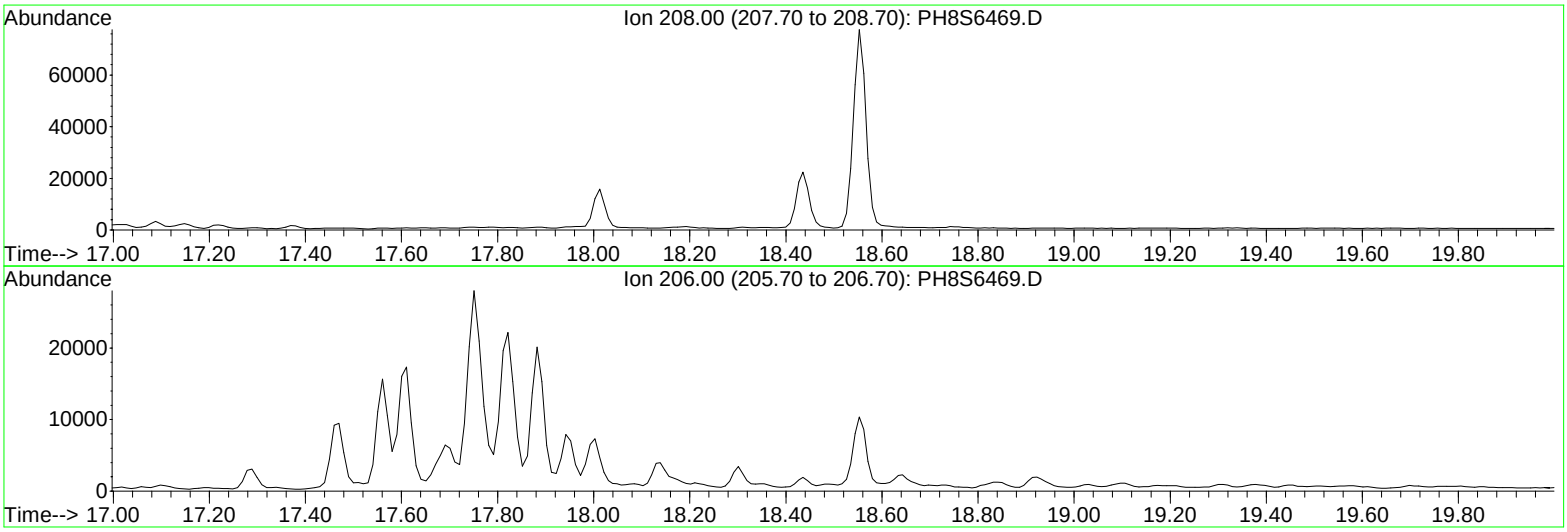


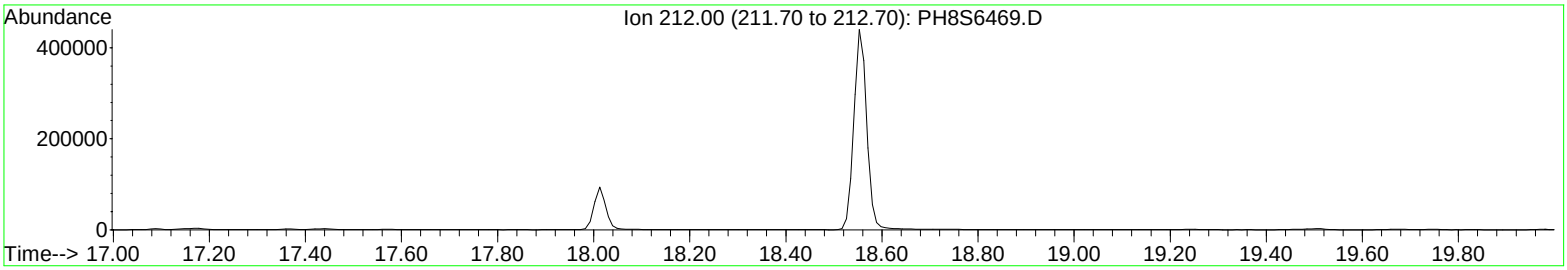


Thu Jan 10 08:56:45 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

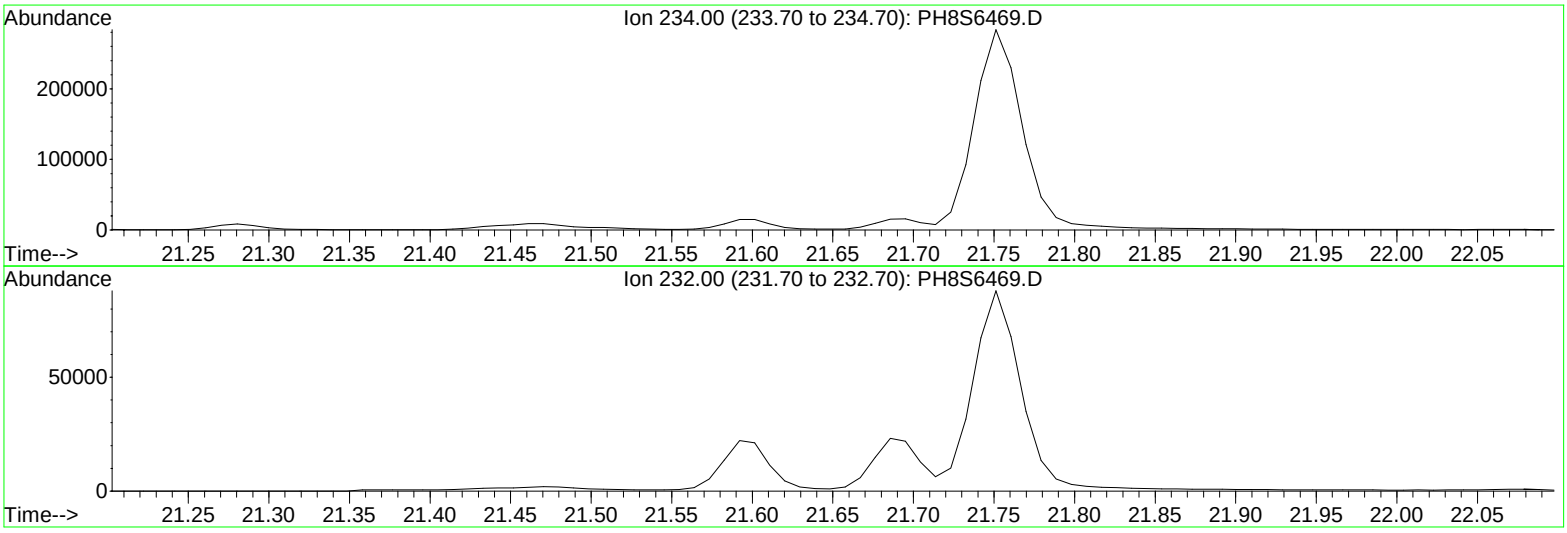


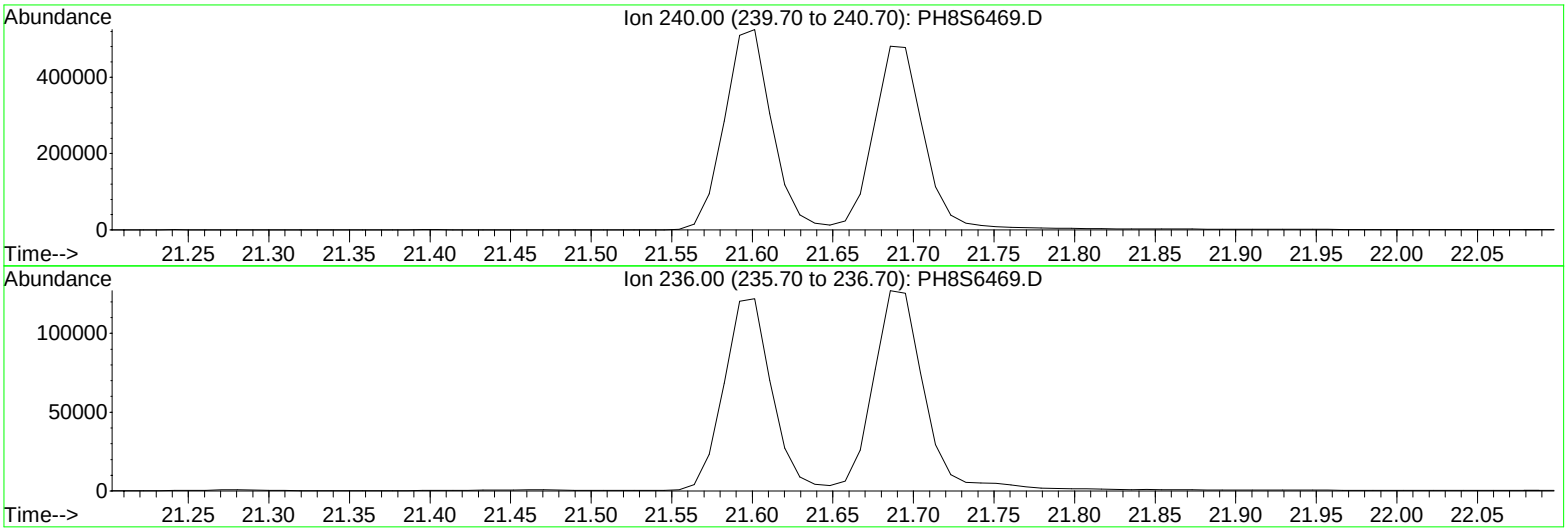


Thu Jan 10 08:56:48 2019

Axys Analytical CHRO Report

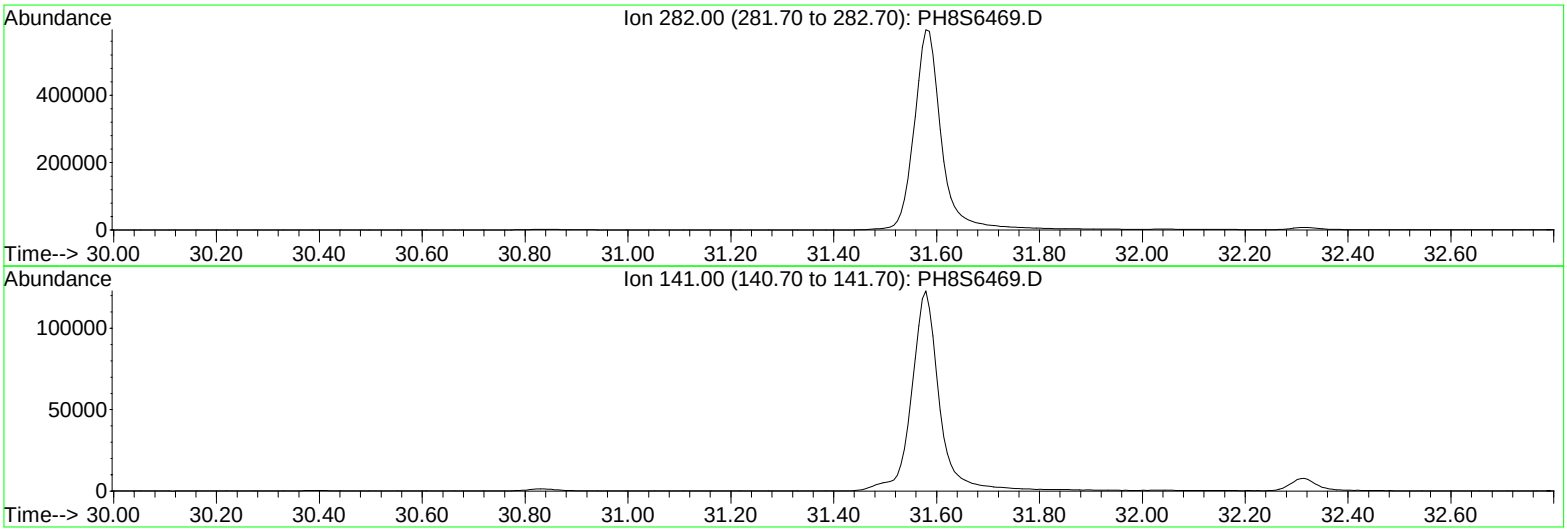
File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

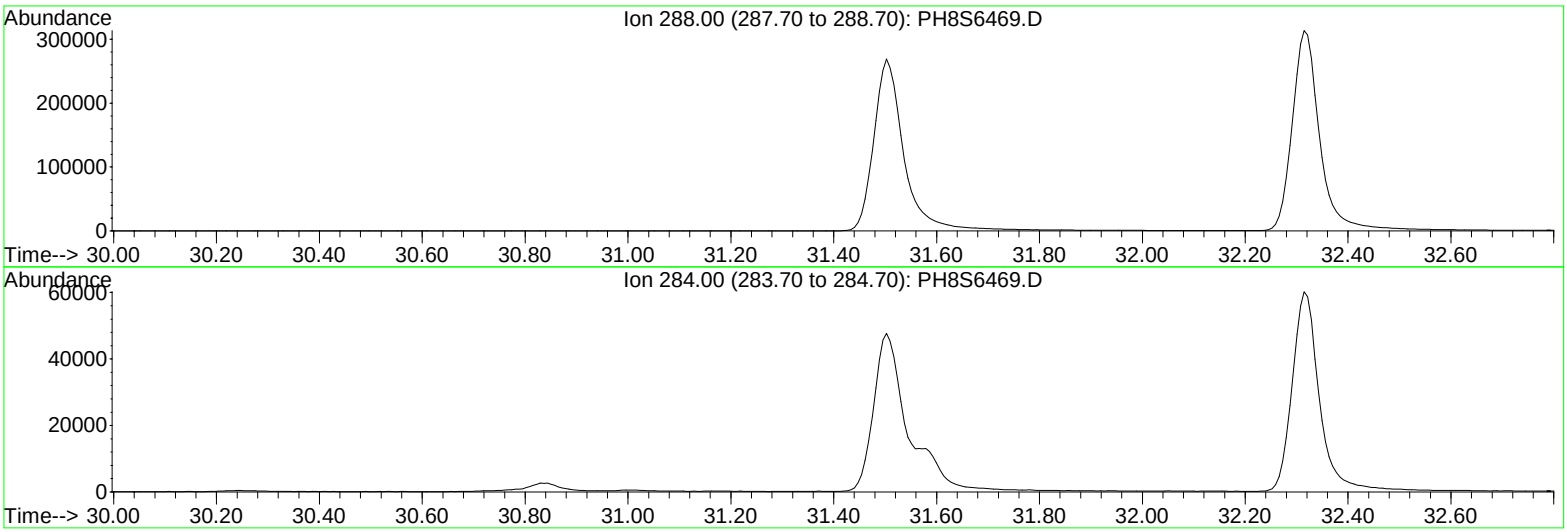




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL

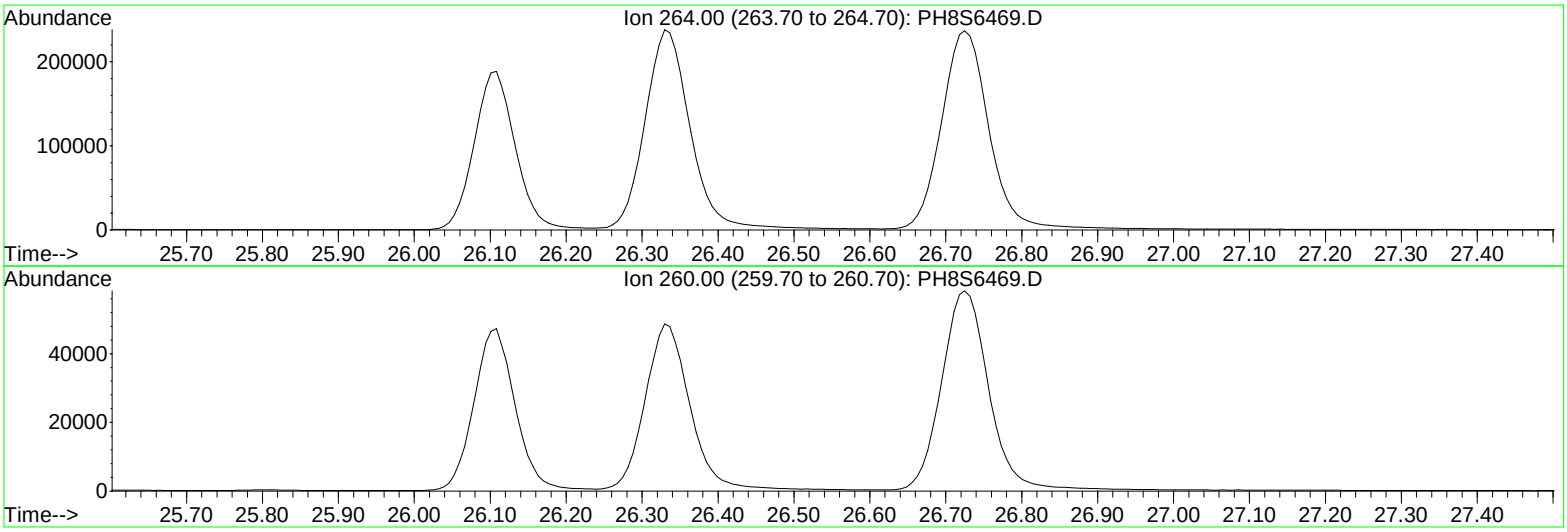




Thu Jan 10 08:56:52 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6469.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 20:07
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-9,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6475.D
29/12/2018 0:31
L30540-10
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6475.D\PH8S6475.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 18
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:39 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D
Analyte List	LPAR	ng/g			
Sample Size	0.097				
Surrogate: Authentic Ratio	0.2				
Recovery: Surrogate Ratio	0.5				
Analyte Calibration Multiplier	1				
Surrogate Calibration Multiplier	1				

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	439751	11.28	4182.1946 I	0	4182.1946	524		0.45	1
d8-Naphthalene - SURR	186692	6.85	286.8165 S	14.3408	0.9434	148		0.09	0.607
d10-2-Methylnaphthalene - SURR	155376	8.52	356.1007 S	18.0762	1.1058	117		0.19	0.755
d10-Biphenyl - SURR	269934	9.8	440.966 S	21.5631	0.4299	64		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	175269	10.1	439.6024 S	21.3918	3.1904	307		0.73	0.896
d8-Acenaphthylene - SURR	362733	10.85	470.5641 S	22.8429	5.2918	985		0.15	0.961
d10-Pyrene - REC	863086	18.55	4078.6749 I	0	4078.6749	1364		0.17	1
d10-Phenanthrene - SURR	556631	15	695.7021 S	38.5431	5.9138	1143		0.13	0.808
d8-Dibenzothiophene - SURR	364532	14.7	512.3146 S	25.1752	10.1784	1749		0.09	0.792
d12-Benz(a)anthracene - SURR	1094570	21.6	1454.7195 S	71.6611	138.7969	25221		0.23	1.164
d12-Chrysene - SURR	1087074	21.69	1382.947 S	70.5585	62.959	11952		0.26	1.169
d12-Benzo(e)pyrene - REC	766231	26.11	4182.1946 I	0	4182.1946	928		0.25	1
d12-Benzo(b)Fluoranthene - SURR	1049162	25	1495.2472 S	75.9009	385.0476	65247		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	1148744	25.11	1482.2755 S	74.1138	114.6329	21455		0.19	0.962
d12-Benzo(a)pyrene - SURR	985554	26.33	1484.5634 S	71.718	12311.8841	1973890		0.2	1.008
d12-Perylene - SURR	1025015	26.72	1548.5542 S	72.0258	196.6708	31438		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	1126945	31.5	1676.0843 S	84.2253	2.1344	347		0.17	1.207
d12-Benzo(ghi)perylene - SURR	1213646	32.32	1517.6527 S	76.6491	17.1935	3320		0.19	1.238
d8-Naphthalene	186692	6.85	4140.7867 I	0	4140.7867	162		0.09	1
Naphthalene $	1214	6.9	22.4974 T	0	4.3857	237		0.06	1.006
d10-2-Methylnaphthalene	155376	8.52	4078.6749 I	0	4078.6749	126		0.19	1
2-Methylnaphthalene $	494	8.6	10.7173 T	0	4.4635	206		1.07	1.009
1-Methylnaphthalene	401	8.86	9.2143 T	0	4.7275	206		0.99	1.04
C1-Naphthalenes	556	8.6	0 T	0	0	772		-1	1.009
d10-Biphenyl	269934	9.8	4233.9545 I	0	4233.9545	66		-1	1
Biphenyl $	821	9.85	11.5921 T	0	3.2077	227		0.28	1.005
C1-Biphenyls $	562	11.33	7.9351 T	0	1.9559	139		0.16	1.157
C2-Biphenyls $	1862	12.7	26.2904 T	0	6.1807	438		0.19	1.296
d12-2,6-Dimethylnaphthalene	175269	10.1	4254.6584 I	0	4254.6584	314		0.73	1
2,6-Dimethylnaphthalene $	555	10.22	11.1397 T	0	5.1053	254		0.73	1.011
Ethyl/DiMe-Naphthalenes	555	10.22	12.3128 T	0	5.643	254		0.73	1.011
1,2-Dimethylnaphthalene	35597	10.84	882.8666 T	0	6.3084	254	#	0	1.073
C2-Naphthalenes	555	10.22	0 T	0	0	1191		-1	1.011
2,3,6-Trimethylnaphthalene	1438	12.16	28.5534 T	0	2.0417	103		0.8	1.204
2,3,5-Trimethylnaphthalene $	1645	12.36	34.4224 T	0	2.1517	103		0.88	1.223
C3-Naphthalenes	1645	12.36	33.5196 T	0	2.0952	103		0.66	1.223
1,4,6,7-Tetramethylnaphthalene $	1832	13.92	36.3616 T	0	22.5569	1136	#	0.08	1.377
C4-Naphthalenes	1832	13.92	36.3616 T	0	22.5569	1136		0.08	1.377
d8-Acenaphthylene	362733	10.85	4265.0104 I	0	4265.0104	1030		0.15	1
Acenaphthylene $	2728	10.88	26.3982 T	0	2.7863	288		0.2	1.003
Acenaphthene $	7772	11.36	136.0796 T	0	1.3573	78		1.18	1.047
C1-Acenaphthenes $	429	11.72	7.5113 T	0	7.9501	454		0.14	1.08
d8-Dibenzothiophene	364532	14.7	4213.2505 I	0	4213.2505	1816		0.09	1
Dibenzothiophene $	7230	14.74	69.9028 T	0	1.8725	194		0.08	1.003
C1-Dibenzothiophenes-1	2633	15.88	37.1023 T	0	11.6839	829	#	0.38	1.08
2/3-Methyldibenzothiophenes $	698	16.09	9.8357 T	0	11.6839	829	#	1.18	1.095
C1-Dibenzothiophenes-2	1082	16.35	15.2468 T	0	11.6839	829	#	1.4	1.113
C1-Dibenzothiophenes	698	16.09	0 T	0	0	829		-1	1.095
4,6-Dimethyldibenzothiophene	4161	16.94	54.711 T	0	19.5763	1489	#	0.23	1.152

+ Report only.

PH8S6475

Checked by VR 08-Jan-19

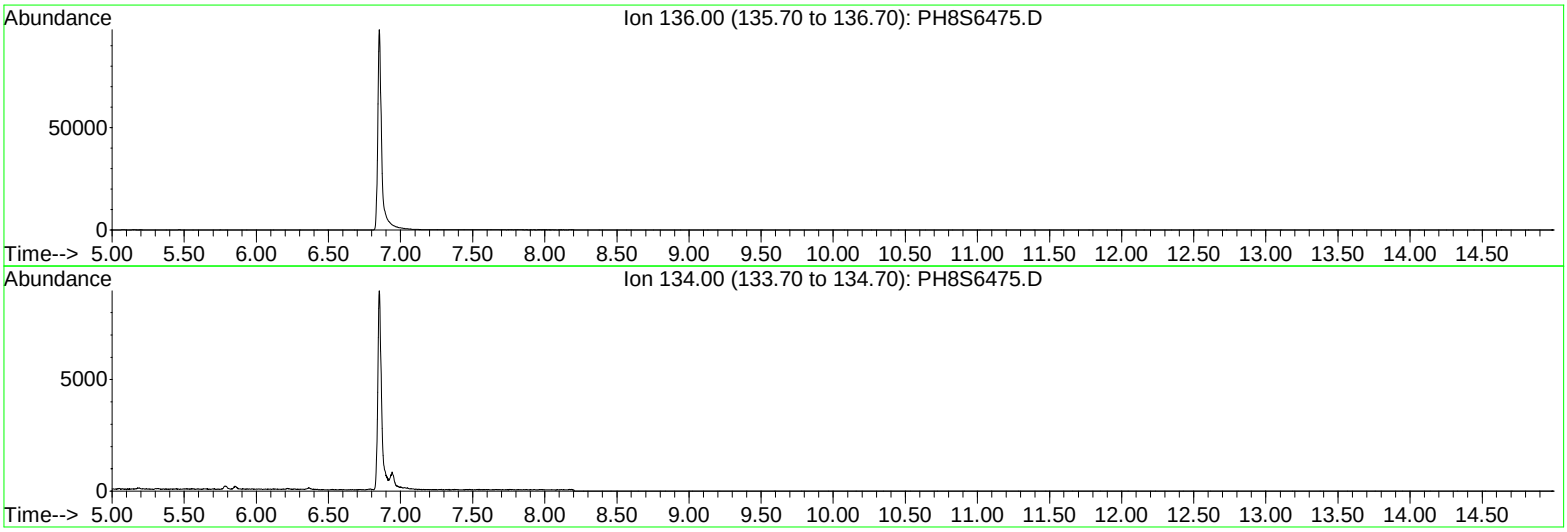
pv by vr
03-Jan-2019

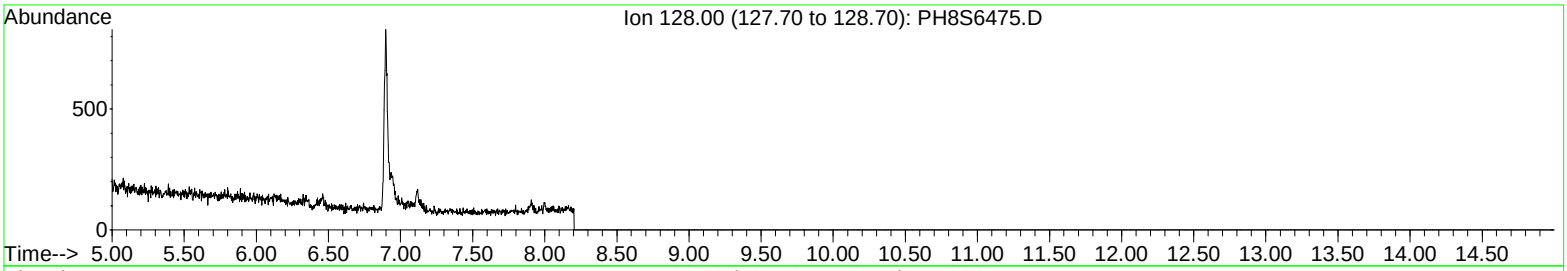
2,4-Dimethyldibenzothiophene $	1566	17.09	26.6618 T	0	25.3484	1489 #	0.93	1.163
C2-Dibenzothiophenes	1566	17.09	26.6618 T	0	25.3484	1489	0.93	1.163
C3-Dibenzothiophenes $	5241	18.09	89.2301 T	0	136.1186	7995	0.73	1.231
C4-Dibenzothiophenes $	546	18.81	9.2959 T	0	28.0275	1646 #	-1	1.28
d10-Phenanthrene	556631	15	3737.06 I	0	3737.06	1121	0.13	1
Fluorene $	9537	12.66	89.5899 T	0	1.0742	114	0.98	0.844
2-Methylfluorene $	673	14.06	9.2969 T	0	72.2696	5232 #	4.12	0.938
C1-Fluorenes	673	14.06	9.2969 T	0	72.2696	5232	4.12	0.938
1,7-Dimethylfluorene $	4906	15.47	72.8737 T	0	98.0923	6604	0.09	1.032
C2-Fluorenes	4906	15.47	72.8737 T	0	98.0923	6604	0.09	1.032
C3-Fluorenes $	711	16.41	10.5612 T	0	205.1021	13808 #	-1	1.094
Phenanthrene $	17124	15.05	107.4855 T	0	4.0555	646	0.19	1.003
Anthracene	18808	15.17	116.664 T	0	4.0076	646	0.19	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	7451	16.31	66.2933 T	0	3.1031	349	0.66	1.088
2-Methylphenanthrene	2633	16.38	23.7372 T	0	3.1443	349 #	0.47	1.092
2-Methylanthracene	4467	16.48	41.4908 T	0	3.2395	349	0.58	1.099
9/4-Methylphenanthrenes	9666	16.6	86.0007 T	0	3.1031	349 #	1.13	1.107
1-Methylphenanthrene $	5709	16.64	48.1402 T	0	2.941	349	0.68	1.11
C1-Phenanthrenes/Anthracenes	5709	16.64	0 T	0	0	3894	-1	1.11
Fluoranthene $	368292	18.06	1881.8915 T	0	2.6002	509	0.21	1.204
Pyrene	402216	18.6	1987.7927 T	0	2.5148	509	0.2	1.24
3,6-Dimethylphenanthrene $	8993	17.47	83.0926 T	0	98.2081	10629 #	0.74	1.165
2,6-Dimethylphenanthrene	5088	17.56	46.9252 T	0	98.0275	10629 #	0.5	1.171
1,7-Dimethylphenanthrene	5577	17.88	51.3412 T	0	97.8487	10629 #	-1	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	8993	17.47	82.9399 T	0	98.0275	10629	0.74	1.165
1,8-Dimethylphenanthrene	3464	18.14	31.9475 T	0	98.0275	10629 #	0.48	1.209
C2-Phenanthrenes/Anthracenes	8993	17.47	0 T	0	0	10629	-1	1.165
1,2,6-Trimethylphenanthrene $	4992	19.38	50.0936 T	0	55.3089	5512 #	0.86	1.292
C3-Phenanthrenes/Anthracenes	4992	19.38	50.0936 T	0	55.3089	5512	0.86	1.292
Retene $	9040	19.51	237.409 T	0	159.9147	6089 #	1.09	1.301
C4-Phenanthrenes/Anthracenes	9040	19.51	237.409 T	0	159.9147	6089	1.09	1.301
C1-Fluoranthenes/Pyrenes-1	23847	19.24	204.9705 T	0	865.3209	100675	1.02	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	61325	19.51	527.1025 T	0	865.3209	100675	0.95	1.301
C1-Fluoranthenes/Pyrenes-2	45347	19.98	389.7679 T	0	865.3209	100675	0.5	1.332
C1-Fluoranthenes/Pyrenes	61325	19.51	0 T	0	0	100675	-1	1.301
C2-Fluoranthenes/Pyrenes $	2361	20.46	20.2933 T	0	150.134	17467	0.21	1.364
C3-Fluoranthenes/Pyrenes $	2280	21.93	19.5971 T	0	139.8629	16272 #	-1	1.462
C4-Fluoranthenes/Pyrenes $	4360	23.15	37.4752 T	0	24.1296	2807	0.47	1.543
d12-Benz(a)anthracene	1094570	21.6	4202.8986 I	0	4202.8986	26955	0.23	1
d10-Fluoranthene $	98640	18.01	348.8499 T	0	1.212	343	0.16	0.834
† Benz(a)anthracene	81785	21.65	243.0854 T	0	1.4445	486	0.27	1.002
d12-Chrysene	1087074	21.69	4057.971 I	0	4057.971	13362	0.26	1
† Chrysene $	108401	21.74	327.8102 T	0	1.5375	508	0.32	1.002 0.31
5/6-Methylchrysenes $	5551	23.1	22.2295 T	0	373.3665	93235	-1	1.065
1-Methylchrysene	10880	23.27	42.057 T	0	360.4017	93235	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	5551	23.1	21.8368 T	0	366.7702	93235	-1	1.065
5,9-Dimethylchrysene $	11900	24.41	61.556 T	0	98.587	19059	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	11900	24.41	61.556 T	0	98.587	19059	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	813	25.04	4.2055 T	0	8.8337	1708	-1	1.154
C4-Benz(a)anthracenes/Chrysenes $	93	26.1	0.4811 T	0	2.6973	521	-1	1.203
d12-Benzo(b)fluoranthene	1049162	25	4078.6749 I	0	4078.6749	58461	0.21	1
Benzo(b)fluoranthene-SURR int	2500	25	0 T	0	0	9186	0.39	1
† Benzo(b)fluoranthene $	117037	25.09	314.2358 T	0	2.0172	751	0.23	1.004
d12-Benzo(k)fluoranthene	1148744	25.11	4140.7867 I	0	4140.7867	19770	0.19	1
† Benzo(j/k)fluoranthenes	84626	25.17	241.7558 T	0	2.2073	773	0.22	1.002
Benzofluoranthenes	113020	25.09	0 T	0	0	9447	-1	0.999
d12-Benzo(a)pyrene	985554	26.33	4285.7143 I	0	4285.7143	2130600	0.2	1
Benzo(e)pyrene	99349	26.22	311.3206 T	0	2.8361	905	0.21	0.996
† Benzo(a)pyrene	46194	26.44	153.3584 T	0	3.0047	905	0.18	1.004
7-Methylbenzo(a)pyrene $	3537	29.19	16.4969 T	0	16.2663	3488	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	3537	29.19	16.4969 T	0	16.2663	3488	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	75	29.93	0.3498 T	0	15.816	3391	-1	1.137
d12-Perylene	1025015	26.72	4451.3458 I	0	4451.3458	34421	0.25	1
Perylene	106380	26.84	335.0364 T	0	2.8913	918	0.22	1.004
d12-Indeno(123cd)pyrene	1126945	31.5	4120.0828 I	0	4120.0828	362	0.17	1
d14-Dibenzo(ah)anthracene $	11828	31.63	47.2693 T	0	1.8193	455 #	1.29	1.004
† Dibenzo(ah)anthracene $	6826	31.72	21.9215 T	0	2.774	864	0.2	1.007
† Indeno(123cd)pyrene $	25832	31.59	77.1781 T	0	1.1857	397 #	1.39	1.003 0.22
d12-Benzo(ghi)perylene	1213646	32.32	4099.3789 I	0	4099.3789	3284	0.19	1
Benzo(ghi)perylene	46538	32.4	131.6302 T	0	1.0634	376	0.21	1.002

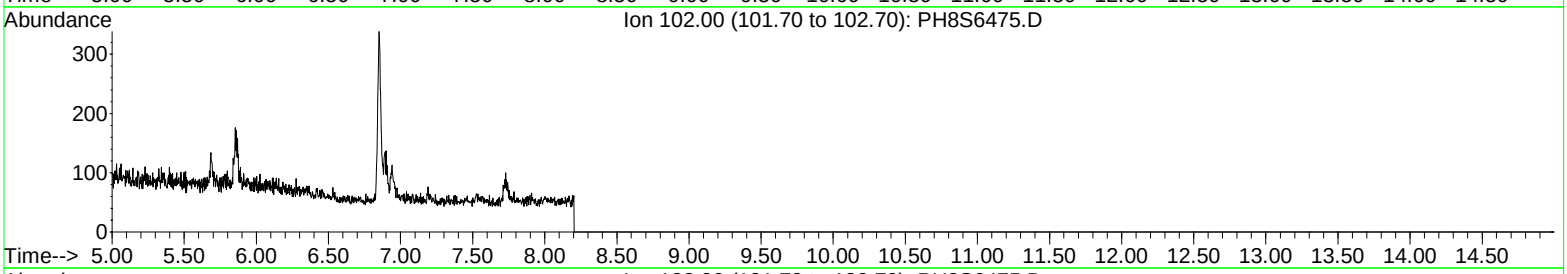
pv by vr
03-Jan-2019

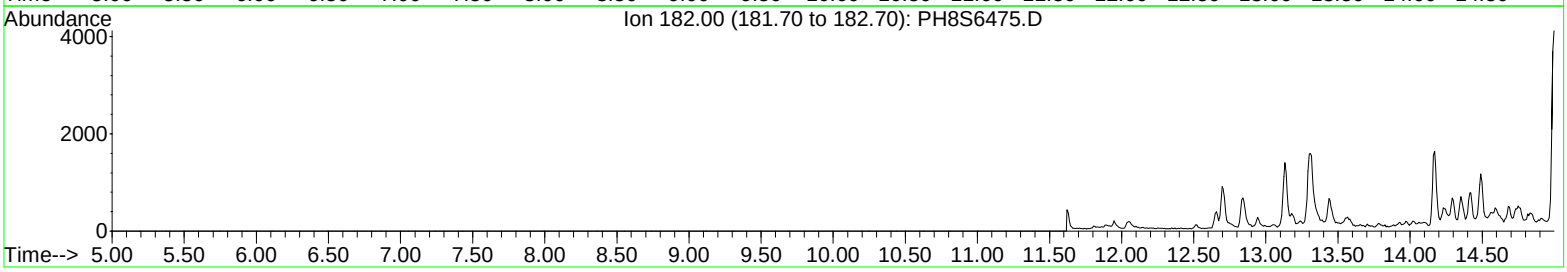
Axys Analytical CHRO Report

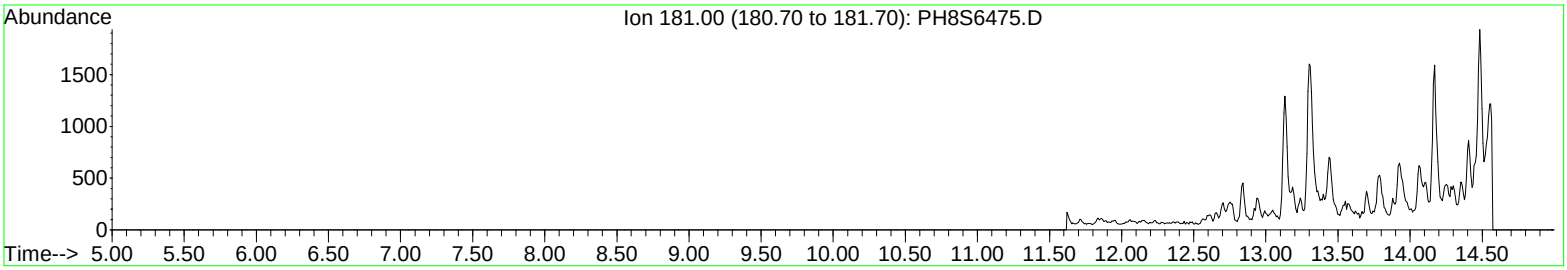
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL







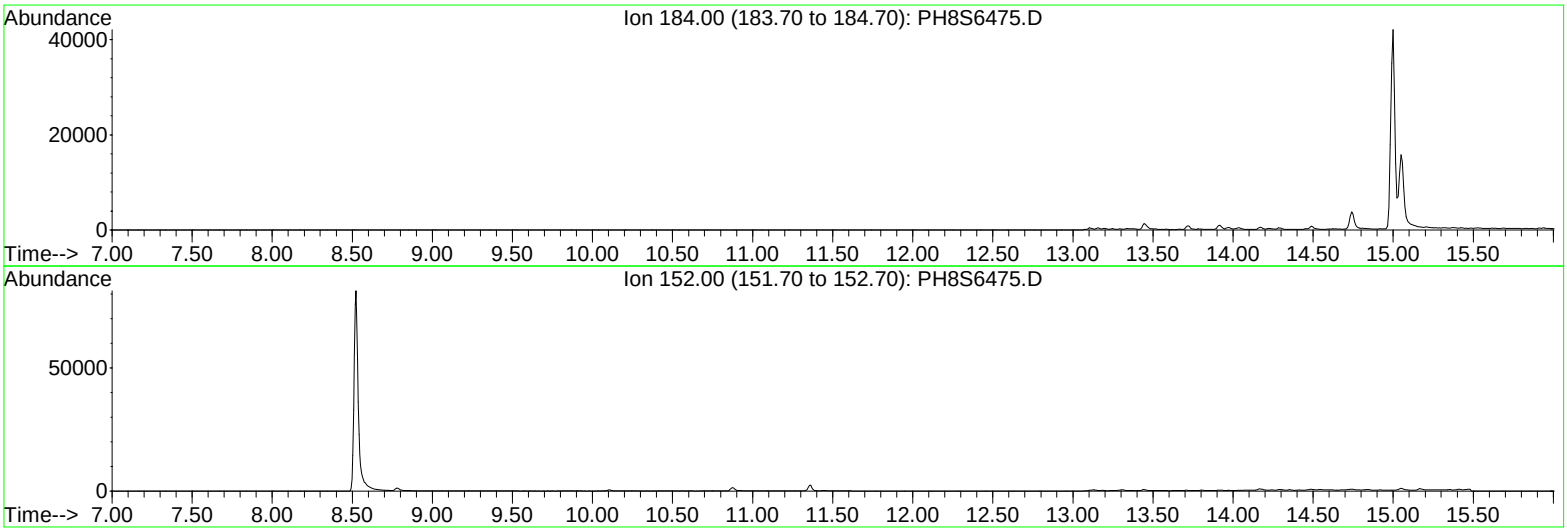


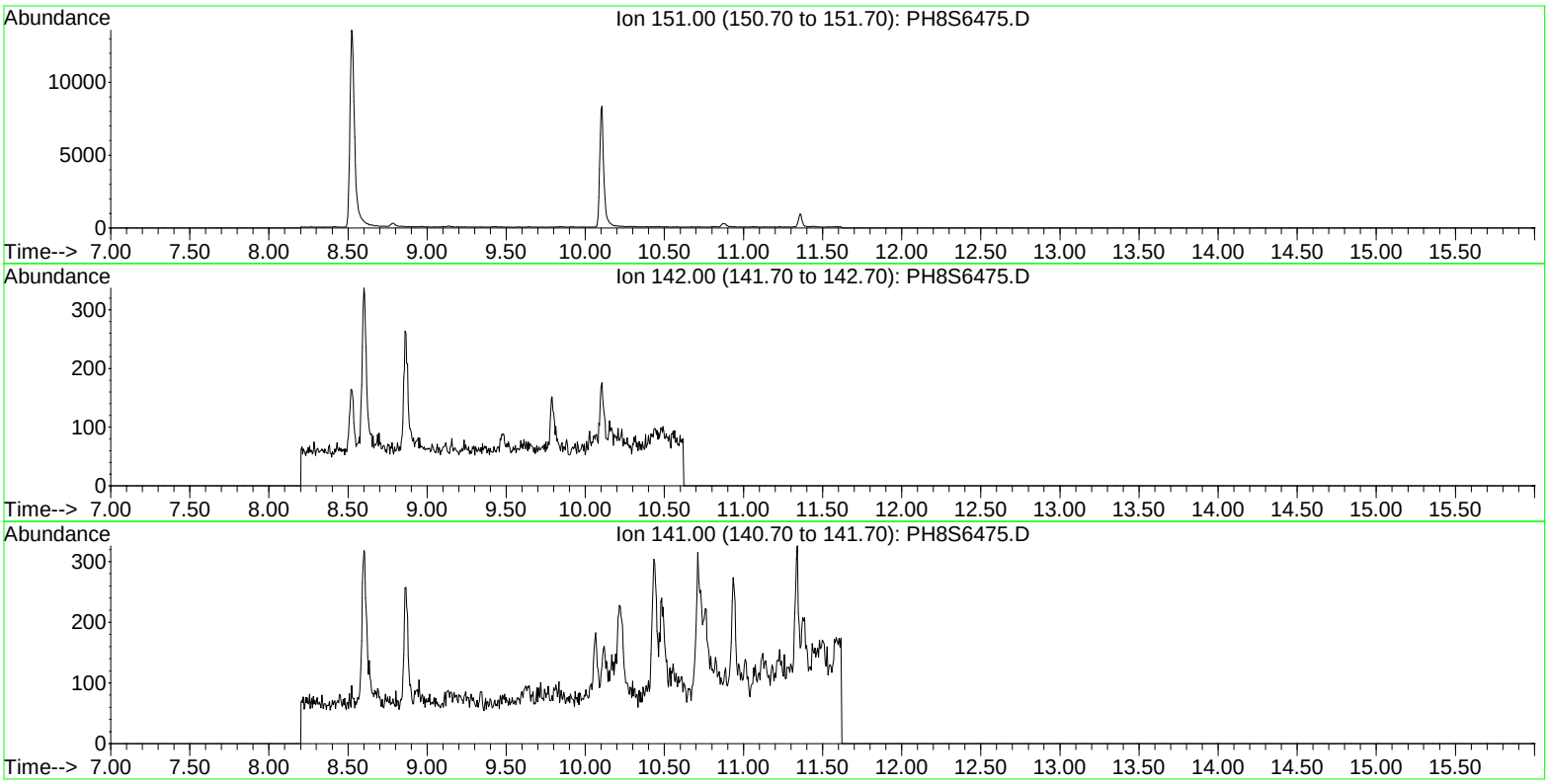


Thu Jan 10 08:44:33 2019

Axys Analytical CHRO Report

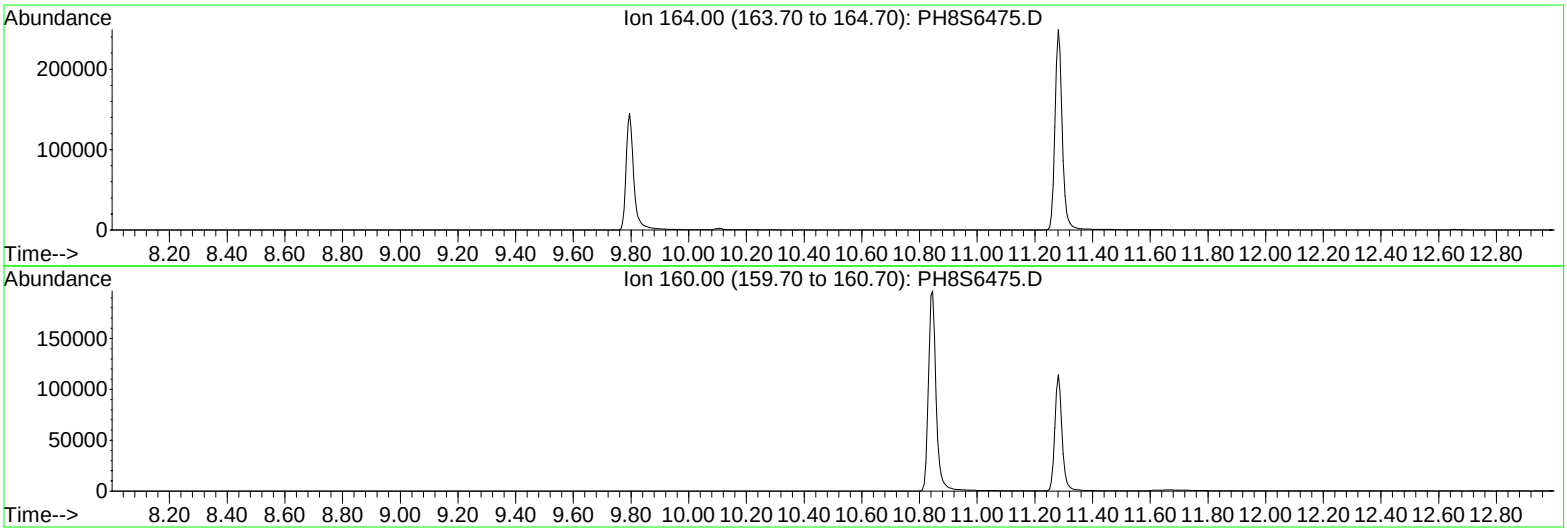
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

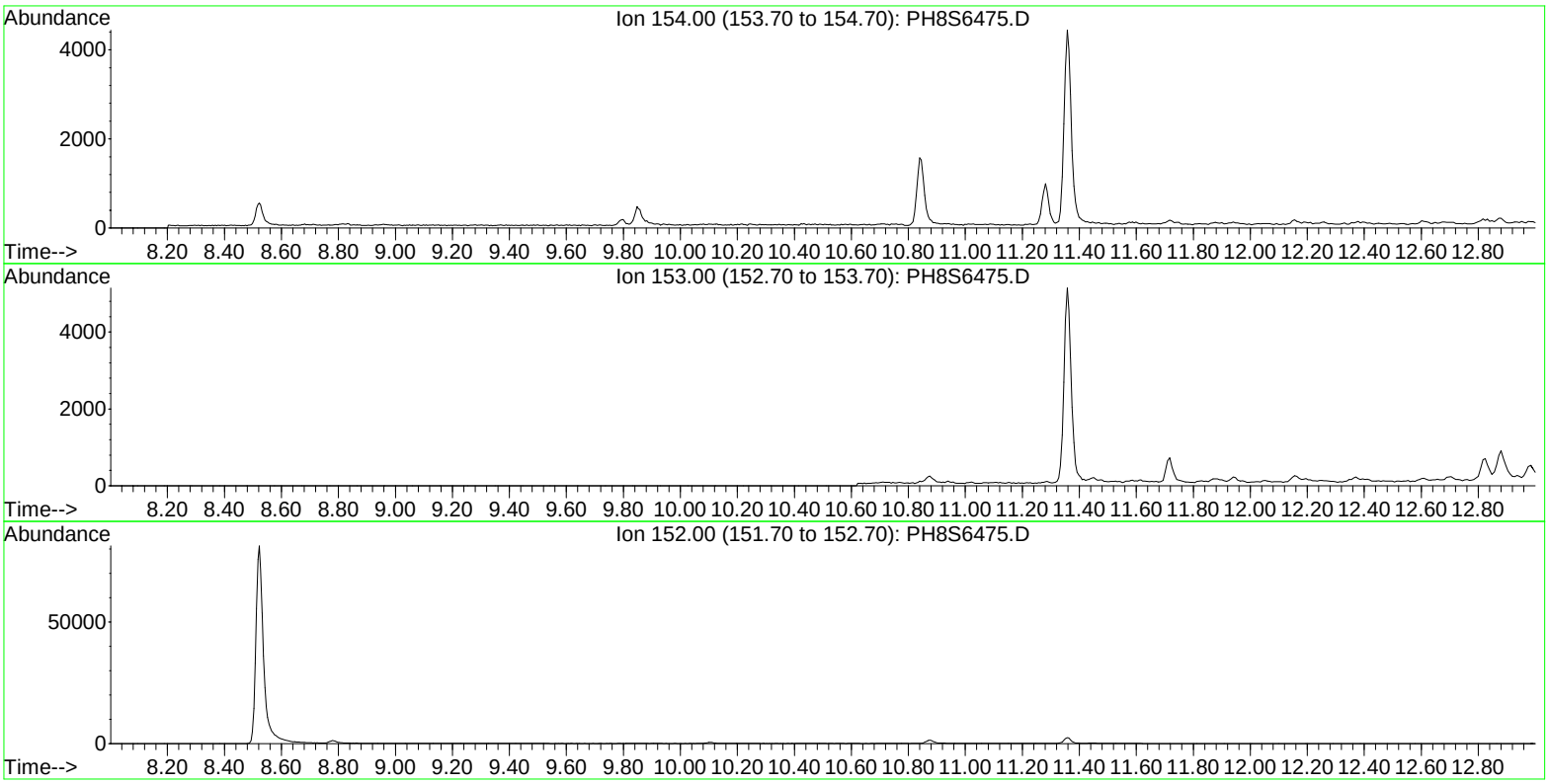




Axys Analytical CHRO Report

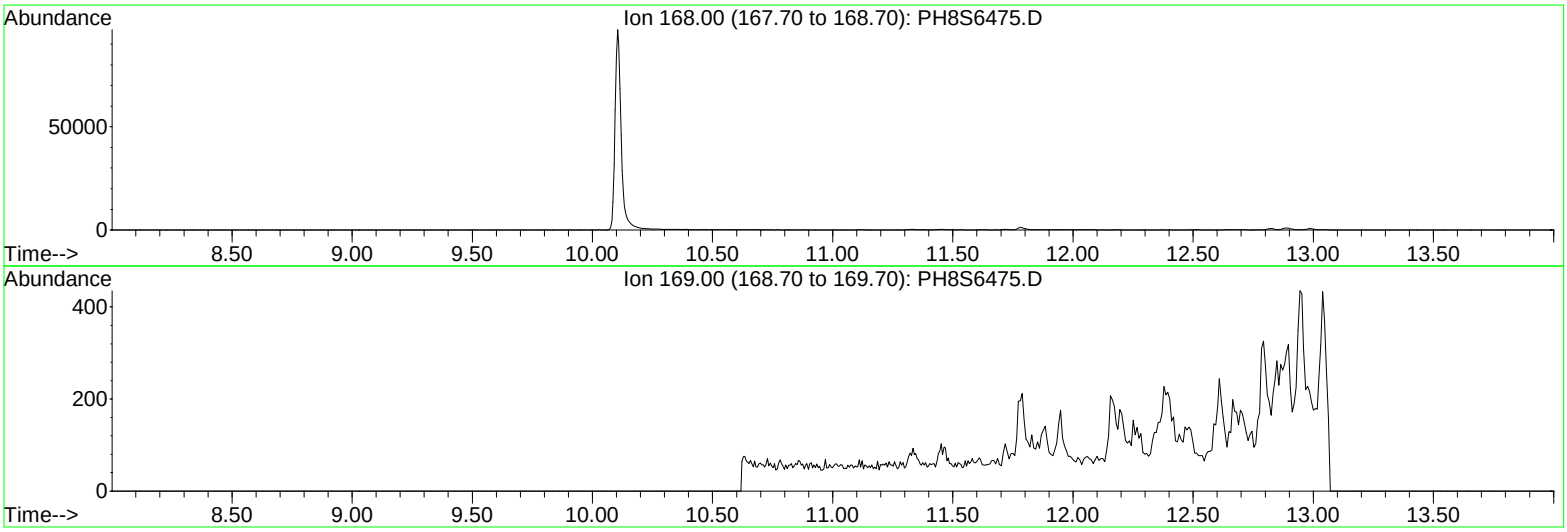
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

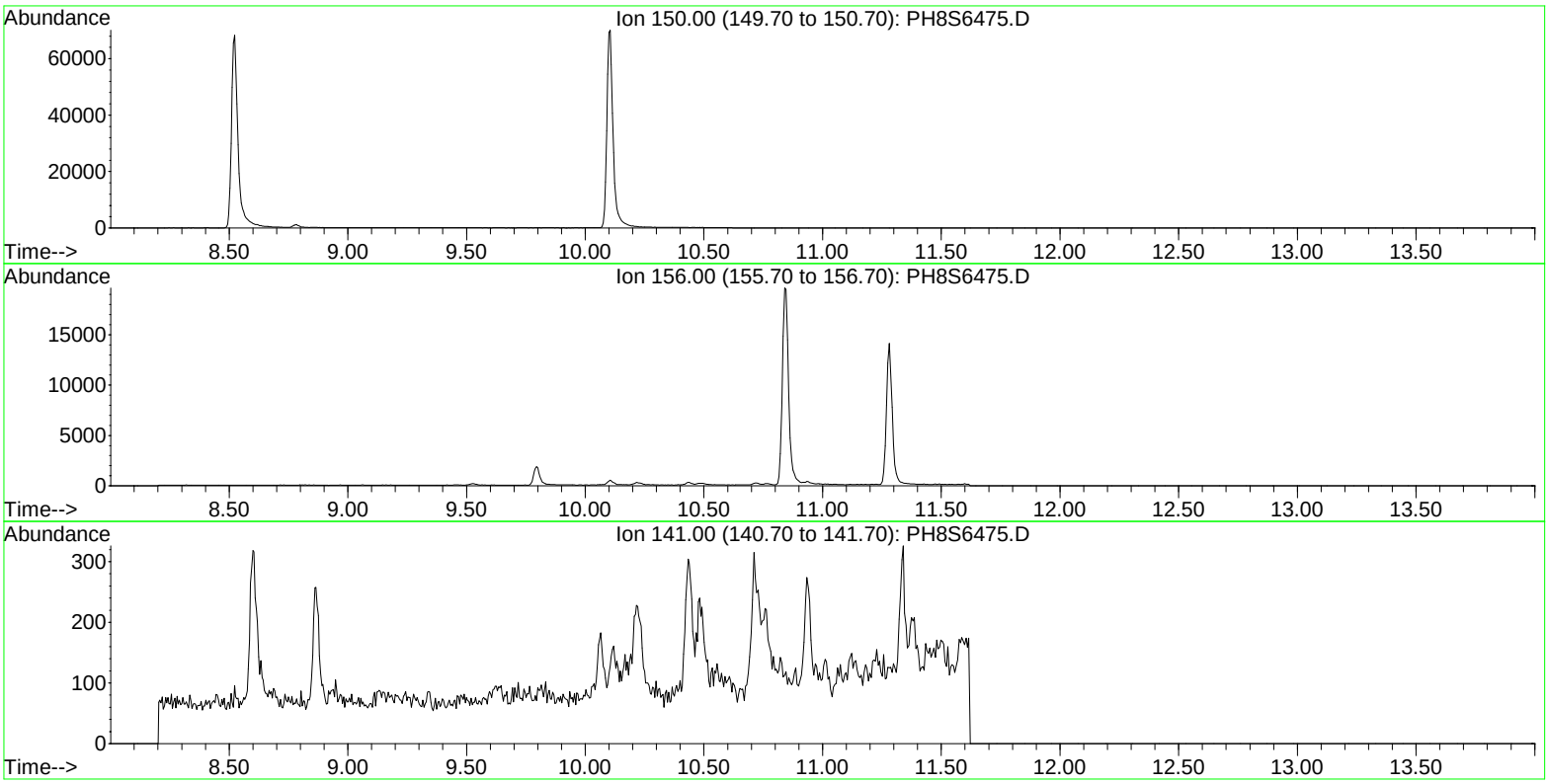




Axys Analytical CHRO Report

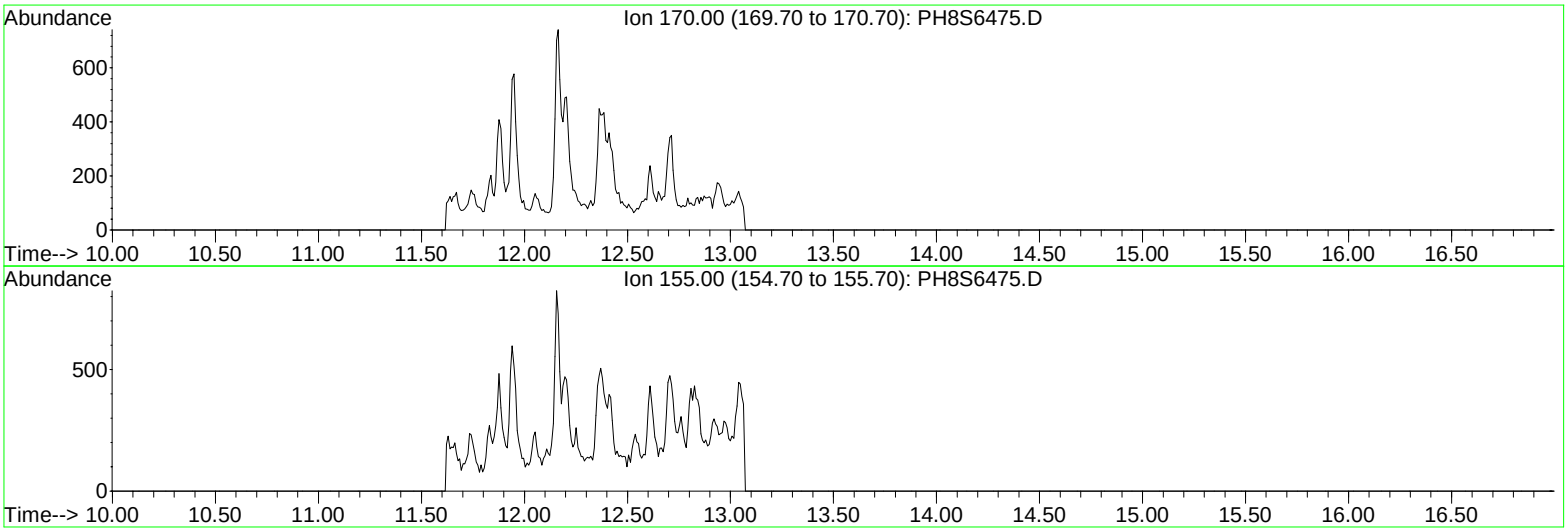
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

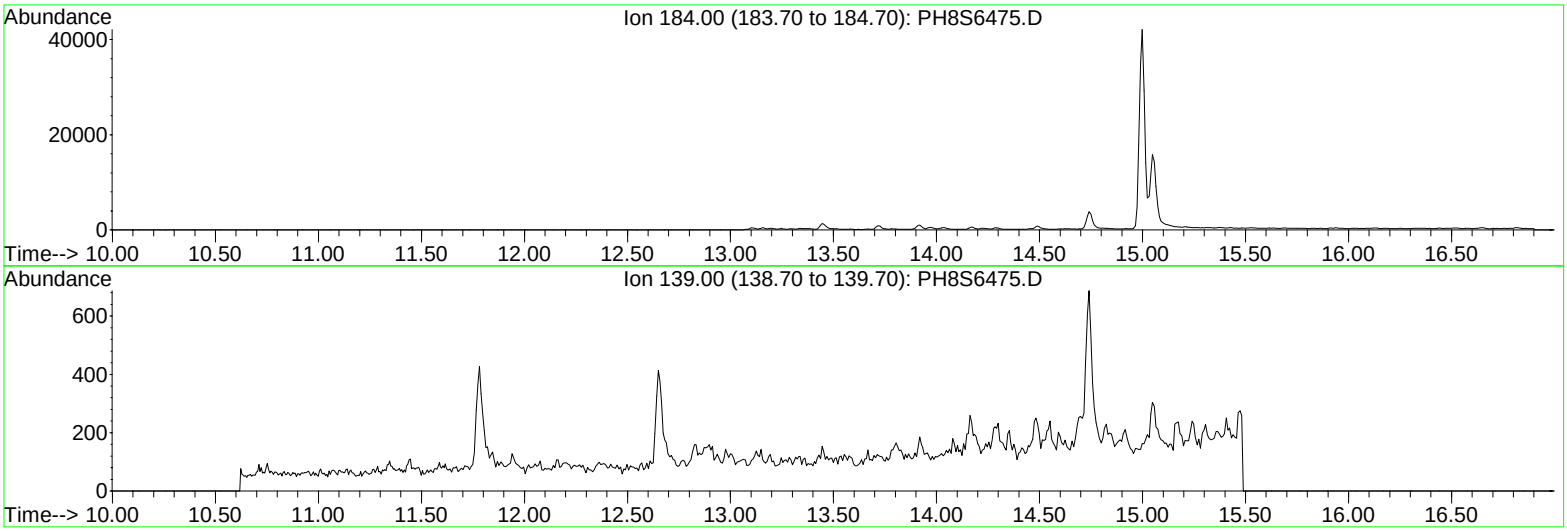




Axys Analytical CHRO Report

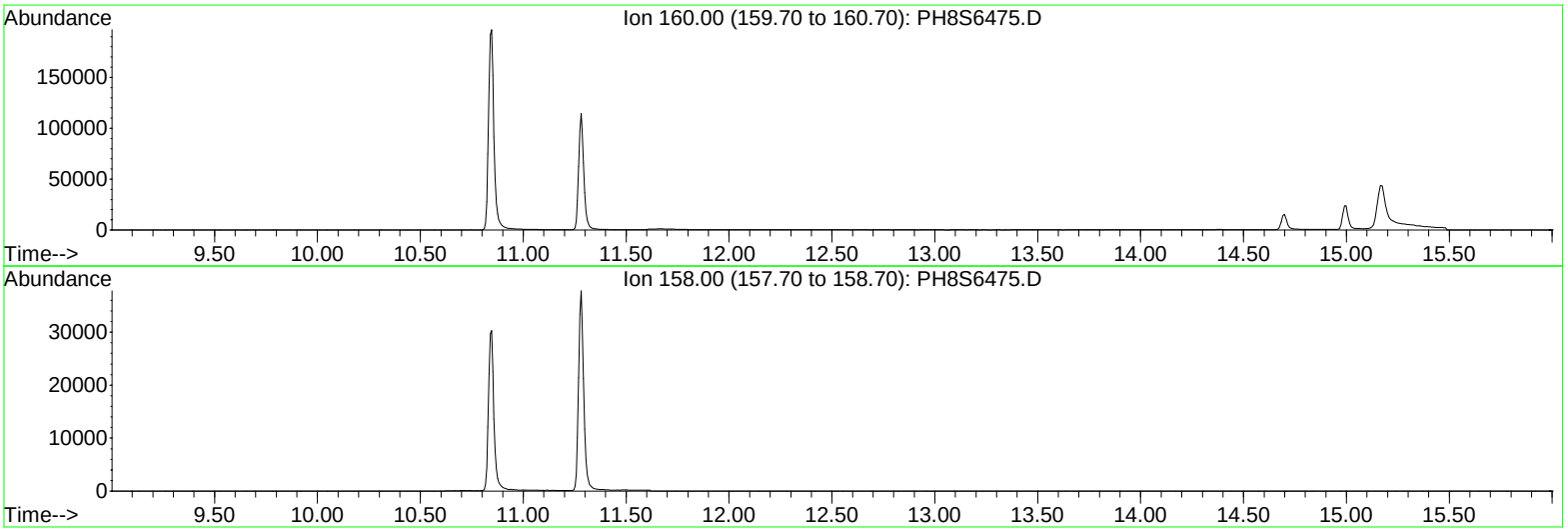
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

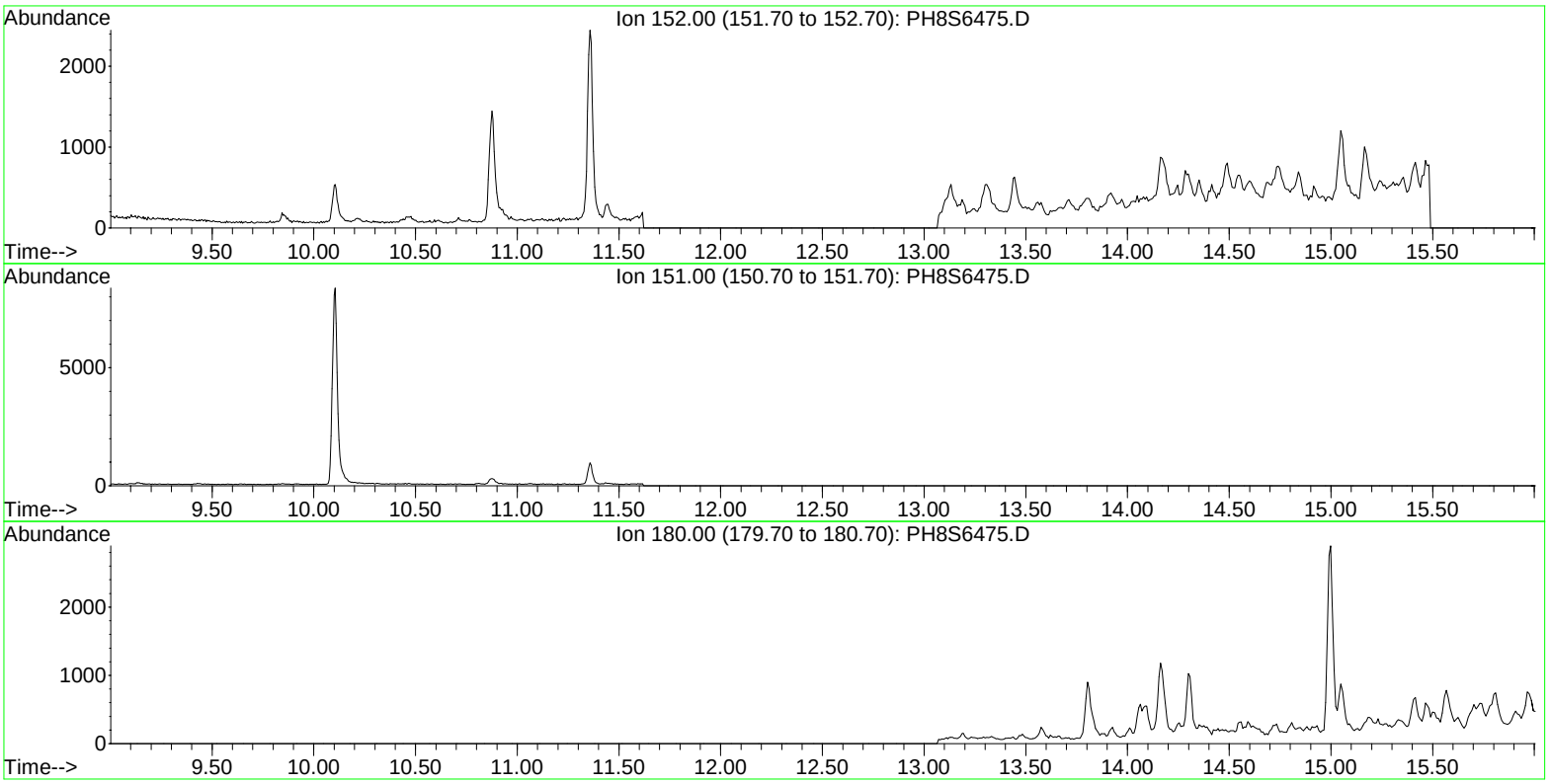


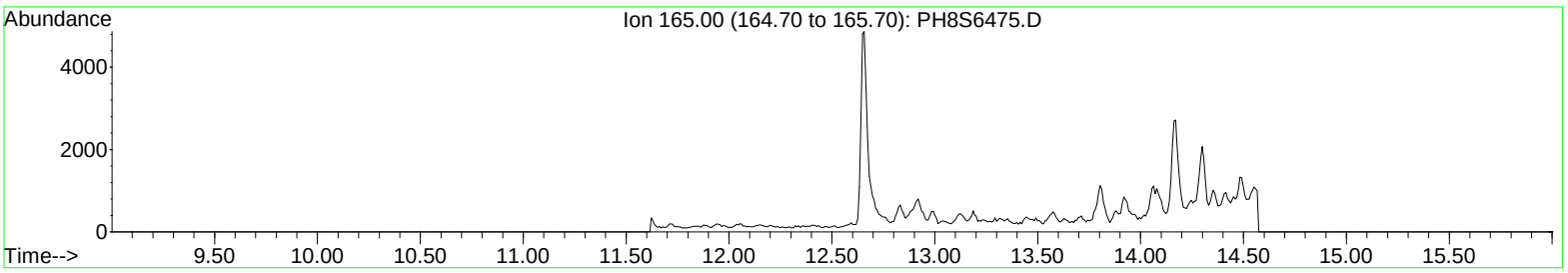


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



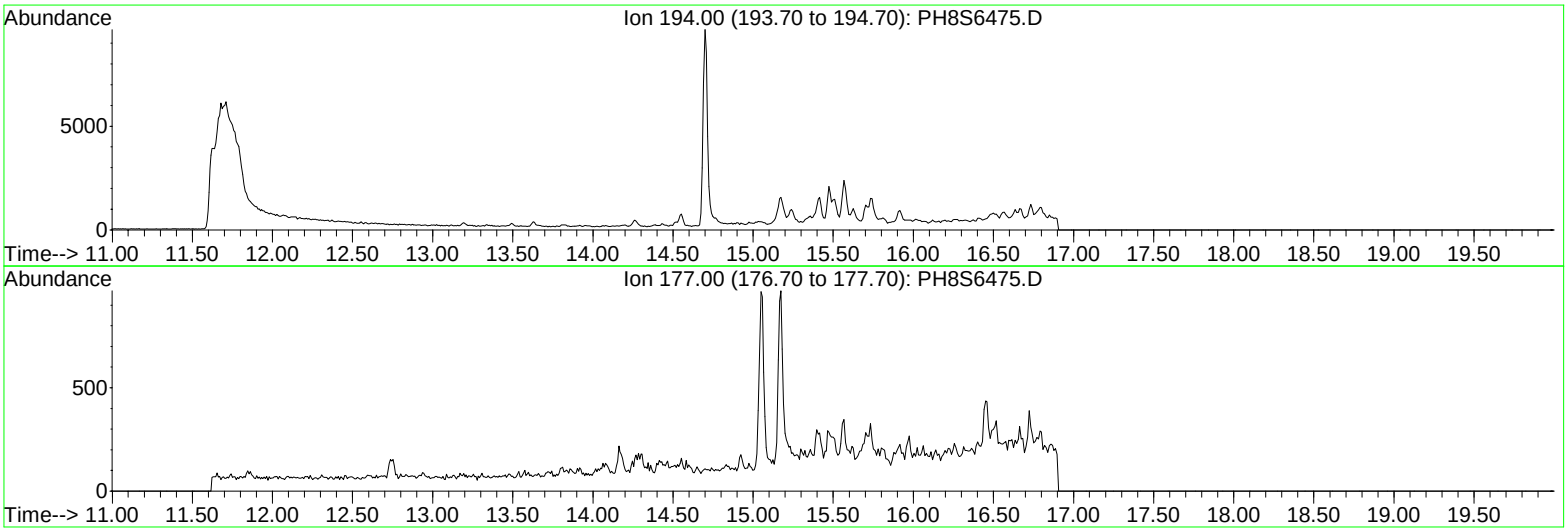


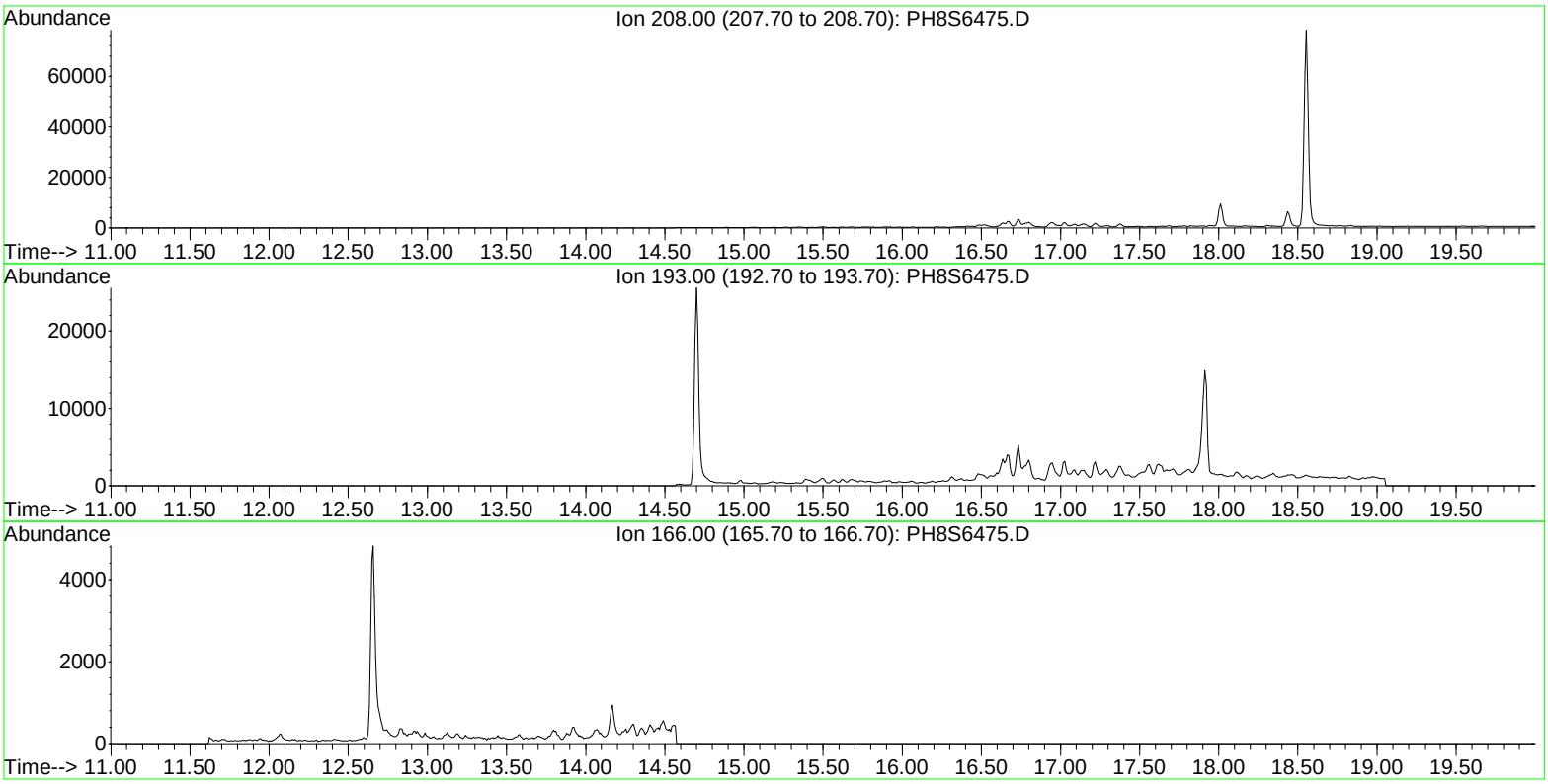


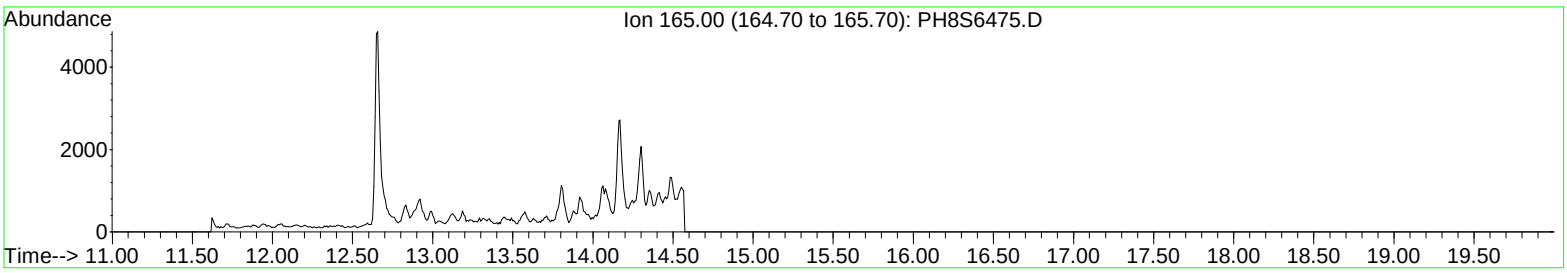
Thu Jan 10 08:44:46 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



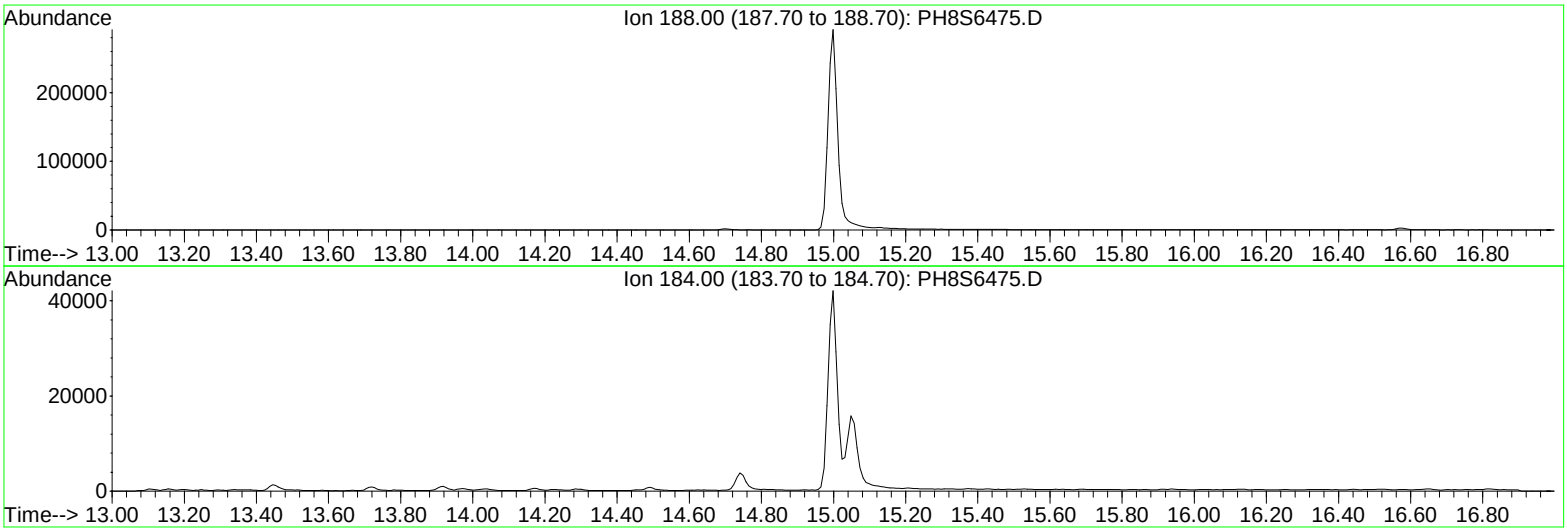


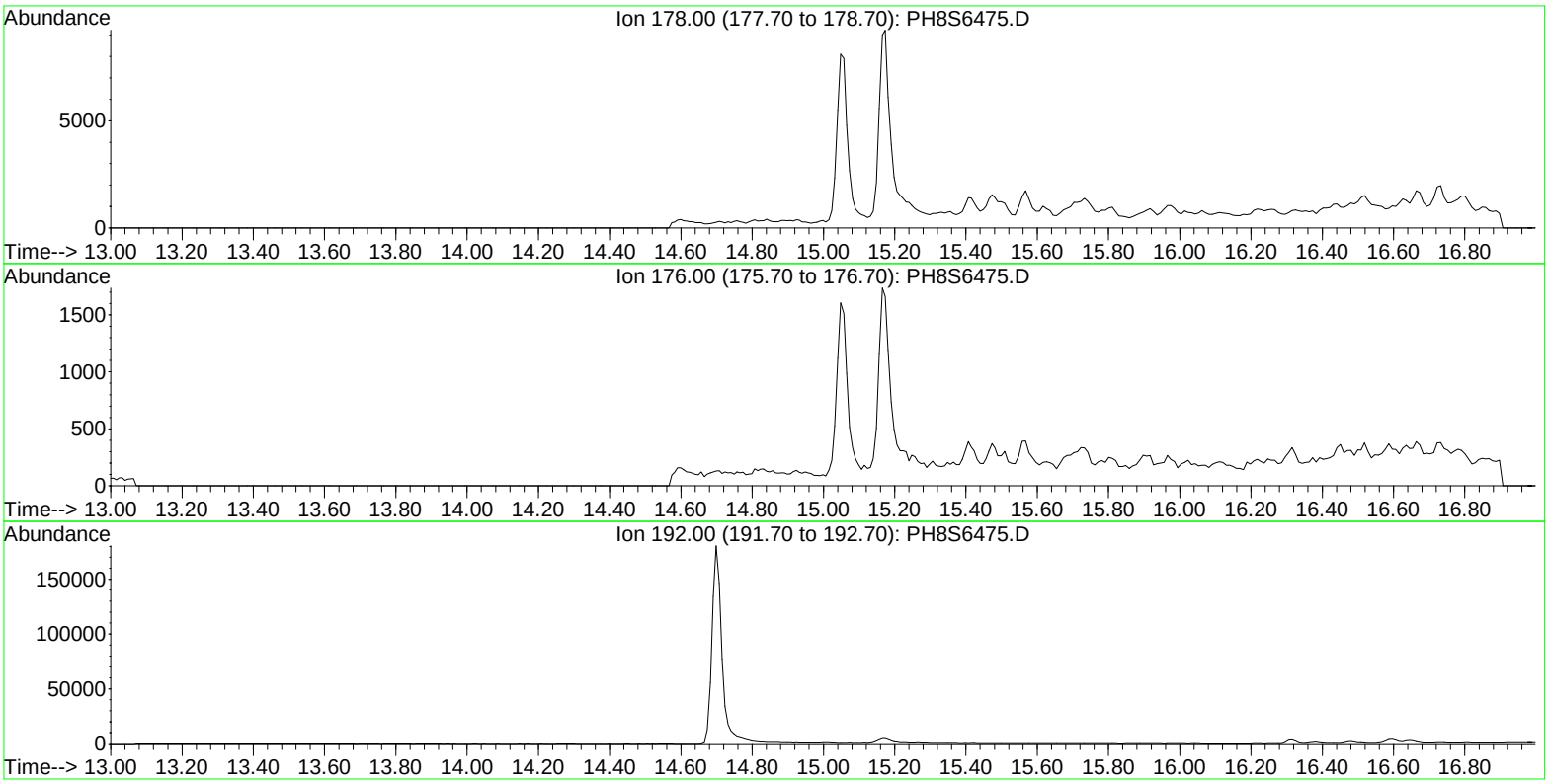


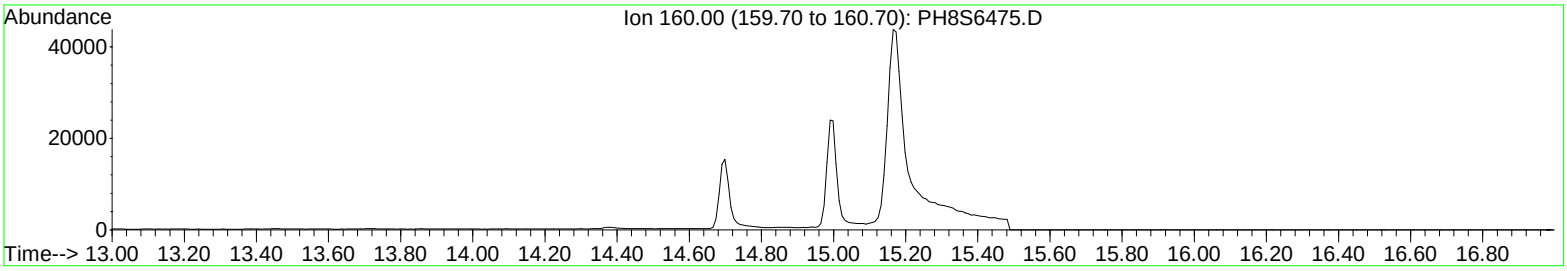
Thu Jan 10 08:44:49 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



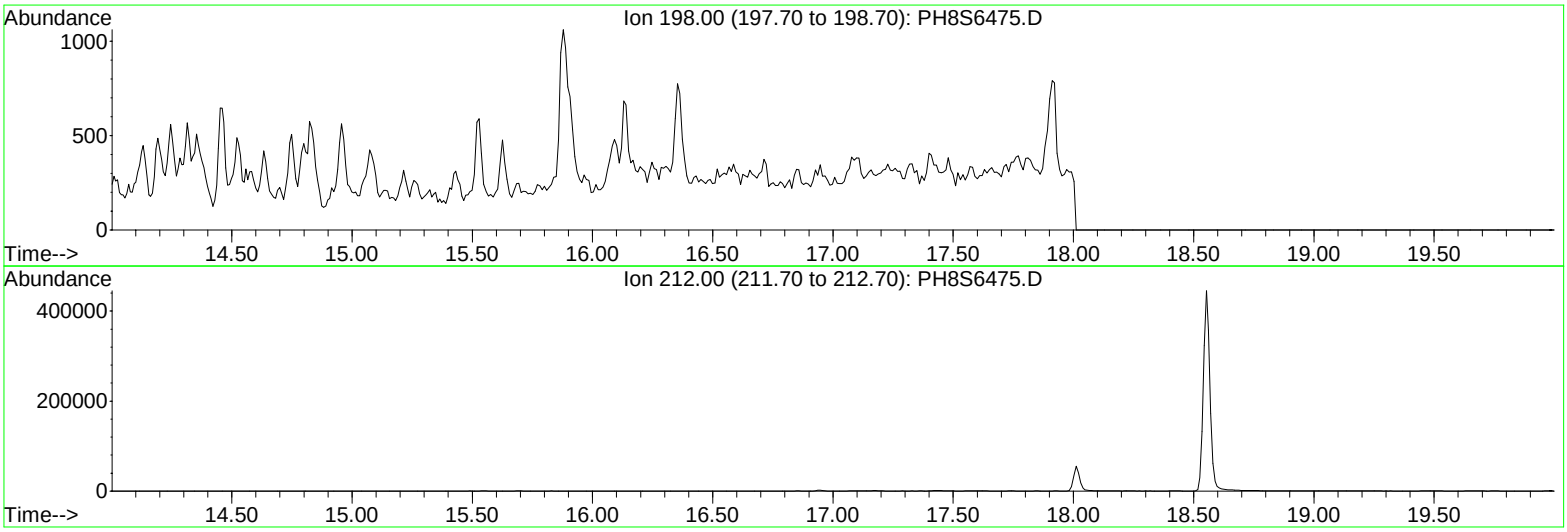


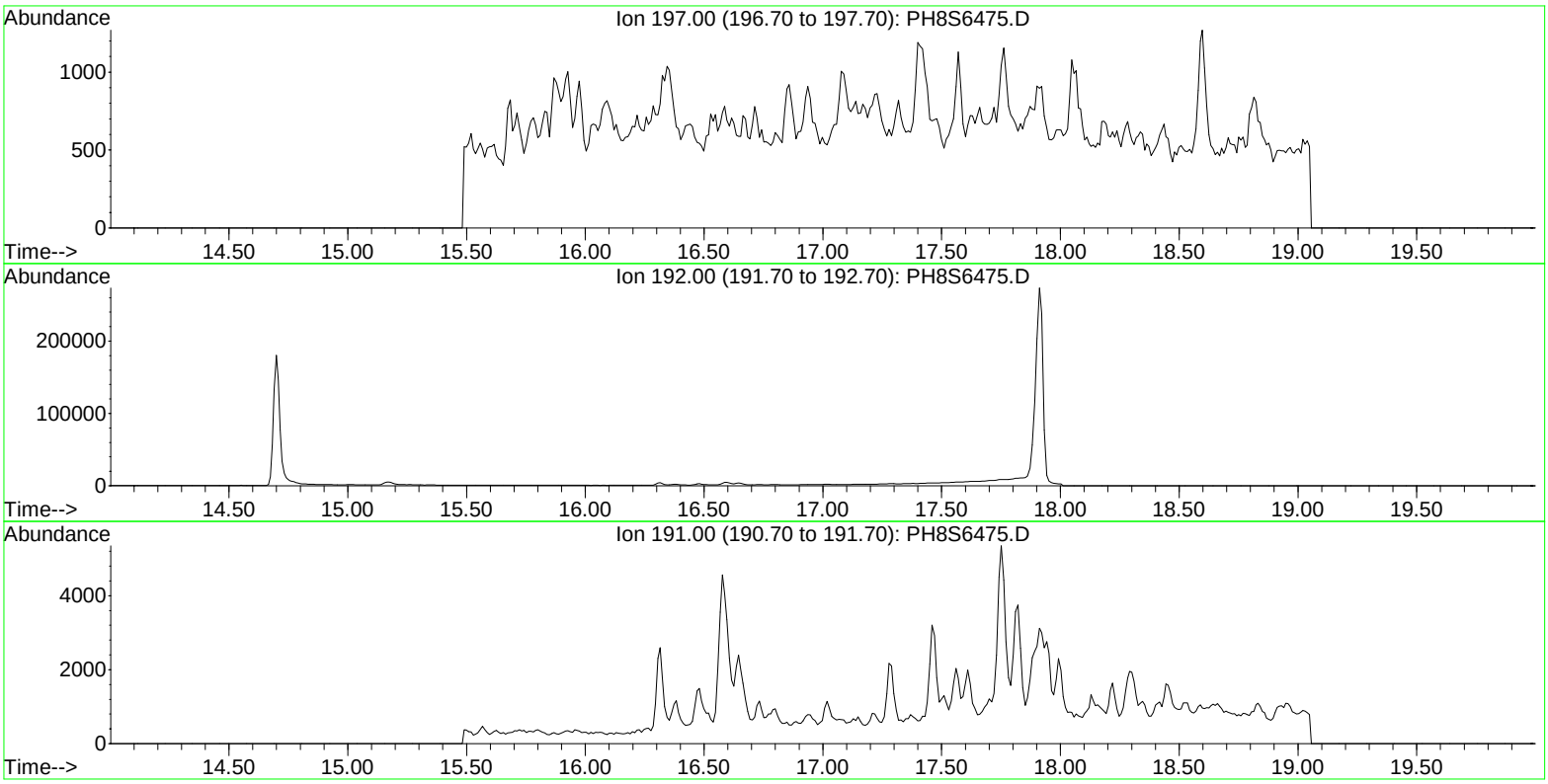


Thu Jan 10 08:44:52 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

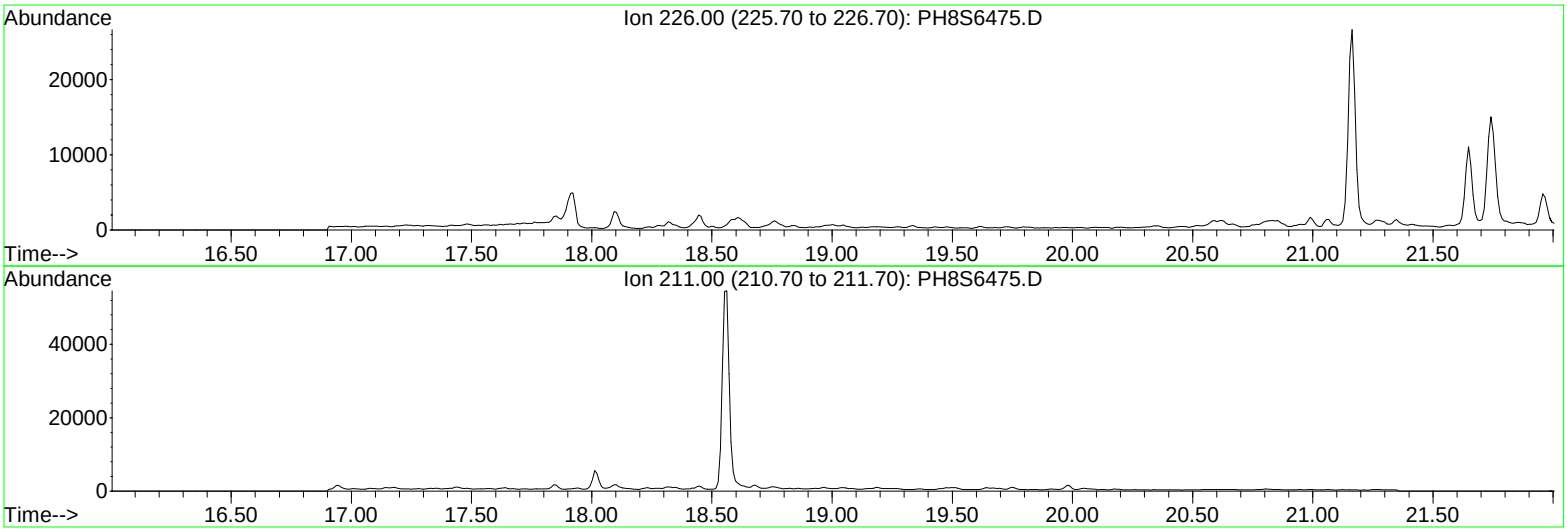


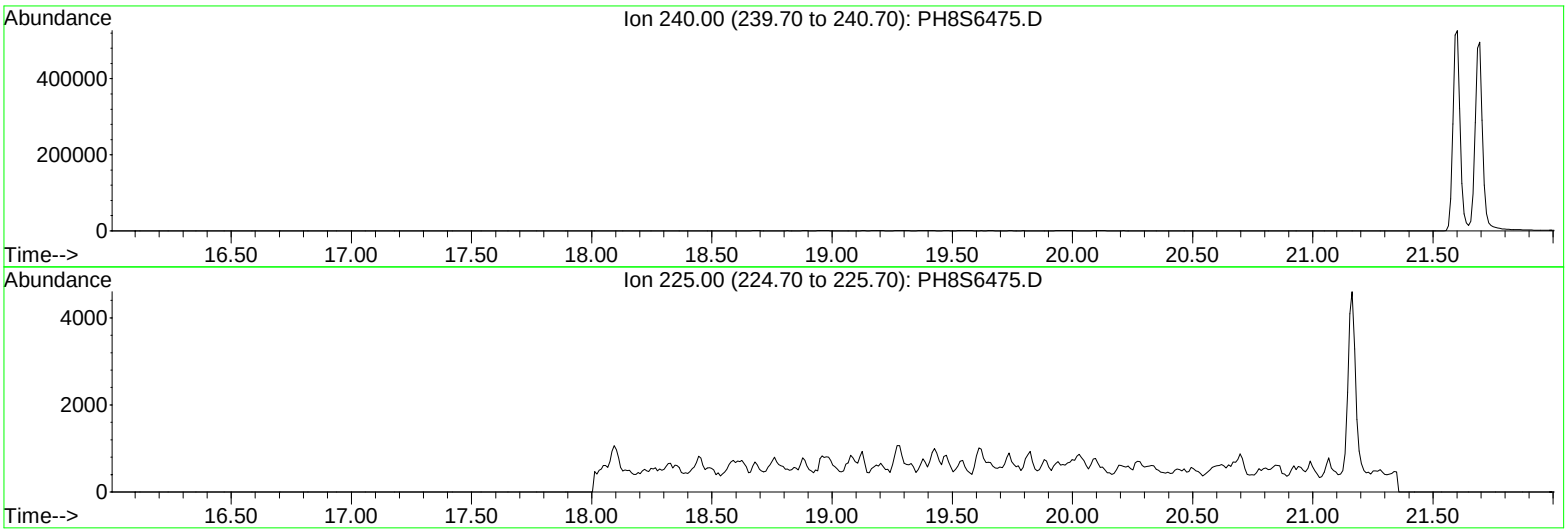


Thu Jan 10 08:44:54 2019

Axys Analytical CHRO Report

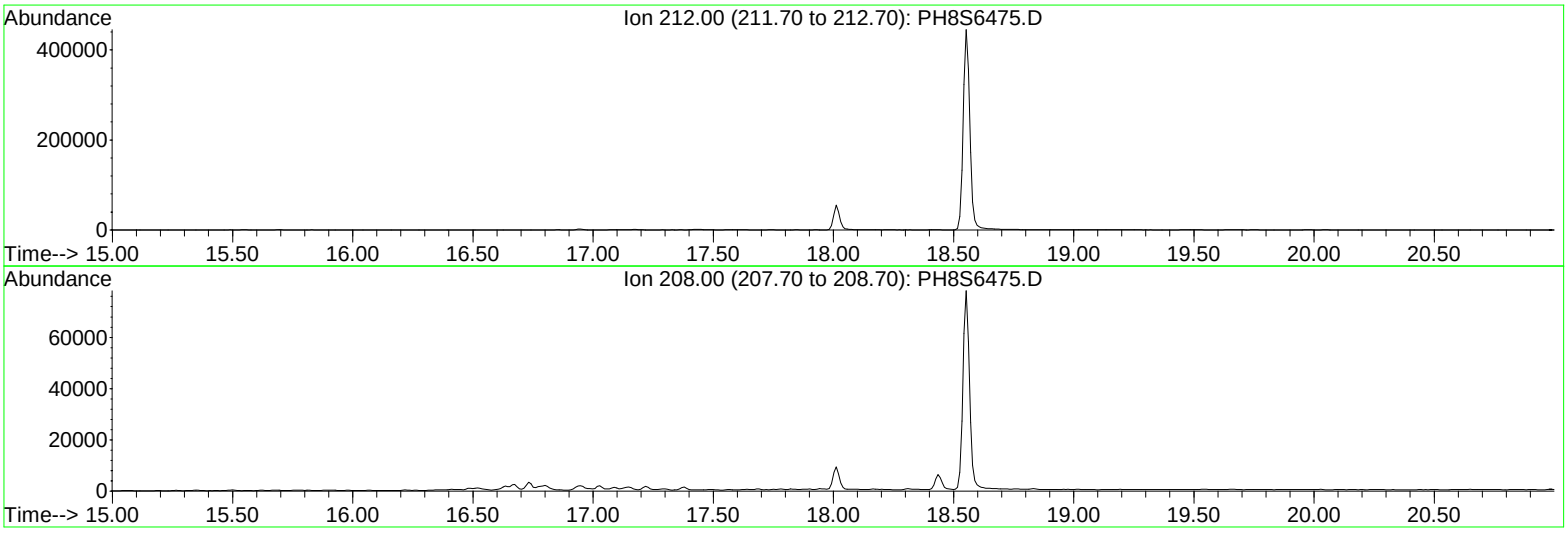
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

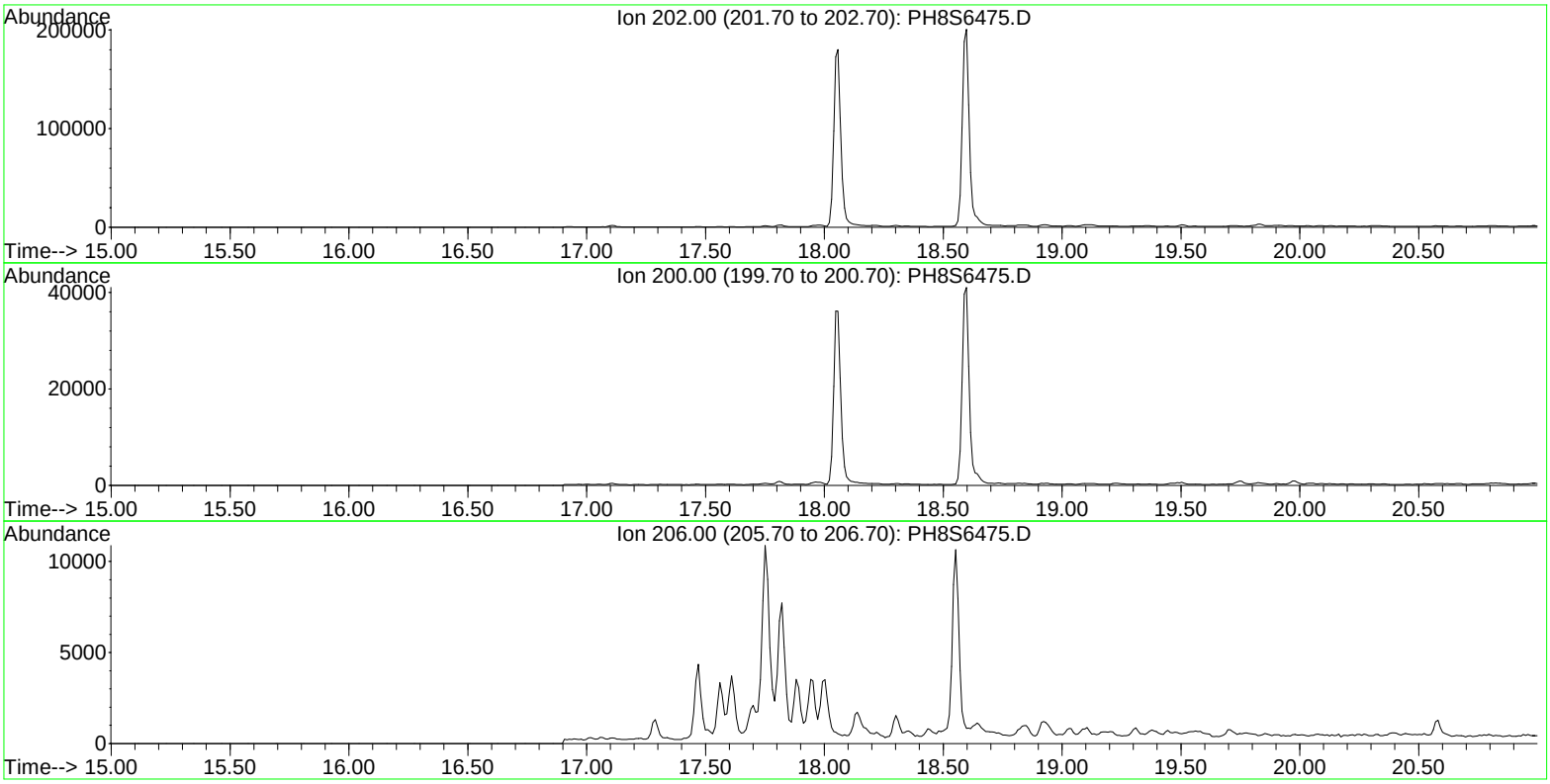


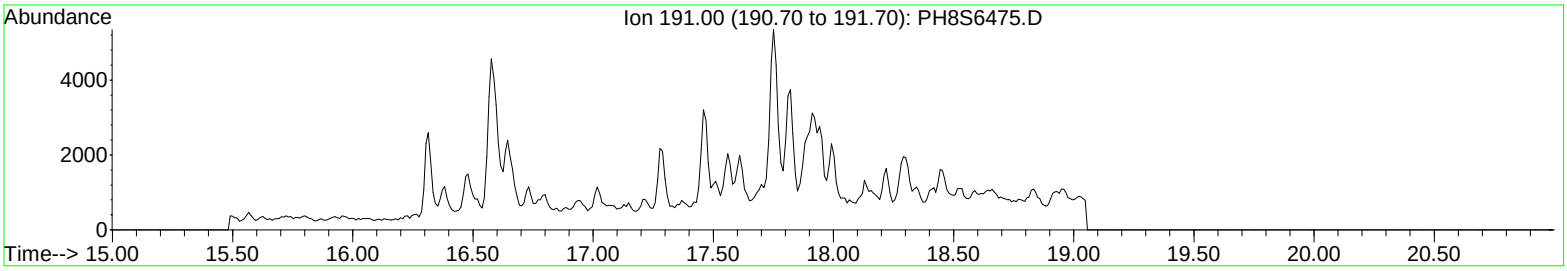


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



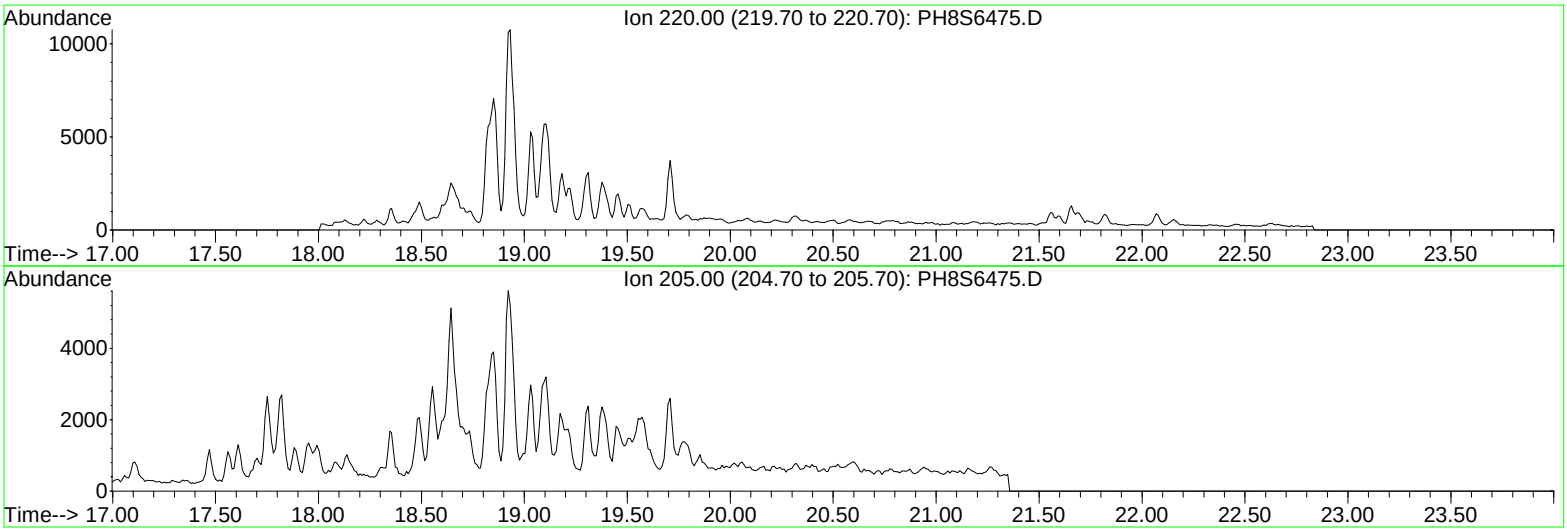


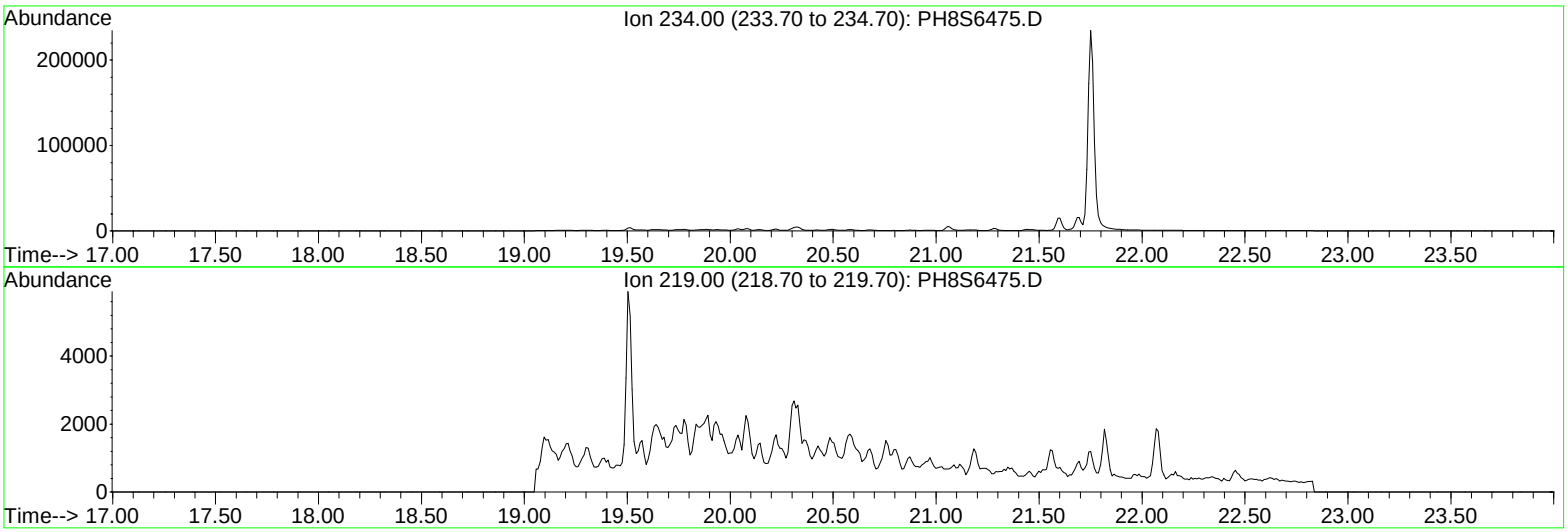


Thu Jan 10 08:44:59 2019

Axys Analytical CHRO Report

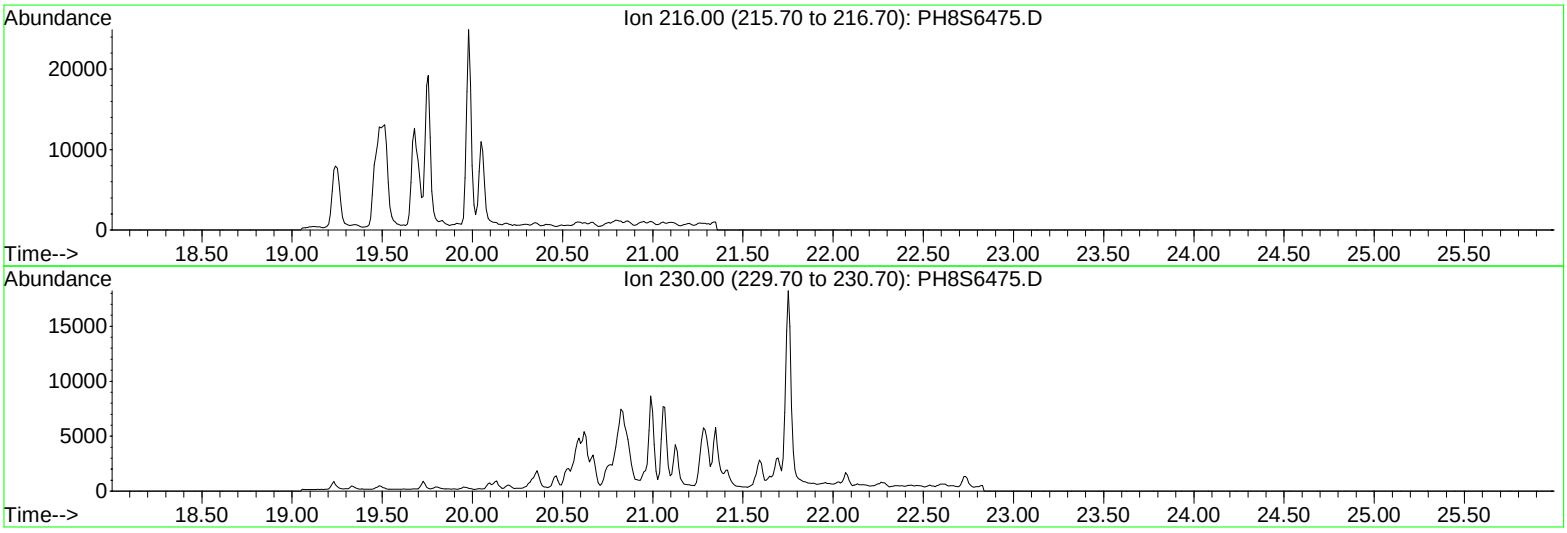
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

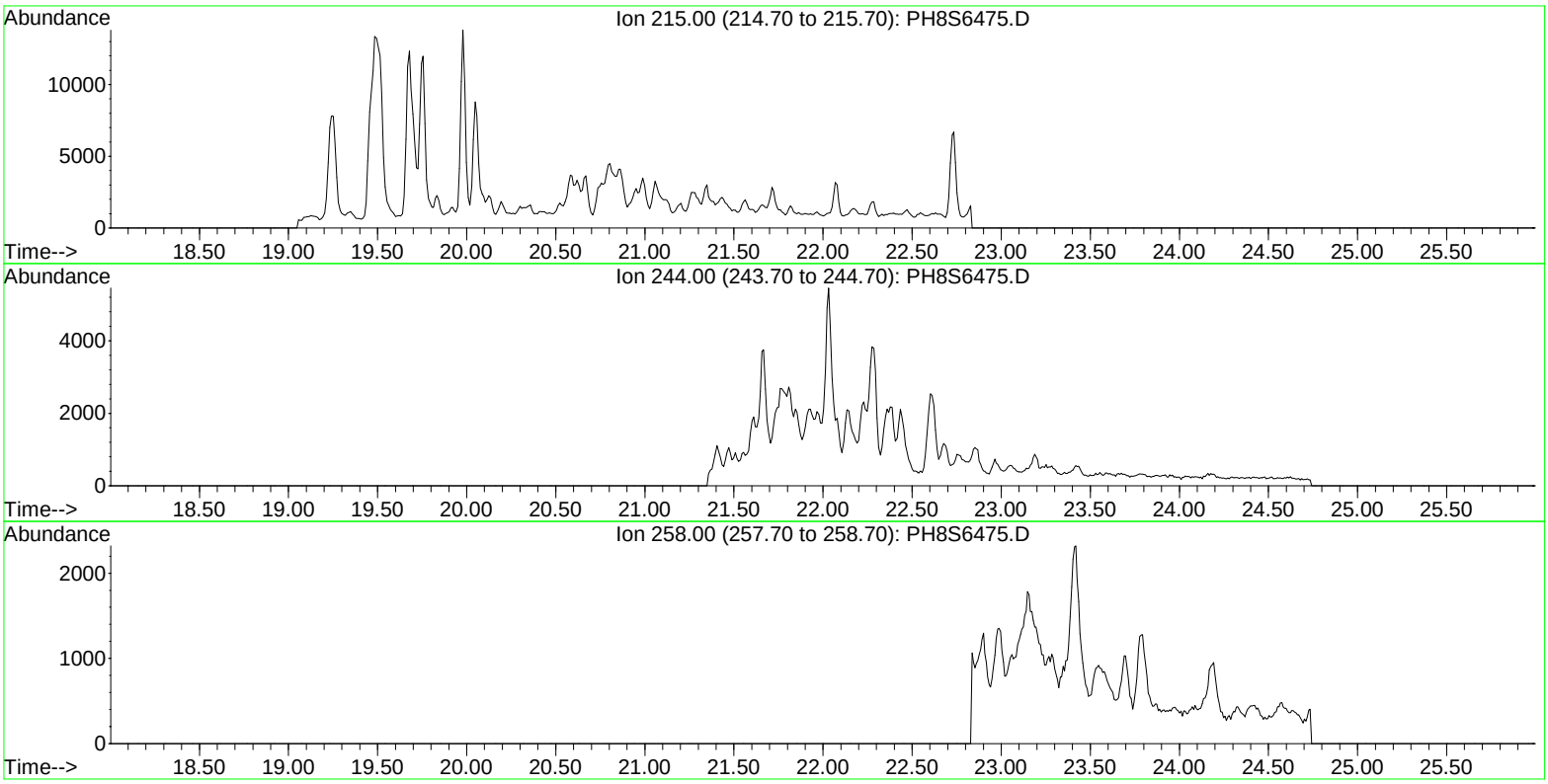


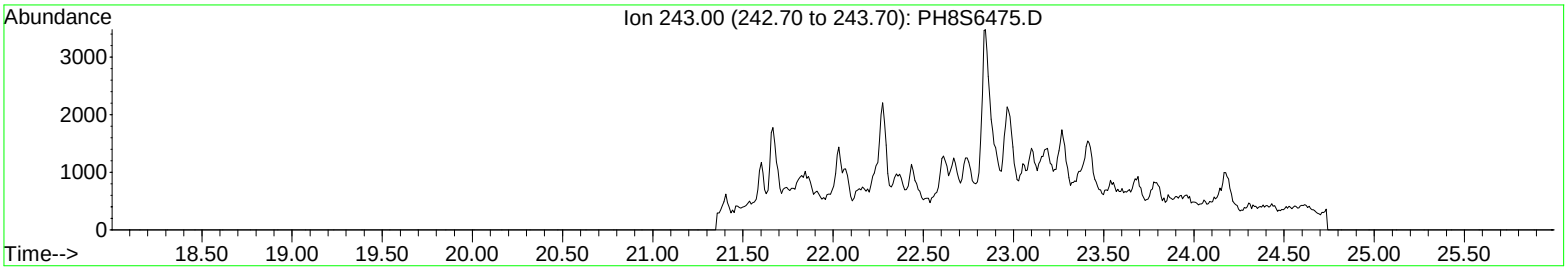


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



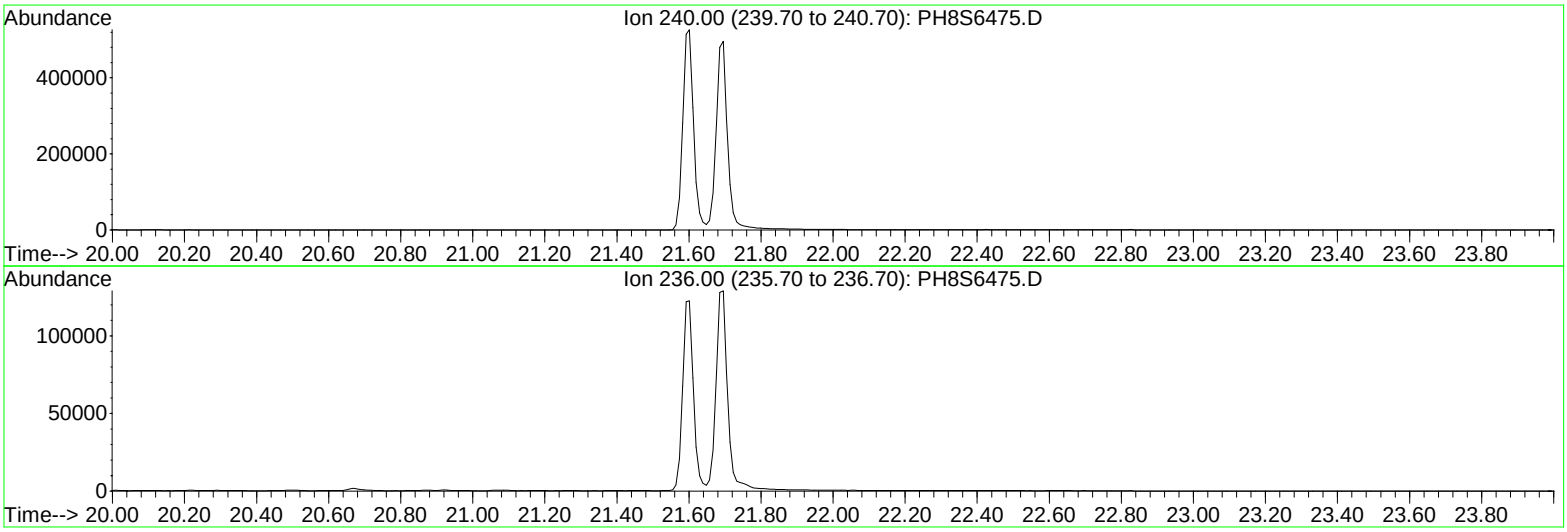


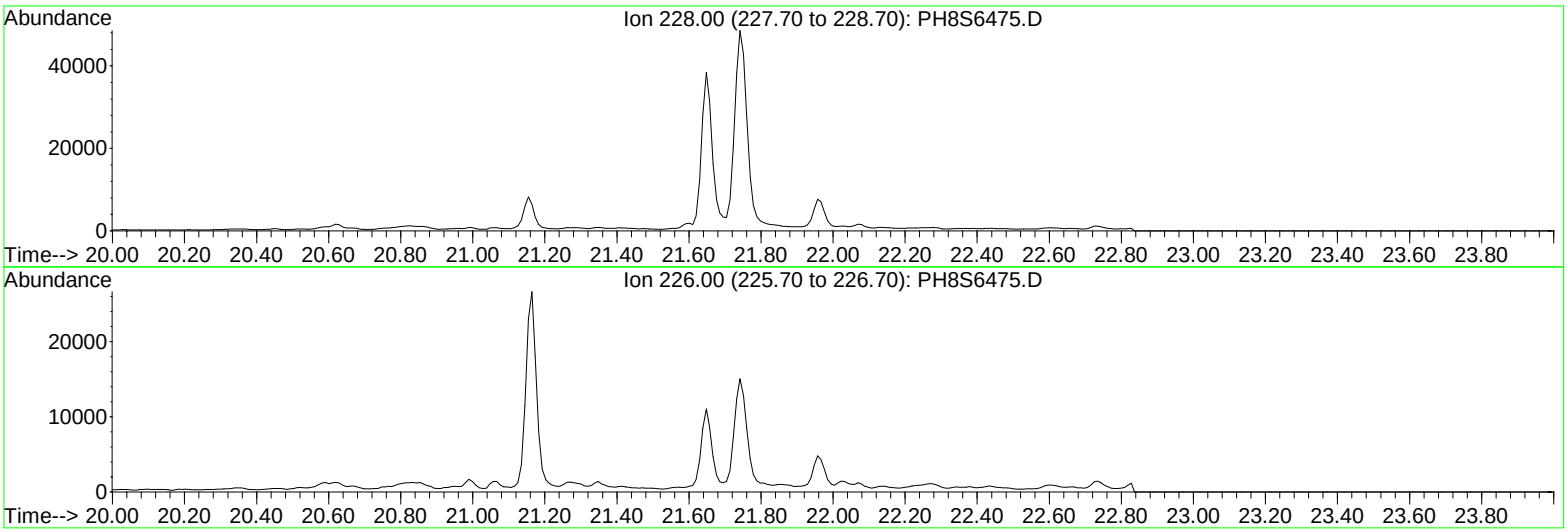


Thu Jan 10 08:45:04 2019

Axys Analytical CHRO Report

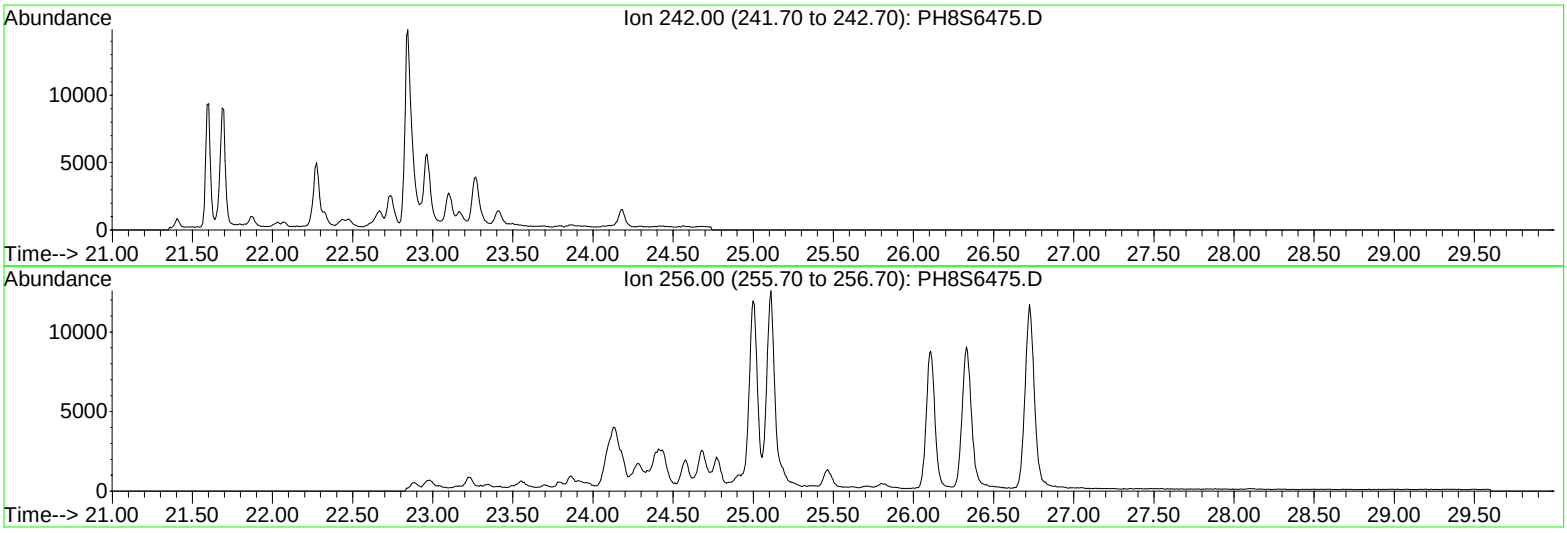
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

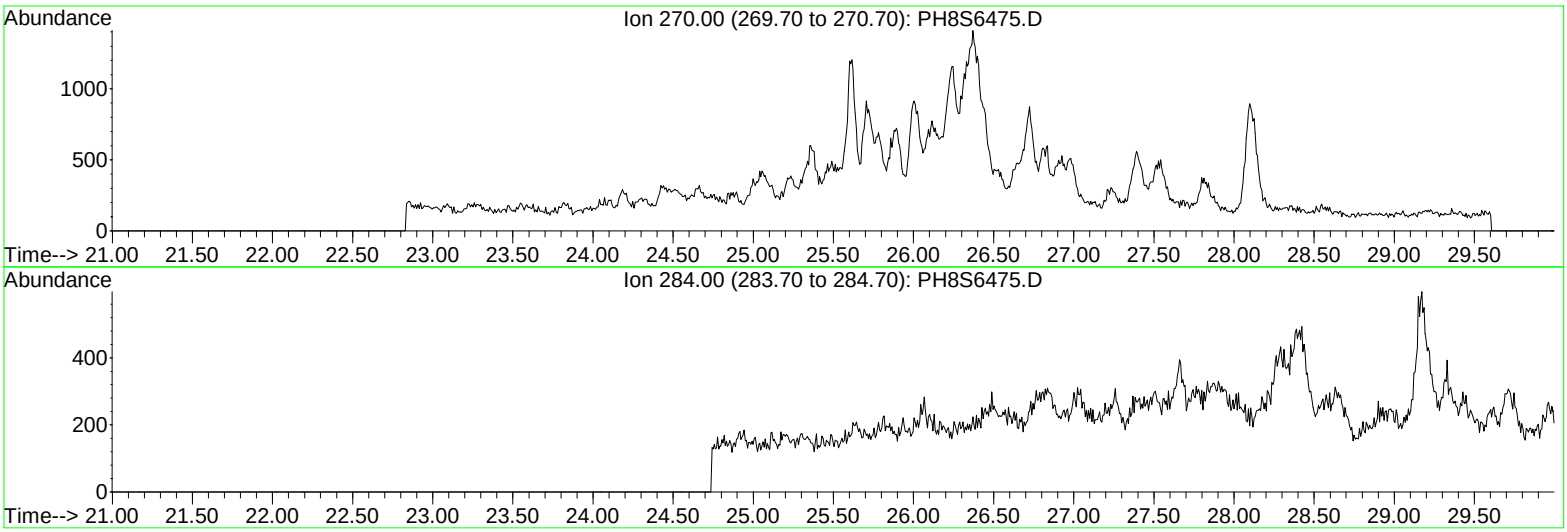




Axys Analytical CHRO Report

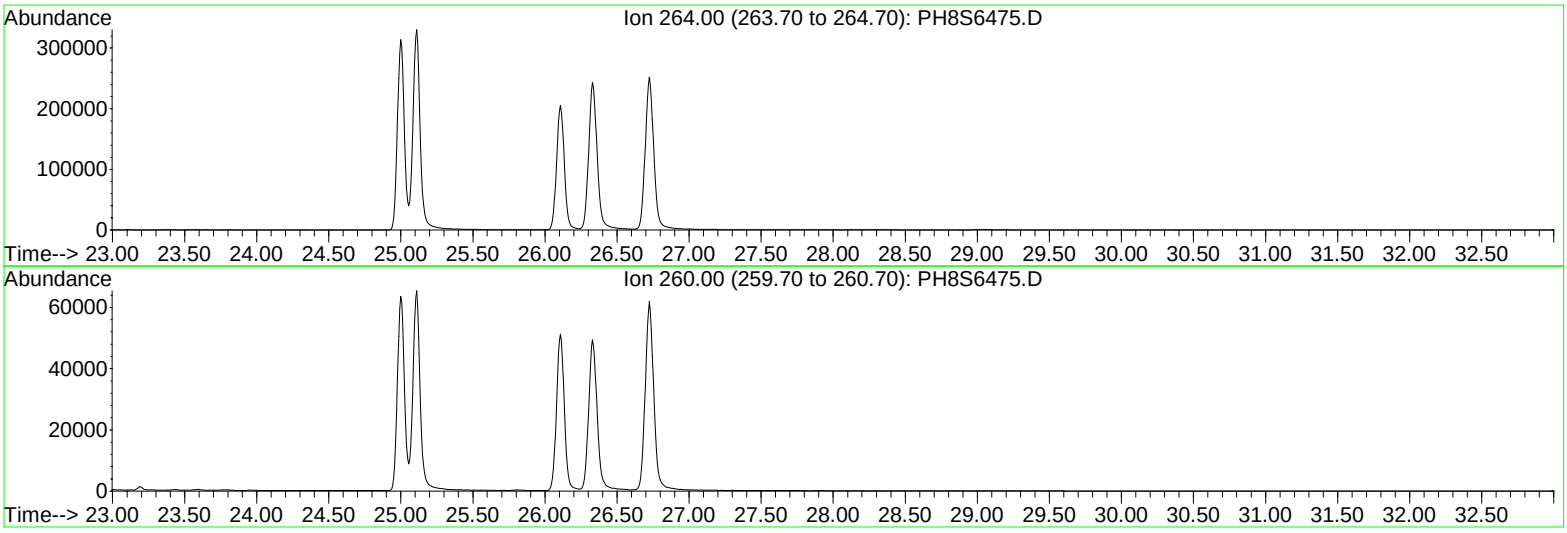
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

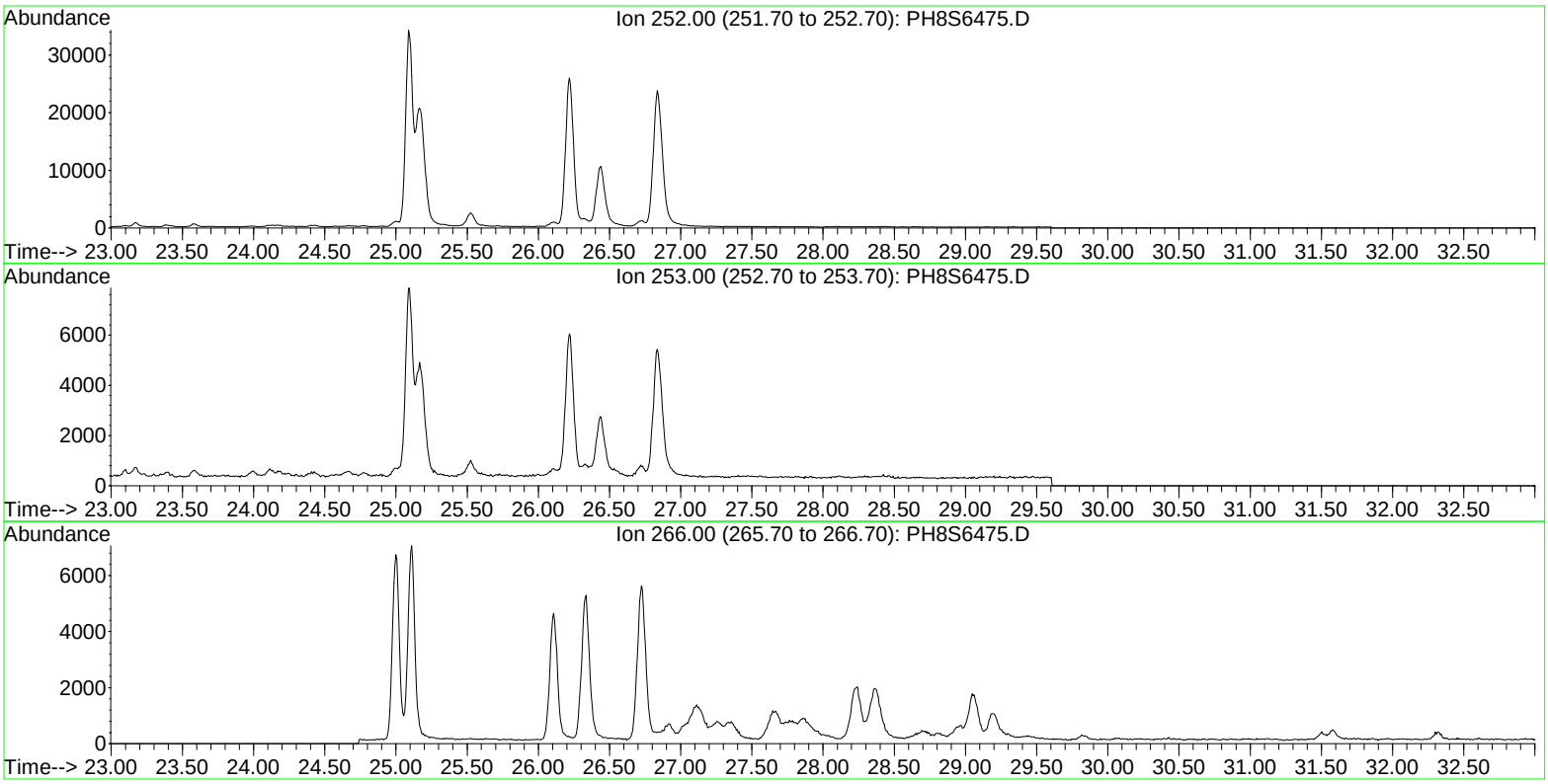


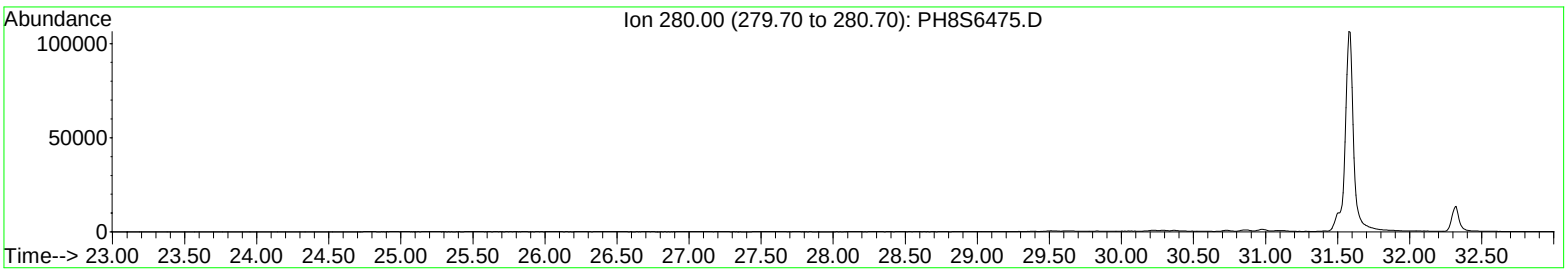


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



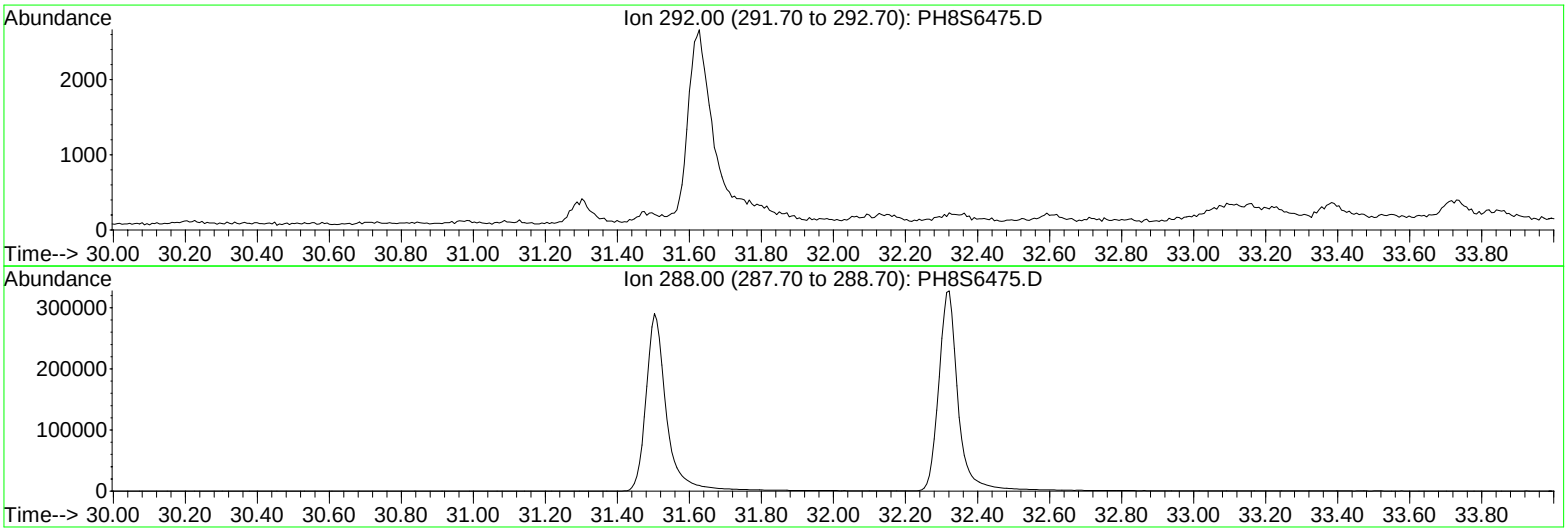


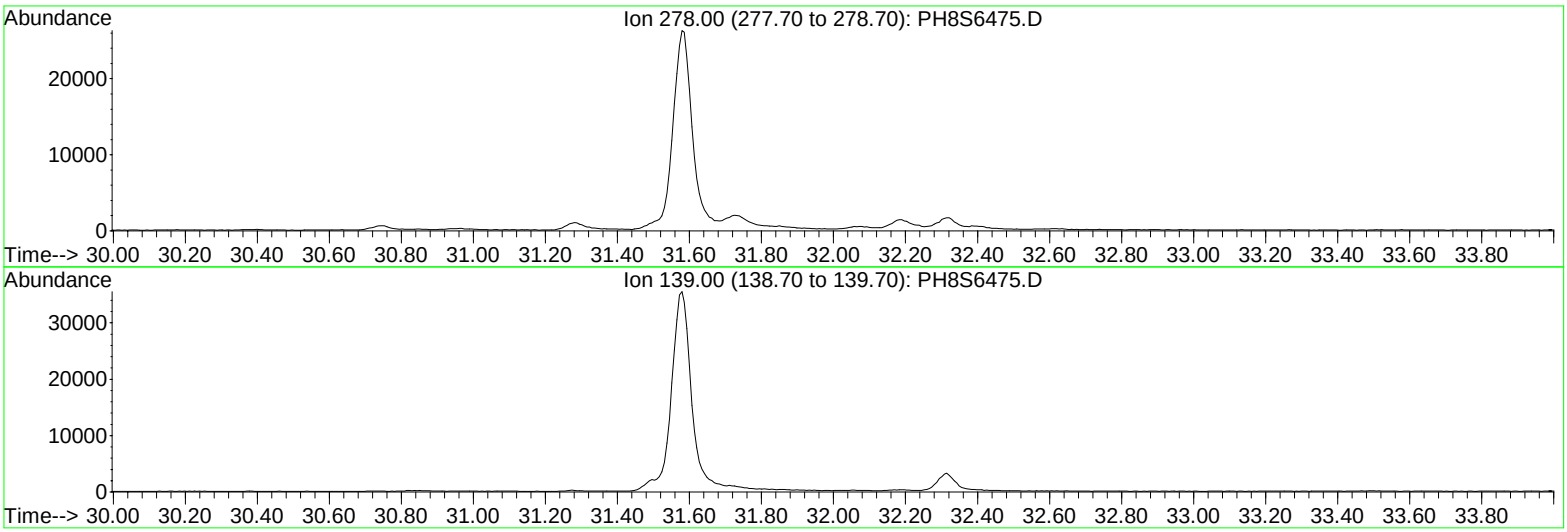


Thu Jan 10 08:45:12 2019

Axys Analytical CHRO Report

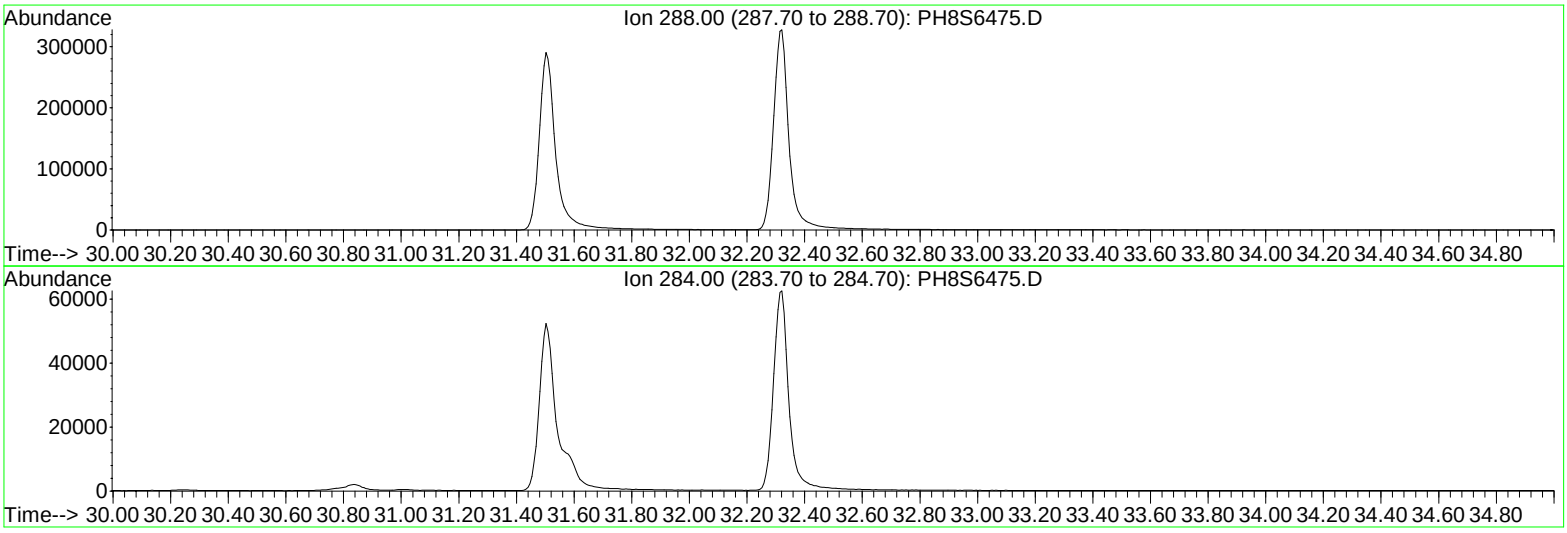
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

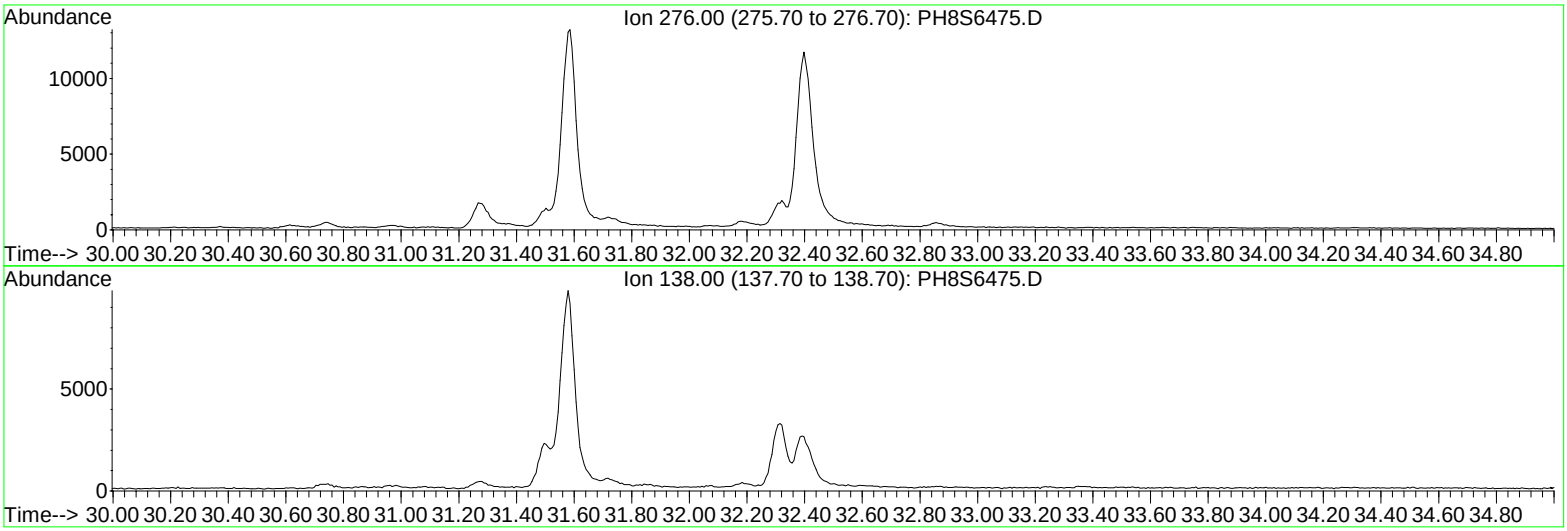




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL





---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6475.D
29/12/2018 0:31
L30540-10
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6475.D\618S6475.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 18
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:23 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.097	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	864562	18.55	2039.3375	I	0	2039.3375	1365		0.17	1
d10-Phenanthrene - SURR	540093	15	1356.6543	S	37.5805	2.9728	1143		0.14	0.808
d12-Benz(a)anthracene - SURR	1094570	21.6	3845.3721	S	94.7136	80.8852	22241		0.23	1.164
d12-Chrysene - SURR	1075583	21.69	3513.5031	S	89.6302	38.9163	11508		0.27	1.169
d12-Benzo(e)pyrene - REC	766231	26.11	2091.0973	I	0	2091.0973	928		0.25	1
d12-Indeno(123cd)pyrene - SURR	1123625	31.5	4058.439	S	101.9708	1.2959	347		0.18	1.207
d10-Phenanthrene	540093	15	3737.06	I	0	3737.06	1121		0.14	1
13C6-Phenanthrene	31351	15.05	190.6626	T	0	2.2602	372		0.18	1.003
d12-Benz(a)anthracene	1094570	21.6	4202.8986	I	0	4202.8986	23758		0.23	1
d10-Fluoranthene	98363	18.01	288.451	T	0	2.8687	978		0.16	0.834
d12-Chrysene	1075583	21.69	4057.971	I	0	4057.971	12874		0.27	1
13C6-Chrysene	498550	21.75	1677.6166	T	0	2.1298	633		0.31	1.003
d12-Indeno(123cd)pyrene	1123625	31.5	4120.0828	I	0	4120.0828	362		0.18	1
13C6-Indeno(123cd)pyrene $	1846605	31.59	5349.0278	T	0	2.4709	853		0.2	1.003

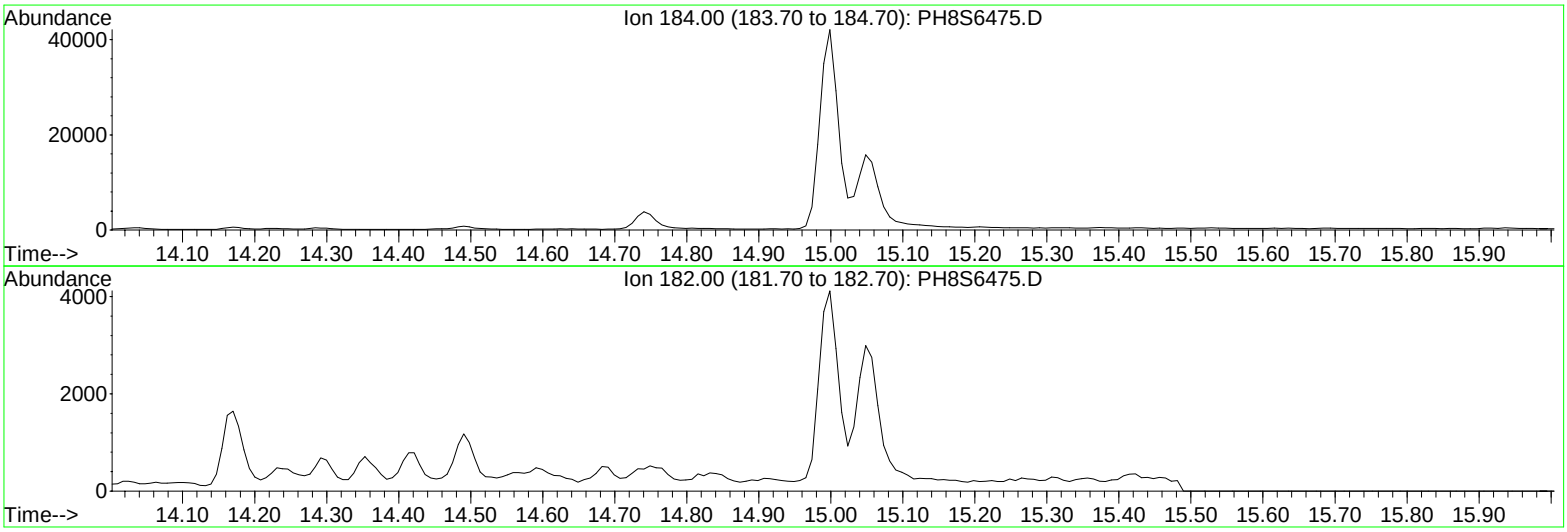
Checked by
08-Jan-19

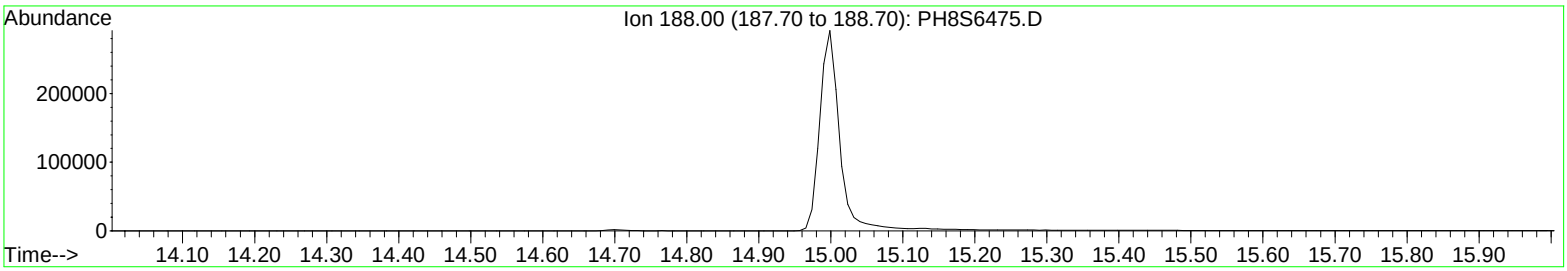
618S6475

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

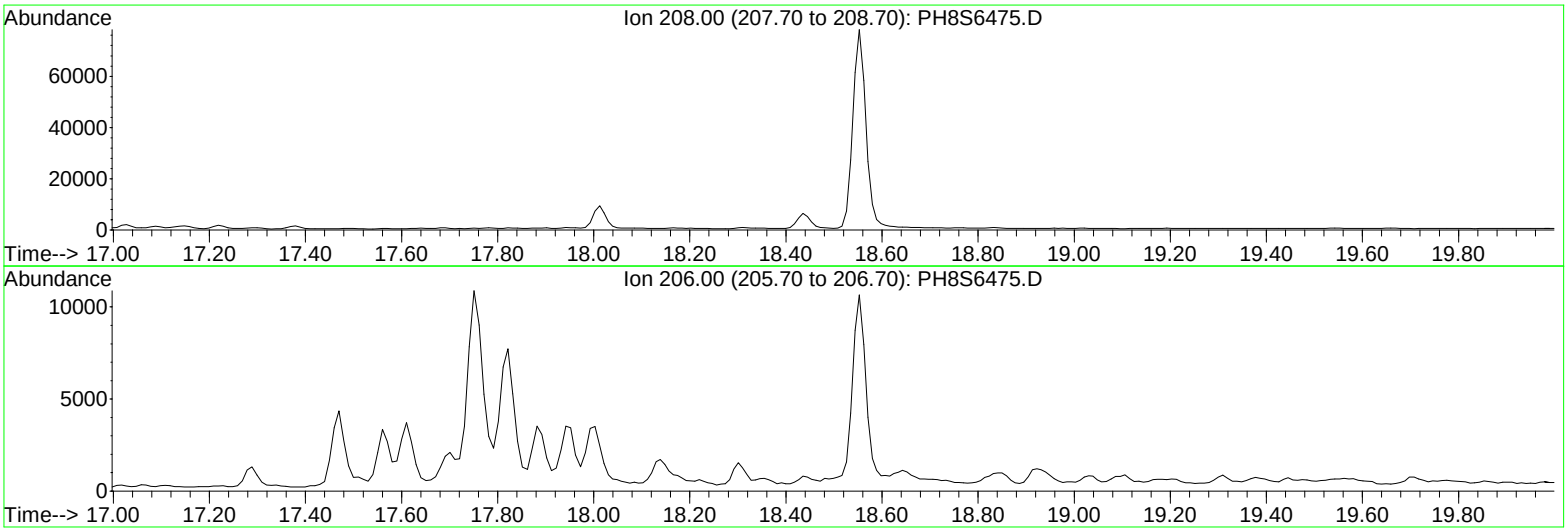
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

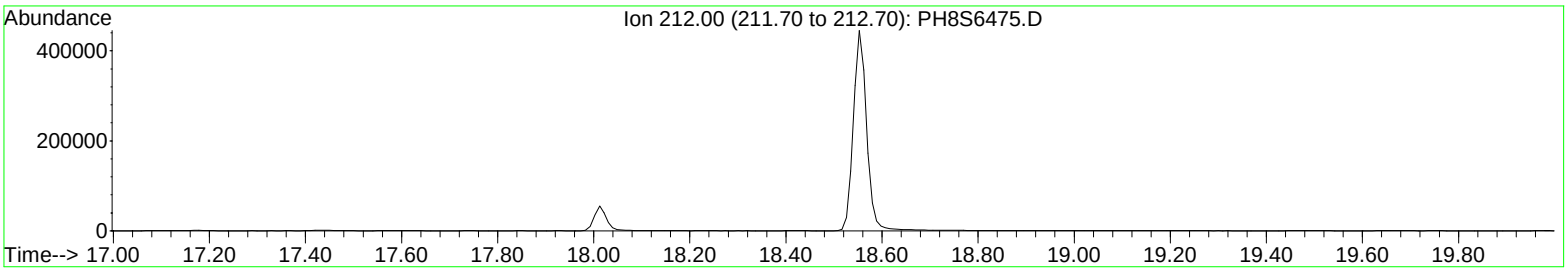




Axys Analytical CHRO Report

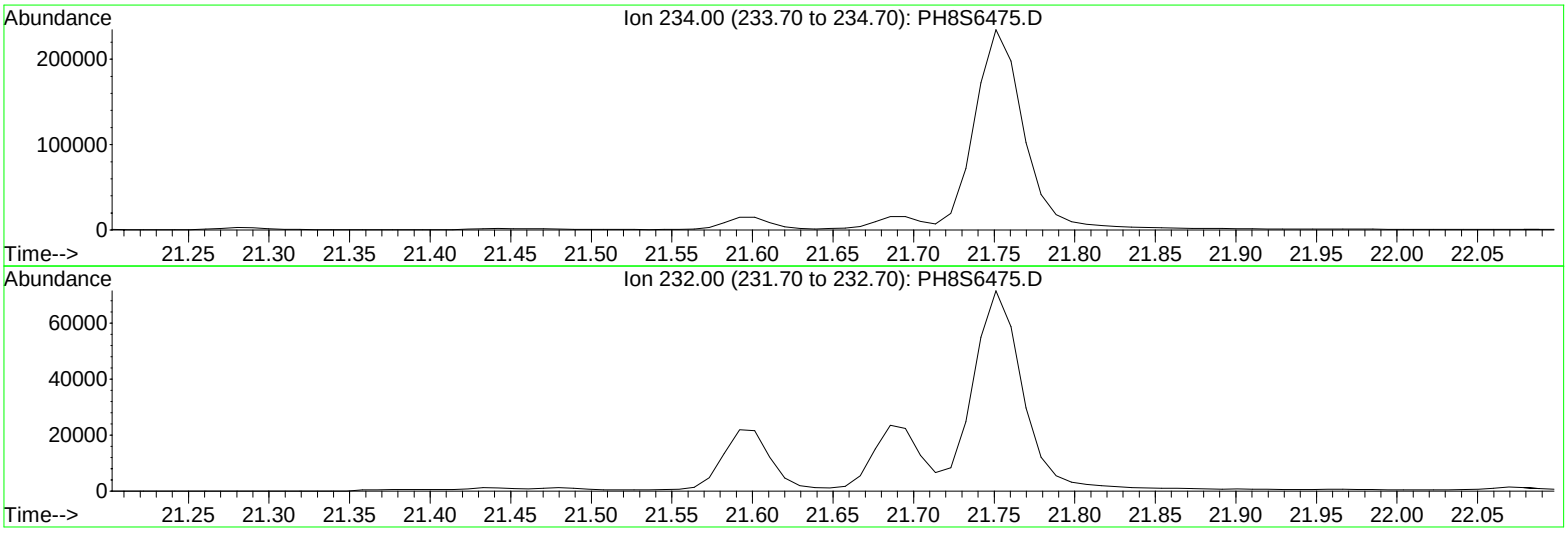
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

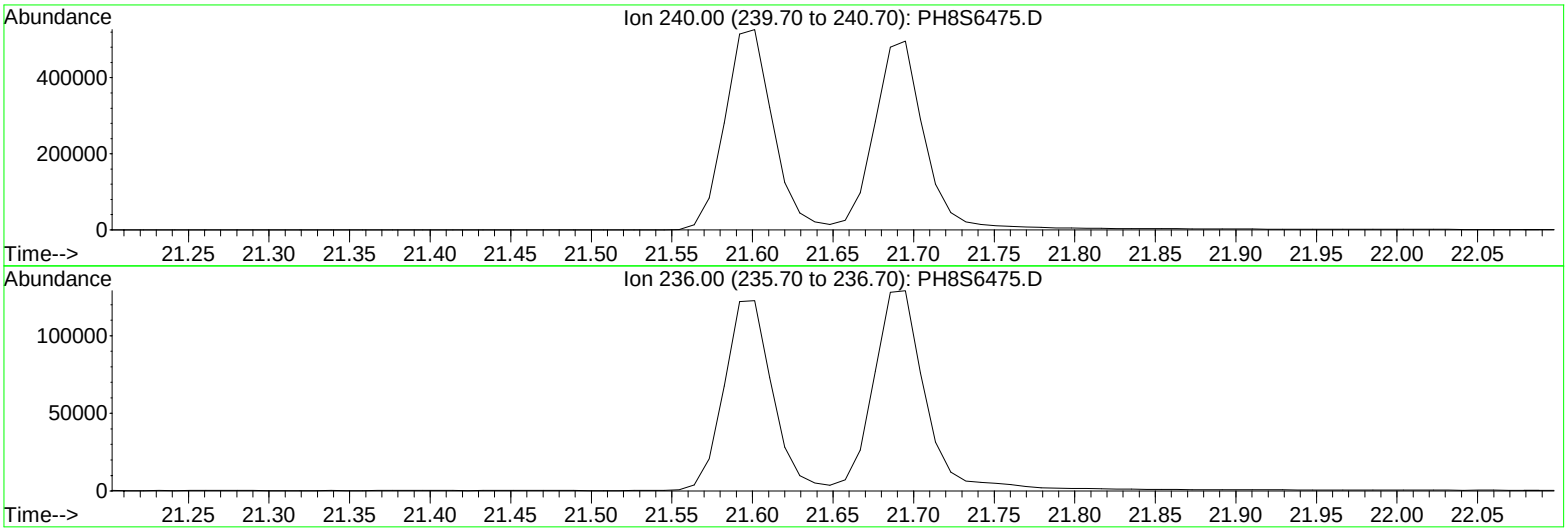




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL

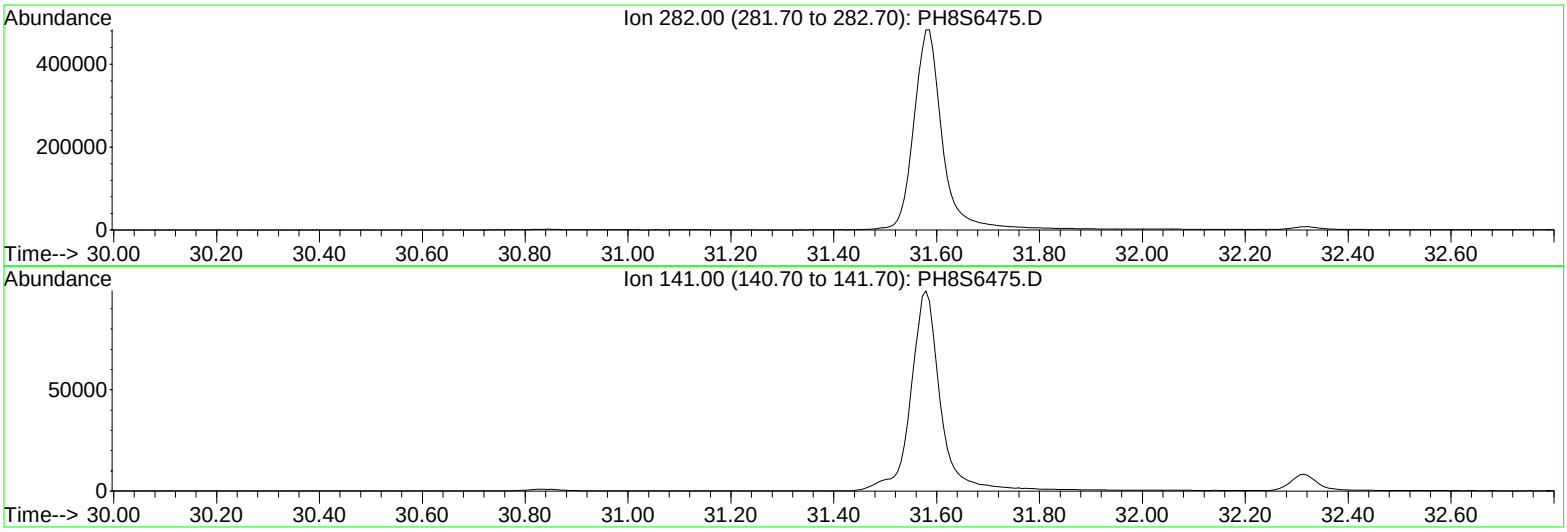


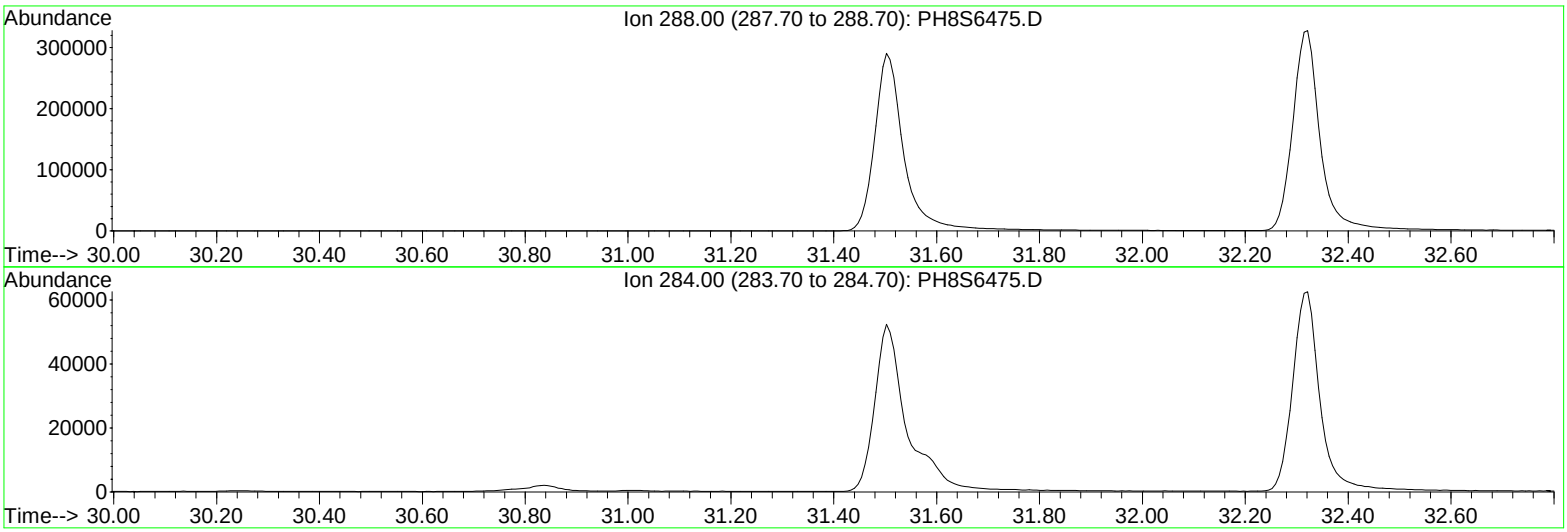


Thu Jan 10 08:57:21 2019

Axys Analytical CHRO Report

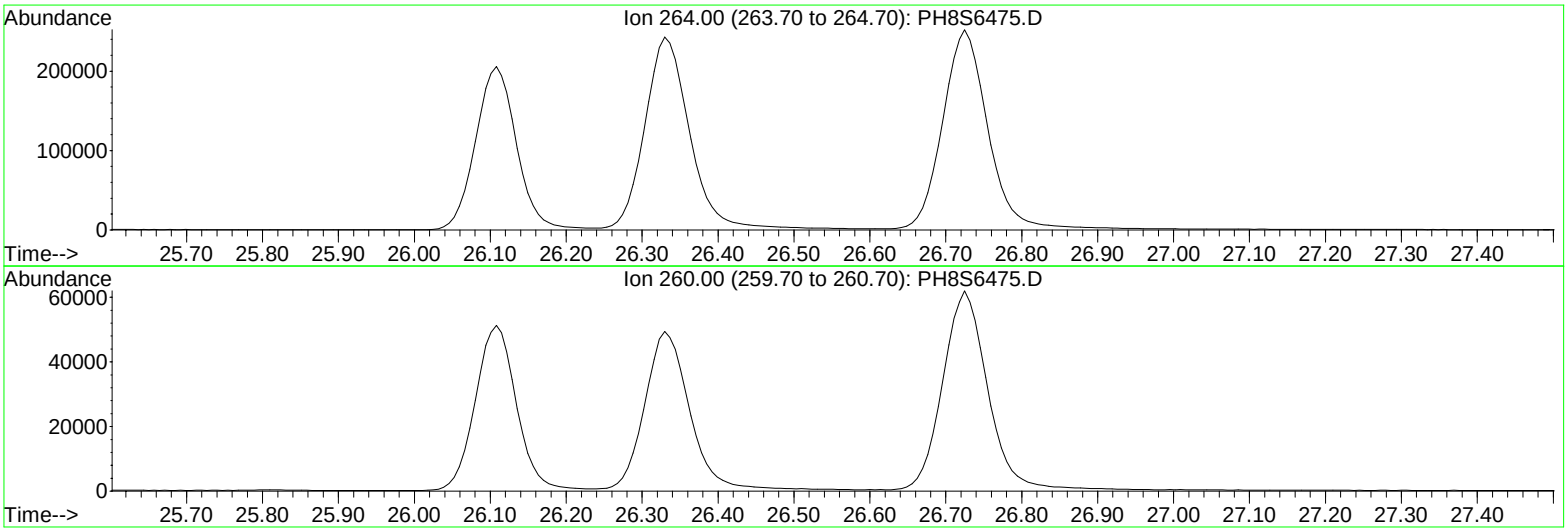
File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6475.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 00:31
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-10,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6481.D
29/12/2018 5:24
L30540-11
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6481.D\PH8S6481.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 24
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:42 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.109	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	389672	11.28	3723.5023 I	0	3723.5023	291		0.45	1
d8-Naphthalene - SURR	224926	6.86	389.9651 S	19.4983	0.745	117		0.09	0.608
d10-2-Methylnaphthalene - SURR	182885	8.52	473.0147 S	24.0109	1.3135	138		0.19	0.755
d10-Biphenyl - SURR	293306	9.8	540.7246 S	26.4413	0.7562	111		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	190455	10.1	539.0822 S	26.2327	2.7643	265		0.74	0.896
d8-Acenaphthylene - SURR	370070	10.85	541.7803 S	26.3	5.9192	1097		0.16	0.961
d10-Pyrene - REC	781888	18.55	3631.3364 I	0	3631.3364	2551		0.17	1
d10-Phenanthrene - SURR	473843	15	653.7323 S	36.2179	4.2976	845		0.14	0.808
d8-Dibenzothiophene - SURR	352634	14.7	547.0597 S	26.8825	12.1754	2129		0.09	0.792
d12-Benz(a)anthracene - SURR	830551	21.59	1218.4608 S	60.0227	98.0745	18133		0.23	1.164
d12-Chrysene - SURR	822257	21.69	1154.685 S	58.9125	44.1414	8526		0.26	1.169
d12-Benzo(e)pyrene - REC	679319	26.11	3723.5023 I	0	3723.5023	1137		0.25	1
d12-Benzo(b)Fluoranthene - SURR	808628	25	1299.8857 S	65.984	338.5696	57130		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	891859	25.11	1298.0393 S	64.902	97.2052	18116		0.19	0.962
d12-Benzo(a)pyrene - SURR	763357	26.33	1296.9761 S	62.6558	12634.9862	2017160		0.2	1.008
d12-Perylene - SURR	797566	26.72	1359.0917 S	63.2136	176.904	28160		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	883056	31.5	1481.383 S	74.4414	1.8105	293		0.17	1.207
d12-Benzo(ghi)perylene - SURR	953623	32.31	1345.0643 S	67.9325	12.4706	2398		0.19	1.238
d8-Naphthalene	224926	6.86	3686.6359 I	0	3686.6359	117		0.09	1
Naphthalene $	1826	6.91	25.0062 T	0	2.18	159		0.06	1.007
d10-2-Methylnaphthalene	182885	8.52	3631.3364 I	0	3631.3364	145		0.19	1
2-Methylnaphthalene $	827	8.6	13.5712 T	0	3.0146	184		1.01	1.009
1-Methylnaphthalene	822	8.87	14.287 T	0	3.1929	184		0.92	1.04
C1-Naphthalenes	905	8.6	0 T	0	0	1175		-1	1.009
d10-Biphenyl	293306	9.8	3769.5853 I	0	3769.5853	112		-1	1
Biphenyl $	1077	9.85	12.46 T	0	4.8114	416	#	0.35	1.006
C1-Biphenyls $	616	11.33	7.1266 T	0	1.7272	149		0.13	1.157
C2-Biphenyls $	1892	12.7	21.8888 T	0	11.5968	1002		0.25	1.296
d12-2,6-Dimethylnaphthalene	190455	10.1	3788.0184 I	0	3788.0184	267		0.74	1
2,6-Dimethylnaphthalene $	963	10.23	15.8368 T	0	2.1079	128		0.75	1.012
Ethyl/DiMe-Naphthalenes	963	10.23	17.5046 T	0	2.3299	128		1.05	1.012
1,2-Dimethylnaphthalene	36657	10.85	744.9013 T	0	2.6047	128	#	0	1.073
C2-Naphthalenes	963	10.23	0 T	0	0	2788		-1	1.012
2,3,6-Trimethylnaphthalene	615	12.2	10.0054 T	0	6.8643	422	#	-1	1.207
2,3,5-Trimethylnaphthalene $	1594	12.37	27.329 T	0	7.2338	422		1.04	1.224
C3-Naphthalenes	1997	12.37	33.3404 T	0	7.0441	422		0.83	1.224
1,4,6,7-Tetramethylnaphthalene $	1485	13.92	24.1493 T	0	28.7484	1768	#	0.14	1.377
C4-Naphthalenes	1485	13.92	24.1493 T	0	28.7484	1768		0.14	1.377
d8-Acenaphthylene	370070	10.85	3797.235 I	0	3797.235	1110		0.16	1
Acenaphthylene $	3085	10.88	26.0517 T	0	2.6268	311		0.21	1.003
Acenaphthene $	5182	11.36	79.1787 T	0	2.2126	145		1.18	1.048
C1-Acenaphthenes $	591	11.72	9.0302 T	0	8.1946	536		0.17	1.08
d8-Dibenzothiophene	352634	14.7	3751.1521 I	0	3751.1521	2322		0.09	1
Dibenzothiophene $	4157	14.74	36.9909 T	0	3.2485	365	#	0.29	1.003
C1-Dibenzothiophenes-1	1026	15.88	13.3063 T	0	25.9237	1999	#	5.94	1.08
2/3-Methyldibenzothiophenes $	1326	16.08	17.197 T	0	25.9237	1999	#	2.62	1.094
C1-Dibenzothiophenes-2	1971	16.35	25.5621 T	0	25.9237	1999	#	4.29	1.113
C1-Dibenzothiophenes	1326	16.08	0 T	0	0	1999		-1	1.094
4,6-Dimethyldibenzothiophene	1623	16.95	19.6406 T	0	17.2367	1424	#	-1	1.153

+ Repeat only.

PH8S6481

Checked by MW 08-Jan-19

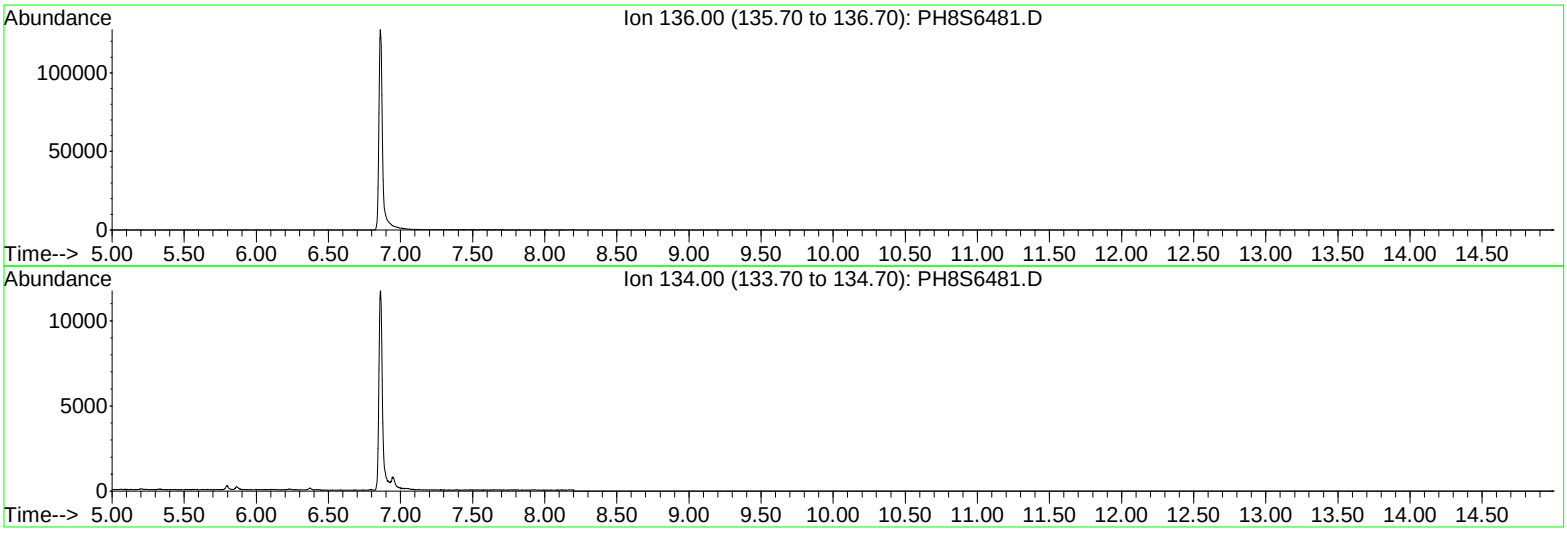
pv by vr
03-Jan-2019

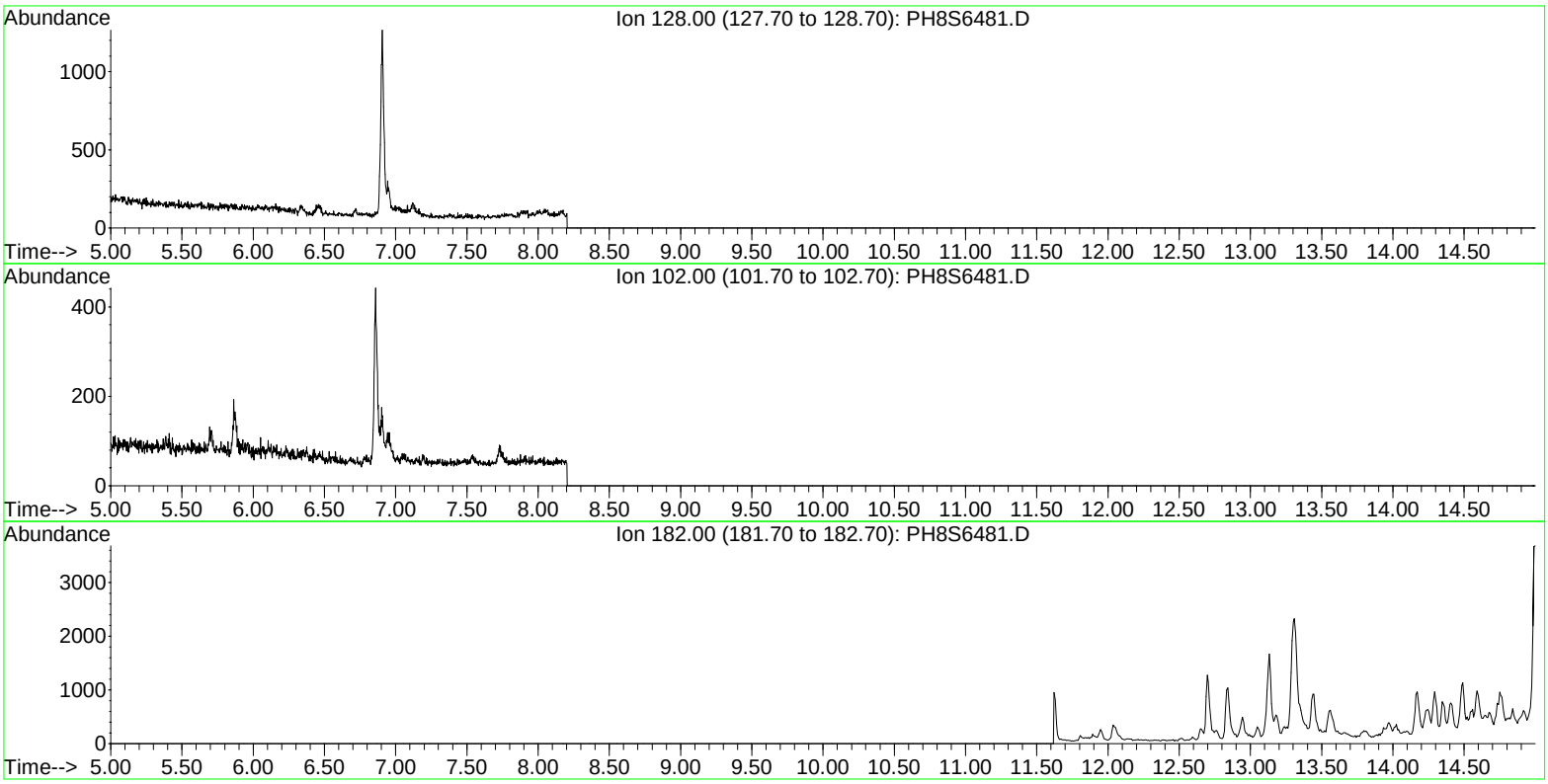
2,4-Dimethyldibenzothiophene $	1408	17.09	22.0627 T	0	22.3189	1424 #	2	1.163
C2-Dibenzothiophenes	1408	17.09	22.0627 T	0	22.3189	1424	2	1.163
C3-Dibenzothiophenes $	3304	18.09	51.7721 T	0	57.4853	3669	1.11	1.231
C4-Dibenzothiophenes $	505	18.81	7.9131 T	0	31.8842	2035	1.11	1.28
d10-Phenanthrene	473843	15	3327.1889 I	0	3327.1889	908	0.14	1
Fluorene $	3916	12.66	38.4743 T	0	1.6226	165	1.02	0.844
2-Methylfluorene $	836	14.09	12.0785 T	0	108.9054	7538 #	1.69	0.939
C1-Fluorenes	836	14.09	12.0785 T	0	108.9054	7538	1.69	0.939
1,7-Dimethylfluorene $	531	15.51	8.2493 T	0	49.4802	3185 #	-1	1.034
C2-Fluorenes	531	15.51	8.2493 T	0	49.4802	3185 #	-1	1.034
C3-Fluorenes $	818	16.41	12.708 T	0	74.2201	4777	1.78	1.094
Phenanthrene $	39315	15.05	258.1047 T	0	7.0472	1073	0.19	1.003
Anthracene	20597	15.17	133.6222 T	0	6.964	1073	0.16	1.011
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	4489	16.31	41.772 T	0	7.2447	779	0.65	1.088
2-Methylphenanthrene	4689	16.37	44.2119 T	0	7.3408	779	0.53	1.092
2-Methylanthracene	4933	16.47	47.9211 T	0	7.5632	779	0.51	1.098
9/4-Methylphenanthrenes	10115	16.6	94.1242 T	0	7.2447	779 #	1.31	1.107
1-Methylphenanthrene $	4337	16.65	38.2487 T	0	6.8662	779	0.6	1.11
C1-Phenanthrenes/Anthracenes	10115	16.6	0 T	0	0	12887	-1	1.107
Fluoranthene $	402812	18.05	2152.7074 T	0	4.9172	920	0.2	1.203
Pyrene	1010477	18.59	5222.9816 T	0	4.7559	920	0.21	1.239
3,6-Dimethylphenanthrene $	5602	17.47	54.1354 T	0	198.1217	20502 #	1.13	1.165
2,6-Dimethylphenanthrene	3170	17.56	30.5773 T	0	197.7567	20502 #	0.53	1.171
1,7-Dimethylphenanthrene	3186	17.88	30.6755 T	0	197.3972	20502 #	-1	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	5602	17.47	54.0359 T	0	197.7567	20502	1.13	1.165
1,8-Dimethylphenanthrene	4124	18.14	39.7794 T	0	197.7567	20502	0.41	1.209
C2-Phenanthrenes/Anthracenes	5602	17.47	0 T	0	0	20502	-1	1.165
1,2,6-Trimethylphenanthrene $	3201	19.38	33.5949 T	0	94.3998	8995 #	1.09	1.292
C3-Phenanthrenes/Anthracenes	3201	19.38	33.5949 T	0	94.3998	8995	1.09	1.292
Retene $	12262	19.5	336.7987 T	0	216.435	7880 #	1.22	1.3
C4-Phenanthrenes/Anthracenes	12262	19.5	336.7987 T	0	216.435	7880	1.22	1.3
C1-Fluoranthenes/Pyrenes-1	28269	19.24	254.1255 T	0	2191.1152	243740	0.94	1.283
3-Methylfluoranthene/Benzo(a)fluorene $	111951	19.51	1006.3889 T	0	2191.1152	243740	0.95	1.301
C1-Fluoranthenes/Pyrenes-2	84078	19.98	755.8232 T	0	2191.1152	243740	0.56	1.332
C1-Fluoranthenes/Pyrenes	111951	19.51	0 T	0	0	243740	-1	1.301
C2-Fluoranthenes/Pyrenes $	4133	20.46	37.1538 T	0	407.6811	45351	0.63	1.364
C3-Fluoranthenes/Pyrenes $	4828	21.92	43.4015 T	0	262.6157	29213 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	2831	23.16	25.4494 T	0	39.8721	4435	0.71	1.544
d12-Benz(a)anthracene	830551	21.59	3741.9355 I	0	3741.9355	20563	0.23	1
d10-Fluoranthene $	61410	18.01	254.8292 T	0	1.8331	442	0.15	0.834
† Benz(a)anthracene	107944	21.65	376.4509 T	0	2.799	803	0.28	1.003
d12-Chrysene	822257	21.69	3612.9032 I	0	3612.9032	9918	0.26	1
† Chrysene $	158016	21.74	562.4553 T	0	2.9305	823	0.3	1.003
5/6-Methylchrysenes $	6686	23.1	31.5155 T	0	473.5152	100456	-1	1.065
1-Methylchrysene	13329	23.27	60.6465 T	0	457.0728	100456	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	6686	23.1	30.9588 T	0	465.1521	100456	-1	1.065
5,9-Dimethylchrysene $	13534	24.42	82.404 T	0	111.9535	18387	-1	1.126
C2-Benz(a)anthracenes/Chrysenes	13534	24.42	82.404 T	0	111.9535	18387	-1	1.126
C3-Benz(a)anthracenes/Chrysenes $	853	25.01	5.1936 T	0	10.6474	1749	-1	1.153
C4-Benz(a)anthracenes/Chrysenes $	344	26.05	2.0945 T	0	2.4093	396	-1	1.201
d12-Benzo(b)fluoranthene	808628	25	3631.3364 I	0	3631.3364	50411	0.21	1
Benzo(b)fluoranthene-SURR int	1545	25	0 T	0	0	7551	0.37	1
† Benzo(b)fluoranthene $	195650	25.09	606.8111 T	0	2.0029	646	0.22	1.004
d12-Benzo(k)fluoranthene	891859	25.11	3686.6359 I	0	3686.6359	16921	0.19	1
† Benzo(j/k)fluoranthenes	138024	25.17	452.1704 T	0	2.2394	684	0.23	1.002
Benzofluoranthenes	192376	25.09	0 T	0	0	7782	-1	0.999
d12-Benzo(a)pyrene	763357	26.33	3815.6682 I	0	3815.6682	2178490	0.2	1
Benzo(e)pyrene	162442	26.22	585.1171 T	0	2.847	790	0.21	0.996
† Benzo(a)pyrene	86140	26.43	328.7206 T	0	3.0162	790	0.23	1.004
7-Methylbenzo(a)pyrene $	4260	29.19	22.839 T	0	32.3351	6031	-1	1.109
C1-Benzofluoranthenes/Benzopyrenes	4260	29.19	22.839 T	0	32.3351	6031	-1	1.109
C2-Benzofluoranthenes/Benzopyrenes $	30	29.91	0.1608 T	0	18.2537	3405	-1	1.136
d12-Perylene	797566	26.72	3963.1336 I	0	3963.1336	32049	0.24	1
Perylene	85966	26.84	309.7916 T	0	3.0016	833	0.21	1.004
d12-Indeno(123cd)pyrene	883056	31.5	3668.2028 I	0	3668.2028	316	0.17	1
d14-Dibenzo(ah)anthracene $	8314	31.63	37.752 T	0	1.3813	304 #	2.35	1.004
† Dibenzo(ah)anthracene $	9331	31.73	34.0481 T	0	7.0594	1935 #	0.25	1.007
† Indeno(123cd)pyrene $	42731	31.58	145.0601 T	0	3.387	998 #	~~0.78~~ 1.002	0.17
d12-Benzo(ghi)perylene	953623	32.31	3649.7696 I	0	3649.7696	2411	0.19	1
Benzo(ghi)perylene	57905	32.4	185.578 T	0	2.9748	928	0.22	1.003

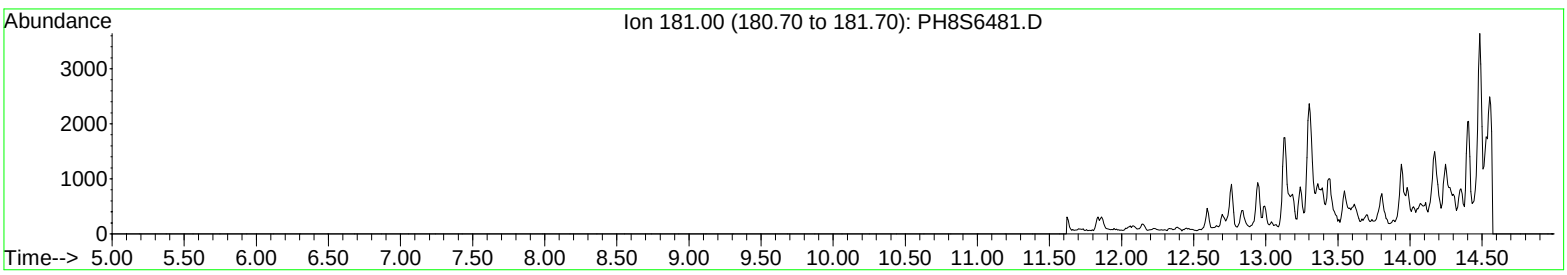
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



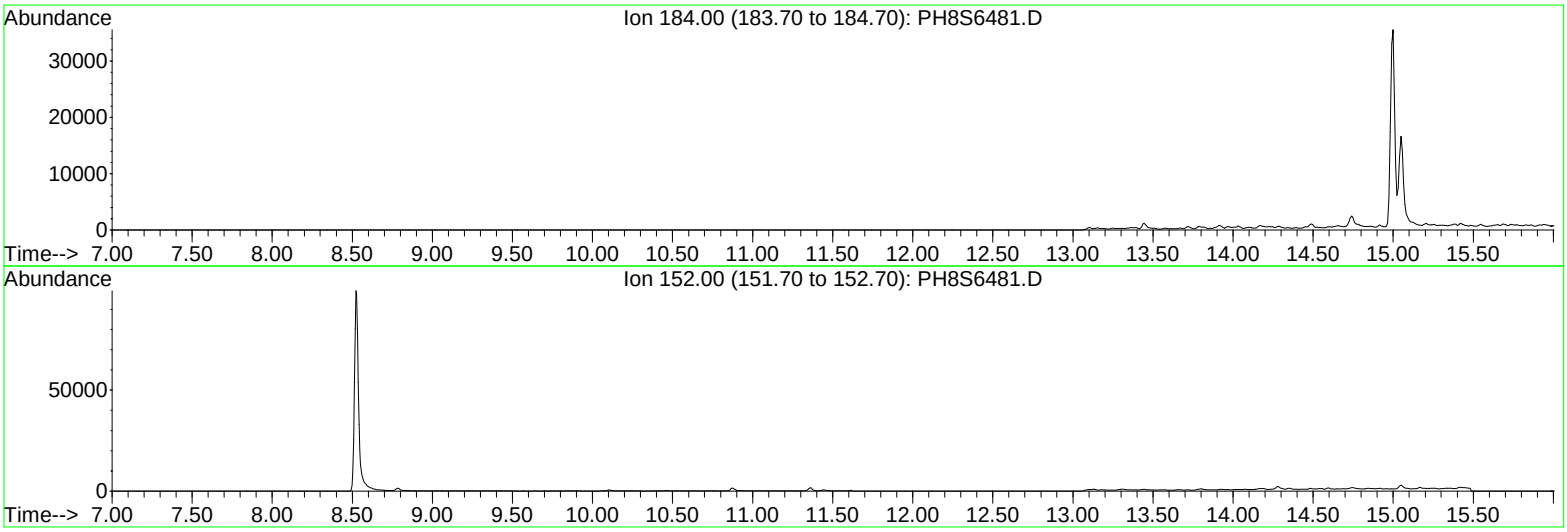


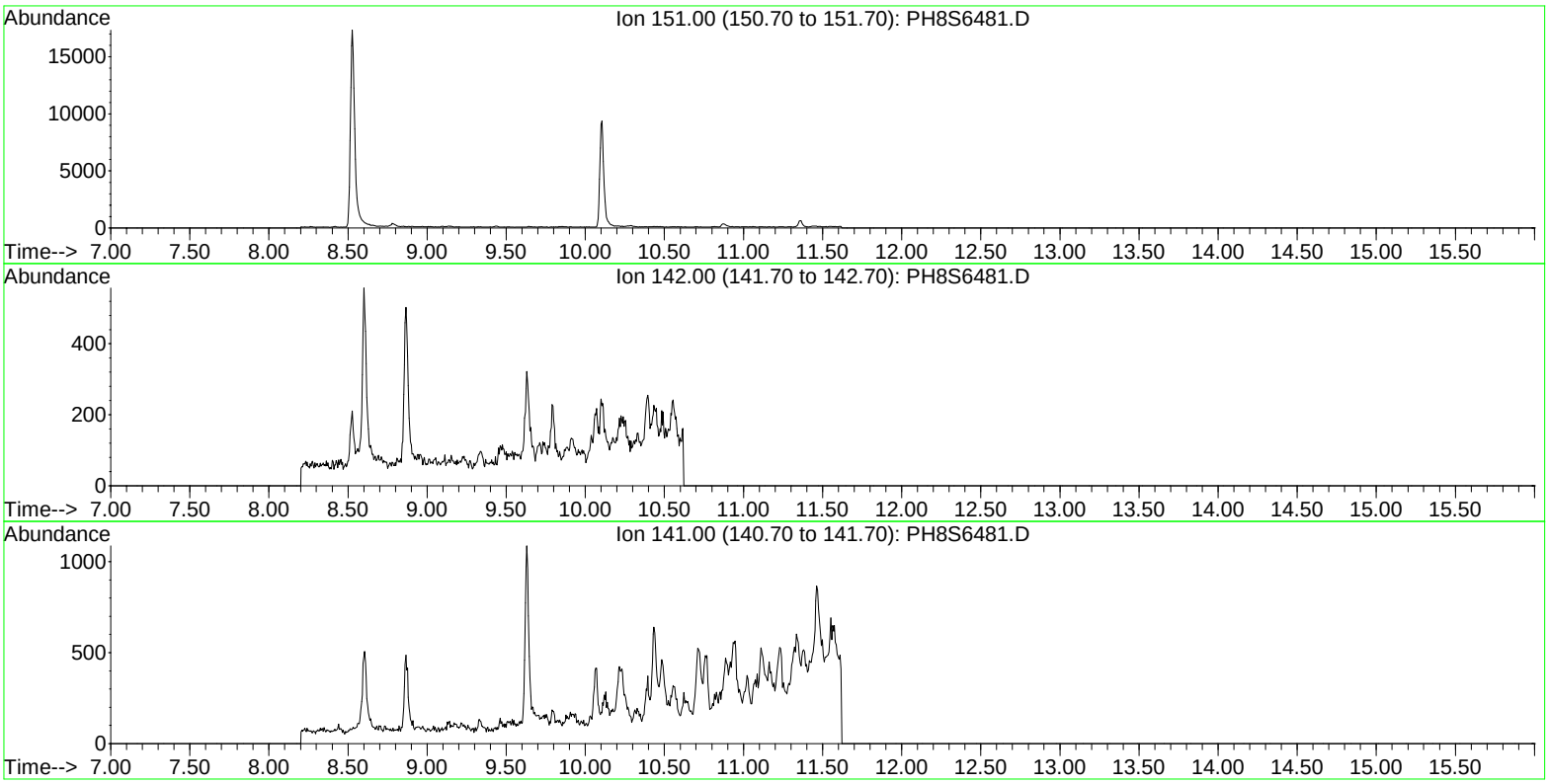


Thu Jan 10 08:50:01 2019

Axys Analytical CHRO Report

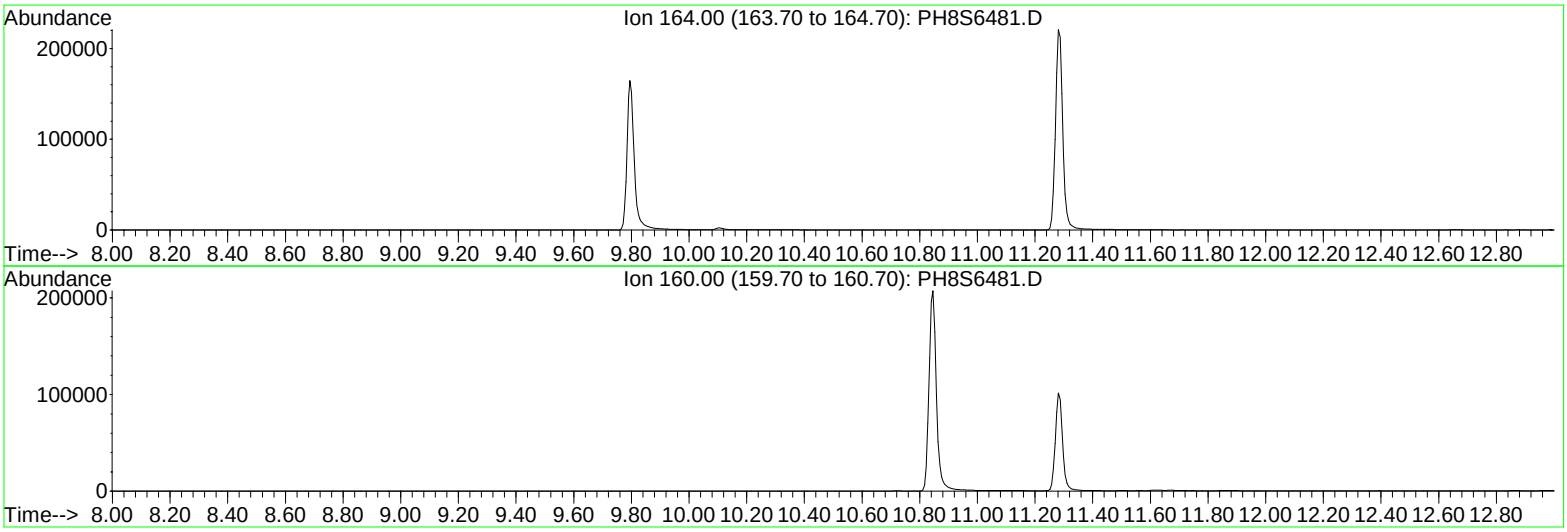
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

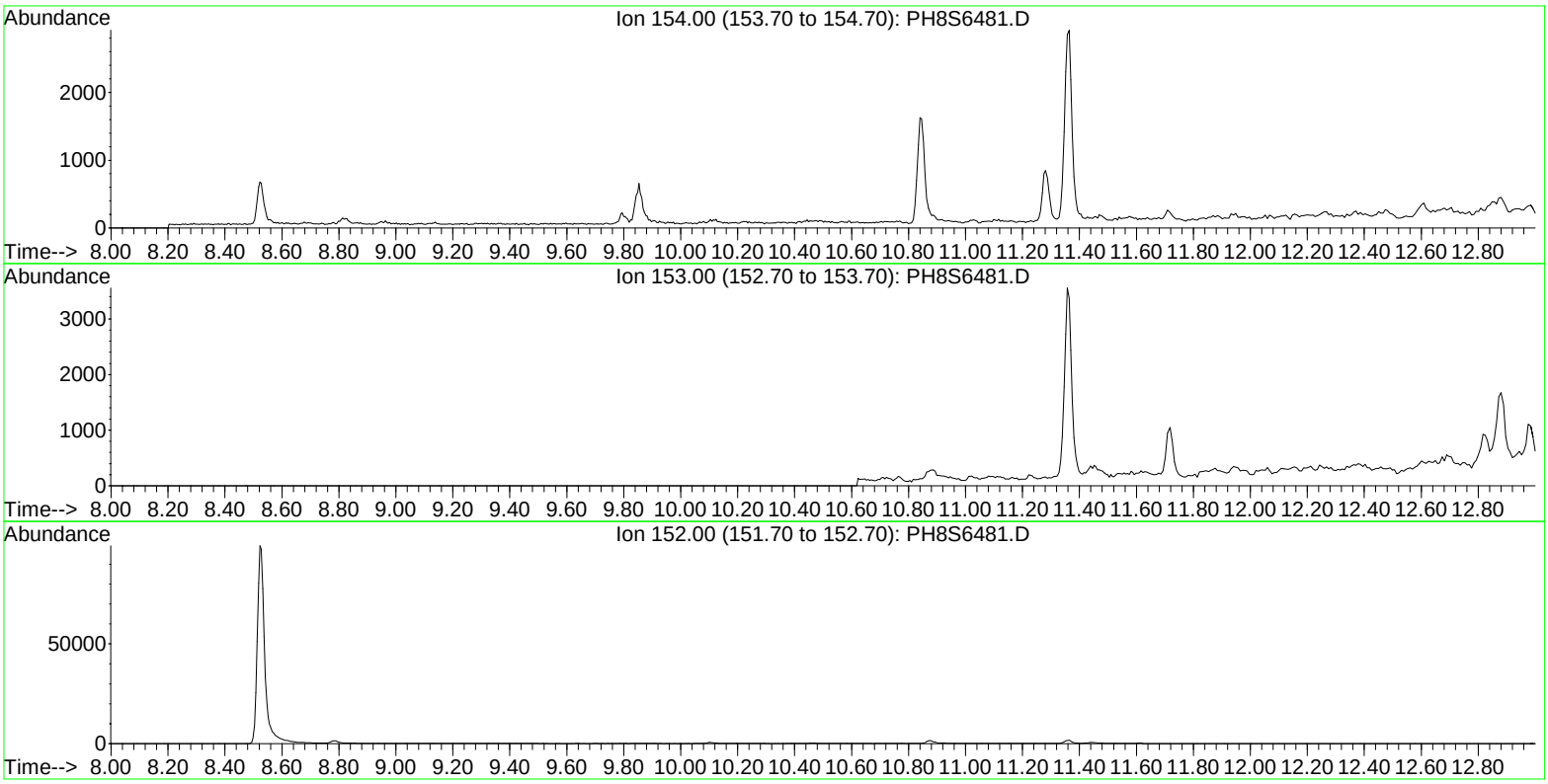




Axys Analytical CHRO Report

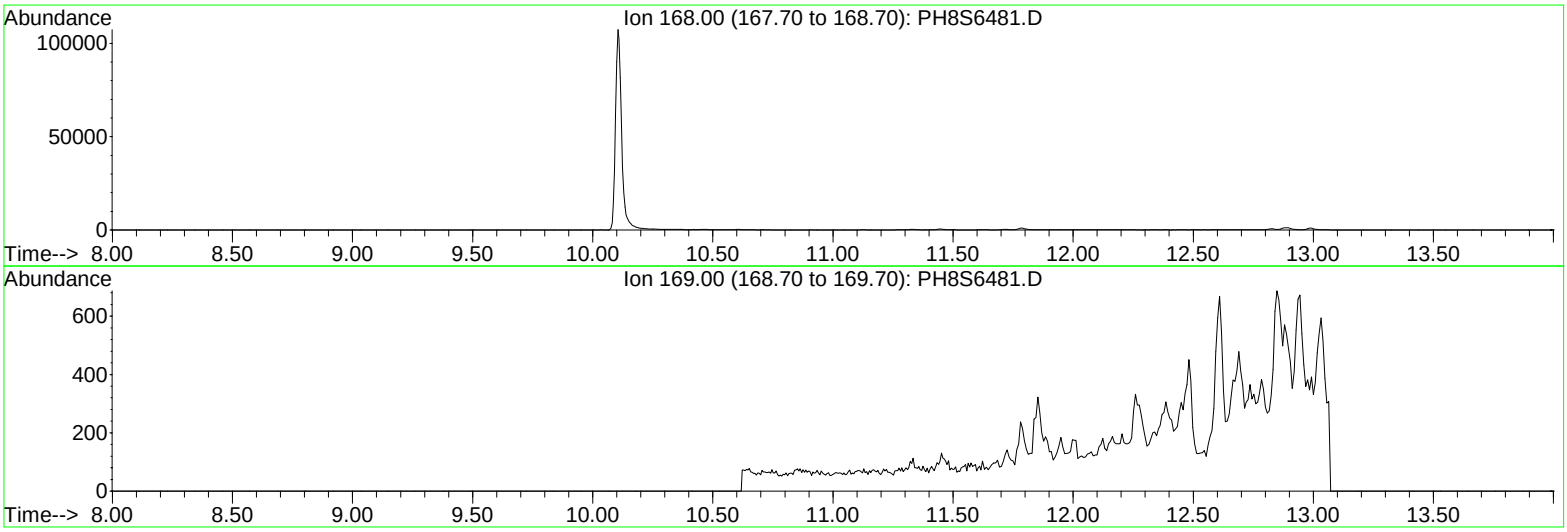
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

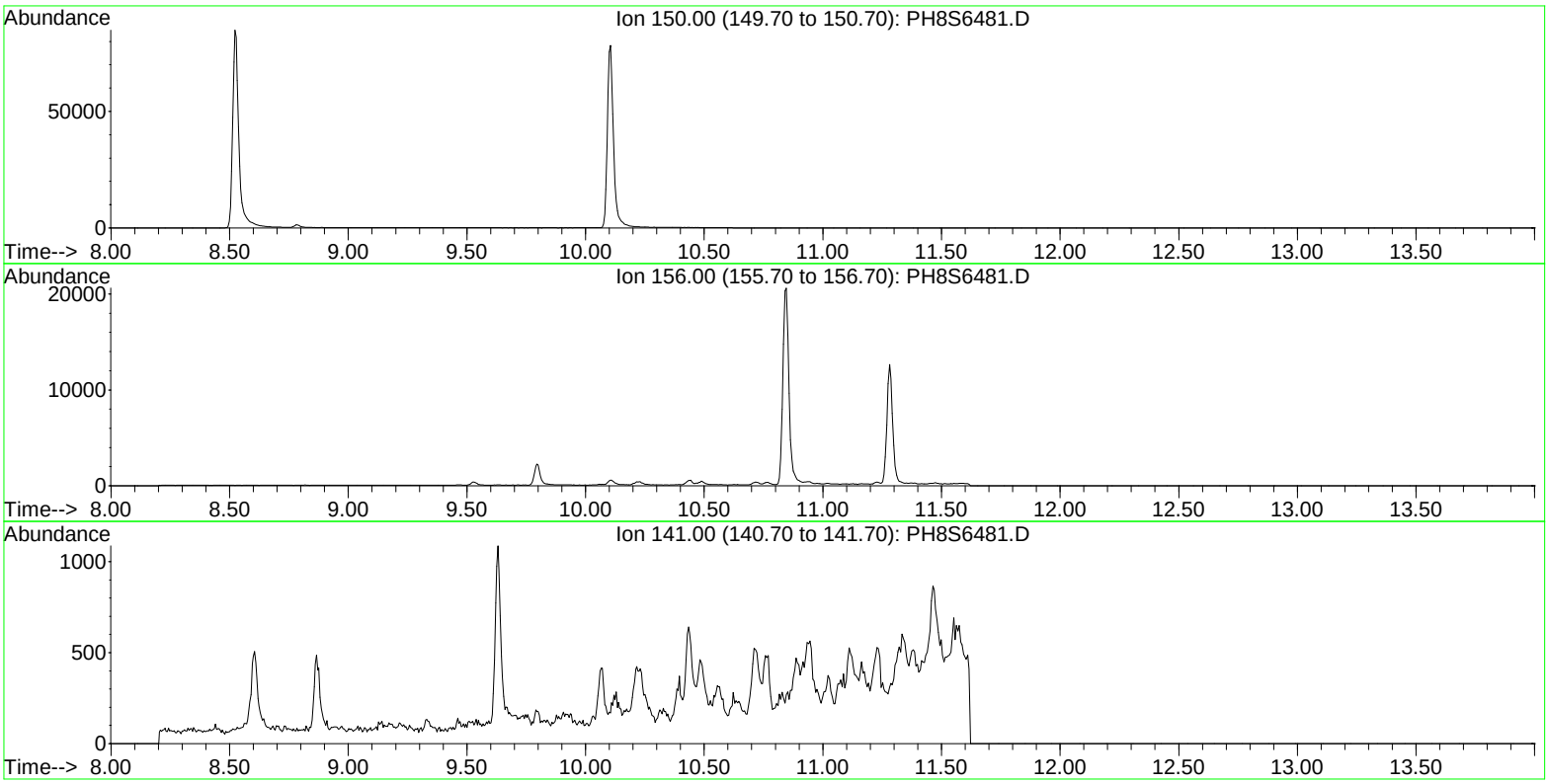




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

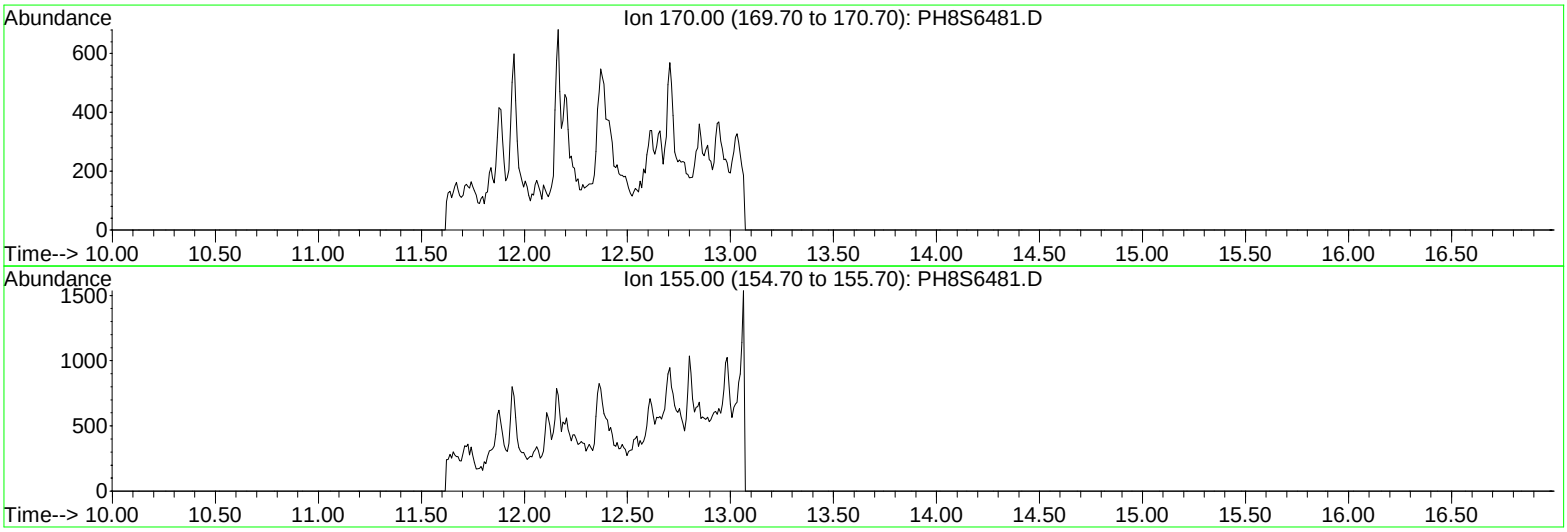


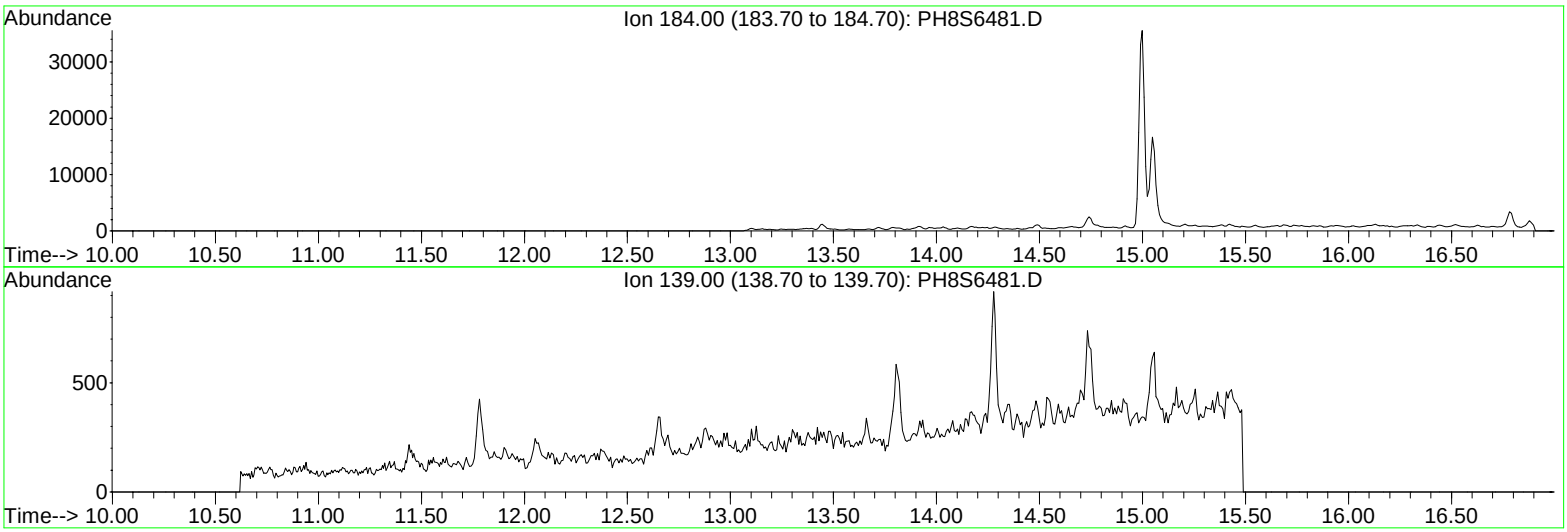


Thu Jan 10 08:50:11 2019

Axys Analytical CHRO Report

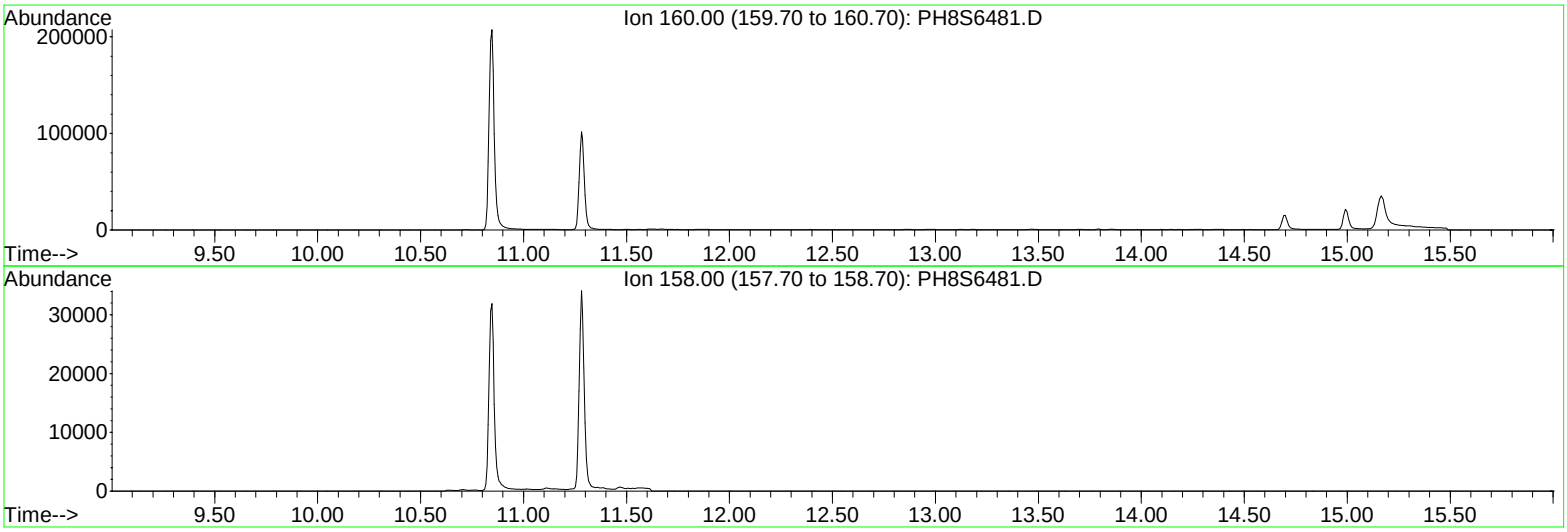
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

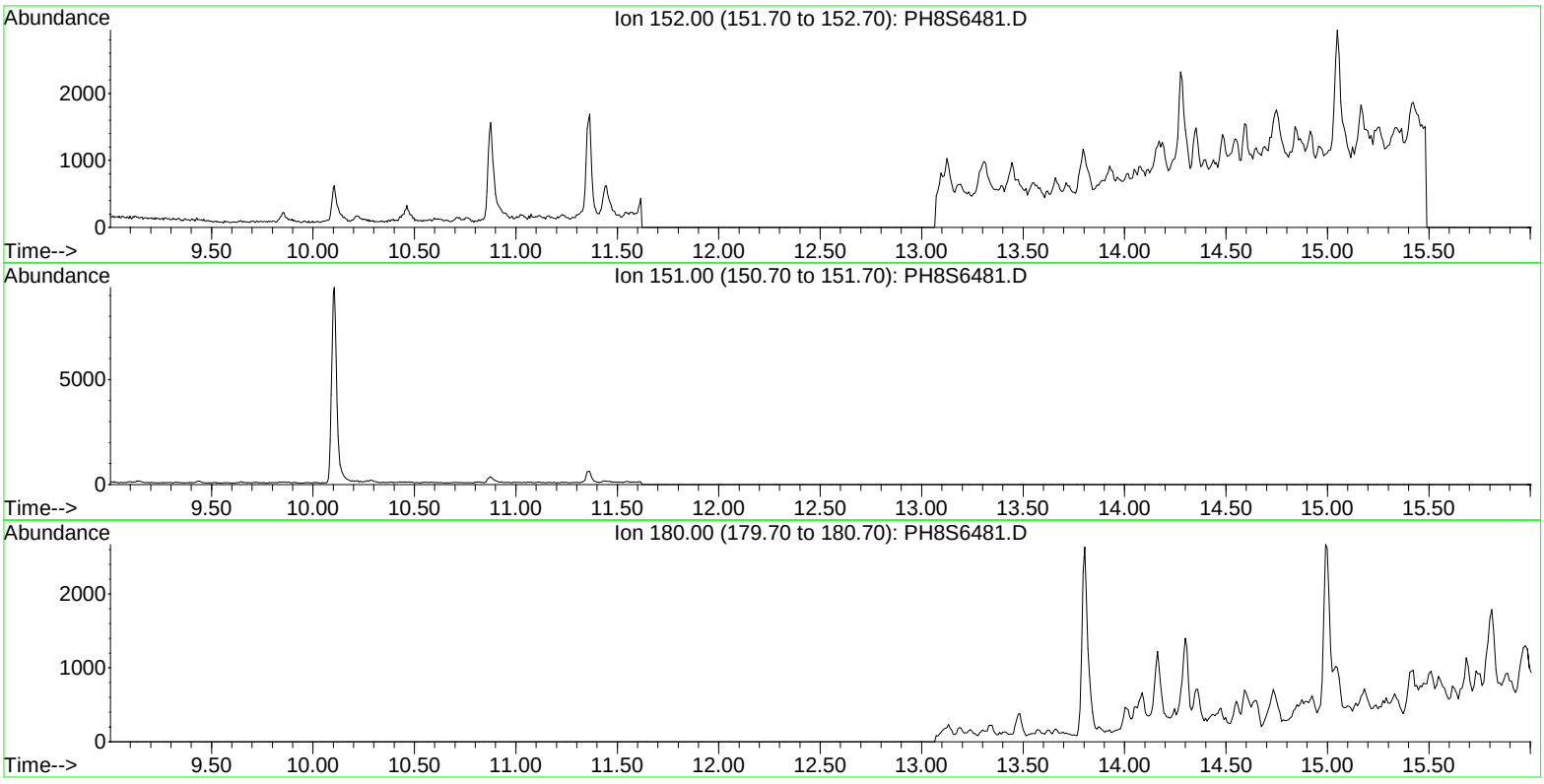


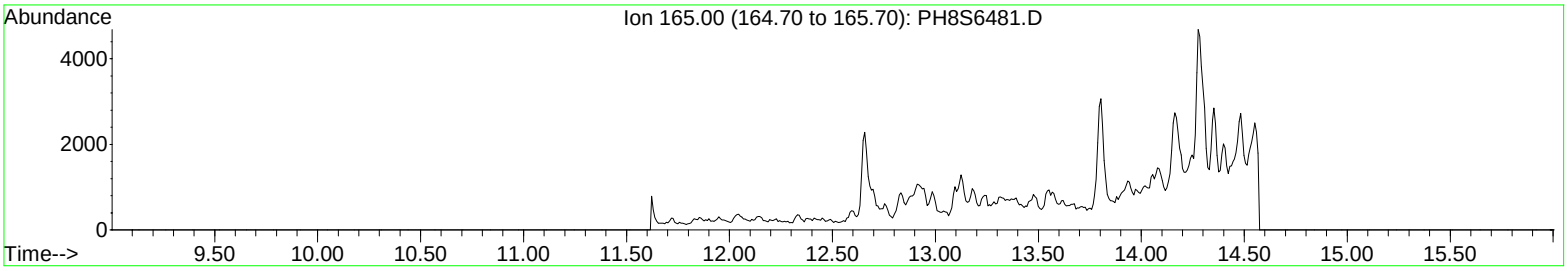


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



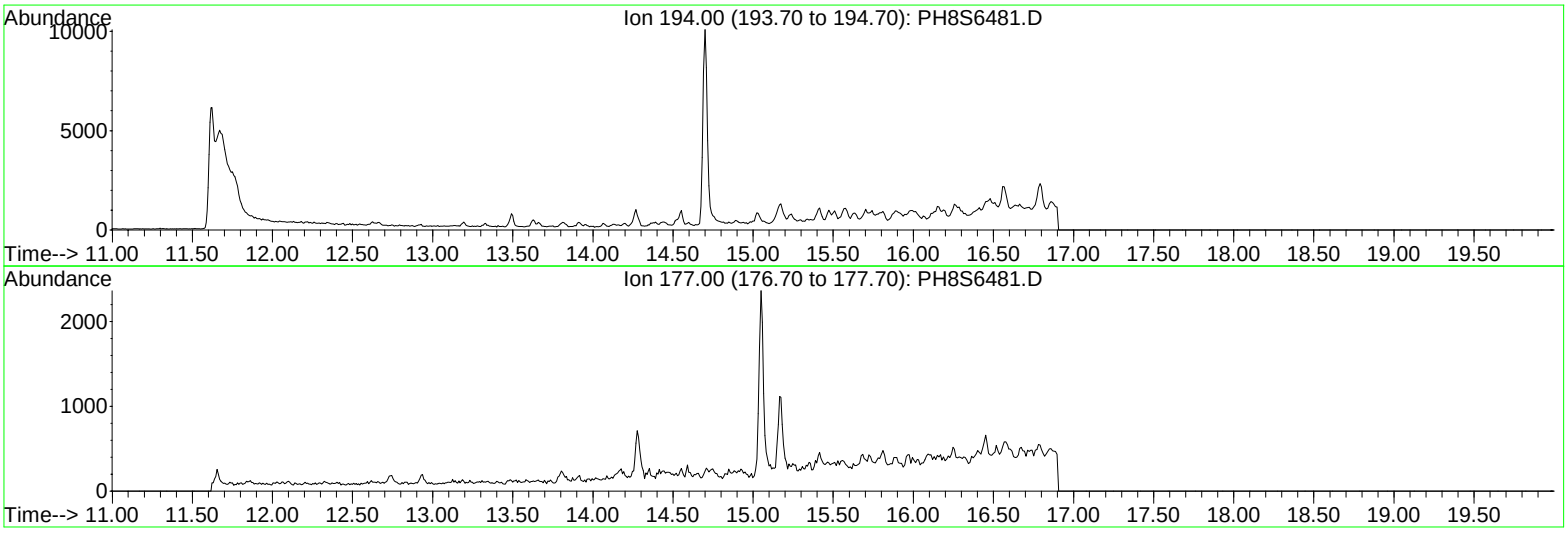


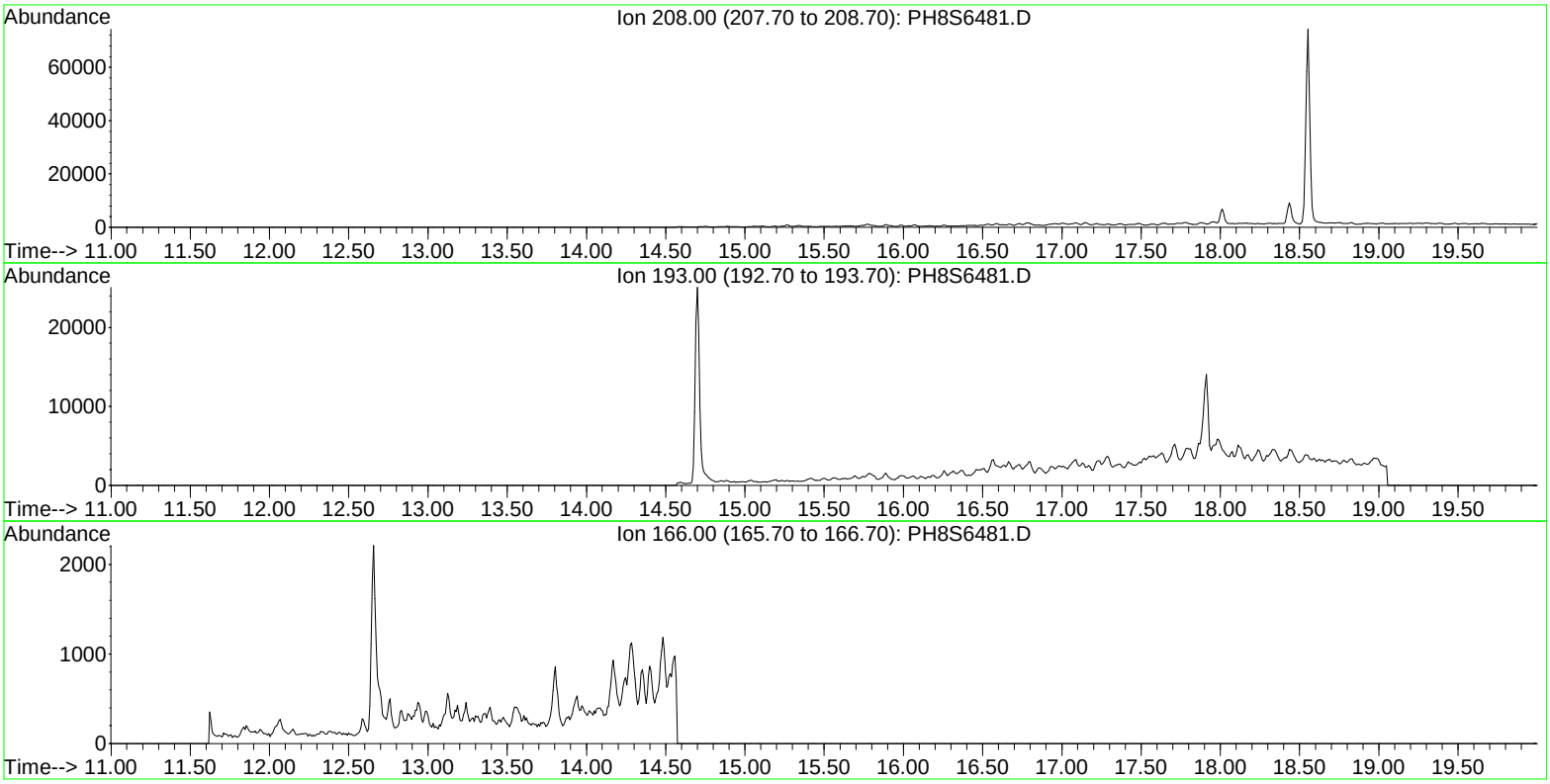


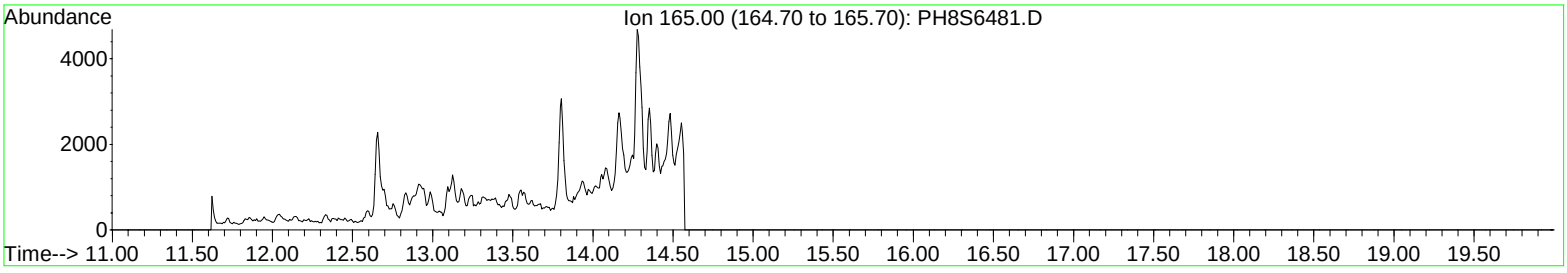
Thu Jan 10 08:50:18 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



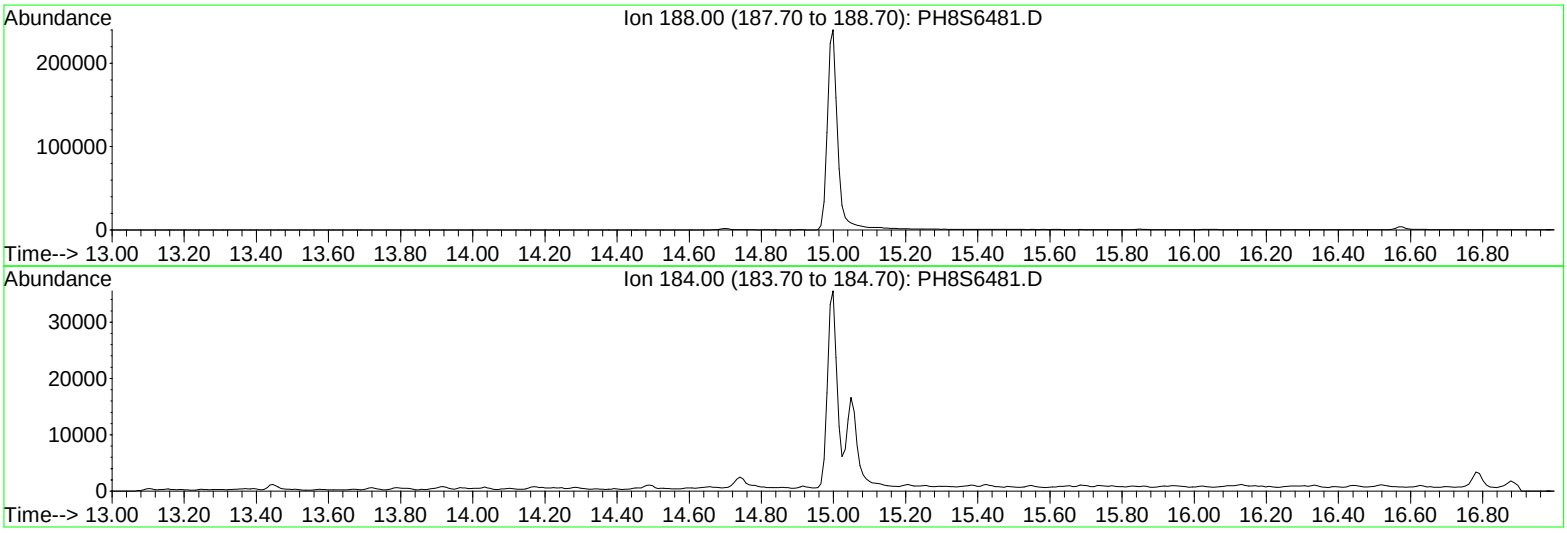


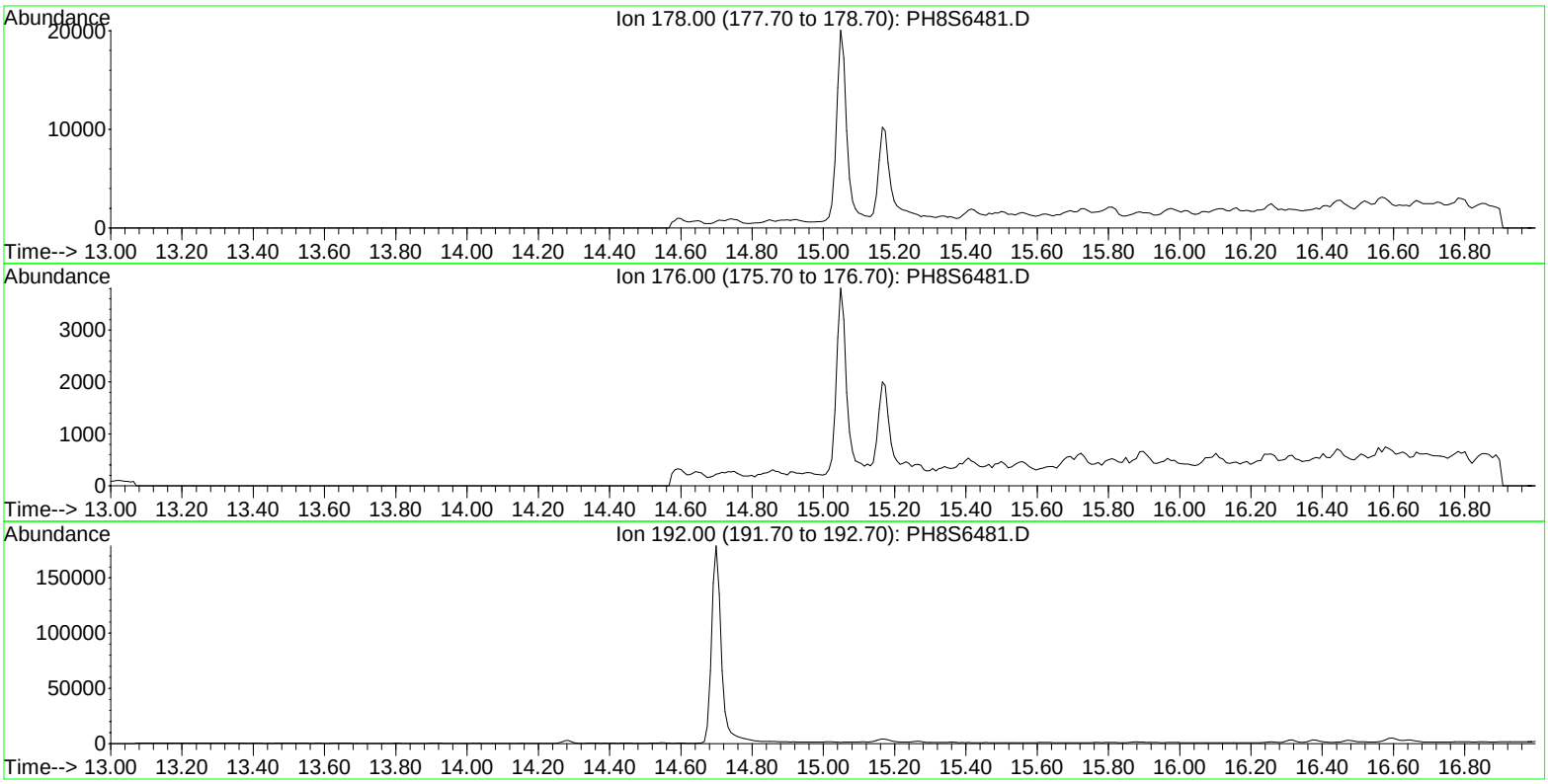


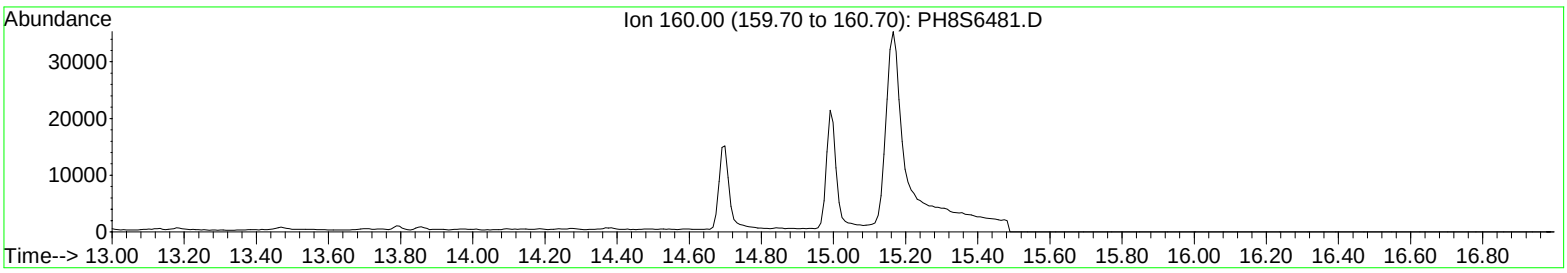
Thu Jan 10 08:50:21 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

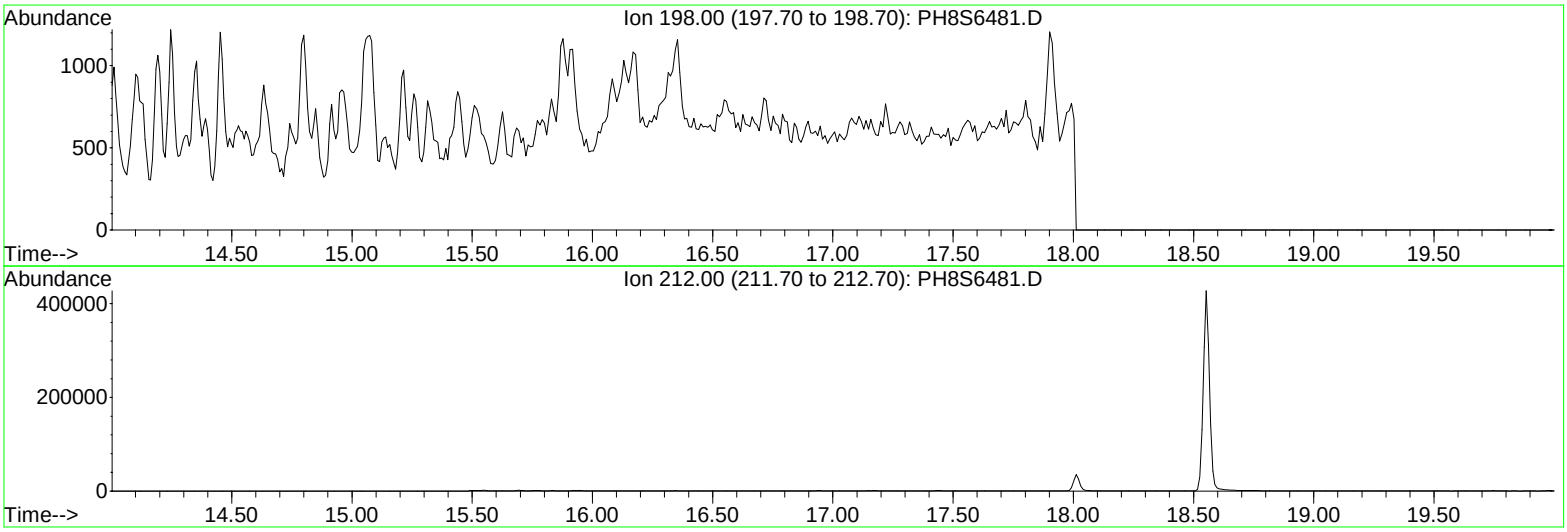


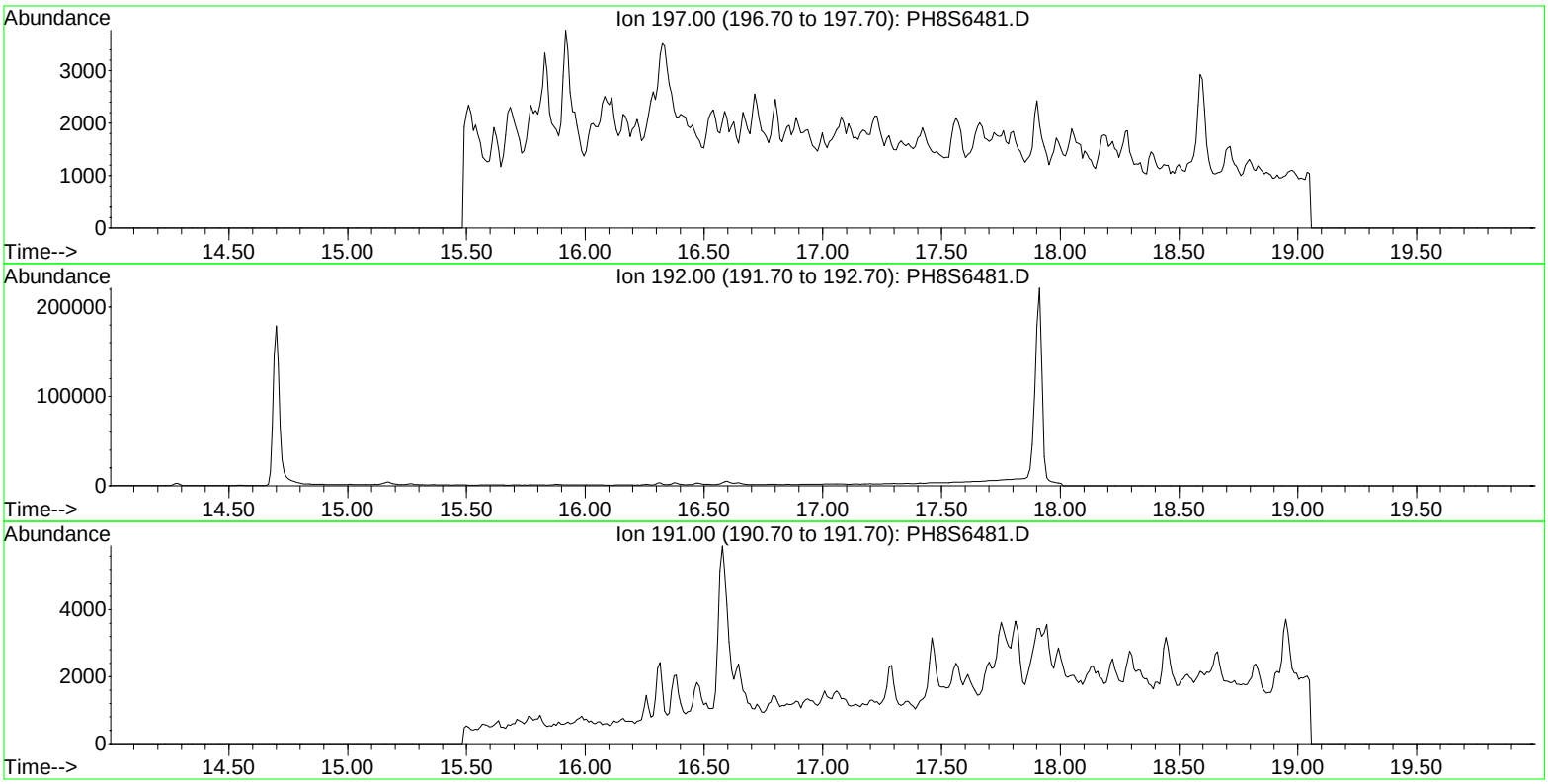




Axys Analytical CHRO Report

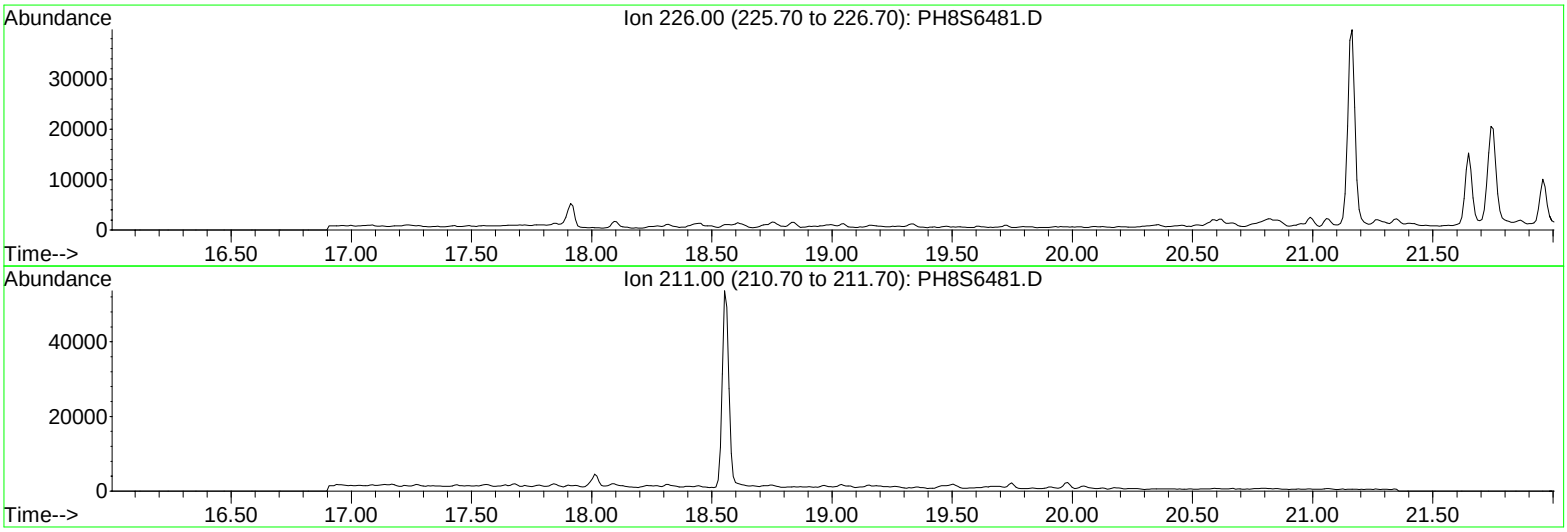
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

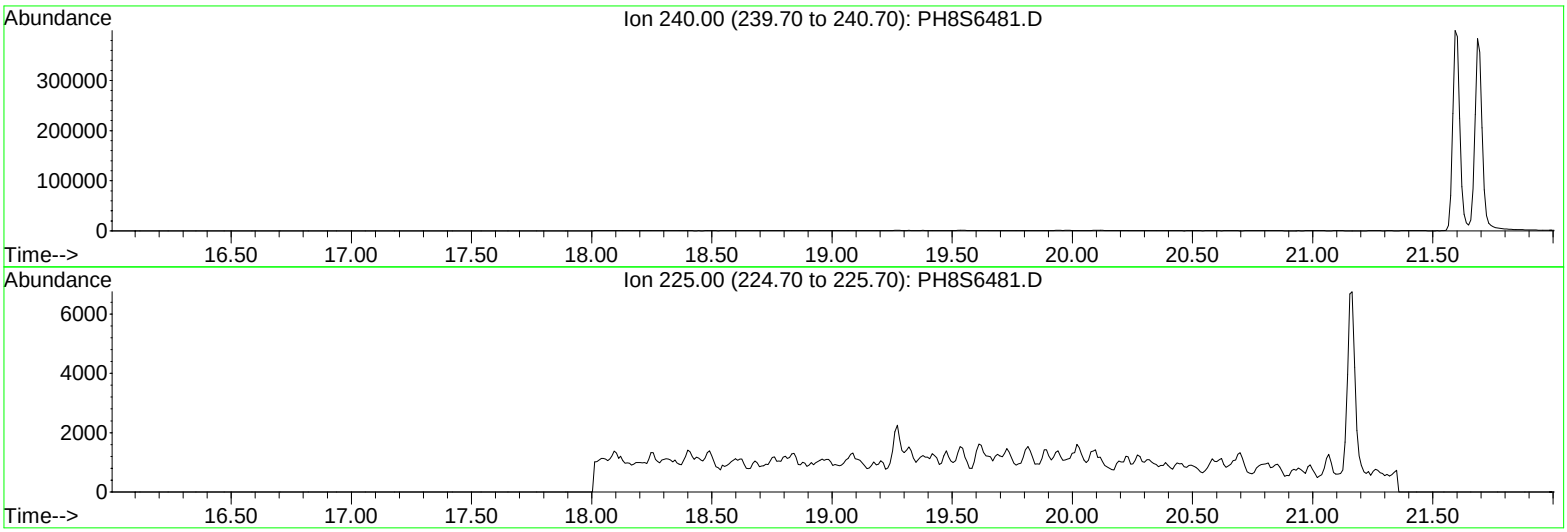




Axys Analytical CHRO Report

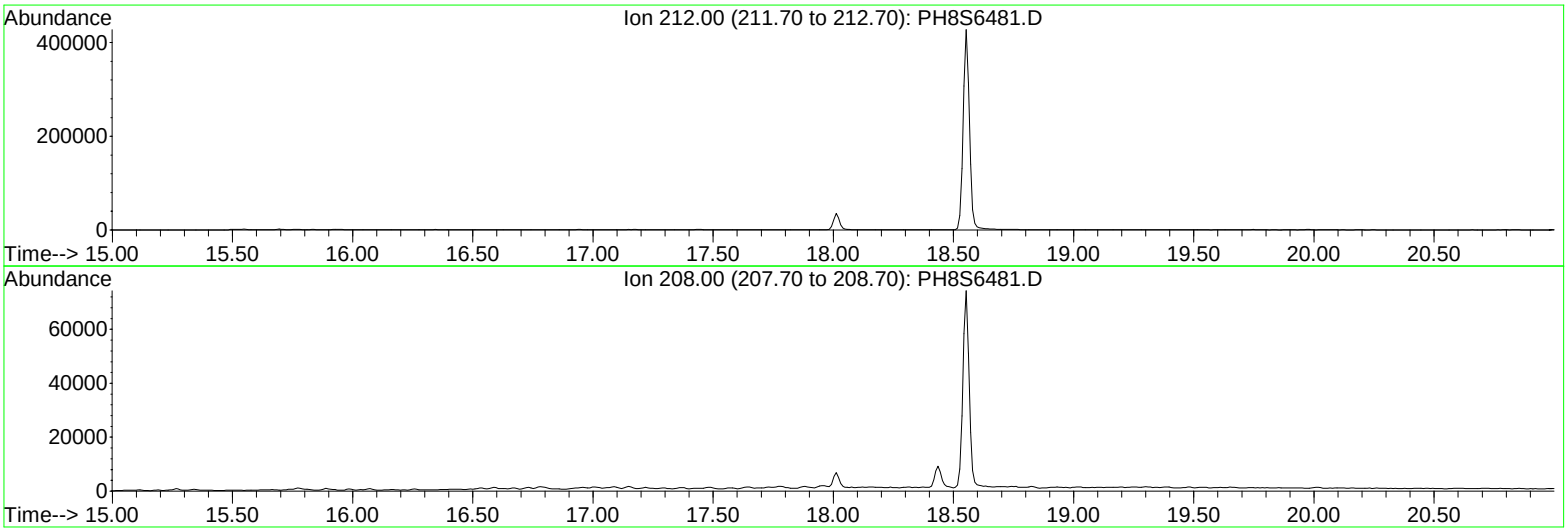
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

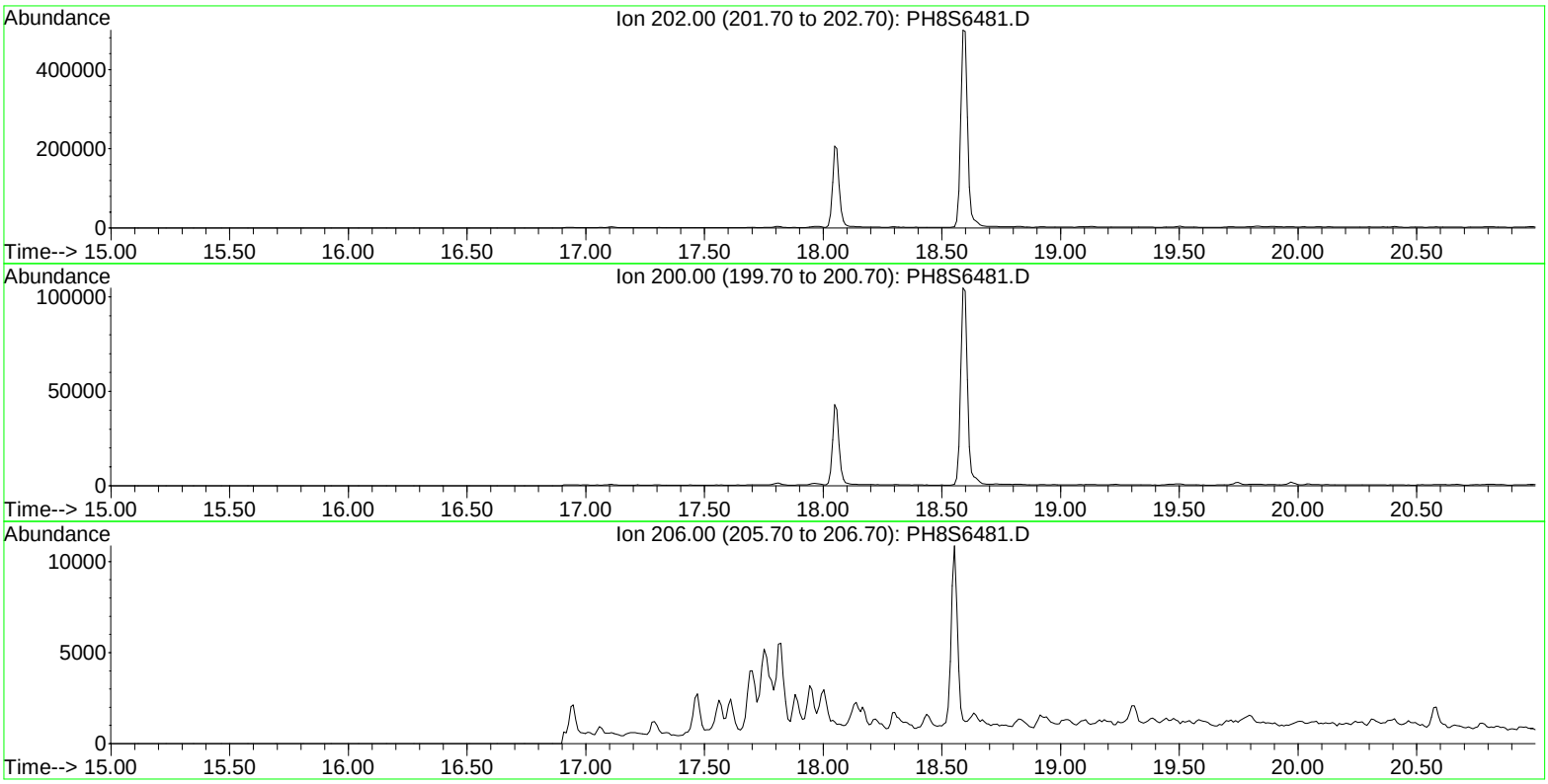


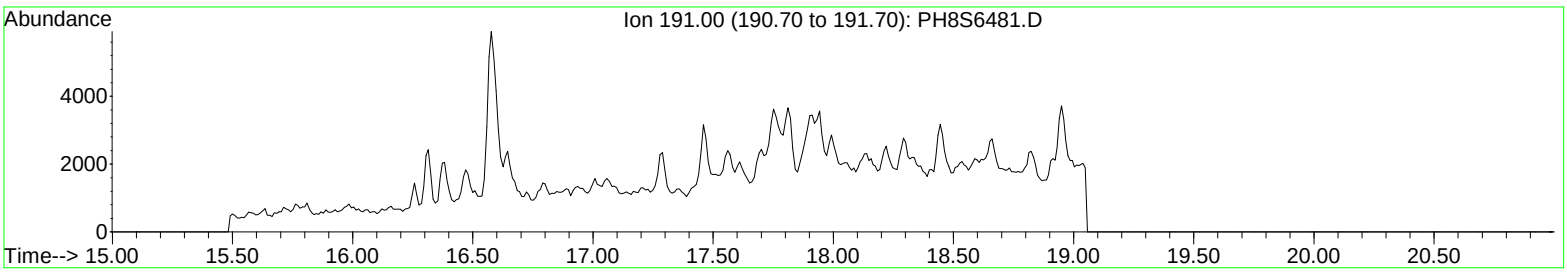


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



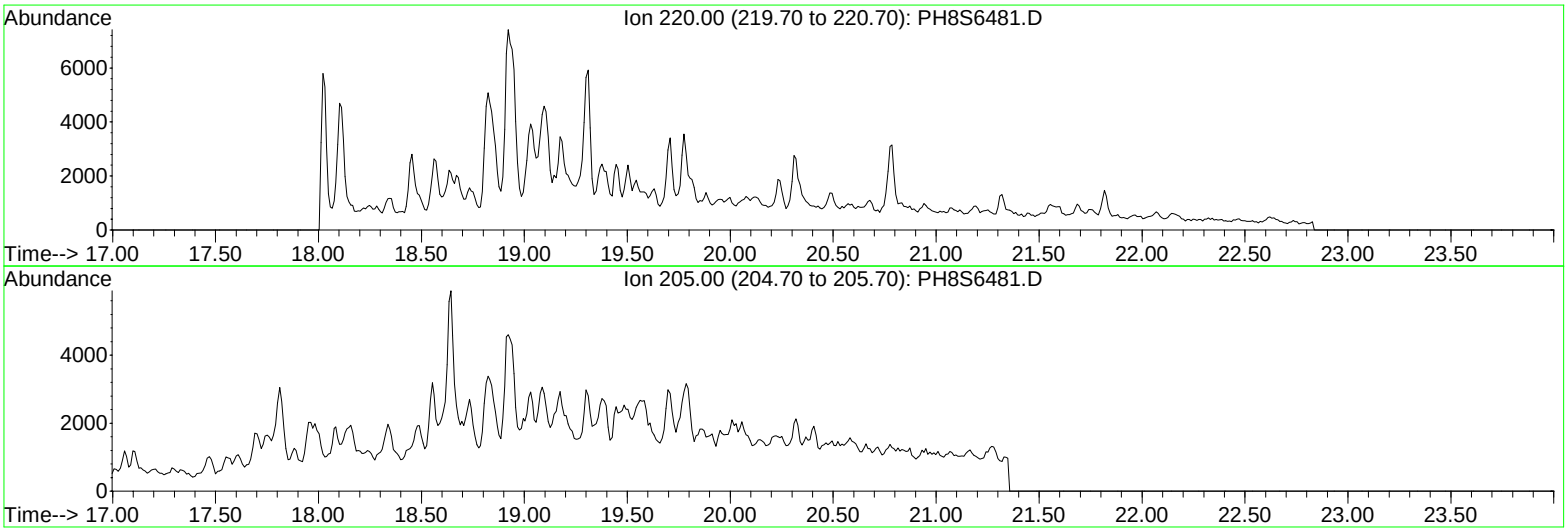


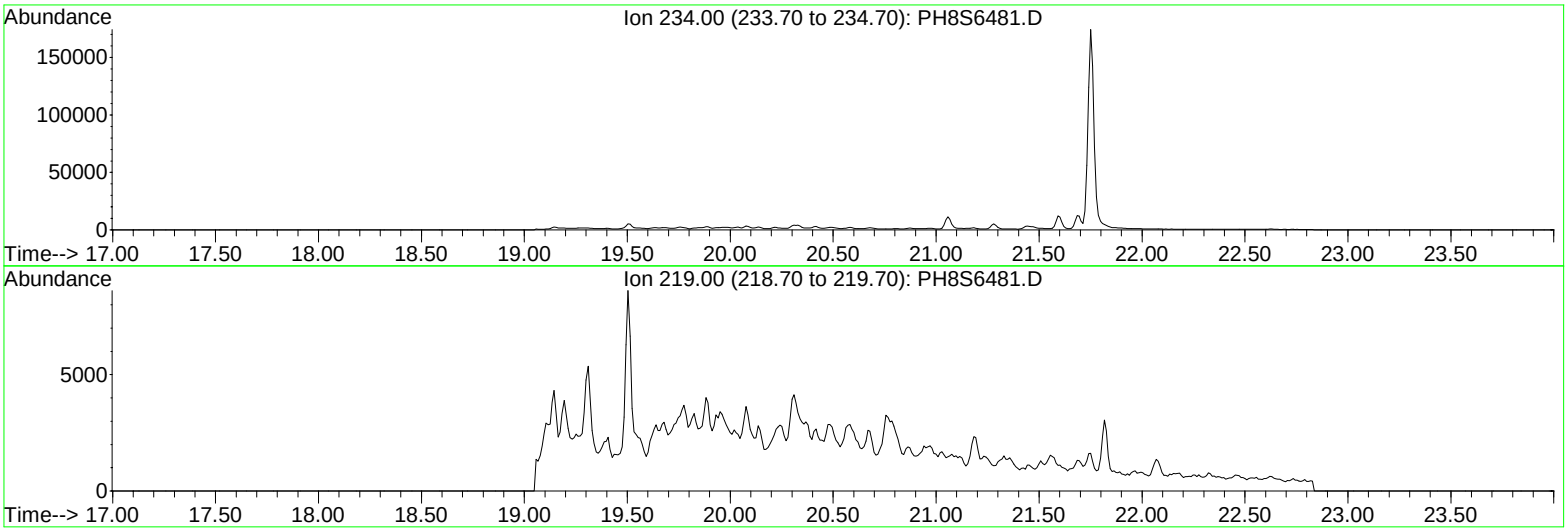


Thu Jan 10 08:50:35 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

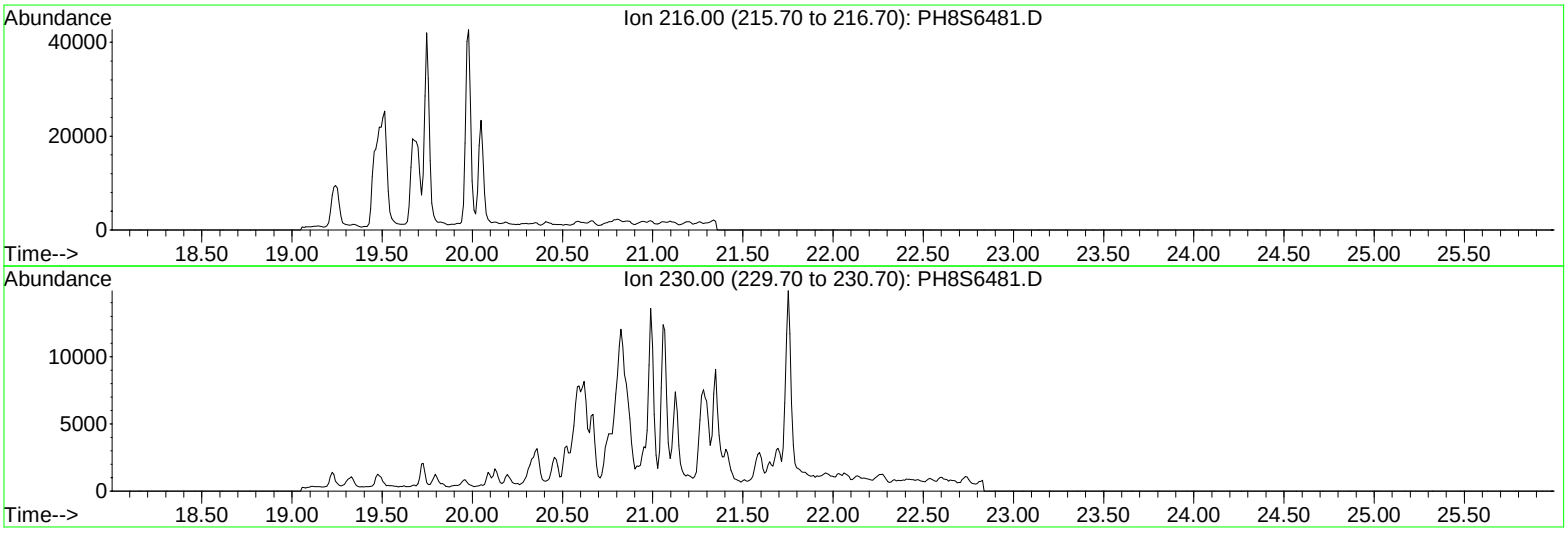


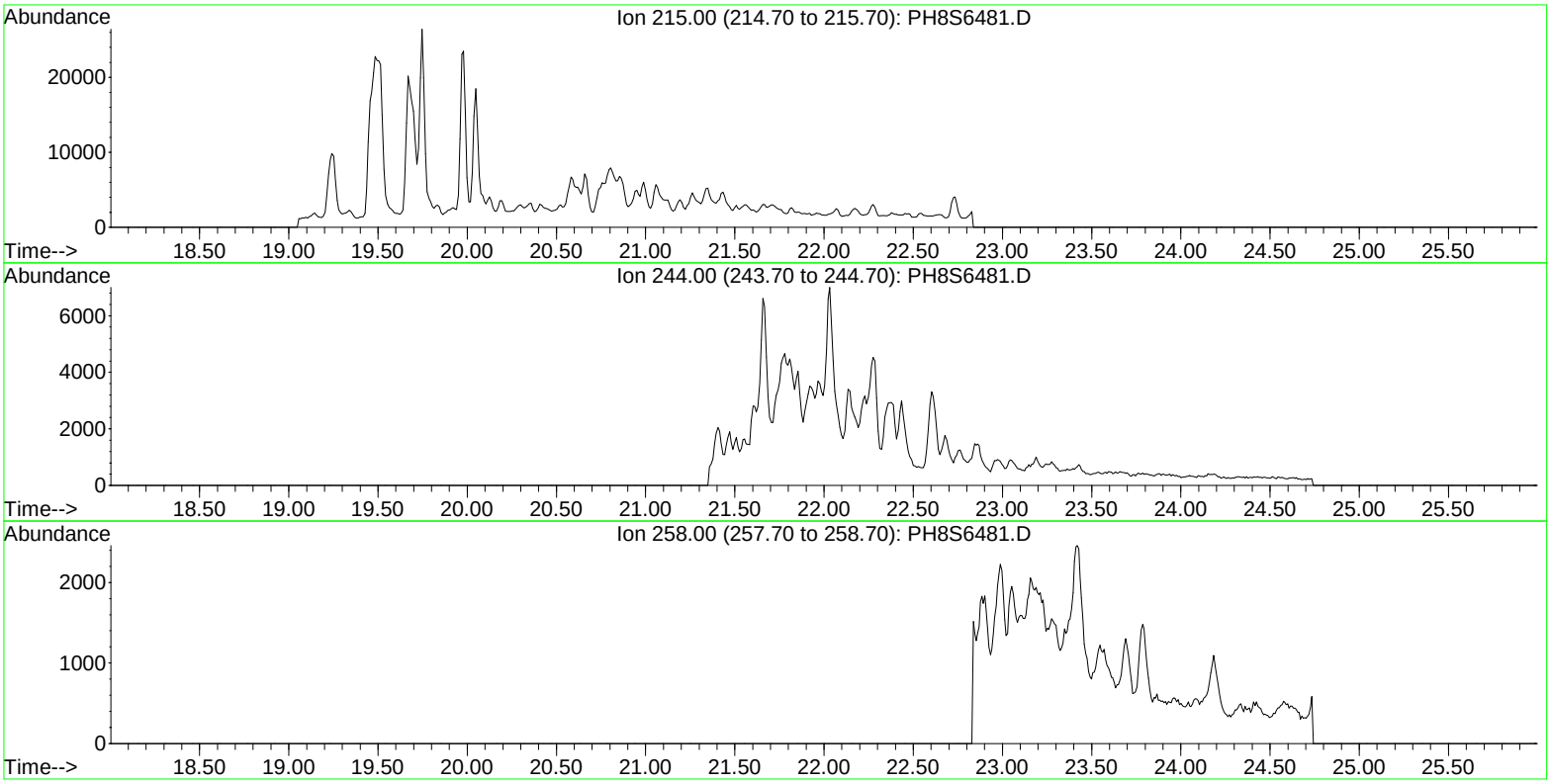


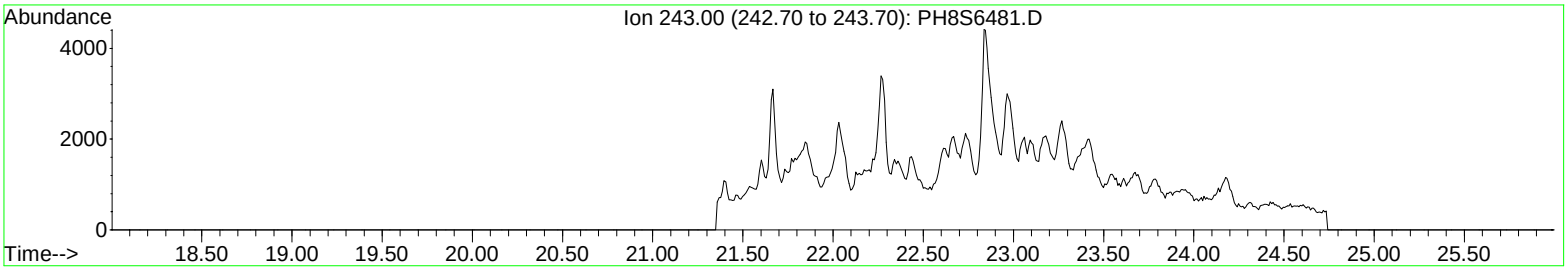
Thu Jan 10 08:50:38 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



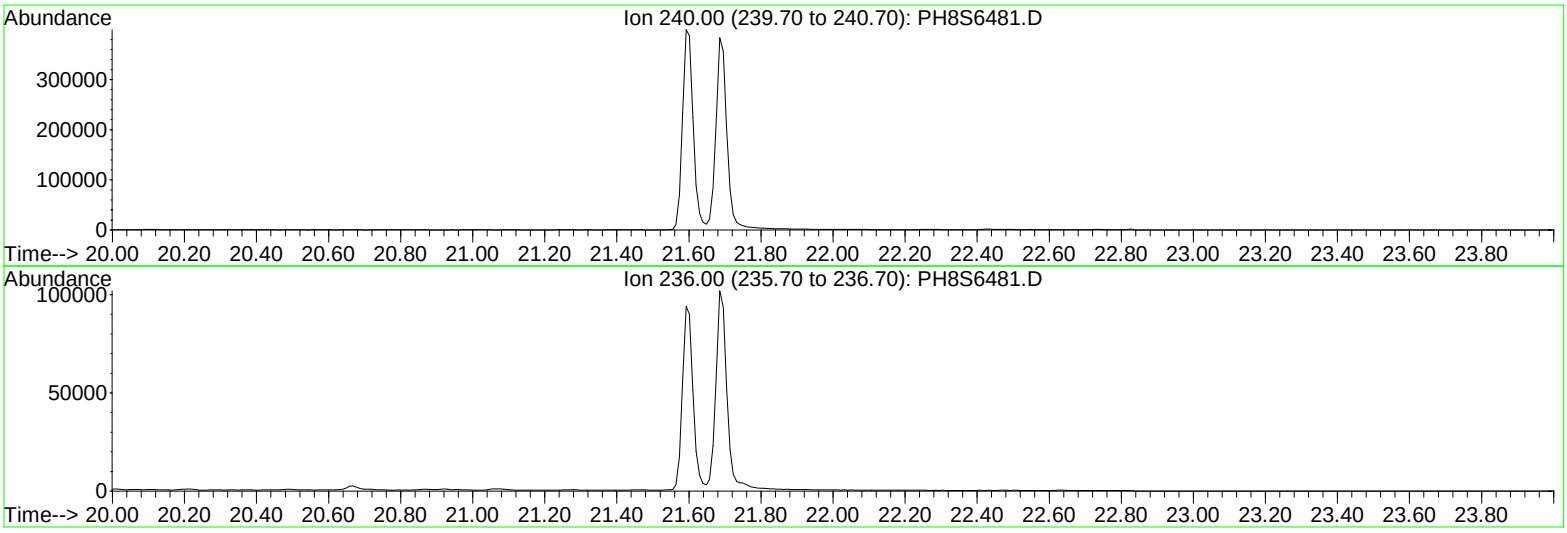


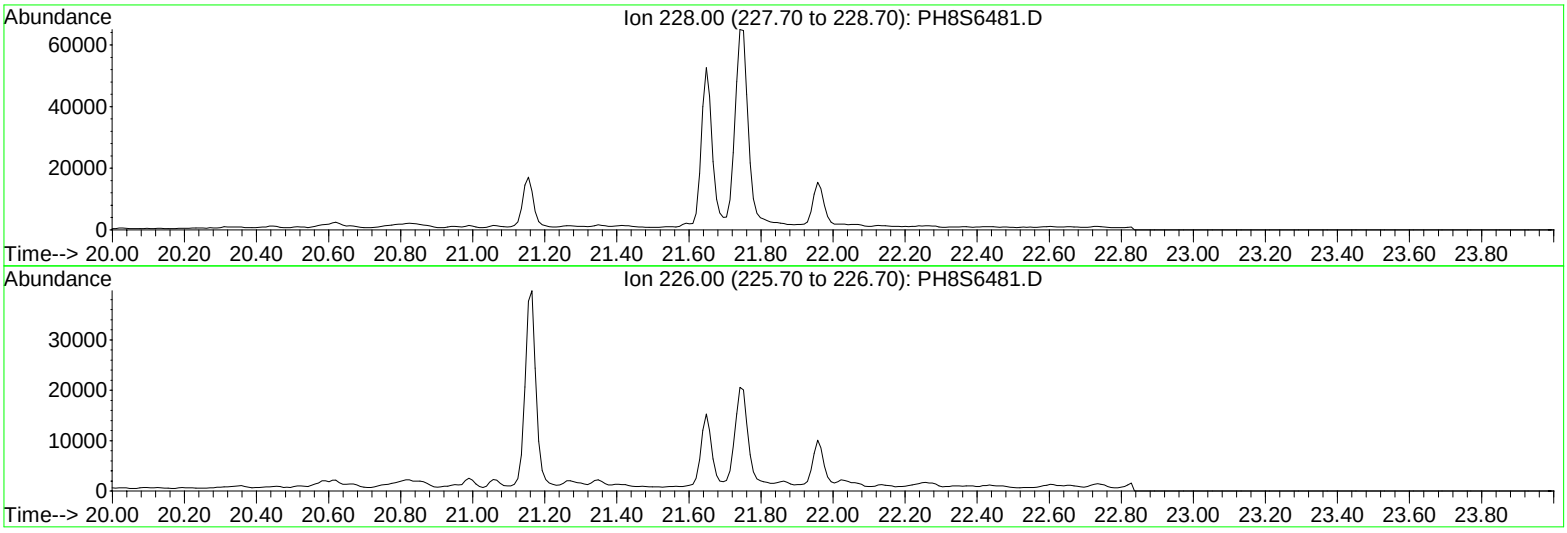


Thu Jan 10 08:50:42 2019

Axys Analytical CHRO Report

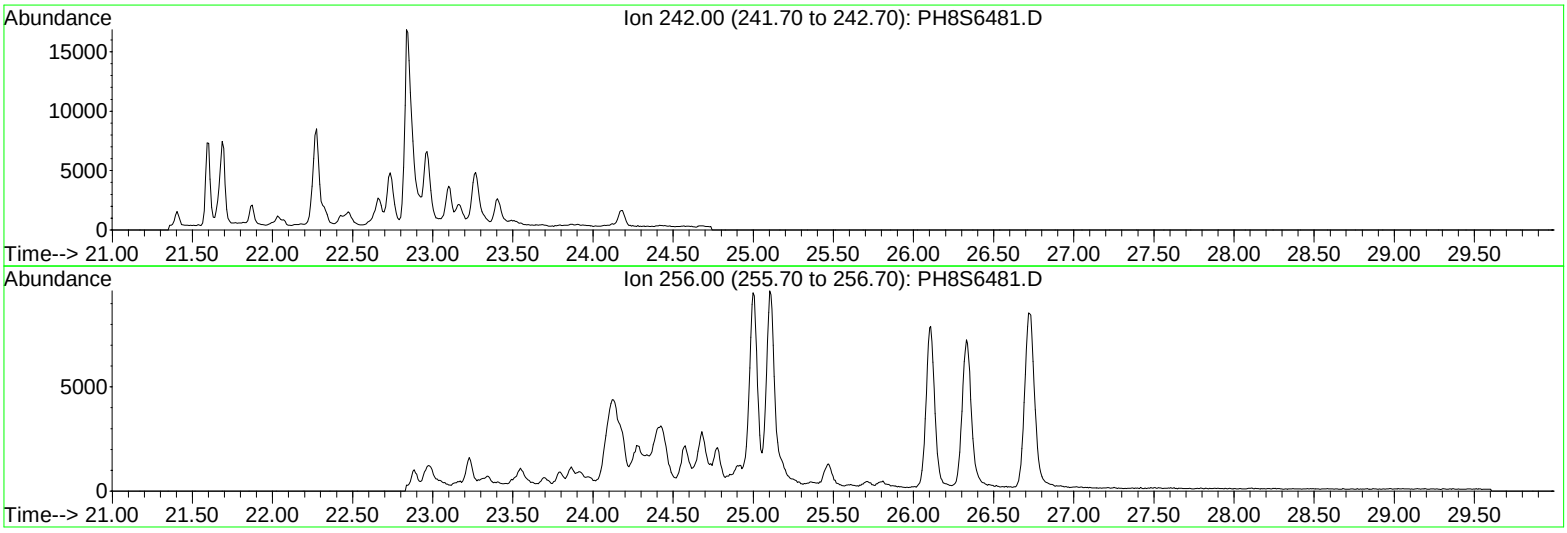
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

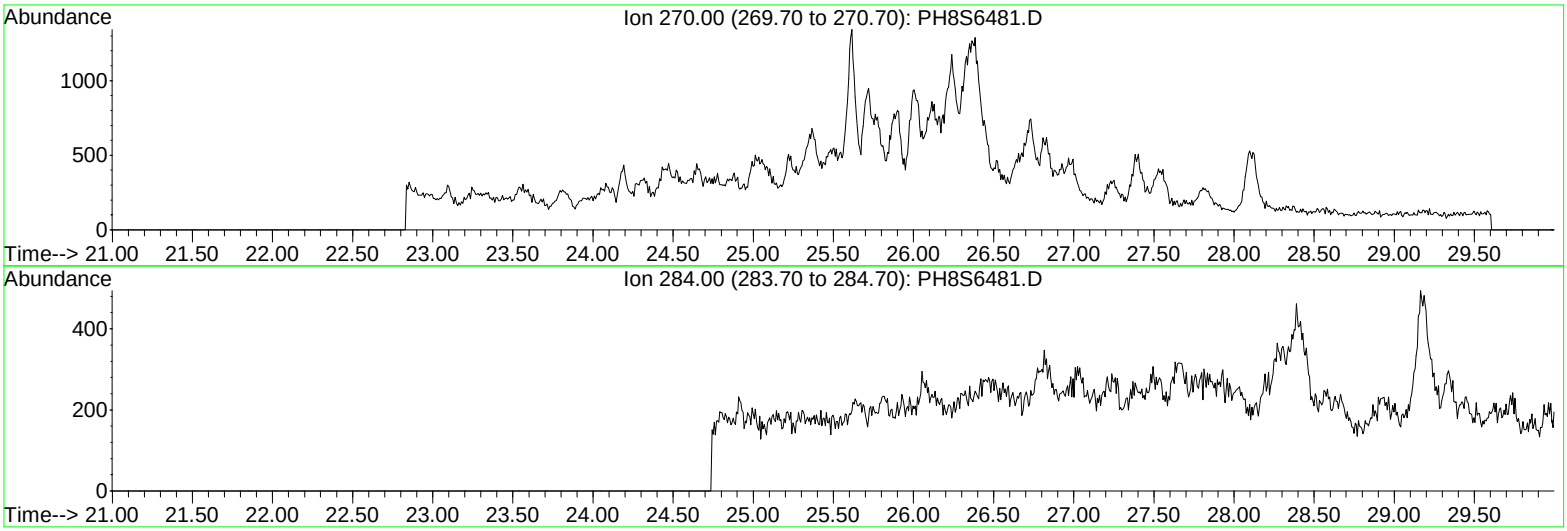




Axys Analytical CHRO Report

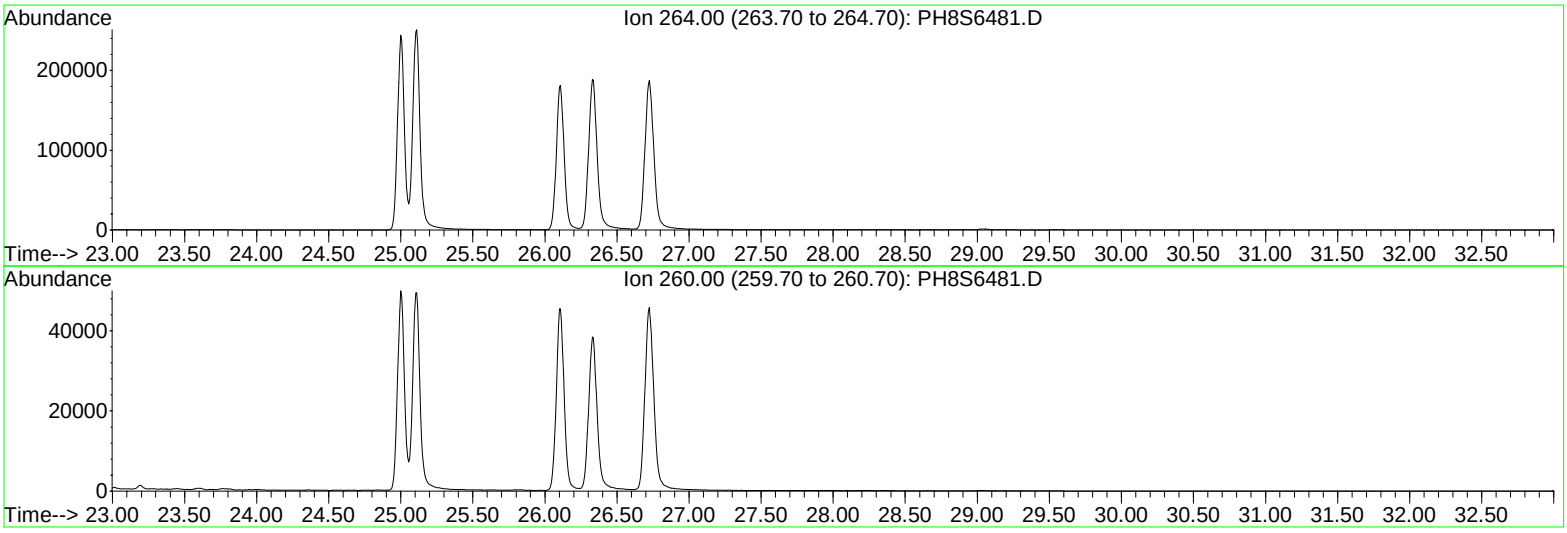
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

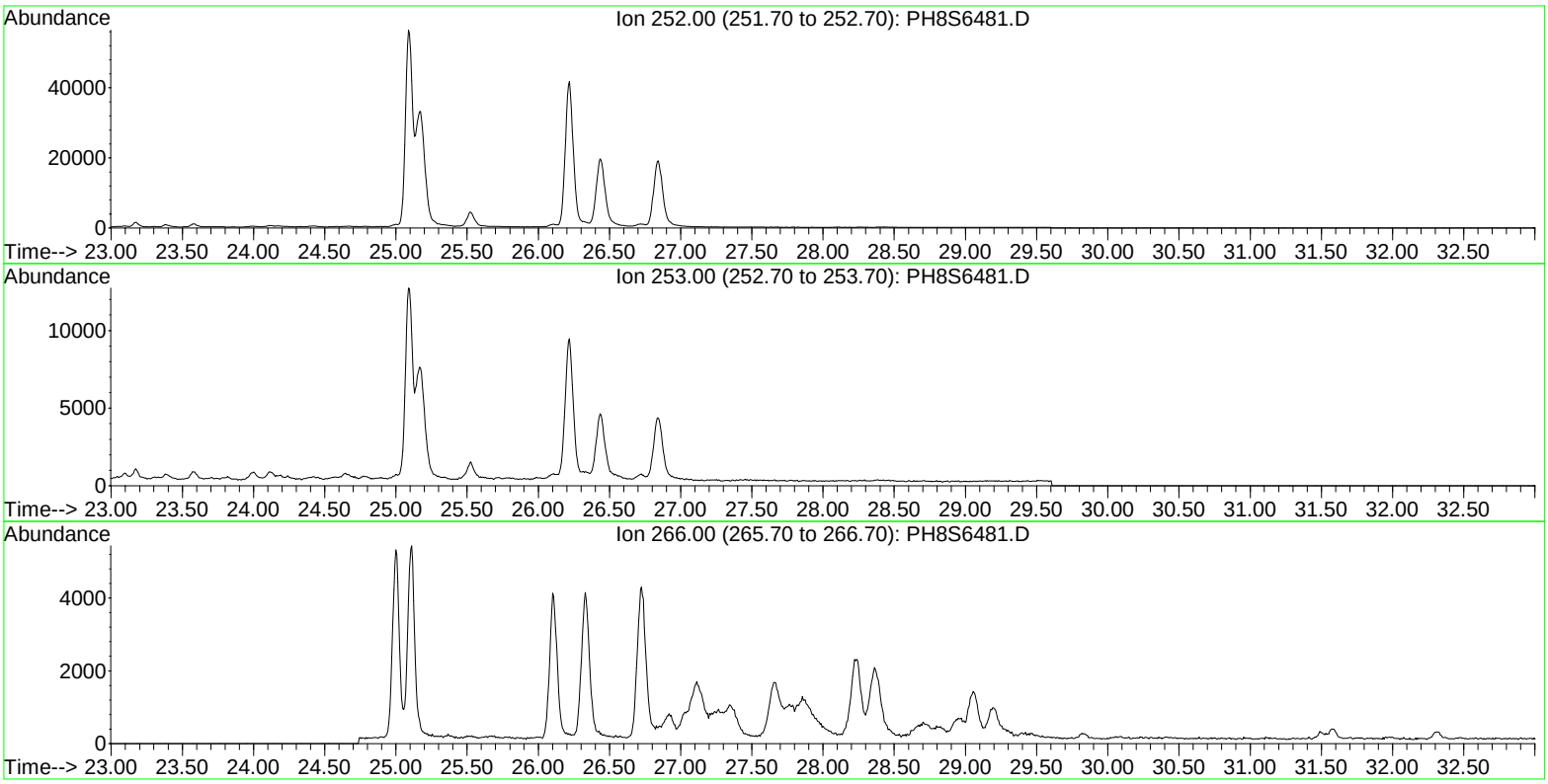


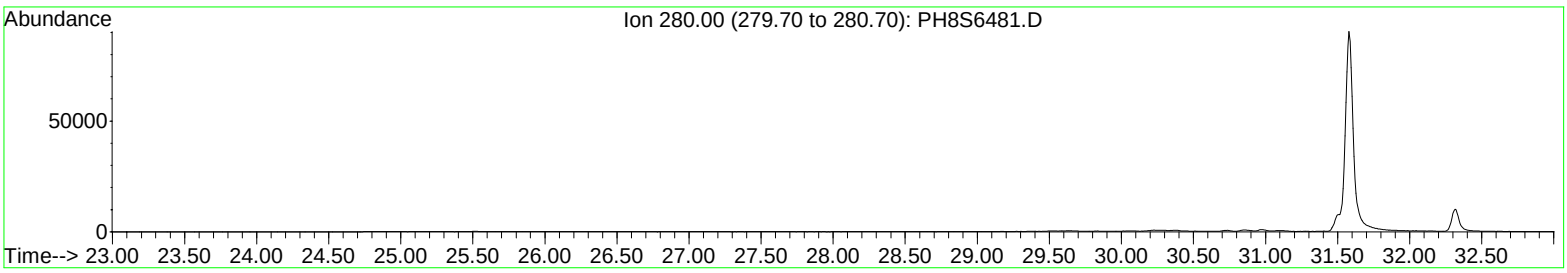


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



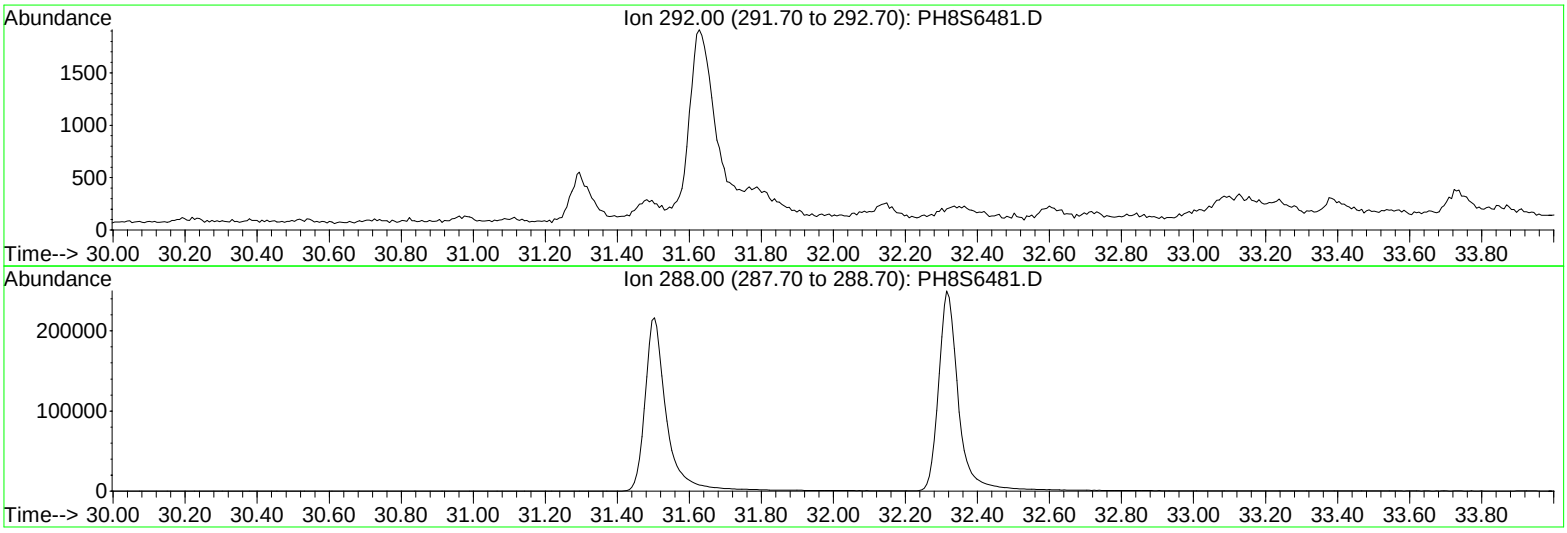


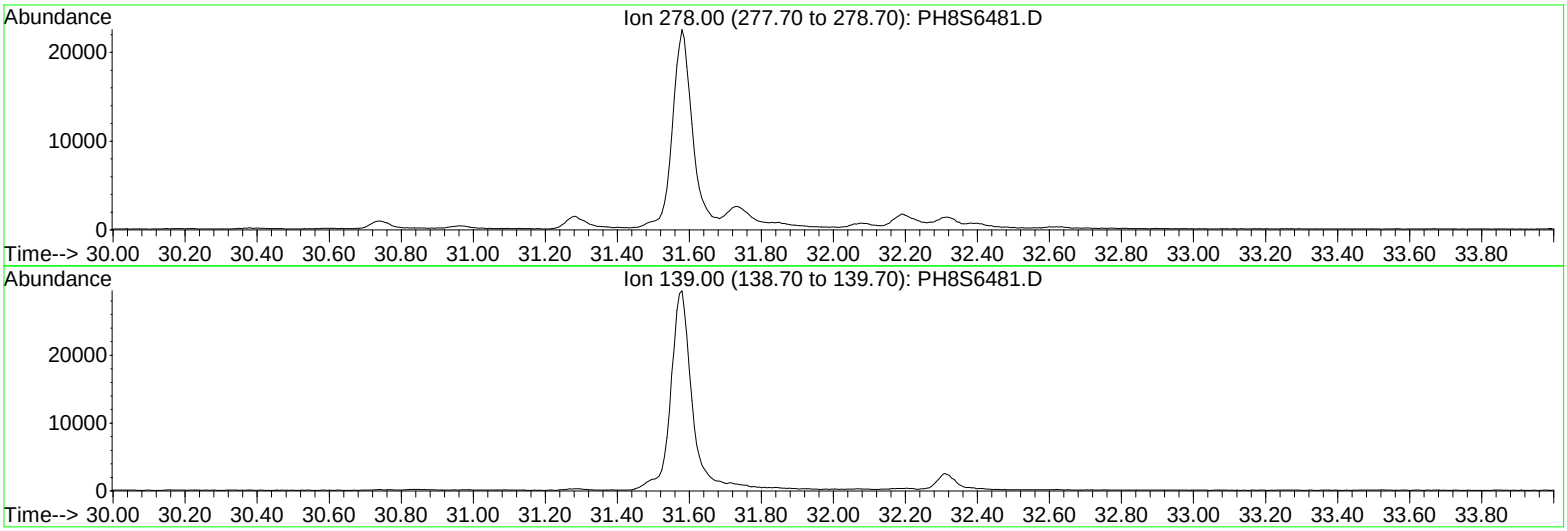


Thu Jan 10 08:50:52 2019

Axys Analytical CHRO Report

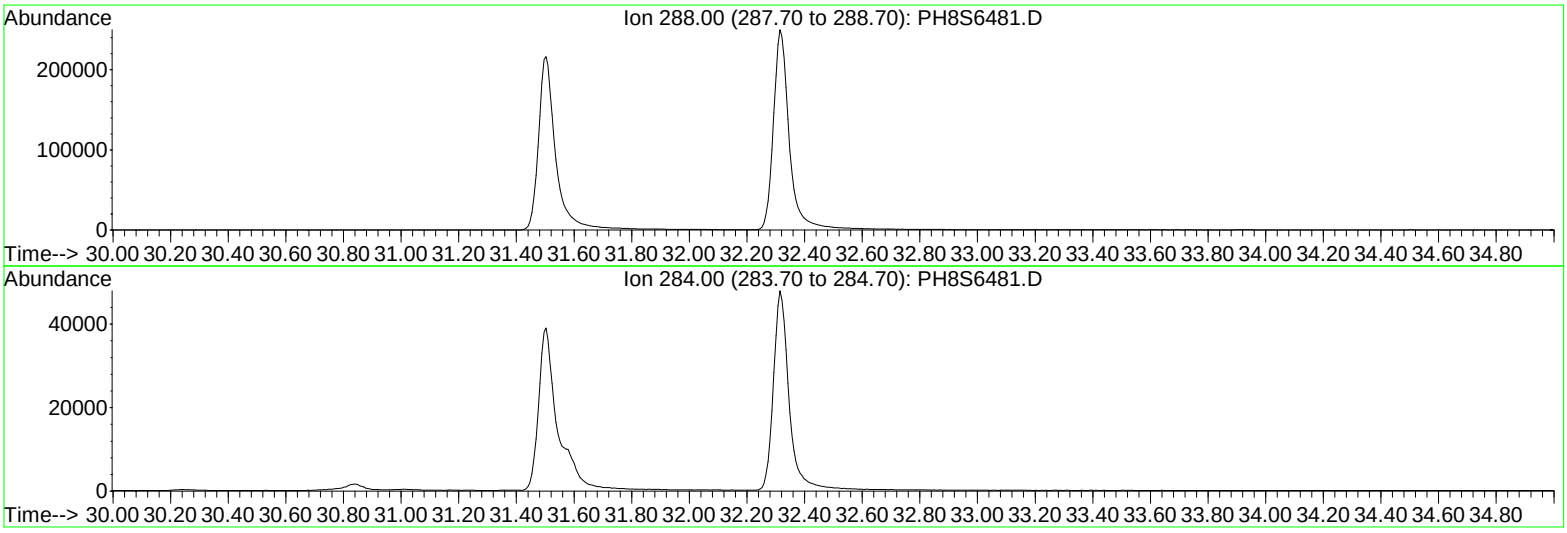
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

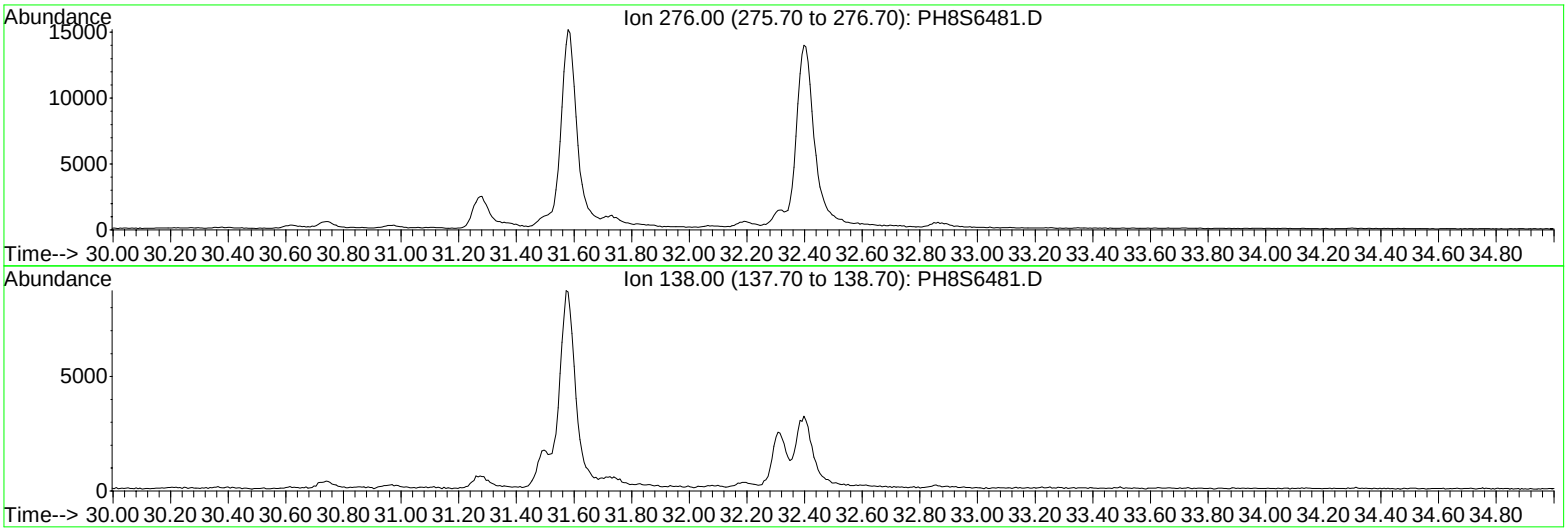




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6481.D
29/12/2018 5:24
L30540-11
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6481.D\618S6481.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 24
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc	
PH8S6473.D	PH8S6485.D	PH7S5480.D	
Analyte List	LPAHPRC4943	ng/g	
Sample Size	0.109		
Surrogate: Authentic Ratio	0.1		
Recovery: Surrogate Ratio	1		
Analyte Calibration Multiplier	1		
Surrogate Calibration Multiplier	1		

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	782889	18.55	1815.6682	I	0	1815.6682	2557		0.17	1
d10-Phenanthrene - SURR	472381	15	1310.3552	S	36.2979	2.1649	847		0.14	0.808
d12-Benz(a)anthracene - SURR	830551	21.59	3222.2341	S	79.3654	57.6085	16111		0.23	1.164
d12-Chrysene - SURR	818335	21.69	2952.0485	S	75.3074	27.112	8155		0.26	1.169
d12-Benzo(e)pyrene - REC	679319	26.11	1861.7512	I	0	1861.7512	1137		0.25	1
d12-Indeno(123cd)pyrene - SURR	880834	31.5	3588.5389	S	90.1643	1.0992	293		0.18	1.207
d10-Phenanthrene	472381	15	3327.1889	I	0	3327.1889	908		0.14	1
13C6-Phenanthrene	30617	15.05	189.5398	T	0	6.4263	1038		0.18	1.003
d12-Benz(a)anthracene	830551	21.59	3741.9355	I	0	3741.9355	18230		0.23	1
d10-Fluoranthene	61746	18.01	212.4583	T	0	4.881	1419		0.17	0.834
d12-Chrysene	818335	21.69	3612.9032	I	0	3612.9032	9476		0.26	1
13C6-Chrysene	362020	21.75	1425.5312	T	0	4.0508	1029		0.31	1.003
d12-Indeno(123cd)pyrene	880834	31.5	3668.2028	I	0	3668.2028	317		0.18	1
13C6-Indeno(123cd)pyrene $	1603803	31.58	5276.2647	T	0	4.128	1255		0.2	1.002

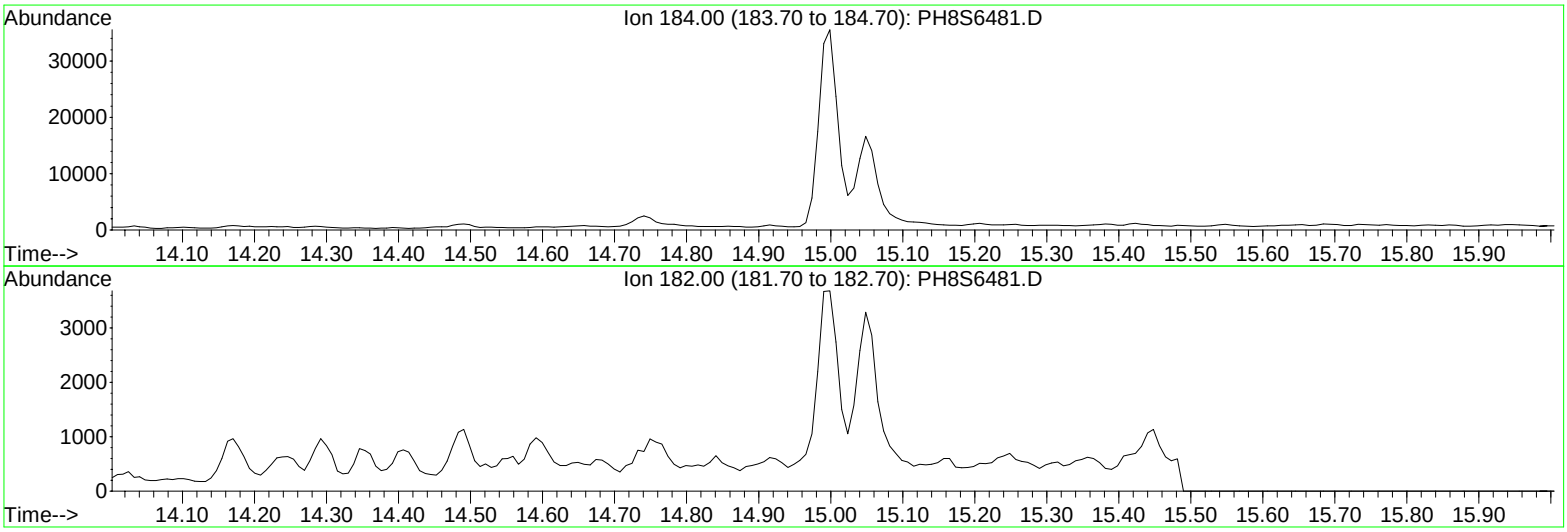
618S6481

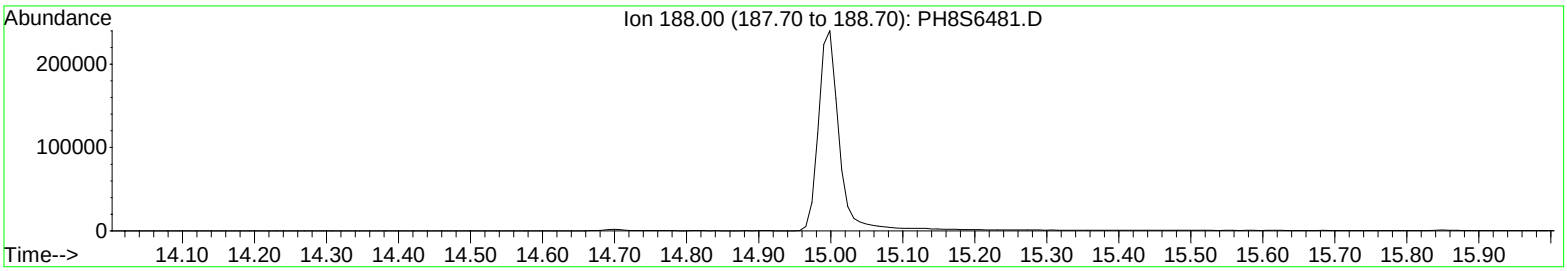
Checked MV 08-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

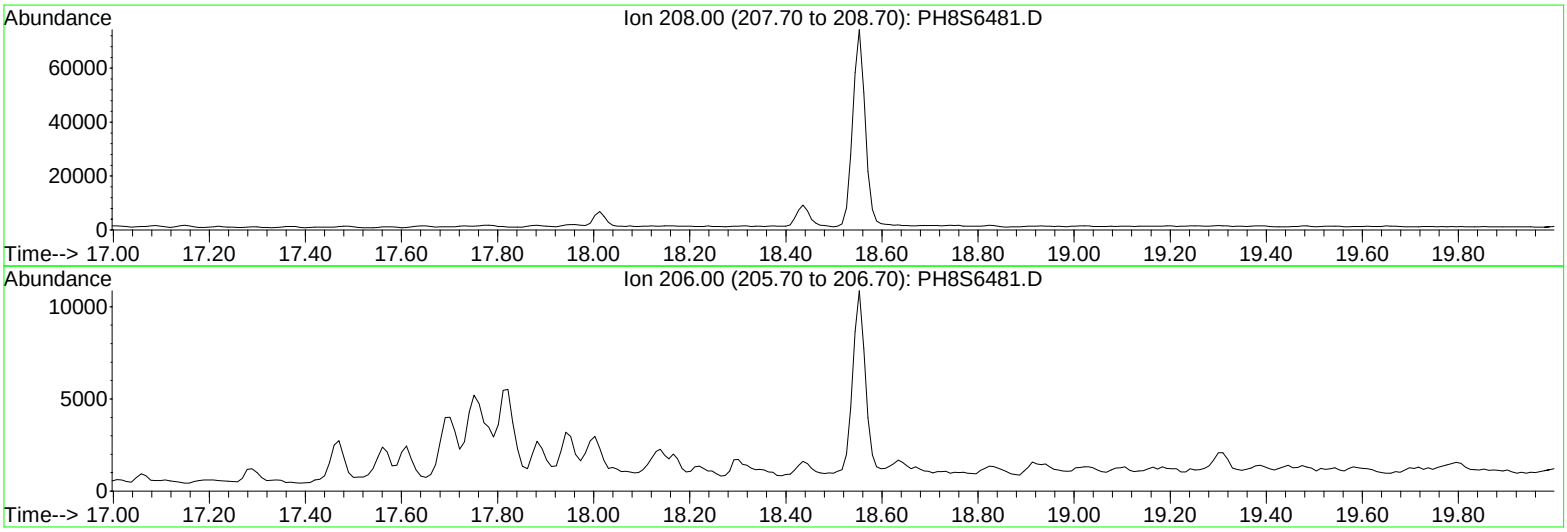
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

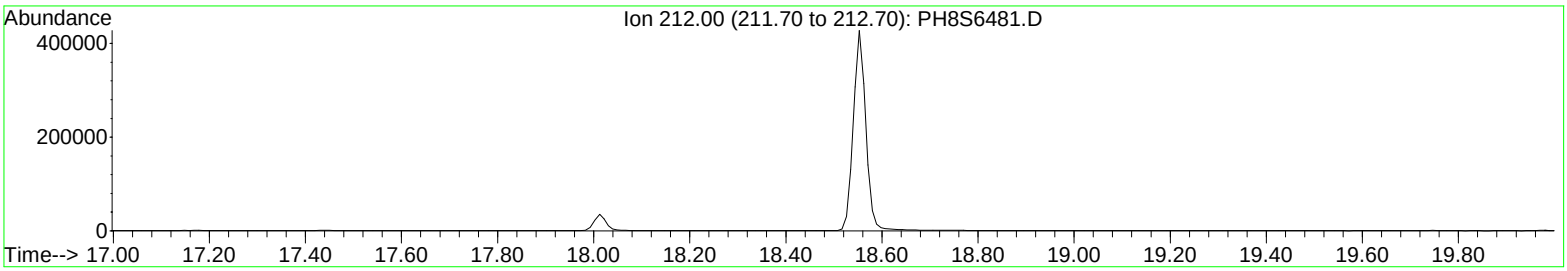




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

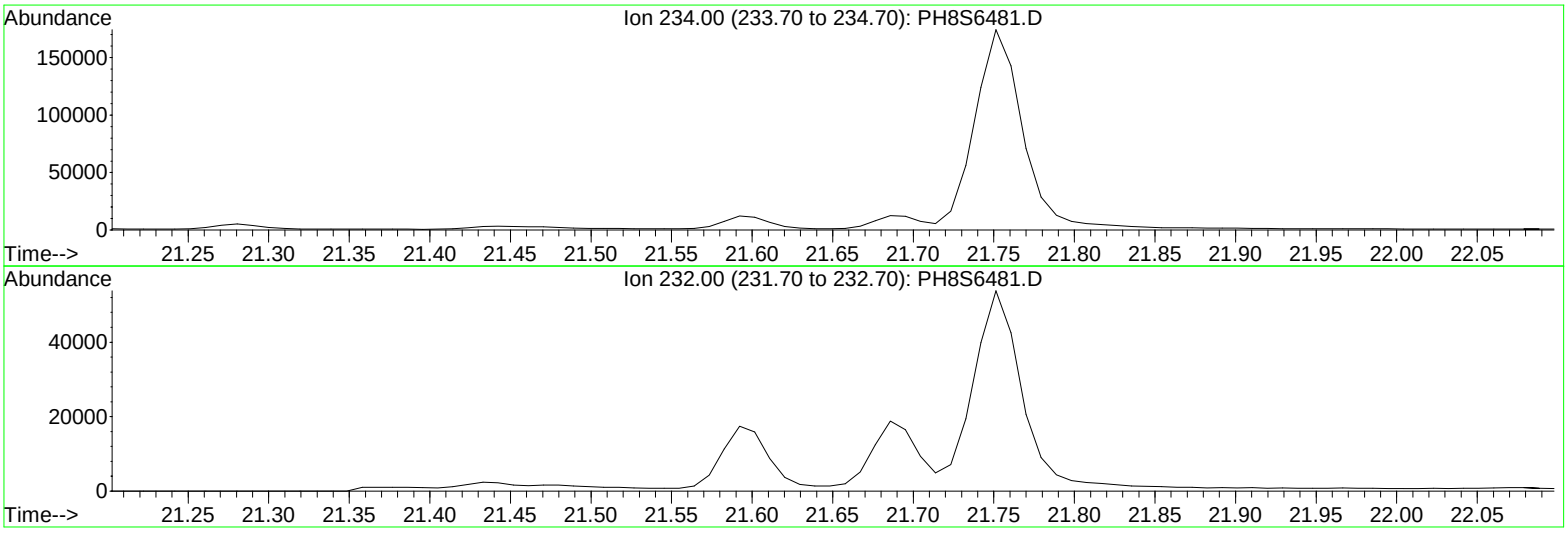


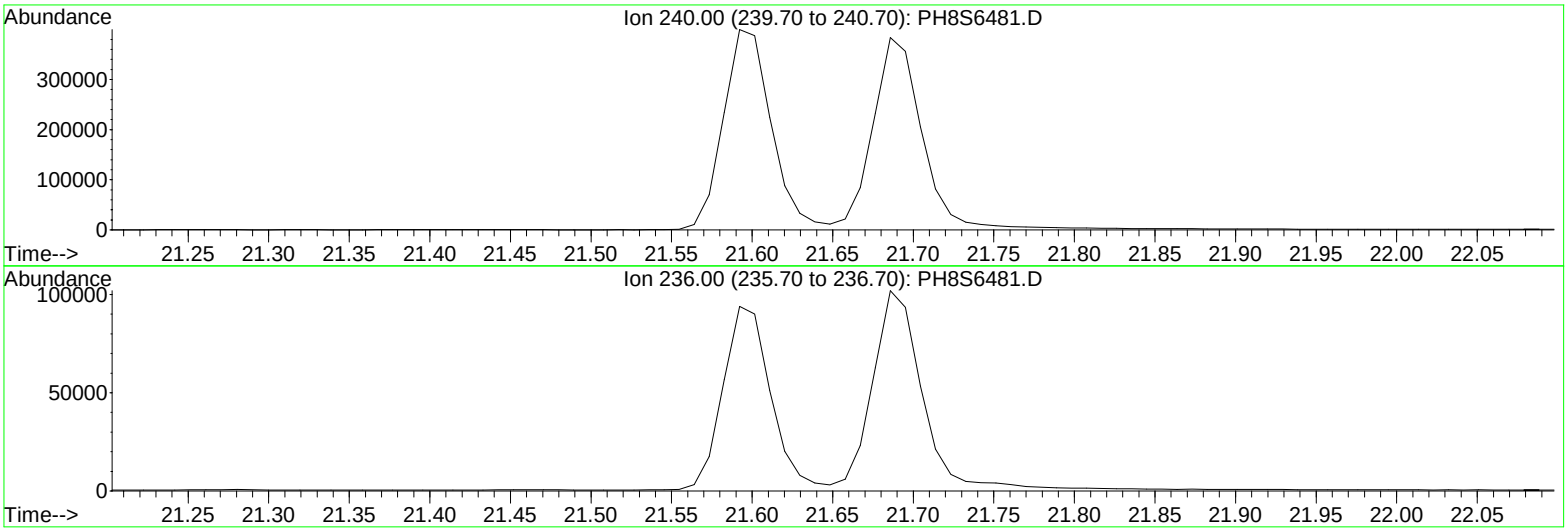


Thu Jan 10 08:58:28 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL

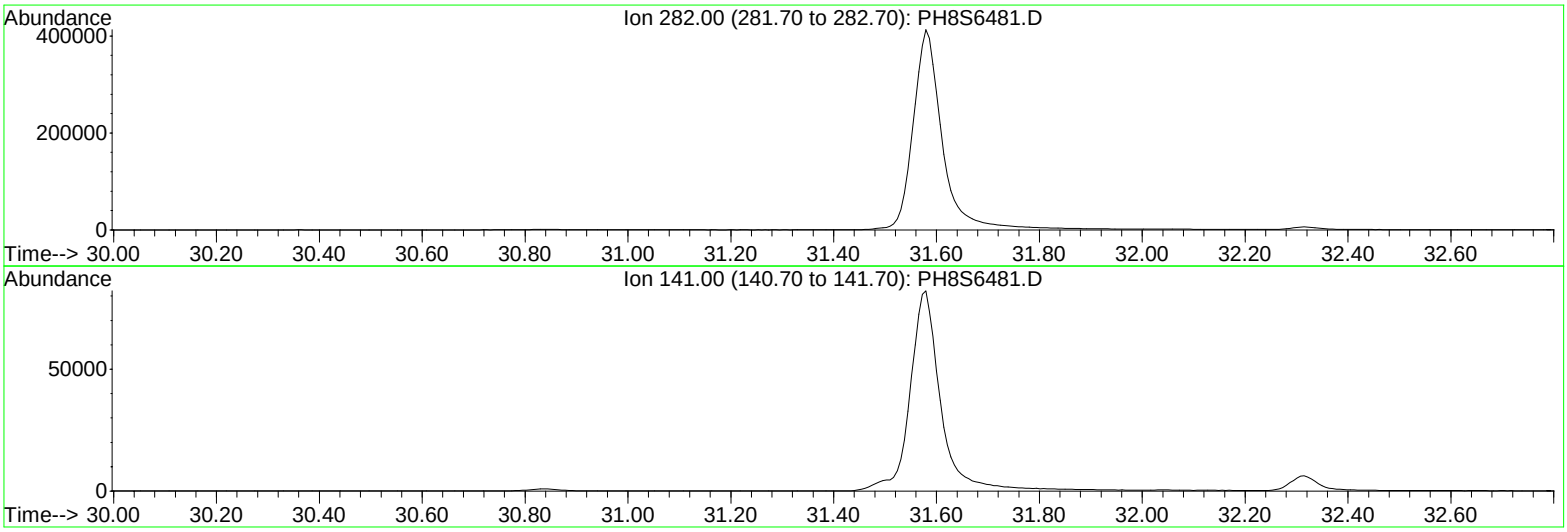


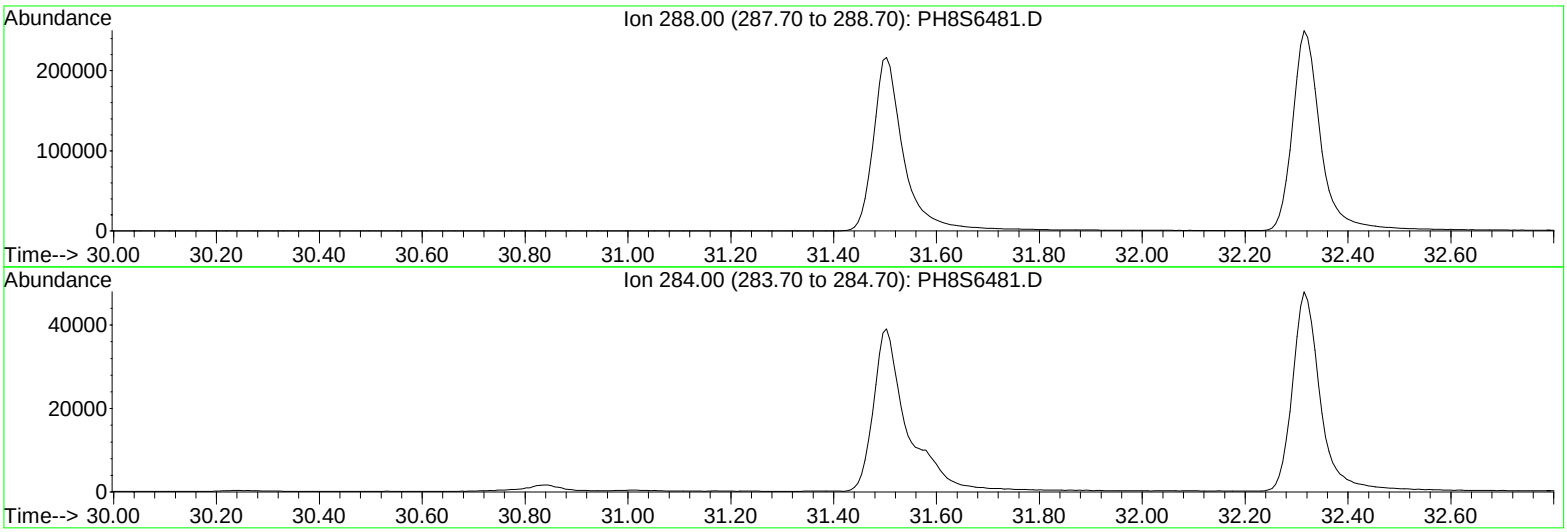


Thu Jan 10 08:58:30 2019

Axys Analytical CHRO Report

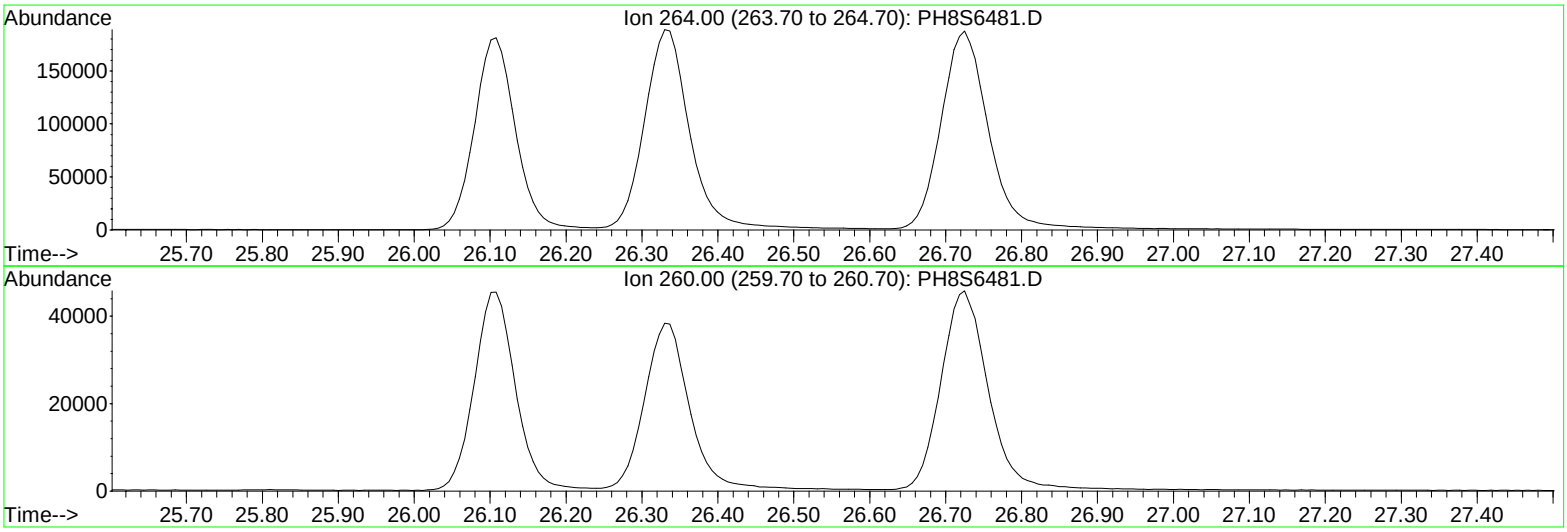
File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6481.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 5:24
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-11,,
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6477.D
29/12/2018 2:09
L30540-12
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6477.D\PH8S6477.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 20
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Thu Jan 03 09:33:40 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/g
Sample Size	0.099	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	715803	11.29	4084.9343	I	0	4084.9343	351		0.45	1
d8-Naphthalene - SURR	239937	6.87	452.9174	S	22.6459	0.4404	115		0.09	0.608
d10-2-Methylnaphthalene - SURR	178988	8.53	504.0297	S	25.5853	0.657	115		0.19	0.756
d10-Biphenyl - SURR	297772	9.8	597.6882	S	29.2268	0.3406	84		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	183842	10.11	566.5563	S	27.5696	2.0263	325		0.74	0.896
d8-Acenaphthylene - SURR	378607	10.85	603.4811	S	29.2952	1.7581	545		0.15	0.961
d10-Pyrene - REC	1481933	18.55	3983.822	I	0	3983.822	2702		0.17	1
d10-Phenanthrene - SURR	571345	15	831.7827	S	46.0821	2.8725	976		0.14	0.808
d8-Dibenzothiophene - SURR	452740	14.7	741.1488	S	36.4201	4.481	1354		0.09	0.792
d12-Benz(a)anthracene - SURR	938394	21.59	1452.7017	S	71.5617	69.9185	22334		0.23	1.164
d12-Chrysene - SURR	931425	21.7	1380.2248	S	70.4196	32.5171	10851		0.26	1.169
d12-Benzo(e)pyrene - REC	1284268	26.11	4084.9343	I	0	4084.9343	1248		0.25	1
d12-Benzo(b)Fluoranthene - SURR	877564	25	1492.3933	S	75.756	209.6016	60948		0.2	0.958
d12-Benzo(k)Fluoranthene - SURR	952800	25.11	1467.0384	S	73.3519	63.1274	20274		0.2	0.962
d12-Benzo(a)pyrene - SURR	827146	26.34	1486.7384	S	71.8231	11952.275	3288250		0.2	1.009
d12-Perylene - SURR	872586	26.72	1573.0353	S	73.1644	113.658	31177		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	855574	31.5	1518.3951	S	76.3013	1.4658	408		0.17	1.207
d12-Benzo(ghi)perylene - SURR	946403	32.31	1412.1816	S	71.3223	7.5659	2507		0.19	1.238
d8-Naphthalene	239937	6.87	4044.4894	I	0	4044.4894	110		0.09	1
Naphthalene $	2092	6.91	29.4635	T	0	1.9775	140		0.07	1.006
d10-2-Methylnaphthalene	178988	8.53	3983.822	I	0	3983.822	116		0.19	1
2-Methylnaphthalene $	1211	8.6	22.2764	T	0	1.3553	74		0.99	1.009
1-Methylnaphthalene	1272	8.87	24.7825	T	0	1.4354	74		0.88	1.04
C1-Naphthalenes	1211	8.6	0	T	0	0	758		-1	1.009
d10-Biphenyl	297772	9.8	4135.4904	I	0	4135.4904	87		-1	1
Biphenyl $	842	9.85	10.5265	T	0	3.189	255		0.25	1.006
C1-Biphenyls $	659	11.33	8.2387	T	0	1.6963	136		0.15	1.157
C2-Biphenyls $	1570	12.71	19.6278	T	0	5.2246	418		0.25	1.297
d12-2,6-Dimethylnaphthalene	183842	10.11	4155.7128	I	0	4155.7128	329		0.74	1
2,6-Dimethylnaphthalene $	906	10.22	16.9336	T	0	3.8709	207		0.66	1.011
Ethyl/DiMe-Naphthalenes	903	10.22	18.655	T	0	4.2786	207		0.87	1.011
1,2-Dimethylnaphthalene	37433	10.85	864.525	T	0	4.7832	207	#	0	1.073
C2-Naphthalenes	903	10.22	0	T	0	0	2947		-1	1.011
2,3,6-Trimethylnaphthalene	506	12.2	9.356	T	0	3.4366	186	#	0.69	1.207
2,3,5-Trimethylnaphthalene $	1340	12.38	26.1108	T	0	3.6217	186		1.06	1.224
C3-Naphthalenes	1665	12.38	31.5928	T	0	3.5267	186		0.65	1.224
1,4,6,7-Tetramethylnaphthalene $	832	13.92	15.3774	T	0	15.3112	828	#	0.11	1.377
C4-Naphthalenes	832	13.92	15.3774	T	0	15.3112	828		0.11	1.377
d8-Acenaphthylene	378607	10.85	4165.8241	I	0	4165.8241	545		0.15	1
Acenaphthylene $	1841	10.88	16.6711	T	0	1.5194	168		0.16	1.003
Acenaphthene $	8265	11.36	135.4199	T	0	1.7183	105		1.18	1.047
C1-Acenaphthenes $	347	11.72	5.6855	T	0	6.959	425		0.42	1.08
d8-Dibenzothiophene	452740	14.7	4115.2679	I	0	4115.2679	1431		0.09	1
Dibenzothiophene $	6392	14.74	48.6027	T	0	4.3982	578		0.09	1.003
C1-Dibenzothiophenes-1	2451	15.88	27.162	T	0	12.3578	1115	#	0.2	1.08
2/3-Methyldibenzothiophenes $	3299	16.14	36.5595	T	0	12.3578	1115	#	0.1	1.098
C1-Dibenzothiophenes-2	1159	16.35	12.844	T	0	12.3578	1115	#	5.87	1.113
C1-Dibenzothiophenes	3299	16.14	0	T	0	0	1115		-1	1.098
4,6-Dimethyldibenzothiophene	1447	16.95	14.9628	T	0	8.2012	793	#	-1	1.153

+ Report only.

PH8S6477

checked
MW 08-Jan-19

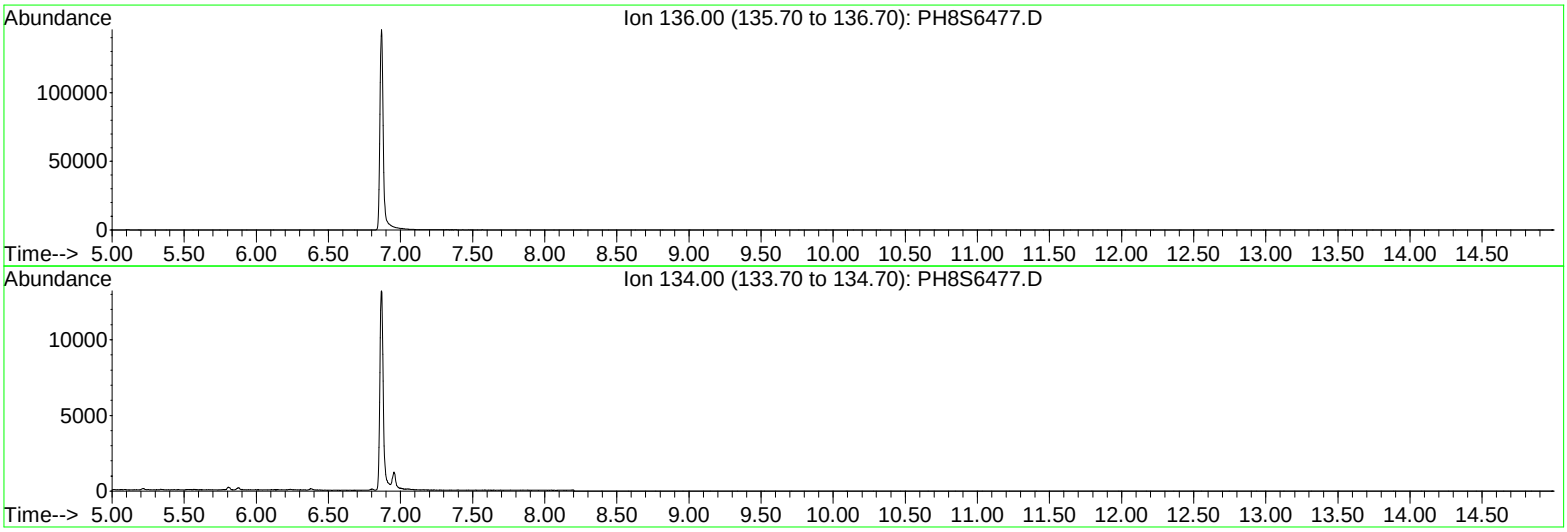
pv by vr
03-Jan-2019

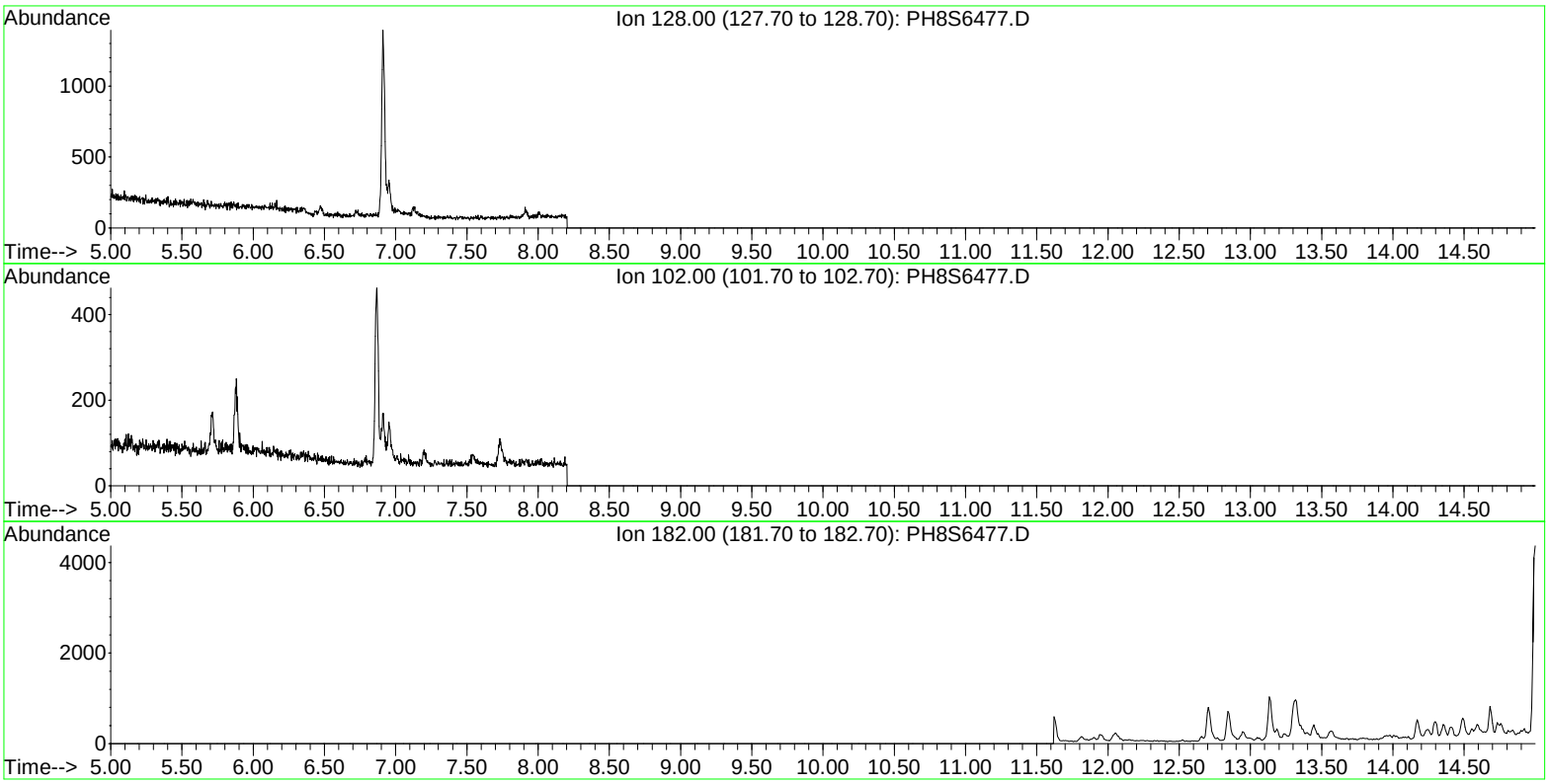
2,4-Dimethyldibenzothiophene $	944	17.09	12.6397 T	0	10.6194	793 #	1.17	1.163
C2-Dibenzothiophenes	944	17.09	12.6397 T	0	10.6194	793	1.17	1.163
C3-Dibenzothiophenes $	2610	18.09	34.9466 T	0	26.5885	1986	0.8	1.231
C4-Dibenzothiophenes $	464	18.81	6.2127 T	0	15.969	1193	1.16	1.28
d10-Phenanthrene	571345	15	3650.1517 I	0	3650.1517	999	0.14	1
Fluorene $	8513	12.66	76.0991 T	0	3.1484	352	1.01	0.844
2-Methylfluorene $	1347	14.09	17.7069 T	0	34.6853	2639 #	1.53	0.939
C1-Fluorenes	1347	14.09	17.7069 T	0	34.6853	2639	1.53	0.939
1,7-Dimethylfluorene $	375	15.51	5.3006 T	0	22.9327	1622 #	0.18	1.034
C2-Fluorenes	375	15.51	5.3006 T	0	22.9327	1622	0.18	1.034
C3-Fluorenes $	444	16.4	6.2759 T	0	33.9501	2402	3	1.094
Phenanthrene $	128392	15.05	766.9023 T	0	3.5522	595	0.19	1.003
Anthracene	33451	15.17	197.4482 T	0	3.5102	595	0.19	1.011
d10-Anthracene $	4811	15.12	31.7974 T	0	3660.9505	553907 #	-1	1.008
3-Methylphenanthrene	8494	16.31	71.9146 T	0	5.7682	681	0.6	1.088
2-Methylphenanthrene	10672	16.38	91.5534 T	0	5.8448	681	0.51	1.092
2-Methylanthracene	4239	16.48	37.467 T	0	6.0217	681	0.53	1.099
9/4-Methylphenanthrenes	9742	16.6	82.4809 T	0	5.7682	681 #	1.04	1.107
1-Methylphenanthrene $	6532	16.65	52.4135 T	0	5.4668	681	0.58	1.11
C1-Phenanthrenes/Anthracenes	6991	16.65	0 T	0	0	16669	-1	1.11
Fluoranthene $	356907	18.06	1735.4302 T	0	2.0213	416	0.21	1.204
Pyrene	1359593	18.6	6393.9681 T	0	1.955	416	0.21	1.24
3,6-Dimethylphenanthrene $	4117	17.47	36.1983 T	0	96.6053	10987 #	1.15	1.165
2,6-Dimethylphenanthrene	2918	17.56	25.6091 T	0	96.4279	10987	0.4	1.171
1,7-Dimethylphenanthrene	3021	17.88	26.4646 T	0	96.2518	10987 #	1.02	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	4117	17.47	36.1318 T	0	96.4279	10987	1.15	1.165
1,8-Dimethylphenanthrene	2677	18.14	23.494 T	0	96.4279	10987	0.42	1.209
C2-Phenanthrenes/Anthracenes	4117	17.47	0 T	0	0	10987	-1	1.165
1,2,6-Trimethylphenanthrene $	2416	19.38	23.0703 T	0	43.9962	4607 #	1.21	1.292
C3-Phenanthrenes/Anthracenes	2416	19.38	23.0703 T	0	43.9962	4607	1.21	1.292
Retene $	8200	19.51	204.9238 T	0	153.8121	6155 #	1.17	1.301
C4-Phenanthrenes/Anthracenes	8200	19.51	204.9238 T	0	153.8121	6155	1.17	1.301
C1-Fluoranthenes/Pyrenes-1	16028	19.25	131.0952 T	0	1606.18	196375	0.95	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	104097	19.51	851.4233 T	0	1606.18	196375	0.93	1.301
C1-Fluoranthenes/Pyrenes-2	73711	19.98	602.8922 T	0	1606.18	196375	0.56	1.332
C1-Fluoranthenes/Pyrenes	104097	19.51	0 T	0	0	196375	-1	1.301
C2-Fluoranthenes/Pyrenes $	3462	20.47	28.3162 T	0	157.3503	19238	0.37	1.364
C3-Fluoranthenes/Pyrenes $	2467	21.92	20.1779 T	0	242.2123	29613 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	1046	23.29	8.5554 T	0	20.2119	2471	3.02	1.553
d12-Benz(a)anthracene	938394	21.59	4105.1567 I	0	4105.1567	24970	0.23	1
d10-Fluoranthene $	62997	18.01	253.8309 T	0	2.8456	706	0.17	0.834
† Benz(a)anthracene	86681	21.65	293.5271 T	0	2.2634	668	0.29	1.003
d12-Chrysene	931425	21.7	3963.5996 I	0	3963.5996	12649	0.26	1
† Chrysene $	186038	21.74	641.3308 T	0	2.4023	697	0.3	1.002
5/6-Methylchrysenes $	6186	23.1	28.2397 T	0	488.4954	107006	-1	1.065
1-Methylchrysene	12272	23.26	54.0775 T	0	471.5308	107006	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	6186	23.1	27.7409 T	0	479.8665	107006	-1	1.065
5,9-Dimethylchrysene $	11869	24.41	69.989 T	0	104.5517	17730	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	11869	24.41	69.989 T	0	104.5517	17730	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	813	25.07	4.7941 T	0	6.8228	1157	-1	1.155
C4-Benz(a)anthracenes/Chrysenes $	178	26.07	1.0496 T	0	2.5585	434	-1	1.201
d12-Benzo(b)fluoranthene	877564	25	3983.822 I	0	3983.822	54279	0.2	1
Benzo(b)fluoranthene-SURR int	1441	25	0 T	0	0	8184	0.41	1
† Benzo(b)fluoranthene $	257121	25.09	806.1478 T	0	2.9145	930	0.22	1.004
d12-Benzo(k)fluoranthene	952800	25.11	4044.4894 I	0	4044.4894	18609	0.2	1
† Benzo(j/k)fluoranthenes	199299	25.17	670.4718 T	0	3.223	958	0.22	1.002
Benzofluoranthenes	267167	25.09	0 T	0	0	8435	-1	0.999
d12-Benzo(a)pyrene	827146	26.34	4186.0465 I	0	4186.0465	3477260	0.2	1
Benzo(e)pyrene	212961	26.22	776.6467 T	0	4.0253	1104	0.21	0.996
† Benzo(a)pyrene	120225	26.43	464.5108 T	0	4.2646	1104	0.22	1.004
7-Methylbenzo(a)pyrene $	3084	29.19	16.7402 T	0	21.6861	3995	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	3084	29.19	16.7402 T	0	21.6861	3995	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	95	29.94	0.5157 T	0	17.9742	3311	-1	1.137
d12-Perylene	872586	26.72	4347.8261 I	0	4347.8261	33856	0.24	1
Perylene	65765	26.84	237.6455 T	0	4.0958	1133	0.22	1.004
d12-Indeno(123cd)pyrene	855574	31.5	4024.2669 I	0	4024.2669	437	0.17	1
d14-Dibenzo(ah)anthracene $	7655	31.63	39.3585 T	0	3.4318	667 #	2.55	1.004
† Dibenzo(ah)anthracene $	10679	31.73	44.1225 T	0	5.2648	1274 #	0.22	1.007
† Indeno(123cd)pyrene $	56262	31.58	216.2625 T	0	2.7056	704 #	~~0.58~~	1.002 0.16
d12-Benzo(ghi)perylene	946403	32.31	4004.0445 I	0	4004.0445	2469	0.19	1
Benzo(ghi)perylene	76904	32.4	272.4541 T	0	2.2956	648	0.21	1.003

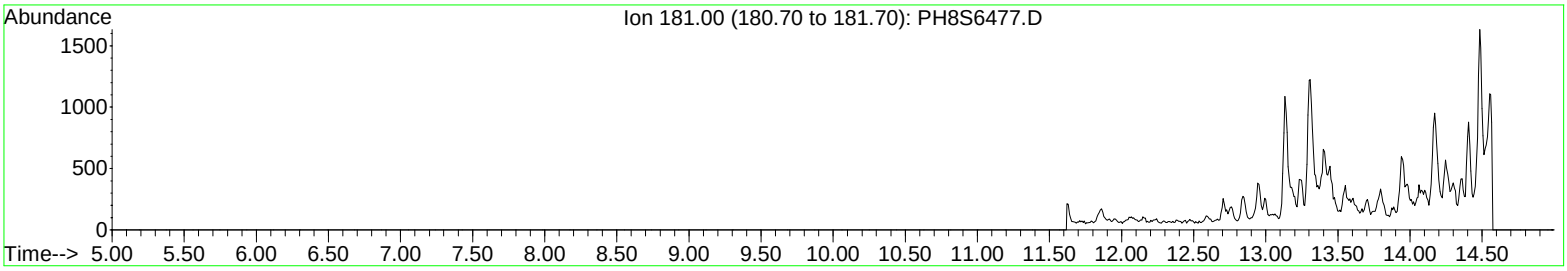
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



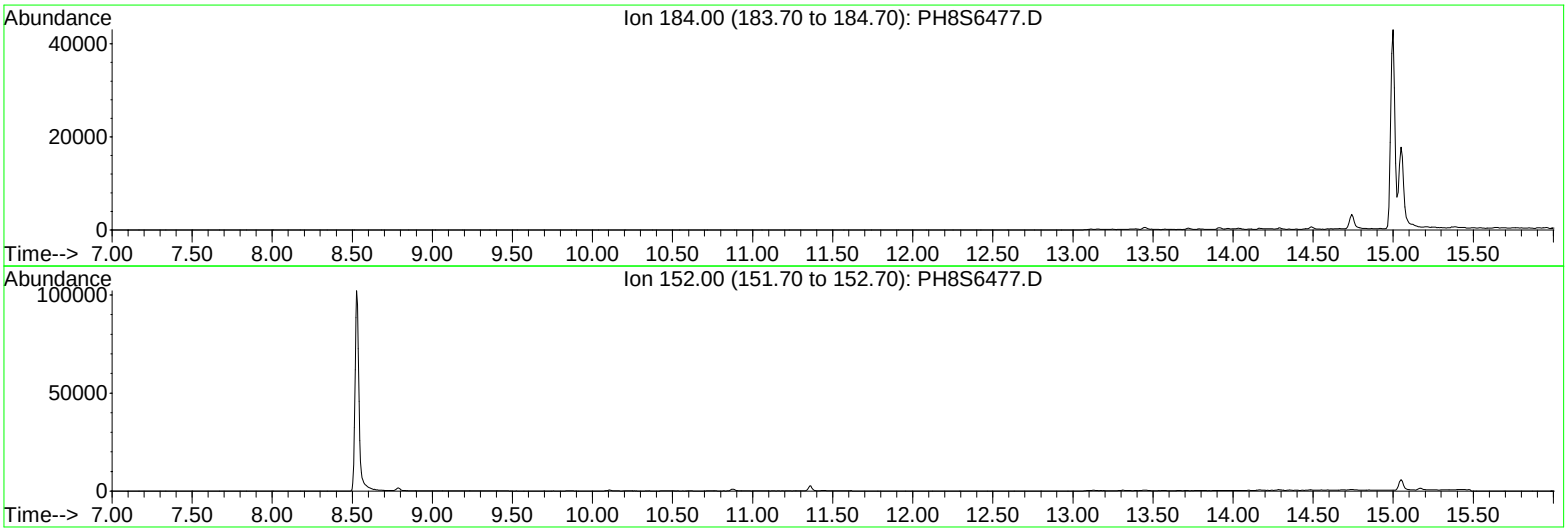


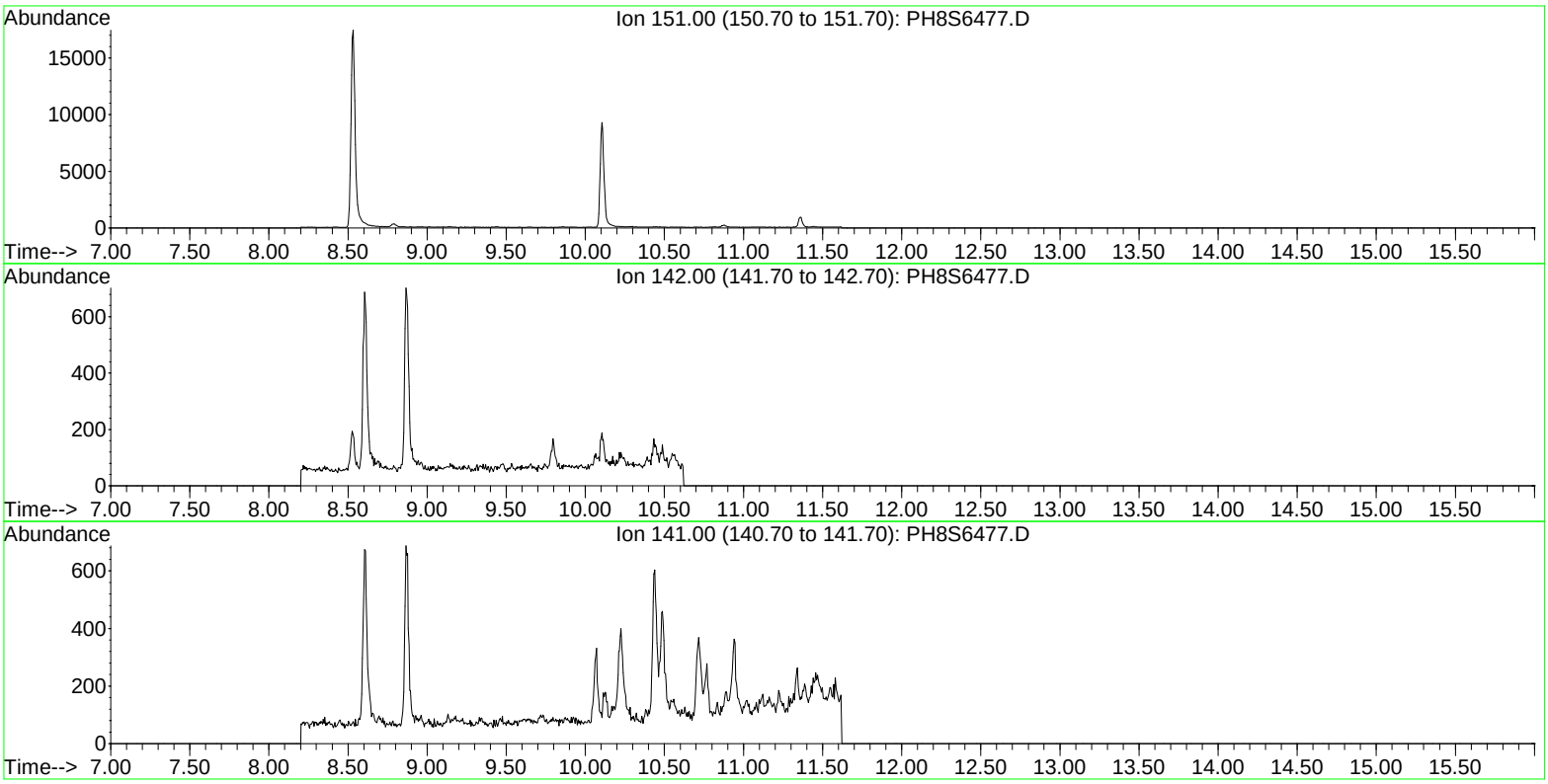


Thu Jan 10 08:46:11 2019

Axys Analytical CHRO Report

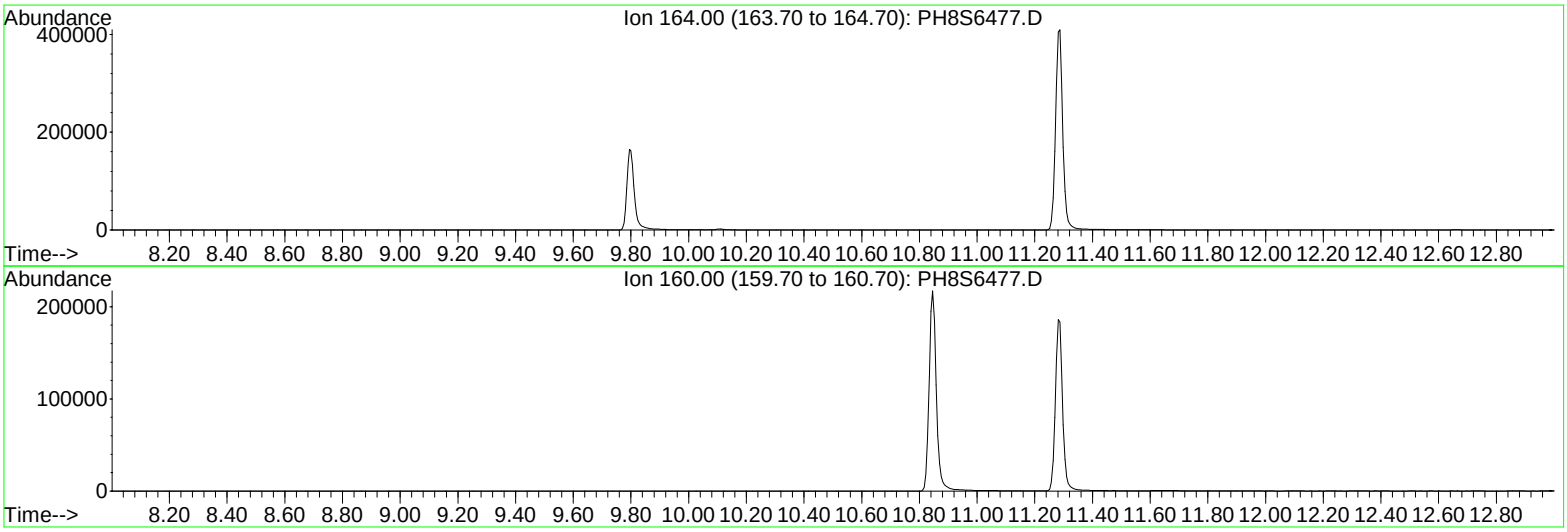
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

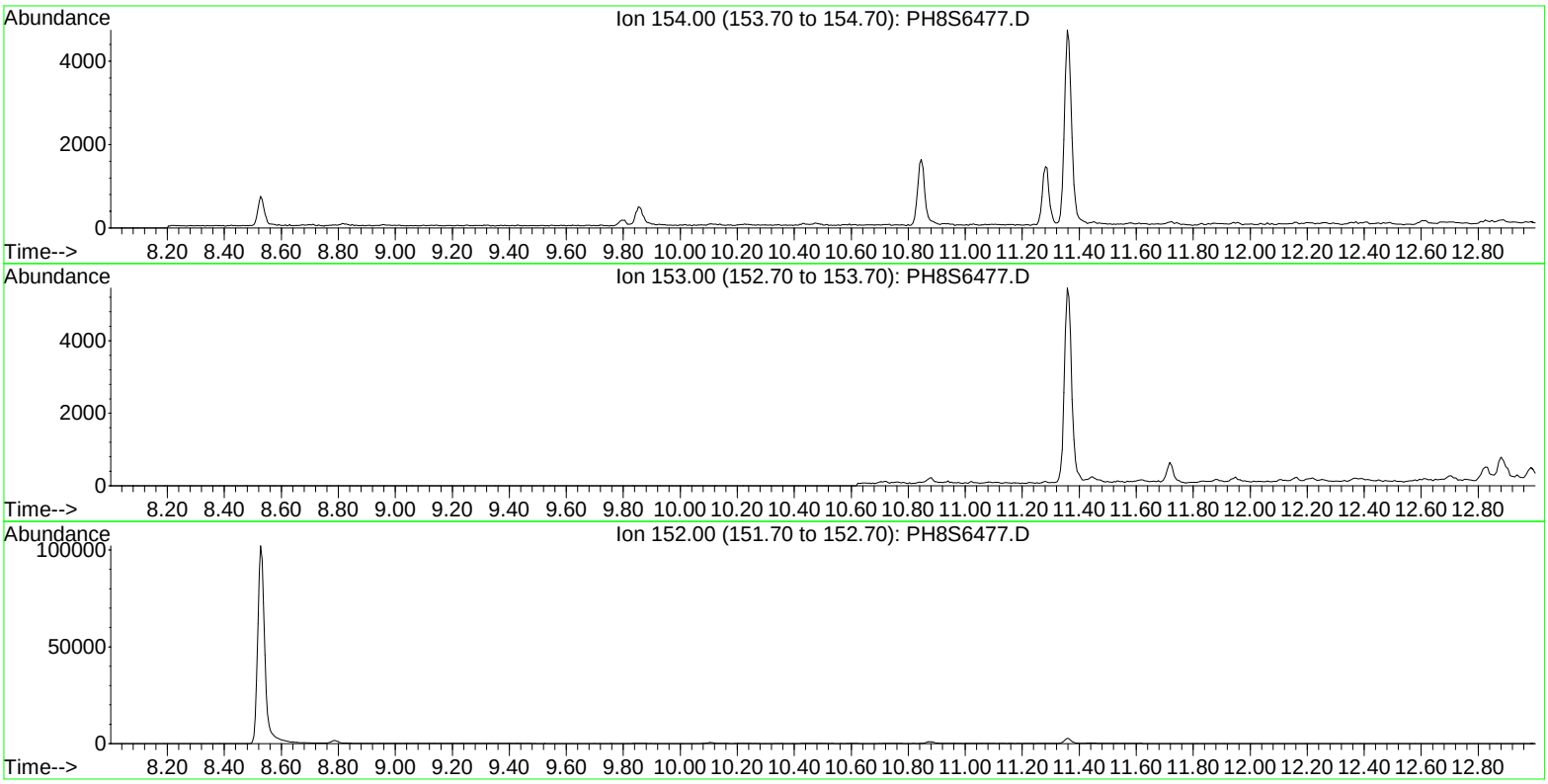




Axys Analytical CHRO Report

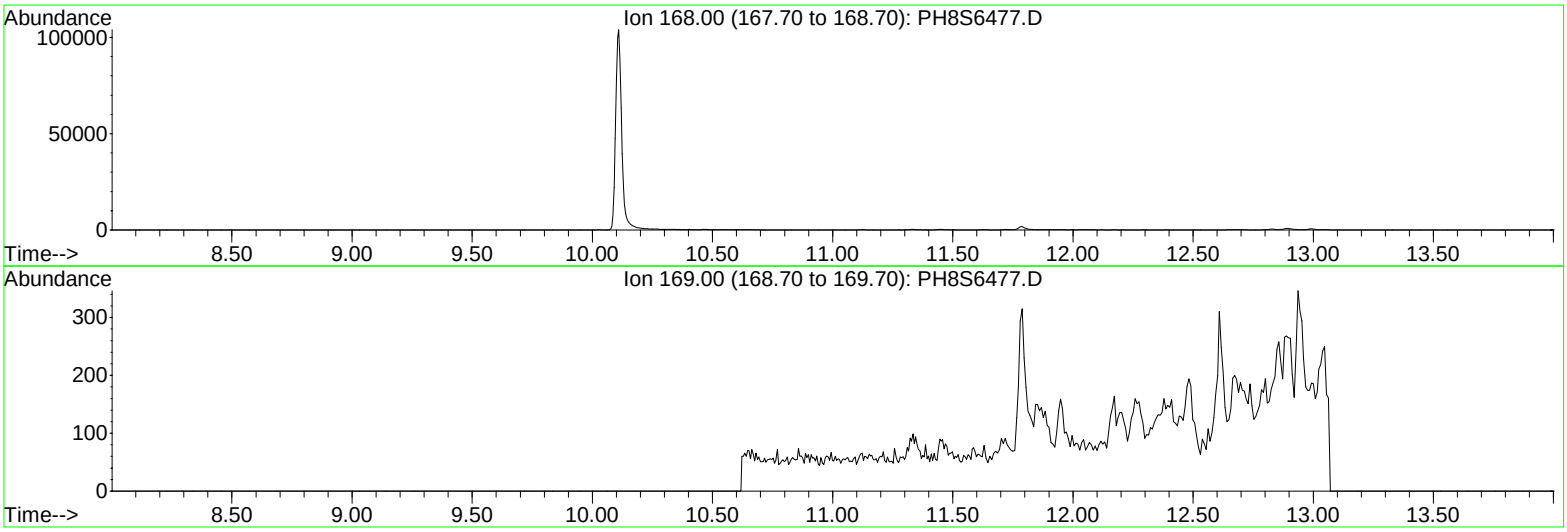
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

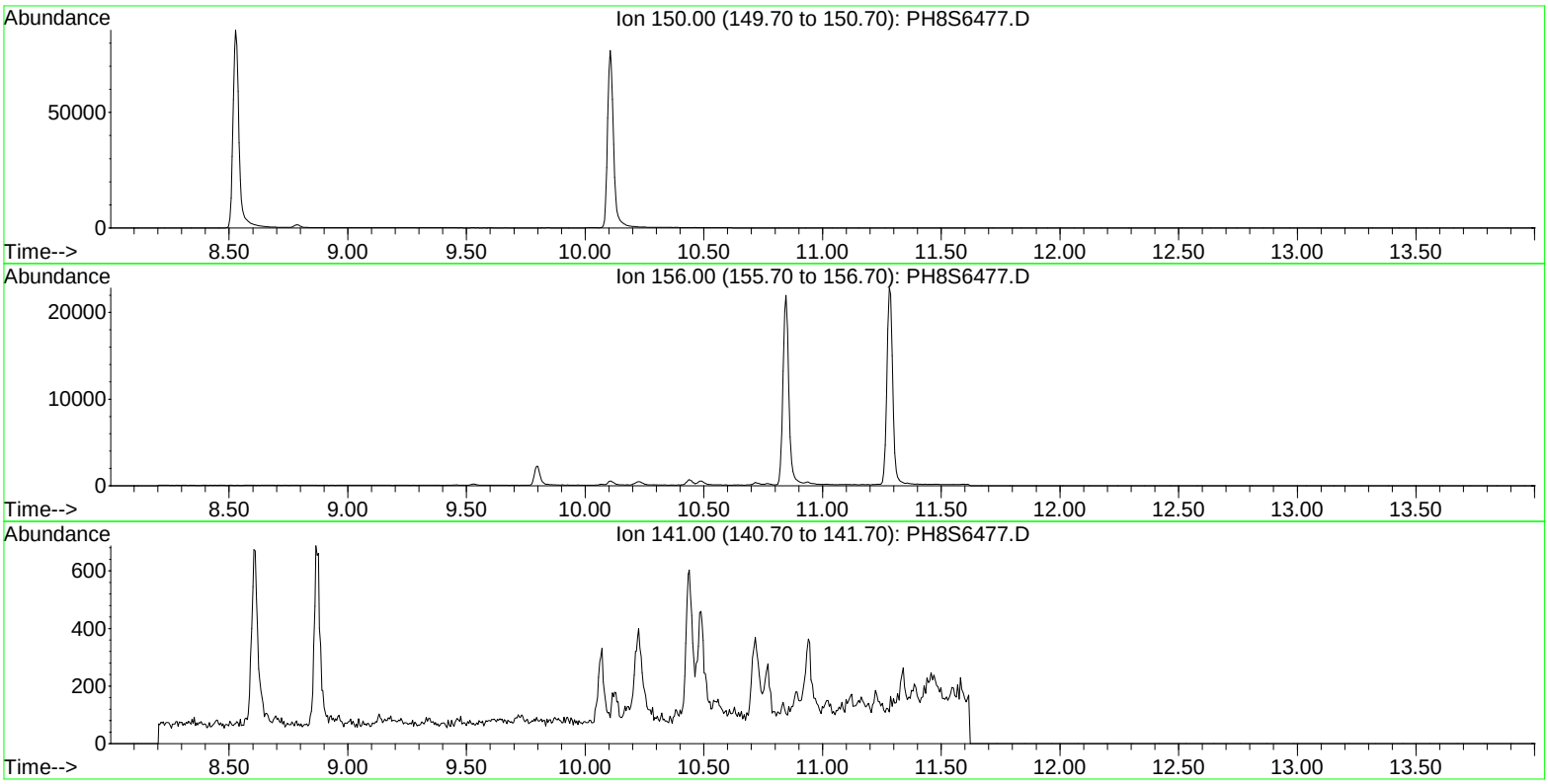




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

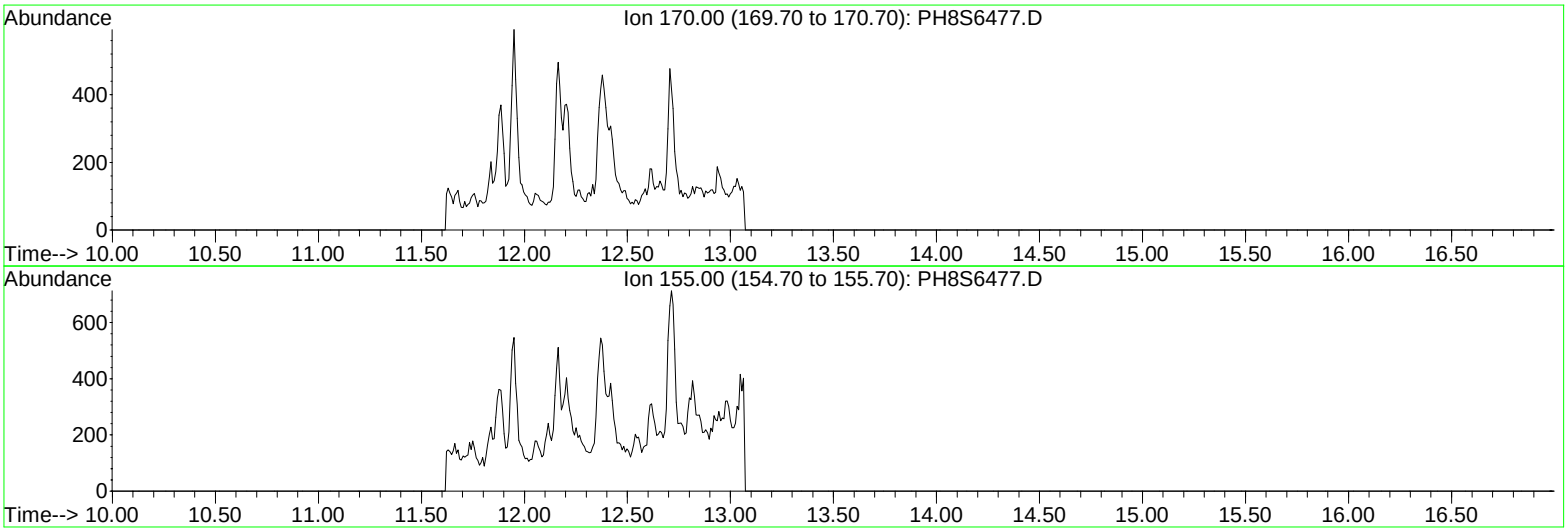


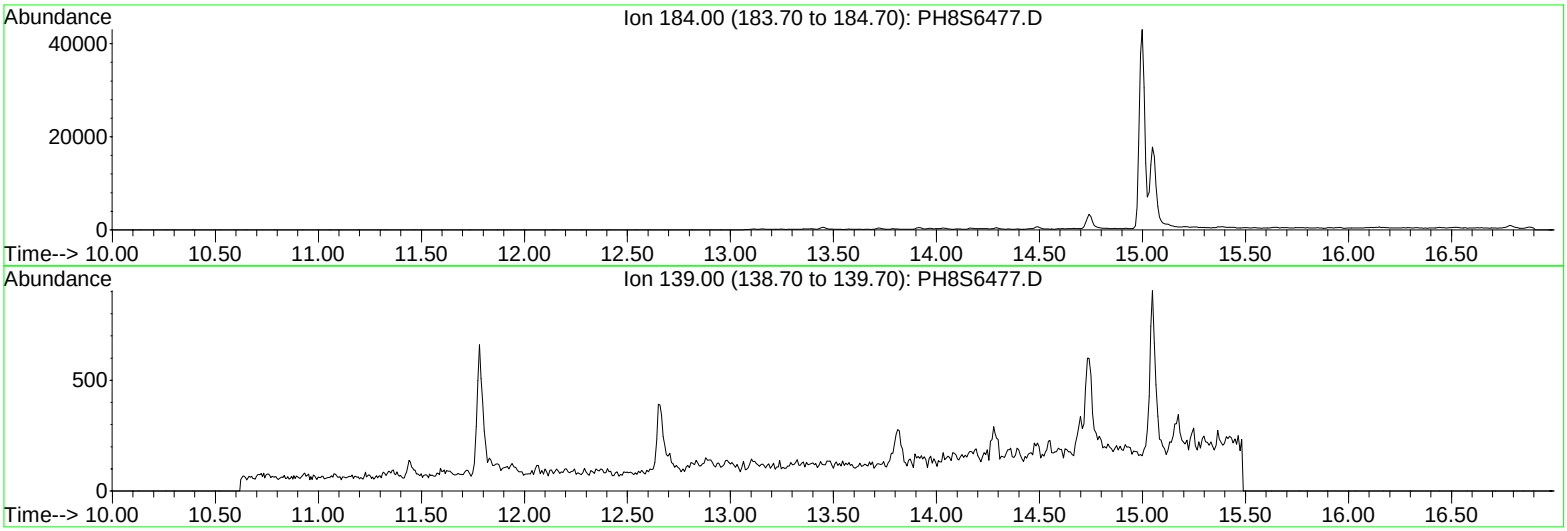


Thu Jan 10 08:46:20 2019

Axys Analytical CHRO Report

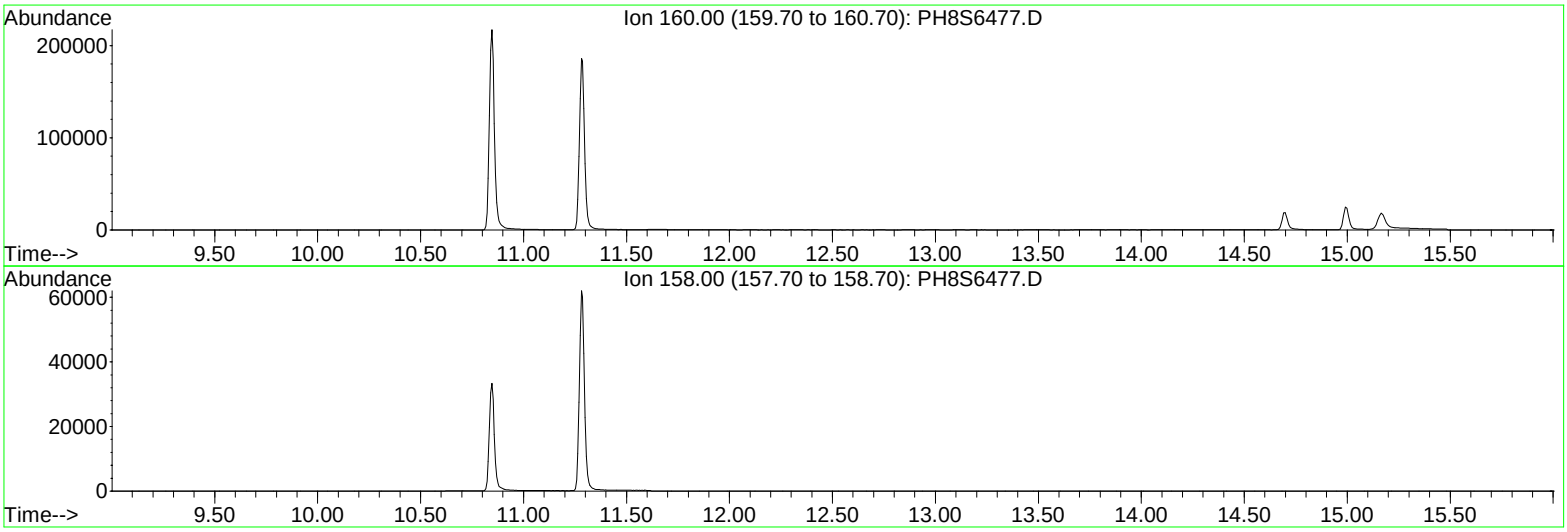
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

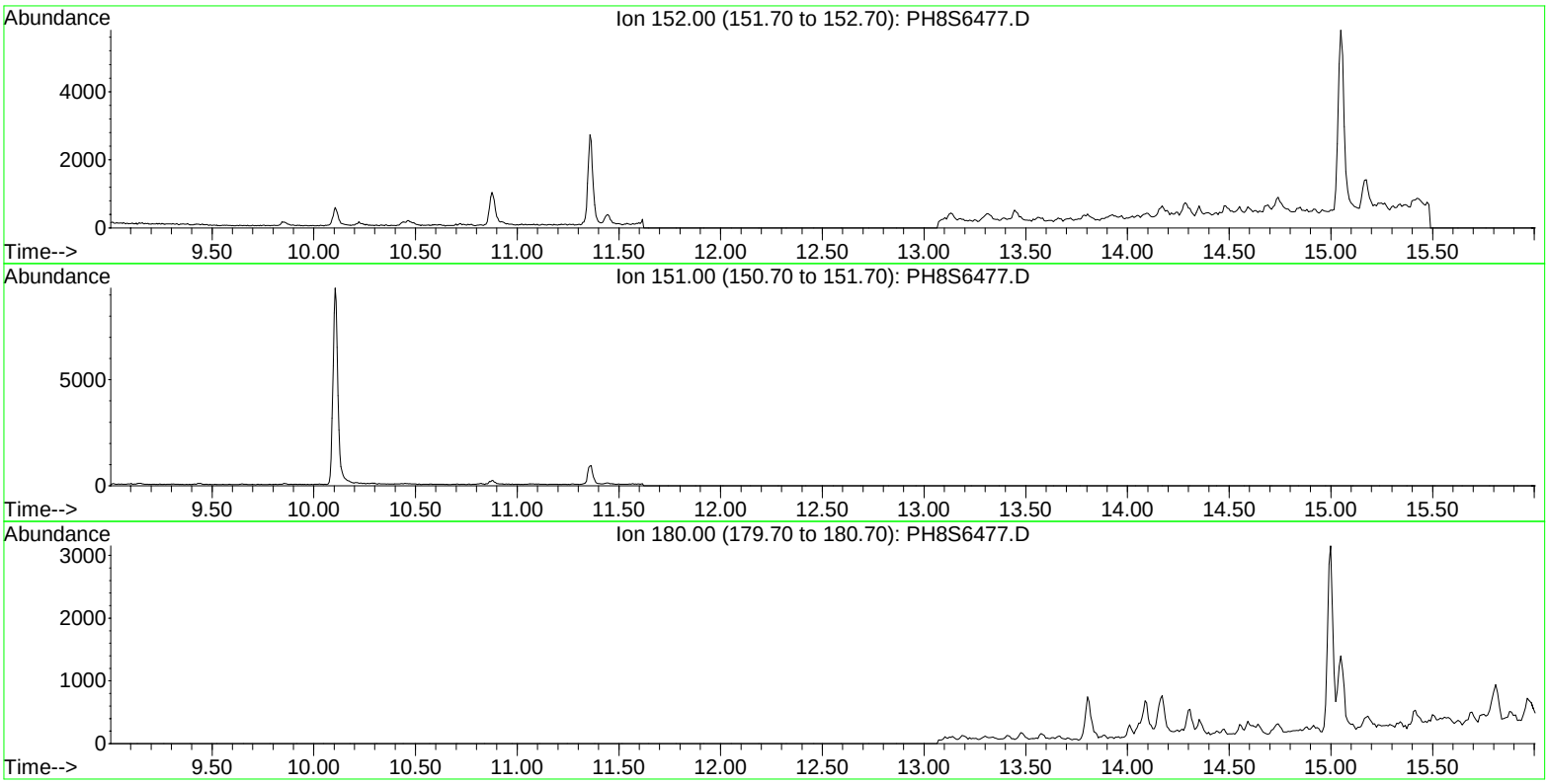


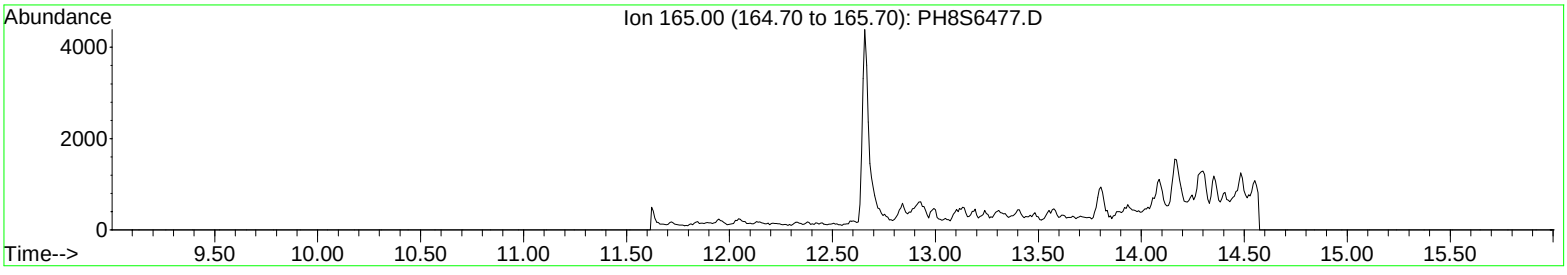


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



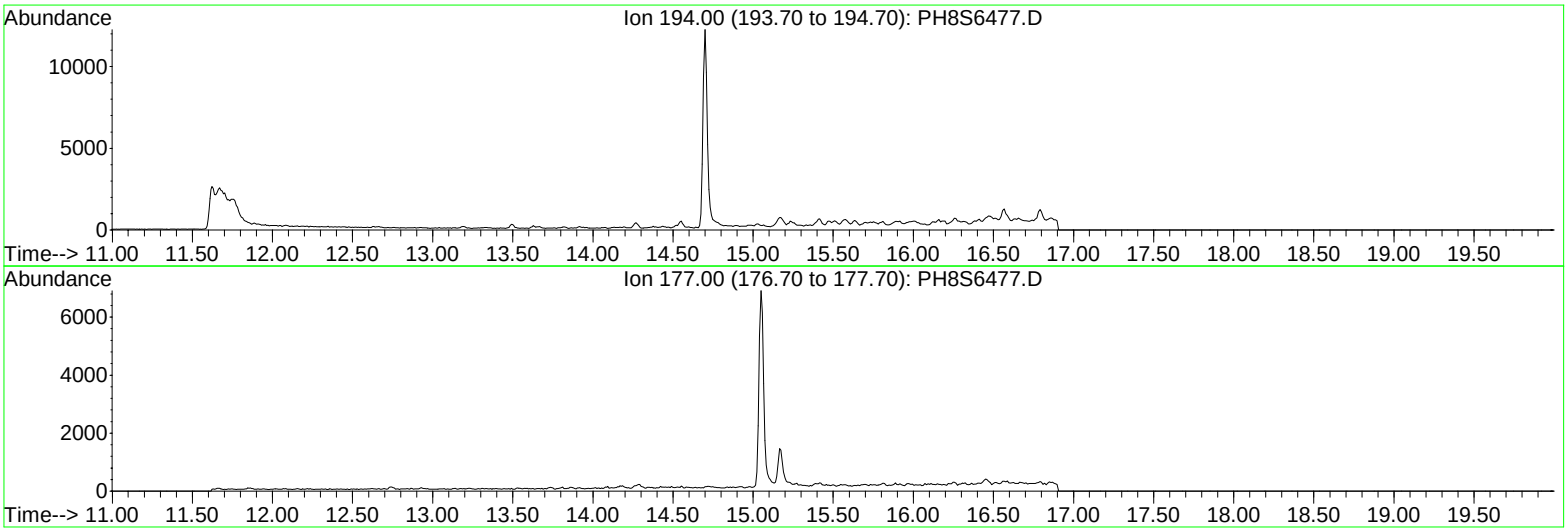


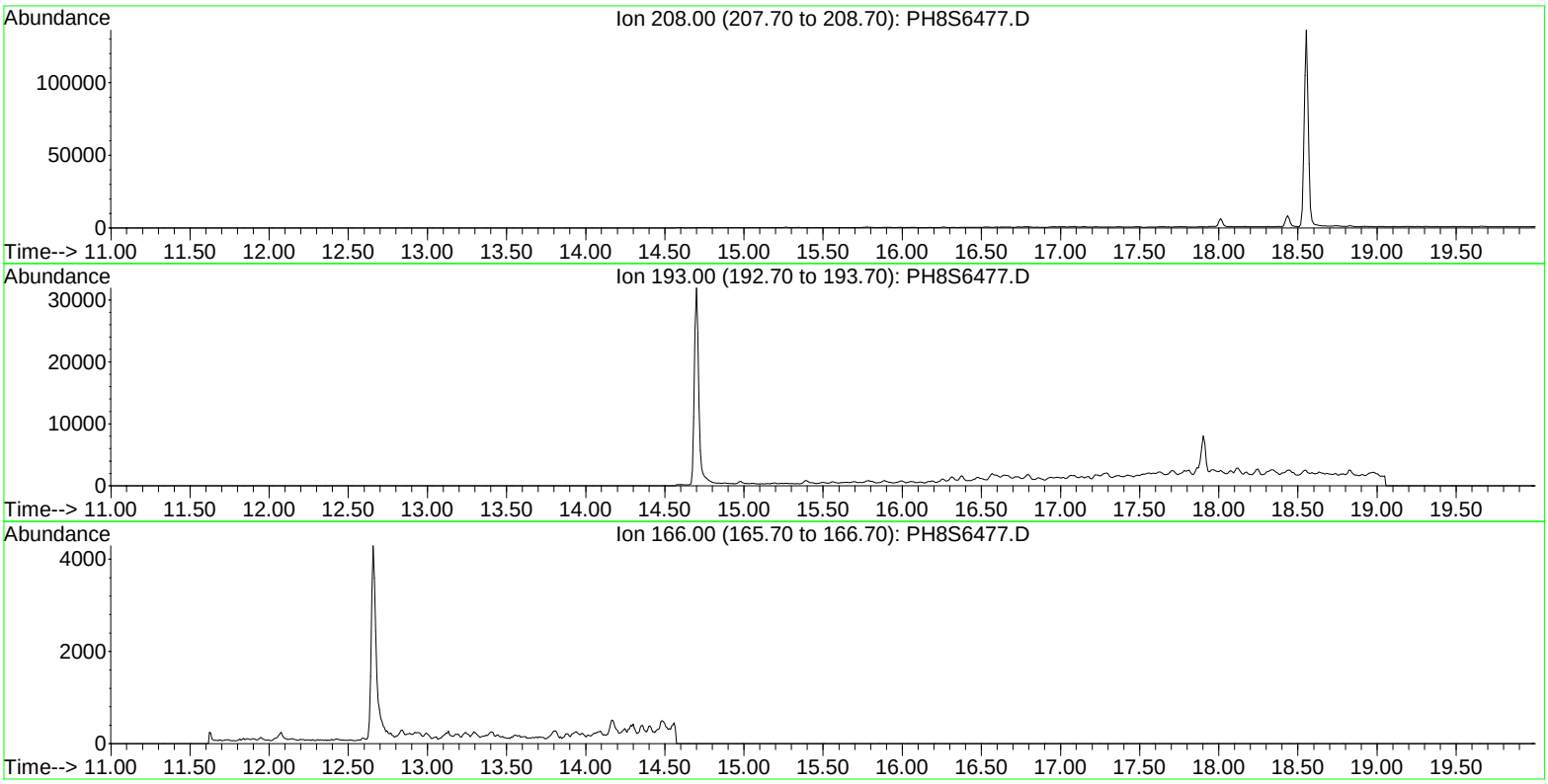


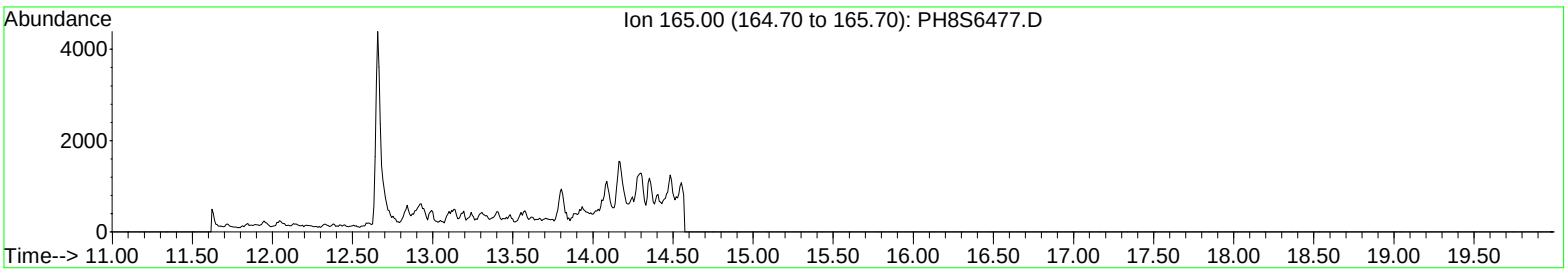
Thu Jan 10 08:46:26 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



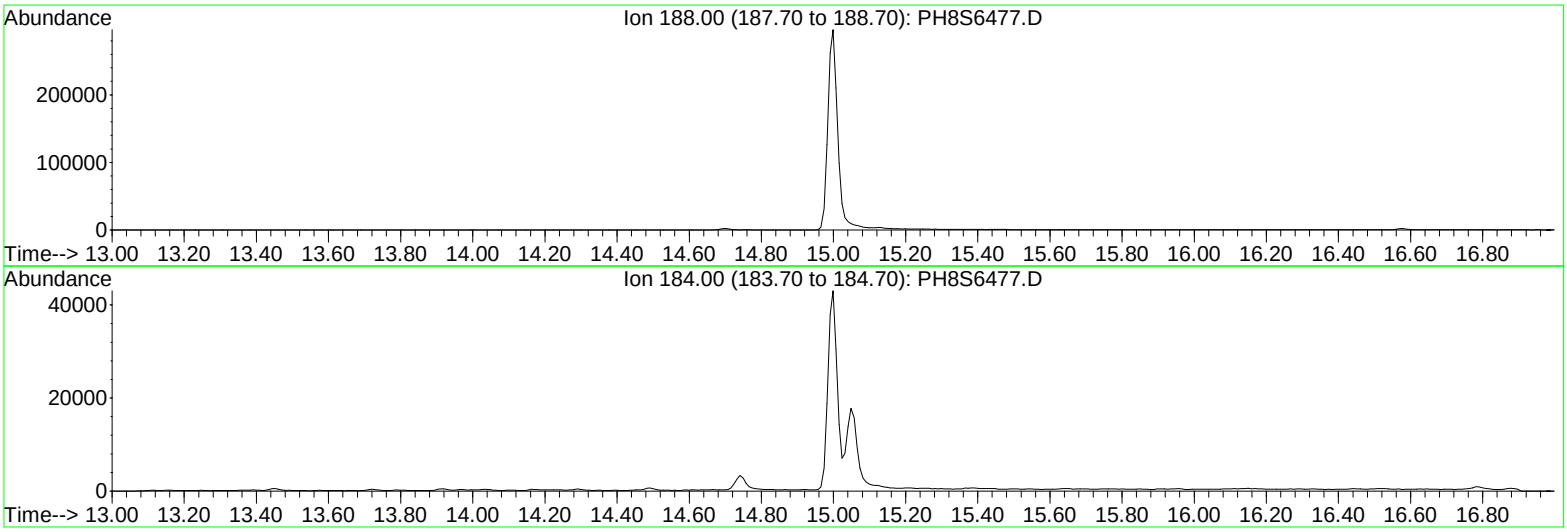


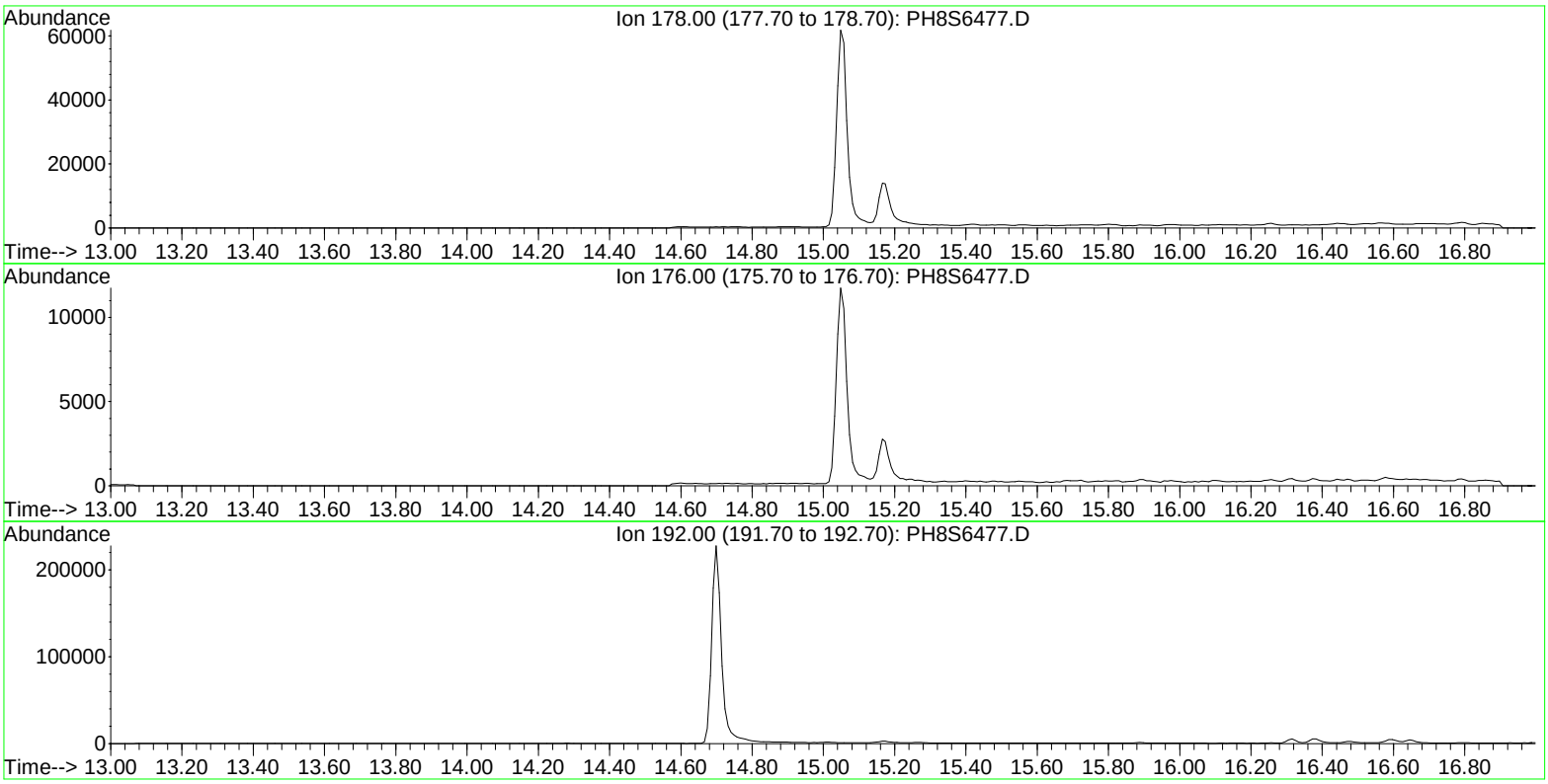


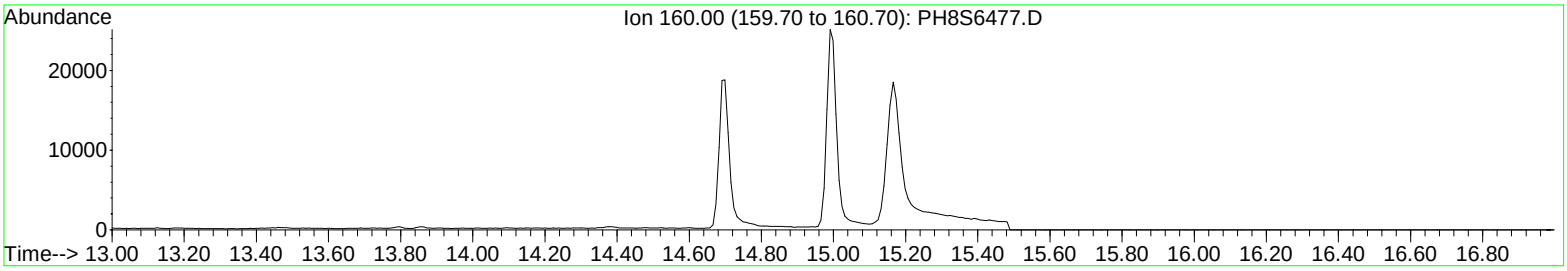
Thu Jan 10 08:46:30 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



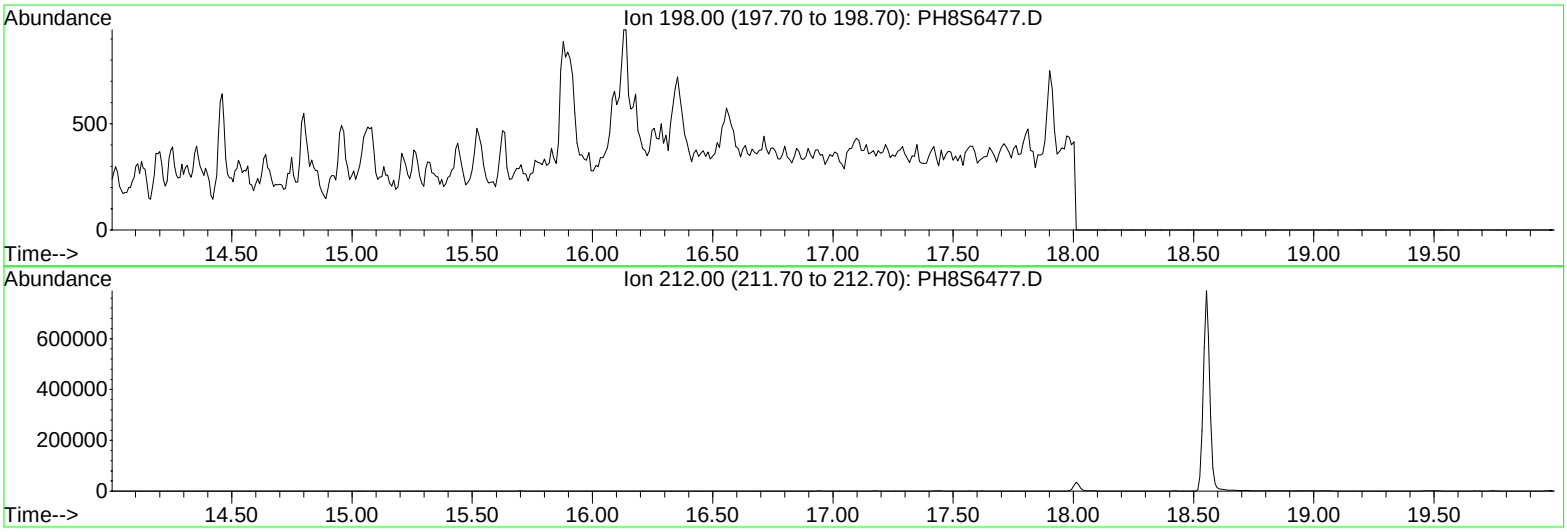


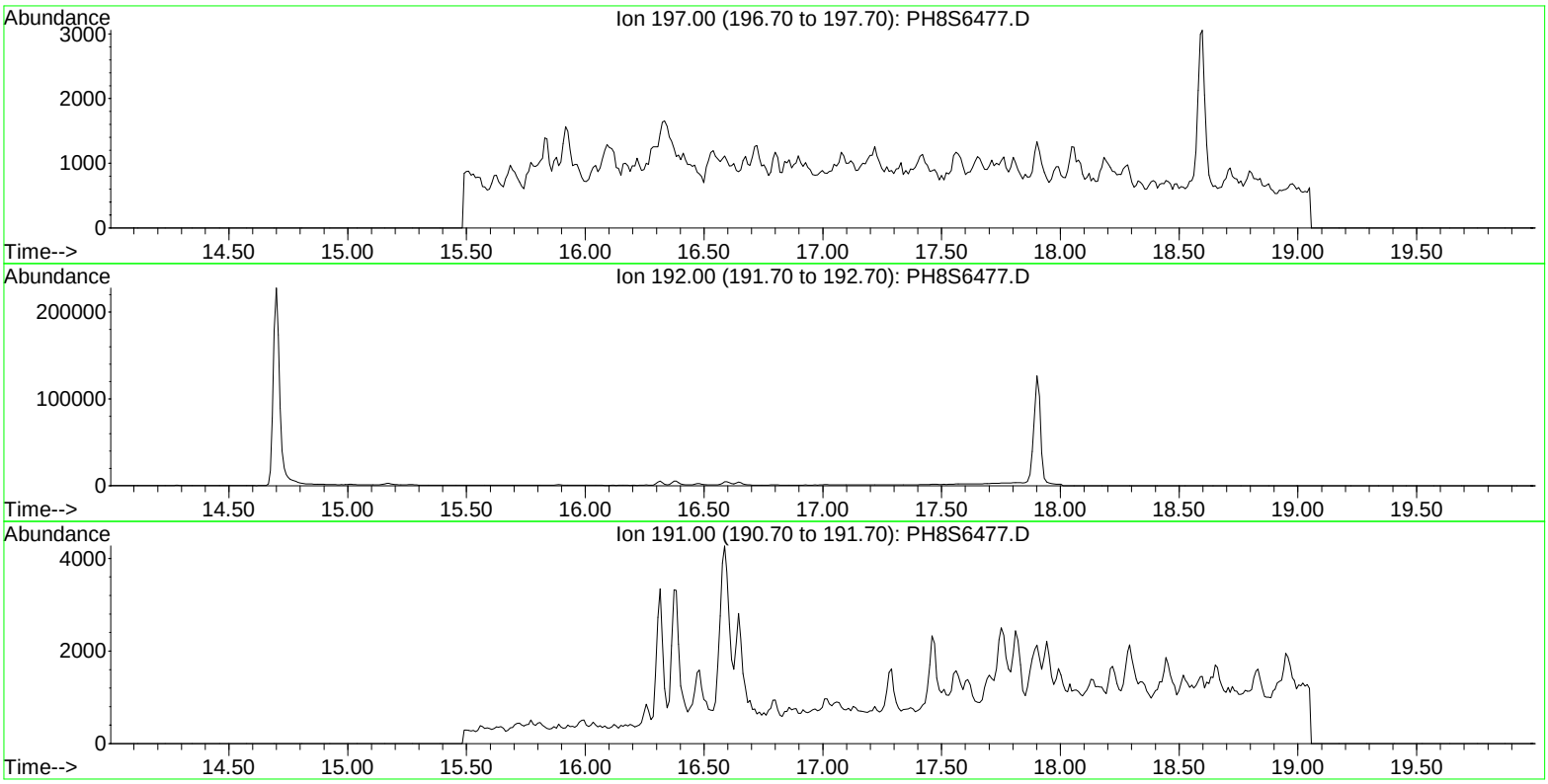


Thu Jan 10 08:46:33 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

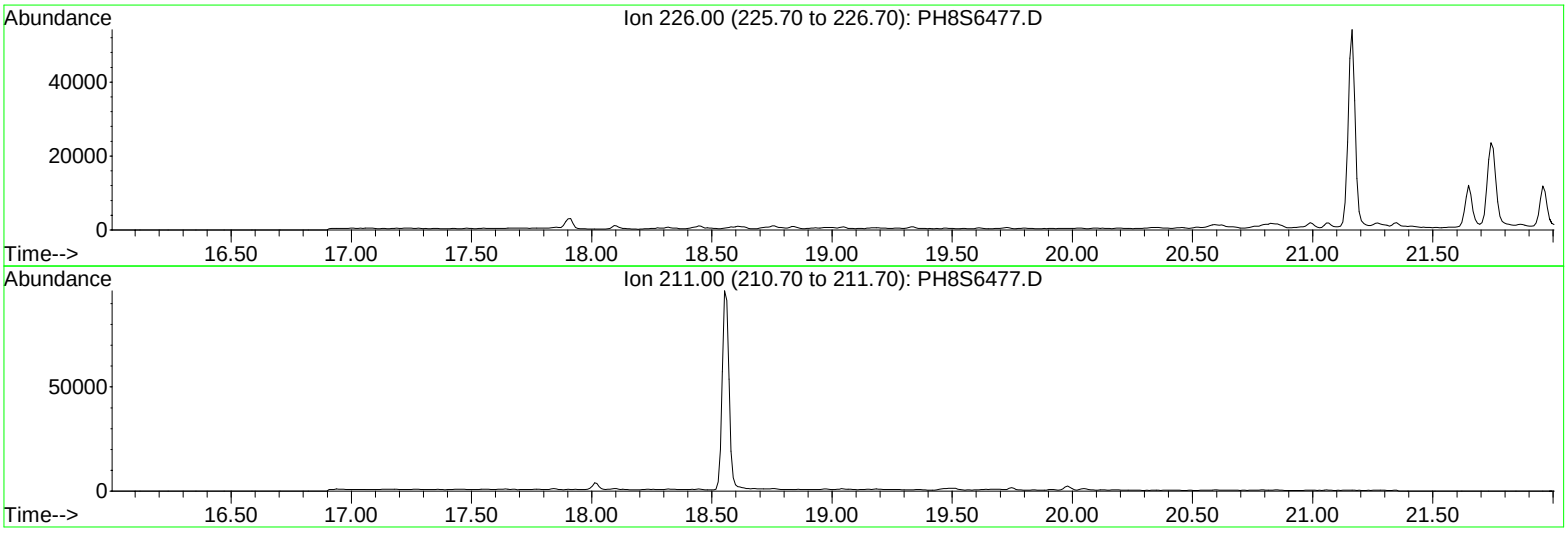


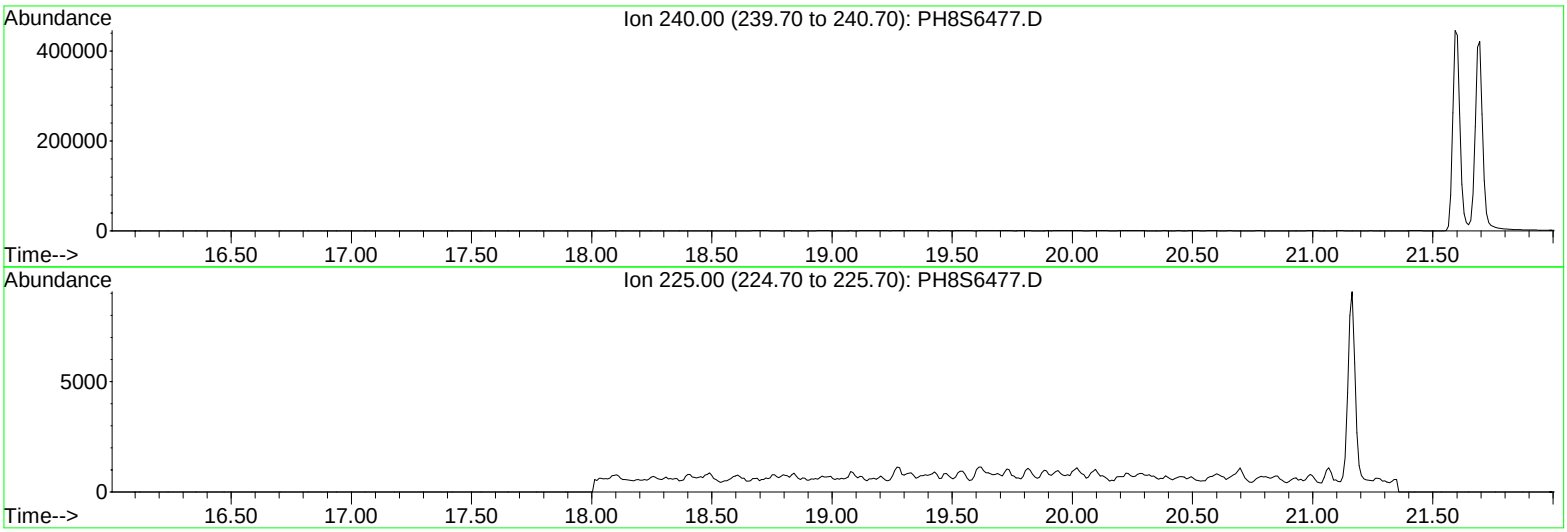


Thu Jan 10 08:46:36 2019

Axys Analytical CHRO Report

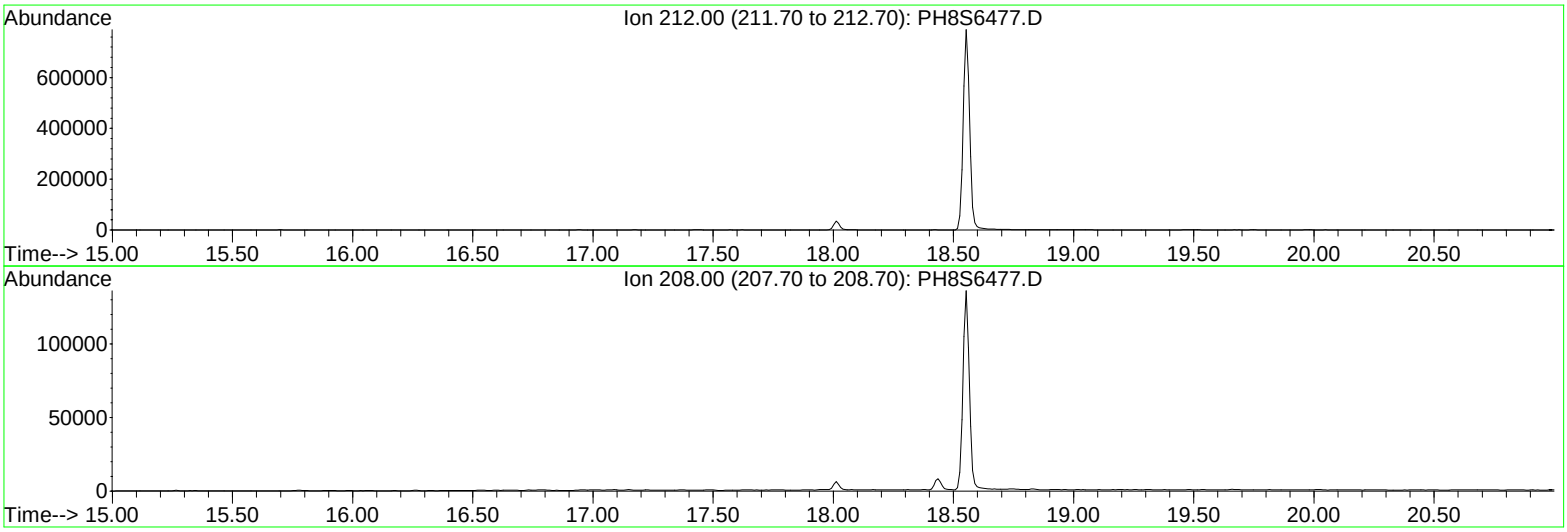
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

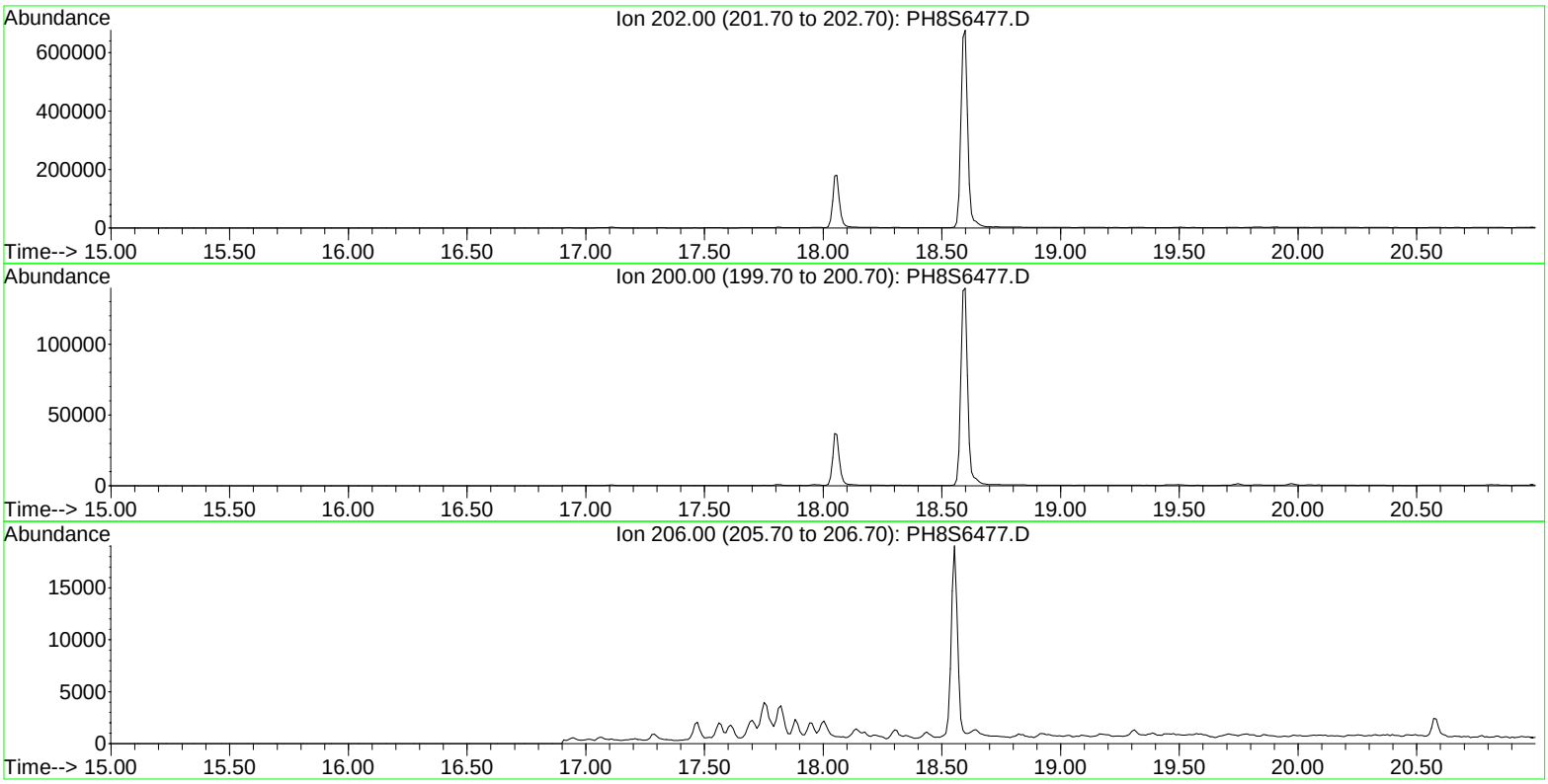


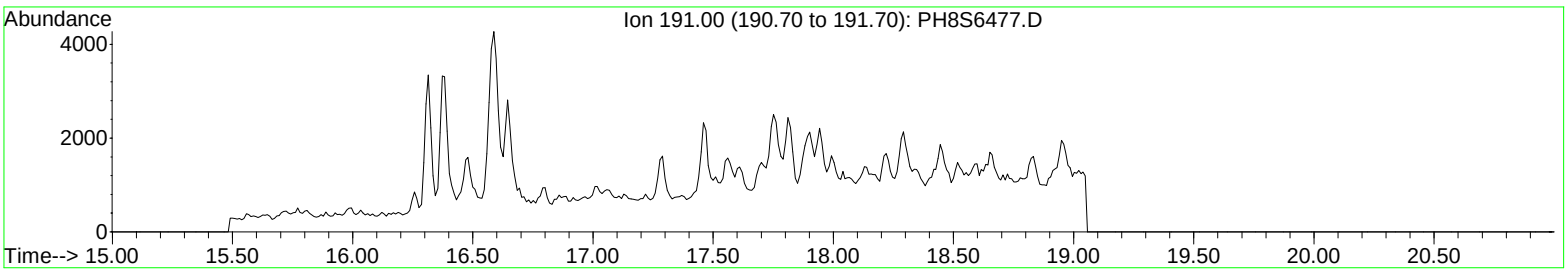


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



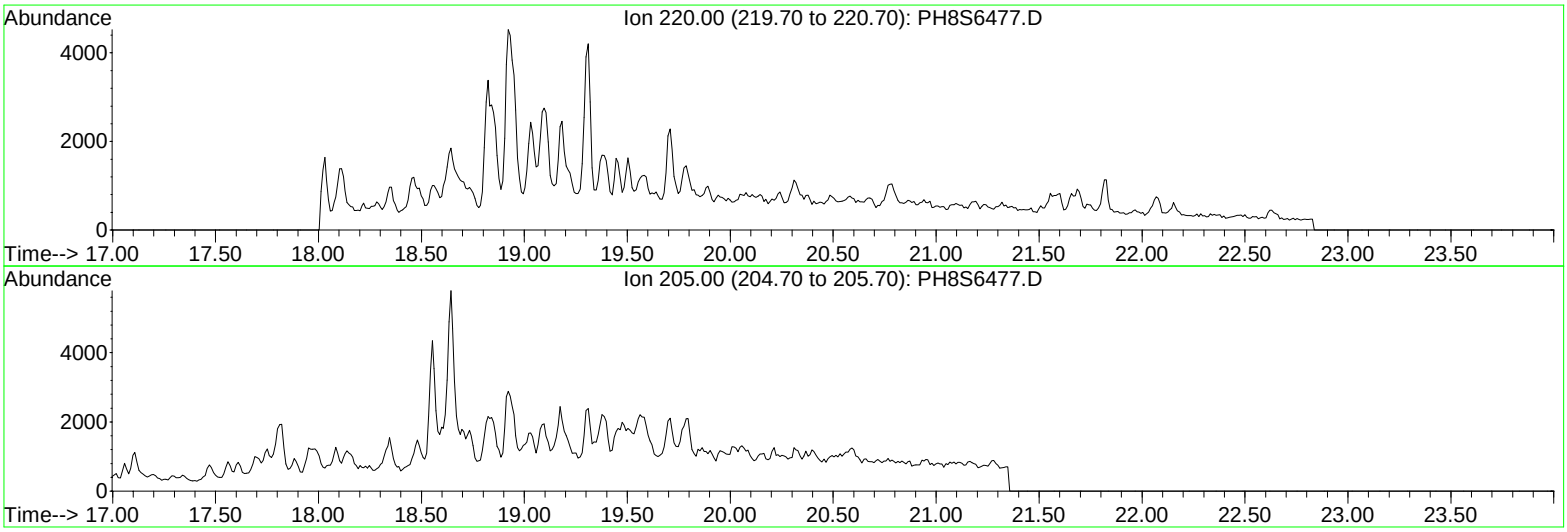


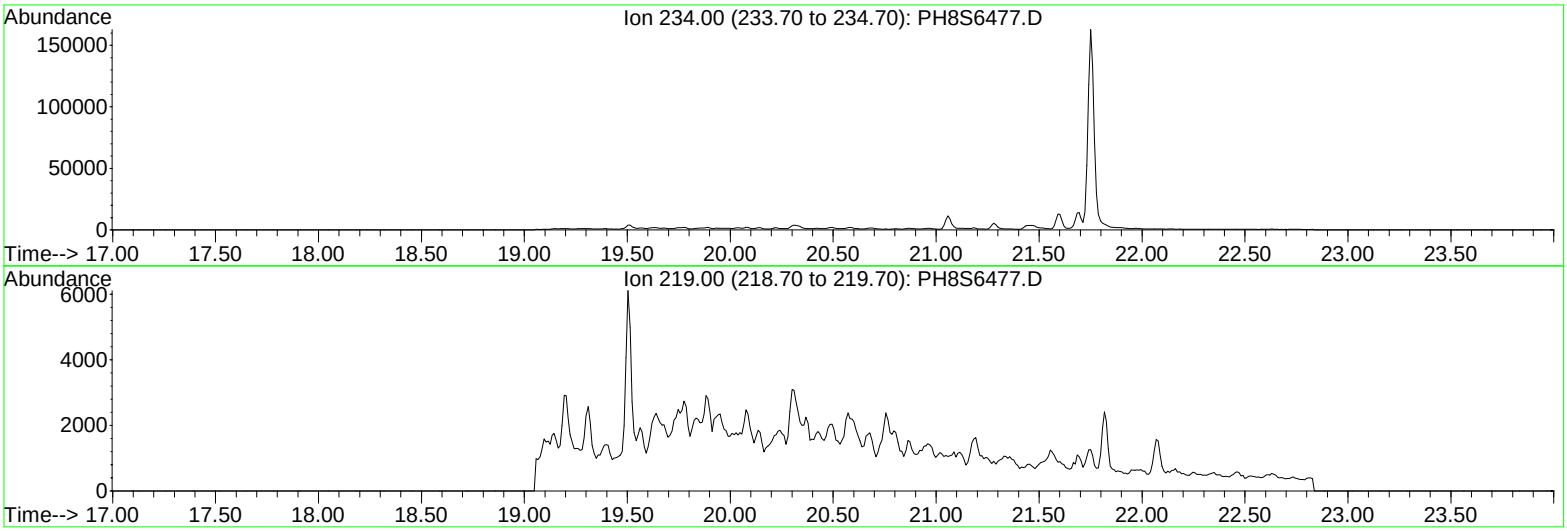


Thu Jan 10 08:46:43 2019

Axys Analytical CHRO Report

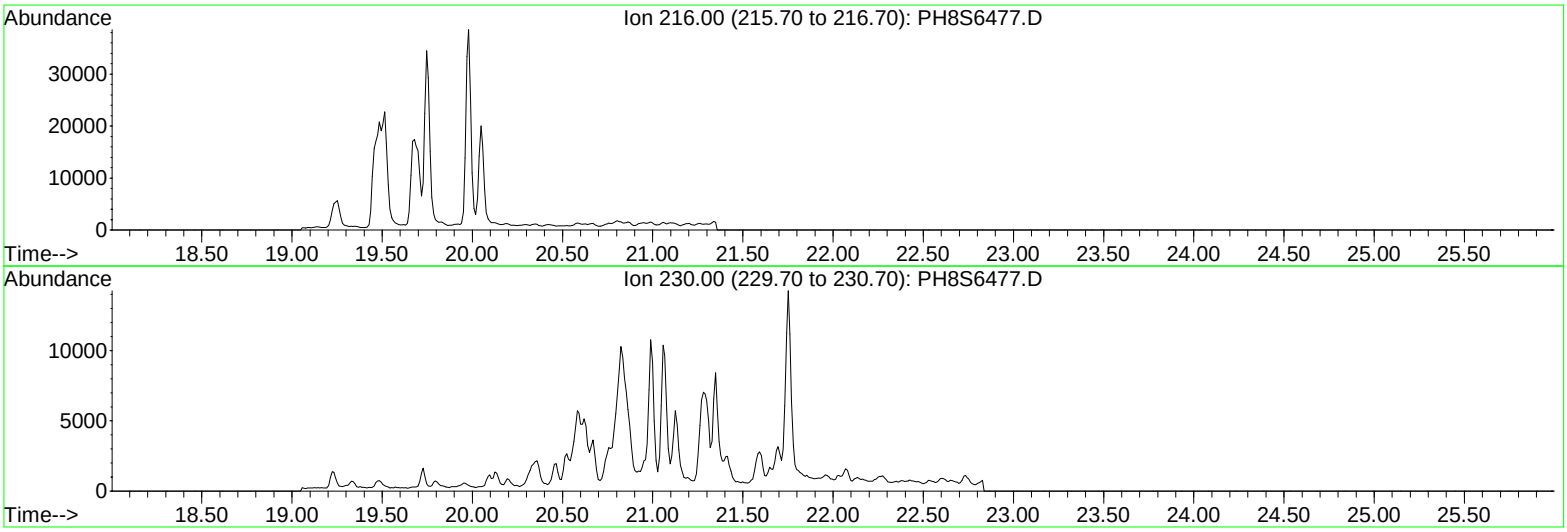
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

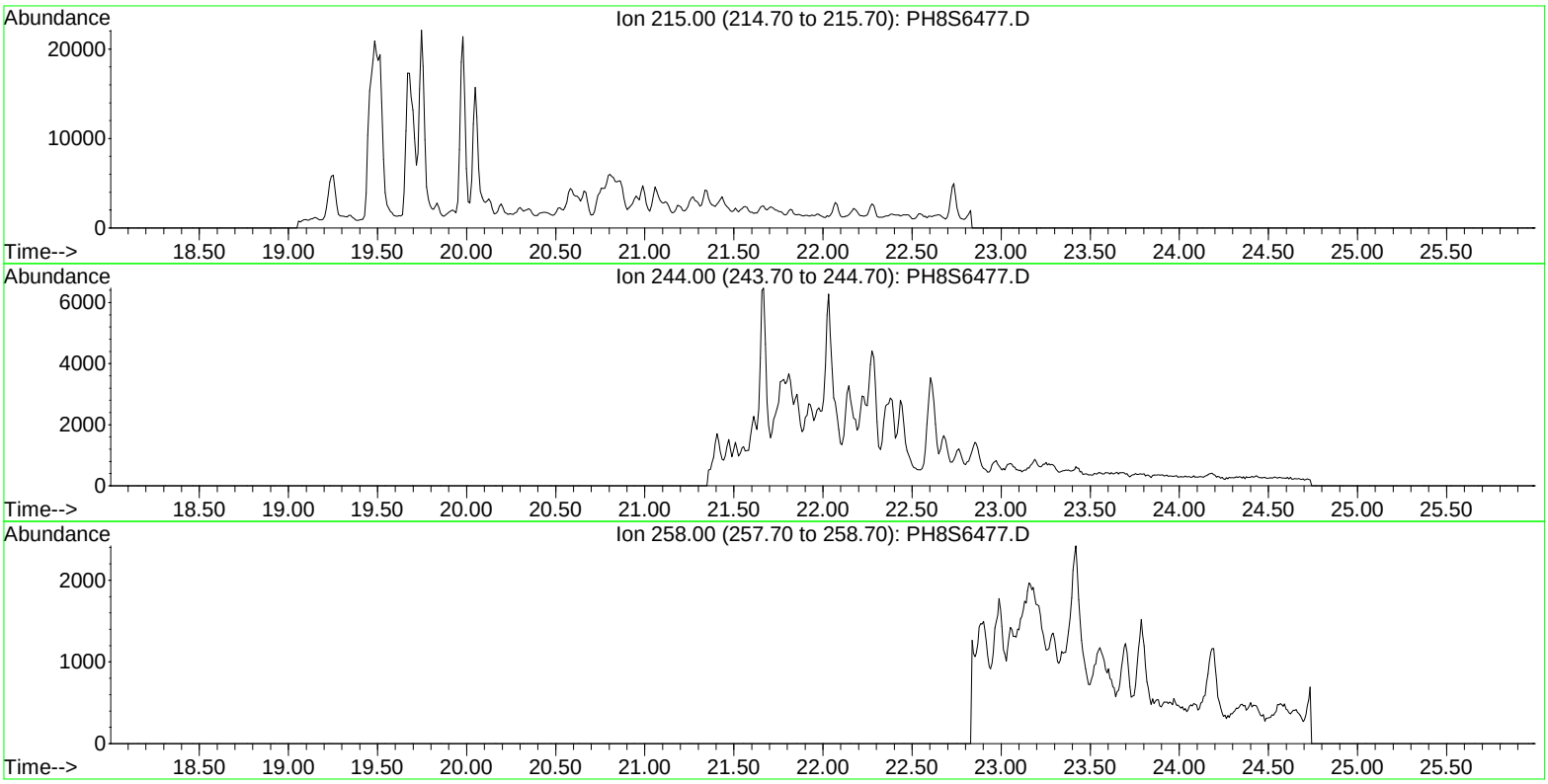


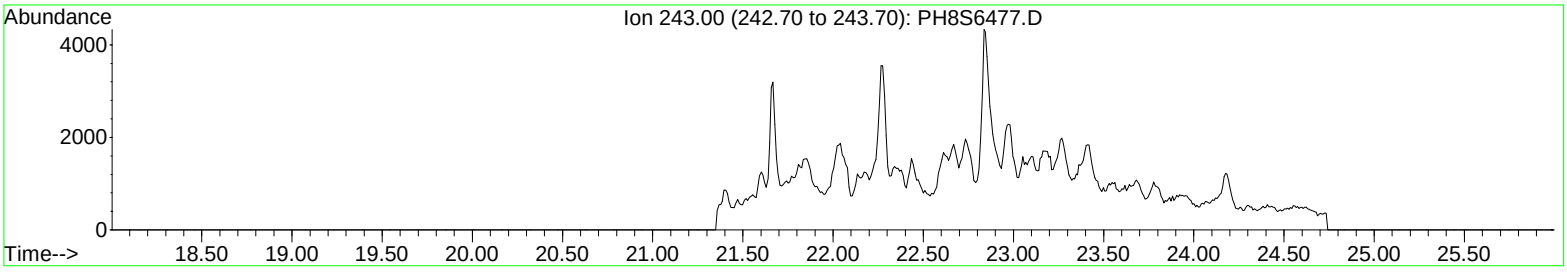


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



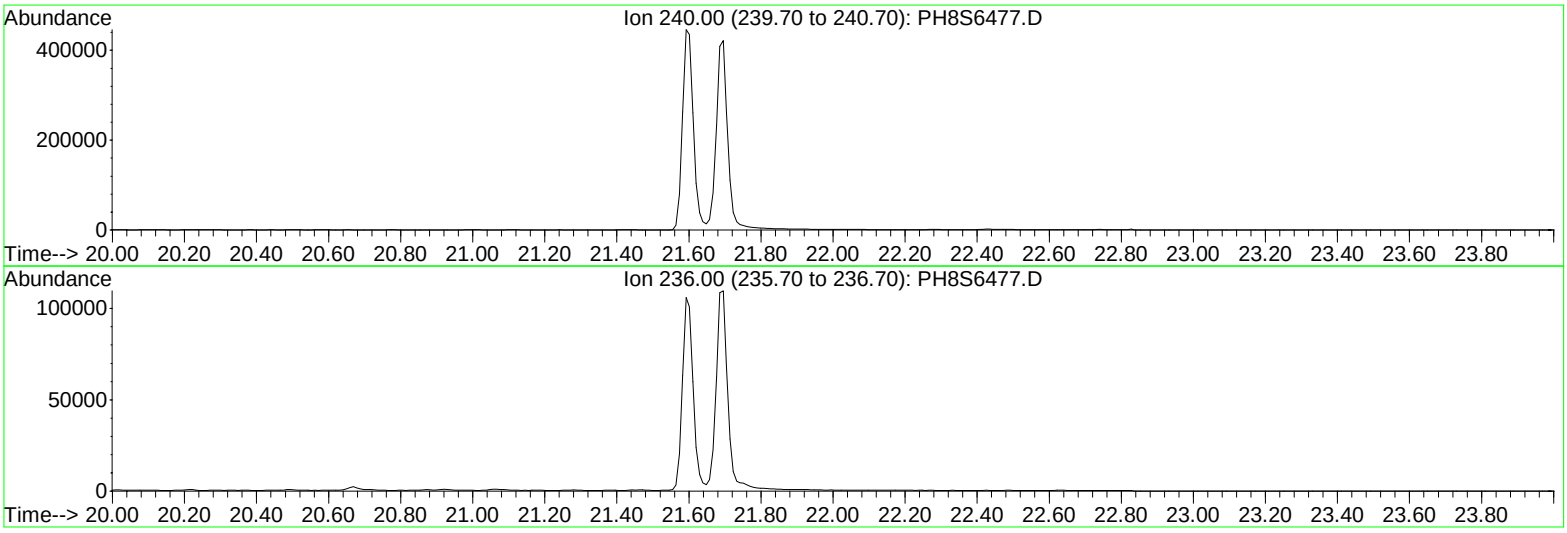


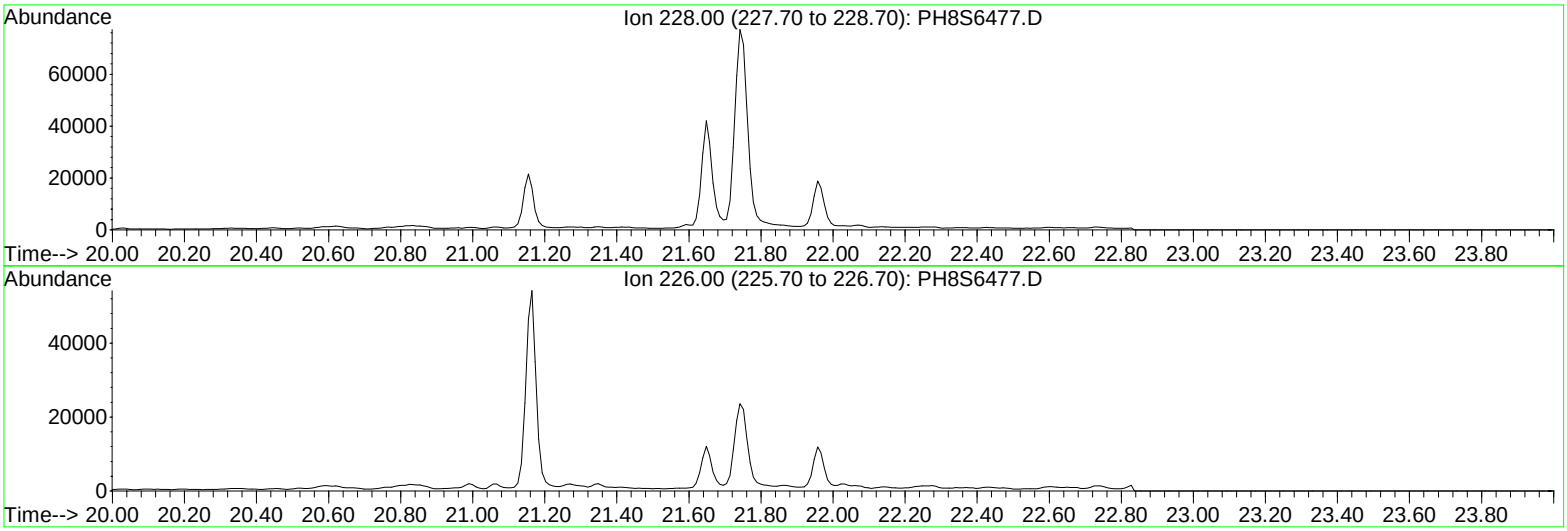


Thu Jan 10 08:46:49 2019

Axys Analytical CHRO Report

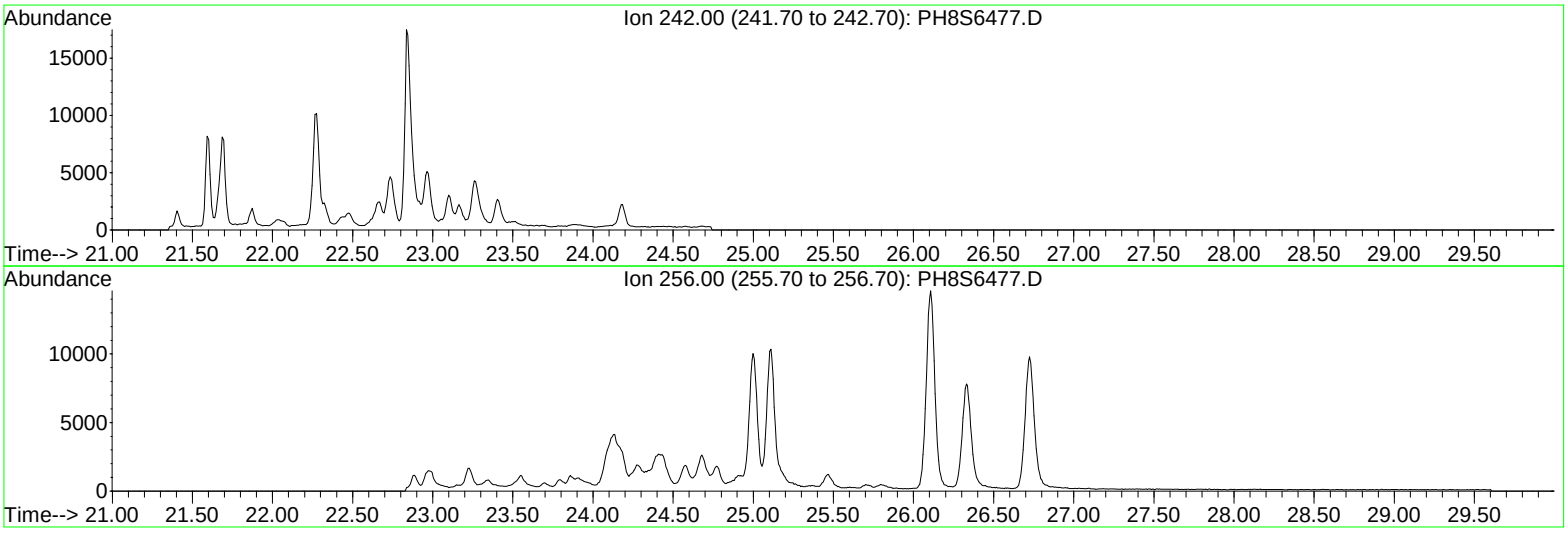
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

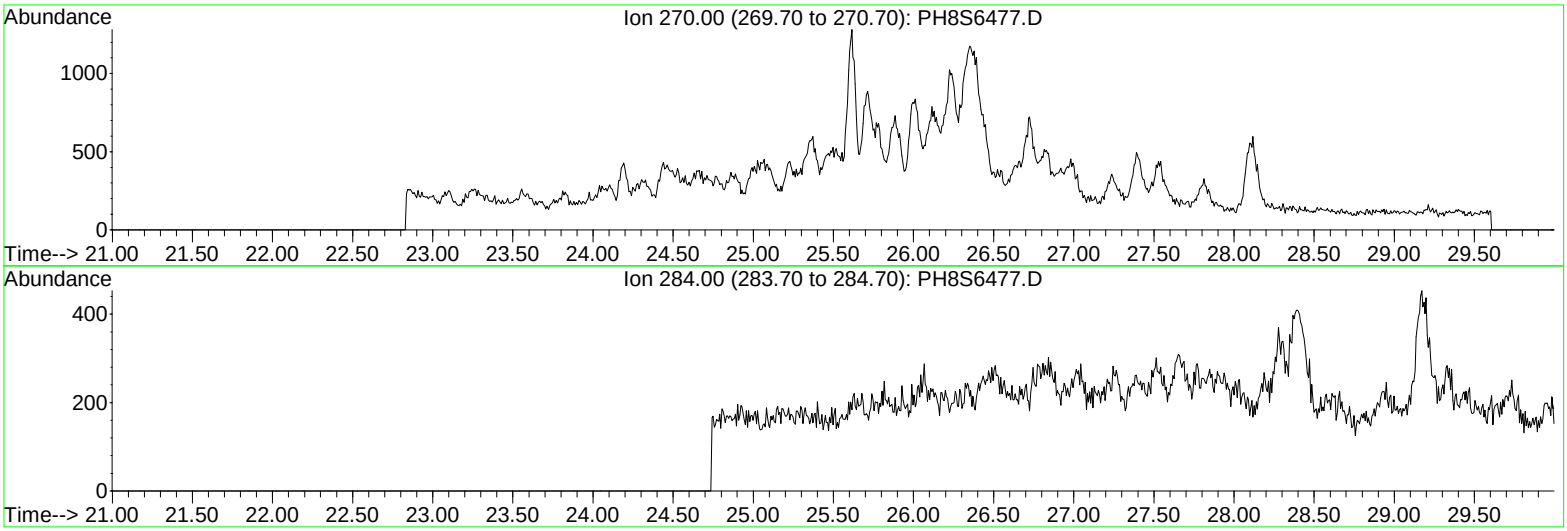




Axys Analytical CHRO Report

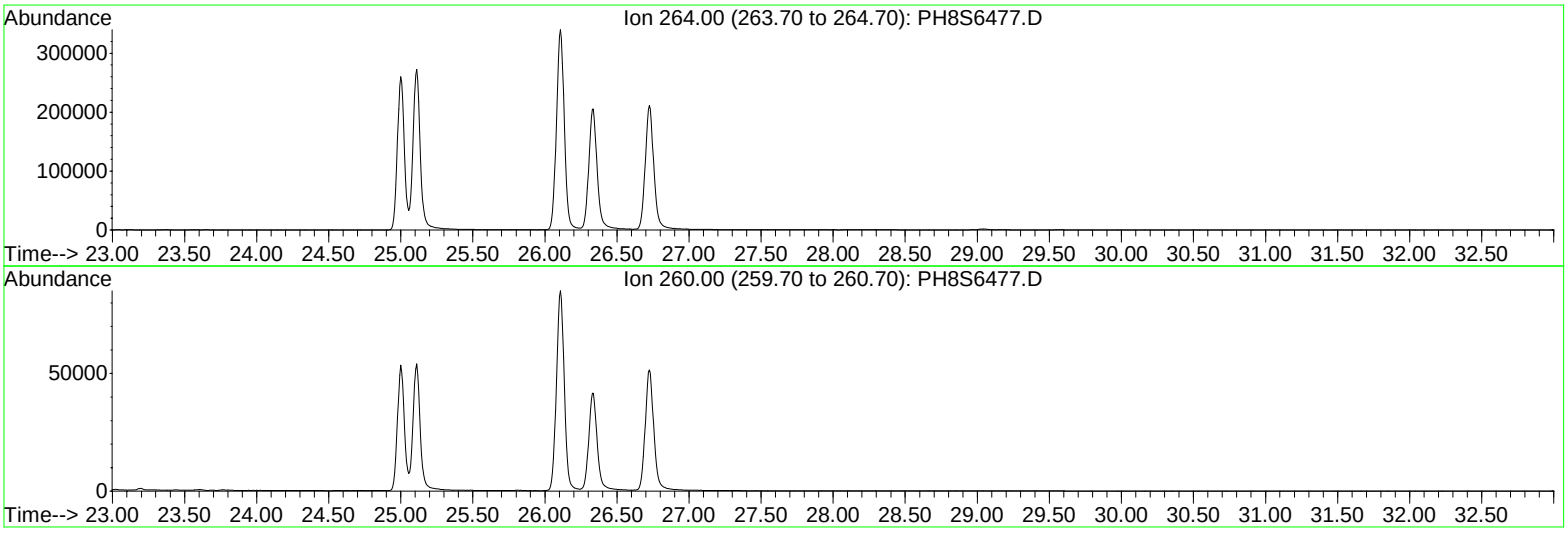
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

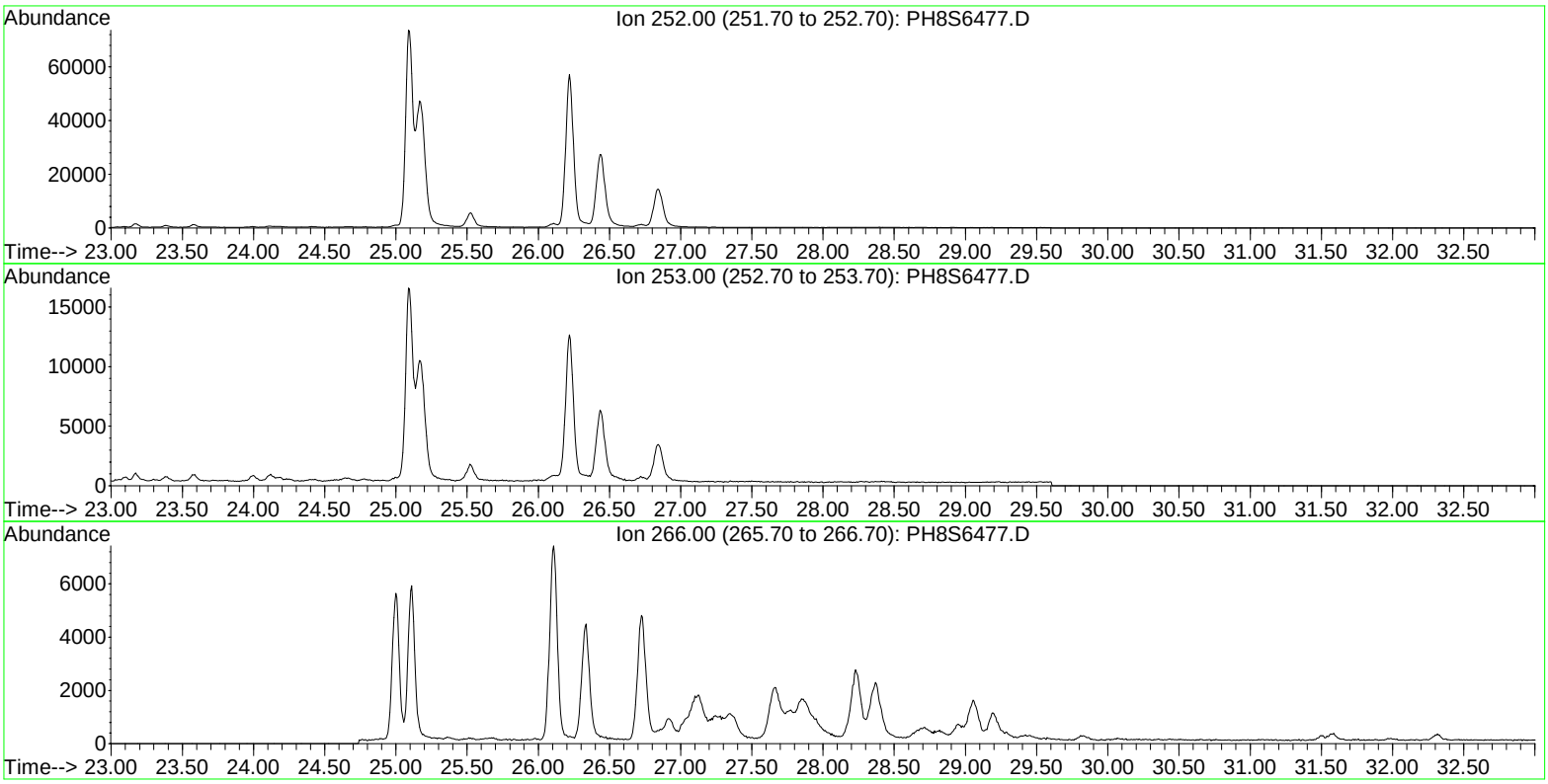


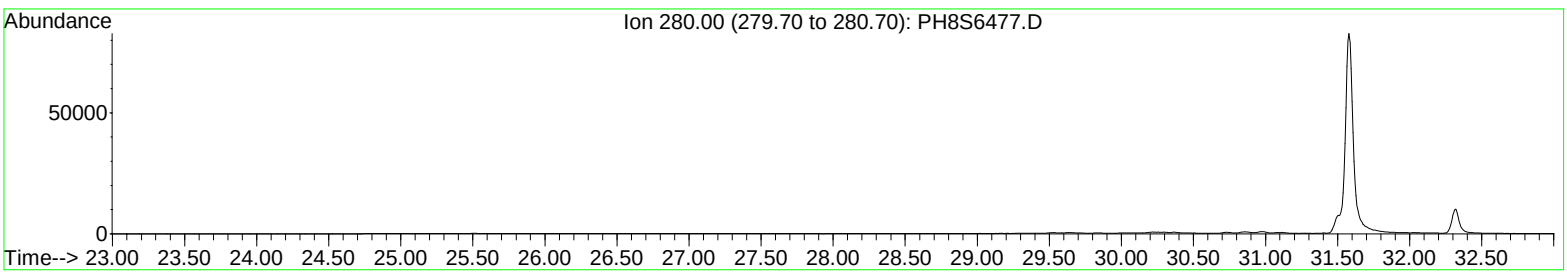


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



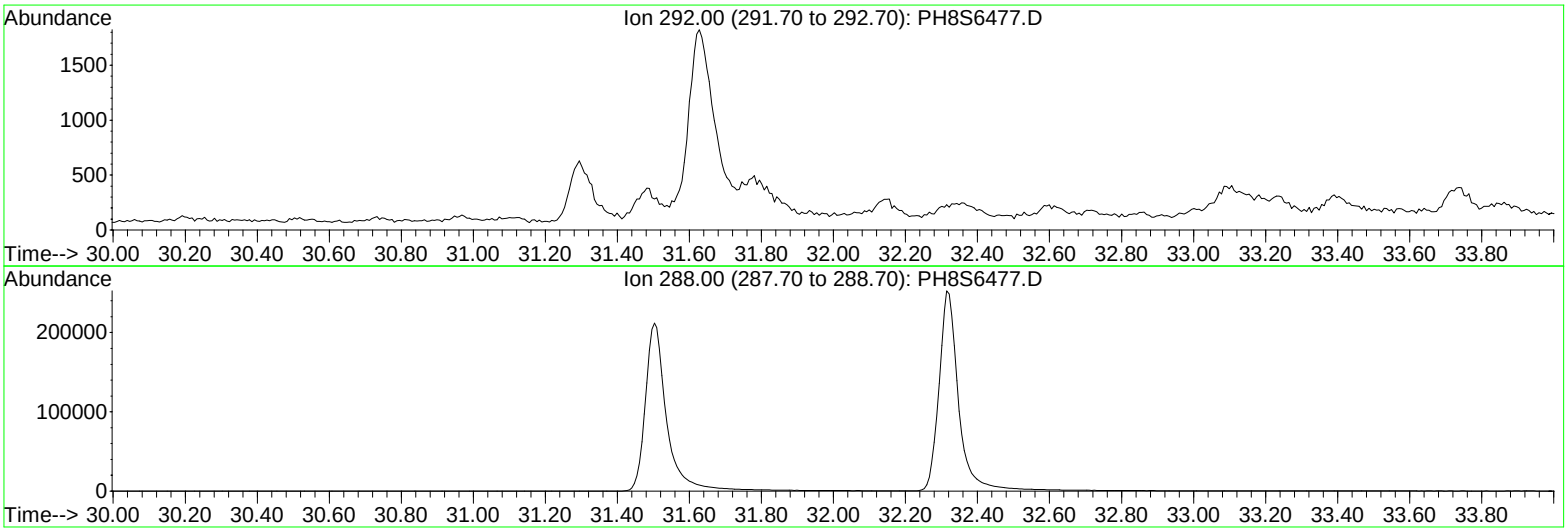


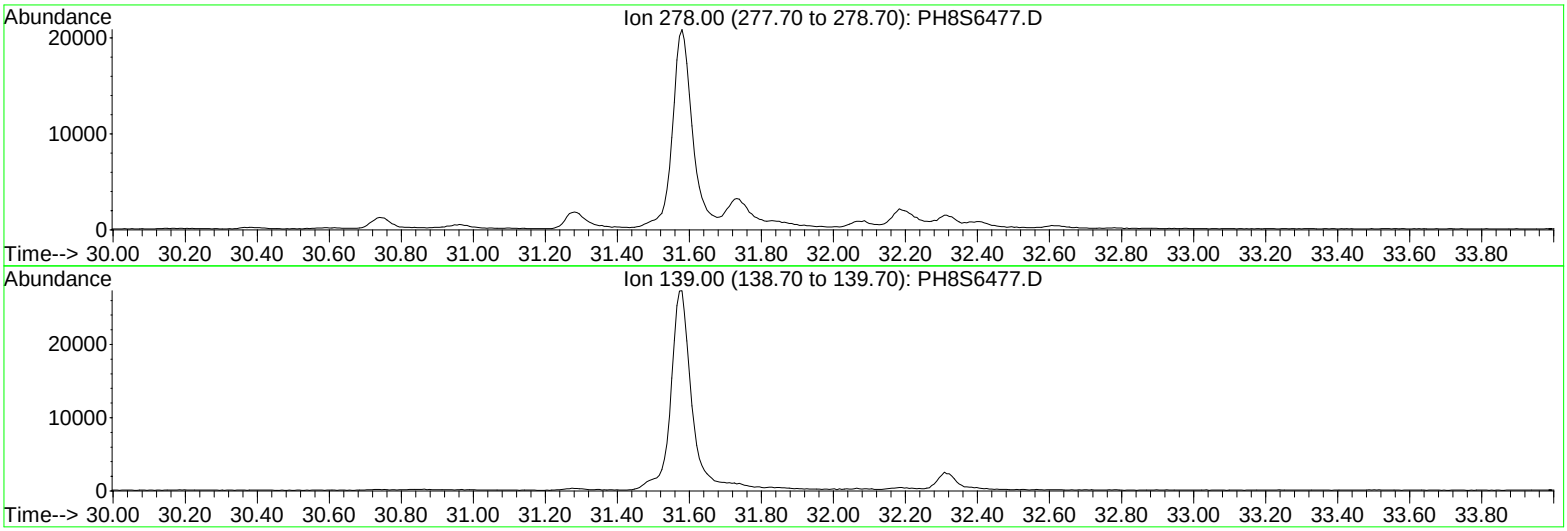


Thu Jan 10 08:46:59 2019

Axys Analytical CHRO Report

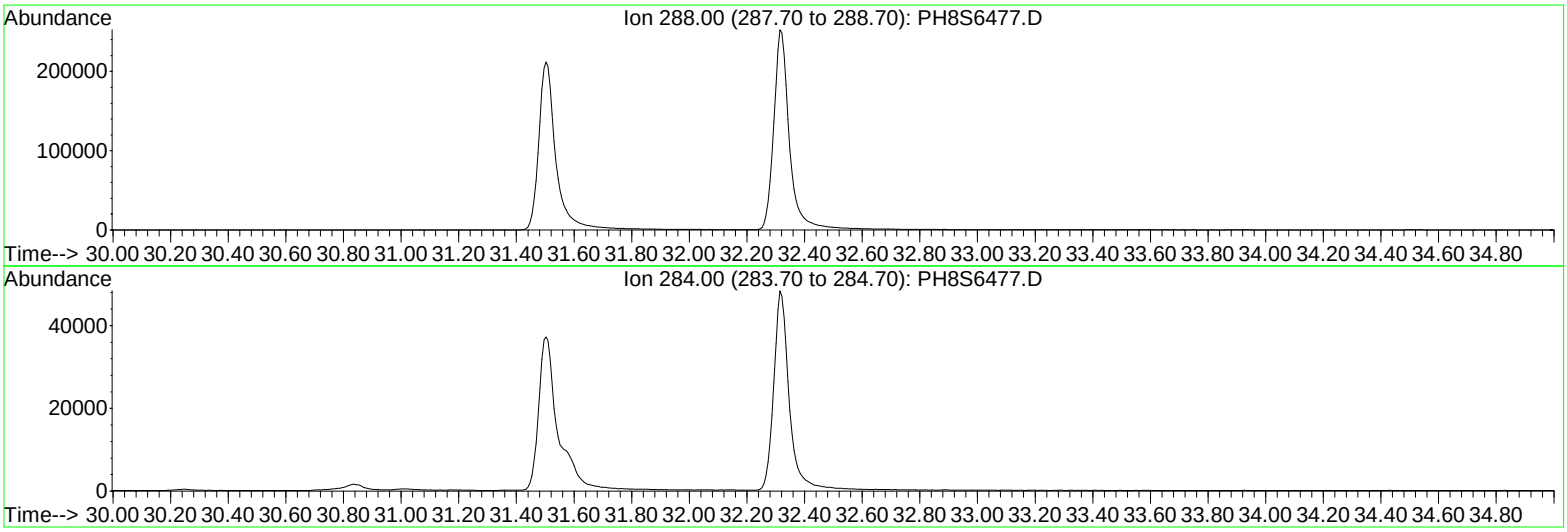
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

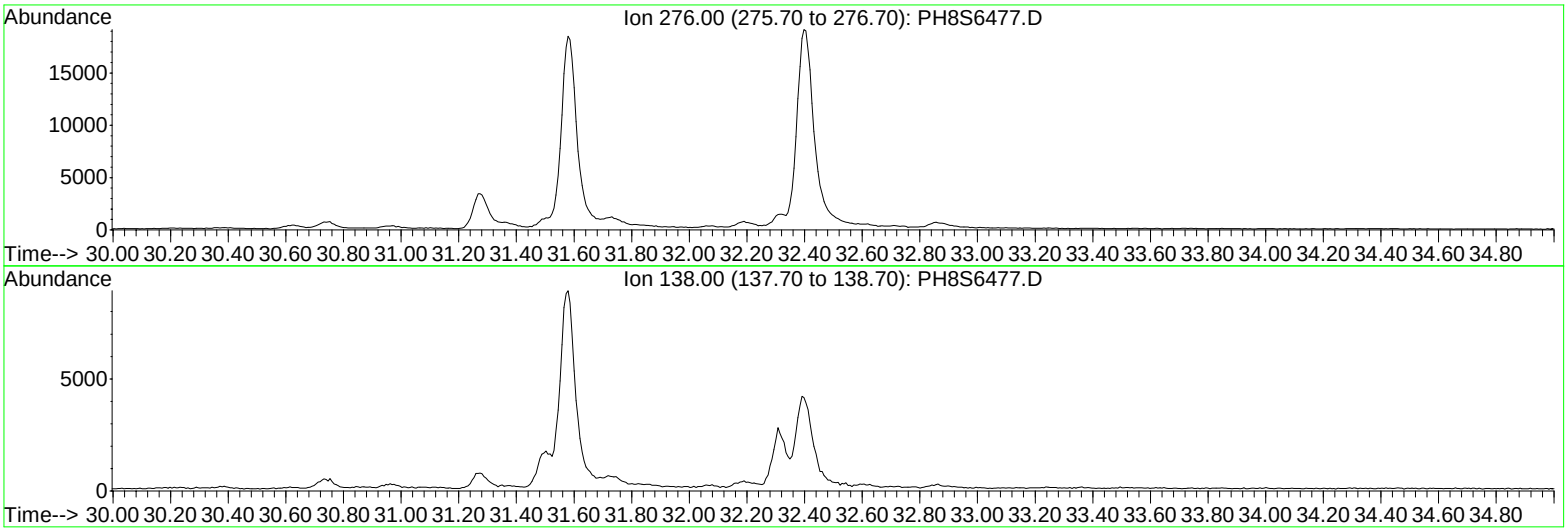




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6477.D
29/12/2018 2:09
L30540-12
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6477.D\618S6477.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 20
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-C.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 11:27:24 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.099	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	2	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	1482615	18.55	1991.911	I	0	1991.911	2703		0.17	1
d10-Phenanthrene - SURR	568347	15	1664.9913	S	46.1216	1.4457	976		0.14	0.808
d12-Benz(a)anthracene - SURR	938717	21.59	3846.1592	S	94.733	42.1934	20369		0.23	1.164
d12-Chrysene - SURR	933398	21.7	3555.994	S	90.7141	18.4969	9604		0.26	1.169
d12-Benzo(e)pyrene - REC	1284268	26.11	2042.4671	I	0	2042.4671	1248		0.25	1
d12-Indeno(123cd)pyrene - SURR	856802	31.5	3692.7691	S	92.7831	0.89	408		0.18	1.207
d10-Phenanthrene	568347	15	3650.1517	I	0	3650.1517	999		0.14	1
13C6-Phenanthrene	36054	15.05	203.5183	T	0	3.1614	560		0.17	1.003
d12-Benz(a)anthracene	938717	21.59	4105.1567	I	0	4105.1567	22763		0.23	1
d10-Fluoranthene	64490	18.01	215.3884	T	0	5.2018	1557		0.16	0.834
d12-Chrysene	933398	21.7	3963.5996	I	0	3963.5996	11218		0.26	1
13C6-Chrysene	345709	21.75	1309.3404	T	0	3.4199	903		0.31	1.003
d12-Indeno(123cd)pyrene	856802	31.5	4024.2669	I	0	4024.2669	437		0.18	1
13C6-Indeno(123cd)pyrene $	1457263	31.58	5407.0519	T	0	3.7419	1008		0.2	1.002

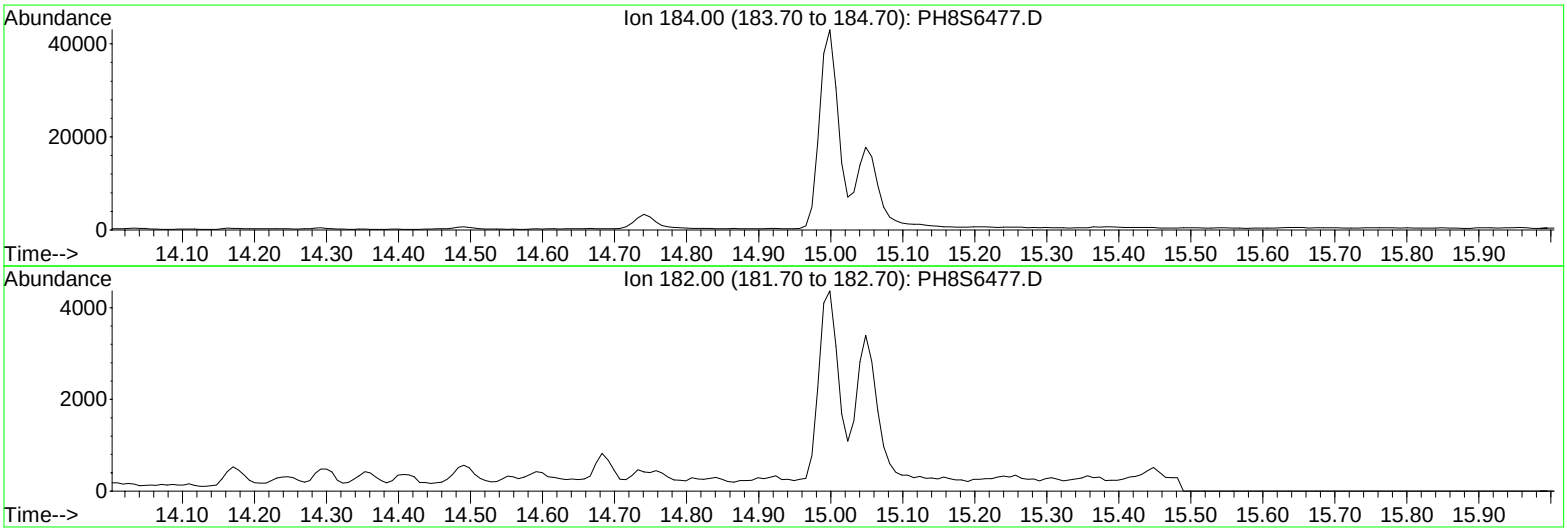
Checked by vr 03-Jan-19

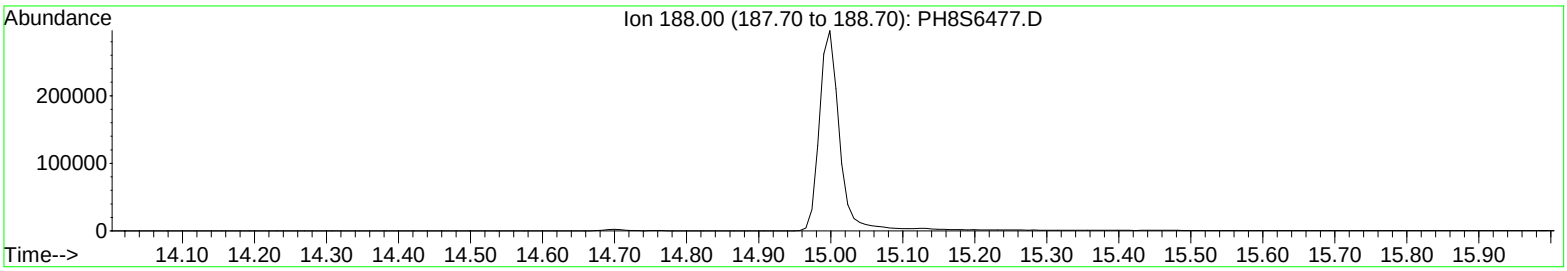
pv by vr
03-Jan-2019

618S6477

Axys Analytical CHRO Report

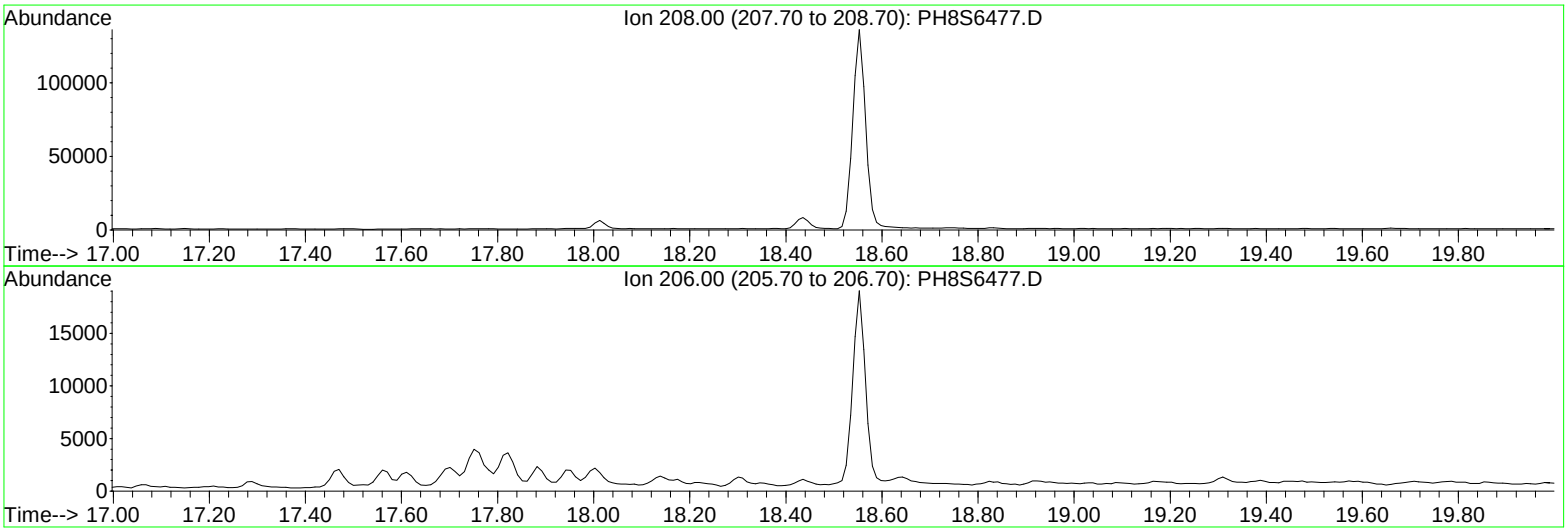
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

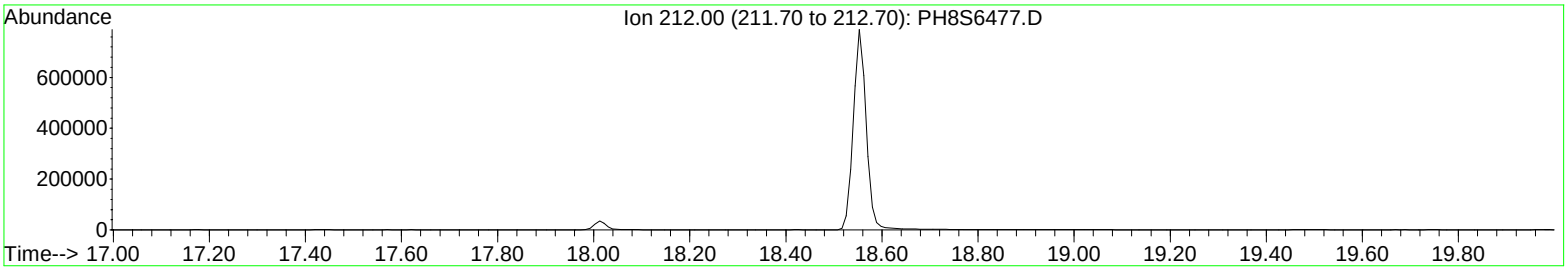




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

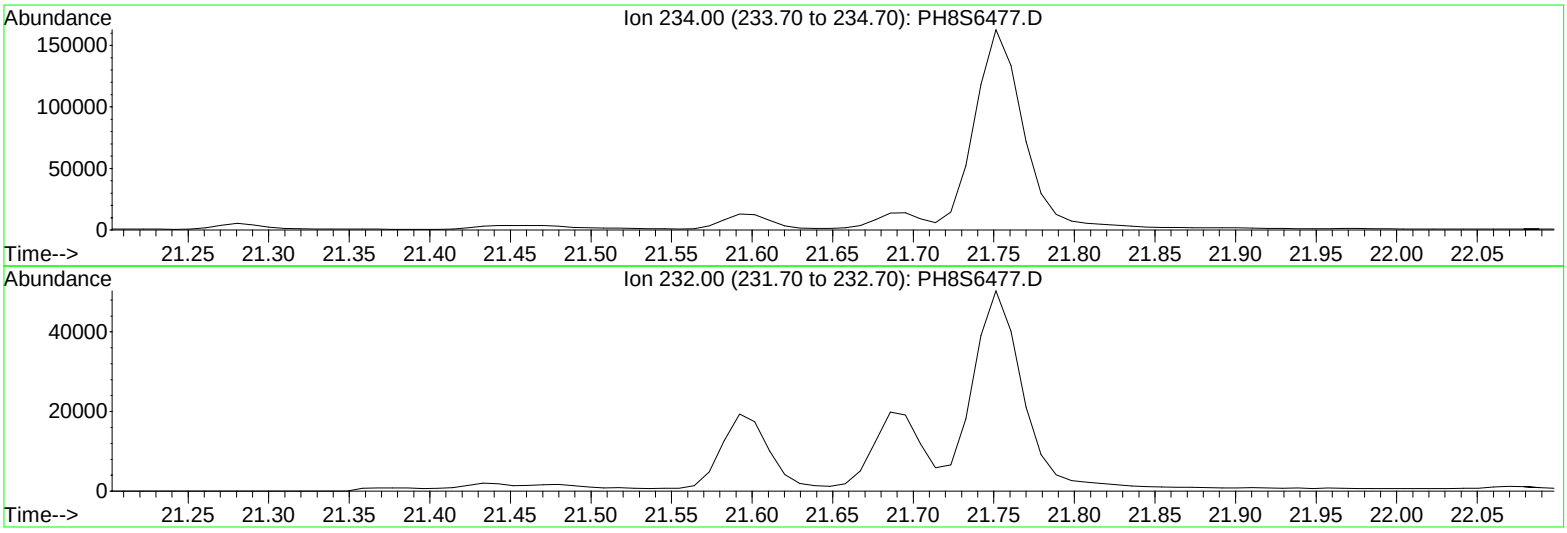


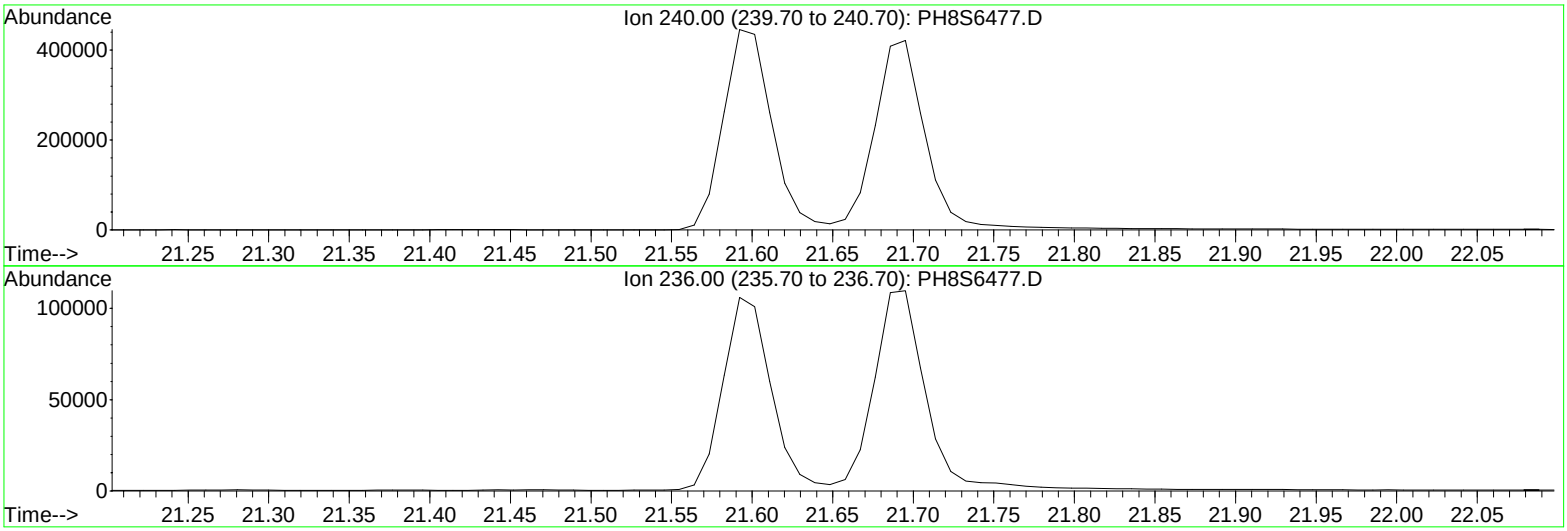


Thu Jan 10 08:57:41 2019

Axys Analytical CHRO Report

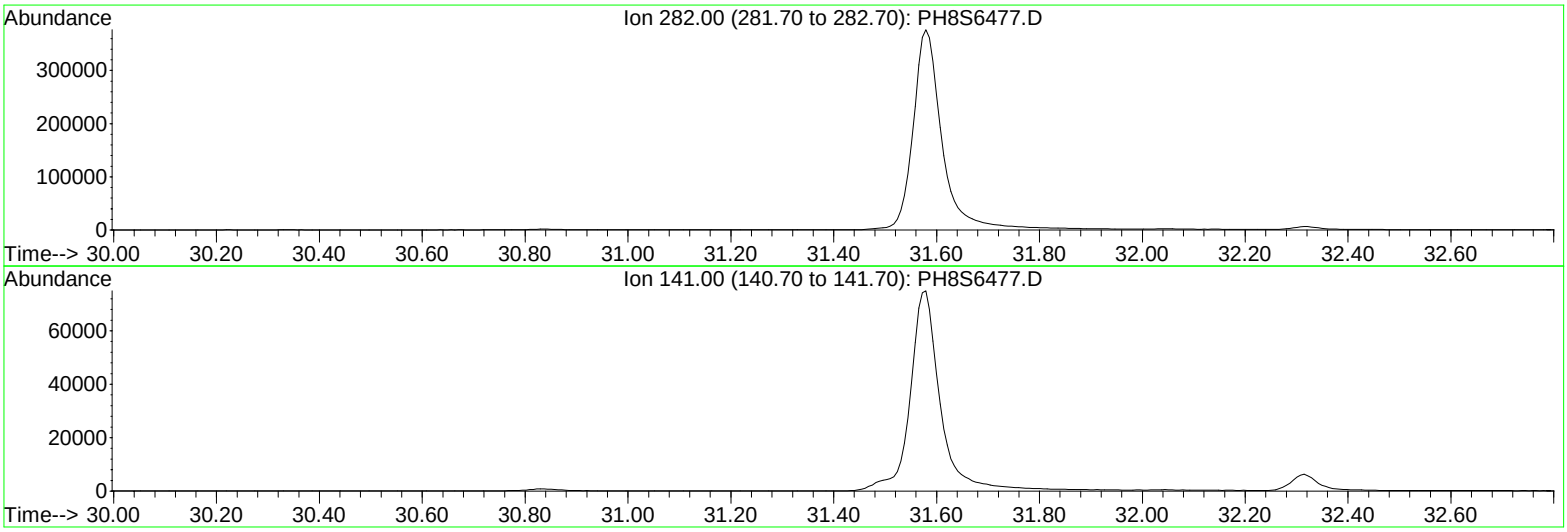
File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

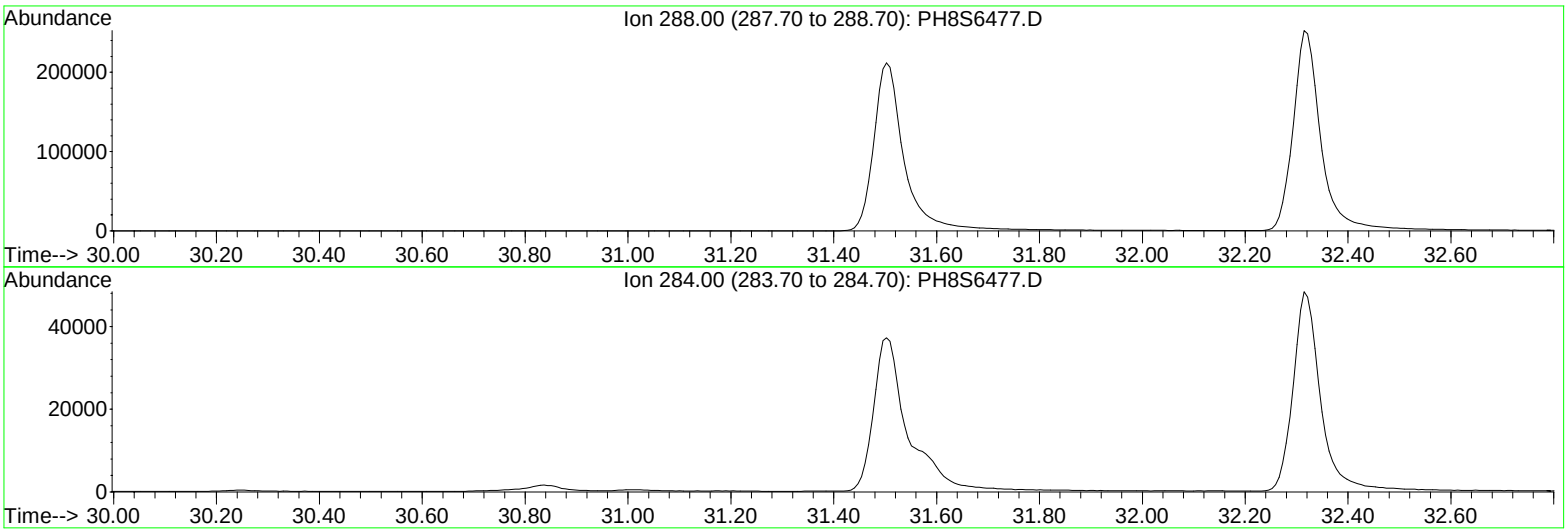




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL

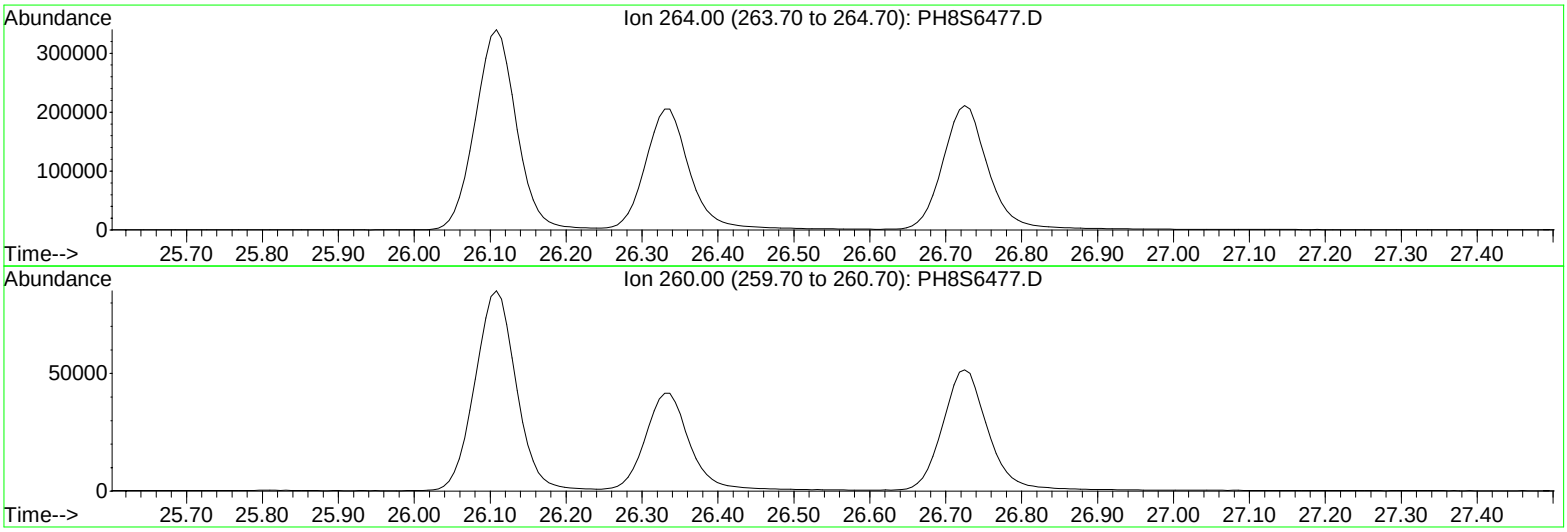




Thu Jan 10 08:57:46 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6477.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 2:09
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : L30540-12,,
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6463.D
28/12/2018 15:15
WG66438-101 BLK
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6463.D\PH8S6463.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 8
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Thu Jan 03 08:26:42 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/g
Sample Size	0.1	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	361484	11.28	4040 I	0	4040	367		0.45	1
d8-Naphthalene - SURR	127110	6.86	237.5614 S	11.8781	0.8233	110		0.09	0.608
d10-2-Methylnaphthalene - SURR	100420	8.52	279.9799 S	14.2122	1.2867	115		0.19	0.755
d10-Biphenyl - SURR	159100	9.8	316.1808 S	15.4612	0.7087	89		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	105805	10.1	322.8338 S	15.7097	2.9443	241		0.74	0.896
d8-Acenaphthylene - SURR	199183	10.85	314.3415 S	15.2593	2.3174	367		0.15	0.961
d10-Pyrene - REC	663656	18.56	3940 I	0	3940	671		0.17	1
d10-Phenanthrene - SURR	343790	15.01	558.8049 S	30.9587	7.2899	1121		0.15	0.808
d8-Dibenzothiophene - SURR	223561	14.71	408.6092 S	20.0791	0.8089	111		0.09	0.792
d12-Benz(a)anthracene - SURR	744171	21.6	1286.2326 S	63.3612	255.91	37015		0.23	1.164
d12-Chrysene - SURR	788669	21.7	1304.8249 S	66.5727	110.9116	16760		0.26	1.169
d12-Benzo(e)pyrene - REC	573652	26.11	4040 I	0	4040	1137		0.25	1
d12-Benzo(b)Fluoranthene - SURR	734209	25	1397.6594 S	70.9472	465.126	61084		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	819160	25.11	1411.8405 S	70.592	149.534	21690		0.19	0.962
d12-Benzo(a)pyrene - SURR	682928	26.34	1374.056 S	66.3795	11795.84	1465680		0.2	1.009
d12-Perylene - SURR	714666	26.72	1442.1503 S	67.0768	226.844	28103		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	767371	31.5	1524.4379 S	76.6049	1.8633	234		0.18	1.207
d12-Benzo(ghi)perylene - SURR	856038	32.31	1429.8307 S	72.2137	18.6432	2790		0.19	1.238
d8-Naphthalene	127110	6.86	4000 I	0	4000	116		0.09	1
Naphthalene $	738	6.9	19.4041 T	0	3.1985	122	#	0.05	1.007
d10-2-Methylnaphthalene	100420	8.52	3940 I	0	3940	124		0.19	1
2-Methylnaphthalene $	182	8.6	5.9016 T	0	5.2825	163	#	1.28	1.009
1-Methylnaphthalene	134	8.86	4.6022 T	0	5.5949	163		0.87	1.04
C1-Naphthalenes	232	8.6	0 T	0	0	236		-1	1.009
d10-Biphenyl	159100	9.8	4090 I	0	4090	96		-1	1
Biphenyl $	543	9.86	12.5656 T	0	2.6044	113		0.28	1.006
C1-Biphenyls $	404	11.34	9.349 T	0	2.0835	90		0.1	1.158
C2-Biphenyls $	1295	12.71	29.9676 T	0	2.6044	113		0.15	1.297
d12-2,6-Dimethylnaphthalene	105805	10.1	4110 I	0	4110	248		0.74	1
2,6-Dimethylnaphthalene $	44	10.24	1.4132 T	0	4.1593	129	#	-1	1.013
Ethyl/DiMe-Naphthalenes	41	10.43	1.4555 T	0	4.5973	129		-1	1.032
1,2-Dimethylnaphthalene	44	10.95	1.7463 T	0	5.1395	129	#	0.7	1.084
C2-Naphthalenes	30	10.19	0 T	0	0	216		-1	1.008
2,3,6-Trimethylnaphthalene	18	12.2	0.5719 T	0	5.1434	162	#	1.28	1.208
2,3,5-Trimethylnaphthalene $	38	12.35	1.2724 T	0	5.4203	162	#	1.16	1.223
C3-Naphthalenes	339	11.95	11.0537 T	0	5.2781	162		0.13	1.182
1,4,6,7-Tetramethylnaphthalene $	37	13.9	1.1752 T	0	3.4275	108	#	0.54	1.375
C4-Naphthalenes	12	14.12	0.3811 T	0	3.4275	108	#	1.67	1.397
d8-Acenaphthylene	199183	10.85	4120 I	0	4120	384		0.15	1
Acenaphthylene $	110	10.88	1.8726 T	0	2.5232	148	#	0.97	1.003
Acenaphthene $	28	11.35	0.8624 T	0	3.5509	115	#	1.5	1.047
C1-Acenaphthenes $	23	11.72	0.7084 T	0	2.8745	93		0.52	1.08
d8-Dibenzothiophene	223561	14.71	4070 I	0	4070	105		0.09	1
Dibenzothiophene $	82	14.77	1.2488 T	0	1.4994	98	#	0.54	1.005
C1-Dibenzothiophenes-1	47	15.89	1.0432 T	0	3.5901	162	#	1.74	1.08
2/3-Methyldibenzothiophenes $	24	16.06	0.5327 T	0	3.5901	162	#	1.21	1.092
C1-Dibenzothiophenes-2	26	16.37	0.5771 T	0	3.5901	162	#	-1	1.113
C1-Dibenzothiophenes	24	16.06	0 T	0	0	98		-1	1.092
4,6-Dimethyldibenzothiophene	58	16.97	1.2012 T	0	3.9325	190		0.19	1.154

+ Report only.

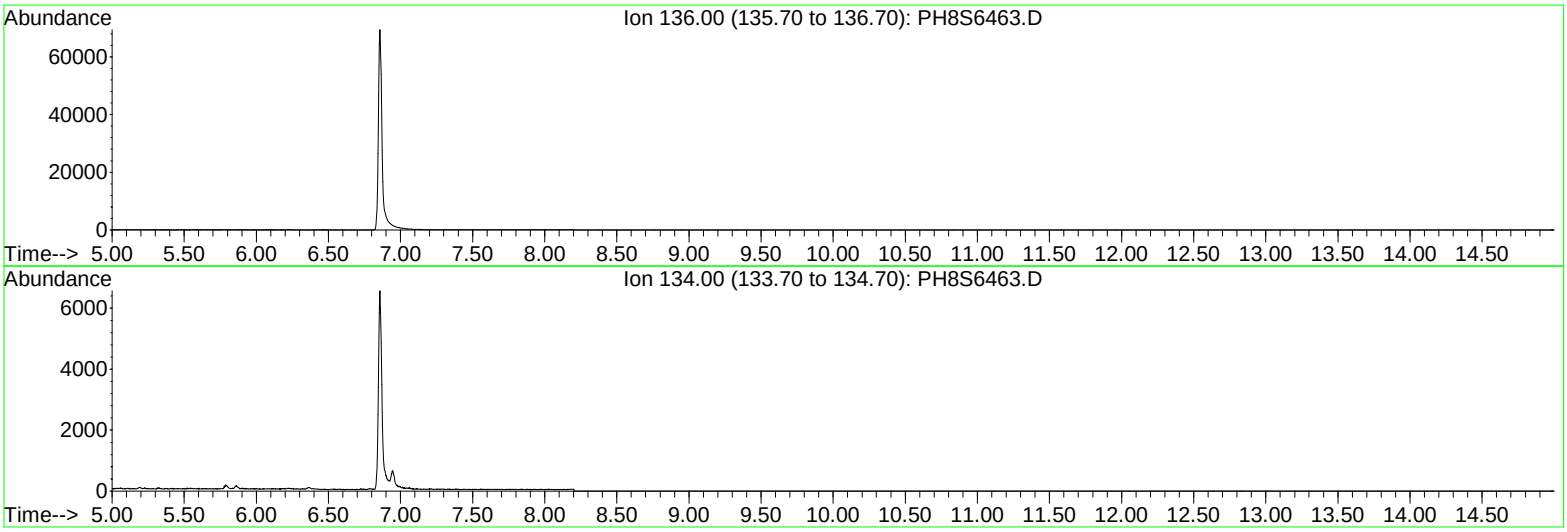
pv by vr
03-Jan-2019

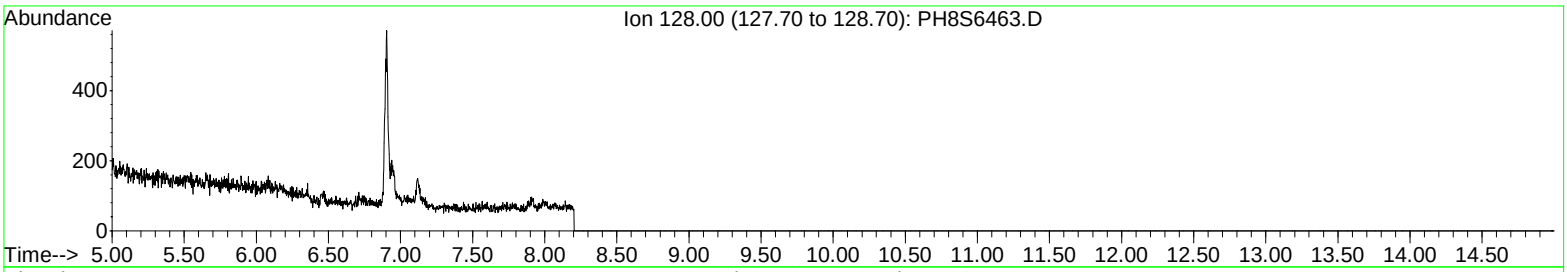
2,4-Dimethyldibenzothiophene $	74	17.12	1.9845 T	0	5.092	190 #	1.01	1.164
C2-Dibenzothiophenes	161	17.15	4.3176 T	0	5.092	190	0.47	1.166
C3-Dibenzothiophenes $	48	18.69	1.2872 T	0	3.2061	120	-1	1.271
C4-Dibenzothiophenes $	206	18.95	5.5244 T	0	6.0349	225	0.08	1.288
d10-Phenanthrene	343790	15.01	3610 I	0	3610	1160	0.15	1
Fluorene $	66	12.67	0.9697 T	0	2.5779	175 #	1.53	0.844
2-Methylfluorene $	34	14.09	0.7346 T	0	3.2965	153 #	5.59	0.939
C1-Fluorenes	273	13.81	5.8985 T	0	3.2965	153	0.7	0.92
1,7-Dimethylfluorene $	23	15.5	0.5343 T	0	4.9625	214 #	1.83	1.033
C2-Fluorenes	128	15.4	2.9737 T	0	4.9625	214	0.33	1.026
C3-Fluorenes $	169	17.46	3.9263 T	0	5.4942	236	-1	1.163
Phenanthrene $	702	15.07	6.8919 T	0	1.423	145	0.2	1.004
Anthracene	116	15.19	1.1254 T	0	1.4062	145 #	0.11	1.012
d10-Anthracene $	0	0	0 T	0	0	0	0	0
3-Methylphenanthrene	32	16.32	0.4453 T	0	3.5032	252 #	2.81	1.088
2-Methylphenanthrene	72	16.43	1.0152 T	0	3.5497	252	0.61	1.095
2-Methylanthracene	81	16.47	1.1767 T	0	3.6572	252 #	2.21	1.097
9/4-Methylphenanthrenes	77	16.63	1.0715 T	0	3.5032	252 #	0.68	1.108
1-Methylphenanthrene $	50	16.67	0.6594 T	0	3.3202	252	0.66	1.111
C1-Phenanthrenes/Anthracenes	50	16.67	0 T	0	0	610	-1	1.111
Fluoranthene $	622	18.08	4.971 T	0	1.4023	175	0.23	1.204
Pyrene	417	18.6	3.2233 T	0	1.3562	175	0.18	1.239
3,6-Dimethylphenanthrene $	49	17.49	0.7081 T	0	1.9844	137	0.35	1.165
2,6-Dimethylphenanthrene	21	17.56	0.3029 T	0	1.9807	137 #	2.57	1.17
1,7-Dimethylphenanthrene	44	17.91	0.6335 T	0	1.9771	137 #	0.89	1.194
Ethyl/DiMe-Phenanthrenes/Anthracenes	56	17.77	0.8078 T	0	1.9807	137	0.3	1.184
1,8-Dimethylphenanthrene	23	18.17	0.3318 T	0	1.9807	137 #	-1	1.21
C2-Phenanthrenes/Anthracenes	49	17.49	0 T	0	0	137	-1	1.165
1,2,6-Trimethylphenanthrene $	62	19.41	0.9731 T	0	2.2749	145 #	1.16	1.293
C3-Phenanthrenes/Anthracenes	49	19.41	0.7691 T	0	2.2749	145	1.47	1.293
Retene $	52	19.53	2.1359 T	0	7.8337	191 #	1.27	1.302
C4-Phenanthrenes/Anthracenes	179	19.91	7.3525 T	0	7.8337	191	0.37	1.327
C1-Fluoranthenes/Pyrenes-1	100	19.53	1.3443 T	0	1.846	137	0.23	1.302
3-Methylfluoranthene/Benzo(a)fluorene $	76	19.53	1.0217 T	0	1.846	137 #	2.24	1.302
C1-Fluoranthenes/Pyrenes-2	30	20.01	0.4033 T	0	1.846	137	0.43	1.333
C1-Fluoranthenes/Pyrenes	139	19.53	0 T	0	0	92	-1	1.302
C2-Fluoranthenes/Pyrenes $	49	20.85	0.6587 T	0	2.0511	153	0.86	1.39
C3-Fluoranthenes/Pyrenes $	57	22.83	0.7663 T	0	1.4358	107	0.33	1.521
C4-Fluoranthenes/Pyrenes $	77	23.31	1.0351 T	0	1.5383	114	0.35	1.553
d12-Benz(a)anthracene	744171	21.6	4060 I	0	4060	31008	0.23	1
d10-Fluoranthene $	2402	18.04	12.07 T	0	0.8073	161	0.16	0.835
Benz(a)anthracene	105	21.66	0.4434 T	0	0.4697	111 #	0.5	1.003
d12-Chrysene	788669	21.7	3920 I	0	3920	15503	0.26	1
Chrysene $	358	21.76	1.4415 T	0	0.4946	123	0.31	1.003
5/6-Methylchrysenes $	59	23.09	0.3146 T	0	0.8005	150	-1	1.064
1-Methylchrysene	66	23.28	0.3397 T	0	0.7727	150	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	144	23.28	0.7543 T	0	0.7863	150	-1	1.073
5,9-Dimethylchrysene $	66	24.4	0.4546 T	0	1.0809	157	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	75	24.4	0.5166 T	0	1.0809	157	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	132	26.38	0.9092 T	0	1.0339	150	-1	1.216
C4-Benz(a)anthracenes/Chrysenes $	49	27.38	0.3375 T	0	1.2219	177	-1	1.262
d12-Benzo(b)fluoranthene	734209	25	3940 I	0	3940	50828	0.21	1
Benzo(b)fluoranthene-SURR int	2144	25	0 T	0	0	293	0.41	1
Benzo(b)fluoranthene $	1997	25.1	7.4013 T	0	1.0124	273 #	0.33	1.004
d12-Benzo(k)fluoranthene	819160	25.11	4000 I	0	4000	20189	0.19	1
Benzo(j/k)fluoranthenes	157	25.17	0.6076 T	0	1.1825	306 #	0.41	1.002
Benzofluoranthenes	2291	25.1	0 T	0	0	306	-1	1
d12-Benzo(a)pyrene	682928	26.34	4140 I	0	4140	1554150	0.2	1
Benzo(e)pyrene	67	26.23	0.2927 T	0	1.5207	348 #	1.12	0.996
Benzo(a)pyrene	87	26.41	0.4026 T	0	1.611	348	0.18	1.003
7-Methylbenzo(a)pyrene $	37	29.19	0.2406 T	0	1.7784	274	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	65	30.02	0.4226 T	0	1.7784	274	-1	1.14
C2-Benzofluoranthenes/Benzopyrenes $	73	30.98	0.4746 T	0	1.3742	211	-1	1.176
d12-Perylene	714666	26.72	4300 I	0	4300	30802	0.24	1
Perylene	113	26.84	0.4931 T	0	1.57	360 #	0.92	1.004
d12-Indeno(123cd)pyrene	767371	31.5	3980 I	0	3980	247	0.18	1
d14-Dibenzo(ah)anthracene $	7167	31.64	40.6331 T	0	3.7882	668 #	3.48	1.004
Dibenzo(ah)anthracene $	119	31.75	0.5422 T	0	1.0711	235 #	0.45	1.008
Indeno(123cd)pyrene $	115	31.6	0.4874 T	0	1.5734	371 #	1.2	1.003
d12-Benzo(ghi)perylene	856038	32.31	3960 I	0	3960	2842	0.19	1
Benzo(ghi)perylene	305	32.39	1.1815 T	0	1.3878	358 #	0.66	1.002

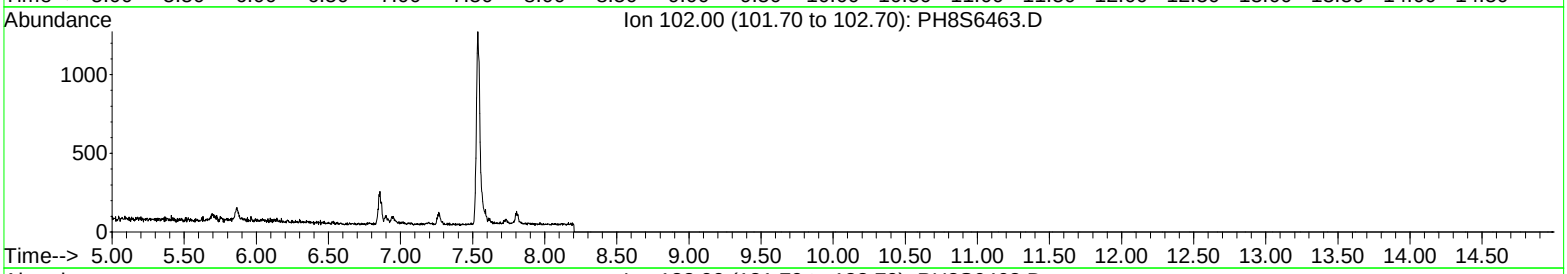
pv by vr
03-Jan-2019

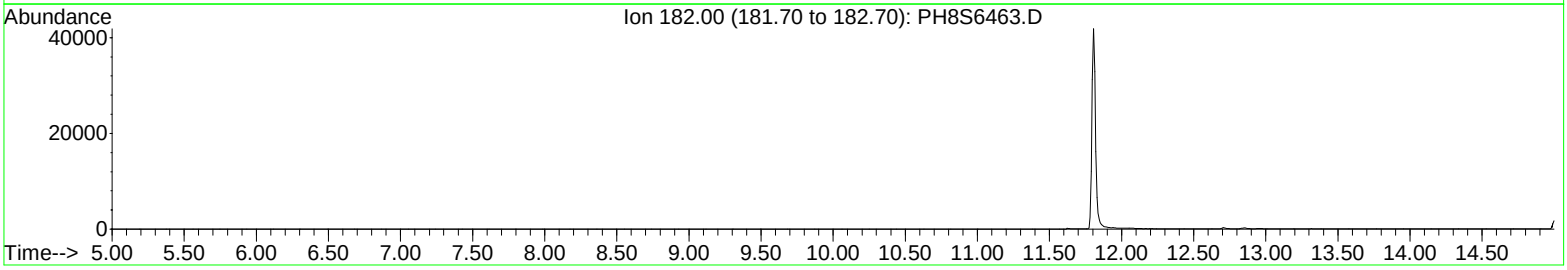
Axys Analytical CHRO Report

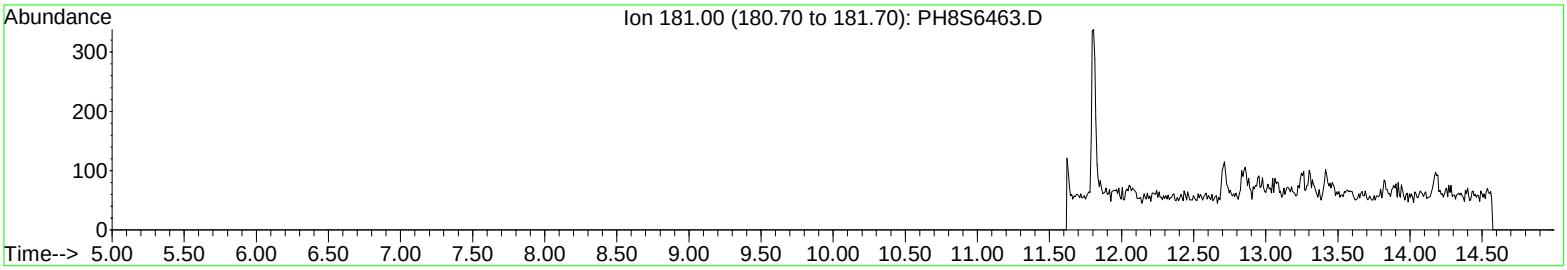
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL







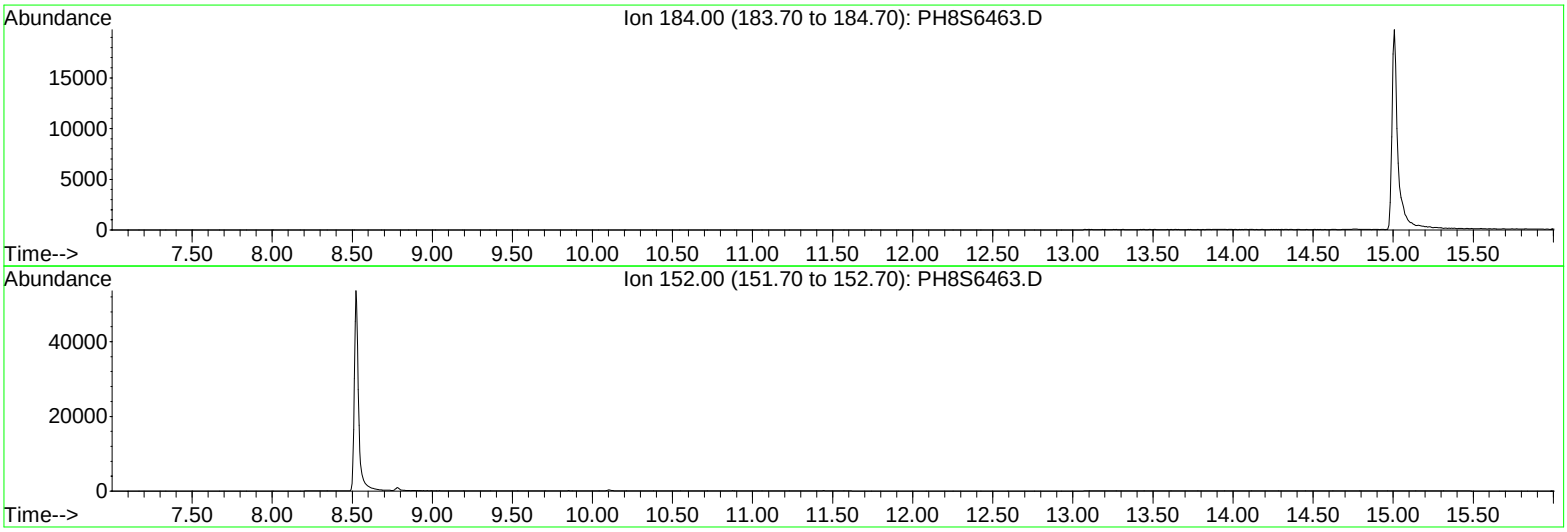


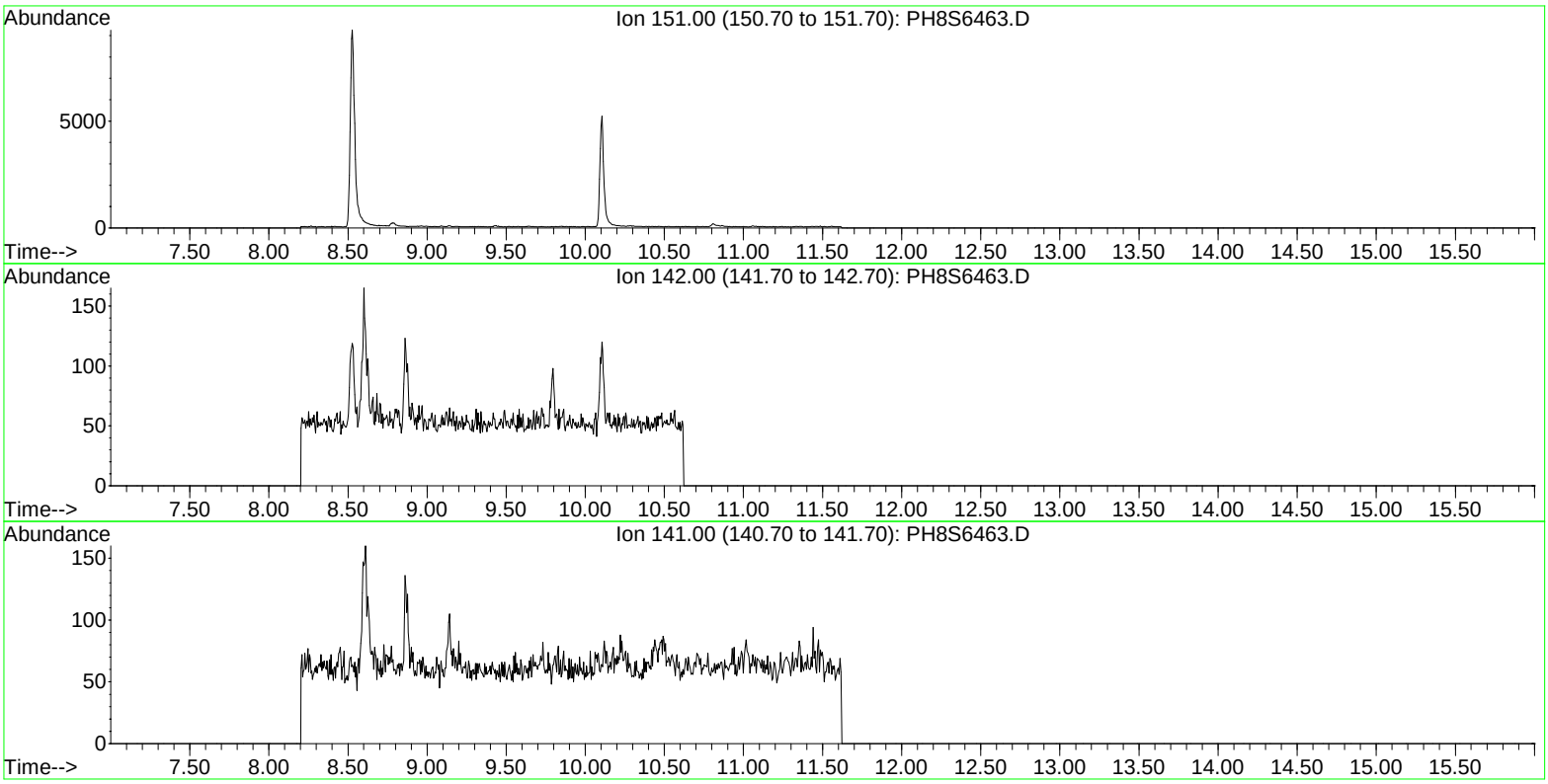


Thu Jan 10 08:39:22 2019

Axys Analytical CHRO Report

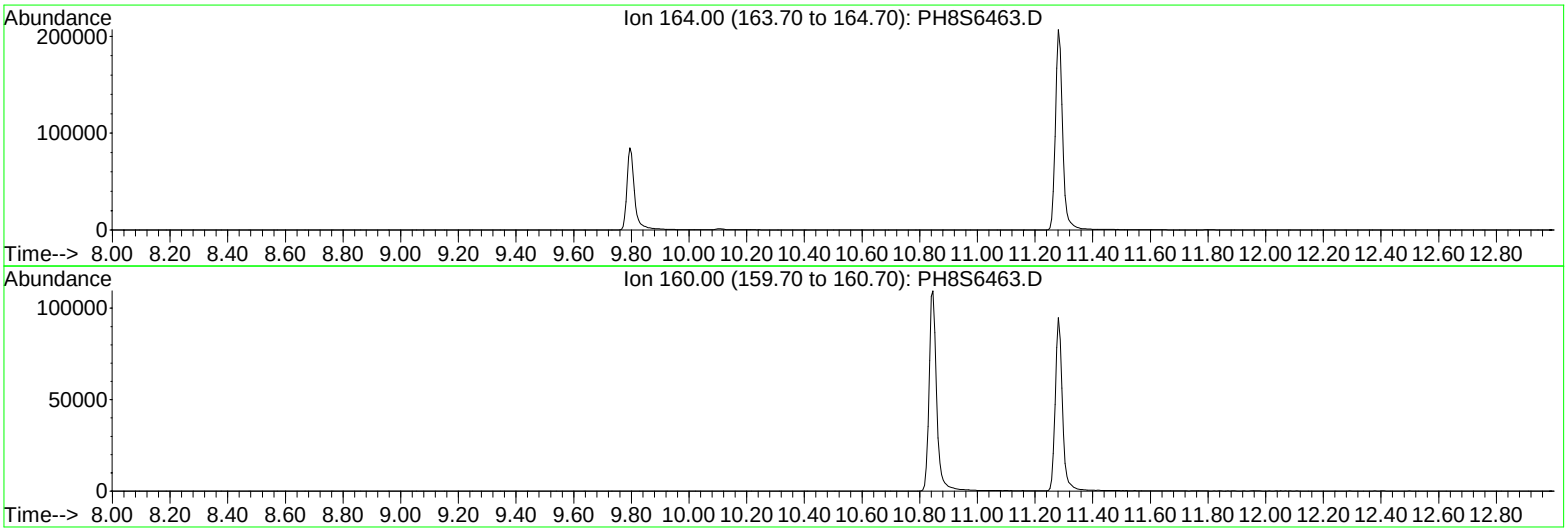
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

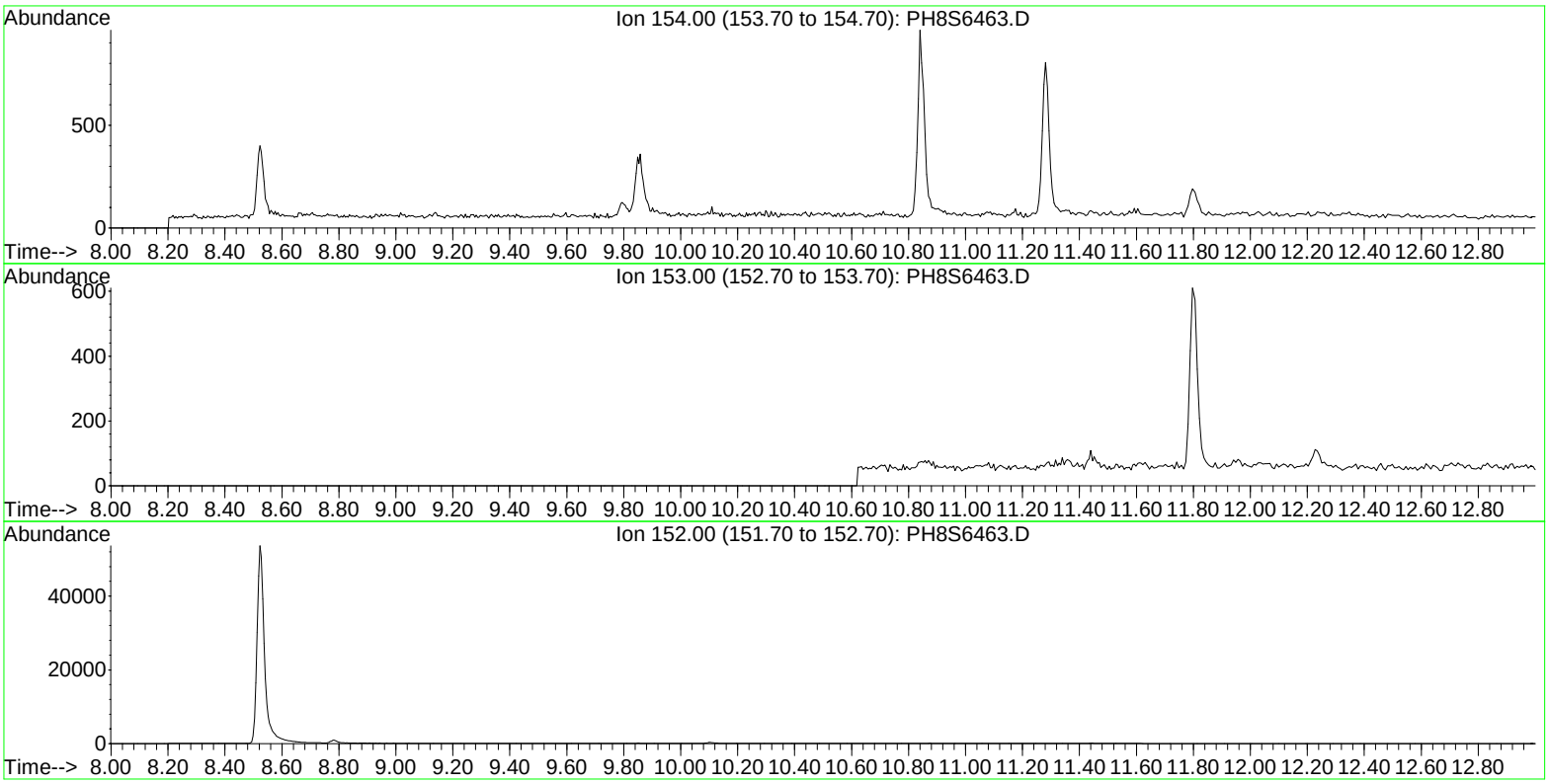




Axys Analytical CHRO Report

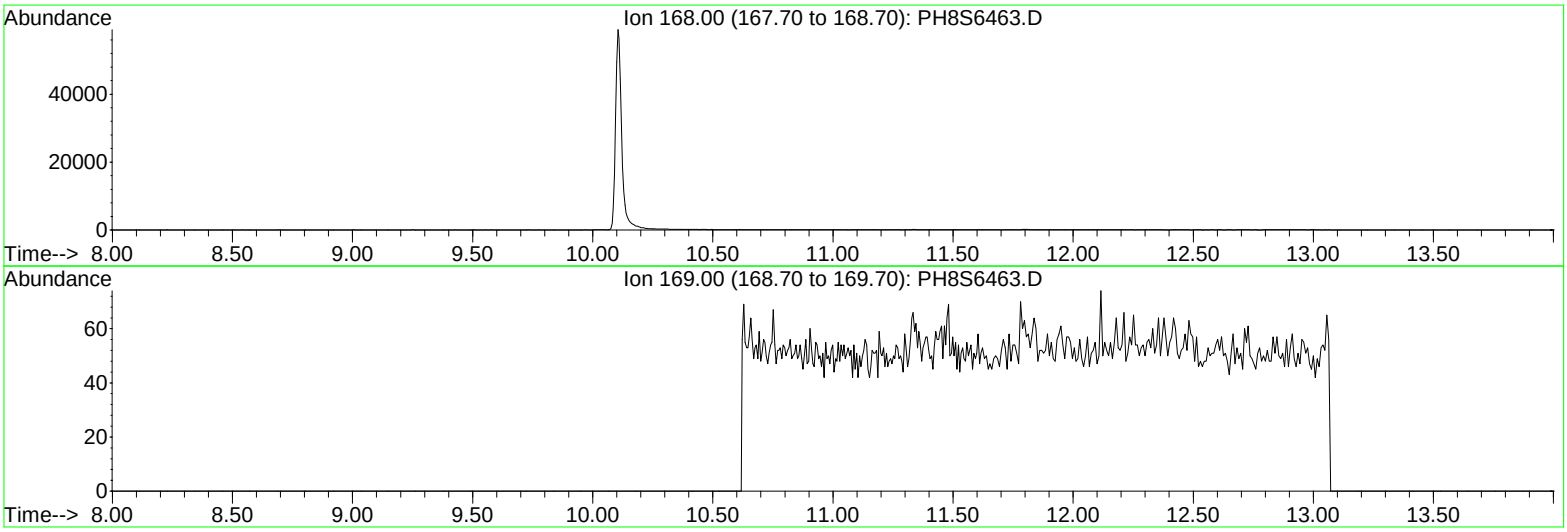
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

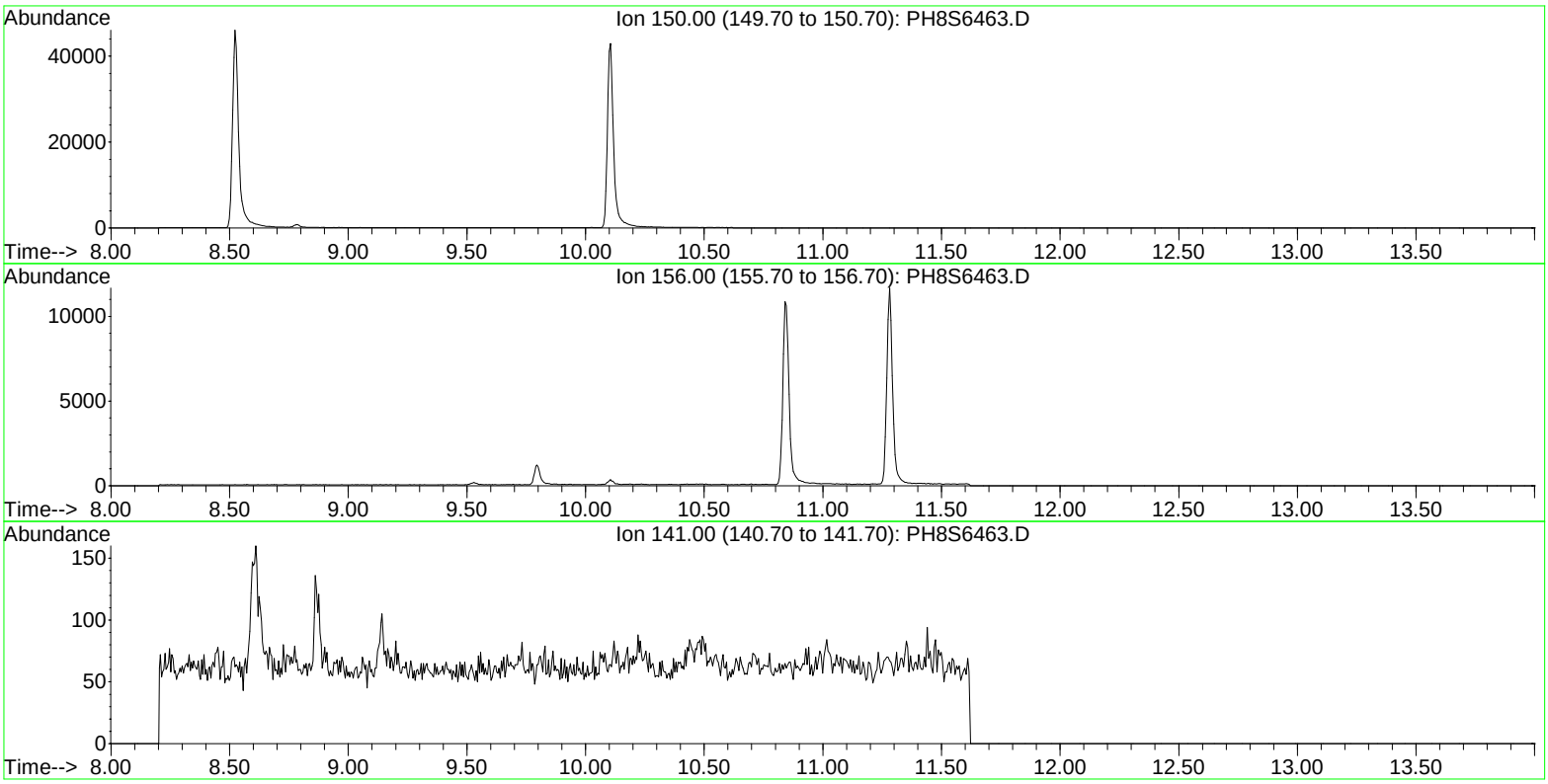




Axys Analytical CHRO Report

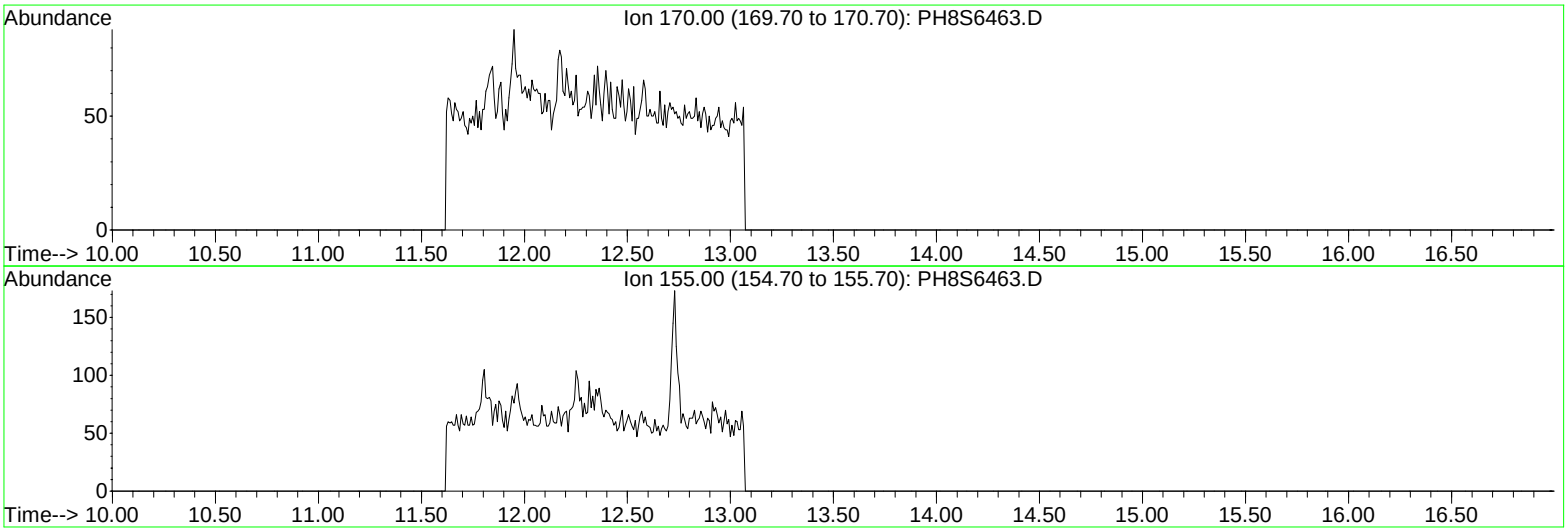
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

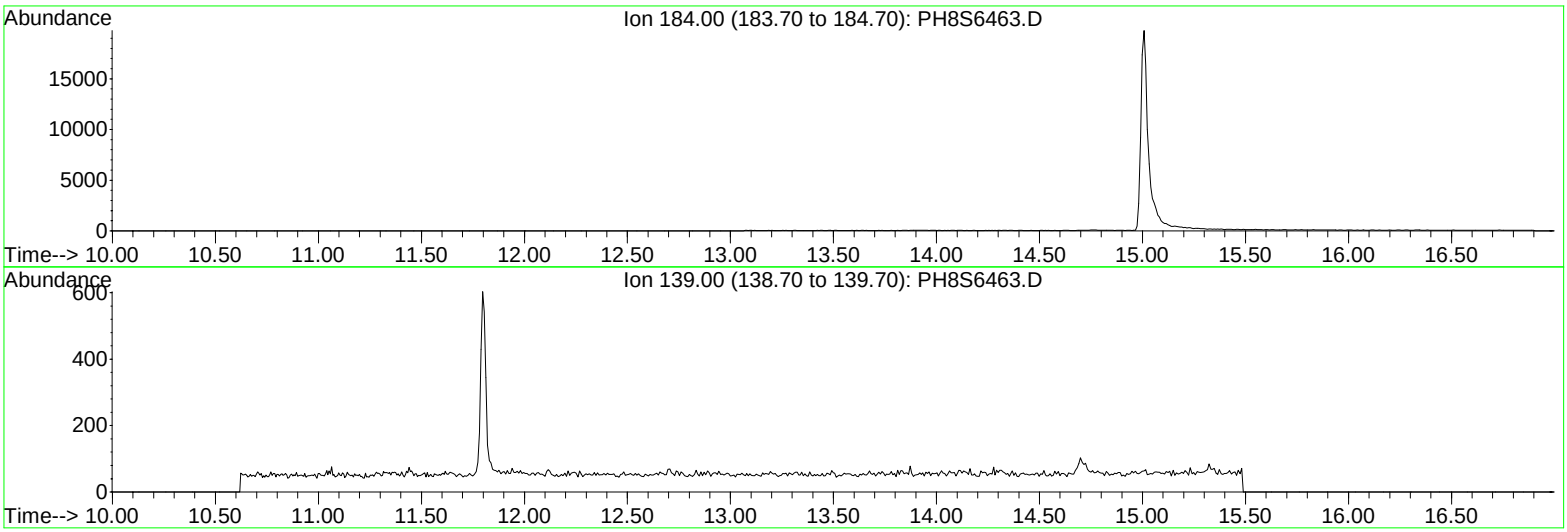




Axys Analytical CHRO Report

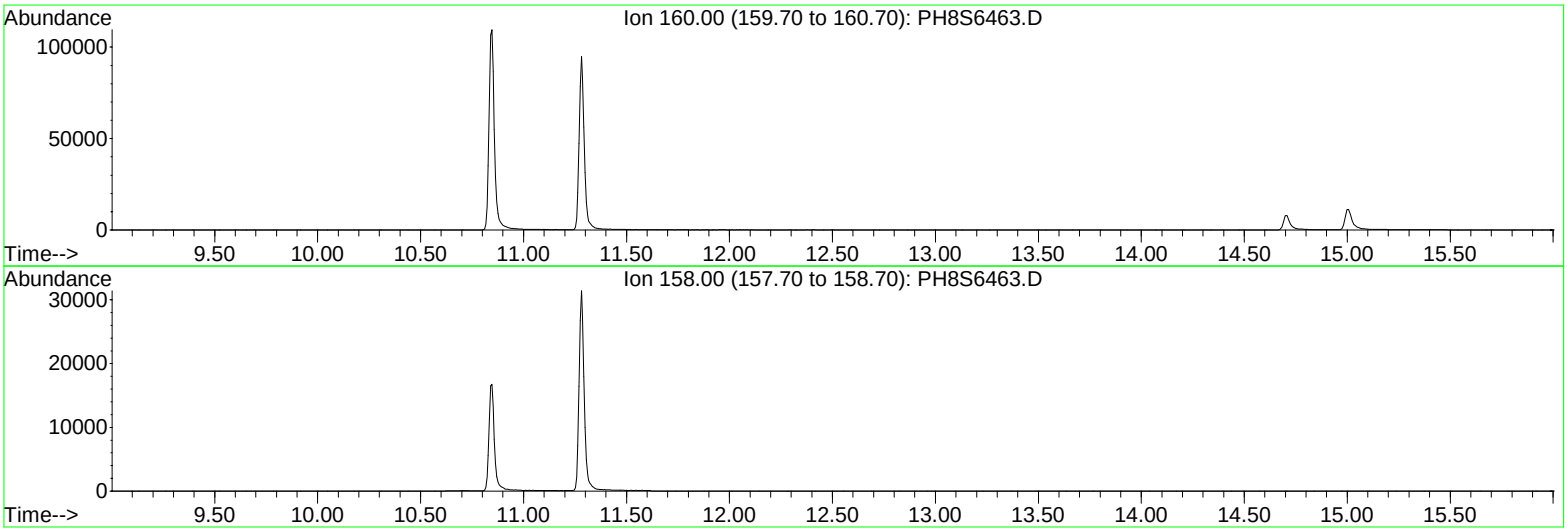
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

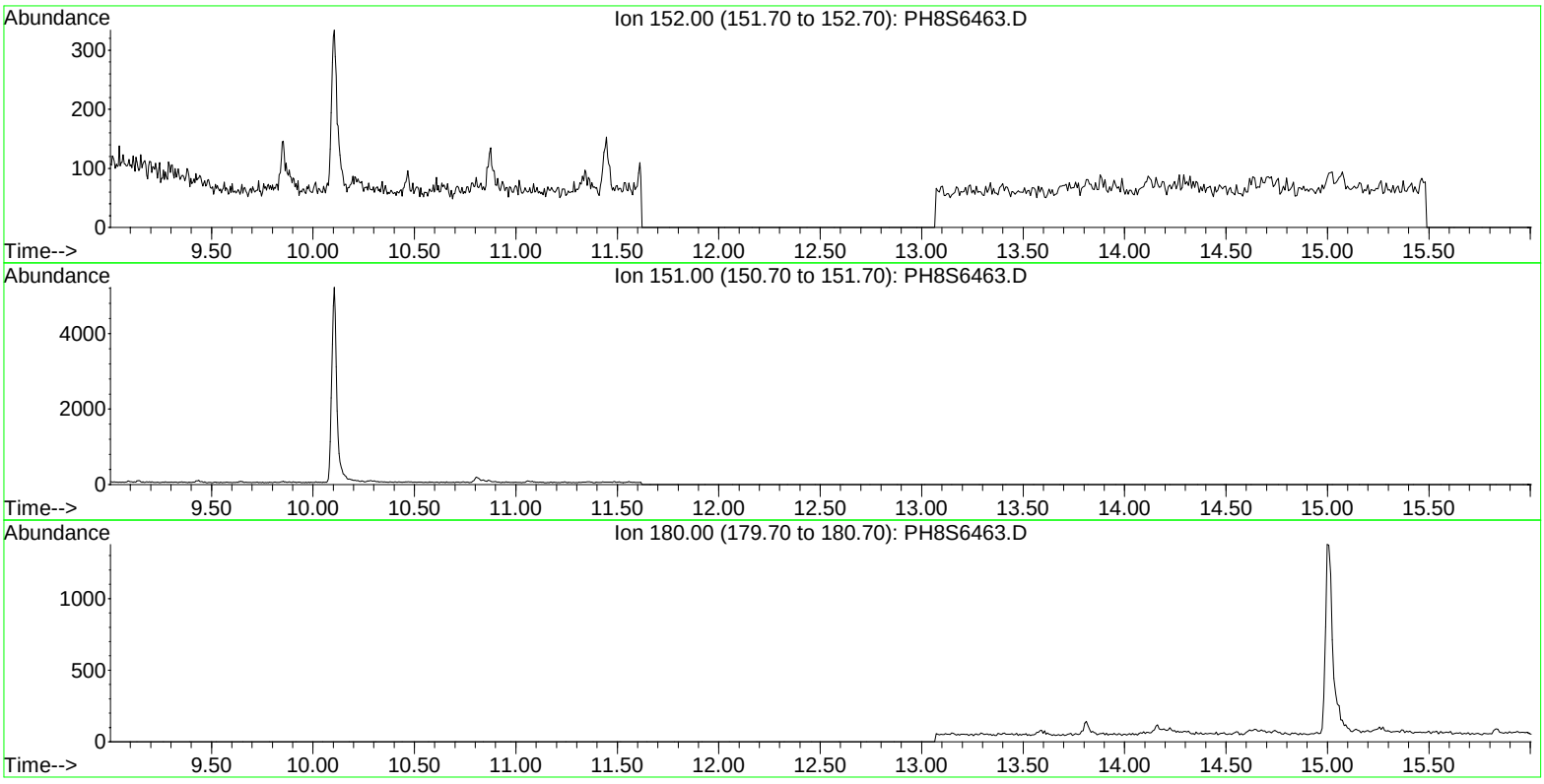


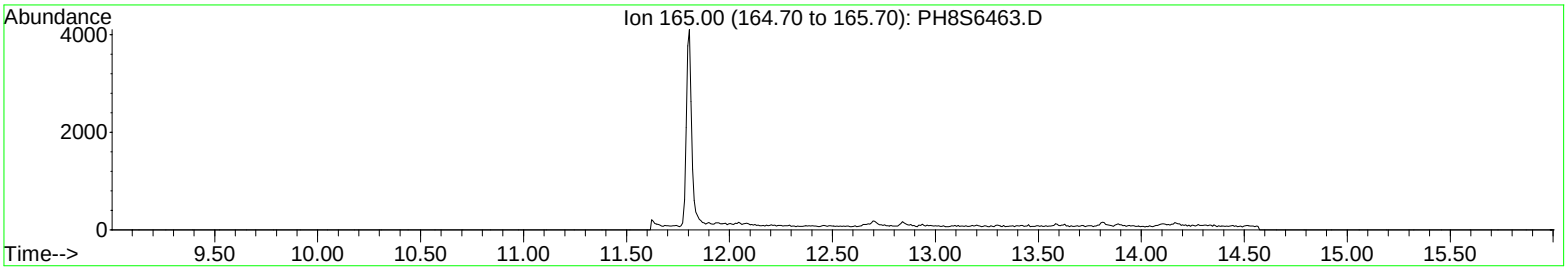


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



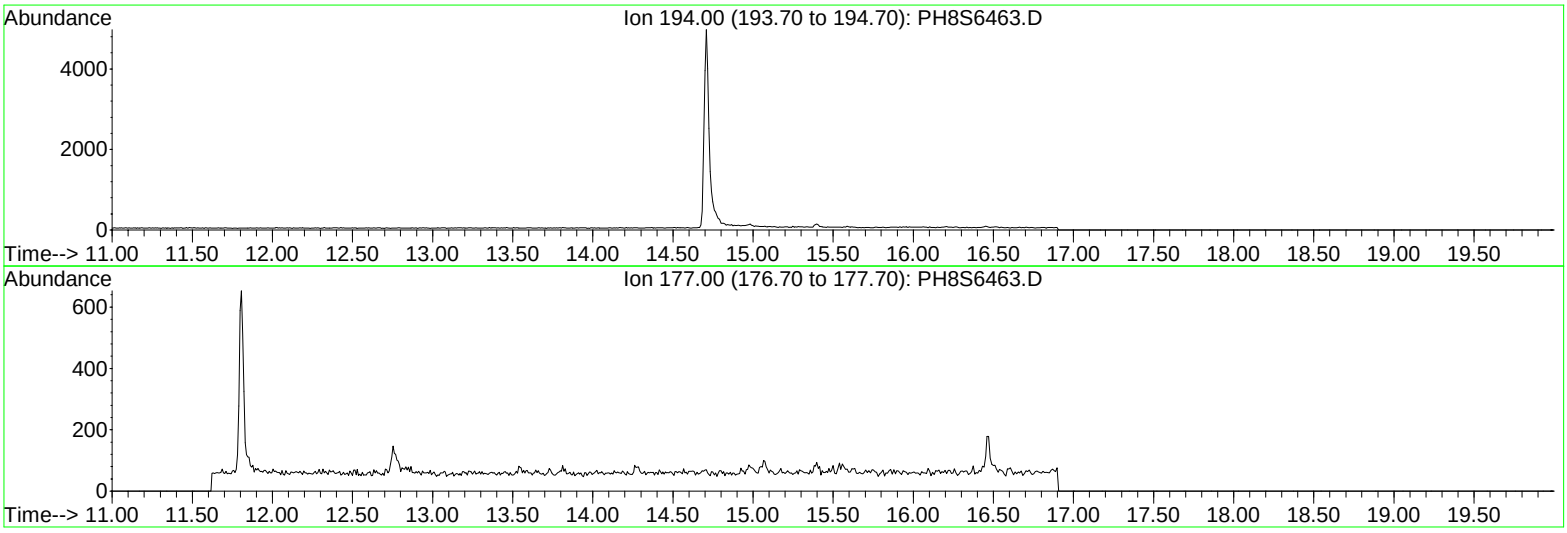


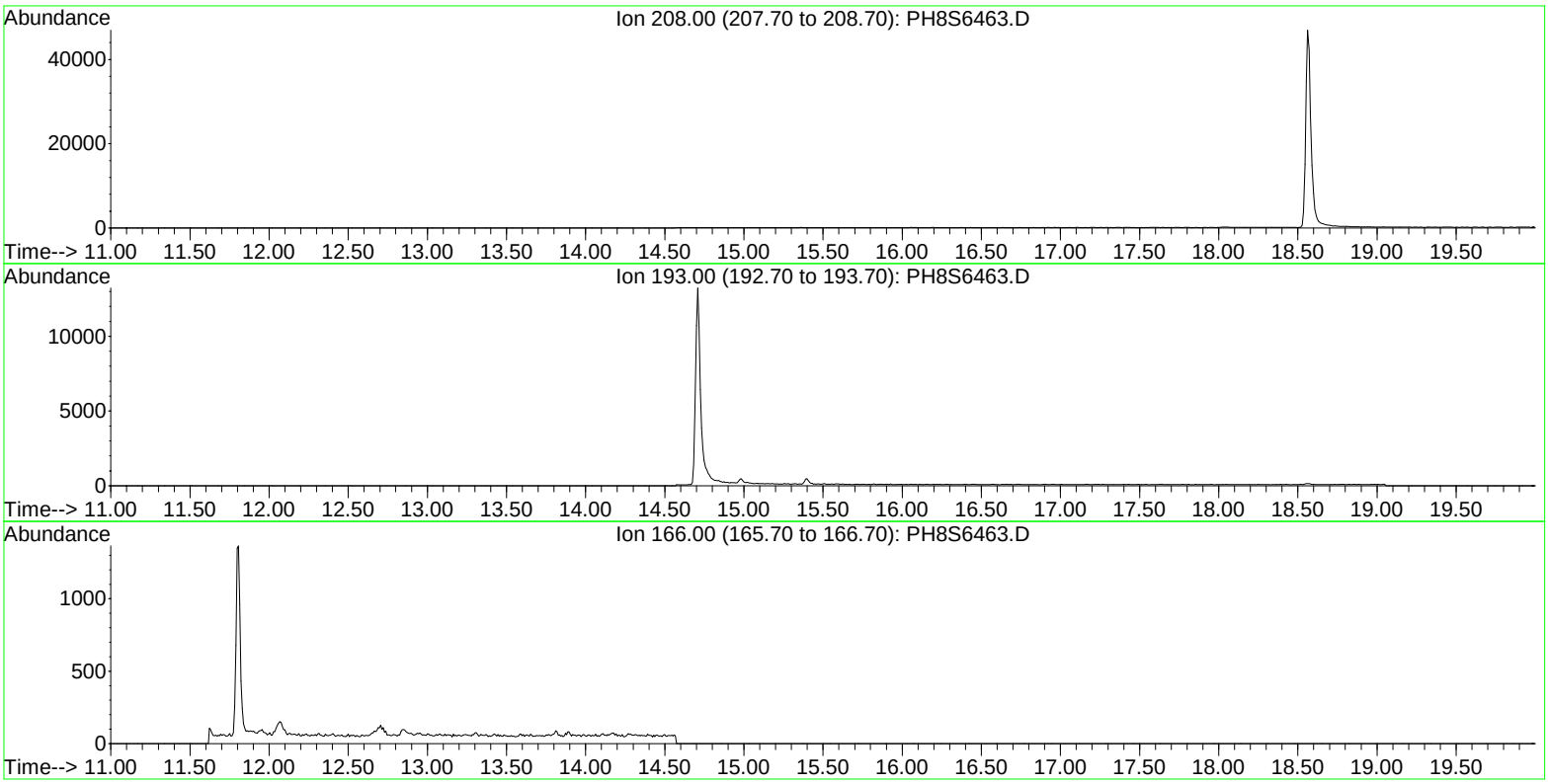


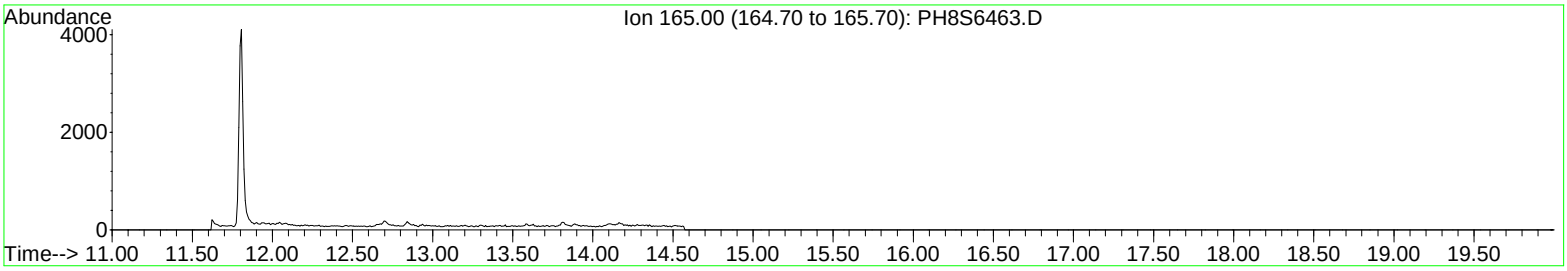
Thu Jan 10 08:39:30 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



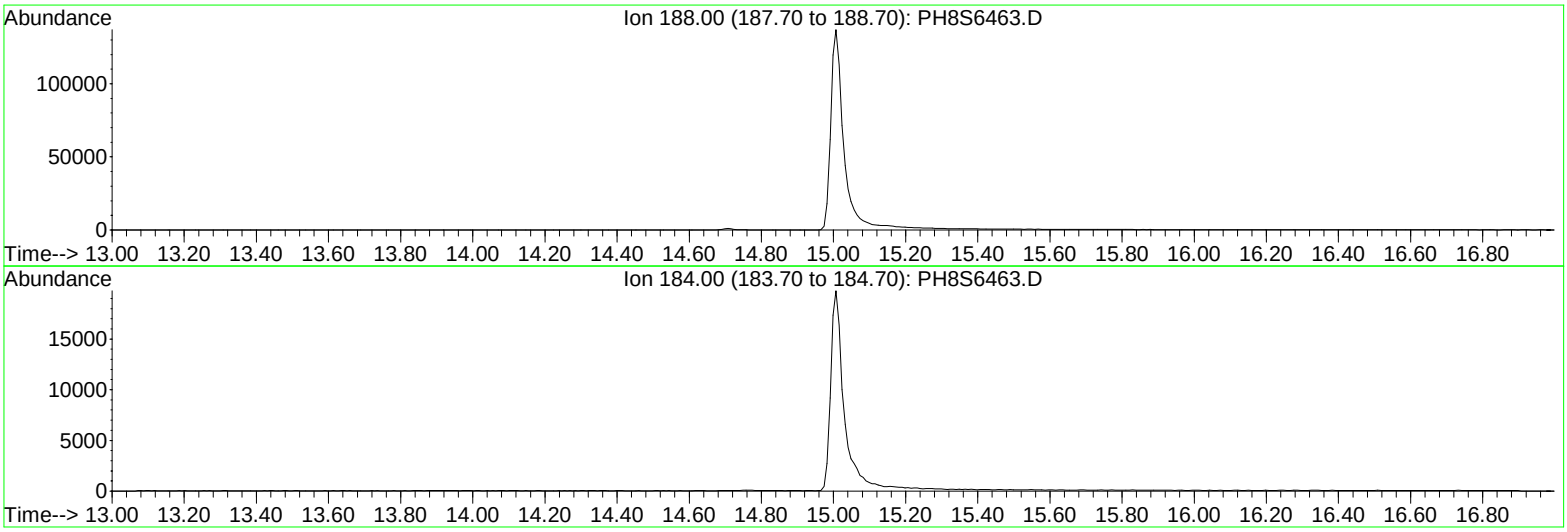


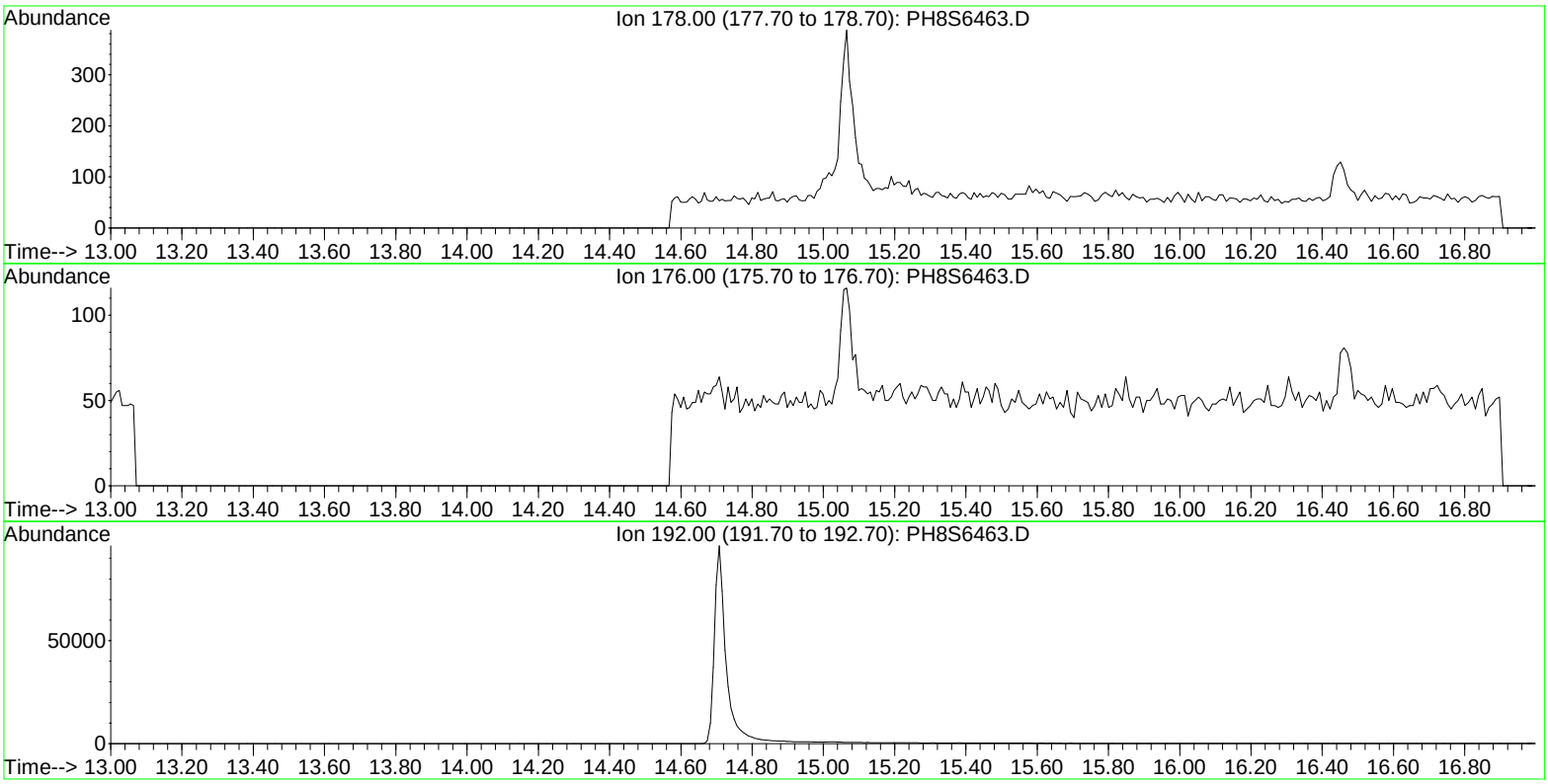


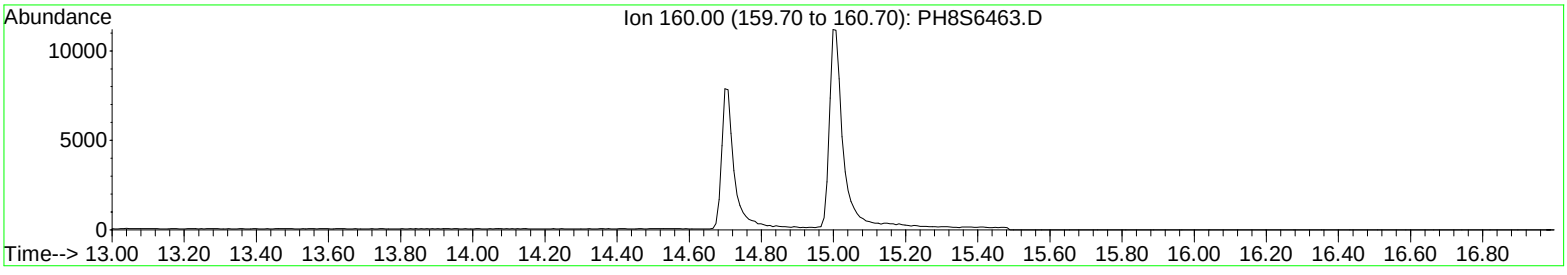
Thu Jan 10 08:39:32 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



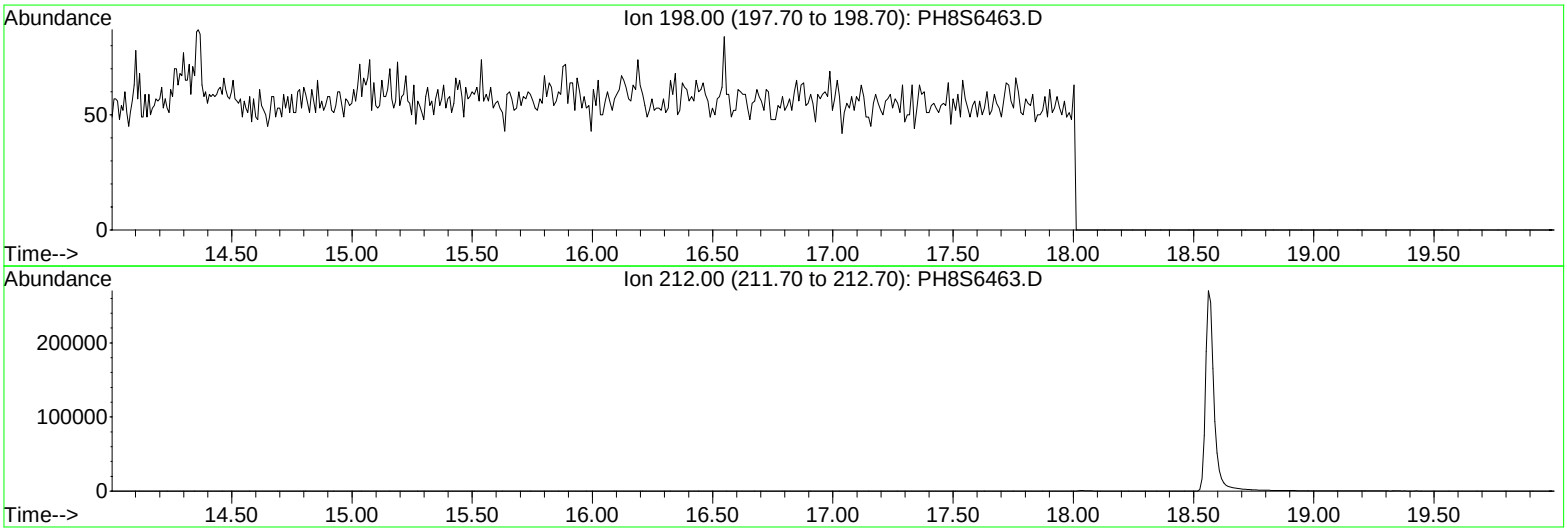


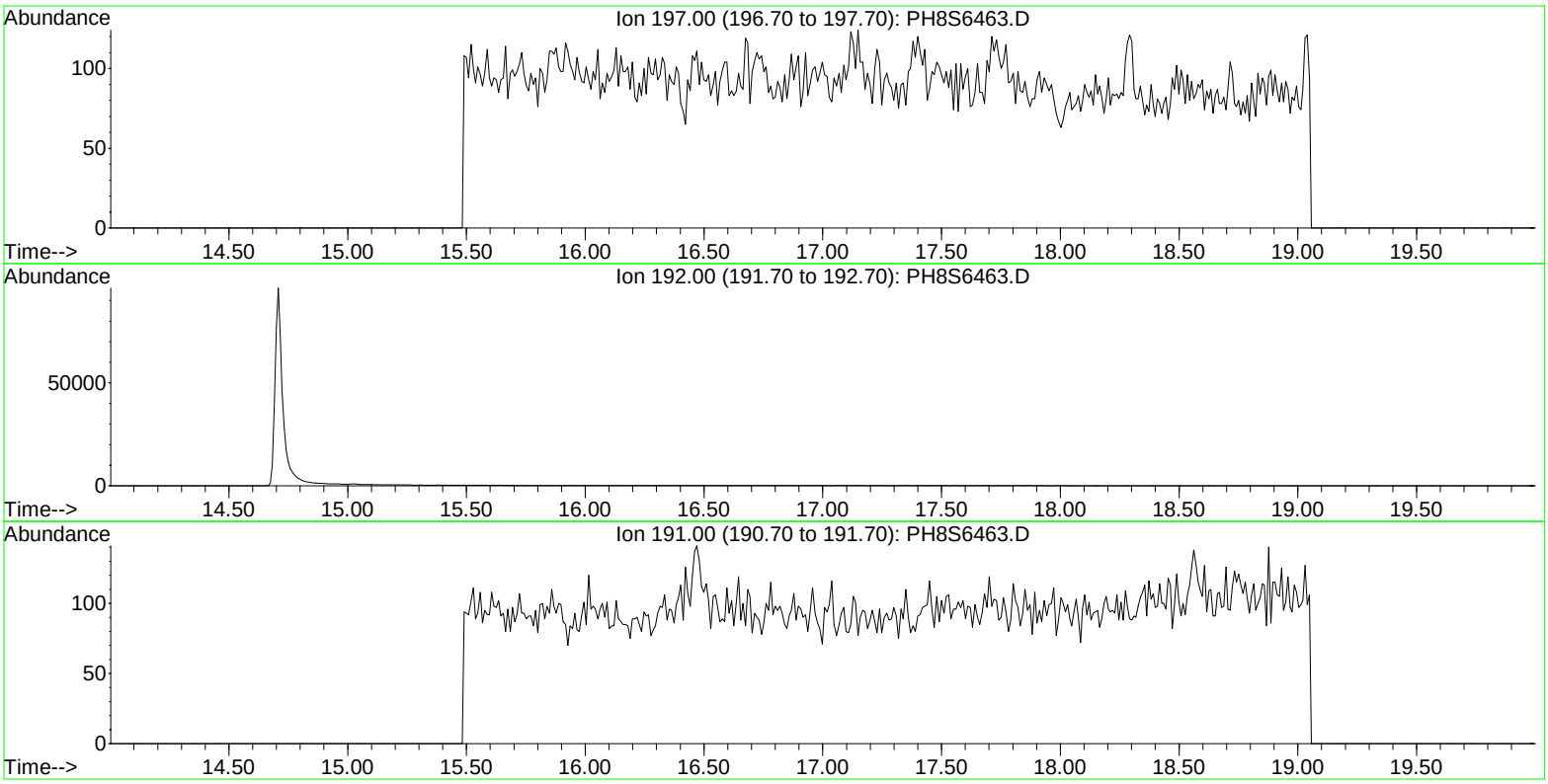


Thu Jan 10 08:39:33 2019

Axys Analytical CHRO Report

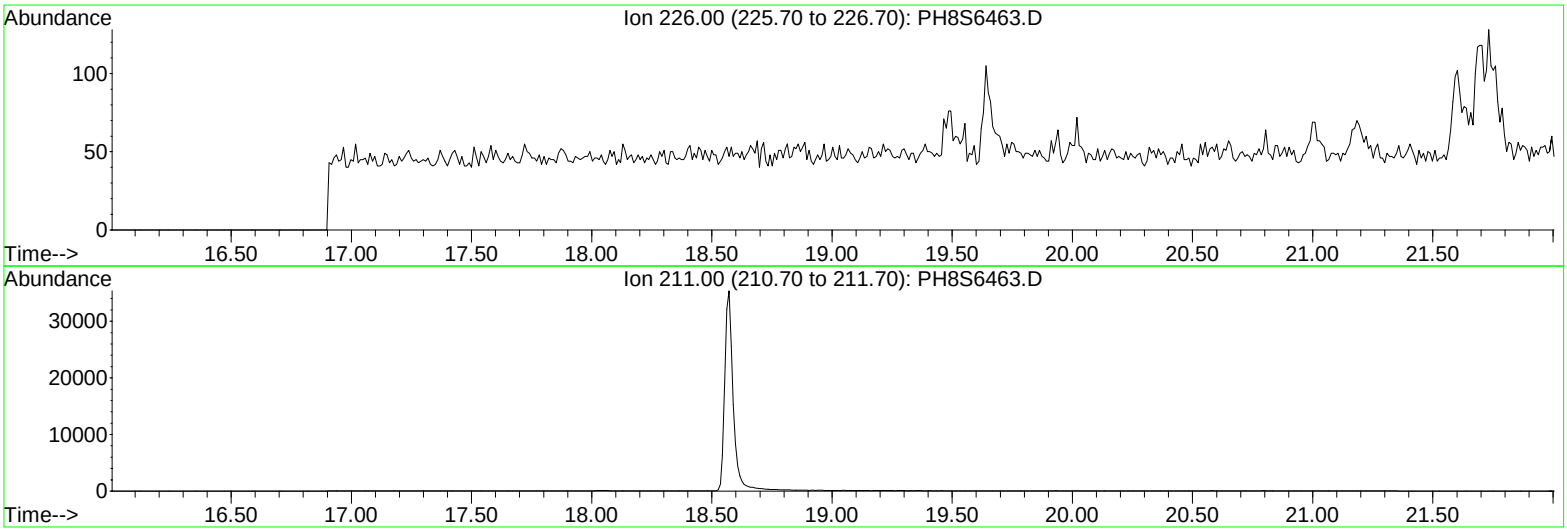
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

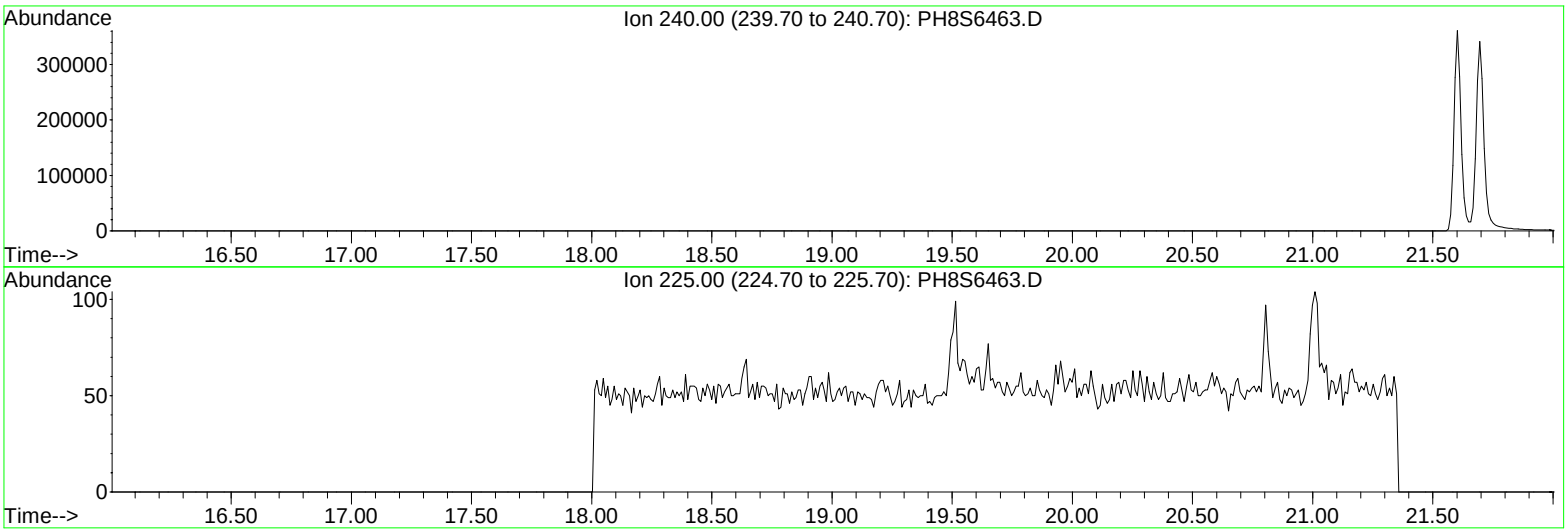




Axys Analytical CHRO Report

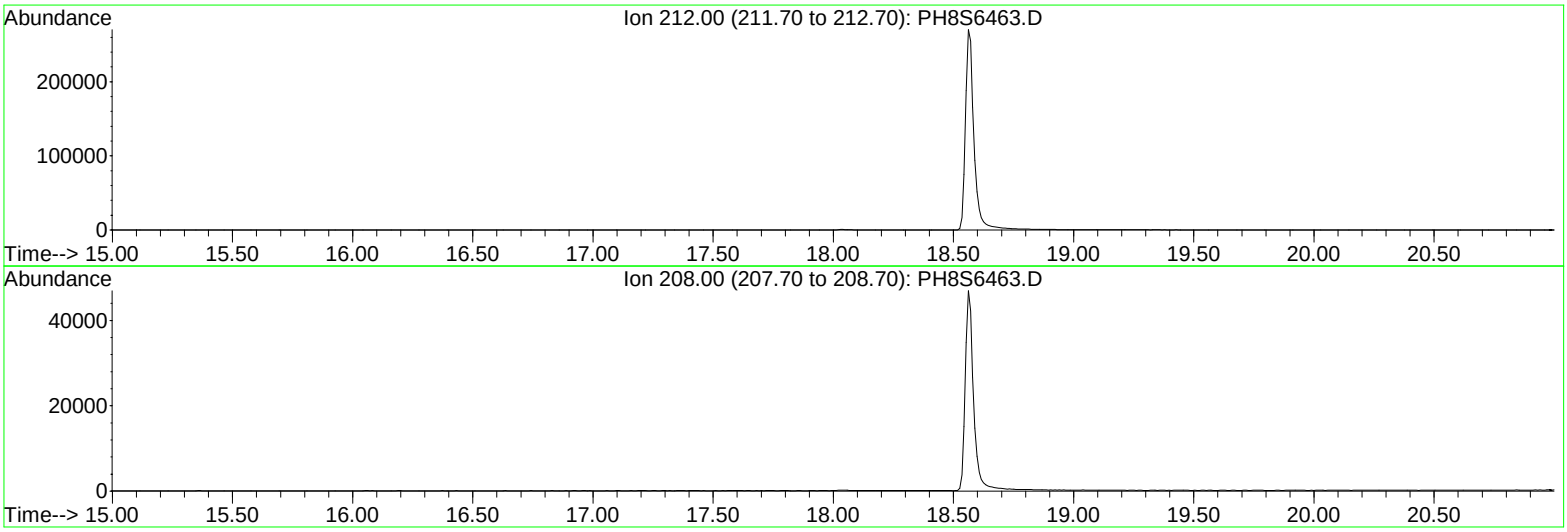
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

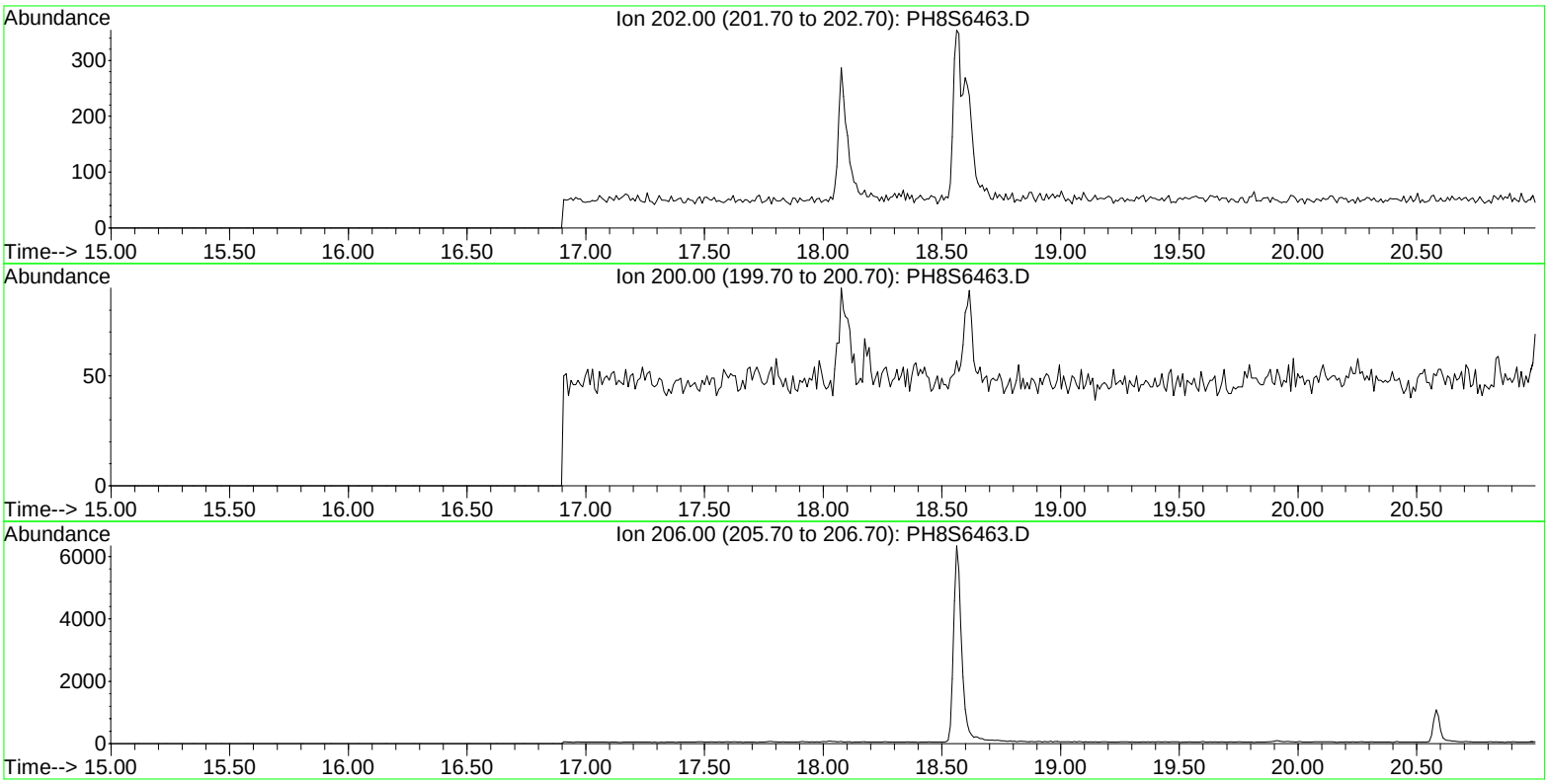


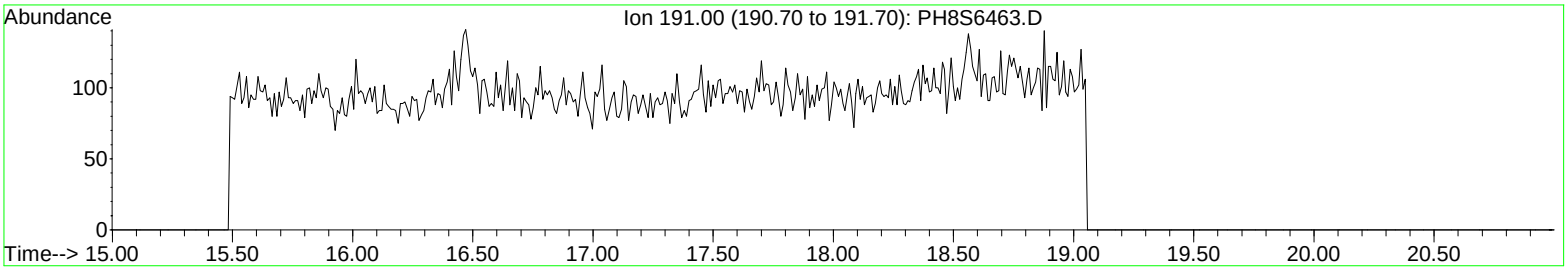


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



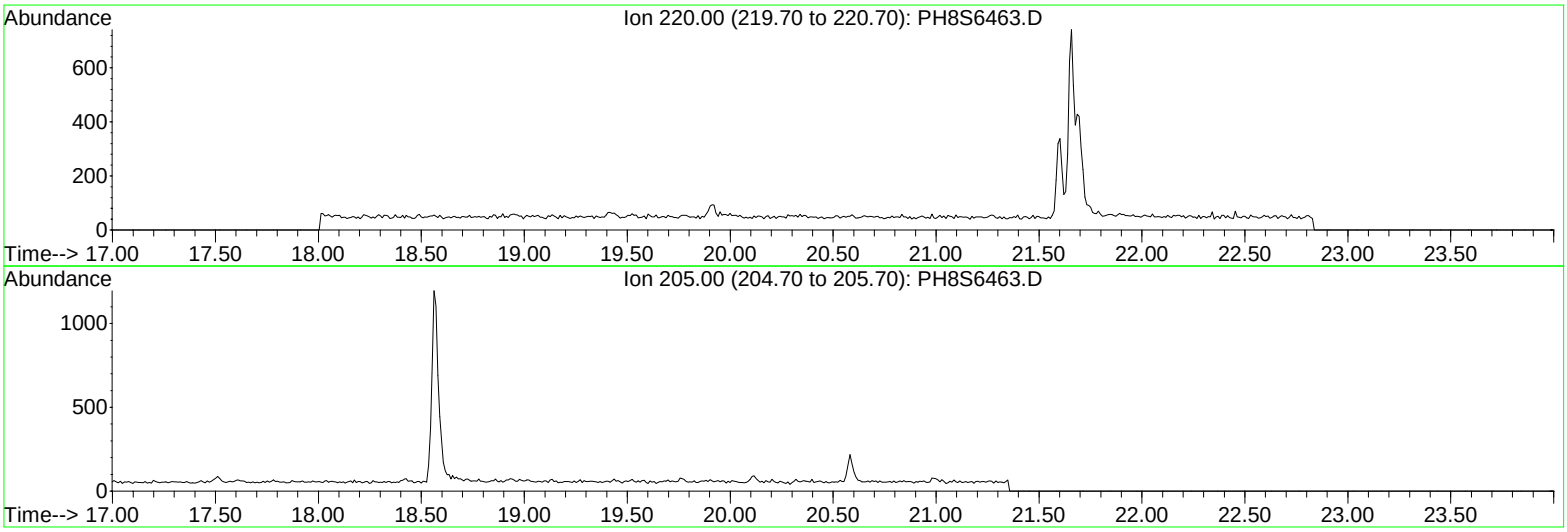


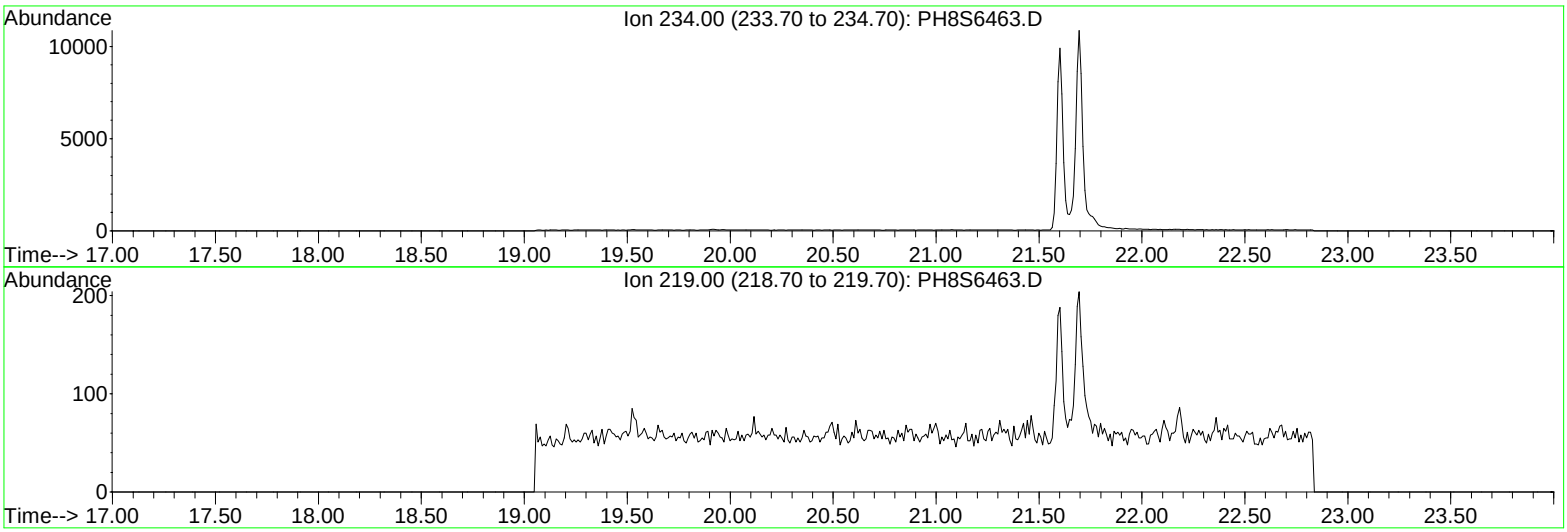


Thu Jan 10 08:39:37 2019

Axys Analytical CHRO Report

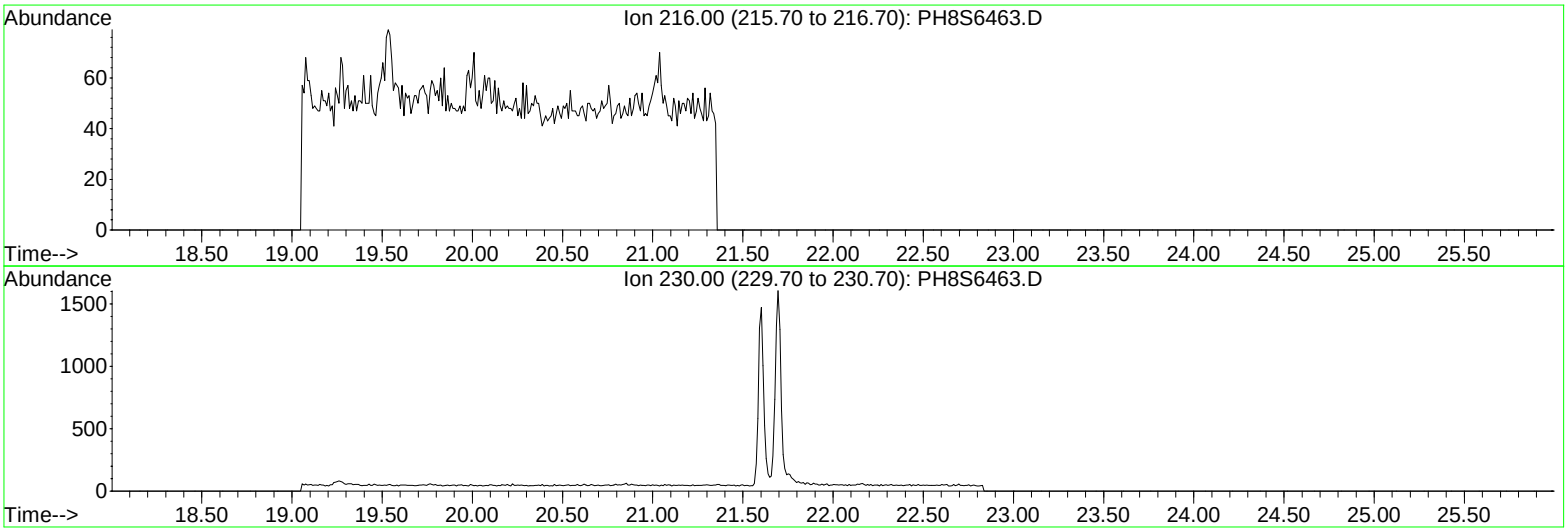
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

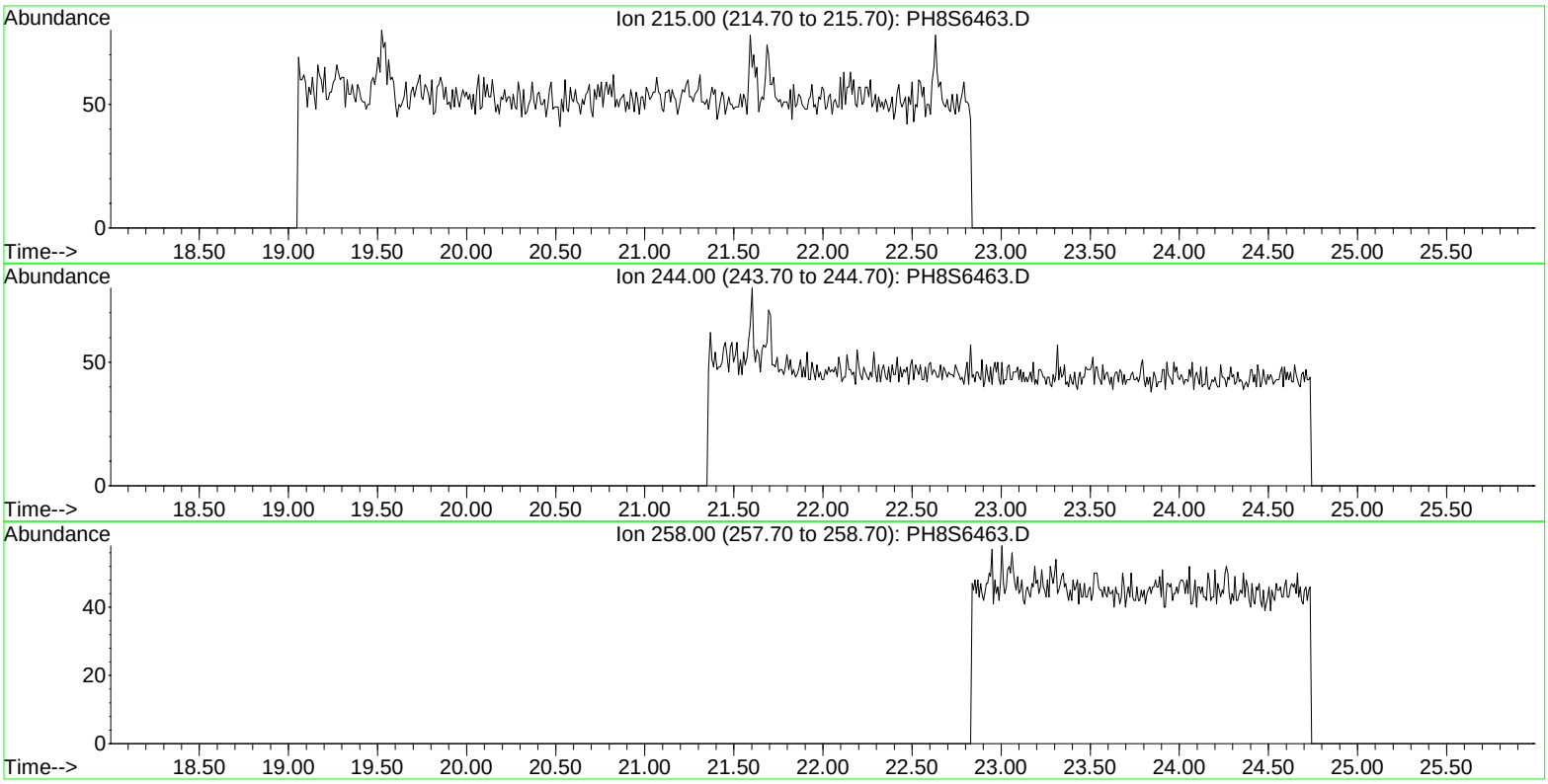


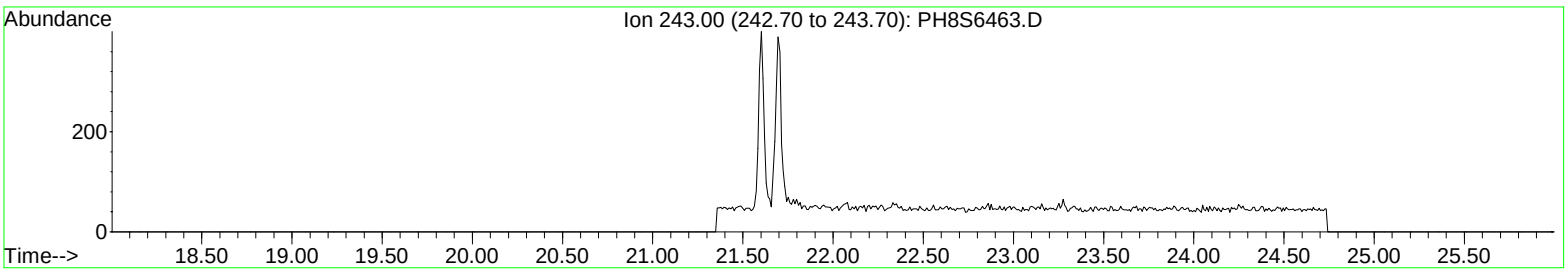


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

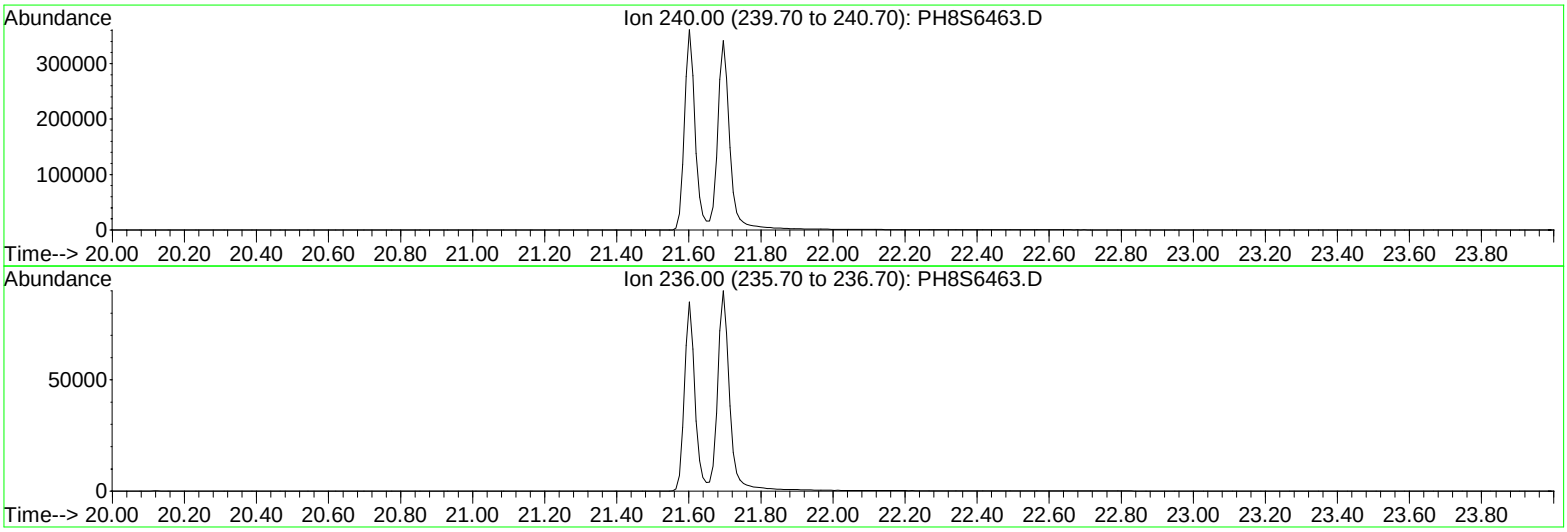


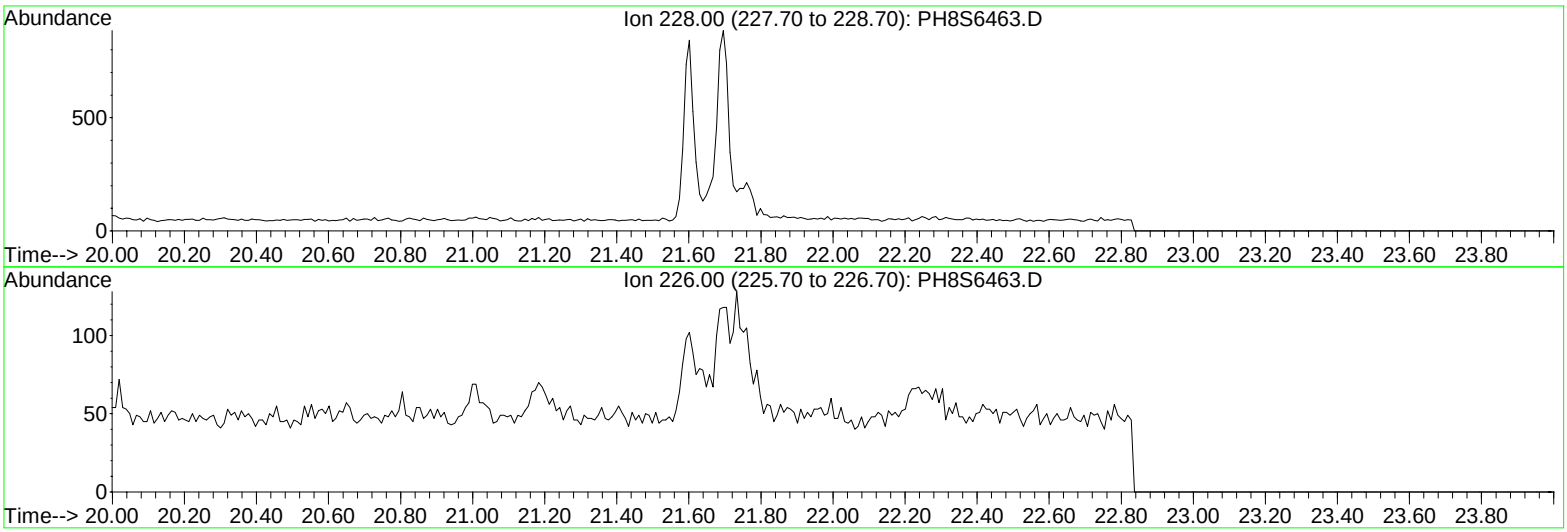




Axys Analytical CHRO Report

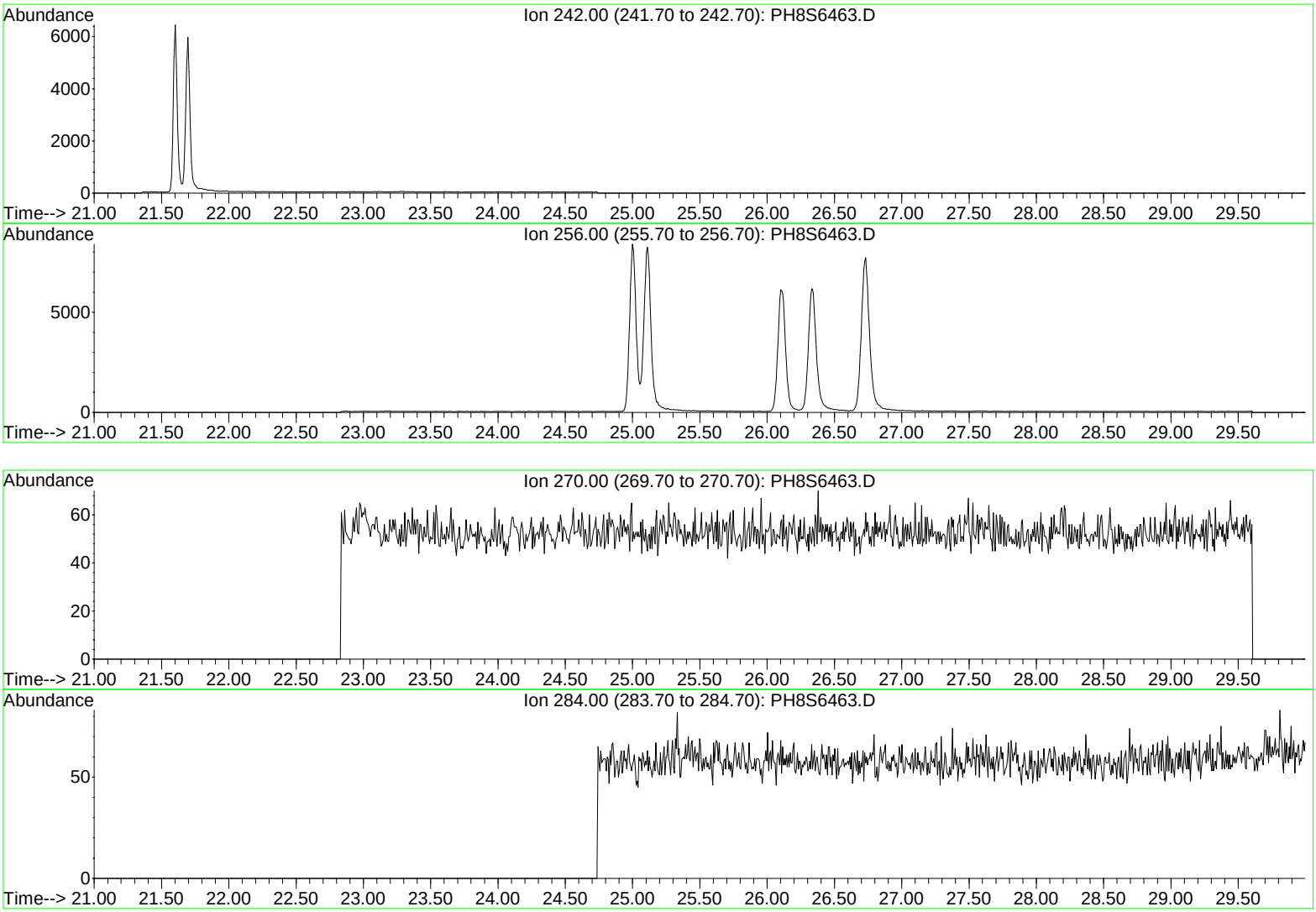
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL





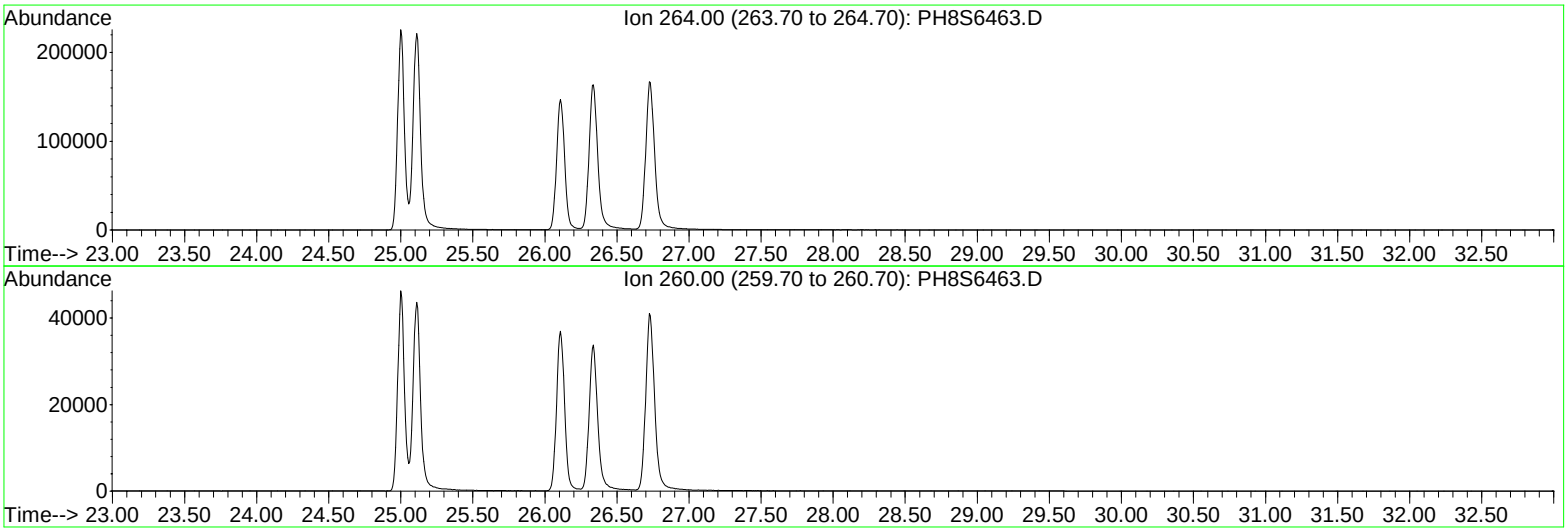
Axys Analytical CHRO Report

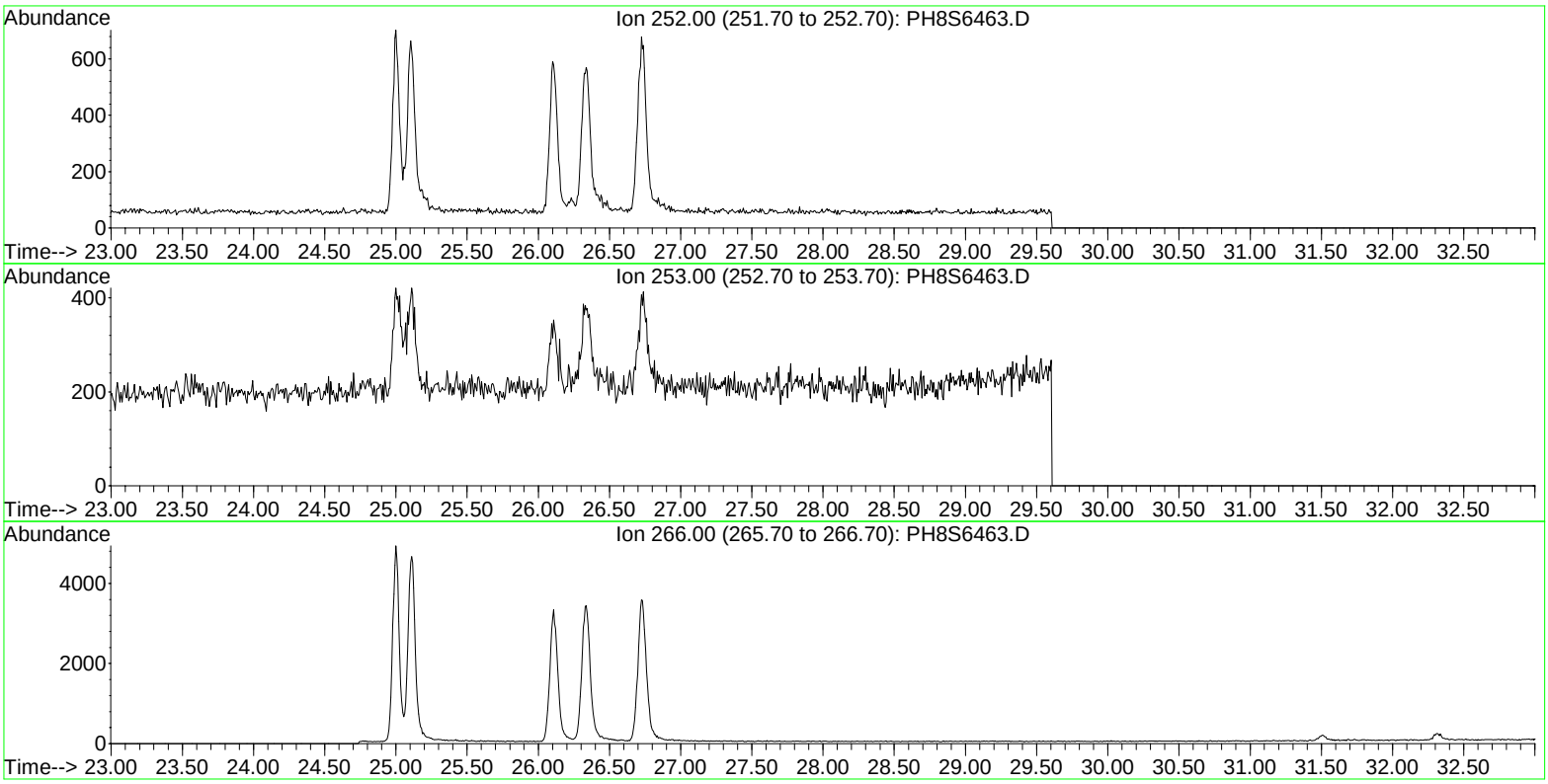
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

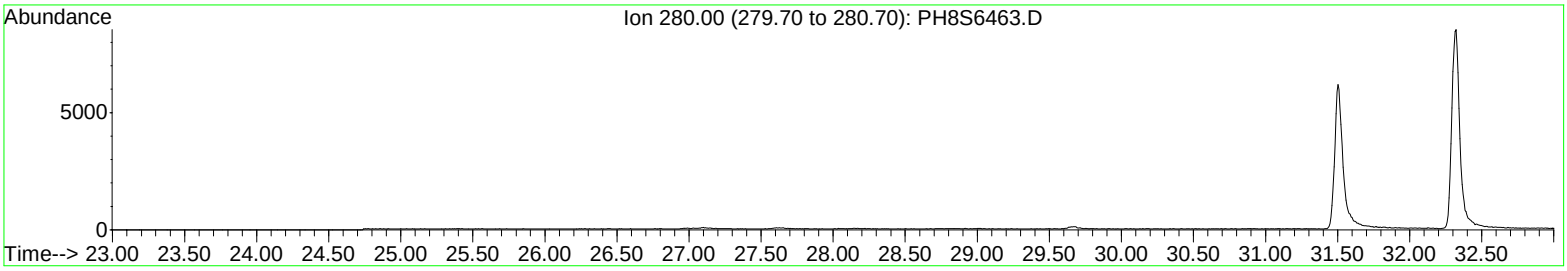


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



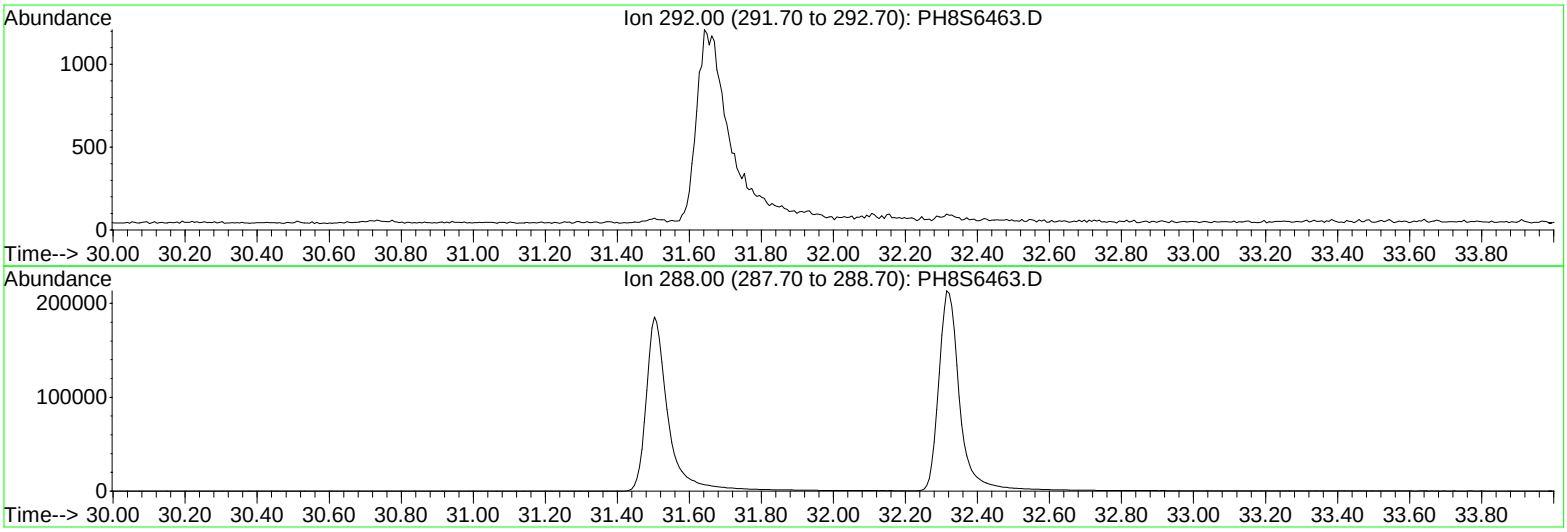


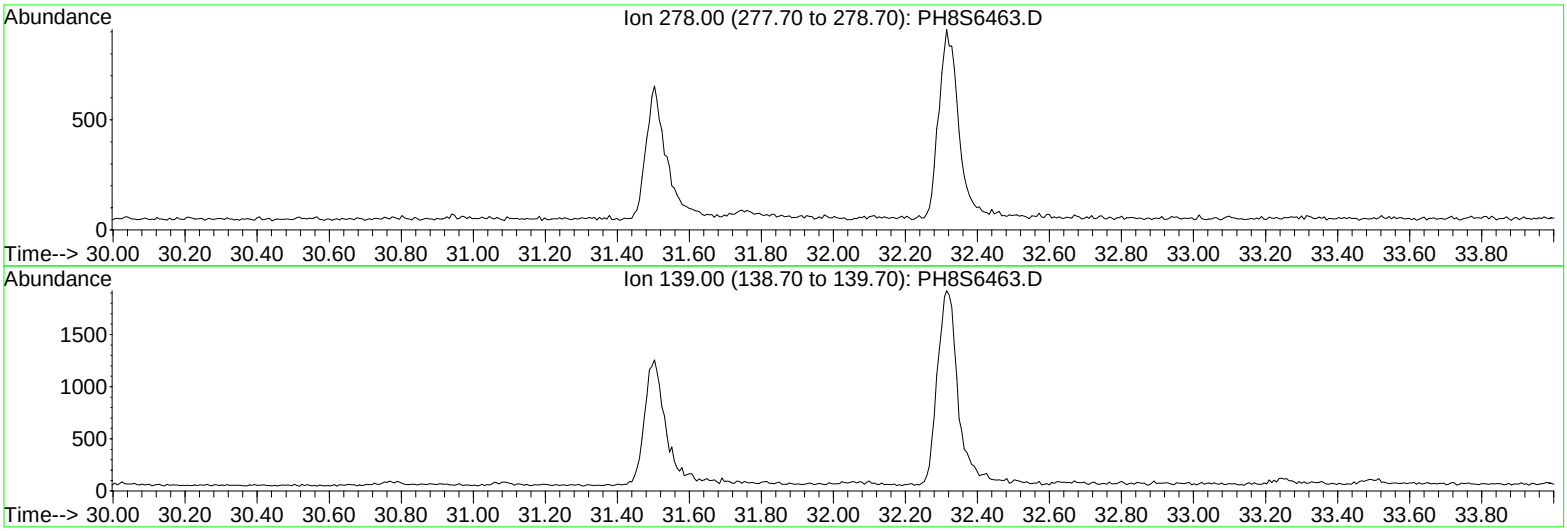


Thu Jan 10 08:39:43 2019

Axys Analytical CHRO Report

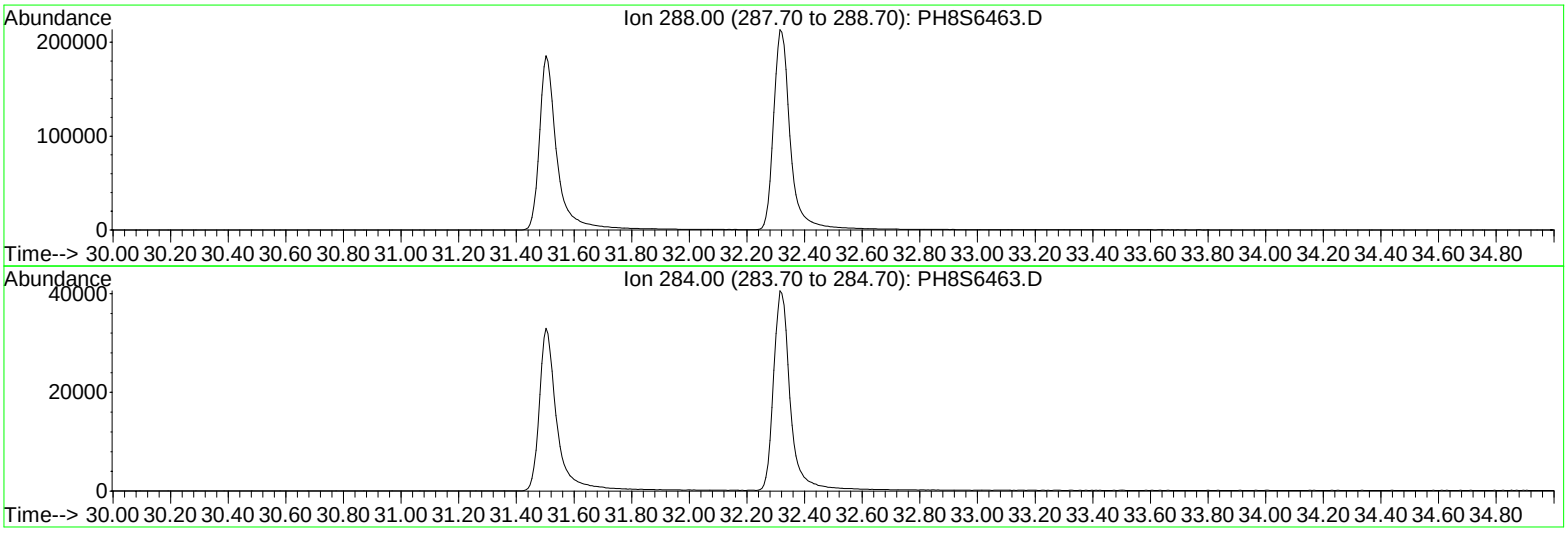
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

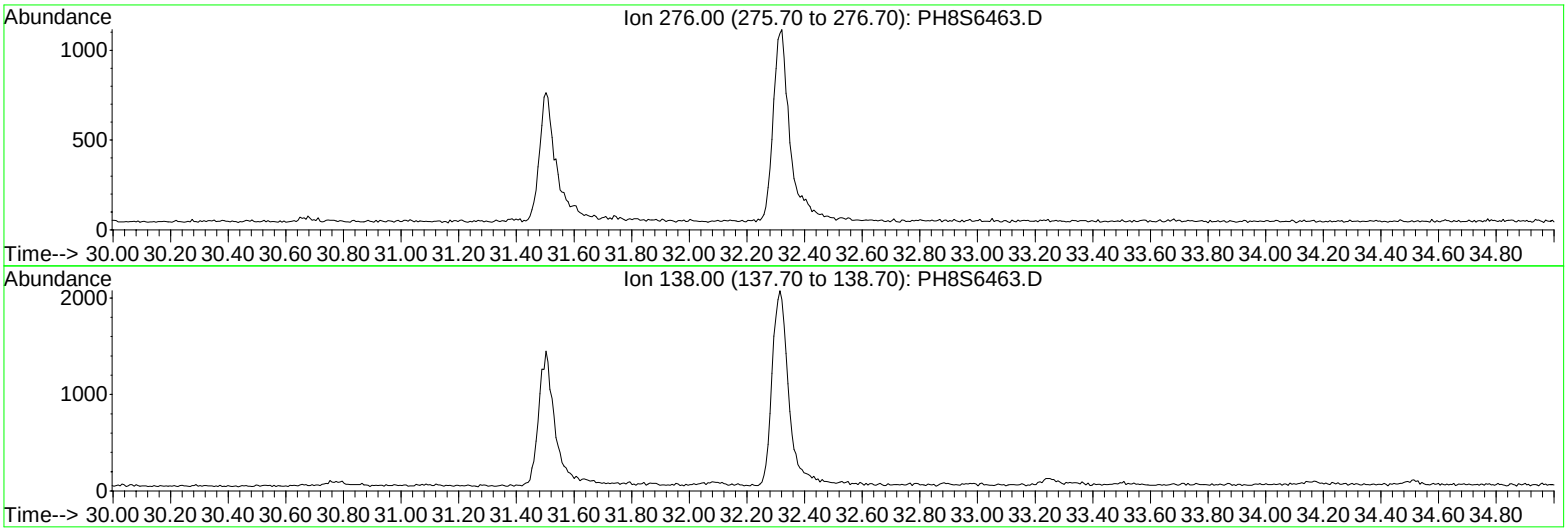




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6463.D
28/12/2018 15:15
WG66438-101 BLK
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6463.D\618S6463.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 8
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:57 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/g
Sample Size	0.1	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	665204	18.56	1970	I	0	1970	672		0.17	1
d10-Phenanthrene - SURR	333200	15.01	1062.6333	S	29.4358	2.9441	923		0.16	0.808
d12-Benz(a)anthracene - SURR	744171	21.6	3538.7587	S	87.1615	158.105	33248		0.23	1.164
d12-Chrysene - SURR	790420	21.7	3508.9958	S	89.5152	71.6043	16129		0.26	1.169
d12-Benzo(e)pyrene - REC	573652	26.11	2020	I	0	2020	1137		0.25	1
d12-Indeno(123cd)pyrene - SURR	767324	31.5	3743.7962	S	94.0652	1.1441	234		0.18	1.207
d10-Phenanthrene	333200	15.01	3610	I	0	3610	956		0.16	1
13C6-Phenanthrene	30	15.07	0.2872	T	0	6.2959	658	#	2.9	1.004
d12-Benz(a)anthracene	744171	21.6	4060	I	0	4060	27820		0.23	1
d10-Fluoranthene	2178	18.04	8.727	T	0	0.6438	161		0.17	0.835
d12-Chrysene	790420	21.7	3920	I	0	3920	14926		0.26	1
13C6-Chrysene	939	21.75	4.1526	T	0	1.3902	314	#	0.85	1.003
d12-Indeno(123cd)pyrene	767324	31.5	3980	I	0	3980	248		0.18	1
13C6-Indeno(123cd)pyrene $	703	31.59	2.9163	T	0	3.8103	919	#	0.6	1.003

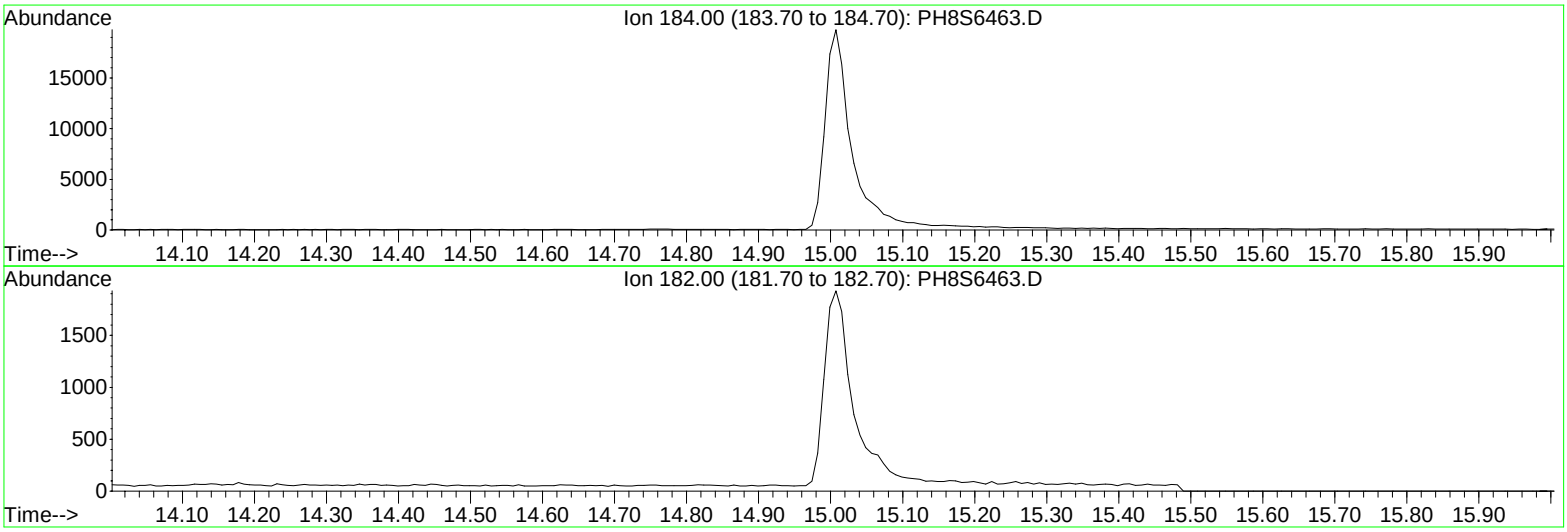
618S6463

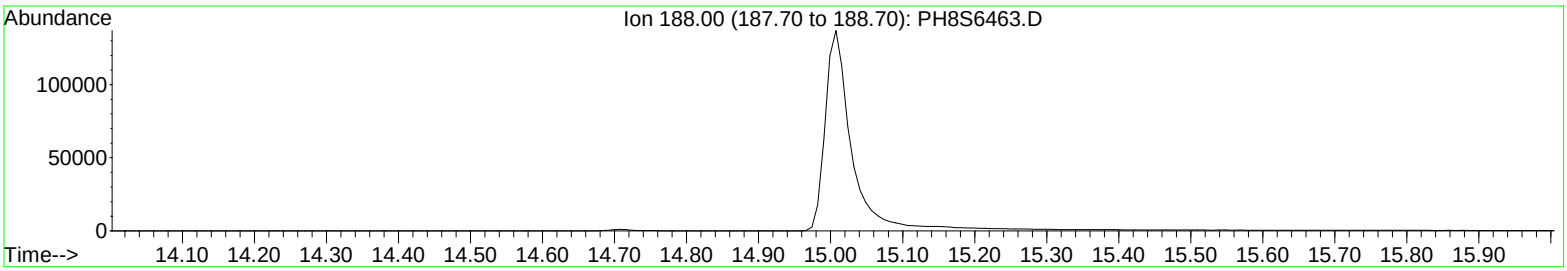
Checked by
Jan 08-Jan-19

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

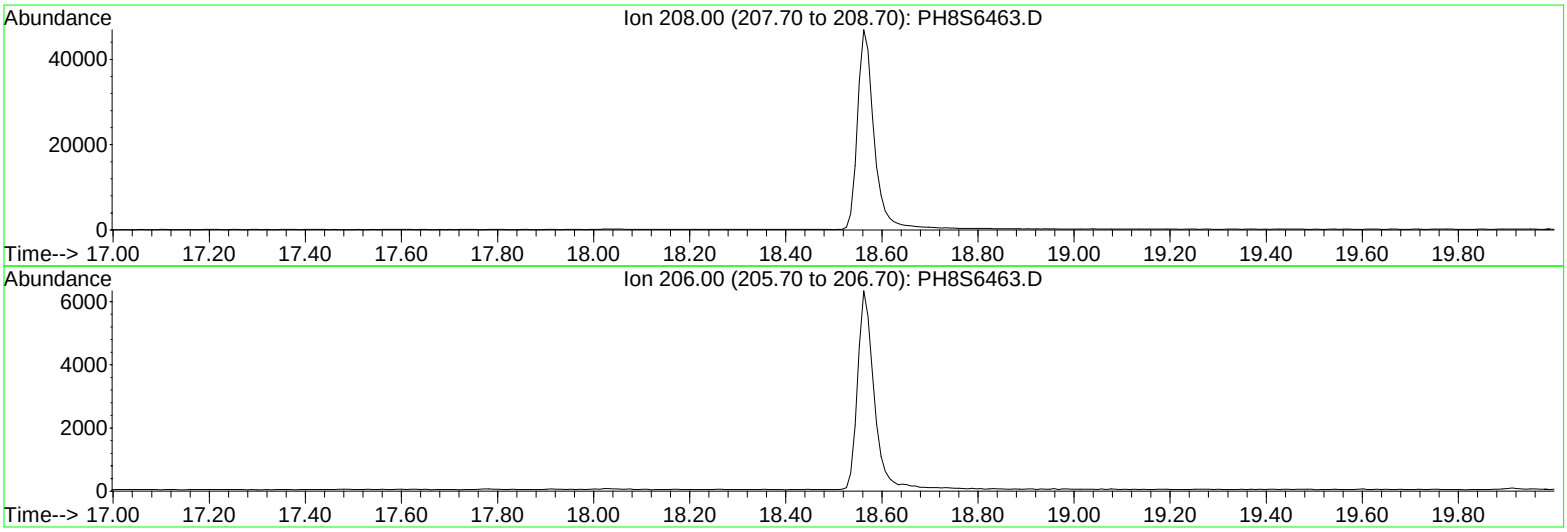
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

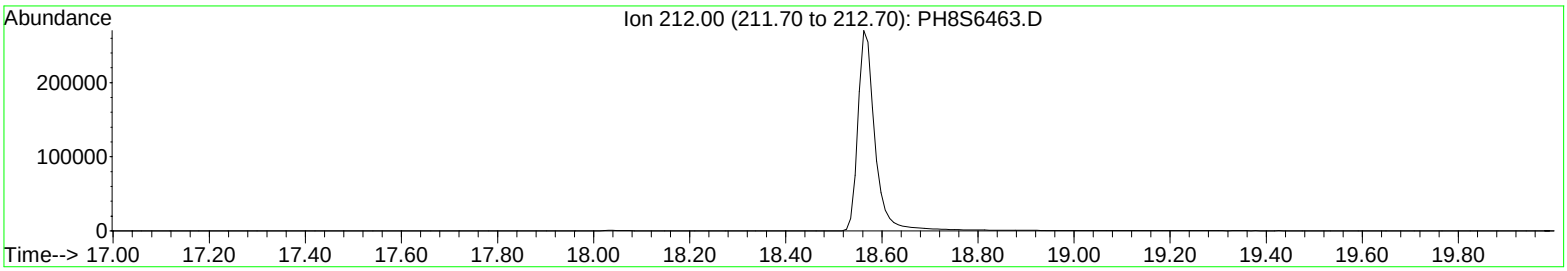




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

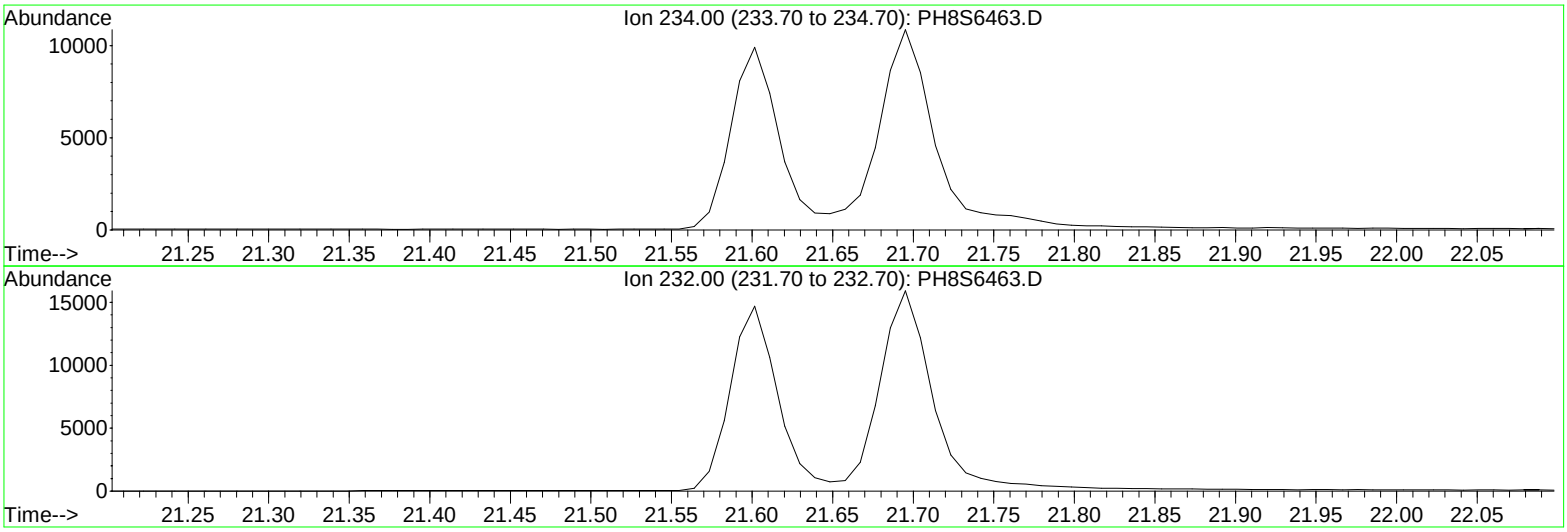


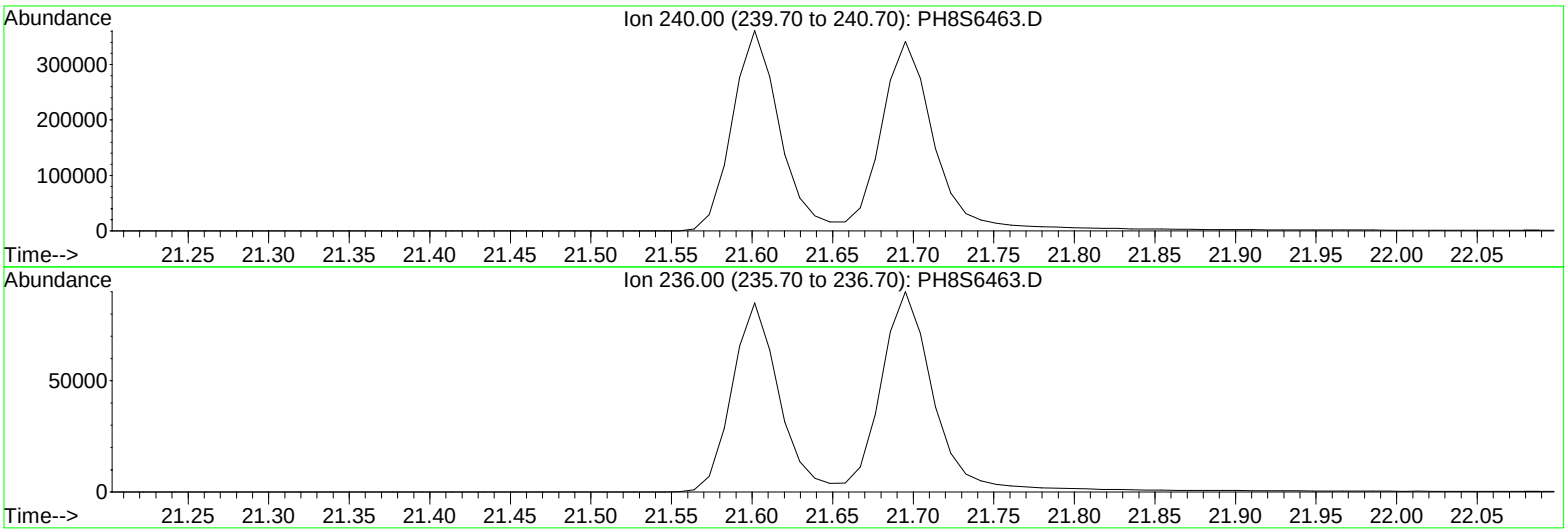


Thu Jan 10 08:55:48 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL

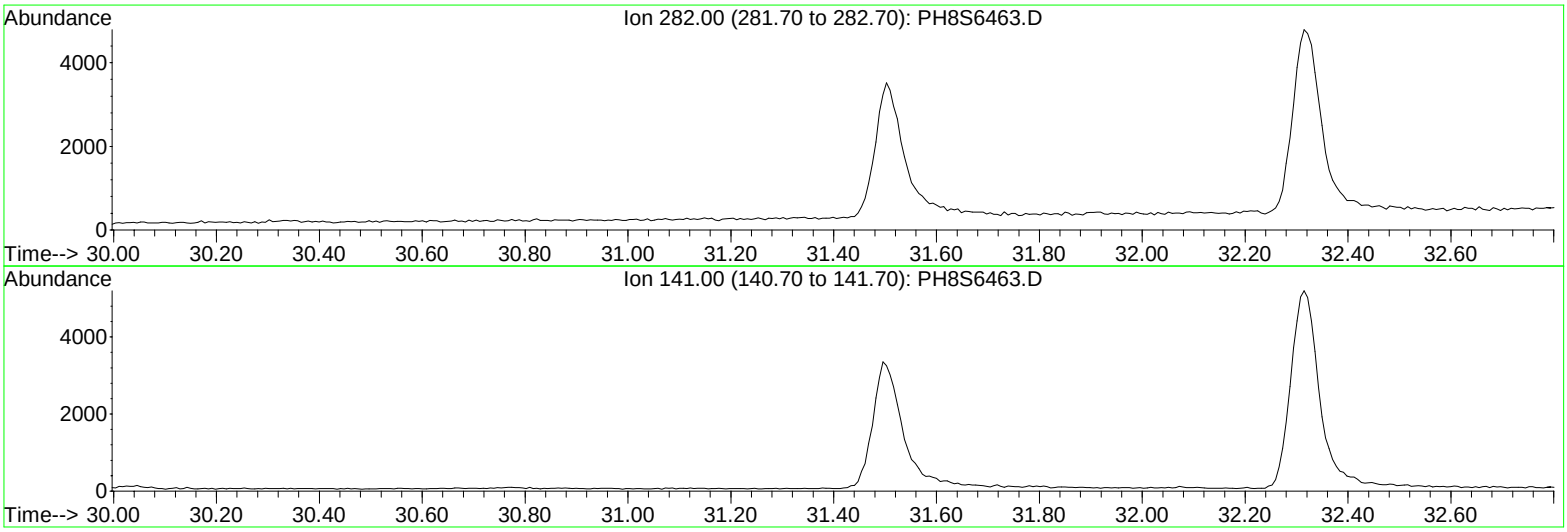


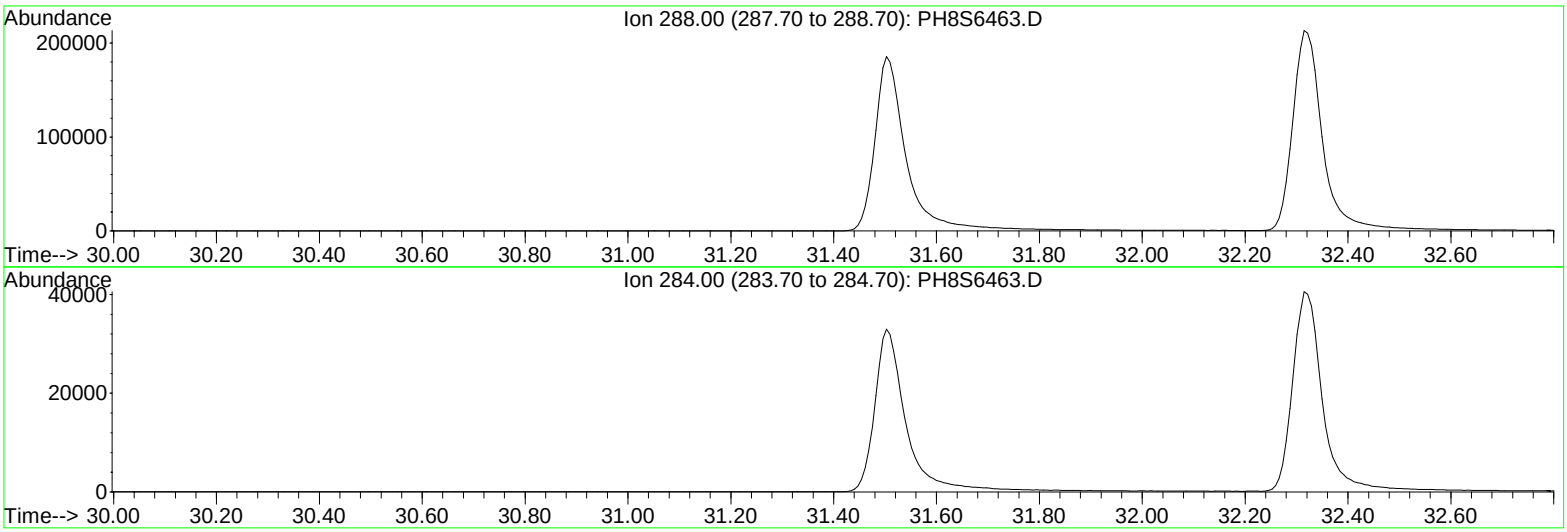


Thu Jan 10 08:55:50 2019

Axys Analytical CHRO Report

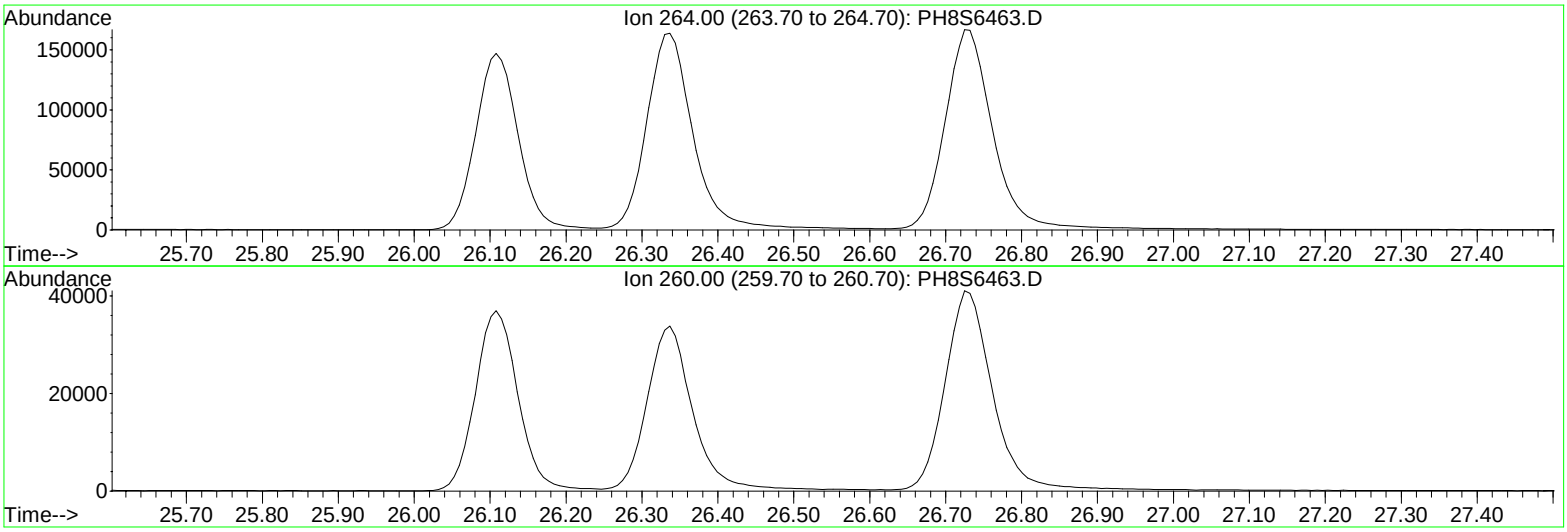
File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6463.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 15:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-101,,BLK
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6460.D
28/12/2018 12:49
WG66438-102 SPM
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6460.D\PH8S6460.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 5
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Wed Jan 02 13:32:10 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/mL
Sample Size	0.1	
Surrogate: Authentic Ratio	0.2	
Recovery: Surrogate Ratio	0.5	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	383955	11.28	4040 I	0	0	0		0.45	1
d8-Naphthalene - SURR	307499	6.87	541.064 S	27.0532	0	0		0.09	0.609
d10-2-Methylnaphthalene - SURR	223733	8.53	587.2803 S	29.8112	0	0		0.19	0.756
d10-Biphenyl - SURR	336855	9.8	630.2561 S	30.8194	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	222625	10.1	639.5219 S	31.1203	0	0		0.74	0.896
d8-Acenaphthylene - SURR	416989	10.85	619.5592 S	30.0757	0	0		0.15	0.961
d10-Pyrene - REC	754069	18.55	3940 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	527943	15	755.2417 S	41.8416	0	0		0.14	0.808
d8-Dibenzothiophene - SURR	303828	14.7	488.7332 S	24.0164	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	848177	21.6	1290.2243 S	63.5578	0	0		0.23	1.164
d12-Chrysene - SURR	889369	21.7	1295.0049 S	66.0717	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	618785	26.11	4040 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	814047	25	1436.6132 S	72.9245	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	889740	25.11	1421.6371 S	71.0819	0	0		0.2	0.962
d12-Benzo(a)pyrene - SURR	756957	26.33	1411.918 S	68.2086	0	0		0.2	1.008
d12-Perylene - SURR	786247	26.72	1470.8728 S	68.4127	0	0		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	785576	31.5	1446.776 S	72.7023	0	0		0.18	1.207
d12-Benzo(ghi)perylene - SURR	873351	32.31	1352.3501 S	68.3005	0	0		0.19	1.238
d8-Naphthalene	307499	6.87	4000 I	0	0	0		0.09	1
Naphthalene $	111067	6.91	1207.1409 T	0	0	0		0.07	1.006
d10-2-Methylnaphthalene	223733	8.53	3940 I	0	0	0		0.19	1
2-Methylnaphthalene $	112788	8.6	1641.5465 T	0	0	0		0.89	1.009
1-Methylnaphthalene	105425	8.87	1625.1406 T	0	0	0		0.93	1.04
C1-Naphthalenes	112788	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	336855	9.8	4090 I	0	0	0		-1	1
Biphenyl $	161996	9.85	1770.5705 T	0	0	0		0.28	1.005
C1-Biphenyls $	921	11.33	10.0663 T	0	0	0		0.17	1.156
C2-Biphenyls $	1277	12.71	13.9572 T	0	0	0		0.24	1.297
d12-2,6-Dimethylnaphthalene	222625	10.1	4110 I	0	0	0		0.74	1
2,6-Dimethylnaphthalene $	121685	10.21	1857.4879 T	0	0	0		0.69	1.011
Ethyl/DiMe-Naphthalenes	121685	10.21	2053.1034 T	0	0	0		0.69	1.011
1,2-Dimethylnaphthalene	99265	10.93	1872.3462 T	0	0	0		1.29	1.082
C2-Naphthalenes	121685	10.21	0 T	0	0	0		-1	1.011
2,3,6-Trimethylnaphthalene	134133	12.2	2025.55 T	0	0	0		0.9	1.207
2,3,5-Trimethylnaphthalene $	126832	12.39	2018.421 T	0	0	0		0.9	1.226
C3-Naphthalenes	126832	12.39	1965.4852 T	0	0	0		0.9	1.226
1,4,6,7-Tetramethylnaphthalene $	143341	13.9	2163.6943 T	0	0	0		0.03	1.376
C4-Naphthalenes	143341	13.9	2163.6943 T	0	0	0		0.03	1.376
d8-Acenaphthylene	416989	10.85	4120 I	0	0	0		0.15	1
Acenaphthylene $	217291	10.88	1766.8976 T	0	0	0		0.2	1.003
Acenaphthene $	131212	11.36	1930.5162 T	0	0	0		1.16	1.047
C1-Acenaphthenes $	101	11.72	1.486 T	0	0	0		0.09	1.08
d8-Dibenzothiophene	303828	14.7	4070 I	0	0	0		0.09	1
Dibenzothiophene $	179776	14.74	2014.5268 T	0	0	0		0.08	1.003
C1-Dibenzothiophenes-1	3574	15.88	58.37 T	0	0	0		0.71	1.08
2/3-Methyldibenzothiophenes $	101895	16.08	1664.1333 T	0	0	0		0.72	1.094
C1-Dibenzothiophenes-2	0	0	0 T	0	0	0		0	0
C1-Dibenzothiophenes	101895	16.08	0 T	0	0	0		-1	1.094
4,6-Dimethyldibenzothiophene	170004	16.95	2590.7251 T	0	0	0		0.16	1.153

+ Report only.

PH8S6460

Checked MV 08-Jan-19

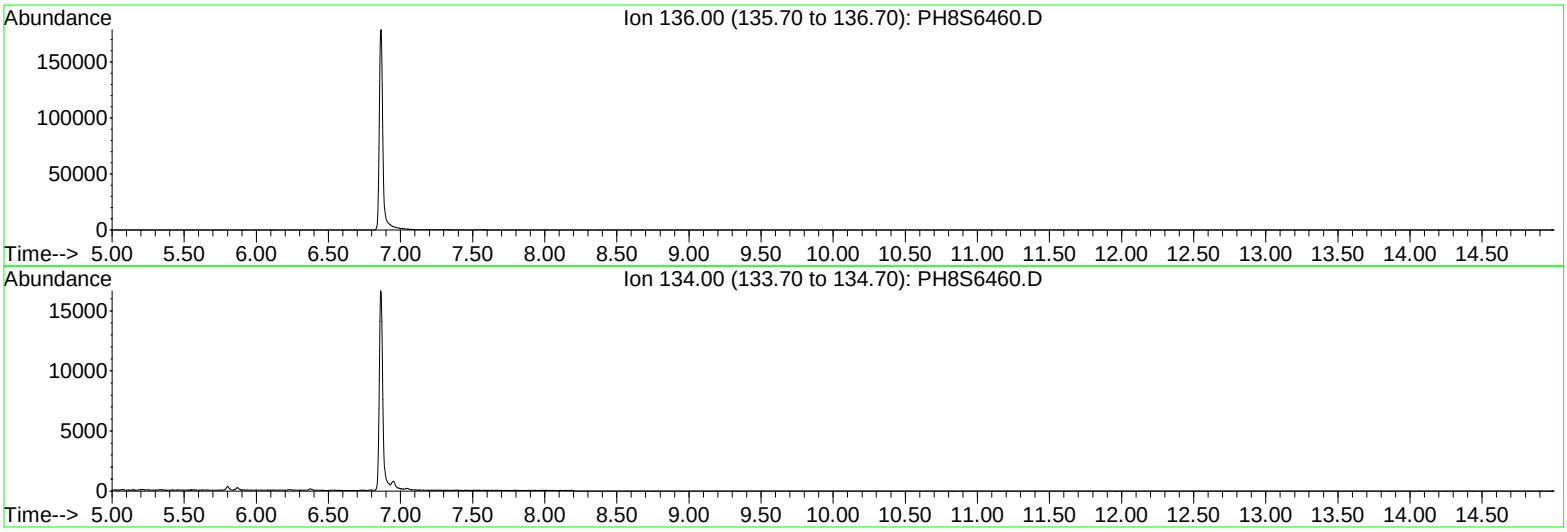
pv by vr
03-Jan-2019

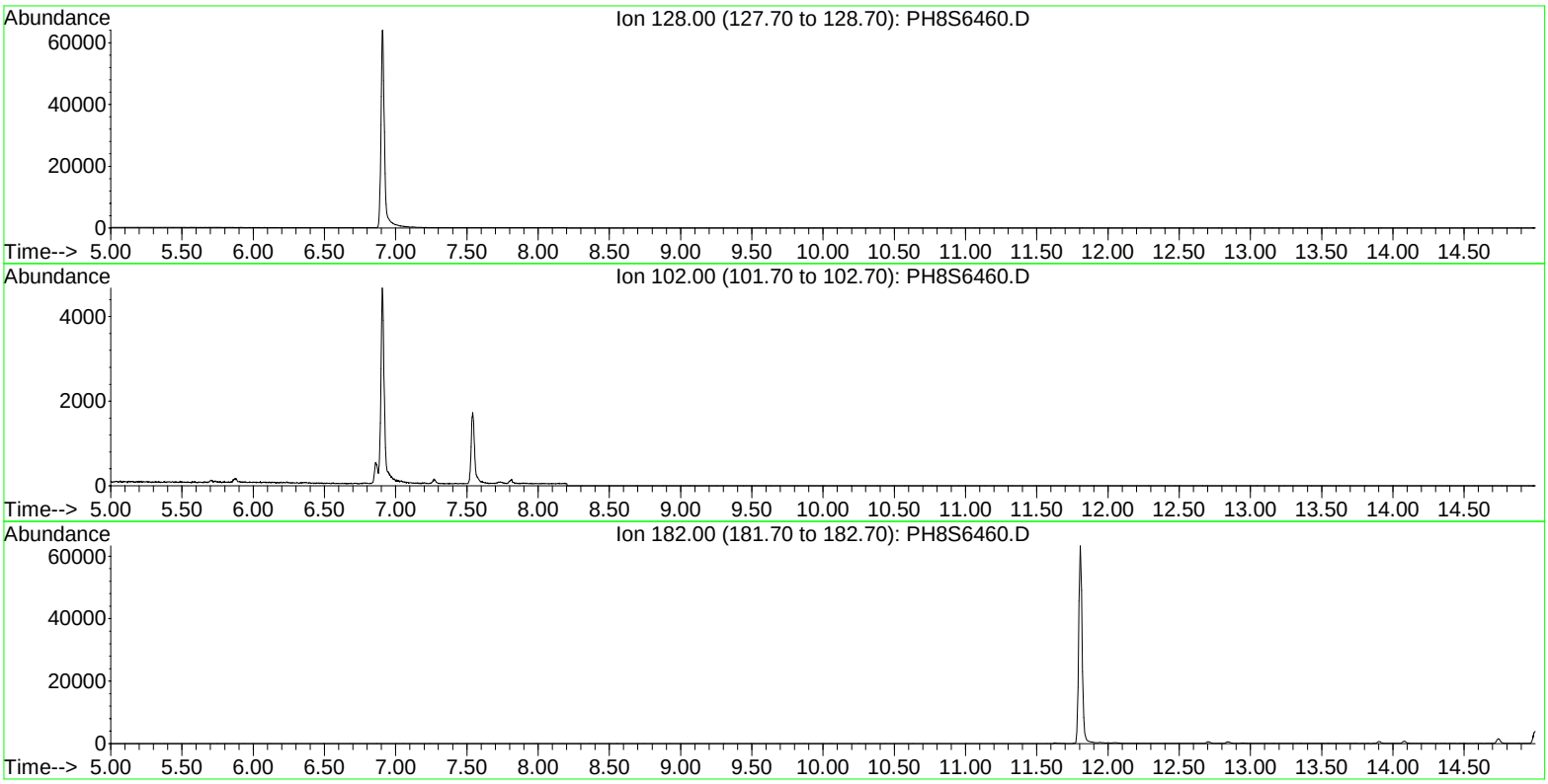
2,4-Dimethyldibenzothiophene $	158	17.06	3.1177 T	0	0	0		0.5	1.16
C2-Dibenzothiophenes	170078	16.95	3356.0654 T	0	0	0		0.16	1.153
C3-Dibenzothiophenes $	42	18.11	0.8288 T	0	0	0	#	-1	1.232
C4-Dibenzothiophenes $	8	18.86	0.1579 T	0	0	0		4.5	1.283
d10-Phenanthrene	527943	15	3610 I	0	0	0		0.14	1
Fluorene $	174768	12.65	1672.1174 T	0	0	0		0.99	0.843
2-Methylfluorene $	136859	14.08	1925.5543 T	0	0	0		1.28	0.939
C1-Fluorenes	136859	14.08	1925.5543 T	0	0	0		1.28	0.939
1,7-Dimethylfluorene $	154710	15.51	2340.5554 T	0	0	0		0.08	1.034
C2-Fluorenes	154710	15.51	2340.5554 T	0	0	0		0.08	1.034
C3-Fluorenes $	2500	16.43	37.8217 T	0	0	0		0.46	1.096
Phenanthrene $	308400	15.05	1971.6327 T	0	0	0		0.19	1.003
Anthracene	302844	15.17	1913.2456 T	0	0	0		0.18	1.011
d10-Anthracene $	0	0	0 T	0	0	0		0	0
3-Methylphenanthrene	264012	16.37	2392.4145 T	0	0	0		0.59	1.092
2-Methylphenanthrene	264012	16.37	2424.1516 T	0	0	0		0.59	1.092
2-Methylanthracene	231398	16.47	2189.0355 T	0	0	0		0.51	1.098
9/4-Methylphenanthrenes	247331	16.47	2241.2552 T	0	0	0		0.51	1.098
1-Methylphenanthrene $	288820	16.65	2480.4599 T	0	0	0		0.61	1.11
C1-Phenanthrenes/Anthracenes	288820	16.65	0 T	0	0	0		-1	1.11
Fluoranthene $	503197	18.06	2618.7728 T	0	0	0		0.2	1.204
Pyrene	517655	18.6	2605.6114 T	0	0	0		0.21	1.24
3,6-Dimethylphenanthrene $	279358	17.47	2628.913 T	0	0	0		0.36	1.165
2,6-Dimethylphenanthrene	280606	17.47	2635.8051 T	0	0	0		0.36	1.165
1,7-Dimethylphenanthrene	293423	17.88	2751.1684 T	0	0	0		0.35	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	279358	17.47	2624.0823 T	0	0	0		0.36	1.165
1,8-Dimethylphenanthrene	41066	18.05	385.7436 T	0	0	0	#	0.12	1.203
C2-Phenanthrenes/Anthracenes	279358	17.47	0 T	0	0	0		-1	1.165
1,2,6-Trimethylphenanthrene $	355631	19.4	3634.6654 T	0	0	0		0.6	1.293
C3-Phenanthrenes/Anthracenes	355631	19.4	3634.6654 T	0	0	0		0.6	1.293
Retene $	116624	19.51	3119.4229 T	0	0	0		1.65	1.301
C4-Phenanthrenes/Anthracenes	116624	19.51	3119.4229 T	0	0	0		1.65	1.301
C1-Fluoranthenes/Pyrenes-1	0	0	0 T	0	0	0		0	0
3-Methylfluoranthene/Benzo(a)fluorene $	335383	19.5	2936.0001 T	0	0	0		1.08	1.3
C1-Fluoranthenes/Pyrenes-2	122	20.07	1.068 T	0	0	0		1.16	1.338
C1-Fluoranthenes/Pyrenes	335383	19.5	0 T	0	0	0		-1	1.3
C2-Fluoranthenes/Pyrenes $	489	20.46	4.2808 T	0	0	0		0.09	1.364
C3-Fluoranthenes/Pyrenes $	122	21.9	1.068 T	0	0	0	#	-1	1.46
C4-Fluoranthenes/Pyrenes $	22	23.3	0.1926 T	0	0	0		7	1.553
d12-Benz(a)anthracene	848177	21.6	4060 I	0	0	0		0.23	1
d10-Fluoranthene $	174801	18.01	770.6614 T	0	0	0		0.14	0.834
+ Benz(a)anthracene	534903	21.65	1981.9578 T	0	0	0		0.27	1.002
d12-Chrysene	889369	21.7	3920 I	0	0	0		0.26	1
+ Chrysene $	554618	21.75	1980.3245 T	0	0	0		0.3	1.003
5/6-Methylchrysenes $	420514	23.09	1988.3525 T	0	0	0		-1	1.064
1-Methylchrysene	452686	23.26	2066.1432 T	0	0	0		-1	1.072
C1-Benz(a)anthracenes/Chrysenes	420514	23.09	1953.2279 T	0	0	0		-1	1.064
5,9-Dimethylchrysene $	340910	24.39	2082.1757 T	0	0	0		-1	1.124
C2-Benz(a)anthracenes/Chrysenes	340910	24.39	2082.1757 T	0	0	0		-1	1.124
C3-Benz(a)anthracenes/Chrysenes $	10	25.09	0.0611 T	0	0	0		-1	1.156
C4-Benz(a)anthracenes/Chrysenes $	22	26.09	0.1344 T	0	0	0		-1	1.202
d12-Benzo(b)fluoranthene	814047	25	3940 I	0	0	0		0.21	1
Benzo(b)fluoranthene-SURR int	1662	25.01	0 T	0	0	0	#	0.3	1.001
+ Benzo(b)fluoranthene $	581372	25.09	1943.376 T	0	0	0		0.22	1.004
d12-Benzo(k)fluoranthene	889740	25.11	4000 I	0	0	0		0.2	1
+ Benzo(j/k)fluoranthenes	577054	25.19	2056.0174 T	0	0	0		0.22	1.003
Benzofluoranthenes	581372	25.09	0 T	0	0	0		-1	0.999
d12-Benzo(a)pyrene	756957	26.33	4140 I	0	0	0		0.2	1
Benzo(e)pyrene	542074	26.22	2136.433 T	0	0	0		0.21	0.996
+ Benzo(a)pyrene	477057	26.43	1991.9505 T	0	0	0		0.22	1.004
7-Methylbenzo(a)pyrene $	355600	29.16	2086.008 T	0	0	0		-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	355600	29.16	2086.008 T	0	0	0		-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	12	29.87	0.0704 T	0	0	0		-1	1.134
d12-Perylene	786247	26.72	4300 I	0	0	0		0.24	1
Perylene	502385	26.84	1992.5856 T	0	0	0		0.21	1.004
d12-Indeno(123cd)pyrene	785576	31.5	3980 I	0	0	0		0.18	1
d14-Dibenzo(ah)anthracene $	8288	31.62	45.8996 T	0	0	0	#	0.74	1.004
+ Dibenzo(ah)anthracene $	370717	31.72	1649.8236 T	0	0	0		0.15	1.007
+ Indeno(123cd)pyrene $	451519	31.58	1869.4261 T	0	0	0		0.21	1.002
d12-Benzo(ghi)perylene	873351	32.31	3960 I	0	0	0		0.19	1
Benzo(ghi)perylene	523328	32.4	1987.0188 T	0	0	0		0.21	1.003

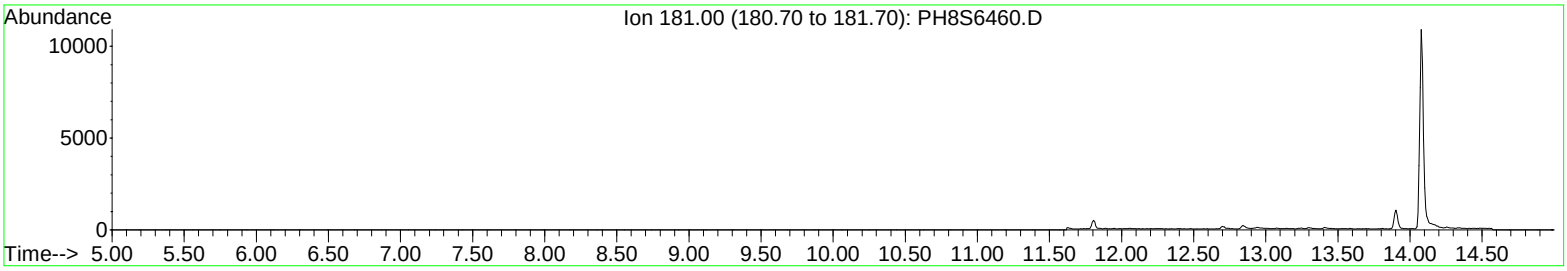
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



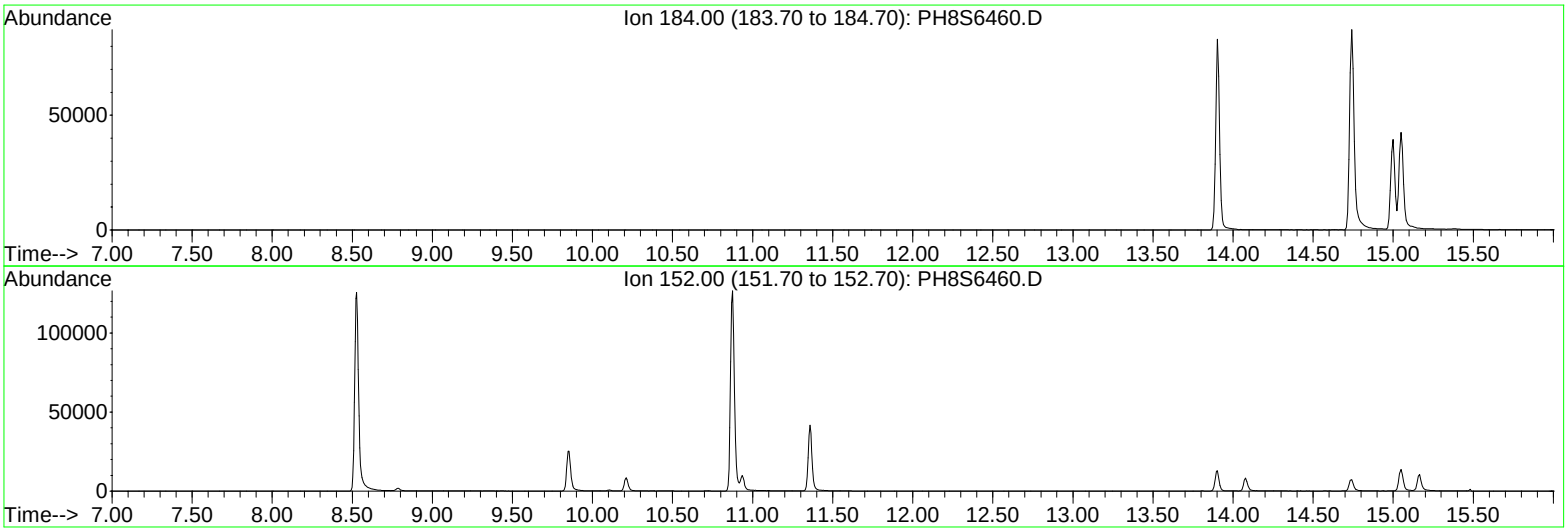


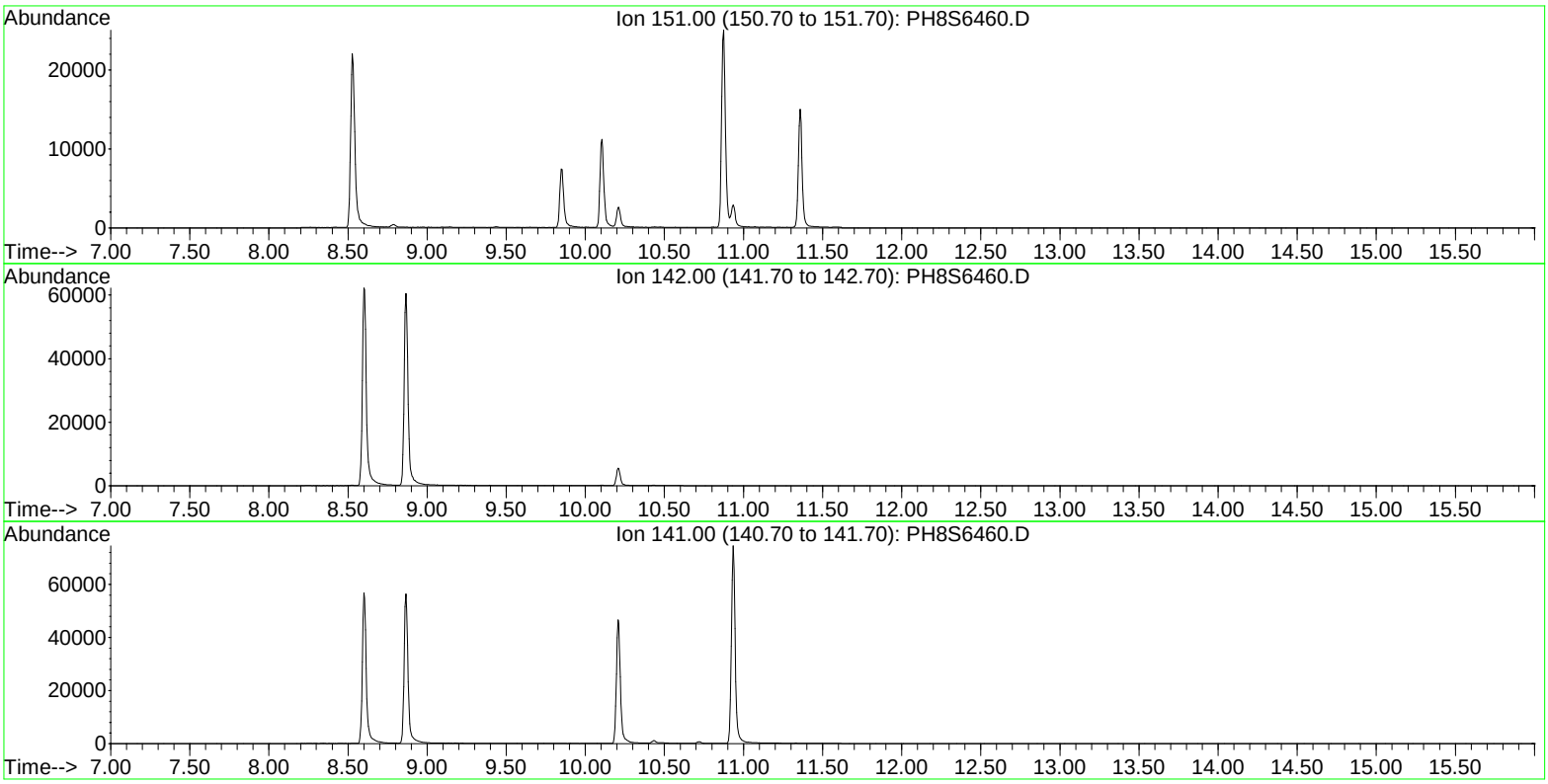


Thu Jan 10 08:39:01 2019

Axys Analytical CHRO Report

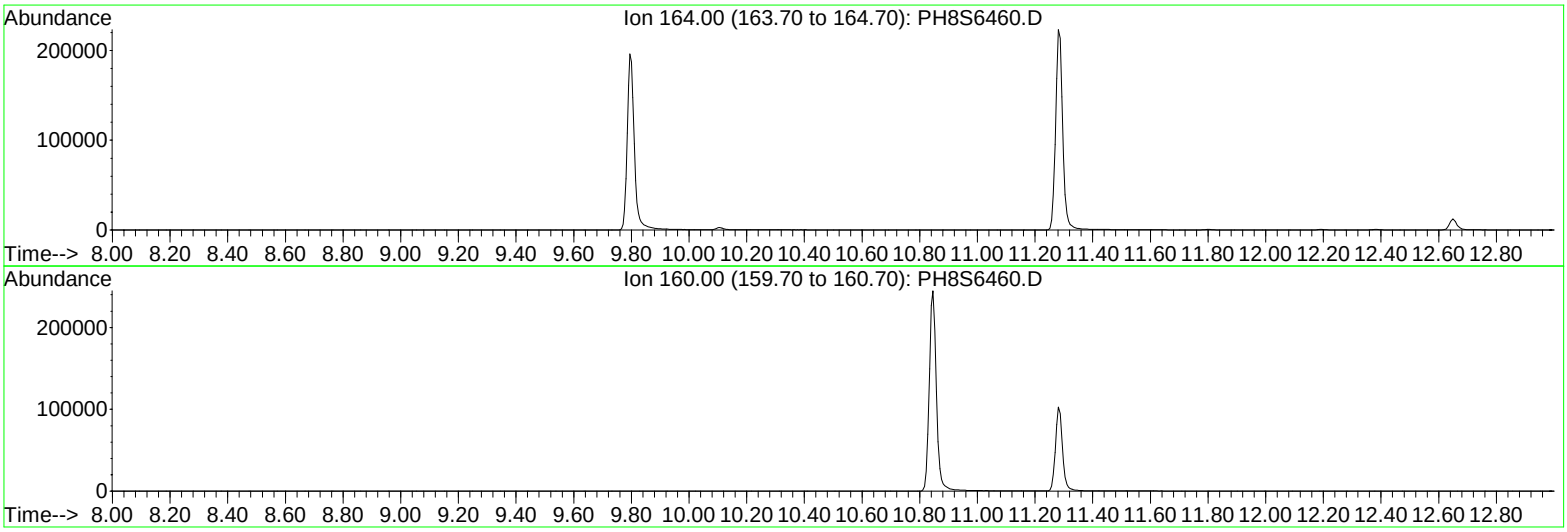
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

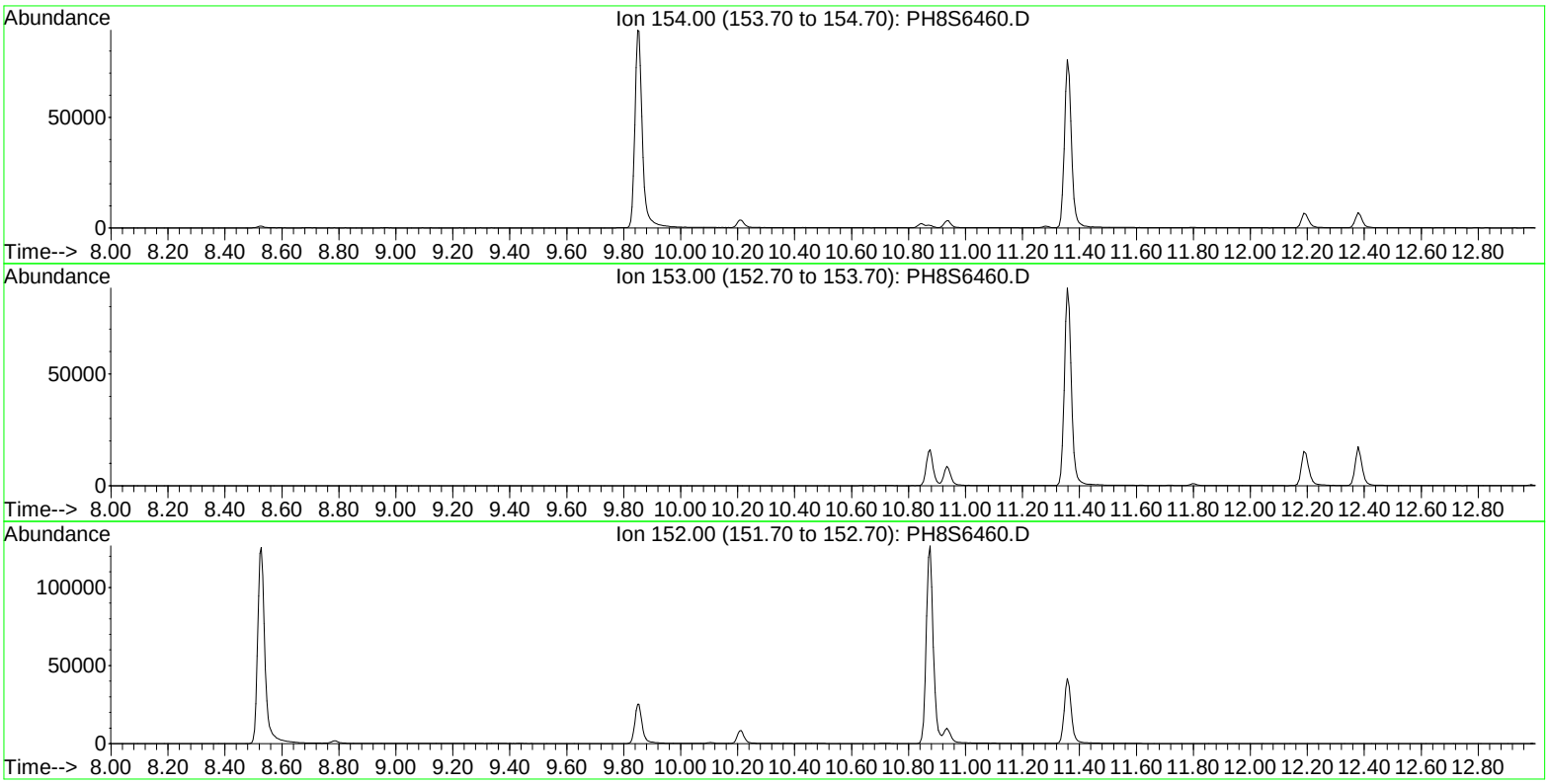




Axys Analytical CHRO Report

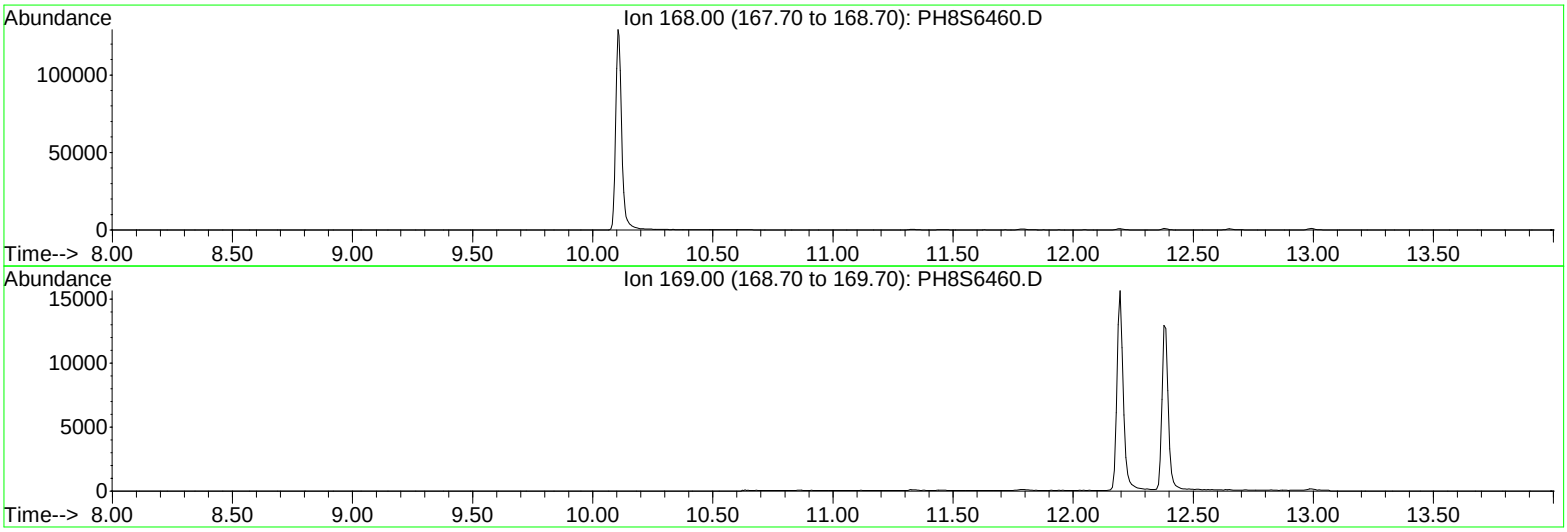
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

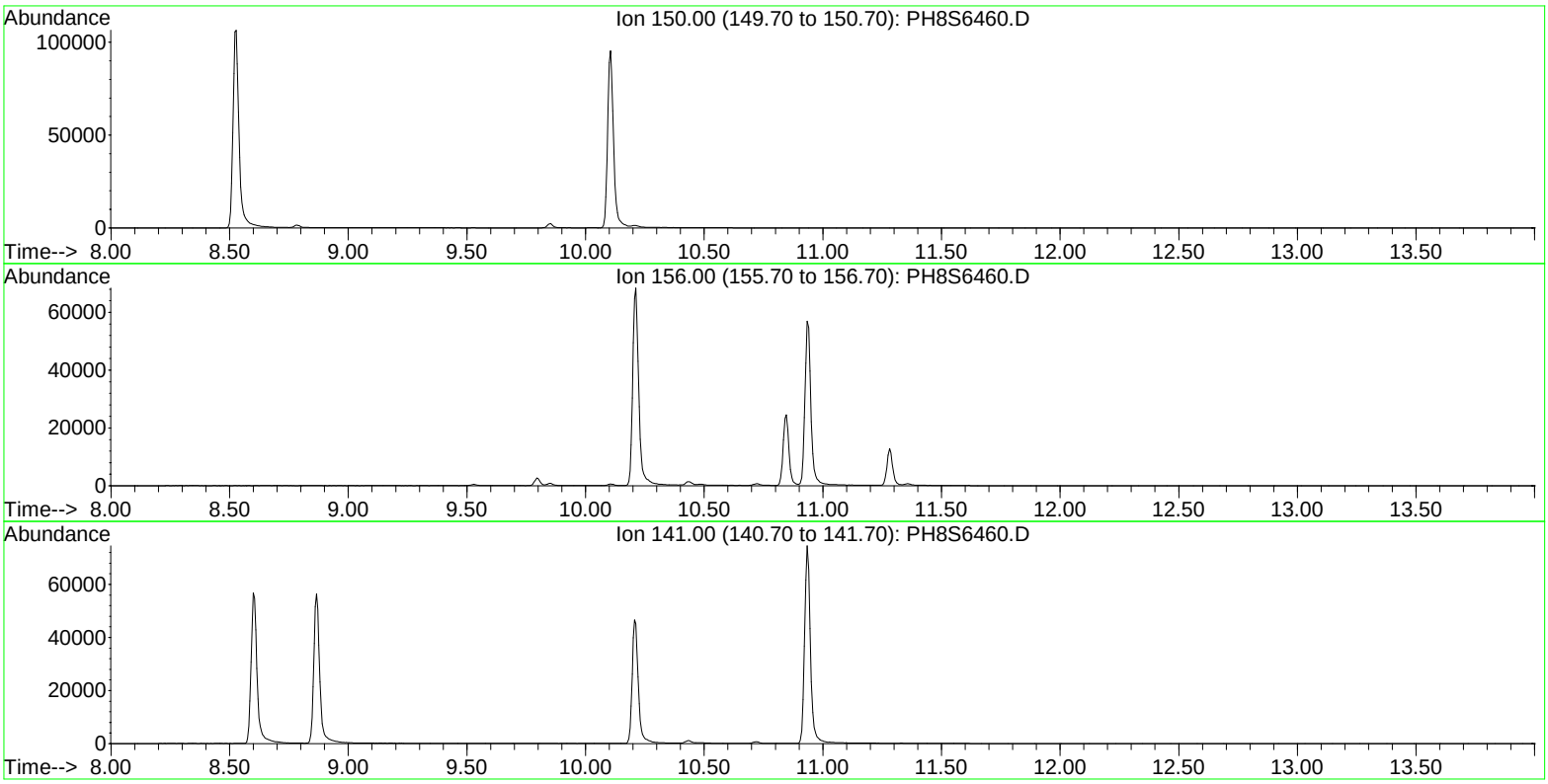




Axys Analytical CHRO Report

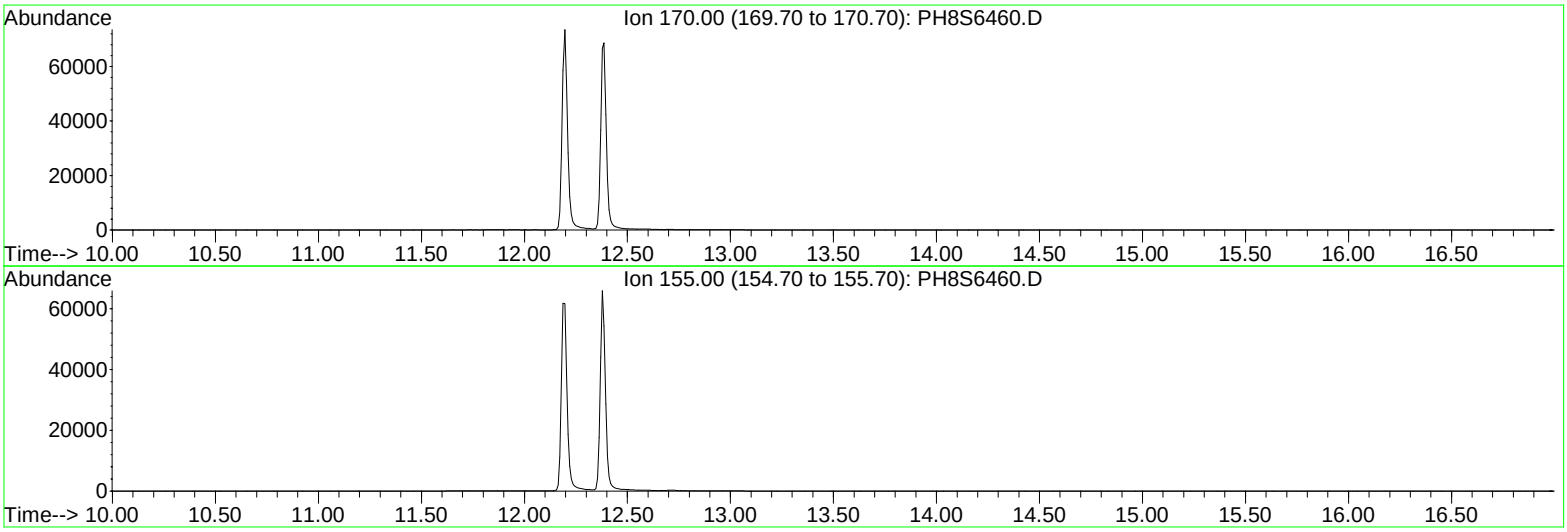
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

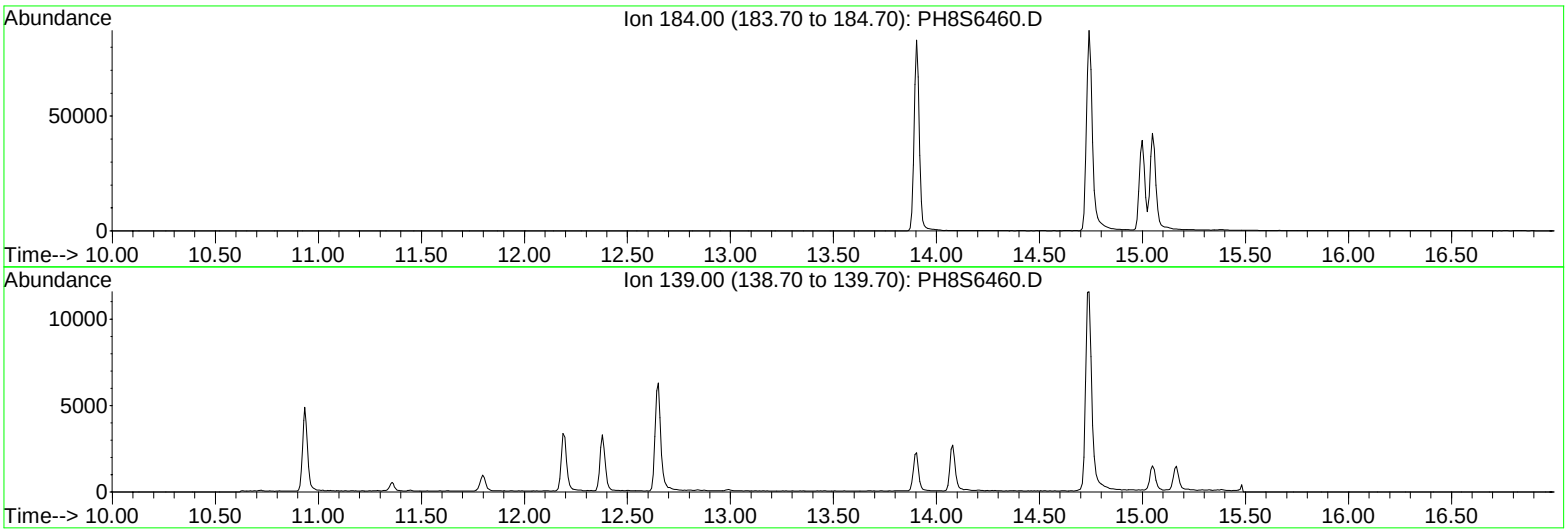




Axys Analytical CHRO Report

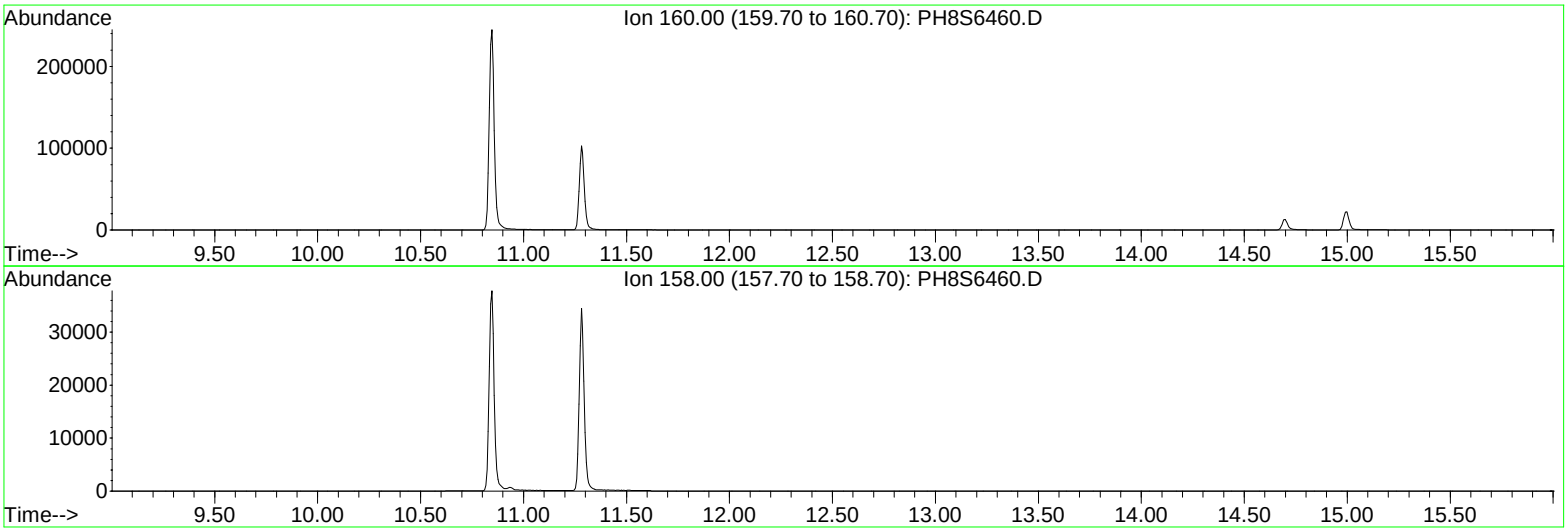
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

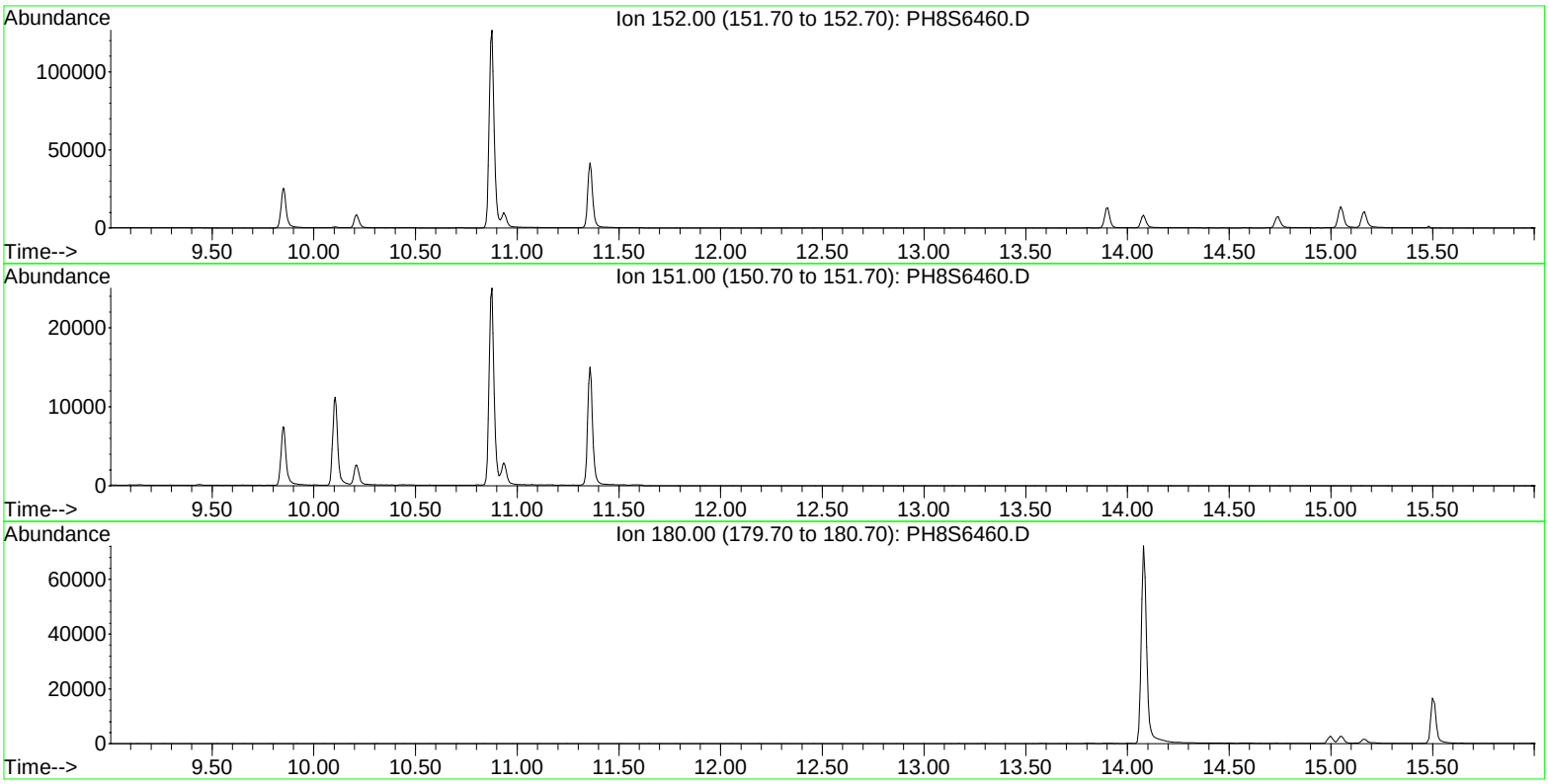


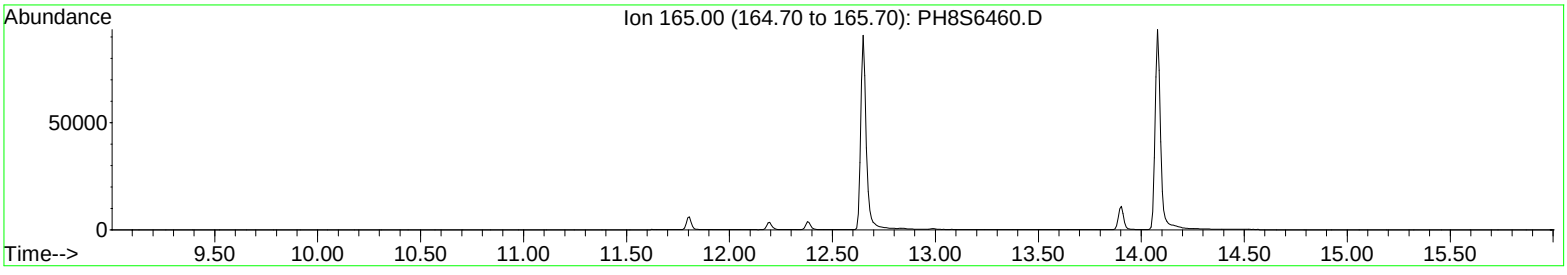


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



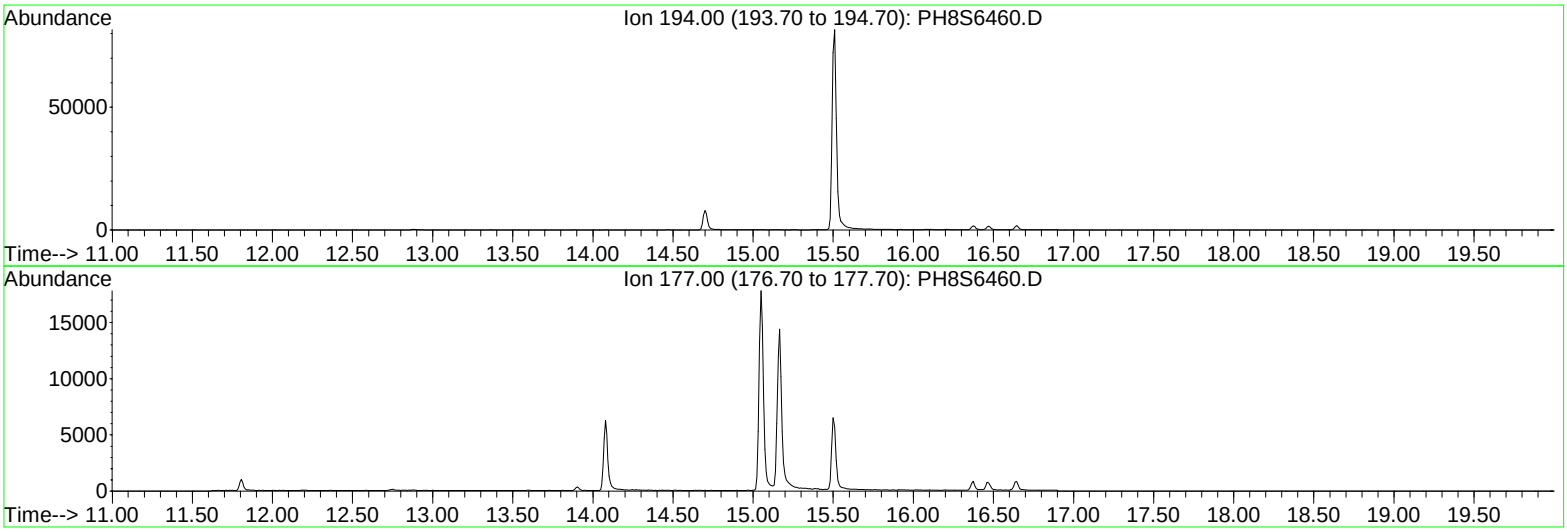


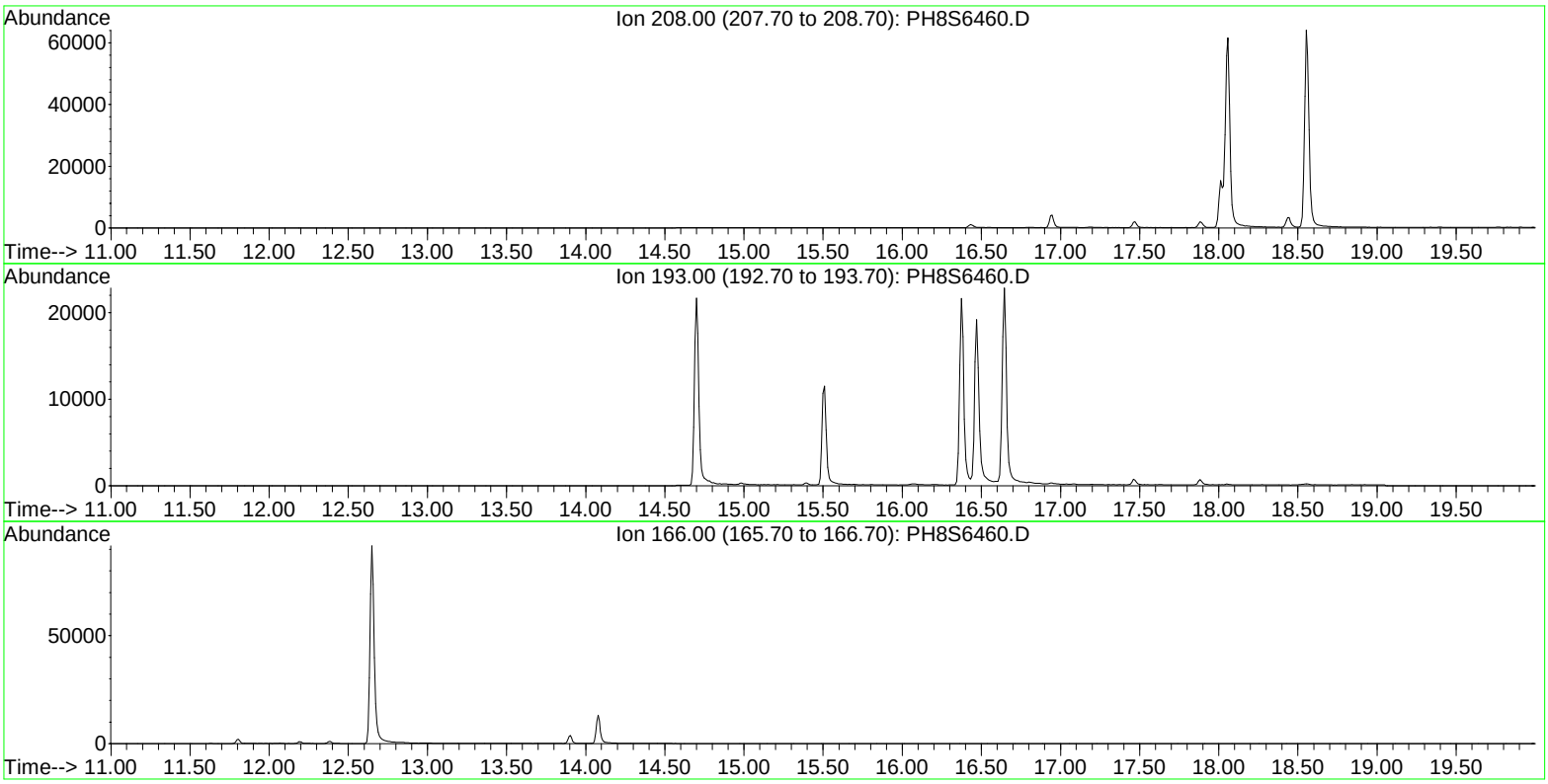


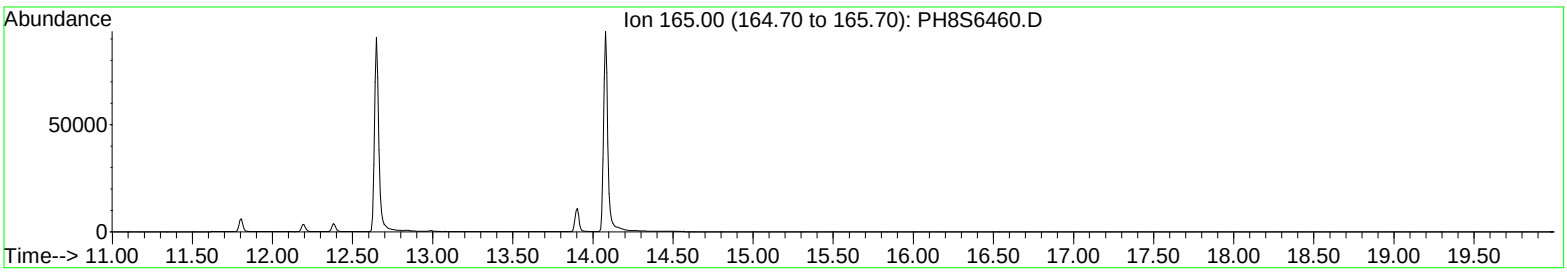
Thu Jan 10 08:39:07 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



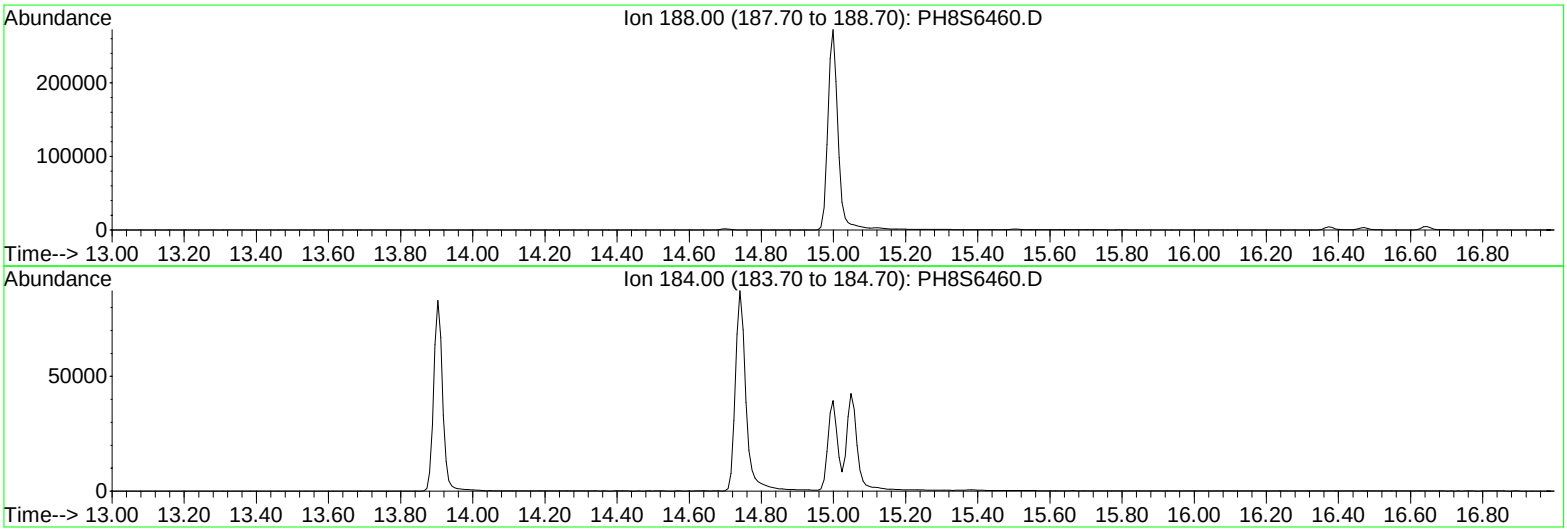


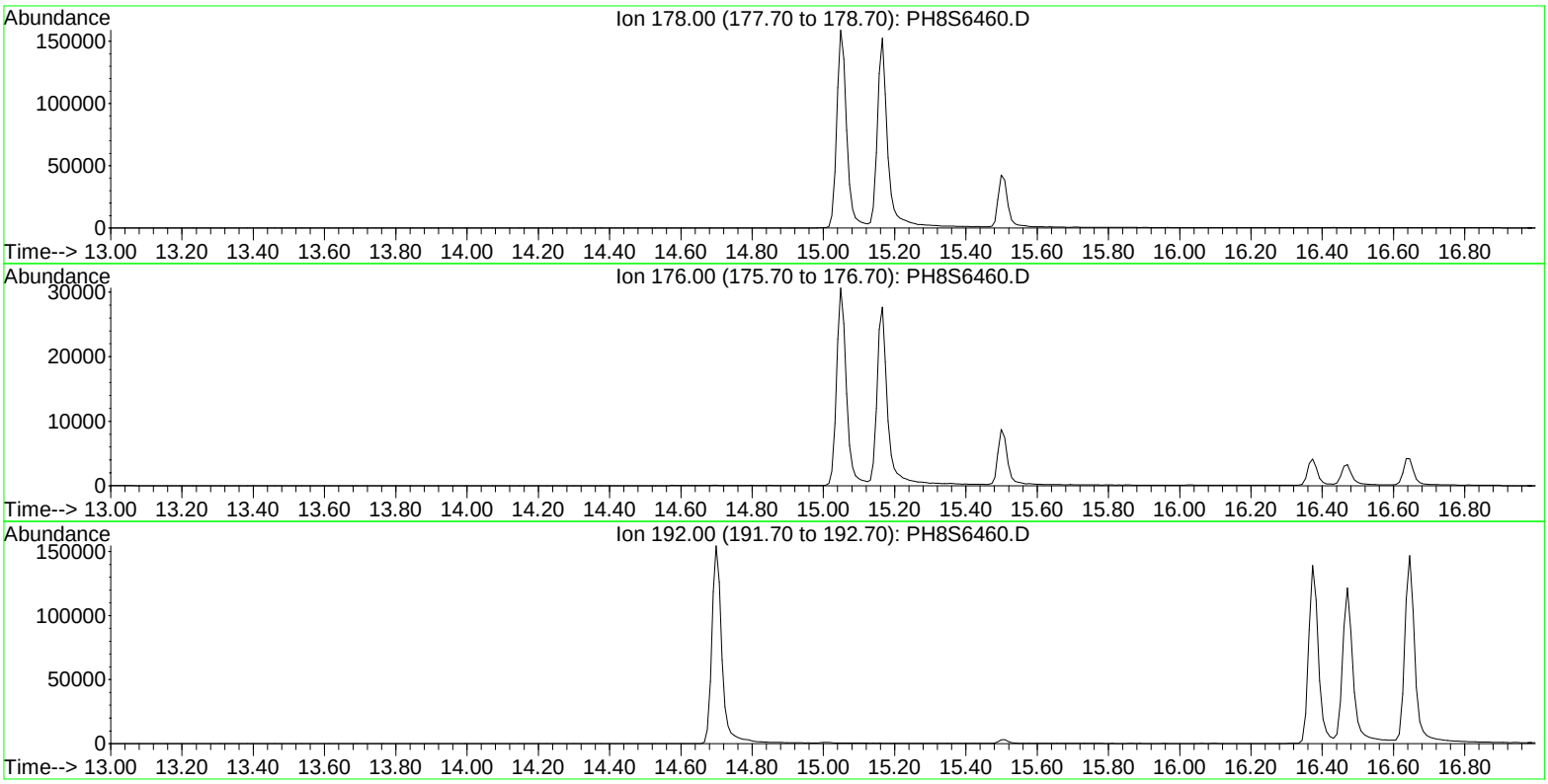


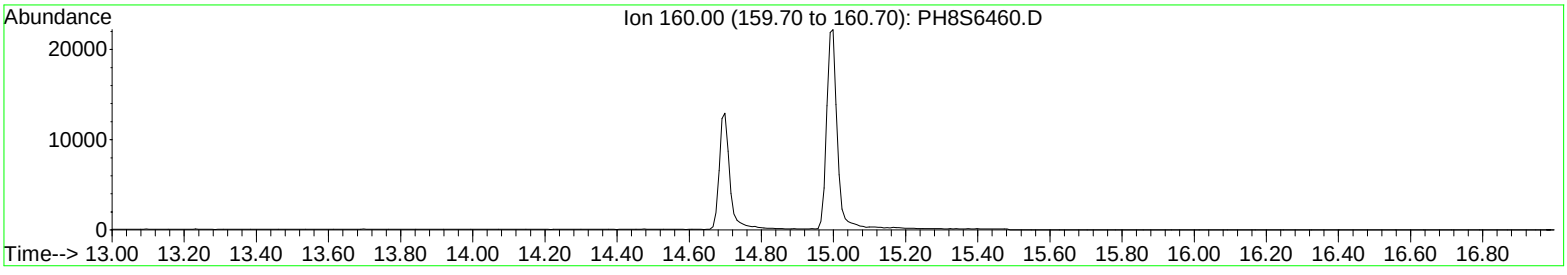
Thu Jan 10 08:39:08 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



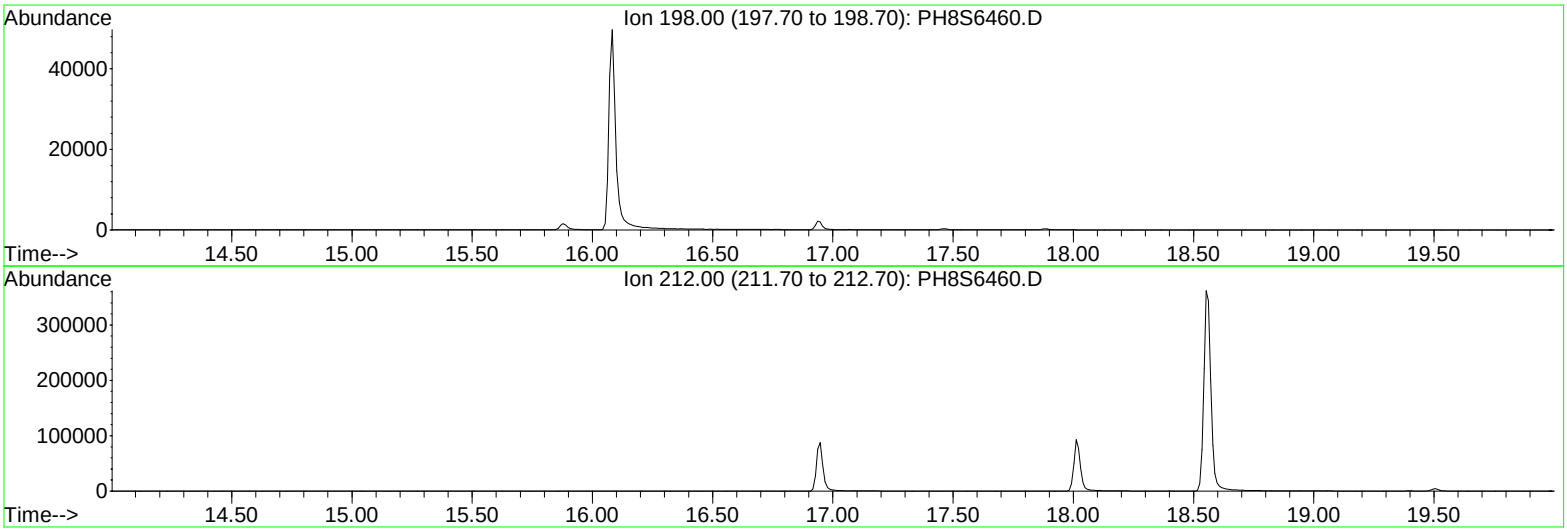


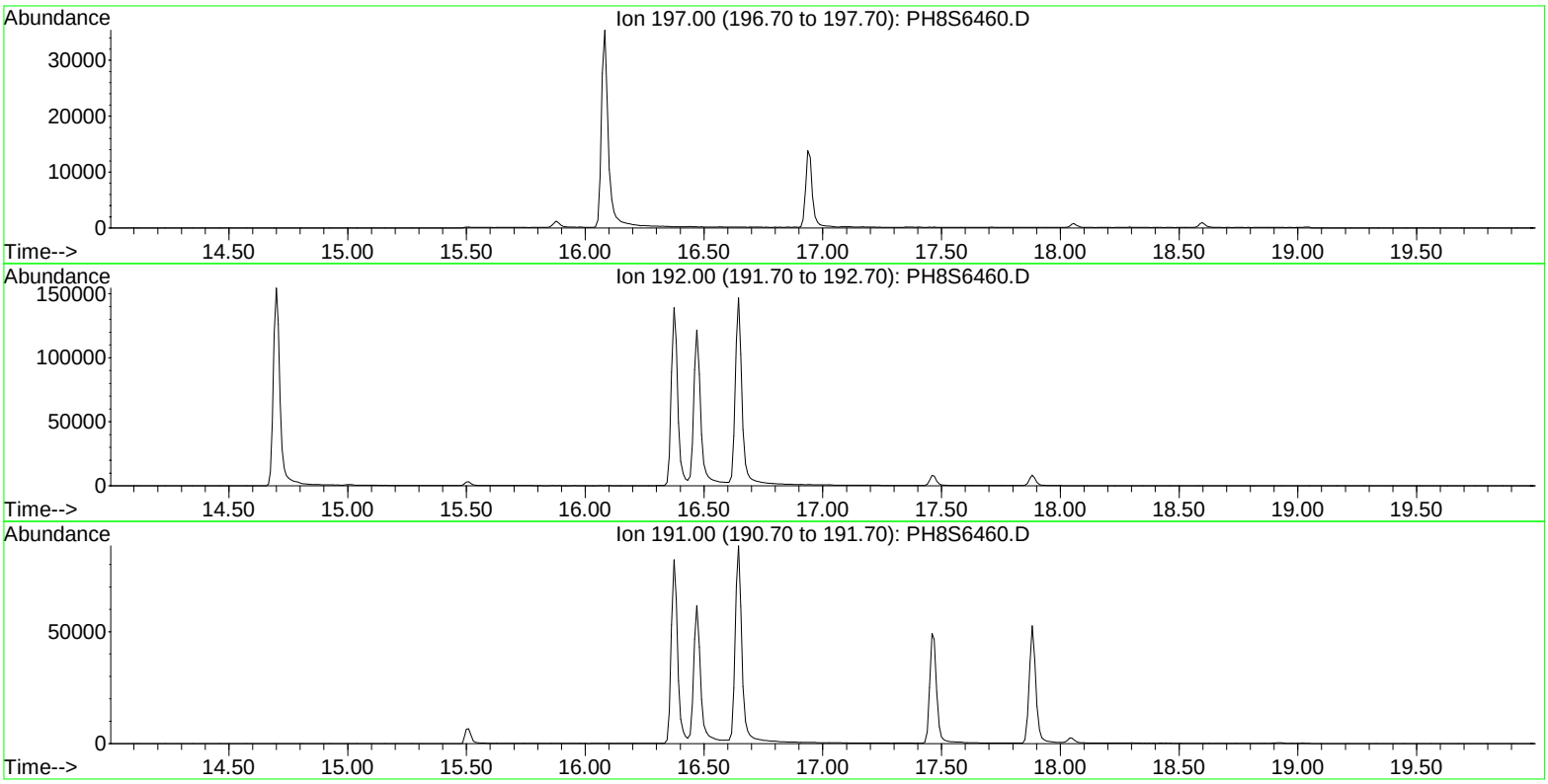


Thu Jan 10 08:39:09 2019

Axys Analytical CHRO Report

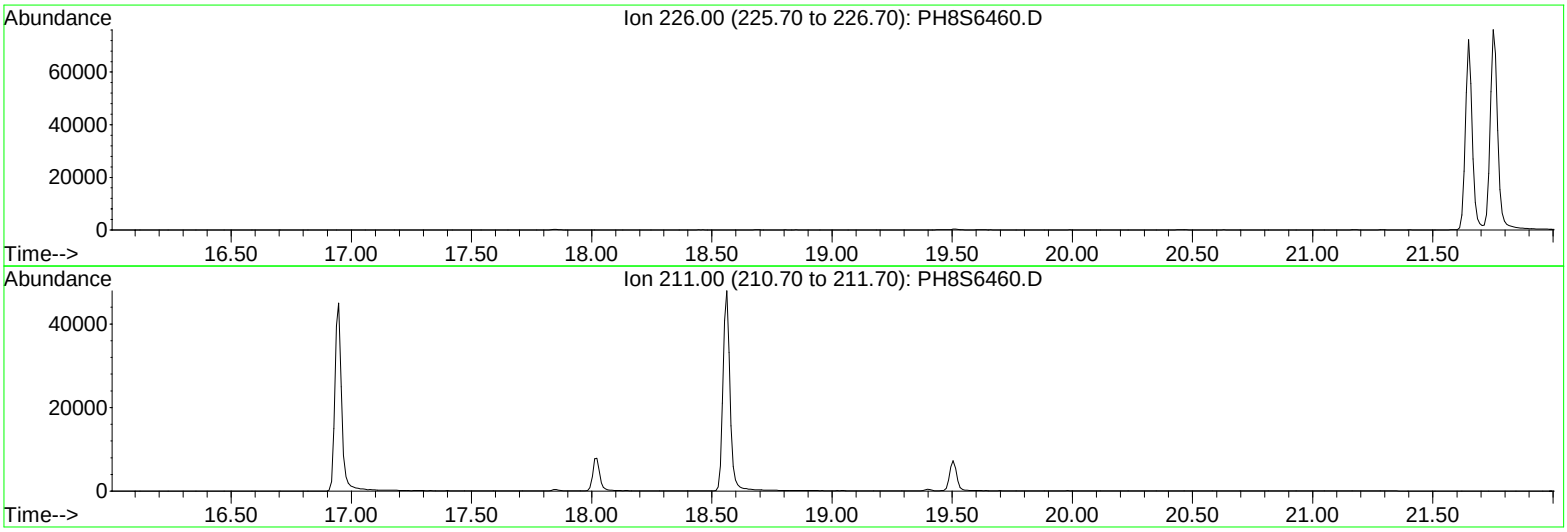
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

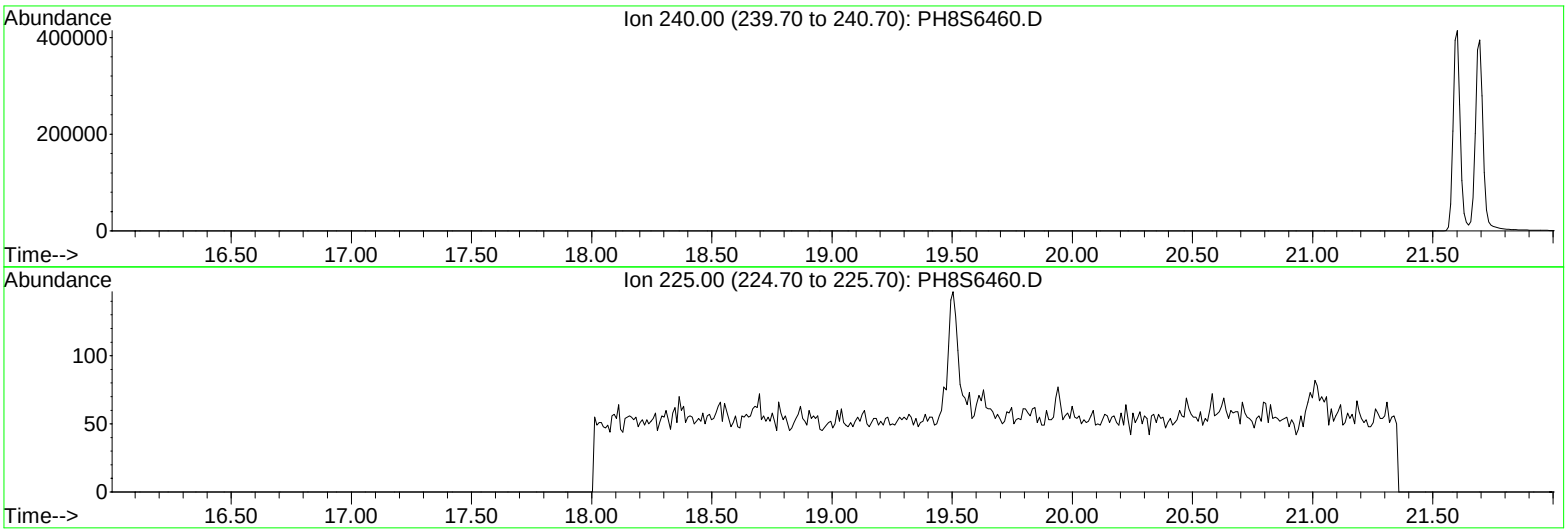




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

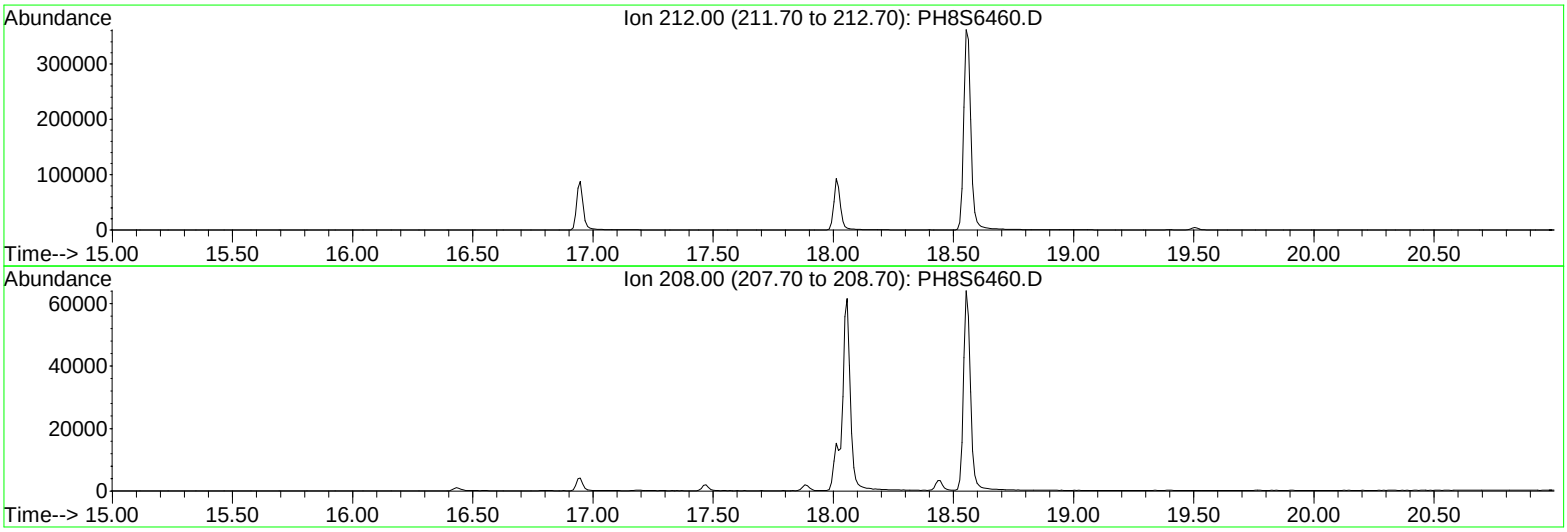


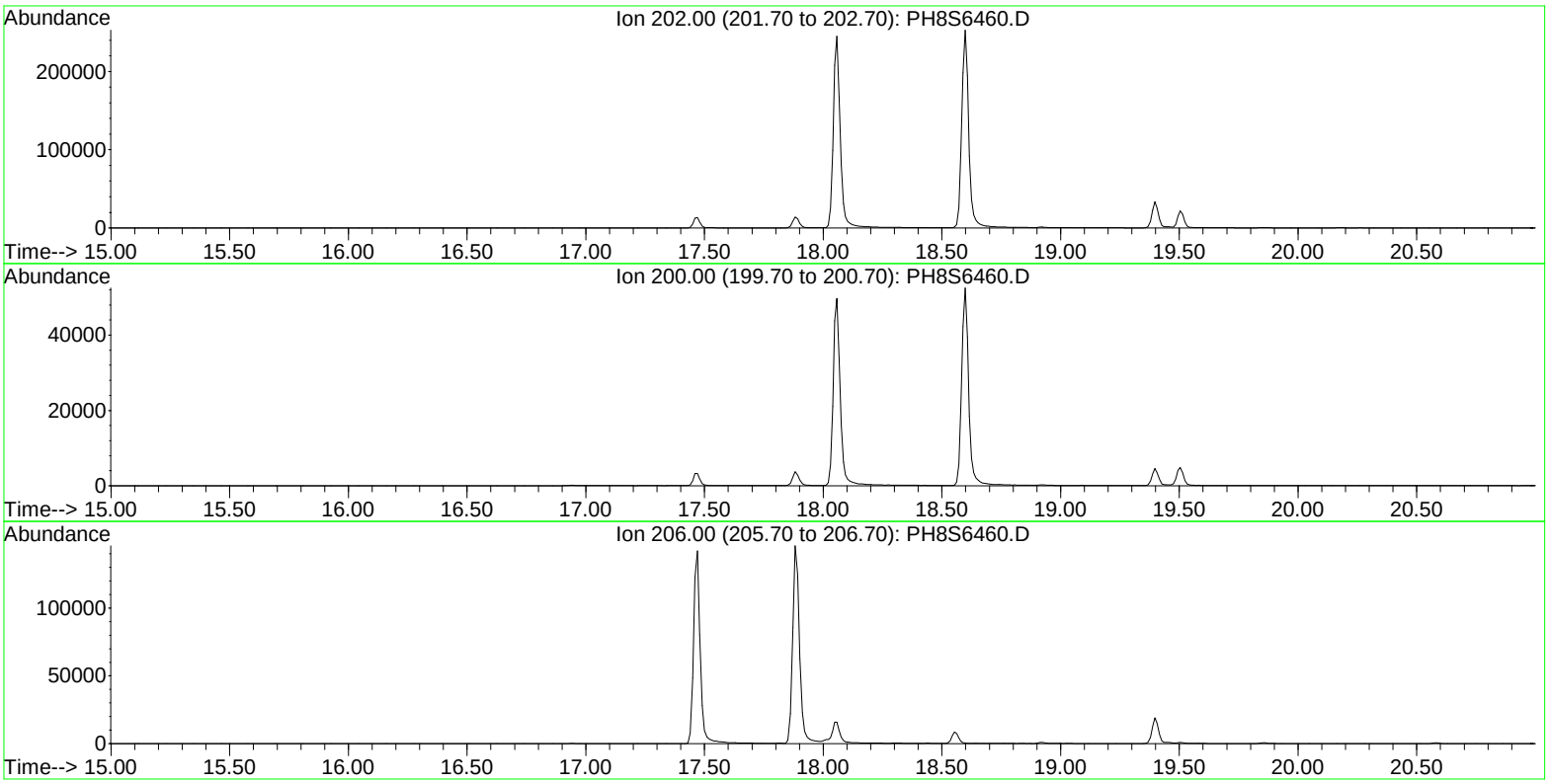


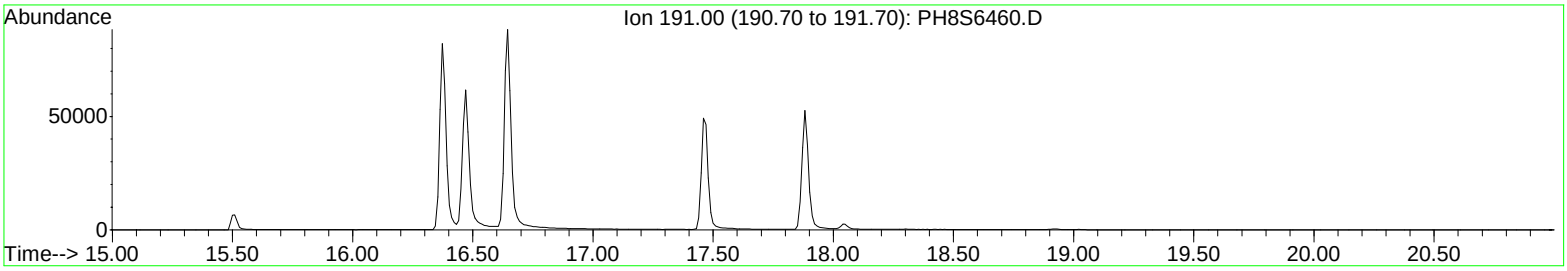
Thu Jan 10 08:39:11 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



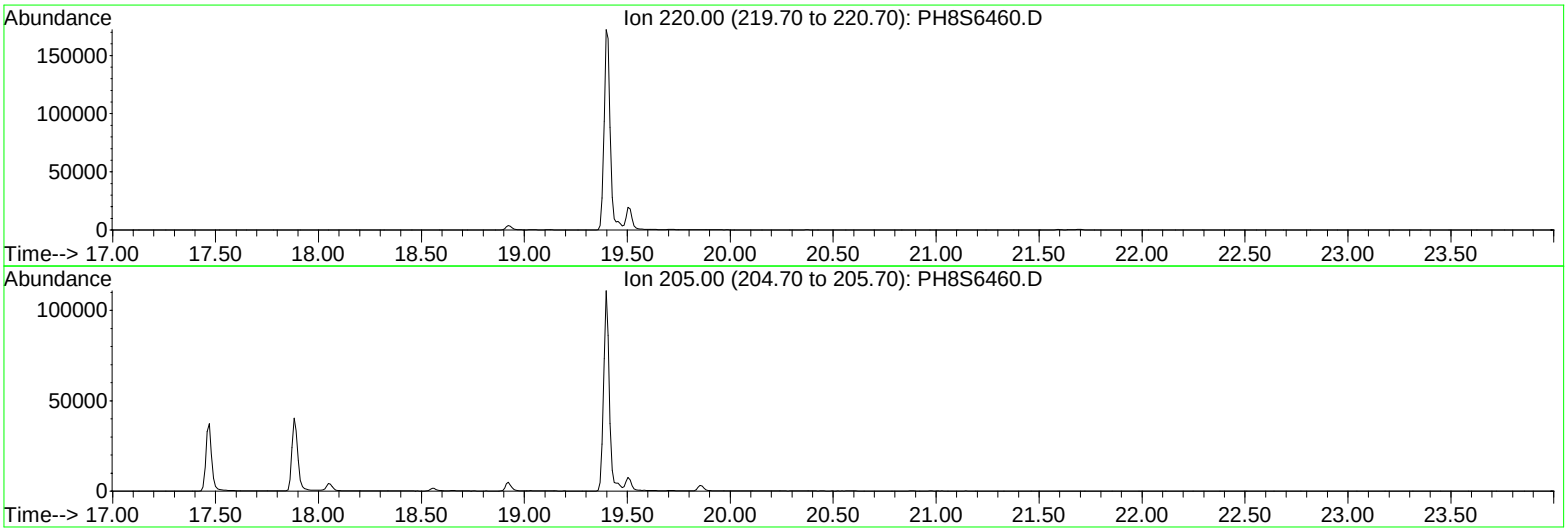


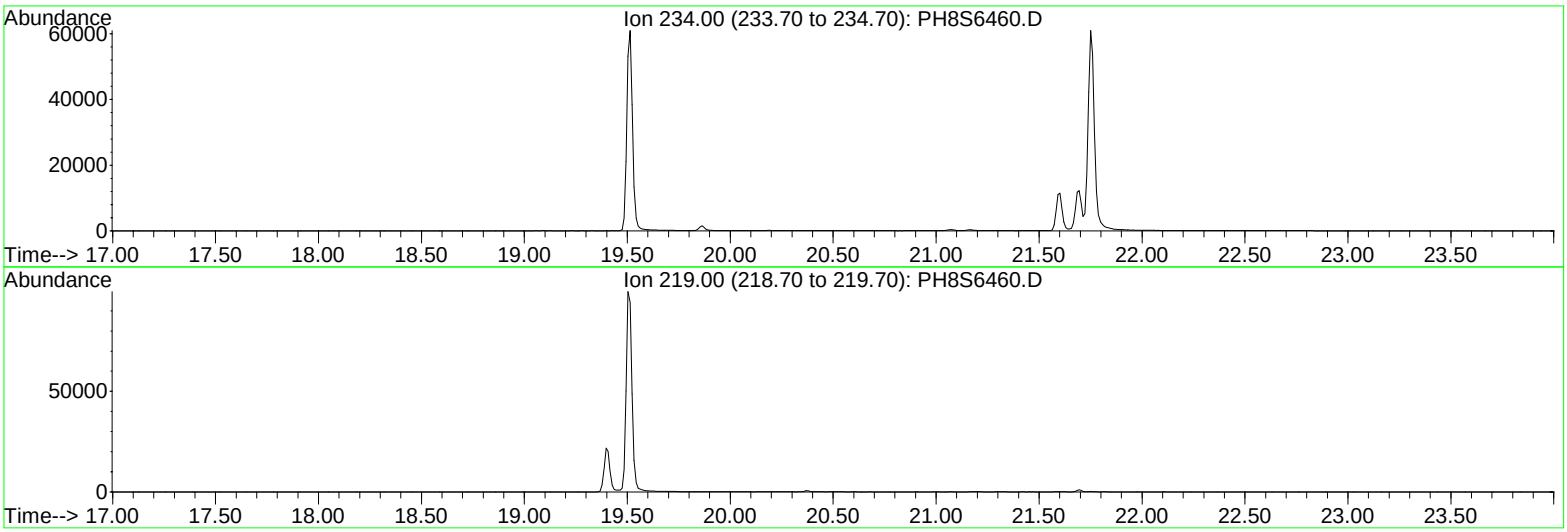


Thu Jan 10 08:39:13 2019

Axys Analytical CHRO Report

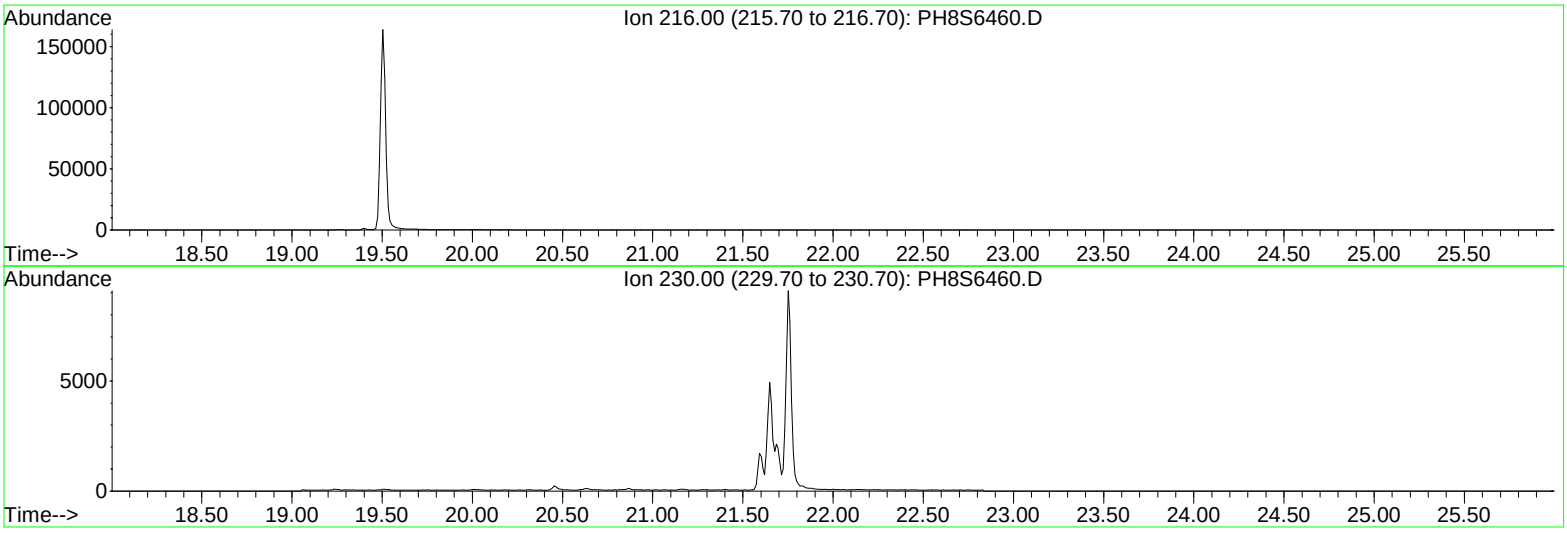
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

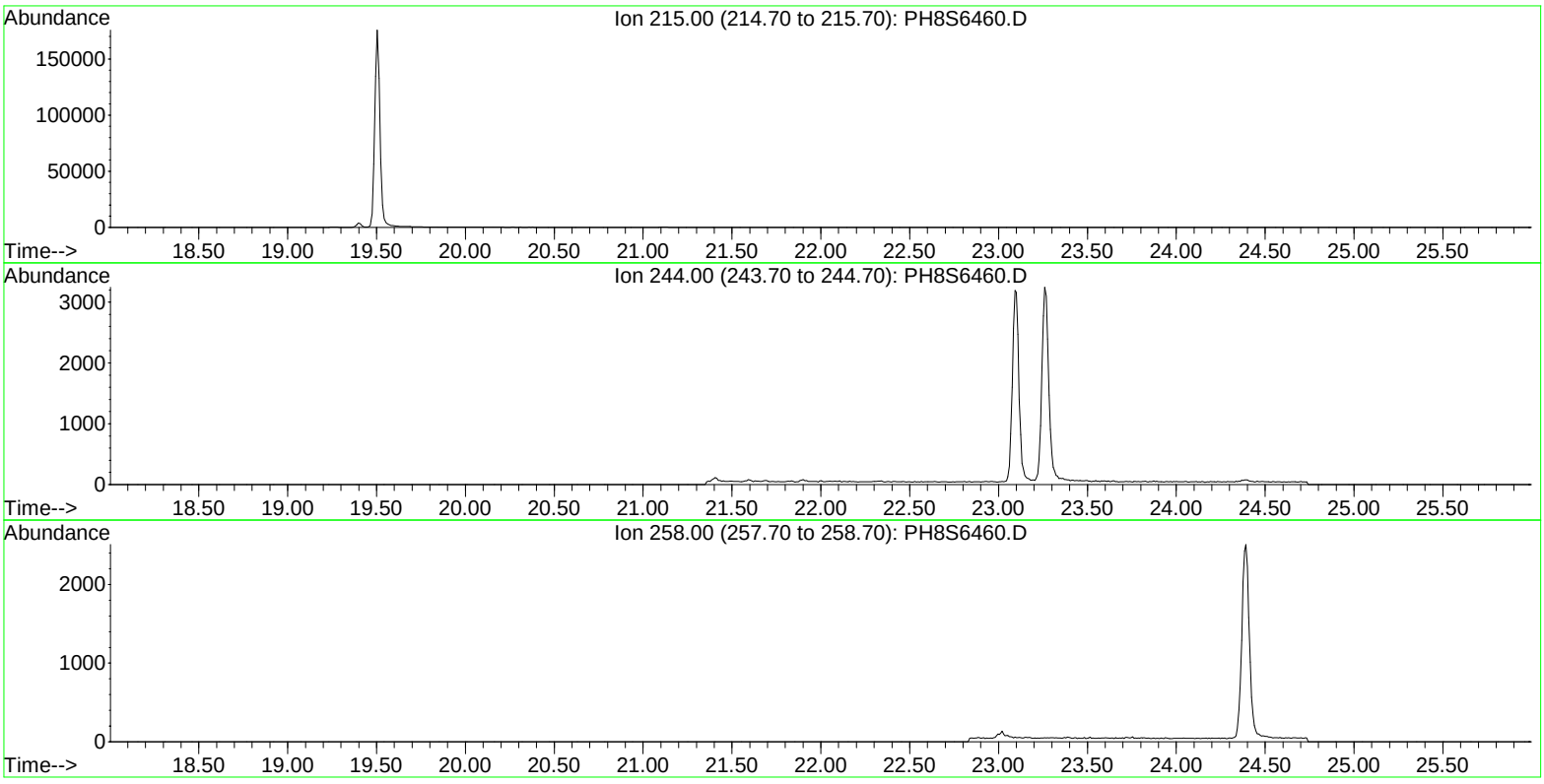


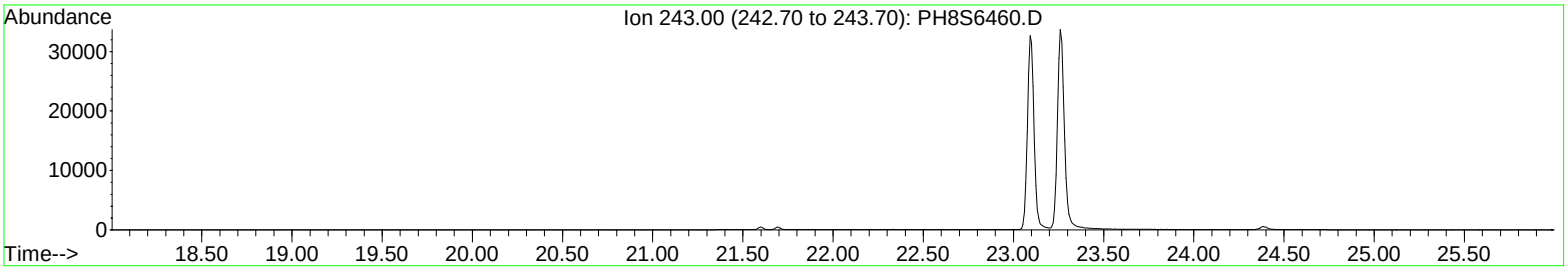


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



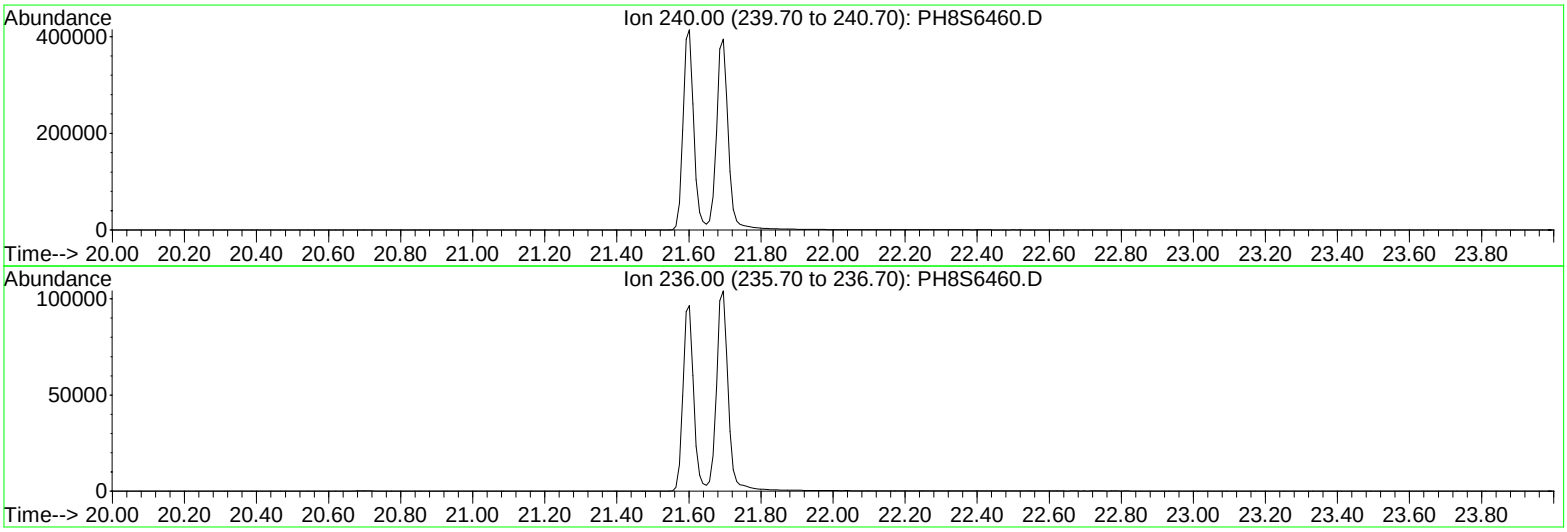


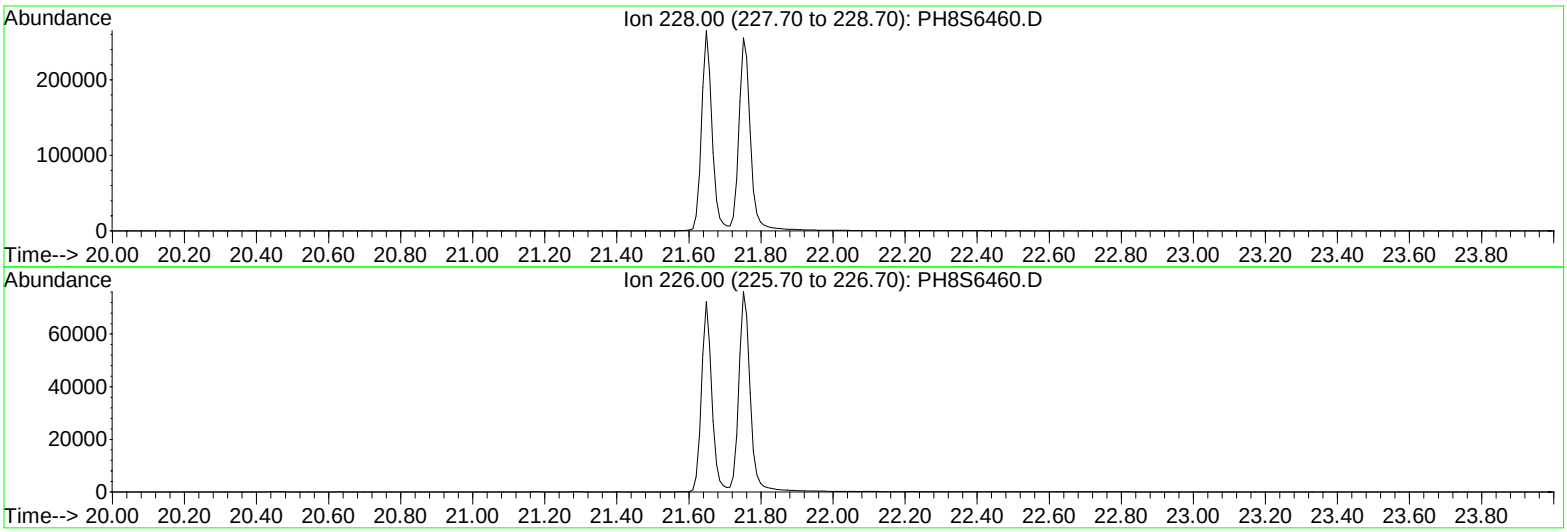


Thu Jan 10 08:39:15 2019

Axys Analytical CHRO Report

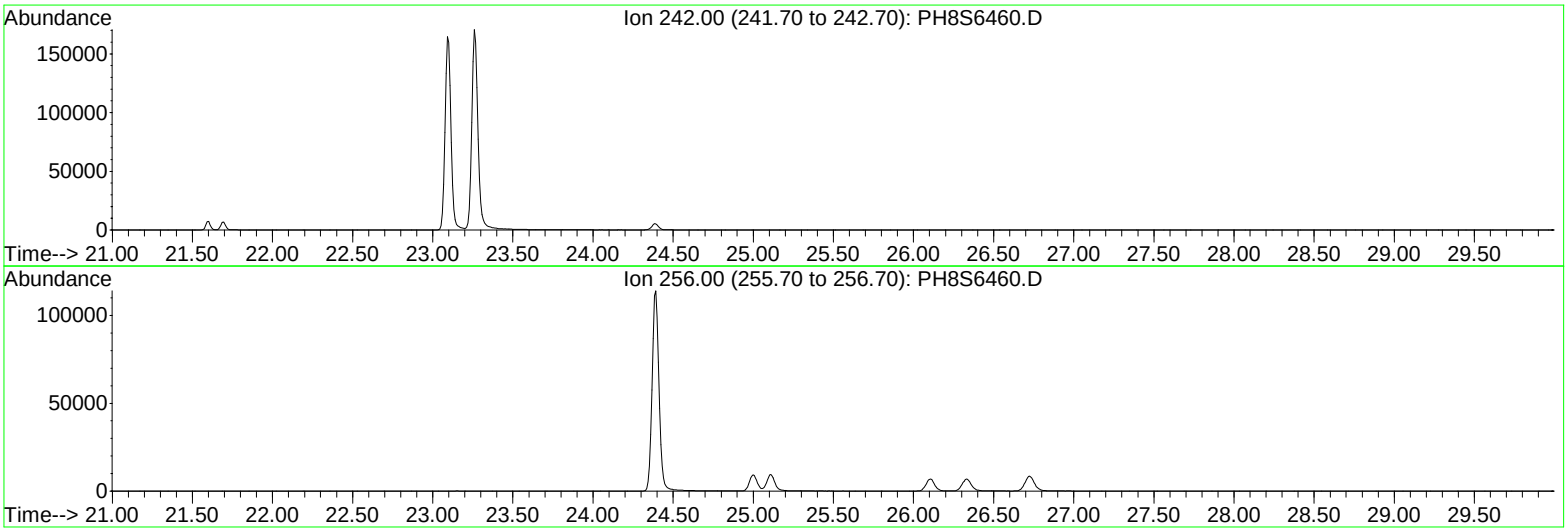
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

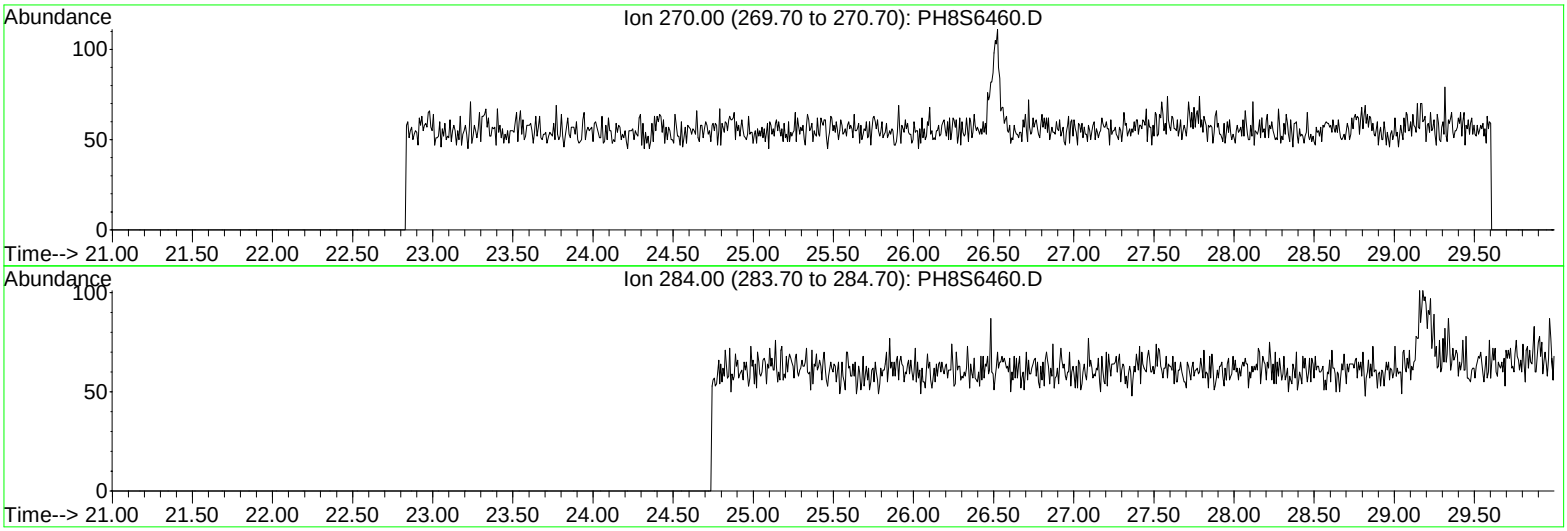




Axys Analytical CHRO Report

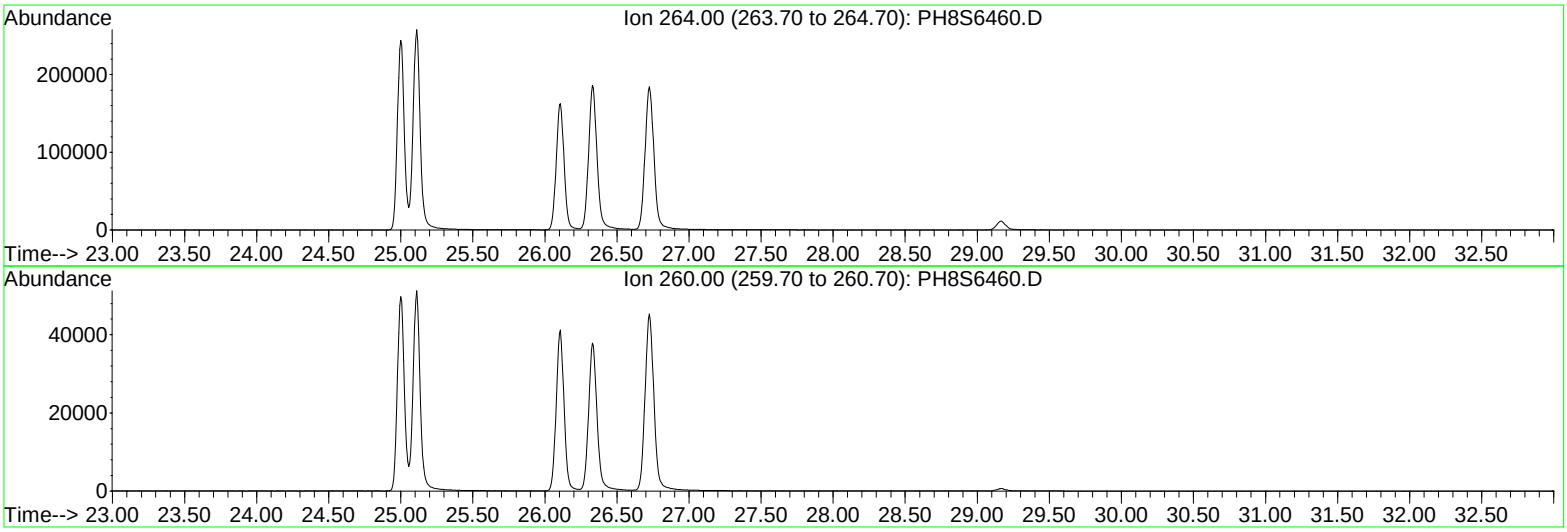
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

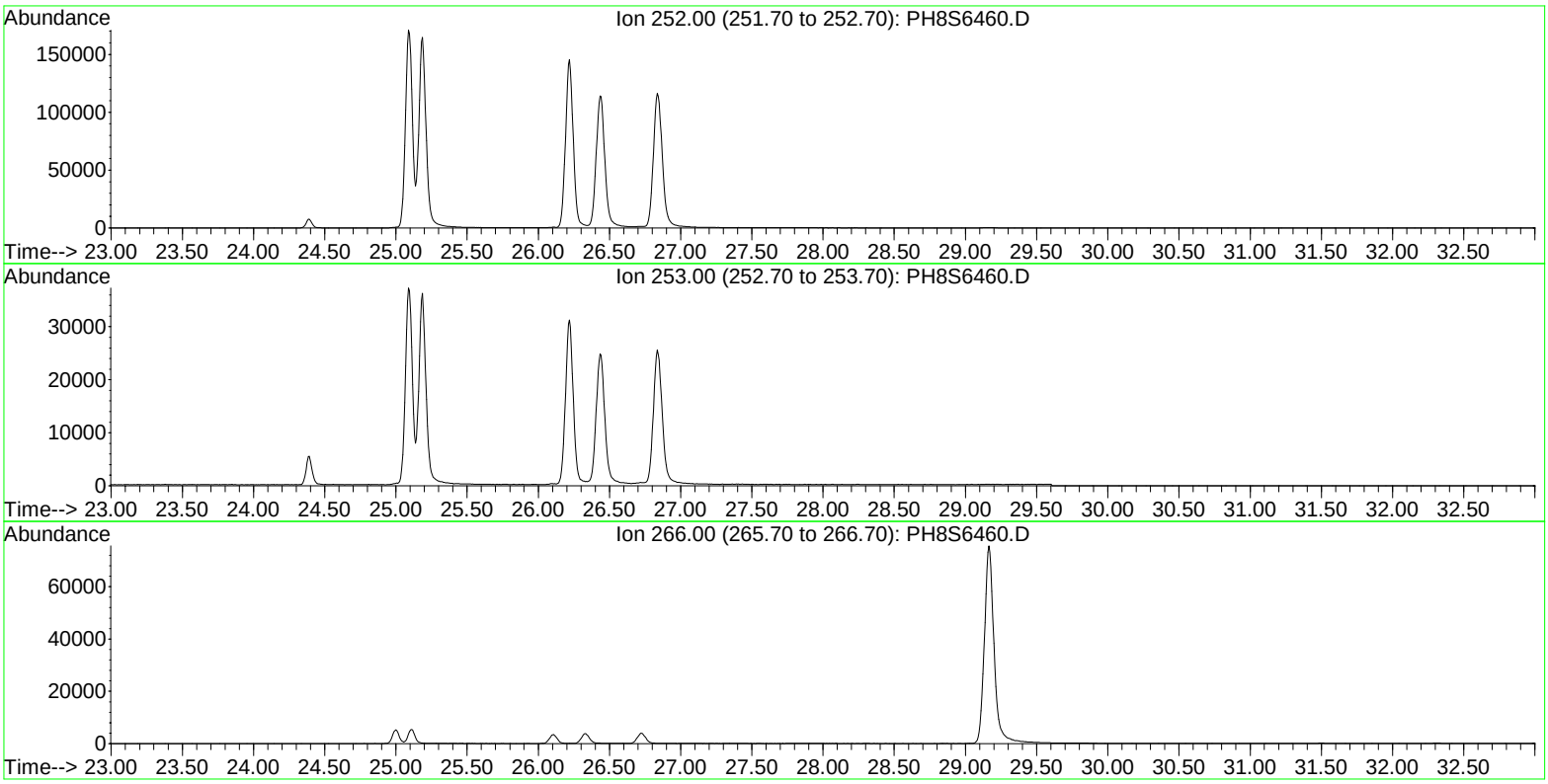


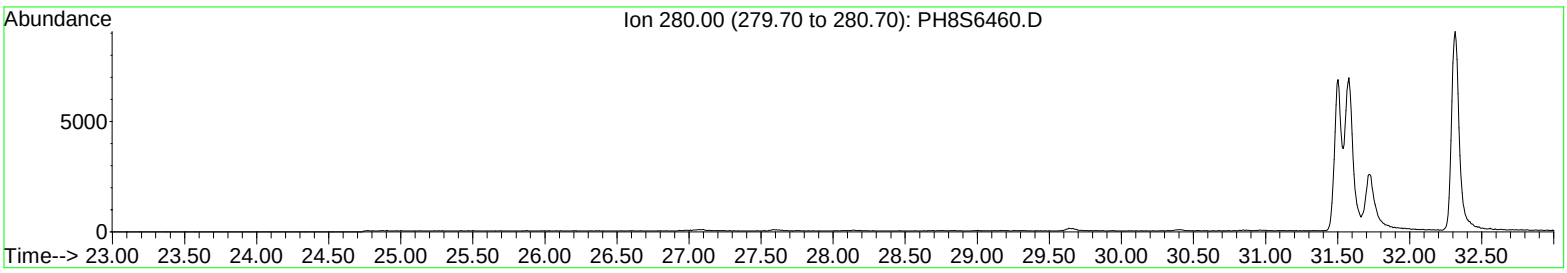


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



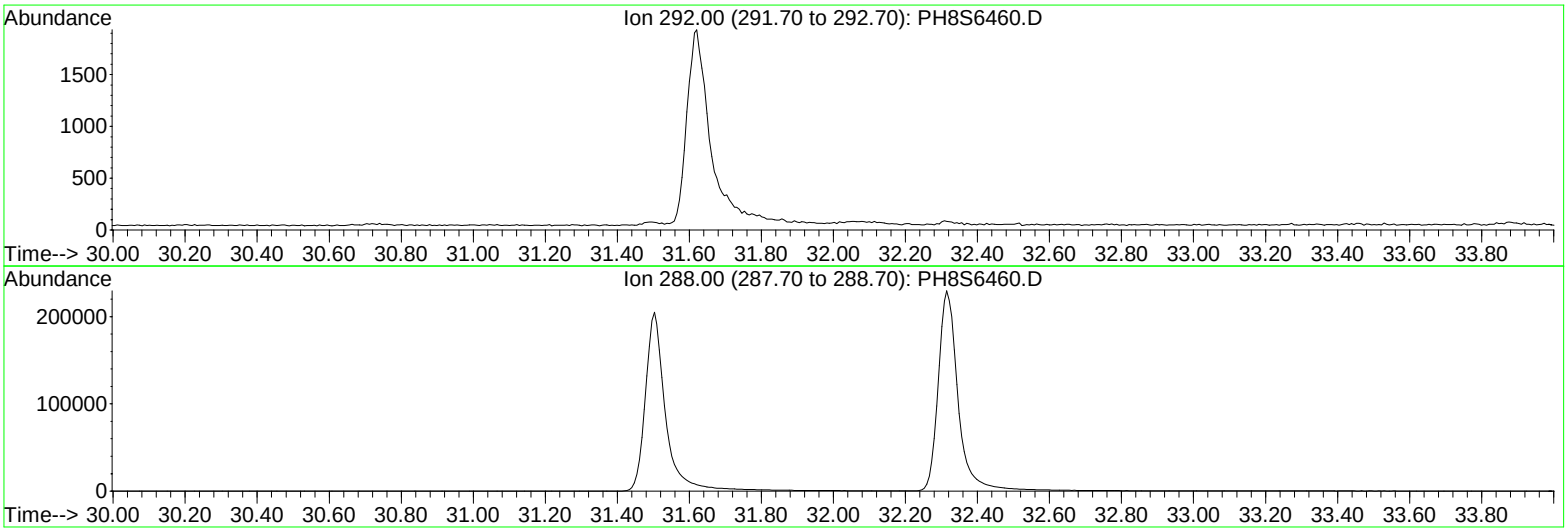


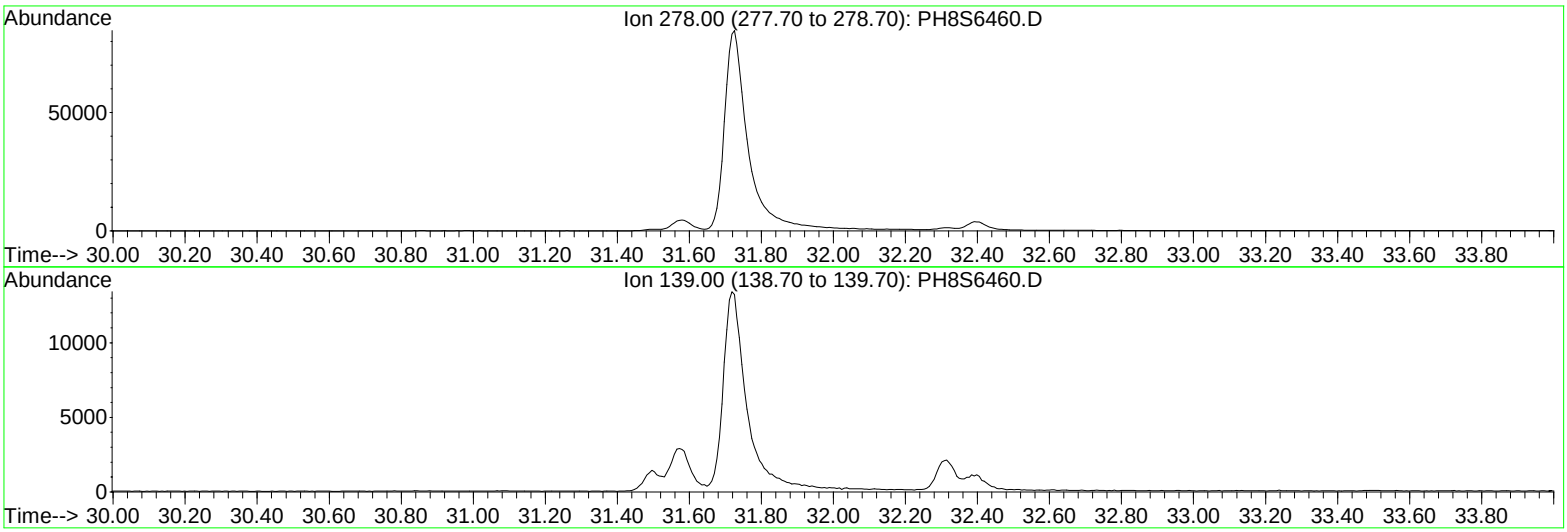


Thu Jan 10 08:39:18 2019

Axys Analytical CHRO Report

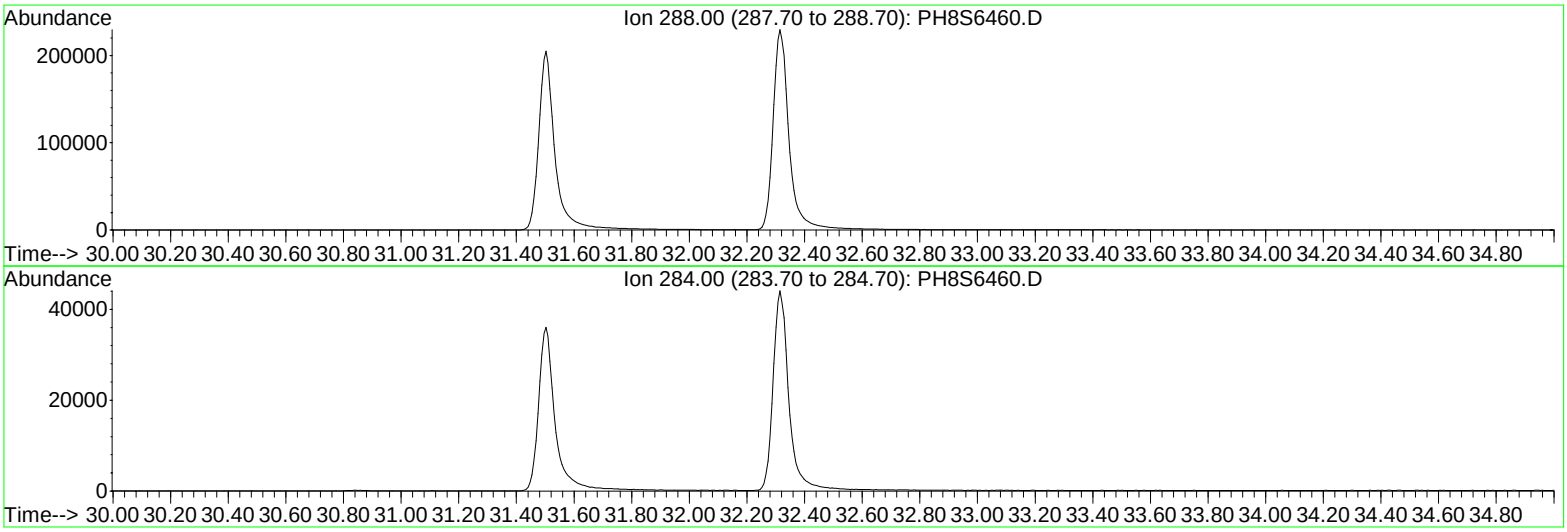
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

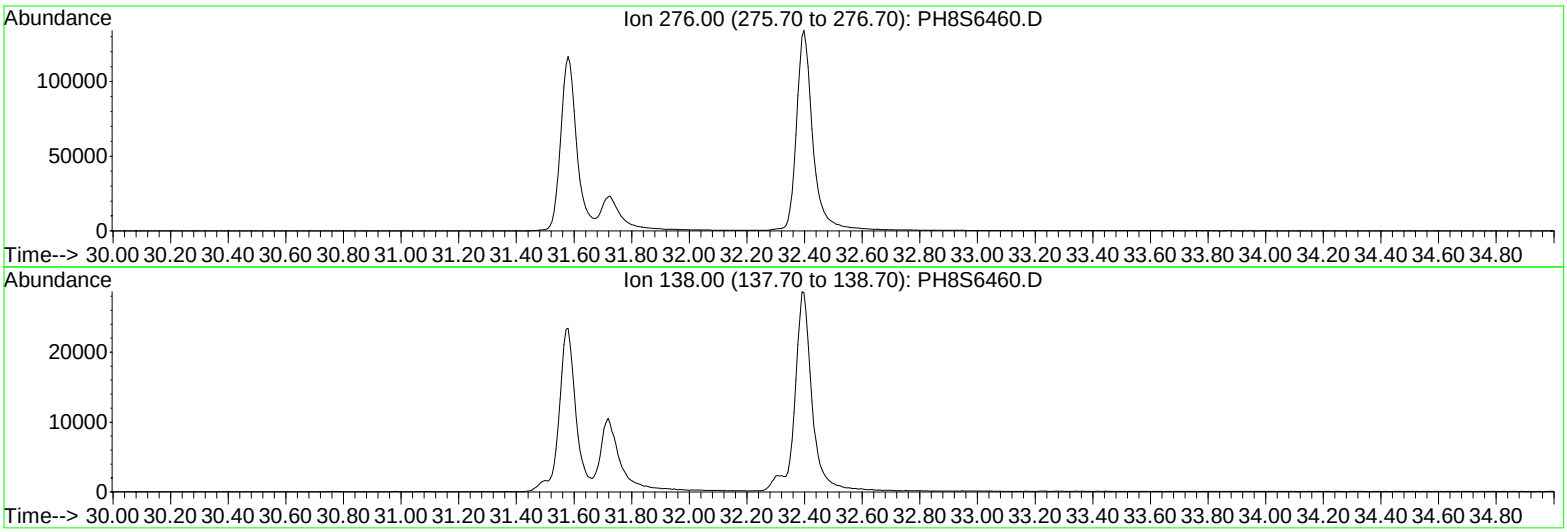




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6460.D
28/12/2018 12:49
WG66438-102 SPM
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6460.D\618S6460.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 5
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-B.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 11:09:57 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

Analyte List	LPAHPRC4943	ng/mL
Sample Size	0.1	
Surrogate: Authentic Ratio	0.1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

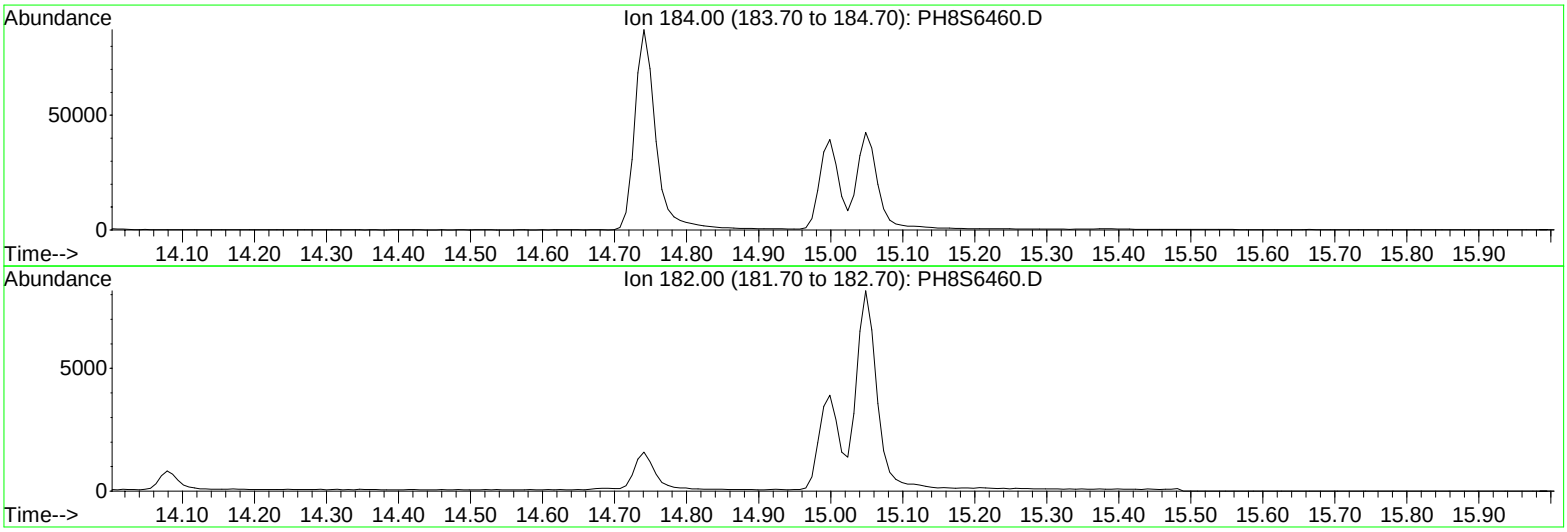
[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	755048	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	516541	15	1451.3211 S	40.2028	0	0		0.14	0.808
d12-Benz(a)anthracene - SURR	848263	21.6	3553.7676 S	87.5312	0	0		0.23	1.164
d12-Chrysene - SURR	889369	21.7	3478.4615 S	88.7363	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	618785	26.11	2020 I	0	0	0		0.25	1
d12-Indeno(123cd)pyrene - SURR	783291	31.5	3542.9521 S	89.0189	0	0		0.18	1.207
d10-Phenanthrene	516541	15	3610 I	0	0	0		0.14	1
13C6-Phenanthrene	81101	15.05	500.8284 T	0	0	0		0.19	1.003
d12-Benz(a)anthracene	848263	21.6	4060 I	0	0	0		0.23	1
d10-Fluoranthene	175343	18.01	616.3657 T	0	0	0		0.18	0.834
d12-Chrysene	889369	21.7	3920 I	0	0	0		0.26	1
13C6-Chrysene	132244	21.75	519.7686 T	0	0	0		0.31	1.003
d12-Indeno(123cd)pyrene	783291	31.5	3980 I	0	0	0		0.18	1
13C6-Indeno(123cd)pyrene $	118078	31.58	479.8465 T	0	0	0		0.2	1.002

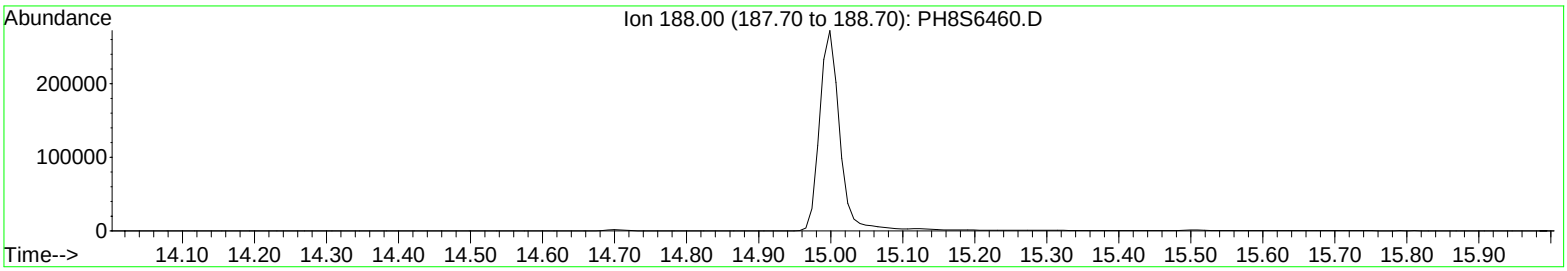
618S6460

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

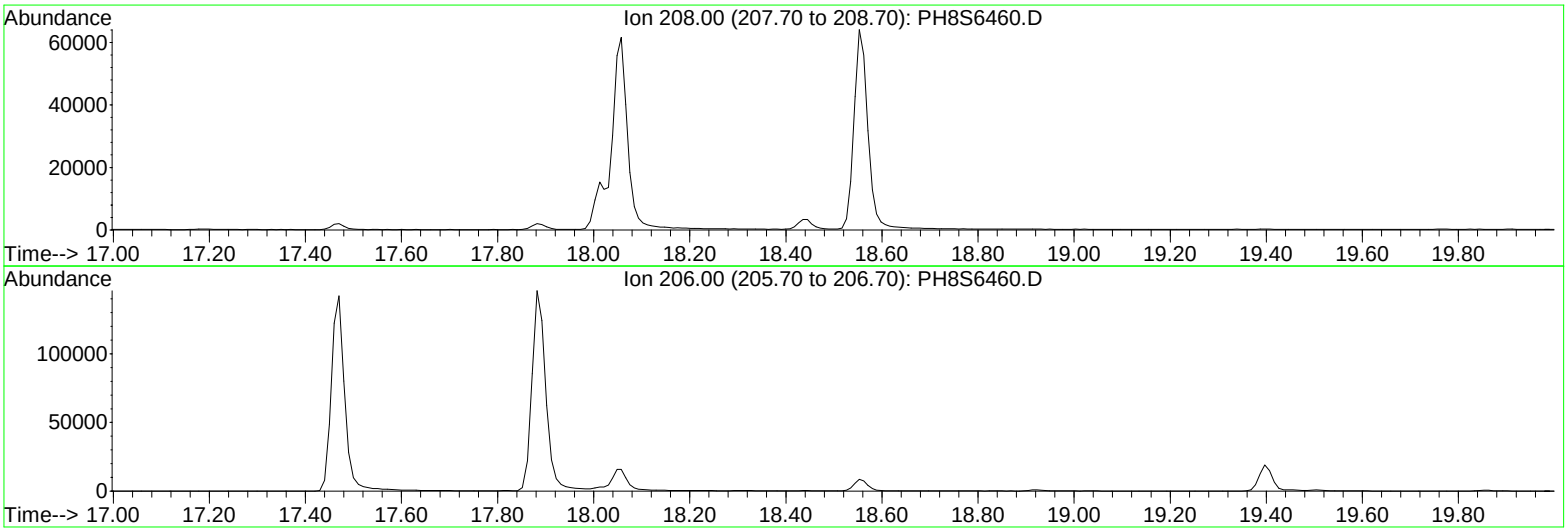
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

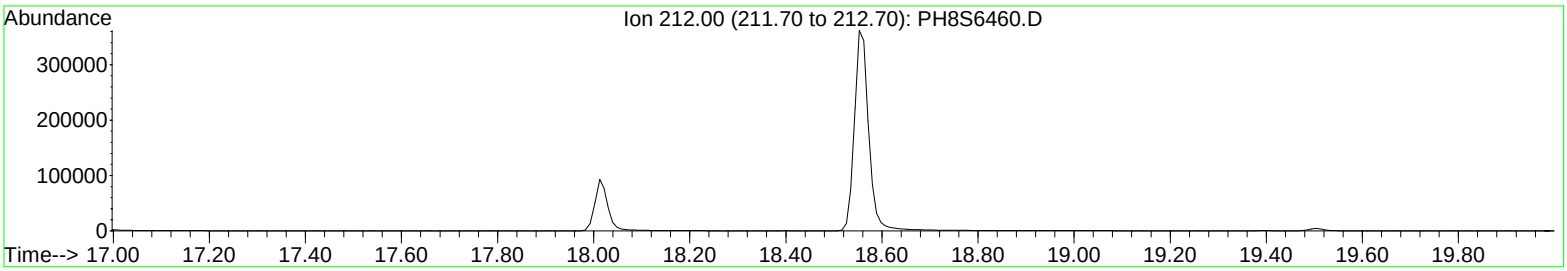




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

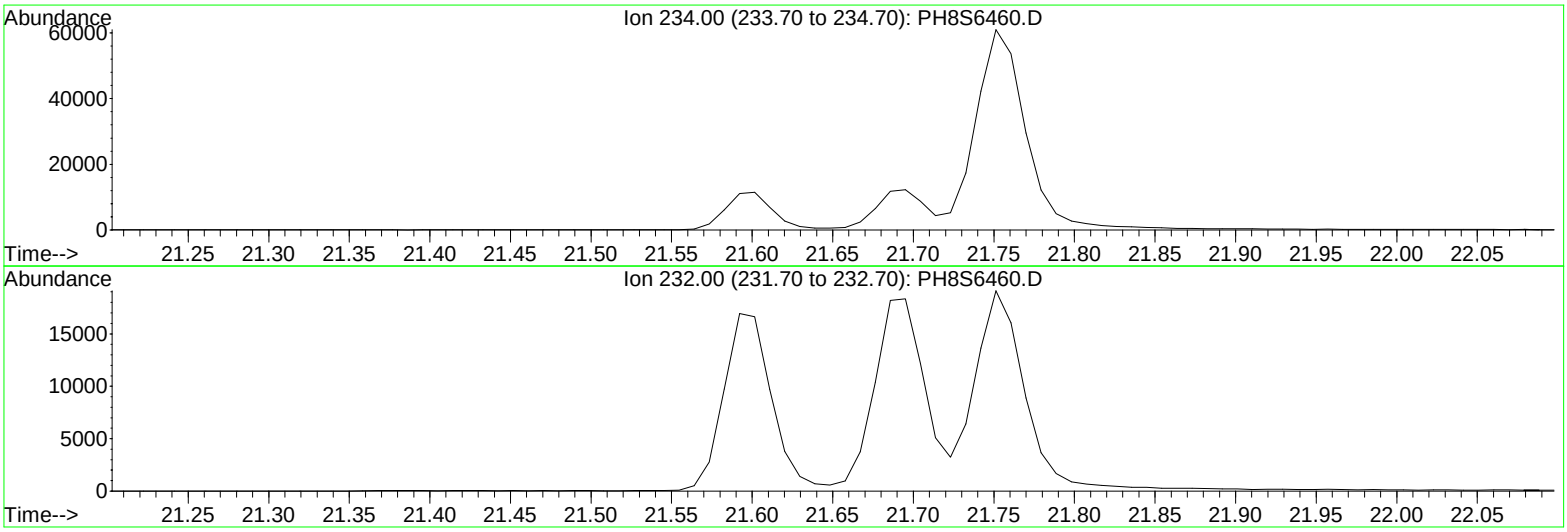


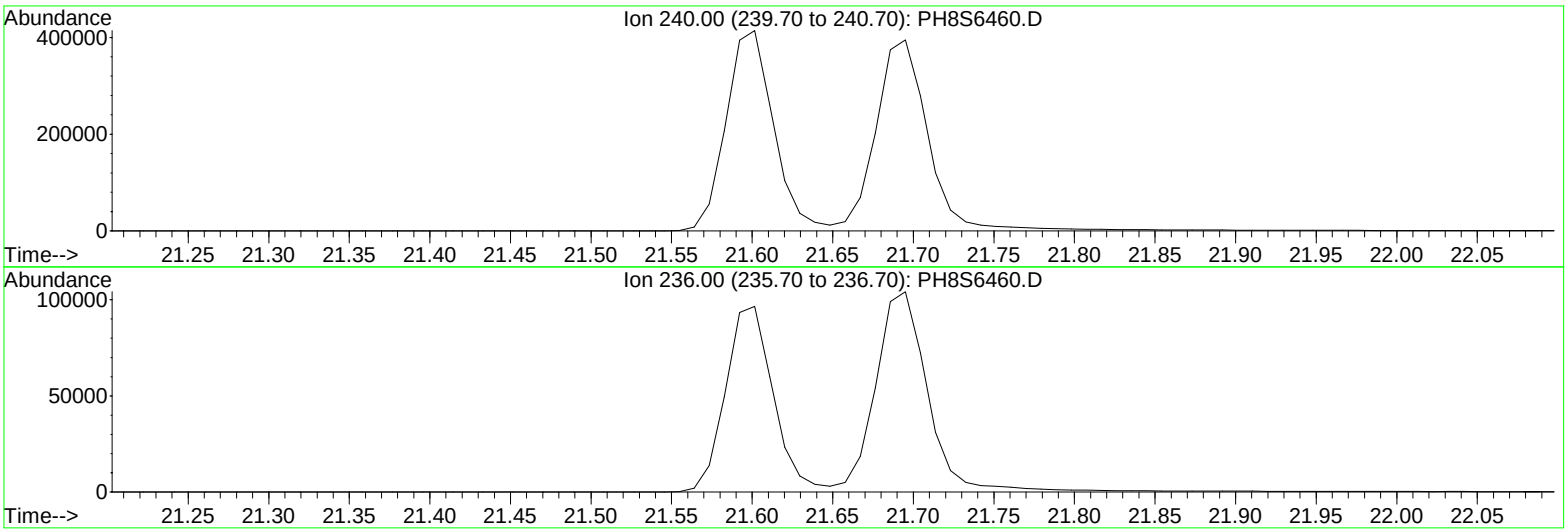


Thu Jan 10 08:55:38 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL

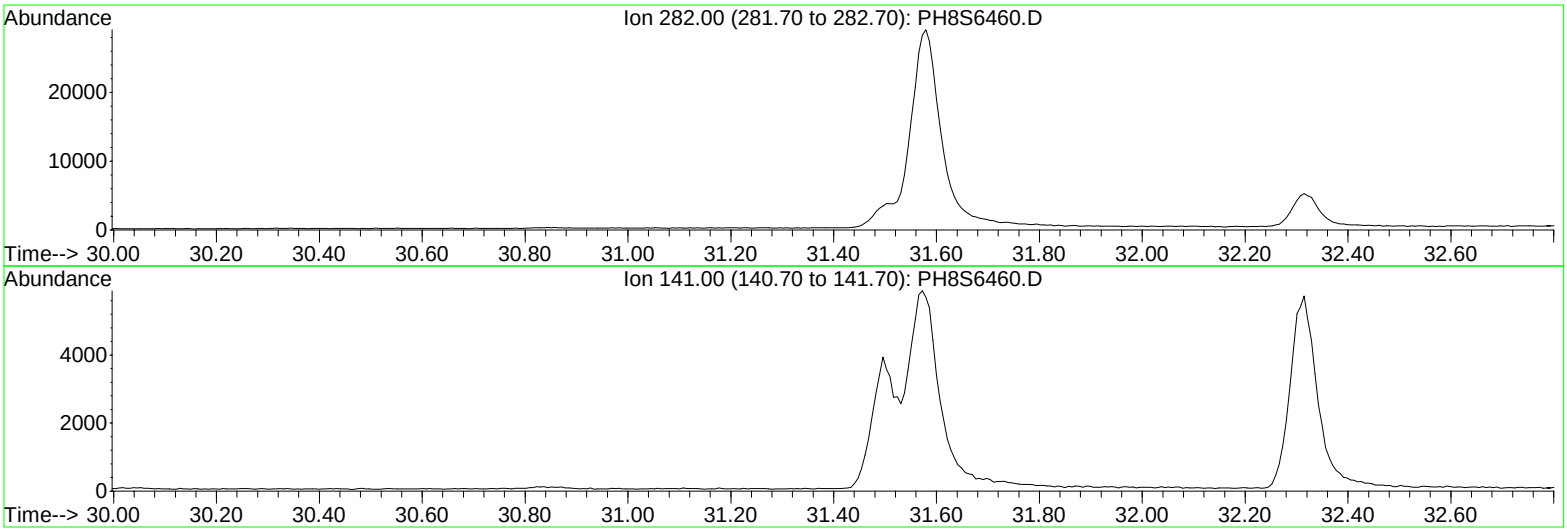


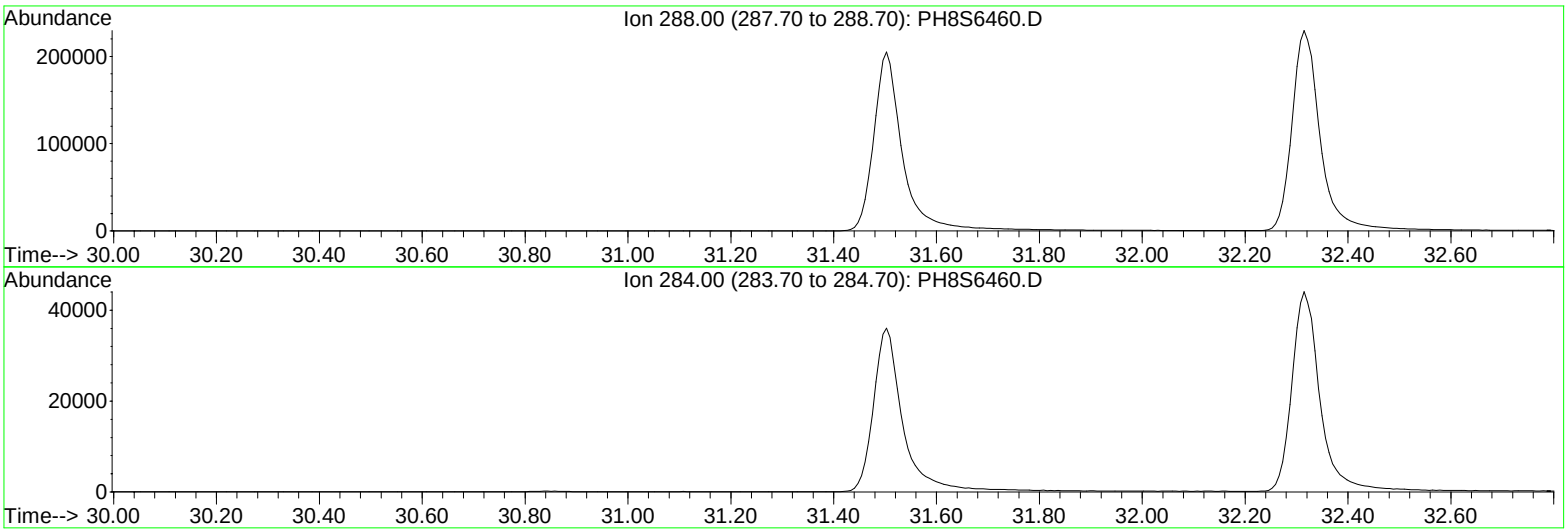


Thu Jan 10 08:55:40 2019

Axys Analytical CHRO Report

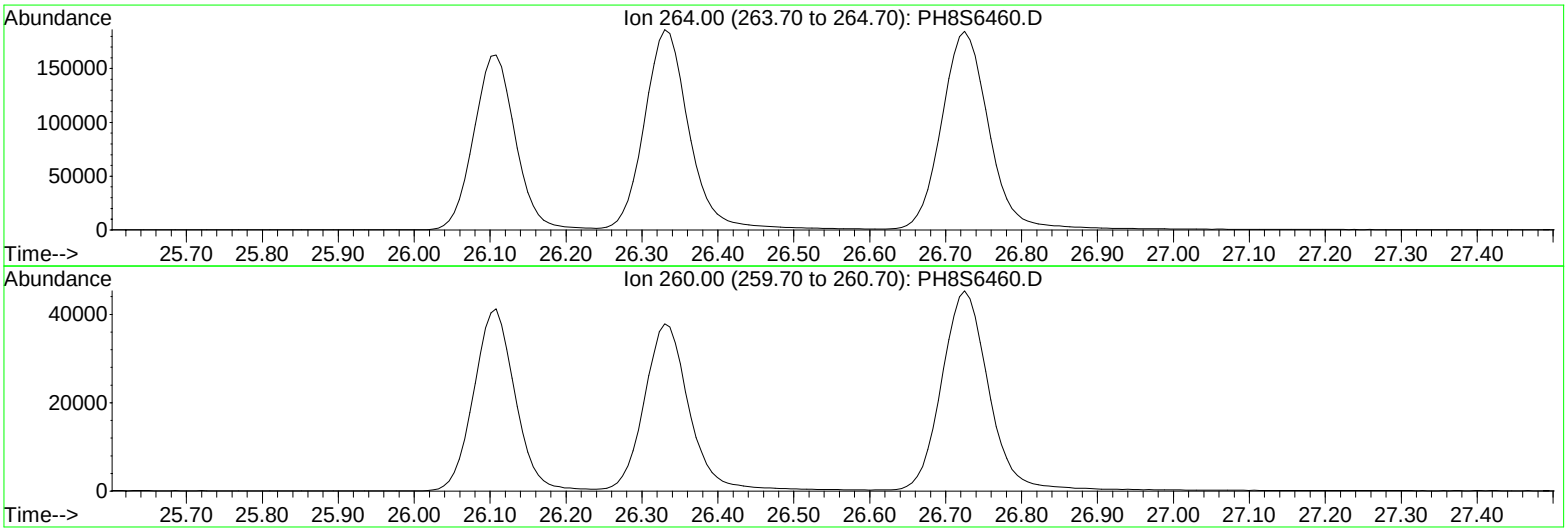
File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6460.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:49
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : WG66438-102,,SPM
Misc Info : 1,WG66438,1.0/100uL



Injection Log Summary Report

Sample Directory : G:\PROLAB\INST_S\181019PH\

File ID	Sample Name	Misc Info	Date	Time
PH8S5102	TOLUENE,,	1,,1.0uL	19 Oct 2018	08:52
PH8S5103	TOLUENE,,	1,,1.0uL	19 Oct 2018	09:12
PH8S5104	PH036A-CAL/01,,	1,,1.0uL	19 Oct 2018	09:38
PH8S5105	PH036B-CAL/01,,	1,,1.0uL	19 Oct 2018	10:27
PH8S5106	PH036C-CAL/01,,	1,,1.0uL	19 Oct 2018	11:15
PH8S5107	PH036D-CAL/01,,	1,,1.0uL	19 Oct 2018	12:04
PH8S5108	PH036F-CAL/01,,	1,,1.0uL	19 Oct 2018	13:05
PH8S5109	PH036E-CAL/01,,	1,,1.0uL	19 Oct 2018	13:54
PH8S5110	PH006A-SSV/01,,	1,,1.0uL	19 Oct 2018	14:42
PH8S5111	PHWG65398 103A-CAL,,SPR	1,WG65398,1.0/100uL	19 Oct 2018	15:31
PH8S5112	WG65398-102,,SPM	1,WG65398,1.0/100uL	19 Oct 2018	16:20
PH8S5113	PH048B-SUR/01,,	1,,1.0uL	19 Oct 2018	17:09
PH8S5114	TOLUENE,,	1,,1.0uL	19 Oct 2018	17:57
PH8S5115	WG65398-101,,BLK	1,WG65398,1.0/100uL	19 Oct 2018	18:46
PH8S5116	L29990-5,,	1,WG65398,1.0/100uL	19 Oct 2018	19:35
PH8S5117	L29990-12,,	1,WG65398,1.0/100uL	19 Oct 2018	20:24
PH8S5118	L29990-13,,	1,WG65398,1.0/100uL	19 Oct 2018	21:12
PH8S5119	L29990-14,,	1,WG65398,1.0/100uL	19 Oct 2018	22:01
PH8S5120	L29990-15,,	1,WG65398,1.0/100uL	19 Oct 2018	22:50
PH8S5121	L29990-16,,	1,WG65398,1.0/100uL	19 Oct 2018	23:39
PH8S5122	L29990-17,,	1,WG65398,1.0/100uL	20 Oct 2018	00:28
PH8S5123	TOLUENE,,	1,,1.0uL	20 Oct 2018	01:17
PH8S5124	PH036E-CAL/01,,	1,,1.0uL	20 Oct 2018	01:37
PH8S5125	PH036E-CAL/01,,	1,,1.0uL	20 Oct 2018	02:26
PH8S5126	PHWG65398 103A-CAL,,SPR	1,WG65398,1.0/100uL	20 Oct 2018	03:14

Response Factor Report Instrumen

Method : G:\PROLAB\INST S\181019PH\64PH1-A1.M (RTE Integrator)
Title : PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
Last Update : Sat Dec 08 16:03:22 2018
Response via : Initial Calibration

RRFs meet RSD specification
pv by vr 08-Dec-2018

SU By AK 10 Dec 2018

Calibration Files
B =PH8S5105.D C =PH8S5106.D D =PH8S5107.D
E =PH8S5109.D F =PH8S5108.D 2 =PH8S5109.D

		Compound	B	C	D	E	F	2	Avg	%RSD
1)	I	"d10-Acenaphthene - "	----------ISTD----------							
2)	S	"d8-Naphthalene - SU"	1.502	1.512	1.519	1.463	1.479		1.495	1.58
3)	S	"d10-2-Methylnaphtha"	1.004	1.011	1.013	0.989	0.994		1.002	1.03
4)	S	"d10-Biphenyl - SURR"	1.413	1.415	1.424	1.383	1.395		1.406	1.19
5)	S	"d12-2,6-Dimethylnap"	0.915	0.925	0.924	0.904	0.911		0.916	0.94
6)	S	"d8-Acenaphthylene -"	1.786	1.794	1.800	1.694	1.779		1.770	2.45
7)	I	"d10-Pyrene - REC "	----------ISTD----------							
8)	S	"d10-Phenanthrene - "	0.909	0.912	0.910	0.905	0.930		0.913	1.05
9)	S	"d8-Dibenzothiophene"	0.810	0.816	0.808	0.803	0.824		0.812	0.97
10)	S	"d12-Benz(a)anthrace"	0.862	0.860	0.859	0.865	0.848		0.859	0.75
11)	S	"d12-Chrysene - SURR"	0.908	0.914	0.902	0.876	0.886		0.897	1.76
12)	I	"d12-Benzo(e)pyrene "	----------ISTD----------							
13)	S	"d12-Benzo(b)Fluoran"	0.908	0.914	0.918	0.936	0.947		0.925	1.76
14)	S	"d12-Benzo(k)Fluoran"	1.015	1.019	1.026	1.010	1.037		1.022	1.04
15)	S	"d12-Benzo(a)pyrene "	0.866	0.875	0.873	0.866	0.896		0.875	1.41
16)	S	"d12-Perylene - SURR"	0.871	0.870	0.871	0.863	0.887		0.873	1.02
17)	S	"d12-Indeno(123cd)py"	0.865	0.874	0.873	0.918	0.901		0.886	2.55
18)	S	"d12-Benzo(ghi)peryl"	1.044	1.068	1.049	1.053	1.057		1.054	0.86
19)	I	"d8-Naphthalene "	----------ISTD----------							
20)	T	"Naphthalene $ "	1.216	1.158	1.232	1.204	1.174		1.197	2.54
21)	I	"d10-2-Methylnaphtha"	----------ISTD----------							
22)	T	"2-Methylnaphthalene"	1.242	1.171	1.242	1.204	1.191		1.210	2.60
23)	T	"1-Methylnaphthalene"	1.160	1.117	1.168	1.139	1.129		1.142	1.85
24)	T	"C1-Naphthalenes "							0.000	-1.00
25)	I	"d10-Biphenyl "	----------ISTD----------							
26)	T	"Biphenyl $ "	1.151	1.085	1.122	1.107	1.089		1.111	2.40
27)	T	"C1-Biphenyls $ "	1.151	1.085	1.122	1.107	1.089		1.111	2.40
28)	T	"C2-Biphenyls $ "	1.151	1.085	1.122	1.107	1.089		1.111	2.40
29)	I	"d12-2,6-Dimethylnap"	----------ISTD----------							
30)	T	"2,6-Dimethylnaphtha"	1.240	1.173	1.236	1.204	1.194		1.209	2.36
31)	T	"Ethyl/DiMe-Naphthal"	1.121	1.065	1.117	1.087	1.080		1.094	2.23
32)	T	"1,2-Dimethylnaphtha"	1.002	0.956	0.999	0.970	0.966		0.979	2.09
33)	T	"C2-Naphthalenes "							0.000	-1.00
34)	T	"2,3,6-Trimethylnaph"	1.229	1.177	1.249	1.230	1.228		1.223	2.20
35)	T	"2,3,5-Trimethylnaph"	1.171	1.114	1.188	1.166	1.161		1.160	2.39
36)	T	"C3-Naphthalenes "	1.200	1.145	1.219	1.198	1.195		1.191	2.29
37)	T	"1,4,6,7-Tetramethyl"	1.252	1.170	1.245	1.228	1.221		1.223	2.64
38)	T	"C4-Naphthalenes "	1.252	1.170	1.245	1.228	1.221		1.223	2.64
39)	I	"d8-Acenaphthylene "	----------ISTD----------							
40)	T	"Acenaphthylene $ "	1.260	1.201	1.236	1.205	1.173		1.215	2.76
41)	T	"Acenaphthene $ "	0.683	0.656	0.679	0.687	0.652		0.672	2.39
42)	T	"C1-Acenaphthenes $ "	0.683	0.656	0.679	0.687	0.652		0.672	2.39
43)	I	"d8-Dibenzothiophene"	----------ISTD----------							
44)	T	"Dibenzothiophene $ "	1.234	1.167	1.232	1.179	1.165		1.195	2.92
45)	T	"C1-Dibenzothiophene"	0.810	0.758	0.851	0.844	0.838		0.820	4.64
46)	T	"2/3-Methyldibenzoth"	0.810	0.758	0.851	0.844	0.838		0.820	4.64
47)	T	"C1-Dibenzothiophene"	0.810	0.758	0.851	0.844	0.838		0.820	4.64
48)	T	"C1-Dibenzothiophene"							0.000	-1.00
49)	T	"4,6-Dimethyldibenzo"	0.870	0.815	0.913	0.904	0.892		0.879	4.48
50)	T	"2,4-Dimethyldibenzo"	0.622	0.626	0.693	0.731	0.722		0.679	7.69
51)	T	"C2-Dibenzothiophene"	0.622	0.626	0.693	0.731	0.722		0.679	7.69

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

www.axysanalytical.com

Method : G:\PROLAB\INST S\181019PH\64PH1-A1.M (RTE Integrator)
Title : PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
Last Update : Sat Dec 08 16:03:22 2018
Response via : Initial Calibration

Calibration Files
B =PH8S5105.D C =PH8S5106.D D =PH8S5107.D
E =PH8S5109.D F =PH8S5108.D 2 =PH8S5109.D

		Compound	B	C	D	E	F	2	Avg	%RSD
52)	T	"C3-Dibenzothiophene"	0.622	0.626	0.693	0.731	0.722		0.679	7.69
53)	T	"C4-Dibenzothiophene"	0.622	0.626	0.693	0.731	0.722		0.679	7.69
54)	I	"d10-Phenanthrene "	----------ISTD----------							
55)	T	"Fluorene $ "	0.742	0.699	0.723	0.709	0.701		0.715	2.52
56)	T	"2-Methylfluorene $ "	0.481	0.466	0.498	0.495	0.490		0.486	2.62
57)	T	"C1-Fluorenes "	0.481	0.466	0.498	0.495	0.490		0.486	2.62
58)	T	"1,7-Dimethylfluoren"	0.440	0.424	0.465	0.467	0.464		0.452	4.22
59)	T	"C2-Fluorenes "	0.440	0.424	0.465	0.467	0.464		0.452	4.22
60)	T	"C3-Fluorenes $ "	0.440	0.424	0.465	0.467	0.464		0.452	4.22
61)	T	"Phenanthrene $ "	1.084	1.052	1.106	1.063	1.044		1.070	2.37
62)	T	"Anthracene "	1.093	1.062	1.128	1.059	1.070		1.082	2.65
63)	T	"d10-Anthracene $ "	0.975	0.951	0.977	0.961	0.969		0.967	1.12
64)	T	"3-Methylphenanthren"	0.700	0.684	0.793	0.797	0.799		0.755	7.63
65)	T	"2-Methylphenanthren"	0.678	0.662	0.783	0.803	0.797		0.745	9.24
66)	T	"2-Methylanthracene "	0.678	0.645	0.751	0.759	0.780		0.723	8.04
67)	T	"9/4-Methylphenanthr"	0.700	0.684	0.793	0.797	0.799		0.755	7.63
68)	T	"1-Methylphenanthren"	0.745	0.743	0.845	0.827	0.821		0.796	6.08
69)	T	"C1-Phenanthrenes/An"							0.000	-1.00
70)	T	"Fluoranthene $ "	1.314	1.242	1.383	1.334	1.296		1.314	3.93
71)	T	"Pyrene "	1.396	1.307	1.423	1.357	1.310		1.358	3.80
72)	T	"3,6-Dimethylphenant"	0.710	0.693	0.748	0.750	0.732		0.727	3.40
73)	T	"2,6-Dimethylphenant"	0.717	0.687	0.749	0.750	0.737		0.728	3.63
74)	T	"1,7-Dimethylphenant"	0.724	0.681	0.749	0.750	0.741		0.729	3.95
75)	T	"Ethyl/DiMe-Phenanth"	0.717	0.687	0.749	0.750	0.737		0.728	3.63
76)	T	"1,8-Dimethylphenant"	0.717	0.687	0.749	0.750	0.737		0.728	3.63
77)	T	"C2-Phenanthrenes/An"							0.000	-1.00
78)	T	"1,2,6-Trimethylphen"	0.665	0.620	0.678	0.702	0.680		0.669	4.52
79)	T	"C3-Phenanthrenes/An"	0.665	0.620	0.678	0.702	0.680		0.669	4.52
80)	T	"Retene $ "	0.259	0.238	0.262	0.261	0.259		0.256	3.94
81)	T	"C4-Phenanthrenes/An"	0.259	0.238	0.262	0.261	0.259		0.256	3.94
82)	T	"C1-Fluoranthenes/Py"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
83)	T	"3-Methylfluoranthen"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
84)	T	"C1-Fluoranthenes/Py"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
85)	T	"C1-Fluoranthenes/Py"							0.000	-1.00
86)	T	"C2-Fluoranthenes/Py"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
87)	T	"C3-Fluoranthenes/Py"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
88)	T	"C4-Fluoranthenes/Py"	0.778	0.741	0.810	0.797	0.780		0.781	3.33
89)	I	"d12-Benz(a)anthrace"	----------ISTD----------							
90)	T	"d10-Fluoranthene $ "	1.077	1.084	1.084	1.065	1.119		1.086	1.86
91)	T	"Benz(a)anthracene "	1.348	1.253	1.326	1.267	1.264		1.292	3.27
92)	I	"d12-Chrysene "	----------ISTD----------							
93)	T	"Chrysene $ "	1.238	1.189	1.281	1.247	1.217		1.234	2.80
94)	T	"5/6-Methylchrysenes"	0.935	0.873	0.962	0.952	0.939		0.932	3.76
95)	T	"1-Methylchrysene "	0.937	0.889	0.990	1.011	1.002		0.966	5.34
96)	T	"C1-Benz(a)anthracen"	0.936	0.881	0.976	0.981	0.971		0.949	4.43
97)	T	"5,9-Dimethylchrysen"	0.705	0.667	0.739	0.752	0.746		0.722	4.93
98)	T	"C2-Benz(a)anthracen"	0.705	0.667	0.739	0.752	0.746		0.722	4.93
99)	T	"C3-Benz(a)anthracen"	0.705	0.667	0.739	0.752	0.746		0.722	4.93
100)	T	"C4-Benz(a)anthracen"	0.705	0.667	0.739	0.752	0.746		0.722	4.93
101)	I	"d12-Benzo(b)fluoran"	----------ISTD----------							
102)	T	"Benzo(b)fluoranthen"							0.000	-1.00
103)	T	"Benzo(b)fluoranthen"	1.558	1.442	1.450	1.399	1.391		1.448	4.61
104)	I	"d12-Benzo(k)fluoran"	----------ISTD----------							
105)	T	"Benzo(j/k)fluoranth"	1.237	1.179	1.318	1.298	1.277		1.262	4.37
106)	T	"Benzofluoranthenes "							0.000	-1.00

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

www.axysanalytical.com

Method : G:\PROLAB\INST S\181019PH\64PH1-A1.M (RTE Integrator)
Title : PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
Last Update : Sat Dec 08 16:03:22 2018
Response via : Initial Calibration

Calibration Files
B =PH8S5105.D C =PH8S5106.D D =PH8S5107.D
E =PH8S5109.D F =PH8S5108.D 2 =PH8S5109.D

		Compound	B	C	D	E	F	2	Avg	%RSD
107)	I	"d12-Benzo(a)pyrene "	----------ISTD----------							
108)	T	"Benzo(e)pyrene "	1.376	1.303	1.456	1.417	1.388		1.388	4.07
109)	T	"Benzo(a)pyrene "	1.311	1.229	1.342	1.335	1.333		1.310	3.58
110)	T	"7-Methylbenzo(a)pyr"	0.883	0.851	0.945	0.984	0.999		0.932	6.82
111)	T	"C1-Benzofluoranthen"	0.883	0.851	0.945	0.984	0.999		0.932	6.82
112)	T	"C2-Benzofluoranthen"	0.883	0.851	0.945	0.984	0.999		0.932	6.82
113)	I	"d12-Perylene "	----------ISTD----------							
114)	T	"Perylene "	1.379	1.314	1.410	1.395	1.397		1.379	2.75
115)	I	"d12-Indeno(123cd)py"	----------ISTD----------							
116)	T	"d14-Dibenzo(ah)anth"	0.906	0.912	0.907	0.915	0.934		0.915	1.23
117)	T	"Dibenzo(ah)anthrace"	1.128	1.086	1.158	1.152	1.168		1.138	2.90
118)	T	"Indeno(123cd)pyrene"	1.244	1.152	1.260	1.229	1.234		1.224	3.43
119)	I	"d12-Benzo(ghi)peryl"	----------ISTD----------							
120)	T	"Benzo(ghi)perylene "	1.222	1.126	1.220	1.206	1.197		1.194	3.31

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

[Header Info Signal 1 COLT 3.0] Version 2
PH8S5105.D
19/10/2018 10:27
PH036B-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5105.D\648S5105.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 3
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-A1.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:06:05 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	353040	11.29	2020 I	0	0	0		0.46	1
d8-Naphthalene - SURR	525109	6.86	2000 S	0	0	0		0.09	0.607
d10-2-Methylnaphthalene - SURR	345639	8.52	1970 S	0	0	0		0.19	0.755
d10-Biphenyl - SURR	505074	9.8	2045 S	0	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	328613	10.1	2055 S	0	0	0		0.77	0.895
d8-Acenaphthylene - SURR	642953	10.85	2060 S	0	0	0		0.16	0.961
d10-Pyrene - REC	807983	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	672802	15	1805 S	0	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	676149	14.7	2035 S	0	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	718060	21.59	2030 S	0	0	0		0.24	1.164
d12-Chrysene - SURR	729891	21.69	1960 S	0	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	743683	26.1	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	658637	25	1970 S	0	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	747587	25.1	2000 S	0	0	0		0.19	0.962
d12-Benzo(a)pyrene - SURR	660187	26.32	2070 S	0	0	0		0.2	1.008
d12-Perylene - SURR	689729	26.72	2150 S	0	0	0		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	633642	31.49	1990 S	0	0	0		0.18	1.206
d12-Benzo(ghi)perylene - SURR	761057	32.31	1980 S	0	0	0		0.19	1.238
d8-Naphthalene	525109	6.86	2000 I	0	0	0		0.09	1
Naphthalene $	15748	6.9	49.33 T	0	0	0		0.06	1.007
d10-2-Methylnaphthalene	345639	8.52	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	10879	8.6	49.91 T	0	0	0		0.91	1.009
1-Methylnaphthalene	10170	8.87	49.98 T	0	0	0		0.95	1.04
C1-Naphthalenes	10879	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	505074	9.8	2045 I	0	0	0		-1	1
Biphenyl $	14257	9.85	50.17 T	0	0	0		0.29	1.005
C1-Biphenyls $	98	11.33	50.17 T	0	0	0		0.23	1.156
C2-Biphenyls $	16	12.74	50.17 T	0	0	0	#	-1	1.301
d12-2,6-Dimethylnaphthalene	328613	10.1	2055 I	0	0	0		0.77	1
2,6-Dimethylnaphthalene $	9935	10.21	50.09 T	0	0	0		0.72	1.011
Ethyl/DiMe-Naphthalenes	9935	10.21	100.09 T	0	0	0		0.72	1.011
1,2-Dimethylnaphthalene	8014	10.94	50 T	0	0	0		1.31	1.083
C2-Naphthalenes	9935	10.21	0 T	0	0	0		-1	1.011
2,3,6-Trimethylnaphthalene	9835	12.2	50.05 T	0	0	0		0.93	1.207
2,3,5-Trimethylnaphthalene $	9364	12.39	50.01 T	0	0	0		0.94	1.226
C3-Naphthalenes	9364	12.39	100.06 T	0	0	0		0.94	1.226
1,4,6,7-Tetramethylnaphthalene $	9933	13.9	49.62 T	0	0	0		0.04	1.376
C4-Naphthalenes	9933	13.9	49.62 T	0	0	0		0.04	1.376
d8-Acenaphthylene	642953	10.85	2060 I	0	0	0		0.16	1
Acenaphthylene $	19338	10.88	49.18 T	0	0	0		0.2	1.003
Acenaphthene $	10691	11.36	50.13 T	0	0	0		1.17	1.048
C1-Acenaphthenes $	11	11.7	50.13 T	0	0	0		3.18	1.079
d8-Dibenzothiophene	676149	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	20520	14.74	50.04 T	0	0	0		0.09	1.003
C1-Dibenzothiophenes-1	400	15.88	50.03 T	0	0	0		0.64	1.08
2/3-Methyldibenzothiophenes $	13468	16.08	50.03 T	0	0	0		0.71	1.094
C1-Dibenzothiophenes-2	137	16.49	50.03 T	0	0	0		0.65	1.122
C1-Dibenzothiophenes	13468	16.08	0 T	0	0	0		-1	1.094
4,6-Dimethyldibenzothiophene	14451	16.95	49.98 T	0	0	0		0.16	1.153

pv by vr
08-Dec-2018

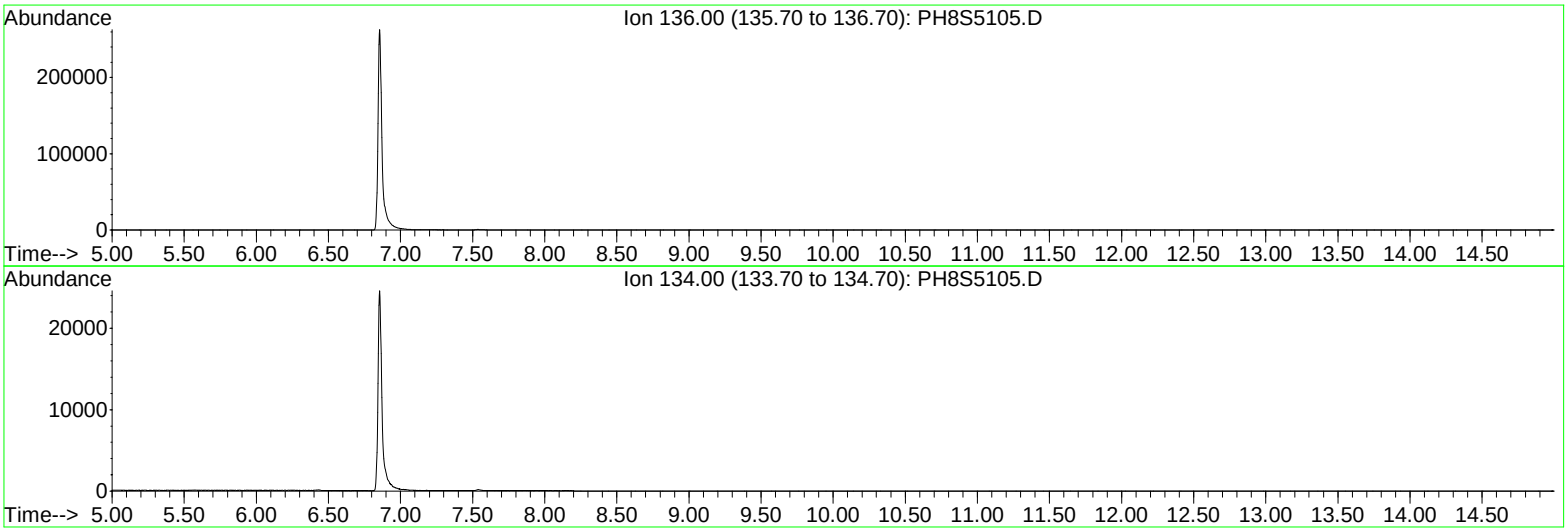
SuByAK
10 Dec 2018

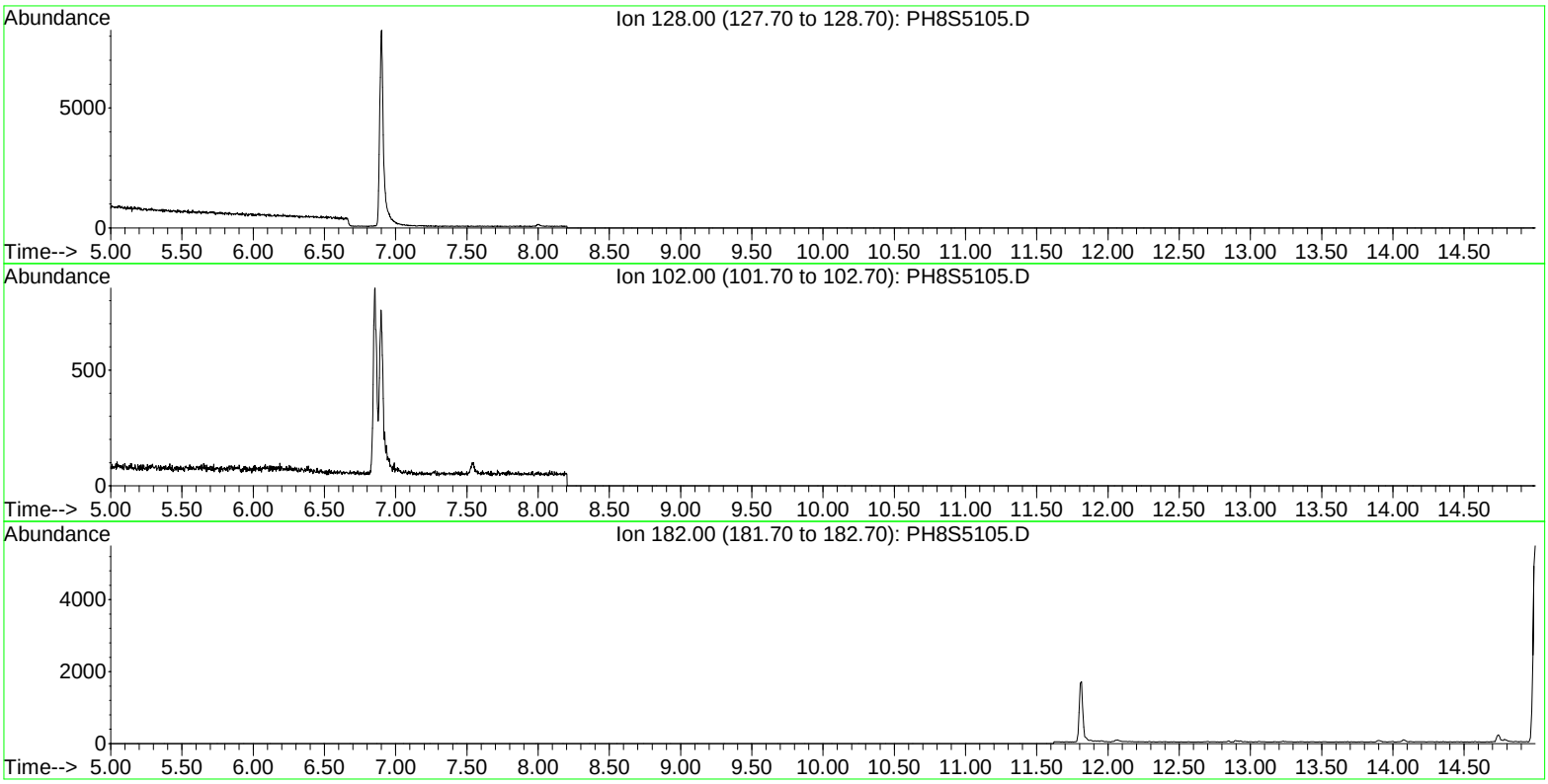
2,4-Dimethyldibenzothiophene $	10335	17.09	50 T	0	0	0	0.54	1.163
C2-Dibenzothiophenes	11237	17.09	50 T	0	0	0	0.53	1.163
C3-Dibenzothiophenes $	26	18.08	50 T	0	0	0	2.65	1.23
C4-Dibenzothiophenes $	16	18.86	50 T	0	0	0	1.81	1.283
d10-Phenanthrene	672802	15	1805 I	0	0	0	0.15	1
Fluorene $	13593	12.65	49.15 T	0	0	0	1.02	0.843
2-Methylfluorene $	8967	14.08	50 T	0	0	0	1.34	0.939
C1-Fluorenes	8967	14.08	50 T	0	0	0	1.34	0.939
1,7-Dimethylfluorene $	8214	15.51	50.05 T	0	0	0	0.08	1.034
C2-Fluorenes	8214	15.51	50.05 T	0	0	0	0.08	1.034
C3-Fluorenes $	268	16.43	50.05 T	0	0	0	0.17	1.096
Phenanthrene $	20383	15.05	50.45 T	0	0	0	0.2	1.003
Anthracene	20421	15.16	50.13 T	0	0	0	0.19	1.011
d10-Anthracene $	741453	15.12	2040 T	0	0	0	0.14	1.008
3-Methylphenanthrene	12636	16.38	150.07 T	0	0	0	0.59	1.092
2-Methylphenanthrene	12636	16.38	50.03 T	0	0	0	0.59	1.092
2-Methylanthracene	12633	16.47	49.99 T	0	0	0	0.52	1.098
9/4-Methylphenanthrenes	12880	16.47	150.07 T	0	0	0	0.51	1.098
1-Methylphenanthrene $	13900	16.64	50.05 T	0	0	0	0.61	1.11
C1-Phenanthrenes/Anthracenes	15074	16.64	0 T	0	0	0	-1	1.11
Fluoranthene $	24232	18.06	49.48 T	0	0	0	0.21	1.204
Pyrene	25756	18.6	49.5 T	0	0	0	0.21	1.24
3,6-Dimethylphenanthrene $	13223	17.47	49.94 T	0	0	0	0.37	1.165
2,6-Dimethylphenanthrene	13570	17.47	100.13 T	0	0	0	0.36	1.165
1,7-Dimethylphenanthrene	13549	17.88	50.19 T	0	0	0	0.35	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	13570	17.47	100.13 T	0	0	0	0.36	1.165
1,8-Dimethylphenanthrene	80	18.18	100.13 T	0	0	0 #	0.99	1.212
C2-Phenanthrenes/Anthracenes	13570	17.47	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	14461	19.4	58.33 T	0	0	0	0.62	1.293
C3-Phenanthrenes/Anthracenes	14904	19.4	58.33 T	0	0	0	0.61	1.293
Retene $	4823	19.51	49.97 T	0	0	0	1.65	1.301
C4-Phenanthrenes/Anthracenes	4823	19.51	49.97 T	0	0	0	1.65	1.301
C1-Fluoranthenes/Pyrenes-1	0	0	50 T	0	0	0	0	0
3-Methylfluoranthene/Benzo(a)fluorene $	14496	19.5	50 T	0	0	0	1.09	1.3
C1-Fluoranthenes/Pyrenes-2	37	19.92	50 T	0	0	0 #	-1	1.328
C1-Fluoranthenes/Pyrenes	14496	19.5	0 T	0	0	0	-1	1.3
C2-Fluoranthenes/Pyrenes $	34	20.45	50 T	0	0	0	0.79	1.363
C3-Fluoranthenes/Pyrenes $	12	21.92	50 T	0	0	0	2.33	1.461
C4-Fluoranthenes/Pyrenes $	12	23.32	50 T	0	0	0	7.58	1.554
d12-Benz(a)anthracene	718060	21.59	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	755895	18.01	1985 T	0	0	0	0.17	0.834
Benz(a)anthracene	23993	21.65	50.33 T	0	0	0	0.27	1.003
d12-Chrysene	729891	21.69	1960 I	0	0	0	0.26	1
Chrysene $	23165	21.75	50.23 T	0	0	0	0.31	1.003
5/6-Methylchrysenes $	17406	23.09	50.01 T	0	0	0	-1	1.065
1-Methylchrysene	17434	23.26	49.98 T	0	0	0	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	19035	23.09	99.99 T	0	0	0	-1	1.065
5,9-Dimethylchrysene $	13119	24.39	49.98 T	0	0	0	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	13119	24.39	49.98 T	0	0	0	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	24	25.1	49.98 T	0	0	0	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	9	26.07	49.98 T	0	0	0	-1	1.202
d12-Benzo(b)fluoranthene	658637	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	1913	25	0 T	0	0	0	0.33	1
Benzo(b)fluoranthene $	26225	25.09	50.35 T	0	0	0	0.23	1.004
d12-Benzo(k)fluoranthene	747587	25.1	2000 I	0	0	0	0.19	1
Benzo(j/k)fluoranthenes	23304	25.18	50.38 T	0	0	0	0.21	1.003
Benzofluoranthenes	26225	25.09	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	660187	26.32	2070 I	0	0	0	0.2	1
Benzo(e)pyrene	21949	26.21	50.02 T	0	0	0	0.22	0.996
Benzo(a)pyrene	20898	26.43	50 T	0	0	0	0.2	1.004
7-Methylbenzo(a)pyrene $	14059	29.15	49.92 T	0	0	0	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	14059	29.15	49.92 T	0	0	0	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	6	29.86	49.92 T	0	0	0	-1	1.135
d12-Perylene	689729	26.72	2150 I	0	0	0	0.24	1
Perylene	22117	26.83	49.99 T	0	0	0	0.23	1.004
d12-Indeno(123cd)pyrene	633642	31.49	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	552206	31.61	1915 T	0	0	0	0.29	1.004
Dibenzo(ah)anthracene $	17718	31.71	49.33 T	0	0	0	0.15	1.007
Indeno(123cd)pyrene $	19928	31.57	50.3 T	0	0	0	0.26	1.002
d12-Benzo(ghi)perylene	761057	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	23142	32.38	49.28 T	0	0	0	0.23	1.002

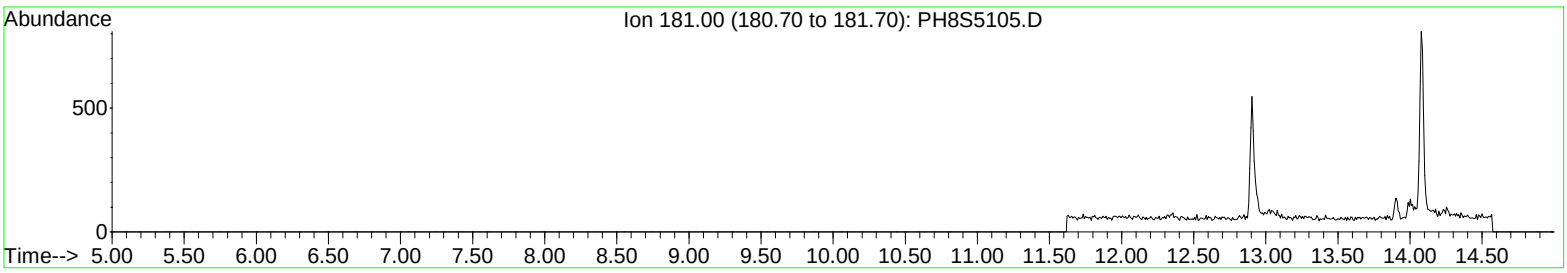
pv by vr
08-Dec-2018

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



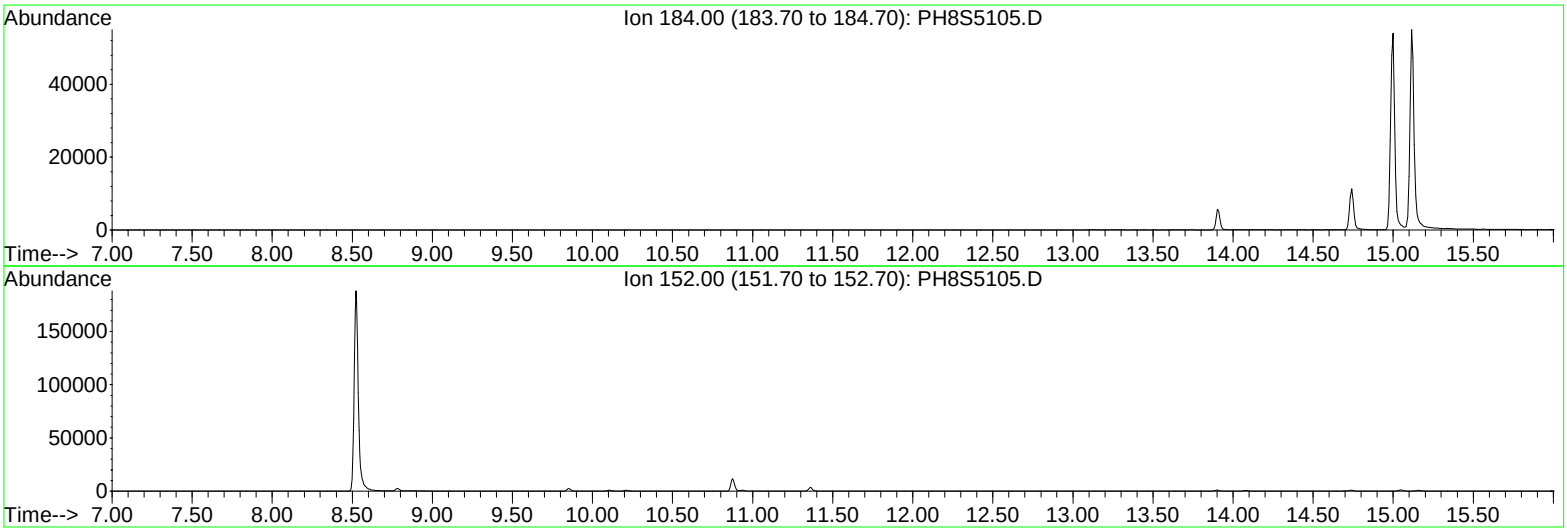


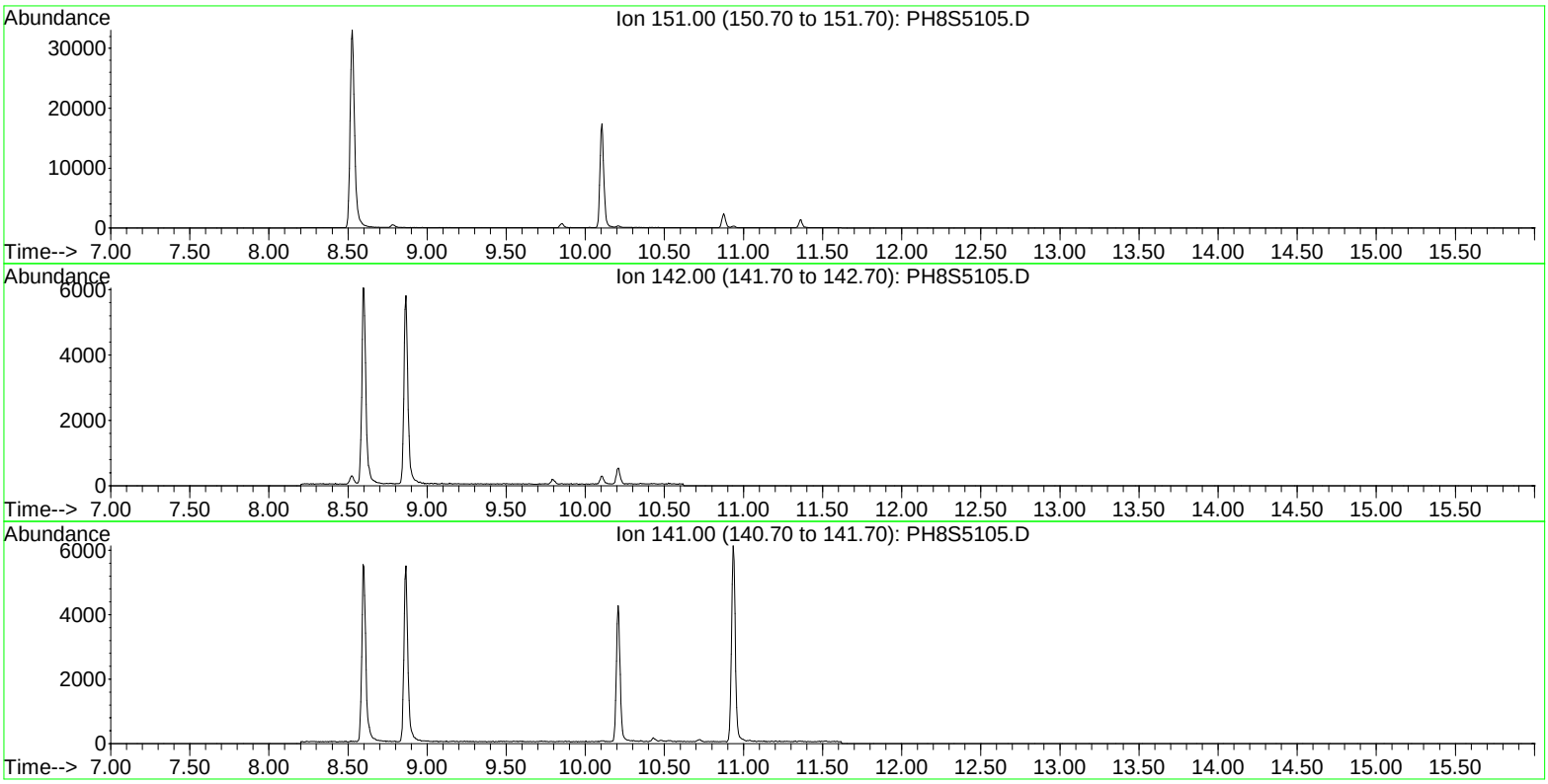


Thu Jan 10 08:37:24 2019

Axys Analytical CHRO Report

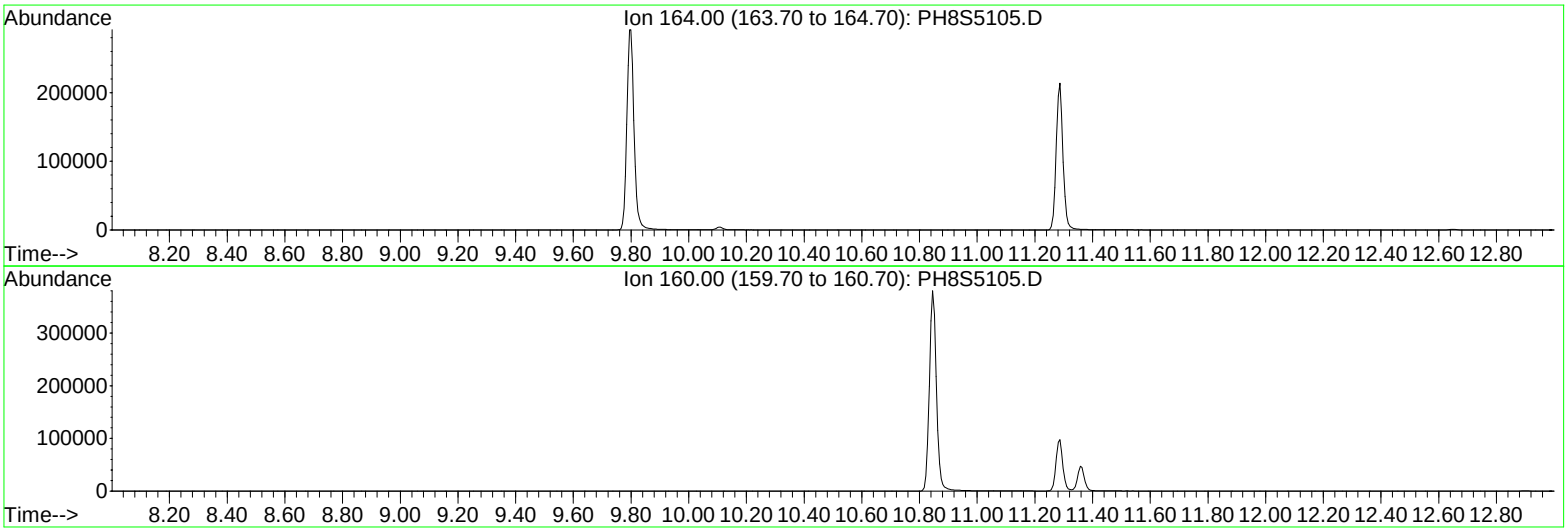
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

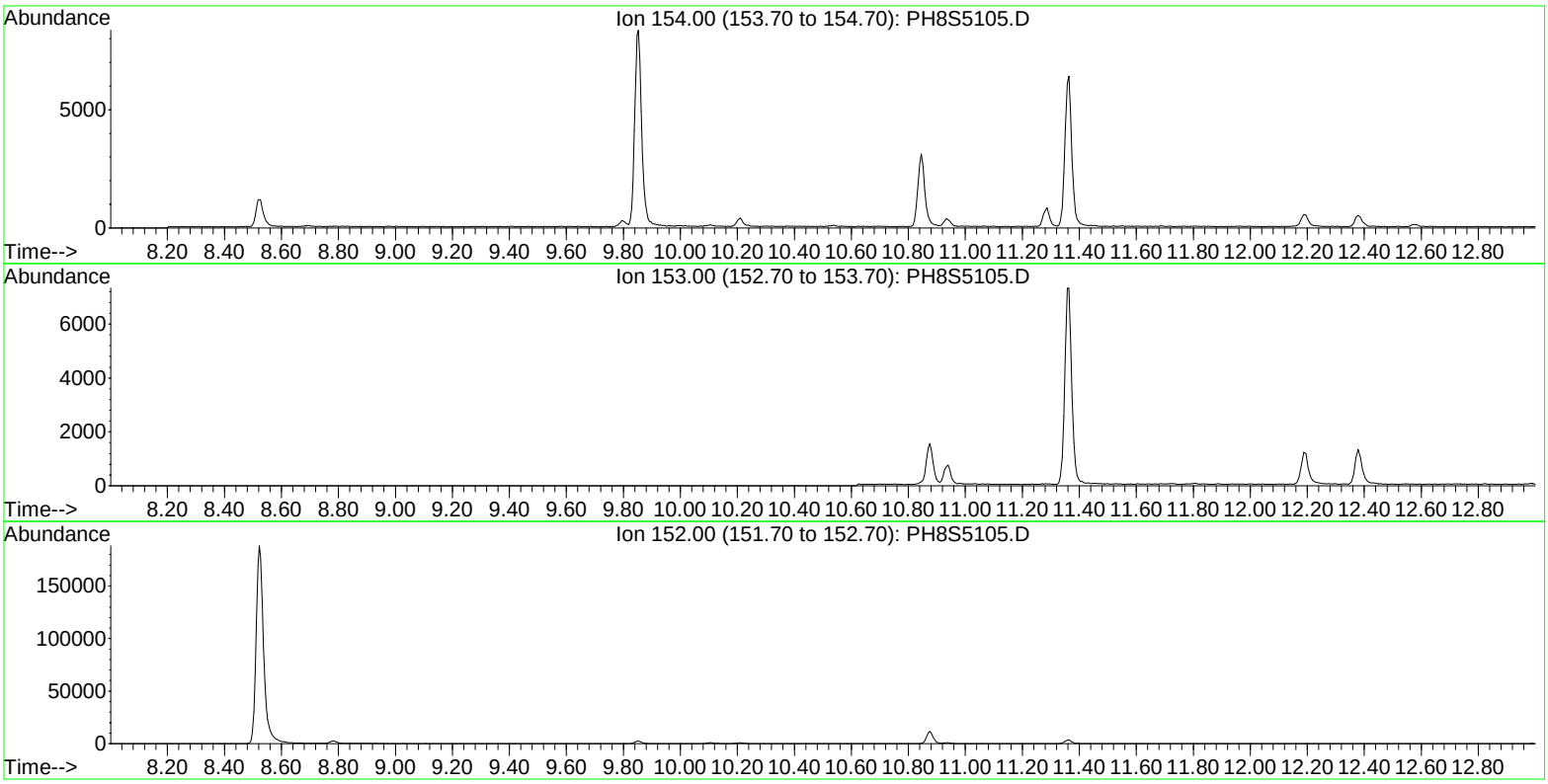




Axys Analytical CHRO Report

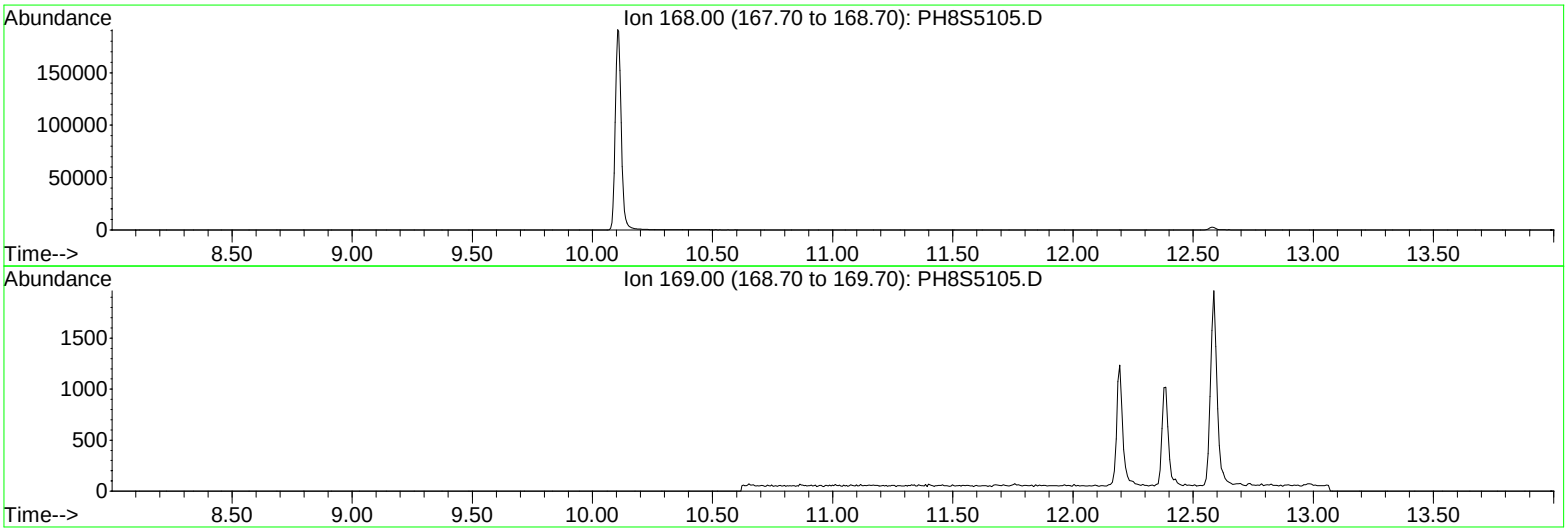
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

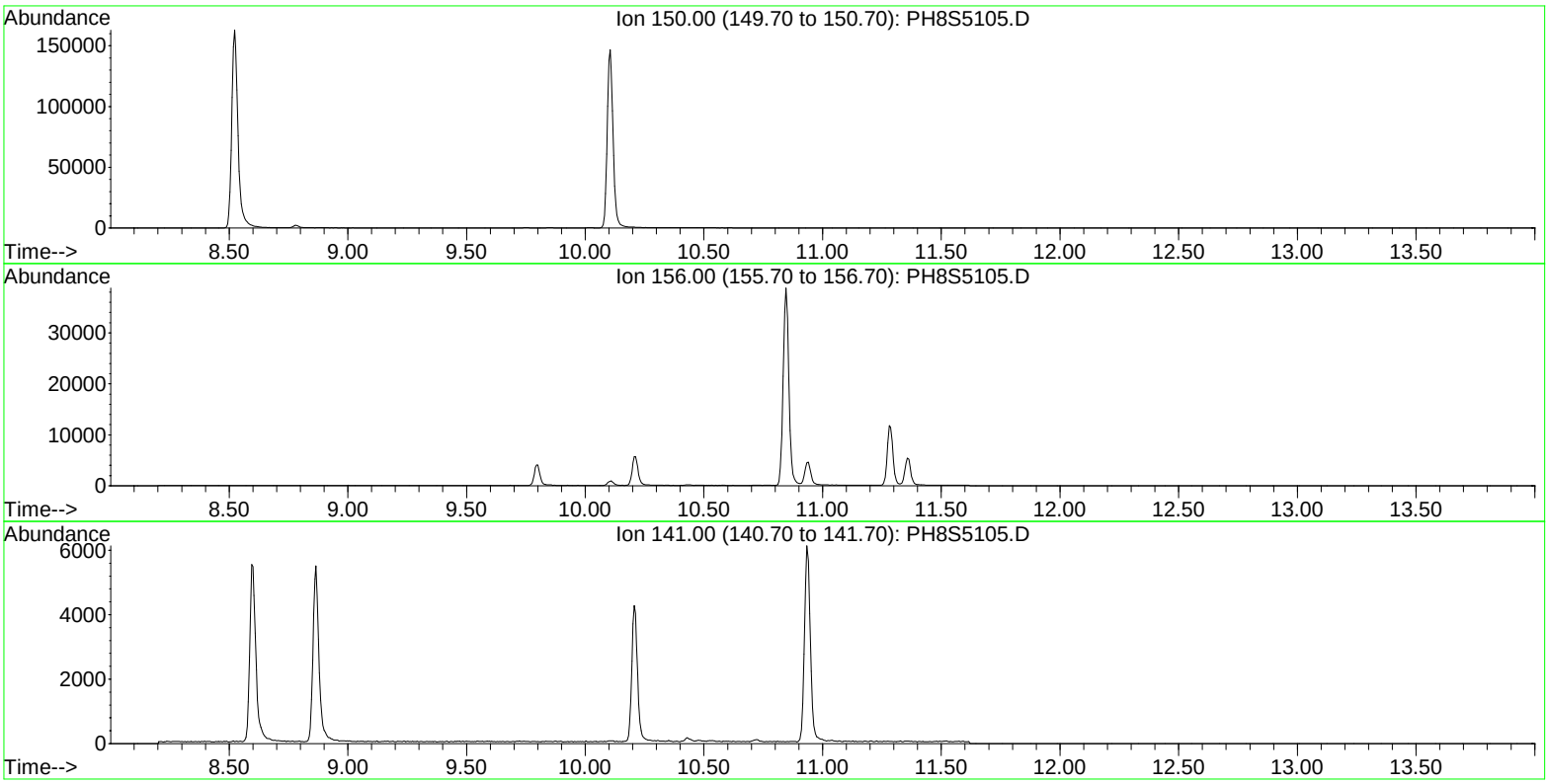




Axys Analytical CHRO Report

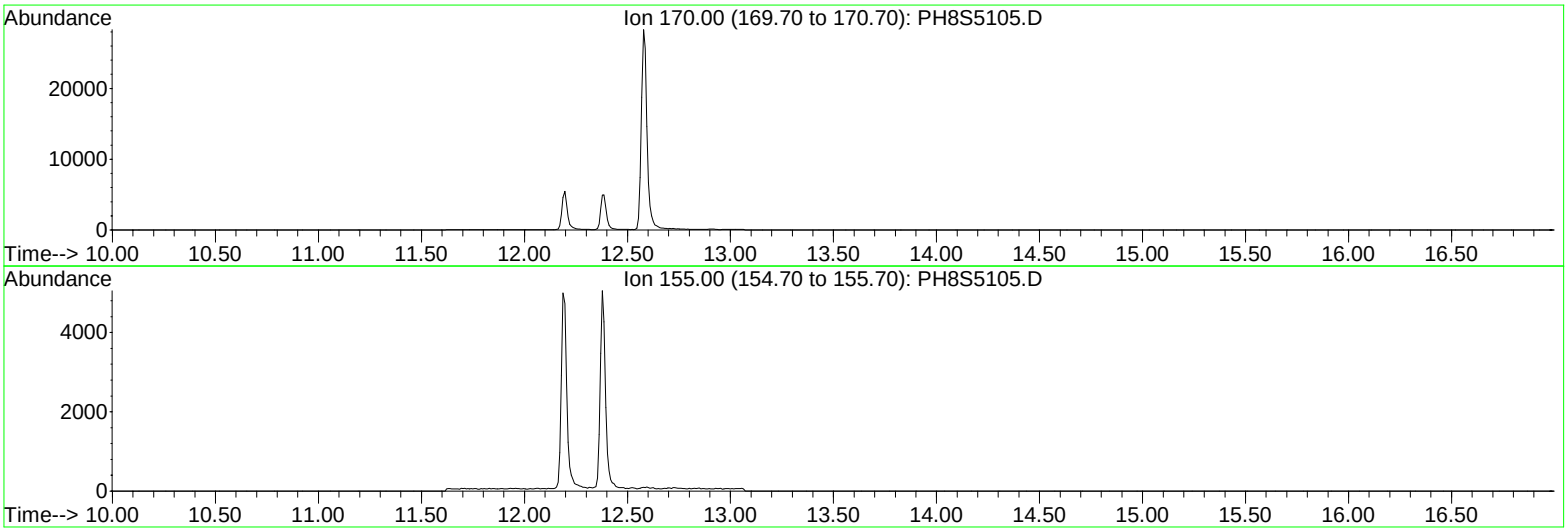
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

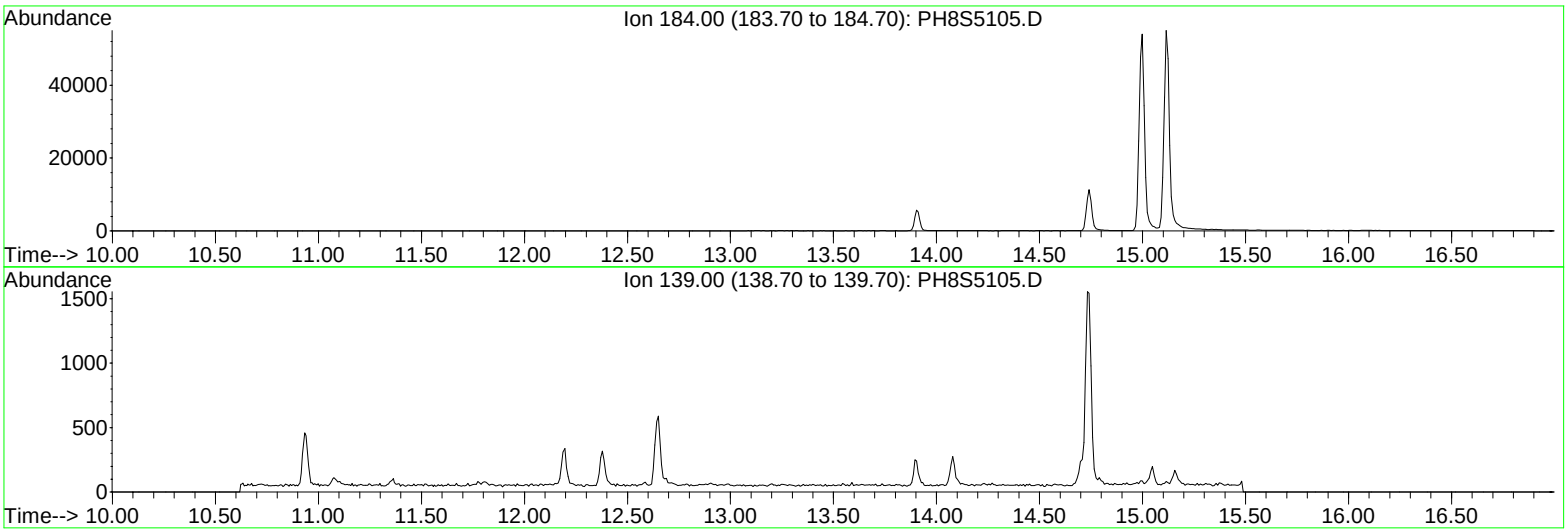




Axys Analytical CHRO Report

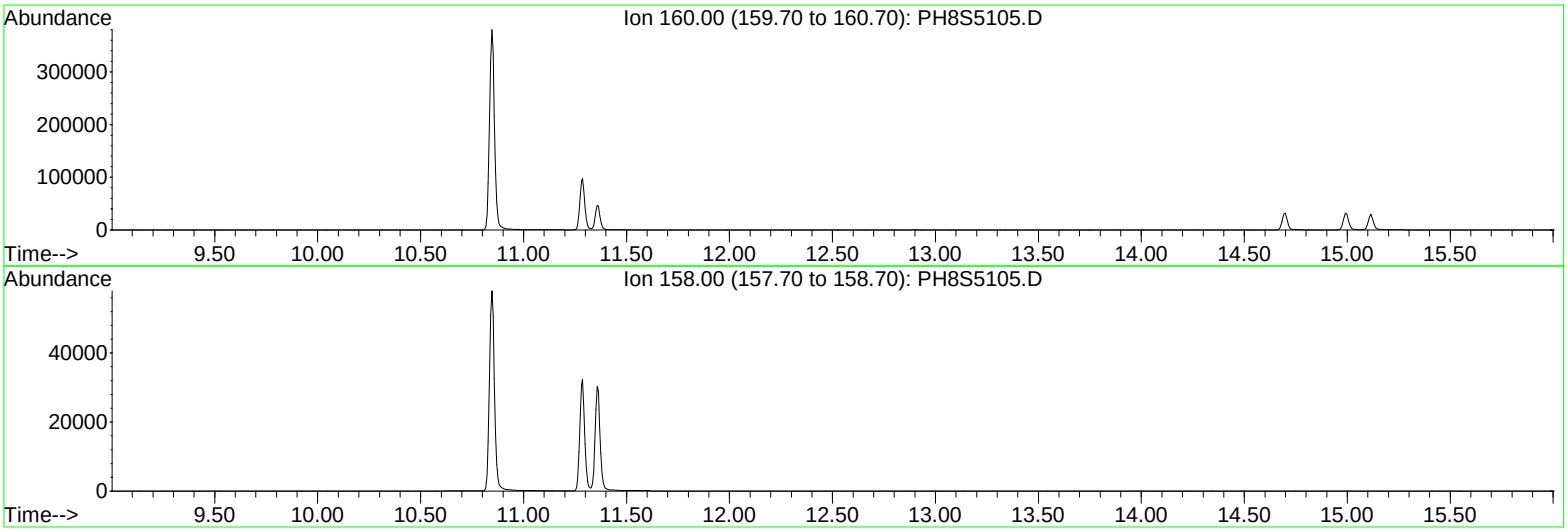
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

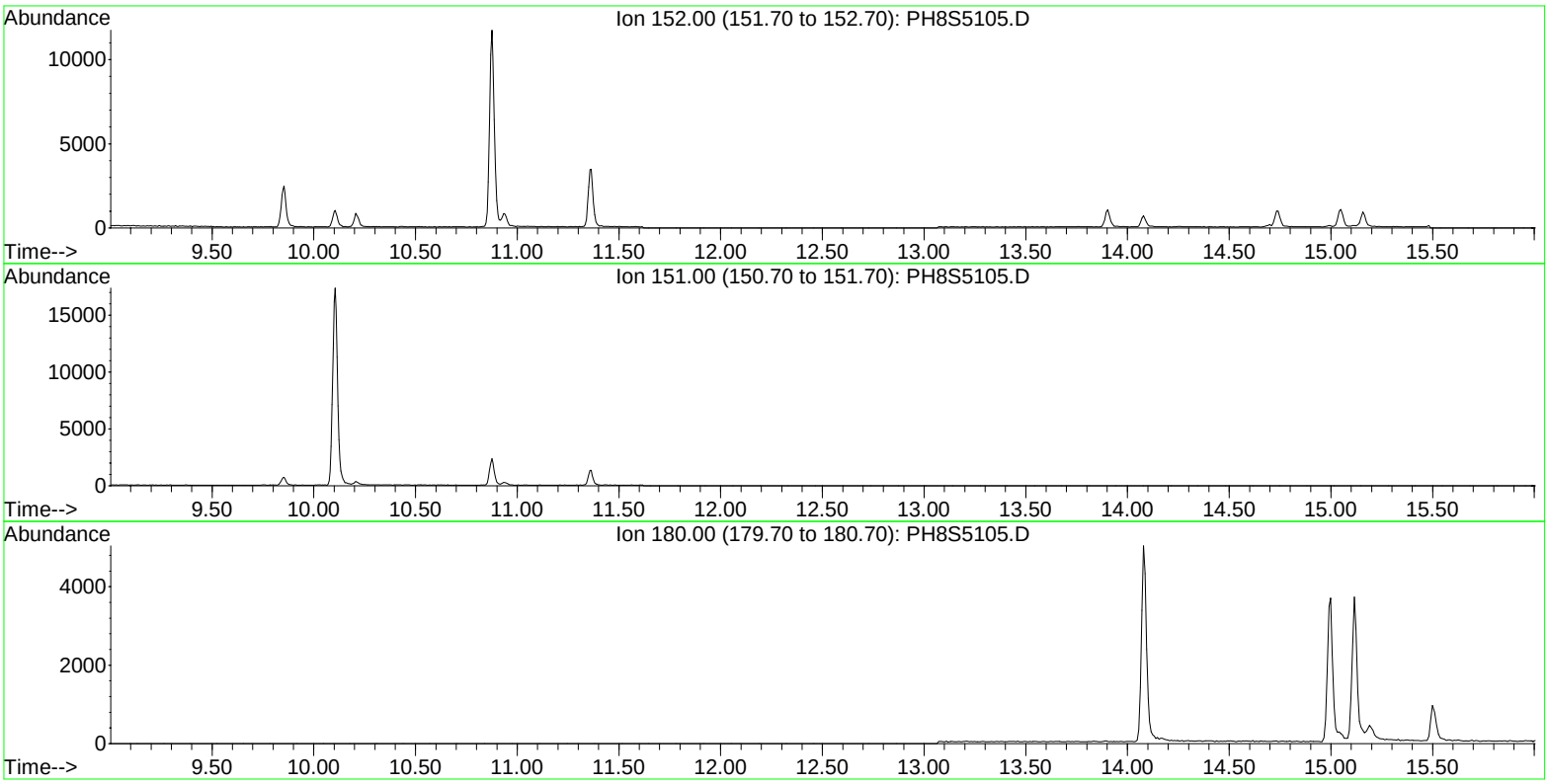


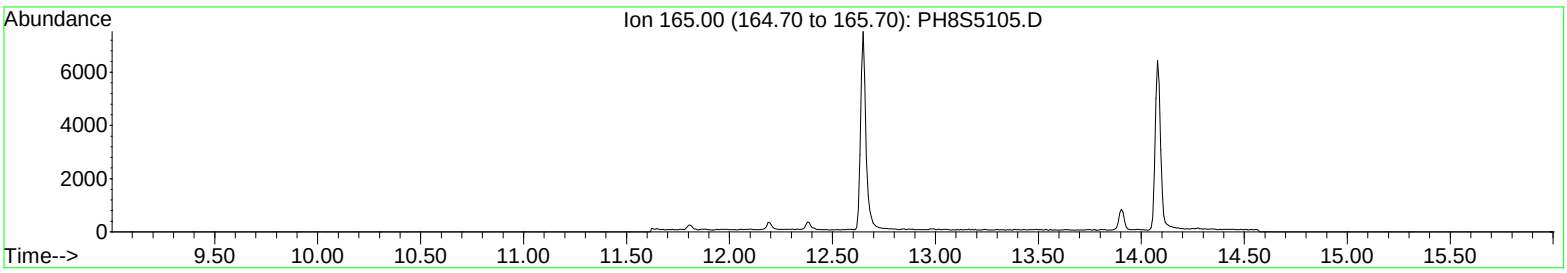


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



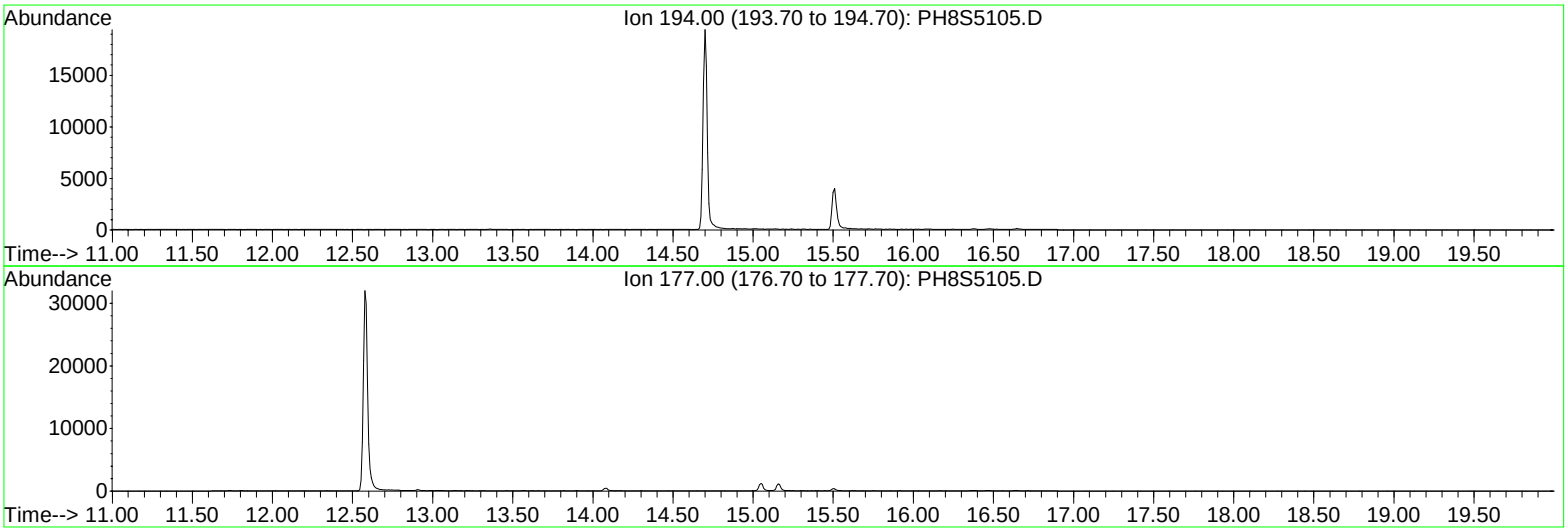


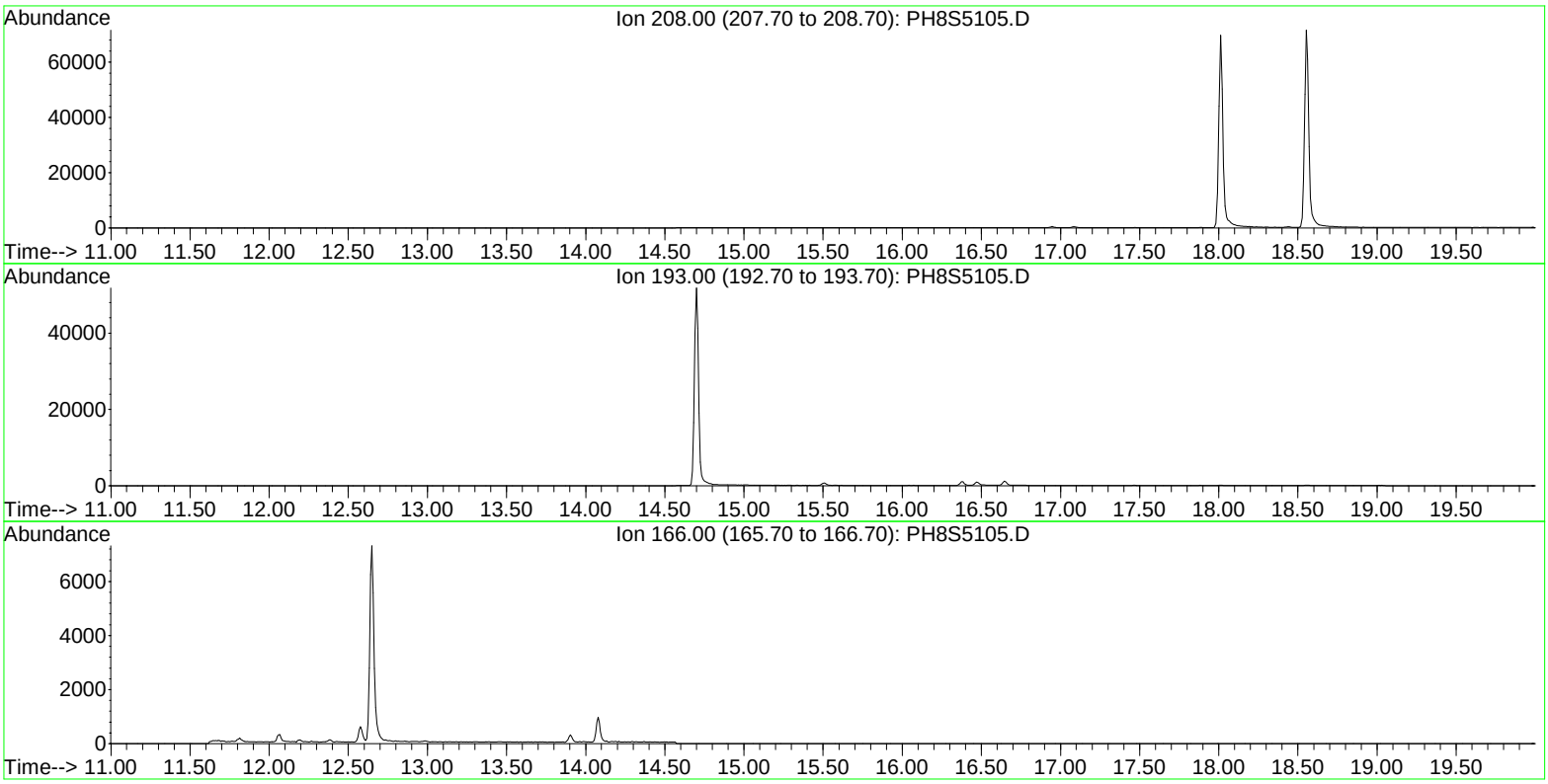


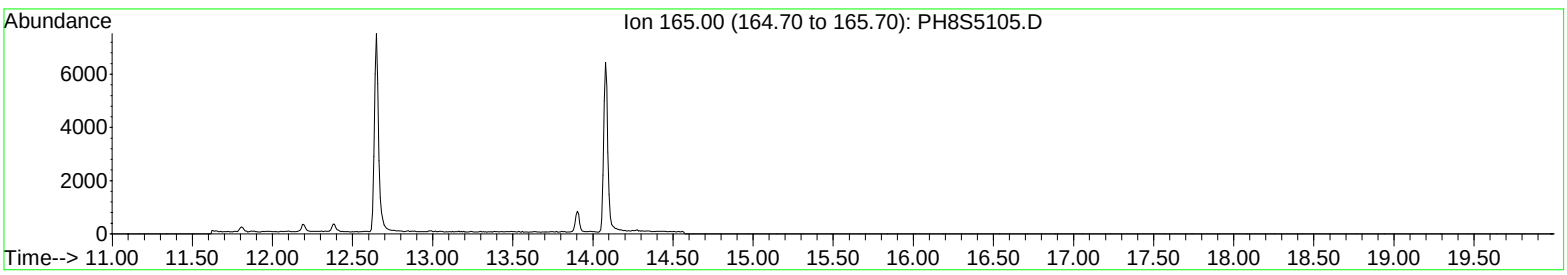
Thu Jan 10 08:37:29 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



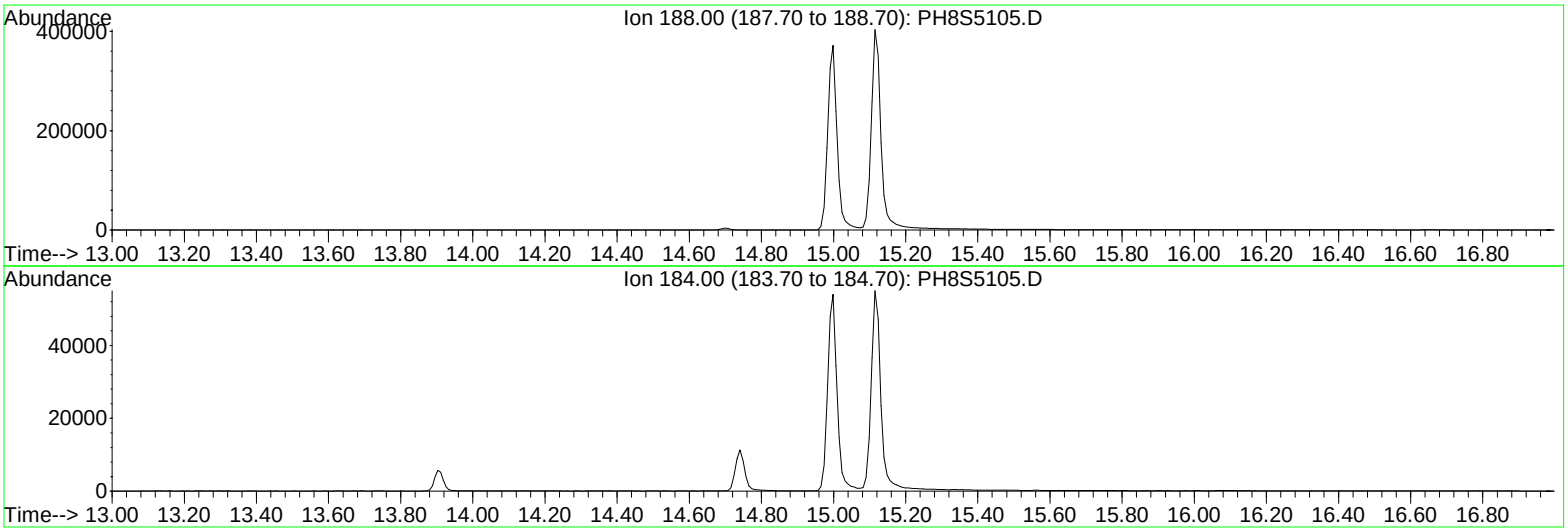


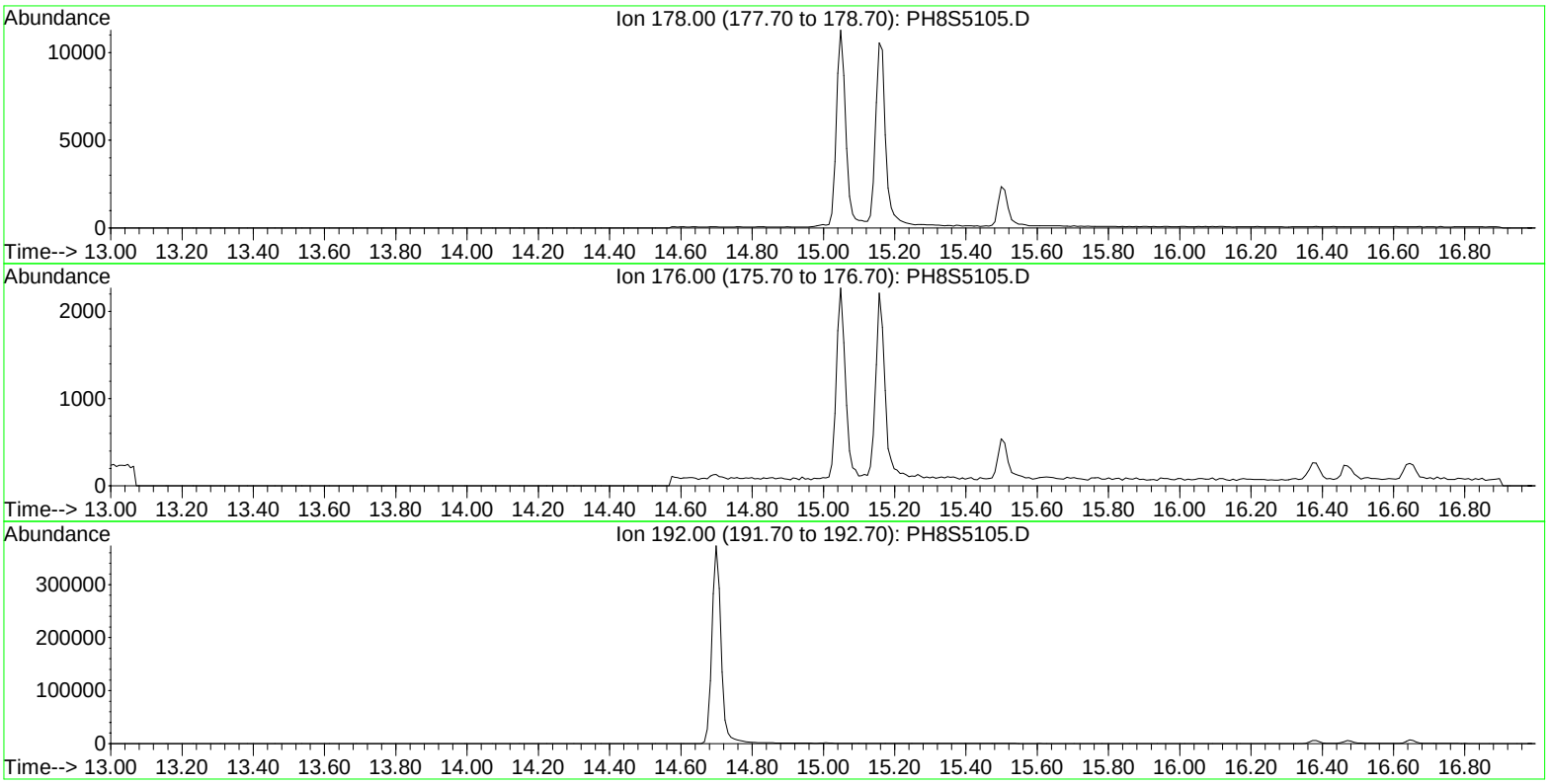


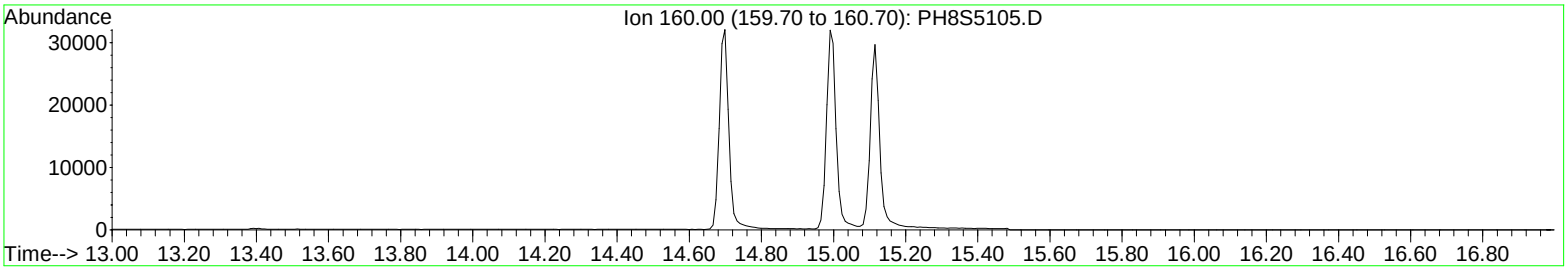
Thu Jan 10 08:37:30 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



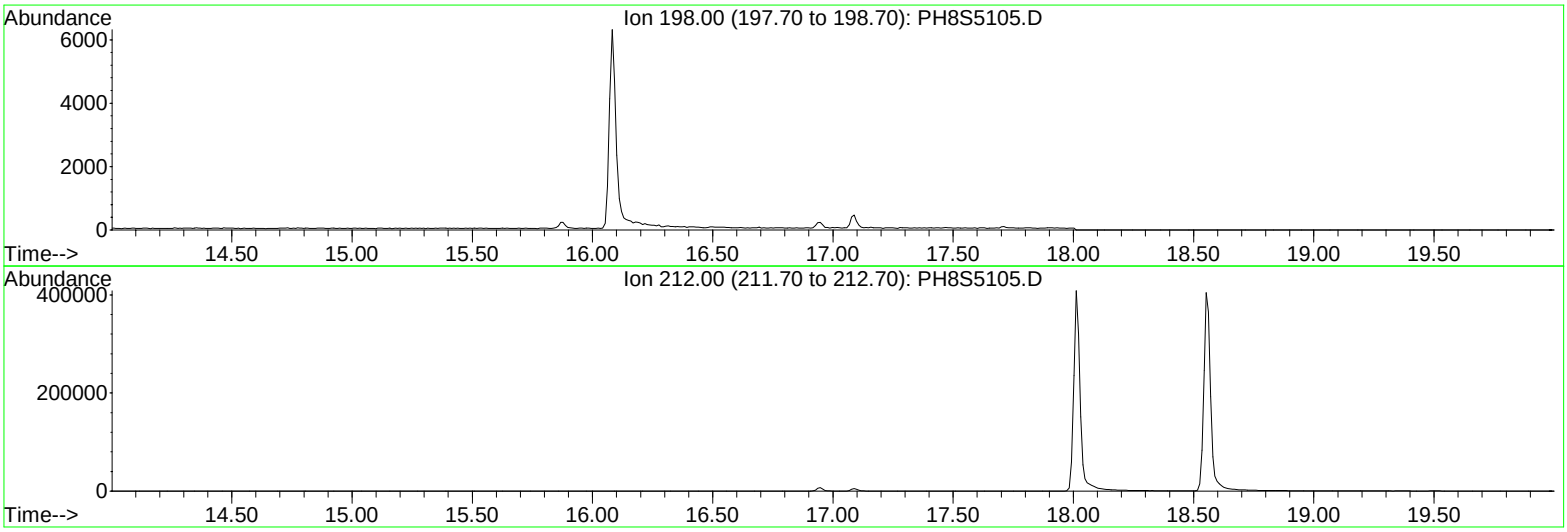


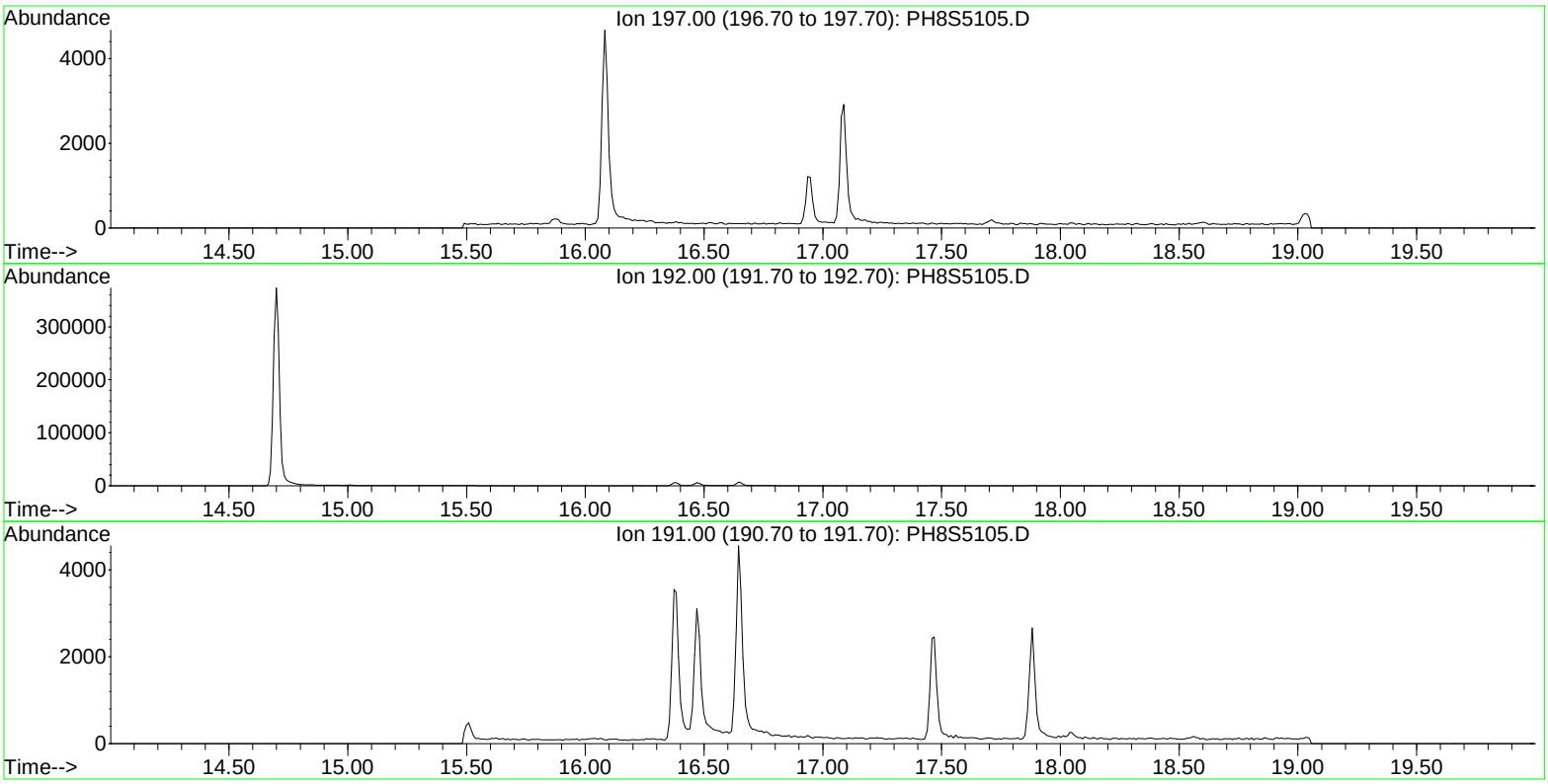


Thu Jan 10 08:37:30 2019

Axys Analytical CHRO Report

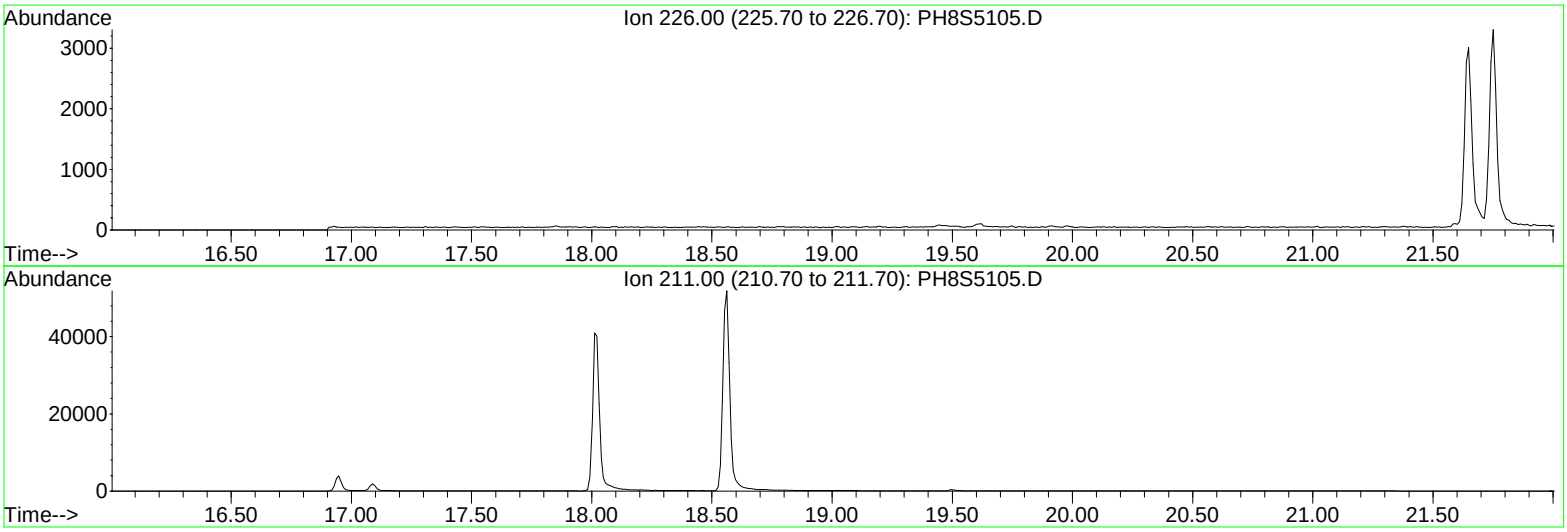
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

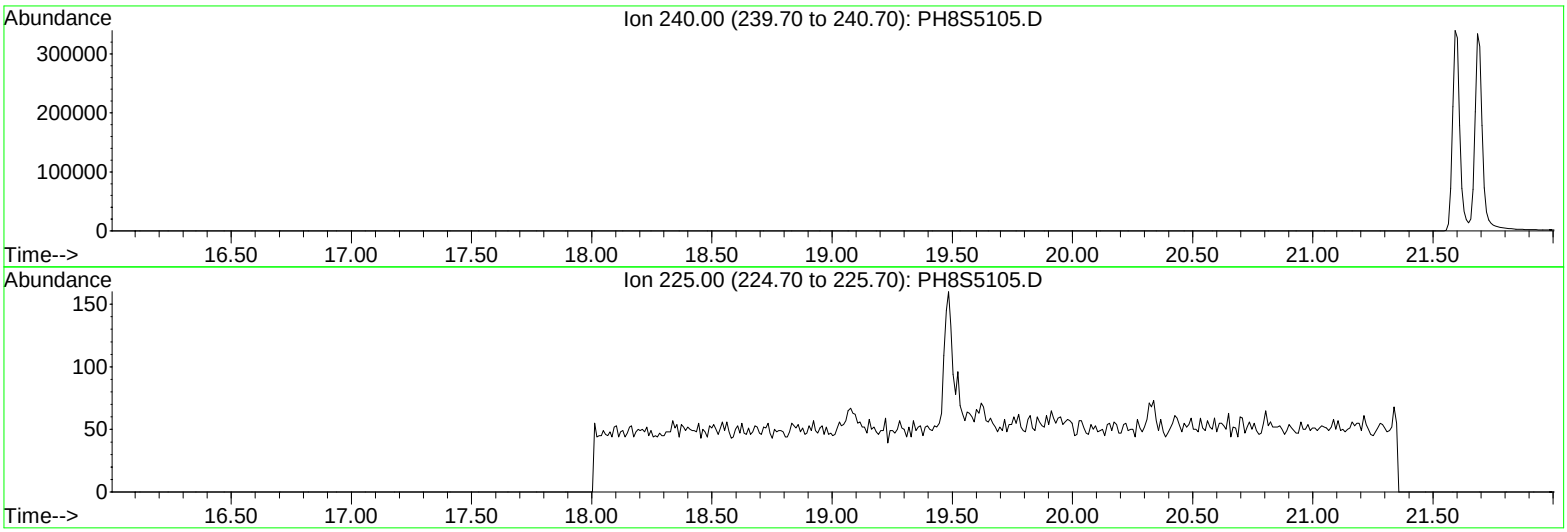




Axys Analytical CHRO Report

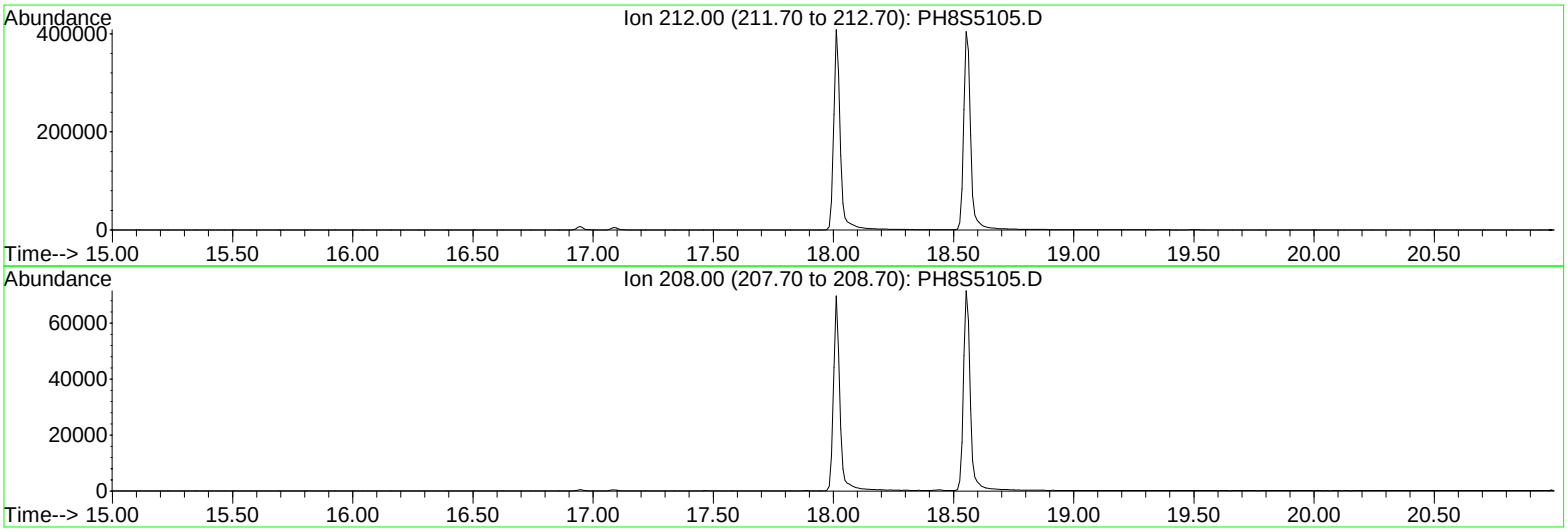
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

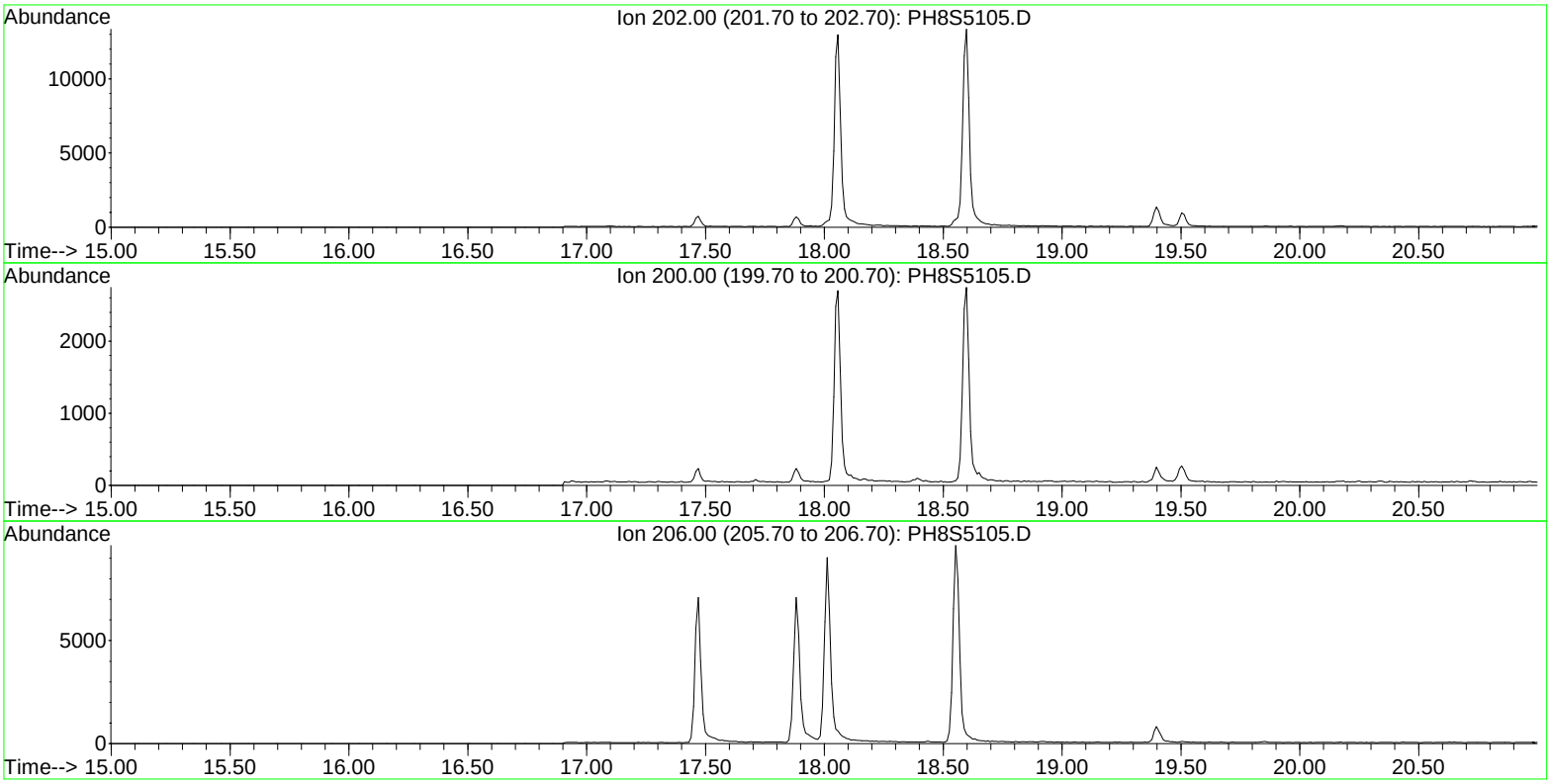


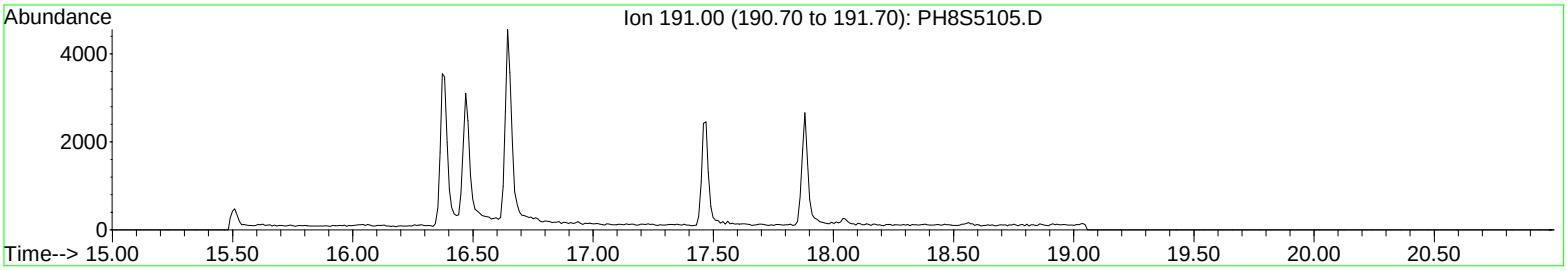


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



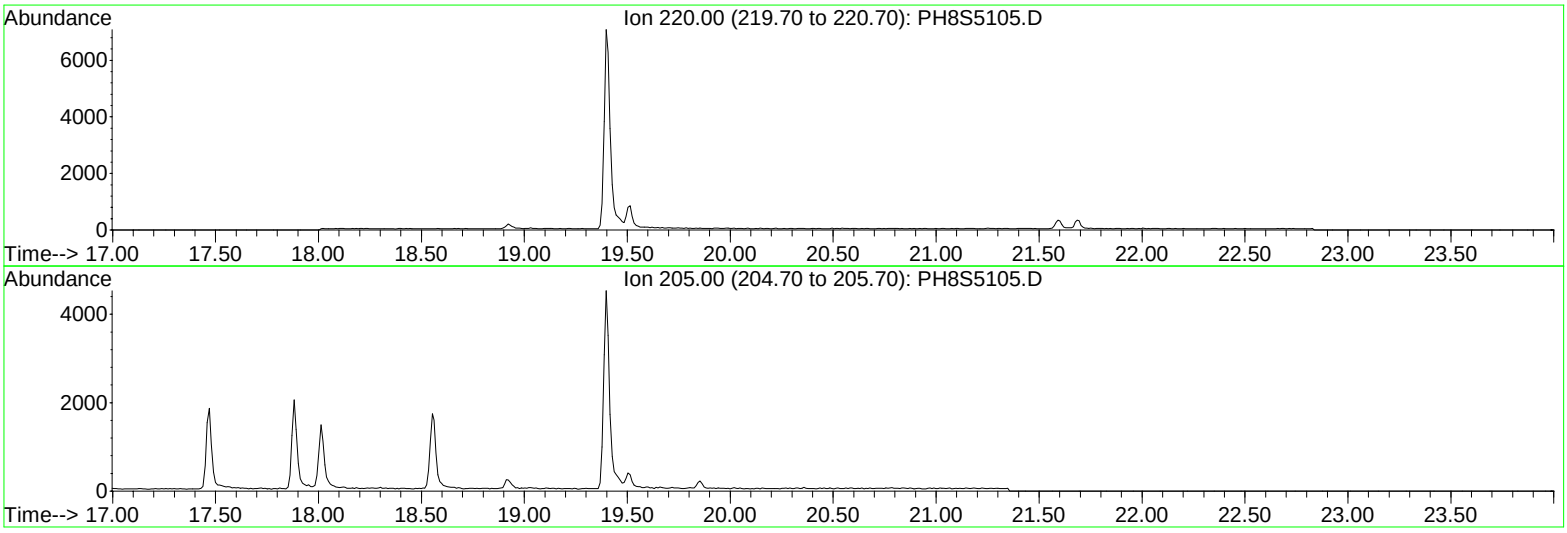


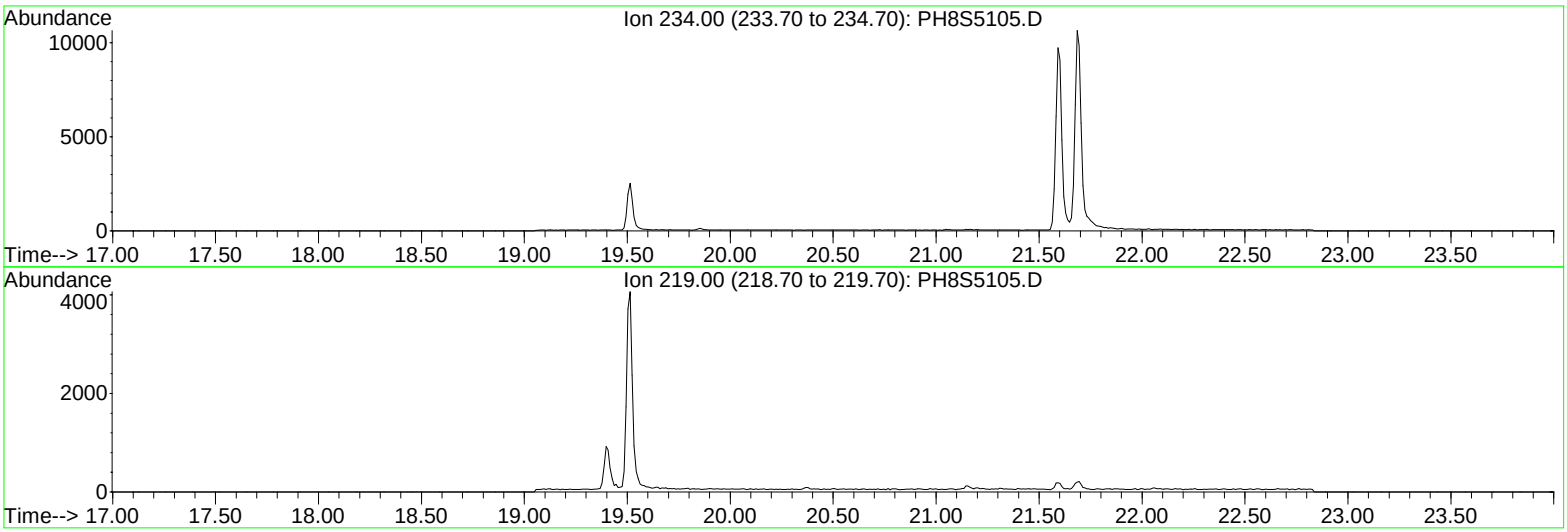


Thu Jan 10 08:37:32 2019

Axys Analytical CHRO Report

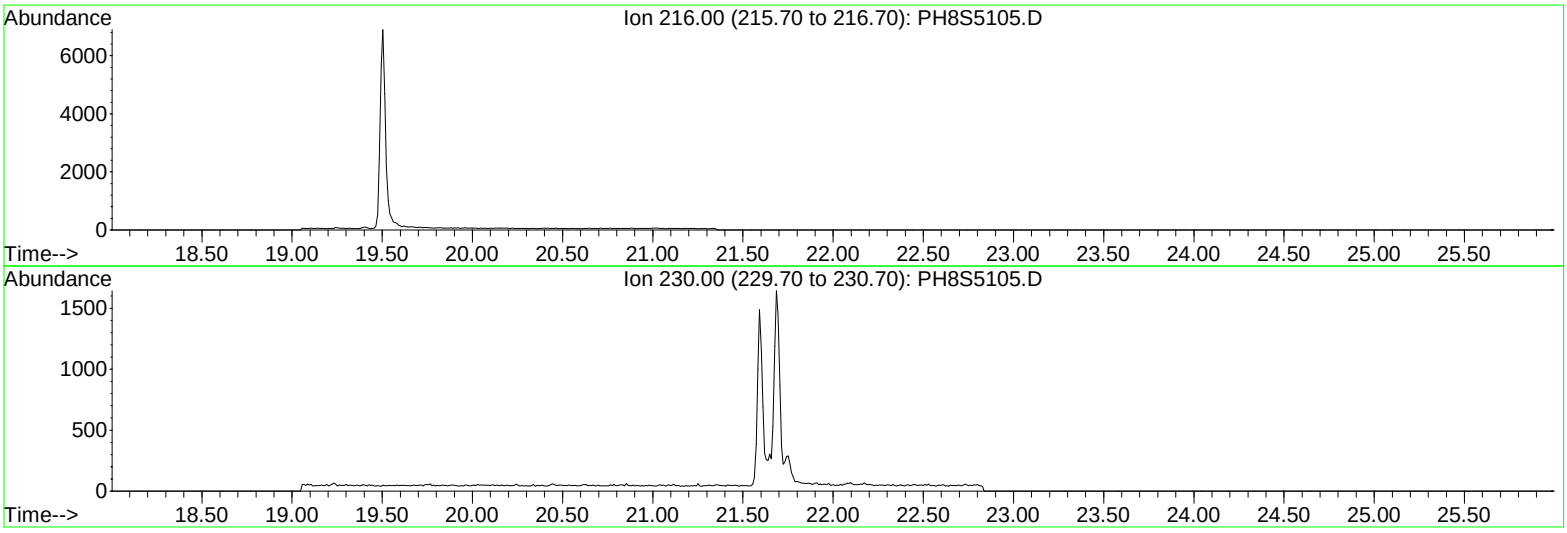
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

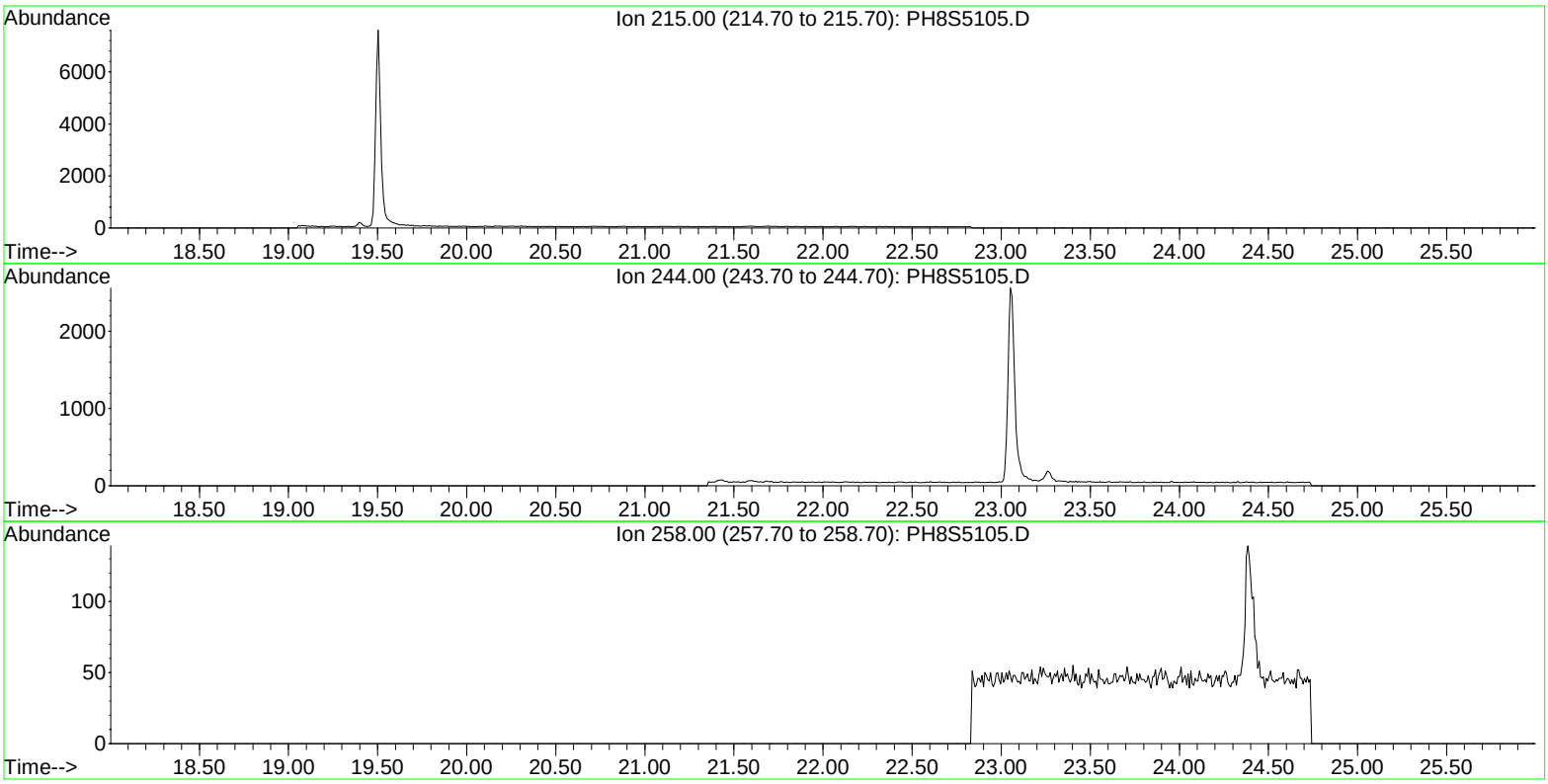


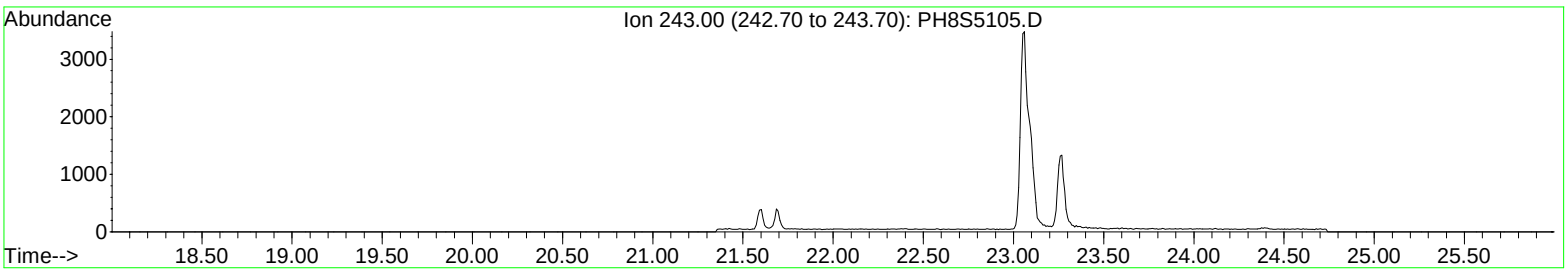


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



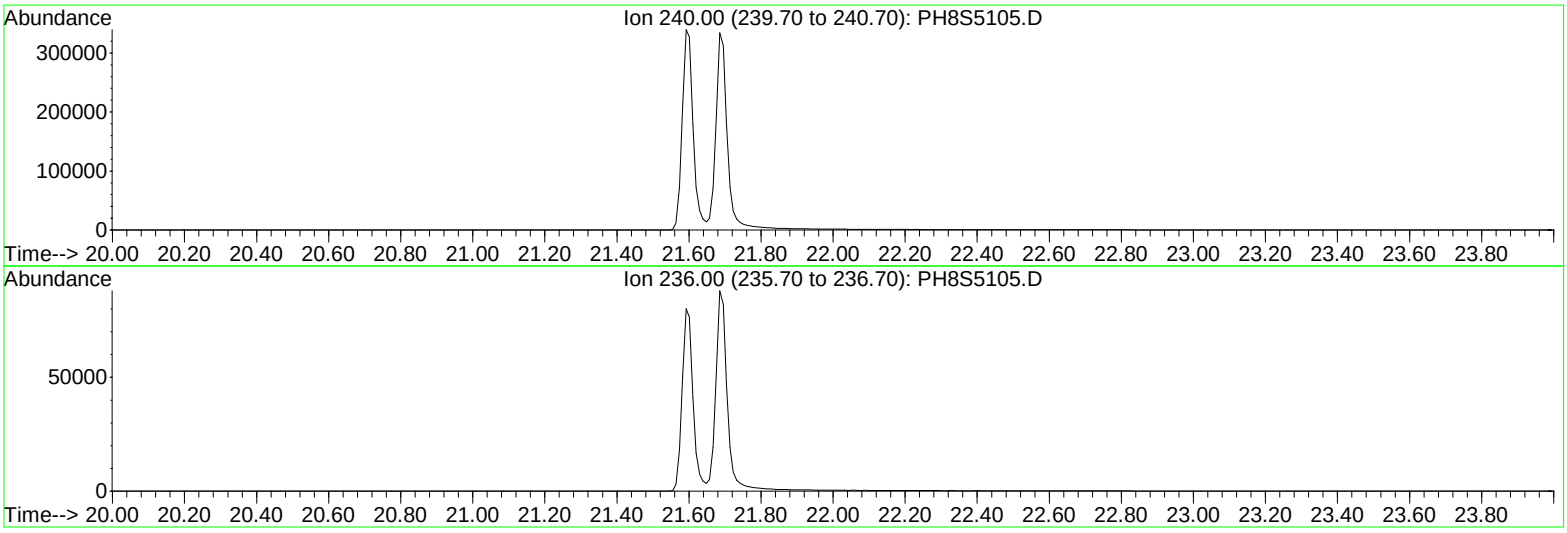


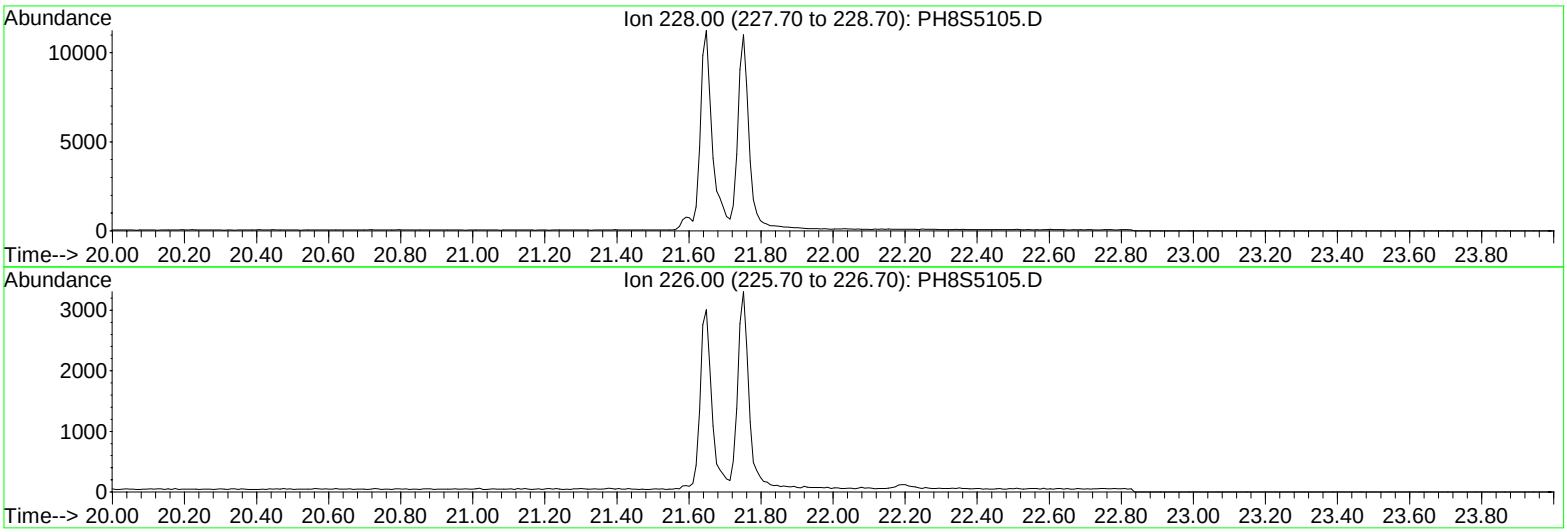


Thu Jan 10 08:37:34 2019

Axys Analytical CHRO Report

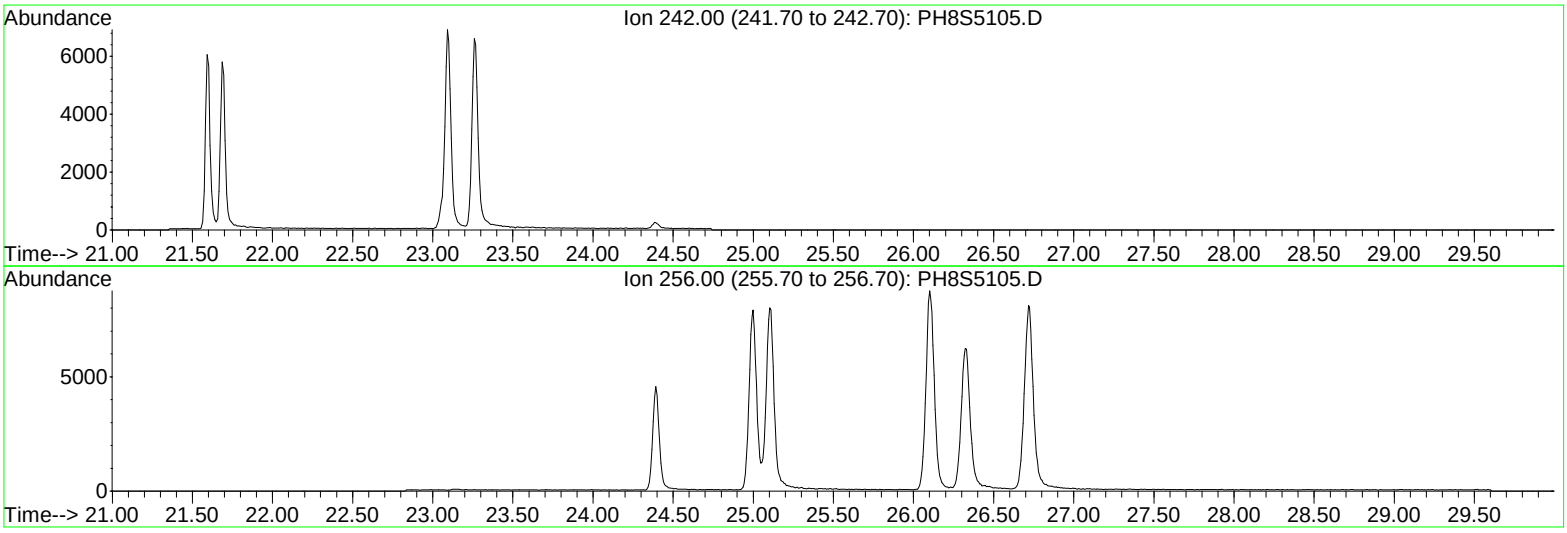
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

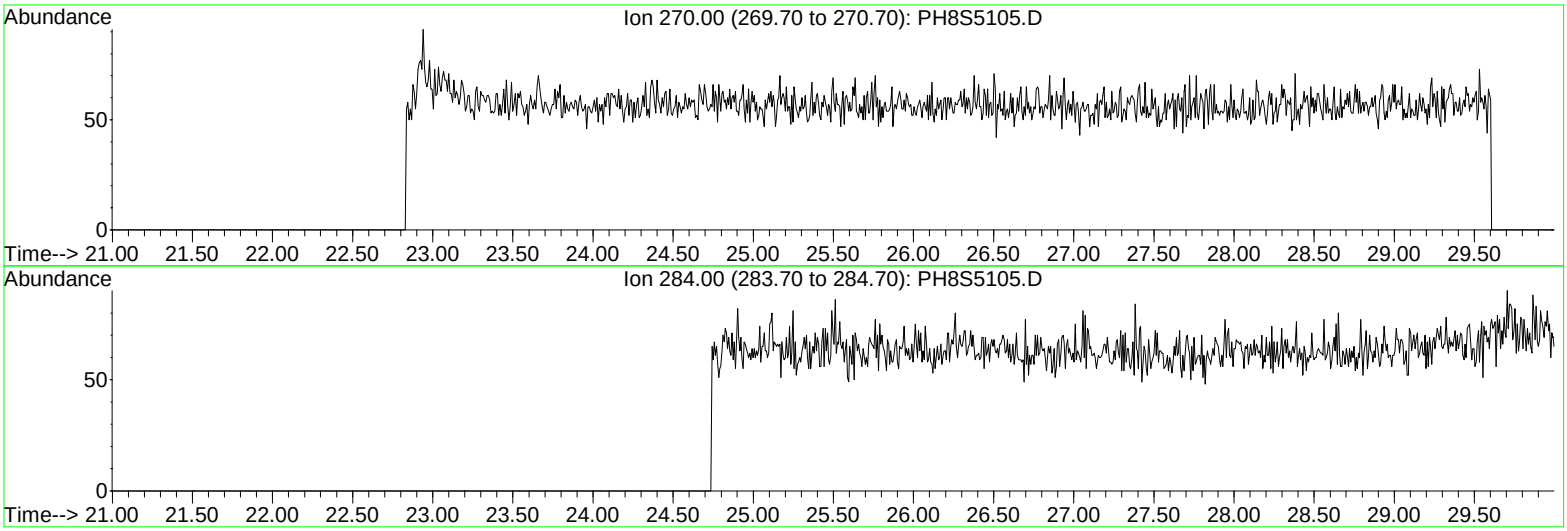




Axys Analytical CHRO Report

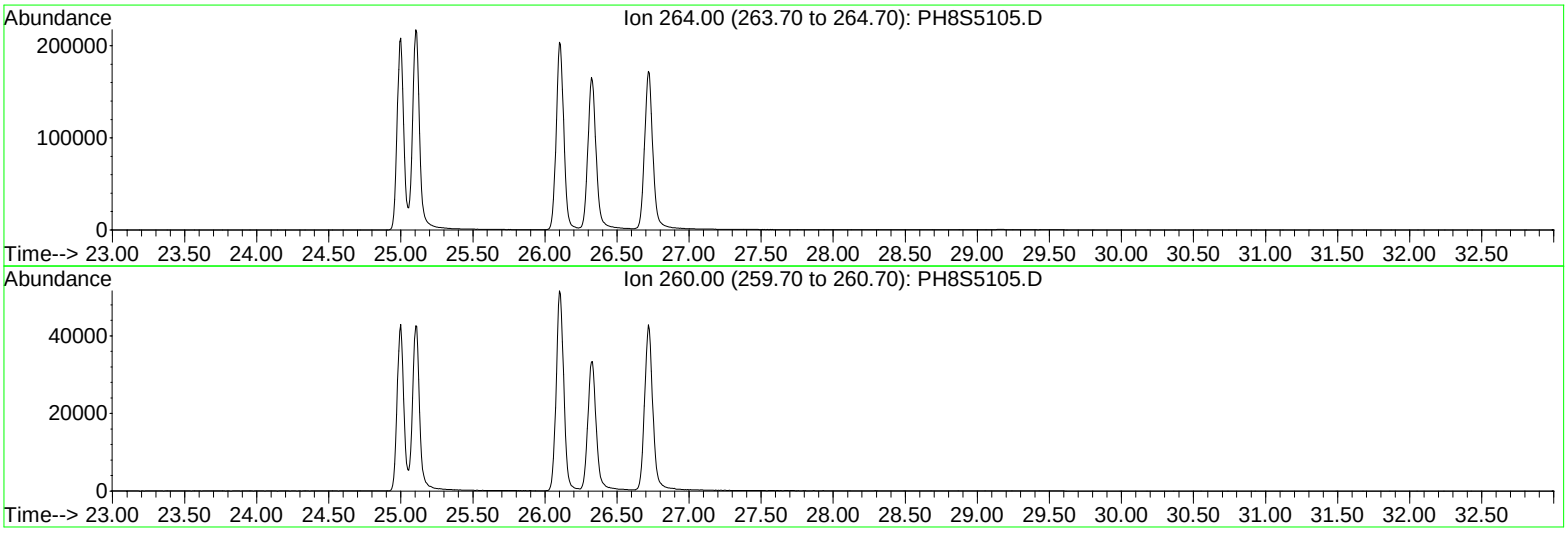
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

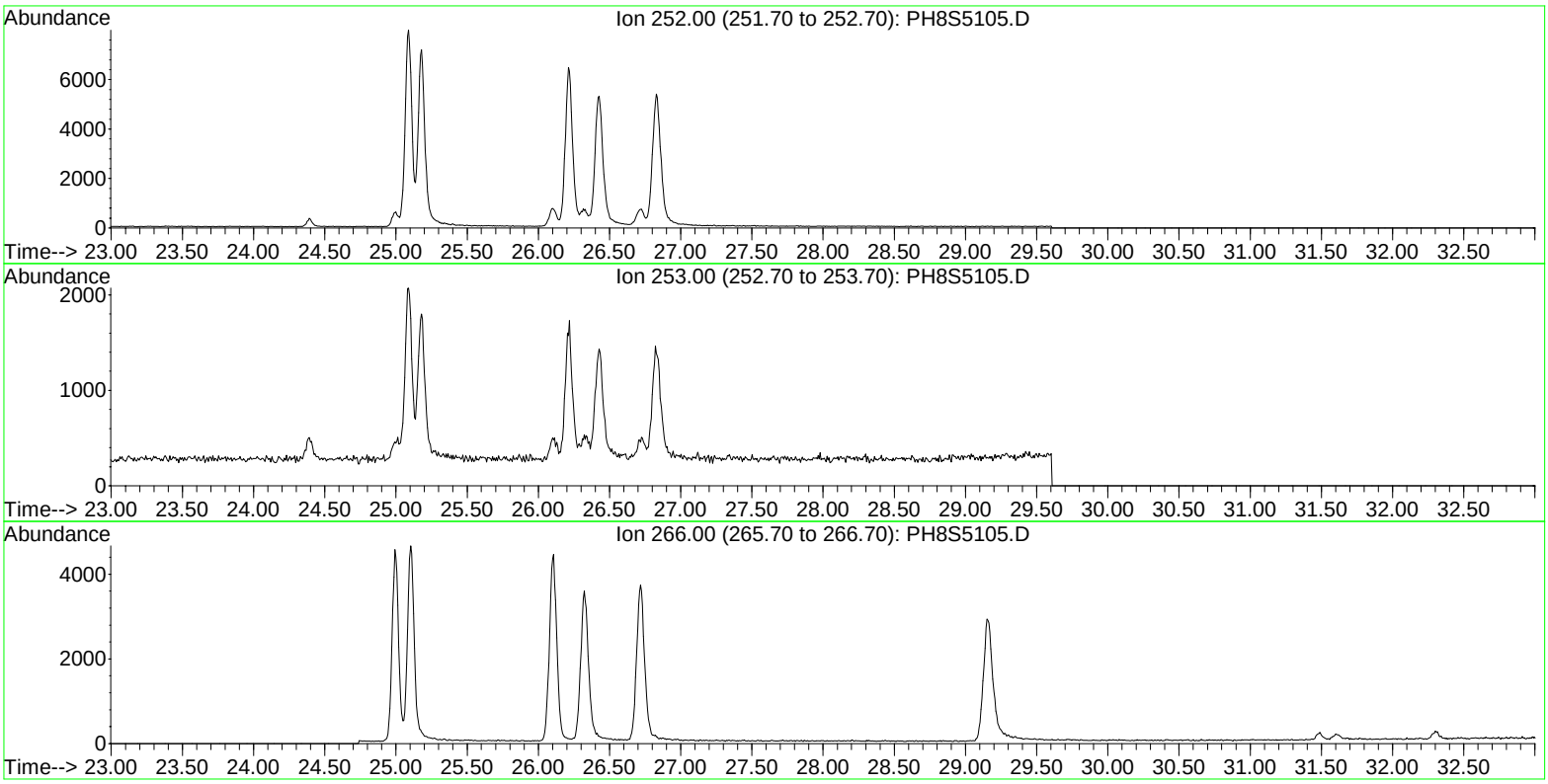


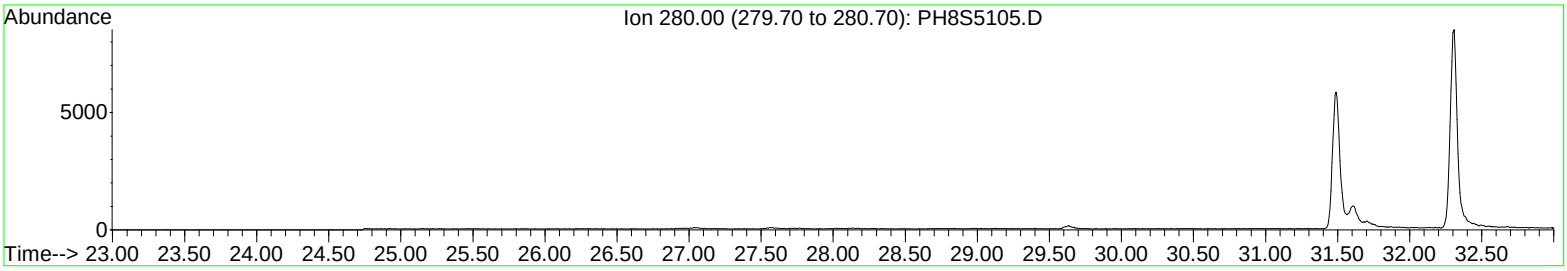


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL



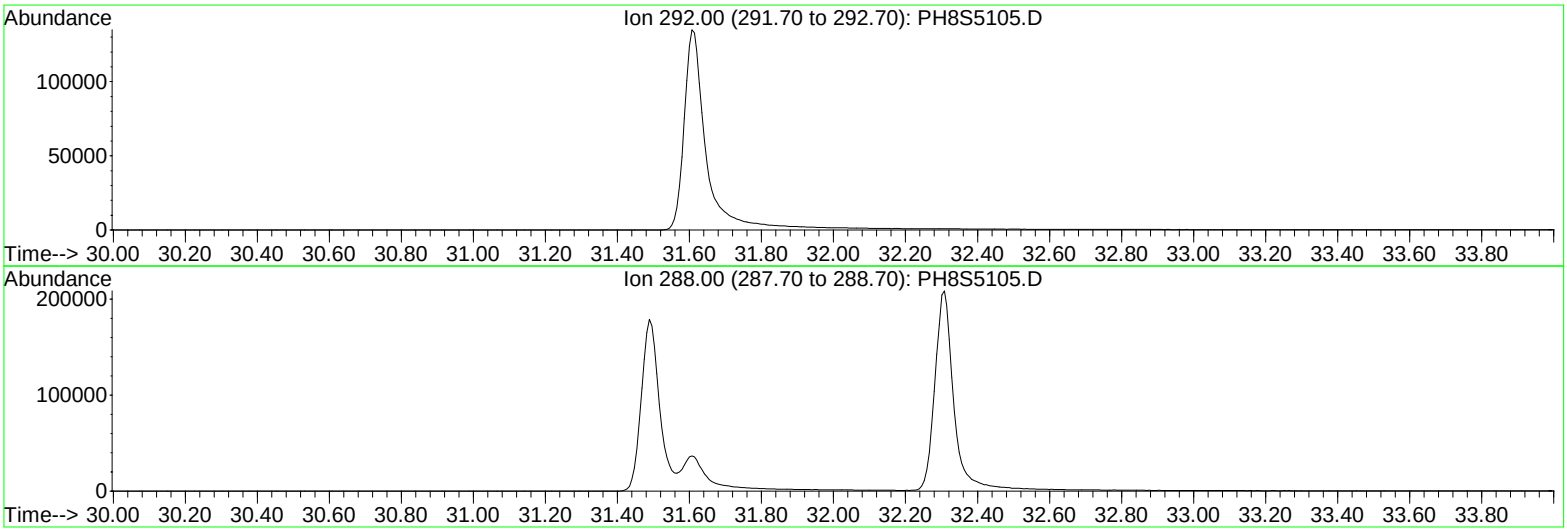


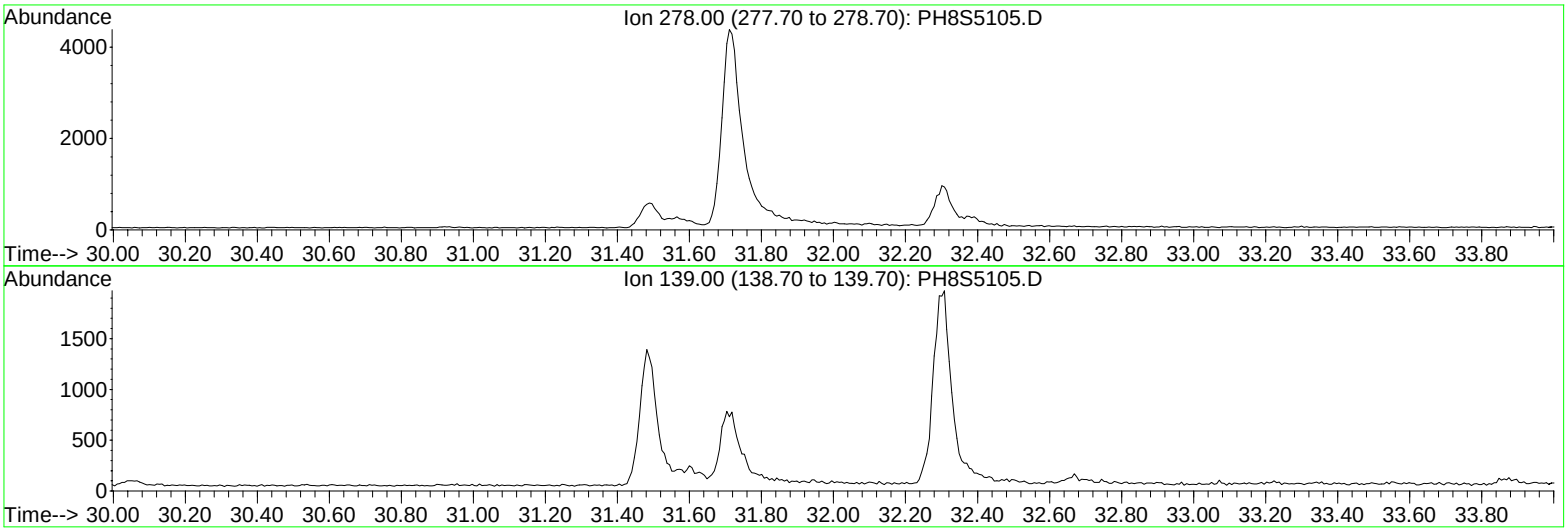


Thu Jan 10 08:37:36 2019

Axys Analytical CHRO Report

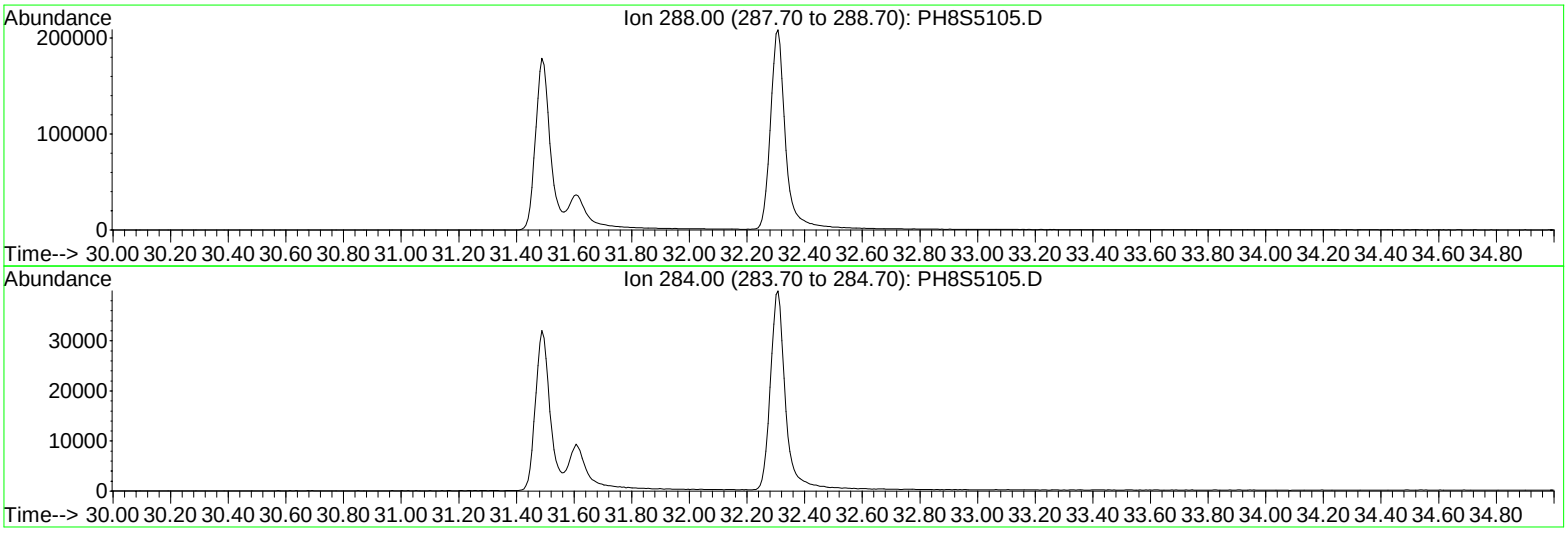
File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL

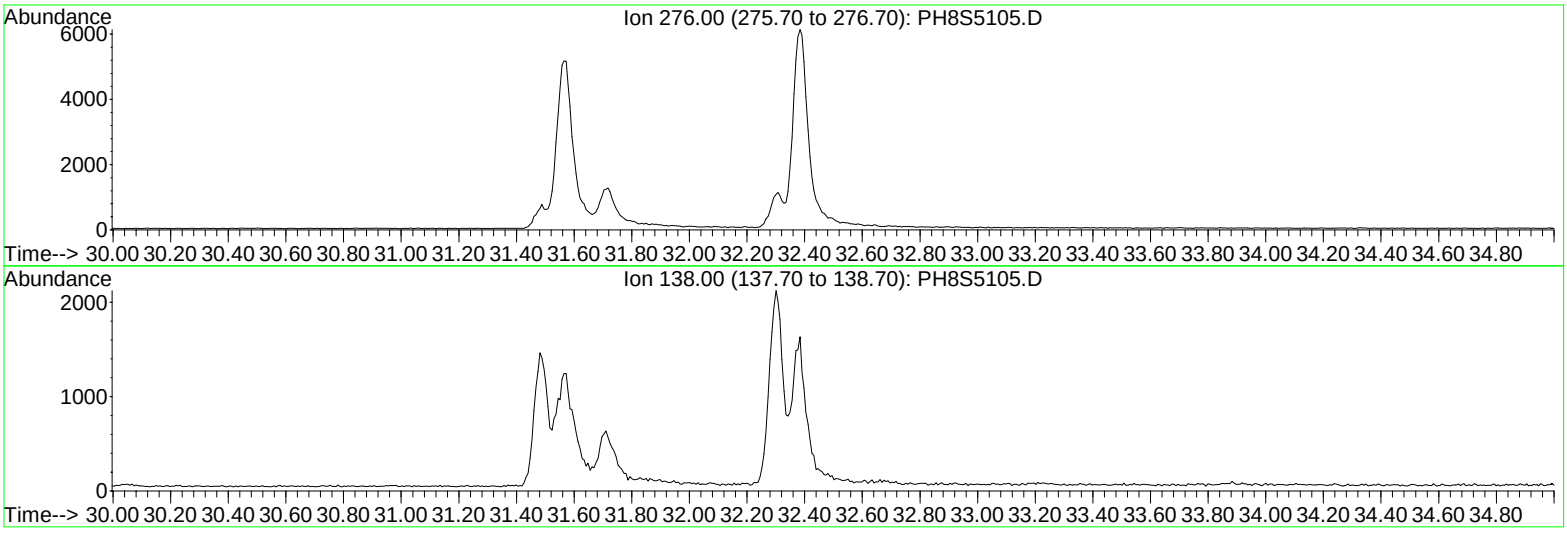




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5105.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 10:27
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036B-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S5106.D
19/10/2018 11:15
PH036C-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5106.D\648S5106.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 4
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-A1.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:06:13 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area q	ra	rel-r.t.
d10-Acenaphthene - REC	358169	11.29	2020 I	0	0	0	0.45	1
d8-Naphthalene - SURR	536130	6.86	2000 S	0	0	0	0.09	0.608
d10-2-Methylnaphthalene - SURR	353202	8.53	1970 S	0	0	0	0.19	0.756
d10-Biphenyl - SURR	513119	9.8	2045 S	0	0	0	-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	336873	10.11	2055 S	0	0	0	0.77	0.896
d8-Acenaphthylene - SURR	655318	10.85	2060 S	0	0	0	0.16	0.961
d10-Pyrene - REC	813594	18.55	1970 I	0	0	0	0.17	1
d10-Phenanthrene - SURR	679832	14.99	1805 S	0	0	0	0.15	0.808
d8-Dibenzothiophene - SURR	685493	14.7	2035 S	0	0	0	0.09	0.792
d12-Benz(a)anthracene - SURR	720912	21.59	2030 S	0	0	0	0.24	1.164
d12-Chrysene - SURR	739945	21.69	1960 S	0	0	0	0.26	1.169
d12-Benzo(e)pyrene - REC	749911	26.1	2020 I	0	0	0	0.25	1
d12-Benzo(b)Fluoranthene - SURR	668812	25	1970 S	0	0	0	0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	756593	25.1	2000 S	0	0	0	0.19	0.962
d12-Benzo(a)pyrene - SURR	672098	26.32	2070 S	0	0	0	0.2	1.008
d12-Perylene - SURR	694047	26.72	2150 S	0	0	0	0.25	1.024
d12-Indeno(123cd)pyrene - SURR	646001	31.49	1990 S	0	0	0	0.18	1.206
d12-Benzo(ghi)perylene - SURR	784937	32.31	1980 S	0	0	0	0.19	1.238
d8-Naphthalene	536130	6.86	2000 I	0	0	0	0.09	1
Naphthalene $	30626	6.9	98.65 T	0	0	0	0.07	1.006
d10-2-Methylnaphthalene	353202	8.53	1970 I	0	0	0	0.19	1
2-Methylnaphthalene $	20959	8.6	99.82 T	0	0	0	0.92	1.009
1-Methylnaphthalene	20015	8.87	99.97 T	0	0	0	0.94	1.04
C1-Naphthalenes	20959	8.6	0 T	0	0	0	-1	1.009
d10-Biphenyl	513119	9.8	2045 I	0	0	0	-1	1
Biphenyl $	27320	9.85	100.33 T	0	0	0	0.29	1.005
C1-Biphenyls $	109	11.33	100.33 T	0	0	0	0.16	1.156
C2-Biphenyls $	12	12.78	100.33 T	0	0	0	2.67	1.305
d12-2,6-Dimethylnaphthalene	336873	10.11	2055 I	0	0	0	0.77	1
2,6-Dimethylnaphthalene $	19260	10.21	100.17 T	0	0	0	0.71	1.01
Ethyl/DiMe-Naphthalenes	19260	10.21	200.17 T	0	0	0	0.71	1.01
1,2-Dimethylnaphthalene	15676	10.93	100 T	0	0	0	1.32	1.082
C2-Naphthalenes	19260	10.21	0 T	0	0	0	-1	1.01
2,3,6-Trimethylnaphthalene	19313	12.2	100.1 T	0	0	0	0.93	1.206
2,3,5-Trimethylnaphthalene $	18262	12.38	100.01 T	0	0	0	0.93	1.224
C3-Naphthalenes	18262	12.38	200.11 T	0	0	0	0.93	1.224
1,4,6,7-Tetramethylnaphthalene $	19146	13.9	99.84 T	0	0	0	0.03	1.375
C4-Naphthalenes	19146	13.9	99.84 T	0	0	0	0.03	1.375
d8-Acenaphthylene	655318	10.85	2060 I	0	0	0	0.16	1
Acenaphthylene $	37563	10.88	98.35 T	0	0	0	0.2	1.003
Acenaphthene $	20932	11.36	100.25 T	0	0	0	1.15	1.047
C1-Acenaphthenes $	33	11.72	100.25 T	0	0	0	0.73	1.08
d8-Dibenzothiophene	685493	14.7	2035 I	0	0	0	0.09	1
Dibenzothiophene $	39338	14.74	100.09 T	0	0	0	0.08	1.003
C1-Dibenzothiophenes-1	715	15.88	100.05 T	0	0	0	0.69	1.08
2/3-Methyldibenzothiophenes $	25546	16.08	100.05 T	0	0	0	0.71	1.094
C1-Dibenzothiophenes-2	143	16.51	100.05 T	0	0	0	0.57	1.123
C1-Dibenzothiophenes	25546	16.08	0 T	0	0	0	-1	1.094
4,6-Dimethyldibenzothiophene	27438	16.95	99.97 T	0	0	0	0.17	1.153

SvBy AK
16 Dec 2018

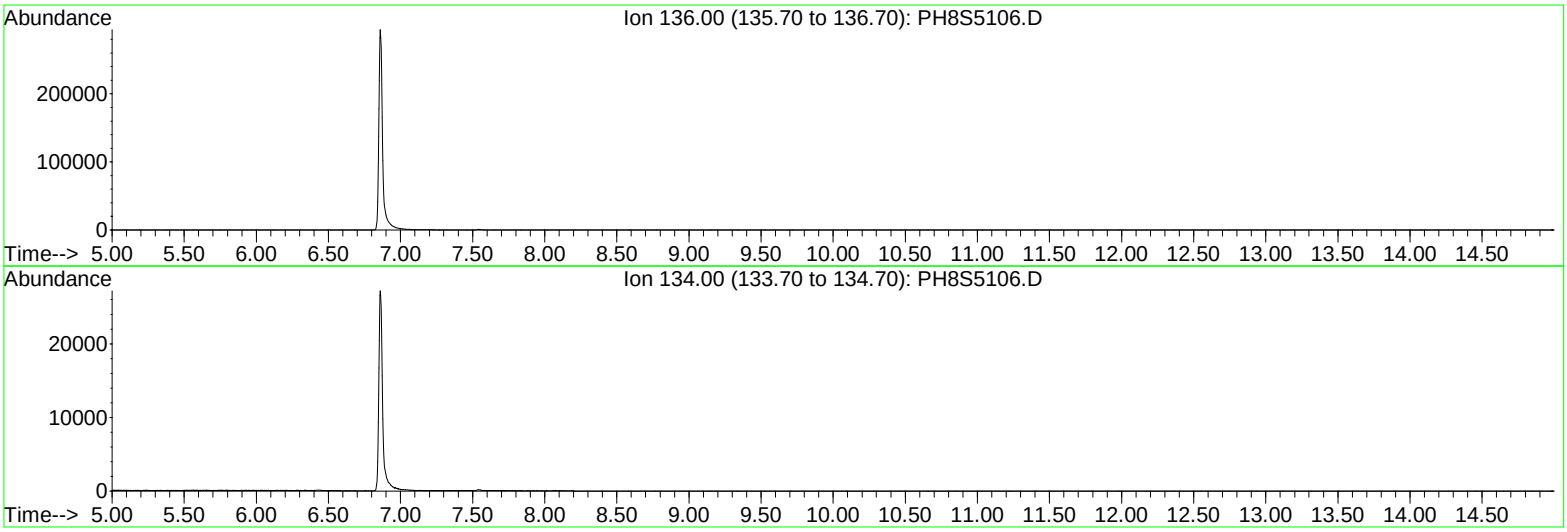
pv by vr
08-Dec-2018

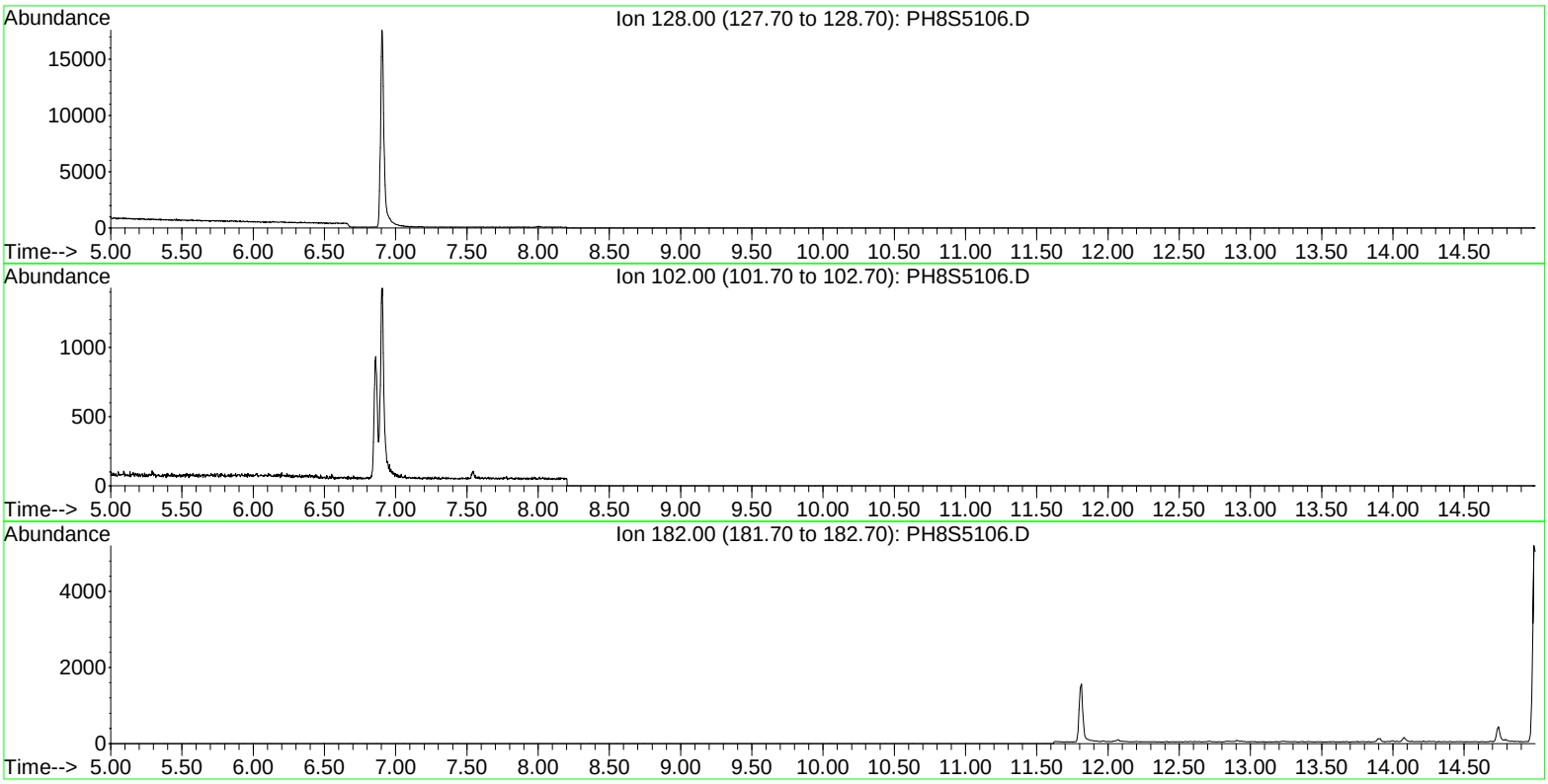
2,4-Dimethyldibenzothiophene $	21075	17.09	100 T	0	0	0		0.52	1.163
C2-Dibenzothiophenes	22454	17.09	100 T	0	0	0		0.51	1.163
C3-Dibenzothiophenes $	22	18.09	100 T	0	0	0	#	-1	1.231
C4-Dibenzothiophenes $	25	18.84	100 T	0	0	0		0.44	1.282
d10-Phenanthrene	679832	14.99	1805 I	0	0	0		0.15	1
Fluorene $	25865	12.65	98.3 T	0	0	0		1.01	0.844
2-Methylfluorene $	17560	14.08	100 T	0	0	0		1.31	0.939
C1-Fluorenes	17560	14.08	100 T	0	0	0		1.31	0.939
1,7-Dimethylfluorene $	15983	15.5	100.1 T	0	0	0		0.08	1.034
C2-Fluorenes	15983	15.5	100.1 T	0	0	0		0.08	1.034
C3-Fluorenes $	293	16.43	100.1 T	0	0	0		0.93	1.096
Phenanthrene $	39960	15.05	100.9 T	0	0	0		0.19	1.004
Anthracene	40089	15.16	100.25 T	0	0	0		0.18	1.011
d10-Anthracene $	730426	15.12	2040 T	0	0	0		0.13	1.008
3-Methylphenanthrene	24966	16.37	300.14 T	0	0	0		0.59	1.092
2-Methylphenanthrene	24966	16.37	100.07 T	0	0	0		0.59	1.092
2-Methylanthracene	24291	16.47	99.97 T	0	0	0		0.52	1.099
9/4-Methylphenanthrenes	25075	16.47	300.14 T	0	0	0		0.51	1.099
1-Methylphenanthrene $	28015	16.65	100.1 T	0	0	0		0.63	1.11
C1-Phenanthrenes/Anthracenes	28597	16.65	0 T	0	0	0		-1	1.11
Fluoranthene $	46301	18.06	98.95 T	0	0	0		0.22	1.205
Pyrene	48718	18.6	99 T	0	0	0		0.21	1.241
3,6-Dimethylphenanthrene $	26054	17.47	99.88 T	0	0	0		0.37	1.165
2,6-Dimethylphenanthrene	26235	17.47	200.26 T	0	0	0		0.37	1.165
1,7-Dimethylphenanthrene	25755	17.88	100.38 T	0	0	0		0.35	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	26054	17.47	200.26 T	0	0	0		0.37	1.165
1,8-Dimethylphenanthrene	16424	18.01	200.26 T	0	0	0	#	0.04	1.202
C2-Phenanthrenes/Anthracenes	26054	17.47	0 T	0	0	0		-1	1.165
1,2,6-Trimethylphenanthrene $	27254	19.4	116.65 T	0	0	0		0.6	1.294
C3-Phenanthrenes/Anthracenes	28330	19.4	116.65 T	0	0	0		0.61	1.294
Retene $	8950	19.51	99.94 T	0	0	0		1.68	1.302
C4-Phenanthrenes/Anthracenes	8950	19.51	99.94 T	0	0	0		1.68	1.302
C1-Fluoranthenes/Pyrenes-1	0	0	100 T	0	0	0		0	0
3-Methylfluoranthene/Benzo(a)fluorene $	27908	19.5	100 T	0	0	0		1.09	1.301
C1-Fluoranthenes/Pyrenes-2	50	19.93	100 T	0	0	0		0.42	1.33
C1-Fluoranthenes/Pyrenes	27908	19.5	0 T	0	0	0		-1	1.301
C2-Fluoranthenes/Pyrenes $	57	20.45	100 T	0	0	0		0.75	1.364
C3-Fluoranthenes/Pyrenes $	17	21.88	100 T	0	0	0	#	-1	1.46
C4-Fluoranthenes/Pyrenes $	13	23.26	100 T	0	0	0		11.31	1.552
d12-Benz(a)anthracene	720912	21.59	2030 I	0	0	0		0.24	1
d10-Fluoranthene $	764066	18.01	1985 T	0	0	0		0.17	0.834
Benz(a)anthracene	44801	21.65	100.65 T	0	0	0		0.28	1.003
d12-Chrysene	739945	21.69	1960 I	0	0	0		0.26	1
Chrysene $	45083	21.75	100.45 T	0	0	0		0.3	1.003
5/6-Methylchrysenes $	32945	23.09	100.01 T	0	0	0		-1	1.065
1-Methylchrysene	33552	23.26	99.96 T	0	0	0		-1	1.073
C1-Benz(a)anthracenes/Chrysenes	34728	23.09	199.97 T	0	0	0		-1	1.065
5,9-Dimethylchrysene $	25168	24.39	99.96 T	0	0	0		-1	1.125
C2-Benz(a)anthracenes/Chrysenes	25168	24.39	99.96 T	0	0	0		-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	10	25.05	99.96 T	0	0	0		-1	1.155
C4-Benz(a)anthracenes/Chrysenes $	32	26.09	99.96 T	0	0	0		-1	1.203
d12-Benzo(b)fluoranthene	668812	25	1970 I	0	0	0		0.21	1
Benzo(b)fluoranthene-SURR int	1855	24.99	0 T	0	0	0		0.4	1
Benzo(b)fluoranthene $	49310	25.09	100.7 T	0	0	0		0.22	1.004
d12-Benzo(k)fluoranthene	756593	25.1	2000 I	0	0	0		0.19	1
Benzo(j/k)fluoranthenes	44931	25.18	100.75 T	0	0	0		0.23	1.003
Benzofluoranthenes	49148	25.09	0 T	0	0	0		-1	0.999
d12-Benzo(a)pyrene	672098	26.32	2070 I	0	0	0		0.2	1
Benzo(e)pyrene	42316	26.21	100.03 T	0	0	0		0.21	0.996
Benzo(a)pyrene	39895	26.42	100 T	0	0	0		0.22	1.004
7-Methylbenzo(a)pyrene $	27601	29.15	99.84 T	0	0	0		-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	27601	29.15	99.84 T	0	0	0		-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	17	29.89	99.84 T	0	0	0		-1	1.135
d12-Perylene	694047	26.72	2150 I	0	0	0		0.25	1
Perylene	42408	26.83	99.98 T	0	0	0		0.2	1.004
d12-Indeno(123cd)pyrene	646001	31.49	1990 I	0	0	0		0.18	1
d14-Dibenzo(ah)anthracene $	567109	31.61	1915 T	0	0	0		0.29	1.004
Dibenzo(ah)anthracene $	34766	31.71	98.65 T	0	0	0		0.15	1.007
Indeno(123cd)pyrene $	37611	31.57	100.6 T	0	0	0		0.23	1.002
d12-Benzo(ghi)perylene	784937	32.31	1980 I	0	0	0		0.19	1
Benzo(ghi)perylene	43986	32.38	98.55 T	0	0	0		0.21	1.002

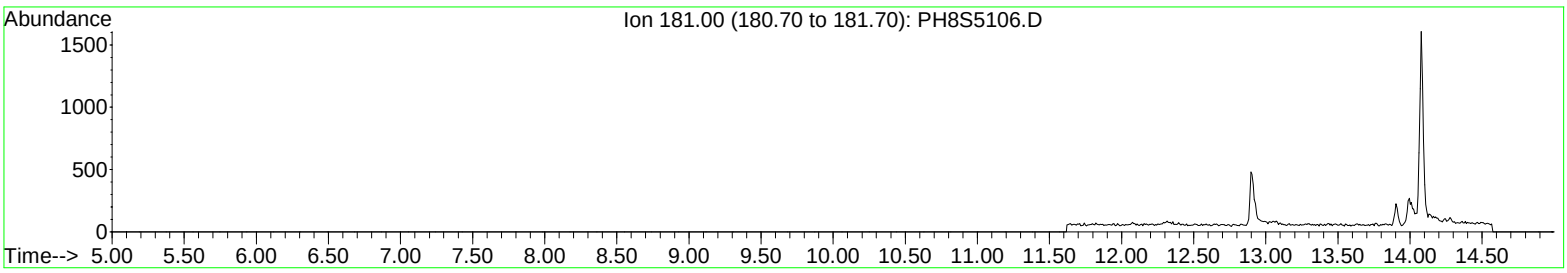
pv by vr
08-Dec-2018

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



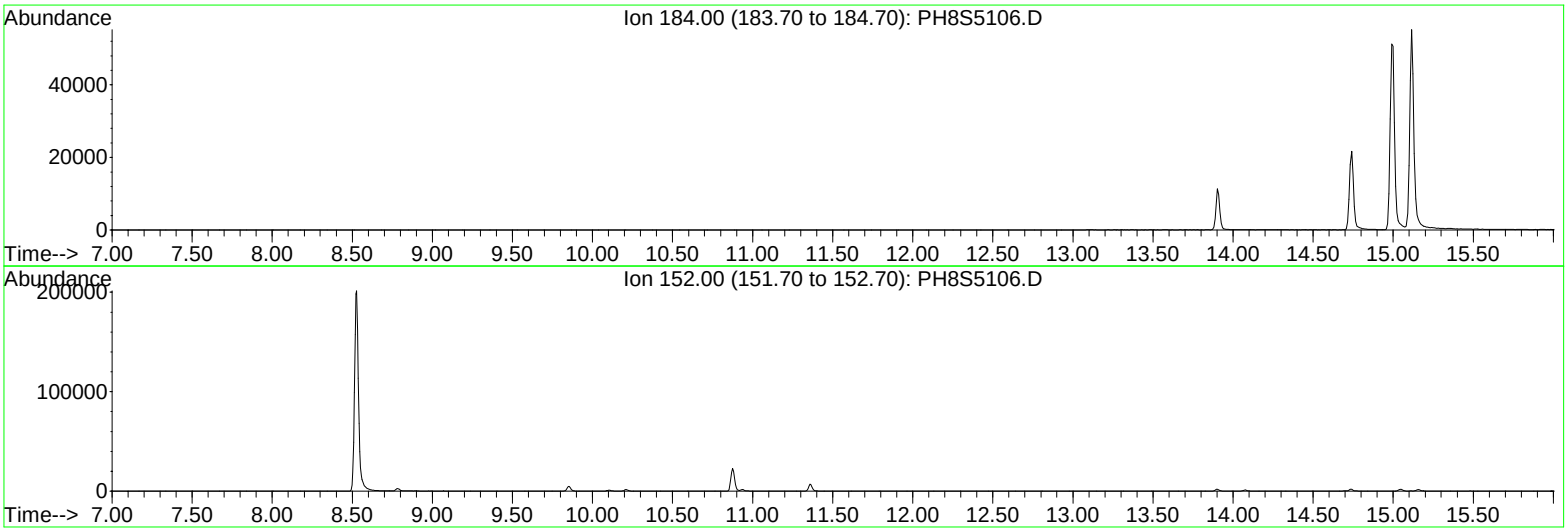


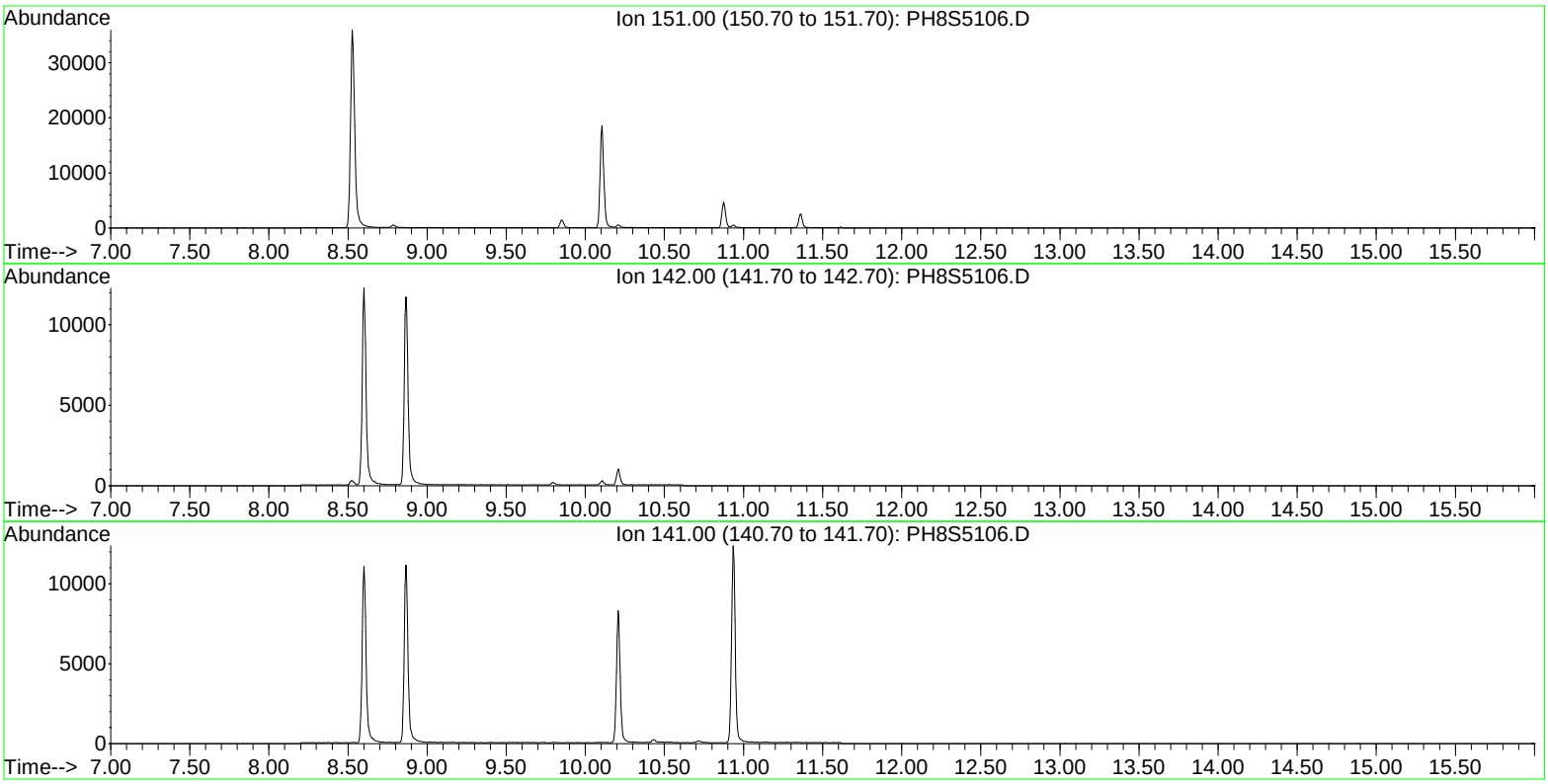


Thu Jan 10 08:37:38 2019

Axys Analytical CHRO Report

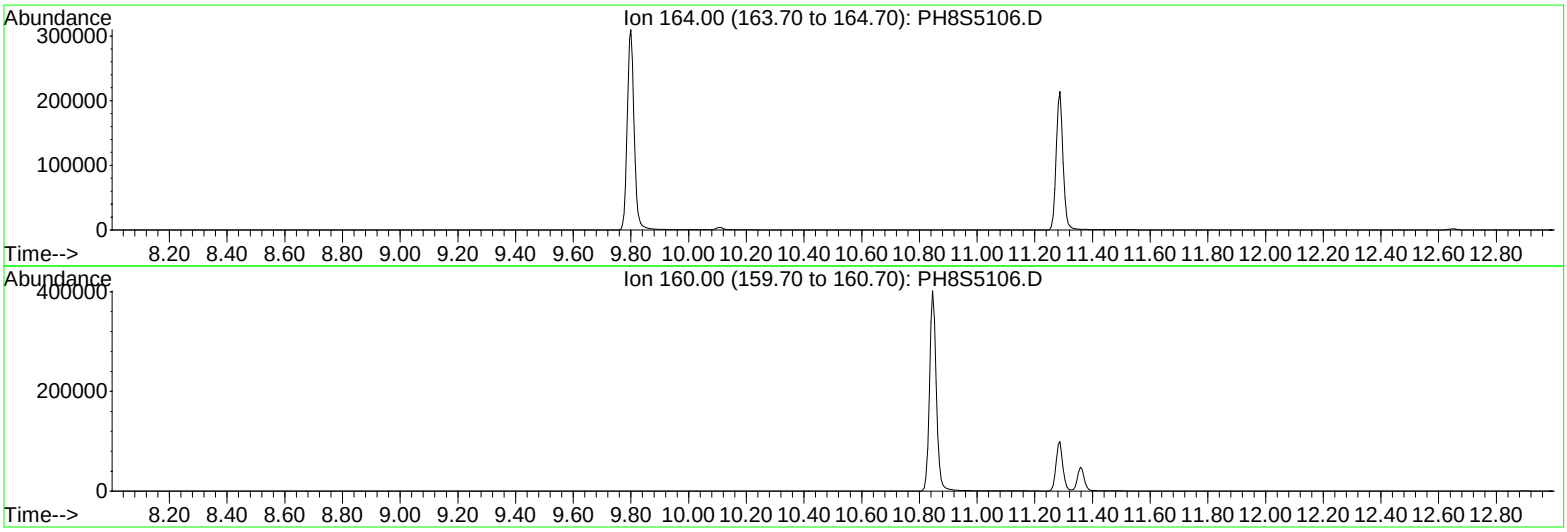
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

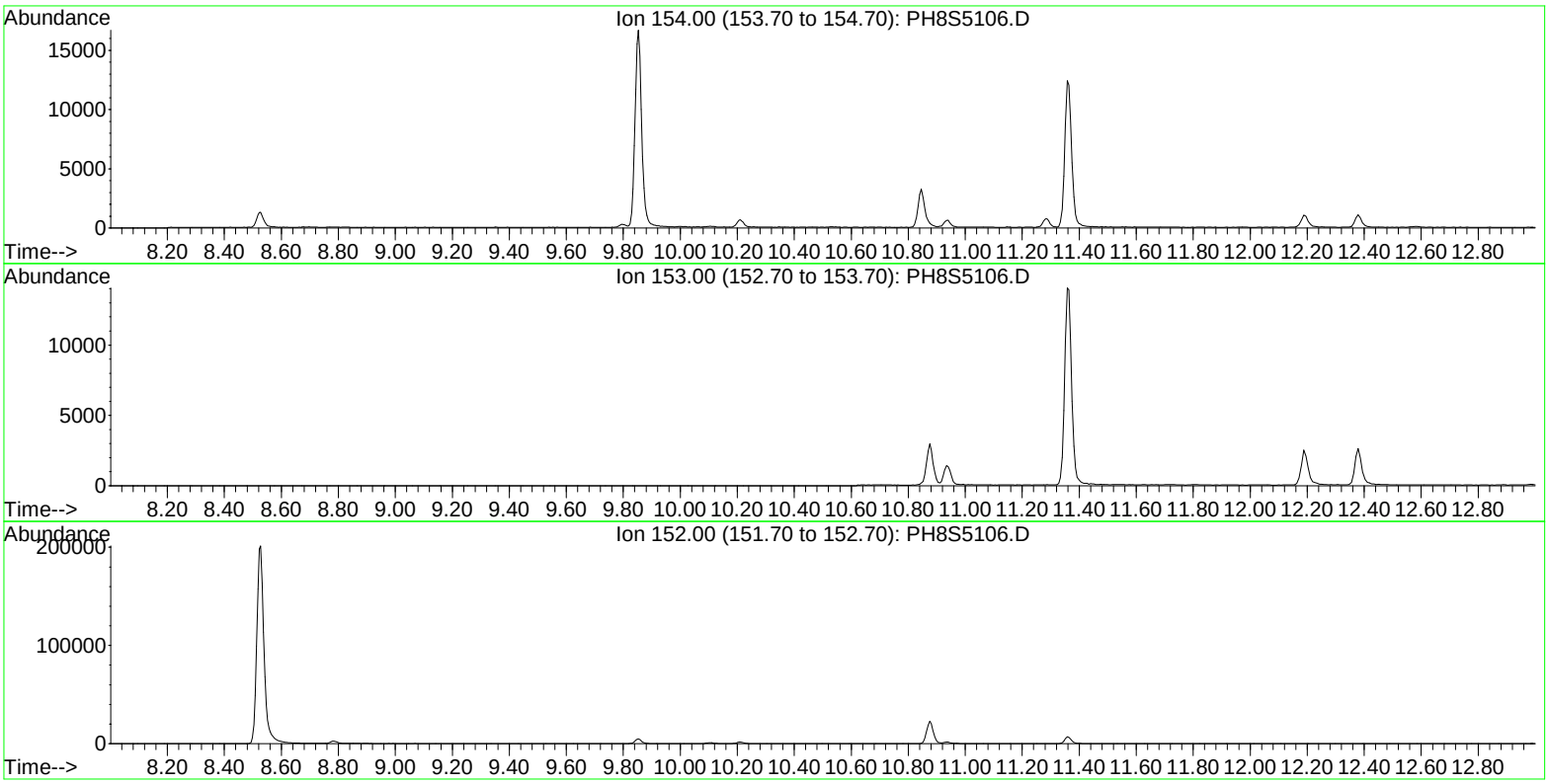




Axys Analytical CHRO Report

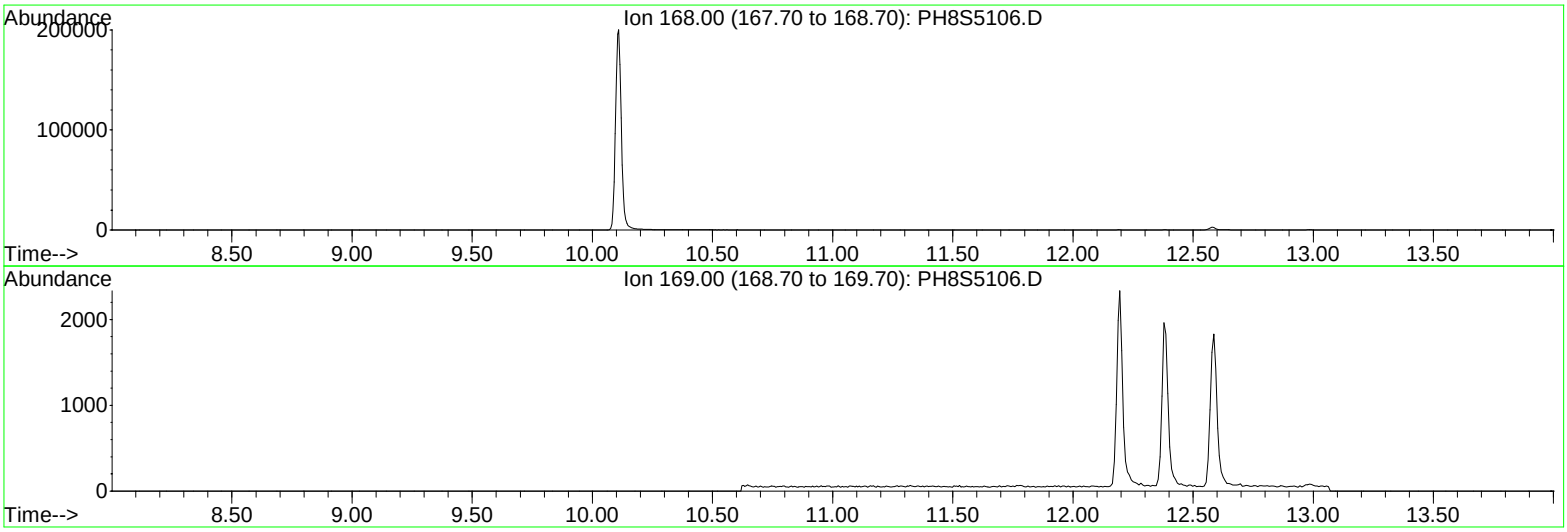
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

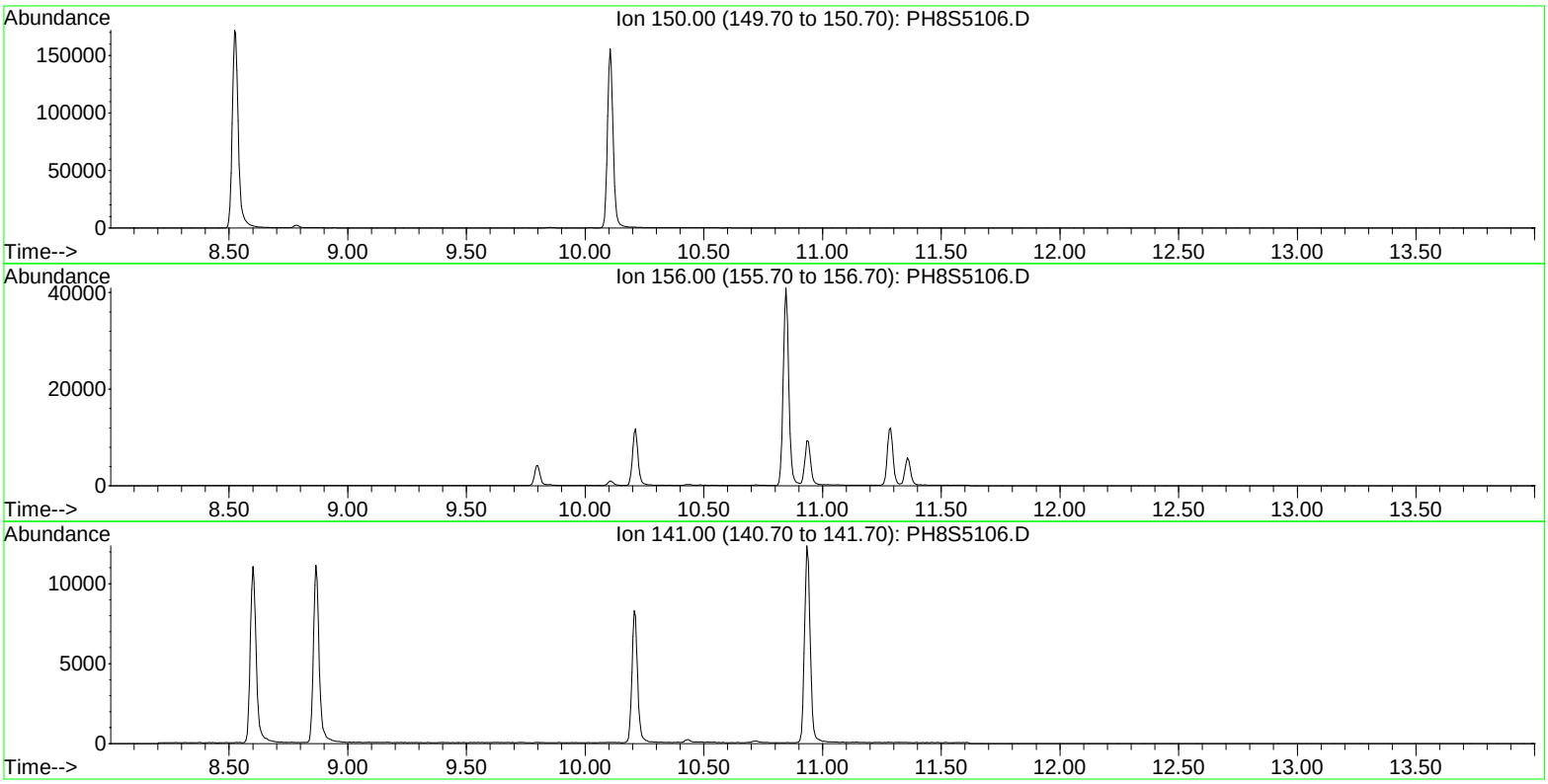




Axys Analytical CHRO Report

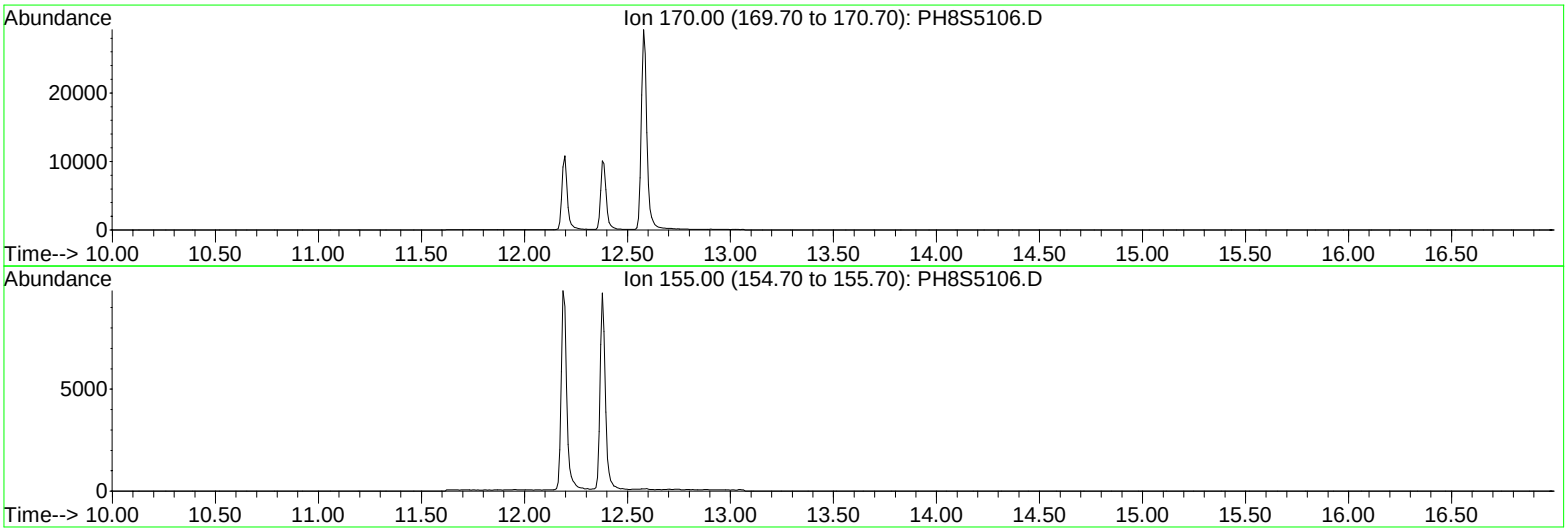
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

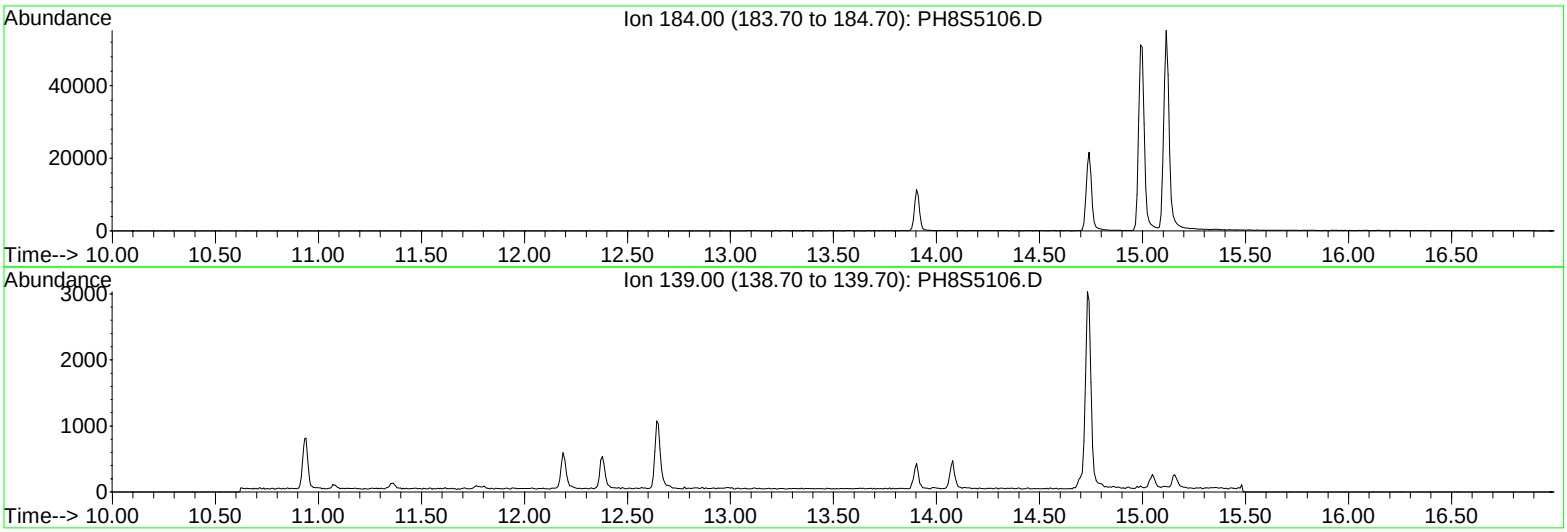




Axys Analytical CHRO Report

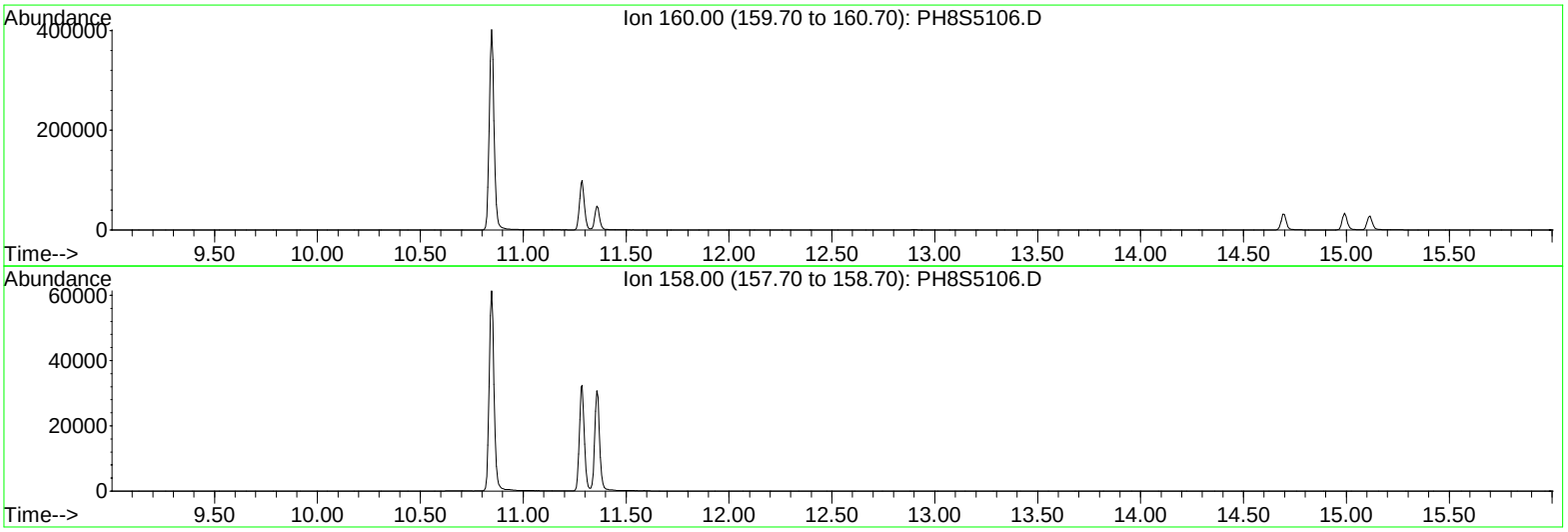
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

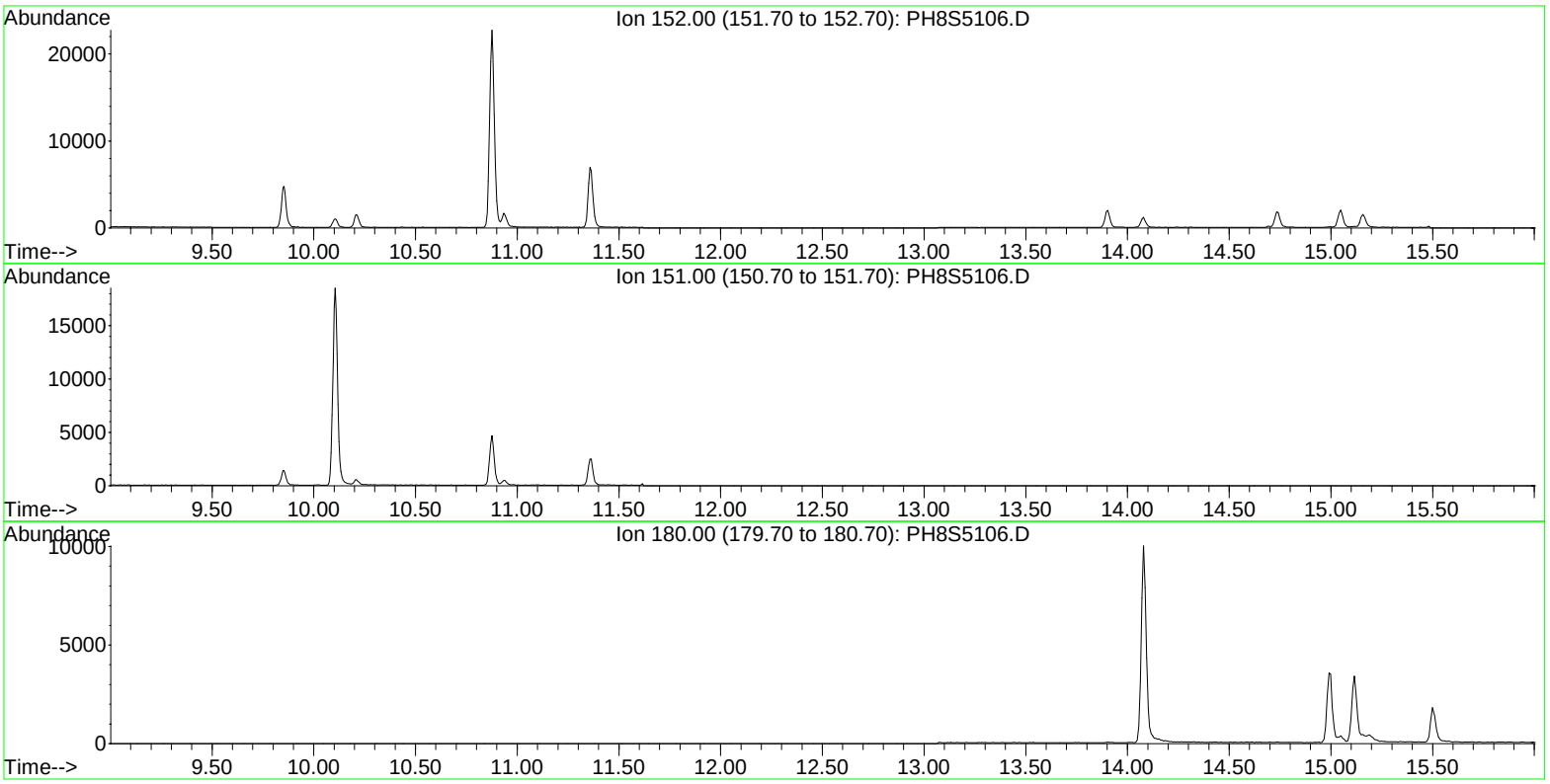


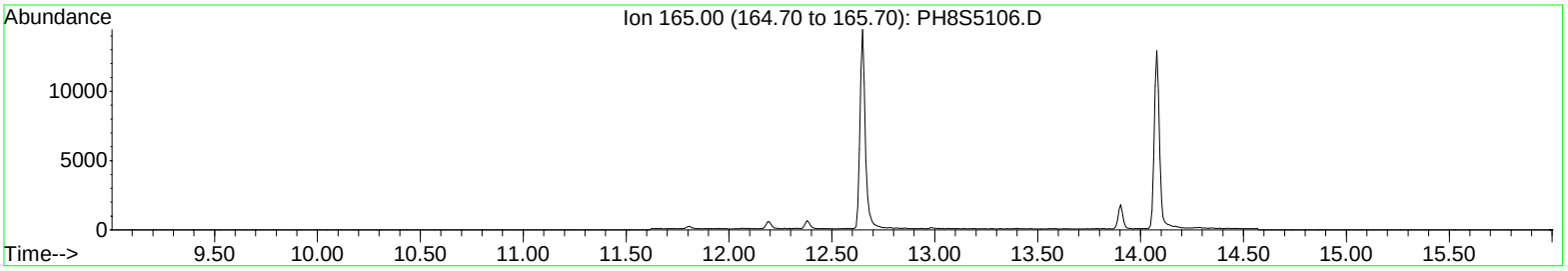


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



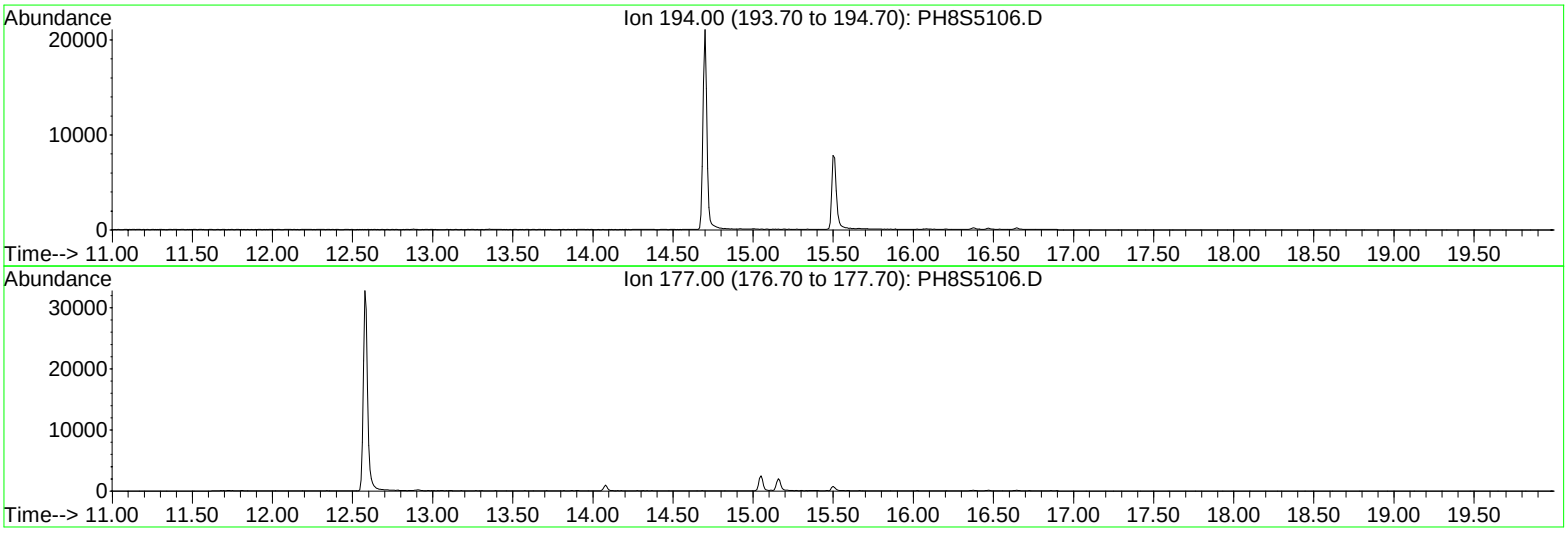


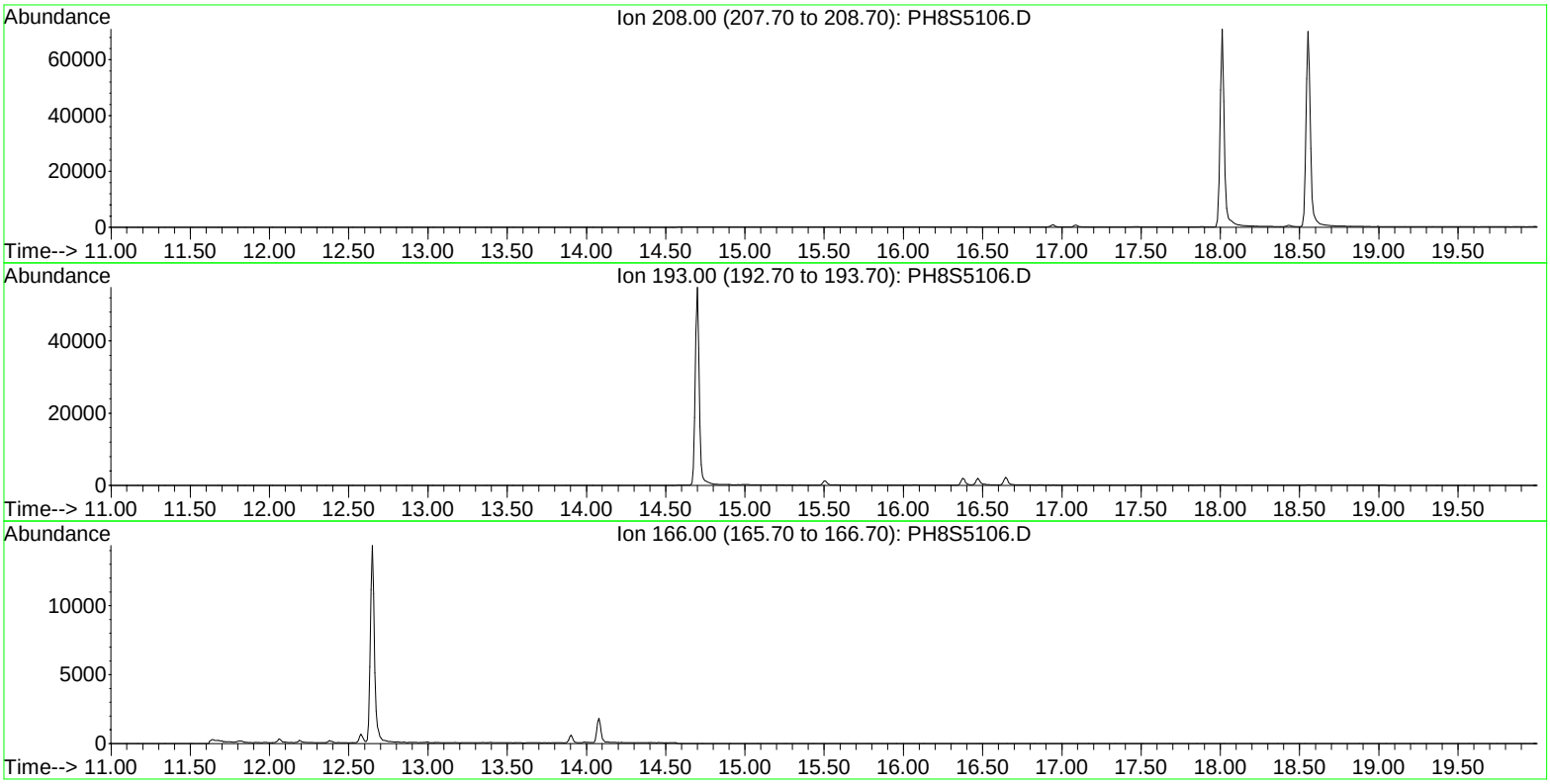


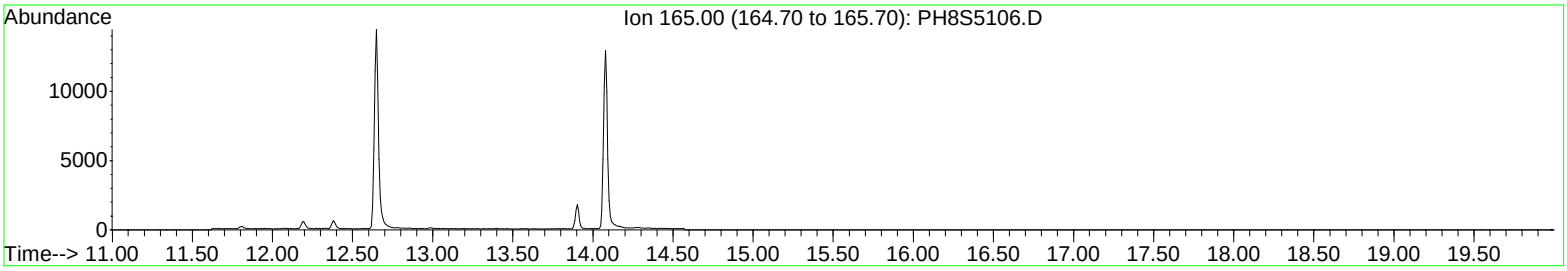
Thu Jan 10 08:37:42 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



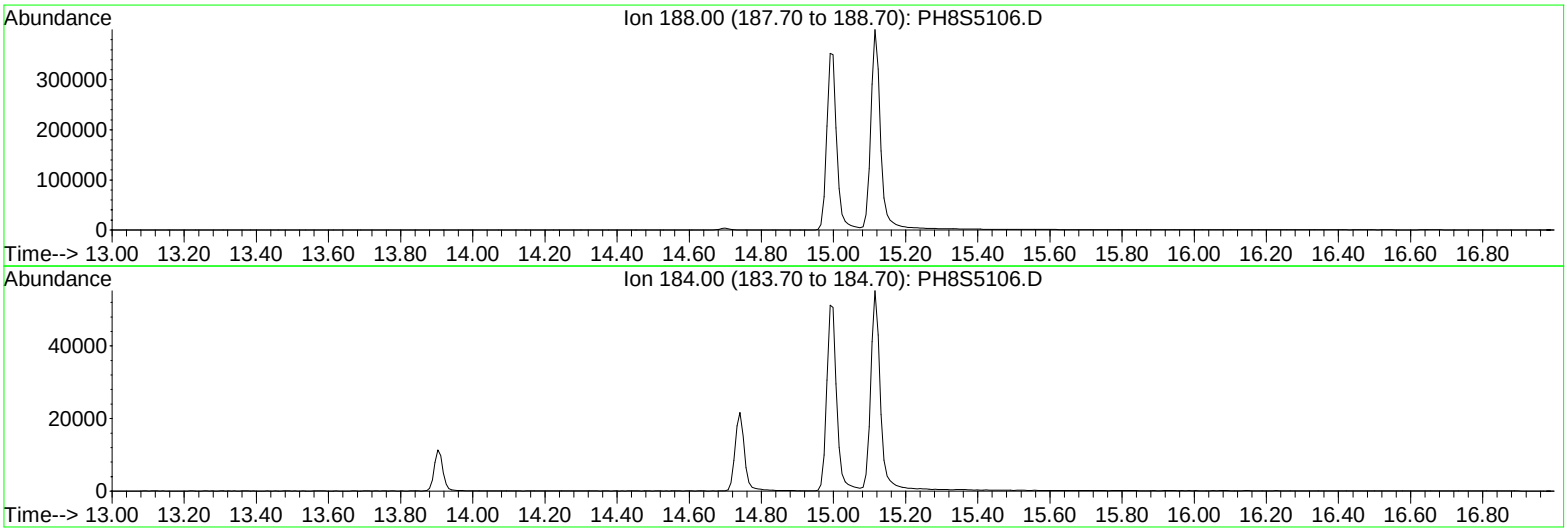


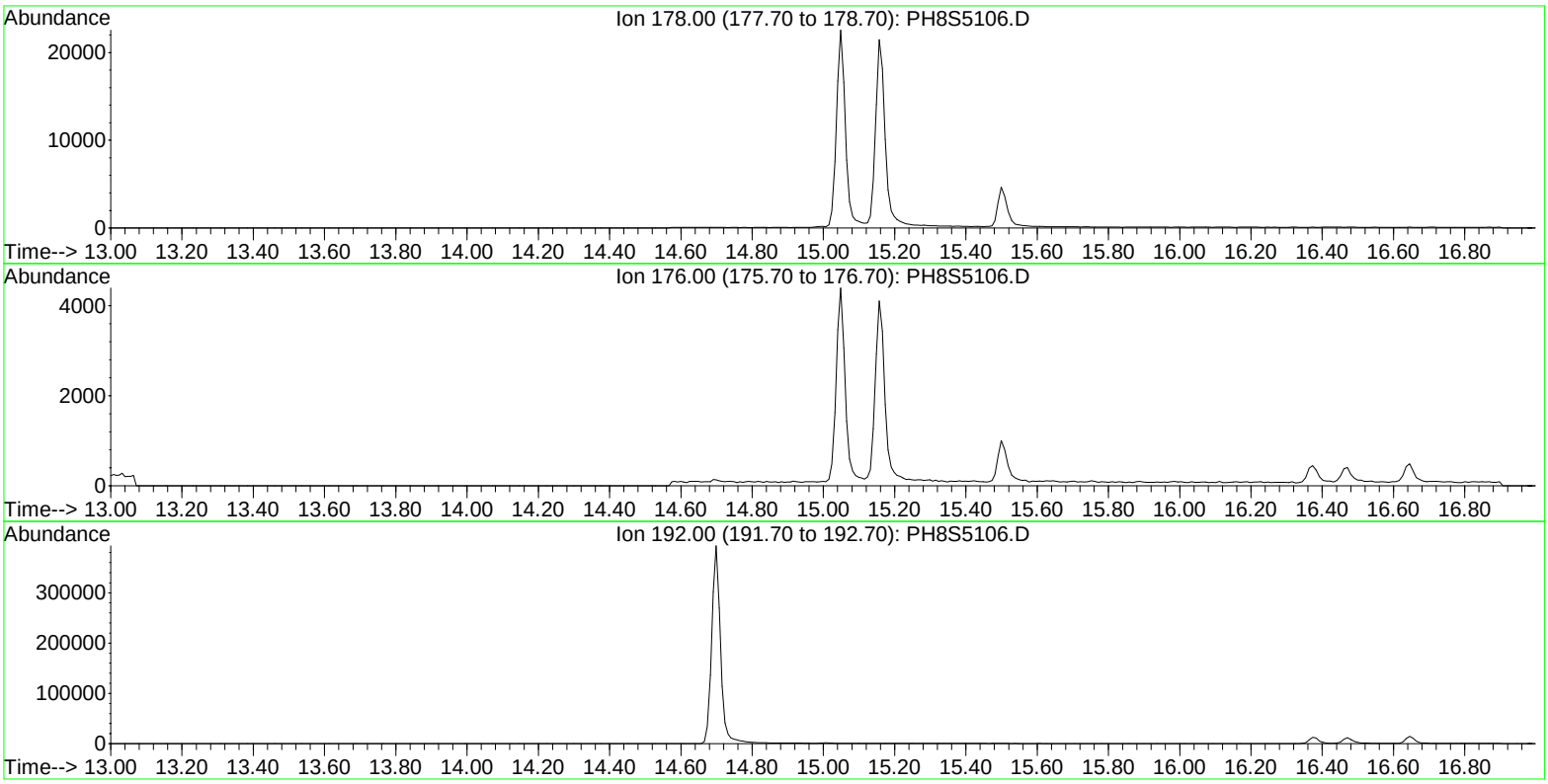


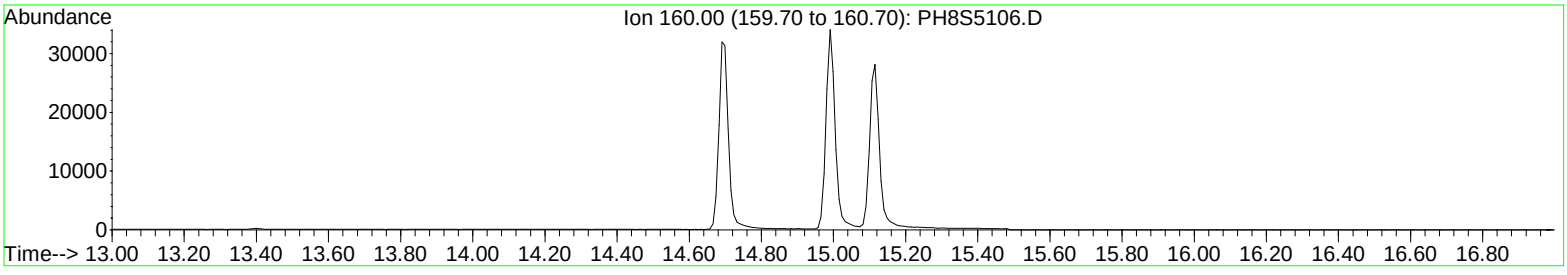
Thu Jan 10 08:37:43 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



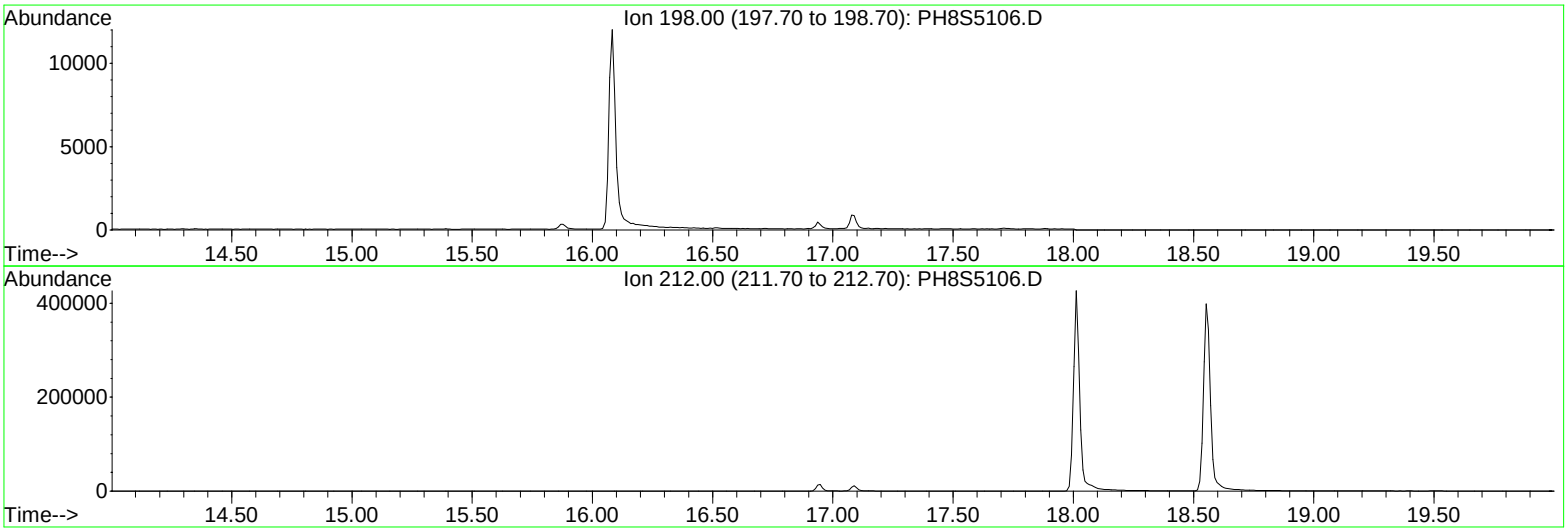


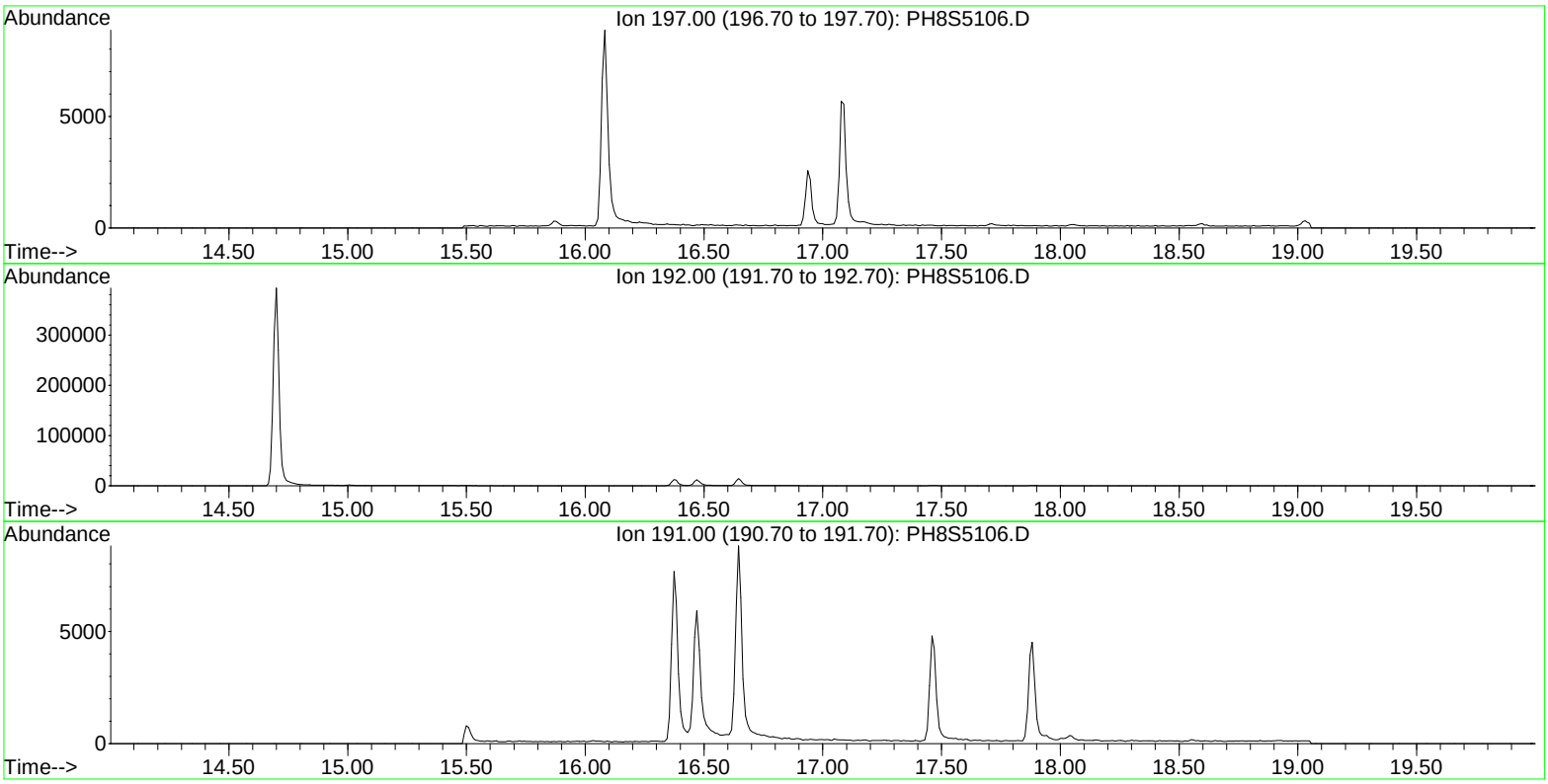


Thu Jan 10 08:37:44 2019

Axys Analytical CHRO Report

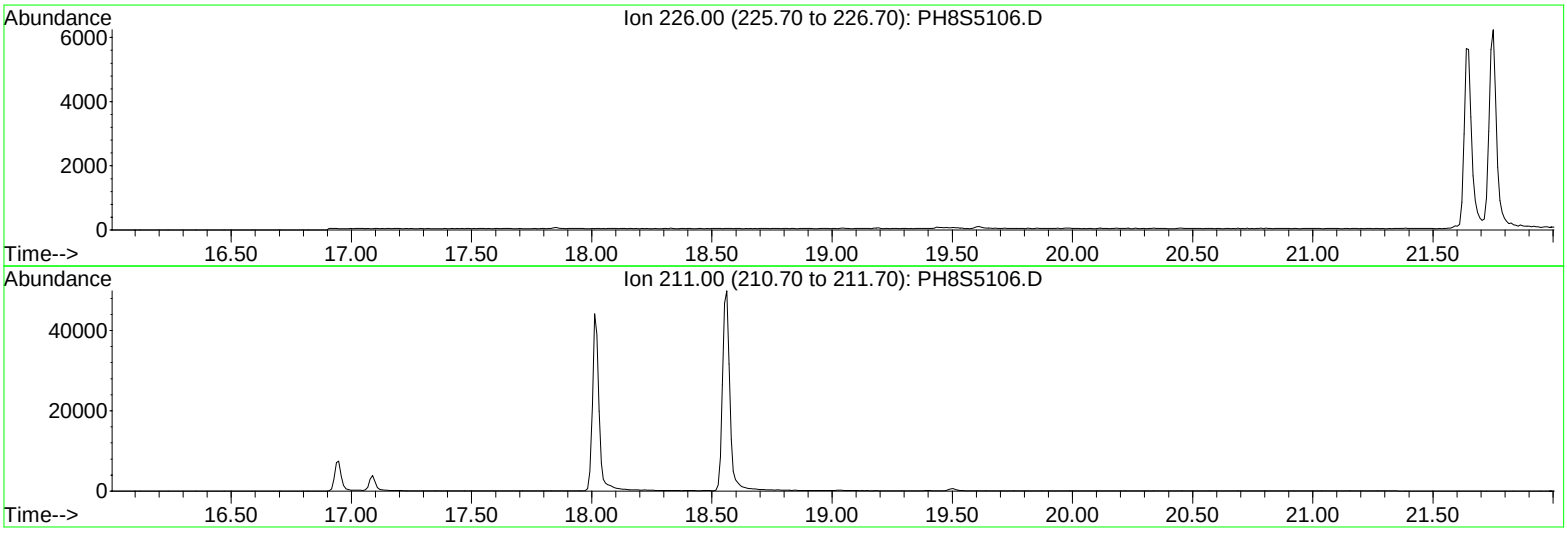
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

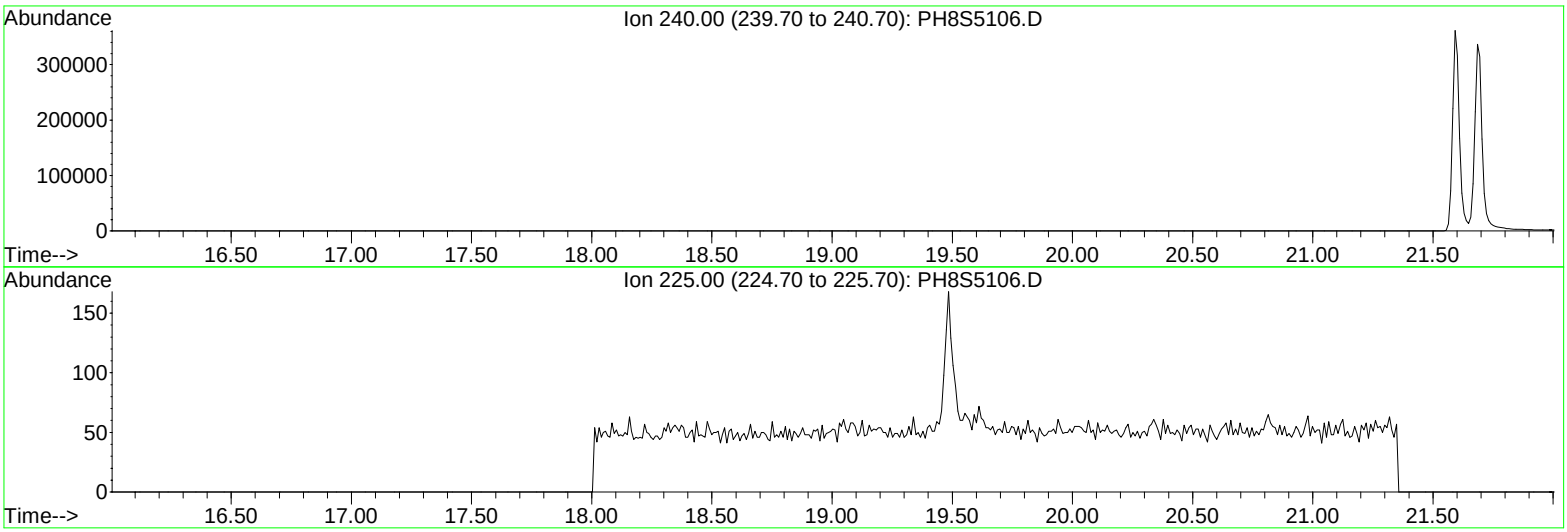




Axys Analytical CHRO Report

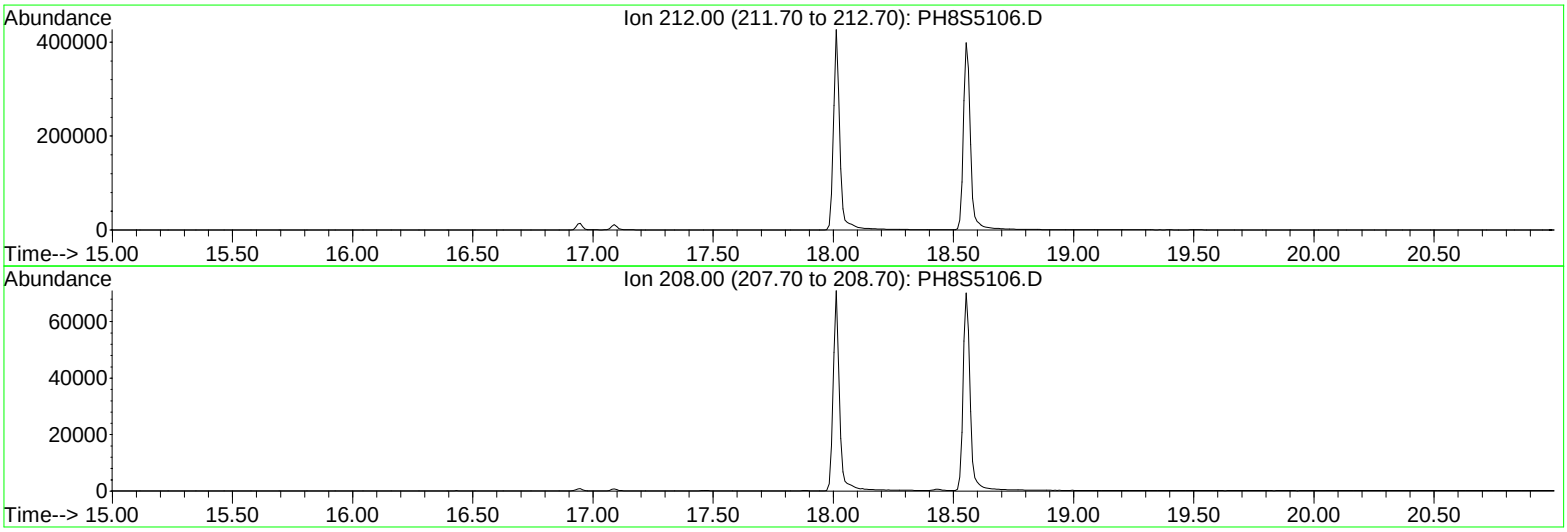
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

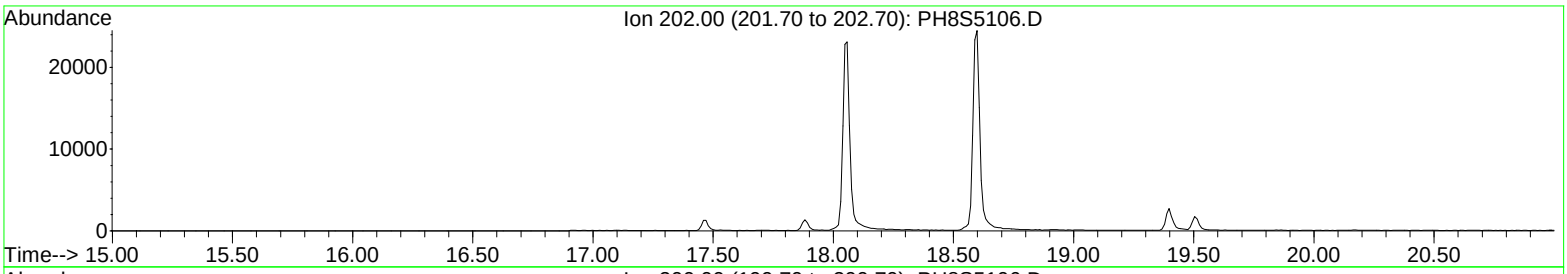


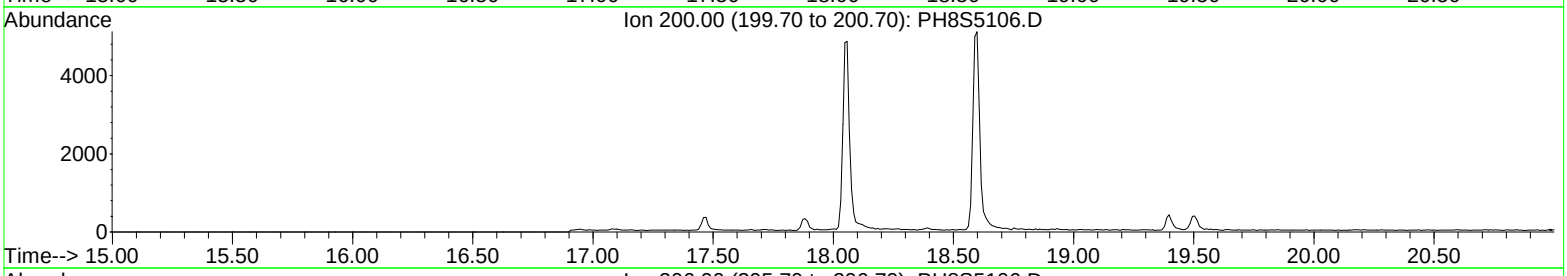


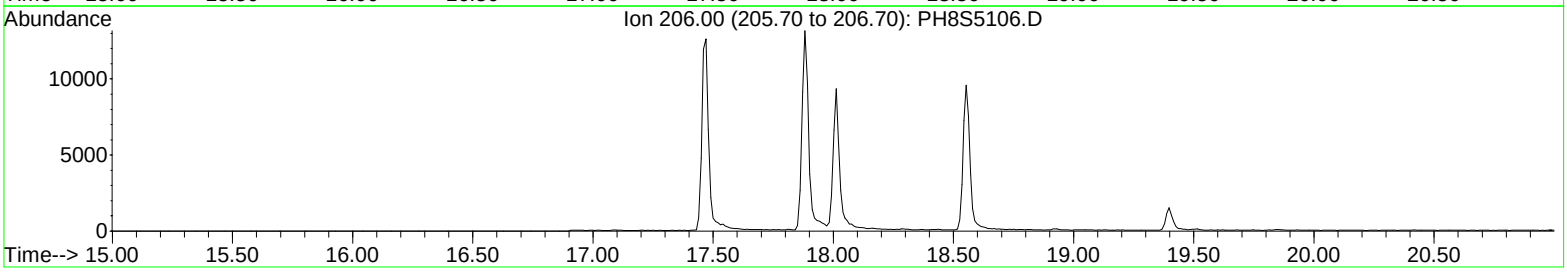
Axys Analytical CHRO Report

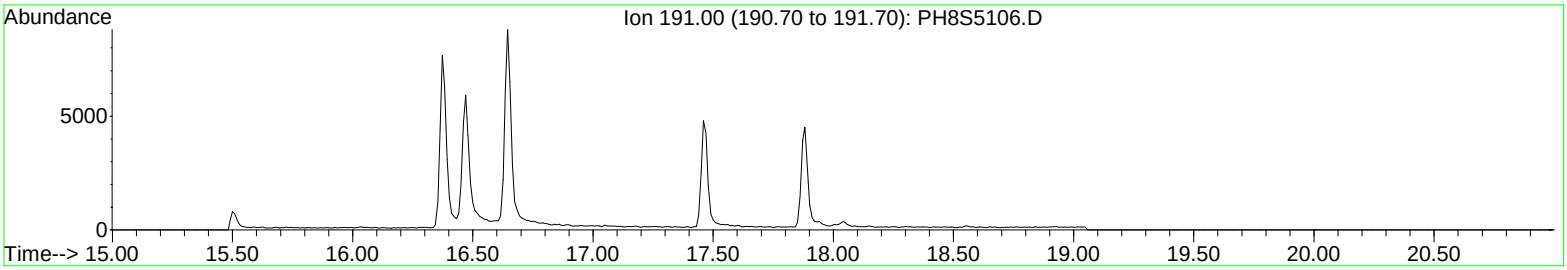
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL







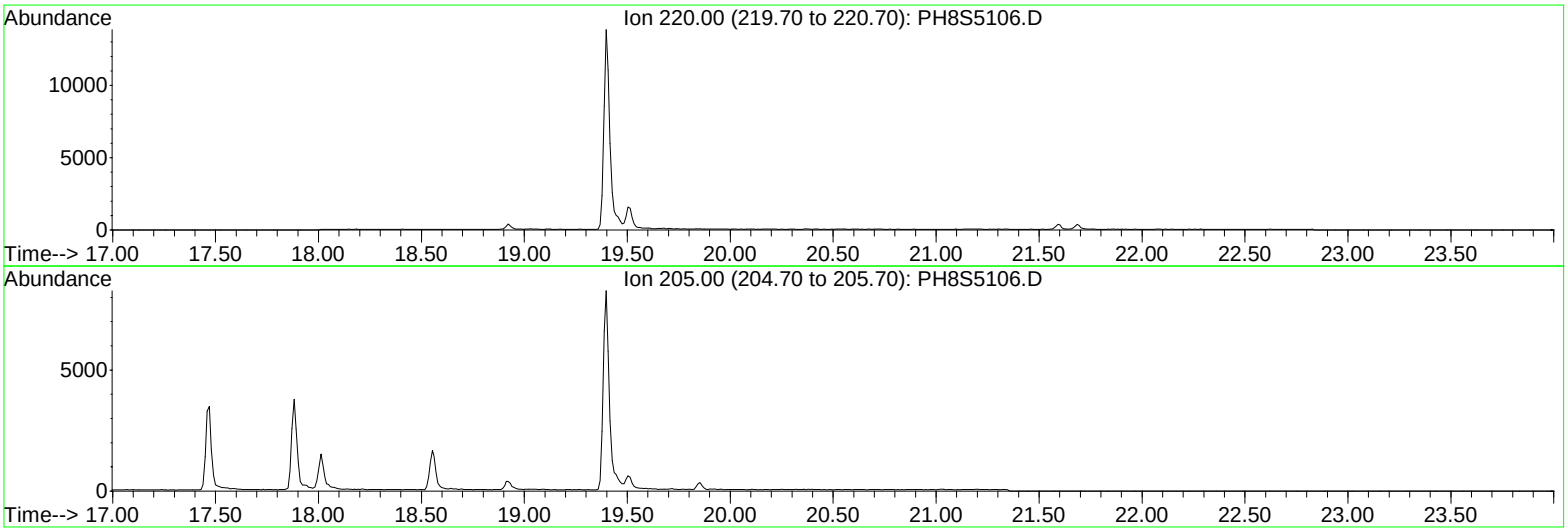


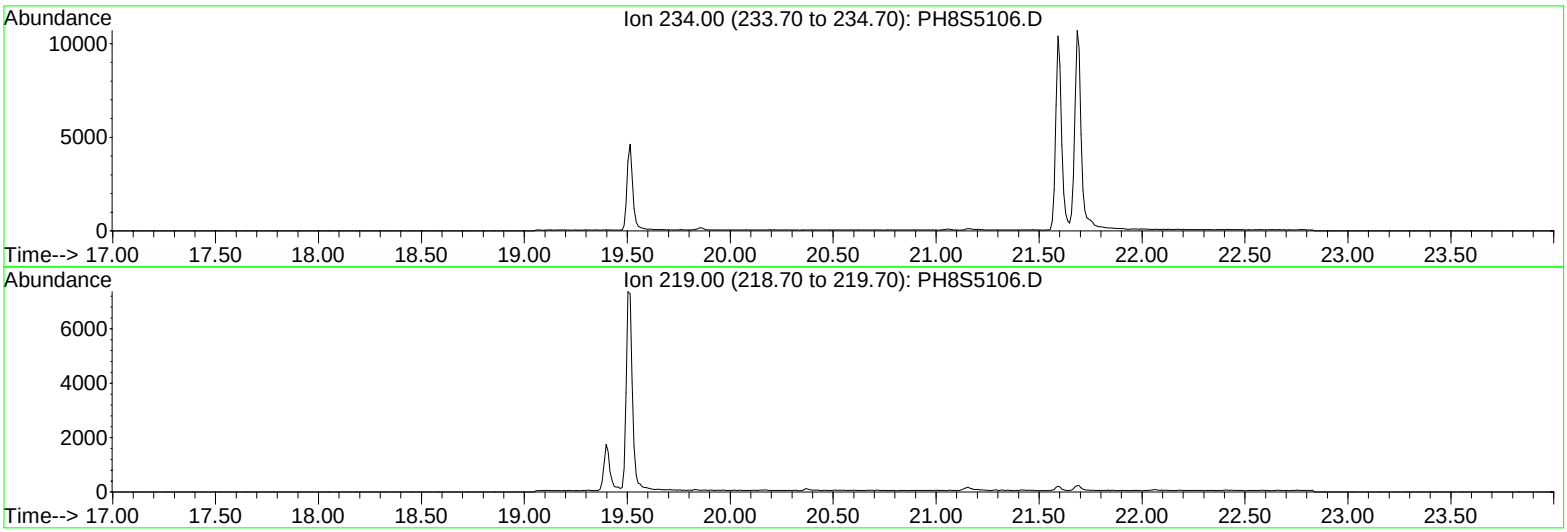


Thu Jan 10 08:37:46 2019

Axys Analytical CHRO Report

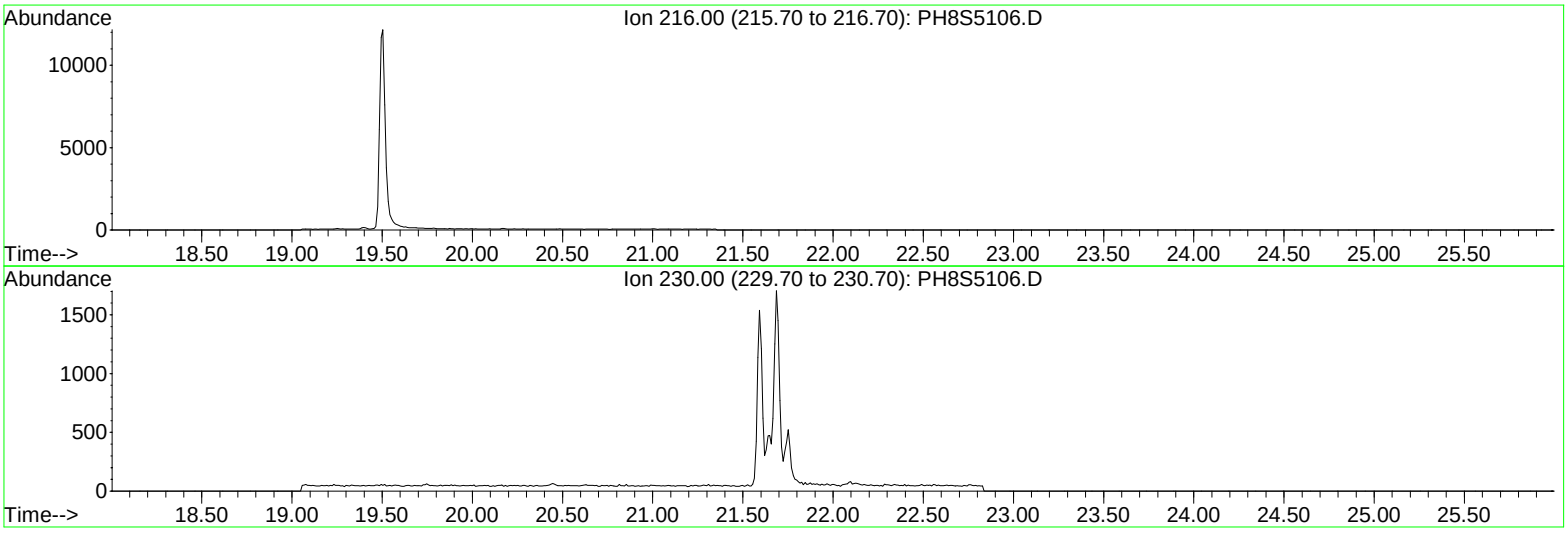
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

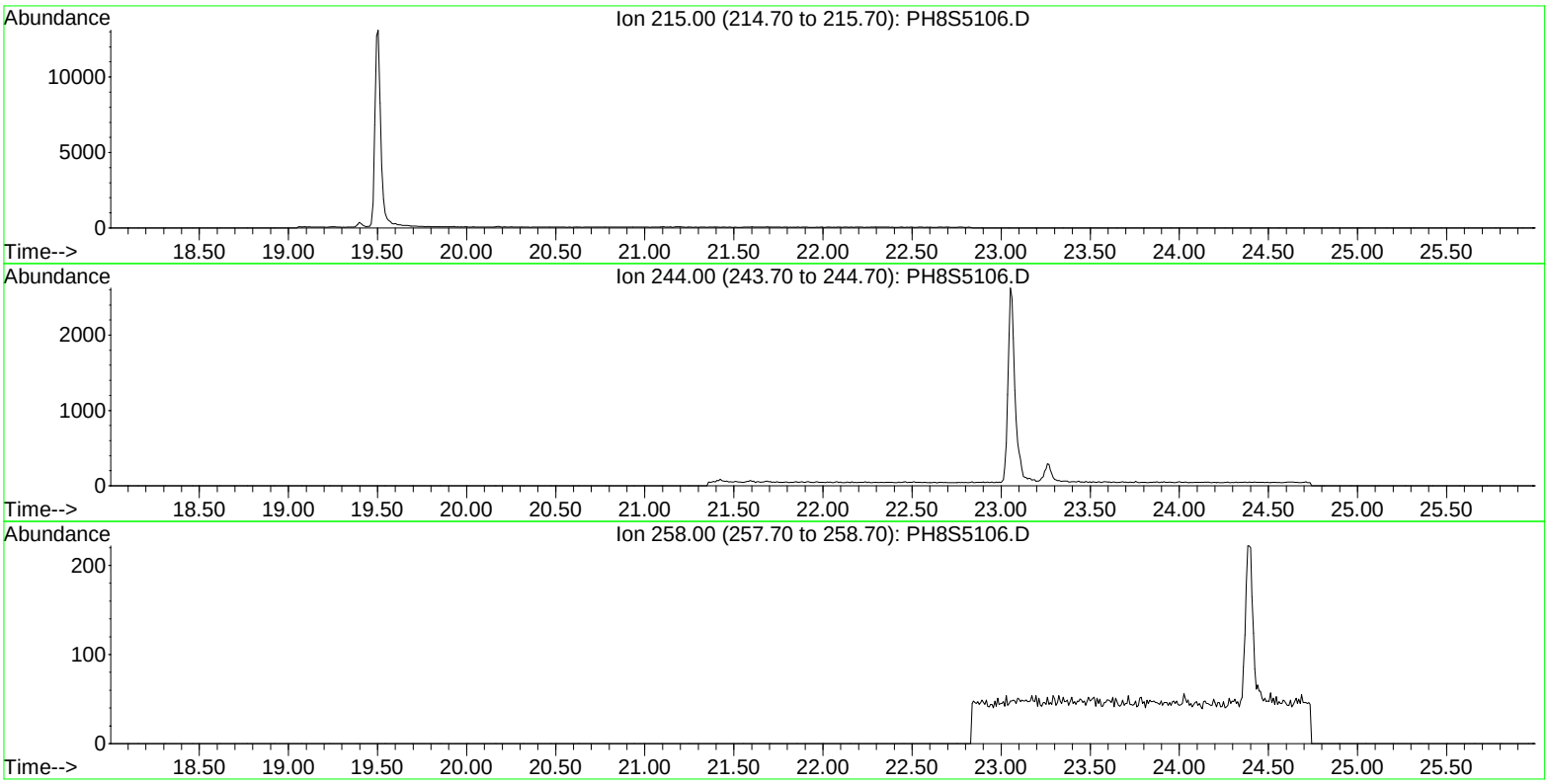


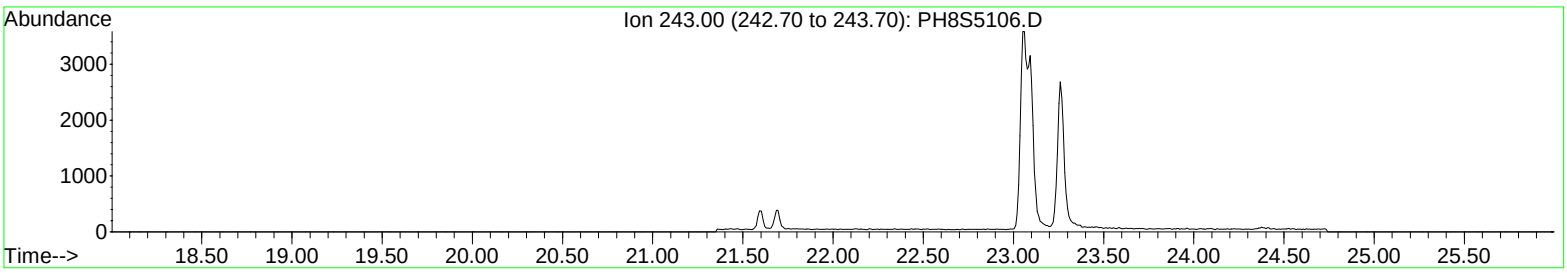


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



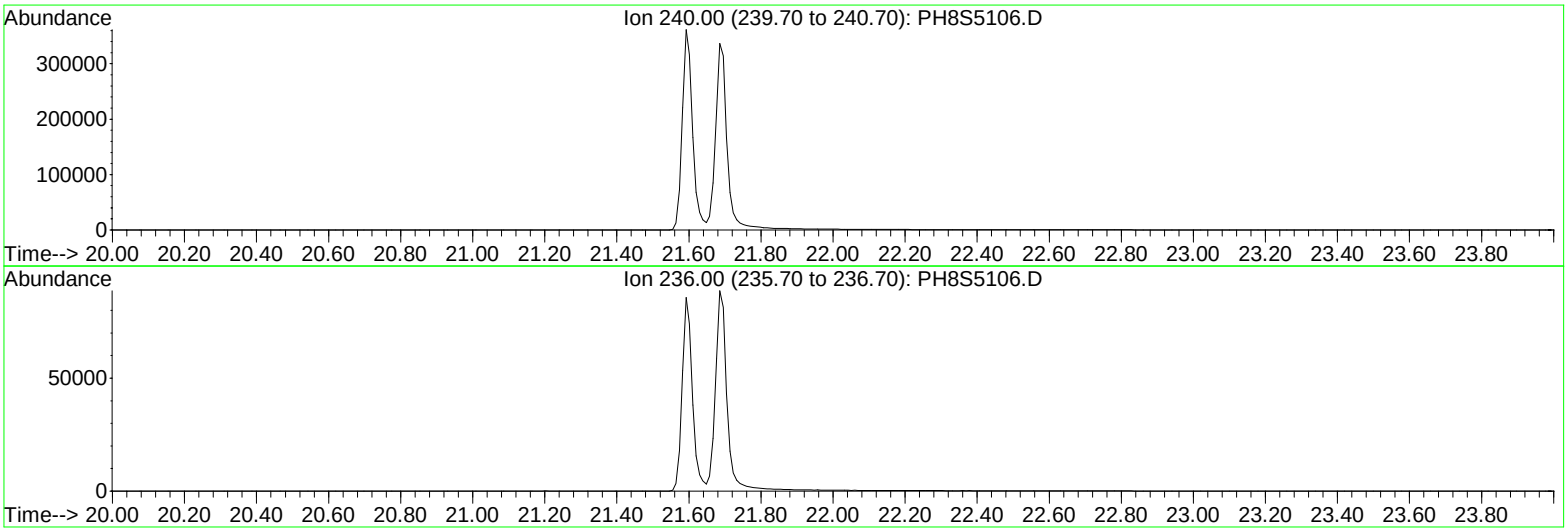


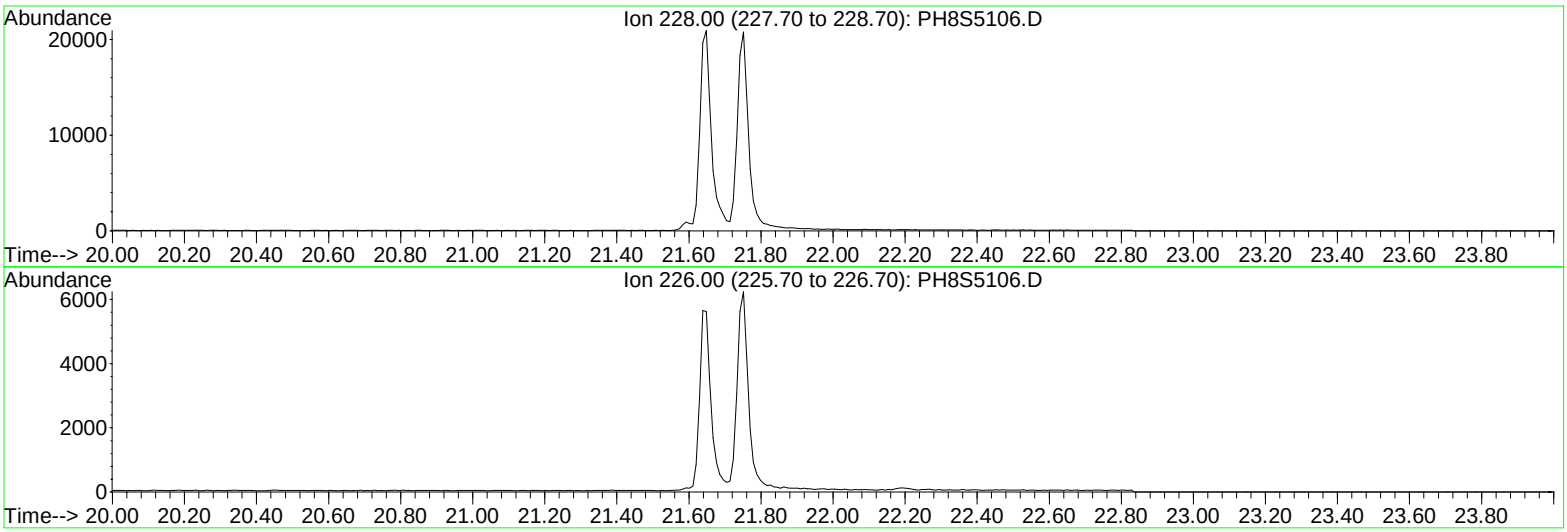


Thu Jan 10 08:37:47 2019

Axys Analytical CHRO Report

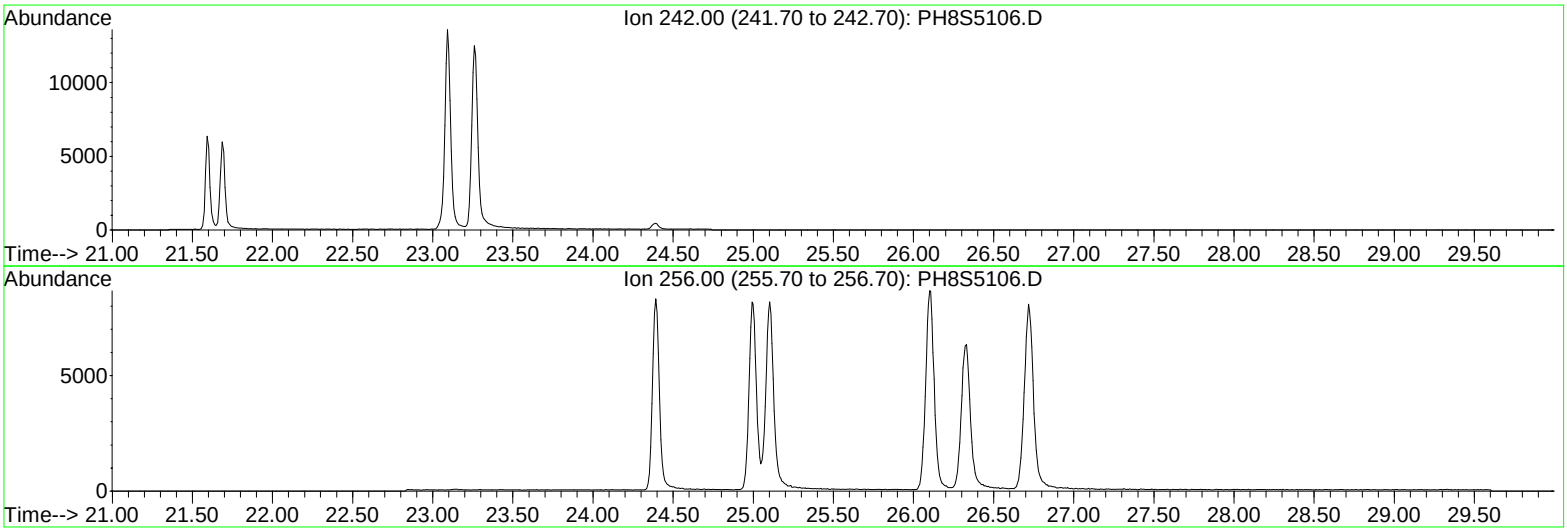
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

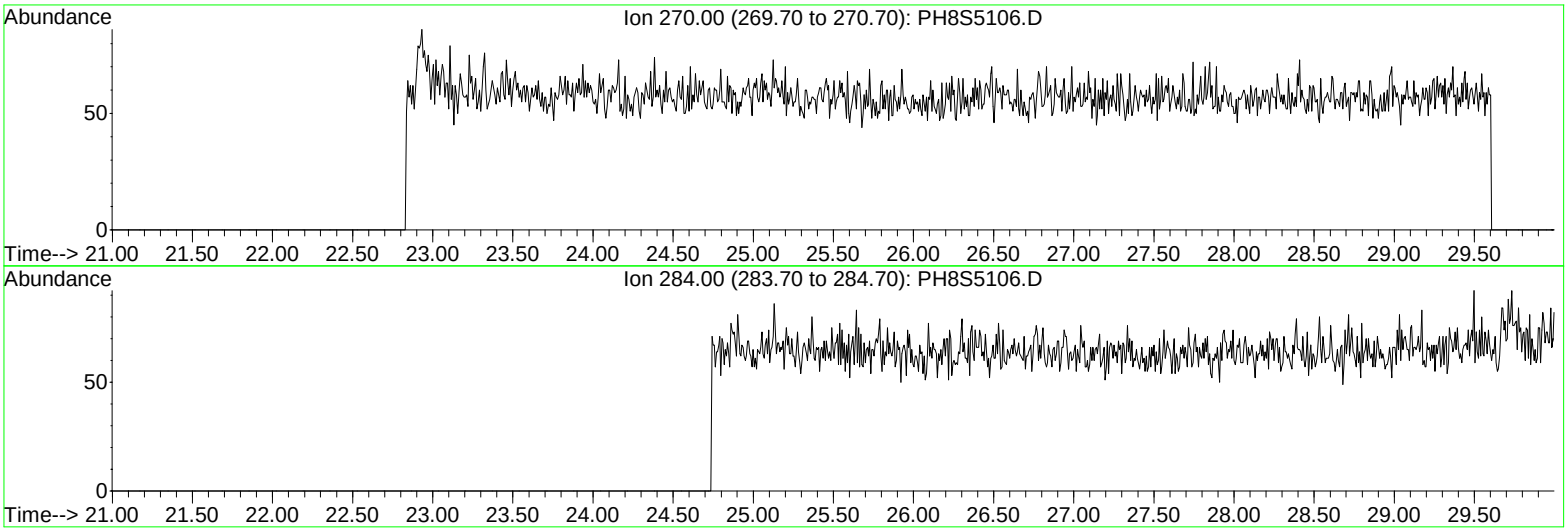




Axys Analytical CHRO Report

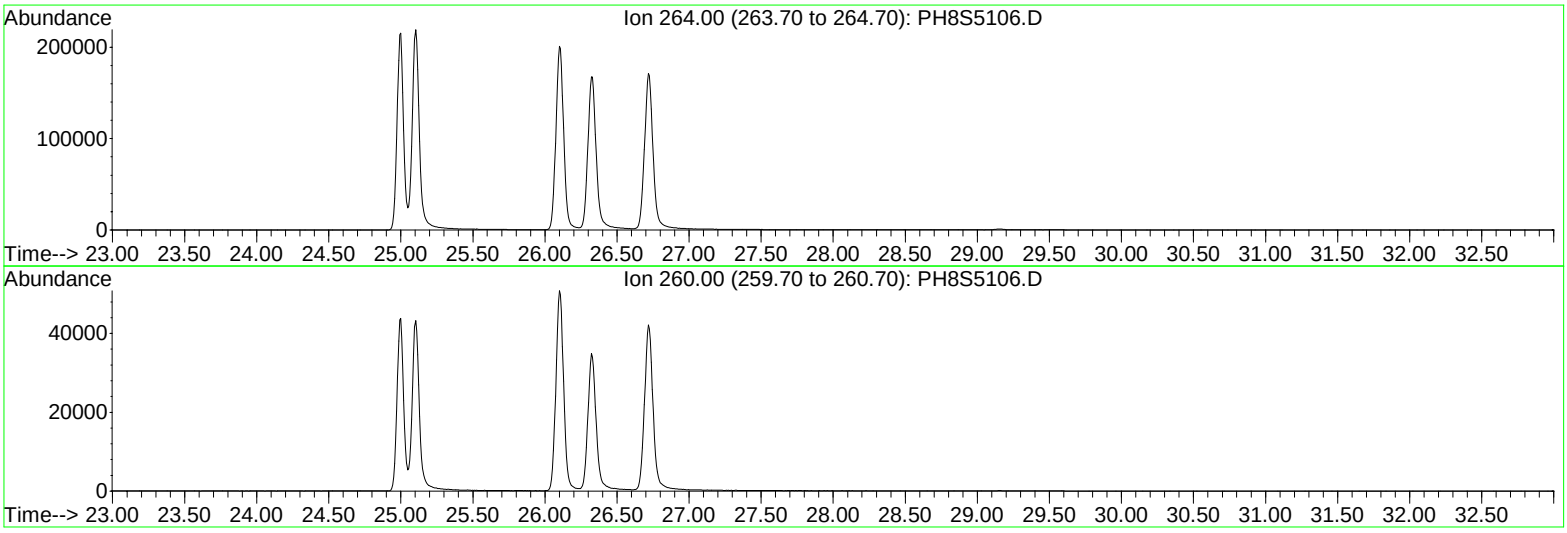
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

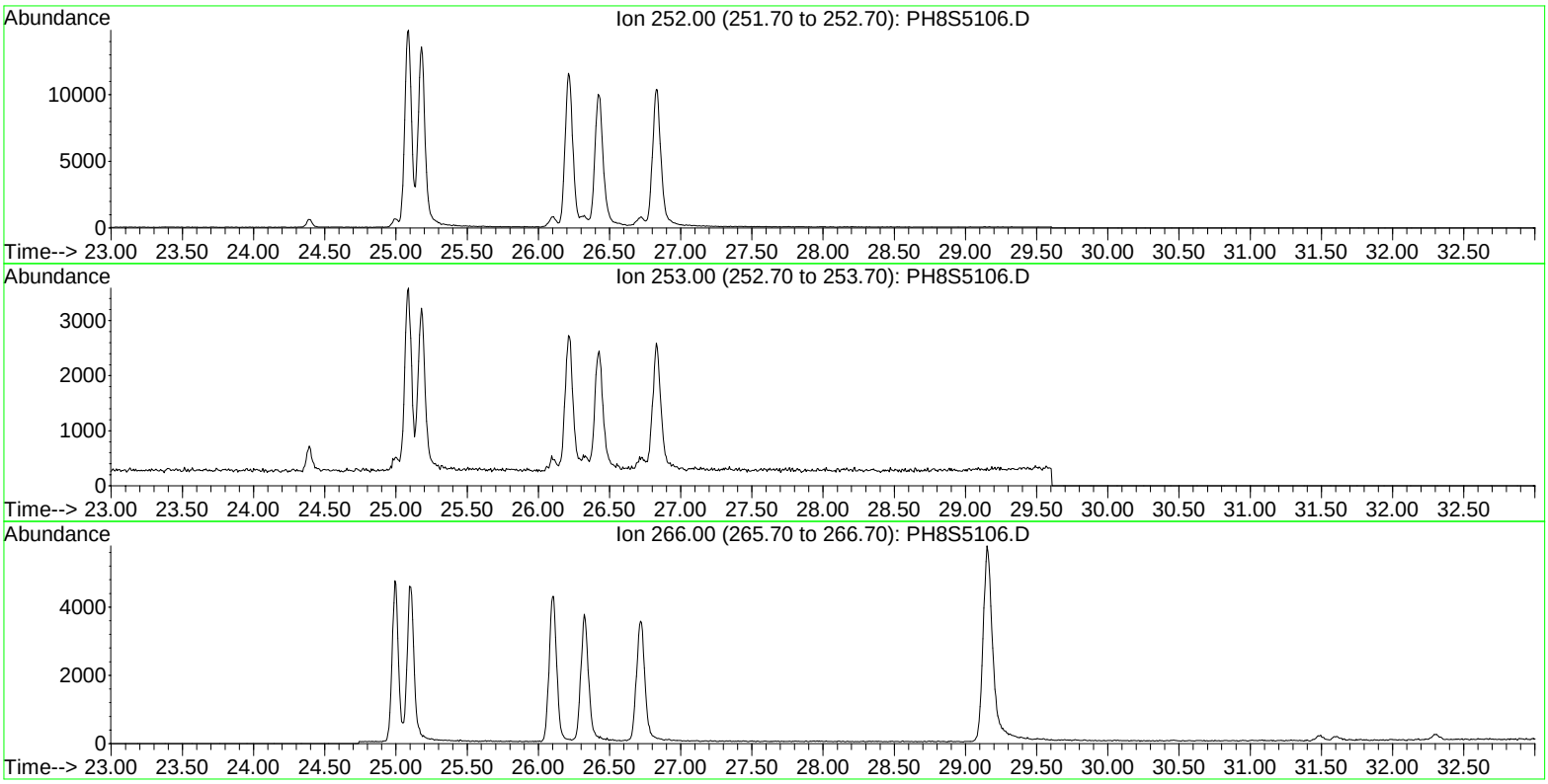


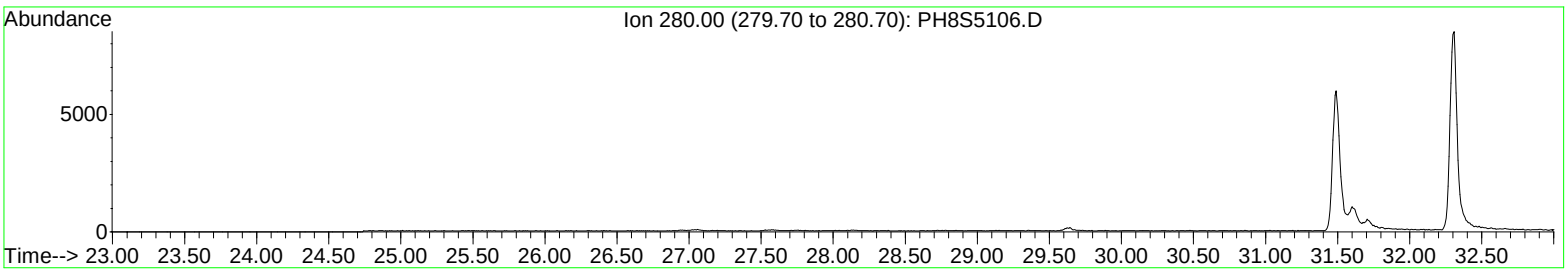


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL



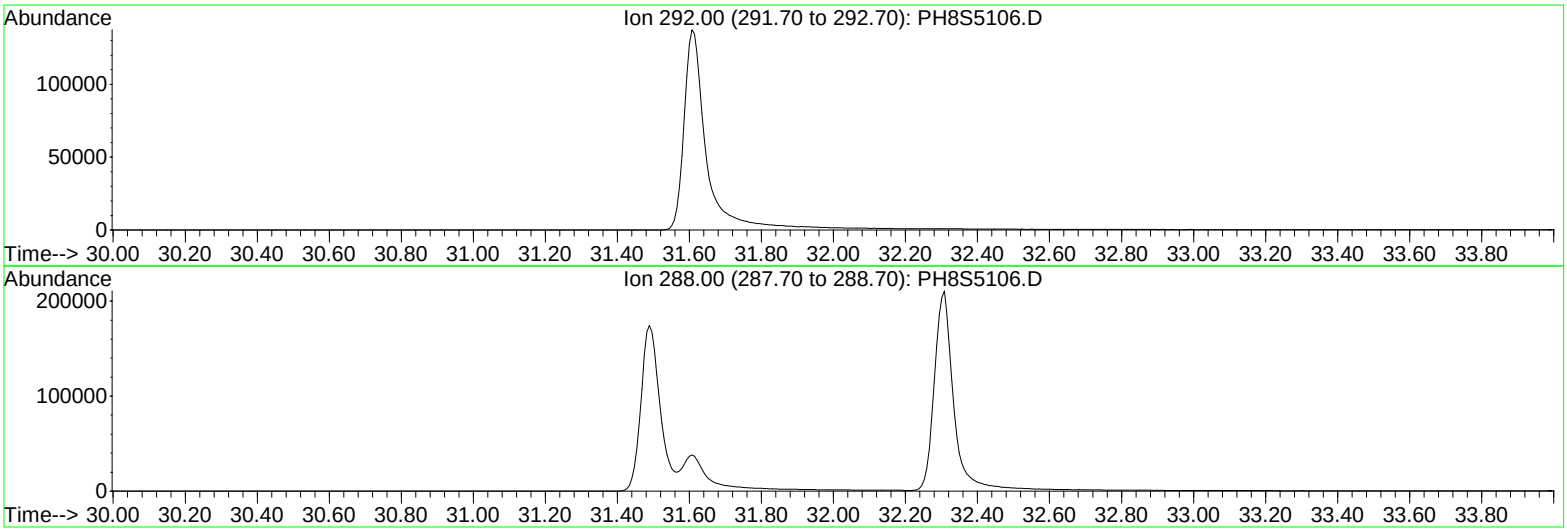


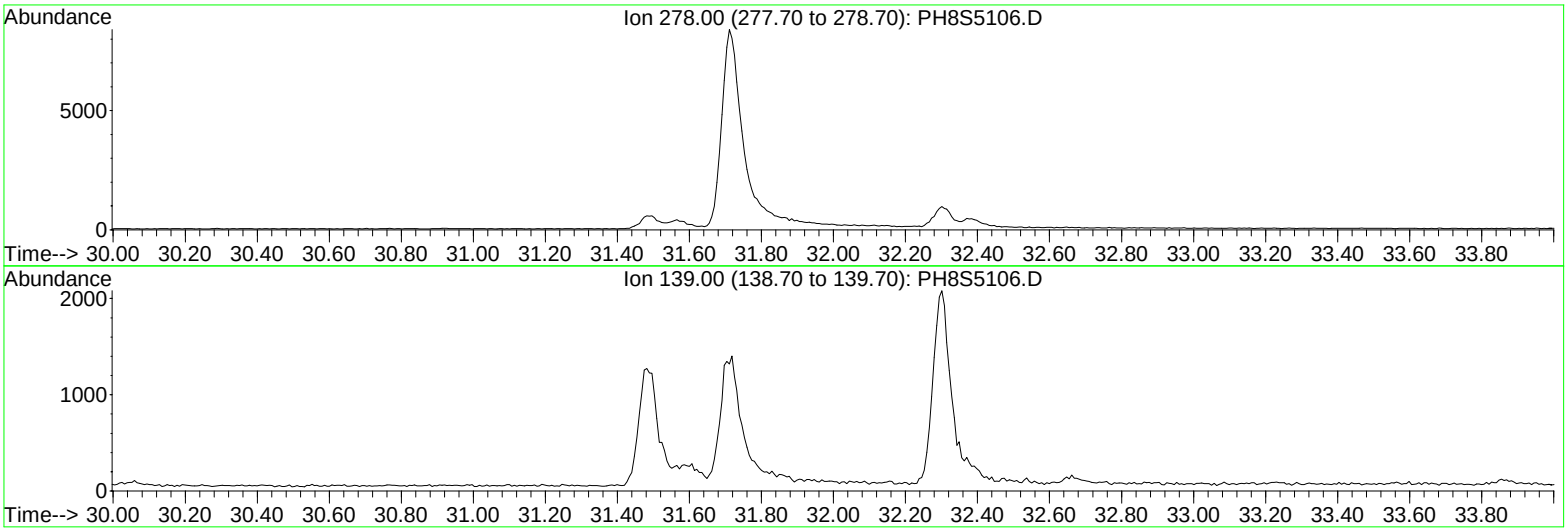


Thu Jan 10 08:37:50 2019

Axys Analytical CHRO Report

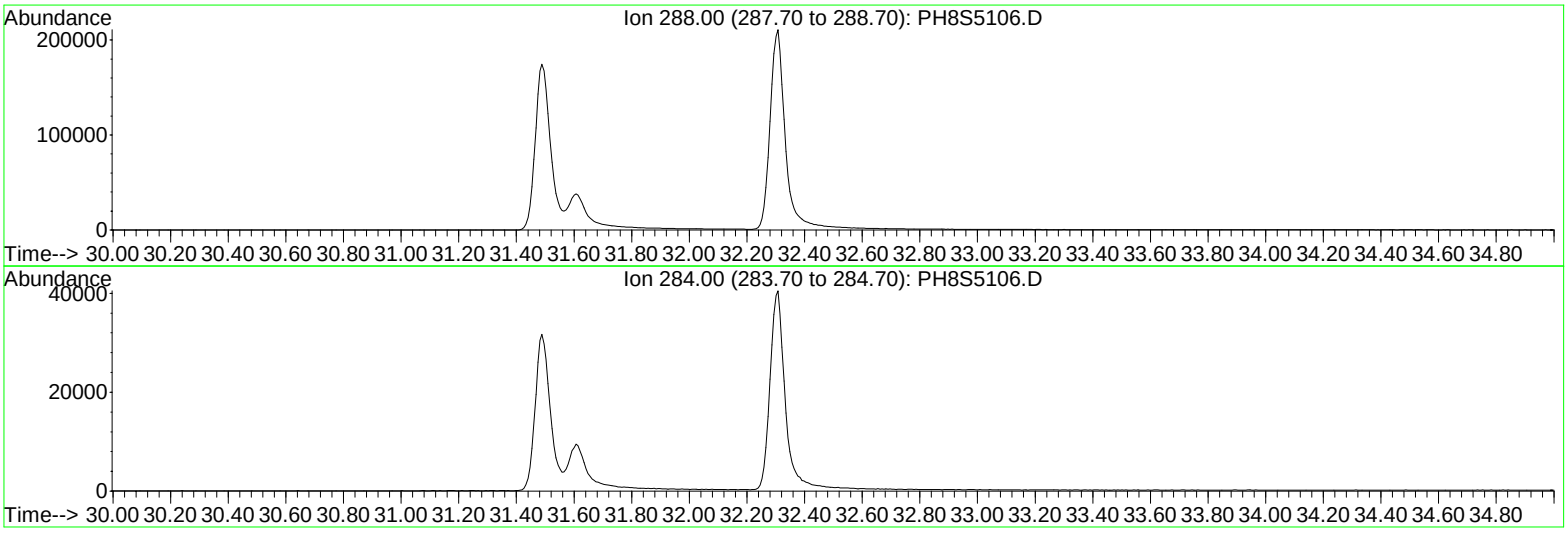
File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL

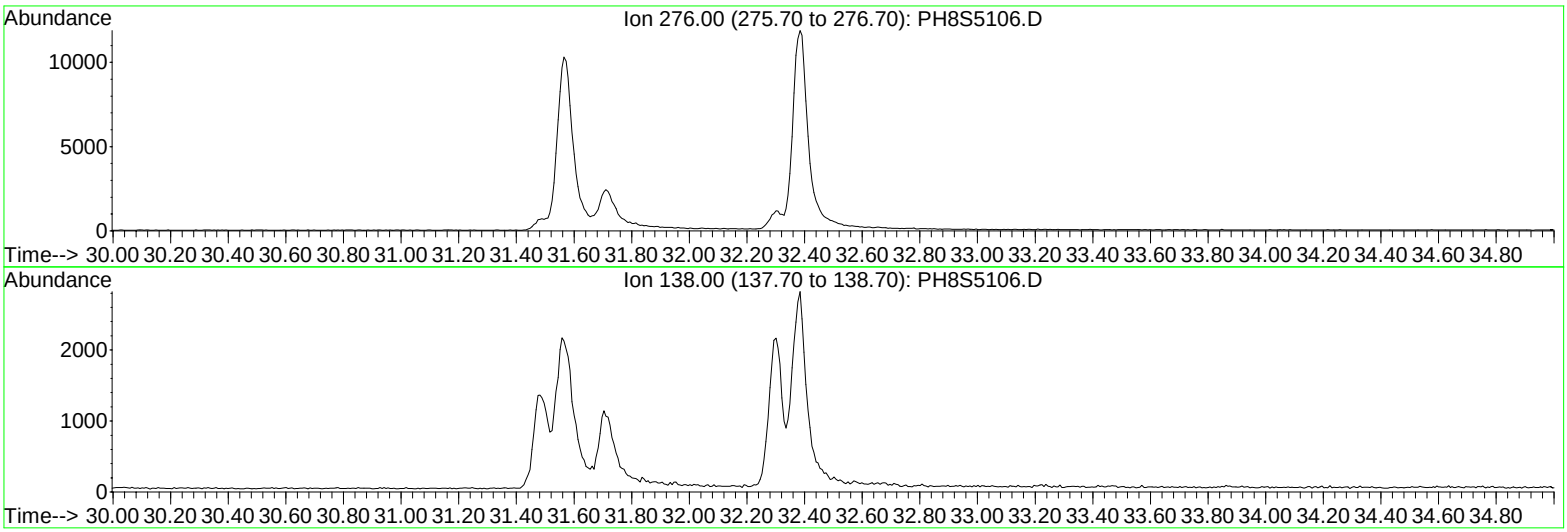




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5106.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 11:15
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036C-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S5107.D
19/10/2018 12:04
PH036D-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5107.D\648S5107.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 5
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-A1.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:06:14 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	364919	11.29	2020 I	0	0	0		0.46	1
d8-Naphthalene - SURR	548920	6.86	2000 S	0	0	0		0.09	0.608
d10-2-Methylnaphthalene - SURR	360347	8.53	1970 S	0	0	0		0.19	0.756
d10-Biphenyl - SURR	526016	9.8	2045 S	0	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	343001	10.1	2055 S	0	0	0		0.76	0.895
d8-Acenaphthylene - SURR	669702	10.85	2060 S	0	0	0		0.15	0.961
d10-Pyrene - REC	845642	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	704812	15	1805 S	0	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	705591	14.7	2035 S	0	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	748428	21.59	2030 S	0	0	0		0.24	1.164
d12-Chrysene - SURR	758541	21.69	1960 S	0	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	764835	26.1	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	685102	25	1970 S	0	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	776925	25.1	2000 S	0	0	0		0.19	0.962
d12-Benzo(a)pyrene - SURR	684149	26.32	2070 S	0	0	0		0.2	1.008
d12-Perylene - SURR	709109	26.72	2150 S	0	0	0		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	657441	31.49	1990 S	0	0	0		0.18	1.206
d12-Benzo(ghi)perylene - SURR	786115	32.31	1980 S	0	0	0		0.19	1.238
d8-Naphthalene	548920	6.86	2000 I	0	0	0		0.09	1
Naphthalene $	166829	6.91	493.3 T	0	0	0		0.07	1.006
d10-2-Methylnaphthalene	360347	8.53	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	113346	8.6	499.1 T	0	0	0		0.91	1.009
1-Methylnaphthalene	106748	8.87	499.8 T	0	0	0		0.94	1.04
C1-Naphthalenes	113346	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	526016	9.8	2045 I	0	0	0		-1	1
Biphenyl $	144781	9.85	501.7 T	0	0	0		0.29	1.005
C1-Biphenyls $	498	11.33	501.7 T	0	0	0		0.18	1.156
C2-Biphenyls $	18	12.78	501.7 T	0	0	0	#	-1	1.305
d12-2,6-Dimethylnaphthalene	343001	10.1	2055 I	0	0	0		0.76	1
2,6-Dimethylnaphthalene $	103311	10.21	500.9 T	0	0	0		0.71	1.011
Ethyl/DiMe-Naphthalenes	103311	10.21	1000.9 T	0	0	0		0.71	1.011
1,2-Dimethylnaphthalene	83335	10.94	500 T	0	0	0		1.32	1.083
C2-Naphthalenes	103311	10.21	0 T	0	0	0		-1	1.011
2,3,6-Trimethylnaphthalene	104325	12.2	500.5 T	0	0	0		0.94	1.207
2,3,5-Trimethylnaphthalene $	99185	12.38	500.1 T	0	0	0		0.93	1.225
C3-Naphthalenes	99185	12.38	1000.6 T	0	0	0		0.93	1.225
1,4,6,7-Tetramethylnaphthalene $	103717	13.9	499.2 T	0	0	0		0.03	1.376
C4-Naphthalenes	103717	13.9	499.2 T	0	0	0		0.03	1.376
d8-Acenaphthylene	669702	10.85	2060 I	0	0	0		0.15	1
Acenaphthylene $	197666	10.88	491.8 T	0	0	0		0.2	1.003
Acenaphthene $	110704	11.36	501.3 T	0	0	0		1.17	1.048
C1-Acenaphthenes $	89	11.73	501.3 T	0	0	0		0.27	1.081
d8-Dibenzothiophene	705591	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	213789	14.74	500.4 T	0	0	0		0.09	1.003
C1-Dibenzothiophenes-1	3792	15.87	500.3 T	0	0	0		0.73	1.08
2/3-Methyldibenzothiophenes $	147626	16.08	500.3 T	0	0	0		0.73	1.094
C1-Dibenzothiophenes-2	219	16.51	500.3 T	0	0	0		0.74	1.123
C1-Dibenzothiophenes	147626	16.08	0 T	0	0	0		-1	1.094
4,6-Dimethyldibenzothiophene	158301	16.94	499.8 T	0	0	0		0.16	1.152

pv by vr
08-Dec-2018

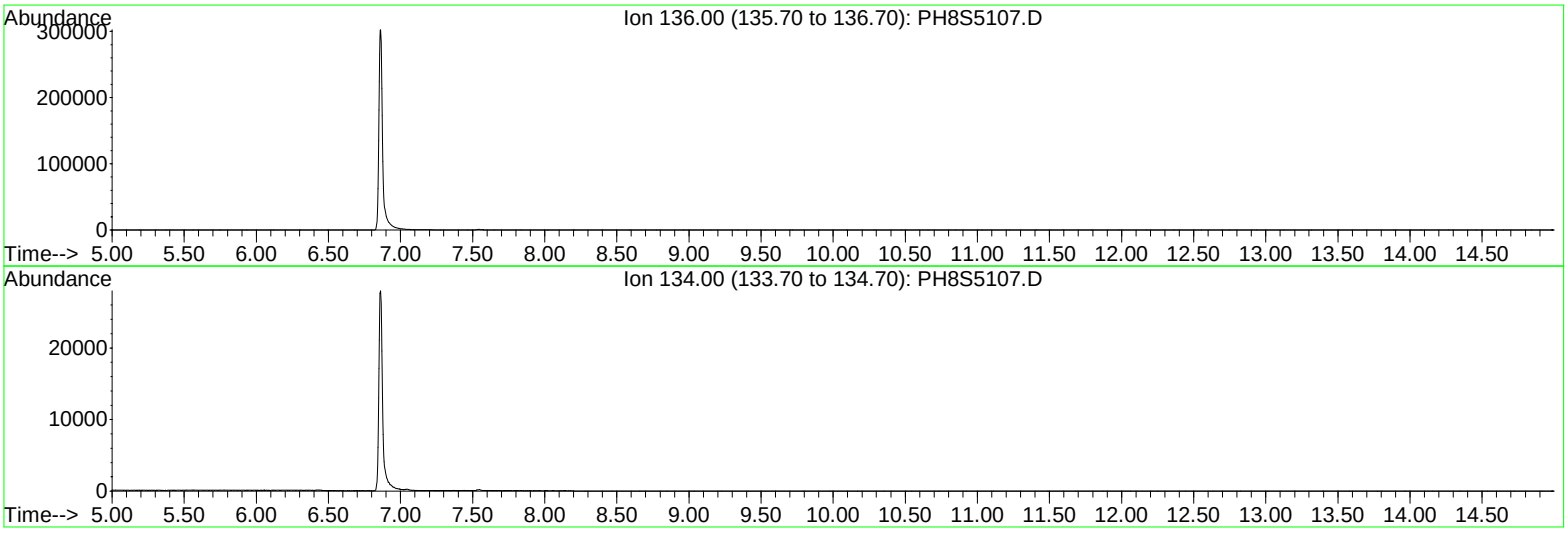
SV By AK
10 Dec 2018

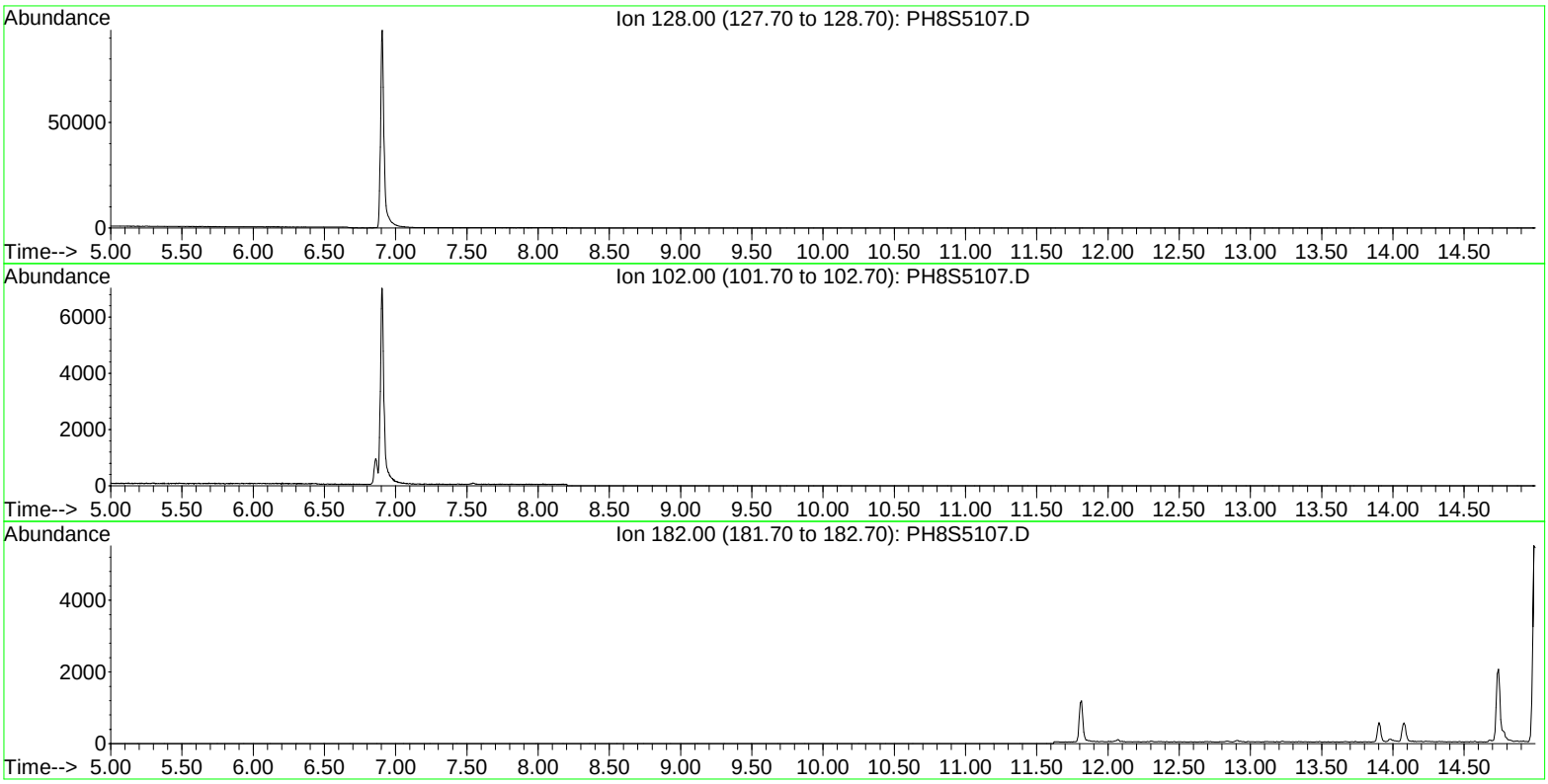
2,4-Dimethyldibenzothiophene $	120125	17.09	500 T	0	0	0		0.53	1.163
C2-Dibenzothiophenes	121760	17.09	500 T	0	0	0		0.53	1.163
C3-Dibenzothiophenes $	41	18.1	500 T	0	0	0		0.71	1.232
C4-Dibenzothiophenes $	22	18.85	500 T	0	0	0		1.23	1.282
d10-Phenanthrene	704812	15	1805 I	0	0	0		0.15	1
Fluorene $	138741	12.65	491.5 T	0	0	0		1.01	0.843
2-Methylfluorene $	97136	14.08	500 T	0	0	0		1.32	0.939
C1-Fluorenes	97136	14.08	500 T	0	0	0		1.32	0.939
1,7-Dimethylfluorene $	90785	15.5	500.5 T	0	0	0		0.08	1.033
C2-Fluorenes	90785	15.5	500.5 T	0	0	0		0.08	1.033
C3-Fluorenes $	1303	16.42	500.5 T	0	0	0		0.41	1.095
Phenanthrene $	217827	15.05	504.5 T	0	0	0		0.19	1.003
Anthracene	220779	15.16	501.3 T	0	0	0		0.19	1.011
d10-Anthracene $	778101	15.12	2040 T	0	0	0		0.13	1.008
3-Methylphenanthrene	153035	16.37	1500.7 T	0	0	0		0.59	1.092
2-Methylphenanthrene	153035	16.37	500.3 T	0	0	0		0.59	1.092
2-Methylanthracene	146614	16.46	499.9 T	0	0	0		0.51	1.097
9/4-Methylphenanthrenes	160873	16.64	1500.7 T	0	0	0		0.61	1.11
1-Methylphenanthrene $	165164	16.64	500.5 T	0	0	0		0.61	1.11
C1-Phenanthrenes/Anthracenes	165164	16.64	0 T	0	0	0		-1	1.11
Fluoranthene $	267274	18.06	494.8 T	0	0	0		0.21	1.204
Pyrene	275035	18.6	495 T	0	0	0		0.21	1.24
3,6-Dimethylphenanthrene $	145860	17.47	499.4 T	0	0	0		0.37	1.165
2,6-Dimethylphenanthrene	146459	17.47	1001.3 T	0	0	0		0.37	1.165
1,7-Dimethylphenanthrene	146862	17.88	501.9 T	0	0	0		0.35	1.192
Ethyl/DiMe-Phenanthrenes/Anthracenes	145860	17.47	1001.3 T	0	0	0		0.37	1.165
1,8-Dimethylphenanthrene	21771	18.01	1001.3 T	0	0	0	#	0.12	1.201
C2-Phenanthrenes/Anthracenes	145860	17.47	0 T	0	0	0		-1	1.165
1,2,6-Trimethylphenanthrene $	154422	19.4	583.2 T	0	0	0		0.63	1.293
C3-Phenanthrenes/Anthracenes	160715	19.4	583.2 T	0	0	0		0.62	1.293
Retene $	51034	19.51	499.7 T	0	0	0		1.68	1.301
C4-Phenanthrenes/Anthracenes	51034	19.51	499.7 T	0	0	0		1.68	1.301
C1-Fluoranthenes/Pyrenes-1	0	0	500 T	0	0	0		0	0
3-Methylfluoranthene/Benzo(a)fluorene $	158127	19.49	500 T	0	0	0		1.08	1.3
C1-Fluoranthenes/Pyrenes-2	178	19.94	500 T	0	0	0		1.29	1.329
C1-Fluoranthenes/Pyrenes	158127	19.49	0 T	0	0	0		-1	1.3
C2-Fluoranthenes/Pyrenes $	278	20.45	500 T	0	0	0		0.22	1.363
C3-Fluoranthenes/Pyrenes $	42	21.9	500 T	0	0	0	#	-1	1.46
C4-Fluoranthenes/Pyrenes $	7	23.27	500 T	0	0	0		3.86	1.551
d12-Benz(a)anthracene	748428	21.59	2030 I	0	0	0		0.24	1
d10-Fluoranthene $	793329	18.01	1985 T	0	0	0		0.17	0.834
Benz(a)anthracene	246141	21.65	503.3 T	0	0	0		0.27	1.003
d12-Chrysene	758541	21.69	1960 I	0	0	0		0.26	1
Chrysene $	249103	21.75	502.3 T	0	0	0		0.3	1.003
5/6-Methylchrysenes $	186222	23.09	500.1 T	0	0	0		-1	1.065
1-Methylchrysene	191469	23.26	499.8 T	0	0	0		-1	1.073
C1-Benz(a)anthracenes/Chrysenes	186222	23.09	999.9 T	0	0	0		-1	1.065
5,9-Dimethylchrysene $	142874	24.39	499.8 T	0	0	0		-1	1.125
C2-Benz(a)anthracenes/Chrysenes	142874	24.39	499.8 T	0	0	0		-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	40	25.1	499.8 T	0	0	0		-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	21	26.09	499.8 T	0	0	0		-1	1.203
d12-Benzo(b)fluoranthene	685102	25	1970 I	0	0	0		0.21	1
Benzo(b)fluoranthene-SURR int	1733	25	0 T	0	0	0		0.44	1
Benzo(b)fluoranthene $	253907	25.09	503.5 T	0	0	0		0.22	1.004
d12-Benzo(k)fluoranthene	776925	25.1	2000 I	0	0	0		0.19	1
Benzo(j/k)fluoranthenes	257957	25.18	503.8 T	0	0	0		0.22	1.003
Benzofluoranthenes	256587	25.09	0 T	0	0	0		-1	0.999
d12-Benzo(a)pyrene	684149	26.32	2070 I	0	0	0		0.2	1
Benzo(e)pyrene	240629	26.22	500.2 T	0	0	0		0.21	0.996
Benzo(a)pyrene	221734	26.43	500 T	0	0	0		0.22	1.004
7-Methylbenzo(a)pyrene $	155844	29.16	499.2 T	0	0	0		-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	155844	29.16	499.2 T	0	0	0		-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	20	29.87	499.2 T	0	0	0		-1	1.135
d12-Perylene	709109	26.72	2150 I	0	0	0		0.25	1
Perylene	232483	26.83	499.9 T	0	0	0		0.21	1.004
d12-Indeno(123cd)pyrene	657441	31.49	1990 I	0	0	0		0.18	1
d14-Dibenzo(ah)anthracene $	574007	31.61	1915 T	0	0	0		0.27	1.004
Dibenzo(ah)anthracene $	188770	31.71	493.3 T	0	0	0		0.15	1.007
Indeno(123cd)pyrene $	209343	31.57	503 T	0	0	0		0.2	1.002
d12-Benzo(ghi)perylene	786115	32.31	1980 I	0	0	0		0.19	1
Benzo(ghi)perylene	238725	32.38	492.8 T	0	0	0		0.22	1.002

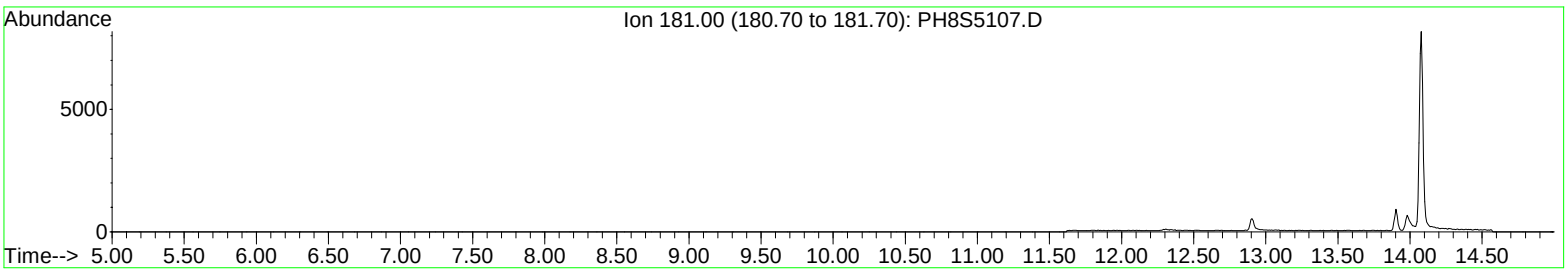
pv by vr
08-Dec-2018

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



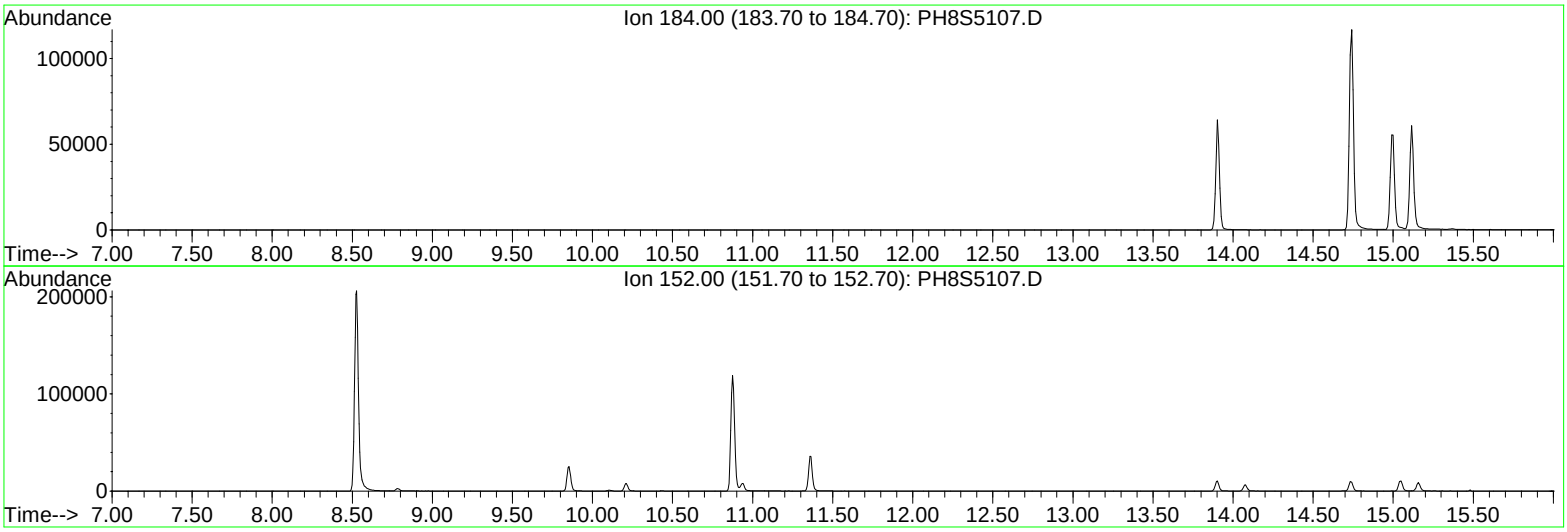


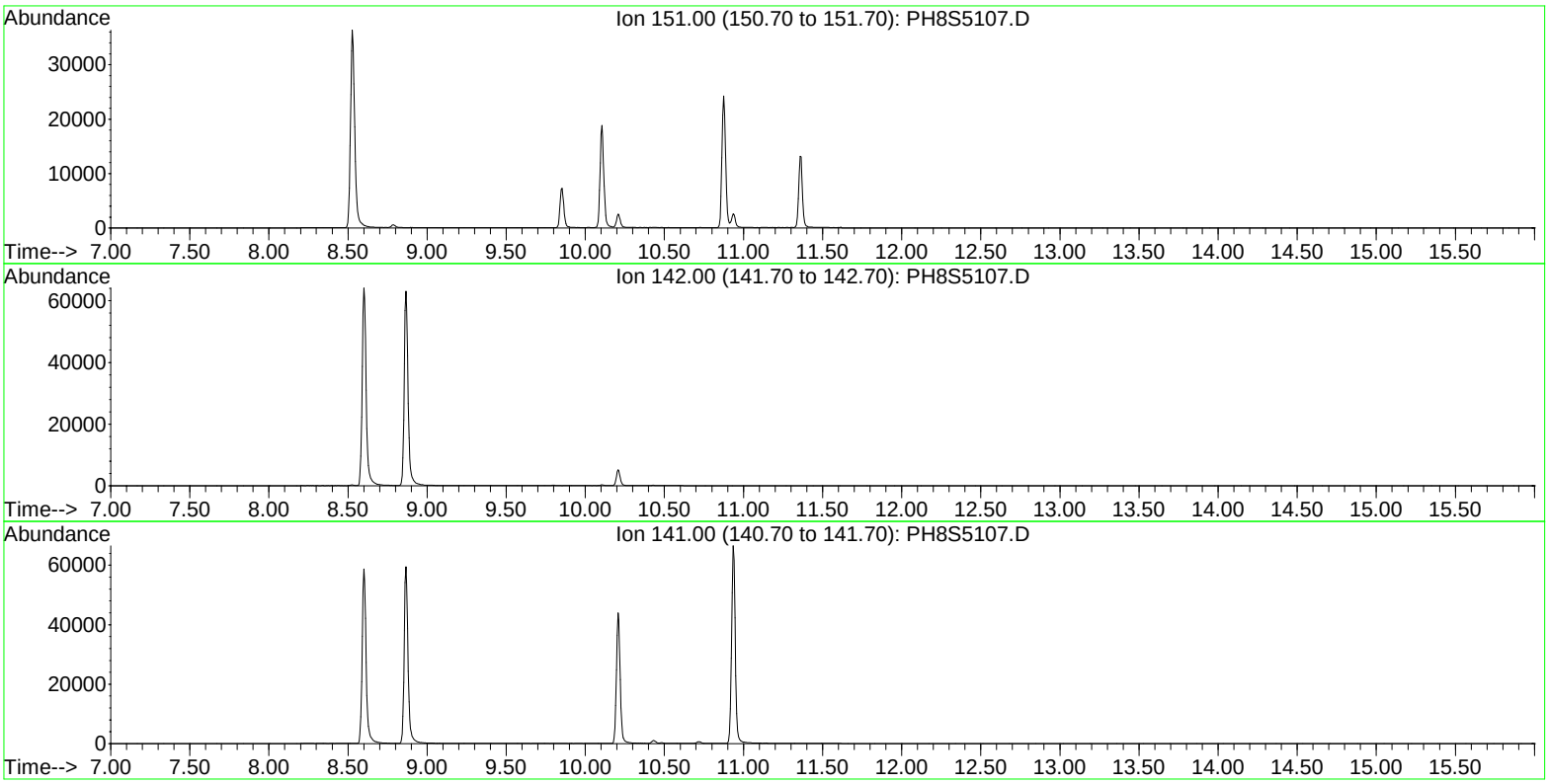


Thu Jan 10 08:37:52 2019

Axys Analytical CHRO Report

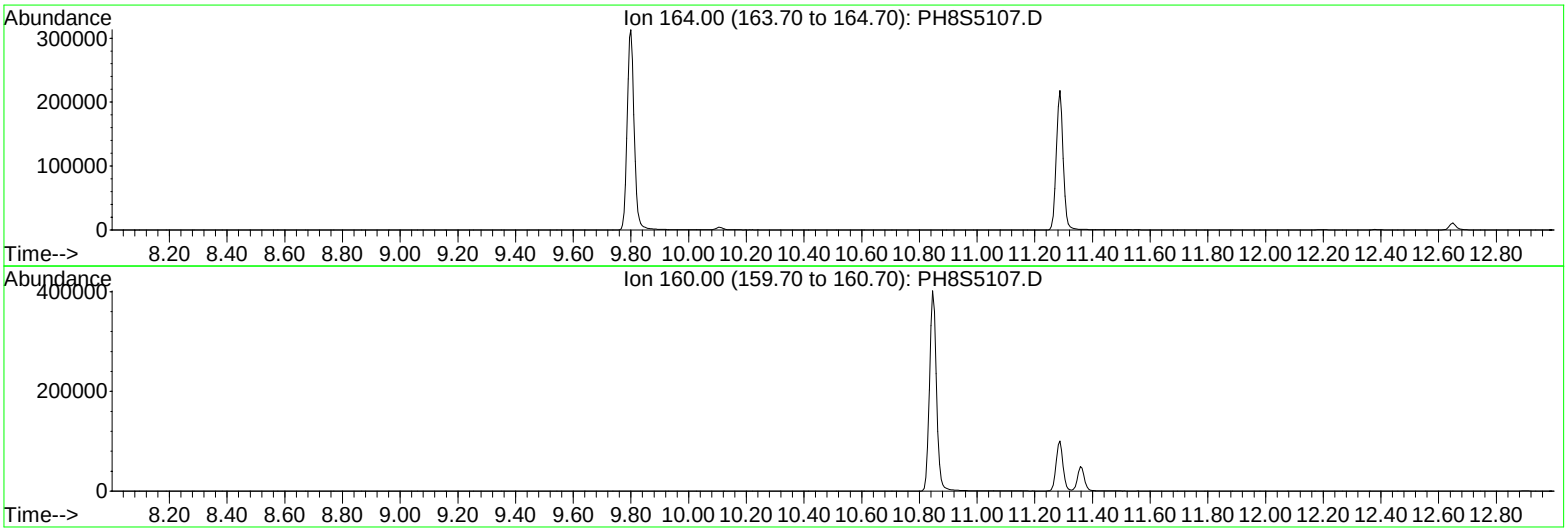
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

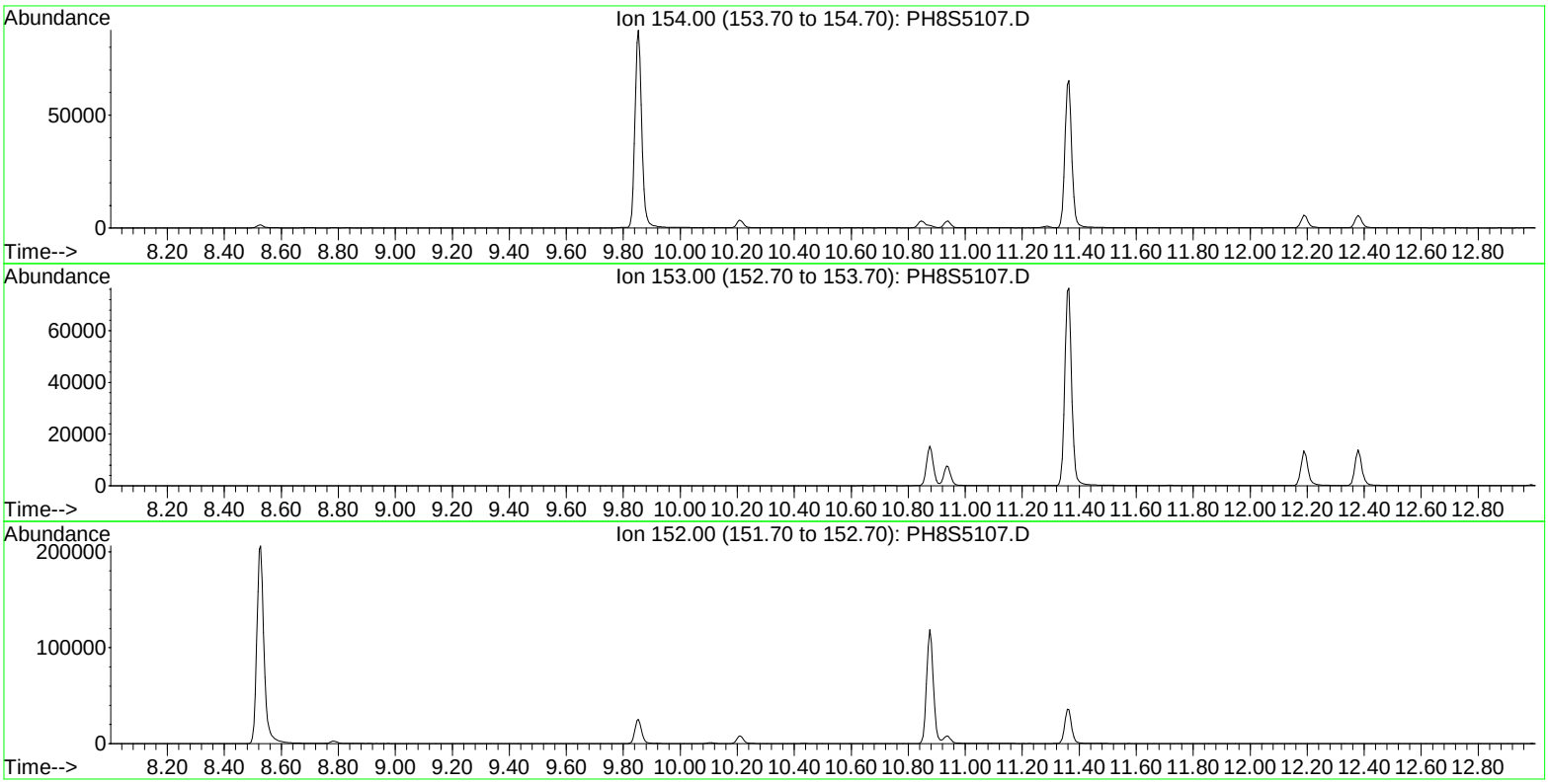




Axys Analytical CHRO Report

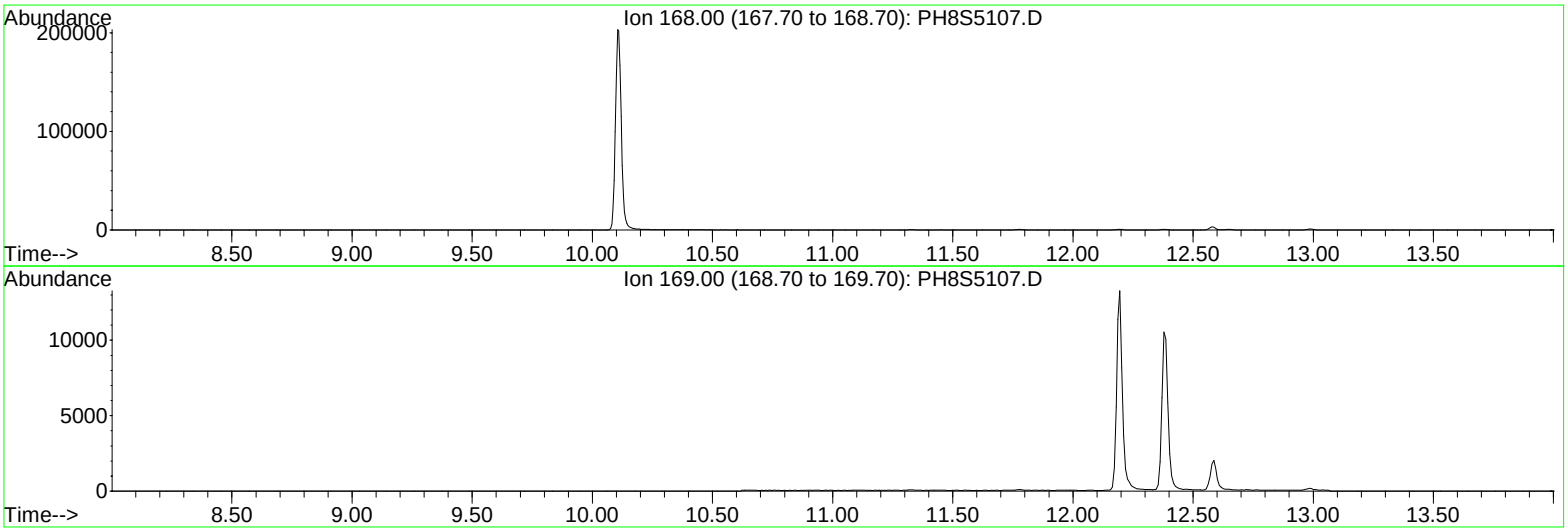
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

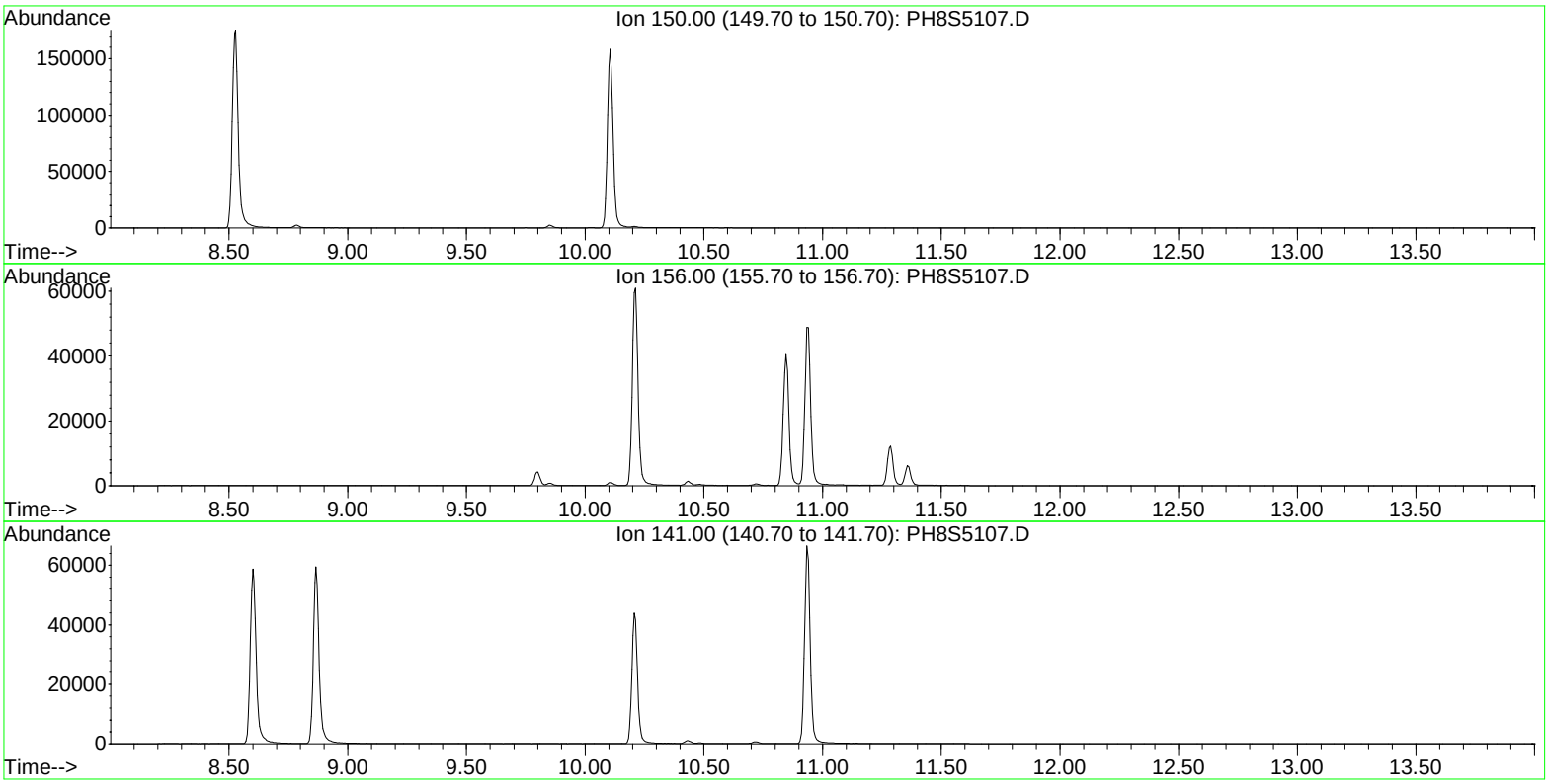




Axys Analytical CHRO Report

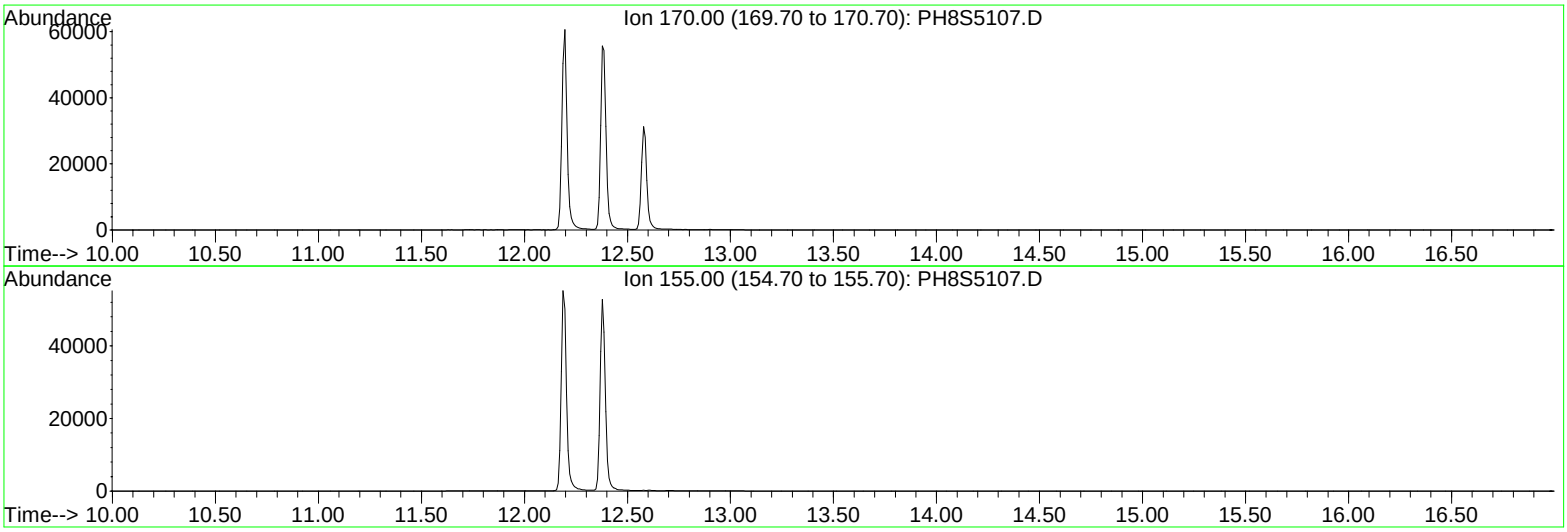
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

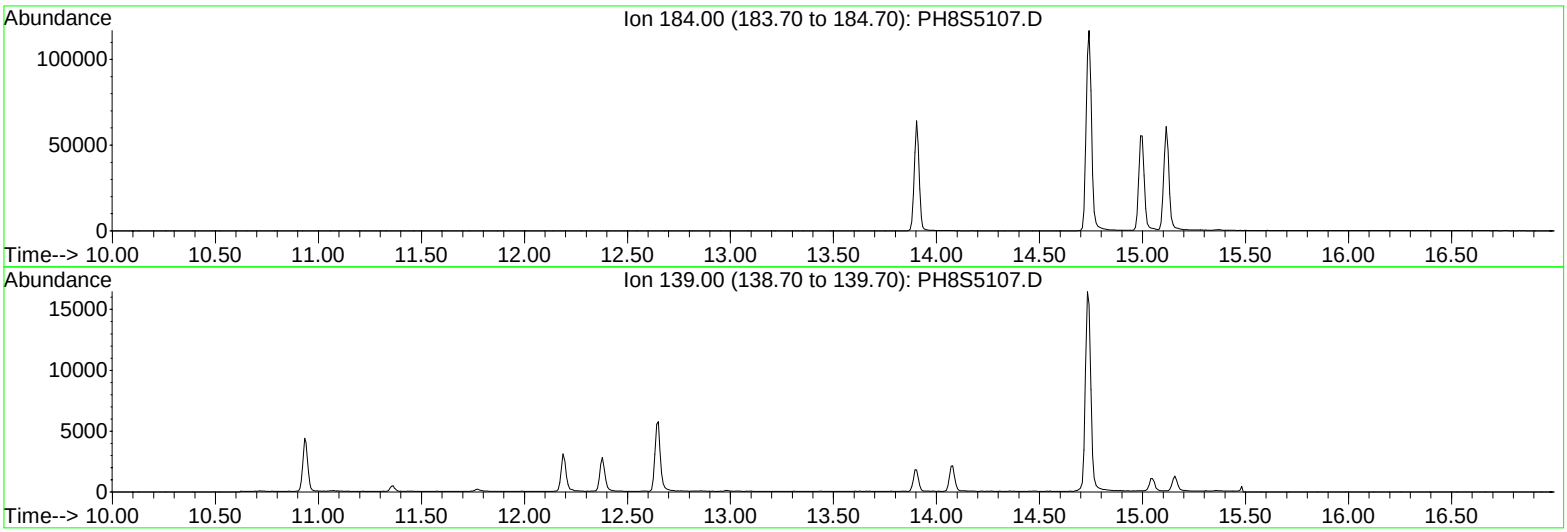




Axys Analytical CHRO Report

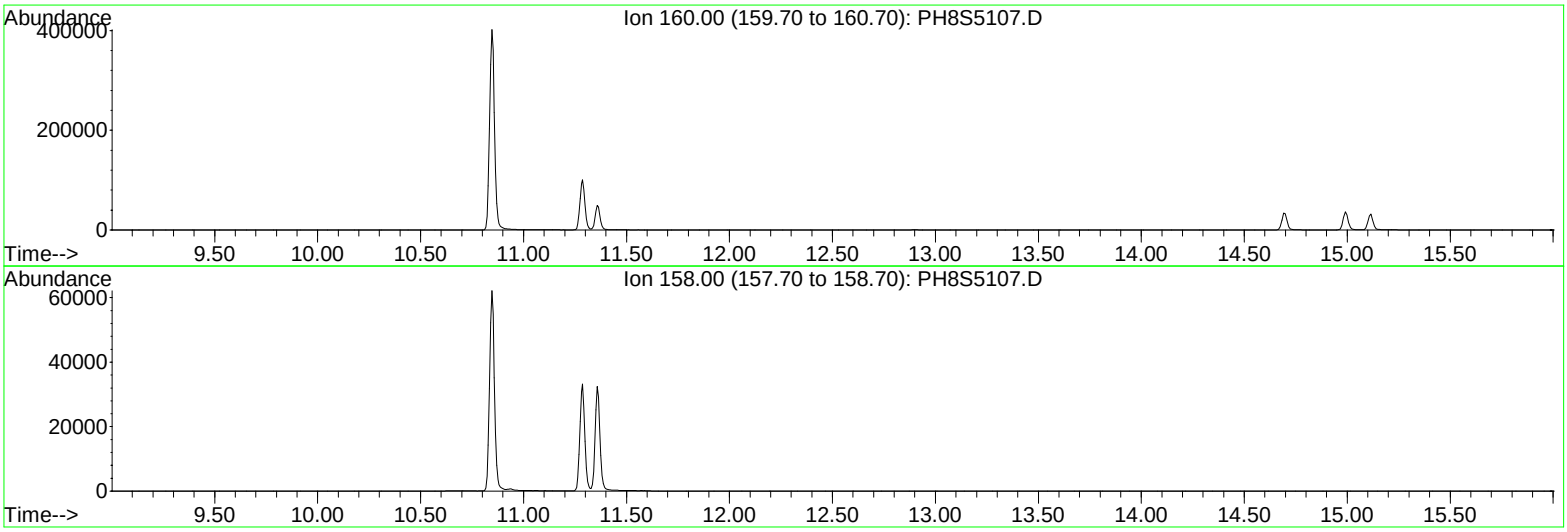
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

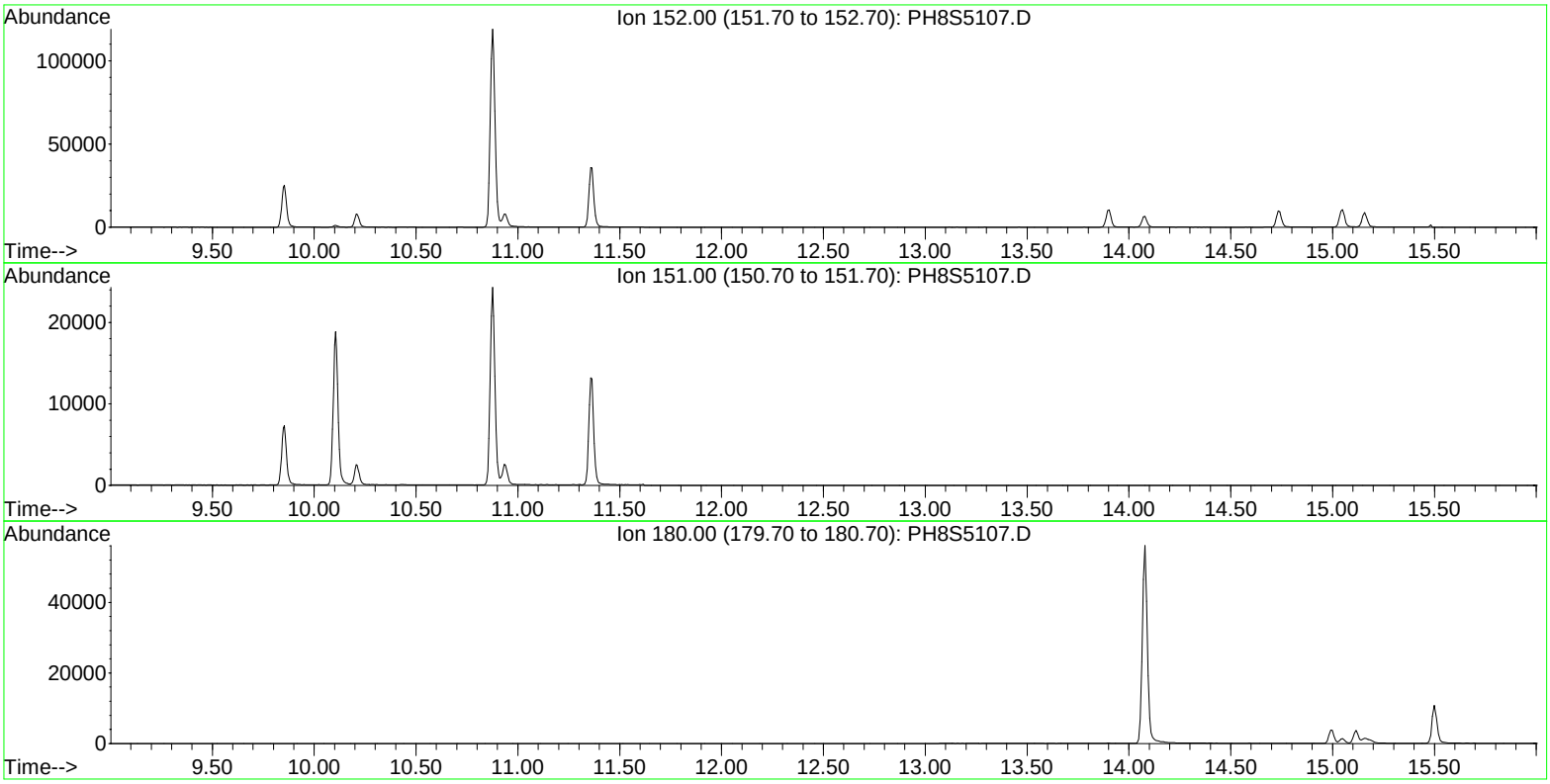


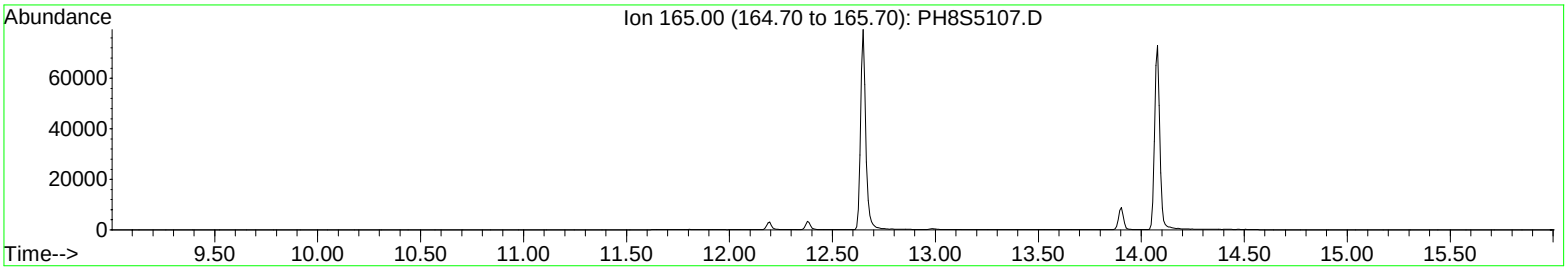


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



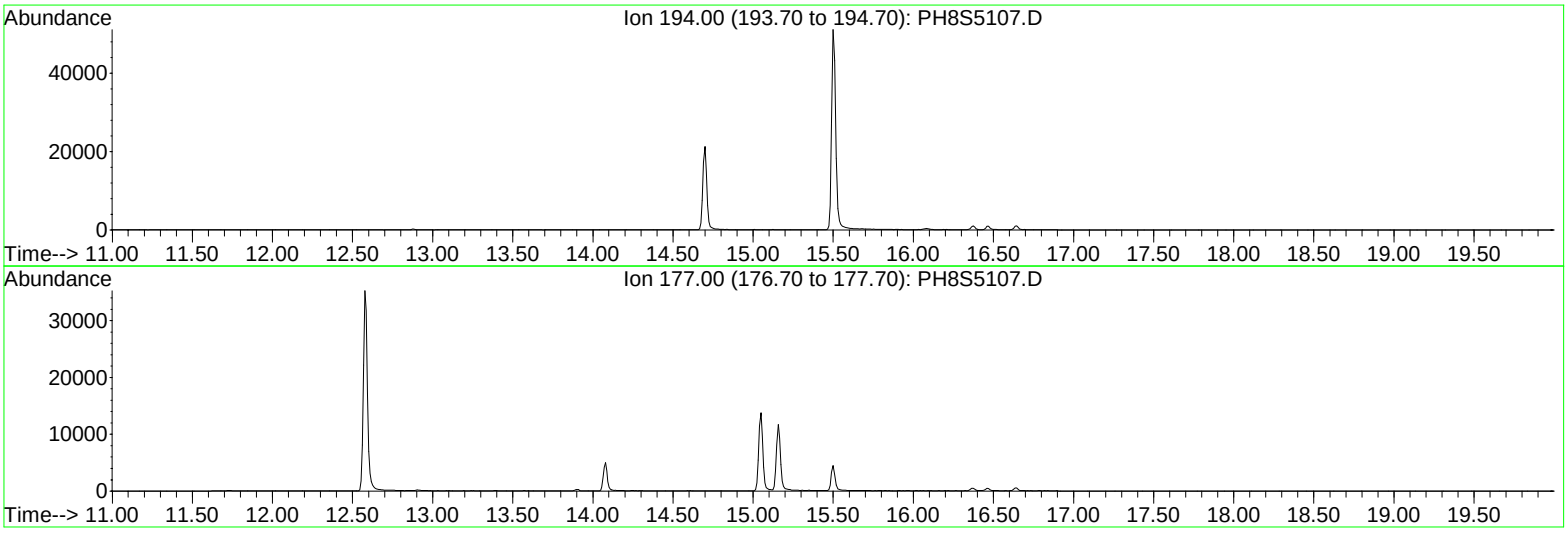


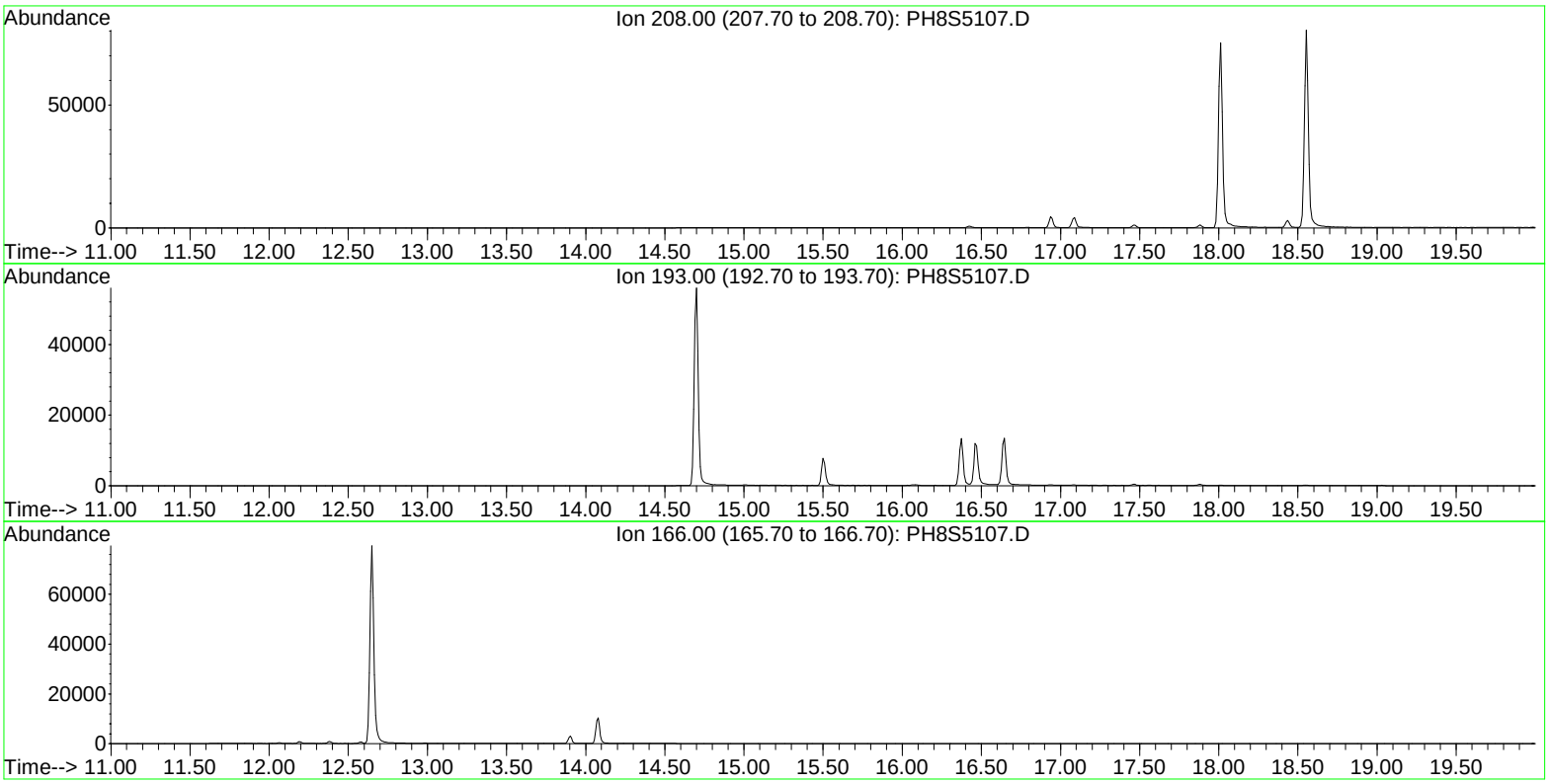


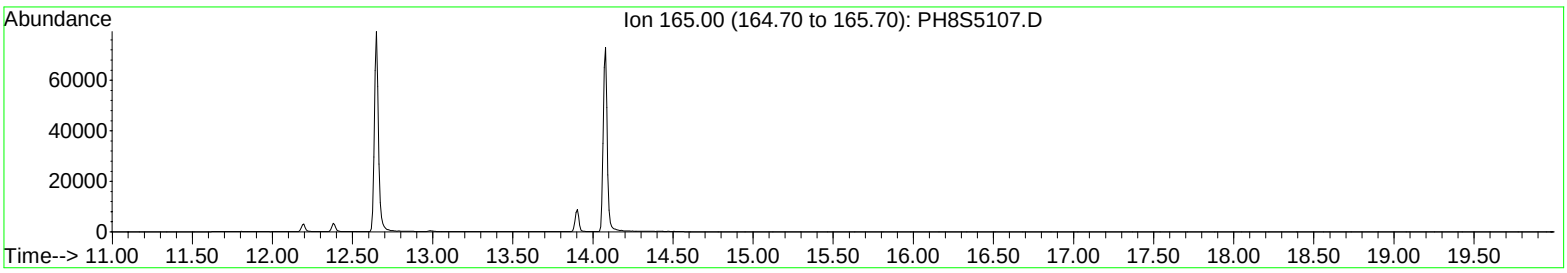
Thu Jan 10 08:37:56 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



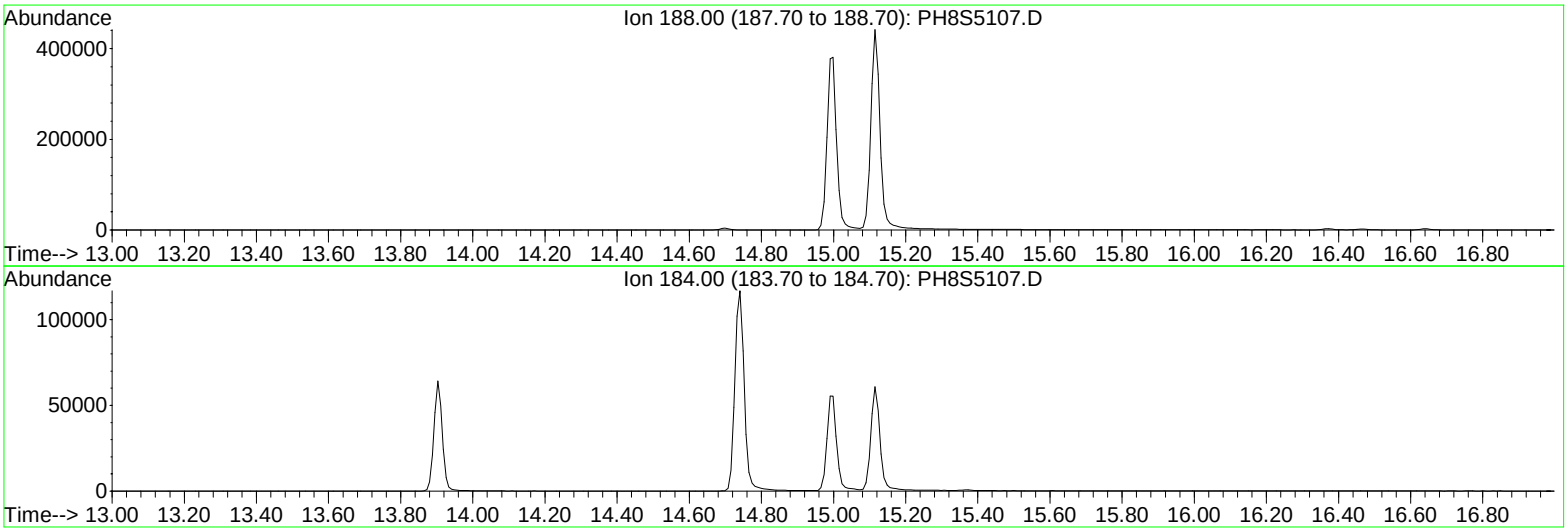


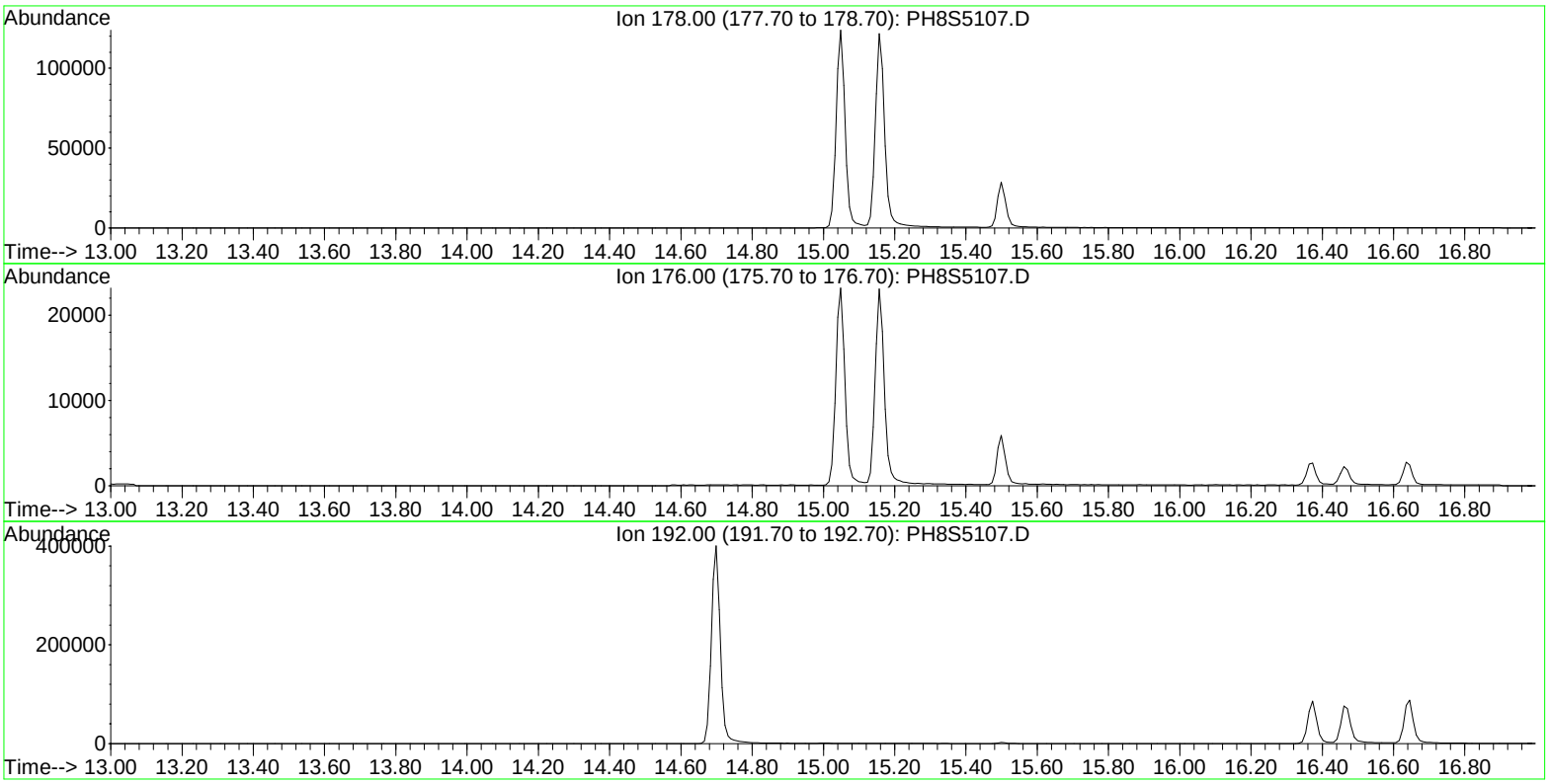


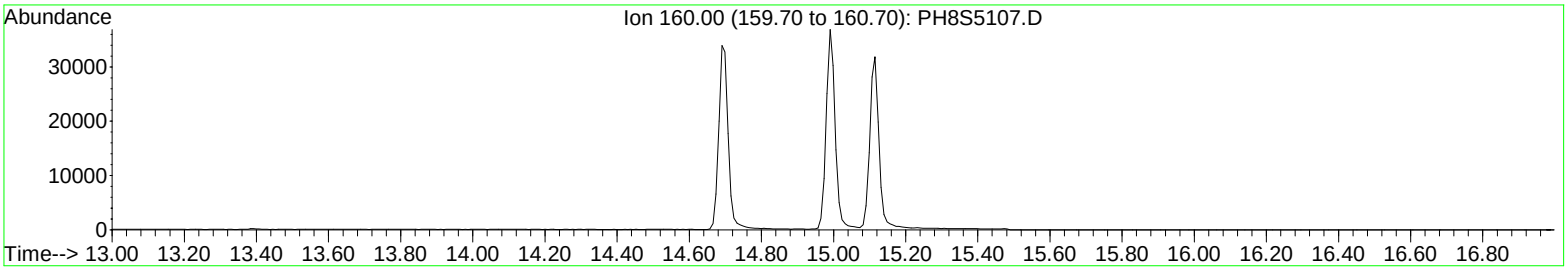
Thu Jan 10 08:37:57 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



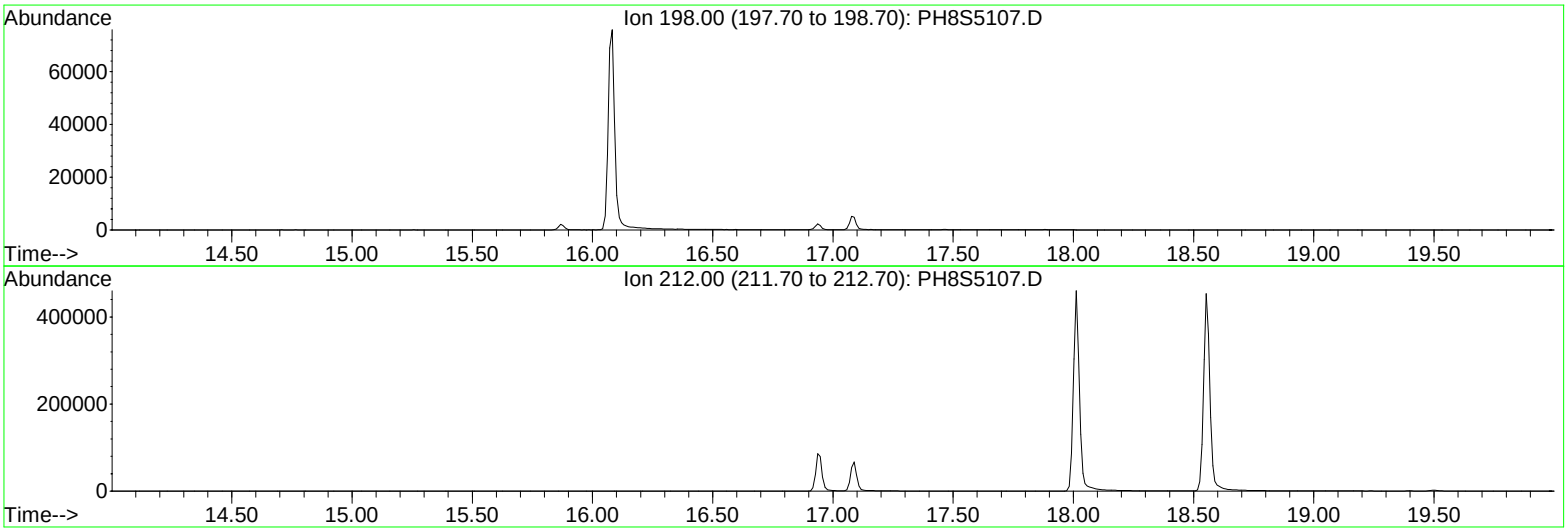


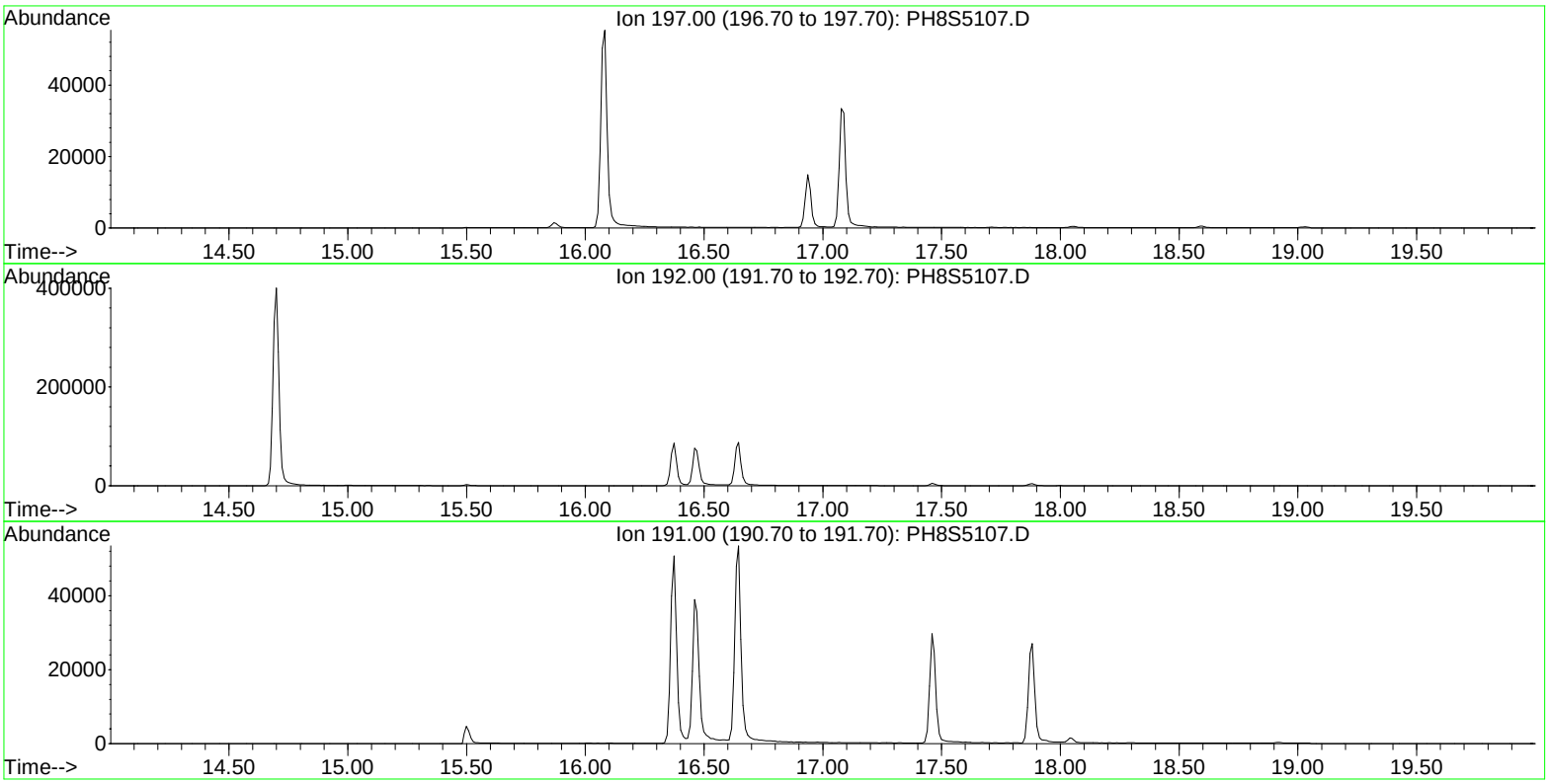


Thu Jan 10 08:37:58 2019

Axys Analytical CHRO Report

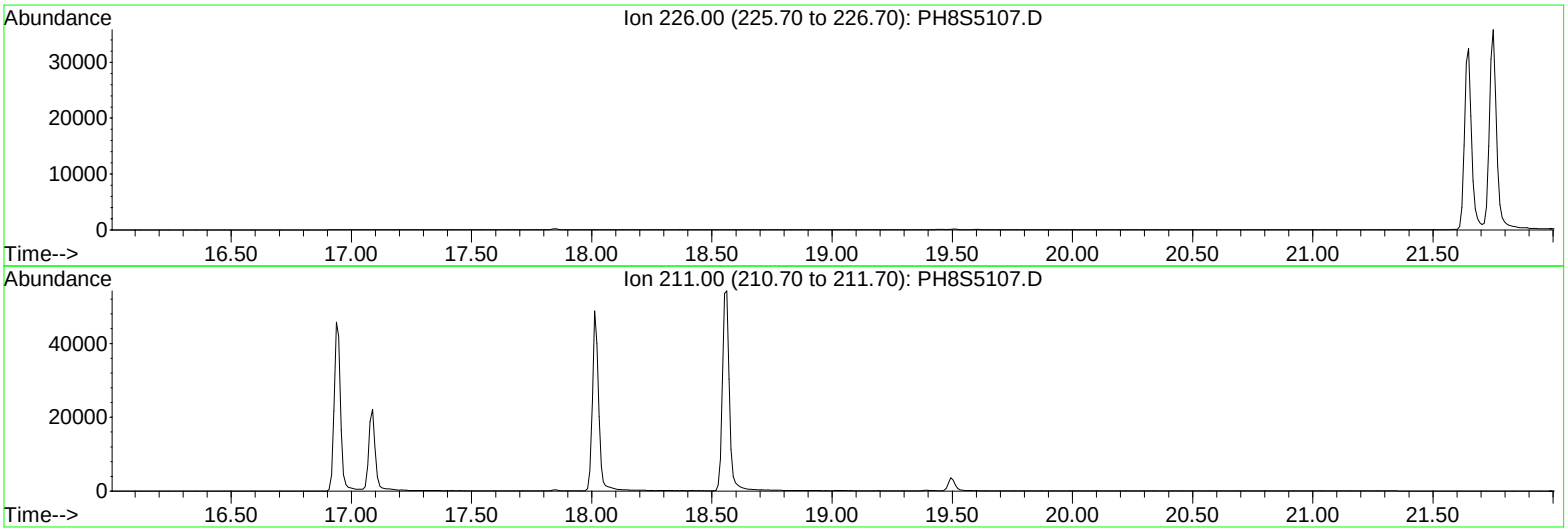
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

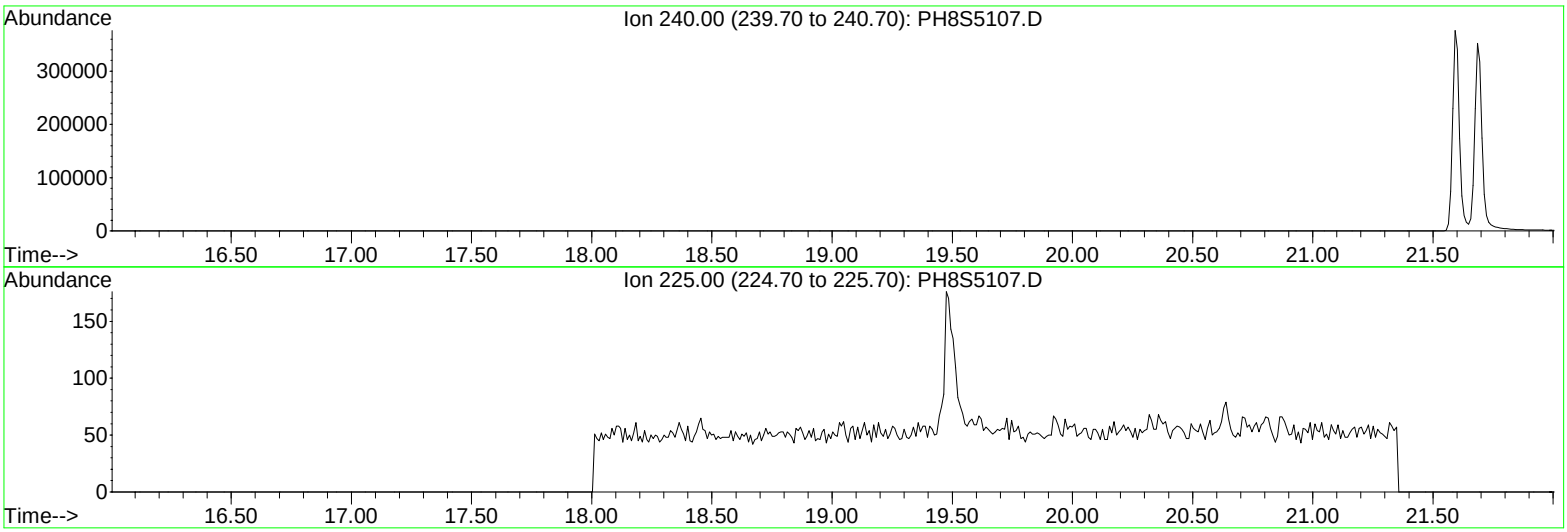




Axys Analytical CHRO Report

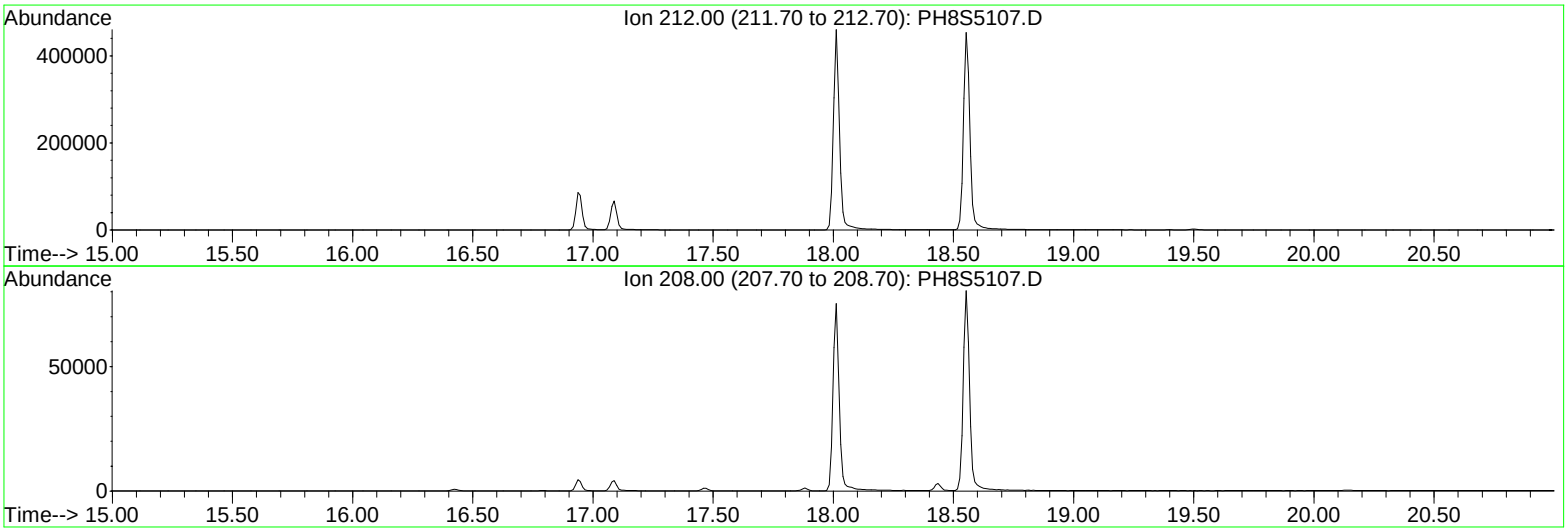
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

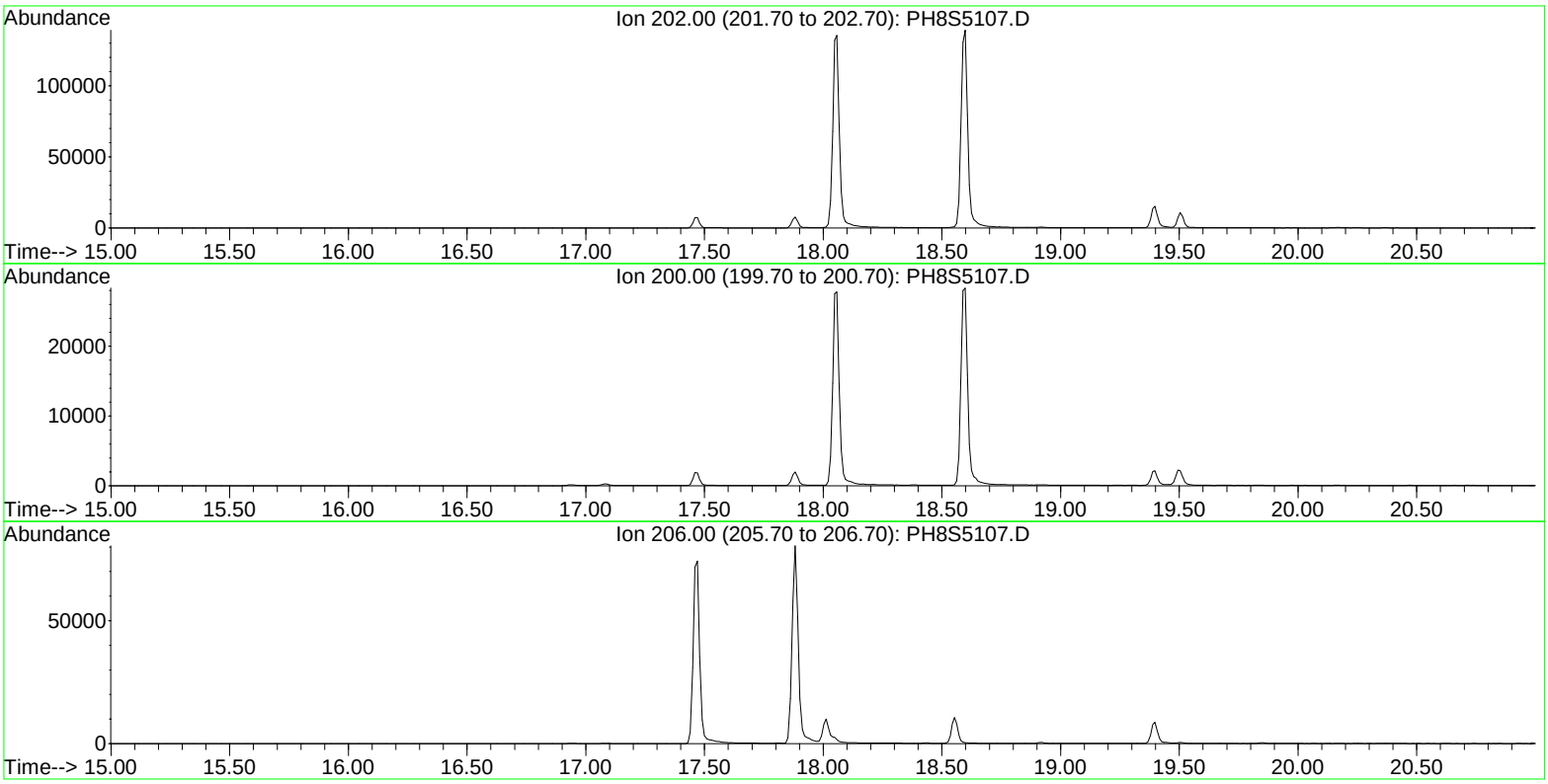


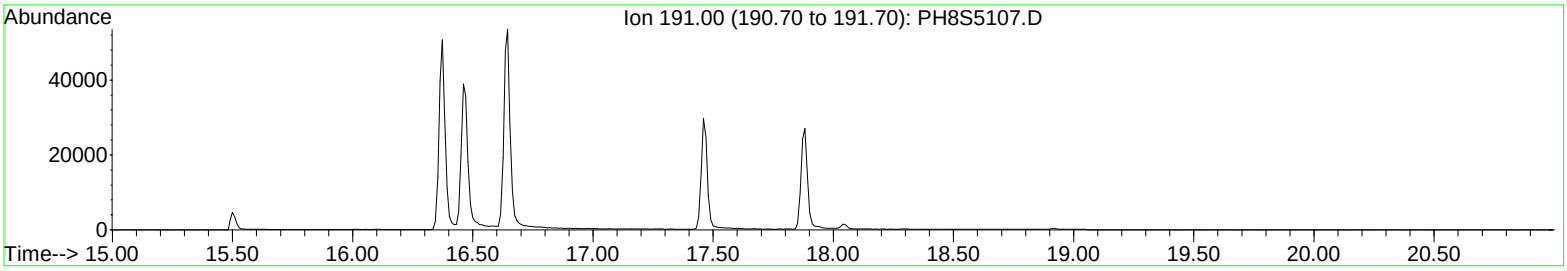


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



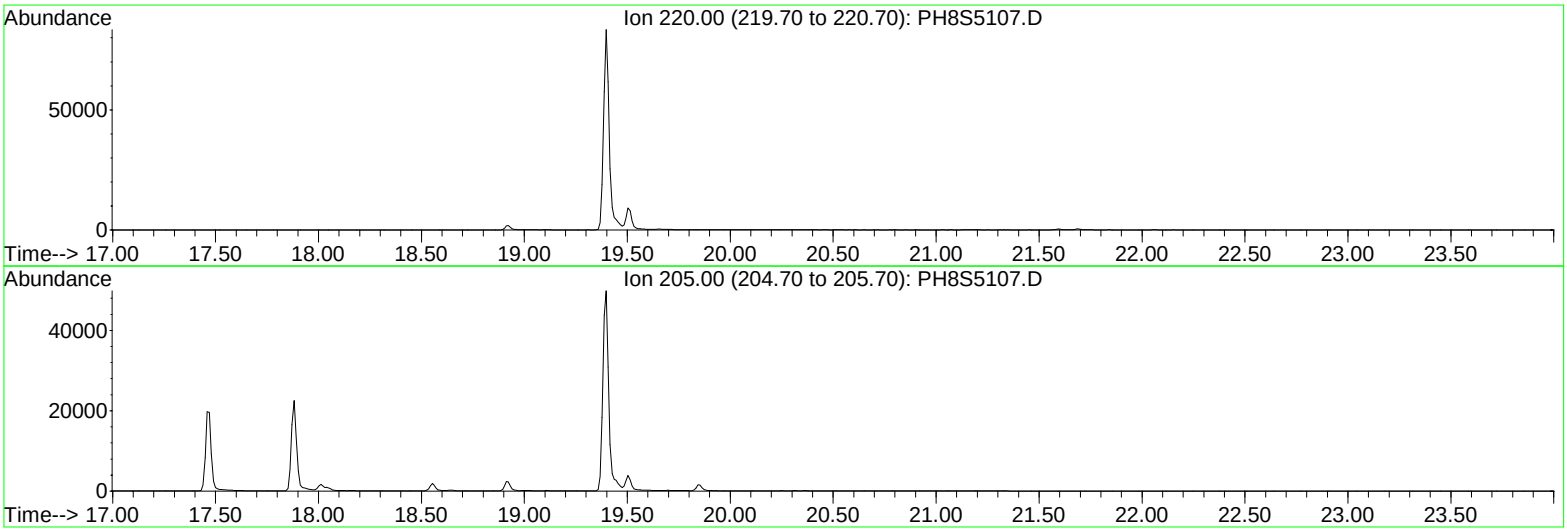


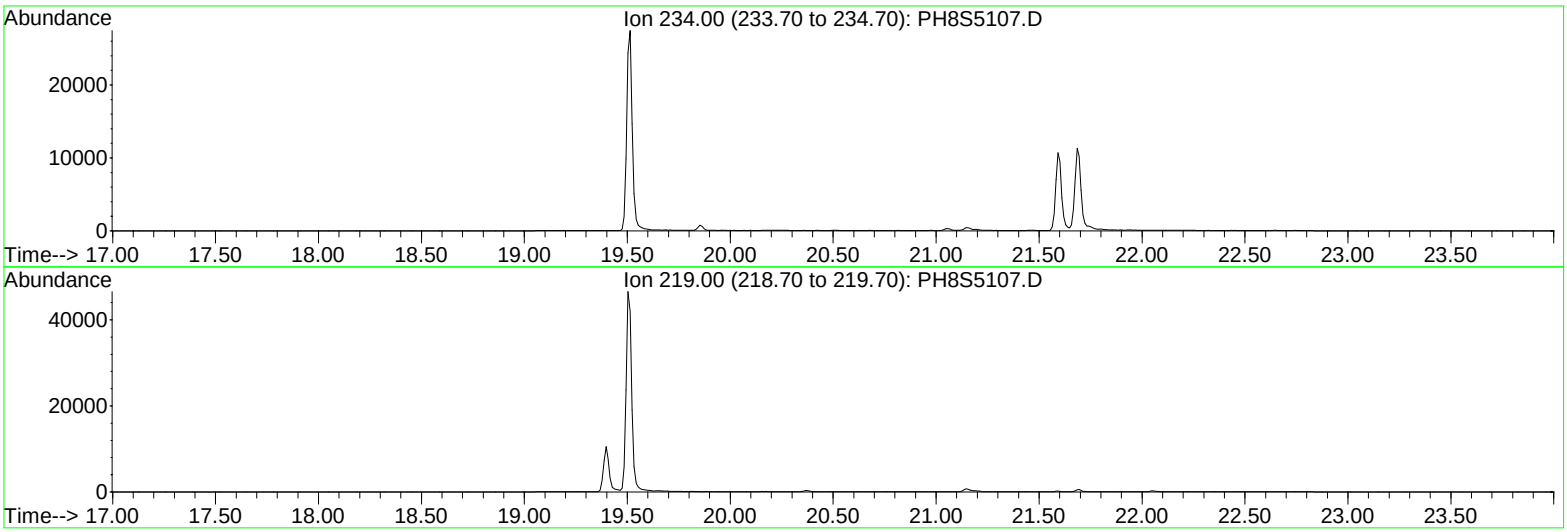


Thu Jan 10 08:38:01 2019

Axys Analytical CHRO Report

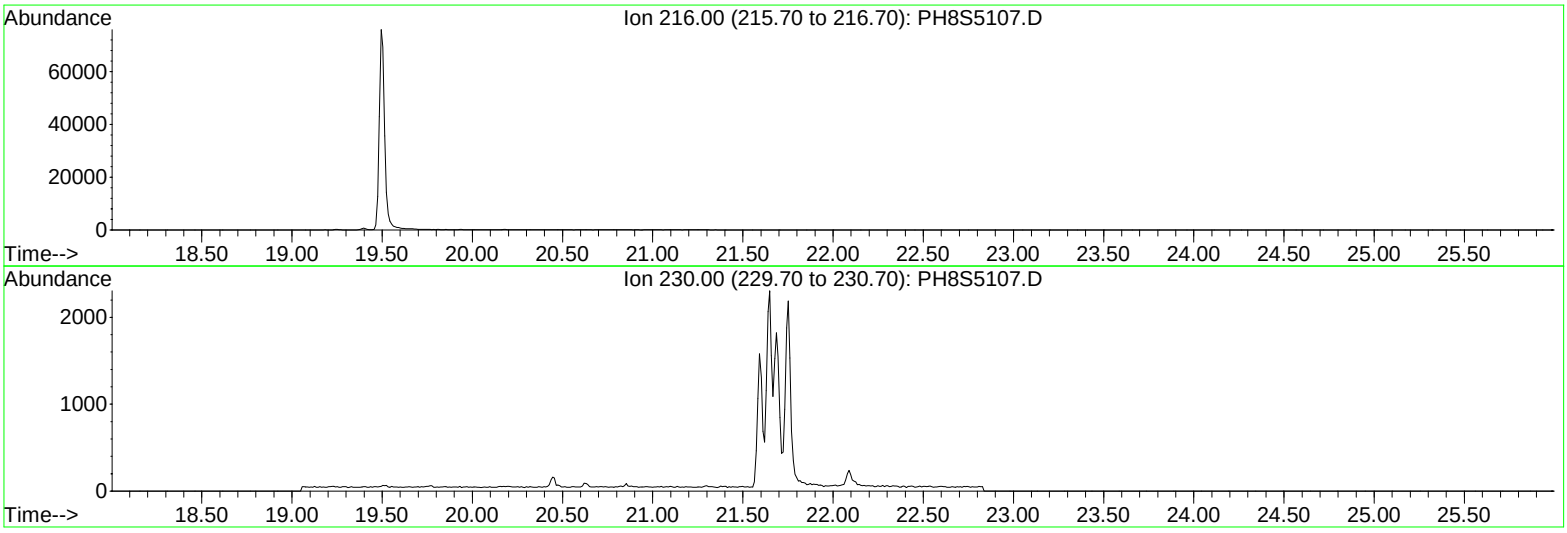
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

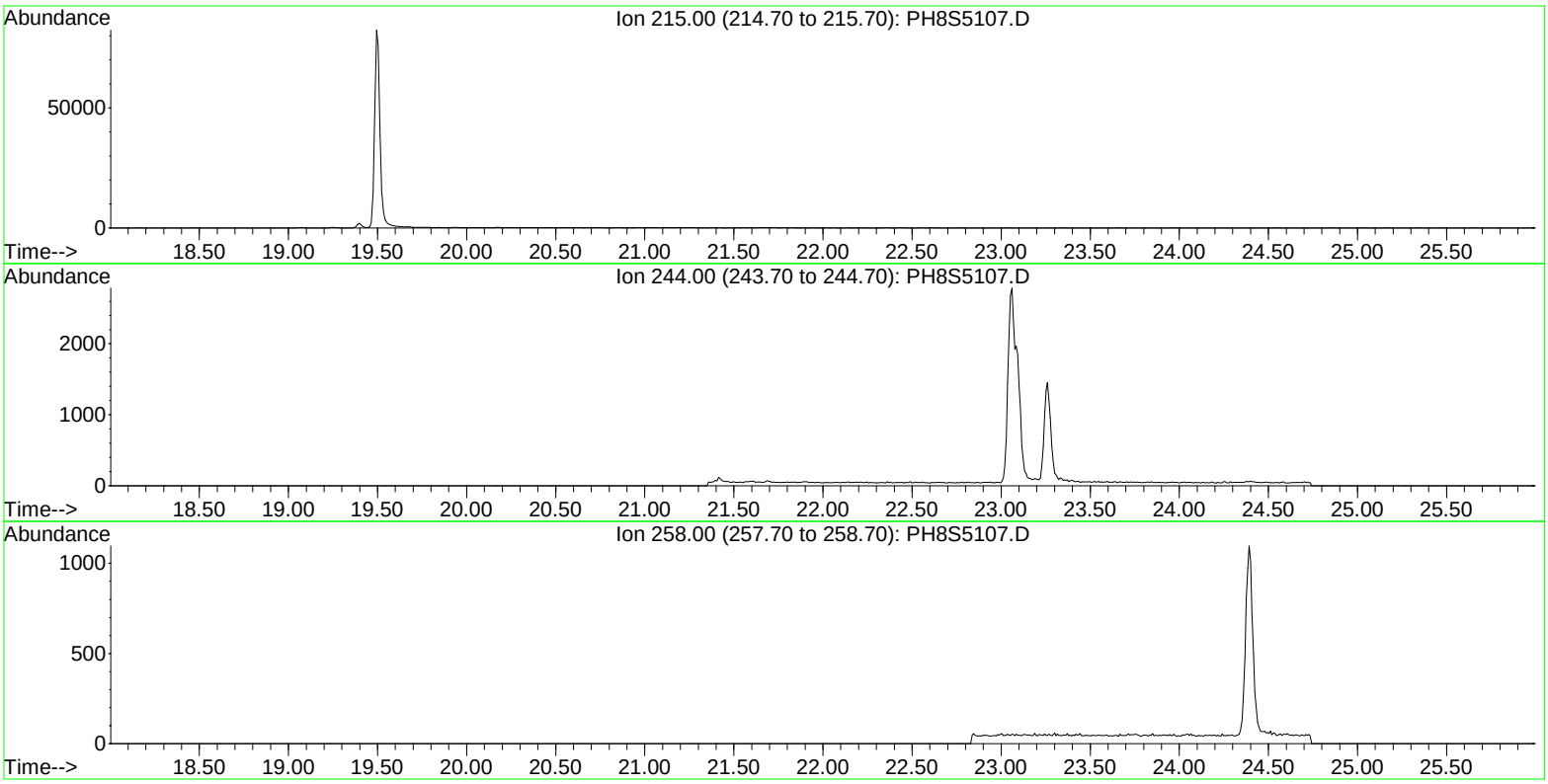


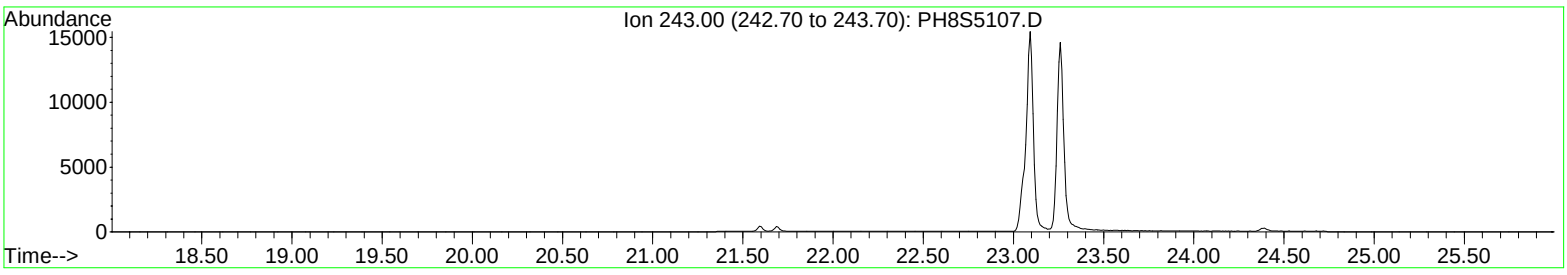


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



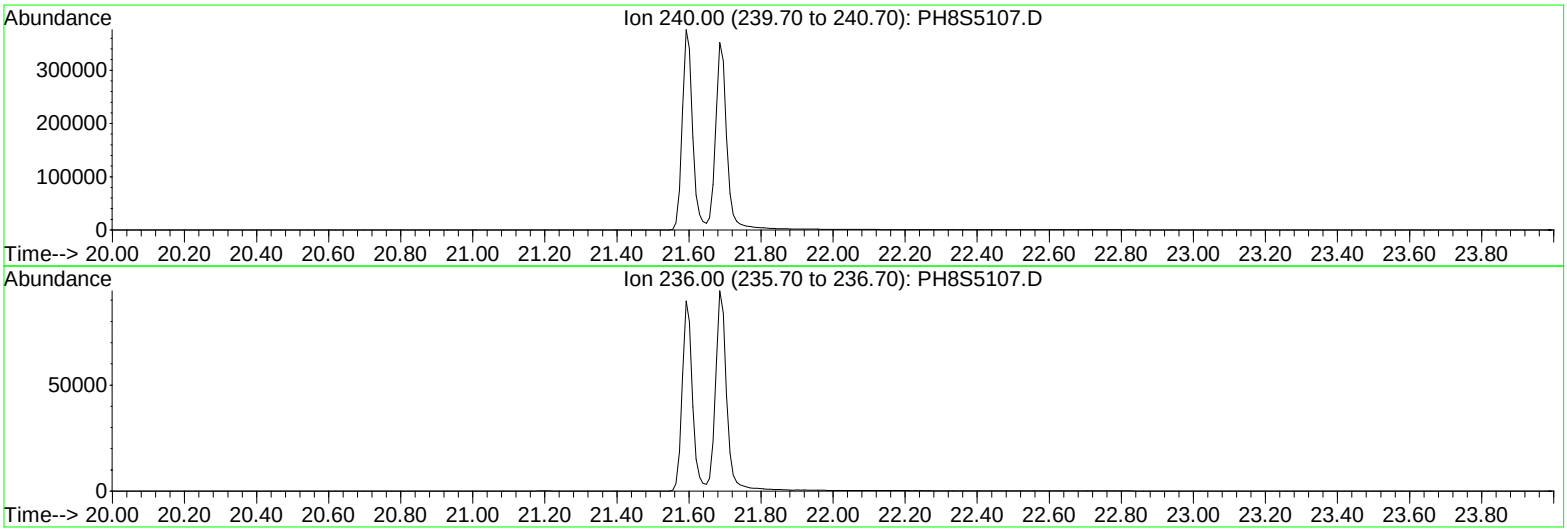


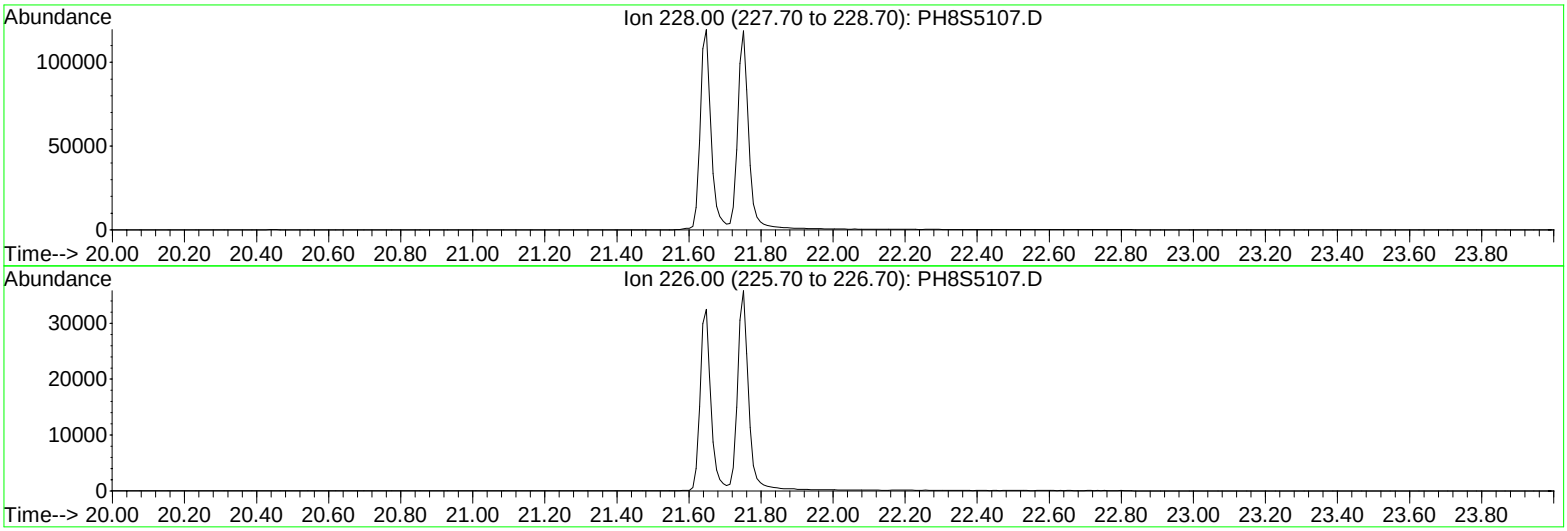


Thu Jan 10 08:38:02 2019

Axys Analytical CHRO Report

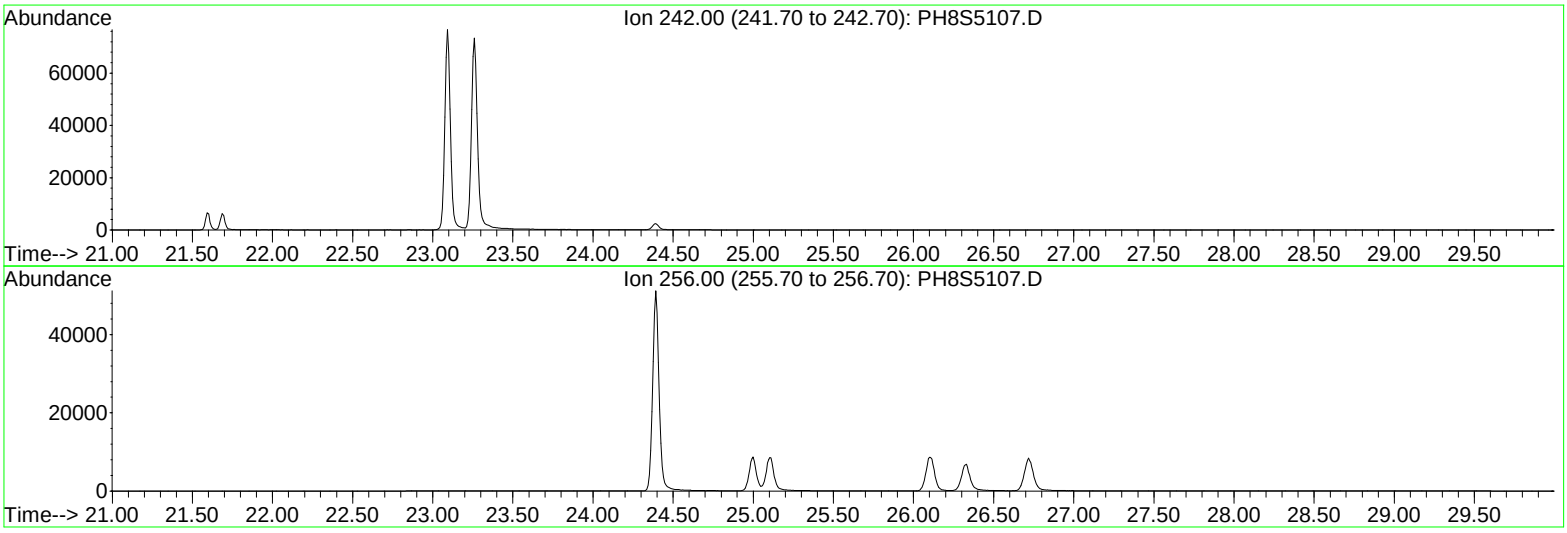
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

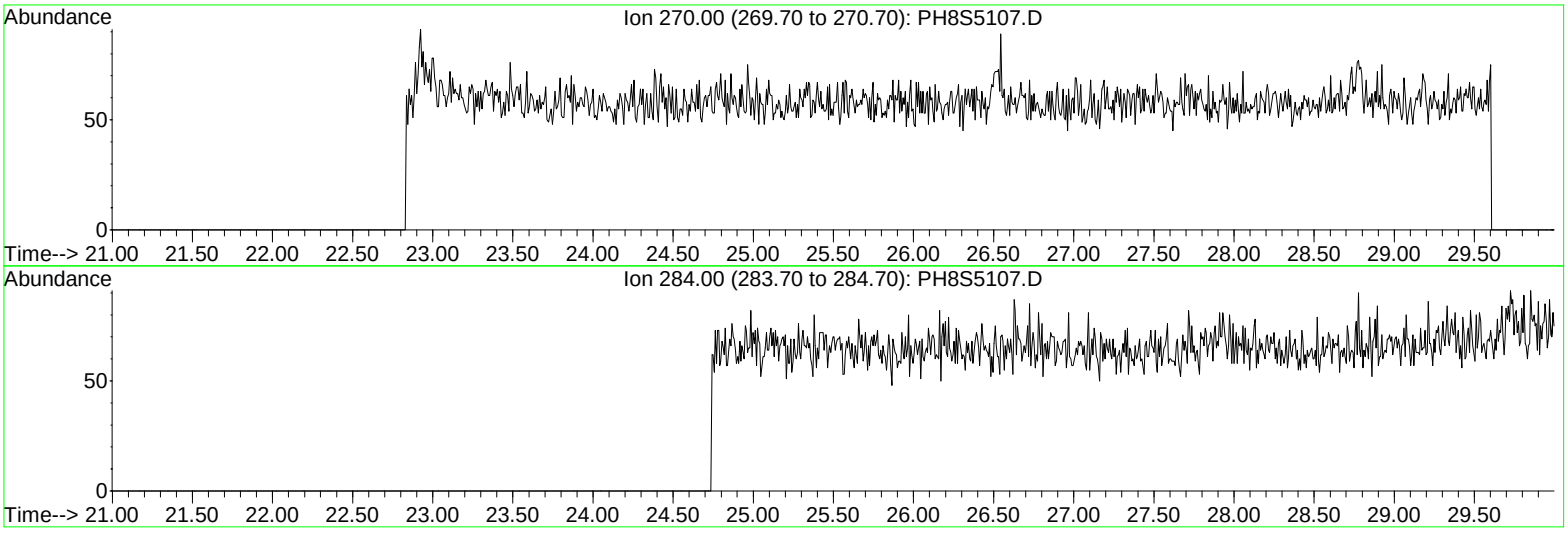




Axys Analytical CHRO Report

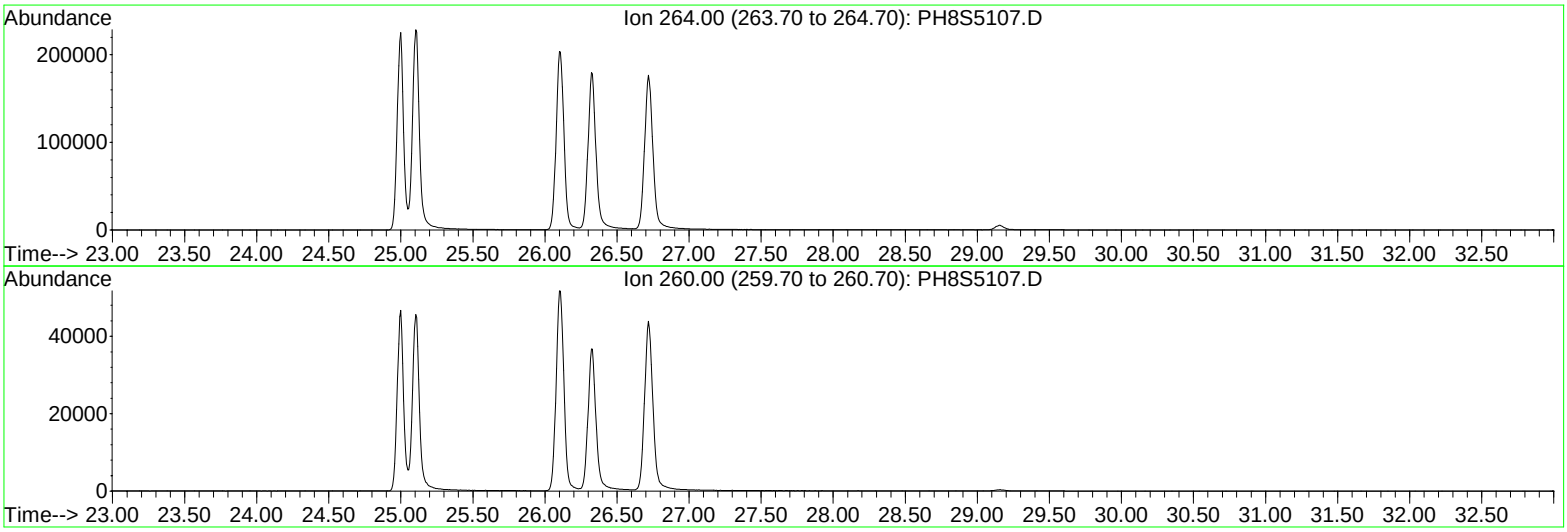
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

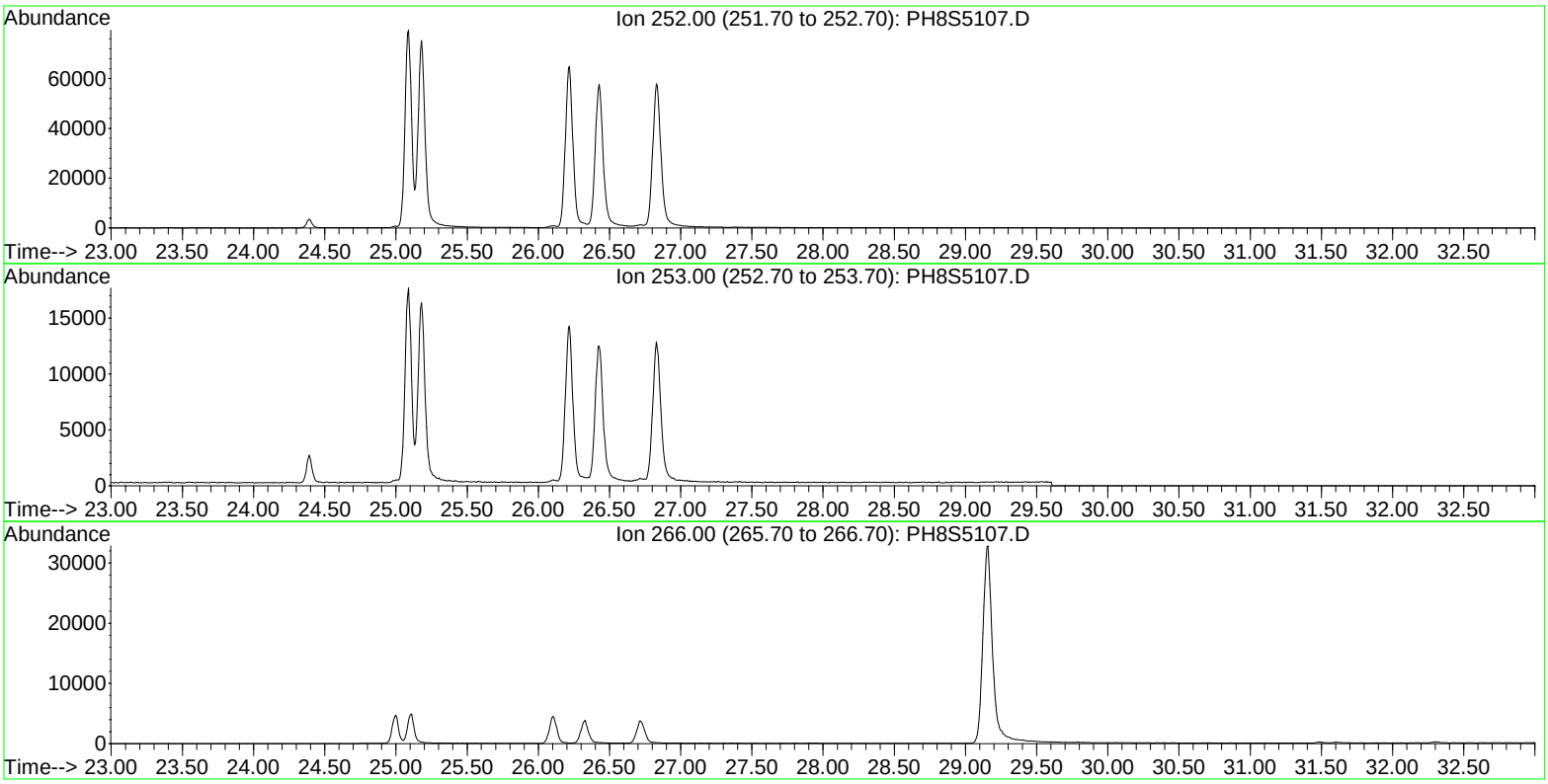


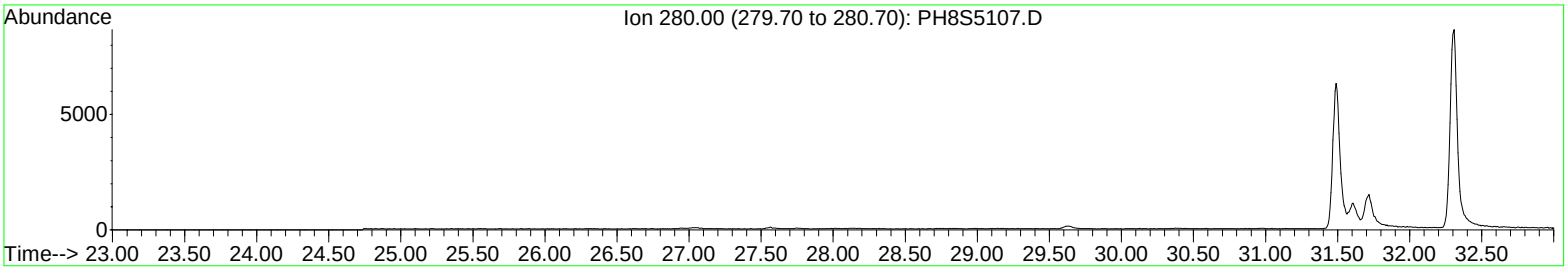


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL



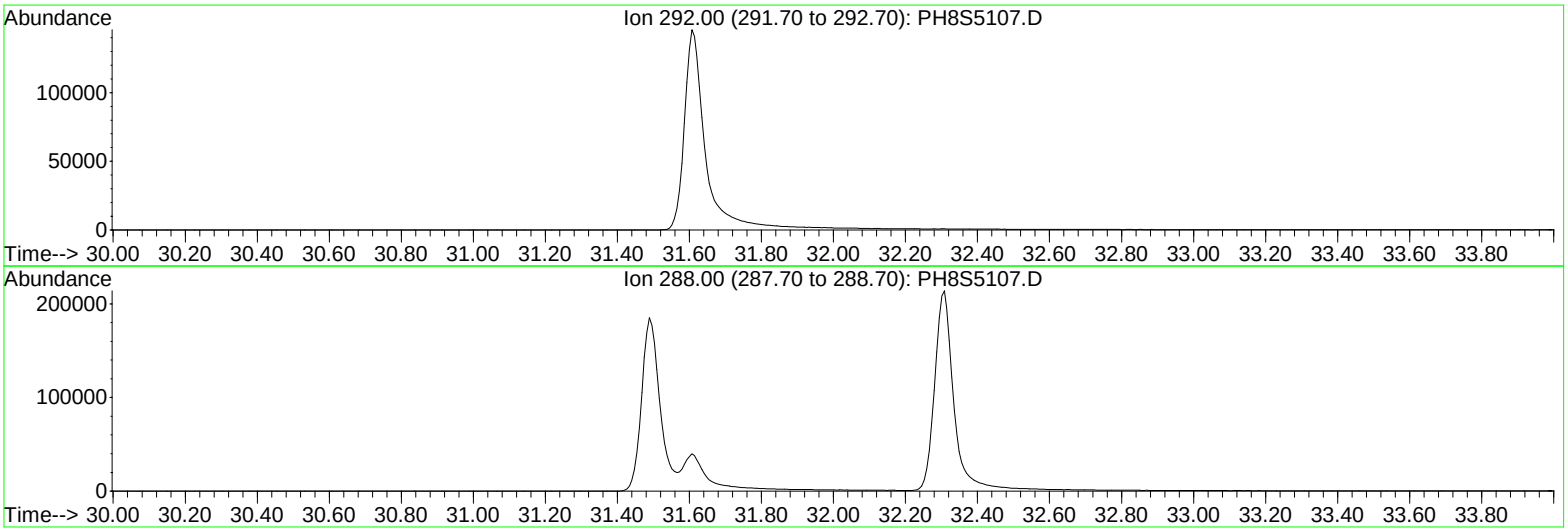


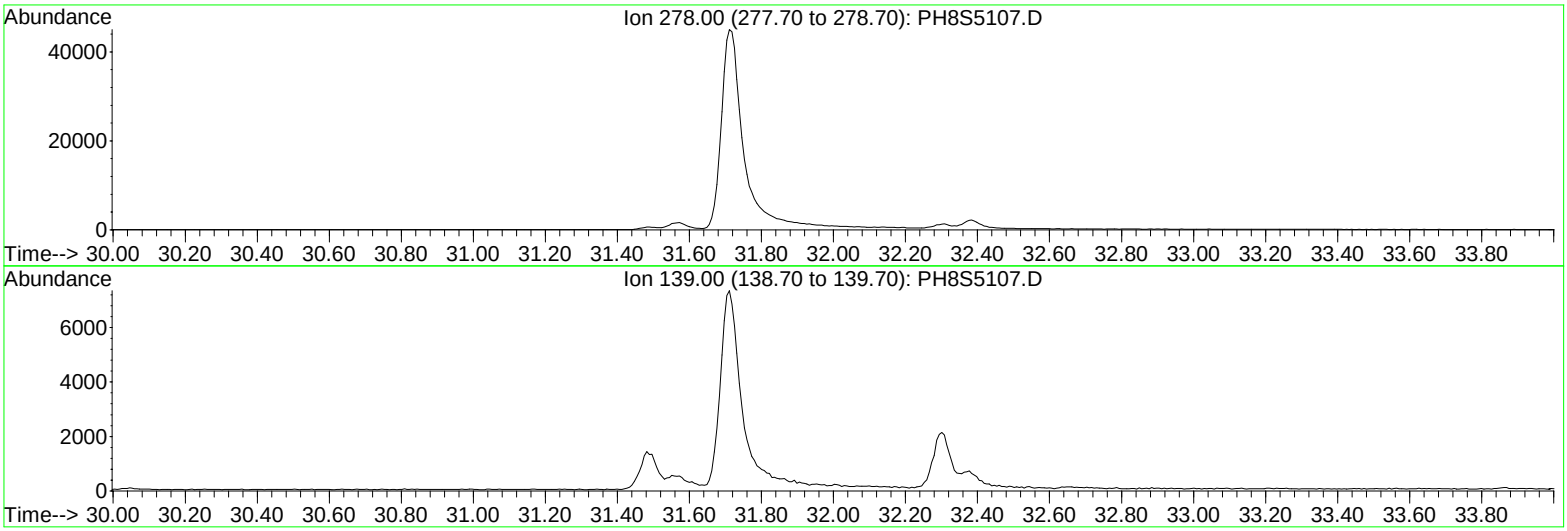


Thu Jan 10 08:38:05 2019

Axys Analytical CHRO Report

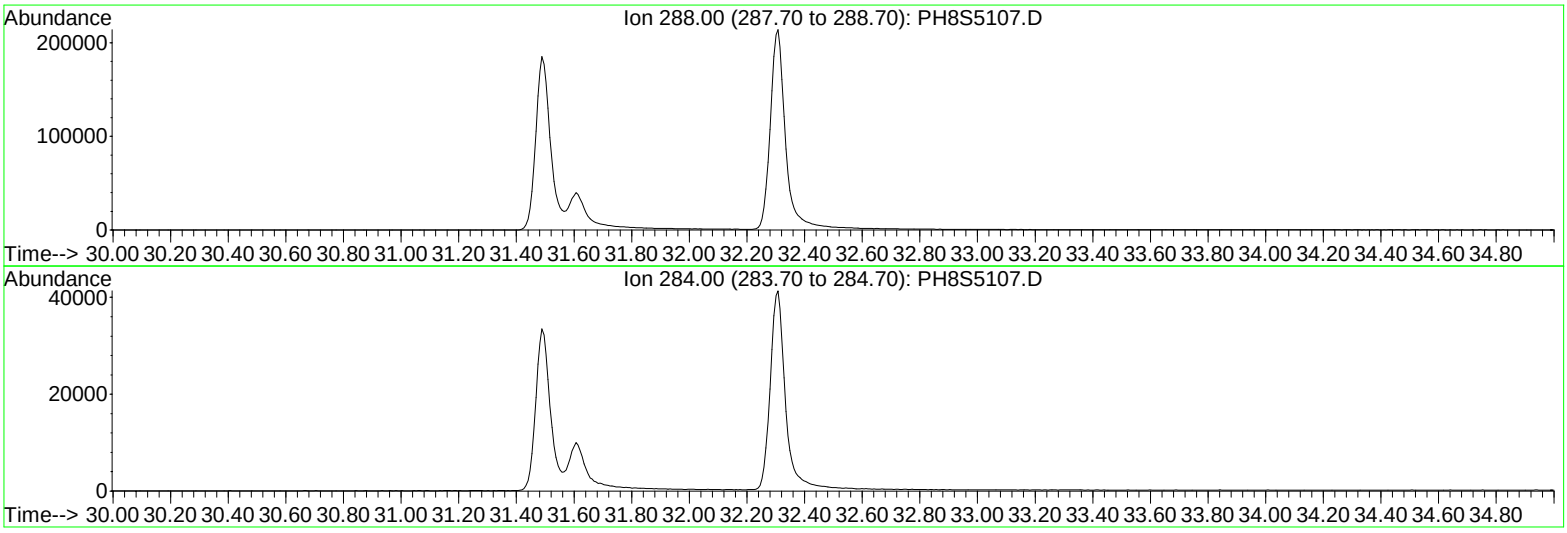
File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL

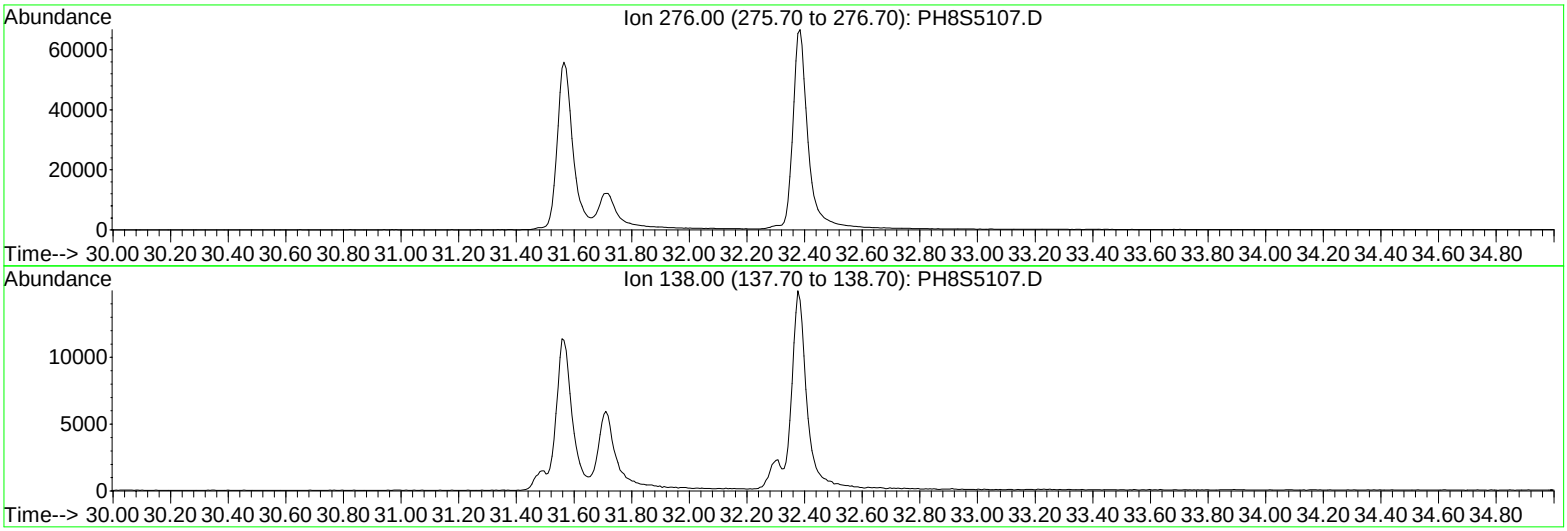




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5107.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 12:04
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036D-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S5109.D
19/10/2018 13:54
PH036E-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5109.D\648S5109.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 7
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-A1.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:06:19 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	448057	11.29	2020 I	0	0	0		0.46	1
d8-Naphthalene - SURR	648823	6.86	2000 S	0	0	0		0.1	0.608
d10-2-Methylnaphthalene - SURR	432225	8.53	1970 S	0	0	0		0.19	0.756
d10-Biphenyl - SURR	627271	9.8	2045 S	0	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	412210	10.11	2055 S	0	0	0		0.76	0.896
d8-Acenaphthylene - SURR	774076	10.85	2060 S	0	0	0		0.15	0.961
d10-Pyrene - REC	1026107	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	851277	14.99	1805 S	0	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	851273	14.7	2035 S	0	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	914096	21.59	2030 S	0	0	0		0.24	1.164
d12-Chrysene - SURR	894401	21.69	1960 S	0	0	0		0.27	1.169
d12-Benzo(e)pyrene - REC	912543	26.11	2020 I	0	0	0		0.26	1
d12-Benzo(b)Fluoranthene - SURR	833088	25	1970 S	0	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	912573	25.11	2000 S	0	0	0		0.2	0.962
d12-Benzo(a)pyrene - SURR	809435	26.33	2070 S	0	0	0		0.21	1.008
d12-Perylene - SURR	838408	26.72	2150 S	0	0	0		0.25	1.023
d12-Indeno(123cd)pyrene - SURR	825556	31.5	1990 S	0	0	0		0.18	1.206
d12-Benzo(ghi)perylene - SURR	942311	32.31	1980 S	0	0	0		0.19	1.237
d8-Naphthalene	648823	6.86	2000 I	0	0	0		0.1	1
Naphthalene $	770877	6.91	1973 T	0	0	0		0.07	1.006
d10-2-Methylnaphthalene	432225	8.53	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	527156	8.6	1996 T	0	0	0		0.9	1.009
1-Methylnaphthalene	499441	8.87	1999 T	0	0	0		0.94	1.04
C1-Naphthalenes	527156	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	627271	9.8	2045 I	0	0	0		-1	1
Biphenyl $	681741	9.85	2007 T	0	0	0		0.29	1.005
C1-Biphenyls $	2070	11.33	2007 T	0	0	0		0.12	1.156
C2-Biphenyls $	25	12.76	2007 T	0	0	0		1	1.302
d12-2,6-Dimethylnaphthalene	412210	10.11	2055 I	0	0	0		0.76	1
2,6-Dimethylnaphthalene $	483881	10.21	2003 T	0	0	0		0.71	1.01
Ethyl/DiMe-Naphthalenes	483881	10.21	4003 T	0	0	0		0.71	1.01
1,2-Dimethylnaphthalene	389256	10.94	2000 T	0	0	0		1.33	1.082
C2-Naphthalenes	483881	10.21	0 T	0	0	0		-1	1.01
2,3,6-Trimethylnaphthalene	493757	12.2	2002 T	0	0	0		0.93	1.206
2,3,5-Trimethylnaphthalene $	467965	12.38	2000 T	0	0	0		0.92	1.224
C3-Naphthalenes	467965	12.38	4002 T	0	0	0		0.92	1.224
1,4,6,7-Tetramethylnaphthalene $	491907	13.9	1997 T	0	0	0		0.03	1.375
C4-Naphthalenes	491907	13.9	1997 T	0	0	0		0.03	1.375
d8-Acenaphthylene	774076	10.85	2060 I	0	0	0		0.15	1
Acenaphthylene $	890832	10.88	1967 T	0	0	0		0.2	1.003
Acenaphthene $	517299	11.36	2005 T	0	0	0		1.16	1.048
C1-Acenaphthenes $	363	11.73	2005 T	0	0	0		0.34	1.081
d8-Dibenzothiophene	851273	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	987463	14.74	2002 T	0	0	0		0.09	1.003
C1-Dibenzothiophenes-1	17430	15.87	2001 T	0	0	0		0.71	1.08
2/3-Methyldibenzothiophenes $	706255	16.07	2001 T	0	0	0		0.72	1.093
C1-Dibenzothiophenes-2	168	16.51	2001 T	0	0	0		0.7	1.123
C1-Dibenzothiophenes	706255	16.07	0 T	0	0	0		-1	1.093
4,6-Dimethyldibenzothiophene	756252	16.94	1999 T	0	0	0		0.17	1.152

Sub by AR
10 Dec 2018

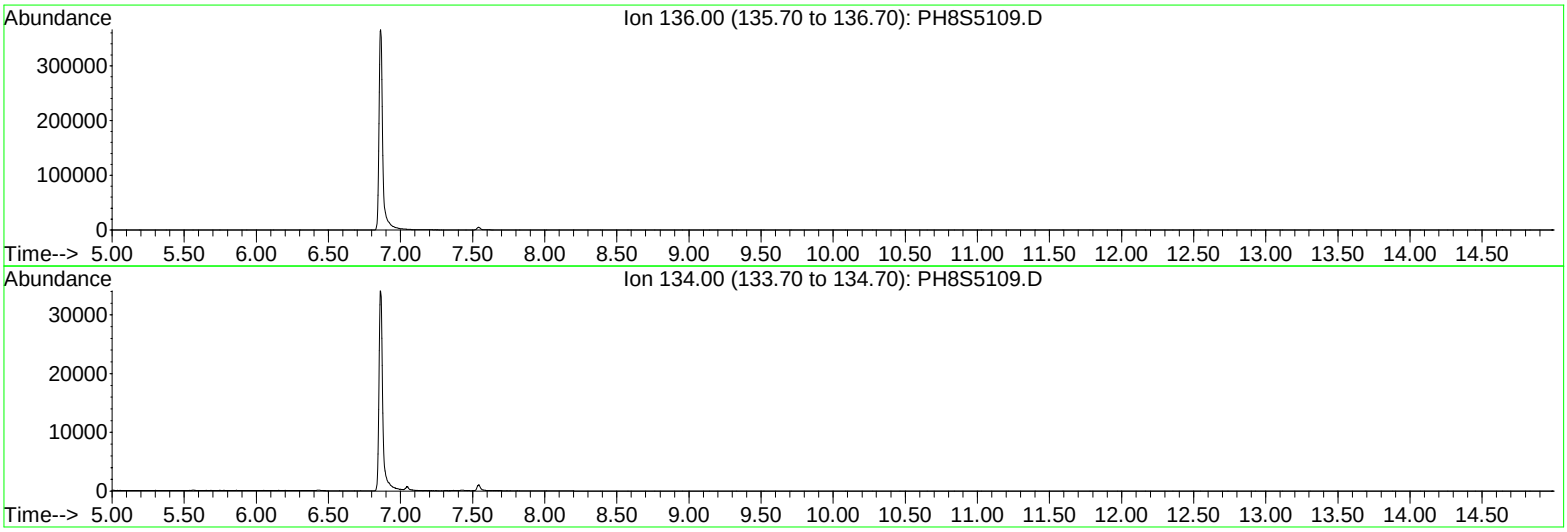
pv by vr
08-Dec-2018

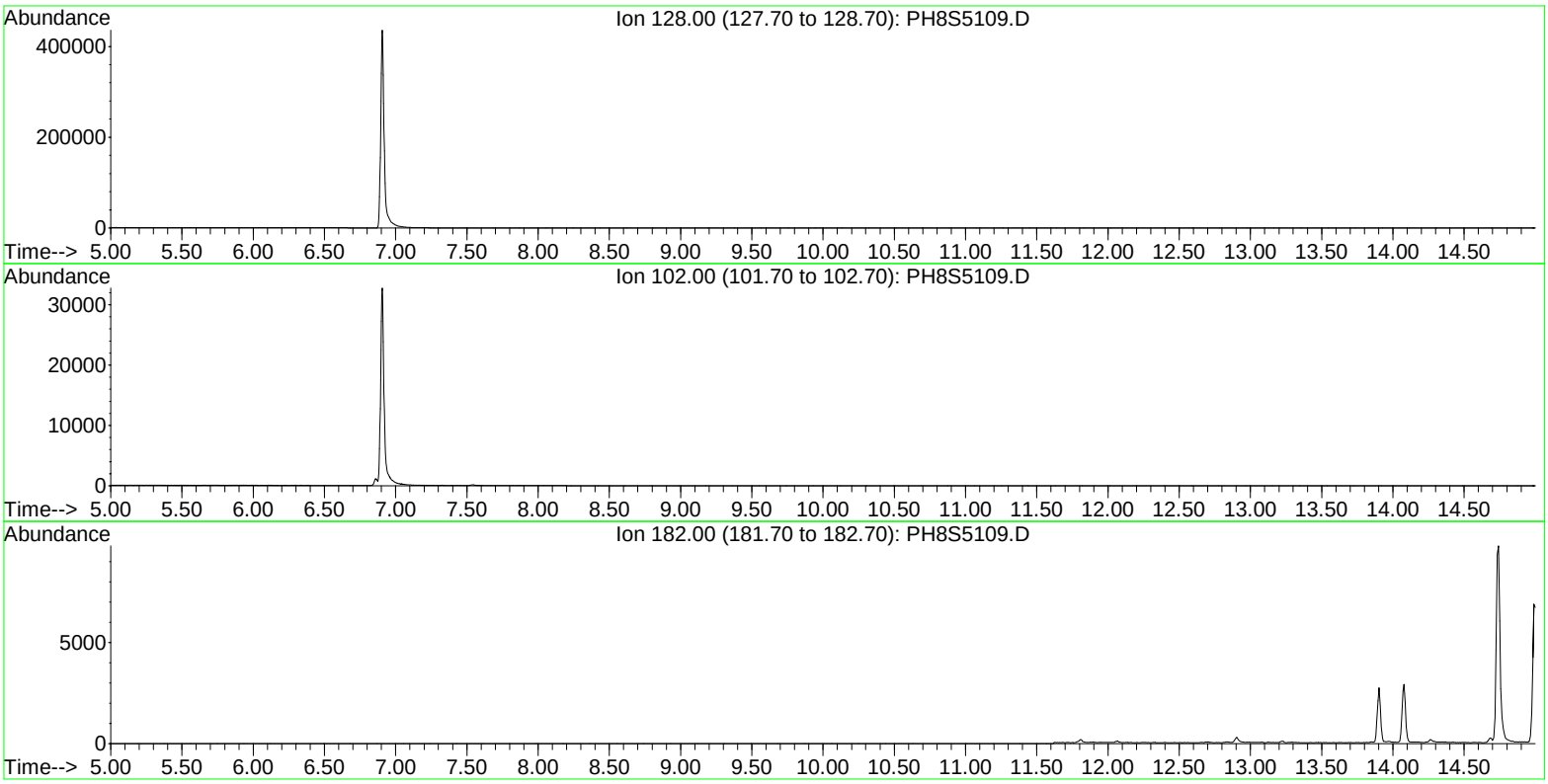
2,4-Dimethyldibenzothiophene $	611972	17.09	2000 T	0	0	0	0.53	1.163
C2-Dibenzothiophenes	611972	17.09	2000 T	0	0	0	0.53	1.163
C3-Dibenzothiophenes $	394	18.09	2000 T	0	0	0	0.99	1.231
C4-Dibenzothiophenes $	352	18.82	2000 T	0	0	0	0.77	1.281
d10-Phenanthrene	851277	14.99	1805 I	0	0	0	0.15	1
Fluorene $	657685	12.65	1966 T	0	0	0	1	0.844
2-Methylfluorene $	467138	14.08	2000 T	0	0	0	1.31	0.939
C1-Fluorenes	467138	14.08	2000 T	0	0	0	1.31	0.939
1,7-Dimethylfluorene $	440741	15.5	2002 T	0	0	0	0.08	1.034
C2-Fluorenes	440741	15.5	2002 T	0	0	0	0.08	1.034
C3-Fluorenes $	7795	16.42	2002 T	0	0	0	0.28	1.095
Phenanthrene $	1011848	15.05	2018 T	0	0	0	0.19	1.004
Anthracene	1001531	15.16	2005 T	0	0	0	0.19	1.011
d10-Anthracene $	924750	15.12	2040 T	0	0	0	0.14	1.008
3-Methylphenanthrene	212	16.31	6002 T	0	0	0	0.59	1.088
2-Methylphenanthrene	758125	16.37	2001 T	0	0	0	0.59	1.092
2-Methylanthracene	715919	16.46	1999 T	0	0	0	0.5	1.098
9/4-Methylphenanthrenes	2339	16.55	6002 T	0	0	0	0.62	1.104
1-Methylphenanthrene $	780989	16.65	2002 T	0	0	0	0.61	1.11
C1-Phenanthrenes/Anthracenes	780989	16.65	0 T	0	0	0	-1	1.11
Fluoranthene $	1245371	18.06	1979 T	0	0	0	0.21	1.205
Pyrene	1267454	18.59	1980 T	0	0	0	0.21	1.24
3,6-Dimethylphenanthrene $	706475	17.46	1998 T	0	0	0	0.36	1.165
2,6-Dimethylphenanthrene	1831	17.53	4006 T	0	0	0	0.35	1.169
1,7-Dimethylphenanthrene	710357	17.88	2008 T	0	0	0	0.35	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	706475	17.46	4006 T	0	0	0	0.36	1.165
1,8-Dimethylphenanthrene	1479	18.13	4006 T	0	0	0	0.35	1.209
C2-Phenanthrenes/Anthracenes	706475	17.46	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	772296	19.4	2333 T	0	0	0	0.61	1.294
C3-Phenanthrenes/Anthracenes	791490	19.4	2333 T	0	0	0	0.61	1.294
Retene $	246084	19.5	1999 T	0	0	0	1.69	1.301
C4-Phenanthrenes/Anthracenes	246084	19.5	1999 T	0	0	0	1.69	1.301
C1-Fluoranthenes/Pyrenes-1	1901	19.24	2000 T	0	0	0	1	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	751774	19.49	2000 T	0	0	0	1.08	1.3
C1-Fluoranthenes/Pyrenes-2	395	19.92	2000 T	0	0	0	1	1.329
C1-Fluoranthenes/Pyrenes	751774	19.49	0 T	0	0	0	-1	1.3
C2-Fluoranthenes/Pyrenes $	1063	20.44	2000 T	0	0	0	0.34	1.363
C3-Fluoranthenes/Pyrenes $	186	21.89	2000 T	0	0	0	0.68	1.46
C4-Fluoranthenes/Pyrenes $	358	23.26	2000 T	0	0	0	1.66	1.552
d12-Benz(a)anthracene	914096	21.59	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	951919	18.01	1985 T	0	0	0	0.17	0.834
Benz(a)anthracene	1148728	21.65	2013 T	0	0	0	0.27	1.003
d12-Chrysene	894401	21.69	1960 I	0	0	0	0.27	1
Chrysene $	1142924	21.75	2009 T	0	0	0	0.3	1.003
5/6-Methylchrysenes $	868944	23.09	2000 T	0	0	0	-1	1.065
1-Methylchrysene	921993	23.26	1999 T	0	0	0	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	868944	23.09	3999 T	0	0	0	-1	1.065
5,9-Dimethylchrysene $	685672	24.39	1999 T	0	0	0	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	685672	24.39	1999 T	0	0	0	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	21	25.08	1999 T	0	0	0	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	52	26.07	1999 T	0	0	0	-1	1.202
d12-Benzo(b)fluoranthene	833088	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	1785	25.01	0 T	0	0	0	0.41	1
Benzo(b)fluoranthene $	1191285	25.09	2014 T	0	0	0	0.22	1.004
d12-Benzo(k)fluoranthene	912573	25.11	2000 I	0	0	0	0.2	1
Benzo(j/k)fluoranthenes	1193351	25.19	2015 T	0	0	0	0.22	1.003
Benzofluoranthenes	1191285	25.09	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	809435	26.33	2070 I	0	0	0	0.21	1
Benzo(e)pyrene	1108424	26.22	2001 T	0	0	0	0.22	0.996
Benzo(a)pyrene	1043890	26.43	2000 T	0	0	0	0.22	1.004
7-Methylbenzo(a)pyrene $	768248	29.16	1997 T	0	0	0	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	768248	29.16	1997 T	0	0	0	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	31	29.89	1997 T	0	0	0	-1	1.135
d12-Perylene	838408	26.72	2150 I	0	0	0	0.25	1
Perylene	1087795	26.84	2000 T	0	0	0	0.22	1.004
d12-Indeno(123cd)pyrene	825556	31.5	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	727118	31.61	1915 T	0	0	0	0.28	1.004
Dibenzo(ah)anthracene $	942629	31.72	1973 T	0	0	0	0.16	1.007
Indeno(123cd)pyrene $	1025783	31.57	2012 T	0	0	0	0.21	1.002
d12-Benzo(ghi)perylene	942311	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	1131306	32.39	1971 T	0	0	0	0.22	1.003

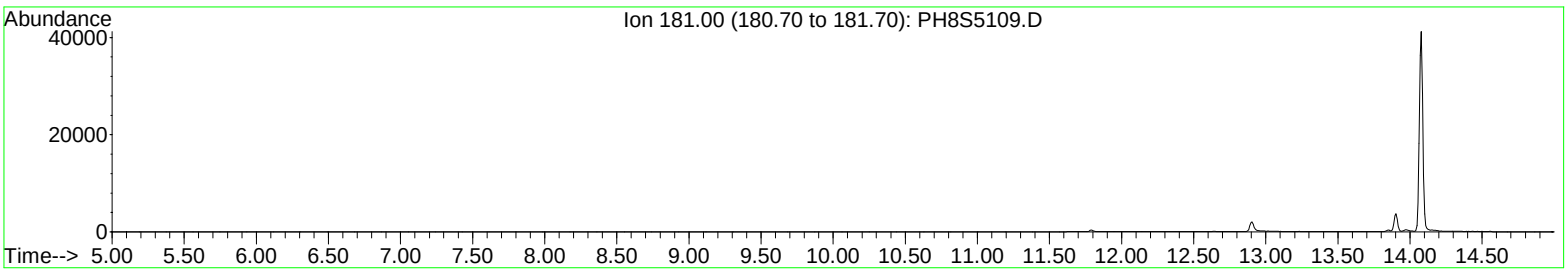
pv by vr
08-Dec-2018

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



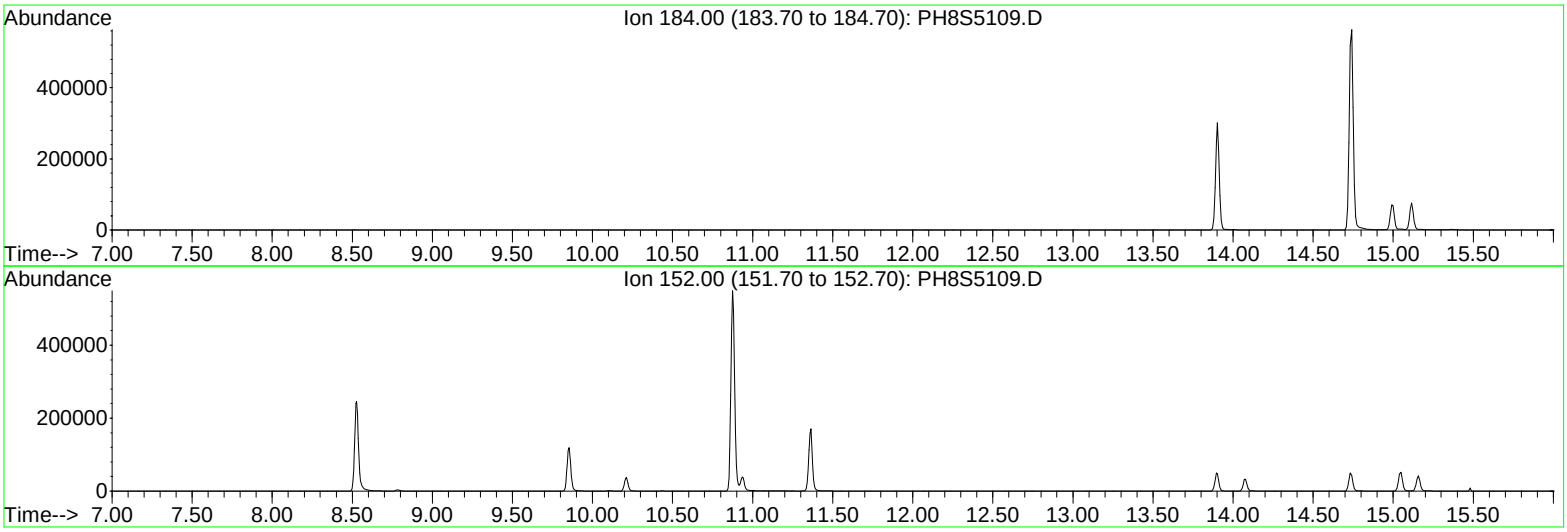


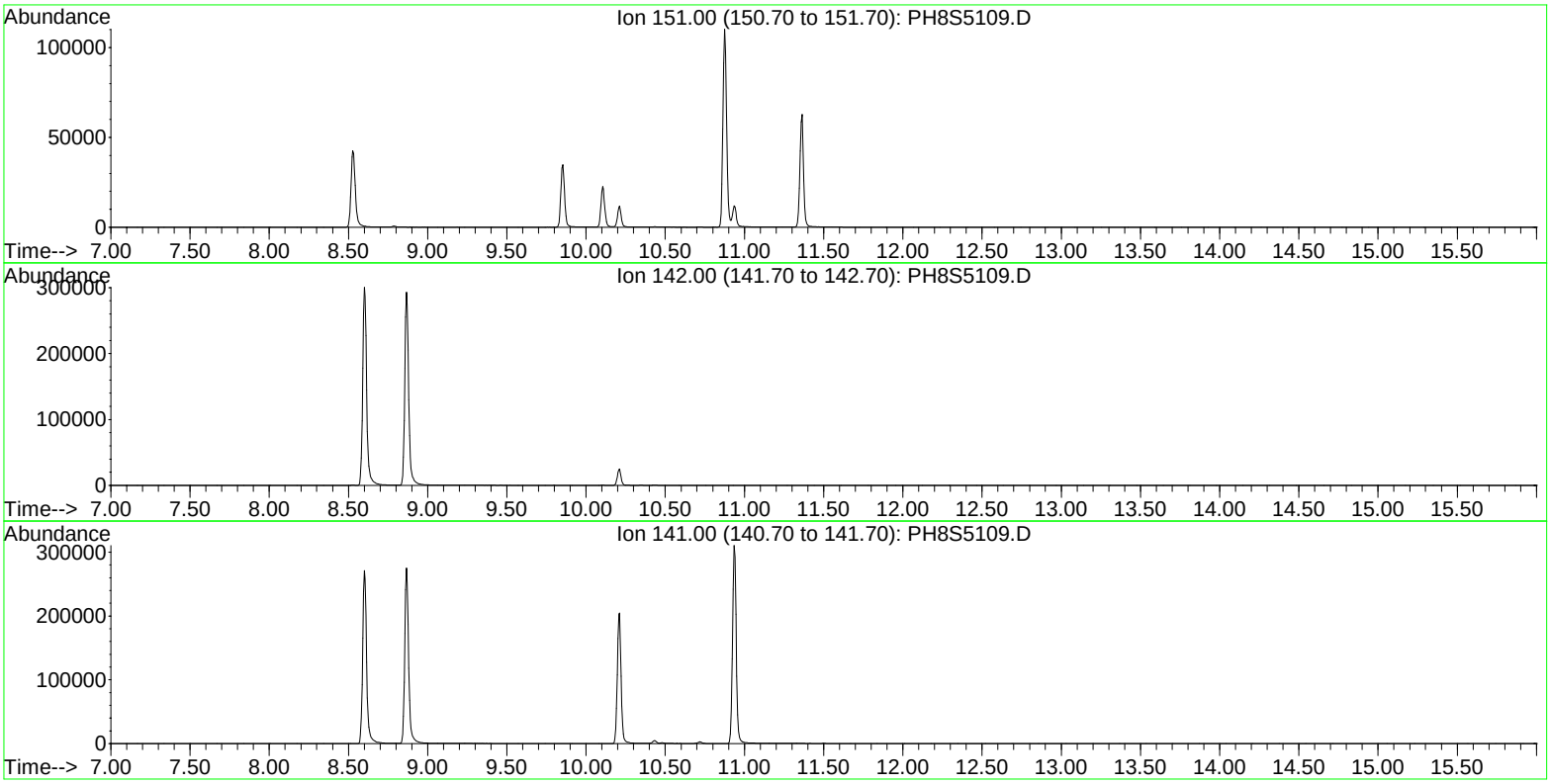


Thu Jan 10 08:38:24 2019

Axys Analytical CHRO Report

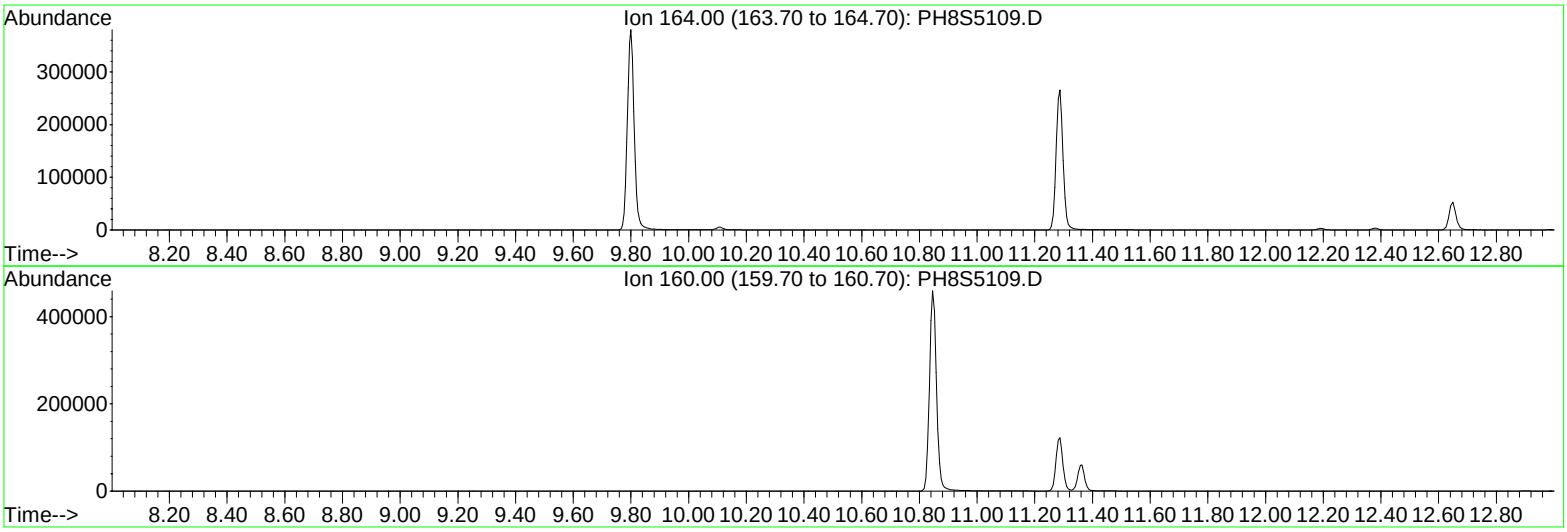
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

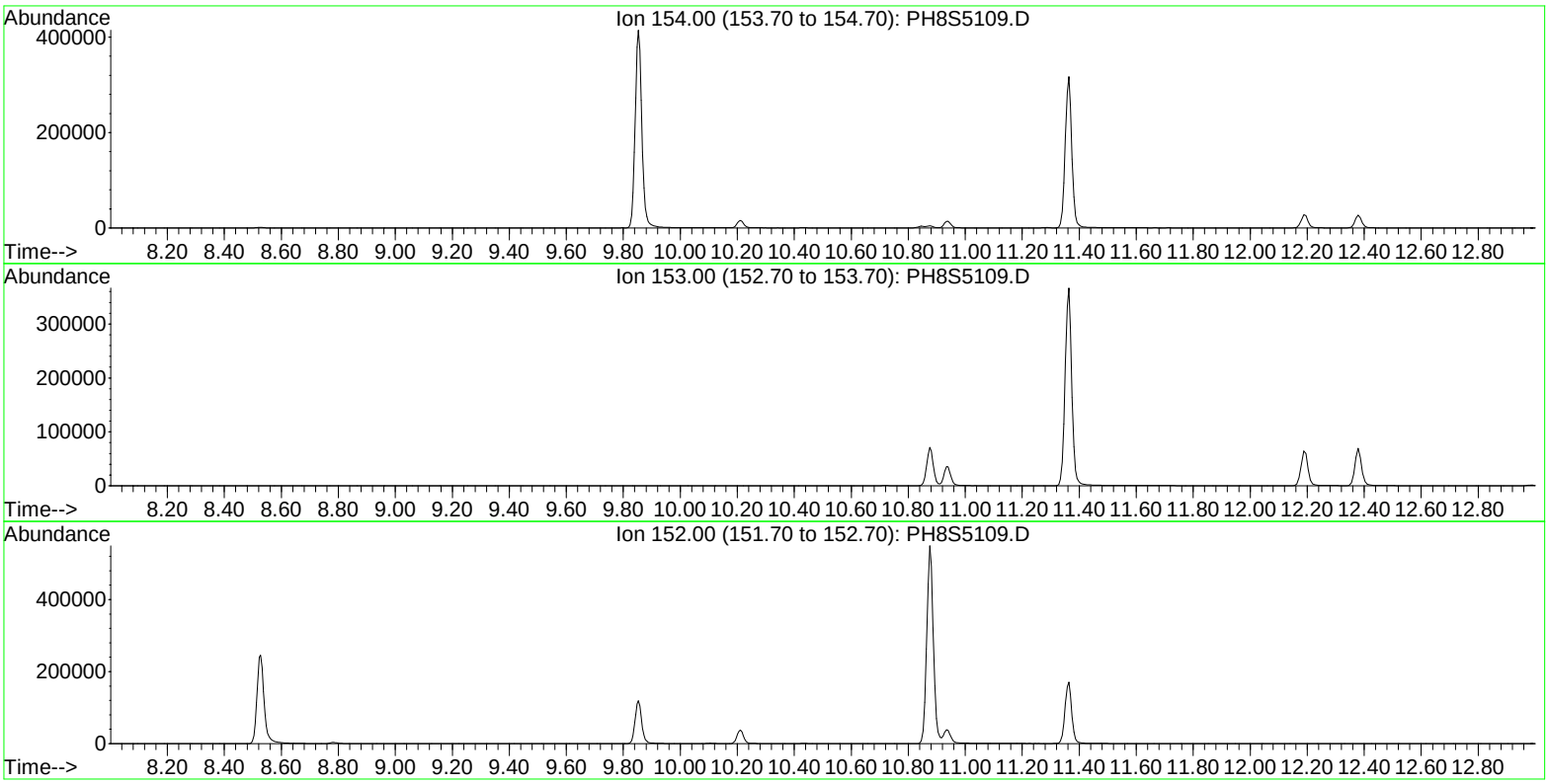




Axys Analytical CHRO Report

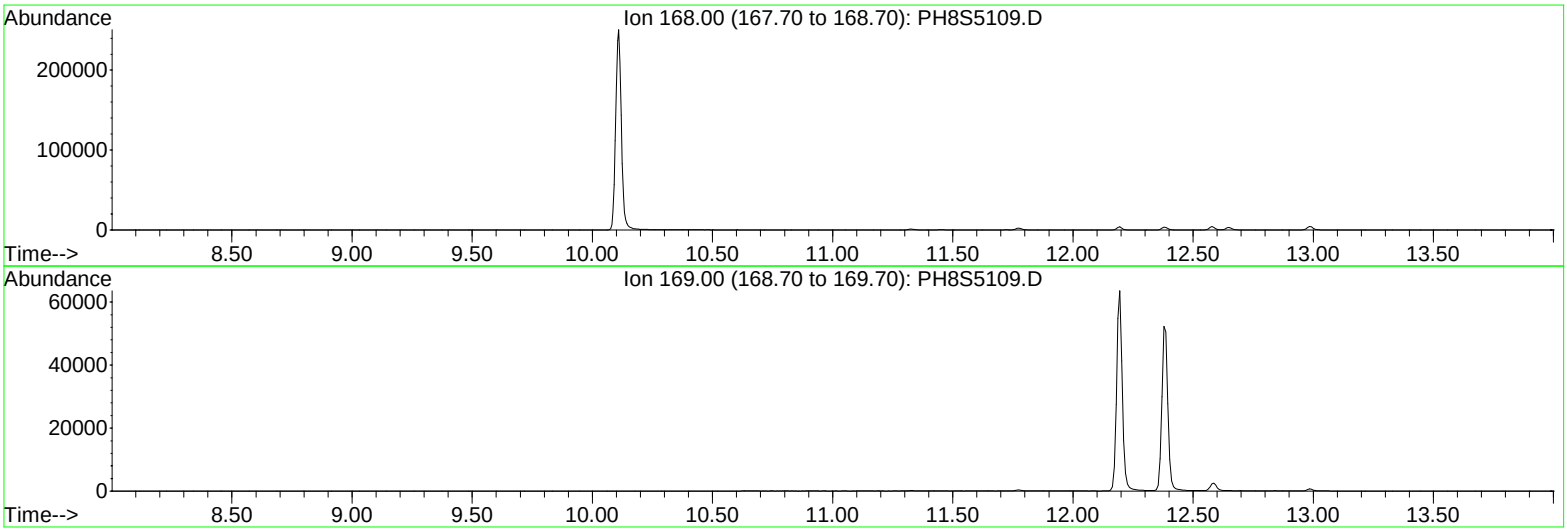
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

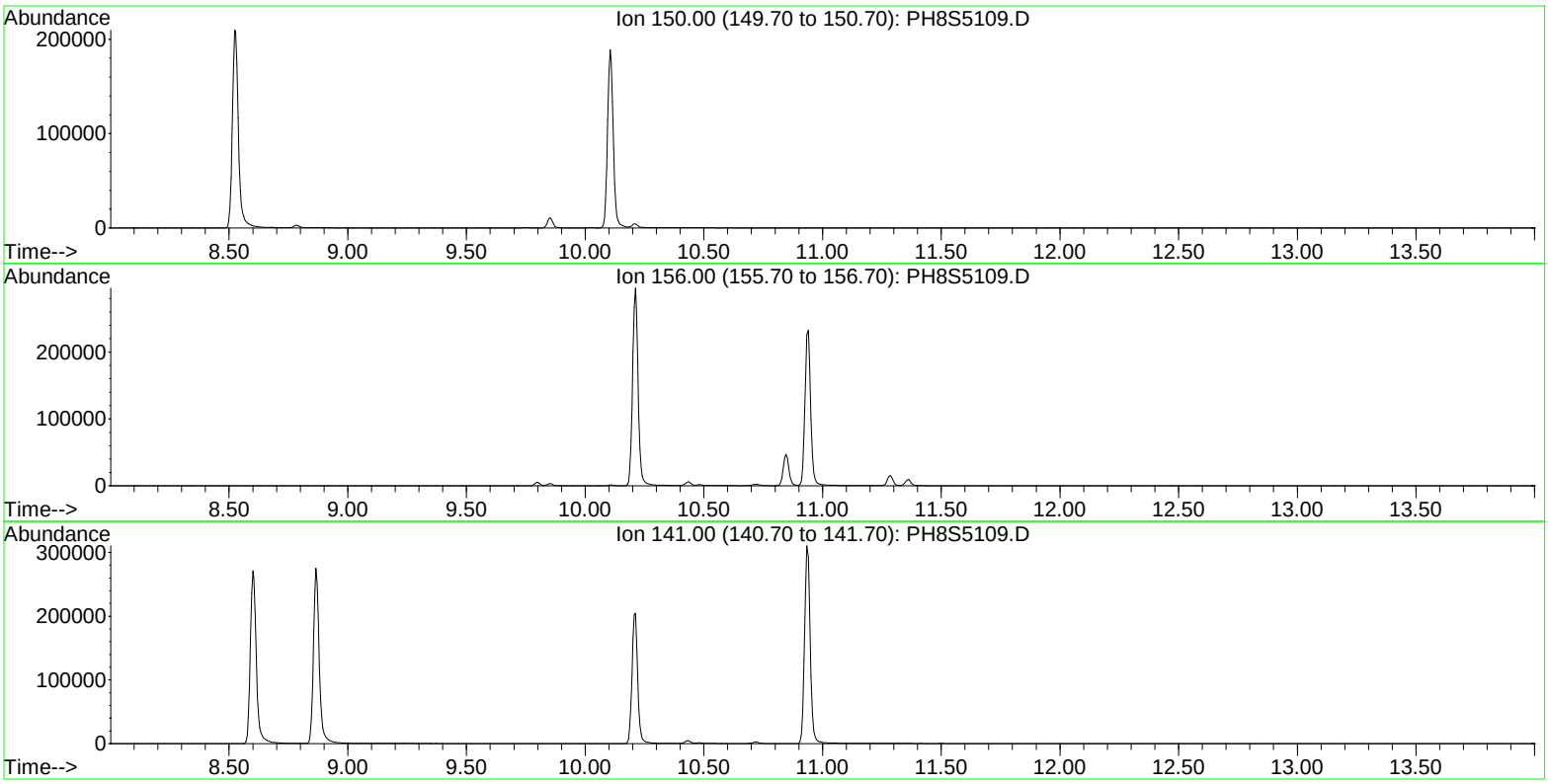




Axys Analytical CHRO Report

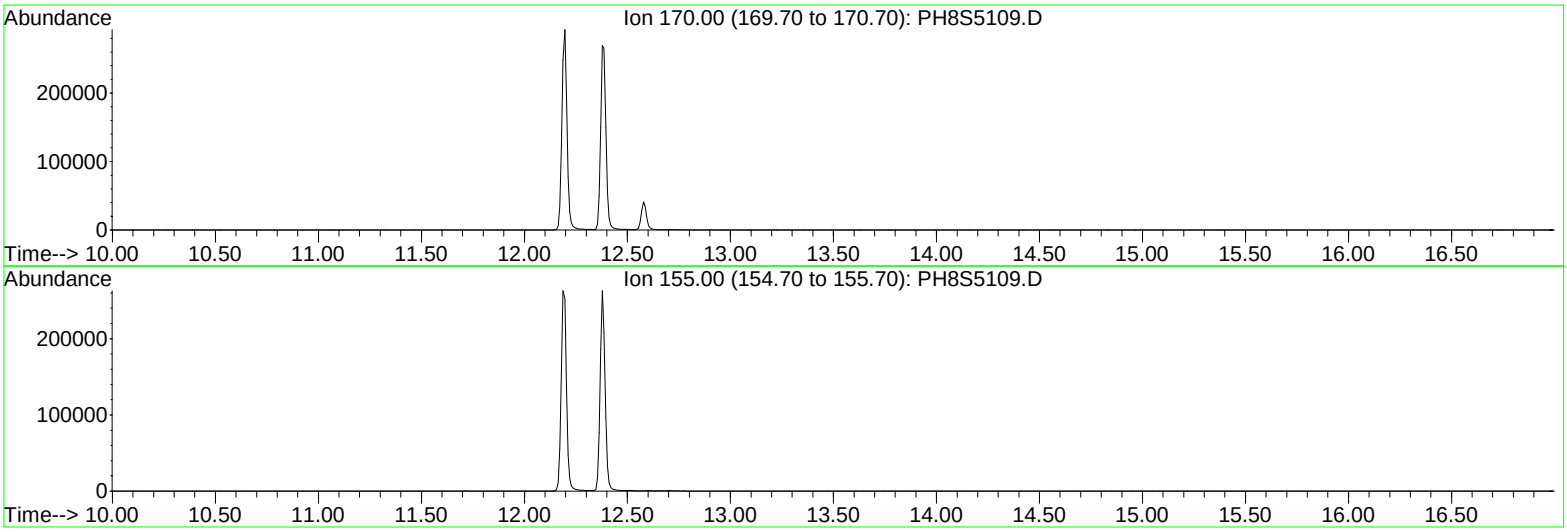
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

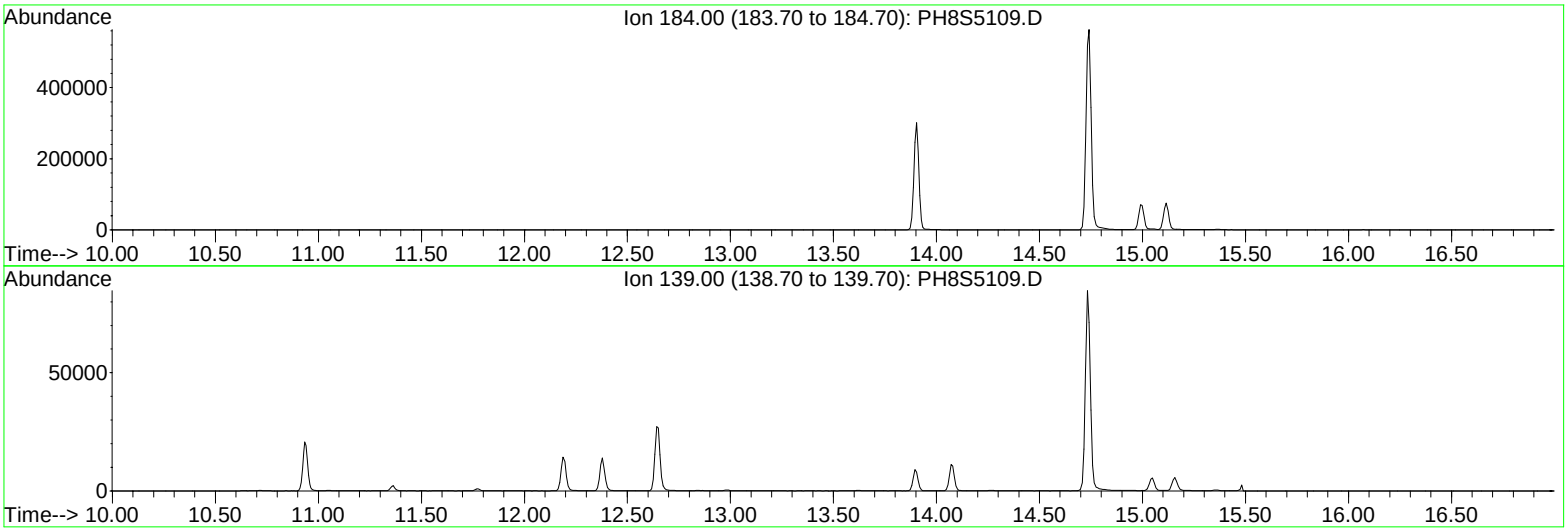




Axys Analytical CHRO Report

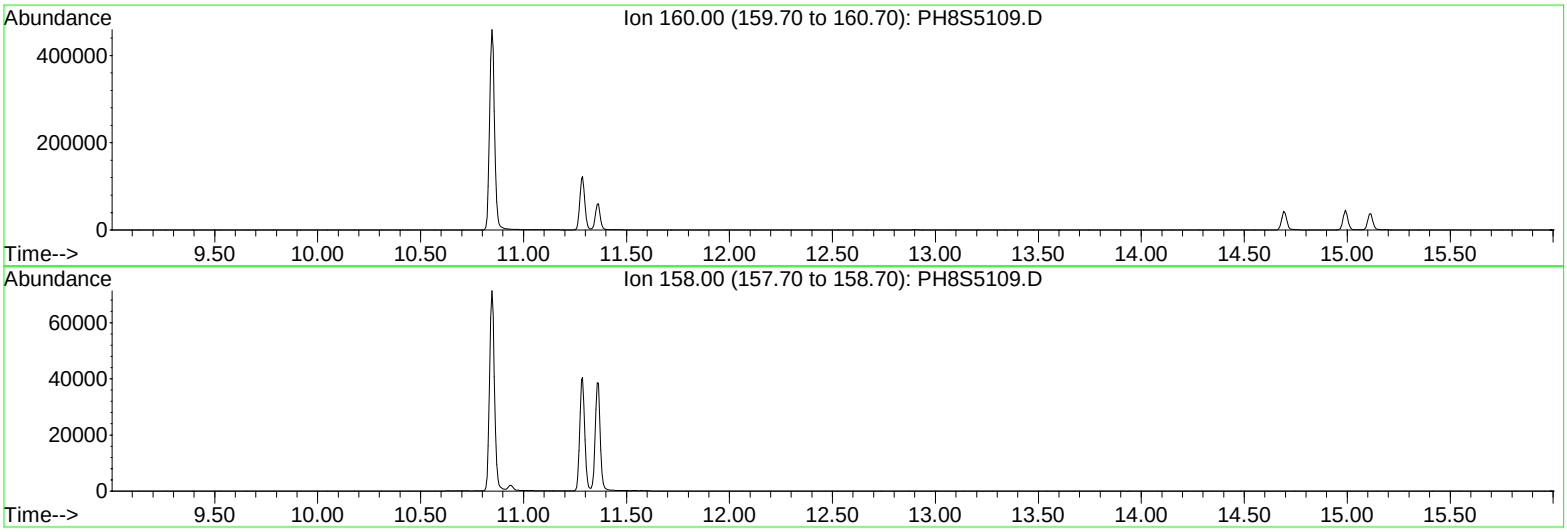
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

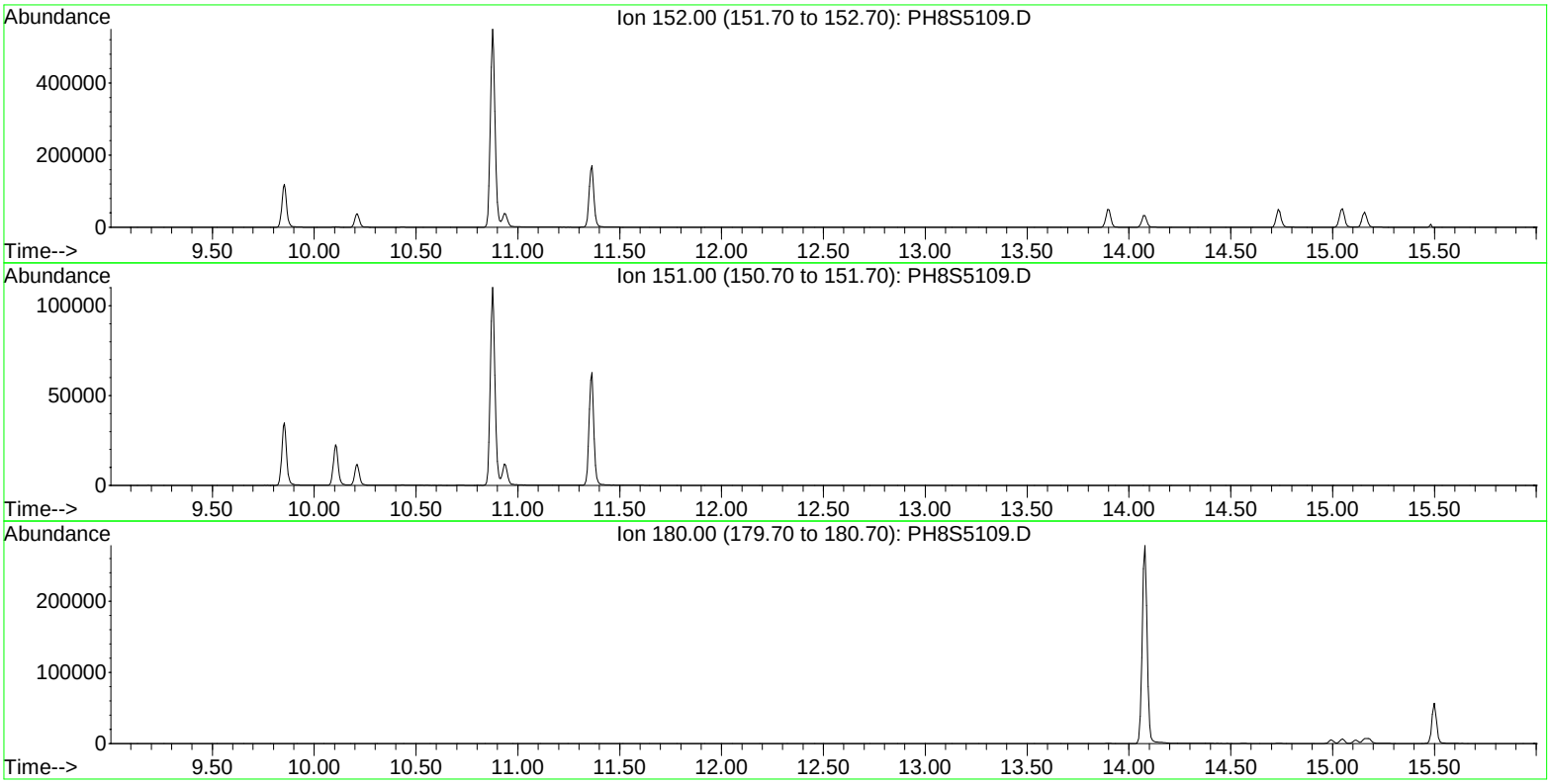


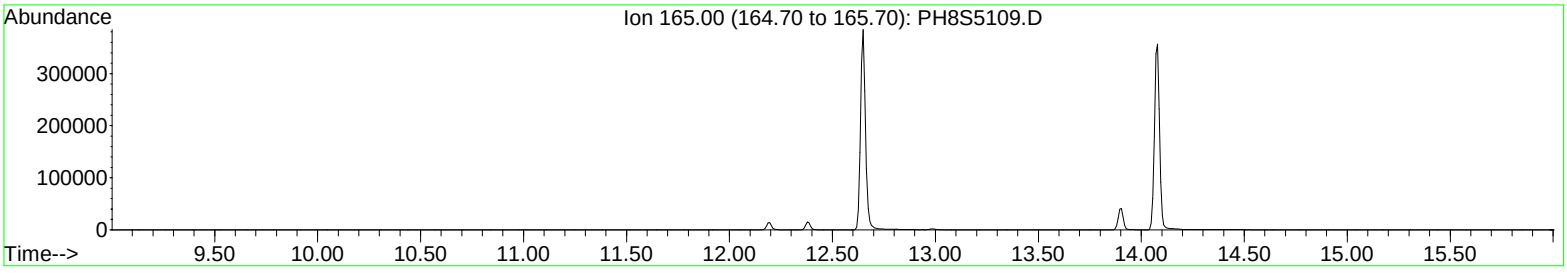


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



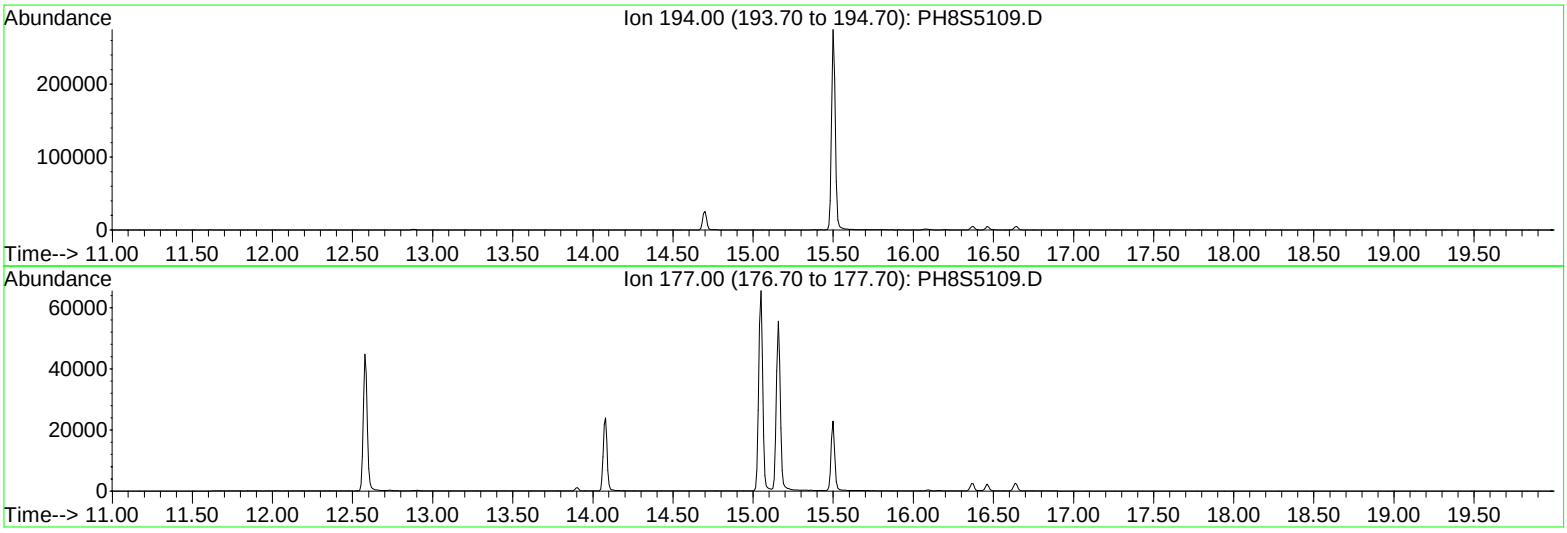


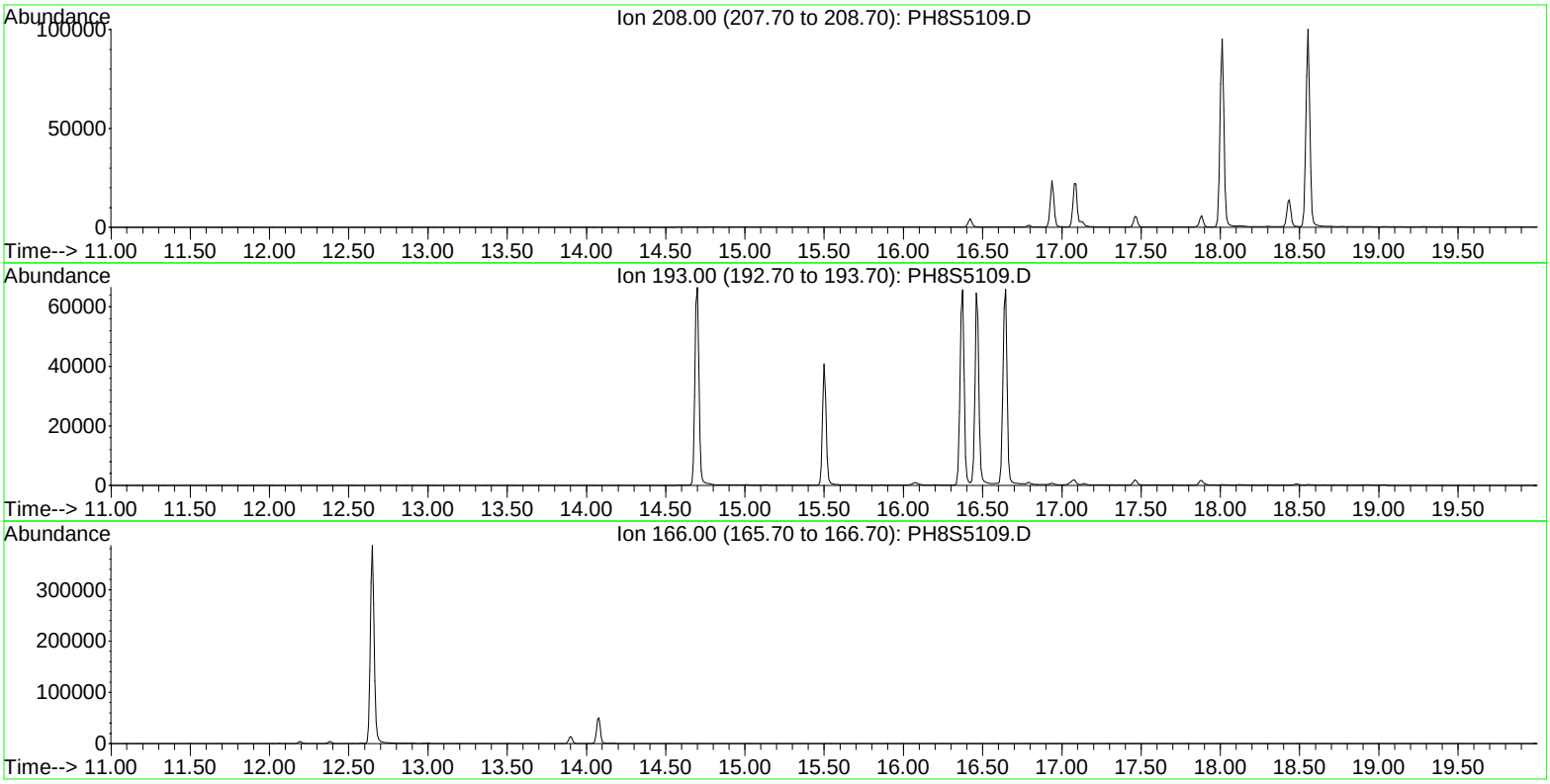


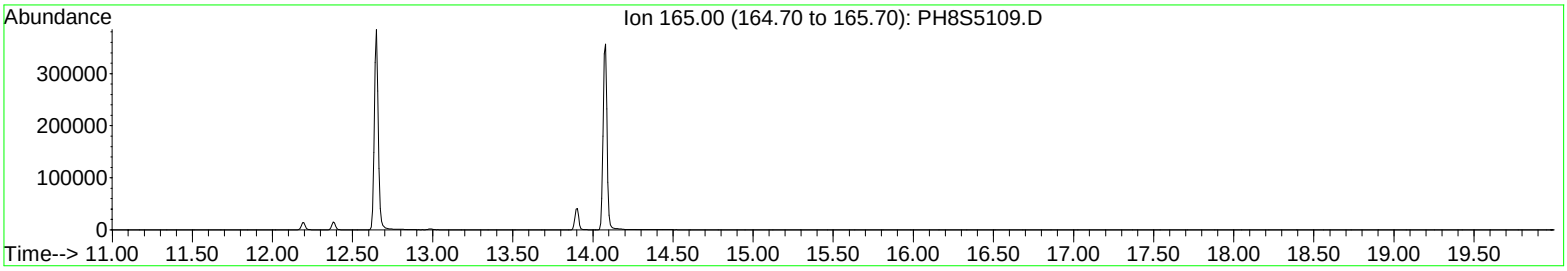
Thu Jan 10 08:38:29 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



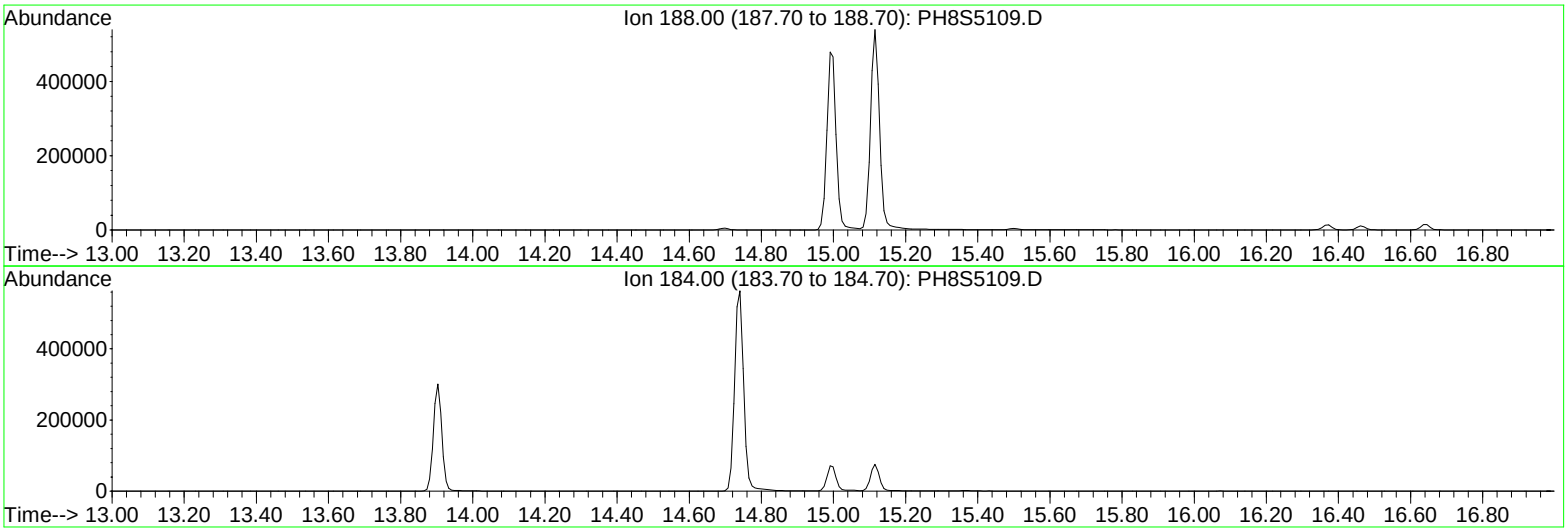


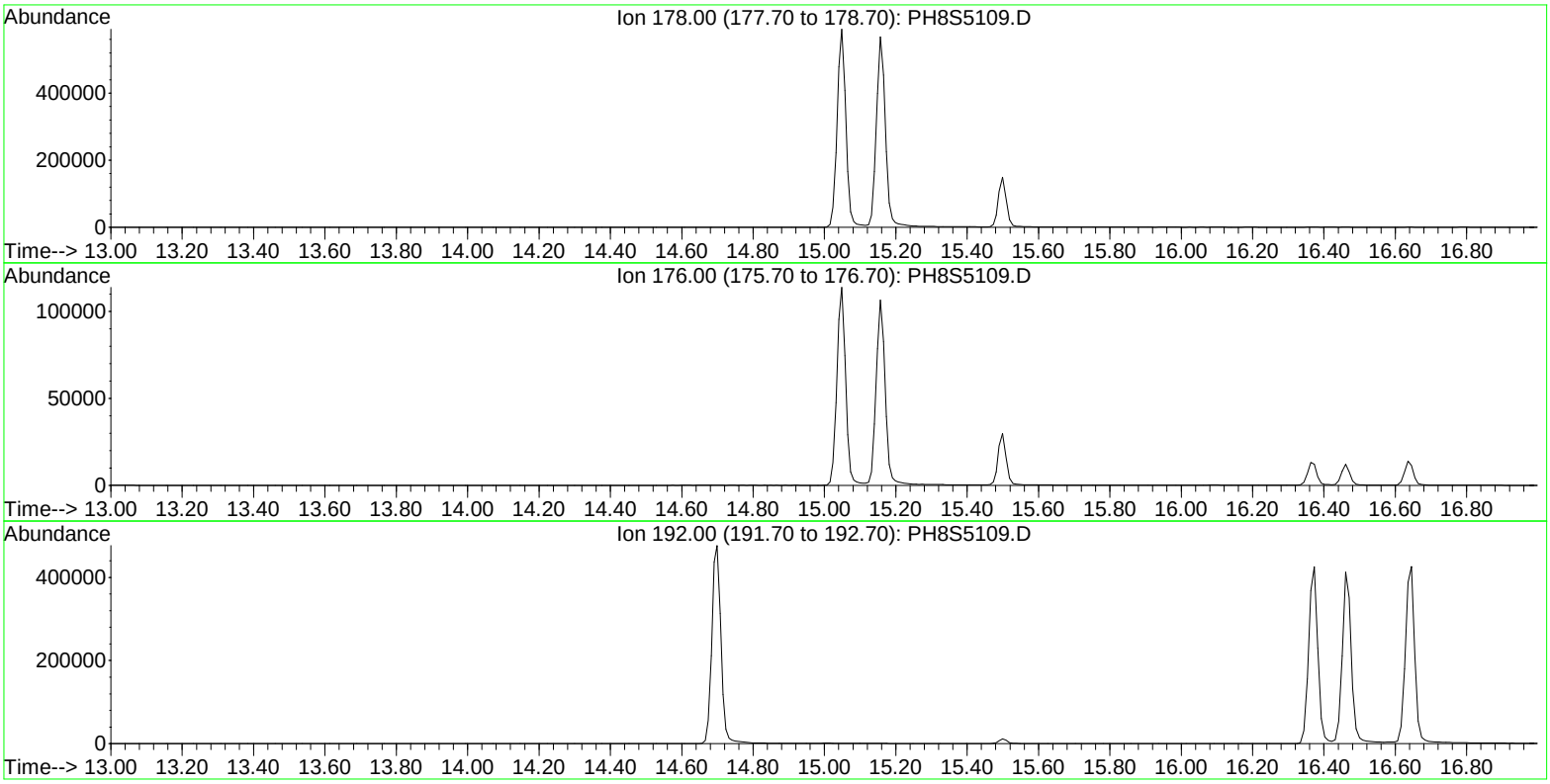


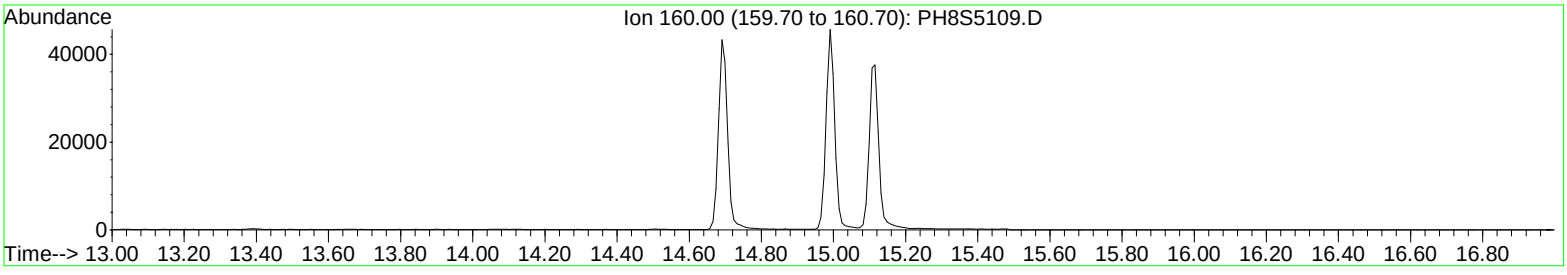
Thu Jan 10 08:38:30 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



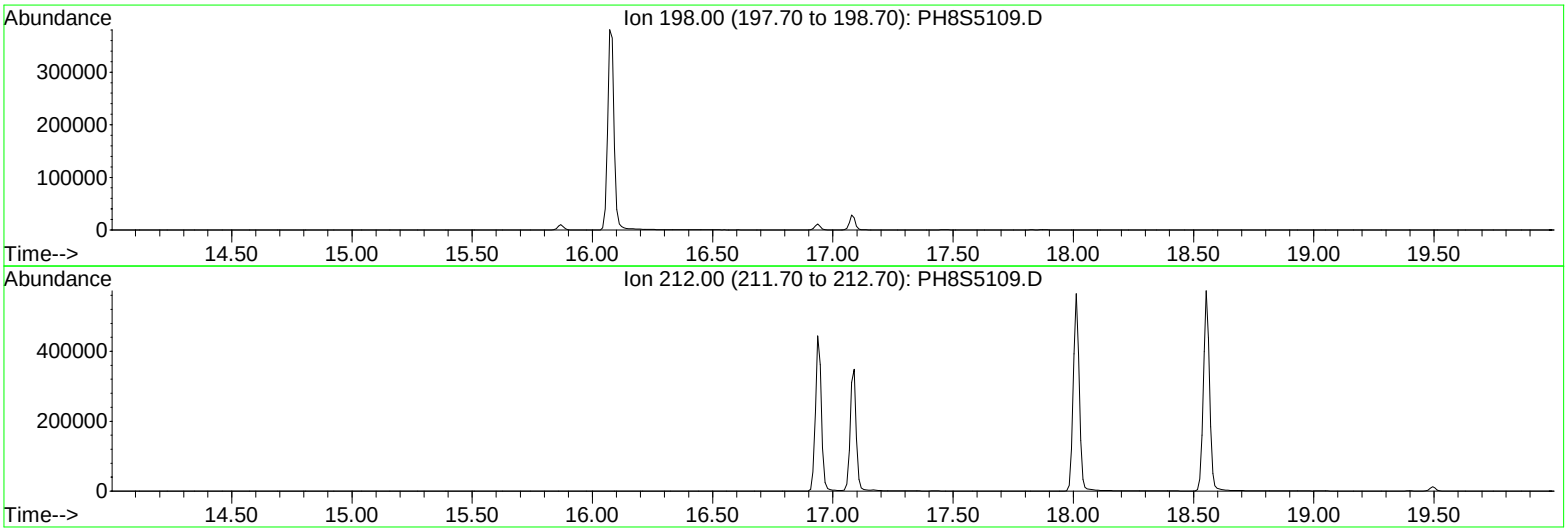


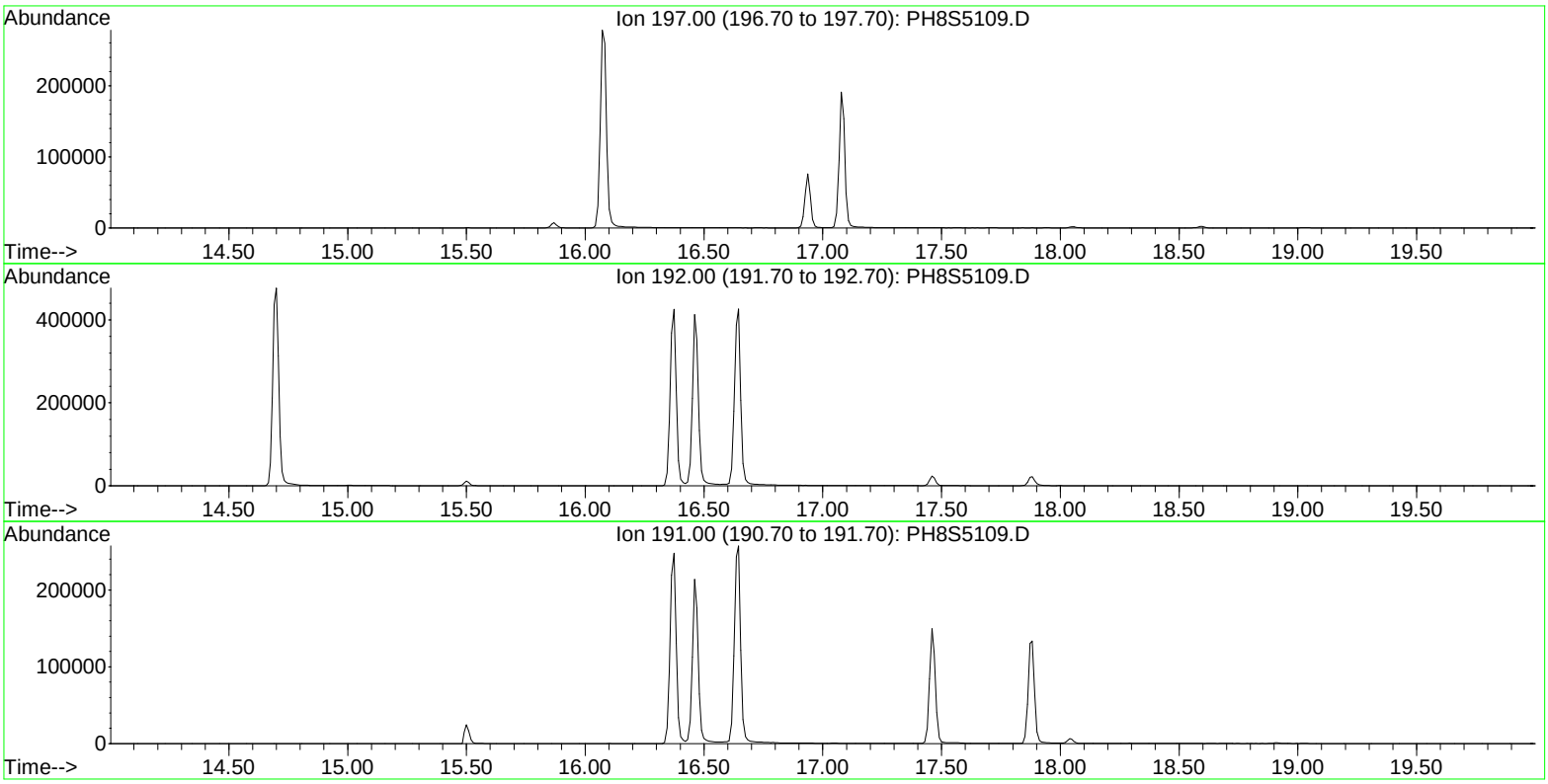


Thu Jan 10 08:38:31 2019

Axys Analytical CHRO Report

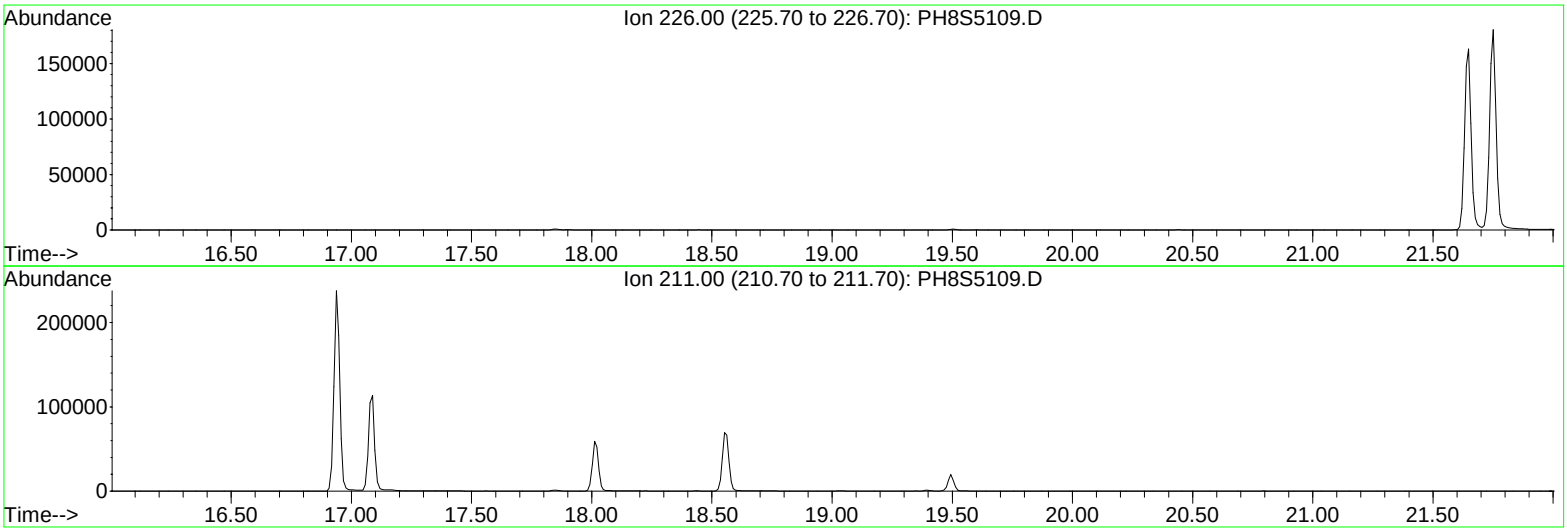
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

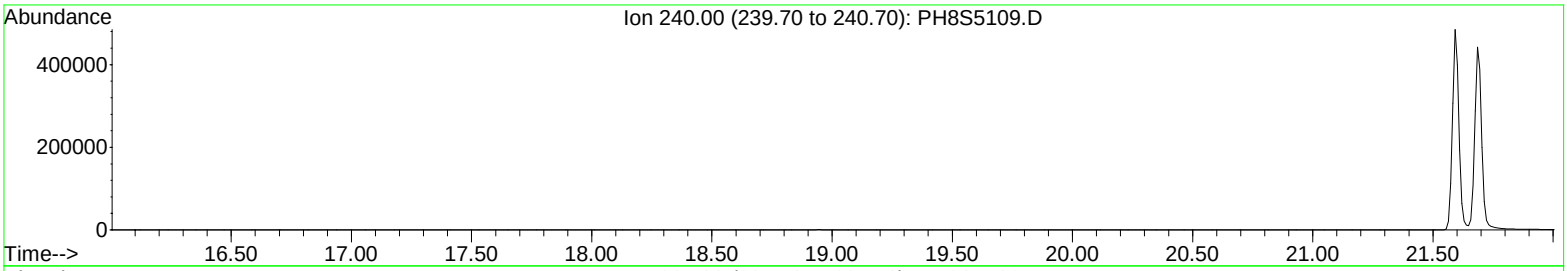


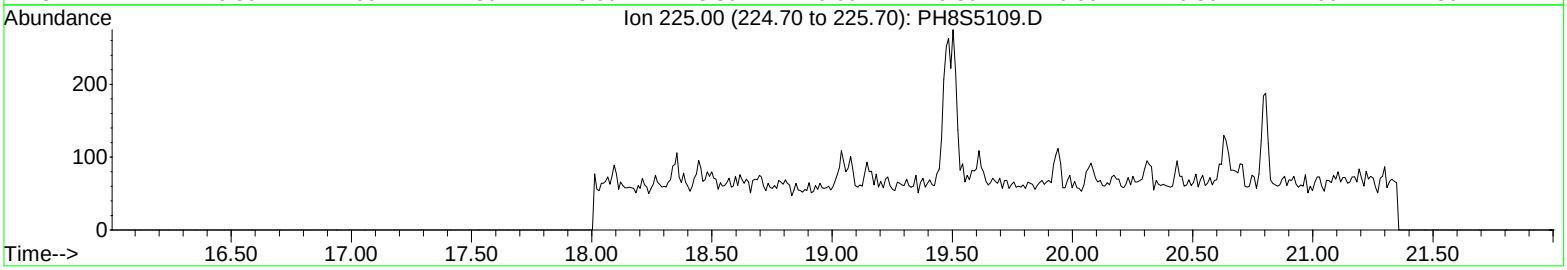


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

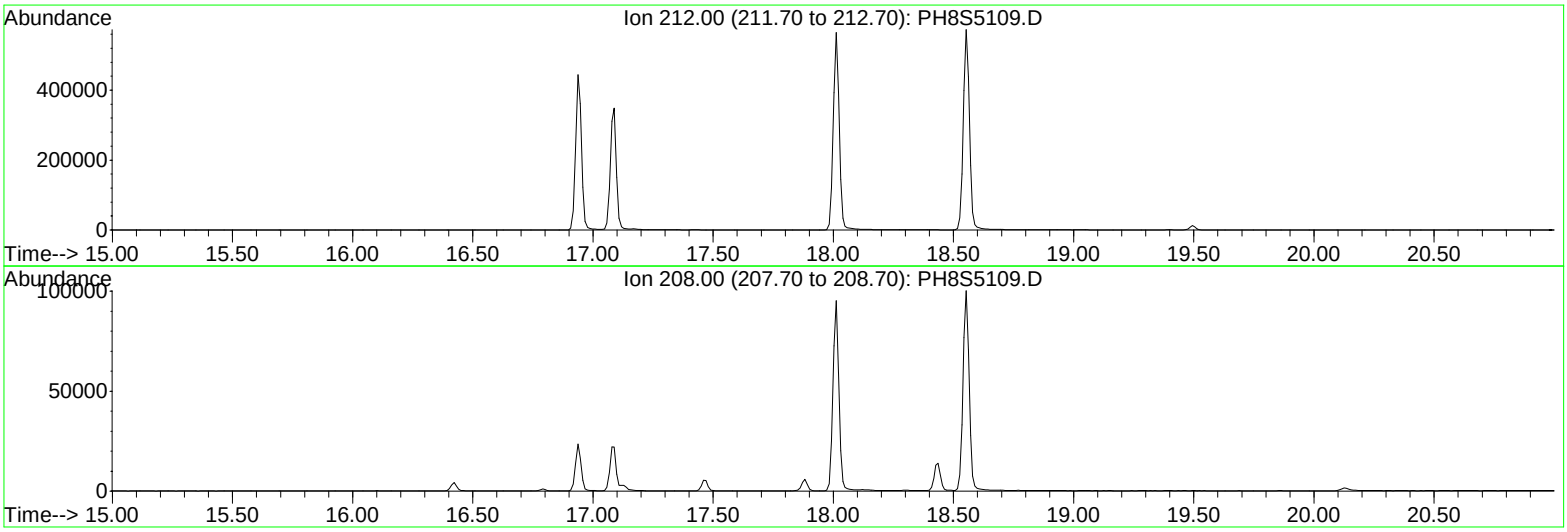


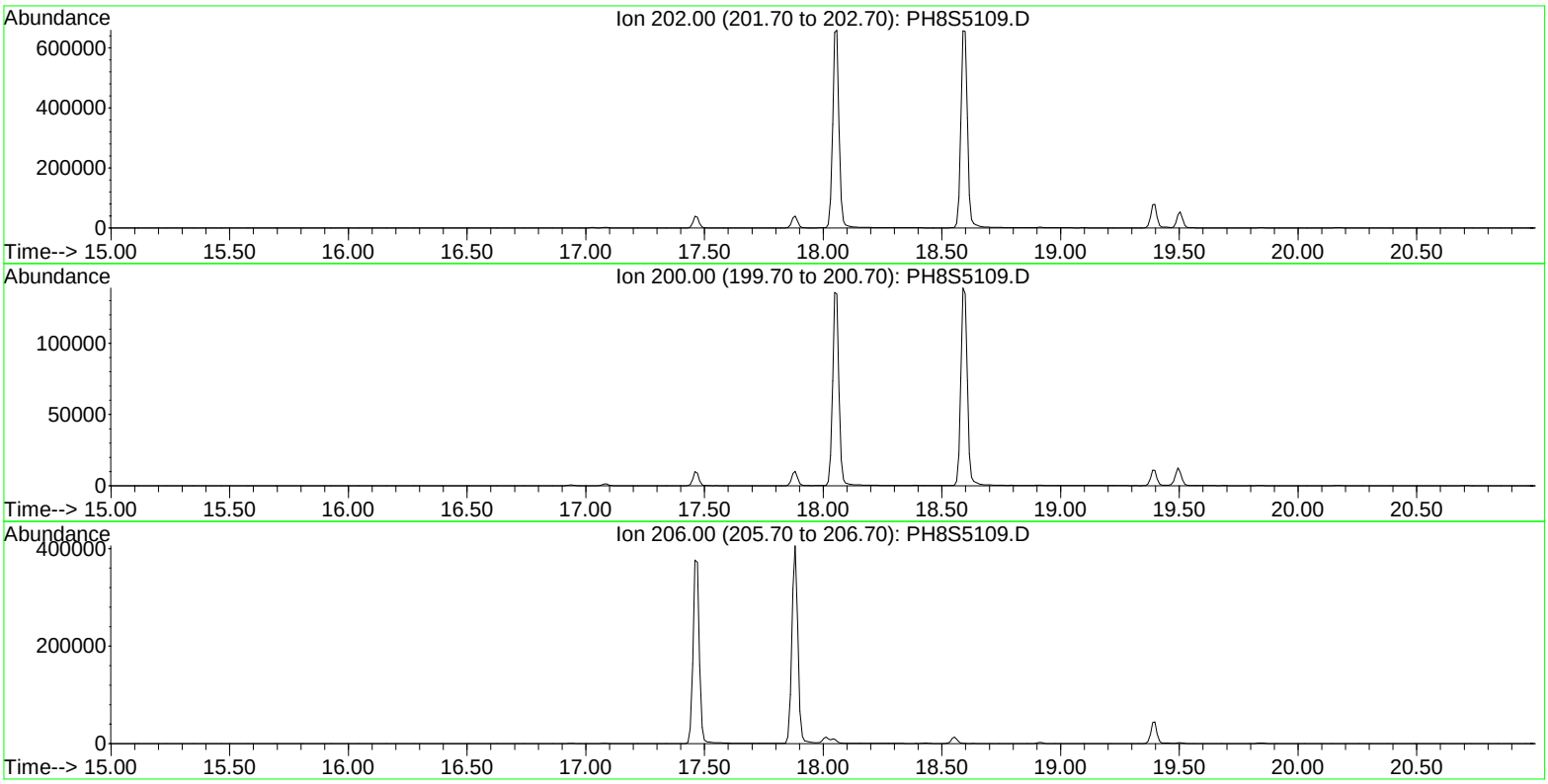


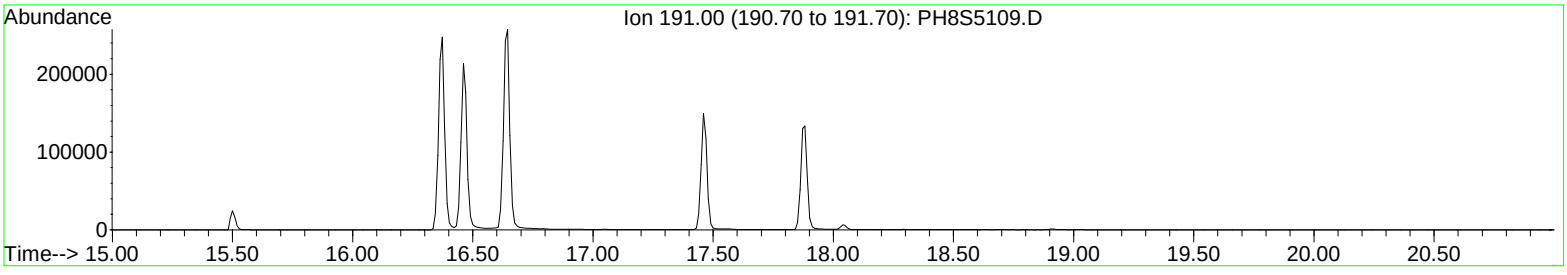


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



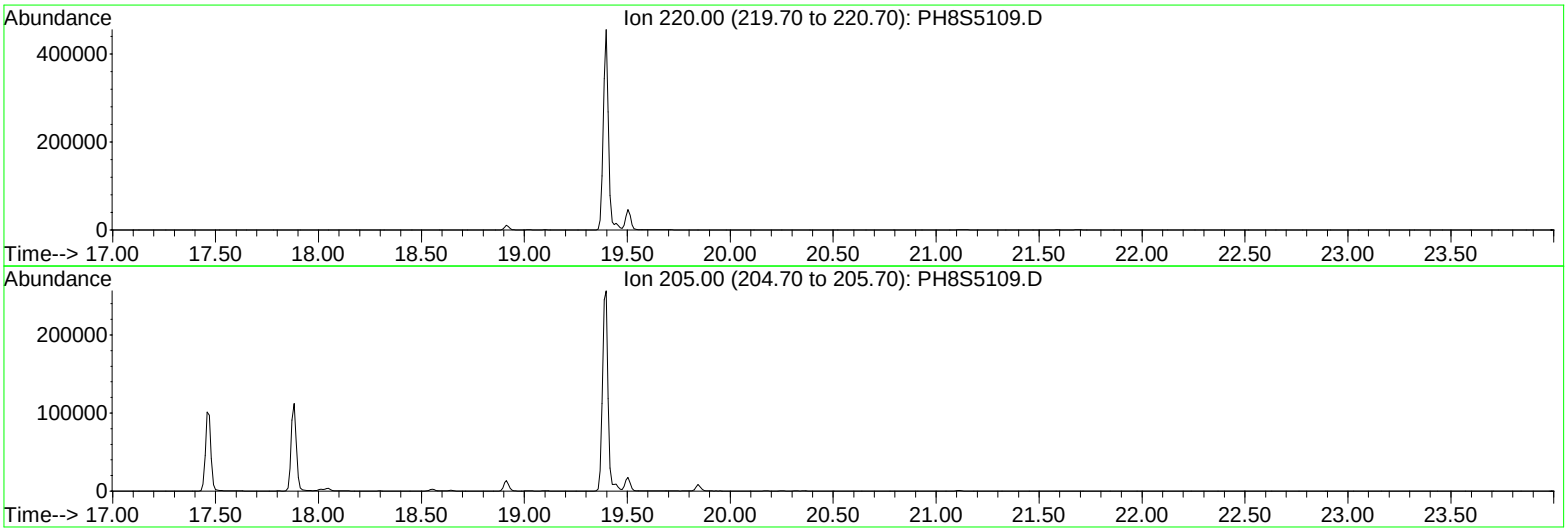


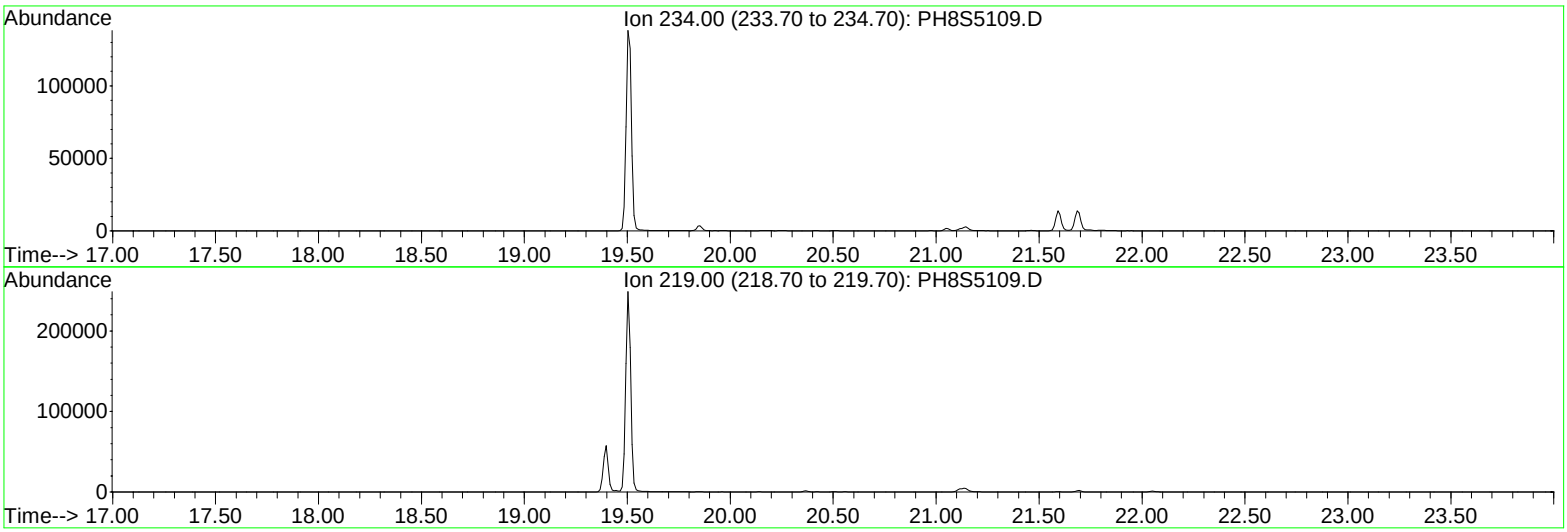


Thu Jan 10 08:38:34 2019

Axys Analytical CHRO Report

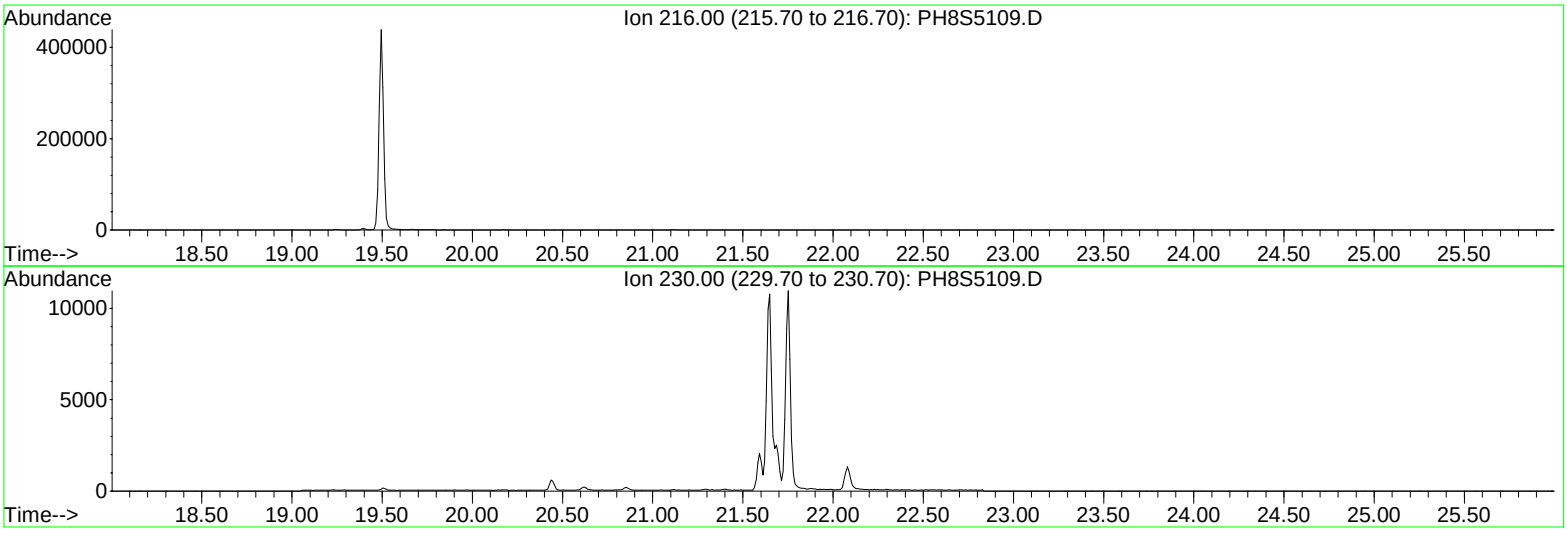
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

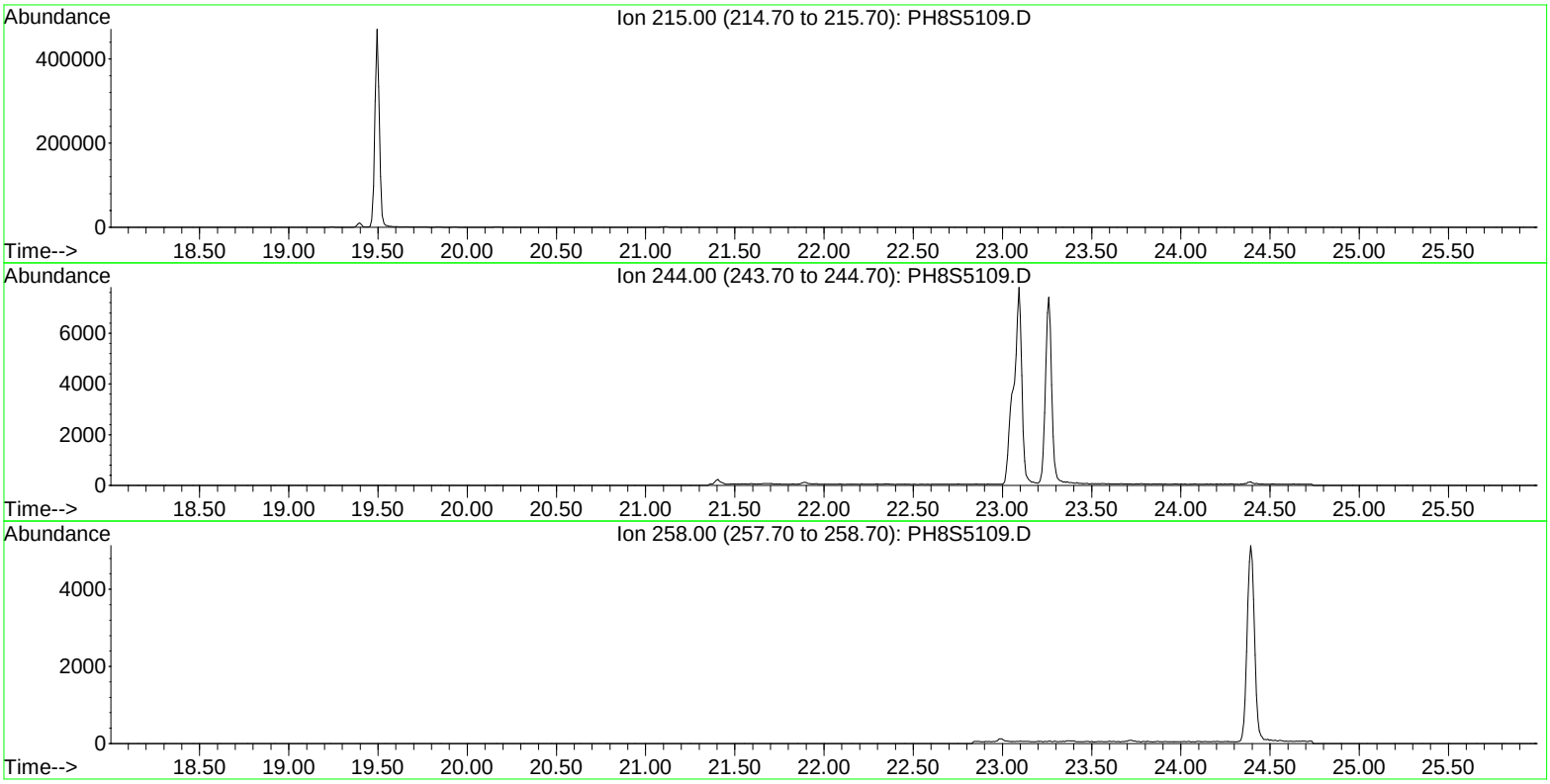


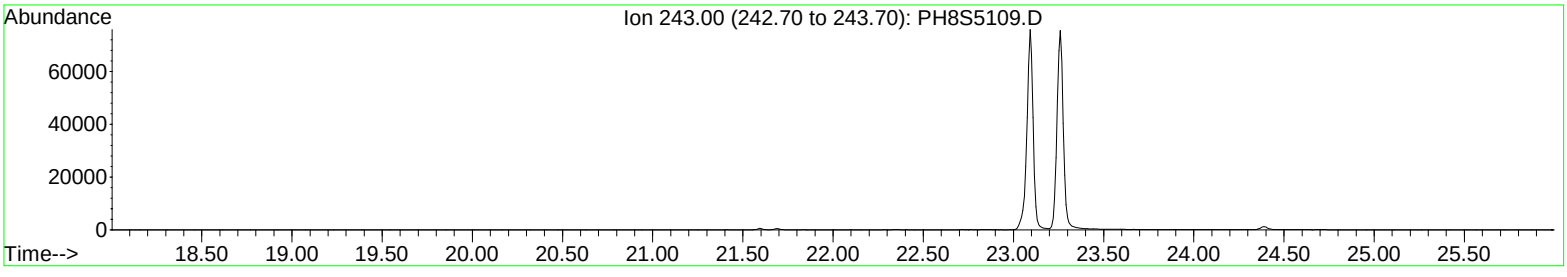


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



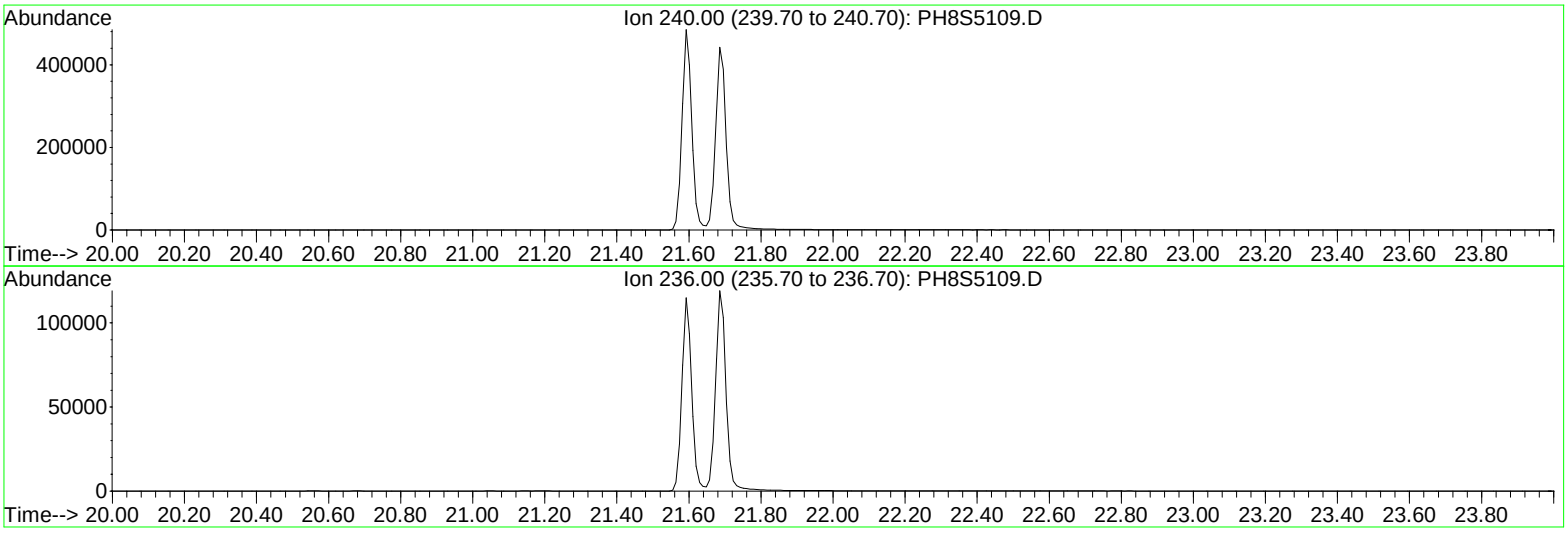


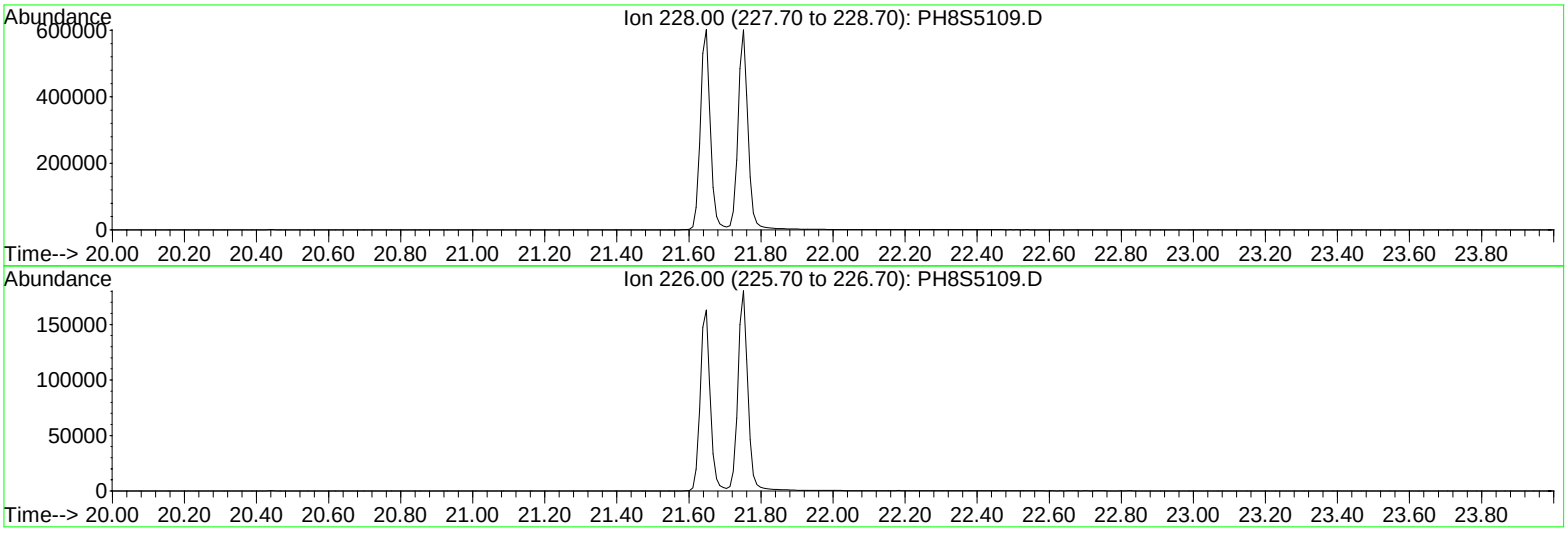


Thu Jan 10 08:38:36 2019

Axys Analytical CHRO Report

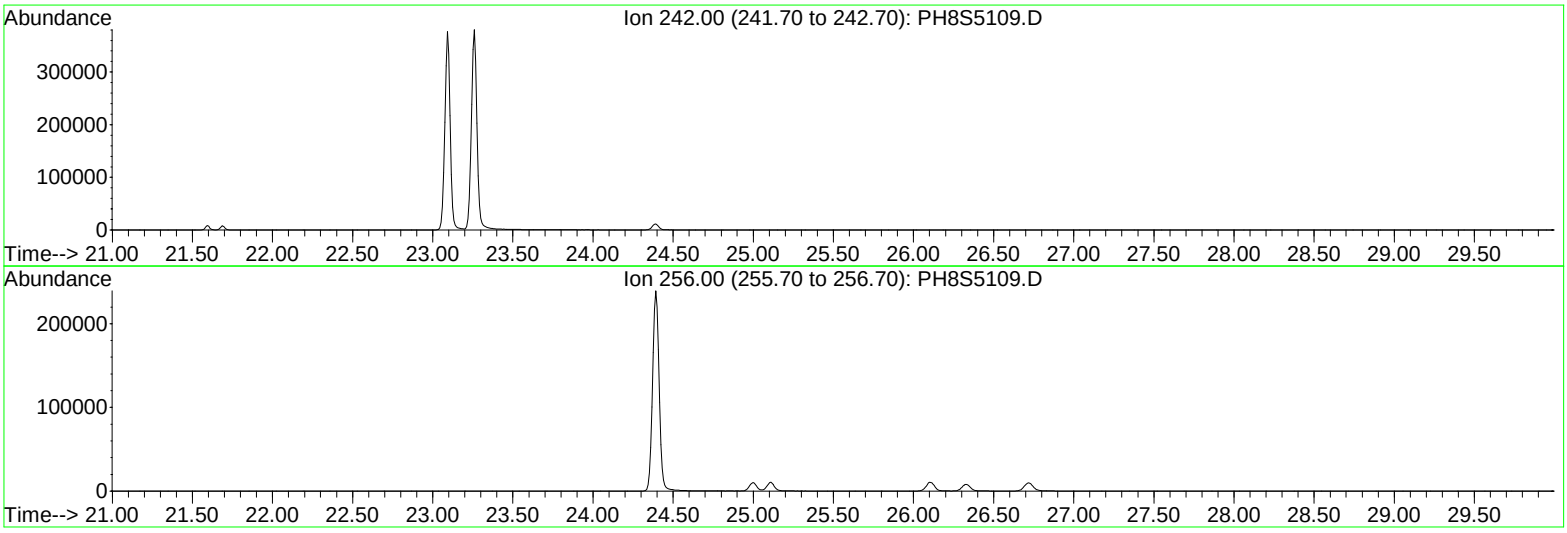
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

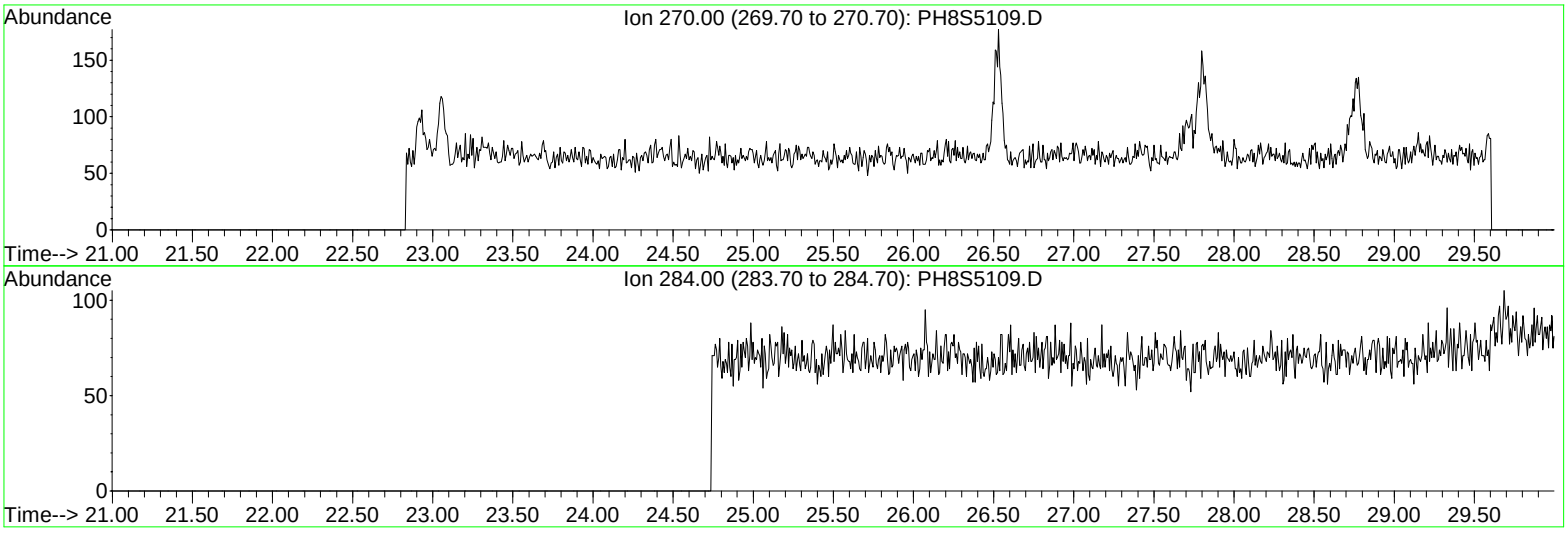




Axys Analytical CHRO Report

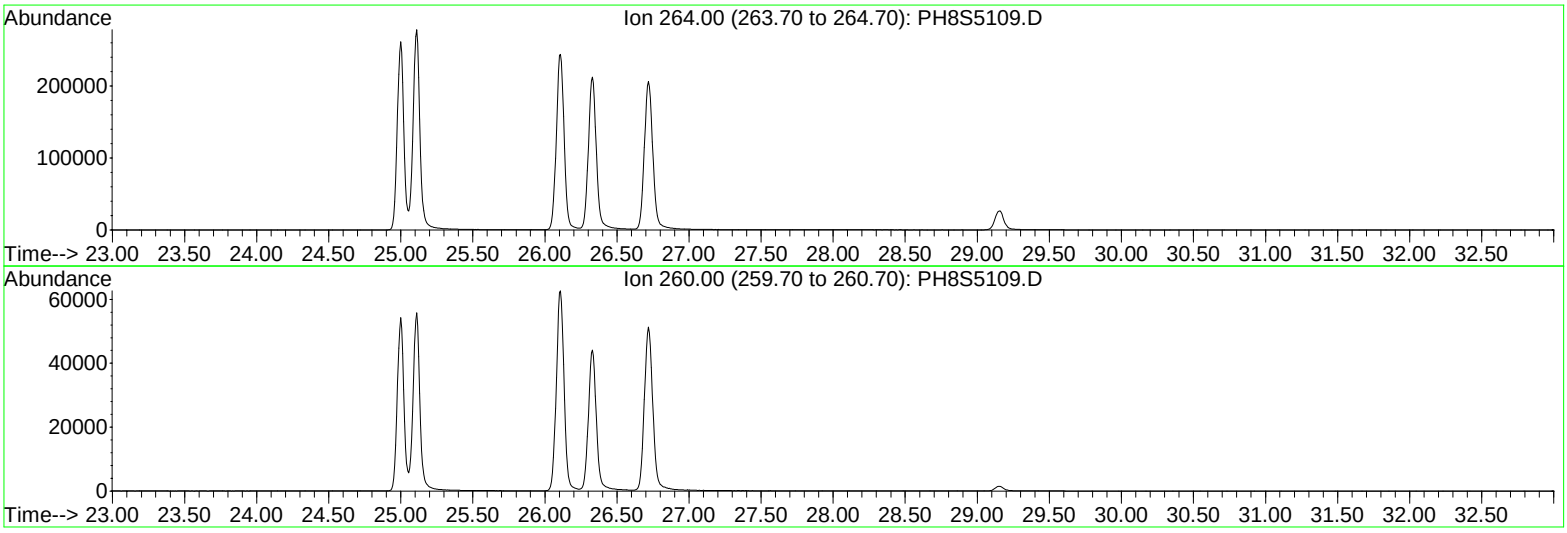
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

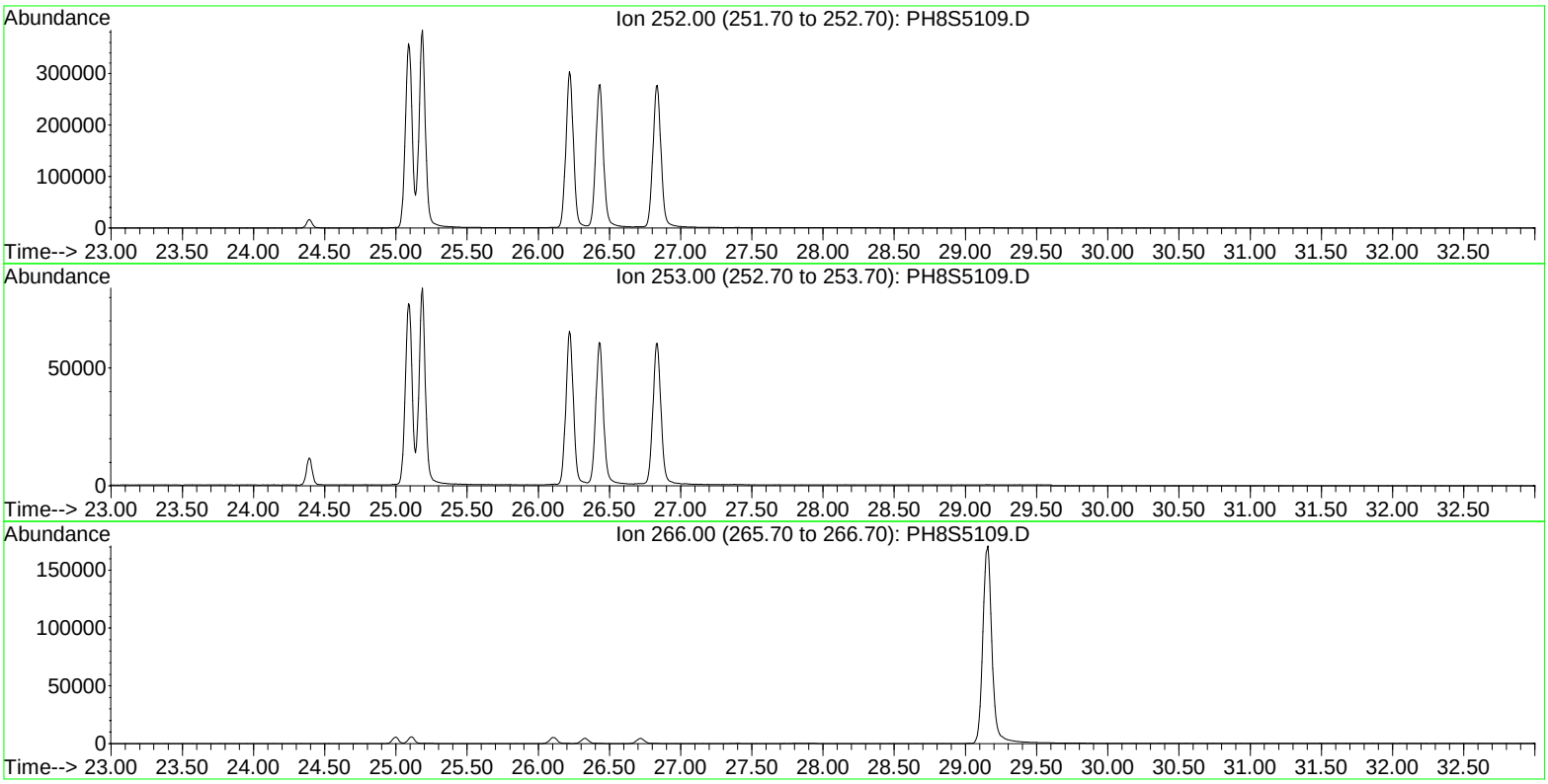


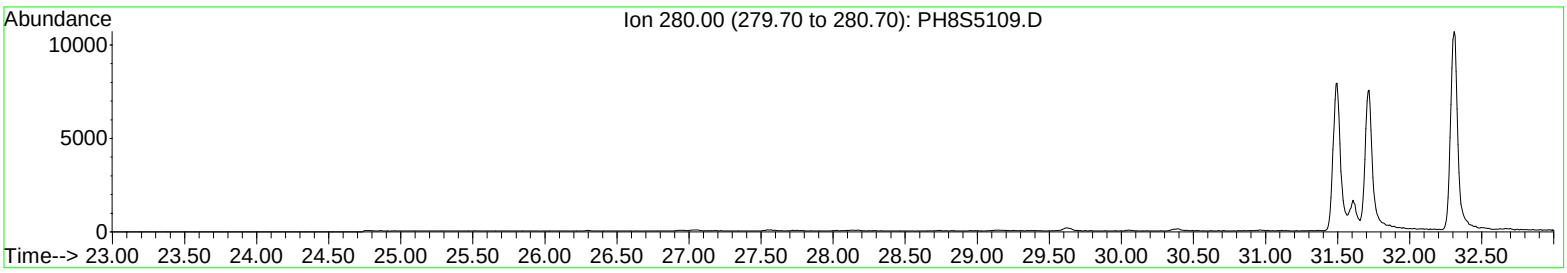


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



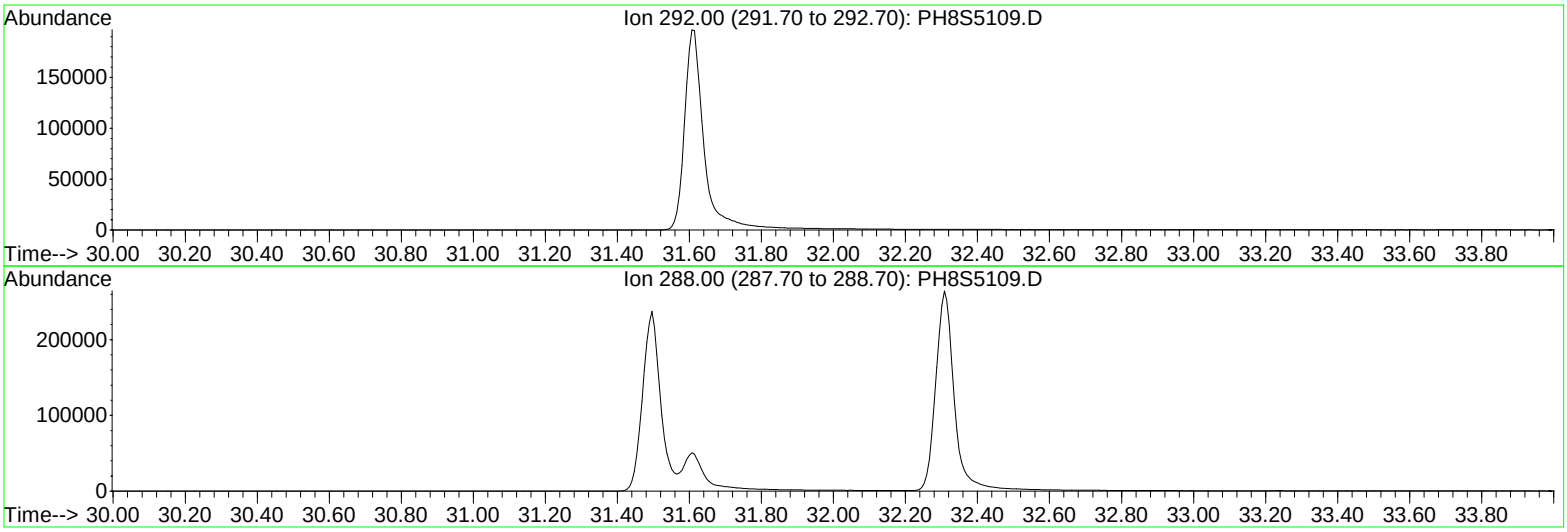


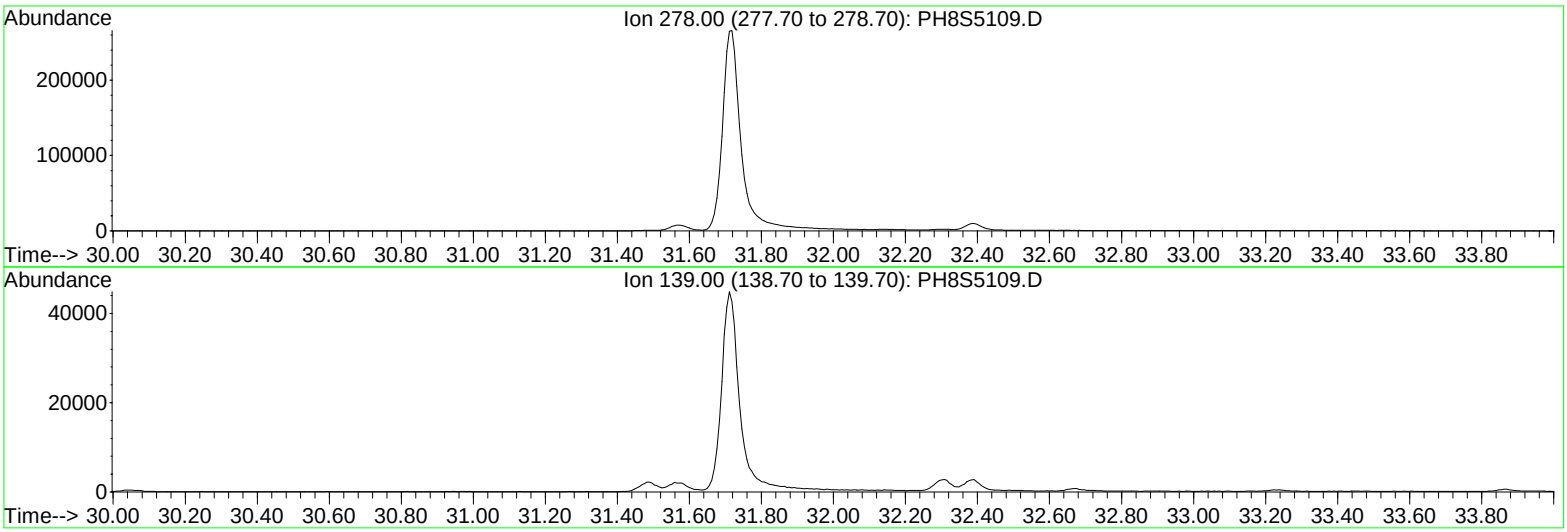


Thu Jan 10 08:38:39 2019

Axys Analytical CHRO Report

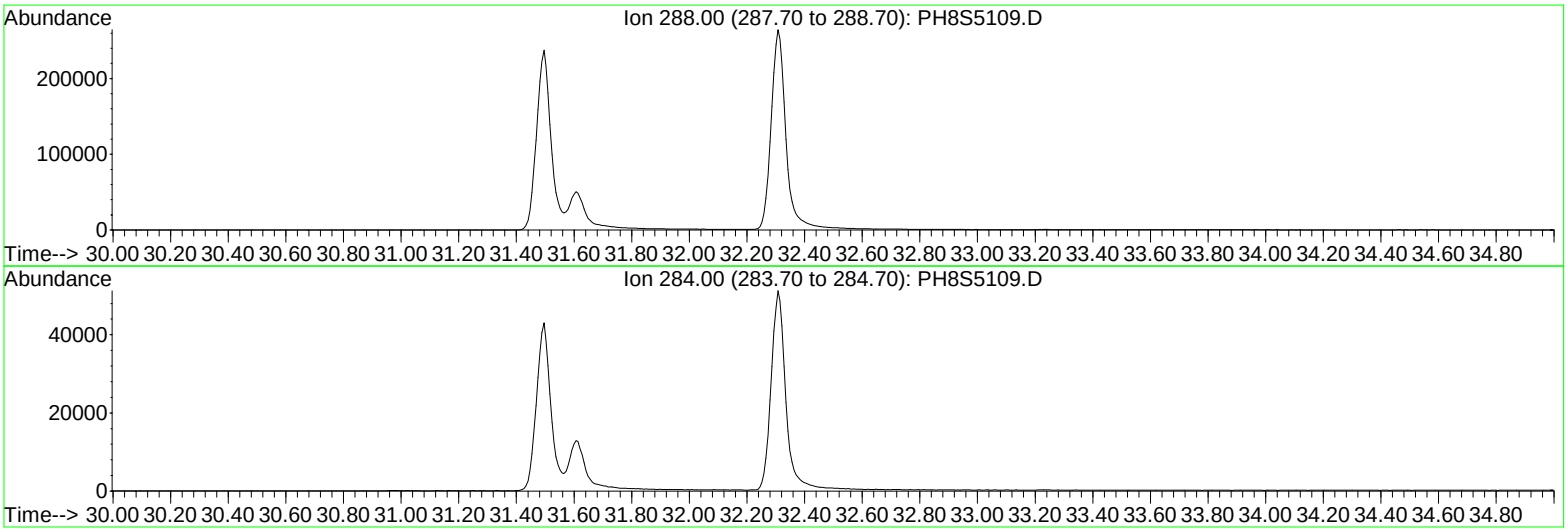
File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

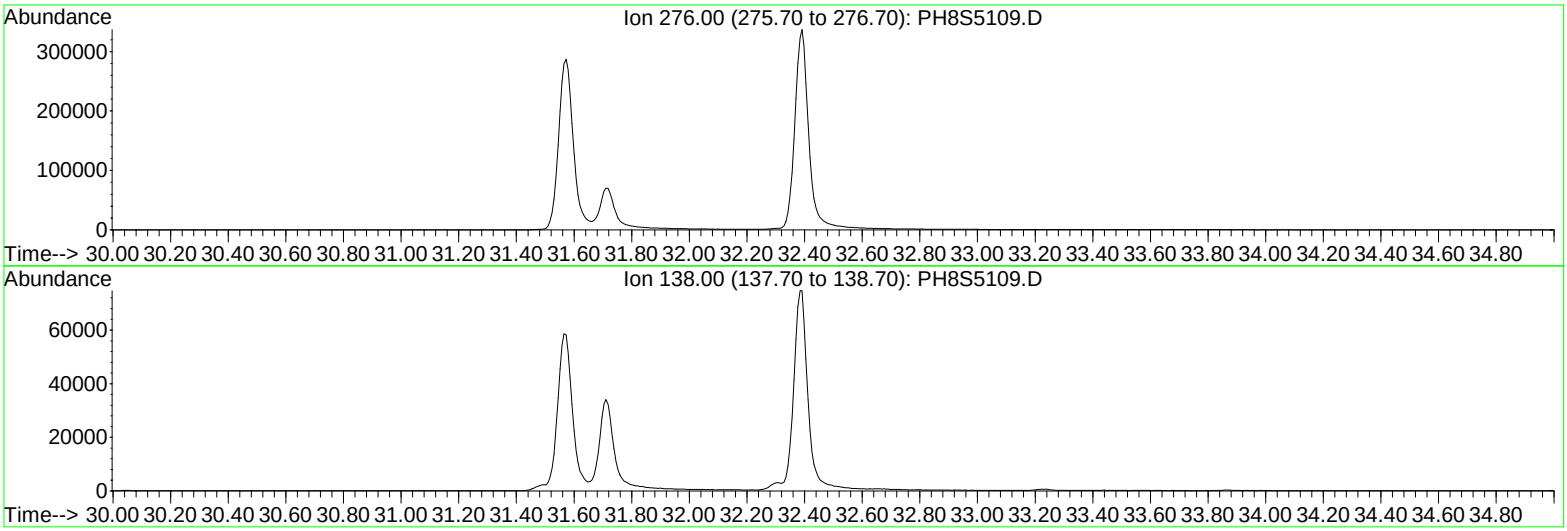




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5109.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:54
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S5108.D
19/10/2018 13:05
PH036F-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5108.D\648S5108.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 6
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-A1.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:06:16 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	388444	11.28	2020 I	0	0	0		0.45	1
d8-Naphthalene - SURR	568815	6.85	2000 S	0	0	0		0.09	0.607
d10-2-Methylnaphthalene - SURR	376533	8.52	1970 S	0	0	0		0.19	0.755
d10-Biphenyl - SURR	548485	9.8	2045 S	0	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	359938	10.1	2055 S	0	0	0		0.77	0.896
d8-Acenaphthylene - SURR	704585	10.84	2060 S	0	0	0		0.15	0.961
d10-Pyrene - REC	879781	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	749415	14.99	1805 S	0	0	0		0.14	0.808
d8-Dibenzothiophene - SURR	748533	14.7	2035 S	0	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	768618	21.59	2030 S	0	0	0		0.24	1.164
d12-Chrysene - SURR	775269	21.7	1960 S	0	0	0		0.27	1.169
d12-Benzo(e)pyrene - REC	764128	26.11	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	705914	25	1970 S	0	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	784863	25.12	2000 S	0	0	0		0.2	0.962
d12-Benzo(a)pyrene - SURR	701605	26.34	2070 S	0	0	0		0.21	1.009
d12-Perylene - SURR	721642	26.72	2150 S	0	0	0		0.25	1.023
d12-Indeno(123cd)pyrene - SURR	678417	31.5	1990 S	0	0	0		0.18	1.206
d12-Benzo(ghi)perylene - SURR	791342	32.31	1980 S	0	0	0		0.19	1.237
d8-Naphthalene	568815	6.85	2000 I	0	0	0		0.09	1
Naphthalene $	1646700	6.89	4933 T	0	0	0		0.07	1.007
d10-2-Methylnaphthalene	376533	8.52	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	1136260	8.6	4991 T	0	0	0		0.9	1.009
1-Methylnaphthalene	1078689	8.86	4998 T	0	0	0		0.93	1.04
C1-Naphthalenes	1136260	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	548485	9.8	2045 I	0	0	0		-1	1
Biphenyl $	1465743	9.85	5017 T	0	0	0		0.29	1.005
C1-Biphenyls $	4240	11.32	5017 T	0	0	0		0.14	1.156
C2-Biphenyls $	24	12.76	5017 T	0	0	0	#	-1	1.303
d12-2,6-Dimethylnaphthalene	359938	10.1	2055 I	0	0	0		0.77	1
2,6-Dimethylnaphthalene $	1047388	10.21	5009 T	0	0	0		0.71	1.01
Ethyl/DiMe-Naphthalenes	1047388	10.21	10009 T	0	0	0		0.71	1.01
1,2-Dimethylnaphthalene	846323	10.93	5000 T	0	0	0		1.32	1.082
C2-Naphthalenes	1047388	10.21	0 T	0	0	0		-1	1.01
2,3,6-Trimethylnaphthalene	1076947	12.2	5005 T	0	0	0		0.93	1.207
2,3,5-Trimethylnaphthalene $	1016783	12.38	5001 T	0	0	0		0.92	1.225
C3-Naphthalenes	1016783	12.38	10006 T	0	0	0		0.92	1.225
1,4,6,7-Tetramethylnaphthalene $	1067403	13.9	4992 T	0	0	0		0.03	1.376
C4-Naphthalenes	1069202	13.9	4992 T	0	0	0		0.03	1.376
d8-Acenaphthylene	704585	10.84	2060 I	0	0	0		0.15	1
Acenaphthylene $	1973755	10.88	4918 T	0	0	0		0.2	1.003
Acenaphthene $	1118191	11.36	5013 T	0	0	0		1.16	1.048
C1-Acenaphthenes $	793	11.72	5013 T	0	0	0		0.22	1.081
d8-Dibenzothiophene	748533	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	2144159	14.74	5004 T	0	0	0		0.09	1.003
C1-Dibenzothiophenes-1	38555	15.87	5003 T	0	0	0		0.7	1.08
2/3-Methyldibenzothiophenes $	1542385	16.07	5003 T	0	0	0		0.72	1.093
C1-Dibenzothiophenes-2	136	16.66	5003 T	0	0	0		0.81	1.134
C1-Dibenzothiophenes	1542385	16.07	0 T	0	0	0		-1	1.093
4,6-Dimethyldibenzothiophene	1640424	16.94	4998 T	0	0	0		0.16	1.152

Sv By AR
10 Dec 2018

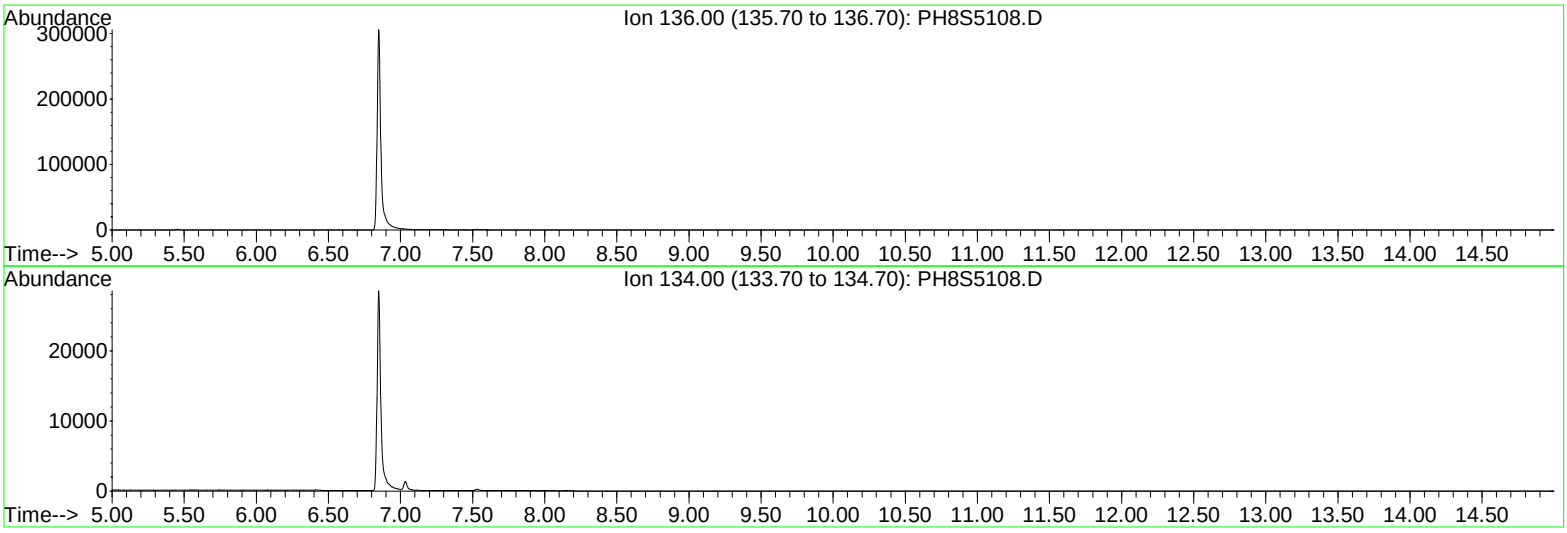
pv by vr
08-Dec-2018

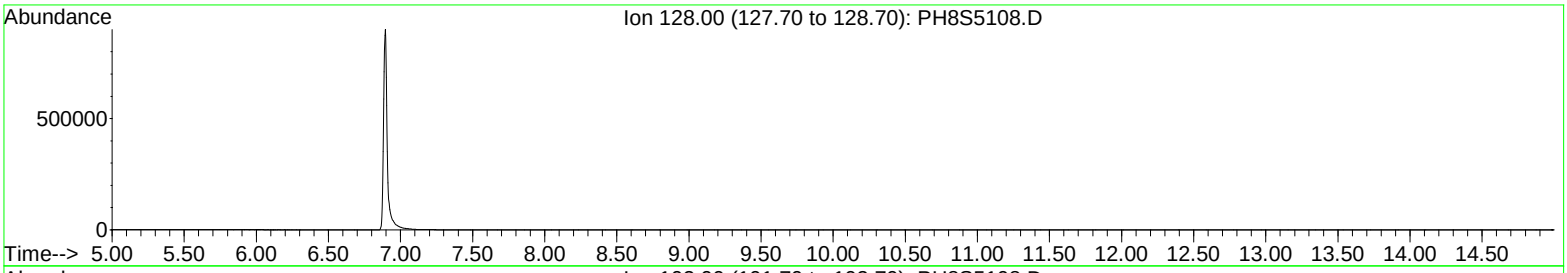
2,4-Dimethyldibenzothiophene $	1328241	17.09	5000 T	0	0	0	0.52	1.163
C2-Dibenzothiophenes	1328241	17.09	5000 T	0	0	0	0.52	1.163
C3-Dibenzothiophenes $	347	18.09	5000 T	0	0	0	0.53	1.231
C4-Dibenzothiophenes $	19	18.87	5000 T	0	0	0	2.16	1.284
d10-Phenanthrene	749415	14.99	1805 I	0	0	0	0.14	1
Fluorene $	1429740	12.65	4915 T	0	0	0	0.99	0.844
2-Methylfluorene $	1016947	14.08	5000 T	0	0	0	1.31	0.939
C1-Fluorenes	1016947	14.08	5000 T	0	0	0	1.31	0.939
1,7-Dimethylfluorene $	964928	15.5	5005 T	0	0	0	0.08	1.034
C2-Fluorenes	964928	15.5	5005 T	0	0	0	0.08	1.034
C3-Fluorenes $	16701	16.42	5005 T	0	0	0	0.08	1.095
Phenanthrene $	2185780	15.05	5045 T	0	0	0	0.19	1.004
Anthracene	2227285	15.16	5013 T	0	0	0	0.19	1.011
d10-Anthracene $	821053	15.12	2040 T	0	0	0	0.13	1.008
3-Methylphenanthrene	1655151	16.37	15007 T	0	0	0	0.59	1.092
2-Methylphenanthrene	1655151	16.37	5003 T	0	0	0	0.59	1.092
2-Methylanthracene	1619925	16.46	4999 T	0	0	0	0.51	1.098
9/4-Methylphenanthrenes	1633183	16.46	15007 T	0	0	0	0.51	1.098
1-Methylphenanthrene $	1705048	16.65	5005 T	0	0	0	0.61	1.11
C1-Phenanthrenes/Anthracenes	1705048	16.65	0 T	0	0	0	-1	1.11
Fluoranthene $	2661573	18.06	4948 T	0	0	0	0.2	1.205
Pyrene	2691552	18.6	4950 T	0	0	0	0.21	1.241
3,6-Dimethylphenanthrene $	1518663	17.47	4994 T	0	0	0	0.37	1.165
2,6-Dimethylphenanthrene	1522062	17.47	10013 T	0	0	0	0.37	1.165
1,7-Dimethylphenanthrene	1545148	17.88	5019 T	0	0	0	0.35	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	1518663	17.47	10013 T	0	0	0	0.37	1.165
1,8-Dimethylphenanthrene	59550	18.05	10013 T	0	0	0	0.4	1.204
C2-Phenanthrenes/Anthracenes	1518663	17.47	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	1646005	19.4	5832 T	0	0	0	0.62	1.294
C3-Phenanthrenes/Anthracenes	1691297	19.4	5832 T	0	0	0	0.62	1.294
Retene $	537207	19.51	4997 T	0	0	0	1.68	1.302
C4-Phenanthrenes/Anthracenes	537207	19.51	4997 T	0	0	0	1.68	1.302
C1-Fluoranthenes/Pyrenes-1	0	0	5000 T	0	0	0	0	0
3-Methylfluoranthene/Benzo(a)fluorene $	1618787	19.49	5000 T	0	0	0	1.08	1.3
C1-Fluoranthenes/Pyrenes-2	1930	19.93	5000 T	0	0	0	2.39	1.33
C1-Fluoranthenes/Pyrenes	1618787	19.49	0 T	0	0	0	-1	1.3
C2-Fluoranthenes/Pyrenes $	2248	20.45	5000 T	0	0	0	0.2	1.364
C3-Fluoranthenes/Pyrenes $	395	21.89	5000 T	0	0	0	0.09	1.46
C4-Fluoranthenes/Pyrenes $	69	23.28	5000 T	0	0	0	9.03	1.553
d12-Benz(a)anthracene	768618	21.59	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	841148	18.01	1985 T	0	0	0	0.17	0.834
Benz(a)anthracene	2409675	21.65	5033 T	0	0	0	0.27	1.003
d12-Chrysene	775269	21.7	1960 I	0	0	0	0.27	1
Chrysene $	2417405	21.75	5023 T	0	0	0	0.3	1.003
5/6-Methylchrysenes $	1858103	23.09	5001 T	0	0	0	-1	1.064
1-Methylchrysene	1981048	23.27	4998 T	0	0	0	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	1858103	23.09	9999 T	0	0	0	-1	1.064
5,9-Dimethylchrysene $	1475088	24.4	4998 T	0	0	0	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	1475088	24.4	4998 T	0	0	0	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	13	25.11	4998 T	0	0	0	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	48	26.09	4998 T	0	0	0	-1	1.203
d12-Benzo(b)fluoranthene	705914	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	1428	25.01	0 T	0	0	0	0.35	1
Benzo(b)fluoranthene $	2508886	25.1	5035 T	0	0	0	0.22	1.004
d12-Benzo(k)fluoranthene	784863	25.12	2000 I	0	0	0	0.2	1
Benzo(j/k)fluoranthenes	2523849	25.19	5038 T	0	0	0	0.22	1.003
Benzofluoranthenes	2508886	25.1	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	701605	26.34	2070 I	0	0	0	0.21	1
Benzo(e)pyrene	2352576	26.23	5002 T	0	0	0	0.22	0.996
Benzo(a)pyrene	2259769	26.44	5000 T	0	0	0	0.22	1.004
7-Methylbenzo(a)pyrene $	1690006	29.16	4992 T	0	0	0	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	1690006	29.16	4992 T	0	0	0	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	18	29.9	4992 T	0	0	0	-1	1.135
d12-Perylene	721642	26.72	2150 I	0	0	0	0.25	1
Perylene	2343263	26.84	4999 T	0	0	0	0.22	1.005
d12-Indeno(123cd)pyrene	678417	31.5	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	609555	31.61	1915 T	0	0	0	0.28	1.004
Dibenzo(ah)anthracene $	1965086	31.72	4933 T	0	0	0	0.17	1.007
Indeno(123cd)pyrene $	2115536	31.57	5030 T	0	0	0	0.21	1.002
d12-Benzo(ghi)perylene	791342	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	2358022	32.4	4928 T	0	0	0	0.22	1.003

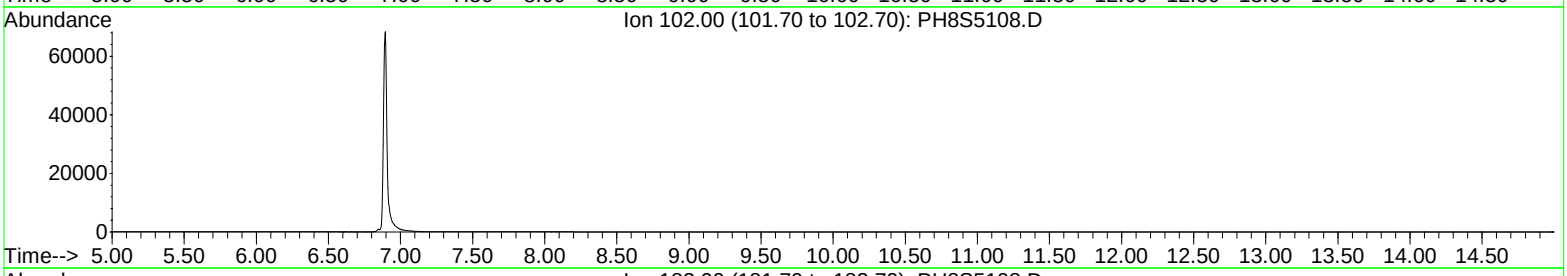
pv by vr
08-Dec-2018

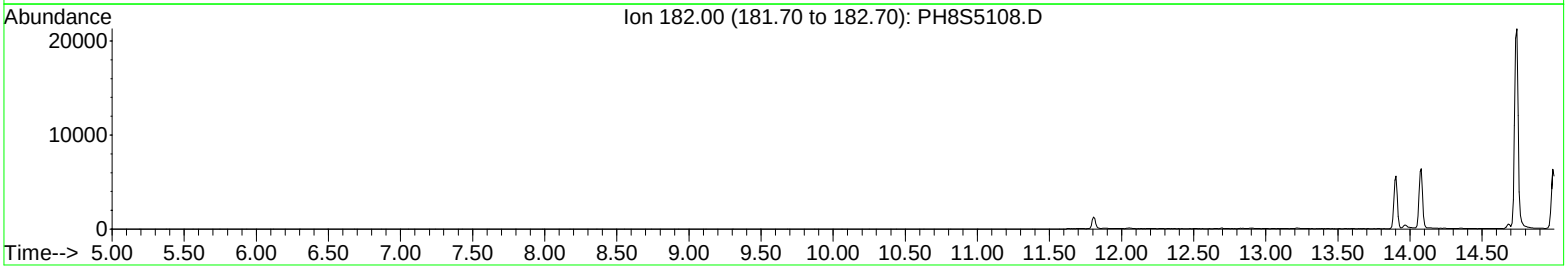
Axys Analytical CHRO Report

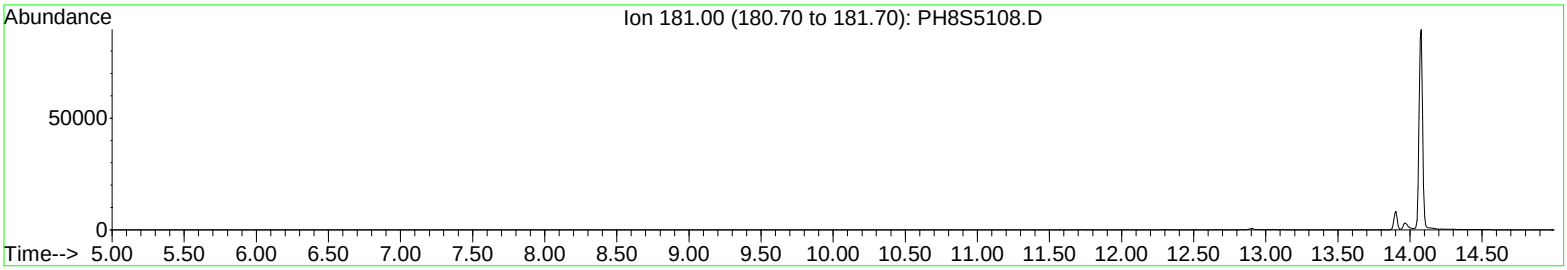
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL







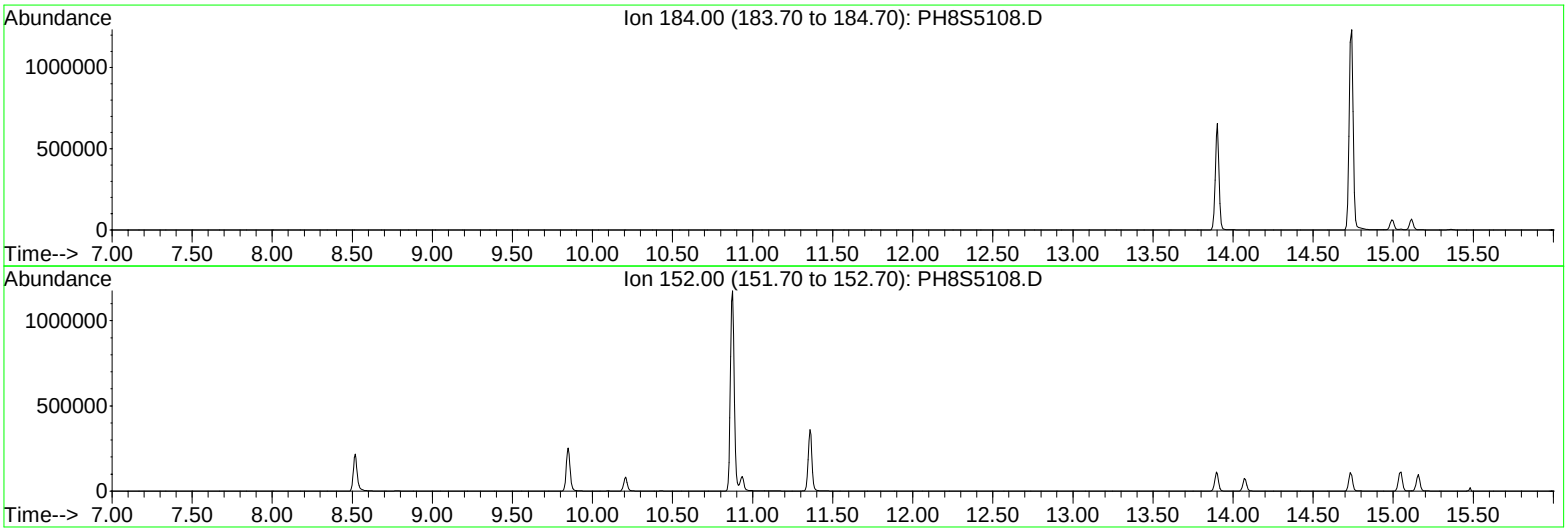


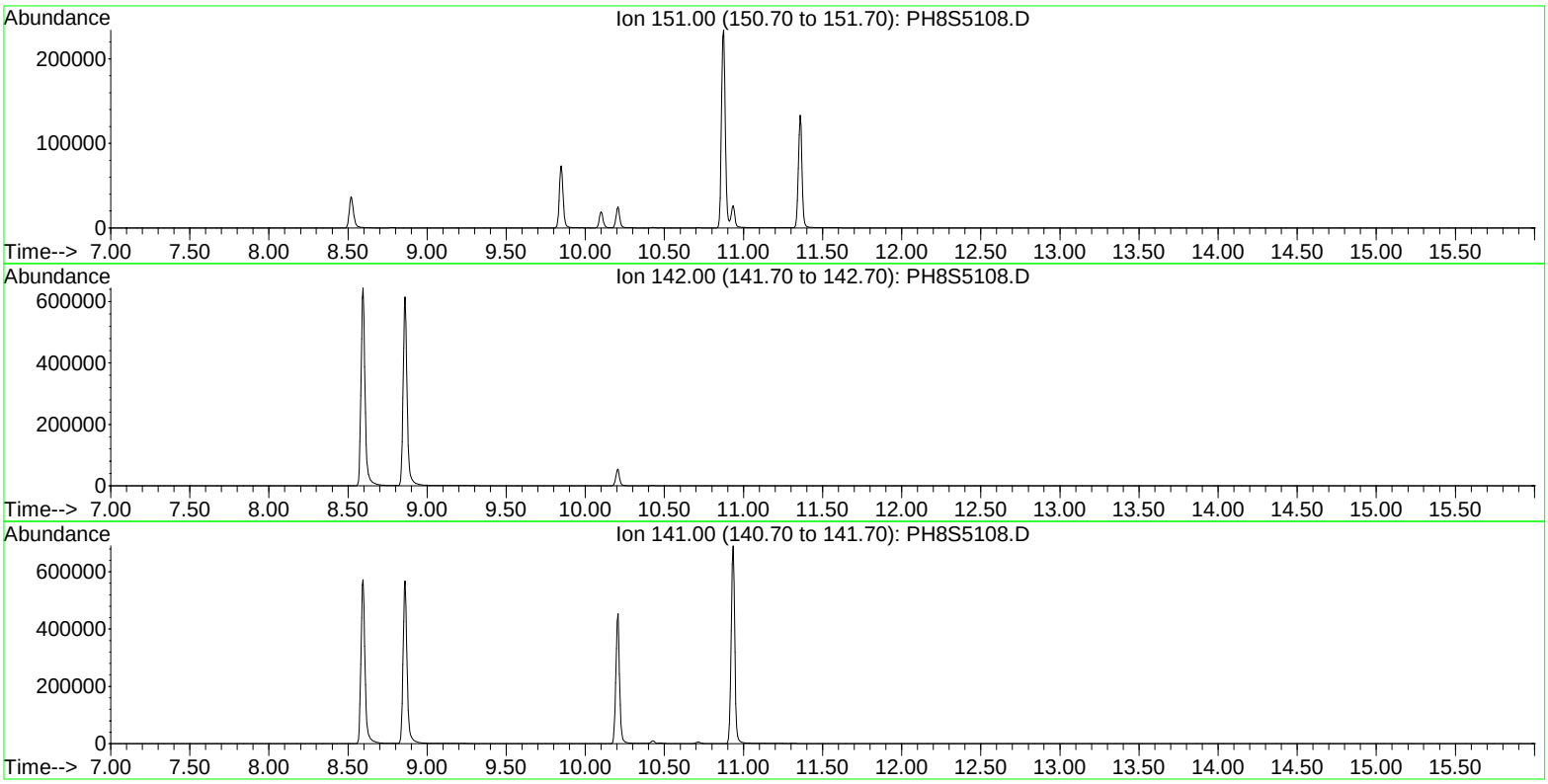


Thu Jan 10 08:38:07 2019

Axys Analytical CHRO Report

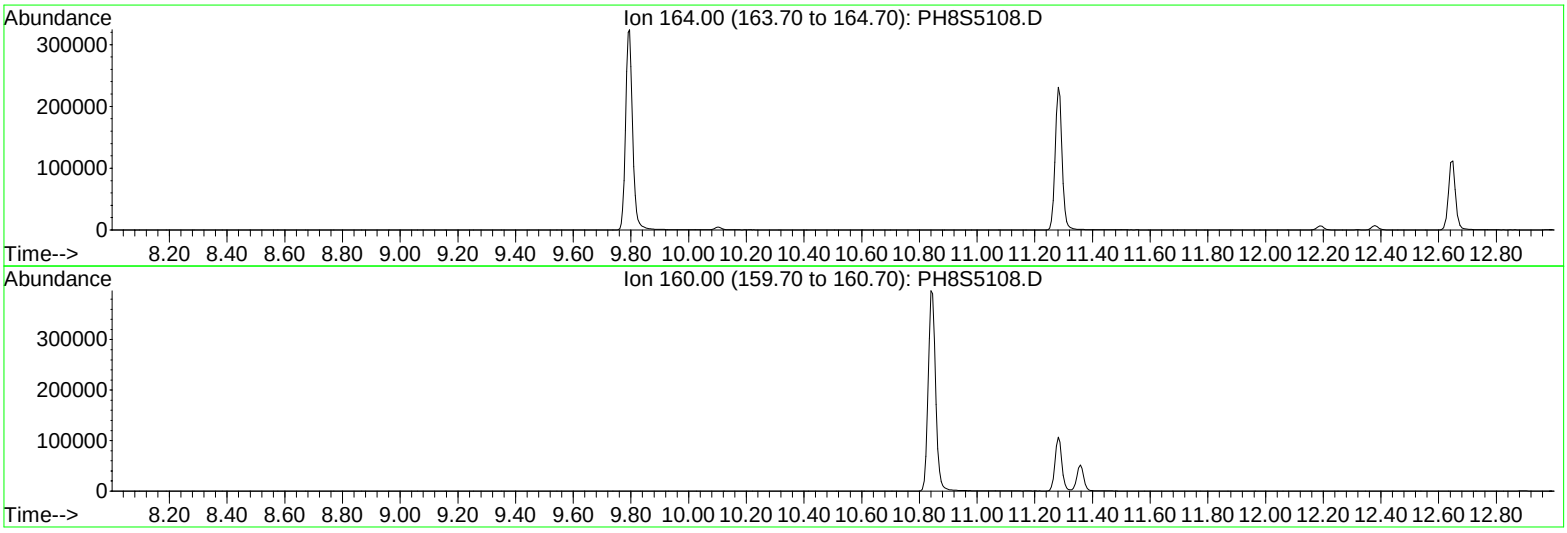
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

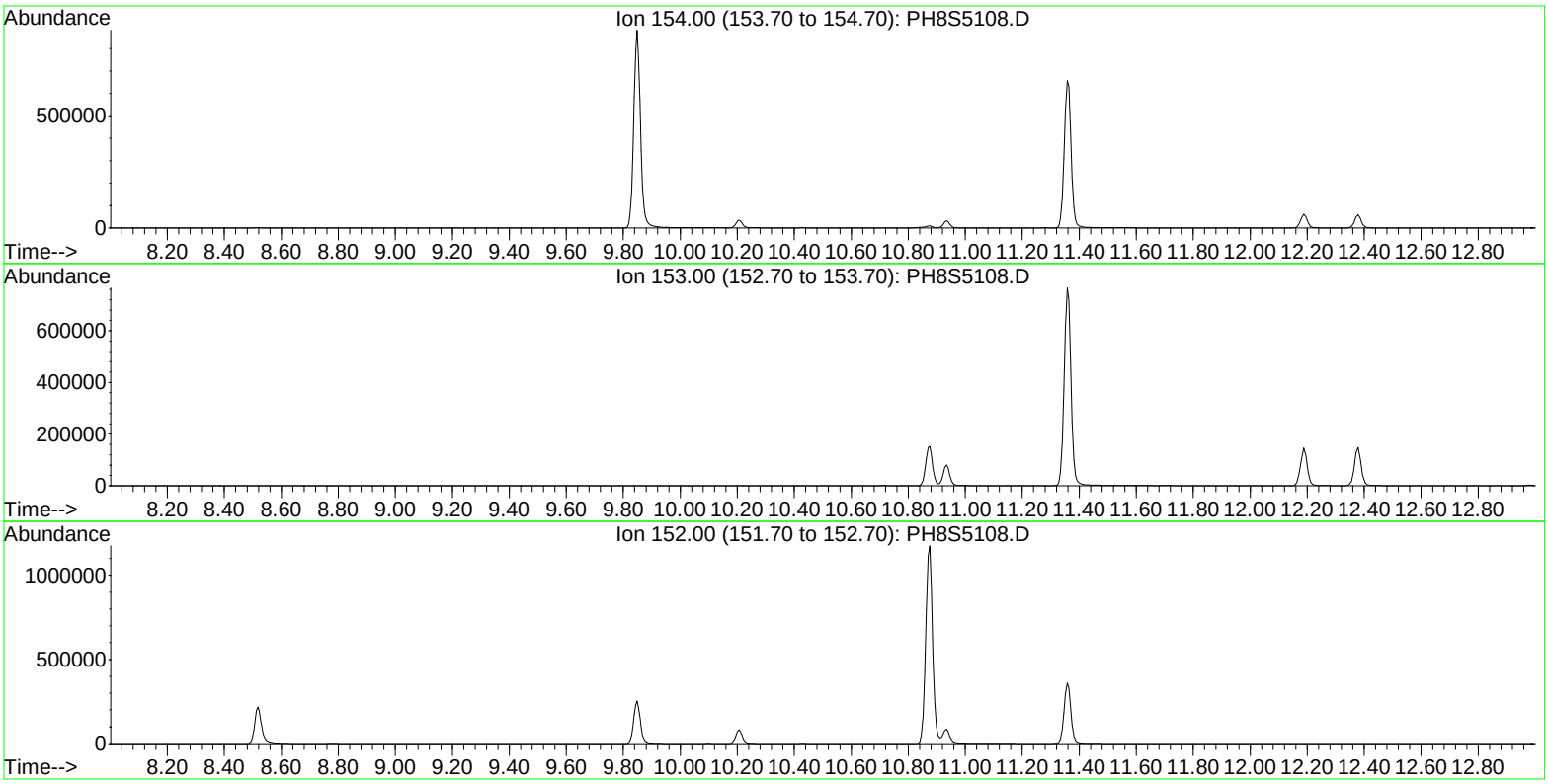




Axys Analytical CHRO Report

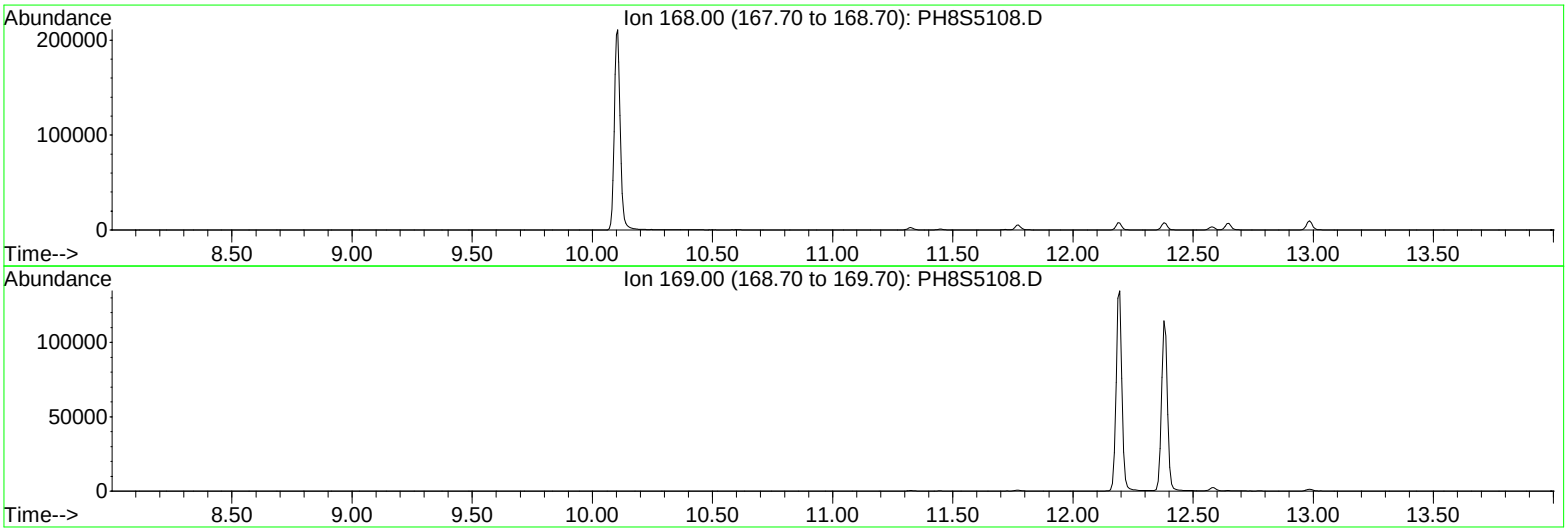
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

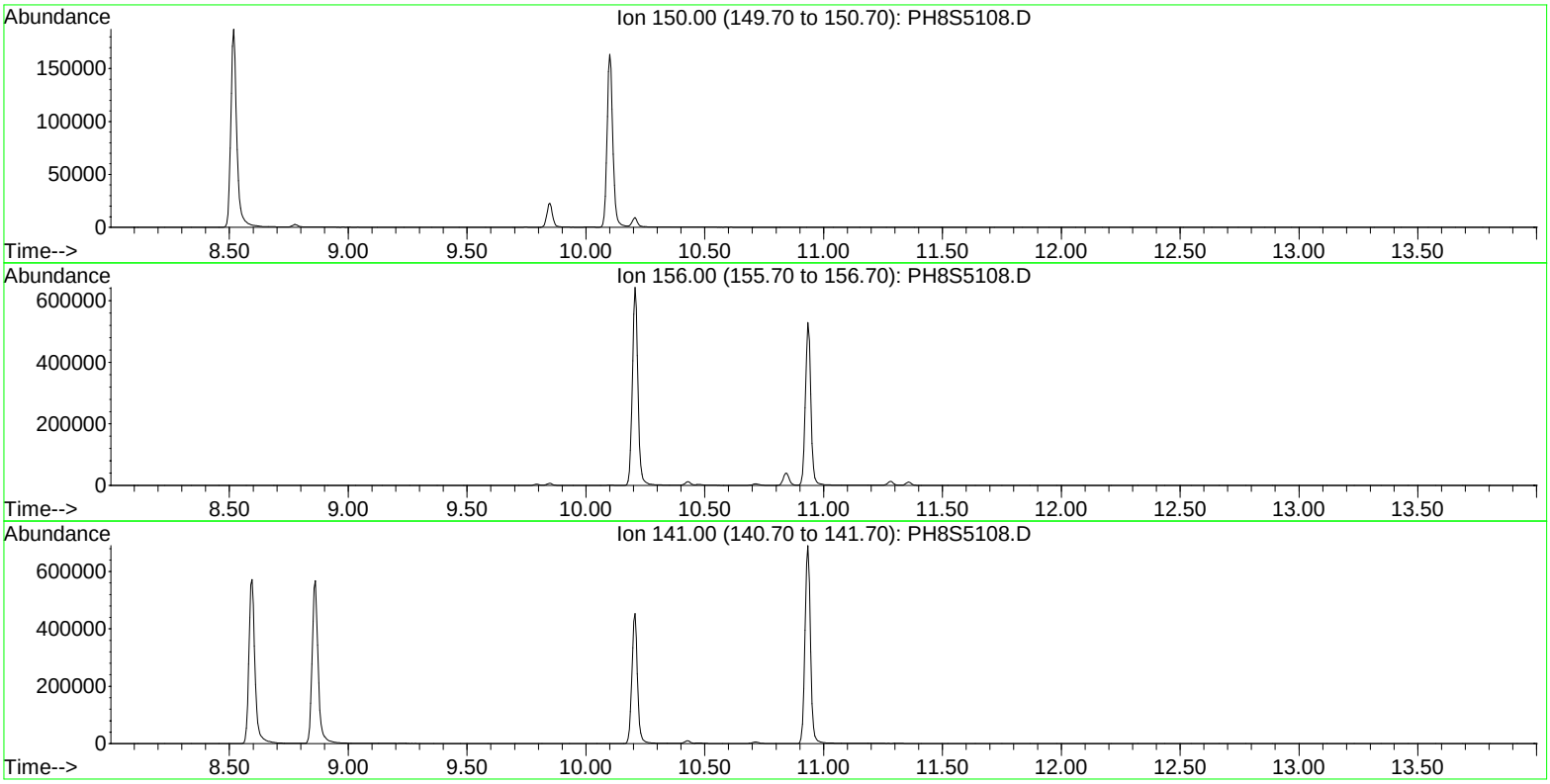




Axys Analytical CHRO Report

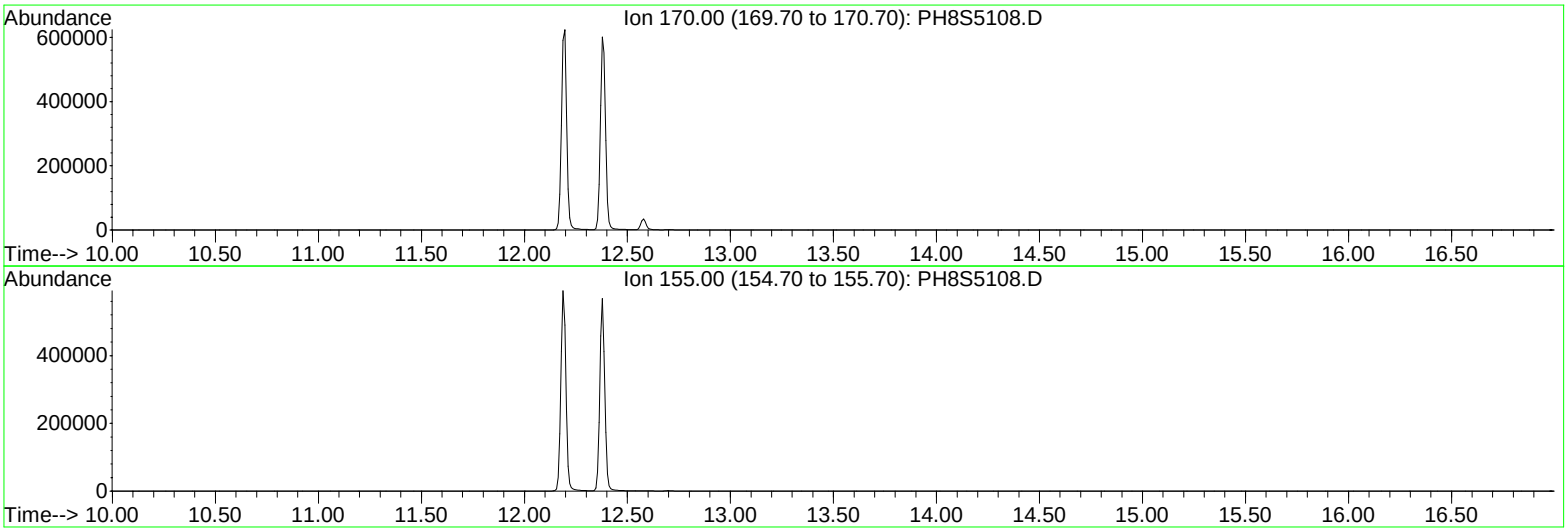
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

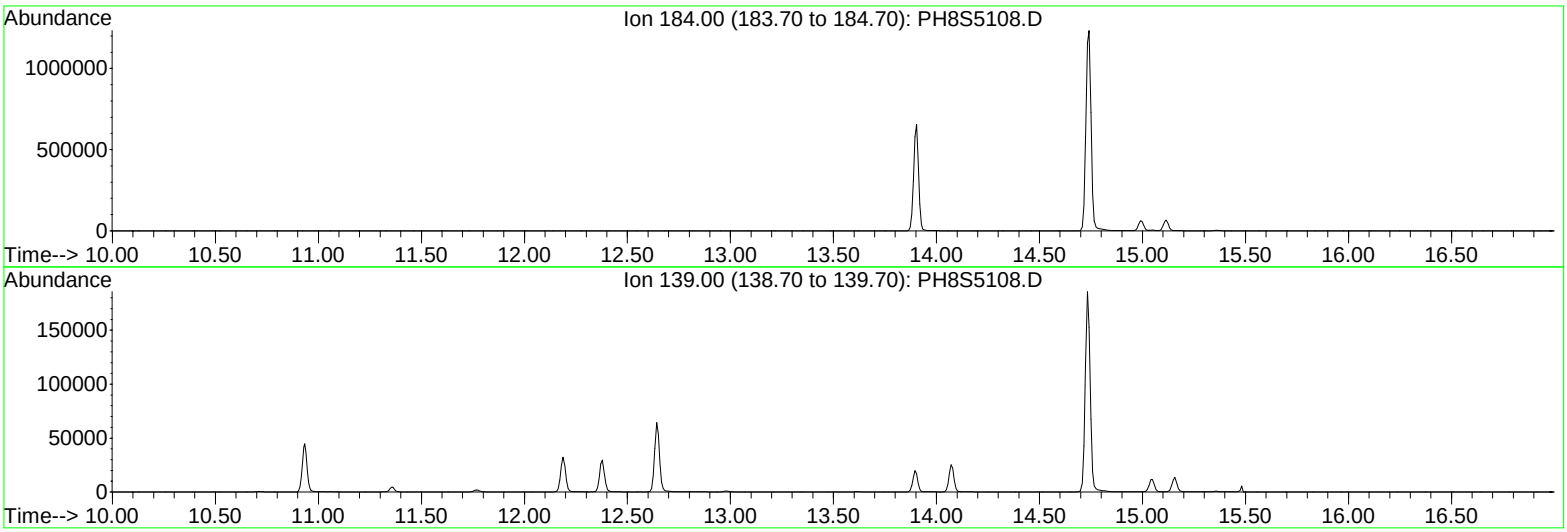




Axys Analytical CHRO Report

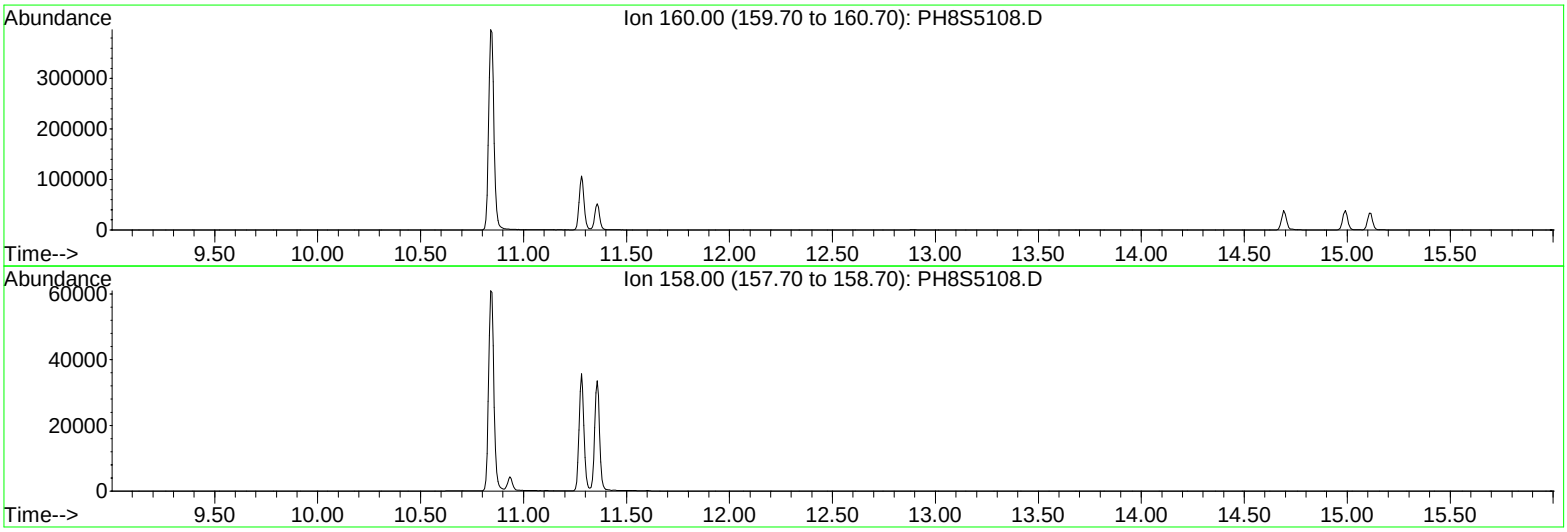
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

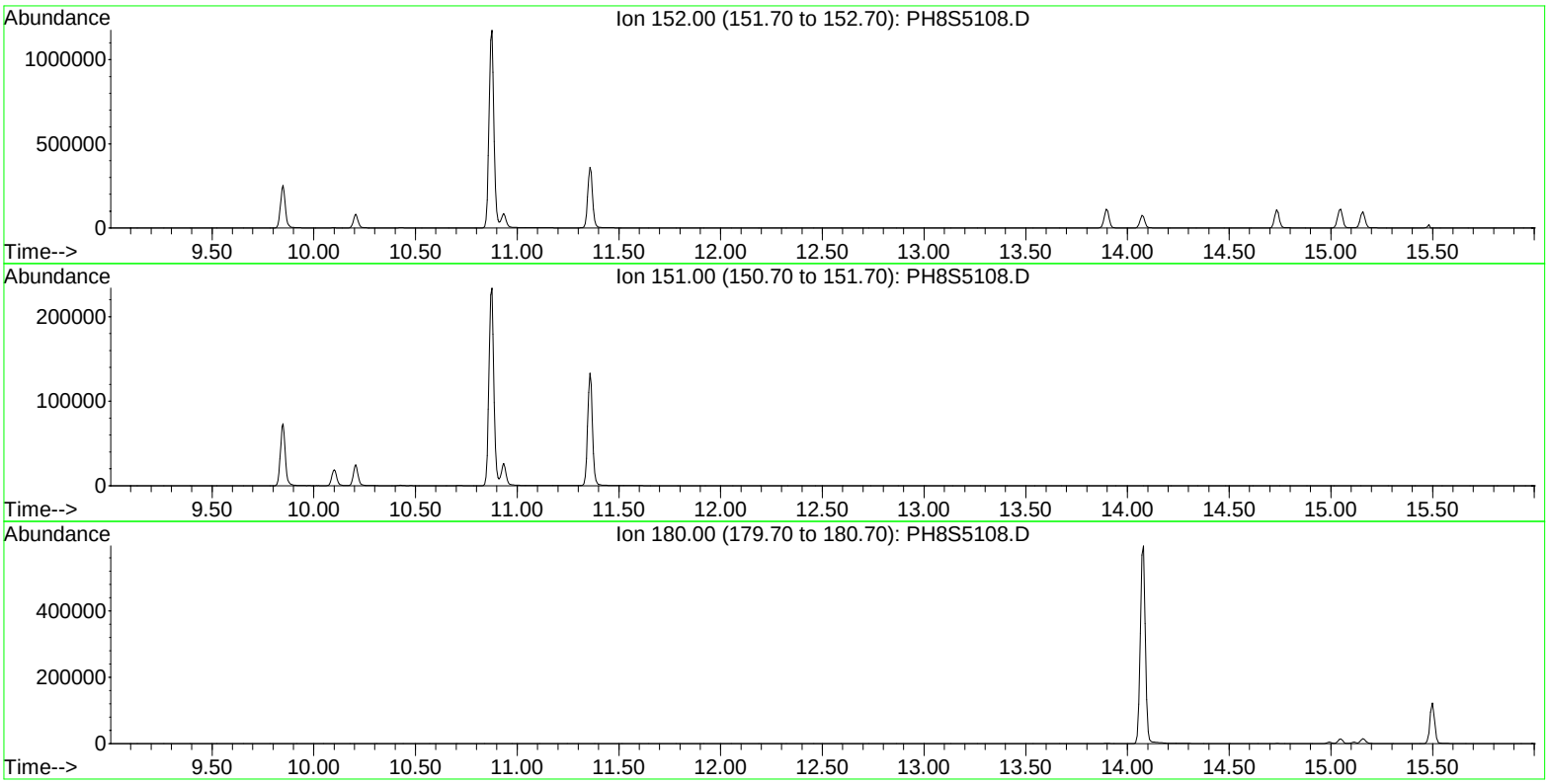


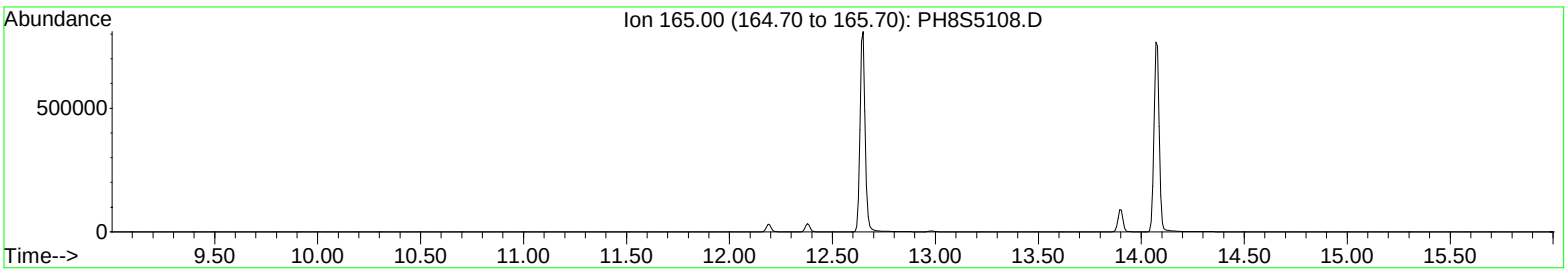


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



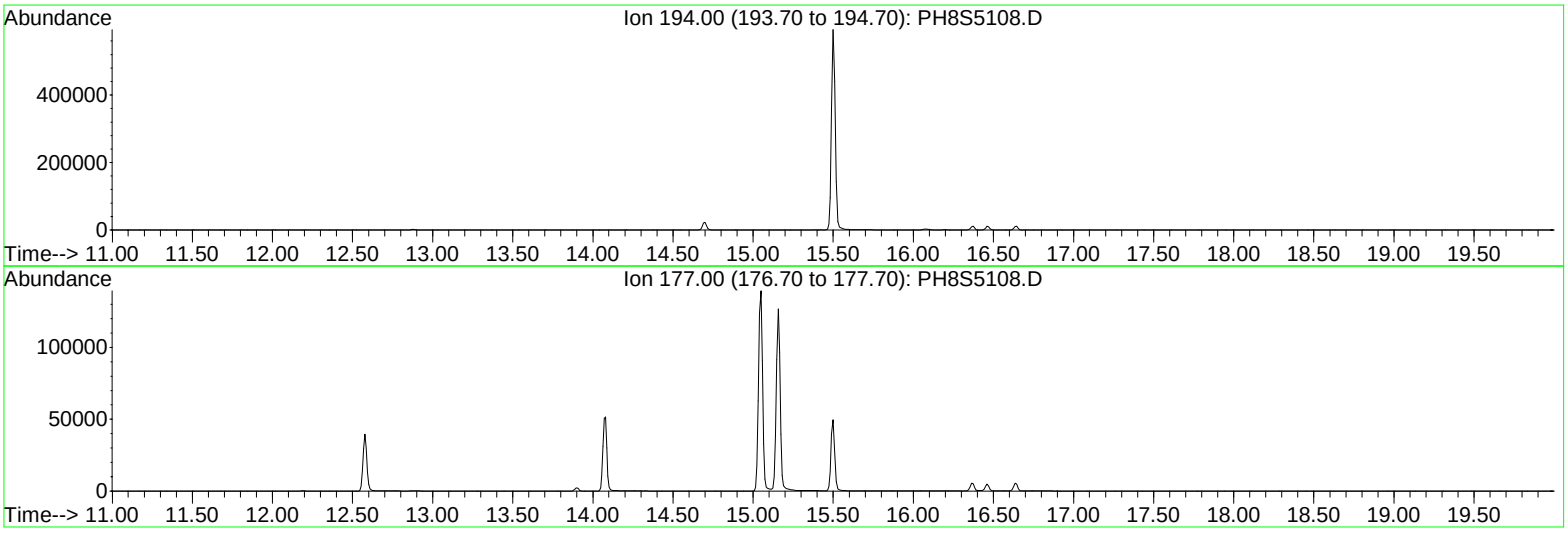


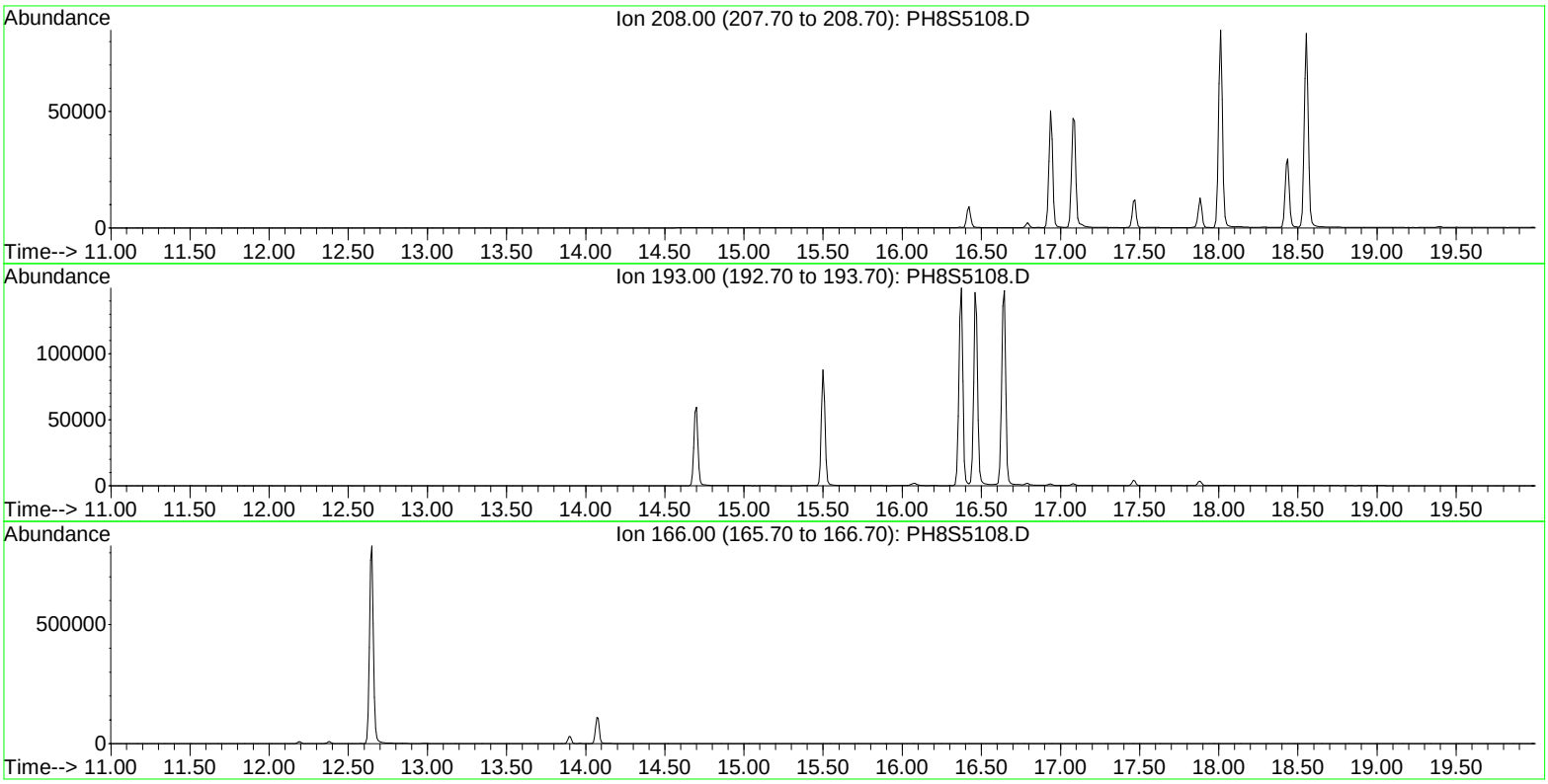


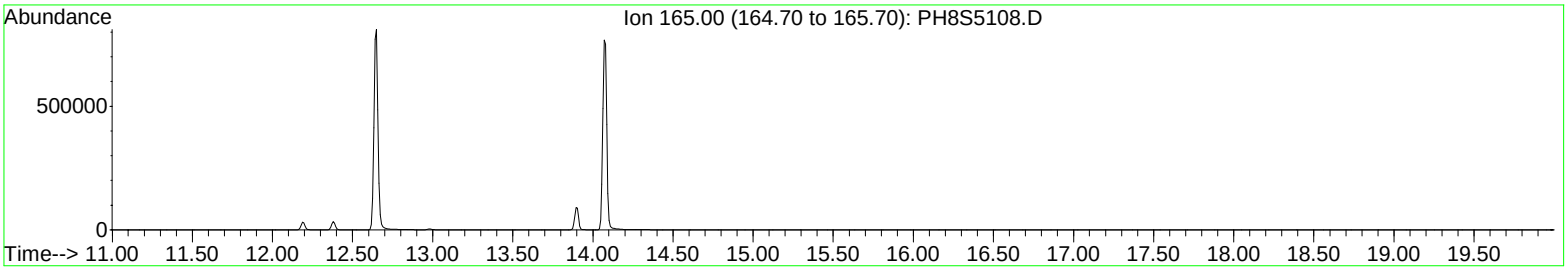
Thu Jan 10 08:38:12 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



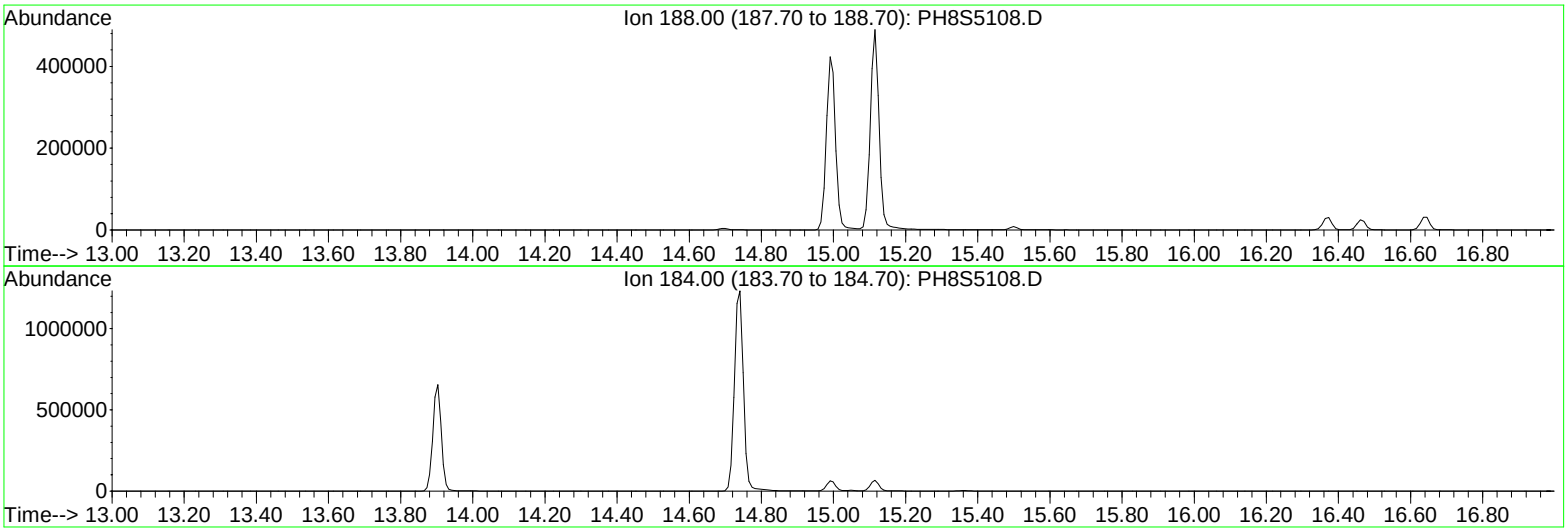


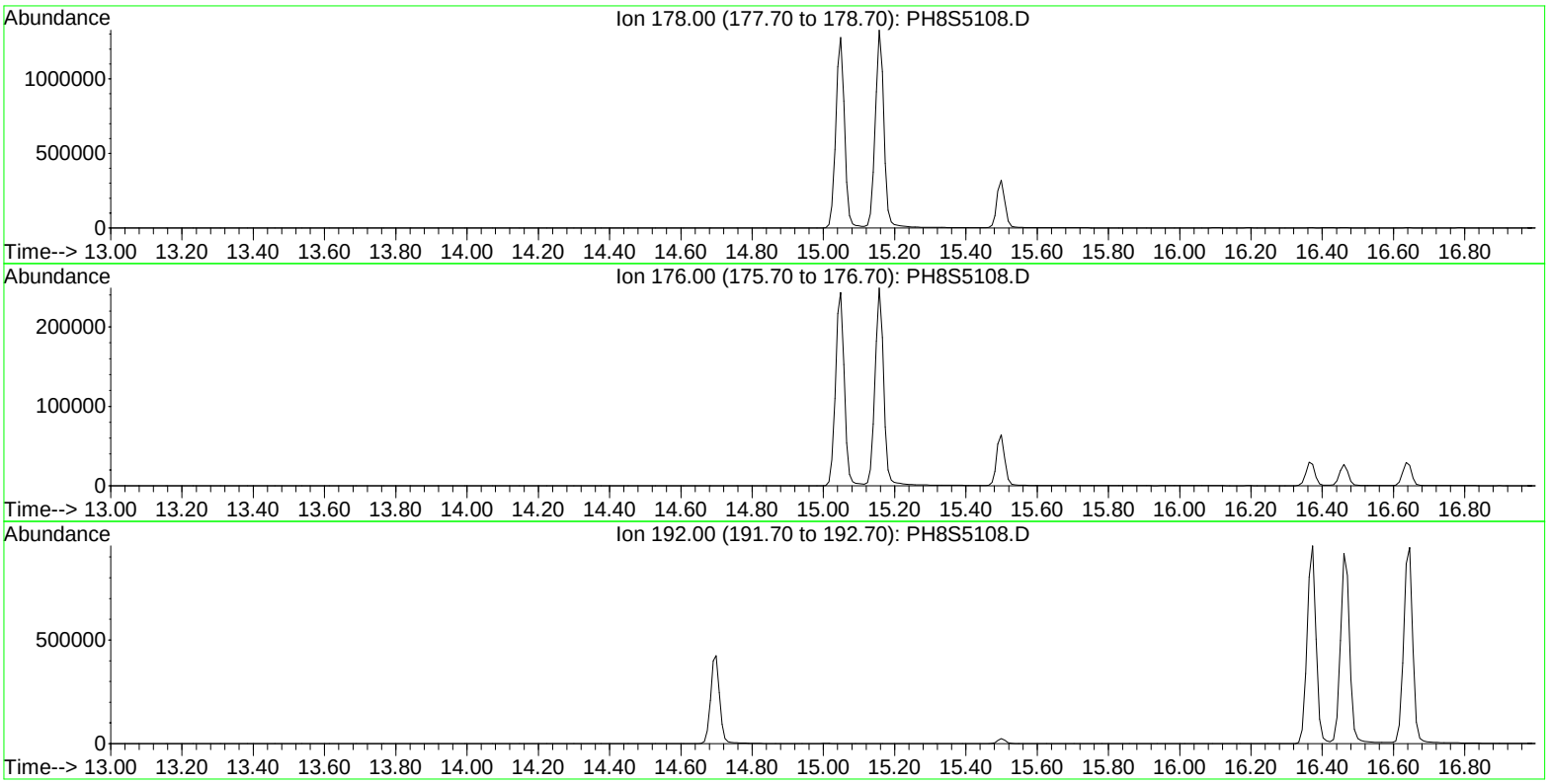


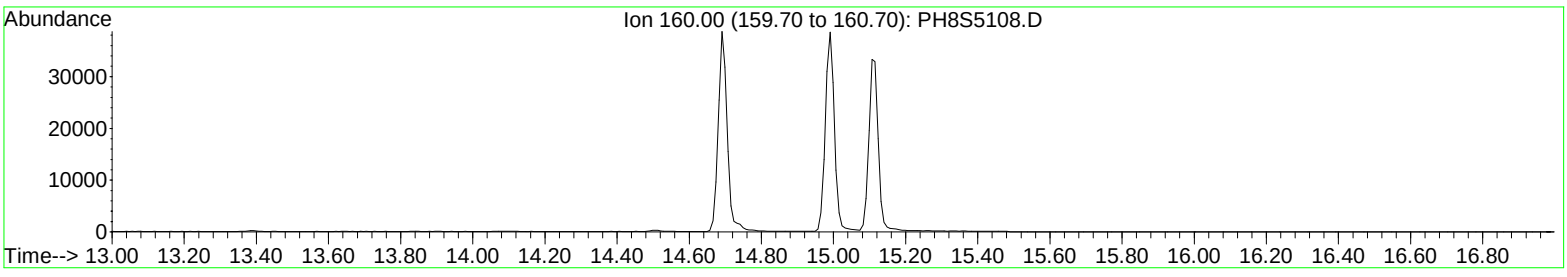
Thu Jan 10 08:38:13 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



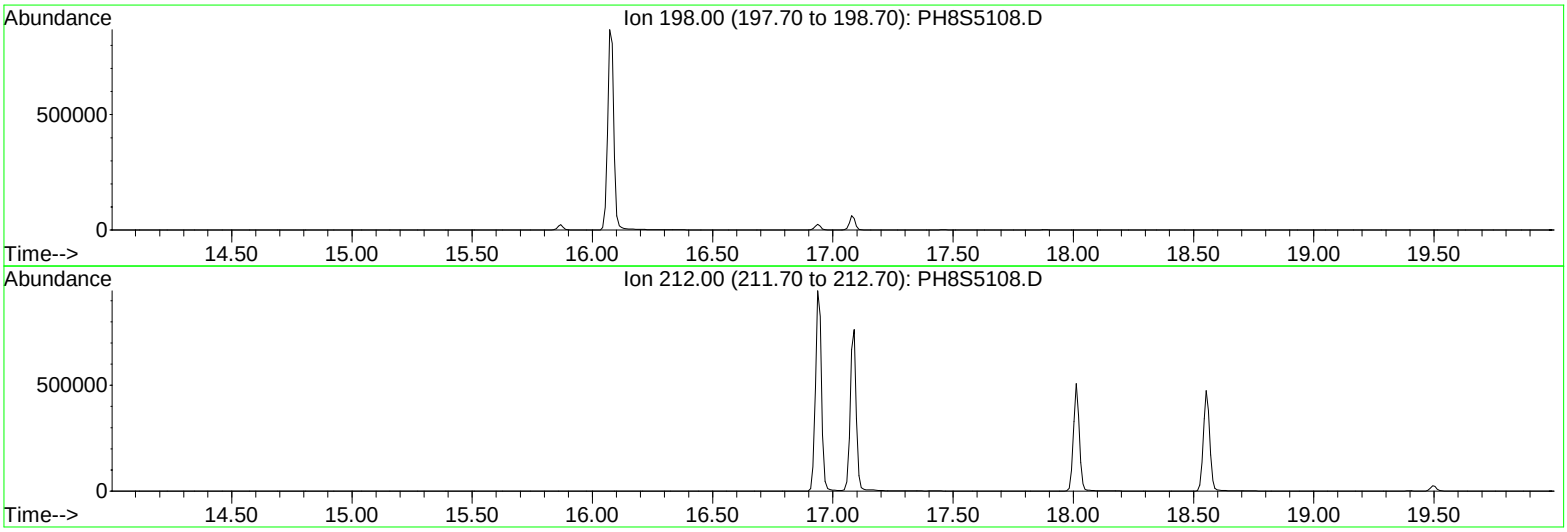


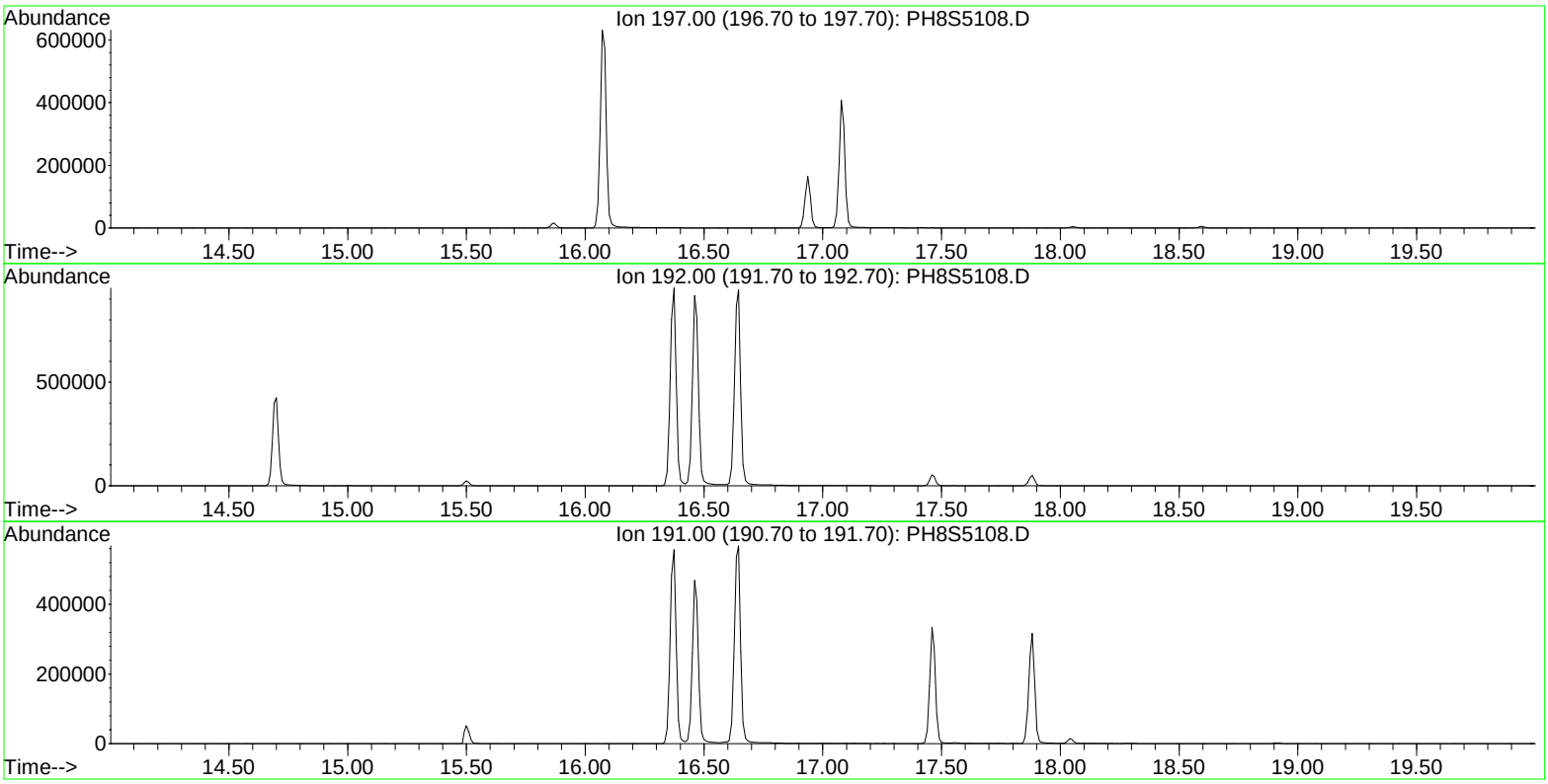


Thu Jan 10 08:38:14 2019

Axys Analytical CHRO Report

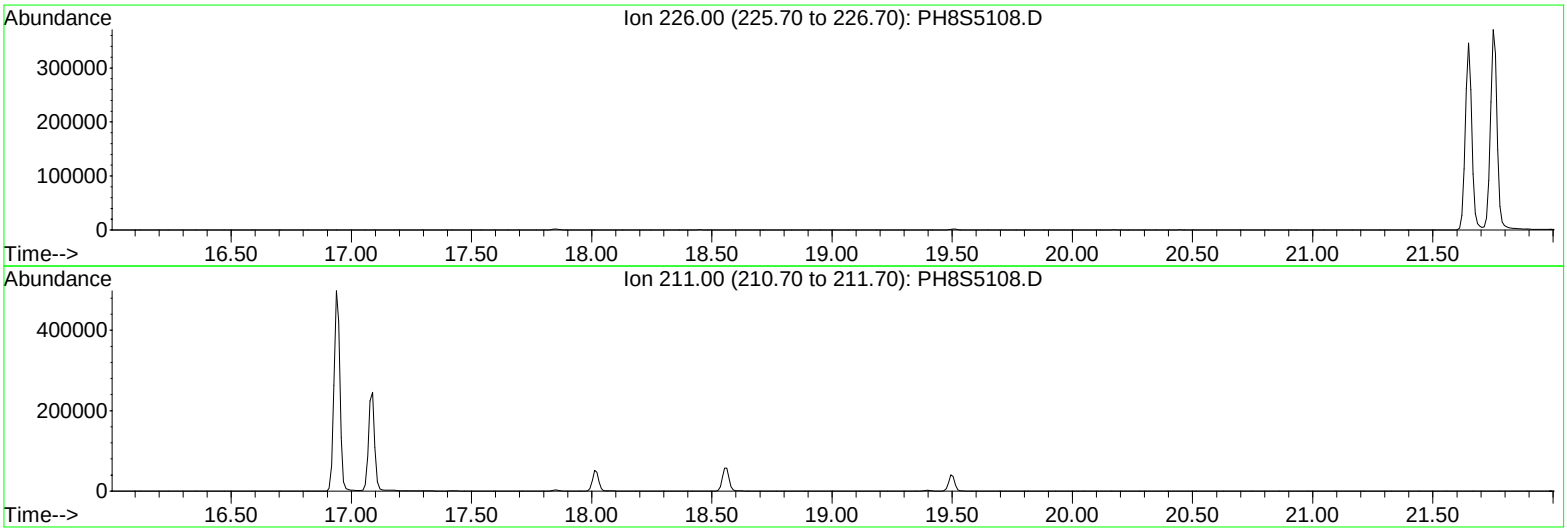
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

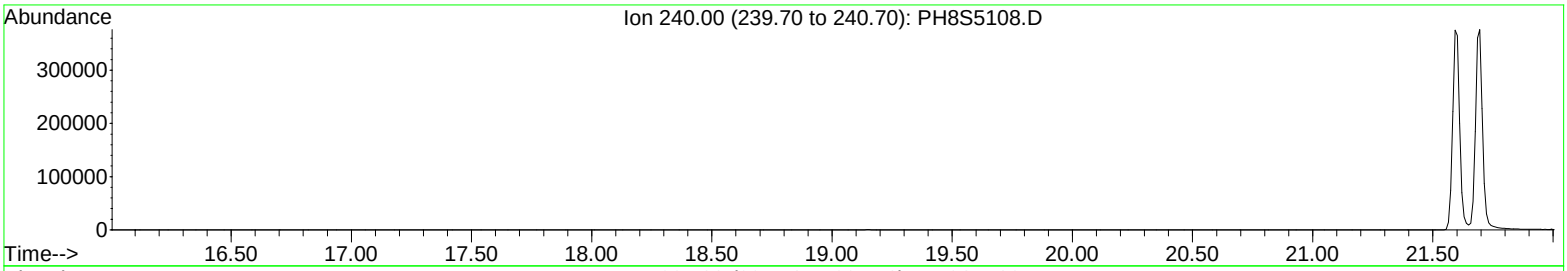


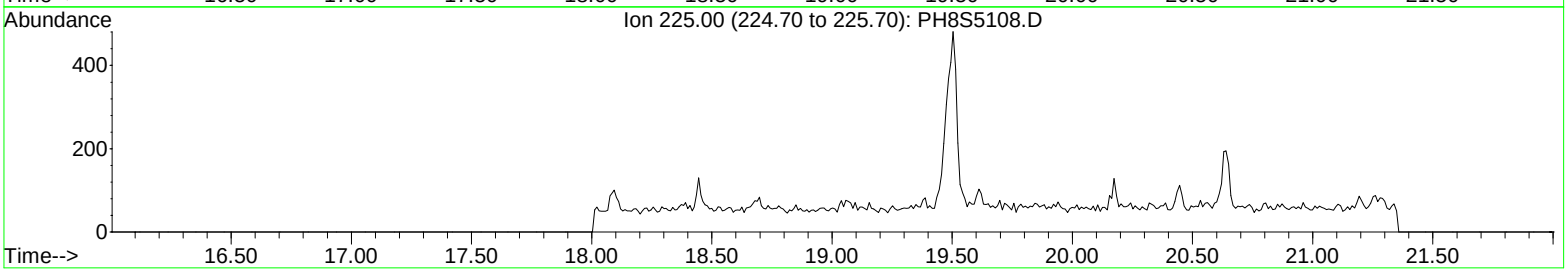


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

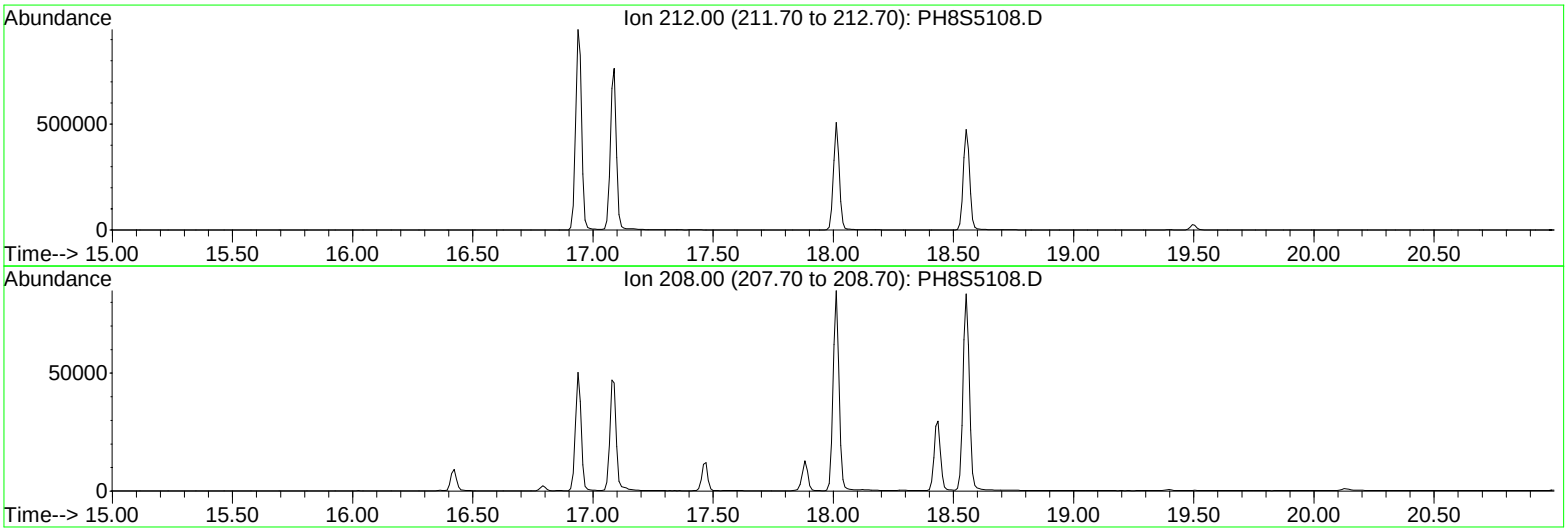


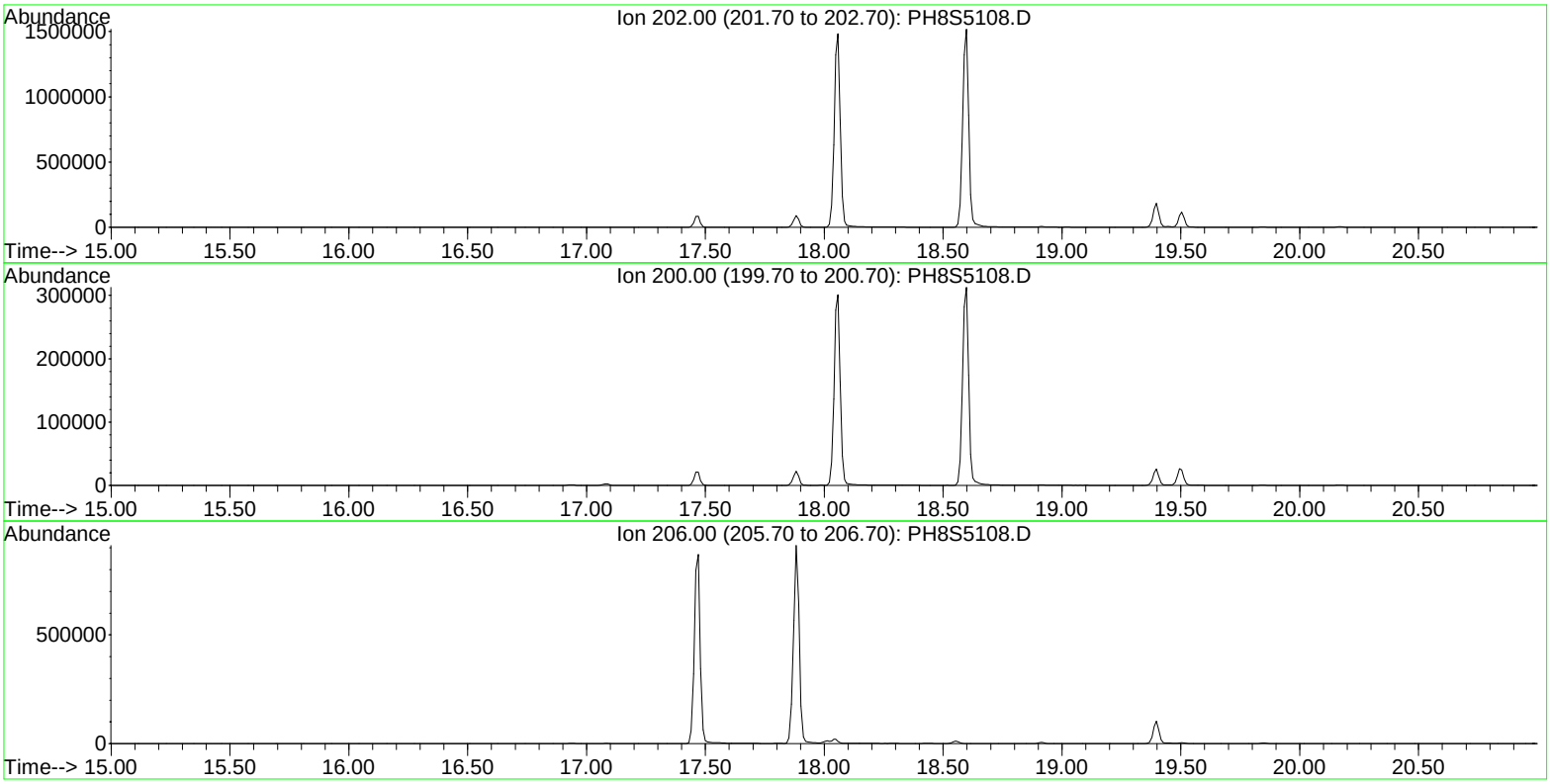


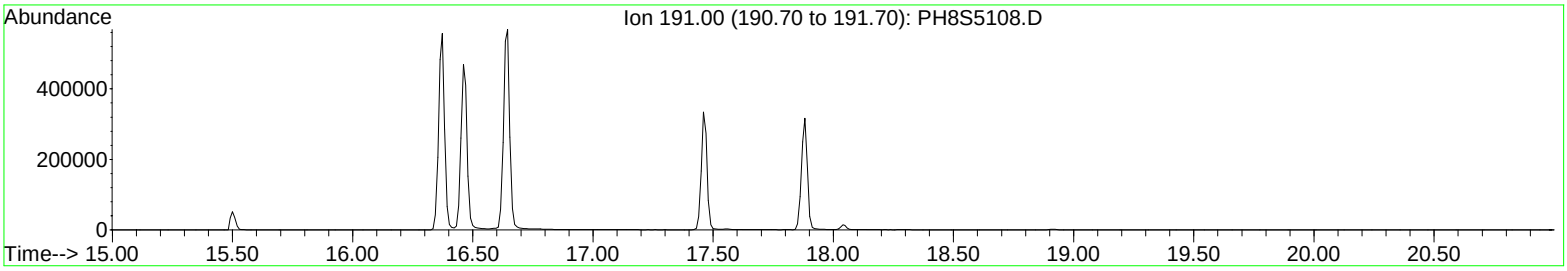


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



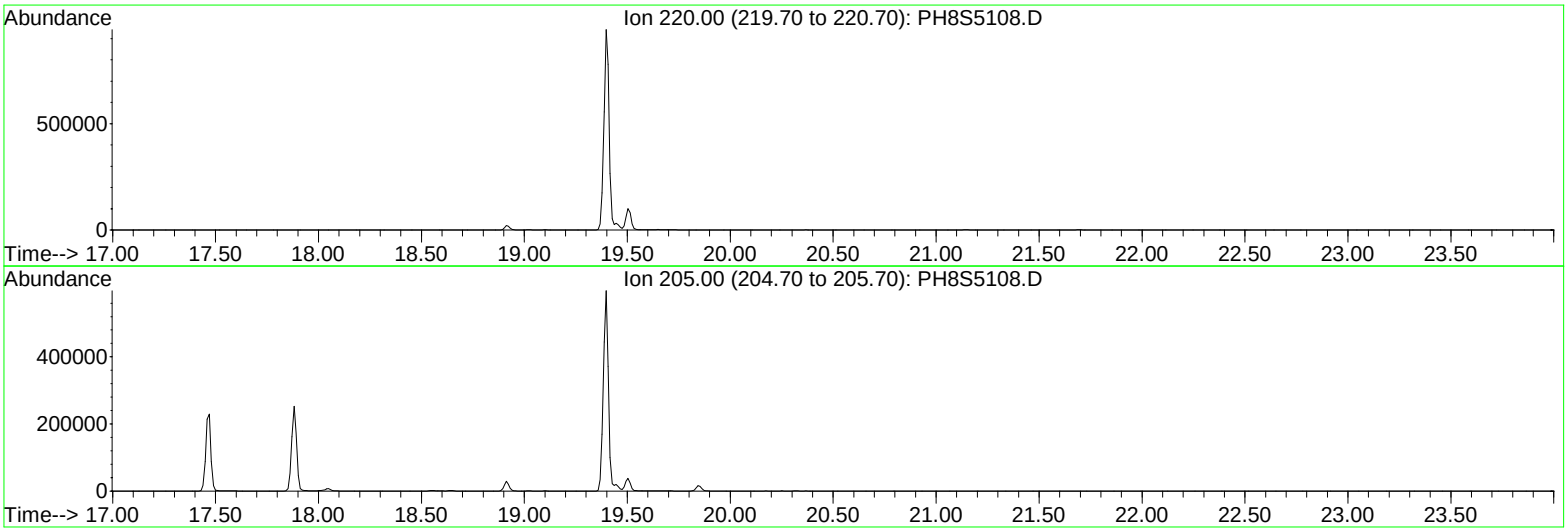


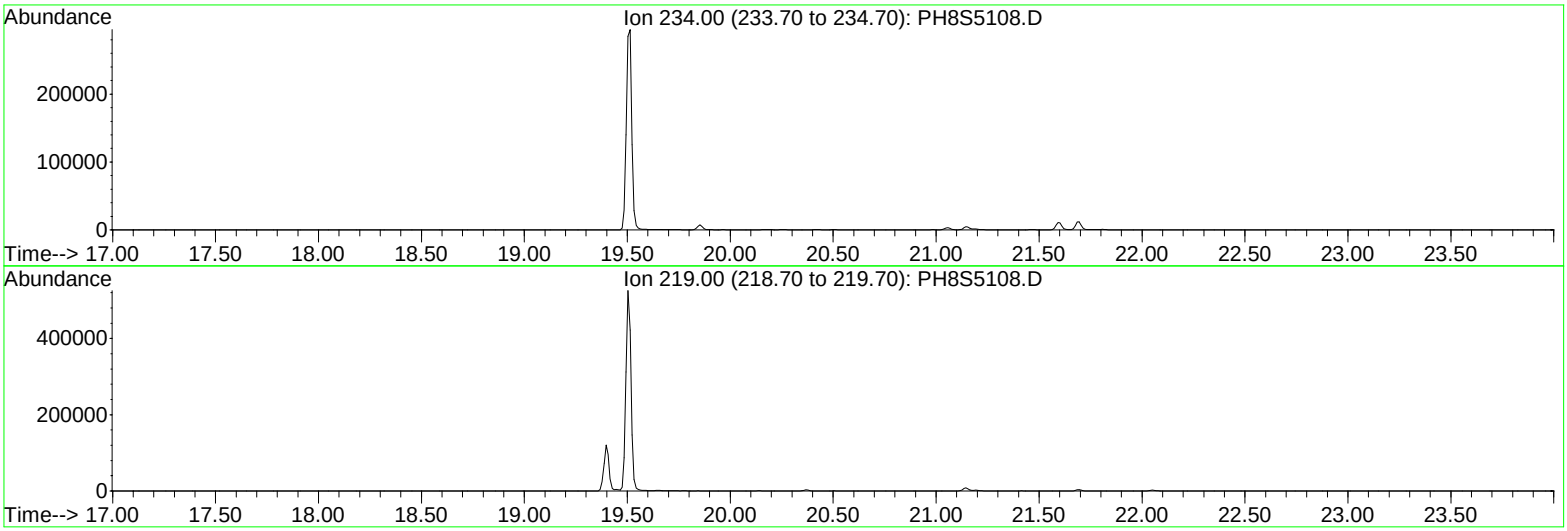


Thu Jan 10 08:38:17 2019

Axys Analytical CHRO Report

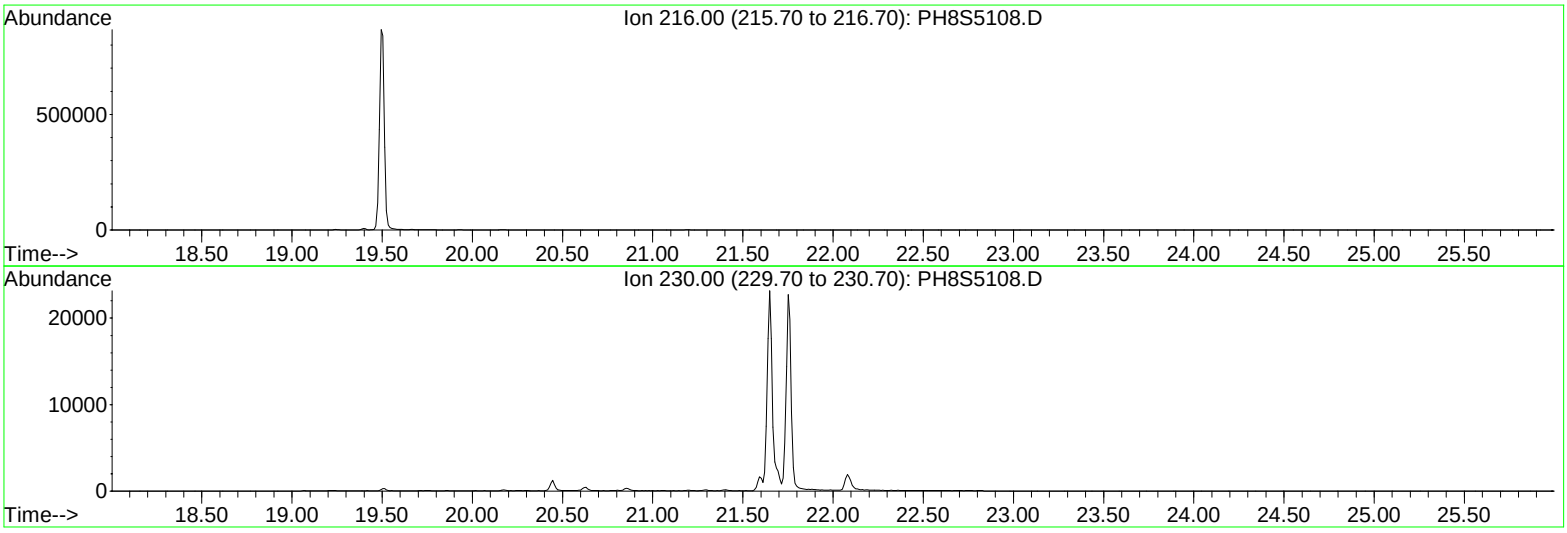
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

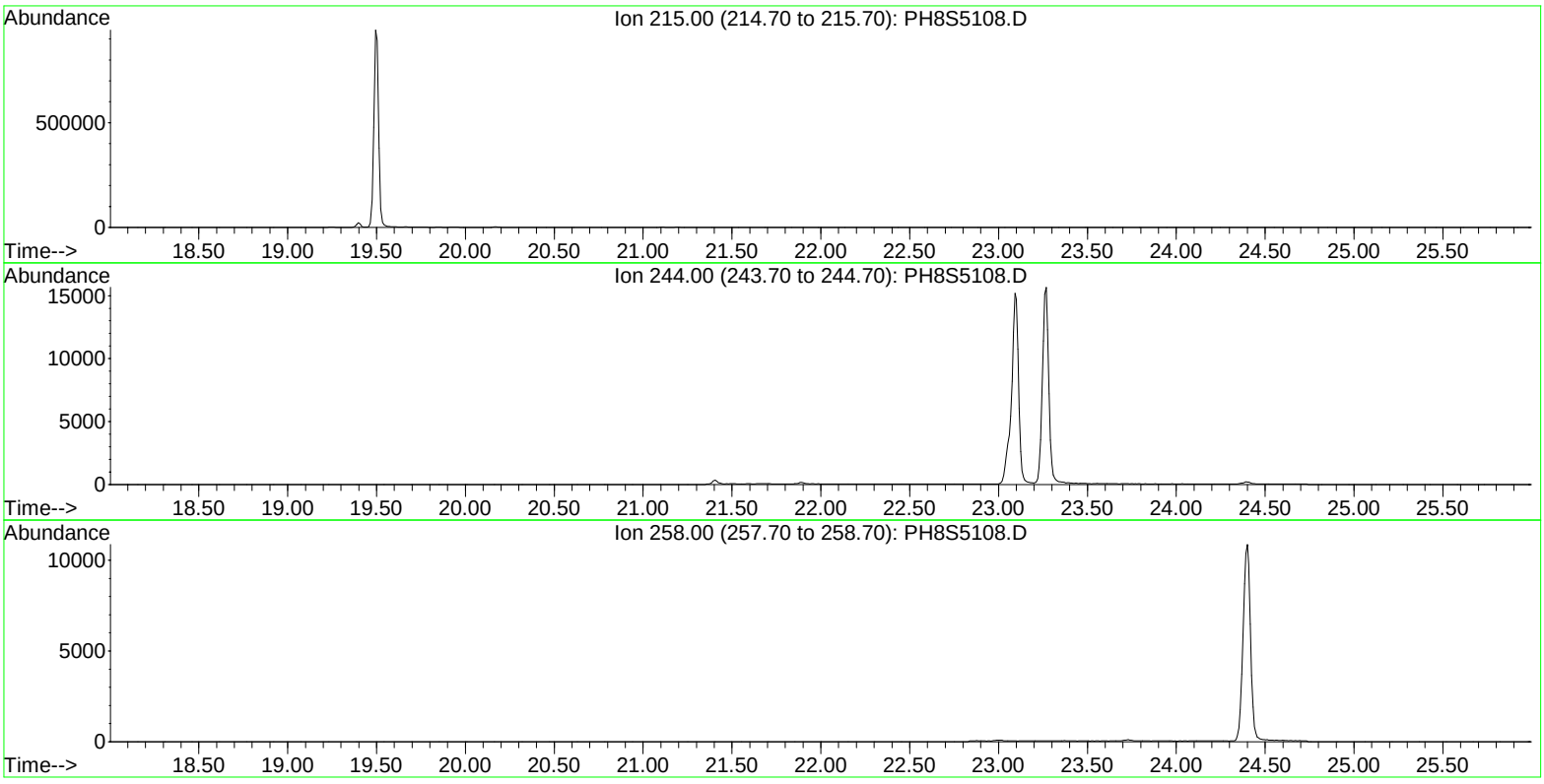


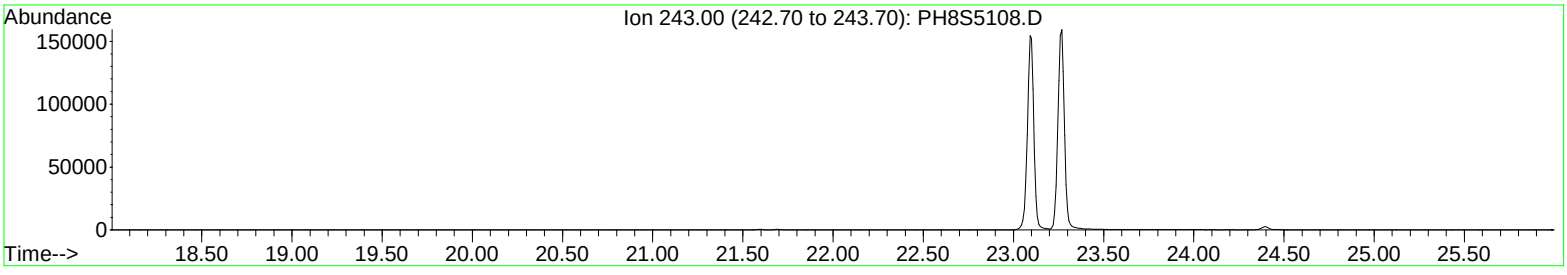


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



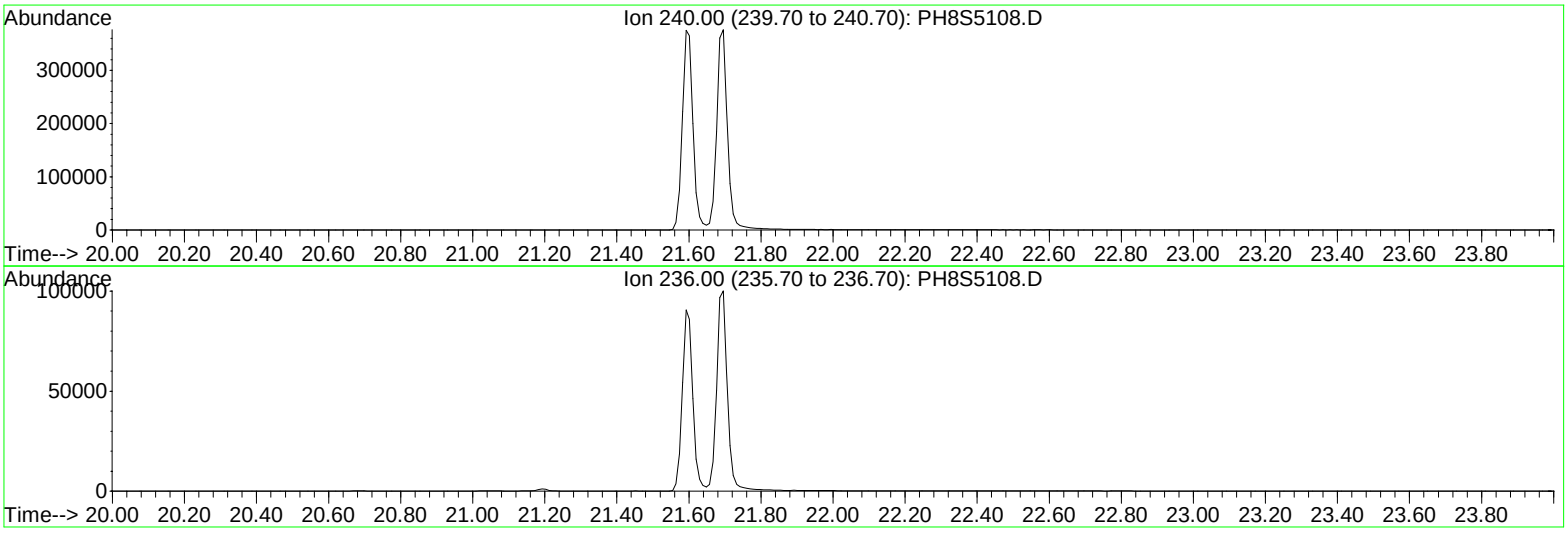


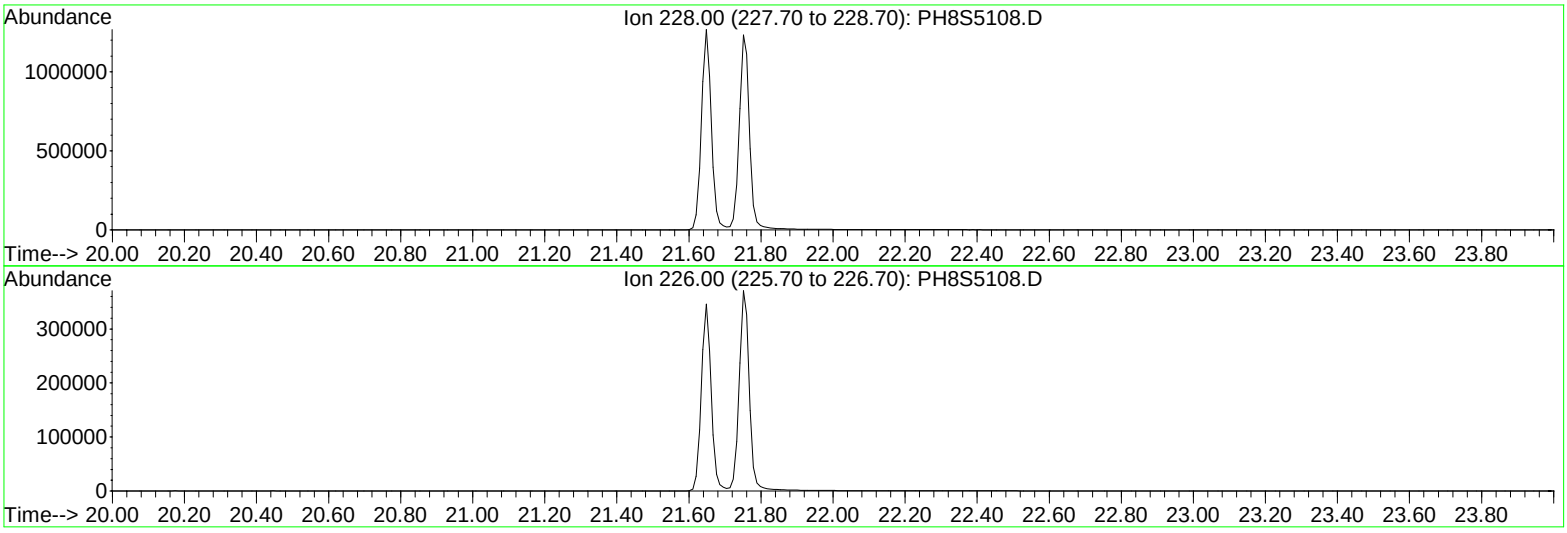


Thu Jan 10 08:38:19 2019

Axys Analytical CHRO Report

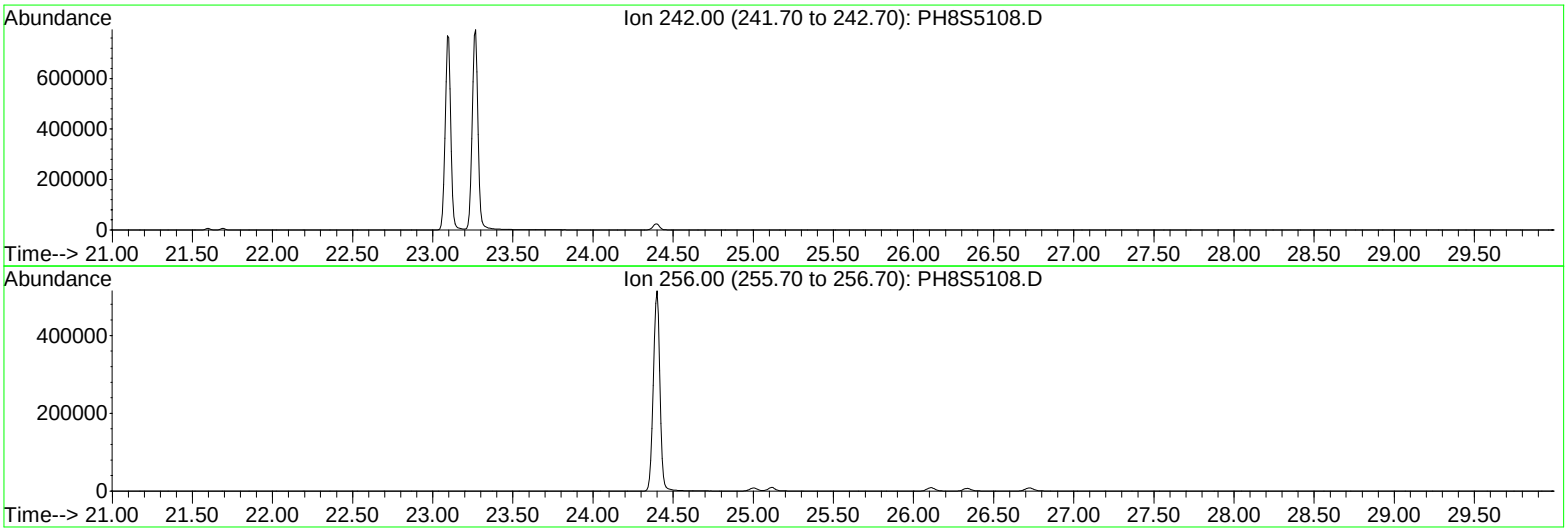
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

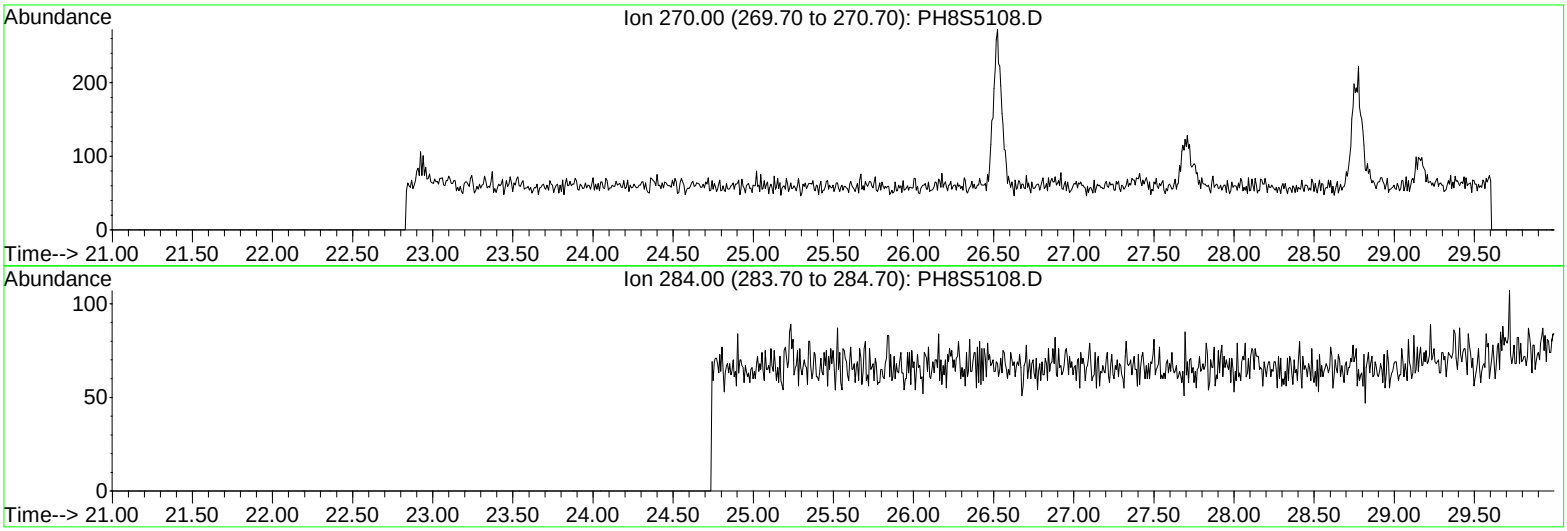




Axys Analytical CHRO Report

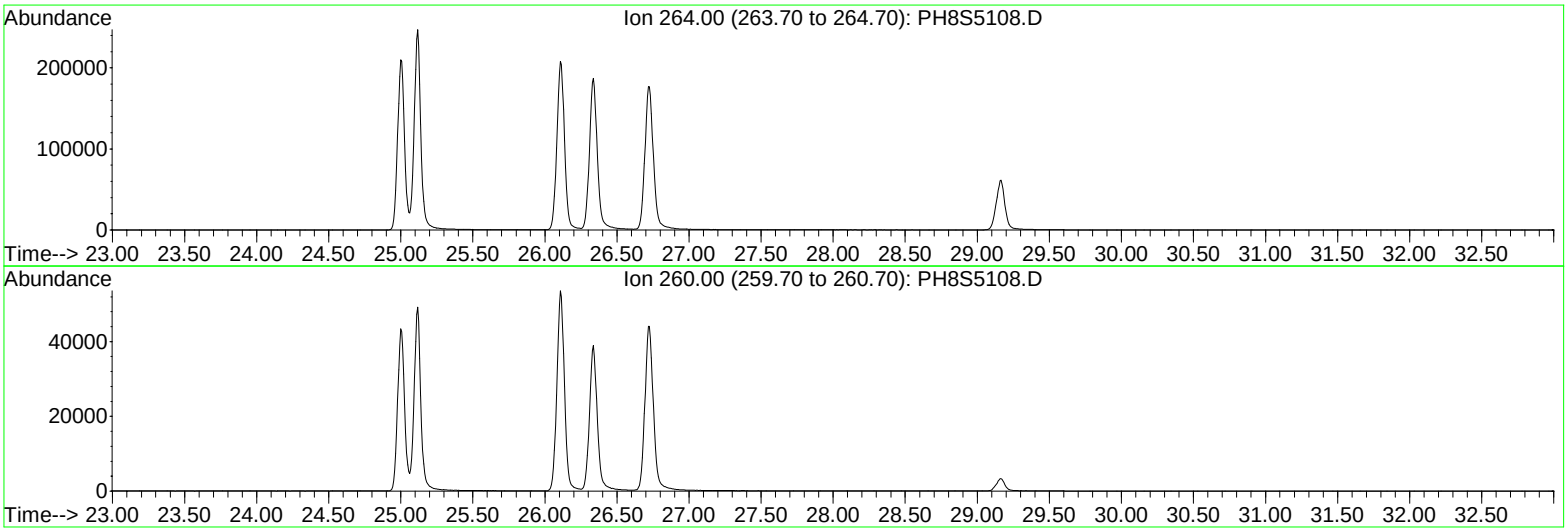
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

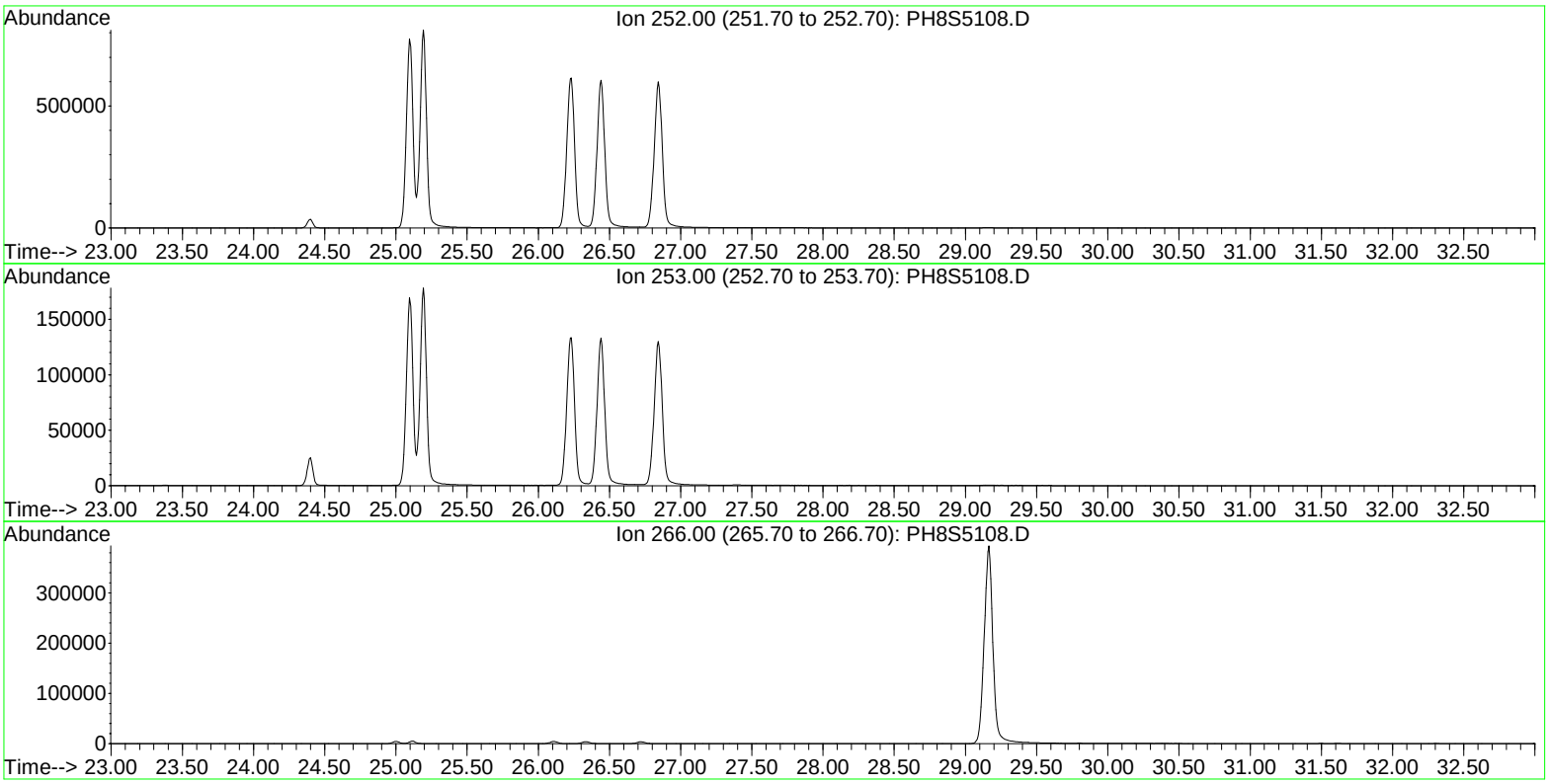


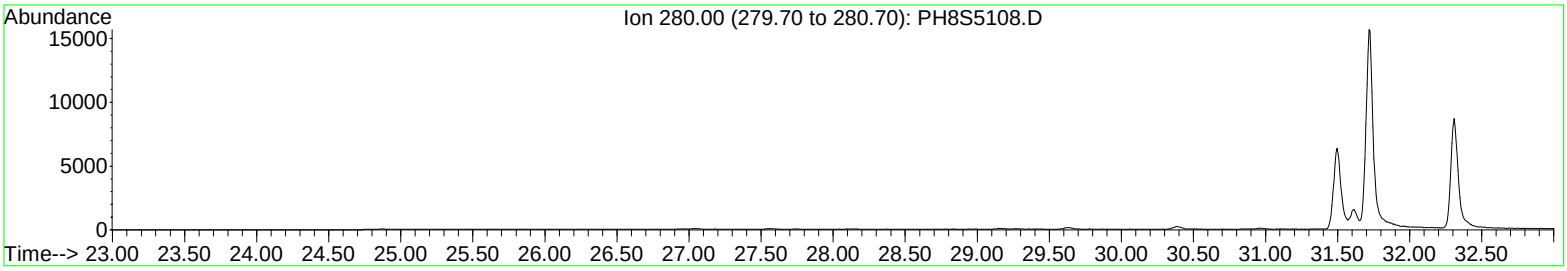


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL



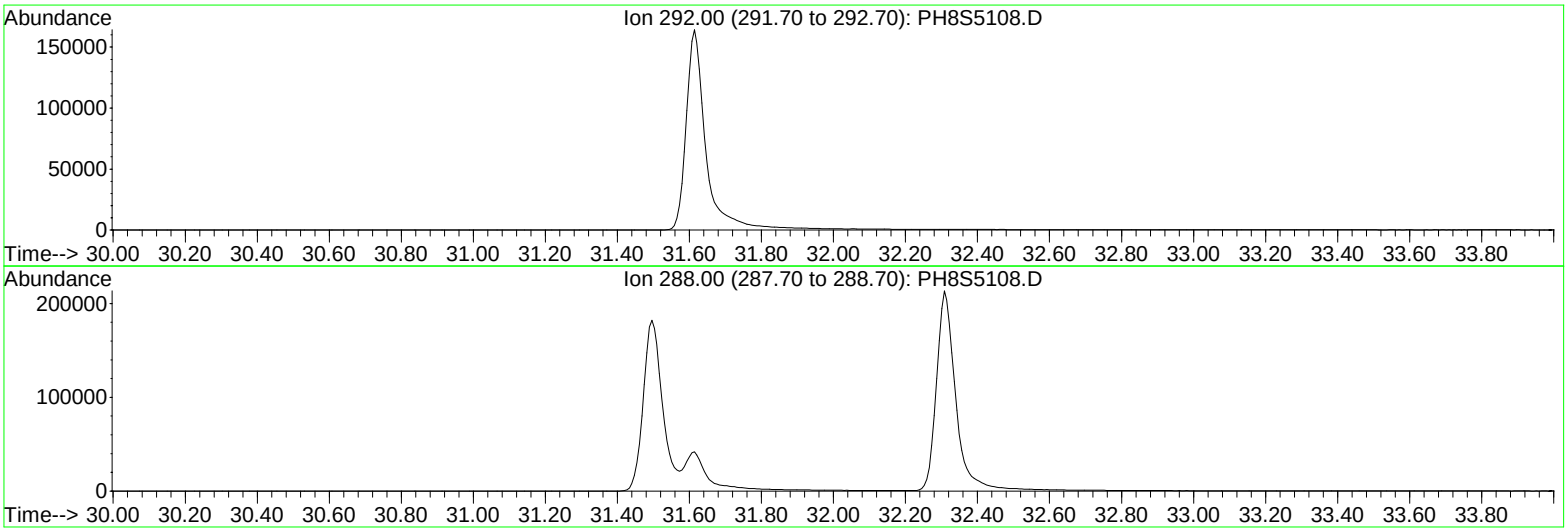


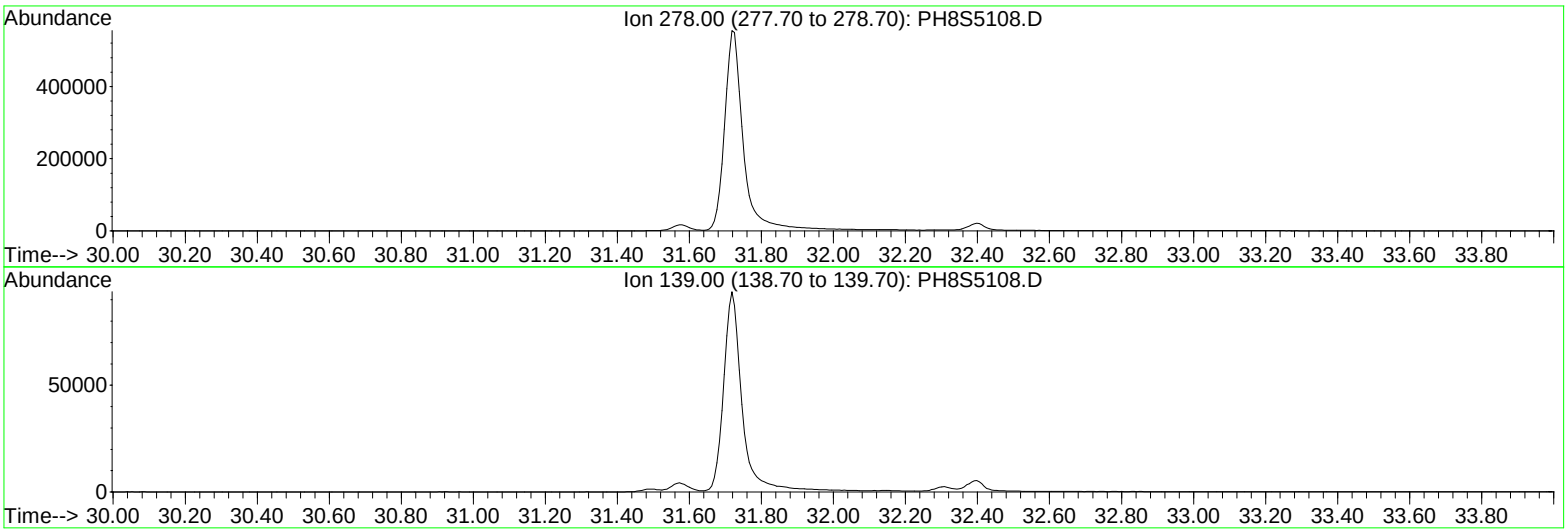


Thu Jan 10 08:38:21 2019

Axys Analytical CHRO Report

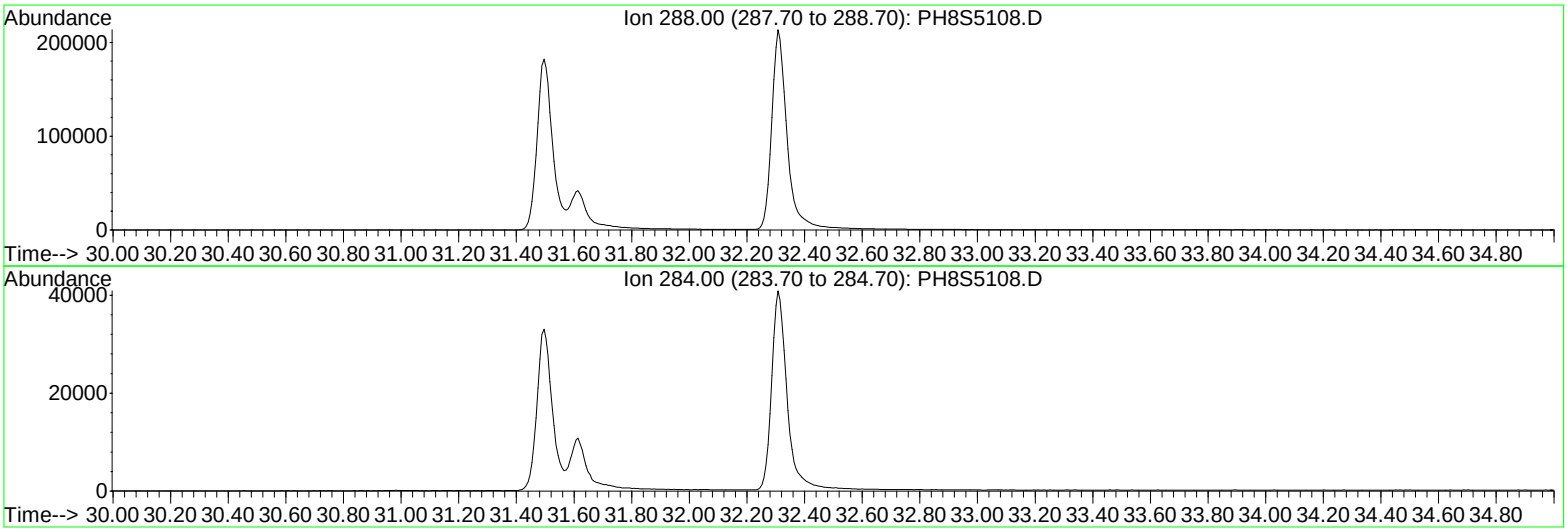
File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL

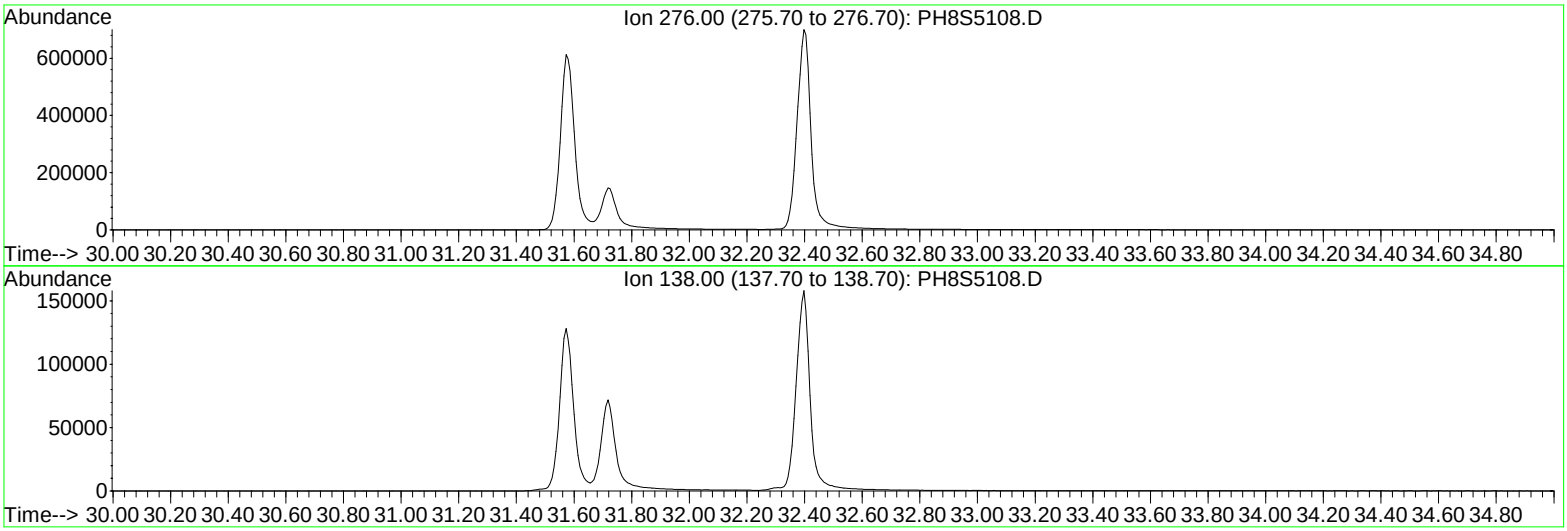




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5108.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 13:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036F-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S5110.D
19/10/2018 14:42
PH006A-SSV/01
1 1.0uL
G:\PROLAB\INST_S\181019PH\PH8S5110.D\648S5110.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 AFW
Vial No.: 8
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181019PH\64PH1-B.M
Cal Update Time: Sat Dec 08 16:03:22 2018
CSV Create Date: Sat Dec 08 16:59:06 2018
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S5109.D

Analyte List	LPAHF	ng/mL							
Sample Size	1								
Surrogate: Authentic Ratio	1								
Recovery: Surrogate Ratio	1								
Analyte Calibration Multiplier	1								
Surrogate Calibration Multiplier	1								
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	386237	11.29	2020	I	0	0	0		0.47	1
d8-Naphthalene - SURR	562258	6.86	1966.9668	S	98.3483	0	0		0.09	0.608
d10-2-Methylnaphthalene - SURR	369335	8.52	1927.4909	S	97.8422	0	0		0.19	0.755
d10-Biphenyl - SURR	534616	9.8	1988.7145	S	97.2477	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	349354	10.11	1995.2792	S	97.0939	0	0		0.76	0.896
d8-Acenaphthylene - SURR	689920	10.85	2038.0433	S	98.9341	0	0		0.15	0.961
d10-Pyrene - REC	892970	18.55	1970	I	0	0	0		0.17	1
d10-Phenanthrene - SURR	721643	15	1743.5144	S	96.5936	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	715354	14.7	1943.4316	S	95.5003	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	763176	21.59	1960.6841	S	96.5854	0	0		0.24	1.164
d12-Chrysene - SURR	785544	21.69	1931.8088	S	98.5617	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	819067	26.1	2020	I	0	0	0		0.26	1
d12-Benzo(b)Fluoranthene - SURR	713351	25	1902.1466	S	96.5557	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	806456	25.11	1946.9583	S	97.3479	0	0		0.2	0.962
d12-Benzo(a)pyrene - SURR	713137	26.32	2009.8404	S	97.0937	0	0		0.2	1.008
d12-Perylene - SURR	729443	26.72	2061.8536	S	95.9002	0	0		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	686924	31.5	1911.4904	S	96.0548	0	0		0.18	1.207
d12-Benzo(ghi)perylene - SURR	815377	32.31	1907.6958	S	96.3483	0	0		0.19	1.238
d8-Naphthalene	562258	6.86	2000	I	0	0	0		0.09	1
Naphthalene $	670975	6.9	1994.1478	T	0	0	0		0.07	1.006
d10-2-Methylnaphthalene	369335	8.52	1970	I	0	0	0		0.19	1
2-Methylnaphthalene $	174	8.6	0.767	T	0	0	0		0.87	1.009
1-Methylnaphthalene	1572	8.87	7.3397	T	0	0	0		1.05	1.04
C1-Naphthalenes	174	8.6	0	T	0	0	0		-1	1.009
d10-Biphenyl	534616	9.8	2045	I	0	0	0		-1	1
Biphenyl $	228	9.85	0.7851	T	0	0	0		0.32	1.006
C1-Biphenyls $	157	11.33	0.5406	T	0	0	0		0.15	1.156
C2-Biphenyls $	5	12.74	0.0172	T	0	0	0	#	-1	1.301
d12-2,6-Dimethylnaphthalene	349354	10.11	2055	I	0	0	0		0.76	1
2,6-Dimethylnaphthalene $	52	10.2	0.2529	T	0	0	0	#	0.48	1.009
Ethyl/DiMe-Naphthalenes	52	10.2	0.2795	T	0	0	0		0.48	1.009
1,2-Dimethylnaphthalene	37	10.96	0.2224	T	0	0	0	#	0.73	1.084
C2-Naphthalenes	52	10.2	0	T	0	0	0		-1	1.009
2,3,6-Trimethylnaphthalene	33	12.2	0.1588	T	0	0	0	#	1.64	1.206
2,3,5-Trimethylnaphthalene $	53	12.38	0.2687	T	0	0	0		0.75	1.224
C3-Naphthalenes	53	12.38	0.2617	T	0	0	0		0.75	1.224
1,4,6,7-Tetramethylnaphthalene $	71	13.9	0.3415	T	0	0	0	#	0.49	1.375
C4-Naphthalenes	71	13.9	0.3415	T	0	0	0	#	0.49	1.375
d8-Acenaphthylene	689920	10.85	2060	I	0	0	0		0.15	1
Acenaphthylene $	809125	10.88	1988.2964	T	0	0	0		0.2	1.003
Acenaphthene $	467473	11.36	2078.5108	T	0	0	0		1.16	1.048
C1-Acenaphthenes $	138	11.72	0.6136	T	0	0	0		0.4	1.08
d8-Dibenzothiophene	715354	14.7	2035	I	0	0	0		0.09	1
Dibenzothiophene $	6603	14.74	15.713	T	0	0	0		0.1	1.003
C1-Dibenzothiophenes-1	33	15.88	0.1145	T	0	0	0	#	-1	1.08
2/3-Methyldibenzothiophenes $	150	16.09	0.5202	T	0	0	0		0.59	1.095
C1-Dibenzothiophenes-2	97	16.53	0.3364	T	0	0	0	#	0.52	1.124
C1-Dibenzothiophenes	177	16.09	0	T	0	0	0		-1	1.095
4,6-Dimethyldibenzothiophene	177	16.95	0.5728	T	0	0	0	#	0.36	1.153

SSV meets cal ver specification

SV By AR
10 DEC 2018

pv by vr
08-Dec-2018

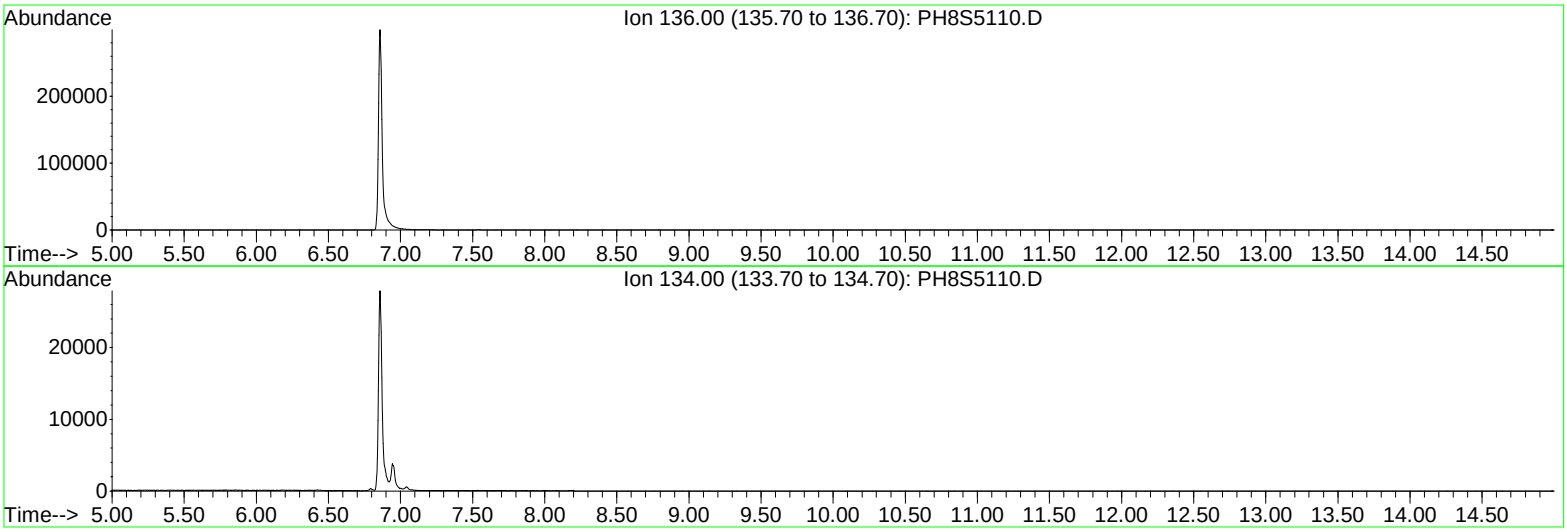
2,4-Dimethyldibenzothiophene $	171	17.09	0.7166 T	0	0	0 #	0.68	1.163
C2-Dibenzothiophenes	171	17.09	0.7166 T	0	0	0	0.68	1.163
C3-Dibenzothiophenes $	14	18.08	0.0587 T	0	0	0 #	-1	1.23
C4-Dibenzothiophenes $	15	18.8	0.0629 T	0	0	0	1.27	1.279
d10-Phenanthrene	721643	15	1805 I	0	0	0	0.15	1
Fluorene $	565263	12.65	1978.2904 T	0	0	0	1	0.843
2-Methylfluorene $	63	14.09	0.3242 T	0	0	0	1.3	0.939
C1-Fluorenes	63	14.09	0.3242 T	0	0	0	1.3	0.939
1,7-Dimethylfluorene $	150	15.51	0.8301 T	0	0	0 #	-1	1.034
C2-Fluorenes	150	15.51	0.8301 T	0	0	0 #	-1	1.034
C3-Fluorenes $	109	16.42	0.6032 T	0	0	0	0.61	1.095
Phenanthrene $	861243	15.05	2014.0551 T	0	0	0	0.19	1.003
Anthracene	858717	15.16	1984.433 T	0	0	0	0.19	1.011
d10-Anthracene $	6128	15.12	15.8569 T	0	0	0 #	-1	1.008
3-Methylphenanthrene	91	16.31	0.3016 T	0	0	0	0.52	1.088
2-Methylphenanthrene	221	16.38	0.7423 T	0	0	0	0.6	1.092
2-Methylanthracene	446	16.48	1.5433 T	0	0	0 #	0.61	1.099
9/4-Methylphenanthrenes	273	16.6	0.9049 T	0	0	0	0.65	1.107
1-Methylphenanthrene $	430	16.65	1.3509 T	0	0	0 #	0.35	1.11
C1-Phenanthrenes/Anthracenes	430	16.65	0 T	0	0	0	-1	1.11
Fluoranthene $	1075986	18.06	2048.3352 T	0	0	0	0.2	1.204
Pyrene	1104303	18.6	2033.2563 T	0	0	0	0.21	1.24
3,6-Dimethylphenanthrene $	178	17.47	0.6127 T	0	0	0 #	0.69	1.165
2,6-Dimethylphenanthrene	39	17.62	0.134 T	0	0	0 #	3.03	1.175
1,7-Dimethylphenanthrene	153	17.89	0.5247 T	0	0	0 #	0.42	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	178	17.47	0.6116 T	0	0	0	0.69	1.165
1,8-Dimethylphenanthrene	25	18.16	0.0859 T	0	0	0 #	0.96	1.211
C2-Phenanthrenes/Anthracenes	178	17.47	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	221	19.41	0.8262 T	0	0	0	0.66	1.294
C3-Phenanthrenes/Anthracenes	221	19.41	0.8262 T	0	0	0	0.66	1.294
Retene $	85	19.52	0.8316 T	0	0	0	1.42	1.302
C4-Phenanthrenes/Anthracenes	85	19.52	0.8316 T	0	0	0	1.42	1.302
C1-Fluoranthenes/Pyrenes-1	94	19.25	0.301 T	0	0	0	0.89	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	2243	19.52	7.1826 T	0	0	0	0.89	1.302
C1-Fluoranthenes/Pyrenes-2	29	19.99	0.0929 T	0	0	0	1.14	1.333
C1-Fluoranthenes/Pyrenes	2243	19.52	0 T	0	0	0	-1	1.302
C2-Fluoranthenes/Pyrenes $	373	20.45	1.1944 T	0	0	0	0.28	1.363
C3-Fluoranthenes/Pyrenes $	7	21.91	0.0224 T	0	0	0 #	-1	1.461
C4-Fluoranthenes/Pyrenes $	10	23.27	0.032 T	0	0	0	2.1	1.551
d12-Benz(a)anthracene	763176	21.59	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	801246	18.01	1962.9867 T	0	0	0	0.17	0.834
Benz(a)anthracene	998524	21.65	2055.9364 T	0	0	0	0.27	1.003
d12-Chrysene	785544	21.69	1960 I	0	0	0	0.26	1
Chrysene $	980692	21.75	1982.2397 T	0	0	0	0.3	1.003
5/6-Methylchrysenes $	459	23.1	1.2286 T	0	0	0	-1	1.065
1-Methylchrysene	2704	23.26	6.9864 T	0	0	0	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	459	23.1	1.2069 T	0	0	0	-1	1.065
5,9-Dimethylchrysene $	253	24.38	0.8747 T	0	0	0	-1	1.124
C2-Benz(a)anthracenes/Chrysenes	253	24.38	0.8747 T	0	0	0	-1	1.124
C3-Benz(a)anthracenes/Chrysenes $	14	25.07	0.0484 T	0	0	0	-1	1.156
C4-Benz(a)anthracenes/Chrysenes $	17	26.06	0.0588 T	0	0	0	-1	1.202
d12-Benzo(b)fluoranthene	713351	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	1135	25.01	0 T	0	0	0	0.44	1
Benzo(b)fluoranthene $	1043354	25.09	1989.9888 T	0	0	0	0.22	1.004
d12-Benzo(k)fluoranthene	806456	25.11	2000 I	0	0	0	0.2	1
Benzo(j/k)fluoranthenes	1044008	25.19	2051.9492 T	0	0	0	0.22	1.003
Benzofluoranthenes	1043354	25.09	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	713137	26.32	2070 I	0	0	0	0.2	1
Benzo(e)pyrene	419	26.23	0.8764 T	0	0	0	0.25	0.996
Benzo(a)pyrene	966759	26.43	2142.3712 T	0	0	0	0.22	1.004
7-Methylbenzo(a)pyrene $	373	29.17	1.1613 T	0	0	0	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	373	29.17	1.1613 T	0	0	0	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	7	29.87	0.0218 T	0	0	0	-1	1.135
d12-Perylene	729443	26.72	2150 I	0	0	0	0.25	1
Perylene	464	26.81	0.9918 T	0	0	0 #	0.42	1.004
d12-Indeno(123cd)pyrene	686924	31.5	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	623923	31.61	1975.7866 T	0	0	0	0.27	1.004
Dibenzo(ah)anthracene $	833115	31.72	2120.0666 T	0	0	0	0.16	1.007
Indeno(123cd)pyrene $	891520	31.57	2110.6359 T	0	0	0	0.2	1.002
d12-Benzo(ghi)perylene	815377	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	1060031	32.39	2155.4946 T	0	0	0	0.22	1.003

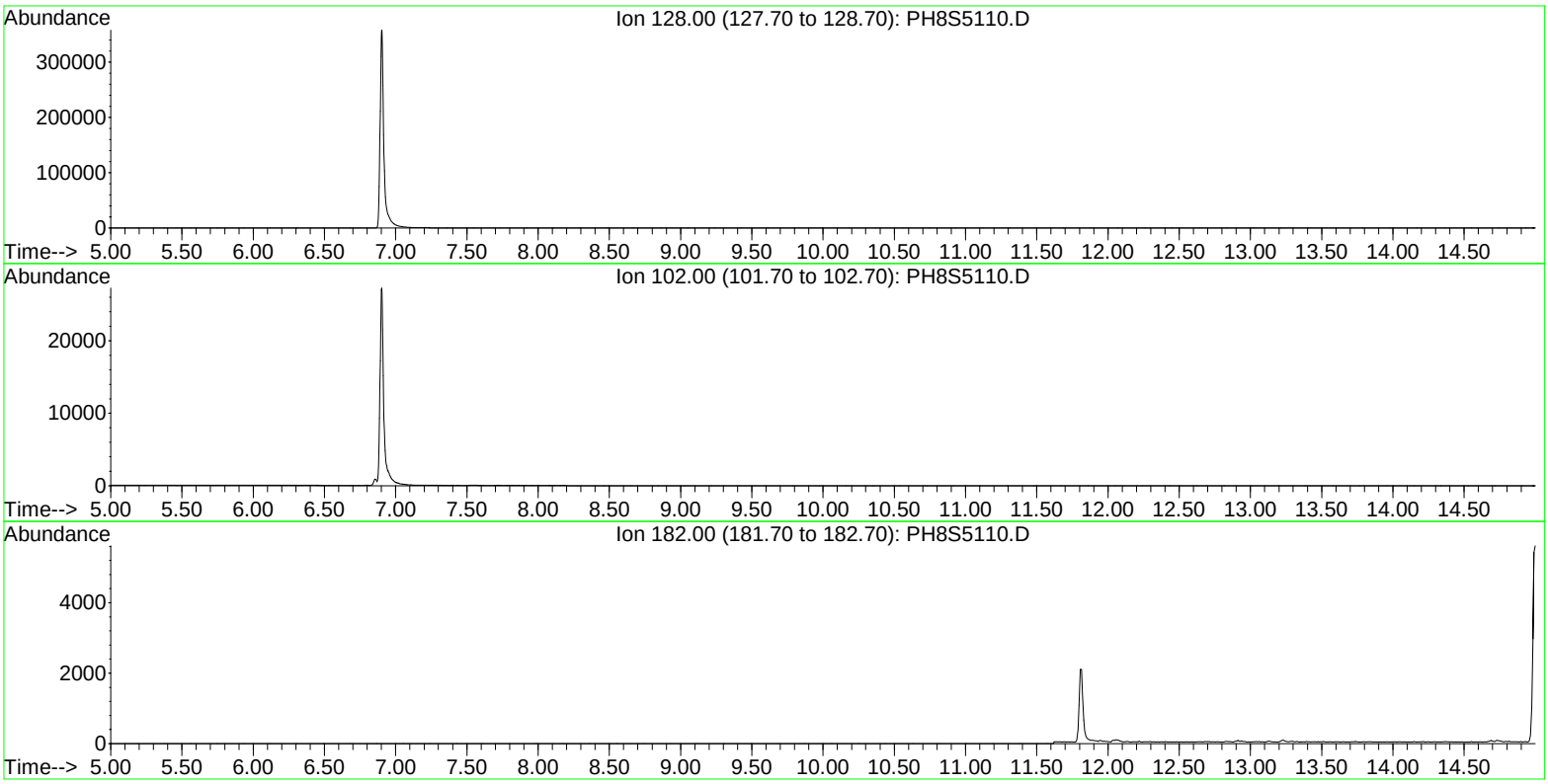
pv by vr

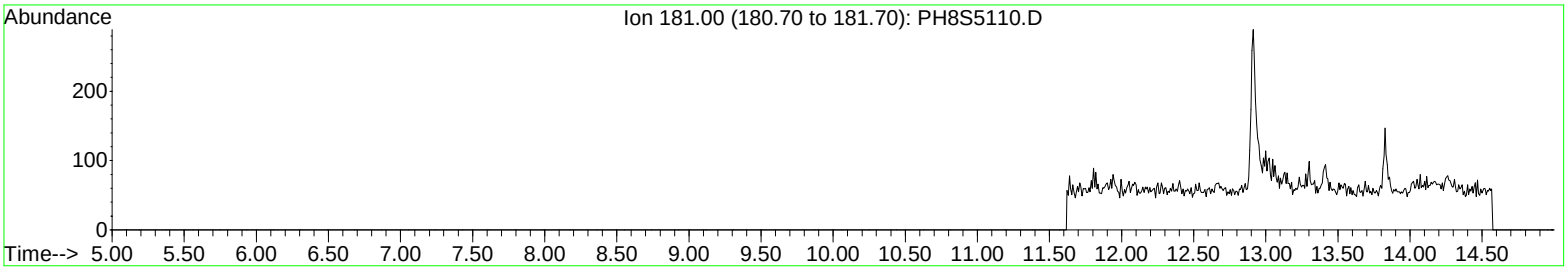
08-Dec-2018

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



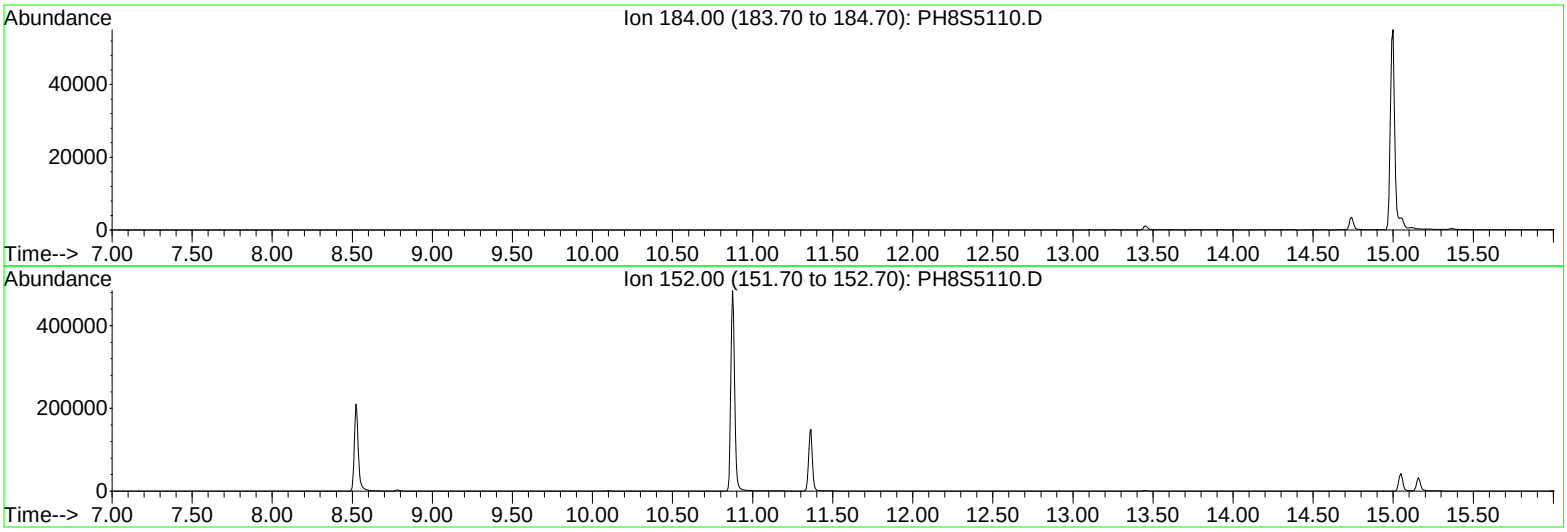


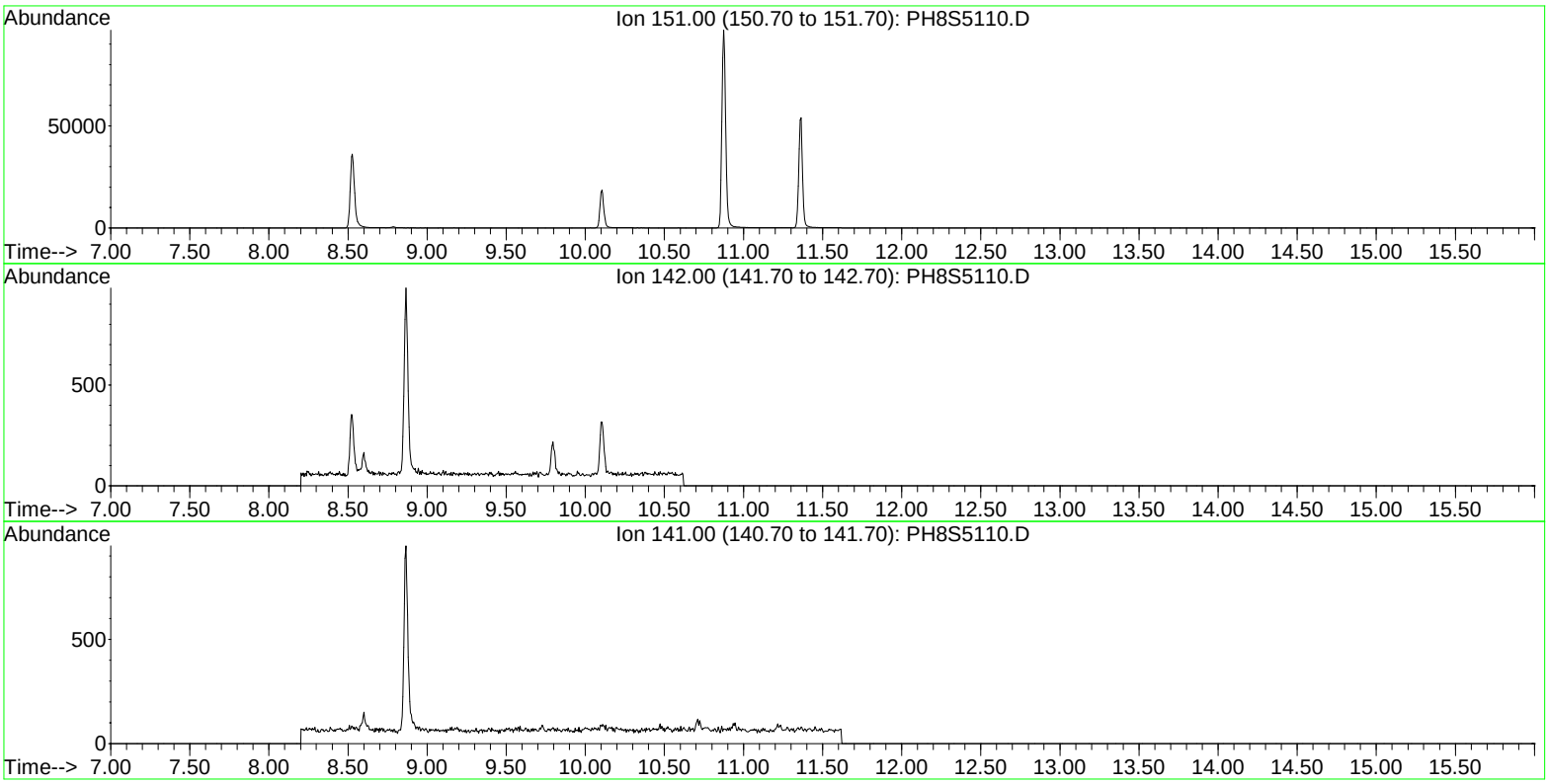


Thu Jan 10 09:34:10 2019

Axys Analytical CHRO Report

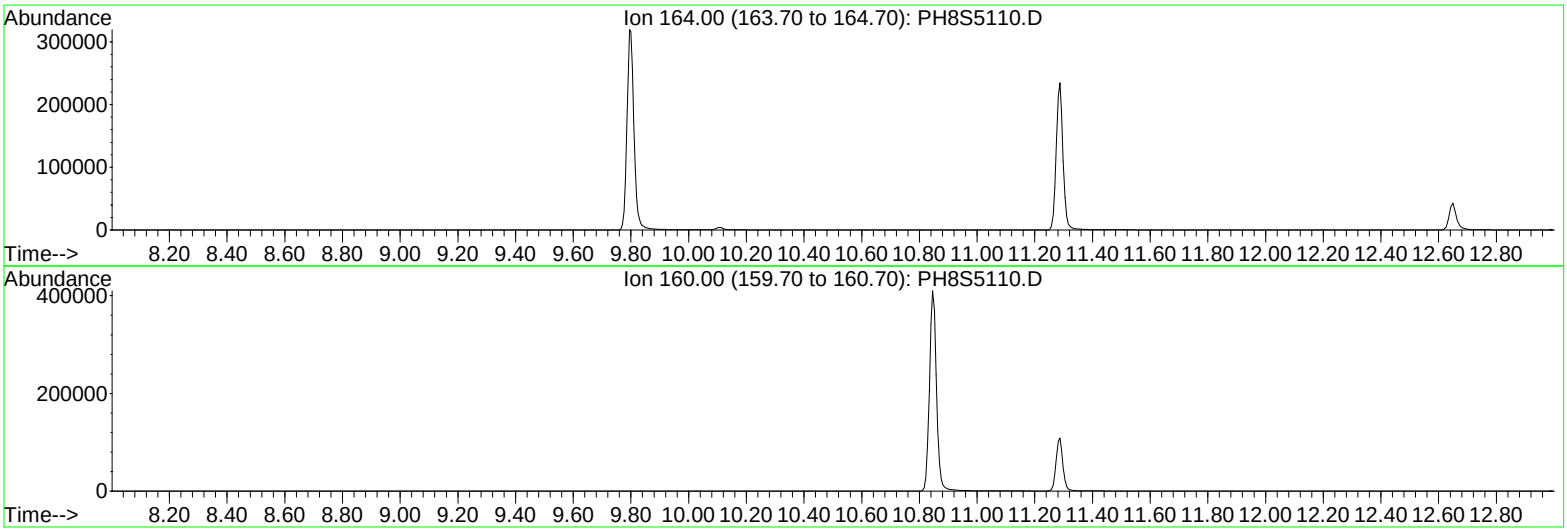
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

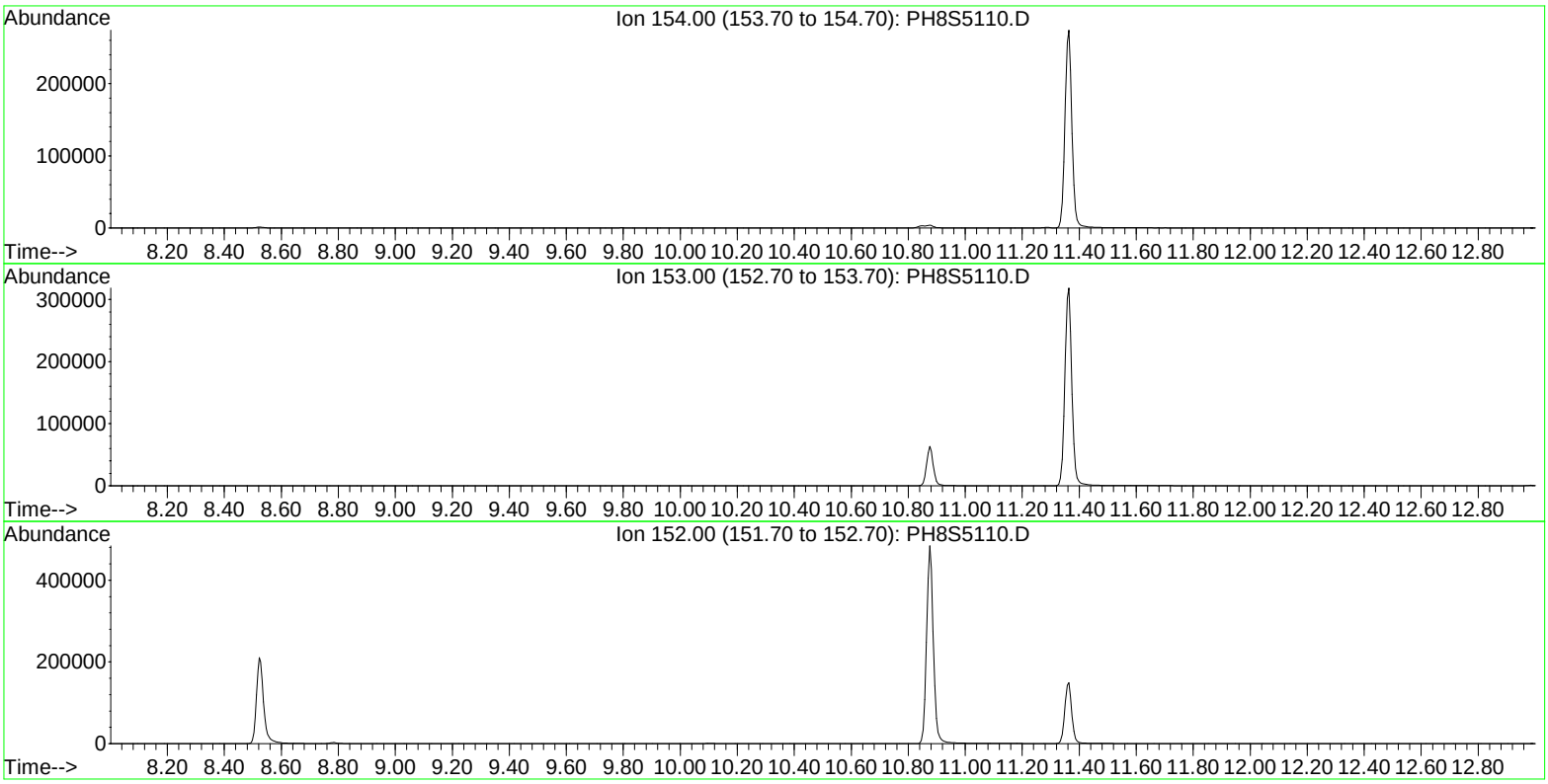




Axys Analytical CHRO Report

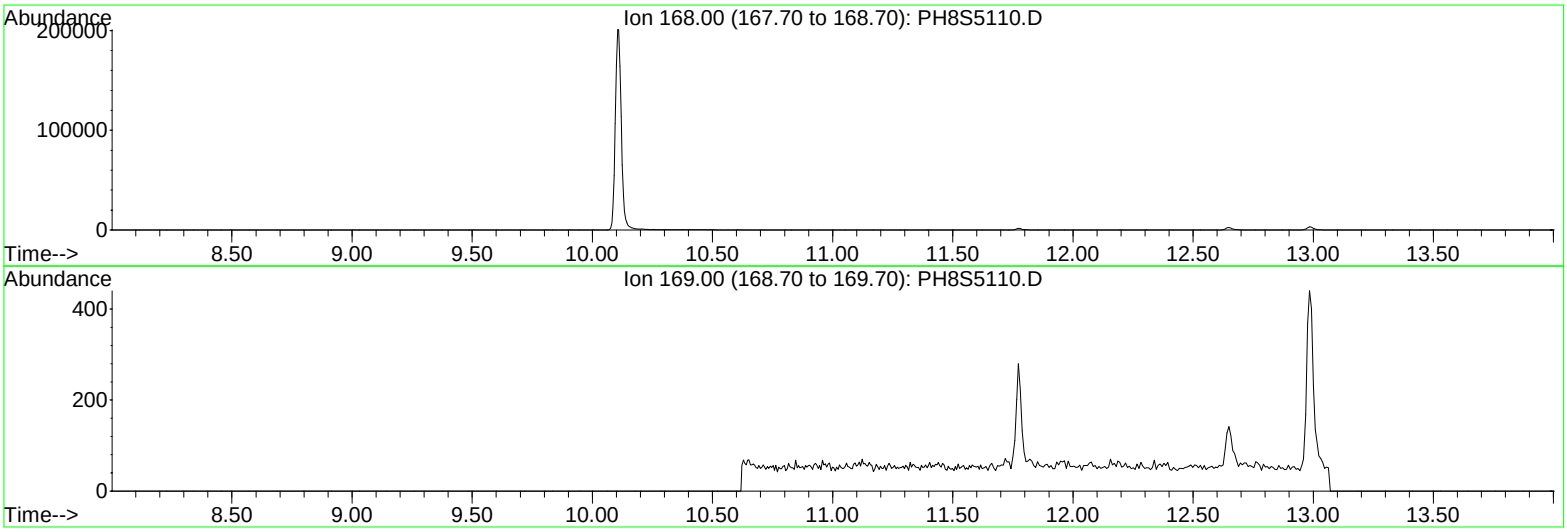
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

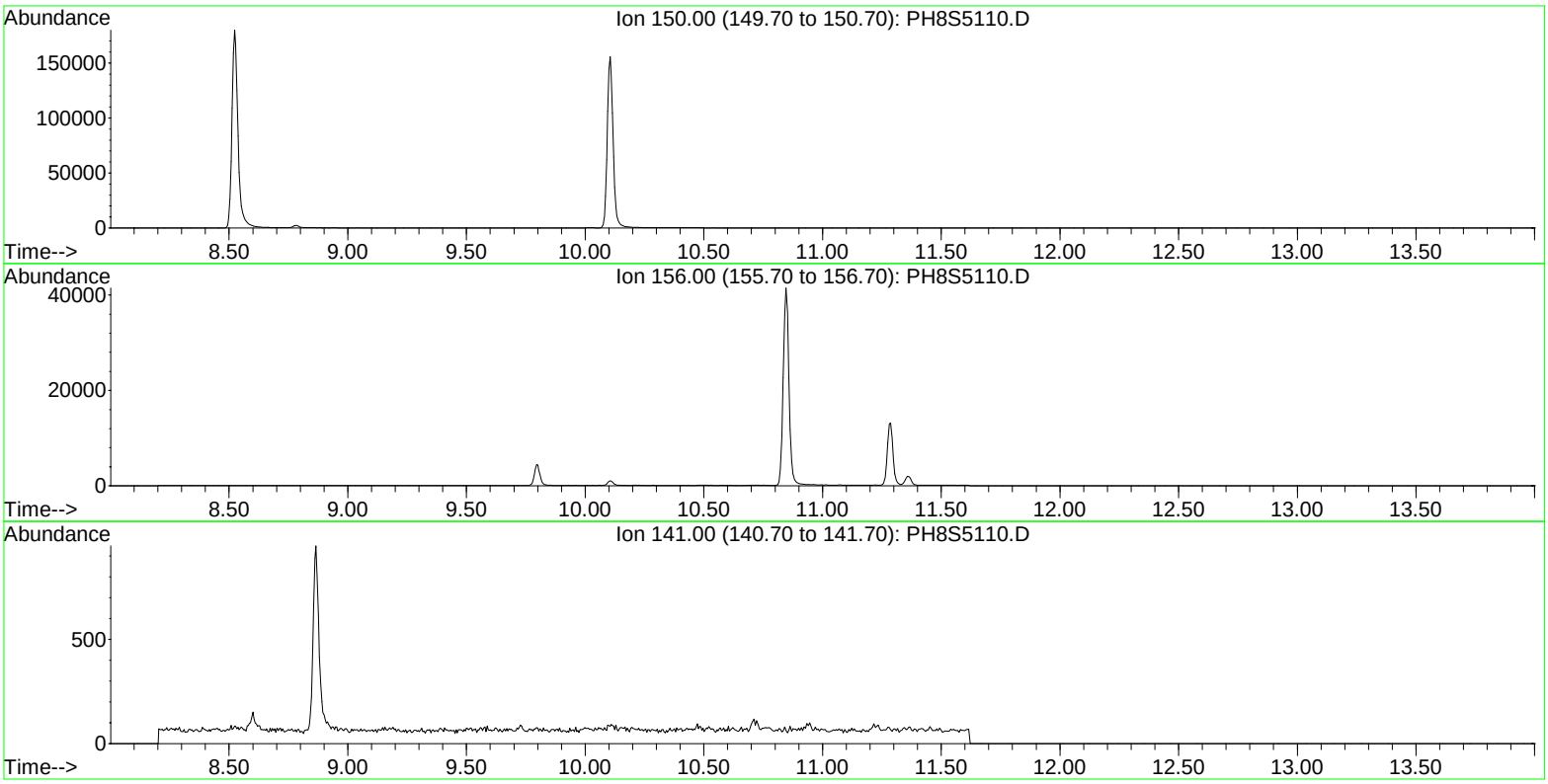




Axys Analytical CHRO Report

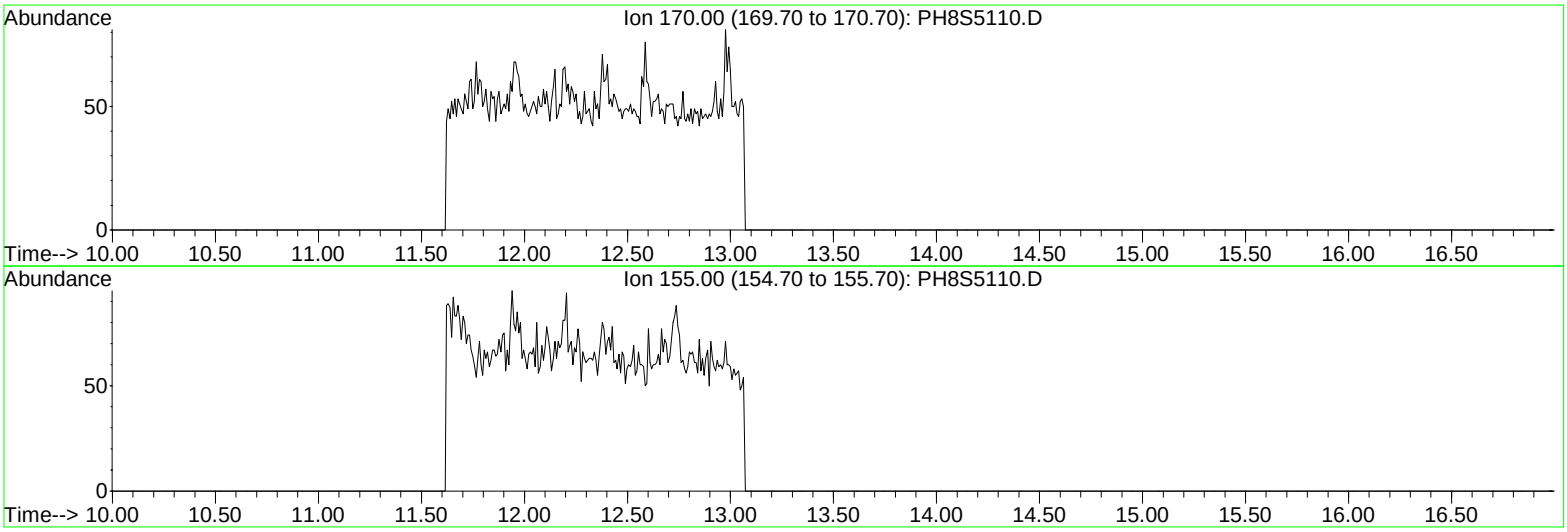
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

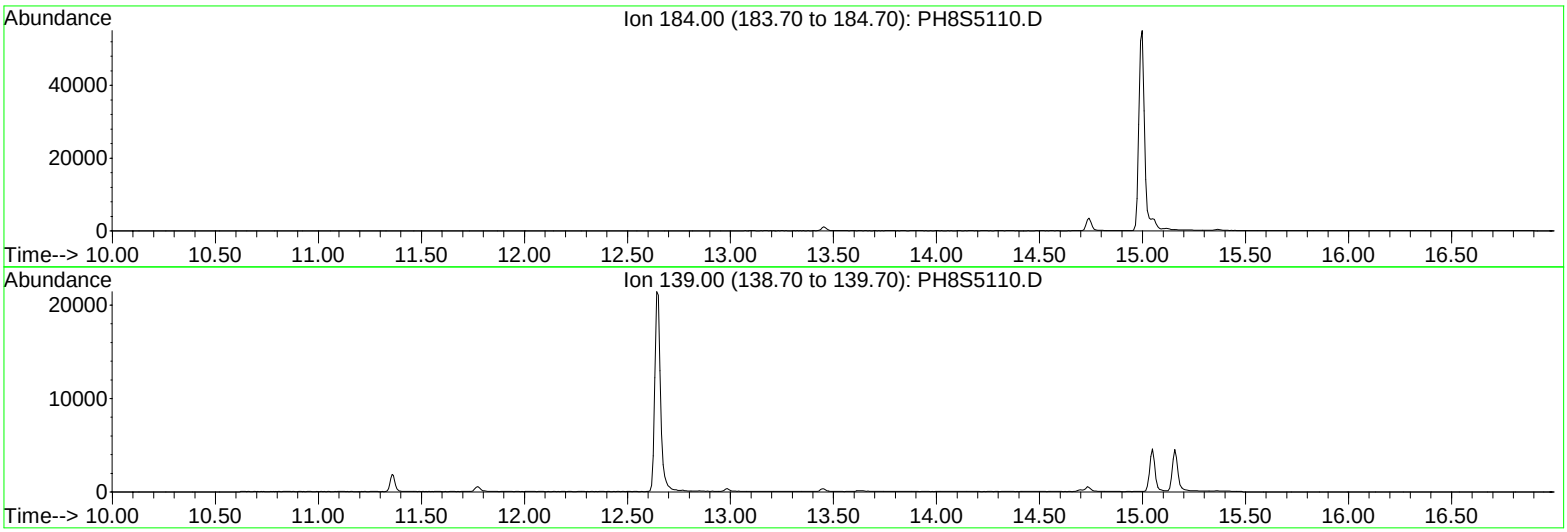




Axys Analytical CHRO Report

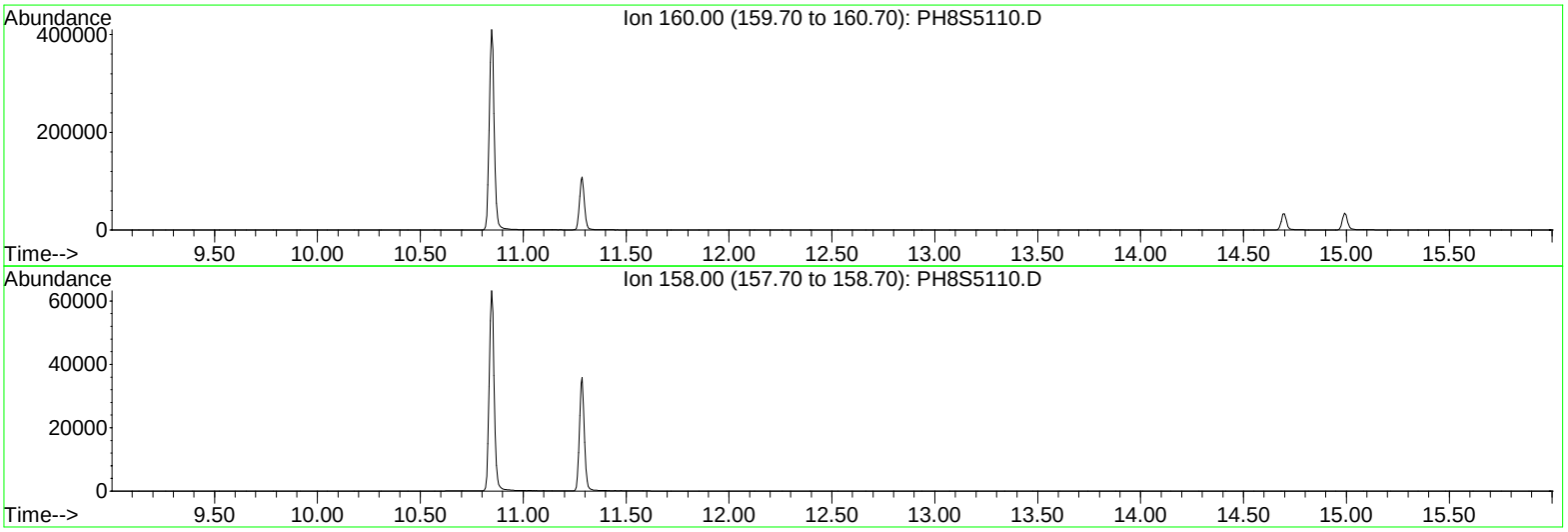
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

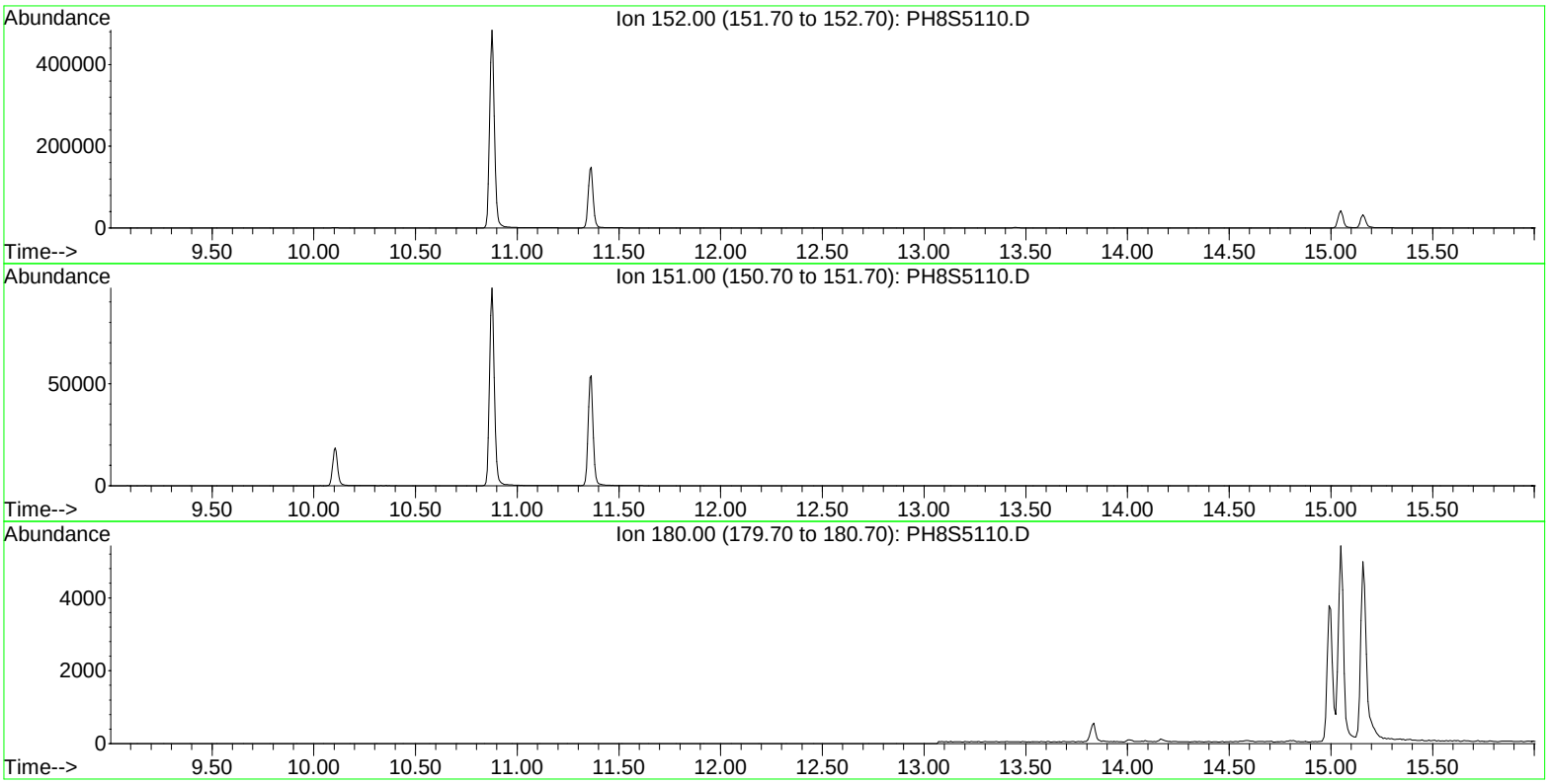


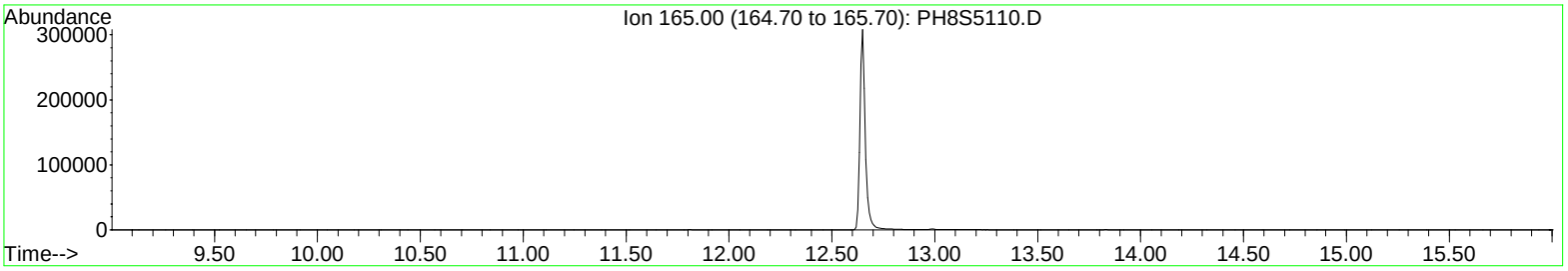


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



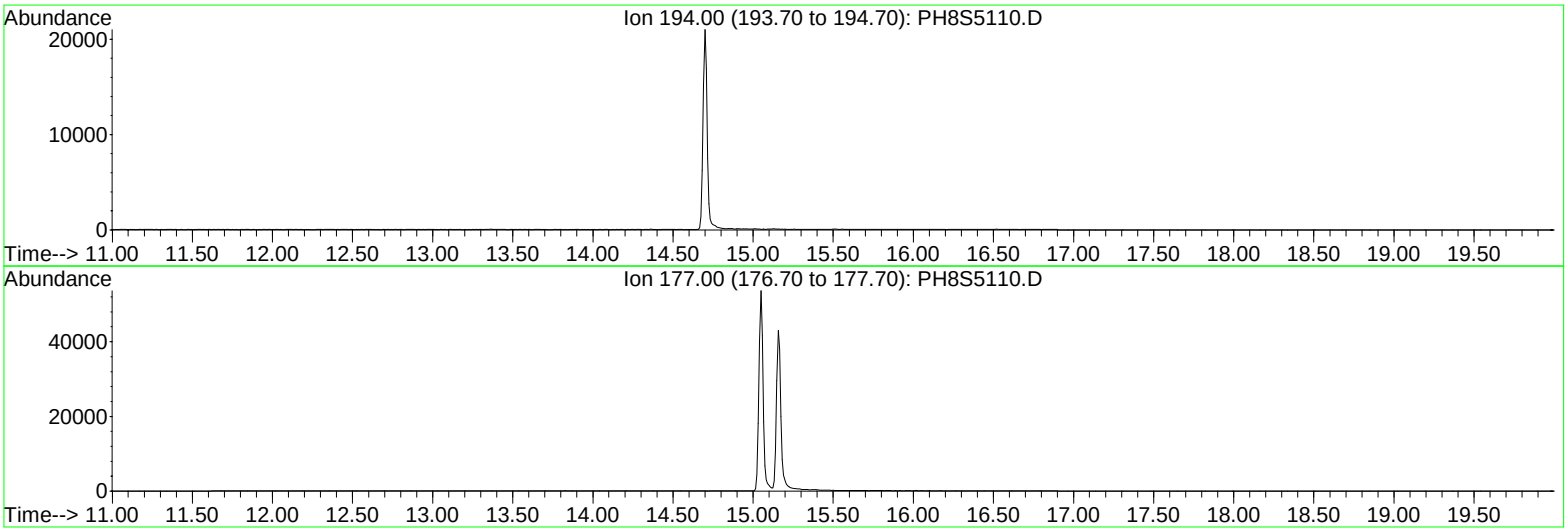


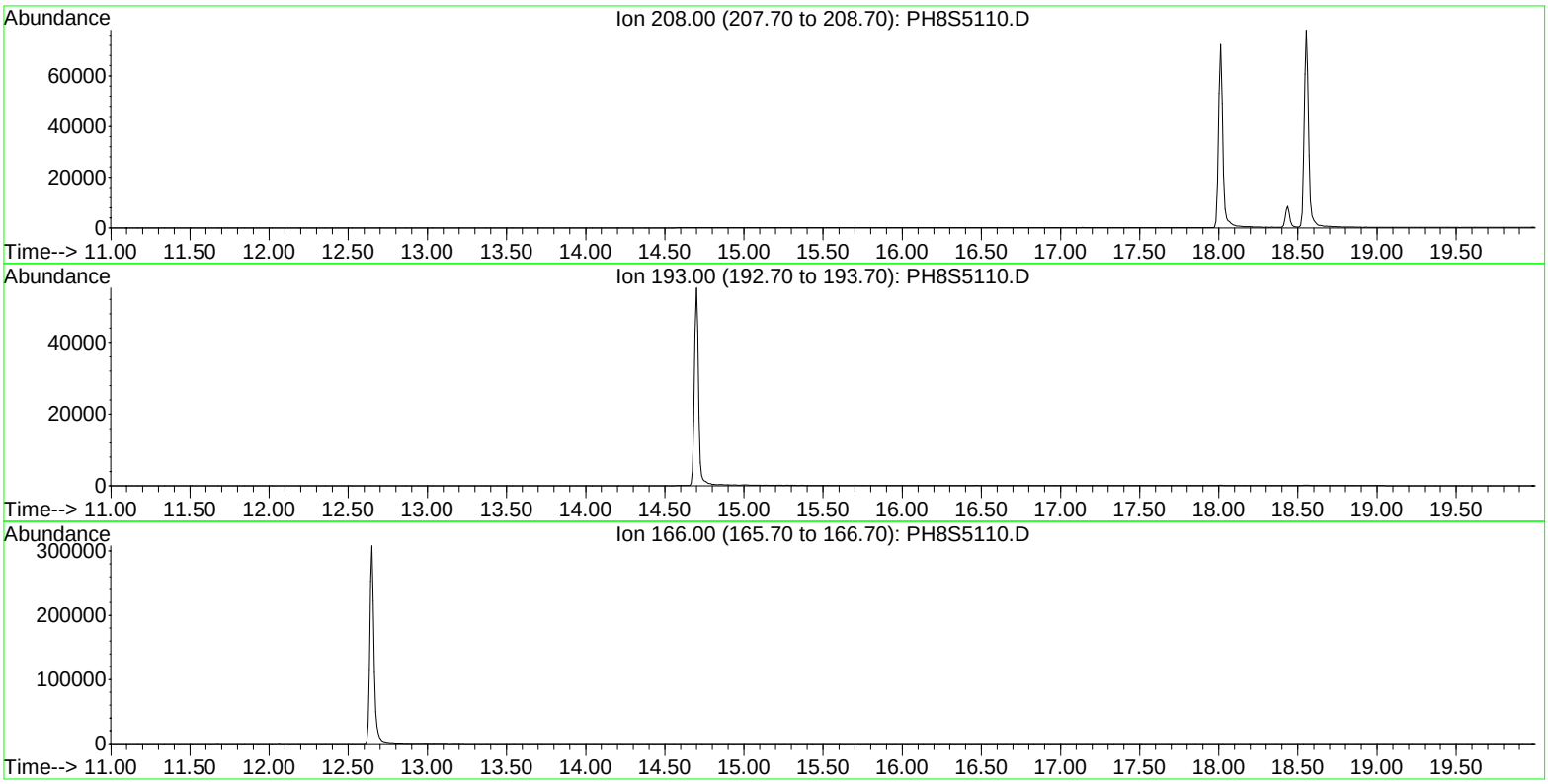


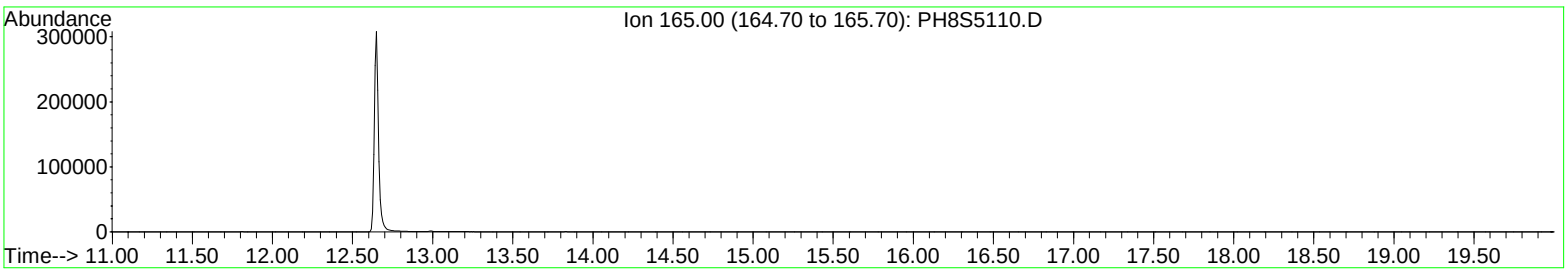
Thu Jan 10 09:34:14 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



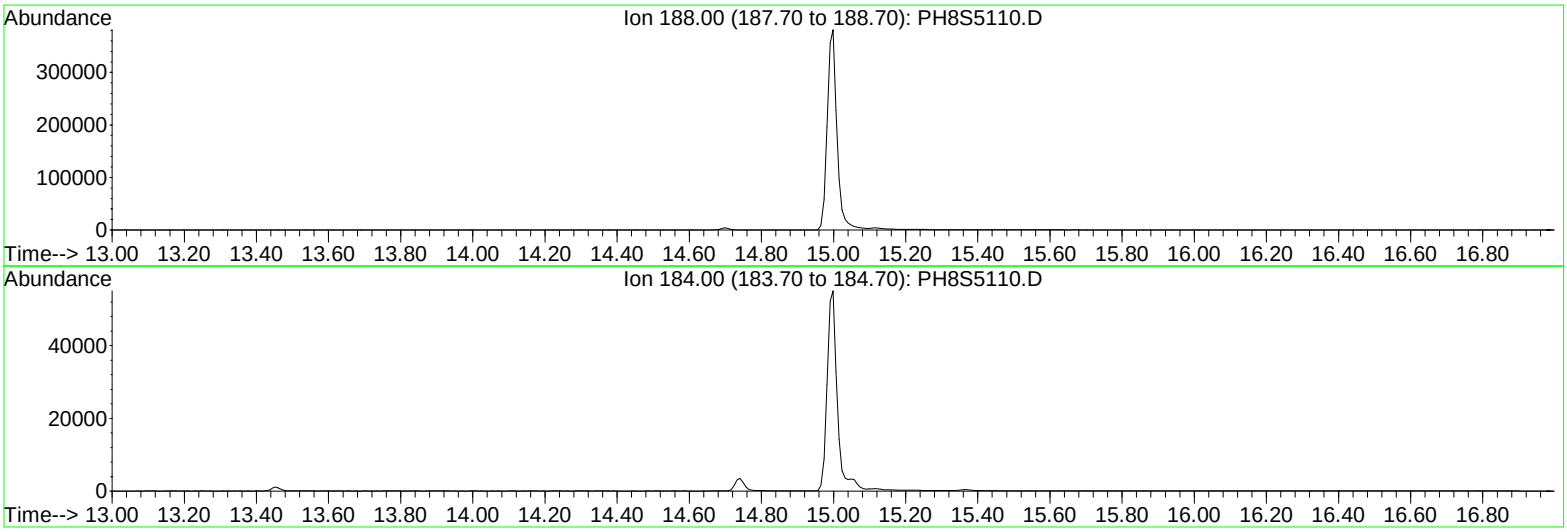


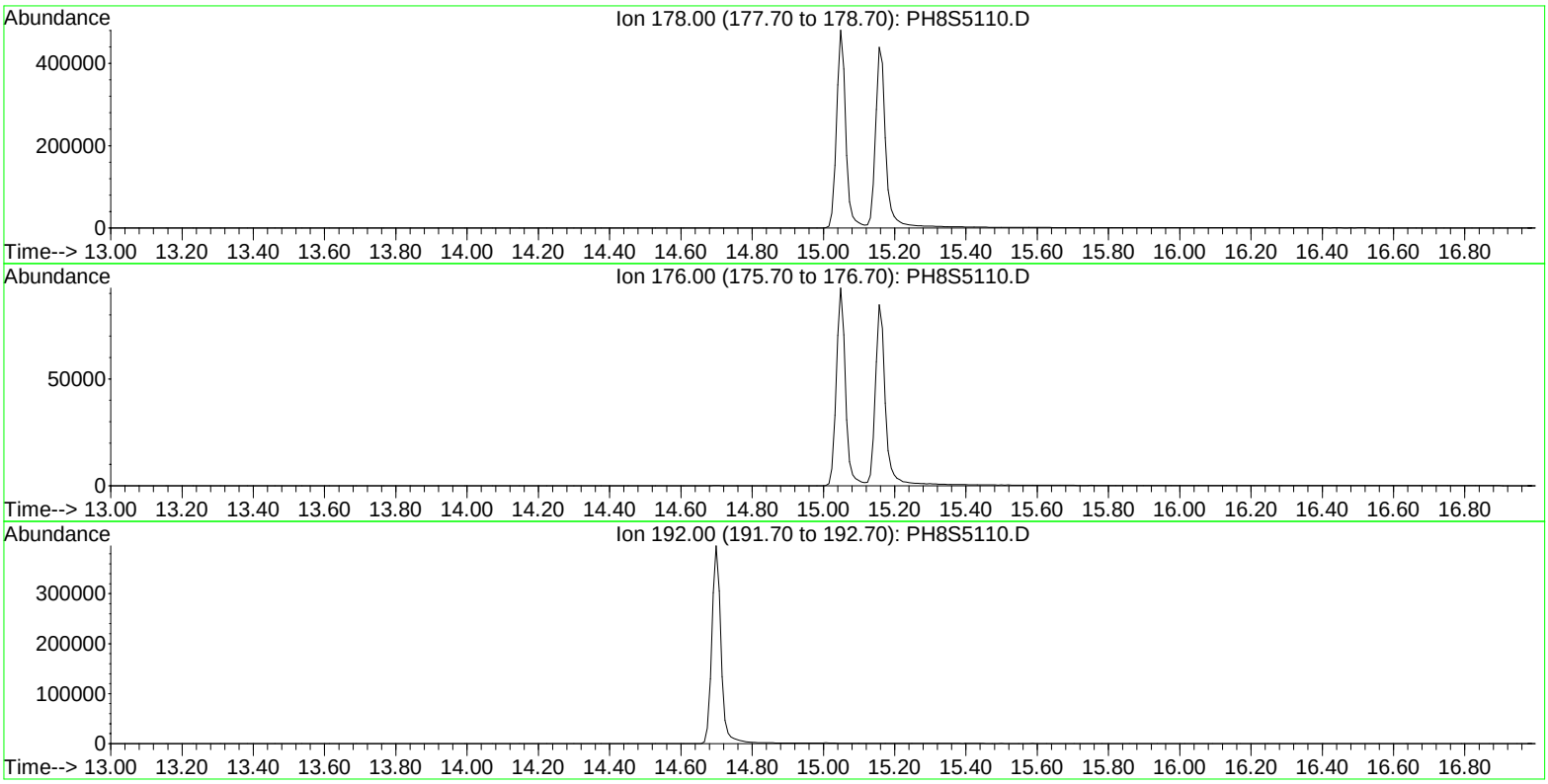


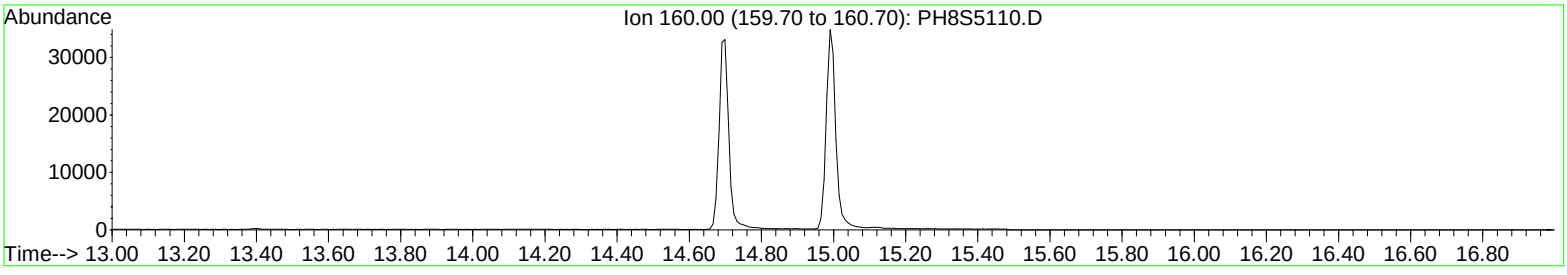
Thu Jan 10 09:34:15 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



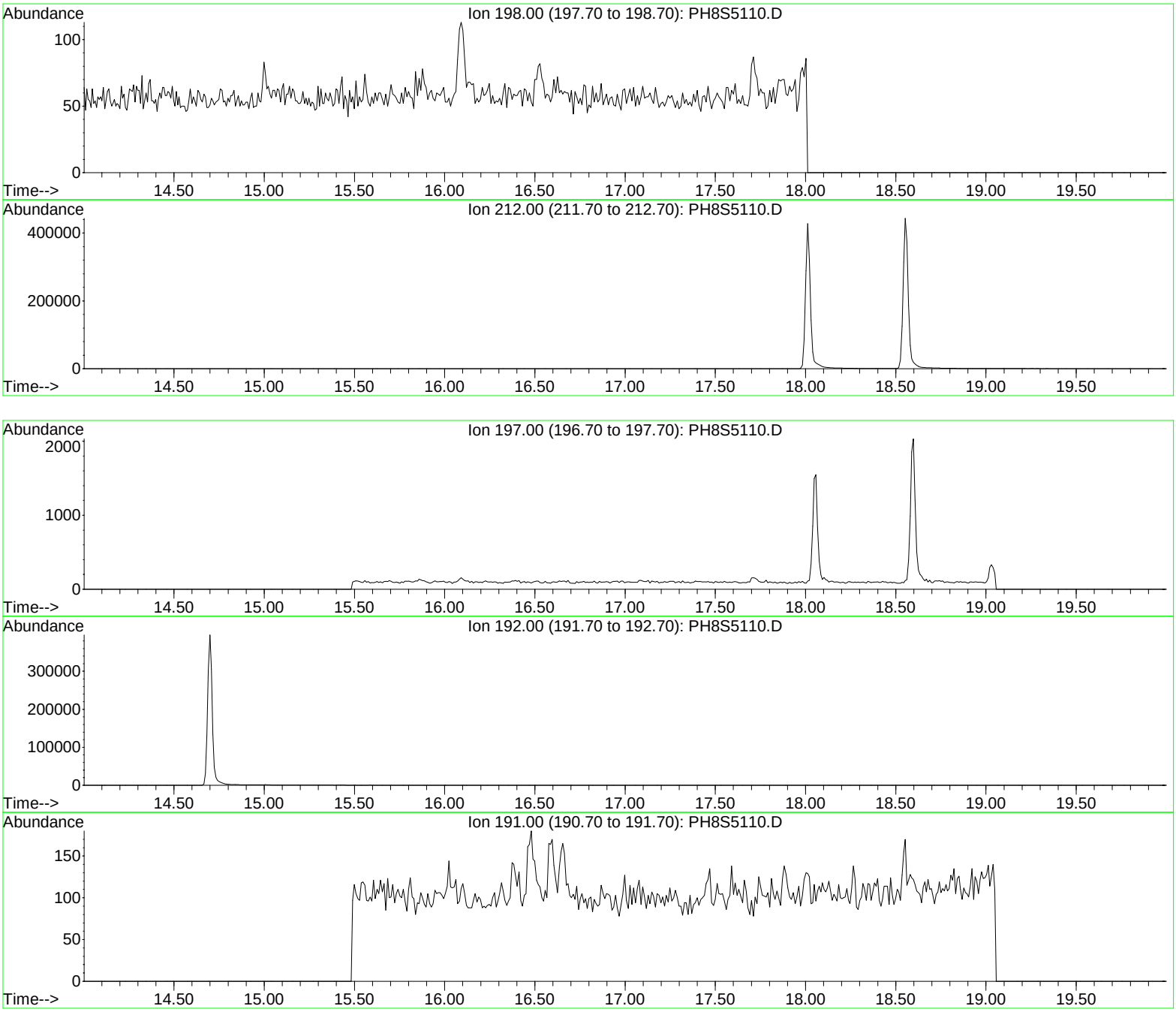




Thu Jan 10 09:34:16 2019

Axys Analytical CHRO Report

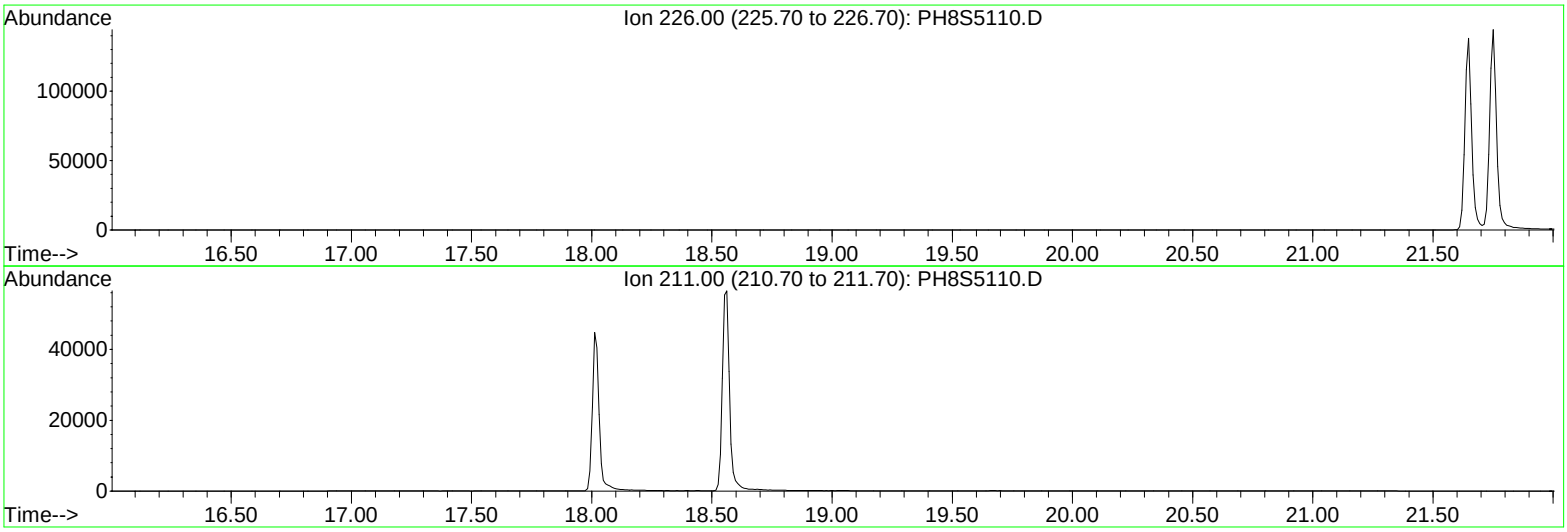
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

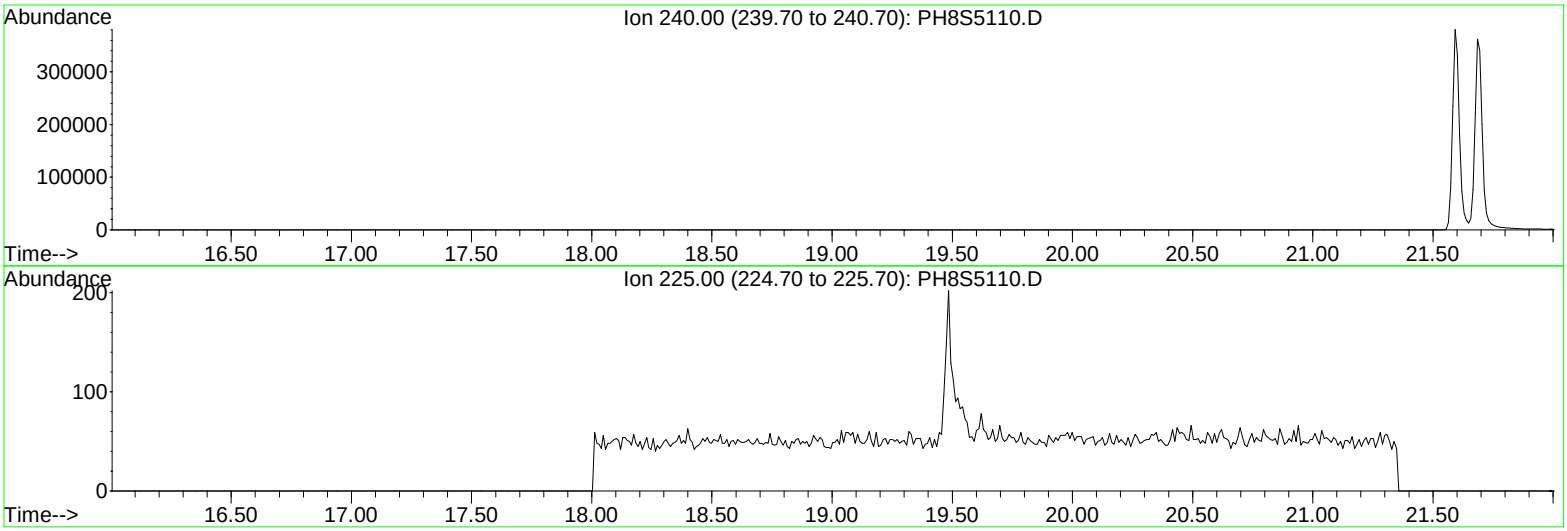


Thu Jan 10 09:34:17 2019

Axys Analytical CHRO Report

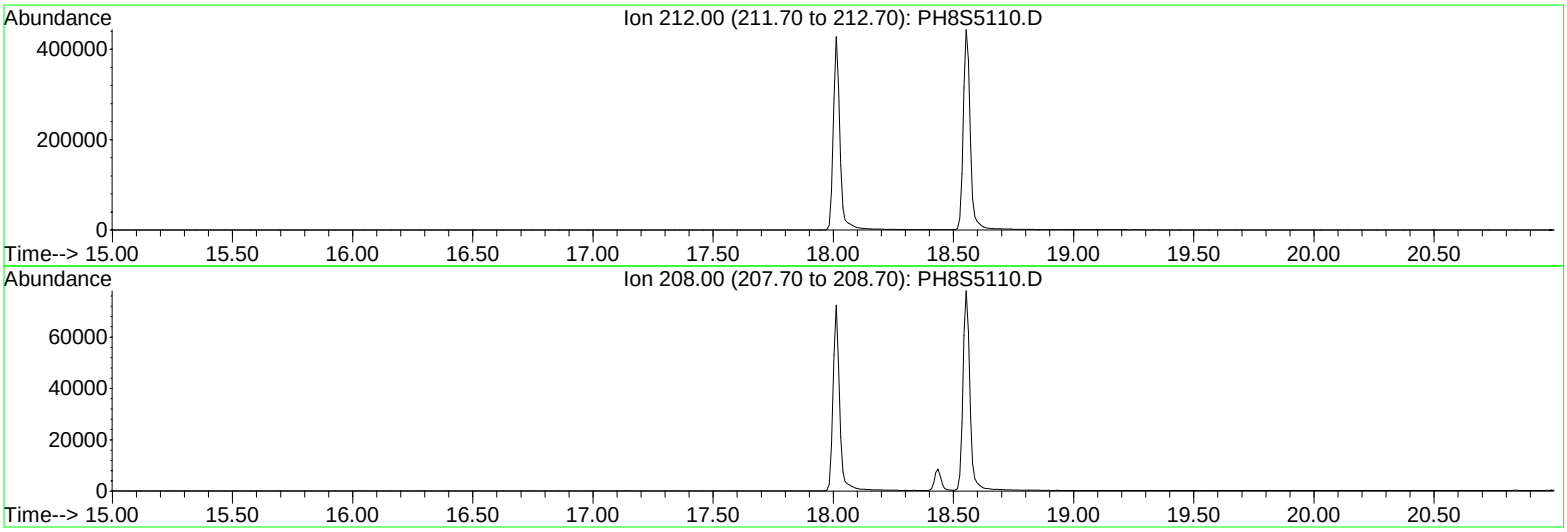
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

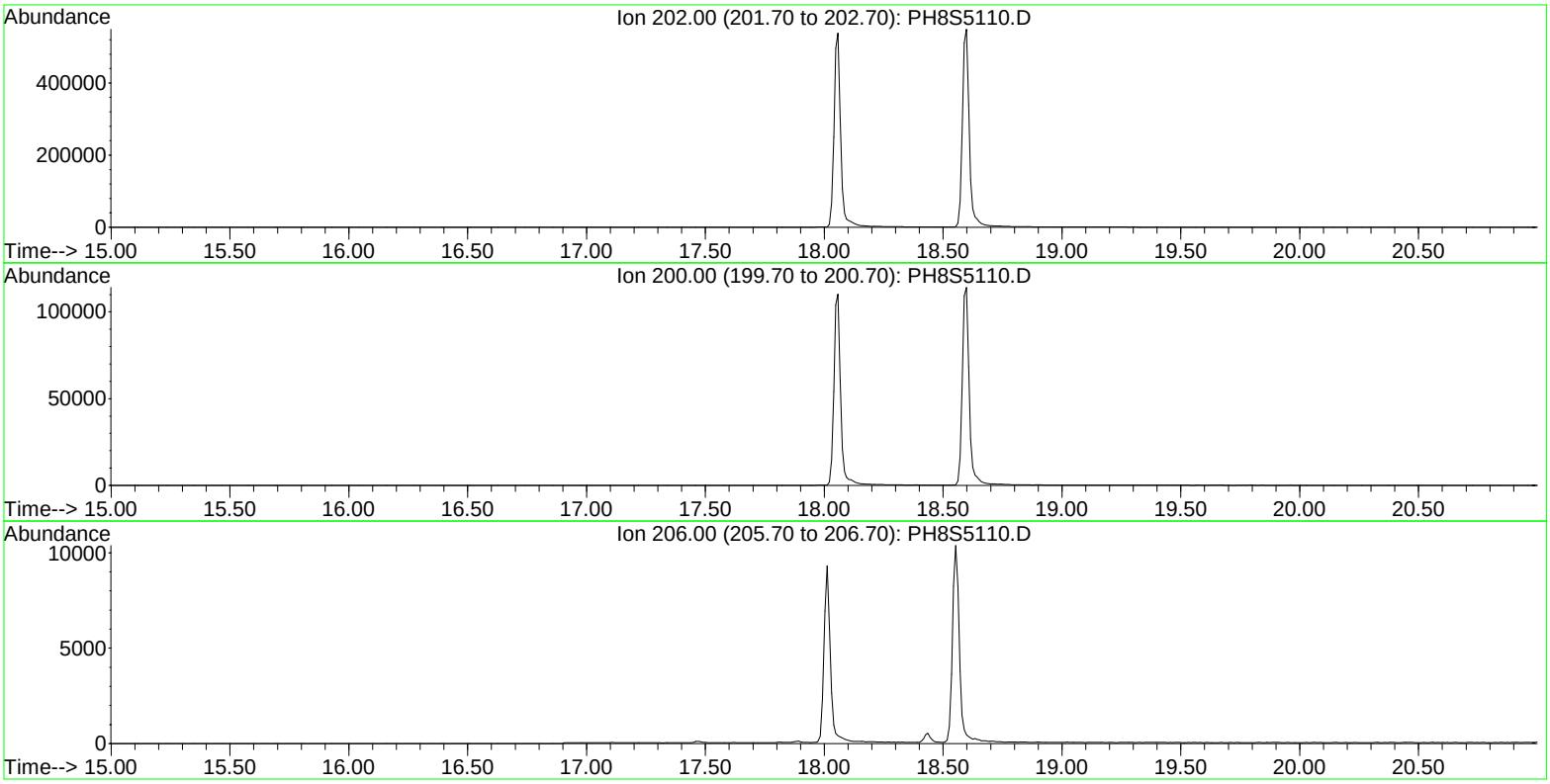


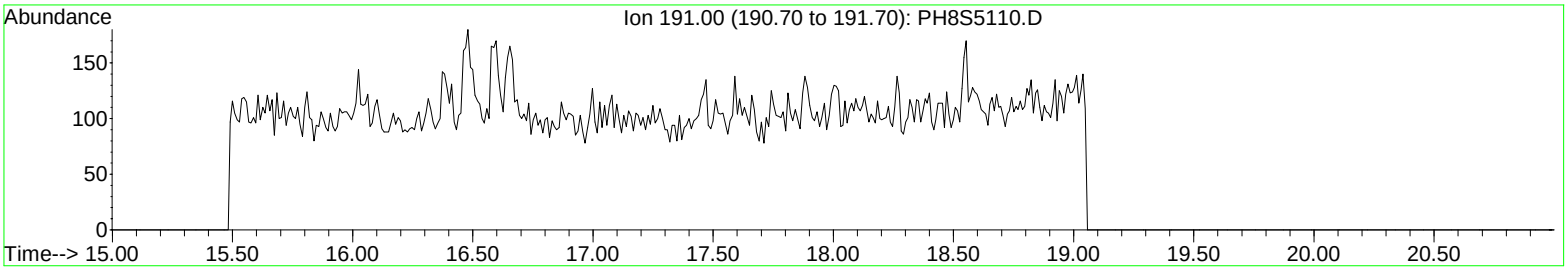


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



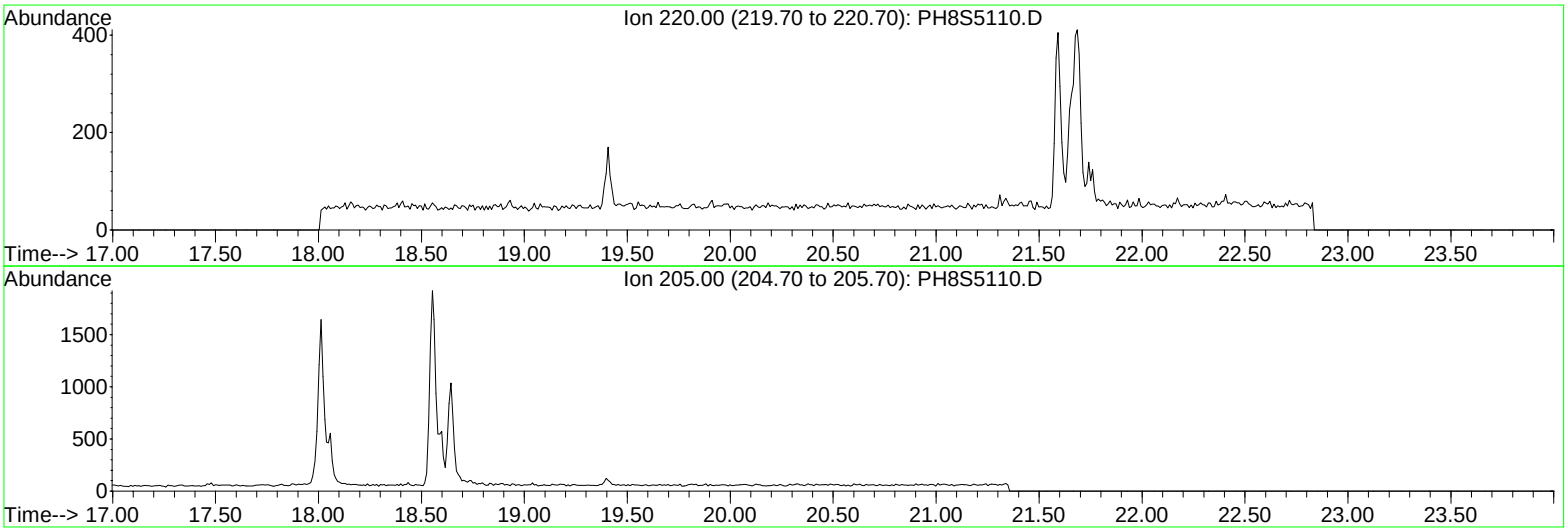


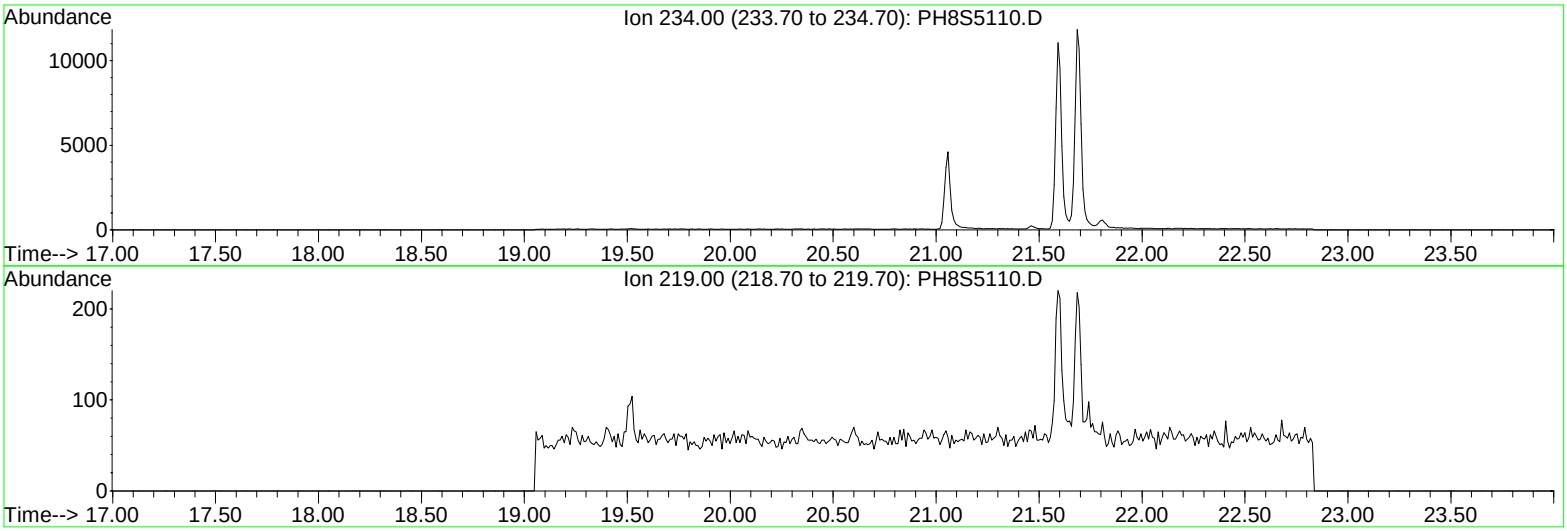


Thu Jan 10 09:34:18 2019

Axys Analytical CHRO Report

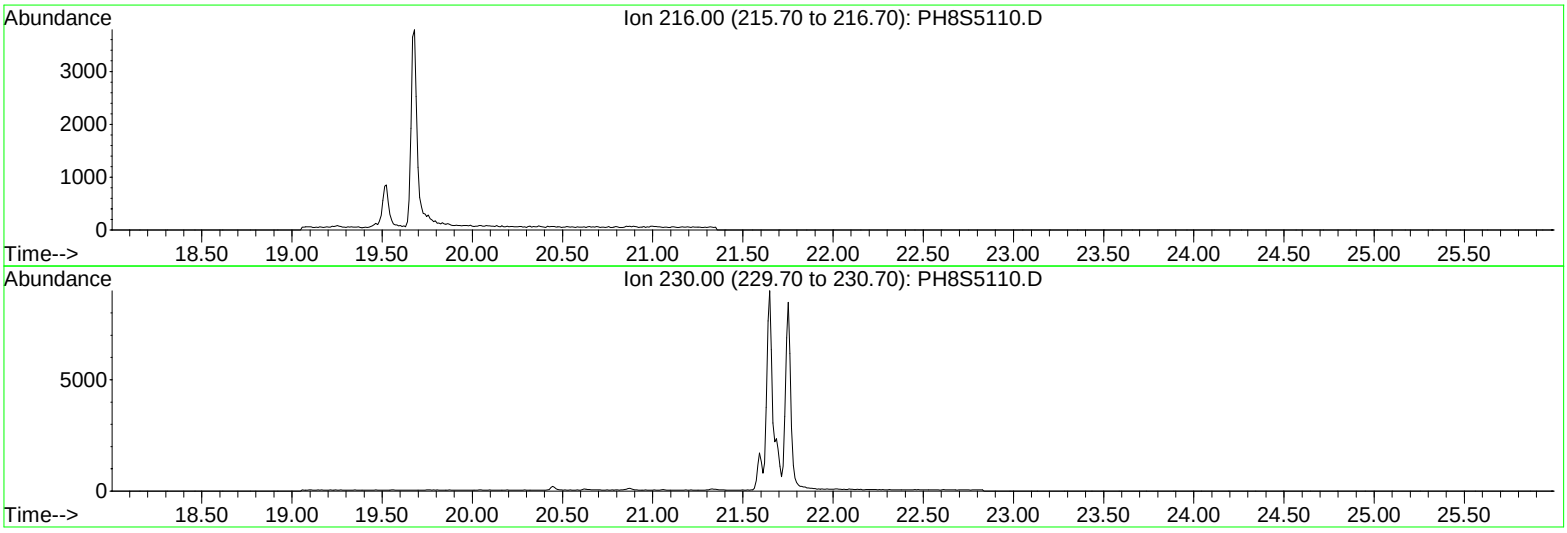
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

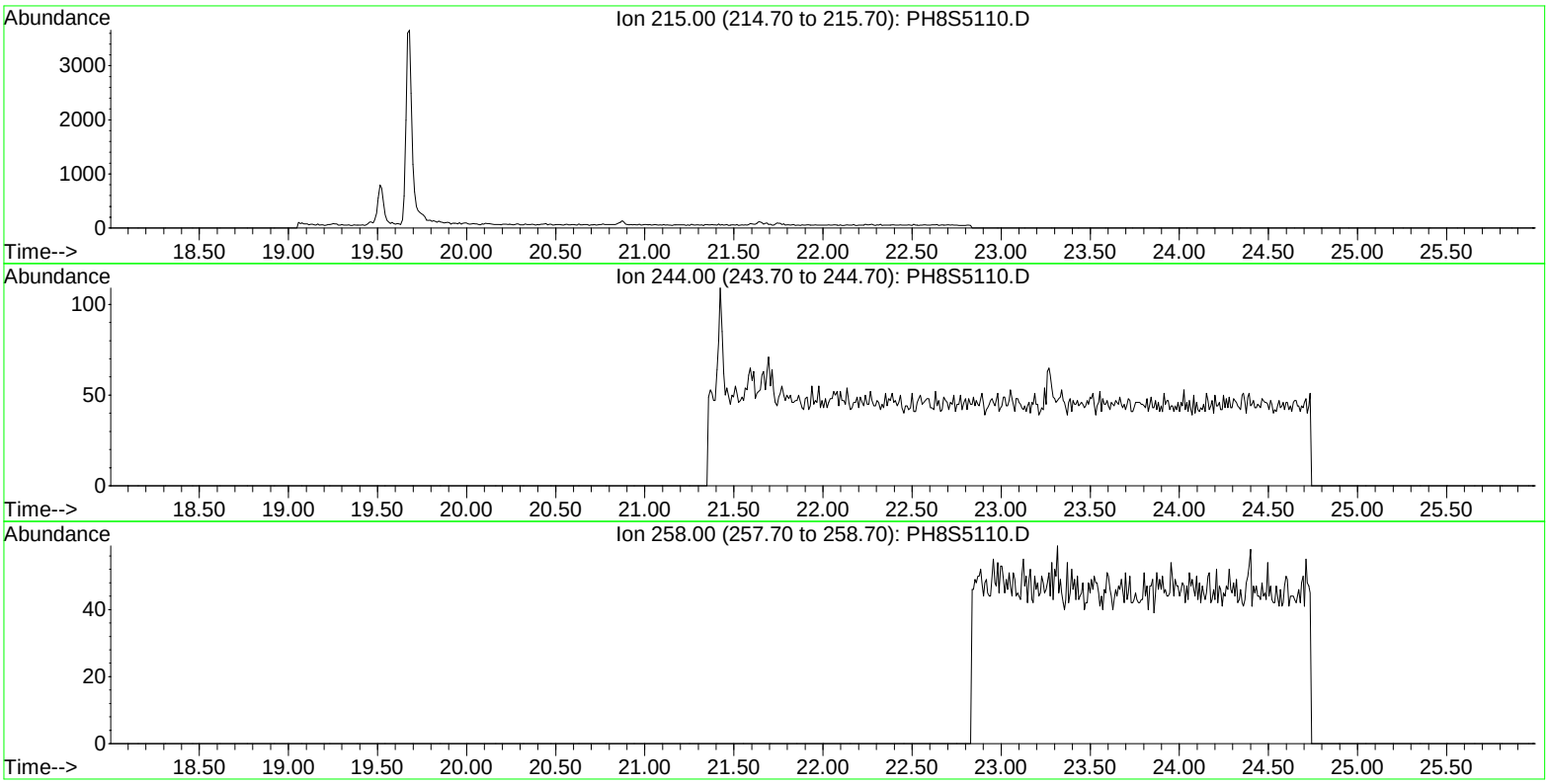


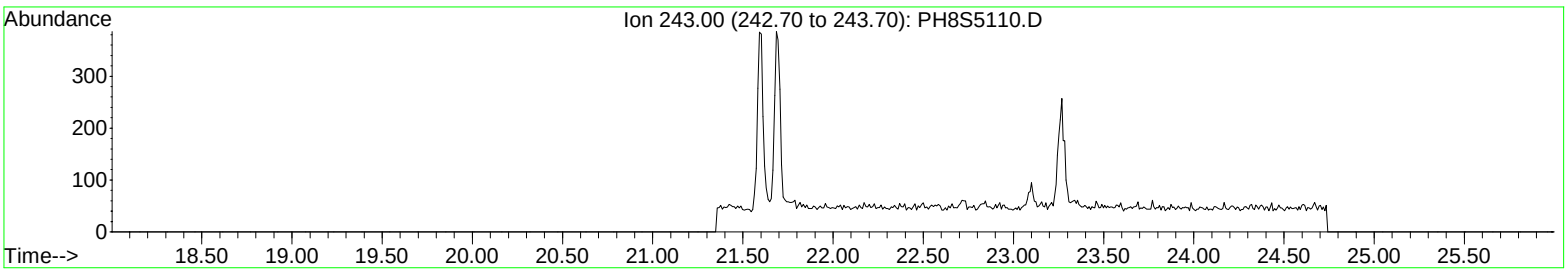


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL



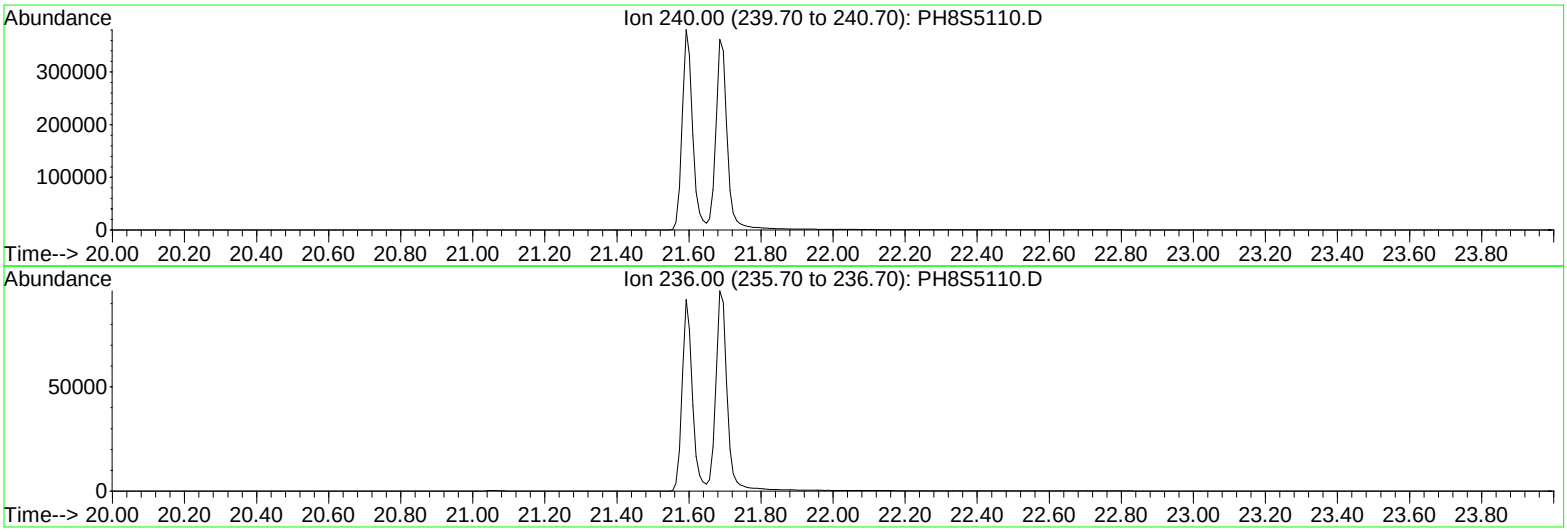


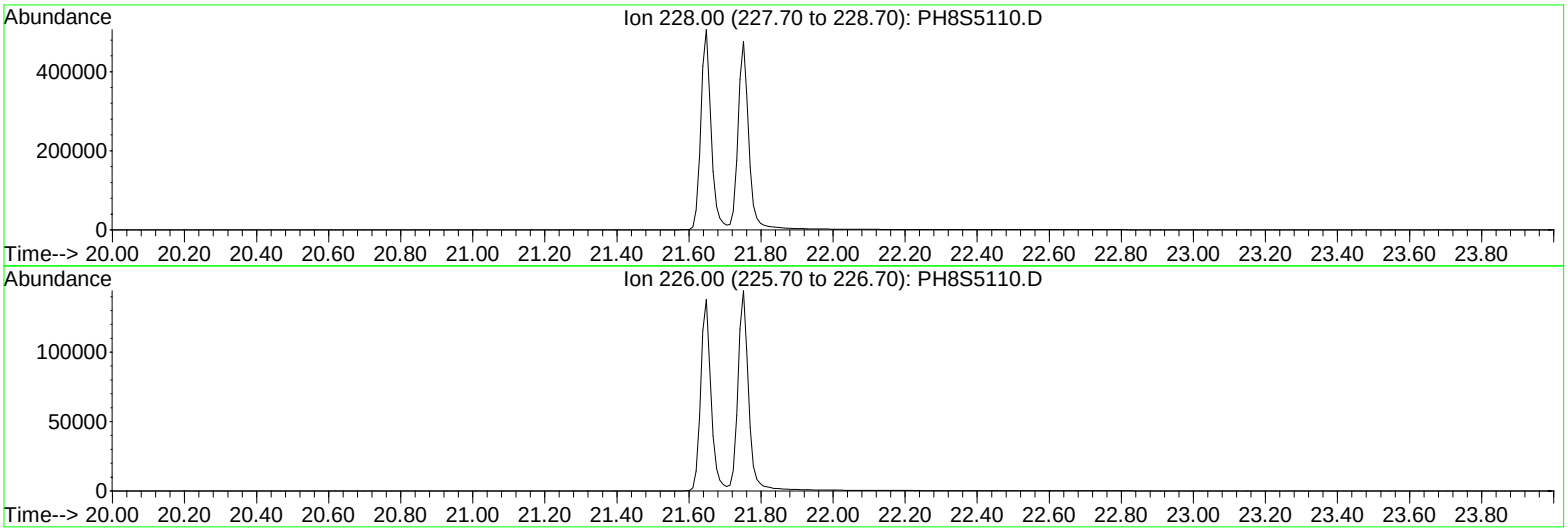


Thu Jan 10 09:34:19 2019

Axys Analytical CHRO Report

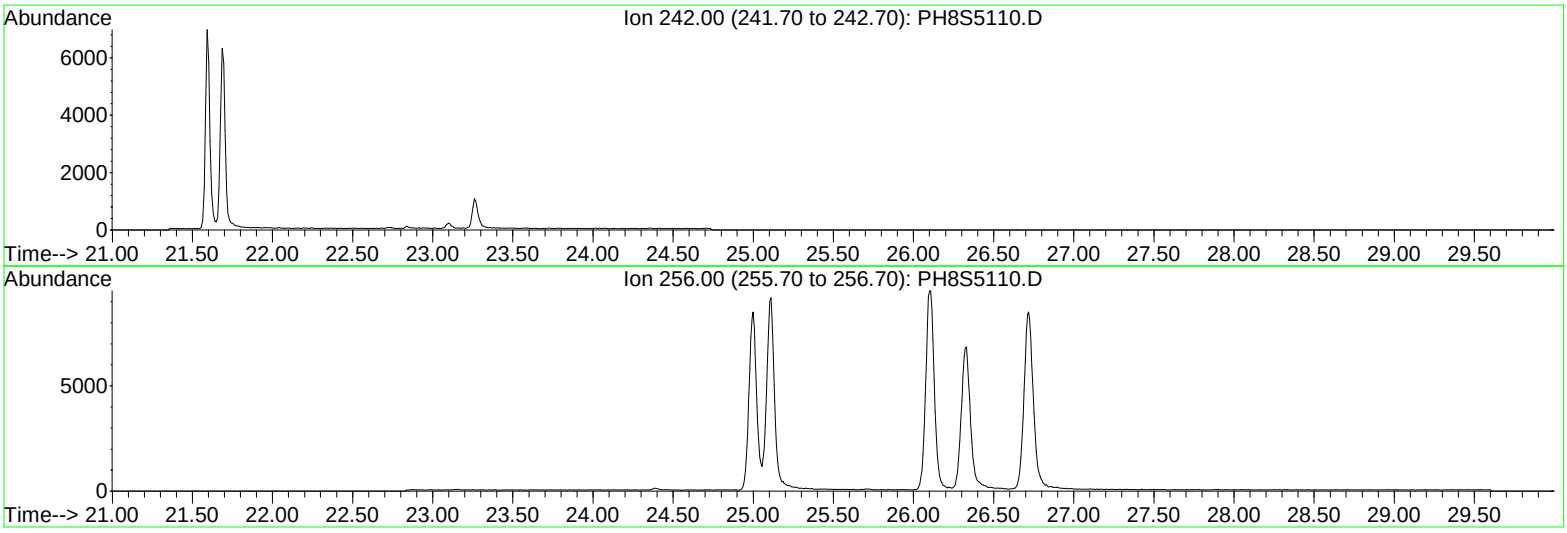
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

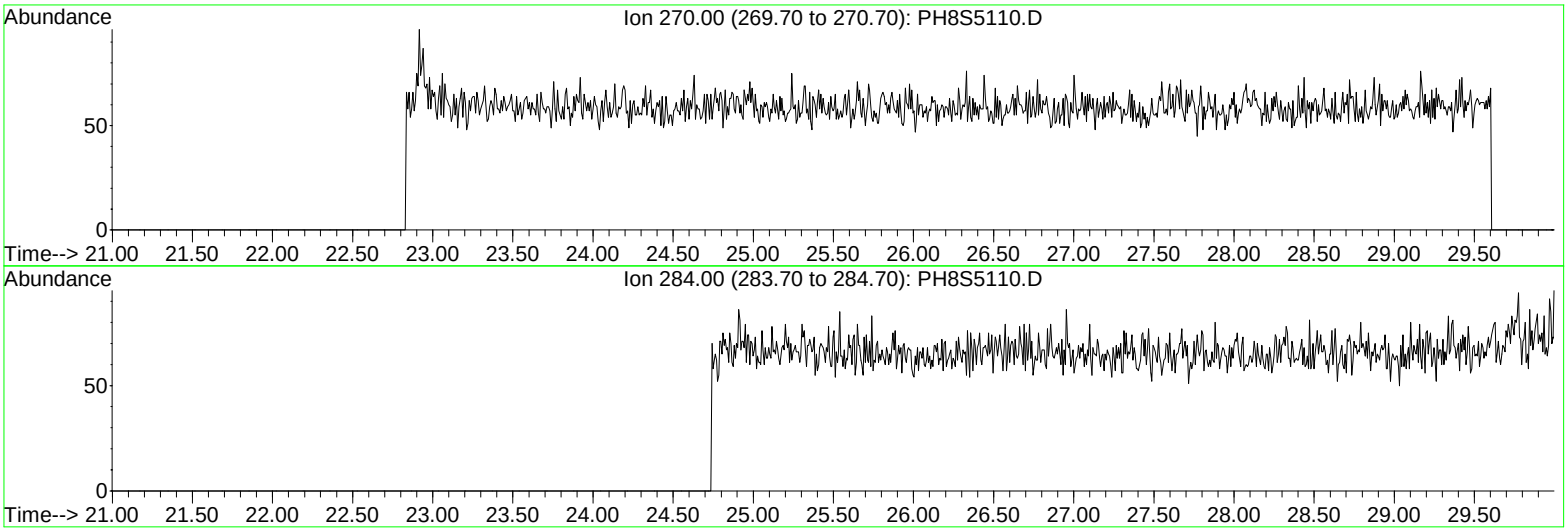




Axys Analytical CHRO Report

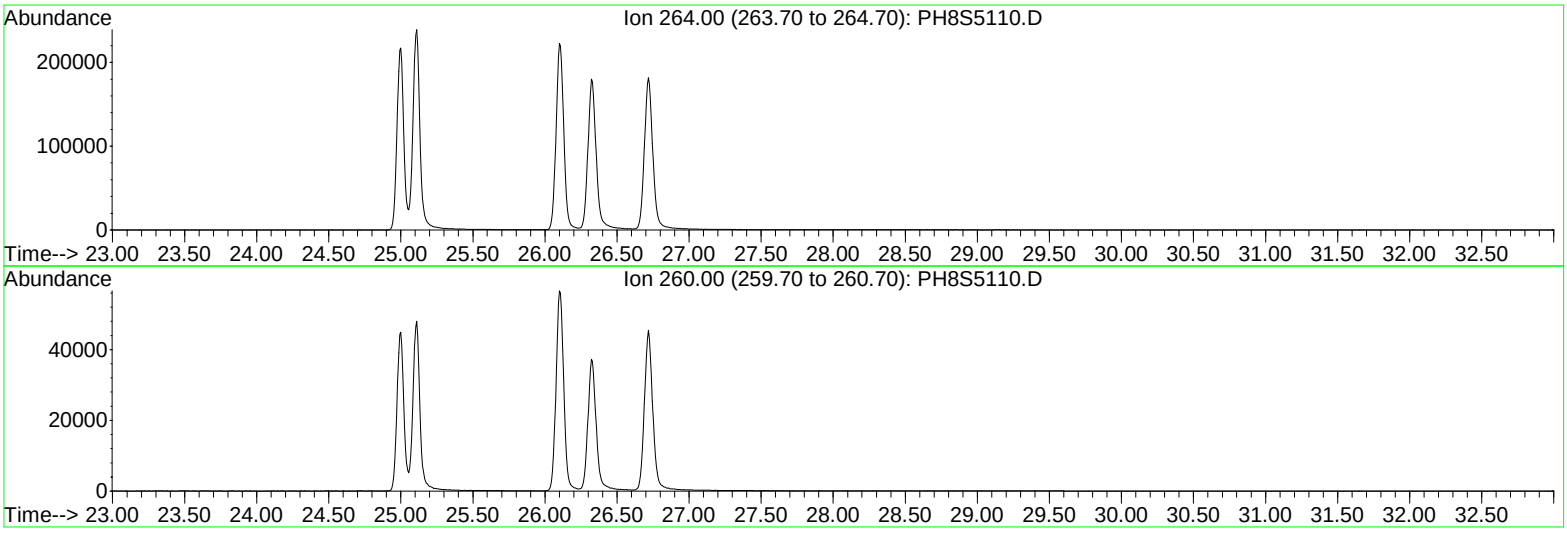
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

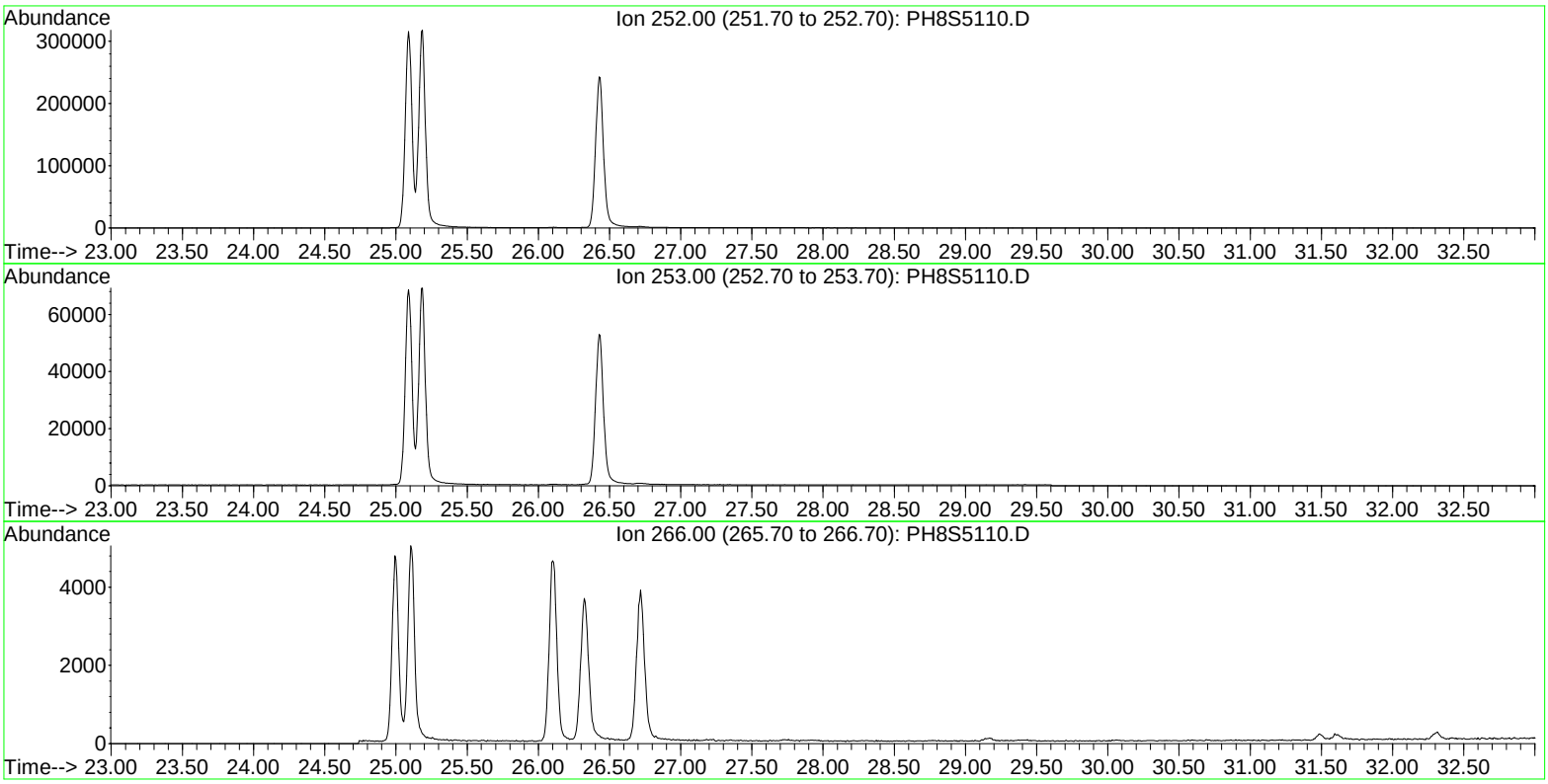


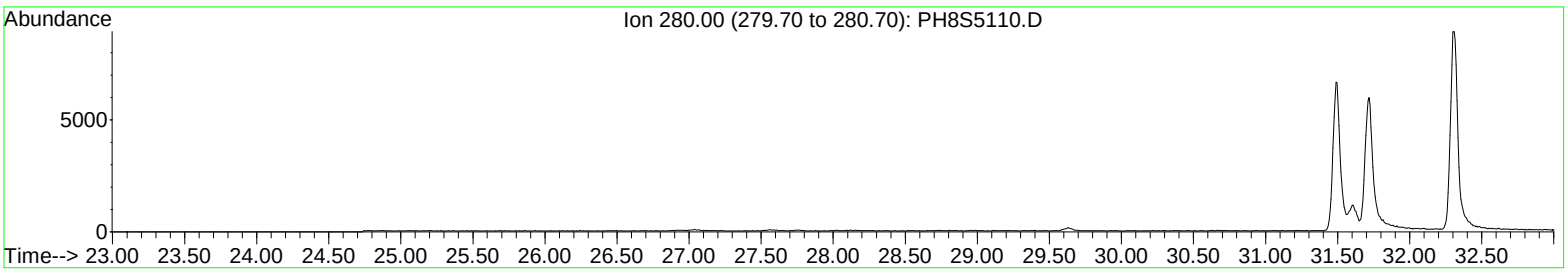


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

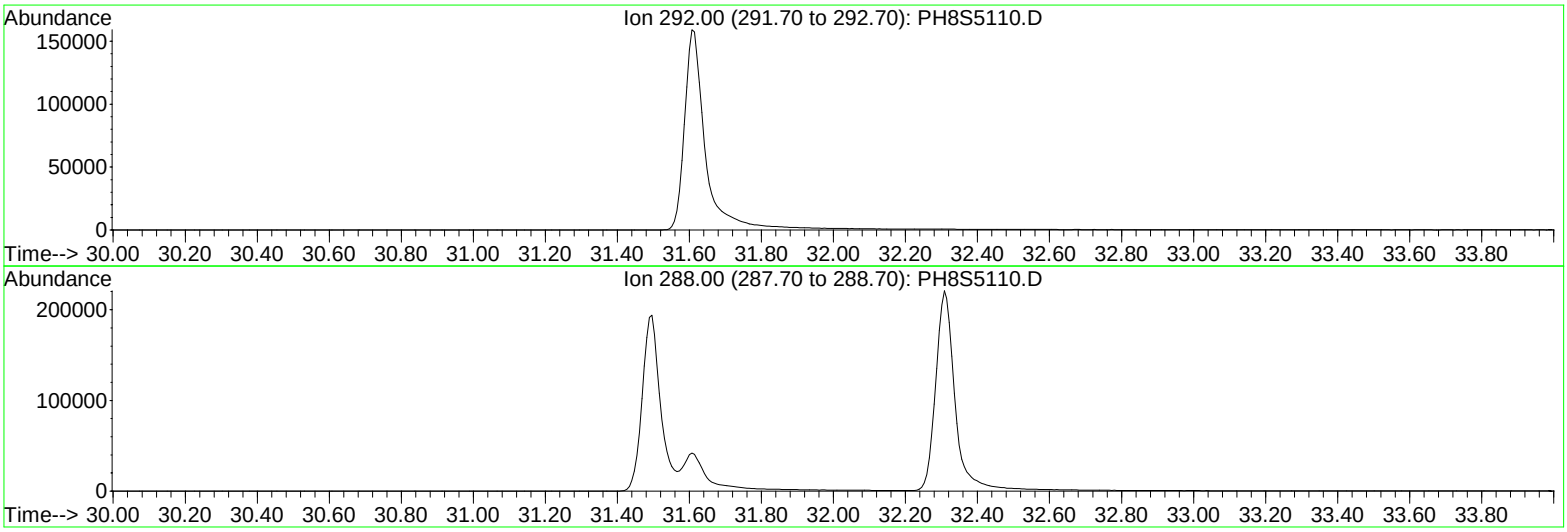


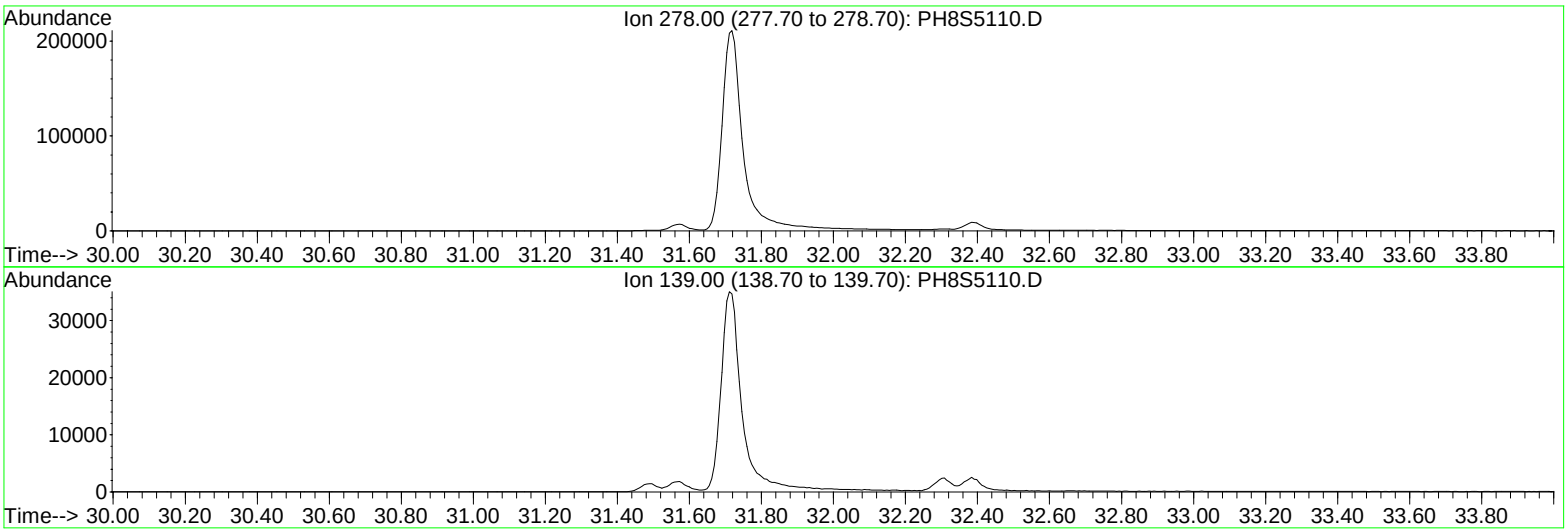




Axys Analytical CHRO Report

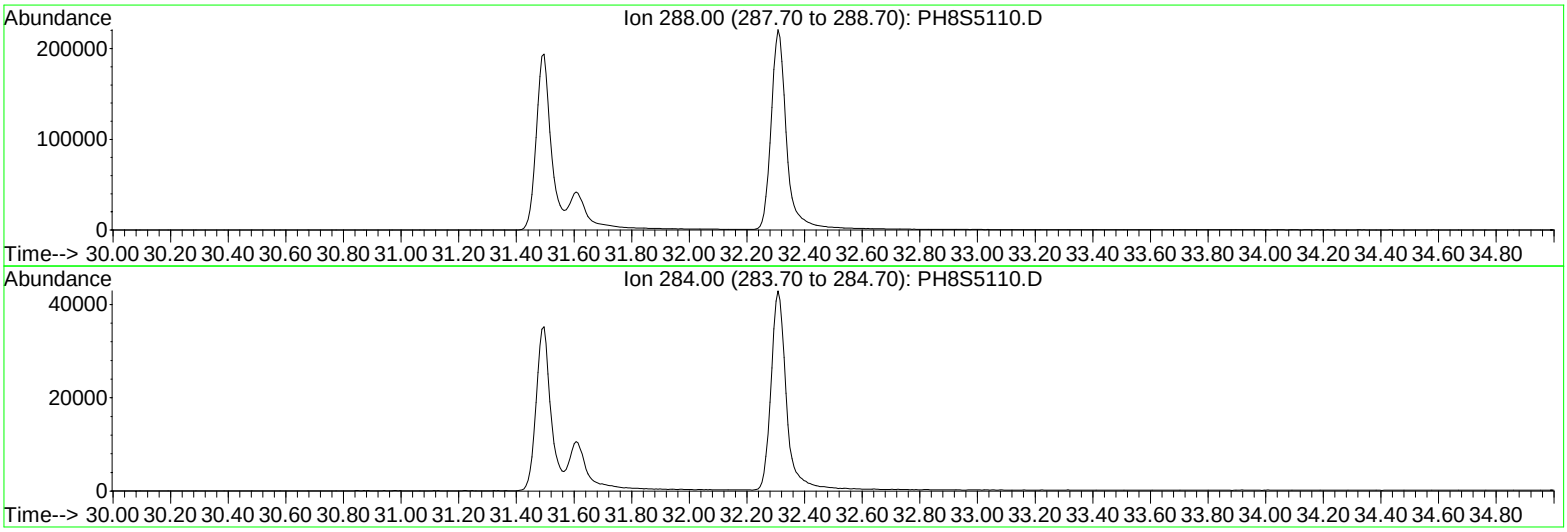
File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL

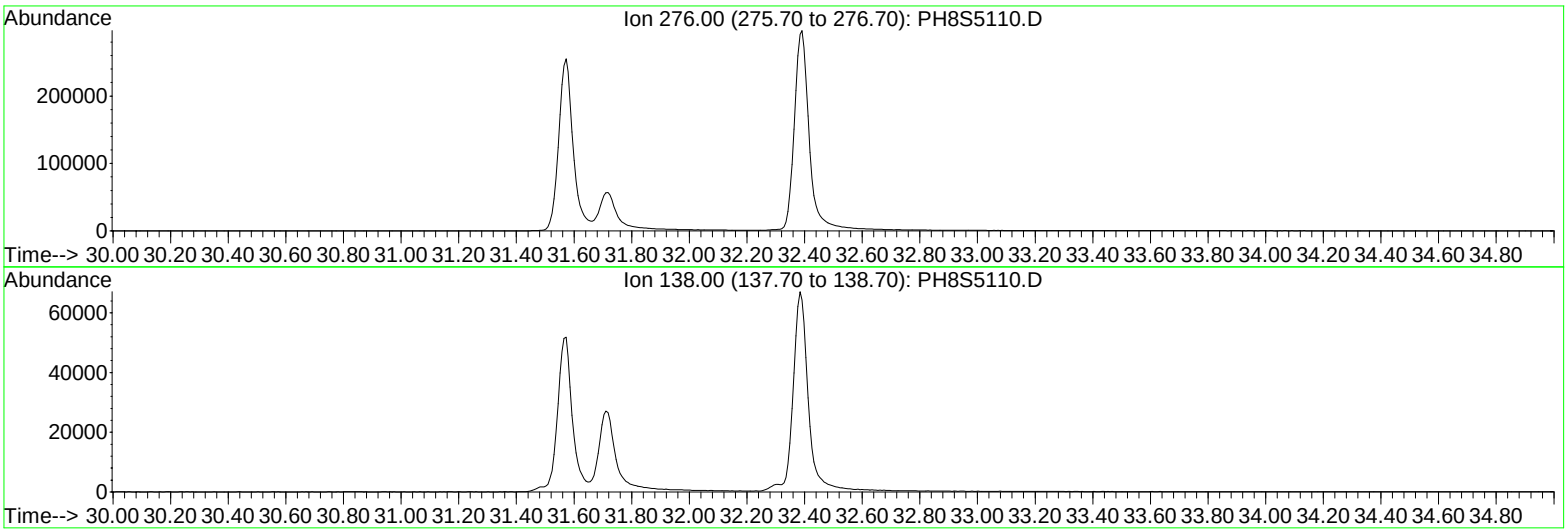




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181019PH\PH8S5110.D
Operator : RTX-5 S/N 1565789 AFW
Date Acquired : 19 Oct 2018 14:42
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH006A-SSV/01,,
Misc Info : 1,,1.0uL





Injection Log Summary Report

Sample Directory : G:\PROLAB\INST_S\181228PH\

File ID	Sample Name	Misc Info	Date	Time
PH8S6456	TOLUENE,,	1,,1.0uL	28 Dec 2018	09:57
PH8S6457	PH036A-CAL/01,,	1,,1.0uL	28 Dec 2018	10:22
PH8S6458	PH036E-CAL/01,,	1,,1.0uL	28 Dec 2018	11:11
PH8S6459	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	28 Dec 2018	12:00
PH8S6460	WG66438-102,,SPM	1,WG66438,1.0/100uL	28 Dec 2018	12:49
PH8S6461	PH048A-SUR/01,,	1,,1.0uL	28 Dec 2018	13:37
PH8S6462	TOLUENE,,	1,,1.0uL	28 Dec 2018	14:26
PH8S6463	WG66438-101,,BLK	1,WG66438,1.0/100uL	28 Dec 2018	15:15
PH8S6464	L30196-2,,	1,WG66438,1.0/100uL	28 Dec 2018	16:03
PH8S6465	L30196-3,,	1,WG66438,1.0/100uL	28 Dec 2018	16:52
PH8S6466	L30196-4,,	1,WG66438,1.0/100uL	28 Dec 2018	17:41
PH8S6467	L30540-1,,	1,WG66438,1.0/100uL	28 Dec 2018	18:30
PH8S6468	L30540-3,,	1,WG66438,1.0/100uL	28 Dec 2018	19:18
PH8S6469	L30540-9,,	1,WG66438,1.0/100uL	28 Dec 2018	20:07
PH8S6470	L30540-4,,	1,WG66438,1.0/100uL	28 Dec 2018	20:56
PH8S6471	TOLUENE,,	1,,1.0uL	28 Dec 2018	21:45
PH8S6472	PH036E-CAL/01,,	1,,1.0uL	28 Dec 2018	22:05
PH8S6473	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	28 Dec 2018	22:53
PH8S6474	PH048A-SUR/01,,	1,,1.0uL	28 Dec 2018	23:42
PH8S6475	L30540-10,,	1,WG66438,1.0/100uL	29 Dec 2018	00:31
PH8S6476	L30540-5,,	1,WG66438,1.0/100uL	29 Dec 2018	01:20
PH8S6477	L30540-12,,	1,WG66438,1.0/100uL	29 Dec 2018	02:09
PH8S6478	L30540-2,,	1,WG66438,1.0/100uL	29 Dec 2018	02:58
PH8S6479	L30540-6,,	1,WG66438,1.0/100uL	29 Dec 2018	03:47
PH8S6480	L30540-7,,	1,WG66438,1.0/100uL	29 Dec 2018	04:36
PH8S6481	L30540-11,,	1,WG66438,1.0/100uL	29 Dec 2018	05:24
PH8S6482	L30540-8,,	1,WG66438,1.0/100uL	29 Dec 2018	06:13
PH8S6483	TOLUENE,,	1,,1.0uL	29 Dec 2018	07:02
PH8S6484	PH036E-CAL/01,,	1,,1.0uL	29 Dec 2018	07:22
PH8S6485	PHWG66438 103A-CAL,,SPR	1,WG66438,1.0/100uL	29 Dec 2018	08:10
PH8S6486	WG63671-106,,SPR	1,WG63671,1.0/100uL	29 Dec 2018	08:59

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6458.D
28/12/2018 11:11
PH036E-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181228PH\PH8S6458.D\PH8S6458.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 3
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-B.M
Cal Update Time: Wed Jan 02 13:23:53 2019
CSV Create Date: Wed Jan 02 13:36:47 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6458.D

Analyte List	LPAR	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	509536	11.28	2020 I	0	0	0		0.44	1
d8-Naphthalene - SURR	749419	6.85	1987.3076 S	99.3654	0	0		0.09	0.607
d10-2-Methylnaphthalene - SURR	493890	8.52	1953.8045 S	99.1779	0	0		0.19	0.755
d10-Biphenyl - SURR	719972	9.8	2030.1359 S	99.2731	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	476082	10.1	2061.0983 S	100.2968	0	0		0.73	0.896
d8-Acenaphthylene - SURR	832170	10.84	1863.3985 S	90.4562	0	0		0.15	0.961
d10-Pyrene - REC	1005279	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	902558	14.99	1936.995 S	107.3127	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	910111	14.7	2196.3061 S	107.9266	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	847321	21.59	1933.6647 S	95.2544	0	0		0.24	1.164
d12-Chrysene - SURR	820219	21.69	1791.7347 S	91.415	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	824335	26.1	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	757549	25	2007.0913 S	101.8828	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	829126	25.11	1988.8965 S	99.4448	0	0		0.19	0.962
d12-Benzo(a)pyrene - SURR	750771	26.33	2102.3828 S	101.5644	0	0		0.2	1.009
d12-Perylene - SURR	779468	26.72	2189.1749 S	101.8221	0	0		0.24	1.024
d12-Indeno(123cd)pyrene - SURR	822777	31.5	2274.8945 S	114.3163	0	0		0.18	1.207
d12-Benzo(ghi)perylene - SURR	906974	32.31	2108.4397 S	106.4869	0	0		0.19	1.238
d8-Naphthalene	749419	6.85	2000 I	0	0	0		0.09	1
Naphthalene $	872680	6.89	1945.8841 T	0	0	0		0.07	1.007
d10-2-Methylnaphthalene	493890	8.52	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	600024	8.6	1978.0112 T	0	0	0		0.9	1.009
1-Methylnaphthalene	564033	8.86	1969.3443 T	0	0	0		0.93	1.04
C1-Naphthalenes	600024	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	719972	9.8	2045 I	0	0	0		-1	1
Biphenyl $	777103	9.85	1986.9408 T	0	0	0		0.29	1.005
C1-Biphenyls $	2210	11.33	5.6507 T	0	0	0		0.18	1.156
C2-Biphenyls $	84	12.7	0.2148 T	0	0	0		0.75	1.296
d12-2,6-Dimethylnaphthalene	476082	10.1	2055 I	0	0	0		0.73	1
2,6-Dimethylnaphthalene $	553712	10.21	1976.219 T	0	0	0		0.69	1.01
Ethyl/DiMe-Naphthalenes	553712	10.21	2184.3382 T	0	0	0		0.69	1.01
1,2-Dimethylnaphthalene	442762	10.93	1952.6415 T	0	0	0		1.29	1.082
C2-Naphthalenes	553712	10.21	0 T	0	0	0		-1	1.01
2,3,6-Trimethylnaphthalene	558966	12.2	1973.5807 T	0	0	0		0.91	1.207
2,3,5-Trimethylnaphthalene $	526211	12.38	1957.9654 T	0	0	0		0.92	1.225
C3-Naphthalenes	526211	12.38	1906.6152 T	0	0	0		0.92	1.225
1,4,6,7-Tetramethylnaphthalene $	550958	13.9	1944.4919 T	0	0	0		0.03	1.376
C4-Naphthalenes	547170	13.9	1931.123 T	0	0	0		0.03	1.376
d8-Acenaphthylene	832170	10.84	2060 I	0	0	0		0.15	1
Acenaphthylene $	943651	10.88	1922.4878 T	0	0	0		0.2	1.003
Acenaphthene $	583526	11.36	2151.0111 T	0	0	0		1.16	1.048
C1-Acenaphthenes $	450	11.72	1.6588 T	0	0	0		0.21	1.081
d8-Dibenzothiophene	910111	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	1042642	14.74	1950.2037 T	0	0	0		0.08	1.003
C1-Dibenzothiophenes-1	18460	15.87	50.3234 T	0	0	0		0.7	1.08
2/3-Methyldibenzothiophenes $	738344	16.07	2012.7851 T	0	0	0		0.71	1.093
C1-Dibenzothiophenes-2	213	16.3	0.5807 T	0	0	0		0.7	1.109
C1-Dibenzothiophenes	738344	16.07	0 T	0	0	0		-1	1.093
4,6-Dimethyldibenzothiophene	782810	16.94	1991.2326 T	0	0	0		0.16	1.152

CAL VER meets specification

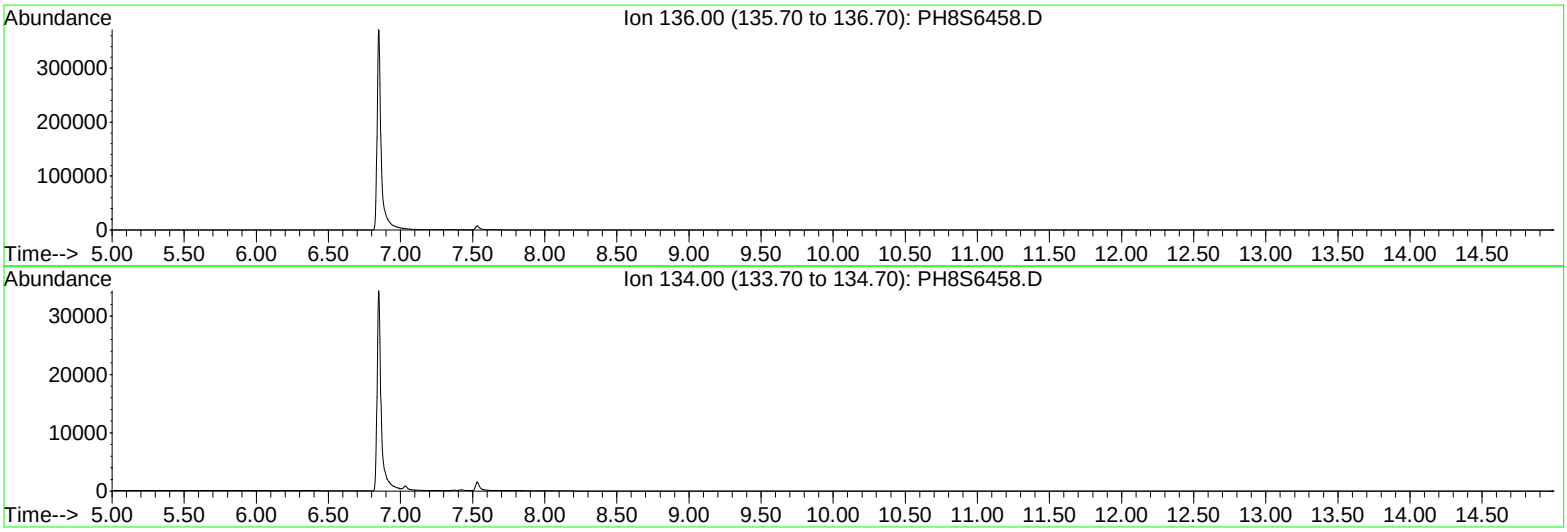
pv by vr
03-Jan-2019

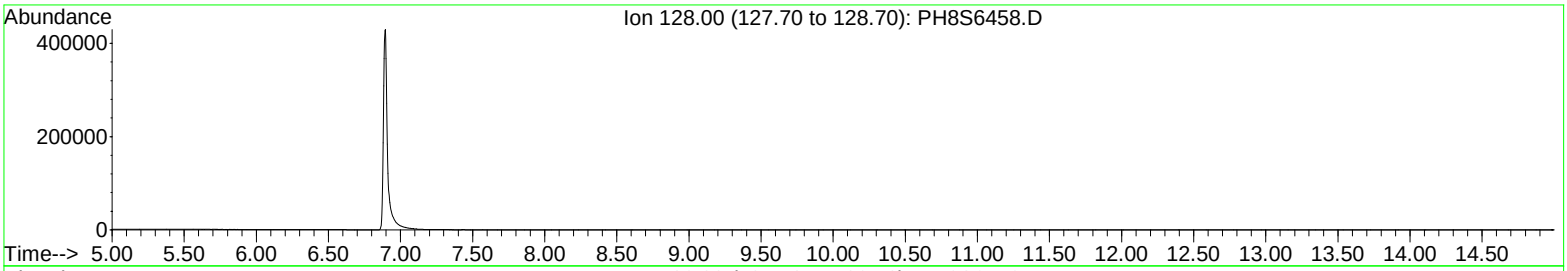
2,4-Dimethyldibenzothiophene $	637199	17.09	2098.7504 T	0	0	0	0.51	1.163
C2-Dibenzothiophenes	637199	17.09	2098.7504 T	0	0	0	0.51	1.163
C3-Dibenzothiophenes $	162	18.09	0.5336 T	0	0	0	1.03	1.231
C4-Dibenzothiophenes $	266	18.99	0.8761 T	0	0	0	0.97	1.292
d10-Phenanthrene	902558	14.99	1805 I	0	0	0	0.15	1
Fluorene $	731660	12.65	2047.3688 T	0	0	0	0.99	0.844
2-Methylfluorene $	512106	14.08	2107.2894 T	0	0	0	1.28	0.939
C1-Fluorenes	512106	14.08	2107.2894 T	0	0	0	1.28	0.939
1,7-Dimethylfluorene $	479599	15.5	2122.075 T	0	0	0	0.08	1.034
C2-Fluorenes	479599	15.5	2122.075 T	0	0	0	0.08	1.034
C3-Fluorenes $	7542	16.42	33.371 T	0	0	0	0.37	1.095
Phenanthrene $	1060866	15.05	1983.5977 T	0	0	0	0.19	1.004
Anthracene	1047008	15.16	1934.5665 T	0	0	0	0.19	1.011
d10-Anthracene $	972727	15.12	2012.5052 T	0	0	0	0.14	1.008
3-Methylphenanthrene	958	16.32	2.539 T	0	0	0	0.5	1.089
2-Methylphenanthrene	773827	16.37	2078.0783 T	0	0	0	0.59	1.092
2-Methylanthracene	715744	16.46	1980.3085 T	0	0	0	0.51	1.098
9/4-Methylphenanthrenes	809187	16.64	2144.5866 T	0	0	0	0.6	1.11
1-Methylphenanthrene $	806084	16.64	2024.7303 T	0	0	0	0.61	1.11
C1-Phenanthrenes/Anthracenes	806084	16.64	0 T	0	0	0	-1	1.11
Fluoranthene $	1227229	18.06	1867.9588 T	0	0	0	0.2	1.205
Pyrene	1217161	18.6	1791.8398 T	0	0	0	0.21	1.241
3,6-Dimethylphenanthrene $	724780	17.46	1994.8177 T	0	0	0	0.36	1.165
2,6-Dimethylphenanthrene	726701	17.46	1996.4297 T	0	0	0	0.36	1.165
1,7-Dimethylphenanthrene	715313	17.88	1961.5576 T	0	0	0	0.34	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	724780	17.46	1991.1522 T	0	0	0	0.36	1.165
1,8-Dimethylphenanthrene	331	18.14	0.9093 T	0	0	0	0.35	1.21
C2-Phenanthrenes/Anthracenes	724780	17.46	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	751600	19.4	2246.6402 T	0	0	0	0.61	1.294
C3-Phenanthrenes/Anthracenes	772512	19.4	2309.1491 T	0	0	0	0.61	1.294
Retene $	246179	19.5	1925.8357 T	0	0	0	1.67	1.301
C4-Phenanthrenes/Anthracenes	246179	19.5	1925.8357 T	0	0	0	1.67	1.301
C1-Fluoranthenes/Pyrenes-1	1699	19.25	4.35 T	0	0	0	1.07	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	720891	19.49	1845.7231 T	0	0	0	1.07	1.3
C1-Fluoranthenes/Pyrenes-2	475	19.93	1.2162 T	0	0	0	0.93	1.33
C1-Fluoranthenes/Pyrenes	720891	19.49	0 T	0	0	0	-1	1.3
C2-Fluoranthenes/Pyrenes $	1122	20.45	2.8727 T	0	0	0	0.23	1.364
C3-Fluoranthenes/Pyrenes $	128	21.9	0.3277 T	0	0	0	0.7	1.461
C4-Fluoranthenes/Pyrenes $	91	23.24	0.233 T	0	0	0	1.63	1.55
d12-Benz(a)anthracene	847321	21.59	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	956151	18.01	2109.8651 T	0	0	0	0.17	0.834
Benz(a)anthracene	1047812	21.65	1943.1721 T	0	0	0	0.27	1.003
d12-Chrysene	820219	21.69	1960 I	0	0	0	0.26	1
Chrysene $	1033181	21.75	2000.0491 T	0	0	0	0.3	1.003
5/6-Methylchrysenes $	788397	23.09	2021.0639 T	0	0	0	-1	1.065
1-Methylchrysene	835618	23.26	2067.7275 T	0	0	0	-1	1.073
C1-Benz(a)anthracenes/Chrysenes	788397	23.09	1985.3614 T	0	0	0	-1	1.065
5,9-Dimethylchrysene $	627816	24.39	2078.8932 T	0	0	0	-1	1.125
C2-Benz(a)anthracenes/Chrysenes	627816	24.39	2078.8932 T	0	0	0	-1	1.125
C3-Benz(a)anthracenes/Chrysenes $	15	25.08	0.0497 T	0	0	0	-1	1.157
C4-Benz(a)anthracenes/Chrysenes $	34	26.09	0.1126 T	0	0	0	-1	1.203
d12-Benzo(b)fluoranthene	757549	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	1243	24.99	0 T	0	0	0	0.44	1
Benzo(b)fluoranthene $	1067168	25.09	1916.6565 T	0	0	0	0.22	1.004
d12-Benzo(k)fluoranthene	829126	25.11	2000 I	0	0	0	0.19	1
Benzo(j/k)fluoranthenes	1074404	25.19	2053.9532 T	0	0	0	0.22	1.003
Benzofluoranthenes	1067168	25.09	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	750771	26.33	2070 I	0	0	0	0.2	1
Benzo(e)pyrene	992018	26.22	1970.988 T	0	0	0	0.22	0.996
Benzo(a)pyrene	951738	26.43	2003.3618 T	0	0	0	0.22	1.004
7-Methylbenzo(a)pyrene $	738749	29.16	2184.665 T	0	0	0	-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	738749	29.16	2184.665 T	0	0	0	-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	13	29.87	0.0384 T	0	0	0	-1	1.135
d12-Perylene	779468	26.72	2150 I	0	0	0	0.24	1
Perylene	990011	26.84	1980.3916 T	0	0	0	0.22	1.004
d12-Indeno(123cd)pyrene	822777	31.5	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	707948	31.61	1871.703 T	0	0	0	0.26	1.004
Dibenzo(ah)anthracene $	918935	31.72	1952.3419 T	0	0	0	0.16	1.007
Indeno(123cd)pyrene $	987930	31.58	1952.6974 T	0	0	0	0.2	1.003
d12-Benzo(ghi)perylene	906974	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	1080019	32.39	1974.3466 T	0	0	0	0.21	1.002

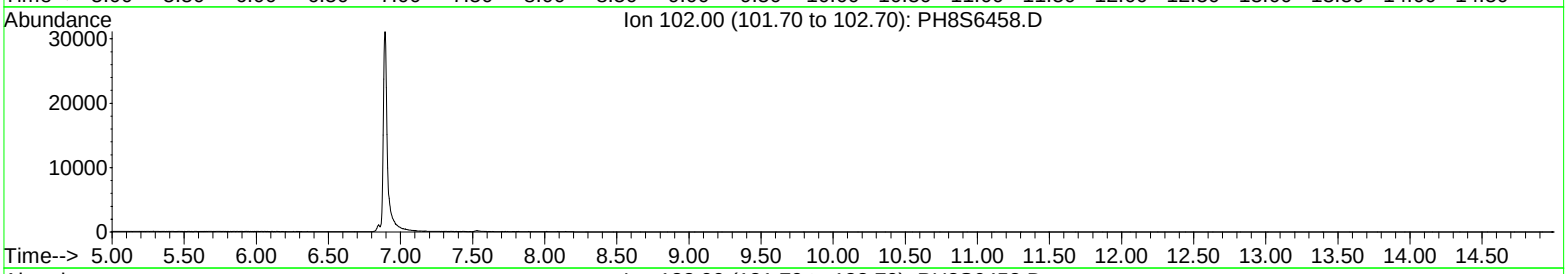
pv by vr
03-Jan-2019

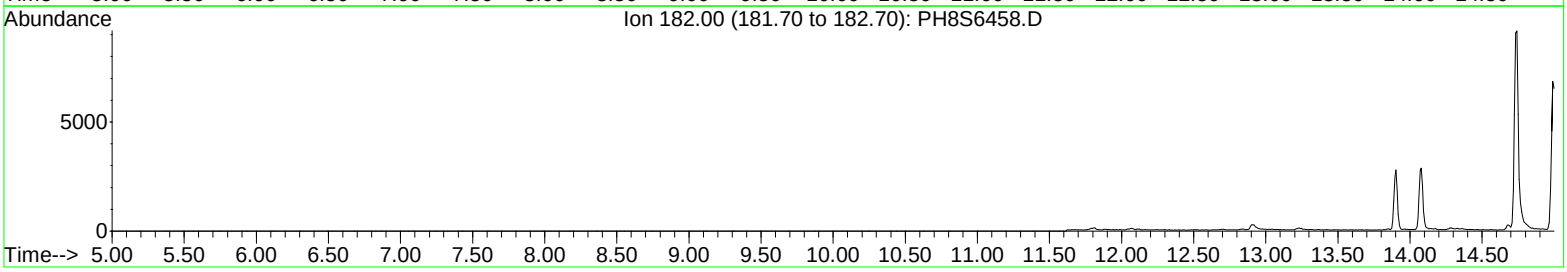
Axys Analytical CHRO Report

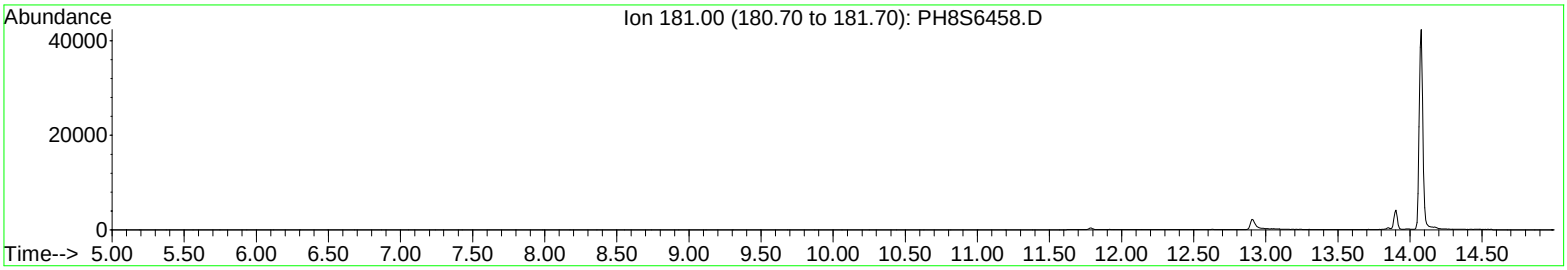
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL







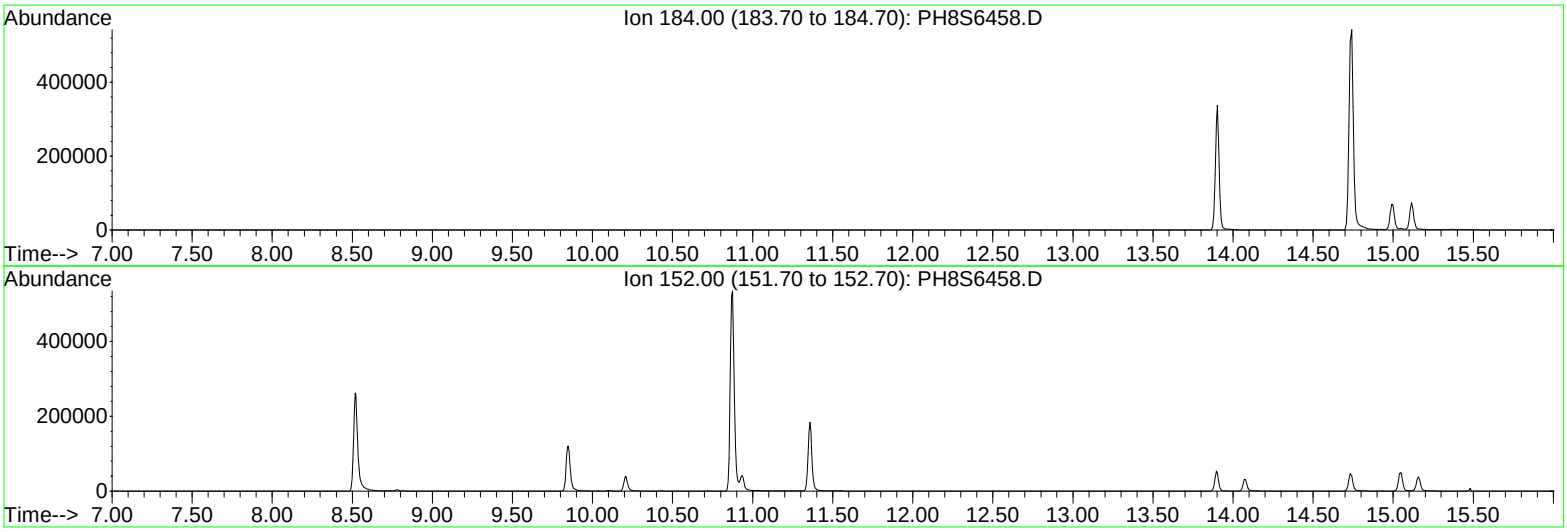


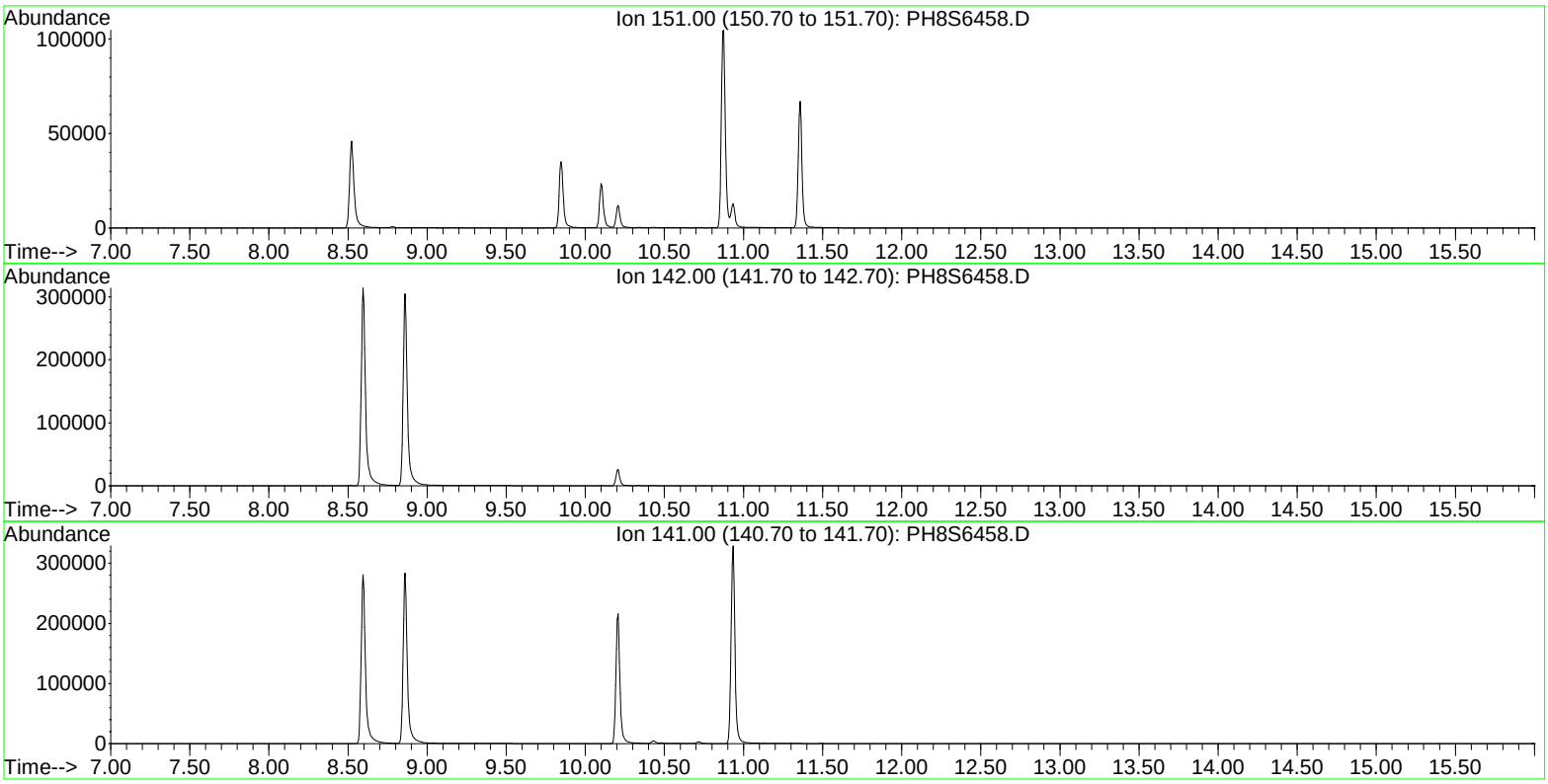


Thu Jan 10 08:38:42 2019

Axys Analytical CHRO Report

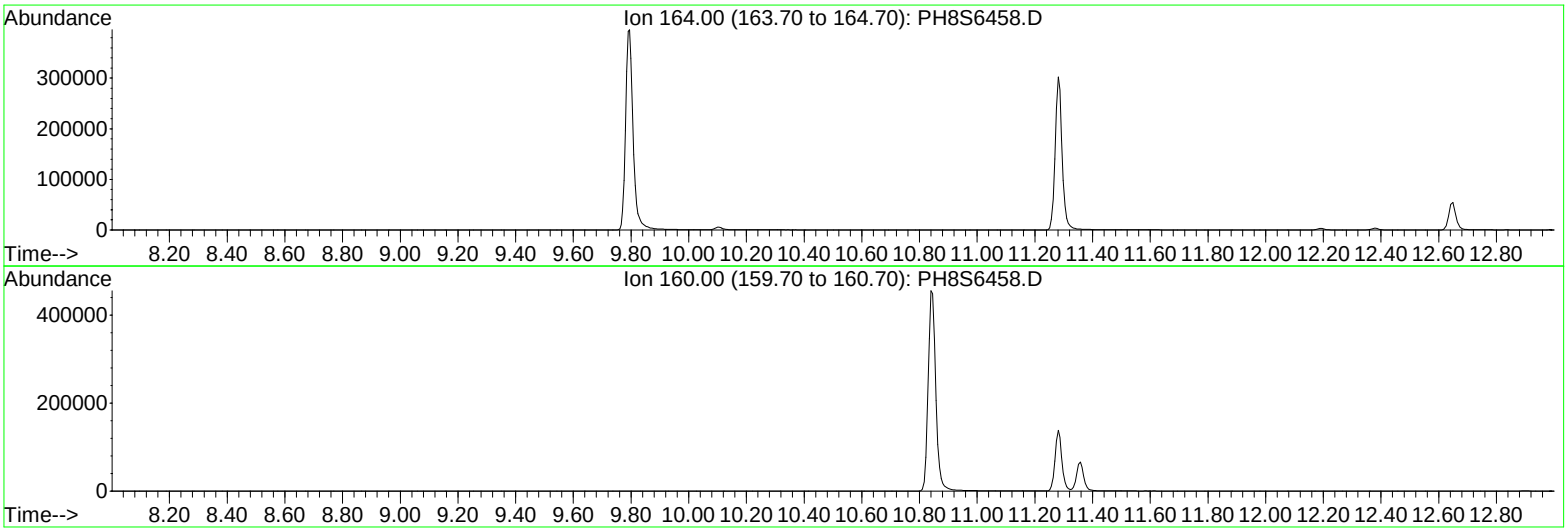
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

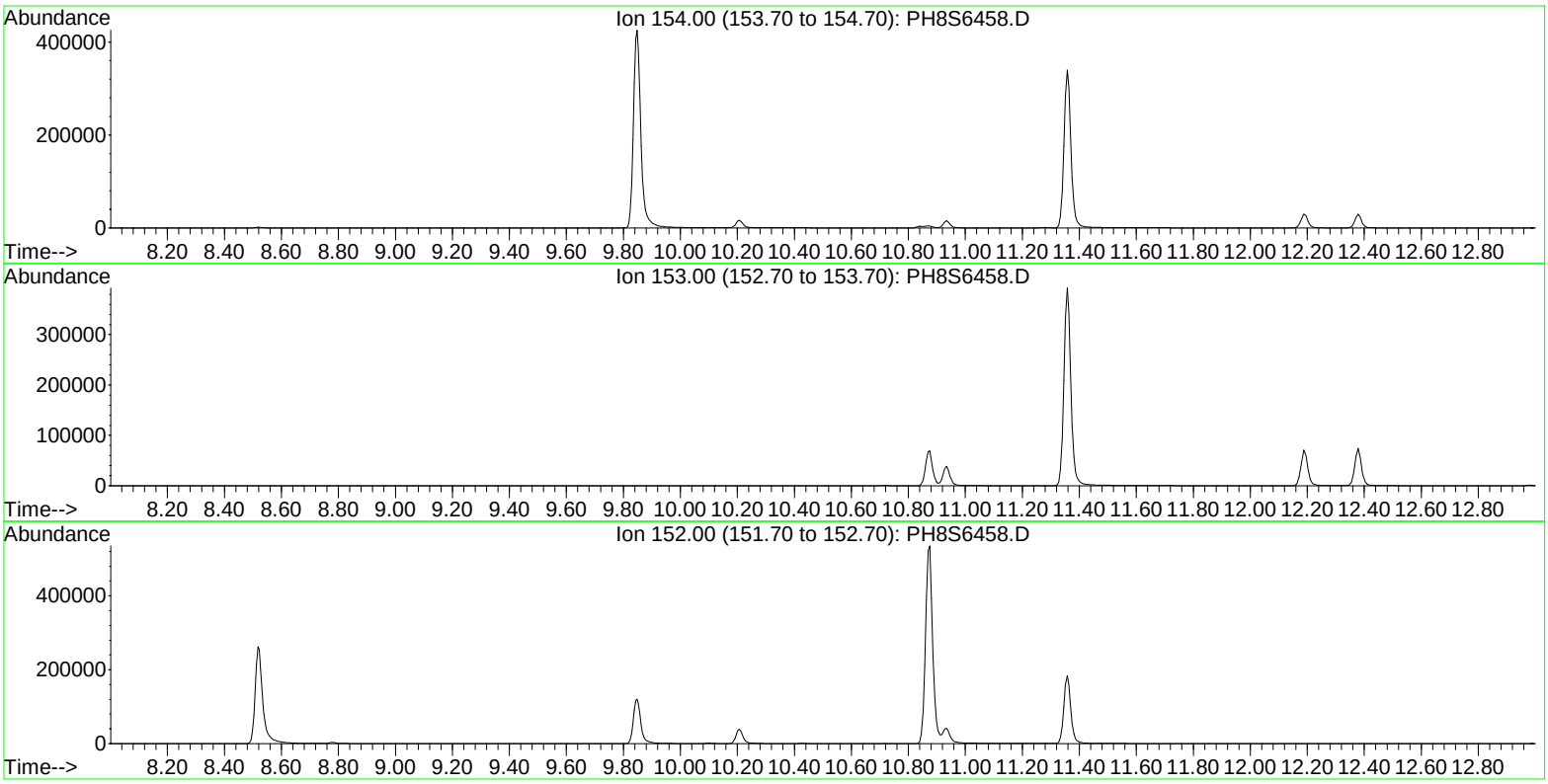




Axys Analytical CHRO Report

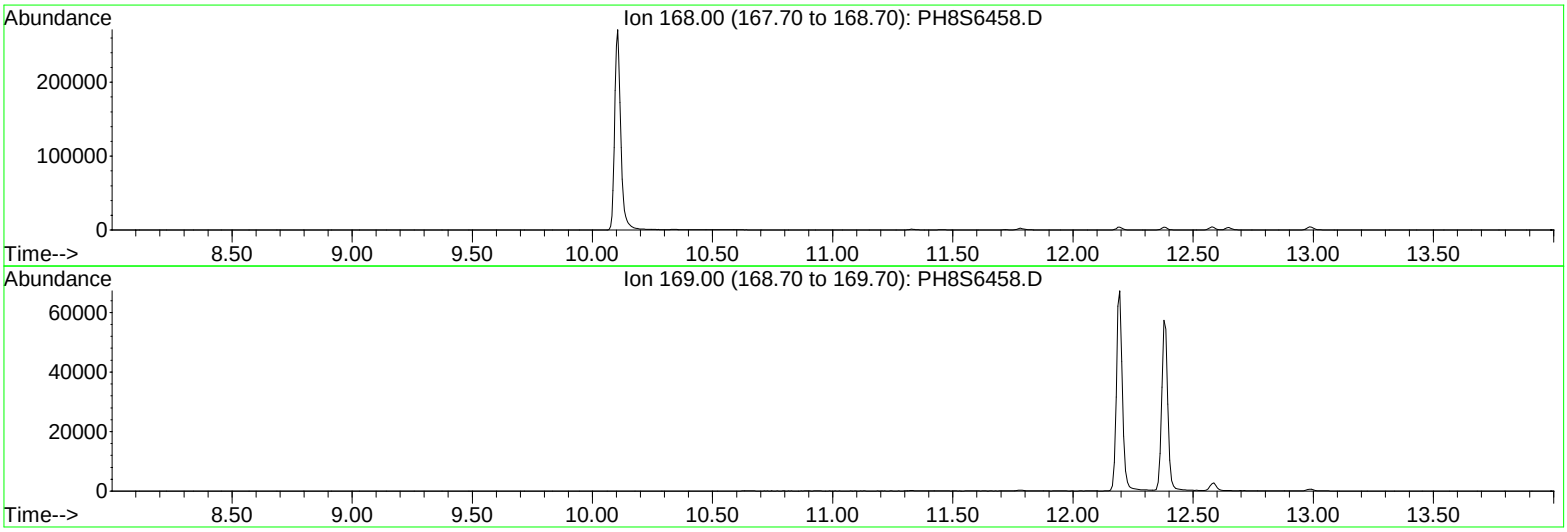
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

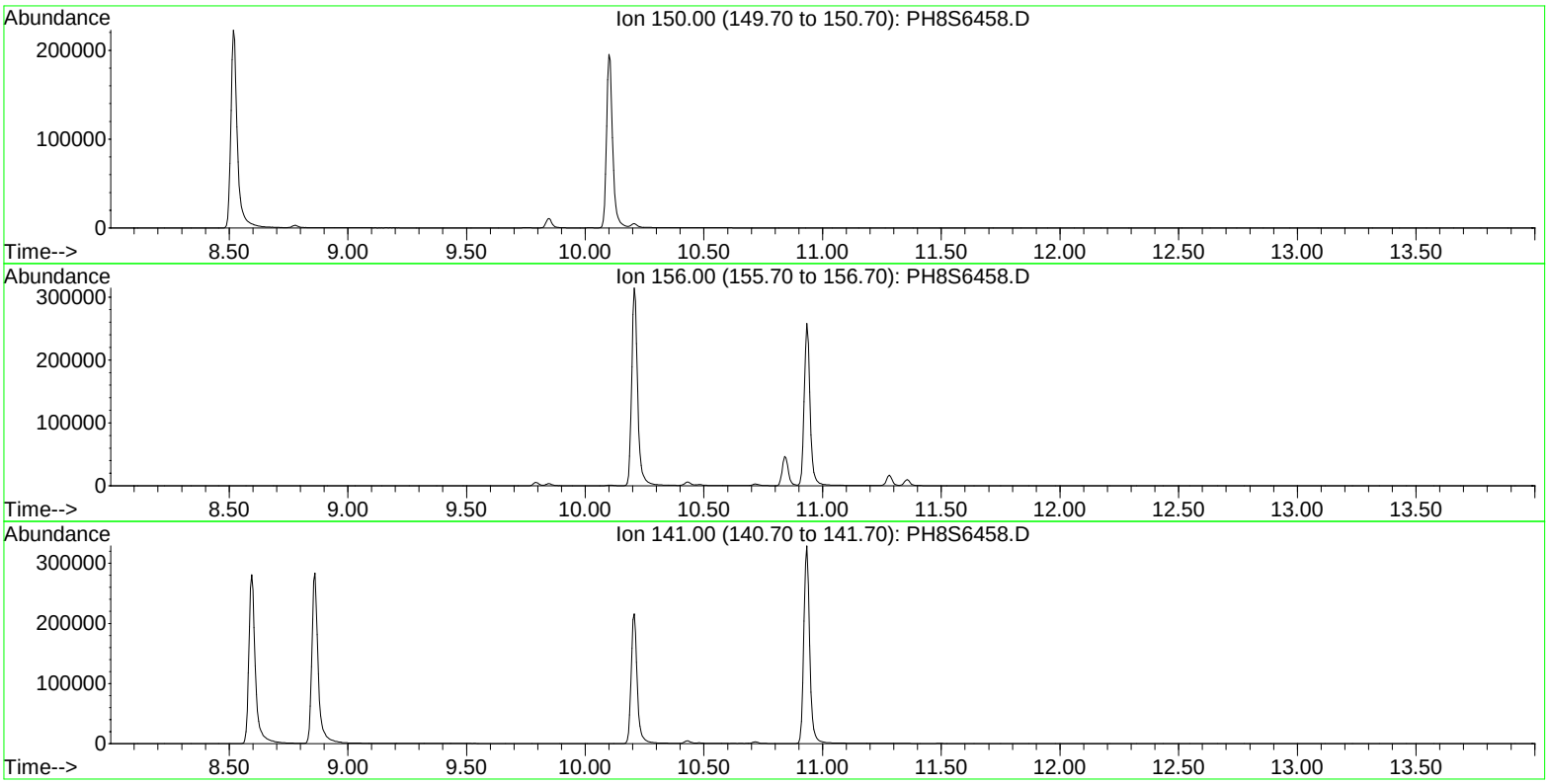




Axys Analytical CHRO Report

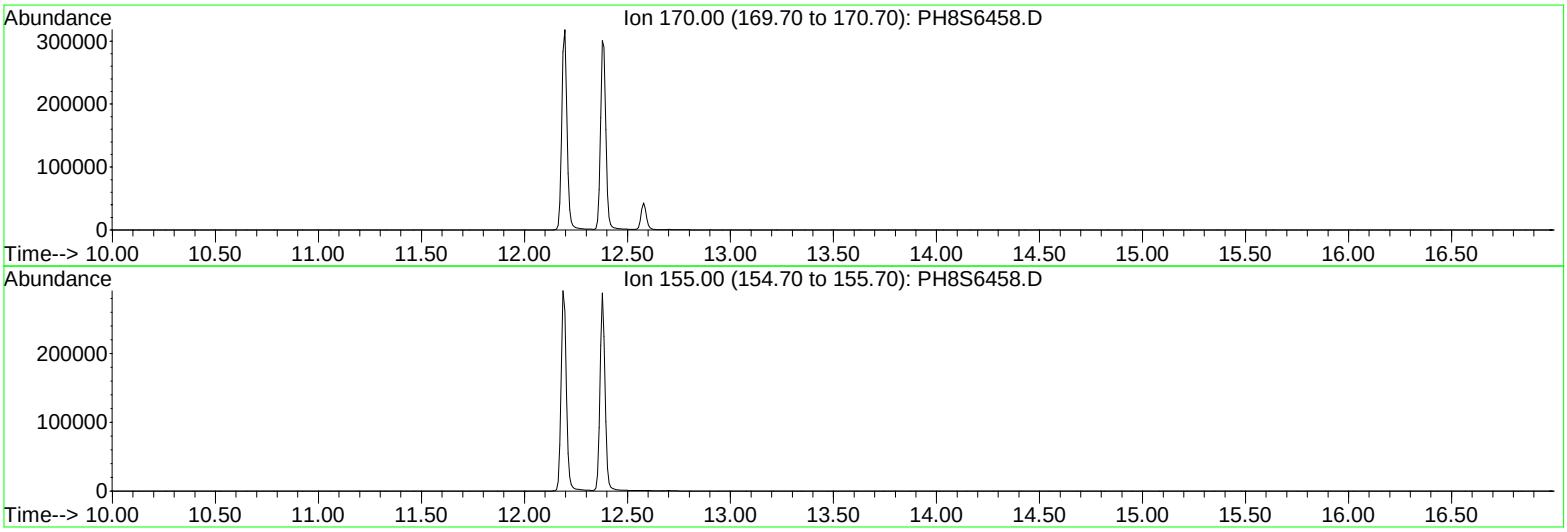
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

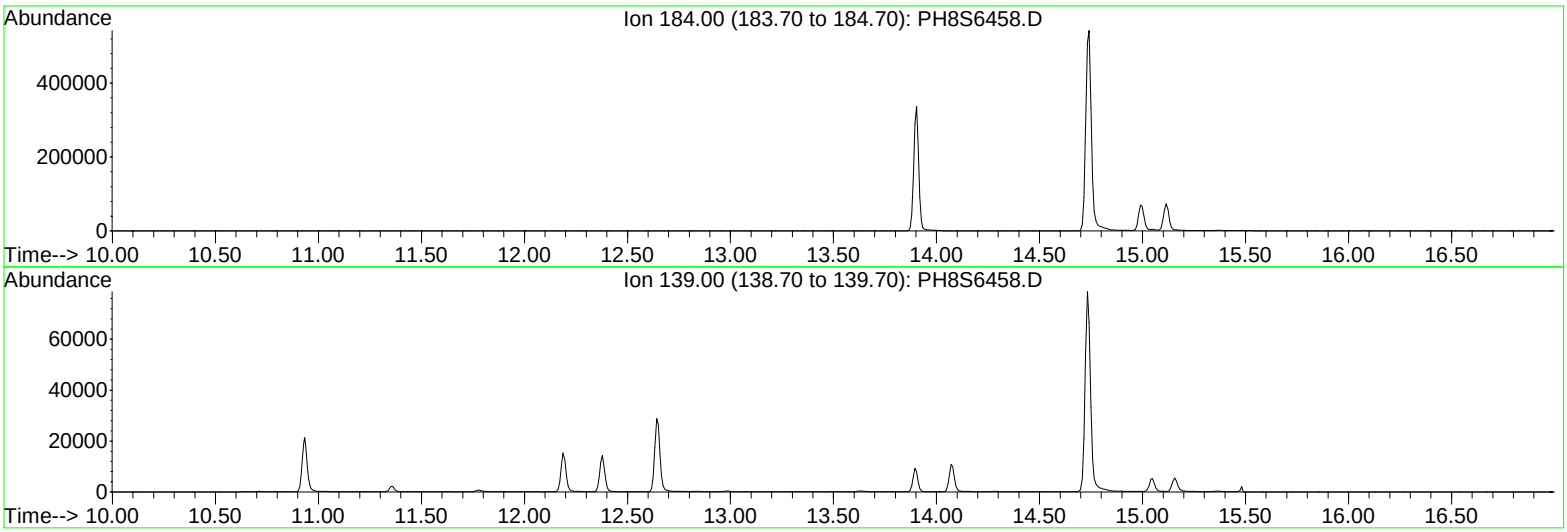




Axys Analytical CHRO Report

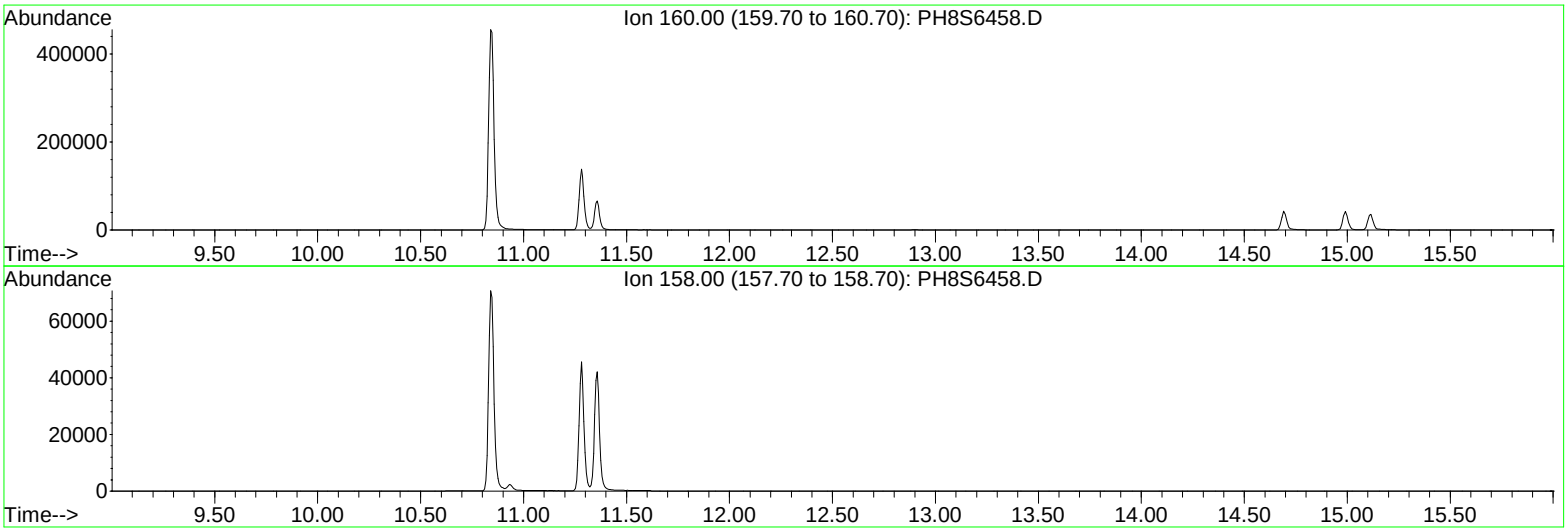
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

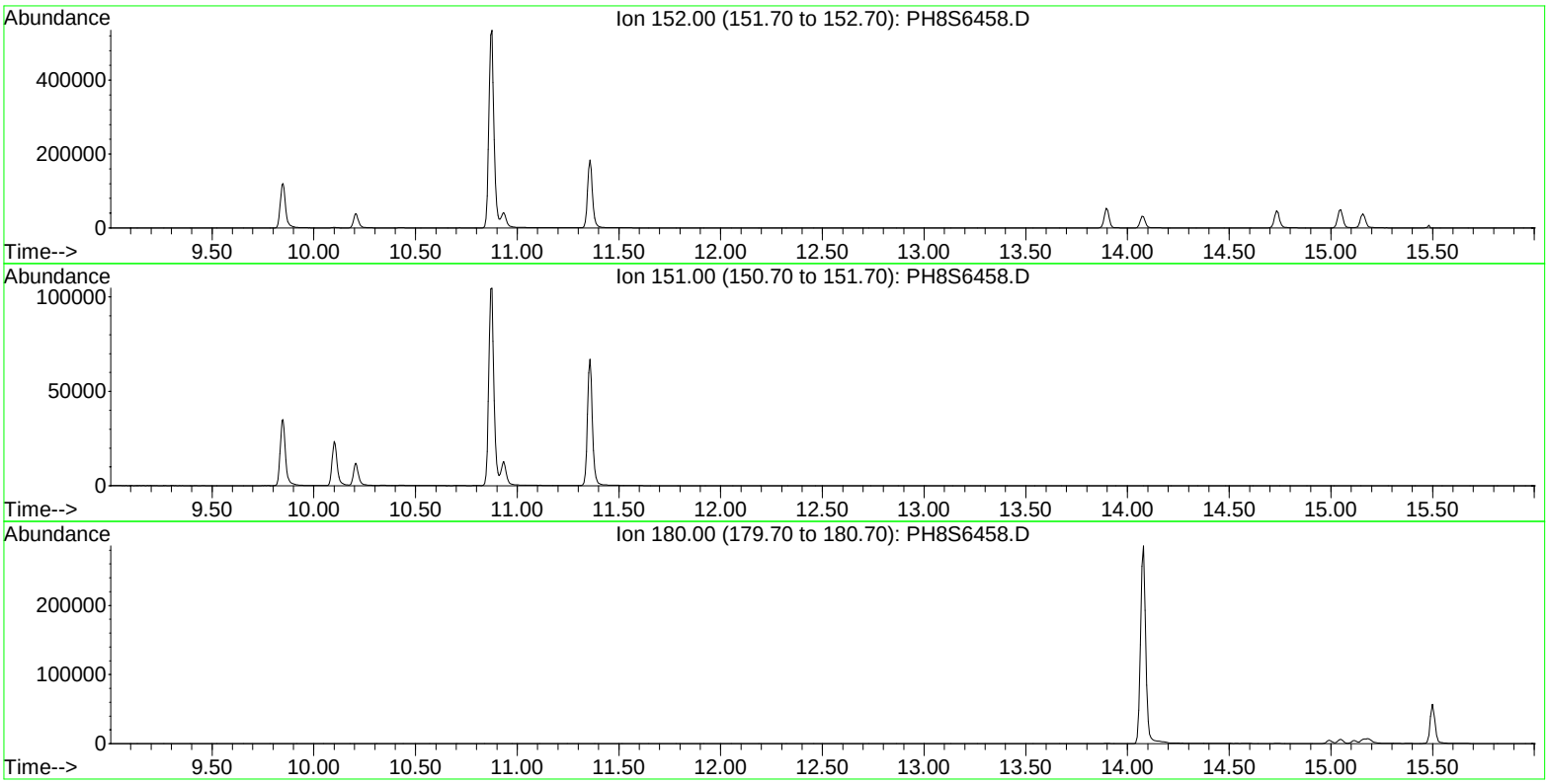


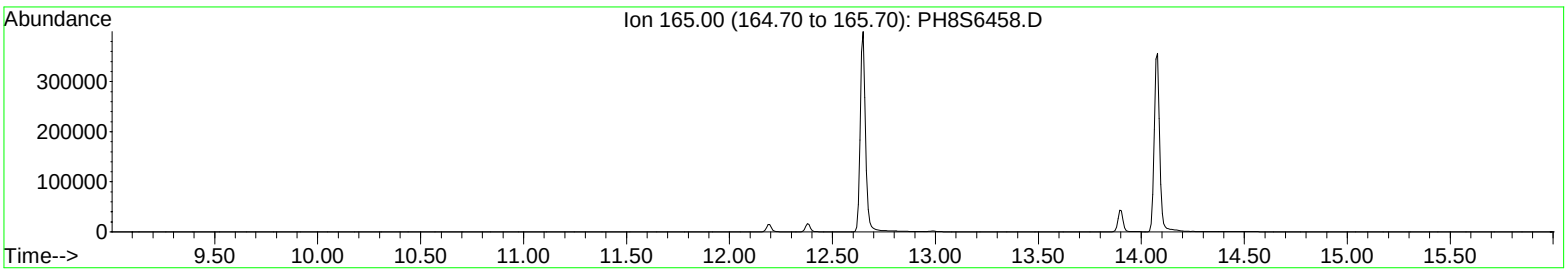


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



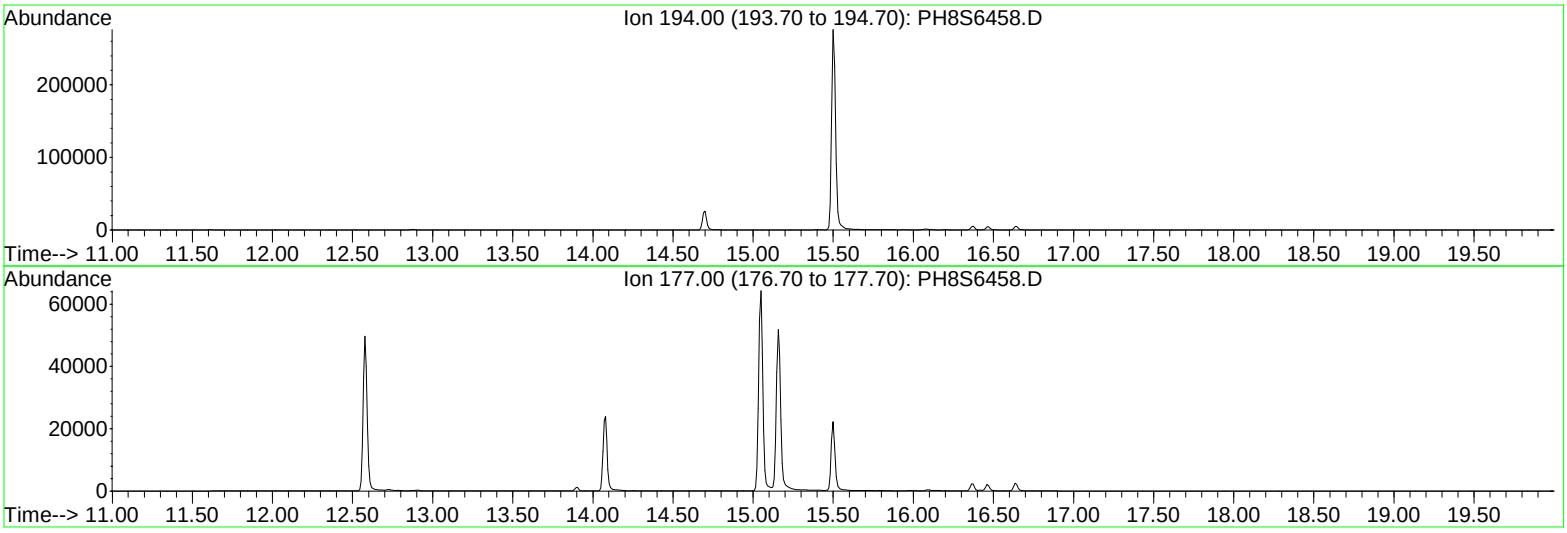


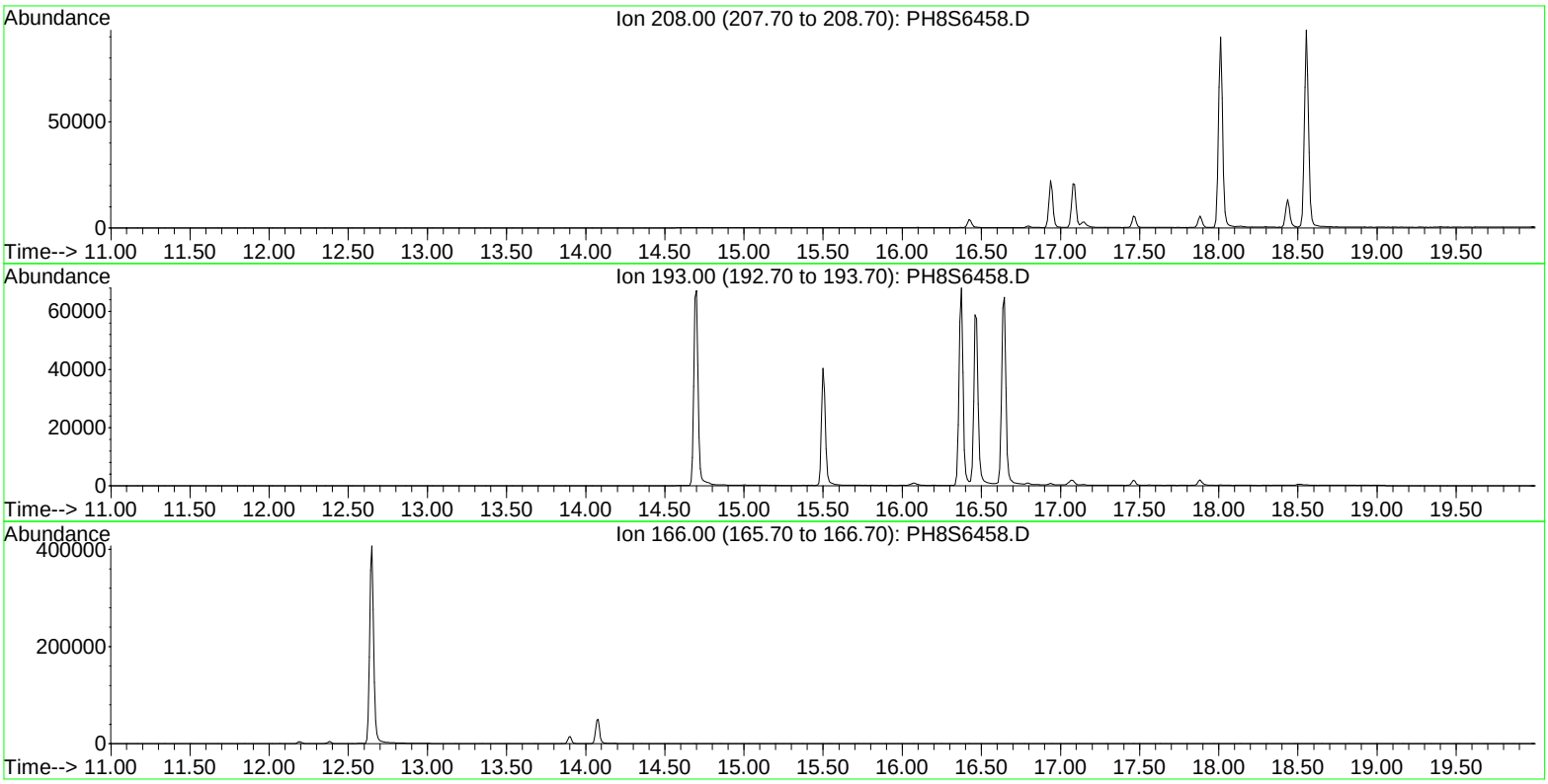


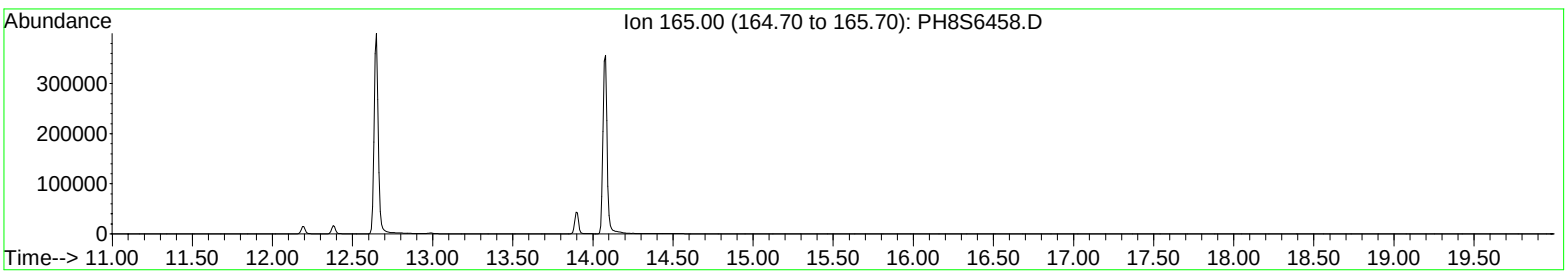
Thu Jan 10 08:38:47 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



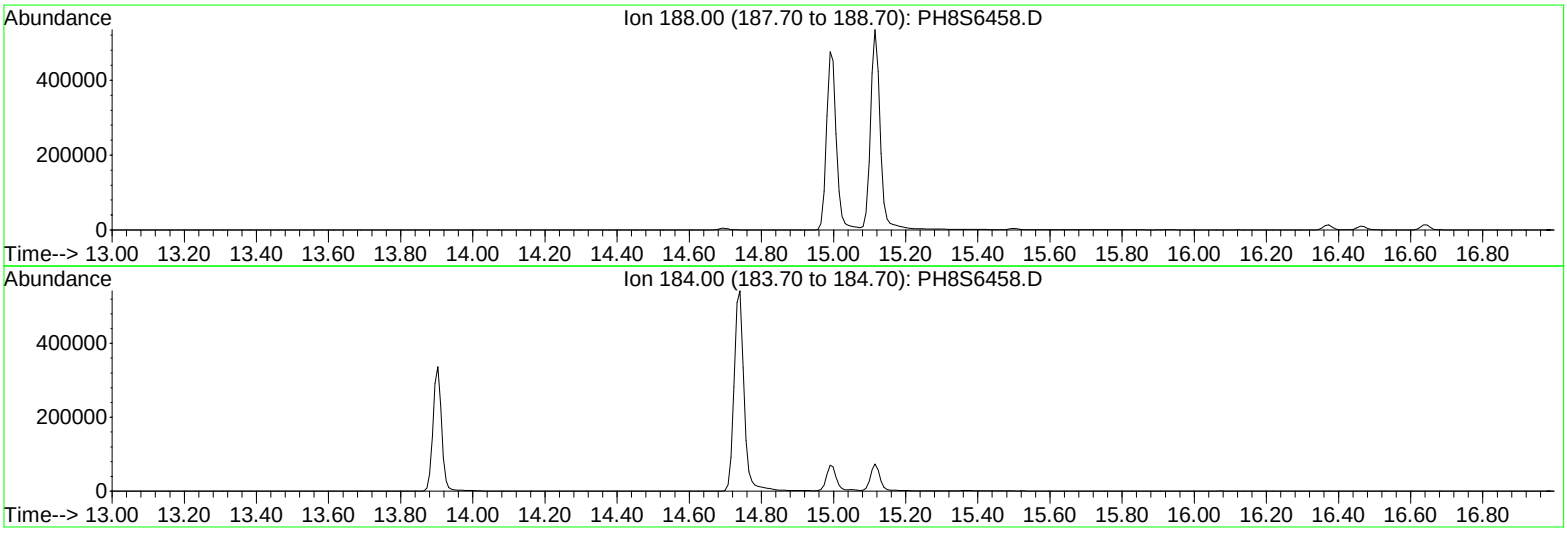


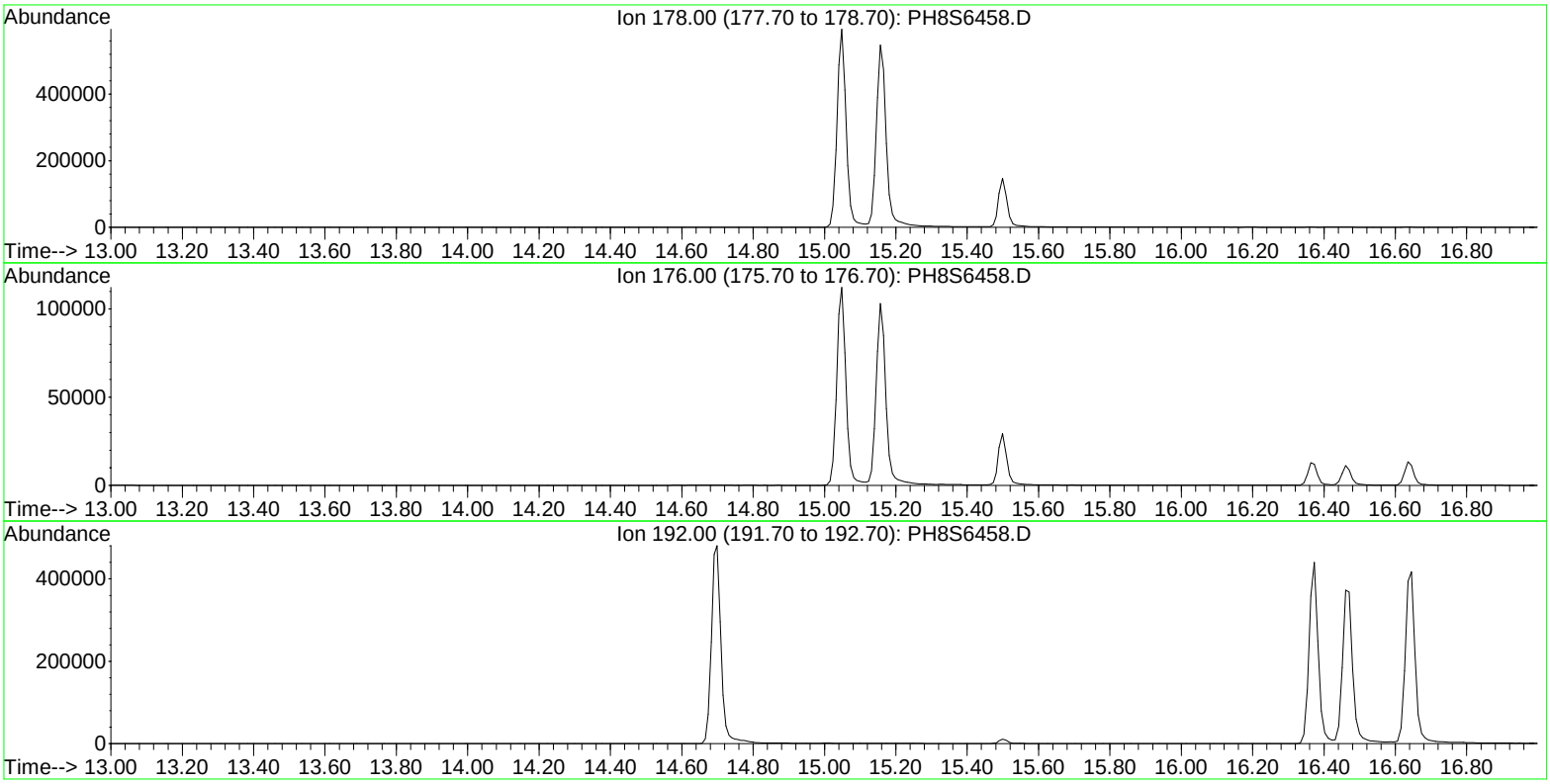


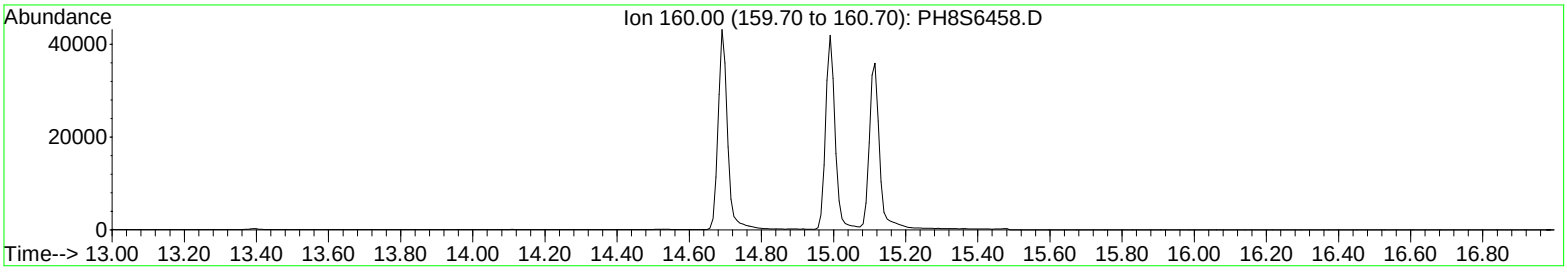
Thu Jan 10 08:38:48 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



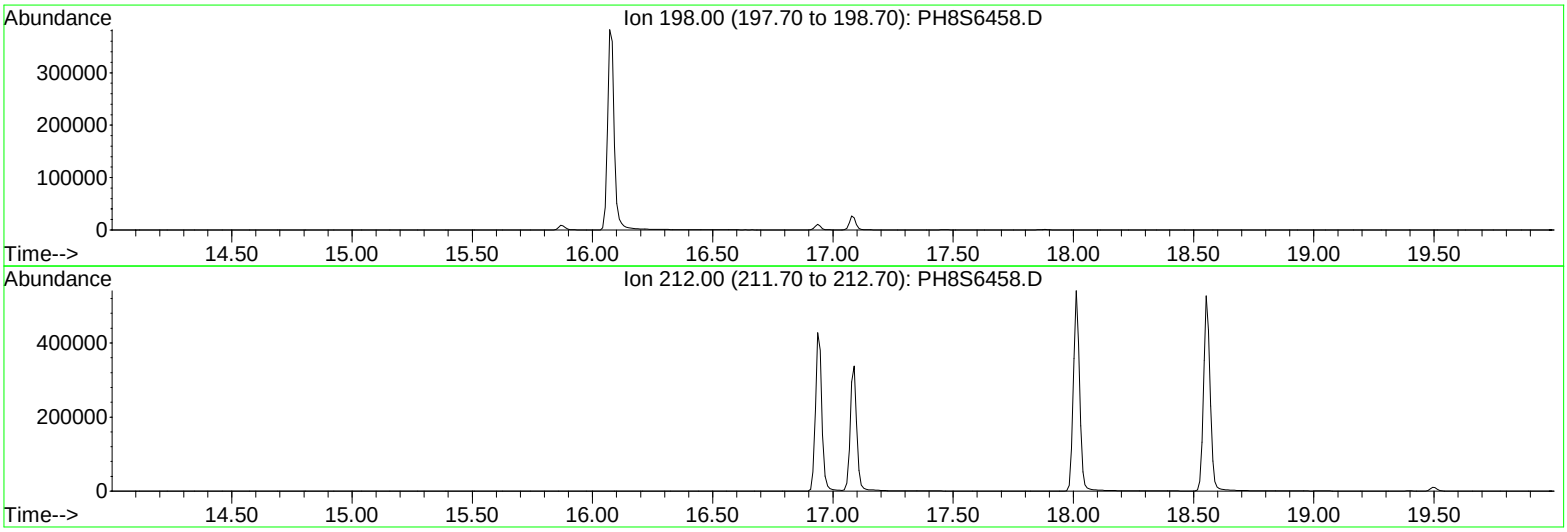


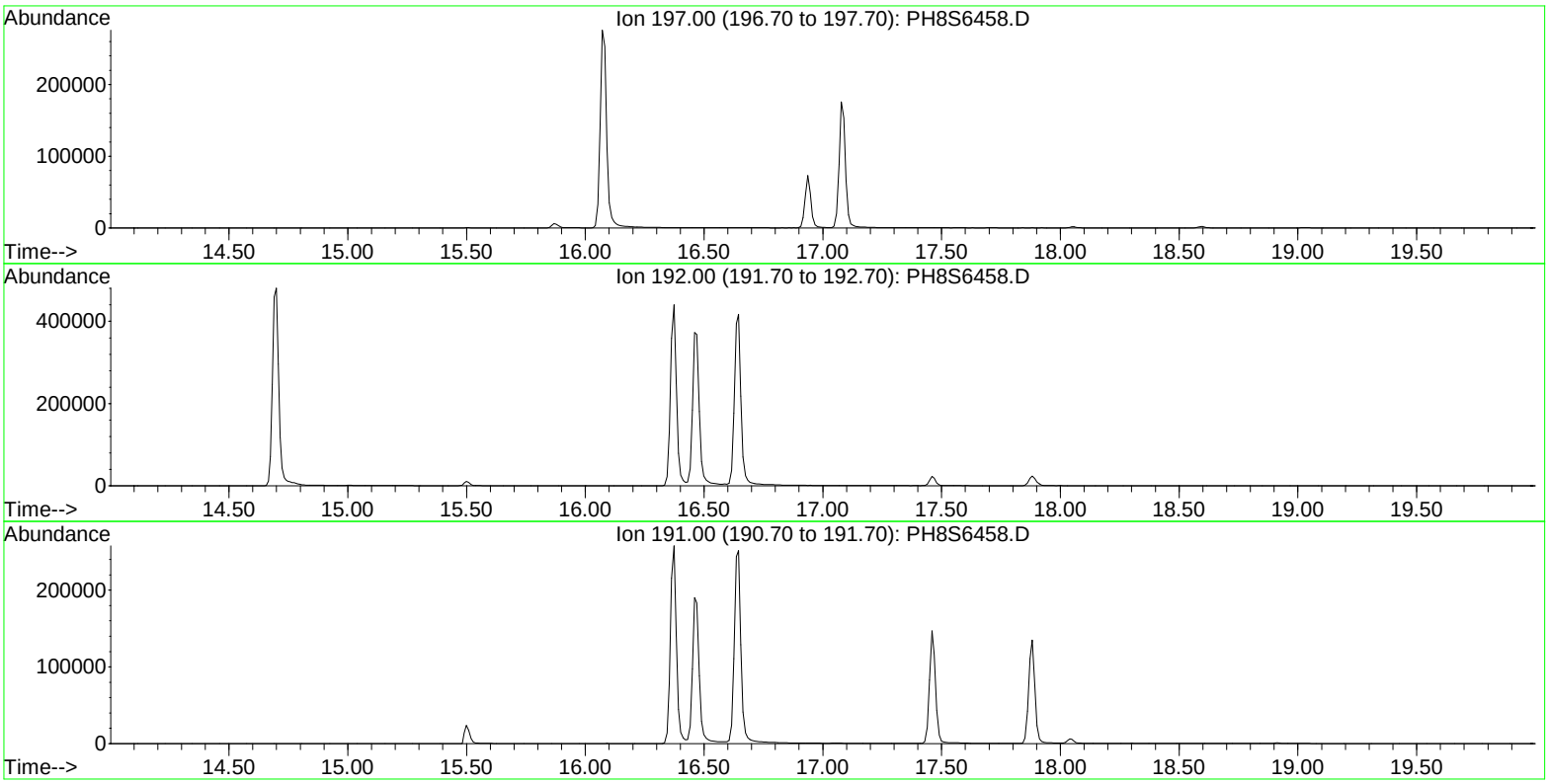


Thu Jan 10 08:38:49 2019

Axys Analytical CHRO Report

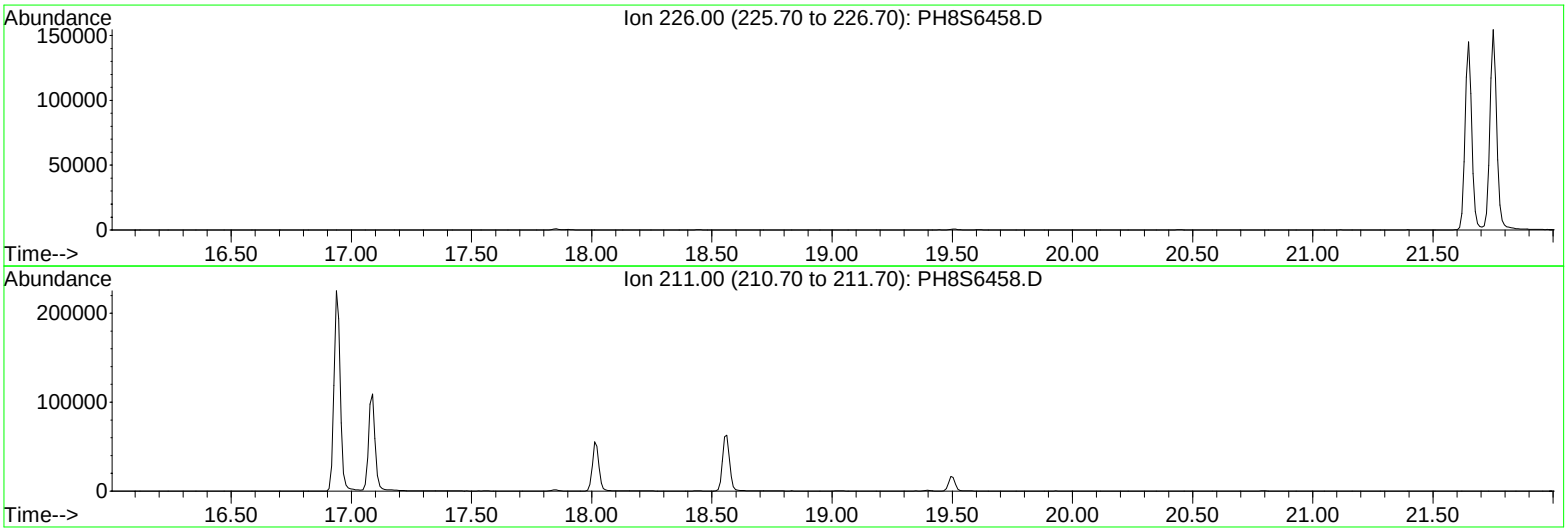
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

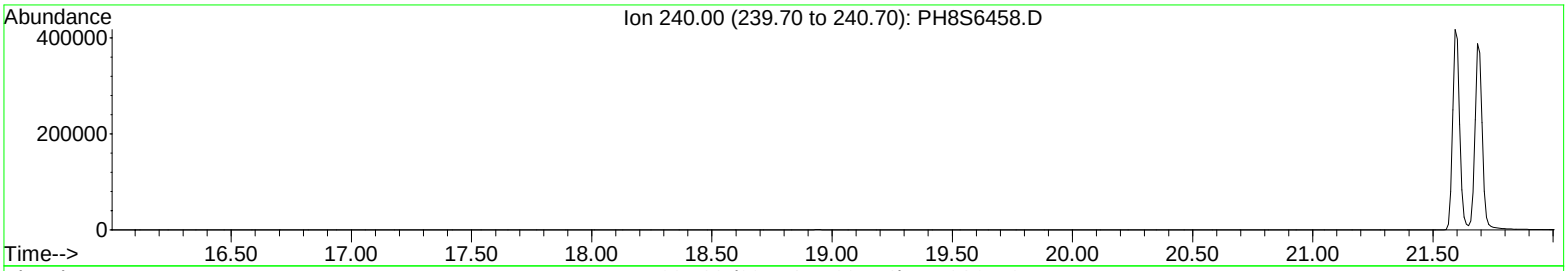


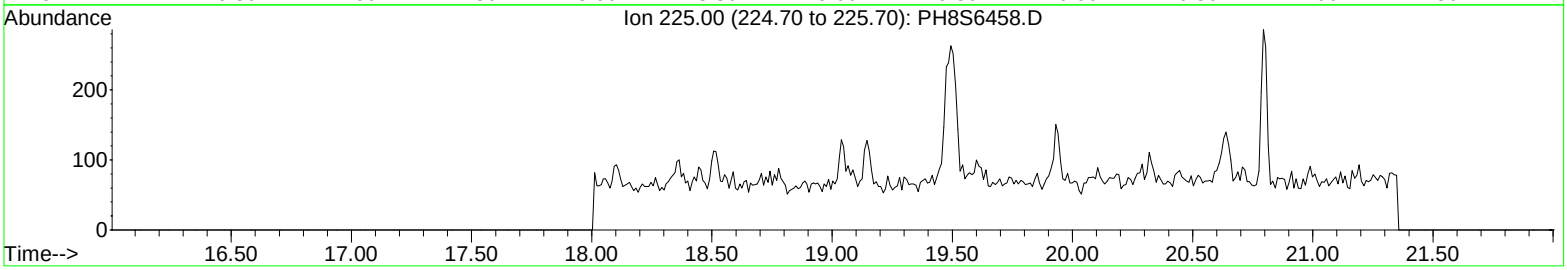


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

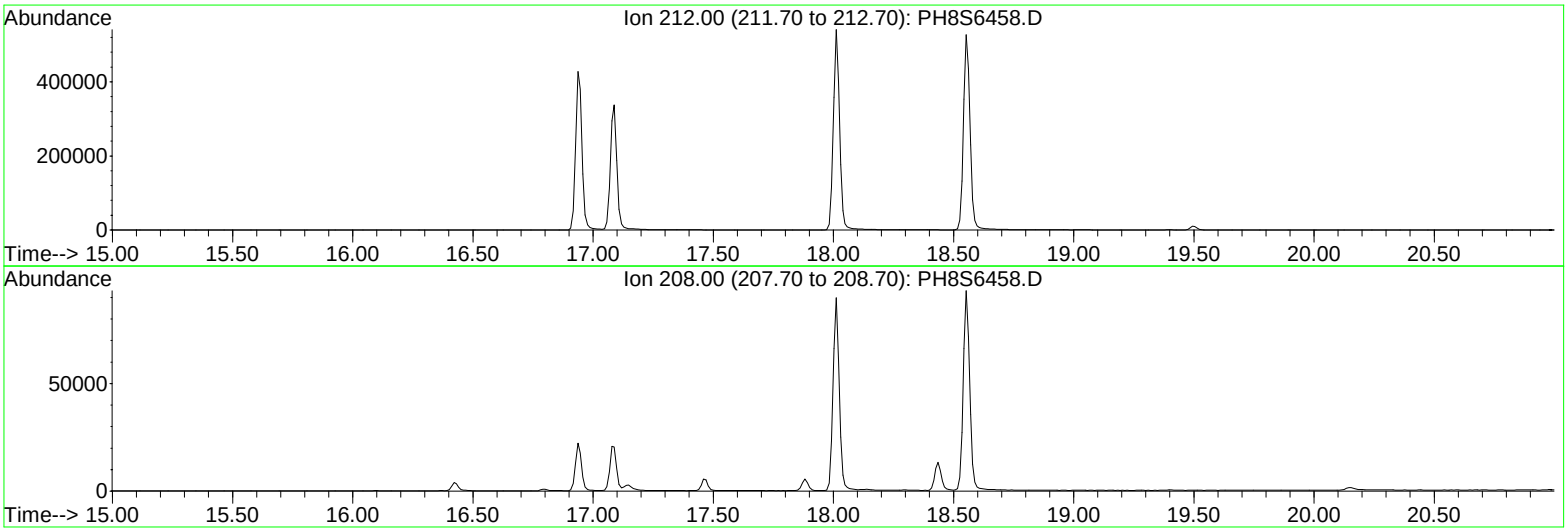


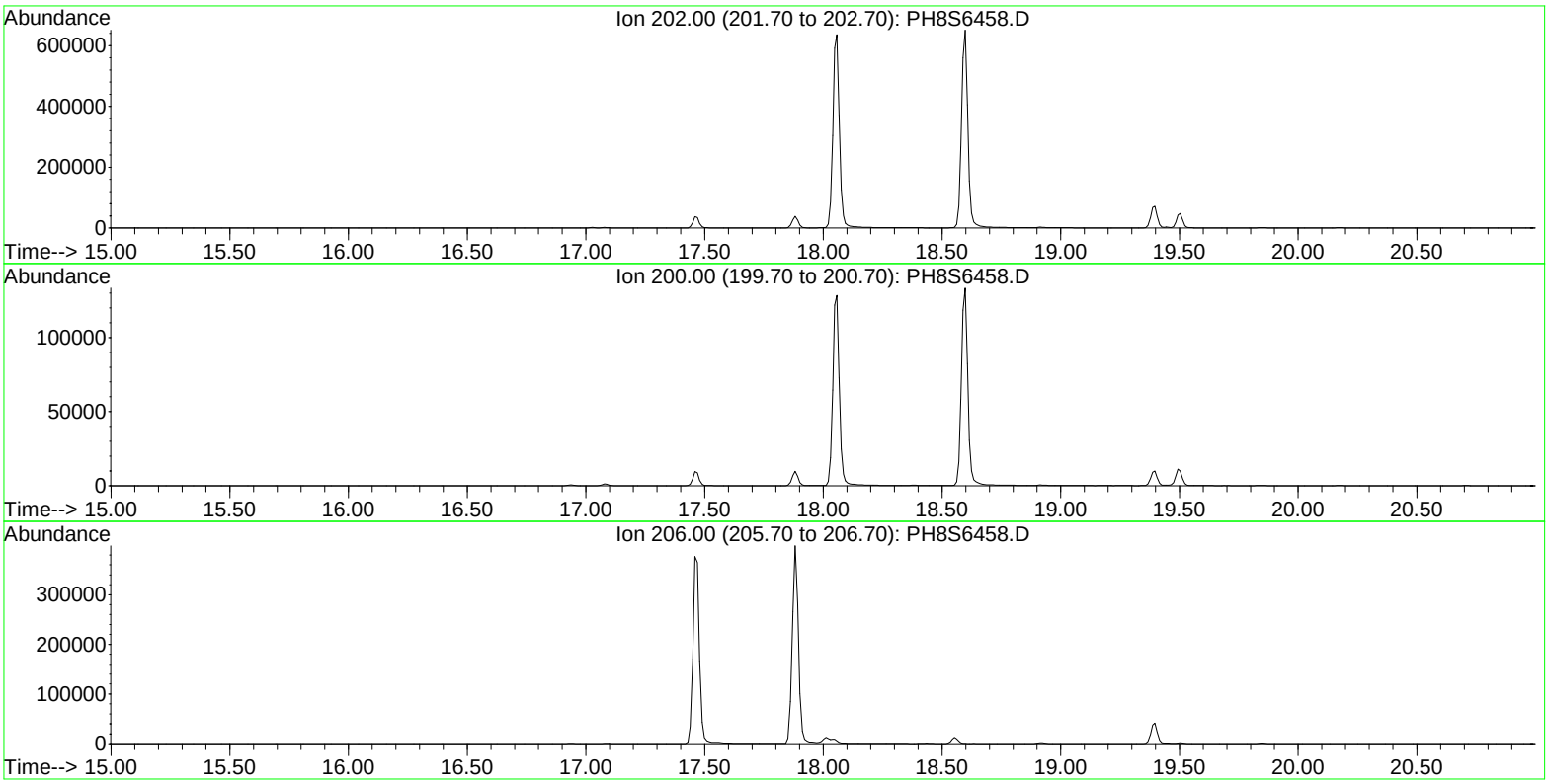


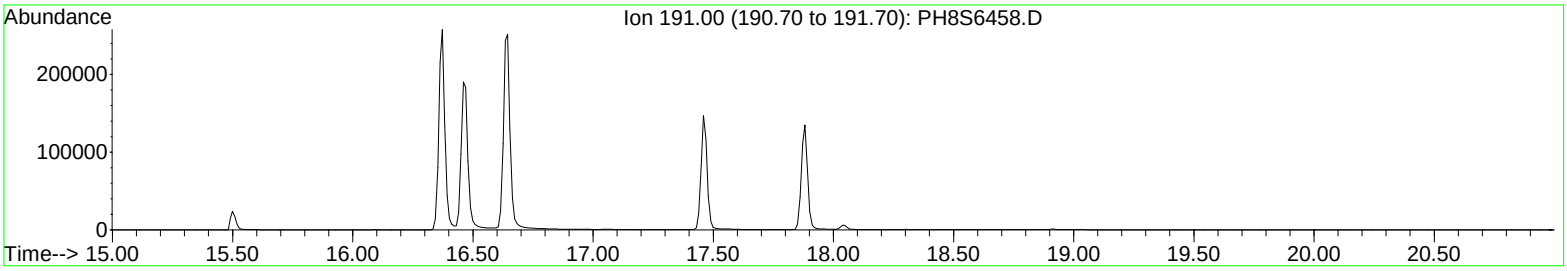


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



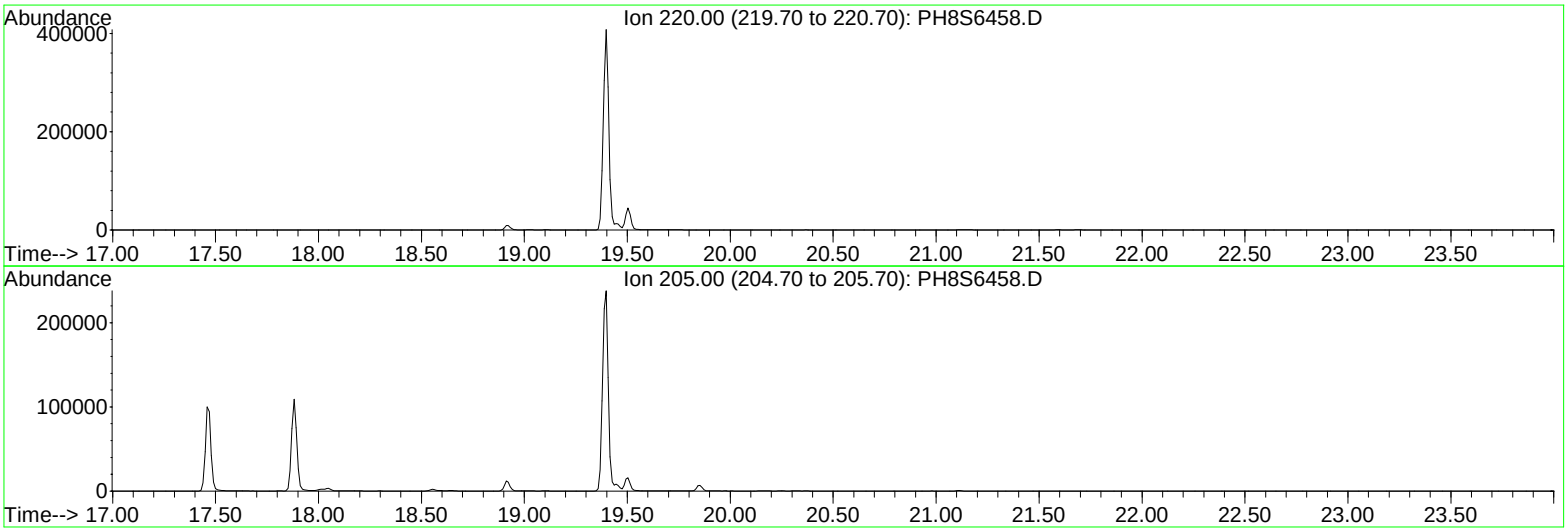


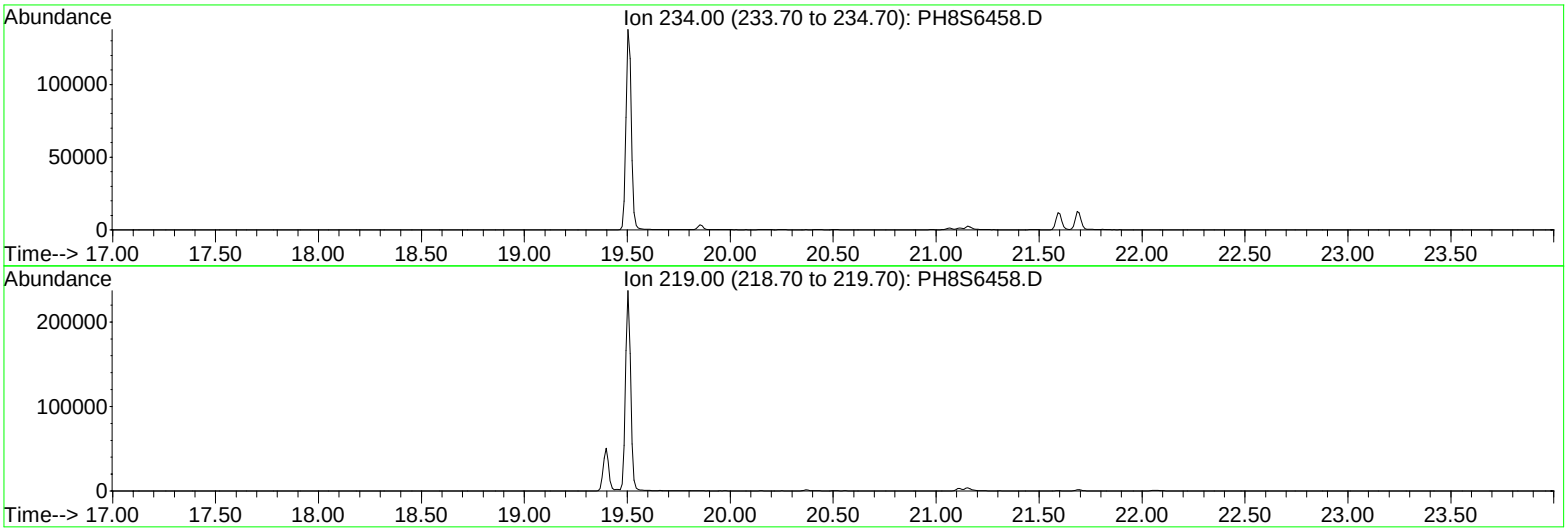


Thu Jan 10 08:38:52 2019

Axys Analytical CHRO Report

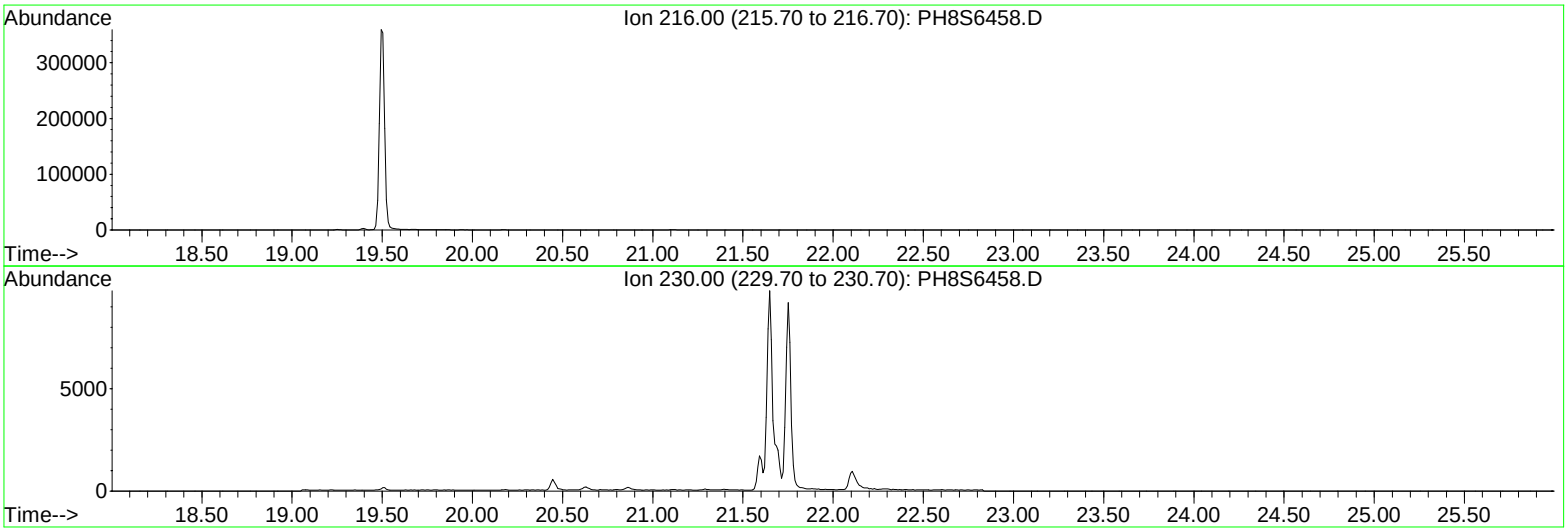
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

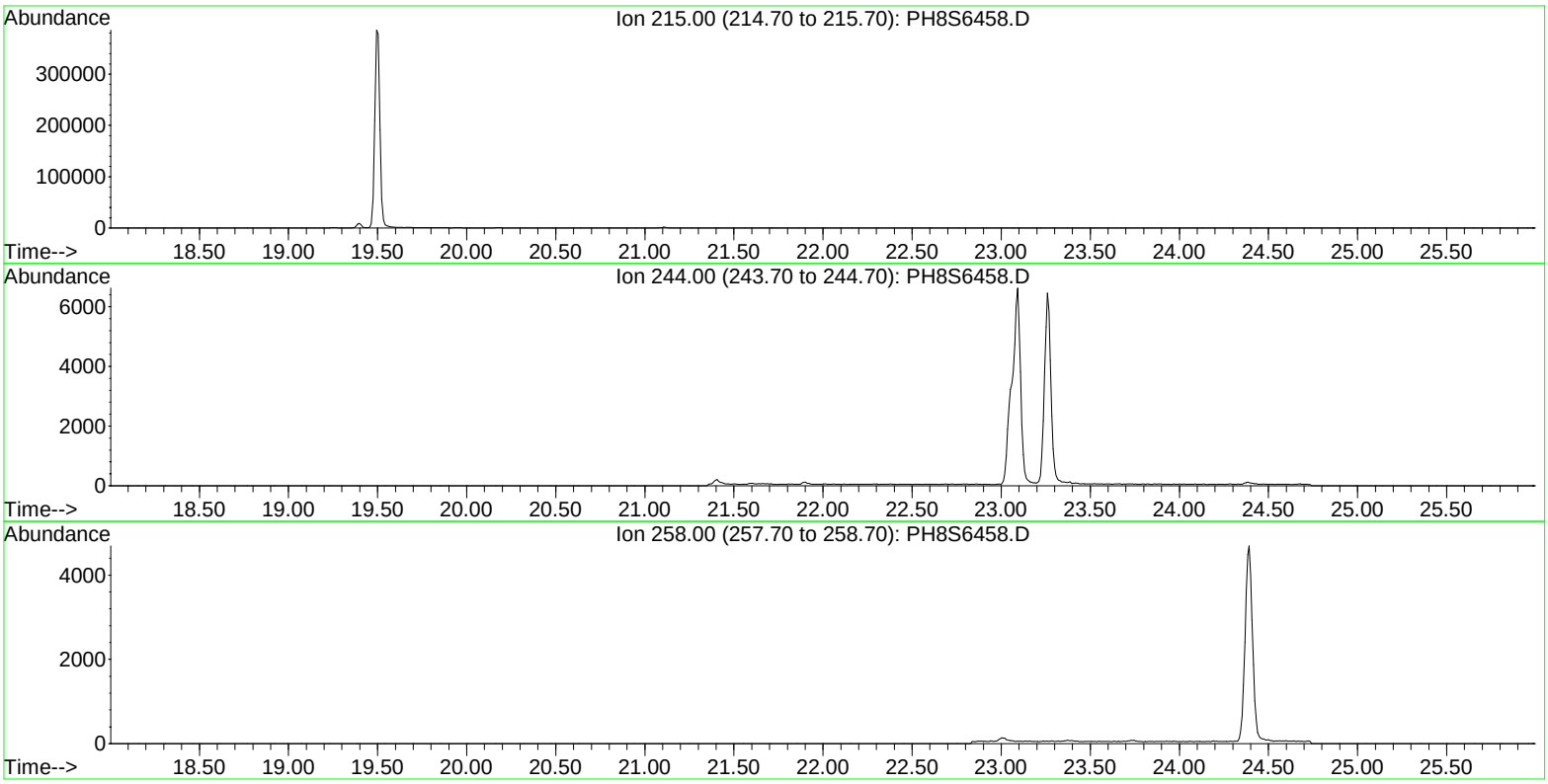


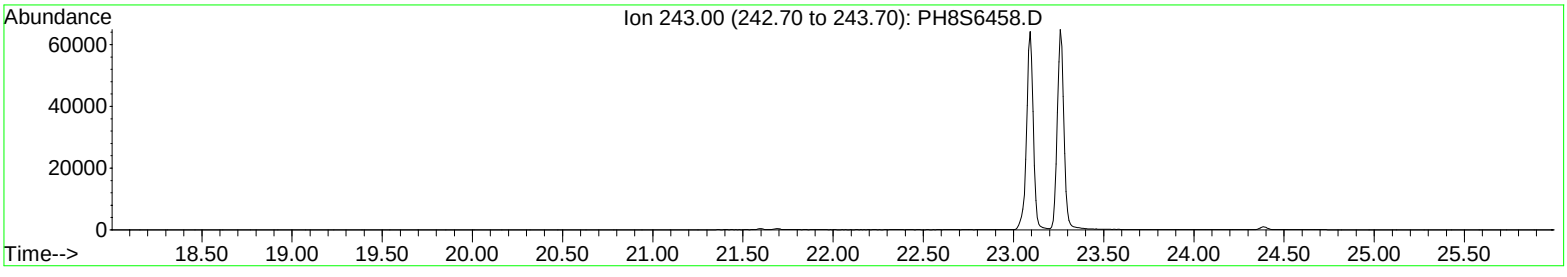


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



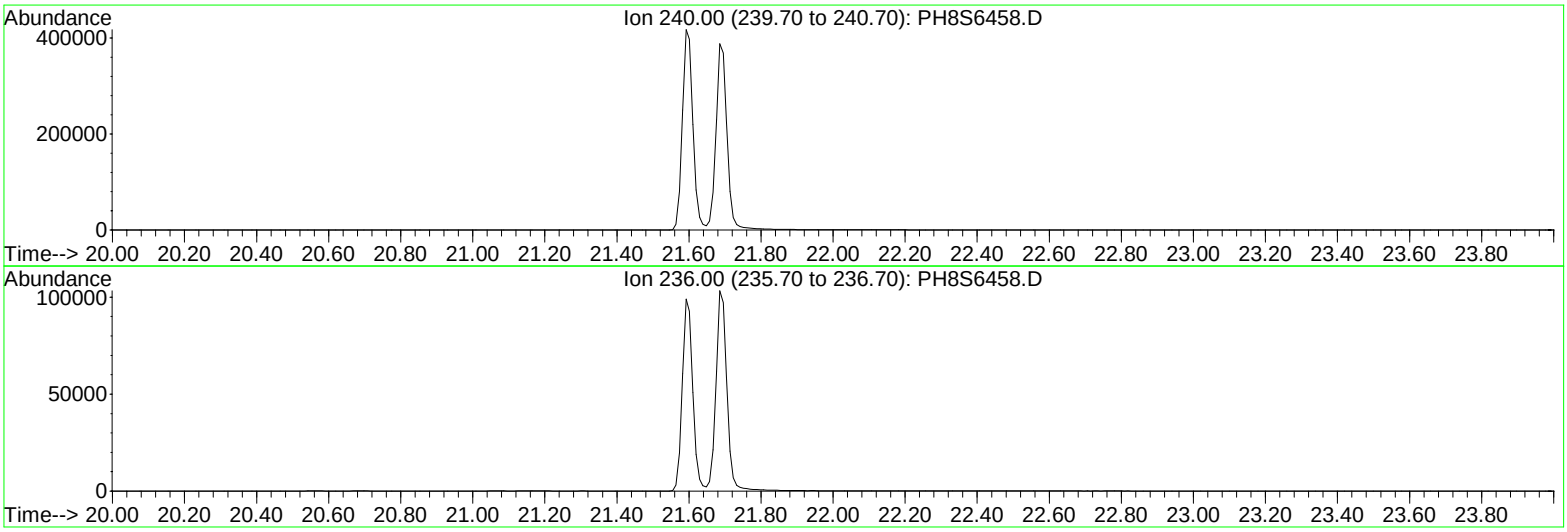


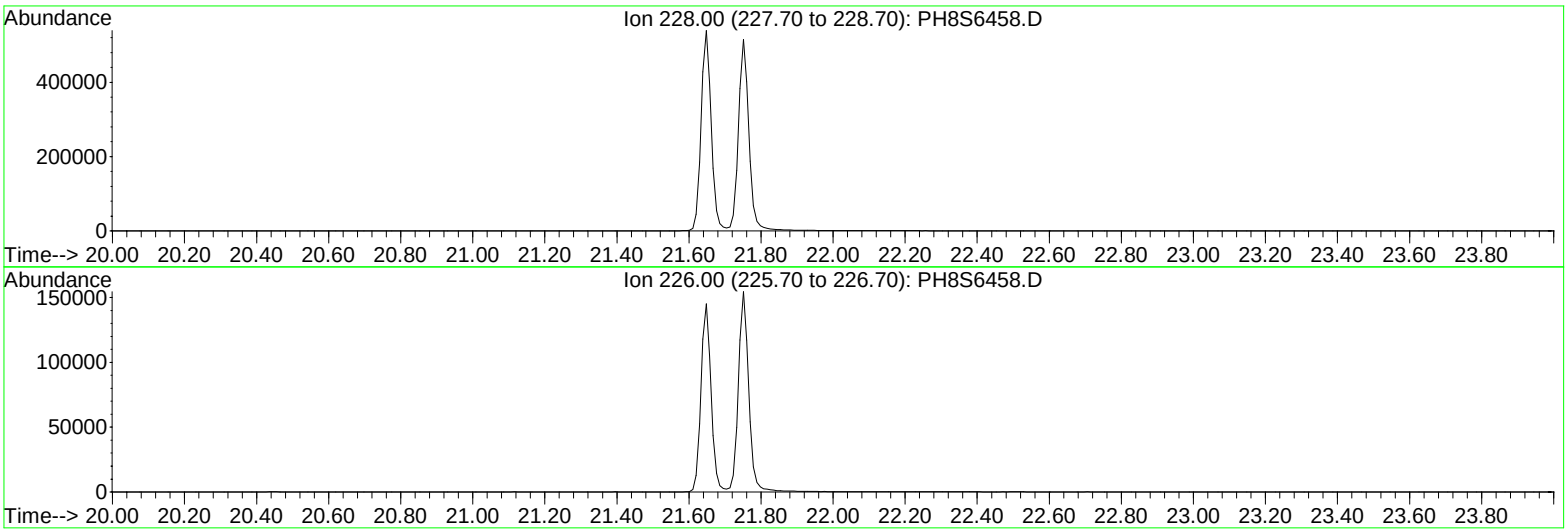


Thu Jan 10 08:38:54 2019

Axys Analytical CHRO Report

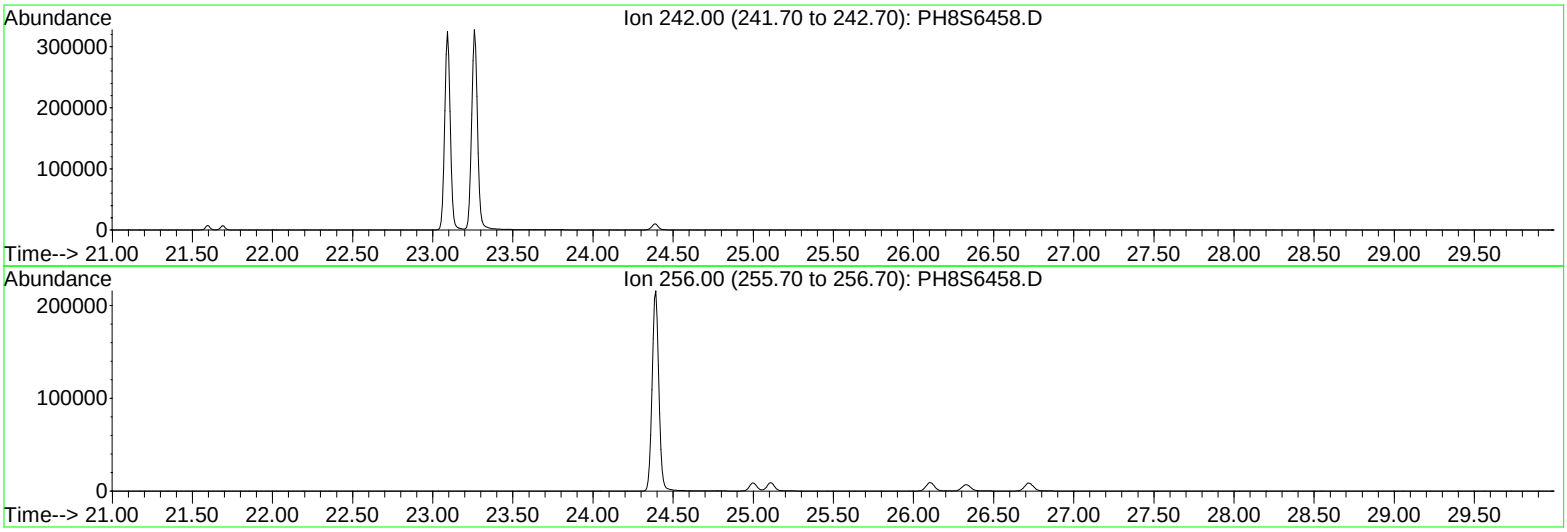
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

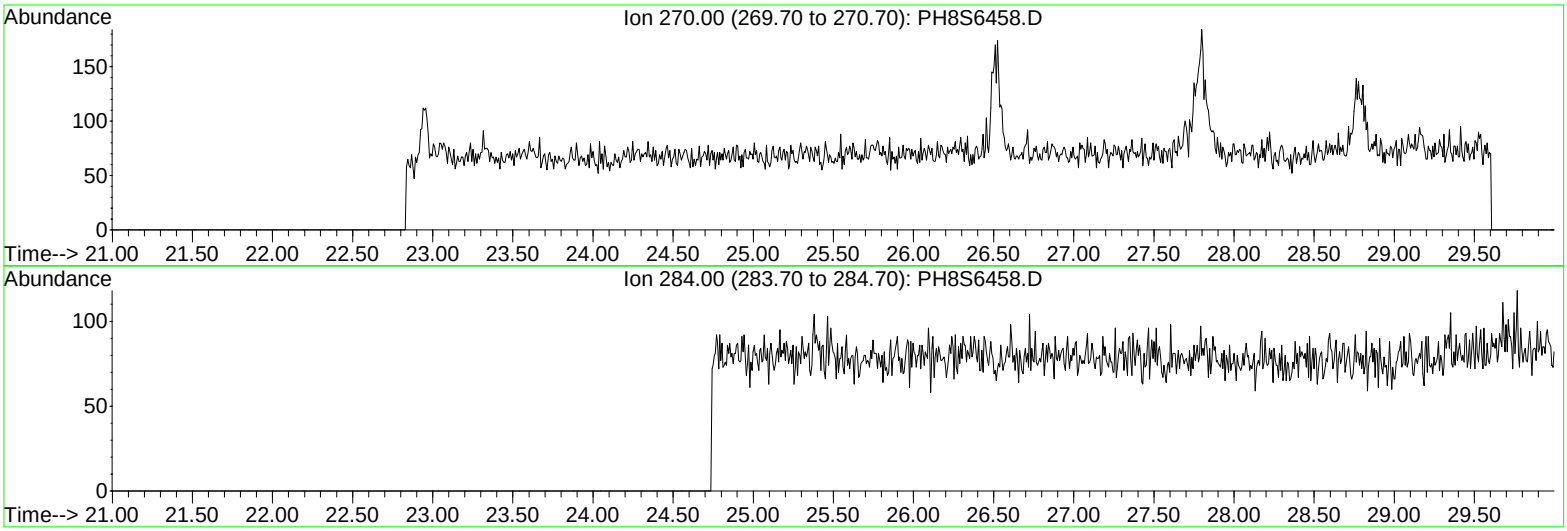




Axys Analytical CHRO Report

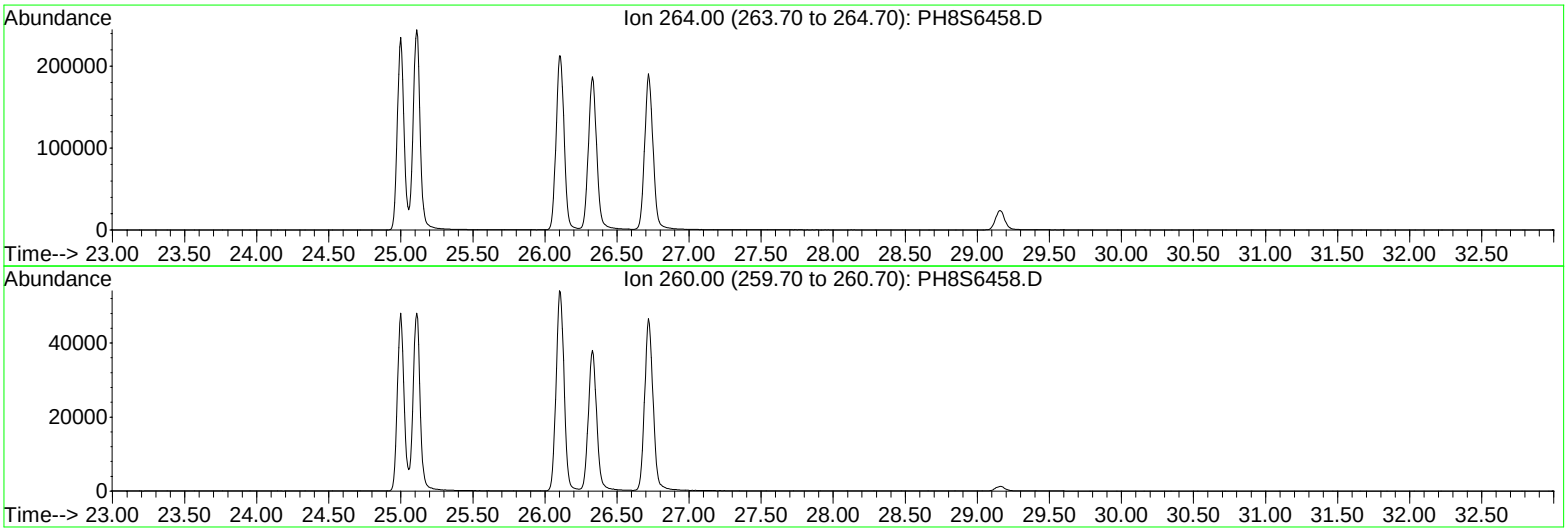
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

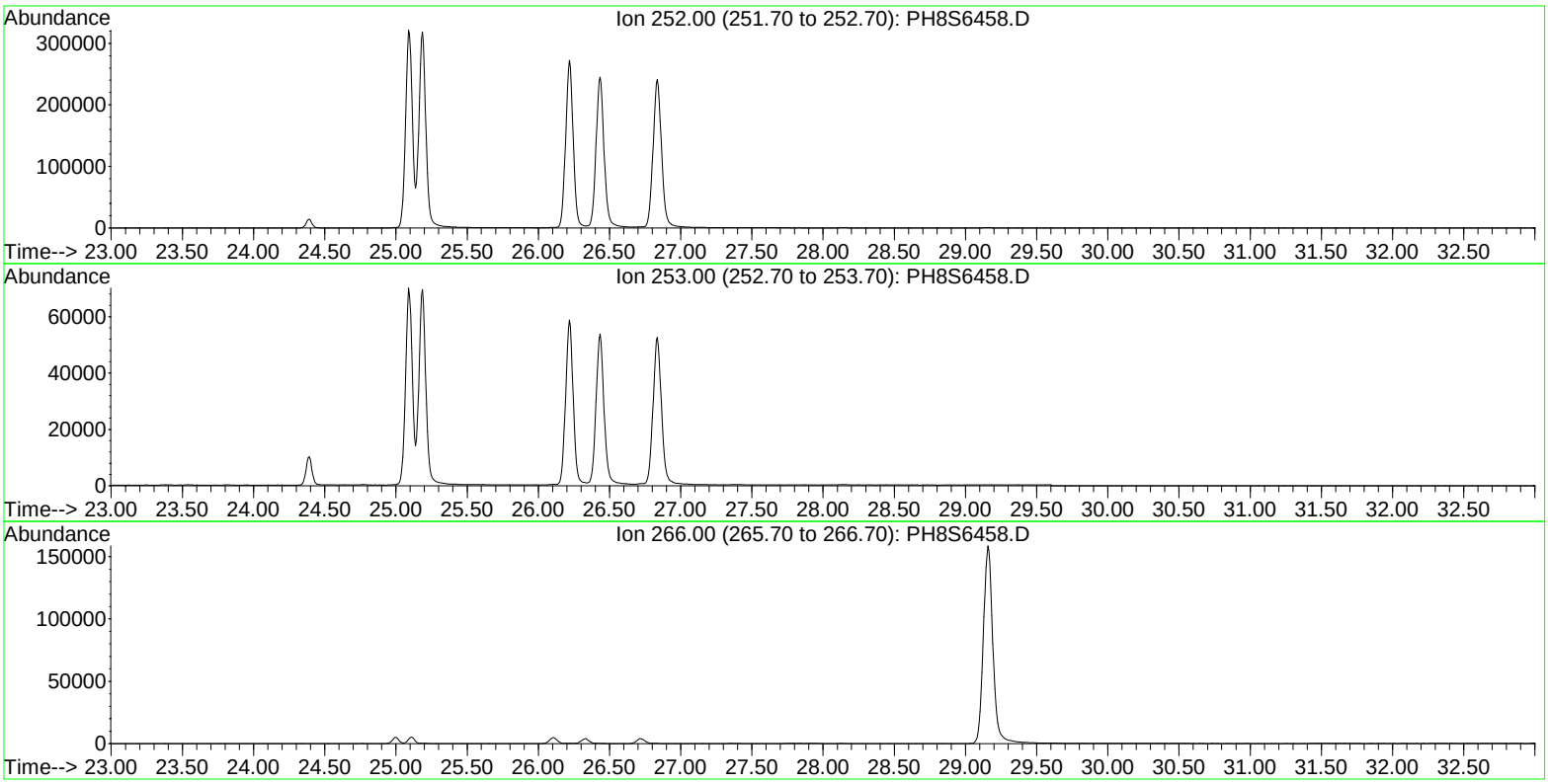


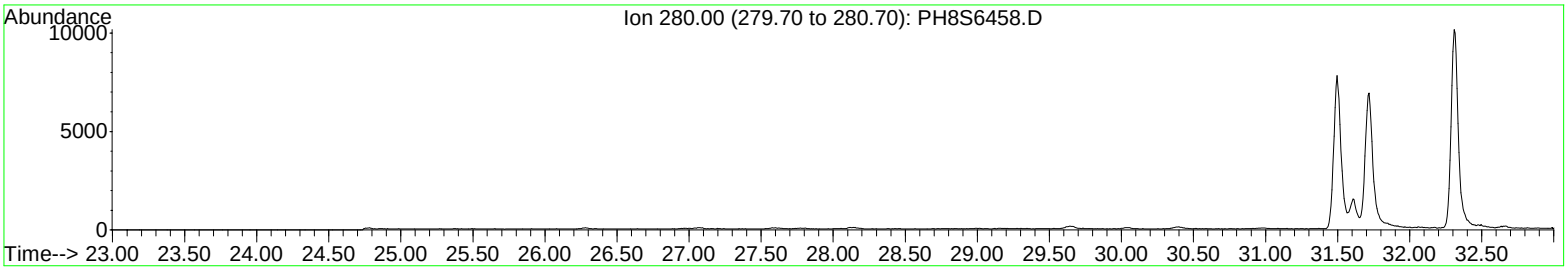


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

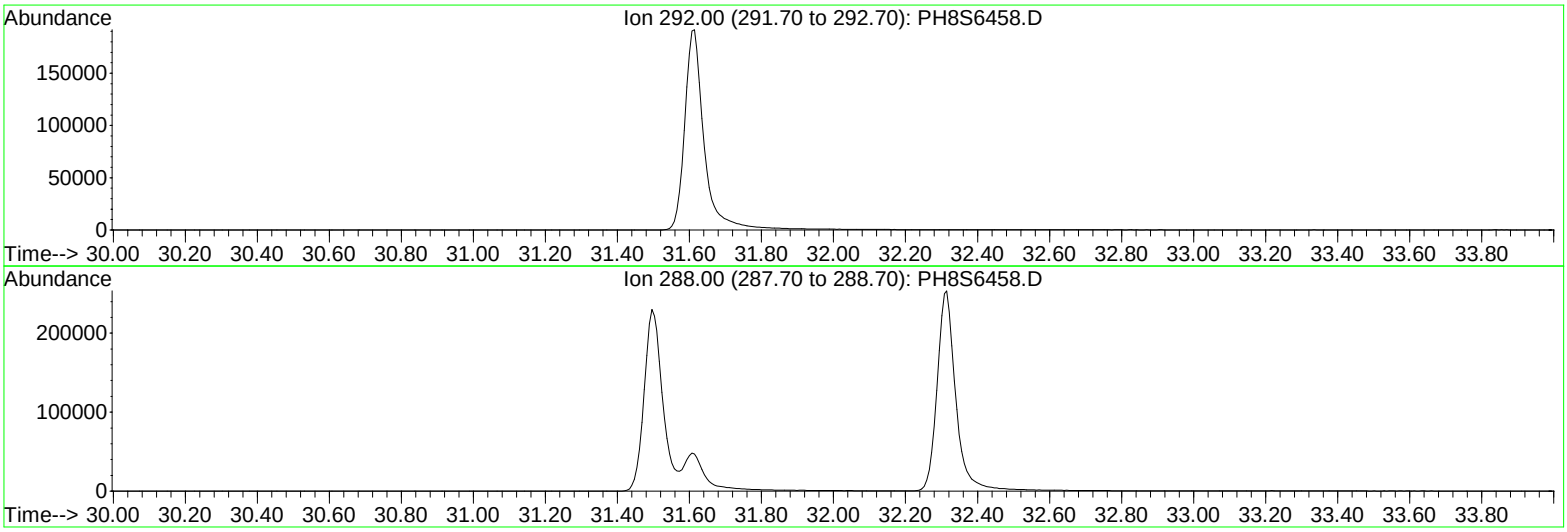


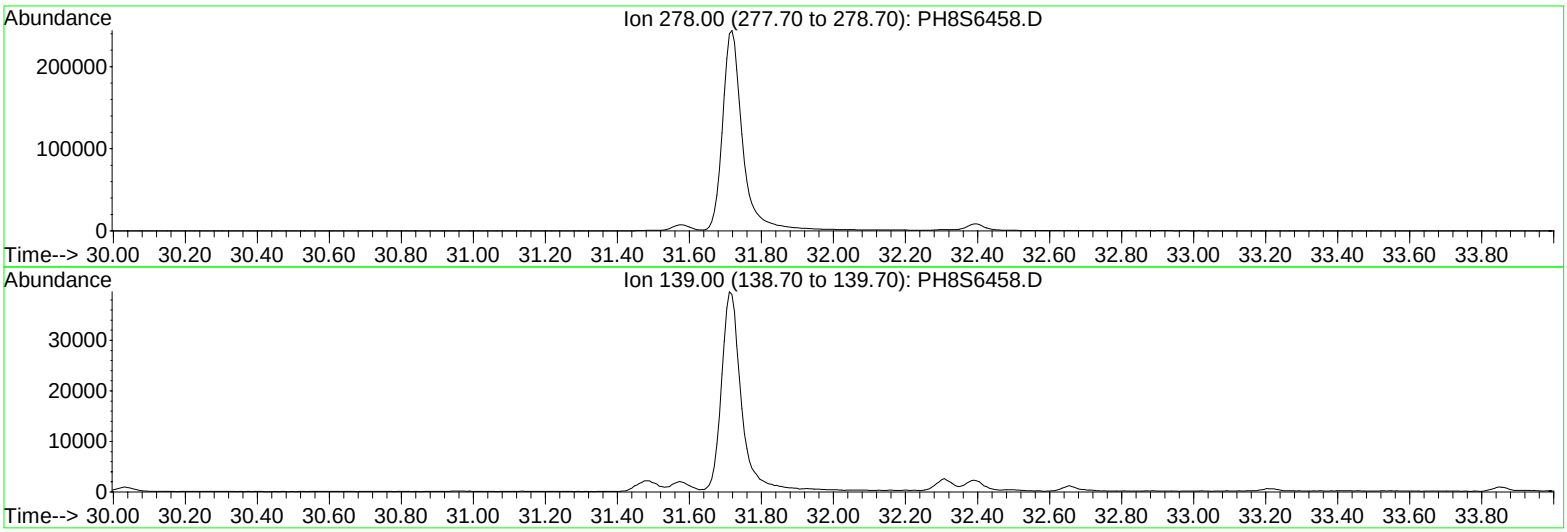




Axys Analytical CHRO Report

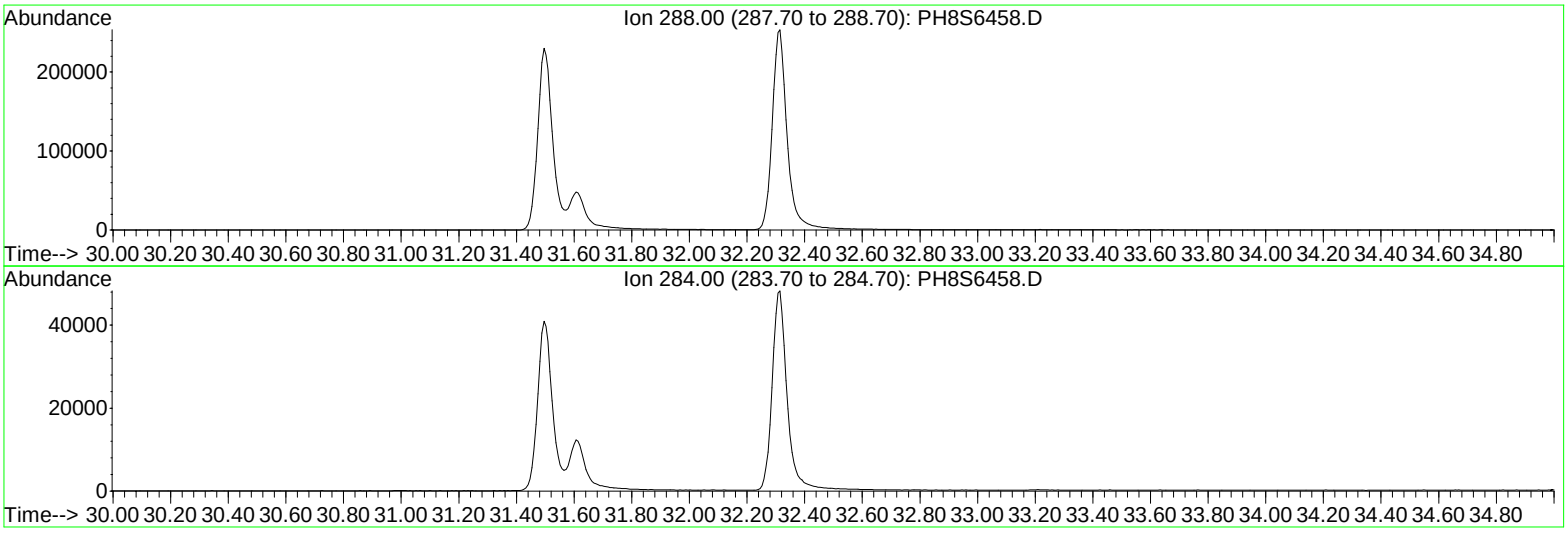
File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

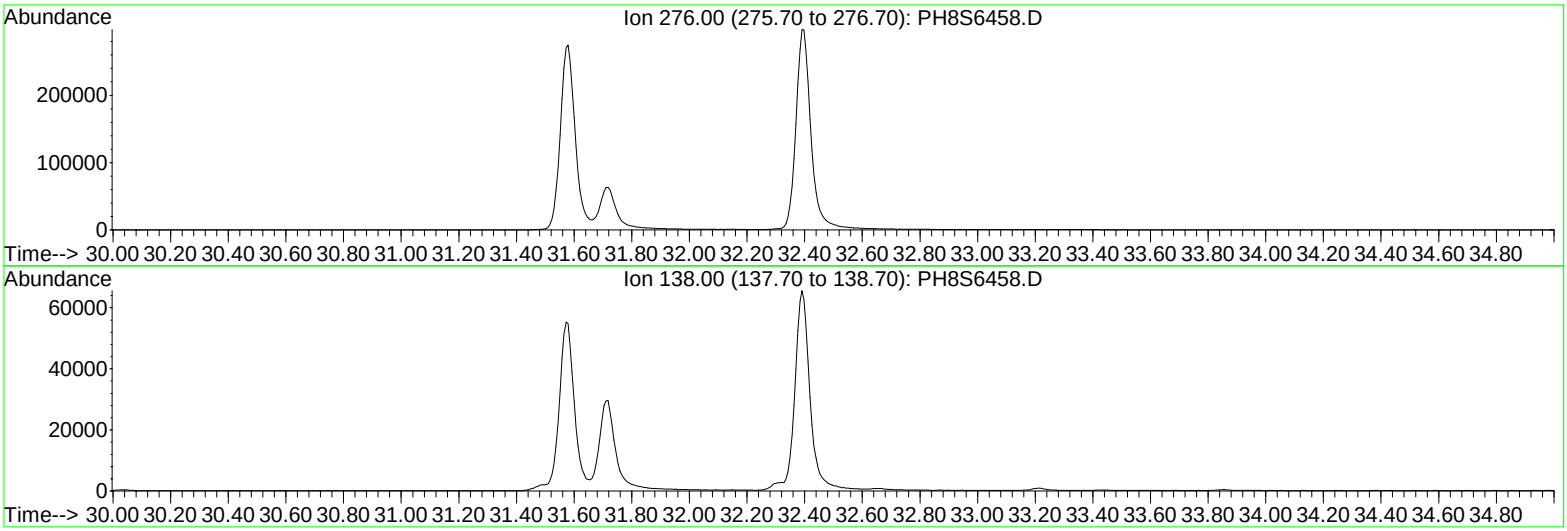




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6458.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 11:11
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6472.D
28/12/2018 22:05
PH036E-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181228PH\PH8S6472.D\PH8S6472.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 3
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Wed Jan 02 13:43:07 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	496511	11.28	2020 I	0	0	0		0.44	1
d8-Naphthalene - SURR	728106	6.85	1981.4403 S	99.072	0	0		0.09	0.607
d10-2-Methylnaphthalene - SURR	485809	8.52	1972.2521 S	100.1143	0	0		0.19	0.755
d10-Biphenyl - SURR	704398	9.8	2038.3258 S	99.6736	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	467329	10.1	2076.2788 S	101.0355	0	0		0.73	0.896
d8-Acenaphthylene - SURR	807284	10.84	1855.0944 S	90.0531	0	0		0.15	0.961
d10-Pyrene - REC	973811	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	876652	14.99	1942.1937 S	107.6008	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	875617	14.7	2181.3463 S	107.1915	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	818772	21.6	1928.8929 S	95.0194	0	0		0.24	1.164
d12-Chrysene - SURR	803452	21.69	1811.8229 S	92.4399	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	795962	26.11	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	727438	25	1996.015 S	101.3206	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	814546	25.11	2023.5721 S	101.1786	0	0		0.19	0.962
d12-Benzo(a)pyrene - SURR	720479	26.33	2089.4743 S	100.9408	0	0		0.2	1.008
d12-Perylene - SURR	742098	26.72	2158.5138 S	100.396	0	0		0.25	1.023
d12-Indeno(123cd)pyrene - SURR	766373	31.5	2194.4754 S	110.2751	0	0		0.18	1.207
d12-Benzo(ghi)perylene - SURR	865697	32.31	2084.2205 S	105.2637	0	0		0.19	1.238
d8-Naphthalene	728106	6.85	2000 I	0	0	0		0.09	1
Naphthalene $	859216	6.89	1971.9432 T	0	0	0		0.07	1.007
d10-2-Methylnaphthalene	485809	8.52	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	588170	8.6	1971.1862 T	0	0	0		0.9	1.009
1-Methylnaphthalene	555970	8.86	1973.482 T	0	0	0		0.93	1.04
C1-Naphthalenes	588170	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	704398	9.8	2045 I	0	0	0		-1	1
Biphenyl $	759746	9.85	1985.5108 T	0	0	0		0.28	1.005
C1-Biphenyls $	2109	11.33	5.5116 T	0	0	0		0.16	1.156
C2-Biphenyls $	106	12.7	0.277 T	0	0	0		1.05	1.296
d12-2,6-Dimethylnaphthalene	467329	10.1	2055 I	0	0	0		0.73	1
2,6-Dimethylnaphthalene $	544067	10.21	1978.1652 T	0	0	0		0.69	1.01
Ethyl/DiMe-Naphthalenes	544067	10.21	2186.4893 T	0	0	0		0.69	1.01
1,2-Dimethylnaphthalene	432657	10.93	1943.8151 T	0	0	0		1.3	1.082
C2-Naphthalenes	544067	10.21	0 T	0	0	0		-1	1.01
2,3,6-Trimethylnaphthalene	547017	12.2	1967.5662 T	0	0	0		0.9	1.207
2,3,5-Trimethylnaphthalene $	514410	12.38	1949.9054 T	0	0	0		0.91	1.225
C3-Naphthalenes	514410	12.38	1898.7665 T	0	0	0		0.91	1.225
1,4,6,7-Tetramethylnaphthalene $	533964	13.9	1919.8118 T	0	0	0		0.03	1.376
C4-Naphthalenes	534030	13.9	1920.0491 T	0	0	0		0.03	1.376
d8-Acenaphthylene	807284	10.84	2060 I	0	0	0		0.15	1
Acenaphthylene $	914846	10.87	1921.2589 T	0	0	0		0.2	1.003
Acenaphthene $	566276	11.36	2151.7722 T	0	0	0		1.16	1.048
C1-Acenaphthenes $	415	11.72	1.5769 T	0	0	0		0.24	1.081
d8-Dibenzothiophene	875617	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	1009245	14.74	1962.1019 T	0	0	0		0.08	1.003
C1-Dibenzothiophenes-1	17938	15.88	50.8268 T	0	0	0		0.7	1.08
2/3-Methyldibenzothiophenes $	713666	16.07	2022.1522 T	0	0	0		0.72	1.093
C1-Dibenzothiophenes-2	1721	16.3	4.8764 T	0	0	0		0.7	1.109
C1-Dibenzothiophenes	713666	16.07	0 T	0	0	0		-1	1.093
4,6-Dimethyldibenzothiophene	749519	16.94	1981.6569 T	0	0	0		0.16	1.152

CAL VER meets specification

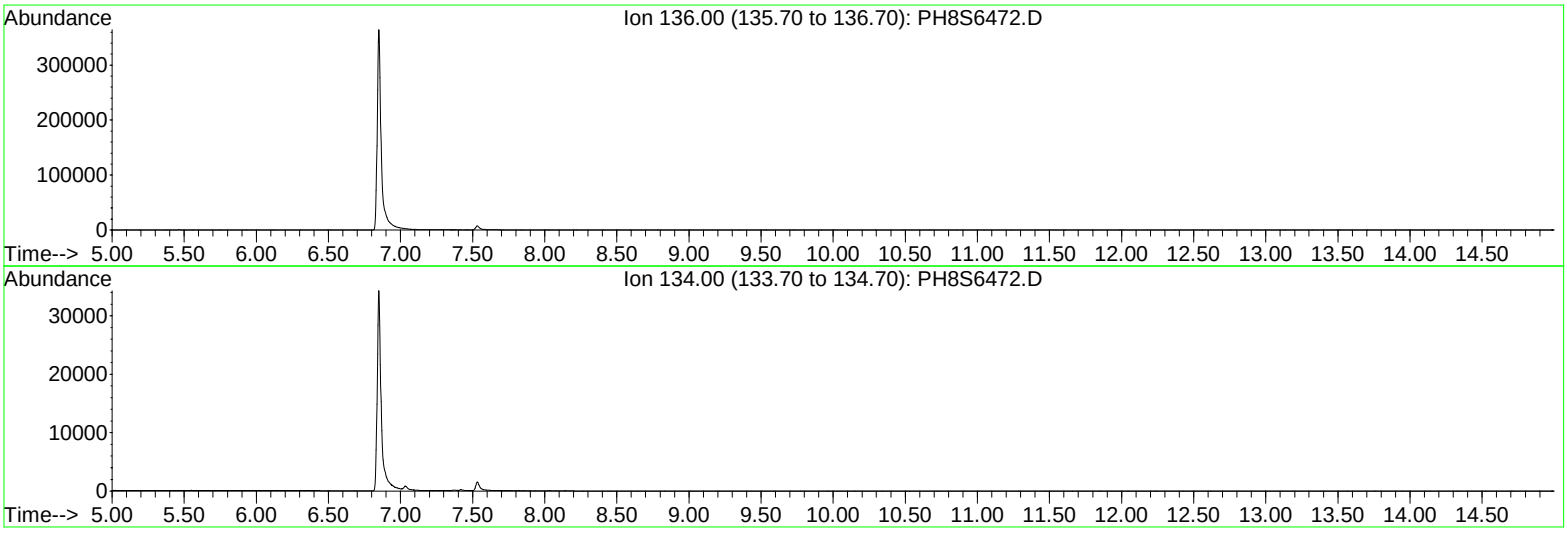
pv by vr
03-Jan-2019

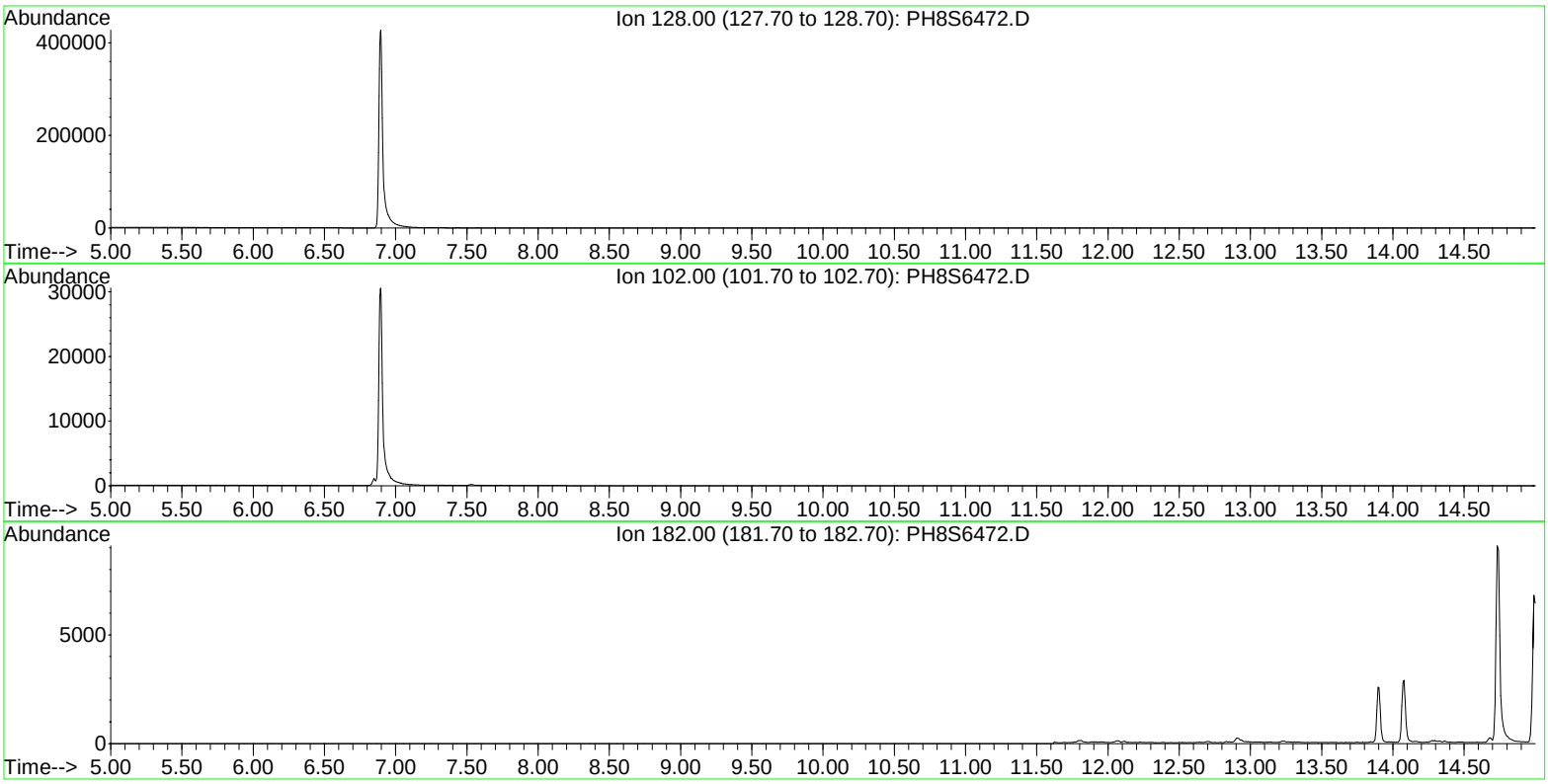
2,4-Dimethyldibenzothiophene $	617282	17.09	2113.2433 T	0	0	0	0.51	1.163
C2-Dibenzothiophenes	617282	17.09	2113.2433 T	0	0	0	0.51	1.163
C3-Dibenzothiophenes $	386	18.09	1.3215 T	0	0	0	0.8	1.231
C4-Dibenzothiophenes $	64	18.77	0.2191 T	0	0	0	1.52	1.277
d10-Phenanthrene	876652	14.99	1805 I	0	0	0	0.15	1
Fluorene $	710582	12.65	2047.1462 T	0	0	0	1	0.844
2-Methylfluorene $	498757	14.08	2113.0084 T	0	0	0	1.27	0.939
C1-Fluorenes	498757	14.08	2113.0084 T	0	0	0	1.27	0.939
1,7-Dimethylfluorene $	465176	15.5	2119.0815 T	0	0	0	0.08	1.034
C2-Fluorenes	465176	15.5	2119.0815 T	0	0	0	0.08	1.034
C3-Fluorenes $	7306	16.42	33.282 T	0	0	0	0.38	1.095
Phenanthrene $	1026239	15.05	1975.5566 T	0	0	0	0.19	1.004
Anthracene	1012626	15.16	1926.3298 T	0	0	0	0.19	1.011
d10-Anthracene $	929494	15.12	1979.8875 T	0	0	0	0.14	1.008
3-Methylphenanthrene	750668	16.37	2048.2854 T	0	0	0	0.59	1.092
2-Methylphenanthrene	750668	16.37	2075.4574 T	0	0	0	0.59	1.092
2-Methylanthracene	688217	16.46	1960.4168 T	0	0	0	0.51	1.098
9/4-Methylphenanthrenes	789844	16.64	2155.1817 T	0	0	0	0.6	1.11
1-Methylphenanthrene $	791970	16.64	2048.0639 T	0	0	0	0.6	1.11
C1-Phenanthrenes/Anthracenes	783330	16.64	0 T	0	0	0	-1	1.11
Fluoranthene $	1180392	18.06	1849.7619 T	0	0	0	0.2	1.205
Pyrene	1183741	18.6	1794.1376 T	0	0	0	0.21	1.241
3,6-Dimethylphenanthrene $	699403	17.46	1981.8574 T	0	0	0	0.36	1.165
2,6-Dimethylphenanthrene	701246	17.46	1983.4285 T	0	0	0	0.36	1.165
1,7-Dimethylphenanthrene	689475	17.88	1946.576 T	0	0	0	0.35	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	699403	17.46	1978.2157 T	0	0	0	0.36	1.165
1,8-Dimethylphenanthrene	35128	18.01	99.3573 T	0	0	0	0.36	1.202
C2-Phenanthrenes/Anthracenes	699403	17.46	0 T	0	0	0	-1	1.165
1,2,6-Trimethylphenanthrene $	723075	19.4	2225.2458 T	0	0	0	0.61	1.294
C3-Phenanthrenes/Anthracenes	743935	19.4	2289.4419 T	0	0	0	0.61	1.294
Retene $	236571	19.5	1905.3626 T	0	0	0	1.67	1.301
C4-Phenanthrenes/Anthracenes	236571	19.5	1905.3626 T	0	0	0	1.67	1.301
C1-Fluoranthenes/Pyrenes-1	1722	19.25	4.5392 T	0	0	0	0.93	1.284
3-Methylfluoranthene/Benzo(a)fluorene $	696086	19.49	1834.8803 T	0	0	0	1.07	1.3
C1-Fluoranthenes/Pyrenes-2	390	19.94	1.028 T	0	0	0	0.97	1.33
C1-Fluoranthenes/Pyrenes	696086	19.49	0 T	0	0	0	-1	1.3
C2-Fluoranthenes/Pyrenes $	972	20.45	2.5622 T	0	0	0	0.38	1.364
C3-Fluoranthenes/Pyrenes $	179	21.9	0.4718 T	0	0	0	0.16	1.461
C4-Fluoranthenes/Pyrenes $	359	23.28	0.9463 T	0	0	0	1.31	1.553
d12-Benz(a)anthracene	818772	21.6	2030 I	0	0	0	0.24	1
d10-Fluoranthene $	926728	18.01	2116.2427 T	0	0	0	0.17	0.834
Benz(a)anthracene	1012773	21.65	1943.6811 T	0	0	0	0.27	1.002
d12-Chrysene	803452	21.69	1960 I	0	0	0	0.26	1
Chrysene $	1016629	21.75	2009.0772 T	0	0	0	0.3	1.003
5/6-Methylchrysenes $	768004	23.09	2009.8722 T	0	0	0	-1	1.064
1-Methylchrysene	810797	23.26	2048.1773 T	0	0	0	-1	1.072
C1-Benz(a)anthracenes/Chrysenes	768004	23.09	1974.3675 T	0	0	0	-1	1.064
5,9-Dimethylchrysene $	605534	24.39	2046.9547 T	0	0	0	-1	1.124
C2-Benz(a)anthracenes/Chrysenes	605534	24.39	2046.9547 T	0	0	0	-1	1.124
C3-Benz(a)anthracenes/Chrysenes $	34	25.09	0.1149 T	0	0	0	-1	1.156
C4-Benz(a)anthracenes/Chrysenes $	45	26.11	0.1521 T	0	0	0	-1	1.203
d12-Benzo(b)fluoranthene	727438	25	1970 I	0	0	0	0.21	1
Benzo(b)fluoranthene-SURR int	955	24.99	0 T	0	0	0	0.44	1
Benzo(b)fluoranthene $	1028044	25.09	1922.8169 T	0	0	0	0.22	1.004
d12-Benzo(k)fluoranthene	814546	25.11	2000 I	0	0	0	0.19	1
Benzo(j/k)fluoranthenes	1052876	25.19	2048.8259 T	0	0	0	0.22	1.003
Benzofluoranthenes	1028044	25.09	0 T	0	0	0	-1	0.999
d12-Benzo(a)pyrene	720479	26.33	2070 I	0	0	0	0.2	1
Benzo(e)pyrene	960050	26.22	1987.6707 T	0	0	0	0.22	0.996
Benzo(a)pyrene	917949	26.43	2013.4771 T	0	0	0	0.22	1.004
7-Methylbenzo(a)pyrene $	702723	29.16	2165.5005 T	0	0	0	-1	1.108
C1-Benzofluoranthenes/Benzopyrenes	702723	29.16	2165.5005 T	0	0	0	-1	1.108
C2-Benzofluoranthenes/Benzopyrenes $	16	29.86	0.0493 T	0	0	0	-1	1.134
d12-Perylene	742098	26.72	2150 I	0	0	0	0.25	1
Perylene	949893	26.84	1995.8264 T	0	0	0	0.22	1.004
d12-Indeno(123cd)pyrene	766373	31.5	1990 I	0	0	0	0.18	1
d14-Dibenzo(ah)anthracene $	671526	31.61	1906.0767 T	0	0	0	0.28	1.004
Dibenzo(ah)anthracene $	871434	31.72	1987.6849 T	0	0	0	0.16	1.007
Indeno(123cd)pyrene $	931809	31.58	1977.323 T	0	0	0	0.2	1.002
d12-Benzo(ghi)perylene	865697	32.31	1980 I	0	0	0	0.19	1
Benzo(ghi)perylene	1024160	32.4	1961.5019 T	0	0	0	0.21	1.003

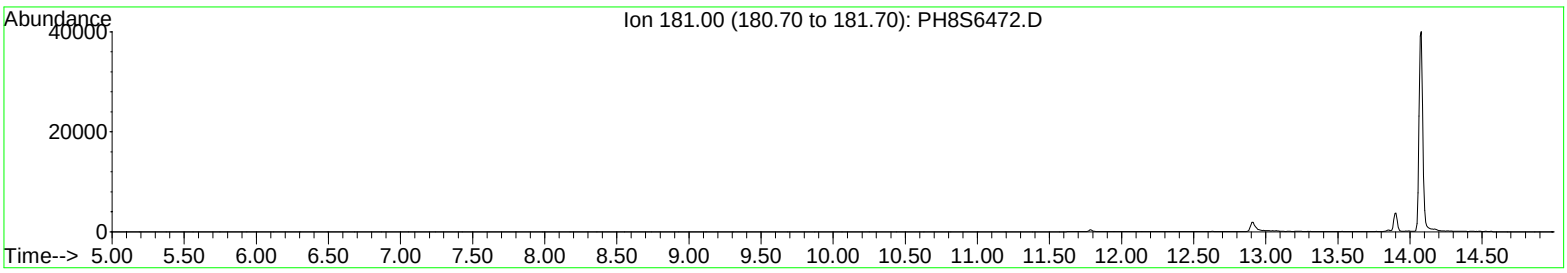
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



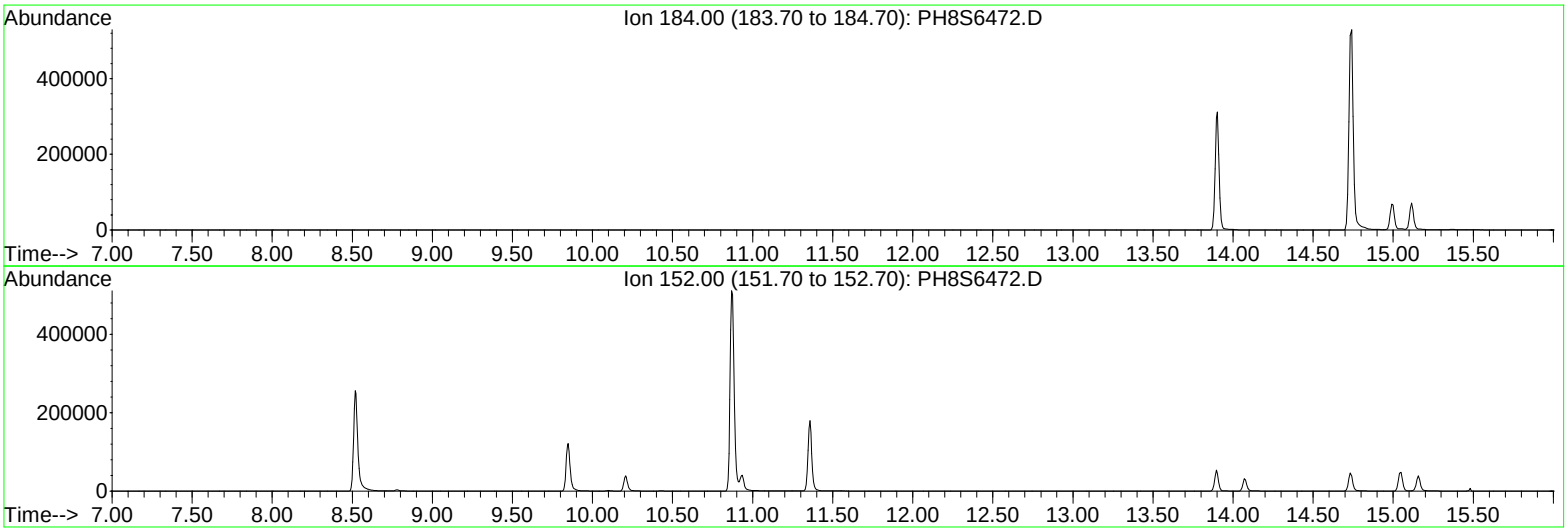


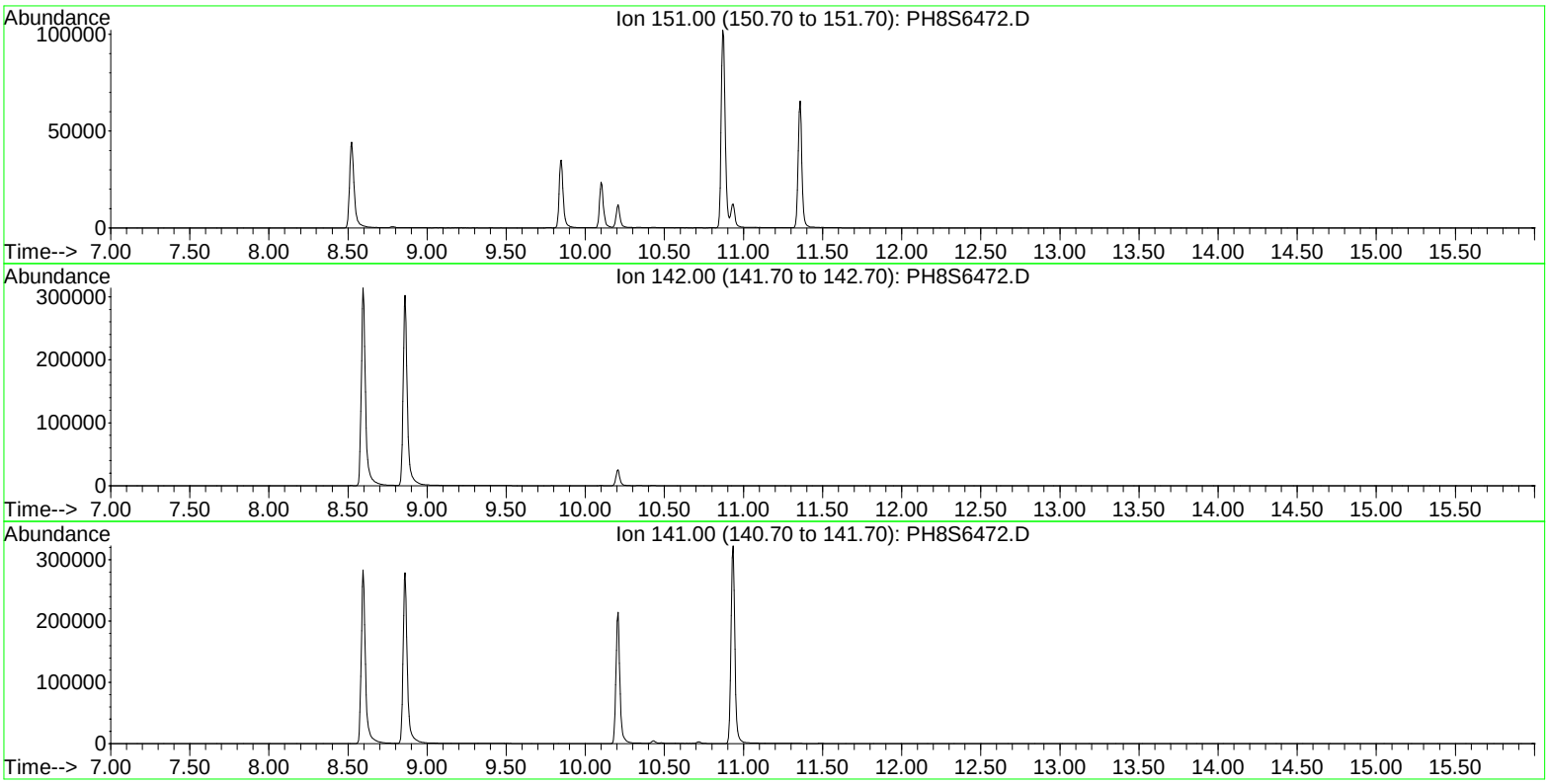


Thu Jan 10 08:43:49 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

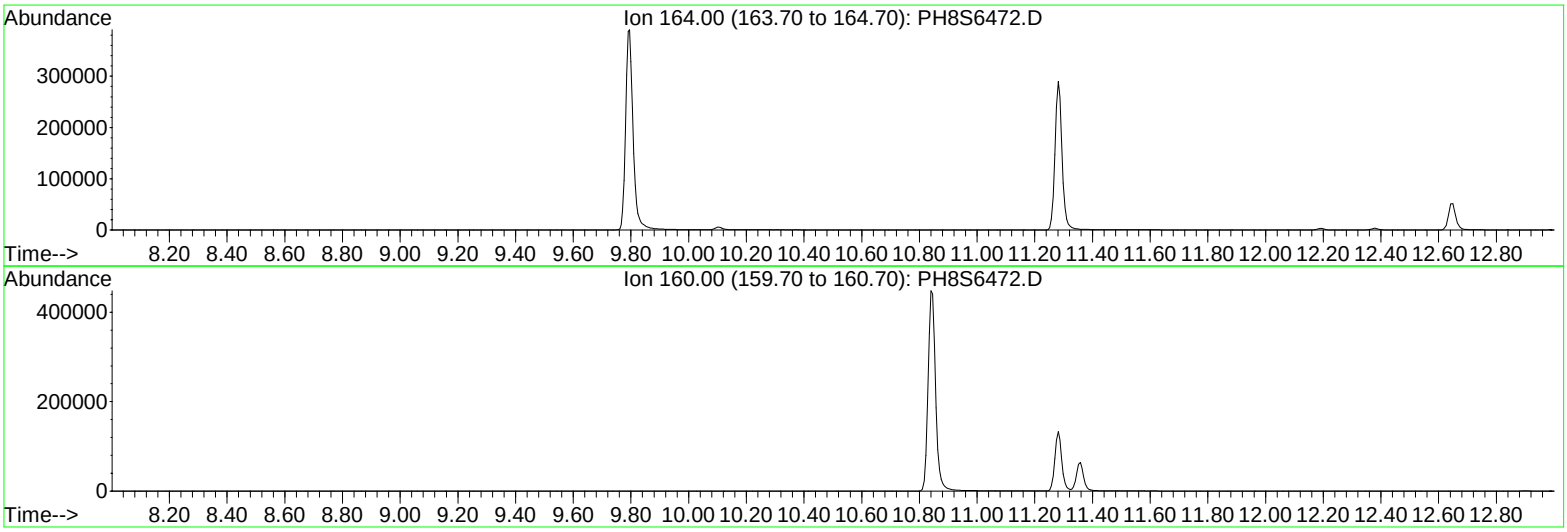


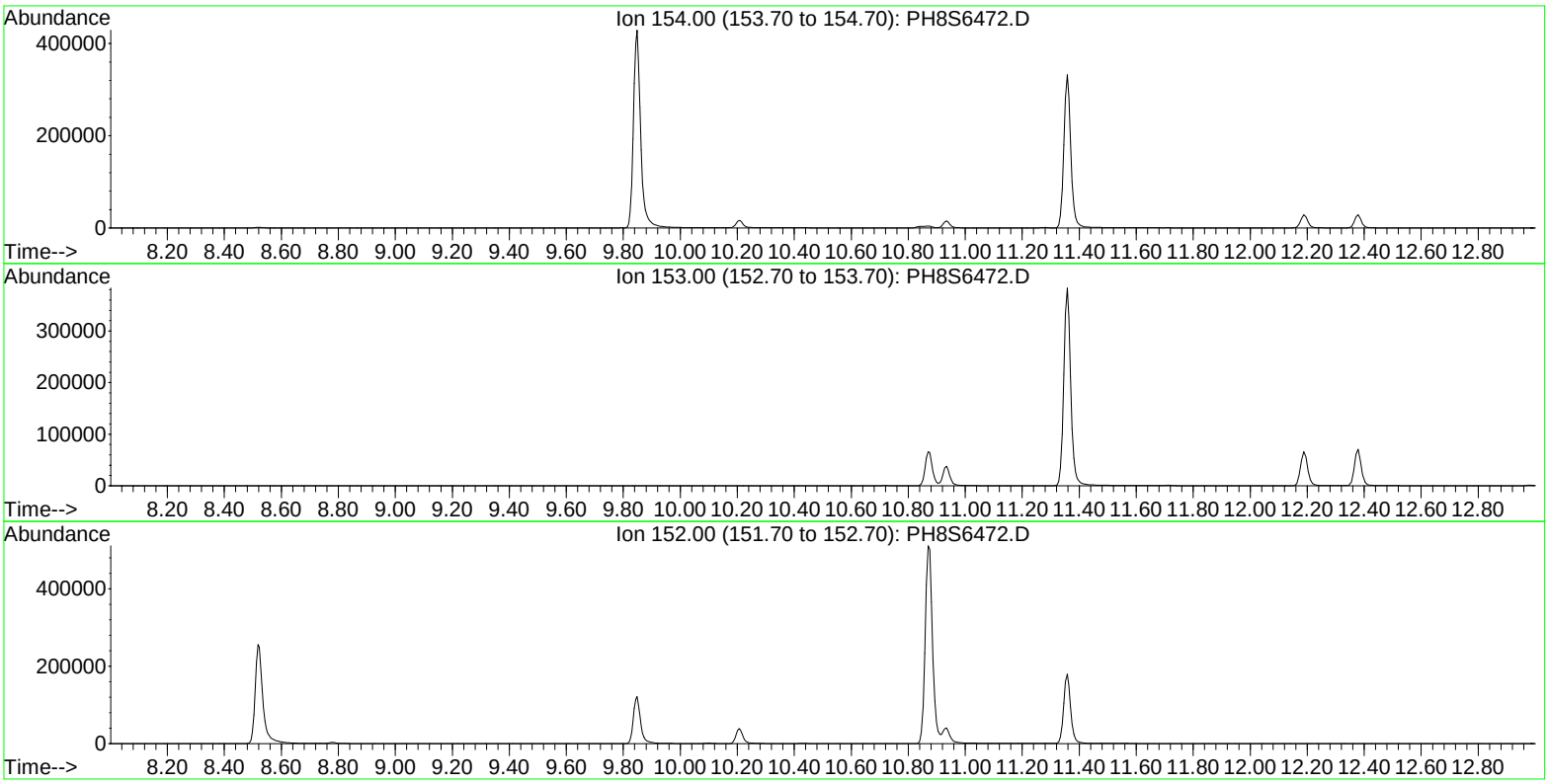


Thu Jan 10 08:43:51 2019

Axys Analytical CHRO Report

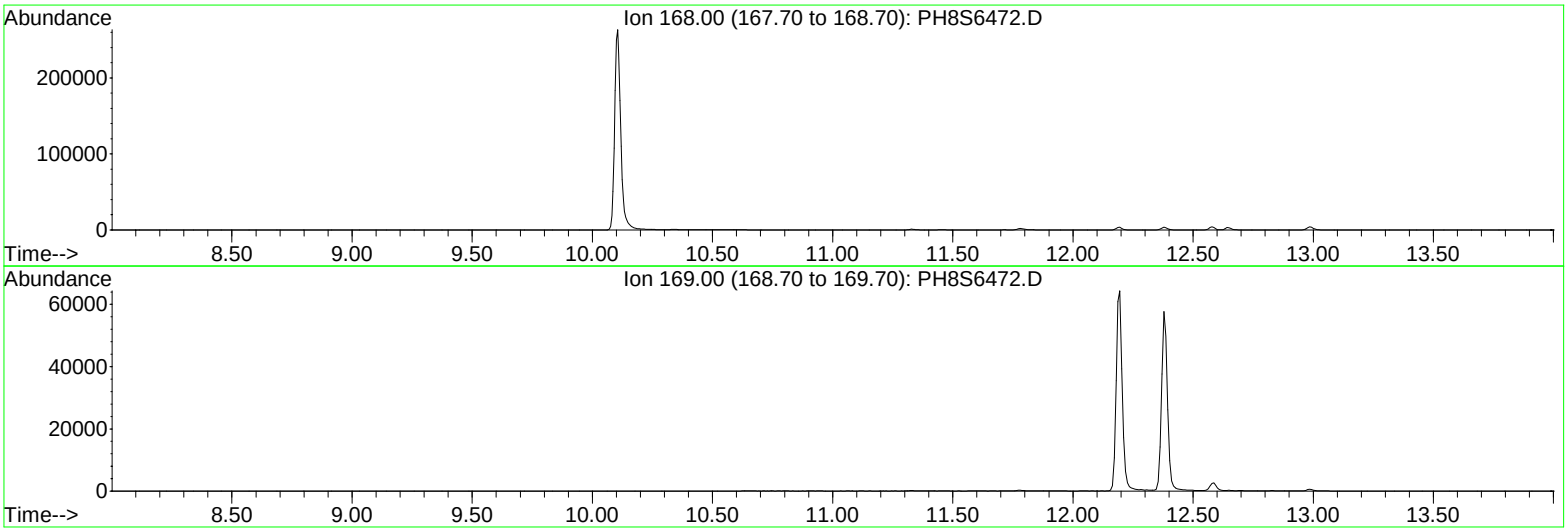
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

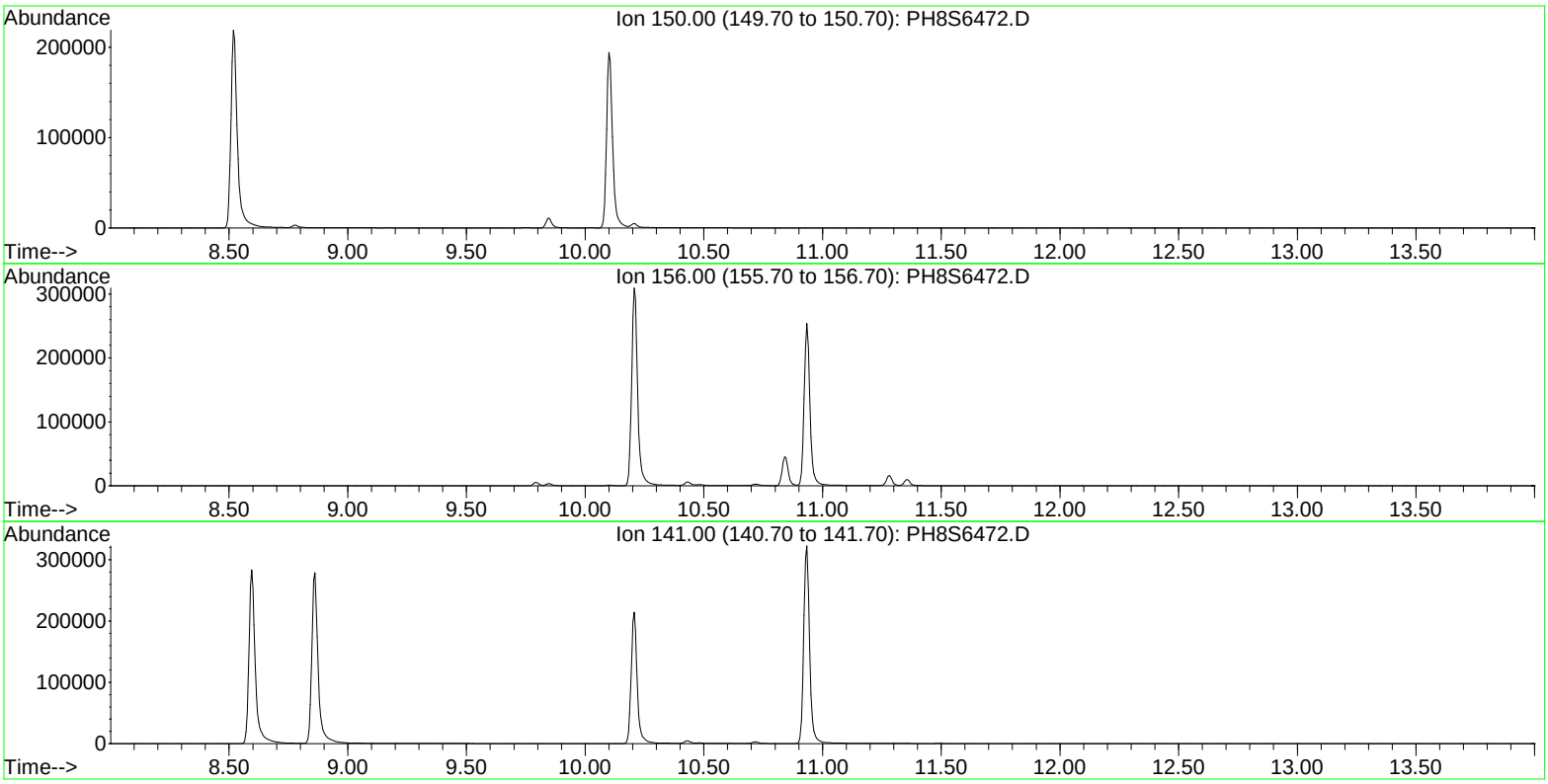




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

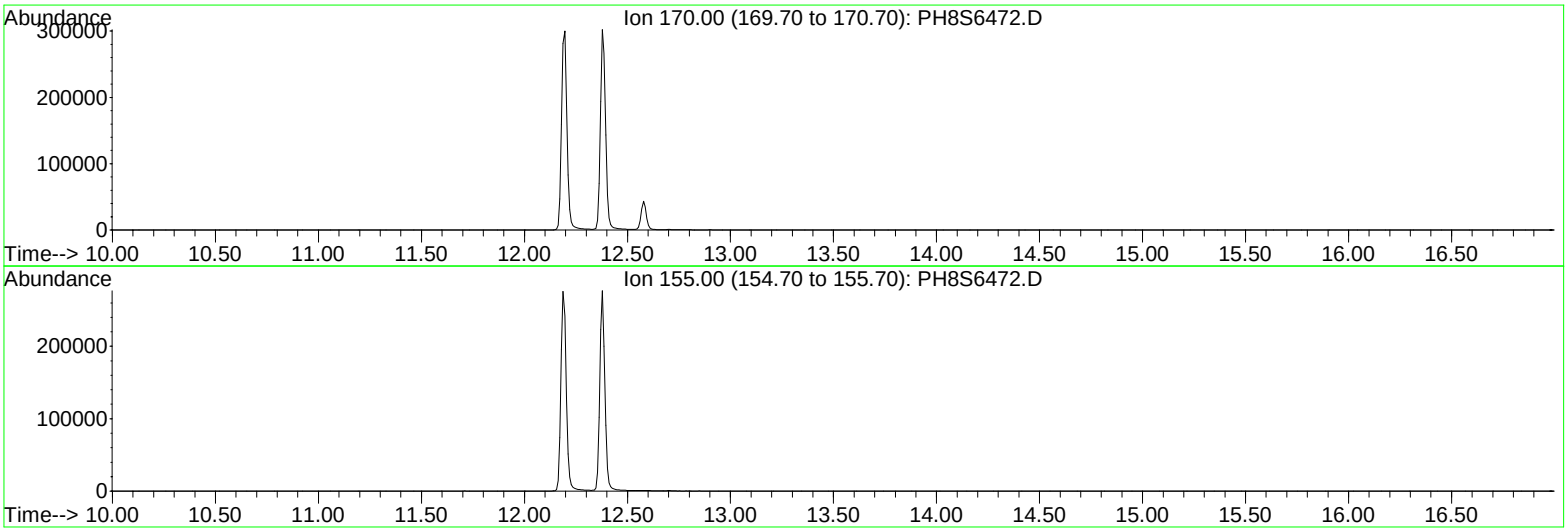


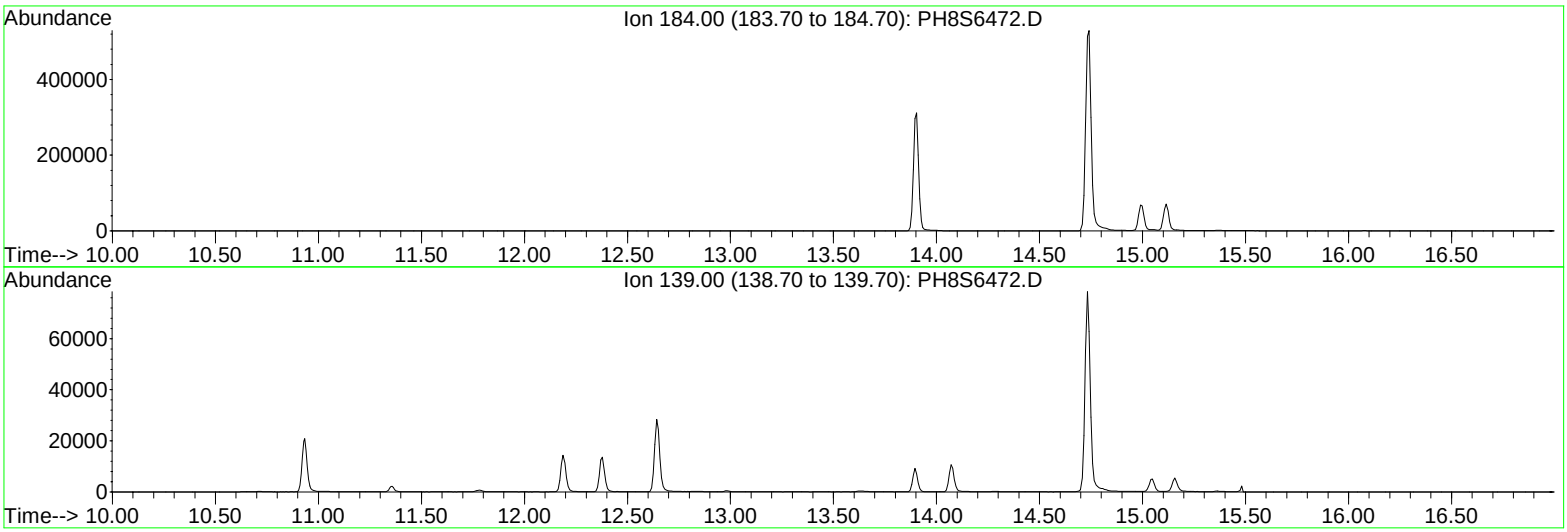


Thu Jan 10 08:43:56 2019

Axys Analytical CHRO Report

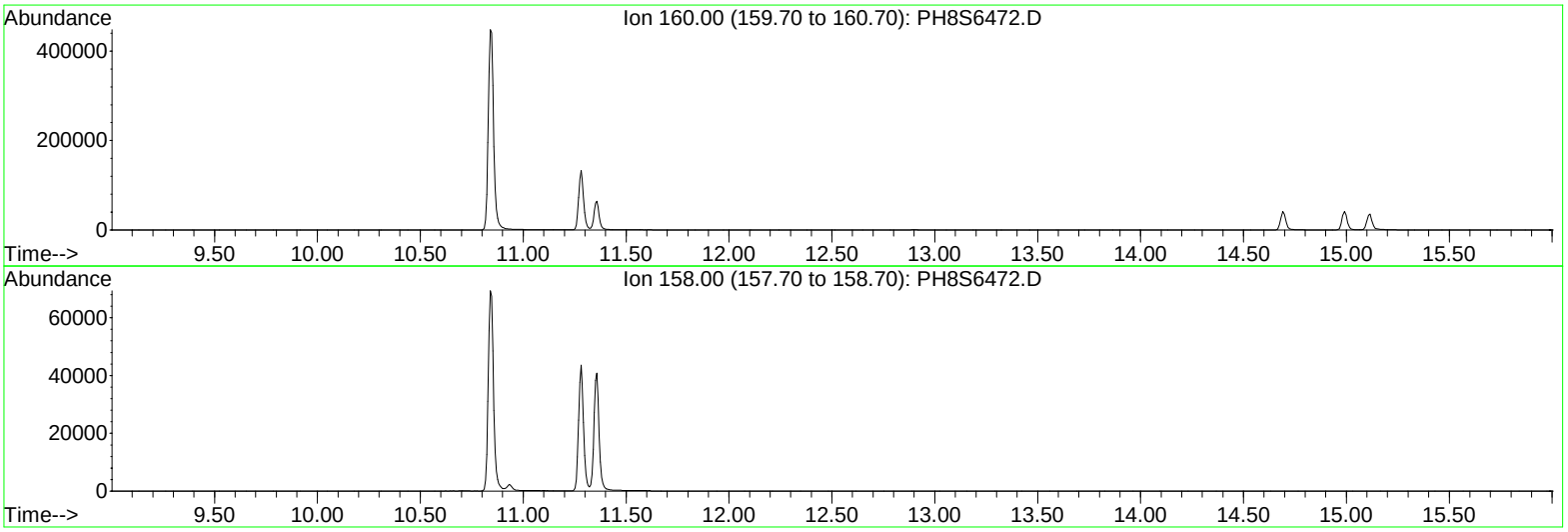
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

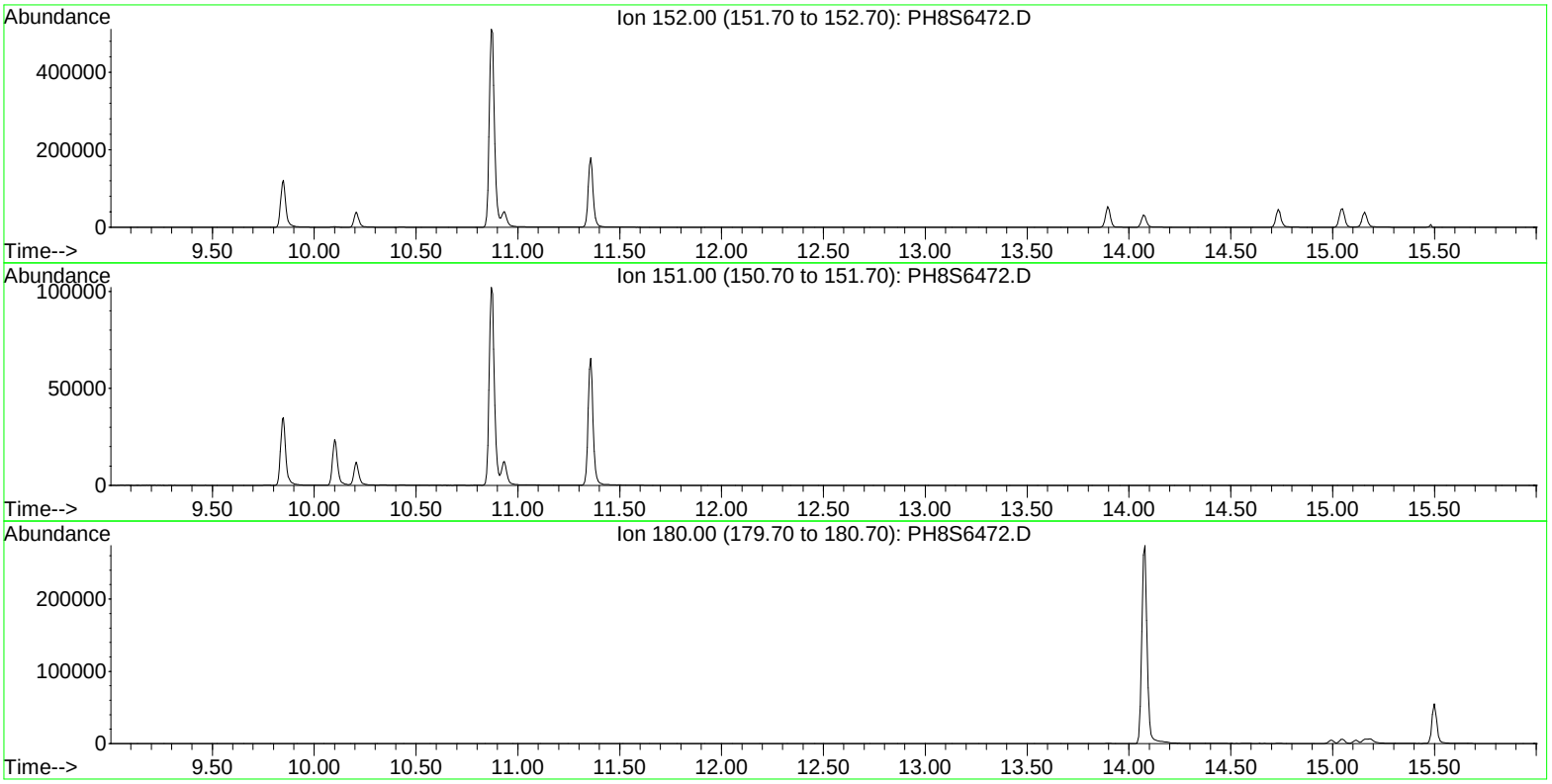


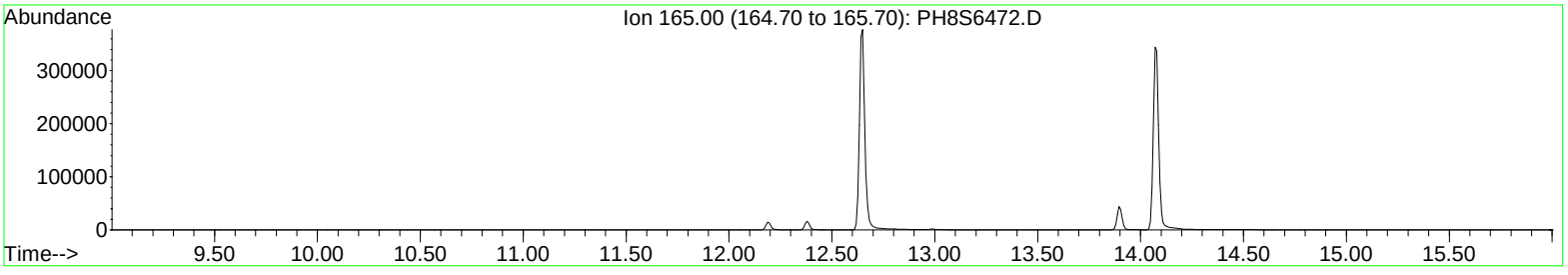


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



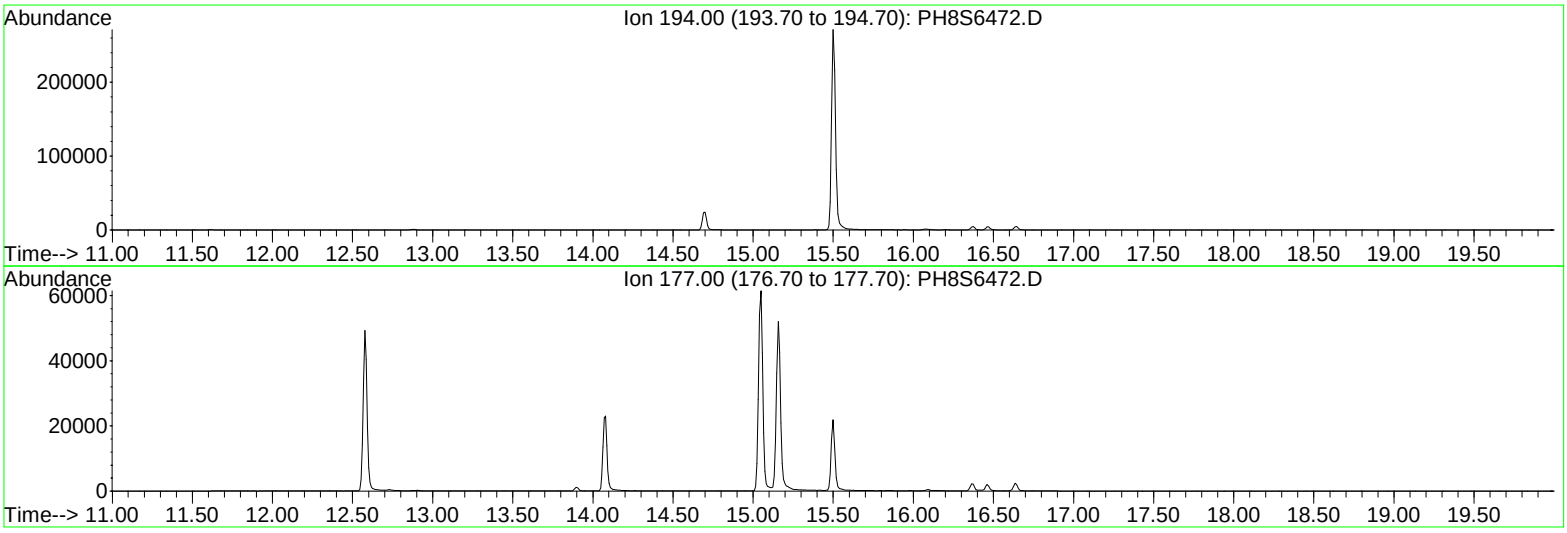


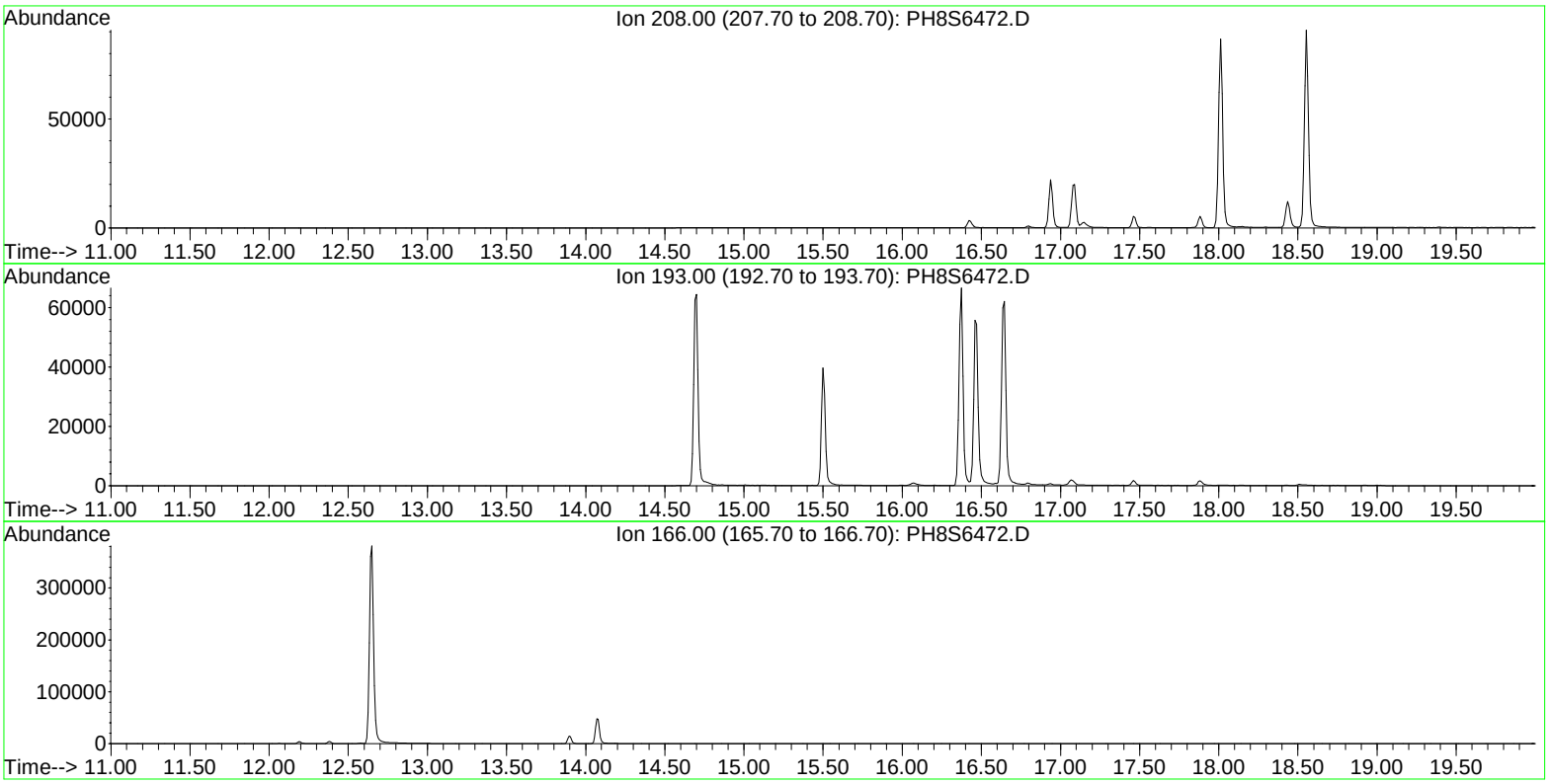


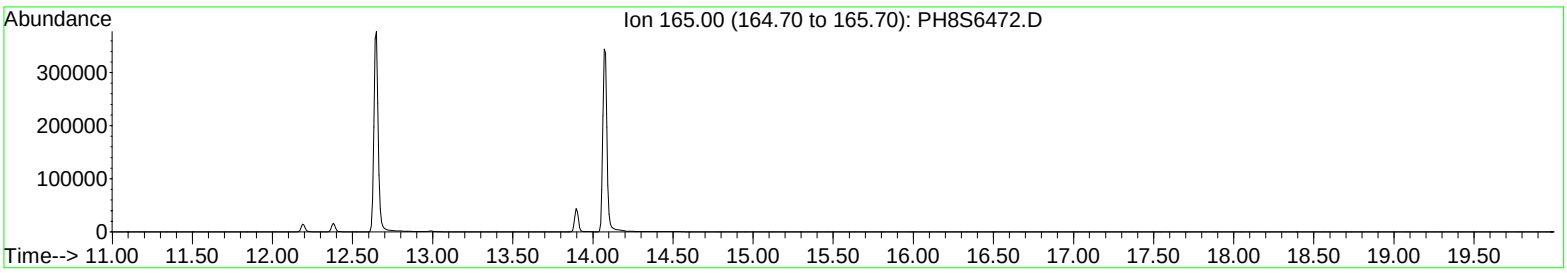
Thu Jan 10 08:44:01 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



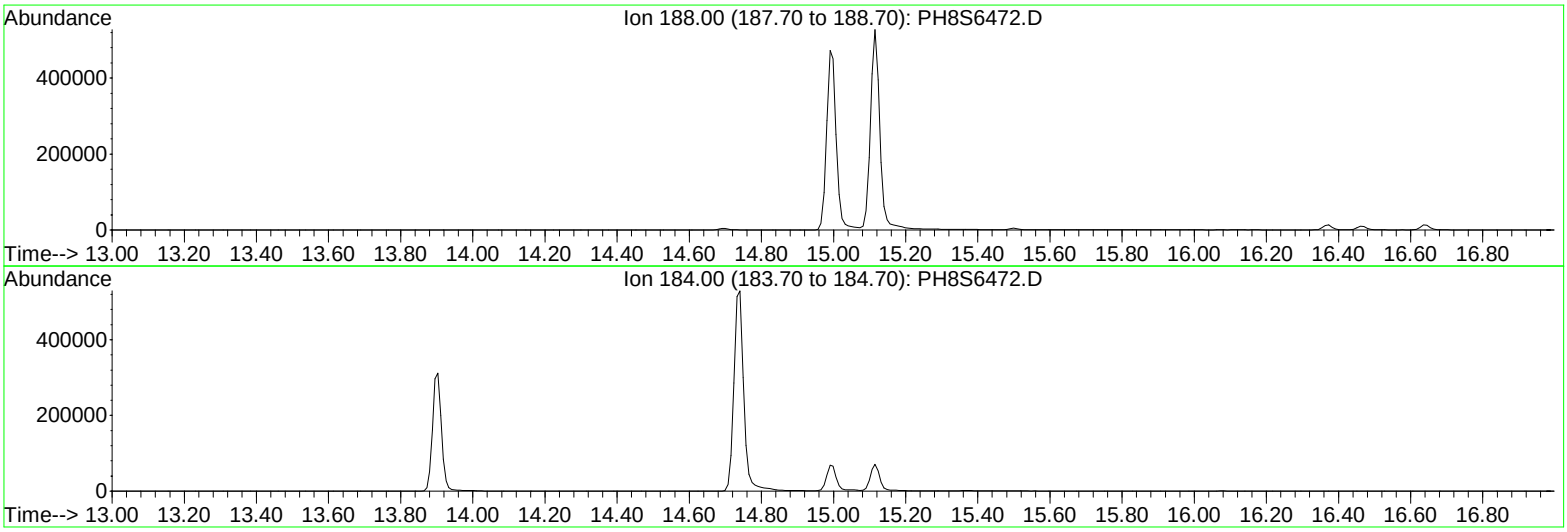


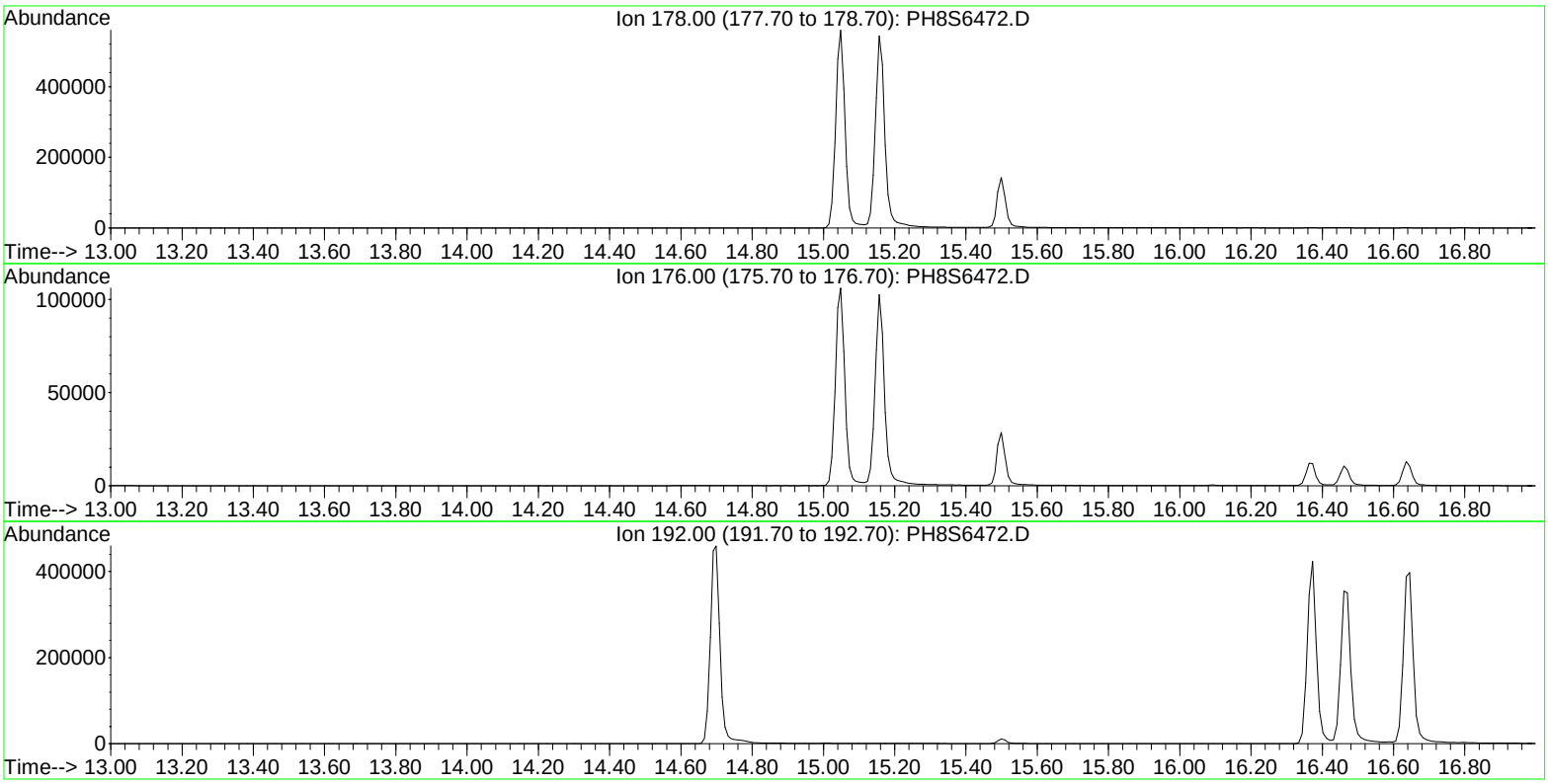


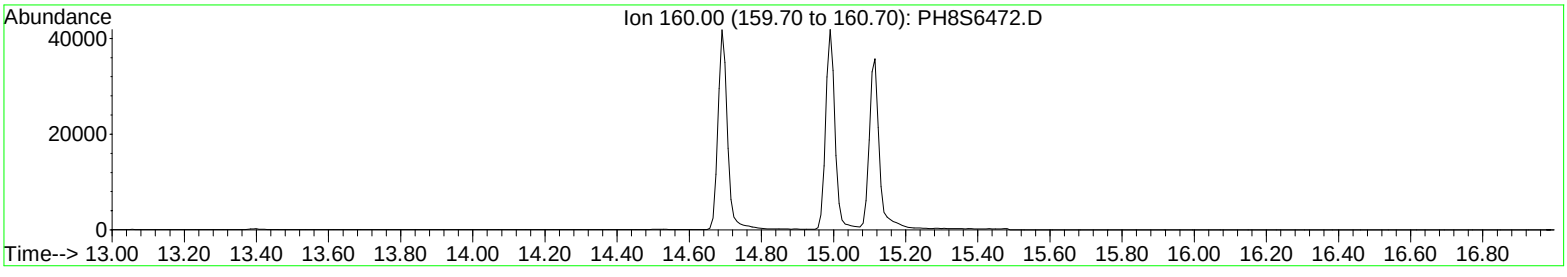
Thu Jan 10 08:44:04 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



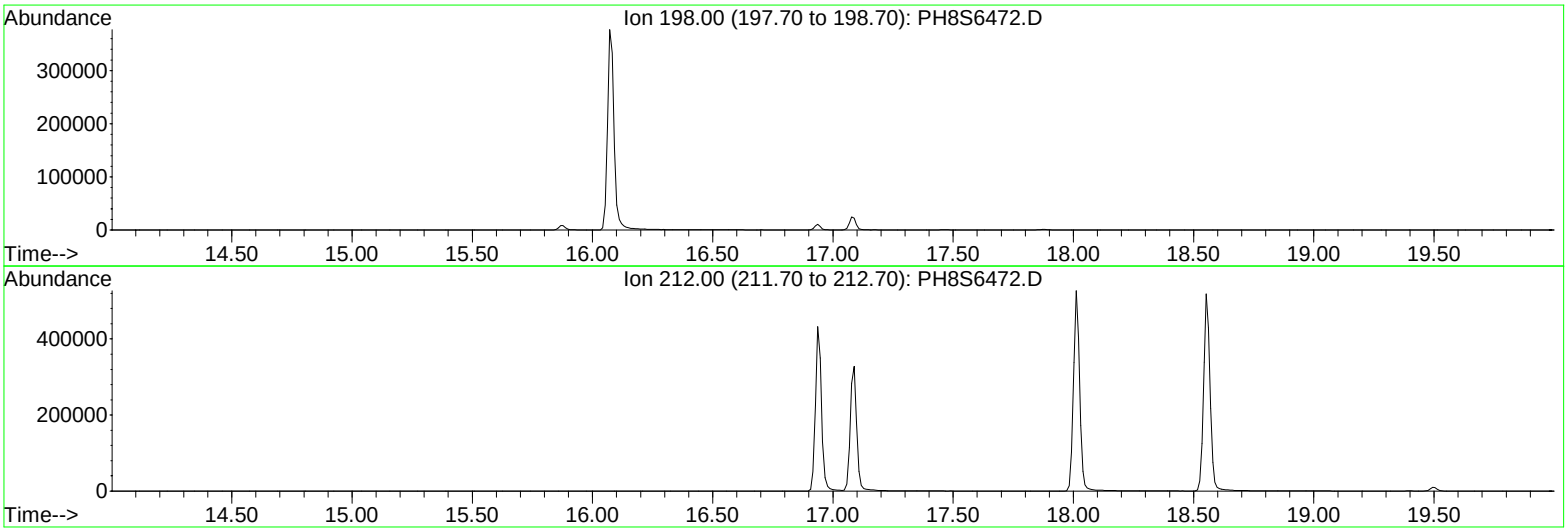


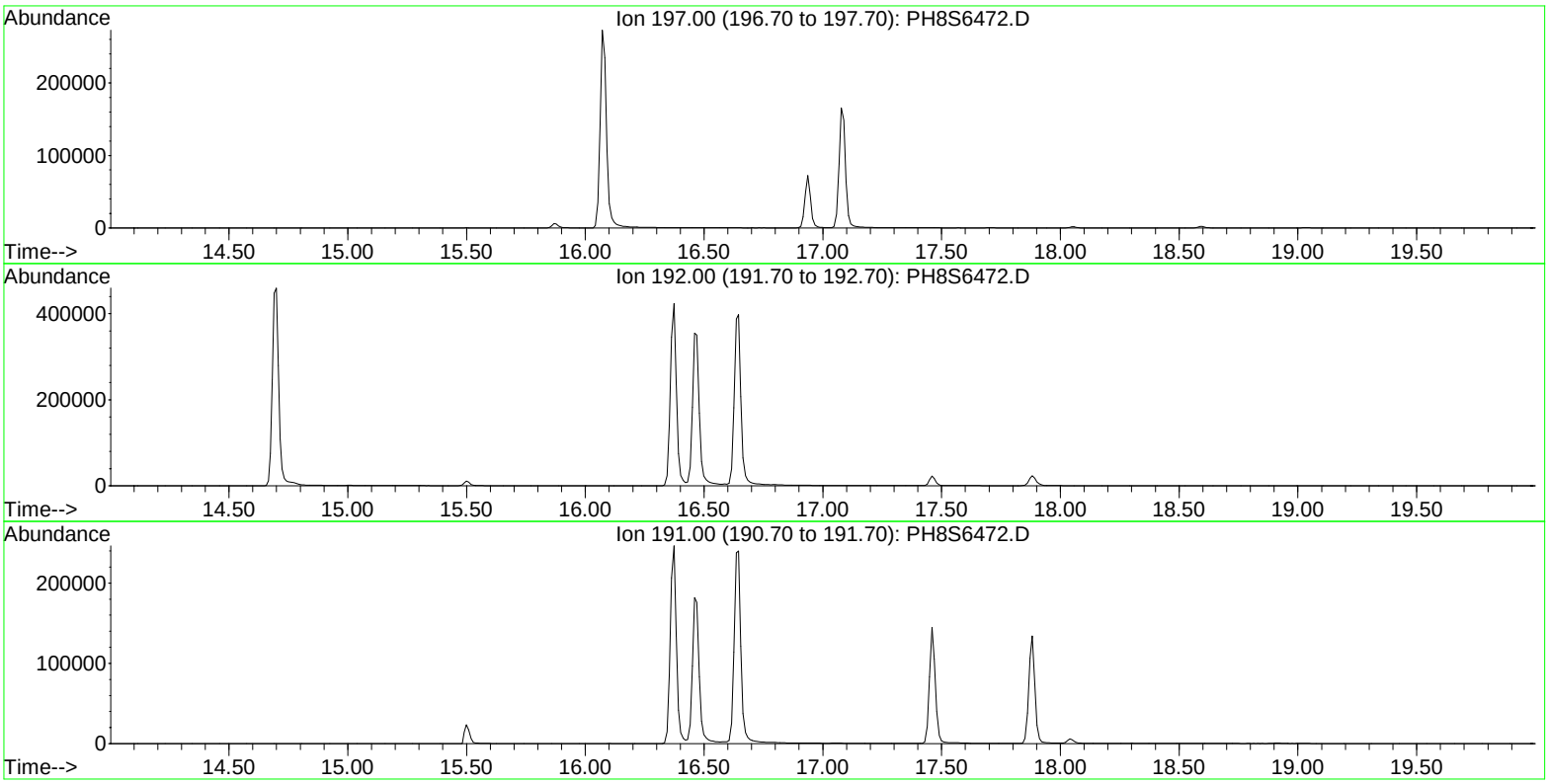


Thu Jan 10 08:44:06 2019

Axys Analytical CHRO Report

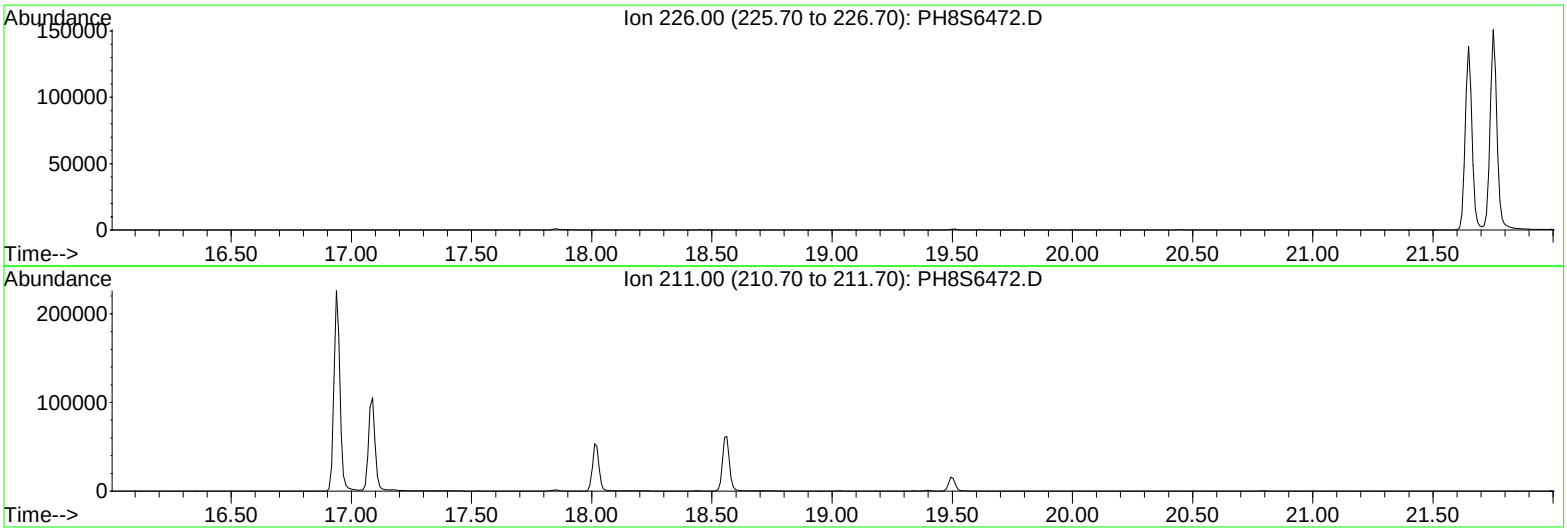
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

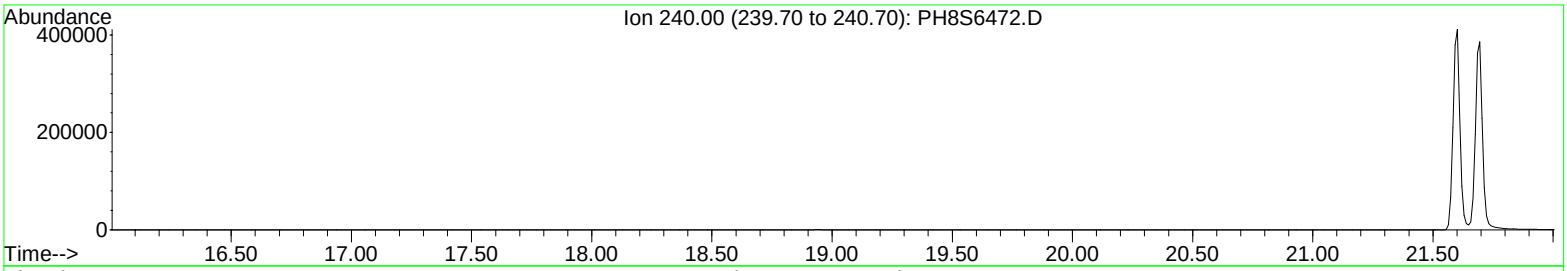


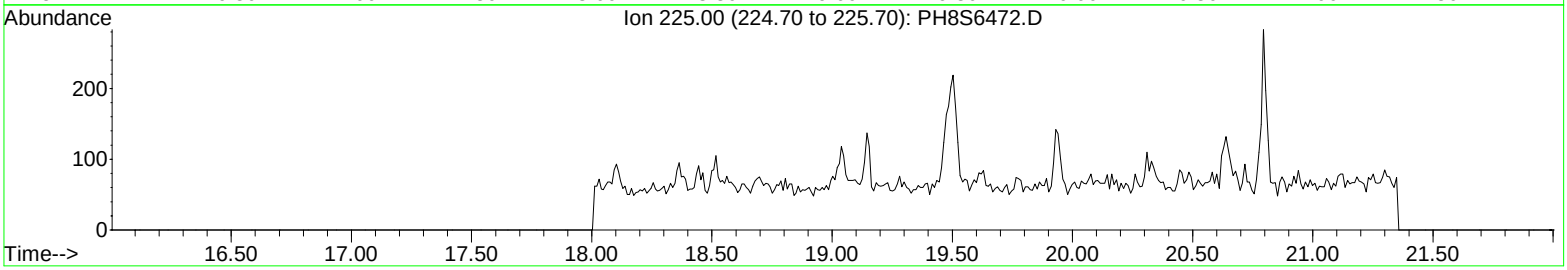


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

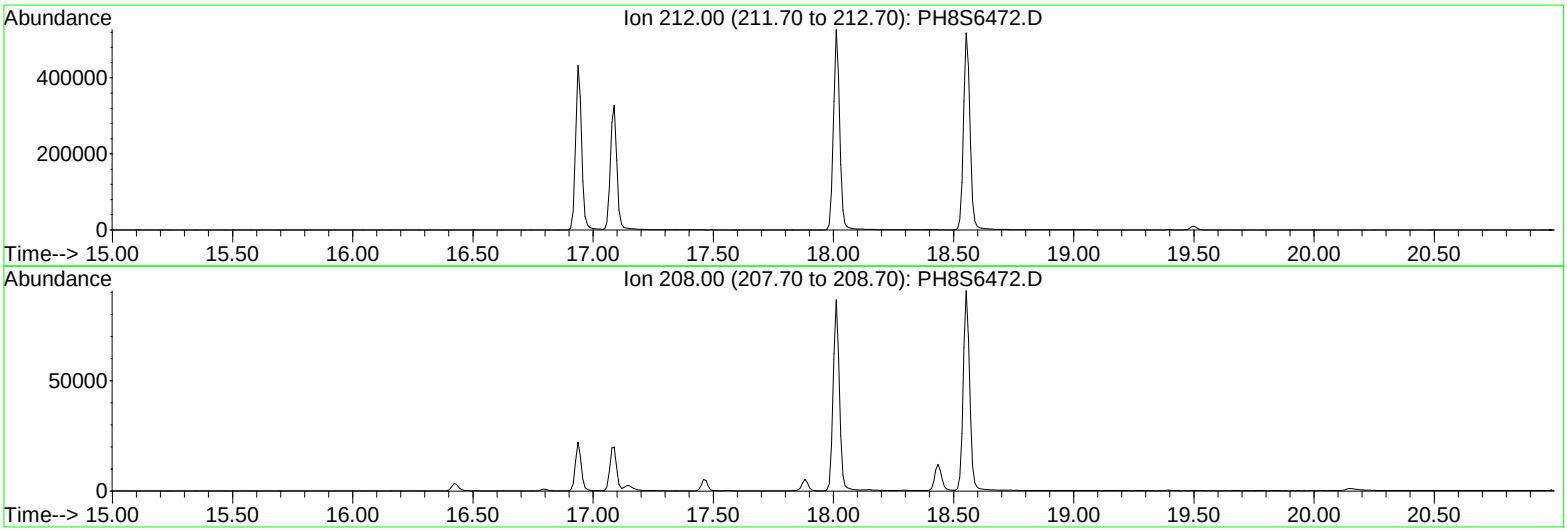


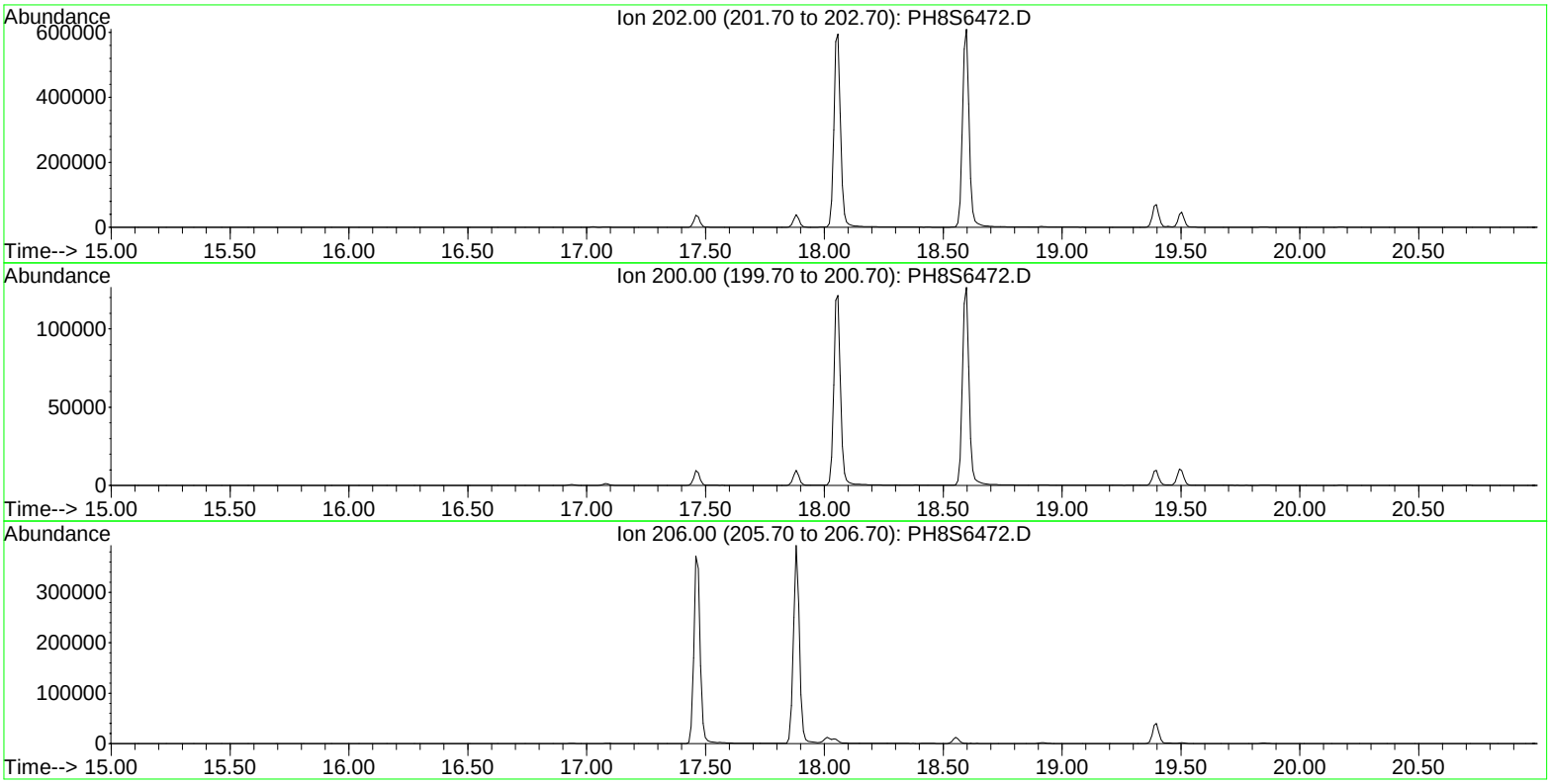


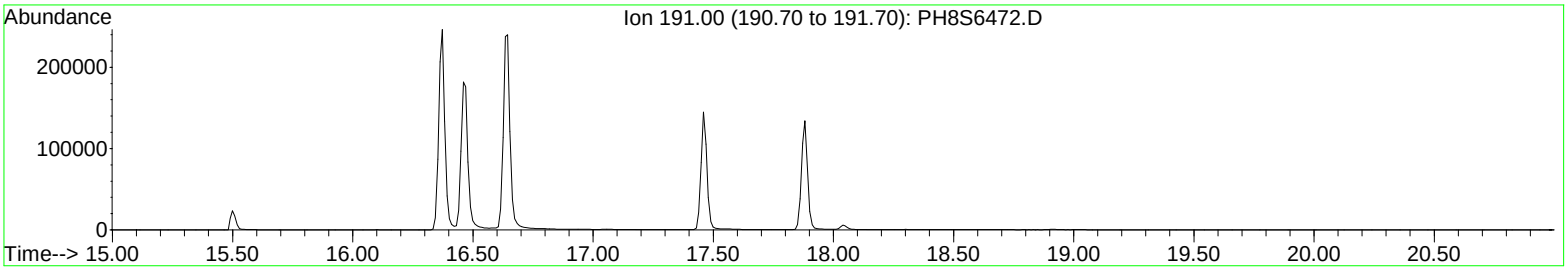


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



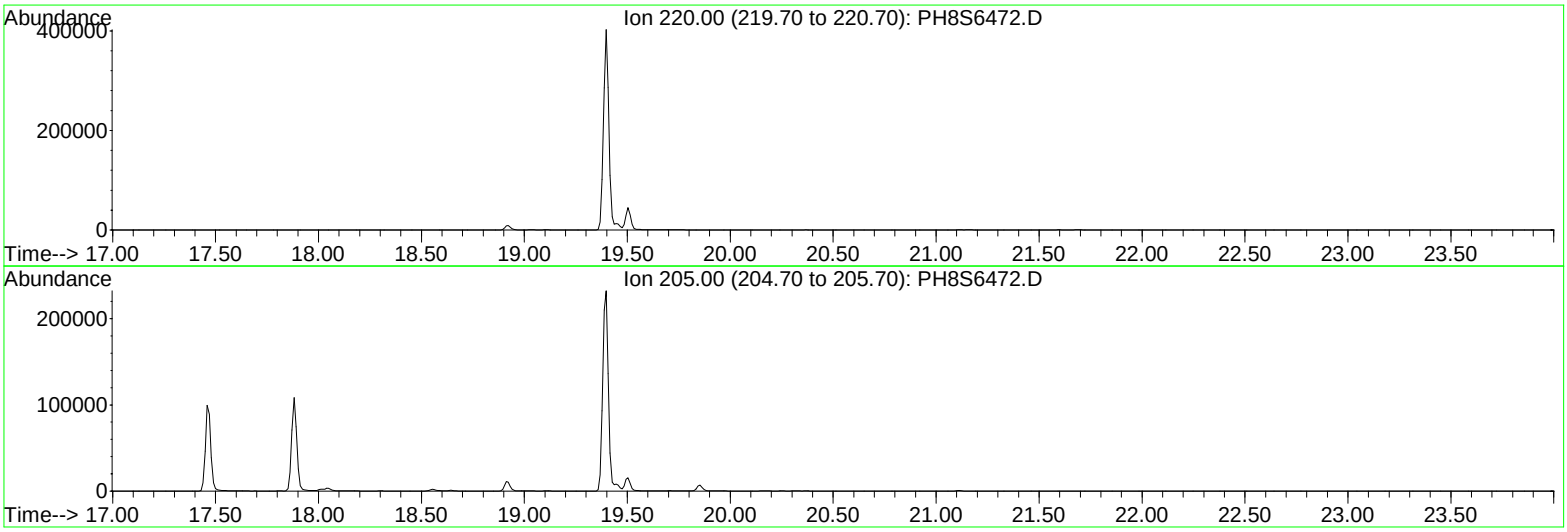


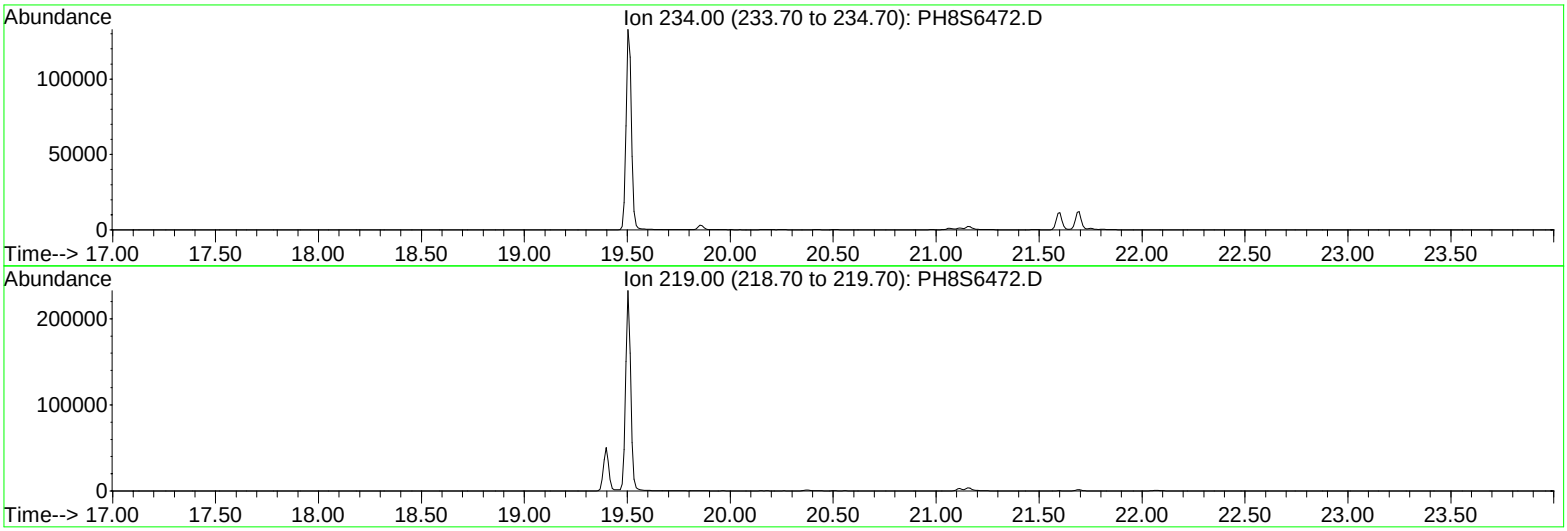


Thu Jan 10 08:44:13 2019

Axys Analytical CHRO Report

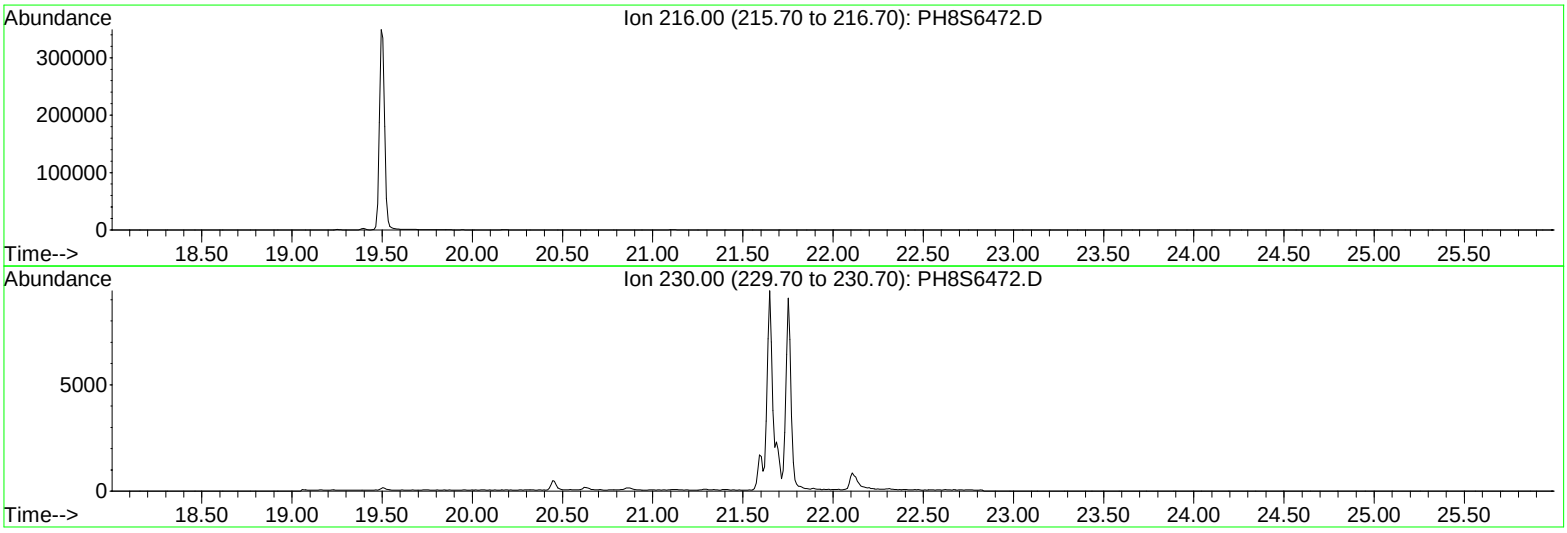
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

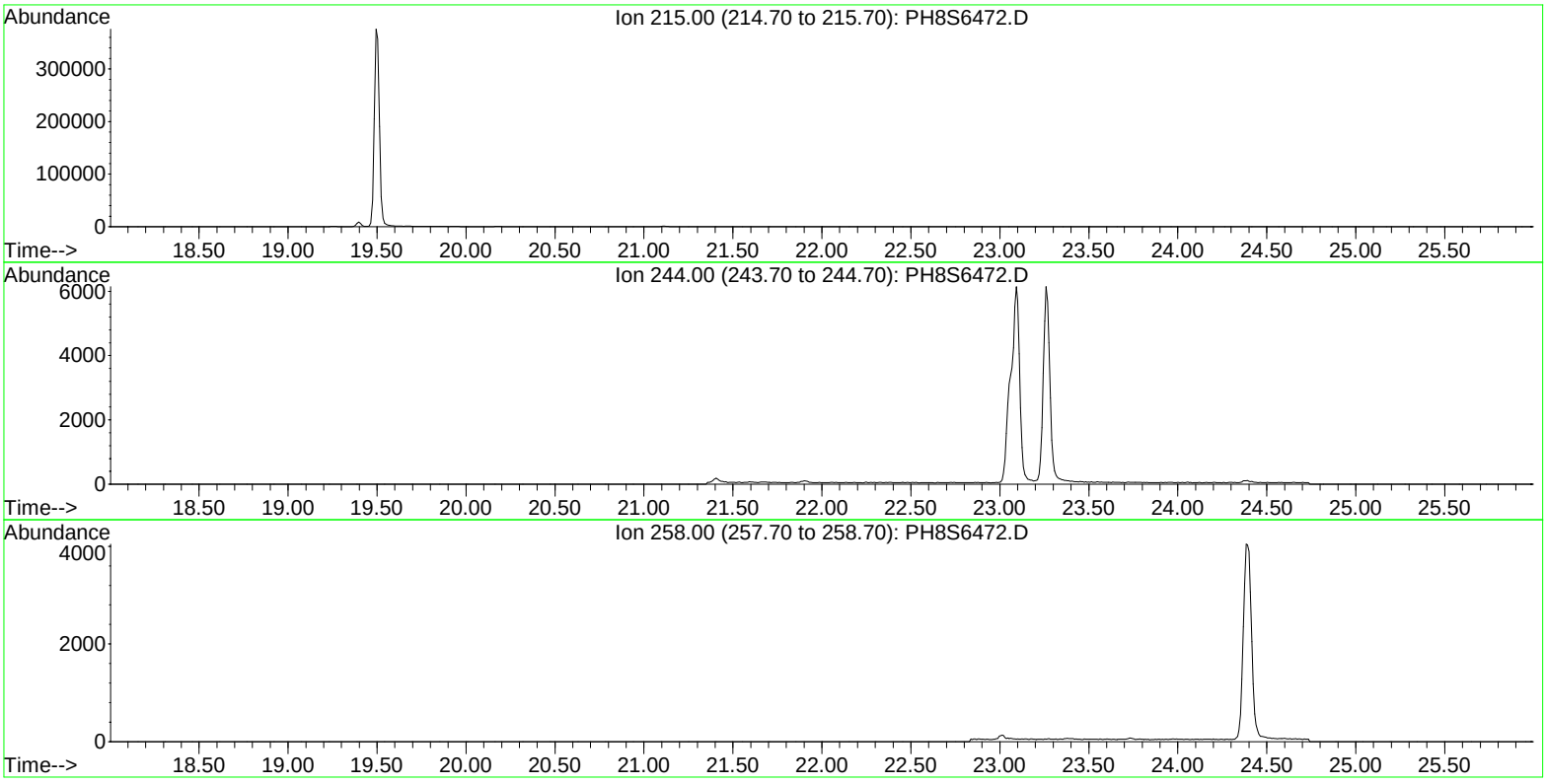


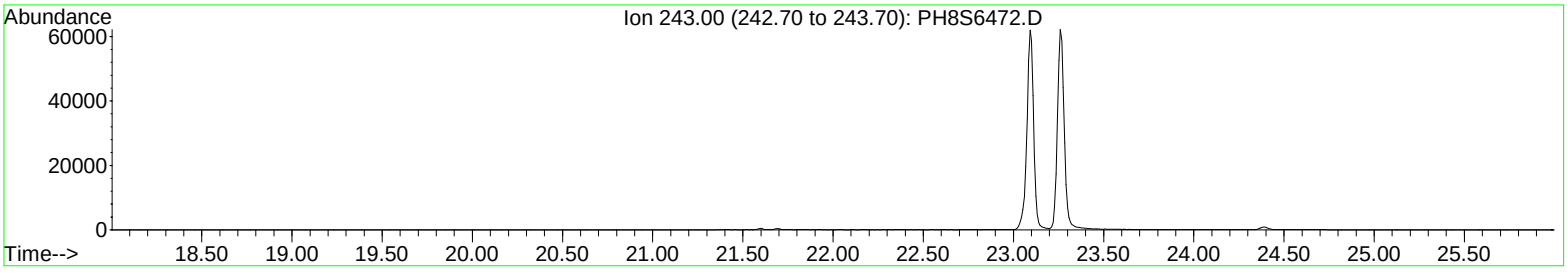


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



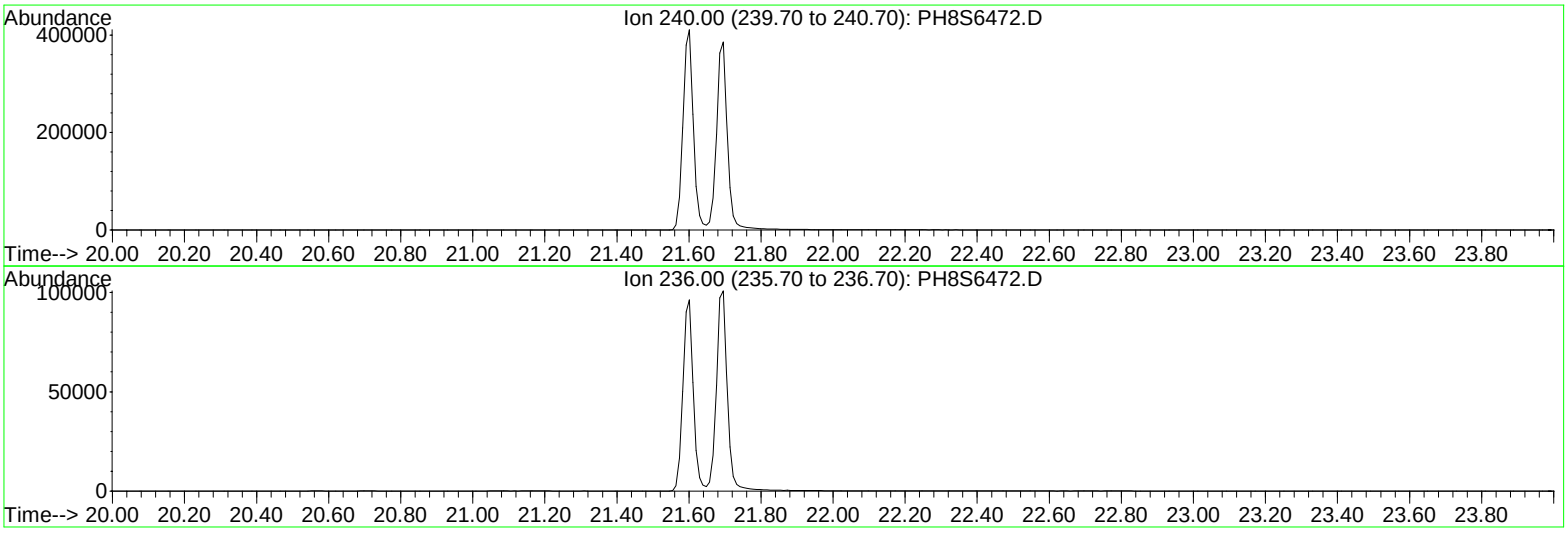


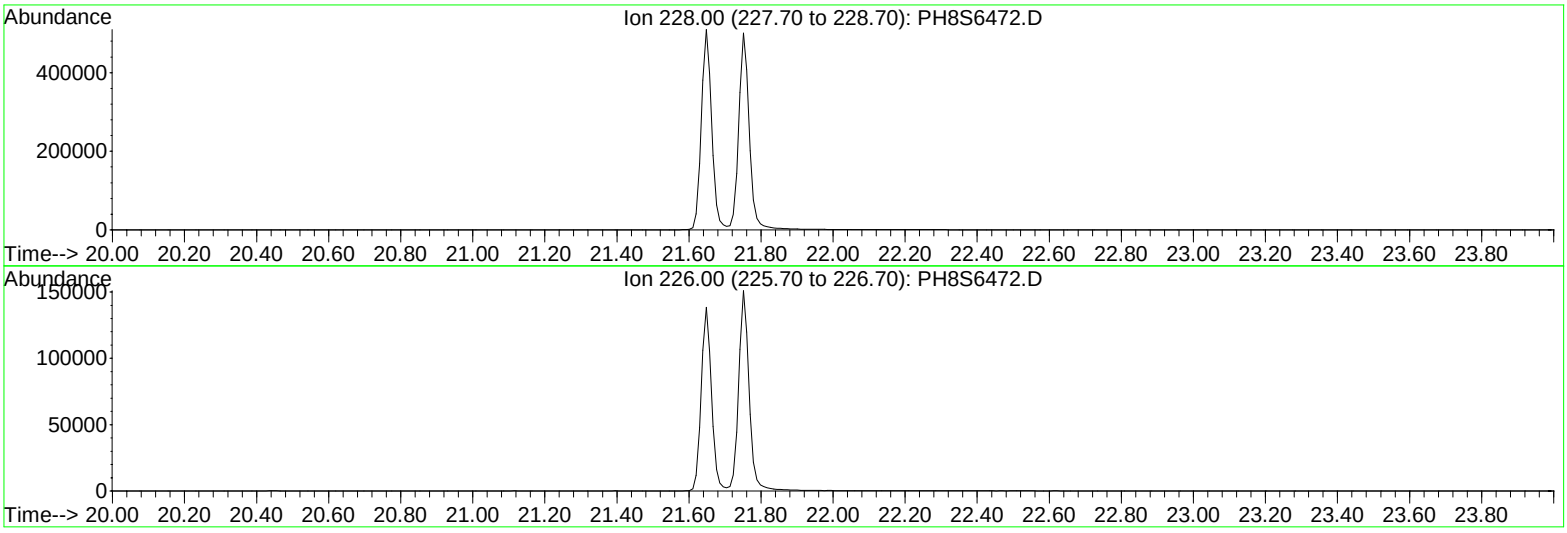


Thu Jan 10 08:44:18 2019

Axys Analytical CHRO Report

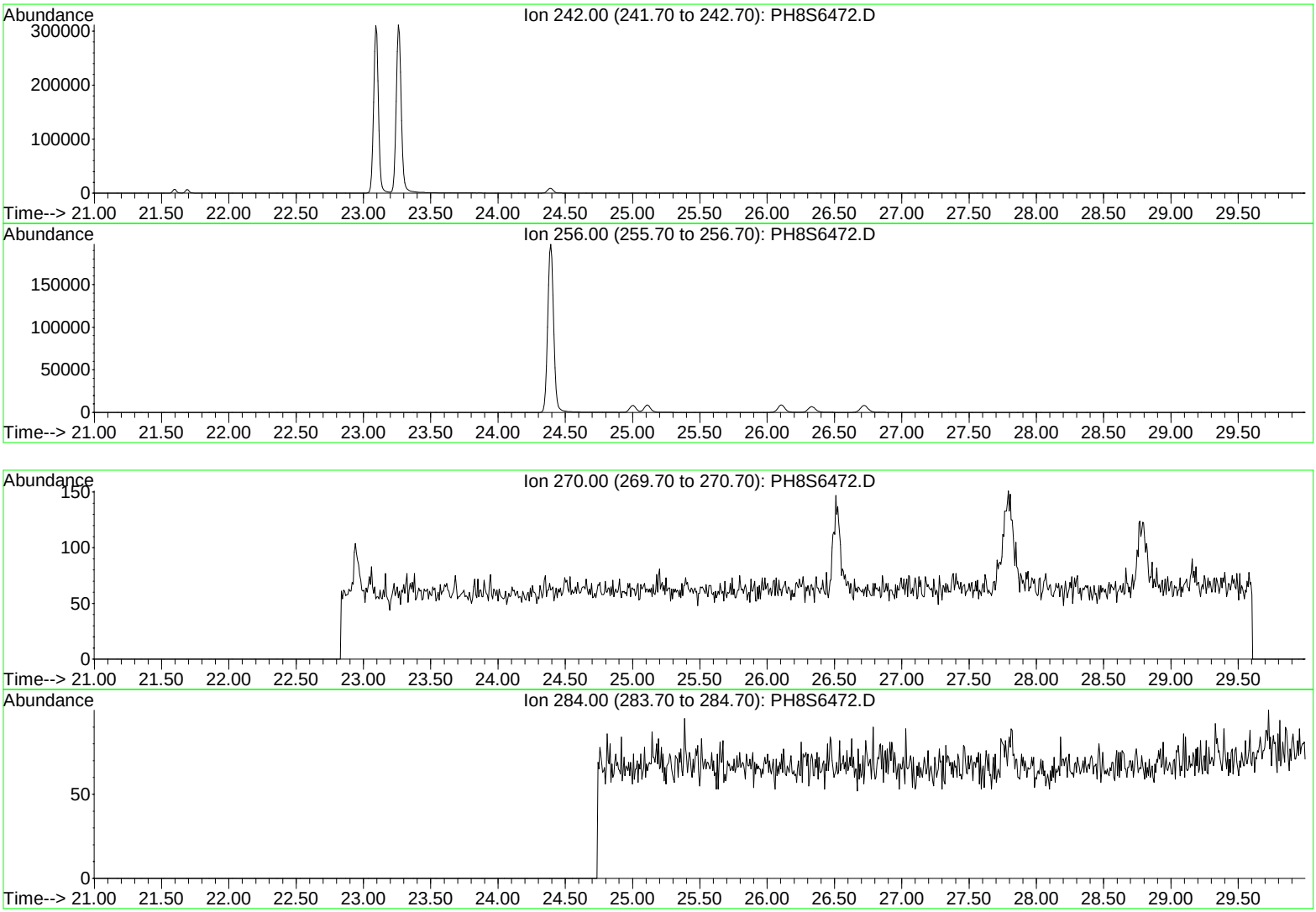
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL





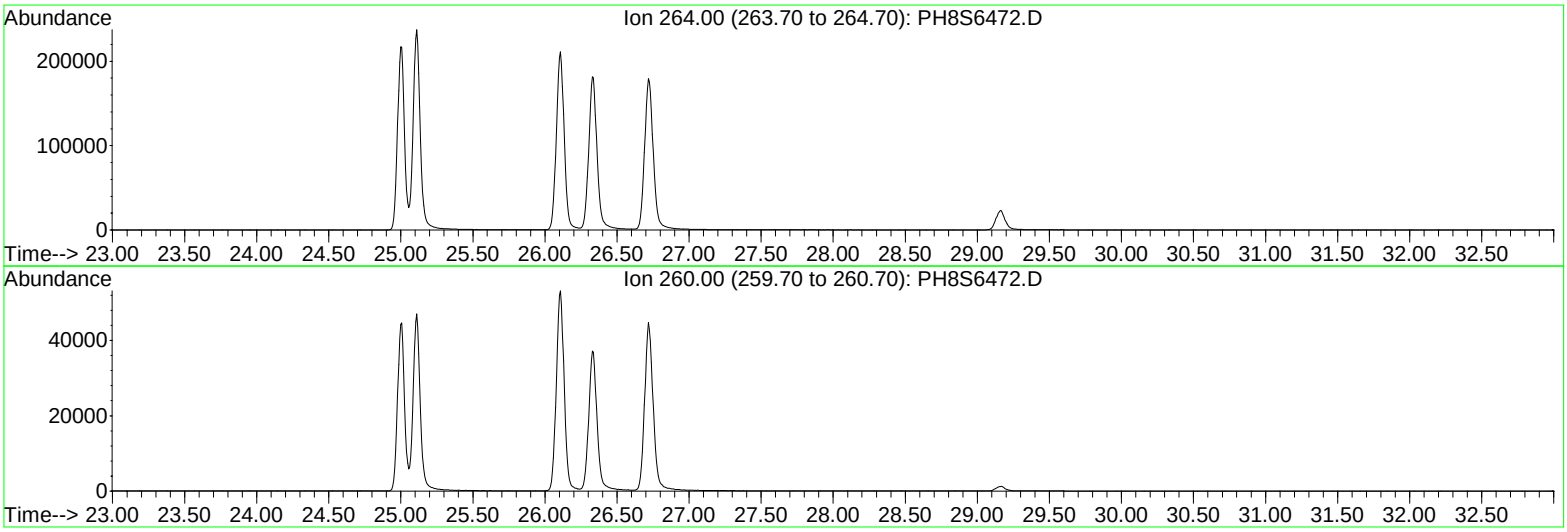
Axys Analytical CHRO Report

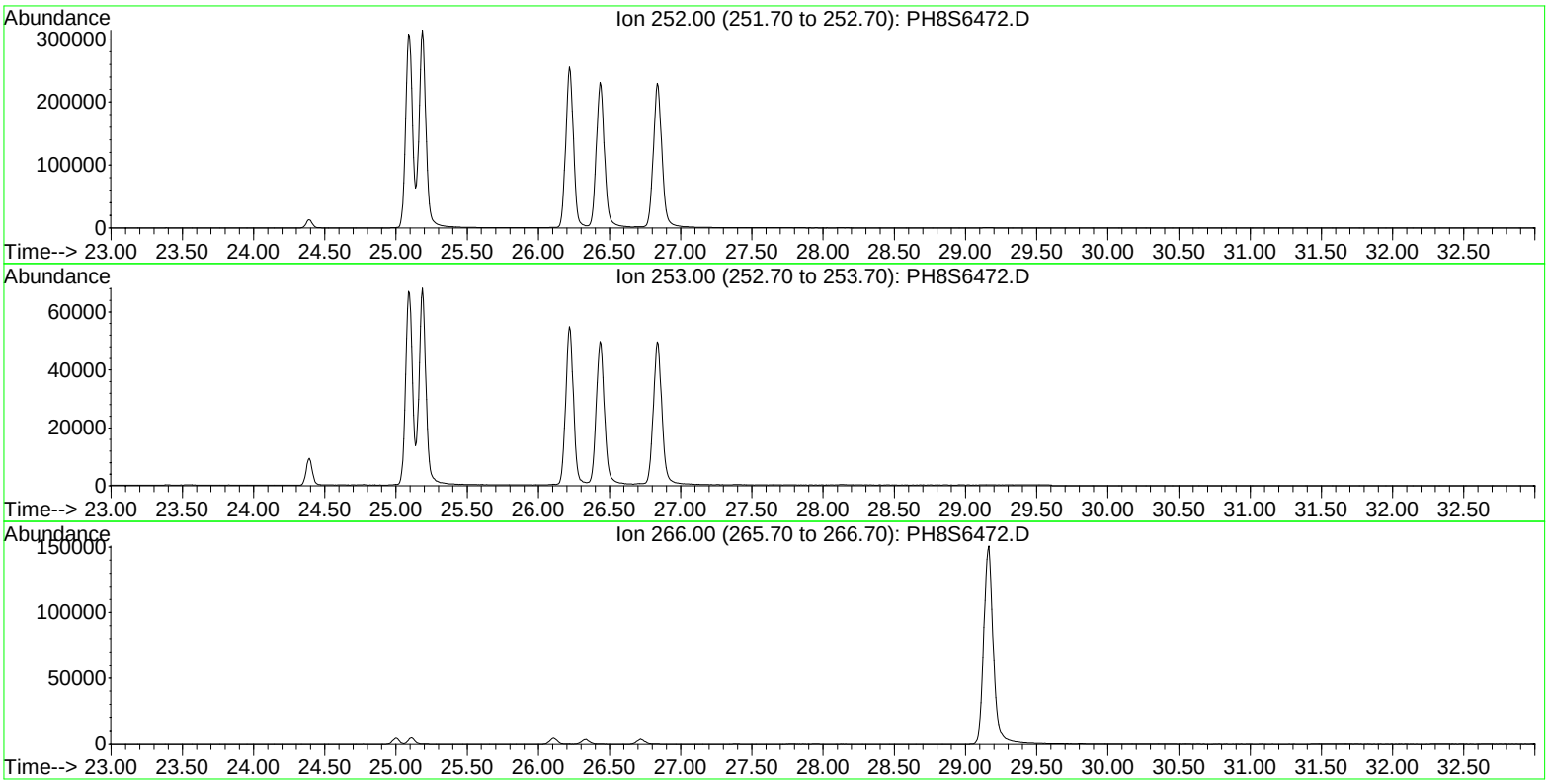
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

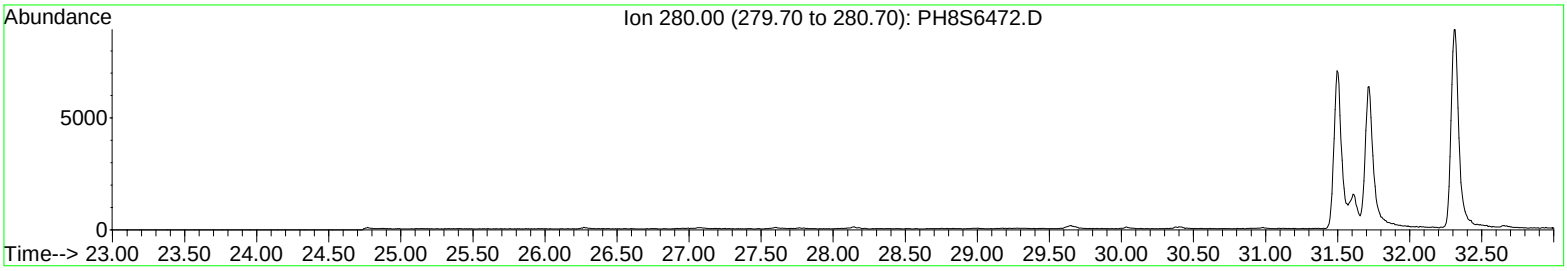


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



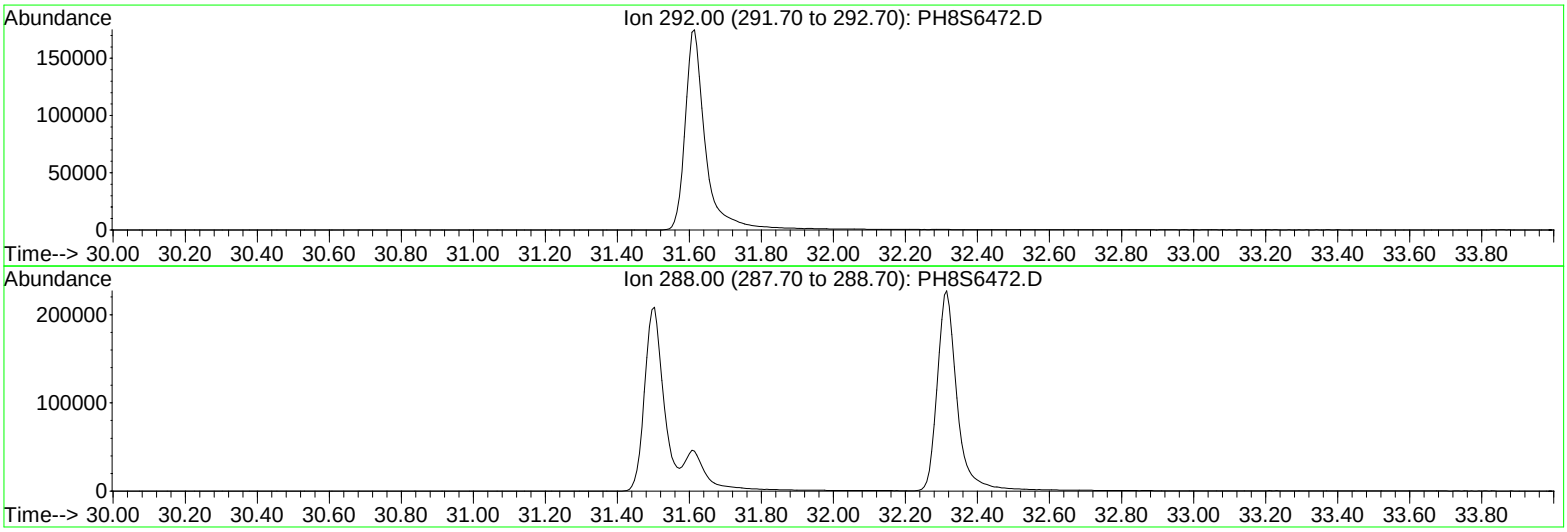


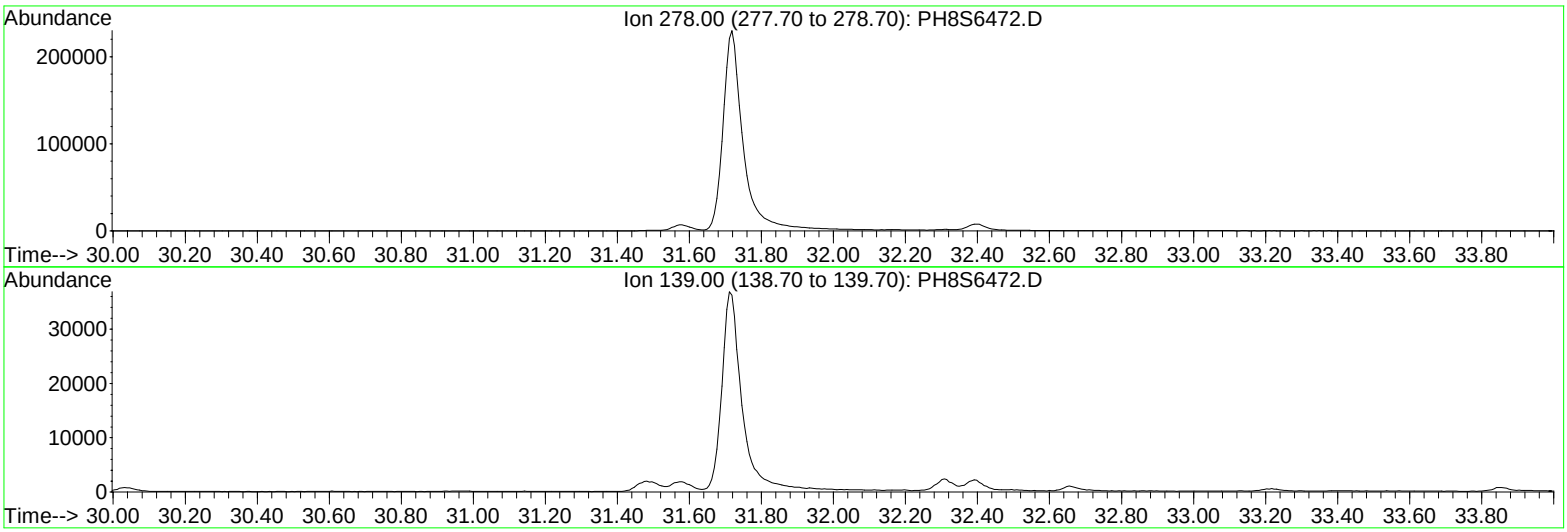


Thu Jan 10 08:44:26 2019

Axys Analytical CHRO Report

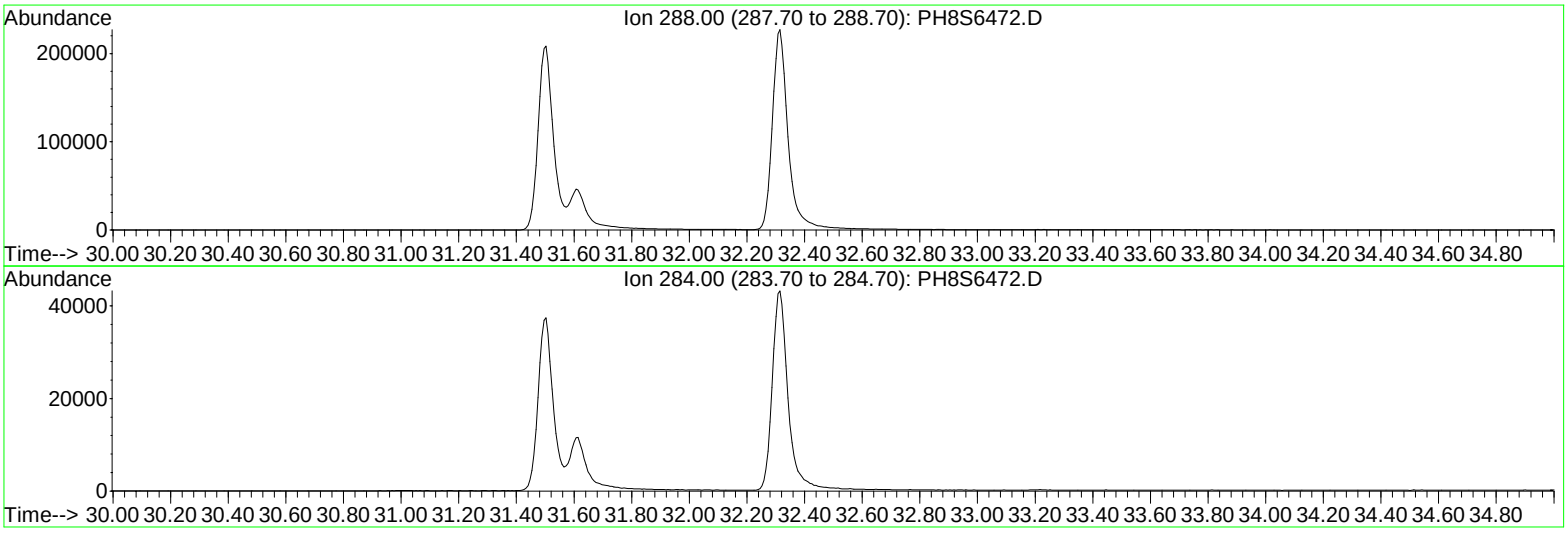
File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

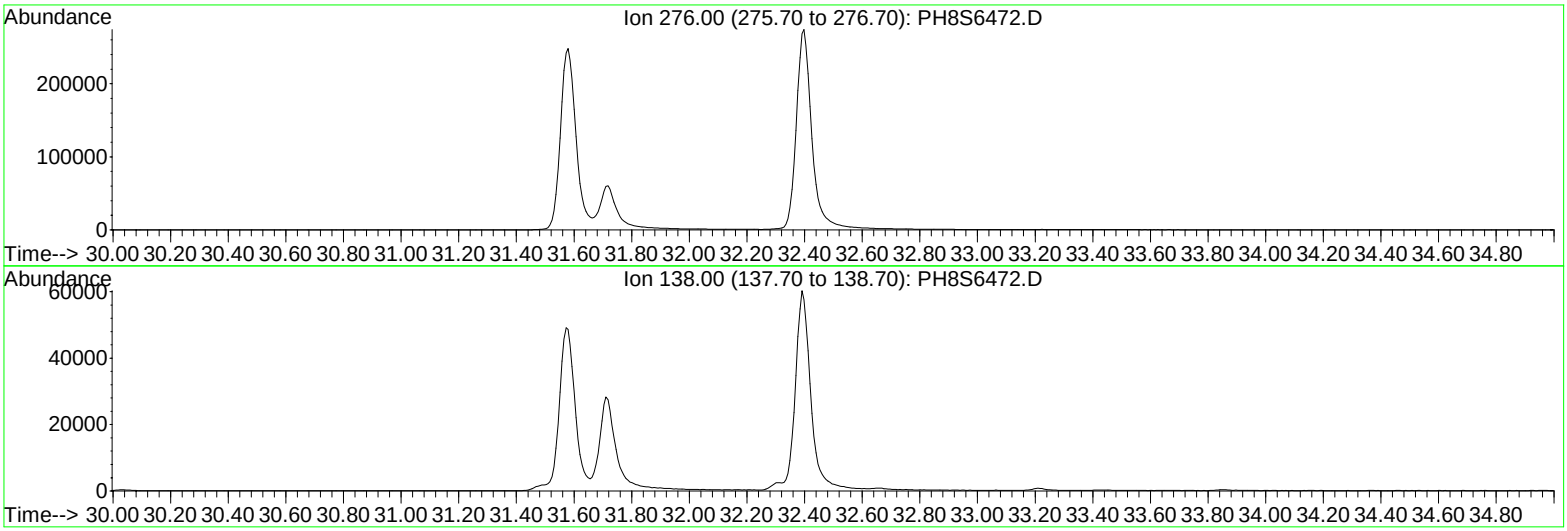




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6472.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:05
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL





[Header Info Signal 1 COLT 3.0] Version 2
PH8S6484.D
29/12/2018 7:22
PH036E-CAL/01
1 1.0uL
G:\PROLAB\INST_S\181228PH\PH8S6484.D\PH8S6484.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 3
Cal Method Name: PAH PED LIN(c36B-F\CV4\s55A\r30A)vr08DEC18
G:\PROLAB\INST_S\181228PH\PH164-C.M
Cal Update Time: Wed Jan 02 12:45:43 2019
CSV Create Date: Wed Jan 02 14:45:01 2019
CSV Created By: vr

B	C	D	E	F	2
PH8S5105.D	PH8S5106.D	PH8S5107.D	PH8S5109.D	PH8S5108.D	PH8S6472.D

Analyte List	LPAR	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Acenaphthene - REC	487472	11.28	2020 I	0	0	0		0.44	1
d8-Naphthalene - SURR	721424	6.85	1999.66 S	99.983	0	0		0.09	0.607
d10-2-Methylnaphthalene - SURR	475919	8.52	1967.9276 S	99.8948	0	0		0.19	0.755
d10-Biphenyl - SURR	689833	9.8	2033.1933 S	99.4227	0	0		-1	0.868
d12-2,6-Dimethylnaphthalene - SURR	458306	10.1	2073.9472 S	100.922	0	0		0.73	0.896
d8-Acenaphthylene - SURR	794887	10.84	1860.4768 S	90.3144	0	0		0.15	0.961
d10-Pyrene - REC	977550	18.55	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	861210	14.99	1900.6847 S	105.3011	0	0		0.15	0.808
d8-Dibenzothiophene - SURR	862807	14.7	2141.2126 S	105.2193	0	0		0.09	0.792
d12-Benz(a)anthracene - SURR	848571	21.6	1991.4482 S	98.1009	0	0		0.23	1.164
d12-Chrysene - SURR	838154	21.69	1882.8483 S	96.0637	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	849144	26.11	2020 I	0	0	0		0.25	1
d12-Benzo(b)Fluoranthene - SURR	771019	25	1983.0967 S	100.6648	0	0		0.21	0.958
d12-Benzo(k)Fluoranthene - SURR	876428	25.11	2040.9403 S	102.047	0	0		0.19	0.962
d12-Benzo(a)pyrene - SURR	777108	26.34	2112.5552 S	102.0558	0	0		0.2	1.009
d12-Perylene - SURR	797005	26.72	2173.0294 S	101.0711	0	0		0.25	1.024
d12-Indeno(123cd)pyrene - SURR	818229	31.5	2196.2228 S	110.363	0	0		0.18	1.207
d12-Benzo(ghi)perylene - SURR	914197	32.32	2063.1392 S	104.199	0	0		0.19	1.238
d8-Naphthalene	721424	6.85	2000 I	0	0	0		0.09	1
Naphthalene $	846238	6.89	1960.1468 T	0	0	0		0.07	1.006
d10-2-Methylnaphthalene	475919	8.52	1970 I	0	0	0		0.19	1
2-Methylnaphthalene $	579008	8.6	1980.8057 T	0	0	0		0.9	1.009
1-Methylnaphthalene	546375	8.86	1979.7263 T	0	0	0		0.93	1.04
C1-Naphthalenes	579008	8.6	0 T	0	0	0		-1	1.009
d10-Biphenyl	689833	9.8	2045 I	0	0	0		-1	1
Biphenyl $	745413	9.85	1989.1839 T	0	0	0		0.28	1.005
C1-Biphenyls $	2092	11.33	5.5826 T	0	0	0		0.14	1.156
C2-Biphenyls $	27	12.74	0.0721 T	0	0	0	#	-1	1.301
d12-2,6-Dimethylnaphthalene	458306	10.1	2055 I	0	0	0		0.73	1
2,6-Dimethylnaphthalene $	532565	10.21	1974.4674 T	0	0	0		0.69	1.01
Ethyl/DiMe-Naphthalenes	532565	10.21	2182.4022 T	0	0	0		0.69	1.01
1,2-Dimethylnaphthalene	426638	10.93	1954.5102 T	0	0	0		1.29	1.082
C2-Naphthalenes	532565	10.21	0 T	0	0	0		-1	1.01
2,3,6-Trimethylnaphthalene	536042	12.2	1966.0499 T	0	0	0		0.91	1.207
2,3,5-Trimethylnaphthalene $	502858	12.38	1943.6438 T	0	0	0		0.92	1.225
C3-Naphthalenes	502858	12.38	1892.6692 T	0	0	0		0.92	1.225
1,4,6,7-Tetramethylnaphthalene $	532091	13.9	1950.7418 T	0	0	0		0.03	1.376
C4-Naphthalenes	532091	13.9	1950.7418 T	0	0	0		0.03	1.376
d8-Acenaphthylene	794887	10.84	2060 I	0	0	0		0.15	1
Acenaphthylene $	910203	10.87	1941.3199 T	0	0	0		0.2	1.003
Acenaphthene $	558888	11.36	2156.8199 T	0	0	0		1.16	1.048
C1-Acenaphthenes $	385	11.72	1.4858 T	0	0	0		0.28	1.081
d8-Dibenzothiophene	862807	14.7	2035 I	0	0	0		0.09	1
Dibenzothiophene $	994619	14.74	1962.376 T	0	0	0		0.09	1.003
C1-Dibenzothiophenes-1	17550	15.88	50.4657 T	0	0	0		0.69	1.08
2/3-Methyldibenzothiophenes $	704637	16.08	2026.2117 T	0	0	0		0.72	1.094
C1-Dibenzothiophenes-2	0	0	0 T	0	0	0		0	0
C1-Dibenzothiophenes	704637	16.08	0 T	0	0	0		-1	1.094
4,6-Dimethyldibenzothiophene	751437	16.94	2016.2246 T	0	0	0		0.16	1.152

CAL VER meets specification

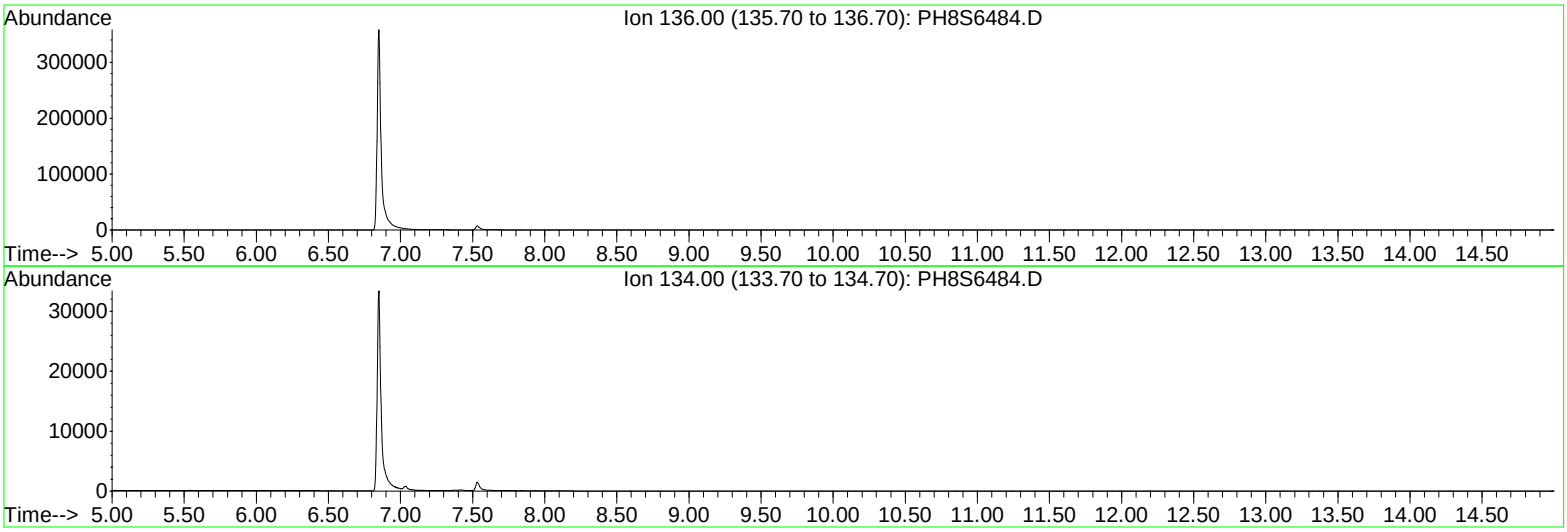
pv by vr
03-Jan-2019

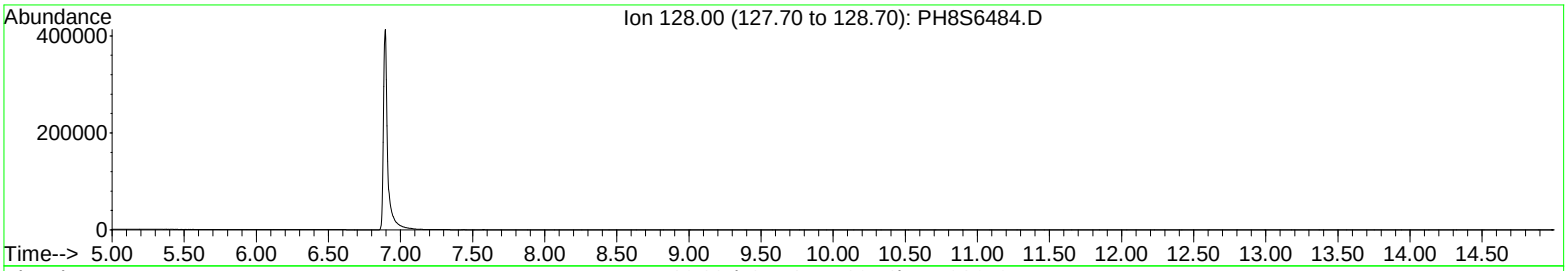
2,4-Dimethyldibenzothiophene $	611270	17.09	2123.731 T	0	0	0		0.51	1.163
C2-Dibenzothiophenes	611270	17.09	2123.731 T	0	0	0		0.51	1.163
C3-Dibenzothiophenes $	209	18.1	0.7261 T	0	0	0	#	-1	1.232
C4-Dibenzothiophenes $	1296	18.94	4.5027 T	0	0	0		0.02	1.289
d10-Phenanthrene	861210	14.99	1805 I	0	0	0		0.15	1
Fluorene $	698509	12.65	2048.4474 T	0	0	0		0.99	0.844
2-Methylfluorene $	490626	14.08	2115.8308 T	0	0	0		1.27	0.939
C1-Fluorenes	490626	14.08	2115.8308 T	0	0	0		1.27	0.939
1,7-Dimethylfluorene $	458867	15.5	2127.8222 T	0	0	0		0.08	1.034
C2-Fluorenes	458867	15.5	2127.8222 T	0	0	0		0.08	1.034
C3-Fluorenes $	7261	16.42	33.6701 T	0	0	0	#	14.89	1.095
Phenanthrene $	1016721	15.05	1992.3283 T	0	0	0		0.19	1.004
Anthracene	1001379	15.16	1939.0911 T	0	0	0		0.19	1.011
d10-Anthracene $	901888	15.12	1955.531 T	0	0	0		0.13	1.008
3-Methylphenanthrene	747963	16.37	2077.4992 T	0	0	0		0.59	1.092
2-Methylphenanthrene	747963	16.37	2105.0587 T	0	0	0		0.59	1.092
2-Methylanthracene	680424	16.47	1972.9715 T	0	0	0		0.51	1.099
9/4-Methylphenanthrenes	702423	16.47	1951.0099 T	0	0	0		0.51	1.099
1-Methylphenanthrene $	772913	16.64	2034.6211 T	0	0	0		0.61	1.11
C1-Phenanthrenes/Anthracenes	772913	16.64	0 T	0	0	0		-1	1.11
Fluoranthene $	1188899	18.06	1896.4994 T	0	0	0		0.21	1.205
Pyrene	1182825	18.6	1824.8943 T	0	0	0		0.21	1.241
3,6-Dimethylphenanthrene $	688353	17.47	1985.5201 T	0	0	0		0.36	1.165
2,6-Dimethylphenanthrene	690033	17.47	1986.7086 T	0	0	0		0.36	1.165
1,7-Dimethylphenanthrene	684961	17.88	1968.5064 T	0	0	0		0.35	1.193
Ethyl/DiMe-Phenanthrenes/Anthracenes	688353	17.47	1981.8717 T	0	0	0		0.36	1.165
1,8-Dimethylphenanthrene	40020	18.01	115.2236 T	0	0	0		0.31	1.202
C2-Phenanthrenes/Anthracenes	688353	17.47	0 T	0	0	0		-1	1.165
1,2,6-Trimethylphenanthrene $	743806	19.4	2330.0889 T	0	0	0		0.61	1.294
C3-Phenanthrenes/Anthracenes	743806	19.4	2330.0889 T	0	0	0		0.61	1.294
Retene $	237713	19.5	1948.8896 T	0	0	0		1.65	1.301
C4-Phenanthrenes/Anthracenes	237713	19.5	1948.8896 T	0	0	0		1.65	1.301
C1-Fluoranthenes/Pyrenes-1	0	0	0 T	0	0	0		0	0
3-Methylfluoranthene/Benzo(a)fluorene $	700964	19.5	1880.8697 T	0	0	0		1.07	1.301
C1-Fluoranthenes/Pyrenes-2	80	19.93	0.2147 T	0	0	0		9.86	1.33
C1-Fluoranthenes/Pyrenes	700964	19.5	0 T	0	0	0		-1	1.301
C2-Fluoranthenes/Pyrenes $	962	20.46	2.5813 T	0	0	0		0.12	1.365
C3-Fluoranthenes/Pyrenes $	149	21.89	0.3998 T	0	0	0		0.17	1.46
C4-Fluoranthenes/Pyrenes $	15	23.3	0.0402 T	0	0	0	#	11342.27	1.554
d12-Benz(a)anthracene	848571	21.6	2030 I	0	0	0		0.23	1
d10-Fluoranthene $	933336	18.01	2056.4872 T	0	0	0		0.17	0.834
Benz(a)anthracene	1057623	21.65	1958.4775 T	0	0	0		0.27	1.002
d12-Chrysene	838154	21.69	1960 I	0	0	0		0.26	1
Chrysene $	1055931	21.75	2000.349 T	0	0	0		0.3	1.003
5/6-Methylchrysenes $	801439	23.09	2010.5346 T	0	0	0		-1	1.064
1-Methylchrysene	856596	23.26	2074.2809 T	0	0	0		-1	1.072
C1-Benz(a)anthracenes/Chrysenes	801439	23.09	1975.0182 T	0	0	0		-1	1.064
5,9-Dimethylchrysene $	642249	24.39	2081.1781 T	0	0	0		-1	1.124
C2-Benz(a)anthracenes/Chrysenes	642249	24.39	2081.1781 T	0	0	0		-1	1.124
C3-Benz(a)anthracenes/Chrysenes $	16	25.09	0.0518 T	0	0	0		-1	1.156
C4-Benz(a)anthracenes/Chrysenes $	20	26.09	0.0648 T	0	0	0		-1	1.202
d12-Benzo(b)fluoranthene	771019	25	1970 I	0	0	0		0.21	1
Benzo(b)fluoranthene-SURR int	1094473	25.09	0 T	0	0	0	#	0.22	1.004
Benzo(b)fluoranthene $	1094473	25.09	1931.3554 T	0	0	0		0.22	1.004
d12-Benzo(k)fluoranthene	876428	25.11	2000 I	0	0	0		0.19	1
Benzo(j/k)fluoranthenes	1130750	25.19	2045.0023 T	0	0	0		0.22	1.003
Benzofluoranthenes	1094473	25.09	0 T	0	0	0		-1	0.999
d12-Benzo(a)pyrene	777108	26.34	2070 I	0	0	0		0.2	1
Benzo(e)pyrene	1030386	26.23	1977.8369 T	0	0	0		0.22	0.996
Benzo(a)pyrene	987156	26.43	2007.4923 T	0	0	0		0.22	1.004
7-Methylbenzo(a)pyrene $	750803	29.16	2145.063 T	0	0	0		-1	1.107
C1-Benzofluoranthenes/Benzopyrenes	750803	29.16	2145.063 T	0	0	0		-1	1.107
C2-Benzofluoranthenes/Benzopyrenes $	17	29.93	0.0486 T	0	0	0		-1	1.136
d12-Perylene	797005	26.72	2150 I	0	0	0		0.25	1
Perylene	1023165	26.84	2001.6768 T	0	0	0		0.22	1.004
d12-Indeno(123cd)pyrene	818229	31.5	1990 I	0	0	0		0.18	1
d14-Dibenzo(ah)anthracene $	714842	31.61	1900.4346 T	0	0	0		0.28	1.004
Dibenzo(ah)anthracene $	929195	31.72	1985.113 T	0	0	0		0.16	1.007
Indeno(123cd)pyrene $	998505	31.58	1984.5694 T	0	0	0		0.2	1.002
d12-Benzo(ghi)perylene	914197	32.32	1980 I	0	0	0		0.19	1
Benzo(ghi)perylene	1090405	32.4	1977.5837 T	0	0	0		0.22	1.002

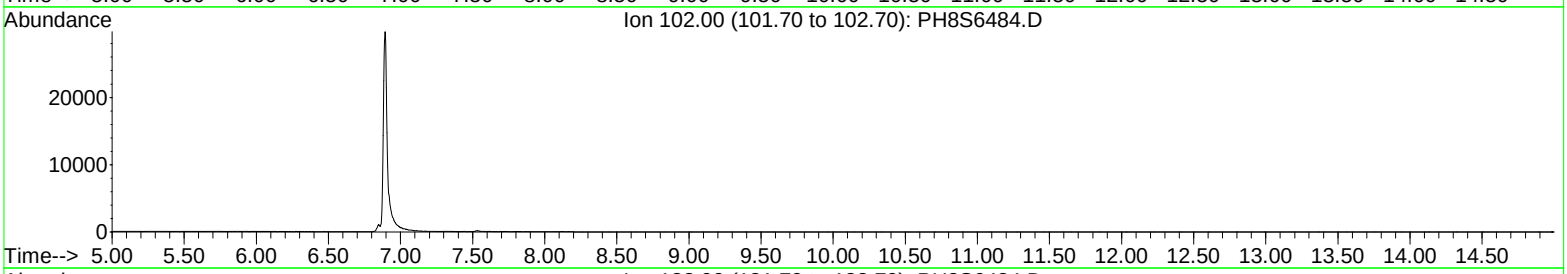
pv by vr
03-Jan-2019

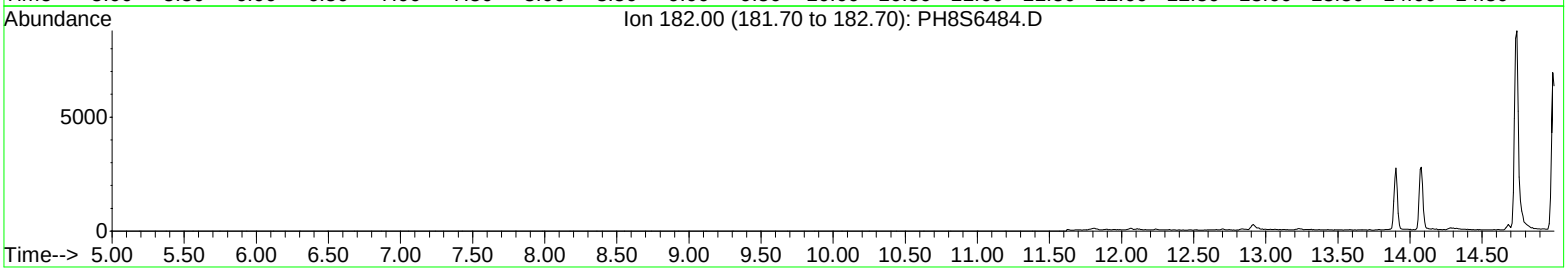
Axys Analytical CHRO Report

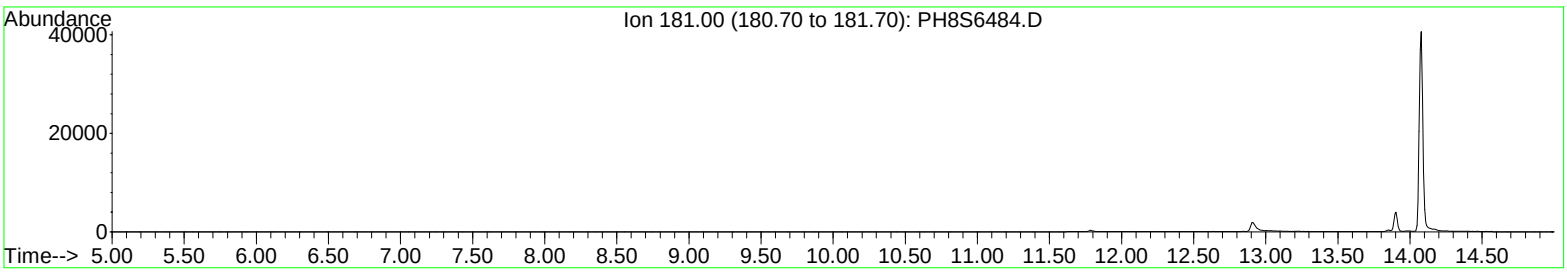
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL







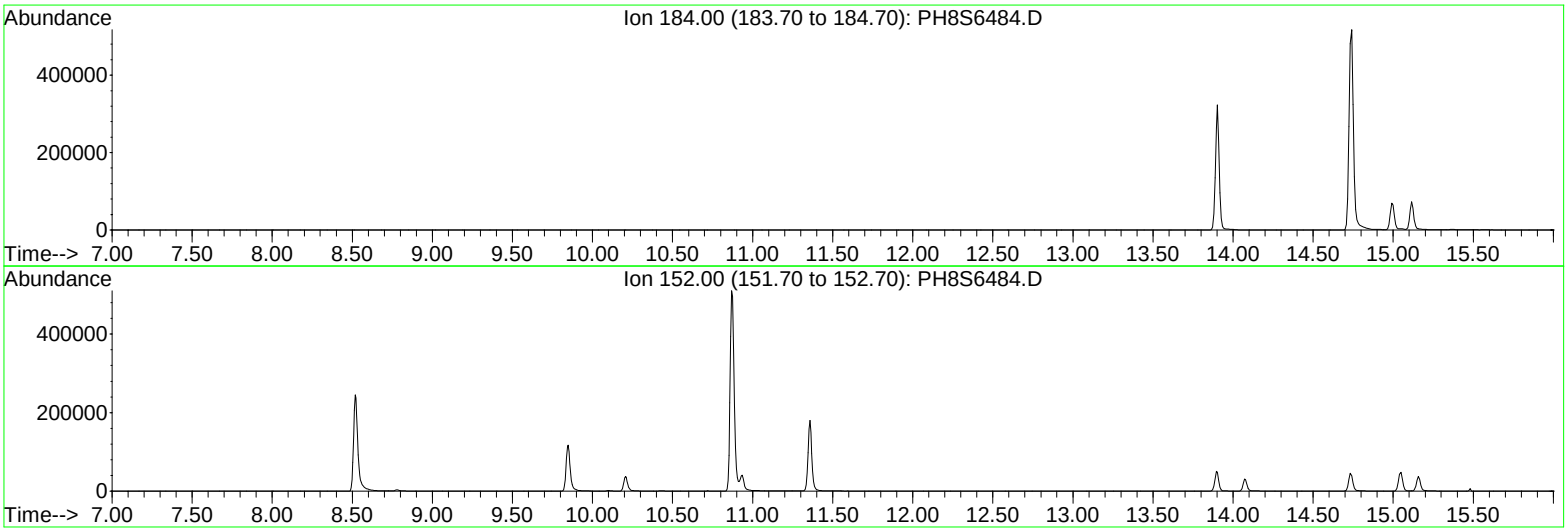


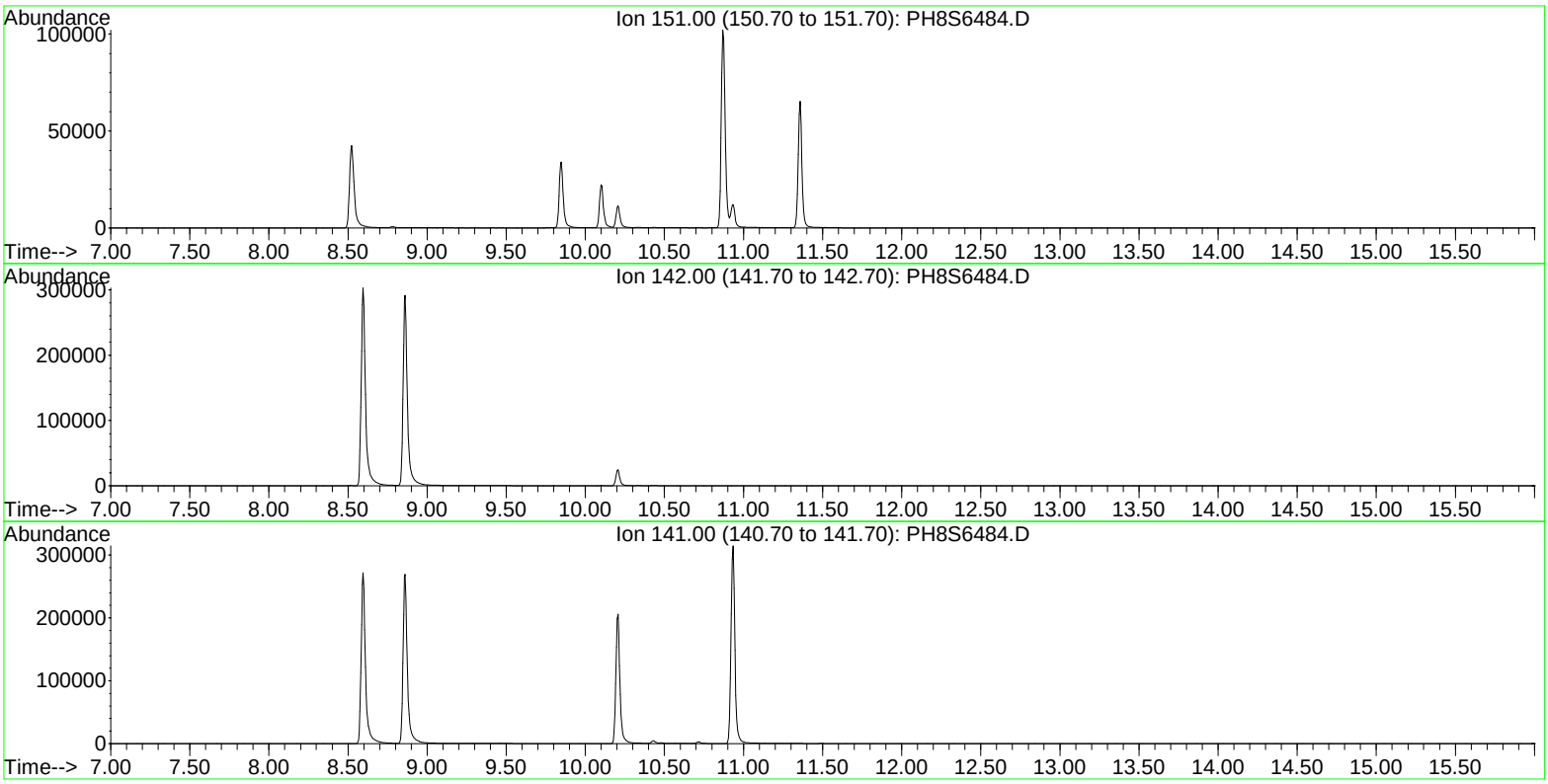


Thu Jan 10 09:21:06 2019

Axys Analytical CHRO Report

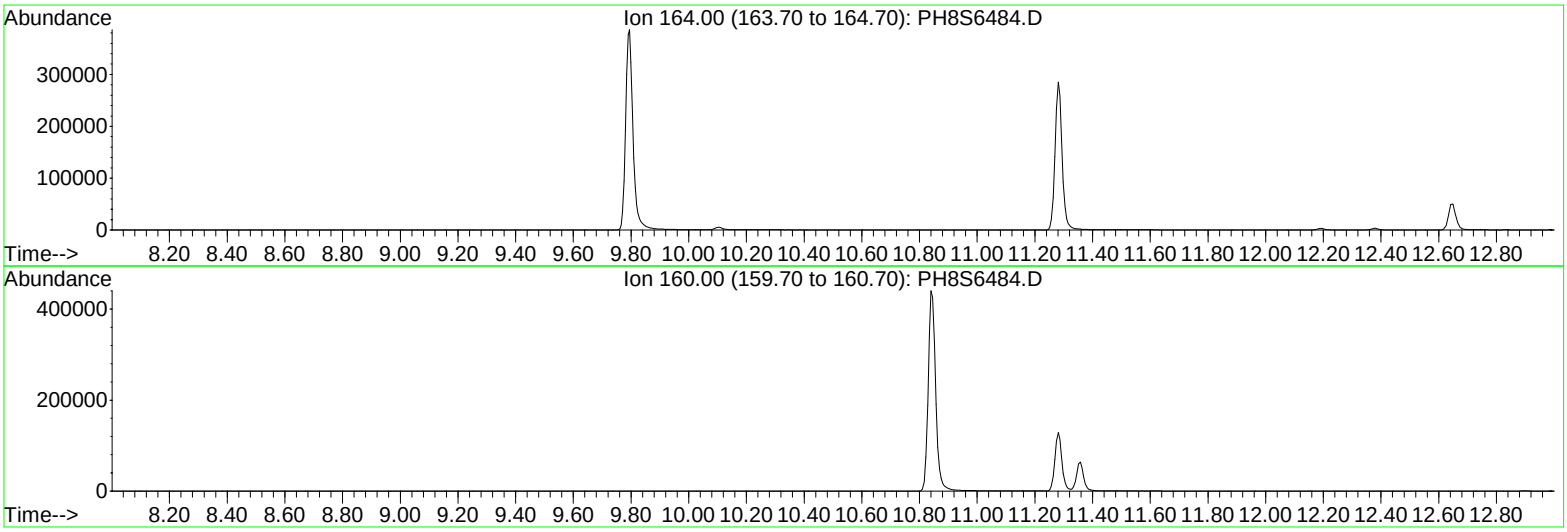
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

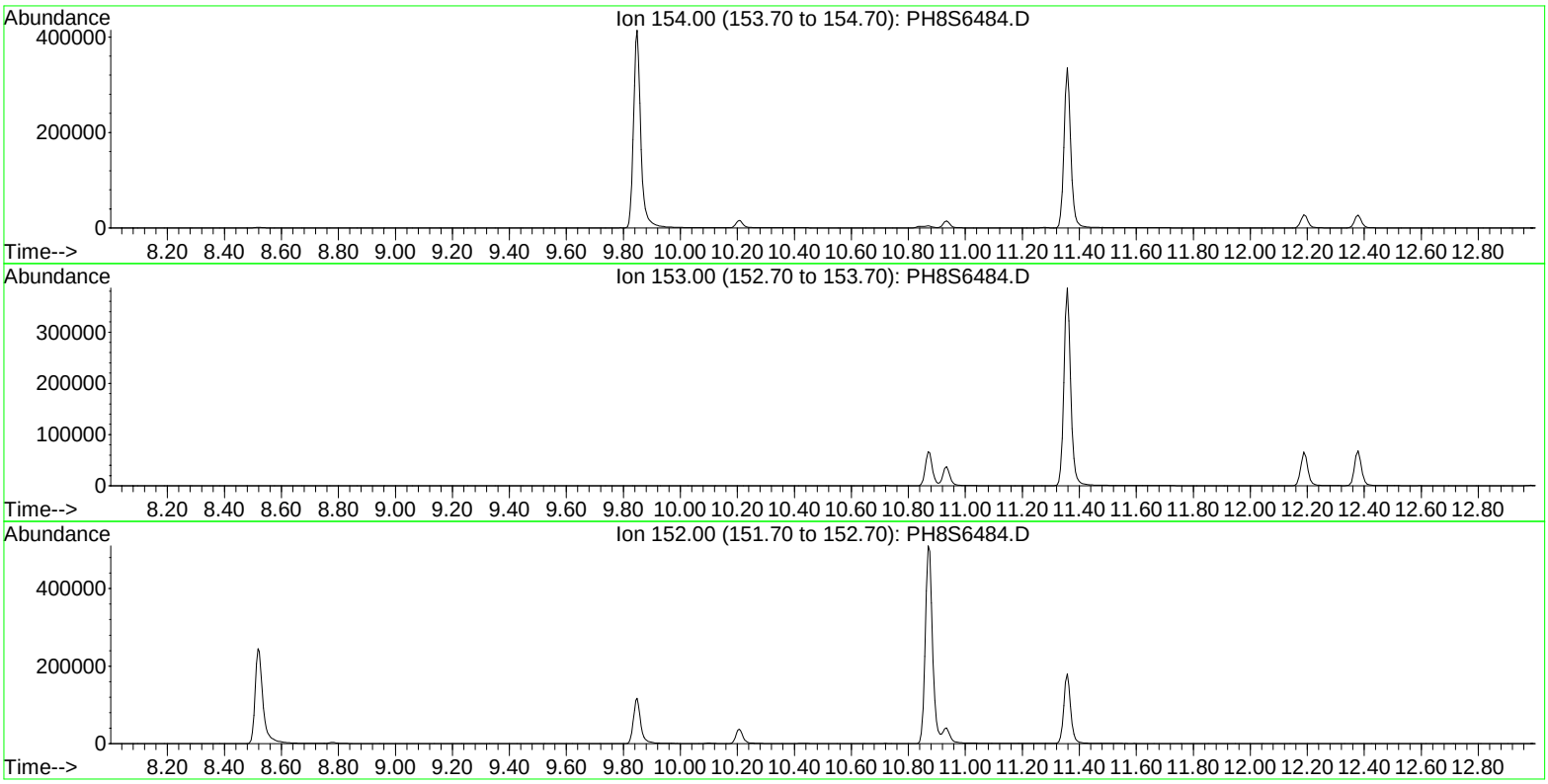




Axys Analytical CHRO Report

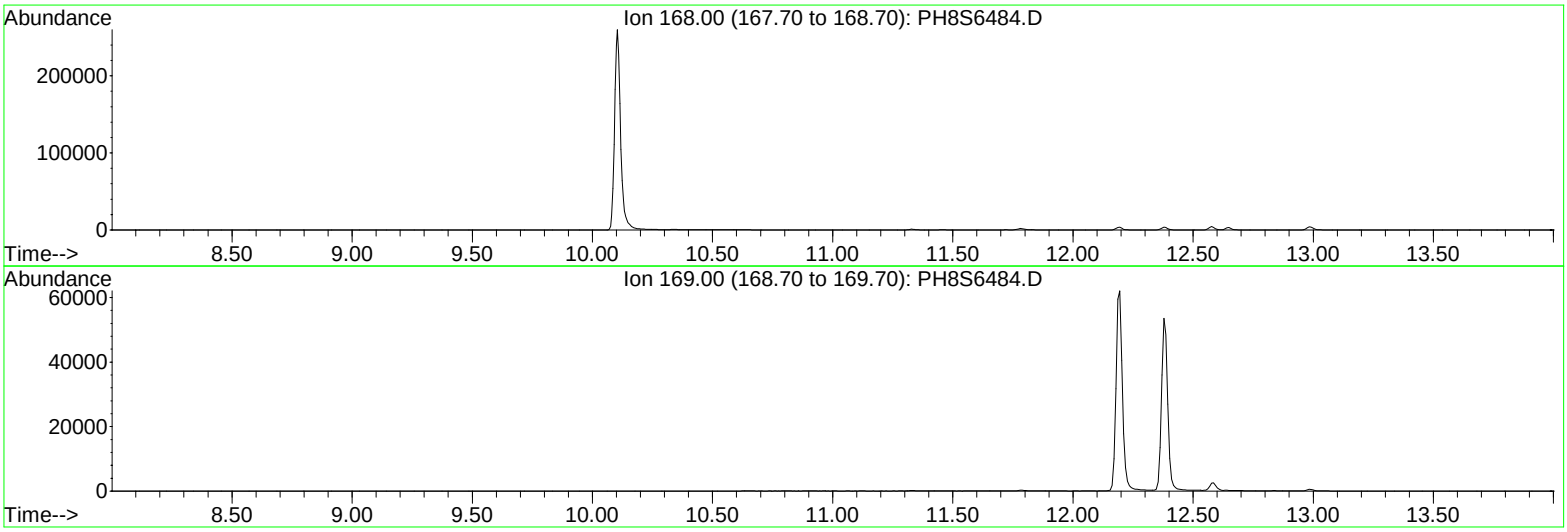
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

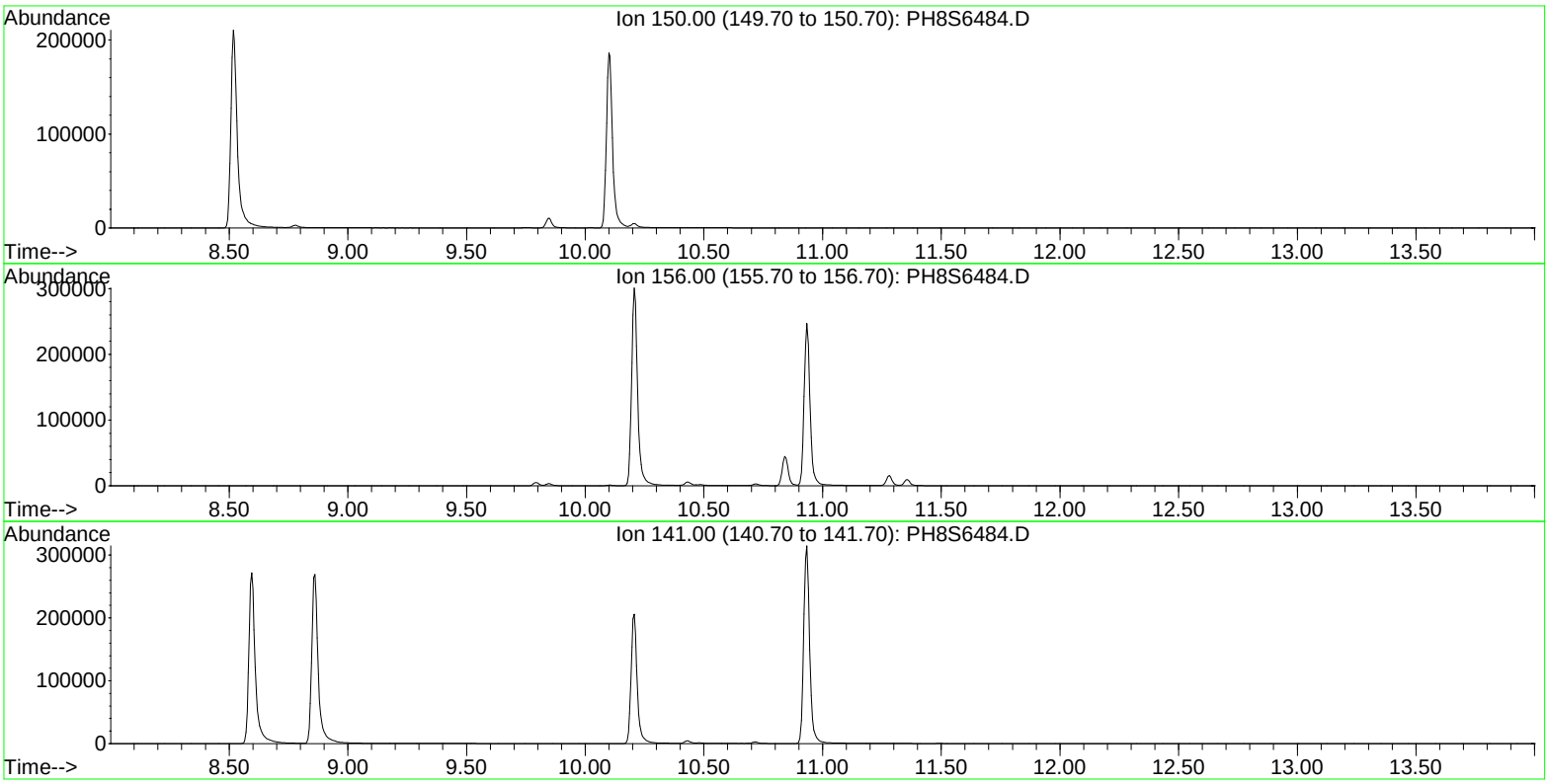




Axys Analytical CHRO Report

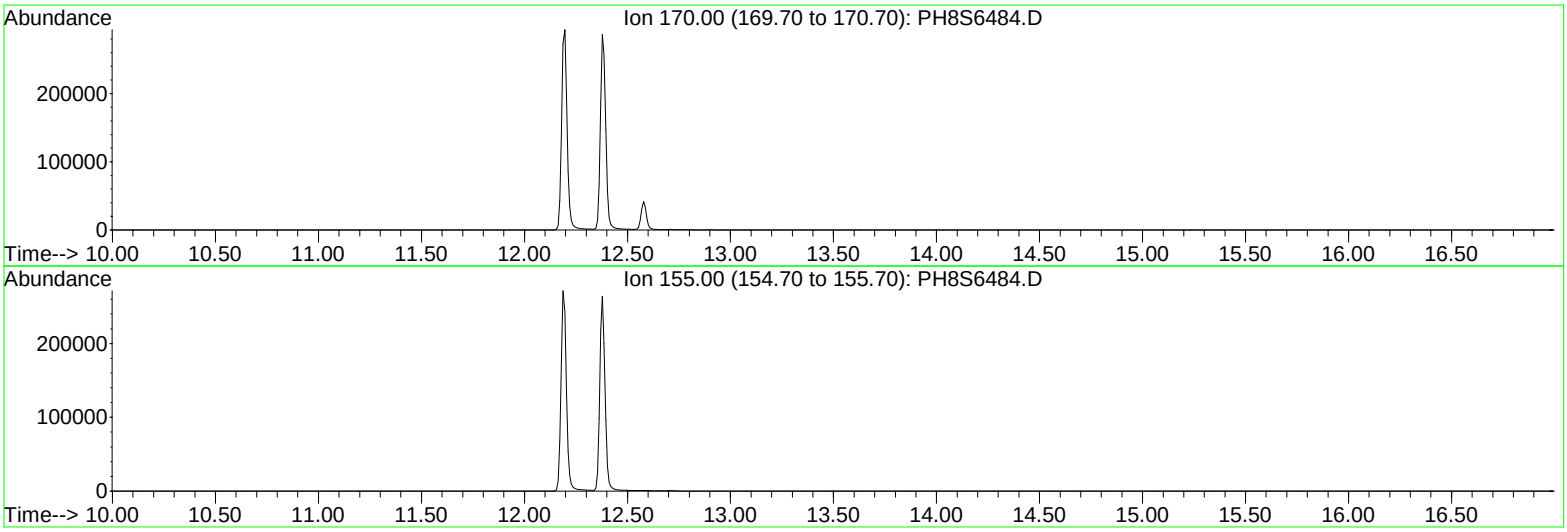
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

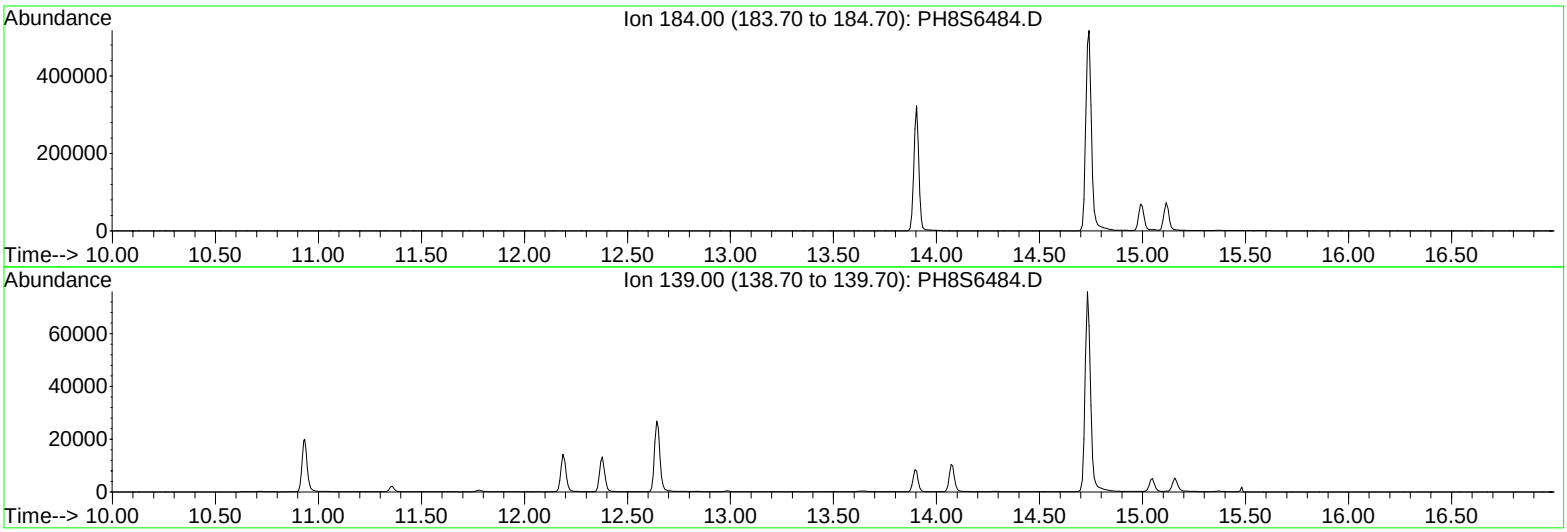




Axys Analytical CHRO Report

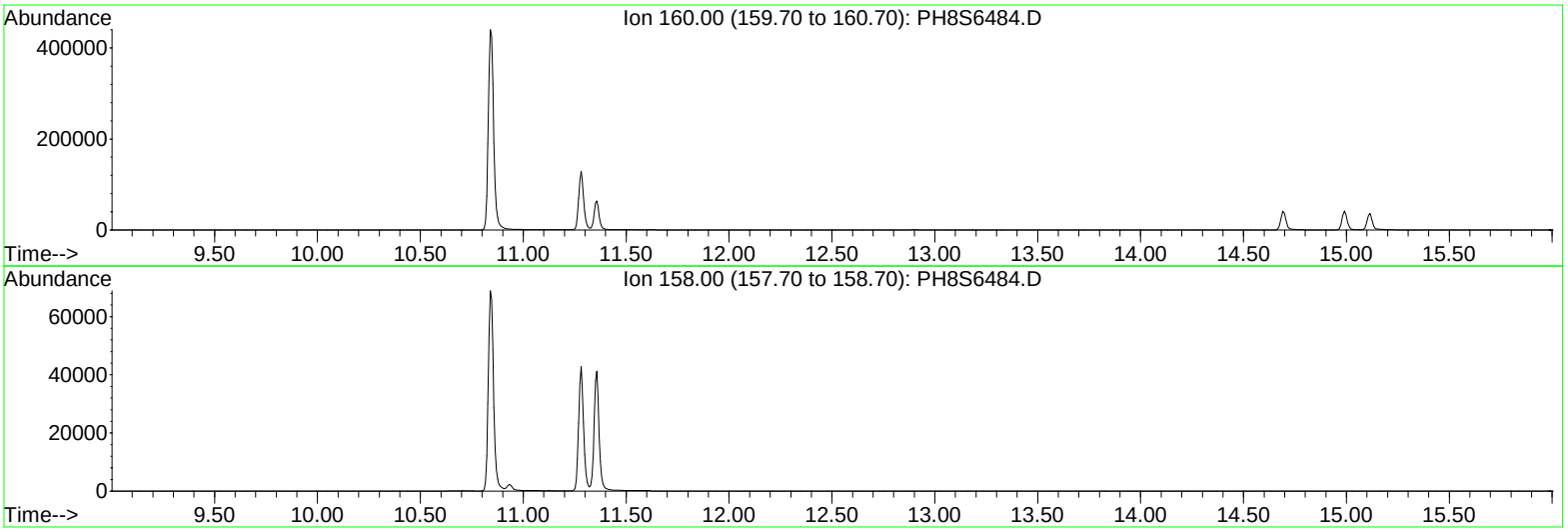
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

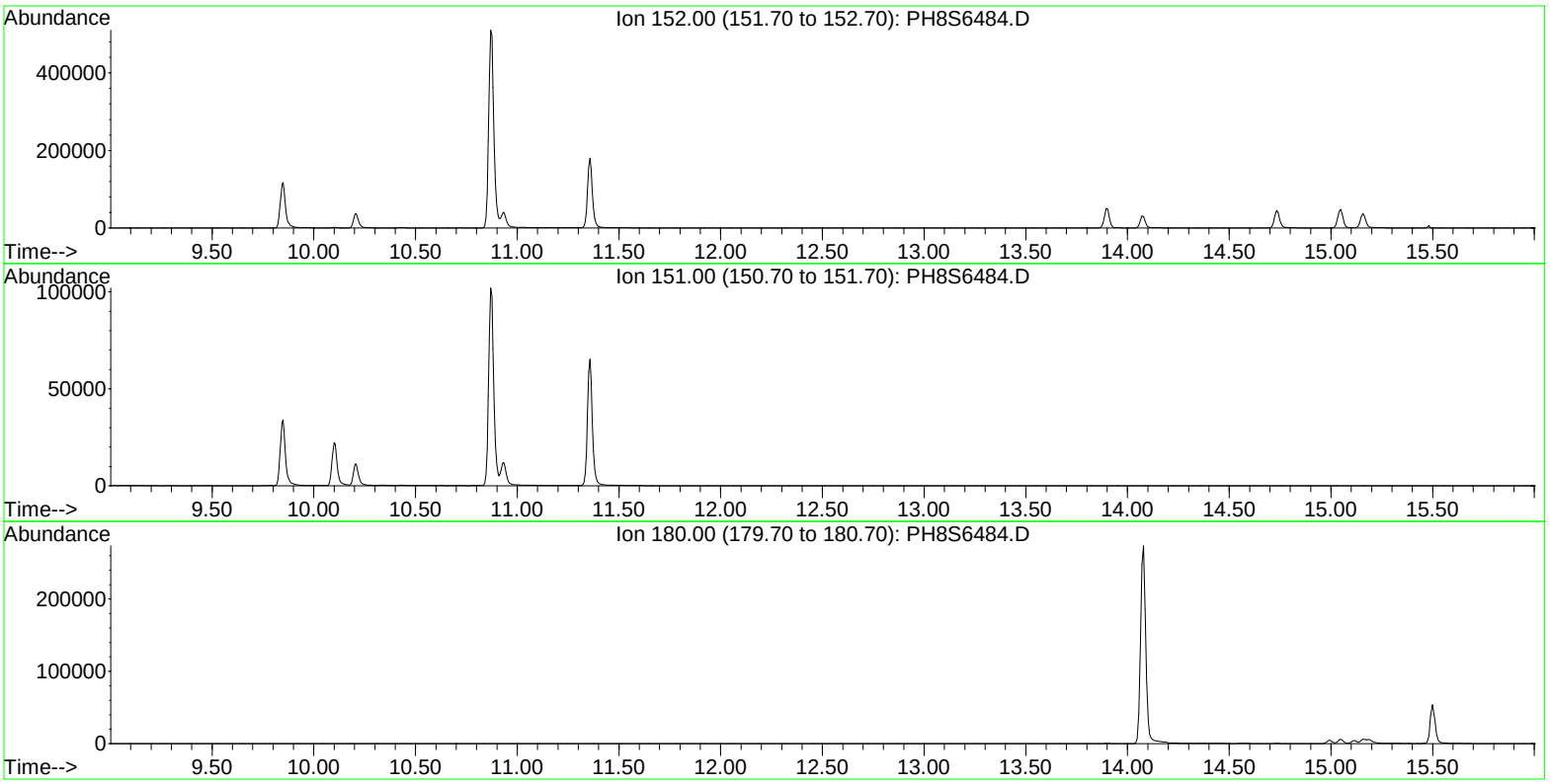


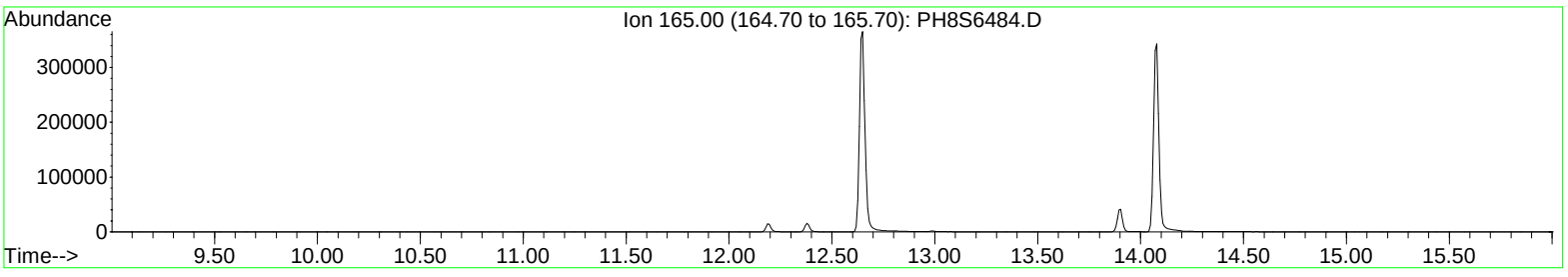


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



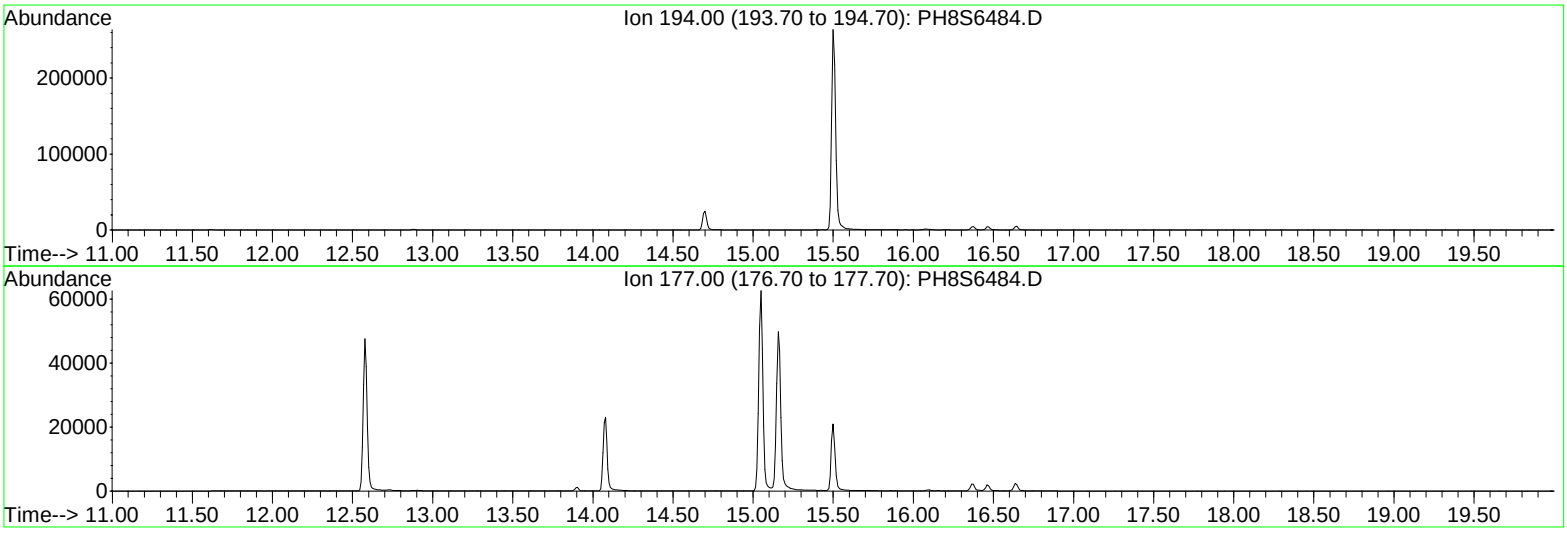


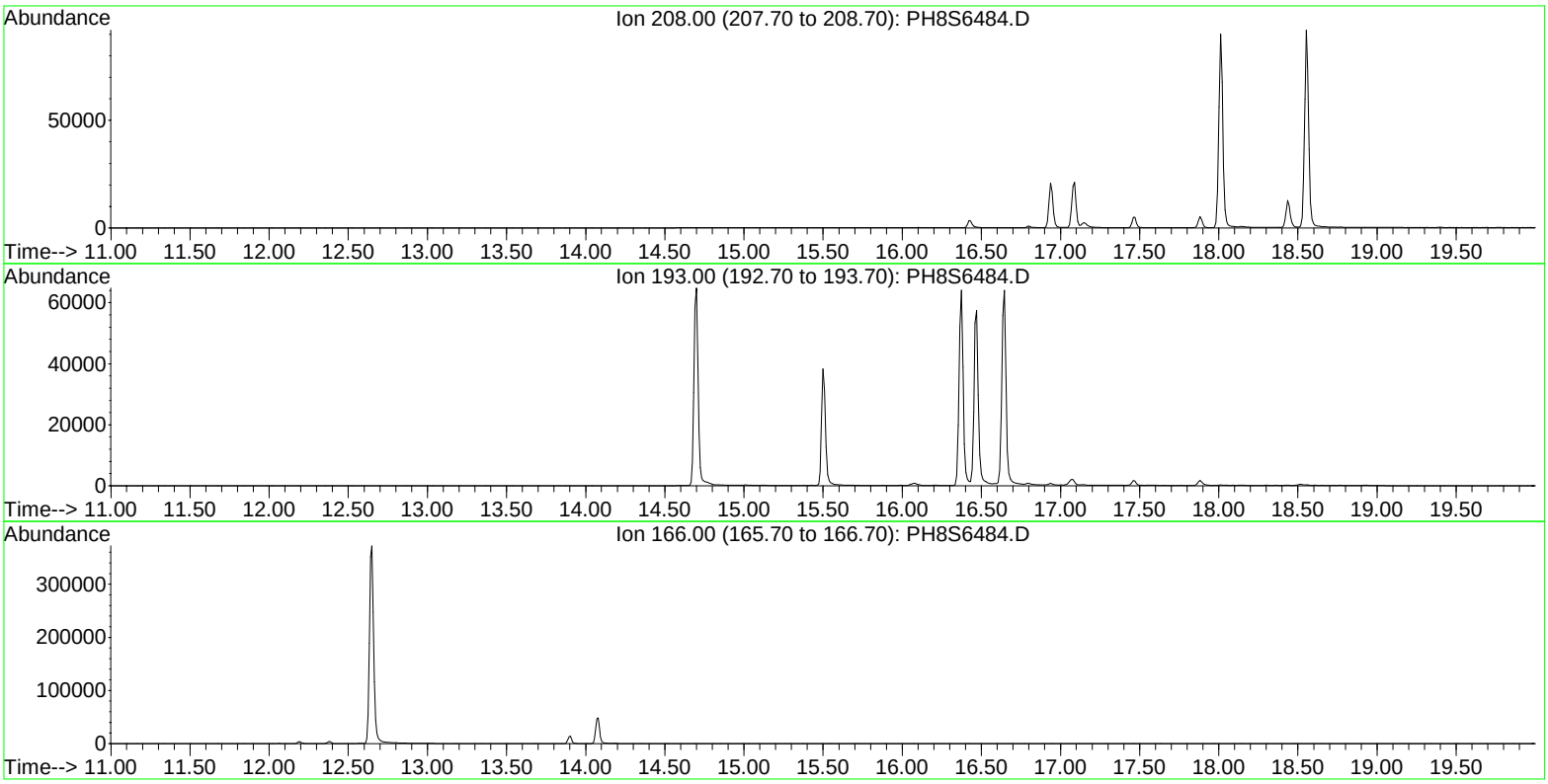


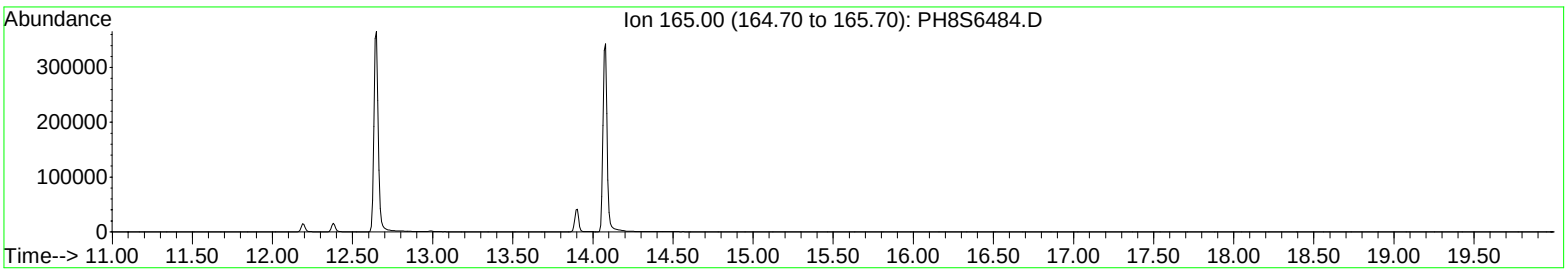
Thu Jan 10 09:21:10 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



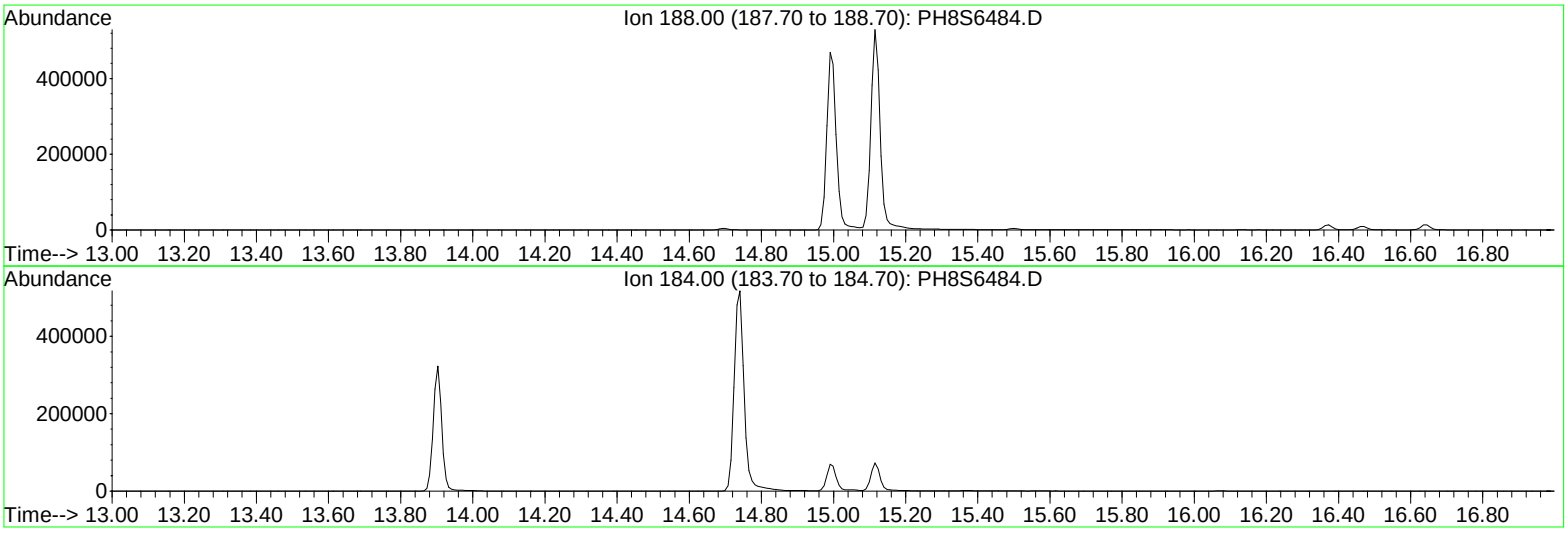


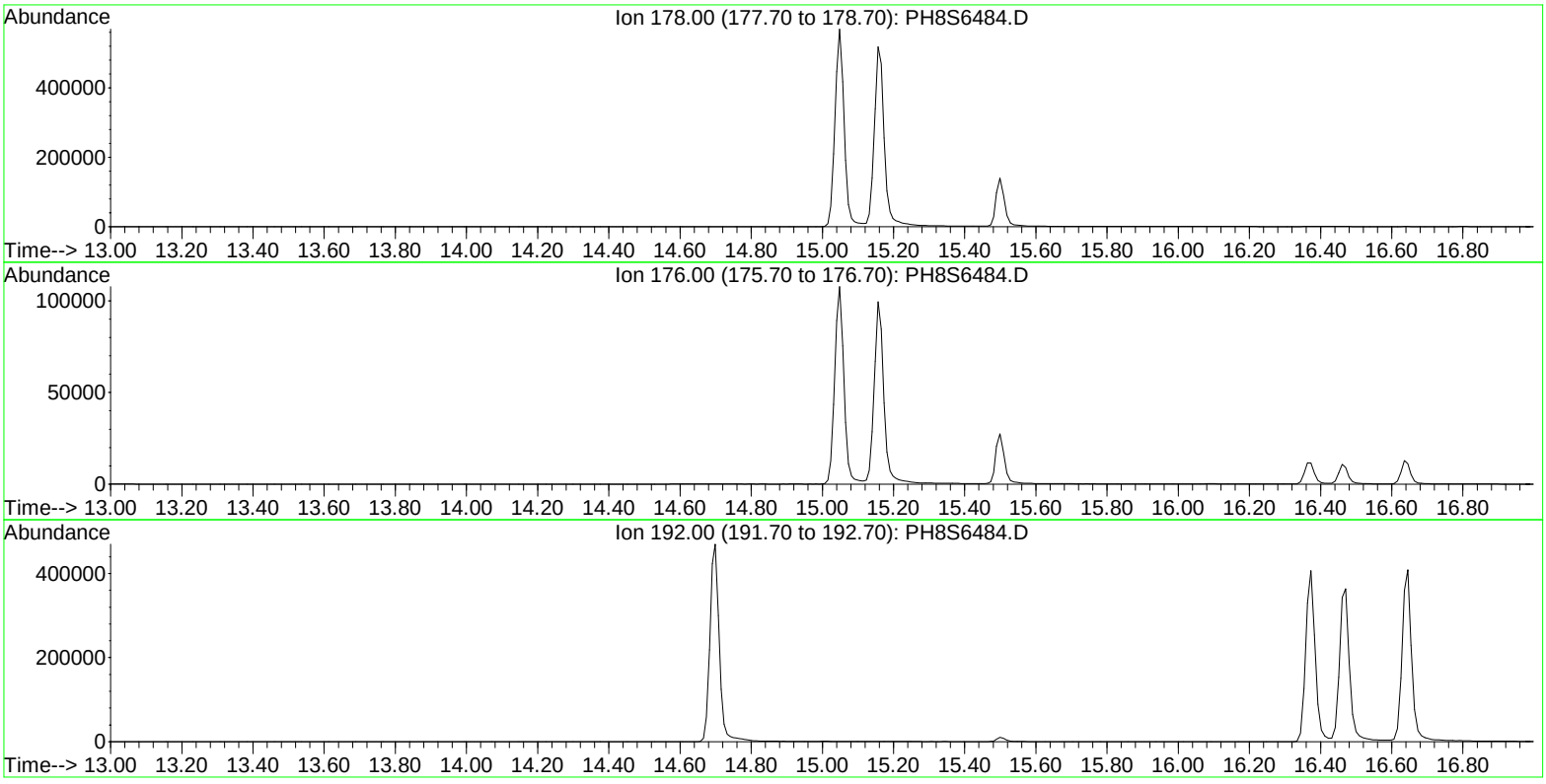


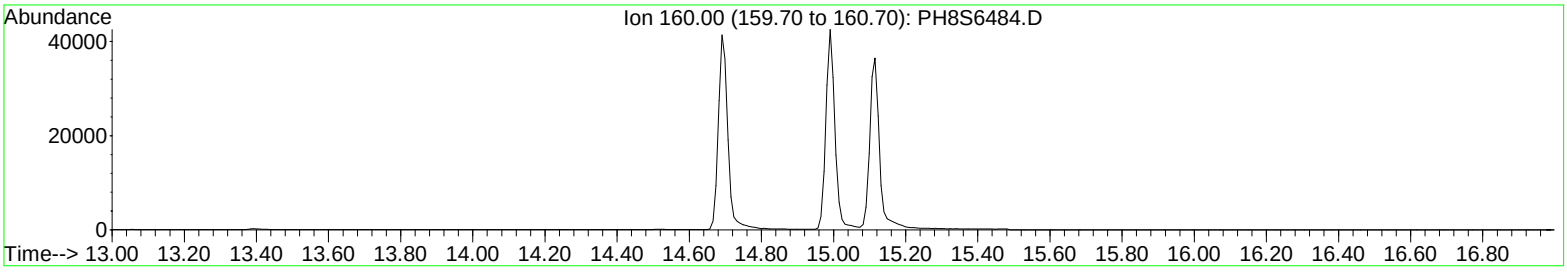
Thu Jan 10 09:21:11 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



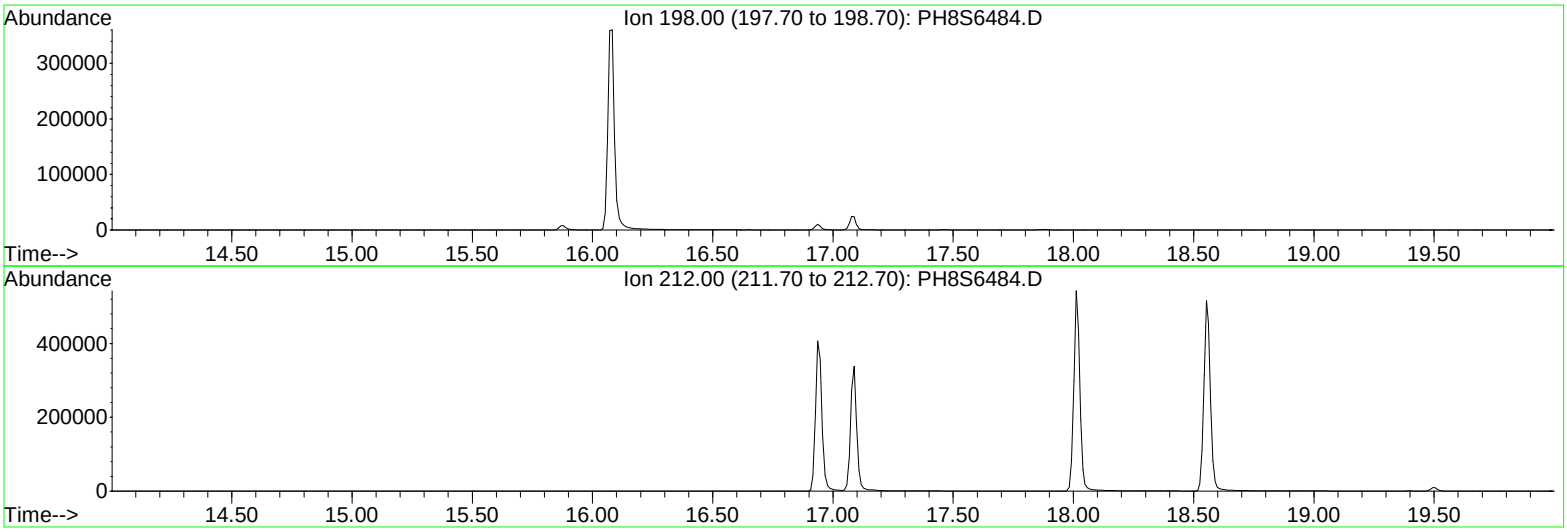


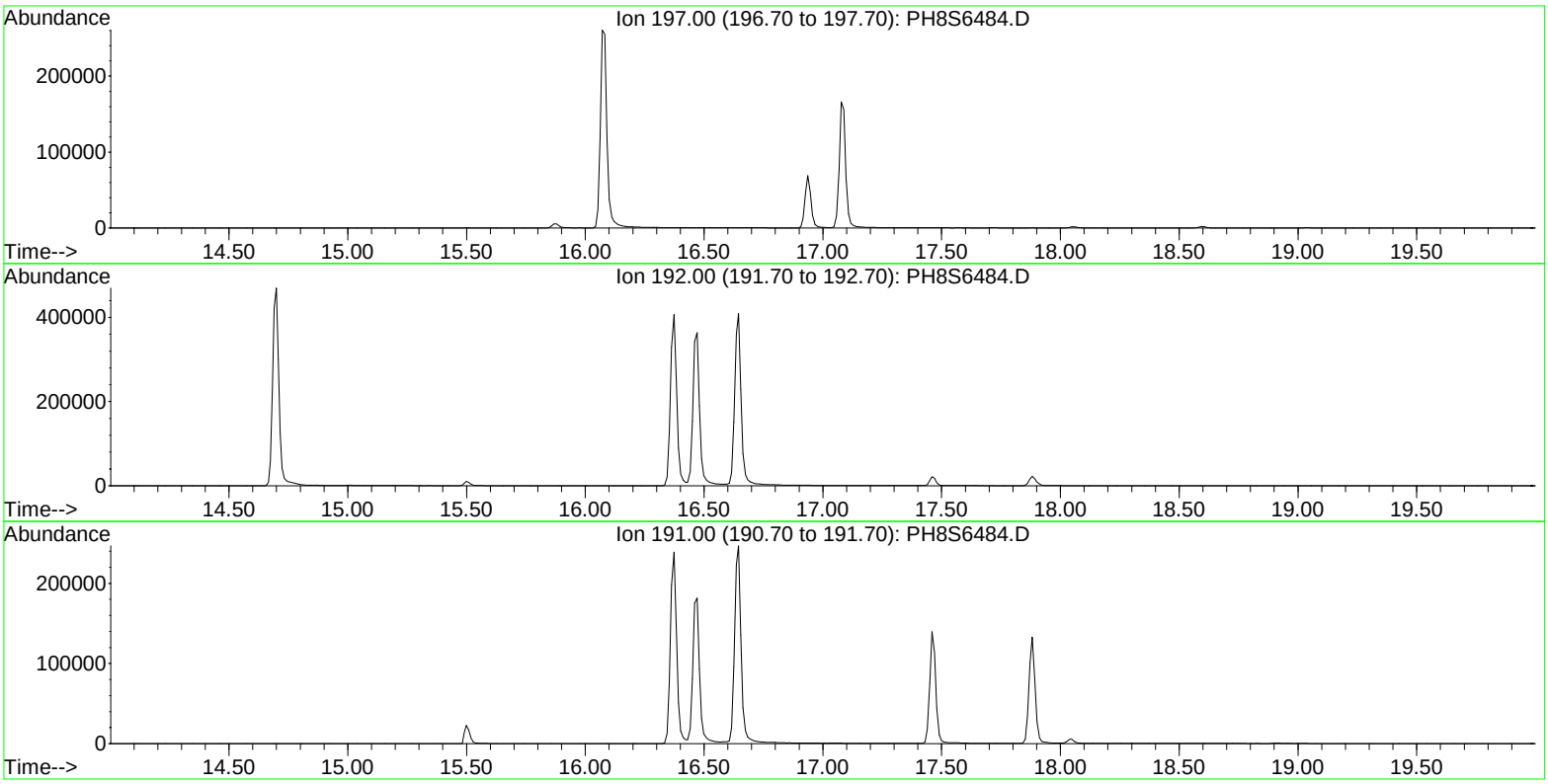


Thu Jan 10 09:21:11 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

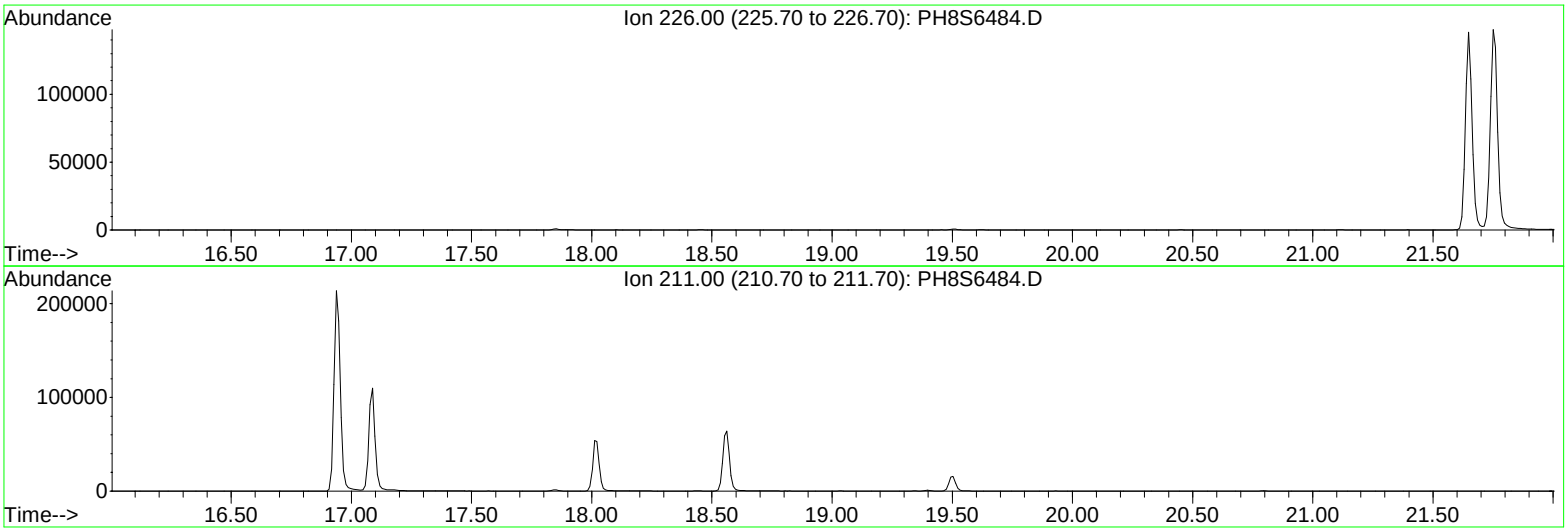


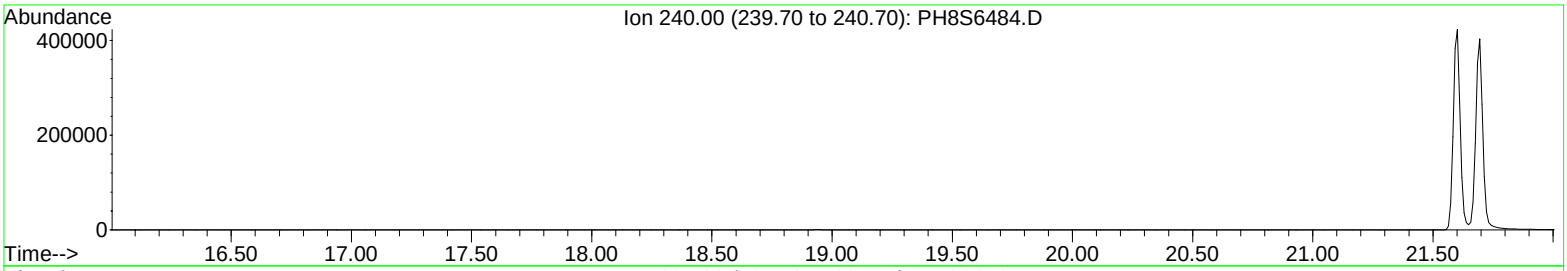


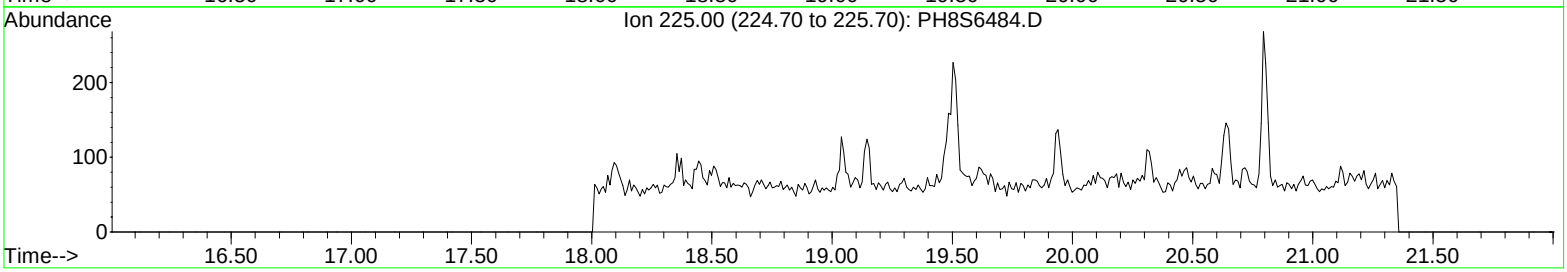
Thu Jan 10 09:21:12 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

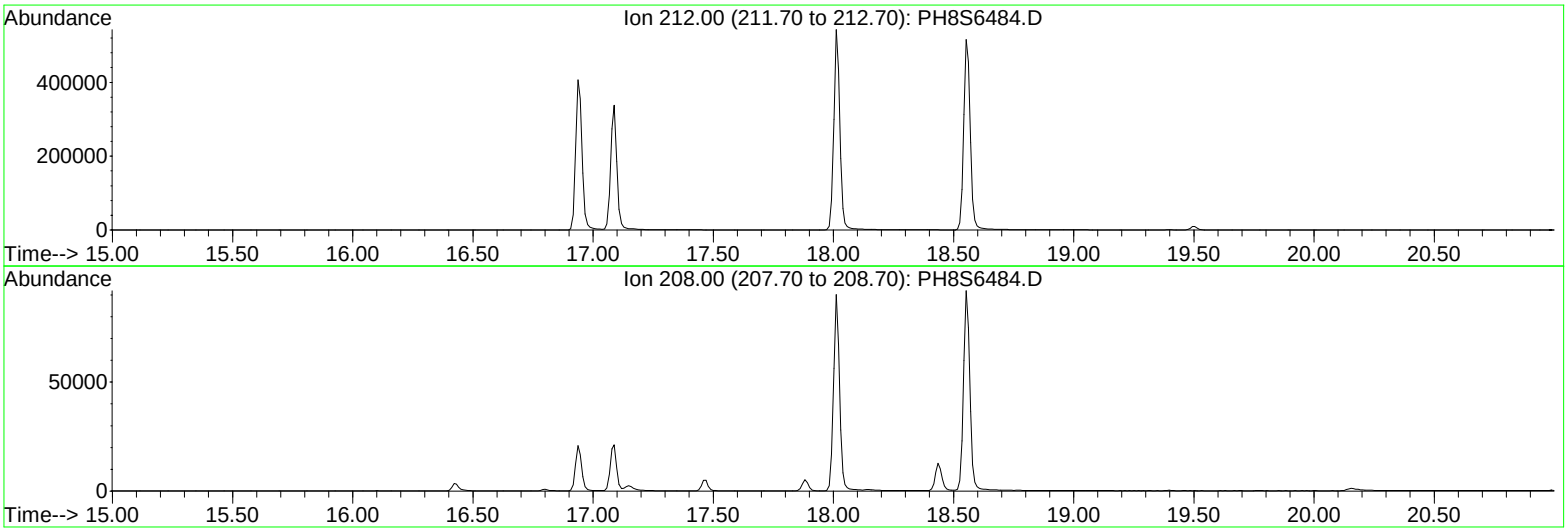


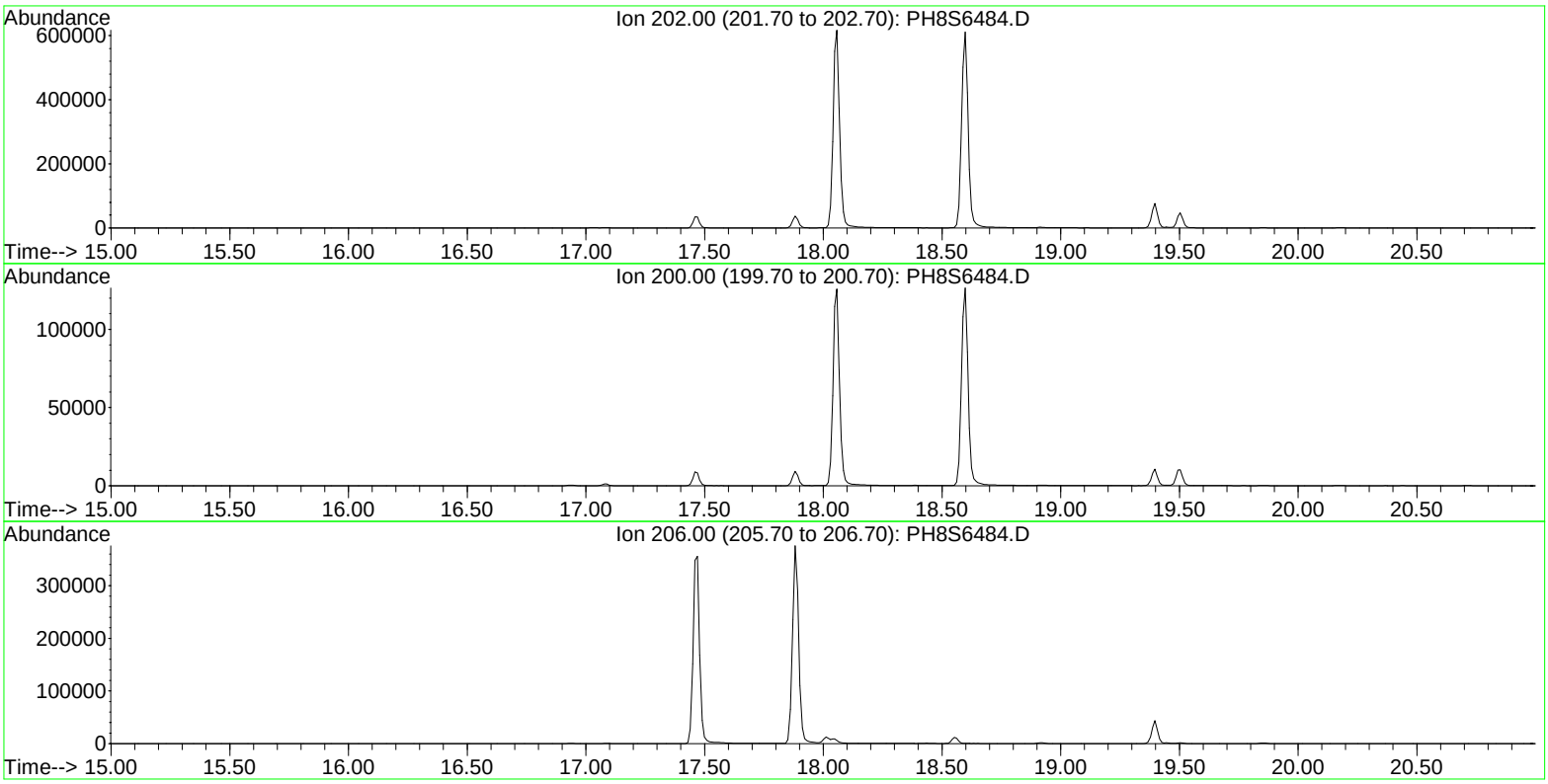


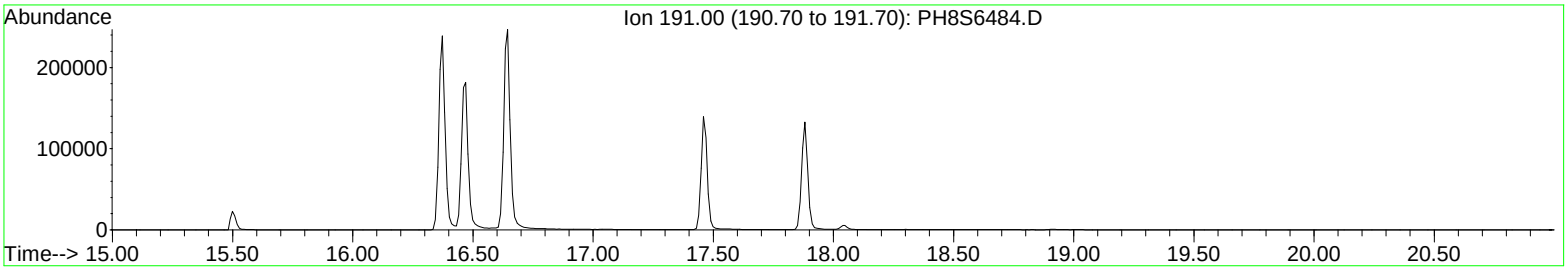


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



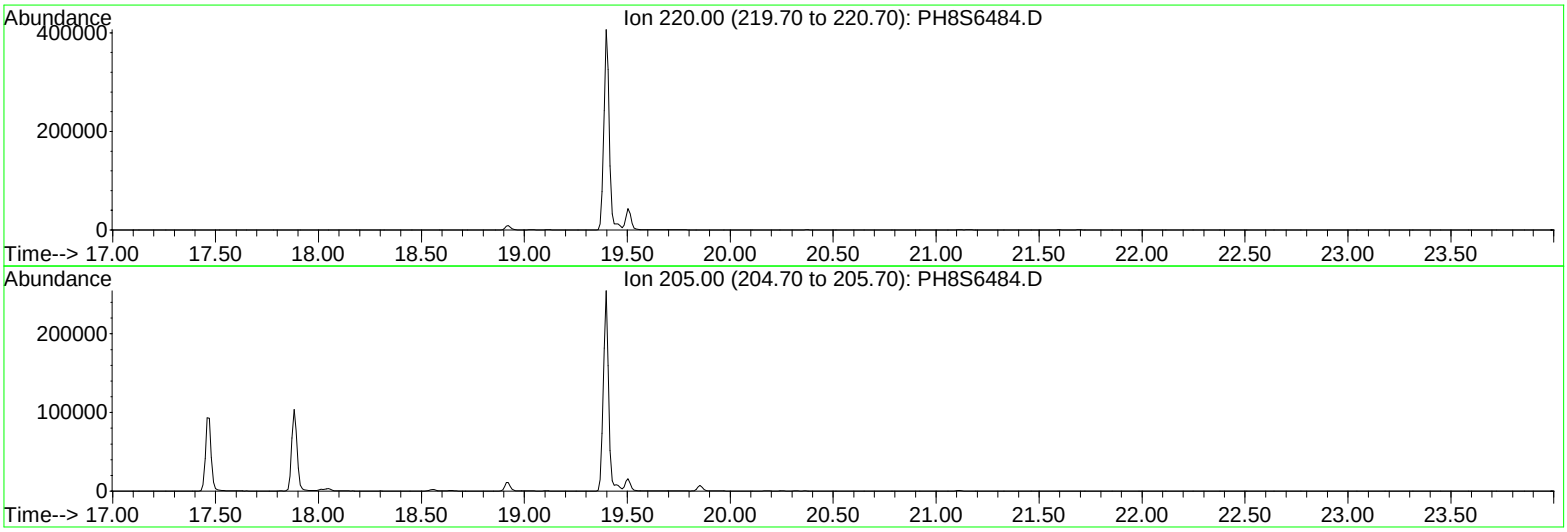


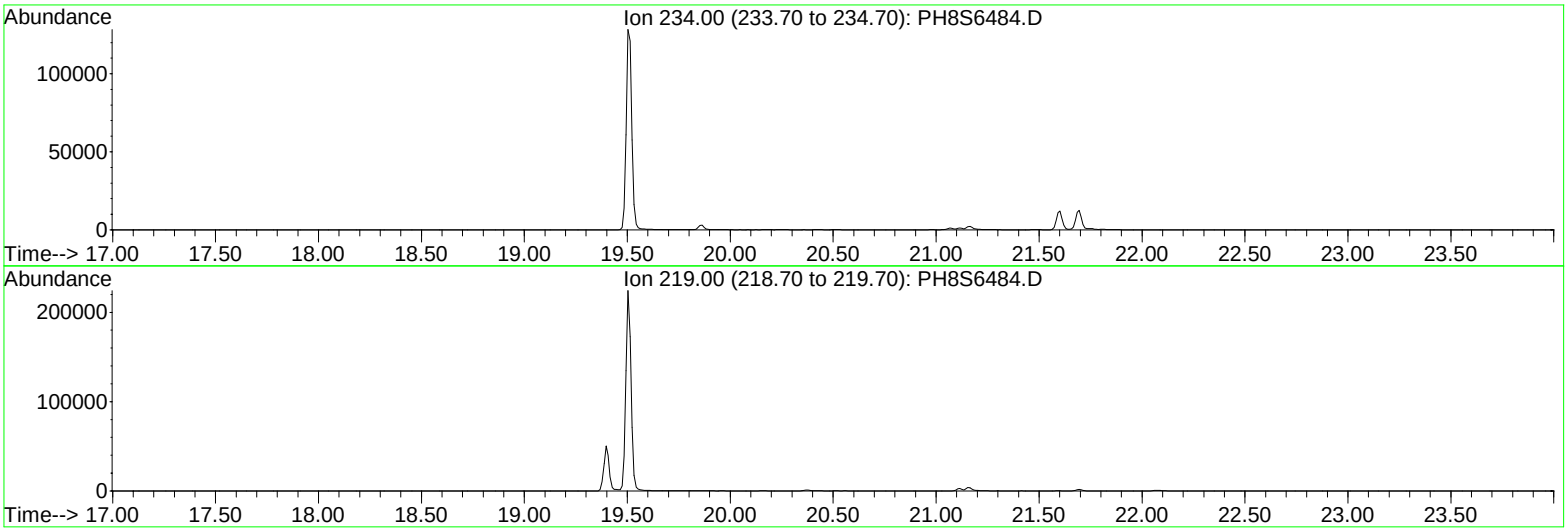


Thu Jan 10 09:21:13 2019

Axys Analytical CHRO Report

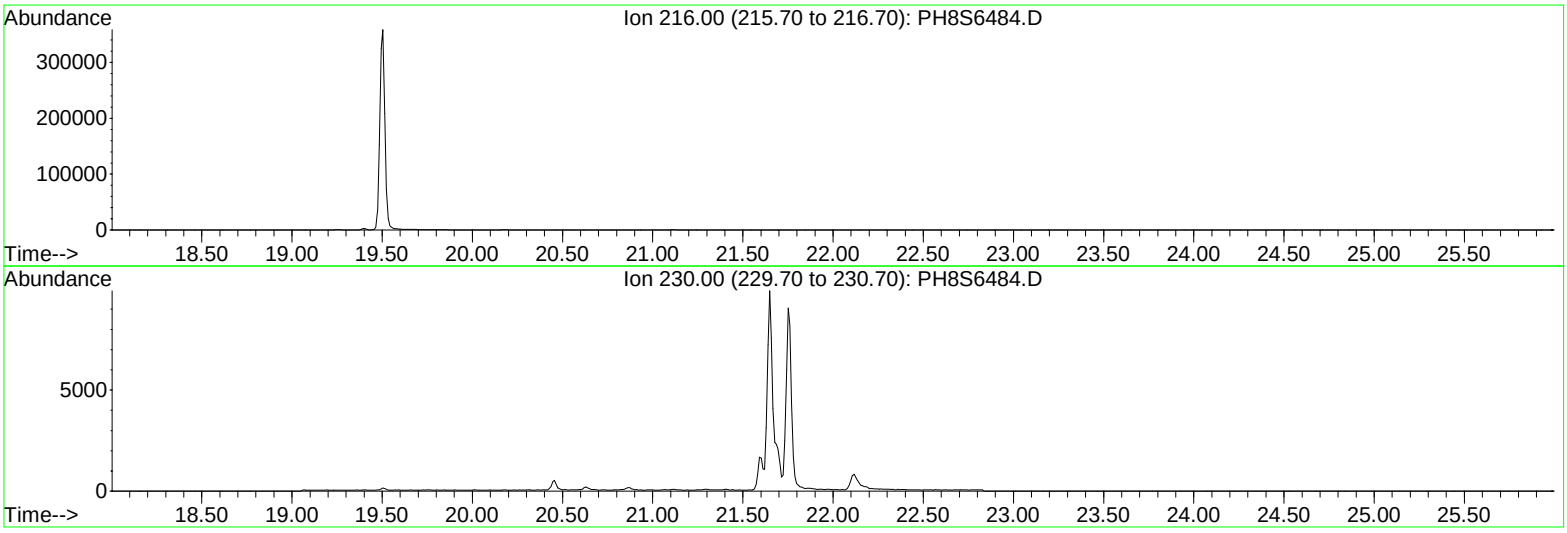
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

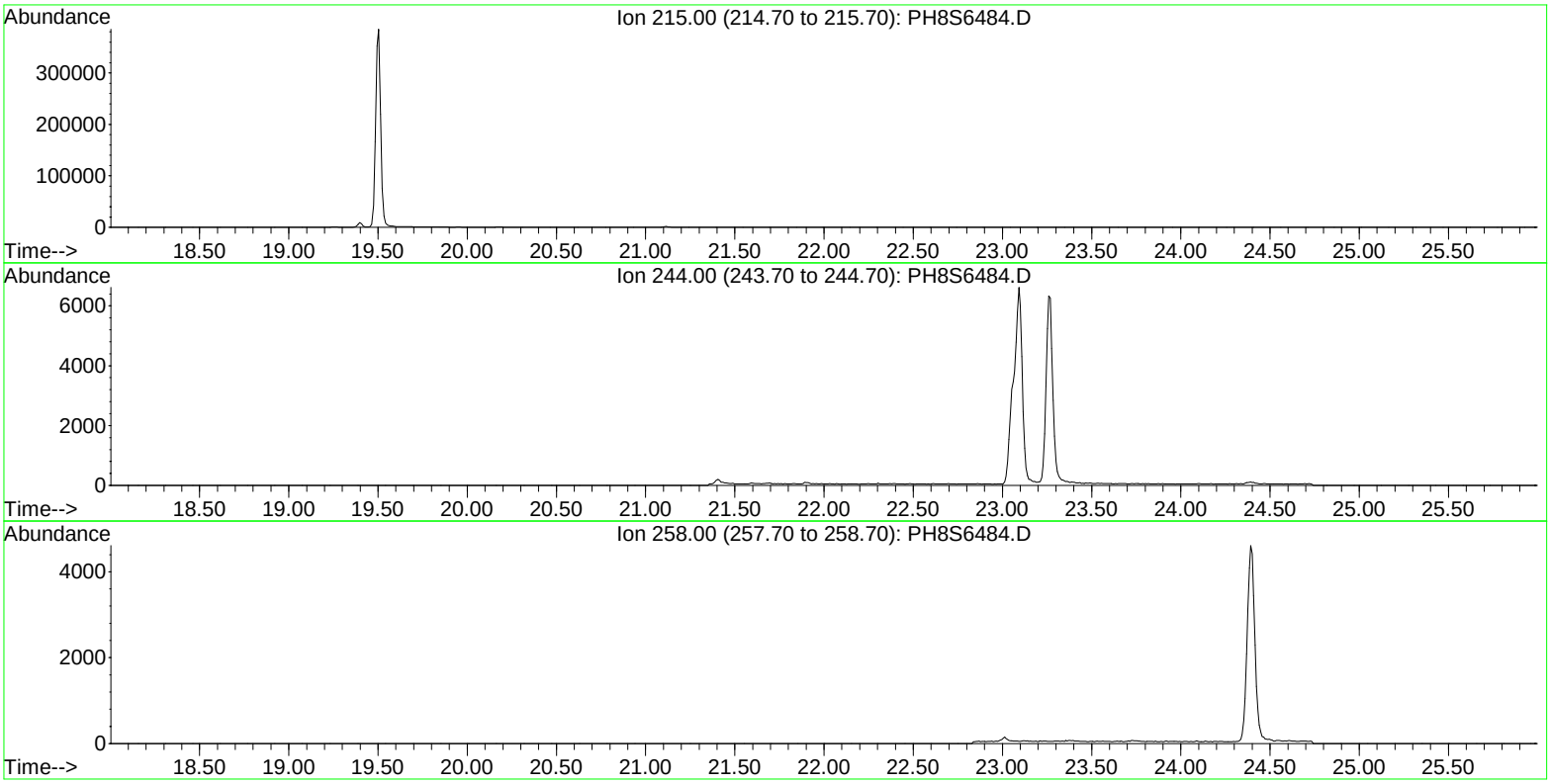


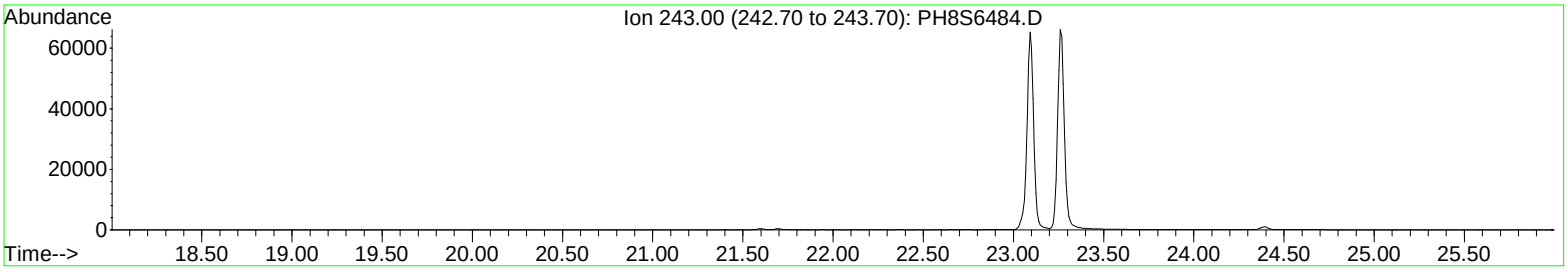


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



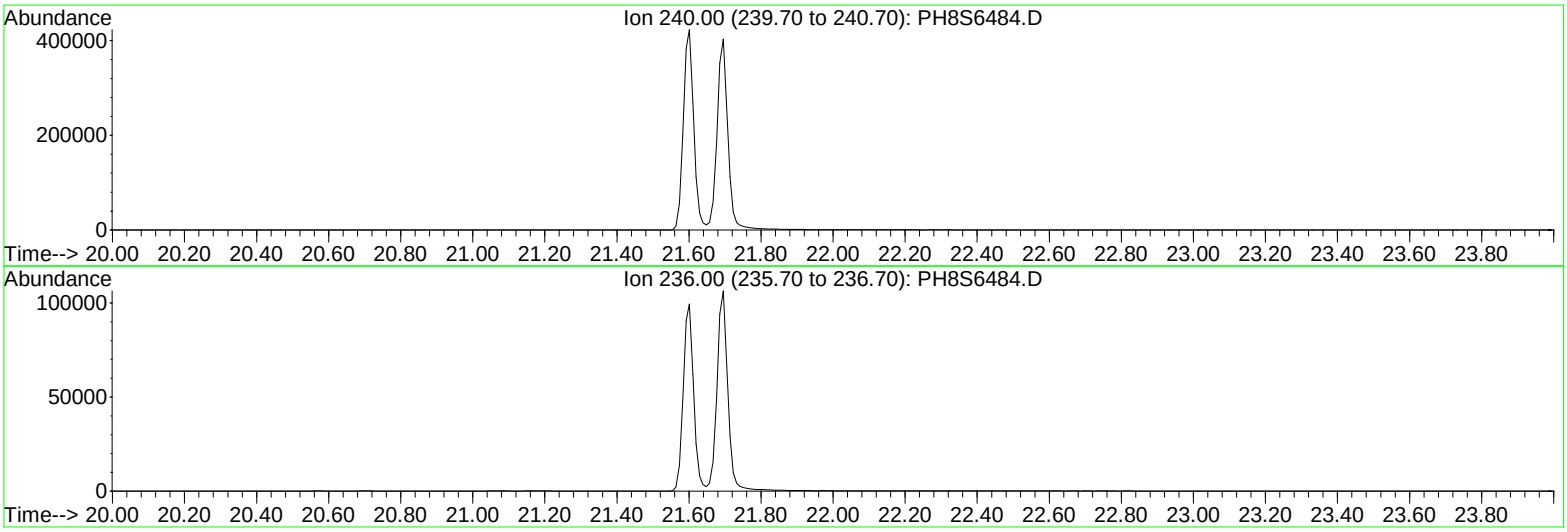


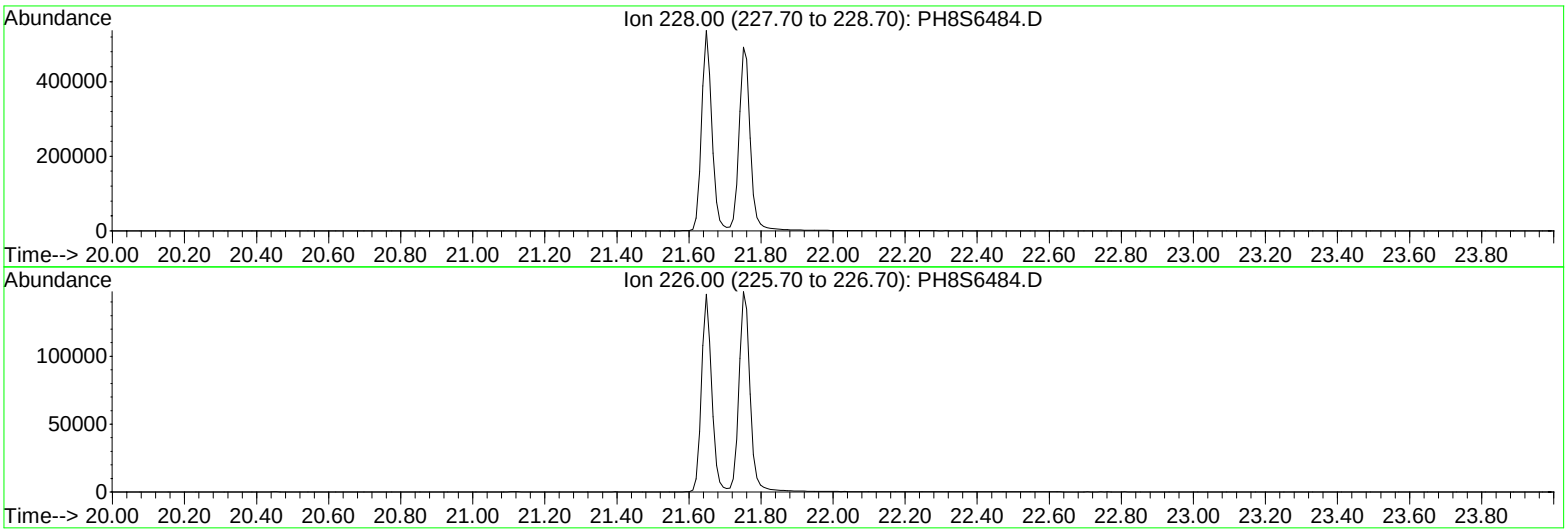


Thu Jan 10 09:21:15 2019

Axys Analytical CHRO Report

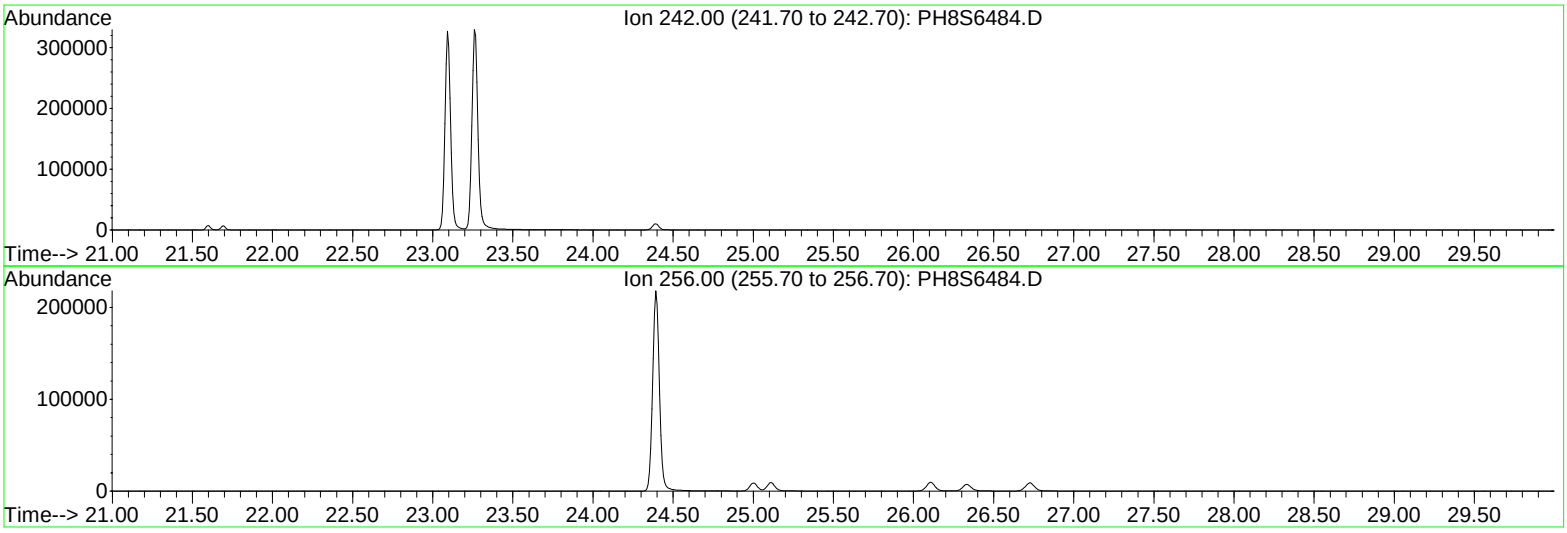
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

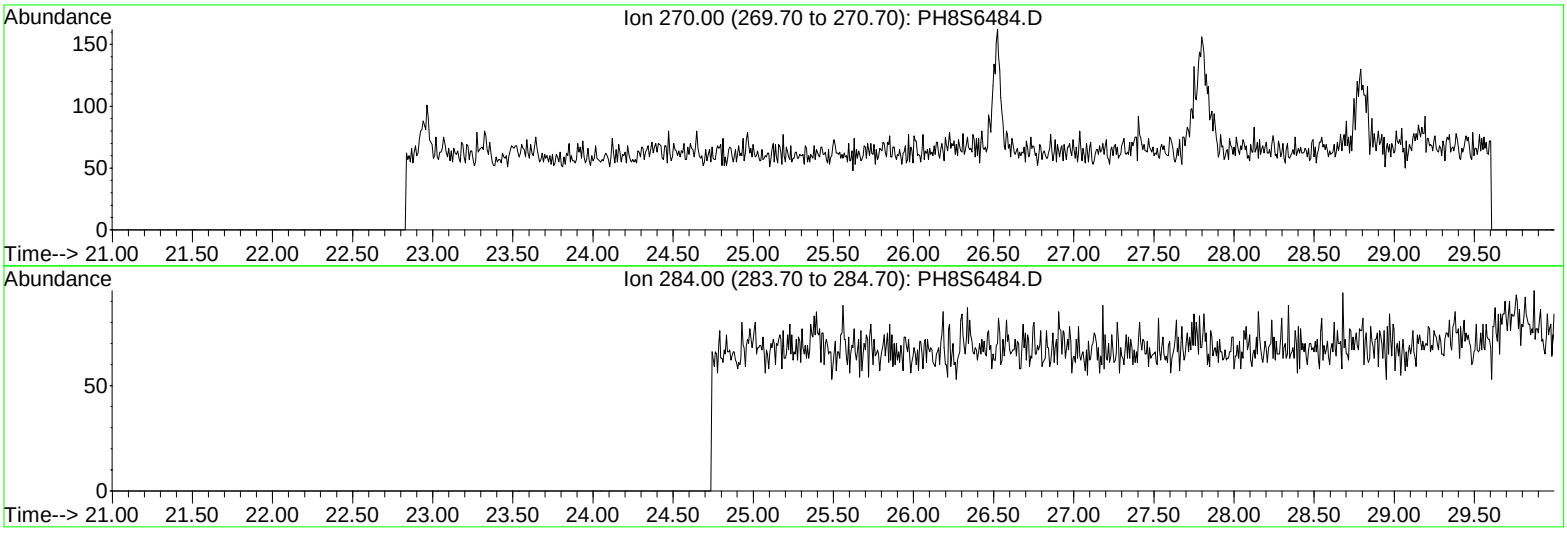




Axys Analytical CHRO Report

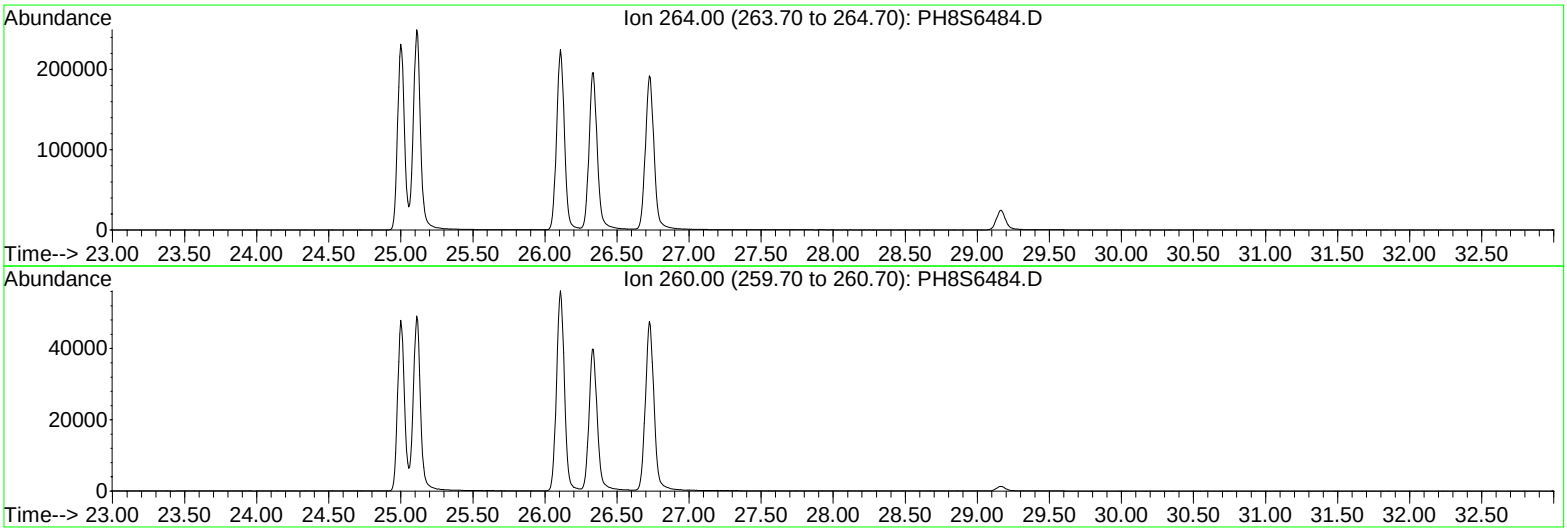
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

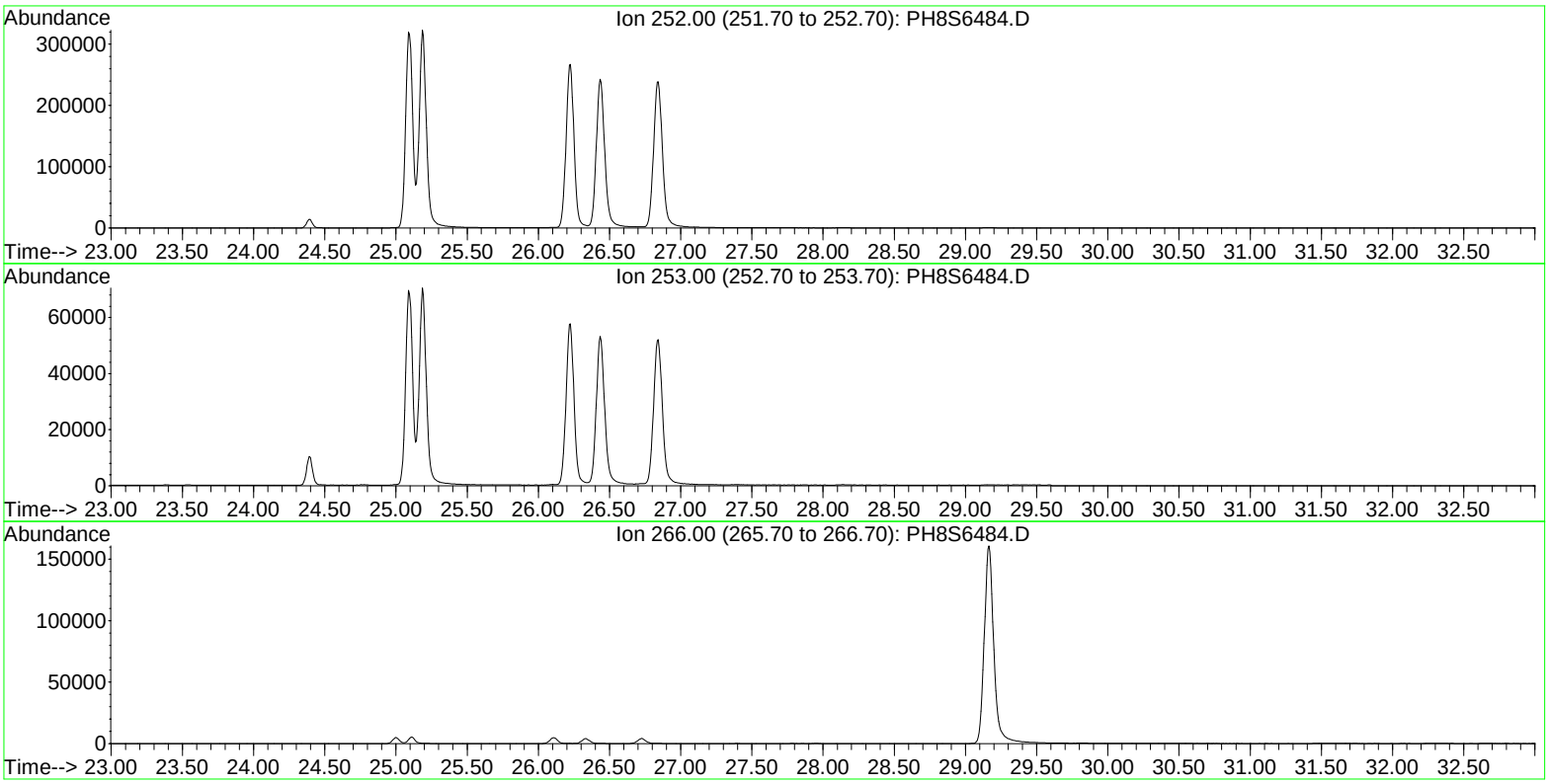


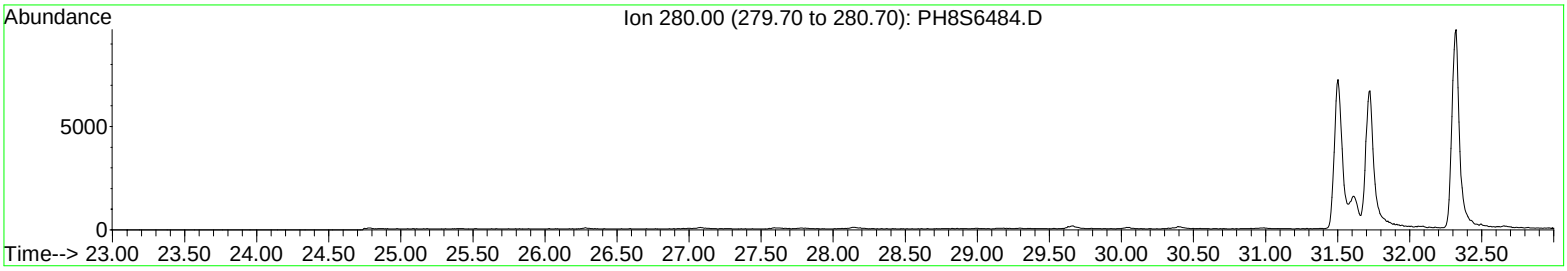


Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL



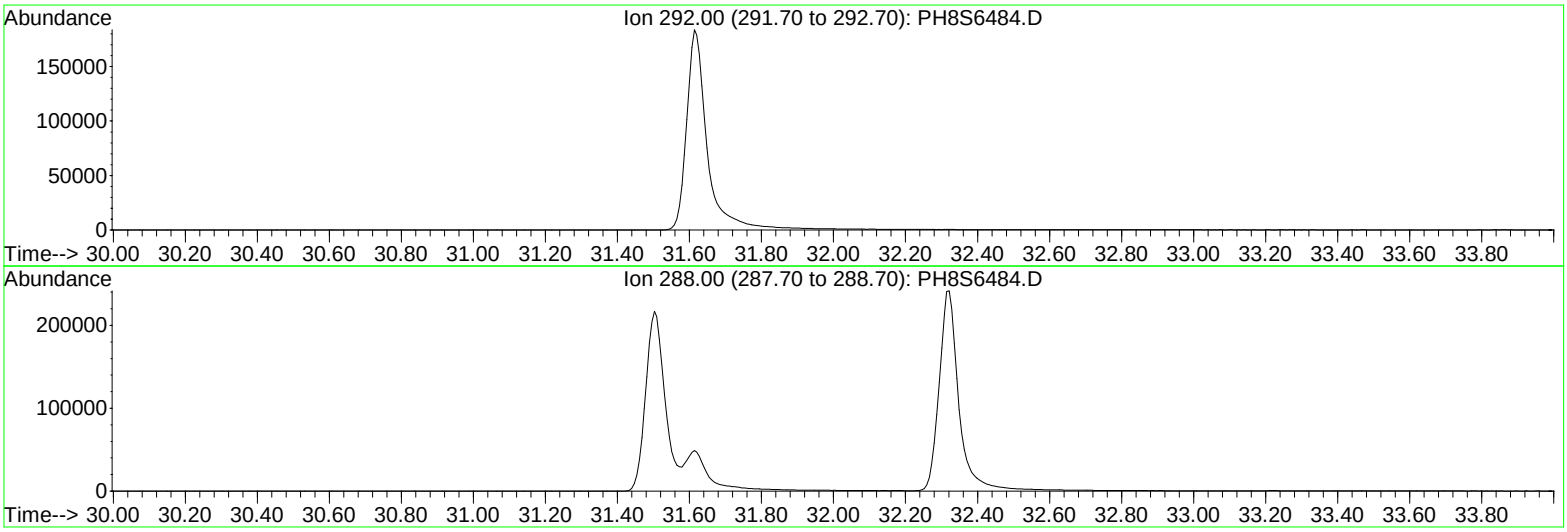


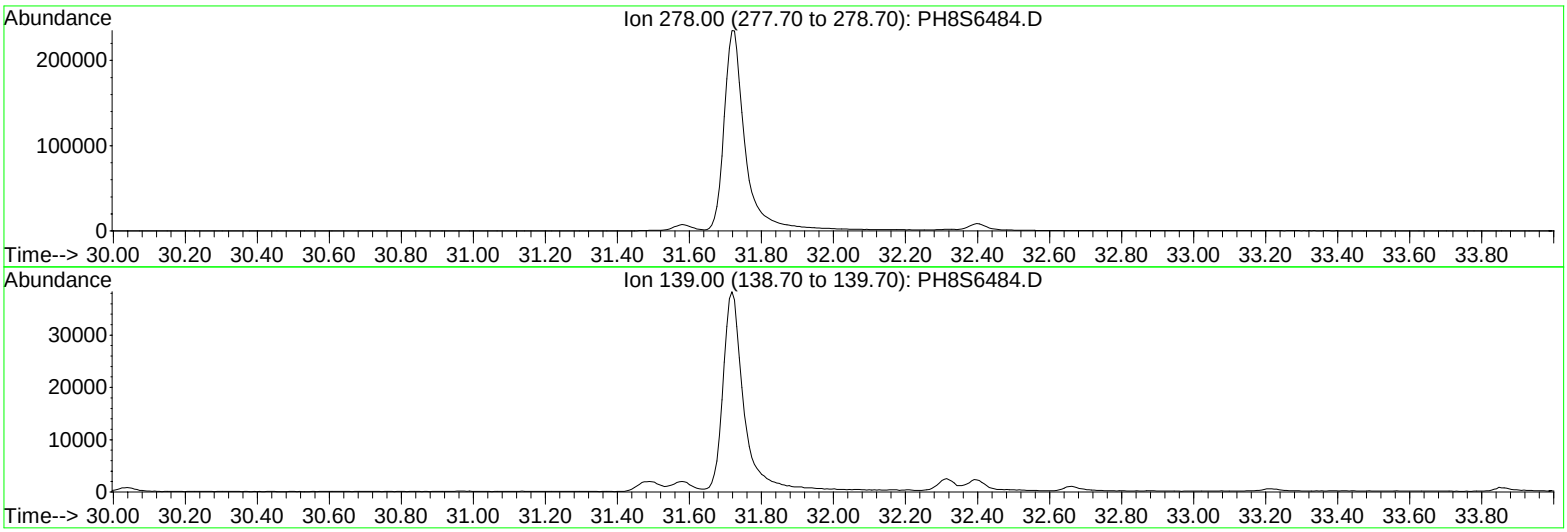


Thu Jan 10 09:21:17 2019

Axys Analytical CHRO Report

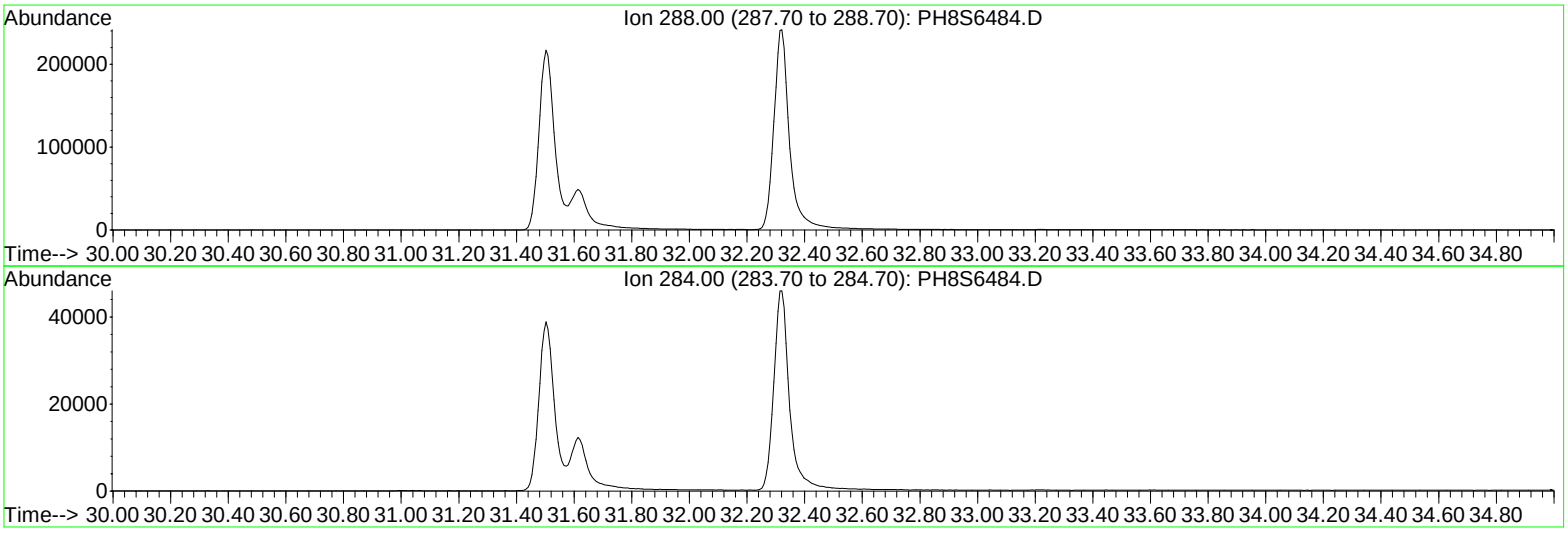
File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL

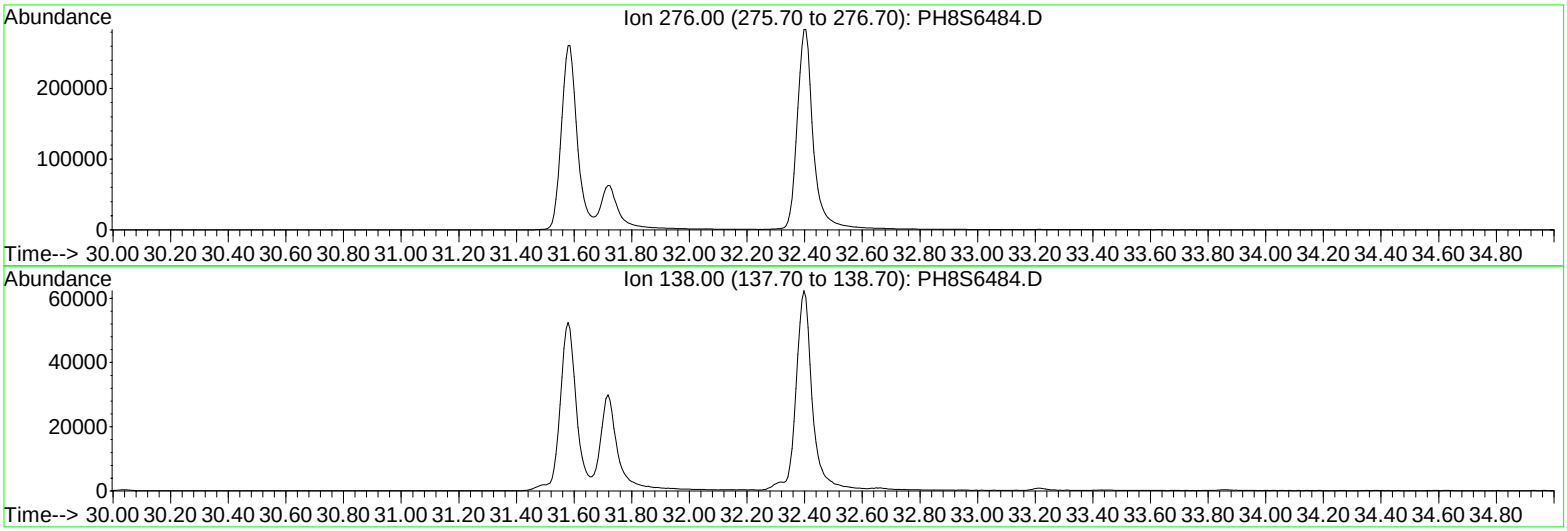




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6484.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 7:22
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH164.M
Sample Name : PH036E-CAL/01,,
Misc Info : 1,,1.0uL





---

www.axysanalytical.com

Response Factor Report Instrumen

Method : G:\PROLAB\INST S\181228PH\61PH1-B.M (RTE Integrator)
Title : PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
Last Update : Thu Jan 03 10:02:33 2019
Response via : Initial Calibration

RRF RSD meets specification
pv by vr 03-Jan-2019

Calibration Files
A =PH8S6459.D B =PH8S6473.D =
= =

		Compound	A	B	Avg	%RSD
1)	I	"d10-Pyrene - REC "	----------ISTD----------			
2)	S	"d10-Phenanthrene - SU"	0.920	0.938	0.929	1.38
3)	S	"d12-Benz(a)anthracene"	0.634	0.612	0.623	2.54
4)	S	"d12-Chrysene - SURR "	0.665	0.669	0.667	0.47
5)	I	"d12-Benzo(e)pyrene "	----------ISTD----------			
6)	S	"d12-Indeno(123cd)pyre"	0.730	0.714	0.722	1.58
7)	I	"d10-Phenanthrene "	----------ISTD----------			
8)	T	"13C6-Phenanthrene "	1.127	1.136	1.132	0.54
9)	I	"d12-Benz(a)anthrace"	----------ISTD----------			
10)	T	"d10-Fluoranthene "	1.327	1.397	1.362	3.64
11)	I	"d12-Chrysene "	----------ISTD----------			
12)	T	"13C6-Chrysene "	1.132	1.110	1.121	1.39
13)	I	"d12-Indeno(123cd)py"	----------ISTD----------			
14)	T	"13C6-Indeno(123cd)pyr"	1.202	1.299	1.250	5.47

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range
61PH1-B.M Thu Jan 03 10:04:27 2019

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6459.D
28/12/2018 12:00
PHWG66438 103A-CAL SPR
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6459.D\618S6459.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 4
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-A2.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 10:03:52 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

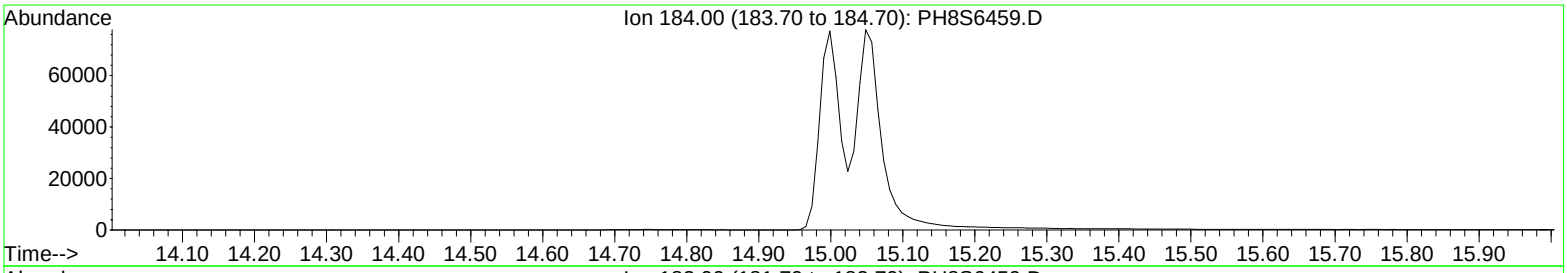
Analyte List	LPAHPRC4943	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

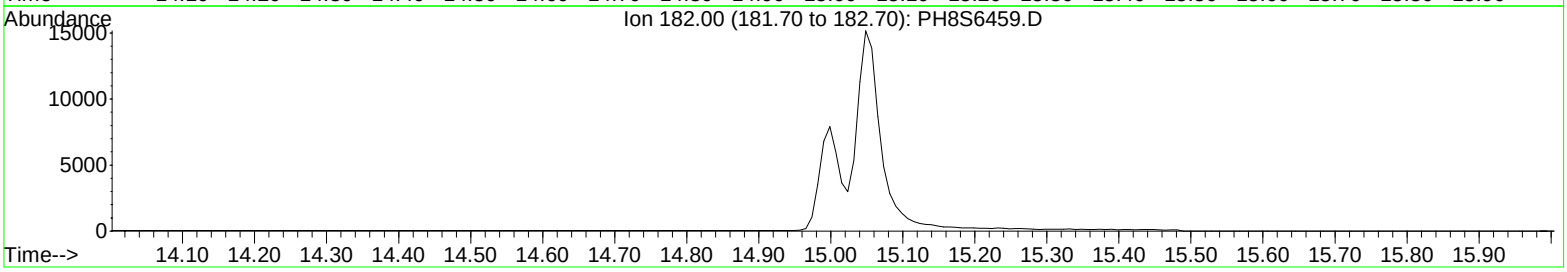
[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	689031	18.56	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	1161050	15	3610 S	0	0	0		0.13	0.808
d12-Benz(a)anthracene - SURR	900242	21.6	4060 S	0	0	0		0.23	1.164
d12-Chrysene - SURR	911588	21.69	3920 S	0	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	486872	26.11	2020 I	0	0	0		0.25	1
d12-Indeno(123cd)pyrene - SURR	700087	31.51	3980 S	0	0	0		0.18	1.207
d10-Phenanthrene	1161050	15	3610 I	0	0	0		0.13	1
13C6-Phenanthrene	181296	15.05	500 T	0	0	0		0.19	1.003
d12-Benz(a)anthracene	900242	21.6	4060 I	0	0	0		0.23	1
d10-Fluoranthene	251781	18.02	856 T	0	0	0		0.18	0.834
d12-Chrysene	911588	21.69	3920 I	0	0	0		0.26	1
13C6-Chrysene	131678	21.76	500 T	0	0	0		0.33	1.003
d12-Indeno(123cd)pyrene	700087	31.51	3980 I	0	0	0		0.18	1
13C6-Indeno(123cd)pyrene $	105717	31.59	500 T	0	0	0		0.19	1.002

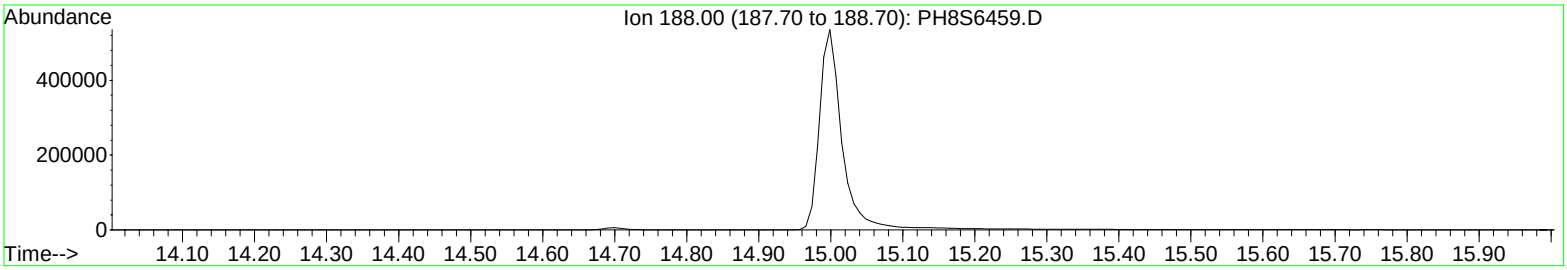
pv by vr
03-Jan-2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6459.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:00
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

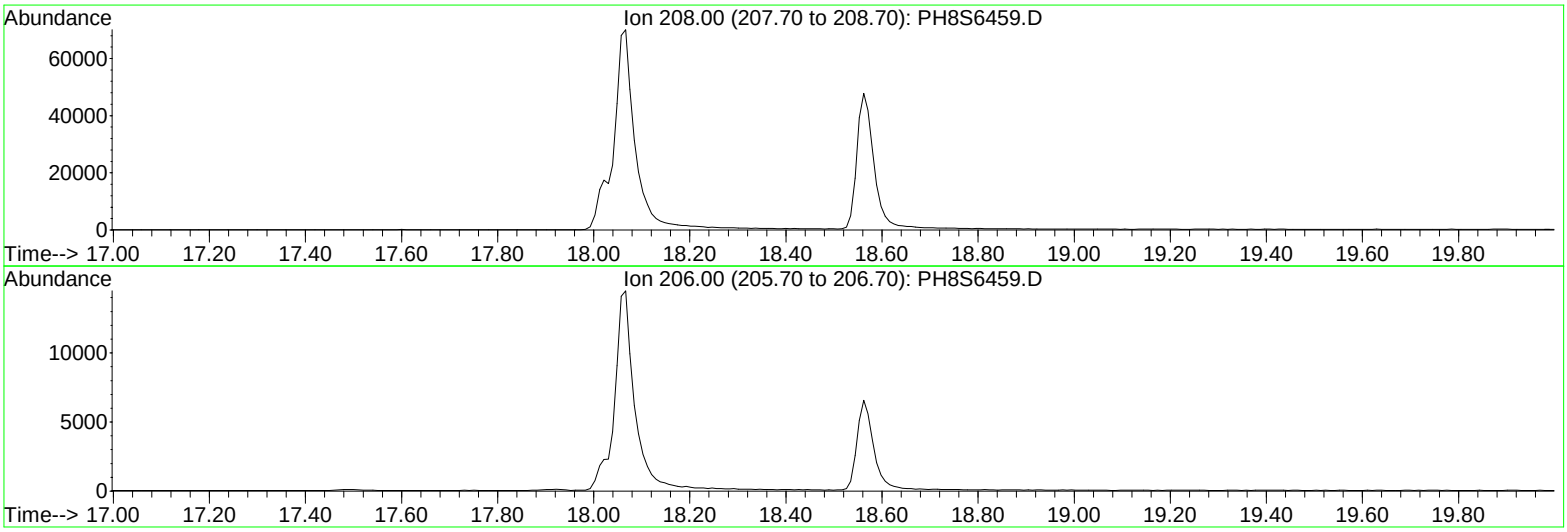


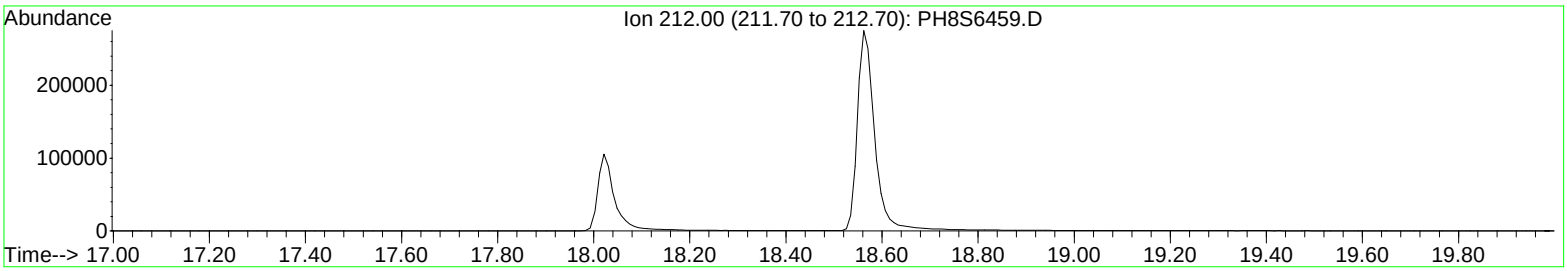




Axys Analytical CHRO Report

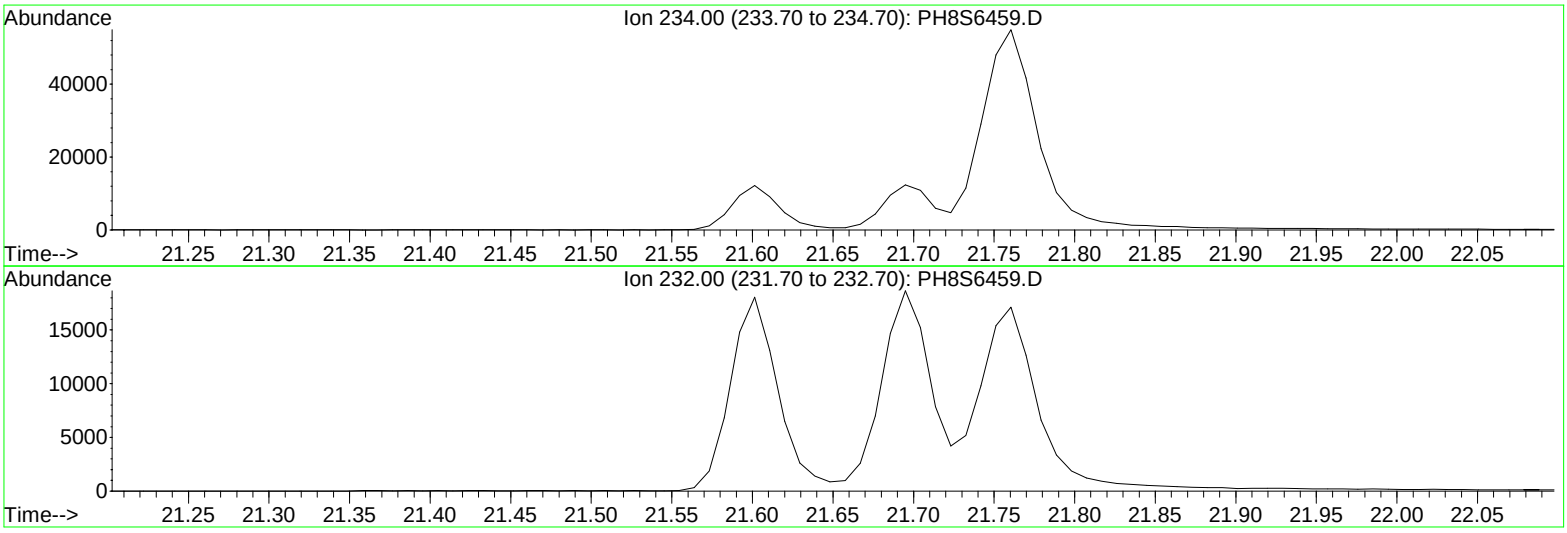
File : G:\PROLAB\INST_S\181228PH\PH8S6459.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:00
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

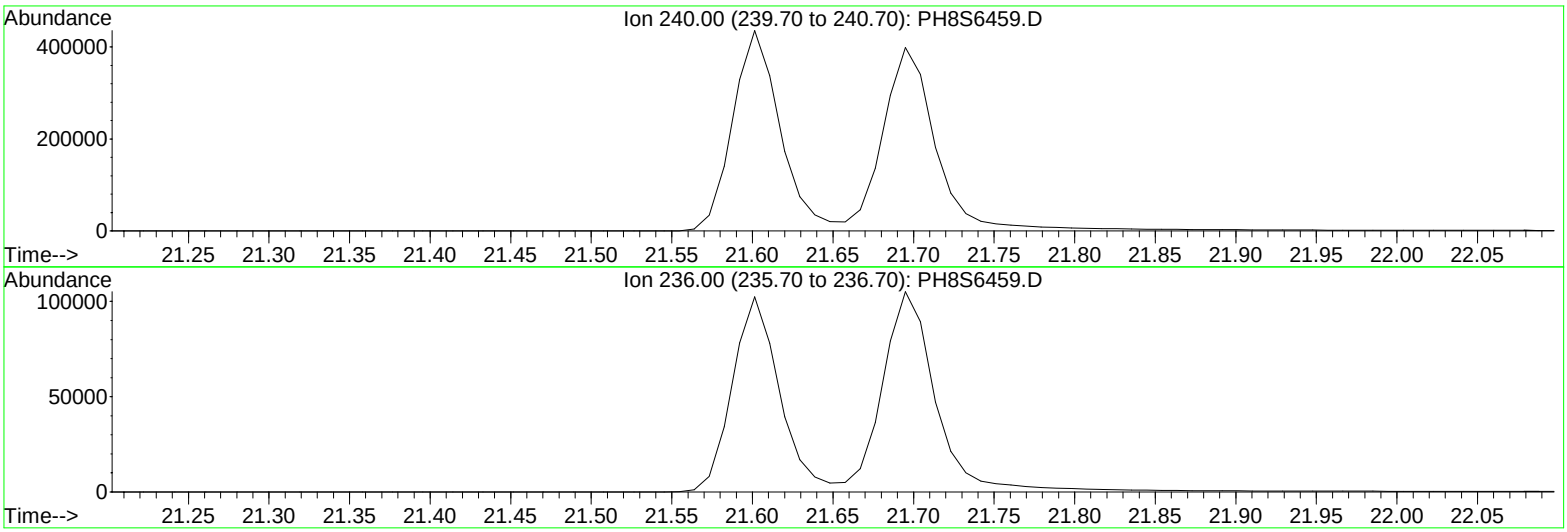




Axys Analytical CHRO Report

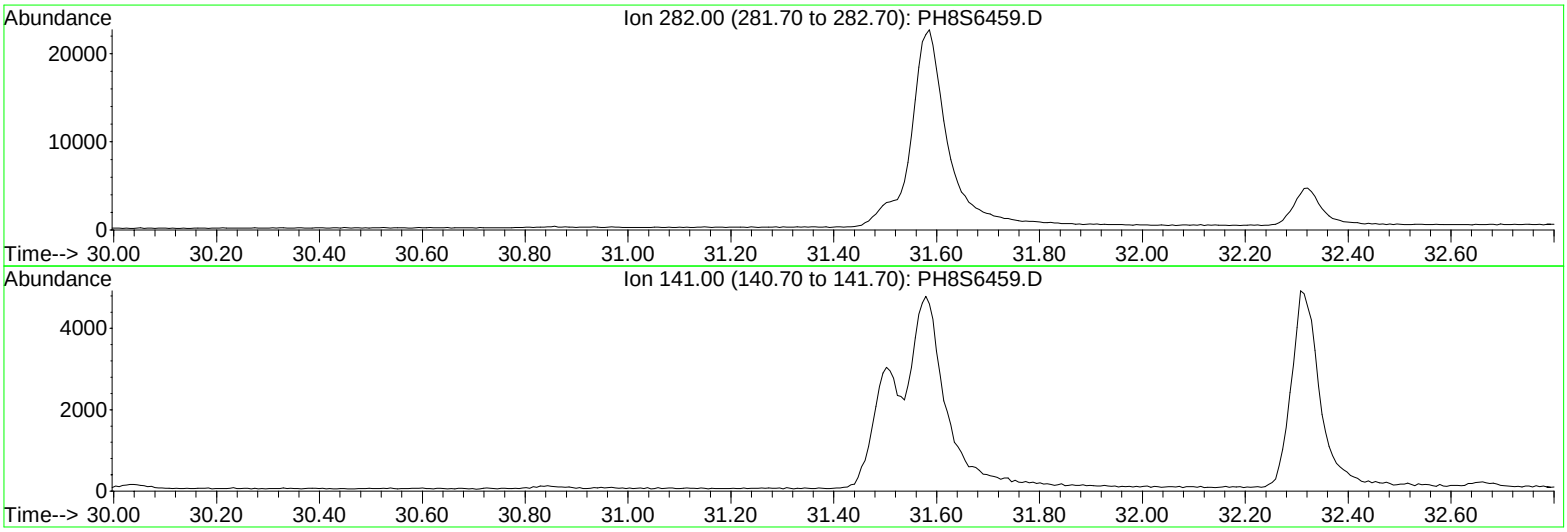
File : G:\PROLAB\INST_S\181228PH\PH8S6459.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:00
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

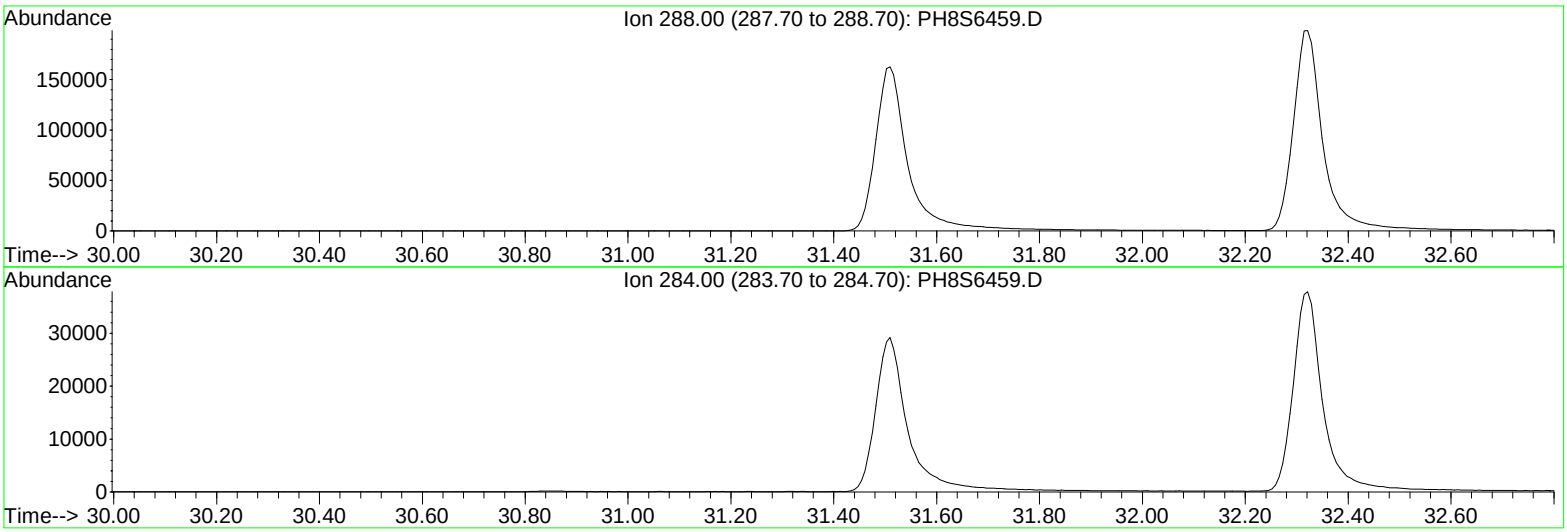




Axys Analytical CHRO Report

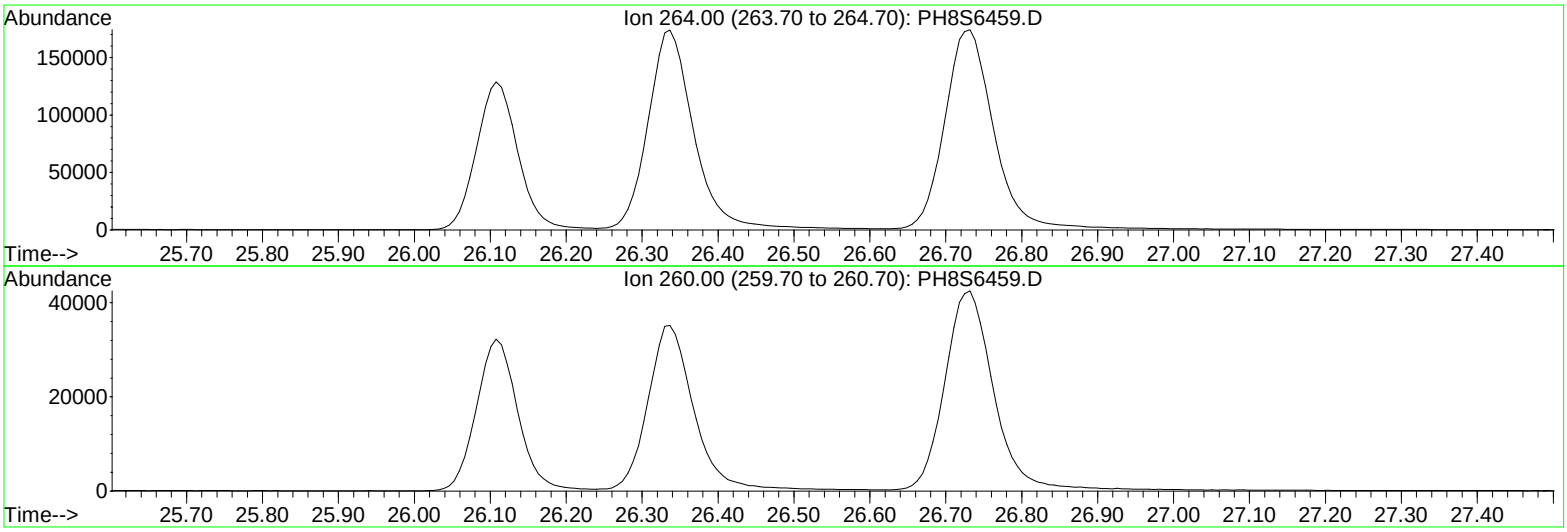
File : G:\PROLAB\INST_S\181228PH\PH8S6459.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:00
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6459.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 12:00
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL



[Header Info Signal 1 COLT 3.0] Version 2
PH8S6473.D
28/12/2018 22:53
PHWG66438 103A-CAL SPR
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6473.D\618S6473.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 4
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-A2.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 10:03:52 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

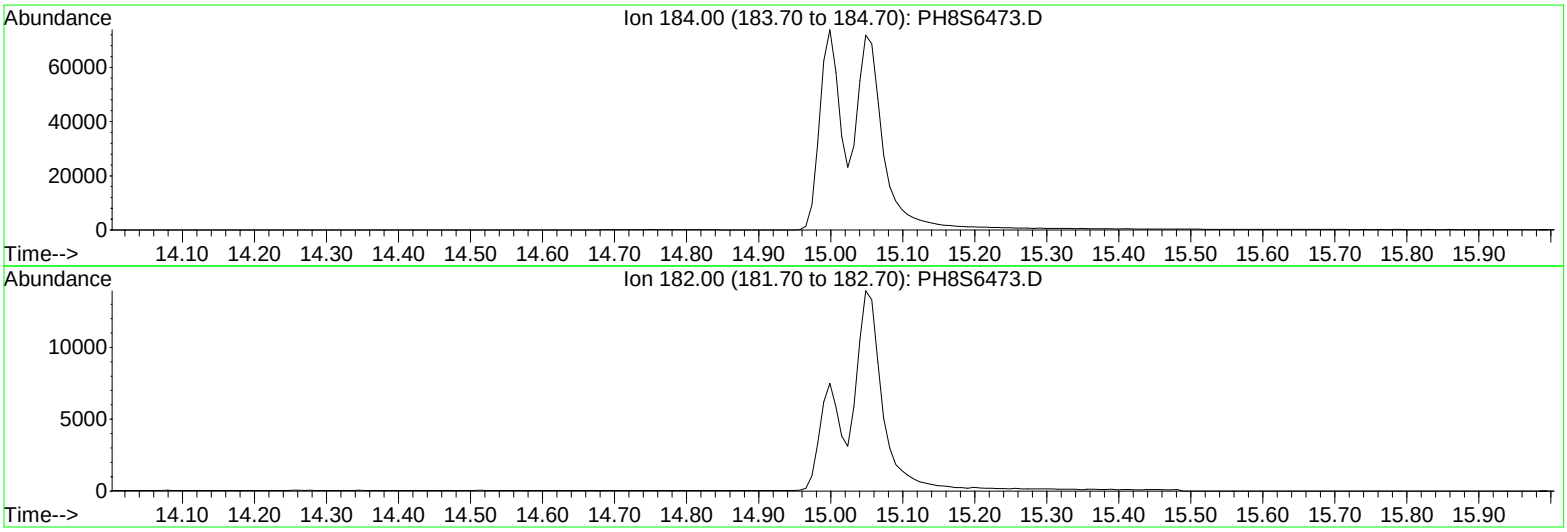
Analyte List	LPAHPRC4943	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

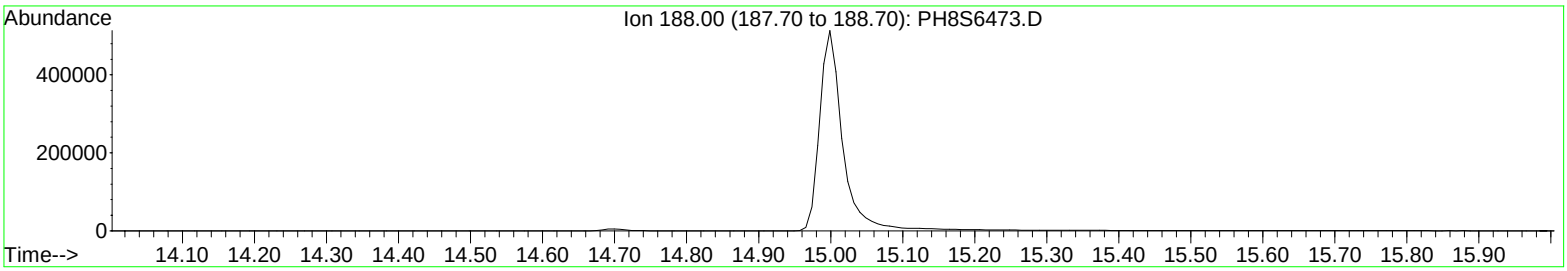
[Results Signal 1]	area	r.t.	conc	surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	653620	18.56	1970 I	0	0	0		0.17	1
d10-Phenanthrene - SURR	1123103	15	3610 S	101.9723	0	0		0.13	0.808
d12-Benz(a)anthracene - SURR	823855	21.6	4060 S	96.4728	0	0		0.23	1.164
d12-Chrysene - SURR	870509	21.7	3920 S	100.6672	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	453773	26.11	2020 I	0	0	0		0.25	1
d12-Indeno(123cd)pyrene - SURR	638042	31.5	3980 S	97.7853	0	0		0.19	1.207
d10-Phenanthrene	1123103	15	3610 I	0	0	0		0.13	1
13C6-Phenanthrene	176718	15.05	500 T	0	0	0		0.19	1.003
d12-Benz(a)anthracene	823855	21.6	4060 I	0	0	0		0.23	1
d10-Fluoranthene	242597	18.02	856 T	0	0	0		0.17	0.834
d12-Chrysene	870509	21.7	3920 I	0	0	0		0.26	1
13C6-Chrysene	123289	21.76	500 T	0	0	0		0.32	1.003
d12-Indeno(123cd)pyrene	638042	31.5	3980 I	0	0	0		0.19	1
13C6-Indeno(123cd)pyrene $	104096	31.58	500 T	0	0	0		0.19	1.002

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

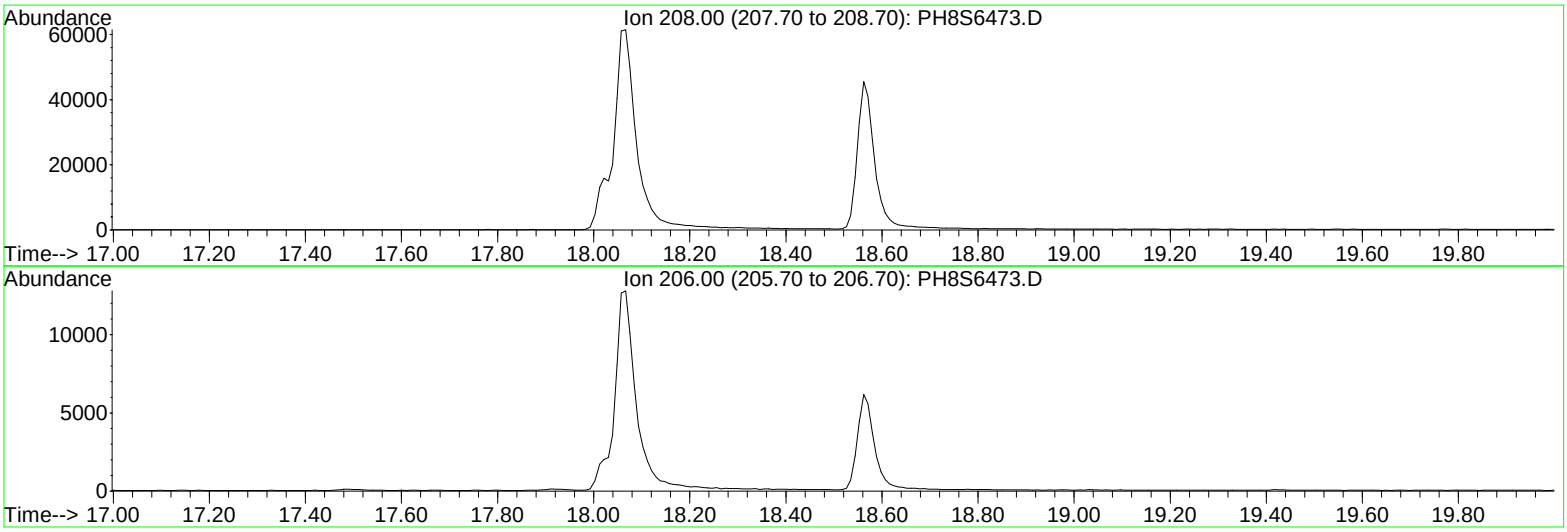
File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

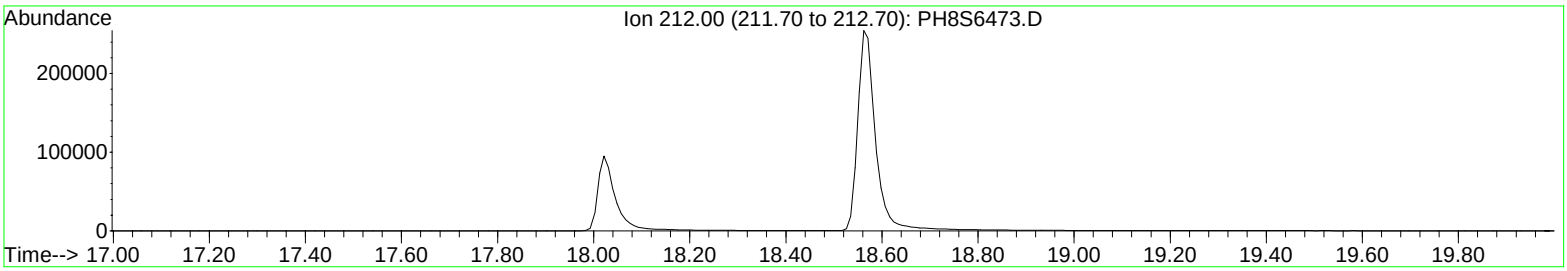




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

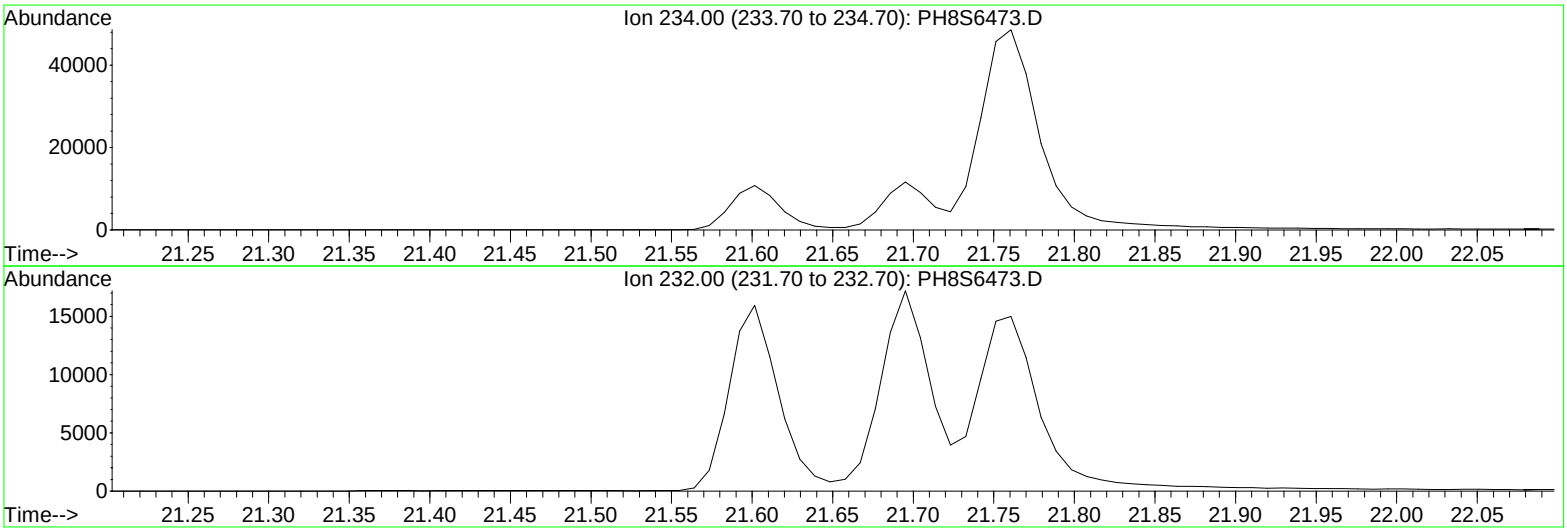


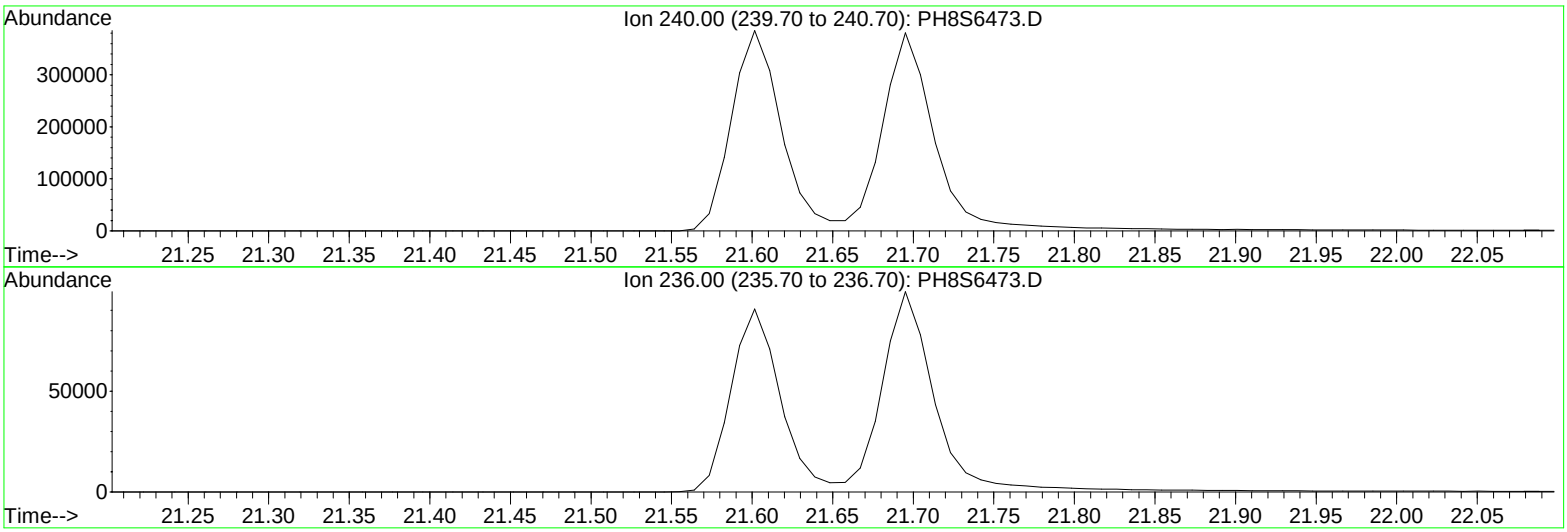


Thu Jan 10 08:57:09 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

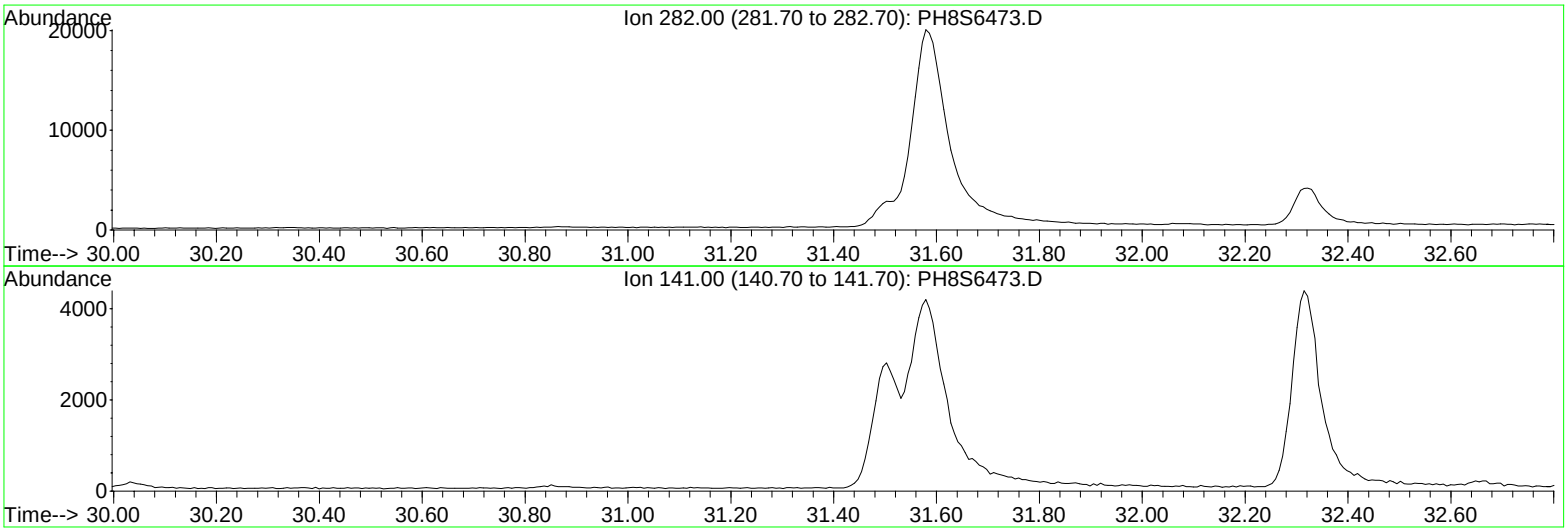


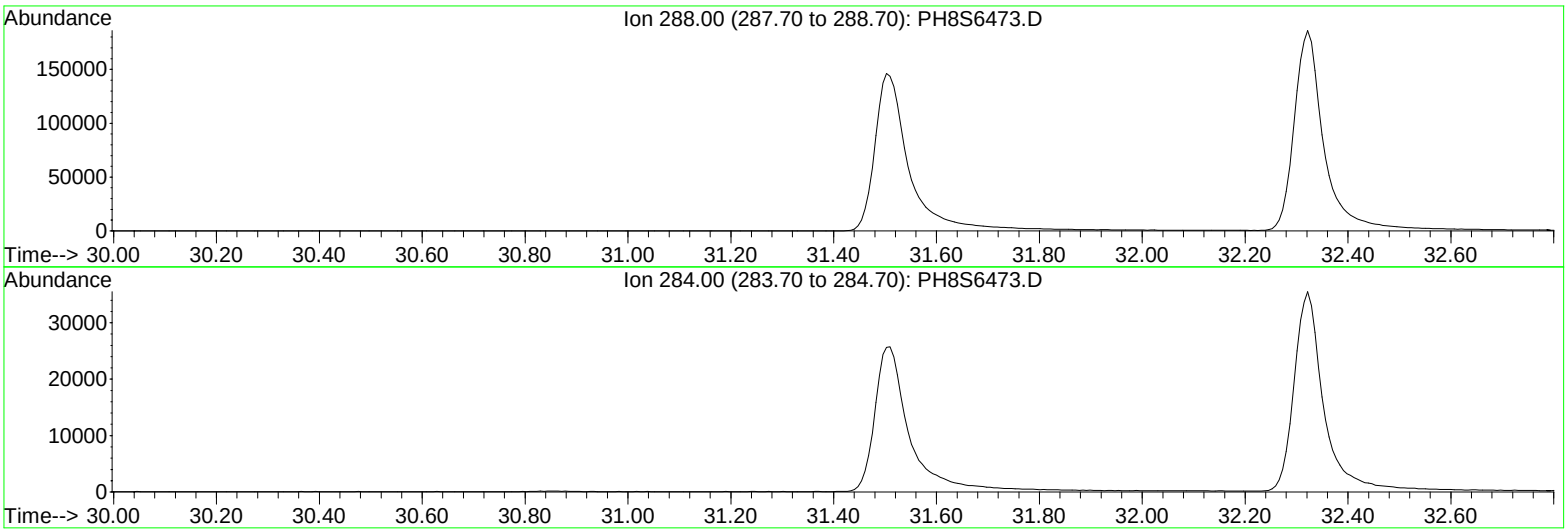


Thu Jan 10 08:57:11 2019

Axys Analytical CHRO Report

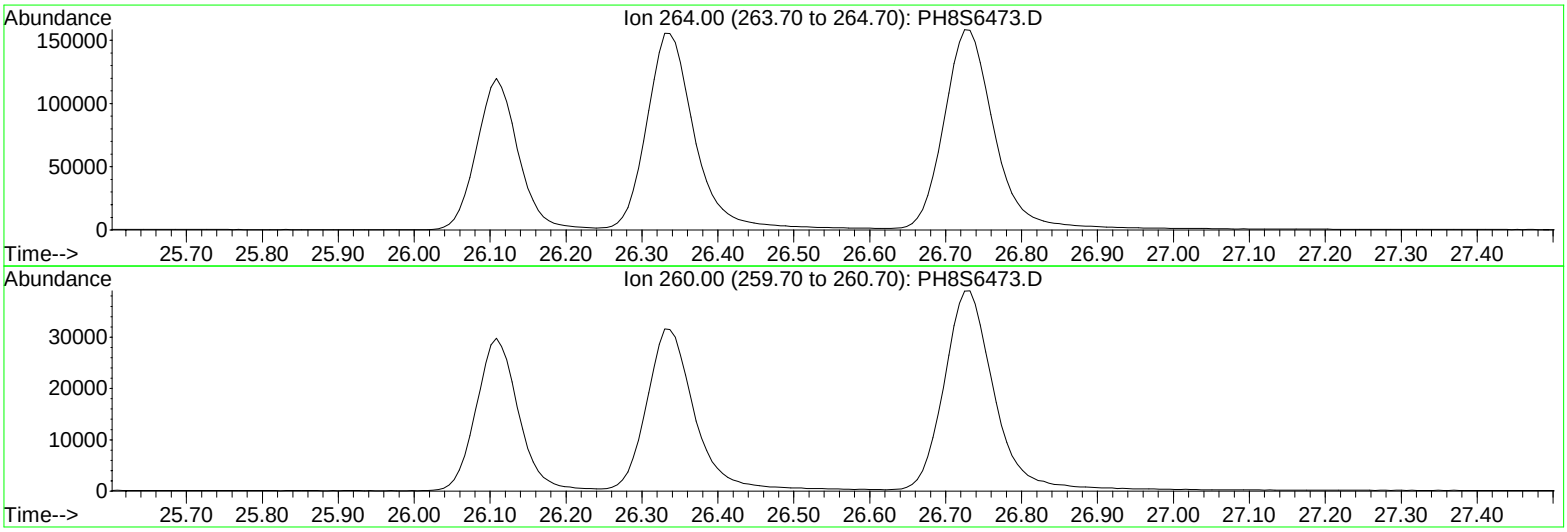
File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

Response Factor Report Instrumen

Method : G:\PROLAB\INST S\181228PH\61PH1-C.M (RTE Integrator)
Title : PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
Last Update : Thu Jan 03 10:35:34 2019
Response via : Initial Calibration

RRF RSD meets specification
pv by vr 03-Jan-2019

Calibration Files
A =PH8S6473.D B =PH8S6485.D =
= =

		Compound	A	B	Avg	%RSD
1)	I	"d10-Pyrene - REC "	----------ISTD----------			
2)	S	"d10-Phenanthrene - SU"	0.938	0.877	0.907	4.76
3)	S	"d12-Benz(a)anthracene"	0.612	0.686	0.649	8.07
4)	S	"d12-Chrysene - SURR "	0.669	0.726	0.698	5.72
5)	I	"d12-Benzo(e)pyrene "	----------ISTD----------			
6)	S	"d12-Indeno(123cd)pyre"	0.714	0.746	0.730	3.15
7)	I	"d10-Phenanthrene "	----------ISTD----------			
8)	T	"13C6-Phenanthrene "	1.136	1.139	1.138	0.21
9)	I	"d12-Benz(a)anthrace"	----------ISTD----------			
10)	T	"d10-Fluoranthene "	1.397	1.222	1.309	9.43
11)	I	"d12-Chrysene "	----------ISTD----------			
12)	T	"13C6-Chrysene "	1.110	1.132	1.121	1.37
13)	I	"d12-Indeno(123cd)py"	----------ISTD----------			
14)	T	"13C6-Indeno(123cd)pyr"	1.299	1.233	1.266	3.67

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range
61PH1-C.M Thu Jan 03 10:37:04 2019

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6473.D
28/12/2018 22:53
PHWG66438 103A-CAL SPR
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6473.D\618S6473.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 4
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-A2.M
Cal Update Time: Thu Jan 03 10:02:33 2019
CSV Create Date: Thu Jan 03 10:03:52 2019
CSV Created By: vr

A	B	cc
PH8S6459.D	PH8S6473.D	PH7S5480.D

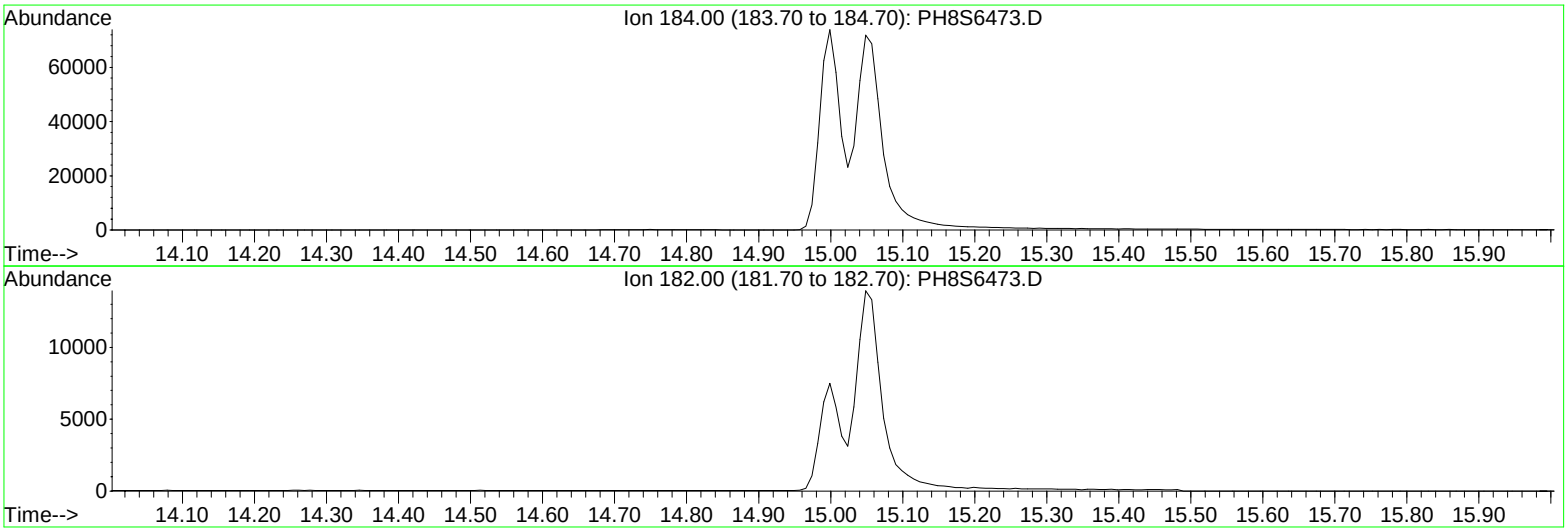
Analyte List	LPAHPRC4943	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

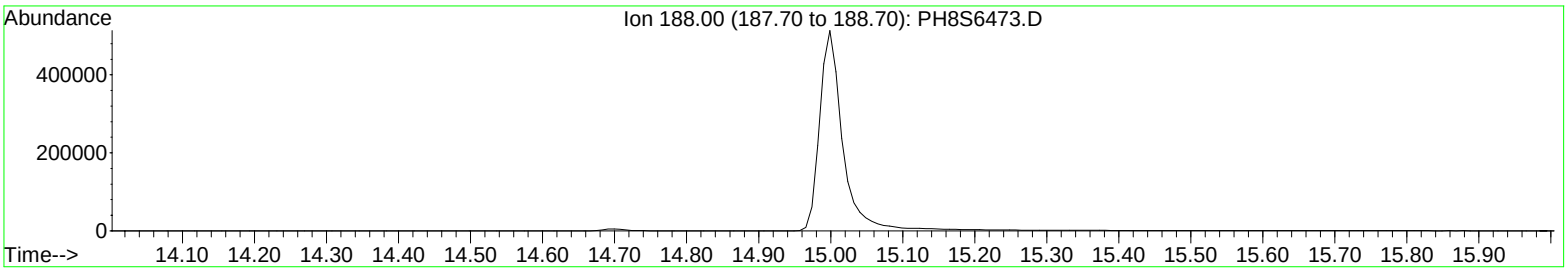
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	653620	18.56	1970	I	0	0	0		0.17	1
d10-Phenanthrene - SURR	1123103	15	3610	S	101.9723	0	0		0.13	0.808
d12-Benz(a)anthracene - SURR	823855	21.6	4060	S	96.4728	0	0		0.23	1.164
d12-Chrysene - SURR	870509	21.7	3920	S	100.6672	0	0		0.26	1.169
d12-Benzo(e)pyrene - REC	453773	26.11	2020	I	0	0	0		0.25	1
d12-Indeno(123cd)pyrene - SURR	638042	31.5	3980	S	97.7853	0	0		0.19	1.207
d10-Phenanthrene	1123103	15	3610	I	0	0	0		0.13	1
13C6-Phenanthrene	176718	15.05	500	T	0	0	0		0.19	1.003
d12-Benz(a)anthracene	823855	21.6	4060	I	0	0	0		0.23	1
d10-Fluoranthene	242597	18.02	856	T	0	0	0		0.17	0.834
d12-Chrysene	870509	21.7	3920	I	0	0	0		0.26	1
13C6-Chrysene	123289	21.76	500	T	0	0	0		0.32	1.003
d12-Indeno(123cd)pyrene	638042	31.5	3980	I	0	0	0		0.19	1
13C6-Indeno(123cd)pyrene $	104096	31.58	500	T	0	0	0		0.19	1.002

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

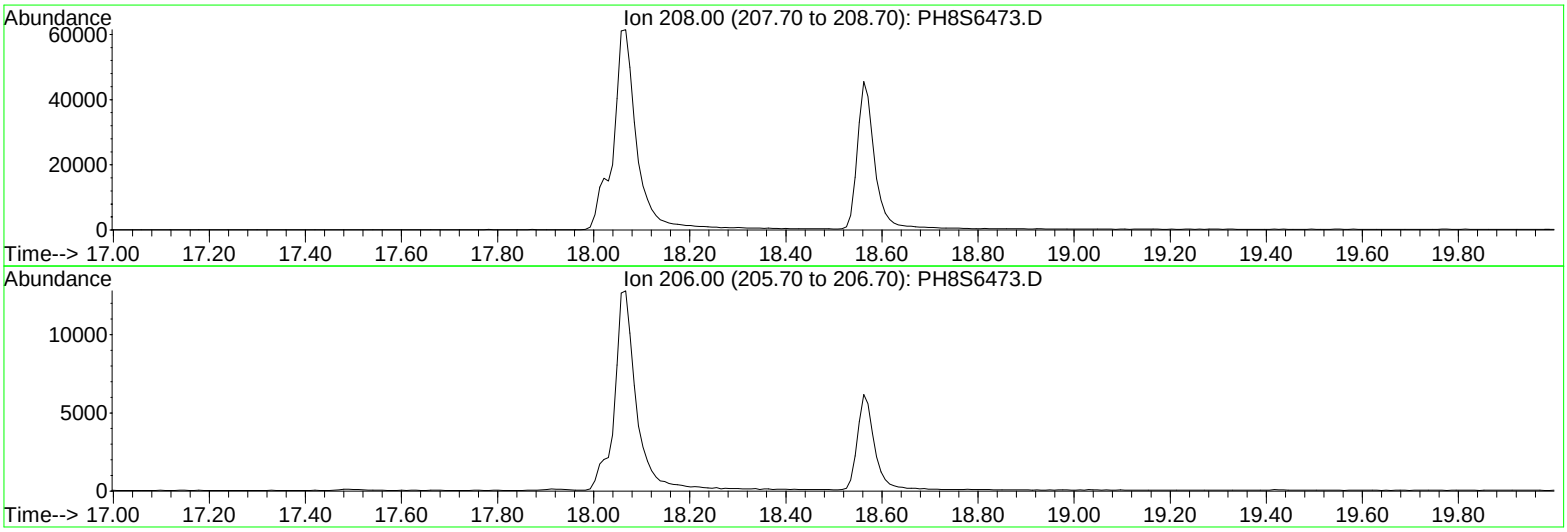
File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

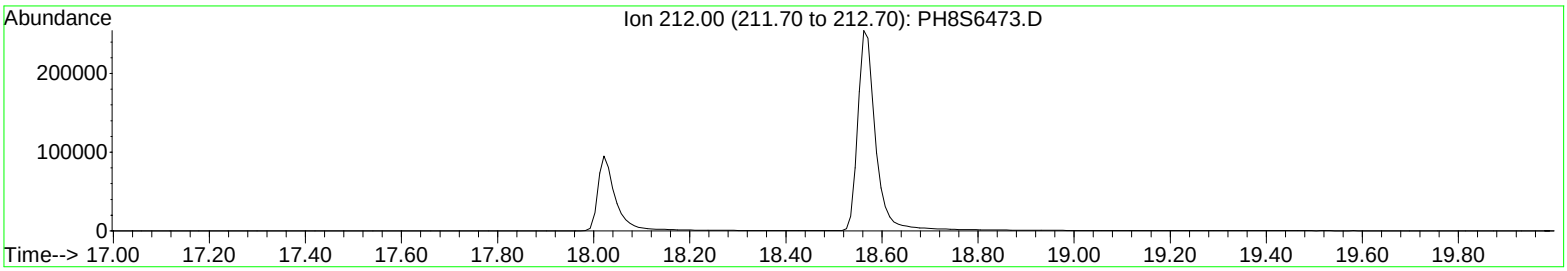




Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

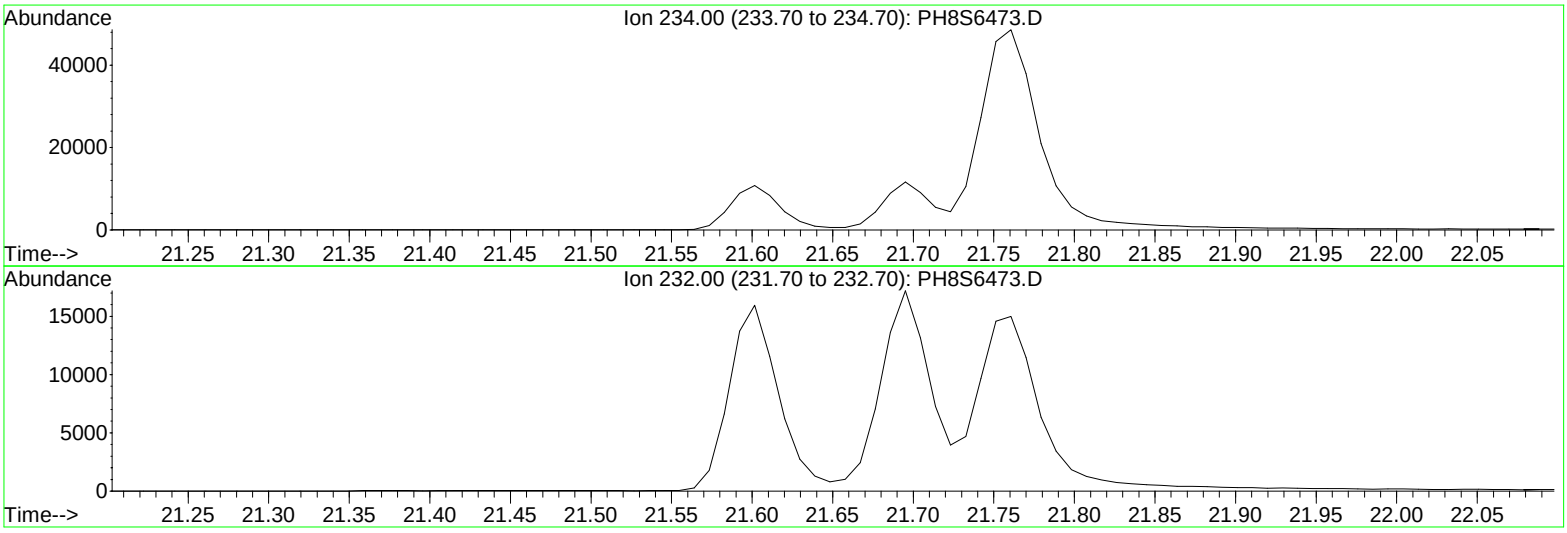


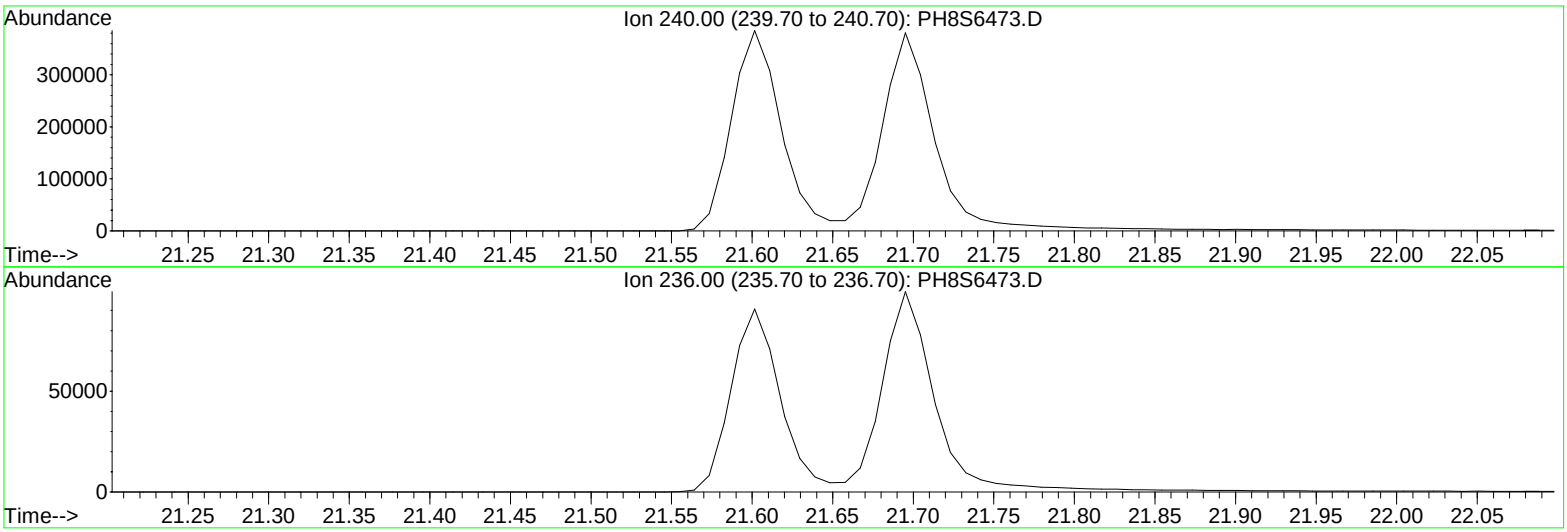


Thu Jan 10 08:57:09 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

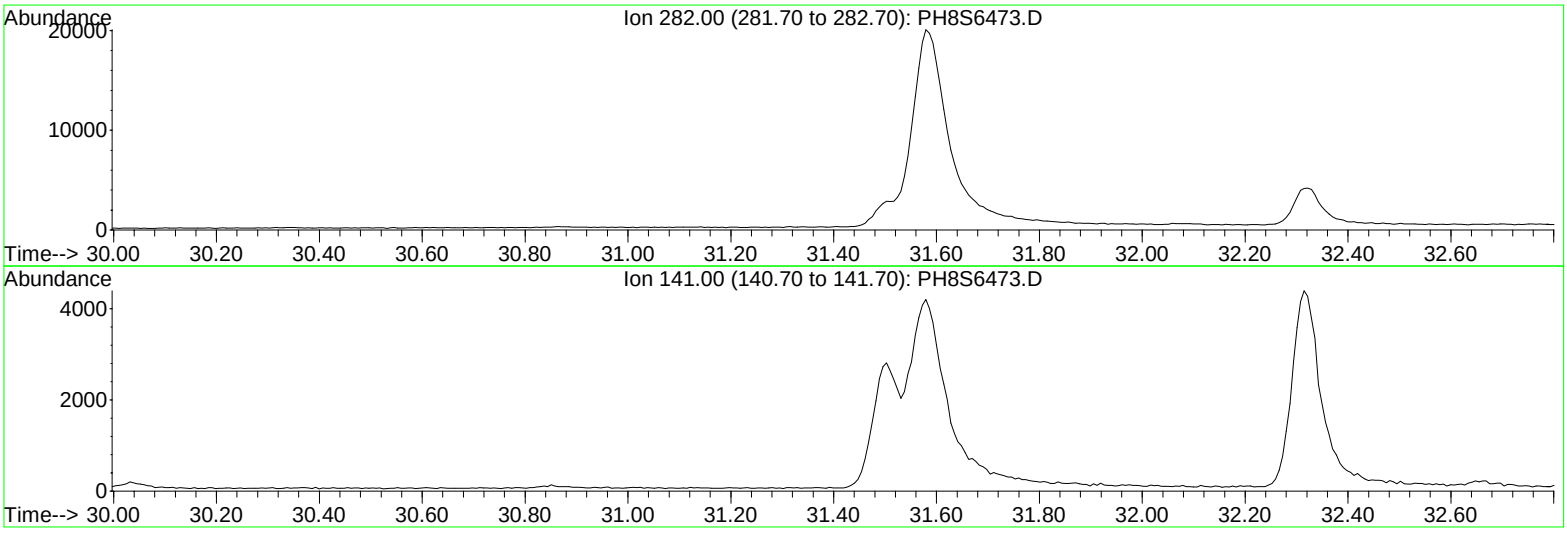


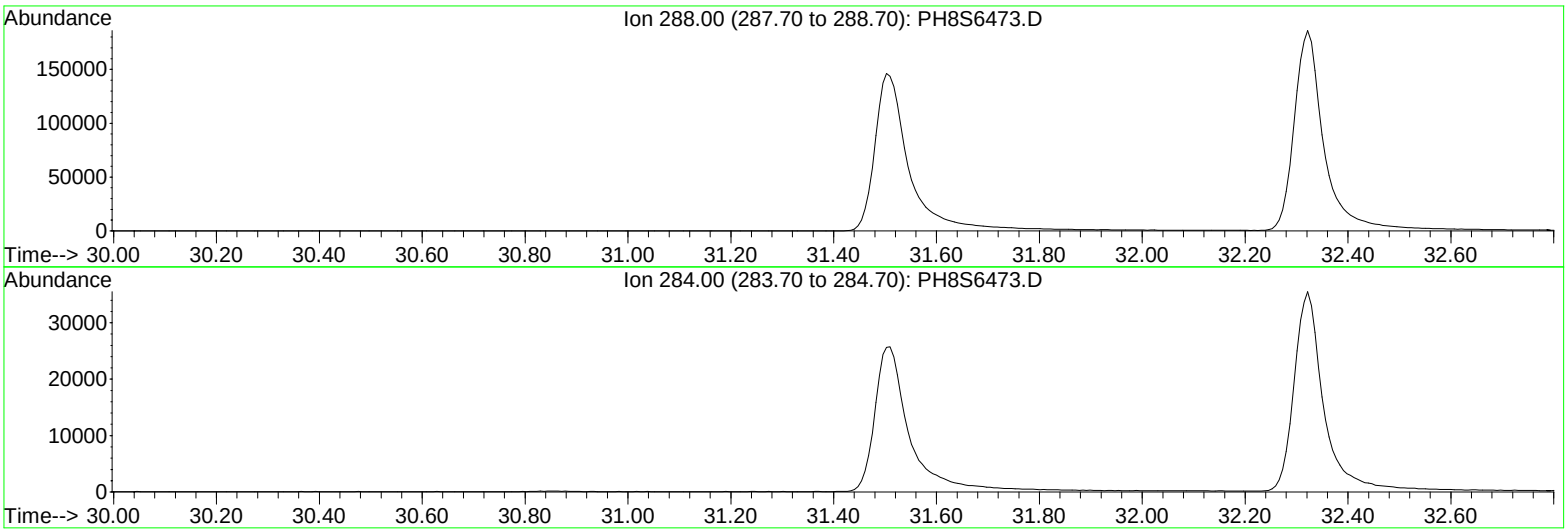


Thu Jan 10 08:57:11 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

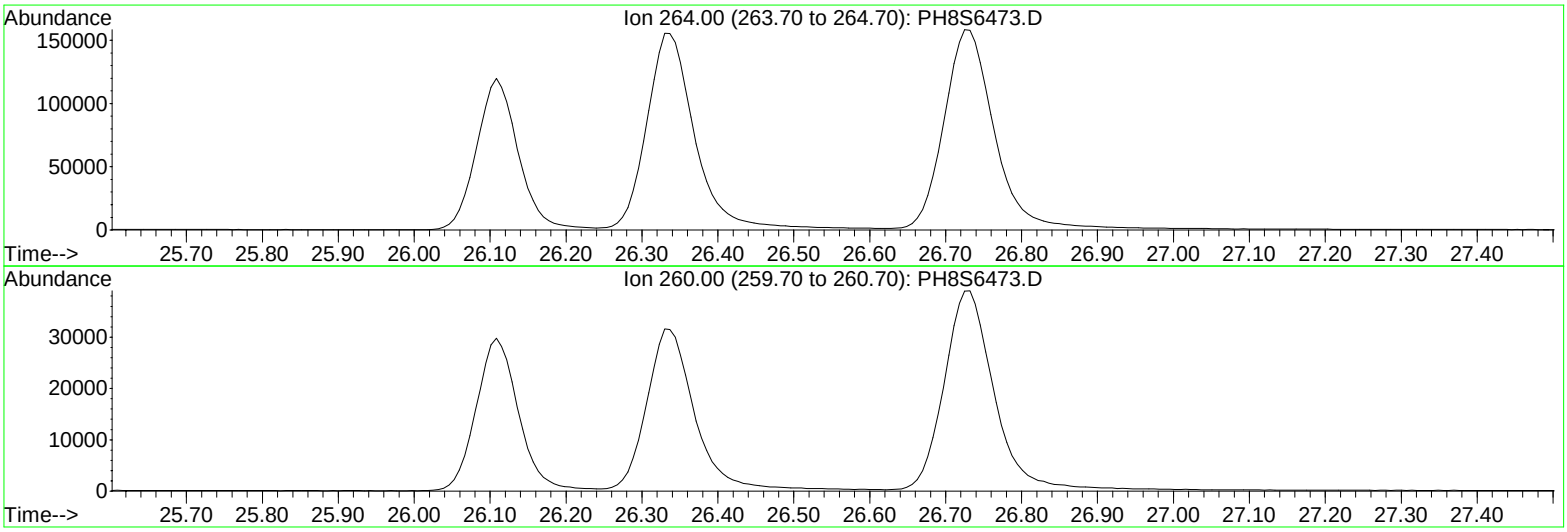




Thu Jan 10 08:57:13 2019

Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6473.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 28 Dec 2018 22:53
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL



---

www.axysanalytical.com

[Header Info Signal 1 COLT 3.0] Version 2
PH8S6485.D
29/12/2018 8:10
PHWG66438 103A-CAL SPR
1 WG66438 1.0/100uL
G:\PROLAB\INST_S\181228PH\PH8S6485.D\618S6485.CSV
GC Method: PH_4943B
Operator: RTX-5 S/N 1565789 BA
Vial No.: 4
Cal Method Name: PAH-13CPRC(cSAR/CV2/s55A/r30A)vr09MAY18
G:\PROLAB\INST_S\181228PH\61PH1-A3.M
Cal Update Time: Thu Jan 03 10:35:34 2019
CSV Create Date: Thu Jan 03 10:36:44 2019
CSV Created By: vr

A	B	cc
PH8S6473.D	PH8S6485.D	PH7S5480.D

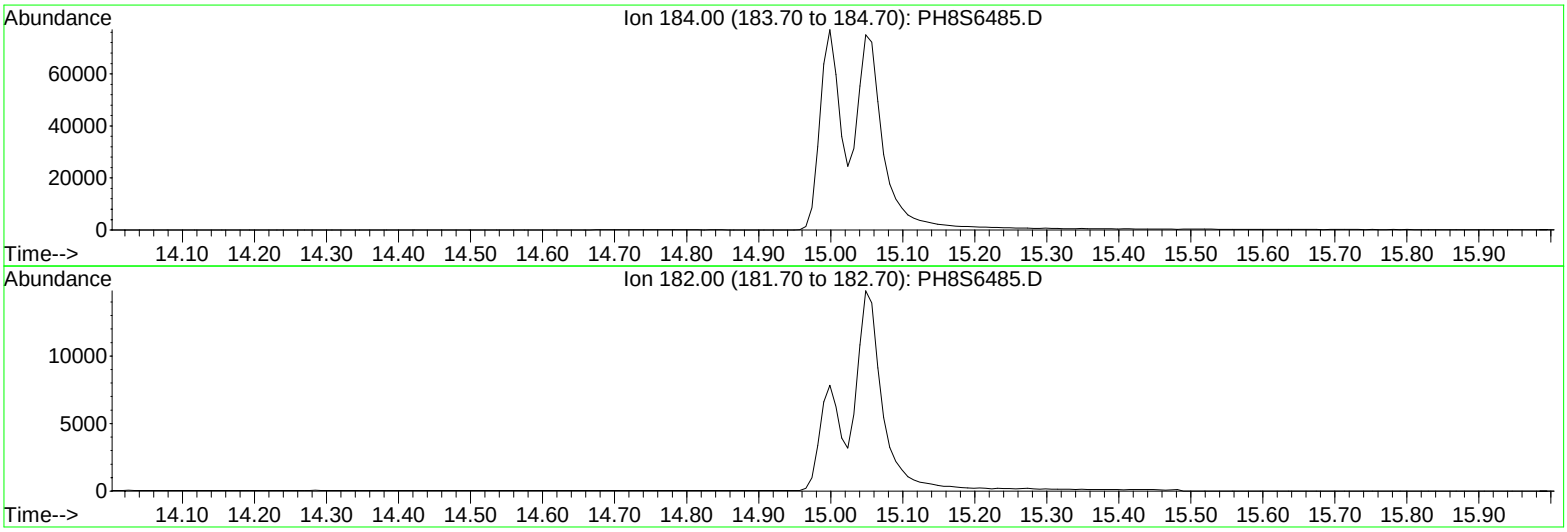
Analyte List	LPAHPRC4943	ng/mL
Sample Size	1	
Surrogate: Authentic Ratio	1	
Recovery: Surrogate Ratio	1	
Analyte Calibration Multiplier	1	
Surrogate Calibration Multiplier	1	

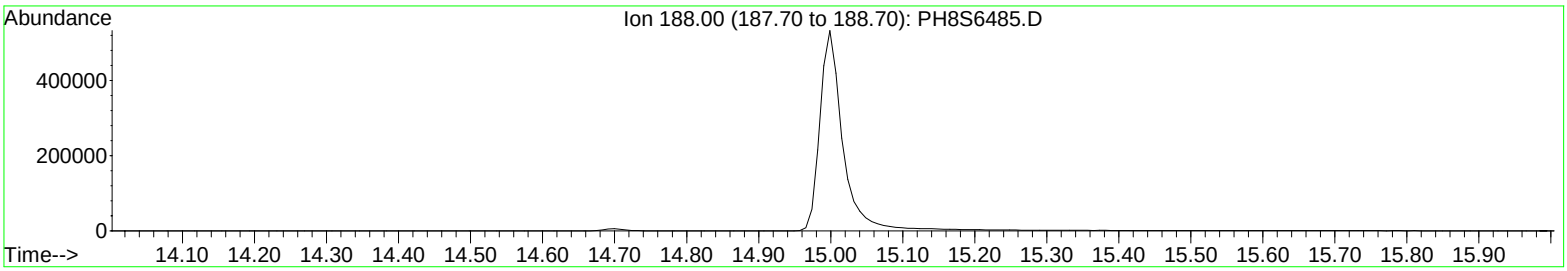
[Results Signal 1]	area	r.t.	conc		surr	sdl	area	q	ra	rel-r.t.
d10-Pyrene - REC	724237	18.57	1970	I	0	0	0		0.17	1
d10-Phenanthrene - SURR	1163361	15	3610	S	93.4845	0	0		0.13	0.808
d12-Benz(a)anthracene - SURR	1023316	21.6	4060	S	112.0995	0	0		0.23	1.163
d12-Chrysene - SURR	1045942	21.7	3920	S	108.4374	0	0		0.26	1.168
d12-Benzo(e)pyrene - REC	583832	26.11	2020	I	0	0	0		0.25	1
d12-Indeno(123cd)pyrene - SURR	858289	31.51	3980	S	104.5526	0	0		0.18	1.207
d10-Phenanthrene	1163361	15	3610	I	0	0	0		0.13	1
13C6-Phenanthrene	183600	15.05	500	T	0	0	0		0.19	1.003
d12-Benz(a)anthracene	1023316	21.6	4060	I	0	0	0		0.23	1
d10-Fluoranthene	263674	18.02	856	T	0	0	0		0.16	0.834
d12-Chrysene	1045942	21.7	3920	I	0	0	0		0.26	1
13C6-Chrysene	151024	21.76	500	T	0	0	0		0.33	1.003
d12-Indeno(123cd)pyrene	858289	31.51	3980	I	0	0	0		0.18	1
13C6-Indeno(123cd)pyrene $	132953	31.59	500	T	0	0	0		0.2	1.002

pv by vr
03-Jan-2019

Axys Analytical CHRO Report

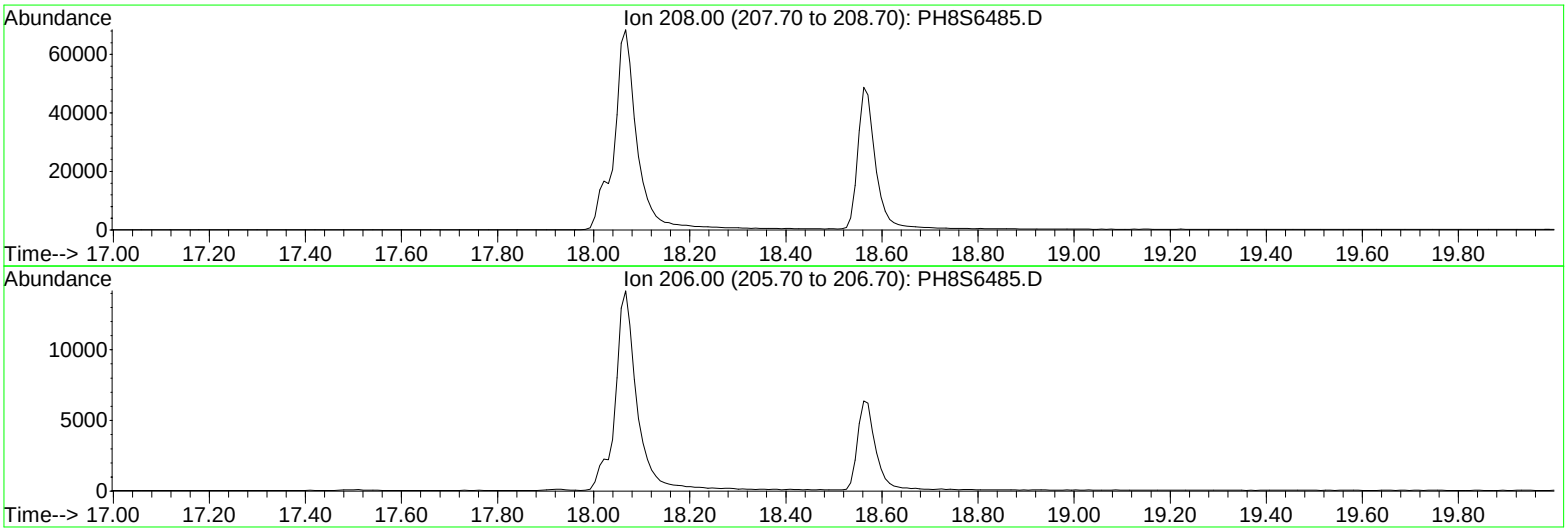
File : G:\PROLAB\INST_S\181228PH\PH8S6485.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 8:10
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

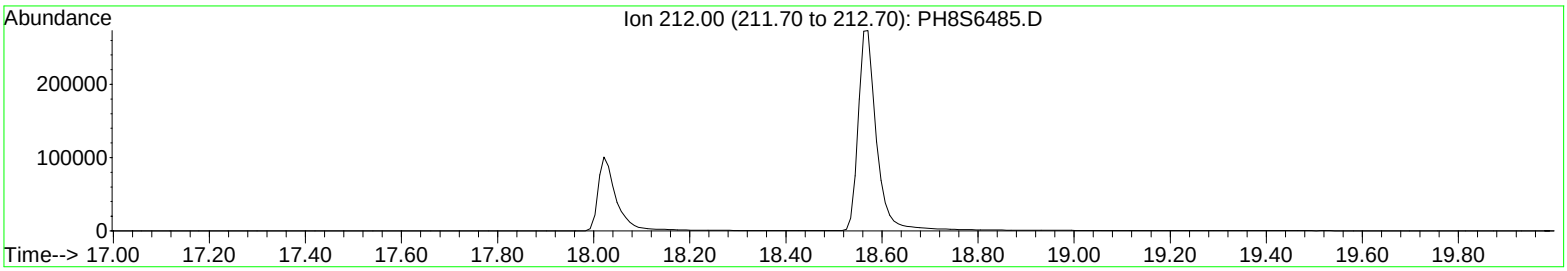




Axys Analytical CHRO Report

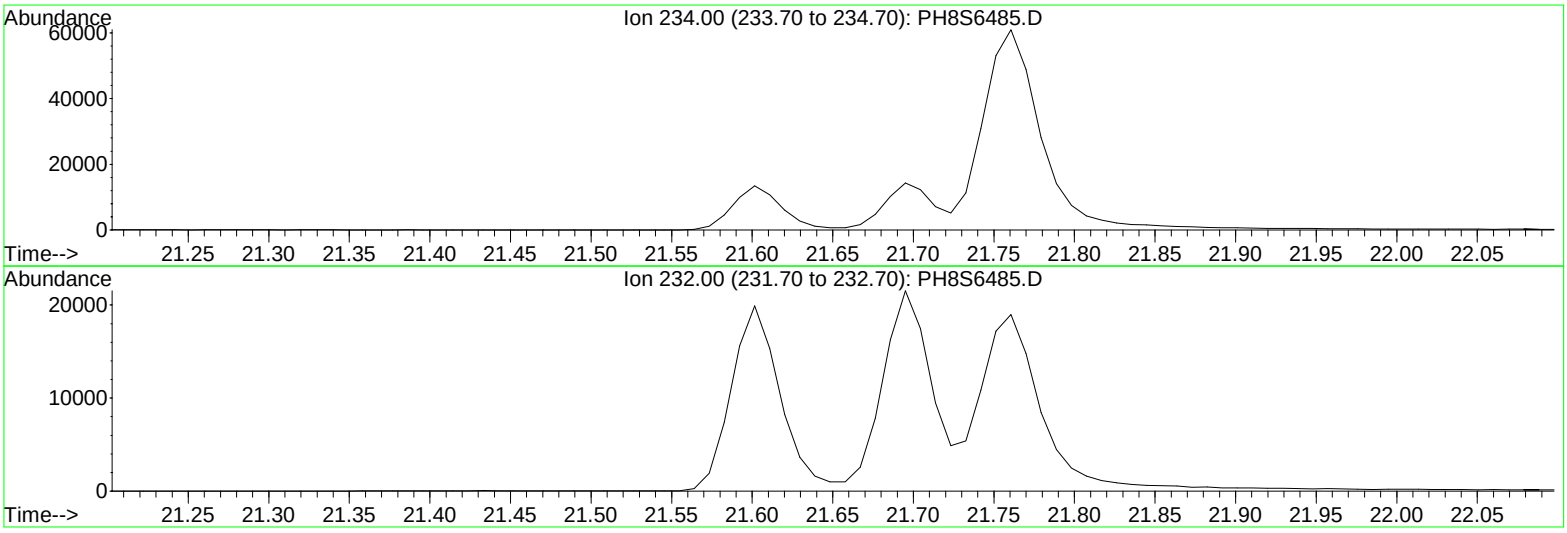
File : G:\PROLAB\INST_S\181228PH\PH8S6485.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 8:10
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

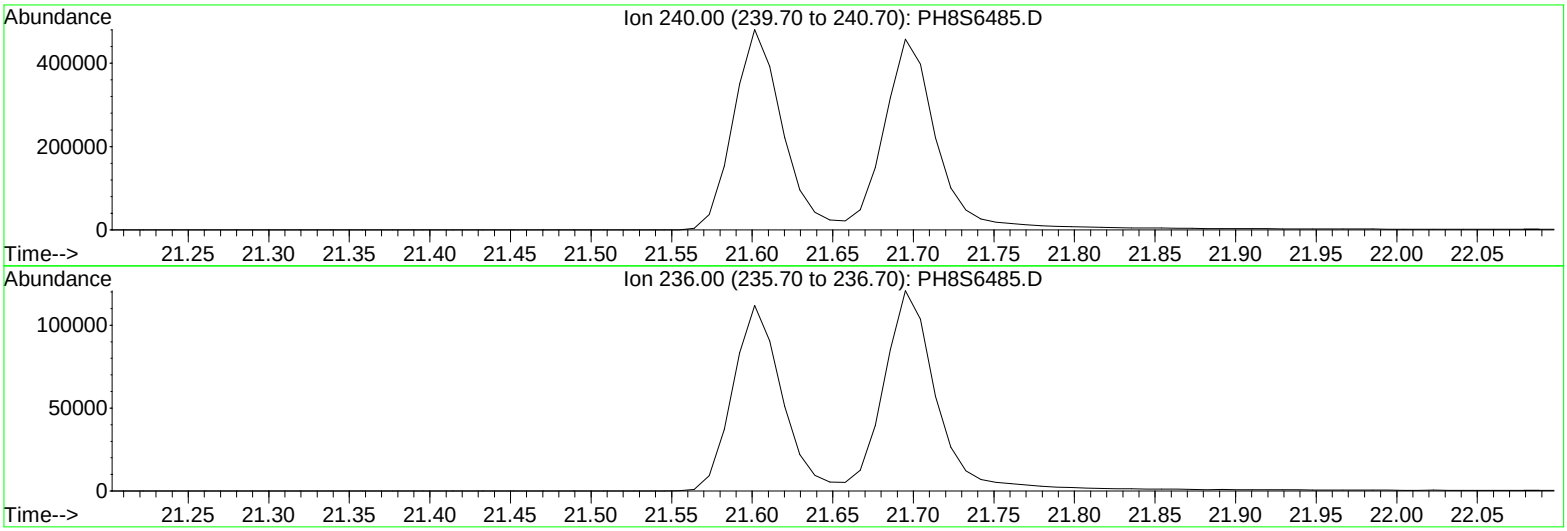




Axys Analytical CHRO Report

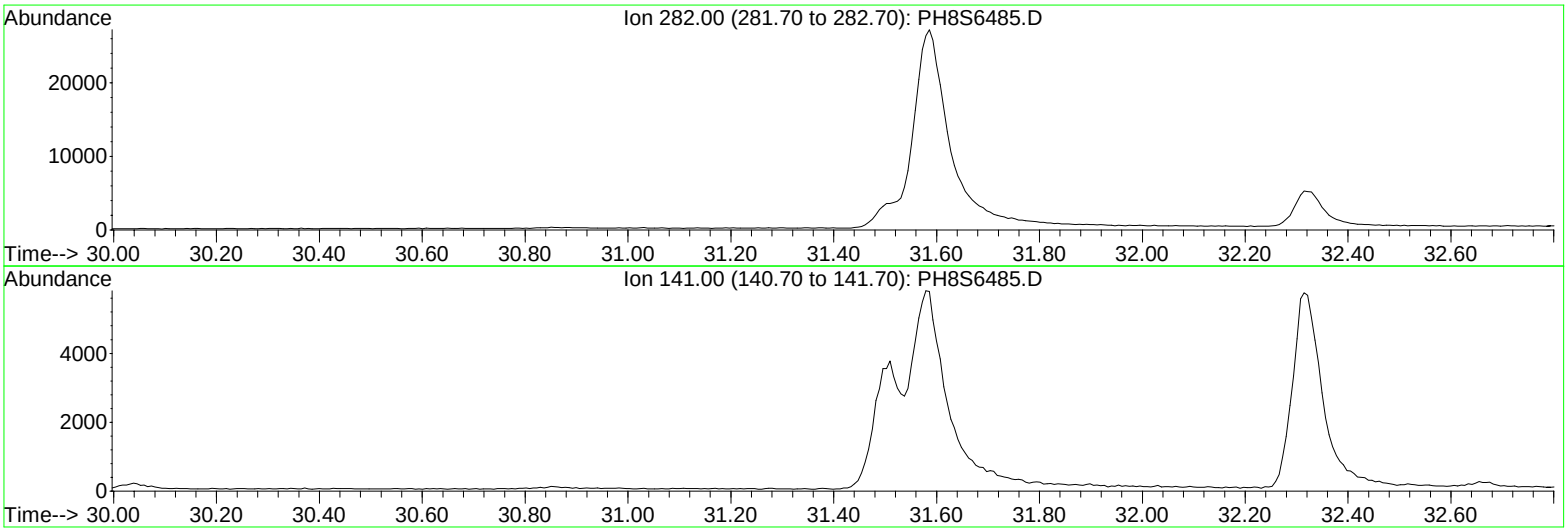
File : G:\PROLAB\INST_S\181228PH\PH8S6485.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 8:10
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL

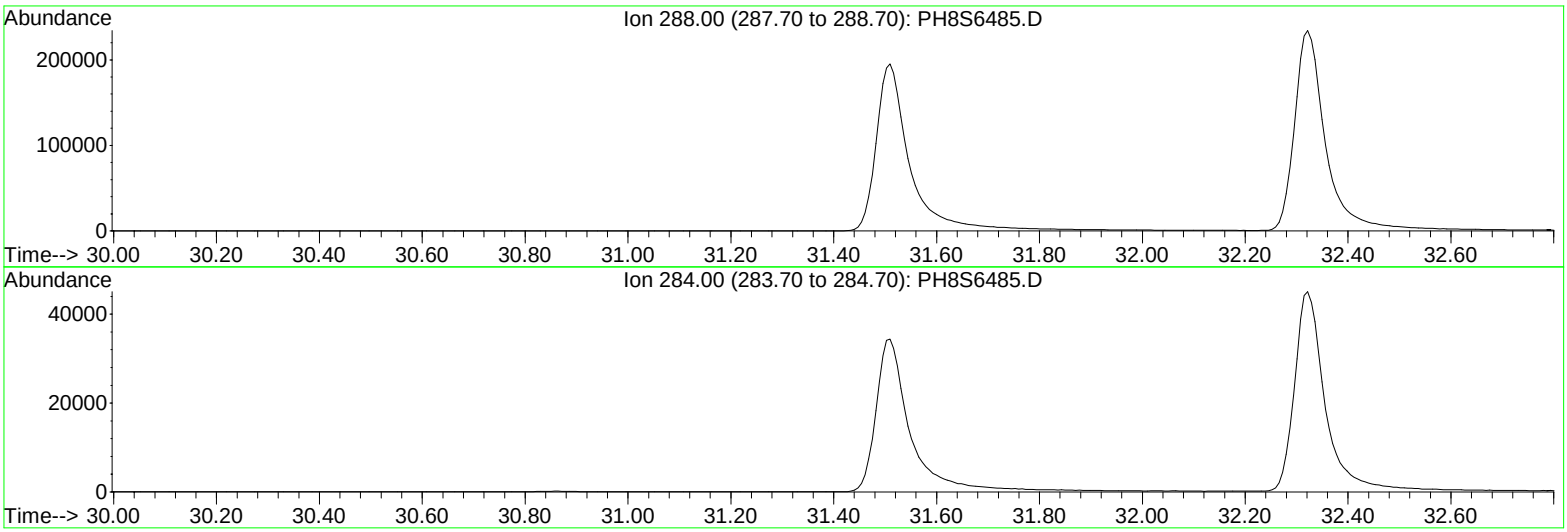




Axys Analytical CHRO Report

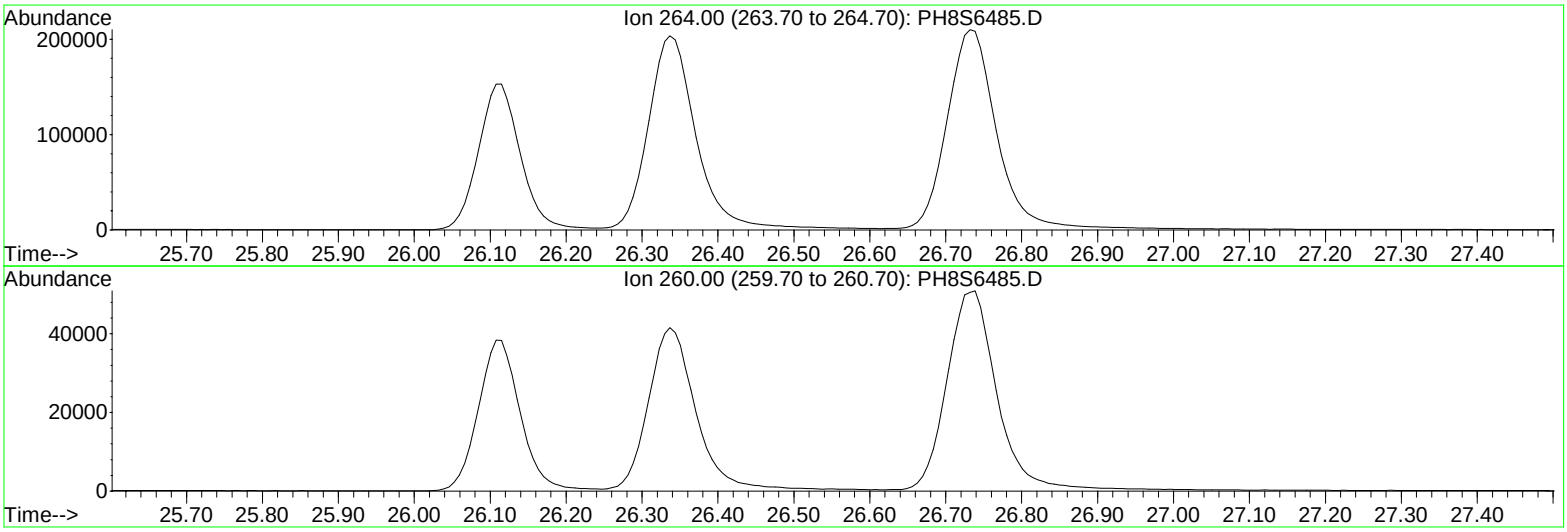
File : G:\PROLAB\INST_S\181228PH\PH8S6485.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 8:10
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL





Axys Analytical CHRO Report

File : G:\PROLAB\INST_S\181228PH\PH8S6485.D
Operator : RTX-5 S/N 1565789 BA
Date Acquired : 29 Dec 2018 8:10
Instrument : Instrumen
Method File : G:\PROLAB\MASTERS\PH161.M
Sample Name : PHWG66438 103A-CAL,,SPR
Misc Info : 1,WG66438,1.0/100uL



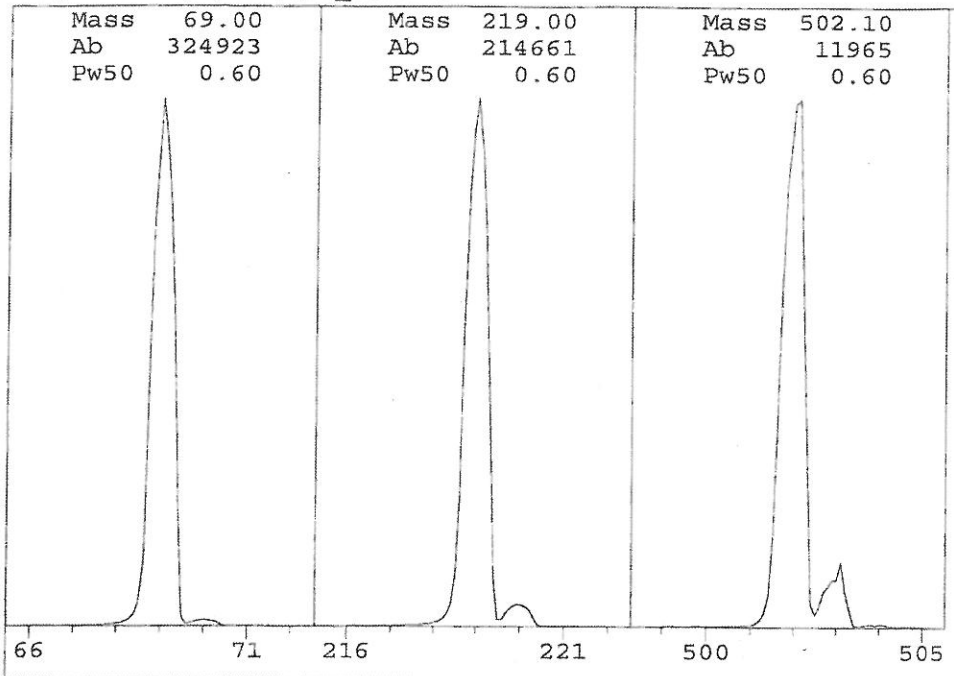
---

www.axysanalytical.com

5975 Tune

Fri Oct 19 09:34:36 2018
C:\MSDCHEM\1\5975\PH_TUNE.u

Instrument: Instrument S

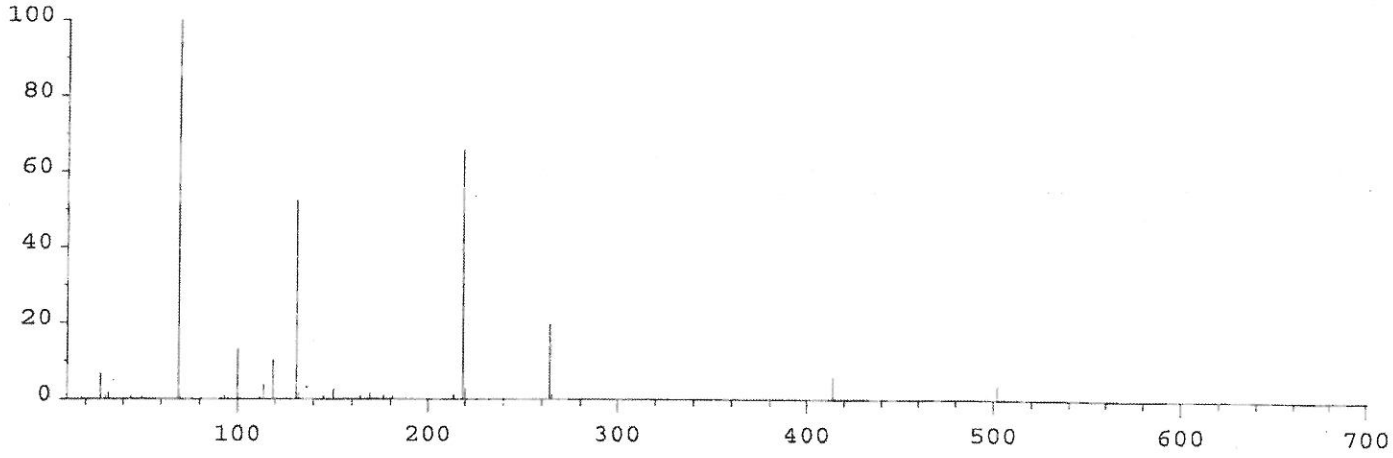


Ion Pol	POS	MassGain	-1183
		MassOffs	-37
Emission	34.6	AmuGain	1017
EIEnrgy	69.9	AmuOffs	119.938
Filament	1	Wid219	-0.023
		DC Pol	POS
Repeller	24.76		
IonFcus	85.4	HEDEnab	ON
EntLens	28.5	EMVolts	1706
EntOffs	19.58		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

Zones:

MS Source	286	TurboSpd	100
MS Quad	150	HiVac	1.00e+10

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
80 peaks Base: 69.00 Abundance: 300928



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	300928	100.00	70.00	3148	1.05
219.00	197824	65.74	220.00	8784	4.44
502.00	10935	3.63	503.00	961	8.79

Air/Water Check: H20~0.61% N2~6.75% O2~1.69% CO2~0.78% N2/H2O~1100.92%

Column Flow: Front: 2.781 Back: 0 ml/min. Interface Temp: 290

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 62871
Repeller Maximum 25 volts using ion 219;

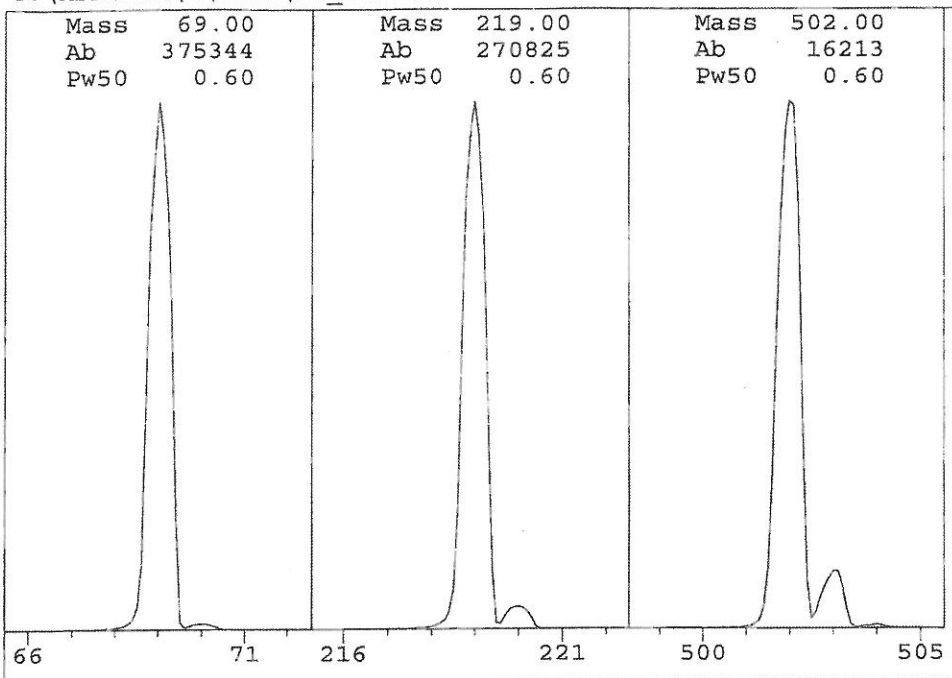
MassGain Values @Samples: -1172@3 -1167@2 -1152@1 -1119@0 -1076@FS

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	119.9	119.9	119.9	119.9	119.9	119.9	119.9
Entrance Lens Offset:	19.6	19.6	19.6	19.6	19.6	19.6	19.6

After 19 Oct 18

5975 Tune

Fri Dec 28 10:20:06 2018 Instrument: Instrument S
C:\MSDCHEM\1\5975\PH_TUNE.u

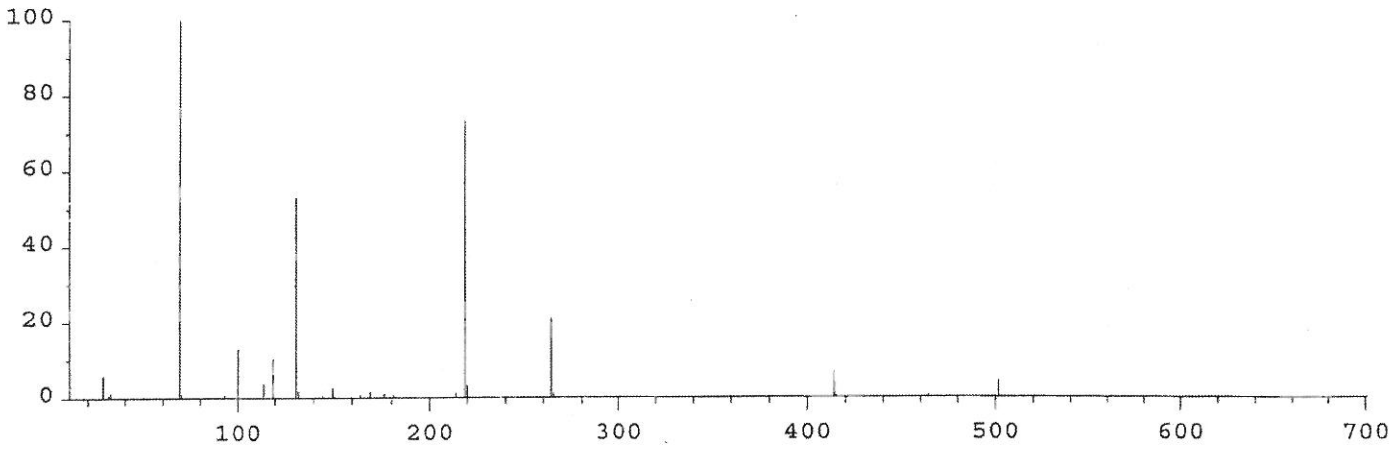


Ion Pol	POS	MassGain	-1174
		MassOffs	-38
Emission	34.6	AmuGain	1013
EIEnrgy	69.9	AmuOffs	120.500
Filament	1	Wid219	-0.023
		DC Pol	POS
Repeller	24.26		
IonFcus	81.6	HEDEnab	ON
EntLens	25.5	EMVolts	1941
EntOffs	19.83		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

Zones:

MS Source	286	TurboSpd	100
MS Quad	150	HiVac	1.00e+10

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
90 peaks Base: 69.00 Abundance: 347776



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	347776	100.00	70.00	3786	1.09
219.00	253824	72.98	220.00	11144	4.39
502.00	15131	4.35	503.00	1469	9.71

Air/Water Check: H20~0.41% N2~5.81% O2~1.37% CO2~0.37% N2/H2O~1419.54%

Column Flow: Front: 2.124 Back: 0 ml/min. Interface Temp: 290

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 52456
Repeller Maximum 25 volts using ion 219;

MassGain Values @Samples: -1171@3 -1164@2 -1148@1 -1119@0 -1075@FS

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	120.5	120.5	120.5	120.5	120.5	120.5	120.5
Entrance Lens Offset:	19.8	19.8	19.8	19.8	19.8	19.8	19.8

28-Dec-18

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
BFR	BTBPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	DBDPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	HBB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	PBEB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
Bisphenols	Bisphenol A	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol AF	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol B	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol E	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol F	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol S	SGS AXYS MLA-113	MLA-113		Y																		Y											
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
OC Pesticides	"Organochlorine Pesticides" category (CA only)	EPA 608	MLA-007																					Y										
		EPA 625	MLA-007																					Y										
		EPA 8081	MLA-007			Y																												
	"Pesticides" category (CA only)	EPA 8270	MLA-007			Y																												
	2,4'-DDD	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDE	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDT	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDD	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDE	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	4,4'-DDT	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Aldrin	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Alpha-HCH	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Beta-HCH	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Chlordane, technical	EPA 625	MLA-007																														Y		
		EPA 8270	MLA-007				Y			Y	Y		Y	Y													Y				Y	Y		Y	Y	
		SGS AXYS MLA-007	MLA-007				Y							Y												Y								Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y												Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	cis-Nonachlor	EPA 8270	MLA-007				Y					Y		Y												Y								Y	
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Delta-HCH	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Dieldrin	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Endosulphan I	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y								Y		Y								Y	
	Endosulphan II	EPA 608	MLA-007																							Y				Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endosulphan sulphate	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin aldehyde	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007		Y		Y							Y									Y		Y									Y
	Endrin ketone	EPA 8081	MLA-007				Y			Y		Y		Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									
	Gamma-HCH (Lindane)	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor epoxide	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Hexachlorobenzene	EPA 1625	MLA-007																						Y				Y					Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Methoxychlor	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Mirex	EPA 8270	MLA-007				Y			Y		Y		Y											Y				Y	Y		Y		Y
		EPA 1699	MLA-028				Y							Y											Y									Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Oxychlordane	EPA 8270	MLA-007				Y					Y													Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y									Y							Y		Y								Y	
	Toxaphene	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y											Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	trans-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylnaphthalene	EPA 1625	MLA-021																															Y
		EPA 8270	MLA-021				Y			Y						Y									Y										
		SGS AXYS MLA-021	MLA-021		Y		Y									Y																		Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	Acenaphthene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y								Y	Y									Y										Y
	Acenaphthylene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benz[a]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y			Y	Y																					
		SGS AXYS MLA-021	MLA-021				Y							Y										Y									Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Chrysene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Dibenz[a,h]anthracene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y										
	Fluoranthene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Fluorene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Naphthalene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Perylene	SGS AXYS MLA-021	MLA-021		Y											Y							Y										
	Phenanthrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Pyrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y								Y
	Retene	SGS AXYS MLA-021	MLA-021		Y																		Y										
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y										
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y			

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																					Y										
		EPA 8270	MLA-007			Y																												
	PCB Aroclor 1016	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007									Y																						
	PCB Aroclor 1221	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1232	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1242	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1248	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1254	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1260	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 101/90/89	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105/127	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107/109	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 111/117	EPA 8270	MLA-007									Y																						
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 118/106	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 12/13	EPA 8270	MLA-007									Y																						
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 131/142	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 132/168	EPA 8270	MLA-007									Y																					
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 134/143	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 138/163/164	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 144/135	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149/139	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 158/160	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 16/32	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y			Y		Y							Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 170/190	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y								Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 172/192	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 174/181	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 177 2,2',3,3',4,5',6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 187/182	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 196/203	EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 23/34	EPA 8270	MLA-007									Y																					
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 24/27	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33/20/21	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 4/10	EPA 8270	MLA-007									Y																						
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 41/71/64/68	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 42/59	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 47/48/75	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 49/43	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 52/73	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 56/60	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 62/65	EPA 8270	MLA-007									Y																						
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 66/80	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 7/9	EPA 8270	MLA-007									Y																						
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 70/76	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 74/61	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y									Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 8/5	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 83/108	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 85/120	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 87/115/116	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 88/121	EPA 8270	MLA-007									Y																						
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010		Y	Y	Y							Y		Y					Y		Y		Y								Y	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y										Y	
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 95/93	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y								Y									
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 97/86	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y								Y									
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 98/102	EPA 8270	MLA-007									Y																					
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y								Y									
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB congeners, total	EPA 1668	MLA-010							Y																			Y				
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010											Y						Y													Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Dichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Heptachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Hexachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Monochlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Octachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total PCBs	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Trichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
PCDDF	"Dioxins and Dibenzofurans" category (CA only)	EPA 1613	MLA-017																				Y										
		EPA 8290	MLA-017			Y																												
	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	2,3,7,8-TCDD	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	2,3,7,8-TCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	OCDD	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	OCDF	EPA 1613	MLA-017									Y		Y							Y					Y			Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y				Y			Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y							Y	
	Total HpCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HpCDF	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HxCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HxCDF	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total PCDD	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDD+PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PeCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total PeCDF	EPA 1613	MLA-017											Y							Y				Y						Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total TCDD	EPA 1613	MLA-017											Y							Y				Y							Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total TCDF	EPA 1613	MLA-017											Y							Y				Y						Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
PFAS	4:2 Fluorotelomersulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																													Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	6:2 Fluorotelomersulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																													Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	8:2 Fluorotelomersulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																													Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Ethylperfluorooctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y									Y		Y					Y			Y	Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epitetracycline (ETC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Acetaminophen	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Albuterol	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Alprazolam	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amitriptyline	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amlodipine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amphetamine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Atenolol	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Atorvastatin	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Azithromycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Benztropine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Betamethasone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Bisphenol A	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Caffeine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Carbadox	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Carbamazepine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cefotaxime	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Chlortetracycline (CTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cimetidine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Ciprofloxacin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Clarithromycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Clinafloxacin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Clonidine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cloxacillin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cocaine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Codeine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cotinine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Dehydronifedipine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Demeclocycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diazepam	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Digoxigenin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Digoxin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diltiazem	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diphenhydramine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Doxycycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Enalapril	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Enrofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Erythromycin	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Erythromycin anydrate	EPA 1694	MLA-075										Y																			Y		
	Flumequine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluocinonide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluoxetine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Furosemide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Gemfibrozil	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Glipizide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Glyburide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrocodone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrocortisone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Ibuprofen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Lincomycin	EPA 1694	MLA-075										Y																			Y		

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Lomefloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Meprobamate	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metformin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Miconazole	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Minocycline	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Naproxen	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norgestimate	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ofloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ormetoprim	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxacillin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxolinic acid	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxycodone	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Paroxetine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin G	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin V	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Promethazine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propranolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ranitidine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Roxithromycin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sarafloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sertraline	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfachloropyridazine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadiazine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadimethoxine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Sulfamerazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethizole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethoxazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfanilamide	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfathiazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tetracycline (TC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Theophylline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Thiabendazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triamterene	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclocarban	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclosan	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trimethoprim	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tylosin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Valsartan	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Verapamil	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Virginiamycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Warfarin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																		
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylornithine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Alanine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Arginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asparagine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Aspartate	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																		
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Carnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Carnosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	cholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Citrulline	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Creatinine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																		

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																		
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dopamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																		
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamate	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glycine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Leucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Lysine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methionine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Proline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Putrescine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serotonin	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Taurine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Threonine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y																														
TOP	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorononanoate (PFNA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-111	MLA-111		Y																		Y											

Note * Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Note ** PFAS by LC-MS/MS compliant with US DoD QSM 5.1 table B-15

Legend

Y	Accreditation scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFAS	Per- and Polyfluoroalkyl Substances
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
TOP	Total Oxidizable Precursors
California DPH	California Department of Public Health, Lab ID 2911
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

ANAB DoD	ANSI-ASQ National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.1 Standard)
CALA	Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)
ANAB ISO 17025	ANSI-ASQ National Accreditation Board, certificate ADE-1861.01, (ISO/IEC 17025:2005 Standard)

SGS AXYS

2045 Mills Road West
Sidney, BC, Canada V8L5X2

TEL: (250) 655-5800
TOLL-FREE: 1-888-373-0881

SGS AXYS Client No.: 4033

Client Address: 200 West Mercer Street
Suite 401
Seattle, WA, US, 98119

The SGS AXYS contact for these data is Georgina Brooks.

DIOXIN/FURAN ANALYSIS

TISSUE SAMPLES

PROJECT NAME: CLAM PO# 2018-0065

Contract: 4033
Data Package Identification: DPWG64816

Analysis WG64557

3 August 2018

www.axysanalytical.com

WINDWARD ENVIRONMENTAL
TISSUE SAMPLES

DIOXIN AND FURAN ANALYSIS
SGS AXYS METHOD: MLA-017
4033: L29626-1 to -9

PROJECT NAME: CLAM PO# 2018-0065

03 August 2018

NARRATIVE

This narrative describes the analysis of nine tissue samples for the determination of polychlorinated dibenzodioxins and dibenzofurans (DX/F) using High Resolution Gas Chromatography / High Resolution Mass Spectrometry (HRGC/HRMS).

SAMPLE RECEIPT AND STORAGE

The samples were received on the 3rd of July 2018. Details of sample conditions upon receipt are provided on the Sample Receiving Record forms included in this data package. The samples were stored at -20°C in dark prior to extraction and analysis.

SAMPLE PREPARATION AND ANALYSIS

Extraction and analysis procedures were in general accordance with **USEPA Method 1613B,** as documented in **SGS AXYS Method MLA-017**. A method summary (MSU-017) of the SGS AXYS Method MLA-017 with a list of modifications of USEPA Method 1613B is included in this data package.

The samples and QC samples (a procedural blank and a known sample called Ongoing Precision and Recovery (OPR)) were analyzed in a batch named WG64557. Sample LDW18-C01-CLWB-Comp2 (AXYS ID L29626-1) was analyzed in duplicate and the duplicate was assigned AXYS ID WG64557-103. A reference material (CARP-2) was also analyzed in the batch and designated AXYS ID WG64557-104. The composition of the batch is shown on the Correlation Table and Batch list forms included in this data package

Canola oil was used as the matrix for the Lab Blank (AXYS ID WG64557-101) and a reference tissue material was used as the matrix for the OPR (AXYS ID WG64557-102).

Approximately 10g (wet) sub-sample of each sample was accurately weighed, spiked with ^{13}C-labeled quantification standards and Soxhlet extracted with 1:1 dichloromethane:hexane. After spiked with ^{13}C-labeled cleanup standards, the extract was cleaned up on acid/base silica, Florisil, Alumina and Carbon Celite chromatographic columns. The final extract was reduced in volume and spiked with labeled recovery (internal) standards prior to instrumental analysis. Final extract volume was 20 µL. 1 µL was injected for the DB5 column analysis; 2 µL were injected for the DB225 column analysis.

CALCULATIONS

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures using Waters MassLynx or Micromass OPUSQuan software. Formulae used in the conversion of the raw chromatograms to concentrations are provided in the method summary document.

Sample specific detection limits (SDLs) were determined from the analysis data following the same procedures used to convert target peak responses to concentrations. The SDLs were used as the detection qualifier. In cases when the software selected unrepresentative area for detection limit calculations, the data validation chemists made corrections; these corrections were hand noted on the quantification report pages and/or documented on the audit change reports.

Because of instrument variability and lab background levels, it is SGS AXYS's policy to report detection limits no lower than 0.5 pg absolute (0.05 pg/g on a 10 g sample). In cases where a detection limit is

observed to be less than 0.5 pg absolute, the SDL is raised to 0.5 pg absolute. This is reflected on the analysis report forms.

Homologue totals were obtained by summing the concentration of all detected congeners at each level of chlorination. Toxic Equivalents (TEQs) were calculated using WHO 2005 MAMM TEFs. The homolog total and TEQ calculations included congener peaks that did not meet the method ion abundance ratio criteria.

REPORTING CONVENTIONS

The SGS AXYS contract number assigned for internal tracking was 4033. The samples were assigned a unique laboratory identifier of the form L29626-X, where X is a numeral; all data reports reference this unique AXYS ID plus the client sample identifier. To assist in locating data, a table correlating AXYS ID with the client sample number is included in this data package.

Any extra work required and performed after the initial instrumental analysis of the sample's extract is given an extra "test suffix" code. The single letter code per extra work performed is added to the AXYS sample ID as a suffix, and is combined with any other applicable test suffix codes. The extra work code used to report data in this package include:

i = instrumental re-analysis of the sample extract.

The following laboratory qualifier flags were used in this data package:

J = indicates an estimated value where the concentration of the analyte is less than the LMCL but greater than the SDL
K = identifies a target that could not be confirmed by virtue of not satisfying all method required criteria, the reported value may be interpreted as an estimated maximum possible concentration.
U = identifies a compound that was not detected.

Analysis results for each sample are provided on Analysis Report form 1A and form 2. Results are reported in concentration units of nanograms per kilogram (ng/kg) on a wet weight basis to three significant figures with a maximum of three decimal places for concentrations and four decimal places for detection limits.

QA/QC NOTES

Samples and QC samples analyzed in an analysis batch were carried intact through the entire analytical process. The sample data were reviewed and evaluated in relation to the batch QC samples.

- Sample analyte concentrations are not blank corrected. Sample data should be evaluated with consideration of analyte levels in the Lab Blank (AXYS ID WG64557-101).
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery corrected for possible losses during extraction and clean up procedures.
- All linearity, CAL/VER, Lab Blank, OPR, duplicate analysis and labeled compound recovery specifications were met.

ANALYTICAL DISCUSSION

Column DB-5 Analysis

Due to instrumental disruption or with concern of possible carryover contamination from samples analyzed ahead in initial analysis, extracts for samples LDW18-C03-CLWB-Comp2 and LDW18-C05-CLWB-Comp2 (AXYS ID L29626-3 and -5, respectively) were re-analyzed on instrument. The re-analysis was successful, and the data obtained were reported (indicated by the suffix 'i' added to the AXYS ID).

Column DB-225 Analysis

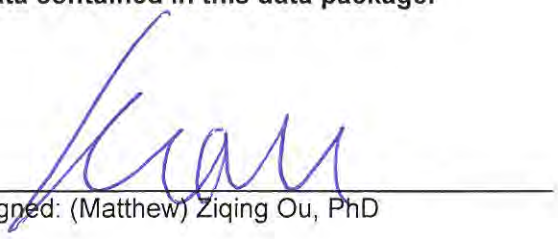
No analytical difficulty was encountered.

DATA PACKAGE

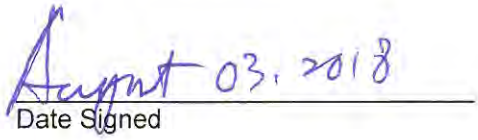
This data package is assigned a unique identifier, DPWG64816, shown on the front page of this data package. Includes the following documentation after this narrative:

- Method summary (MSU-017)
- Sample Correlation Table
- Sample receiving documentation
- Laboratory extraction logs for each sample
- Sample data reports (in order of AXYS Sample ID)
- Laboratory QC data reports
- Instrumental QC data reports and Mass resolution printouts (in order of analysis date)
- Audit change reports
- Sample chromatograms (in order of AXYS Sample ID)
- Laboratory QC chromatograms
- Instrumental QC chromatograms (in order of analysis date)
- Accreditation Scope

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of SGS AXYS Analytical Services Ltd, authorizes the release of the data contained in this data package.



Signed: (Matthew) Ziqing Ou, PhD



Date Signed

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

SUMMARY OF SGS AXYS METHOD MLA-017 REV. 20 VER. 10:

ANALYTICAL METHOD FOR THE DETERMINATION OF POLYCHLORINATED DIBENZODIOXINS AND DIBENZOFURANS BY EPA METHOD 1613B, 8290/8290A OR DLM02.2

SGS AXYS Method MLA-017 describes the analysis of polychlorinated (tetra-octa) dibenzo-dioxins and dibenzofurans in solids (sediment, soil, biosolid, pulp), tissues (including blood, serum, plasma and milk), aqueous samples, XAD-2 columns, air samples, particulate filters and solvent extracts.

Target Analytes

Dioxins (PCDD)	Furans (PCDF)
2,3,7,8 Tetrachlorodibenzodioxin (TCDD)	2,3,7,8 Tetrachlorodibenzofuran (TCDF)
Total TCDD	Total TCDF
1,2,3,7,8 Pentachlorodibenzodioxin (PeCDD)	1,2,3,7,8 Pentachlorodibenzofuran (PeCDF)
Total PeCDD	2,3,4,7,8 PeCDF
	Total PeCDF
1,2,3,4,7,8 Hexachlorodibenzodioxin (HxCDD)	1,2,3,4,7,8 Hexachlorodibenzofuran (HxCDF)
1,2,3,6,7,8 HxCDD	1,2,3,6,7,8 HxCDF
1,2,3,7,8,9 HxCDD	1,2,3,7,8,9 HxCDF
Total HxCDD	2,3,4,6,7,8 HxCDF
	Total HxCDF
1,2,3,4,6,7,8 Heptachlorodibenzodioxin (HpCDD)	1,2,3,4,6,7,8 Heptachlorodibenzofuran (HpCDF)
Total HpCDD	1,2,3,4,7,8,9 HpCDF
	Total HpCDF
Octachlorodibenzodioxin (OCDD)	Octachlorodibenzofuran (OCDF)

1.0 EXTRACTION AND CLEANUP PROCEDURES

All samples are spiked with ^{13}C-labelled surrogate standards prior to extraction and extracted as per the table below. Optional extraction procedures are shown within parentheses.

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Sample Extraction

Matrix	Extraction
Aqueous samples	Liquid-liquid extraction with dichloromethane. (If visible particulates are present the sample is filtered prior to extraction and the particulate fraction separately extracted by Soxhlet extraction or Dean-Stark Soxhlet extraction. The two extracts are then combined.)
Solid (sediment, soil, sludge, particles on filter paper)	Soxhlet extraction with toluene:acetone 80:20. (optional: Dean-Stark Soxhlet extraction with toluene)
Solid (pulp, black liquor)	Soxhlet extraction with toluene:acetone 80:20.
Solid (ash, slag)	Sonication with hydrochloric acid and filtering. Liquid-liquid extraction of filtrate using dichloromethane, Soxhlet extraction of particulate using toluene:acetone 80:20. The two extracts are combined.
Tissue	Soxhlet extraction with dichloromethane:hexane 1:1 (optional: Base digestion and liquid-liquid extraction with hexane)
Whole blood/serum	Liquid-liquid extraction with ethanol:hexane:saturated ammonium sulfate.
Milk	Liquid-liquid extraction with acetone and hexane.
XAD-2 column and filter	XAD-2 adsorbent is dried and Soxhlet extracted (with toluene:acetone 80:20) or Dean-Stark Soxhlet extracted (with toluene). The filter is extracted by Dean-Stark Soxhlet extraction using toluene.
Ambient air (PUF and filter)	The PUF and filter(s) are Soxhlet extracted together using toluene:acetone 80:20.
Stationary Source Air Samples (Stack Gas sample trains)	The filter is sonicated with dilute hydrochloride acid and filtered. Equipment rinsates are collected, filtered, dried and/or extracted depending on sampling conditions.

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

The extracts are then routinely cleaned up according to the following table:

Water Soil Sediment XAD-2 adsorbent Air samples Sludge High organic soil	(Base/acid wash →) DX $AgNO_3$ 30g 44% → (DX Florisil →) Copper → Alumina/carbon/Celite combination column
Tissue Blood/serum/ plasma Milk	(Biobead →) DX 20g 44% → DX Florisil → (Copper →) Alumina/carbon/Celite combination column

Note: Items in brackets are optional procedures that may be used if needed or if required by Project Managers.

An optional Biobead clean-up may be carried out for biosolid sample extracts.

2.0 INSTRUMENTATION

Instrumental analysis is performed on a DB-5 capillary chromatography column coupled to a high-resolution mass spectrometer (HRMS). The HRMS is operated at a static (10000) mass resolution in the voltage selected ion-recording mode (V-SIR) using selected PFK ions as a reference for mass lock. Two masses from the molecular ion cluster are used to monitor each of the target analytes and ^{13}C-labelled surrogate standards. Five chlorinated diphenylethers are monitored to check for interference using one specific ion for each compound.

A second column, DB-225, is used for confirmation/quantification of 2,3,7,8-TCDF and 1,2,3,7,8,9-HxCDD in all samples and matrices for which a peak was detected in the DB-5 run for these congeners.

Upon client request, the concentrations of PCDD/F may be determined using bracketing calibration procedures and a smaller suite of surrogate standards.

3.0 CALIBRATION

Initial calibration (default procedure) is performed using a five point calibration series of solutions that encompass the working concentration range. Initial calibration solutions contain the suite of labelled surrogate and recovery standards and authentic target PCDDs/PCDFs. Calibration is verified at least once every 12 hours by analysis of a mid-level calibration solution. Calibration procedures use the mean RRFs determined from the initial calibration to calculate analyte concentrations.

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

Alternately clients may request initial calibration be performed using a six point calibration series of solutions if lower detection limits are required.

Concentration of PCDD/PCDF Calibration Solutions

	Concentration (ng/mL)						Authentic Standard Amount added to sample (pg)
	CS0.2	CS1	CS2	CS3	CS4	CS5	
Native Compound							
2,3,7,8-TCDD	0.1	0.5	2	10	40	200	200
2,3,7,8-TCDF	0.1	0.5	2	10	40	200	200
1,2,3,7,8-PeCDD	0.5	2.5	10	50	200	1000	1000
1,2,3,7,8-PeCDF	0.5	2.5	10	50	200	1000	1000
2,3,4,7,8-PeCDF	0.5	2.5	10	50	200	1000	1000
1,2,3,4,7,8-HxCDD	0.5	2.5	10	50	200	1000	1000
1,2,3,6,7,8-HxCDD	0.5	2.5	10	50	200	1000	1000
1,2,3,7,8,9-HXCDD	0.5	2.5	10	50	200	1000	1000
1,2,3,4,7,8-HxCDF	0.5	2.5	10	50	200	1000	1000
1,2,3,6,7,8-HxCDF	0.5	2.5	10	50	200	1000	1000
1,2,3,7,8,9-HxCDF	0.5	2.5	10	50	200	1000	1000
2,3,4,6,7,8-HxCDF	0.5	2.5	10	50	200	1000	1000
1,2,3,4,6,7,8-HpCDD	0.5	2.5	10	50	200	1000	1000
1,2,3,4,6,7,8-HpCDF	0.5	2.5	10	50	200	1000	1000
1,2,3,4,7,8,9-HpCDF	0.5	2.5	10	50	200	1000	1000
OCDD	1.0	5.0	20	100	400	2000	2000
OCDF	1.0	5.0	20	100	400	2000	2000
Surrogate Standards							**Surrogate Standard Amount added to sample (pg) [1]**
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	2000

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

$^{13}C_{12}$-OCDD	200	200	200	200	200	200	4000
Cleanup Standard							
$^{37}Cl_4$-2,3,7,8-TCDD	0.1	0.5	2	10	40	200	200
Recovery Standard							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	2000
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	2000

[1] Blood/plasma/serum and milk samples are spiked with ½ the amounts of surrogate and recovery standards shown in this table.

4.0 QUANTIFICATION PROCEDURES

The response for any component is taken as the sum of the integrated peak areas for the two characteristic masses for that compound. Quantification is by the isotope dilution method. Target concentrations are determined with respect to labelled surrogate standards. Mean relative response factors (RRF), determined from the multi-level initial calibration series are used to convert raw peak areas in sample chromatograms to final concentrations as follows:

$$\text{Concentration of Target} = \left(\frac{\text{area of Target}}{\text{area of Qt Std}}\right) \times \left(\frac{\text{weight of Qt Std}}{\text{RRF}}\right) \times \left(\frac{1}{\text{weight of sample}}\right)$$

$$\textit{where}\quad \text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Qt Std}}\right) \times \left(\frac{\text{weight of Qt Std}}{\text{weight of Target}}\right)$$

and the Qt Std is either the surrogate or the internal standard

Those compounds quantified against a labelled standard added at the beginning of the analysis procedure are recovery corrected by the method of quantification. Surrogate recoveries are determined similarly against the recovery (internal) standard and are used as general indicators of overall analytical quality.

4.1 Reporting Limits

Concentrations and detection limits for the 2,3,7,8-polychlorinated dioxins and furans (tetra-octa) are reported. Typical reporting units for all data are pg/g, pg/L or pg/sample. Concentrations for solids are reported on a dry weight basis. Concentrations in tissues (including blood and milk) are reported on a wet weight basis and/or on a lipid weight basis when requested. Concentrations in aqueous samples are reported on a volume basis. Concentrations in XAD-2 resin, filters and stack gas samples are reported on a per sample basis or a per volume basis. Concentrations in particulate filters are reported on a per sample basis.

The following are commonly requested reporting limits:

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

Sample Specific Detection Limit or Sample Detection Limit (SDL) – determined individually for every sample analysis run by converting the area equivalent of 3.0 times (2.5 times for EPA 1600 series methods) the estimated chromatographic noise height to a concentration in the same manner that target peak responses are converted to final concentrations. The SDL accounts for any effect of matrix on the detection system and for recovery achieved through the analytical work-up. Equivalent term(s): Estimated Detection Limit (EDL) from EPA method 8290.

Method Detection Limit (MDL) - determined as specified by EPA Fed. Reg. 40 CFR Part 136 Appendix B (no iteration option). The 99% confidence level MDL is determined based on analysis of a minimum of 7 replicate matrix spikes fortified at 1-10 times the estimated detection limit. MDL is determined as required based on accreditation, contract and workload requirements.

Lower Method Calibration Limit (LMCL) - determined by prorating the concentration of the lowest calibration limit for sample size and extract volume. The following equation is used. ((lowest level cal conc.) x (extract volume))/sample size. Typical extract volume for PCDDs/PCDFs is 20 µL.

For the analysis of PCDDs/PCDFs SGS AXYS standard is to report sample concentrations using the SDL with a minimum reporting limit of 0.5 pg absolute.

Analyte Ions Monitored, Surrogates Used and RRF Determination for Dioxins/Furans

Analytes	Quantification Ion (m/z)	Confirmation Ion (m/z)	Surrogate	RRF Determined From
2,3,7,8-TCDD	319.8965	321.8936	$^{13}C_{12}$-2,3,7,8-TCDD	2,3,7,8-TCDD
1,3,6,8-TCDD *	319.8965	321.8936	$^{13}C_{12}$-2,3,7,8-TCDD	2,3,7,8-TCDD
1,3,7,9-TCDD *	319.8965	321.8936	$^{13}C_{12}$-2,3,7,8-TCDD	2,3,7,8-TCDD
1,2,3,7,8-PeCDD	353.8576	355.8546	$^{13}C_{12}$-1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDD
1,2,3,4,7,8-HxCDD	389.8156	391.8127	$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDD
1,2,3,6,7,8-HxCDD	389.8156	391.8127	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDD
1,2,3,7,8,9-HxCDD	389.8156	391.8127	Mean of $^{13}C_{12}$-1,2,3,6,7,8/1,2,3,4,7,8-HxCDD	1,2,3,7,8,9-HxCDD
1,2,3,4,6,7,8-HpCDD	423.7767	425.7737	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDD
OCDD	457.7377	459.7348	$^{13}C_{12}$-OCDD	OCDD
2,3,7,8-TCDF	303.9016	305.8987	$^{13}C_{12}$-2,3,7,8 -TCDF	2,3,7,8-TCDF
1,2,7,8-TCDF *	303.9016	305.8987	$^{13}C_{12}$-2,3,7,8 -TCDF	2,3,7,8-TCDF
1,2,3,7,8-PeCDF	339.8597	341.8568	$^{13}C_{12}$-1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDF
2,3,4,7,8-PeCDF	339.8597	341.8568	$^{13}C_{12}$-2,3,4,7,8-PeCDF	2,3,4,7,8-PeCDF
1,2,3,4,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDF
1,2,3,6,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDF
2,3,4,6,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF
1,2,3,7,8,9-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1,2,3,7,8,9-HxCDF
1,2,3,4,6,7,8-HpCDF	407.7818	409.7788	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDF
1,2,3,4,7,8,9-HpCDF	407.7818	409.7788	$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8,9-HpCDF
OCDF	441.7428	443.7398	$^{13}C_{12}$-OCDD	OCDF

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Cleanup Standard				
$^{37}Cl_4$-2,3,7,8-TCDD	327.8847	-	$^{13}C_{12}$-1,2,3,4-TCDD	
Field Standard				
$^{13}C_6$-1,2,3,4-TCDD	325.9166	327.9137	$^{13}C_{12}$-1,2,3,4-TCDD	$^{13}C_{12}$-1,2,3,4-TCDD
Labelled Surrogates	**Quantification Ion (m/z)**	**Confirmation Ion (m/z)**	**Recovery Calculated Using**	
$^{13}C_{12}$-2,3,7,8-TCDD	331.9368	333.9339	$^{13}C_{12}$-1,2,3,4-TCDD	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	365.8978	367.8949	$^{13}C_{12}$-1,2,3,4-TCDD	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	401.8559	403.8530	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	401.8559	403.8530	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	435.8169	437.8140	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-OCDD	469.7780	471.7750	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-2,3,7,8 -TCDF	315.9419	317.9389	$^{13}C_{12}$-1,2,3,4-TCDD	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	351.9000	353.8970	$^{13}C_{12}$-1,2,3,4-TCDD	
$^{13}C_{12}$-2,3,4,7,8-PeCDF	351.9000	353.8970	$^{13}C_{12}$-1,2,3,4-TCDD	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	383.8639	385.8610	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	383.8639	385.8610	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	383.8639	385.8610	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	383.8639	385.8610	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	417.8250	419.8220	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	417.8250	419.8220	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	
Recovery Standards				
$^{13}C_{12}$-1,2,3,4-TCDD	331.9368	333.9339	*Optional isomers which may be reported upon client request.	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	401.8559	403.8530		

CI-DPE Monitoring Ions			
Descriptor	**Exact M/Z**	**M/Z Type**	**Substance**
3	375.8364	M+2	HxCDPE
4	409.7974	M+2	HpCDPE
5	445.7555	M+4	OCDPE
6	479.7165	M+4	NCDPE
7	513.6775	M+4	DCDPE

5.0 QUALITY ACCEPTANCE CRITERIA

Samples are analyzed in batches consisting of a maximum of twenty samples, one procedural blank and one spiked matrix (OPR) sample. A duplicate is analyzed, provided there is sufficient sample, with batches containing 7-20 samples. Matrix spike/matrix spike duplicate (MS/MSD) pairs may be analyzed on an individual contract basis. The batch is carried through the complete analytical process as a unit. For sample data to be reportable, the batch QC data must meet the established acceptance criteria presented on the analysis reports.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Specification Table: Authentic and Surrogate Standard Recoveries, CAL/VER, IPR, OPR and Samples

	Test Conc. (ng/mL)	IPR		OPR (%)	I-CAL (%)	CAL/VER (%)	Labelled Compound (% rec. in sample)	
		SD (%) *	$\bar{X}$ (%)				Warning Limits	Control Limits
Native Compound								
2,3,7,8-TCDD	10	28	83-129	70-130	20	78-125	-	-
2,3,7,8-TCDF	10	20	87-137	75-130	20	84-120	-	-
1,2,3,7,8-PeCDD	50	15	76-132	70-130	20	78-125	-	-
1,2,3,7,8-PeCDF	50	15	86-124	80-130	20	82-120	-	-
2,3,4,7,8-PeCDF	50	17.2	72-150	70-130	20	82-122	-	-
1,2,3,4,7,8-HxCDD	50	18.8	78-152	70-130	20	78-125	-	-
1,2,3,6,7,8-HxCDD	50	15.4	84-124	76-130	20	78-125	-	-
1,2,3,7,8,9-HXCDD	50	22.2	74-142	70-130	35	82-122	-	-
1,2,3,4,7,8-HxCDF	50	17.4	82-118	72-130	20	90-112	-	-
1,2,3,6,7,8-HxCDF	50	13.4	92-120	84-130	20	88-114	-	-
1,2,3,7,8,9-HxCDF	50	12.8	84-122	78-130	20	90-112	-	-
2,3,4,6,7,8-HxCDF	50	14.8	74-148	70-130	20	88-114	-	-
1,2,3,4,6,7,8-HpCDD	50	15.4	76-130	70-130	20	86-116	-	-
1,2,3,4,6,7,8-HpCDF	50	12.6	90-112	82-122	20	90-110	-	-
1,2,3,4,7,8,9-HpCDF	50	16.2	86-126	78-130	20	86-116	-	-
OCDD	100	19	89-127	78-130	20	79-125	-	-
OCDF	100	27	74-146	70-130	35	75-125	-	-
Surrogate Standards								
$^{13}C_{12}$-2,3,7,8-TCDD	100	37	28-134	25-130	35	82-121	40-120	25-130
$^{13}C_{12}$-2,3,7,8-TCDF	100	35	31-113	25-130	35	71-130	40-120	24-130
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	39	27-184	25-150	35	70-130	40-120	25-130
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	34	27-156	25-130	35	76-130	40-120	24-130
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	38	16-279	25-130	35	77-130	40-120	21-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	41	29-147	25-130	35	85-117	40-120	32-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	38	34-122	25-130	35	85-118	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	43	27-152	25-130	35	76-130	40-120	26-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	35	30-122	25-130	35	70-130	40-120	26-123
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	40	24-157	25-130	35	74-130	40-120	29-130
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	37	29-136	25-130	35	73-130	40-120	28-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	35	34-129	26-130	35	72-130	40-120	23-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	41	32-110	25-130	35	78-129	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	40	28-141	25-130	35	77-129	40-120	26-130
$^{13}C_{12}$-OCDD	200	47.5	20.5-138	25-130	35	70-130	25-120	17-130
Cleanup Standard								
$^{37}Cl_4$-2,3,7,8-TCDD	10	36	39-154	31-130	35	79-127	40-120	35-130

* For comparability with EPA 1613B the precision specification for IPR is stated as %SD (=standard deviation relative to the fortification level,)

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Specification Table: QC Samples, Instrumental Analysis, and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	**Blood/serum/plasma and milk:** TCDD/F <0.2 pg/sample, PeCDD/F <0.5 pg/sample, HxCDD/F and HpCDD/F <1.0 pg/ sample, OCDD/F<5 pg/sample. **Other matrices:** TCDD/F <0.5 pg/sample, PeCDD/F, HxCDD/F, HpCDD/F <1.0 pg/sample, OCDD/F <5 pg/sample. Higher levels acceptable where all sample concentrations are > 10X the blank concentrations.
Detection Limit	SDL Requirements (where target concentrations are detectable or sample extracts display atypical interference, SDL values may be higher): **Blood/serum/plasma and milk:** Tetra-penta-CDD/F 0.2 pg/sample, Hexa-octa-CDD/F 0.5 pg/sample **Other matrices**: 0.5 pg/sample
Instrument Carry over and Background: **Toluene Blank** **Samples**	A. 1st toluene blank following Cal Ver must have <0.6 pg TCDD and <25 pg OCDD[2]. B. 2nd toluene blank following Cal Ver must have <0.2 pg TCDD/F, <0.8 pg Pe-HpCDD/F, and <5.0 pg OCDD[2]. Blood/serum/plasma and milk extract analysis: As many toluene blanks as necessary are run to achieve an instrument blank level of <0.1 pg TCDD/F, <0.3 pg PeCDD/F, <0.5 pg HxCDD/F, <0.5 pg HpCDD/F and <3.5 pg OCDD. <10% contribution from preceding sample (based on observed instrument carryover rate).
Analyte Peak Response	Response must be below the upper calibrated range of the instrument. Data may be taken from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Must be within ±15% of theoretical. For 1613B applications only (as per section 16.3 of 1613B) an alternate acceptance criteria of within ±10% of the ratio in the midpoint calibration (CS3) or calibration verification (Cal Ver), whichever is most recent., may be applied. Exception for blood/serum/plasma samples: Ion ratios for sample responses below the lowest calibration level equivalent must be within ±35% of theoretical.
Sensitivity	S:N ≥10:1 for all compounds in CS-0.2 for 1.0 µL injected, plus for blood/serum/plasma and milk S:N ≥3:1 for 0.05 pg injected 2,3,7,8-TCDD.

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

[2] Instrument background specifications are calculated from spiking labelled standard into the toluene blank and expressed as pg in a 20 µL extract.

SGS AXYS confidential, not to be distributed without written permission

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Modifications to EPA Method 1613B

The following sections of EPA Method 1613B have been modified as described below.

Section 2.1.2

Aqueous liquid from multiphase samples is liquid/liquid extracted with DCM. The extract from the aqueous phase is then combined with the extract from the solid phase portion of the sample.

Section 7.2.1

Anhydrous sodium sulfate (Na_2SO_4) is baked overnight prior to use. There is no solvent rinse with dichloromethane.

Section 7.10

The concentration of the labelled compound solution is 100 ng/mL (except for labeled OCDD which is 200 ng/mL) and is prepared in toluene; 20 µL of the labelled compound solution is spiked to solids and tissue samples to yield the method specified concentrations in the final extracts.

Section 7.11

The concentration of the cleanup standard spiking solution is 10 ng/mL (2 ng/mL for tissue samples) in toluene, and the sample spiking volume is 20 µL. The resulting concentration in the final extracts is reduced (to ¼ of the concentration specified in EPA method 1613B for all matrices except tissue, and to $^1/_{20}$ of the EPA method 1613B specified level for tissue).

Sections 7.13, 14.0, 15.0

A modified EPA 1613B/8290 procedure is offered that includes an additional lower level calibration solution, 0.2 times the concentration of CS1 in the initial calibration series so that initial calibration is based on a six-point series. The calibration solutions are prepared in nonane. A modified EPA 1613B/8290 procedure using calibration solutions prepared in toluene is also available.

Section 7.14

The concentration of the PAR spiking solutions is 0.2/1.0/2.0 ng/mL for tetra/penta, hexa, hepta, hexa/octas respectively and the spiking volume is 1 mL. The resulting final concentration in the extracts are as specified in the method.

Section 9.3.3

Table 7 (EPA 1613B) specifications for the percent recovery of surrogate standards in samples that are higher than 130% have been lowered to 130%, as presented in table "QC Specification Table: Authentic and Surrogate Standard Recoveries, CAL/VER, IPR, OPR and Samples" of this document.

Section 11.5

Multiphase, predominately aqueous, samples containing >1% suspended solids may be prepared and extracted using the same procedure as samples containing ≤1% suspended solids with client approval. This involves separating the solids and aqueous phases by filtration, extracting the solids by Soxhlet extraction, extracting the filtrate by

SGS AXYS confidential, not to be distributed without written permission

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

liquid/liquid extraction, and combining the extract from the two phases. Alternatively, with client approval, multiphase, predominately particulate, samples containing >1% suspended solids may be processed as solids samples using Soxhlet or Soxhlet Dean-Stark extraction.

Section 11.7

To avoid compromising sample integrity through contamination or loss of material to surfaces particles larger than 1 mm in solid samples are by default not subject to grinding prior to extraction. Instead solid samples are homogenized prior to sub-sampling by breaking up clumps with a disposable spoon and mixing/stirring. If required by the client rocks larger than 0.4 cm are removed. Surrogate standard is added after homogenization and sub-sampling.

Section 12.3

For solids samples with suitable moisture content, an option is offered for drying the sample with anhydrous sodium sulfate followed by Soxhlet extraction with 80:20 toluene:acetone. Alternatively Soxhlet Dean-Stark extraction using toluene is available

Section 12.3.1 – 12.3.5

Silica or quartz sand is not pre-extracted in the Dean Stark apparatus. Silica is baked the lab. Quartz sand is proofed prior to use. Sand is mixed with the sample in a beaker and then loaded into the soxhlet thimble.

Section 12.3.9.1.1

Sample extracts are reduced to approximately 1 mL after extraction, not 5 mL.

Section 12.4

The equilibration time for the sodium sulfate drying step is sufficient to produce a dry, free-flowing powder (minimum 30 minutes). This may be less than the 12-hour minimum specified in EPA 1613B.

Section 12.5.3

Ultra-pure water is used to rinse the extract between base and acid washes, not NaCl solution.

Section 12.6.1.1

Rotary evaporator baths are maintained at 35°C. Trends in QC blanks are monitored and diagnostic proofing is conducted if indicated instead of collecting proofs each day and archiving. Historical proofing tests have demonstrated that routine cleaning practices between samples are sufficient to ensure rotary evaporator cleanliness; as an additional safeguard the laboratory segregates processing of samples on the basis of predicted target concentration levels.

Section 12.7.3

Water baths are not used with the nitrogen blowdown apparatus.

Section 12.7.4

SGS AXYS confidential, not to be distributed without written permission

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

Solvent exchange is dependent on the type of solvent present: if toluene is present the extract is reduced to 50 µL and topped up to 1 mL with hexane; if dichloromethane is present the extract is reduced to 300 µL and topped up to 1 mL with hexane.

Section 12.7.7

Sample extracts are concentrated in a microvial using nitrogen to near dryness before adding the recovery standard.

Section 13.7

Gravimetric lipid analysis is carried out on two subsamples of the extract, representing 2/15ths of the extract. A correction factor is applied to the surrogate recovery standards.

Sections 14.0, 15.0, 16.0, Table 8, Table 9

M/Z channels 354/356 and 366/368 are used to confirm and quantify the native and surrogate penta-substituted dioxins, respectively; this change from the method's specification is made in the instrument method in order to avoid a persistent interference in the 356/358 and 368/370 M/Z channels. The theoretical ratio for the P5CDD M/M+2 ions is 0.61; therefore, the acceptance range is 0.52 - 0.70.

Section 14.2

The EPA 1613B/8290 procedure uses nonane to dilute extracts. Alternatively a modified EPA 1613B/8290 procedure using toluene to dilute extracts may be performed.

Section 15.3.5

Table 6 (EPA 1613B) specifications for CAL-VER solution concentrations outside the 70-130% range have been revised to be 70-130%, as presented in table "QC Specification Table: Authentic and Surrogate Standard Recoveries, CAL/VER, IPR, OPR and Samples" on page 7 of this document.

Section 15.4.2.2

Figure 7 (EPA 1613B) is incorrectly titled as 'on DB-5 column', should be 'on DB-225 column'. The peak annotation in figure 7 is also incorrect; the centre peak is 2,3,7,8-TCDF, not 2,3,4,8-TCDF as indicated.

Section 15.5.3

Table 6 (EPA 1613B) specifications for OPR concentrations outside the 70-130% range have been revised to be 70-130%, as presented in table "QC Specification Table: Authentic and Surrogate Standard Recoveries, CAL/VER, IPR, OPR and Samples" on page 7 of this document.

Section 17.0

Conci - the concentrations of target analytes, and the labelled compound concentrations and recoveries, are calculated using the equations below. These procedures are equivalent to those described in the method but are more direct.

$$Conc = \frac{A_i}{A_{si}} \times \frac{M_{si}}{RRF_{i,si}} \times \frac{1}{M_x}$$

SGS AXYS confidential, not to be distributed without written permission

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

where Ai = summed areas of the primary and secondary m/z's for the analyte peak of interest (compound i)

Asi = summed areas of the primary and secondary m/z's for the labelled surrogate peak used to quantify i)

Mx = mass of sample taken for analysis

Msi = mass of labelled surrogate (compound si) added to sample as calculated by the concentration of standard spiked (pg/mL) multiplied by the volume spiked (mL)

$RRFi,si$ = mean relative response factor of i to si from the five-point calibration range and defined individually as:

$$\frac{A_i}{A_{si}} \; x \; \frac{M_{si}}{M_i}$$

Calculation of Surrogate Standard Concentrations and Percent Recoveries:

Concentrations of surrogate standards are calculated using the following equation:

$$Conc_{si} = \frac{A_{si}}{A_{rs}} \; x \; \frac{M_{rs}}{RRF_{si,rs}}$$

and, the percent recoveries of the surrogate standards are calculated using the following equation:

$$\%Recovery = \frac{A_{si}}{A_{rs}} \; x \; \frac{M_{rs}}{RRF_{si,rs}} \; x \; \frac{1}{M_{si}} \; x \; 100$$

where A_{rs} and A_{si} are the summed peak areas (from the primary and secondary m/z channels) of recovery standard and labelled surrogate added to the sample;
M_{rs} and M_{si} are the masses of recovery standard and labelled surrogate added to the sample, and;
$RRF_{si,rs}$ is the mean relative response factor of the labelled surrogate to the recovery standard as determined by the five-point calibration range and defined individually as:

$$\frac{A_{si}}{A_{rs}} \; x \; \frac{M_{rs}}{M_{si}}$$

SGS AXYS confidential, not to be distributed without written permission

www.axysanalytical.com

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

Section 17.5

Where acceptable to the client, extracts may be diluted with solvent and re-analyzed by GC/MS to bring the instrumental response to within the linear range of the instrument. Typically, no additional recovery (internal) standard is added. For very high-level samples where a smaller sample aliquot may not be representative, extracts may be diluted and respiked with labelled quantification standards and re-analyzed by GC/MS to bring the instrumental response analytes within range. Final results are recovery corrected using the mean recovery of labelled quantification standards.

Modifications to EPA Method 8290

The SGS AXYS implementation of EPA Methods 8290 and 8290A includes the following:

1. A sample hold time of 30 days from time of sample collection is recommended.
2. Extract hold time, stored at <-10°C, is 45 days.
3. The same surrogate, recovery, authentic spike and calibration solutions that are used for EPA method 1613B are used to perform EPA Methods 8290 and 8290A.
4. A matrix spike/matrix spike duplicate (MS/MSD) sample may be analysed with every analysis batch, as negotiated with the client and provided sufficient sample is available. This requirement may be waived by contract.
5. The typical final extract volume is 20 µL but may vary between 10 µL and 50 µL.
6. HRGC/MS analysis is performed according to EPA 1613B protocols with the following requirements:
   - An instrumental blank is analyzed at the beginning of every 12-hour analysis sequence, injected following the CAL/VER solution.
   - Should the CAL/VER analysis fail at the end of a 12 hour period by no more than 25% RPD for the native analytes and 35% for the labelled standards, the mean RRF from the two CAL/VER analyses may be used to calculate the analyte concentrations.
7. Quantification of target analytes is performed using an expanded suite of surrogate standards and quantification references (listed in table "Analyte Ions Monitored, Surrogates Used and RRF Determination for Dioxins/Furans" on pages 5-6 of this document) as per method 8290A section 5.8 allowances (alternative quantification using the smaller suite of surrogate standards listed in method 8290A and in table "Analyte Ions Monitored, Surrogates Used and RRF Determination for Dioxins/Furans by EPA 8290/8290A" on page 14 of this document may be negotiated by individual customers).
8. The QC specifications in table "QC Criteria for PCDD/F Analysis by EPA 8290/8290A" below are used for evaluating data.

SGS AXYS confidential, not to be distributed without written permission

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

The following modifications have been made to EPA Methods 8290 and 8290A:

1. Procedures described in section "Modifications to EPA Method 1613B" of this document are applicable.
2. The concentrations of the initial calibration solutions, surrogate standard solution and recovery standard solution are modified to be those described in table "Concentration of PCDD/PCDF Calibration Solutions" found on pages 3-4 of this document.
3. The amount of surrogate standard and recovery standard added to each sample are modified to be as described in table "Concentration of PCDD/PCDF Calibration Solutions" found on pages 3-4 of this document.
4. Sample Specific Estimated Detection Limits (EDL) are reported as Sample Specific Detection Limits (SDL), calculated as described in sections "4. Quantification Procedures" and "4.1 Reporting Limits" of this document.

QC Criteria for PCDD/F Analysis by EPA 8290/8290A

Initial Calibration	Native analytes: ±20% RSD for mean RRF Labelled Compounds: ±30% RSD for mean RRF
CAL-VER	Native Analytes: RRF must be ±20% of mean RRF from ICAL Labelled Compounds: RRF must be ±30% of mean RRF from ICAL
Sample Surrogate Recovery	40-135% (lower or higher recoveries for the procedural blank may be accepted based on analyst professional judgement.)
Spiked Reference Sample	In house specification: 70%-130% of the expected value for all targets except 1,2,3,7,8,9-HxCDF, which is 60%-140%. Professional judgement may be applied in consideration of overall QC data, including MS/MSD to determine acceptability.
Analysis Duplicate	Must agree to within 25% RPD
MS/MSD	Must agree to within 20% RPD

Analyte Ions Monitored, Surrogates Used and RRF Determination for Dioxins/Furans by EPA 8290/8290A

Analytes	Quantification Ion (m/z)	Confirmation Ion (m/z)	Surrogate	RRF Determined From
2,3,7,8-TCDD	319.8965	321.8936	$^{13}C_{12}$-2,3,7,8-TCDD	2,3,7,8-TCDD
1,2,3,7,8-PeCDD	353.8576	355.8546	$^{13}C_{12}$-1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDD
1,2,3,4,7,8-HxCDD	389.8156	391.8127	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1,2,3,4,7,8-HxCDD
1,2,3,6,7,8-HxCDD	389.8156	391.8127	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDD
1,2,3,7,8,9-HxCDD	389.8156	391.8127	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD
1,2,3,4,6,7,8-HpCDD	423.7767	425.7737	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDD
OCDD	457.7377	459.7348	$^{13}C_{12}$-OCDD	OCDD
2,3,7,8-TCDF	303.9016	305.8987	$^{13}C_{12}$-2,3,7,8-TCDF	2,3,7,8-TCDF

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

1,2,3,7,8-PeCDF	339.8597	341.8568	$^{13}C_{12}$-1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDF
2,3,4,7,8-PeCDF	339.8597	341.8568	$^{13}C_{12}$-1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF
1,2,3,4,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDF
1,2,3,6,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF
2,3,4,6,7,8-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	2,3,4,6,7,8-HxCDF
1,2,3,7,8,9-HxCDF	373.8207	375.8178	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1,2,3,7,8,9-HxCDF
1,2,3,4,6,7,8-HpCDF	407.7818	409.7788	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDF
1,2,3,4,7,8,9-HpCDF	407.7818	409.7788	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF
OCDF	441.7428	443.7398	$^{13}C_{12}$-OCDD	OCDF

Labelled Surrogate Stds	**Quantification Ion (m/z)**	**Confirmation Ion (m/z)**	**Recovery Calculated Using**
$^{13}C_{12}$-2,3,7,8-TCDF	315.9419	317.9389	$^{13}C_{12}$-1,2,3,4-TCDD
$^{13}C_{12}$-2,3,7,8-TCDD	331.9368	333.9339	$^{13}C_{12}$-1,2,3,4-TCDD
$^{13}C_{12}$-1,2,3,7,8-PeCDF	351.9000	353.8970	$^{13}C_{12}$-1,2,3,4-TCDD
$^{13}C_{12}$-1,2,3,7,8-PeCDD	365.8978	367.8949	$^{13}C_{12}$-1,2,3,4-TCDD
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	383.8639	385.8610	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	401.8559	403.8530	$^{13}C_{12}$-1,2,3,7, 8,9-HxCDD
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	417.8250	419.8220	$^{13}C_{12}$-1,2,3,7,8,9 -HxCDD
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	435.8169	437.8140	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD
$^{13}C_{12}$-OCDD	469.7780	471.7750	$^{13}C_{12}$-1,2,3,7,8,9-HxCDD
Labelled Recovery Stds			
$^{13}C_{12}$-1,2,3,4-TCDD	331.9368	333.9339	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	401.8559	403.8530	

SGS AXYS confidential, not to be distributed without written permission

WINDWARD ENVIRONMENTAL

CORRELATION TABLE

DIOXIN/FURAN ANALYSIS

Lab Name: SGS AXYS Analytical Services Ltd.	**Project Manager: Georgina Brooks**
Project: N/A	**Contract No: 4033**
Project Name: Clam PO# 2018-0065	**SGS AXYS Method: MLA-017**
Data Package Identification: DPWG64816	**Program: Tissue Samples**
Client Sample No.	**Lab Sample ID**
LAB BLANK	WG64557-101
OPR	WG64557-102
CERTIFIED REFERENCE MATERIAL	WG64557-104
LDW18-C01-CLWB-Comp2	L29626-1 WG64557-103 DUPLICATE
LDW18-C02-CLWB-Comp2	L29626-2
LDW18-C03-CLWB-Comp2	L29626-3
LDW18-C04-CLWB-Comp2	L29626-4
LDW18-C05-CLWB-Comp2	L29626-5
LDW18-C06-CLWB-Comp2	L29626-6
LDW18-C08-CLWB-Comp2	L29626-7
LDW18-C10-CLWB-Comp2	L29626-8
LDW18-C11-CLWB-Comp2	L29626-9

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical	No.	AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/19/18	1027	LDW18-IT45-B1-Comp1	1	Sediment	X							L29625-1
6/19/18	1038	LDW18-IT45-B1-Comp2	1	Sediment	X							-2
6/19/18	1050	LDW18-IT45-B1-Comp3	1	Sediment	X							-3
6/19/18	1025	LDW18-IT45-B1-Comp1-FD	1	Sediment	X							-4
6/19/18	1038	LDW18-IT45-B1-Comp2-FD	1	Sediment	X							-5
6/19/18	1050	LDW18-IT45-B1-Comp-3-FD	1	Sediment	X							-6
6/19/18	1155	LDW18-IT45-B2-Comp1	1	Sediment	X							-7
6/19/18	1203	LDW18-IT45-B2-Comp2	1	Sediment	X							-8
6/19/18	1152	LDW18-IT45-B2-Comp3	1	Sediment	X							-9
6/19/18	1124	LDW18-IT45-B4-Comp1	1	Sediment	X							-10
6/19/18	1140	LDW18-IT45-B4-Comp2	1	Sediment	X							-11
6/19/18	1140	LDW18-IT45-B4-Comp3	1	Sediment	X							-12
Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	YARED LISANEWORK	
Signature: Stephanie Fisher			
Company: ARI	YL #736	YL #736	SGS-AXYS
Date/Time: 7/2/18 1705	7/2/18 17:05	07/03/18 8:53AM	03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical		No.AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/19/18	1122	LDW18-IT45-B5-Comp1	1	Sediment	X							L29625-13
6/19/18	1108	LDW18-IT45-B5-Comp2	1	Sediment	X							-14
6/19/18	1110	LDW18-IT45-B5-Comp3	1	Sediment	X							-15
6/20/18	1128	LDW18-IT45-B3-Comp1	1	Sediment	X							-16
6/20/18	1130	LDW18-IT45-B3-Comp2	1	Sediment	X							-17
6/20/18	1138	LDW18-IT45-B3-Comp-3	1	Sediment	X							-18
6/20/18	1010	LDW18-IT45-B6-Comp1	1	Sediment	X							-19
6/20/18	1019	LDW18-IT45-B6-Comp2	1	Sediment	X							-20
6/20/18	1059	LDW18-IT45-B6-Comp3	1	Sediment	X							-21
6/20/18	1032	LDW18-IT45-B6-Comp1-FD	1	Sediment	X							-22
6/20/18	1045	LDW18-IT45-B6-Comp2-FD	1	Sediment	X							-23
6/20/18	1114	LDW18-IT45-B6-Comp3-FD	1	Sediment	X							-24
		Total Number of Containers	12	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: AR1	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 7/12/18 17:05	Date/Time: 07/03/18 8:53 AM	Date/Time: 03-Jul-2018

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical	No.	AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/20/18	1055	LDW18-IT45-B7-Comp1	1	Sediment	X							L29625-25
6/20/18	1105	LDW18-IT45-B7-Comp2	1	Sediment	X							-26
6/20/18	1120	LDW18-IT45-B7-Comp3	1	Sediment	X							-27
6/20/18	1012	LDW18-IT45-B8-Comp1	1	Sediment	X							-28
6/20/18	1025	LDW18-IT45-B8-Comp2	1	Sediment	X							-29
6/20/18	1039	LDW18-IT45-B8-Comp3	1	Sediment	X							-30
Total Number of Containers			6	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: AXYS	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 7/2/18 17:05	Date/Time: 07/03/18 8:53AM	Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

4033

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Sediment Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/14/18	1215	LDW18-BNK2-1	1	Sediment	X							L29625-31
Total Number of Containers			1	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie FISnell	Yared Lisanework	Yared Lisanework	
Signature: Stephanie FISnell			
Company: ARI	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 07/02/18 1705	Date/Time: 07/03/18 8:53 AM	Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Sediment Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Freeze and Hold							Comments / Instructions [Composite/Bag ID]
5/15/2018	1023	LDW18-SSOT-2510	1	Sediment	X							L29625-32
5/15/2018	1303	LDW18-SSOT-2114	1	Sediment	X							-33
Total Number of Containers			2	Purchase Order / Statement of Work # PO 2018-0053								

1) Released by:
Print name: Stephanie Fisher
Signature: Stephanie Fisher
Company: ANJ
Date/Time: 7/2/18 1705

1) Rec'd by:
Print name: Yared Lisaneworke
Company: YL # 736
Date/Time: 07/02/18 17:05

2) Released by:
Print name: Yared Lisaneworke
Signature:
Company: YL # 736
Date/Time: 07/03/18 8:53 AM

2) Rec'd by:
Company: SGS AXYS
Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Clam Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan	PCB Congeners						Comments / Instructions [Composite/Bag ID]
		LDW18-C01-CLWB-Comp2	1	Tissue	X							L29626-1
		LDW18-C02-CLWB-Comp2	1	Tissue	X							-2
		LDW18-C03-CLWB-Comp2	1	Tissue	X							-3
		LDW18-C04-CLWB-Comp2	1	Tissue	X							-4
		LDW18-C05-CLWB-Comp2	1	Tissue	X							-5
		LDW18-C06-CLWB-Comp2	1	Tissue	X							-6
		LDW18-C08-CLWB-Comp2	1	Tissue	X							-7
		LDW18-C10-CLWB-Comp2	1	Tissue	X							-8
		LDW18-C11-CLWB-Comp2	1	Tissue	X							-9
Total Number of Containers			9	Purchase Order / Statement of Work # PO 2018-0065								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: AR	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 07/02/18 1710	Date/Time: 07/03/18 8:53 AM	Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

Chain of Custody Record & Laboratory Analysis Request

4033

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: WINDWARD	Phone:
Client Contact: AMARA VANDERVORT	
Client Project Name: PUWAMISH	
Client Project #:	Samplers:

Page: 1 of 2	
Date:	Ice Present?
No. of Coolers:	Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
LOW18-PWPS-A01	06/22/18	2:45pm	Polyethylene	1		L29627-1
LOW18-PWPS-A02	"	"	"	"		-2
LOW18-PWPS-A03	"	"	"	"		-3
LOW18-PWPS-A04	"	"	"	"		-4
LOW18-PWPS-A05	"	"	"	"		-5
LOW18-PWPS-A06	"	"	"	"		-6
LOW18-PWPS-A07	"	"	"	"		-7
LOW18-PWPS-A08	"	"	"	"		-8
LOW18-PWPS-A09	"	"	"	"		-9
LOW18-PWPS-A10	"	"	"	"		-10

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: SOSE GOMEZ-EYLES	Printed Name: S DUNNIHO	Printed Name: Stephanie Fisher	Printed Name: YARED LISANEWORK
	Company: INTEGRAL CONSULTING	Company: ARI	Company: ARI	Company: YL #736
	Date & Time: 06/22/18 2:45pm	Date & Time: 06/22/18 14:45	Date & Time: 7/2/18 1705	Date & Time: 07/02/18 17:05

YARED LISANEWORK 8:53 AM ⇒ 07/03/18

Received by: SGS-AXYS 05-Jul-2018 8:50

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

www.axysanalytical.com

4033

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: WINDWARD	Phone:
Client Contact: AMARA VANPELVORT	
Client Project Name: DUWAMISH	
Client Project #:	Samplers:

Page: 2 of 2

Date: | Ice Present?

No. of Coolers: | Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
LOWI8-PWPS-A11	06/22/18	2:45pm	Aqueous	1		L29627-11
LOWI8-PWPS-A11.Dup	"	"	"	"		-12
LOWI8-PWPS-A12	"	"	"	"		-13
LOWI8-PWPS-A13	"	"	"	"		-14
LOWI8-PWPS-A17	"	"	"	"		-15
LOWI8-PWPS-A18	"	"	"	"		-16
LOWI8-PWPS-A19	"	"	"	"		-17
LOWI8-PWPS-EXPBLK_PATH	"	"	"	"		-18

Comments/Special Instructions

Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Printed Name: JOSE GOMEZ-EYLES	Printed Name: DUNNIHOO	Printed Name: Stephanie Fisher	Printed Name: YARED LISANEWORK
Company: INTEGRAL CONSULTING	Company: ARI	Company: ARI	Company: YL #736
Date & Time: 06/27/18 2:45pm	Date & Time: 06/27/18 14:45	Date & Time: 7/2/18 1705	Date & Time: 07/02/18 17:05

YARED LISANEWORK 8:53 AM 07/03/18

Received by: SGS-AXYS 03-Jul-2018 8:50

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Seep Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks Shipping Date: 5/15-5/18/18
Shipper: Courier Airbill Number: N/A
Form filled out by: A. Vandervort Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Composite/Bag ID]
					Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					
6/11/18	1612	LDW18-SP-RB1	2	Water	X	X			L29628		-1	Please HOLD PCB Congener Sample
6/11/18	1637	LDW18-SP-RB2	2	Water			X				-2	Sample on Hold
6/12/18	1206	LDW18-SP-30	1	Water			X				-3	Sample on Hold
6/12/18	0919	LDW18-SP-32	1	Water			X				-4	Sample on Hold
6/12/18	1056	LDW18-SP-35	1	Water			X				-5	Sample on Hold
6/12/18	1027	LDW18-SP-38	1	Water			X				-6	Sample on Hold
6/12/18	1205	LDW18-SP-42	2	Water	X	X					-7	Please HOLD PCB Congener Sample
6/12/18	1300	LDW18-SP-43	1	Water			X				-8	Sample on Hold
6/13/18	0953	LDW18-SP-06	1	Water			X				-9	Sample on Hold
6/13/18	1217	LDW18-SP-33	1	Water			X				-10	Sample on Hold
6/13/18	1235	LDW18-SP-24	2	Water	X	X					-11	Please HOLD PCB Congener Sample
6/13/18	1242	LDW18-SP-24-FD	2	Water	X	X					-12	Please HOLD PCB Congener Sample
Total Number of Containers			17	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by: Stephanie Fisher
Print name: Stephanie Fisher
Signature: Stephanie Fisher
Company: ART
Date/Time: 7/2/18 1705

1) Rec'd by: YARED LISANEWORK
Company: YC#736
Date/Time: 07/2/18 17:05

2) Released by:
Print name: Yared Lisanework
Signature:
Company: YC#736
Date/Time: 07/03/18 8:53 AM

2) Rec'd by:
Company: SGS-AXYS
Date/Time: 03-Jul-2018 8:30

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Seep Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					Comments / Instructions [Composite/Bag ID]
6/14/18	1408	LDW18-SP-05	1	Water			X		L29628 -		13	Sample on Hold
6/14/18	1041	LDW18-SP-57	2	Water	X	X					-14	Please HOLD PCB Congener Sample
6/14/18	1308	LDW18-SP-73	1	Water			X				-15	Sample on Hold
6/14/18	1314	LDW18-SP-74	1	Water			X				-16	Sample on Hold
6/14/18	1210	LDW18-SP-77	2	Water	X	X					-17	Please HOLD PCB Congener Sample
6/14/18	1204	LDW18-SP-78	2	Water	X	X					-18	Please HOLD PCB Congener Sample
6/14/18	0950	LDW18-SP-79	2	Water	X	X					-19	Please HOLD PCB Congener Sample
6/14/18	0953	LDW18-SP-84	1	Water			X				-20	Sample on Hold
6/14/18	1111	LDW18-SP-87	2	Water	X	X					-21	Please HOLD PCB Congener Sample
6/15/18	1133	LDW18-SP-01	2	Water	X	X					-22	Please HOLD PCB Congener Sample
6/15/18	1345	LDW18-SP-45	1	Water			X				-23	Sample on Hold
6/15/18	1316	LDW18-SP-47	1	Water			X				-24	Sample on Hold
Total Number of Containers			18	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by: Print name: Stephanie Fisher Signature: Stephanie Fisher Company: ADI Date/Time: 7/2/18 1105

1) Rec'd by: YARED LISANEWORK Company: YL #736 Date/Time: 07/02/18 17:05

2) Released by: Print name: Yared Lisanework Signature: Company: YL #736 Date/Time: 07/03/18 8:53AM

2) Rec'd by: Company: SGS-AXYS Date/Time: 03-Jul-2018 8:30

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Seep Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					Comments / Instructions [Composite/Bag ID]
6/15/18	1325	LDW18-SP-66	2	Water	X	X			L291628-	25		Please HOLD PCB Congener Sample
6/15/18	1113	LDW18-SP-70	2	Water	X	X				-	26	Please HOLD PCB Congener Sample
6/15/18	1208	LDW18-SP-83	1	Water			X			-	27	Sample on Hold
6/15/18	1219	LDW18-SP-86	2	Water	X	X				-	28	Please HOLD PCB Congener Sample
6/15/18	1052	LDW18-SP-88	2	Water	X	X				-	29	Please HOLD PCB Congener Sample
Total Number of Containers			9	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: ARI	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 07/02/18 17:05	Date/Time: 07/03/18 8:53AM	Date/Time: 03-Jul-2018 8:30

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No)
Waybill #: HANDDELIVERY#3
Date Shipped: 03-JUL-18
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number:
Receipt No: WB23997

Login Number:

Received By: ABODDY
Log in by: Ava Voskuilen Signature: AV

Axys Sample ID's: L29625-1 to -21

Matrix Type: Solid

Condition of Shipping Container: Intact.

Temperature upon Receipt: 1.7 Celcius Ice bags thawing

Thermometer ID: 5613
Corrected Temperature: 2.2 Celcius

Custody Seals: Shipping Containers Yes /(No) Intact Yes /No Seal Numbers Yes /No
Samples Yes /(No) Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	Yes /(No)
Sample ID's	(Yes) /No	Sample Tag Numbers	Yes /(No)
Collection Location	Yes /(No)	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /No	Preservative Added	Yes /(No)
Collector's Name	Yes /(No)	Preservation Requested	Yes /(No)

Sample Tags	Yes /(No)		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No) Waybill #: **HANDDELIVERY#5**
Date Shipped: **03-JUL-18** Date /Time Received: **03-JUL-18 08:50**
SGS AXYS Client & Contract # **4033-Windward Environmental**
Project Number: Receipt No: **WB23999**
Login Number:

Received By: **ABODDY** Log in by: Ava Voskrundson Signature: AVe
Axys Sample ID's: L29627-1 to-18, L29626-1 to-9, L29625-22 to-33
Matrix Type: **S**
Condition of Shipping Container: Intact.
Temperature upon Receipt: **1.2 Celcius** **Ice bags thawing** Thermometer ID: **5595**
Corrected Temperature: **1.6 Celcius**

Custody Seals: Shipping Containers **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**
Samples **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	Yes /(No)
Sample ID's	(Yes) /No	Sample Tag Numbers	Yes /(No)
Collection Location	Yes /(No)	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /(No)	Preservative Added	Yes /(No)
Collector's Name	Yes /(No)	Preservation Requested	Yes /(No)

Sample Tags	Yes /(No)		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /(No)
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments: L29626-1 to-9 did not have Sampling dates or times.
L29627-12 has a Label Discrepancy
Label on c.o.c = LDW18-PWPS-All.Dup
Label on Jar = LDW18-PWPS-All Dup

Action Taken: logged in as per C.o.C

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /No
Date Shipped: 03-JUL-2018

Waybill #: HANDDELIVERY#1
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number:

Receipt No: WB23995

Login Number:

Received By: ABODDY

Log in by: KDey

Signature:

Axys Sample ID's: L29628-1 to 11

Matrix Type: AQ

Condition of Shipping Container: Intact

Temperature upon Receipt: 5.3 Celcius Ice bags thawing

Thermometer ID: 5597
Corrected Temperature: 5.7 Celcius

Custody Seals: Shipping Containers Yes /No Intact Yes /No Seal Numbers Yes /No
Samples Yes /No Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No)
Date Shipped: 03-JUL-18
Waybill #: HANDDELIVERY#2
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental
Project Number:
Receipt No: WB23996
Login Number:

Received By: ABODDY
Log in by: KDay
Signature:
Axys Sample ID's: L29628-12 to 21 (1/2)
Matrix Type: AQ

Condition of Shipping Container: Intact.
Temperature upon Receipt: 6 Celcius Ice bags thawing
Thermometer ID: 5615
Corrected Temperature: 6.5 Celcius

Custody Seals: Shipping Containers Yes /(No) Intact Yes /No Seal Numbers Yes /No
Samples Yes /(No) Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

arrived above temperature

Action Taken:

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No) Waybill #: **HANDDELIVERY#4**

Date Shipped: **03-JUL-18** Date /Time Received: **03-JUL-18 08:50**

SGS AXYS Client & Contract # **4033-Windward Environmental**

Project Number: Receipt No: **WB23998**

Login Number:

Received By: **ABODDY** Log in by: KDuy Signature:

Axys Sample ID's: L29628-21(2/2), 22 to 29

Matrix Type: **AQ**

Condition of Shipping Container: Intact

Temperature upon Receipt: **4.3 Celcius** **Ice bags thawing** Thermometer ID: **5610**

Corrected Temperature: **4.4 Celcius**

Custody Seals: Shipping Containers **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**

Samples **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	(Yes) /No
Sample ID's	(Yes) /No	Sample Tag Numbers	(Yes) /No
Collection Location	(Yes) /No	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /No	Preservative Added	(Yes) /No
Collector's Name	(Yes) /No	Preservation Requested	(Yes) /No

Sample Tags	(Yes) /No		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

FSA-015 Rev09, 22-Jan-2013

4033

#5

RECEIVED
JUL 0 3 2018

8:50am

Ice Bags thawing

1.2°C

5595

www.axysanalytical.com

4033

#3

8:50 am

Ice Bags thawing

1.7 °C

5613

www.axysanalytical.com

4033

#4

RECEIVED
JUL 03 2018

8:50 am

Ice Bags thawing

4.3

5610

4033

#1

8:50 am

Ice Bags thawing

5597

5.3 °C

4033

#2

8:50am

Ice Bags thawing

6.0 C

5615

www.axysanalytical.com

4033
04-Jul-2018

WB23999

L29627-1 to -18
L29626-1 to -9
L29625-22 to -33

WB23997

L29625-1 to -21

processed by: AVK
04-Jul-2018

www.axysanalytical.com

~~4033~~

~~WB23995~~

L29628-1 to -11

~~WB23996~~

L29628-12 to -21 (1/2)

~~WB23998~~

L29628-21 2/2, -22 to -29

Processed by: BOD 04-Jul-2018

for scanning
JBrooks
05-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-1		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp1				
19-JUN-18 10:27	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-2		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp2				
19-JUN-18 10:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-3		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp3				
19-JUN-18 10:50	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-4		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp1-FD				
19-JUN-18 10:25	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-5		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp2-FD				
19-JUN-18 10:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-6		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp3-FD				
19-JUN-18 10:50	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-7		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp1				
19-JUN-18 11:55	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-8		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp2				
19-JUN-18 12:03	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-9		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp3				
19-JUN-18 11:52	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-10		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp1				
19-JUN-18 11:24	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-11		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp2				
19-JUN-18 11:40	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-12		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp3				
19-JUN-18 11:40	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-13		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp1 19-JUN-18 11:22	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-14		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp2 19-JUN-18 11:08	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-15		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp3 19-JUN-18 11:10	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-16		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp1 20-JUN-18 11:28	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-17		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp2 20-JUN-18 11:30	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-18		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp3 20-JUN-18 11:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-19		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp1 20-JUN-18 10:10	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-20		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp2 20-JUN-18 10:19	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-21		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp3 20-JUN-18 10:59	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29625-22			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp1-FD					
20-JUN-18 10:32		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD
L29625-23			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp2-FD					
20-JUN-18 10:45		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD
L29625-24			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp3-FD					
20-JUN-18 11:14		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-25		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp1 20-JUN-18 10:55	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-26		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp2 20-JUN-18 11:05	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-27		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp3 20-JUN-18 11:20	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-28		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp1 20-JUN-18 10:12	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-29		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp2 20-JUN-18 10:25	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-30		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp3 20-JUN-18 10:39	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-31		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-BNK2-1				
14-JUN-18 12:15	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-32		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-SSOT-2510				
15-MAY-18 10:23	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOLD		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-33		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-SSOT-2114				
15-MAY-18 13:03	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOLD		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

www.axysanalytical.com

Revised to add PCBs.

for scanning
JBrooks
12-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 12, 2018
05:20 PM

Login Number: L29626
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-1		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C01-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-2		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C02-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-3		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C03-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 12, 2018

05:20 PM

Login Number: L29626

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-4		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C04-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-5		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C05-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-6		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C06-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 12, 2018

05:20 PM

Login Number: L29626

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-7		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C08-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-8		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C10-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-9		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C11-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

www.axysanalytical.com

for scanning
JBrooks
06-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 06, 2018
03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-1		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A01		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-2		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A02		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-3		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A03		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE		:	USD
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-4		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A04		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-5		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A05		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-6		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A06		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-7		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A07		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-8		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A08		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-9		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A09		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-10		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A10		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-11		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A11		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-12		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A11.Dup		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-13		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A12		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-14		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A13		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-15		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A17		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-16		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A18		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-17		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A19		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-18		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-PWPS-ExpBlk_PAH		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

www.axysanalytical.com

for scanning
9Brooks
9-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-1		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-RB1				
11-JUN-18 16:12	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-2		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-RB2				
11-JUN-18 16:37	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-3		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-30				
12-JUN-18 12:06	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-4		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-32				
12-JUN-18 09:19	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-5		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-35				
12-JUN-18 10:56	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-6		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-38				
12-JUN-18 10:27	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-7		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-42				
12-JUN-18 12:05	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-8		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-43				
12-JUN-18 13:00	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-9		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-06				
13-JUN-18 09:53	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-10		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-33				
13-JUN-18 12:17	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-11			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-24					
13-JUN-18 12:35		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-12			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-24-FD					
13-JUN-18 12:42		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-13			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-05					
14-JUN-18 14:08		Project #: DUWAMISH 2017			
Comments: HOLD					
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	HOLD		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		1	: 1 L glass AMB	USD
L29628-14			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-57					
14-JUN-18 10:41		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-15		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-73				
14-JUN-18 13:08	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-16		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-74				
14-JUN-18 13:14	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-17			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-77 14-JUN-18 12:10		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-18			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-78 14-JUN-18 12:04		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-19			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-79					
14-JUN-18 09:50		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-20			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-84					
14-JUN-18 09:53		Project #: DUWAMISH 2017			
Comments: HOLD					
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	HOLD			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-21			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-87					
14-JUN-18 11:11		Project #: DUWAMISH 2017			
Comments: 2/2 rec'd in WB23998					
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-22			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-01					
15-JUN-18 11:33		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-23		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-45				
15-JUN-18 13:45	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-24		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-47				
15-JUN-18 13:16	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-25		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-66				
15-JUN-18 13:25	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-26		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-70				
15-JUN-18 11:13	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-27		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-83				
15-JUN-18 12:08	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-28		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-86				
15-JUN-18 12:19	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-29			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-88 15-JUN-18 10:52		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

www.axysanalytical.com

4033

Brooks, Georgina (Sidney) L29626

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Thursday, July 12, 2018 7:47 AM
To: Brooks, Georgina (Sidney)
Subject: Duwamish Clam Samples for PCB Congener Analysis

Good morning,
EPA has approved the proposed list for PCB Congener analysis in the clam homogenates. The table below list the 6 samples to be analyzed and the 3 to be held. EPA will review the Aroclor and congener data after analyses is complete and would like the remaining 3 samples to be held frozen until they decide if they would like them analyzed as well, please.

Composite ID	Analyze	Hold	L29626
LDW18-C01-CLWB-Comp2	X	---	-1
LDW18-C02-CLWB-Comp2	X	---	-2
LDW18-C03-CLWB-Comp2	---	X	-3
LDW18-C04-CLWB-Comp2	X	---	-4
LDW18-C05-CLWB-Comp2	---	X	-5
LDW18-C06-CLWB-Comp2	X	---	-6
LDW18-C08-CLWB-Comp2	X	---	-7
LDW18-C10-CLWB-Comp2	---	X	-8
LDW18-C11-CLWB-Comp2	X	---	-9

Please let me know if you have any questions. Thanks. -Amara

BATCH ID: WG64557

Method ID: MLA-017 R20.10	
Method ID:	
Method ID:	
Analyst:	
Start Date:	**17-Jul-2018**
Batch List Author:	JHOLLEY
Checked By:	JCM.
Project Manager:	Georgina B
Glassware Type:	**Regular**
Glassware Treatment:	**Regular**
Rotovap Type:	**Regular**

Matrix:	**Tissue**
Sample size:	**10 g**
Moistures required?	**NO**
Lipids required?	**NO**
Extraction Solvent:	1:1 DCM Hexane
Biohazard Type:	**None**

Comments:

IHQC DX Tissue MDL Q3 1/2

For CRM use 10g of CARP-2 (SC6775). Follow the rinse instructions for the CRM as written on the ampoule.

Calibration: | DX041D-CAL/

previous WG's associated with samples:

; #Keep Discards: 0

Contract #	Sample	Wt	Contract #	Sample	Wt
4033	L29626-1	10 g			
4033	L29626-2	10 g			
4033	L29626-3	10 g			
4033	L29626-4	10 g			
4033	L29626-5	10 g			
4033	L29626-6	10 g			
4033	L29626-7	10 g			
4033	L29626-8	10 g			
4033	L29626-9	10 g			

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
DX017.1613	L29626-1, 2, 3, 4, 5, 6, 7, 8, 9. WG64557-101, 102, 103, 104, 105	JLH (7099) #215 **20uL DX049A-SUR/03**	KE (7123) #17 **20uL DX050A-SUR/01**	JLH (81, 82) 10uL DX021A-REC/01 (7122).	20 uL	GCMS	

BATCH ID: WG64557

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG64557-101 BLANK	0.3G SC5399 CANOLA OIL	DX017.1613		
WG64557-102 SPM	10G SC5205 L500-30 (15T-REF)	DX017.1613	1000uL DX036A-AUT/03 #235 #237	JLH (exact). JLH 17Jul2018
WG64557-103 DUP	CHOOSE LARGEST SAMPLE AND UPDATE LIMS	DX017.1613		
WG64557-104 CRM	10G CARP-2 (SC6775)	DX017.1613		
WG64557-105 MDL	0.3G SC5399 CANOLA OIL	DX017.1613	100uL DX038A-AUT/01 #27	JLH (7113A).

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

www.axysanalytical.com

WorkGroup: WG64557

Sample	Contract	Product	Matrix	Lab Code	Additional Work Action	Reason	Requested by/date		Lab Completed by/Date		Inst. Completed by/Date		Remedial Action
L29626-3	4033	DX017.1613	T	I	REINJECT	instrumental disruption	KBOWES	27/Jul/2018			TDO	28/Jul/2018	
L29626-5	4033	DX017.1613	T	I	REINJECT	potential sample carryover	KBOWES	27/Jul/2018			TDO	28/Jul/2018	

Reviewed by/Date: Jul 31-Jul 18

Date created: 30-Jul-2018

Copy of ExWorkSummary.xls

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64557 Date: 17JUL2018 Analyst: MM / JM Contract #: NONE

Method: MLA-017 R20.10

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
WG64557-101 (BLANK)	Procedural Blank: clear pale yellow liquid	SC5399 Canola oil Reference Material Jar #1	MM 17JUL2018 ☐
WG64557-102 (SPM)	Spiked matrix: moist pink beige tissue	SC5205 L500-30 15TREF Jar # 50 of 165	☐
WG64557-105 (MDL)	Method detection limit: clear pale yellow liquid	SC5399 Canola oil Reference Material Jar #1	☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64557 Date: 17JUL2018 Analyst: LMM/JLM Contract #: 4033

Method: MLA-017 R20.10

Sample ID	Sample Type and Description	Original Labelling	LiMS label correct as per client
L29626-1	wet yellow-green tissue	LDW18 - C01 - CLWB - Comp2	LMM 17JUL2018 ☐
L29626-2	wet yellow-green tissue	LDW18 - C02 - CLWB - Comp2	☐
L29626-3	wet yellow-green tissue	LDW18 - C03 - CLWB - Comp2	☐
L29626-4	wet yellow-green tissue	LDW18 - C04 - CLWB - Comp2	☐
L29626-5	wet yellow-green tissue	LDW18 - C05 - CLWB - Comp2	☐
L29626-6	wet yellow-green tissue	LDW18 - C06 - CLWB - Comp2	☐
L29626-7	wet yellow-green tissue	LDW18 - C08 - CLWB - Comp2	☐
L29626-8	wet green-brown tissue	LDW18 - C10 - CLWB - Comp2	☐
L29626-9	wet green tissue	LDW18 - C11 - CLWB - Comp2	☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64557 Date: 17JUL2018 Analyst: JLM / SCM Contract #: 4033

Method: MLA-017 R20.10

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
WG64557-103 (DUP)	Duplicate of L296226-1: wet yellow-green tissue	LDW18 - C01 - CLWB - Comp 2	JLM 17JUL2018 ☐
WG64557-104 (CRM)	Certified Reference Material: yellow liquid tissue	SC6775 #13 CARP-2	☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

SGS AXYS Analytical Services Ltd.

Sample Wt & Moistures: Batch ID: WG64557 Date: 17Jul2018 Chemist: JCM. Balance or Syringe # 5460/3545

Method: MLA-017 R20.10

Sample ID	Moisture (SLA-015) (all weights in grams)						Sample Wt or Vol (SLA-085) (g or mL)	Backup (g) 17Jul2018.
	Tare (a)	Tare + Wet	Tare + dry	Tare (b)	Tare + wet	Tare + dry		
L29626-1							10.06	30 20
L29626-2							9.65	30
L29626-3							9.97	30
L29626-4						JLH 25Jul2018.	10.41	30
L29626-5							10.33	30
L29626-6							10.24	30
L29626-7							10.02	30
L29626-8							10.15	30
L29626-9							10.55	30
WG64557-101 (BLANK)							0.301	N/A
WG64557-102 (SPM)							10.07	N/A
WG64557-103 (DUP)							9.92	20
WG64557-104 (CRM)					17.594	8.358	9.236	N/A
WG64557-105 (MDL)							0.299	N/A

Moistures into oven: Date: _____ Time: _____ Temperature: _____ Chemist: _____ Oven #: 3264

Out of Oven: Date: _____ Time: _____ Temperature: _____ Chemist: _____ JLH 25Jul2018.

Reviewed by JLH date 25Jul2018

SGS AXYS Analytical Services Ltd.

Extraction Information: Batch ID: WG64557 Date: 17Jul2018 Analyst: UMM

Method: MLA-017 R20.10

Aqueous Extraction Information:

Stirring: Solvent used: DCM Lot/batch #: _____ Volume: _____mL Chemist: _____

Start Date: _____ time: _____ end Date: _____ time: _____

Shaking: Solvent used: DCM Lot/batch #: _____ # of shakes: _____ Volume: _____mL Chemist: _____

Date: _____ time: _____

UMM 17Jul2018

☐ Aqueous Particulate

Solids/Tissue Extraction Information:

Soxhlet: ✓ Dean Stark: ____ Steam Distillation: ____ Base Digest: ____

Drying: Drying Time: 2:30 mins Analyst: UMM Reagent: Na_2SO_4 Lot/batch #: 106

Extraction Solvent used: 1:1 DCM:Hex Volume: 300 mL Lot/batch #: 1262-04, 1261-04

Other reagent used: _____ Amount: _____ Lot/batch #: _____ UMM 17Jul2018

Other reagent used: _____ Amount: _____ Lot/batch #: _____

Begin: Date: _____ Time: _____ Analyst: _____ **End:** Date: _____ Time: _____ Analyst: _____

Begin: Date: 17Jul2018 Time: 14:40 Analyst: UMM **End:** Date: 18Jul.2018 Time: 7:00 Analyst: AB

www.axysanalytical.com

AXYS Analytical Services Ltd

Spiking Sheet: Batch ID: WG64557 Method: MLA-017 R20.10 JCM 17Jul2018.

Witness name/ initials: ~~Jamie McGuire/JCM~~ Laura Paulin/LMM

Sample ID	**Before extraction** Surr. ID: DX049A-SUR/03 Date: 17Jul2018 Vol.: 20 µL Syringe#: 7099 Ampoule: 215 Analyst: JCM		**Before extraction** Surr. ID: Date: Vol.: µL Syringe#: Ampoule: Analyst:		**Cleanup Std.** Surr.: Date: Vol.: µL Syringe#: Ampoule: Start time: Fin. time:	**Cleanup Std.** Surr.: DX050A-SUR/01 Date: 23JUL2018 Vol.: 20 µL Syringe#: #7123 Ampoule: #17 Start time: 8:00 Fin. time: 8:10	**Recovery** Surr.: Date: Vol.: µL F.V.: µL Syringe#: Ampoule: Start time: Fin. time:	**Recovery** Surr.: DX021A-RZ C/01 Date: 25 Jul. 2018 Vol.: 10 µL F.V.: 20 µL Syringe#: 7122 Ampoule: [81,82] Start time: 12:46 Fin. time: 12:56
	Time	Witness	Time	Witness	Analyst:	Analyst: RA	Analyst:	Analyst: KE
L29626-1	12:12	LMM			☐	☑	☐	☑
L29626-2	12:12	LMM			☐	☑	☐	☑
L29626-3	12:12	LMM			☐	☑	☐	☑
L29626-4	12:12	LMM			☐ KE	☑	☐	☑
L29626-5	12:13	LMM			☐	☑	☐	☑
L29626-6	12:13	LMM			☐	☑	☐	☑
L29626-7	12:13	LMM			☐	☑	☐	☑
L29626-8	12:13	LMM			☐	☑	☐	☑
L29626-9	12:14	LMM			☐	☑	☐	☑
WG64557-101 (BLANK)	12:14	LMM			☐	☑	☐	☑
WG64557-102 (SPM)	12:14	LMM			☐	☑	☐	☑
WG64557-103 (DUP)	12:14	LMM			☐	☑	☐	☑
WG64557-104 (CRM)	12:15	LMM			☐	☑	☐	☑
WG64557-105 (MDL)	12:15	LMM			☐	☑	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

25 Jul. 2018 KE

Sample ID	Authentic Std: DX036A-AUT/03 Date: 17Jul2018 Vol.: 1000 µL Syringe#: exact Ampoule#: 2357 Analyst: JCM 17JUL2018		Authentic Std: DX038A-AUT/01 Date: 17Jul2018 Vol.: 100 µL Syringe#: 7113A Ampoule#: 27 Analyst: JCM		Authentic Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:	
	Time	Witness	Time	Witness	Time	Witness
WG64557-102 SPM	12:09	LMM				
WG64557-105 MDL			12:08	LMM		

JCM 17Jul2018

25 Jul. 2018 KE

AXYS Analytical Services Ltd

Extract Cleanup - Columning, etc. **WorkGroup:** WG64557

Method: MLA-017 R20.10

Cleanup Type	Portion	Date	Time	Batch # / Type	Chemist	Pre-Elute	F1 (solvent, batch #, vol [mL])	F2 (solvent, batch #, vol [mL])	F3 (solvent, batch #, vol [mL])
A/B Si (DX)	DX	23JUL2018	11:00	20g AB Si	RA JLH 26 JUL 2018	NO	Hex # 102919, 150mL		
Fl (DX)	DX	24Jul.2018	10:00	#146, 89	KE	NO	5% DCM/Hex 50ml/# 1147-04,	DCM 150ml/# 103067	
Al (DX)	DX	25 Jul. 2018	7:10	#311	KE	NO	Hex 40ml/# 794-04 102919	2% DCM/Hex 10ml/# 1148-04	1:1 DCM:Hex 35ml/# 1235-04
CC (DX)	DX	25 Jul. 2018	8:30	#145	KE	Yes	1:1 CycHex:DCM 2ml/# 1204-04	1:1 EtAc:Tol 2ml/# 617-04	Tol 40ml/# 102517
~~BB~~							~~1:1 DCM:Hex~~	~~1:1 DCM:Hex~~	
						25 Jul. 2018 KZ			

Solvent Exchange

Before	Portion	Date	Time	Vol	Chemist
Al-CC	DX	24Jul.2018	13:30	300	KE
		JLH			
			25 JUL 2018.		

Extract Wash

Date:	
Chemist:	
Start time:	
Acid/Base Wash	**MeCN:H20 Wash**
20% KOH:	pH 10:
# times:	# times:
Water:	pH 7:
H2SO4:	pH 2:
# times:	
Water:	

Acetylation (AP)

Date:
Time (1st) (2nd)
200µL Hex:
50µL x2 Pyridine: KZ 25 Jul. 2018
lot #_____
50µL x2 Acetic Anhydride:
batch #_____
Chemist:

Ext'n After Acetylation

Date:
Start Time:
1.75 mL 0.2M K_2CO_3:
batch #_____
500µL x3 Hex:
Chemist:

Reviewed by: JLH Date: 25 JUL 2018

AXYS Analytical Services Ltd

Notes: Batch ID: WG64557 Method: MLA-017 R20.10

Date:	Analyst	Fraction	Notes:
			JLH 26Jul2018.

Reviewed by JLH date 26Jul2018.

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_088 S: 44**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_088 S: 38
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0497 (Q)		
1,2,3,7,8-PECDD [4]	U		0.0497 (Q)		
1,2,3,4,7,8-HXCDD	U		0.102 (S)		
1,2,3,6,7,8-HXCDD	J	0.188	0.102 (S)	1.10	1.001
1,2,3,7,8,9-HXCDD	K J	0.114	0.102 (S)	1.59	1.010
1,2,3,4,6,7,8-HPCDD		3.29	0.0857 (S)	0.97	1.000
OCDD		22.1	0.126 (S)	0.86	1.000
2,3,7,8-TCDF		0.395	0.0725 (S)	0.84	1.002
1,2,3,7,8-PECDF	U		0.0791 (S)		
2,3,4,7,8-PECDF	U		0.0791 (S)		
1,2,3,4,7,8-HXCDF	J	0.138	0.0497 (Q)	1.18	1.000
1,2,3,6,7,8-HXCDF	K J	0.056	0.0497 (Q)	0.79	1.000
1,2,3,7,8,9-HXCDF	U		0.0497 (Q)		
2,3,4,6,7,8-HXCDF	U		0.0497 (Q)		
1,2,3,4,6,7,8-HPCDF	J	0.858	0.0759 (S)	0.90	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.082	0.0759 (S)	0.83	1.001
OCDF	J	1.95	0.0497 (Q)	0.94	1.002
TOTAL TETRA-DIOXINS	K	0.218	0.0497 (Q)		
TOTAL PENTA-DIOXINS		0.089	0.0497 (Q)		
TOTAL HEXA-DIOXINS	K	1.64	0.102 (S)		
TOTAL HEPTA-DIOXINS		8.76	0.0857 (S)		
TOTAL TETRA-FURANS	K	2.08	0.0725 (S)		
TOTAL PENTA-FURANS	K	0.462	0.0791 (S)		
TOTAL HEXA-FURANS	K	1.34	0.0497 (Q)		
TOTAL HEPTA-FURANS	K	3.01	0.0759 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-1_Form1A_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_088 S: 44**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_088 S: 38
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1290	64.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1430	71.4	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1140	56.8	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1240	62.1	1.15	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1000	50.1	0.97	1.094
13C-OCDD		4000	1530	38.2	0.85	1.178
13C-2,3,7,8-TCDF		2000	1230	61.7	0.69	0.966
13C-1,2,3,7,8-PECDF		2000	1350	67.5	1.36	1.284
13C-2,3,4,7,8-PECDF		2000	1430	71.7	1.37	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1130	56.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1160	57.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1190	59.7	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1200	59.8	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	944	47.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	990	49.5	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	28.7	71.8		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-1_Form2_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:06:08	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.245 (S)		
2,3,7,8-TCDF	J	0.189	0.0497 (Q)	0.87	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-1_Form1A_DB83_131S6_SJ2410714.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-1 (A)
Sample Size:	10.1 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 6** **DX8M_088 S: 44**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0497	1	0.00e+00	2.49e-02	4.97e-02
1,2,3,7,8-PECDD	U		0.0497	1	0.00e+00	2.49e-02	4.97e-02
1,2,3,4,7,8-HXCDD	U		0.102	0.1	0.00e+00	5.10e-03	1.02e-02
1,2,3,6,7,8-HXCDD		0.188	0.102	0.1	1.88e-02	1.88e-02	1.88e-02
1,2,3,7,8,9-HXCDD	U		0.245	0.1	0.00e+00	1.23e-02	2.45e-02
1,2,3,4,6,7,8-HPCDD		3.29	0.0857	0.01	3.29e-02	3.29e-02	3.29e-02
OCDD		22.1	0.126	0.0003	6.63e-03	6.63e-03	6.63e-03
2,3,7,8-TCDF		0.189	0.0497	0.1	1.89e-02	1.89e-02	1.89e-02
1,2,3,7,8-PECDF	U		0.0791	0.03	0.00e+00	1.19e-03	2.37e-03
2,3,4,7,8-PECDF	U		0.0791	0.3	0.00e+00	1.19e-02	2.37e-02
1,2,3,4,7,8-HXCDF		0.138	0.0497	0.1	1.38e-02	1.38e-02	1.38e-02
1,2,3,6,7,8-HXCDF	K	0.056	0.0497	0.1	5.60e-03	5.60e-03	5.60e-03
1,2,3,7,8,9-HXCDF	U		0.0497	0.1	0.00e+00	2.49e-03	4.97e-03
2,3,4,6,7,8-HXCDF	U		0.0497	0.1	0.00e+00	2.49e-03	4.97e-03
1,2,3,4,6,7,8-HPCDF		0.858	0.0759	0.01	8.58e-03	8.58e-03	8.58e-03
1,2,3,4,7,8,9-HPCDF	K	0.082	0.0759	0.01	8.20e-04	8.20e-04	8.20e-04
OCDF		1.95	0.0497	0.0003	5.85e-04	5.85e-04	5.85e-04
			TOTAL TEQ		0.107	0.192	0.277

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-1_TEQ_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	9.92 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_088 S: 45**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	ng/kg (wet weight basis)	**Cal. Ver. Data Filename:**	DX8M_088 S: 38

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0595 (S)		
1,2,3,7,8-PECDD [4]	K J	0.078	0.0693 (S)	0.97	1.002
1,2,3,4,7,8-HXCDD	U		0.0724 (S)		
1,2,3,6,7,8-HXCDD	J	0.181	0.0724 (S)	1.26	1.000
1,2,3,7,8,9-HXCDD	K J	0.095	0.0724 (S)	0.36	1.011
1,2,3,4,6,7,8-HPCDD		4.14	0.0749 (S)	1.08	1.000
OCDD		27.6	0.112 (S)	0.86	1.000
2,3,7,8-TCDF	K	0.442	0.0786 (S)	0.45	1.001
1,2,3,7,8-PECDF	U		0.125 (S)		
2,3,4,7,8-PECDF	U		0.125 (S)		
1,2,3,4,7,8-HXCDF	K J	0.103	0.0504 (Q)	0.78	1.001
1,2,3,6,7,8-HXCDF	J	0.051	0.0504 (Q)	1.06	1.000
1,2,3,7,8,9-HXCDF	U		0.0504 (Q)		
2,3,4,6,7,8-HXCDF	U		0.0504 (Q)		
1,2,3,4,6,7,8-HPCDF	J	0.680	0.104 (S)	1.02	1.001
1,2,3,4,7,8,9-HPCDF	U		0.104 (S)		
OCDF	J	1.89	0.154 (S)	0.80	1.002
TOTAL TETRA-DIOXINS	K	0.261	0.0595 (S)		
TOTAL PENTA-DIOXINS	K	0.289	0.0693 (S)		
TOTAL HEXA-DIOXINS	K	2.09	0.0724 (S)		
TOTAL HEPTA-DIOXINS		11.1	0.0749 (S)		
TOTAL TETRA-FURANS	K	2.60	0.0786 (S)		
TOTAL PENTA-FURANS	K	0.290	0.125 (S)		
TOTAL HEXA-FURANS	K	1.40	0.0504 (Q)		
TOTAL HEPTA-FURANS		2.56	0.104 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-103_Form1A_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	9.92 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_088 S: 45**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX8M_088 S: 38

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1330	66.7	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1540	77.0	0.67	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1190	59.6	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1300	65.1	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1030	51.4	1.00	1.094
13C-OCDD		4000	1580	39.4	0.88	1.178
13C-2,3,7,8-TCDF		2000	1250	62.7	0.69	0.966
13C-1,2,3,7,8-PECDF		2000	1370	68.4	1.39	1.284
13C-2,3,4,7,8-PECDF		2000	1540	76.9	1.36	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1130	56.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1210	60.4	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1170	58.6	0.50	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1240	62.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	991	49.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	973	48.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	30.1	75.3		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-103_Form2_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	9.92 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Analysis Date:	27-Jul-2018 **Time:** 11:47:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB83_131 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	ng/kg (wet weight basis)	**Cal. Ver. Data Filename:**	DB83_131 S: 2

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.197 (S)		
2,3,7,8-TCDF		0.212	0.0504 (Q)	0.71	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_WG64557-103_Form1A_DB83_131S7_SJ2410715.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Size:	9.92 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 7** **DX8M_088 S: 45**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0595	1	0.00e+00	2.98e-02	5.95e-02
1,2,3,7,8-PECDD	K	0.078	0.0693	1	7.80e-02	7.80e-02	7.80e-02
1,2,3,4,7,8-HXCDD	U		0.0724	0.1	0.00e+00	3.62e-03	7.24e-03
1,2,3,6,7,8-HXCDD		0.181	0.0724	0.1	1.81e-02	1.81e-02	1.81e-02
1,2,3,7,8,9-HXCDD	U		0.197	0.1	0.00e+00	9.85e-03	1.97e-02
1,2,3,4,6,7,8-HPCDD		4.14	0.0749	0.01	4.14e-02	4.14e-02	4.14e-02
OCDD		27.6	0.112	0.0003	8.28e-03	8.28e-03	8.28e-03
2,3,7,8-TCDF		0.212	0.0504	0.1	2.12e-02	2.12e-02	2.12e-02
1,2,3,7,8-PECDF	U		0.125	0.03	0.00e+00	1.88e-03	3.75e-03
2,3,4,7,8-PECDF	U		0.125	0.3	0.00e+00	1.88e-02	3.75e-02
1,2,3,4,7,8-HXCDF	K	0.103	0.0504	0.1	1.03e-02	1.03e-02	1.03e-02
1,2,3,6,7,8-HXCDF		0.051	0.0504	0.1	5.10e-03	5.10e-03	5.10e-03
1,2,3,7,8,9-HXCDF	U		0.0504	0.1	0.00e+00	2.52e-03	5.04e-03
2,3,4,6,7,8-HXCDF	U		0.0504	0.1	0.00e+00	2.52e-03	5.04e-03
1,2,3,4,6,7,8-HPCDF		0.680	0.104	0.01	6.80e-03	6.80e-03	6.80e-03
1,2,3,4,7,8,9-HPCDF	U		0.104	0.01	0.00e+00	5.20e-04	1.04e-03
OCDF		1.89	0.154	0.0003	5.67e-04	5.67e-04	5.67e-04
			TOTAL TEQ		0.190	0.259	0.329

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_WG64557-103_TEQ_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Client ID: LDW18-C01-CLWB-Comp2

Concentration Units: ng/kg (wet weight basis)

COMPOUND	L29626-1 (A)		WG64557-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD	U		U			
1,2,3,7,8-PECDD	U		K J	0.078		
1,2,3,4,7,8-HXCDD	U		U			
1,2,3,6,7,8-HXCDD	J	0.188	J	0.181	0.185	3.77
1,2,3,7,8,9-HXCDD	U		U			
1,2,3,4,6,7,8-HPCDD		3.29		4.14	3.72	22.7
OCDD		22.1		27.6	24.8	22.1
2,3,7,8-TCDF	J	0.189		0.212	0.201	11.5
1,2,3,7,8-PECDF	U		U			
2,3,4,7,8-PECDF	U		U			
1,2,3,4,7,8-HXCDF	J	0.138	K J	0.103		
1,2,3,6,7,8-HXCDF	K J	0.056	J	0.051		
1,2,3,7,8,9-HXCDF	U		U			
2,3,4,6,7,8-HXCDF	U		U			
1,2,3,4,6,7,8-HPCDF	J	0.858	J	0.680	0.769	23.1
1,2,3,4,7,8,9-HPCDF	K J	0.082	U			
OCDF	J	1.95	J	1.89	1.92	2.93

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 31-Jul-2018 13:23:34; Application: XMLTransformer-1.16.47;
Report Filename: RPD_DIOXINS_1613-RPD_WG64557-103_L29626-1_.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	9.65 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_088 S: 46**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_088 S: 38
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0518 (Q)		
1,2,3,7,8-PECDD [4]	K J	0.089	0.0518 (Q)	1.00	1.000
1,2,3,4,7,8-HXCDD	K J	0.112	0.0718 (S)	1.64	1.000
1,2,3,6,7,8-HXCDD	J	0.387	0.0718 (S)	1.20	1.000
1,2,3,7,8,9-HXCDD	J	0.329	0.0718 (S)	1.11	1.010
1,2,3,4,6,7,8-HPCDD		12.3	0.177 (S)	1.15	1.000
OCDD		92.7	0.177 (S)	0.84	1.000
2,3,7,8-TCDF		0.379	0.0762 (S)	0.74	1.001
1,2,3,7,8-PECDF	K J	0.080	0.0722 (S)	1.86	1.001
2,3,4,7,8-PECDF	K J	0.127	0.0722 (S)	0.98	1.001
1,2,3,4,7,8-HXCDF	J	0.314	0.0828 (S)	1.12	1.001
1,2,3,6,7,8-HXCDF	J	0.116	0.0828 (S)	1.32	1.000
1,2,3,7,8,9-HXCDF	U		0.0828 (S)		
2,3,4,6,7,8-HXCDF	U		0.0828 (S)		
1,2,3,4,6,7,8-HPCDF		1.59	0.121 (S)	0.92	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.168	0.121 (S)	1.90	1.000
OCDF	K	7.91	0.115 (S)	0.74	1.002
TOTAL TETRA-DIOXINS	K	0.406	0.0518 (Q)		
TOTAL PENTA-DIOXINS	K	0.646	0.0518 (Q)		
TOTAL HEXA-DIOXINS	K	3.29	0.0718 (S)		
TOTAL HEPTA-DIOXINS		25.8	0.177 (S)		
TOTAL TETRA-FURANS	K	1.93	0.0762 (S)		
TOTAL PENTA-FURANS	K	0.939	0.0722 (S)		
TOTAL HEXA-FURANS	K	2.95	0.0828 (S)		
TOTAL HEPTA-FURANS	K	7.23	0.121 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-2_Form1A_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	9.65 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_088 S: 46**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_088 S: 38
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1250	62.3	0.81	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1310	65.7	0.69	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1130	56.7	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1190	59.3	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	934	46.7	0.99	1.094
13C-OCDD		4000	1400	35.1	0.88	1.178
13C-2,3,7,8-TCDF		2000	1160	58.1	0.67	0.965
13C-1,2,3,7,8-PECDF		2000	1260	63.1	1.39	1.283
13C-2,3,4,7,8-PECDF		2000	1360	67.8	1.38	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1050	52.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1130	56.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1090	54.3	0.52	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1170	58.4	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	903	45.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	861	43.1	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	28.6	71.4		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-2_Form2_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	9.65 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 12:28:40	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.326 (S)		
2,3,7,8-TCDF	K J	0.127	0.0518 (Q)	0.95	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-2_Form1A_DB83_131S8_SJ2410716.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-2
Sample Size:	9.65 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 8** **DX8M_088 S: 46**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0518	1	0.00e+00	2.59e-02	5.18e-02
1,2,3,7,8-PECDD	K	0.089	0.0518	1	8.90e-02	8.90e-02	8.90e-02
1,2,3,4,7,8-HXCDD	K	0.112	0.0718	0.1	1.12e-02	1.12e-02	1.12e-02
1,2,3,6,7,8-HXCDD		0.387	0.0718	0.1	3.87e-02	3.87e-02	3.87e-02
1,2,3,7,8,9-HXCDD	U		0.326	0.1	0.00e+00	1.63e-02	3.26e-02
1,2,3,4,6,7,8-HPCDD		12.3	0.177	0.01	1.23e-01	1.23e-01	1.23e-01
OCDD		92.7	0.177	0.0003	2.78e-02	2.78e-02	2.78e-02
2,3,7,8-TCDF	K	0.127	0.0518	0.1	1.27e-02	1.27e-02	1.27e-02
1,2,3,7,8-PECDF	K	0.080	0.0722	0.03	2.40e-03	2.40e-03	2.40e-03
2,3,4,7,8-PECDF	K	0.127	0.0722	0.3	3.81e-02	3.81e-02	3.81e-02
1,2,3,4,7,8-HXCDF		0.314	0.0828	0.1	3.14e-02	3.14e-02	3.14e-02
1,2,3,6,7,8-HXCDF		0.116	0.0828	0.1	1.16e-02	1.16e-02	1.16e-02
1,2,3,7,8,9-HXCDF	U		0.0828	0.1	0.00e+00	4.14e-03	8.28e-03
2,3,4,6,7,8-HXCDF	U		0.0828	0.1	0.00e+00	4.14e-03	8.28e-03
1,2,3,4,6,7,8-HPCDF		1.59	0.121	0.01	1.59e-02	1.59e-02	1.59e-02
1,2,3,4,7,8,9-HPCDF	K	0.168	0.121	0.01	1.68e-03	1.68e-03	1.68e-03
OCDF	K	7.91	0.115	0.0003	2.37e-03	2.37e-03	2.37e-03
			TOTAL TEQ		0.406	0.456	0.507

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-2_TEQ_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-3 i
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	9.97 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_090 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	ng/kg (wet weight basis)	**Cal. Ver. Data Filename:**	DX8M_090 S: 11

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.052	0.0502 (Q)	0.52	1.001
1,2,3,7,8-PECDD [4]	K J	0.177	0.0553 (S)	0.78	1.000
1,2,3,4,7,8-HXCDD	J	0.146	0.101 (S)	1.20	1.000
1,2,3,6,7,8-HXCDD	J	0.345	0.101 (S)	1.08	1.000
1,2,3,7,8,9-HXCDD	K J	0.232	0.101 (S)	1.05	1.010
1,2,3,4,6,7,8-HPCDD		9.32	0.226 (S)	1.10	1.000
OCDD		59.5	0.463 (S)	0.92	1.000
2,3,7,8-TCDF	K	0.673	0.0679 (S)	0.64	1.002
1,2,3,7,8-PECDF	J	0.111	0.0898 (S)	1.75	1.002
2,3,4,7,8-PECDF	J	0.180	0.0898 (S)	1.36	1.001
1,2,3,4,7,8-HXCDF	J	0.292	0.0955 (S)	1.27	1.001
1,2,3,6,7,8-HXCDF	J	0.176	0.0955 (S)	1.37	1.000
1,2,3,7,8,9-HXCDF	U		0.0955 (S)		
2,3,4,6,7,8-HXCDF	K J	0.106	0.0955 (S)	0.79	1.001
1,2,3,4,6,7,8-HPCDF		2.25	0.109 (S)	0.93	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.138	0.109 (S)	1.94	1.001
OCDF		5.66	0.0618 (S)	0.96	1.002
TOTAL TETRA-DIOXINS	K	0.720	0.0502 (Q)		
TOTAL PENTA-DIOXINS	K	1.19	0.0553 (S)		
TOTAL HEXA-DIOXINS	K	3.51	0.101 (S)		
TOTAL HEPTA-DIOXINS		23.6	0.226 (S)		
TOTAL TETRA-FURANS	K	4.79	0.0679 (S)		
TOTAL PENTA-FURANS	K	1.68	0.0898 (S)		
TOTAL HEXA-FURANS	K	3.82	0.0955 (S)		
TOTAL HEPTA-FURANS	K	8.28	0.109 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-3_Form1A_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-3 i
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	9.97 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_090 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX8M_090 S: 11

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	916	45.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1040	51.8	0.67	1.383
13C-1,2,3,4,7,8-HXCDD		2000	858	42.9	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	941	47.1	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	691	34.5	1.08	1.094
13C-OCDD		4000	1080	26.9	0.86	1.178
13C-2,3,7,8-TCDF		2000	831	41.6	0.71	0.966
13C-1,2,3,7,8-PECDF		2000	942	47.1	1.45	1.284
13C-2,3,4,7,8-PECDF		2000	993	49.6	1.43	1.351
13C-1,2,3,4,7,8-HXCDF		2000	820	41.0	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	864	43.2	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	775	38.7	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	863	43.2	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	711	35.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	670	33.5	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	19.4	48.6		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-3_Form2_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3
Matrix:	TISSUE	**Sample Size:**	9.97 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 13:09:52	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.399 (S)		
2,3,7,8-TCDF		0.227	0.0502 (Q)	0.80	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-3_Form1A_DB83_131S9_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-3
Sample Size:	9.97 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 9** **DX8M_090 S: 16**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	K	0.052	0.0502	1	5.20e-02	5.20e-02	5.20e-02
1,2,3,7,8-PECDD	K	0.177	0.0553	1	1.77e-01	1.77e-01	1.77e-01
1,2,3,4,7,8-HXCDD		0.146	0.101	0.1	1.46e-02	1.46e-02	1.46e-02
1,2,3,6,7,8-HXCDD		0.345	0.101	0.1	3.45e-02	3.45e-02	3.45e-02
1,2,3,7,8,9-HXCDD	U		0.399	0.1	0.00e+00	2.00e-02	3.99e-02
1,2,3,4,6,7,8-HPCDD		9.32	0.226	0.01	9.32e-02	9.32e-02	9.32e-02
OCDD		59.5	0.463	0.0003	1.79e-02	1.79e-02	1.79e-02
2,3,7,8-TCDF		0.227	0.0502	0.1	2.27e-02	2.27e-02	2.27e-02
1,2,3,7,8-PECDF		0.111	0.0898	0.03	3.33e-03	3.33e-03	3.33e-03
2,3,4,7,8-PECDF		0.180	0.0898	0.3	5.40e-02	5.40e-02	5.40e-02
1,2,3,4,7,8-HXCDF		0.292	0.0955	0.1	2.92e-02	2.92e-02	2.92e-02
1,2,3,6,7,8-HXCDF		0.176	0.0955	0.1	1.76e-02	1.76e-02	1.76e-02
1,2,3,7,8,9-HXCDF	U		0.0955	0.1	0.00e+00	4.78e-03	9.55e-03
2,3,4,6,7,8-HXCDF	K	0.106	0.0955	0.1	1.06e-02	1.06e-02	1.06e-02
1,2,3,4,6,7,8-HPCDF		2.25	0.109	0.01	2.25e-02	2.25e-02	2.25e-02
1,2,3,4,7,8,9-HPCDF	K	0.138	0.109	0.01	1.38e-03	1.38e-03	1.38e-03
OCDF		5.66	0.0618	0.0003	1.70e-03	1.70e-03	1.70e-03
			TOTAL TEQ		0.552	0.577	0.602

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-3_TEQ_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Matrix:	TISSUE	**Sample Size:**	10.4 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0480 (Q)		
1,2,3,7,8-PECDD [4]	J	0.311	0.0480 (Q)	0.52	1.002
1,2,3,4,7,8-HXCDD	K J	0.597	0.0708 (S)	1.71	1.000
1,2,3,6,7,8-HXCDD		4.75	0.0708 (S)	1.29	1.000
1,2,3,7,8,9-HXCDD		1.36	0.0708 (S)	1.15	1.010
1,2,3,4,6,7,8-HPCDD		144	0.293 (S)	1.10	1.000
OCDD		2020	0.0480 (Q)	0.91	1.000
2,3,7,8-TCDF		0.555	0.0480 (Q)	0.68	1.002
1,2,3,7,8-PECDF	K J	0.386	0.0492 (S)	1.95	1.001
2,3,4,7,8-PECDF		1.29	0.0492 (S)	1.52	1.001
1,2,3,4,7,8-HXCDF		10.5	0.0951 (S)	1.27	1.000
1,2,3,6,7,8-HXCDF		1.78	0.0951 (S)	1.27	1.000
1,2,3,7,8,9-HXCDF	K J	0.133	0.0951 (S)	0.77	1.000
2,3,4,6,7,8-HXCDF	J	0.887	0.0951 (S)	1.28	1.001
1,2,3,4,6,7,8-HPCDF		68.2	0.227 (S)	1.07	1.000
1,2,3,4,7,8,9-HPCDF		8.10	0.227 (S)	0.93	1.000
OCDF		335	0.0480 (Q)	0.80	1.002
TOTAL TETRA-DIOXINS	K	1.15	0.0480 (Q)		
TOTAL PENTA-DIOXINS	K	4.77	0.0480 (Q)		
TOTAL HEXA-DIOXINS	K	25.0	0.0708 (S)		
TOTAL HEPTA-DIOXINS		254	0.293 (S)		
TOTAL TETRA-FURANS	K	4.99	0.0480 (Q)		
TOTAL PENTA-FURANS	K	15.4	0.0492 (S)		
TOTAL HEXA-FURANS	K	101	0.0951 (S)		
TOTAL HEPTA-FURANS	K	382	0.227 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-4_Form1A_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Matrix:	TISSUE	**Sample Size:**	10.4 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1270	63.5	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1350	67.4	0.69	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1080	54.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1260	63.0	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1010	50.4	0.99	1.094
13C-OCDD		4000	1690	42.3	0.84	1.178
13C-2,3,7,8-TCDF		2000	1160	57.8	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1290	64.5	1.40	1.284
13C-2,3,4,7,8-PECDF		2000	1310	65.7	1.38	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1100	54.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1150	57.4	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1060	53.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1130	56.7	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	924	46.2	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	949	47.4	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	28.6	71.4		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-4_Form2_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Matrix:	TISSUE	**Sample Size:**	10.4 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 14:23:17	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	J	0.687	0.296 (S)	1.26	1.062
2,3,7,8-TCDF	K	0.197	0.0551 (S)	0.64	1.001

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-4_Form1A_DB83_131S10_SJ2410718.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-4
Sample Size:	10.4 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 10** **DX8M_089 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0480	1	0.00e+00	2.40e-02	4.80e-02
1,2,3,7,8-PECDD		0.311	0.0480	1	3.11e-01	3.11e-01	3.11e-01
1,2,3,4,7,8-HXCDD	K	0.597	0.0708	0.1	5.97e-02	5.97e-02	5.97e-02
1,2,3,6,7,8-HXCDD		4.75	0.0708	0.1	4.75e-01	4.75e-01	4.75e-01
1,2,3,7,8,9-HXCDD		0.687	0.296	0.1	6.87e-02	6.87e-02	6.87e-02
1,2,3,4,6,7,8-HPCDD		144	0.293	0.01	1.44e+00	1.44e+00	1.44e+00
OCDD		2020	0.0480	0.0003	6.06e-01	6.06e-01	6.06e-01
2,3,7,8-TCDF	K	0.197	0.0551	0.1	1.97e-02	1.97e-02	1.97e-02
1,2,3,7,8-PECDF	K	0.386	0.0492	0.03	1.16e-02	1.16e-02	1.16e-02
2,3,4,7,8-PECDF		1.29	0.0492	0.3	3.87e-01	3.87e-01	3.87e-01
1,2,3,4,7,8-HXCDF		10.5	0.0951	0.1	1.05e+00	1.05e+00	1.05e+00
1,2,3,6,7,8-HXCDF		1.78	0.0951	0.1	1.78e-01	1.78e-01	1.78e-01
1,2,3,7,8,9-HXCDF	K	0.133	0.0951	0.1	1.33e-02	1.33e-02	1.33e-02
2,3,4,6,7,8-HXCDF		0.887	0.0951	0.1	8.87e-02	8.87e-02	8.87e-02
1,2,3,4,6,7,8-HPCDF		68.2	0.227	0.01	6.82e-01	6.82e-01	6.82e-01
1,2,3,4,7,8,9-HPCDF		8.10	0.227	0.01	8.10e-02	8.10e-02	8.10e-02
OCDF		335	0.0480	0.0003	1.01e-01	1.01e-01	1.01e-01
			TOTAL TEQ		5.57	5.60	5.62

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-4_TEQ_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Matrix:	TISSUE	**Sample Size:**	10.3 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_090 S: 17**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_090 S: 11
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0484 (Q)		
1,2,3,7,8-PECDD [4]	K J	0.076	0.0484 (Q)	0.80	1.000
1,2,3,4,7,8-HXCDD	K J	0.082	0.0484 (Q)	0.90	1.001
1,2,3,6,7,8-HXCDD	J	0.260	0.0484 (Q)	1.32	1.000
1,2,3,7,8,9-HXCDD	J	0.168	0.0484 (Q)	1.31	1.011
1,2,3,4,6,7,8-HPCDD		5.95	0.0962 (S)	1.09	1.000
OCDD		49.1	0.0687 (S)	0.84	1.000
2,3,7,8-TCDF		0.552	0.0504 (S)	0.86	1.002
1,2,3,7,8-PECDF	K J	0.071	0.0484 (Q)	0.94	1.001
2,3,4,7,8-PECDF	K J	0.088	0.0484 (Q)	1.01	1.001
1,2,3,4,7,8-HXCDF	J	0.177	0.0484 (Q)	1.23	1.000
1,2,3,6,7,8-HXCDF	K J	0.055	0.0484 (Q)	0.84	1.001
1,2,3,7,8,9-HXCDF	U		0.0484 (Q)		
2,3,4,6,7,8-HXCDF	K J	0.052	0.0484 (Q)	0.81	1.000
1,2,3,4,6,7,8-HPCDF		0.985	0.0614 (S)	0.98	1.000
1,2,3,4,7,8,9-HPCDF	J	0.116	0.0614 (S)	1.07	1.000
OCDF		2.80	0.0497 (S)	0.88	1.002
TOTAL TETRA-DIOXINS	K	0.403	0.0484 (Q)		
TOTAL PENTA-DIOXINS	K	0.334	0.0484 (Q)		
TOTAL HEXA-DIOXINS	K	2.62	0.0484 (Q)		
TOTAL HEPTA-DIOXINS		19.9	0.0962 (S)		
TOTAL TETRA-FURANS	K	3.04	0.0504 (S)		
TOTAL PENTA-FURANS	K	1.15	0.0484 (Q)		
TOTAL HEXA-FURANS	K	2.01	0.0484 (Q)		
TOTAL HEPTA-FURANS		4.10	0.0614 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-5_Form1A_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Matrix:	TISSUE	**Sample Size:**	10.3 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_090 S: 17**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_090 S: 11
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1410	70.4	0.75	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1580	79.2	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1230	61.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1370	68.3	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1080	54.0	1.02	1.094
13C-OCDD		4000	1730	43.3	0.85	1.178
13C-2,3,7,8-TCDF		2000	1260	63.1	0.71	0.965
13C-1,2,3,7,8-PECDF		2000	1470	73.7	1.37	1.284
13C-2,3,4,7,8-PECDF		2000	1500	75.2	1.40	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1170	58.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1250	62.5	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1140	56.8	0.51	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1220	61.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1040	52.1	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1010	50.5	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	30.6	76.5		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-5_Form2_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5
Matrix:	TISSUE	**Sample Size:**	10.3 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:04:33	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.191 (S)		
2,3,7,8-TCDF	J	0.145	0.0484 (Q)	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-5_Form1A_DB83_131S11_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-5
Sample Size:	10.3 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 11** **DX8M_090 S: 17**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0484	1	0.00e+00	2.42e-02	4.84e-02
1,2,3,7,8-PECDD	K	0.076	0.0484	1	7.60e-02	7.60e-02	7.60e-02
1,2,3,4,7,8-HXCDD	K	0.082	0.0484	0.1	8.20e-03	8.20e-03	8.20e-03
1,2,3,6,7,8-HXCDD		0.260	0.0484	0.1	2.60e-02	2.60e-02	2.60e-02
1,2,3,7,8,9-HXCDD	U		0.191	0.1	0.00e+00	9.55e-03	1.91e-02
1,2,3,4,6,7,8-HPCDD		5.95	0.0962	0.01	5.95e-02	5.95e-02	5.95e-02
OCDD		49.1	0.0687	0.0003	1.47e-02	1.47e-02	1.47e-02
2,3,7,8-TCDF		0.145	0.0484	0.1	1.45e-02	1.45e-02	1.45e-02
1,2,3,7,8-PECDF	K	0.071	0.0484	0.03	2.13e-03	2.13e-03	2.13e-03
2,3,4,7,8-PECDF	K	0.088	0.0484	0.3	2.64e-02	2.64e-02	2.64e-02
1,2,3,4,7,8-HXCDF		0.177	0.0484	0.1	1.77e-02	1.77e-02	1.77e-02
1,2,3,6,7,8-HXCDF	K	0.055	0.0484	0.1	5.50e-03	5.50e-03	5.50e-03
1,2,3,7,8,9-HXCDF	U		0.0484	0.1	0.00e+00	2.42e-03	4.84e-03
2,3,4,6,7,8-HXCDF	K	0.052	0.0484	0.1	5.20e-03	5.20e-03	5.20e-03
1,2,3,4,6,7,8-HPCDF		0.985	0.0614	0.01	9.85e-03	9.85e-03	9.85e-03
1,2,3,4,7,8,9-HPCDF		0.116	0.0614	0.01	1.16e-03	1.16e-03	1.16e-03
OCDF		2.80	0.0497	0.0003	8.40e-04	8.40e-04	8.40e-04
			TOTAL TEQ		0.268	0.304	0.340

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-5_TEQ_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.051	0.0488 (Q)	0.47	1.001
1,2,3,7,8-PECDD [4]	K J	0.115	0.0500 (S)	0.84	1.001
1,2,3,4,7,8-HXCDD	K J	0.129	0.0933 (S)	1.60	1.000
1,2,3,6,7,8-HXCDD	J	0.348	0.0933 (S)	1.10	1.000
1,2,3,7,8,9-HXCDD	J	0.225	0.0933 (S)	1.34	1.010
1,2,3,4,6,7,8-HPCDD		9.49	0.0966 (S)	1.02	1.000
OCDD		65.6	0.239 (S)	0.94	1.000
2,3,7,8-TCDF		0.406	0.0488 (Q)	0.85	1.002
1,2,3,7,8-PECDF	U		0.0829 (S)		
2,3,4,7,8-PECDF	K J	0.102	0.0829 (S)	1.95	1.001
1,2,3,4,7,8-HXCDF	J	0.328	0.0488 (Q)	1.29	1.000
1,2,3,6,7,8-HXCDF	K J	0.079	0.0488 (Q)	1.79	1.000
1,2,3,7,8,9-HXCDF	U		0.0488 (Q)		
2,3,4,6,7,8-HXCDF	K J	0.083	0.0488 (Q)	0.72	1.001
1,2,3,4,6,7,8-HPCDF		1.96	0.0488 (Q)	1.03	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.209	0.0488 (Q)	1.33	1.001
OCDF		4.21	0.0803 (S)	0.86	1.002
TOTAL TETRA-DIOXINS	K	0.400	0.0488 (Q)		
TOTAL PENTA-DIOXINS	K	0.539	0.0500 (S)		
TOTAL HEXA-DIOXINS	K	3.02	0.0933 (S)		
TOTAL HEPTA-DIOXINS		20.8	0.0966 (S)		
TOTAL TETRA-FURANS	K	2.94	0.0488 (Q)		
TOTAL PENTA-FURANS	K	1.16	0.0829 (S)		
TOTAL HEXA-FURANS	K	3.18	0.0488 (Q)		
TOTAL HEPTA-FURANS	K	6.63	0.0488 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-6_Form1A_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1350	67.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1410	70.4	0.70	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1220	61.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1340	67.0	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1090	54.4	0.98	1.094
13C-OCDD		4000	1790	44.7	0.89	1.178
13C-2,3,7,8-TCDF		2000	1210	60.7	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1310	65.5	1.37	1.285
13C-2,3,4,7,8-PECDF		2000	1340	67.2	1.42	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1140	56.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1230	61.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1130	56.6	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1220	61.2	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1040	51.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1030	51.4	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	32.7	81.9		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-6_Form2_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:45:50	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.345 (S)		
2,3,7,8-TCDF	J	0.158	0.0488 (Q)	0.83	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-6_Form1A_DB83_131S12_SJ2410720.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-6
Sample Size:	10.2 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 12** **DX8M_089 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	K	0.051	0.0488	1	5.10e-02	5.10e-02	5.10e-02
1,2,3,7,8-PECDD	K	0.115	0.0500	1	1.15e-01	1.15e-01	1.15e-01
1,2,3,4,7,8-HXCDD	K	0.129	0.0933	0.1	1.29e-02	1.29e-02	1.29e-02
1,2,3,6,7,8-HXCDD		0.348	0.0933	0.1	3.48e-02	3.48e-02	3.48e-02
1,2,3,7,8,9-HXCDD	U		0.345	0.1	0.00e+00	1.73e-02	3.45e-02
1,2,3,4,6,7,8-HPCDD		9.49	0.0966	0.01	9.49e-02	9.49e-02	9.49e-02
OCDD		65.6	0.239	0.0003	1.97e-02	1.97e-02	1.97e-02
2,3,7,8-TCDF		0.158	0.0488	0.1	1.58e-02	1.58e-02	1.58e-02
1,2,3,7,8-PECDF	U		0.0829	0.03	0.00e+00	1.24e-03	2.49e-03
2,3,4,7,8-PECDF	K	0.102	0.0829	0.3	3.06e-02	3.06e-02	3.06e-02
1,2,3,4,7,8-HXCDF		0.328	0.0488	0.1	3.28e-02	3.28e-02	3.28e-02
1,2,3,6,7,8-HXCDF	K	0.079	0.0488	0.1	7.90e-03	7.90e-03	7.90e-03
1,2,3,7,8,9-HXCDF	U		0.0488	0.1	0.00e+00	2.44e-03	4.88e-03
2,3,4,6,7,8-HXCDF	K	0.083	0.0488	0.1	8.30e-03	8.30e-03	8.30e-03
1,2,3,4,6,7,8-HPCDF		1.96	0.0488	0.01	1.96e-02	1.96e-02	1.96e-02
1,2,3,4,7,8,9-HPCDF	K	0.209	0.0488	0.01	2.09e-03	2.09e-03	2.09e-03
OCDF		4.21	0.0803	0.0003	1.26e-03	1.26e-03	1.26e-03
			TOTAL TEQ		0.447	0.468	0.489

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-6_TEQ_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0499 (Q)		
1,2,3,7,8-PECDD [4]	K J	0.086	0.0530 (S)	1.26	1.002
1,2,3,4,7,8-HXCDD	U		0.0936 (S)		
1,2,3,6,7,8-HXCDD	J	0.165	0.0936 (S)	1.40	1.001
1,2,3,7,8,9-HXCDD	K J	0.097	0.0936 (S)	1.01	1.011
1,2,3,4,6,7,8-HPCDD		2.88	0.0790 (S)	0.95	1.000
OCDD		19.7	0.171 (S)	0.91	1.000
2,3,7,8-TCDF		0.339	0.0499 (Q)	0.74	1.001
1,2,3,7,8-PECDF	K J	0.068	0.0499 (Q)	0.79	1.001
2,3,4,7,8-PECDF	J	0.088	0.0499 (Q)	1.75	1.001
1,2,3,4,7,8-HXCDF	J	0.127	0.0499 (Q)	1.33	1.000
1,2,3,6,7,8-HXCDF	J	0.057	0.0499 (Q)	1.17	1.000
1,2,3,7,8,9-HXCDF	U		0.0499 (Q)		
2,3,4,6,7,8-HXCDF	K J	0.064	0.0499 (Q)	0.66	1.000
1,2,3,4,6,7,8-HPCDF	J	0.630	0.0499 (Q)	0.95	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.073	0.0499 (Q)	1.46	1.000
OCDF	K J	1.42	0.0604 (S)	0.71	1.002
TOTAL TETRA-DIOXINS	K	0.318	0.0499 (Q)		
TOTAL PENTA-DIOXINS	K	0.179	0.0530 (S)		
TOTAL HEXA-DIOXINS	K	1.48	0.0936 (S)		
TOTAL HEPTA-DIOXINS		7.76	0.0790 (S)		
TOTAL TETRA-FURANS	K	2.22	0.0499 (Q)		
TOTAL PENTA-FURANS	K	0.791	0.0499 (Q)		
TOTAL HEXA-FURANS	K	1.51	0.0499 (Q)		
TOTAL HEPTA-FURANS	K	2.24	0.0499 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-7_Form1A_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1240	61.8	0.74	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1330	66.5	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1160	58.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1290	64.6	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1040	51.8	0.98	1.094
13C-OCDD		4000	1720	43.0	0.88	1.178
13C-2,3,7,8-TCDF		2000	1070	53.7	0.68	0.966
13C-1,2,3,7,8-PECDF		2000	1220	61.2	1.42	1.284
13C-2,3,4,7,8-PECDF		2000	1270	63.3	1.42	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1070	53.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1180	58.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1070	53.5	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1140	56.9	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	993	49.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	983	49.2	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	27.8	69.6		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-7_Form2_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 16:27:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 13**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.160 (S)		
2,3,7,8-TCDF	J	0.112	0.0499 (Q)	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-7_Form1A_DB83_131S13_SJ2410721.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-7
Sample Size:	10.0 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 13** **DX8M_089 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0499	1	0.00e+00	2.50e-02	4.99e-02
1,2,3,7,8-PECDD	K	0.086	0.0530	1	8.60e-02	8.60e-02	8.60e-02
1,2,3,4,7,8-HXCDD	U		0.0936	0.1	0.00e+00	4.68e-03	9.36e-03
1,2,3,6,7,8-HXCDD		0.165	0.0936	0.1	1.65e-02	1.65e-02	1.65e-02
1,2,3,7,8,9-HXCDD	U		0.160	0.1	0.00e+00	8.00e-03	1.60e-02
1,2,3,4,6,7,8-HPCDD		2.88	0.0790	0.01	2.88e-02	2.88e-02	2.88e-02
OCDD		19.7	0.171	0.0003	5.91e-03	5.91e-03	5.91e-03
2,3,7,8-TCDF		0.112	0.0499	0.1	1.12e-02	1.12e-02	1.12e-02
1,2,3,7,8-PECDF	K	0.068	0.0499	0.03	2.04e-03	2.04e-03	2.04e-03
2,3,4,7,8-PECDF		0.088	0.0499	0.3	2.64e-02	2.64e-02	2.64e-02
1,2,3,4,7,8-HXCDF		0.127	0.0499	0.1	1.27e-02	1.27e-02	1.27e-02
1,2,3,6,7,8-HXCDF		0.057	0.0499	0.1	5.70e-03	5.70e-03	5.70e-03
1,2,3,7,8,9-HXCDF	U		0.0499	0.1	0.00e+00	2.50e-03	4.99e-03
2,3,4,6,7,8-HXCDF	K	0.064	0.0499	0.1	6.40e-03	6.40e-03	6.40e-03
1,2,3,4,6,7,8-HPCDF		0.630	0.0499	0.01	6.30e-03	6.30e-03	6.30e-03
1,2,3,4,7,8,9-HPCDF	K	0.073	0.0499	0.01	7.30e-04	7.30e-04	7.30e-04
OCDF	K	1.42	0.0604	0.0003	4.26e-04	4.26e-04	4.26e-04
			TOTAL TEQ		0.209	0.249	0.289

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-7_TEQ_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-8
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	10.2 g (wet)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_089 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	ng/kg (wet weight basis)	**Cal. Ver. Data Filename:**	DX8M_089 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.113	0.0559 (S)	0.62	1.001
1,2,3,7,8-PECDD [4]	K J	0.104	0.0493 (Q)	0.43	1.002
1,2,3,4,7,8-HXCDD	K J	0.081	0.0648 (S)	1.92	1.001
1,2,3,6,7,8-HXCDD	J	0.212	0.0648 (S)	1.18	1.001
1,2,3,7,8,9-HXCDD	K J	0.132	0.0648 (S)	1.65	1.011
1,2,3,4,6,7,8-HPCDD		2.41	0.0692 (S)	1.07	1.000
OCDD		18.5	0.256 (S)	0.88	1.000
2,3,7,8-TCDF		0.307	0.0627 (S)	0.75	1.001
1,2,3,7,8-PECDF	K J	0.140	0.0493 (Q)	2.18	1.000
2,3,4,7,8-PECDF	J	0.121	0.0493 (Q)	1.62	1.001
1,2,3,4,7,8-HXCDF	K J	0.130	0.0493 (Q)	0.88	1.000
1,2,3,6,7,8-HXCDF	K J	0.063	0.0493 (Q)	0.90	1.000
1,2,3,7,8,9-HXCDF	U		0.0493 (Q)		
2,3,4,6,7,8-HXCDF	U		0.0493 (Q)		
1,2,3,4,6,7,8-HPCDF	K J	0.476	0.0666 (S)	0.70	1.000
1,2,3,4,7,8,9-HPCDF	U		0.0666 (S)		
OCDF	J	1.27	0.0493 (Q)	0.93	1.002
TOTAL TETRA-DIOXINS	K	0.446	0.0559 (S)		
TOTAL PENTA-DIOXINS	K	0.365	0.0493 (Q)		
TOTAL HEXA-DIOXINS	K	1.52	0.0648 (S)		
TOTAL HEPTA-DIOXINS		6.35	0.0692 (S)		
TOTAL TETRA-FURANS	K	1.34	0.0627 (S)		
TOTAL PENTA-FURANS	K	0.707	0.0493 (Q)		
TOTAL HEXA-FURANS	K	1.10	0.0493 (Q)		
TOTAL HEPTA-FURANS	K	1.89	0.0666 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-8_Form1A_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1210	60.3	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1310	65.3	0.67	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1080	54.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1210	60.3	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	945	47.3	0.97	1.094
13C-OCDD		4000	1590	39.7	0.86	1.178
13C-2,3,7,8-TCDF		2000	1110	55.4	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1200	60.1	1.43	1.284
13C-2,3,4,7,8-PECDF		2000	1240	61.9	1.35	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1020	50.9	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1110	55.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	985	49.3	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1090	54.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	928	46.4	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	911	45.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	27.2	68.1		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-8_Form2_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:08:18	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 14**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.339 (S)		
2,3,7,8-TCDF	J	0.102	0.0493 (Q)	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-8_Form1A_DB83_131S14_SJ2410722.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-8
Sample Size:	10.2 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 14** **DX8M_089 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	K	0.113	0.0559	1	1.13e-01	1.13e-01	1.13e-01
1,2,3,7,8-PECDD	K	0.104	0.0493	1	1.04e-01	1.04e-01	1.04e-01
1,2,3,4,7,8-HXCDD	K	0.081	0.0648	0.1	8.10e-03	8.10e-03	8.10e-03
1,2,3,6,7,8-HXCDD		0.212	0.0648	0.1	2.12e-02	2.12e-02	2.12e-02
1,2,3,7,8,9-HXCDD	U		0.339	0.1	0.00e+00	1.70e-02	3.39e-02
1,2,3,4,6,7,8-HPCDD		2.41	0.0692	0.01	2.41e-02	2.41e-02	2.41e-02
OCDD		18.5	0.256	0.0003	5.55e-03	5.55e-03	5.55e-03
2,3,7,8-TCDF		0.102	0.0493	0.1	1.02e-02	1.02e-02	1.02e-02
1,2,3,7,8-PECDF	K	0.140	0.0493	0.03	4.20e-03	4.20e-03	4.20e-03
2,3,4,7,8-PECDF		0.121	0.0493	0.3	3.63e-02	3.63e-02	3.63e-02
1,2,3,4,7,8-HXCDF	K	0.130	0.0493	0.1	1.30e-02	1.30e-02	1.30e-02
1,2,3,6,7,8-HXCDF	K	0.063	0.0493	0.1	6.30e-03	6.30e-03	6.30e-03
1,2,3,7,8,9-HXCDF	U		0.0493	0.1	0.00e+00	2.47e-03	4.93e-03
2,3,4,6,7,8-HXCDF	U		0.0493	0.1	0.00e+00	2.47e-03	4.93e-03
1,2,3,4,6,7,8-HPCDF	K	0.476	0.0666	0.01	4.76e-03	4.76e-03	4.76e-03
1,2,3,4,7,8,9-HPCDF	U		0.0666	0.01	0.00e+00	3.33e-04	6.66e-04
OCDF		1.27	0.0493	0.0003	3.81e-04	3.81e-04	3.81e-04
			TOTAL TEQ		0.351	0.373	0.396

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-8_TEQ_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	10.6 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0474 (Q)		
1,2,3,7,8-PECDD [4]	K J	0.061	0.0474 (Q)	0.26	1.002
1,2,3,4,7,8-HXCDD	U		0.0866 (S)		
1,2,3,6,7,8-HXCDD	J	0.173	0.0866 (S)	1.23	1.001
1,2,3,7,8,9-HXCDD	K J	0.136	0.0866 (S)	0.95	1.010
1,2,3,4,6,7,8-HPCDD		4.40	0.0946 (S)	1.13	1.000
OCDD		31.1	0.0508 (S)	0.92	1.000
2,3,7,8-TCDF		0.349	0.0742 (S)	0.66	1.001
1,2,3,7,8-PECDF	K J	0.068	0.0563 (S)	0.99	1.001
2,3,4,7,8-PECDF	K J	0.089	0.0563 (S)	0.90	1.000
1,2,3,4,7,8-HXCDF	J	0.142	0.0474 (Q)	1.27	1.001
1,2,3,6,7,8-HXCDF	K J	0.059	0.0474 (Q)	0.97	1.000
1,2,3,7,8,9-HXCDF	U		0.0474 (Q)		
2,3,4,6,7,8-HXCDF	K J	0.052	0.0474 (Q)	0.65	1.001
1,2,3,4,6,7,8-HPCDF		0.999	0.0977 (S)	0.90	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.109	0.0977 (S)	0.67	1.000
OCDF		2.20	0.0680 (S)	0.85	1.002
TOTAL TETRA-DIOXINS	K	0.319	0.0474 (Q)		
TOTAL PENTA-DIOXINS	K	0.271	0.0474 (Q)		
TOTAL HEXA-DIOXINS	K	1.80	0.0866 (S)		
TOTAL HEPTA-DIOXINS		10.8	0.0946 (S)		
TOTAL TETRA-FURANS	K	1.85	0.0742 (S)		
TOTAL PENTA-FURANS	K	0.693	0.0563 (S)		
TOTAL HEXA-FURANS	K	1.86	0.0474 (Q)		
TOTAL HEPTA-FURANS	K	3.61	0.0977 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-9_Form1A_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	10.6 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_089 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_089 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1200	60.2	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1300	65.1	0.69	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1080	54.2	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1200	60.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	963	48.1	0.98	1.094
13C-OCDD		4000	1650	41.2	0.85	1.178
13C-2,3,7,8-TCDF		2000	1040	51.9	0.70	0.965
13C-1,2,3,7,8-PECDF		2000	1210	60.5	1.38	1.284
13C-2,3,4,7,8-PECDF		2000	1220	61.0	1.37	1.351
13C-1,2,3,4,7,8-HXCDF		2000	994	49.7	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1080	54.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1050	52.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1050	52.7	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	913	45.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	903	45.2	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	29.5	73.8		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_L29626-9_Form2_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	10.6 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:49:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_131 S: 15**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_131 S: 2
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
1,2,3,7,8,9-HXCDD	U		0.263 (S)		
2,3,7,8-TCDF	J	0.114	0.0474 (Q)	0.86	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_L29626-9_Form1A_DB83_131S15_SJ2410723.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	L29626-9
Sample Size:	10.6 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	ng/kg (wet weight basis)	**Sample Data Filenames:**	**DB83_131 S: 15** **DX8M_089 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0474	1	0.00e+00	2.37e-02	4.74e-02
1,2,3,7,8-PECDD	K	0.061	0.0474	1	6.10e-02	6.10e-02	6.10e-02
1,2,3,4,7,8-HXCDD	U		0.0866	0.1	0.00e+00	4.33e-03	8.66e-03
1,2,3,6,7,8-HXCDD		0.173	0.0866	0.1	1.73e-02	1.73e-02	1.73e-02
1,2,3,7,8,9-HXCDD	U		0.263	0.1	0.00e+00	1.32e-02	2.63e-02
1,2,3,4,6,7,8-HPCDD		4.40	0.0946	0.01	4.40e-02	4.40e-02	4.40e-02
OCDD		31.1	0.0508	0.0003	9.33e-03	9.33e-03	9.33e-03
2,3,7,8-TCDF		0.114	0.0474	0.1	1.14e-02	1.14e-02	1.14e-02
1,2,3,7,8-PECDF	K	0.068	0.0563	0.03	2.04e-03	2.04e-03	2.04e-03
2,3,4,7,8-PECDF	K	0.089	0.0563	0.3	2.67e-02	2.67e-02	2.67e-02
1,2,3,4,7,8-HXCDF		0.142	0.0474	0.1	1.42e-02	1.42e-02	1.42e-02
1,2,3,6,7,8-HXCDF	K	0.059	0.0474	0.1	5.90e-03	5.90e-03	5.90e-03
1,2,3,7,8,9-HXCDF	U		0.0474	0.1	0.00e+00	2.37e-03	4.74e-03
2,3,4,6,7,8-HXCDF	K	0.052	0.0474	0.1	5.20e-03	5.20e-03	5.20e-03
1,2,3,4,6,7,8-HPCDF		0.999	0.0977	0.01	9.99e-03	9.99e-03	9.99e-03
1,2,3,4,7,8,9-HPCDF	K	0.109	0.0977	0.01	1.09e-03	1.09e-03	1.09e-03
OCDF		2.20	0.0680	0.0003	6.60e-04	6.60e-04	6.60e-04
			TOTAL TEQ		0.209	0.252	0.296

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_L29626-9_TEQ_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	N/A
Matrix:	CANOLA OIL	**Lab Sample I.D.:**	WG64557-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	26-Jul-2018 **Time:** 10:11:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX8M_088 S: 42**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	ng/kg	**Cal. Ver. Data Filename:**	DX8M_088 S: 38

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.0500 (Q)		
1,2,3,7,8-PECDD [4]	U		0.0500 (Q)		
1,2,3,4,7,8-HXCDD	U		0.0500 (Q)		
1,2,3,6,7,8-HXCDD	U		0.0500 (Q)		
1,2,3,7,8,9-HXCDD	U		0.0500 (Q)		
1,2,3,4,6,7,8-HPCDD	J	0.064	0.0500 (Q)	0.94	1.000
OCDD	K J	0.125	0.0500 (Q)	1.28	1.001
2,3,7,8-TCDF	U		0.0500 (Q)		
1,2,3,7,8-PECDF	U		0.0500 (Q)		
2,3,4,7,8-PECDF	U		0.0500 (Q)		
1,2,3,4,7,8-HXCDF	U		0.0500 (Q)		
1,2,3,6,7,8-HXCDF	U		0.0500 (Q)		
1,2,3,7,8,9-HXCDF	U		0.0500 (Q)		
2,3,4,6,7,8-HXCDF	U		0.0500 (Q)		
1,2,3,4,6,7,8-HPCDF	U		0.0500 (Q)		
1,2,3,4,7,8,9-HPCDF	U		0.0500 (Q)		
OCDF	U		0.0500 (Q)		
TOTAL TETRA-DIOXINS	U		0.0500 (Q)		
TOTAL PENTA-DIOXINS	U		0.0500 (Q)		
TOTAL HEXA-DIOXINS	K	0.246	0.0500 (Q)		
TOTAL HEPTA-DIOXINS		0.064	0.0500 (Q)		
TOTAL TETRA-FURANS	U		0.0500 (Q)		
TOTAL PENTA-FURANS	U		0.0500 (Q)		
TOTAL HEXA-FURANS	U		0.0500 (Q)		
TOTAL HEPTA-FURANS	U		0.0500 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-101_Form1A_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-101
Matrix:	CANOLA OIL	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	04-Jun-2018
Extraction Date:	17-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 10:11:59	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX8M_088 S: 42**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX8M_088 S: 42
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX8M_088 S: 38
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1750	87.3	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1890	94.7	0.68	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1710	85.6	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1920	95.8	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1590	79.3	1.00	1.094
13C-OCDD		4000	2710	67.7	0.86	1.178
13C-2,3,7,8-TCDF		2000	1580	79.2	0.68	0.965
13C-1,2,3,7,8-PECDF		2000	1790	89.6	1.40	1.284
13C-2,3,4,7,8-PECDF		2000	1910	95.5	1.38	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1680	84.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1780	88.9	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1640	81.8	0.56	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1790	89.7	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1520	76.0	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1580	78.9	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	32.0	80.0		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-101_Form2_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	4033	**Project No.**	N/A
Matrix:	CANOLA OIL	**Lab Sample I.D.:**	WG64557-101
Sample Size:	10.0 g	**GC Column ID:**	DB5
Concentration Units:	ng/kg	**Sample Data Filename:**	**DX8M_088 S: 42**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.0500	1	0.00e+00	2.50e-02	5.00e-02
1,2,3,7,8-PECDD	U		0.0500	1	0.00e+00	2.50e-02	5.00e-02
1,2,3,4,7,8-HXCDD	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,6,7,8-HXCDD	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,7,8,9-HXCDD	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,4,6,7,8-HPCDD		0.064	0.0500	0.01	6.40e-04	6.40e-04	6.40e-04
OCDD	K	0.125	0.0500	0.0003	3.75e-05	3.75e-05	3.75e-05
2,3,7,8-TCDF	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,7,8-PECDF	U		0.0500	0.03	0.00e+00	7.50e-04	1.50e-03
2,3,4,7,8-PECDF	U		0.0500	0.3	0.00e+00	7.50e-03	1.50e-02
1,2,3,4,7,8-HXCDF	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,6,7,8-HXCDF	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,7,8,9-HXCDF	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
2,3,4,6,7,8-HXCDF	U		0.0500	0.1	0.00e+00	2.50e-03	5.00e-03
1,2,3,4,6,7,8-HPCDF	U		0.0500	0.01	0.00e+00	2.50e-04	5.00e-04
1,2,3,4,7,8,9-HPCDF	U		0.0500	0.01	0.00e+00	2.50e-04	5.00e-04
OCDF	U		0.0500	0.0003	0.00e+00	7.50e-06	1.50e-05
			TOTAL TEQ		0.000678	0.0794	0.158

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 31-Jul-2018 13:23:00; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613-TEQ_WG64557-101_TEQ_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**OPR Data Filename:**	**DX8M_088 S: 39**
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-102
Extraction Date:	17-Jul-2018	**Analysis Date:**	26-Jul-2018 **Time:** 07:29:01

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.82	10.0	10.1	6.70 - 15.8	101
1,2,3,7,8-PECDD [4]		0.61	50.0	55.1	35.0 - 71.0	110
1,2,3,4,7,8-HXCDD		1.21	50.0	50.1	35.0 - 82.0	100
1,2,3,6,7,8-HXCDD		1.22	50.0	51.4	38.0 - 67.0	103
1,2,3,7,8,9-HXCDD		1.18	50.0	49.4	32.0 - 81.0	98.8
1,2,3,4,6,7,8-HPCDD		1.05	50.0	55.3	35.0 - 70.0	111
OCDD		0.89	100	101	78.0 - 144	101
2,3,7,8-TCDF		0.69	10.0	11.0	7.50 - 15.8	110
1,2,3,7,8-PECDF		1.40	50.0	48.3	40.0 - 67.0	96.6
2,3,4,7,8-PECDF		1.33	50.0	47.2	34.0 - 80.0	94.3
1,2,3,4,7,8-HXCDF		1.09	50.0	49.3	36.0 - 67.0	98.5
1,2,3,6,7,8-HXCDF		1.12	50.0	48.6	42.0 - 65.0	97.1
1,2,3,7,8,9-HXCDF		1.09	50.0	51.3	39.0 - 65.0	103
2,3,4,6,7,8-HXCDF		1.13	50.0	50.4	35.0 - 78.0	101
1,2,3,4,6,7,8-HPCDF		0.90	50.0	51.8	41.0 - 61.0	104
1,2,3,4,7,8,9-HPCDF		0.95	50.0	51.6	39.0 - 69.0	103
OCDF		0.82	100	103	63.0 - 170	103

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-102_Form8A_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**OPR Data Filename:**	**DX8M_088 S: 39**
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64557-102
Extraction Date:	17-Jul-2018	**Analysis Date:**	26-Jul-2018 **Time:** 07:29:01

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	66.3	20.0-175	66.3
13C-1,2,3,7,8-PECDD [4]		0.70	100	74.4	21.0-227	74.4
13C-1,2,3,4,7,8-HXCDD		1.25	100	63.3	21.0-193	63.3
13C-1,2,3,6,7,8-HXCDD		1.22	100	69.6	25.0-163	69.6
13C-1,2,3,4,6,7,8-HPCDD		0.98	100	56.1	26.0-166	56.1
13C-OCDD		0.91	200	89.5	26.0-397	44.8
13C-2,3,7,8-TCDF		0.72	100	62.4	22.0-152	62.4
13C-1,2,3,7,8-PECDF		1.42	100	69.5	21.0-192	69.5
13C-2,3,4,7,8-PECDF		1.38	100	70.8	13.0-328	70.8
13C-1,2,3,4,7,8-HXCDF		0.53	100	62.5	19.0-202	62.5
13C-1,2,3,6,7,8-HXCDF		0.54	100	67.1	21.0-159	67.1
13C-1,2,3,7,8,9-HXCDF		0.50	100	59.3	17.0-205	59.3
13C-2,3,4,6,7,8-HXCDF		0.50	100	65.1	22.0-176	65.1
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	56.4	21.0-158	56.4
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	54.4	20.0-186	54.4
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			2.00	1.40	0.620-3.82	70.2

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-102_Form8B_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 8G

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NRCC CARP-2

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Matrix:	TISSUE	**Sample Size:**	9.24 g (received)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**CRM Data Filename:**	**DX8M_089 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	pg/g (received weight basis)	**Cal. Ver. Data Filename:**	DX8M_089 S: 1

COMPOUND	LAB FLAG [1]	DETERMINED	CERTIFIED / REFERENCE
2,3,7,8-TCDD		7.98	7.4 +/- 0.7
1,2,3,7,8-PECDD [2]		5.66	5.3 +/- 1.3
1,2,3,4,7,8-HXCDD	K	1.63	1.6 +/- 0.3
1,2,3,6,7,8-HXCDD		5.48	5.8 +/- 0.8
1,2,3,7,8,9-HXCDD	J	0.675	0.78 +/- 0.12
1,2,3,4,6,7,8-HPCDD		7.39	6.4 +/- 0.9
OCDD		7.80	9.4 +/- 1.7
2,3,7,8-TCDF		20.5	18.2 +/- 1.6
1,2,3,7,8-PECDF		5.87	5.6 +/- 0.3

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8G.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-104_Form8G_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 8H

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NRCC CARP-2

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Matrix:	TISSUE	**Sample Size:**	9.24 g (received)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	04-Jun-2018
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**CRM Data Filename:**	**DX8M_089 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX8M_089 S: 1

LABELED COMPOUND	LAB FLAG[1]	SPIKE CONC.	CONC. FOUND	% RECOVERY	ION ABUND. RATIO	RRT
13C-2,3,7,8-TCDD		2000	1040	52.0	0.78	1.013
13C-1,2,3,7,8-PECDD [2]		2000	1140	56.9	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1020	50.8	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1080	53.8	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	963	48.2	0.98	1.094
13C-OCDD		4000	1600	39.9	0.84	1.178
13C-2,3,7,8-TCDF		2000	924	46.2	0.71	0.966
13C-1,2,3,7,8-PECDF		2000	1090	54.6	1.39	1.284
13C-2,3,4,7,8-PECDF		2000	1110	55.3	1.42	1.351
13C-1,2,3,4,7,8-HXCDF		2000	937	46.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	982	49.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	912	45.6	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	980	49.0	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	876	43.8	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	835	41.8	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		40.0	21.6	54.0		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8H.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB5_WG64557-104_Form8H_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 8G

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NRCC CARP-2

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Matrix:	TISSUE	**Sample Size:**	9.24 g (received)
Extraction Date:	17-Jul-2018	**Initial Calibration Date:**	10-Jul-2018
Analysis Date:	28-Jul-2018 **Time:** 06:21:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**CRM Data Filename:**	**DB83_132 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DX8M_088 S: 42
Concentration Units:	pg/g (received weight basis)	**Cal. Ver. Data Filename:**	DB83_132 S: 2

COMPOUND	**LAB FLAG** [1]	**DETERMINED**	**CERTIFIED / REFERENCE**
1,2,3,7,8,9-HXCDD	J	0.566	0.78 +/- 0.12
2,3,7,8-TCDF		15.9	18.2 +/- 1.6

(1) Where applicable, custom lab flags have been used on this report; J = concentration less than lowest calibration equivalent.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8G.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_1613DB225_WG64557-104_Form8G_SJ2410767.html; Workgroup: WG64557; Design ID: 491]

SGS Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.pro\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

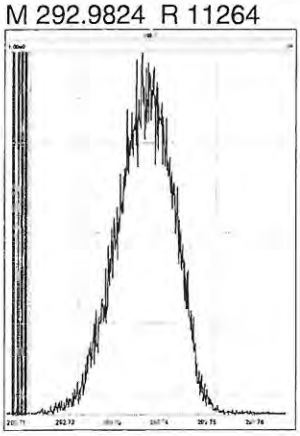
#	Name	ID	Sample Text	Acq Date	Acq Time
1	DX8M_065CS1	DX041A-CAL,,/01	1,,1.0uL CS-0.2 Sens	04-Jun-18	17:29:08
2	DX8M_065CS2	DX041B-CAL,,/01	1,,1.0uL CS-1	04-Jun-18	19:18:47
3	DX8M_065CS3	DX041B-CAL,,/01	1,,1.0uL CS-1	04-Jun-18	20:28:43
4	DX8M_065CS4	DX041C-CAL,,/01	1,,1.0uL CS-2	04-Jun-18	21:21:16
5	DX8M_065CS5	DX041F-CAL,,/01	1,,1.0uL CS-5	04-Jun-18	22:16:47
6	DX8M_065CS6	DX041E-CAL,,/01	1,,1.0uL CS-4	04-Jun-18	23:11:40
7	DX8M_065CS7	DX041D-CAL,,/01-91	1,,1.0uL Cal Win/Res	05-Jun-18	00:06:54
8	DX8M_065CS8	DX003A-SSV,,/01	1,,1.0uL Cal	05-Jun-18	01:11:21

Experiment Calibration Report **MassLynx 4.1** DX8M-065C 5:1 Cal1

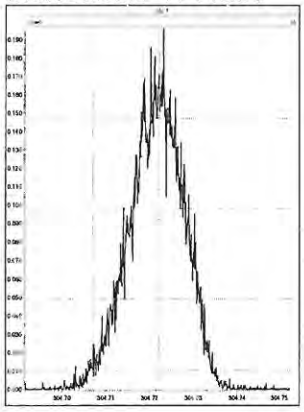
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, June 04, 2018 17:23:40 Pacific Daylight Time Approved by NH 04- June- 2018.

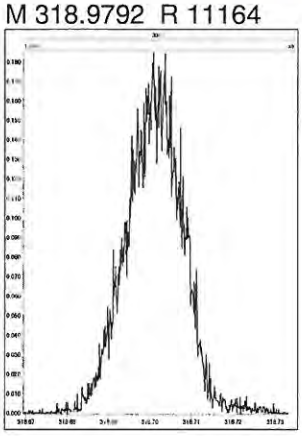
M 292.9824 R 11264



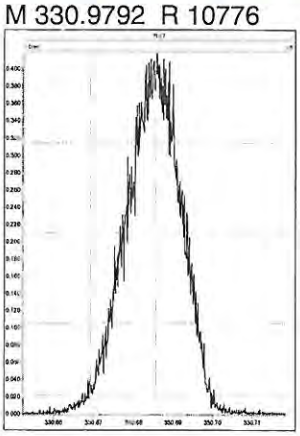
M 304.9824 R 11261



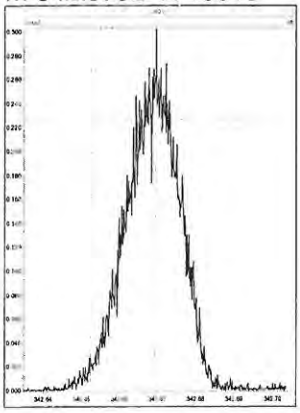
M 318.9792 R 11164



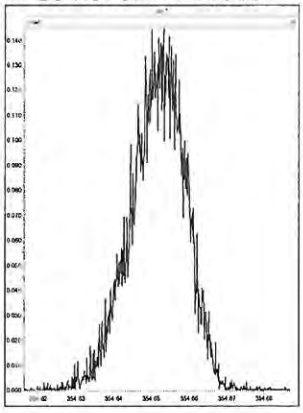
M 330.9792 R 10776



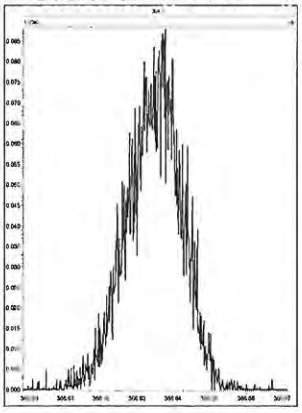
M 342.9792 R 10915



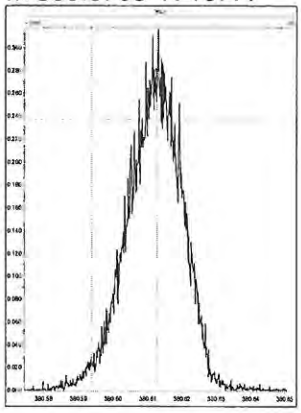
M 354.9792 R 11063



M 366.9792 R 11414



M 380.9760 R 10777

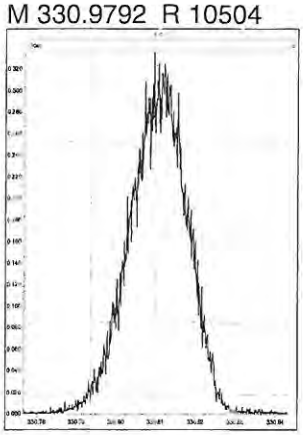


Experiment Calibration Report **MassLynx 4.1**

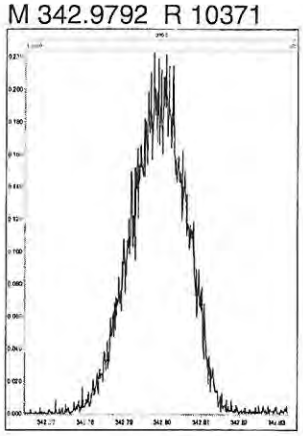
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, June 04, 2018 17:24:31 Pacific Daylight Time

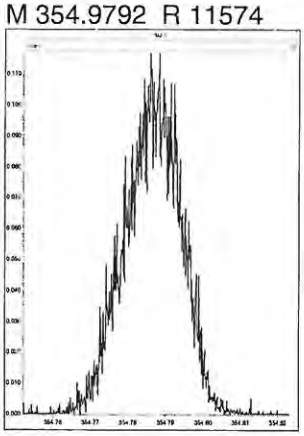
M 330.9792 R 10504



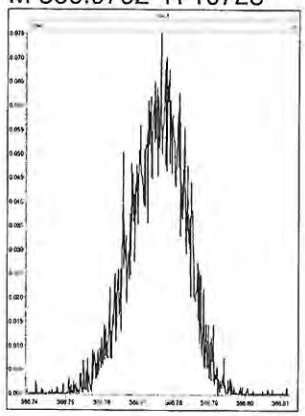
M 342.9792 R 10371



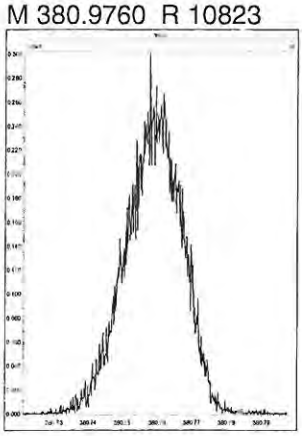
M 354.9792 R 11574



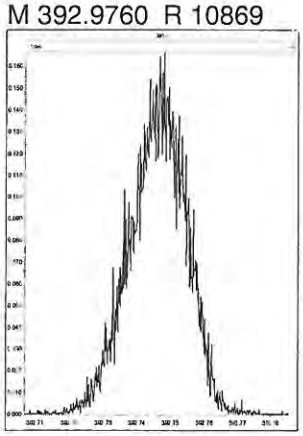
M 366.9792 R 10728



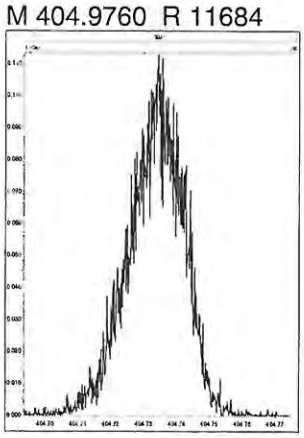
M 380.9760 R 10823



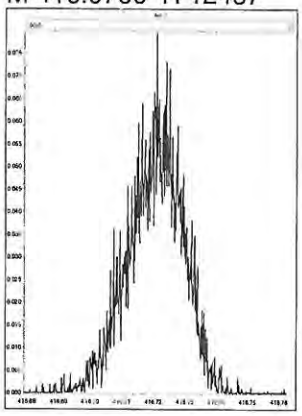
M 392.9760 R 10869



M 404.9760 R 11684



M 416.9760 R 12437

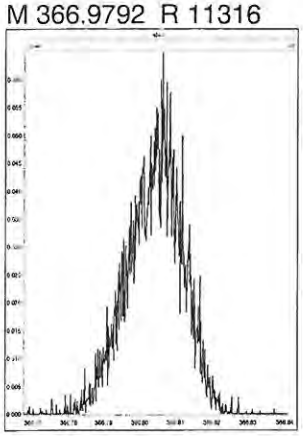


Experiment Calibration Report **MassLynx 4.1**

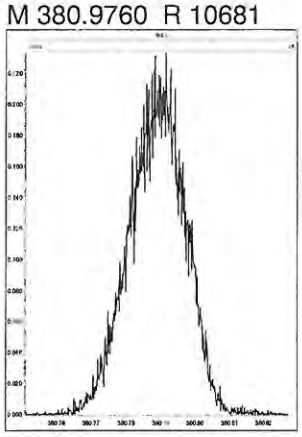
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Monday, June 04, 2018 17:25:09 Pacific Daylight Time

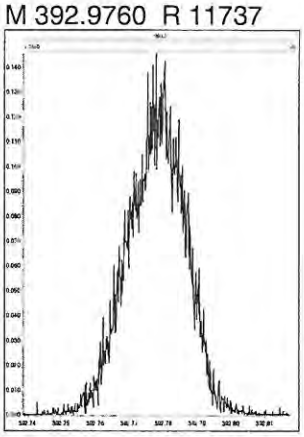
M 366.9792 R 11316



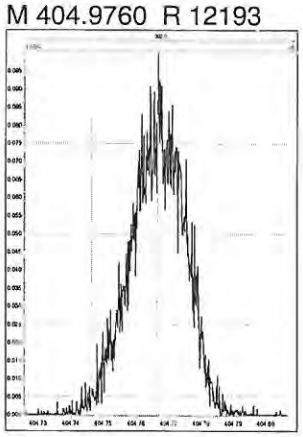
M 380.9760 R 10681



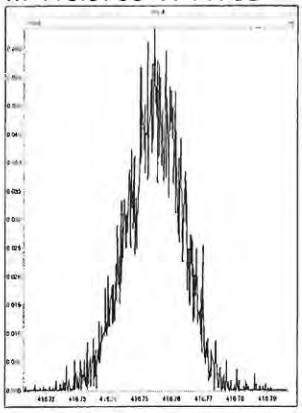
M 392.9760 R 11737



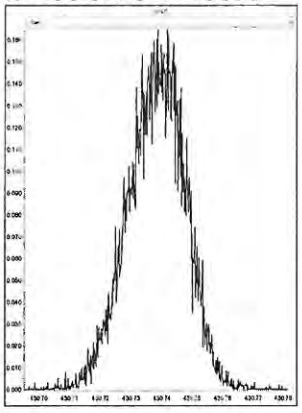
M 404.9760 R 12193



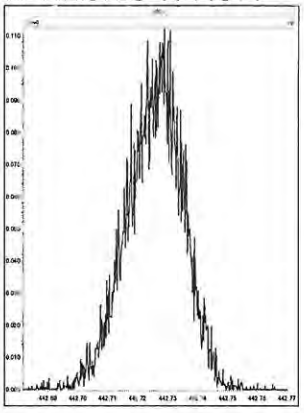
M 416.9760 R 11793



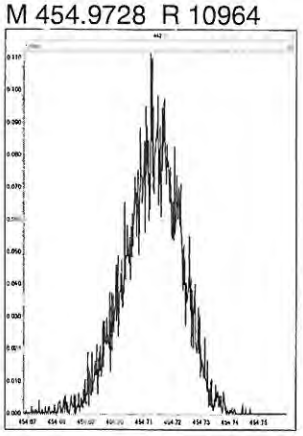
M 430.9728 R 10330



M 442.9728 R 11014



M 454.9728 R 10964

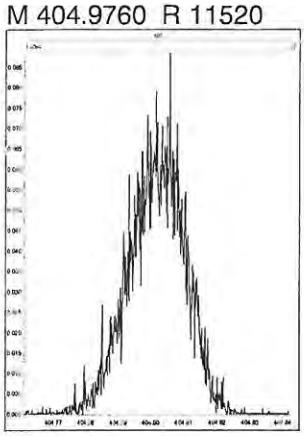


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

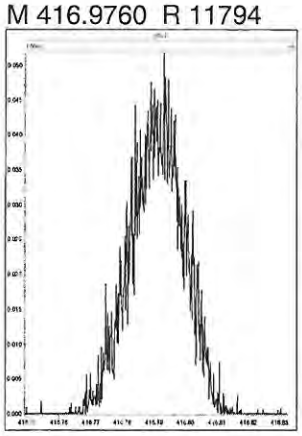
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 6 @ 200 (ppm)

Printed: Monday, June 04, 2018 17:25:55 Pacific Daylight Time

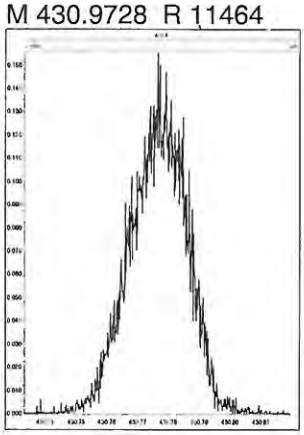
M 404.9760 R 11520



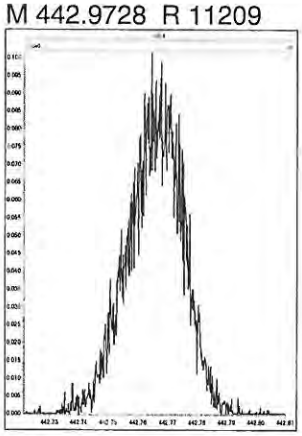
M 416.9760 R 11794



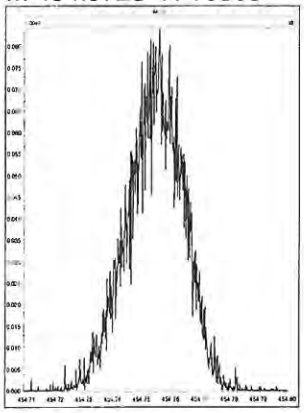
M 430.9728 R 11464



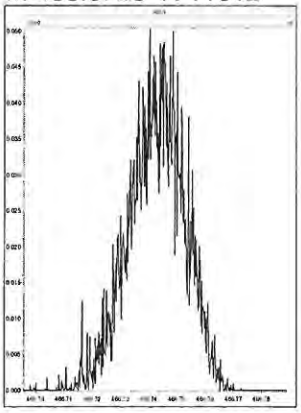
M 442.9728 R 11209



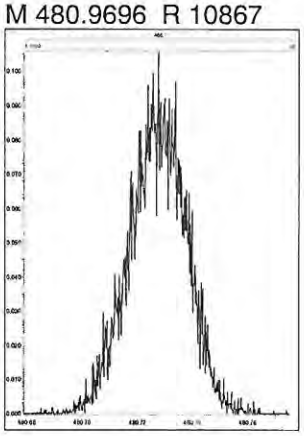
M 454.9728 R 10505



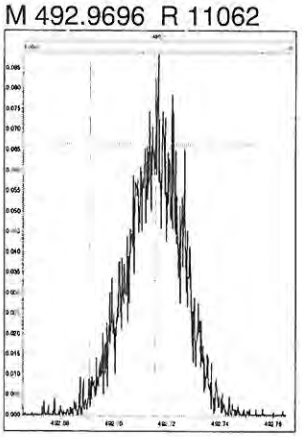
M 466.9728 R 11012



M 480.9696 R 10867



M 492.9696 R 11062

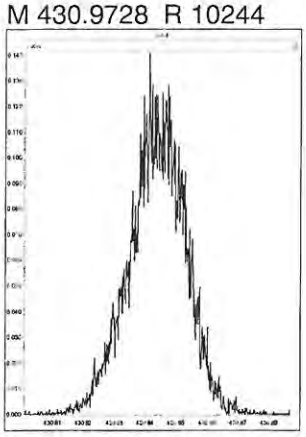


Experiment Calibration Report **MassLynx 4.1**

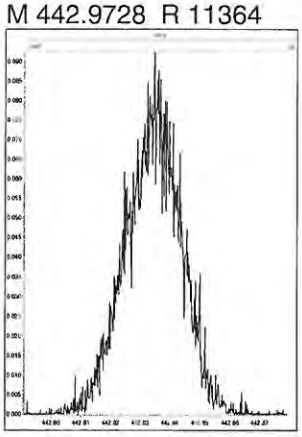
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 7 @ 200 (ppm)

Printed: Monday, June 04, 2018 17:27:11 Pacific Daylight Time

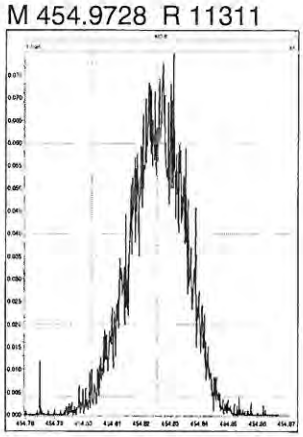
M 430.9728 R 10244



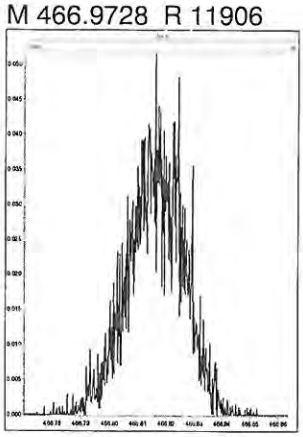
M 442.9728 R 11364



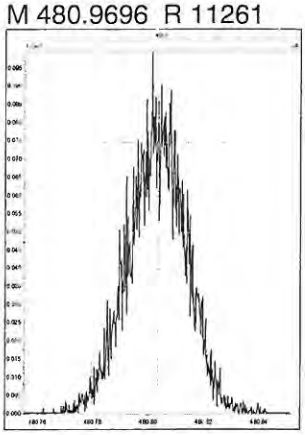
M 454.9728 R 11311



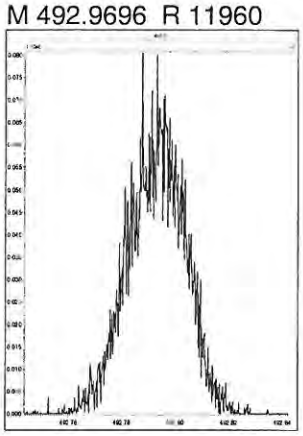
M 466.9728 R 11906



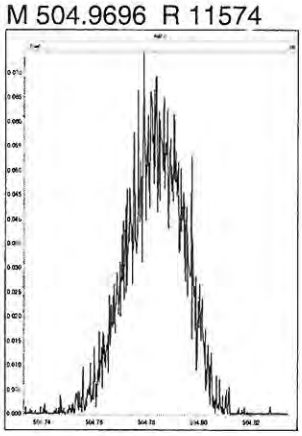
M 480.9696 R 11261



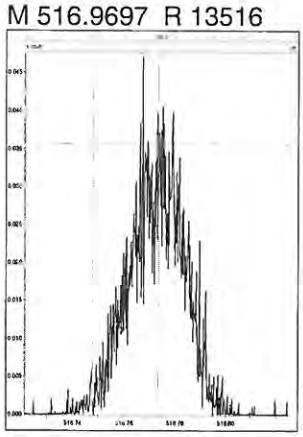
M 492.9696 R 11960



M 504.9696 R 11574



M 516.9697 R 13516

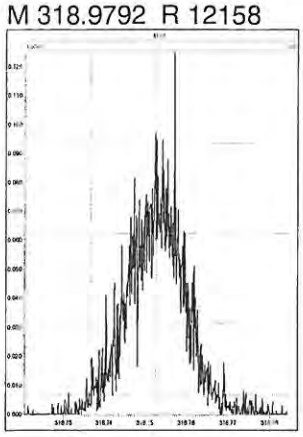


www.axysanalytical.com

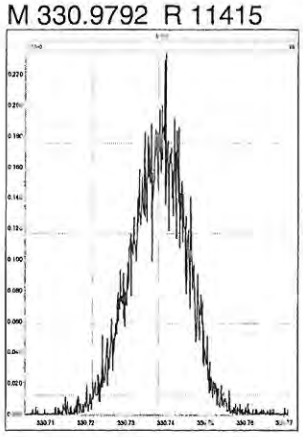
Printed: Tuesday, June 05, 2018 01:11:19 Pacific Daylight Time

Approved by JS 05-Jun-18

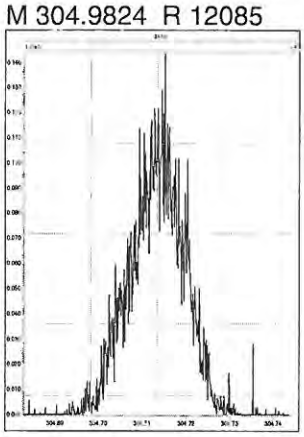
M 318.9792 R 12158



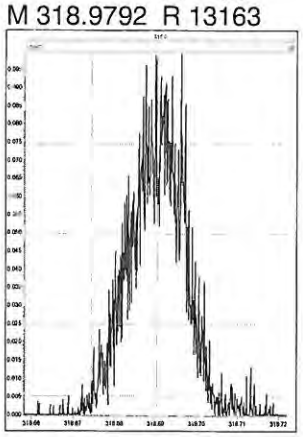
M 330.9792 R 11415



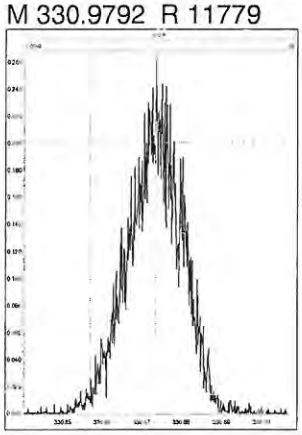
M 304.9824 R 12085



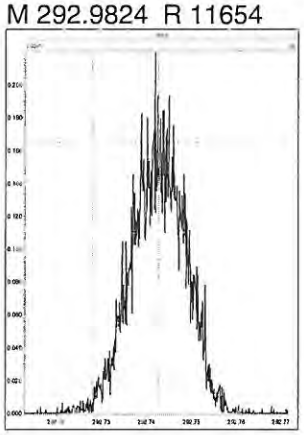
M 318.9792 R 13163



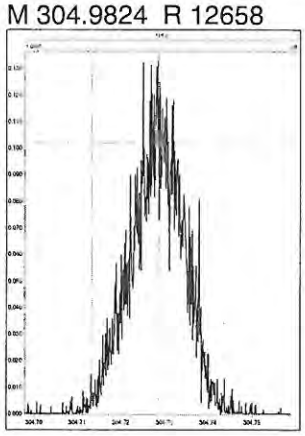
M 330.9792 R 11779



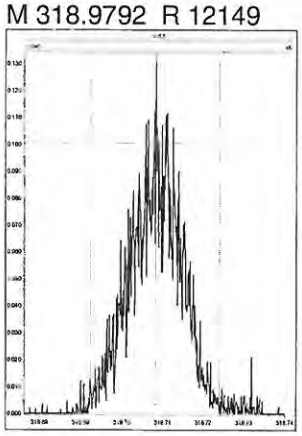
M 292.9824 R 11654



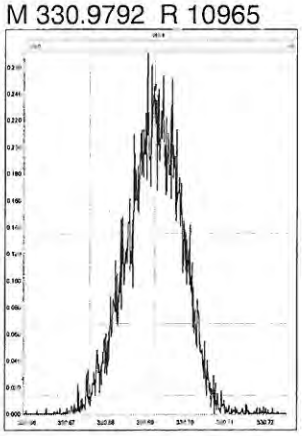
M 304.9824 R 12658



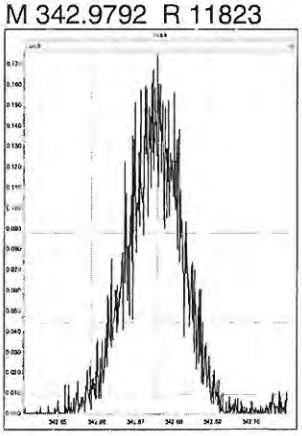
M 318.9792 R 12149



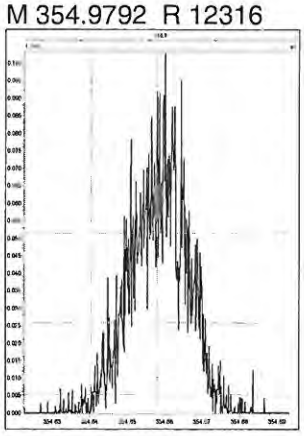
M 330.9792 R 10965



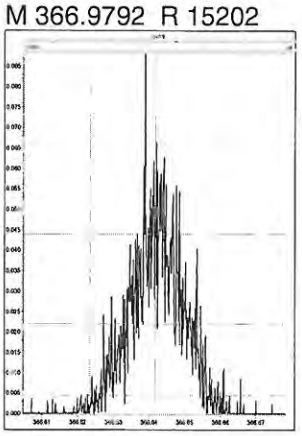
M 342.9792 R 11823



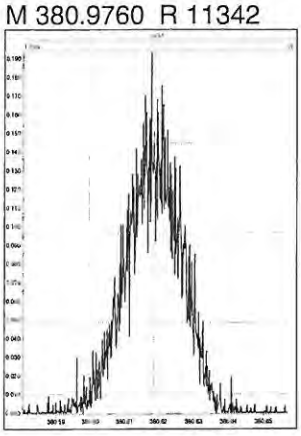
M 354.9792 R 12316



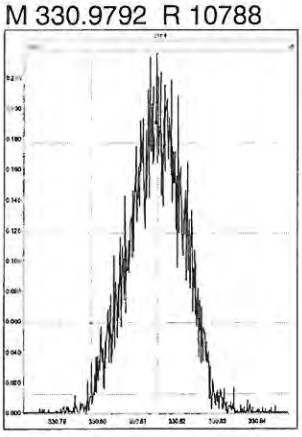
M 366.9792 R 15202



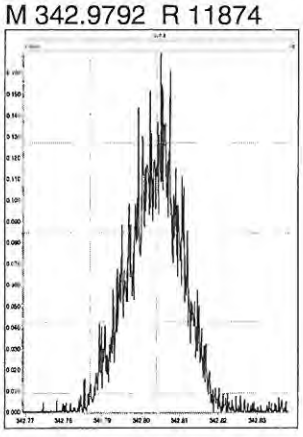
M 380.9760 R 11342



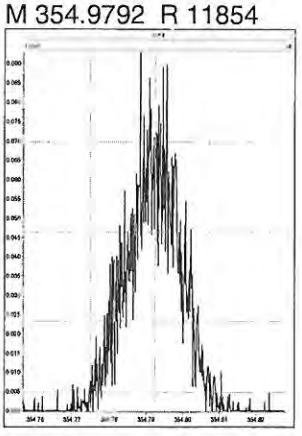
M 330.9792 R 10788



M 342.9792 R 11874

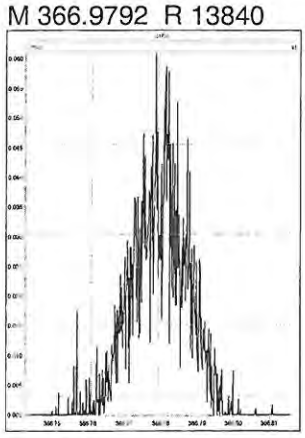


M 354.9792 R 11854

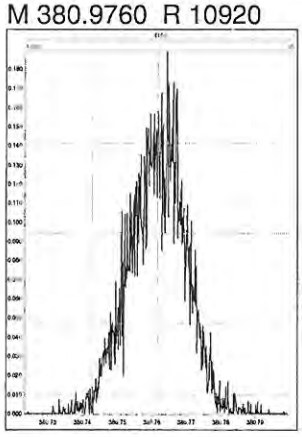


www.axysanalytical.com

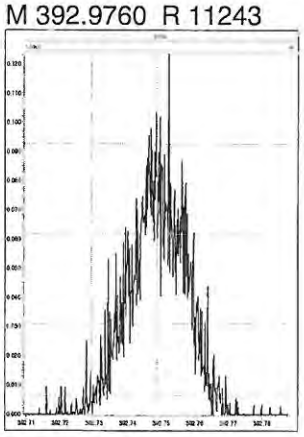
M 366.9792 R 13840



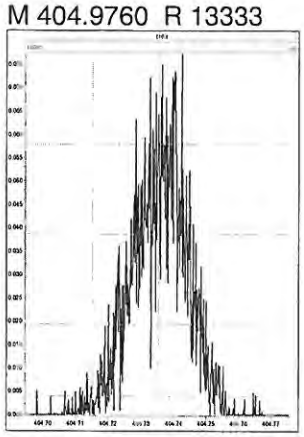
M 380.9760 R 10920



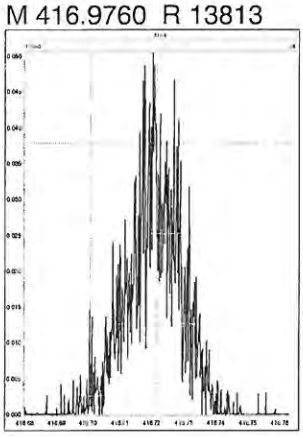
M 392.9760 R 11243



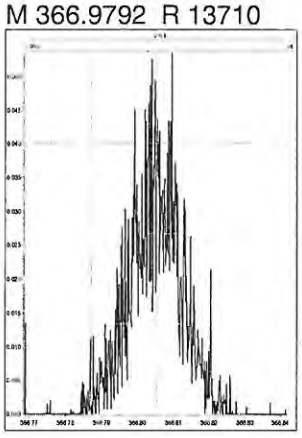
M 404.9760 R 13333



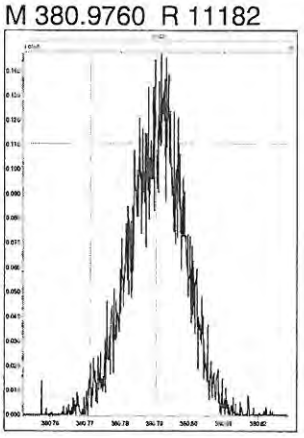
M 416.9760 R 13813



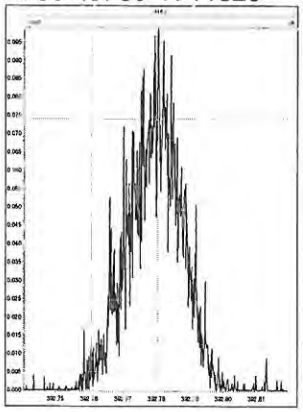
M 366.9792 R 13710



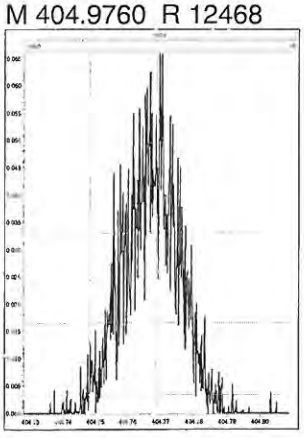
M 380.9760 R 11182



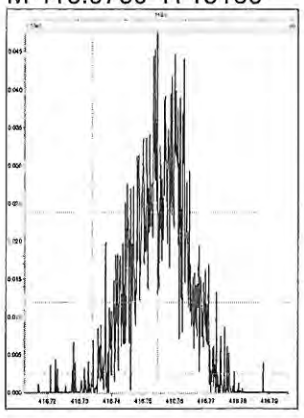
M 392.9760 R 11820



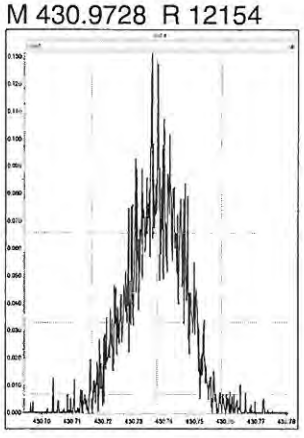
M 404.9760 R 12468



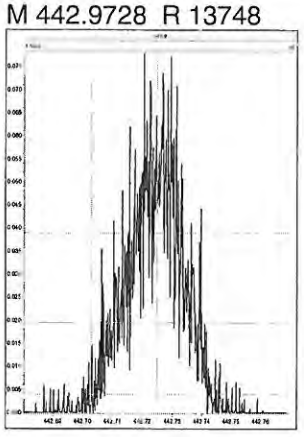
M 416.9760 R 15166



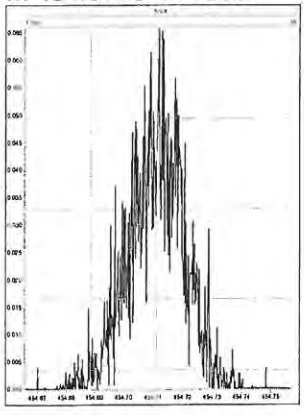
M 430.9728 R 12154



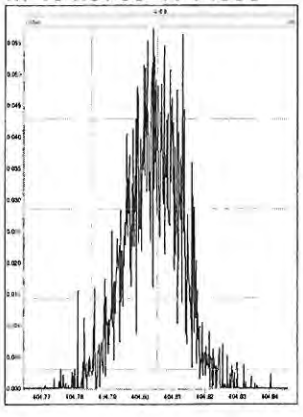
M 442.9728 R 13748



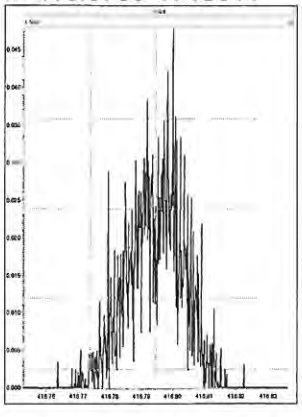
M 454.9728 R 13687



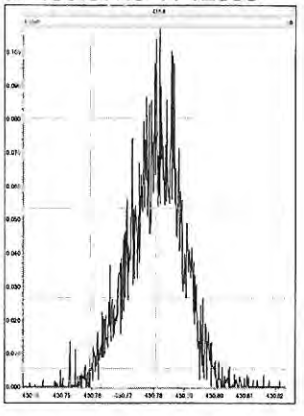
M 404.9760 R 14053



M 416.9760 R 15911

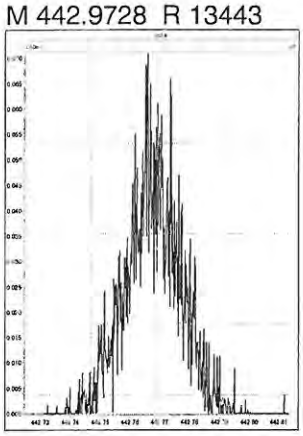


M 430.9728 R 12855

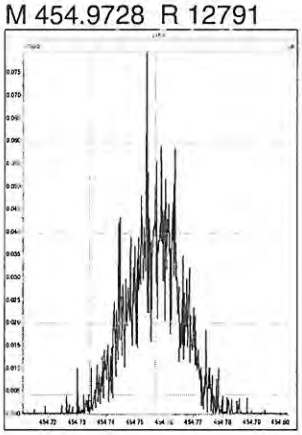


Printed: Tuesday, June 05, 2018 01:11:19 Pacific Daylight Time

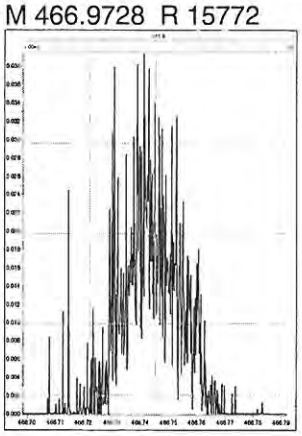
M 442.9728 R 13443



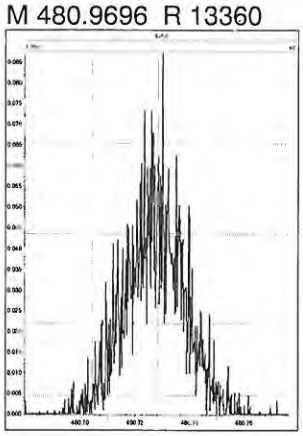
M 454.9728 R 12791



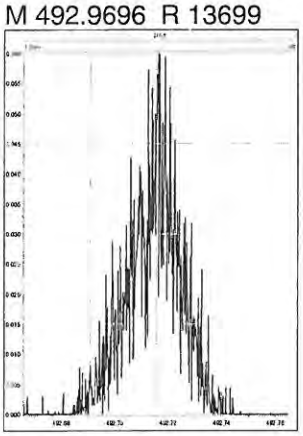
M 466.9728 R 15772



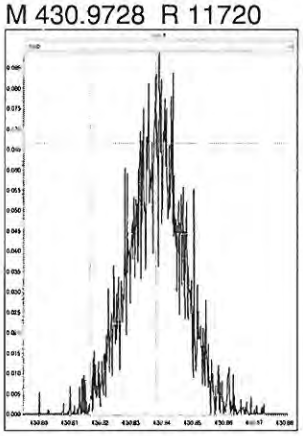
M 480.9696 R 13360



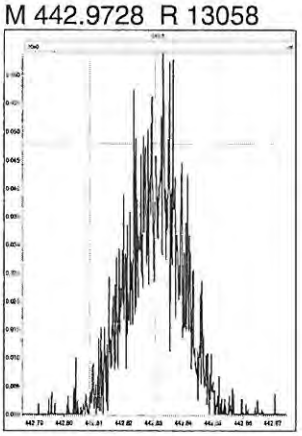
M 492.9696 R 13699



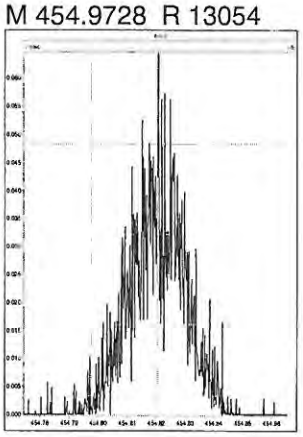
M 430.9728 R 11720



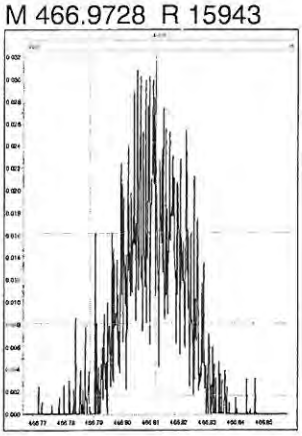
M 442.9728 R 13058



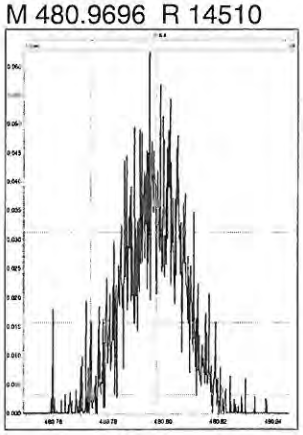
M 454.9728 R 13054



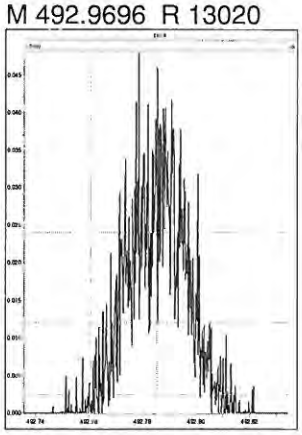
M 466.9728 R 15943



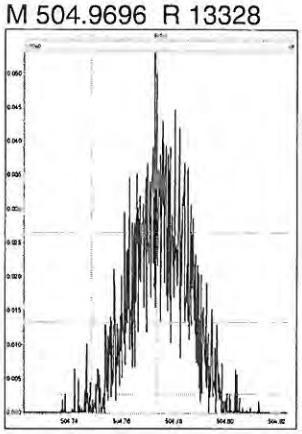
M 480.9696 R 14510



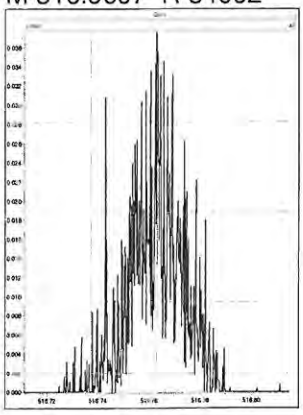
M 492.9696 R 13020



M 504.9696 R 13328



M 516.9697 R 34002



Sample List Report **MassLynx 4.1 SCN627**

Sample List: G:\Masslynx\Inst_M\Projects\180604DX.PRO\SampleDB\DX8M_065C-6A.SPL Page 1 of 1
Last Modified: Wednesday, June 06, 2018 09:04:40 Pacific Daylight Time
Printed: Wednesday, June 06, 2018 09:30:31 Pacific Daylight Time Page Position (1, 1)

	File Name	Sample ID	File Text	Sample Type	TCDD	TCDF	Pe-Hp	Octa	13C-Te-Hp	13C-OCDD	Rec Std	C/Up
1	DX8M_065CS1	DX041A-CAL,,/01	1,,1.0uL CS-0.2 Sens	Standard	.1	.1	.5	1	100	200	100	.1
2	DX8M_065CS3	DX041B-CAL,,/01	1,,1.0uL CS-1	Standard	.5	.5	2.5	5	100	200	100	.5
3	DX8M_065CS4	DX041C-CAL,,/01	1,,1.0uL CS-2	Standard	2	2	10	20	100	200	100	2
4	DX8M_065CS5	DX041F-CAL,,/01	1,,1.0uL CS-5	Standard	200	200	1000	2000	100	200	100	200
5	DX8M_065CS6	DX041E-CAL,,/01	1,,1.0uL CS-4	Standard	40	40	200	400	100	200	100	40
6	DX8M_065CS7	DX041D-CAL,,/01-91	1,,1.0uL Cal Win/Res	Standard	10	10	50	100	100	200	100	10

SGS AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 04-Jun-2018

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: DX8M_065C S: 1
CS1 Data Filename: DX8M_065C S: 3
CS2 Data Filename: DX8M_065C S: 4
CS3 Data Filename: DX8M_065C S: 7
CS4 Data Filename: DX8M_065C S: 6
CS5 Data Filename: DX8M_065C S: 5
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
2,3,7,8-TCDD		1.26	1.15	1.05	1.09	1.07	1.07		1.11	7.15
1,2,3,7,8-PECDD [3]		0.92	1.09	1.04	1.04	1.04	1.03		1.03	5.33
1,2,3,4,7,8-HXCDD		0.94	1.02	0.98	1.04	1.02	1.02		1.00	3.60
1,2,3,6,7,8-HXCDD		0.89	0.95	0.91	0.97	0.94	0.94		0.93	3.09
1,2,3,7,8,9-HXCDD [4]		1.02	0.96	0.93	0.99	0.97	0.95		0.97	3.34
1,2,3,4,6,7,8-HPCDD		1.02	0.97	0.98	0.99	1.01	1.00		1.00	2.04
OCDD		1.02	1.04	0.97	1.04	1.04	1.00		1.02	2.76
2,3,7,8-TCDF		0.93	0.88	0.90	0.94	0.93	0.91		0.91	2.43
1,2,3,7,8-PECDF		0.93	0.90	0.86	0.97	0.93	0.95		0.92	4.19
2,3,4,7,8-PECDF		0.95	0.93	0.92	0.94	0.95	0.95		0.94	1.39
1,2,3,4,7,8-HXCDF		1.09	1.14	1.05	1.13	1.14	1.13		1.12	3.26
1,2,3,6,7,8-HXCDF		1.08	1.06	1.01	1.06	1.07	1.10		1.06	2.74
1,2,3,7,8,9-HXCDF		0.95	1.02	0.98	1.02	1.01	1.02		1.00	2.99
2,3,4,6,7,8-HXCDF		1.10	1.12	1.11	1.19	1.16	1.16		1.14	3.17
1,2,3,4,6,7,8-HPCDF		1.16	1.28	1.21	1.24	1.23	1.22		1.22	3.38
1,2,3,4,7,8,9-HPCDF		1.24	1.27	1.23	1.28	1.25	1.24		1.25	1.37
OCDF [5]		1.12	1.23	1.14	1.25	1.31	1.32		1.23	6.84

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(4) Response ratios are calculated relative to the labeled analogs of the other two HXCDDs (Section 17.1.2, Method 1613).
(5) Response ratios are calculated relative to the labeled analog of OCDD (Section 17.1.1, Method 1613).

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_04-Jun-2018_DX8M__Form3A_GS76848.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 04-Jun-2018

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: DX8M_065C S: 1

CS1 Data Filename: DX8M_065C S: 3

CS2 Data Filename: DX8M_065C S: 4

CS3 Data Filename: DX8M_065C S: 7

CS4 Data Filename: DX8M_065C S: 6

CS5 Data Filename: DX8M_065C S: 5

CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
LABELED COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
13C-2,3,7,8-TCDD		1.04	0.95	0.99	1.00	1.00	1.05		1.00	3.74
13C-1,2,3,7,8-PECDD [3]		0.68	0.61	0.64	0.62	0.64	0.75		0.66	8.04
13C-1,2,3,4,7,8-HXCDD		1.05	0.96	0.96	0.95	0.98	1.00		0.98	3.74
13C-1,2,3,6,7,8-HXCDD		1.07	1.02	1.01	1.03	1.04	1.07		1.04	2.53
13C-1,2,3,4,6,7,8-HPCDD		0.88	0.78	0.80	0.79	0.80	0.83		0.81	4.34
13C-OCDD		0.78	0.64	0.67	0.67	0.69	0.84		0.72	10.4
13C-2,3,7,8-TCDF		1.68	1.56	1.60	1.60	1.59	1.66		1.61	2.83
13C-1,2,3,7,8-PECDF		1.20	1.07	1.13	1.11	1.15	1.33		1.16	7.84
13C-2,3,4,7,8-PECDF		1.15	1.03	1.08	1.07	1.10	1.31		1.12	8.87
13C-1,2,3,4,7,8-HXCDF		1.35	1.25	1.26	1.25	1.27	1.29		1.28	2.93
13C-1,2,3,6,7,8-HXCDF		1.42	1.33	1.34	1.35	1.35	1.39		1.36	2.30
13C-1,2,3,7,8,9-HXCDF		1.28	1.17	1.19	1.16	1.19	1.23		1.20	3.61
13C-2,3,4,6,7,8-HXCDF		1.28	1.20	1.21	1.18	1.21	1.24		1.22	2.95
13C-1,2,3,4,6,7,8-HPCDF		1.09	0.99	0.98	0.99	1.01	1.05		1.02	3.89
13C-1,2,3,4,7,8,9-HPCDF		0.86	0.77	0.77	0.75	0.78	0.84		0.79	5.44
CLEANUP STANDARD										
37CL-2,3,7,8-TCDD		1.06	1.27	1.07	1.07	1.07	1.13		1.11	7.11

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_04-Jun-2018_DX8M__Form3B_GS76848.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 3C

PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 04-Jun-2018

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: DX8M_065C S: 1

CS1 Data Filename: DX8M_065C S: 3

CS2 Data Filename: DX8M_065C S: 4

CS3 Data Filename: DX8M_065C S: 7

CS4 Data Filename: DX8M_065C S: 6

CS5 Data Filename: DX8M_065C S: 5

CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
2,3,7,8-TCDD		**M/M+2**	0.77	0.82	0.70	0.79	0.79	0.78		0.65-0.89
1,2,3,7,8-PECDD [4]		**M/M+2**	0.53	0.64	0.59	0.64	0.62	0.62		0.52-0.70
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.19	1.27	1.28	1.22	1.24	1.25		1.05-1.43
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.41	1.20	1.19	1.27	1.22	1.22		1.05-1.43
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.24	1.35	1.25	1.24	1.23	1.23		1.05-1.43
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.02	1.00	1.01	1.03	1.06	1.04		0.88-1.20
OCDD		**M+2/M+4**	0.84	0.95	0.89	0.87	0.87	0.87		0.76-1.02
2,3,7,8-TCDF		**M/M+2**	0.82	0.67	0.76	0.71	0.77	0.77		0.65-0.89
1,2,3,7,8-PECDF		**M+2/M+4**	1.49	1.49	1.42	1.44	1.48	1.47		1.32-1.78
2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.41	1.45	1.45	1.50	1.47		1.32-1.78
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.36	1.15	1.10	1.17	1.18	1.18		1.05-1.43
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.27	1.07	1.21	1.17	1.18	1.19		1.05-1.43
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.20	1.13	1.21	1.18	1.19	1.20		1.05-1.43
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.26	1.16	1.16	1.19	1.17	1.19		1.05-1.43
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.01	0.98	0.98	1.00	0.96	1.01		0.88-1.20
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.02	0.92	0.99	1.01	0.97	1.02		0.88-1.20
OCDF		**M+2/M+4**	0.91	0.79	0.84	0.86	0.89	0.89		0.76-1.02

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_04-Jun-2018_DX8M__Form3C_GS76848.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 04-Jun-2018

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: DX8M_065C S: 1
CS1 Data Filename: DX8M_065C S: 3
CS2 Data Filename: DX8M_065C S: 4
CS3 Data Filename: DX8M_065C S: 7
CS4 Data Filename: DX8M_065C S: 6
CS5 Data Filename: DX8M_065C S: 5
CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
13C-2,3,7,8-TCDD		**M/M+2**	0.79	0.78	0.79	0.77	0.76	0.82		0.65-0.89
13C-1,2,3,7,8-PECDD [4]		**M/M+2**	0.66	0.66	0.67	0.65	0.66	0.67		0.52-0.70
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.27	1.25	1.27	1.24	1.26	1.26		1.05-1.43
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.23	1.22	1.22	1.22	1.21	1.26		1.05-1.43
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.01	1.03	0.99	1.01	1.03	1.05		0.88-1.20
13C-OCDD		**M+2/M+4**	0.88	0.92	0.87	0.90	0.86	0.89		0.76-1.02
13C-2,3,7,8-TCDF		**M/M+2**	0.77	0.78	0.77	0.77	0.78	0.74		0.65-0.89
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.56	1.55	1.57	1.51	1.57	1.54		1.32-1.78
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.54	1.56	1.54	1.56	1.56	1.54		1.32-1.78
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.50	0.53	0.52	0.52	0.52	0.52		0.43-0.59
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.52	0.53	0.52	0.52	0.53	0.51		0.43-0.59
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.52	0.52	0.52	0.53	0.53	0.52		0.43-0.59
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.51	0.52	0.54	0.53	0.54	0.53		0.43-0.59
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.46	0.46	0.45	0.45	0.45	0.45		0.37-0.51
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.47	0.45	0.47	0.46	0.46	0.44		0.37-0.51

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form3D.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_04-Jun-2018_DX8M__Form3D_GS76848.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		04-Jun-2018
RT Window Data Filename:	DX8M_065C S: 7	**Analysis Date:**	05-Jun-2018	**Time:** 00:06:54
DB-5 IS Data Filename:	DX8M_065C S: 7	**Analysis Date:**	05-Jun-2018	**Time:** 00:06:54
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:57	**1,3,6,8-TCDF (F)**	21:25
1,2,8,9-TCDD (L)	28:19	**1,2,8,9-TCDF (L)**	28:09
1,2,4,7,9-PECDD (F)	32:04	**1,3,4,6,8-PECDF (F)**	28:52
1,2,3,8,9-PECDD (L)	37:04	**1,2,3,8,9-PECDF (L)**	37:07
1,2,4,6,7,9-HXCDD (F)	40:03	**1,2,3,4,6,8-HXCDF (F)**	39:00
1,2,3,4,6,7-HXCDD (L)	42:40	**1,2,3,4,8,9-HXCDF (L)**	43:00
1,2,3,4,6,7,9-HPCDD (F)	45:47	**1,2,3,4,6,7,8-HPCDF (F)**	45:18
1,2,3,4,6,7,8-HPCDD (L)	46:42	**1,2,3,4,7,8,9-HPCDF (L)**	47:06

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	6
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Leanne Henley_____

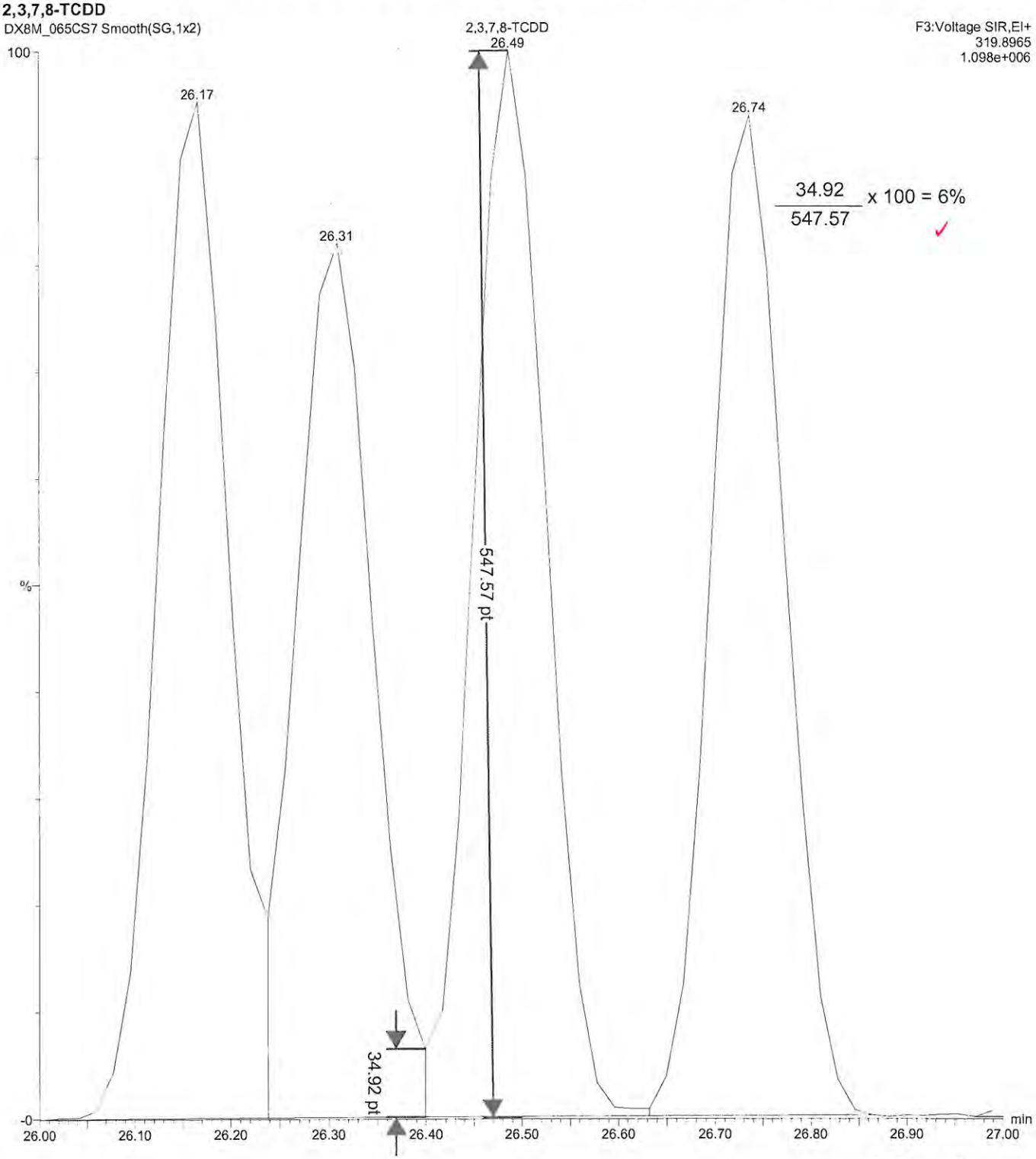
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DX8M_065CS7_Form5_SJ2388667.html; Workgroup: WG64557; Design ID: 491]

SGS Axys Analytical Services, Ltd.
Quantify Sample Report **MassLynx 4.1 SCN627**

Method: G:\Masslynx\Inst_M\Projects\180604DX.pro\MethDB\DX_Win_ResC.mdb 07 Dec 2011 14:46:56
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.pro\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

2,3,7,8-TCDD



PV by LHE
06-JUNE-2018

www.axysanalytical.com

Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 425

Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

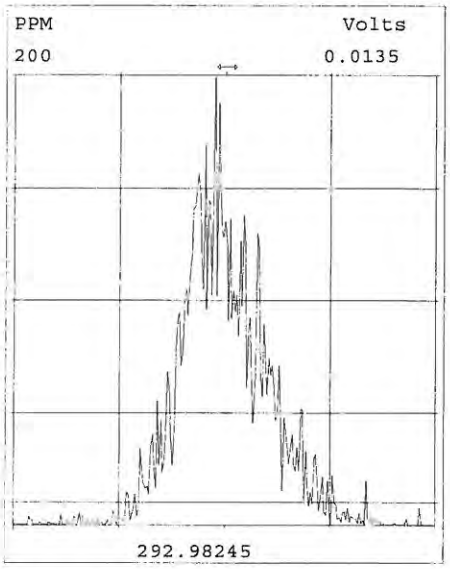
Tune : BA
List : EW/BA
Check :
LIMS :
Logfile:

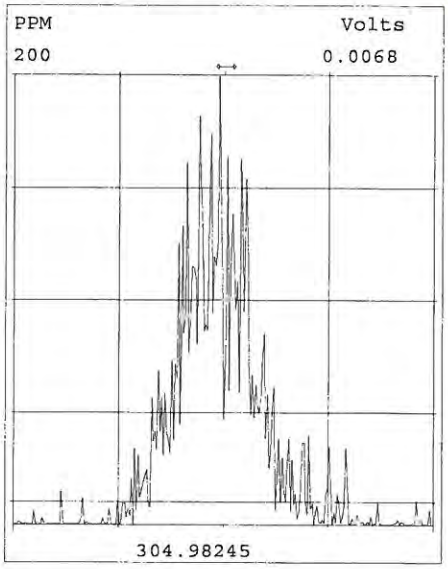
Date -list : 10-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

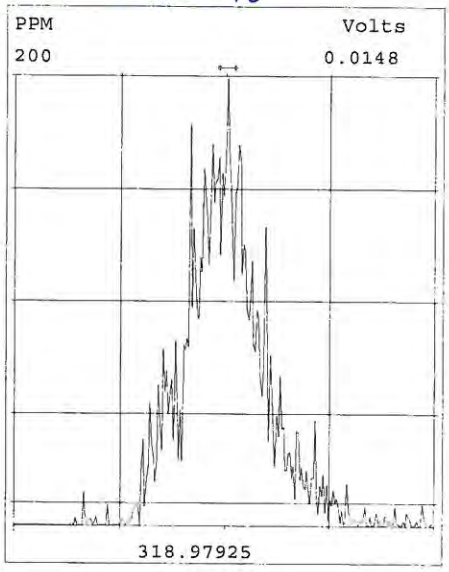
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_121	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	10-JUL-18 15:40:53
2	DB83_121	2	2	DX041C-CAL,,/01	1,,2.0uL CS-2	10-JUL-18 16:22:08
3	DB83_121	3	3	DX041B-CAL,,/01	1,,2.0uL CS-1	10-JUL-18 17:03:24
4	DB83_121	4	4	DX041A-CAL,,/01-16	1,,2.0uL CS-0.2/SENS	10-JUL-18 17:44:40
5	DB83_121	5	5	DX041F-CAL,,/01	1,,2.0uL CS-5	10-JUL-18 18:25:52
6	DB83_121	6	6	DX041E-CAL,,/01	1,,2.0uL CS-4	10-JUL-18 19:07:08
7	DB83_121	7	7	DX041D-CAL,,/01-90	1,,2.0uL CAL	10-JUL-18 19:48:20
8	DB83_121	8	8	DX003A-SSV,,/01	1,,2.0uL CAL	10-JUL-18 20:29:36

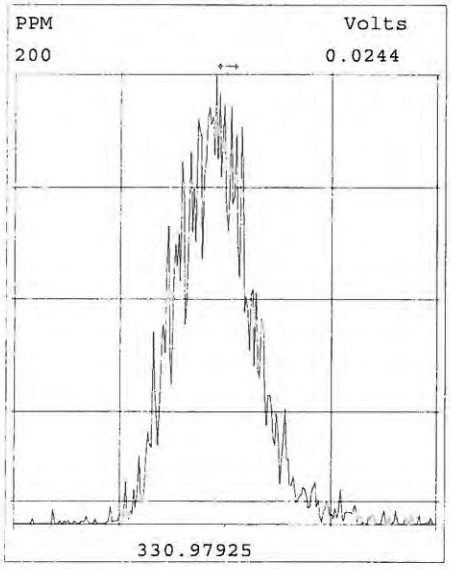
Peak Locate Examination:10-JUL-2018:15:39 File:DB83_121CAL
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

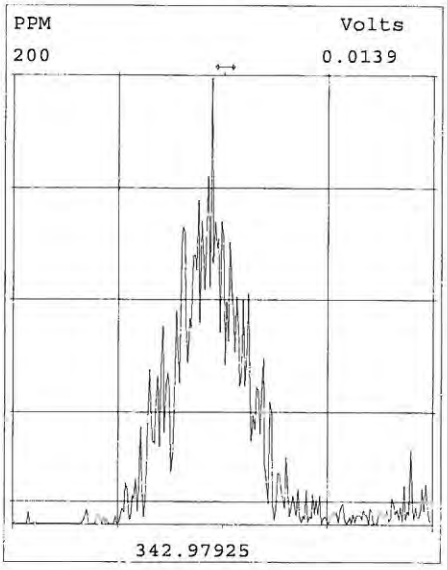
Approved by JT 10-JUL-18

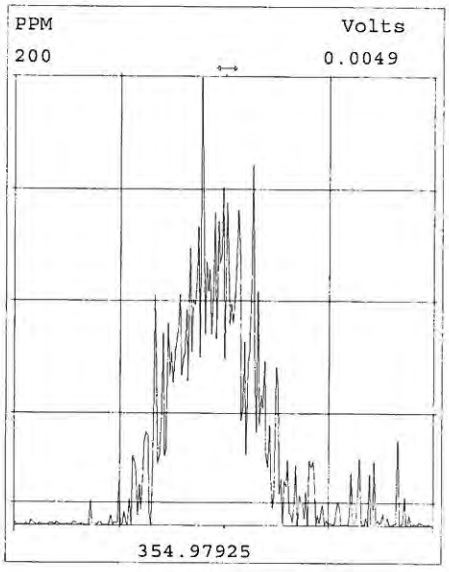


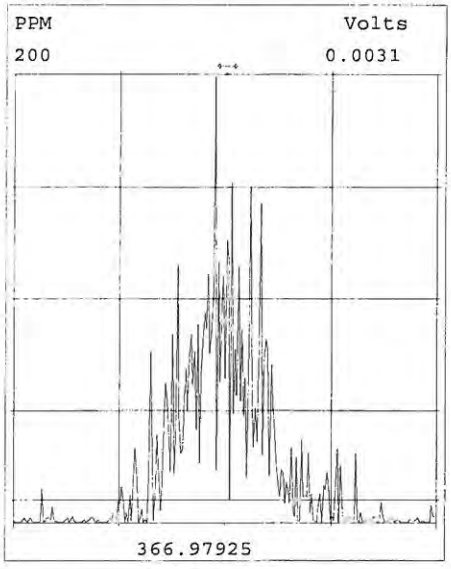


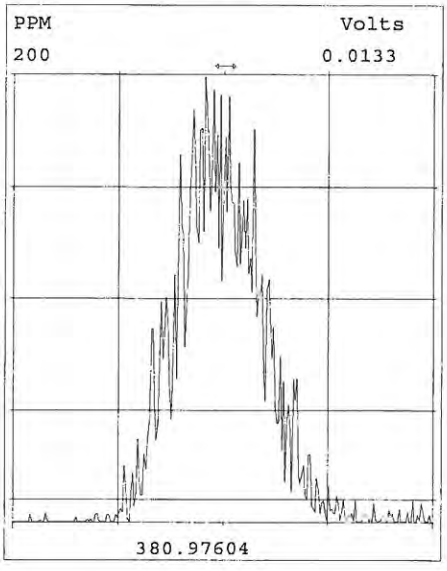




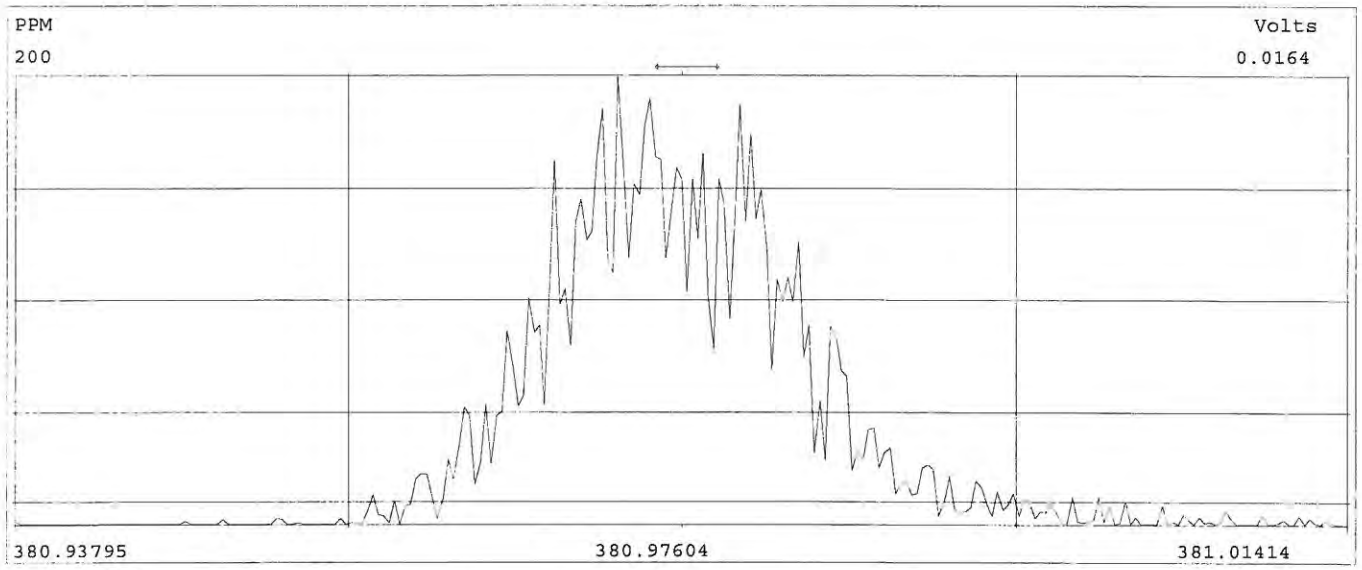


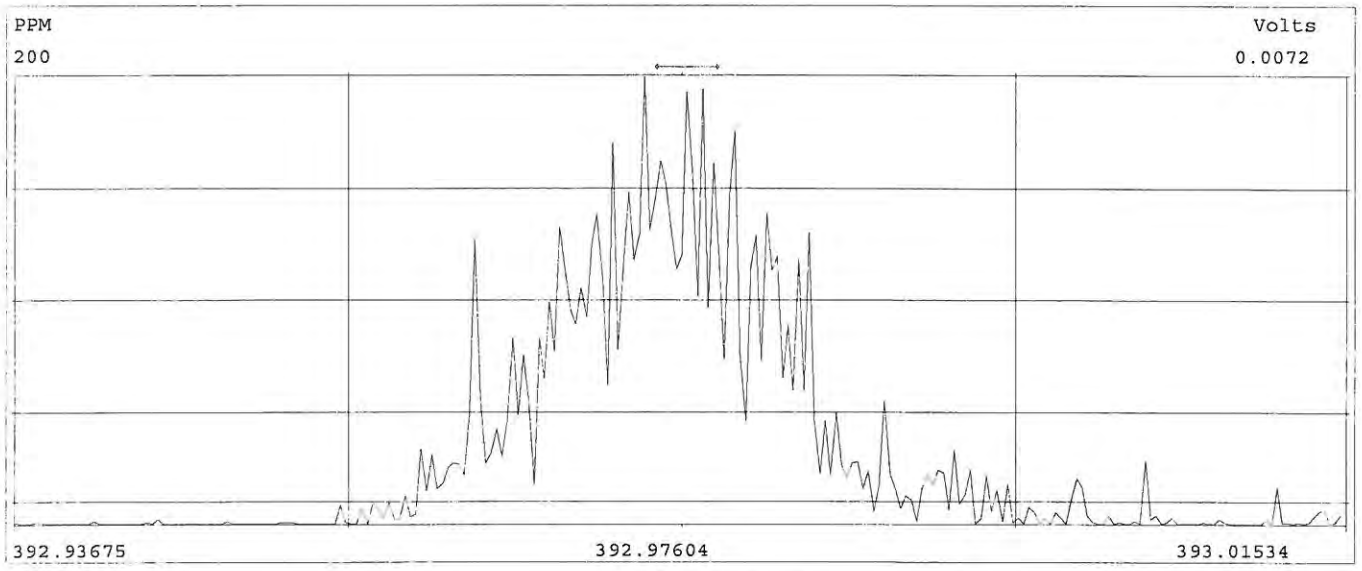


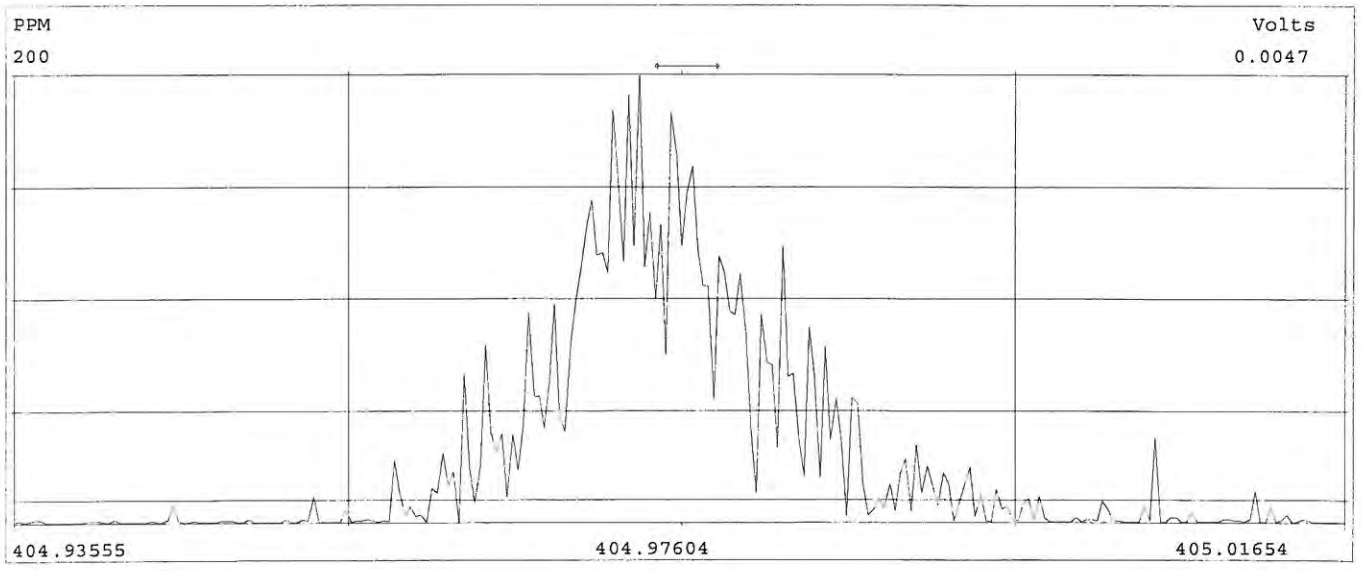




Peak Locate Examination:10-JUL-2018:15:40 File:DB83_121CAL
Experiment:DX-DB225-4_01 Function:2 Reference:PFK

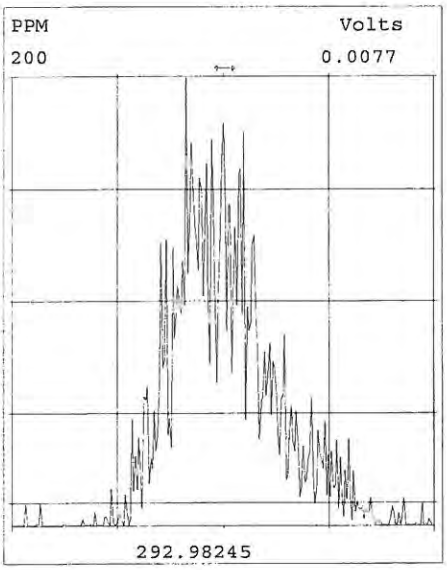


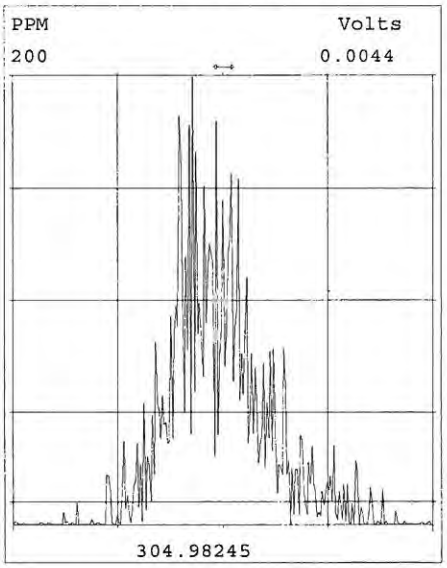


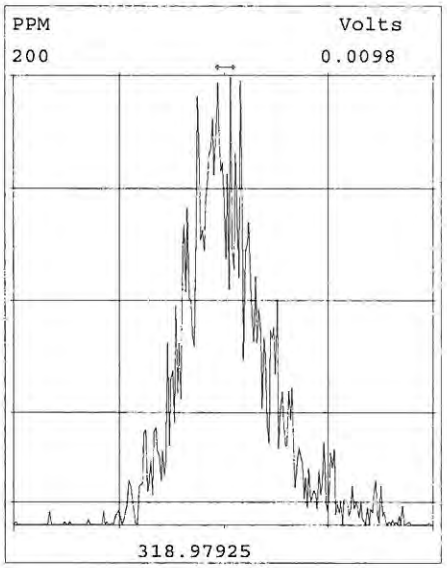


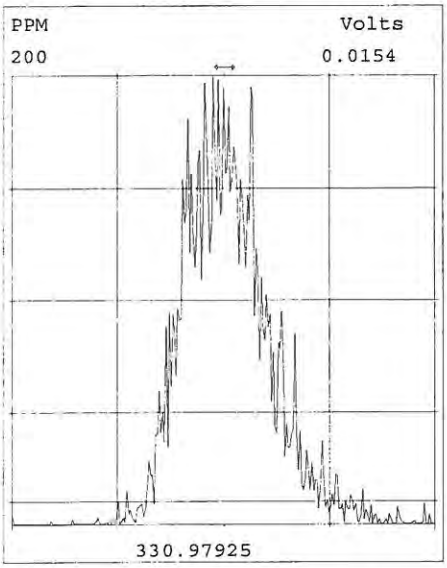
Peak Locate Examination:10-JUL-2018:21:12 File:DB83_121CAL2
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

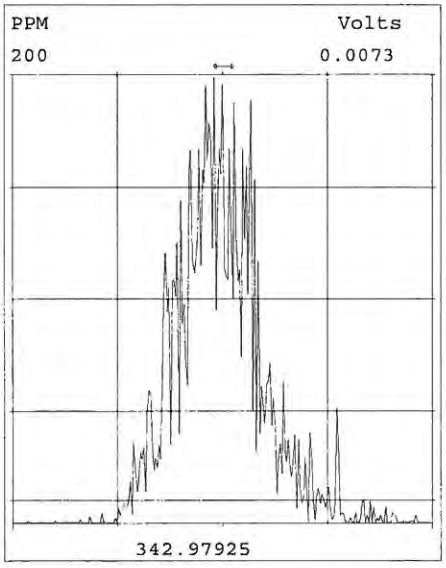
Approved by JT
10-Jul-18

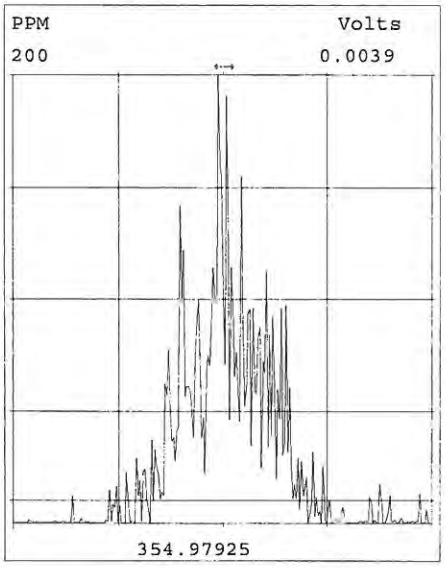


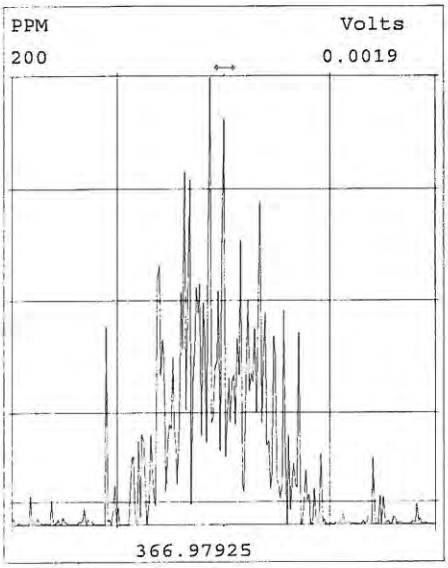


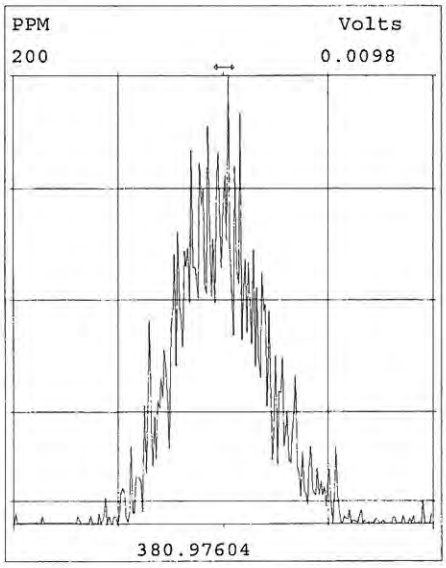




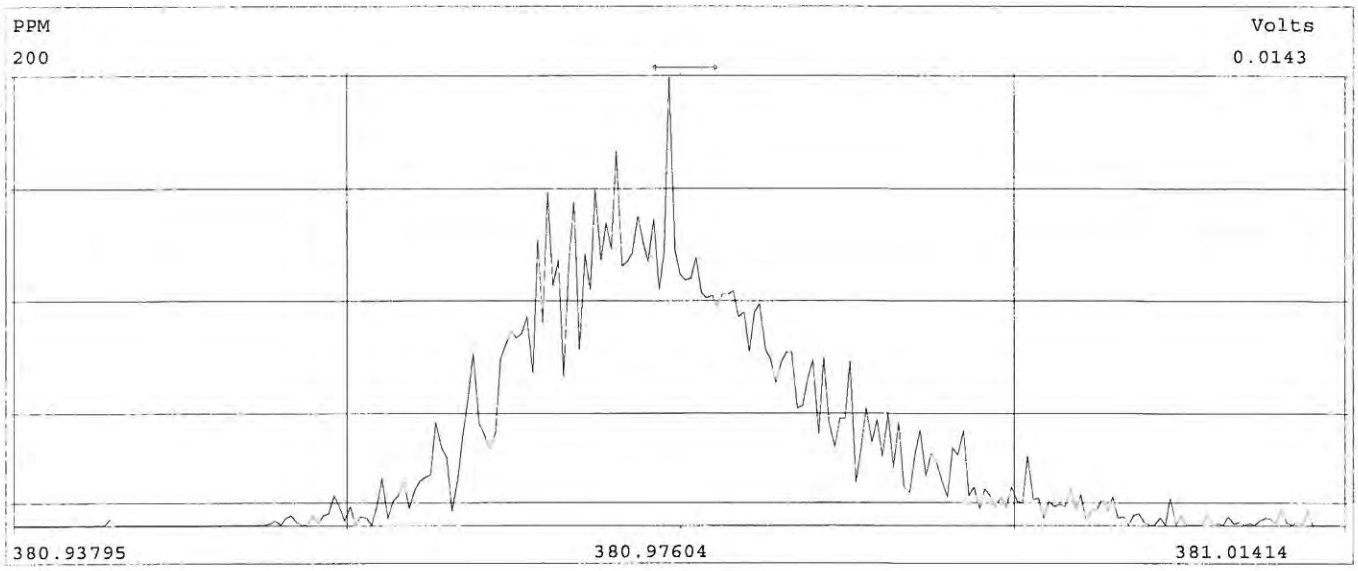


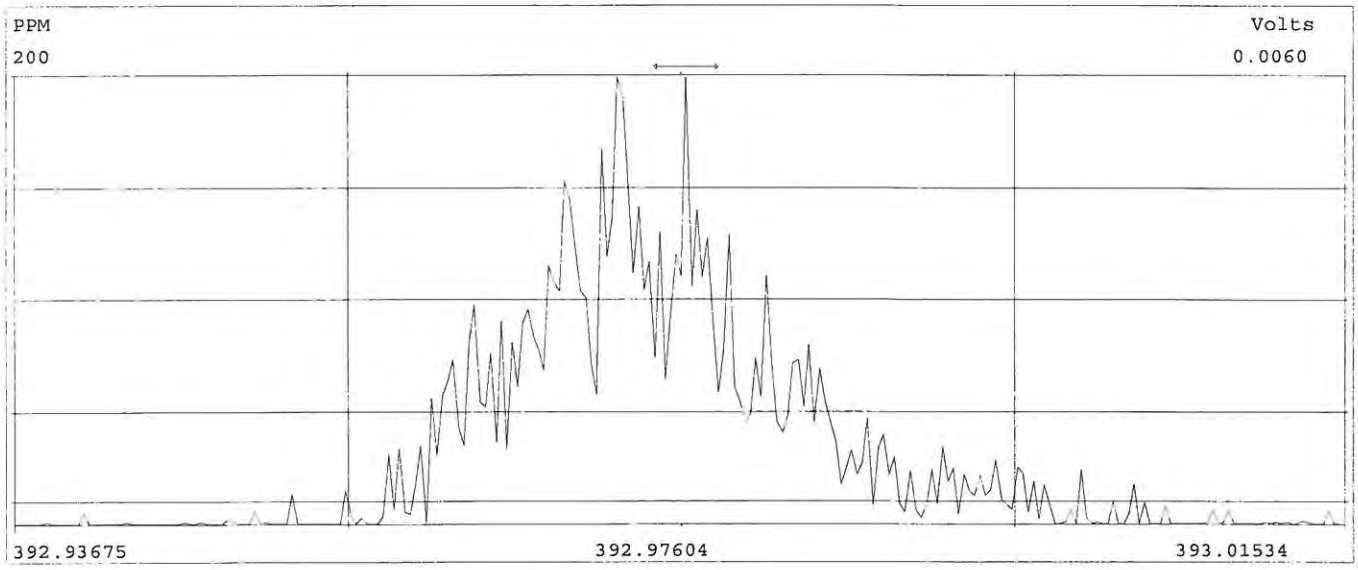


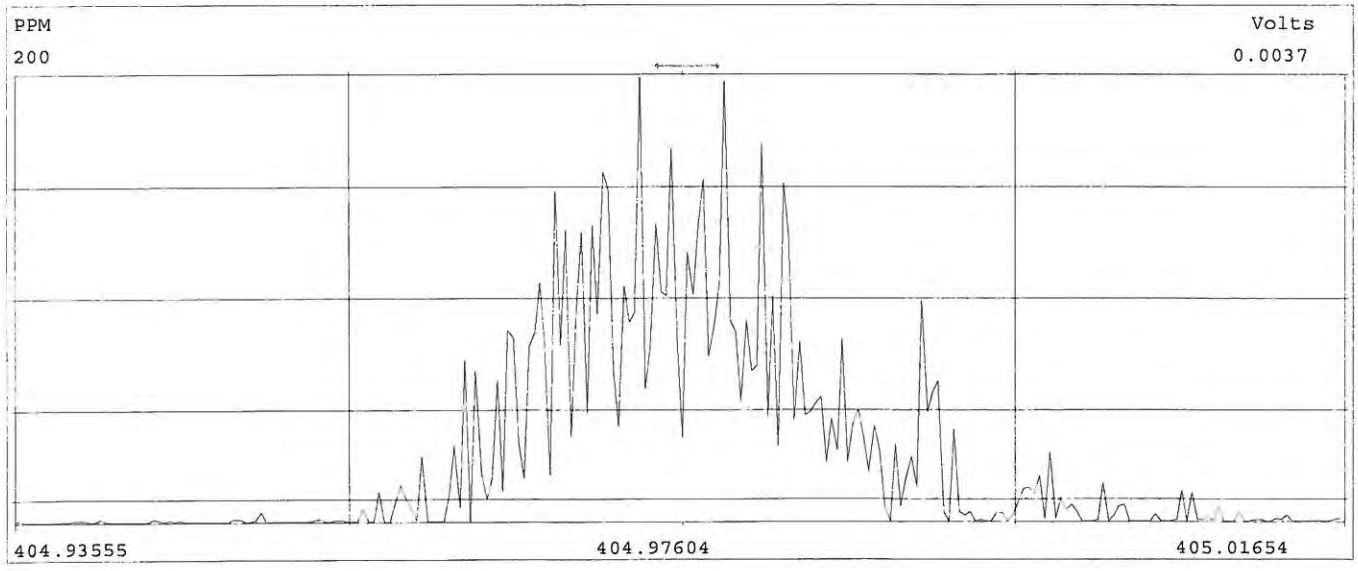




Peak Locate Examination:10-JUL-2018:21:12 File:DB83_121CAL2
Experiment:DX-DB225-4_01 Function:2 Reference:PFK







DB83_121-6A

OPUSquan 12-JUL-2018 Page 1

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ult3	DB83_121	4	1	DB-HXD-C2	0.2000	1.0000	1.000000	y	DX041A-CAL,,»	1,,2.0uL CS-0.2/»	y
2 c	ult3	DB83_121	3	1	DB-HXD-C2	1.0000	1.0000	1.000000	y	DX041B-CAL,,»	1,,2.0uL CS-1	y
3 c	ult3	DB83_121	2	1	DB-HXD-C2	4.0000	1.0000	1.000000	y	DX041C-CAL,,»	1,,2.0uL CS-2	y
4 c	ult3	DB83_121	7	1	DB-HXD-C2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL CAL	y
5 c	ult3	DB83_121	6	1	DB-HXD-C2	80.0000	1.0000	1.000000	y	DX041E-CAL,,»	1,,2.0uL CS-4	y
6 c	ult3	DB83_121	5	1	DB-HXD-C2	400.0000	1.0000	1.000000	y	DX041F-CAL,,»	1,,2.0uL CS-5	y
7 q	ult3	DB83_121	8	1	DB-HXD-C2	20.0000	1.0000	1.000000	y	DX003A-SSV,,»	1,,2.0uL CAL	y
8 q	ult3	DB83_121	7	1	DB-HXD-C2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL CAL	y
9 q	ult3	DB83_121	1	1	DB-HXD-C2	1.0000	1.0000	1.000000	y	DX003A-RSN,,»	1,,2.0uL Win/Res	y

SGS AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: DB225

CS0 Data Filename: DB83_121 S: 4
CS1 Data Filename: DB83_121 S: 3
CS2 Data Filename: DB83_121 S: 2
CS3 Data Filename: DB83_121 S: 7
CS4 Data Filename: DB83_121 S: 6
CS5 Data Filename: DB83_121 S: 5
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
1,2,3,7,8,9-HXCDD		0.82	0.89	0.85	0.97	0.99	1.00		0.92	8.53
2,3,7,8-TCDF		0.93	0.91	0.89	1.04	1.03	1.01		0.97	7.11

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_10-Jul-2018_DB83__Form3A_GS76872.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 3C

PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 10-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: DB225

CS0 Data Filename: DB83_121 S: 4

CS1 Data Filename: DB83_121 S: 3

CS2 Data Filename: DB83_121 S: 2

CS3 Data Filename: DB83_121 S: 7

CS4 Data Filename: DB83_121 S: 6

CS5 Data Filename: DB83_121 S: 5

CS6 Data Filename: N/A

			ION ABUNDANCE RATIO							
COMPOUND	**LAB FLAG [1]**	**M/Z's FORMING RATIO [2]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**QC LIMITS[3]**
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.25	1.29	1.26	1.26	1.25	1.25		1.05-1.43
2,3,7,8-TCDF		**M/M+2**	0.88	0.81	0.78	0.78	0.78	0.78		0.65-0.89

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_10-Jul-2018_DB83__Form3C_GS76872.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		10-Jul-2018
RT Window Data Filename:		**Analysis Date:**		**Time:**
DB-5 IS Data Filename:		**Analysis Date:**		**Time:**
DB-225 IS Data Filename:	DB83_121 S: 1	**Analysis Date:**	10-Jul-2018	**Time:** 15:40:53

DB225 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	N/A	**1,3,6,8-TCDF (F)**	N/A
1,2,8,9-TCDD (L)	N/A	**1,2,8,9-TCDF (L)**	N/A
1,2,4,7,9-PECDD (F)	N/A	**1,3,4,6,8-PECDF (F)**	N/A
1,2,3,8,9-PECDD (L)	N/A	**1,2,3,8,9-PECDF (L)**	N/A
1,2,4,6,7,9-HXCDD (F)	N/A	**1,2,3,4,6,8-HXCDF (F)**	N/A
1,2,3,4,6,7-HXCDD (L)	N/A	**1,2,3,4,8,9-HXCDF (L)**	N/A
1,2,3,4,6,7,9-HPCDD (F)	N/A	**1,2,3,4,6,7,8-HPCDF (F)**	N/A
1,2,3,4,6,7,8-HPCDD (L)	N/A	**1,2,3,4,7,8,9-HPCDF (L)**	N/A

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

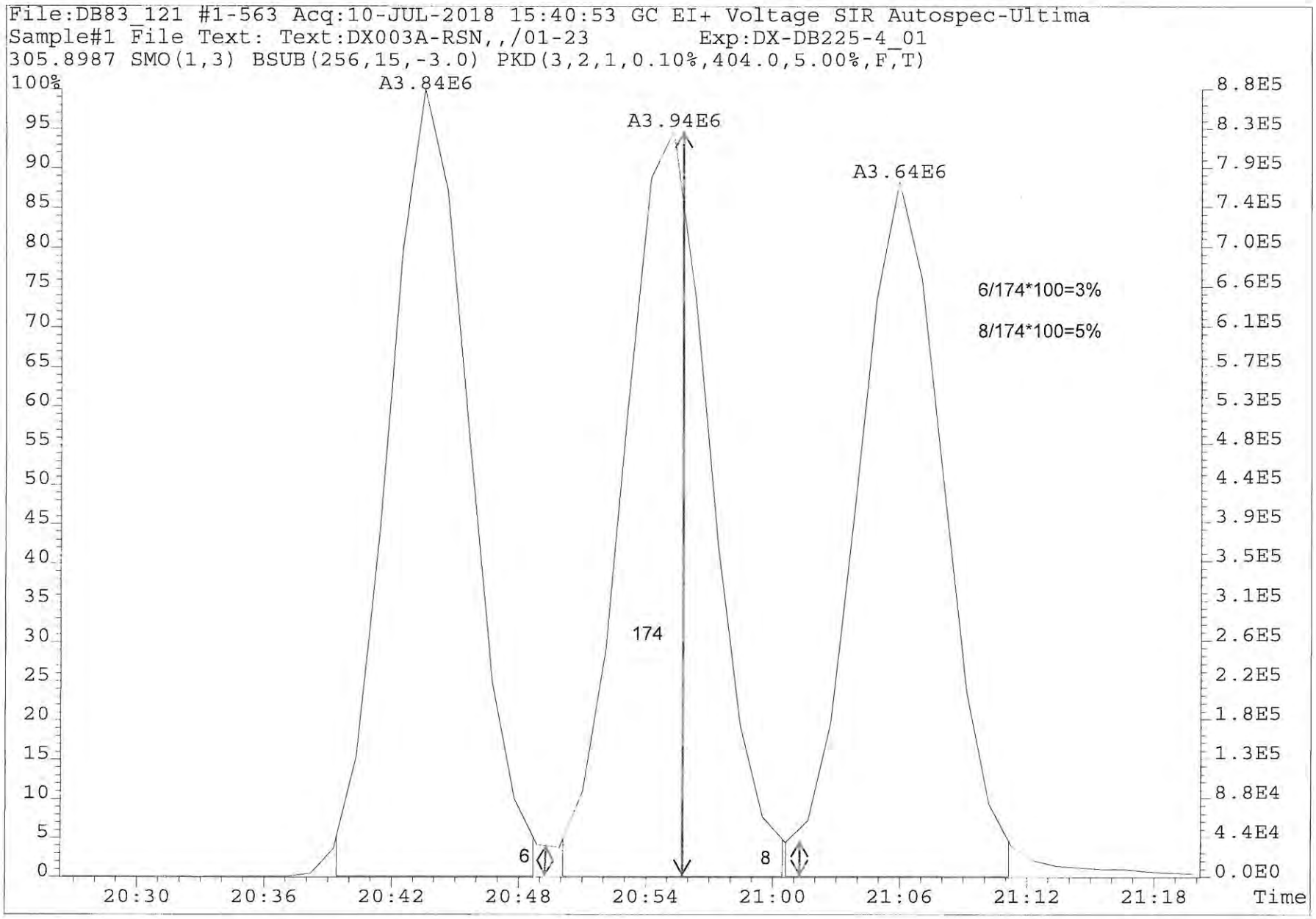
ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	N/A	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	N/A
1,2,7,8-TCDD **1,4,7,8-TCDD**	N/A	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	3
1,4,7,8-TCDD **1,2,3,7-TCDD**	N/A	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	5
1,2,3,7-TCDD **1,2,3,8-TCDD**	N/A		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DB83_121S1_Form5_SJ2403414.html; Workgroup: WG64557; Design ID: 491]



PV by TD 12-Jul-2018

Sign 12-Jul-18

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX8M_088S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	14:46:59
2	DX8M_088S2	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	15:55:08
3	DX8M_088S3	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	18:53:17
4	DX8M_088S4	WG64576-102,,SPM	1,WG64576,1.0/20uL	24-Jul-18	19:55:14
5	DX8M_088S5	DX051A-SUR,,/01	1,,1.0uL Inst Blank	24-Jul-18	20:47:42
6	DX8M_088S6	DX051A-SUR,,/01	1,,1.0uL Inst Blank	24-Jul-18	21:42:57
7	DX8M_088S7	WG64576-101,,BLK	1,WG64576,1.0/20uL	24-Jul-18	22:38:09
8	DX8M_088S8	L29628-18,L,	1,WG64578,1.0/20uL	24-Jul-18	23:33:23
9	DX8M_088S9	L29625-1,,	1,WG64576,1.0/20uL	25-Jul-18	00:28:35
10	DX8M_088S10	WG64576-103,,DUP	1,WG64576,1.0/20uL	25-Jul-18	01:23:43
11	DX8M_088S11	L29625-2,,	1,WG64576,1.0/20uL	25-Jul-18	02:18:51
12	DX8M_088S12	L29625-3,,	1,WG64576,1.0/20uL	25-Jul-18	03:14:06
13	DX8M_088S13	L29625-4,,	1,WG64576,1.0/20uL	25-Jul-18	04:09:19
14	DX8M_088S14	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	05:04:31
15	DX8M_088S15	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	17:34:53
16	DX8M_088S16	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	07:01:29
17	DX8M_088S17	L29625-5,,	1,WG64576,1.0/20uL	25-Jul-18	07:56:42
18	DX8M_088S18	L29625-6,,	1,WG64576,1.0/20uL	25-Jul-18	08:51:55
19	DX8M_088S19	L29625-7,,	1,WG64576,1.0/20uL	25-Jul-18	09:47:10
20	DX8M_088S20	L29625-8,,	1,WG64576,1.0/20uL	25-Jul-18	10:42:22
21	DX8M_088S21	L29625-9,,	1,WG64576,1.0/20uL	25-Jul-18	11:37:36
22	DX8M_088S22	L29625-10,,	1,WG64576,1.0/20uL	25-Jul-18	12:32:49
23	DX8M_088S23	L29625-11,,	1,WG64576,1.0/20uL	25-Jul-18	13:28:02
24	DX8M_088S24	L29625-12,,	1,WG64576,1.0/20uL	25-Jul-18	14:23:16
25	DX8M_088S25	L29625-13,,	1,WG64576,1.0/20uL	25-Jul-18	15:18:29
26	DX8M_088S26	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	16:13:43
27	DX8M_088S27	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	19:04:07
28	DX8M_088S28	WG64674-102,,SPM	1,WG64674,1.0/20uL	25-Jul-18	20:04:16
29	DX8M_088S29	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	20:56:40
30	DX8M_088S30	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	21:51:54
31	DX8M_088S31	WG64674-101,,BLK	1,WG64674,1.0/20uL	25-Jul-18	22:47:07
32	DX8M_088S32	L29625-14,,	1,WG64576,1.0/20uL	25-Jul-18	23:42:20
33	DX8M_088S33	L29625-15,,	1,WG64576,1.0/20uL	26-Jul-18	00:37:34
34	DX8M_088S34	L29625-16,,	1,WG64576,1.0/20uL	26-Jul-18	01:32:46
35	DX8M_088S35	L29625-17,,	1,WG64576,1.0/20uL	26-Jul-18	02:28:00
36	DX8M_088S36	L29347-1,,	1,WG64576,1.0/20uL	26-Jul-18	03:23:13
37	DX8M_088S37	L29654-1,,	1,WG64674,1.0/20uL	26-Jul-18	04:18:27
38	DX8M_088S38	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	05:13:41
39	DX8M_088S39	WG64557-102,,SPM	1,WG64557,1.0/20uL	26-Jul-18	07:29:01
40	DX8M_088S40	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	08:21:33
41	DX8M_088S41	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	09:16:46
42	DX8M_088S42	WG64557-101,,BLK	1,WG64557,1.0/20uL	26-Jul-18	10:11:59
43	DX8M_088S43	WG64557-105,,MDL	1,WG64557,1.0/20uL	26-Jul-18	11:07:12
44	DX8M_088S44	L29626-1,,	1,WG64557,1.0/20uL	26-Jul-18	12:02:26
45	DX8M_088S45	WG64557-103,,DUP	1,WG64557,1.0/20uL	26-Jul-18	12:57:39
46	DX8M_088S46	L29626-2,,	1,WG64557,1.0/20uL	26-Jul-18	13:52:53
47	DX8M_088S47	L29626-3,,	1,WG64557,1.0/20uL	26-Jul-18	14:48:06
48	DX8M_088S48	L29654-3,,	1,WG64674,1.0/20uL	26-Jul-18	15:43:19

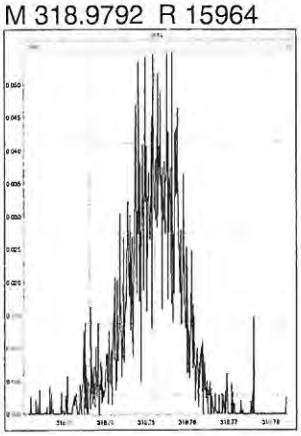
Compound name: -

#	Name	ID	Sample Text	Acq Date	Acq Time
49	DX8M_088S49	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	16:45:07

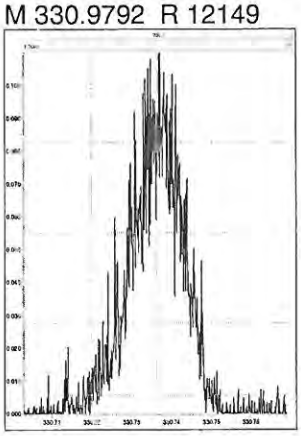
www.axysanalytical.com

Printed: Thursday, July 26, 2018 06:18:06 Pacific Daylight Time Approved SY 26Jul18

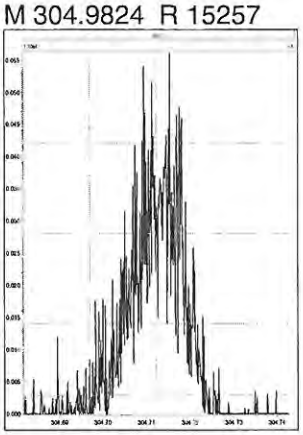
M 318.9792 R 15964



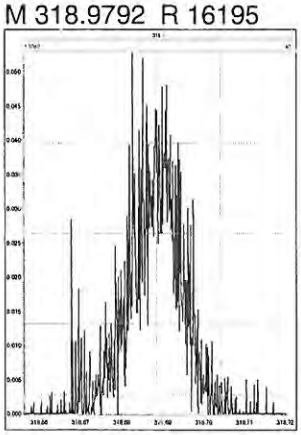
M 330.9792 R 12149



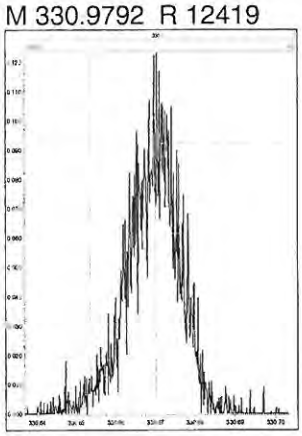
M 304.9824 R 15257



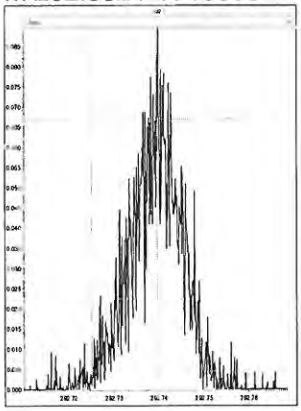
M 318.9792 R 16195



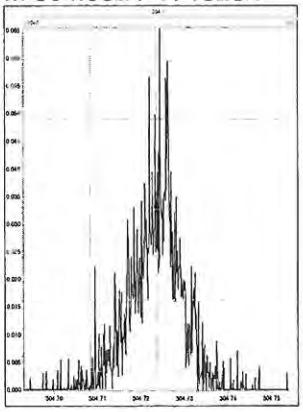
M 330.9792 R 12419



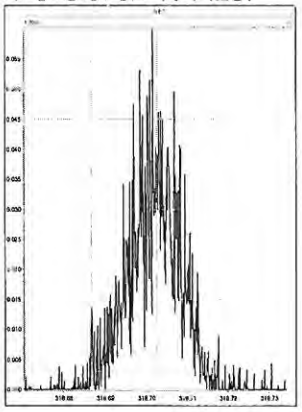
M 292.9824 R 13698



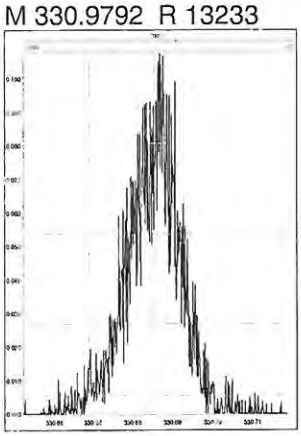
M 304.9824 R 15252



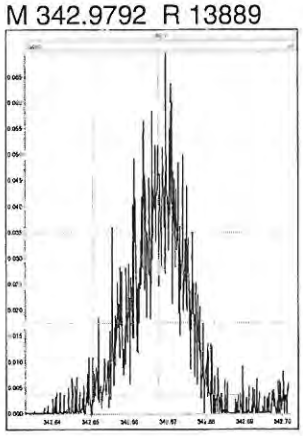
M 318.9792 R 14287



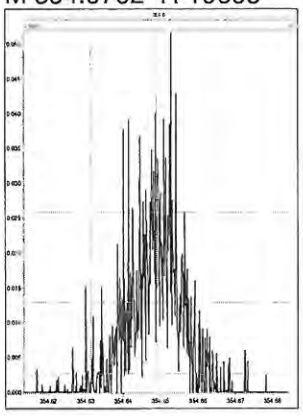
M 330.9792 R 13233



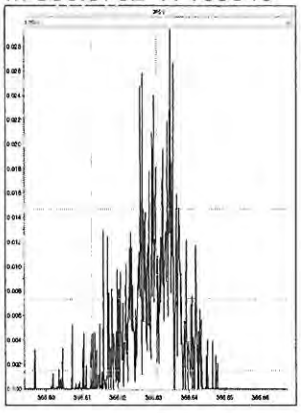
M 342.9792 R 13889



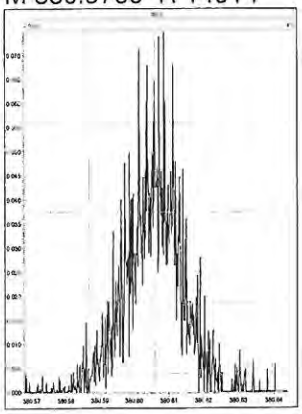
M 354.9792 R 19695



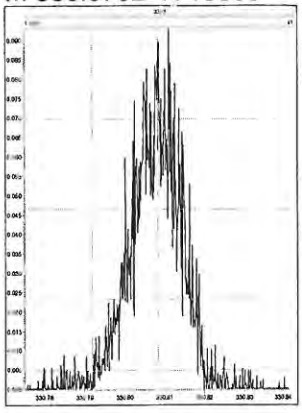
M 366.9792 R 109040



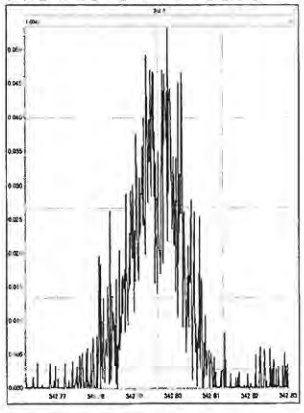
M 380.9760 R 14914



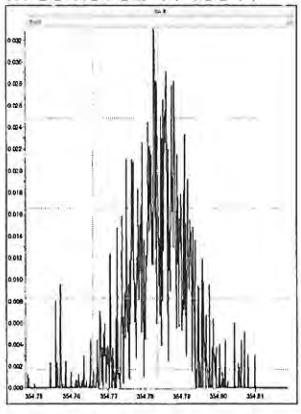
M 330.9792 R 13303



M 342.9792 R 15533

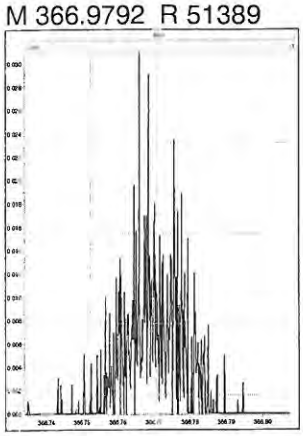


M 354.9792 R 19841

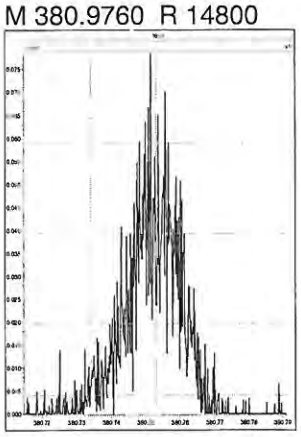


www.axysanalytical.com

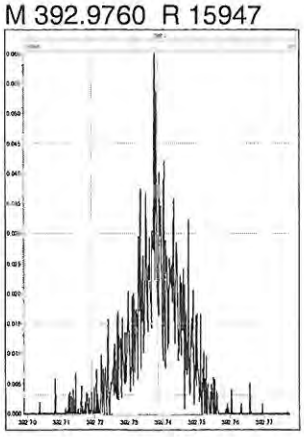
M 366.9792 R 51389



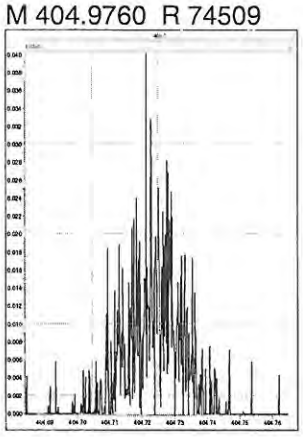
M 380.9760 R 14800



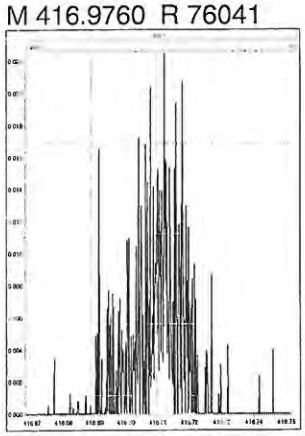
M 392.9760 R 15947



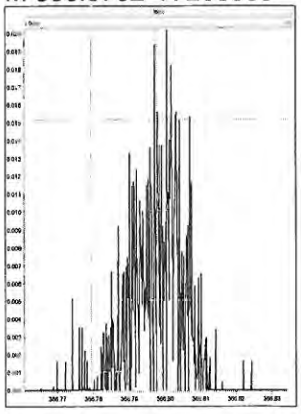
M 404.9760 R 74509



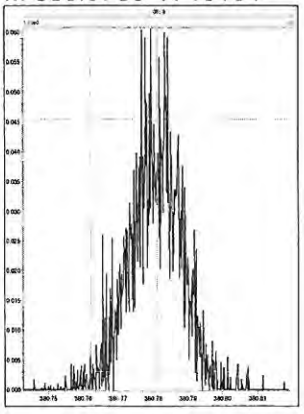
M 416.9760 R 76041



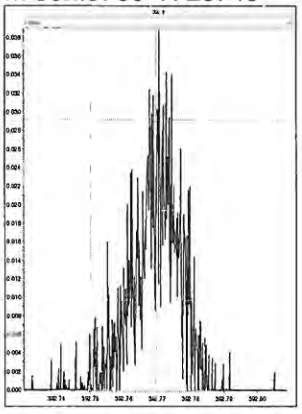
M 366.9792 R 208333



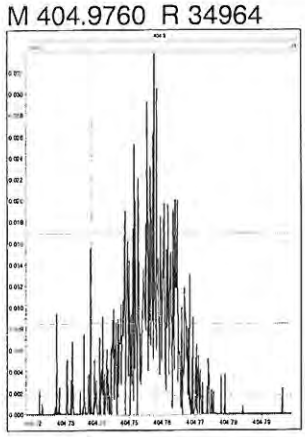
M 380.9760 R 15104



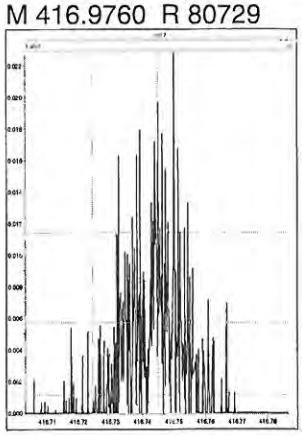
M 392.9760 R 20749



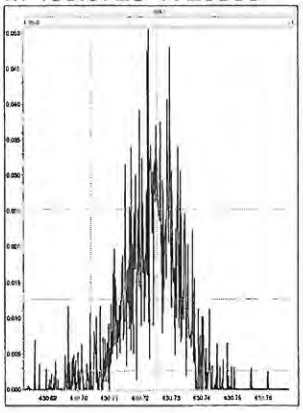
M 404.9760 R 34964



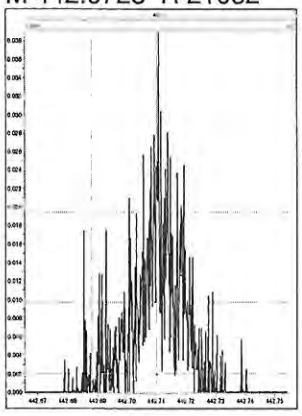
M 416.9760 R 80729



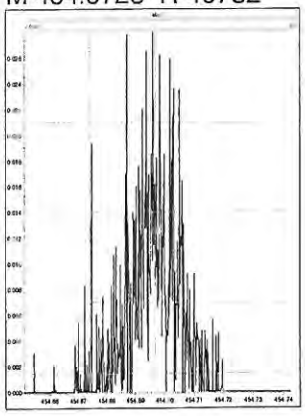
M 430.9728 R 20589



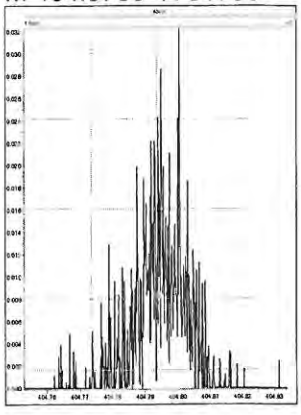
M 442.9728 R 21032



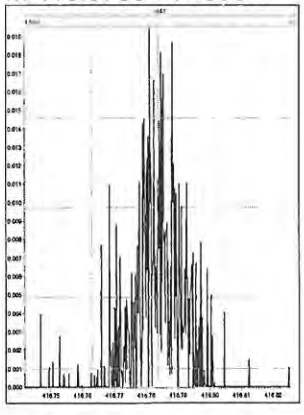
M 454.9728 R 40782



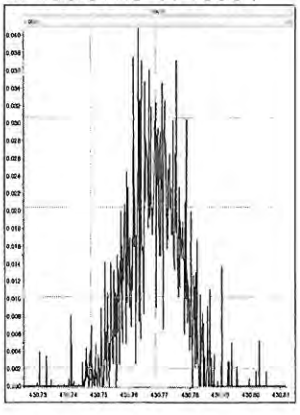
M 404.9760 R 61766



M 416.9760 R 139677

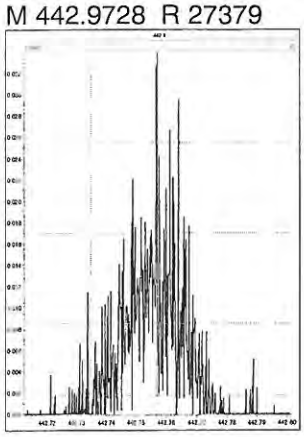


M 430.9728 R 16964

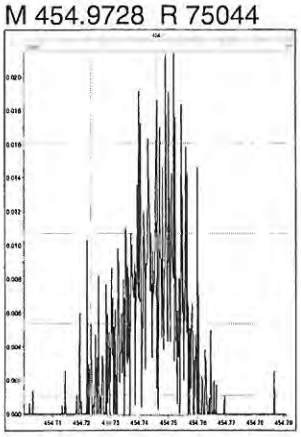


www.axysanalytical.com

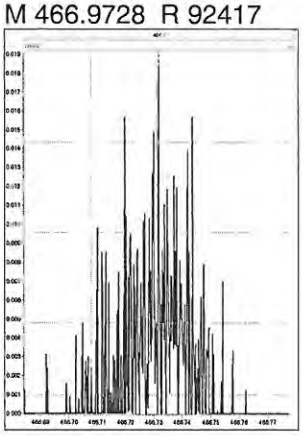
M 442.9728 R 27379



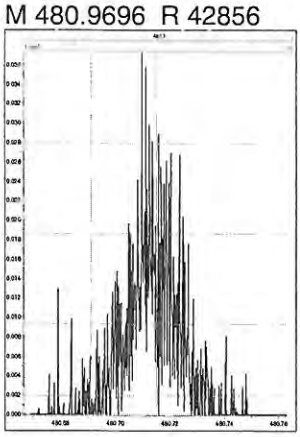
M 454.9728 R 75044



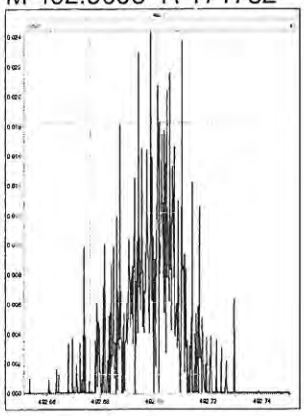
M 466.9728 R 92417



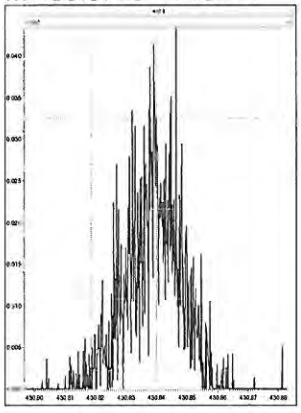
M 480.9696 R 42856



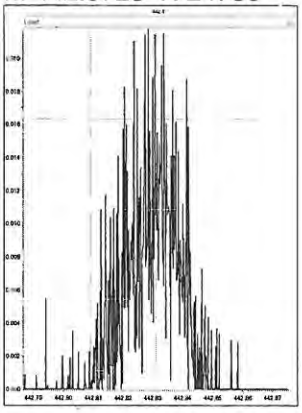
M 492.9696 R 171782



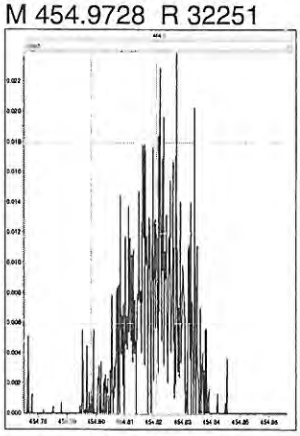
M 430.9728 R 16244



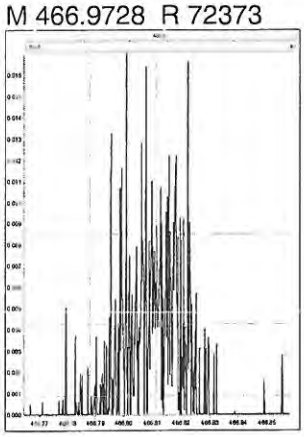
M 442.9728 R 24786



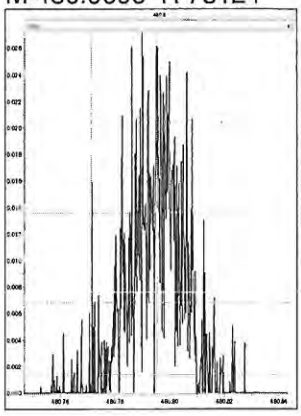
M 454.9728 R 32251



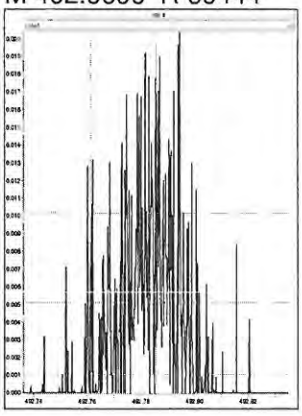
M 466.9728 R 72373



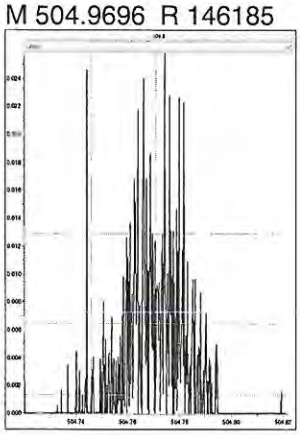
M 480.9696 R 78124



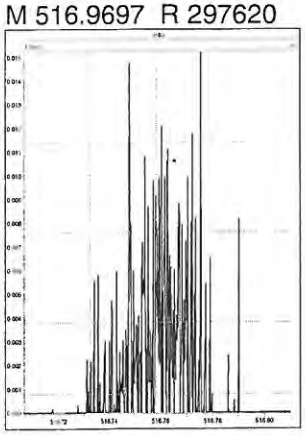
M 492.9696 R 69444



M 504.9696 R 146185



M 516.9697 R 297620

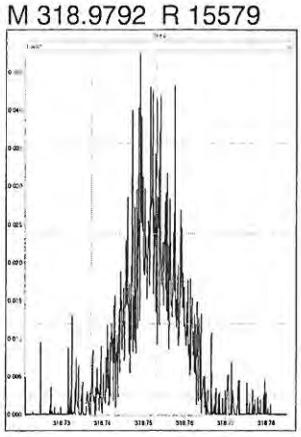


www.axysanalytical.com

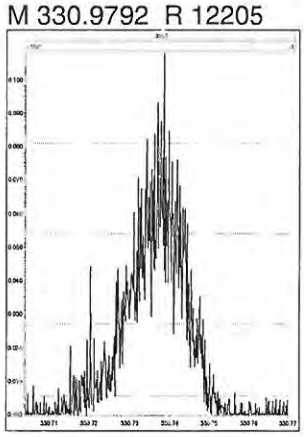
Printed: Thursday, July 26, 2018 17:46:33 Pacific Daylight Time DX8M_088549 CAL67 EW-26-JL-2018

Approved by EW 26-JL-2018

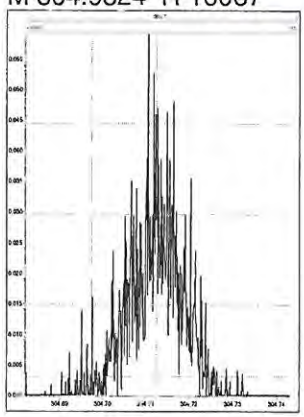
M 318.9792 R 15579



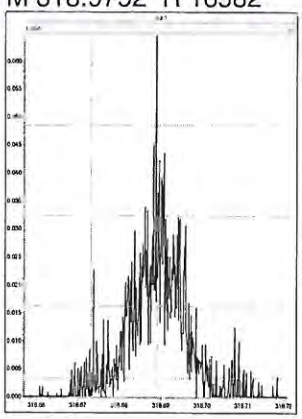
M 330.9792 R 12205



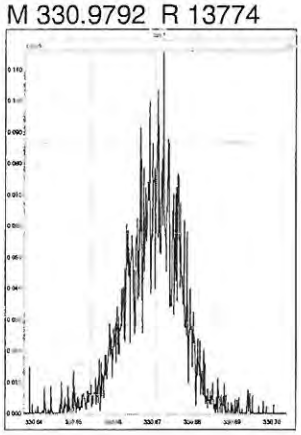
M 304.9824 R 16067



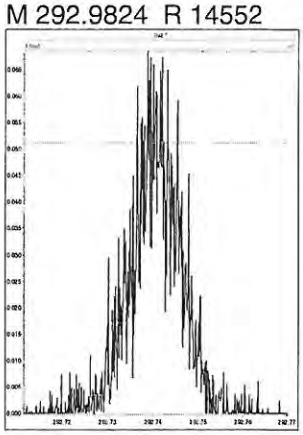
M 318.9792 R 16582



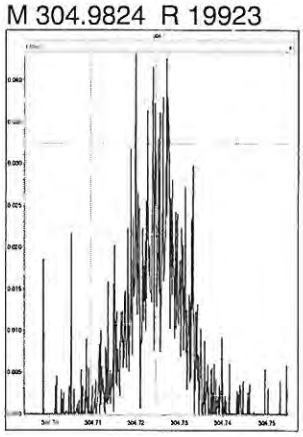
M 330.9792 R 13774



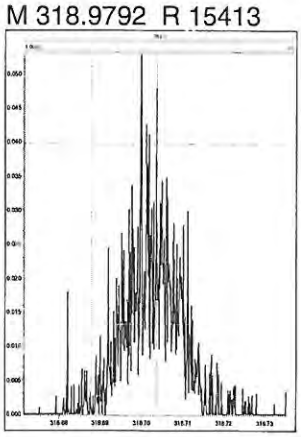
M 292.9824 R 14552



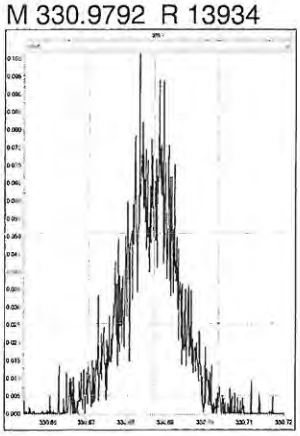
M 304.9824 R 19923



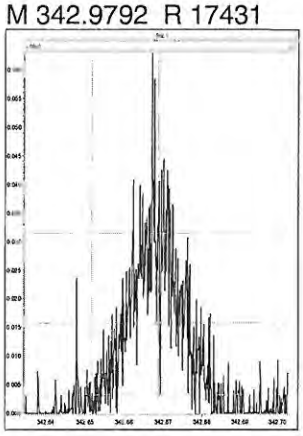
M 318.9792 R 15413



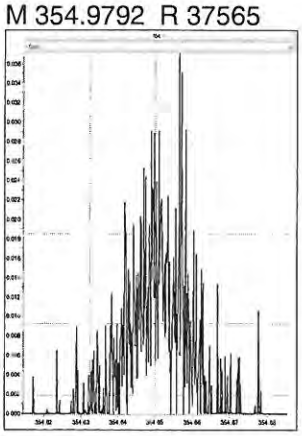
M 330.9792 R 13934



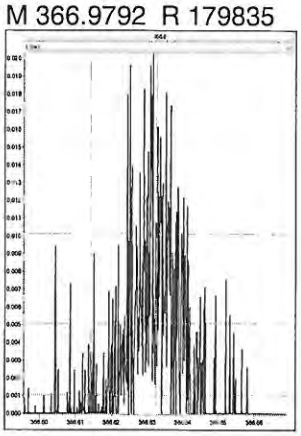
M 342.9792 R 17431



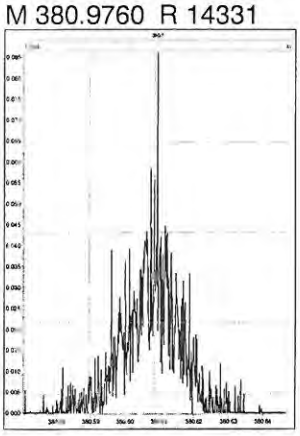
M 354.9792 R 37565



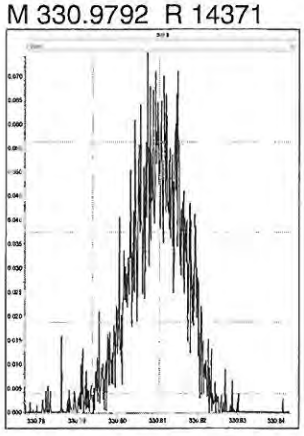
M 366.9792 R 179835



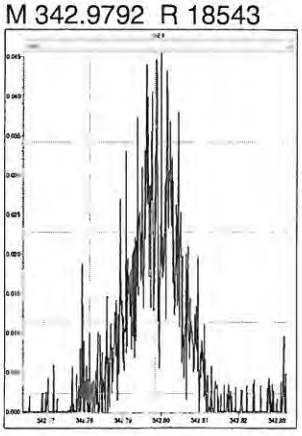
M 380.9760 R 14331



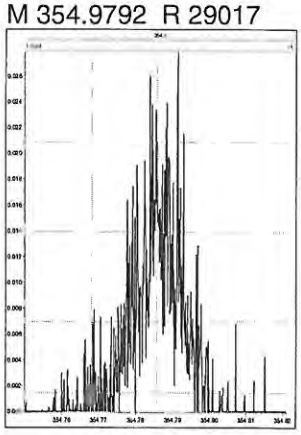
M 330.9792 R 14371



M 342.9792 R 18543

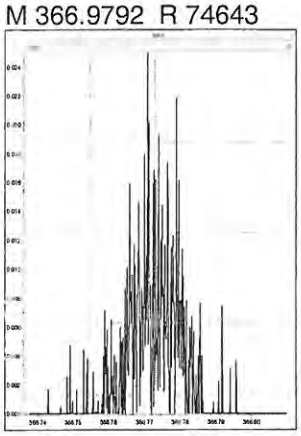


M 354.9792 R 29017

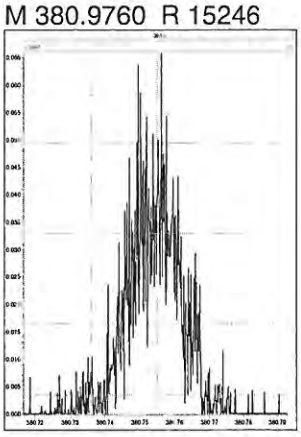


www.axysanalytical.com

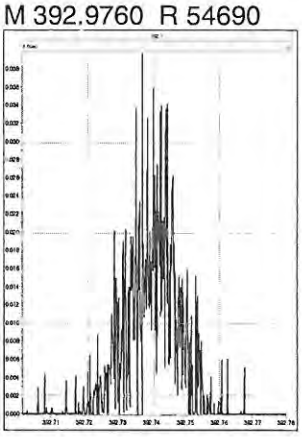
M 366.9792 R 74643



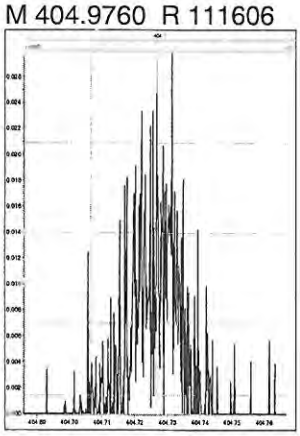
M 380.9760 R 15246



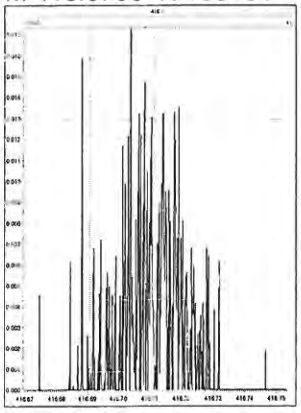
M 392.9760 R 54690



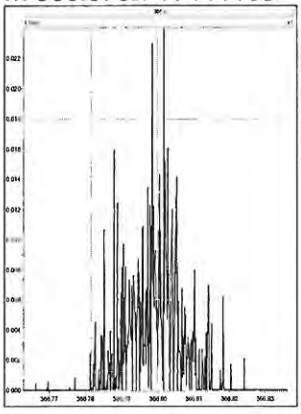
M 404.9760 R 111606



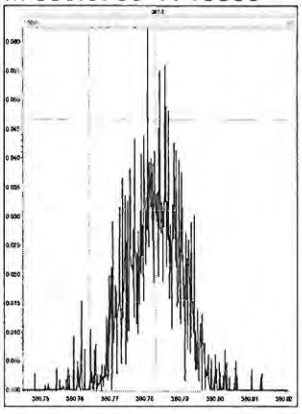
M 416.9760 R 193451



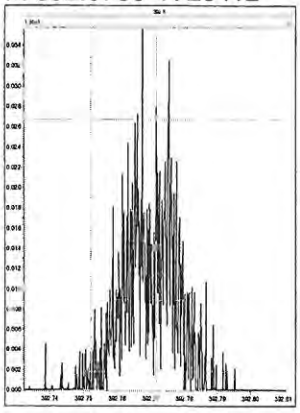
M 366.9792 R 111165



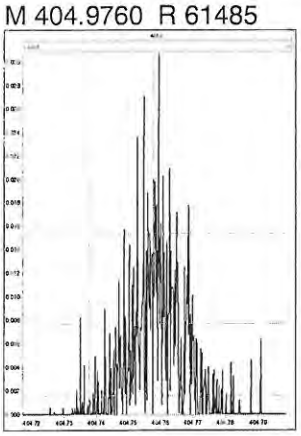
M 380.9760 R 15880



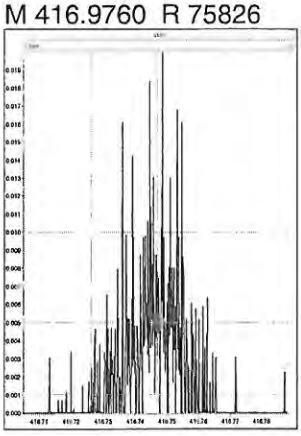
M 392.9760 R 20412



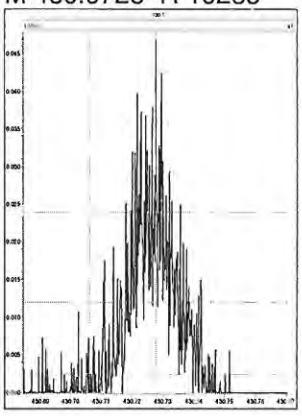
M 404.9760 R 61485



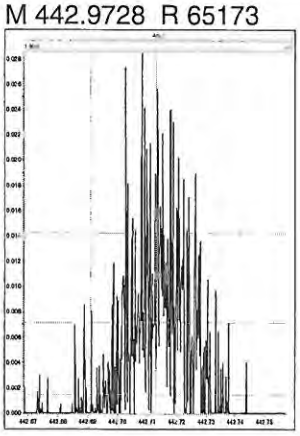
M 416.9760 R 75826



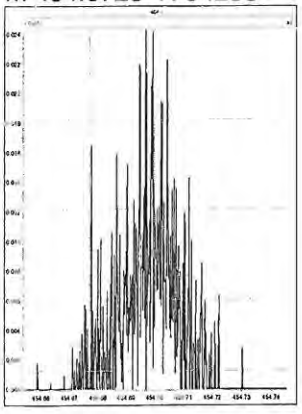
M 430.9728 R 19235



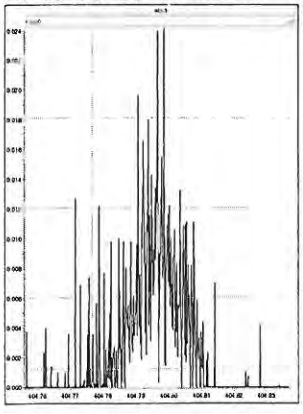
M 442.9728 R 65173



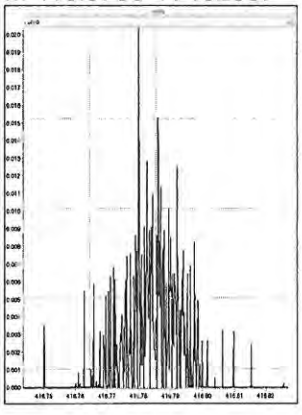
M 454.9728 R 54253



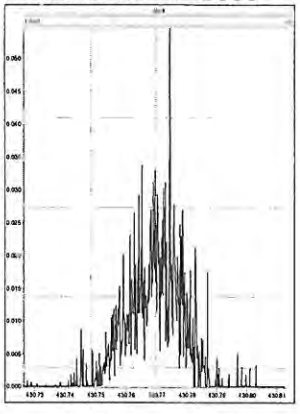
M 404.9760 R 34721



M 416.9760 R 192307

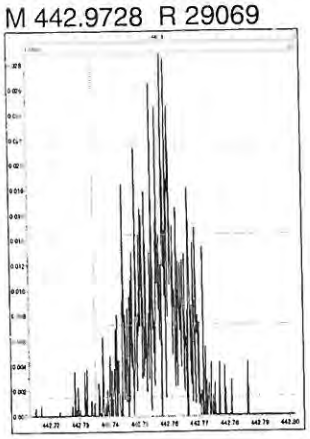


M 430.9728 R 15366

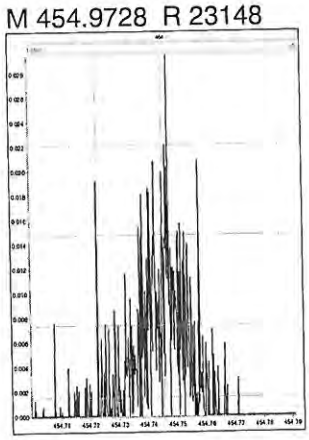


www.axysanalytical.com

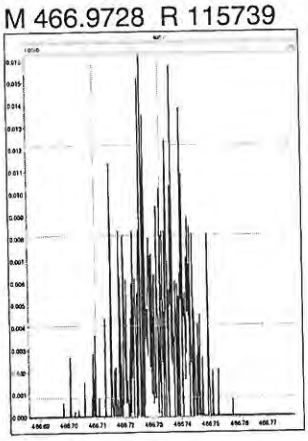
M 442.9728 R 29069



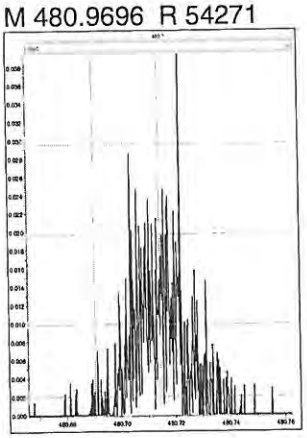
M 454.9728 R 23148



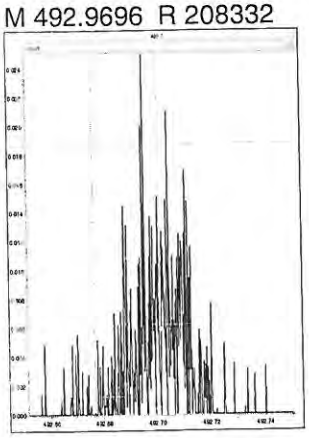
M 466.9728 R 115739



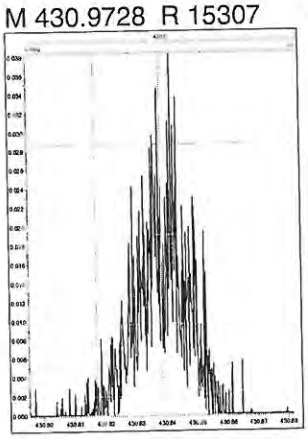
M 480.9696 R 54271



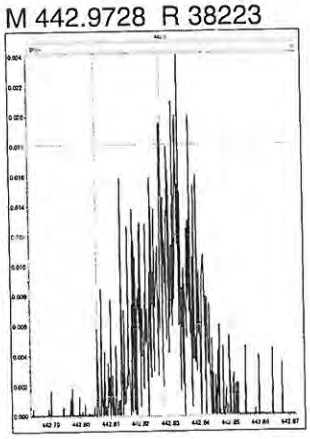
M 492.9696 R 208332



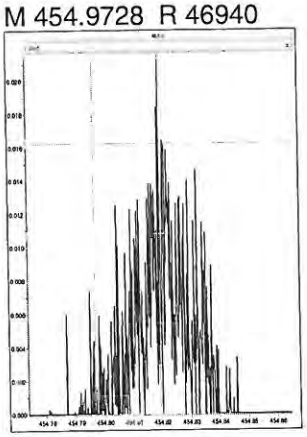
M 430.9728 R 15307



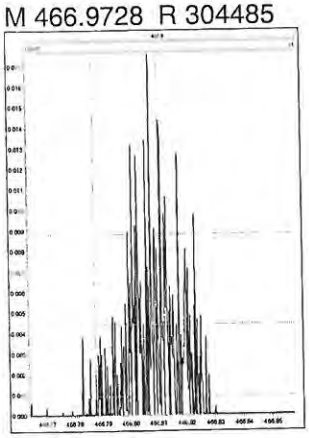
M 442.9728 R 38223



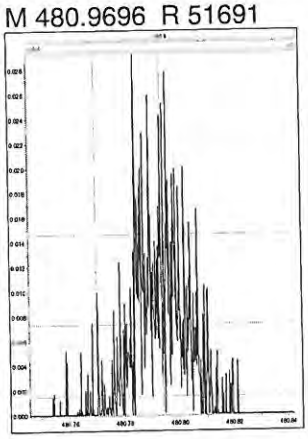
M 454.9728 R 46940



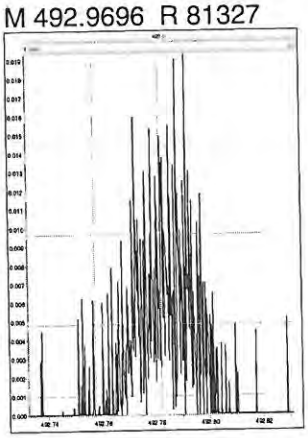
M 466.9728 R 304485



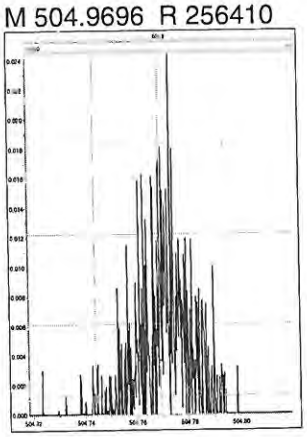
M 480.9696 R 51691



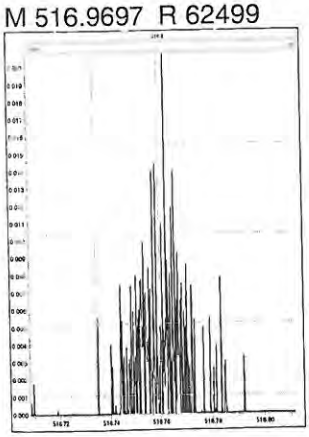
M 492.9696 R 81327



M 504.9696 R 256410



M 516.9697 R 62499



Sample List Report **MassLynx 4.1 SCN627**

Sample List: G:\Masslynx\Inst_M\Projects\180604DX.PRO\SampleDB\DX8M_088-F.SPL
Last Modified: Friday, July 27, 2018 09:11:31 Pacific Daylight Time
Printed: Friday, July 27, 2018 14:08:34 Pacific Daylight Time

Page Position (1, 1)

	File Name	Sample ID	File Text	Sample Type	Subject Text	Samp Size	13C-Te-Hp	13C-OCDD	Rec Std	C/Up
1	DX8M_088S38	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10
2	DX8M_088S39	WG64557-102,,SPM	1,WG64557,1.0/20uL	Analyte	DB5,ng/mL	20.000	2000	4000	2000	40
3	DX8M_088S40	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
4	DX8M_088S41	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
5	DX8M_088S42	WG64557-101,,BLK	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	1.000	2000	4000	2000	40
6	DX8M_088S43	WG64557-105,,MDL	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	1.000	2000	4000	2000	40
7	DX8M_088S44	L29626-1,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.060	2000	4000	2000	40
8	DX8M_088S45	WG64557-103,,DUP	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	9.920	2000	4000	2000	40
9	DX8M_088S46	L29626-2,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	9.650	2000	4000	2000	40
10	DX8M_088S47	L29626-3,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	9.970	2000	4000	2000	40
11	DX8M_088S49	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 38
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	05:13:41

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.75	0.65-0.89	10.3	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.60	0.52-0.70	55.2	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	49.7	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	51.6	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.21	1.05-1.43	49.4	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.13	0.88-1.20	54.7	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	100	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.69	0.65-0.89	10.6	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.37	1.32-1.78	50.6	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.44	1.32-1.78	50.5	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.15	1.05-1.43	51.4	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.15	1.05-1.43	51.4	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.14	1.05-1.43	48.3	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.10	1.05-1.43	50.1	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	0.97	0.88-1.20	51.3	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	0.94	0.88-1.20	52.6	43 - 58
OCDF		**M+2/M+4**	0.84	0.76-1.02	98.9	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_088S38__Form4A_SJ2409916.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 38
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	05:13:41

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	103	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.69	0.52-0.70	101	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	97.0	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.19	1.05-1.43	103	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.96	0.88-1.20	89.7	72 - 138
13C-OCDD		**M+2/M+4**	0.88	0.76-1.02	156	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.67	0.65-0.89	92.8	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.42	1.32-1.78	98.8	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.36	1.32-1.78	101	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	91.9	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	94.4	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.51	0.43-0.59	89.2	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	95.7	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.43	0.37-0.51	85.8	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	86.5	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					8.75	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S38__Form4B_SJ2409916.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 38
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	05:13:41

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.000	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.001	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S38__Form6A_SJ2409916.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 38
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	05:13:41

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.012	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.382	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.965	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.283	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.350	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.004	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S38__Form6B_SJ2409916.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 49
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	16:45:07

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.77	0.65-0.89	10.6	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.62	0.52-0.70	53.2	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	50.6	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.18	1.05-1.43	51.2	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.20	1.05-1.43	51.8	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.08	0.88-1.20	54.4	43 - 58
OCDD		**M+2/M+4**	0.87	0.76-1.02	105	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.67	0.65-0.89	11.1	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.33	1.32-1.78	49.7	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.40	1.32-1.78	50.1	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.14	1.05-1.43	48.6	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.08	1.05-1.43	50.0	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.16	1.05-1.43	48.5	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.11	1.05-1.43	52.9	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	0.99	0.88-1.20	53.0	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	0.93	0.88-1.20	50.8	43 - 58
OCDF		**M+2/M+4**	0.79	0.76-1.02	103	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S49__Form4A_SJ2409928.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 49
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	16:45:07

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	101	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.69	0.52-0.70	108	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	91.2	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	103	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.99	0.88-1.20	80.5	72 - 138
13C-OCDD		**M+2/M+4**	0.88	0.76-1.02	136	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.68	0.65-0.89	92.6	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.39	1.32-1.78	104	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.43	1.32-1.78	109	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	94.1	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	99.1	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.54	0.43-0.59	92.3	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	96.4	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.46	0.37-0.51	79.6	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.48	0.37-0.51	78.6	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					8.84	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S49__Form4B_SJ2409928.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 49
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	16:45:07

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.000	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S49__Form6A_SJ2409928.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_088 S: 49
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	16:45:07

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.382	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.284	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.351	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_088S49__Form6B_SJ2409928.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		04-Jun-2018
RT Window Data Filename:	DX8M_088 S: 38	**Analysis Date:**	26-Jul-2018	**Time:** 05:13:41
DB-5 IS Data Filename:	DX8M_088 S: 38	**Analysis Date:**	26-Jul-2018	**Time:** 05:13:41
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:00	**1,3,6,8-TCDF (F)**	21:28
1,2,8,9-TCDD (L)	28:23	**1,2,8,9-TCDF (L)**	28:13
1,2,4,7,9-PECDD (F)	32:09	**1,3,4,6,8-PECDF (F)**	28:57
1,2,3,8,9-PECDD (L)	37:07	**1,2,3,8,9-PECDF (L)**	37:10
1,2,4,6,7,9-HXCDD (F)	40:06	**1,2,3,4,6,8-HXCDF (F)**	39:04
1,2,3,4,6,7-HXCDD (L)	42:44	**1,2,3,4,8,9-HXCDF (L)**	43:05
1,2,3,4,6,7,9-HPCDD (F)	45:50	**1,2,3,4,6,7,8-HPCDF (F)**	45:23
1,2,3,4,6,7,8-HPCDD (L)	46:46	**1,2,3,4,7,8,9-HPCDF (L)**	47:10

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	10
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Angela Schlak_____

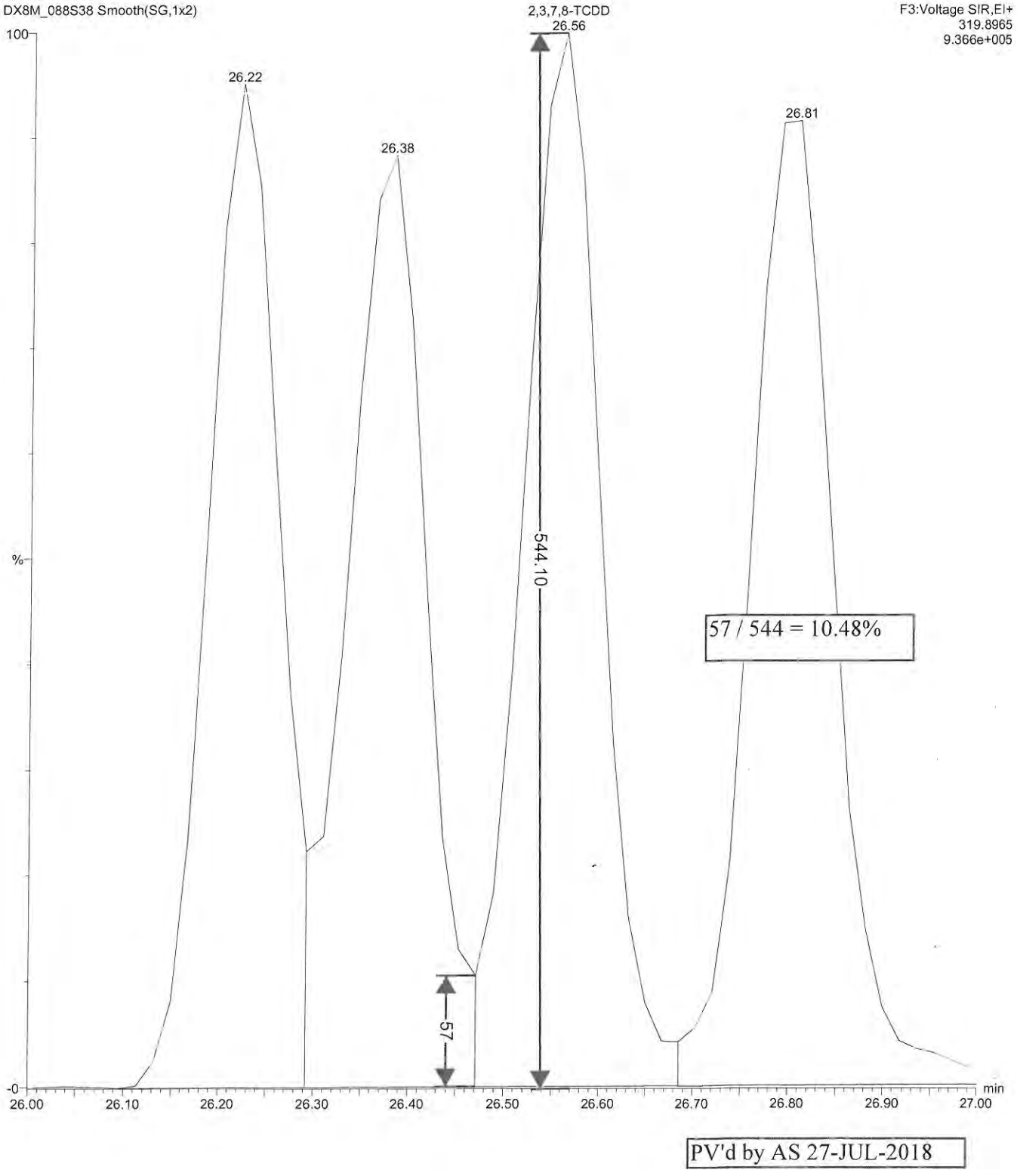
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DX8M_088S38_Form5_SJ2410098.html; Workgroup: WG64557; Design ID: 491]

www.axysanalytical.com

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Win_ResC.mdb 07 Dec 2011 14:46:56
Calibration: 27 Jul 2018 13:17:15

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

2,3,7,8-TCDD



PV'd by AS 27-JUL-2018

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq Date	Acq Time
1	DX8M_089S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	18:26:29
2	DX8M_089S2	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	19:34:50
3	DX8M_089S3	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	20:27:18
4	DX8M_089S4	L29626-4,,	1,WG64557,1.0/20uL	26-Jul-18	21:32:06
5	DX8M_089S5	L29626-5,,	1,WG64557,1.0/20uL	26-Jul-18	22:24:35
6	DX8M_089S6	L29626-6,,	1,WG64557,1.0/20uL	26-Jul-18	23:19:48
7	DX8M_089S7	L29626-7,,	1,WG64557,1.0/20uL	27-Jul-18	00:15:02
8	DX8M_089S8	L29626-8,,	1,WG64557,1.0/20uL	27-Jul-18	01:10:14
9	DX8M_089S9	L29626-9,,	1,WG64557,1.0/20uL	27-Jul-18	02:05:28
10	DX8M_089S10	WG64557-104,,CRM	1,WG64557,1.0/20uL	27-Jul-18	03:00:41
11	DX8M_089S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	27-Jul-18	03:55:54

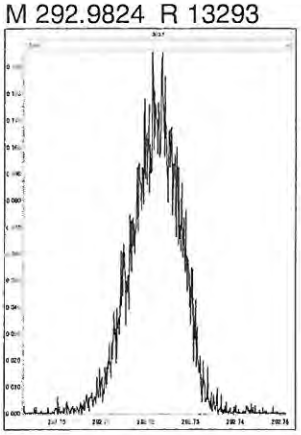
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

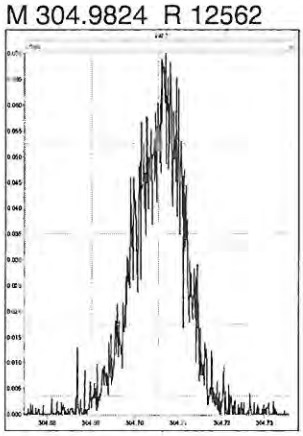
Printed: Thursday, July 26, 2018 18:20:55 Pacific Daylight Time DX8M-0895\CAL1

Approved by EW 26-Jul-2018

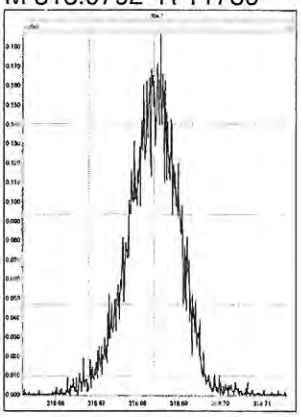
M 292.9824 R 13293



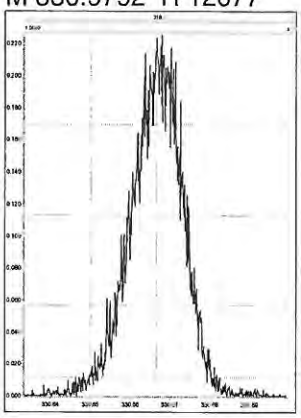
M 304.9824 R 12562



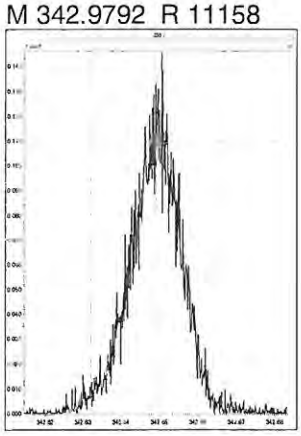
M 318.9792 R 11789



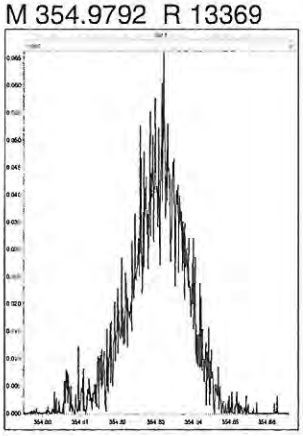
M 330.9792 R 12077



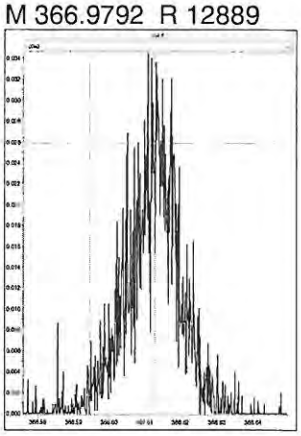
M 342.9792 R 11158



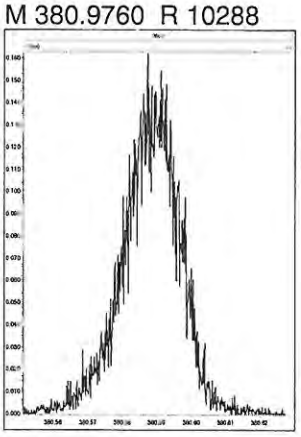
M 354.9792 R 13369



M 366.9792 R 12889



M 380.9760 R 10288

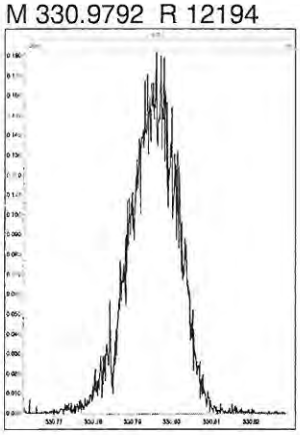


Experiment Calibration Report **MassLynx 4.1**

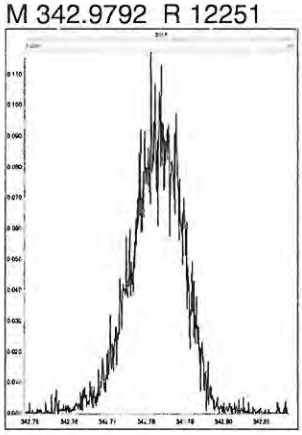
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, July 26, 2018 18:21:41 Pacific Daylight Time

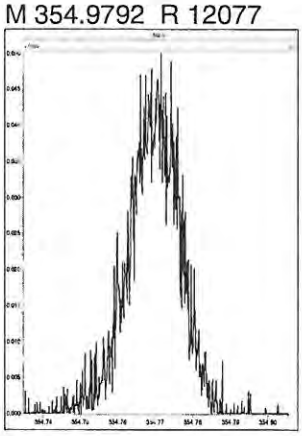
M 330.9792 R 12194



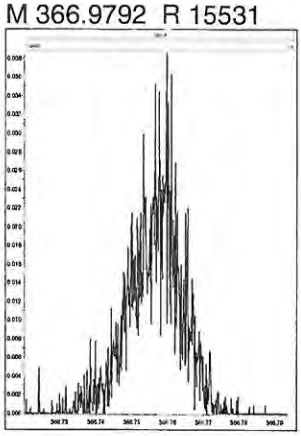
M 342.9792 R 12251



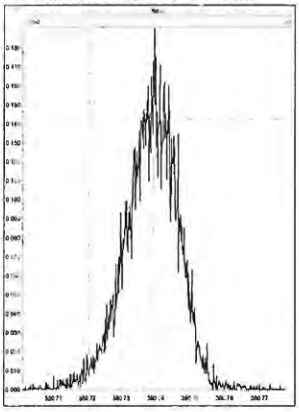
M 354.9792 R 12077



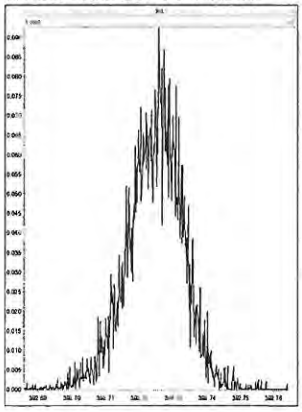
M 366.9792 R 15531



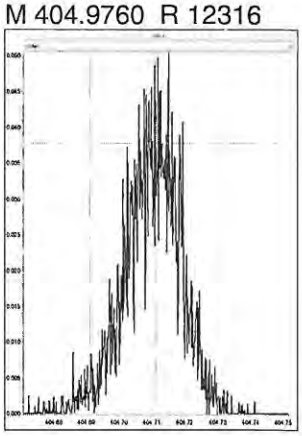
M 380.9760 R 11628



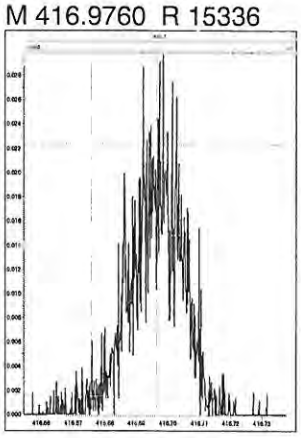
M 392.9760 R 11960



M 404.9760 R 12316



M 416.9760 R 15336

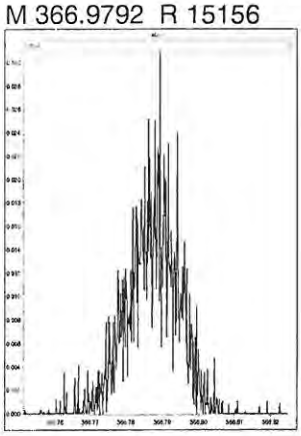


Experiment Calibration Report **MassLynx 4.1**

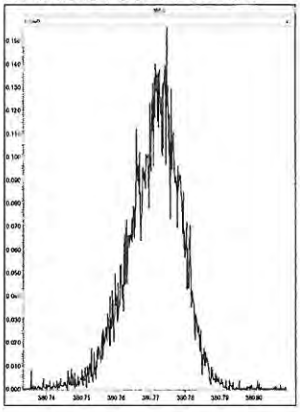
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Thursday, July 26, 2018 18:23:22 Pacific Daylight Time

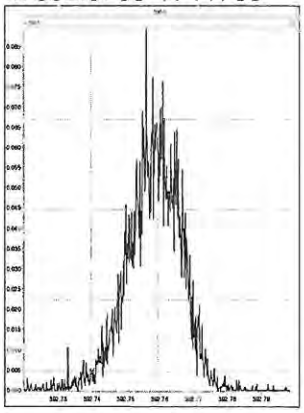
M 366.9792 R 15156



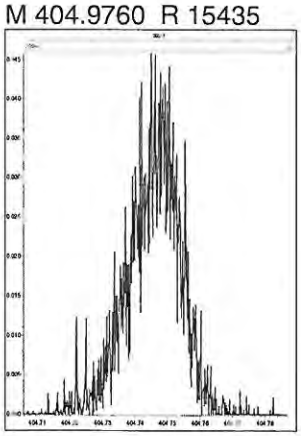
M 380.9760 R 12439



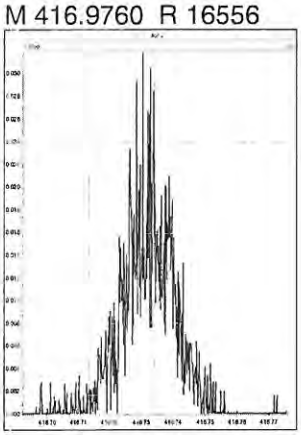
M 392.9760 R 11736



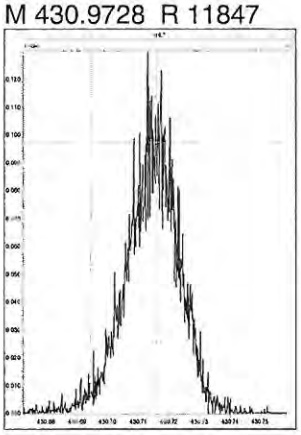
M 404.9760 R 15435



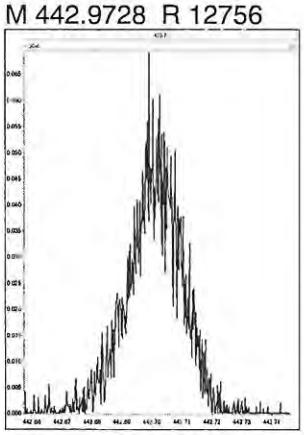
M 416.9760 R 16556



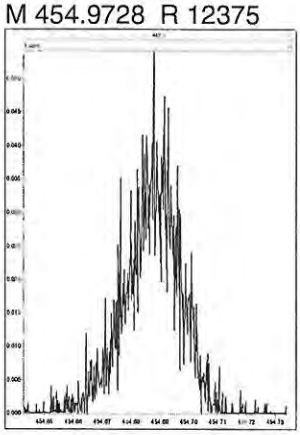
M 430.9728 R 11847



M 442.9728 R 12756



M 454.9728 R 12375

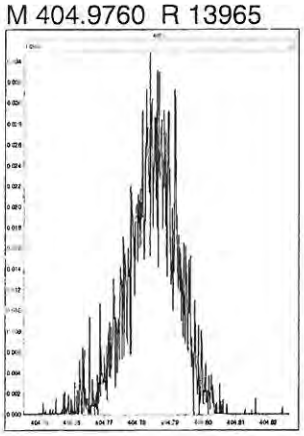


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

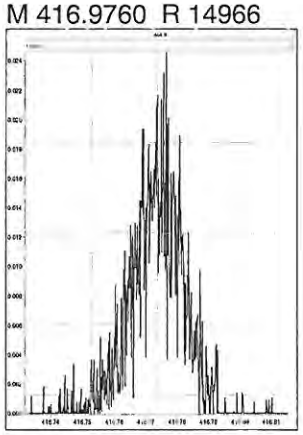
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 6 @ 200 (ppm)

Printed: Thursday, July 26, 2018 18:23:55 Pacific Daylight Time

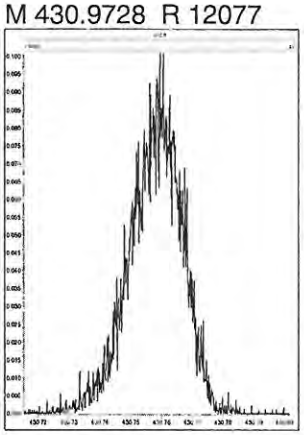
M 404.9760 R 13965



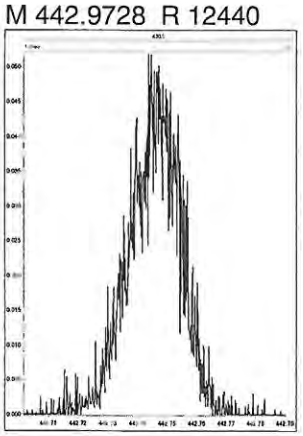
M 416.9760 R 14966



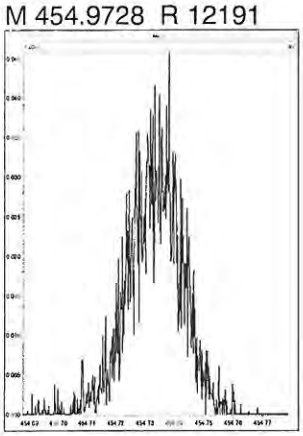
M 430.9728 R 12077



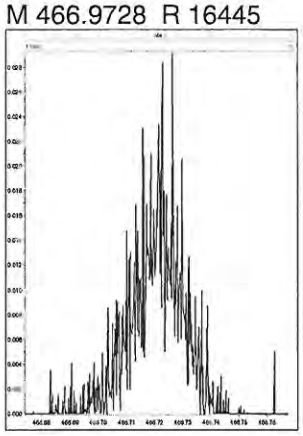
M 442.9728 R 12440



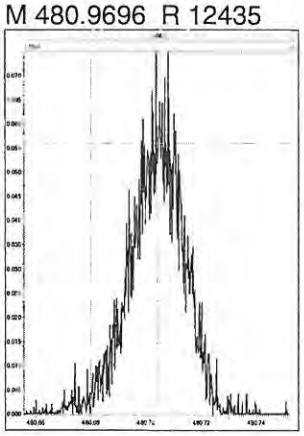
M 454.9728 R 12191



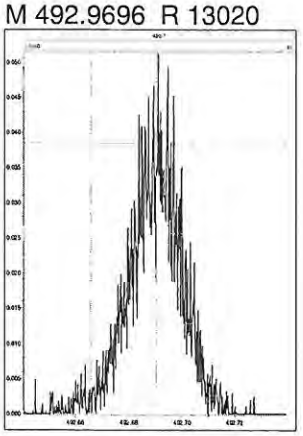
M 466.9728 R 16445



M 480.9696 R 12435



M 492.9696 R 13020

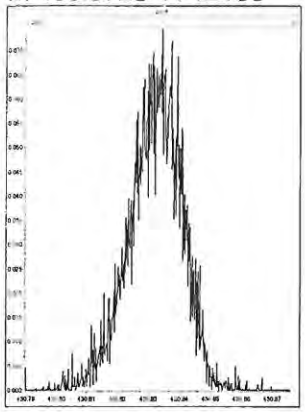


Experiment Calibration Report **MassLynx 4.1**

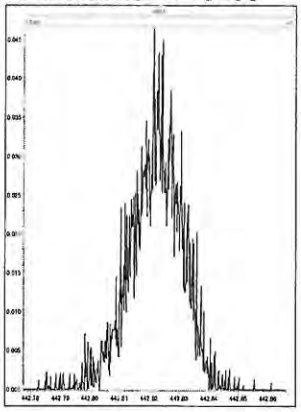
File: Experiment: DX_DB5_1_04.exp Reference: pfk.ref Function: 7 @ 200 (ppm)

Printed: Thursday, July 26, 2018 18:24:29 Pacific Daylight Time

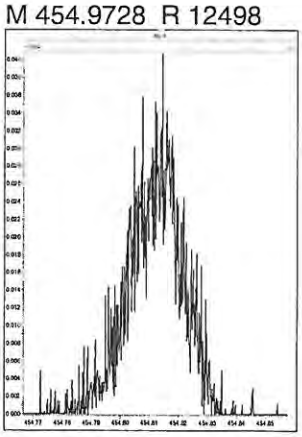
M 430.9728 R 12138



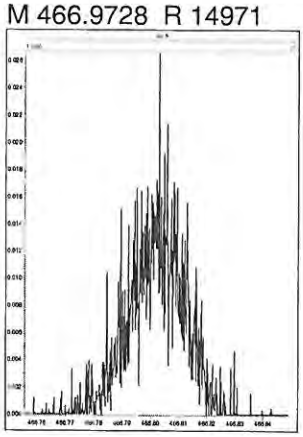
M 442.9728 R 13298



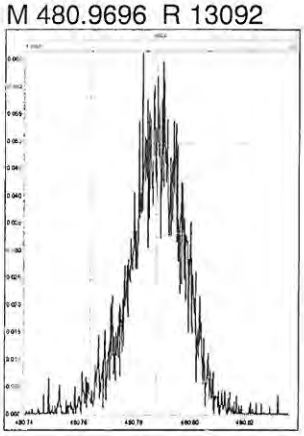
M 454.9728 R 12498



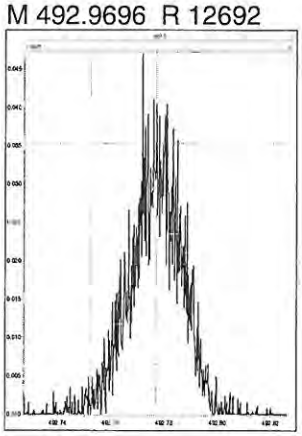
M 466.9728 R 14971



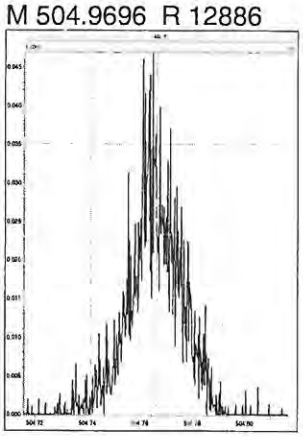
M 480.9696 R 13092



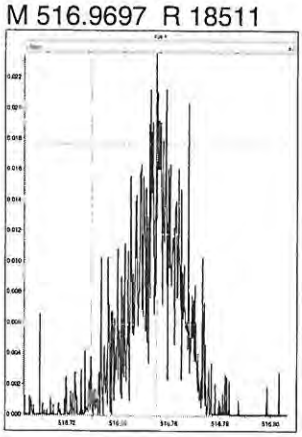
M 492.9696 R 12692



M 504.9696 R 12886



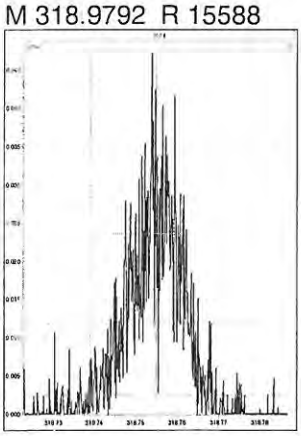
M 516.9697 R 18511



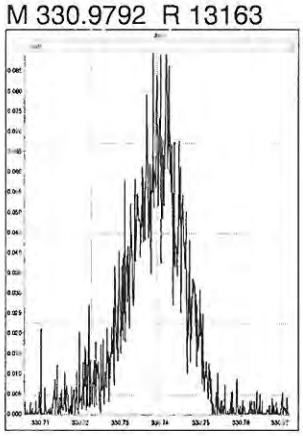
Resolution Check Report **MassLynx 4.1** DX8M_089 CAL2 5:11

Printed: Friday, July 27, 2018 05:00:20 Pacific Daylight Time approved by RF 27JUL2018

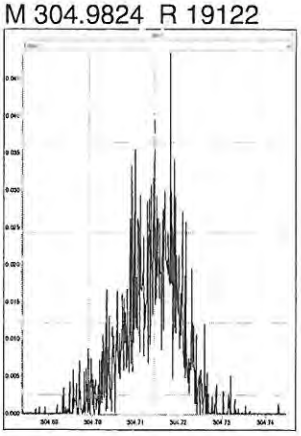
M 318.9792 R 15588



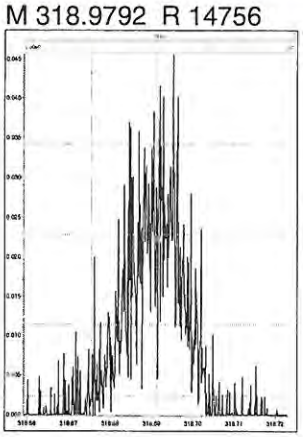
M 330.9792 R 13163



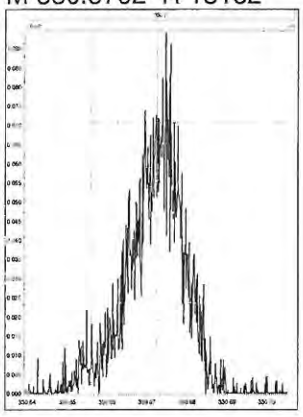
M 304.9824 R 19122



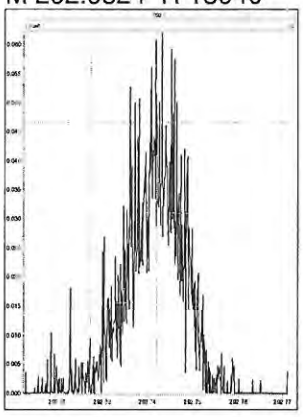
M 318.9792 R 14756



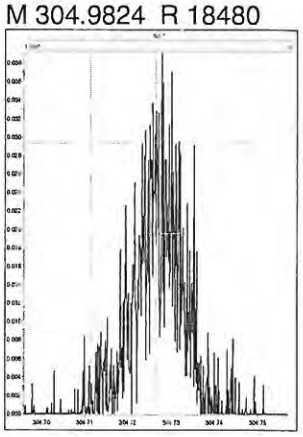
M 330.9792 R 13162



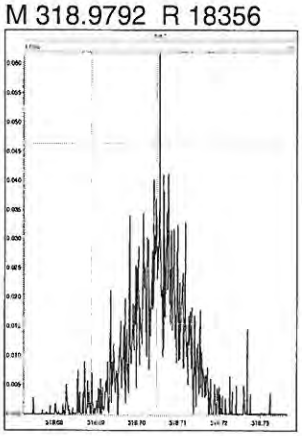
M 292.9824 R 13940



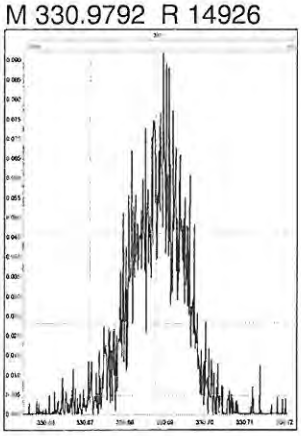
M 304.9824 R 18480



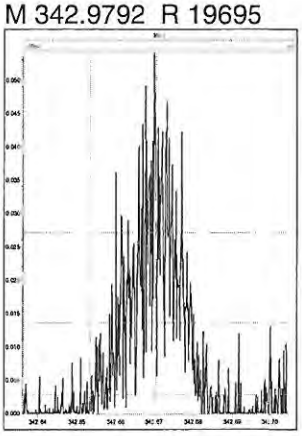
M 318.9792 R 18356



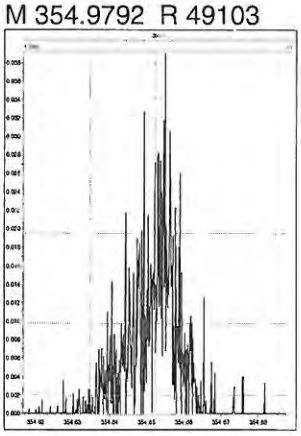
M 330.9792 R 14926



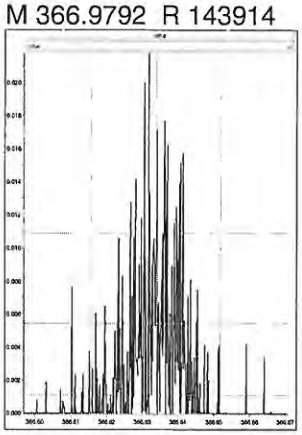
M 342.9792 R 19695



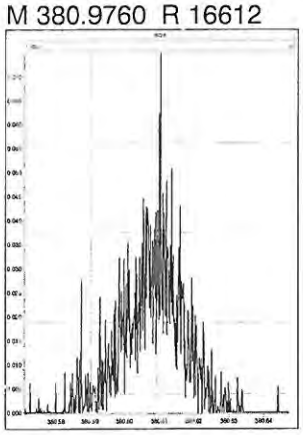
M 354.9792 R 49103



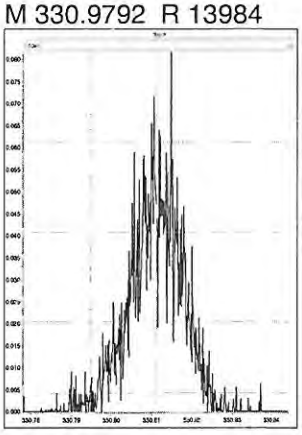
M 366.9792 R 143914



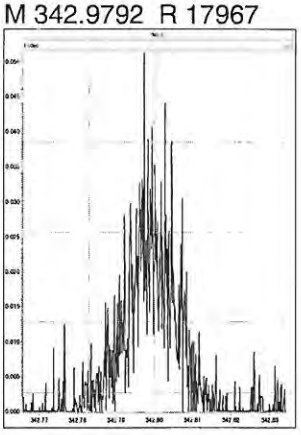
M 380.9760 R 16612



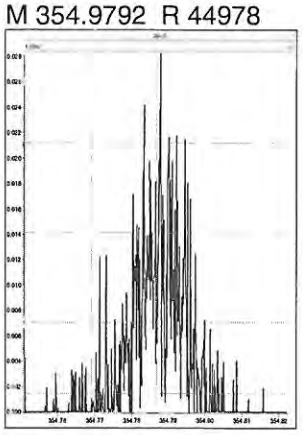
M 330.9792 R 13984



M 342.9792 R 17967

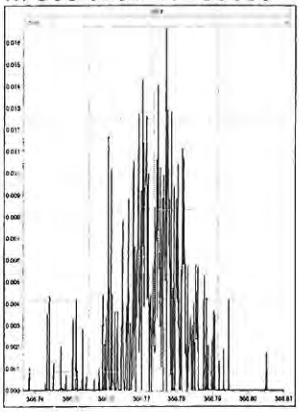


M 354.9792 R 44978

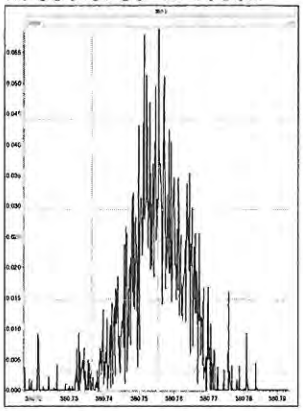


www.axysanalytical.com

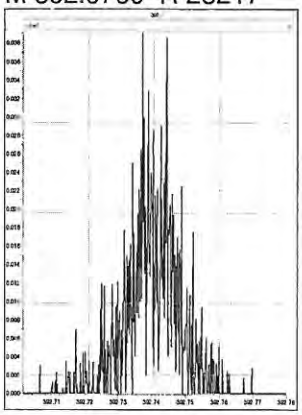
M 366.9792 R 108695



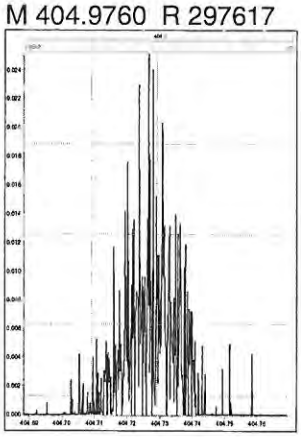
M 380.9760 R 19902



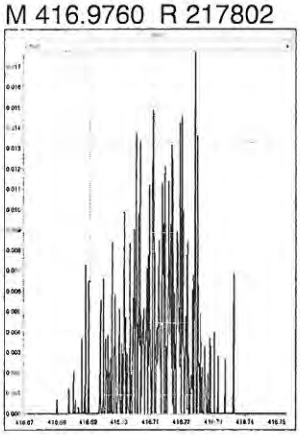
M 392.9760 R 28217



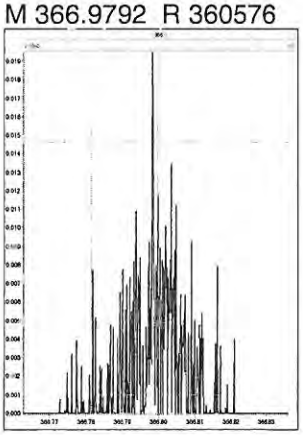
M 404.9760 R 297617



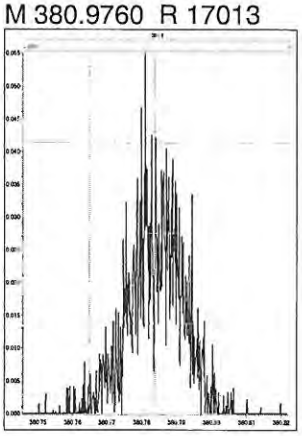
M 416.9760 R 217802



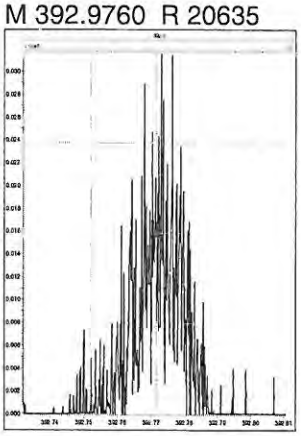
M 366.9792 R 360576



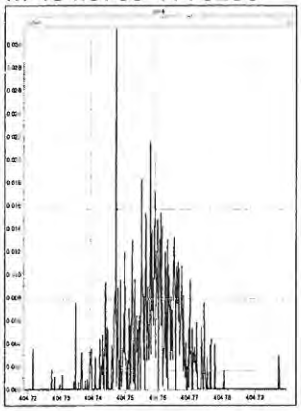
M 380.9760 R 17013



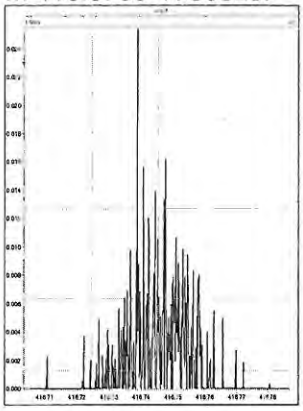
M 392.9760 R 20635



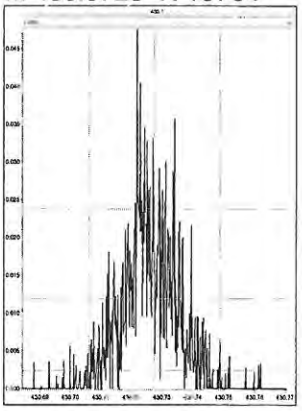
M 404.9760 R 75250



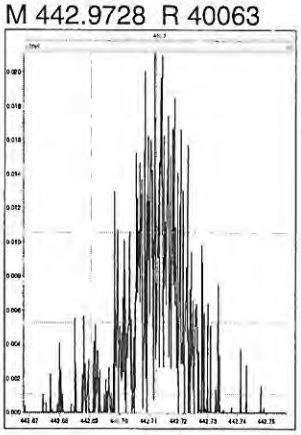
M 416.9760 R 595237



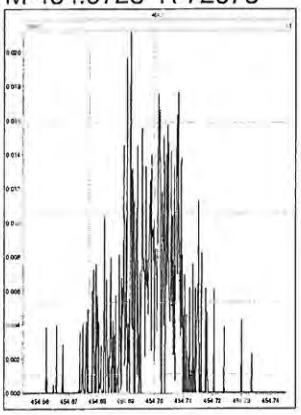
M 430.9728 R 19704



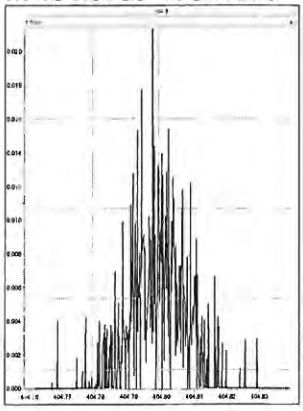
M 442.9728 R 40063



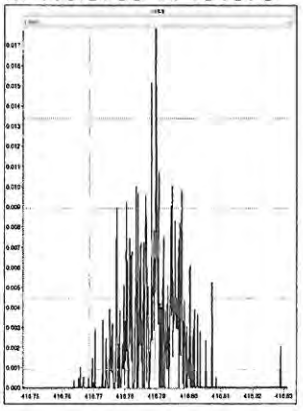
M 454.9728 R 72373



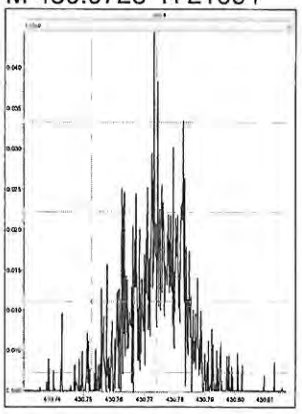
M 404.9760 R 321970



M 416.9760 R 131578

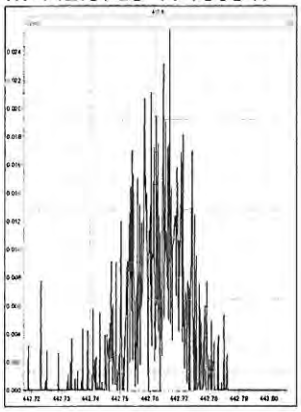


M 430.9728 R 21664

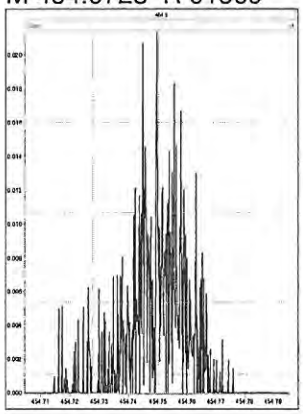


www.axysanalytical.com

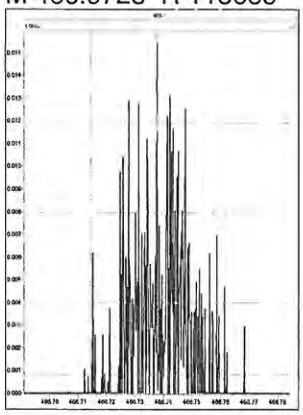
M 442.9728 R 130347



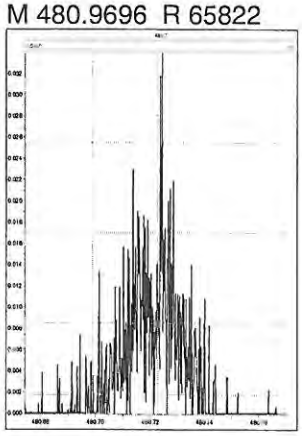
M 454.9728 R 91569



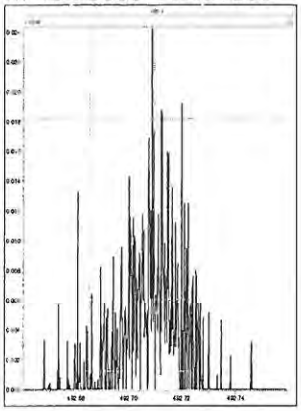
M 466.9728 R 113635



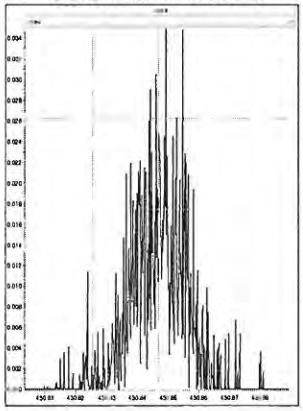
M 480.9696 R 65822



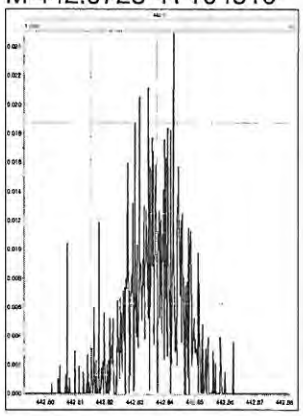
M 492.9696 R 261905



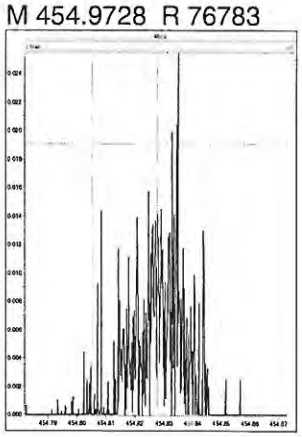
M 430.9728 R 20923



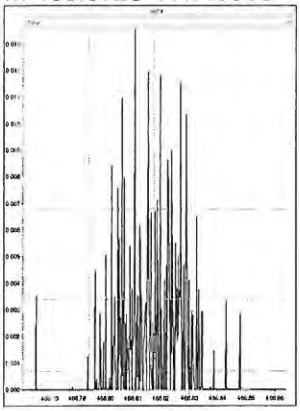
M 442.9728 R 104519



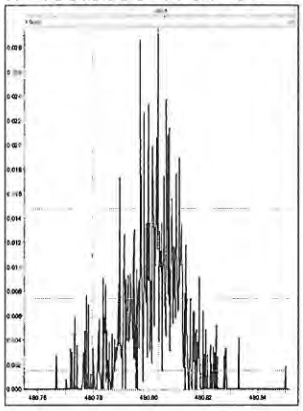
M 454.9728 R 76783



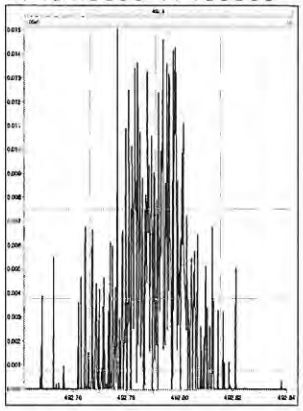
M 466.9728 R 249998



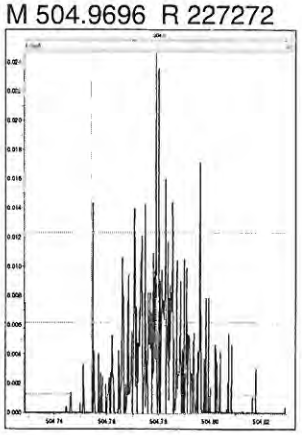
M 480.9696 R 31167



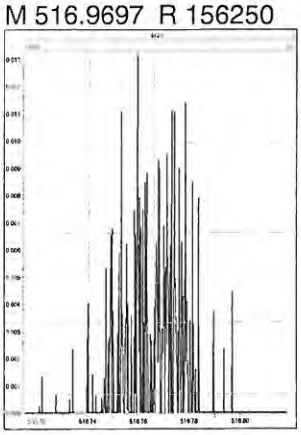
M 492.9696 R 150509



M 504.9696 R 227272



M 516.9697 R 156250



Sample List Report **MassLynx 4.1 SCN627**

Sample List: G:\Masslynx\Inst_M\Projects\180604DX.PRO\SampleDB\DX8M_089-A.SPL
Last Modified: Friday, July 27, 2018 09:31:53 Pacific Daylight Time
Printed: Friday, July 27, 2018 16:28:00 Pacific Daylight Time

Page Position (1, 1)

	File Name	Sample ID	File Text	Sample Type	Subject Text	Samp Size	13C-Te-Hp	13C-OCDD	Rec Std	C/Up
1	DX8M_089S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10
2	DX8M_089S2	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
3	DX8M_089S3	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
4	DX8M_089S4	L29626-4,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.410	2000	4000	2000	40
5	DX8M_089S5	L29626-5,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.330	2000	4000	2000	40
6	DX8M_089S6	L29626-6,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.240	2000	4000	2000	40
7	DX8M_089S7	L29626-7,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.020	2000	4000	2000	40
8	DX8M_089S8	L29626-8,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.150	2000	4000	2000	40
9	DX8M_089S9	L29626-9,,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.550	2000	4000	2000	40
10	DX8M_089S10	WG64557-104,,CRM	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	9.236	2000	4000	2000	40
11	DX8M_089S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	18:26:29

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	10.3	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.62	0.52-0.70	53.6	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.17	1.05-1.43	49.8	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.16	1.05-1.43	50.4	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.20	1.05-1.43	48.5	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.10	0.88-1.20	55.8	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	104	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.74	0.65-0.89	10.9	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.47	1.32-1.78	51.9	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.48	1.32-1.78	50.3	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	51.9	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	49.9	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.22	1.05-1.43	46.4	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.18	1.05-1.43	52.2	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.02	0.88-1.20	53.3	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.02	0.88-1.20	54.9	43 - 58
OCDF		**M+2/M+4**	0.84	0.76-1.02	100	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S1__Form4A_SJ2409971.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	18:26:29

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.80	0.65-0.89	98.6	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.69	0.52-0.70	110	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.27	1.05-1.43	96.9	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.22	1.05-1.43	105	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.95	0.88-1.20	82.6	72 - 138
13C-OCDD		**M+2/M+4**	0.87	0.76-1.02	153	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.70	0.65-0.89	88.7	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.39	1.32-1.78	104	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.42	1.32-1.78	111	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	92.6	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	99.2	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.52	0.43-0.59	88.1	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	96.5	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.44	0.37-0.51	87.5	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.43	0.37-0.51	91.5	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					8.22	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S1__Form4B_SJ2409971.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	18:26:29

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S1__Form6A_SJ2409971.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	26-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	18:26:29

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.381	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.283	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.350	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.981	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S1__Form6B_SJ2409971.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	03:55:54

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	10.2	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.61	0.52-0.70	53.2	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.24	1.05-1.43	51.1	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.17	1.05-1.43	49.7	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.23	1.05-1.43	48.2	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.07	0.88-1.20	52.8	43 - 58
OCDD		**M+2/M+4**	0.86	0.76-1.02	102	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.79	0.65-0.89	11.2	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.48	1.32-1.78	51.9	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.40	1.32-1.78	49.8	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	54.5	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	51.6	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.26	1.05-1.43	47.8	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.26	1.05-1.43	54.9	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.07	0.88-1.20	54.0	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.07	0.88-1.20	54.9	43 - 58
OCDF		**M+2/M+4**	0.82	0.76-1.02	98.9	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_089S11__Form4A_SJ2409970.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	03:55:54

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.77	0.65-0.89	102	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.69	0.52-0.70	104	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.25	1.05-1.43	96.3	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.23	1.05-1.43	111	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.98	0.88-1.20	86.9	72 - 138
13C-OCDD		**M+2/M+4**	0.89	0.76-1.02	153	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.69	0.65-0.89	89.0	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.43	1.32-1.78	98.0	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.39	1.32-1.78	100	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	93.1	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	101	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.54	0.43-0.59	84.7	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	97.9	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.47	0.37-0.51	81.9	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	77.6	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					9.17	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_089S11__Form4B_SJ2409970.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	03:55:54

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.001	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.000	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.000	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S11__Form6A_SJ2409970.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_089 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	03:55:54

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.382	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.284	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.351	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.981	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_089S11__Form6B_SJ2409970.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		04-Jun-2018
RT Window Data Filename:	DX8M_089 S: 1	**Analysis Date:**	26-Jul-2018	**Time:** 18:26:29
DB-5 IS Data Filename:	DX8M_089 S: 1	**Analysis Date:**	26-Jul-2018	**Time:** 18:26:29
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:02	**1,3,6,8-TCDF (F)**	21:30
1,2,8,9-TCDD (L)	28:25	**1,2,8,9-TCDF (L)**	28:15
1,2,4,7,9-PECDD (F)	32:11	**1,3,4,6,8-PECDF (F)**	28:59
1,2,3,8,9-PECDD (L)	37:08	**1,2,3,8,9-PECDF (L)**	37:11
1,2,4,6,7,9-HXCDD (F)	40:07	**1,2,3,4,6,8-HXCDF (F)**	39:04
1,2,3,4,6,7-HXCDD (L)	42:44	**1,2,3,4,8,9-HXCDF (L)**	43:05
1,2,3,4,6,7,9-HPCDD (F)	45:50	**1,2,3,4,6,7,8-HPCDF (F)**	45:23
1,2,3,4,6,7,8-HPCDD (L)	46:46	**1,2,3,4,7,8,9-HPCDF (L)**	47:10

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	12
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

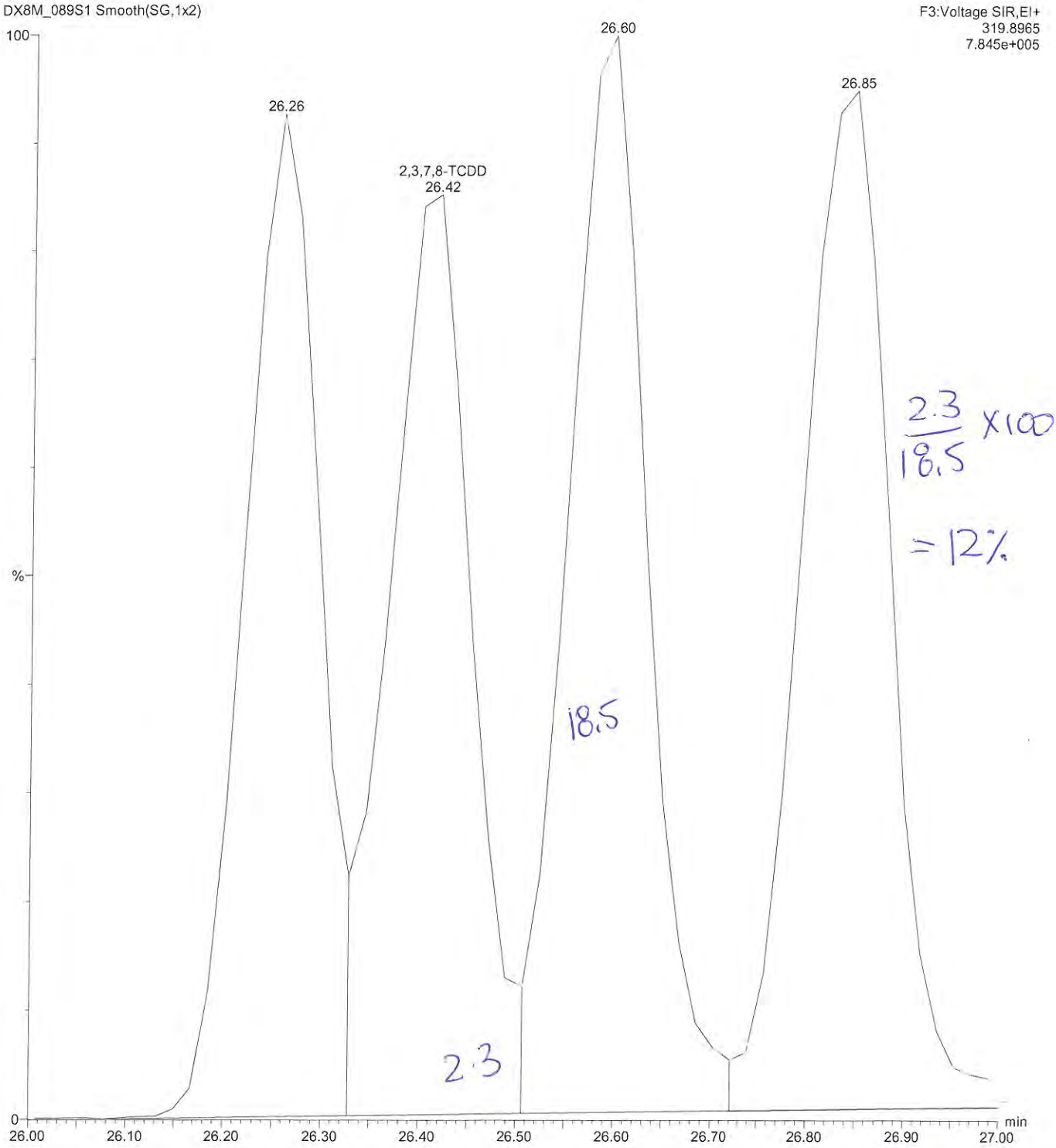
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DX8M_089S1_Form5_SJ2410213.html; Workgroup: WG64557; Design ID: 491]

www.axysanalytical.com

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Win_ResC.mdb 07 Dec 2011 14:46:56
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

2,3,7,8-TCDD



$\frac{2.3}{18.5} \times 100\% = 12\%$

pwyKB 30JUL2018

www.axysanalytical.com

Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA¶
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 400

Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

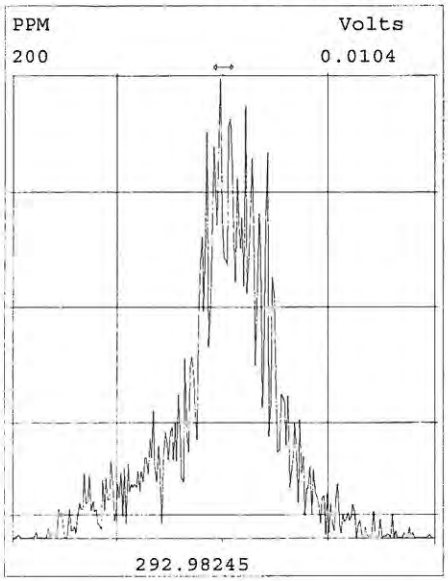
Tune : RT
List : EW
Check :
LIMS :
Logfile:

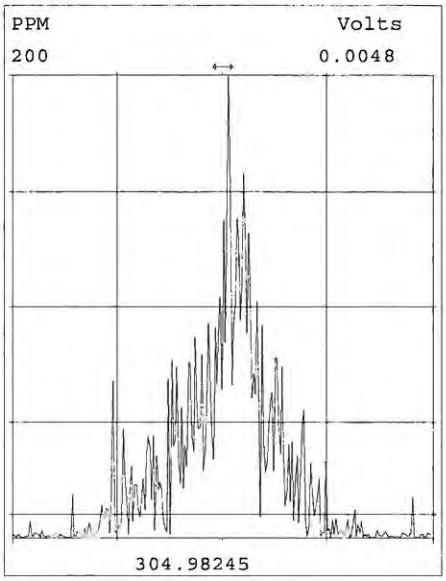
Date -list : 27-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

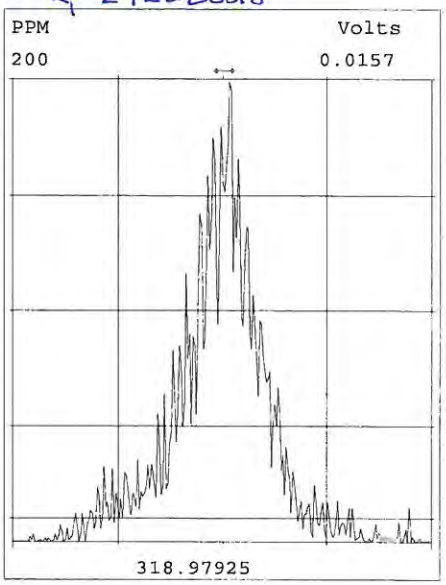
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_131	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	27-JUL-18 07:39:56
2	DB83_131	2	2	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 08:21:08
3	DB83_131	3	3	Toluene,,	1,,2.0uL	27-JUL-18 09:02:24
4	DB83_131	4	4	Toluene,,	1,,2.0uL	27-JUL-18 09:43:40
5	DB83_131	5	5	WG64557-101,,BLK	1,WG64557,2.0/20uL	27-JUL-18 10:24:52
6	DB83_131	6	6	L29626-1,,	1,WG64557,2.0/20uL	27-JUL-18 11:06:08
7	DB83_131	7	7	WG64557-103,,DUP	1,WG64557,2.0/20uL	27-JUL-18 11:47:24
8	DB83_131	8	8	L29626-2,,	1,WG64557,2.0/20uL	27-JUL-18 12:28:40
9	DB83_131	9	9	L29626-3,,	1,WG64557,2.0/20uL	27-JUL-18 13:09:52
10	DB83_131	10	10	L29626-4,,	1,WG64557,2.0/20uL	27-JUL-18 14:23:17
11	DB83_131	11	11	L29626-5,,	1,WG64557,2.0/20uL	27-JUL-18 15:04:33
12	DB83_131	12	12	L29626-6,,	1,WG64557,2.0/20uL	27-JUL-18 15:45:50
13	DB83_131	13	13	L29626-7,,	1,WG64557,2.0/20uL	27-JUL-18 16:27:06
14	DB83_131	14	14	L29626-8,,	1,WG64557,2.0/20uL	27-JUL-18 17:08:18
15	DB83_131	15	15	L29626-9,,	1,WG64557,2.0/20uL	27-JUL-18 17:49:30
16	DB83_131	16	16	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 18:30:46

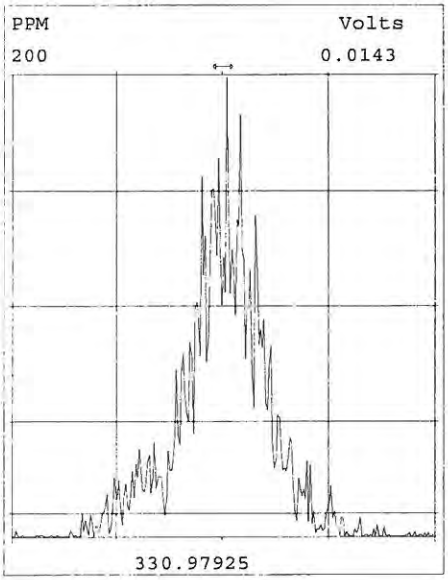
Peak Locate Examination:27-JUL-2018:07:38 File:DB83_131CAL
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

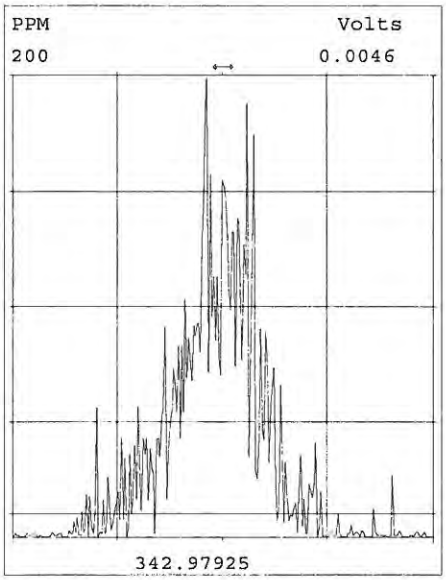
approved by
R 27JUL2018

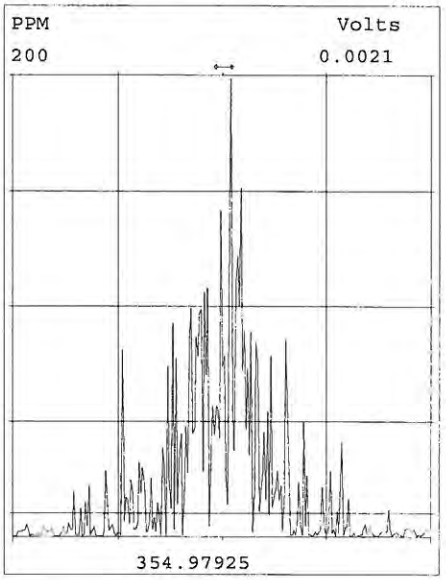


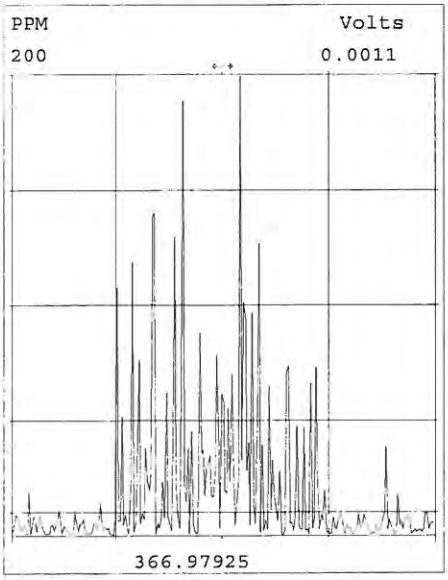


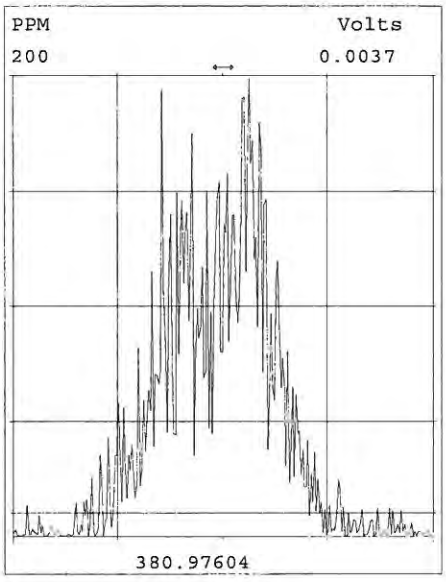




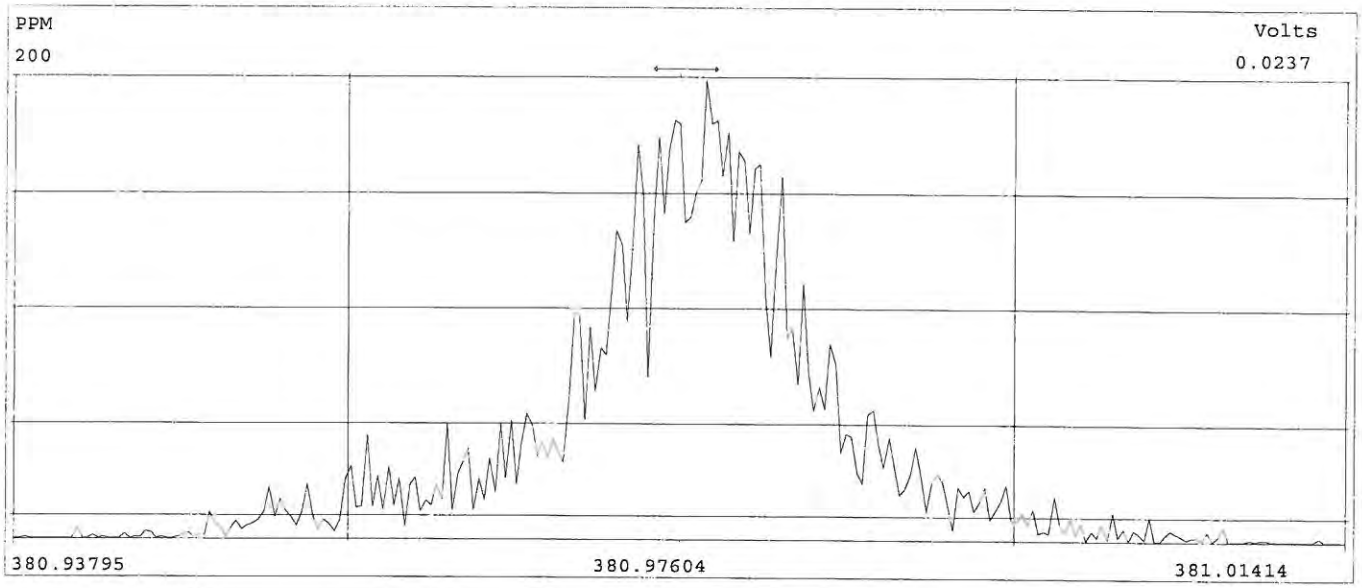


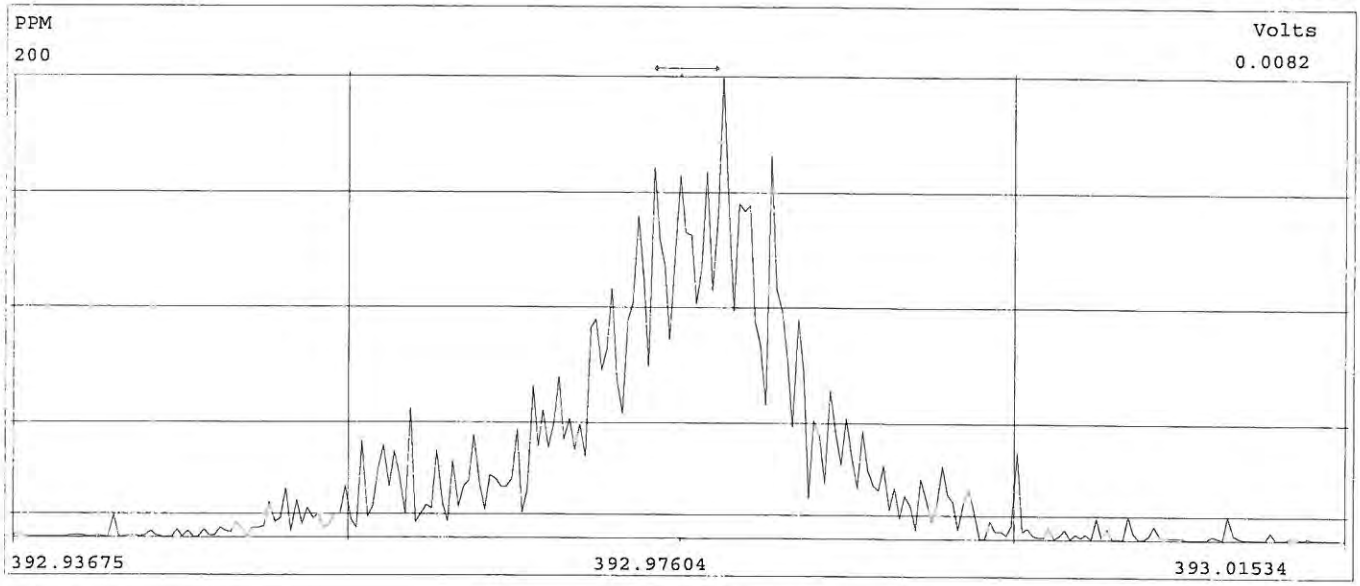


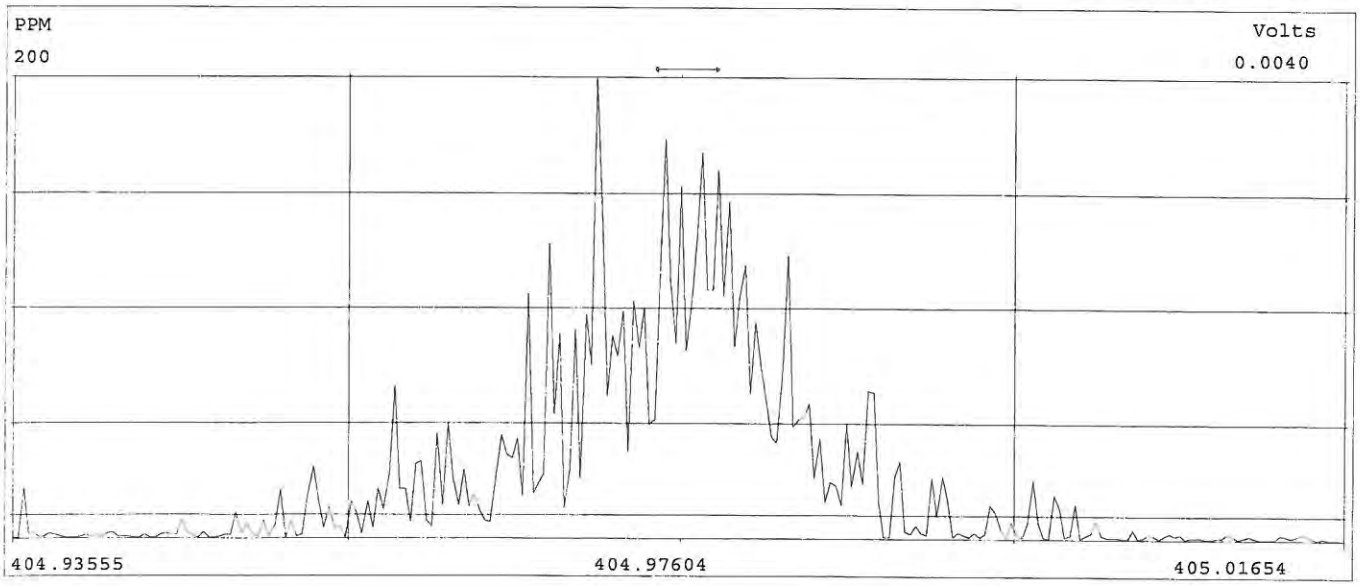




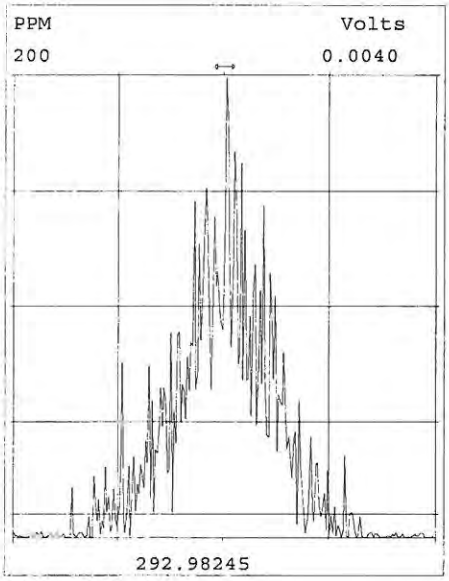
Peak Locate Examination:27-JUL-2018:07:38 File:DB83_131CAL
Experiment:DX-DB225-4_01 Function:2 Reference:PFK

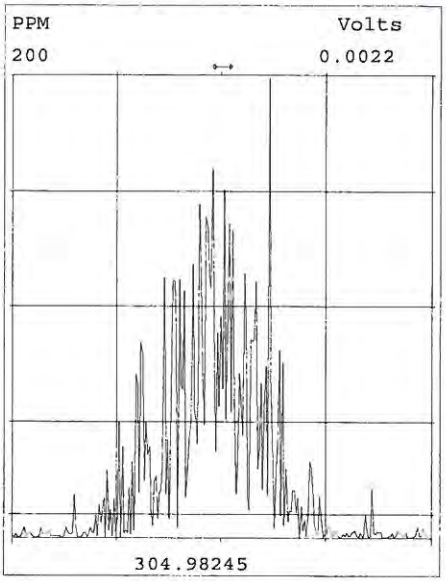


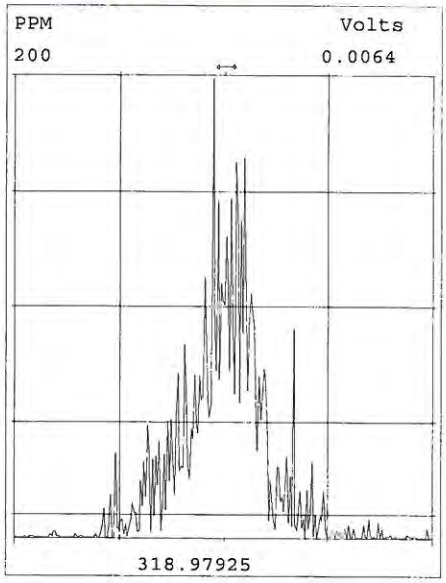


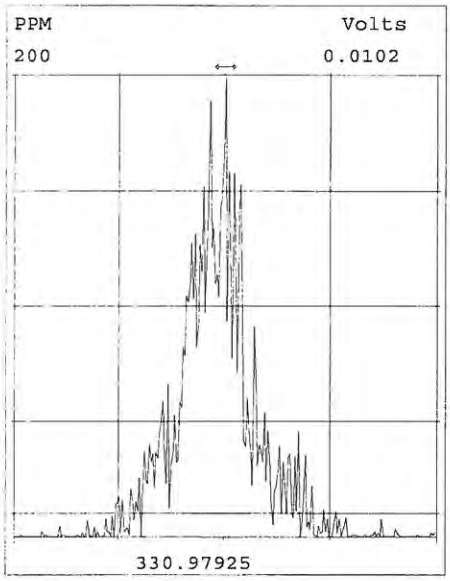


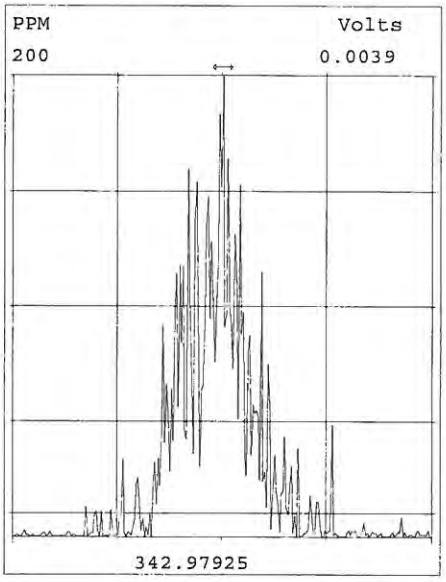
Peak Locate Examination:27-JUL-2018:19:24 File:DB83_131CAL2 Approved by EW 27-JUL-2018
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

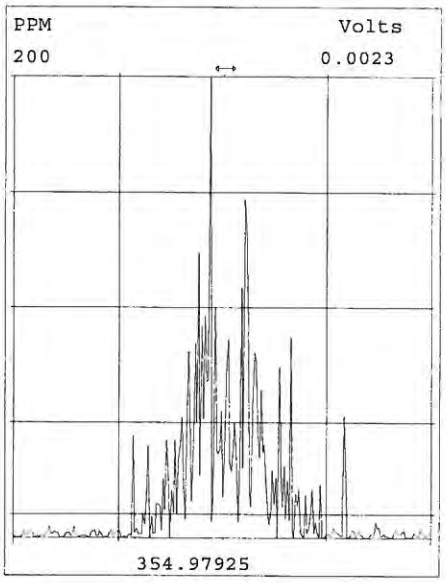


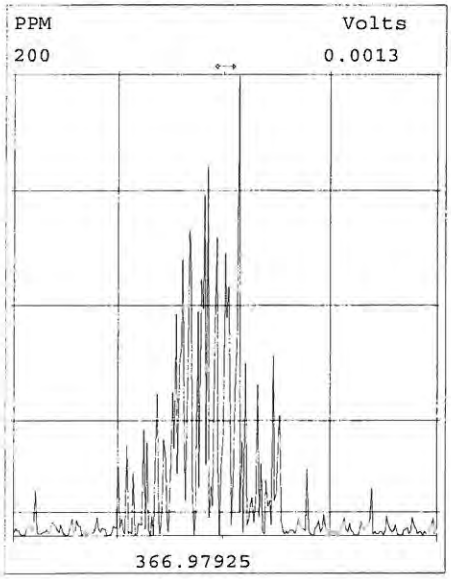


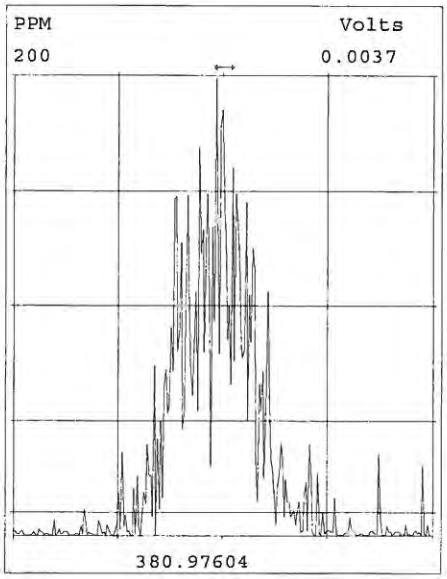




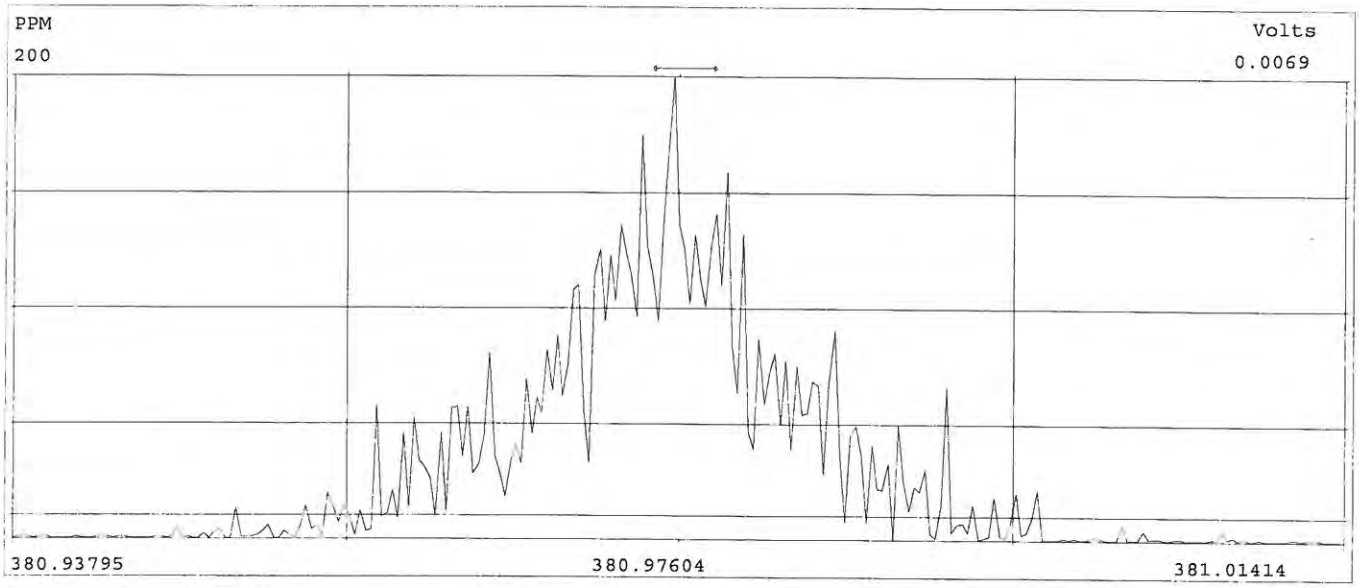


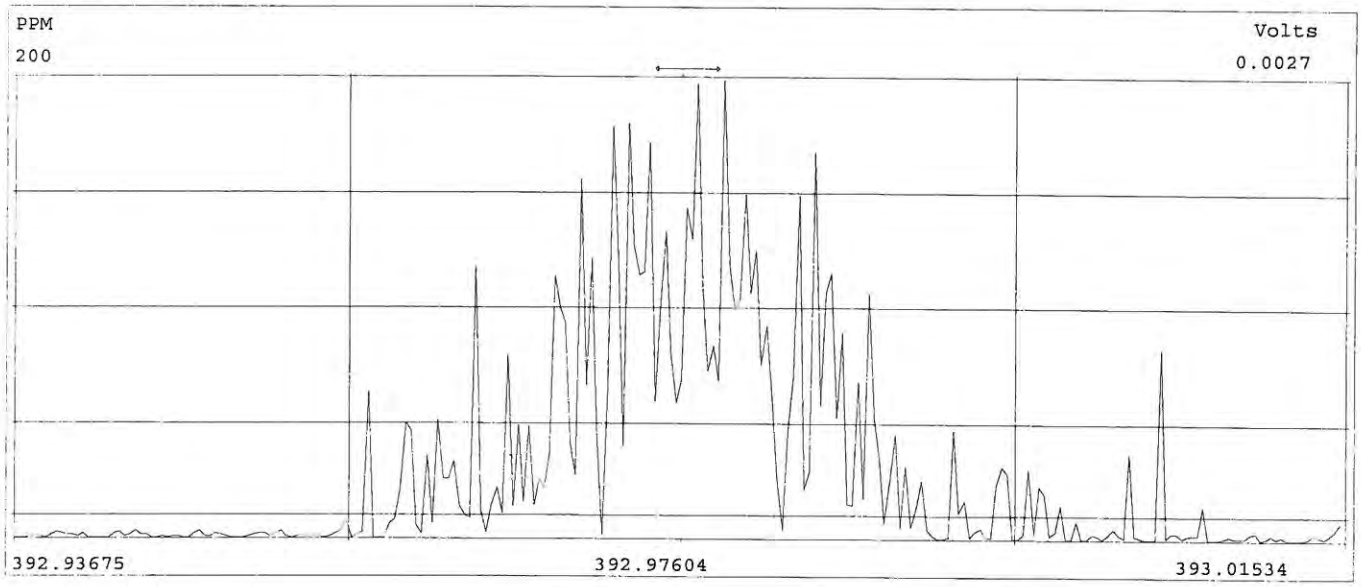


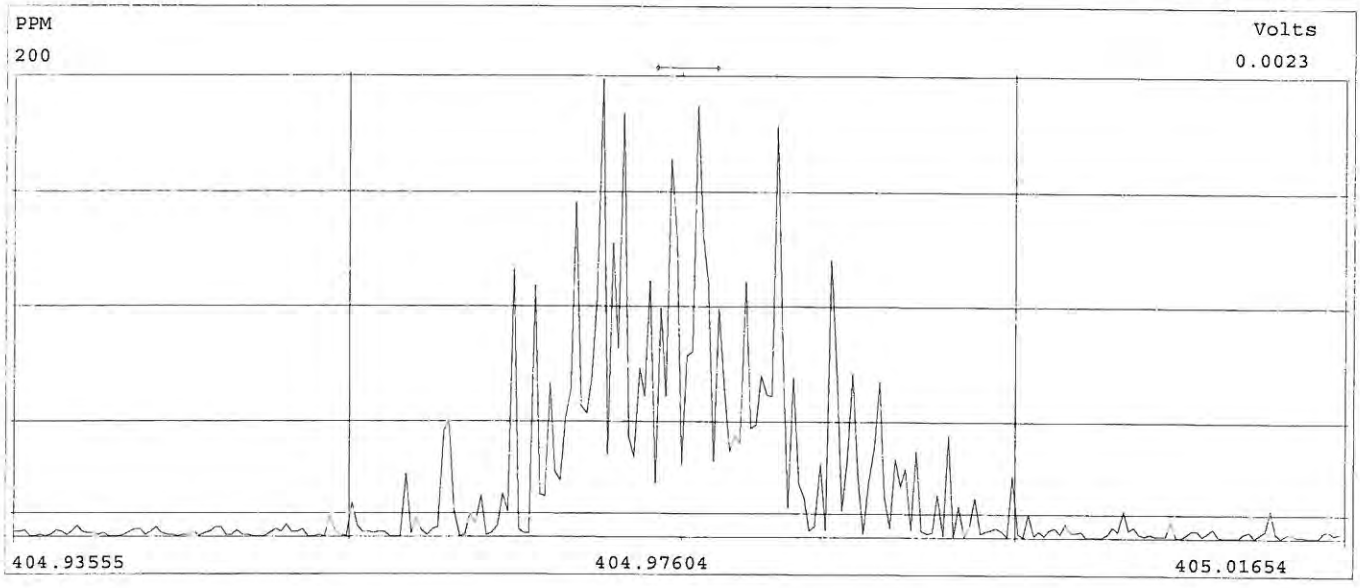




Peak Locate Examination:27-JUL-2018:19:24 File:DB83_131CAL2
Experiment:DX-DB225-4_01 Function:2 Reference:PFK







www.axysanalytical.com

DB83-121-A

	c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1	c	ult3	DB83_121	4	1	DB-HXD-C2	0.2000	1.0000	1.000000	y	DX041A-CAL,,»	1,,2.0uL CS-0.2/»	y
2	c	ult3	DB83_121	3	1	DB-HXD-C2	1.0000	1.0000	1.000000	y	DX041B-CAL,,»	1,,2.0uL CS-1	y
3	c	ult3	DB83_121	2	1	DB-HXD-C2	4.0000	1.0000	1.000000	y	DX041C-CAL,,»	1,,2.0uL CS-2	y
4	c	ult3	DB83_121	7	1	DB-HXD-C2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL CAL	y
5	c	ult3	DB83_121	6	1	DB-HXD-C2	80.0000	1.0000	1.000000	y	DX041E-CAL,,»	1,,2.0uL CS-4	y
6	c	ult3	DB83_121	5	1	DB-HXD-C2	400.0000	1.0000	1.000000	y	DX041F-CAL,,»	1,,2.0uL CS-5	y
7	q	ult3	DB83_131	1	1	db-hxd-c2	1.0000	1.0000	1.000000	y	DX003A-RSN,,»	1,,2.0uL Win/Res	y
8	q	ult3	DB83_131	2	1	db-hxd-c2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL Cal	y
9	q	ult3	DB83_131	3	1	db-hxd-s2	1.0000	1.0000	1.000000	y	Toluene,,	1,,2.0uL	y
10	q	ult3	DB83_131	4	1	db-hxd-s2	1.0000	1.0000	1.000000	y	Toluene,,	1,,2.0uL	y
11	q	ult3	DB83_131	6	1	db-hxd-s2	1.0000	1.0000	10.060000	y	L29626-1,,	1,WG64557,2.0/20»	y
12	q	ult3	DB83_131	7	1	db-hxd-s2	1.0000	1.0000	9.920000	y	WG64557-103,»	1,WG64557,2.0/20»	y
13	q	ult3	DB83_131	8	1	db-hxd-s2	1.0000	1.0000	9.650000	y	L29626-2,,	1,WG64557,2.0/20»	y
14	q	ult3	DB83_131	9	1	db-hxd-s2	1.0000	1.0000	9.970000	y	L29626-3,,	1,WG64557,2.0/20»	y
15	q	ult3	DB83_131	10	1	db-hxd-s2	1.0000	1.0000	10.410000	y	L29626-4,,	1,WG64557,2.0/20»	y
16	q	ult3	DB83_131	11	1	db-hxd-s2	1.0000	1.0000	10.330000	y	L29626-5,,	1,WG64557,2.0/20»	y
17	q	ult3	DB83_131	12	1	db-hxd-s2	1.0000	1.0000	10.240000	y	L29626-6,,	1,WG64557,2.0/20»	y
18	q	ult3	DB83_131	13	1	db-hxd-s2	1.0000	1.0000	10.020000	y	L29626-7,,	1,WG64557,2.0/20»	y
19	q	ult3	DB83_131	14	1	db-hxd-s2	1.0000	1.0000	10.150000	y	L29626-8,,	1,WG64557,2.0/20»	y
20	q	ult3	DB83_131	15	1	db-hxd-s2	1.0000	1.0000	10.550000	y	L29626-9,,	1,WG64557,2.0/20»	y
21	q	ult3	DB83_131	16	1	db-hxd-c2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL Cal	y

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_131 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	08:21:08

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.22	1.05-1.43	42.6	41 - 61
2,3,7,8-TCDF		**M/M+2**	0.76	0.65-0.89	8.78	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_131S2__Form4A_SJ2410711.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_131 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	08:21:08

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.063	1.052-1.075
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_131S2__Form6A_SJ2410711.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_131 S: 16
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	18:30:46

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.22	1.05-1.43	41.6	41 - 61
2,3,7,8-TCDF		**M/M+2**	0.74	0.65-0.89	9.01	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DB83_131S16__Form4A_SJ2410724.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_131 S: 16
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	18:30:46

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.064	1.052-1.075
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.002	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_131S16__Form6A_SJ2410724.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		10-Jul-2018
RT Window Data Filename:		**Analysis Date:**		**Time:**
DB-5 IS Data Filename:		**Analysis Date:**		**Time:**
DB-225 IS Data Filename:	DB83_131 S: 1	**Analysis Date:**	27-Jul-2018	**Time:** 07:39:56

DB225 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	N/A	**1,3,6,8-TCDF (F)**	N/A
1,2,8,9-TCDD (L)	N/A	**1,2,8,9-TCDF (L)**	N/A
1,2,4,7,9-PECDD (F)	N/A	**1,3,4,6,8-PECDF (F)**	N/A
1,2,3,8,9-PECDD (L)	N/A	**1,2,3,8,9-PECDF (L)**	N/A
1,2,4,6,7,9-HXCDD (F)	N/A	**1,2,3,4,6,8-HXCDF (F)**	N/A
1,2,3,4,6,7-HXCDD (L)	N/A	**1,2,3,4,8,9-HXCDF (L)**	N/A
1,2,3,4,6,7,9-HPCDD (F)	N/A	**1,2,3,4,6,7,8-HPCDF (F)**	N/A
1,2,3,4,6,7,8-HPCDD (L)	N/A	**1,2,3,4,7,8,9-HPCDF (L)**	N/A

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

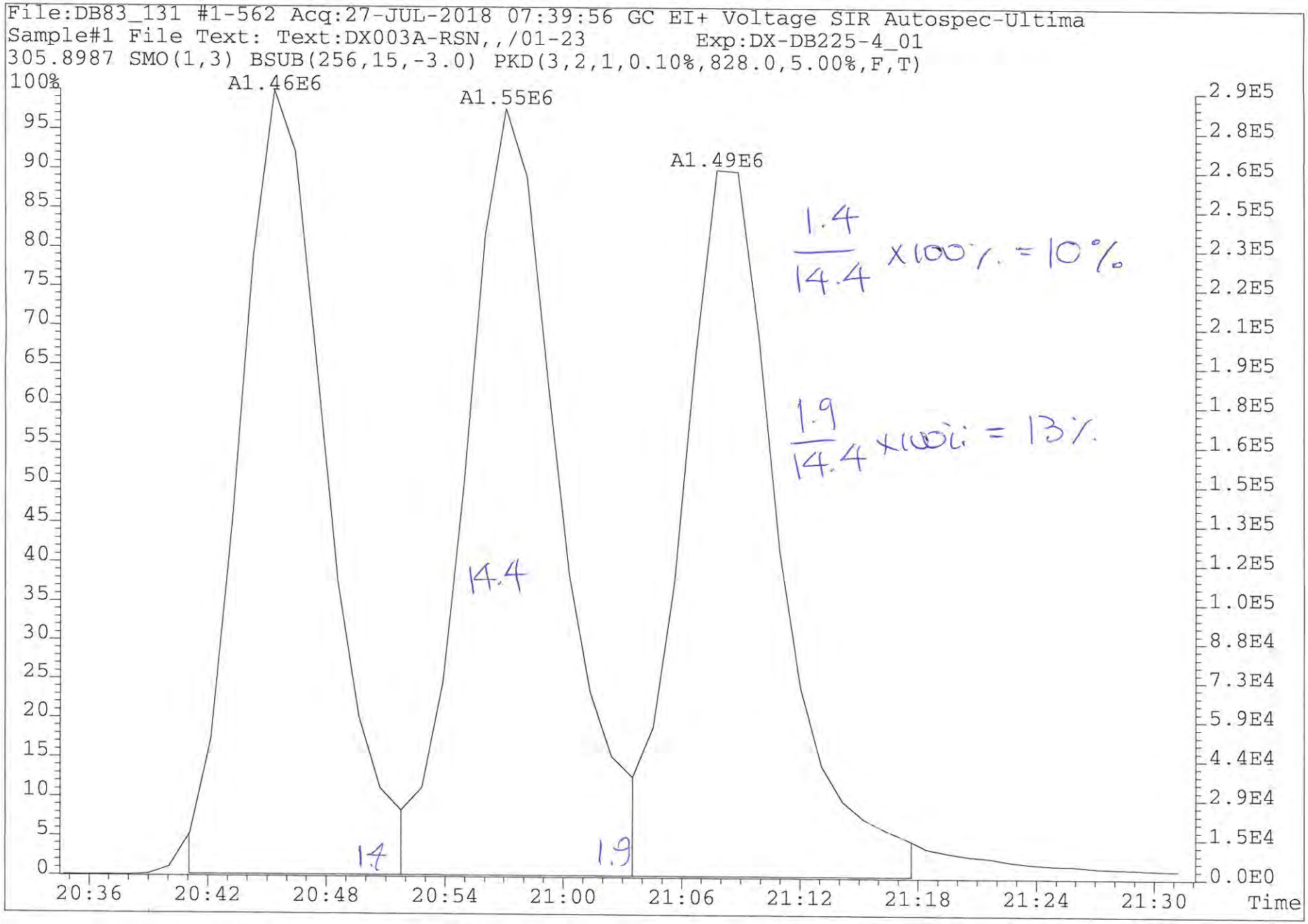
ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	N/A	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	N/A
1,2,7,8-TCDD **1,4,7,8-TCDD**	N/A	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	10
1,4,7,8-TCDD **1,2,3,7-TCDD**	N/A	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	13
1,2,3,7-TCDD **1,2,3,8-TCDD**	N/A		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DB83_131S1_Form5_SJ2410729.html; Workgroup: WG64557; Design ID: 491]



$\frac{1.4}{14.4} \times 100\% = 10\%$

$\frac{1.9}{14.4} \times 100\% = 13\%$

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX8M_090S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	27-Jul-18	15:50:50
2	DX8M_090S2	DX051A-SUR,,/01	1,,1.0uL Inst Blank	27-Jul-18	16:50:02
3	DX8M_090S3	DX051A-SUR,,/01	1,,1.0uL Inst Blank	27-Jul-18	17:42:27
4	DX8M_090S4	L29625-19,,	1,WG64577,1.0/20uL	27-Jul-18	18:51:35
5	DX8M_090S5	L29625-20,,	1,WG64577,1.0/20uL	27-Jul-18	19:44:04
6	DX8M_090S6	L29625-21,,	1,WG64577,1.0/20uL	27-Jul-18	20:47:28
7	DX8M_090S7	L29625-22,,	1,WG64577,1.0/20uL	27-Jul-18	21:39:49
8	DX8M_090S8	L29625-23,,	1,WG64577,1.0/20uL	27-Jul-18	22:35:04
9	DX8M_090S9	L29625-24,,	1,WG64577,1.0/20uL	27-Jul-18	23:30:17
10	DX8M_090S10	L29625-25,,	1,WG64577,1.0/20uL	28-Jul-18	00:25:31
11	DX8M_090S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	28-Jul-18	01:20:44
12	DX8M_090S12	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	02:25:11
13	DX8M_090S13	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	03:17:40
14	DX8M_090S14	WG64658-101,,TEST	1,WG64658,1.0/20uL	28-Jul-18	04:12:52
15	DX8M_090S15	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	05:08:06
16	DX8M_090S16	L29626-3,I,	1,WG64557,1.0/20uL	28-Jul-18	06:03:20
17	DX8M_090S17	L29626-5,I,	1,WG64557,1.0/20uL	28-Jul-18	06:58:34
18	DX8M_090S18	L29625-26,,	1,WG64577,1.0/20uL	28-Jul-18	07:53:46
19	DX8M_090S19	L29625-27,,	1,WG64577,1.0/20uL	28-Jul-18	08:49:00
20	DX8M_090S20	L29625-28,,	1,WG64577,1.0/20uL	28-Jul-18	09:44:12
21	DX8M_090S21	L29625-29,,	1,WG64577,1.0/20uL	28-Jul-18	10:39:27
22	DX8M_090S22	L29625-30,,	1,WG64577,1.0/20uL	28-Jul-18	11:34:40
23	DX8M_090S23	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	28-Jul-18	12:29:54

www.axysanalytical.com

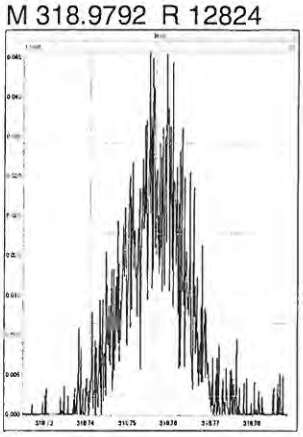
DX8M_090 CAL 2 5:11.

Resolution Check Report **MassLynx 4.1**

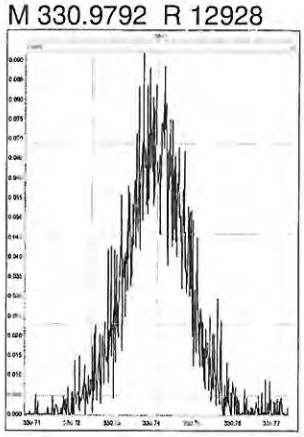
Printed: Saturday, July 28, 2018 02:25:09 Pacific Daylight Time

Approved by TDJ 28 Jul 18

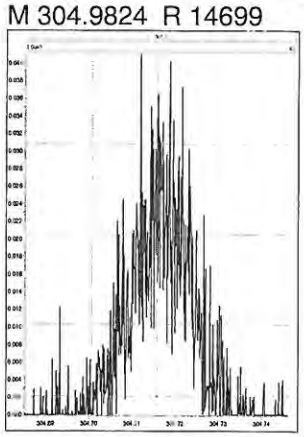
M 318.9792 R 12824



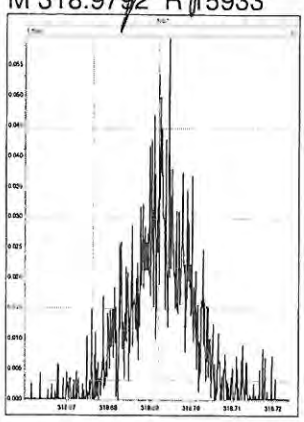
M 330.9792 R 12928



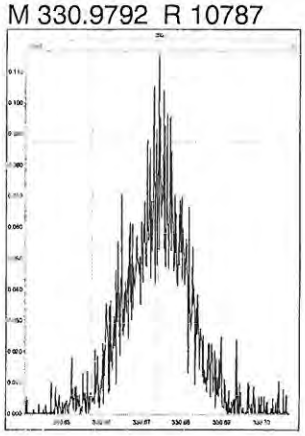
M 304.9824 R 14699



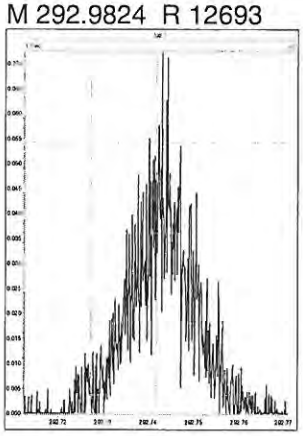
M 318.9792 R 15933



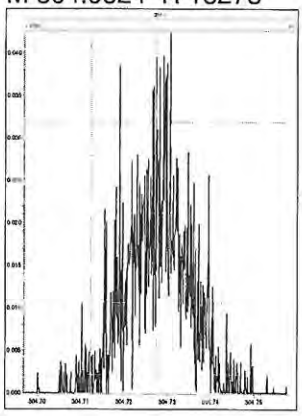
M 330.9792 R 10787



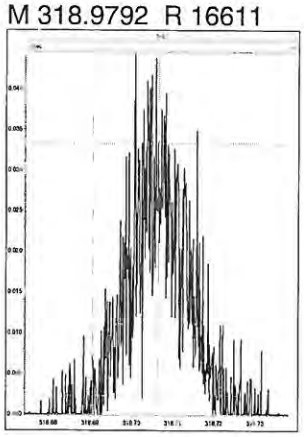
M 292.9824 R 12693



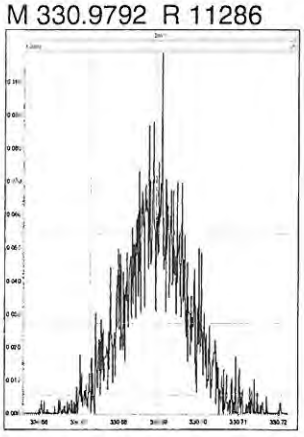
M 304.9824 R 18278



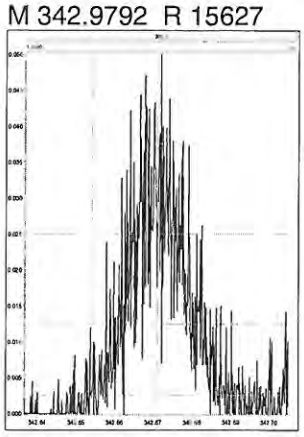
M 318.9792 R 16611



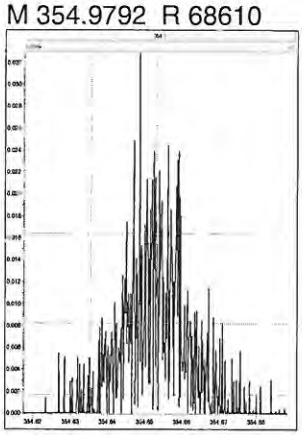
M 330.9792 R 11286



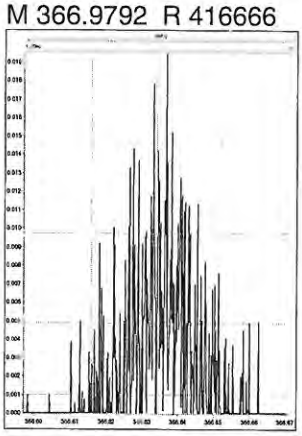
M 342.9792 R 15627



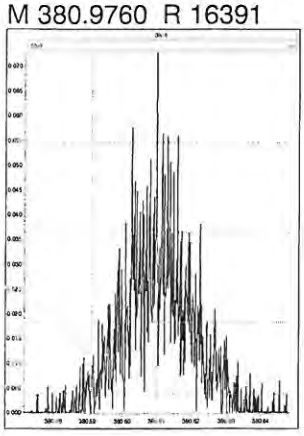
M 354.9792 R 68610



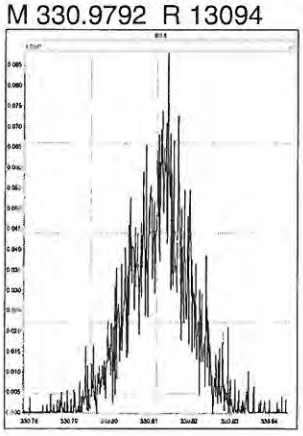
M 366.9792 R 416666



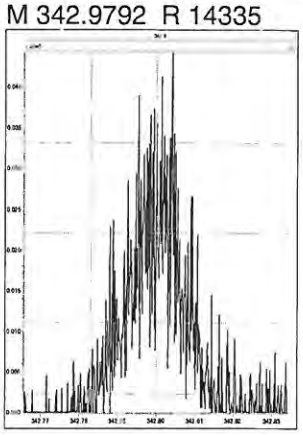
M 380.9760 R 16391



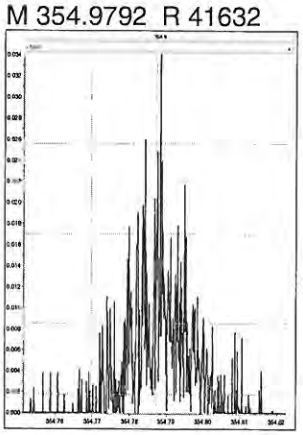
M 330.9792 R 13094



M 342.9792 R 14335

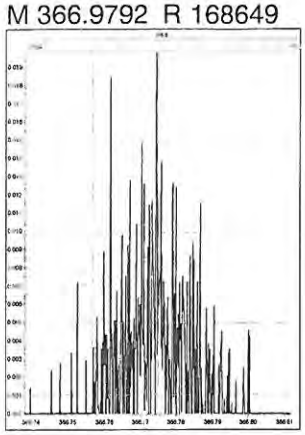


M 354.9792 R 41632

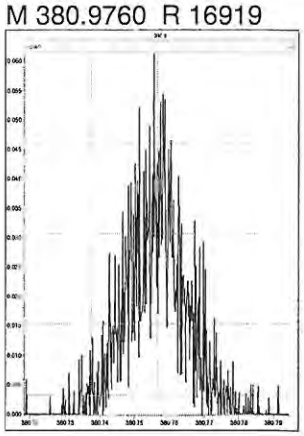


www.axysanalytical.com

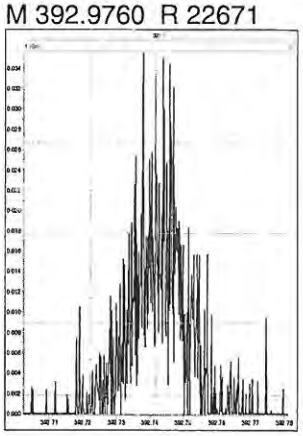
M 366.9792 R 168649



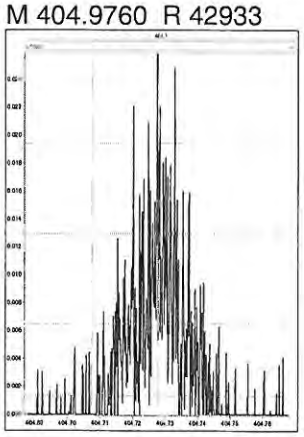
M 380.9760 R 16919



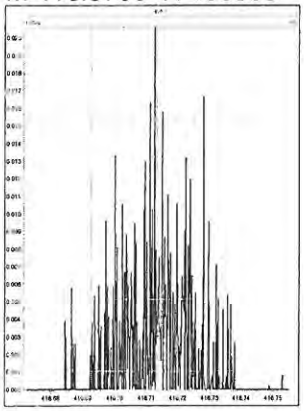
M 392.9760 R 22671



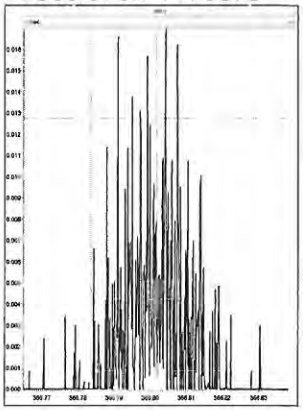
M 404.9760 R 42933



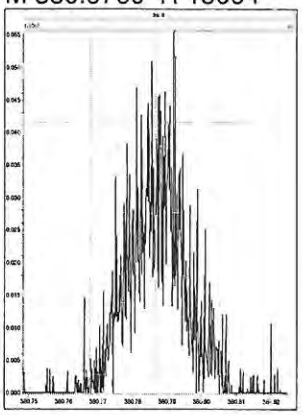
M 416.9760 R 166666



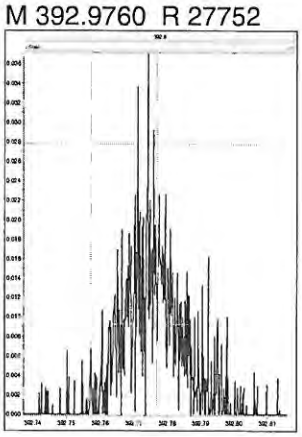
M 366.9792 R 70075



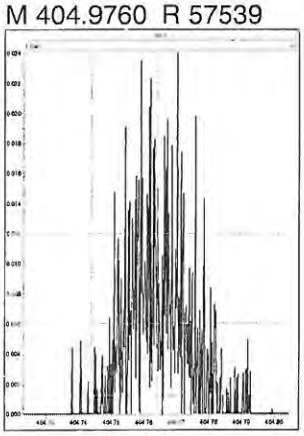
M 380.9760 R 15094



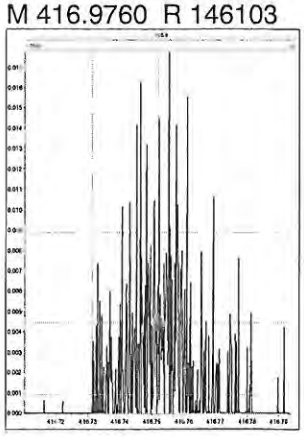
M 392.9760 R 27752



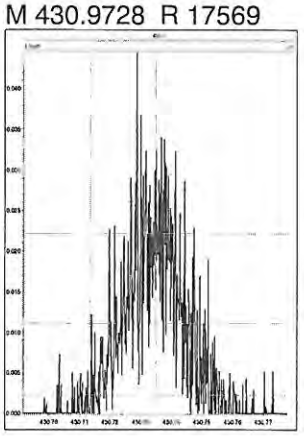
M 404.9760 R 57539



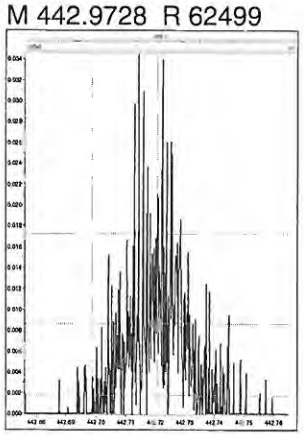
M 416.9760 R 146103



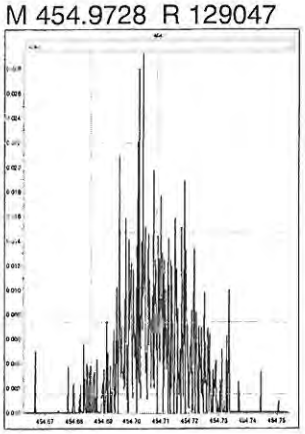
M 430.9728 R 17569



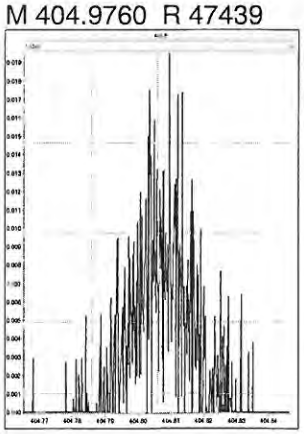
M 442.9728 R 62499



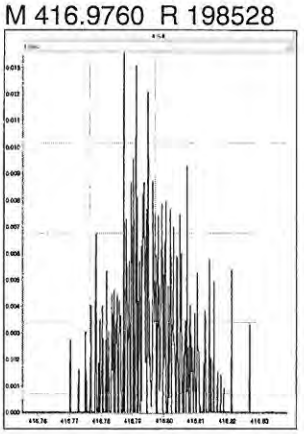
M 454.9728 R 129047



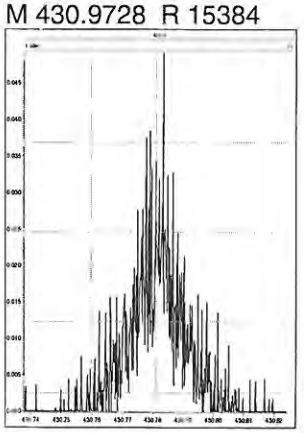
M 404.9760 R 47439



M 416.9760 R 198528



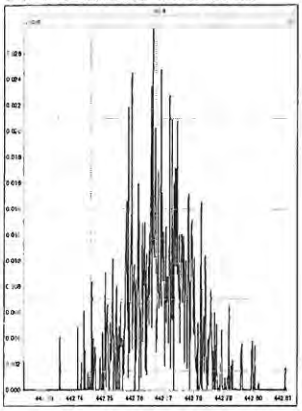
M 430.9728 R 15384



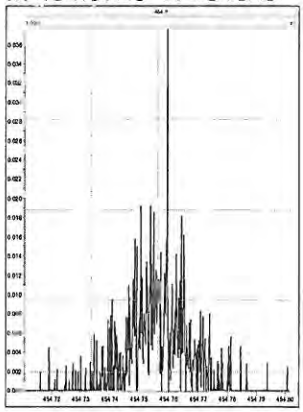
www.axysanalytical.com

Printed: Saturday, July 28, 2018 02:25:09 Pacific Daylight Time

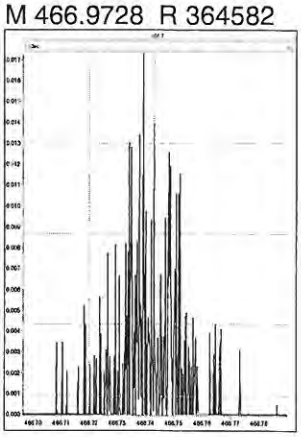
M 442.9728 R 38817



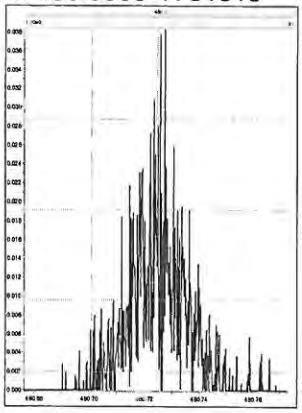
M 454.9728 R 184026



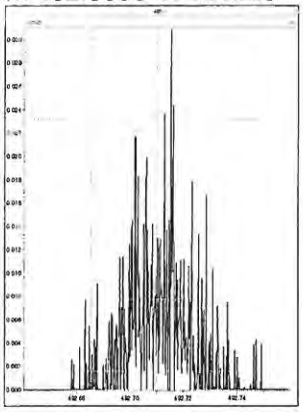
M 466.9728 R 364582



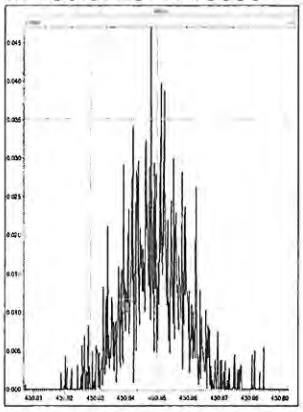
M 480.9696 R 51313



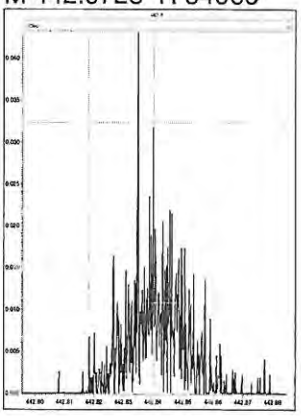
M 492.9696 R 121228



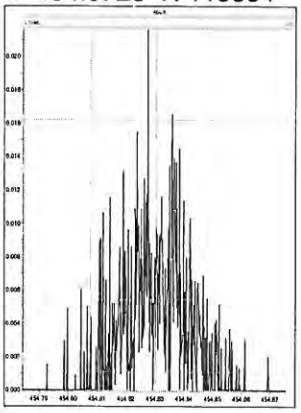
M 430.9728 R 13856



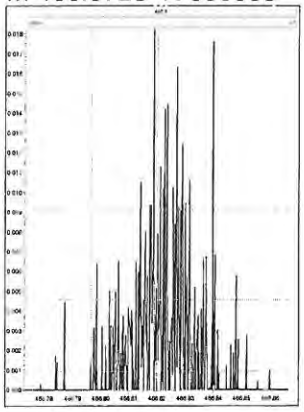
M 442.9728 R 54969



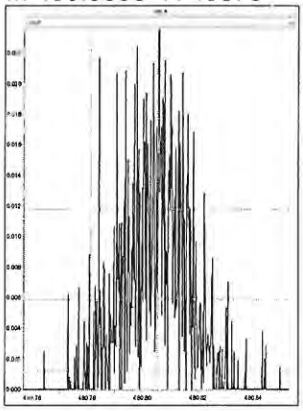
M 454.9728 R 115384



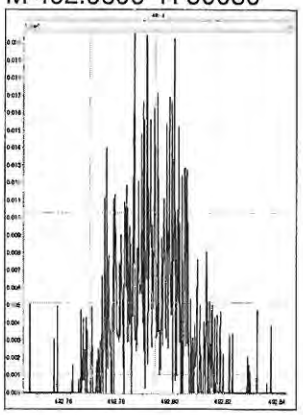
M 466.9728 R 333335



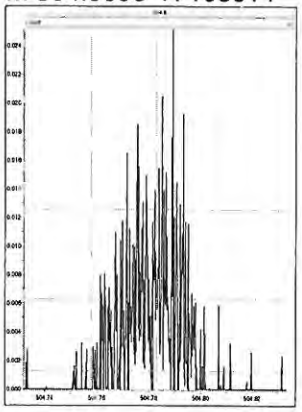
M 480.9696 R 43879



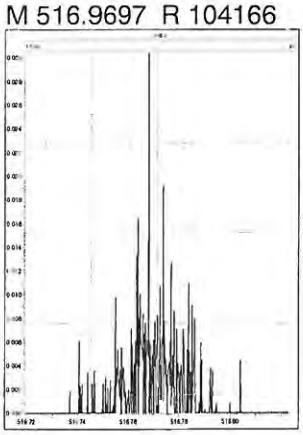
M 492.9696 R 50080



M 504.9696 R 193014

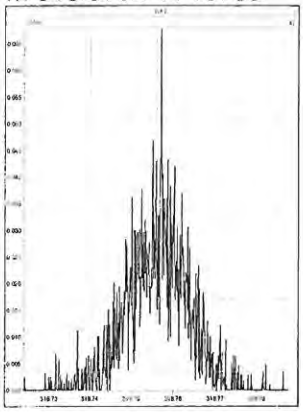


M 516.9697 R 104166

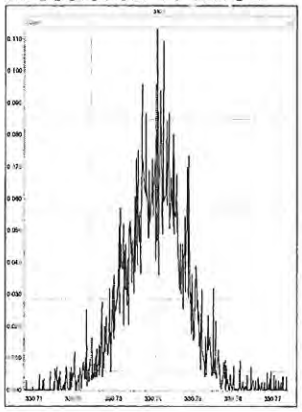


www.axysanalytical.com

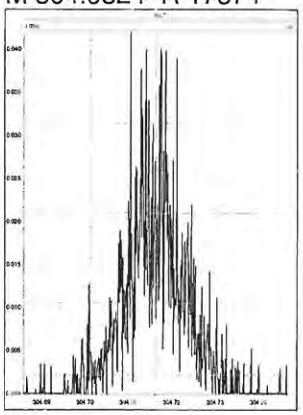
M 318.9792 R 13735



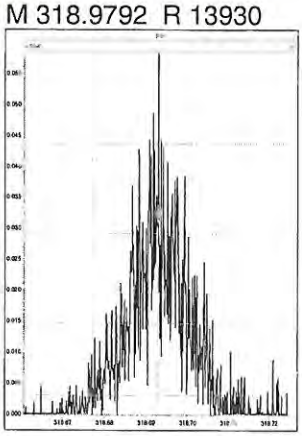
M 330.9792 R 12132



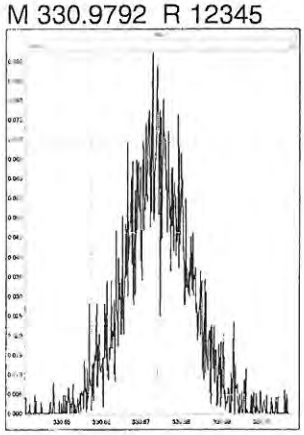
M 304.9824 R 17374



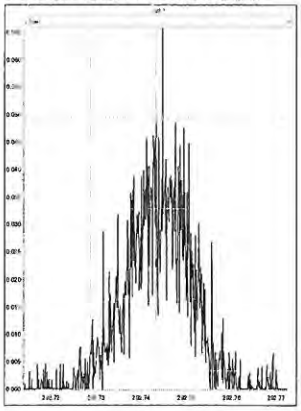
M 318.9792 R 13930



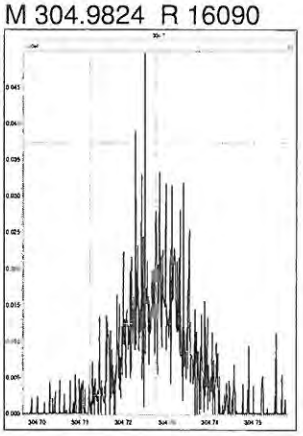
M 330.9792 R 12345



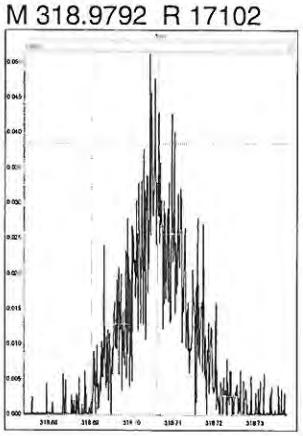
M 292.9824 R 11891



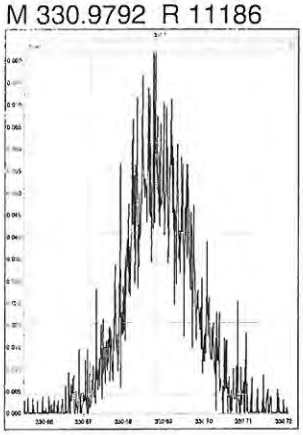
M 304.9824 R 16090



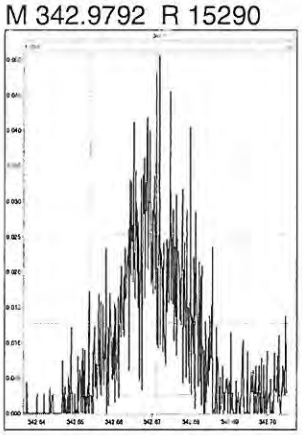
M 318.9792 R 17102



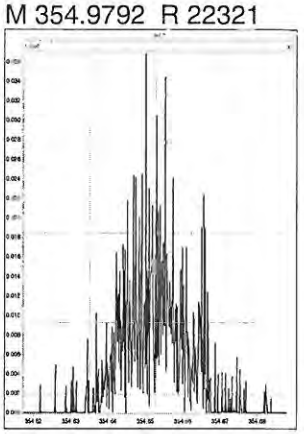
M 330.9792 R 11186



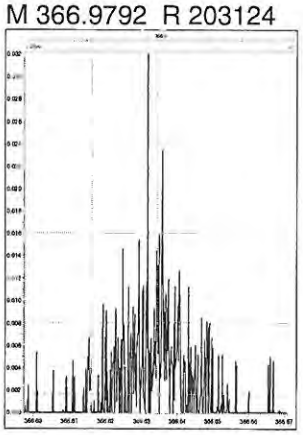
M 342.9792 R 15290



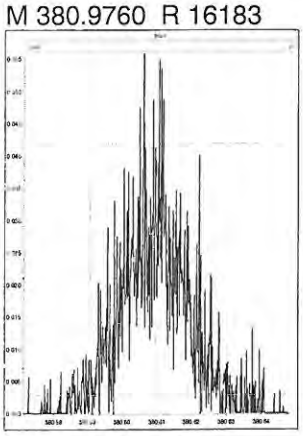
M 354.9792 R 22321



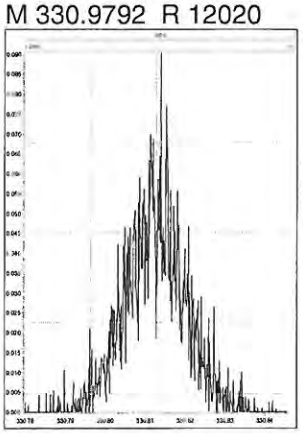
M 366.9792 R 203124



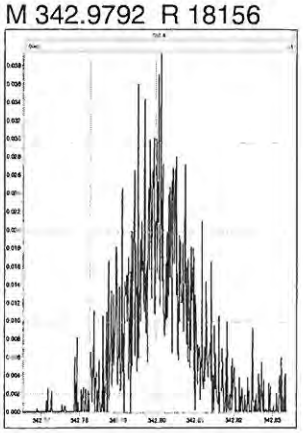
M 380.9760 R 16183



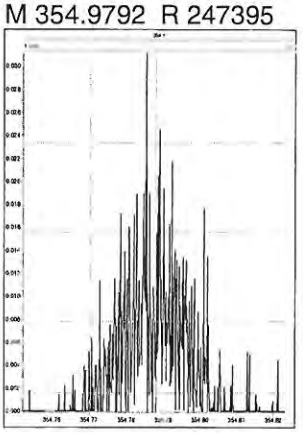
M 330.9792 R 12020



M 342.9792 R 18156

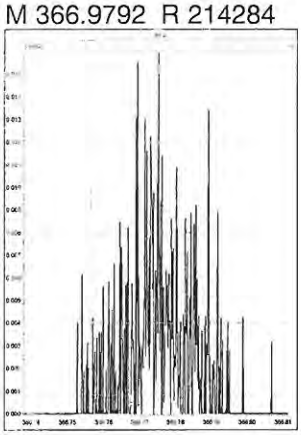


M 354.9792 R 247395

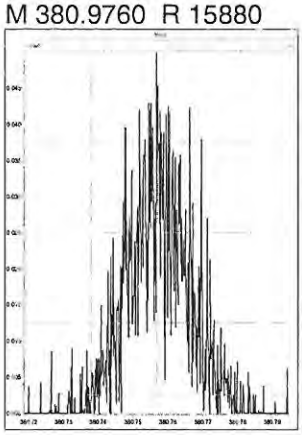


www.axysanalytical.com

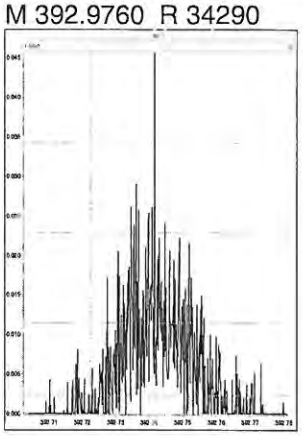
M 366.9792 R 214284



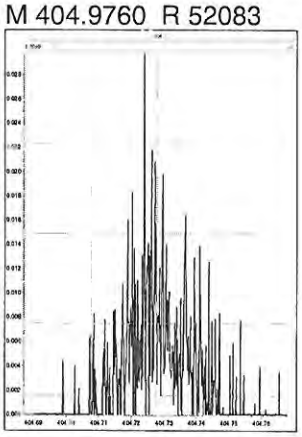
M 380.9760 R 15880



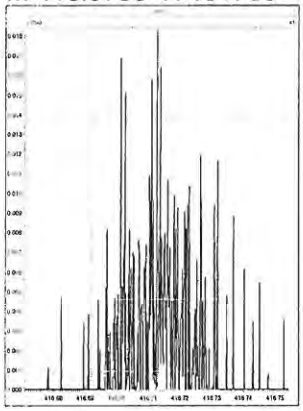
M 392.9760 R 34290



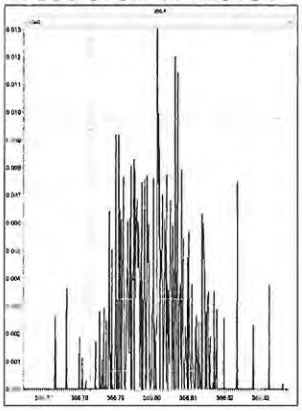
M 404.9760 R 52083



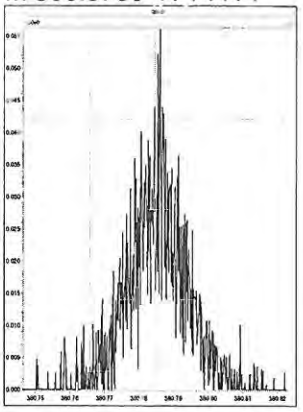
M 416.9760 R 151785



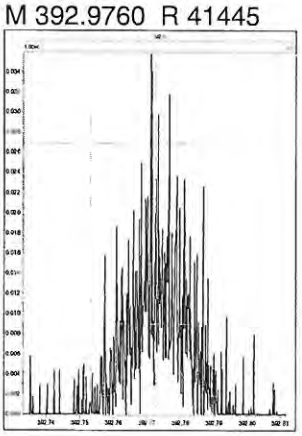
M 366.9792 R 729164



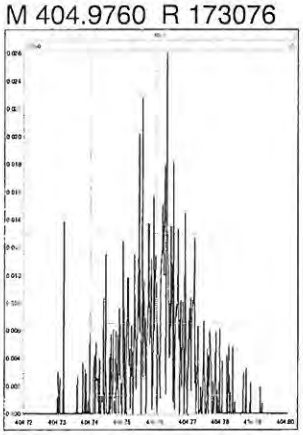
M 380.9760 R 14414



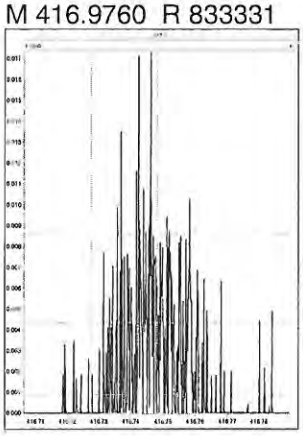
M 392.9760 R 41445



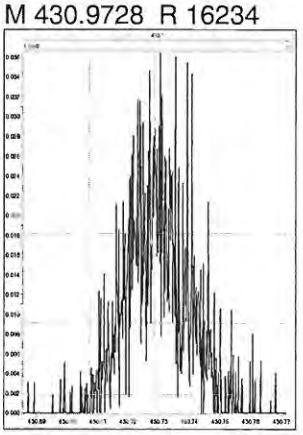
M 404.9760 R 173076



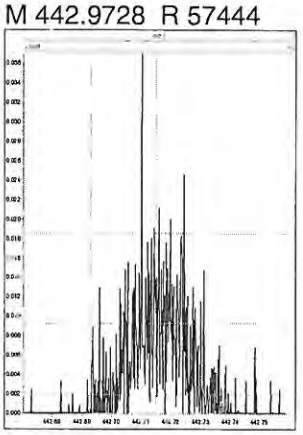
M 416.9760 R 833331



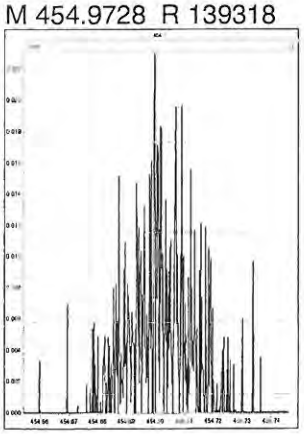
M 430.9728 R 16234



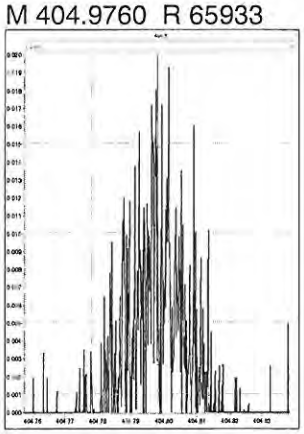
M 442.9728 R 57444



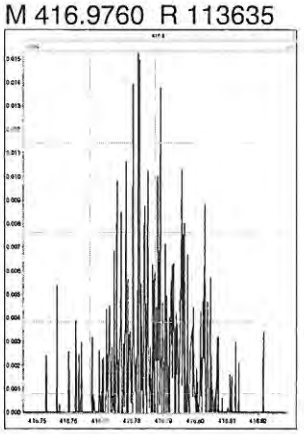
M 454.9728 R 139318



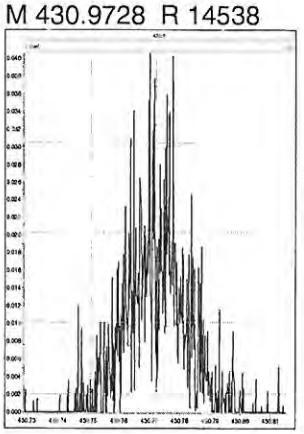
M 404.9760 R 65933



M 416.9760 R 113635

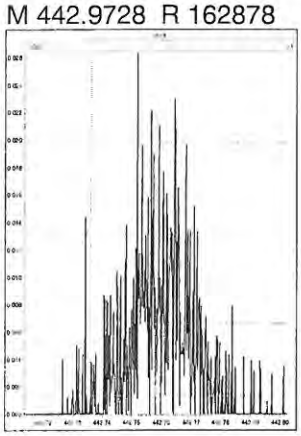


M 430.9728 R 14538

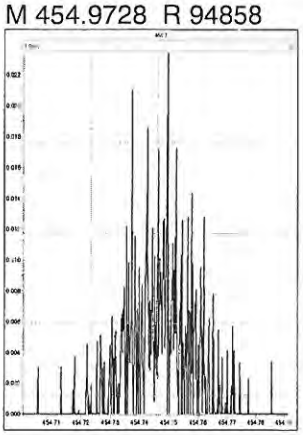


www.axysanalytical.com

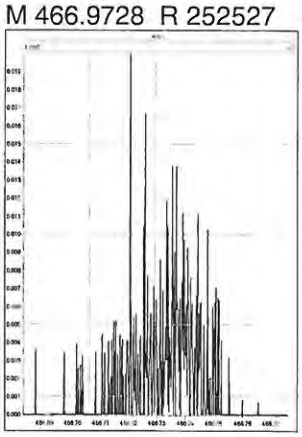
M 442.9728 R 162878



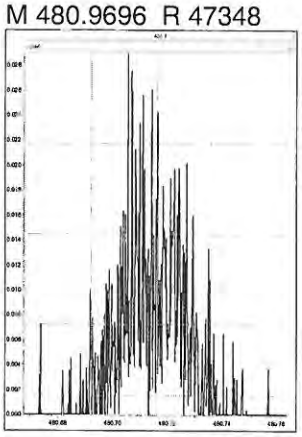
M 454.9728 R 94858



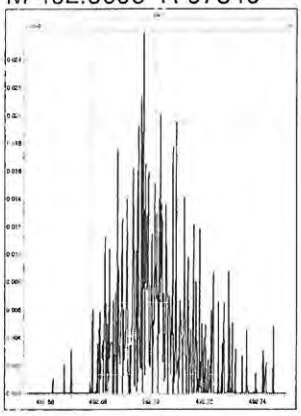
M 466.9728 R 252527



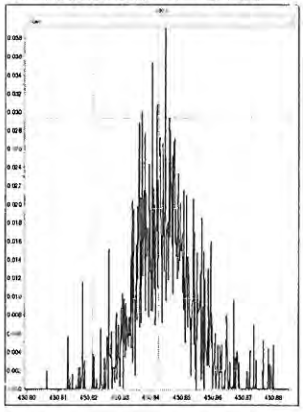
M 480.9696 R 47348



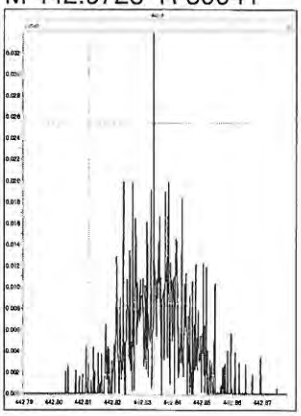
M 492.9696 R 97840



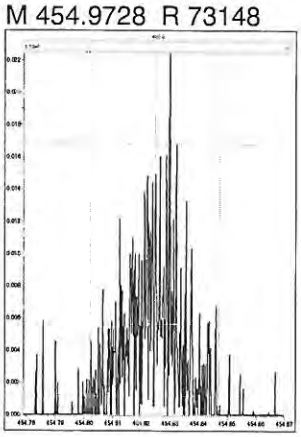
M 430.9728 R 18450



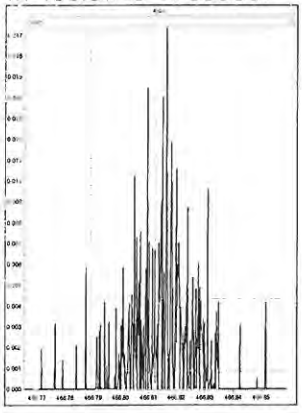
M 442.9728 R 39941



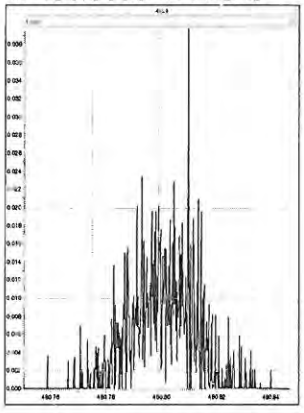
M 454.9728 R 73148



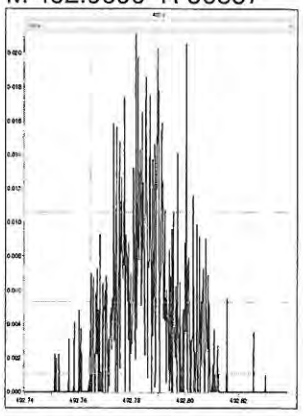
M 466.9728 R 555557



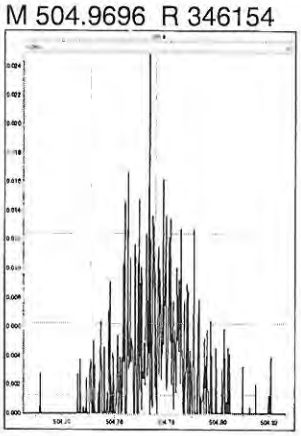
M 480.9696 R 22349



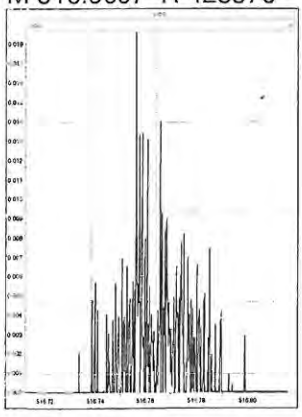
M 492.9696 R 56357



M 504.9696 R 346154



M 516.9697 R 428570



Sample List Report **MassLynx 4.1 SCN627**

Sample List: G:\Masslynx\Inst_M\Projects\180604DX.PRO\SampleDB\DX8M_090-C.SPL
Last Modified: Monday, July 30, 2018 08:36:24 Pacific Daylight Time
Printed: Monday, July 30, 2018 10:03:34 Pacific Daylight Time

Page Position (1, 1)

	File Name	Sample ID	File Text	Sample Type	Subject Text	Samp Size	13C-Te-Hp	13C-OCDD	Rec Std	C/Up
1	DX8M_090S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10
2	DX8M_090S12	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
3	DX8M_090S13	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
4	DX8M_090S15	DX051A-SUR,,/01	1,,1.0uL Inst Blank	Blank	DB5,pg/sam	1.000	200	400	200	---
5	DX8M_090S16	L29626-3,I,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	9.970	2000	4000	2000	40
6	DX8M_090S17	L29626-5,I,	1,WG64557,1.0/20uL	Analyte	DB5,pg/g	10.330	2000	4000	2000	40
7	DX8M_090S23	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	01:20:44

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	10.4	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.60	0.52-0.70	53.2	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	49.1	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	50.2	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.21	1.05-1.43	48.8	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.10	0.88-1.20	56.3	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	104	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.75	0.65-0.89	10.9	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.46	1.32-1.78	50.4	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.46	1.32-1.78	49.2	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.20	1.05-1.43	53.1	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.20	1.05-1.43	52.7	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.24	1.05-1.43	47.9	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.21	1.05-1.43	55.9	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.01	0.88-1.20	52.9	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.10	0.88-1.20	55.4	43 - 58
OCDF		**M+2/M+4**	0.82	0.76-1.02	97.0	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_090S11__Form4A_SJ2410506.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	01:20:44

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.76	0.65-0.89	98.7	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.70	0.52-0.70	104	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.23	1.05-1.43	97.2	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.19	1.05-1.43	106	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.95	0.88-1.20	94.3	72 - 138
13C-OCDD		**M+2/M+4**	0.87	0.76-1.02	166	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.69	0.65-0.89	89.6	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.36	1.32-1.78	103	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.42	1.32-1.78	105	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	90.1	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	96.1	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.51	0.43-0.59	83.7	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.57	0.43-0.59	89.5	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.44	0.37-0.51	91.9	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	87.4	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					8.67	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_090S11__Form4B_SJ2410506.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	01:20:44

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.001	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_090S11__Form6A_SJ2410506.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	01:20:44

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.382	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.284	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.351	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.004	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_090S11__Form6B_SJ2410506.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 23
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	12:29:54

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.79	0.65-0.89	10.3	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.62	0.52-0.70	54.7	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.18	1.05-1.43	49.1	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	50.6	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.17	1.05-1.43	46.9	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.04	0.88-1.20	55.0	43 - 58
OCDD		**M+2/M+4**	0.86	0.76-1.02	101	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.78	0.65-0.89	11.4	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.42	1.32-1.78	49.1	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.45	1.32-1.78	49.0	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.20	1.05-1.43	52.7	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.22	1.05-1.43	51.9	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.17	1.05-1.43	48.0	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.16	1.05-1.43	51.3	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.00	0.88-1.20	54.0	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	0.97	0.88-1.20	54.0	43 - 58
OCDF		**M+2/M+4**	0.82	0.76-1.02	98.5	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_090S23__Form4A_SJ2410512.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 23
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	12:29:54

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.74	0.65-0.89	101	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.70	0.52-0.70	99.8	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	96.8	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	104	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.01	0.88-1.20	88.0	72 - 138
13C-OCDD		**M+2/M+4**	0.86	0.76-1.02	158	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.71	0.65-0.89	80.1	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.43	1.32-1.78	103	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.43	1.32-1.78	103	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	90.0	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	99.1	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.53	0.43-0.59	79.4	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	94.9	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.43	0.37-0.51	86.4	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.47	0.37-0.51	77.7	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					8.05	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DX8M_090S23__Form4B_SJ2410512.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 23
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	12:29:54

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.010	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.001	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.001	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_090S23__Form6A_SJ2410512.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	04-Jun-2018	**VER Data Filename:**	DX8M_090 S: 23
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB5	**Analysis Time:**	12:29:54

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.382	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.284	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.351	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.004	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DX8M_090S23__Form6B_SJ2410512.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		04-Jun-2018
RT Window Data Filename:	DX8M_090 S: 11	**Analysis Date:**	28-Jul-2018	**Time:** 01:20:44
DB-5 IS Data Filename:	DX8M_090 S: 11	**Analysis Date:**	28-Jul-2018	**Time:** 01:20:44
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:01	**1,3,6,8-TCDF (F)**	21:29
1,2,8,9-TCDD (L)	28:24	**1,2,8,9-TCDF (L)**	28:14
1,2,4,7,9-PECDD (F)	32:10	**1,3,4,6,8-PECDF (F)**	28:58
1,2,3,8,9-PECDD (L)	37:08	**1,2,3,8,9-PECDF (L)**	37:11
1,2,4,6,7,9-HXCDD (F)	40:07	**1,2,3,4,6,8-HXCDF (F)**	39:05
1,2,3,4,6,7-HXCDD (L)	42:45	**1,2,3,4,8,9-HXCDF (L)**	43:06
1,2,3,4,6,7,9-HPCDD (F)	45:51	**1,2,3,4,6,7,8-HPCDF (F)**	45:24
1,2,3,4,6,7,8-HPCDD (L)	46:47	**1,2,3,4,7,8,9-HPCDF (L)**	47:11

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	15
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

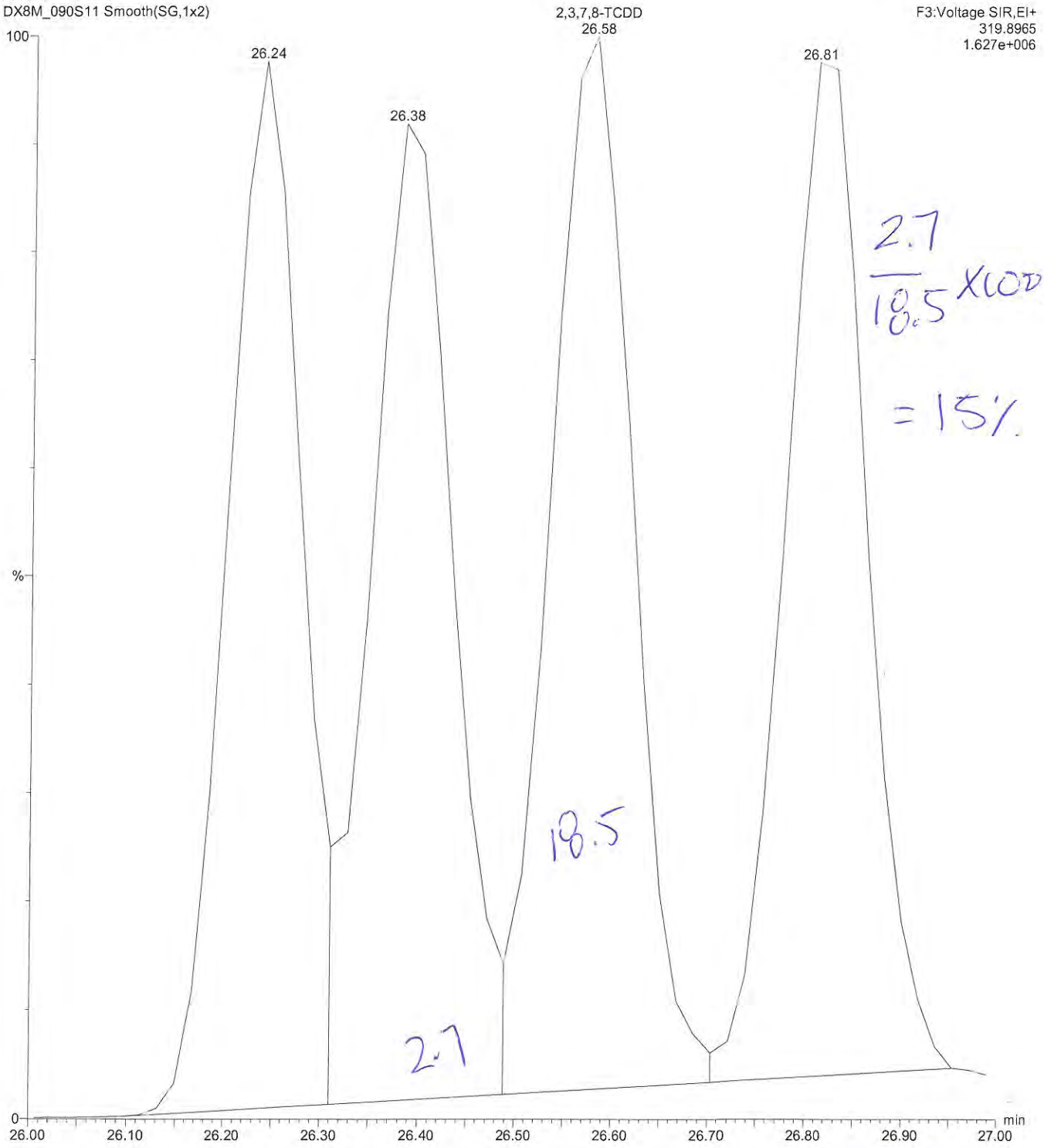
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DX8M_090S11_Form5_SJ2410558.html; Workgroup: WG64557; Design ID: 491]

www.axysanalytical.com

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Win_ResC.mdb 07 Dec 2011 14:46:56
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

2,3,7,8-TCDD



Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA╗
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 400

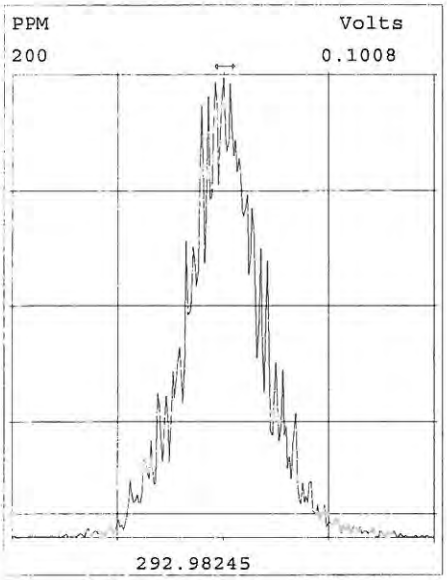
Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

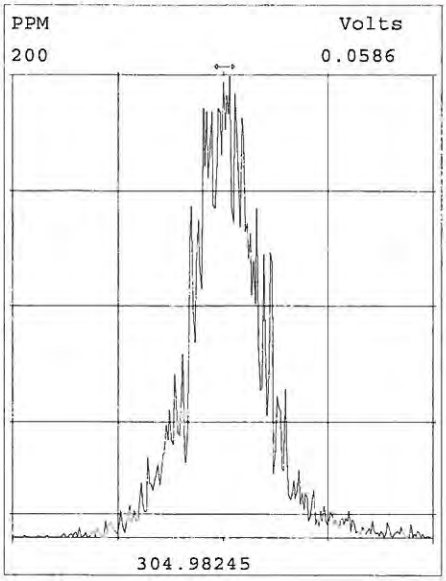
Tune : EW
List : EW
Check :
LIMS :
Logfile:

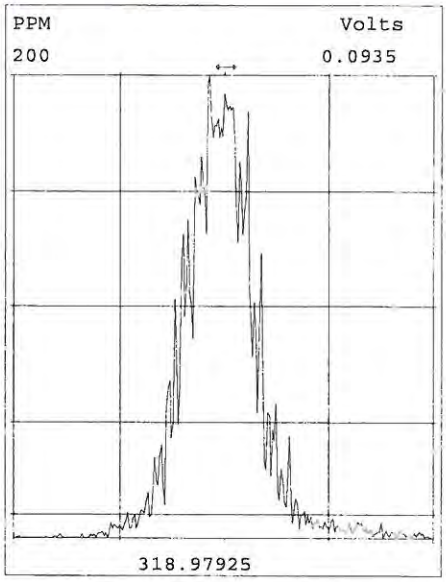
Date -list : 27-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

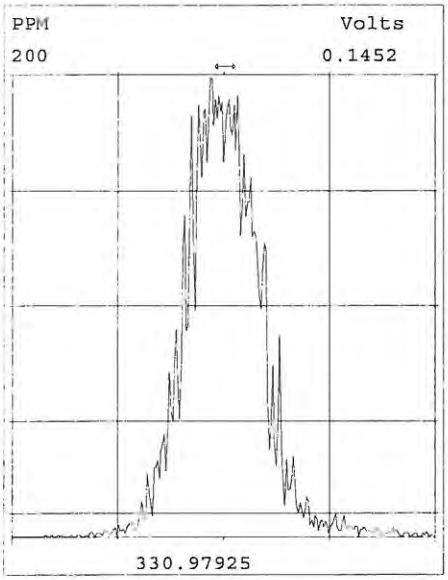
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_132	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	27-JUL-18 19:56:54
2	DB83_132	2	2	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 20:38:09
3	DB83_132	3	3	Toluene,,	1,,2.0uL	27-JUL-18 21:25:34
4	DB83_132	4	4	Toluene,,	1,,2.0uL	27-JUL-18 22:06:51
5	DB83_132	5	5	WG64577-101,,BLK	1,WG64577,2.0/20uL	27-JUL-18 22:48:07
6	DB83_132	6	6	L29646-1,,	1,WG64577,2.0/20uL	27-JUL-18 23:29:20
7	DB83_132	7	7	L29646-2,,	1,WG64577,2.0/20uL	28-JUL-18 00:10:35
8	DB83_132	8	8	L29646-3,,	1,WG64577,2.0/20uL	28-JUL-18 00:51:48
9	DB83_132	9	9	L29625-18,,	1,WG64577,2.0/20uL	28-JUL-18 01:32:59
10	DB83_132	10	10	WG64577-103,,DUP	1,WG64577,2.0/20uL	28-JUL-18 02:14:11
11	DB83_132	11	11	L29625-19,,	1,WG64577,2.0/20uL	28-JUL-18 02:55:23
12	DB83_132	12	12	L29625-20,,	1,WG64577,2.0/20uL	28-JUL-18 03:36:38
13	DB83_132	13	13	L29625-21,,	1,WG64577,2.0/20uL	28-JUL-18 04:17:51
14	DB83_132	14	14	L29625-22,,	1,WG64577,2.0/20uL	28-JUL-18 04:59:03
15	DB83_132	15	15	L29347-2,,	1,WG64577,2.0/20uL	28-JUL-18 05:40:14
16	DB83_132	16	16	WG64557-104,,CRM	1,WG64557,2.0/20uL	28-JUL-18 06:21:26
17	DB83_132	17	17	DX041D-CAL,,/01-88	1,,2.0uL Cal	28-JUL-18 07:02:42

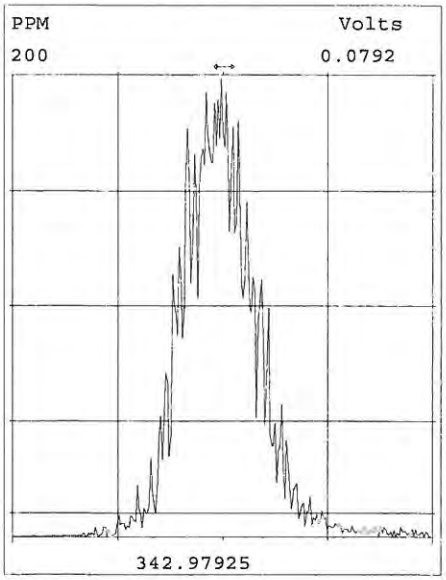
Peak Locate Examination:27-JUL-2018:19:55 File:DB83_132CAL Approved by EW 27-JUL-2018
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

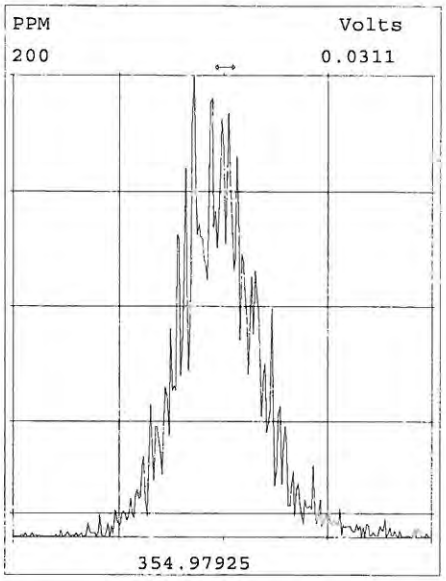


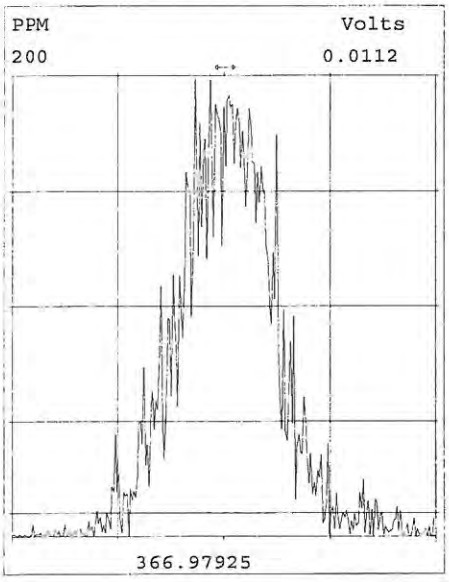


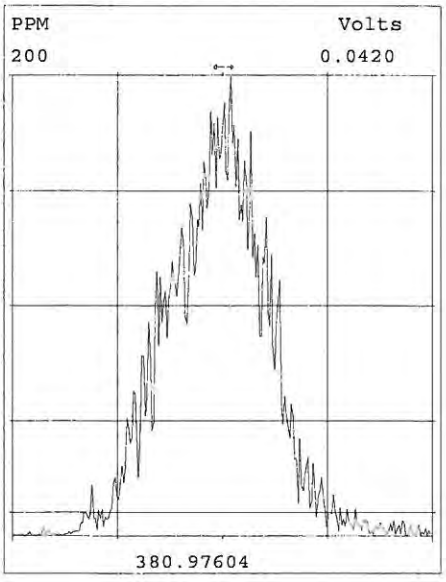




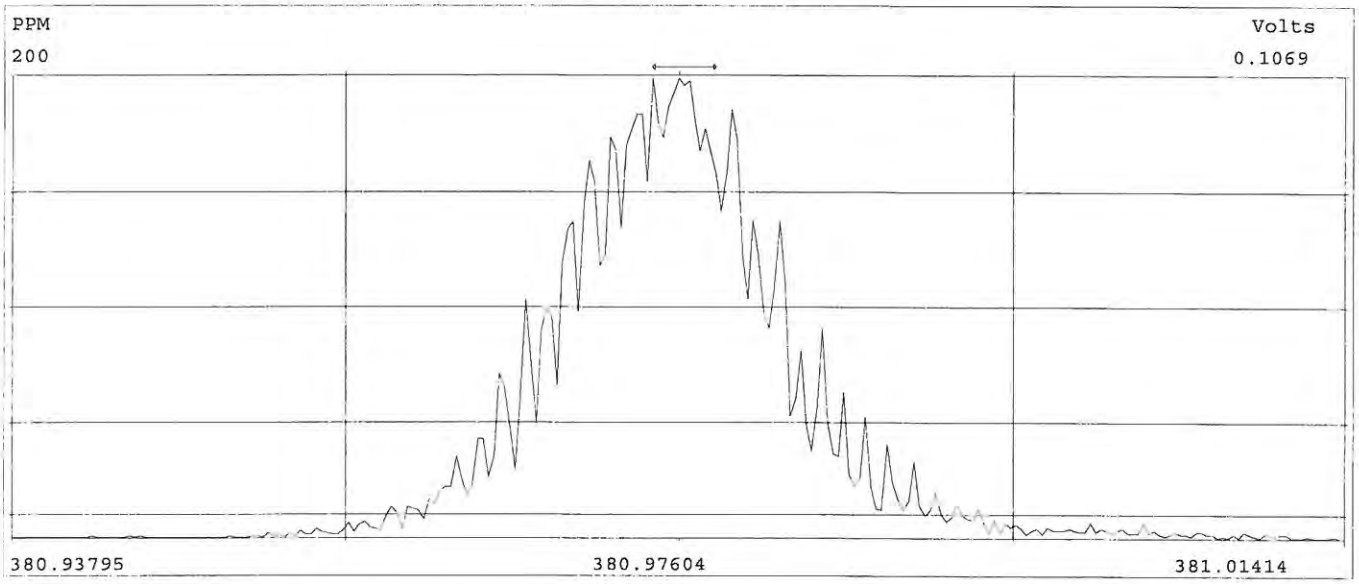


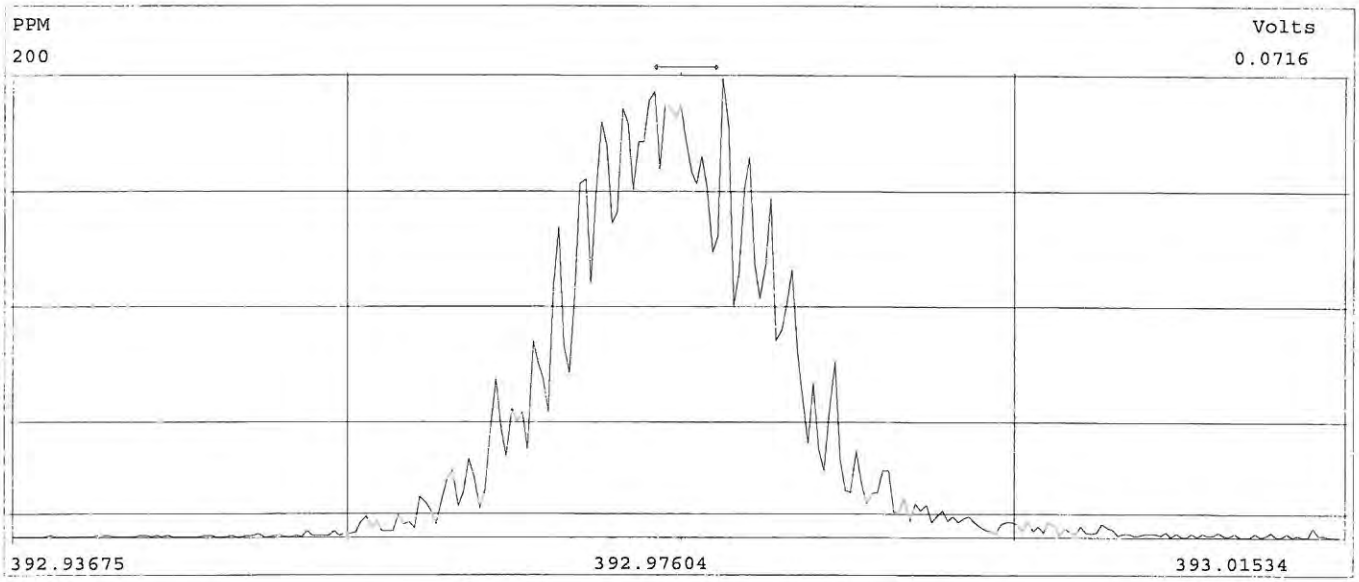


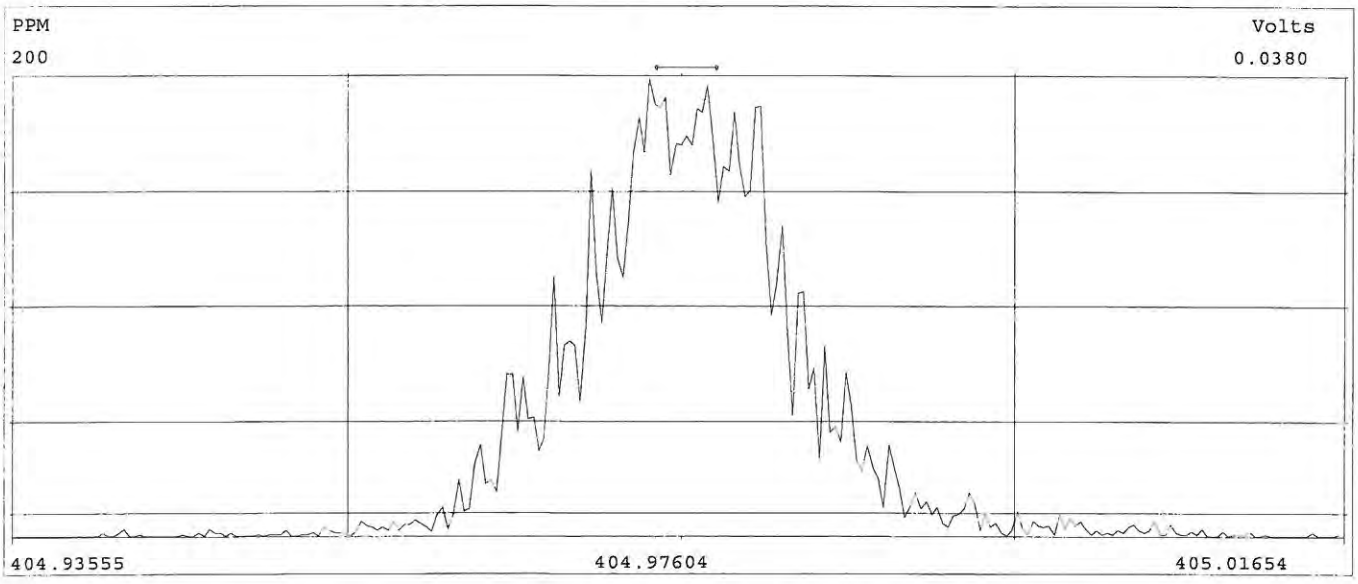




Peak Locate Examination:27-JUL-2018:19:56 File:DB83_132CAL
Experiment:DX-DB225-4_01 Function:2 Reference:PFK

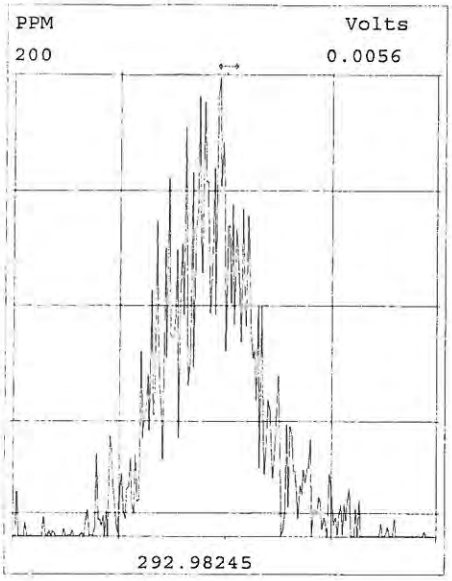


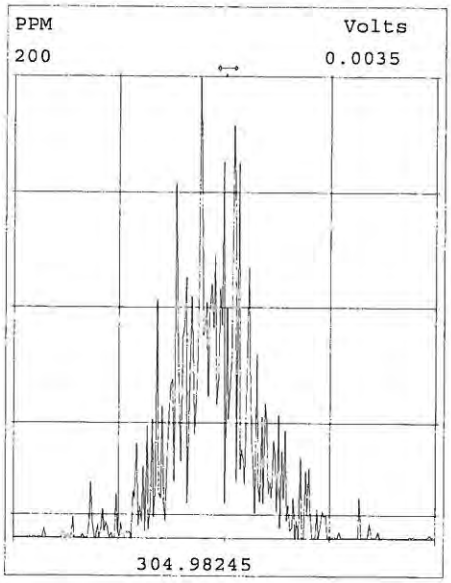


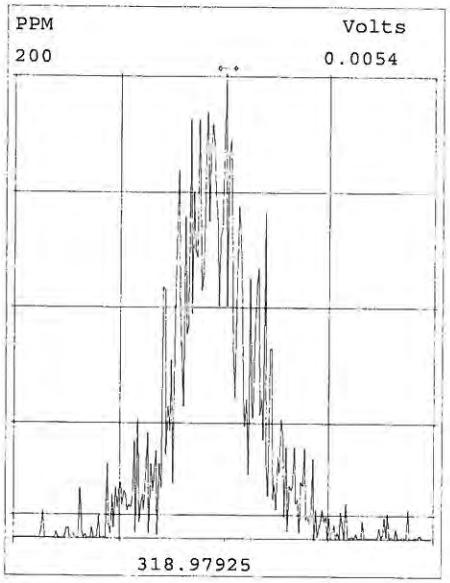


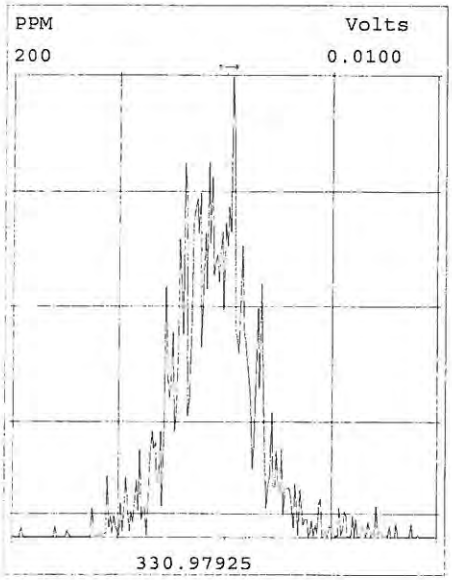
Approved by
28 Jul 2018

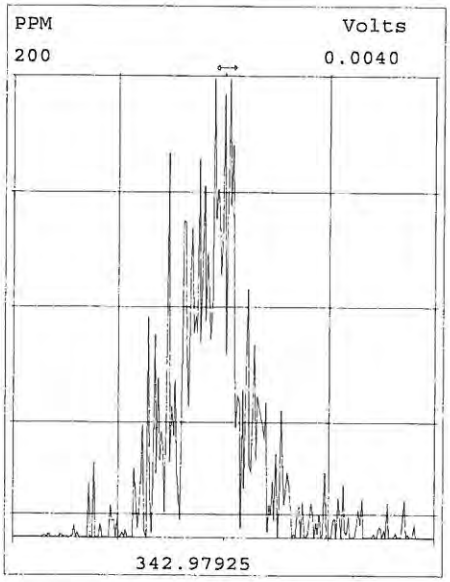
Peak Locate Examination:28-JUL-2018:07:44 File:DB83_132CAL2
Experiment:DX-DB225-4_01 Function:1 Reference:PFK

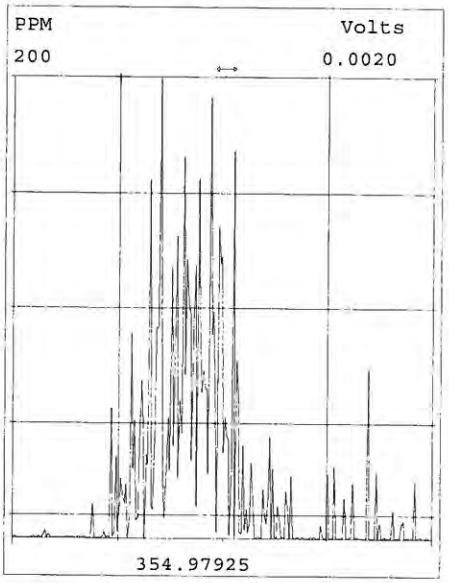


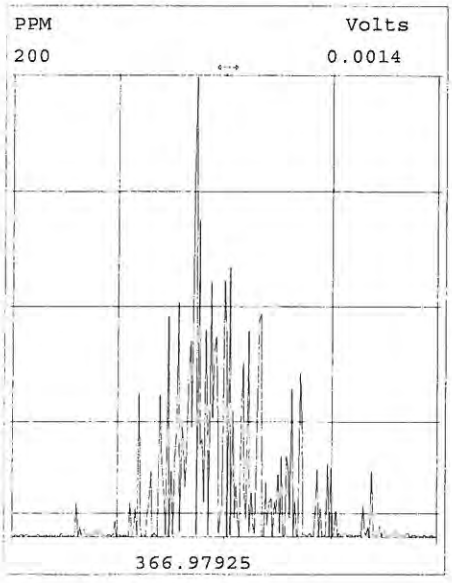


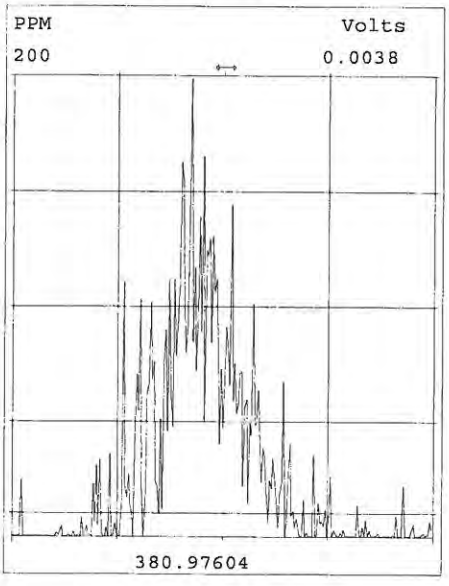




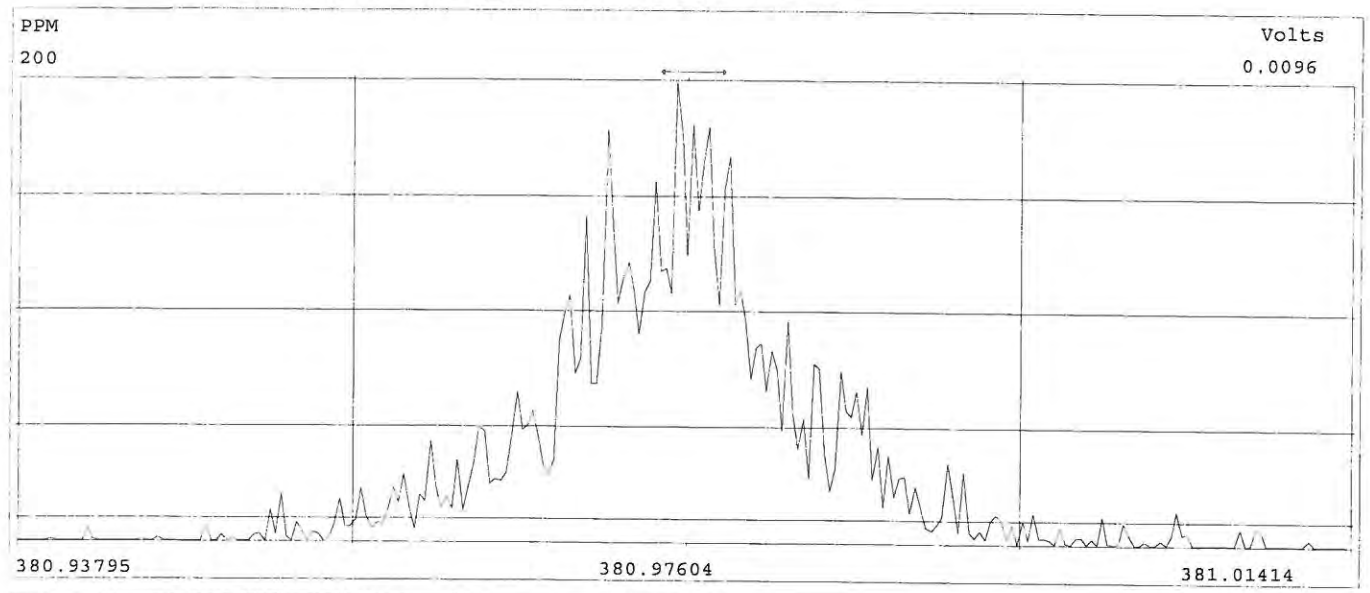


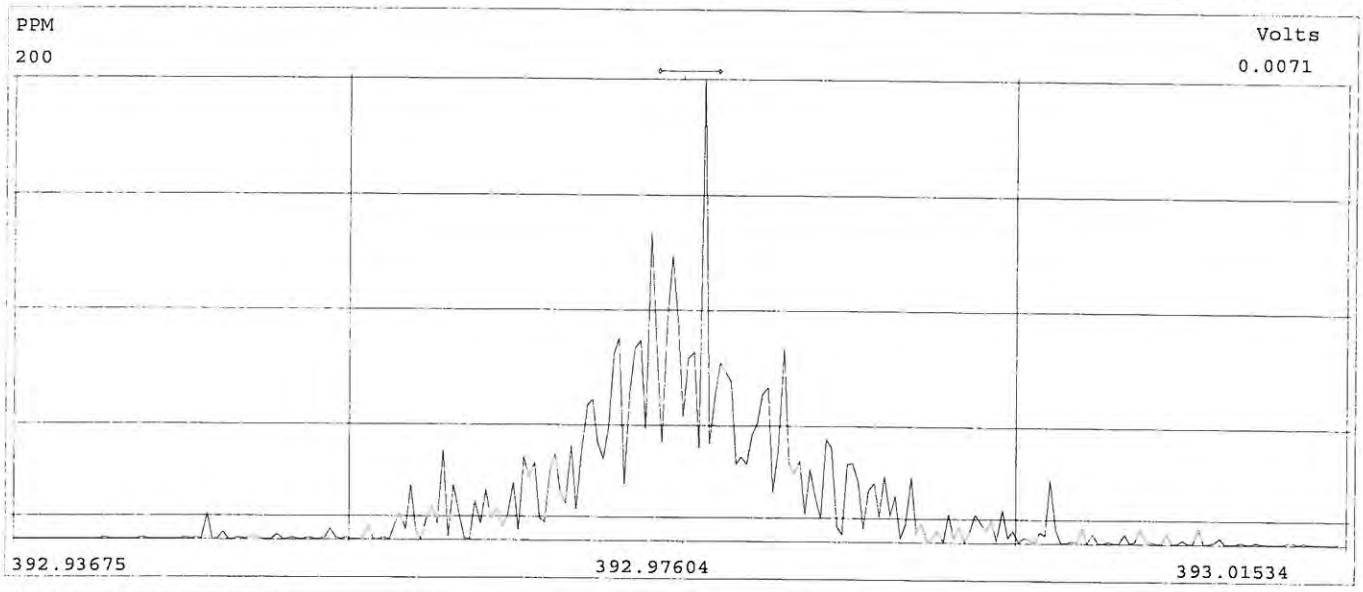


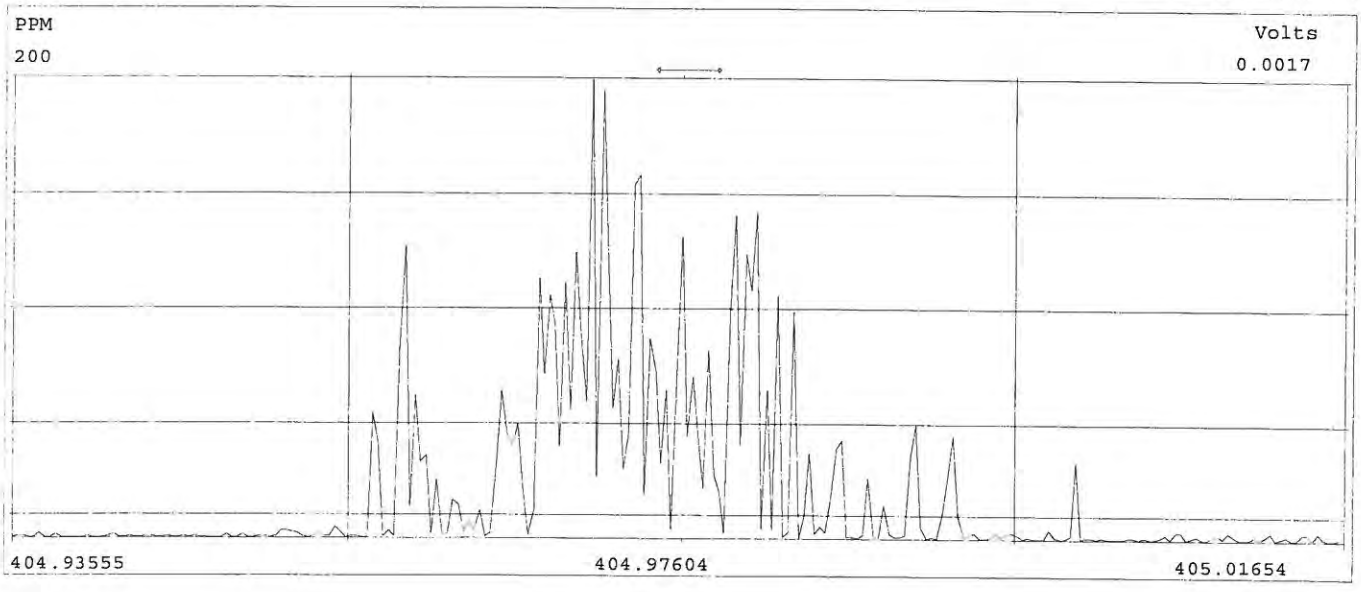




Peak Locate Examination:28-JUL-2018:07:44 File:DB83_132CAL2
Experiment:DX-DB225-4_01 Function:2 Reference:PFK







www.axysanalytical.com

DB83-132-B

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ult3	DB83_121	4	1	DB-HXD-C2	0.2000	1.0000	1.000000	y	DX041A-CAL,,»	1,,2.0uL CS-0.2/»	y
2 c	ult3	DB83_121	3	1	DB-HXD-C2	1.0000	1.0000	1.000000	y	DX041B-CAL,,»	1,,2.0uL CS-1	y
3 c	ult3	DB83_121	2	1	DB-HXD-C2	4.0000	1.0000	1.000000	y	DX041C-CAL,,»	1,,2.0uL CS-2	y
4 c	ult3	DB83_121	7	1	DB-HXD-C2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL CAL	y
5 c	ult3	DB83_121	6	1	DB-HXD-C2	80.0000	1.0000	1.000000	y	DX041E-CAL,,»	1,,2.0uL CS-4	y
6 c	ult3	DB83_121	5	1	DB-HXD-C2	400.0000	1.0000	1.000000	y	DX041F-CAL,,»	1,,2.0uL CS-5	y
7 q	ult3	DB83_132	1	1	db-hxd-c2	1.0000	1.0000	1.000000	y	DX003A-RSN,,»	1,,2.0uL Win/Res	y
8 q	ult3	DB83_132	2	1	db-hxd-c2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL Cal	y
9 q	ult3	DB83_132	3	1	db-hxd-s2	1.0000	1.0000	1.000000	y	Toluene,,	1,,2.0uL	y
10 q	ult3	DB83_132	4	1	db-hxd-s2	1.0000	1.0000	1.000000	y	Toluene,,	1,,2.0uL	y
11 q	ult3	DB83_132	16	1	db-hxd-s2	1.0000	1.0000	9.236000	y	WG64557-104,»	1,WG64557,2.0/20»	y
12 q	ult3	DB83_132	17	1	db-hxd-c2	20.0000	1.0000	1.000000	y	DX041D-CAL,,»	1,,2.0uL Cal	y

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_132 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	20:38:09

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.22	1.05-1.43	41.9	41 - 61
2,3,7,8-TCDF		**M/M+2**	0.75	0.65-0.89	8.45	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_132S2__Form4A_SJ2410764.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_132 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	20:38:09

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.063	1.052-1.075
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.002	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_132S2__Form6A_SJ2410764.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_132 S: 17
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	07:02:42

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.25	1.05-1.43	45.1	41 - 61
2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	9.08	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: 1613_DIOXINS_DB83_132S17__Form4A_SJ2410768.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	10-Jul-2018	**VER Data Filename:**	DB83_132 S: 17
Instrument ID:	HR GC/MS	**Analysis Date:**	28-Jul-2018
GC Column ID:	DB225	**Analysis Time:**	07:02:42

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.062	1.052-1.075
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.002	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS_DB83_132S17__Form6A_SJ2410768.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		10-Jul-2018	
RT Window Data Filename:		**Analysis Date:**		**Time:**	
DB-5 IS Data Filename:		**Analysis Date:**		**Time:**	
DB-225 IS Data Filename:	DB83_132 S: 1	**Analysis Date:**	27-Jul-2018	**Time:**	19:56:54

DB225 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	N/A	**1,3,6,8-TCDF (F)**	N/A
1,2,8,9-TCDD (L)	N/A	**1,2,8,9-TCDF (L)**	N/A
1,2,4,7,9-PECDD (F)	N/A	**1,3,4,6,8-PECDF (F)**	N/A
1,2,3,8,9-PECDD (L)	N/A	**1,2,3,8,9-PECDF (L)**	N/A
1,2,4,6,7,9-HXCDD (F)	N/A	**1,2,3,4,6,8-HXCDF (F)**	N/A
1,2,3,4,6,7-HXCDD (L)	N/A	**1,2,3,4,8,9-HXCDF (L)**	N/A
1,2,3,4,6,7,9-HPCDD (F)	N/A	**1,2,3,4,6,7,8-HPCDF (F)**	N/A
1,2,3,4,6,7,8-HPCDD (L)	N/A	**1,2,3,4,7,8,9-HPCDF (L)**	N/A

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

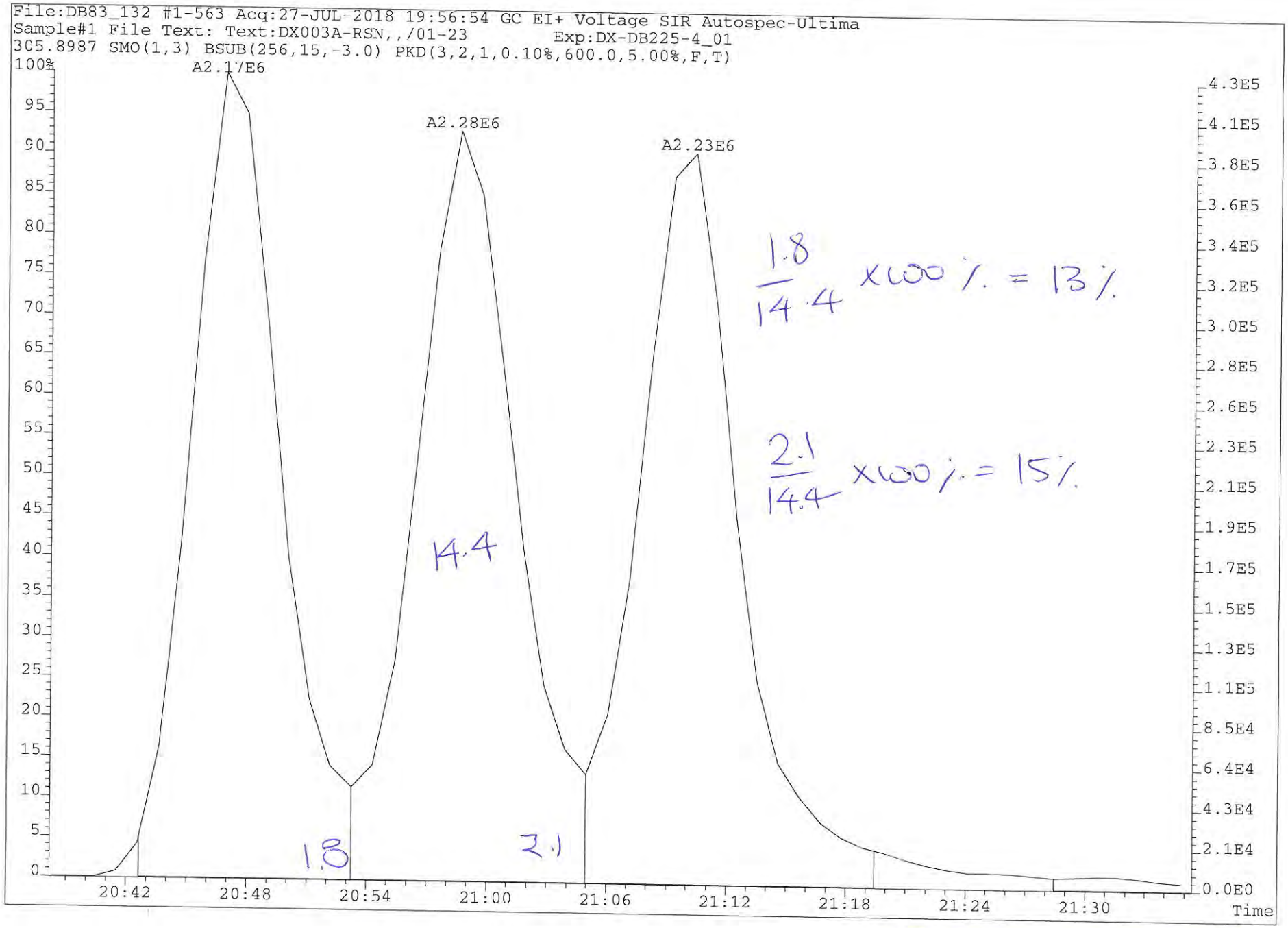
ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	N/A	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	N/A
1,2,7,8-TCDD **1,4,7,8-TCDD**	N/A	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	13
1,4,7,8-TCDD **1,2,3,7-TCDD**	N/A	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	15
1,2,3,7-TCDD **1,2,3,8-TCDD**	N/A		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47; Report Filename: 1613_DIOXINS__DB83_132S1_Form5_SJ2410773.html; Workgroup: WG64557; Design ID: 491]


File:DB83_132 #1-563 Acq:27-JUL-2018 19:56:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text: Text:DX003A-RSN,,/01-23 Exp:DX-DB225-4_01
305.8987 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,600.0,5.00%,F,T)
100%
A2.17E6
A2.28E6
A2.23E6
4.3E5
4.1E5
3.8E5
3.6E5
3.4E5
3.2E5
3.0E5
2.8E5
2.6E5
2.3E5
2.1E5
1.9E5
1.7E5
1.5E5
1.3E5
1.1E5
8.5E4
6.4E4
4.3E4
2.1E4
0.0E0
20:42
20:48
20:54
21:00
21:06
21:12
21:18
21:24
21:30
Time
1.8
2.1
14.4
1.8/14.4 x100 % = 13%
2.1/14.4 x100 % = 15%
pkyks 3Jul2018

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DX8M_088 S: 44**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,4,7,8-PECDF								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-1_Audit1A_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DX8M_088 S: 44**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,4,7,8-PECDF				NDR	ND(R)			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-1_Audit1B_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DX8M_088 S: 44**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-1_Audit2A_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DX8M_088 S: 44**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:02:26	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-1_Audit2B_DX8M_088S44_SJ2409924.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DB83_131 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:06:08	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-1_Audit1A_DB83_131S6_SJ2410714.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DB83_131 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:06:08	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-1_Audit1B_DB83_131S6_SJ2410714.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DB83_131 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:06:08	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-1_Audit2A_DB83_131S6_SJ2410714.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1 (A)
Sample Data Filename:	**DB83_131 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:06:08	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-1_Audit2B_DB83_131S6_SJ2410714.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DX8M_088 S: 45**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,4,7,8-PECDF								
2,3,4,6,7,8-HXCDF								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-103_Audit1A_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DX8M_088 S: 45**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,4,7,8-PECDF				NDR	ND(R)			KBOWES	30-JUL-2018
2,3,4,6,7,8-HXCDF				NDR	ND(R)			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-103_Audit1B_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DX8M_088 S: 45**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-103_Audit2A_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DX8M_088 S: 45**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 12:57:39	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-103_Audit2B_DX8M_088S45_SJ2409925.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DB83_131 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:47:24	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-103_Audit1A_DB83_131S7_SJ2410715.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DB83_131 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:47:24	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-103_Audit1B_DB83_131S7_SJ2410715.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DB83_131 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:47:24	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-103_Audit2A_DB83_131S7_SJ2410715.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2 (Duplicate)
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-103 (DUP L29626-1)
Sample Data Filename:	**DB83_131 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 11:47:24	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-103_Audit2B_DB83_131S7_SJ2410715.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DX8M_088 S: 46**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,4,6,7,8-HXCDF								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-2_Audit1A_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DX8M_088 S: 46**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,4,6,7,8-HXCDF				NDR	ND(R)			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-2_Audit1B_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DX8M_088 S: 46**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-2_Audit2A_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DX8M_088 S: 46**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 13:52:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-2_Audit2B_DX8M_088S46_SJ2409926.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DB83_131 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 12:28:40	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-2_Audit1A_DB83_131S8_SJ2410716.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DB83_131 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 12:28:40	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-2_Audit1B_DB83_131S8_SJ2410716.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DB83_131 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 12:28:40	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-2_Audit2A_DB83_131S8_SJ2410716.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DB83_131 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 12:28:40	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-2_Audit2B_DB83_131S8_SJ2410716.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3 i
Sample Data Filename:	**DX8M_090 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-3_Audit1A_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3 i
Sample Data Filename:	**DX8M_090 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-3_Audit1B_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3 i
Sample Data Filename:	**DX8M_090 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-3_Audit2A_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3 i
Sample Data Filename:	**DX8M_090 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:03:20	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-3_Audit2B_DX8M_090S16_SJ2410510.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3
Sample Data Filename:	**DB83_131 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 13:09:52	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-3_Audit1A_DB83_131S9_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3
Sample Data Filename:	**DB83_131 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 13:09:52	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-3_Audit1B_DB83_131S9_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3
Sample Data Filename:	**DB83_131 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 13:09:52	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-3_Audit2A_DB83_131S9_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C03-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-3
Sample Data Filename:	**DB83_131 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 13:09:52	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-3_Audit2B_DB83_131S9_SJ2410717.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DX8M_089 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-4_Audit1A_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DX8M_089 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-4_Audit1B_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DX8M_089 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-4_Audit2A_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DX8M_089 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 21:32:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-4_Audit2B_DX8M_089S4_SJ2409974.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DB83_131 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 14:23:17	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-4_Audit1A_DB83_131S10_SJ2410718.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DB83_131 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 14:23:17	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-4_Audit1B_DB83_131S10_SJ2410718.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DB83_131 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 14:23:17	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-4_Audit2A_DB83_131S10_SJ2410718.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4
Sample Data Filename:	**DB83_131 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 14:23:17	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-4_Audit2B_DB83_131S10_SJ2410718.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Sample Data Filename:	**DX8M_090 S: 17**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-5_Audit1A_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Sample Data Filename:	**DX8M_090 S: 17**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-5_Audit1B_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Sample Data Filename:	**DX8M_090 S: 17**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-5_Audit2A_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5 i
Sample Data Filename:	**DX8M_090 S: 17**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:58:34	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-5_Audit2B_DX8M_090S17_SJ2410511.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5
Sample Data Filename:	**DB83_131 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:04:33	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-5_Audit1A_DB83_131S11_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5
Sample Data Filename:	**DB83_131 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:04:33	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-5_Audit1B_DB83_131S11_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5
Sample Data Filename:	**DB83_131 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:04:33	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-5_Audit2A_DB83_131S11_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C05-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-5
Sample Data Filename:	**DB83_131 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:04:33	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-5_Audit2B_DB83_131S11_SJ2410719.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DX8M_089 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-6_Audit1A_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DX8M_089 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-6_Audit1B_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DX8M_089 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-6_Audit2A_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DX8M_089 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 23:19:48	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-6_Audit2B_DX8M_089S6_SJ2409976.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DB83_131 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:45:50	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-6_Audit1A_DB83_131S12_SJ2410720.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DB83_131 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:45:50	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-6_Audit1B_DB83_131S12_SJ2410720.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DB83_131 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:45:50	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-6_Audit2A_DB83_131S12_SJ2410720.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DB83_131 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 15:45:50	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-6_Audit2B_DB83_131S12_SJ2410720.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DX8M_089 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,7,8-TCDD								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-7_Audit1A_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DX8M_089 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,7,8-TCDD				NDR	ND(R)			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-7_Audit1B_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DX8M_089 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-7_Audit2A_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DX8M_089 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 00:15:02	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-7_Audit2B_DX8M_089S7_SJ2409977.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DB83_131 S: 13**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 16:27:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-7_Audit1A_DB83_131S13_SJ2410721.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DB83_131 S: 13**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 16:27:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-7_Audit1B_DB83_131S13_SJ2410721.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DB83_131 S: 13**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 16:27:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-7_Audit2A_DB83_131S13_SJ2410721.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DB83_131 S: 13**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 16:27:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-7_Audit2B_DB83_131S13_SJ2410721.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DX8M_089 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,4,6,7,8-HXCDF								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-8_Audit1A_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DX8M_089 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,4,6,7,8-HXCDF					ND			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-8_Audit1B_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DX8M_089 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-8_Audit2A_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DX8M_089 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 01:10:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-8_Audit2B_DX8M_089S8_SJ2409978.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DB83_131 S: 14**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:08:18	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-8_Audit1A_DB83_131S14_SJ2410722.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DB83_131 S: 14**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:08:18	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-8_Audit1B_DB83_131S14_SJ2410722.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DB83_131 S: 14**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:08:18	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-8_Audit2A_DB83_131S14_SJ2410722.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C10-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-8
Sample Data Filename:	**DB83_131 S: 14**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:08:18	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-8_Audit2B_DB83_131S14_SJ2410722.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DX8M_089 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
1,2,3,4,7,8-HXCDD								
1,2,3,6,7,8-HXCDD								
1,2,3,7,8,9-HXCDD								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-9_Audit1A_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DX8M_089 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
1,2,3,4,7,8-HXCDD	0.209	0.0836	0.400					KBOWES	30-JUL-2018
1,2,3,6,7,8-HXCDD	0.216	0.0866	0.400	ND				KBOWES	30-JUL-2018
1,2,3,7,8,9-HXCDD	0.212	0.0847	0.400	ND(R)	NDR			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-9_Audit1B_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DX8M_089 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-9_Audit2A_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DX8M_089 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 02:05:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_L29626-9_Audit2B_DX8M_089S9_SJ2409979.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DB83_131 S: 15**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:49:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-9_Audit1A_DB83_131S15_SJ2410723.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DB83_131 S: 15**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:49:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-9_Audit1B_DB83_131S15_SJ2410723.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DB83_131 S: 15**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:49:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-9_Audit2A_DB83_131S15_SJ2410723.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DB83_131 S: 15**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 17:49:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_L29626-9_Audit2B_DB83_131S15_SJ2410723.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-101
Sample Data Filename:	**DX8M_088 S: 42**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 10:11:59	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
2,3,7,8-TCDD	0.060	0.006	0.100					
1,2,3,7,8-PECDD								
1,2,3,4,7,8-HXCDD								
1,2,3,6,7,8-HXCDD								
1,2,3,7,8,9-HXCDD								
1,2,3,4,6,7,8-HPCDD	0.641	0.064	0.100					
OCDD	1.25	0.125	0.100					
2,3,7,8-TCDF	0.086	0.009	0.100					
1,2,3,7,8-PECDF	0.294	0.029	0.100					
2,3,4,7,8-PECDF								
1,2,3,4,7,8-HXCDF	0.059	0.006	0.100					
1,2,3,6,7,8-HXCDF	0.029	0.003	0.100					
1,2,3,7,8,9-HXCDF								
2,3,4,6,7,8-HXCDF								
1,2,3,4,6,7,8-HPCDF	0.104	0.010	0.100					
1,2,3,4,7,8,9-HPCDF	0.278	0.028	0.100					
OCDF	0.229	0.023	0.100					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-101_Audit1A_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.: 4033

Lab Sample I.D.: WG64557-101

Sample Data Filename: **DX8M_088 S: 42**

Instrument ID: HR GC/MS

Analysis Date: 26-Jul-2018 **Time:** 10:11:59

GC Column ID: DB5

Extract Volume (uL): 20

Injection Volume (uL): 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
2,3,7,8-TCDD	0.218	0.0218	0.100					KBOWES	30-JUL-2018
1,2,3,7,8-PECDD	0.0556	0.0056	0.100					KBOWES	30-JUL-2018
1,2,3,4,7,8-HXCDD	0.0352	0.0035	0.100					KBOWES	30-JUL-2018
1,2,3,6,7,8-HXCDD	0.0356	0.0036	0.100					KBOWES	30-JUL-2018
1,2,3,7,8,9-HXCDD	0.0353	0.0035	0.100					KBOWES	30-JUL-2018
1,2,3,4,6,7,8-HPCDD	0.219	0.0219	0.100					KBOWES	30-JUL-2018
OCDD	0.329	0.0329	0.100					KBOWES	30-JUL-2018
2,3,7,8-TCDF	0.160	0.0160	0.100					KBOWES	30-JUL-2018
1,2,3,7,8-PECDF	0.0356	0.0036	0.100	NDR	ND(R)			KBOWES	30-JUL-2018
2,3,4,7,8-PECDF	0.0283	0.0028	0.100					KBOWES	30-JUL-2018
1,2,3,4,7,8-HXCDF	0.0766	0.0077	0.100					KBOWES	30-JUL-2018
1,2,3,6,7,8-HXCDF	0.0718	0.0072	0.100					KBOWES	30-JUL-2018
1,2,3,7,8,9-HXCDF	0.0998	0.0100	0.100					KBOWES	30-JUL-2018
2,3,4,6,7,8-HXCDF	0.0703	0.0070	0.100					KBOWES	30-JUL-2018
1,2,3,4,6,7,8-HPCDF	0.258	0.0258	0.100					KBOWES	30-JUL-2018
1,2,3,4,7,8,9-HPCDF	0.313	0.0313	0.100					KBOWES	30-JUL-2018
OCDF	0.177	0.0177	0.100	NDR	ND(R)			KBOWES	30-JUL-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-101_Audit1B_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	N/A
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-101
Sample Data Filename:	**DX8M_088 S: 42**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 10:11:59	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-101_Audit2A_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	N/A
Contract No.:	4033	**Lab Sample I.D.:**	WG64557-101
Sample Data Filename:	**DX8M_088 S: 42**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 10:11:59	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-101_Audit2B_DX8M_088S42_SJ2409921.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-102
Sample Data Filename:	**DX8M_088 S: 39**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 07:29:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-102_Audit1A_DX8M_088S39_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-102
Sample Data Filename:	**DX8M_088 S: 39**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 07:29:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-102_Audit1B_DX8M_088S39_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-102
Sample Data Filename:	**DX8M_088 S: 39**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 07:29:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-102_Audit2A_DX8M_088S39_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-102
Sample Data Filename:	**DX8M_088 S: 39**	**Instrument ID:**	HR GC/MS
Analysis Date:	26-Jul-2018 **Time:** 07:29:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-102_Audit2B_DX8M_088S39_SJ2409917.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DX8M_089 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-104_Audit1A_DX8M_089S10_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DX8M_089 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-104_Audit1B_DX8M_089S10_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DX8M_089 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-104_Audit2A_DX8M_089S10_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DX8M_089 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jul-2018 **Time:** 03:00:41	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:21:04; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB5_WG64557-104_Audit2B_DX8M_089S10_SJ2409969.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DB83_132 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:21:26	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-104_Audit1A_DB83_132S16_SJ2410767.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DB83_132 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:21:26	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-104_Audit1B_DB83_132S16_SJ2410767.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DB83_132 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:21:26	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-104_Audit2A_DB83_132S16_SJ2410767.html; Workgroup: WG64557; Design ID: 491]

SGS AXYS METHOD MLA-017 Rev 20

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64557-104
Sample Data Filename:	**DB83_132 S: 16**	**Instrument ID:**	HR GC/MS
Analysis Date:	28-Jul-2018 **Time:** 06:21:26	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Injection Volume (uL):**	2.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Matthew Ou_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 31-Jul-2018 13:22:10; Application: XMLTransformer-1.16.47;
Report Filename: AUDIT_DIOXINS_1613DB225_WG64557-104_Audit2B_DB83_132S16_SJ2410767.html; Workgroup: WG64557; Design ID: 491]

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg/g	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.060	3.96e3	0.84	NO	25.36	0.395	0.0725		1.68e3	1.54e3
2	1,2,3,7,8-PeCDF	10.060	3.49e2	1.15	YES	33.67	0.044	0.0791		1.38e3	9.90e2
3	2,3,4,7,8-PeCDF	10.060	5.43e2	0.74	YES	35.45	0.066	0.0651		1.38e3	9.90e2
4	1,2,3,4,7,8-HxCDF	10.060	9.28e2	1.18	NO	40.77	0.138	0.0376		4.09e2	9.88e2
5	1,2,3,6,7,8-HxCDF	10.060	3.97e2	0.79	YES	40.94	0.056	0.0379		4.09e2	9.88e2
6	2,3,4,6,7,8-HxCDF	10.060	2.32e2	1.43	YES	41.92	0.033	0.0368		4.09e2	9.88e2
7	1,2,3,7,8,9-HxCDF	10.060	8.30e1	2.00	YES	42.96	0.014	0.0463		4.09e2	9.88e2
8	1,2,3,4,6,7,8-HpCDF	10.060	4.24e3	0.90	NO	45.40	0.858	0.0602		6.83e2	1.05e3
9	1,2,3,4,7,8,9-HpCDF	10.060	3.37e2	0.83	YES	47.22	0.082	0.0759		6.83e2	1.05e3
10	OCDF	10.060	5.49e3	0.94	NO	50.43	1.947	0.0438		2.57e2	3.47e2
11	2,3,7,8-TCDD	10.060	2.00e2	0.99	YES	26.54	0.025	0.0320		4.12e2	6.58e2
12	1,2,3,7,8-PeCDD	10.060	1.52e2	0.20	YES	36.24	0.029	0.0383		6.14e2	2.83e2
13	1,2,3,4,7,8-HxCDD	10.060	2.82e2	0.90	YES	42.21	0.060	0.1025		1.34e3	1.20e3
14	1,2,3,6,7,8-HxCDD	10.060	9.54e2	1.10	NO	42.35	0.188	0.0907		1.34e3	1.20e3
15	1,2,3,7,8,9-HxCDD	10.060	5.59e2	1.59	YES	42.72	0.114	0.0959		1.34e3	1.20e3
16	1,2,3,4,6,7,8-HpCDD	10.060	1.12e4	0.97	NO	46.76	3.294	0.0857		8.84e2	7.06e2
17	OCDD	10.060	5.17e4	0.86	NO	50.35	22.091	0.1262		5.56e2	8.88e2
18	13C-2,3,7,8-TCDF	10.060	2.17e6	0.69	NO	25.31	122.747	0.1864	61.7	1.16e4	3.29e3
19	13C-1,2,3,7,8-PeCDF	10.060	1.71e6	1.36	NO	33.64	134.109	0.4432	67.5	7.35e3	1.82e4
20	13C-2,3,4,7,8-PeCDF	10.060	1.76e6	1.37	NO	35.40	142.558	0.4594	71.7	7.35e3	1.82e4
21	13C-1,2,3,4,7,8-HxCDF	10.060	1.20e6	0.52	NO	40.77	111.842	0.3423	56.3	1.22e4	6.27e3
22	13C-1,2,3,6,7,8-HxCDF	10.060	1.32e6	0.53	NO	40.94	114.921	0.3205	57.8	1.22e4	6.27e3
23	13C-2,3,4,6,7,8-HxCDF	10.060	1.22e6	0.52	NO	41.89	118.967	0.3586	59.8	1.22e4	6.27e3
24	13C-1,2,3,7,8,9-HxCDF	10.060	1.20e6	0.53	NO	42.92	118.772	0.3636	59.7	1.22e4	6.27e3
25	13C-1,2,3,4,6,7,8-HpCDF	10.060	8.02e5	0.45	NO	45.38	93.788	0.2556	47.2	7.15e3	3.88e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.060	6.57e5	0.43	NO	47.17	98.404	0.3277	49.5	7.15e3	3.88e3
27	13C-2,3,7,8-TCDD	10.060	1.41e6	0.78	NO	26.54	127.905	0.1513	64.3	5.51e3	2.01e3
28	13C-1,2,3,7,8-PeCDD	10.060	1.02e6	0.70	NO	36.22	141.894	0.1884	71.4	4.04e3	2.10e3
29	13C-1,2,3,4,7,8-HxCDD	10.060	9.33e5	1.25	NO	42.18	112.894	0.2393	56.8	4.36e3	5.61e3
30	13C-1,2,3,6,7,8-HxCDD	10.060	1.08e6	1.15	NO	42.31	123.471	0.2263	62.1	4.36e3	5.61e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.060	6.81e5	0.97	NO	46.74	99.657	0.1914	50.1	3.06e3	3.54e3
32	13C-OCDD	10.060	9.13e5	0.85	NO	50.33	151.940	0.3449	38.2	6.46e3	3.99e3
33	13C-1,2,3,4-TCDD	10.060	2.18e6	0.75	NO	26.20	9.589	0.0073	4.8	5.51e3	2.01e3
34	13C-1,2,3,7,8,9-HxCDD	10.060	1.67e6	1.21	NO	42.74	11.624	0.0138	5.8	4.36e3	5.61e3
35	37Cl-2,3,7,8-TCDD	10.060	3.48e4			26.58	2.854	0.0037	71.8		2.05e2
36	Total Tetra-Furans	10.060					2.235	0.0725			1.54e3
37	Total Tetra-Dioxins	10.060					0.332	0.0320			6.58e2
38	Total Penta-Furans	10.060					0.686	0.0726			9.90e2
39	Total Penta-Dioxins	10.060					0.252	0.0383			2.83e2
40	Total Hexa-Furans	10.060					1.459	0.0381			9.88e2
41	Total Hexa-Dioxins	10.060					1.770	0.0928			1.20e3
42	Total Hepta-Furans	10.060					3.045	0.0680			1.05e3
43	Total Hepta-Dioxins	10.060					8.757	0.0857			7.06e2
44	Hexa DPE	1.000	8.20e1			25.93					7.50e-2
45	Hepta DPE	1.000	1.29e2			33.40					1.40e-1
46	Octa DPE	1.000	1.24e2			41.25					5.75e-1
47	Nona DPE	1.000	4.55e1			46.39					4.88e-2
48	Deca DPE	1.000	1.20e2			50.15					0.00e0
49	Tetra Lock	1.000	8.19e3			24.18					1.03e5
50	Penta Lock	1.000									2.36e5
51	Hexa Lock	1.000									3.66e5
52	Hepta Lock	1.000	1.75e4			47.24					2.08e5
53	Octa Lock	1.000	5.71e4			48.67					3.06e5
54	13C-Tetra-Furans	10.060					122.747	0.1864			3.29e3
55	13C-Tetra-Dioxins	10.060					137.494	0.1587			2.01e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

reviewed by KB 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.79	0.637	YES	0.042
2	23.50	0.699	NO	0.362
3	23.06	0.652	YES	0.245
4	22.61	0.824	NO	0.322
5	22.29	0.688	NO	0.164
6	22.06	0.897	YES	0.049
7	26.02	0.782	NO	0.166
8	25.36	0.842	NO	0.395
9	24.63	0.626	YES	0.112
10	24.34	0.793	NO	0.106
11	24.22	1.388	YES	0.080
12	23.92	0.426	YES	0.127
13	26.33	1.465	YES	0.063

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	26.70	3.135	YES	0.008
2	26.54	0.995	YES	0.025
3	25.47	0.798	NO	0.006
4	25.31	2.765	YES	0.069
5	24.70	0.287	YES	0.055
6	23.83	1.319	YES	0.039
7	23.43	0.541	YES	0.035
8	23.02	0.679	NO	0.095

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	29.02	0.923	YES	0.218
2	31.68	0.942	YES	0.243
3	33.67	1.148	YES	0.044
4	32.98	0.894	YES	0.054
5	35.67	1.560	NO	0.022
6	35.45	0.739	YES	0.066
7	34.37	1.021	YES	0.040

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	33.29	2.040	YES	0.036
2	32.15	0.625	NO	0.089
3	34.97	0.176	YES	0.031
4	34.30	0.696	NO	0.039
5	37.10	1.424	YES	0.029
6	36.24	0.196	YES	0.029

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	39.10	0.944	YES	0.125
2	41.92	1.430	YES	0.033
3	41.74	3.118	YES	0.030
4	40.94	0.790	YES	0.056
5	40.77	1.185	NO	0.138
6	40.74	1.656	YES	0.017
7	40.15	0.953	YES	0.567
8	39.67	0.851	YES	0.028
9	39.33	1.067	NO	0.450
10	42.96	1.999	YES	0.014

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.11	1.379	NO	0.551
2	42.35	1.096	NO	0.188
3	42.21	0.899	YES	0.060
4	41.52	0.626	YES	0.066
5	41.28	1.677	YES	0.499
6	40.96	6.126	YES	0.292
7	42.72	1.587	YES	0.114

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.90	0.848	YES	2.072
2	45.40	0.898	NO	0.858
3	47.22	0.825	YES	0.082
4	45.73	2.121	YES	0.033

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	0.969	NO	3.294
2	45.85	1.136	NO	5.463

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.31	0.691	NO	122.747

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.777	NO	127.905
2	26.20	0.755	NO	9.589

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.64	1.364	NO	134.109
2	35.40	1.371	NO	142.558

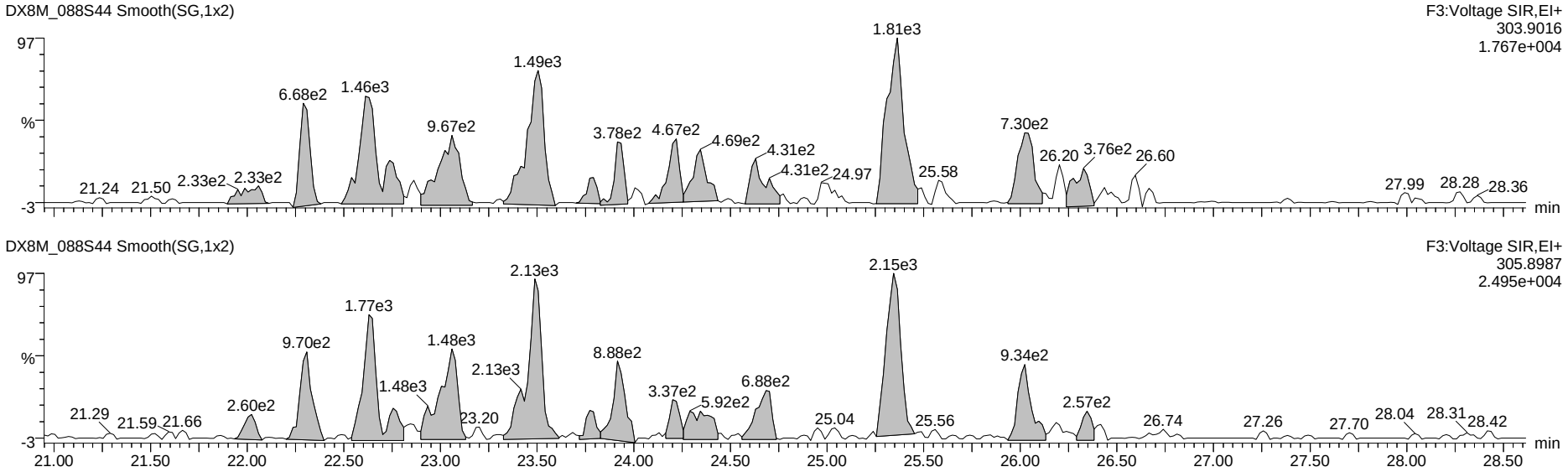
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

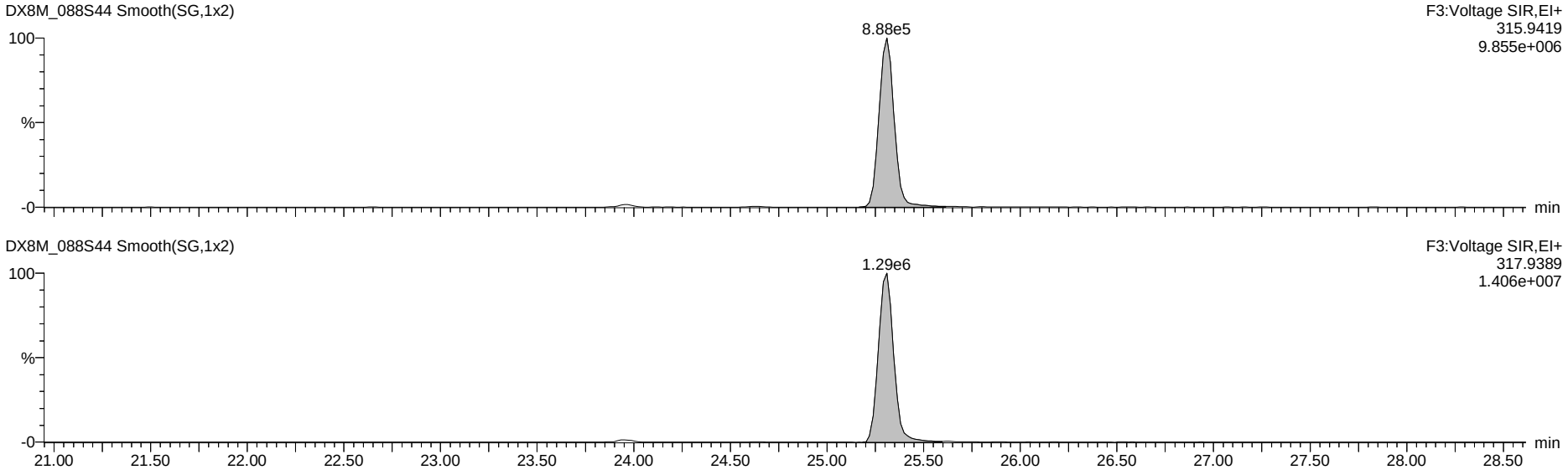
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



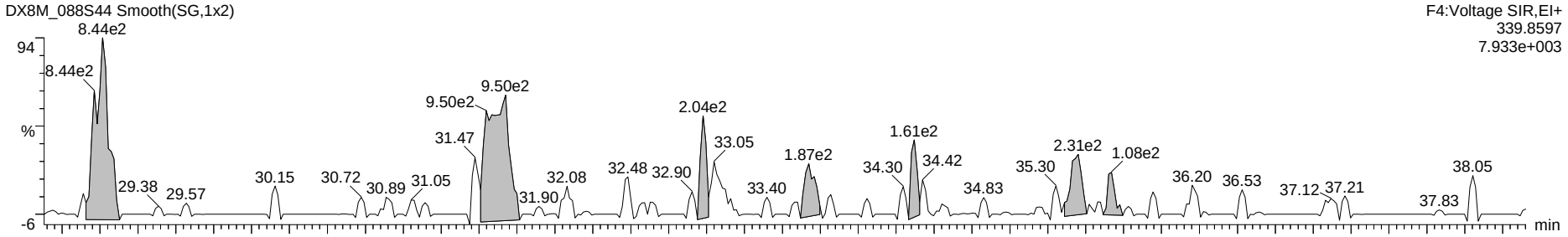
13C-Tetra-Furans

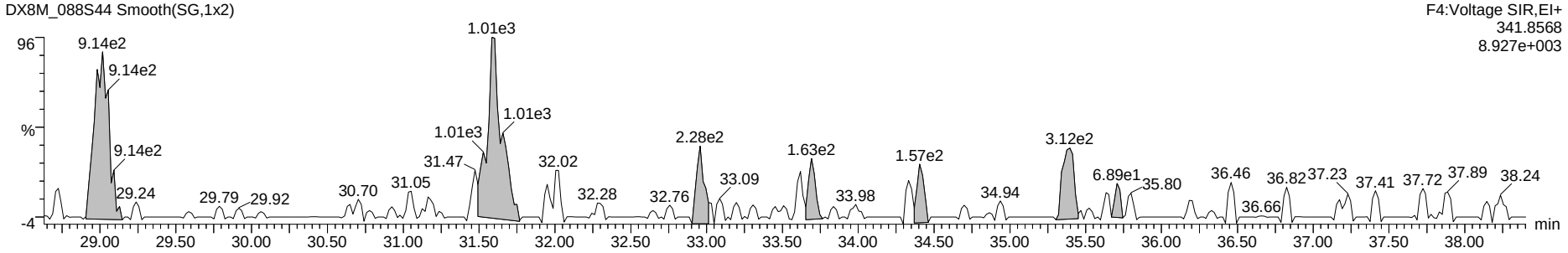


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

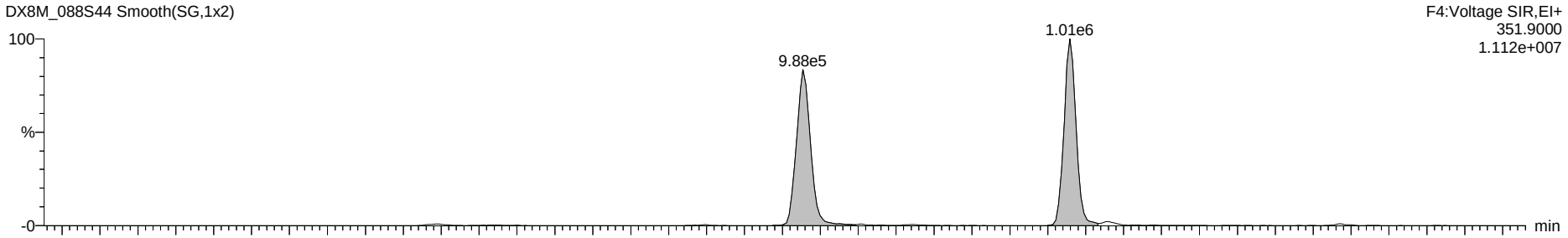
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

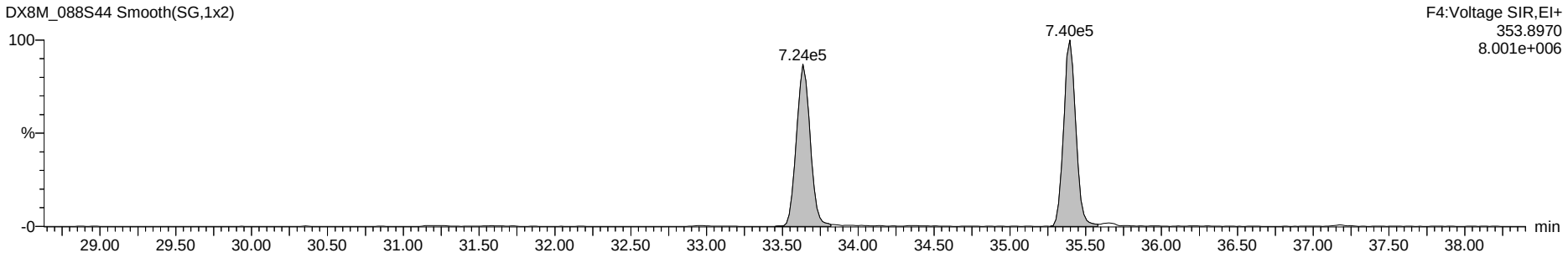
Total Penta-Furans





13C-Penta-Furans

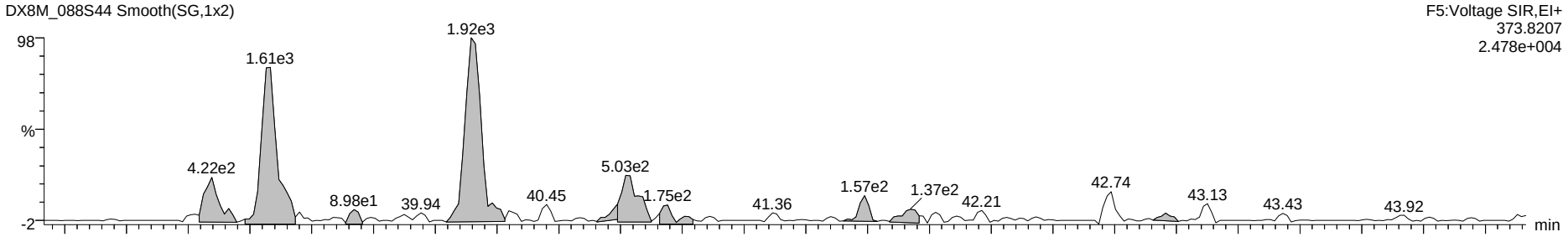


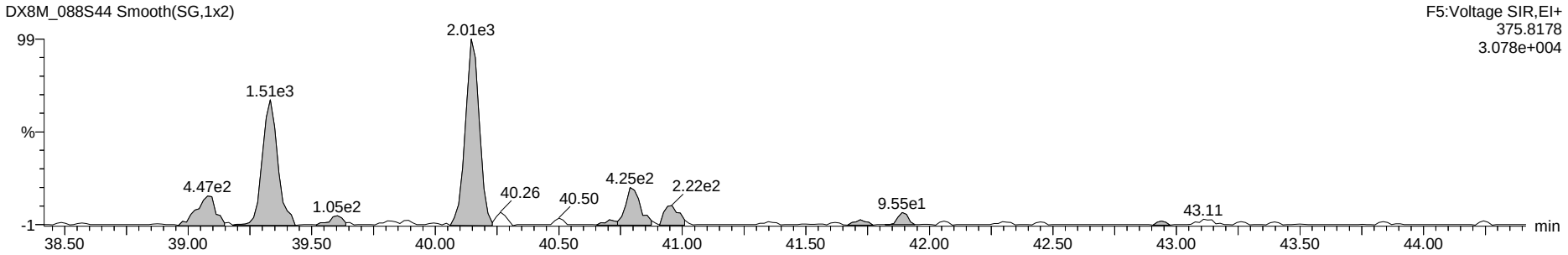


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

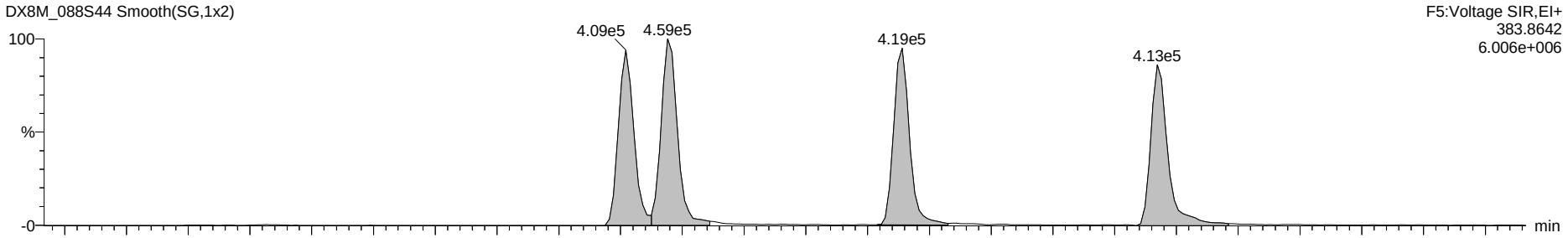
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

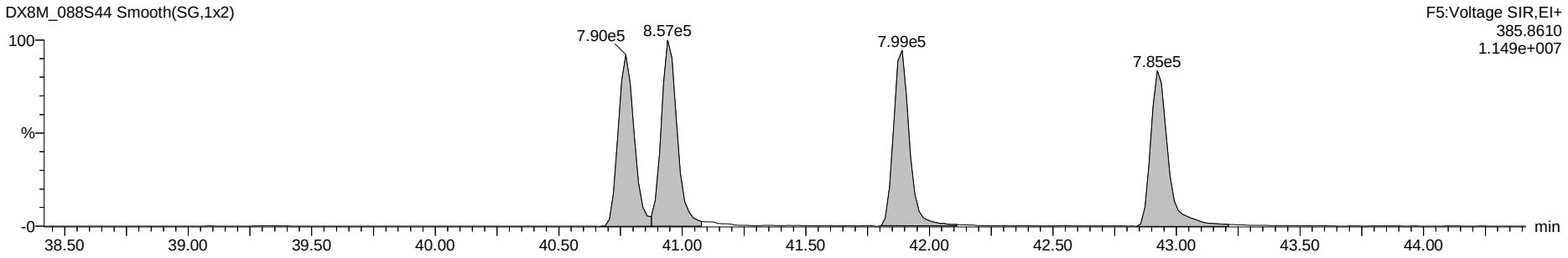
Total Hexa-Furans





13C-Hexa-Furans

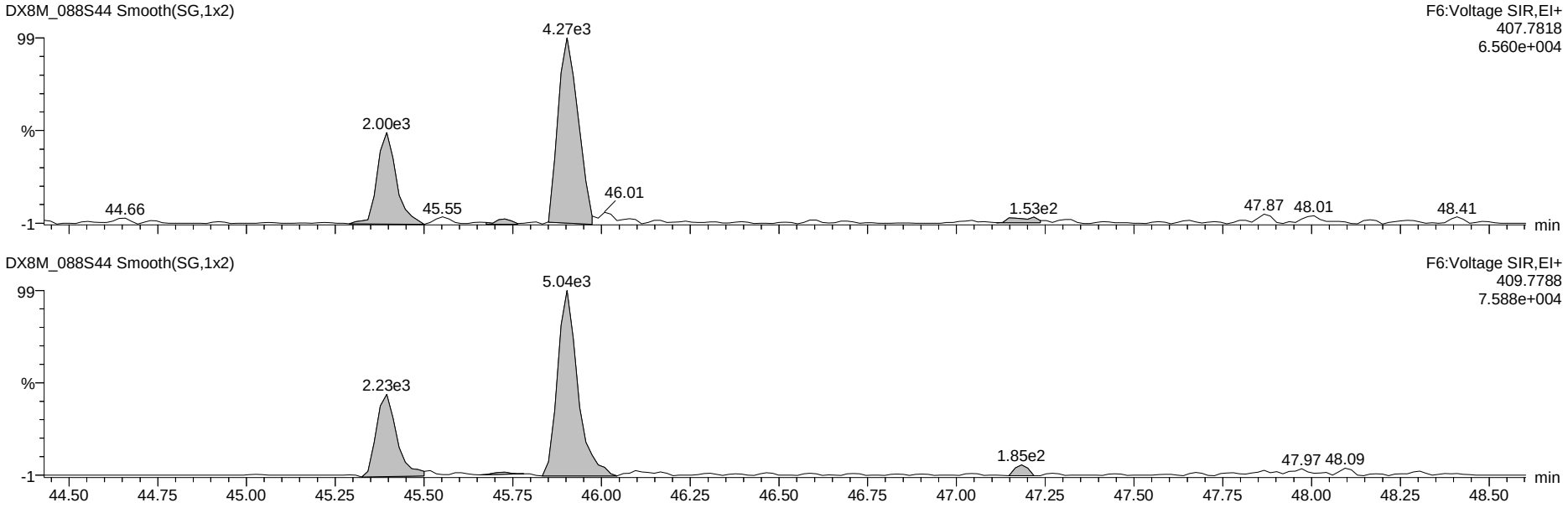




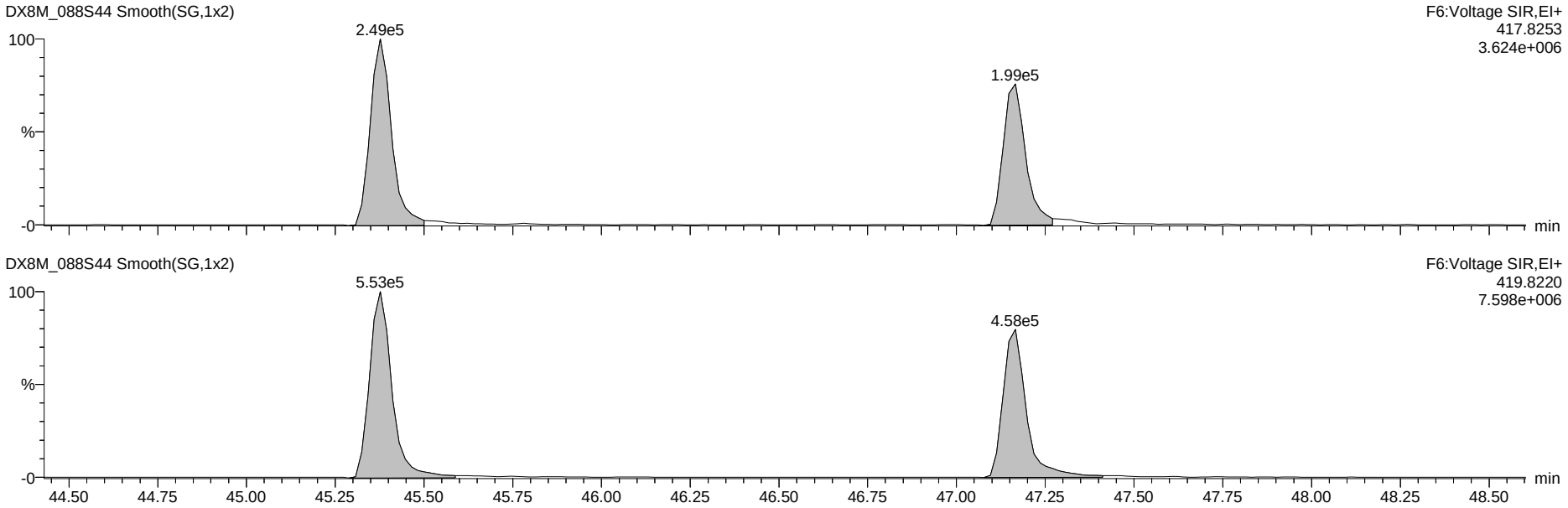
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



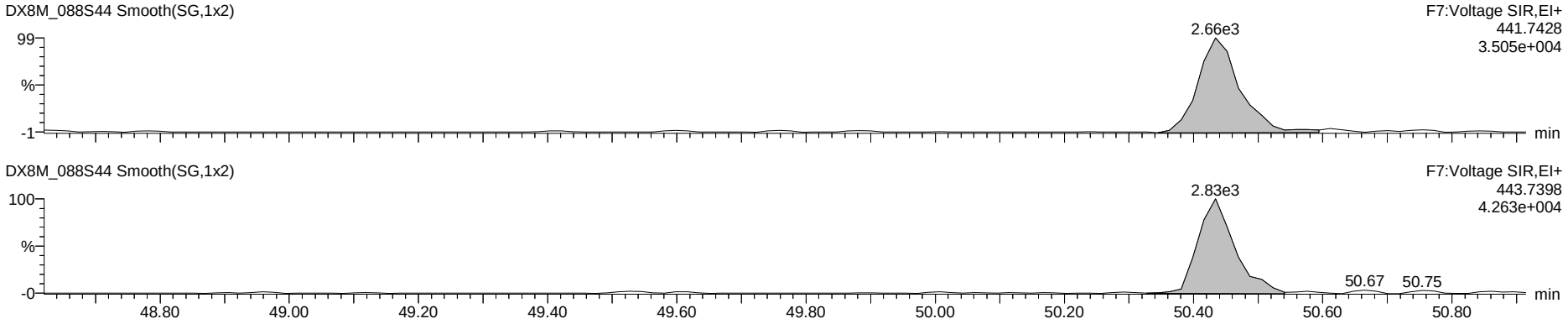
13C-Hepta-Furans



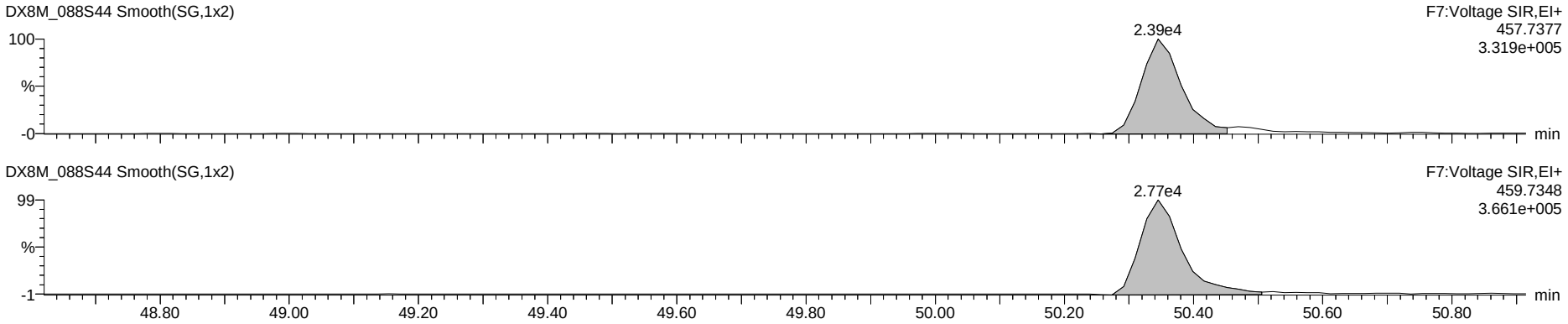
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

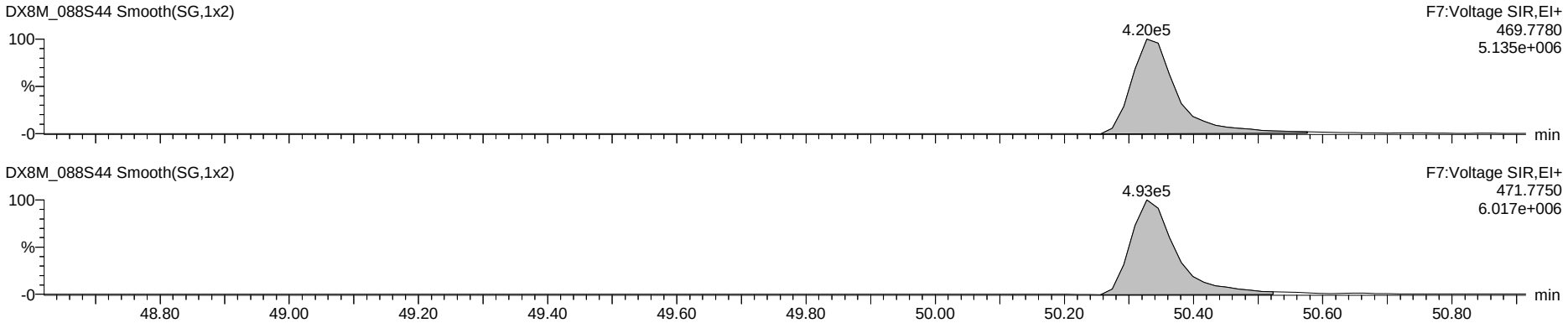
OCDF



OCDD



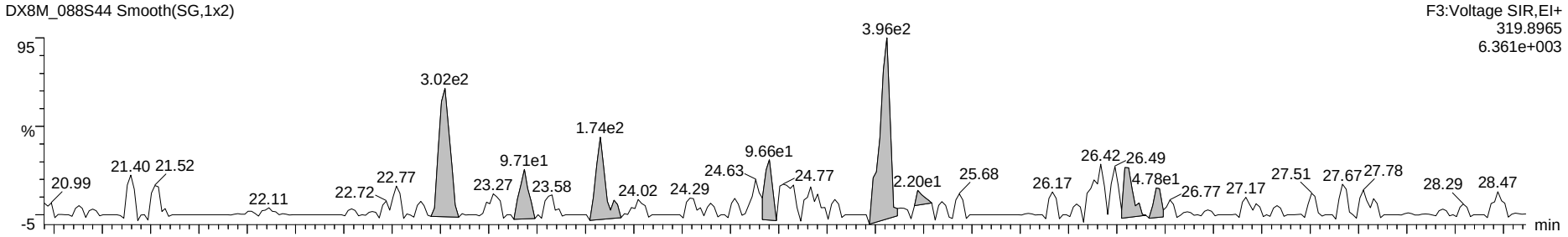
13C-OCDD

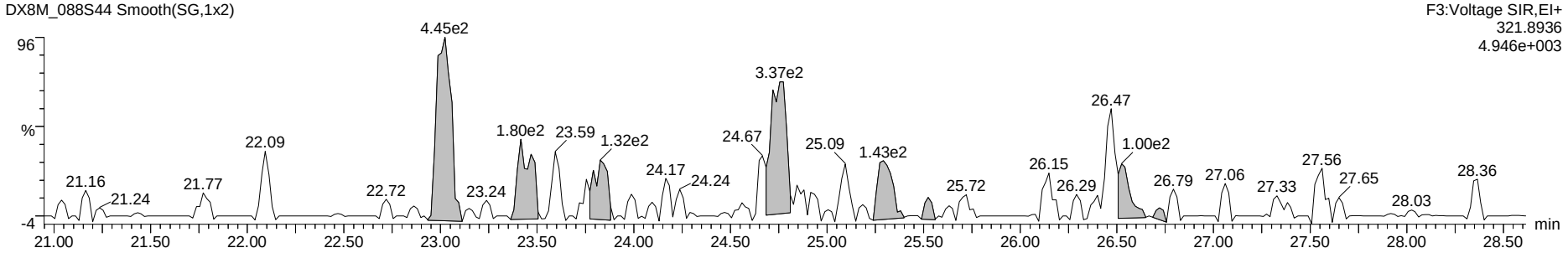


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

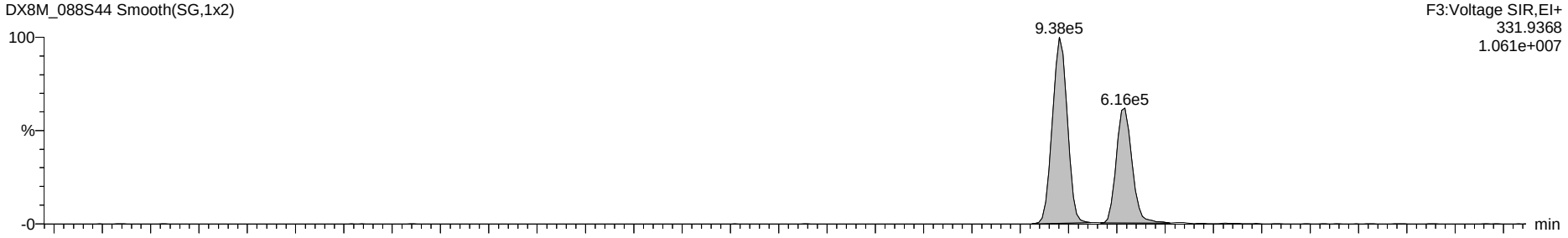
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

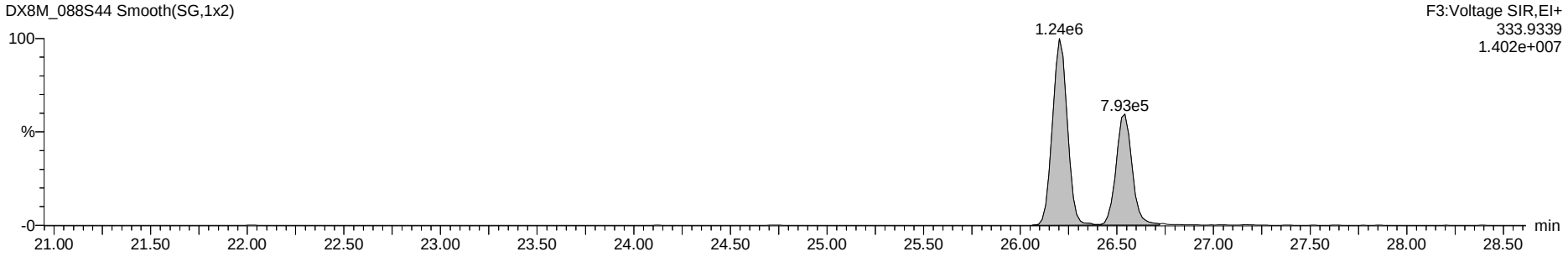
Total Tetra-Dioxins





13C-Tetra-Dioxins

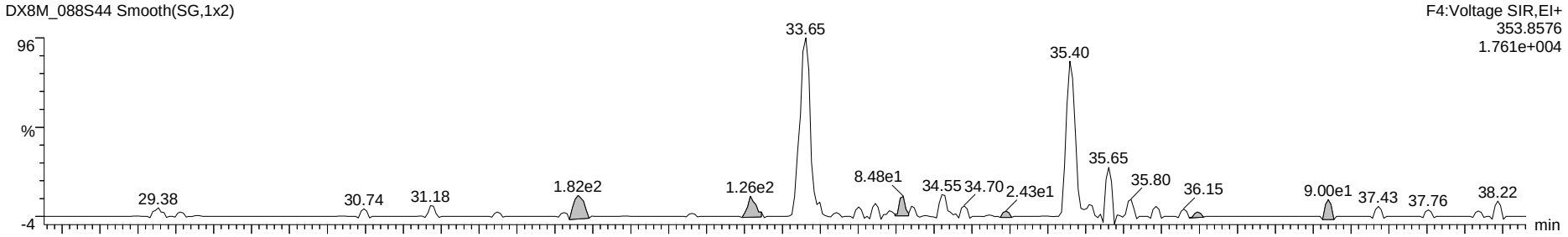


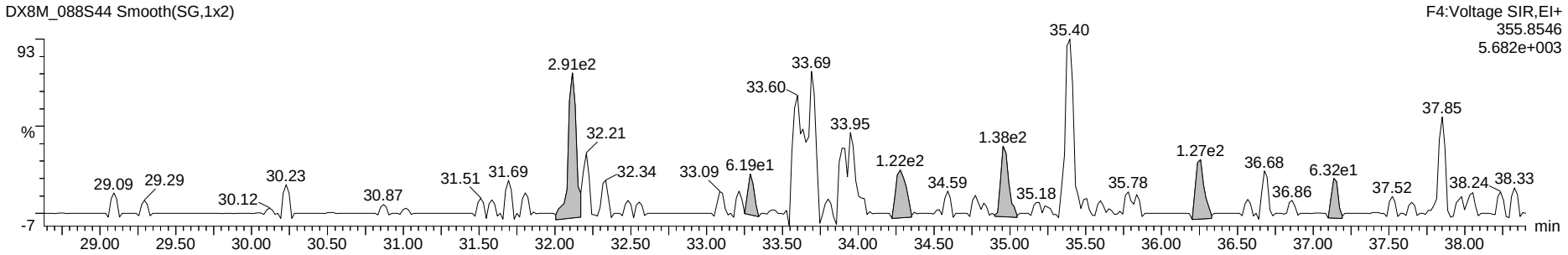


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

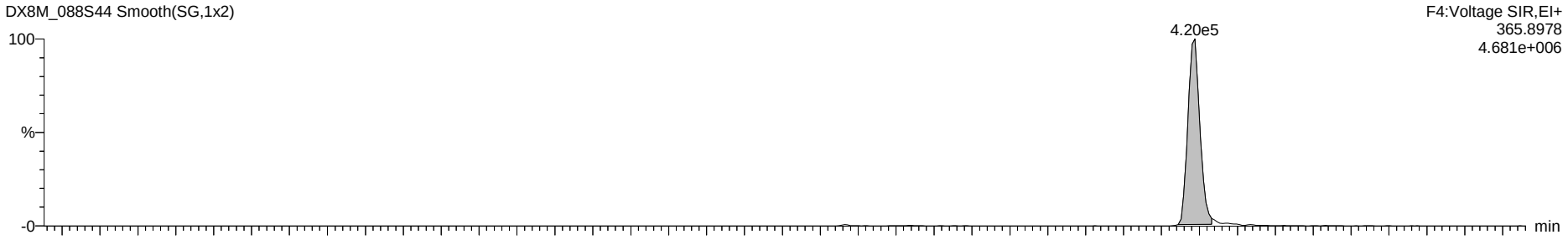
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

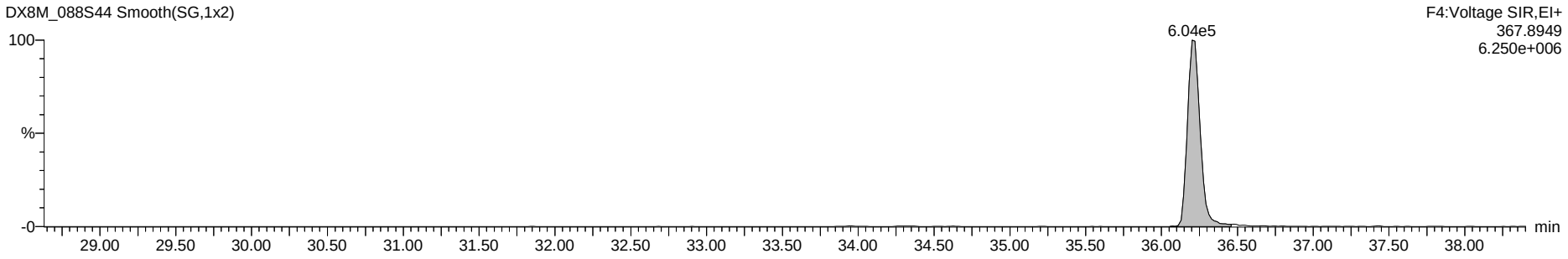
Total Penta-Dioxins





13C-Penta-Dioxins

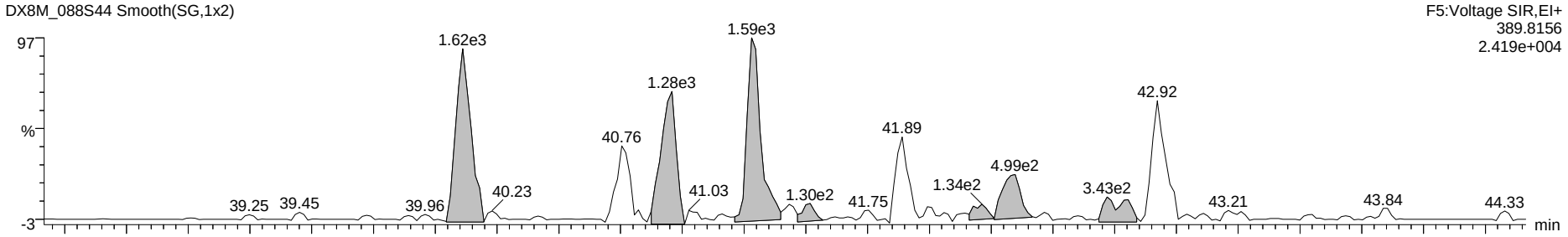


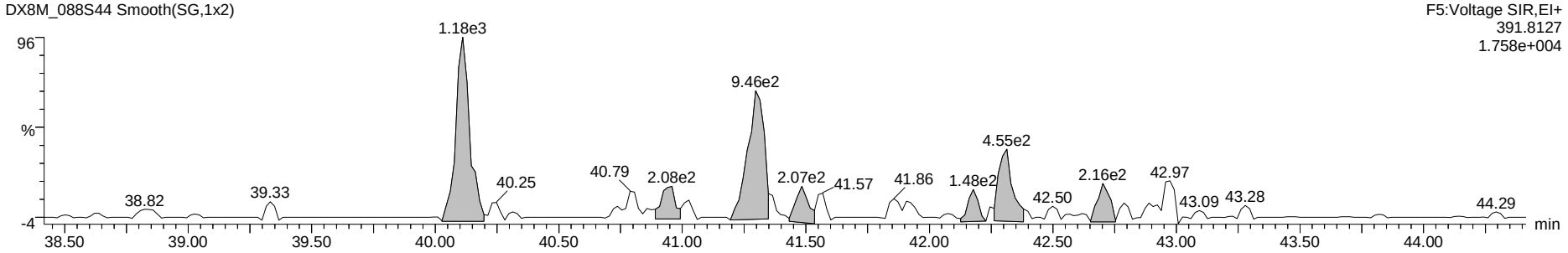


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

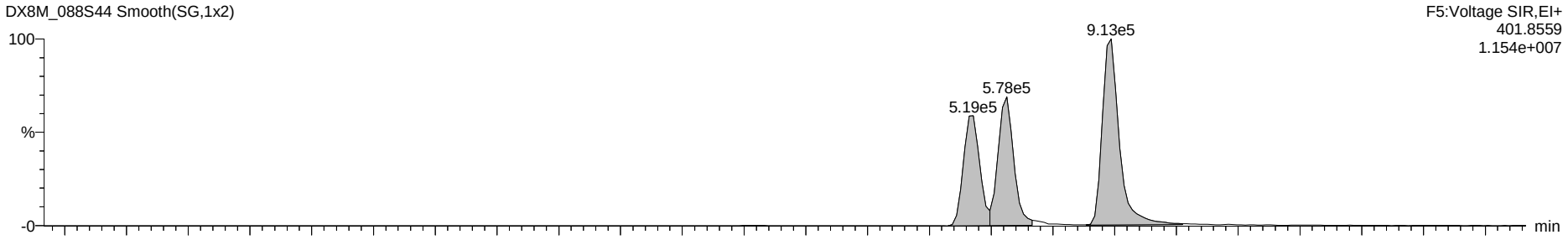
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

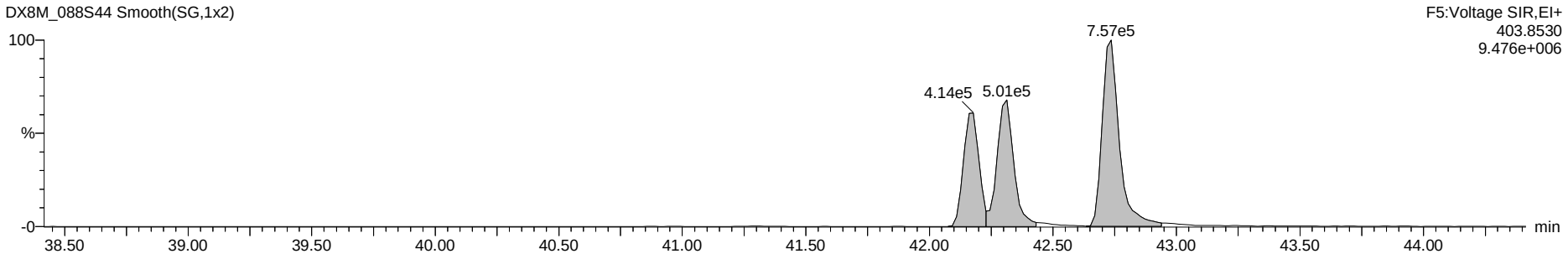
Total Hexa-Dioxins





13C-Hexa-Dioxins

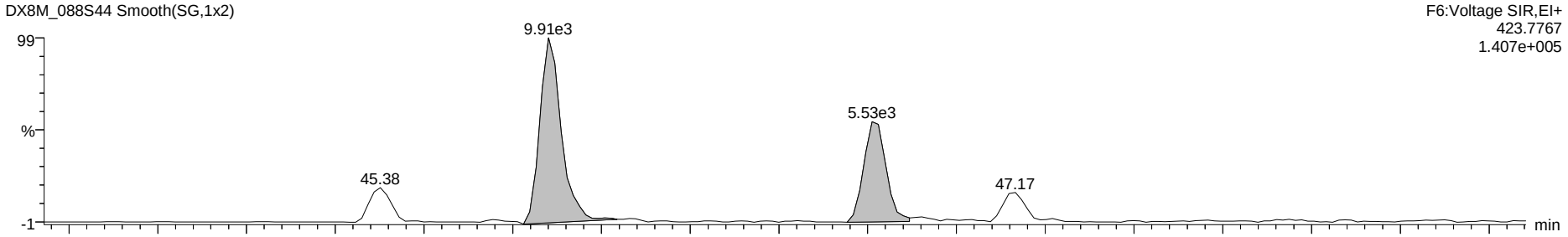


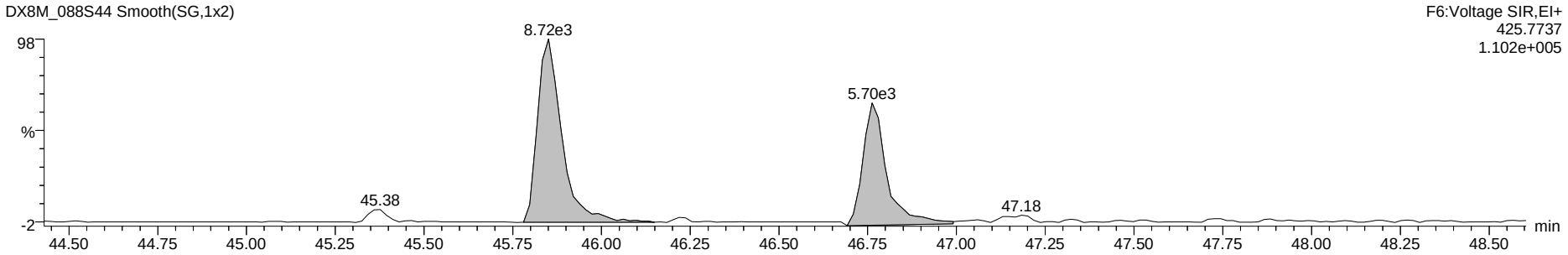


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

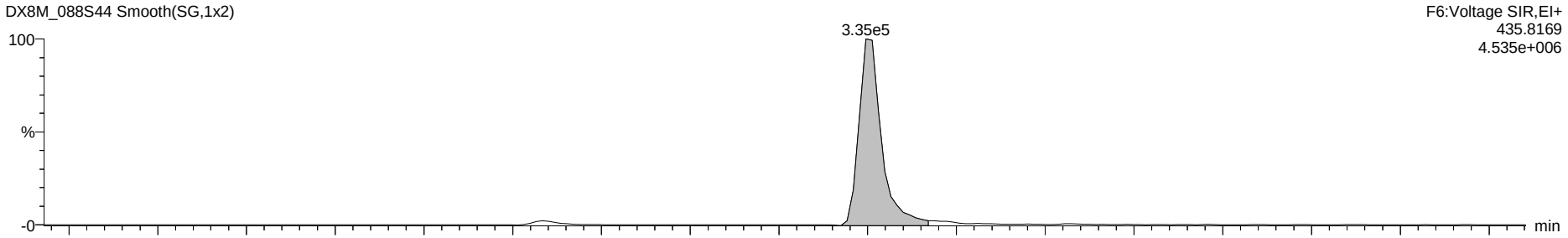
Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

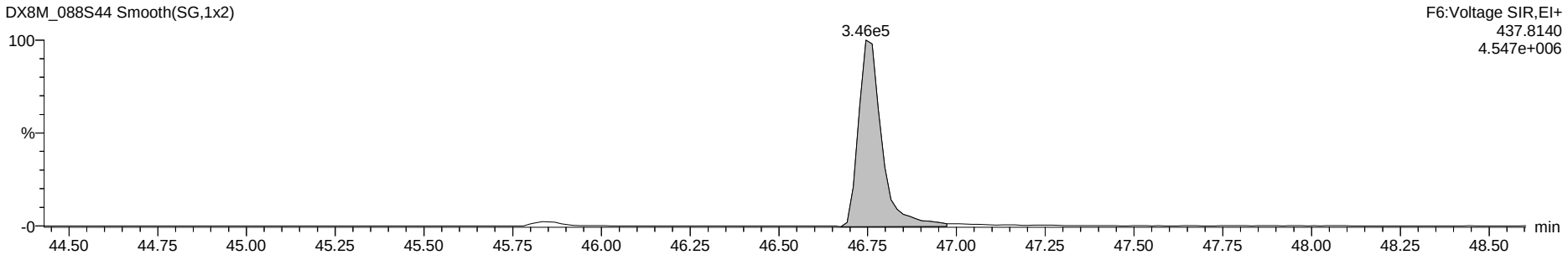
Total Hepta-Dioxins





13C-Hepta-Dioxins

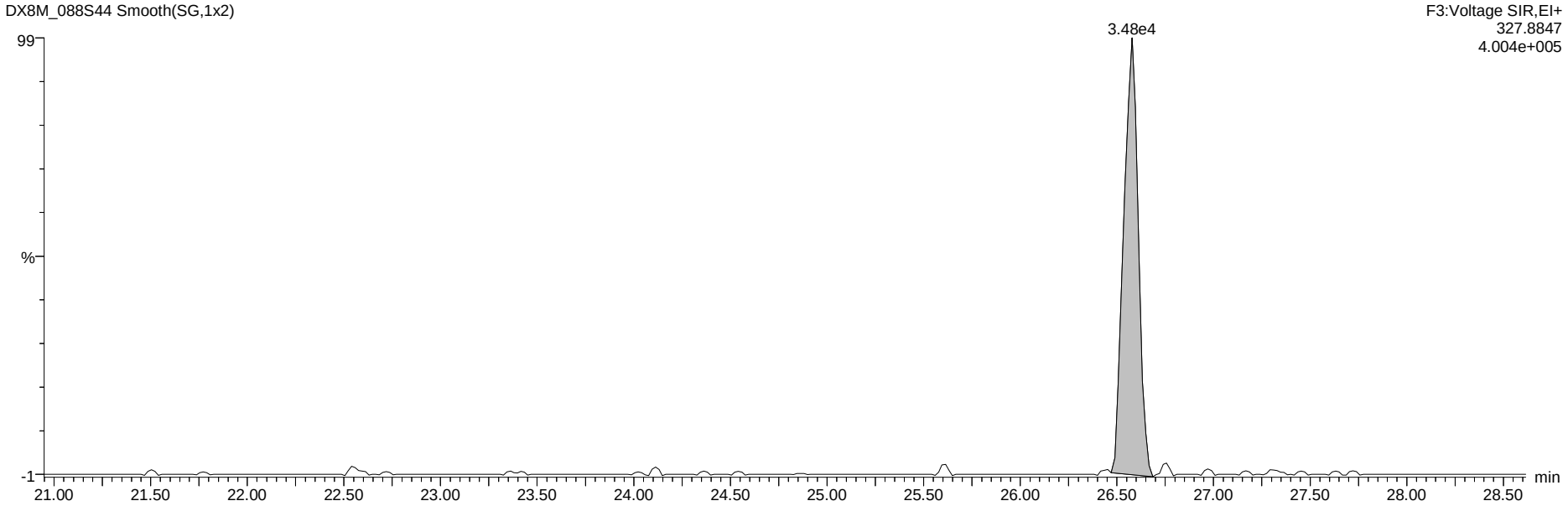




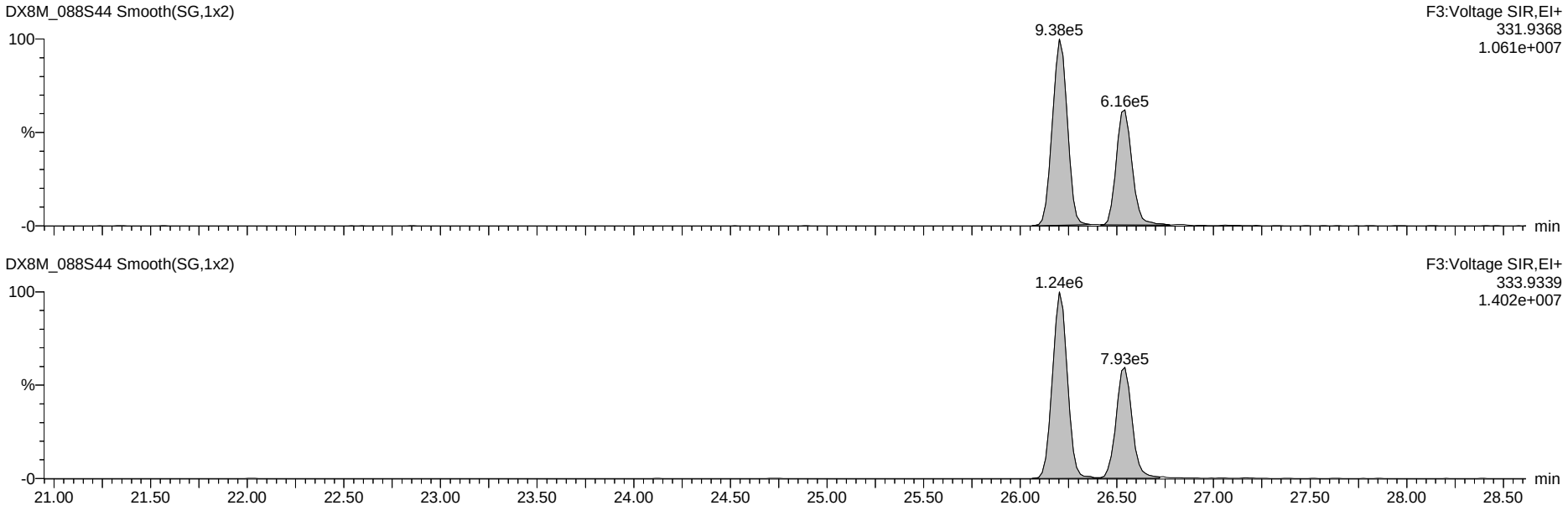
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



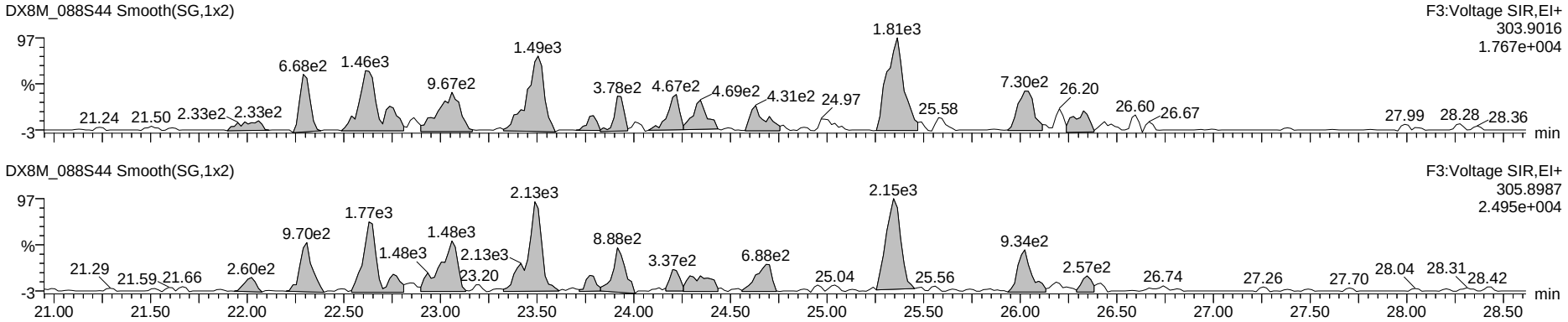
13C-Tetra-Dioxins



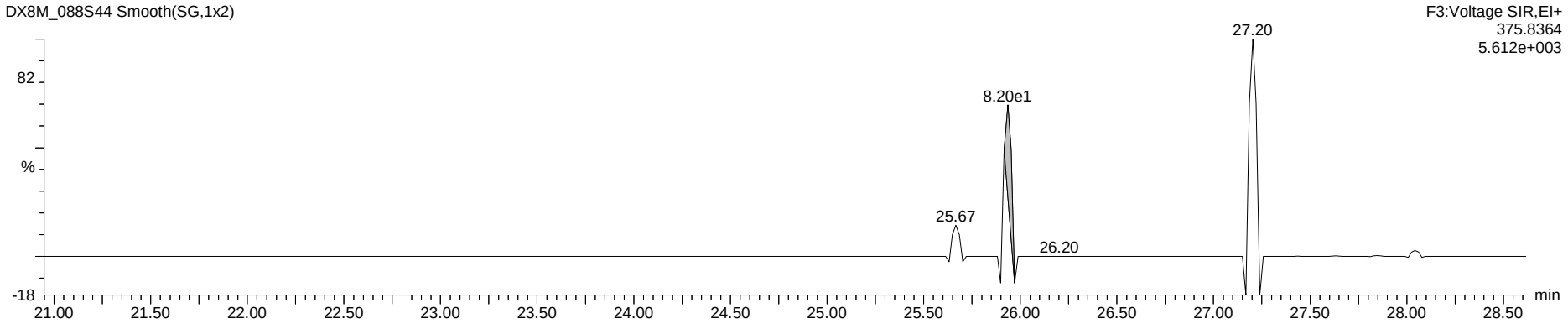
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

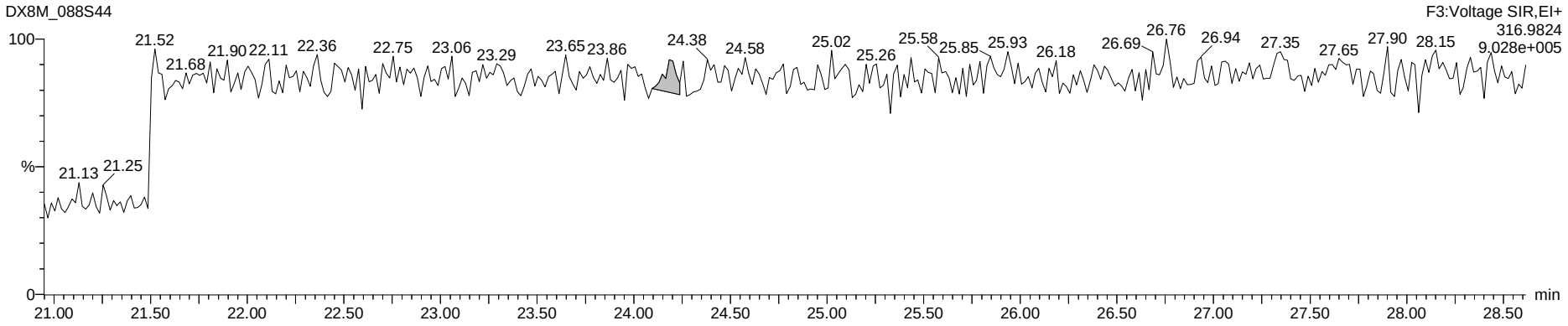
Total Tetra-Furans



Hexa DPE



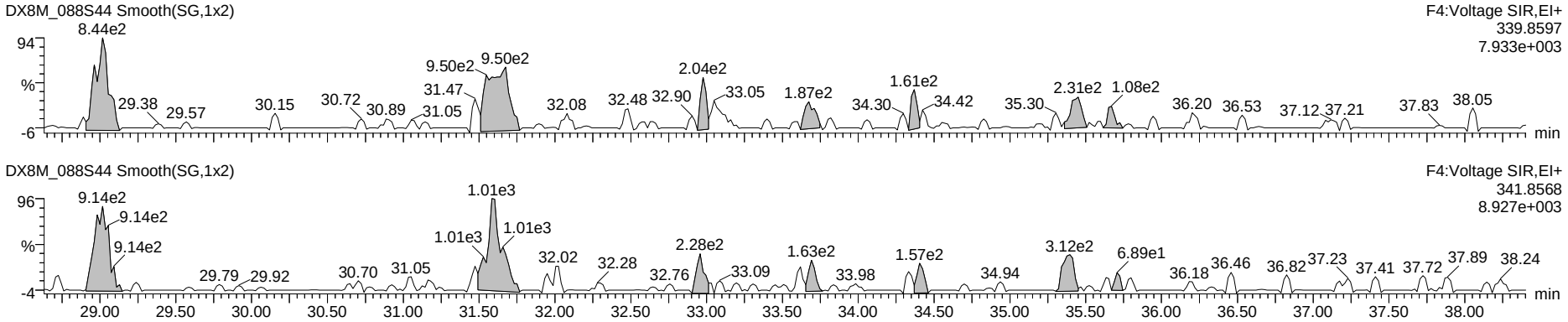
Tetra Lock



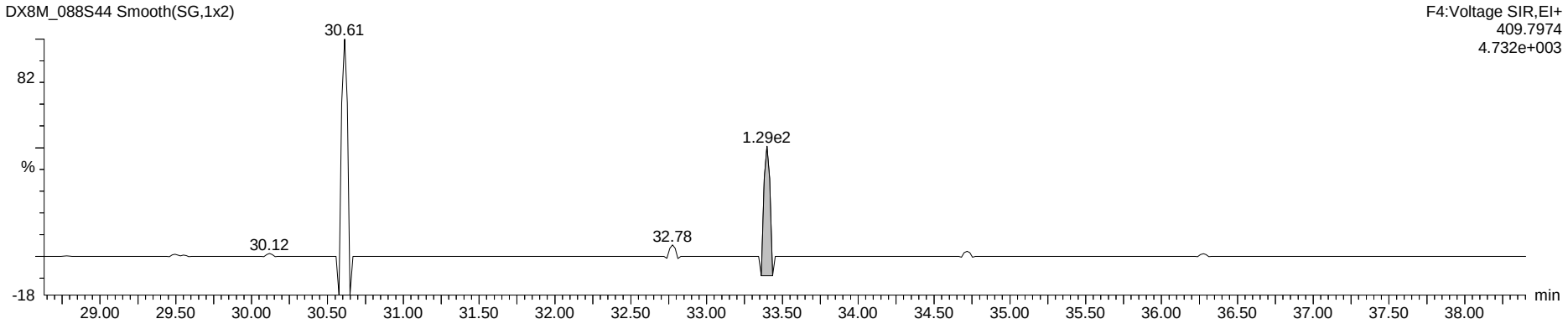
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

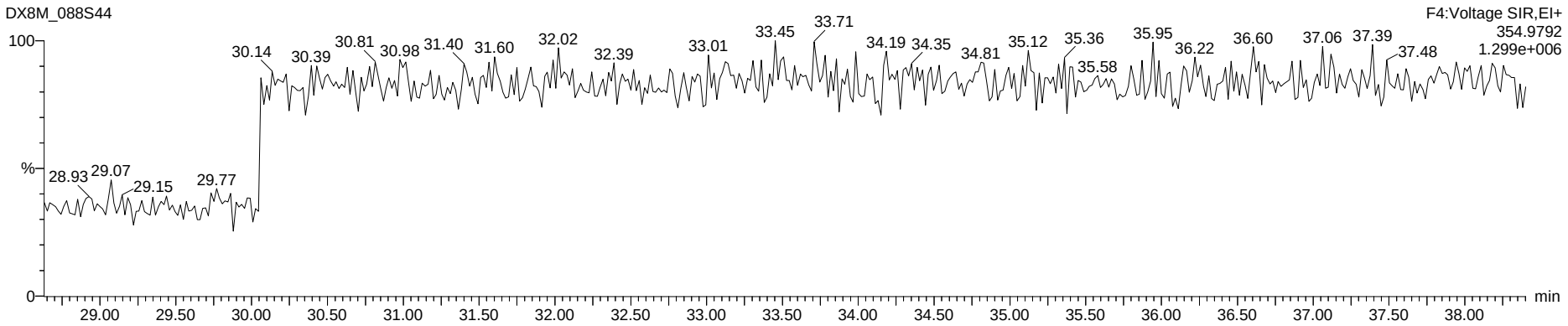
Total Penta-Furans



Hepta DPE



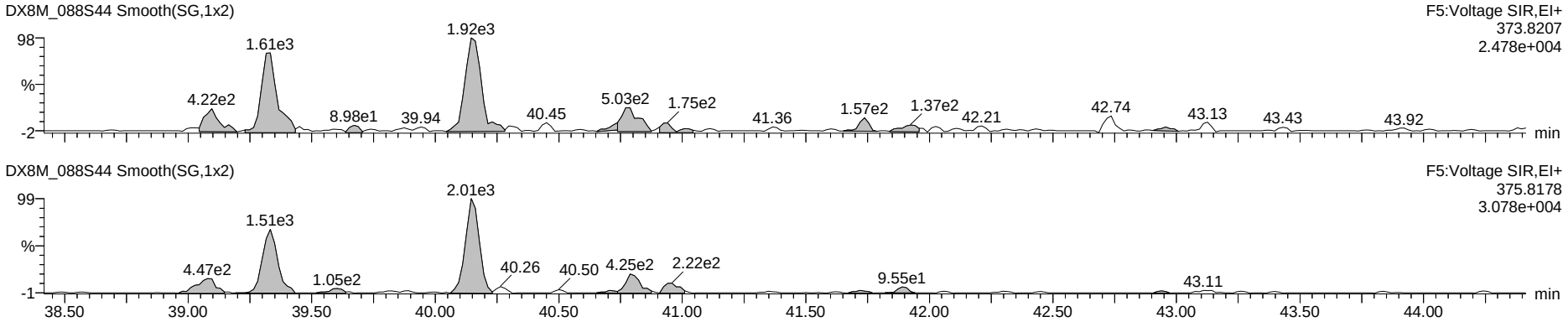
Penta Lock



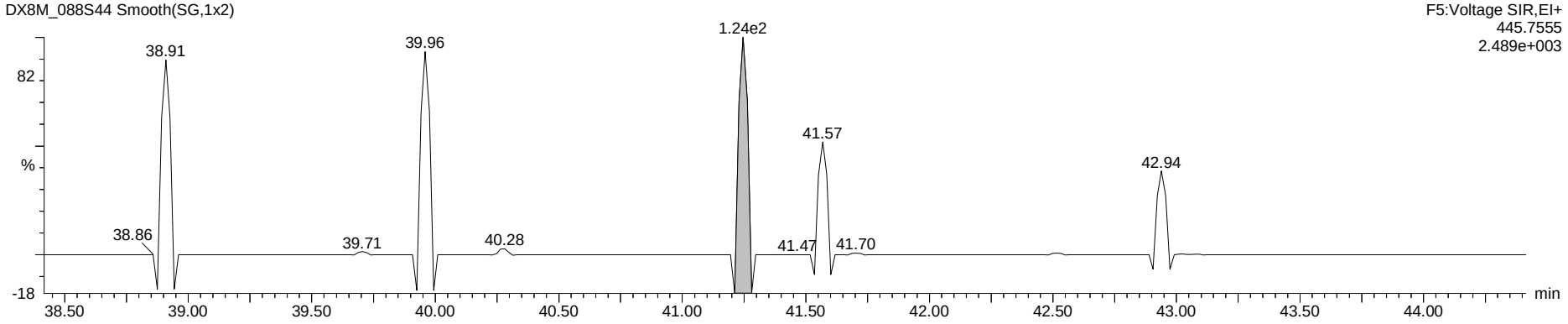
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

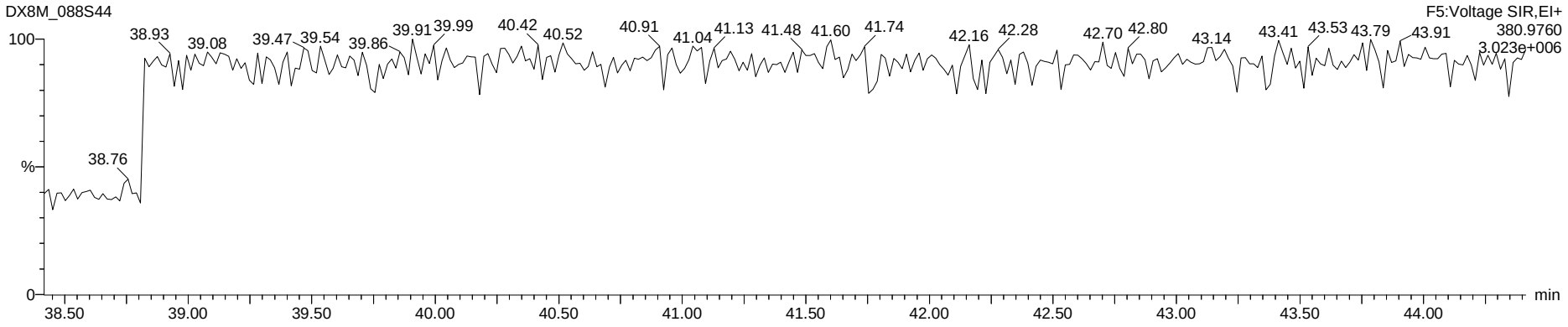
Total Hexa-Furans



Octa DPE



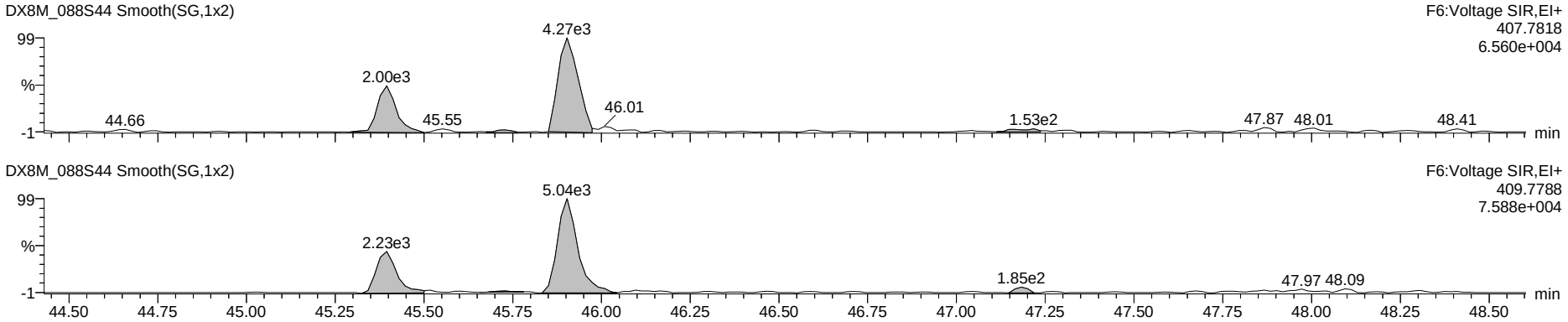
Hexa Lock



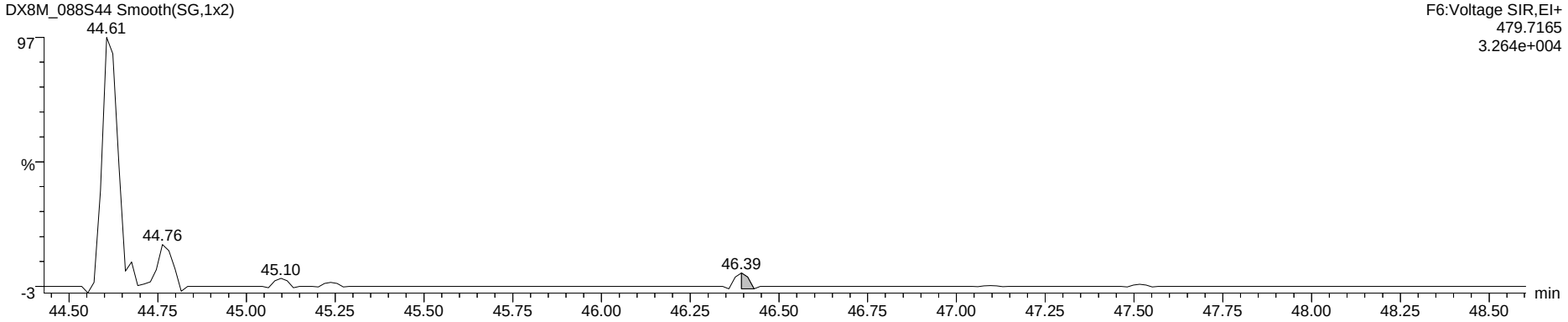
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

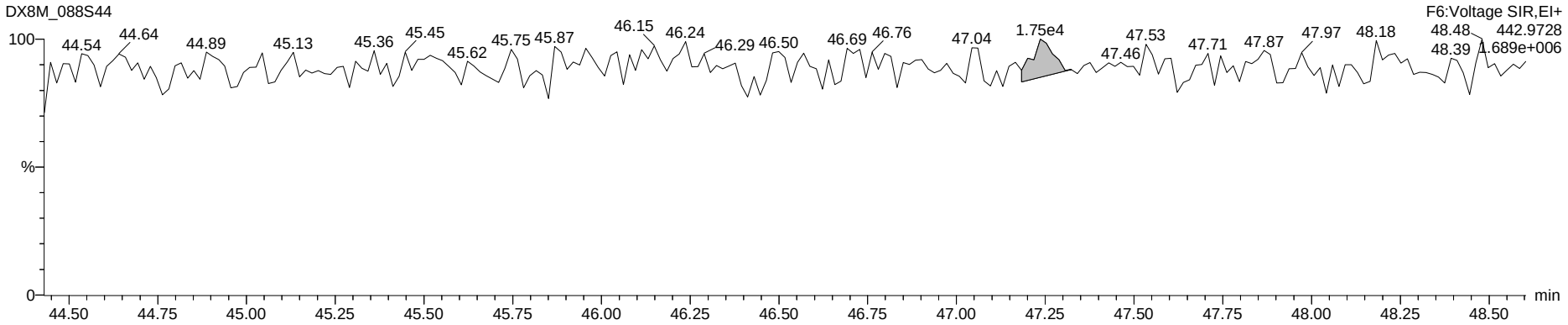
Total Hepta-Furans



Nona DPE



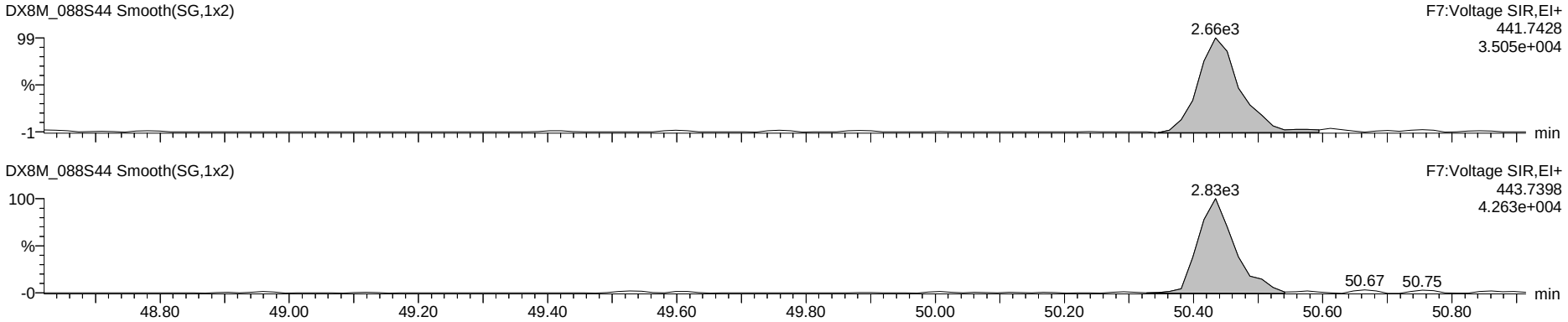
Hepta Lock



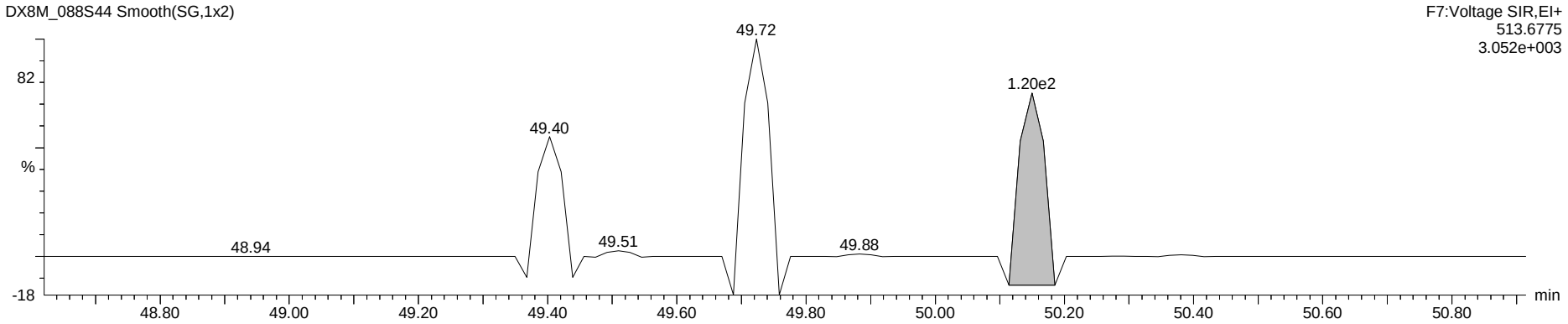
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S44, Date: 26-Jul-2018, Time: 12:02:26, ID: L29626-1,,, Description: 1,WG64557,1.0/20uL

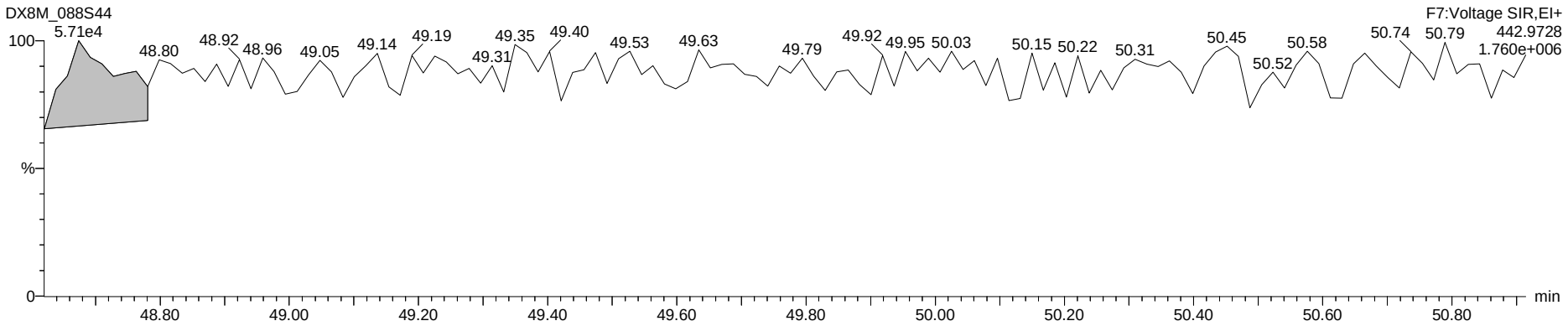
OCDF



Deca DPE



Octa Lock



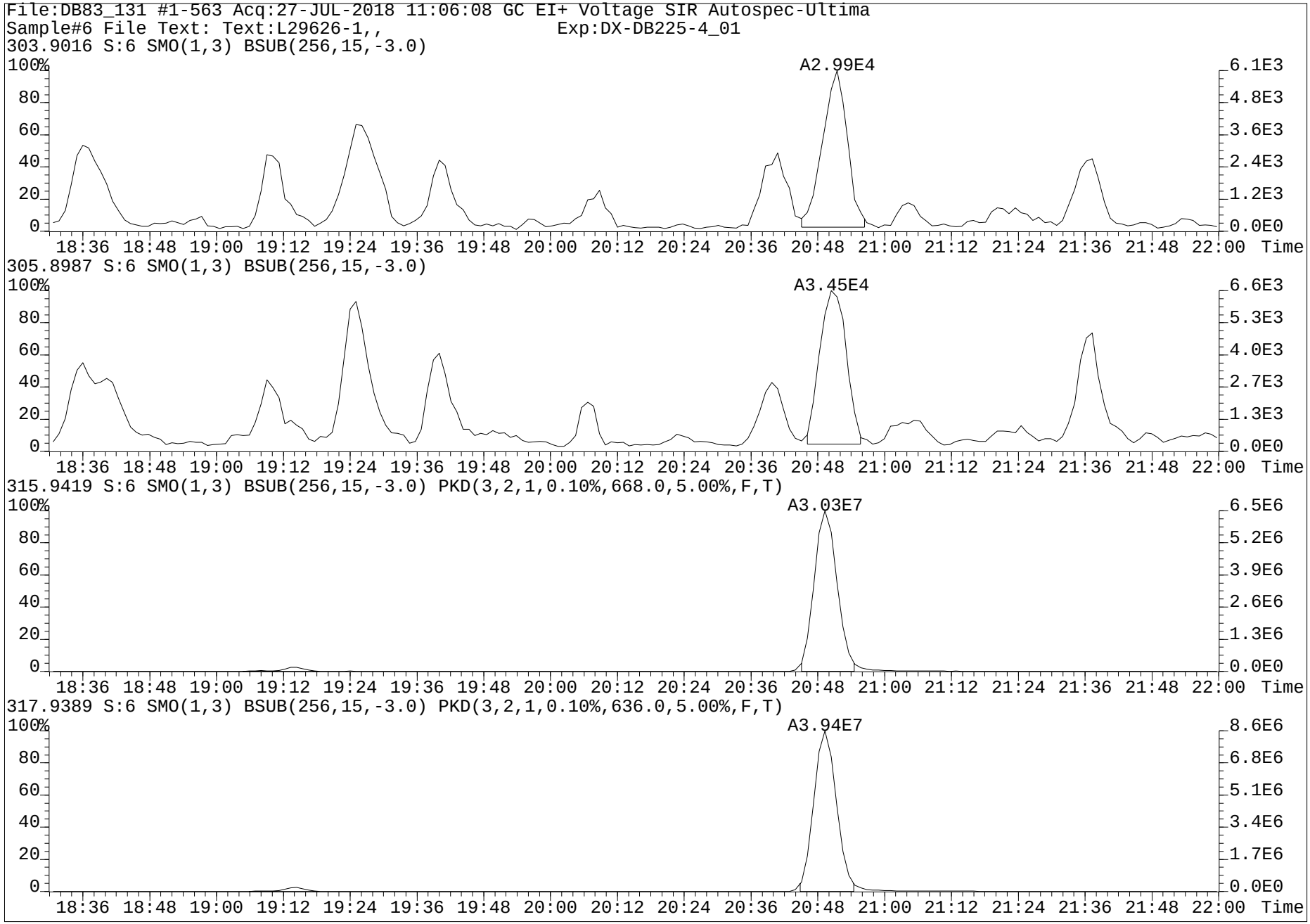
www.axysanalytical.com

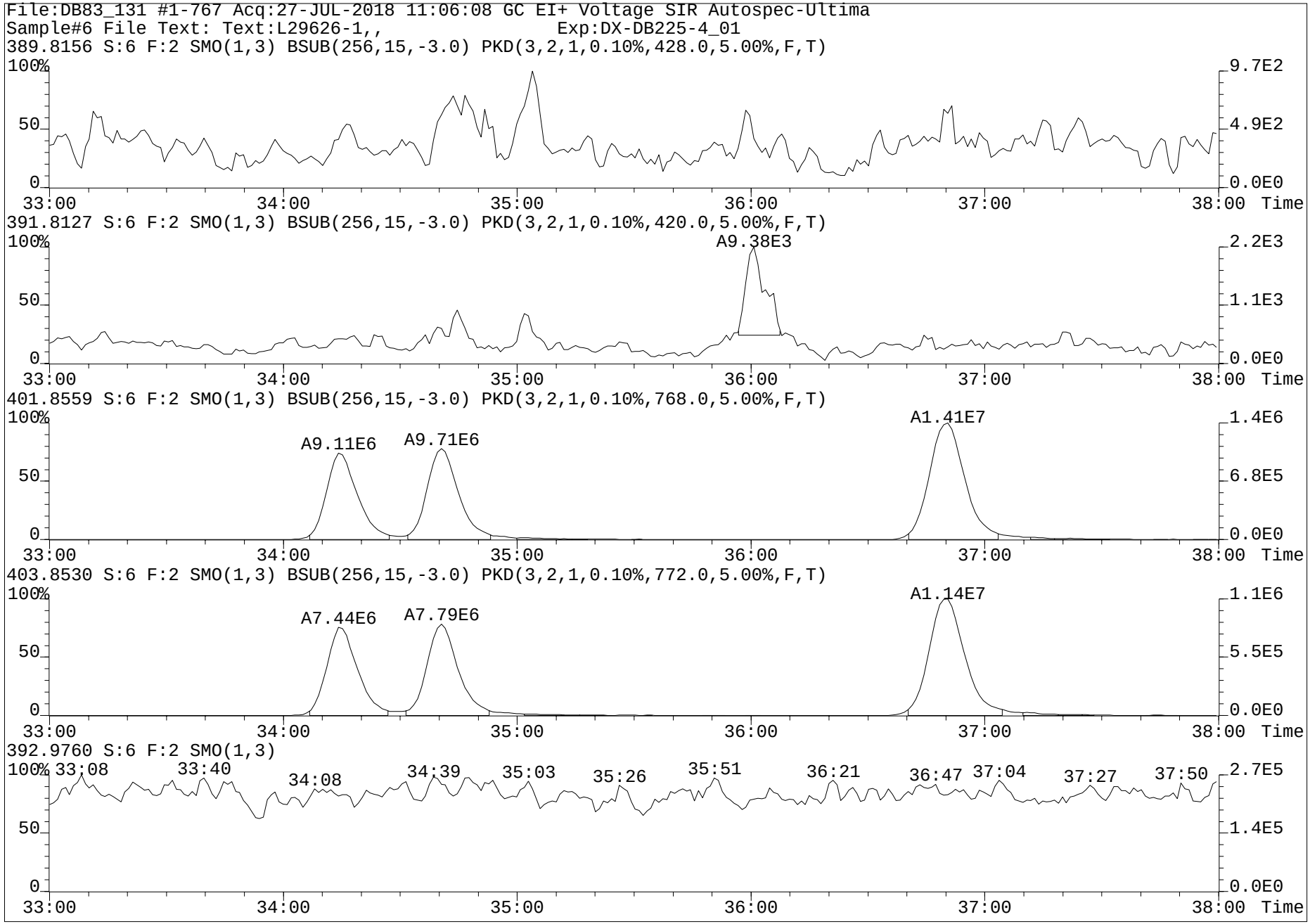
Run #11 Filename DB83_131 S: 6 I: 1 Acquired: 27-JUL-18 11:06:08 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-1,, Comments: 1,WG64557,2.0/20uL
sample size: 10.060000 conc units: pg/g total toxicity: 0.02 F1: 1.0000 F2: 1.0000

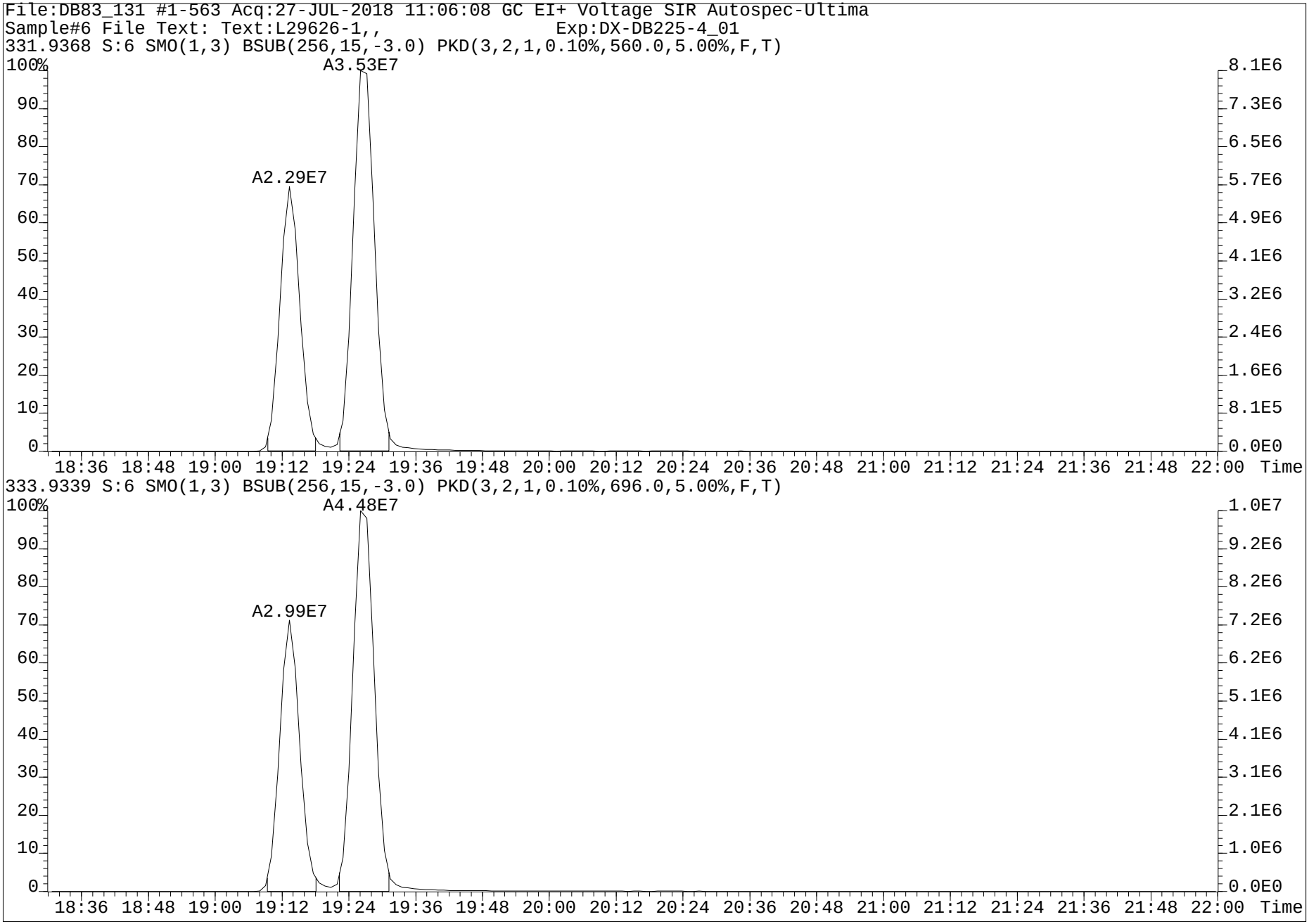
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	6.44e+04	0.87	y	20:50	0.189	0	0.0349	-	n
2	Unk	1,2,3,7,8,9-HxCDD	0	*	*	n	NotFnd	*	*	0.2449	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	6.98e+07	0.77	y	20:49	96.732	-	0.0197	48.7	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.65e+07	1.22	y	34:15	122.122	-	0.2962	61.4	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.75e+07	1.25	y	34:41	125.149	-	0.2870	63.0	n
6	RS	13C-1,2,3,4-TCDD	1	8.01e+07	0.79	y	19:27	7.199	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.55e+07	1.23	y	36:50	4.620	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

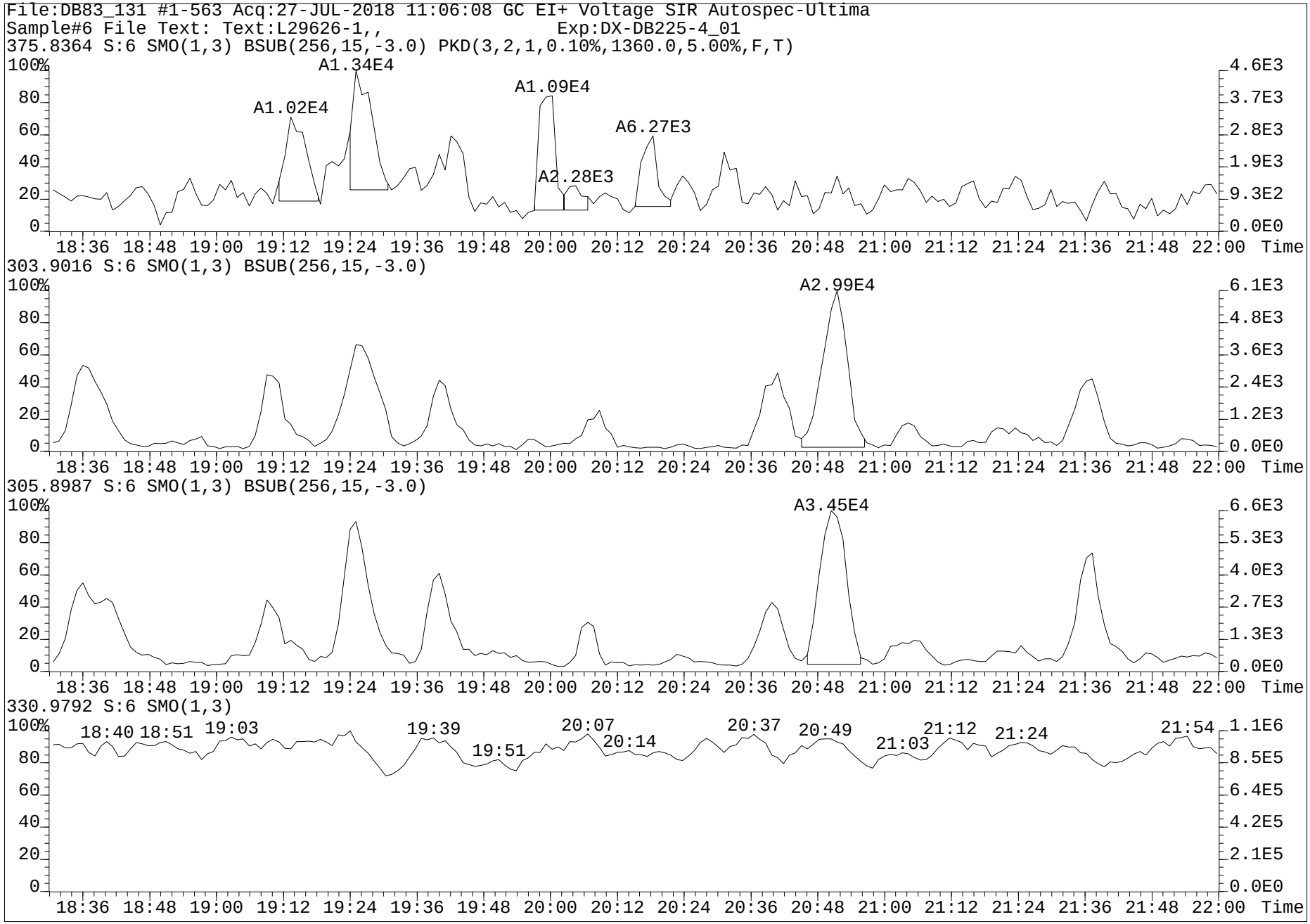
checked by
AW 31-JUL-18

prepared by KB 30 JUL 2018


File:DB83_131 #1-563 Acq:27-JUL-2018 11:06:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:L29626-1,, Exp:DX-DB225-4_01
303.9016 S:6 SMO(1,3) BSUB(256,15,-3.0)
A2.99E4
305.8987 S:6 SMO(1,3) BSUB(256,15,-3.0)
A3.45E4
315.9419 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,668.0,5.00%,F,T)
A3.03E7
317.9389 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,636.0,5.00%,F,T)
A3.94E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
6.1E3
4.8E3
3.6E3
2.4E3
1.2E3
0.0E0
6.6E3
5.3E3
4.0E3
2.7E3
1.3E3
0.0E0
6.5E6
5.2E6
3.9E6
2.6E6
1.3E6
0.0E0
8.6E6
6.8E6
5.1E6
3.4E6
1.7E6
0.0E0


File:DB83_131 #1-767 Acq:27-JUL-2018 11:06:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:L29626-1,, Exp:DX-DB225-4_01
389.8156 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,428.0,5.00%,F,T)
100%
50
0
9.7E2
4.9E2
0.0E0
33:00
34:00
35:00
36:00
37:00
38:00
Time
391.8127 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,420.0,5.00%,F,T)
A9.38E3
2.2E3
1.1E3
401.8559 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,768.0,5.00%,F,T)
A9.11E6
A9.71E6
A1.41E7
1.4E6
6.8E5
403.8530 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,772.0,5.00%,F,T)
A7.44E6
A7.79E6
A1.14E7
1.1E6
5.5E5
392.9760 S:6 F:2 SMO(1,3)
33:08
33:40
34:08
34:39
35:03
35:26
35:51
36:21
36:47
37:04
37:27
37:50
2.7E5
1.4E5


File:DB83_131 #1-563 Acq:27-JUL-2018 11:06:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:L29626-1,, Exp:DX-DB225-4_01
331.9368 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,560.0,5.00%,F,T)
A3.53E7
A2.29E7
333.9339 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,696.0,5.00%,F,T)
A4.48E7
A2.99E7
Time


File:DB83_131 #1-563 Acq:27-JUL-2018 11:06:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:L29626-1,, Exp:DX-DB225-4_01
375.8364 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1360.0,5.00%,F,T)
A1.34E4
A1.09E4
A1.02E4
A6.27E3
A2.28E3
303.9016 S:6 SMO(1,3) BSUB(256,15,-3.0)
A2.99E4
305.8987 S:6 SMO(1,3) BSUB(256,15,-3.0)
A3.45E4
330.9792 S:6 SMO(1,3)
18:40 18:51 19:03 19:39 19:51 20:07 20:14 20:37 20:49 21:03 21:12 21:24 21:54
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	9.920	4.07e3	0.45	YES	25.33	0.442	0.0786		1.65e3	1.46e3
2	1,2,3,7,8-PeCDF	9.920	3.42e2	0.75	YES	33.69	0.047	0.1251		2.45e3	8.41e2
3	2,3,4,7,8-PeCDF	9.920	8.55e2	1.11	YES	35.43	0.106	0.0945		2.45e3	8.41e2
4	1,2,3,4,7,8-HxCDF	9.920	6.28e2	0.78	YES	40.81	0.103	0.0288		2.72e2	6.78e2
5	1,2,3,6,7,8-HxCDF	9.920	3.36e2	1.06	NO	40.96	0.051	0.0273		2.72e2	6.78e2
6	2,3,4,6,7,8-HxCDF	9.920	3.28e2	2.55	YES	41.92	0.050	0.0258		2.72e2	6.78e2
7	1,2,3,7,8,9-HxCDF	9.920	1.44e2	4.27	YES	42.96	0.027	0.0348		2.72e2	6.78e2
8	1,2,3,4,6,7,8-HpCDF	9.920	3.18e3	1.02	NO	45.40	0.680	0.0774		7.97e2	1.31e3
9	1,2,3,4,7,8,9-HpCDF	9.920	2.76e2	1.34	YES	47.17	0.076	0.1045		7.97e2	1.31e3
10	OCDF	9.920	4.94e3	0.80	NO	50.43	1.890	0.1539		8.49e2	1.15e3
11	2,3,7,8-TCDD	9.920	3.09e2	1.24	YES	26.56	0.042	0.0595		1.18e3	6.04e2
12	1,2,3,7,8-PeCDD	9.920	4.04e2	0.97	YES	36.28	0.078	0.0693		8.93e2	6.82e2
13	1,2,3,4,7,8-HxCDD	9.920	3.09e2	0.88	YES	42.18	0.069	0.0724		8.25e2	1.04e3
14	1,2,3,6,7,8-HxCDD	9.920	8.66e2	1.26	NO	42.31	0.181	0.0716		8.25e2	1.04e3
15	1,2,3,7,8,9-HxCDD	9.920	4.42e2	0.36	YES	42.75	0.095	0.0716		8.25e2	1.04e3
16	1,2,3,4,6,7,8-HpCDD	9.920	1.30e4	1.08	NO	46.76	4.137	0.0749		5.40e2	7.79e2
17	OCDD	9.920	5.99e4	0.86	NO	50.33	27.580	0.1118		1.20e3	1.62e-1
18	13C-2,3,7,8-TCDF	9.920	2.03e6	0.69	NO	25.31	126.478	0.1740	62.7	7.02e3	5.11e3
19	13C-1,2,3,7,8-PeCDF	9.920	1.59e6	1.39	NO	33.64	137.805	0.2280	68.4	5.97e3	5.48e3
20	13C-2,3,4,7,8-PeCDF	9.920	1.73e6	1.36	NO	35.40	155.083	0.2364	76.9	5.97e3	5.48e3
21	13C-1,2,3,4,7,8-HxCDF	9.920	1.10e6	0.52	NO	40.76	114.248	0.3618	56.7	1.06e4	7.91e3
22	13C-1,2,3,6,7,8-HxCDF	9.920	1.26e6	0.52	NO	40.94	121.746	0.3387	60.4	1.06e4	7.91e3
23	13C-2,3,4,6,7,8-HxCDF	9.920	1.15e6	0.53	NO	41.87	125.146	0.3790	62.1	1.06e4	7.91e3
24	13C-1,2,3,7,8,9-HxCDF	9.920	1.07e6	0.50	NO	42.91	118.149	0.3843	58.6	1.06e4	7.91e3
25	13C-1,2,3,4,6,7,8-HpCDF	9.920	7.69e5	0.46	NO	45.36	99.887	0.2309	49.5	6.28e3	3.12e3
26	13C-1,2,3,4,7,8,9-HpCDF	9.920	5.89e5	0.46	NO	47.15	98.087	0.2960	48.7	6.28e3	3.12e3
27	13C-2,3,7,8-TCDD	9.920	1.34e6	0.77	NO	26.54	134.450	0.3256	66.7	5.42e3	8.68e3
28	13C-1,2,3,7,8-PeCDD	9.920	1.02e6	0.67	NO	36.20	155.256	0.1166	77.0	1.66e3	1.65e3
29	13C-1,2,3,4,7,8-HxCDD	9.920	8.94e5	1.21	NO	42.16	120.131	0.3258	59.6	5.97e3	6.85e3
30	13C-1,2,3,6,7,8-HxCDD	9.920	1.03e6	1.21	NO	42.30	131.162	0.3081	65.1	5.97e3	6.85e3
31	13C-1,2,3,4,6,7,8-HpCDD	9.920	6.37e5	1.00	NO	46.75	103.622	0.3274	51.4	6.65e3	4.00e3
32	13C-OCDD	9.920	8.59e5	0.88	NO	50.33	158.814	0.0747	39.4	1.65e3	4.84e2
33	13C-1,2,3,4-TCDD	9.920	2.00e6	0.79	NO	26.20	8.934	0.0145	4.4	5.42e3	8.68e3
34	13C-1,2,3,7,8,9-HxCDD	9.920	1.52e6	1.15	NO	42.72	10.763	0.0171	5.3	5.97e3	6.85e3
35	37Cl-2,3,7,8-TCDD	9.920	3.36e4			26.58	3.038	0.0122	75.3		5.87e2
36	Total Tetra-Furans	9.920					2.791	0.0786			1.46e3
37	Total Tetra-Dioxins	9.920					0.444	0.0595			6.04e2
38	Total Penta-Furans	9.920					0.767	0.1100			8.41e2
39	Total Penta-Dioxins	9.920					0.451	0.0693			6.82e2
40	Total Hexa-Furans	9.920					1.607	0.0280			6.78e2
41	Total Hexa-Dioxins	9.920					2.159	0.0693			1.04e3
42	Total Hepta-Furans	9.920					2.675	0.0902			1.31e3
43	Total Hepta-Dioxins	9.920					11.071	0.0749			7.79e2
44	Hexa DPE	1.000	1.20e2			25.79					0.00e0
45	Hepta DPE	1.000	3.73e2			37.12					7.04e-2
46	Octa DPE	1.000	1.67e2			39.99					4.11e-2
47	Nona DPE	1.000	2.24e2			47.87					1.03e2
48	Deca DPE	1.000	1.39e1			49.12					3.03e-1
49	Tetra Lock	1.000	4.92e3			23.61					1.20e5
50	Penta Lock	1.000	1.12e4			28.96					1.71e5
51	Hexa Lock	1.000	3.20e5			39.06					3.57e5
52	Hepta Lock	1.000	3.26e4			47.69					2.21e5
53	Octa Lock	1.000									2.48e5
54	13C-Tetra-Furans	9.920					126.478	0.1740			5.11e3
55	13C-Tetra-Dioxins	9.920					143.384	0.3401			8.68e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Checked by pro 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.49	0.748	NO	0.393
2	23.06	0.882	NO	0.385
3	22.77	0.720	NO	0.150
4	22.63	0.567	YES	0.353
5	22.29	0.522	YES	0.190
6	21.99	1.366	YES	0.037
7	26.24	0.387	YES	0.035
8	26.01	0.691	NO	0.160
9	25.33	0.449	YES	0.442
10	25.01	0.795	NO	0.058
11	24.67	0.562	YES	0.130
12	24.33	0.990	YES	0.144
13	24.20	0.798	NO	0.104
14	23.92	0.539	YES	0.151
15	23.77	0.184	YES	0.059

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	24.70	1.012	YES	0.117
2	23.84	0.664	NO	0.042
3	23.42	1.217	YES	0.069
4	23.00	0.623	YES	0.075
5	26.56	1.244	YES	0.042
6	26.45	1.138	YES	0.040
7	25.29	2.937	YES	0.059

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	31.64	1.236	YES	0.290
2	28.96	1.449	NO	0.099
3	32.98	0.637	YES	0.082
4	35.74	0.404	YES	0.075
5	35.43	1.111	YES	0.106
6	34.37	0.959	YES	0.043
7	33.69	0.750	YES	0.047
8	33.53	1.271	YES	0.026

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.19	0.902	YES	0.134
2	34.22	0.462	YES	0.049
3	33.97	0.720	YES	0.077
4	33.27	0.518	YES	0.046
5	36.28	0.970	YES	0.078
6	35.14	0.881	YES	0.026
7	35.56	0.353	YES	0.040

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	39.60	2.707	YES	0.012
2	39.33	1.522	YES	0.491
3	39.06	1.786	YES	0.119
4	41.92	2.545	YES	0.050
5	41.75	1.344	NO	0.031
6	41.38	2.301	YES	0.027
7	41.16	1.141	NO	0.018
8	40.96	1.063	NO	0.051
9	40.81	0.780	YES	0.103
10	40.77	1.725	YES	0.059
11	40.13	1.288	NO	0.573
12	39.86	4.584	YES	0.025
13	43.08	1.442	YES	0.020
14	42.96	4.266	YES	0.027

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	41.26	1.124	NO	0.552
2	40.91	2.374	YES	0.397
3	40.11	1.215	NO	0.774
4	42.75	0.364	YES	0.095
5	42.31	1.261	NO	0.181
6	42.18	0.881	YES	0.069
7	41.48	1.131	NO	0.091

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.68	4.747	YES	0.035
2	45.40	1.017	NO	0.680
3	47.17	1.339	YES	0.076
4	45.89	0.918	NO	1.884

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.085	NO	4.137
2	45.83	1.106	NO	0.935

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.31	0.691	NO	126.478

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.774	NO	134.450
2	26.20	0.792	NO	8.934

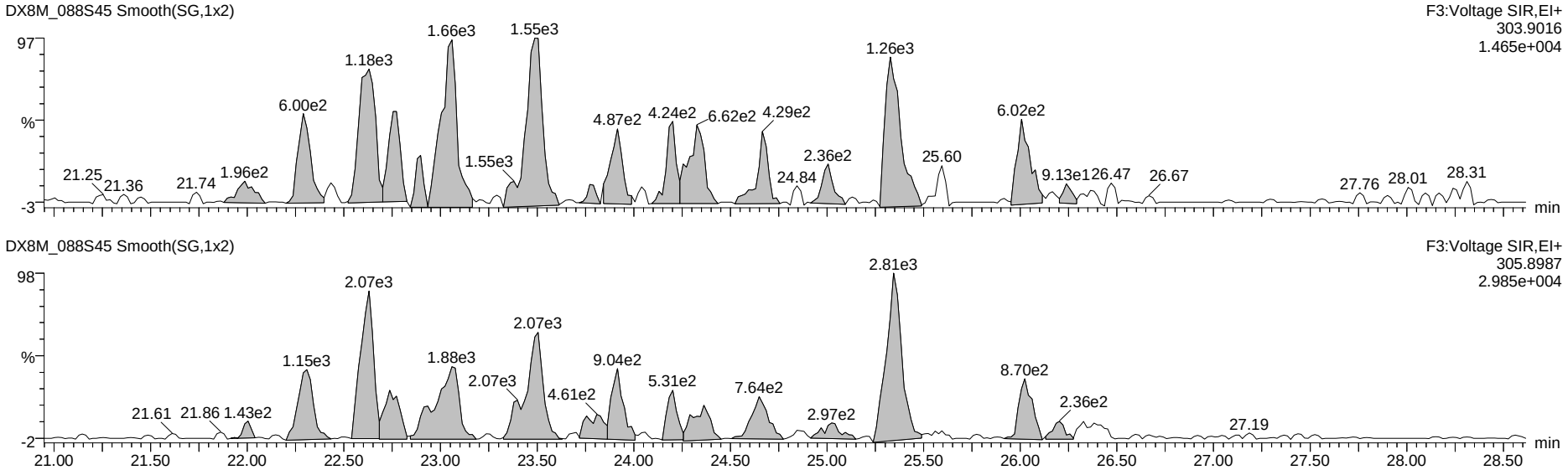
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

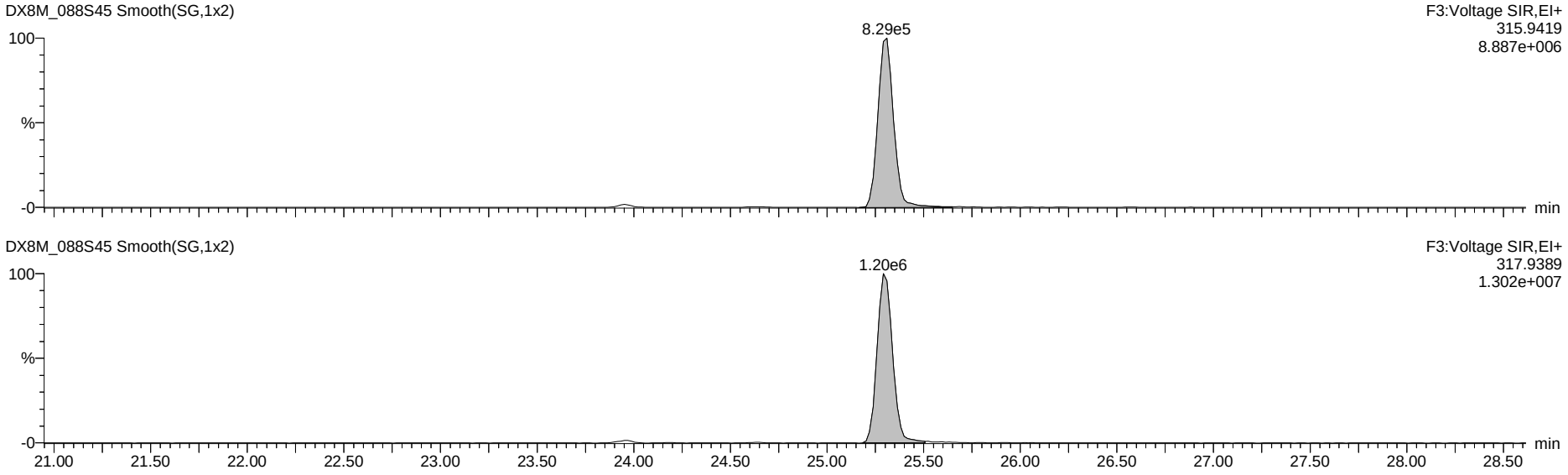
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



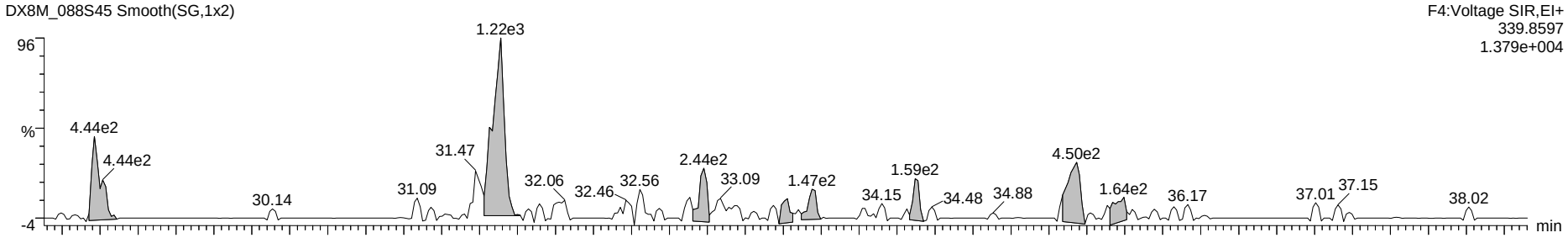
13C-Tetra-Furans

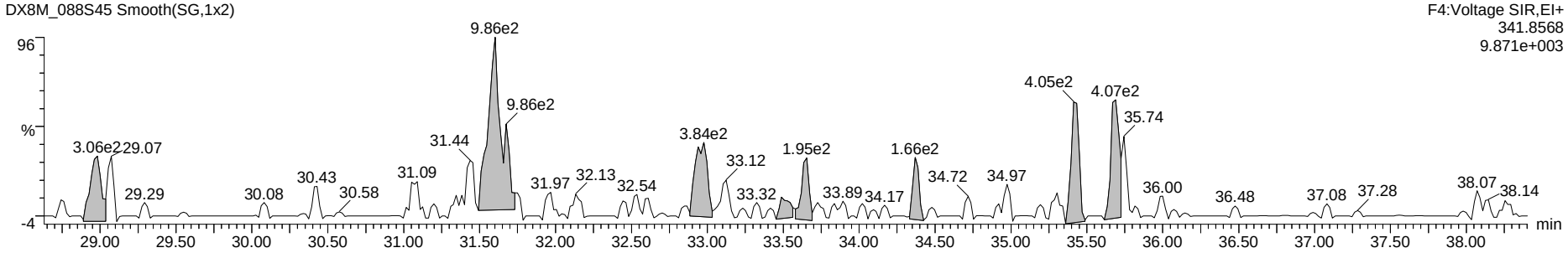


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

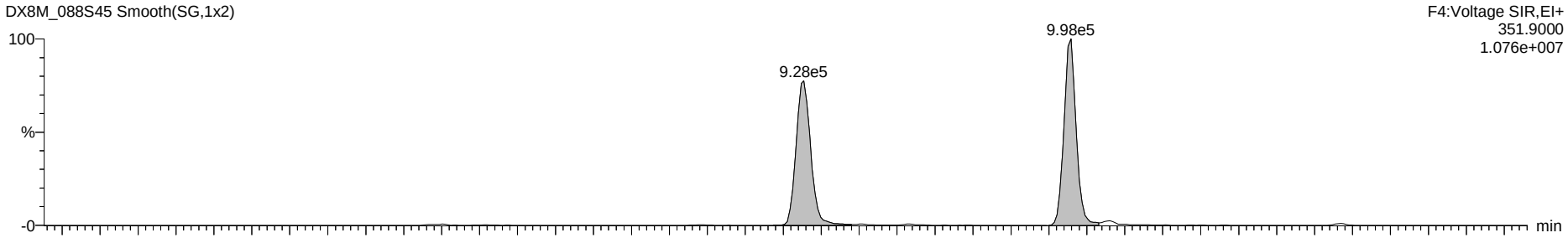
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

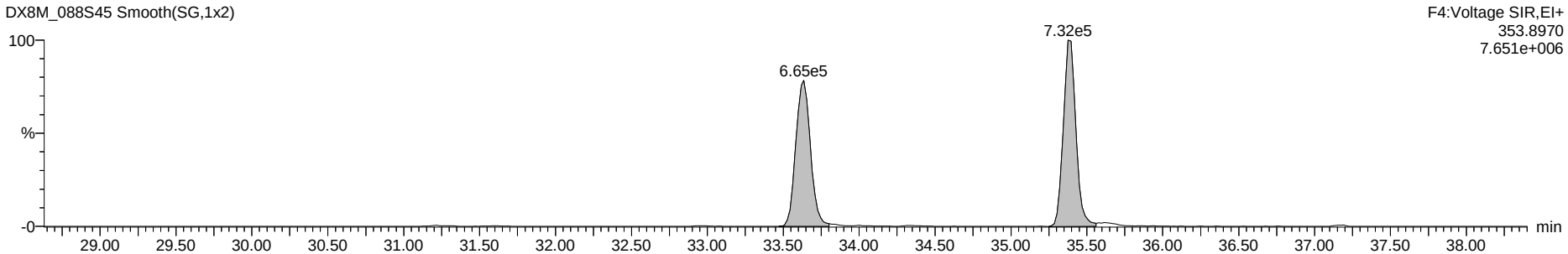
Total Penta-Furans





13C-Penta-Furans

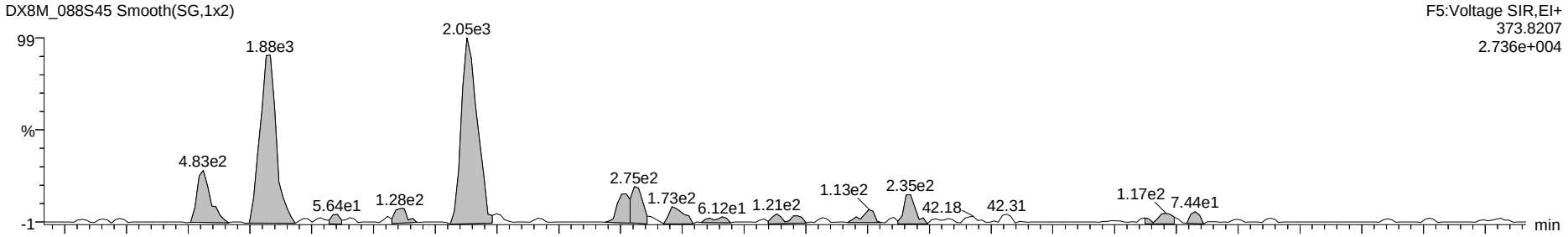


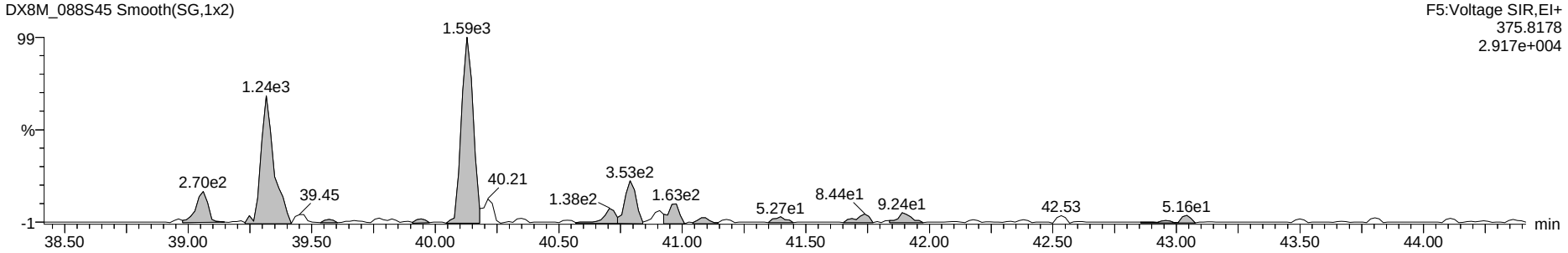


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

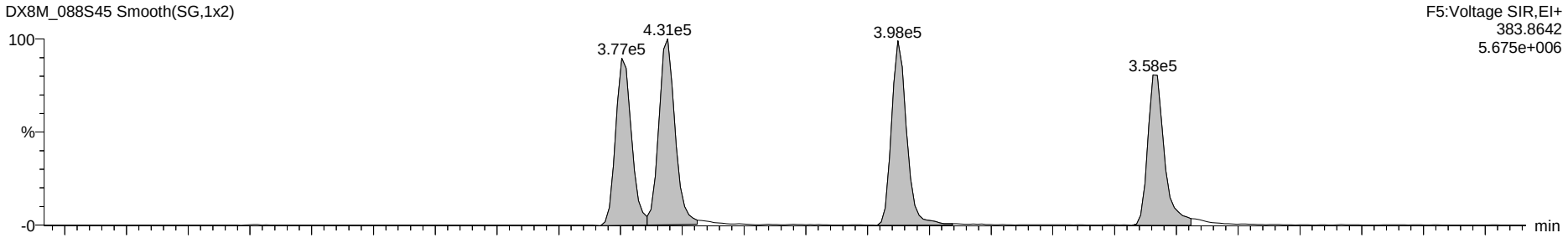
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

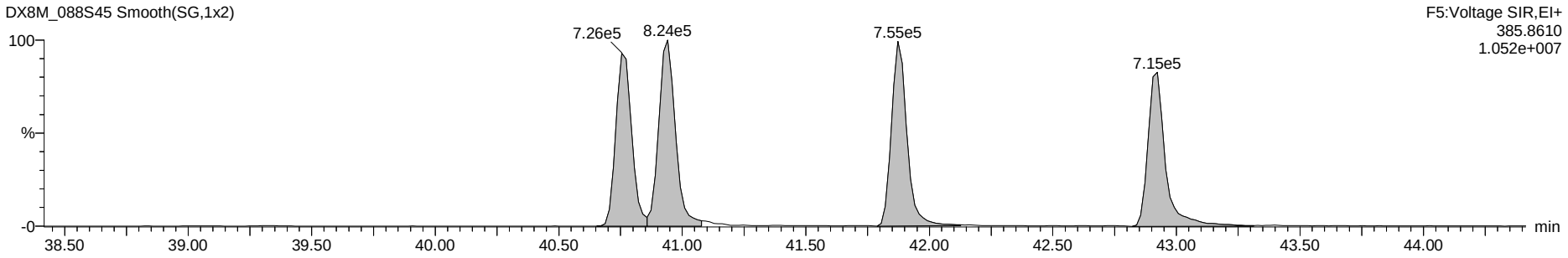
Total Hexa-Furans





13C-Hexa-Furans

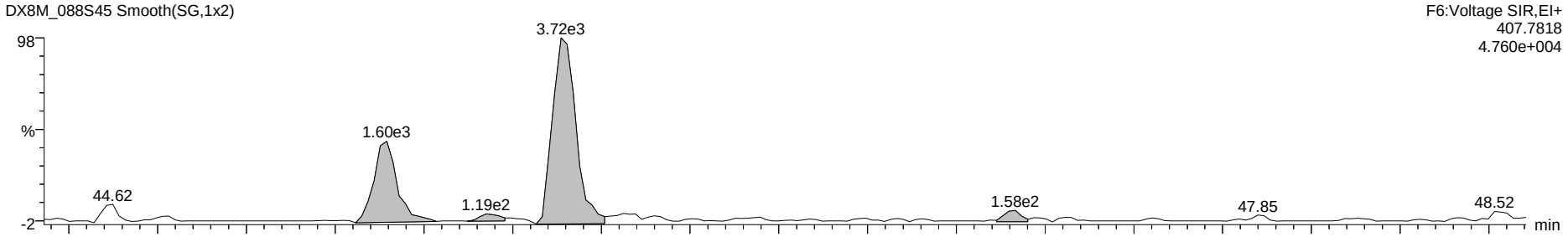


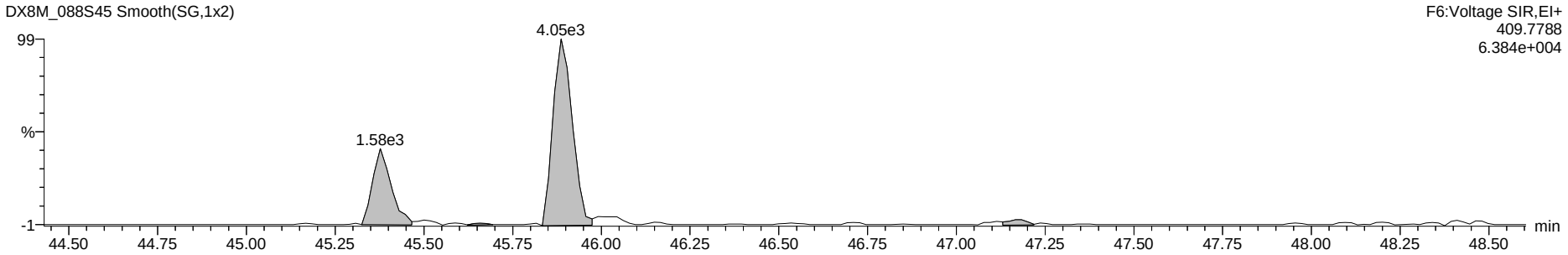


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

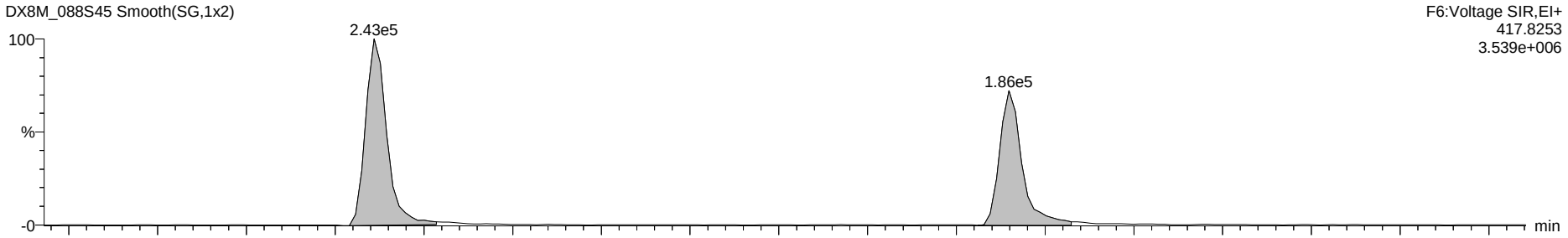
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

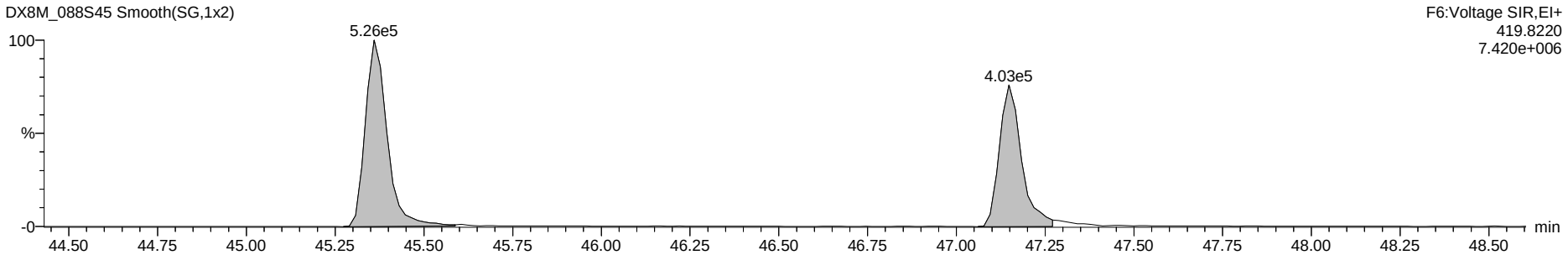
Total Hepta-Furans





13C-Hepta-Furans

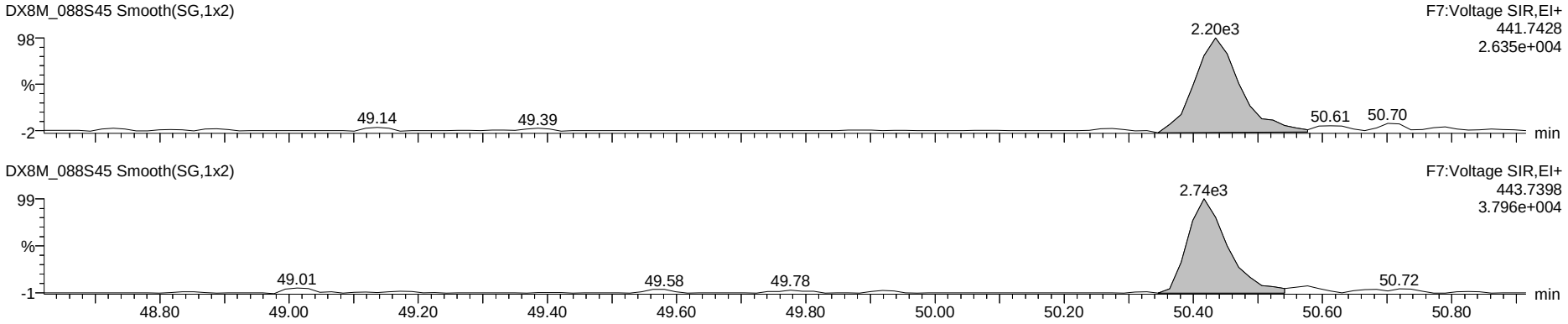




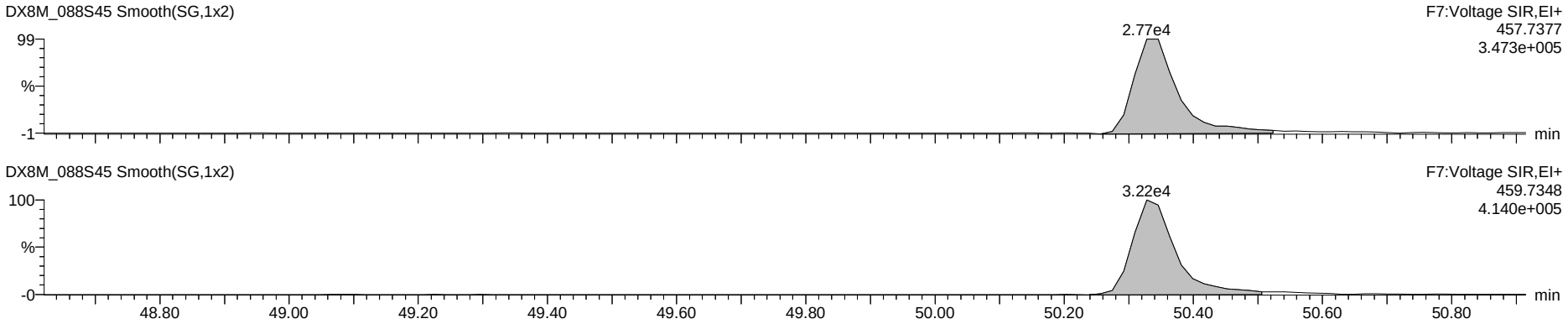
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

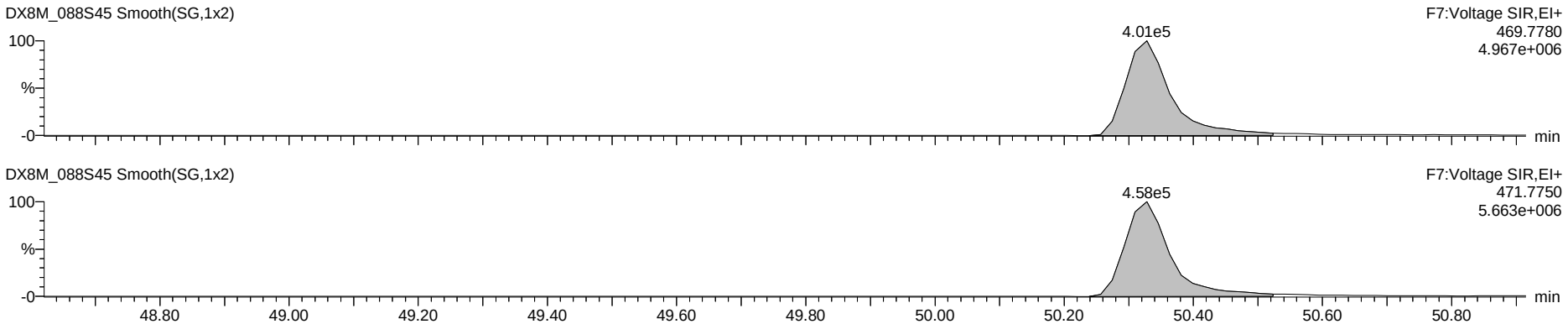
OCDF



OCDD



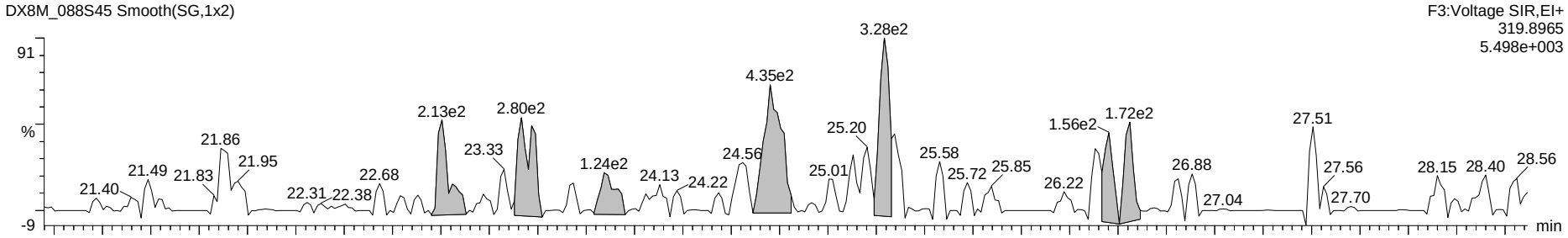
13C-OCDD

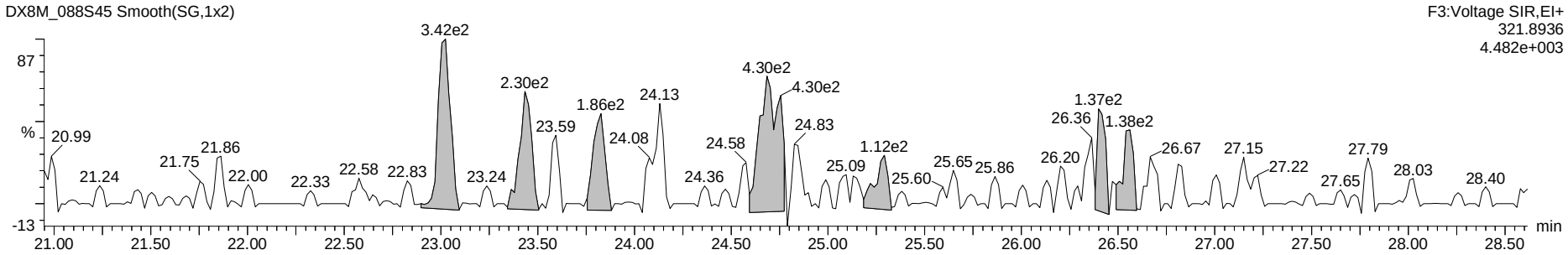


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

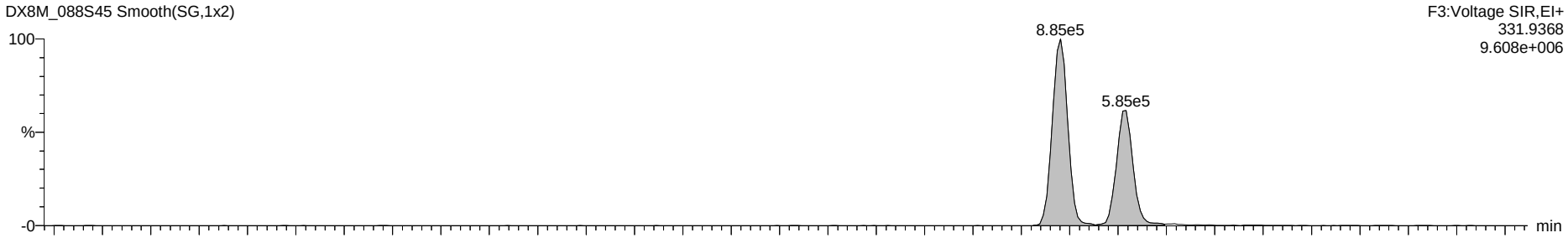
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

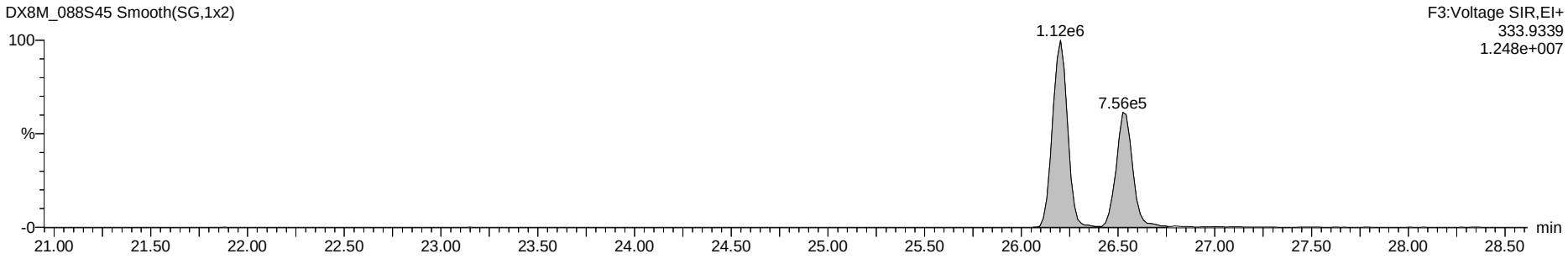
Total Tetra-Dioxins





13C-Tetra-Dioxins

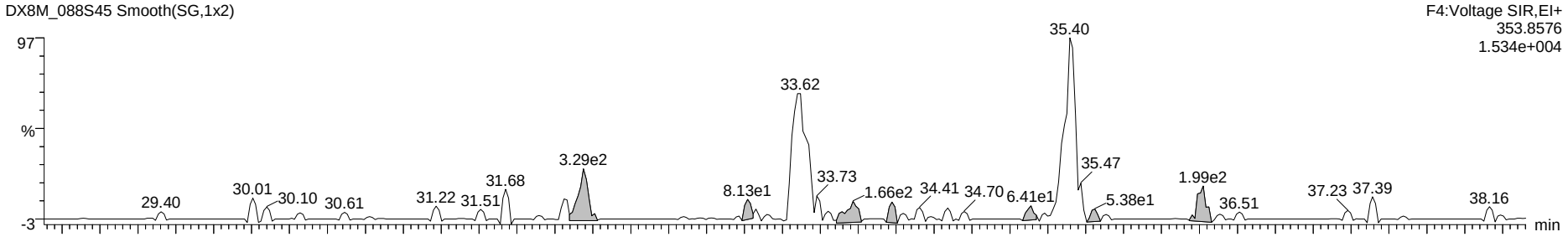


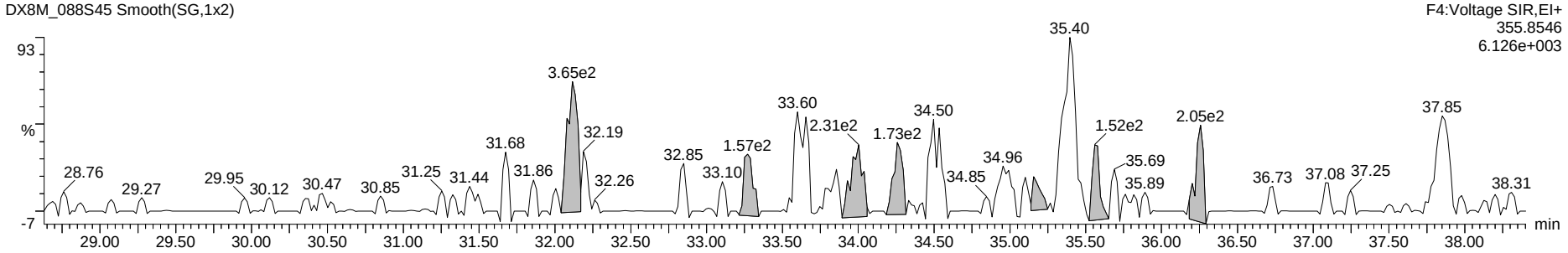


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

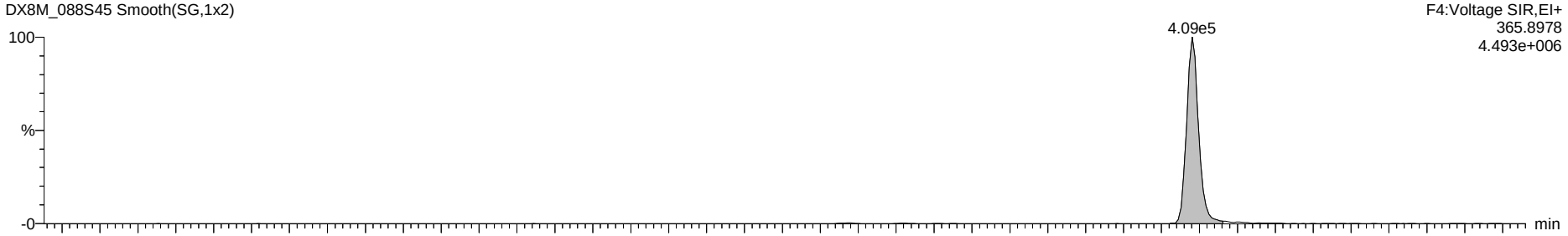
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

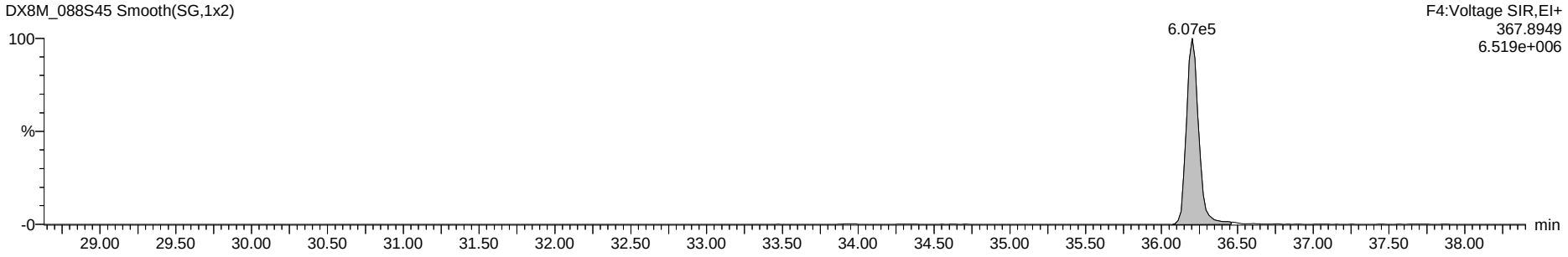
Total Penta-Dioxins





13C-Penta-Dioxins

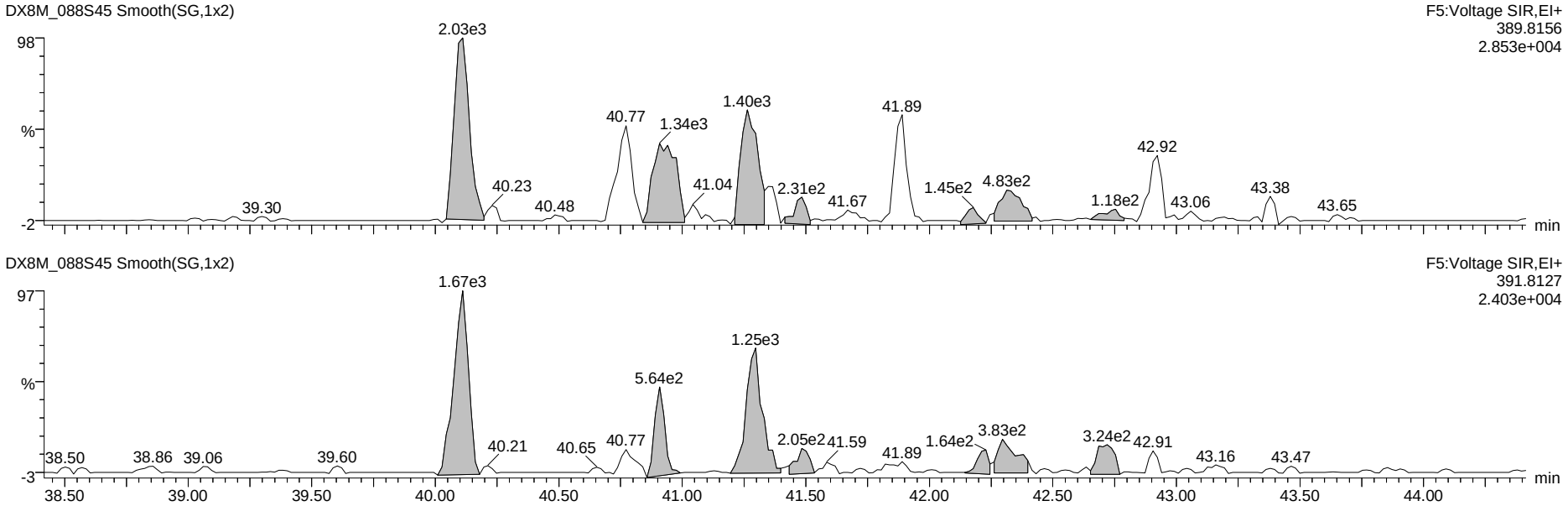




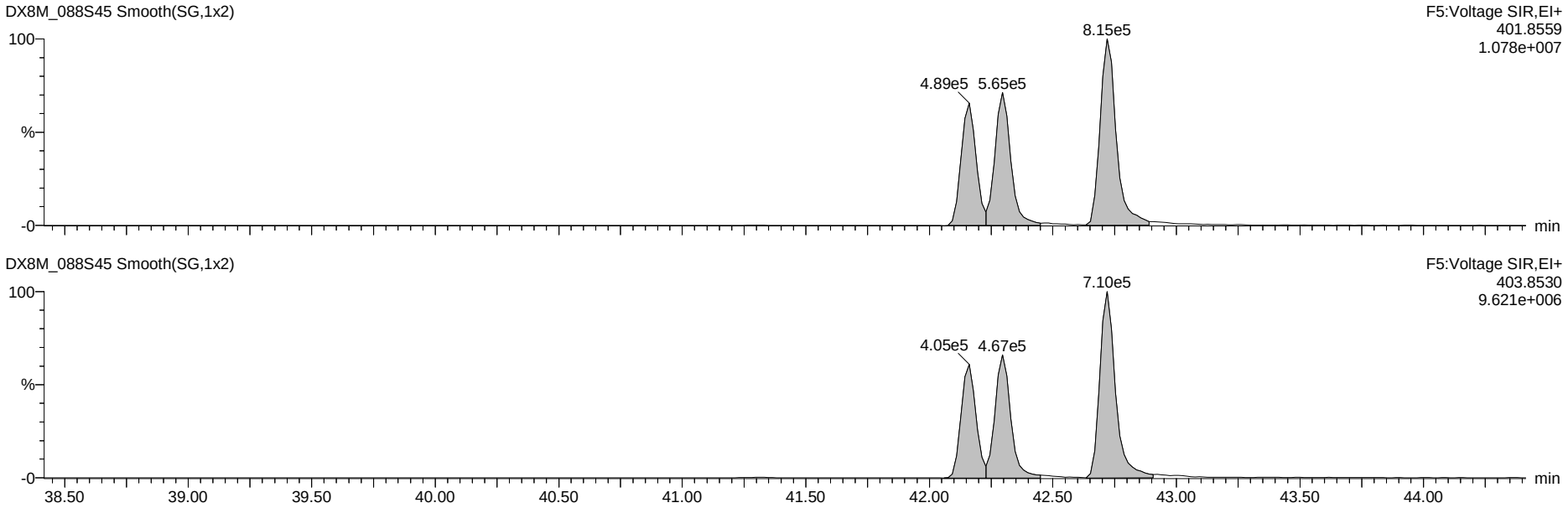
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

Total Hexa-Dioxins



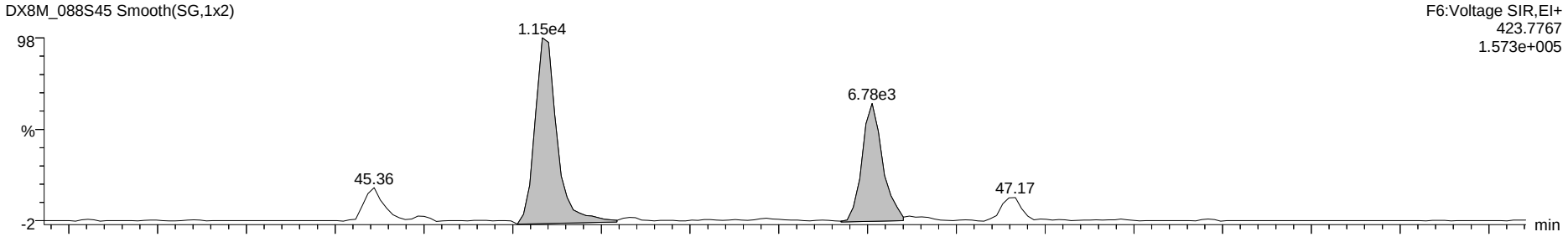
13C-Hexa-Dioxins

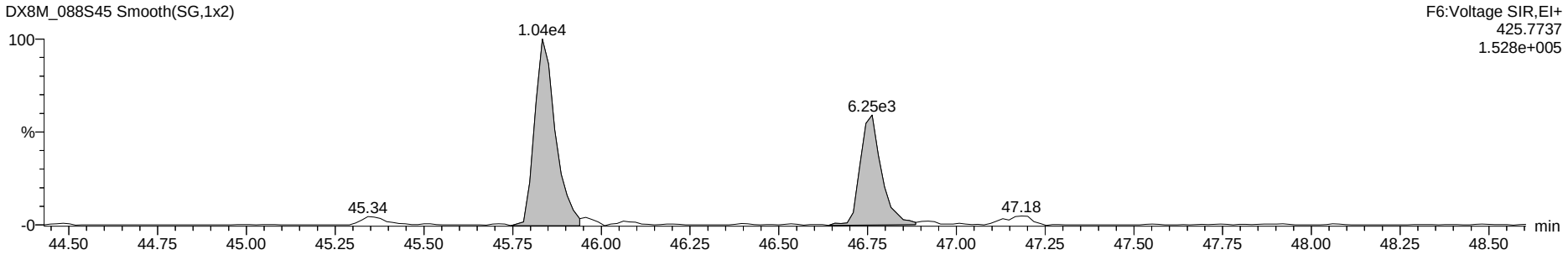


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

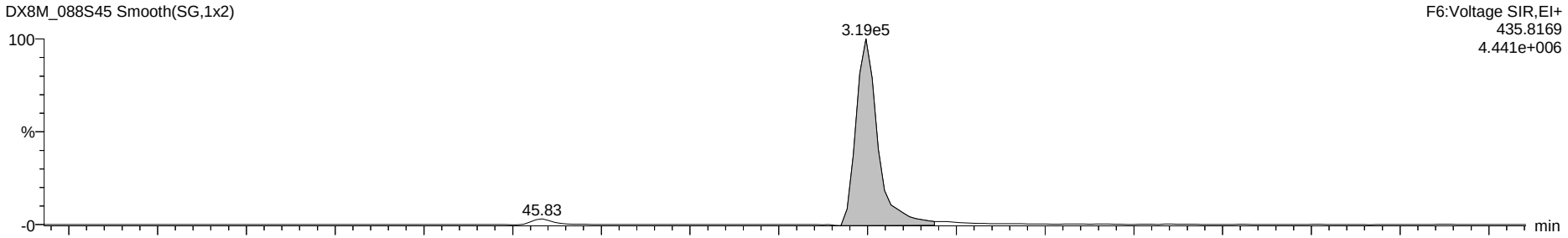
Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

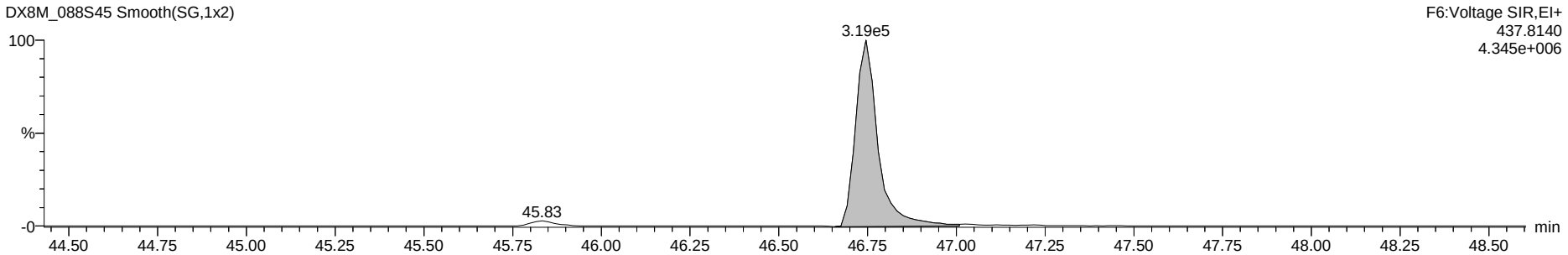
Total Hepta-Dioxins





13C-Hepta-Dioxins

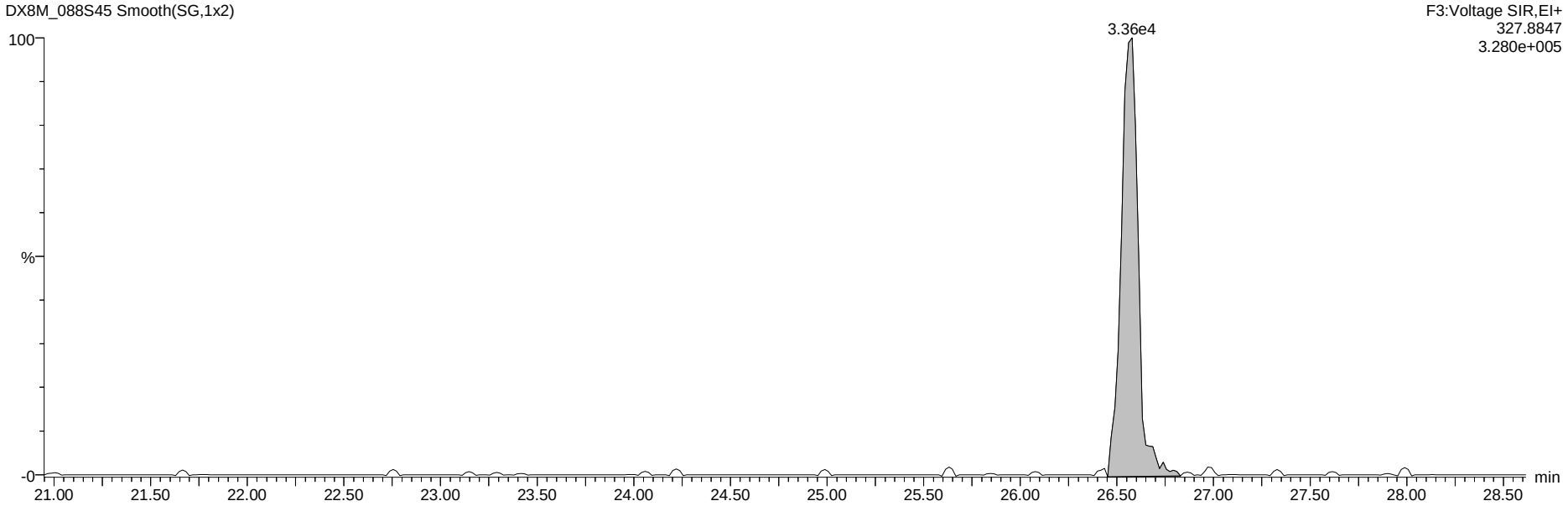




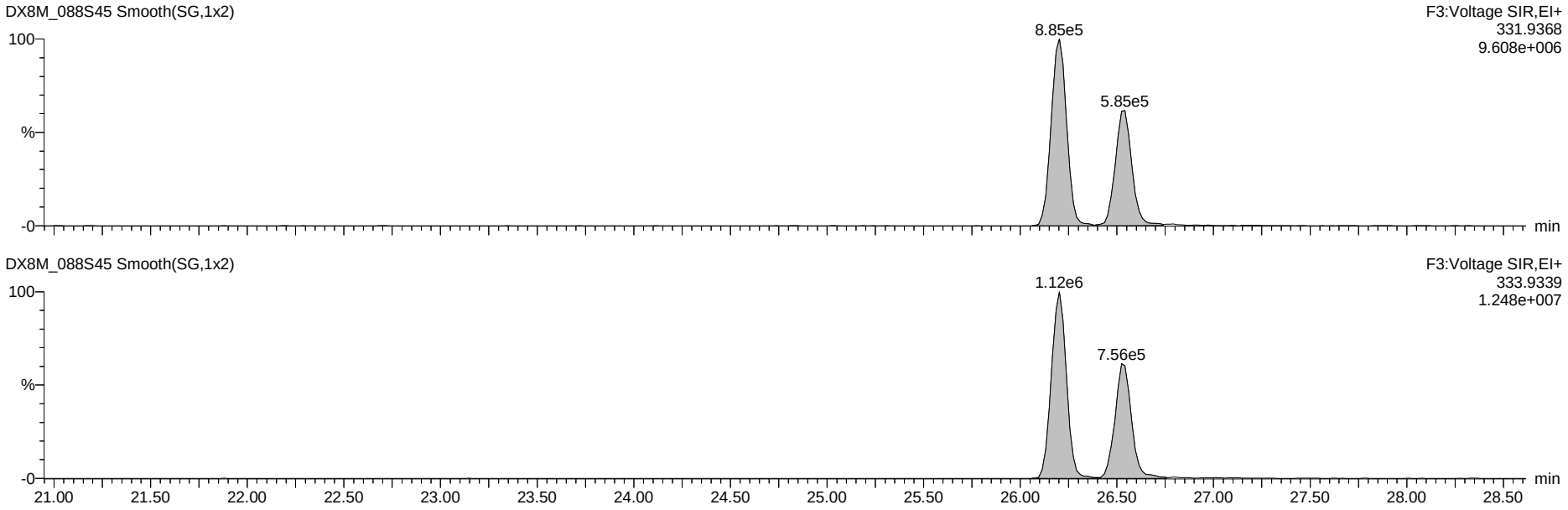
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



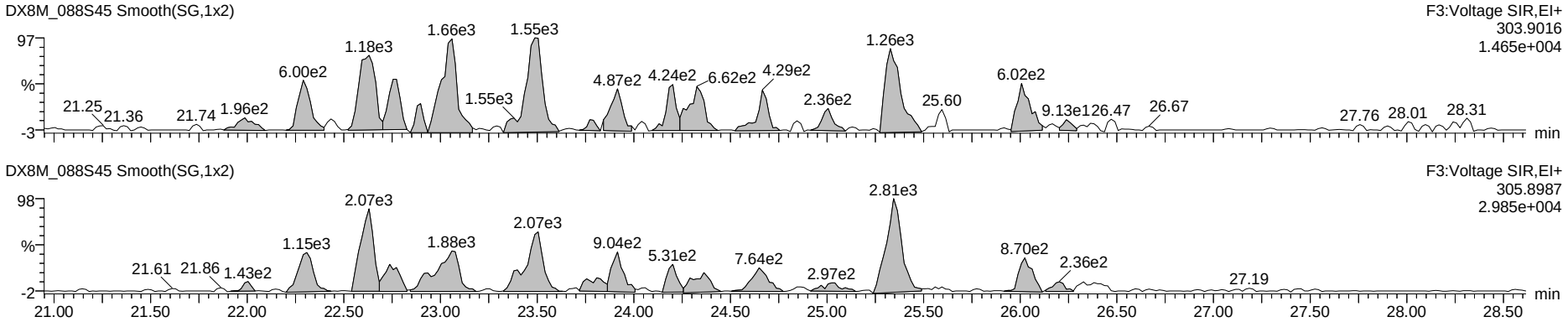
13C-Tetra-Dioxins



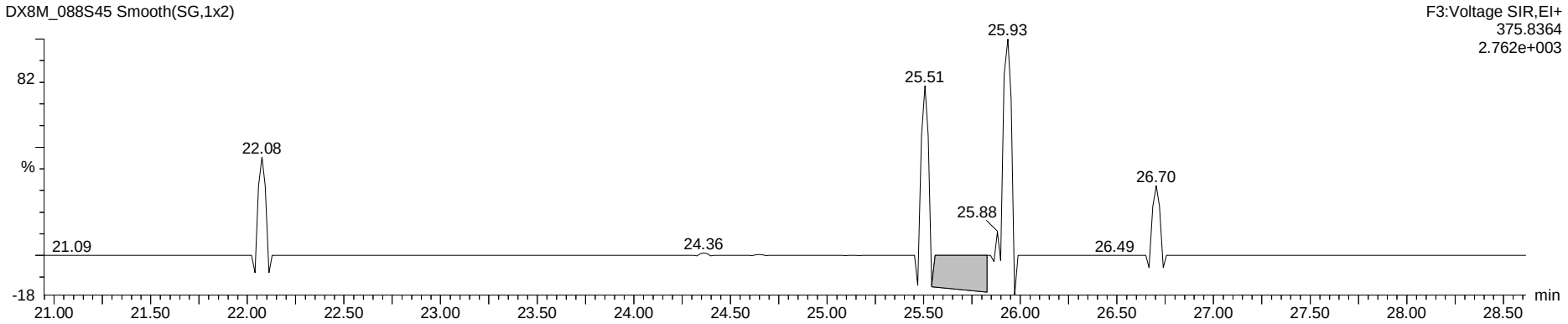
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

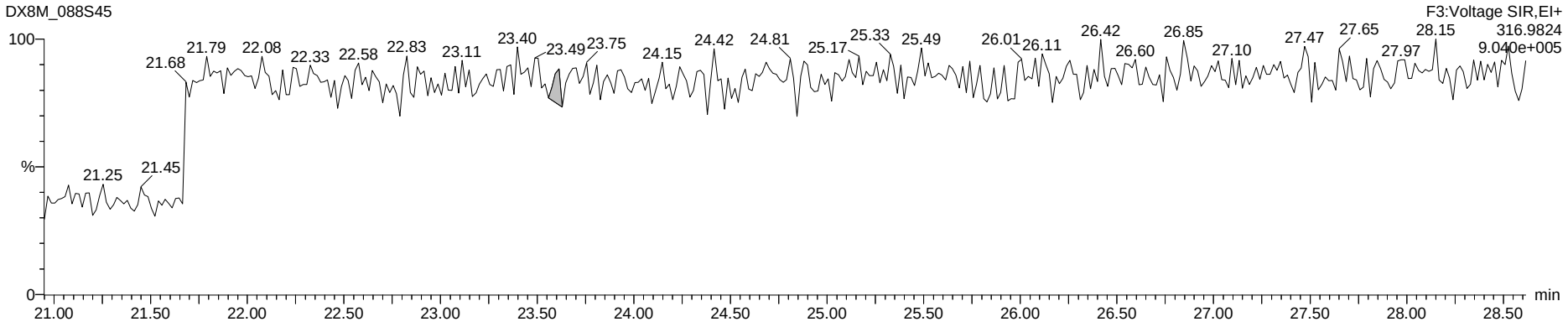
Total Tetra-Furans



Hexa DPE



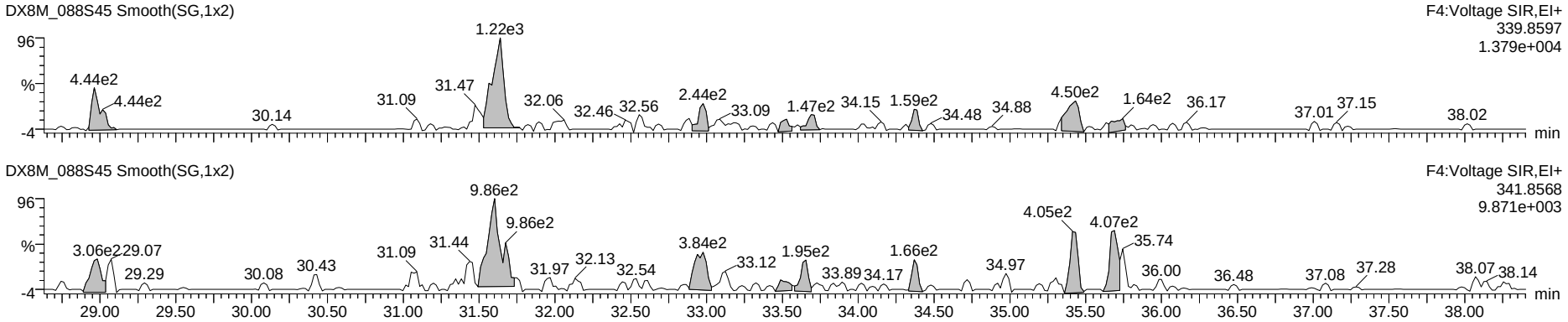
Tetra Lock



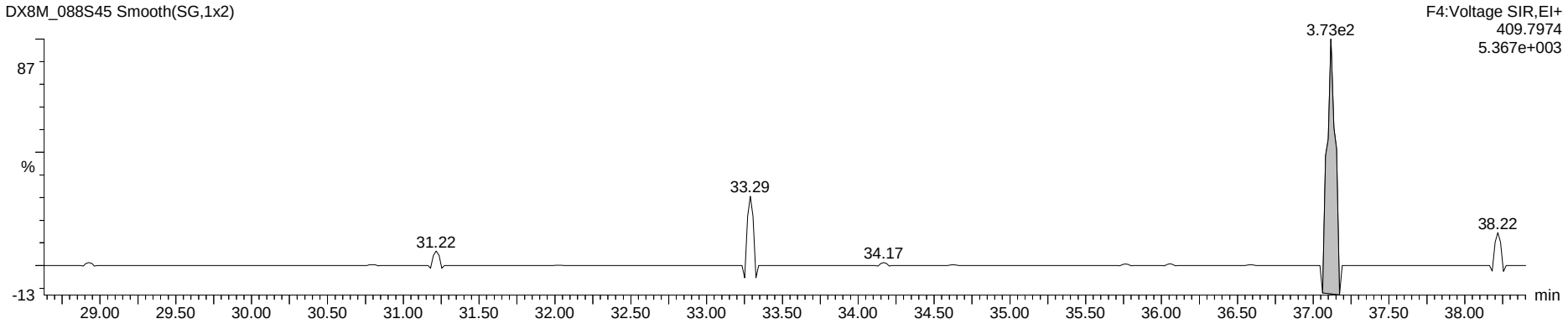
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

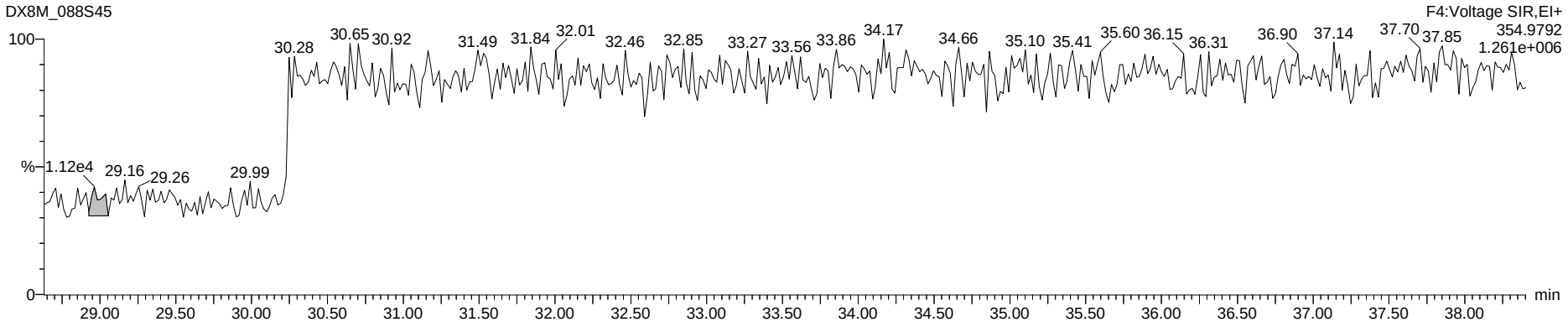
Total Penta-Furans



Hepta DPE



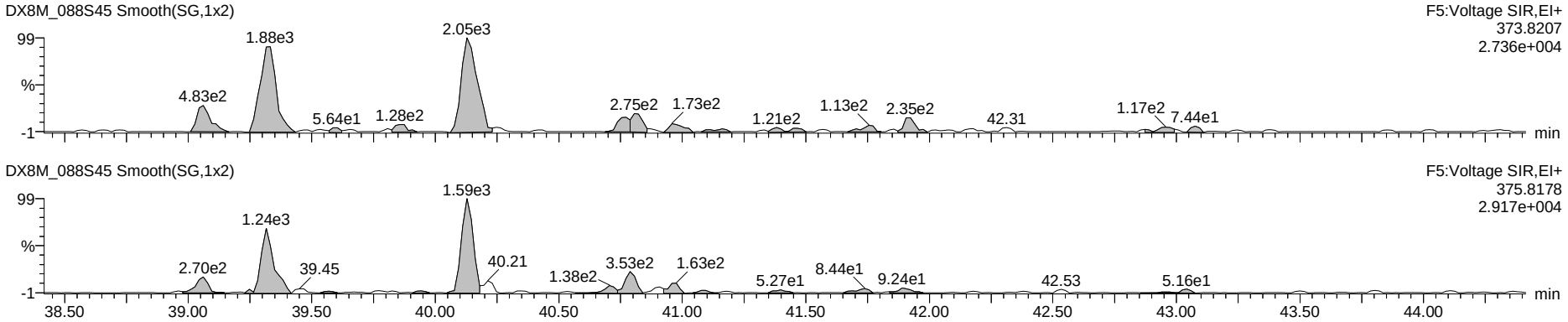
Penta Lock



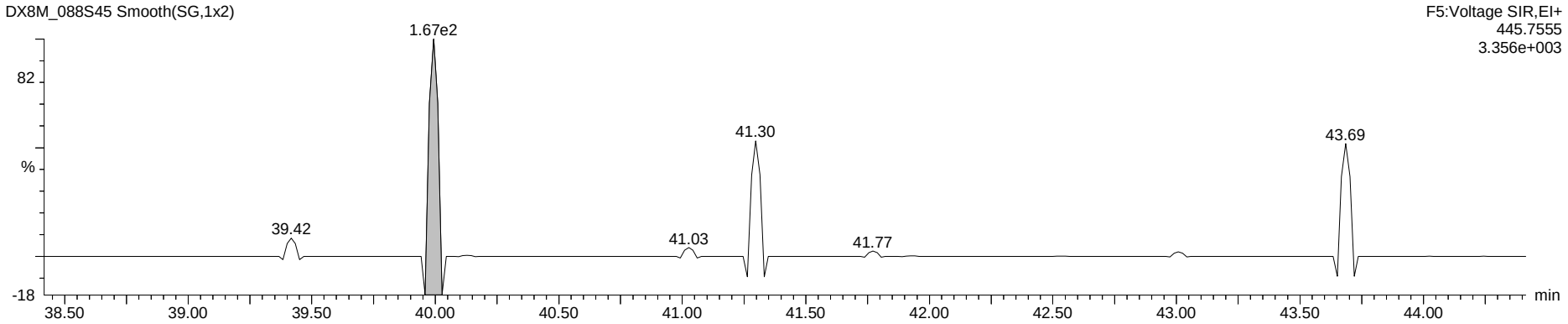
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

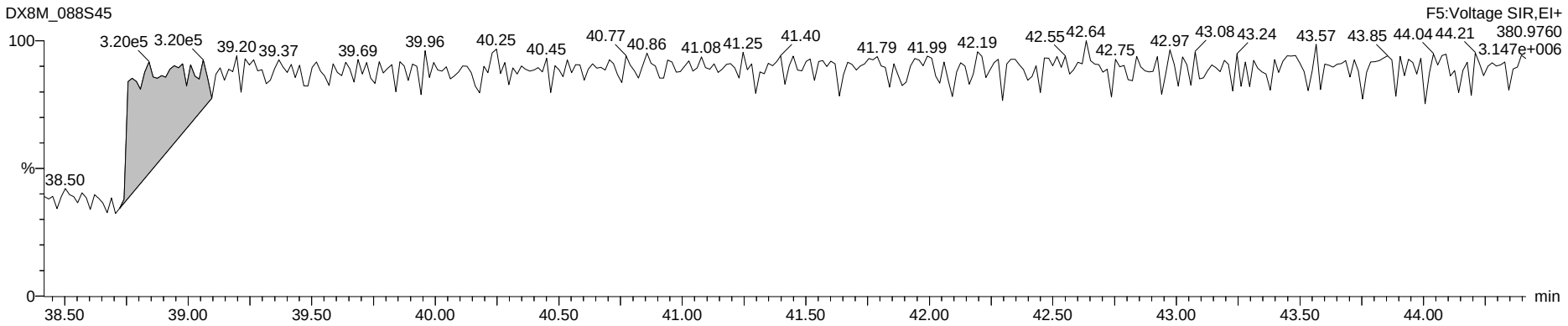
Total Hexa-Furans



Octa DPE



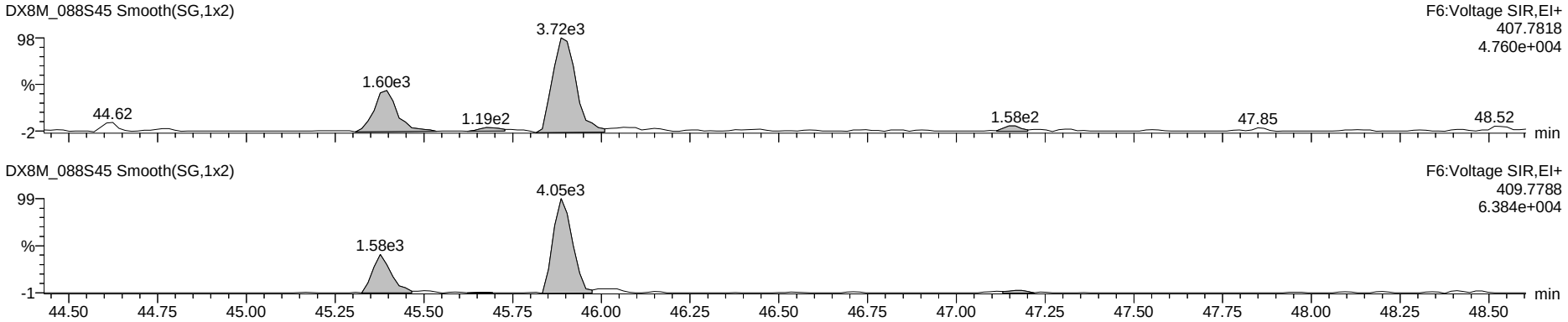
Hexa Lock



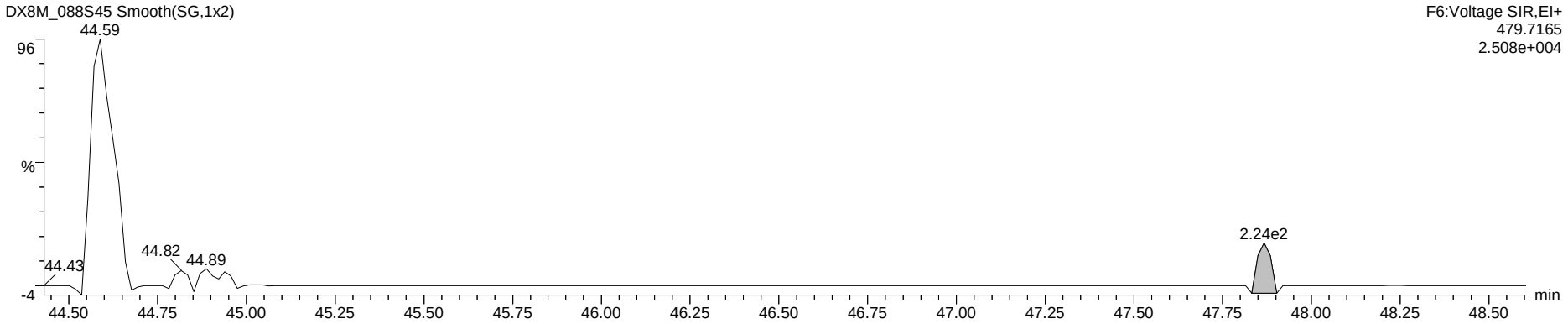
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

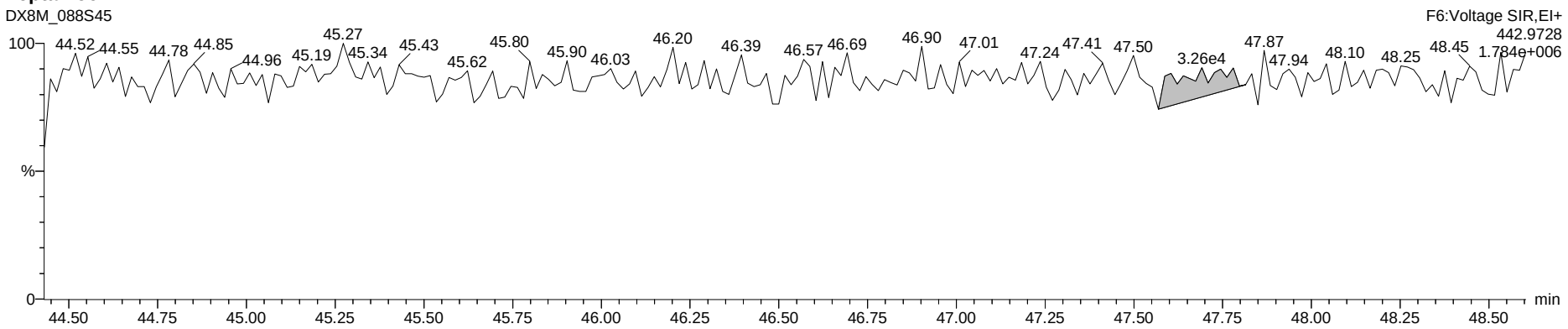
Total Hepta-Furans



Nona DPE



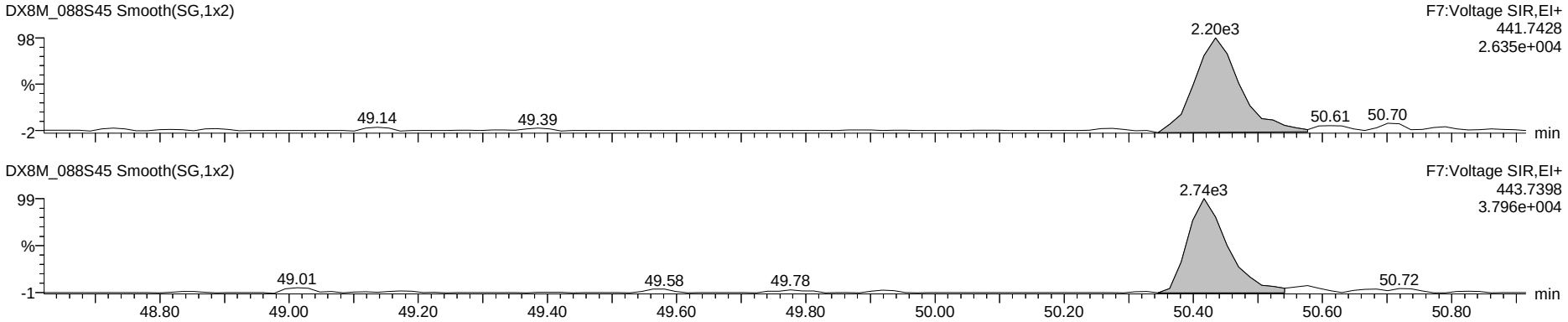
Hepta Lock



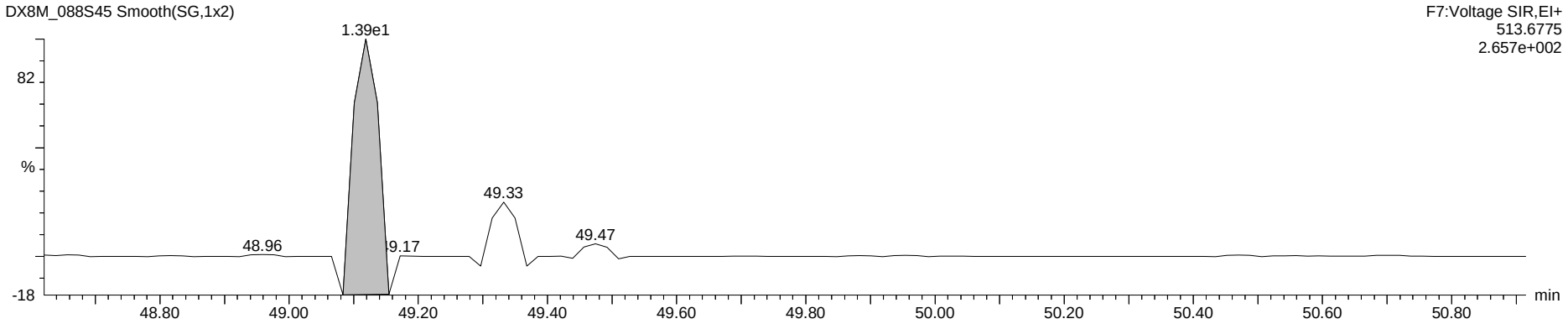
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S45, Date: 26-Jul-2018, Time: 12:57:39, ID: WG64557-103,,DUP, Description: 1,WG64557,1.0/20uL

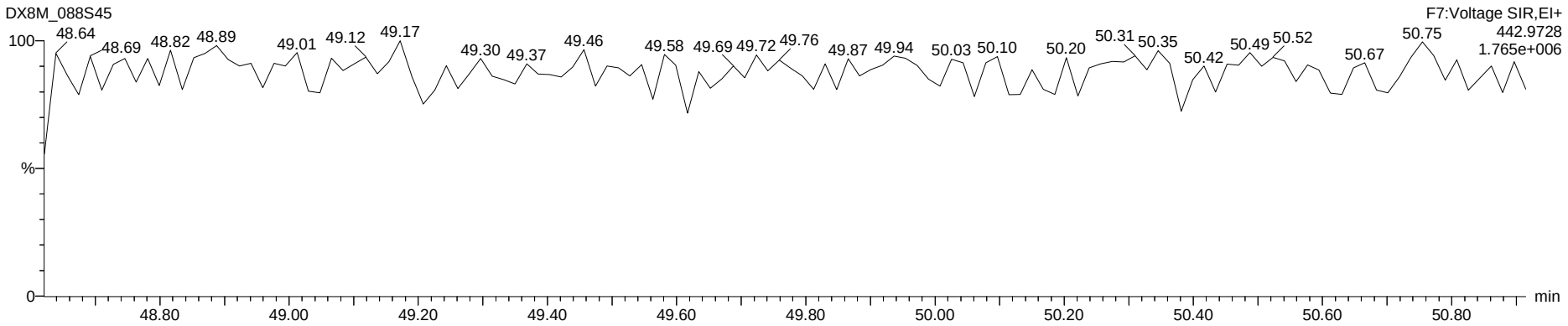
OCDF



Deca DPE



Octa Lock

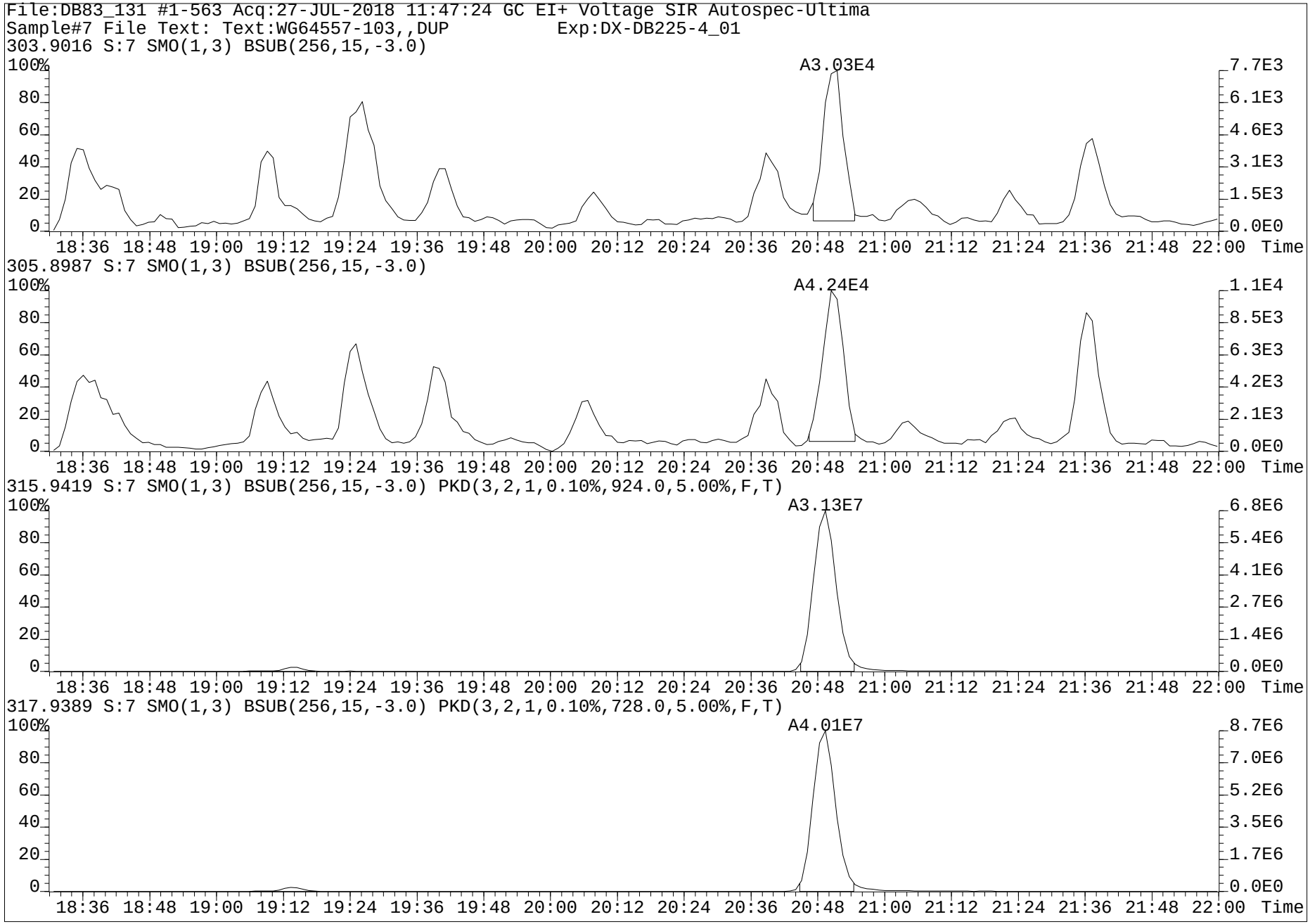


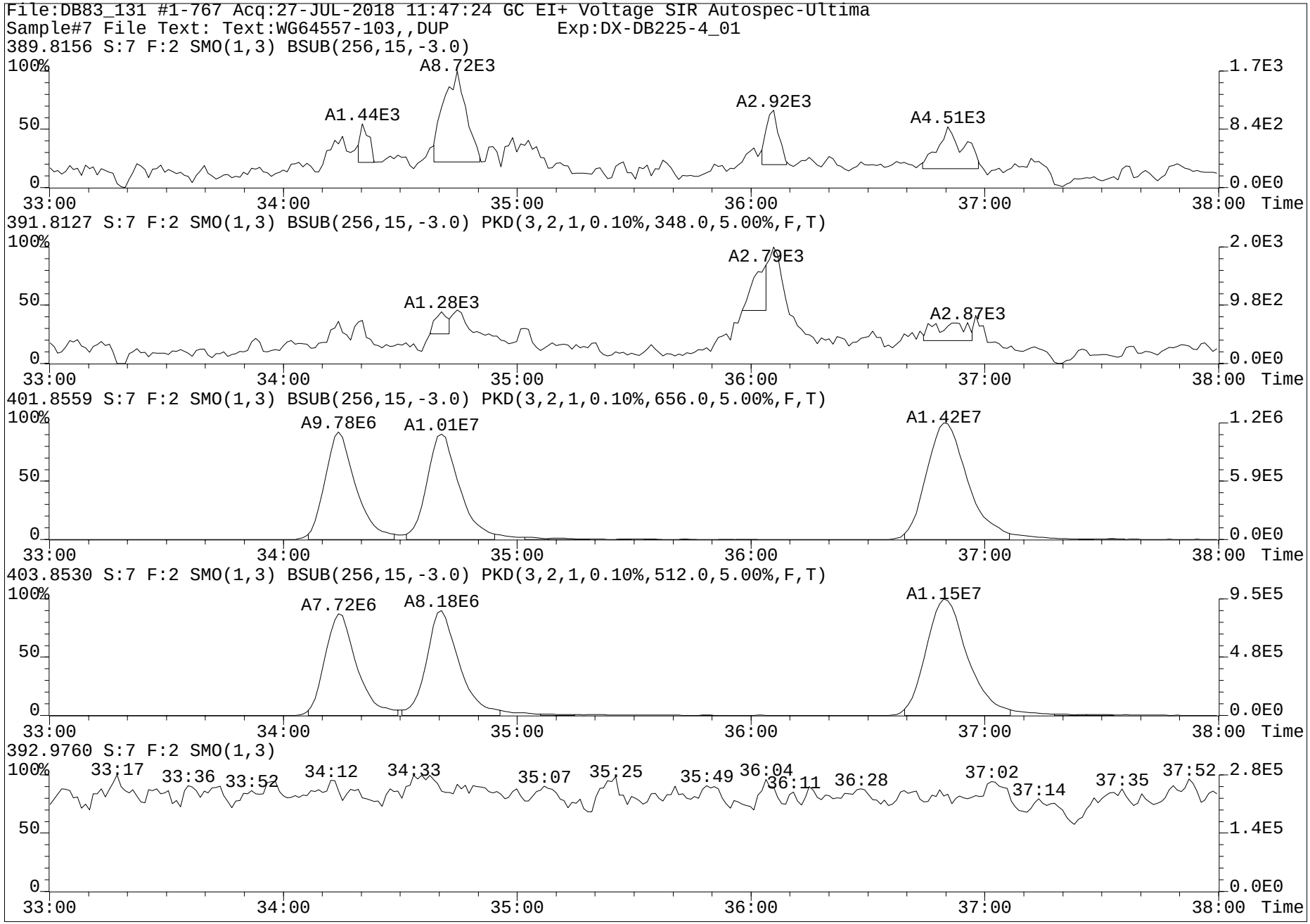
Run #12 Filename DB83_131 S: 7 I: 1 Acquired: 27-JUL-18 11:47:24 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64557-103,,DUP Comments: 1,WG64557,2.0/20uL
sample size: 9.920000 conc units: pg/g total toxicity: 0.03 F1: 1.0000 F2: 1.0000

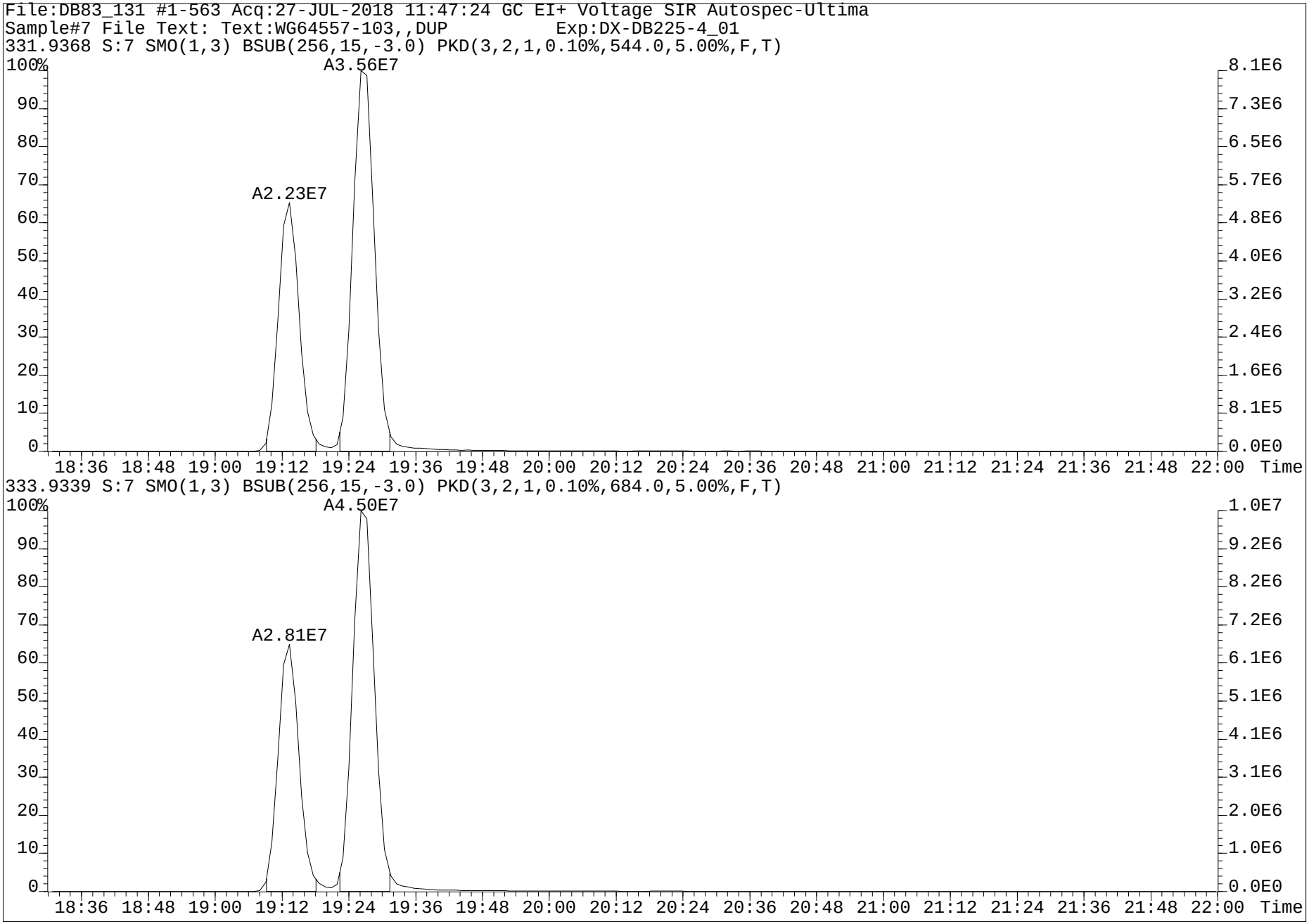
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	7.27e+04	0.71	y	20:50	0.212	0	0.0451	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	7.37e+03	1.57	n	36:52	0.090	0	0.1971	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	7.15e+07	0.78	y	20:49	99.935	-	0.0254	49.6	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.75e+07	1.27	y	34:15	129.839	-	0.2618	64.4	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.83e+07	1.23	y	34:41	131.396	-	0.2537	65.2	n
6	RS	13C-1,2,3,4-TCDD	1	8.06e+07	0.79	y	19:27	7.340	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.57e+07	1.23	y	36:50	4.724	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

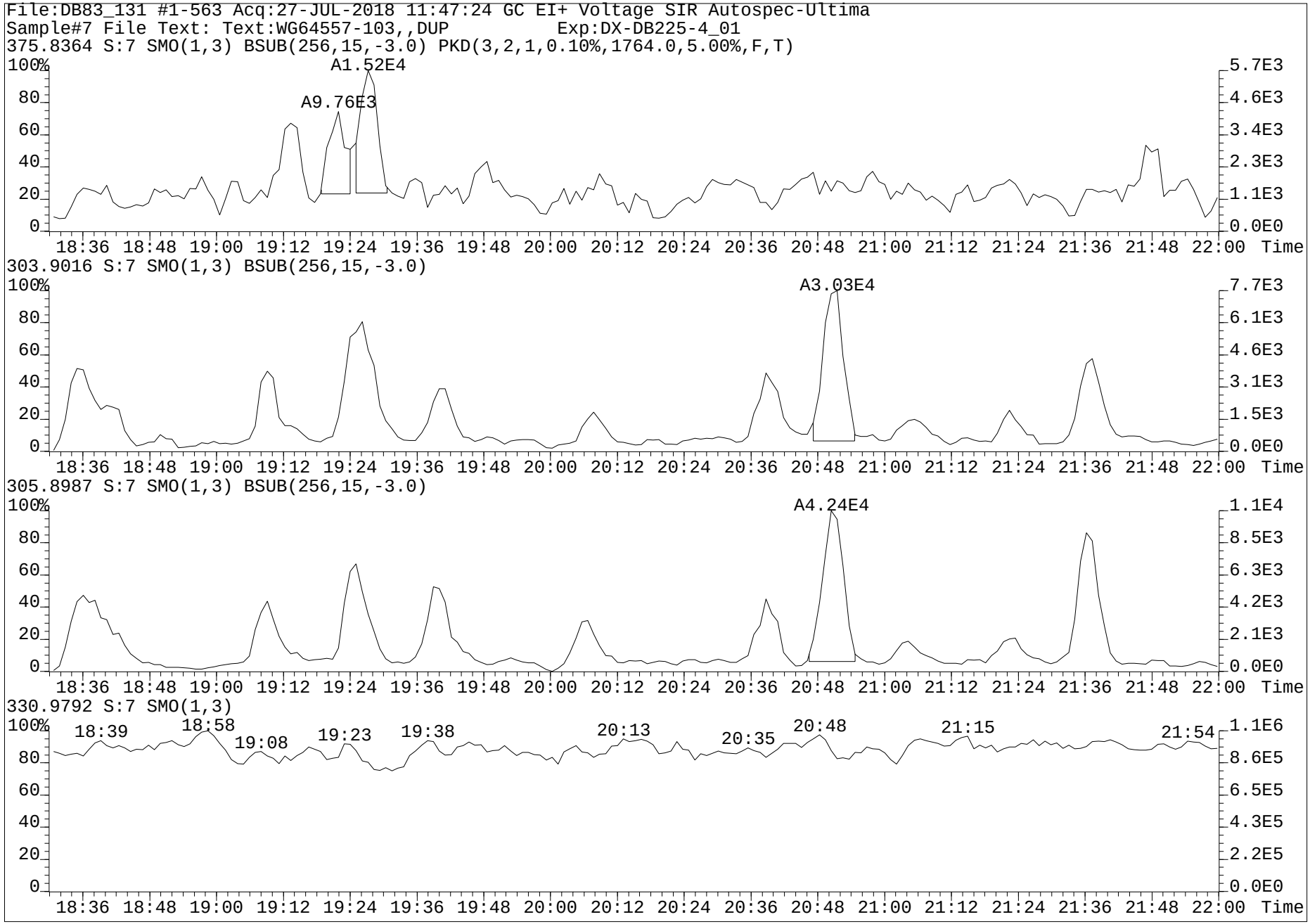
Checked by
JW 31-JUL-18

pMay KB 30 JUL 2018


File:DB83_131 #1-563 Acq:27-JUL-2018 11:47:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:WG64557-103,,DUP Exp:DX-DB225-4_01
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0)
A3.03E4
7.7E3
6.1E3
4.6E3
3.1E3
1.5E3
0.0E0
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0)
A4.24E4
1.1E4
8.5E3
6.3E3
4.2E3
2.1E3
0.0E0
315.9419 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,924.0,5.00%,F,T)
A3.13E7
6.8E6
5.4E6
4.1E6
2.7E6
1.4E6
0.0E0
317.9389 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,728.0,5.00%,F,T)
A4.01E7
8.7E6
7.0E6
5.2E6
3.5E6
1.7E6
0.0E0
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 11:47:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:WG64557-103,,DUP Exp:DX-DB225-4_01
389.8156 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.44E3
A8.72E3
A2.92E3
A4.51E3
391.8127 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,348.0,5.00%,F,T)
A1.28E3
A2.79E3
A2.87E3
401.8559 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,656.0,5.00%,F,T)
A9.78E6
A1.01E7
A1.42E7
403.8530 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,512.0,5.00%,F,T)
A7.72E6
A8.18E6
A1.15E7
392.9760 S:7 F:2 SMO(1,3)
33:17
33:36
33:52
34:12
34:33
35:07
35:25
35:49
36:04
36:11
36:28
37:02
37:14
37:35
37:52
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.7E3
8.4E2
0.0E0
2.0E3
9.8E2
1.2E6
5.9E5
9.5E5
4.8E5
2.8E5
1.4E5


File:DB83_131 #1-563 Acq:27-JUL-2018 11:47:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:WG64557-103,,DUP Exp:DX-DB225-4_01
331.9368 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,544.0,5.00%,F,T)
A3.56E7
A2.23E7
333.9339 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,684.0,5.00%,F,T)
A4.50E7
A2.81E7
Time


File:DB83_131 #1-563 Acq:27-JUL-2018 11:47:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:WG64557-103,,DUP Exp:DX-DB225-4_01
375.8364 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1764.0,5.00%,F,T)
A1.52E4
A9.76E3
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0)
A3.03E4
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0)
A4.24E4
330.9792 S:7 SMO(1,3)
18:39
18:58
19:08
19:23
19:38
20:13
20:35
20:48
21:15
21:54
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	9.650	2.92e3	0.74	NO	25.33	0.379	0.0762		1.20e3	1.42e3
2	1,2,3,7,8-PeCDF	9.650	4.90e2	1.86	YES	33.65	0.080	0.0722		1.07e3	5.52e2
3	2,3,4,7,8-PeCDF	9.650	8.14e2	0.98	YES	35.40	0.127	0.0586		1.07e3	5.52e2
4	1,2,3,4,7,8-HxCDF	9.650	1.58e3	1.12	NO	40.81	0.314	0.0645		8.30e2	9.89e2
5	1,2,3,6,7,8-HxCDF	9.650	6.35e2	1.32	NO	40.96	0.116	0.0640		8.30e2	9.89e2
6	2,3,4,6,7,8-HxCDF	9.650	3.89e2	2.00	YES	41.89	0.071	0.0606		8.30e2	9.89e2
7	1,2,3,7,8,9-HxCDF	9.650	8.84e1	0.47	YES	42.96	0.020	0.0828		8.30e2	9.89e2
8	1,2,3,4,6,7,8-HpCDF	9.650	5.99e3	0.92	NO	45.38	1.585	0.0936		1.30e3	7.71e2
9	1,2,3,4,7,8,9-HpCDF	9.650	4.84e2	1.90	YES	47.17	0.168	0.1212		1.30e3	7.71e2
10	OCDF	9.650	1.64e4	0.74	YES	50.43	7.915	0.1148		3.71e2	8.30e2
11	2,3,7,8-TCDD	9.650	2.19e2	1.74	YES	26.54	0.035	0.0450		4.81e2	6.82e2
12	1,2,3,7,8-PeCDD	9.650	3.54e2	1.00	YES	36.20	0.089	0.0480		4.13e2	4.16e2
13	1,2,3,4,7,8-HxCDD	9.650	4.22e2	1.64	YES	42.18	0.112	0.0711		6.88e2	8.87e2
14	1,2,3,6,7,8-HxCDD	9.650	1.50e3	1.20	NO	42.30	0.387	0.0718		6.88e2	8.87e2
15	1,2,3,7,8,9-HxCDD	9.650	1.26e3	1.11	NO	42.72	0.329	0.0711		6.88e2	8.87e2
16	1,2,3,4,6,7,8-HpCDD	9.650	3.13e4	1.15	NO	46.76	12.313	0.1772		6.85e2	1.88e3
17	OCDD	9.650	1.59e5	0.84	NO	50.34	92.692	0.1775		1.54e3	6.33e-1
18	13C-2,3,7,8-TCDF	9.650	1.75e6	0.67	NO	25.29	120.463	0.2577	58.1	1.19e4	3.97e3
19	13C-1,2,3,7,8-PeCDF	9.650	1.37e6	1.39	NO	33.62	130.843	0.2300	63.1	5.19e3	5.04e3
20	13C-2,3,4,7,8-PeCDF	9.650	1.42e6	1.38	NO	35.38	140.420	0.2384	67.8	5.19e3	5.04e3
21	13C-1,2,3,4,7,8-HxCDF	9.650	9.36e5	0.52	NO	40.75	109.276	0.2752	52.7	6.58e3	5.79e3
22	13C-1,2,3,6,7,8-HxCDF	9.650	1.07e6	0.54	NO	40.94	116.690	0.2577	56.3	6.58e3	5.79e3
23	13C-2,3,4,6,7,8-HxCDF	9.650	9.90e5	0.52	NO	41.87	121.067	0.2884	58.4	6.58e3	5.79e3
24	13C-1,2,3,7,8,9-HxCDF	9.650	9.07e5	0.52	NO	42.91	112.453	0.2924	54.3	6.58e3	5.79e3
25	13C-1,2,3,4,6,7,8-HpCDF	9.650	6.40e5	0.46	NO	45.36	93.588	0.3089	45.2	7.48e3	3.60e3
26	13C-1,2,3,4,7,8,9-HpCDF	9.650	4.76e5	0.44	NO	47.15	89.271	0.3960	43.1	7.48e3	3.60e3
27	13C-2,3,7,8-TCDD	9.650	1.16e6	0.81	NO	26.52	129.161	0.3424	62.3	6.84e3	6.30e3
28	13C-1,2,3,7,8-PeCDD	9.650	8.04e5	0.69	NO	36.20	136.118	0.2620	65.7	4.39e3	2.20e3
29	13C-1,2,3,4,7,8-HxCDD	9.650	7.77e5	1.25	NO	42.16	117.588	0.2586	56.7	5.86e3	3.10e3
30	13C-1,2,3,6,7,8-HxCDD	9.650	8.58e5	1.24	NO	42.30	122.804	0.2446	59.3	5.86e3	3.10e3
31	13C-1,2,3,4,6,7,8-HpCDD	9.650	5.29e5	0.99	NO	46.74	96.796	0.2046	46.7	2.42e3	3.45e3
32	13C-OCDD	9.650	6.99e5	0.88	NO	50.33	145.574	0.7789	35.1	2.57e3	1.71e4
33	13C-1,2,3,4-TCDD	9.650	1.86e6	0.77	NO	26.20	8.532	0.0142	4.1	6.84e3	6.30e3
34	13C-1,2,3,7,8,9-HxCDD	9.650	1.39e6	1.17	NO	42.72	10.096	0.0124	4.9	5.86e3	3.10e3
35	37Cl-2,3,7,8-TCDD	9.650	2.96e4			26.56	2.961	0.0095	71.4		4.03e2
36	Total Tetra-Furans	9.650					2.224	0.0762			1.42e3
37	Total Tetra-Dioxins	9.650					0.518	0.0450			6.82e2
38	Total Penta-Furans	9.650					1.070	0.0658			5.52e2
39	Total Penta-Dioxins	9.650					0.712	0.0480			4.16e2
40	Total Hexa-Furans	9.650					3.366	0.0651			9.89e2
41	Total Hexa-Dioxins	9.650					3.290	0.0688			8.87e2
42	Total Hepta-Furans	9.650					7.279	0.1066			7.71e2
43	Total Hepta-Dioxins	9.650					25.785	0.1772			1.88e3
44	Hexa DPE	1.000	6.22e2			21.90					2.53e-2
45	Hepta DPE	1.000	2.53e2			36.24					1.72e-2
46	Octa DPE	1.000	2.04e1			41.26					5.40e-1
47	Nona DPE	1.000	1.98e2			47.74					9.12e1
48	Deca DPE	1.000	2.30e2			48.80					1.63e-1
49	Tetra Lock	1.000									1.10e5
50	Penta Lock	1.000	2.27e3			29.59					1.69e5
51	Hexa Lock	1.000									3.86e5
52	Hepta Lock	1.000	7.41e3			47.17					2.11e5
53	Octa Lock	1.000	8.31e3			48.74					2.49e5
54	13C-Tetra-Furans	9.650					120.463	0.2577			3.97e3
55	13C-Tetra-Dioxins	9.650					137.694	0.3566			6.30e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

checked by
JW 31-JUL-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.49	0.952	YES	0.318
2	23.06	0.517	YES	0.331
3	22.61	0.549	YES	0.326
4	22.33	0.733	NO	0.163
5	28.31	3.186	YES	0.020
6	26.35	0.594	YES	0.034
7	26.20	3.266	YES	0.047
8	25.99	0.818	NO	0.165
9	25.33	0.740	NO	0.379
10	25.02	0.753	NO	0.054
11	24.65	0.768	NO	0.104
12	24.34	1.013	YES	0.064
13	24.20	0.572	YES	0.075
14	23.92	0.636	YES	0.143

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.83	1.066	YES	0.020
2	23.42	0.614	YES	0.059
3	23.00	0.904	YES	0.104
4	26.27	0.493	YES	0.033
5	25.27	1.266	YES	0.146
6	24.72	0.687	NO	0.096
7	27.19	1.763	YES	0.024
8	26.54	1.743	YES	0.035

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	29.00	1.200	YES	0.185
2	31.60	0.864	YES	0.451
3	35.40	0.981	YES	0.127
4	34.39	2.141	YES	0.051
5	33.65	1.863	YES	0.080
6	33.56	1.472	NO	0.027
7	32.99	2.538	YES	0.095
8	35.69	1.325	NO	0.053

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.13	0.161	YES	0.211
2	35.52	0.286	YES	0.055
3	34.63	0.466	YES	0.076
4	34.28	0.659	NO	0.073
5	33.86	0.795	YES	0.067
6	33.27	0.644	NO	0.074
7	36.20	0.999	YES	0.089
8	37.17	1.006	YES	0.028
9	35.01	1.501	YES	0.038

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.15	1.269	NO	1.420
2	39.84	0.681	YES	0.049
3	39.59	0.937	YES	0.020
4	39.32	1.207	NO	0.867
5	39.06	0.918	YES	0.237
6	41.89	2.000	YES	0.071
7	41.74	2.108	YES	0.079
8	41.48	0.897	YES	0.016
9	41.36	3.153	YES	0.031
10	41.11	20.080	YES	0.022
11	40.96	1.315	NO	0.116
12	40.81	1.117	NO	0.314
13	40.69	3.139	YES	0.047
14	43.08	0.913	YES	0.056
15	42.96	0.475	YES	0.020

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.94	2.359	YES	0.377
2	40.09	1.322	NO	0.818
3	42.72	1.105	NO	0.329
4	42.30	1.199	NO	0.387
5	42.18	1.638	YES	0.112
6	41.45	1.583	YES	0.097
7	41.28	1.314	NO	1.169

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.17	1.904	YES	0.168
2	45.89	0.973	NO	5.474
3	45.71	2.651	YES	0.052
4	45.38	0.917	NO	1.585

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.152	NO	12.313
2	45.83	1.106	NO	13.472

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.671	NO	120.463

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.52	0.809	NO	129.161
2	26.20	0.767	NO	8.532

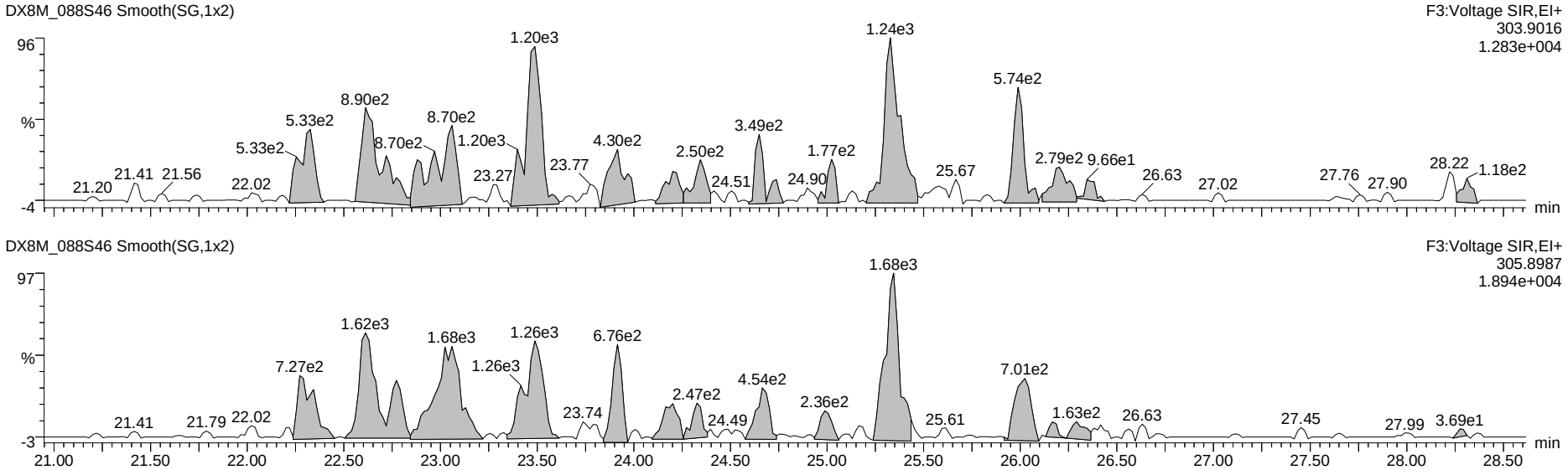
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

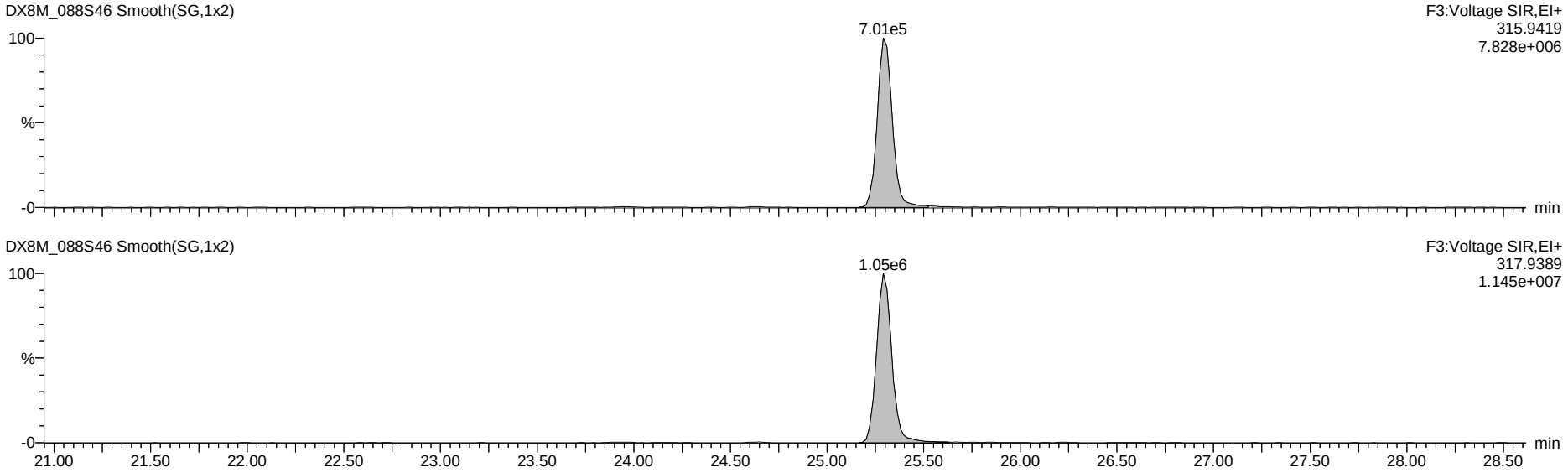
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



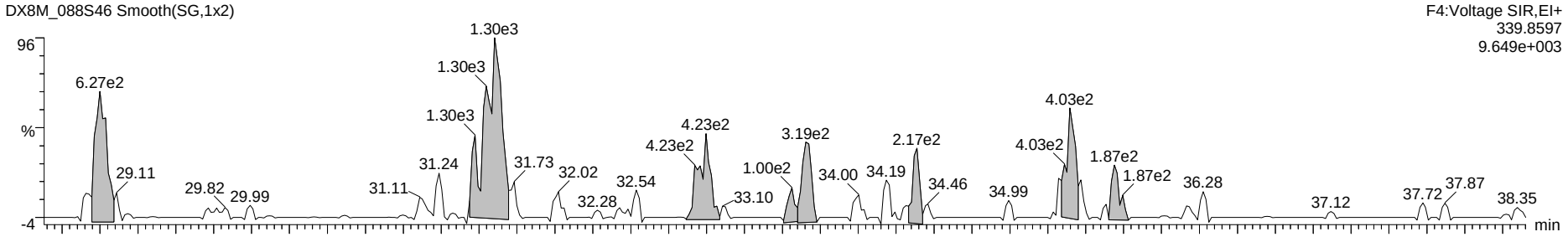
13C-Tetra-Furans

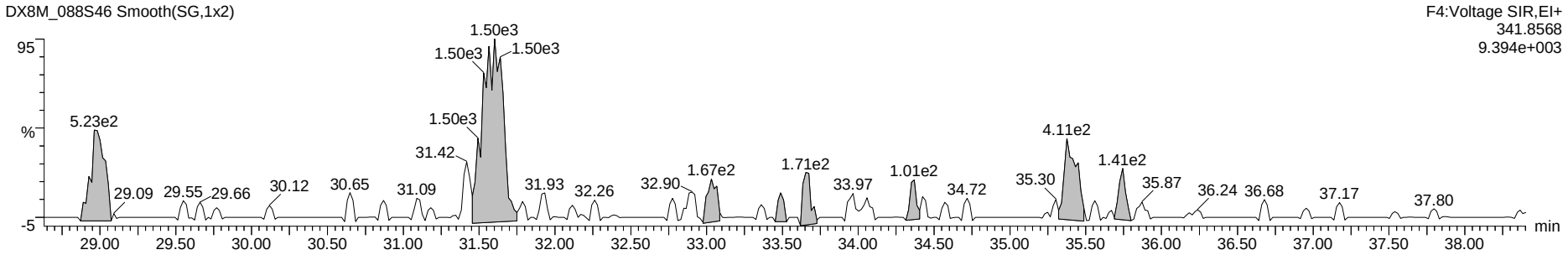


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

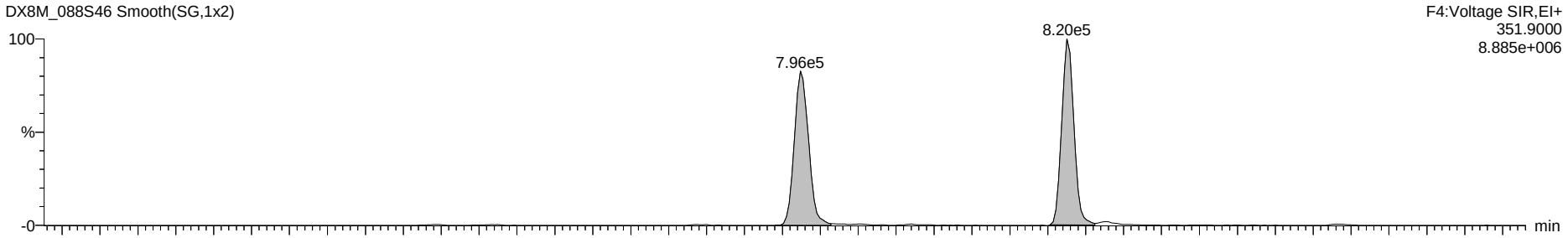
Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

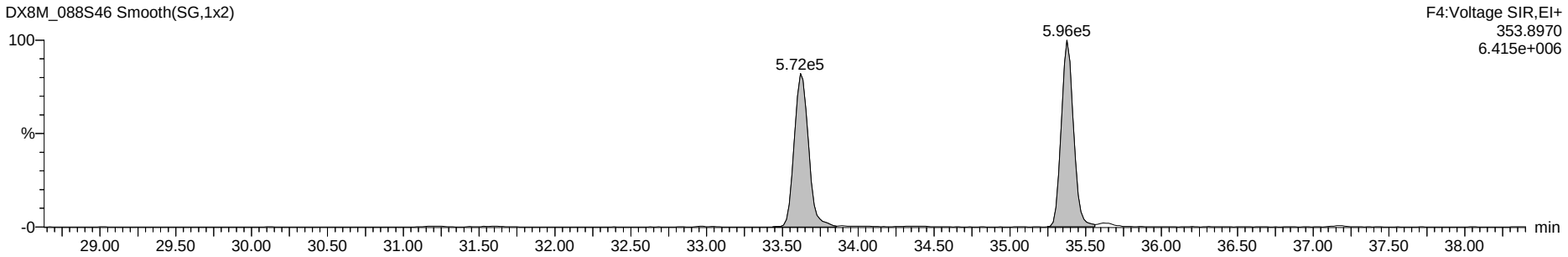
Total Penta-Furans





13C-Penta-Furans

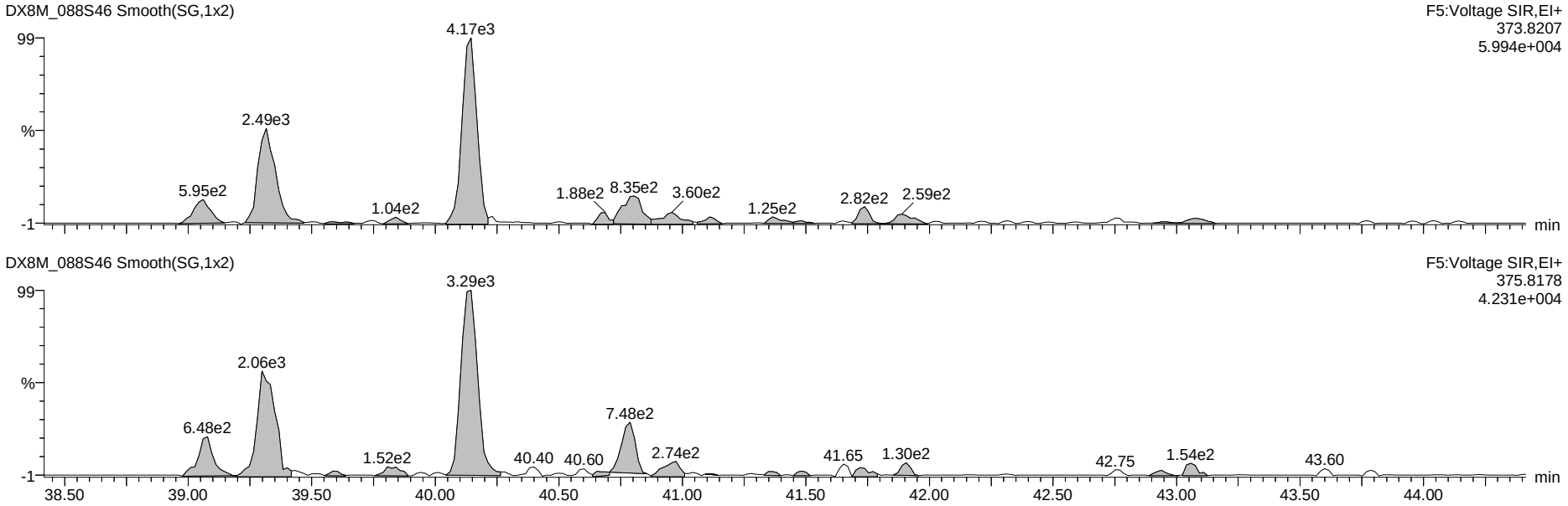




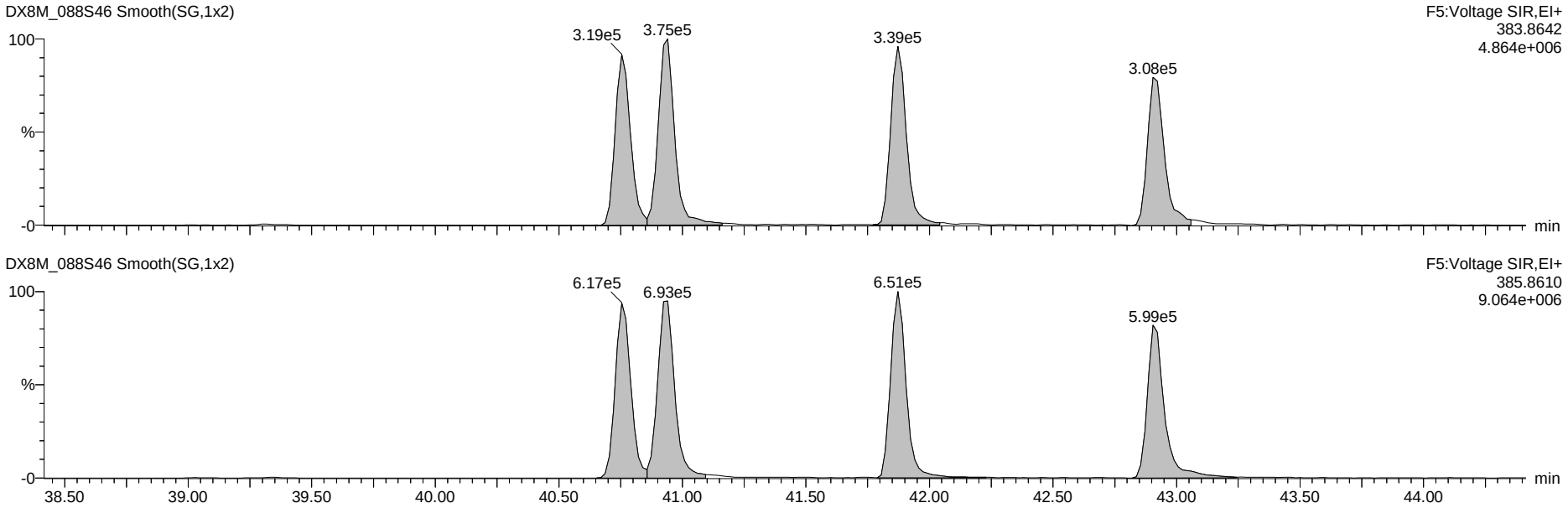
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



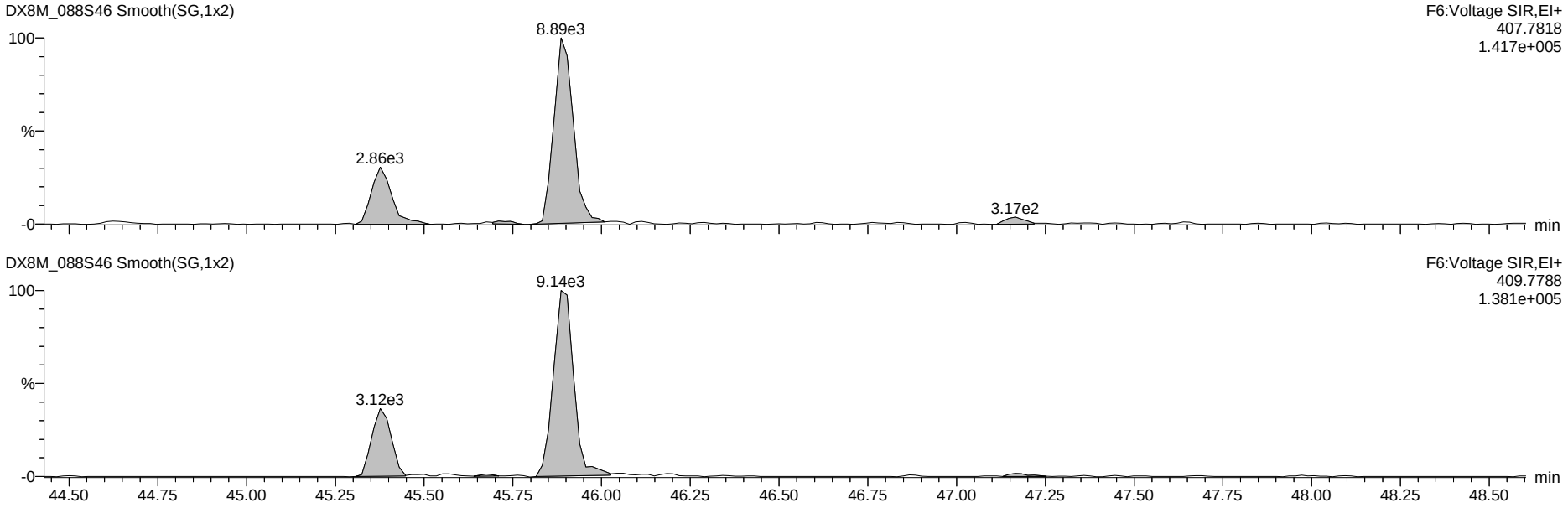
13C-Hexa-Furans



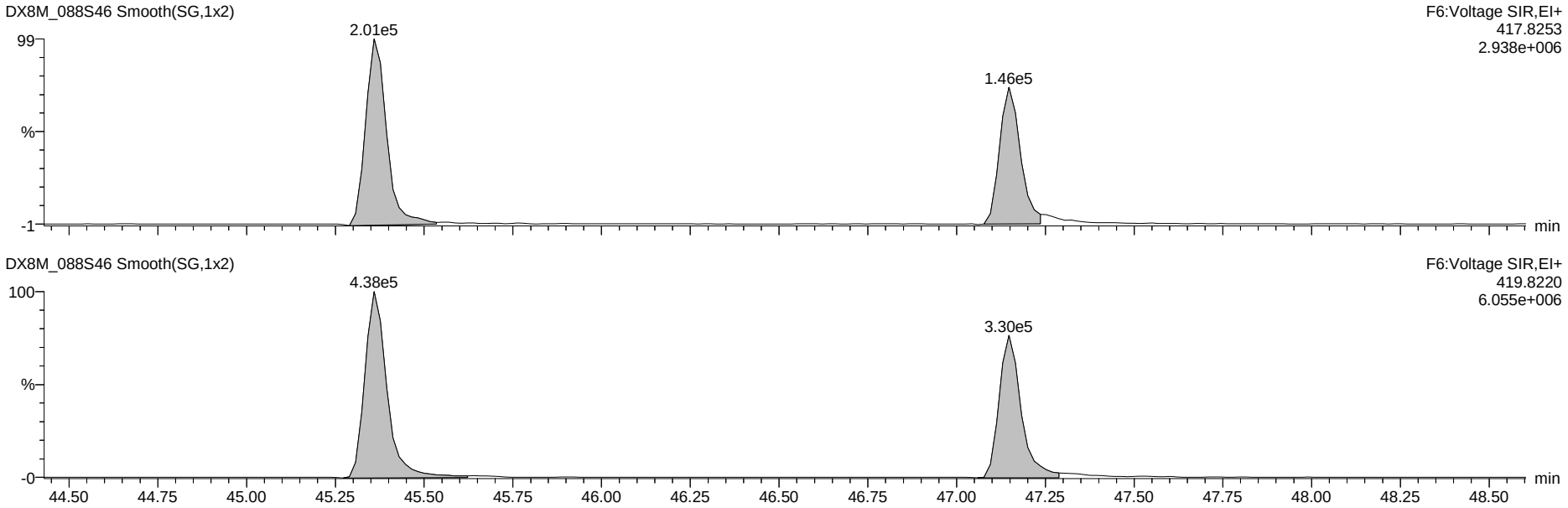
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



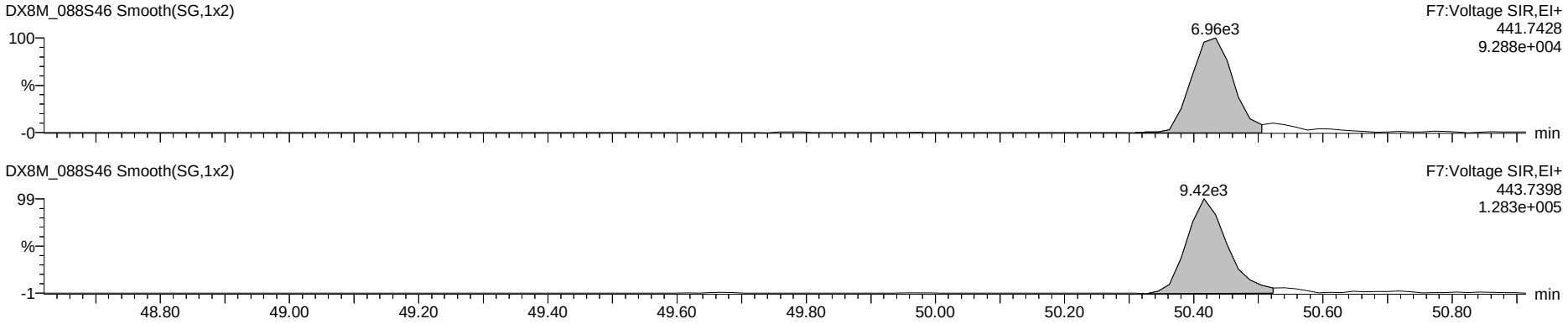
13C-Hepta-Furans



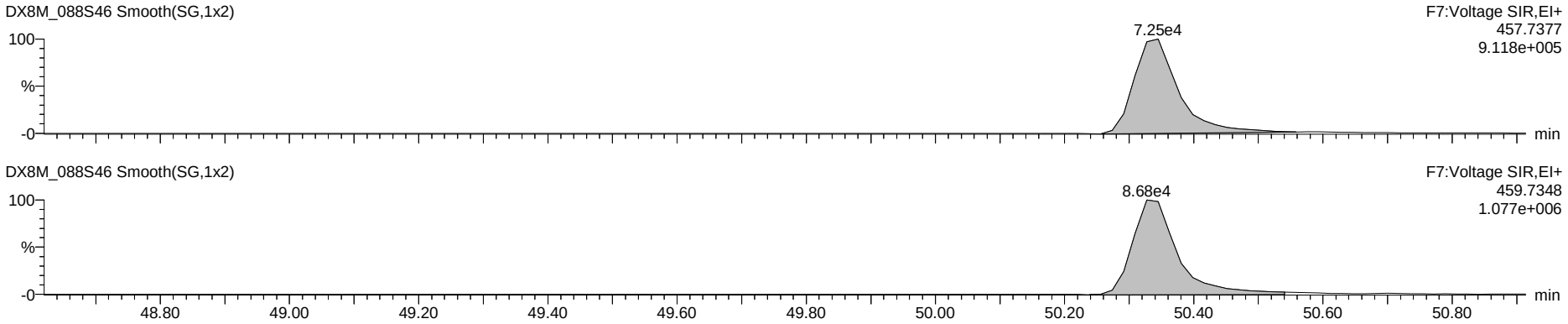
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

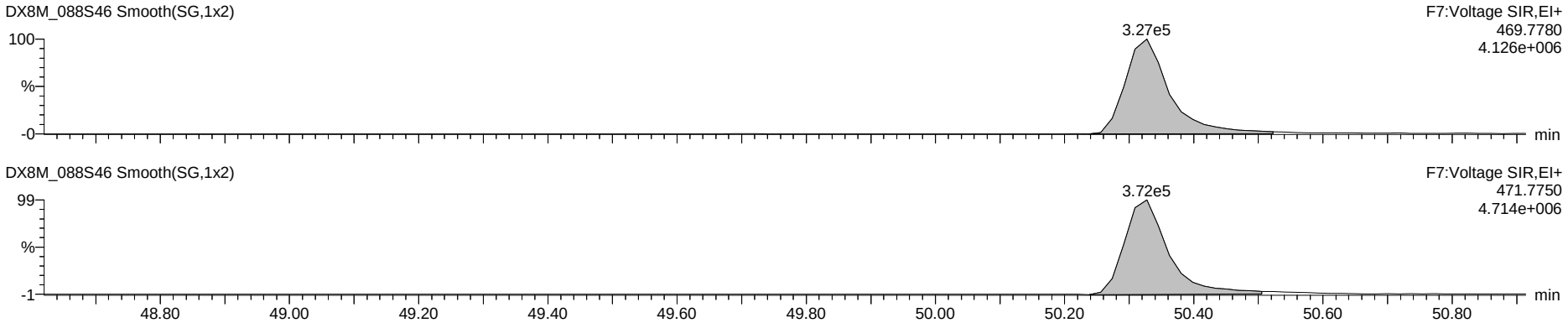
OCDF



OCDD



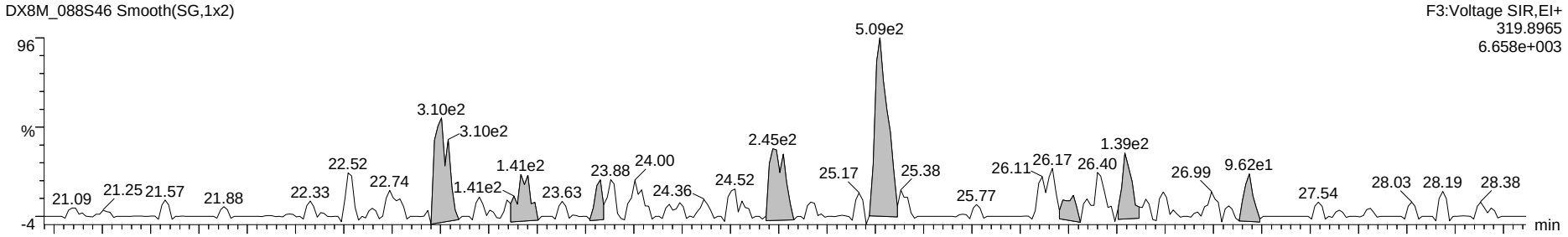
13C-OCDD

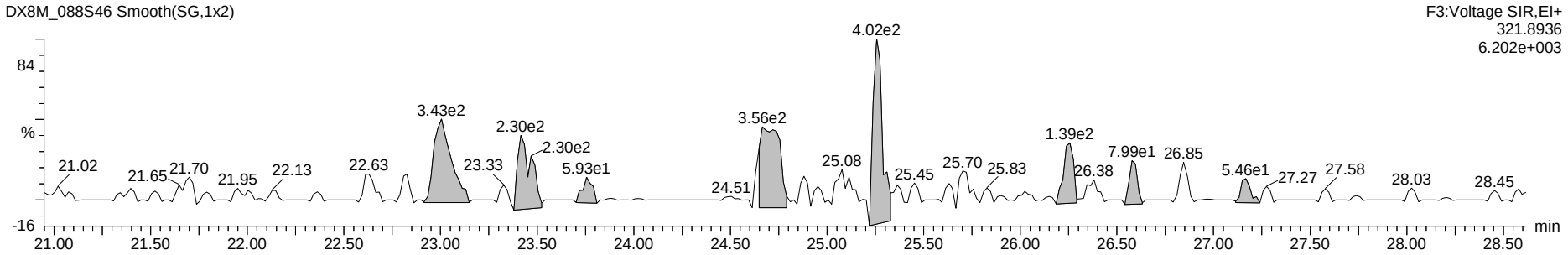


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

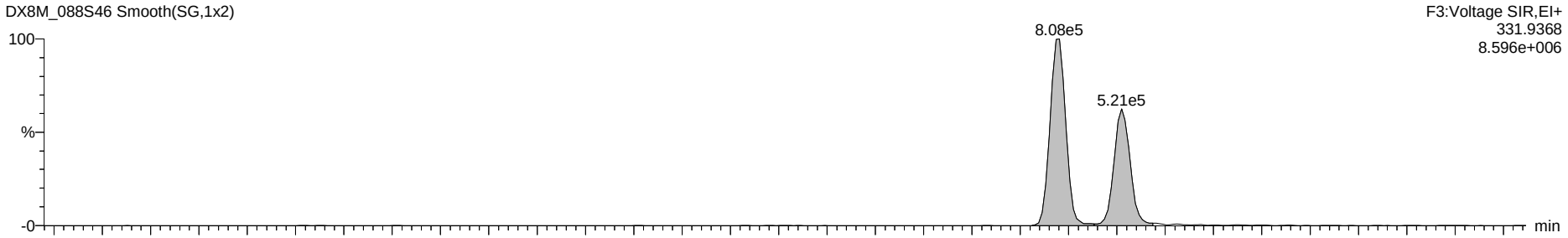
Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

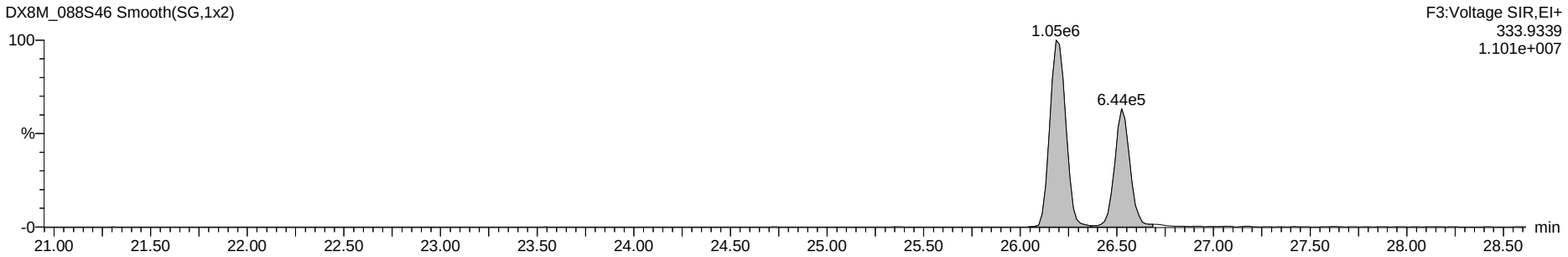
Total Tetra-Dioxins





13C-Tetra-Dioxins

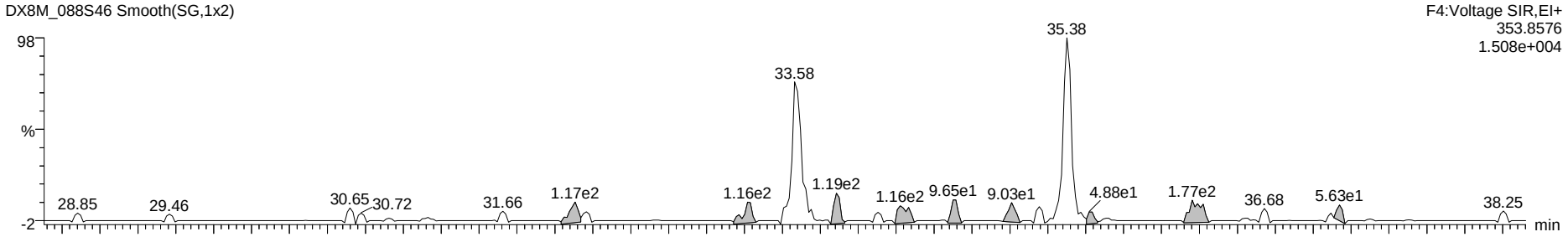


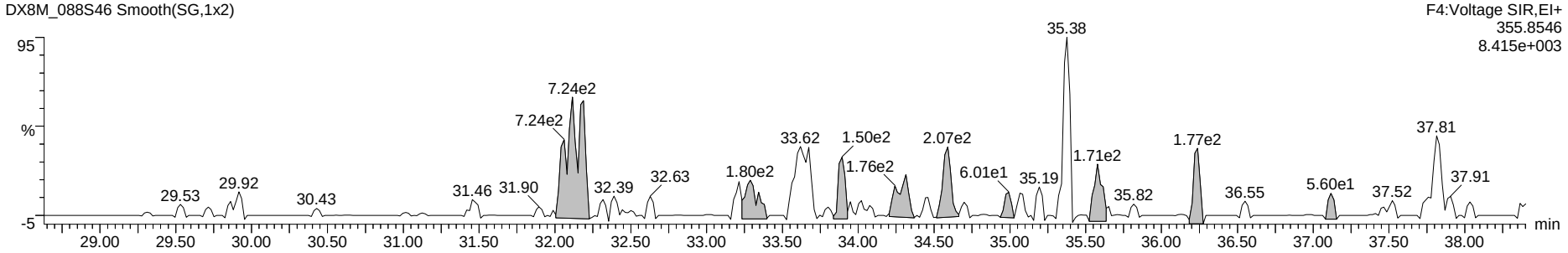


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

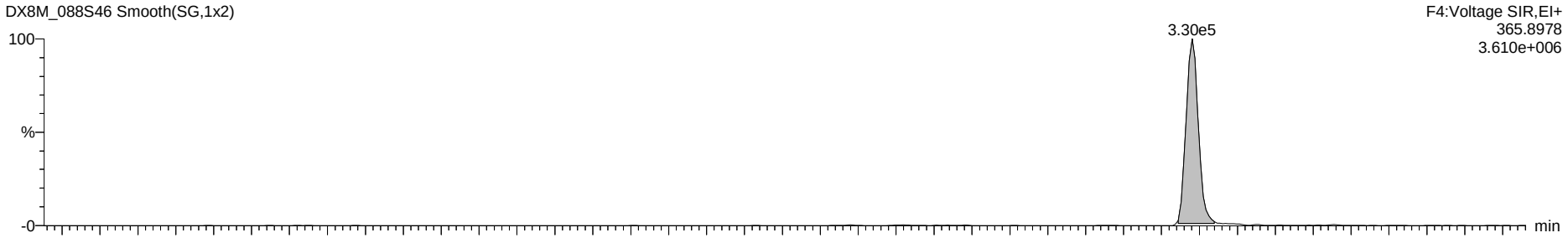
Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

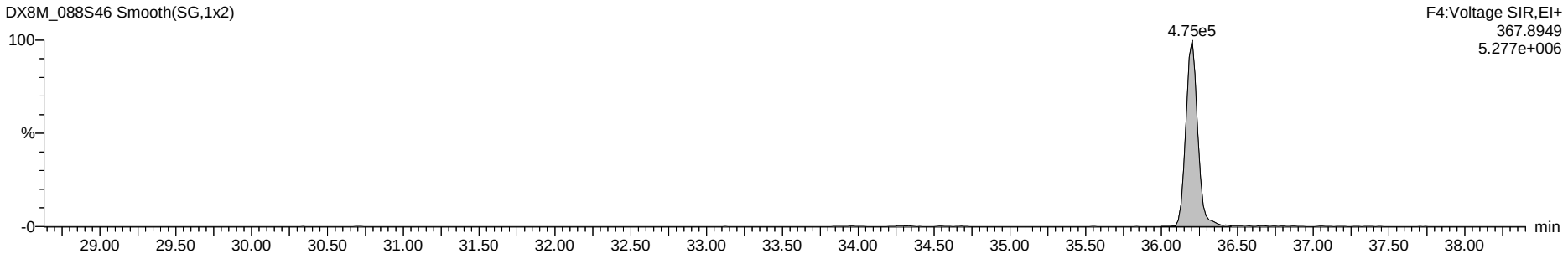
Total Penta-Dioxins





13C-Penta-Dioxins

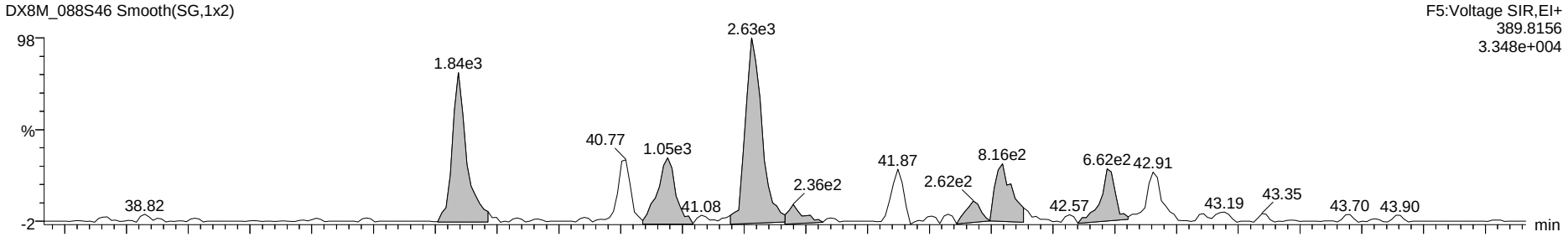


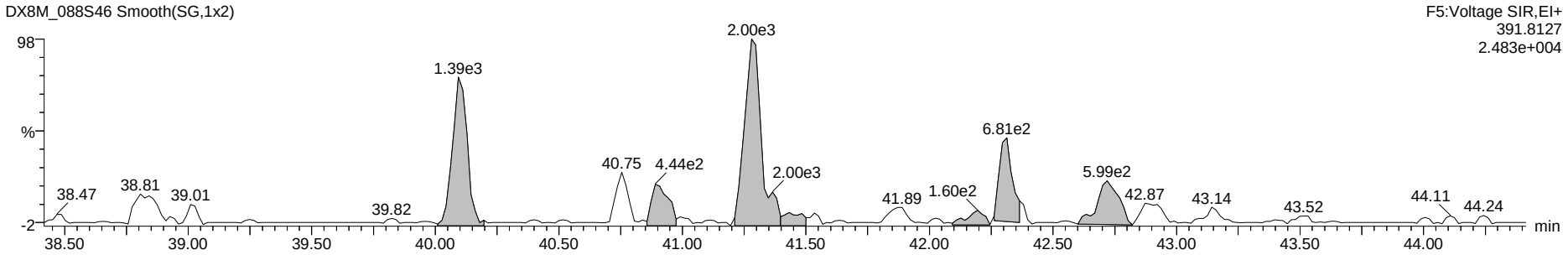


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

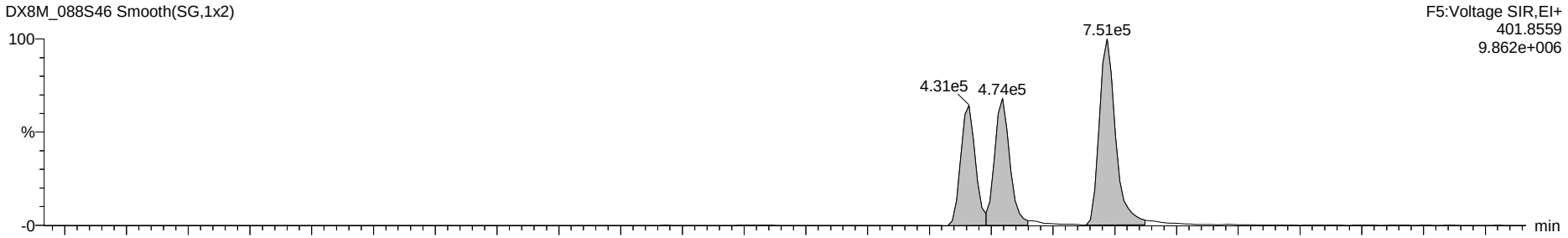
Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

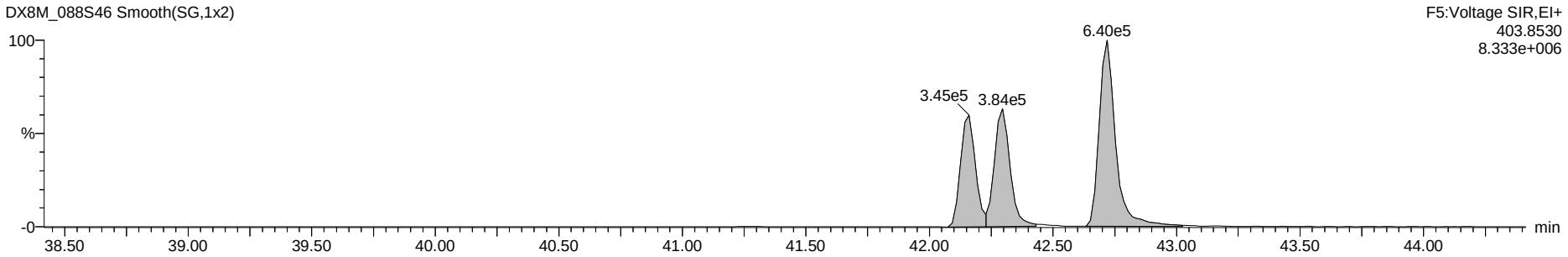
Total Hexa-Dioxins





13C-Hexa-Dioxins

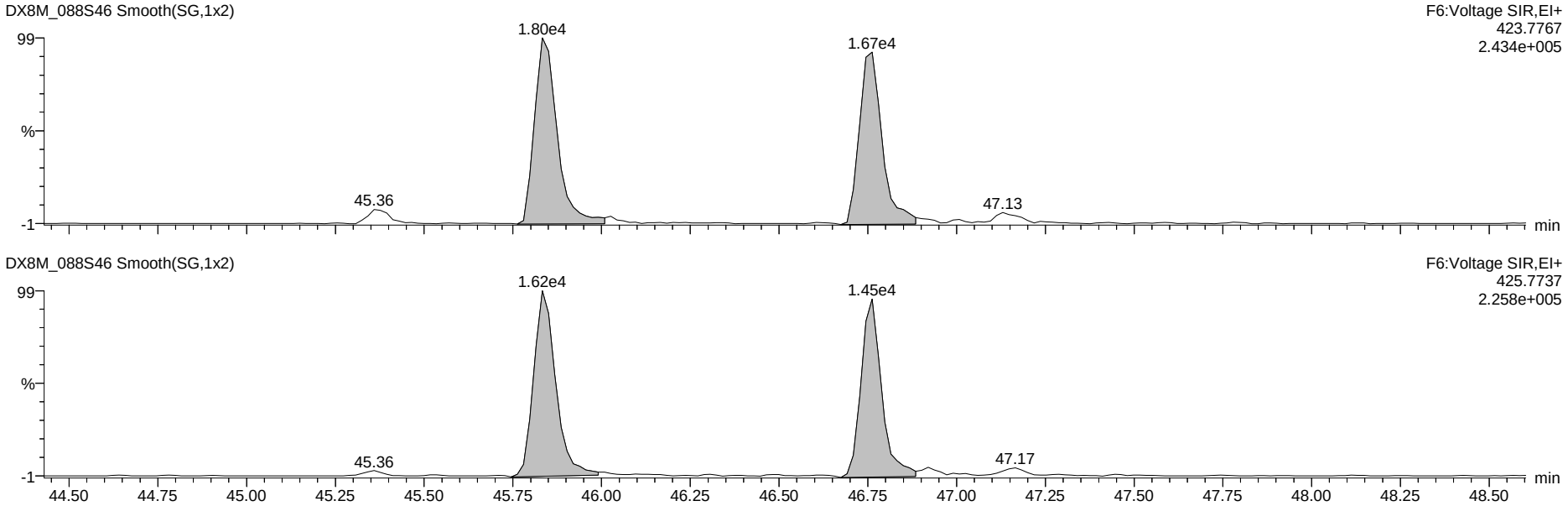




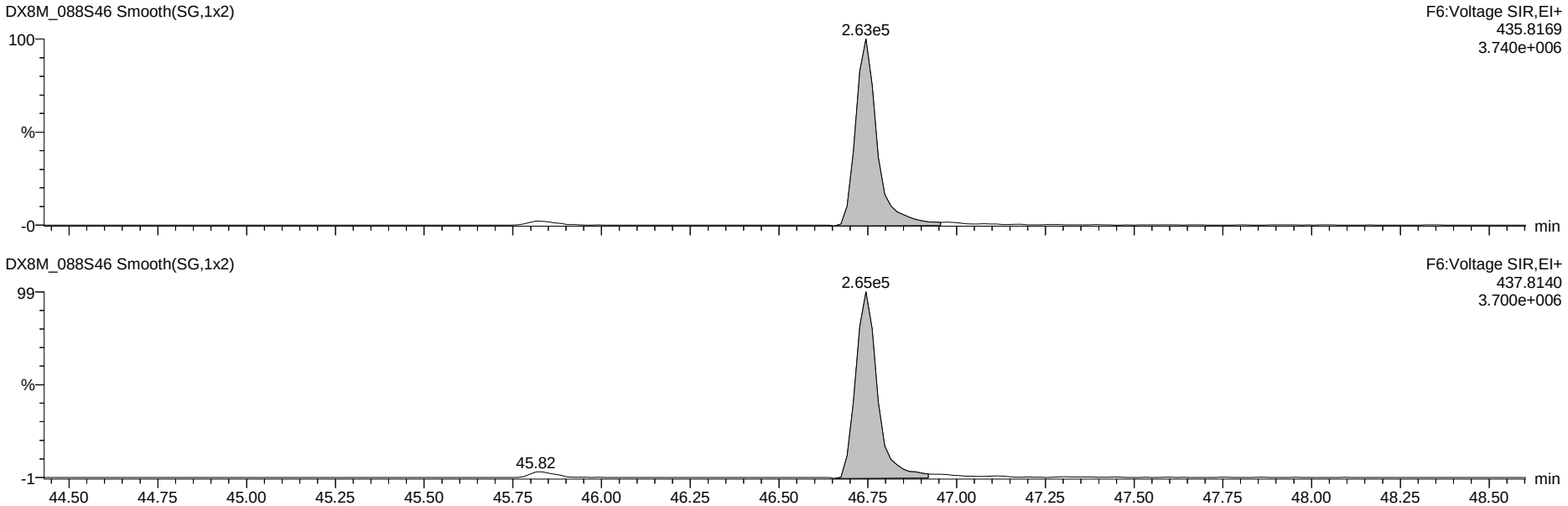
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



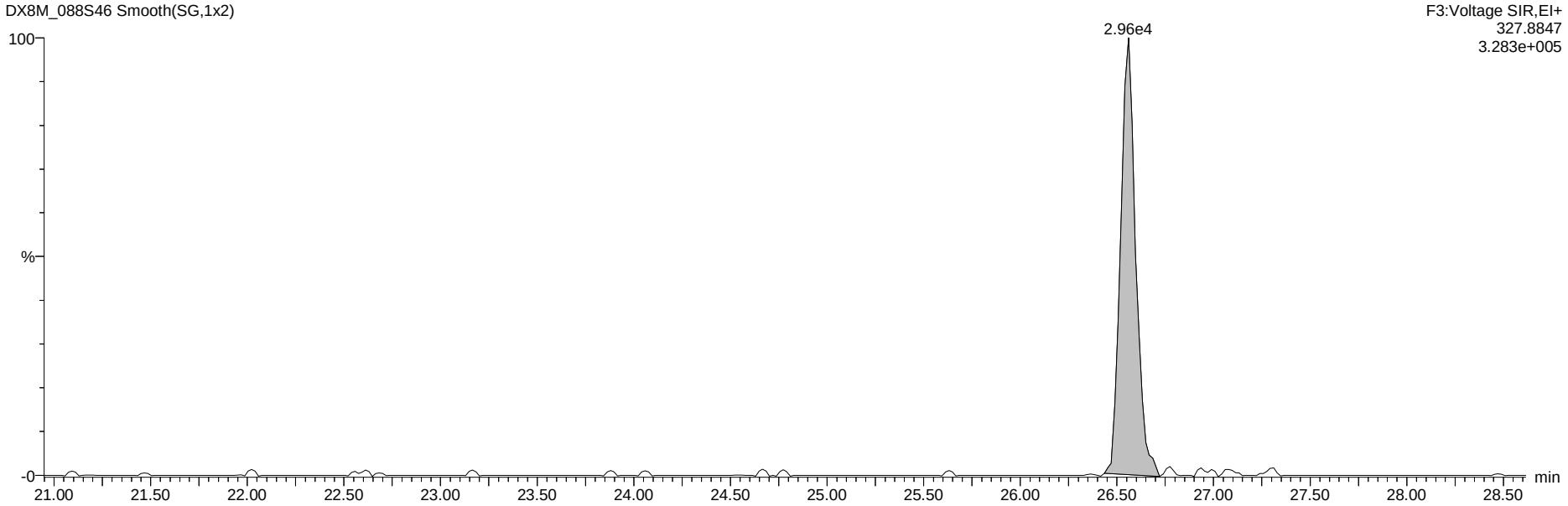
13C-Hepta-Dioxins



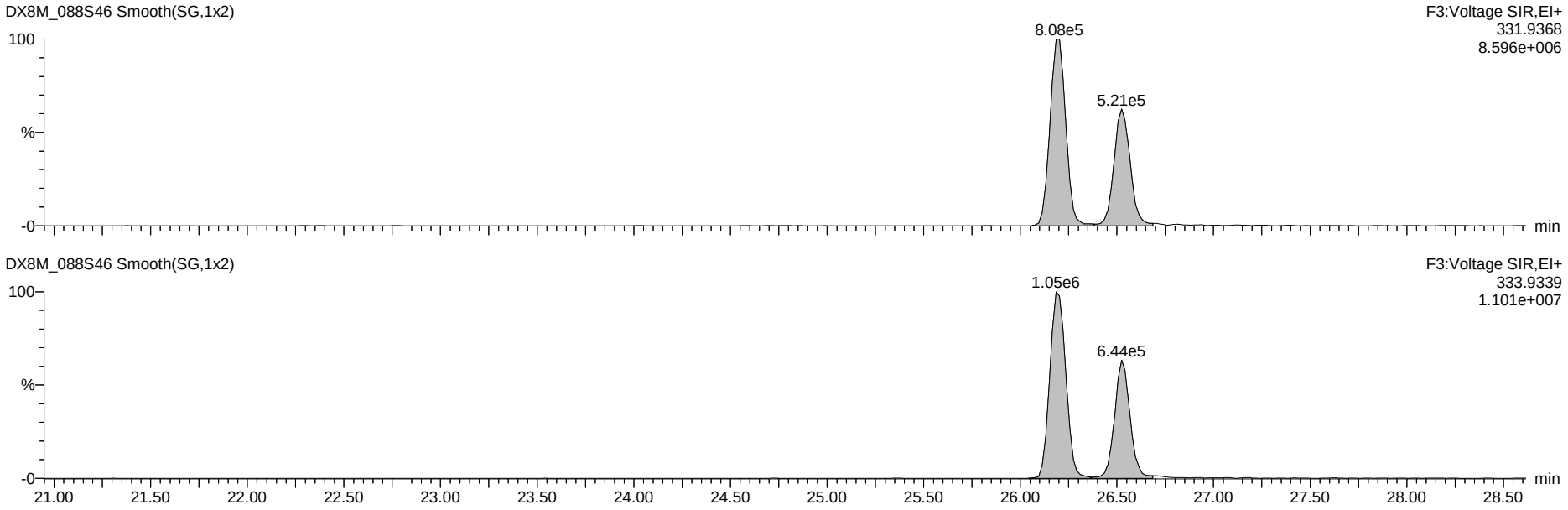
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



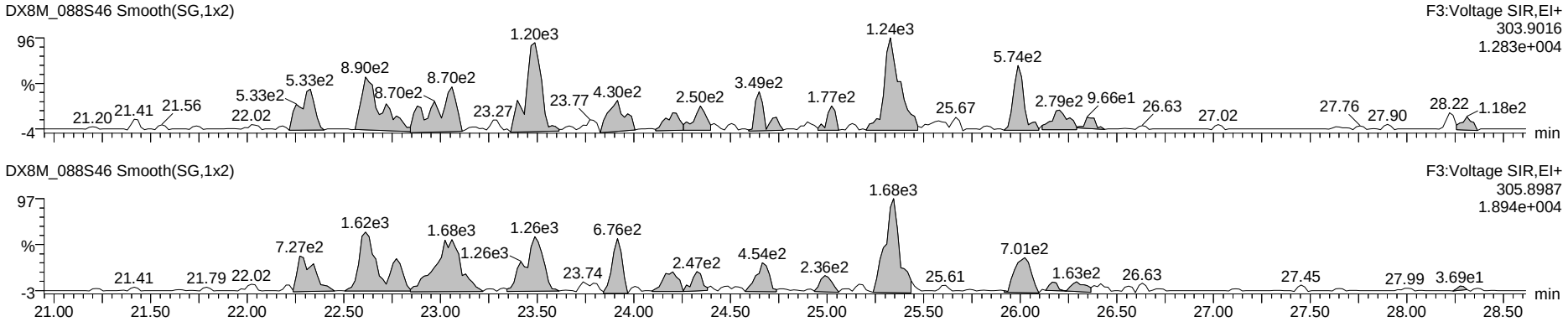
13C-Tetra-Dioxins



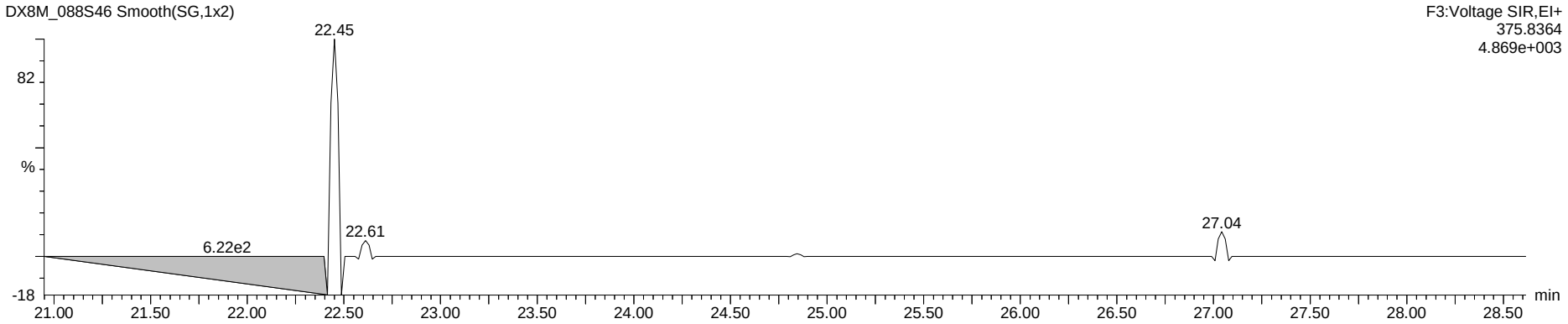
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

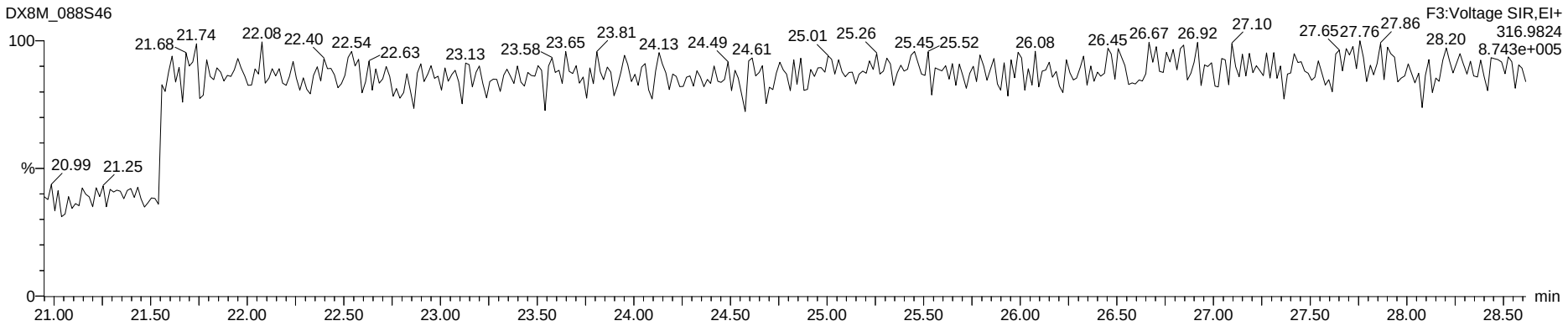
Total Tetra-Furans



Hexa DPE



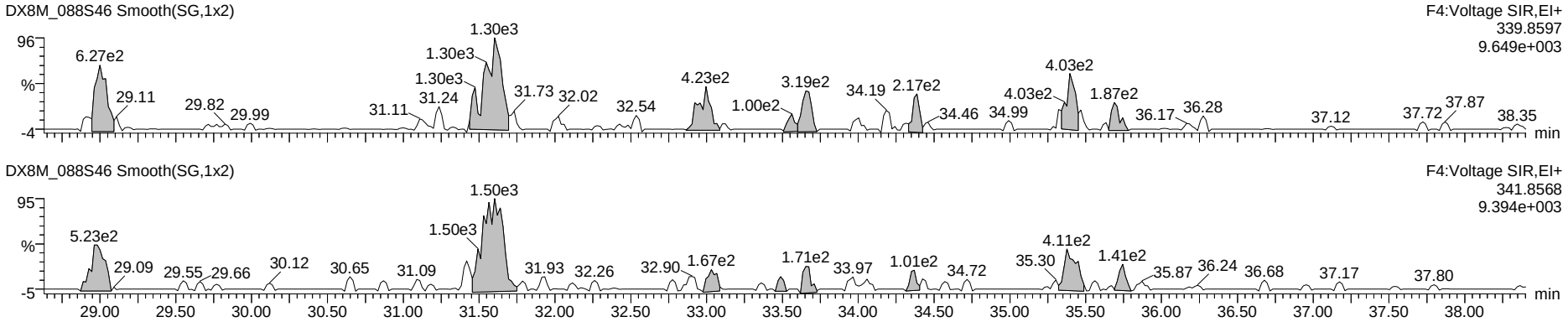
Tetra Lock



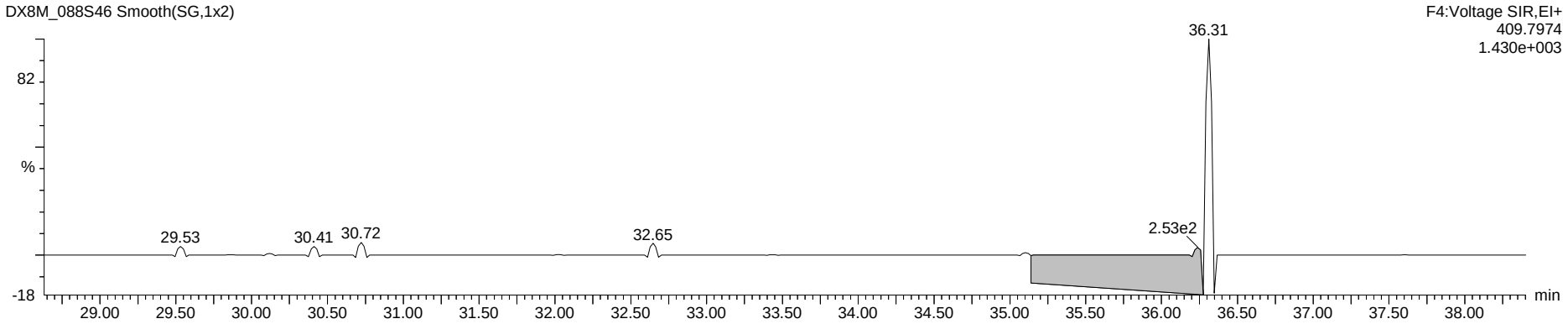
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

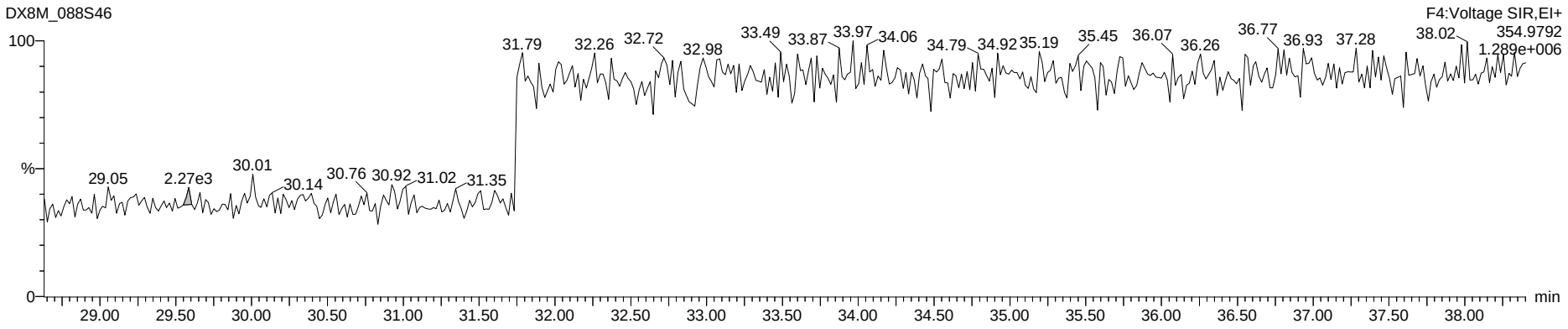
Total Penta-Furans



Hepta DPE



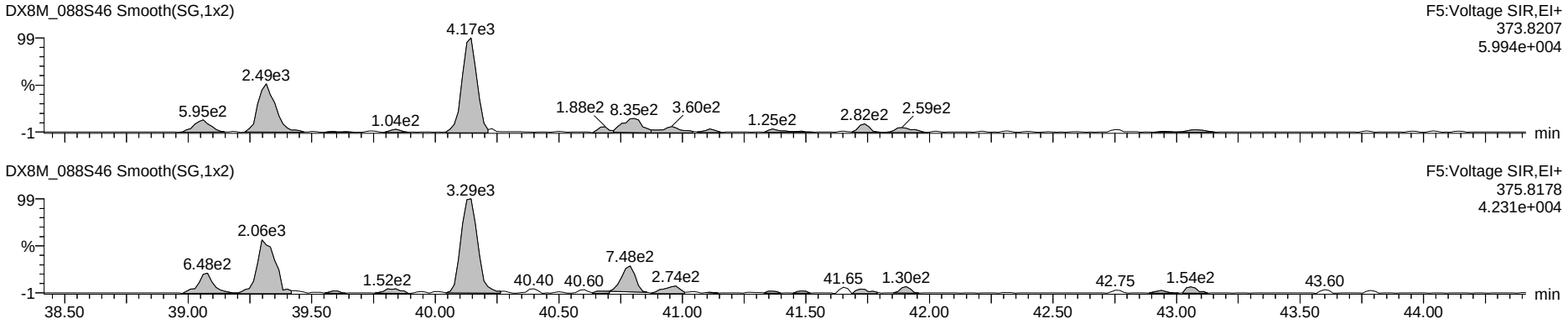
Penta Lock



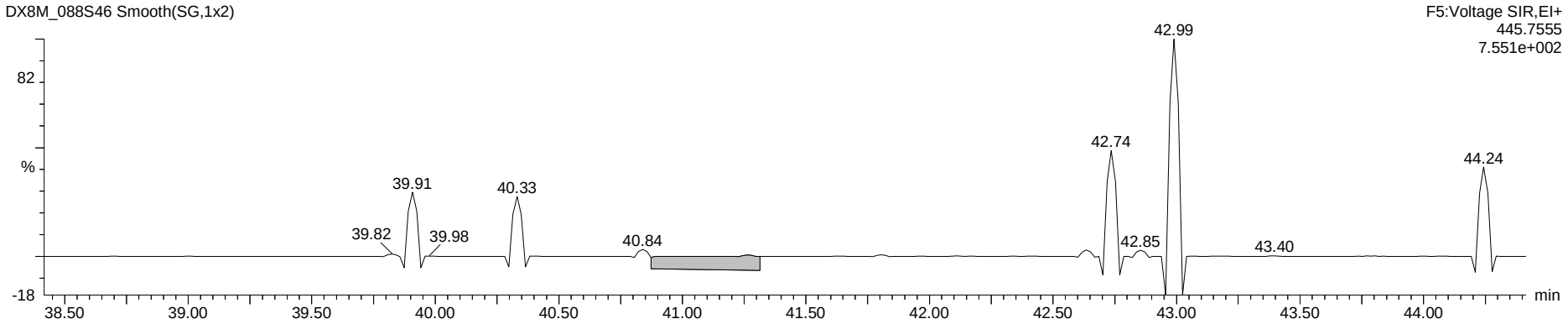
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

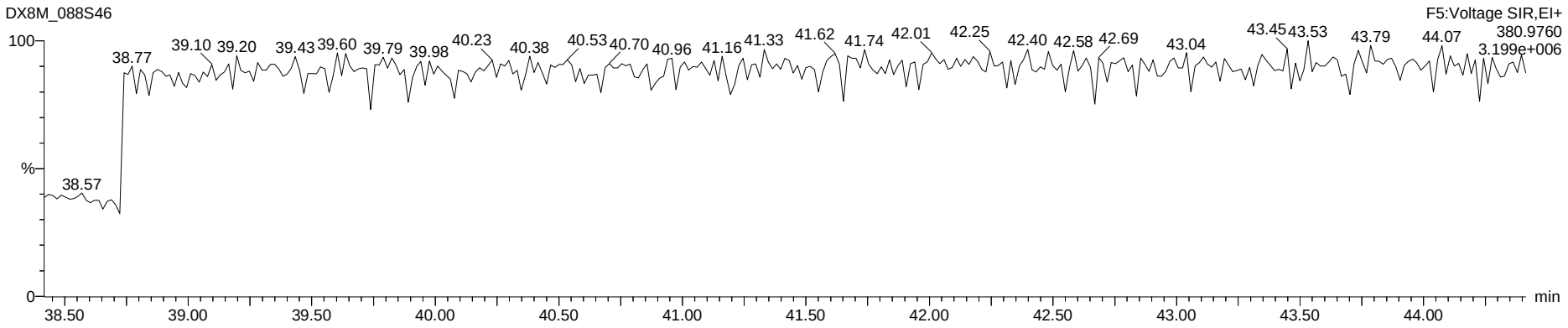
Total Hexa-Furans



Octa DPE



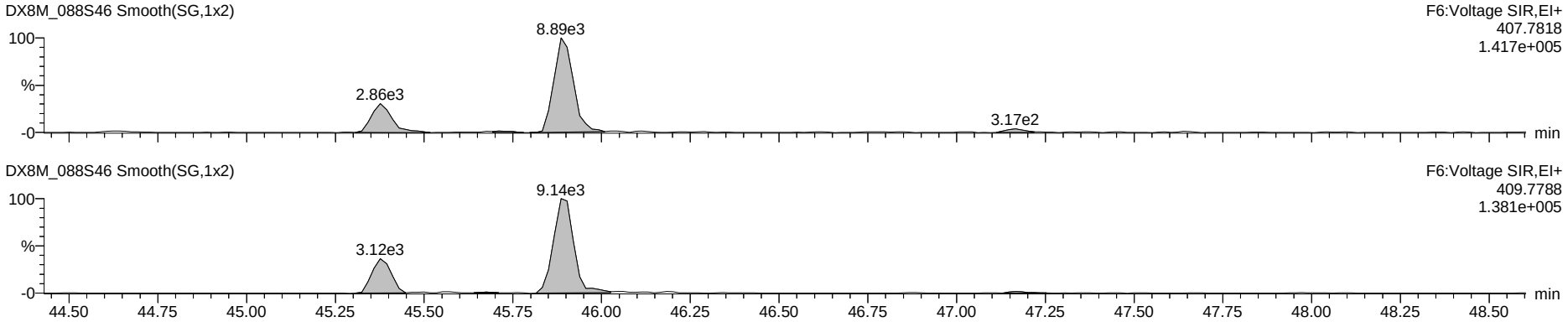
Hexa Lock



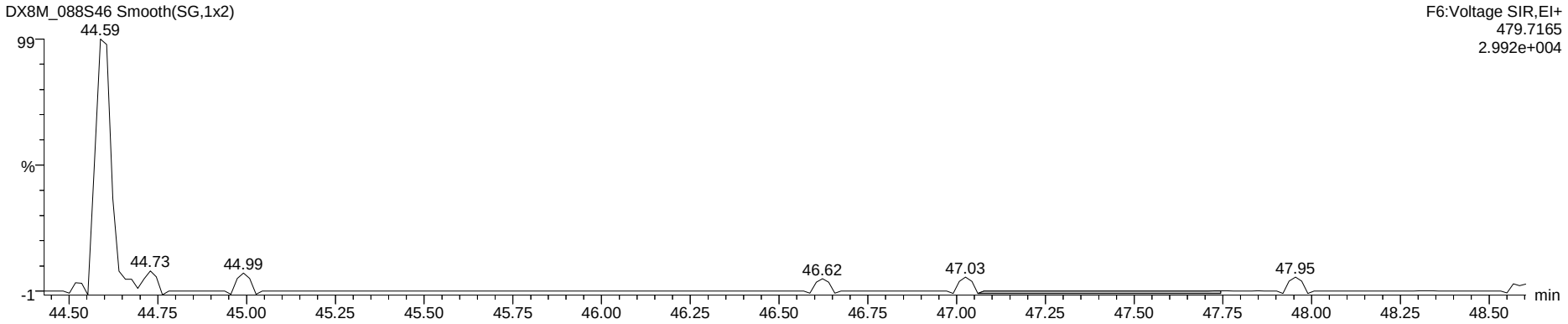
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

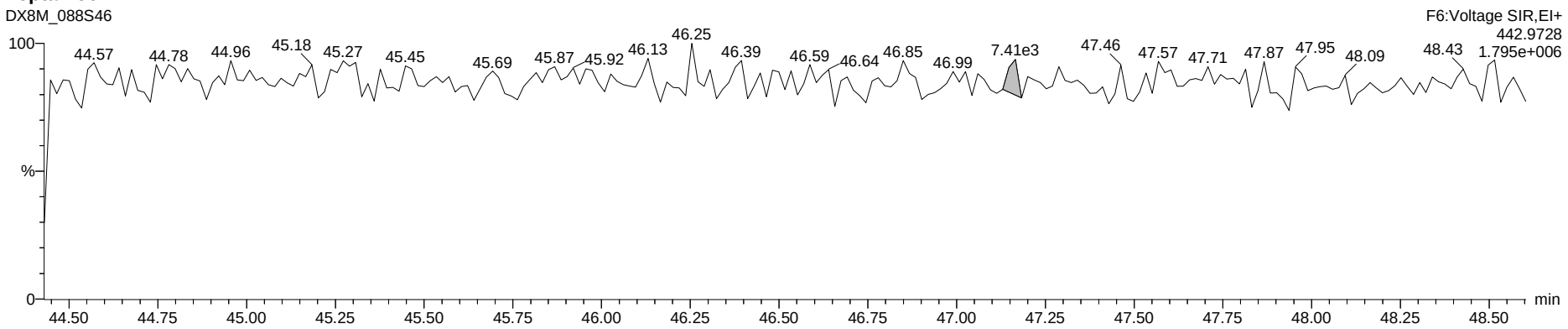
Total Hepta-Furans



Nona DPE



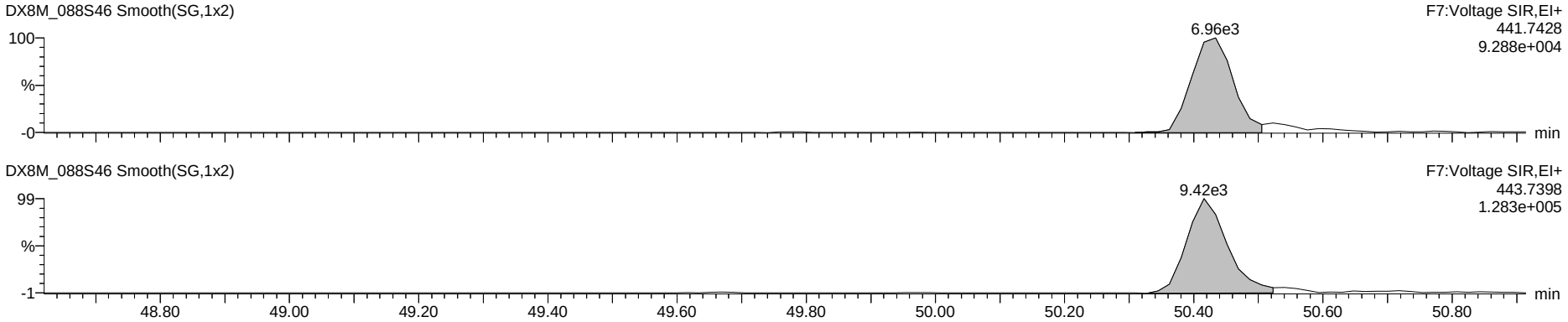
Hepta Lock



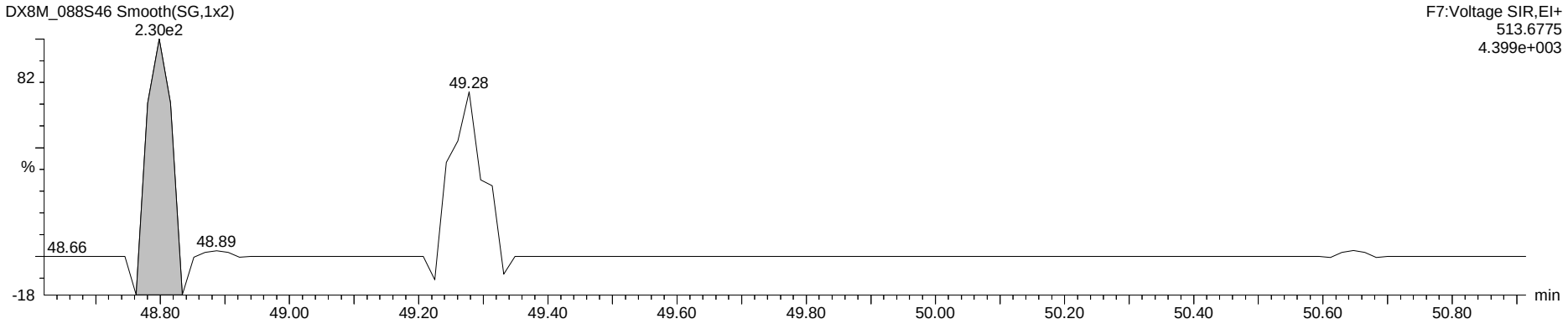
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S46, Date: 26-Jul-2018, Time: 13:52:53, ID: L29626-2,,, Description: 1,WG64557,1.0/20uL

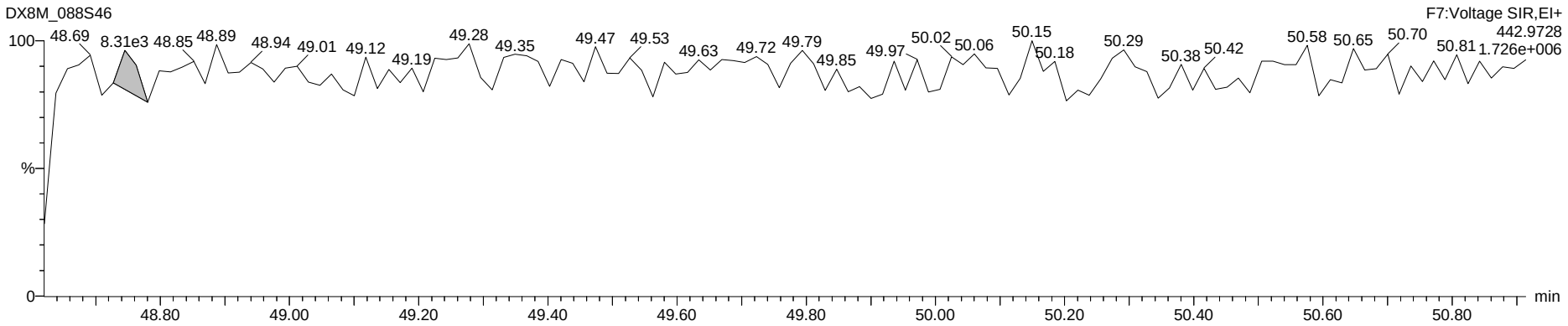
OCDF



Deca DPE

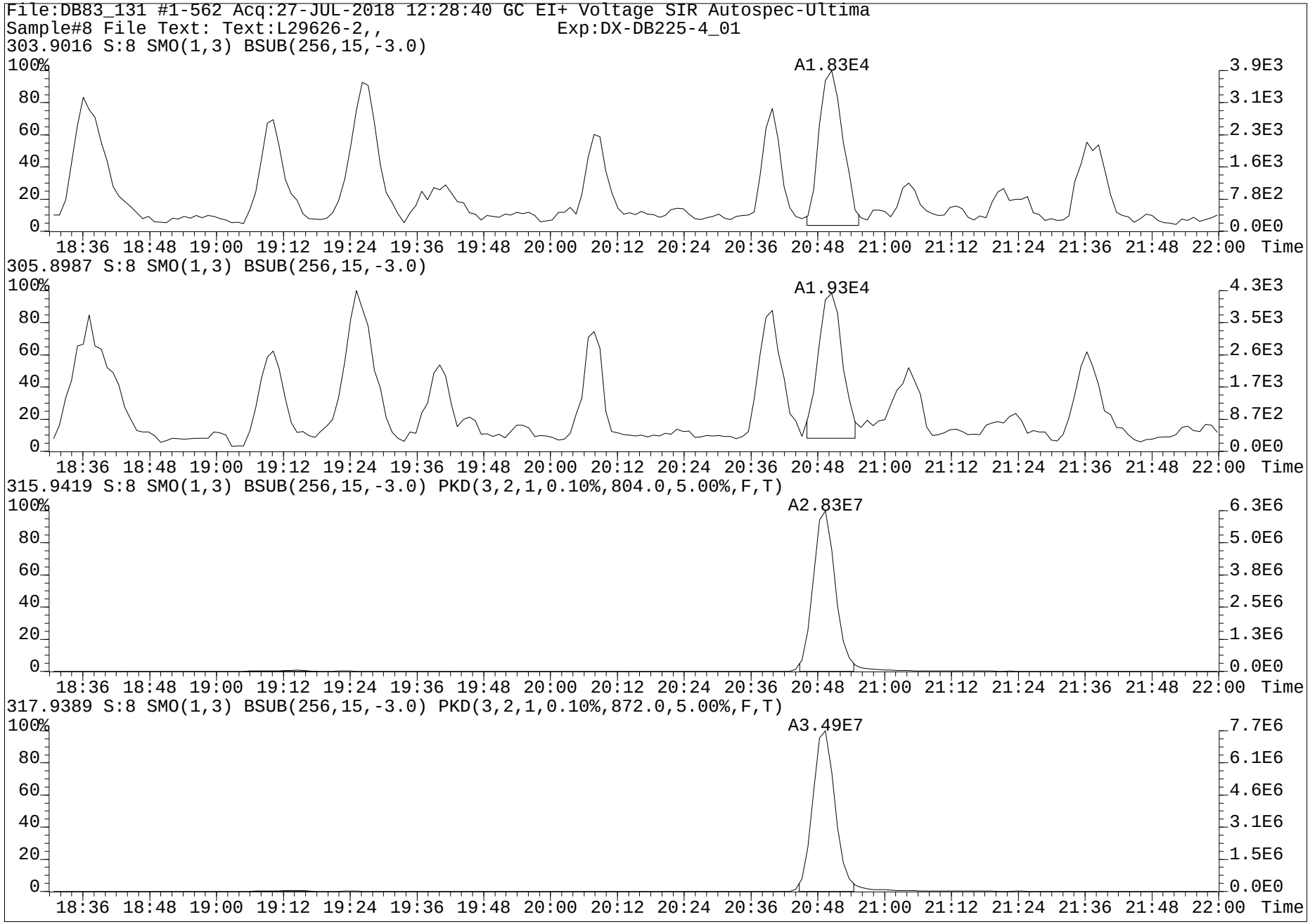


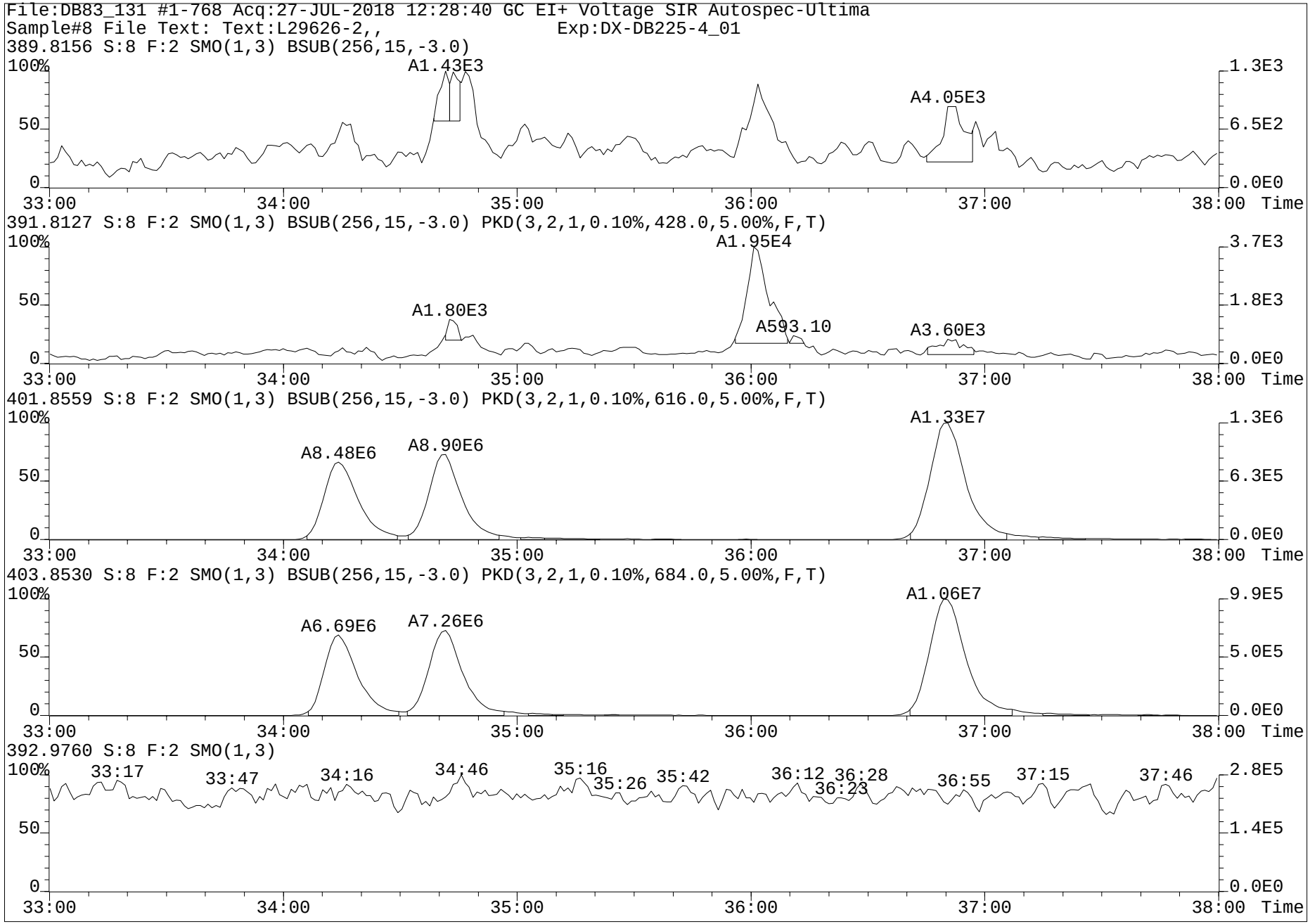
Octa Lock

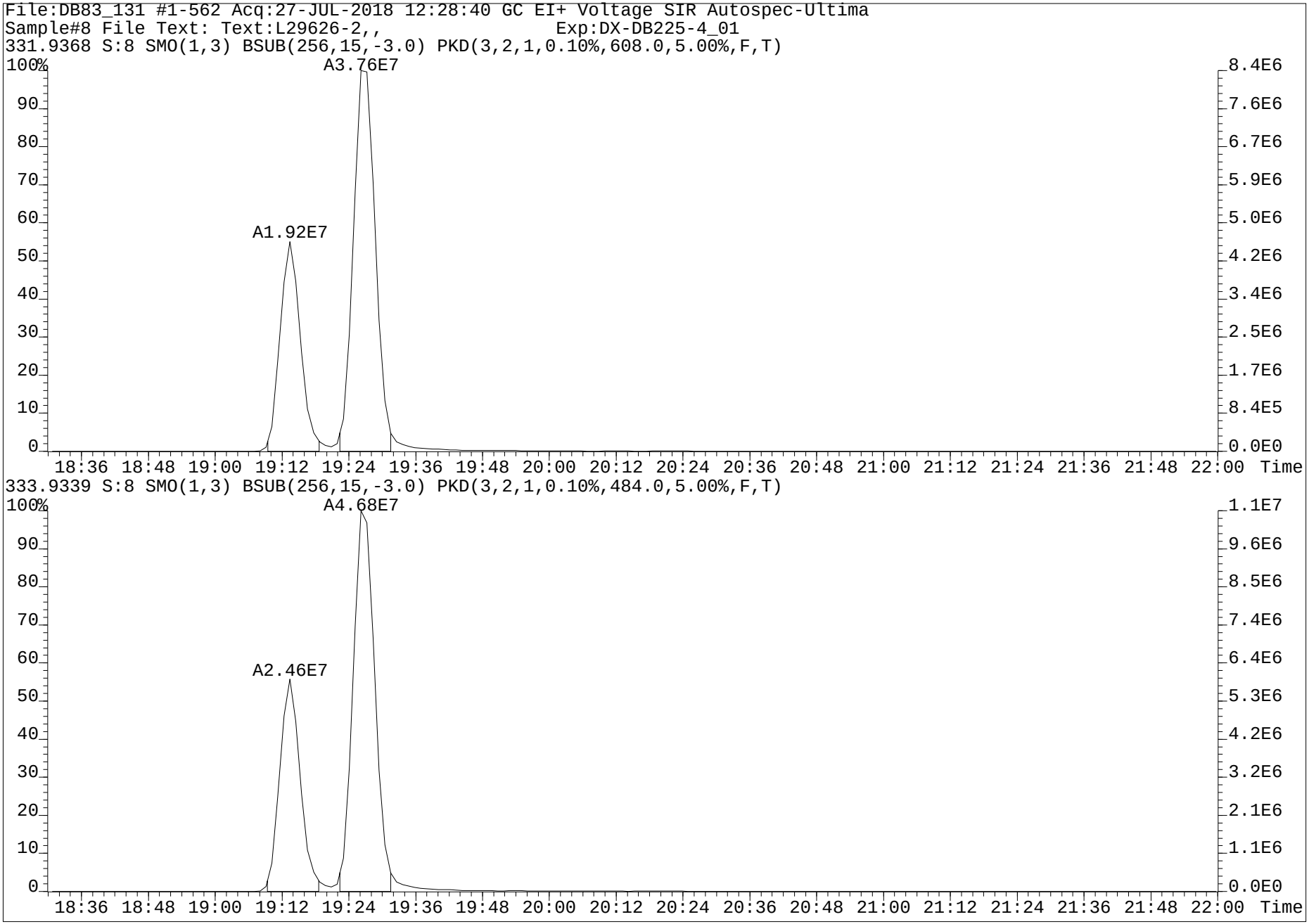


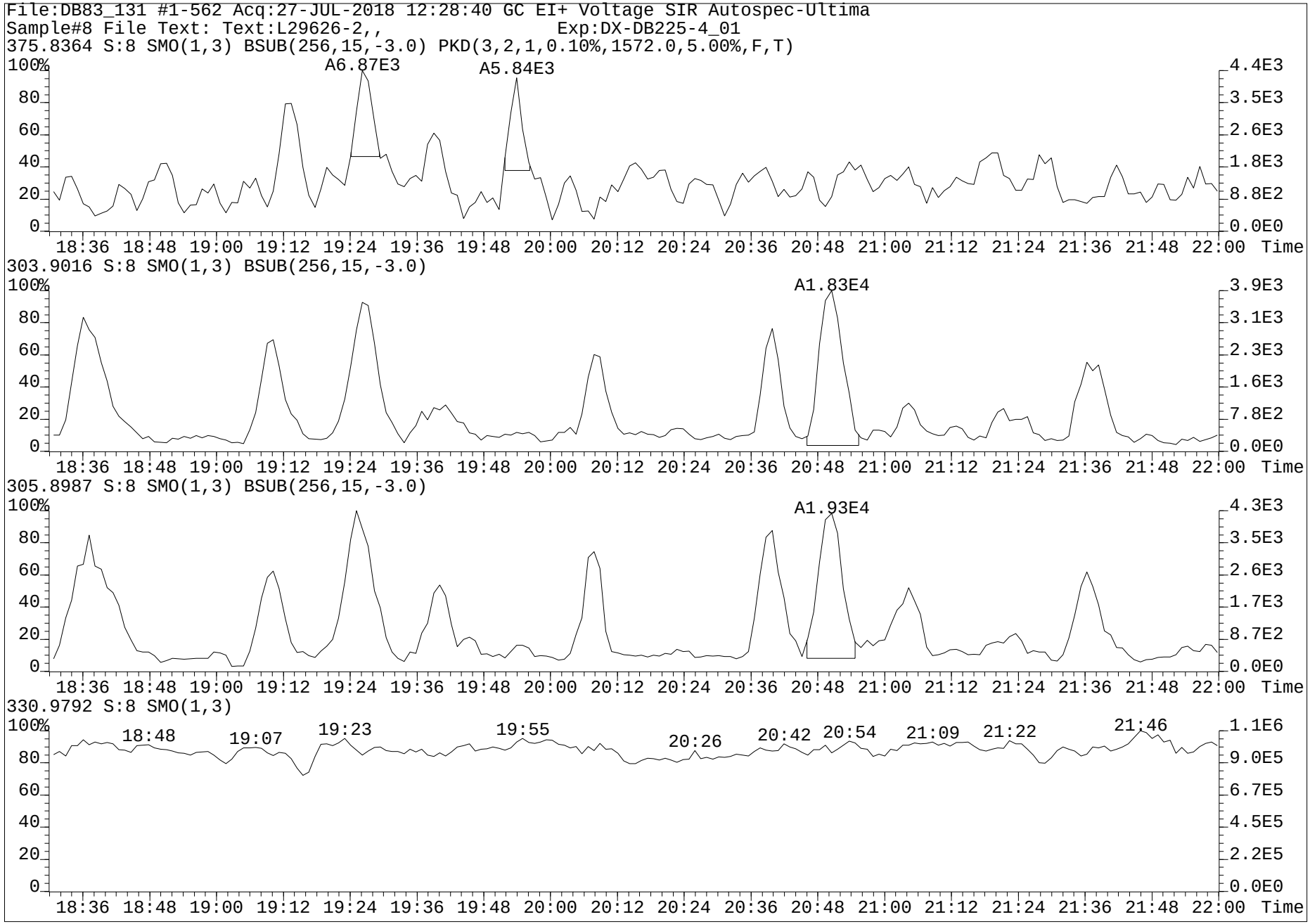
Run #13 Filename DB83_131 S: 8 I: 1 Acquired: 27-JUL-18 12:28:40 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-2,,
Comments: 1,WG64557,2.0/20uL
sample size: 9.650000 conc units: pg/g total toxicity: 0.02 F1: 1.0000 F2: 1.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	3.76e+04	0.95	n	20:50	0.127	0	0.0423	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	7.65e+03	1.13	y	36:52	0.110	0	0.3256	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	6.32e+07	0.81	y	20:49	86.787	-	0.0256	41.9	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.52e+07	1.27	y	34:15	124.010	-	0.2824	59.8	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.62e+07	1.23	y	34:42	127.936	-	0.2736	61.7	n
6	RS	13C-1,2,3,4-TCDD	1	8.44e+07	0.80	y	19:27	7.900	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.40e+07	1.25	y	36:51	4.533	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n


File:DB83_131 #1-562 Acq:27-JUL-2018 12:28:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:L29626-2,, Exp:DX-DB225-4_01
303.9016 S:8 SMO(1,3) BSUB(256,15,-3.0)
A1.83E4
305.8987 S:8 SMO(1,3) BSUB(256,15,-3.0)
A1.93E4
315.9419 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,804.0,5.00%,F,T)
A2.83E7
317.9389 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,872.0,5.00%,F,T)
A3.49E7
100%
80
60
40
20
0
3.9E3
3.1E3
2.3E3
1.6E3
7.8E2
0.0E0
4.3E3
3.5E3
2.6E3
1.7E3
8.7E2
6.3E6
5.0E6
3.8E6
2.5E6
1.3E6
7.7E6
6.1E6
4.6E6
3.1E6
1.5E6
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-768 Acq:27-JUL-2018 12:28:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:L29626-2,, Exp:DX-DB225-4_01
389.8156 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.43E3
A4.05E3
391.8127 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,428.0,5.00%,F,T)
A1.95E4
A1.80E3
A593.10
A3.60E3
401.8559 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,616.0,5.00%,F,T)
A1.33E7
A8.48E6
A8.90E6
403.8530 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,684.0,5.00%,F,T)
A1.06E7
A6.69E6
A7.26E6
392.9760 S:8 F:2 SMO(1,3)
33:17
33:47
34:16
34:46
35:16
35:26
35:42
36:12
36:23
36:28
36:55
37:15
37:46
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.3E3
6.5E2
0.0E0
3.7E3
1.8E3
1.3E6
6.3E5
9.9E5
5.0E5
2.8E5
1.4E5


File:DB83_131 #1-562 Acq:27-JUL-2018 12:28:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:L29626-2,, Exp:DX-DB225-4_01
331.9368 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,608.0,5.00%,F,T)
A3.76E7
A1.92E7
333.9339 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,484.0,5.00%,F,T)
A4.68E7
A2.46E7
Time


File:DB83_131 #1-562 Acq:27-JUL-2018 12:28:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:L29626-2,, Exp:DX-DB225-4_01
375.8364 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1572.0,5.00%,F,T)
A6.87E3
A5.84E3
303.9016 S:8 SMO(1,3) BSUB(256,15,-3.0)
A1.83E4
305.8987 S:8 SMO(1,3) BSUB(256,15,-3.0)
A1.93E4
330.9792 S:8 SMO(1,3)
18:48
19:07
19:23
19:55
20:26
20:42
20:54
21:09
21:22
21:46
Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	9.970	7.88e3	0.64	YES	25.34	0.673	0.0679		2.36e3	1.04e3
2	1,2,3,7,8-PeCDF	9.970	1.07e3	1.75	NO	33.67	0.111	0.0898		1.13e3	1.94e3
3	2,3,4,7,8-PeCDF	9.970	1.79e3	1.36	NO	35.41	0.180	0.0732		1.13e3	1.94e3
4	1,2,3,4,7,8-HxCDF	9.970	2.29e3	1.27	NO	40.79	0.292	0.0692		9.48e2	1.96e3
5	1,2,3,6,7,8-HxCDF	9.970	1.48e3	1.37	NO	40.96	0.176	0.0702		9.48e2	1.96e3
6	2,3,4,6,7,8-HxCDF	9.970	8.51e2	0.79	YES	41.91	0.106	0.0661		9.48e2	1.96e3
7	1,2,3,7,8,9-HxCDF	9.970	2.68e2	1.66	YES	42.96	0.043	0.0955		9.48e2	1.96e3
8	1,2,3,4,6,7,8-HpCDF	9.970	1.34e4	0.93	NO	45.38	2.247	0.0780		1.47e3	1.10e3
9	1,2,3,4,7,8,9-HpCDF	9.970	6.17e2	1.94	YES	47.18	0.138	0.1091		1.47e3	1.10e3
10	OCDF	9.970	1.79e4	0.96	NO	50.43	5.657	0.0618		5.84e2	3.55e2
11	2,3,7,8-TCDD	9.970	5.03e2	0.52	YES	26.56	0.052	0.0440		1.02e3	7.35e2
12	1,2,3,7,8-PeCDD	9.970	1.18e3	0.78	YES	36.20	0.177	0.0553		9.88e2	5.37e2
13	1,2,3,4,7,8-HxCDD	9.970	8.31e2	1.20	NO	42.18	0.146	0.1011		1.68e3	1.59e3
14	1,2,3,6,7,8-HxCDD	9.970	2.12e3	1.08	NO	42.31	0.345	0.1002		1.68e3	1.59e3
15	1,2,3,7,8,9-HxCDD	9.970	1.38e3	1.05	YES	42.72	0.232	0.1001		1.68e3	1.59e3
16	1,2,3,4,6,7,8-HpCDD	9.970	3.50e4	1.10	NO	46.76	9.324	0.2262		1.65e3	3.02e3
17	OCDD	9.970	1.56e5	0.92	NO	50.35	59.456	0.4629		3.33e3	2.51e3
18	13C-2,3,7,8-TCDF	9.970	2.57e6	0.71	NO	25.29	83.369	0.0850	41.6	7.19e3	4.21e3
19	13C-1,2,3,7,8-PeCDF	9.970	2.10e6	1.45	NO	33.62	94.519	0.1882	47.1	6.76e3	1.14e4
20	13C-2,3,4,7,8-PeCDF	9.970	2.13e6	1.43	NO	35.38	99.592	0.1951	49.6	6.76e3	1.14e4
21	13C-1,2,3,4,7,8-HxCDF	9.970	1.41e6	0.52	NO	40.76	82.257	0.1811	41.0	9.00e3	7.05e3
22	13C-1,2,3,6,7,8-HxCDF	9.970	1.59e6	0.51	NO	40.94	86.678	0.1696	43.2	9.00e3	7.05e3
23	13C-2,3,4,6,7,8-HxCDF	9.970	1.42e6	0.54	NO	41.87	86.583	0.1898	43.2	9.00e3	7.05e3
24	13C-1,2,3,7,8,9-HxCDF	9.970	1.25e6	0.51	NO	42.92	77.691	0.1924	38.7	9.00e3	7.05e3
25	13C-1,2,3,4,6,7,8-HpCDF	9.970	9.75e5	0.46	NO	45.36	71.270	0.1636	35.5	5.89e3	5.68e3
26	13C-1,2,3,4,7,8,9-HpCDF	9.970	7.18e5	0.44	NO	47.15	67.226	0.2097	33.5	5.89e3	5.68e3
27	13C-2,3,7,8-TCDD	9.970	1.76e6	0.78	NO	26.52	91.865	0.2555	45.8	8.02e3	1.33e4
28	13C-1,2,3,7,8-PeCDD	9.970	1.31e6	0.67	NO	36.20	103.989	0.1101	51.8	3.35e3	2.67e3
29	13C-1,2,3,4,7,8-HxCDD	9.970	1.14e6	1.23	NO	42.16	86.064	0.1944	42.9	2.84e3	1.04e4
30	13C-1,2,3,6,7,8-HxCDD	9.970	1.32e6	1.19	NO	42.30	94.425	0.1839	47.1	2.84e3	1.04e4
31	13C-1,2,3,4,6,7,8-HpCDD	9.970	7.57e5	1.08	NO	46.74	69.304	0.0705	34.5	1.38e3	2.60e3
32	13C-OCDD	9.970	1.04e6	0.86	NO	50.33	107.825	0.4403	26.9	7.01e3	1.49e4
33	13C-1,2,3,4-TCDD	9.970	3.83e6	0.78	NO	26.18	16.980	0.0217	8.5	8.02e3	1.33e4
34	13C-1,2,3,7,8,9-HxCDD	9.970	2.69e6	1.23	NO	42.72	18.928	0.0181	9.4	2.84e3	1.04e4
35	37Cl-2,3,7,8-TCDD	9.970	4.14e4			26.54	1.948	0.0122	48.6		1.12e3
36	Total Tetra-Furans	9.970					4.852	0.0679			1.04e3
37	Total Tetra-Dioxins	9.970					0.756	0.0440			7.35e2
38	Total Penta-Furans	9.970					1.854	0.0820			1.94e3
39	Total Penta-Dioxins	9.970					1.272	0.0553			5.37e2
40	Total Hexa-Furans	9.970					4.127	0.0717			1.96e3
41	Total Hexa-Dioxins	9.970					3.605	0.0969			1.59e3
42	Total Hepta-Furans	9.970					8.284	0.0923			1.10e3
43	Total Hepta-Dioxins	9.970					23.583	0.2262			3.02e3
44	Hexa DPE	1.000	1.73e2			24.99					8.55e-2
45	Hepta DPE	1.000	8.40e1			33.56					0.00e0
46	Octa DPE	1.000	4.31e2			38.91					0.00e0
47	Nona DPE	1.000	1.40e2			46.18					7.29e-2
48	Deca DPE	1.000	4.80e2			48.75					2.11e-1
49	Tetra Lock	1.000									7.43e4
50	Penta Lock	1.000	1.44e4			28.83					1.33e5
51	Hexa Lock	1.000	2.47e5			38.94					3.85e5
52	Hepta Lock	1.000	7.11e3			47.48					1.72e5
53	Octa Lock	1.000									2.21e5
54	13C-Tetra-Furans	9.970					83.369	0.0850			4.21e3
55	13C-Tetra-Dioxins	9.970					108.845	0.2772			1.33e4

pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	25.01	0.664	NO	0.092
2	24.67	0.491	YES	0.285
3	24.33	0.490	YES	0.191
4	24.20	0.600	YES	0.246
5	23.90	0.535	YES	0.289
6	23.75	0.921	YES	0.087
7	23.49	0.707	NO	0.799
8	23.38	0.669	NO	0.089
9	23.02	0.714	NO	0.542
10	22.77	0.411	YES	0.117
11	22.61	0.825	NO	0.625
12	22.29	0.711	NO	0.259
13	22.02	0.547	YES	0.060
14	26.33	0.481	YES	0.144
15	26.01	0.791	NO	0.354
16	25.34	0.636	YES	0.673

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.83	0.819	NO	0.037
2	23.43	0.849	NO	0.148
3	22.99	0.868	NO	0.166
4	26.56	0.520	YES	0.052
5	26.42	1.941	YES	0.065
6	25.29	1.693	YES	0.125
7	24.74	0.809	NO	0.164

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	31.62	1.343	NO	0.753
2	28.98	2.096	YES	0.289
3	35.41	1.361	NO	0.180
4	34.39	2.224	YES	0.079
5	34.06	0.992	YES	0.054
6	33.67	1.754	NO	0.111
7	33.54	1.306	YES	0.037
8	33.03	0.943	YES	0.232
9	35.69	1.395	NO	0.120

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.15	0.610	NO	0.418
2	35.65	1.937	YES	0.029
3	35.12	0.965	YES	0.053
4	34.57	0.672	NO	0.133
5	34.28	0.488	YES	0.159
6	33.93	0.299	YES	0.174
7	37.14	0.819	YES	0.068
8	36.20	0.776	YES	0.177
9	33.32	0.530	NO	0.059

pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.13	1.225	NO	1.639
2	39.84	6.344	YES	0.059
3	39.57	1.112	NO	0.011
4	39.33	1.359	NO	1.163
5	39.04	1.457	YES	0.345
6	43.09	0.654	YES	0.062
7	42.96	1.663	YES	0.043
8	41.91	0.794	YES	0.106
9	41.74	0.885	YES	0.104
10	41.38	1.402	NO	0.044
11	40.96	1.369	NO	0.176
12	40.79	1.266	NO	0.292
13	40.70	1.456	YES	0.083

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.92	1.901	YES	0.558
2	40.11	0.956	YES	1.126
3	42.72	1.049	YES	0.232
4	42.31	1.080	NO	0.345
5	42.18	1.201	NO	0.146
6	41.47	1.154	NO	0.095
7	41.28	1.475	YES	1.102

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.89	0.944	NO	5.900
2	45.38	0.929	NO	2.247
3	47.18	1.945	YES	0.138

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.095	NO	9.324
2	45.83	1.032	NO	14.259

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.707	NO	83.369

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.52	0.776	NO	91.865
2	26.18	0.782	NO	16.980

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.62	1.449	NO	94.519
2	35.38	1.427	NO	99.592

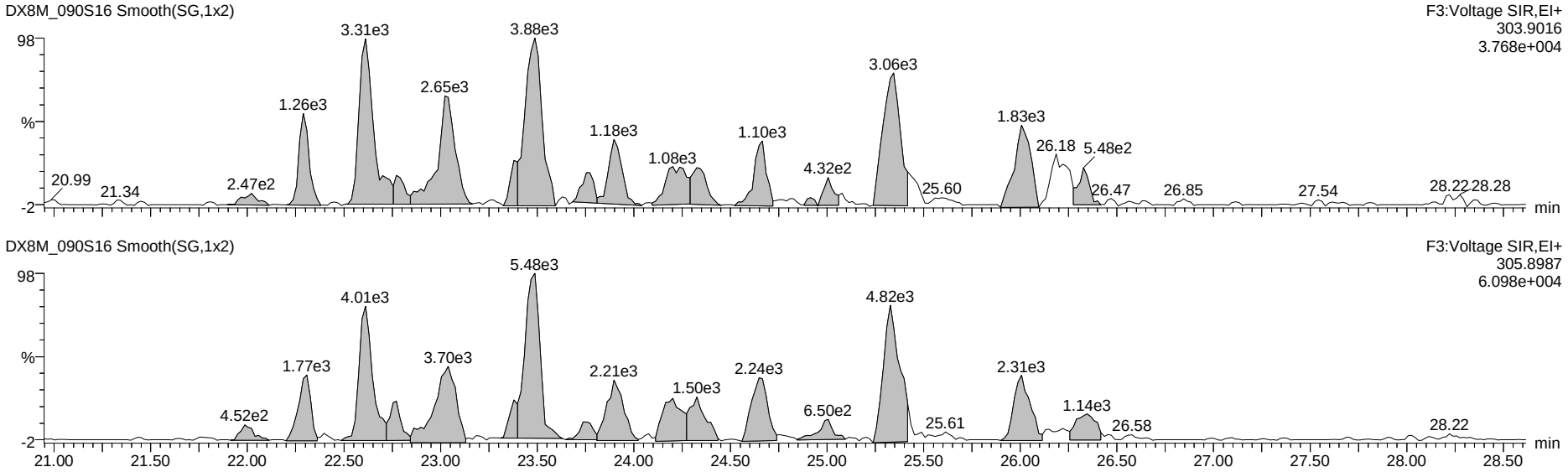
pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

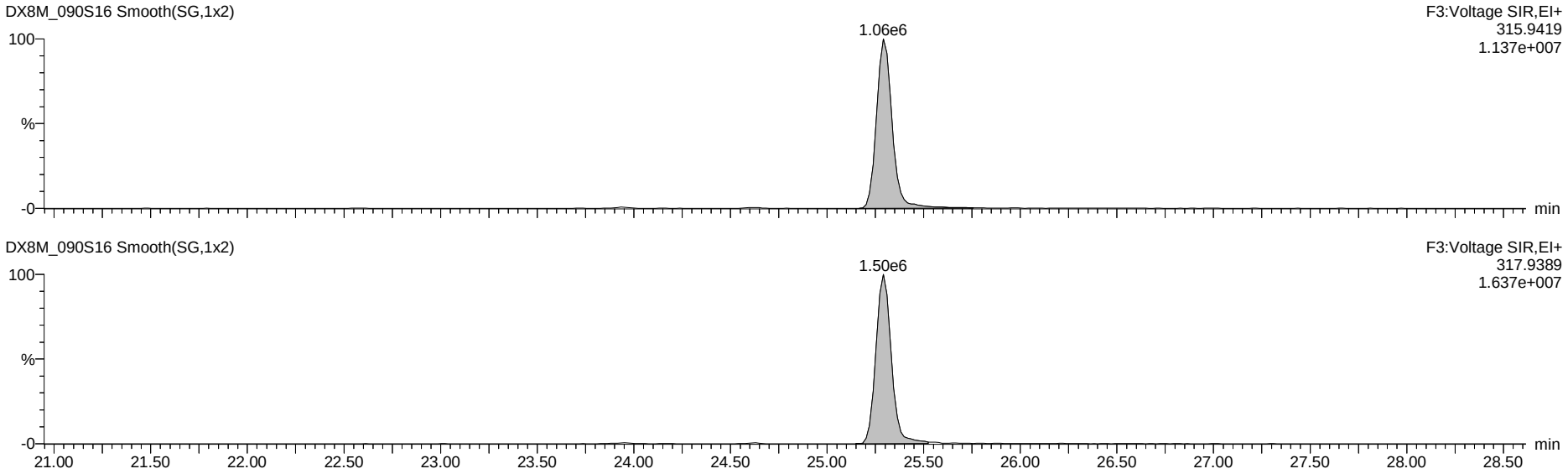
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 27 Jul 2018 10:49:00
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



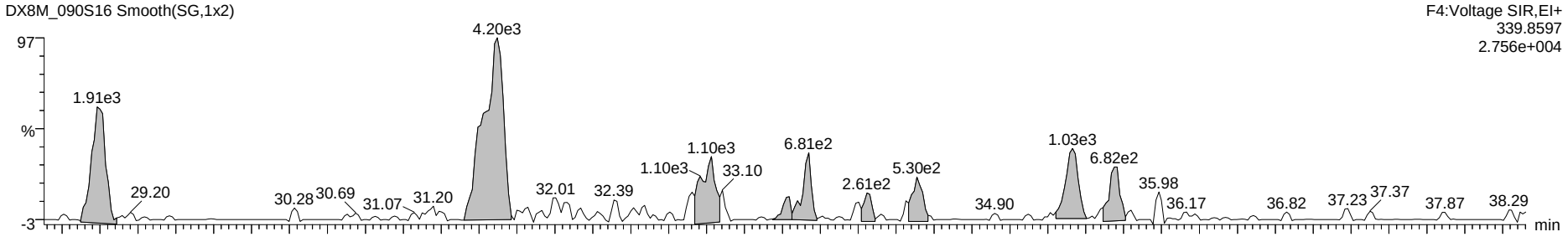
13C-Tetra-Furans

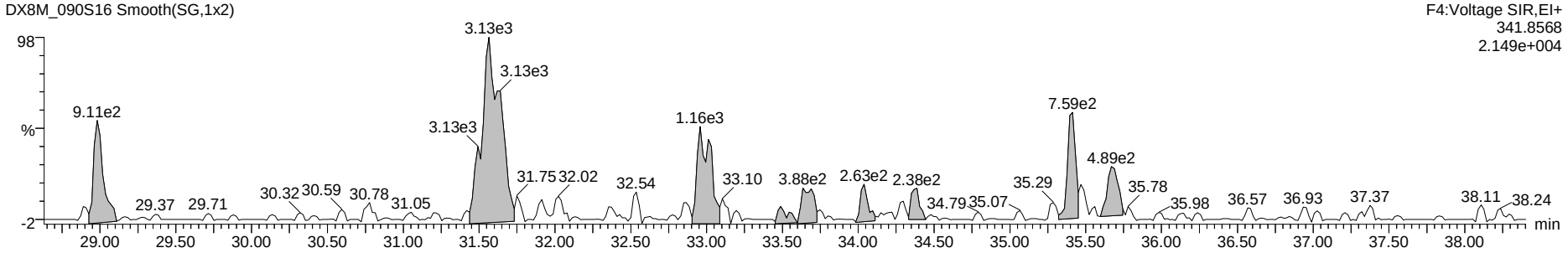


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

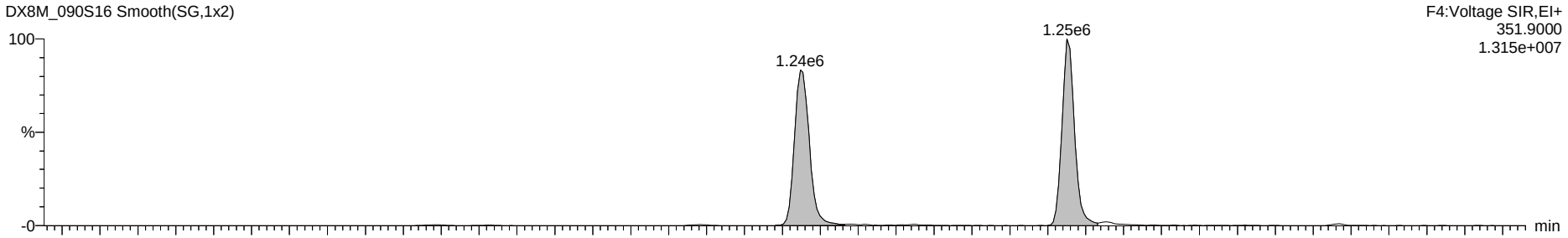
Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

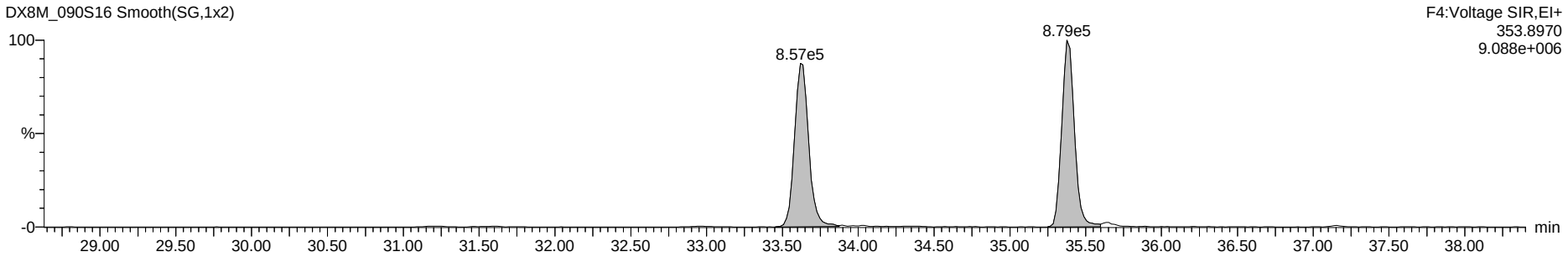
Total Penta-Furans





13C-Penta-Furans

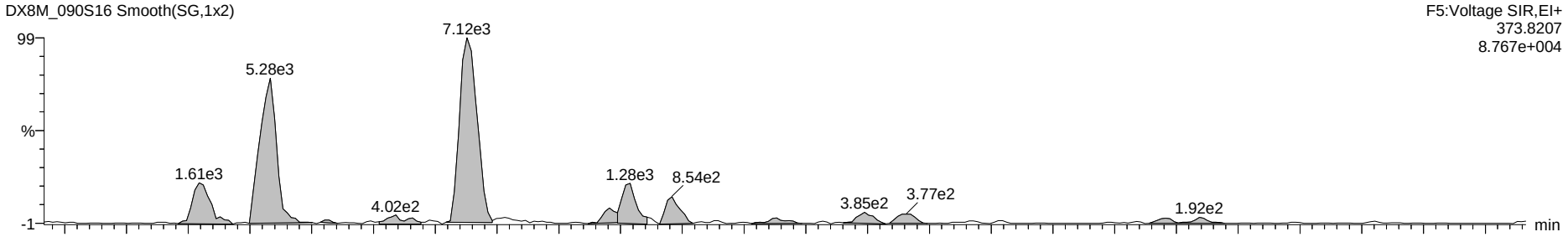


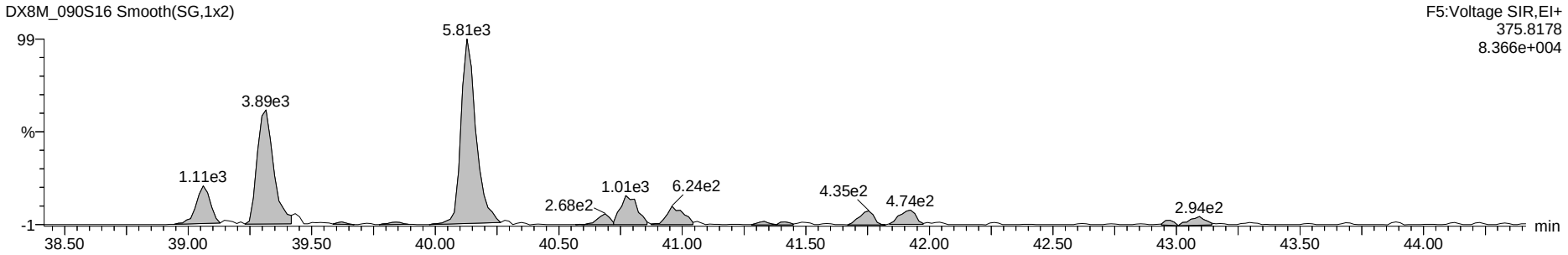


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

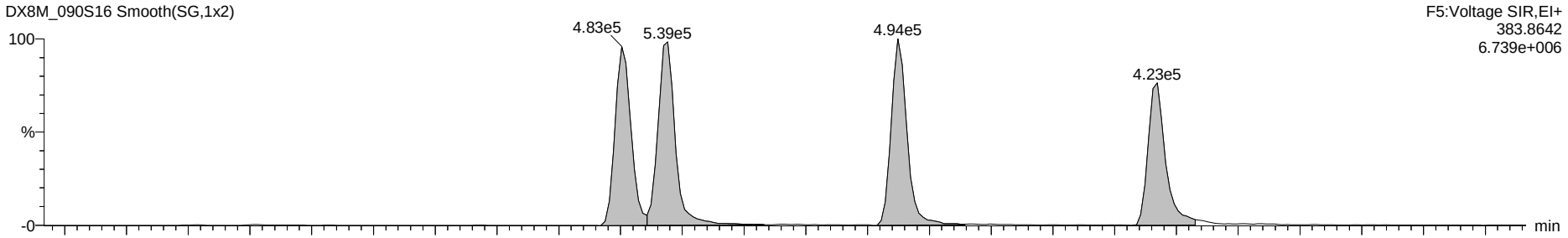
Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

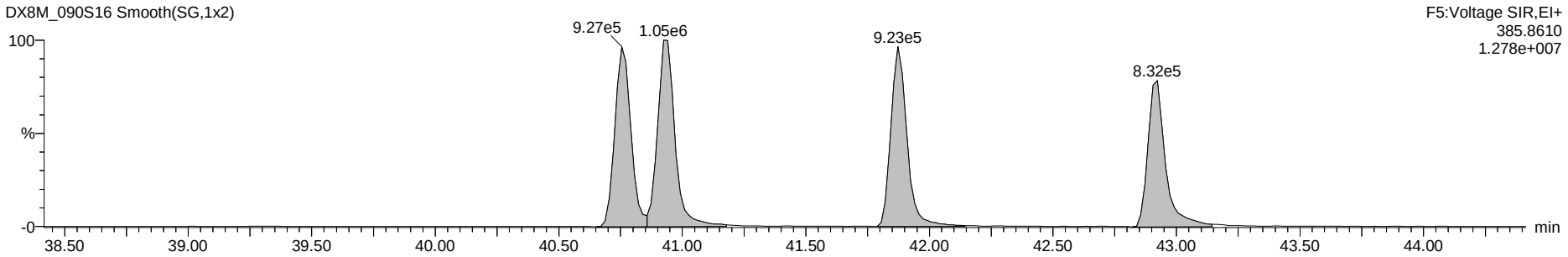
Total Hexa-Furans





13C-Hexa-Furans

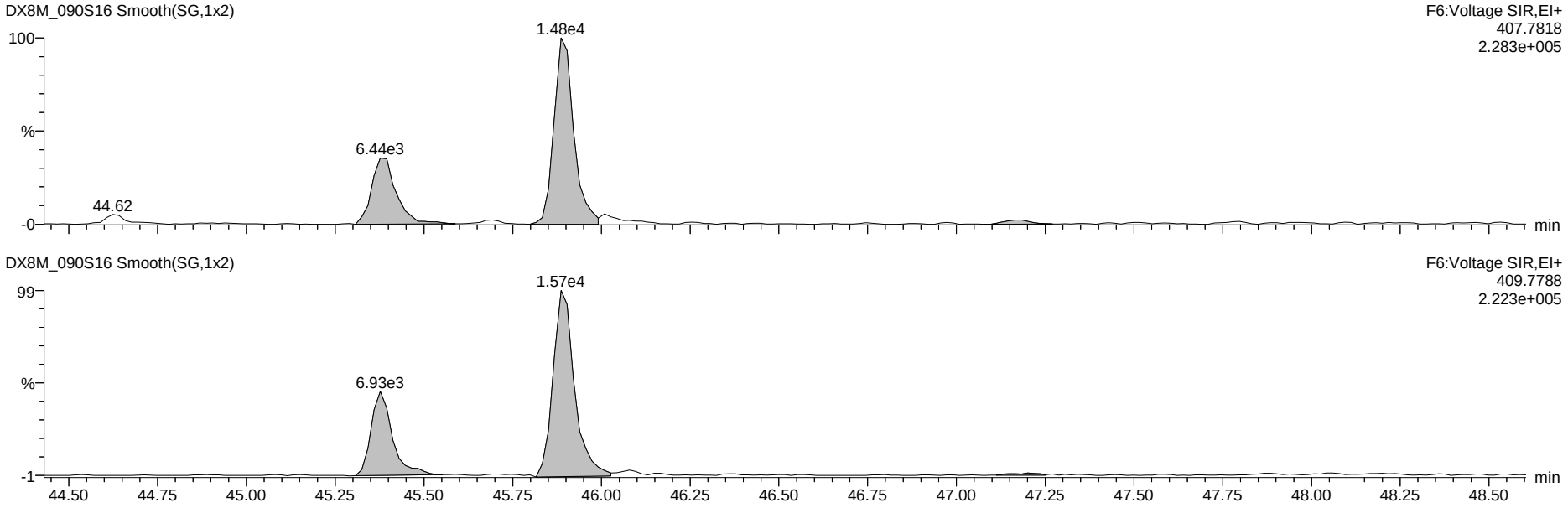




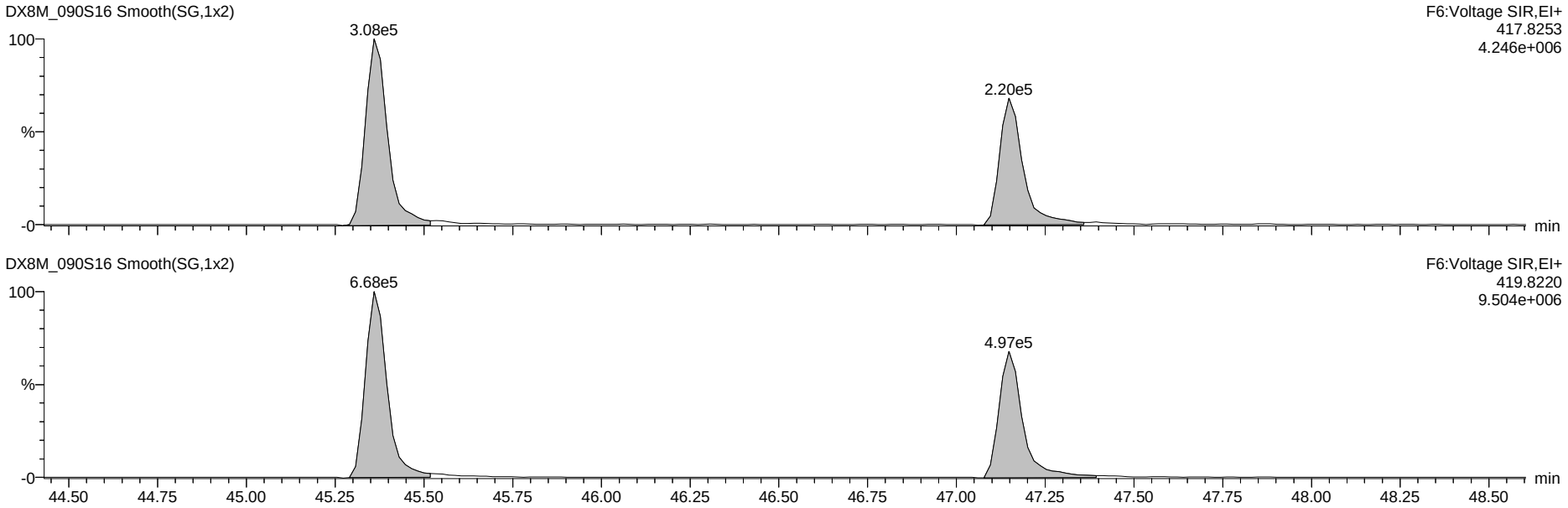
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



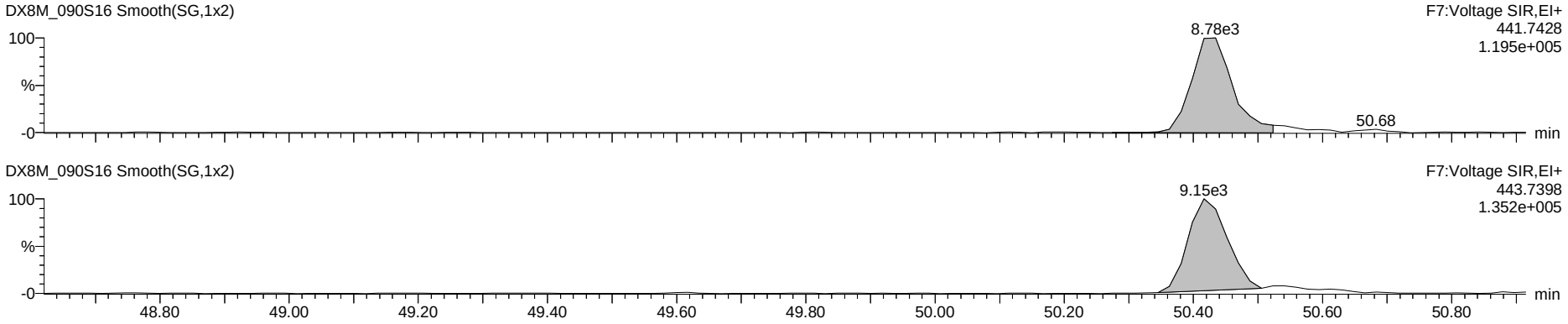
13C-Hepta-Furans



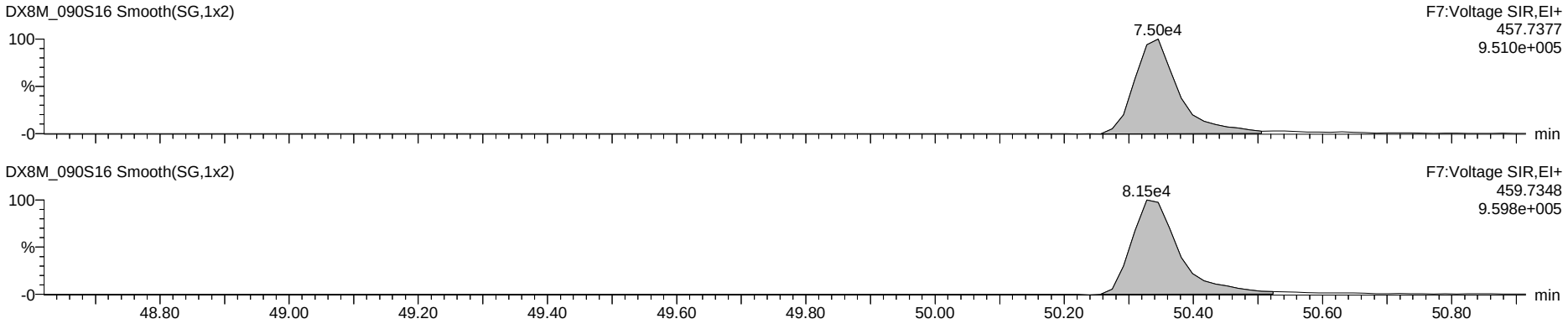
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

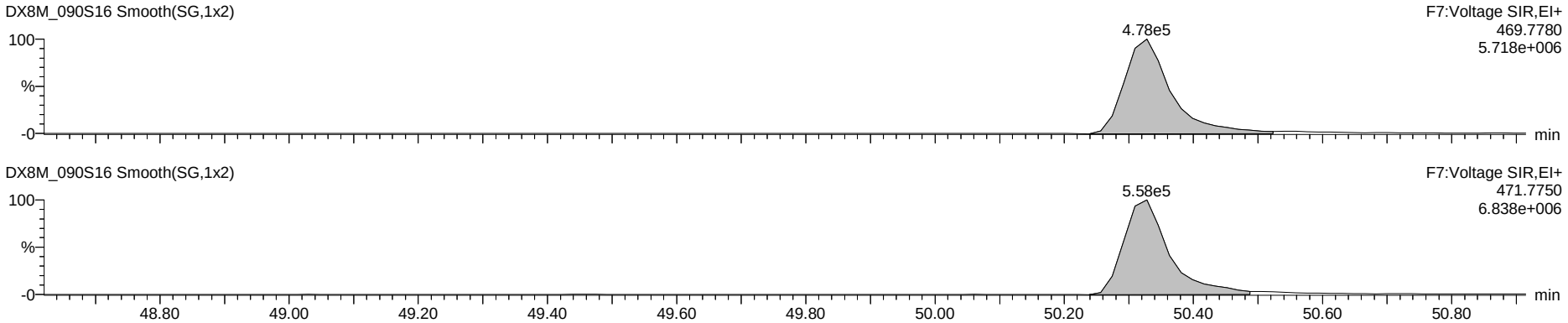
OCDF



OCDD



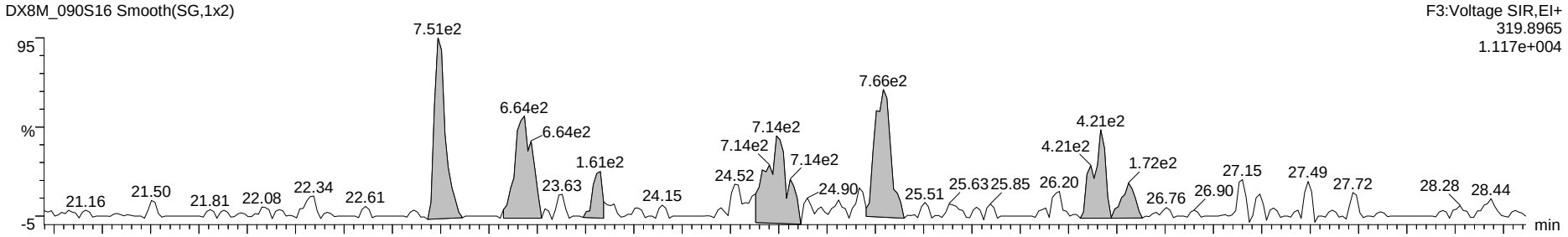
13C-OCDD

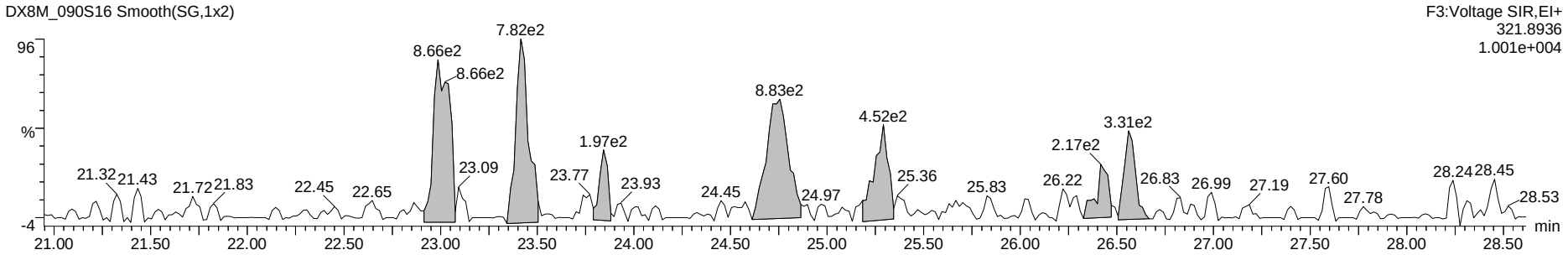


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

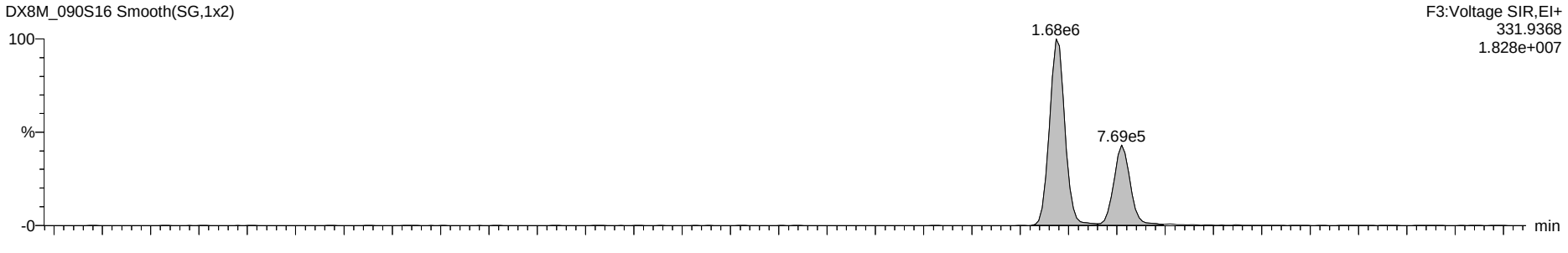
Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

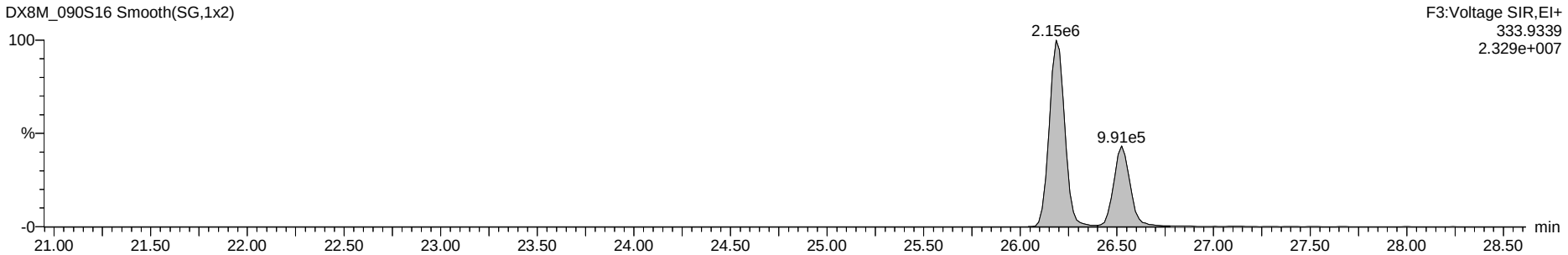
Total Tetra-Dioxins





13C-Tetra-Dioxins

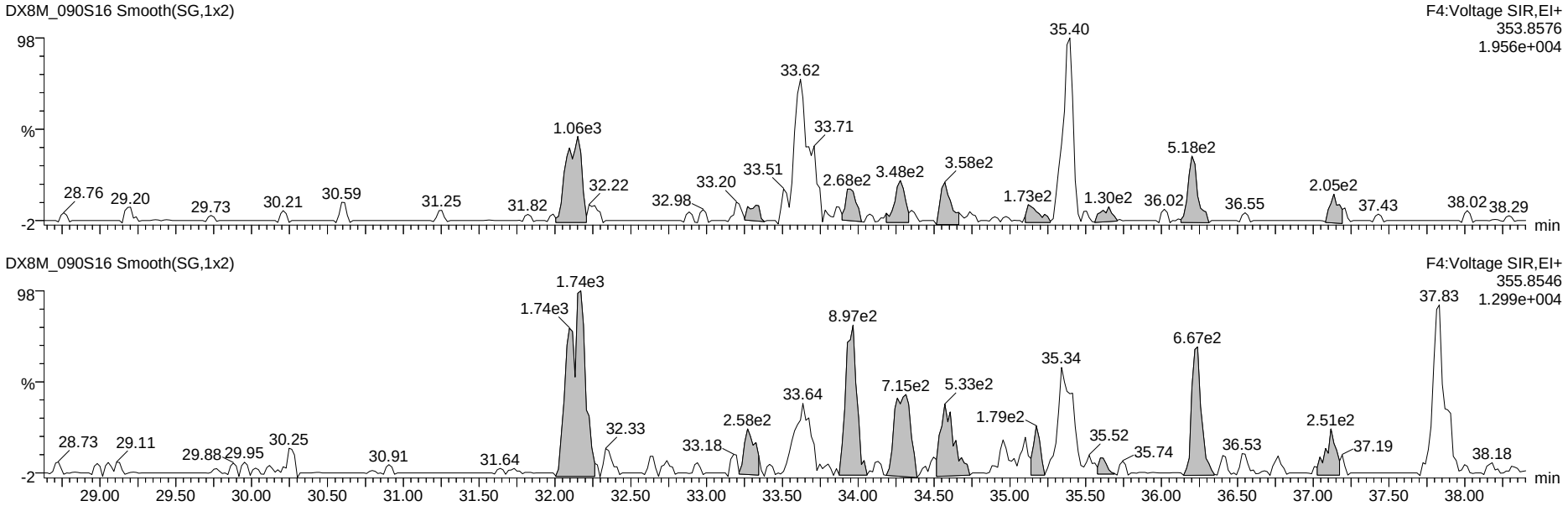




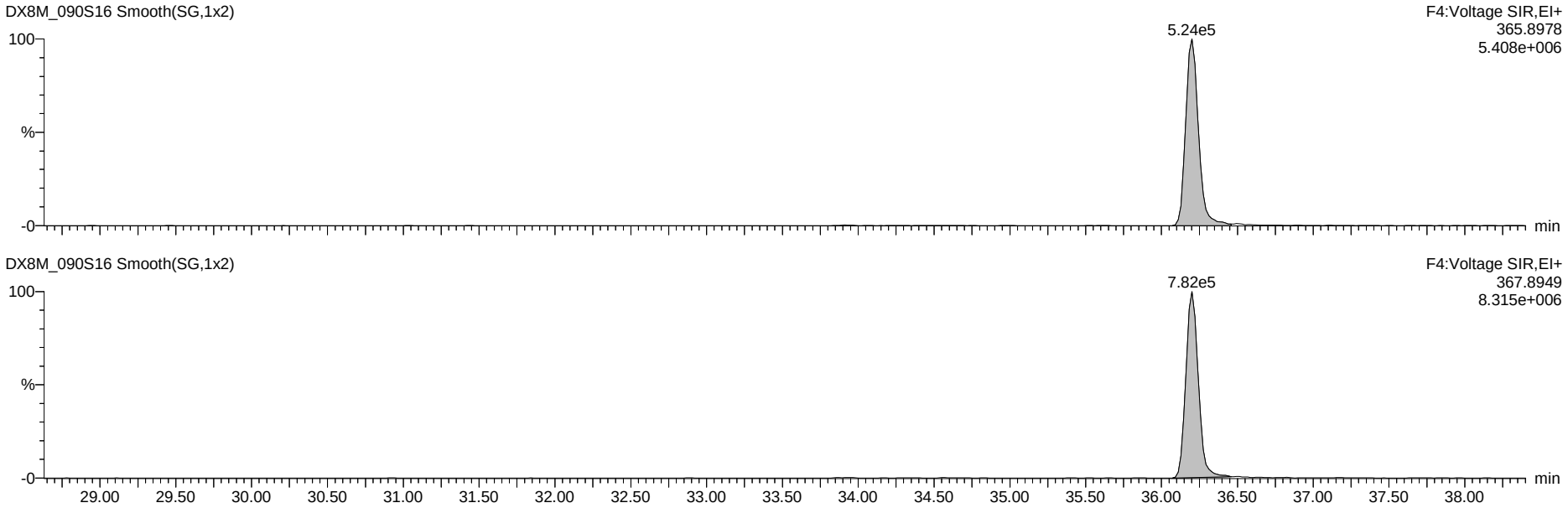
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Total Penta-Dioxins



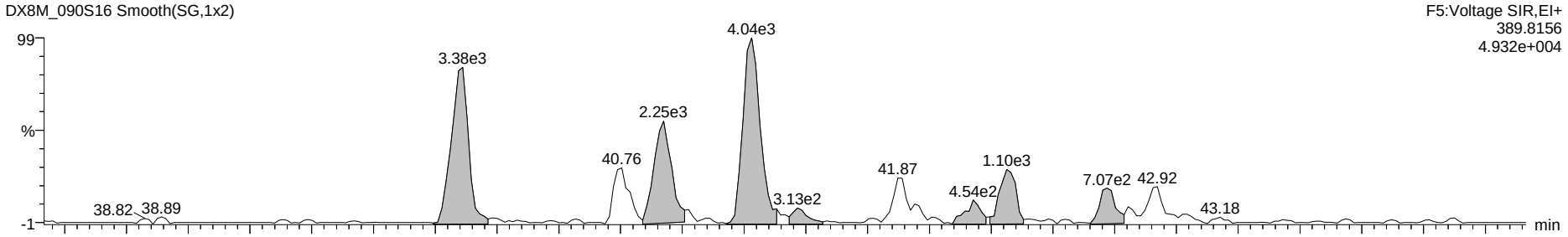
13C-Penta-Dioxins

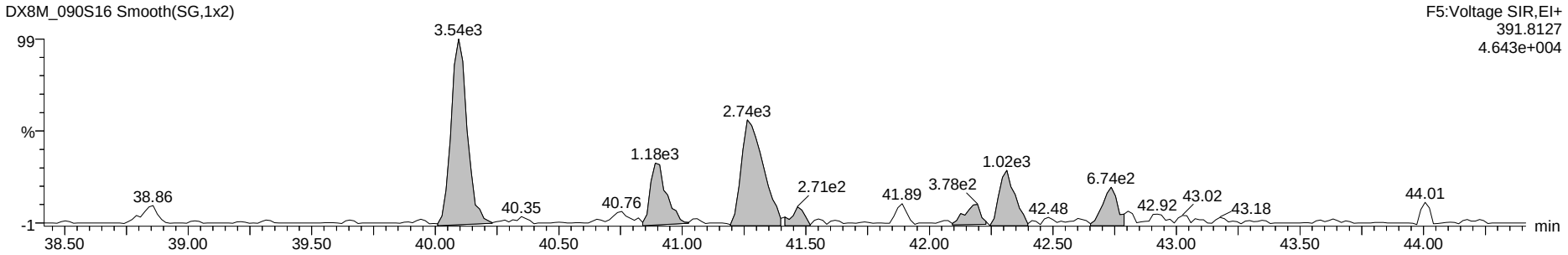


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

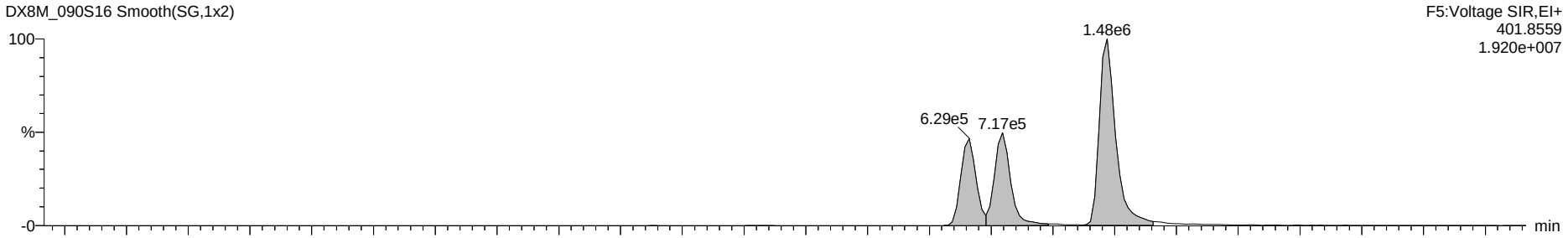
Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

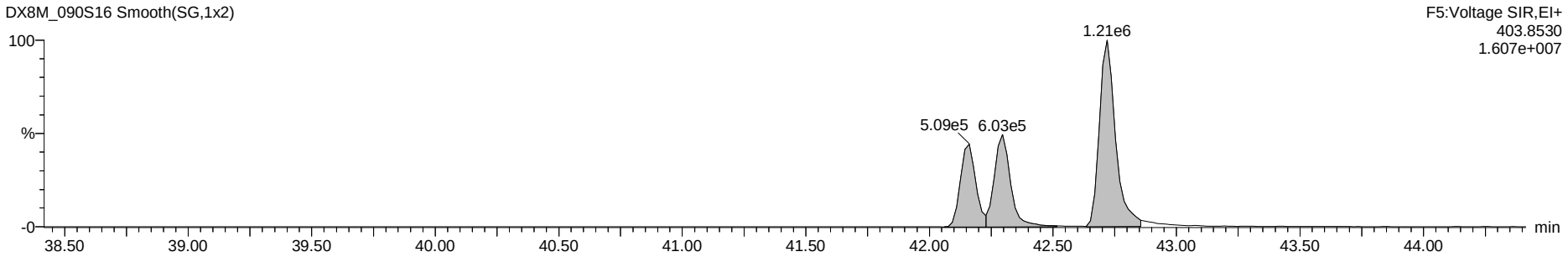
Total Hexa-Dioxins





13C-Hexa-Dioxins

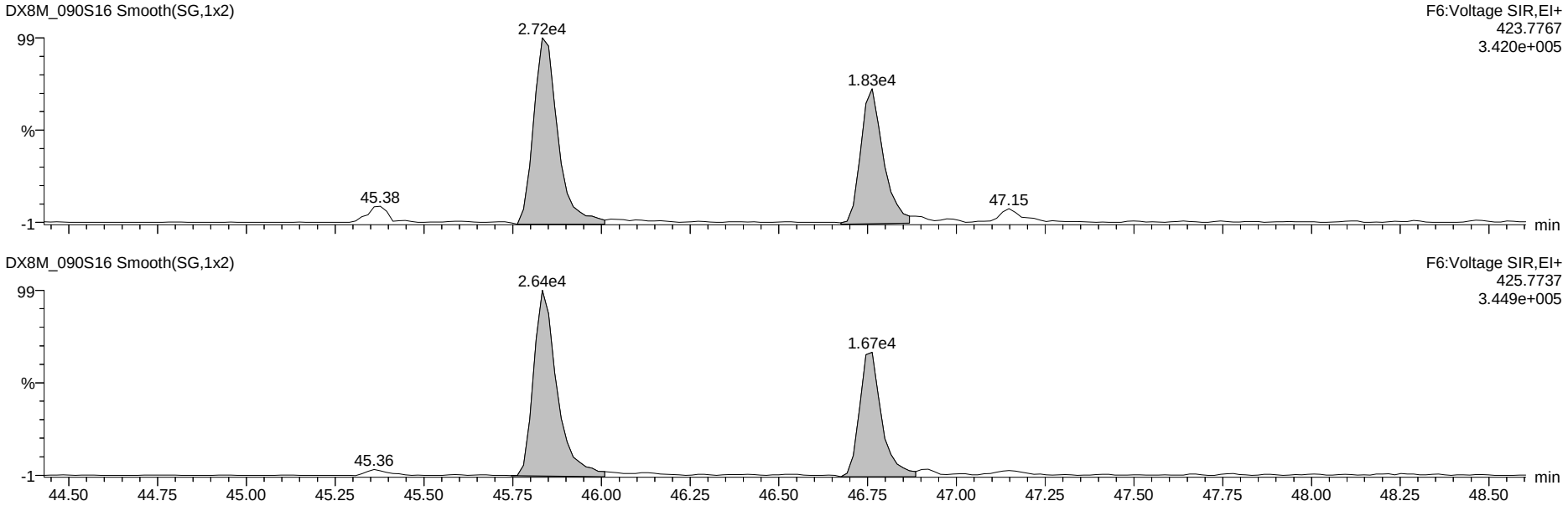




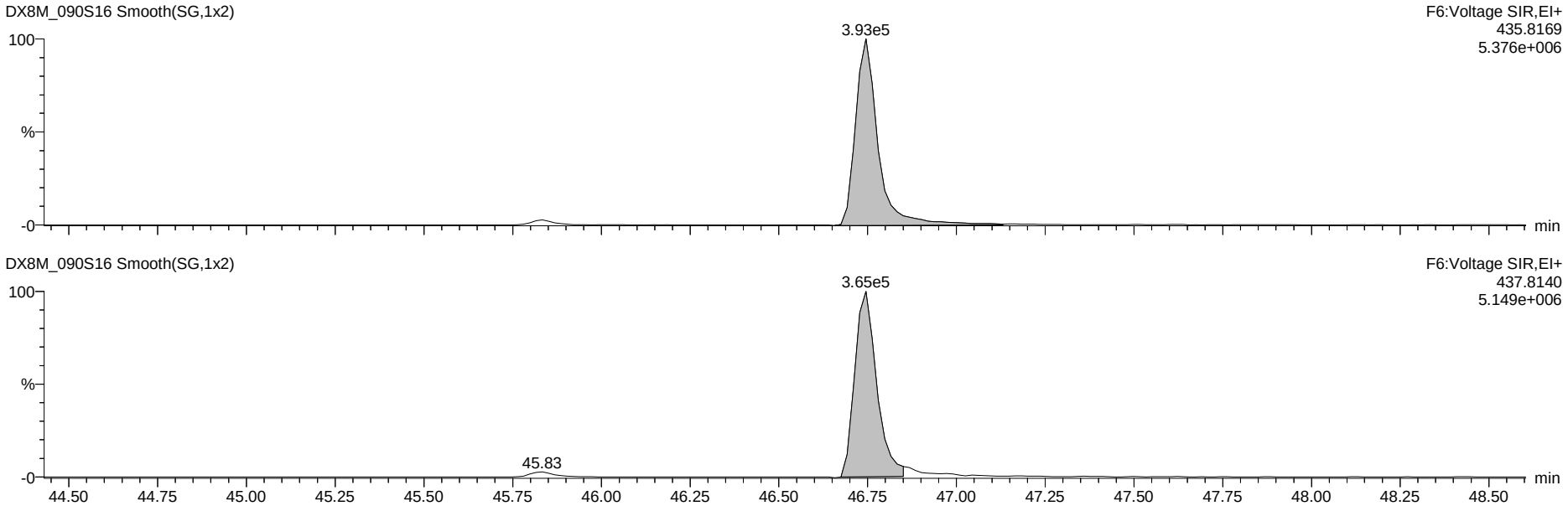
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



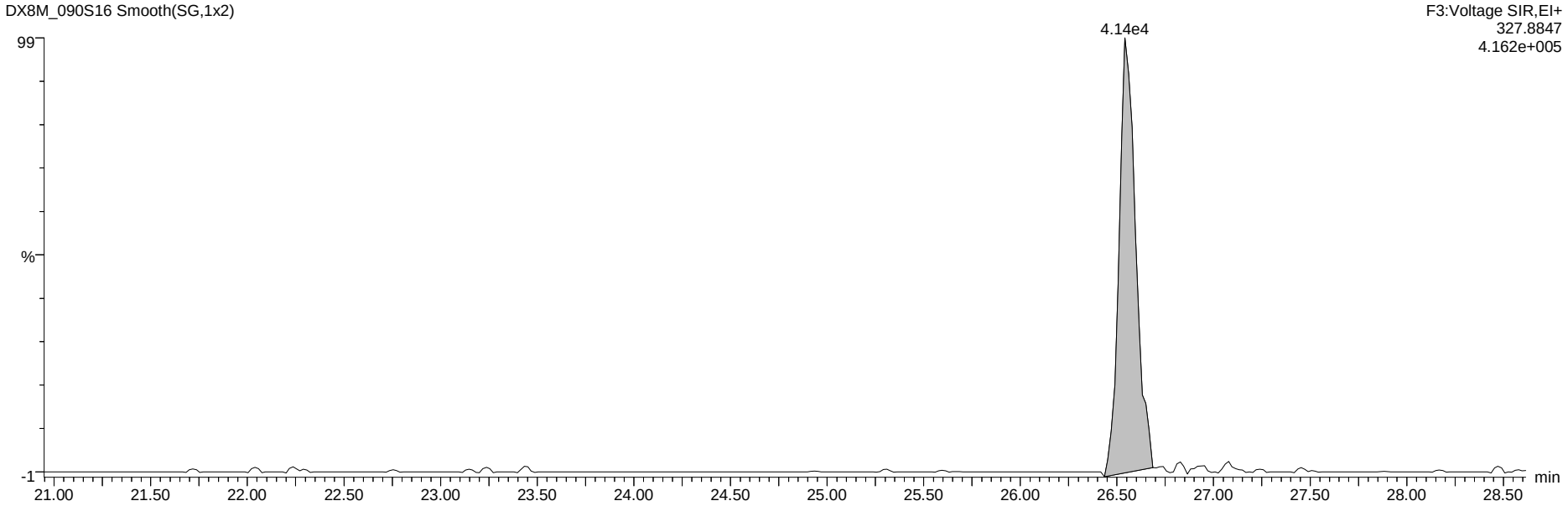
13C-Hepta-Dioxins



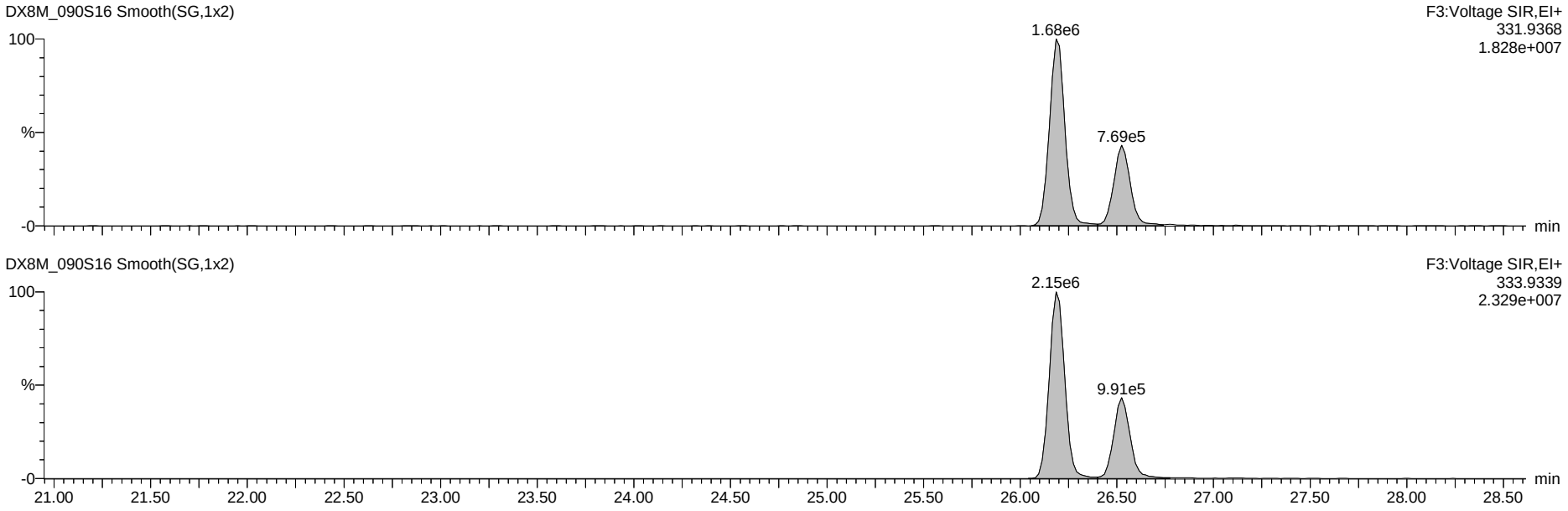
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



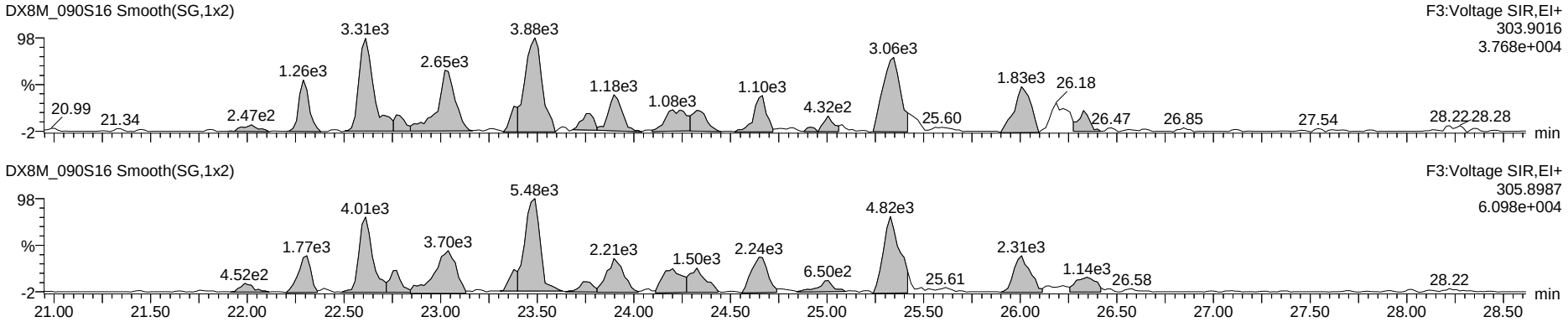
13C-Tetra-Dioxins



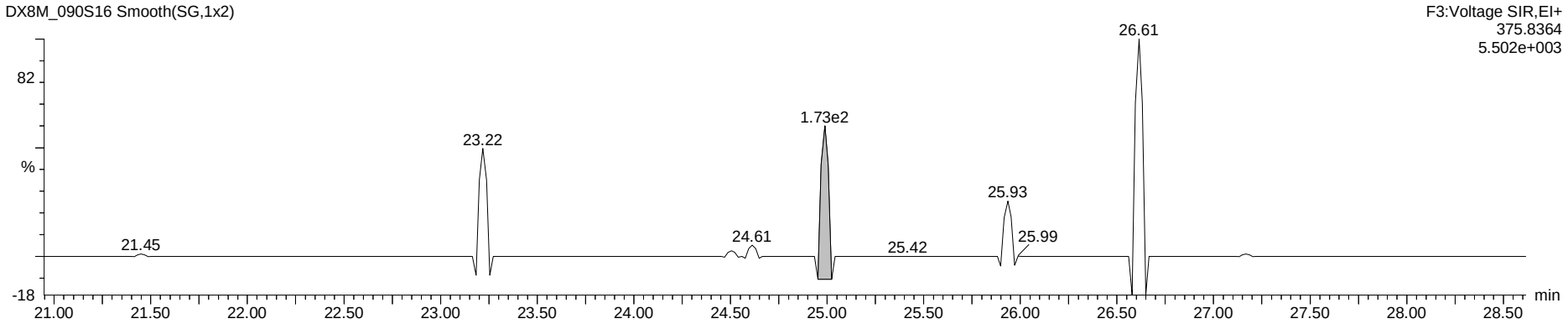
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

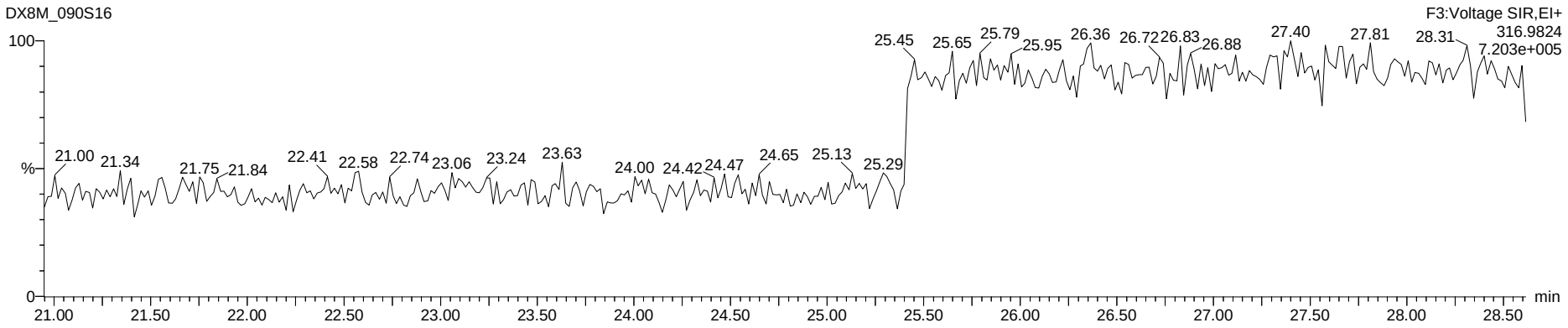
Total Tetra-Furans



Hexa DPE



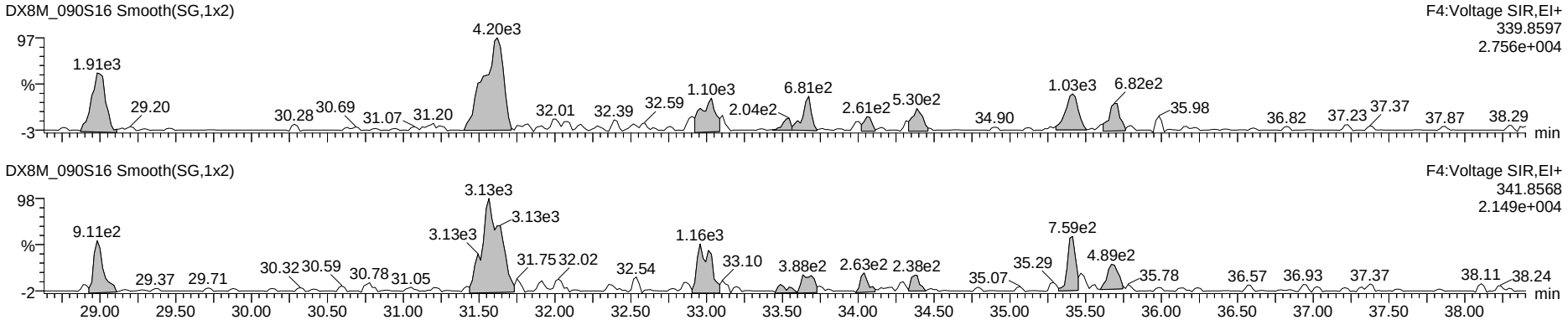
Tetra Lock



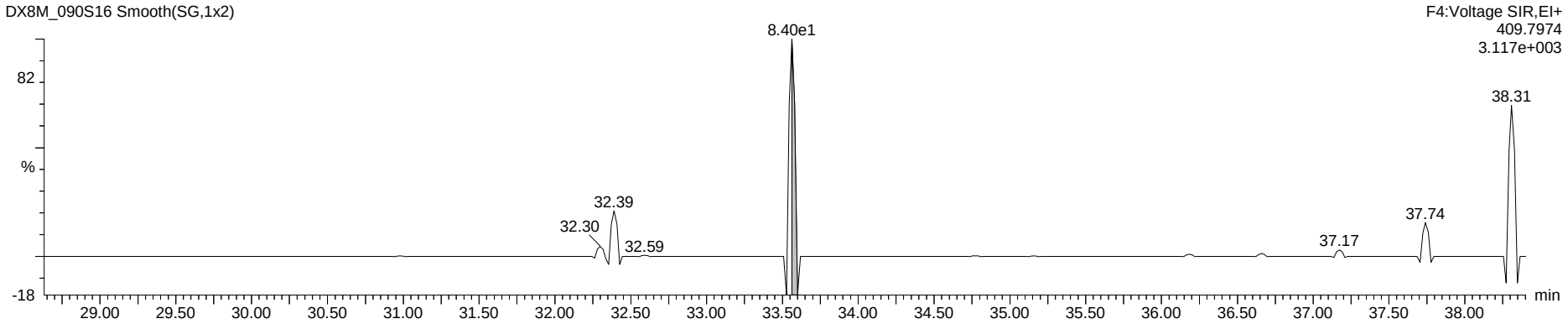
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

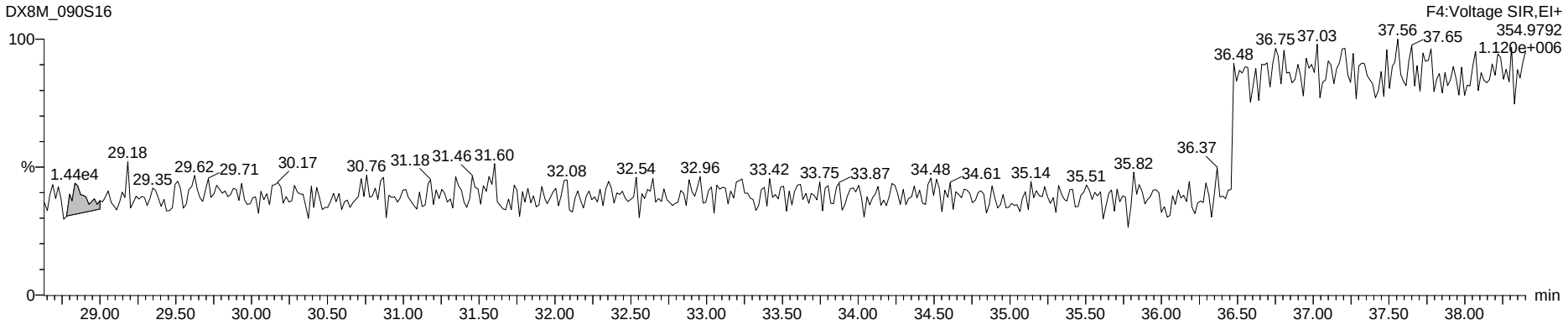
Total Penta-Furans



Hepta DPE



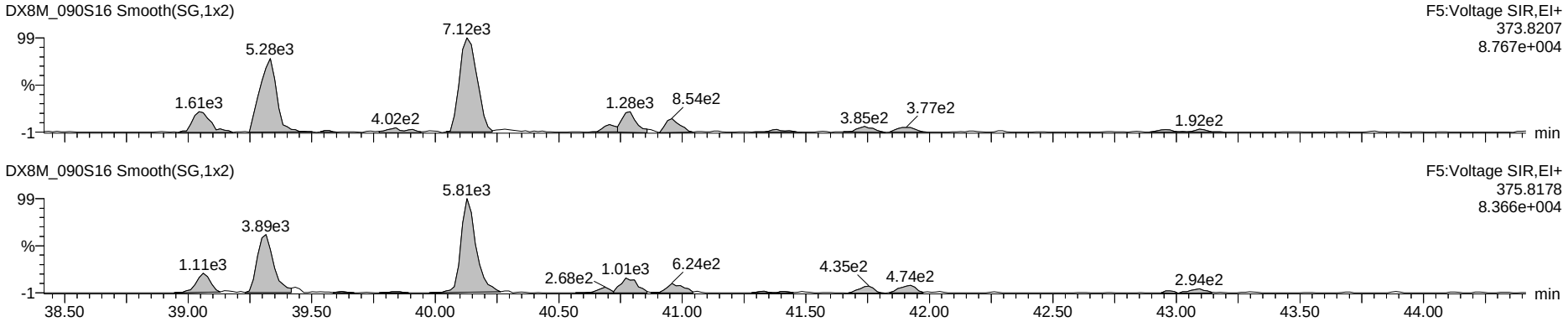
Penta Lock



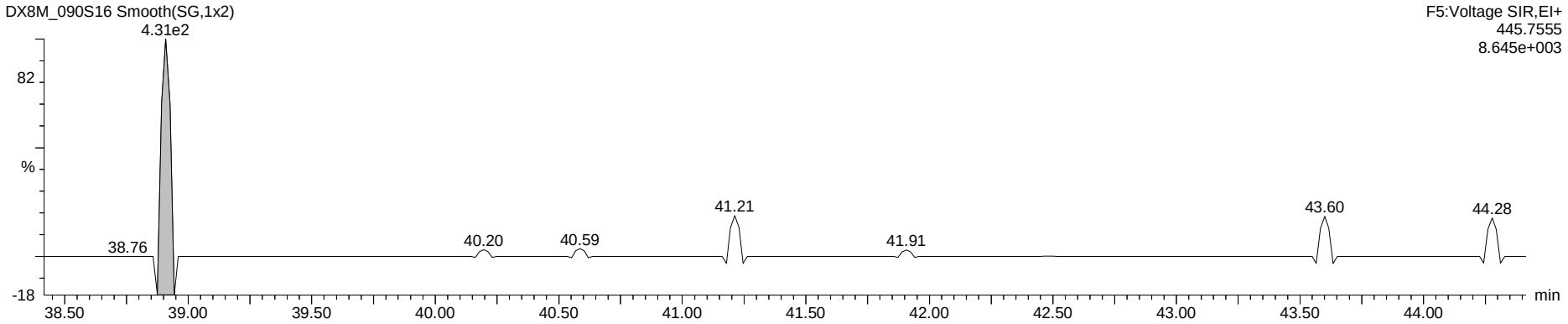
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

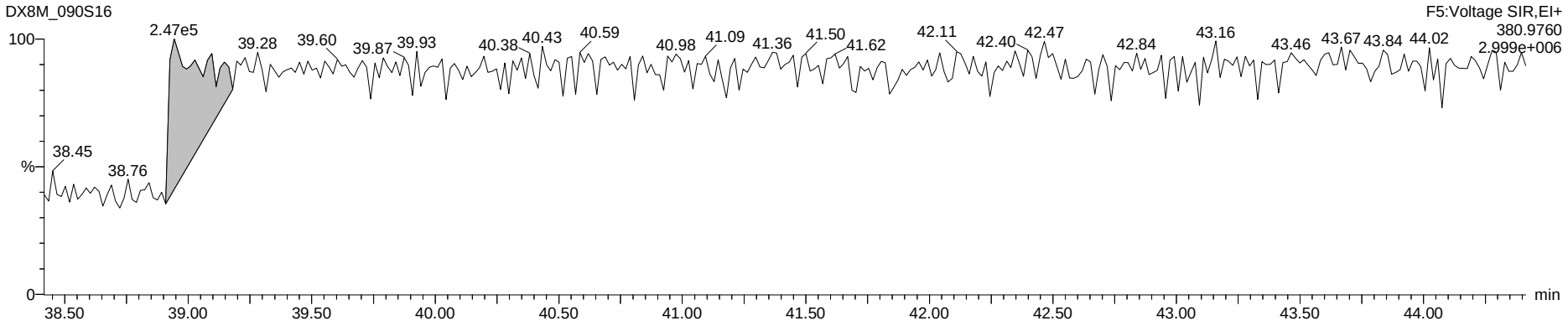
Total Hexa-Furans



Octa DPE



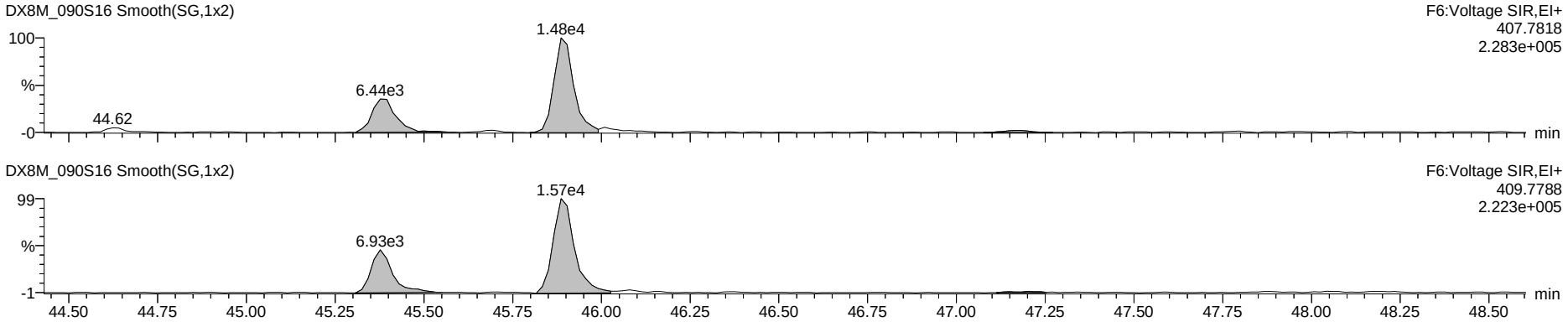
Hexa Lock



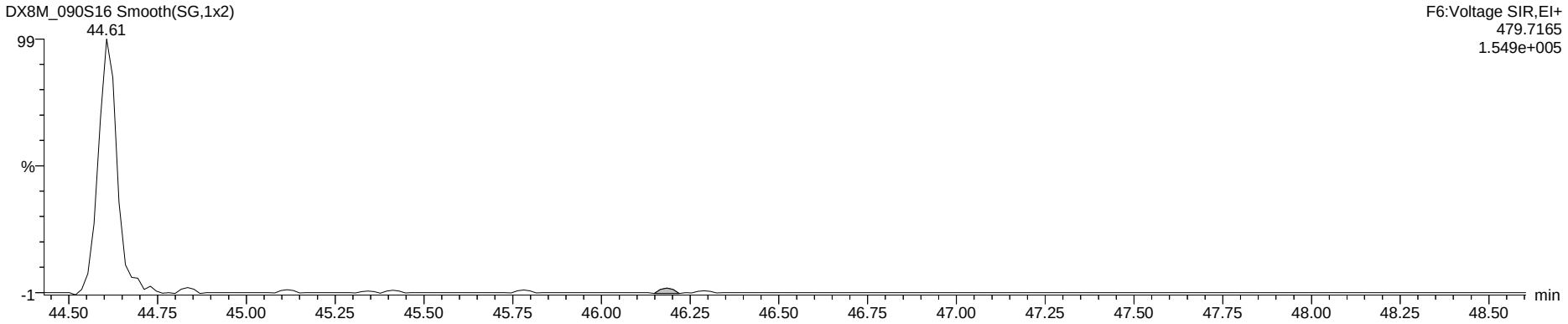
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

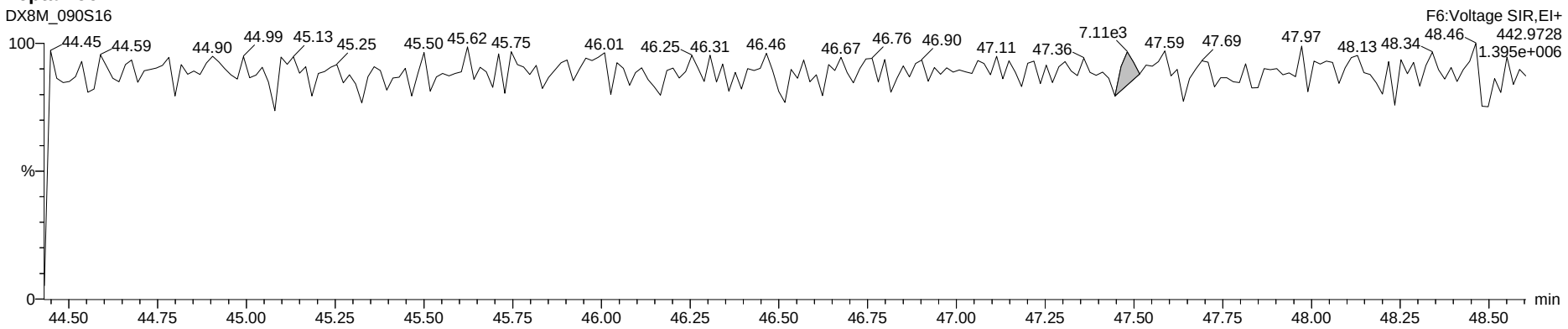
Total Hepta-Furans



Nona DPE



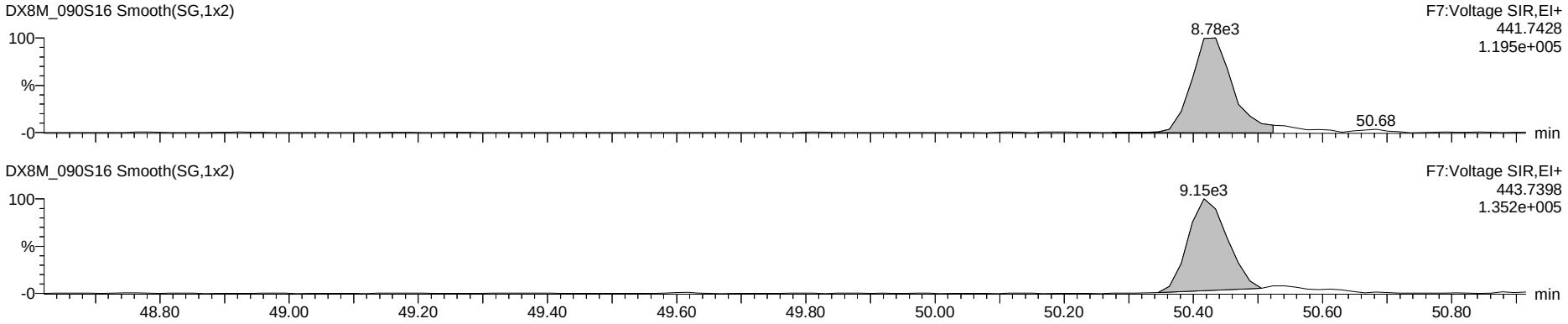
Hepta Lock



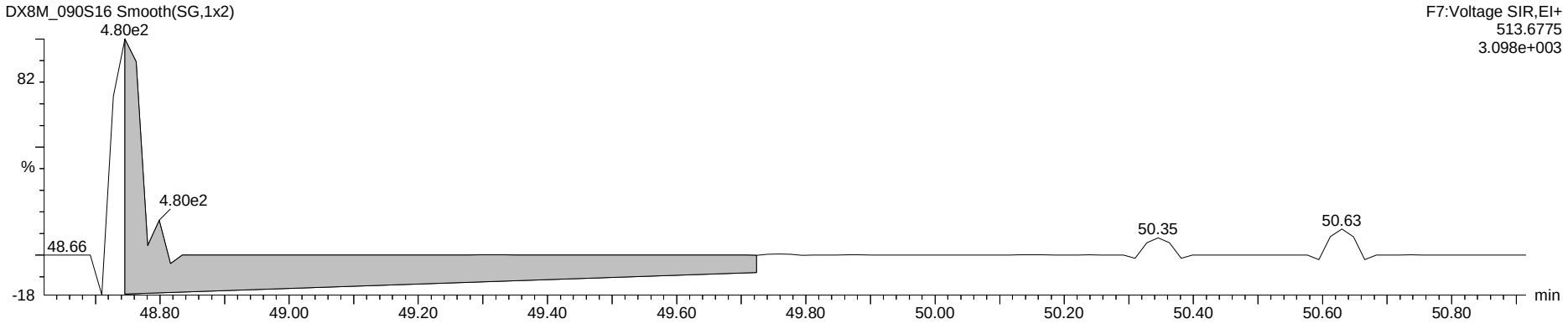
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S16, Date: 28-Jul-2018, Time: 06:03:20, ID: L29626-3,I,, Description: 1,WG64557,1.0/20uL

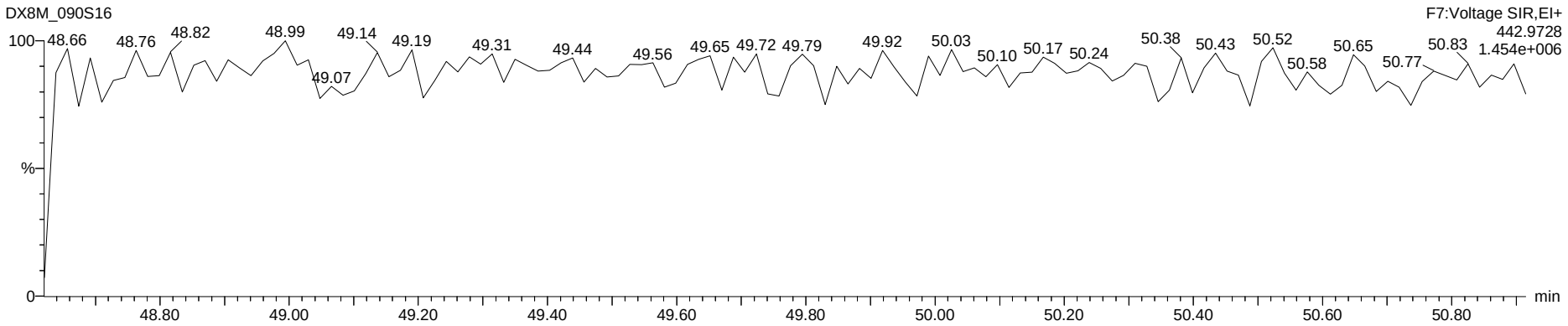
OCDF



Deca DPE



Octa Lock



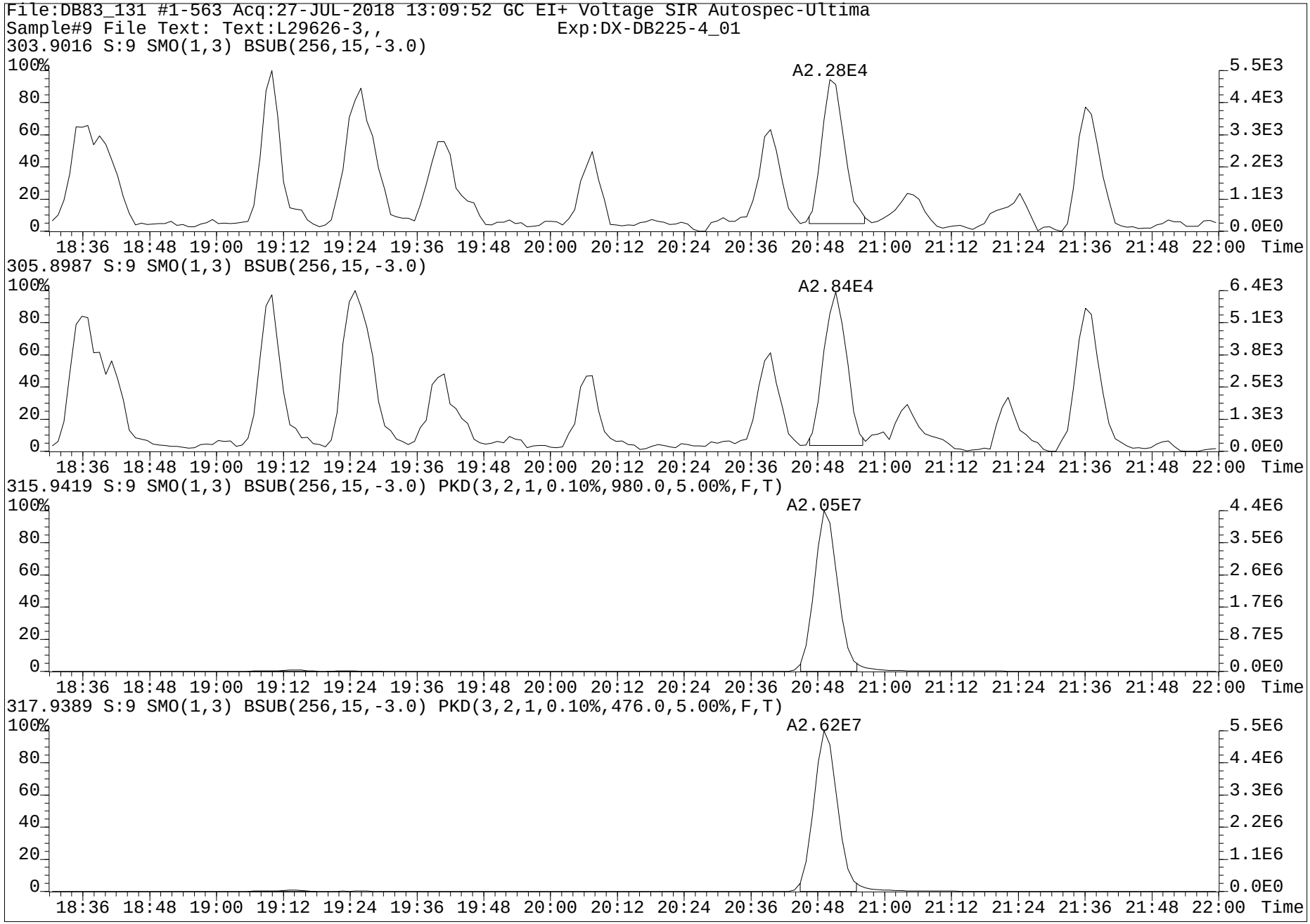
www.axysanalytical.com

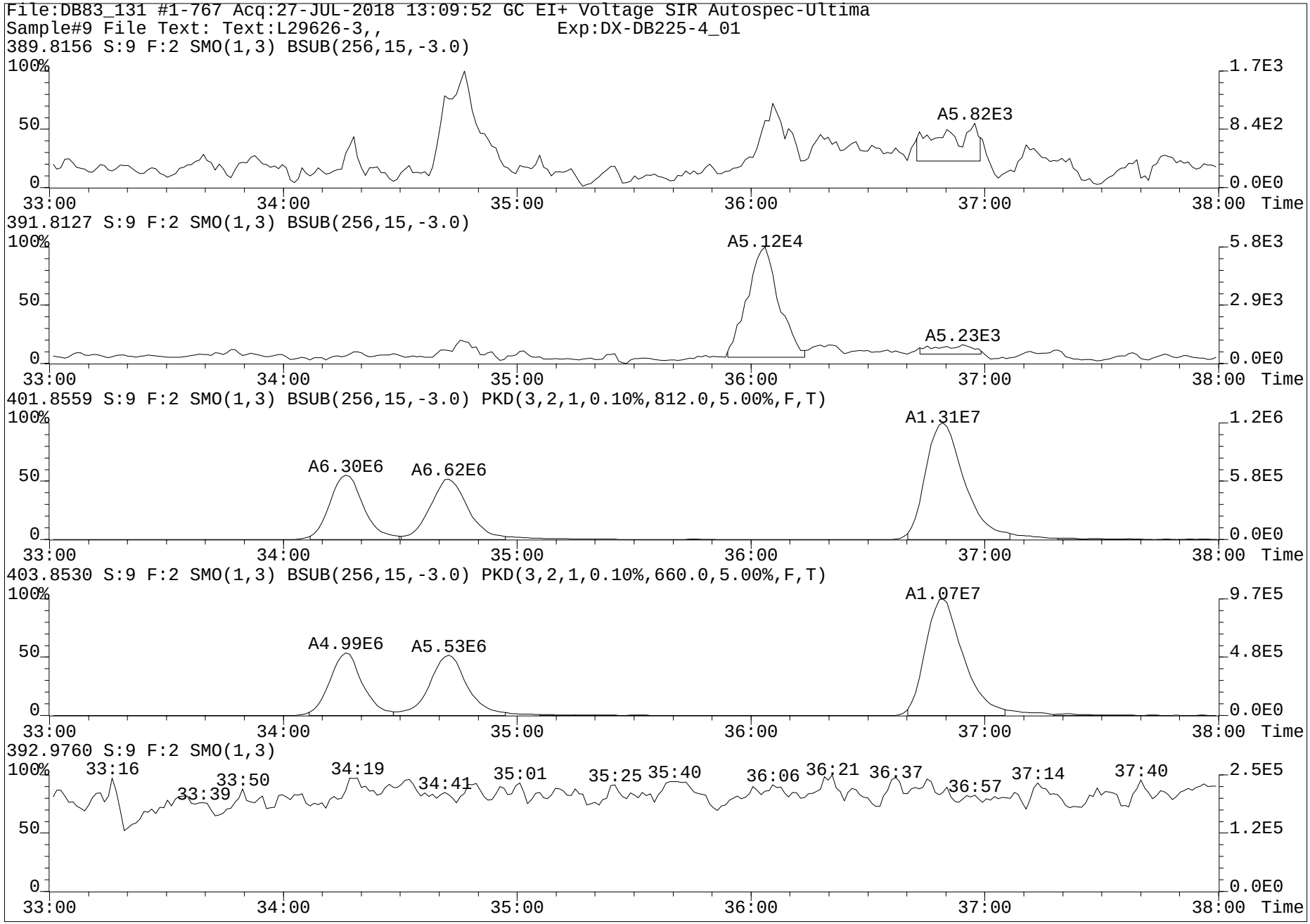
Run #14 Filename DB83_131 S: 9 I: 1 Acquired: 27-JUL-18 13:09:52 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-3,, Comments: 1,WG64557,2.0/20uL
sample size: 9.970000 conc units: pg/g total toxicity: 0.04 F1: 1.0000 F2: 1.0000

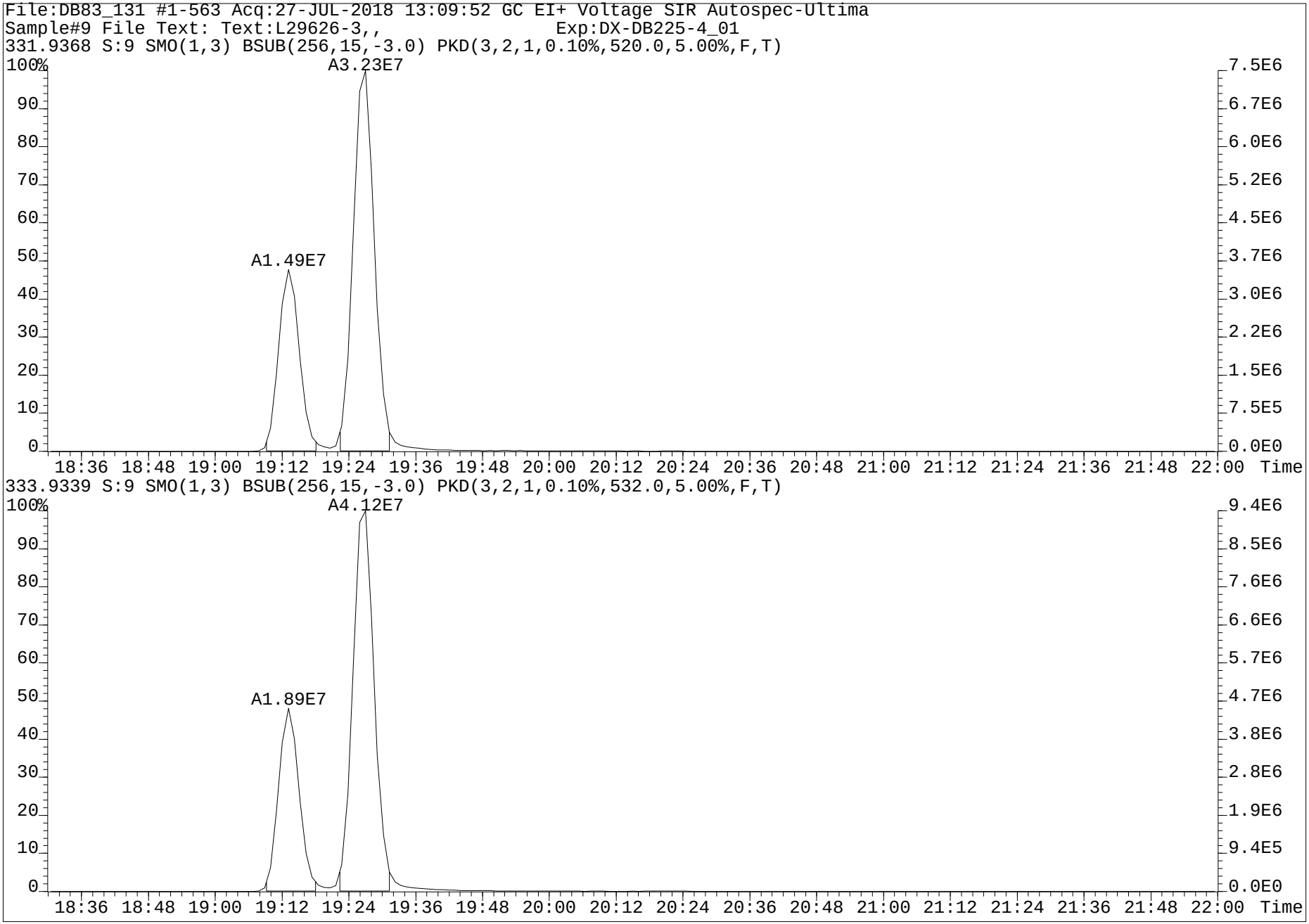
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	5.12e+04	0.80	y	20:50	0.227	0	0.0364	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	1.10e+04	1.11	y	36:50	0.205	0	0.3986	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	4.67e+07	0.78	y	20:49	71.234	-	0.0242	35.5	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.13e+07	1.26	y	34:17	89.761	-	0.3292	44.7	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.21e+07	1.20	y	34:42	93.613	-	0.3190	46.7	n
6	RS	13C-1,2,3,4-TCDD	1	7.35e+07	0.78	y	19:27	6.660	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.39e+07	1.22	y	36:50	4.364	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

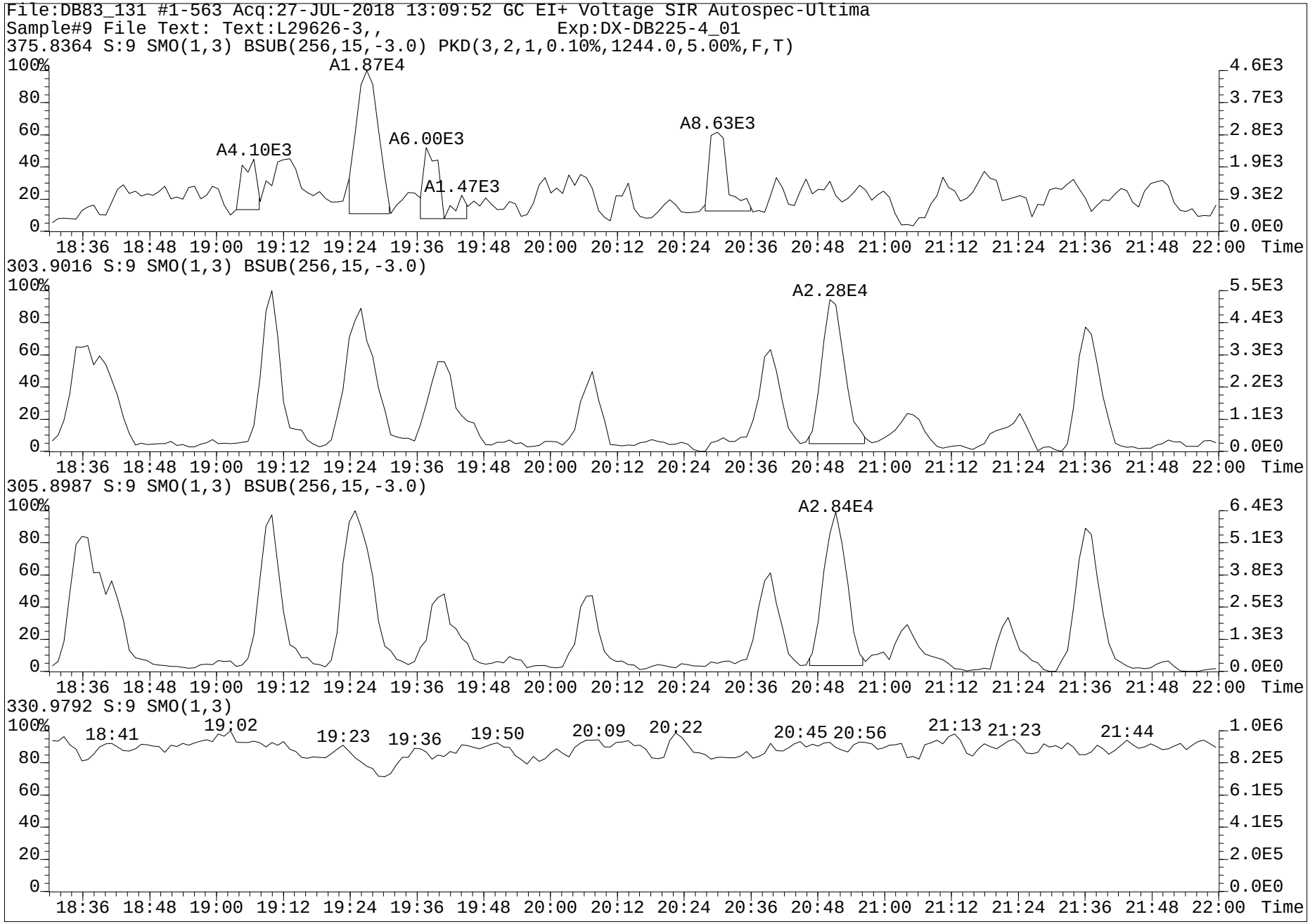
Checked by
AW31-Jul-18

pMy KB 30JUL2018


File:DB83_131 #1-563 Acq:27-JUL-2018 13:09:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text: Text:L29626-3,, Exp:DX-DB225-4_01
303.9016 S:9 SMO(1,3) BSUB(256,15,-3.0)
A2.28E4
305.8987 S:9 SMO(1,3) BSUB(256,15,-3.0)
A2.84E4
315.9419 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,980.0,5.00%,F,T)
A2.05E7
317.9389 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,476.0,5.00%,F,T)
A2.62E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
5.5E3
4.4E3
3.3E3
2.2E3
1.1E3
0.0E0
6.4E3
5.1E3
3.8E3
2.5E3
1.3E3
4.4E6
3.5E6
2.6E6
1.7E6
8.7E5
5.5E6
4.4E6
3.3E6
2.2E6
1.1E6


File:DB83_131 #1-767 Acq:27-JUL-2018 13:09:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text: Text:L29626-3,, Exp:DX-DB225-4_01
389.8156 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.82E3
391.8127 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.12E4
A5.23E3
401.8559 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,812.0,5.00%,F,T)
A6.30E6
A6.62E6
A1.31E7
403.8530 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,660.0,5.00%,F,T)
A4.99E6
A5.53E6
A1.07E7
392.9760 S:9 F:2 SMO(1,3)
33:16
33:39
33:50
34:19
34:41
35:01
35:25
35:40
36:06
36:21
36:37
36:57
37:14
37:40
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.7E3
8.4E2
0.0E0
5.8E3
2.9E3
1.2E6
5.8E5
9.7E5
4.8E5
2.5E5
1.2E5


File:DB83_131 #1-563 Acq:27-JUL-2018 13:09:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text: Text:L29626-3,, Exp:DX-DB225-4_01
331.9368 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,520.0,5.00%,F,T)
A3.23E7
A1.49E7
333.9339 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,532.0,5.00%,F,T)
A4.12E7
A1.89E7
Time


File:DB83_131 #1-563 Acq:27-JUL-2018 13:09:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text: Text:L29626-3,, Exp:DX-DB225-4_01
375.8364 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1244.0,5.00%,F,T)
A1.87E4
A4.10E3
A6.00E3
A1.47E3
A8.63E3
303.9016 S:9 SMO(1,3) BSUB(256,15,-3.0)
A2.28E4
305.8987 S:9 SMO(1,3) BSUB(256,15,-3.0)
A2.84E4
330.9792 S:9 SMO(1,3)
18:41
19:02
19:23
19:36
19:50
20:09
20:22
20:45
20:56
21:13
21:23
21:44
Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.410	7.58e3	0.68	NO	25.36	0.555	0.0371		1.31e3	9.52e2
2	1,2,3,7,8-PeCDF	10.410	4.28e3	1.95	YES	33.65	0.386	0.0492		1.13e3	9.20e2
3	2,3,4,7,8-PeCDF	10.410	1.43e4	1.52	NO	35.41	1.292	0.0427		1.13e3	9.20e2
4	1,2,3,4,7,8-HxCDF	10.410	9.71e4	1.27	NO	40.79	10.508	0.0730		1.99e3	1.64e3
5	1,2,3,6,7,8-HxCDF	10.410	1.76e4	1.27	NO	40.96	1.783	0.0716		1.99e3	1.64e3
6	2,3,4,6,7,8-HxCDF	10.410	8.28e3	1.28	NO	41.91	0.887	0.0729		1.99e3	1.64e3
7	1,2,3,7,8,9-HxCDF	10.410	1.01e3	0.77	YES	42.94	0.133	0.0951		1.99e3	1.64e3
8	1,2,3,4,6,7,8-HpCDF	10.410	4.65e5	1.07	NO	45.40	68.165	0.1714		3.33e3	3.11e3
9	1,2,3,4,7,8,9-HpCDF	10.410	4.53e4	0.93	NO	47.17	8.102	0.2272		3.33e3	3.11e3
10	OCDF	10.410	1.47e6	0.80	NO	50.43	335.027	0.0000		2.82e-2	1.36e-1
11	2,3,7,8-TCDD	10.410	3.49e2	0.47	YES	26.54	0.031	0.0451		1.36e3	8.19e2
12	1,2,3,7,8-PeCDD	10.410	2.27e3	0.52	NO	36.26	0.311	0.0425		7.37e2	6.04e2
13	1,2,3,4,7,8-HxCDD	10.410	3.79e3	1.71	YES	42.18	0.597	0.0700		1.31e3	1.23e3
14	1,2,3,6,7,8-HxCDD	10.410	3.45e4	1.29	NO	42.31	4.754	0.0708		1.31e3	1.23e3
15	1,2,3,7,8,9-HxCDD	10.410	9.30e3	1.15	NO	42.74	1.360	0.0700		1.31e3	1.23e3
16	1,2,3,4,6,7,8-HpCDD	10.410	6.97e5	1.10	NO	46.76	143.994	0.2935		3.78e3	3.58e3
17	OCDD	10.410	7.37e6	0.91	NO	50.35	2019.577	0.0000		0.00e0	4.53e-1
18	13C-2,3,7,8-TCDF	10.410	2.87e6	0.70	NO	25.31	111.011	0.0868	57.8	7.29e3	2.81e3
19	13C-1,2,3,7,8-PeCDF	10.410	2.31e6	1.40	NO	33.64	123.945	0.1011	64.5	4.74e3	3.74e3
20	13C-2,3,4,7,8-PeCDF	10.410	2.27e6	1.38	NO	35.40	126.137	0.1048	65.7	4.74e3	3.74e3
21	13C-1,2,3,4,7,8-HxCDF	10.410	1.59e6	0.52	NO	40.77	105.199	0.2275	54.8	1.07e4	6.21e3
22	13C-1,2,3,6,7,8-HxCDF	10.410	1.78e6	0.54	NO	40.94	110.297	0.2130	57.4	1.07e4	6.21e3
23	13C-2,3,4,6,7,8-HxCDF	10.410	1.57e6	0.51	NO	41.87	108.982	0.2384	56.7	1.07e4	6.21e3
24	13C-1,2,3,7,8,9-HxCDF	10.410	1.46e6	0.53	NO	42.92	102.265	0.2417	53.2	1.07e4	6.21e3
25	13C-1,2,3,4,6,7,8-HpCDF	10.410	1.07e6	0.43	NO	45.38	88.760	0.2067	46.2	7.53e3	4.75e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.410	8.58e5	0.47	NO	47.15	91.115	0.2651	47.4	7.53e3	4.75e3
27	13C-2,3,7,8-TCDD	10.410	1.96e6	0.77	NO	26.54	122.021	0.0972	63.5	3.57e3	3.46e3
28	13C-1,2,3,7,8-PeCDD	10.410	1.36e6	0.69	NO	36.20	129.402	0.1614	67.4	5.06e3	2.60e3
29	13C-1,2,3,4,7,8-HxCDD	10.410	1.21e6	1.26	NO	42.16	104.099	0.2472	54.2	8.14e3	6.04e3
30	13C-1,2,3,6,7,8-HxCDD	10.410	1.49e6	1.24	NO	42.30	120.991	0.2338	63.0	8.14e3	6.04e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.410	9.34e5	0.99	NO	46.74	96.912	0.1242	50.4	3.97e3	1.92e3
32	13C-OCDD	10.410	1.38e6	0.84	NO	50.33	162.398	0.1818	42.3	1.57e-1	7.58e3
33	13C-1,2,3,4-TCDD	10.410	3.08e6	0.79	NO	26.20	13.069	0.0066	6.8	3.57e3	3.46e3
34	13C-1,2,3,7,8,9-HxCDD	10.410	2.28e6	1.24	NO	42.72	15.313	0.0194	8.0	8.14e3	6.04e3
35	37Cl-2,3,7,8-TCDD	10.410	4.89e4			26.56	2.744	0.0120	71.4		9.64e2
36	Total Tetra-Furans	10.410					5.048	0.0371			9.52e2
37	Total Tetra-Dioxins	10.410					1.264	0.0451			8.19e2
38	Total Penta-Furans	10.410					15.427	0.0463			9.20e2
39	Total Penta-Dioxins	10.410					4.775	0.0425			6.04e2
40	Total Hexa-Furans	10.410					101.332	0.0748			1.64e3
41	Total Hexa-Dioxins	10.410					24.965	0.0678			1.23e3
42	Total Hepta-Furans	10.410					381.902	0.1986			3.11e3
43	Total Hepta-Dioxins	10.410					253.890	0.2935			3.58e3
44	Hexa DPE	1.000	5.90e2			24.43					2.08e-1
45	Hepta DPE	1.000	1.01e2			37.58					0.00e0
46	Octa DPE	1.000	1.13e2			41.14					1.18e-1
47	Nona DPE	1.000	1.97e2			48.25					1.13e-1
48	Deca DPE	1.000	1.62e0			49.92					1.16e-1
49	Tetra Lock	1.000	1.64e4			23.67					1.03e5
50	Penta Lock	1.000	3.62e3			29.20					2.00e5
51	Hexa Lock	1.000									3.43e5
52	Hepta Lock	1.000	1.32e4			47.34					1.90e5
53	Octa Lock	1.000	1.10e4			49.03					2.47e5
54	13C-Tetra-Furans	10.410					111.011	0.0868			2.81e3
55	13C-Tetra-Dioxins	10.410					135.089	0.1038			3.46e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Checked by JW 31-JUL-2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.93	0.639	YES	0.406
2	23.75	0.720	NO	0.033
3	23.49	0.798	NO	0.377
4	23.42	0.702	NO	0.309
5	23.06	0.688	NO	0.846
6	22.75	0.767	NO	0.174
7	22.63	0.758	NO	0.536
8	22.31	0.697	NO	0.662
9	22.00	0.711	NO	0.076
10	26.01	0.802	NO	0.148
11	25.36	0.679	NO	0.555
12	25.01	1.320	YES	0.063
13	24.68	0.649	YES	0.226
14	24.33	0.883	NO	0.376
15	24.20	0.763	NO	0.117
16	28.22	0.745	NO	0.027
17	26.36	1.092	YES	0.117

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	25.02	1.277	YES	0.029
2	24.76	0.673	NO	0.235
3	23.83	0.832	NO	0.130
4	23.42	1.143	YES	0.158
5	23.04	0.845	NO	0.278
6	27.19	1.037	YES	0.011
7	26.54	0.465	YES	0.031
8	26.47	1.341	YES	0.060
9	26.22	0.716	NO	0.202
10	25.70	0.517	YES	0.042
11	25.29	4.928	YES	0.088

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	32.04	1.216	YES	0.150
2	31.62	1.517	NO	6.690
3	29.00	1.580	NO	3.711
4	34.39	1.690	NO	0.849
5	33.65	1.952	YES	0.386
6	33.49	1.023	YES	0.289
7	33.05	1.463	NO	0.831
8	32.44	1.835	YES	0.111
9	35.71	1.458	NO	1.117
10	35.41	1.518	NO	1.292

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	33.95	0.761	YES	0.690
2	33.31	0.756	YES	0.314
3	32.13	0.636	NO	2.522
4	35.62	0.357	YES	0.159
5	35.19	0.503	YES	0.105
6	34.63	0.478	YES	0.214
7	34.28	0.520	NO	0.344
8	37.15	0.630	NO	0.063
9	36.57	0.692	NO	0.052
10	36.26	0.519	NO	0.311

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	41.75	1.113	NO	1.916
2	41.38	1.302	NO	0.278
3	41.04	1.097	NO	0.075
4	40.96	1.268	NO	1.783
5	40.79	1.270	NO	10.508
6	40.15	1.224	NO	59.791
7	39.86	0.451	YES	0.388
8	39.52	0.239	YES	0.069
9	39.32	1.221	NO	18.852
10	39.06	1.222	NO	4.983
11	43.09	1.056	NO	1.196
12	42.94	0.772	YES	0.133
13	41.91	1.280	NO	0.887
14	40.72	1.342	NO	0.474

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	42.31	1.287	NO	4.754
2	42.18	1.711	YES	0.597
3	41.47	1.003	YES	0.483
4	41.30	1.267	NO	8.453
5	40.92	1.537	YES	1.267
6	40.11	1.201	NO	8.050
7	42.74	1.147	NO	1.360

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.90	1.058	NO	303.558
2	45.69	0.524	YES	2.077
3	45.40	1.068	NO	68.165
4	47.17	0.930	NO	8.102

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	45.85	1.048	NO	109.896
2	46.76	1.099	NO	143.994

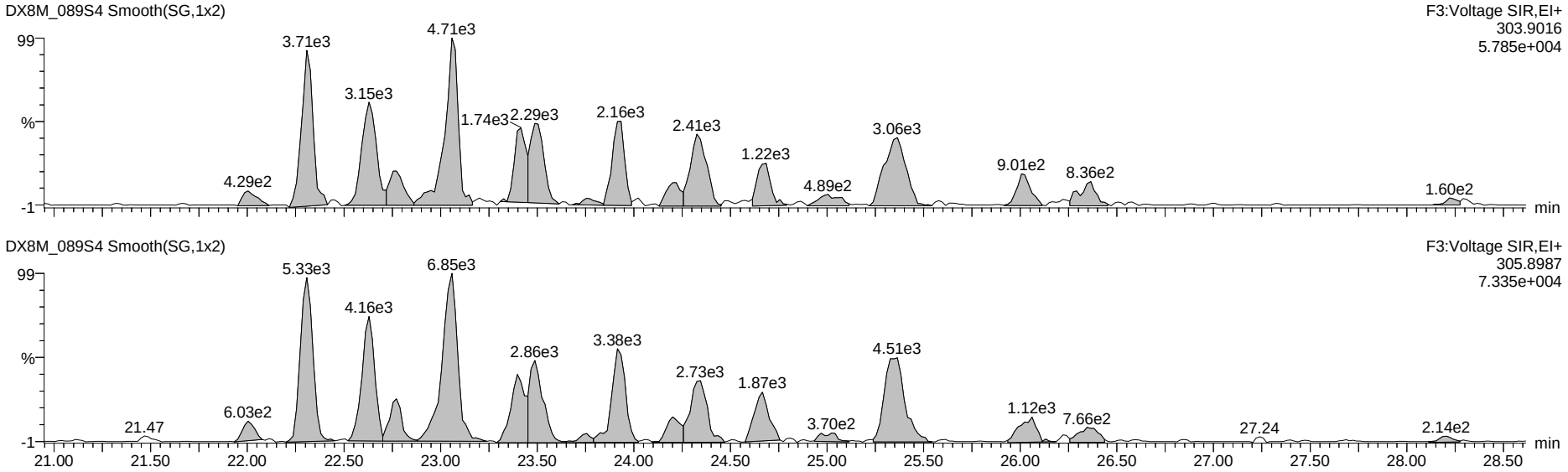
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

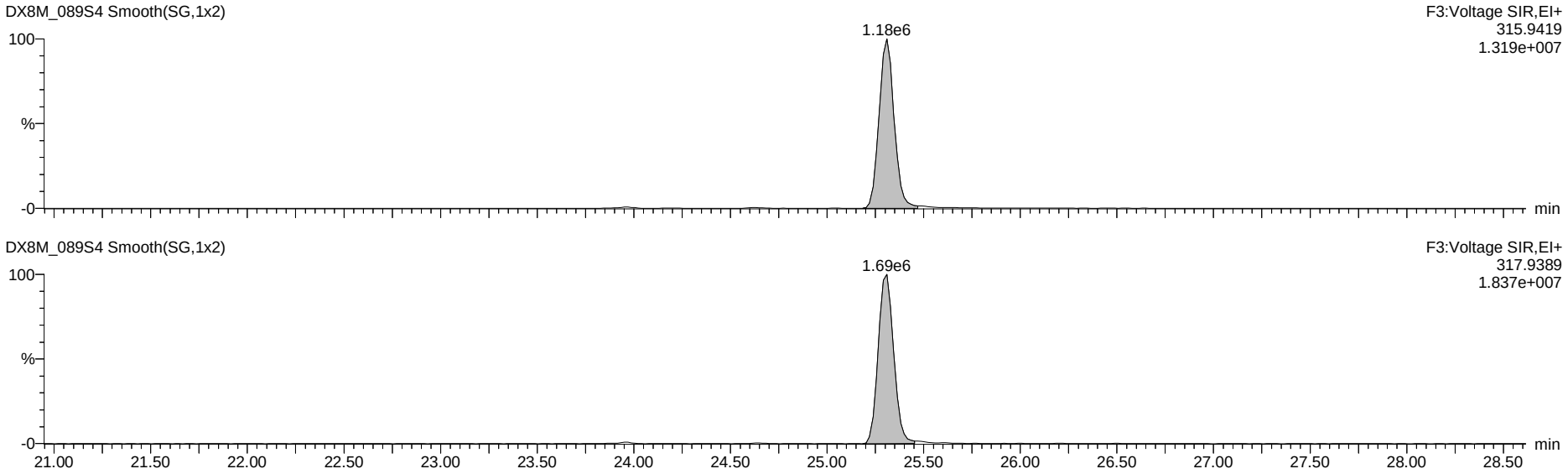
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



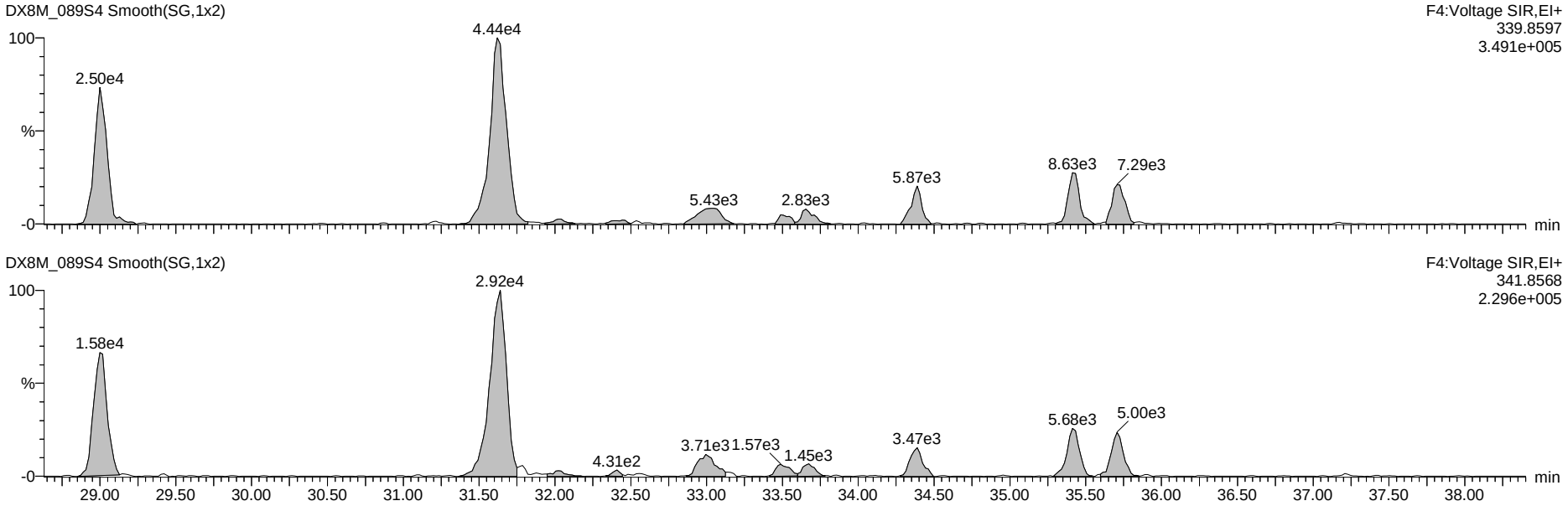
13C-Tetra-Furans



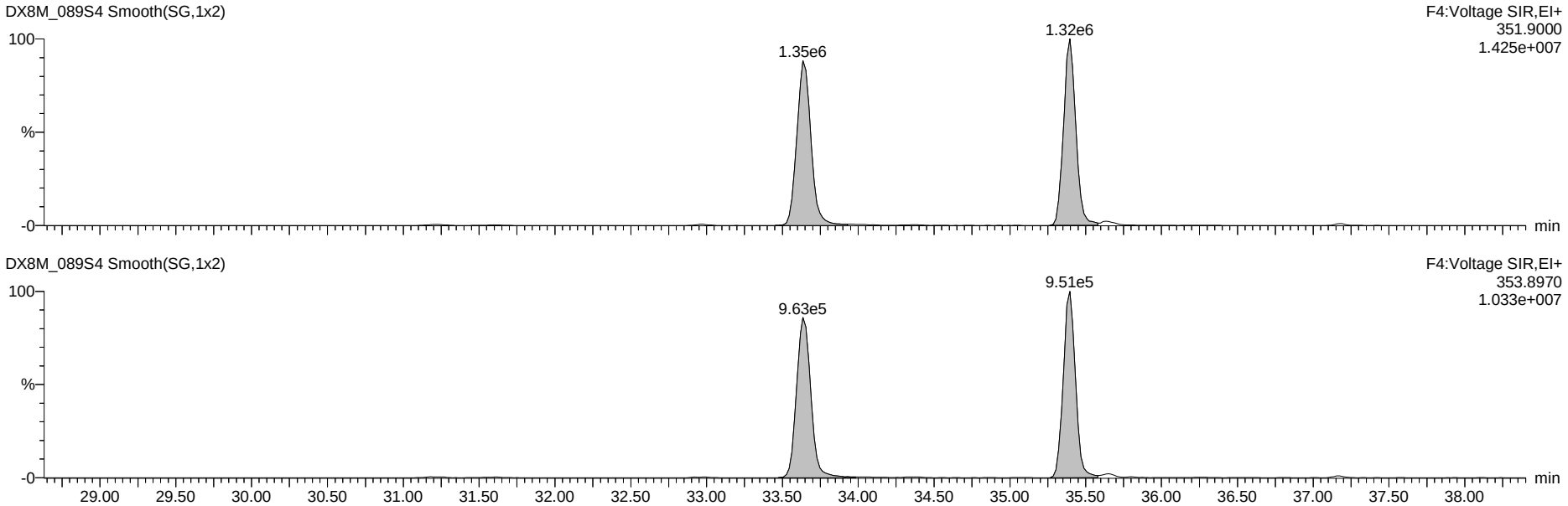
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Penta-Furans



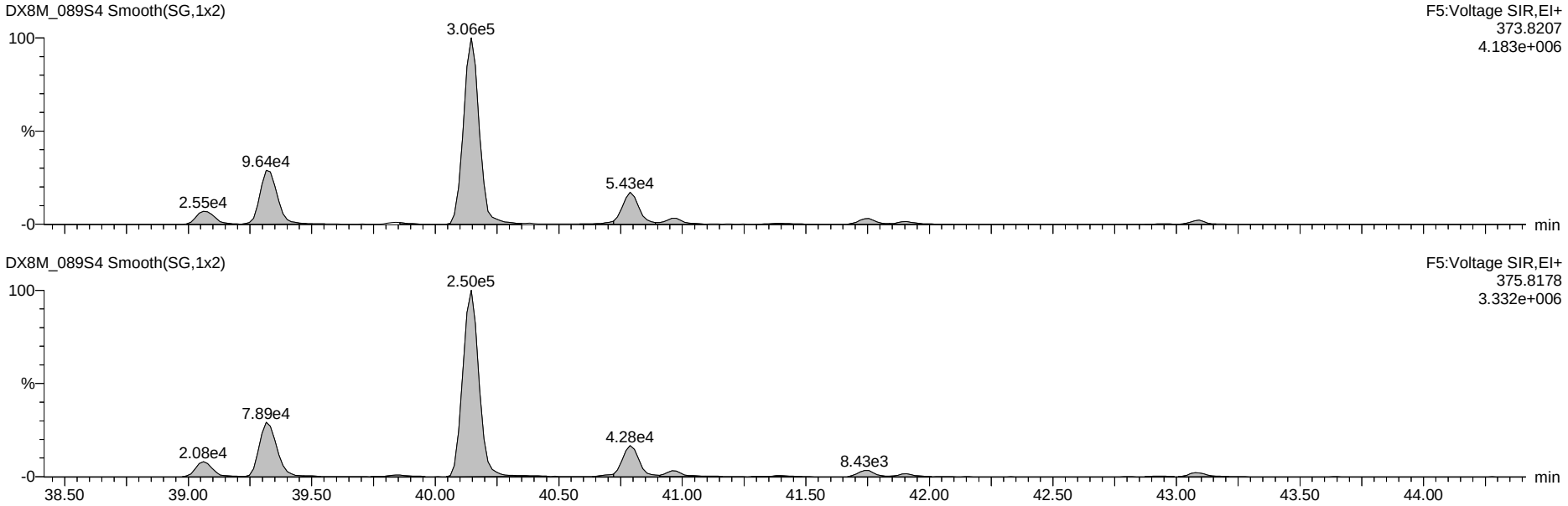
13C-Penta-Furans



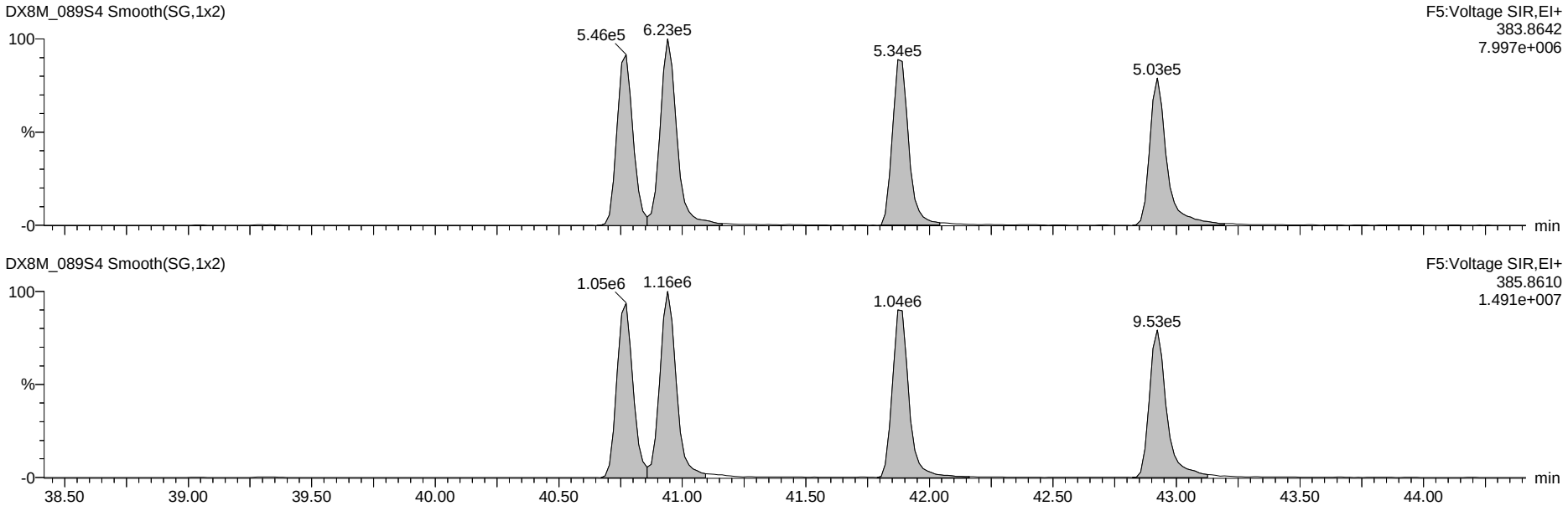
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



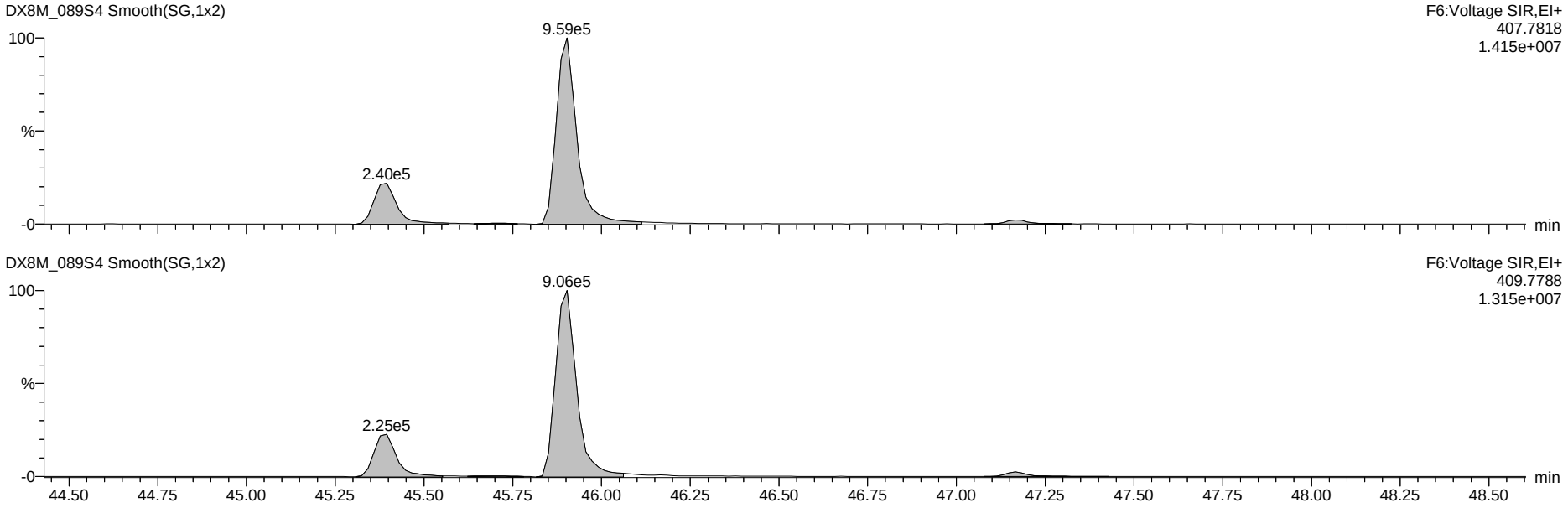
13C-Hexa-Furans



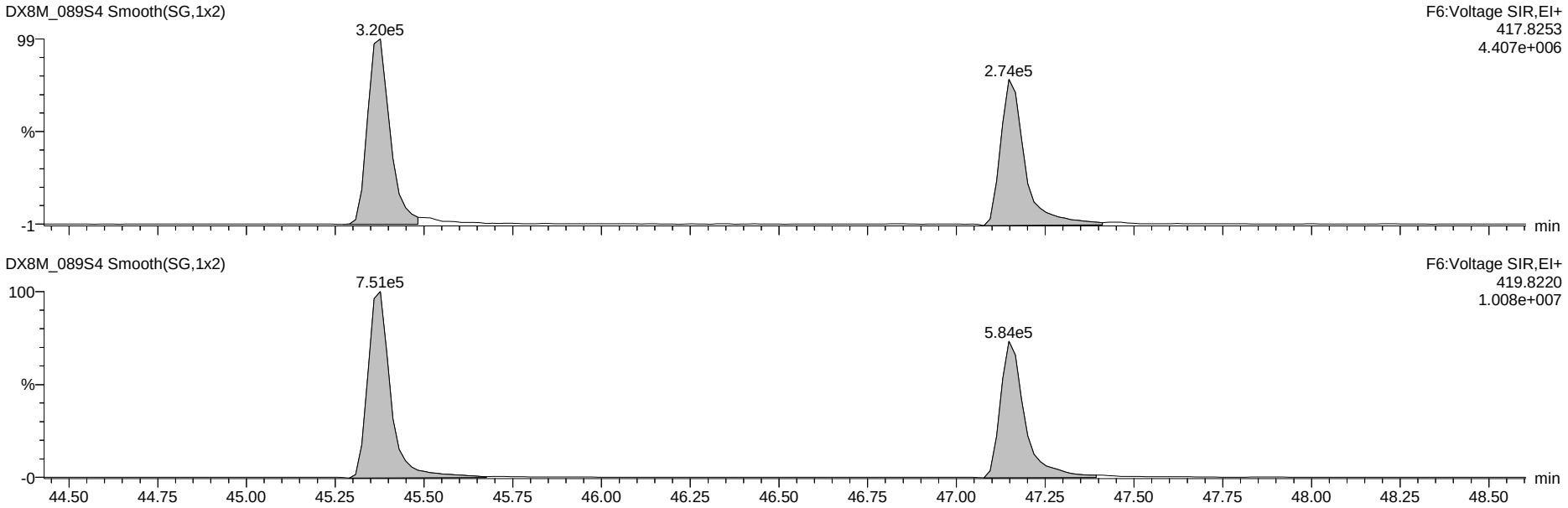
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



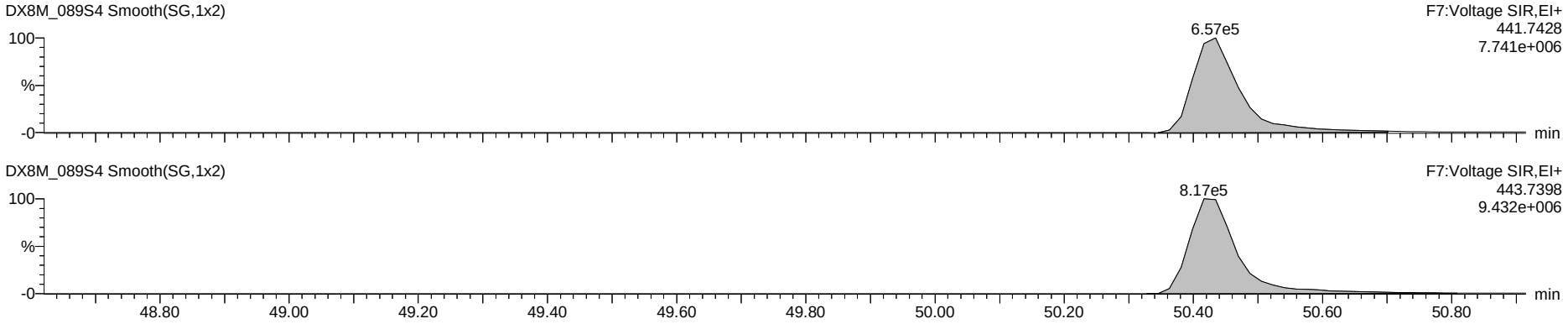
13C-Hepta-Furans



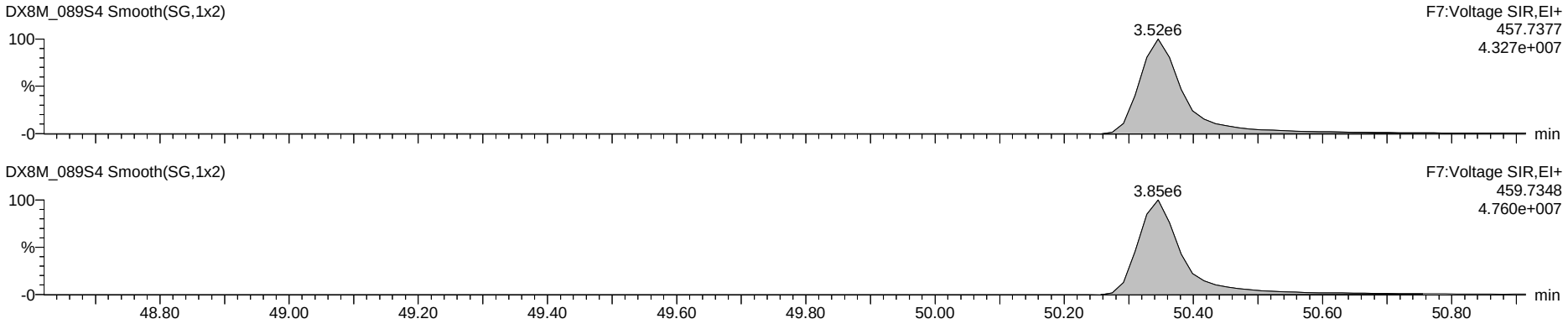
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

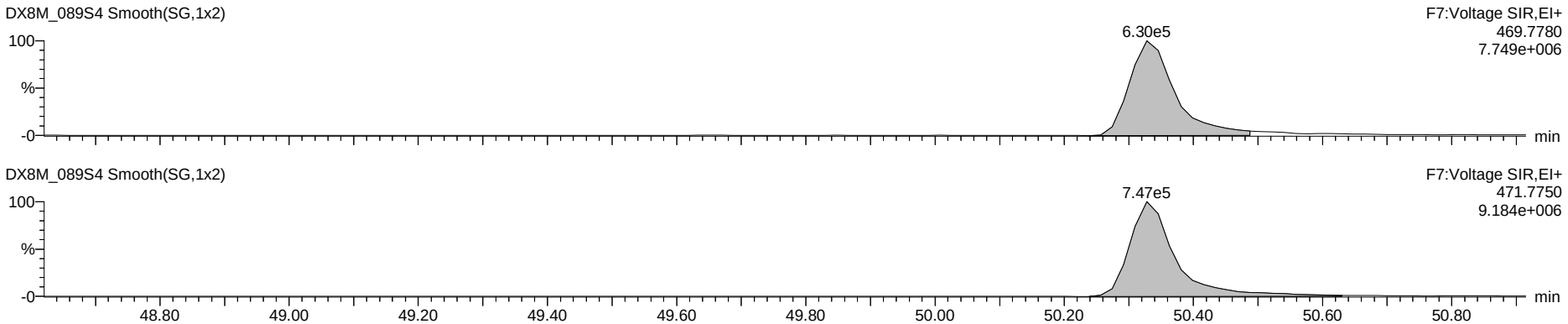
OCDF



OCDD



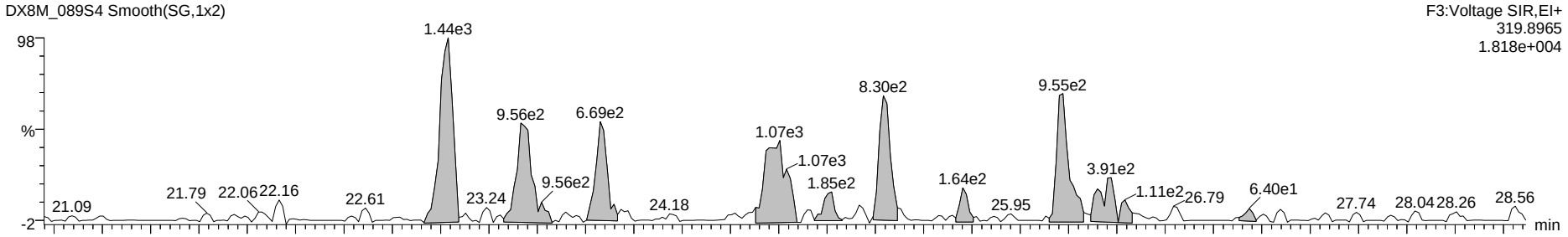
13C-OCDD

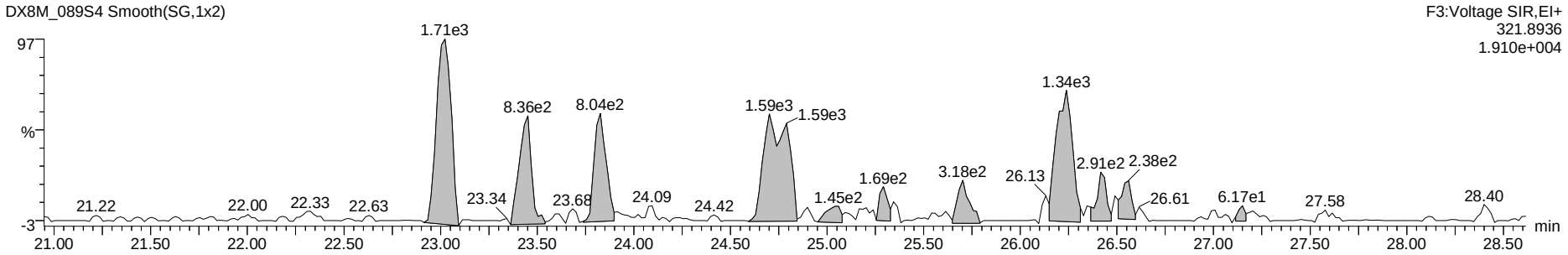


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

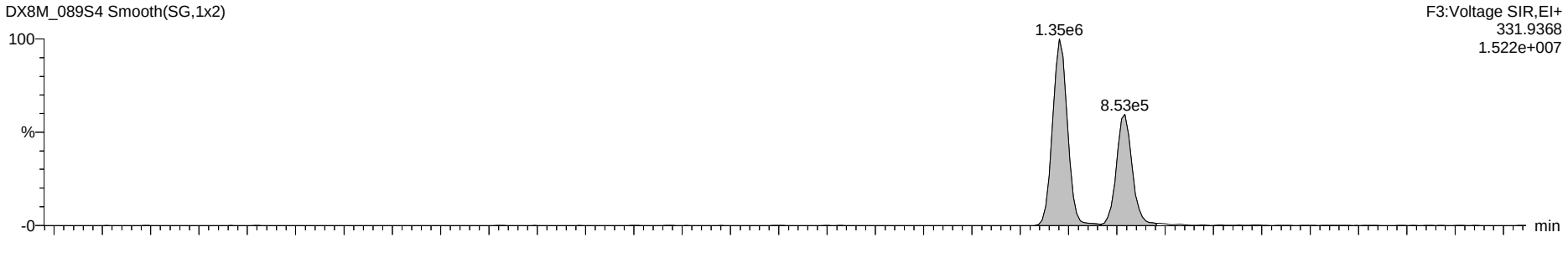
Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

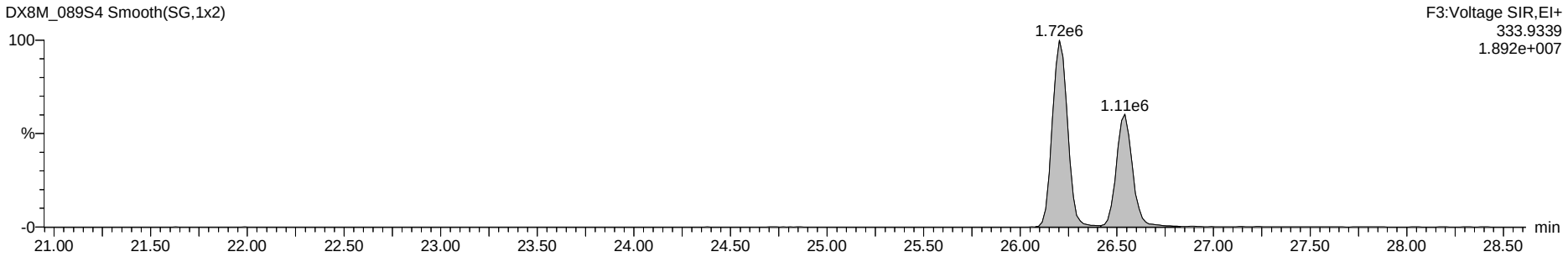
Total Tetra-Dioxins





13C-Tetra-Dioxins

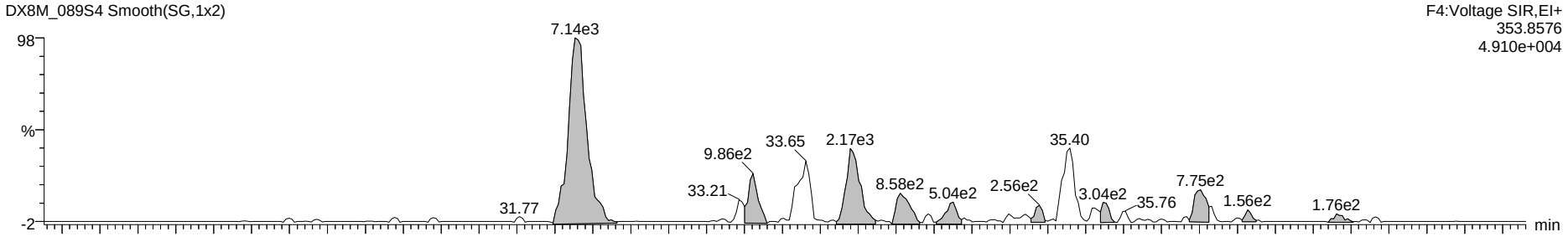


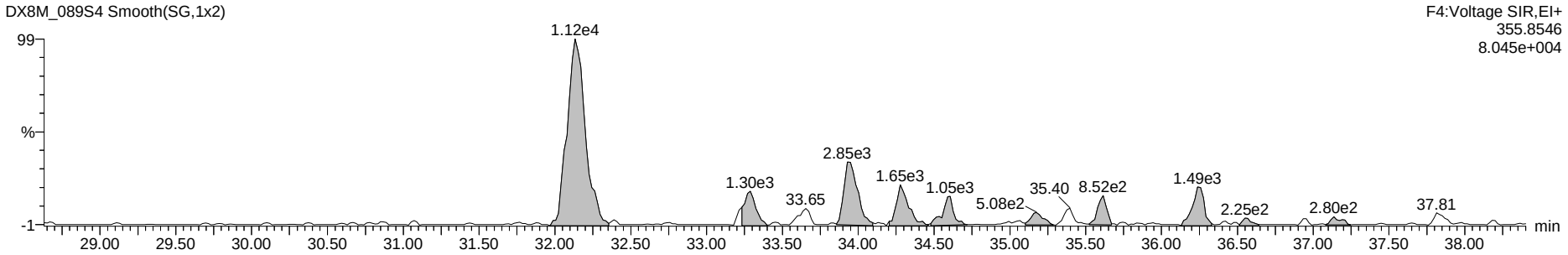


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

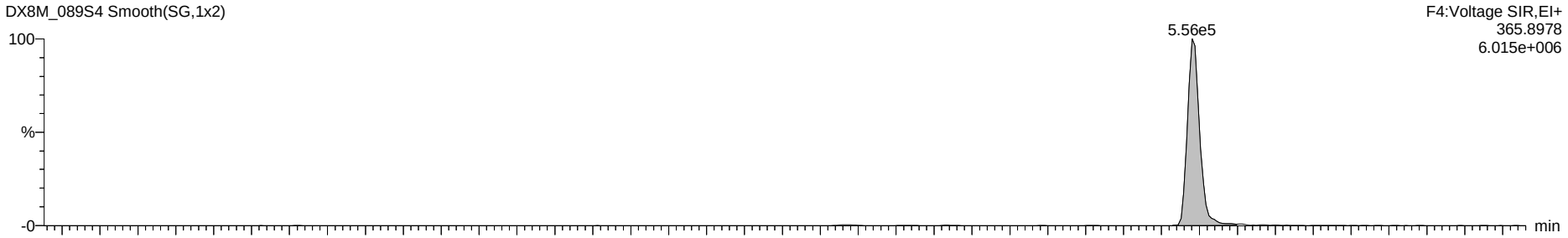
Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

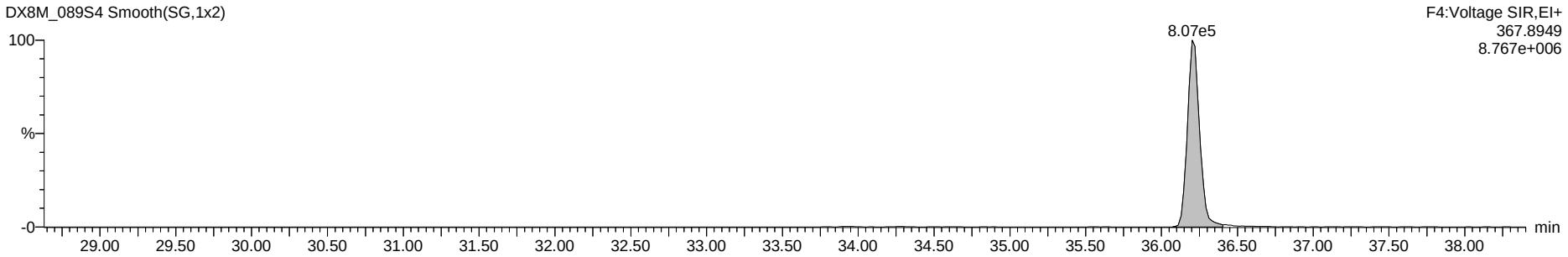
Total Penta-Dioxins





13C-Penta-Dioxins

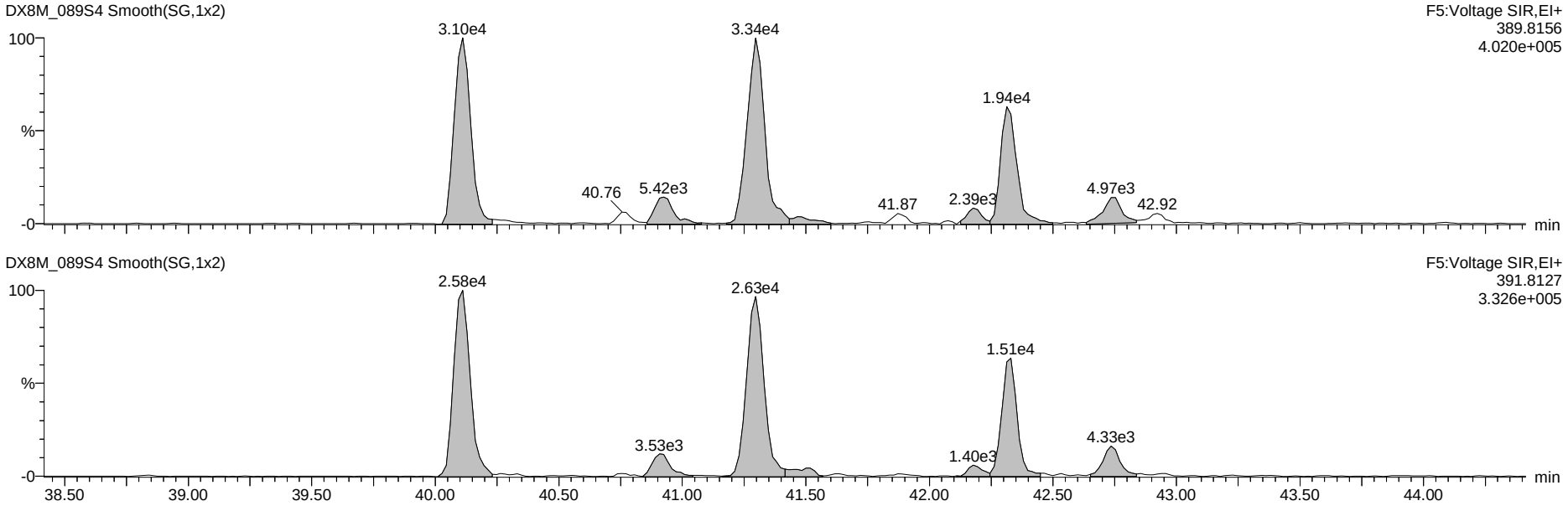




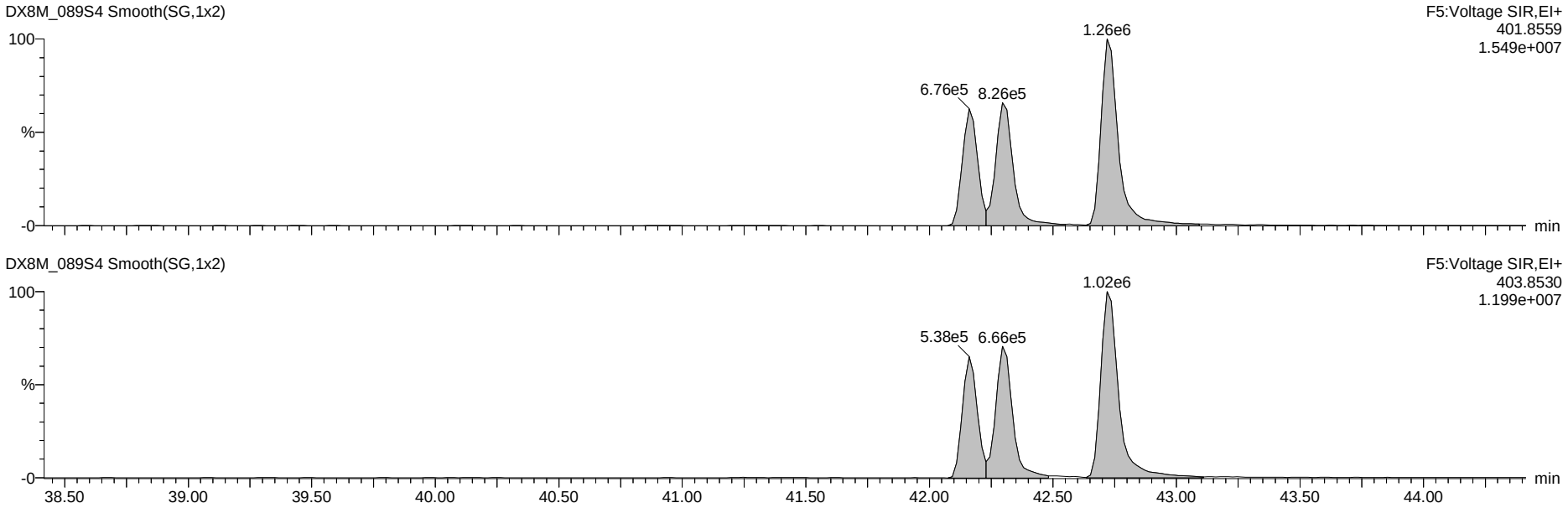
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Dioxins



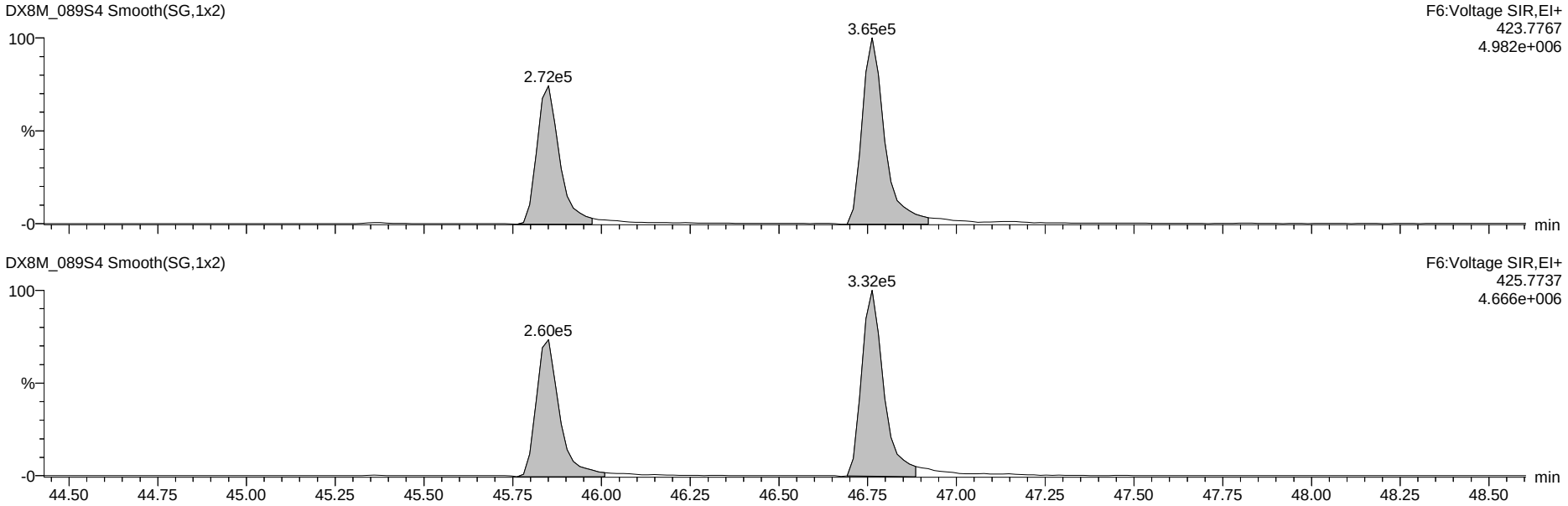
13C-Hexa-Dioxins



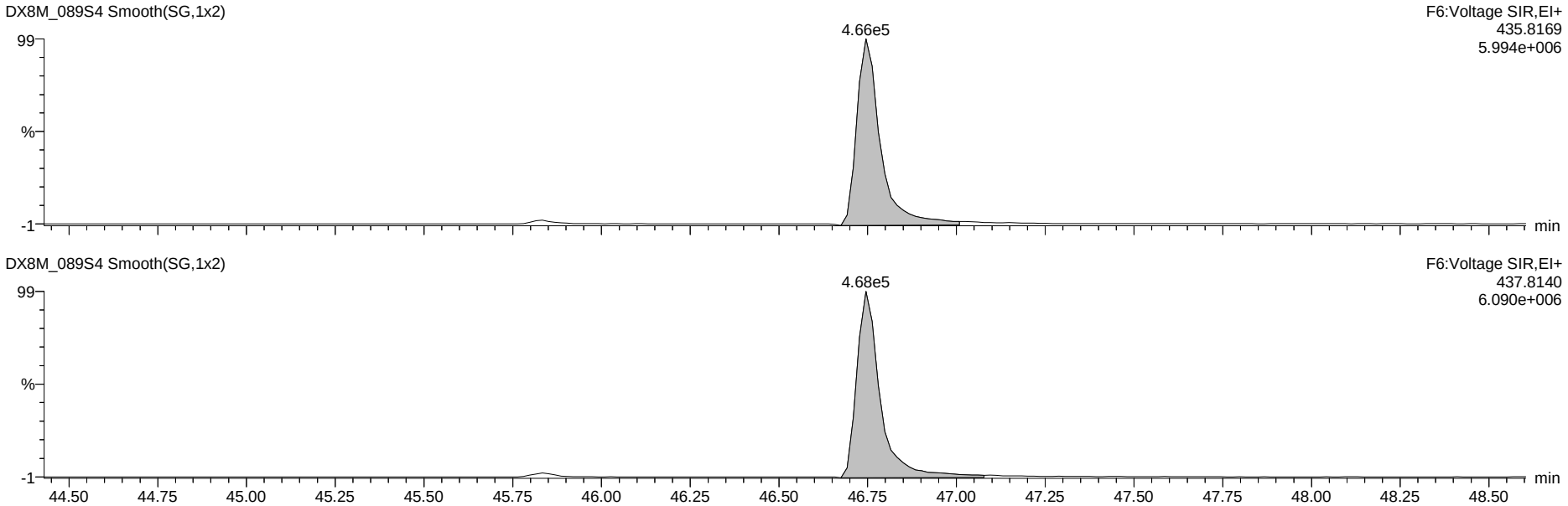
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



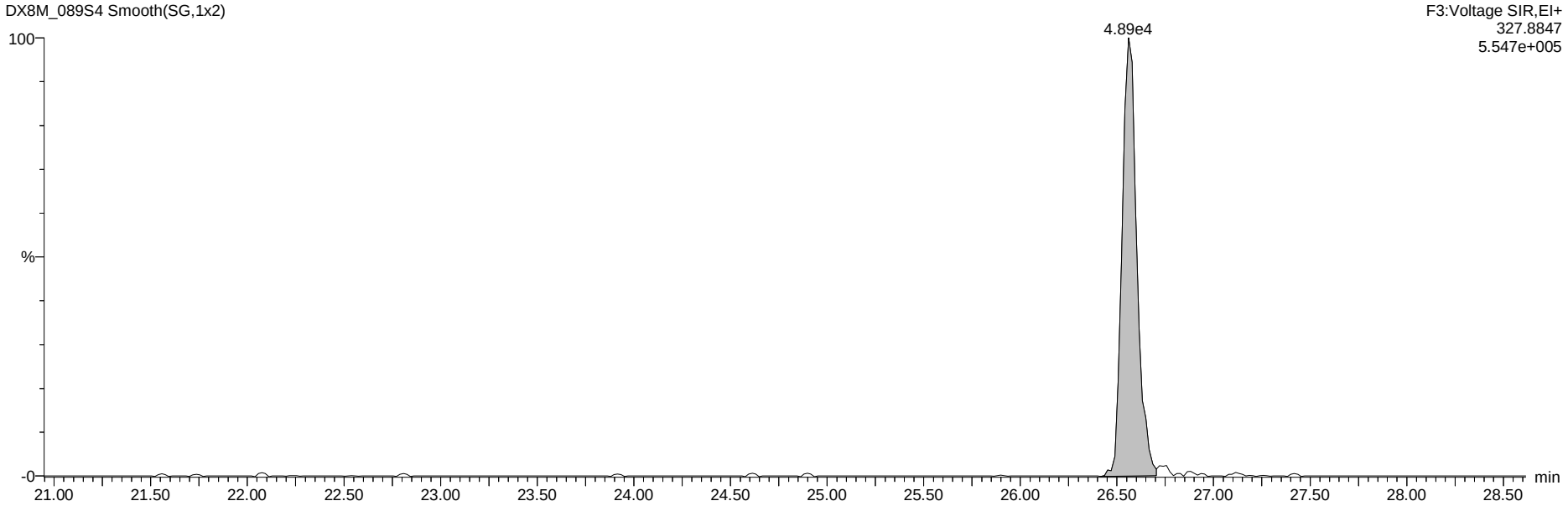
13C-Hepta-Dioxins



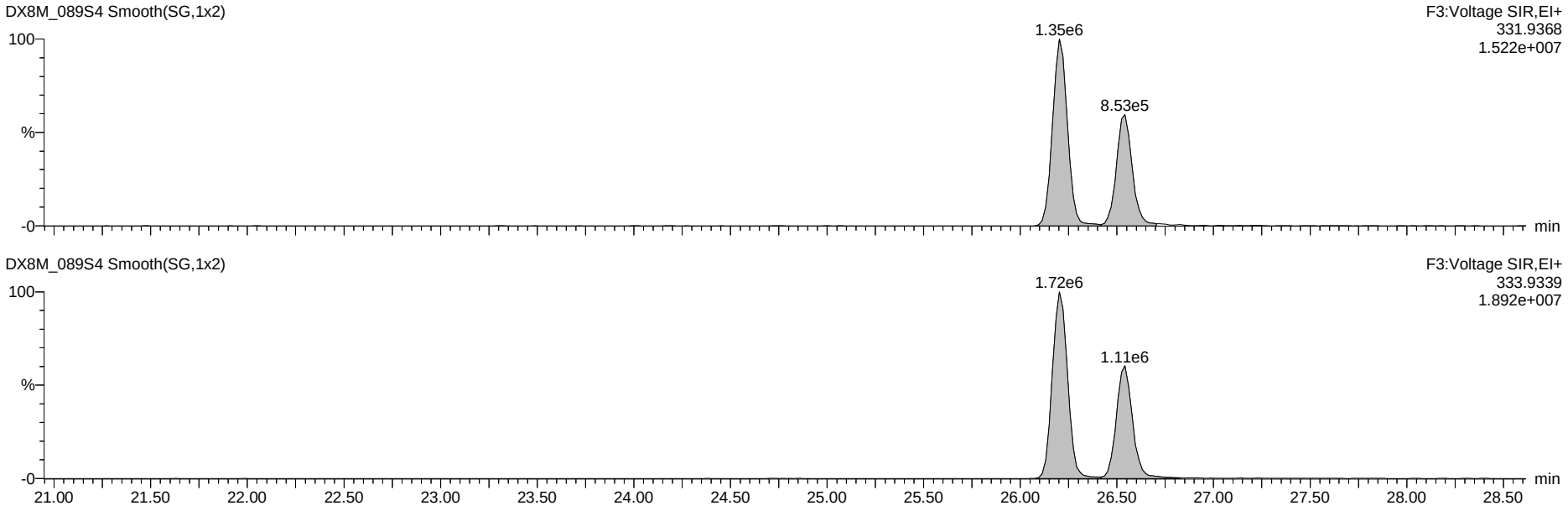
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



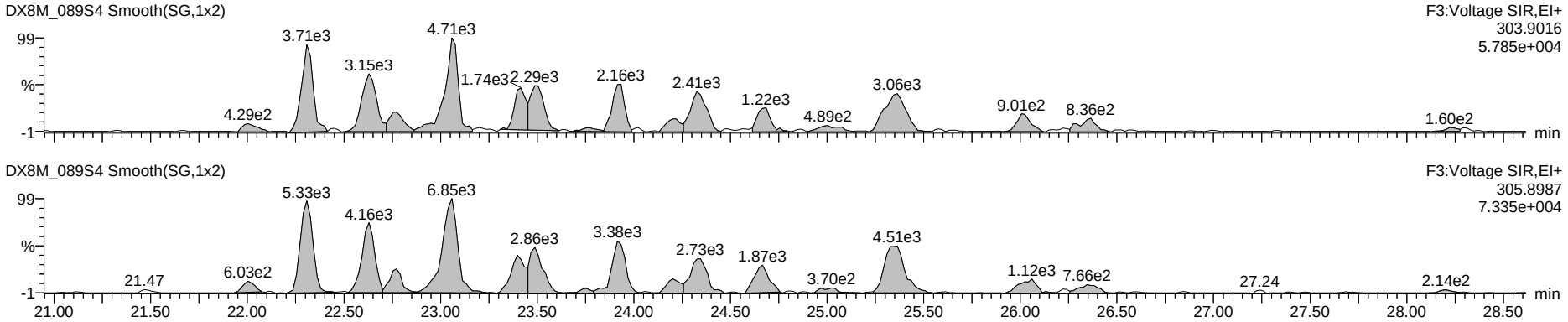
13C-Tetra-Dioxins



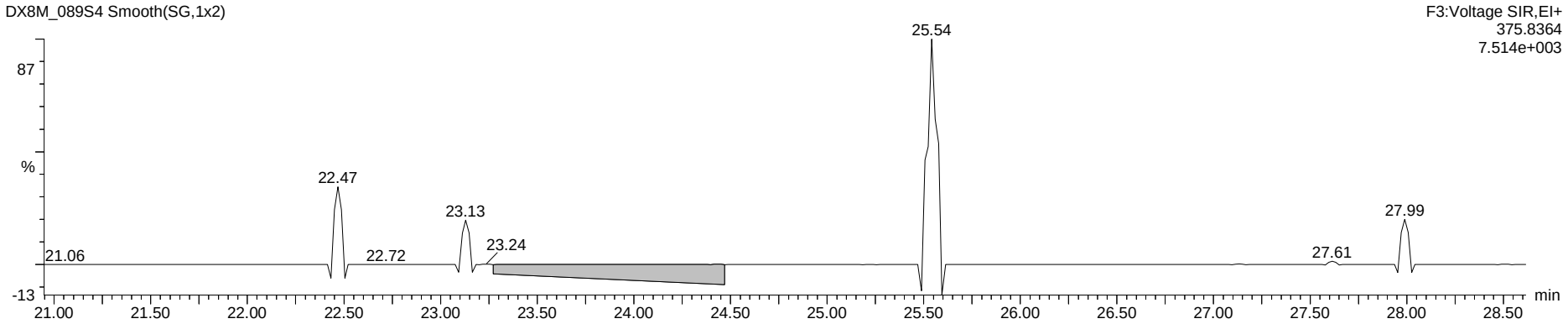
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

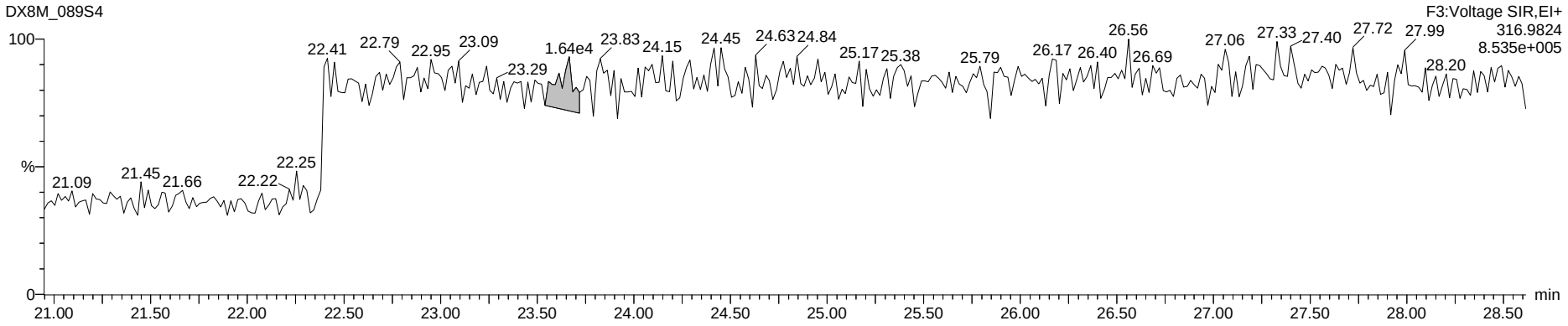
Total Tetra-Furans



Hexa DPE



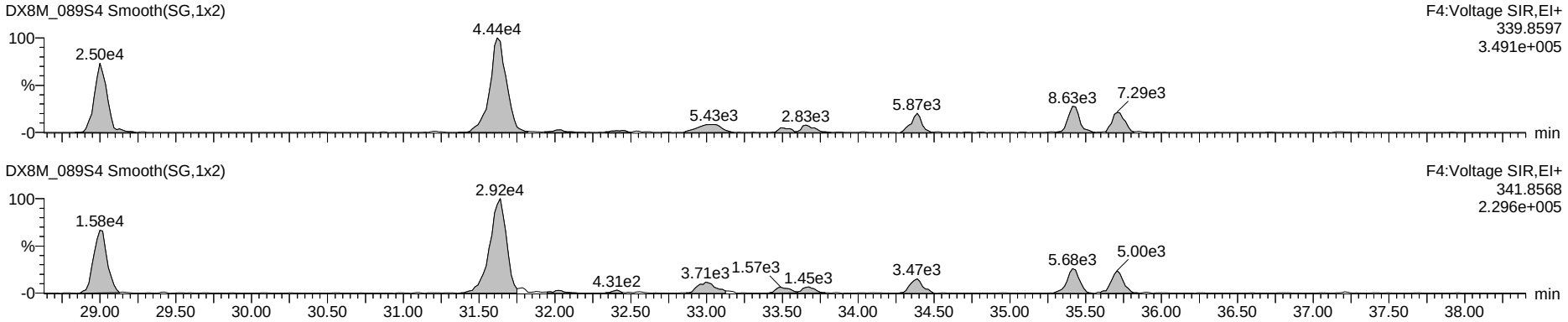
Tetra Lock



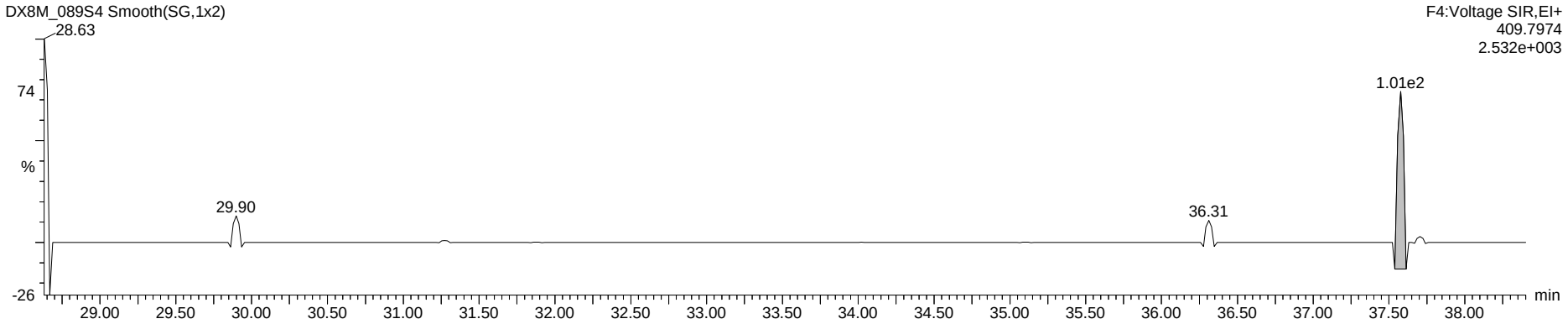
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

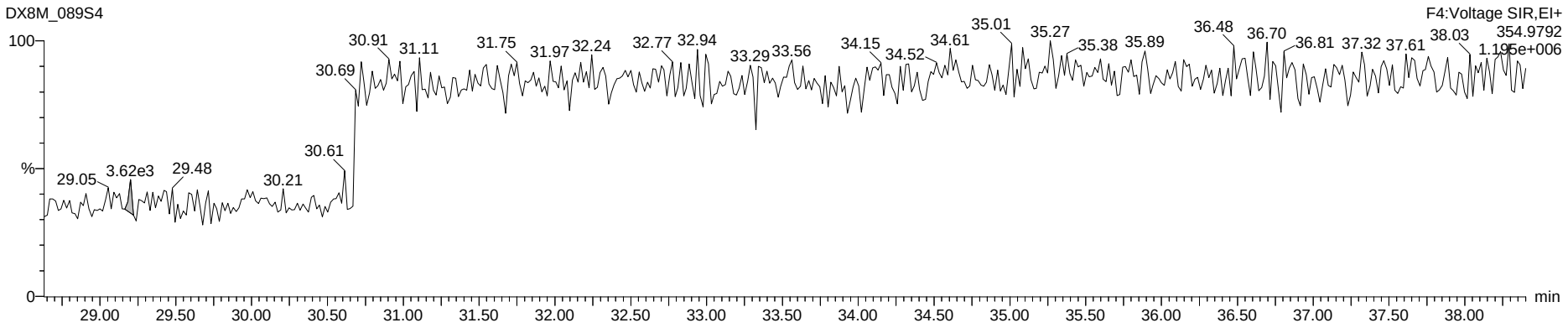
Total Penta-Furans



Hepta DPE



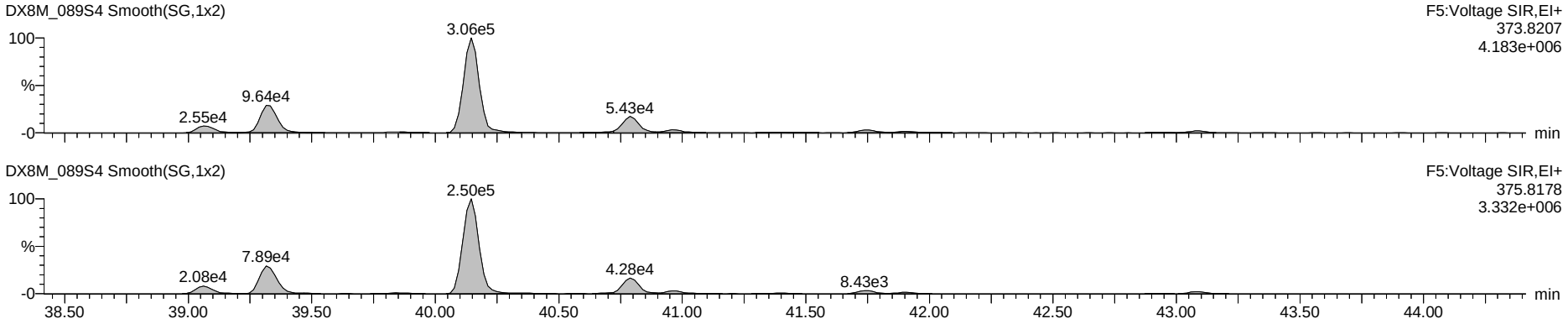
Penta Lock



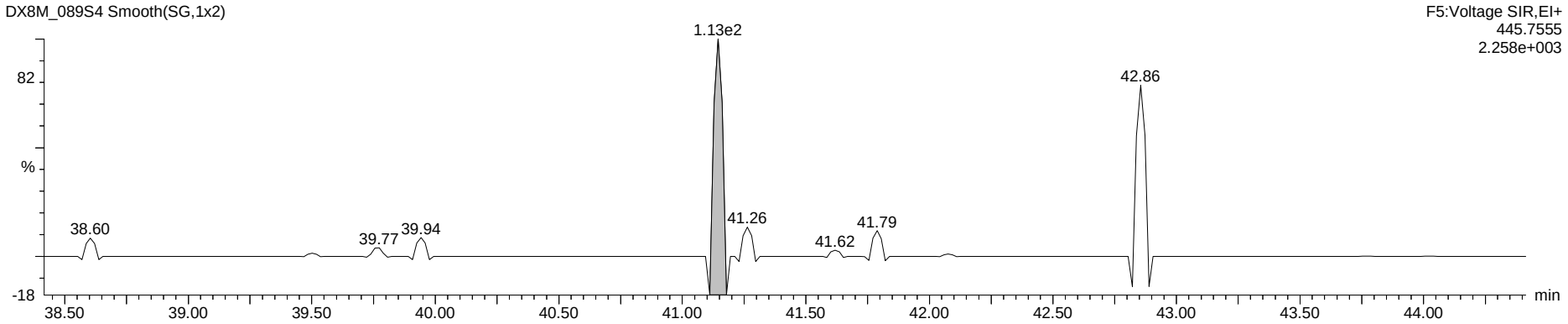
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

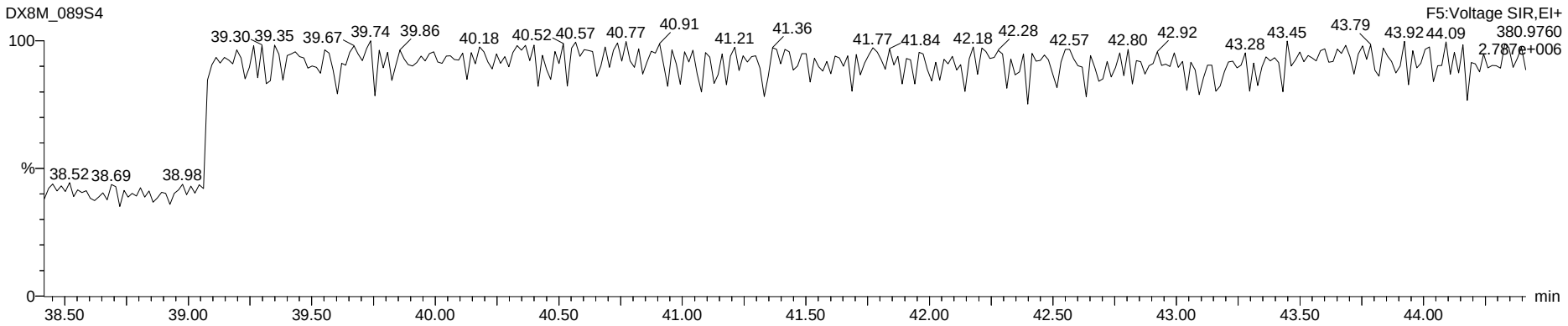
Total Hexa-Furans



Octa DPE



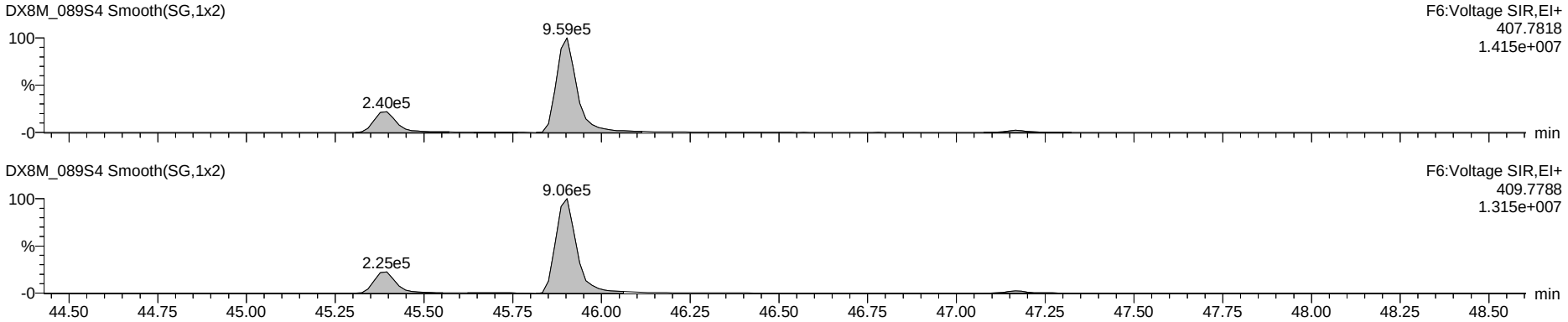
Hexa Lock



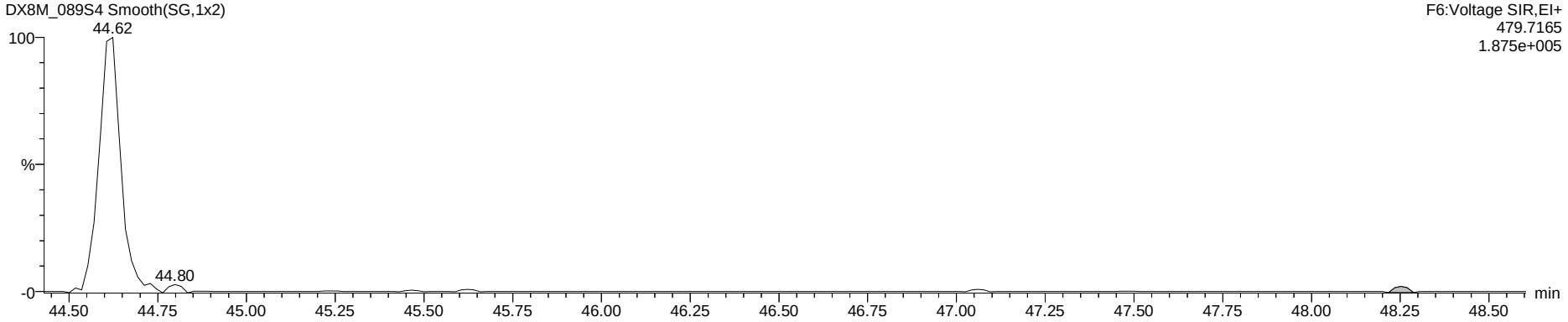
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

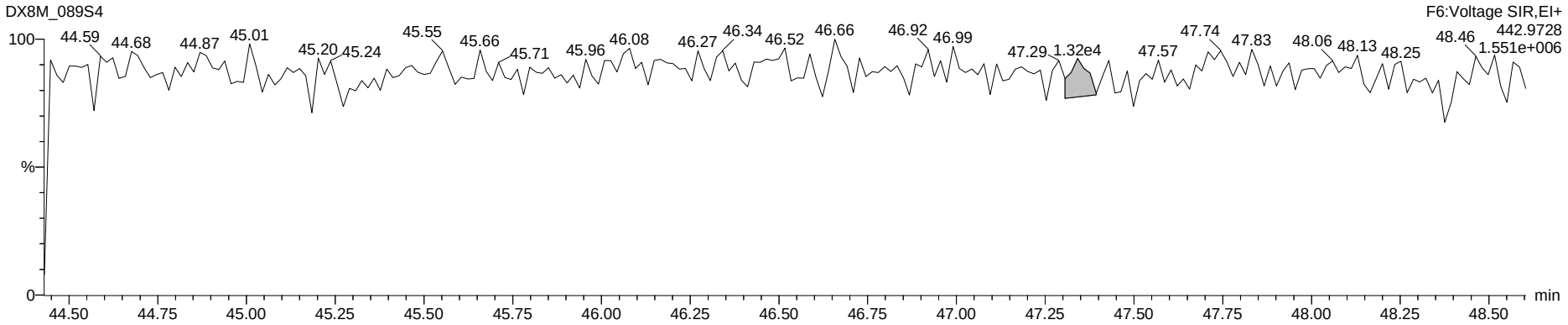
Total Hepta-Furans



Nona DPE



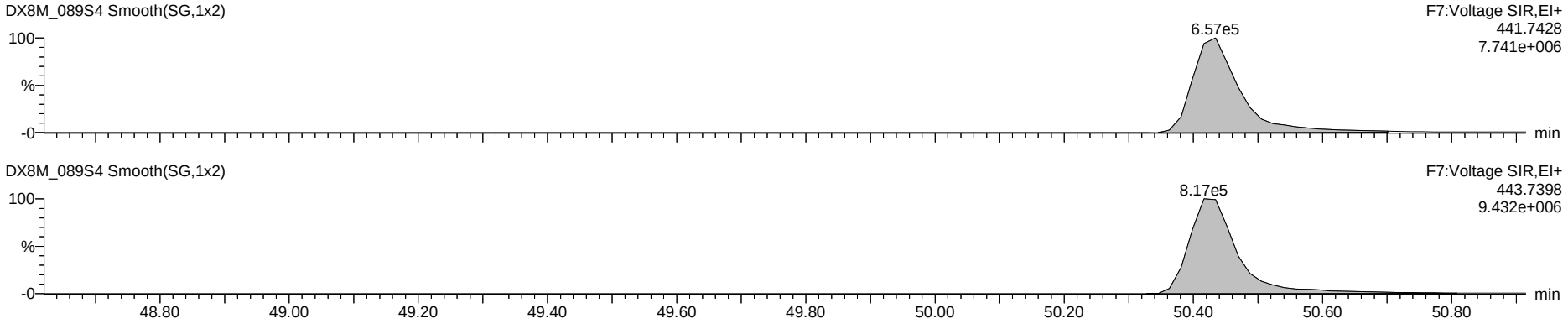
Hepta Lock



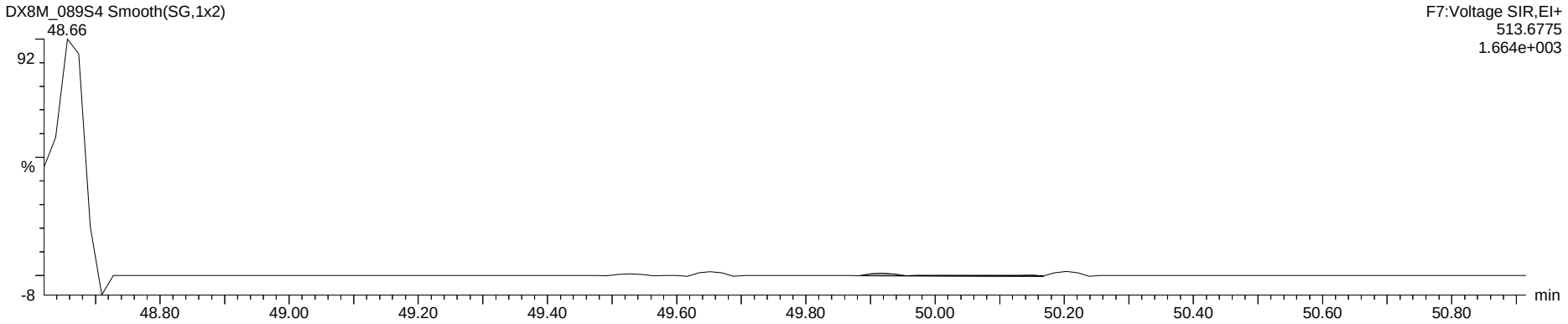
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S4, Date: 26-Jul-2018, Time: 21:32:06, ID: L29626-4,,, Description: 1,WG64557,1.0/20uL

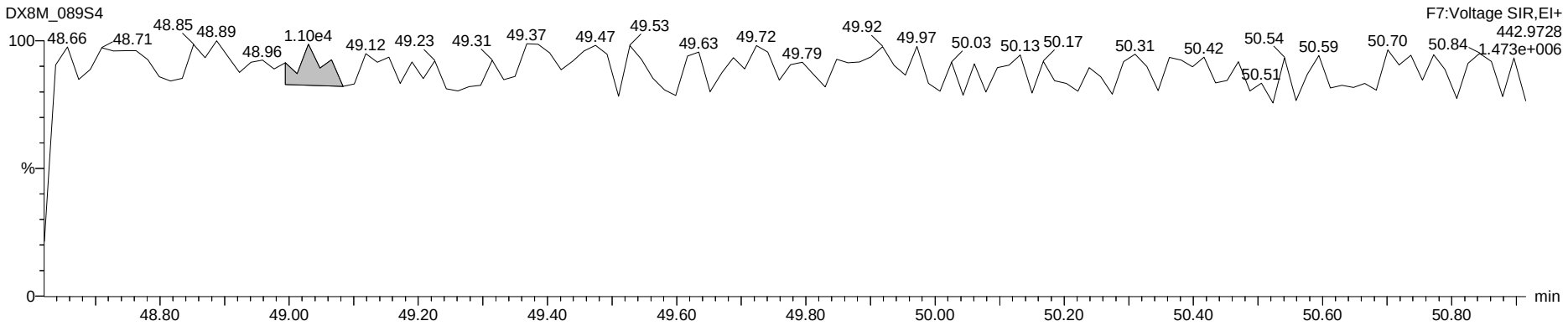
OCDF



Deca DPE



Octa Lock



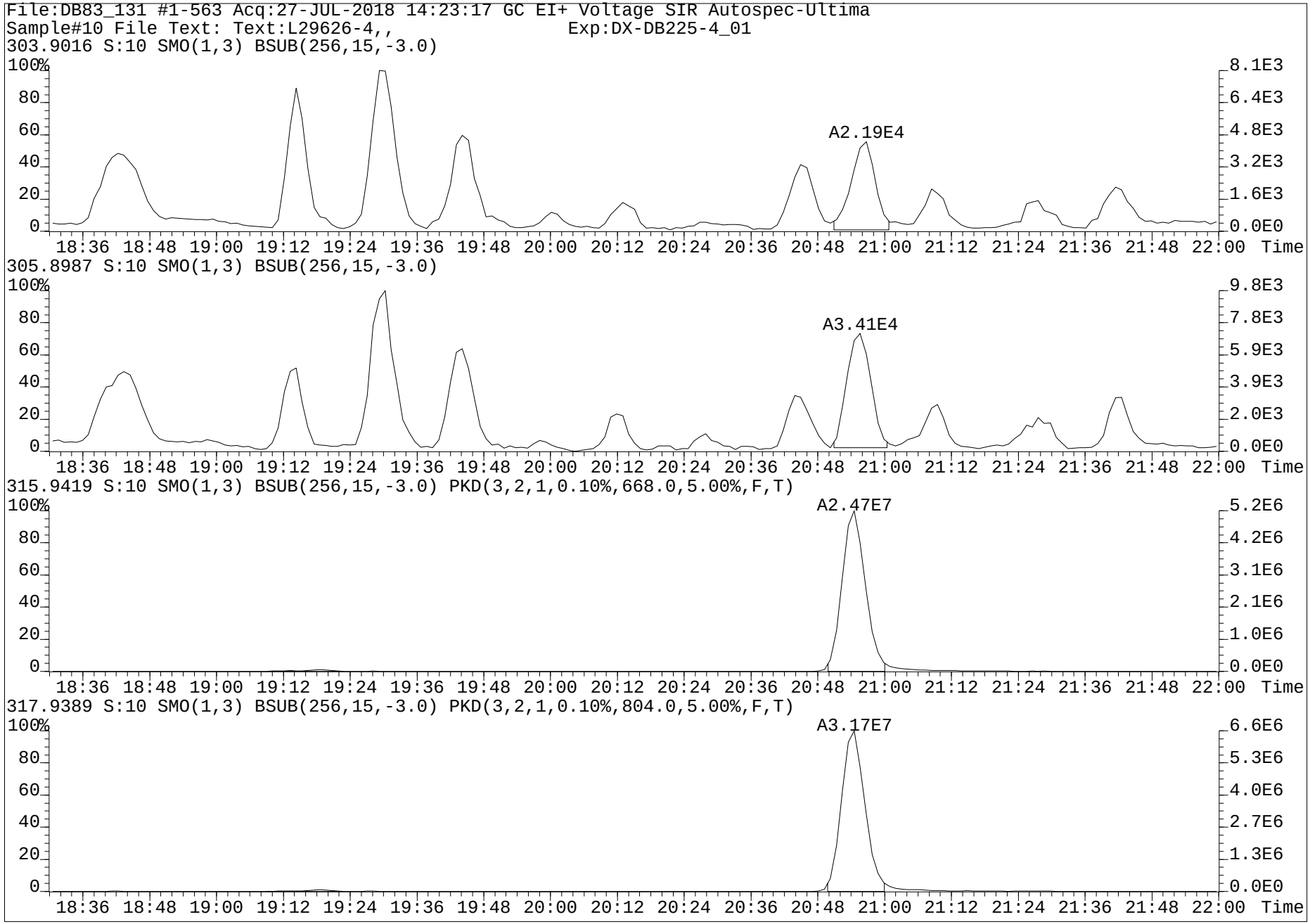
www.axysanalytical.com

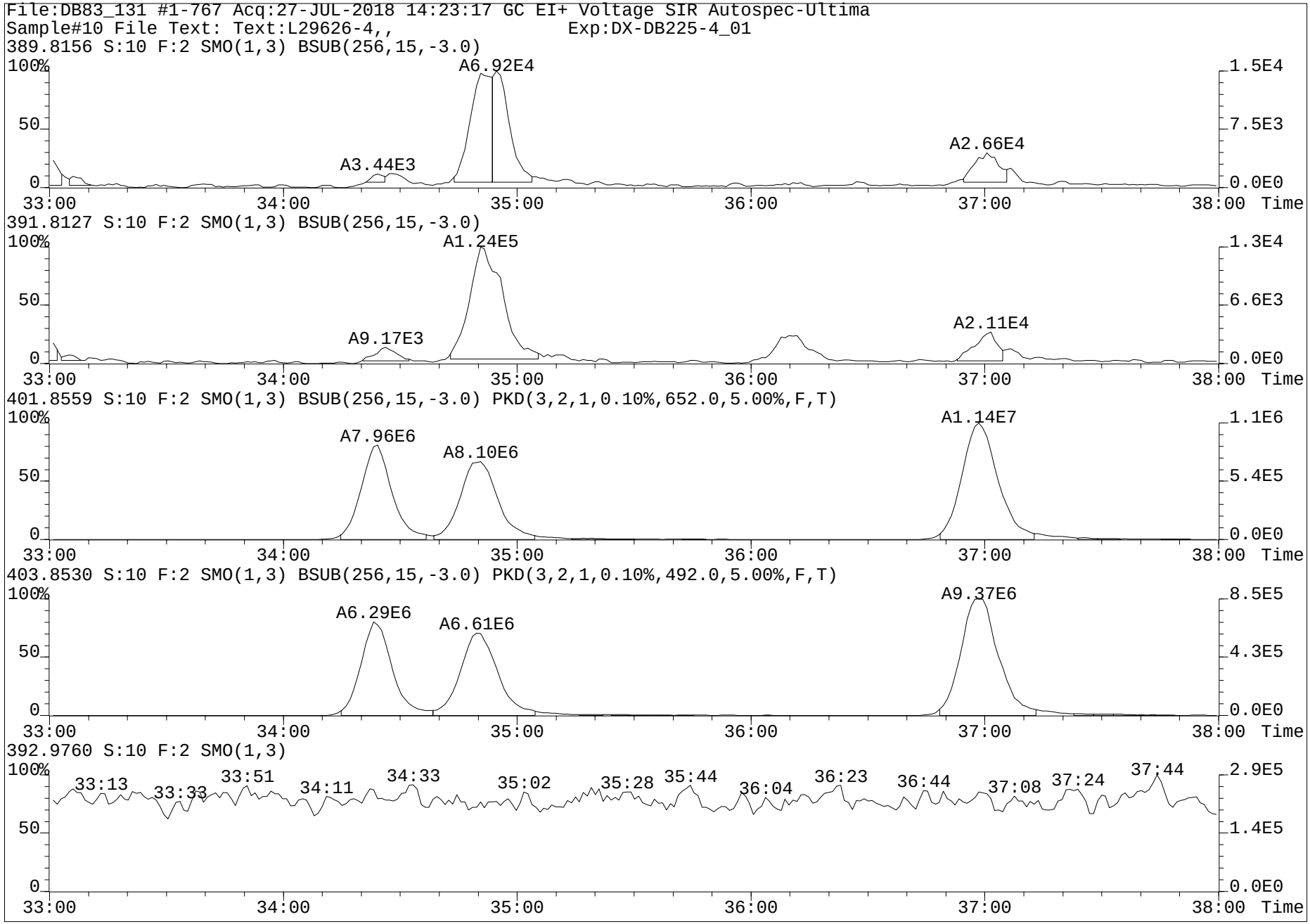
Run #15 Filename DB83_131 S: 10 I: 1 Acquired: 27-JUL-18 14:23:17 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-4,, Comments: 1,WG64557,2.0/20uL
sample size: 10.410000 conc units: pg/g total toxicity: 0.09 F1: 1.0000 F2: 1.0000

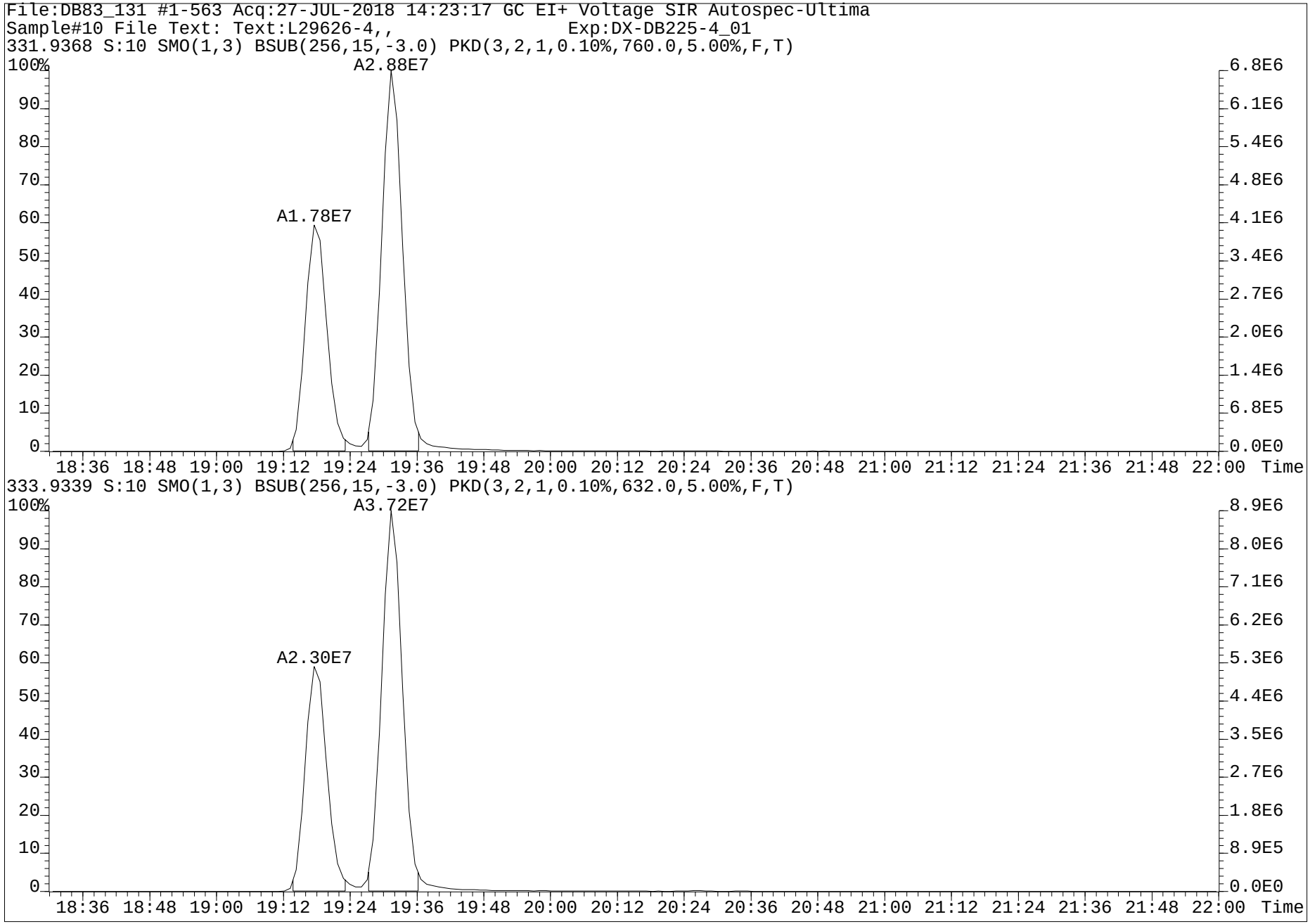
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	5.60e+04	0.64	n	20:56	0.197	0	0.0551	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	4.77e+04	1.26	y	36:59	0.687	0	0.2957	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	5.64e+07	0.78	y	20:55	91.744	-	0.0252	47.8	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.42e+07	1.26	y	34:24	124.526	-	0.2693	64.8	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.47e+07	1.23	y	34:50	124.558	-	0.2610	64.8	n
6	RS	13C-1,2,3,4-TCDD	1	6.61e+07	0.77	y	19:31	5.734	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.08e+07	1.22	y	36:59	3.642	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

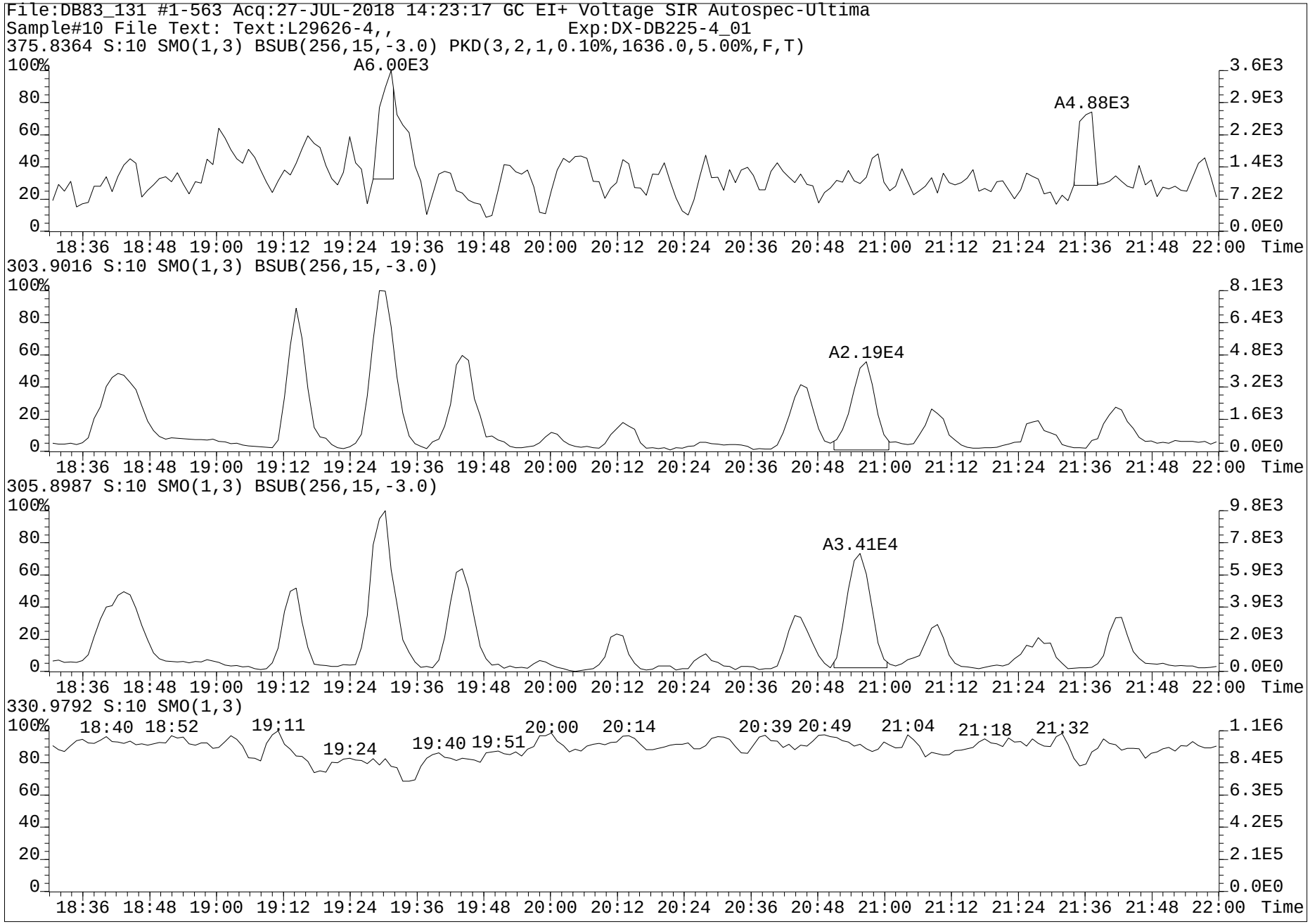
Checked by MW 31-Jul-18

prep-KB 30JUL2018


File:DB83_131 #1-563 Acq:27-JUL-2018 14:23:17 GC EI+ Voltage SIR Autospec-Ultima
Sample#10 File Text: Text:L29626-4,, Exp:DX-DB225-4_01
303.9016 S:10 SMO(1,3) BSUB(256,15,-3.0)
A2.19E4
305.8987 S:10 SMO(1,3) BSUB(256,15,-3.0)
A3.41E4
315.9419 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,668.0,5.00%,F,T)
A2.47E7
317.9389 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,804.0,5.00%,F,T)
A3.17E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 14:23:17 GC EI+ Voltage SIR Autospec-Ultima
Sample#10 File Text: Text:L29626-4,, Exp:DX-DB225-4_01
389.8156 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.92E4
A3.44E3
A2.66E4
391.8127 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.24E5
A9.17E3
A2.11E4
401.8559 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,652.0,5.00%,F,T)
A7.96E6
A8.10E6
A1.14E7
403.8530 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,492.0,5.00%,F,T)
A6.29E6
A6.61E6
A9.37E6
392.9760 S:10 F:2 SMO(1,3)
33:13
33:33
33:51
34:11
34:33
35:02
35:28
35:44
36:04
36:23
36:44
37:08
37:24
37:44
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.5E4
7.5E3
0.0E0
1.3E4
6.6E3
1.1E6
5.4E5
8.5E5
4.3E5
2.9E5
1.4E5


File:DB83_131 #1-563 Acq:27-JUL-2018 14:23:17 GC EI+ Voltage SIR Autospec-Ultima
Sample#10 File Text: Text:L29626-4,, Exp:DX-DB225-4_01
331.9368 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,760.0,5.00%,F,T)
A2.88E7
A1.78E7
333.9339 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,632.0,5.00%,F,T)
A3.72E7
A2.30E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-563 Acq:27-JUL-2018 14:23:17 GC EI+ Voltage SIR Autospec-Ultima
Sample#10 File Text: Text:L29626-4,, Exp:DX-DB225-4_01
375.8364 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1636.0,5.00%,F,T)
A6.00E3
A4.88E3
303.9016 S:10 SMO(1,3) BSUB(256,15,-3.0)
A2.19E4
305.8987 S:10 SMO(1,3) BSUB(256,15,-3.0)
A3.41E4
330.9792 S:10 SMO(1,3)
18:40 18:52 19:11 19:24 19:40 19:51 20:00 20:14 20:39 20:49 21:04 21:18 21:32
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,l,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.330	1.03e4	0.86	NO	25.35	0.552	0.0504		1.32e3	2.75e3
2	1,2,3,7,8-PeCDF	10.330	1.12e3	0.94	YES	33.67	0.071	0.0362		6.99e2	1.44e3
3	2,3,4,7,8-PeCDF	10.330	1.40e3	1.01	YES	35.43	0.088	0.0320		6.99e2	1.44e3
4	1,2,3,4,7,8-HxCDF	10.330	2.34e3	1.23	NO	40.79	0.177	0.0328		9.75e2	1.43e3
5	1,2,3,6,7,8-HxCDF	10.330	7.95e2	0.84	YES	40.98	0.055	0.0309		9.75e2	1.43e3
6	2,3,4,6,7,8-HxCDF	10.330	7.07e2	0.81	YES	41.91	0.052	0.0329		9.75e2	1.43e3
7	1,2,3,7,8,9-HxCDF	10.330			NO			0.0442		9.75e2	1.43e3
8	1,2,3,4,6,7,8-HpCDF	10.330	1.02e4	0.98	NO	45.40	0.985	0.0477		1.71e3	8.86e2
9	1,2,3,4,7,8,9-HpCDF	10.330	9.28e2	1.07	NO	47.18	0.116	0.0614		1.71e3	8.86e2
10	OCDF	10.330	1.69e4	0.88	NO	50.43	2.805	0.0497		4.22e2	1.03e3
11	2,3,7,8-TCDD	10.330	4.24e2	0.22	YES	26.54	0.027	0.0478		2.13e3	9.41e2
12	1,2,3,7,8-PeCDD	10.330	8.19e2	0.80	YES	36.20	0.076	0.0339		9.57e2	6.14e2
13	1,2,3,4,7,8-HxCDD	10.330	7.84e2	0.90	YES	42.19	0.082	0.0379		1.28e3	8.20e2
14	1,2,3,6,7,8-HxCDD	10.330	2.74e3	1.32	NO	42.31	0.260	0.0398		1.28e3	8.20e2
15	1,2,3,7,8,9-HxCDD	10.330	1.71e3	1.31	NO	42.75	0.168	0.0387		1.28e3	8.20e2
16	1,2,3,4,6,7,8-HpCDD	10.330	4.14e4	1.09	NO	46.76	5.951	0.0962		2.08e3	1.45e3
17	OCDD	10.330	2.46e5	0.84	NO	50.35	49.124	0.0687		1.32e3	3.46e2
18	13C-2,3,7,8-TCDF	10.330	3.95e6	0.71	NO	25.29	122.233	0.0746	63.1	5.78e3	4.78e3
19	13C-1,2,3,7,8-PeCDF	10.330	3.33e6	1.37	NO	33.64	142.733	0.1864	73.7	8.80e3	1.02e4
20	13C-2,3,4,7,8-PeCDF	10.330	3.27e6	1.40	NO	35.40	145.546	0.1932	75.2	8.80e3	1.02e4
21	13C-1,2,3,4,7,8-HxCDF	10.330	2.30e6	0.53	NO	40.77	113.375	0.1863	58.6	1.23e4	6.74e3
22	13C-1,2,3,6,7,8-HxCDF	10.330	2.62e6	0.49	NO	40.94	121.076	0.1744	62.5	1.23e4	6.74e3
23	13C-2,3,4,6,7,8-HxCDF	10.330	2.29e6	0.54	NO	41.89	118.298	0.1952	61.1	1.23e4	6.74e3
24	13C-1,2,3,7,8,9-HxCDF	10.330	2.10e6	0.51	NO	42.92	110.039	0.1979	56.8	1.23e4	6.74e3
25	13C-1,2,3,4,6,7,8-HpCDF	10.330	1.63e6	0.47	NO	45.38	100.888	0.1420	52.1	8.22e3	3.34e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.330	1.23e6	0.43	NO	47.17	97.838	0.1820	50.5	8.22e3	3.34e3
27	13C-2,3,7,8-TCDD	10.330	2.74e6	0.75	NO	26.54	136.295	0.1564	70.4	6.58e3	7.19e3
28	13C-1,2,3,7,8-PeCDD	10.330	2.02e6	0.70	NO	36.20	153.304	0.0887	79.2	2.41e3	2.71e3
29	13C-1,2,3,4,7,8-HxCDD	10.330	1.85e6	1.26	NO	42.16	118.611	0.2294	61.3	1.14e4	6.60e3
30	13C-1,2,3,6,7,8-HxCDD	10.330	2.19e6	1.20	NO	42.30	132.283	0.2169	68.3	1.14e4	6.60e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.330	1.35e6	1.02	NO	46.76	104.603	0.1703	54.0	5.13e3	5.94e3
32	13C-OCDD	10.330	1.91e6	0.85	NO	50.33	167.701	0.0000	43.3	4.13e-1	0.00e0
33	13C-1,2,3,4-TCDD	10.330	3.88e6	0.77	NO	26.20	16.598	0.0135	8.6	6.58e3	7.19e3
34	13C-1,2,3,7,8,9-HxCDD	10.330	3.08e6	1.23	NO	42.74	20.853	0.0243	10.8	1.14e4	6.60e3
35	37Cl-2,3,7,8-TCDD	10.330	6.60e4			26.56	2.962	0.0155	76.5		1.52e3
36	Total Tetra-Furans	10.330					3.120	0.0504			2.75e3
37	Total Tetra-Dioxins	10.330					0.465	0.0478			9.41e2
38	Total Penta-Furans	10.330					1.188	0.0344			1.44e3
39	Total Penta-Dioxins	10.330					0.490	0.0339			6.14e2
40	Total Hexa-Furans	10.330					2.093	0.0336			1.43e3
41	Total Hexa-Dioxins	10.330					2.618	0.0375			8.20e2
42	Total Hepta-Furans	10.330					4.100	0.0542			8.86e2
43	Total Hepta-Dioxins	10.330					19.919	0.0962			1.45e3
44	Hexa DPE	1.000	5.38e2			22.13					0.00e0
45	Hepta DPE	1.000	9.64e1			37.17					3.58e-2
46	Octa DPE	1.000	1.50e0			41.18					5.41e-1
47	Nona DPE	1.000	3.72e0			47.48					1.10e0
48	Deca DPE	1.000	1.66e2			49.78					0.00e0
49	Tetra Lock	1.000									8.91e4
50	Penta Lock	1.000	2.68e3			29.18					1.49e5
51	Hexa Lock	1.000	3.43e5			38.94					2.75e5
52	Hepta Lock	1.000									1.55e5
53	Octa Lock	1.000	1.47e5			48.73					2.40e5
54	13C-Tetra-Furans	10.330					122.233	0.0746			4.78e3
55	13C-Tetra-Dioxins	10.330					152.893	0.1699			7.19e3

pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

checked by MW 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	24.34	0.795	NO	0.154
2	24.22	0.814	NO	0.096
3	23.92	0.725	NO	0.170
4	23.77	0.930	YES	0.046
5	23.49	0.747	NO	0.420
6	23.04	0.665	NO	0.389
7	22.79	0.792	NO	0.136
8	22.61	0.679	NO	0.542
9	22.29	0.824	NO	0.211
10	22.00	0.484	YES	0.033
11	26.02	0.733	NO	0.151
12	25.35	0.857	NO	0.552
13	25.02	1.324	YES	0.056
14	24.65	0.733	NO	0.105
15	26.35	0.738	NO	0.060

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.217	YES	0.027
2	26.40	0.571	YES	0.064
3	26.24	2.006	YES	0.015
4	25.29	2.076	YES	0.084
5	24.76	0.913	YES	0.093
6	23.43	1.466	YES	0.057
7	23.00	1.142	YES	0.105
8	23.81	0.349	YES	0.021

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	29.00	1.650	NO	0.215
2	31.60	1.048	YES	0.471
3	33.67	0.941	YES	0.071
4	33.51	3.222	YES	0.035
5	32.96	1.378	NO	0.144
6	35.69	2.605	YES	0.086
7	35.43	1.015	YES	0.088
8	34.39	1.801	YES	0.078

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	34.26	0.980	YES	0.036
2	34.02	0.683	NO	0.066
3	33.31	0.475	YES	0.029
4	32.17	0.443	YES	0.192
5	36.20	0.796	YES	0.076
6	34.61	1.172	YES	0.044
7	37.10	0.606	NO	0.019
8	35.25	0.578	NO	0.027

pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	43.11	1.086	NO	0.025
2	41.91	0.811	YES	0.052
3	40.98	0.836	YES	0.055
4	40.79	1.233	NO	0.177
5	40.15	1.286	NO	0.880
6	39.81	1.887	YES	0.050
7	39.32	1.225	NO	0.607
8	39.06	1.327	NO	0.191
9	41.74	1.161	NO	0.025
10	40.74	0.697	YES	0.031

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	42.31	1.324	NO	0.260
2	42.19	0.897	YES	0.082
3	41.48	1.541	YES	0.125
4	41.28	1.049	YES	0.856
5	40.94	2.331	YES	0.348
6	40.11	1.273	NO	0.780
7	42.75	1.305	NO	0.168

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.18	1.067	NO	0.116
2	45.92	1.051	NO	2.999
3	45.40	0.984	NO	0.985

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.087	NO	5.951
2	45.87	1.139	NO	13.967

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.709	NO	122.233

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.749	NO	136.295
2	26.20	0.767	NO	16.598

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.64	1.373	NO	142.733
2	35.40	1.404	NO	145.546

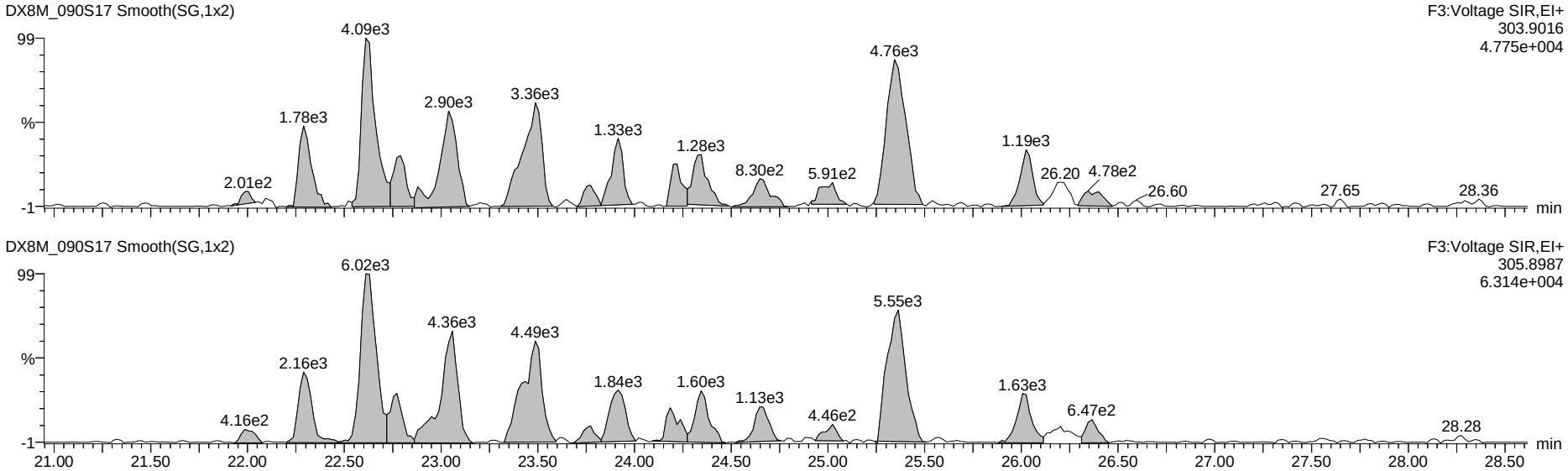
pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

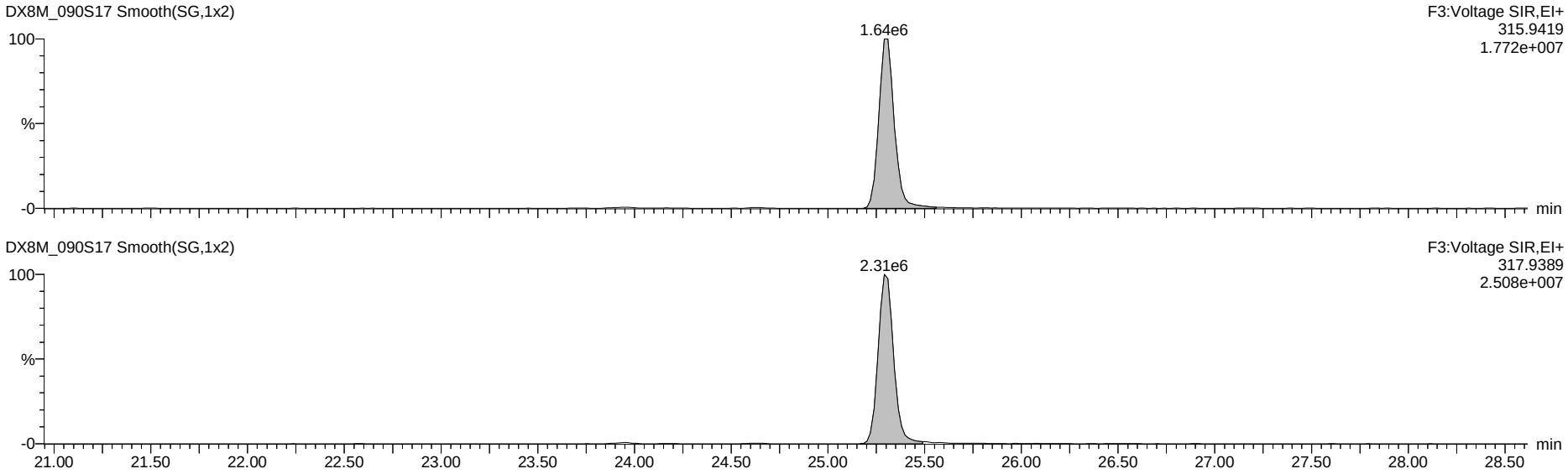
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 27 Jul 2018 10:49:00
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



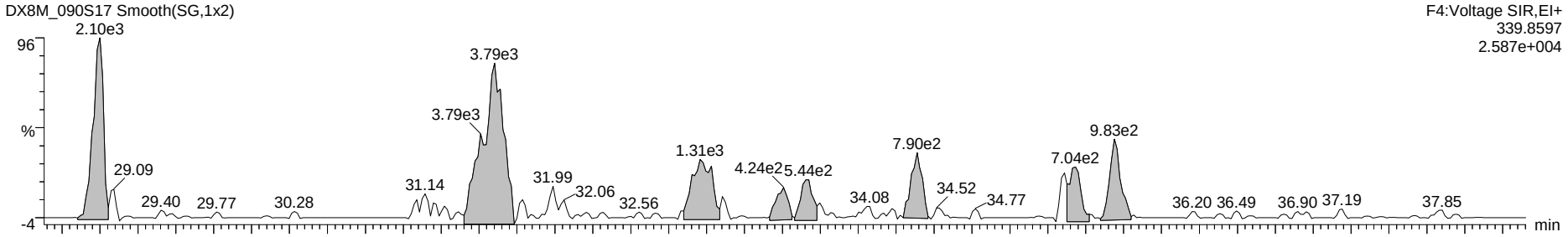
13C-Tetra-Furans

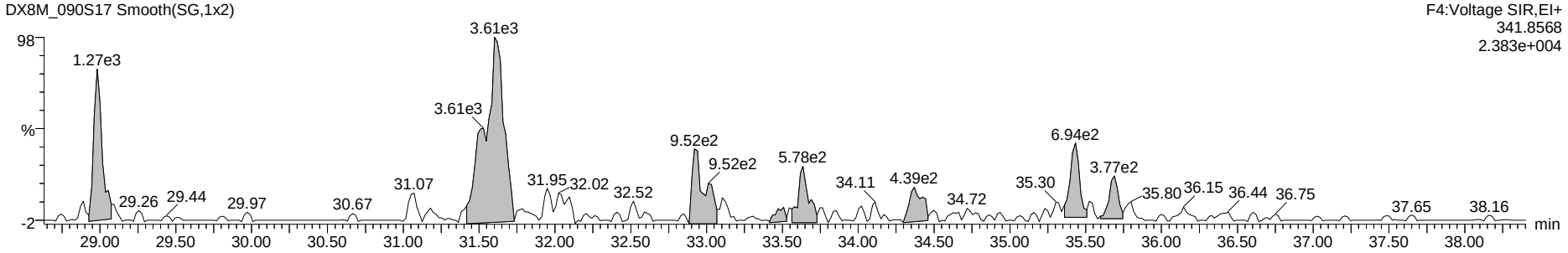


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

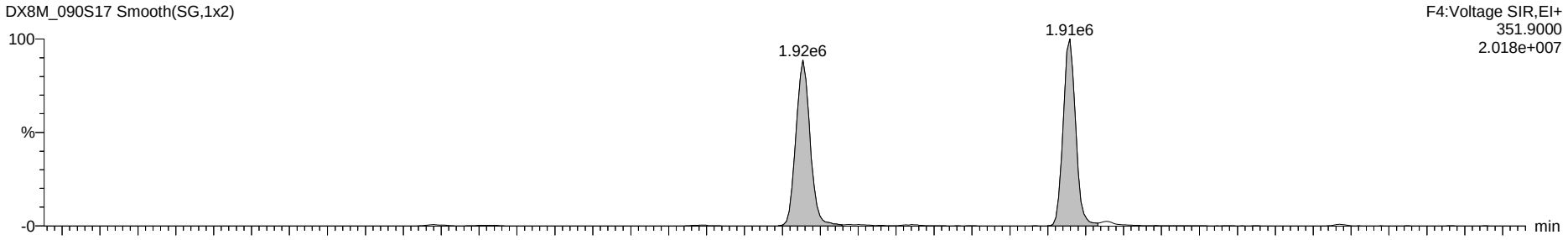
Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

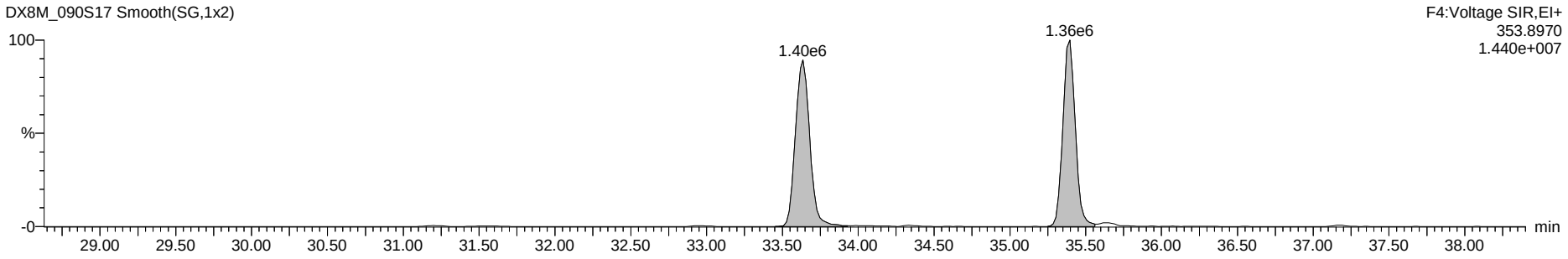
Total Penta-Furans





13C-Penta-Furans

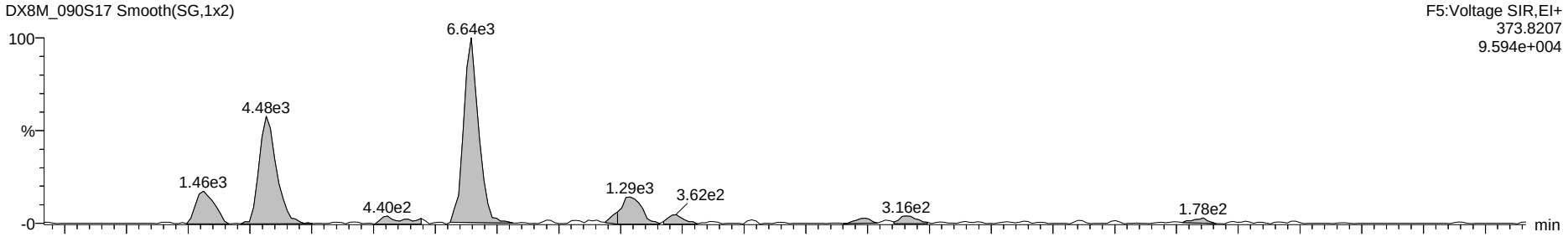


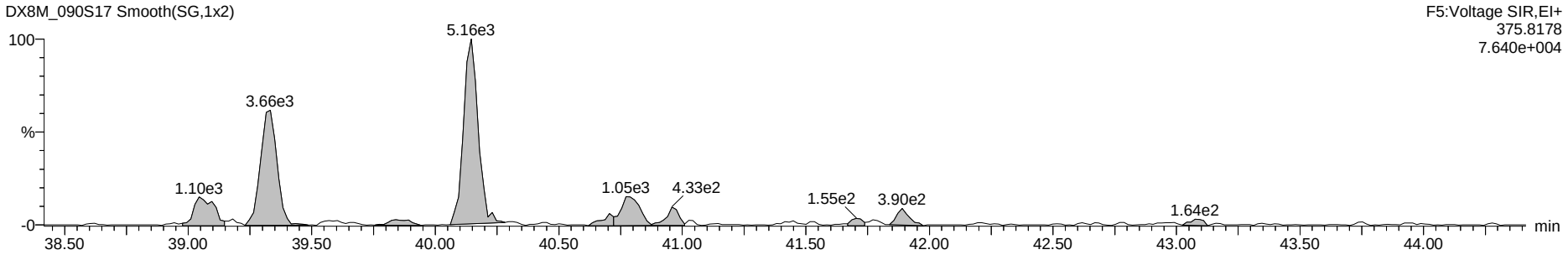


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

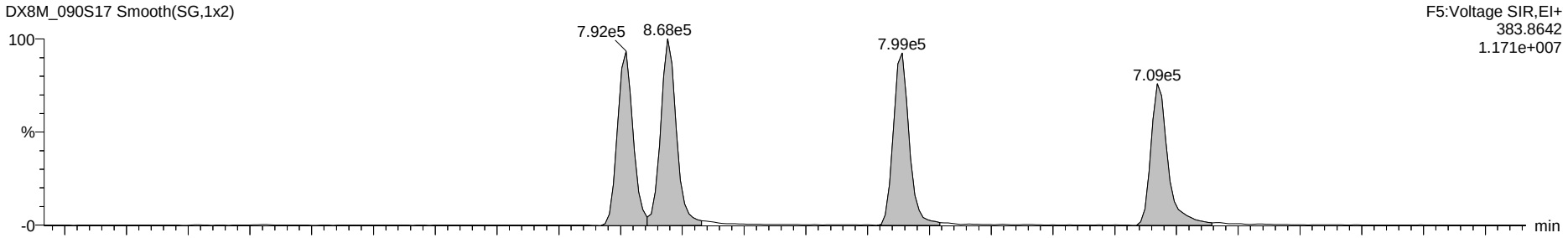
Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

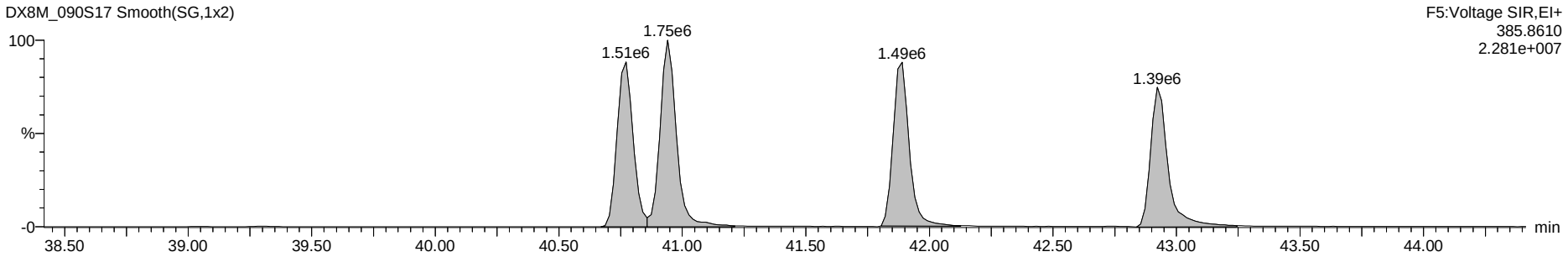
Total Hexa-Furans





13C-Hexa-Furans

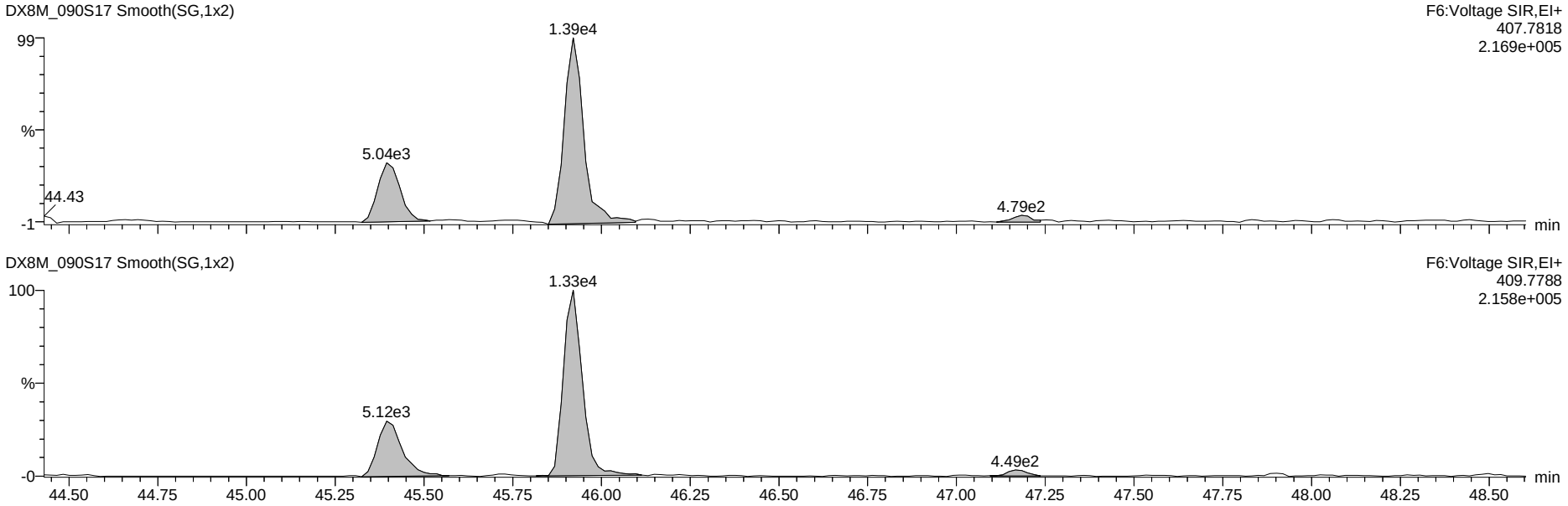




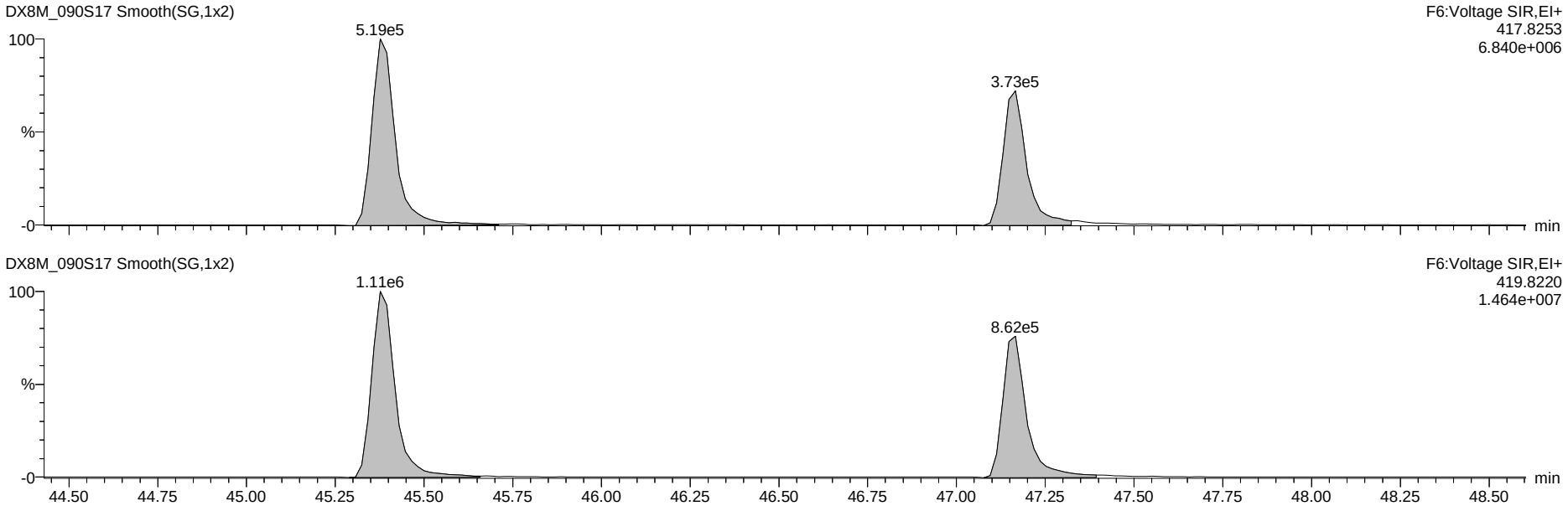
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



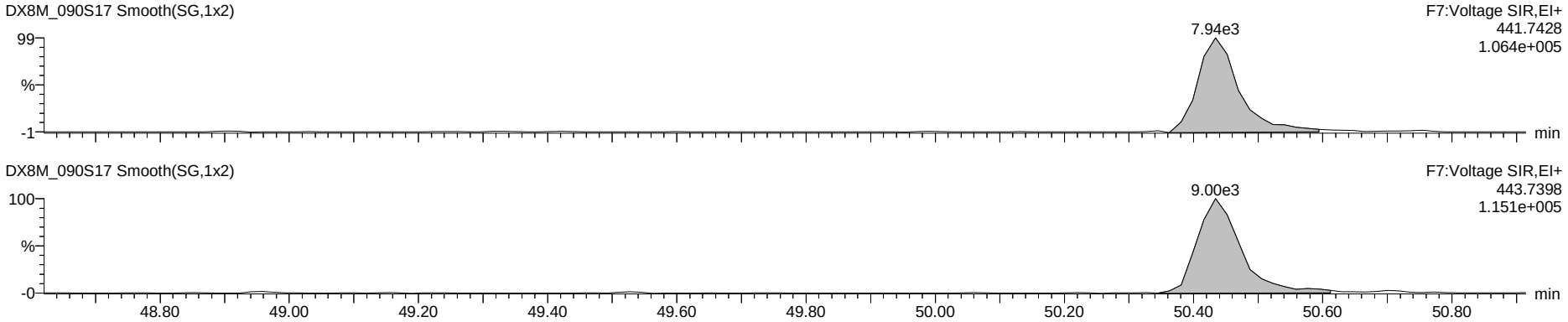
13C-Hepta-Furans



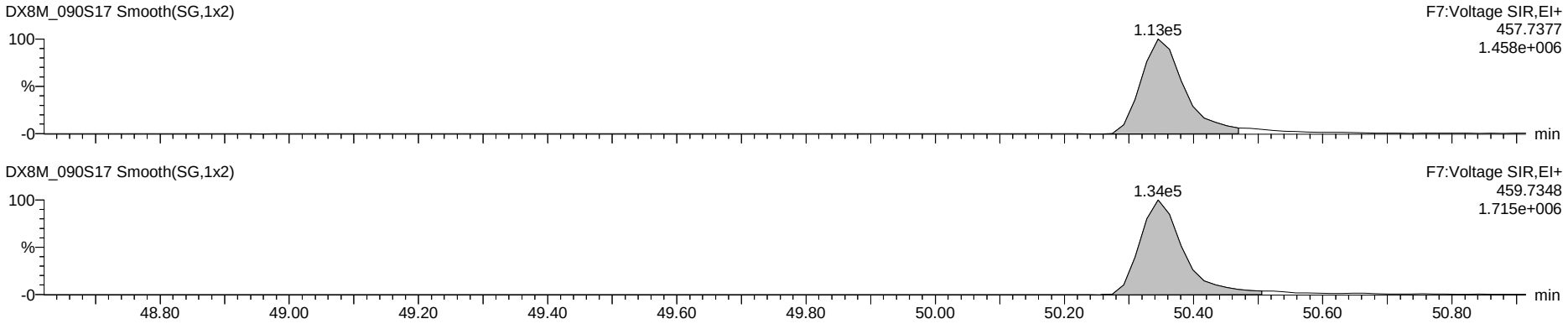
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

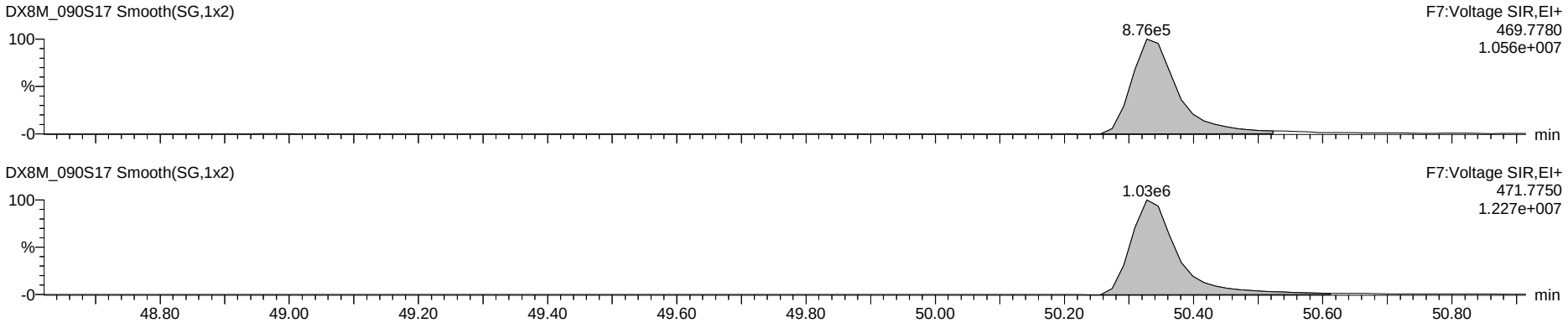
OCDF



OCDD



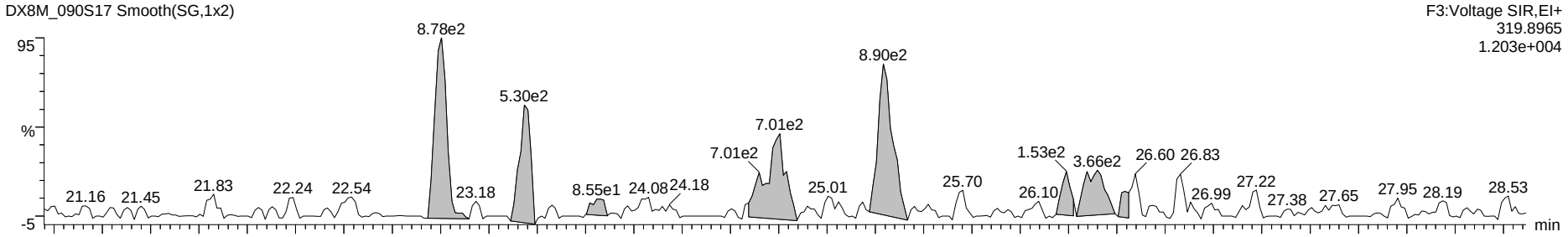
13C-OCDD

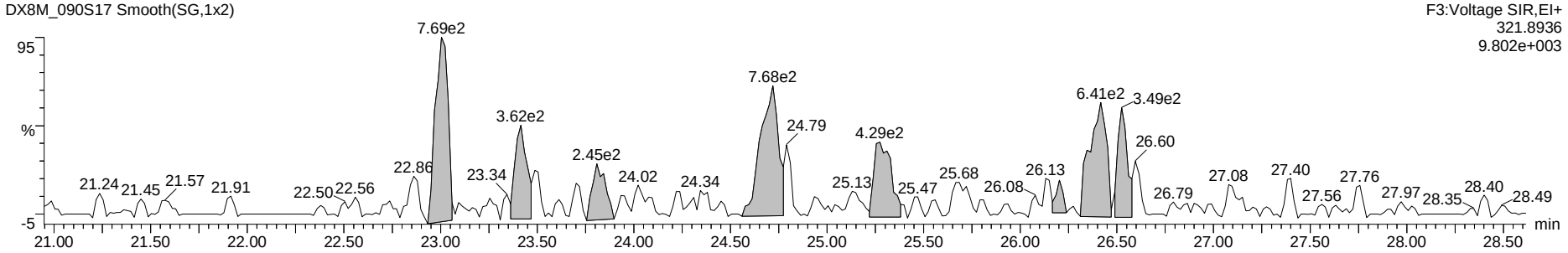


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

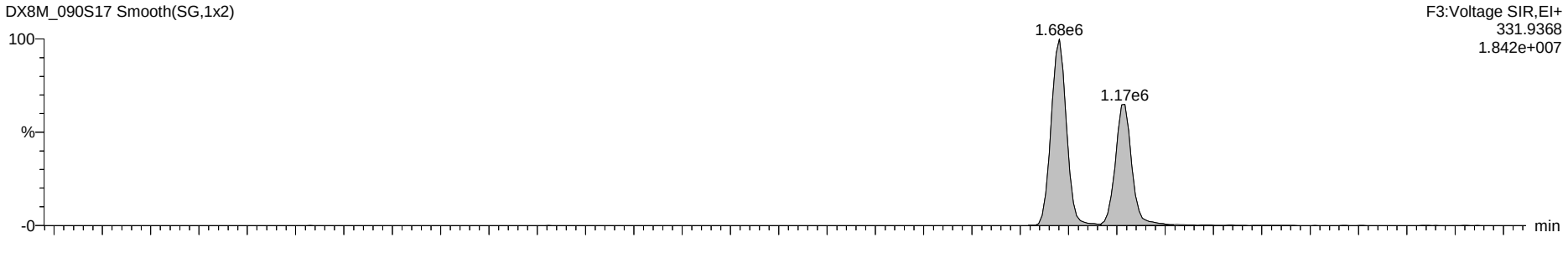
Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

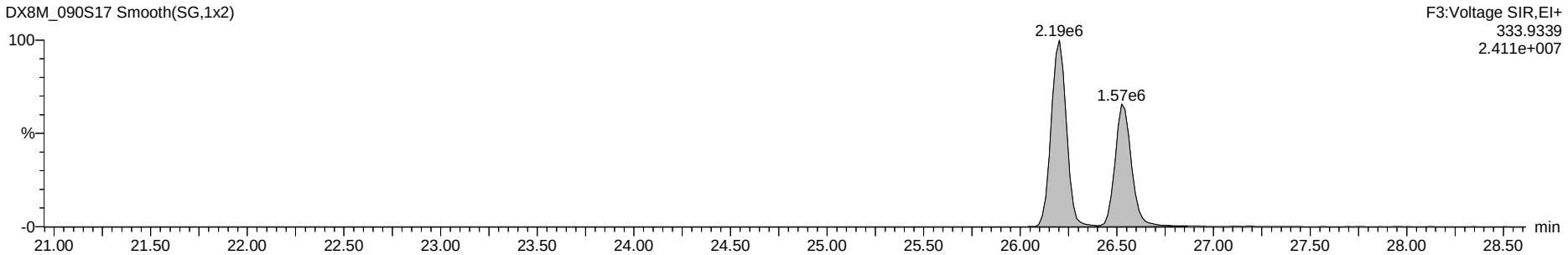
Total Tetra-Dioxins





13C-Tetra-Dioxins

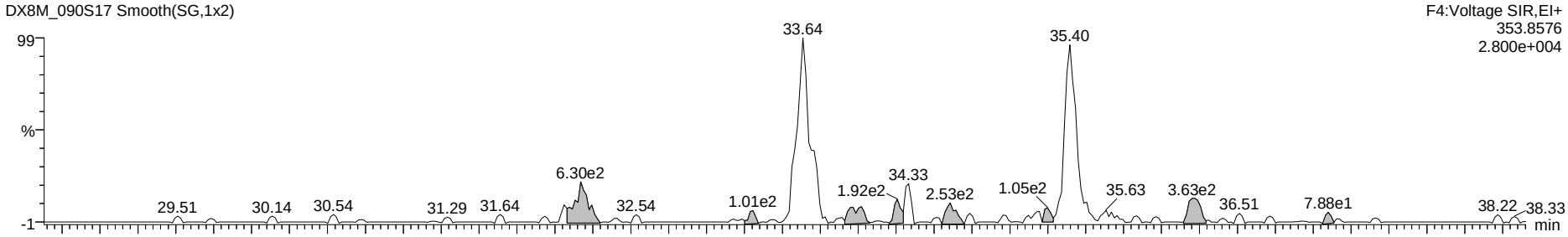


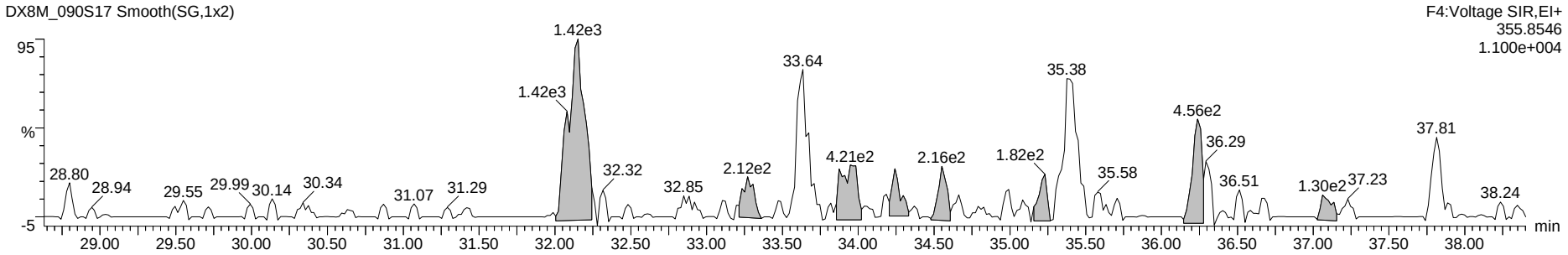


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

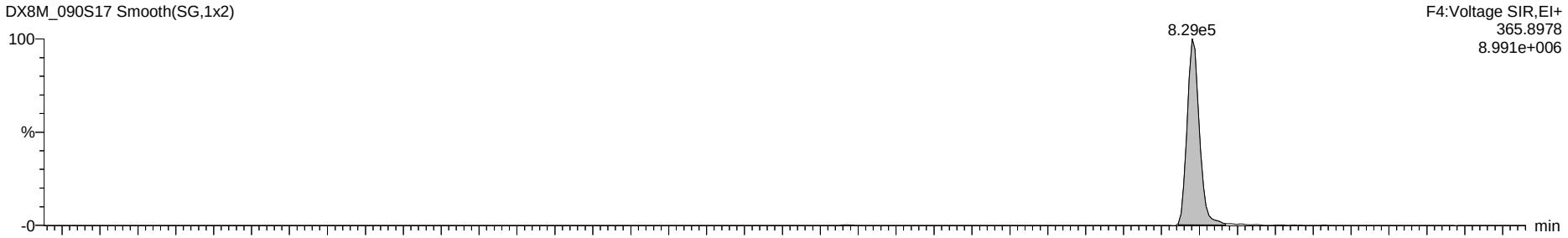
Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

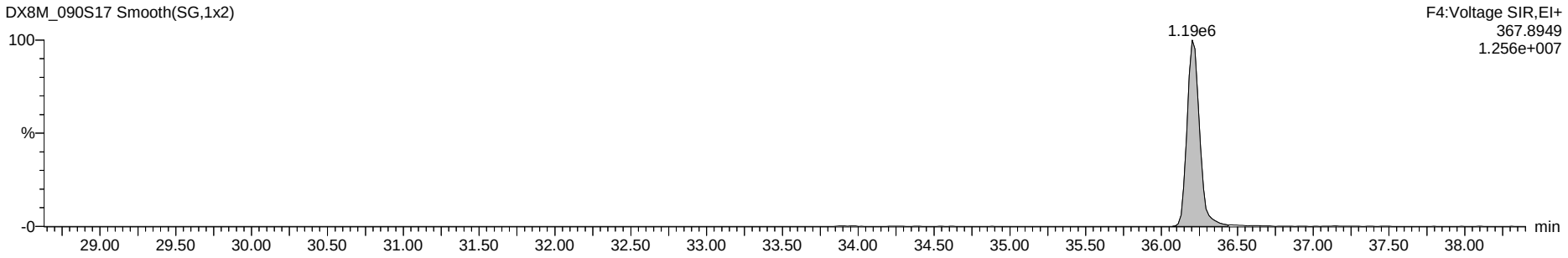
Total Penta-Dioxins





13C-Penta-Dioxins

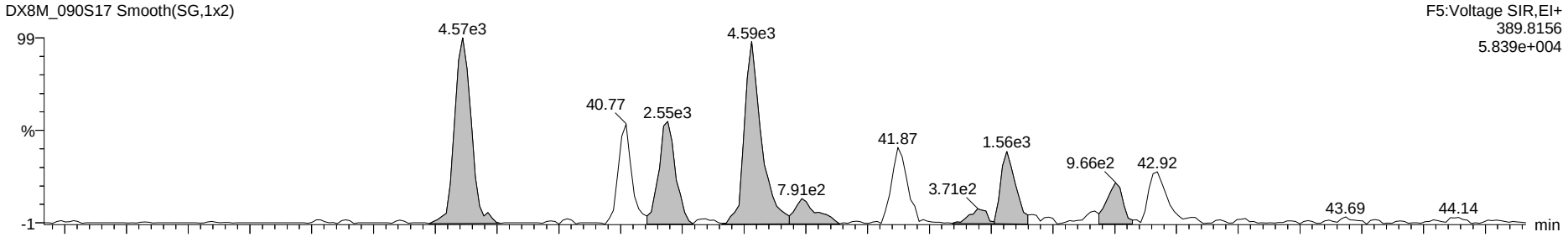


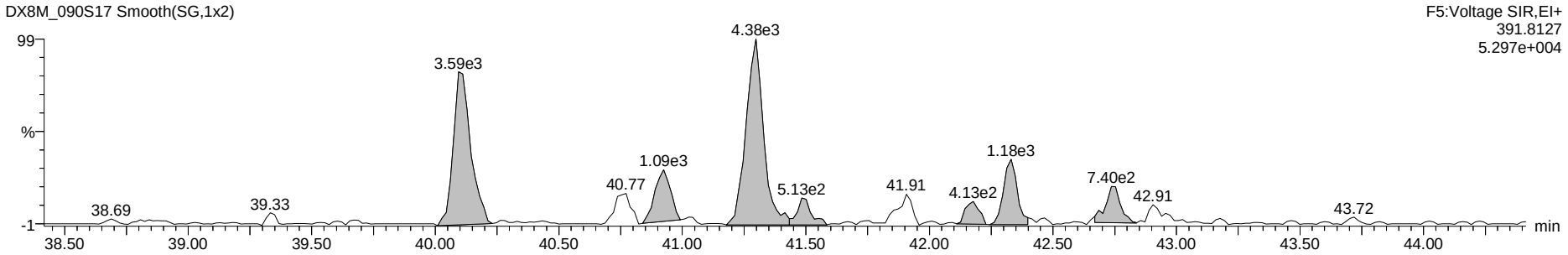


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

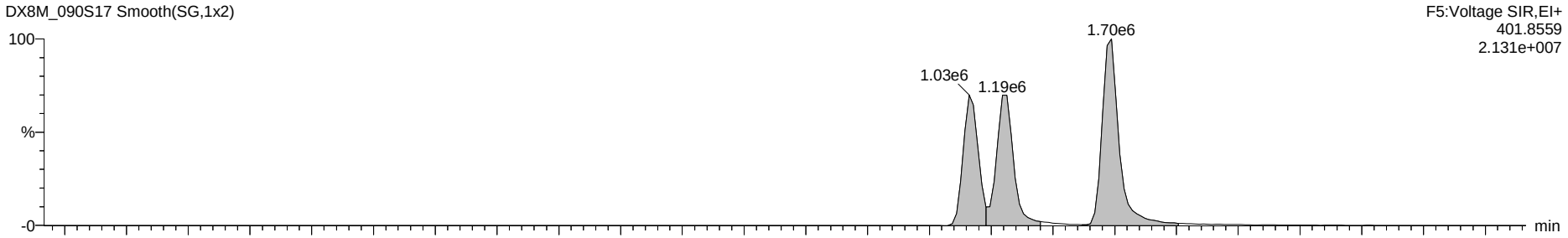
Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

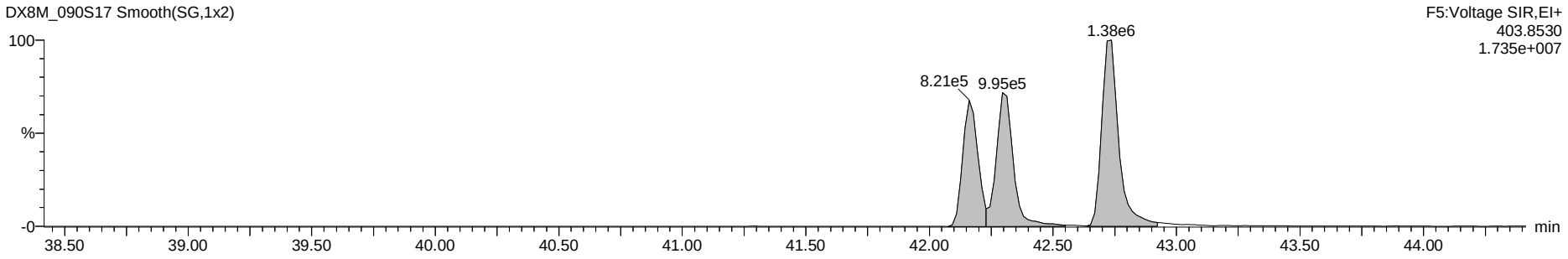
Total Hexa-Dioxins





13C-Hexa-Dioxins

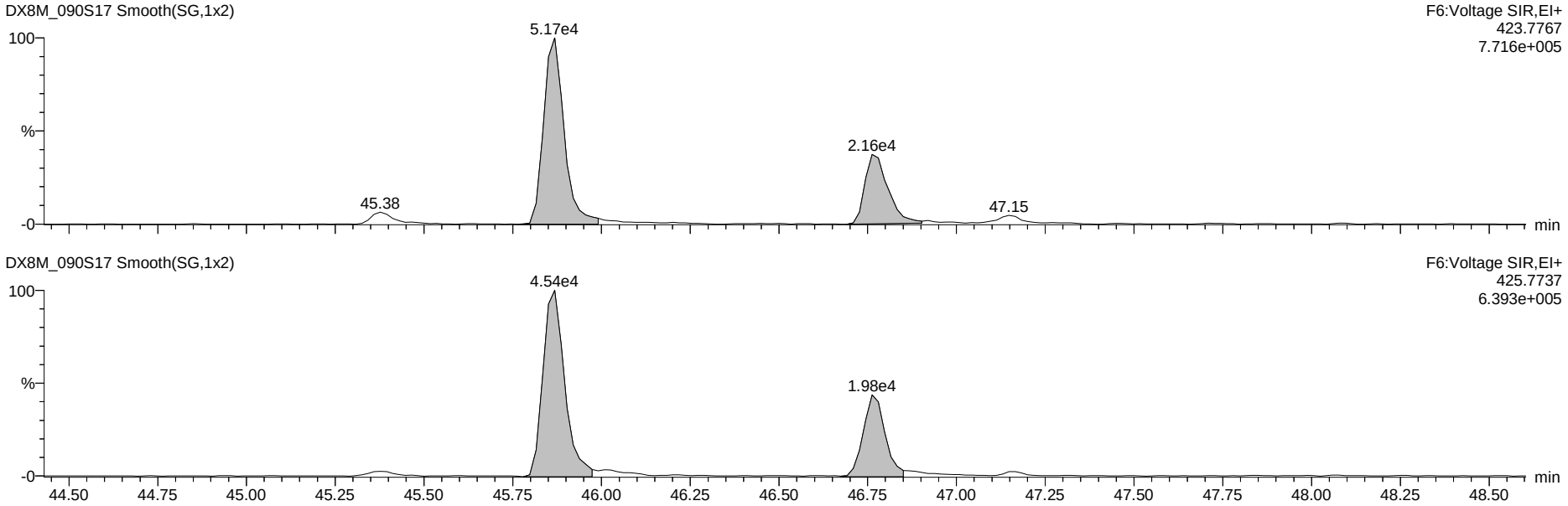




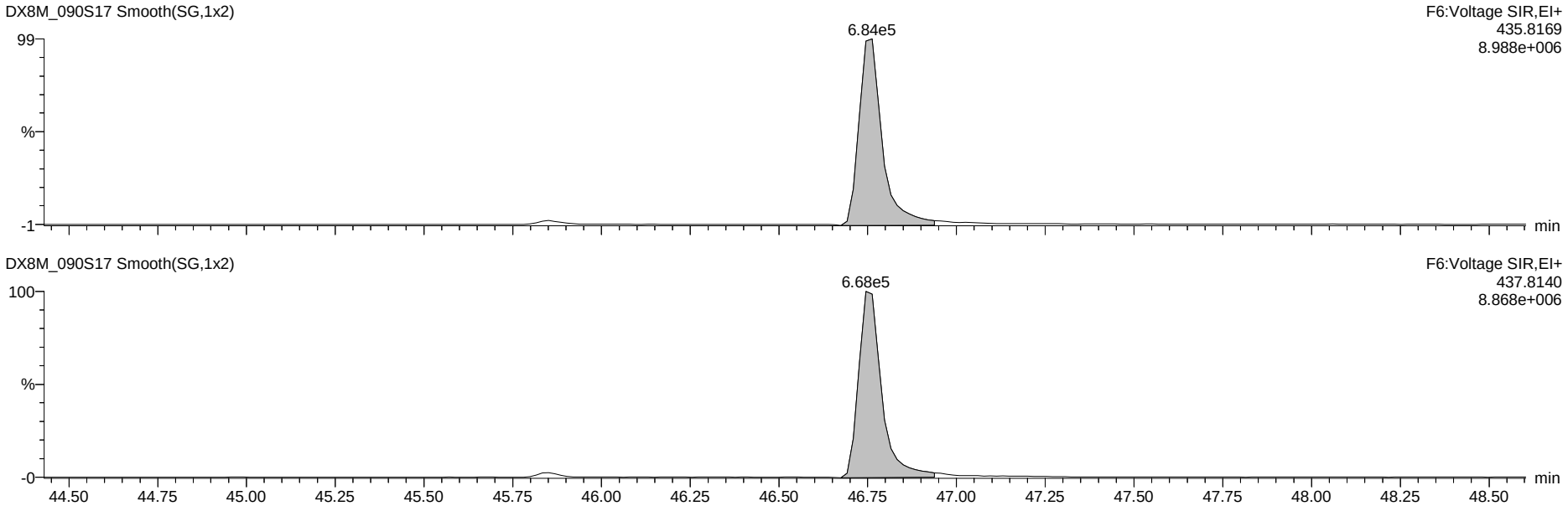
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



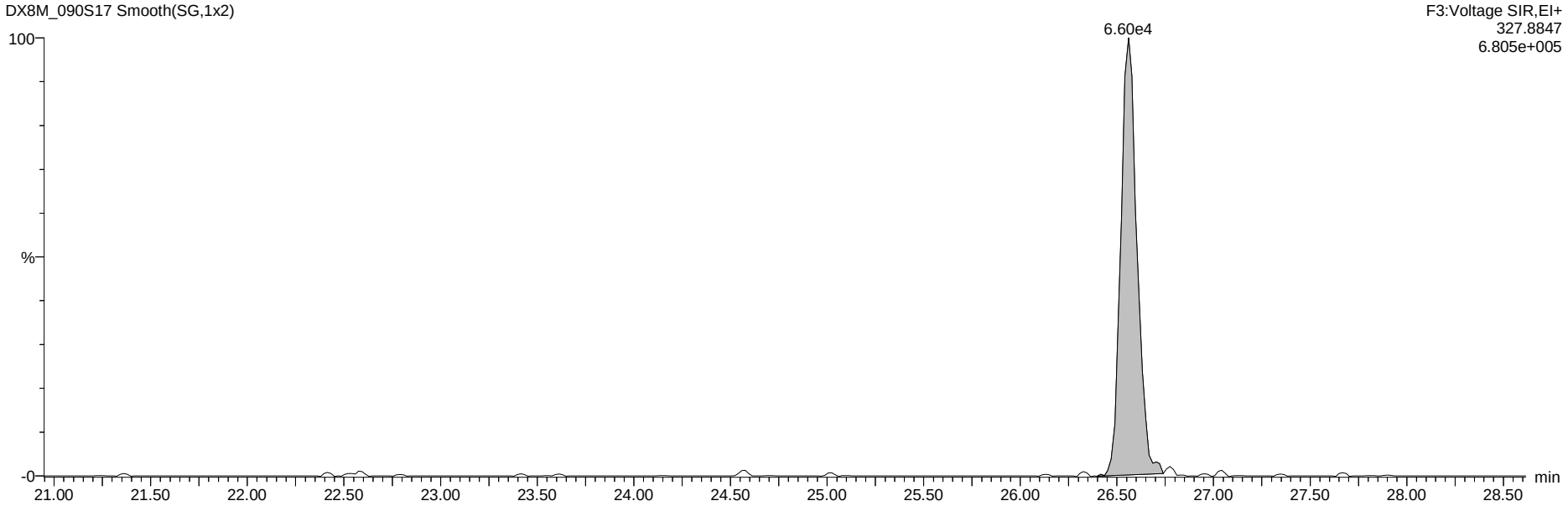
13C-Hepta-Dioxins



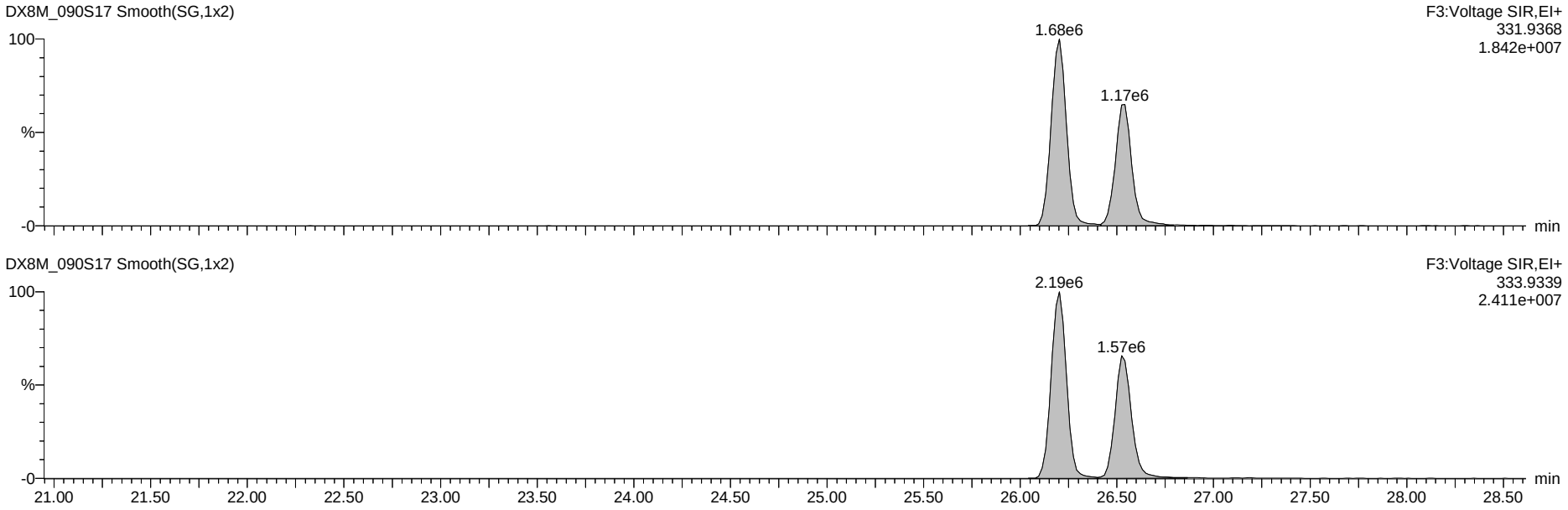
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



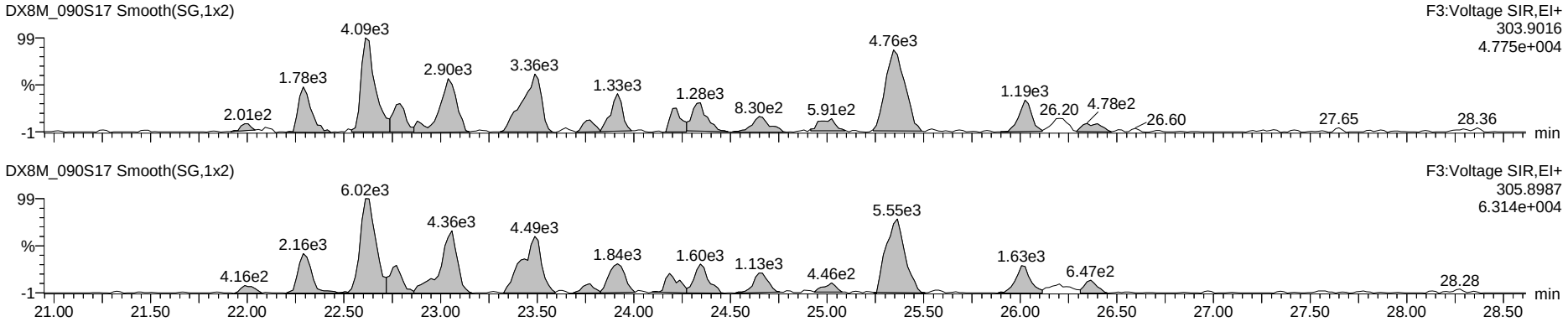
13C-Tetra-Dioxins



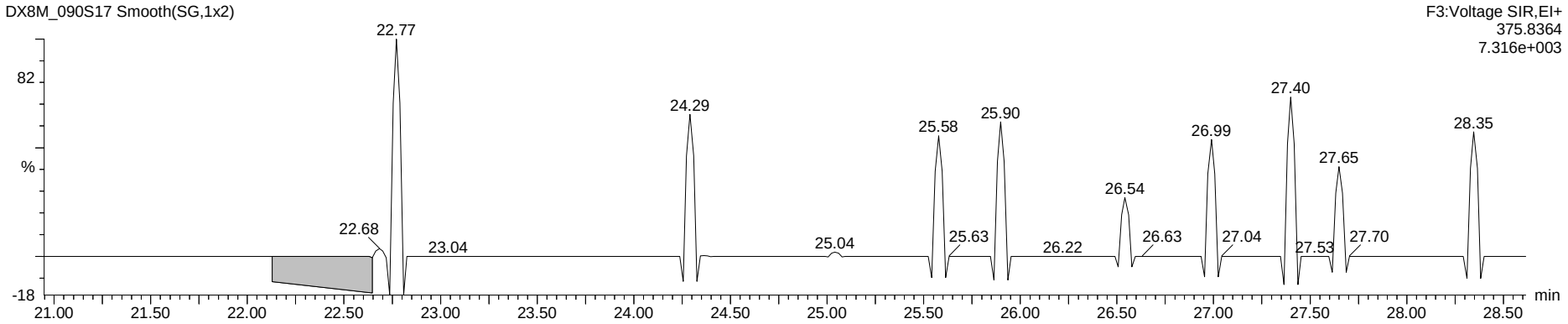
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

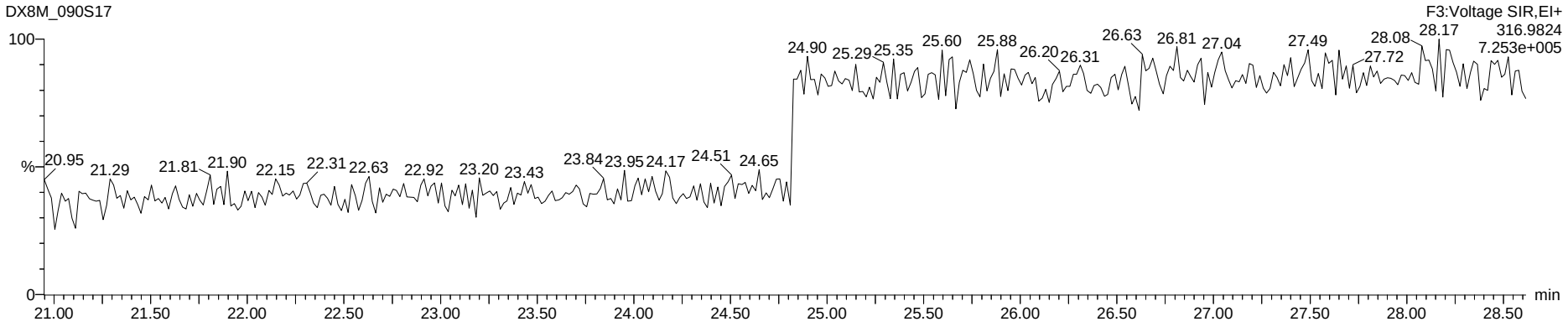
Total Tetra-Furans



Hexa DPE



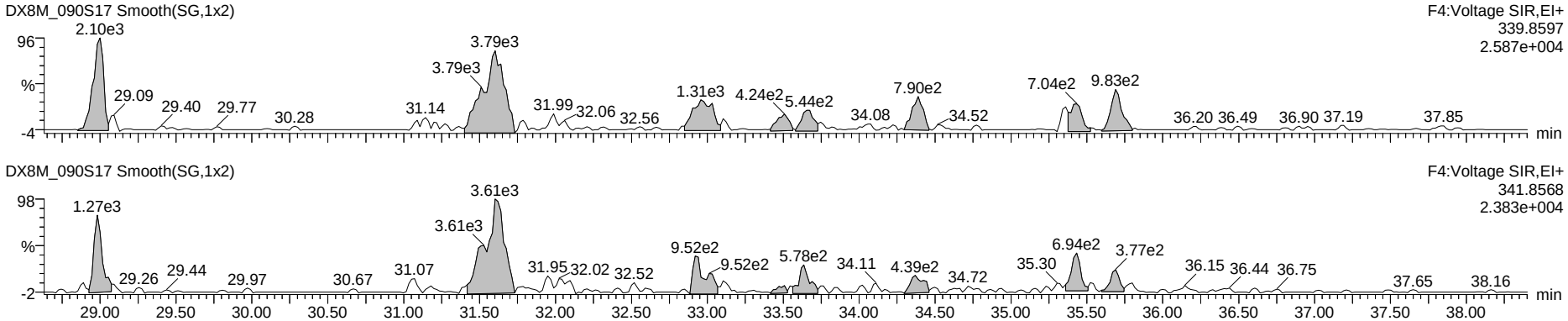
Tetra Lock



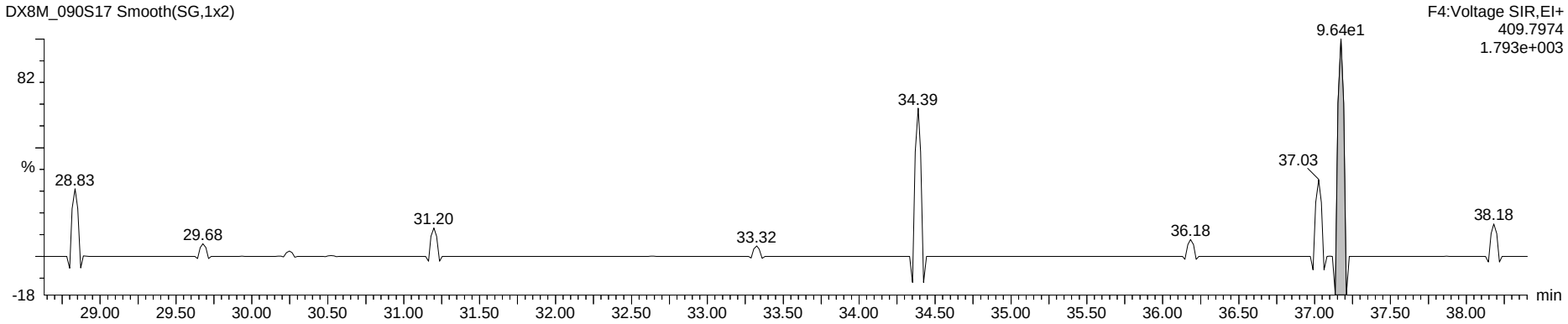
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

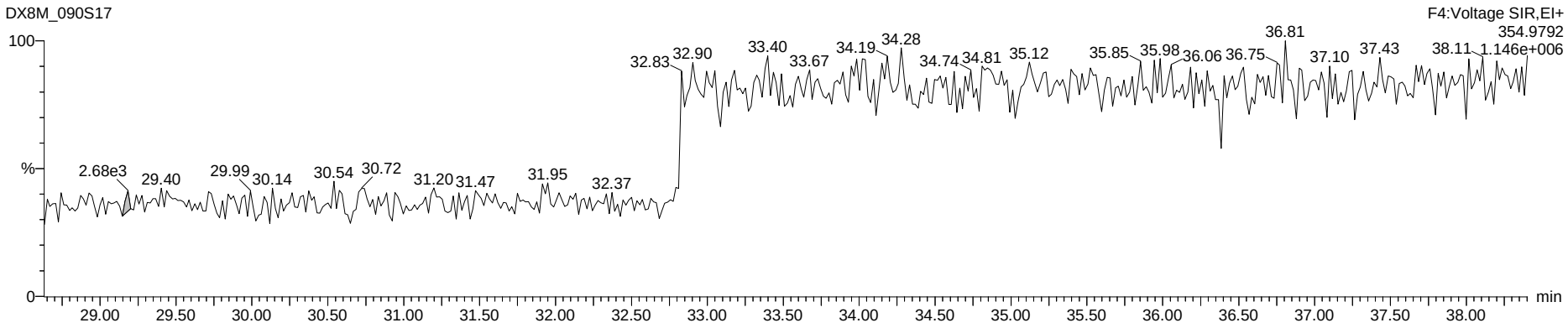
Total Penta-Furans



Hepta DPE



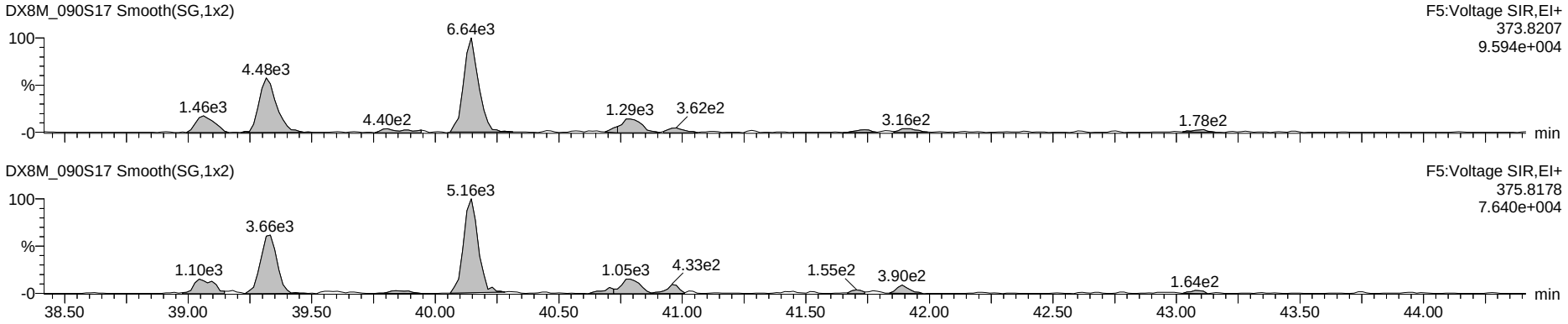
Penta Lock



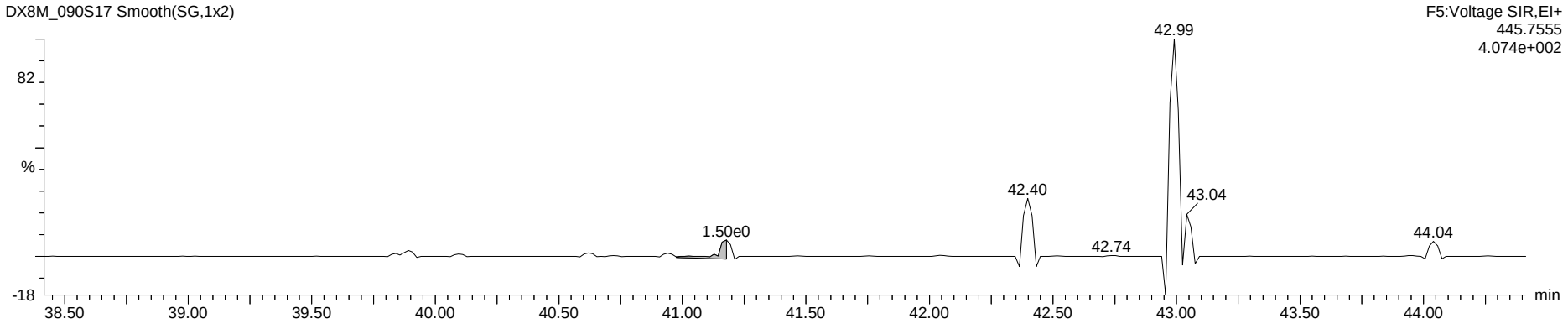
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

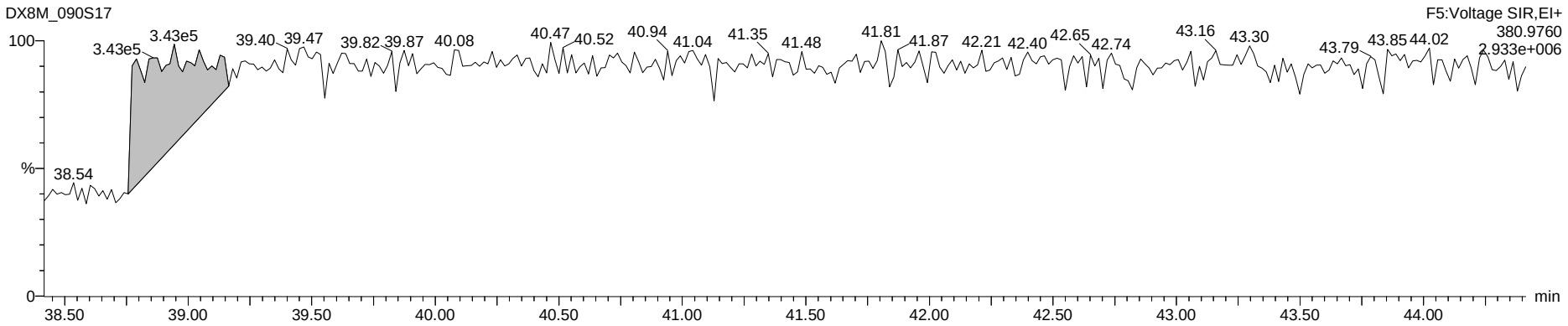
Total Hexa-Furans



Octa DPE



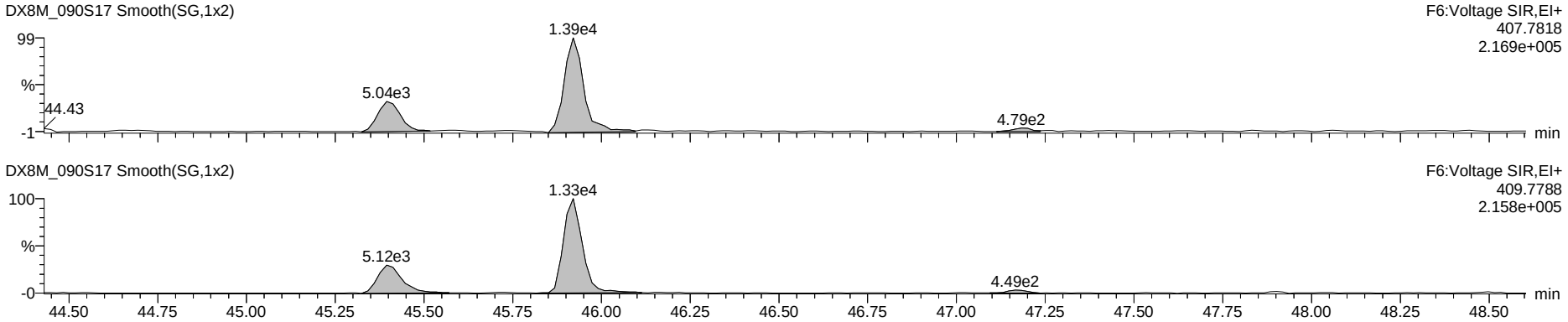
Hexa Lock



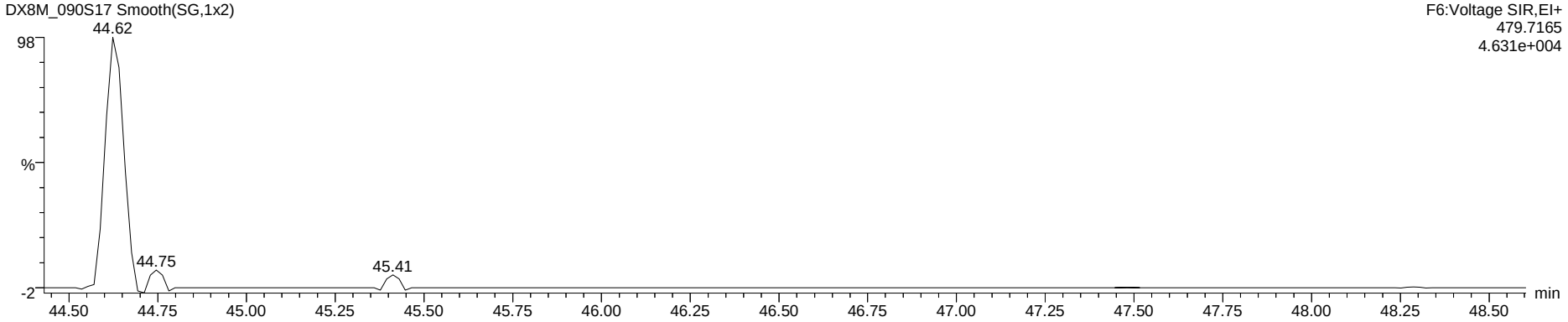
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

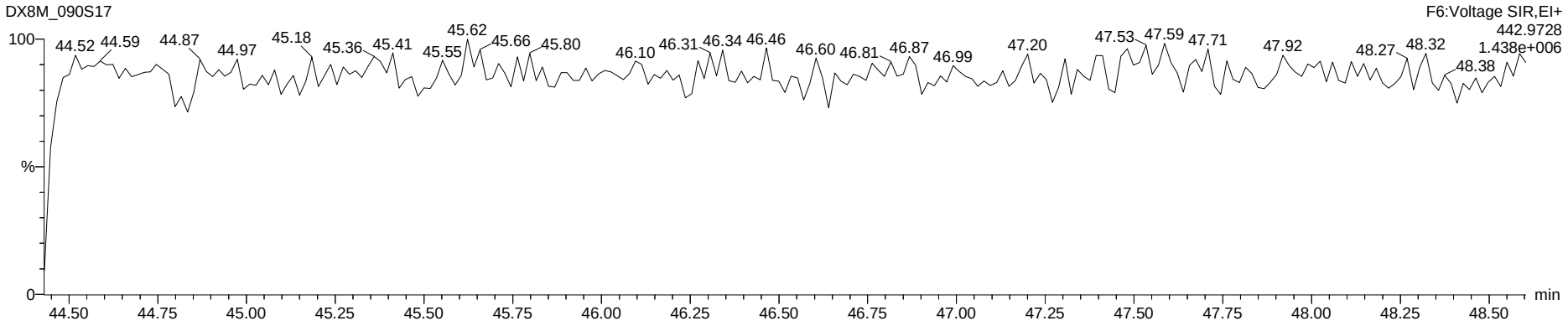
Total Hepta-Furans



Nona DPE



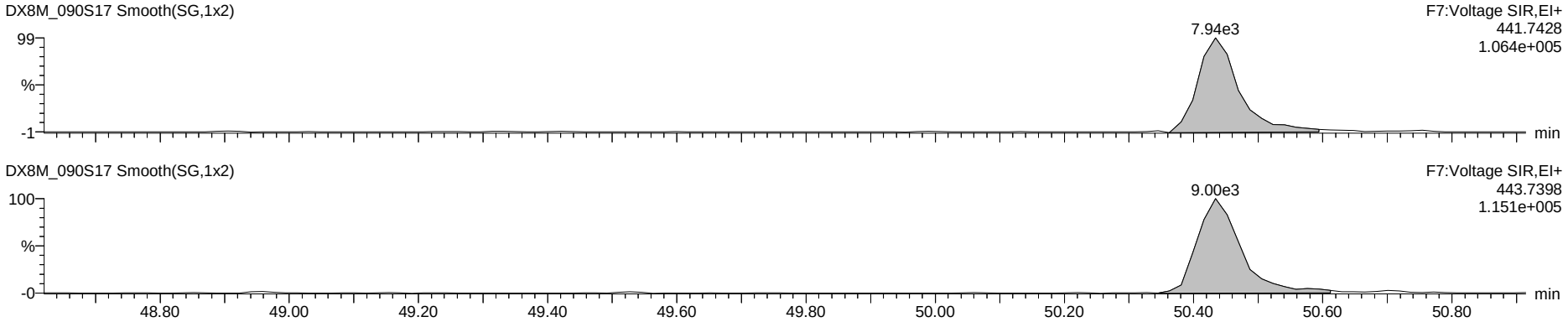
Hepta Lock



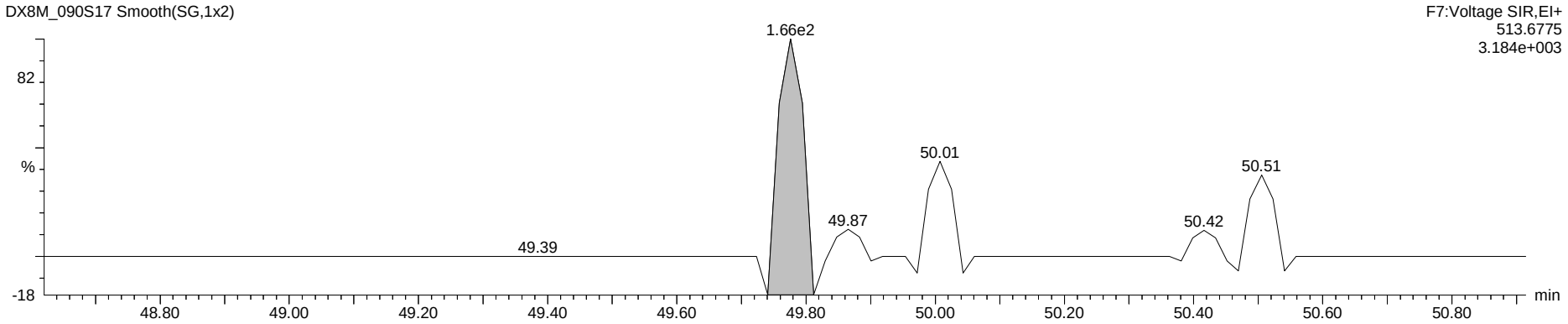
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S17, Date: 28-Jul-2018, Time: 06:58:34, ID: L29626-5,I,, Description: 1,WG64557,1.0/20uL

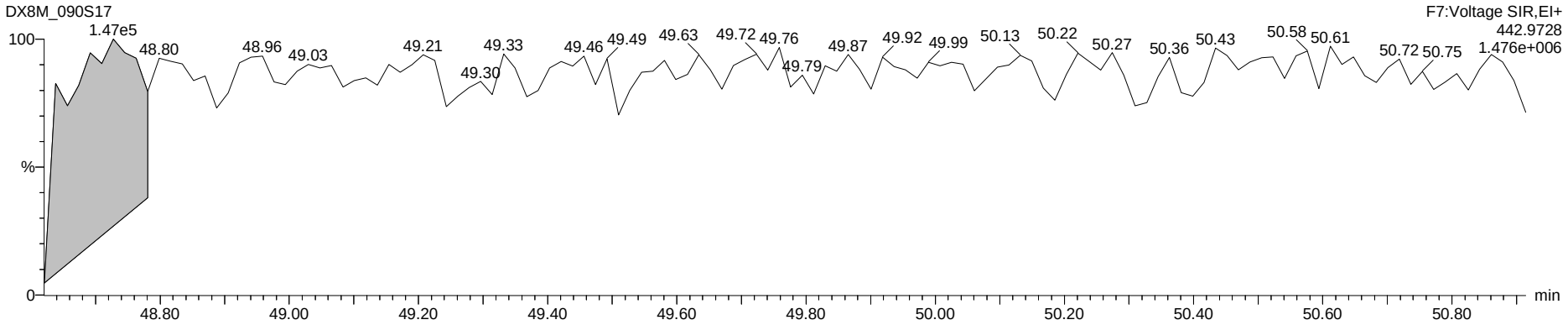
OCDF



Deca DPE



Octa Lock

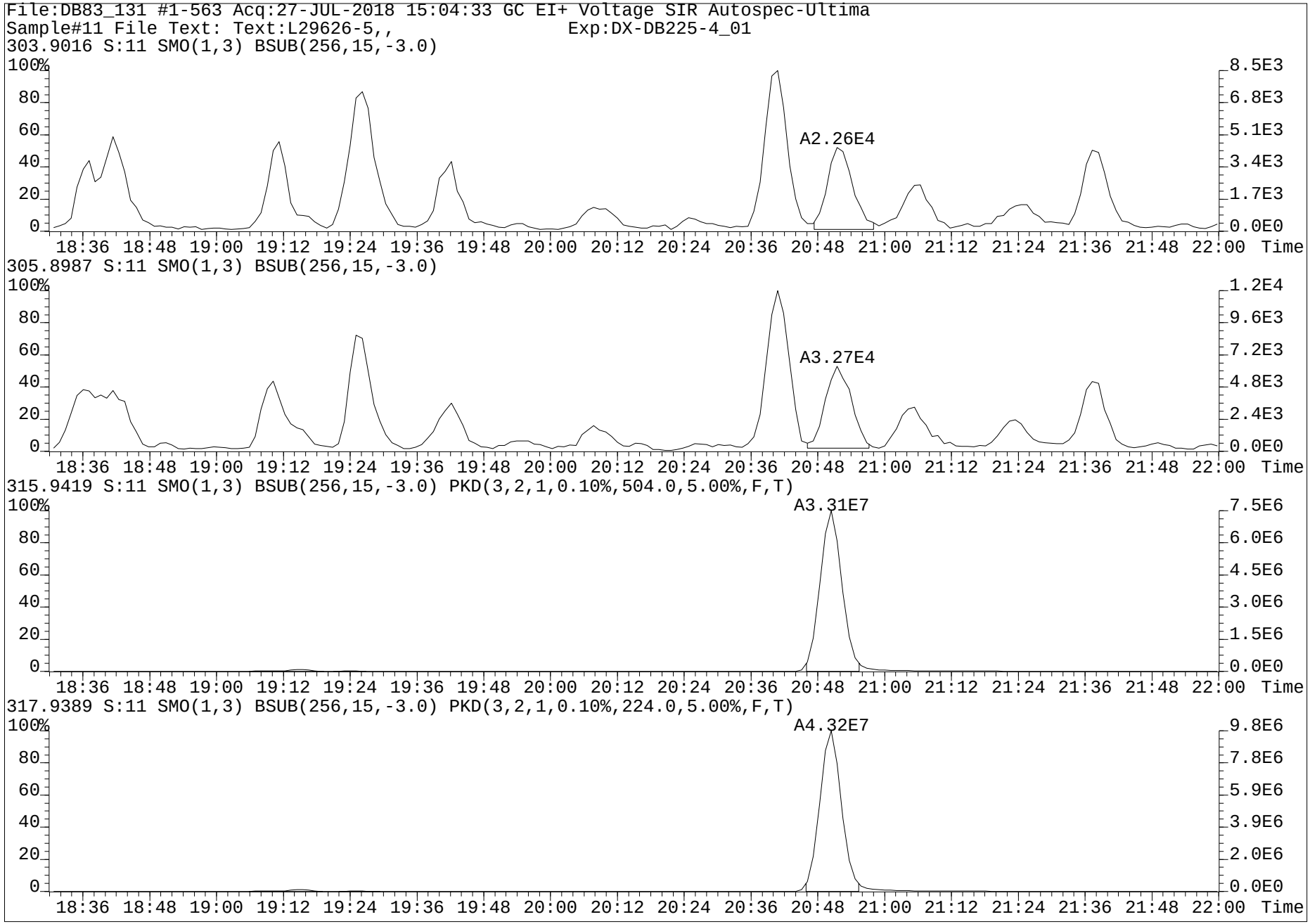


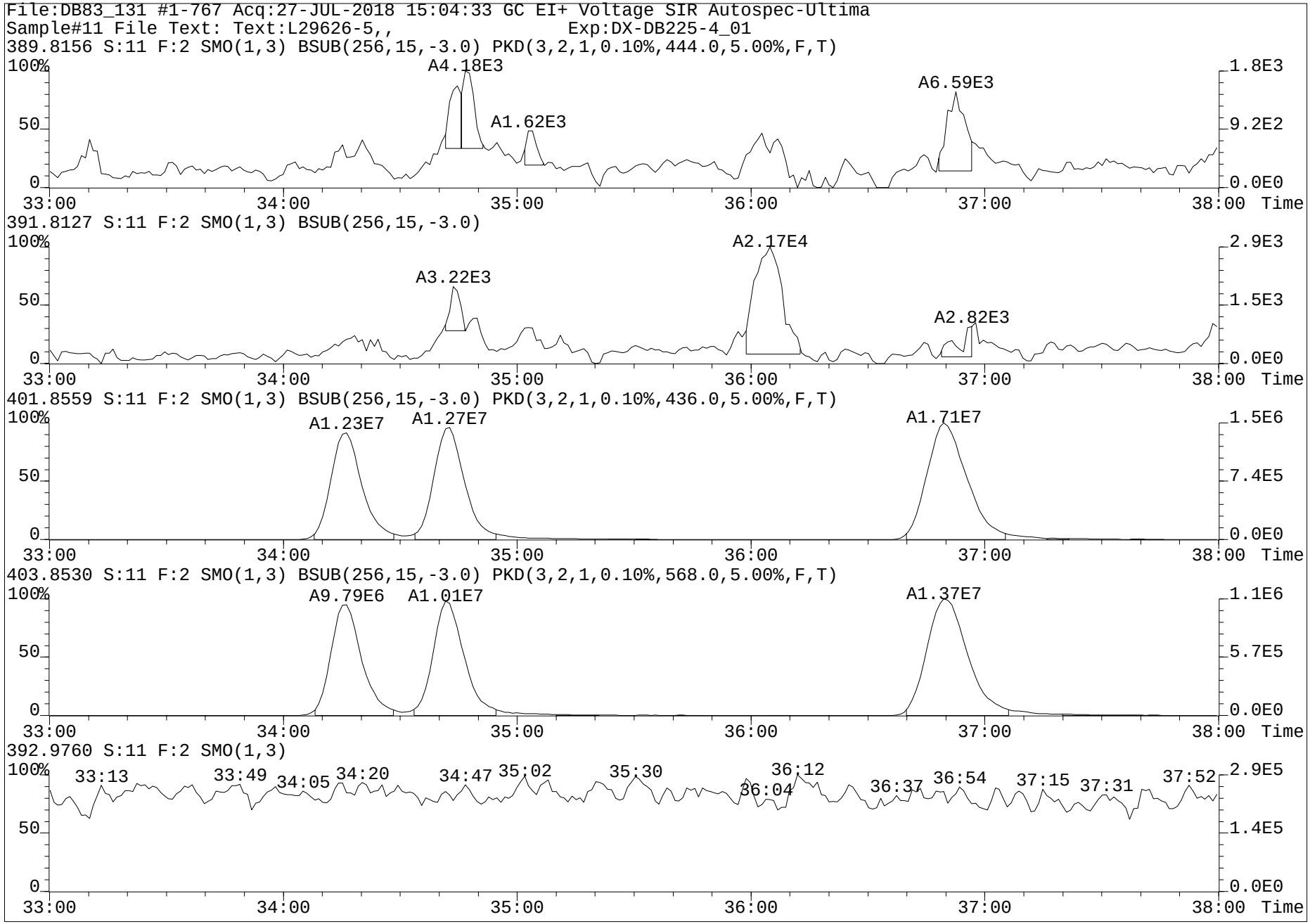
Run #16 Filename DB83_131 S: 11 I: 1 Acquired: 27-JUL-18 15:04:33 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-5,, Comments: 1,WG64557,2.0/20uL
sample size: 10.330000 conc units: pg/g total toxicity: 0.02 F1: 1.0000 F2: 1.0000

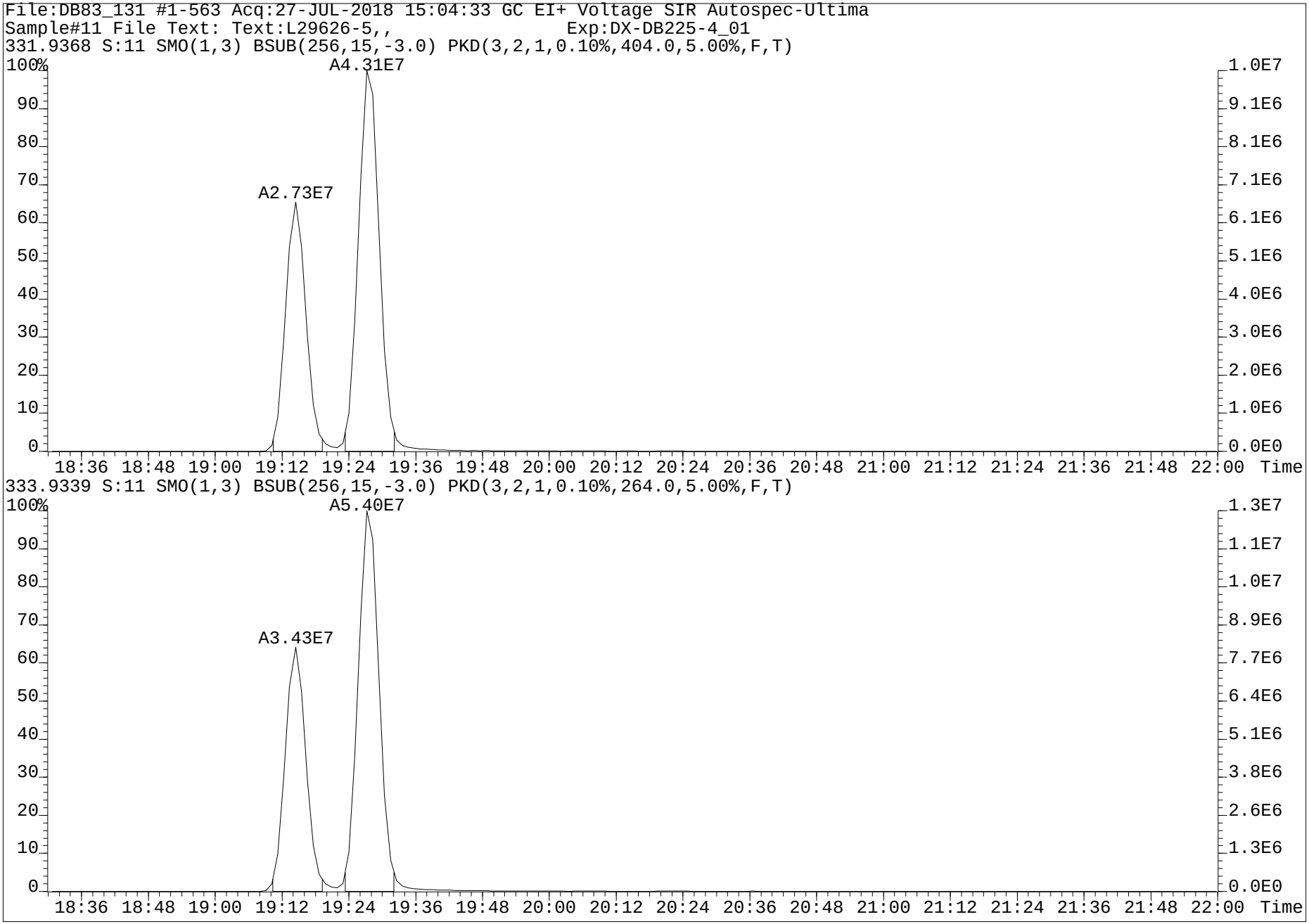
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	5.53e+04	0.69	y	20:51	0.145	0	0.0212	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	9.41e+03	2.34	n	36:53	0.088	0	0.1906	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	7.64e+07	0.77	y	20:50	85.072	-	0.0086	43.9	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	2.20e+07	1.25	y	34:16	130.898	-	0.1762	67.6	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	2.28e+07	1.25	y	34:43	131.297	-	0.1708	67.8	n
6	RS	13C-1,2,3,4-TCDD	1	9.71e+07	0.80	y	19:27	8.497	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	3.08e+07	1.25	y	36:50	5.444	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

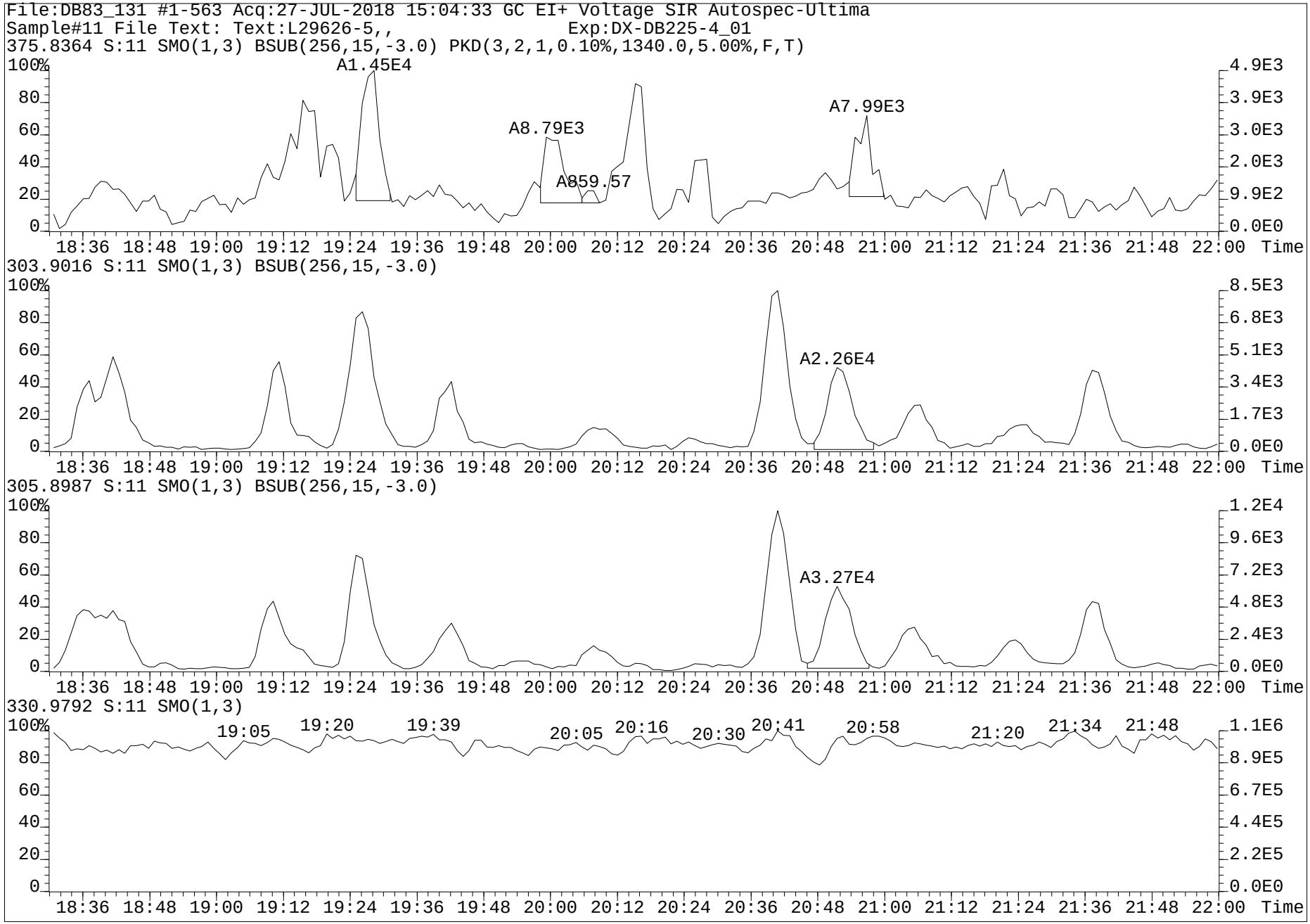
checked

pMyKB 30JUL2018


File:DB83_131 #1-563 Acq:27-JUL-2018 15:04:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text: Text:L29626-5,, Exp:DX-DB225-4_01
303.9016 S:11 SMO(1,3) BSUB(256,15,-3.0)
A2.26E4
305.8987 S:11 SMO(1,3) BSUB(256,15,-3.0)
A3.27E4
315.9419 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,504.0,5.00%,F,T)
A3.31E7
317.9389 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,224.0,5.00%,F,T)
A4.32E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 15:04:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text: Text:L29626-5,, Exp:DX-DB225-4_01
389.8156 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,444.0,5.00%,F,T)
A4.18E3
A1.62E3
A6.59E3
391.8127 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.22E3
A2.17E4
A2.82E3
401.8559 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,436.0,5.00%,F,T)
A1.23E7
A1.27E7
A1.71E7
403.8530 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,568.0,5.00%,F,T)
A9.79E6
A1.01E7
A1.37E7
392.9760 S:11 F:2 SMO(1,3)
33:13
33:49
34:05
34:20
34:47
35:02
35:30
36:04
36:12
36:37
36:54
37:15
37:31
37:52
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.8E3
9.2E2
0.0E0
2.9E3
1.5E3
1.5E6
7.4E5
1.1E6
5.7E5
2.9E5
1.4E5


File:DB83_131 #1-563 Acq:27-JUL-2018 15:04:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text: Text:L29626-5,, Exp:DX-DB225-4_01
331.9368 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,404.0,5.00%,F,T)
A4.31E7
A2.73E7
100%
90
80
70
60
50
40
30
20
10
0
1.0E7
9.1E6
8.1E6
7.1E6
6.1E6
5.1E6
4.0E6
3.0E6
2.0E6
1.0E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,264.0,5.00%,F,T)
A5.40E7
A3.43E7
100%
90
80
70
60
50
40
30
20
10
0
1.3E7
1.1E7
1.0E7
8.9E6
7.7E6
6.4E6
5.1E6
3.8E6
2.6E6
1.3E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-563 Acq:27-JUL-2018 15:04:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text: Text:L29626-5,, Exp:DX-DB225-4_01
375.8364 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1340.0,5.00%,F,T)
A1.45E4
A8.79E3
A859.57
A7.99E3
303.9016 S:11 SMO(1,3) BSUB(256,15,-3.0)
A2.26E4
305.8987 S:11 SMO(1,3) BSUB(256,15,-3.0)
A3.27E4
330.9792 S:11 SMO(1,3)
19:05
19:20
19:39
20:05
20:16
20:30
20:41
20:58
21:20
21:34
21:48
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.240	5.77e3	0.85	NO	25.35	0.406	0.0398		1.29e3	1.22e3
2	1,2,3,7,8-PeCDF	10.240	6.70e2	1.05	YES	33.65	0.060	0.0829		1.26e3	2.14e3
3	2,3,4,7,8-PeCDF	10.240	1.15e3	1.95	YES	35.41	0.102	0.0693		1.26e3	2.14e3
4	1,2,3,4,7,8-HxCDF	10.240	3.13e3	1.29	NO	40.77	0.328	0.0352		9.51e2	8.56e2
5	1,2,3,6,7,8-HxCDF	10.240	8.25e2	1.79	YES	40.96	0.079	0.0340		9.51e2	8.56e2
6	2,3,4,6,7,8-HxCDF	10.240	8.33e2	0.72	YES	41.91	0.083	0.0333		9.51e2	8.56e2
7	1,2,3,7,8,9-HxCDF	10.240	2.01e2	1.78	YES	42.89	0.025	0.0459		9.51e2	8.56e2
8	1,2,3,4,6,7,8-HpCDF	10.240	1.49e4	1.03	NO	45.38	1.962	0.0338		6.95e2	7.49e2
9	1,2,3,4,7,8,9-HpCDF	10.240	1.26e3	1.33	YES	47.18	0.209	0.0447		6.95e2	7.49e2
10	OCDF	10.240	1.95e4	0.86	NO	50.43	4.213	0.0803		3.53e2	1.49e3
11	2,3,7,8-TCDD	10.240	6.07e2	0.47	YES	26.56	0.051	0.0369		6.78e2	1.17e3
12	1,2,3,7,8-PeCDD	10.240	8.65e2	0.84	YES	36.22	0.115	0.0500		8.30e2	7.85e2
13	1,2,3,4,7,8-HxCDD	10.240	9.17e2	1.60	YES	42.16	0.129	0.0915		2.10e3	1.70e3
14	1,2,3,6,7,8-HxCDD	10.240	2.67e3	1.10	NO	42.30	0.348	0.0933		2.10e3	1.70e3
15	1,2,3,7,8,9-HxCDD	10.240	1.67e3	1.34	NO	42.74	0.225	0.0920		2.10e3	1.70e3
16	1,2,3,4,6,7,8-HpCDD	10.240	4.93e4	1.02	NO	46.76	9.492	0.0966		1.40e3	1.36e3
17	OCDD	10.240	2.52e5	0.94	NO	50.35	65.616	0.2393		2.62e3	1.93e3
18	13C-2,3,7,8-TCDF	10.240	3.03e6	0.70	NO	25.29	118.498	0.1084	60.7	8.81e3	3.50e3
19	13C-1,2,3,7,8-PeCDF	10.240	2.36e6	1.37	NO	33.64	127.999	0.1444	65.5	7.58e3	4.23e3
20	13C-2,3,4,7,8-PeCDF	10.240	2.34e6	1.42	NO	35.38	131.210	0.1497	67.2	7.58e3	4.23e3
21	13C-1,2,3,4,7,8-HxCDF	10.240	1.67e6	0.52	NO	40.75	111.201	0.3133	56.9	1.32e4	1.07e4
22	13C-1,2,3,6,7,8-HxCDF	10.240	1.92e6	0.54	NO	40.94	119.799	0.2933	61.3	1.32e4	1.07e4
23	13C-2,3,4,6,7,8-HxCDF	10.240	1.72e6	0.52	NO	41.87	119.607	0.3283	61.2	1.32e4	1.07e4
24	13C-1,2,3,7,8,9-HxCDF	10.240	1.56e6	0.52	NO	42.92	110.522	0.3328	56.6	1.32e4	1.07e4
25	13C-1,2,3,4,6,7,8-HpCDF	10.240	1.21e6	0.44	NO	45.36	101.224	0.2367	51.8	8.84e3	5.56e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.240	9.38e5	0.47	NO	47.15	100.307	0.3034	51.4	8.84e3	5.56e3
27	13C-2,3,7,8-TCDD	10.240	2.09e6	0.78	NO	26.52	131.462	0.2127	67.3	7.62e3	7.40e3
28	13C-1,2,3,7,8-PeCDD	10.240	1.44e6	0.70	NO	36.20	137.551	0.1837	70.4	4.70e3	3.80e3
29	13C-1,2,3,4,7,8-HxCDD	10.240	1.38e6	1.24	NO	42.16	119.116	0.2496	61.0	6.94e3	7.73e3
30	13C-1,2,3,6,7,8-HxCDD	10.240	1.60e6	1.19	NO	42.30	130.897	0.2360	67.0	6.94e3	7.73e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.240	1.02e6	0.98	NO	46.74	106.268	0.3562	54.4	8.66e3	8.65e3
32	13C-OCDD	10.240	1.47e6	0.89	NO	50.33	174.519	0.3830	44.7	0.00e0	1.64e4
33	13C-1,2,3,4-TCDD	10.240	3.10e6	0.76	NO	26.18	13.379	0.0146	6.8	7.62e3	7.40e3
34	13C-1,2,3,7,8,9-HxCDD	10.240	2.30e6	1.23	NO	42.72	15.727	0.0198	8.1	6.94e3	7.73e3
35	37Cl-2,3,7,8-TCDD	10.240	5.65e4			26.56	3.198	0.0117	81.9		9.18e2
36	Total Tetra-Furans	10.240					2.958	0.0398			1.22e3
37	Total Tetra-Dioxins	10.240					0.523	0.0369			1.17e3
38	Total Penta-Furans	10.240					1.318	0.0767			2.14e3
39	Total Penta-Dioxins	10.240					0.569	0.0500			7.85e2
40	Total Hexa-Furans	10.240					3.347	0.0354			8.56e2
41	Total Hexa-Dioxins	10.240					3.085	0.0890			1.70e3
42	Total Hepta-Furans	10.240					6.633	0.0390			7.49e2
43	Total Hepta-Dioxins	10.240					20.831	0.0966			1.36e3
44	Hexa DPE	1.000	3.06e2			25.88					0.00e0
45	Hepta DPE	1.000	8.85e1			34.53					1.20e-2
46	Octa DPE	1.000	1.79e1			41.52					8.43e0
47	Nona DPE	1.000	1.73e2			47.18					0.00e0
48	Deca DPE	1.000									0.00e0
49	Tetra Lock	1.000									1.12e5
50	Penta Lock	1.000	1.14e5			29.46					1.47e5
51	Hexa Lock	1.000	4.25e5			38.77					3.50e5
52	Hepta Lock	1.000	9.46e3			47.18					1.91e5
53	Octa Lock	1.000	2.47e5			48.83					2.28e5
54	13C-Tetra-Furans	10.240					118.498	0.1084			3.50e3
55	13C-Tetra-Dioxins	10.240					144.841	0.2273			7.40e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

checked by MO 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.04	0.717	NO	0.403
2	22.77	0.883	NO	0.126
3	22.61	0.636	YES	0.312
4	22.31	0.802	NO	0.271
5	22.00	1.329	YES	0.053
6	25.35	0.853	NO	0.406
7	25.02	0.780	NO	0.058
8	24.67	0.951	YES	0.114
9	24.33	0.986	YES	0.125
10	24.20	0.642	YES	0.106
11	23.92	0.869	NO	0.187
12	23.75	0.450	YES	0.049
13	23.49	0.813	NO	0.485
14	28.35	1.590	YES	0.018
15	26.31	0.676	NO	0.074
16	26.02	0.756	NO	0.170

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	25.90	0.571	YES	0.021
2	25.27	2.881	YES	0.086
3	24.95	1.371	YES	0.015
4	24.70	0.817	NO	0.112
5	23.83	2.465	YES	0.024
6	23.43	0.867	NO	0.067
7	22.99	0.680	NO	0.084
8	27.13	0.414	YES	0.020
9	26.56	0.468	YES	0.051
10	26.38	0.799	NO	0.044

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.98	1.760	NO	0.286
2	33.01	1.756	NO	0.157
3	31.62	1.402	NO	0.515
4	35.71	2.366	YES	0.095
5	35.41	1.951	YES	0.102
6	33.65	1.045	YES	0.060
7	34.39	2.139	YES	0.069
8	33.49	0.848	YES	0.034

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.19	0.522	NO	0.192
2	34.57	0.706	YES	0.072
3	33.97	0.206	YES	0.094
4	37.10	0.964	YES	0.030
5	36.22	0.839	YES	0.115
6	34.28	1.251	YES	0.065

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	39.81	0.772	YES	0.028
2	39.47	4.103	YES	0.019
3	39.32	1.113	NO	1.030
4	39.04	1.141	NO	0.349
5	42.89	1.776	YES	0.025
6	41.91	0.723	YES	0.083
7	41.74	1.267	NO	0.069
8	41.38	2.225	YES	0.016
9	41.18	1.212	NO	0.004
10	40.96	1.790	YES	0.079
11	40.77	1.293	NO	0.328
12	40.69	0.833	YES	0.037
13	40.15	1.197	NO	1.243
14	43.08	2.911	YES	0.036

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	41.43	0.864	YES	0.068
2	41.28	0.962	YES	1.076
3	40.91	1.830	YES	0.367
4	40.11	1.274	NO	0.871
5	42.74	1.343	NO	0.225
6	42.30	1.105	NO	0.348
7	42.16	1.599	YES	0.129

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.18	1.327	YES	0.209
2	45.90	1.101	NO	4.356
3	45.68	0.765	YES	0.106
4	45.38	1.027	NO	1.962

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.016	NO	9.492
2	45.83	1.101	NO	11.330

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.698	NO	118.498

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.52	0.783	NO	131.462
2	26.18	0.760	NO	13.379

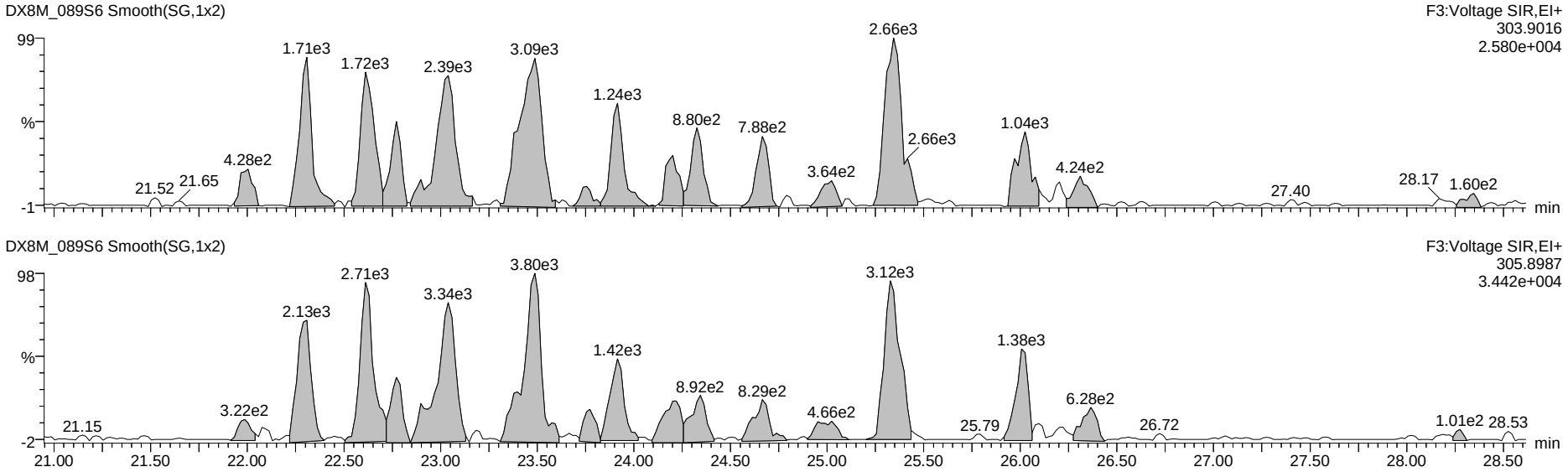
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

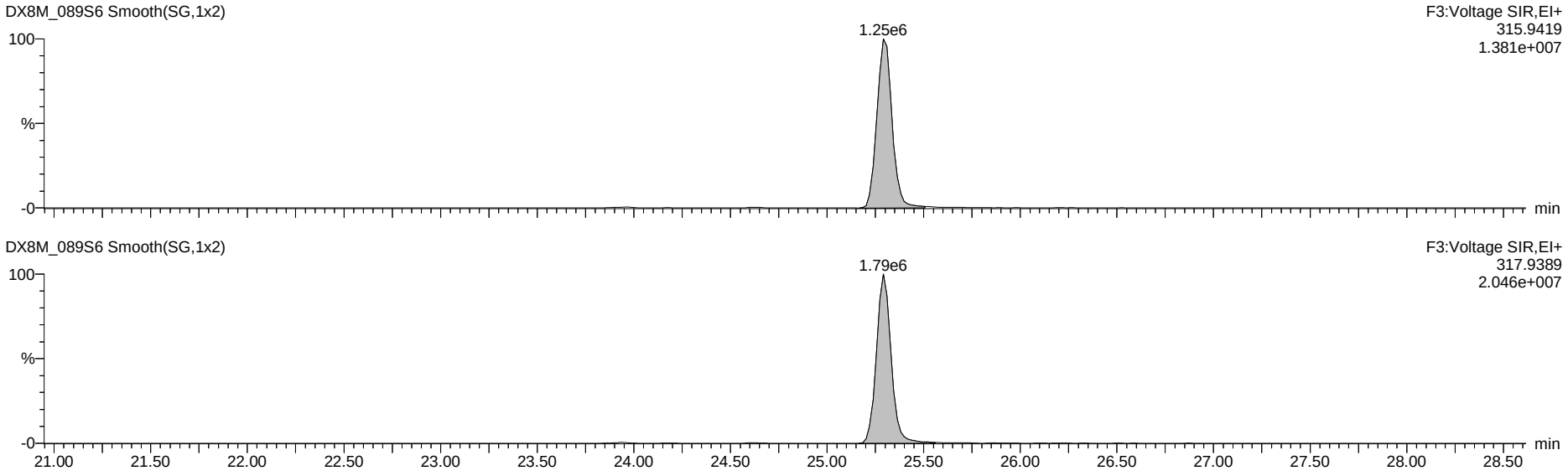
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



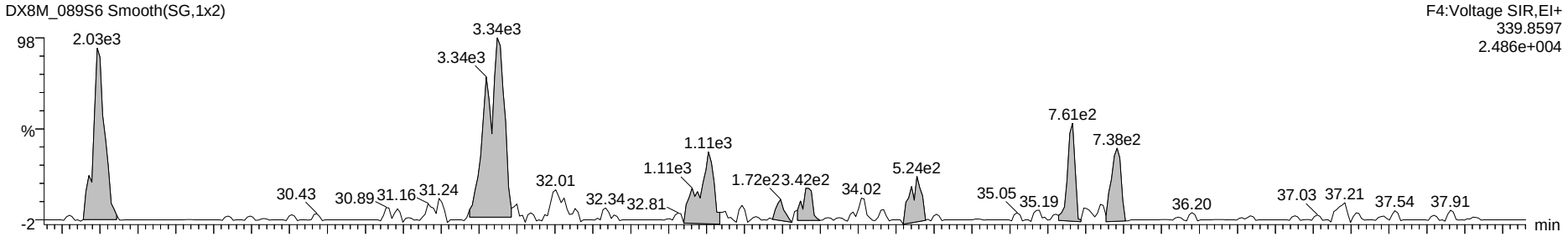
13C-Tetra-Furans

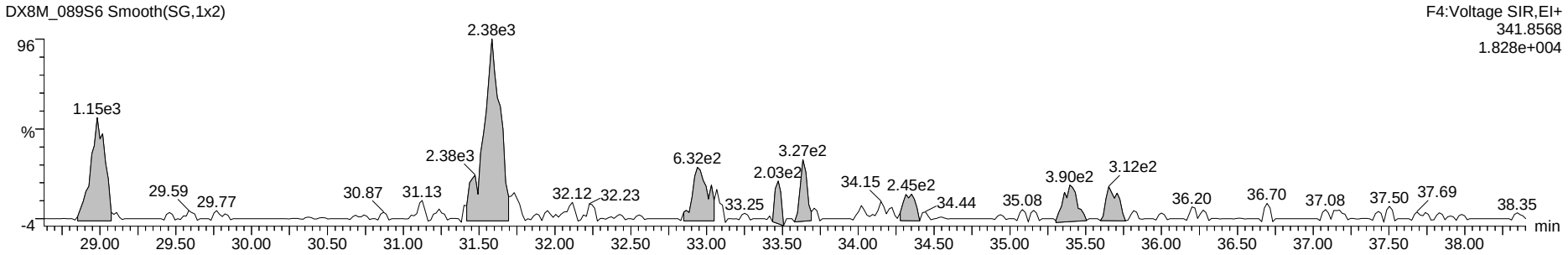


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

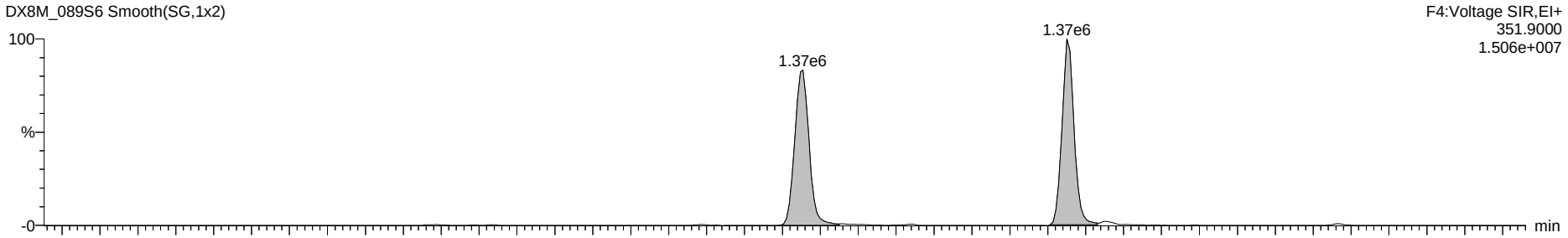
Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

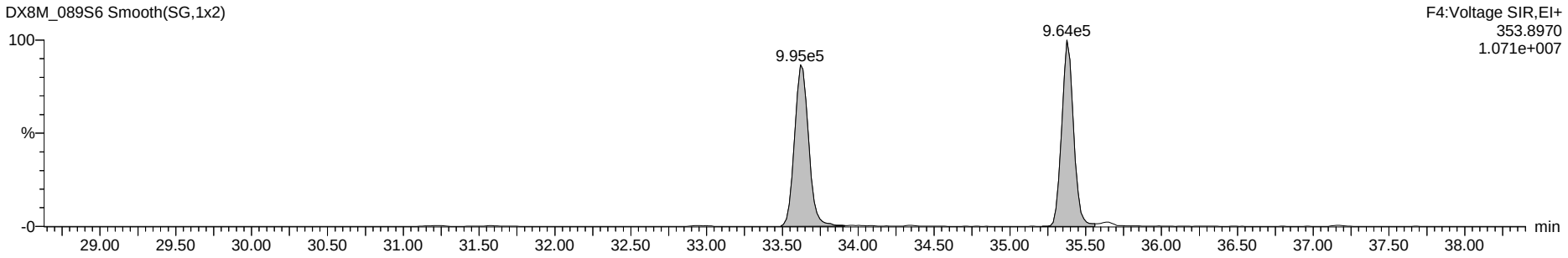
Total Penta-Furans





13C-Penta-Furans

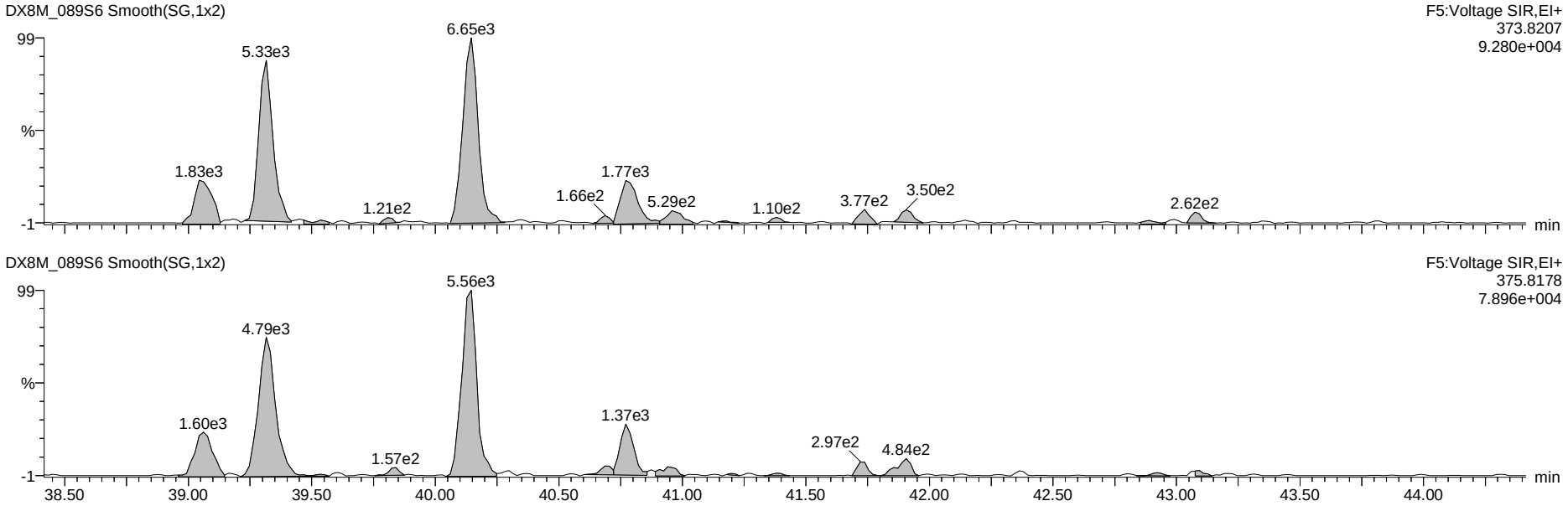




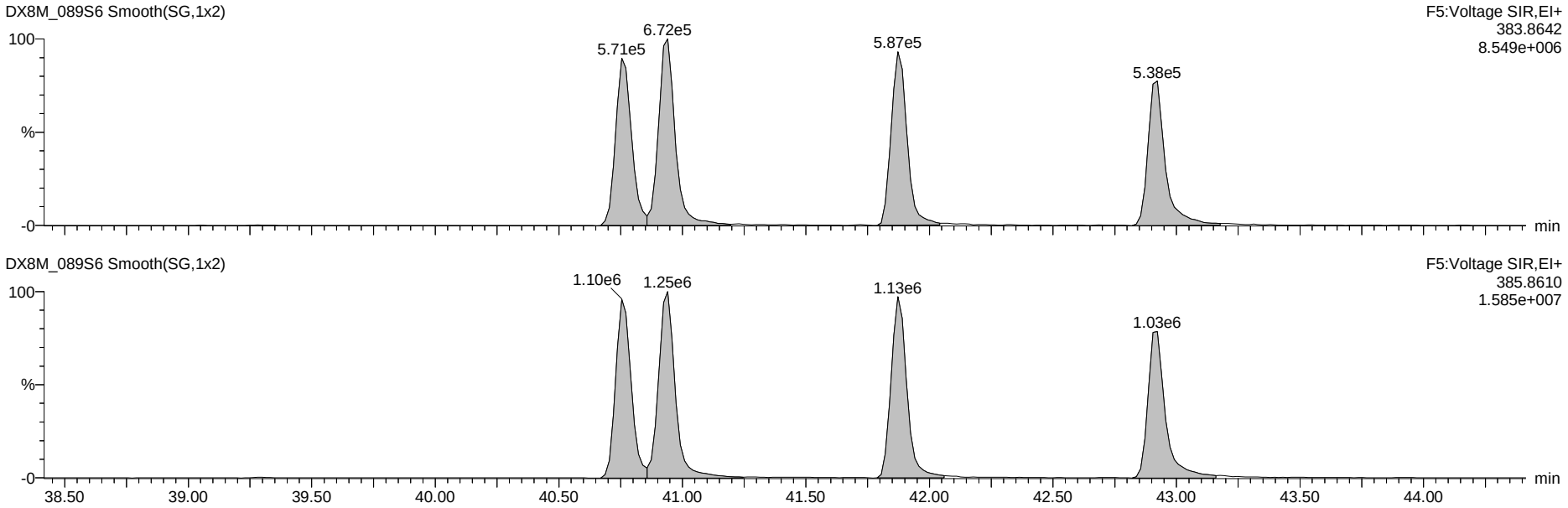
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



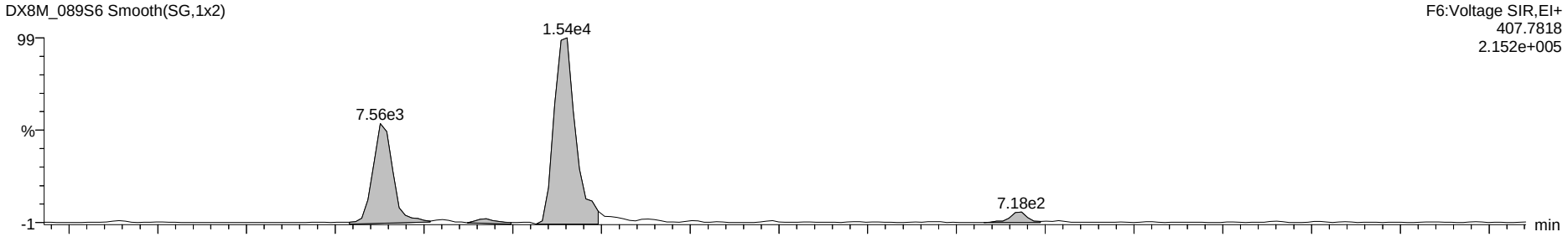
13C-Hexa-Furans

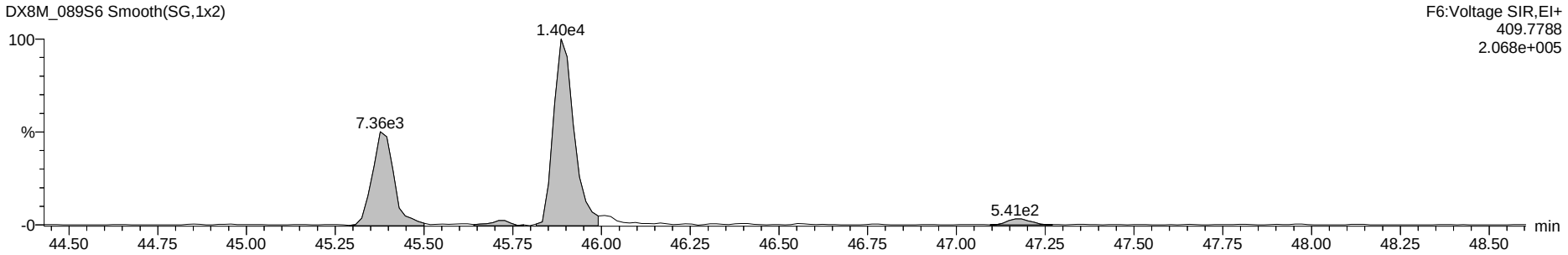


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

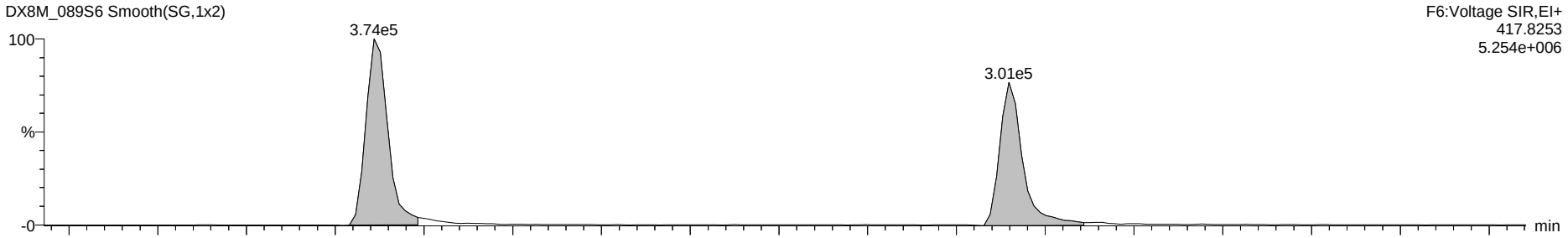
Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

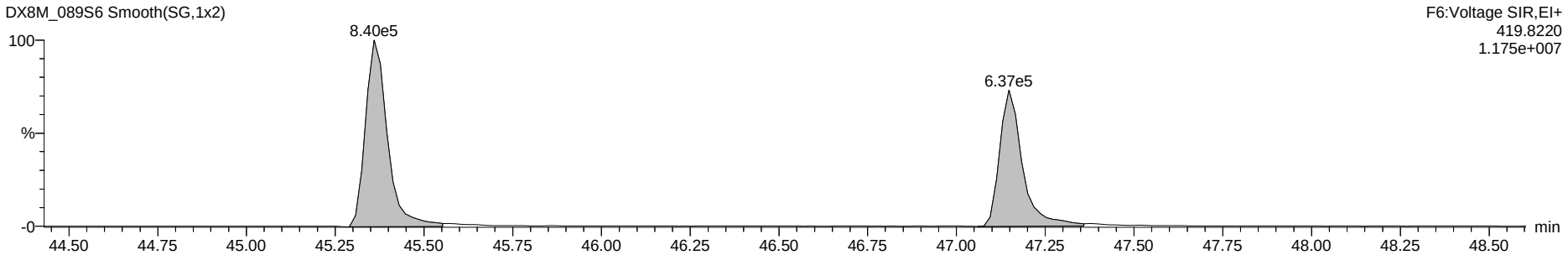
Total Hepta-Furans





13C-Hepta-Furans

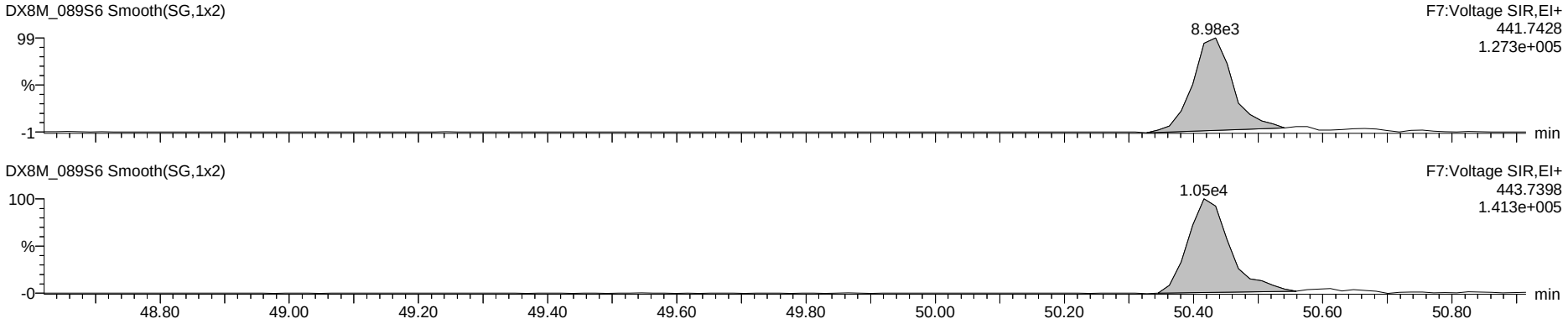




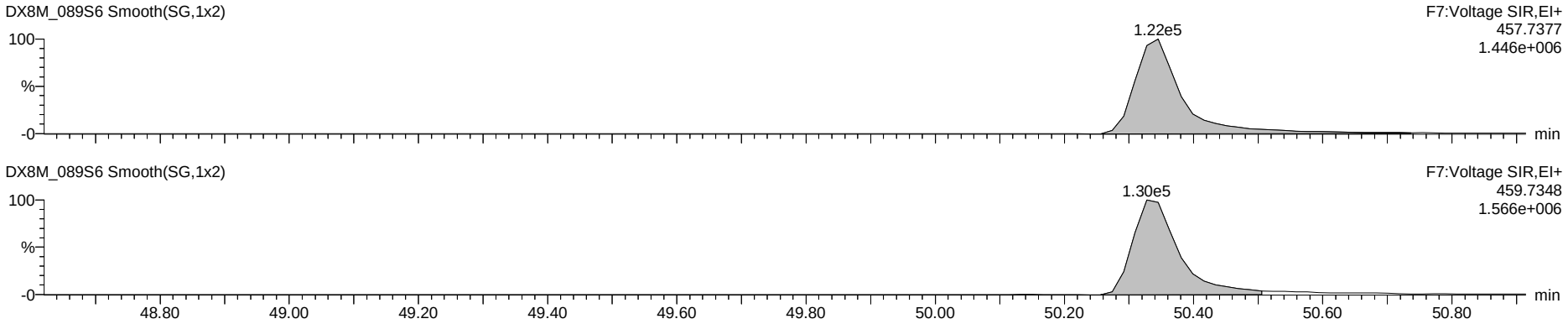
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

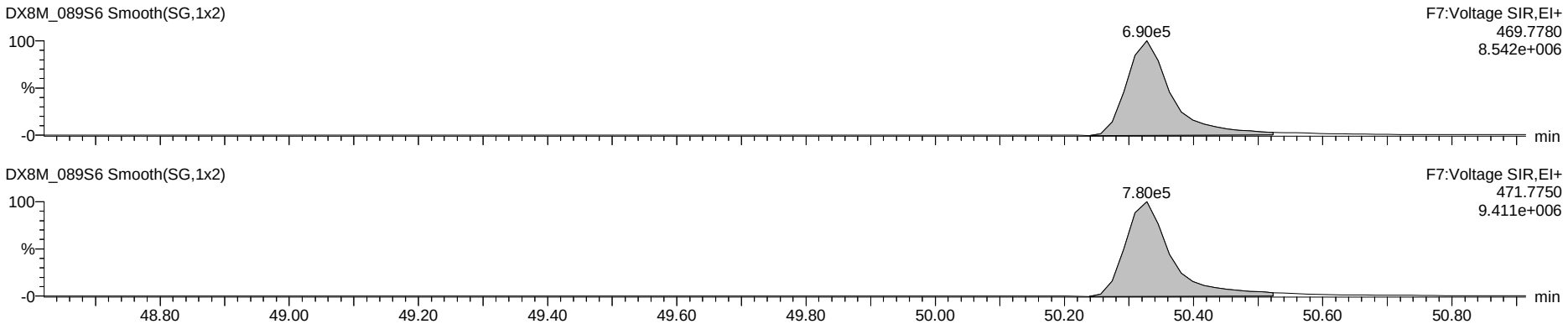
OCDF



OCDD



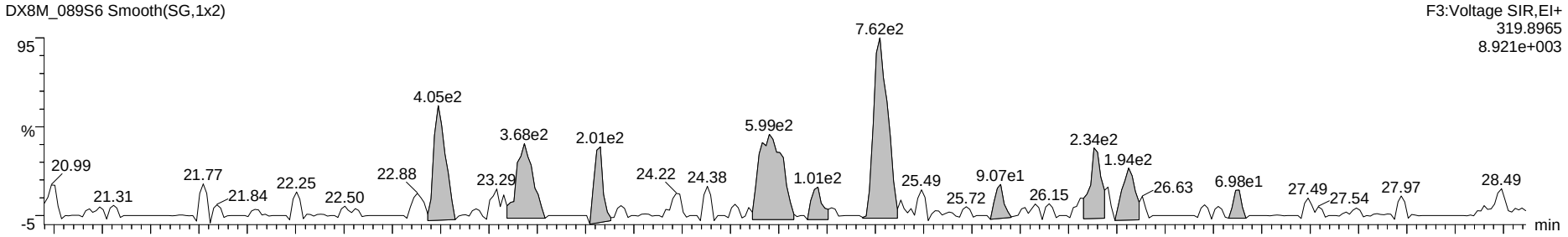
13C-OCDD

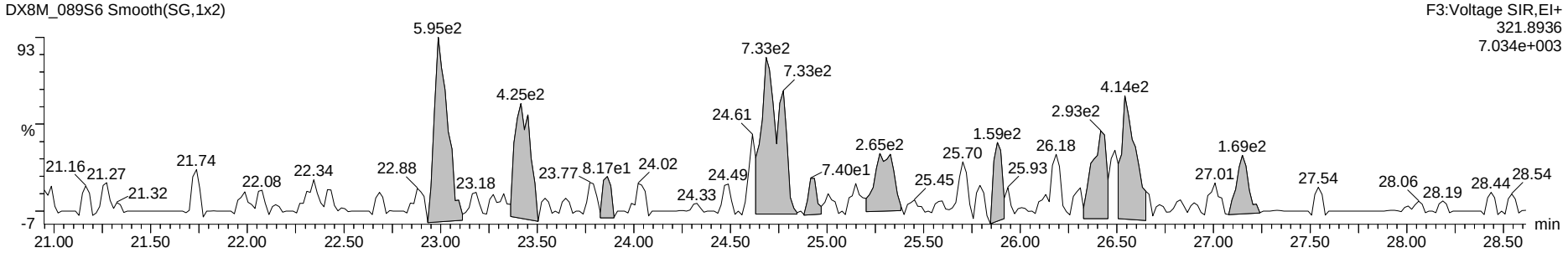


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

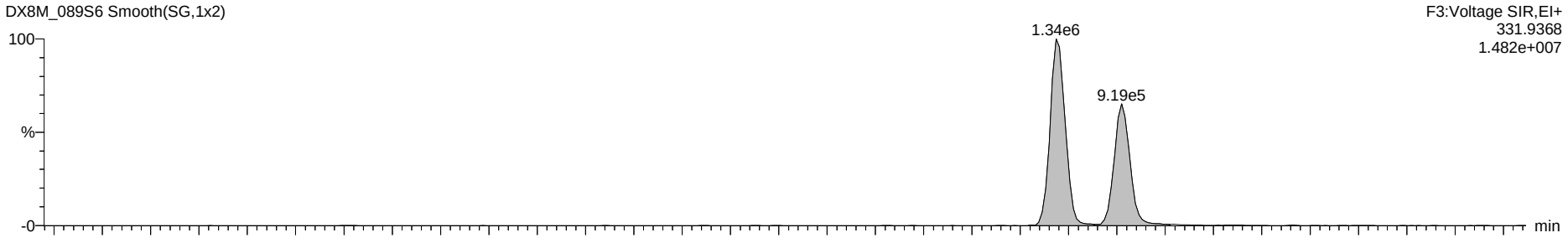
Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

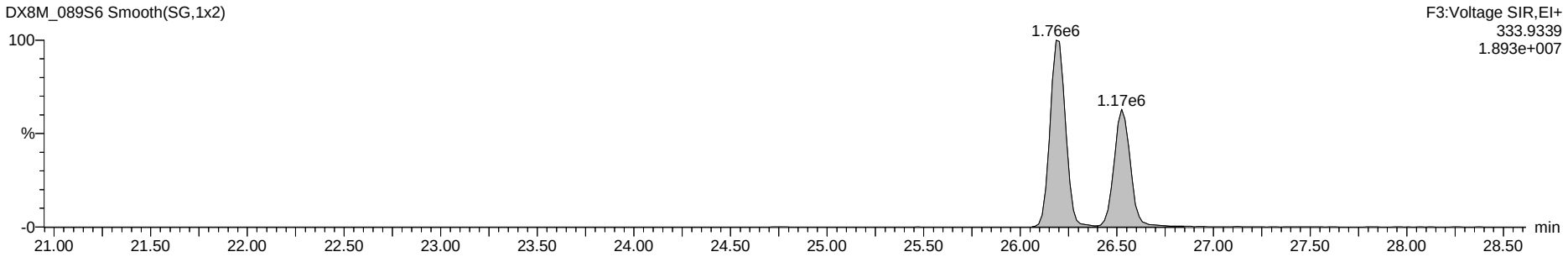
Total Tetra-Dioxins





13C-Tetra-Dioxins

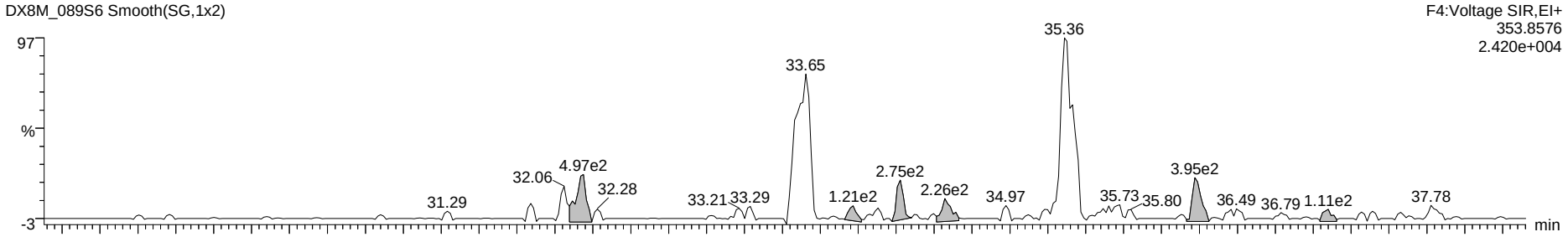


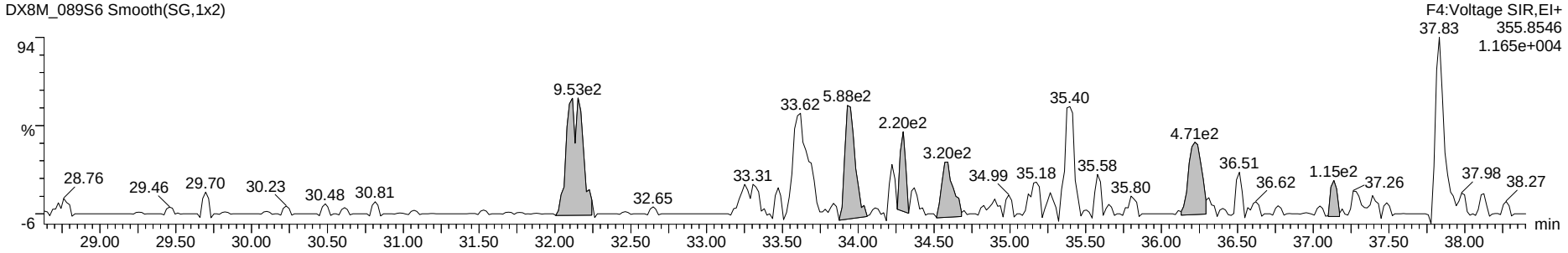


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

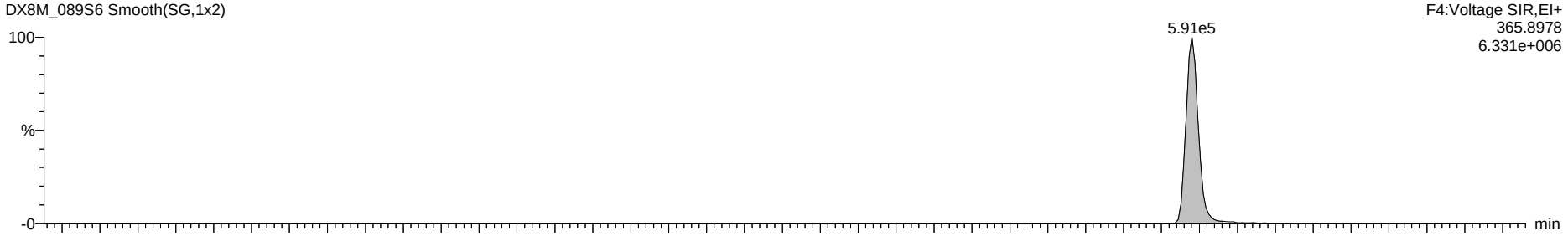
Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

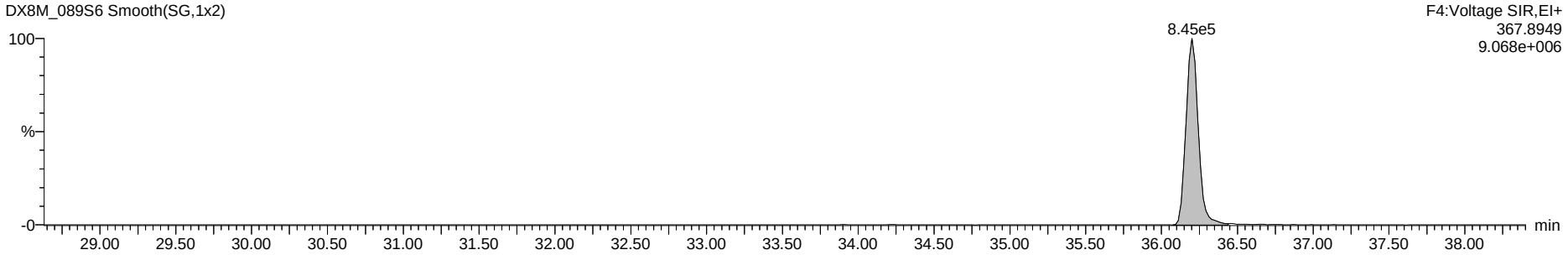
Total Penta-Dioxins





13C-Penta-Dioxins

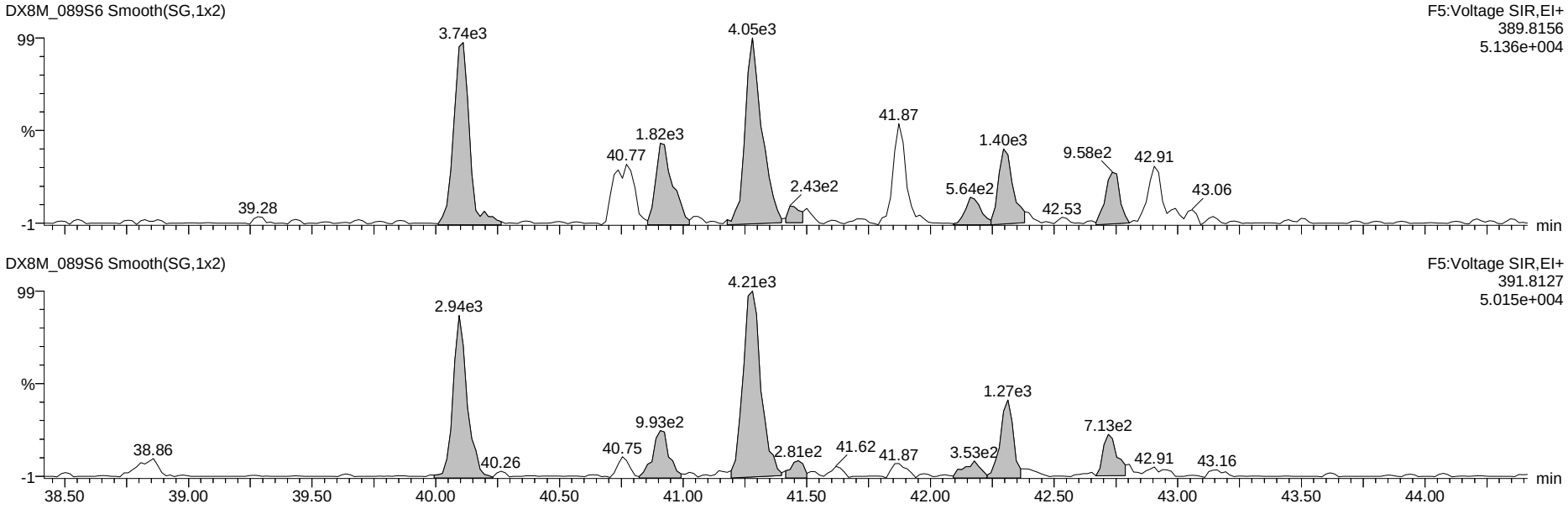




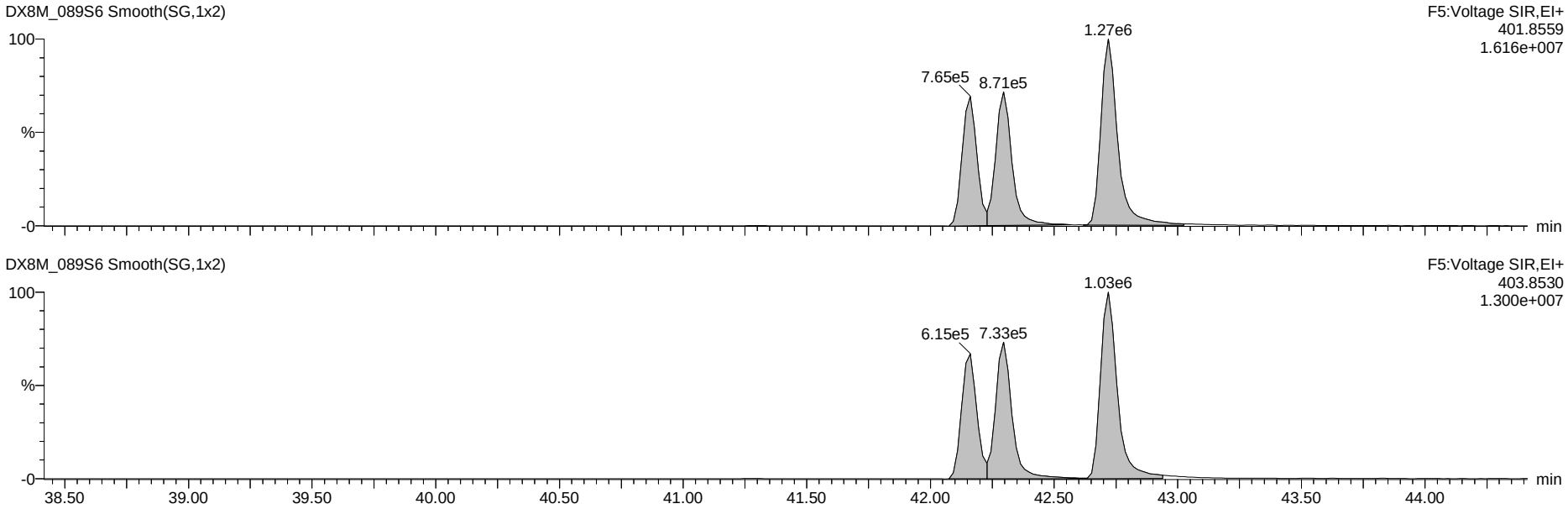
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Dioxins



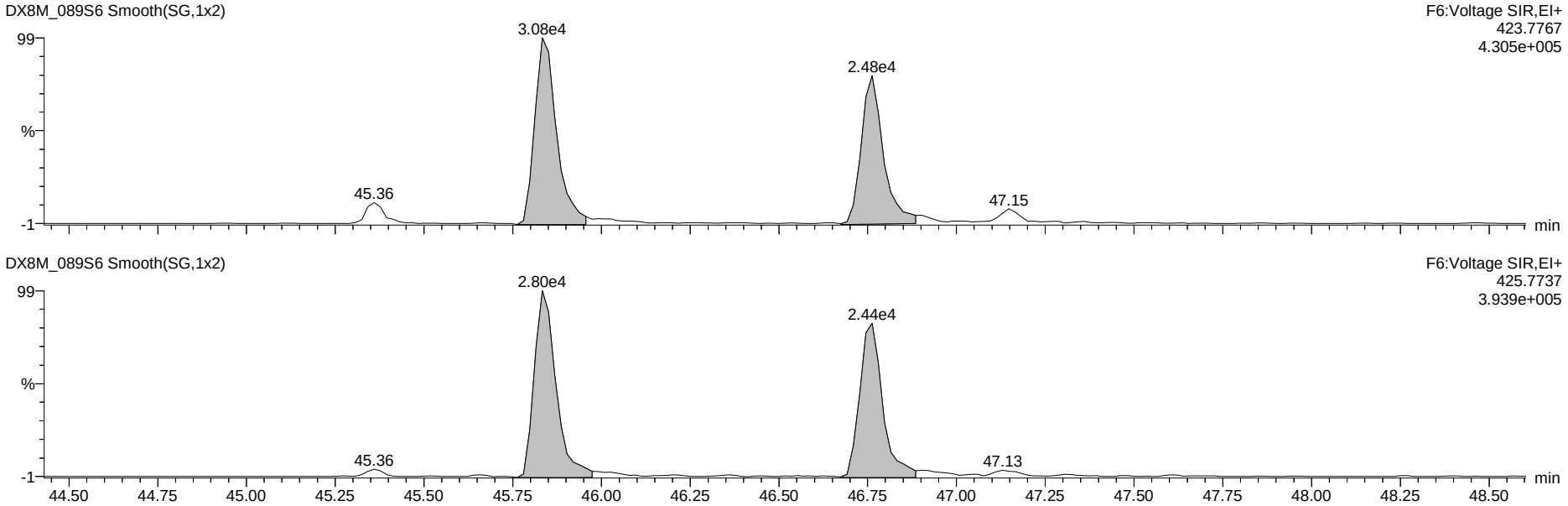
13C-Hexa-Dioxins



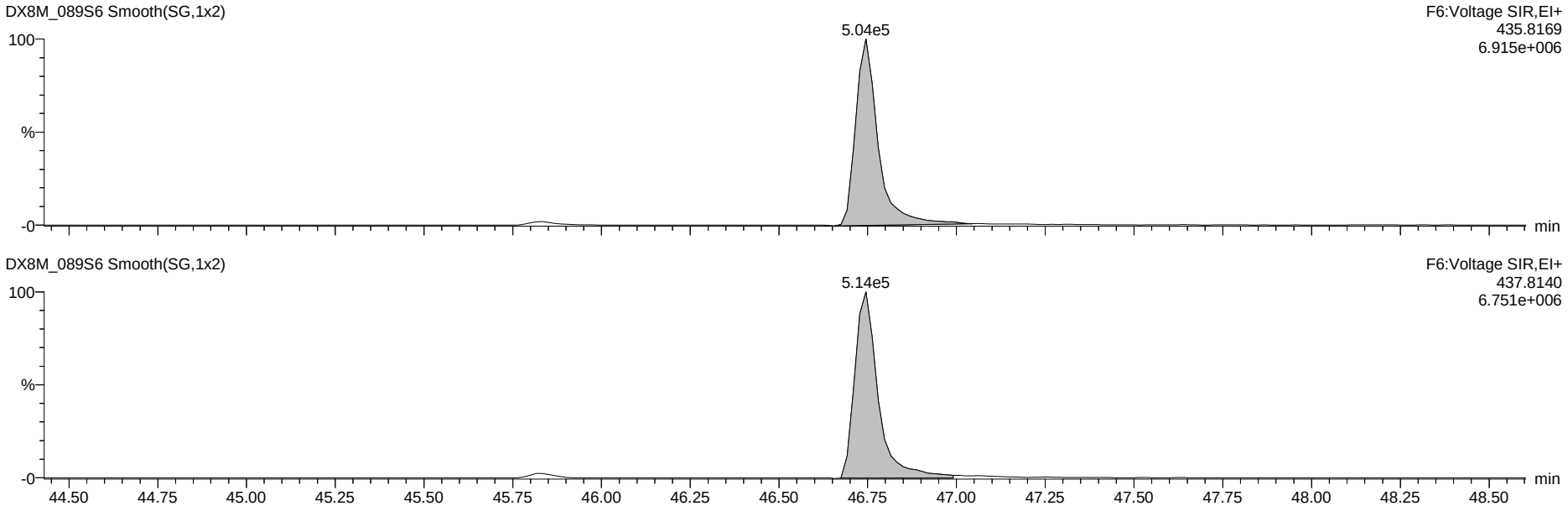
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



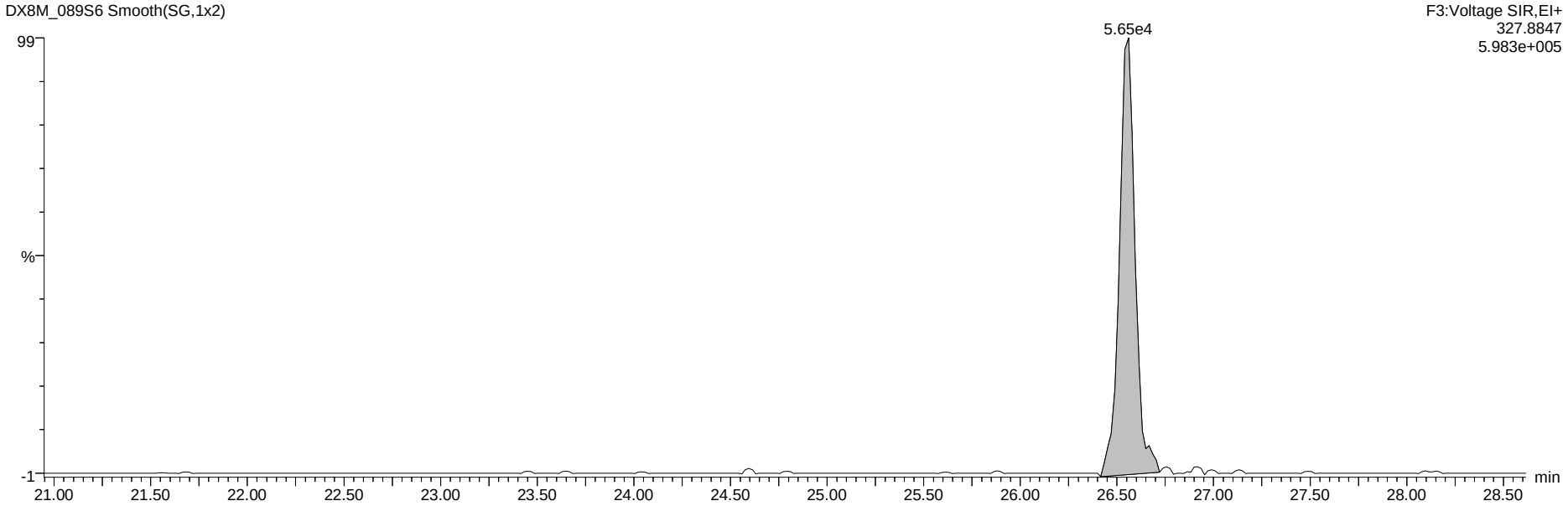
13C-Hepta-Dioxins



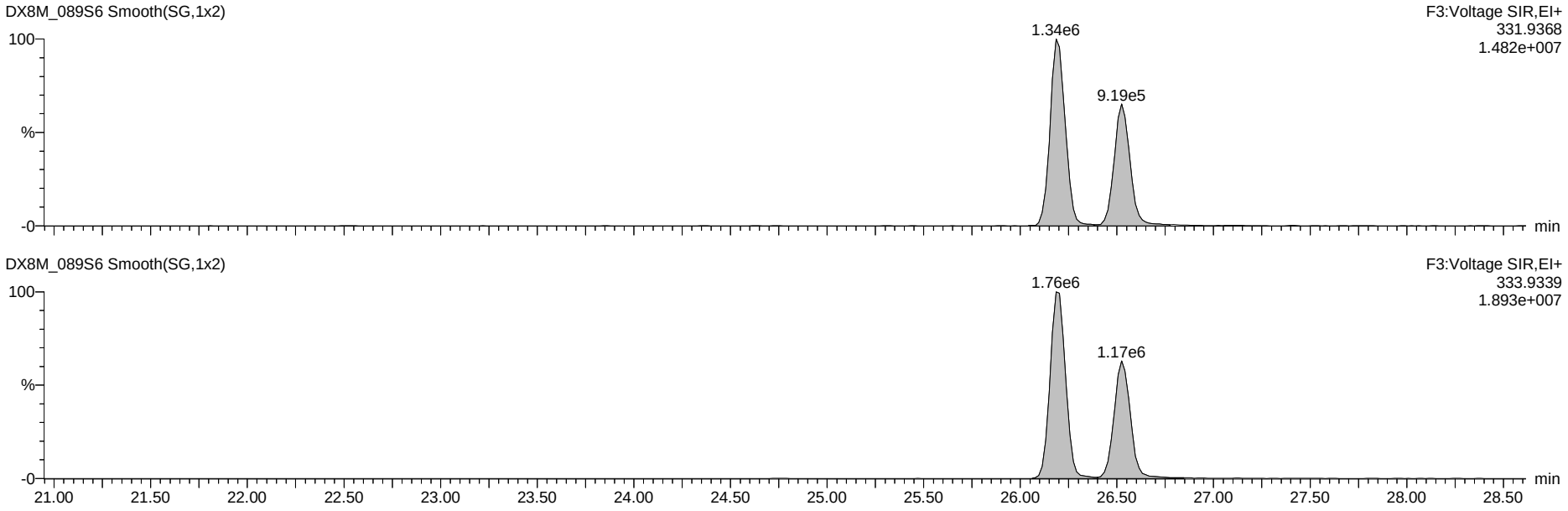
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



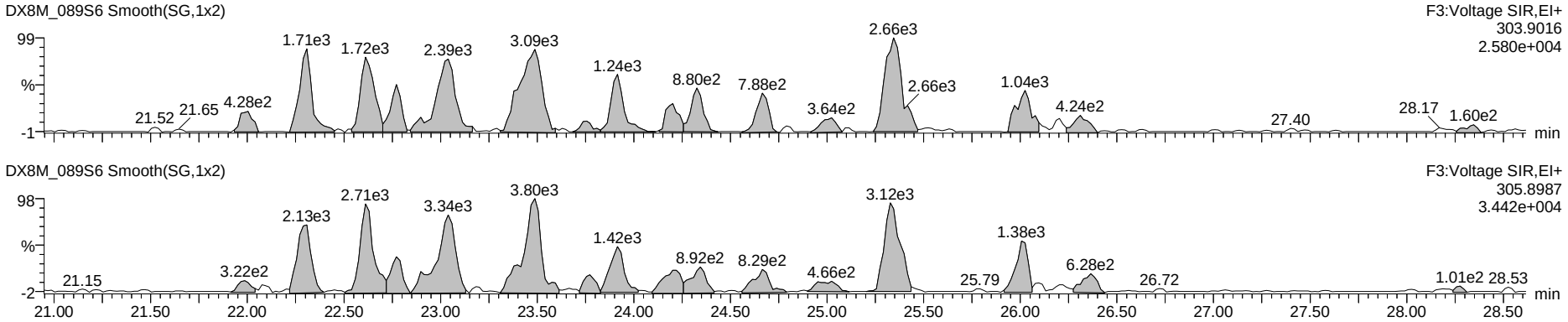
13C-Tetra-Dioxins



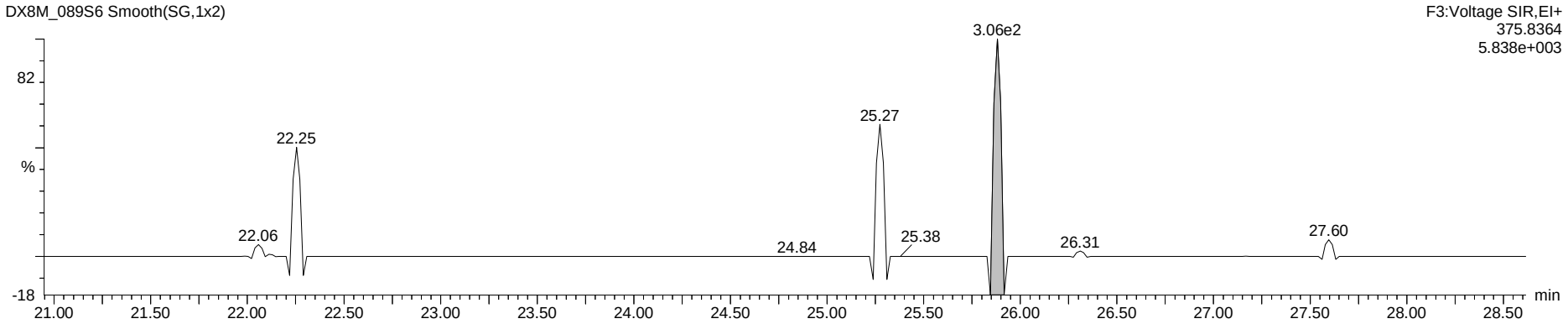
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

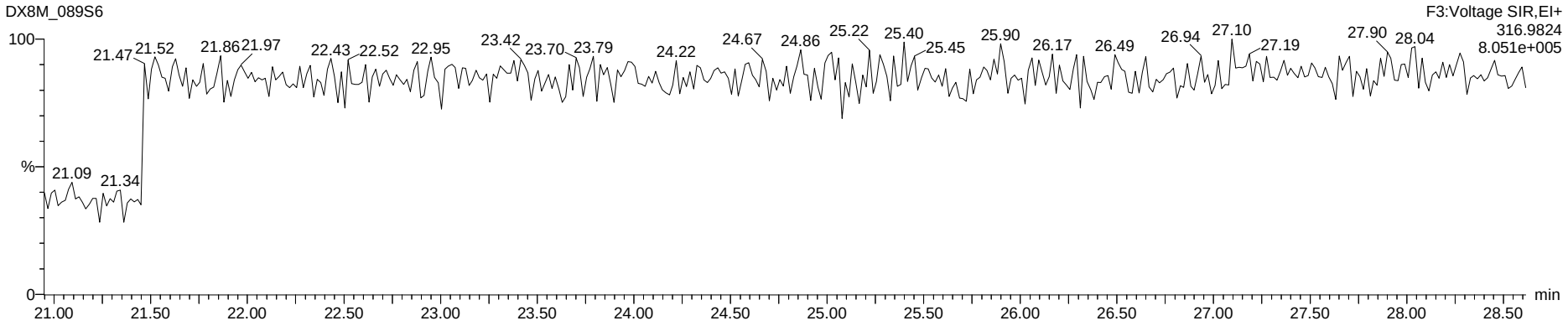
Total Tetra-Furans



Hexa DPE



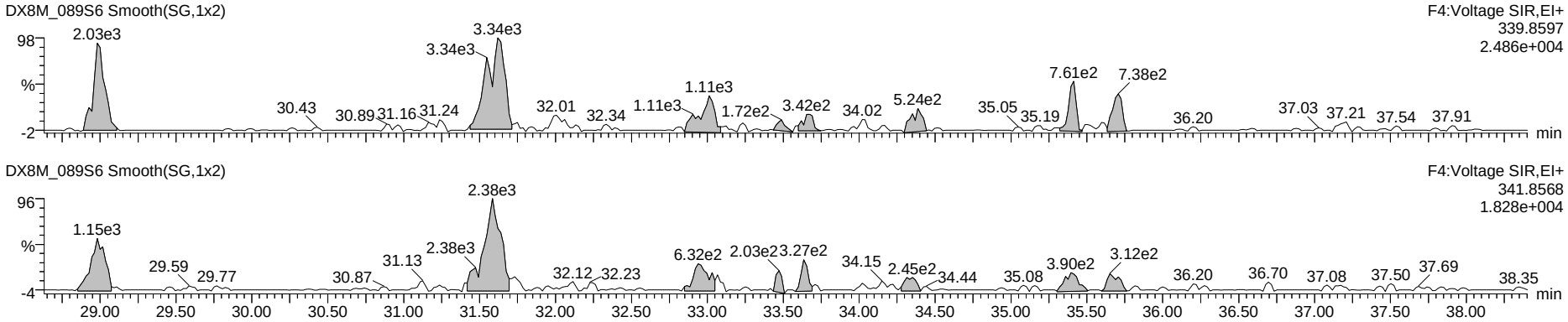
Tetra Lock



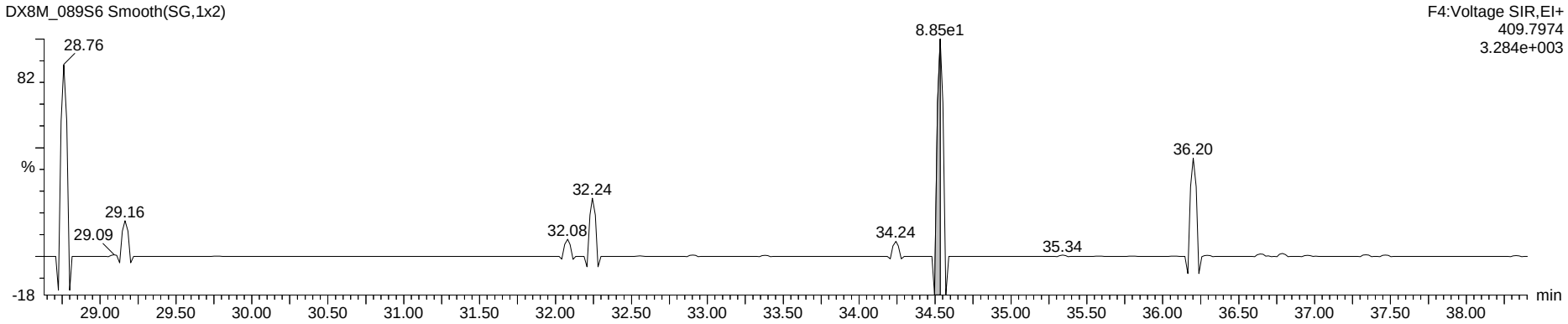
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

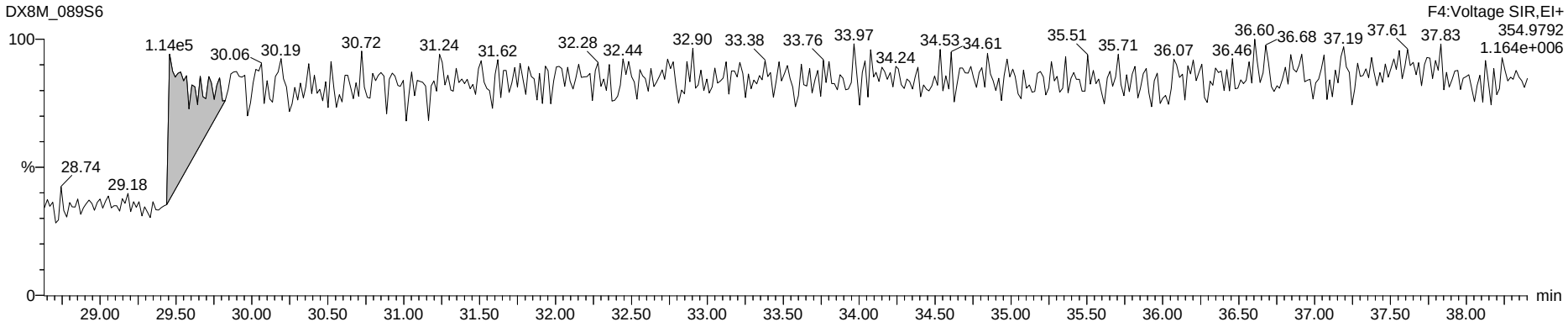
Total Penta-Furans



Hepta DPE



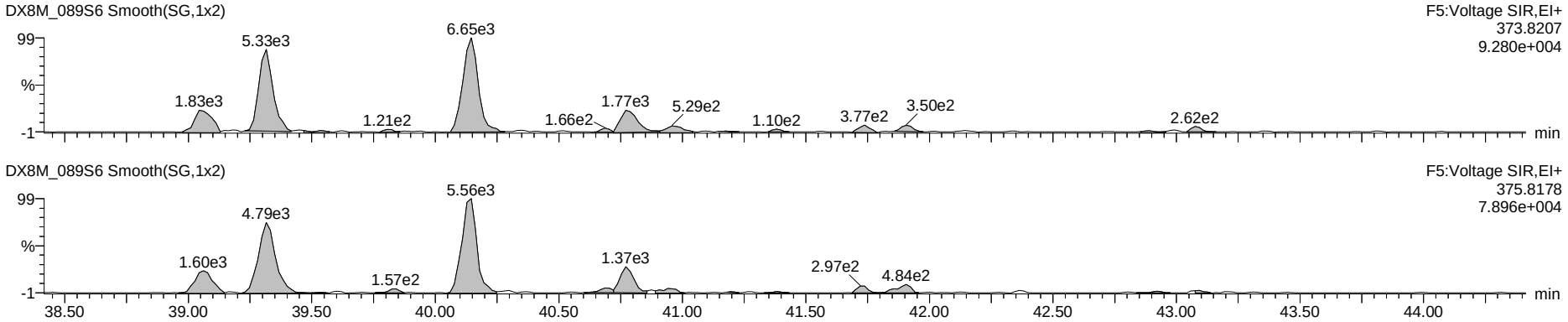
Penta Lock



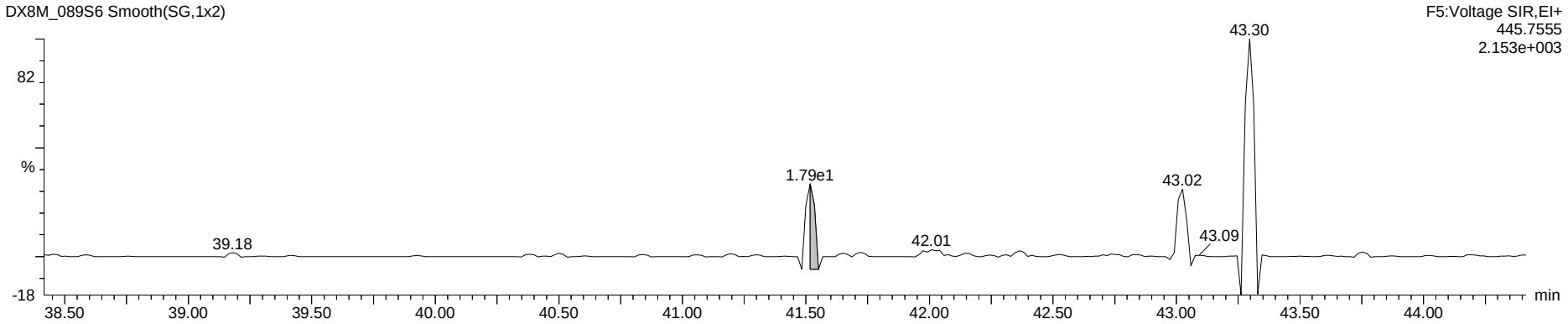
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

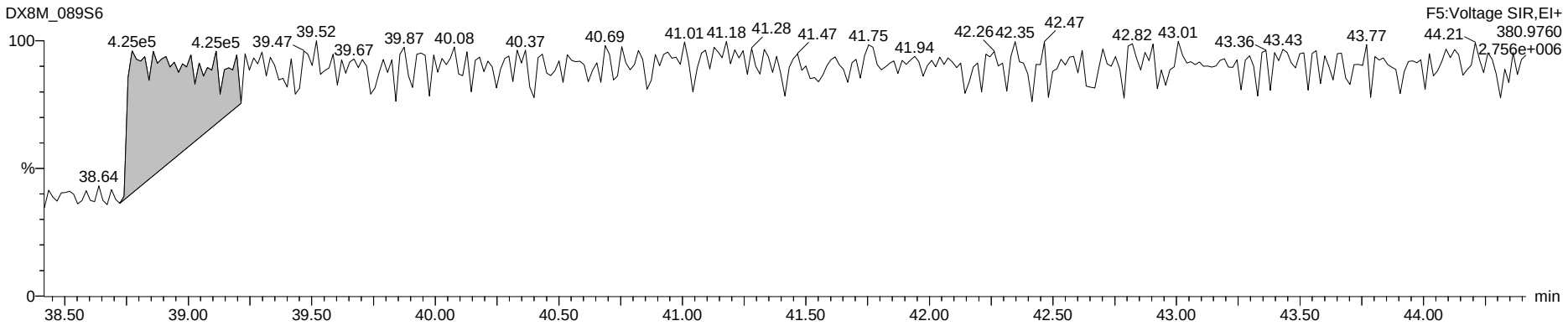
Total Hexa-Furans



Octa DPE



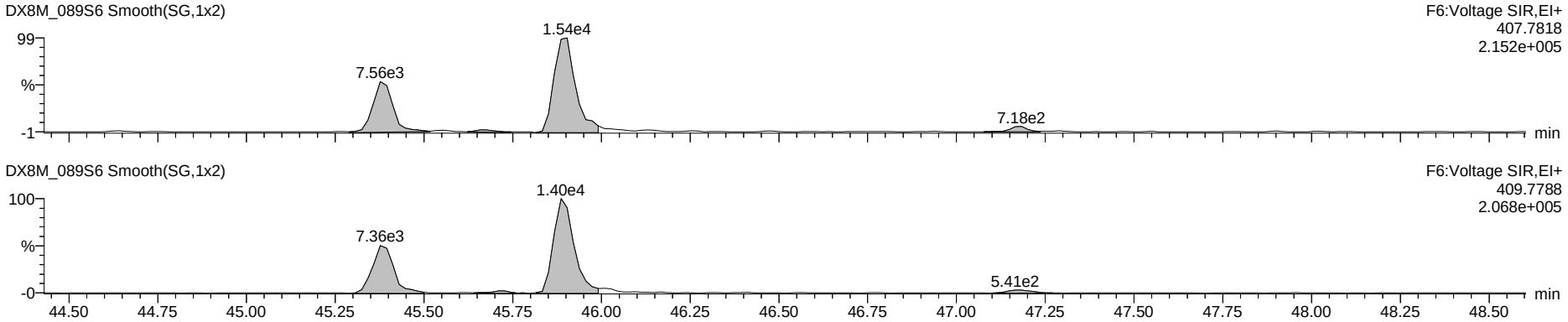
Hexa Lock



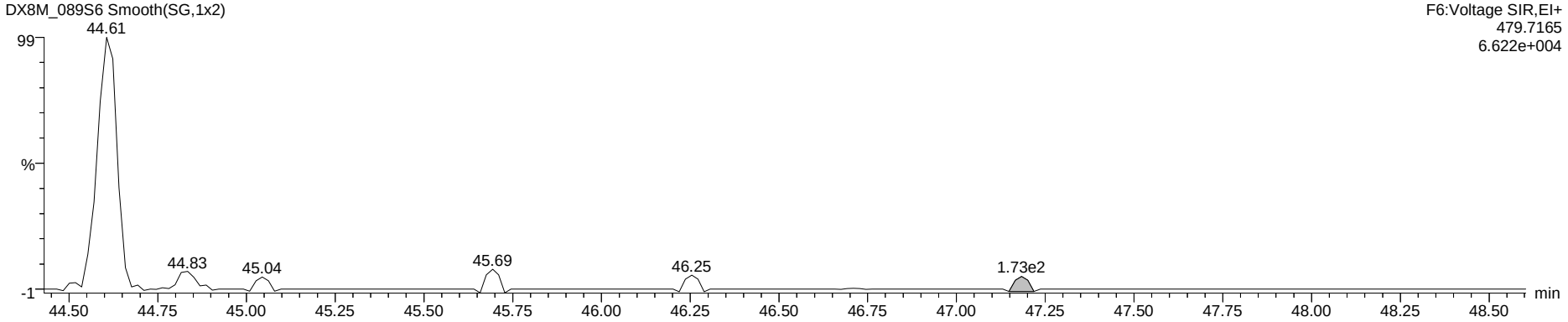
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

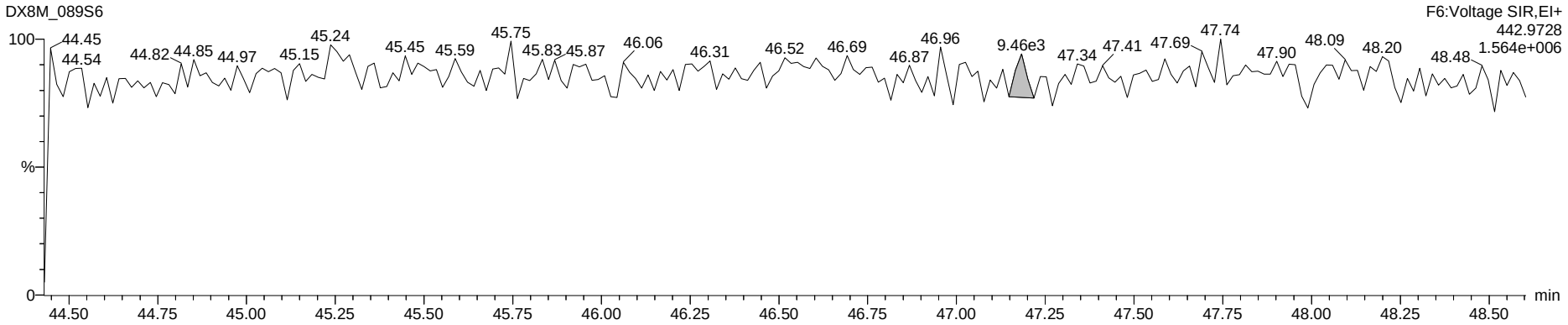
Total Hepta-Furans



Nona DPE



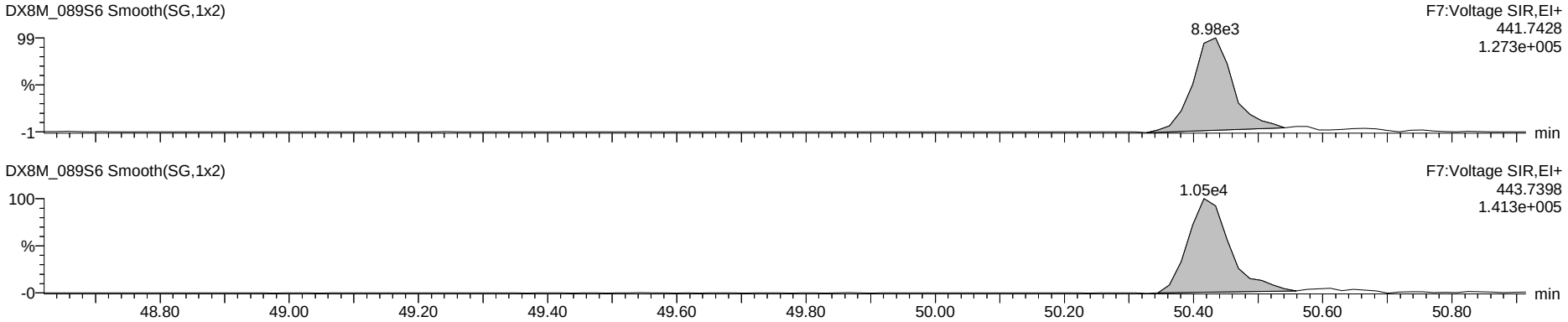
Hepta Lock



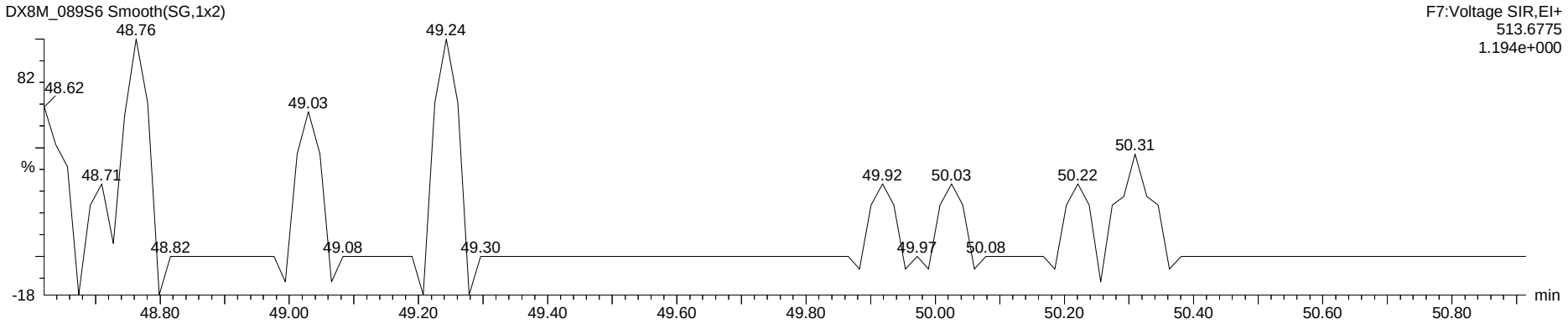
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S6, Date: 26-Jul-2018, Time: 23:19:48, ID: L29626-6,,, Description: 1,WG64557,1.0/20uL

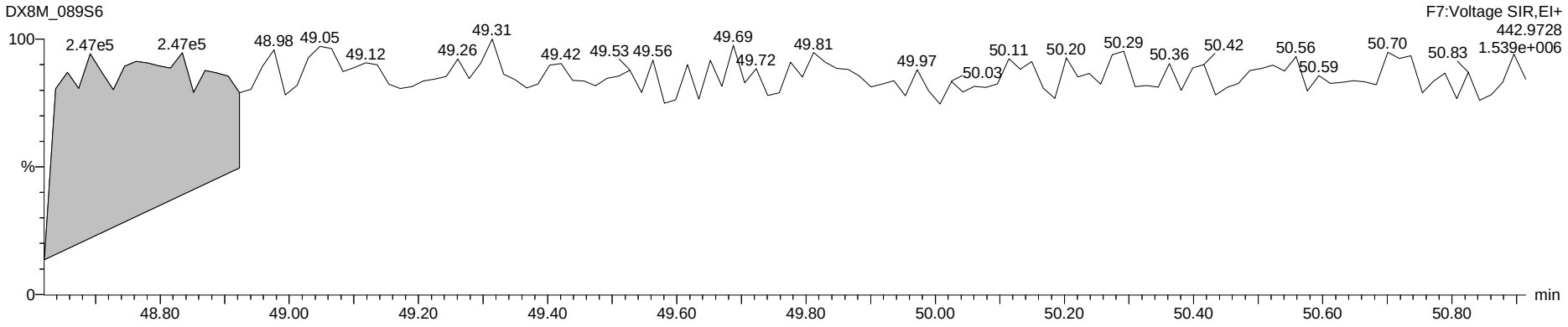
OCDF



Deca DPE



Octa Lock

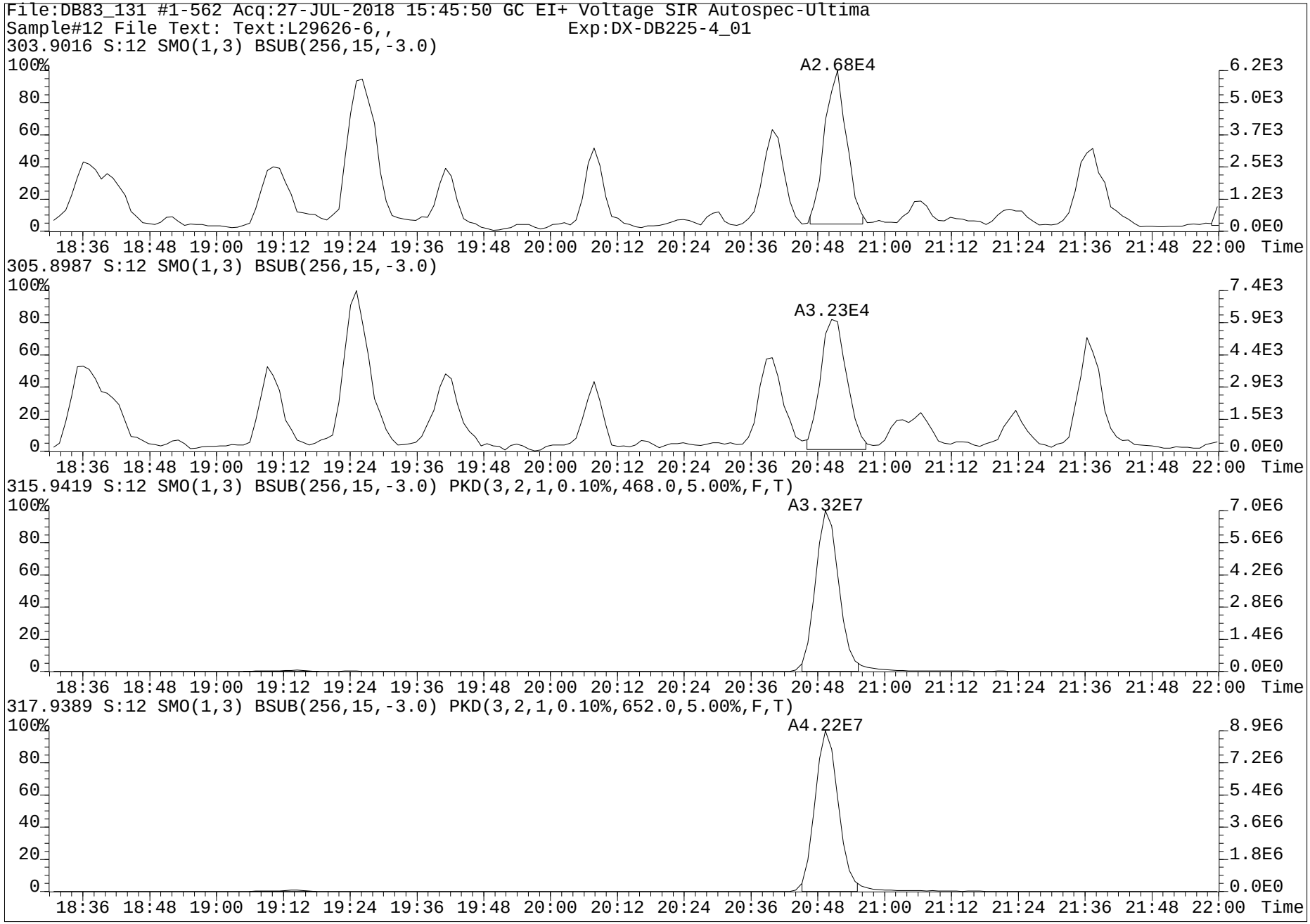


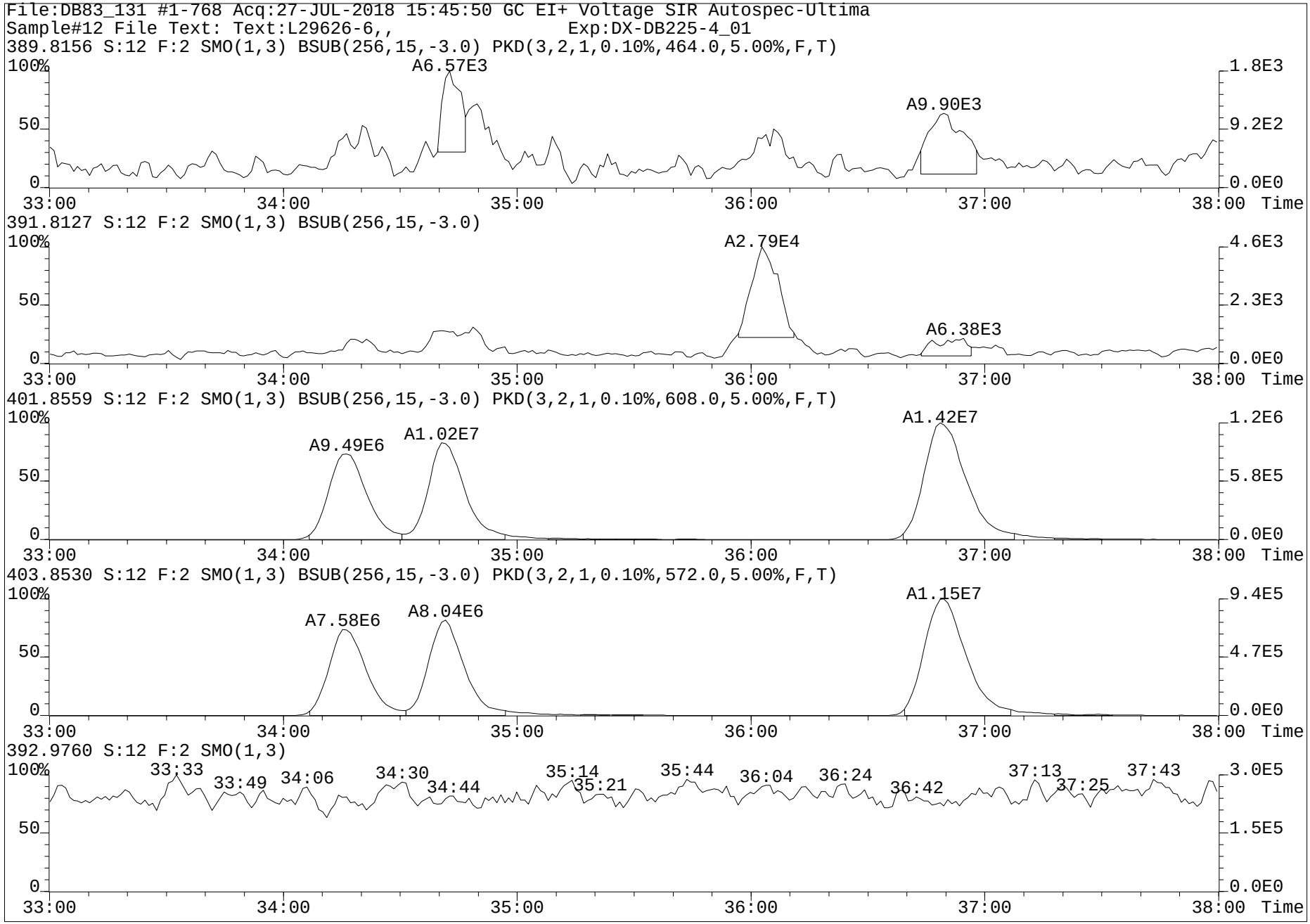
Run #17 Filename DB83_131 S: 12 I: 1 Acquired: 27-JUL-18 15:45:50 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-6,, Comments: 1,WG64557,2.0/20uL
sample size: 10.240000 conc units: pg/g total toxicity: 0.04 F1: 1.0000 F2: 1.0000

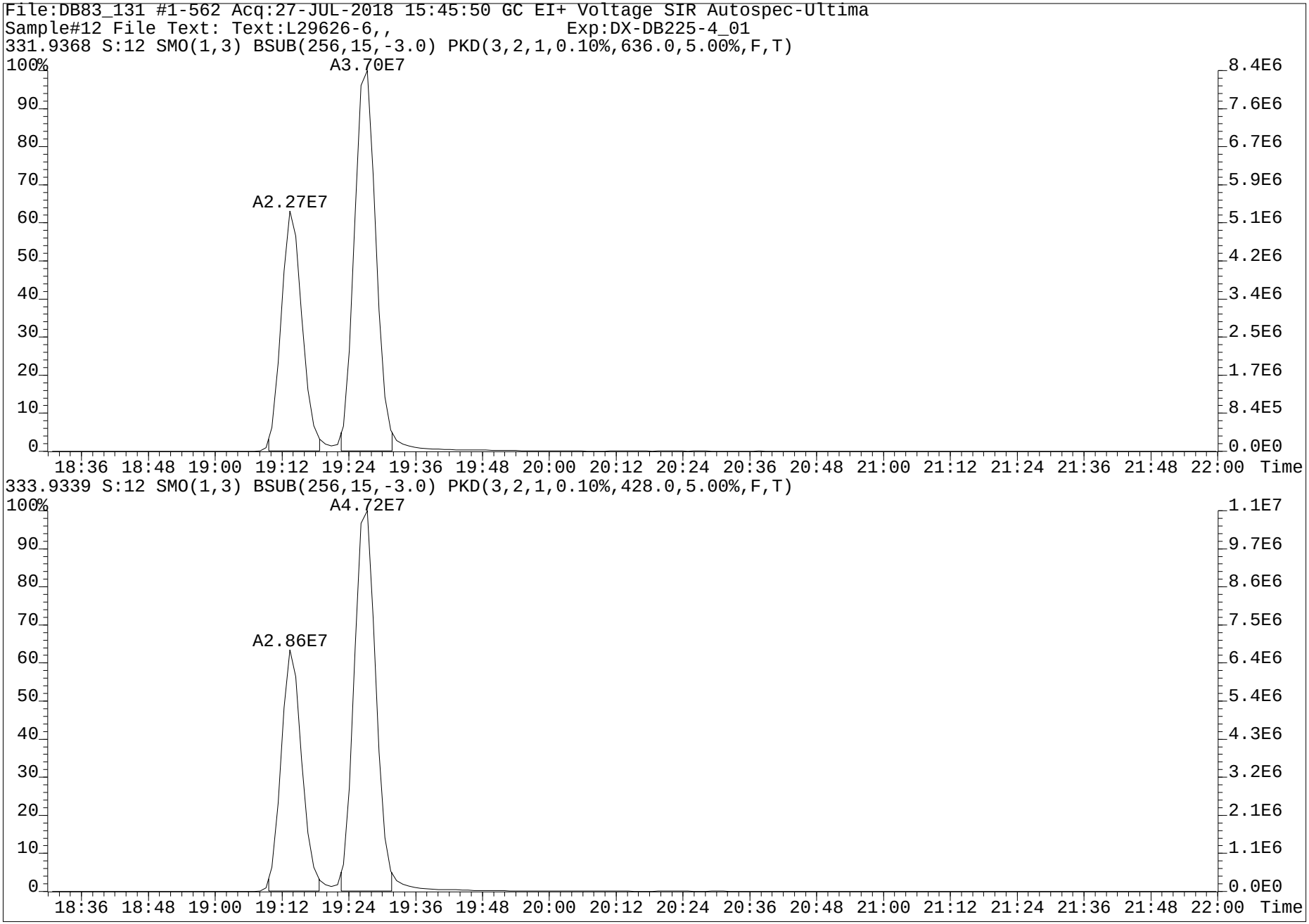
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	5.91e+04	0.83	y	20:50	0.158	0	0.0292	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	1.63e+04	1.55	n	36:49	0.195	0	0.3448	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	7.53e+07	0.79	y	20:49	97.753	-	0.0160	50.0	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.71e+07	1.25	y	34:17	122.616	-	0.2602	62.8	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.83e+07	1.27	y	34:42	127.097	-	0.2521	65.1	n
6	RS	13C-1,2,3,4-TCDD	1	8.41e+07	0.78	y	19:27	7.425	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.57e+07	1.24	y	36:50	4.582	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

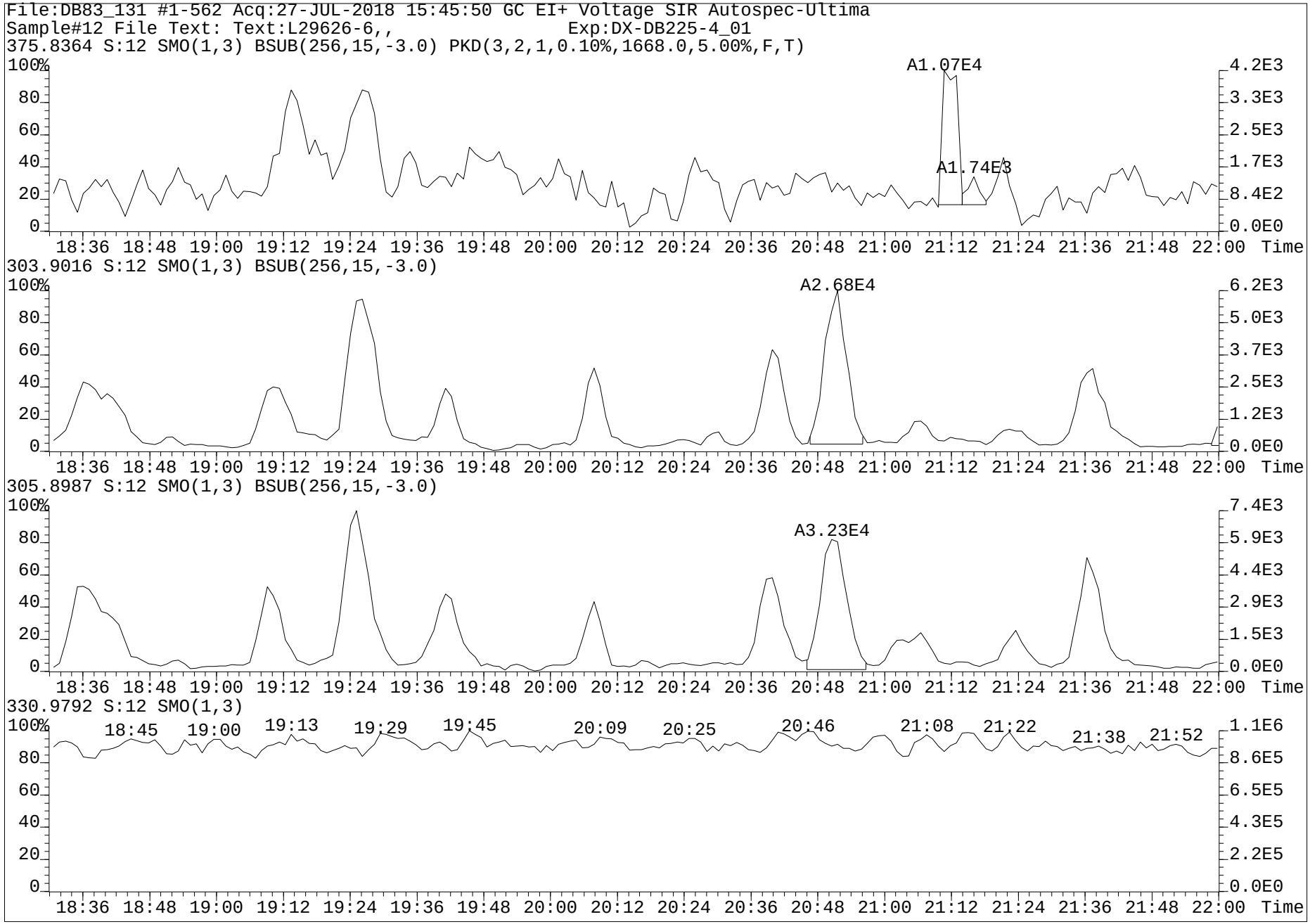
checked by
PNO 31-JUL-18

PMajKB 30JUL2018


File:DB83_131 #1-562 Acq:27-JUL-2018 15:45:50 GC EI+ Voltage SIR Autospec-Ultima
Sample#12 File Text: Text:L29626-6,, Exp:DX-DB225-4_01
303.9016 S:12 SMO(1,3) BSUB(256,15,-3.0)
A2.68E4
305.8987 S:12 SMO(1,3) BSUB(256,15,-3.0)
A3.23E4
315.9419 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,468.0,5.00%,F,T)
A3.32E7
317.9389 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,652.0,5.00%,F,T)
A4.22E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
6.2E3
5.0E3
3.7E3
2.5E3
1.2E3
0.0E0
7.4E3
5.9E3
4.4E3
2.9E3
1.5E3
0.0E0
7.0E6
5.6E6
4.2E6
2.8E6
1.4E6
0.0E0
8.9E6
7.2E6
5.4E6
3.6E6
1.8E6
0.0E0


File:DB83_131 #1-768 Acq:27-JUL-2018 15:45:50 GC EI+ Voltage SIR Autospec-Ultima
Sample#12 File Text: Text:L29626-6,, Exp:DX-DB225-4_01
389.8156 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,464.0,5.00%,F,T)
A6.57E3
A9.90E3
391.8127 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0)
A2.79E4
A6.38E3
401.8559 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,608.0,5.00%,F,T)
A9.49E6
A1.02E7
A1.42E7
403.8530 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,572.0,5.00%,F,T)
A7.58E6
A8.04E6
A1.15E7
392.9760 S:12 F:2 SMO(1,3)
33:33
33:49
34:06
34:30
34:44
35:14
35:21
35:44
36:04
36:24
36:42
37:13
37:25
37:43
Time


File:DB83_131 #1-562 Acq:27-JUL-2018 15:45:50 GC EI+ Voltage SIR Autospec-Ultima
Sample#12 File Text: Text:L29626-6,, Exp:DX-DB225-4_01
331.9368 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,636.0,5.00%,F,T)
A3.70E7
A2.27E7
8.4E6
7.6E6
6.7E6
5.9E6
5.1E6
4.2E6
3.4E6
2.5E6
1.7E6
8.4E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,428.0,5.00%,F,T)
A4.72E7
A2.86E7
1.1E7
9.7E6
8.6E6
7.5E6
6.4E6
5.4E6
4.3E6
3.2E6
2.1E6
1.1E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-562 Acq:27-JUL-2018 15:45:50 GC EI+ Voltage SIR Autospec-Ultima
Sample#12 File Text: Text:L29626-6,, Exp:DX-DB225-4_01
375.8364 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1668.0,5.00%,F,T)
A1.07E4
A1.74E3
303.9016 S:12 SMO(1,3) BSUB(256,15,-3.0)
A2.68E4
305.8987 S:12 SMO(1,3) BSUB(256,15,-3.0)
A3.23E4
330.9792 S:12 SMO(1,3)
18:45
19:00
19:13
19:29
19:45
20:09
20:25
20:46
21:08
21:22
21:38
21:52
Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.020	4.44e3	0.74	NO	25.34	0.339	0.0399		1.07e3	1.30e3
2	1,2,3,7,8-PeCDF	10.020	7.35e2	0.79	YES	33.67	0.068	0.0488		1.05e3	9.65e2
3	2,3,4,7,8-PeCDF	10.020	9.69e2	1.75	NO	35.43	0.088	0.0434		1.05e3	9.65e2
4	1,2,3,4,7,8-HxCDF	10.020	1.21e3	1.33	NO	40.79	0.127	0.0282		6.97e2	7.77e2
5	1,2,3,6,7,8-HxCDF	10.020	6.05e2	1.17	NO	40.94	0.057	0.0277		6.97e2	7.77e2
6	2,3,4,6,7,8-HxCDF	10.020	6.35e2	0.66	YES	41.89	0.064	0.0276		6.97e2	7.77e2
7	1,2,3,7,8,9-HxCDF	10.020	1.12e2	1.07	NO	42.89	0.014	0.0374		6.97e2	7.77e2
8	1,2,3,4,6,7,8-HpCDF	10.020	4.86e3	0.95	NO	45.40	0.630	0.0320		9.91e2	4.30e2
9	1,2,3,4,7,8,9-HpCDF	10.020	4.45e2	1.46	YES	47.18	0.073	0.0439		9.91e2	4.30e2
10	OCDF	10.020	6.68e3	0.71	YES	50.43	1.421	0.0604		8.23e2	4.77e2
11	2,3,7,8-TCDD	10.020	4.57e2	0.36	YES	26.58	0.040	0.0376		1.07e3	6.63e2
12	1,2,3,7,8-PeCDD	10.020	6.35e2	1.26	YES	36.26	0.086	0.0530		1.09e3	5.57e2
13	1,2,3,4,7,8-HxCDD	10.020	4.12e2	0.58	YES	42.18	0.058	0.0931		2.19e3	1.54e3
14	1,2,3,6,7,8-HxCDD	10.020	1.29e3	1.40	NO	42.33	0.165	0.0936		2.19e3	1.54e3
15	1,2,3,7,8,9-HxCDD	10.020	7.29e2	1.01	YES	42.75	0.097	0.0929		2.19e3	1.54e3
16	1,2,3,4,6,7,8-HpCDD	10.020	1.50e4	0.95	NO	46.76	2.875	0.0790		1.34e3	8.84e2
17	OCDD	10.020	7.70e4	0.91	NO	50.35	19.735	0.1713		2.66e3	4.04e2
18	13C-2,3,7,8-TCDF	10.020	2.85e6	0.68	NO	25.31	107.117	0.0921	53.7	6.10e3	4.91e3
19	13C-1,2,3,7,8-PeCDF	10.020	2.35e6	1.42	NO	33.64	122.232	0.1995	61.2	8.96e3	8.25e3
20	13C-2,3,4,7,8-PeCDF	10.020	2.34e6	1.42	NO	35.40	126.324	0.2069	63.3	8.96e3	8.25e3
21	13C-1,2,3,4,7,8-HxCDF	10.020	1.70e6	0.50	NO	40.77	107.134	0.2158	53.7	1.12e4	5.64e3
22	13C-1,2,3,6,7,8-HxCDF	10.020	2.00e6	0.53	NO	40.94	117.565	0.2020	58.9	1.12e4	5.64e3
23	13C-2,3,4,6,7,8-HxCDF	10.020	1.73e6	0.53	NO	41.89	113.648	0.2261	56.9	1.12e4	5.64e3
24	13C-1,2,3,7,8,9-HxCDF	10.020	1.60e6	0.53	NO	42.92	106.738	0.2292	53.5	1.12e4	5.64e3
25	13C-1,2,3,4,6,7,8-HpCDF	10.020	1.26e6	0.45	NO	45.38	99.132	0.2275	49.7	8.60e3	5.60e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.020	9.72e5	0.44	NO	47.17	98.144	0.2917	49.2	8.60e3	5.60e3
27	13C-2,3,7,8-TCDD	10.020	2.04e6	0.74	NO	26.54	123.398	0.1003	61.8	3.60e3	3.86e3
28	13C-1,2,3,7,8-PeCDD	10.020	1.44e6	0.70	NO	36.20	132.708	0.1154	66.5	4.21e3	1.42e3
29	13C-1,2,3,4,7,8-HxCDD	10.020	1.42e6	1.26	NO	42.16	115.950	0.2420	58.1	4.99e3	9.60e3
30	13C-1,2,3,6,7,8-HxCDD	10.020	1.67e6	1.18	NO	42.30	128.881	0.2288	64.6	4.99e3	9.60e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.020	1.05e6	0.98	NO	46.74	103.387	0.2506	51.8	6.18e3	6.31e3
32	13C-OCDD	10.020	1.53e6	0.88	NO	50.33	171.522	0.6613	43.0	2.05e4	8.49e3
33	13C-1,2,3,4-TCDD	10.020	3.29e6	0.78	NO	26.20	14.544	0.0073	7.3	3.60e3	3.86e3
34	13C-1,2,3,7,8,9-HxCDD	10.020	2.49e6	1.20	NO	42.72	17.381	0.0207	8.7	4.99e3	9.60e3
35	37Cl-2,3,7,8-TCDD	10.020	5.10e4			26.56	2.777	0.0000	69.6		1.82e-2
36	Total Tetra-Furans	10.020					2.298	0.0399			1.30e3
37	Total Tetra-Dioxins	10.020					0.418	0.0376			6.63e2
38	Total Penta-Furans	10.020					0.866	0.0465			9.65e2
39	Total Penta-Dioxins	10.020					0.304	0.0530			5.57e2
40	Total Hexa-Furans	10.020					1.636	0.0209			7.77e2
41	Total Hexa-Dioxins	10.020					1.591	0.0899			1.54e3
42	Total Hepta-Furans	10.020					2.271	0.0377			4.30e2
43	Total Hepta-Dioxins	10.020					7.760	0.0790			8.84e2
44	Hexa DPE	1.000	2.31e2			25.34					1.47e-1
45	Hepta DPE	1.000	4.58e1			34.79					0.00e0
46	Octa DPE	1.000	1.20e2			40.89					1.63e-1
47	Nona DPE	1.000	1.13e2			48.20					0.00e0
48	Deca DPE	1.000	2.30e2			48.85					1.12e-1
49	Tetra Lock	1.000	1.39e4			23.61					1.10e5
50	Penta Lock	1.000	5.41e3			29.07					1.46e5
51	Hexa Lock	1.000	3.48e5			38.99					2.79e5
52	Hepta Lock	1.000	1.75e4			47.43					2.09e5
53	Octa Lock	1.000									2.50e5
54	13C-Tetra-Furans	10.020					107.117	0.0921			4.91e3
55	13C-Tetra-Dioxins	10.020					137.942	0.1076			3.86e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Checked by MW 31-JUL-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.93	0.672	NO	0.183
2	23.49	0.663	NO	0.322
3	23.04	1.087	YES	0.308
4	22.61	0.752	NO	0.416
5	22.29	0.828	NO	0.176
6	21.99	0.752	NO	0.064
7	26.29	0.310	YES	0.039
8	26.04	0.665	NO	0.113
9	25.34	0.745	NO	0.339
10	24.99	0.512	YES	0.042
11	24.63	1.357	YES	0.084
12	24.33	0.909	YES	0.113
13	24.20	0.675	NO	0.099

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	24.68	0.729	NO	0.078
2	23.43	0.412	YES	0.056
3	23.02	0.953	YES	0.100
4	26.58	0.361	YES	0.040
5	26.42	0.487	YES	0.034
6	25.31	6.032	YES	0.084
7	25.15	0.612	YES	0.026

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	29.00	1.823	YES	0.261
2	31.62	1.690	NO	0.316
3	33.67	0.791	YES	0.068
4	33.01	1.748	NO	0.050
5	35.71	1.412	NO	0.058
6	35.43	1.746	NO	0.088
7	34.39	1.207	YES	0.025

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	34.31	0.097	YES	0.048
2	33.97	1.162	YES	0.046
3	32.15	0.472	YES	0.093
4	37.04	0.935	YES	0.031
5	36.26	1.257	YES	0.086

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.16	1.378	NO	0.682
2	39.86	2.900	YES	0.025
3	39.33	1.123	NO	0.503
4	39.08	1.077	NO	0.081
5	41.89	0.659	YES	0.064
6	41.72	0.781	YES	0.031
7	41.16	1.439	YES	0.006
8	41.08	0.570	YES	0.011
9	40.94	1.167	NO	0.057
10	40.79	1.331	NO	0.127
11	40.72	0.976	YES	0.036
12	42.89	1.068	NO	0.014

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.94	2.070	YES	0.406
2	40.11	1.270	NO	0.435
3	42.75	1.012	YES	0.097
4	42.33	1.403	NO	0.165
5	42.18	0.583	YES	0.058
6	41.50	1.401	NO	0.051
7	41.30	1.418	NO	0.380

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.18	1.463	YES	0.073
2	45.90	0.953	NO	1.537
3	45.71	1.862	YES	0.032
4	45.40	0.954	NO	0.630

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	45.85	1.096	NO	4.885
2	46.76	0.948	NO	2.875

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.31	0.676	NO	107.117

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.744	NO	123.398
2	26.20	0.783	NO	14.544

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.64	1.424	NO	122.232
2	35.40	1.419	NO	126.324

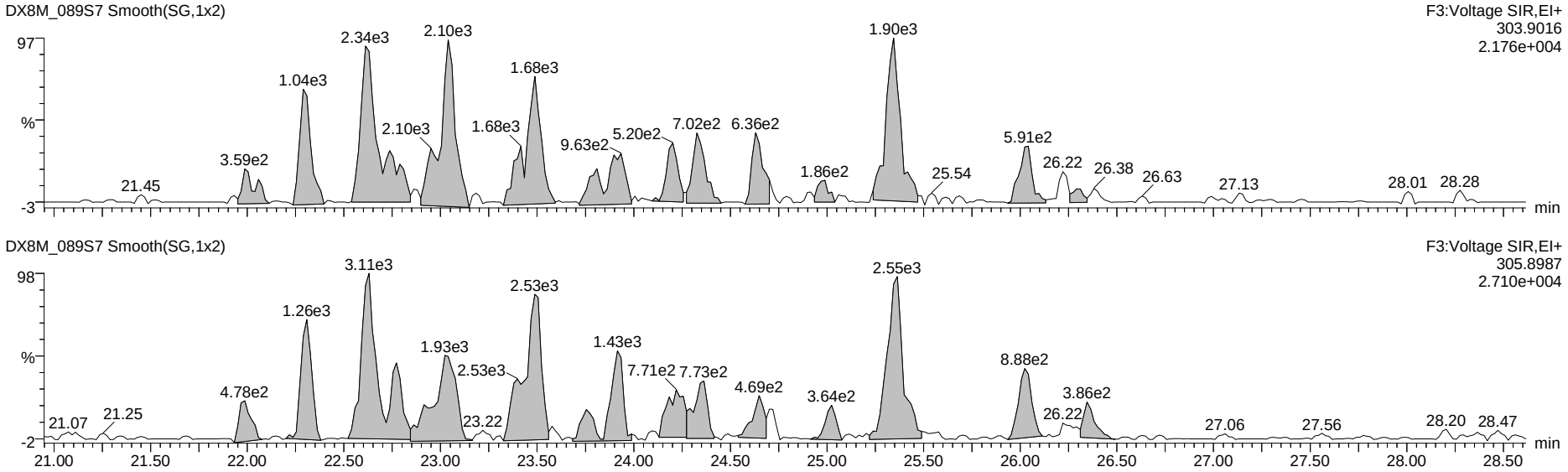
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

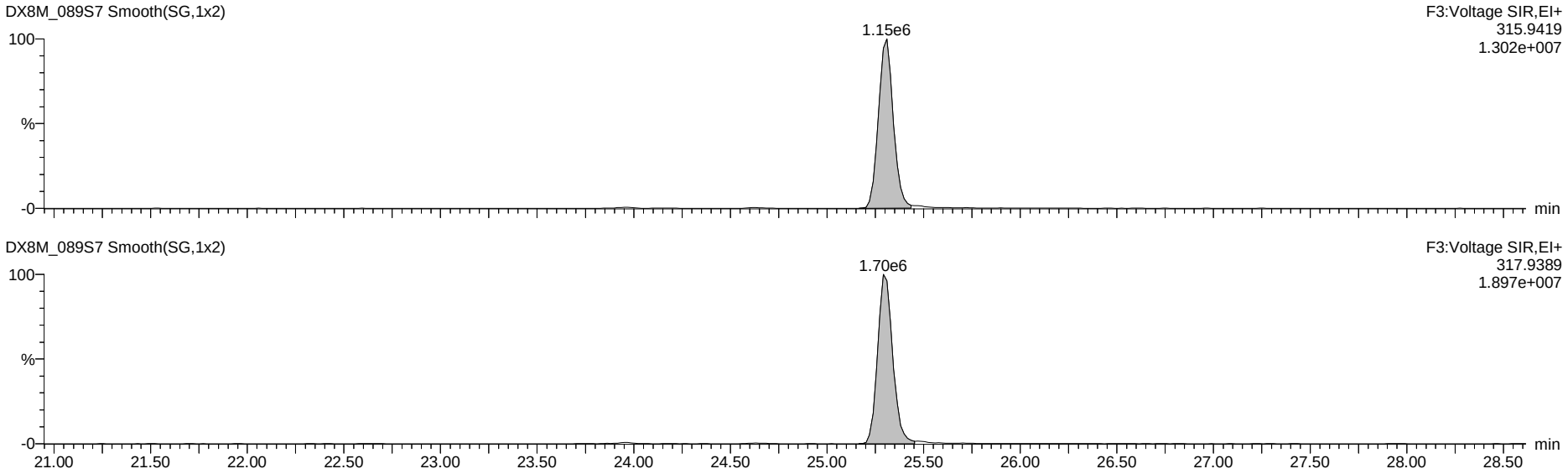
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



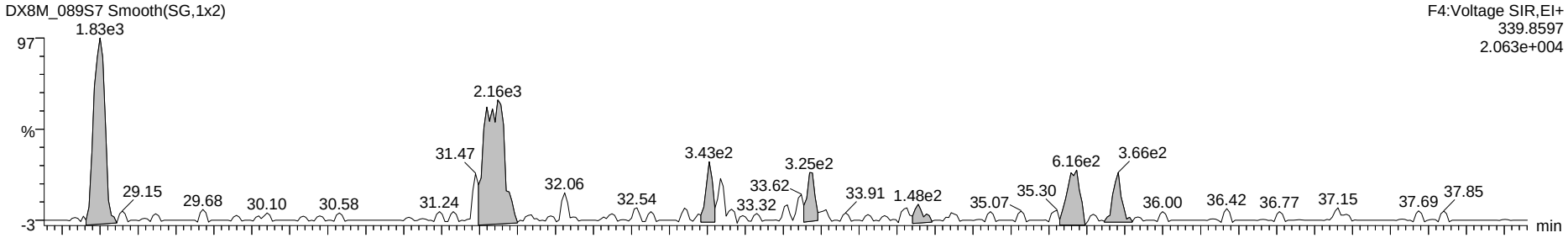
13C-Tetra-Furans

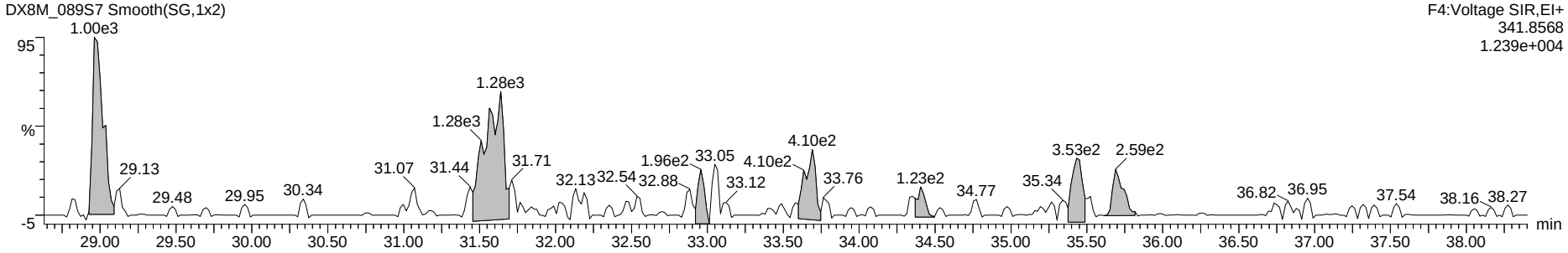


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

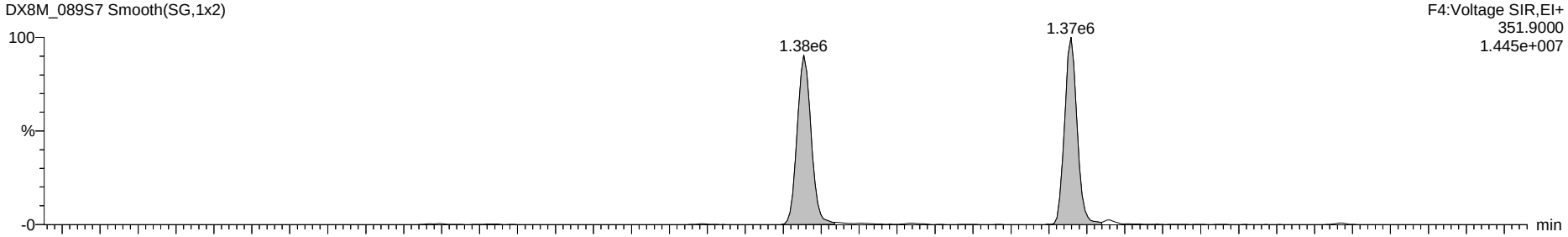
Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

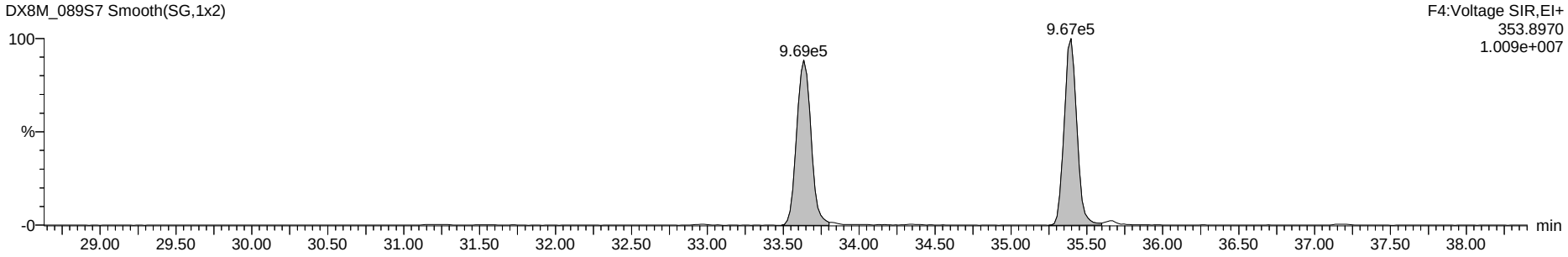
Total Penta-Furans





13C-Penta-Furans

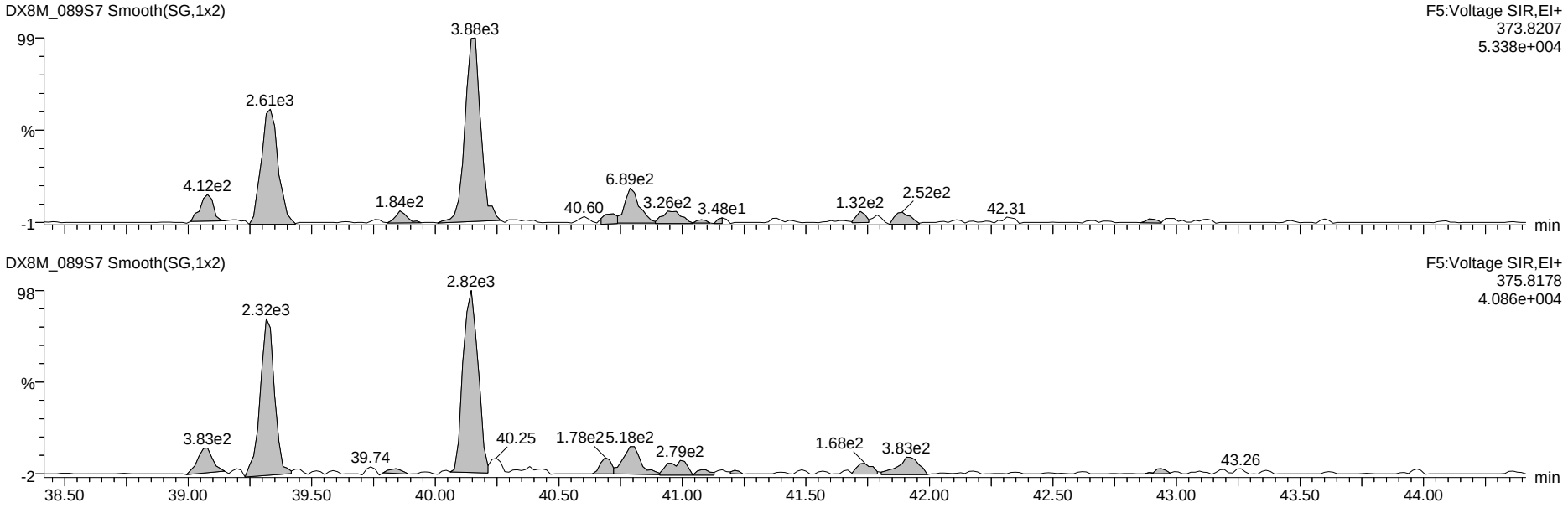




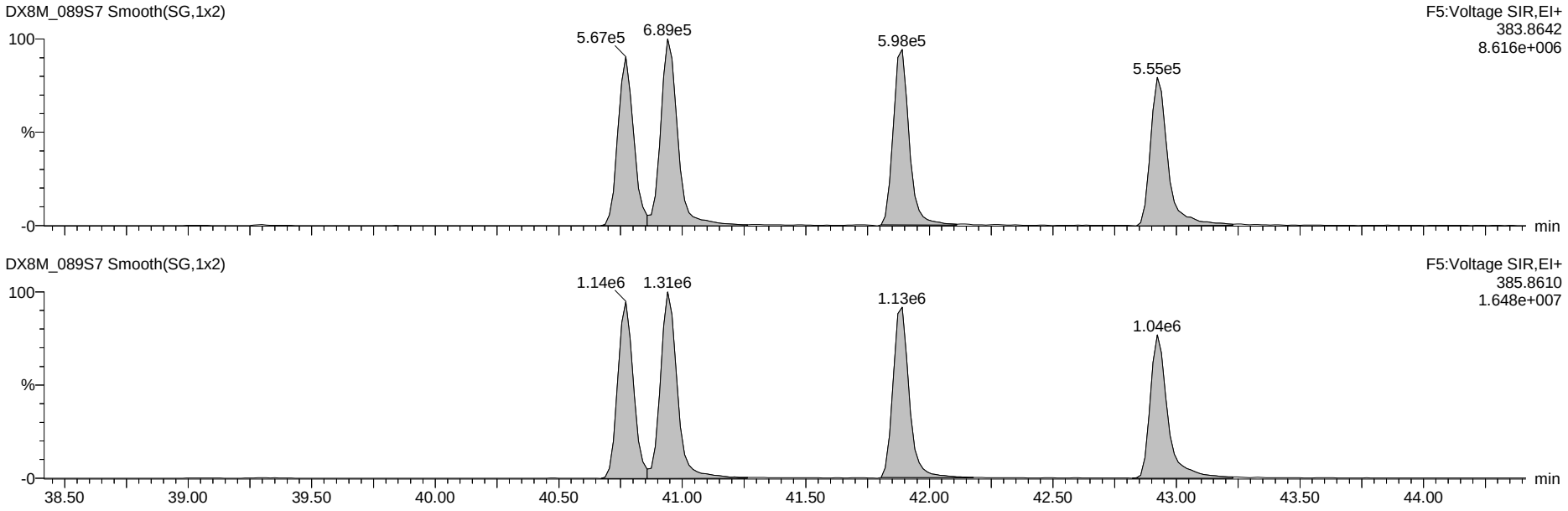
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



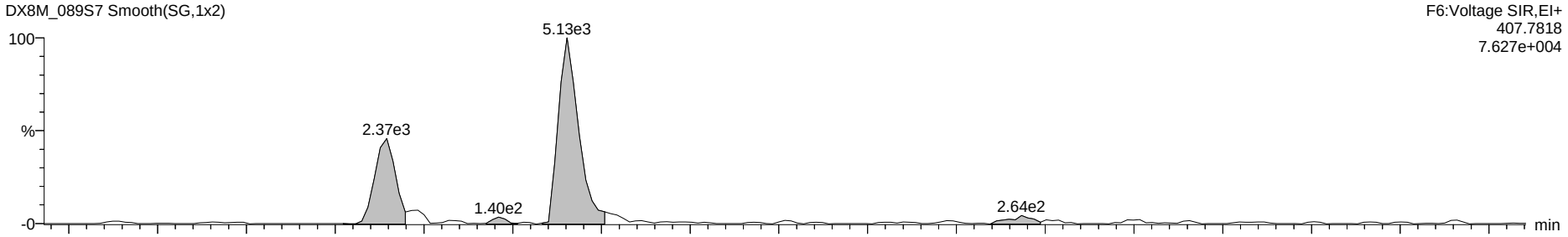
13C-Hexa-Furans

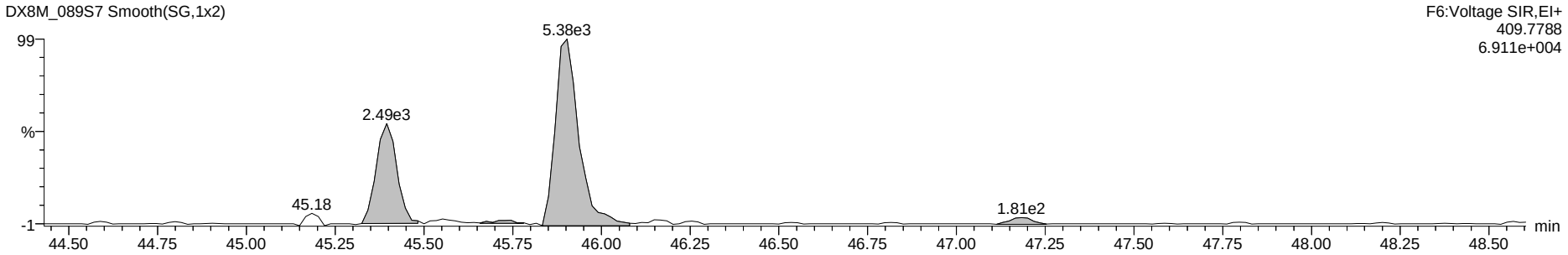


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

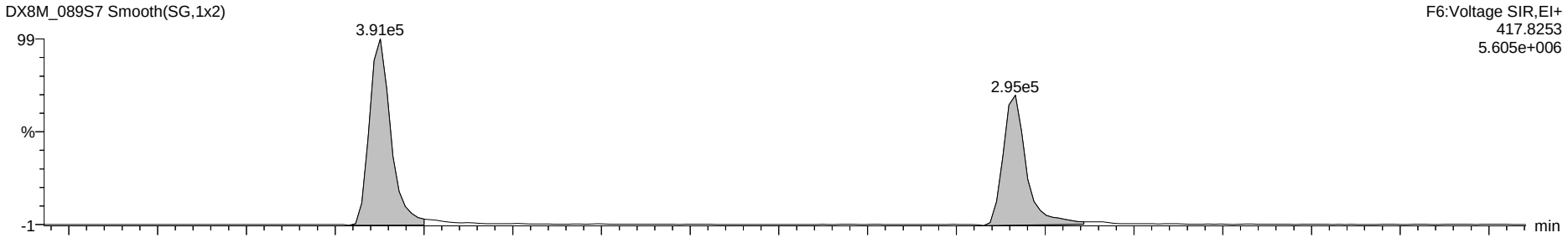
Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

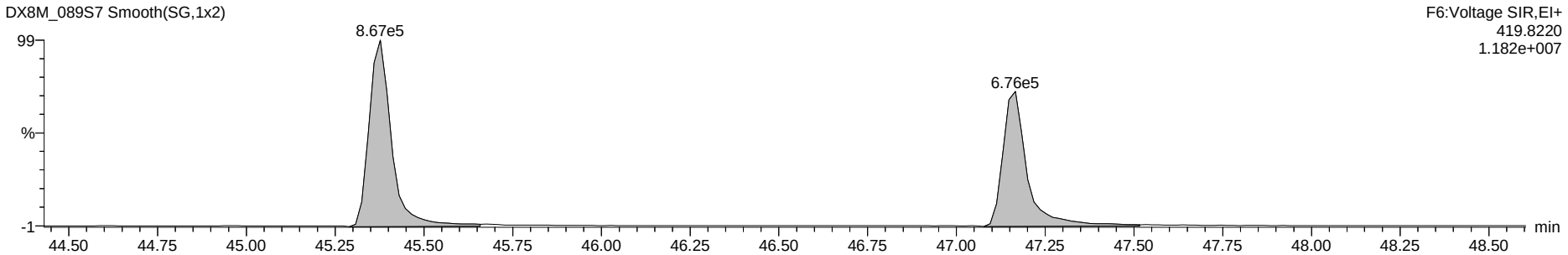
Total Hepta-Furans





13C-Hepta-Furans

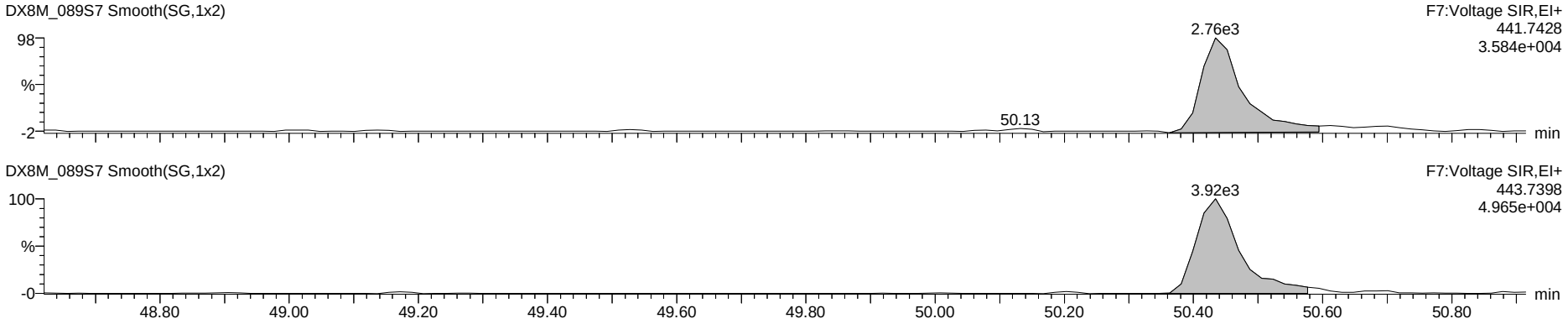




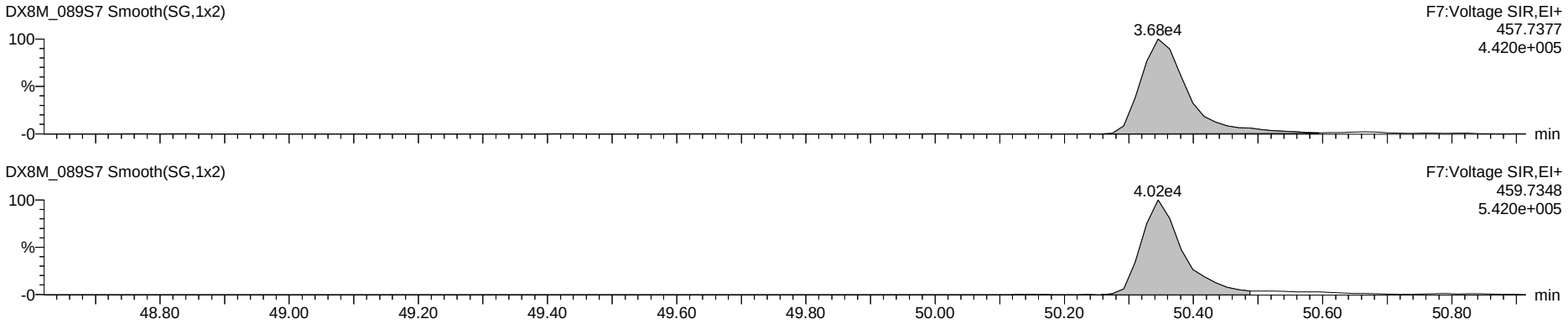
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

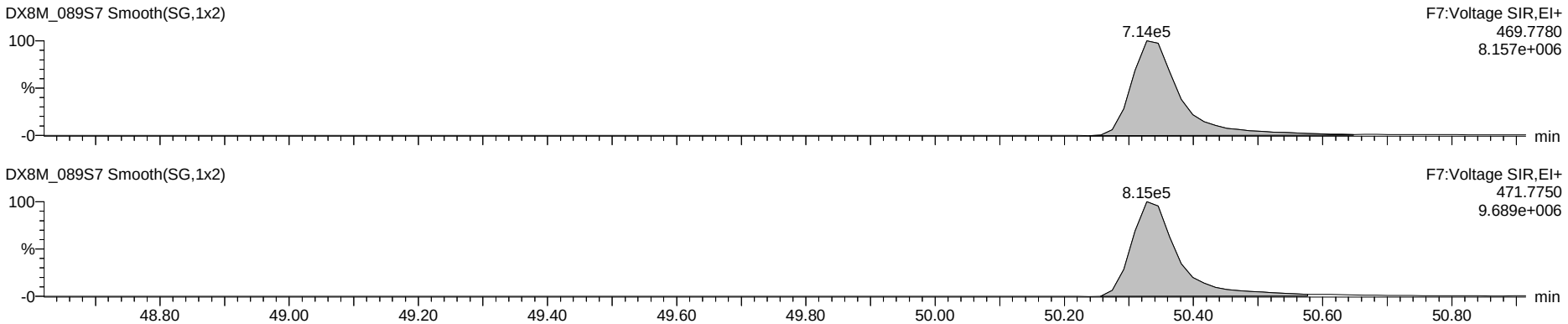
OCDF



OCDD



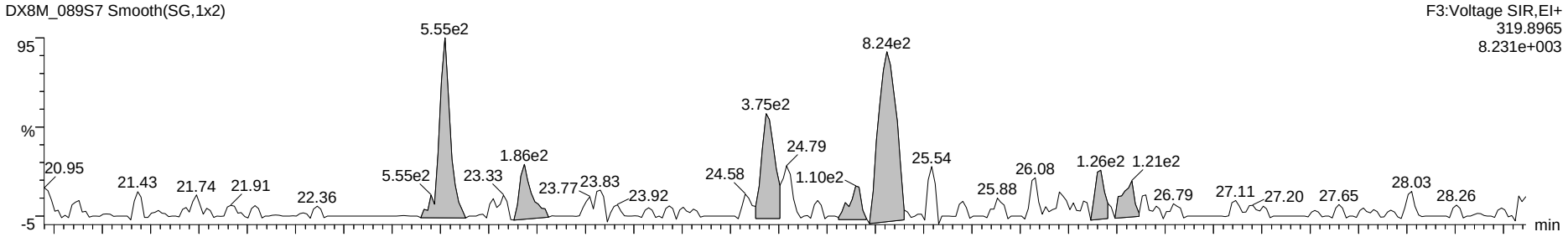
13C-OCDD

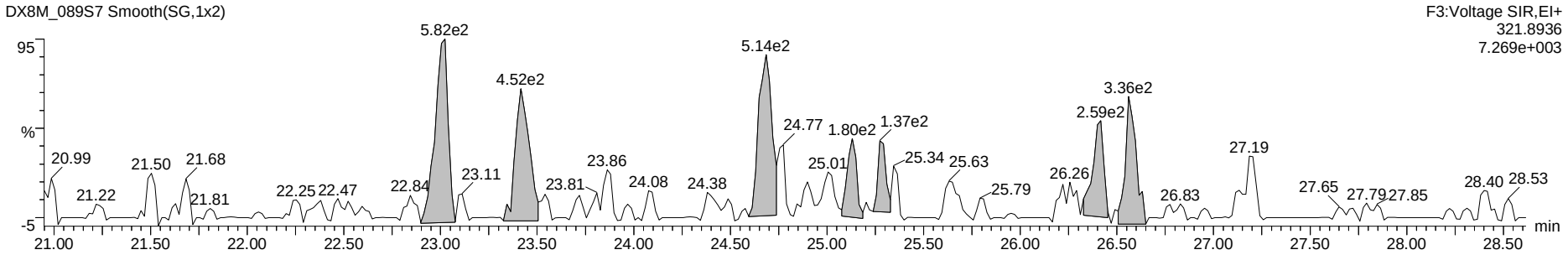


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

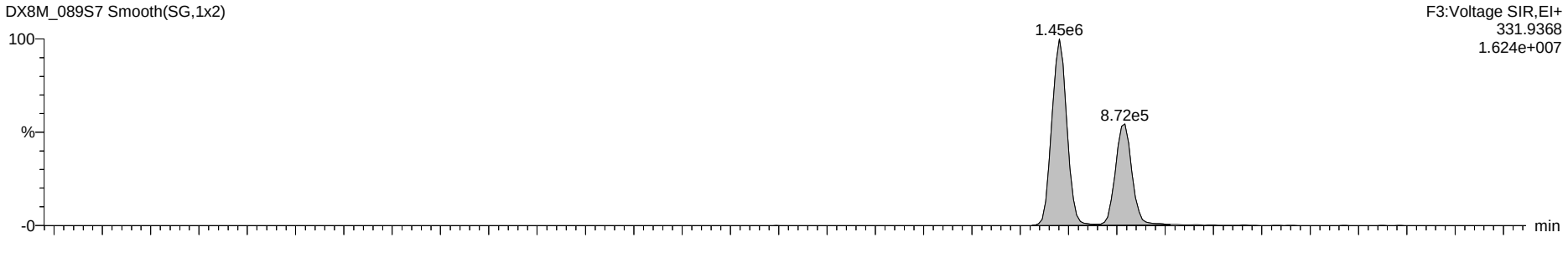
Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

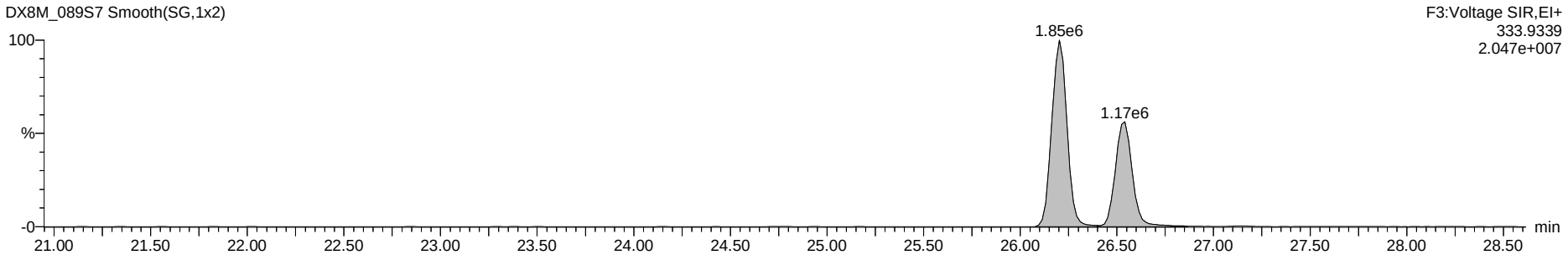
Total Tetra-Dioxins





13C-Tetra-Dioxins

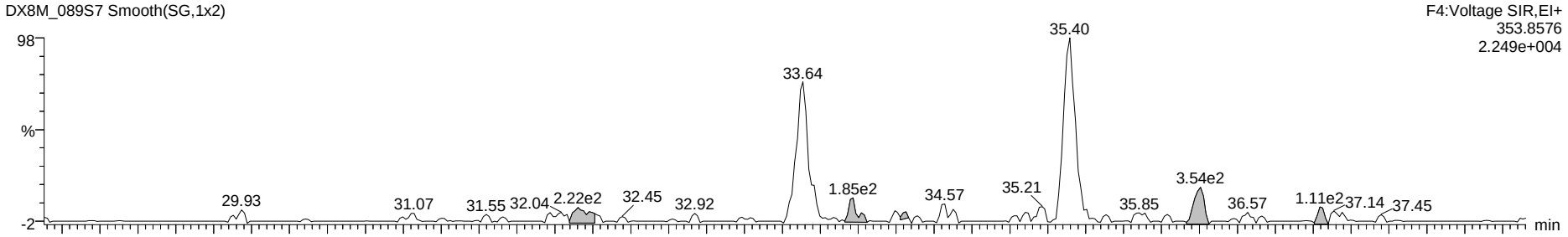


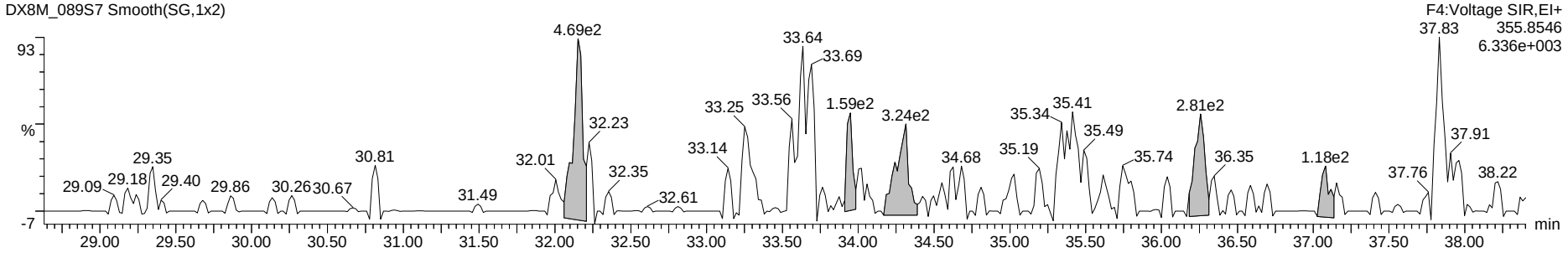


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

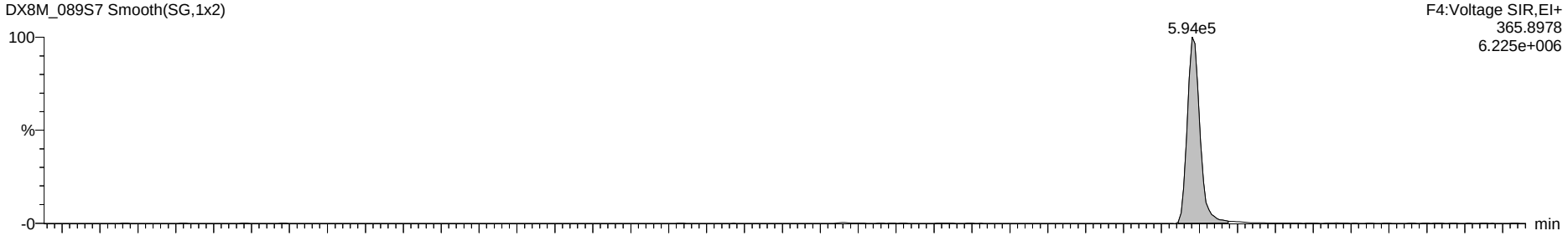
Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

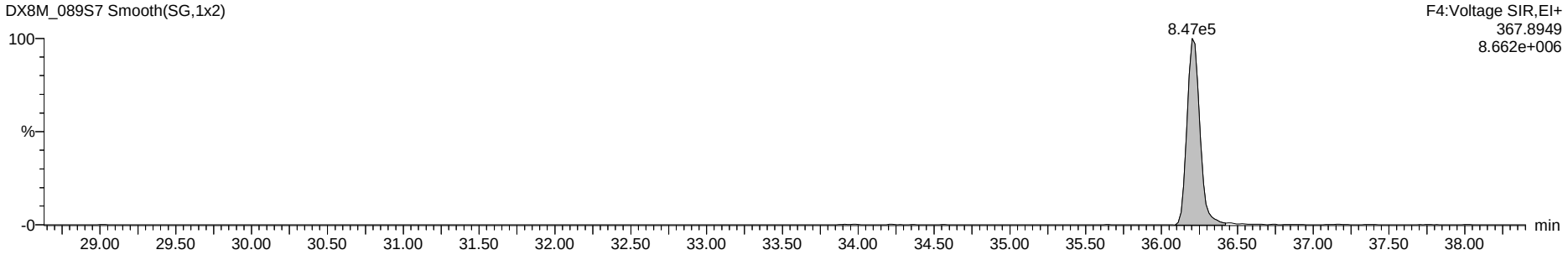
Total Penta-Dioxins





13C-Penta-Dioxins

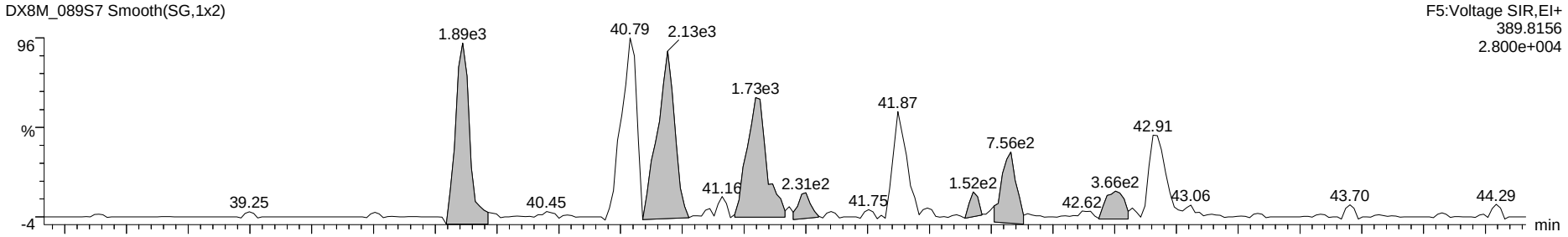


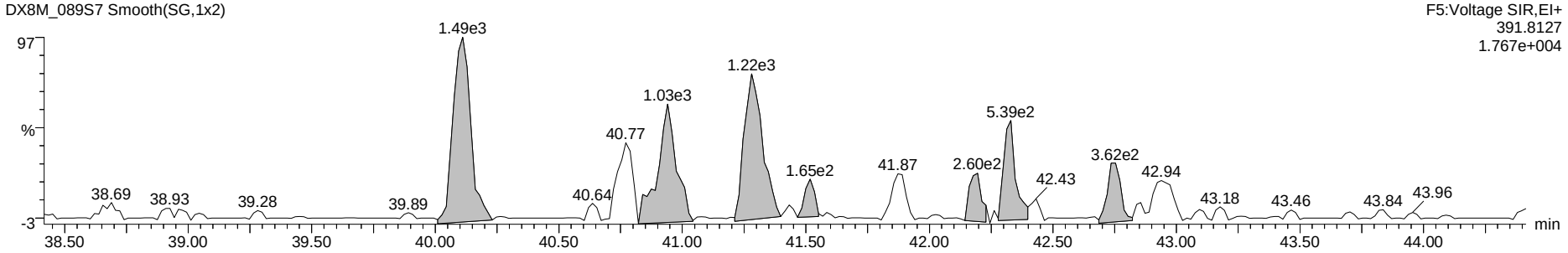


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

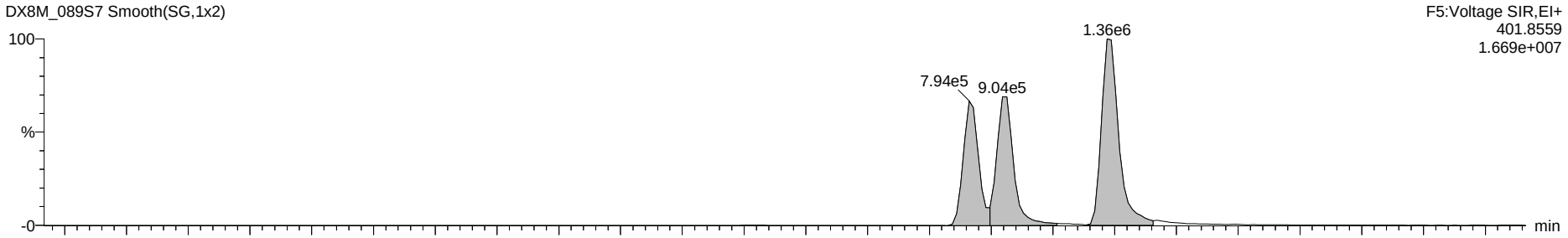
Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

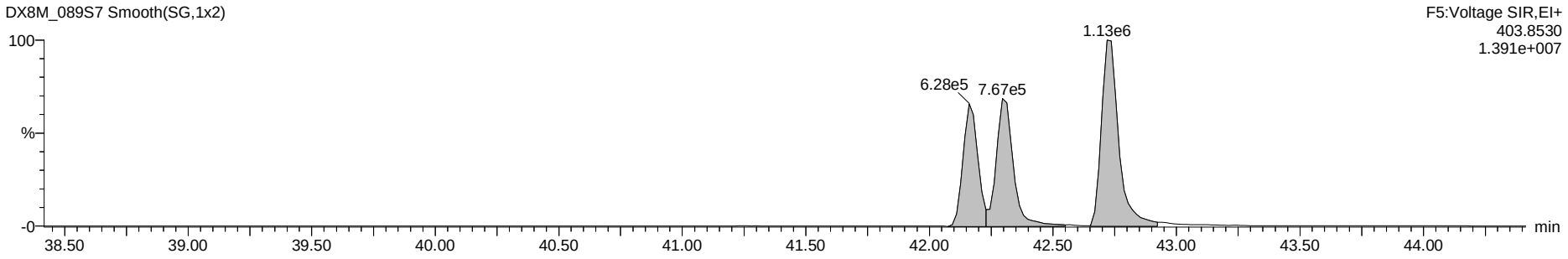
Total Hexa-Dioxins





13C-Hexa-Dioxins

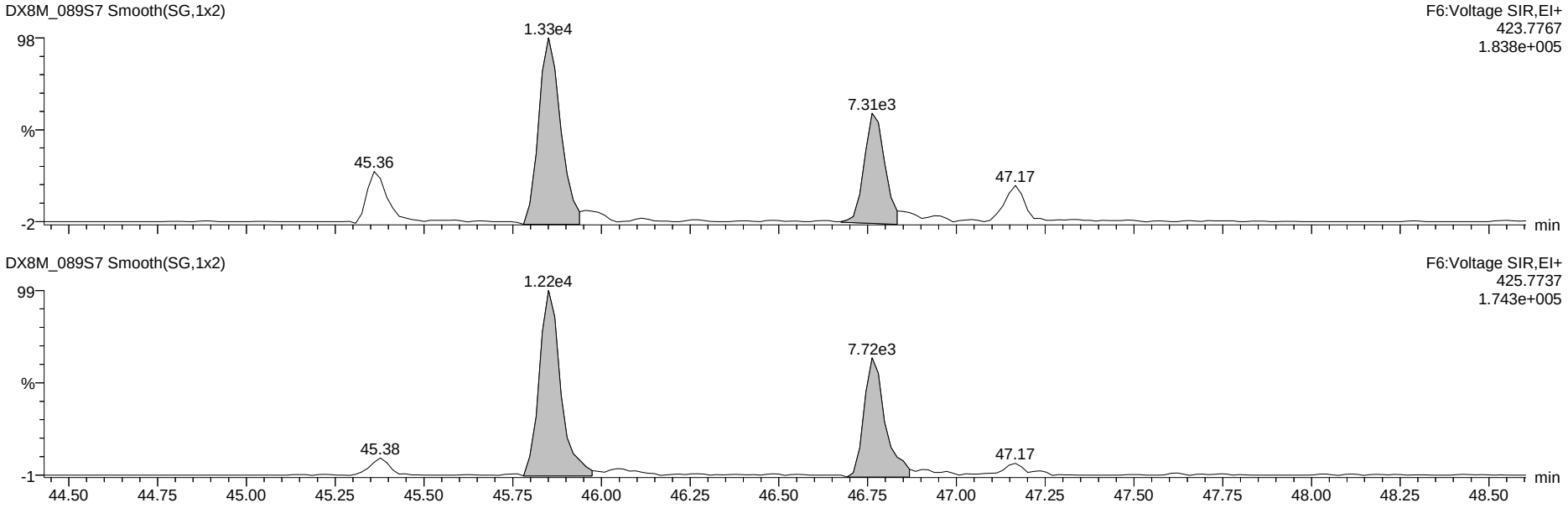




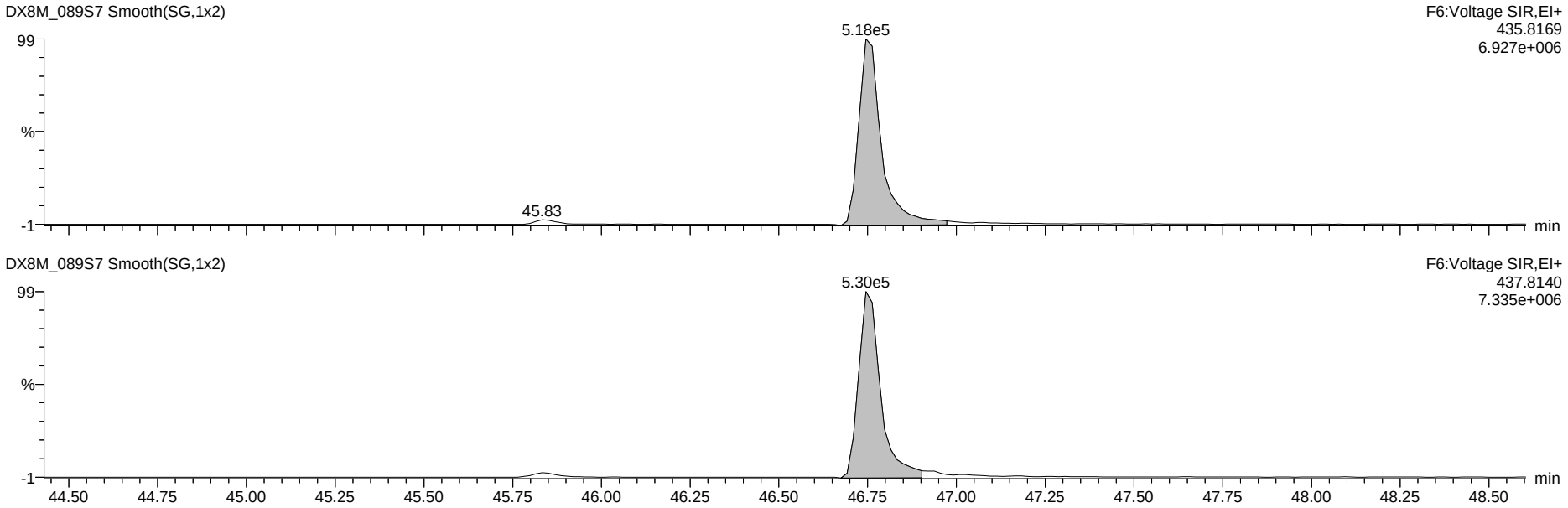
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



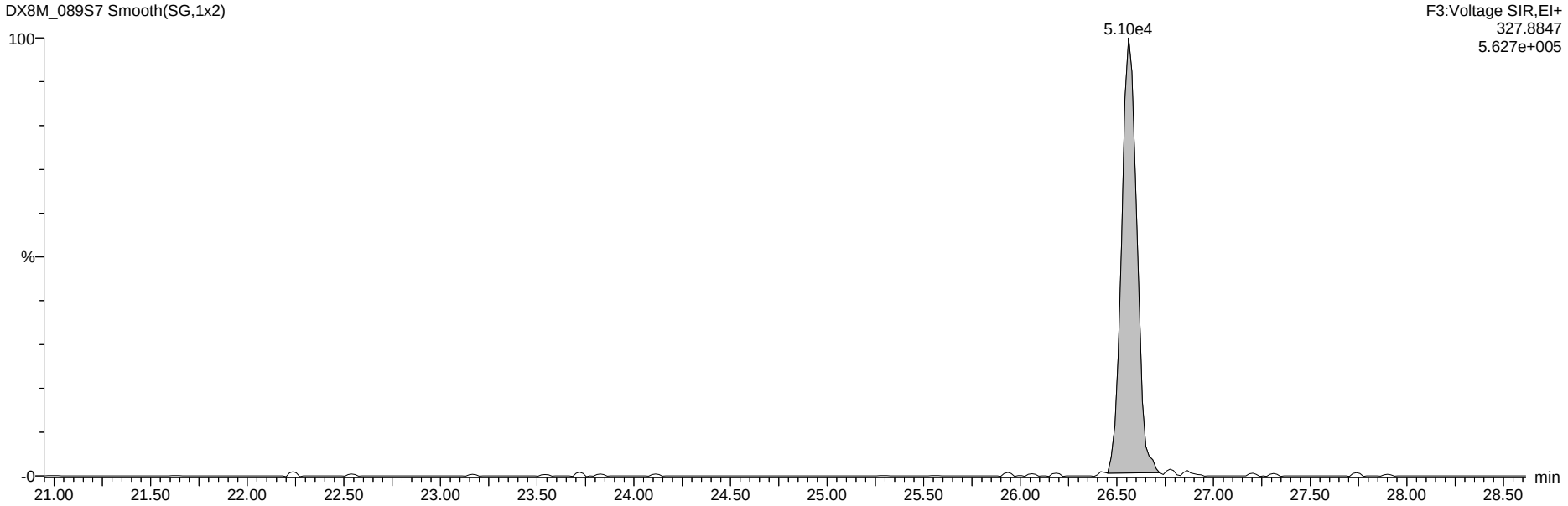
13C-Hepta-Dioxins



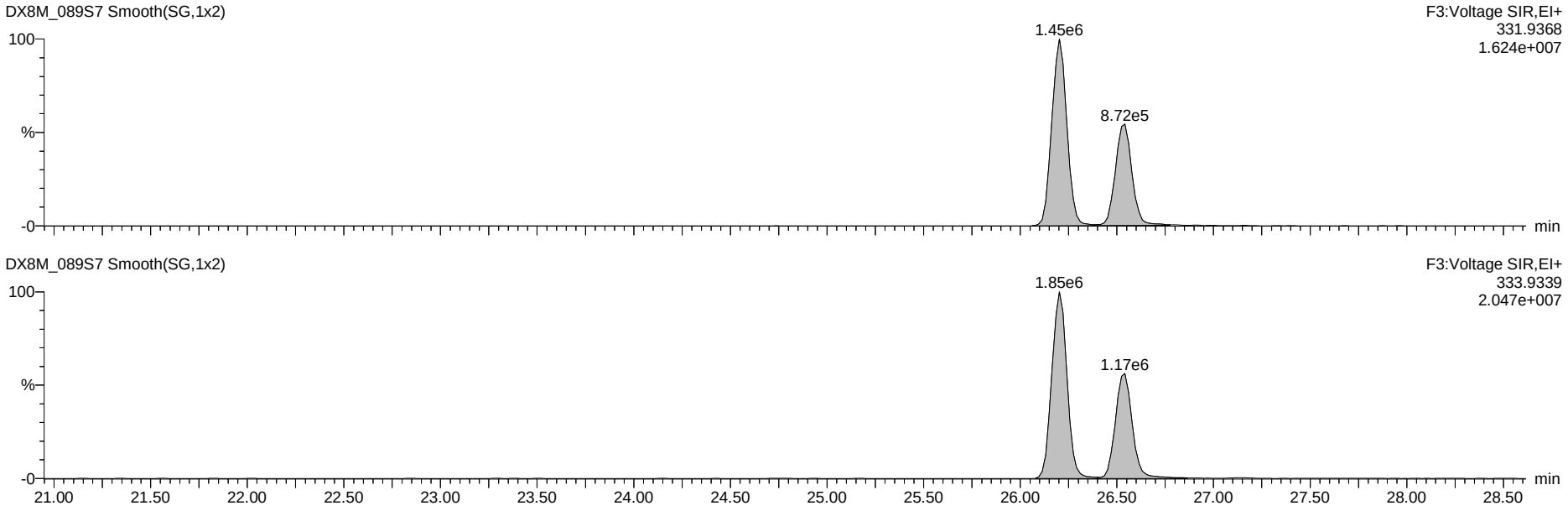
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



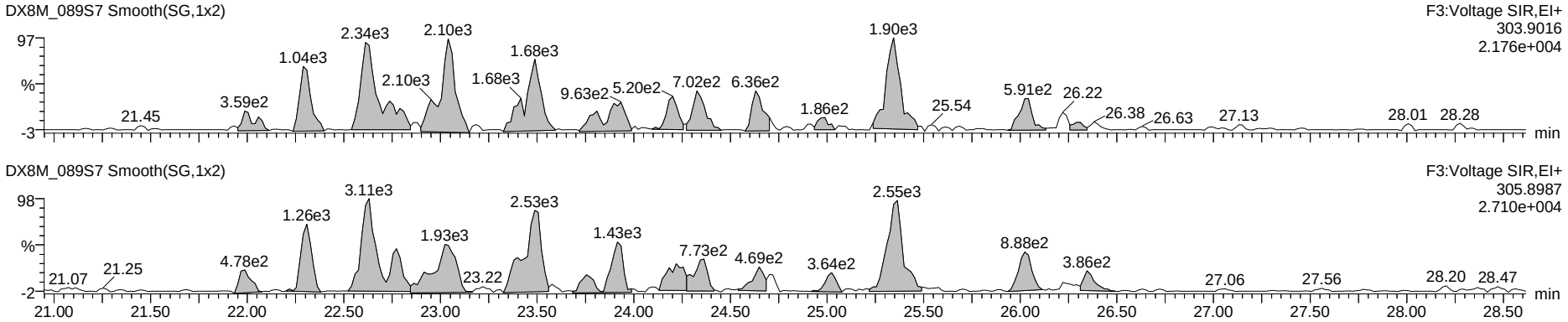
13C-Tetra-Dioxins



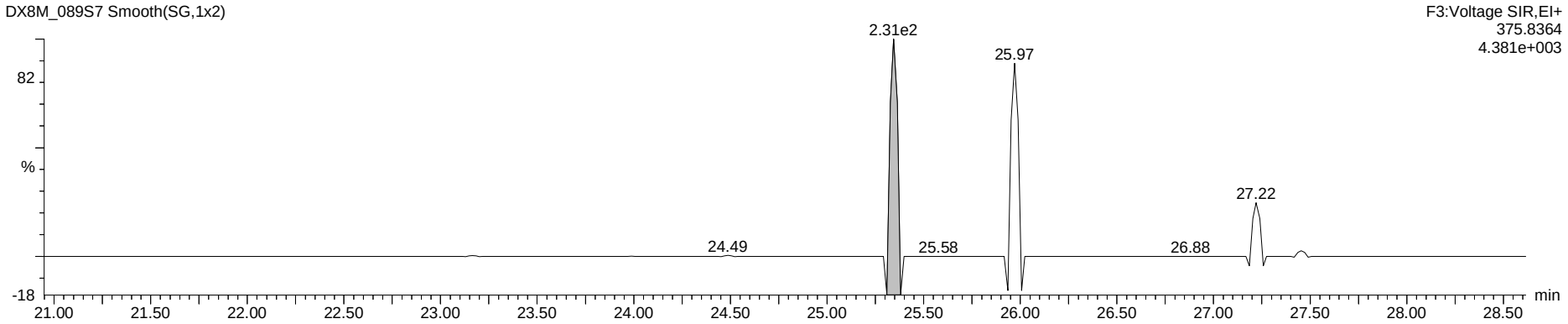
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

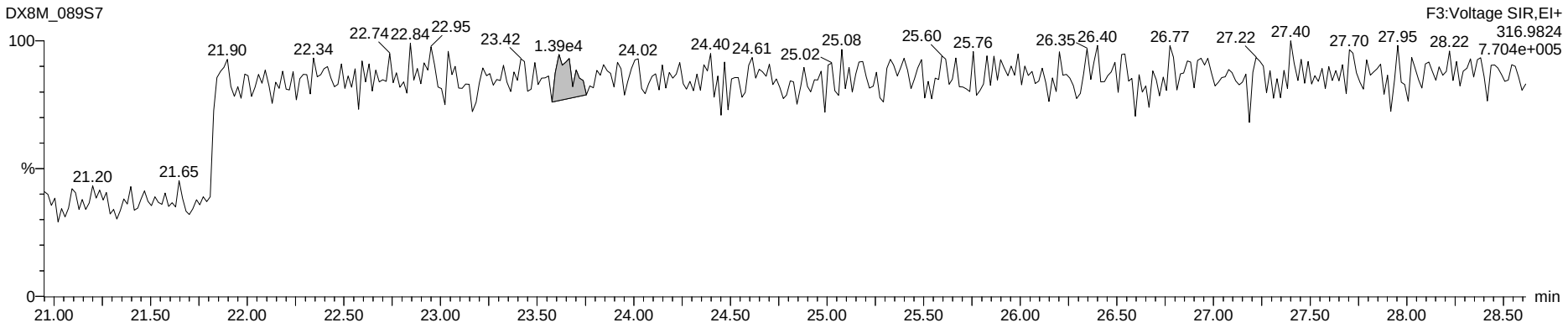
Total Tetra-Furans



Hexa DPE



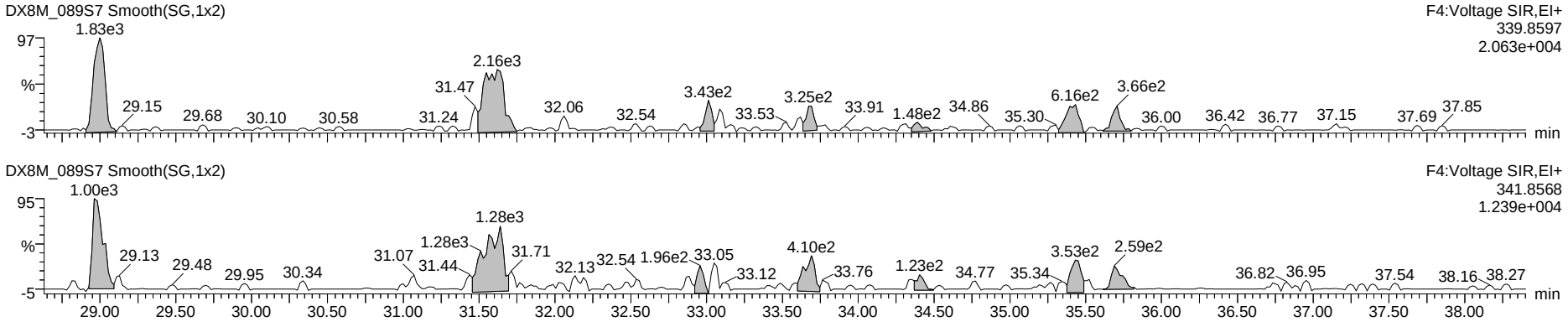
Tetra Lock



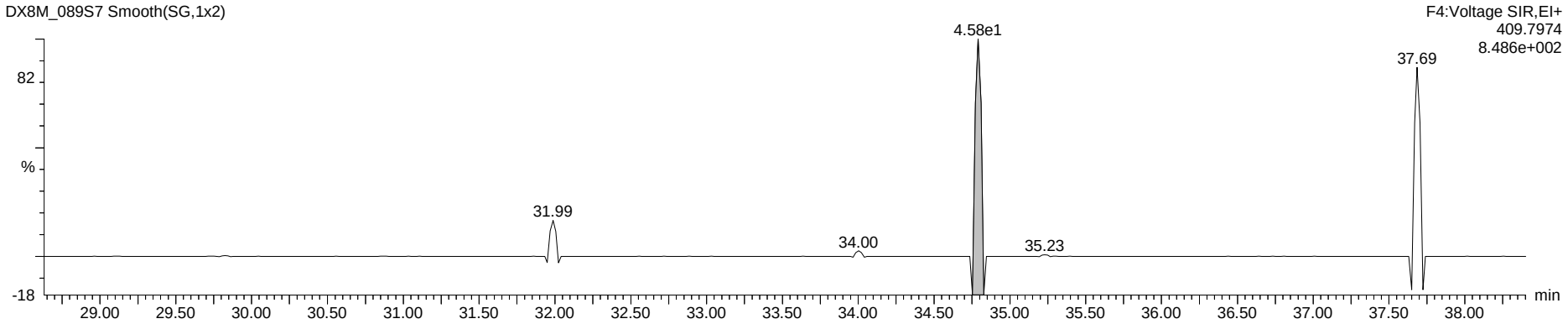
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

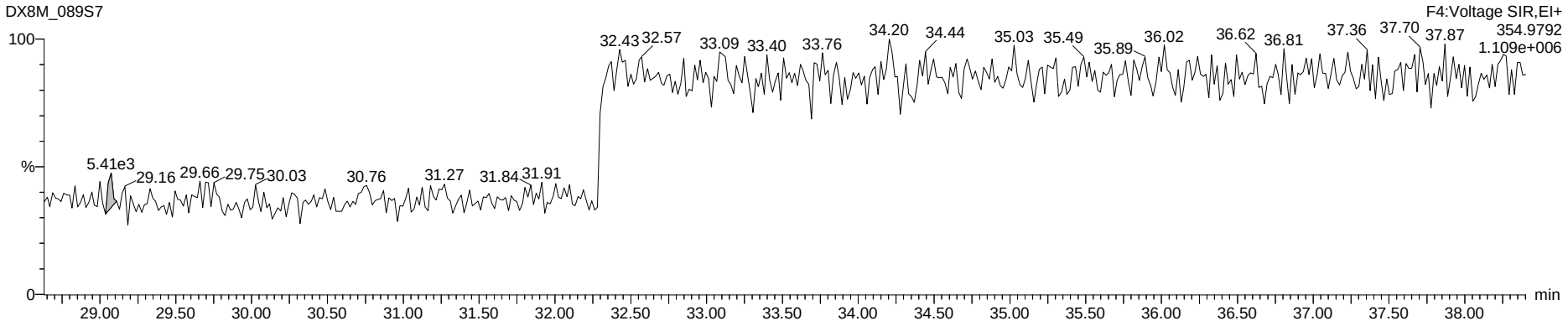
Total Penta-Furans



Hepta DPE



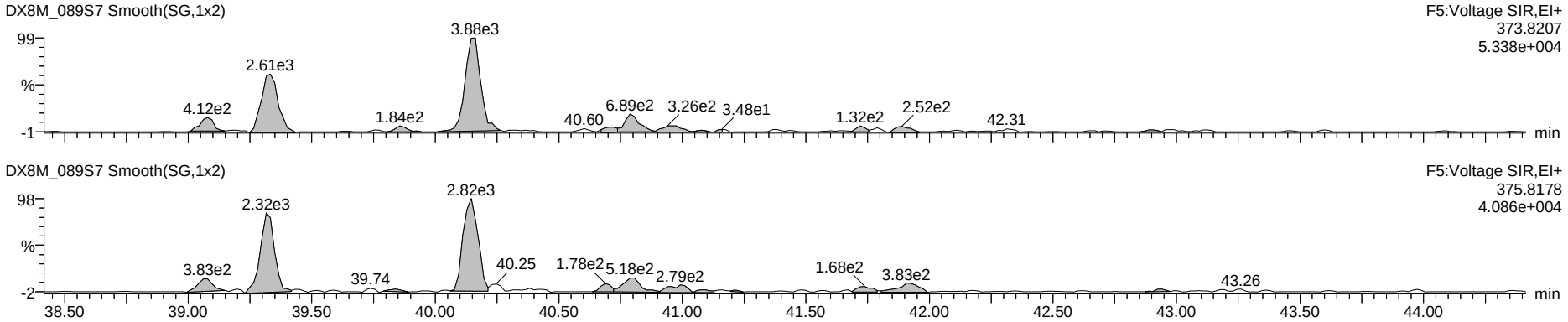
Penta Lock



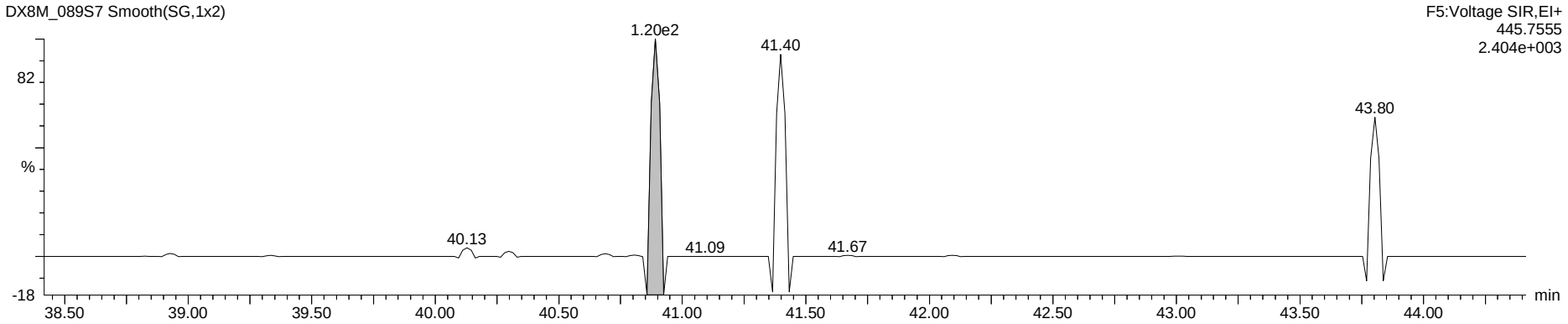
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

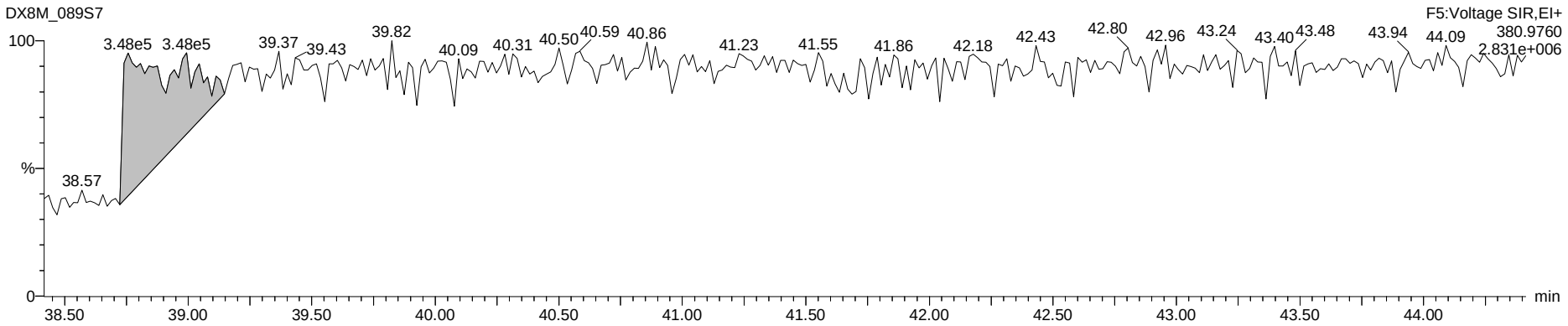
Total Hexa-Furans



Octa DPE



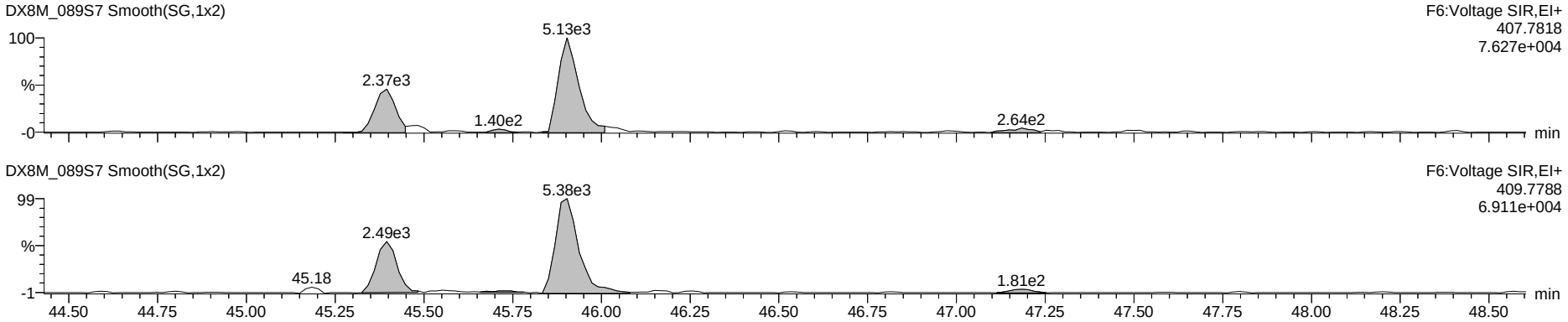
Hexa Lock



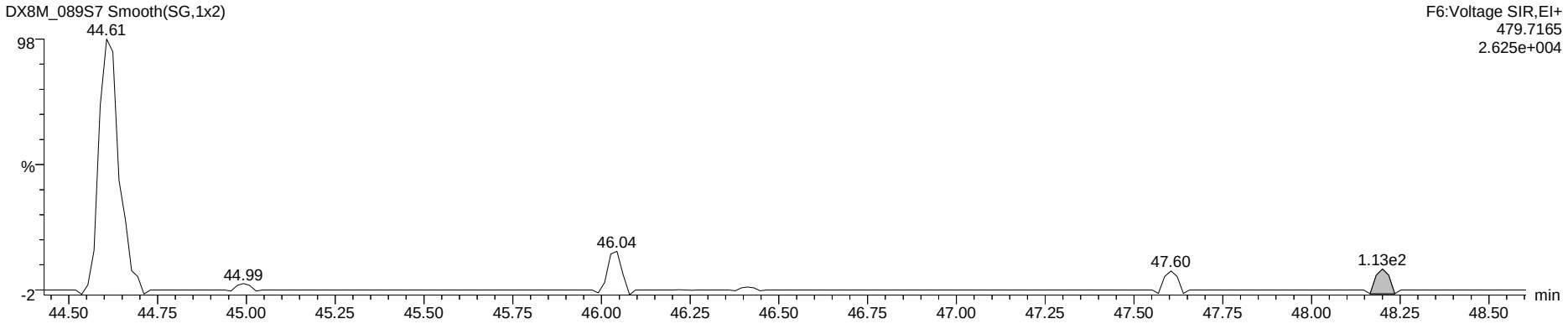
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

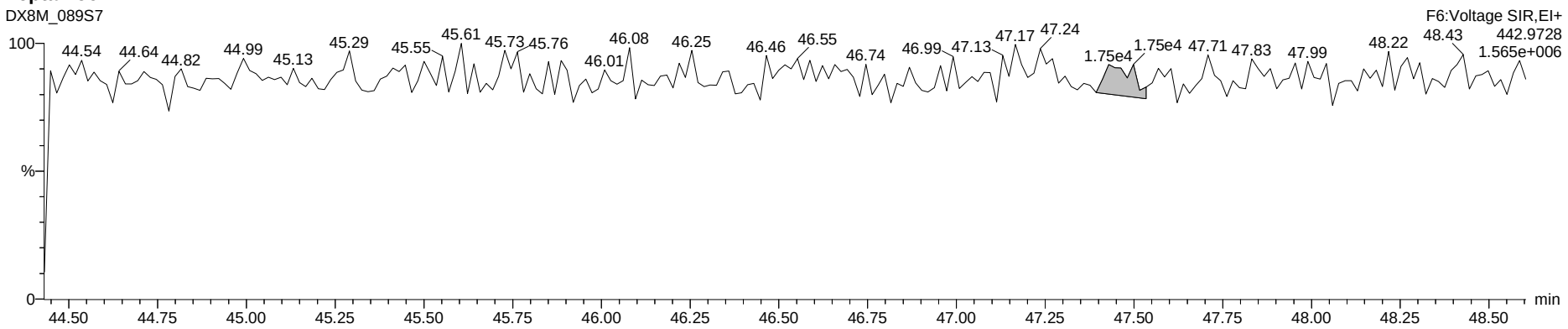
Total Hepta-Furans



Nona DPE



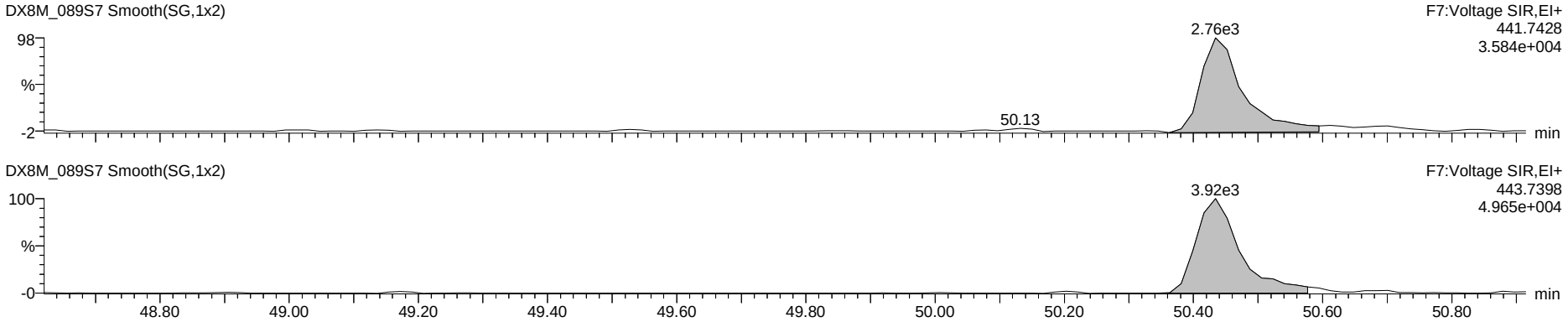
Hepta Lock



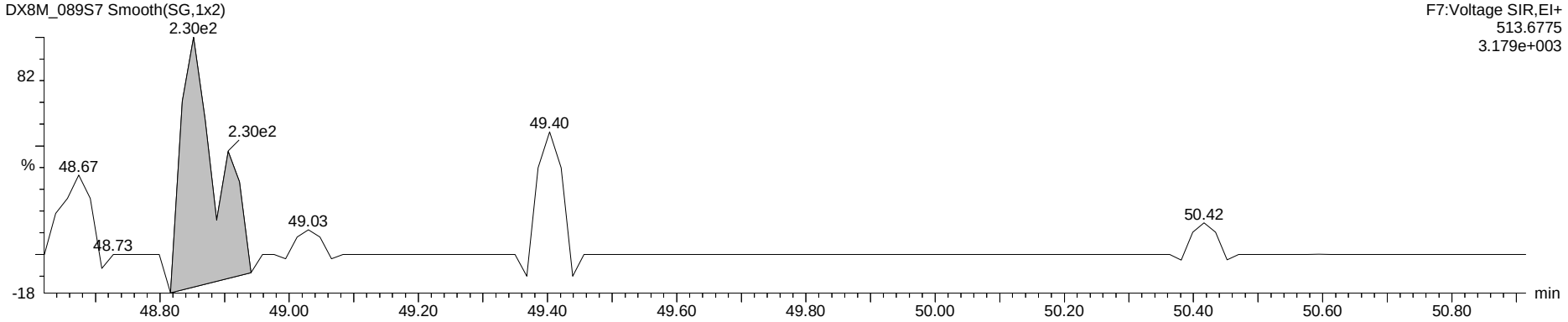
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S7, Date: 27-Jul-2018, Time: 00:15:02, ID: L29626-7,,, Description: 1,WG64557,1.0/20uL

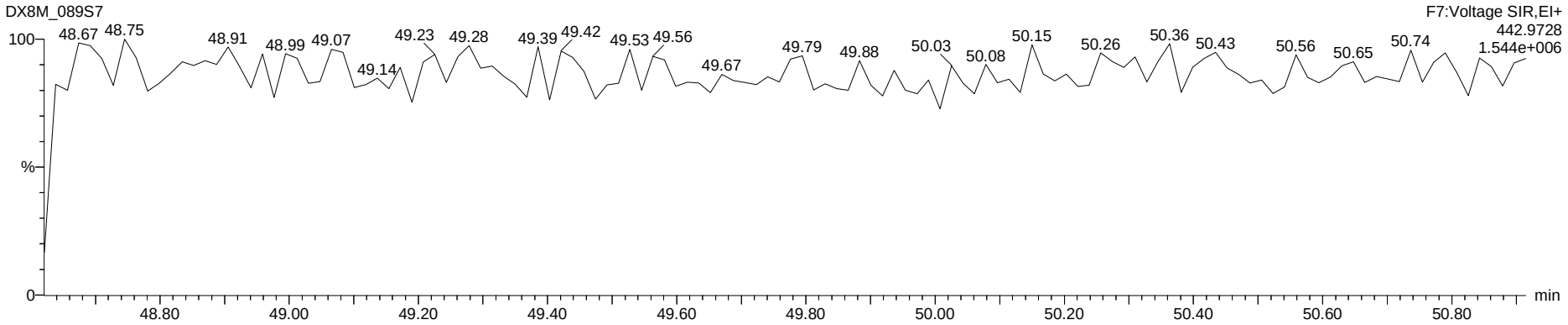
OCDF



Deca DPE



Octa Lock

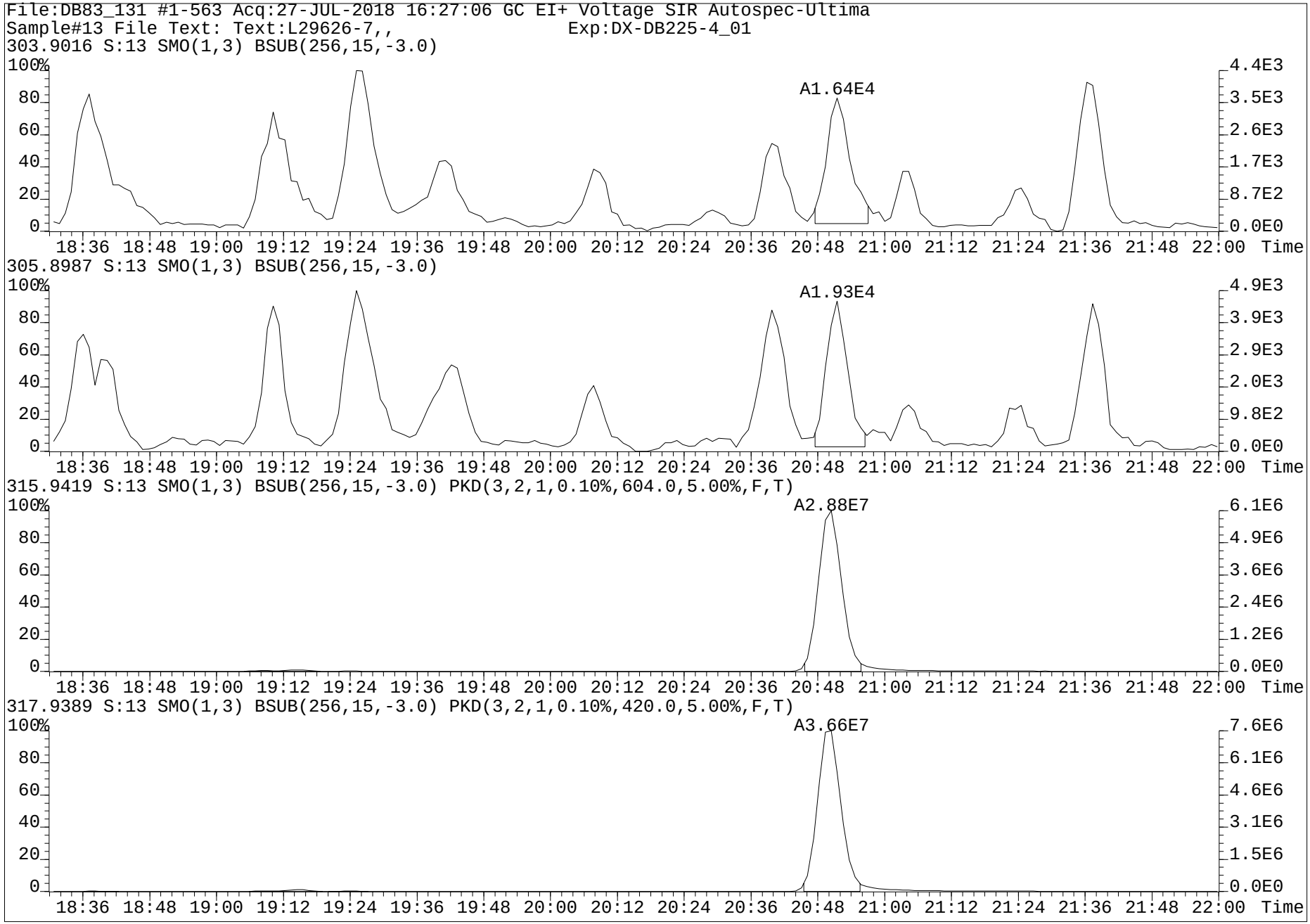


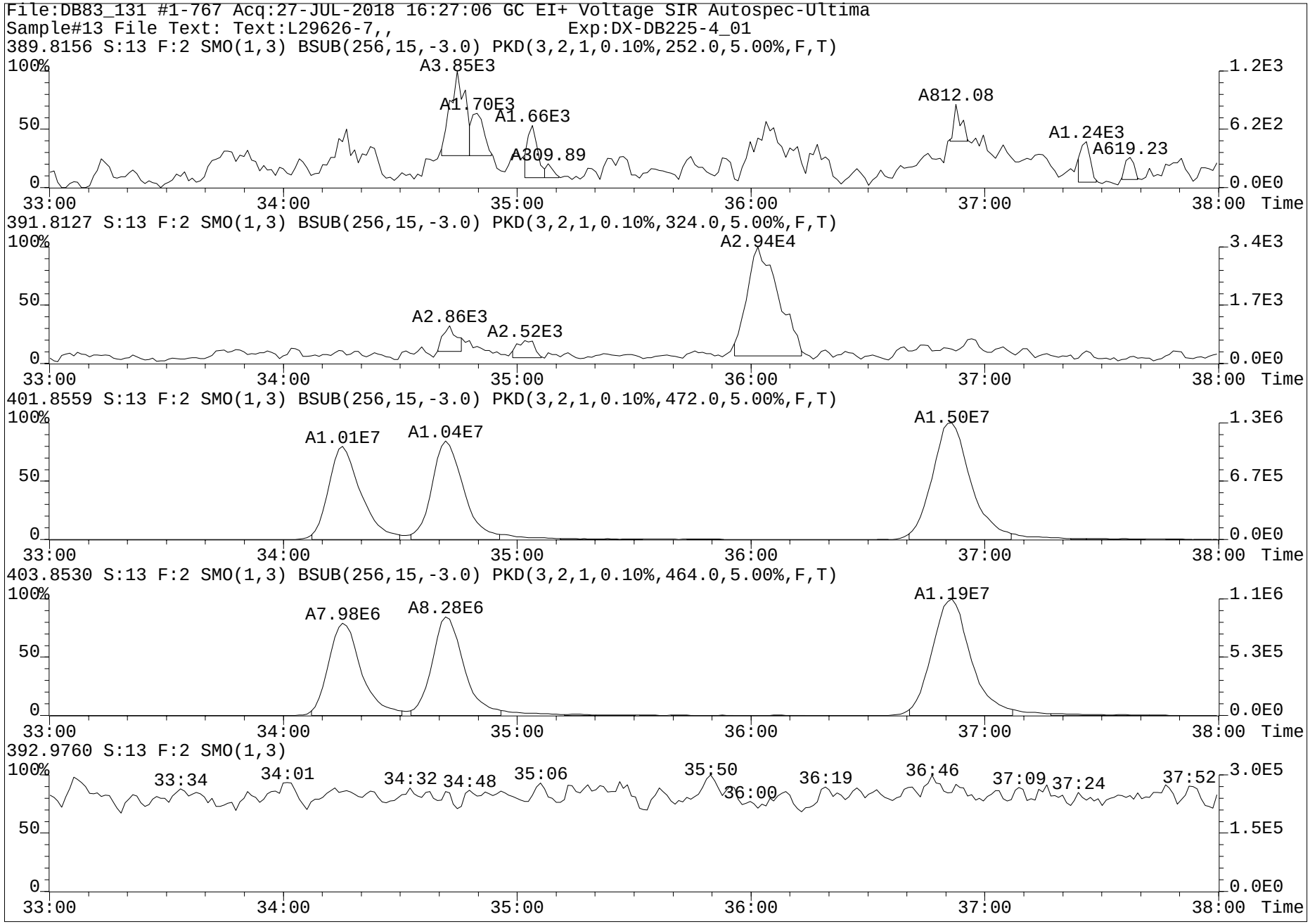
Run #18 Filename DB83_131 S: 13 I: 1 Acquired: 27-JUL-18 16:27:06 Processed: 30-JUL-18 10:41:50
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-7,, Comments: 1,WG64557,2.0/20uL
sample size: 10.020000 conc units: pg/g total toxicity: 0.01 F1: 1.0000 F2: 1.0000

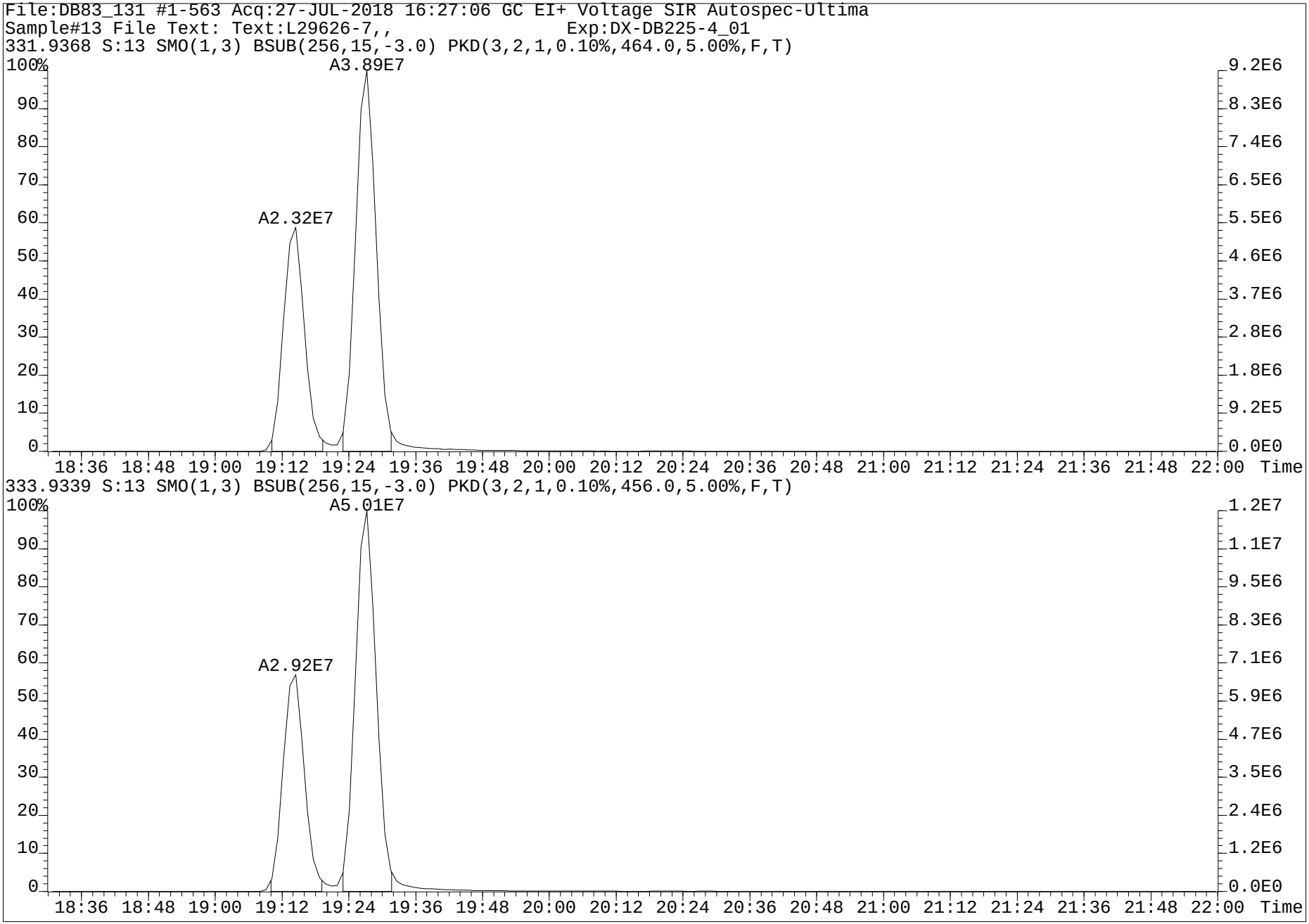
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	3.57e+04	0.85	y	20:51	0.112	0	0.0234	-	y
2	Unk	1,2,3,7,8,9-HxCDD	0	*	*	n	NotFnd	*	*	0.1597	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	6.54e+07	0.79	y	20:50	82.009	-	0.0136	41.1	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.80e+07	1.26	y	34:16	126.343	-	0.1853	63.3	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.87e+07	1.26	y	34:43	126.922	-	0.1796	63.6	n
6	RS	13C-1,2,3,4-TCDD	1	8.89e+07	0.78	y	19:27	8.020	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.70e+07	1.26	y	36:52	4.908	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

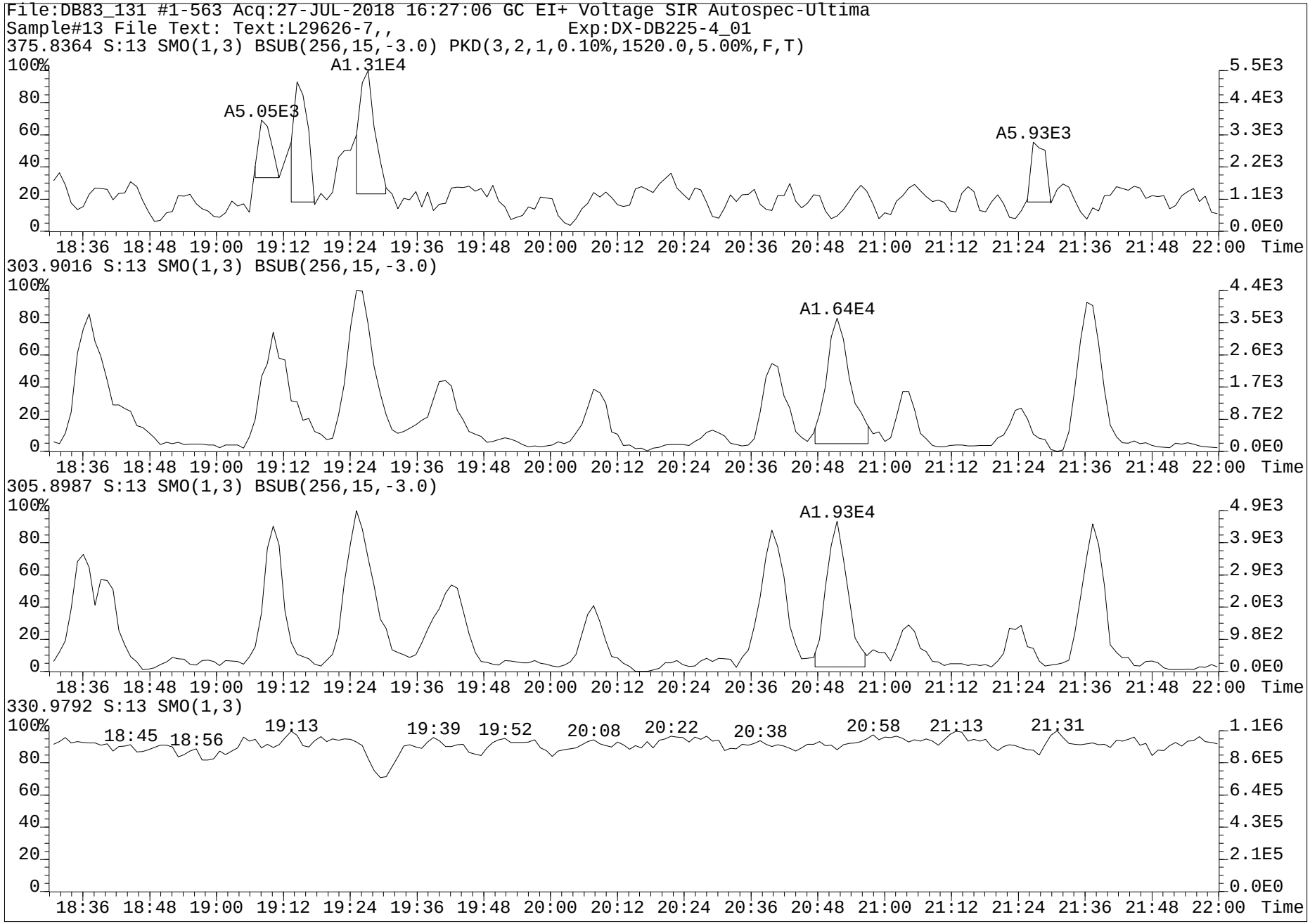
Checked by KW 31-Jul-18

pMyKB 30JUL2018


File:DB83_131 #1-563 Acq:27-JUL-2018 16:27:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text: Text:L29626-7,, Exp:DX-DB225-4_01
303.9016 S:13 SMO(1,3) BSUB(256,15,-3.0)
A1.64E4
305.8987 S:13 SMO(1,3) BSUB(256,15,-3.0)
A1.93E4
315.9419 S:13 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,604.0,5.00%,F,T)
A2.88E7
317.9389 S:13 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,420.0,5.00%,F,T)
A3.66E7
Time


File:DB83_131 #1-767 Acq:27-JUL-2018 16:27:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text: Text:L29626-7,, Exp:DX-DB225-4_01
389.8156 S:13 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,252.0,5.00%,F,T)
A3.85E3
A1.70E3
A1.66E3
A309.89
A812.08
A1.24E3
A619.23
391.8127 S:13 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,324.0,5.00%,F,T)
A2.94E4
A2.86E3
A2.52E3
401.8559 S:13 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,472.0,5.00%,F,T)
A1.01E7
A1.04E7
A1.50E7
403.8530 S:13 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,464.0,5.00%,F,T)
A7.98E6
A8.28E6
A1.19E7
392.9760 S:13 F:2 SMO(1,3)
33:34
34:01
34:32
34:48
35:06
35:50
36:00
36:19
36:46
37:09
37:24
37:52
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.2E3
6.2E2
0.0E0
3.4E3
1.7E3
1.3E6
6.7E5
1.1E6
5.3E5
3.0E5
1.5E5


File:DB83_131 #1-563 Acq:27-JUL-2018 16:27:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text: Text:L29626-7,, Exp:DX-DB225-4_01
331.9368 S:13 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,464.0,5.00%,F,T)
A3.89E7
A2.32E7
333.9339 S:13 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,456.0,5.00%,F,T)
A5.01E7
A2.92E7
Time


File:DB83_131 #1-563 Acq:27-JUL-2018 16:27:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text: Text:L29626-7,, Exp:DX-DB225-4_01
375.8364 S:13 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1520.0,5.00%,F,T)
A1.31E4
A5.05E3
A5.93E3
303.9016 S:13 SMO(1,3) BSUB(256,15,-3.0)
A1.64E4
305.8987 S:13 SMO(1,3) BSUB(256,15,-3.0)
A1.93E4
330.9792 S:13 SMO(1,3)
18:45
18:56
19:13
19:39
19:52
20:08
20:22
20:38
20:58
21:13
21:31
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.150	4.30e3	0.75	NO	25.34	0.307	0.0627		2.32e3	1.47e3
2	1,2,3,7,8-PeCDF	10.150	1.55e3	2.18	YES	33.64	0.140	0.0432		4.58e2	1.25e3
3	2,3,4,7,8-PeCDF	10.150	1.35e3	1.62	NO	35.41	0.121	0.0352		4.58e2	1.25e3
4	1,2,3,4,7,8-HxCDF	10.150	1.21e3	0.88	YES	40.79	0.130	0.0309		1.06e3	4.91e2
5	1,2,3,6,7,8-HxCDF	10.150	6.45e2	0.90	YES	40.96	0.063	0.0289		1.06e3	4.91e2
6	2,3,4,6,7,8-HxCDF	10.150	3.93e2	1.39	NO	41.91	0.040	0.0308		1.06e3	4.91e2
7	1,2,3,7,8,9-HxCDF	10.150	3.06e2	1.99	YES	42.94	0.040	0.0418		1.06e3	4.91e2
8	1,2,3,4,6,7,8-HpCDF	10.150	3.54e3	0.70	YES	45.40	0.476	0.0473		6.23e2	1.34e3
9	1,2,3,4,7,8,9-HpCDF	10.150	3.36e2	1.43	YES	47.17	0.058	0.0666		6.23e2	1.34e3
10	OCDF	10.150	5.71e3	0.93	NO	50.43	1.274	0.0232		5.11e2	0.00e0
11	2,3,7,8-TCDD	10.150	1.30e3	0.62	YES	26.56	0.113	0.0559		8.59e2	1.81e3
12	1,2,3,7,8-PeCDD	10.150	7.89e2	0.43	YES	36.26	0.104	0.0402		5.20e2	7.78e2
13	1,2,3,4,7,8-HxCDD	10.150	5.56e2	1.92	YES	42.19	0.081	0.0623		1.02e3	1.45e3
14	1,2,3,6,7,8-HxCDD	10.150	1.60e3	1.18	NO	42.33	0.212	0.0648		1.02e3	1.45e3
15	1,2,3,7,8,9-HxCDD	10.150	9.53e2	1.65	YES	42.75	0.132	0.0632		1.02e3	1.45e3
16	1,2,3,4,6,7,8-HpCDD	10.150	1.19e4	1.07	NO	46.76	2.408	0.0692		7.79e2	1.08e3
17	OCDD	10.150	6.90e4	0.88	NO	50.35	18.527	0.2559		2.78e3	1.91e3
18	13C-2,3,7,8-TCDF	10.150	3.02e6	0.70	NO	25.31	109.201	0.1113	55.4	9.81e3	3.67e3
19	13C-1,2,3,7,8-PeCDF	10.150	2.36e6	1.43	NO	33.64	118.404	0.1663	60.1	8.15e3	6.38e3
20	13C-2,3,4,7,8-PeCDF	10.150	2.34e6	1.35	NO	35.40	122.018	0.1724	61.9	8.15e3	6.38e3
21	13C-1,2,3,4,7,8-HxCDF	10.150	1.65e6	0.53	NO	40.77	100.272	0.2647	50.9	1.17e4	1.00e4
22	13C-1,2,3,6,7,8-HxCDF	10.150	1.91e6	0.54	NO	40.94	108.909	0.2478	55.3	1.17e4	1.00e4
23	13C-2,3,4,6,7,8-HxCDF	10.150	1.69e6	0.52	NO	41.87	107.592	0.2774	54.6	1.17e4	1.00e4
24	13C-1,2,3,7,8,9-HxCDF	10.150	1.50e6	0.54	NO	42.92	97.057	0.2812	49.3	1.17e4	1.00e4
25	13C-1,2,3,4,6,7,8-HpCDF	10.150	1.20e6	0.44	NO	45.38	91.392	0.1795	46.4	5.23e3	6.53e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.150	9.18e5	0.46	NO	47.15	89.780	0.2301	45.6	5.23e3	6.53e3
27	13C-2,3,7,8-TCDD	10.150	2.04e6	0.77	NO	26.54	118.798	0.1225	60.3	3.96e3	5.27e3
28	13C-1,2,3,7,8-PeCDD	10.150	1.45e6	0.67	NO	36.20	128.755	0.0931	65.3	2.83e3	1.76e3
29	13C-1,2,3,4,7,8-HxCDD	10.150	1.35e6	1.24	NO	42.16	106.395	0.2087	54.0	4.45e3	8.76e3
30	13C-1,2,3,6,7,8-HxCDD	10.150	1.59e6	1.19	NO	42.30	118.896	0.1973	60.3	4.45e3	8.76e3
31	13C-1,2,3,4,6,7,8-HpCDD	10.150	9.76e5	0.97	NO	46.74	93.144	0.1501	47.3	4.16e3	3.69e3
32	13C-OCDD	10.150	1.44e6	0.86	NO	50.33	156.371	0.3894	39.7	0.00e0	1.79e4
33	13C-1,2,3,4-TCDD	10.150	3.37e6	0.79	NO	26.20	14.687	0.0092	7.5	3.96e3	5.27e3
34	13C-1,2,3,7,8,9-HxCDD	10.150	2.54e6	1.19	NO	42.72	17.503	0.0182	8.9	4.45e3	8.76e3
35	37Cl-2,3,7,8-TCDD	10.150	5.11e4			26.56	2.684	0.0000	68.1		0.00e0
36	Total Tetra-Furans	10.150					1.621	0.0627			1.47e3
37	Total Tetra-Dioxins	10.150					0.543	0.0559			1.81e3
38	Total Penta-Furans	10.150					0.737	0.0395			1.25e3
39	Total Penta-Dioxins	10.150					0.424	0.0402			7.78e2
40	Total Hexa-Furans	10.150					1.255	0.0315			4.91e2
41	Total Hexa-Dioxins	10.150					1.573	0.0612			1.45e3
42	Total Hepta-Furans	10.150					1.944	0.0563			1.34e3
43	Total Hepta-Dioxins	10.150					6.354	0.0692			1.08e3
44	Hexa DPE	1.000	7.25e-1			24.33					0.00e0
45	Hepta DPE	1.000	4.60e1			35.84					0.00e0
46	Octa DPE	1.000	4.18e2			41.35					4.56e-2
47	Nona DPE	1.000	1.57e2			46.96					1.65e-1
48	Deca DPE	1.000	5.00e1			49.81					0.00e0
49	Tetra Lock	1.000									9.26e4
50	Penta Lock	1.000	1.00e4			29.33					1.58e5
51	Hexa Lock	1.000	8.97e4			38.99					3.49e5
52	Hepta Lock	1.000									2.15e5
53	Octa Lock	1.000	2.73e4			48.83					2.95e5
54	13C-Tetra-Furans	10.150					109.201	0.1113			3.67e3
55	13C-Tetra-Dioxins	10.150					133.485	0.1317			5.27e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

checked by
JW 31-JUL-2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	24.33	0.546	YES	0.088
2	23.90	0.644	YES	0.106
3	23.75	0.585	YES	0.033
4	23.49	1.132	YES	0.179
5	23.02	0.766	NO	0.152
6	22.63	0.841	NO	0.269
7	22.31	0.759	NO	0.108
8	22.04	0.705	NO	0.030
9	21.47	2.294	YES	0.014
10	28.29	0.721	NO	0.013
11	26.24	0.812	NO	0.027
12	25.99	0.693	NO	0.056
13	25.34	0.747	NO	0.307
14	25.01	2.295	YES	0.032
15	24.67	0.639	YES	0.128
16	26.42	0.781	NO	0.032
17	24.22	1.030	YES	0.047

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.45	0.462	YES	0.088
2	23.02	0.684	NO	0.093
3	28.35	0.692	NO	0.026
4	27.19	1.724	YES	0.012
5	26.56	0.617	YES	0.113
6	26.43	0.388	YES	0.030
7	25.33	3.019	YES	0.078
8	24.70	1.088	YES	0.074
9	23.83	1.943	YES	0.028

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.96	1.169	YES	0.175
2	31.64	0.881	YES	0.205
3	34.33	2.102	YES	0.030
4	33.64	2.175	YES	0.140
5	32.99	3.147	YES	0.065
6	35.41	1.624	NO	0.121

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.12	0.521	NO	0.209
2	34.64	0.621	NO	0.052
3	34.00	0.586	NO	0.036
4	37.78	0.257	YES	0.017
5	36.26	0.426	YES	0.104
6	38.05	0.200	YES	0.005

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	39.32	1.256	NO	0.339
2	39.06	1.396	NO	0.107
3	41.91	1.390	NO	0.040
4	41.72	1.119	NO	0.031
5	41.43	3.202	YES	0.016
6	40.96	0.897	YES	0.063
7	40.79	0.877	YES	0.130
8	40.15	1.613	YES	0.465
9	39.86	3.916	YES	0.014
10	43.08	1.746	YES	0.009
11	42.94	1.992	YES	0.040

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	41.47	0.352	YES	0.056
2	41.30	1.719	YES	0.322
3	40.92	3.125	YES	0.433
4	40.11	1.331	NO	0.337
5	42.75	1.654	YES	0.132
6	42.33	1.180	NO	0.212
7	42.19	1.921	YES	0.081

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.90	1.092	NO	1.410
2	45.40	0.697	YES	0.476
3	47.17	1.435	YES	0.058

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.76	1.073	NO	2.408
2	45.85	1.174	NO	3.946

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.31	0.704	NO	109.201

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.765	NO	118.798
2	26.20	0.786	NO	14.687

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.64	1.434	NO	118.404
2	35.40	1.347	NO	122.018

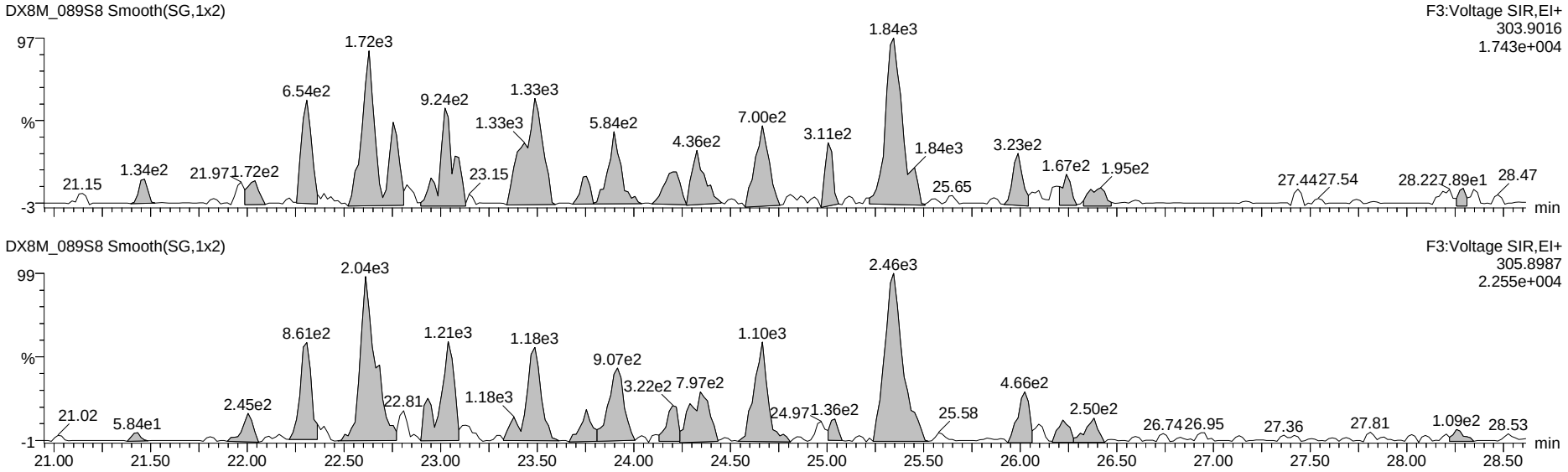
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

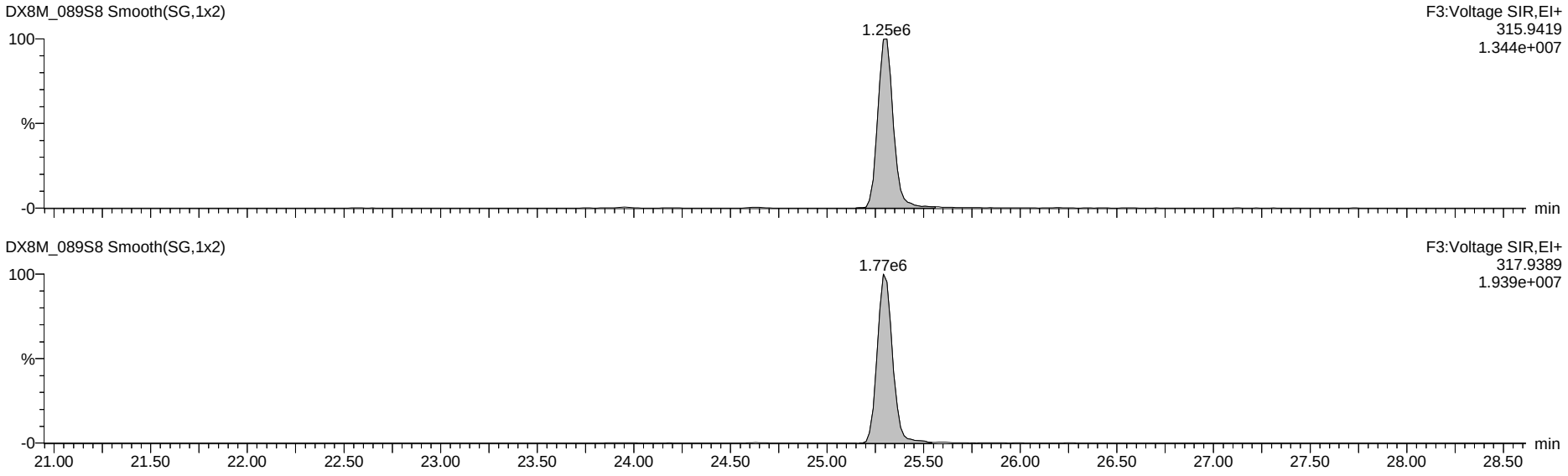
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



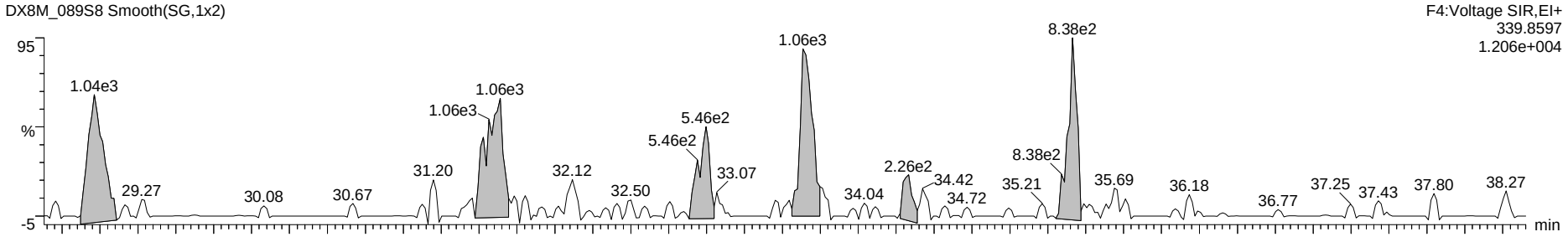
13C-Tetra-Furans

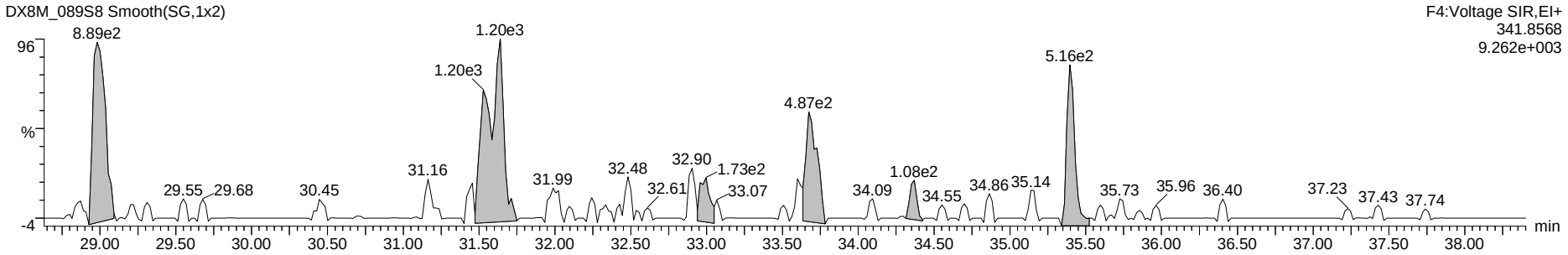


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

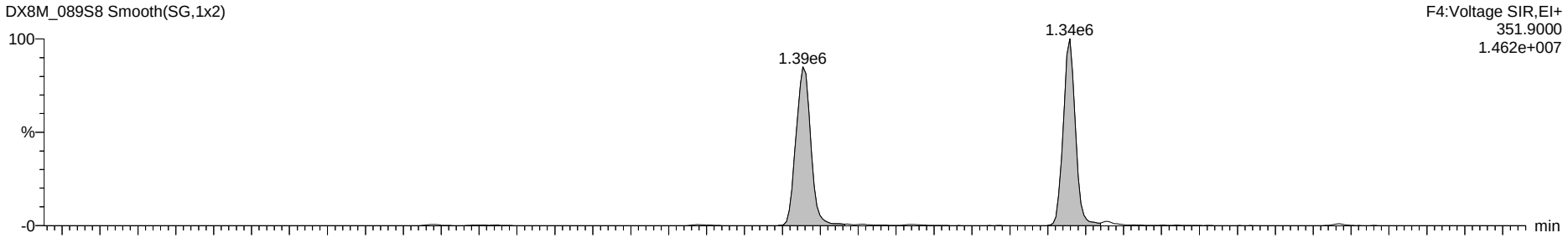
Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

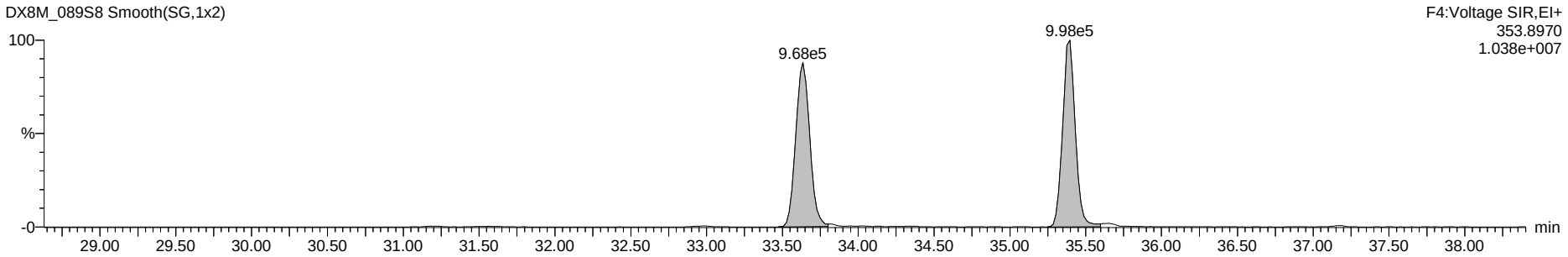
Total Penta-Furans





13C-Penta-Furans

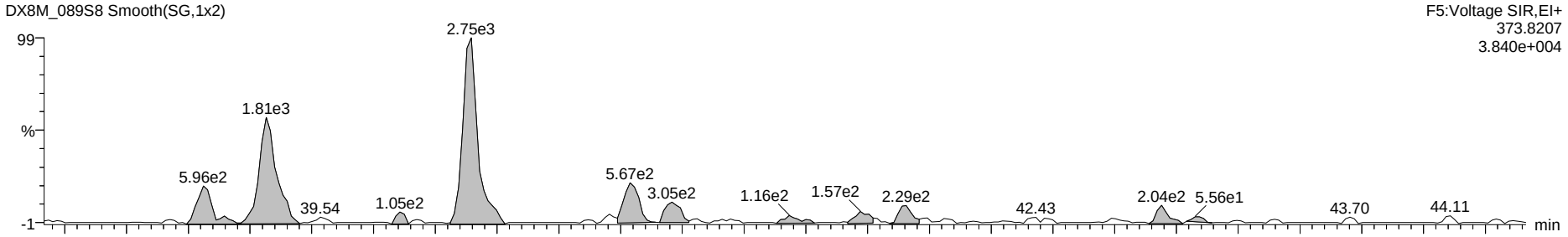


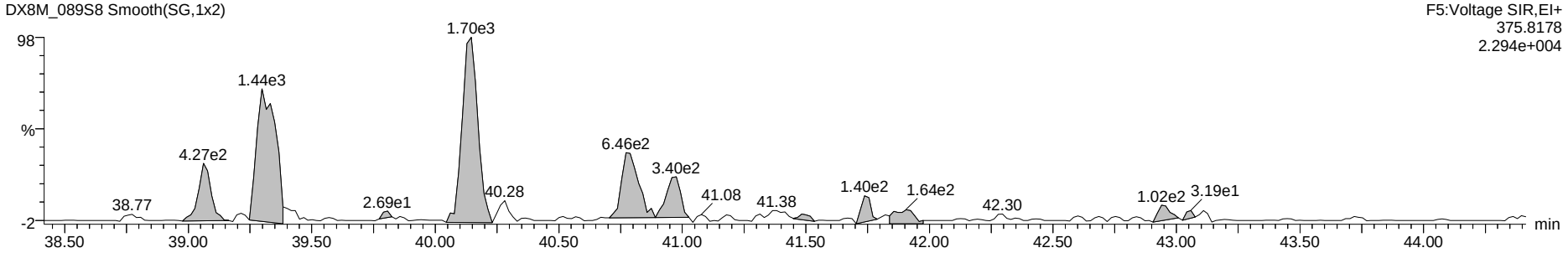


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

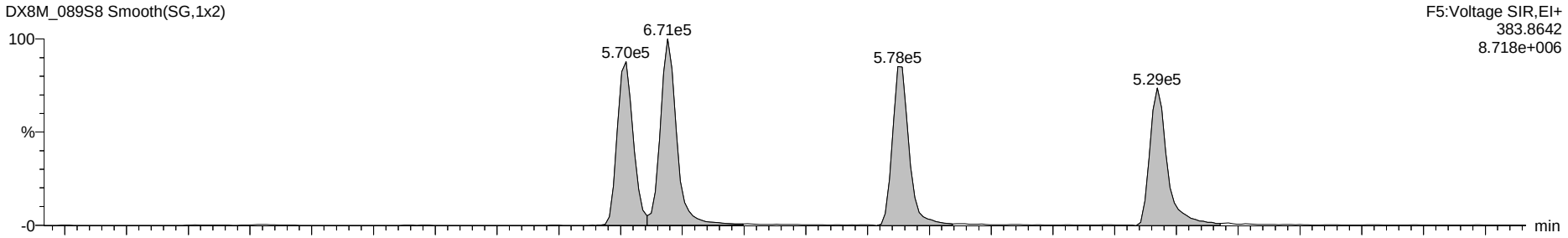
Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

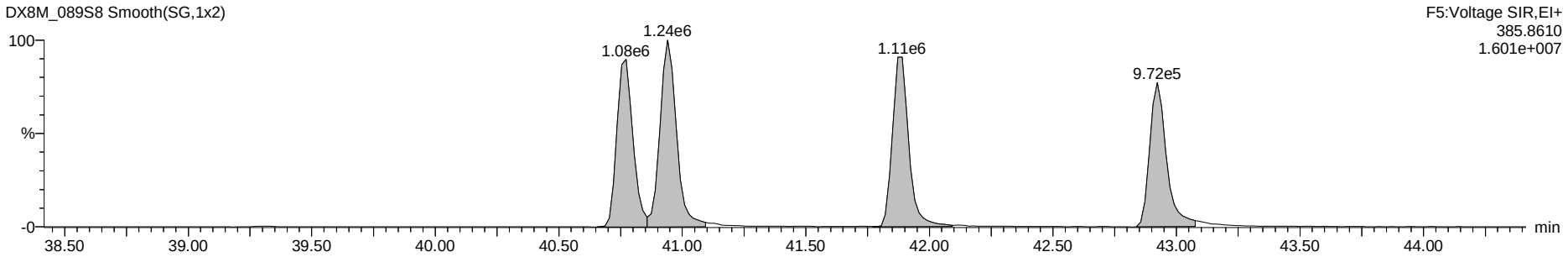
Total Hexa-Furans





13C-Hexa-Furans

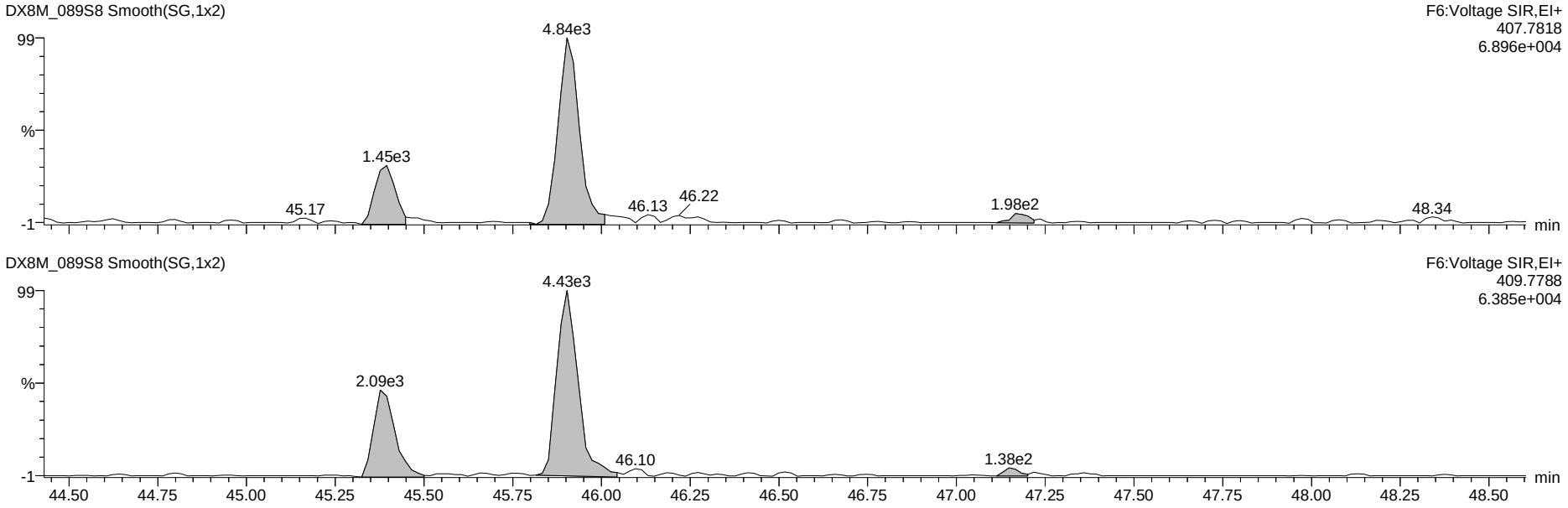




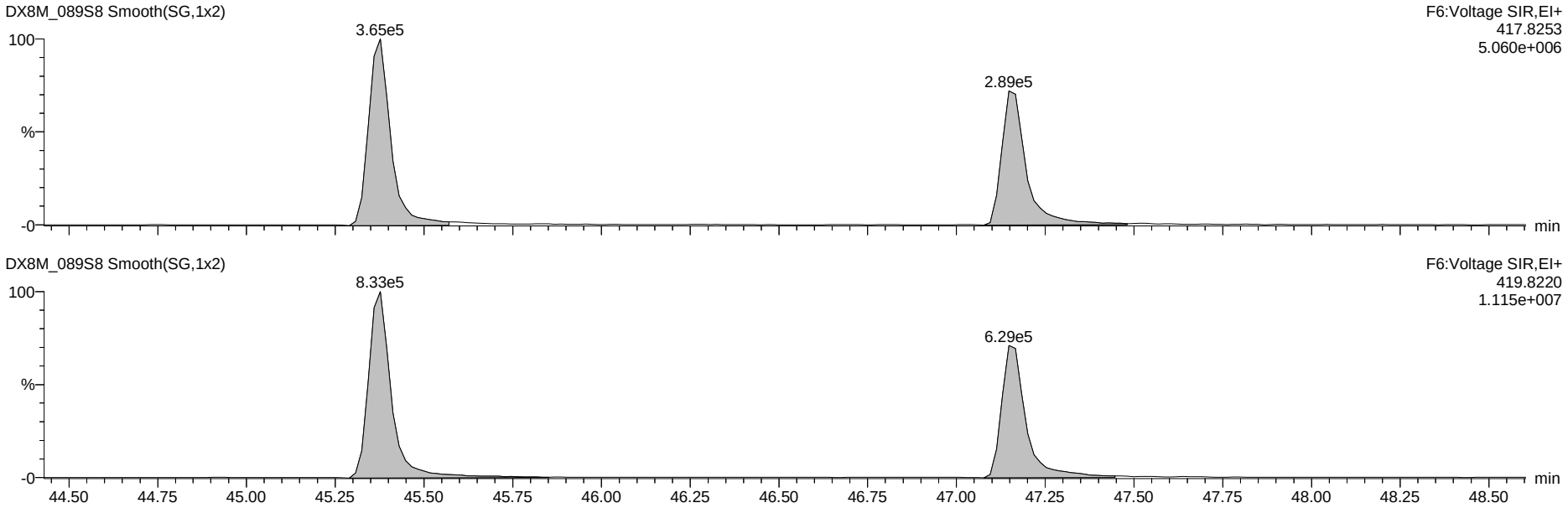
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



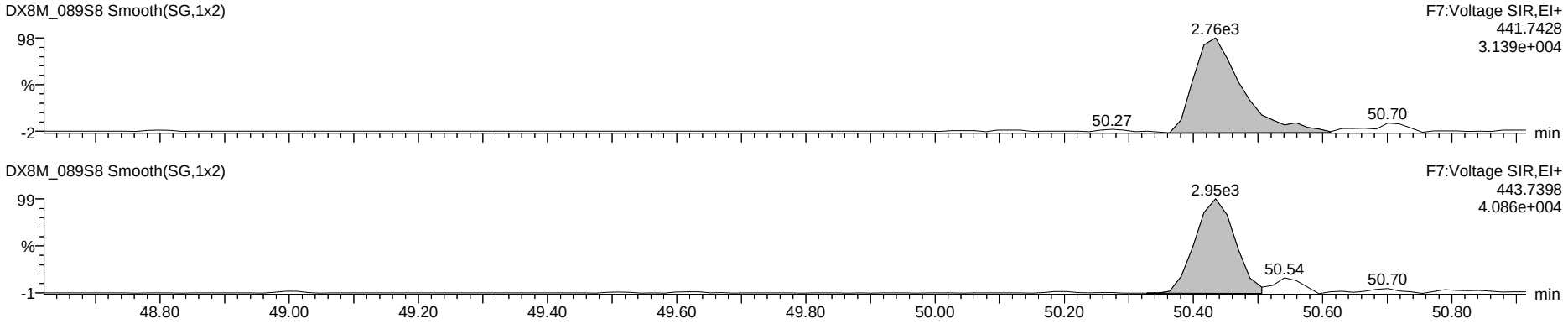
13C-Hepta-Furans



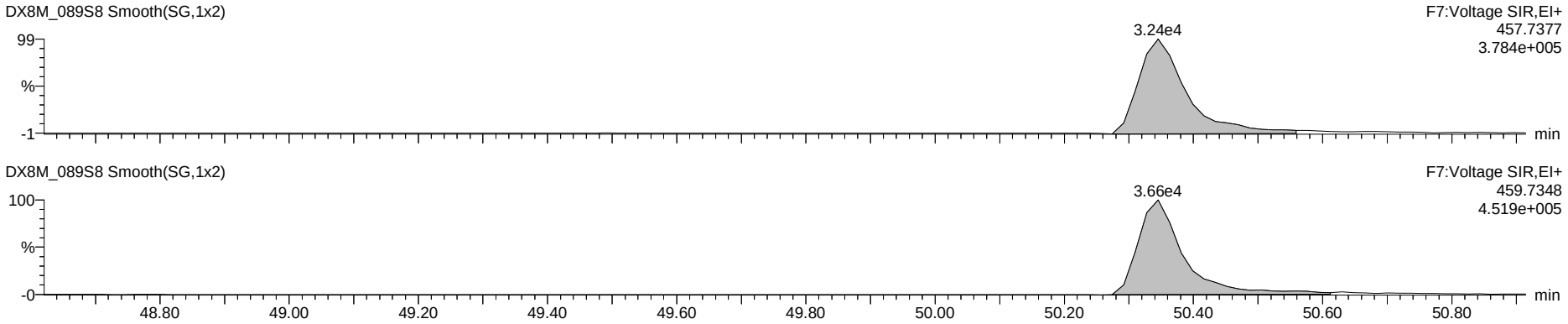
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

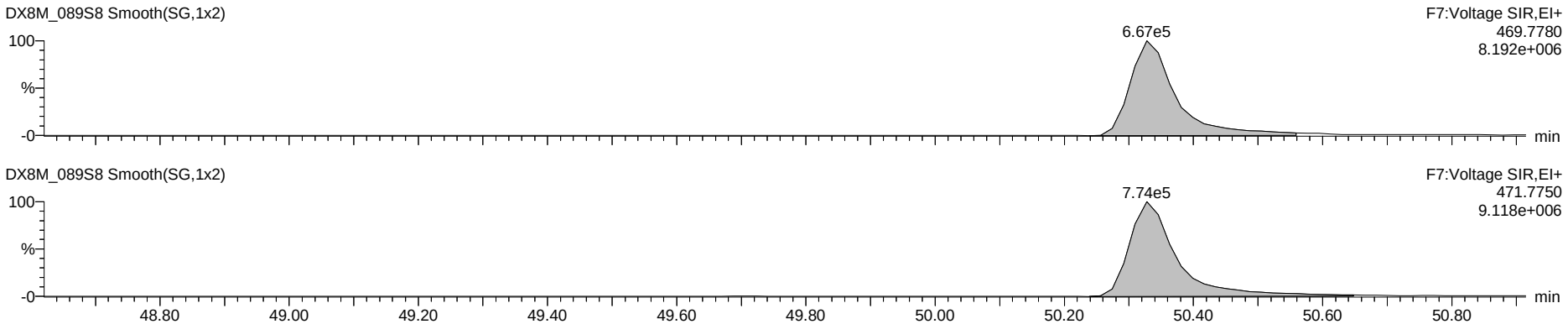
OCDF



OCDD



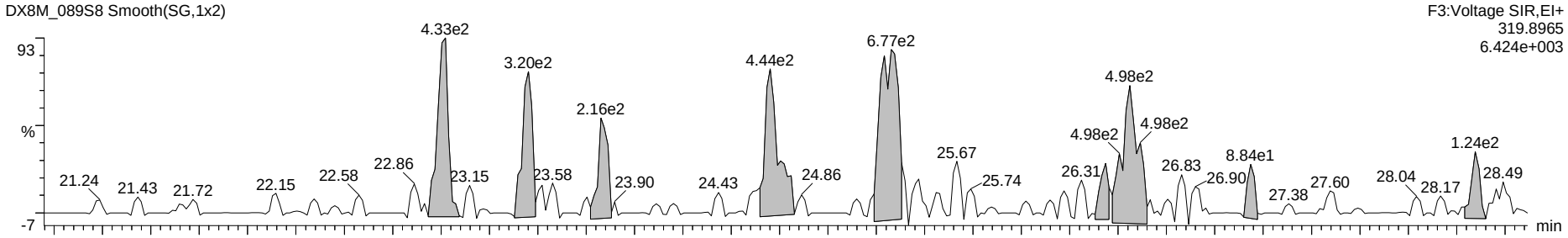
13C-OCDD

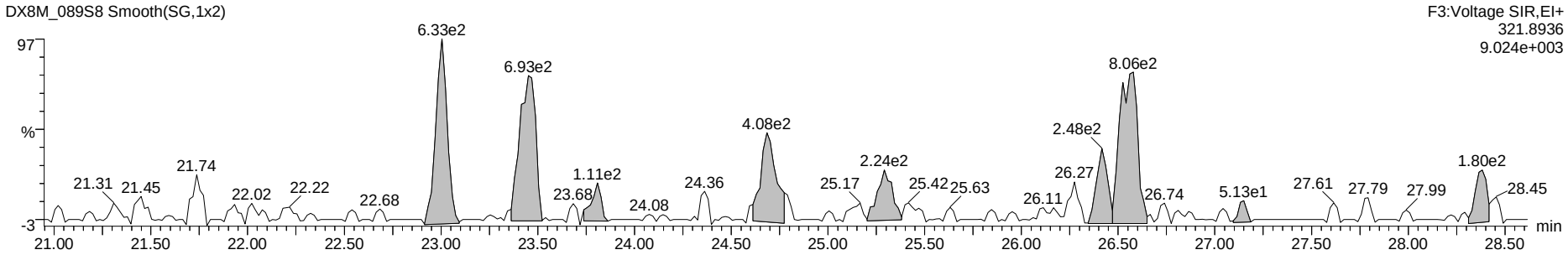


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

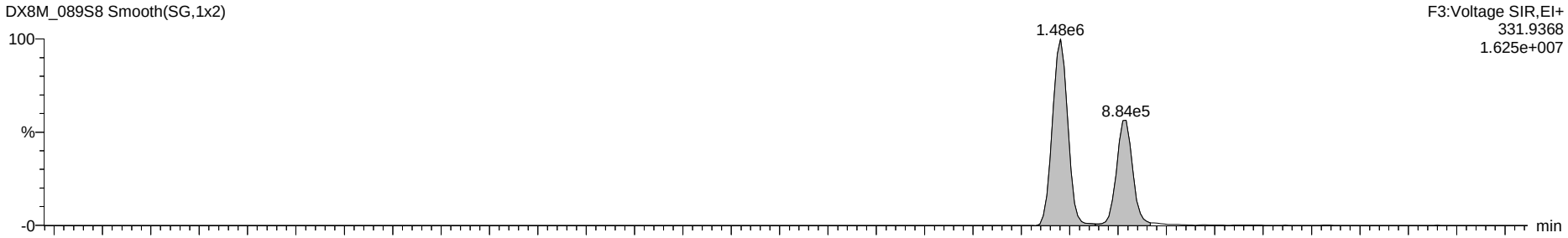
Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

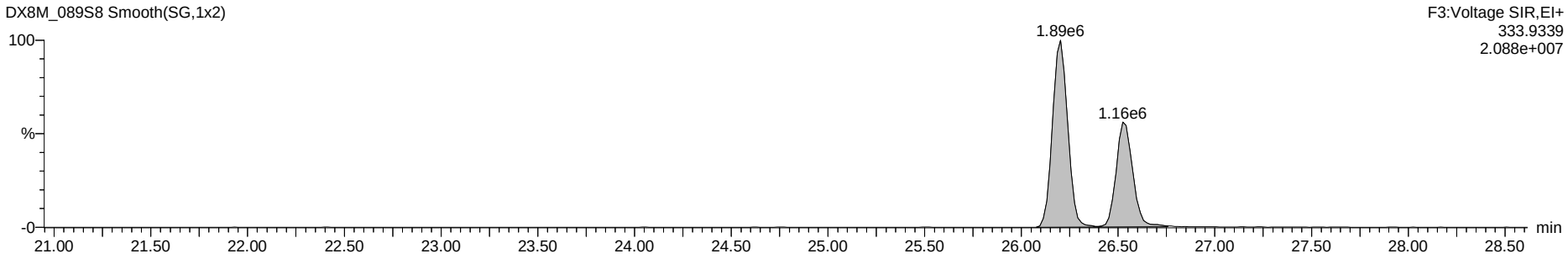
Total Tetra-Dioxins





13C-Tetra-Dioxins

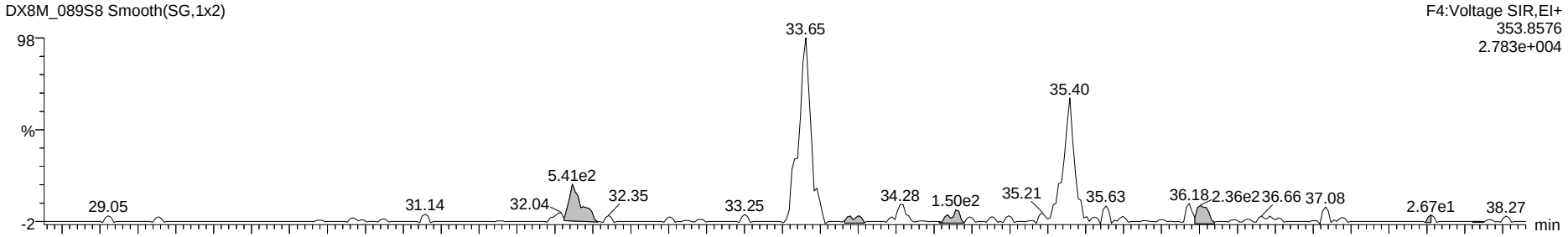


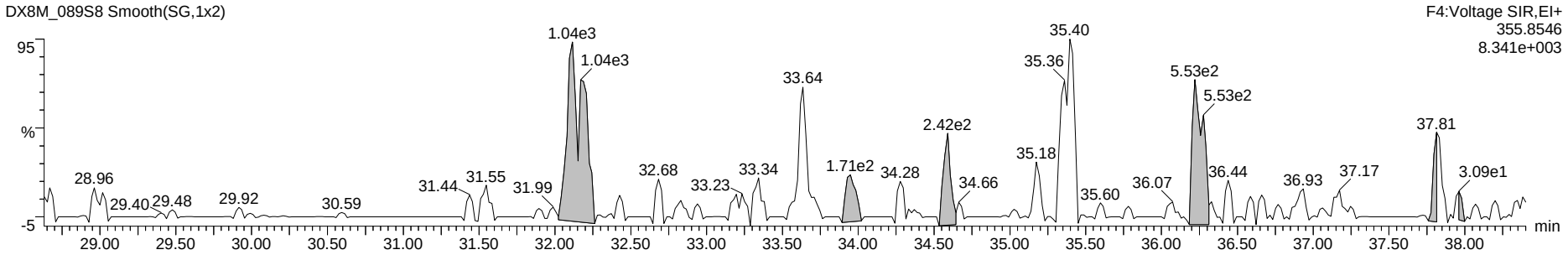


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

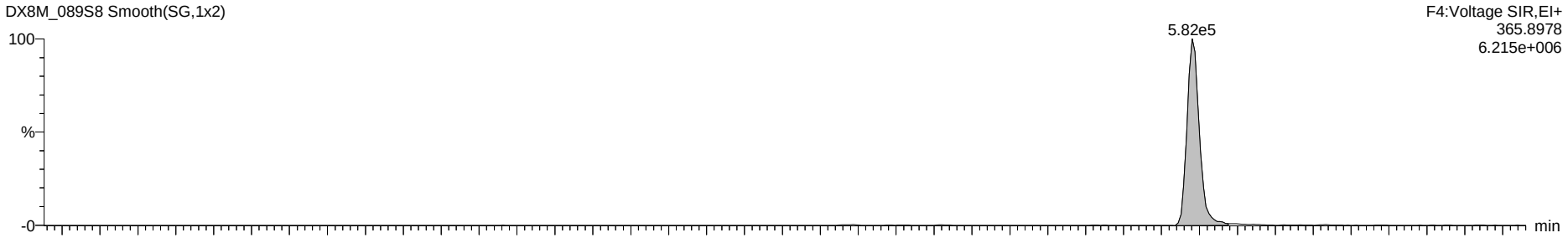
Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

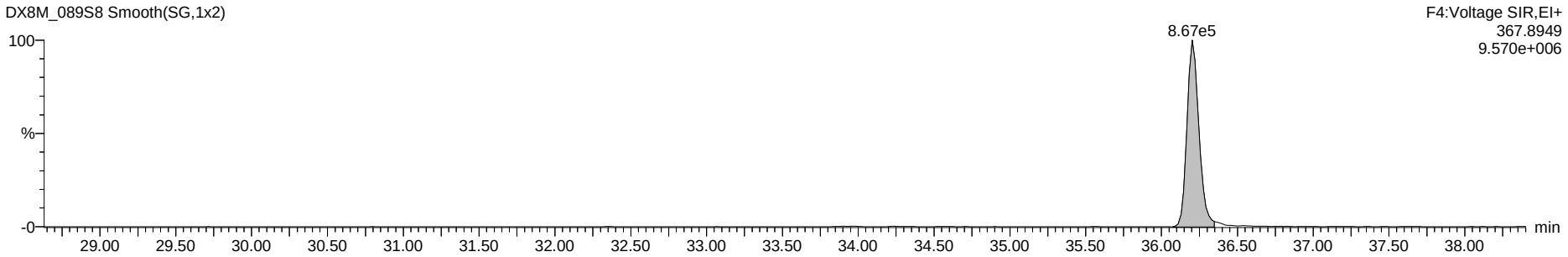
Total Penta-Dioxins





13C-Penta-Dioxins

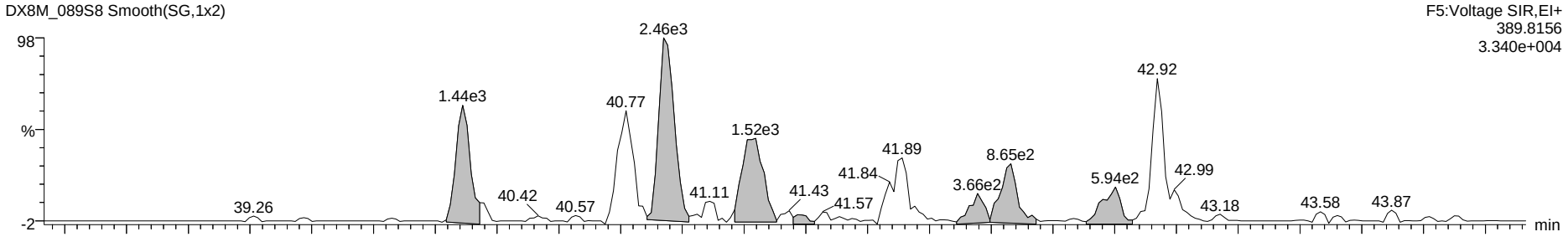


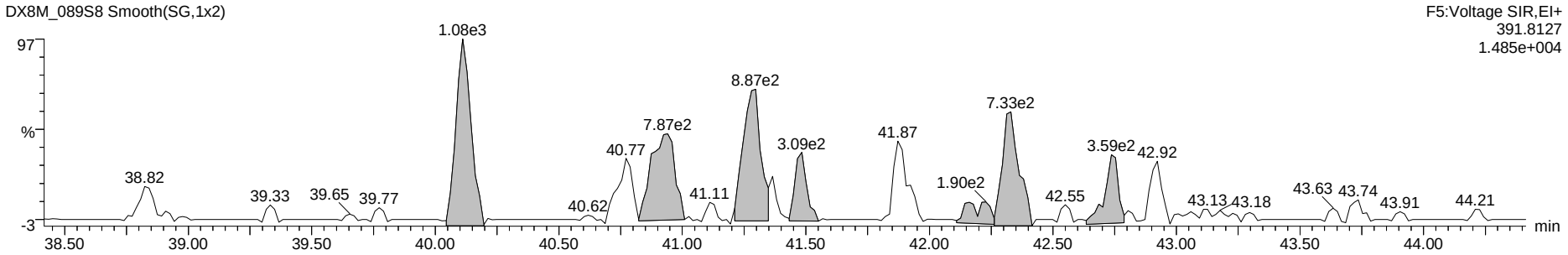


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

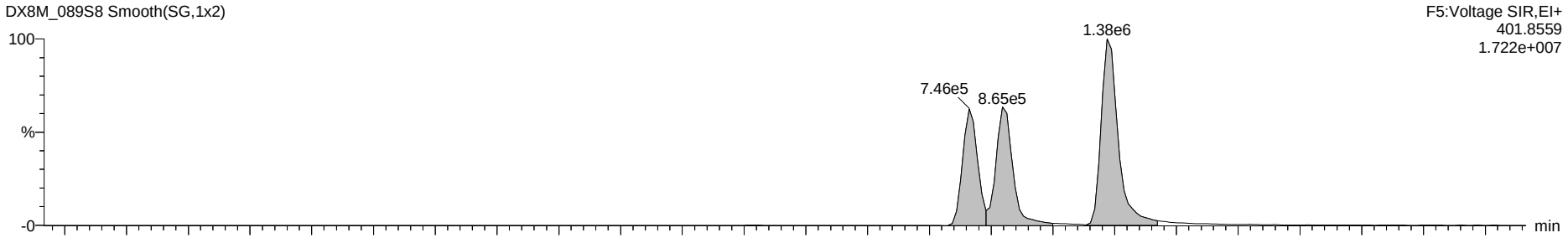
Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

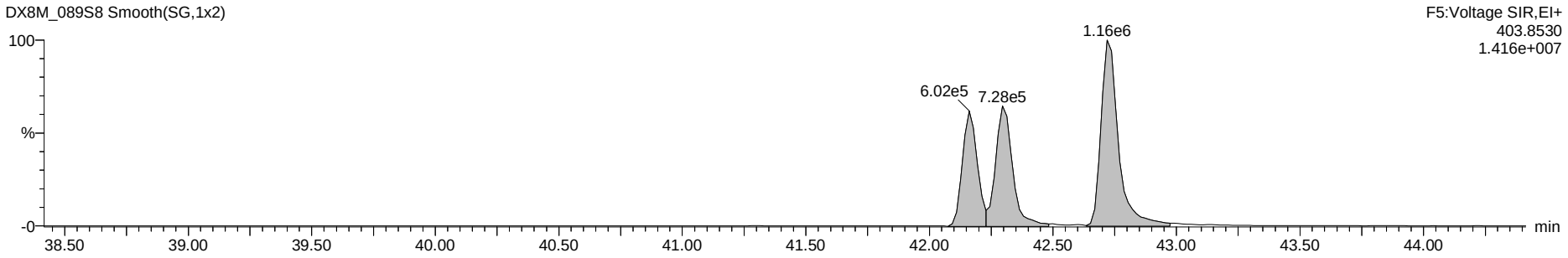
Total Hexa-Dioxins





13C-Hexa-Dioxins

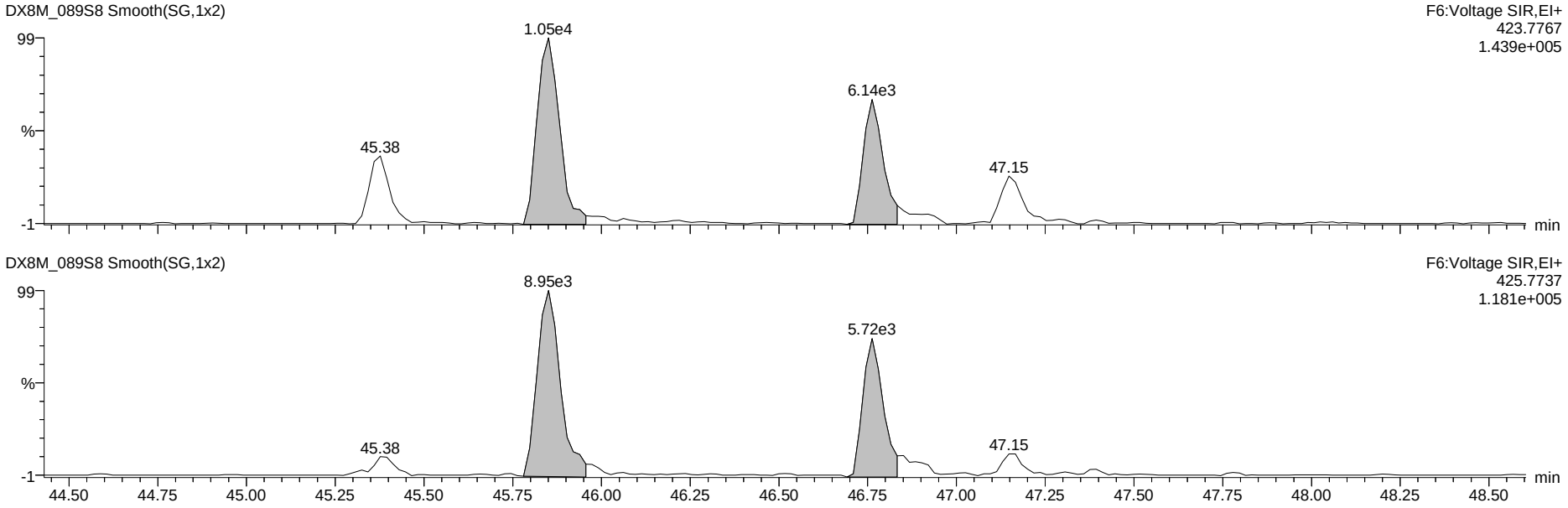




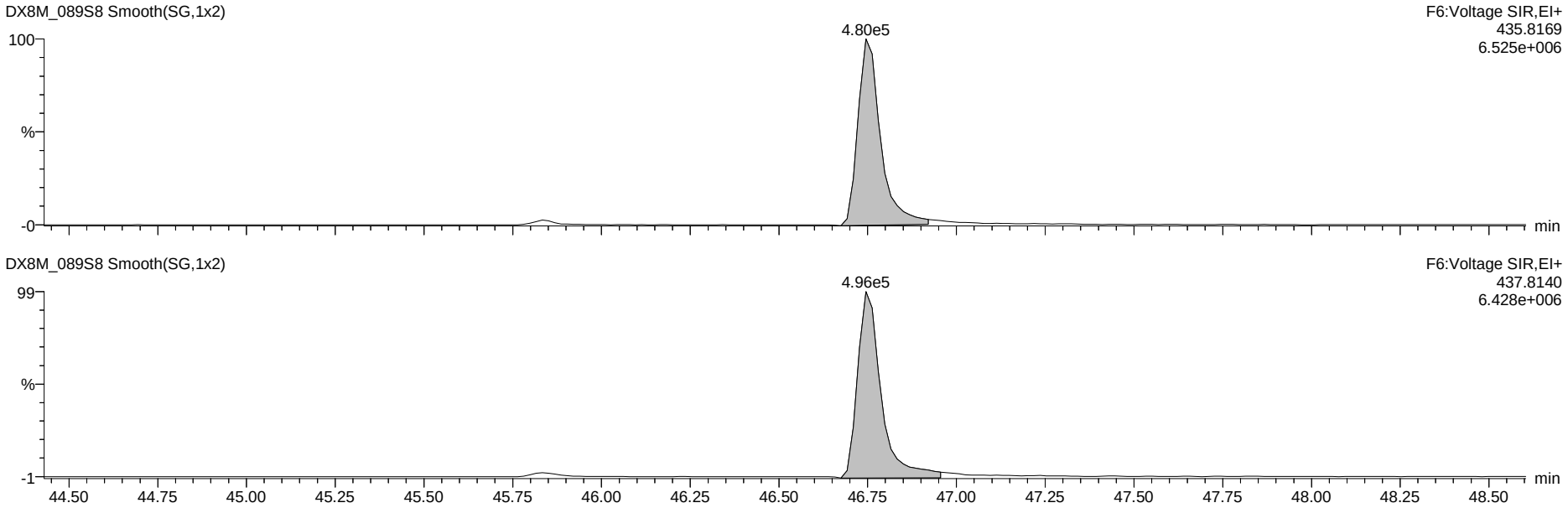
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



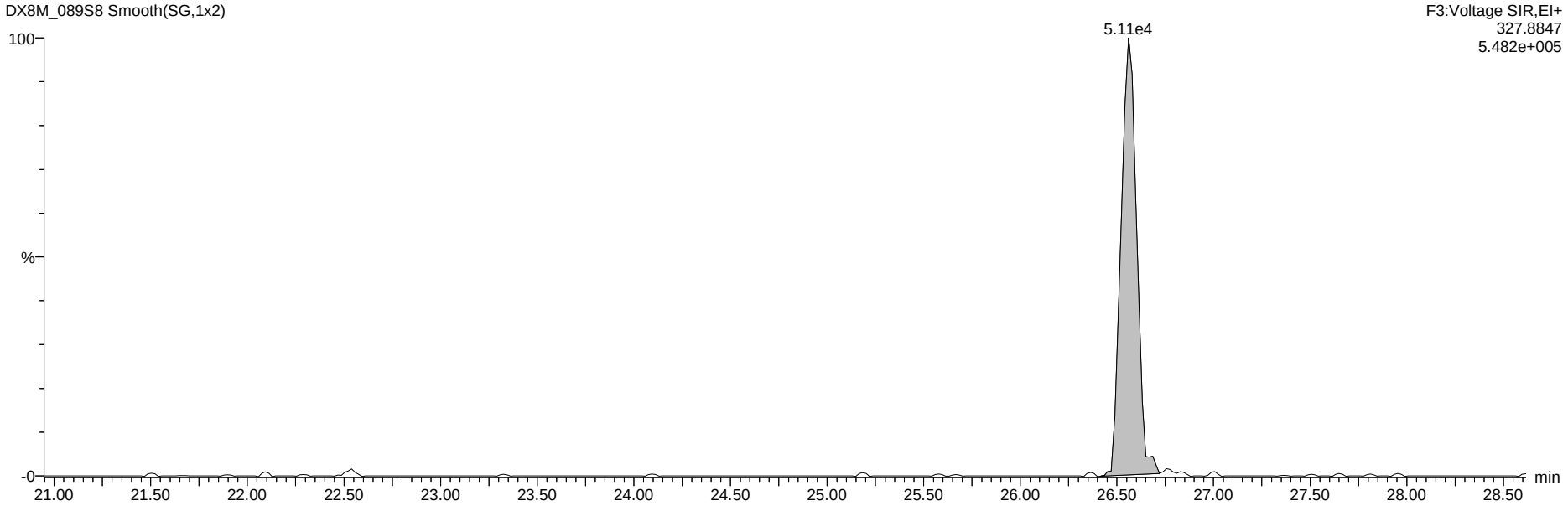
13C-Hepta-Dioxins



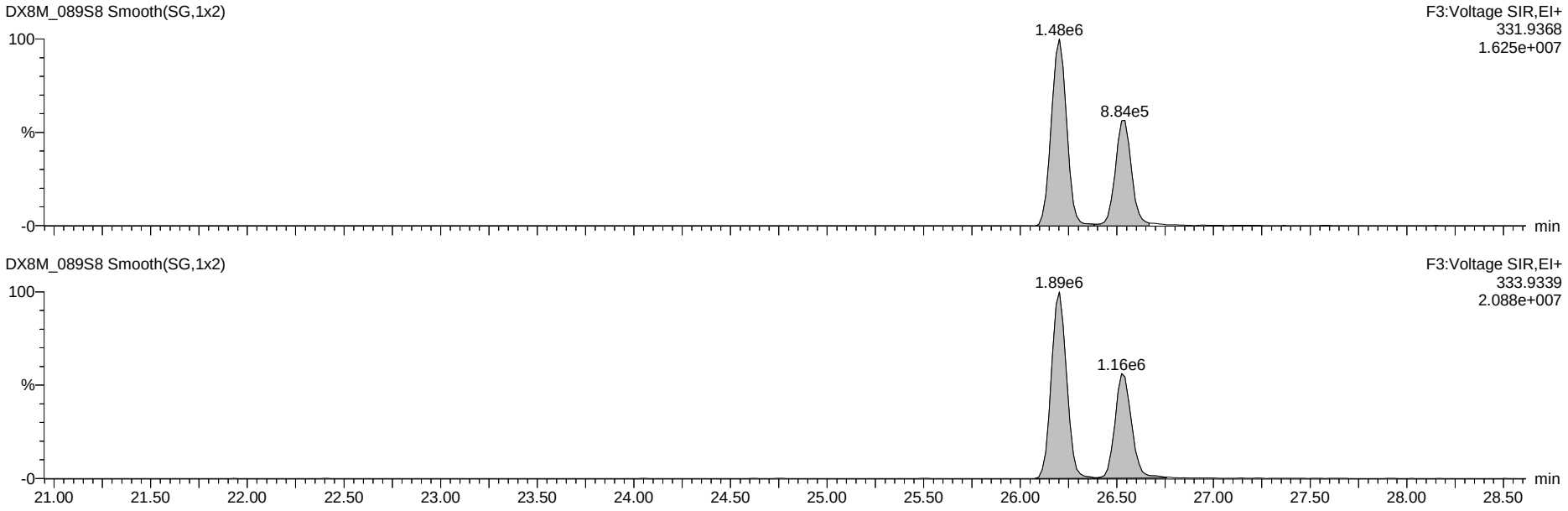
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



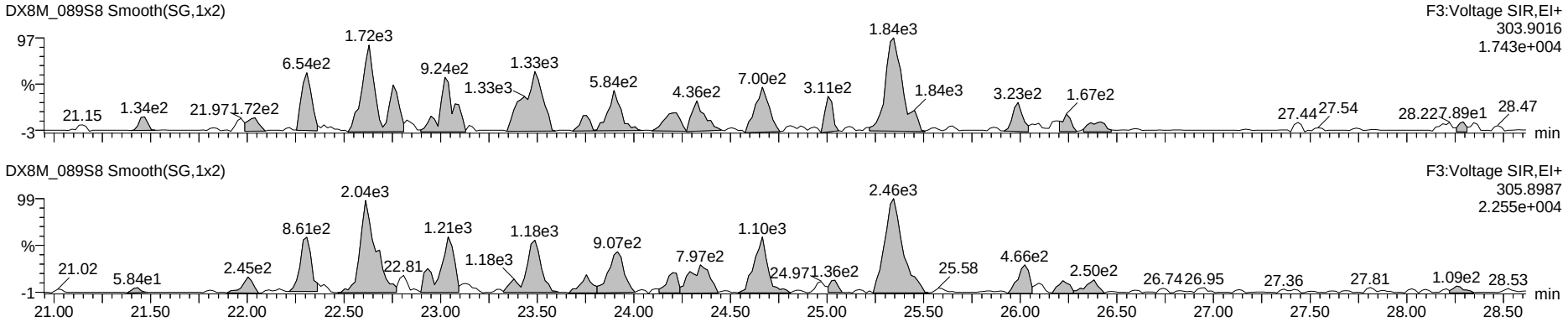
13C-Tetra-Dioxins



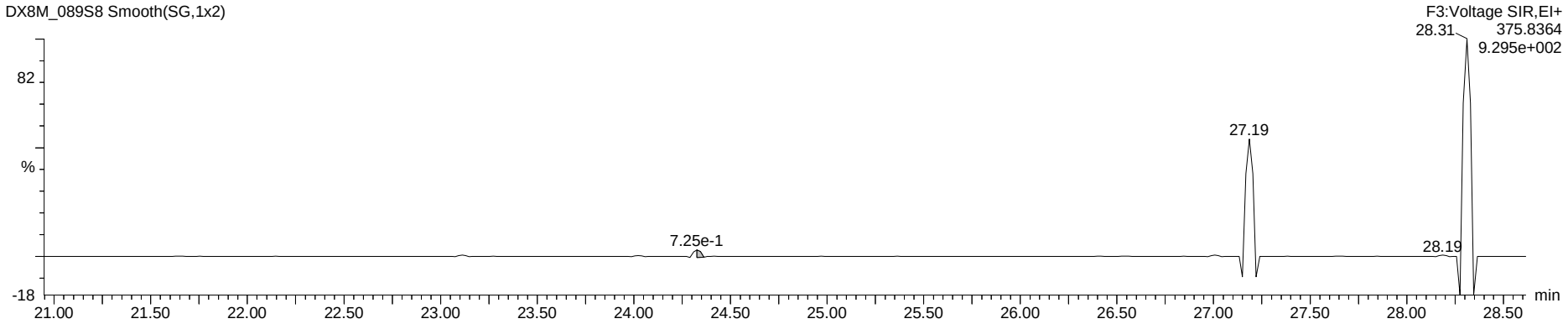
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

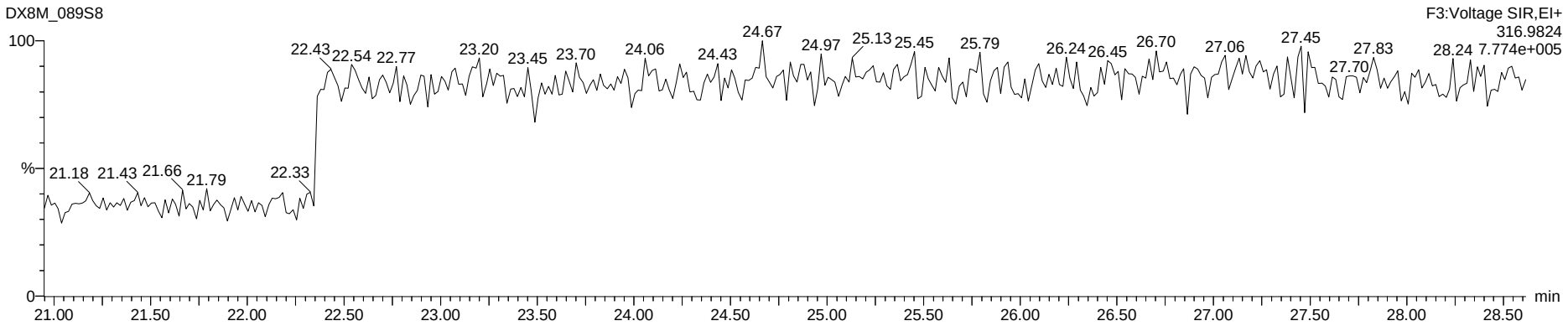
Total Tetra-Furans



Hexa DPE



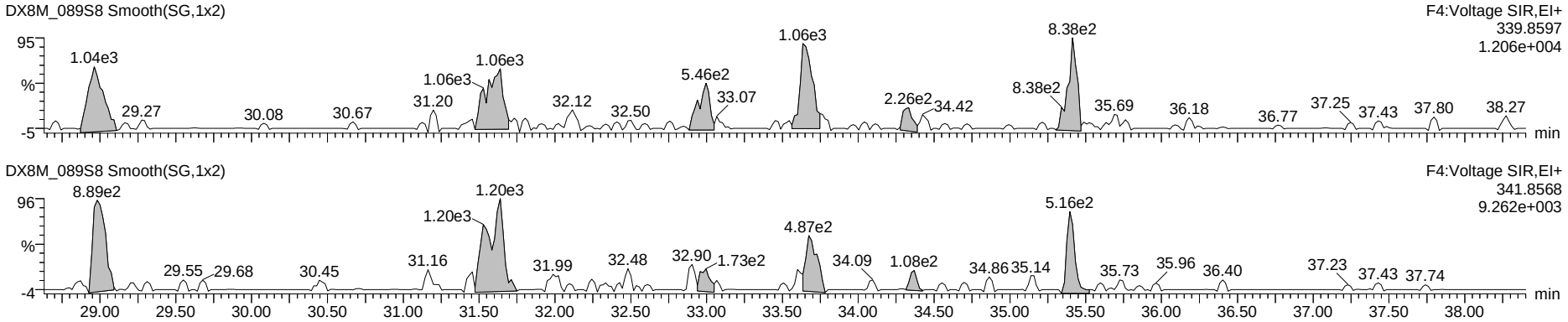
Tetra Lock



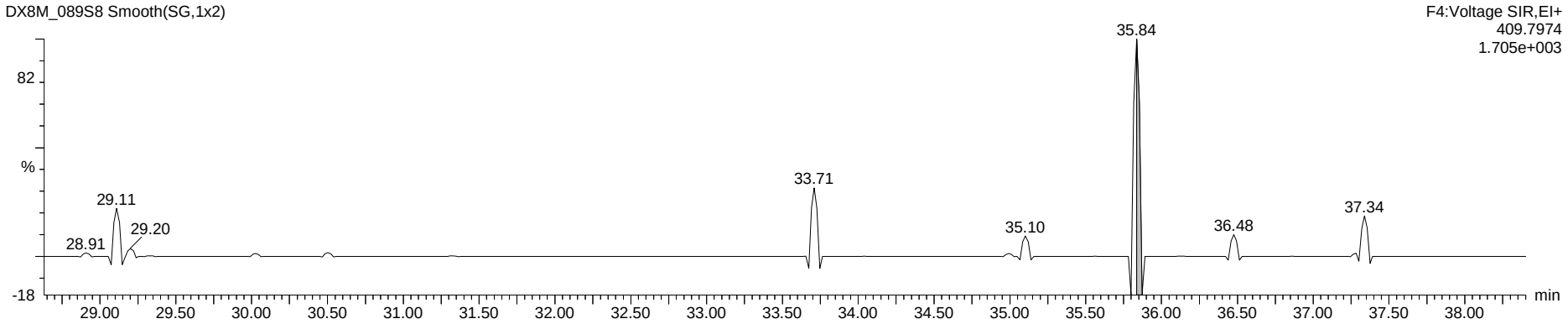
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

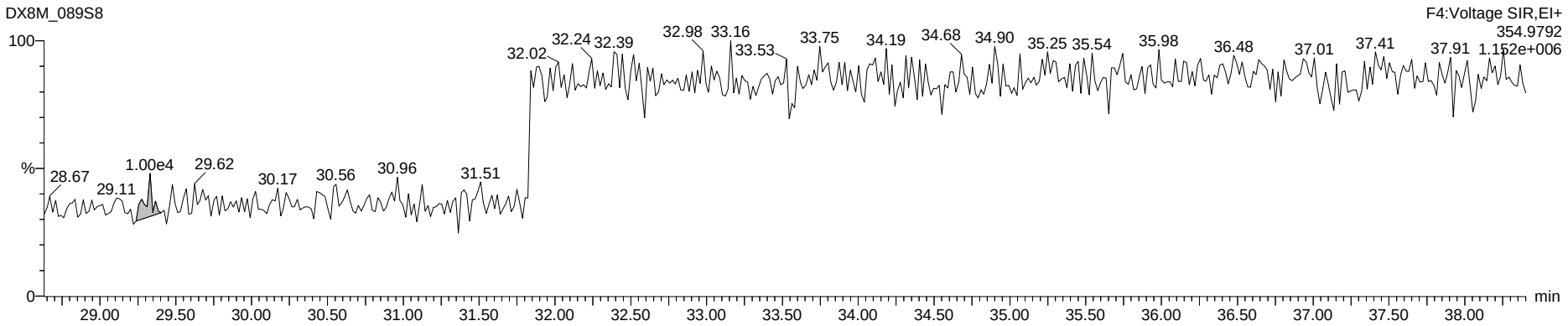
Total Penta-Furans



Hepta DPE



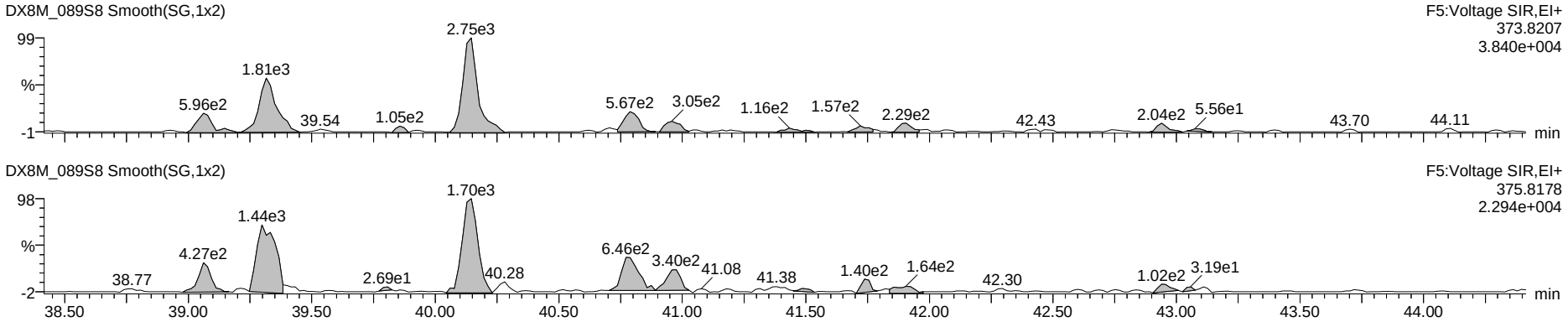
Penta Lock



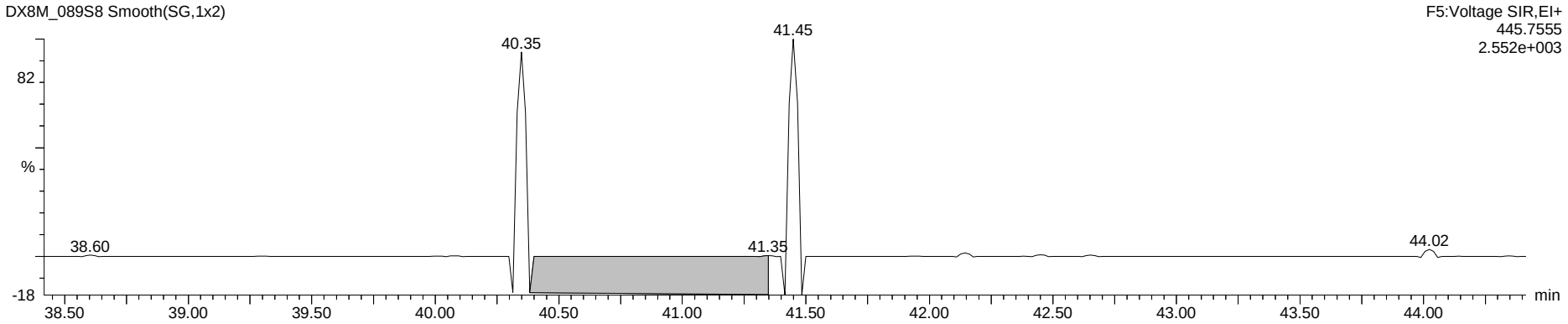
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

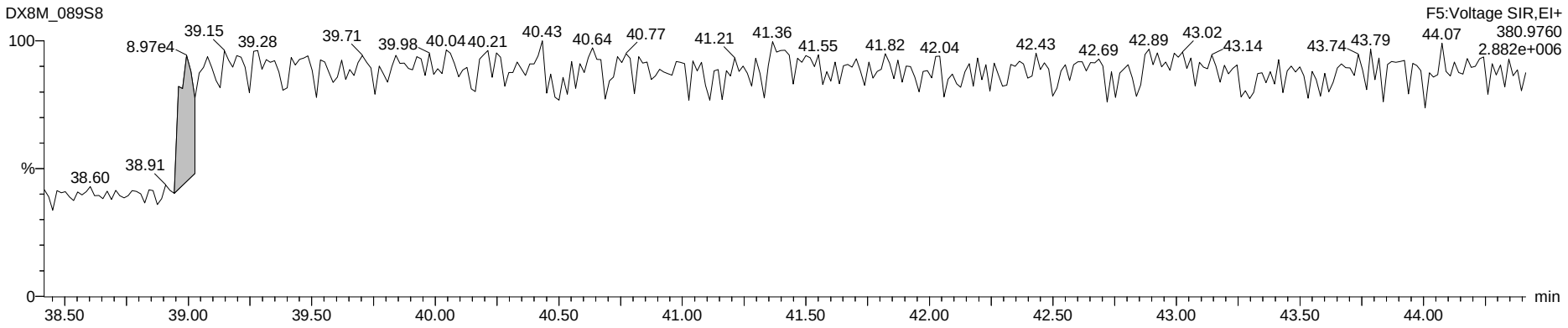
Total Hexa-Furans



Octa DPE



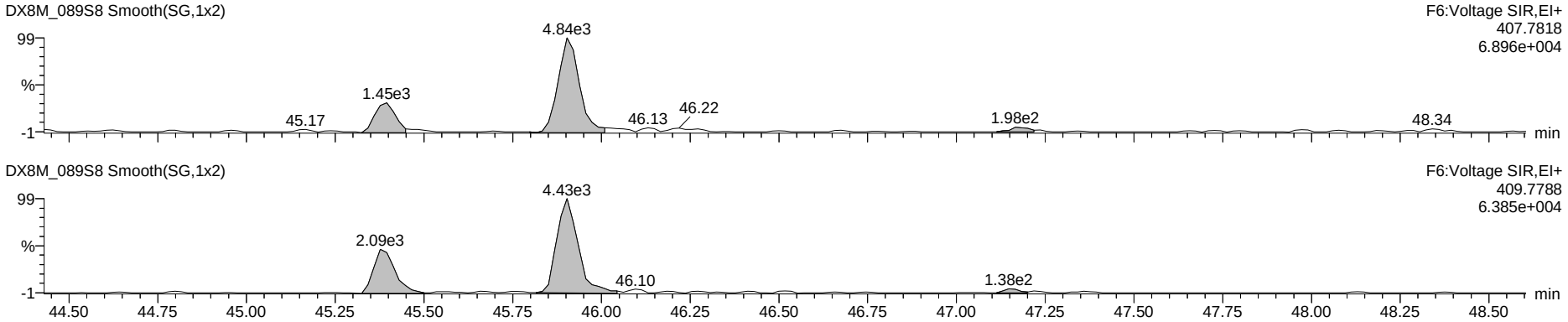
Hexa Lock



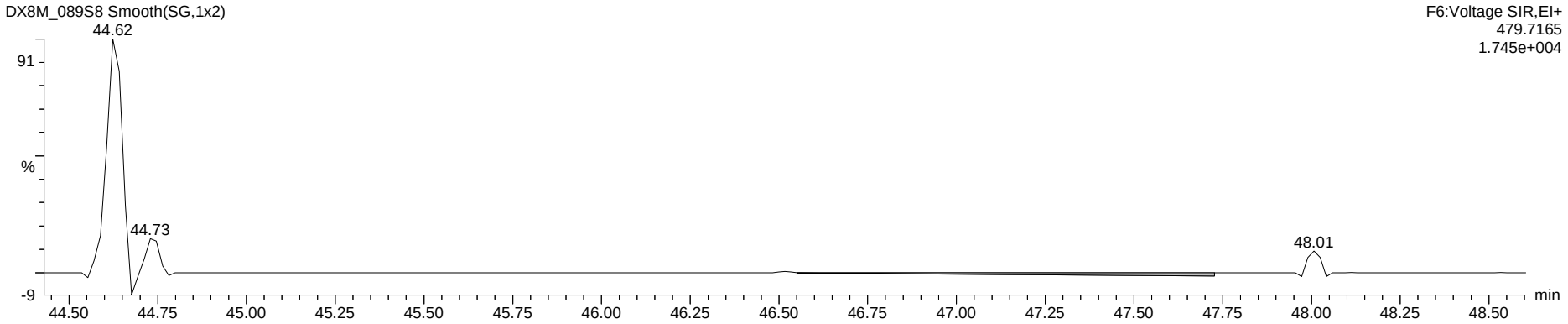
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

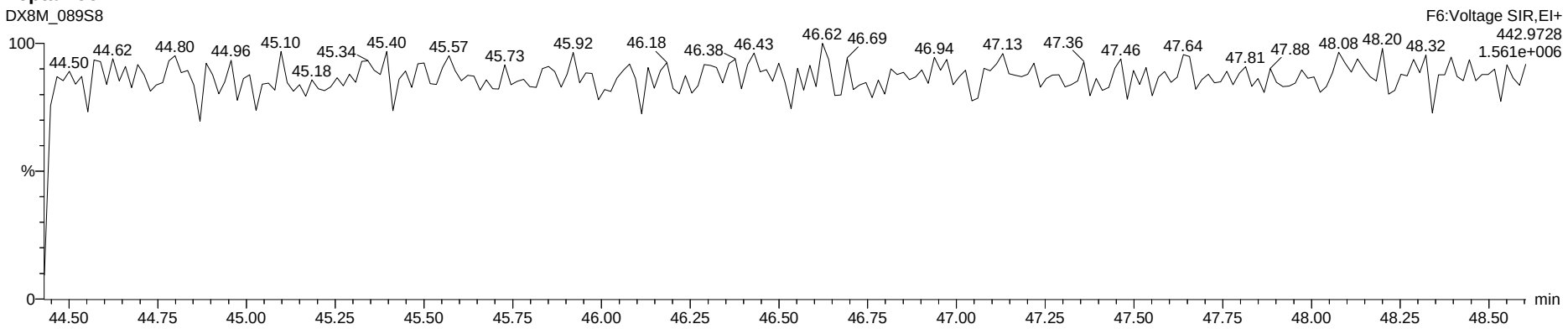
Total Hepta-Furans



Nona DPE



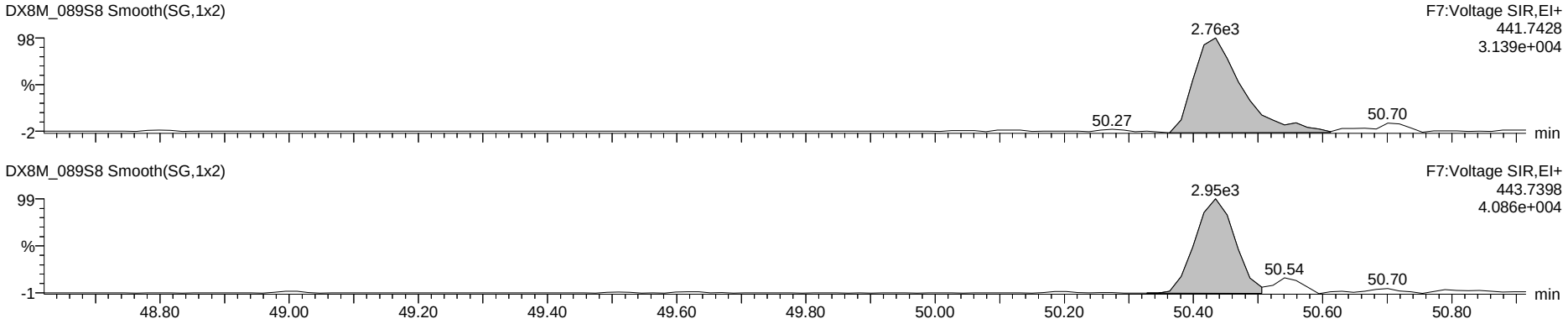
Hepta Lock



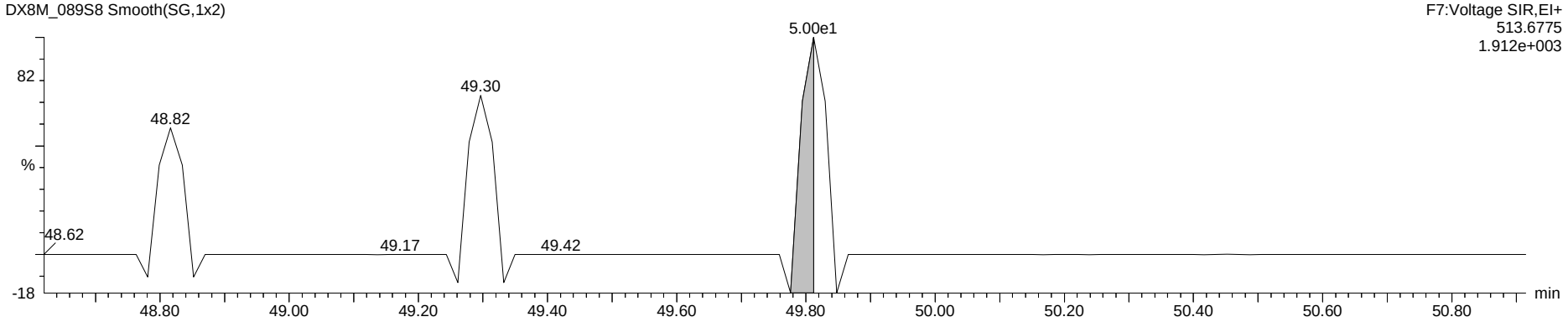
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S8, Date: 27-Jul-2018, Time: 01:10:14, ID: L29626-8,,, Description: 1,WG64557,1.0/20uL

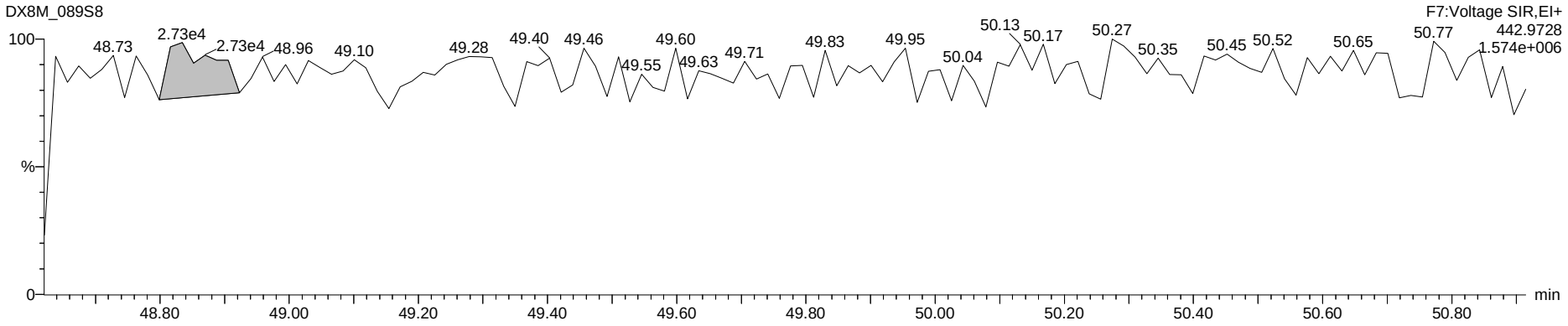
OCDF



Deca DPE



Octa Lock



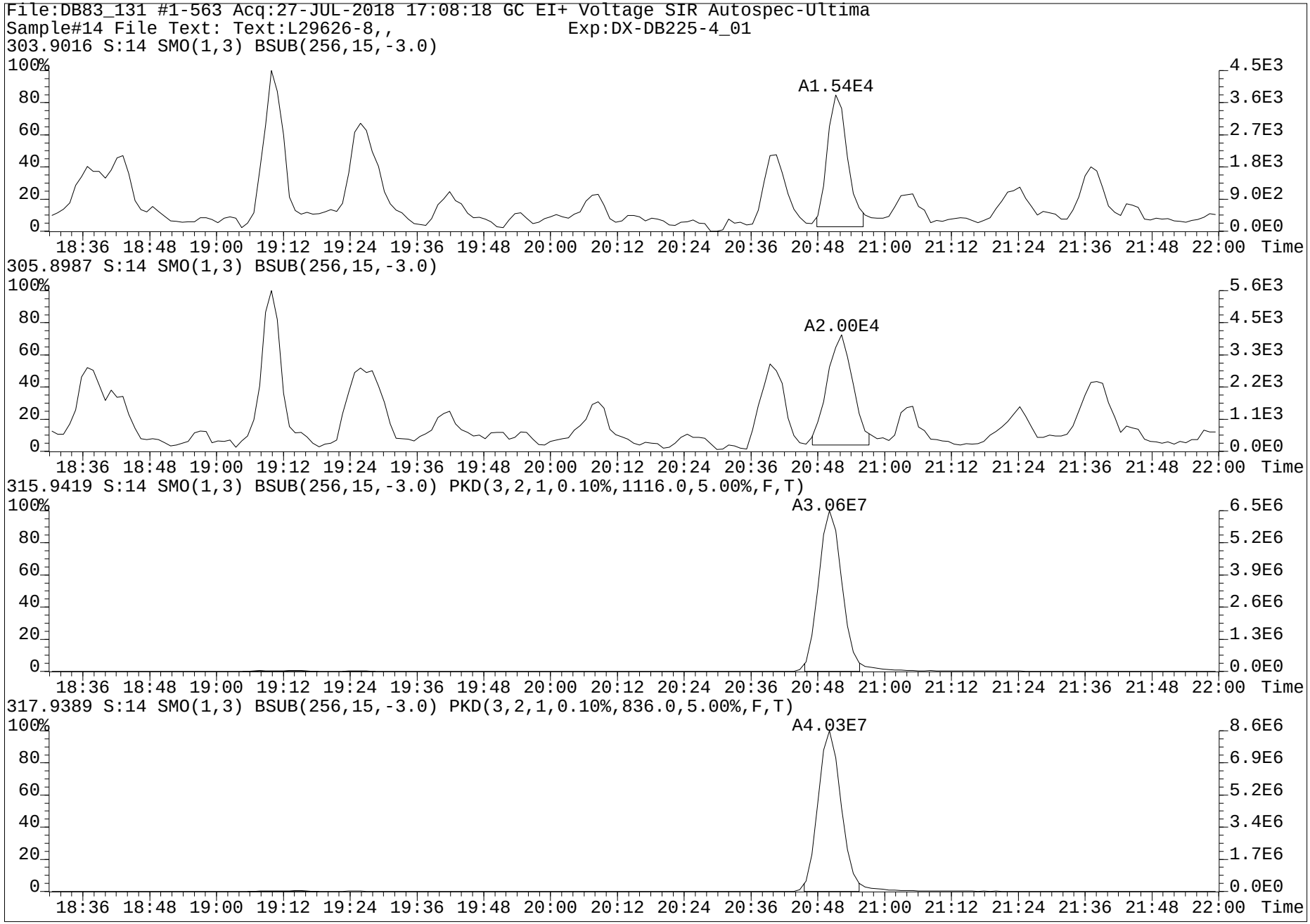
www.axysanalytical.com

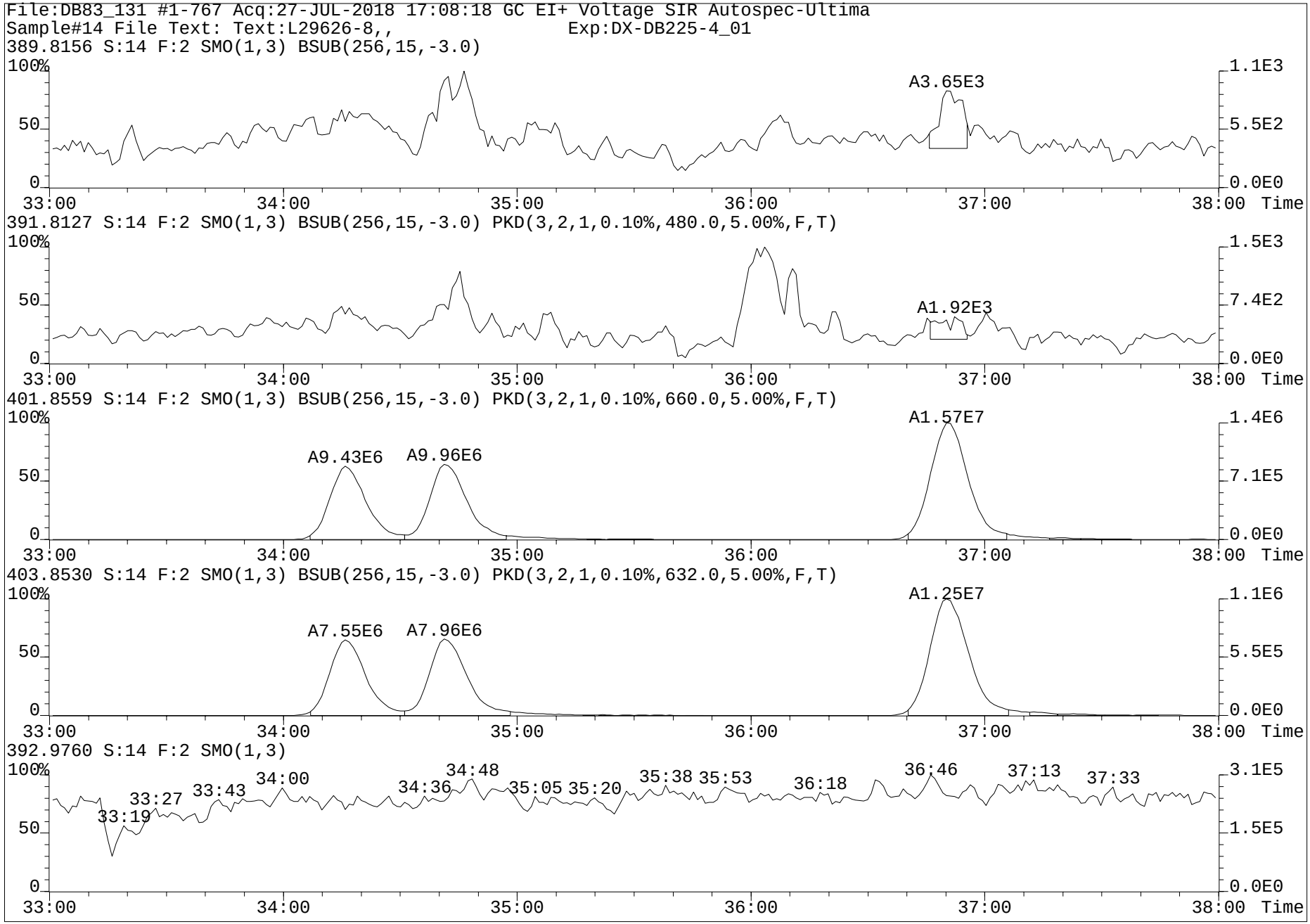
Run #19 Filename DB83_131 S: 14 I: 1 Acquired: 27-JUL-18 17:08:18 Processed: 30-JUL-18 10:41:50
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-8,, Comments: 1,WG64557,2.0/20uL
sample size: 10.150000 conc units: pg/g total toxicity: 0.02 F1: 1.0000 F2: 1.0000

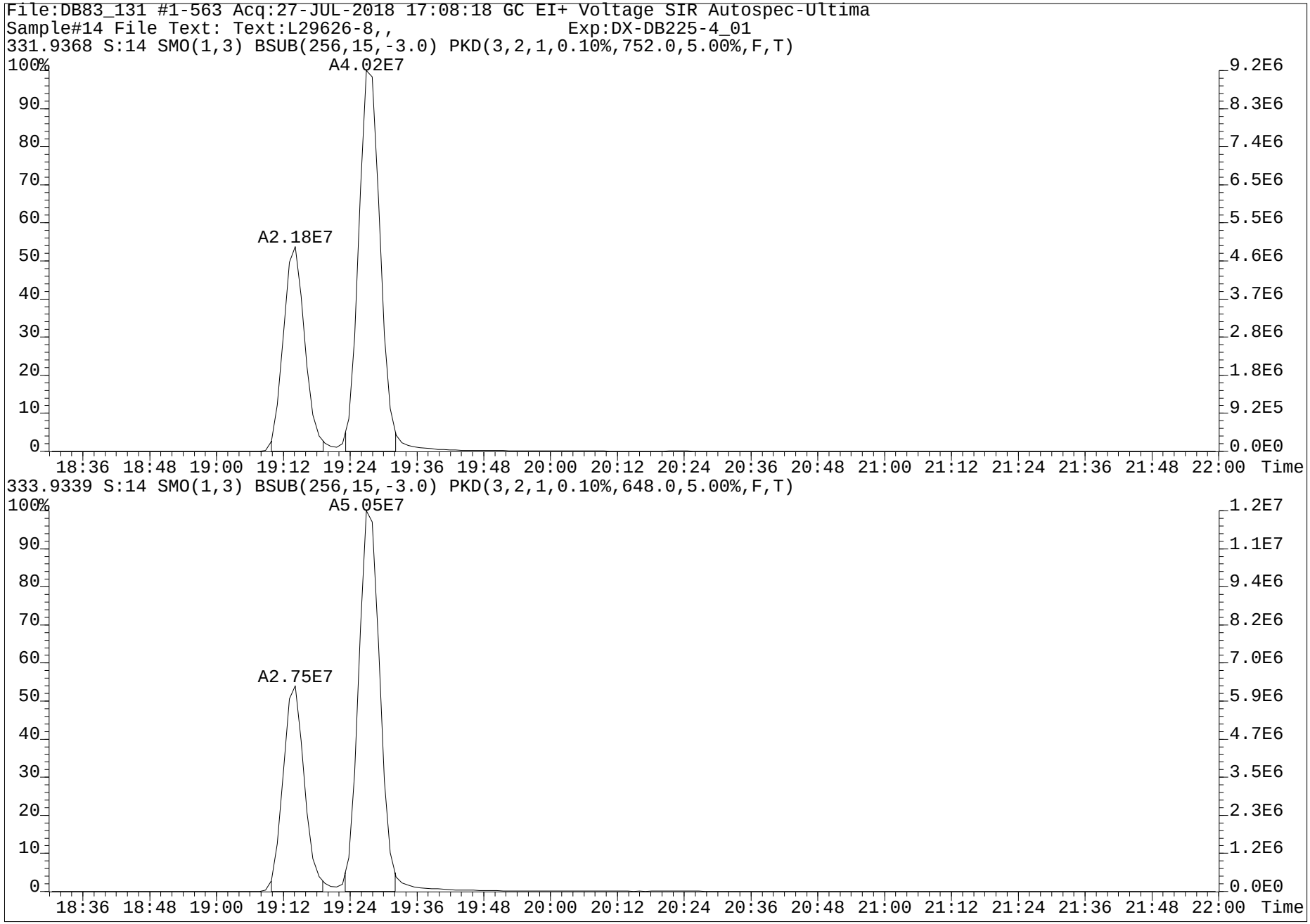
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	3.54e+04	0.77	y	20:51	0.102	0	0.0400	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	5.57e+03	1.90	n	36:50	0.068	0	0.3392	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	7.08e+07	0.76	y	20:50	85.996	-	0.0257	43.6	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.70e+07	1.25	y	34:17	112.079	-	0.2398	56.9	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.79e+07	1.25	y	34:43	114.611	-	0.2323	58.2	n
6	RS	13C-1,2,3,4-TCDD	1	9.07e+07	0.80	y	19:27	8.078	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.82e+07	1.25	y	36:51	5.073	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

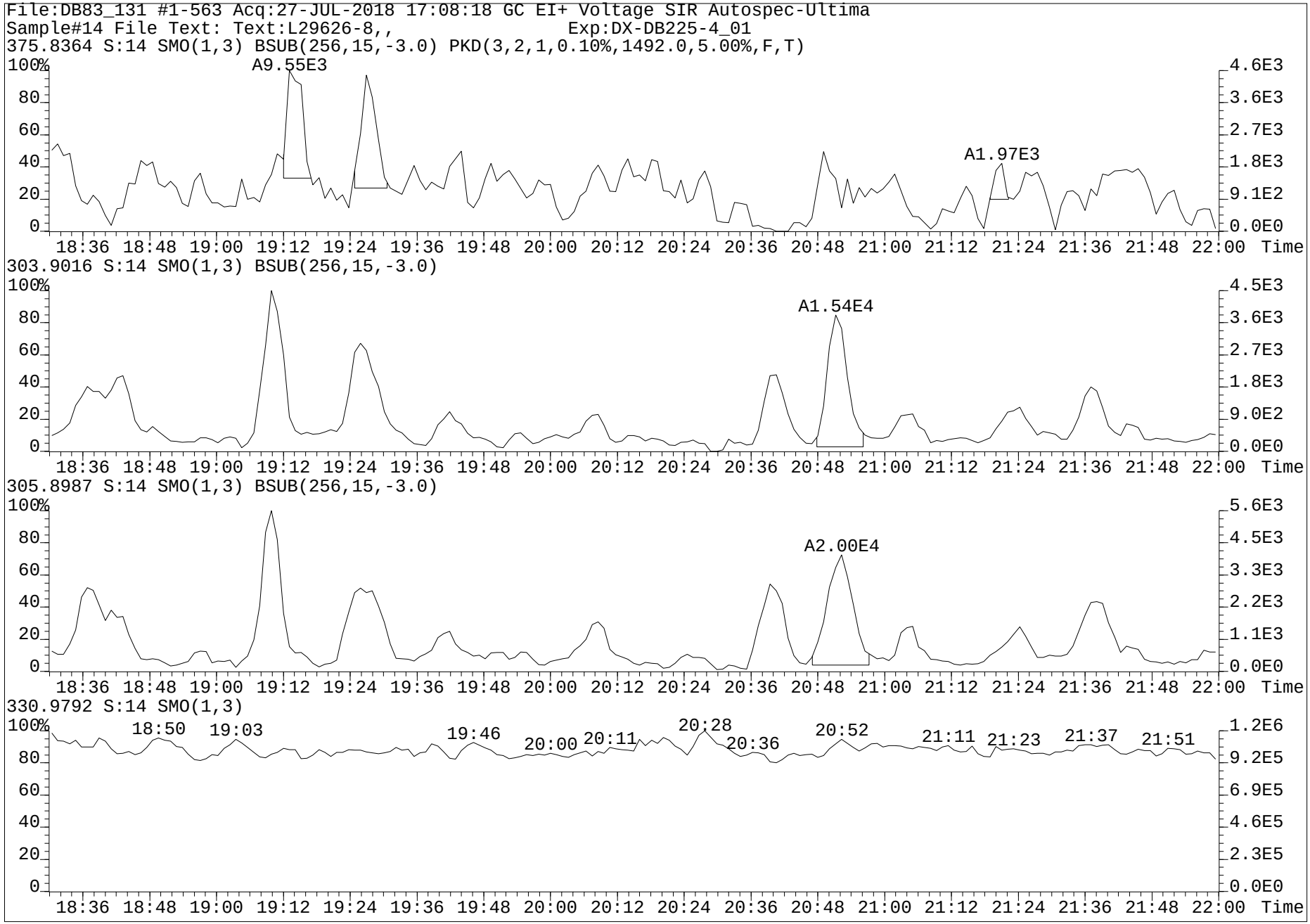
checked by MW 31-JUL-18

prep by KB 31/JUL/2018


File:DB83_131 #1-563 Acq:27-JUL-2018 17:08:18 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text: Text:L29626-8,, Exp:DX-DB225-4_01
303.9016 S:14 SMO(1,3) BSUB(256,15,-3.0)
A1.54E4
305.8987 S:14 SMO(1,3) BSUB(256,15,-3.0)
A2.00E4
315.9419 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1116.0,5.00%,F,T)
A3.06E7
317.9389 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,836.0,5.00%,F,T)
A4.03E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 17:08:18 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text: Text:L29626-8,, Exp:DX-DB225-4_01
389.8156 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.65E3
391.8127 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,480.0,5.00%,F,T)
A1.92E3
401.8559 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,660.0,5.00%,F,T)
A9.43E6
A9.96E6
A1.57E7
403.8530 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,632.0,5.00%,F,T)
A7.55E6
A7.96E6
A1.25E7
392.9760 S:14 F:2 SMO(1,3)
33:19
33:27
33:43
34:00
34:36
34:48
35:05
35:20
35:38
35:53
36:18
36:46
37:13
37:33
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.1E3
5.5E2
0.0E0
1.5E3
7.4E2
1.4E6
7.1E5
1.1E6
5.5E5
3.1E5
1.5E5


File:DB83_131 #1-563 Acq:27-JUL-2018 17:08:18 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text: Text:L29626-8,, Exp:DX-DB225-4_01
331.9368 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,752.0,5.00%,F,T)
A4.02E7
A2.18E7
333.9339 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,648.0,5.00%,F,T)
A5.05E7
A2.75E7
Time


File:DB83_131 #1-563 Acq:27-JUL-2018 17:08:18 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text: Text:L29626-8,, Exp:DX-DB225-4_01
375.8364 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1492.0,5.00%,F,T)
A9.55E3
A1.97E3
303.9016 S:14 SMO(1,3) BSUB(256,15,-3.0)
A1.54E4
305.8987 S:14 SMO(1,3) BSUB(256,15,-3.0)
A2.00E4
330.9792 S:14 SMO(1,3)
18:50
19:03
19:46
20:00
20:11
20:28
20:36
20:52
21:11
21:23
21:37
21:51
Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.550	4.92e3	0.66	NO	25.33	0.349	0.0742		4.24e3	3.80e2
2	1,2,3,7,8-PeCDF	10.550	8.14e2	0.99	YES	33.67	0.068	0.0563		1.48e3	1.04e3
3	2,3,4,7,8-PeCDF	10.550	1.06e3	0.90	YES	35.40	0.089	0.0509		1.48e3	1.04e3
4	1,2,3,4,7,8-HxCDF	10.550	1.35e3	1.27	NO	40.79	0.142	0.0218		2.66e2	8.17e2
5	1,2,3,6,7,8-HxCDF	10.550	6.23e2	0.97	YES	40.96	0.059	0.0192		2.66e2	8.17e2
6	2,3,4,6,7,8-HxCDF	10.550	5.13e2	0.65	YES	41.92	0.052	0.0205		2.66e2	8.17e2
7	1,2,3,7,8,9-HxCDF	10.550	1.79e2	3.06	YES	42.96	0.021	0.0262		2.66e2	8.17e2
8	1,2,3,4,6,7,8-HpCDF	10.550	7.68e3	0.90	NO	45.38	0.999	0.0737		1.58e3	1.43e3
9	1,2,3,4,7,8,9-HpCDF	10.550	6.62e2	0.67	YES	47.17	0.109	0.0977		1.58e3	1.43e3
10	OCDF	10.550	1.07e4	0.85	NO	50.43	2.195	0.0680		1.38e3	2.26e2
11	2,3,7,8-TCDD	10.550	2.49e2	0.78	NO	26.54	0.020	0.0252		6.75e2	6.36e2
12	1,2,3,7,8-PeCDD	10.550	4.97e2	0.26	YES	36.26	0.061	0.0387		8.26e2	5.01e2
13	1,2,3,4,7,8-HxCDD	10.550	5.09e2	2.62	YES	42.19	0.070	0.2090		1.65e3	7.12e3
14	1,2,3,6,7,8-HxCDD	10.550	1.37e3	1.23	NO	42.33	0.173	0.2164		1.65e3	7.12e3
15	1,2,3,7,8,9-HxCDD	10.550	1.04e3	0.95	YES	42.74	0.136	0.2118		1.65e3	7.12e3
16	1,2,3,4,6,7,8-HpCDD	10.550	2.32e4	1.13	NO	46.76	4.398	0.0946		7.32e2	1.85e3
17	OCDD	10.550	1.26e5	0.92	NO	50.35	31.127	0.0508		9.94e2	1.72e-1
18	13C-2,3,7,8-TCDF	10.550	2.92e6	0.70	NO	25.29	98.317	0.0909	51.9	6.02e3	5.85e3
19	13C-1,2,3,7,8-PeCDF	10.550	2.45e6	1.38	NO	33.64	114.651	0.1852	60.5	8.79e3	8.64e3
20	13C-2,3,4,7,8-PeCDF	10.550	2.39e6	1.37	NO	35.40	115.655	0.1920	61.0	8.79e3	8.64e3
21	13C-1,2,3,4,7,8-HxCDF	10.550	1.62e6	0.51	NO	40.76	94.196	0.2782	49.7	1.77e4	6.37e3
22	13C-1,2,3,6,7,8-HxCDF	10.550	1.89e6	0.52	NO	40.94	102.590	0.2604	54.1	1.77e4	6.37e3
23	13C-2,3,4,6,7,8-HxCDF	10.550	1.65e6	0.54	NO	41.87	99.976	0.2915	52.7	1.77e4	6.37e3
24	13C-1,2,3,7,8,9-HxCDF	10.550	1.62e6	0.52	NO	42.92	99.604	0.2955	52.5	1.77e4	6.37e3
25	13C-1,2,3,4,6,7,8-HpCDF	10.550	1.19e6	0.46	NO	45.38	86.528	0.2080	45.6	9.77e3	4.57e3
26	13C-1,2,3,4,7,8,9-HpCDF	10.550	9.19e5	0.43	NO	47.15	85.593	0.2667	45.2	9.77e3	4.57e3
27	13C-2,3,7,8-TCDD	10.550	2.11e6	0.77	NO	26.52	114.201	0.1304	60.2	5.00e3	5.58e3
28	13C-1,2,3,7,8-PeCDD	10.550	1.49e6	0.69	NO	36.20	123.431	0.1406	65.1	4.97e3	2.51e3
29	13C-1,2,3,4,7,8-HxCDD	10.550	1.37e6	1.24	NO	42.16	102.719	0.2332	54.2	5.10e3	1.04e4
30	13C-1,2,3,6,7,8-HxCDD	10.550	1.60e6	1.23	NO	42.30	114.136	0.2205	60.2	5.10e3	1.04e4
31	13C-1,2,3,4,6,7,8-HpCDD	10.550	1.00e6	0.98	NO	46.74	91.259	0.2179	48.1	8.03e3	3.97e3
32	13C-OCDD	10.550	1.51e6	0.85	NO	50.33	156.186	0.4314	41.2	1.67e4	4.18e3
33	13C-1,2,3,4-TCDD	10.550	3.48e6	0.78	NO	26.20	14.611	0.0101	7.7	5.00e3	5.58e3
34	13C-1,2,3,7,8,9-HxCDD	10.550	2.56e6	1.19	NO	42.72	17.002	0.0206	9.0	5.10e3	1.04e4
35	37Cl-2,3,7,8-TCDD	10.550	5.73e4			26.56	2.798	0.0059	73.8		5.34e2
36	Total Tetra-Furans	10.550					2.117	0.0742			3.80e2
37	Total Tetra-Dioxins	10.550					0.395	0.0252			6.36e2
38	Total Penta-Furans	10.550					0.775	0.0541			1.04e3
39	Total Penta-Dioxins	10.550					0.392	0.0387			5.01e2
40	Total Hexa-Furans	10.550					2.055	0.0210			8.17e2
41	Total Hexa-Dioxins	10.550					1.949	0.2049			7.12e3
42	Total Hepta-Furans	10.550					3.610	0.0851			1.43e3
43	Total Hepta-Dioxins	10.550					10.832	0.0946			1.85e3
44	Hexa DPE	1.000	3.00e2			25.88					0.00e0
45	Hepta DPE	1.000	5.06e1			37.30					8.26e-2
46	Octa DPE	1.000	1.56e2			40.09					4.93e-2
47	Nona DPE	1.000	5.76e0			47.06					1.54e-2
48	Deca DPE	1.000	9.42e0			50.79					6.67e-2
49	Tetra Lock	1.000									9.62e4
50	Penta Lock	1.000	8.06e3			29.27					1.60e5
51	Hexa Lock	1.000									3.08e5
52	Hepta Lock	1.000									1.85e5
53	Octa Lock	1.000									2.48e5
54	13C-Tetra-Furans	10.550					98.317	0.0909			5.85e3
55	13C-Tetra-Dioxins	10.550					128.812	0.1405			5.58e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.47	0.807	NO	0.263
2	23.04	0.951	YES	0.254
3	22.75	1.115	YES	0.122
4	22.63	0.924	YES	0.285
5	22.29	0.643	YES	0.143
6	22.02	0.617	YES	0.039
7	25.33	0.663	NO	0.349
8	24.99	0.807	NO	0.059
9	24.67	0.764	NO	0.088
10	24.34	1.117	YES	0.111
11	24.22	0.557	YES	0.063
12	23.90	1.259	YES	0.125
13	23.75	1.041	YES	0.032
14	28.33	0.709	NO	0.018
15	26.44	1.585	YES	0.011
16	26.22	0.829	NO	0.047
17	26.02	0.491	YES	0.110

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	26.54	0.776	NO	0.020
2	26.36	0.742	NO	0.036
3	25.70	1.592	YES	0.020
4	25.29	5.591	YES	0.095
5	24.68	0.948	YES	0.091
6	23.40	0.240	YES	0.065
7	23.00	0.731	NO	0.068

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.98	1.498	NO	0.185
2	31.64	1.860	YES	0.268
3	35.40	0.898	YES	0.089
4	34.37	0.759	YES	0.026
5	33.67	0.993	YES	0.068
6	33.01	1.237	YES	0.082
7	35.69	0.871	YES	0.056

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	33.29	0.811	YES	0.033
2	32.08	0.474	YES	0.099
3	34.57	0.720	YES	0.049
4	34.30	0.876	YES	0.061
5	33.93	1.381	YES	0.041
6	36.55	0.585	NO	0.027
7	36.26	0.265	YES	0.061
8	35.54	0.666	NO	0.021

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.79	1.269	NO	0.142
2	40.70	1.474	YES	0.031
3	40.15	1.049	YES	0.829
4	39.84	1.937	YES	0.033
5	39.55	1.046	YES	0.021
6	39.32	1.528	YES	0.600
7	39.08	1.157	NO	0.175
8	42.96	3.059	YES	0.021
9	41.92	0.645	YES	0.052
10	41.74	2.051	YES	0.037
11	41.45	0.038	YES	0.004
12	41.14	1.051	YES	0.013
13	40.96	0.974	YES	0.059
14	43.08	1.154	NO	0.038

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	42.74	0.945	YES	0.136
2	42.33	1.233	NO	0.173
3	42.19	2.617	YES	0.070
4	41.48	0.718	YES	0.078
5	41.30	1.700	YES	0.580
6	40.94	4.526	YES	0.478
7	40.11	1.670	YES	0.434

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.38	0.902	NO	0.999
2	47.17	0.669	YES	0.109
3	45.90	0.957	NO	2.501

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	45.85	1.019	NO	6.434
2	46.76	1.128	NO	4.398

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.701	NO	98.317

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.52	0.767	NO	114.201
2	26.20	0.778	NO	14.611

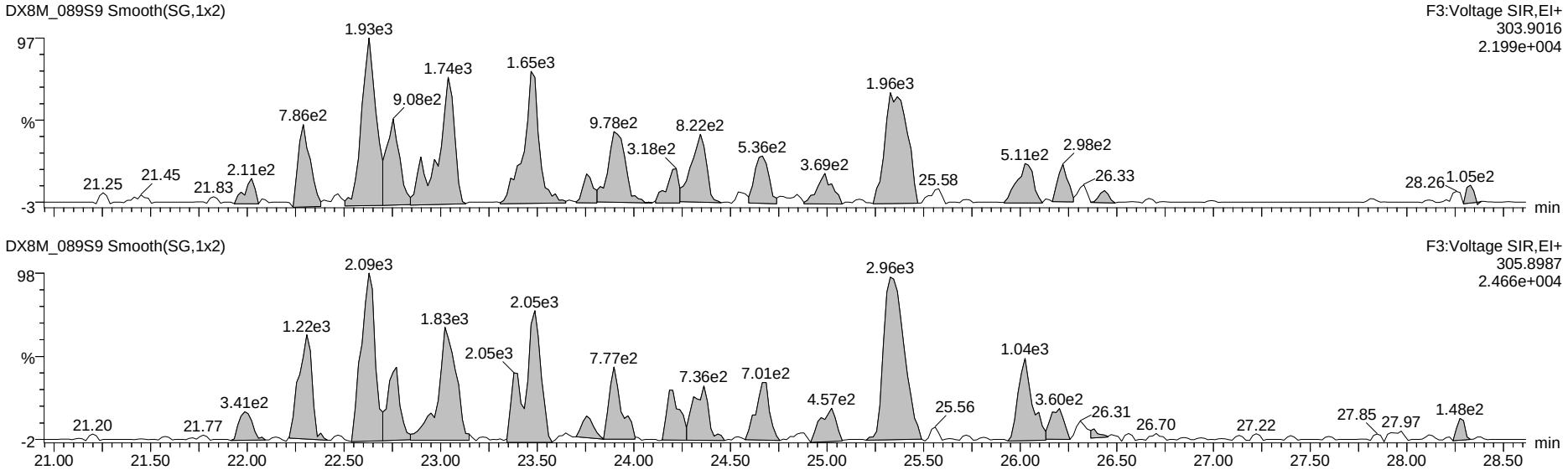
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

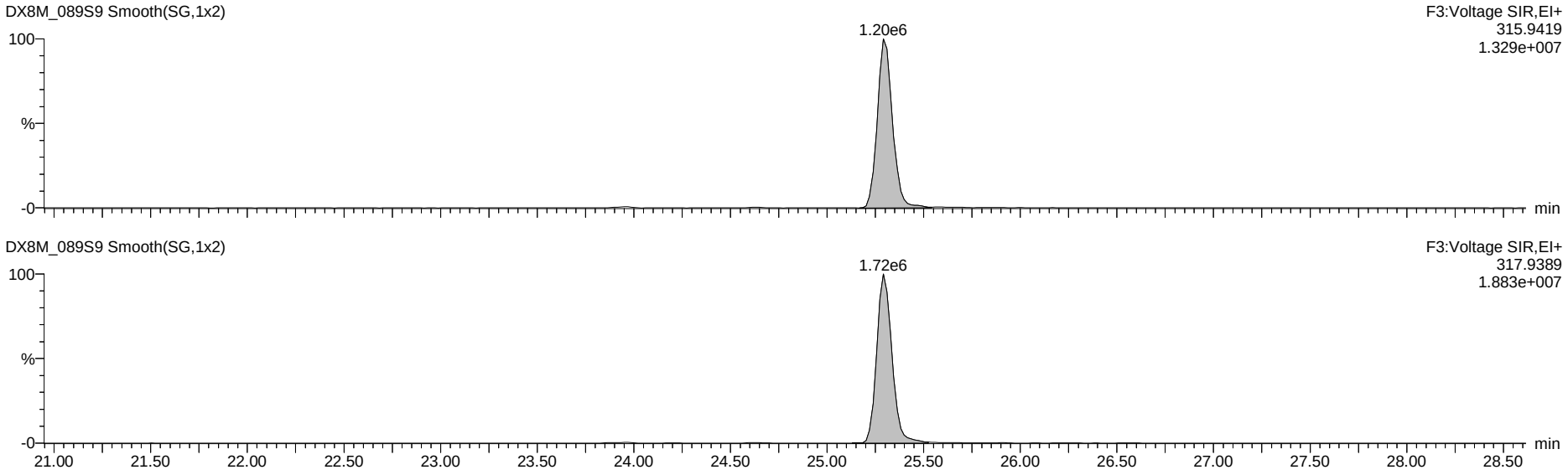
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



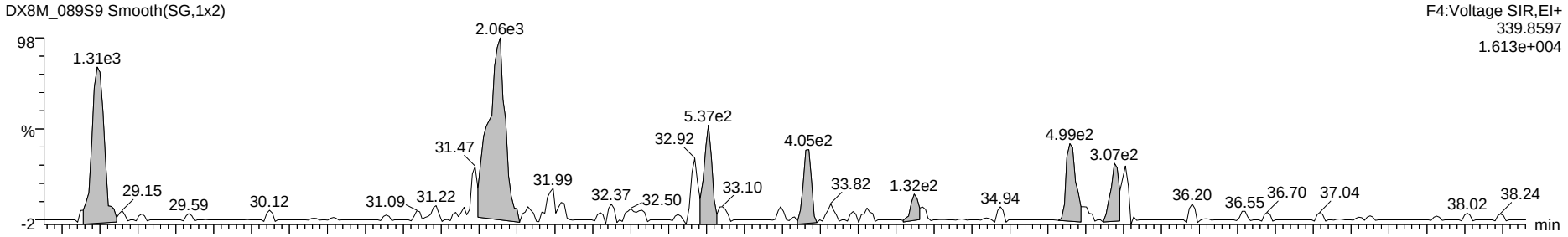
13C-Tetra-Furans

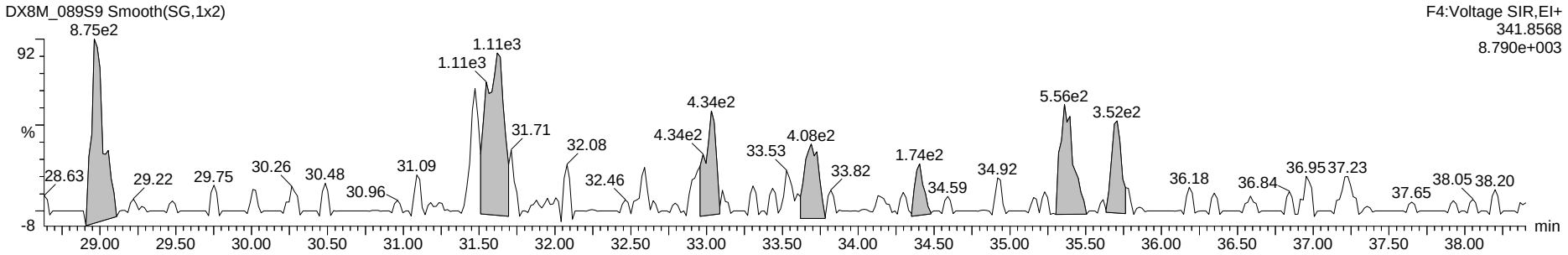


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

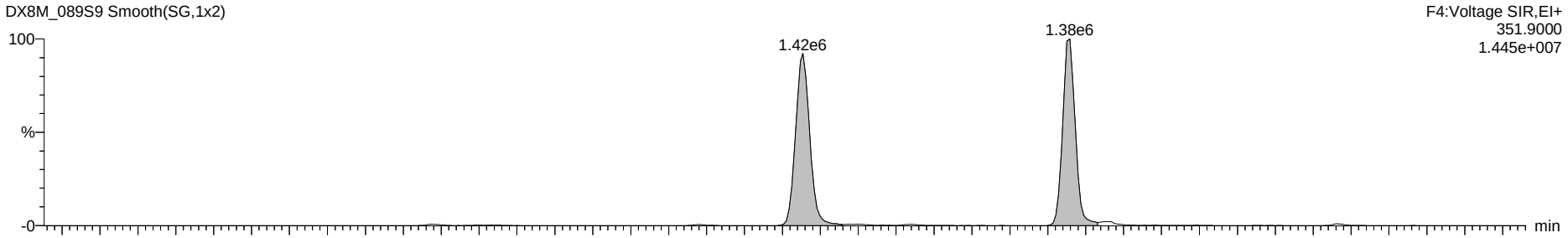
Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

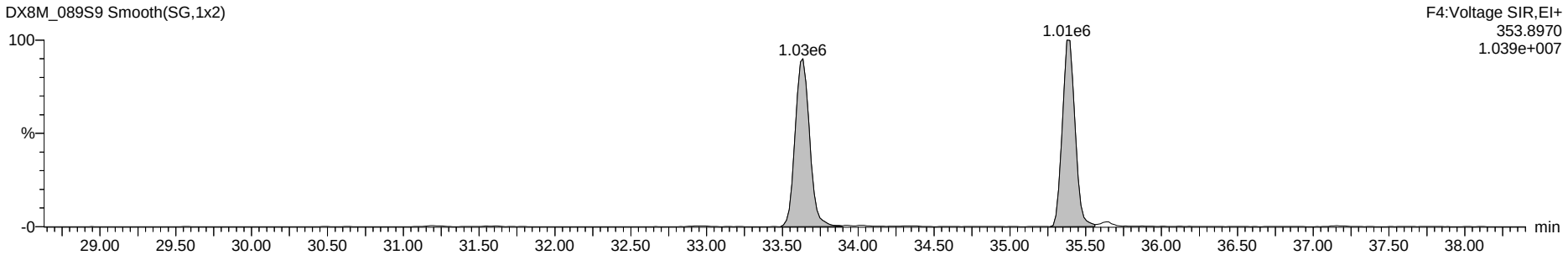
Total Penta-Furans





13C-Penta-Furans

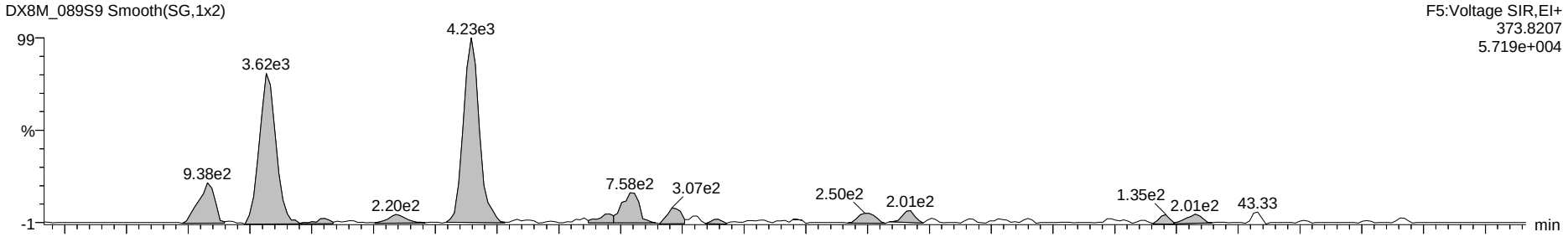


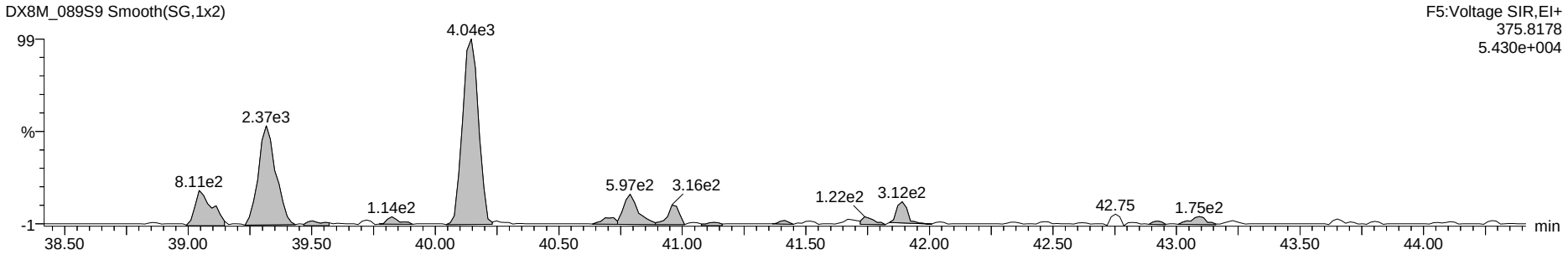


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

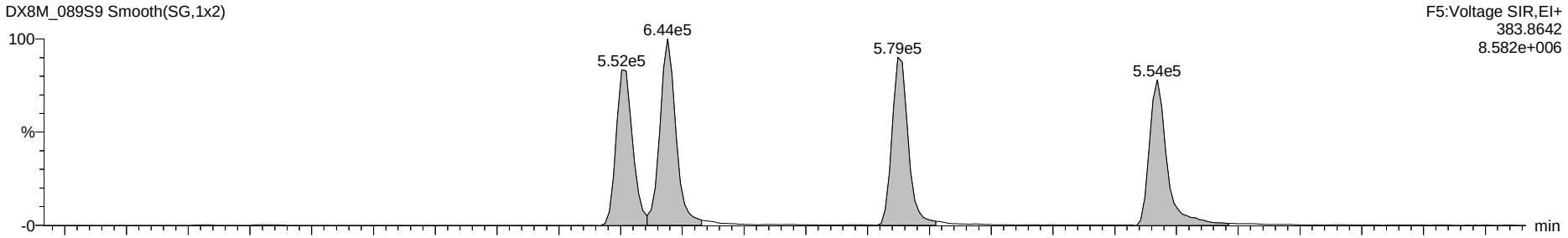
Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

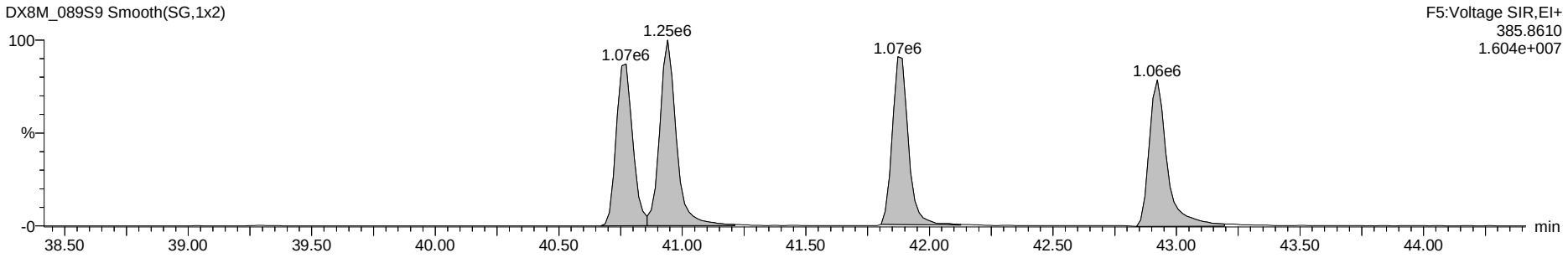
Total Hexa-Furans





13C-Hexa-Furans

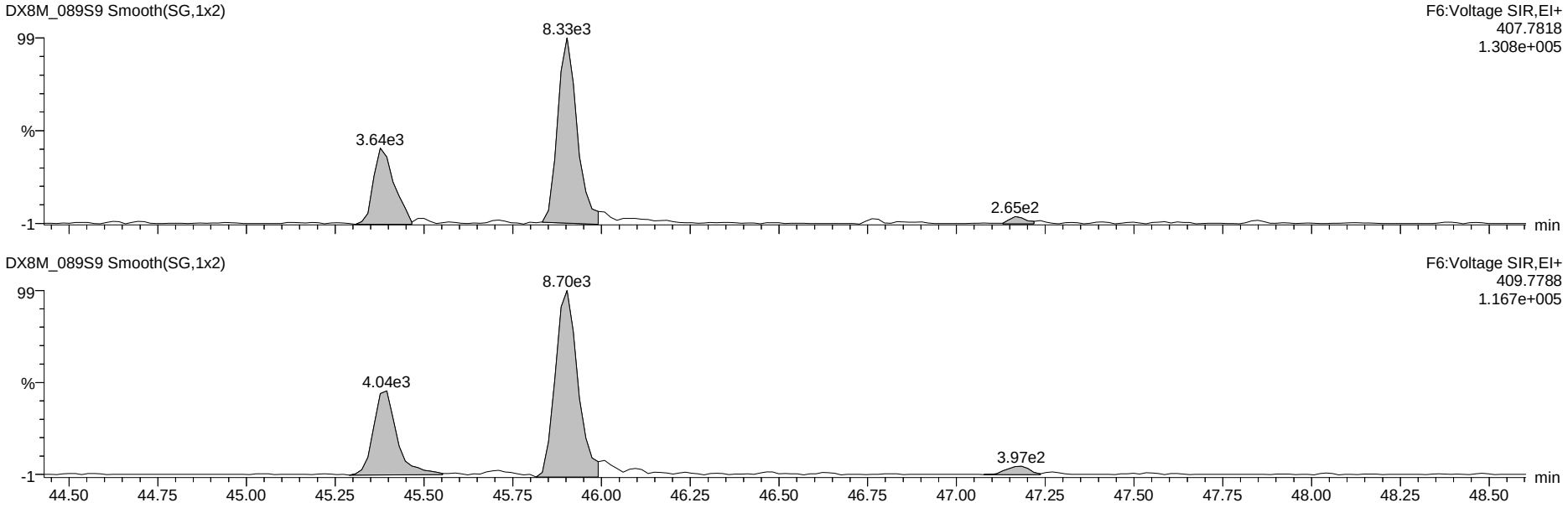




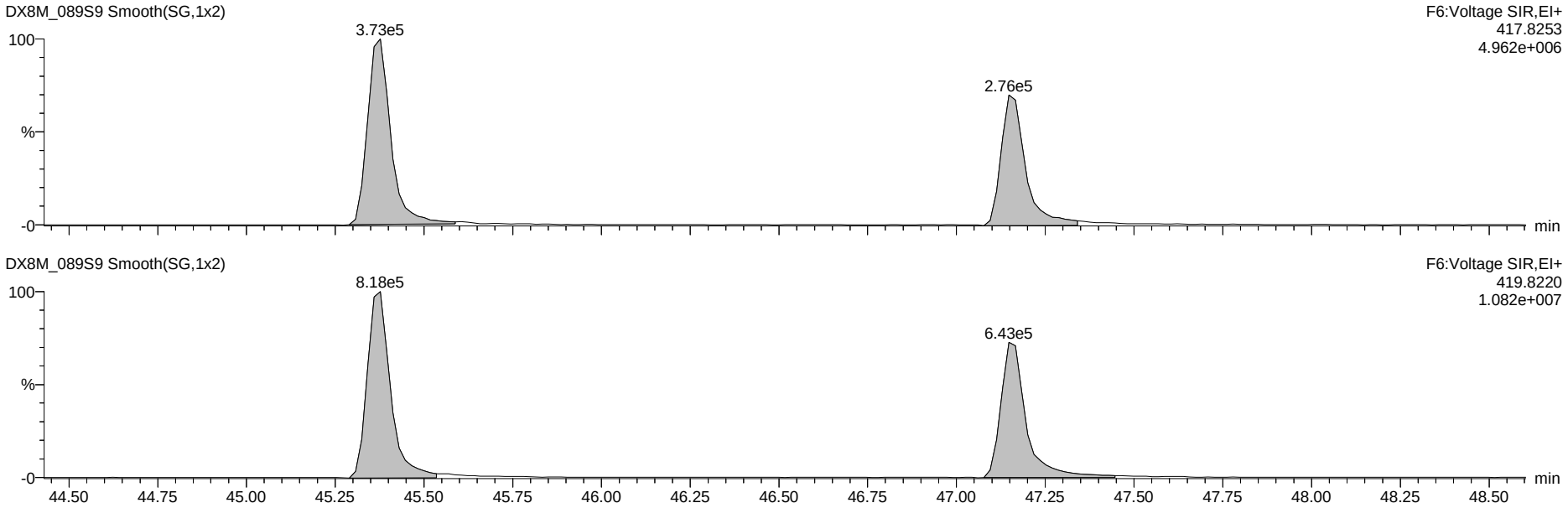
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



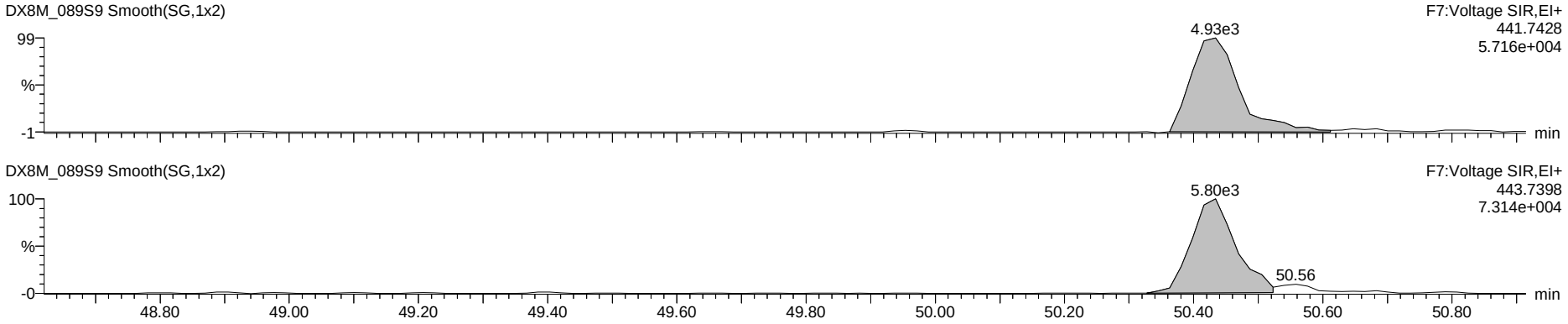
13C-Hepta-Furans



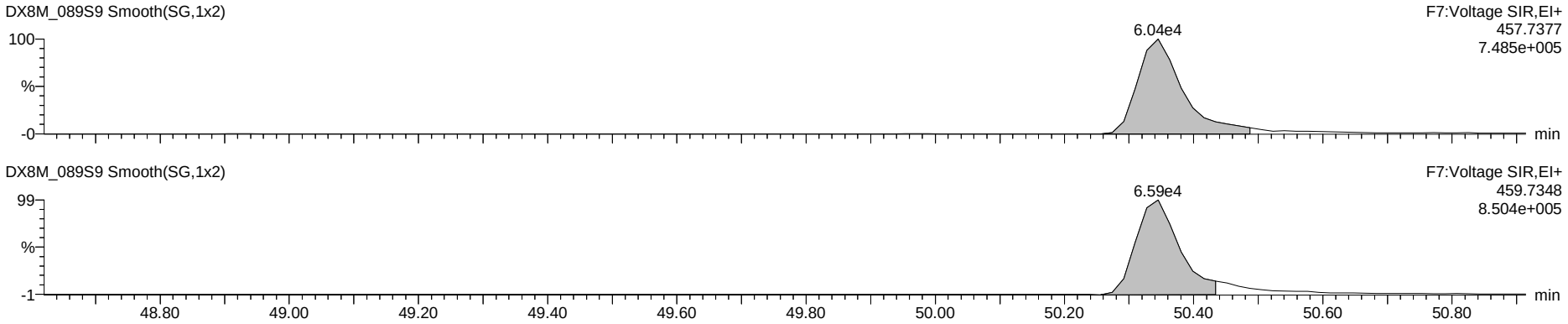
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

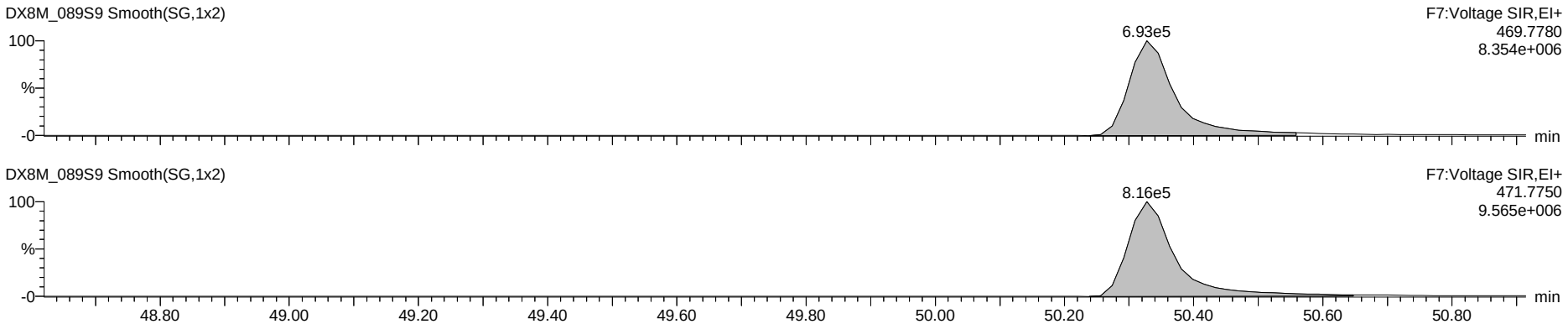
OCDF



OCDD



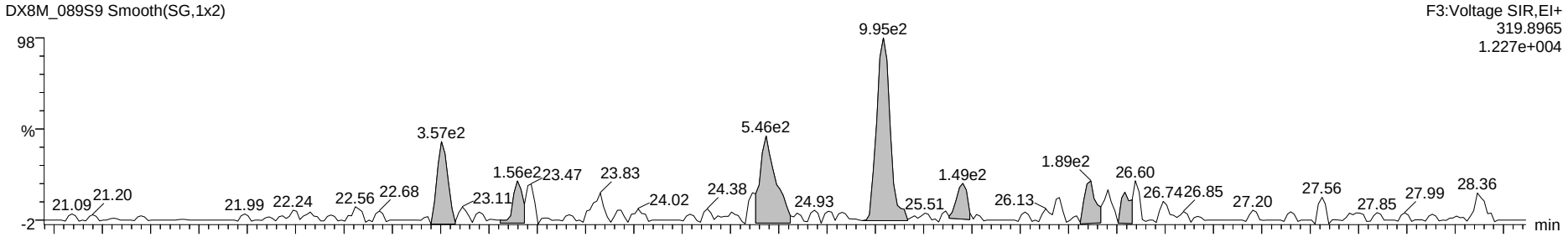
13C-OCDD

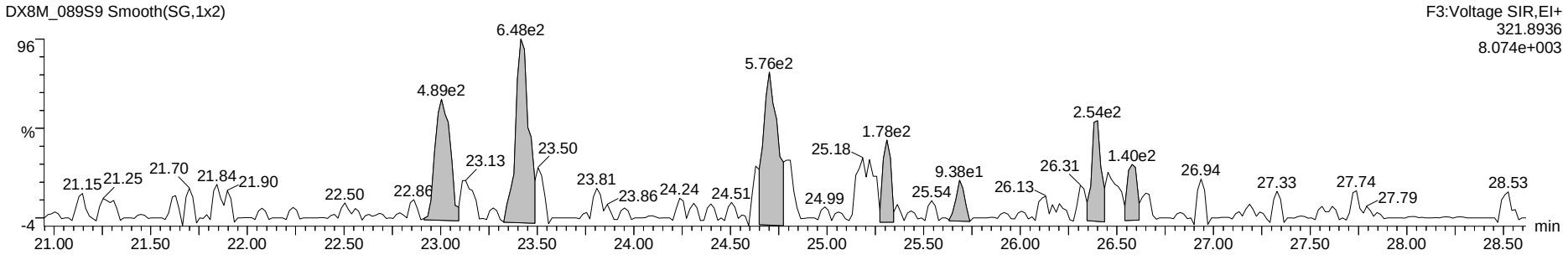


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

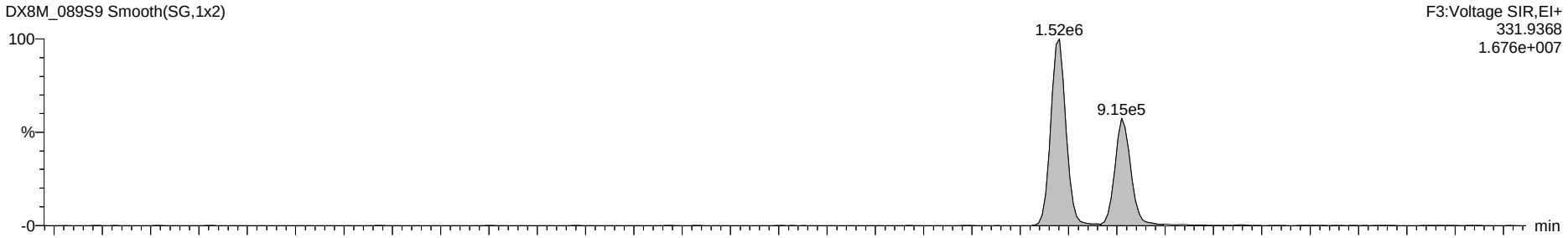
Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

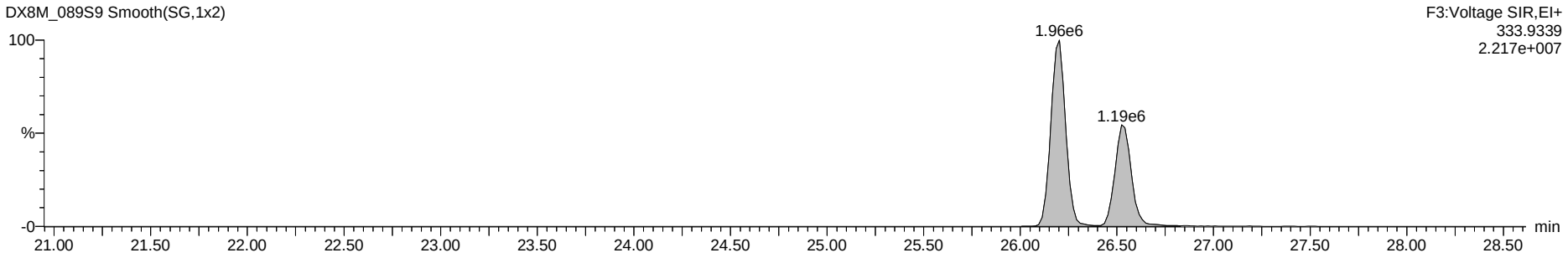
Total Tetra-Dioxins





13C-Tetra-Dioxins

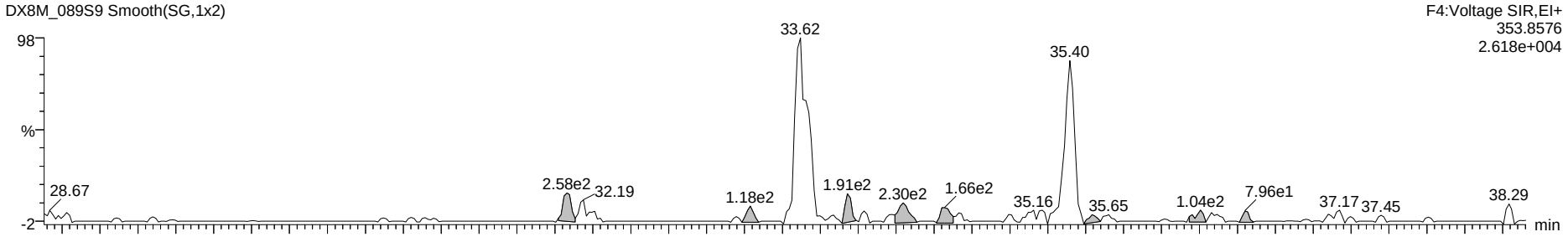


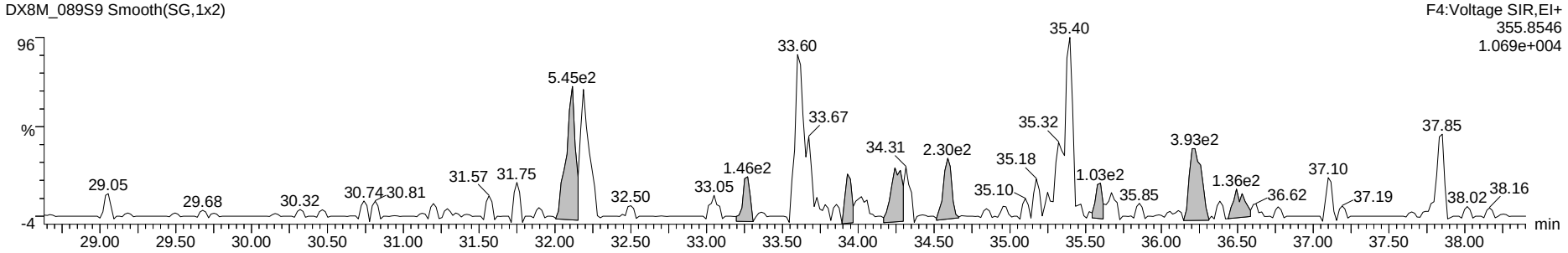


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

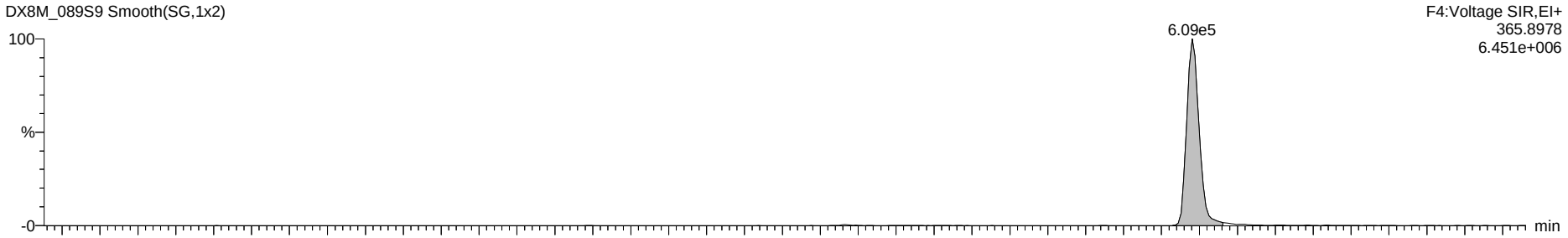
Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

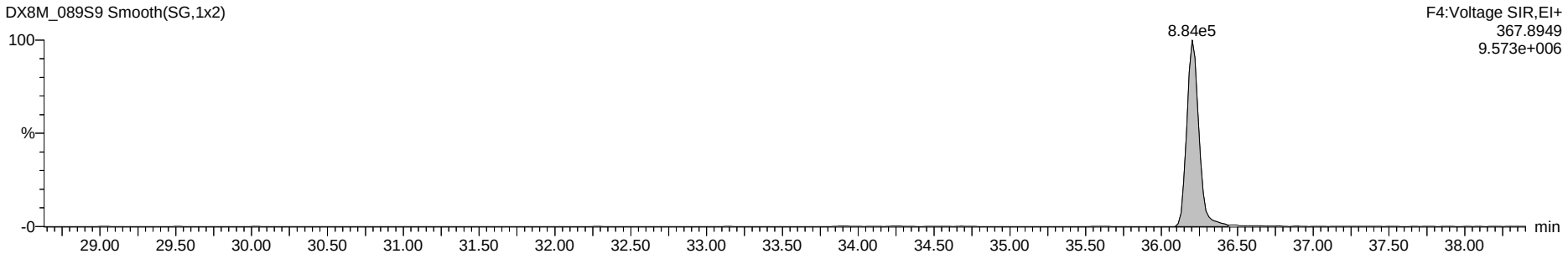
Total Penta-Dioxins





13C-Penta-Dioxins

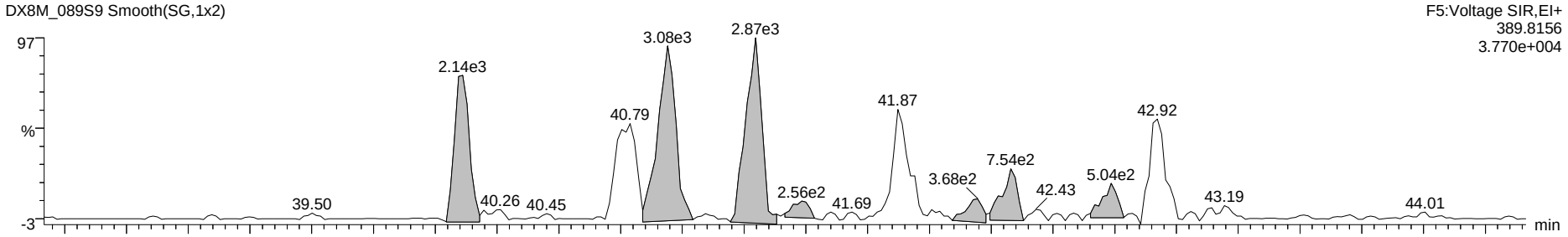


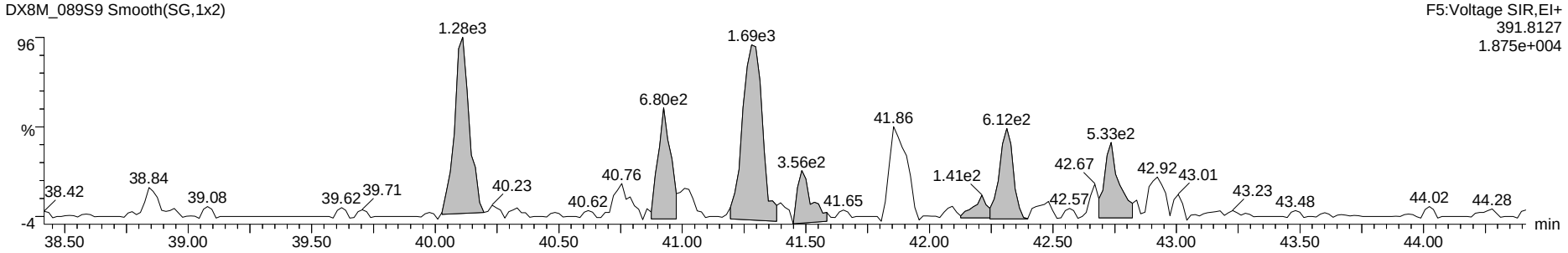


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

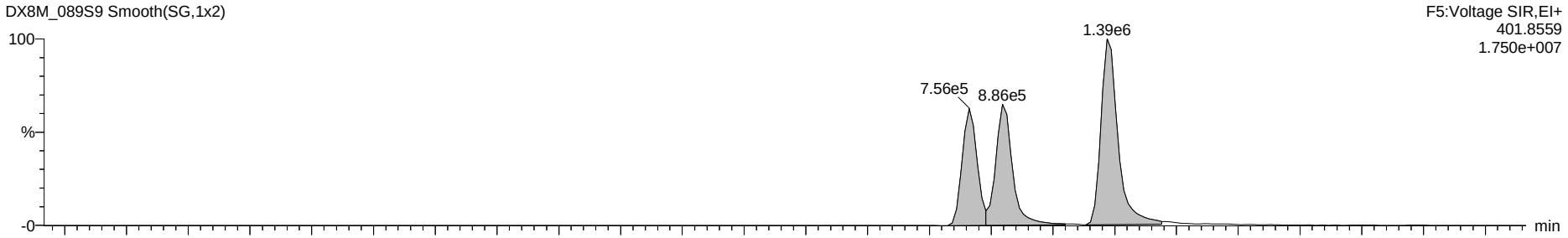
Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

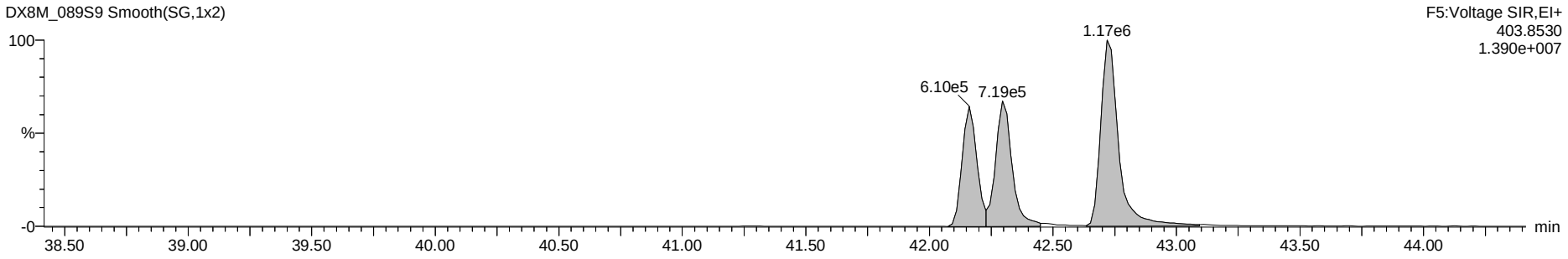
Total Hexa-Dioxins





13C-Hexa-Dioxins

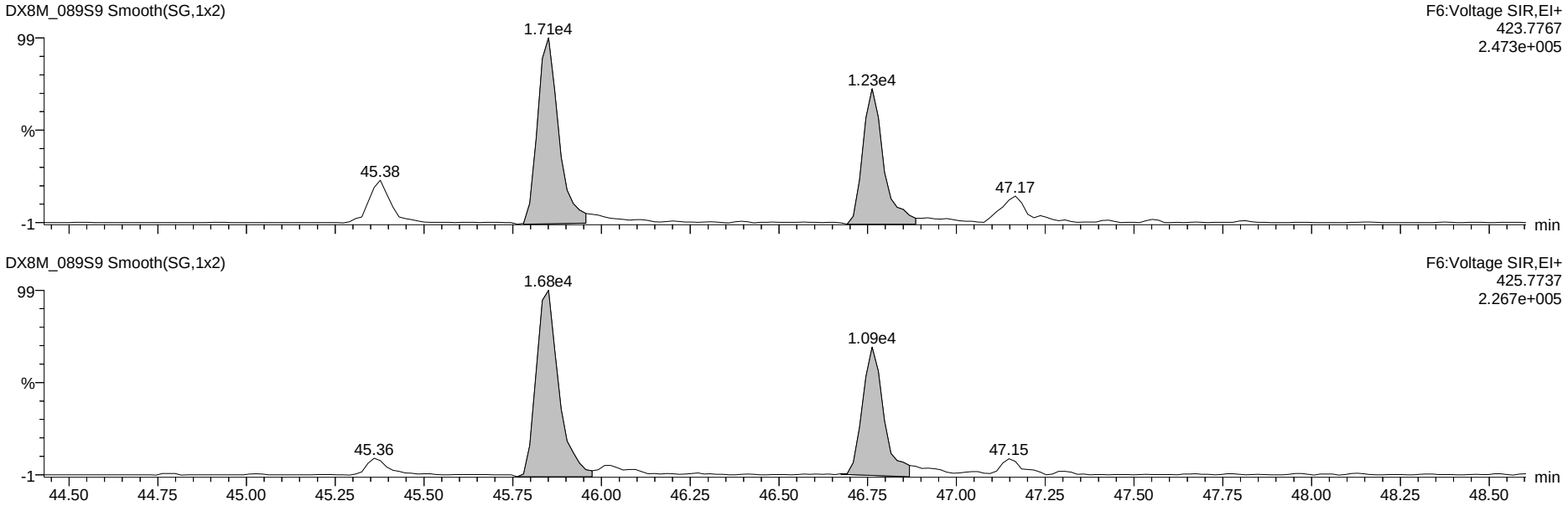




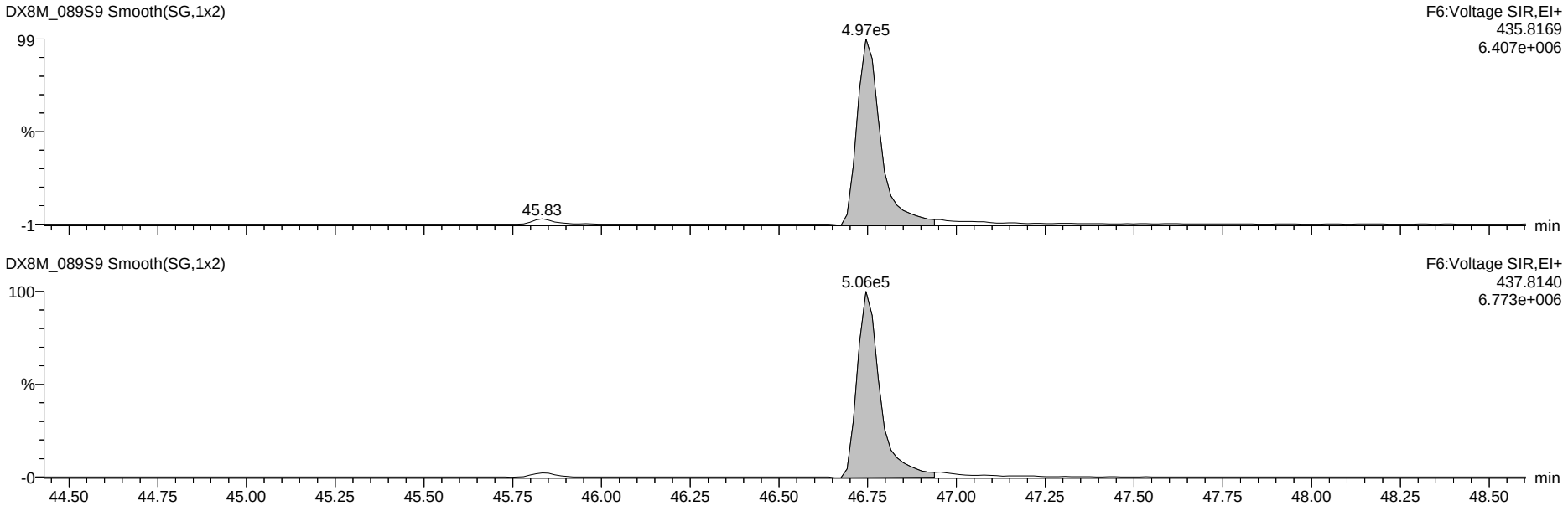
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



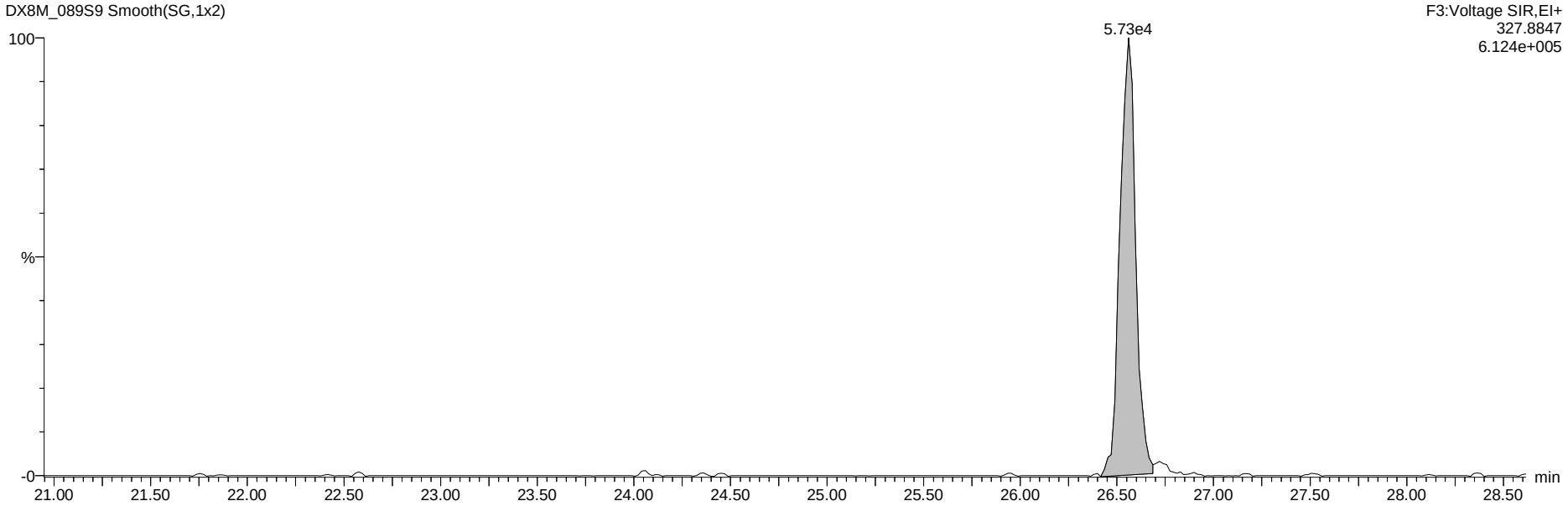
13C-Hepta-Dioxins



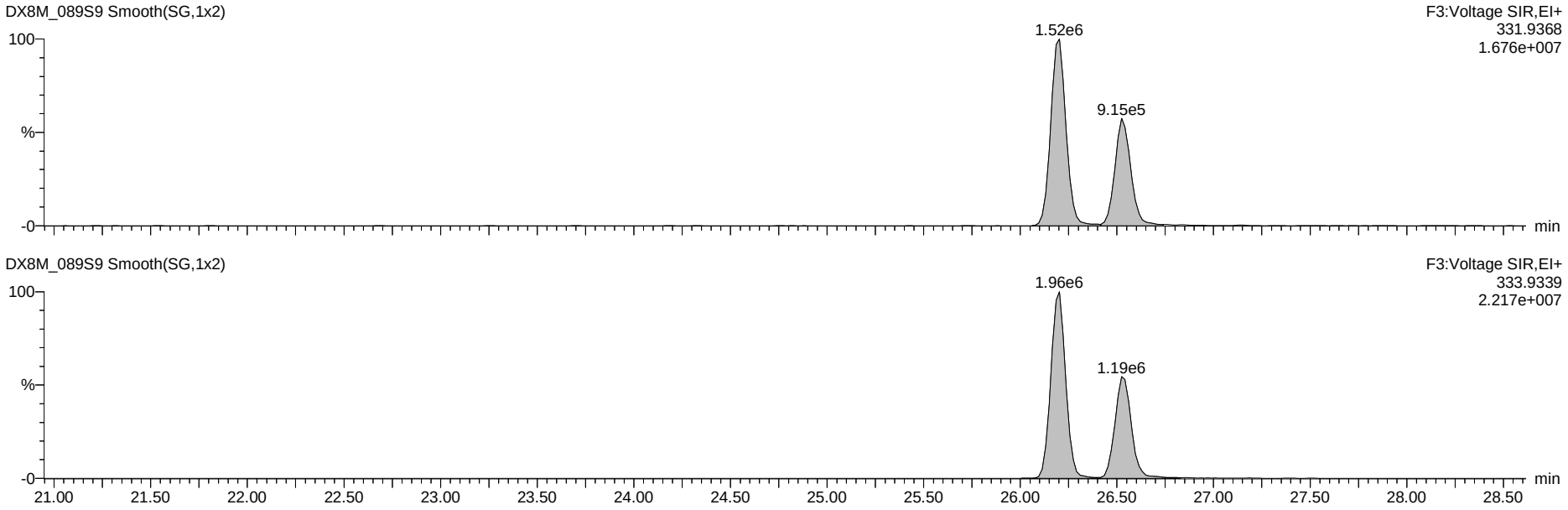
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



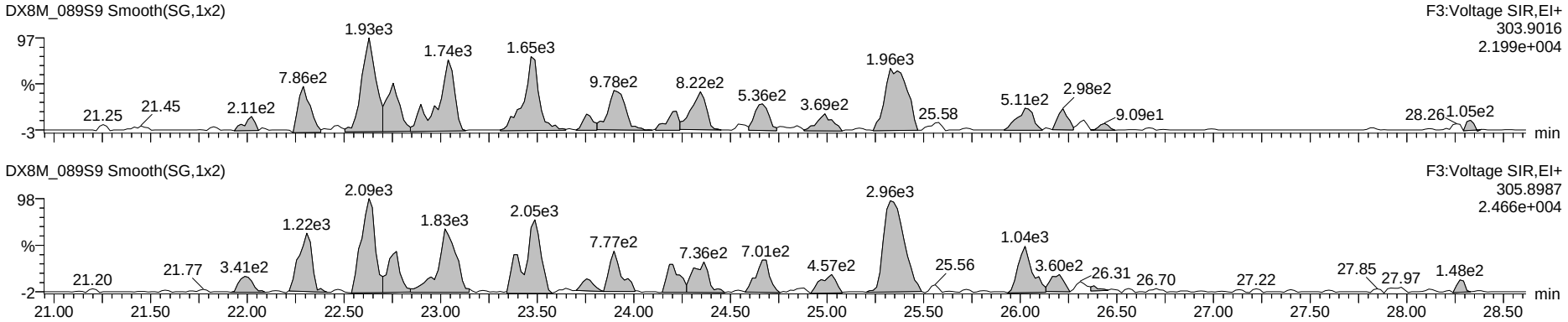
13C-Tetra-Dioxins



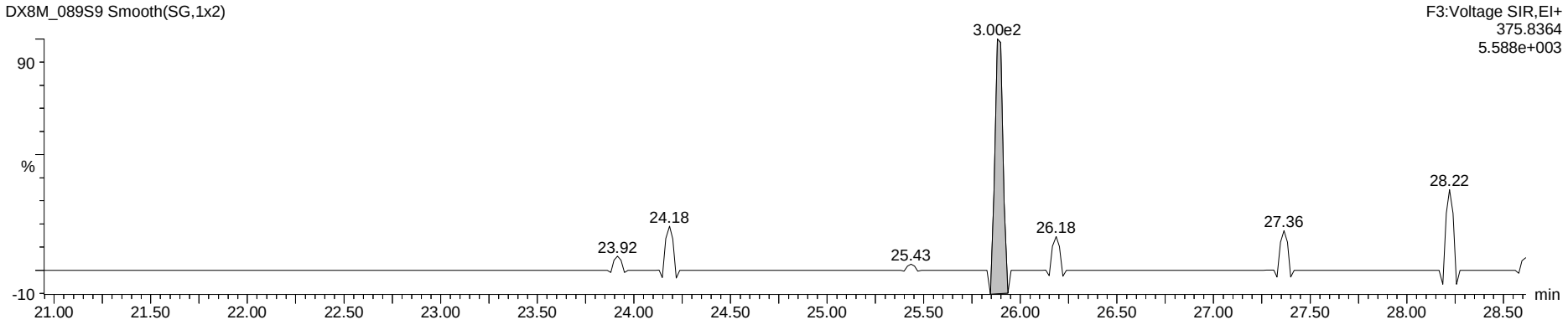
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

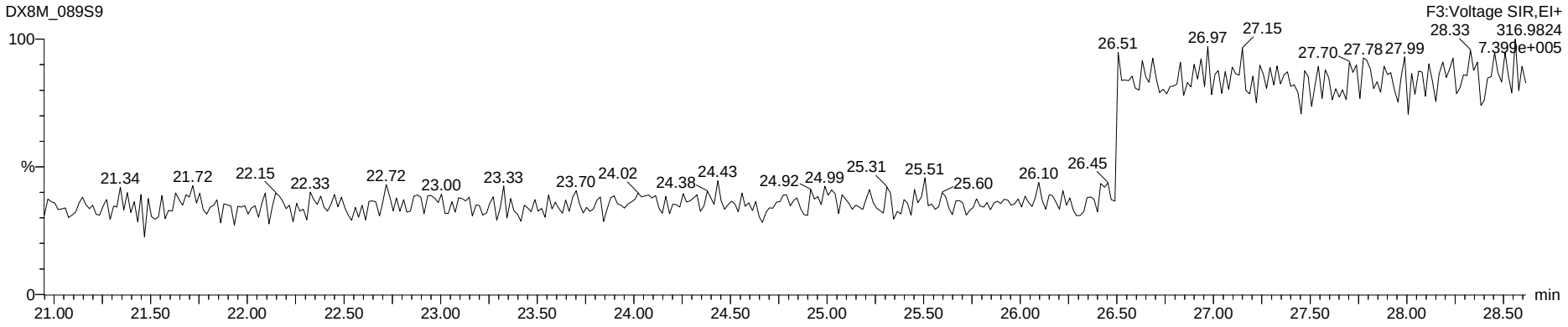
Total Tetra-Furans



Hexa DPE



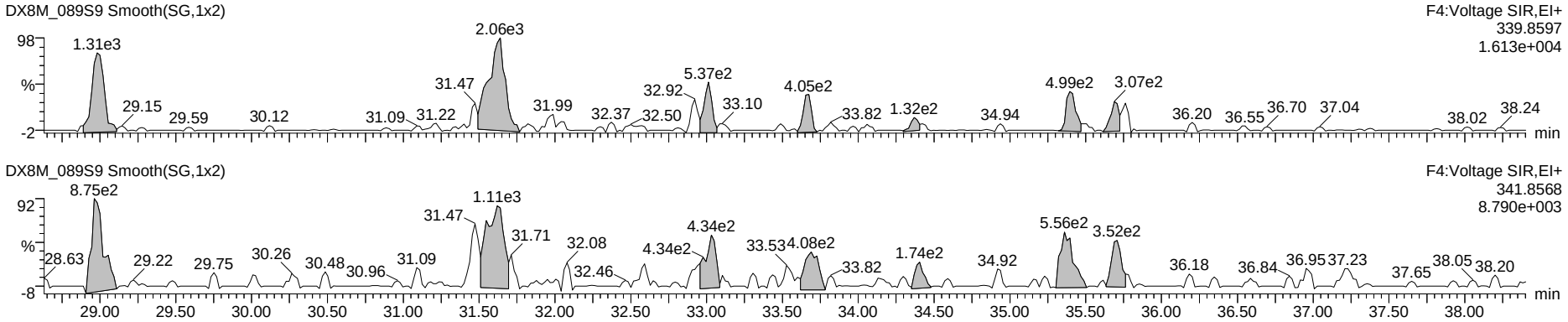
Tetra Lock



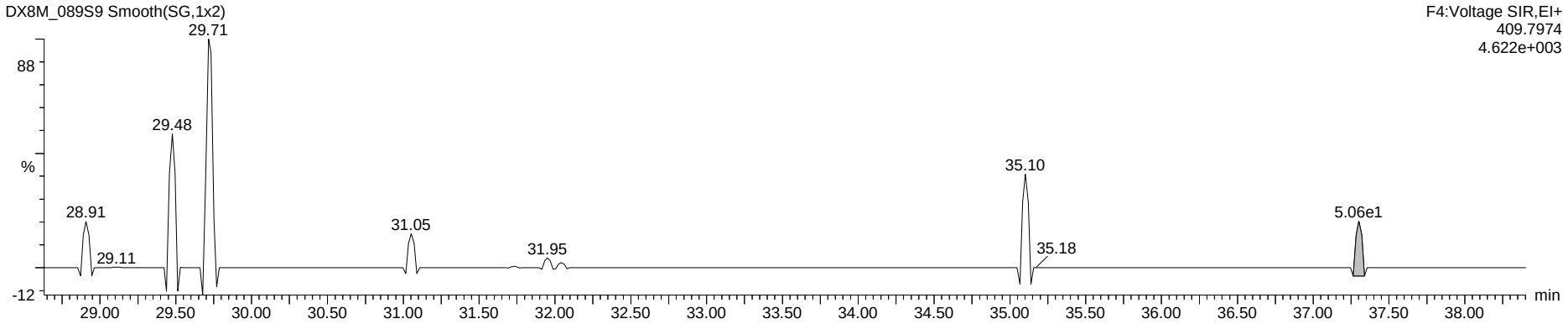
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

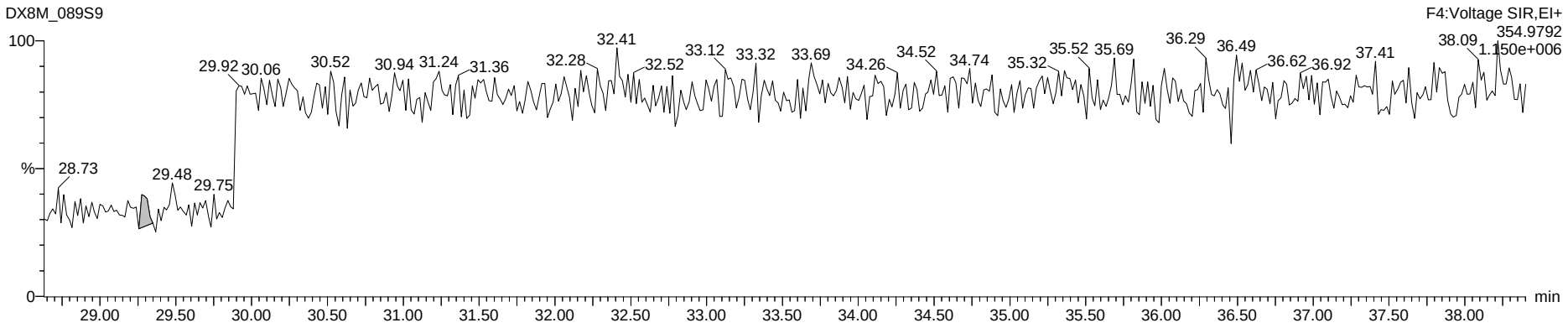
Total Penta-Furans



Hepta DPE



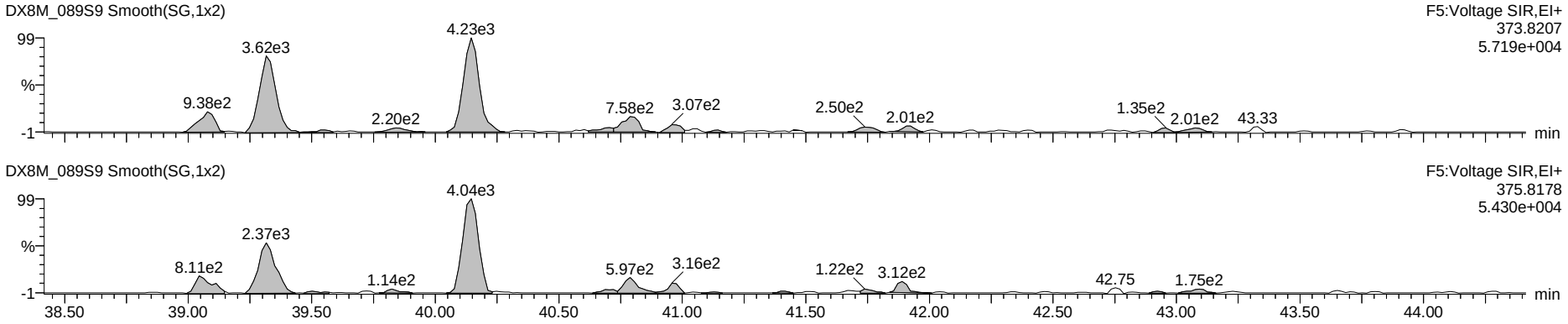
Penta Lock



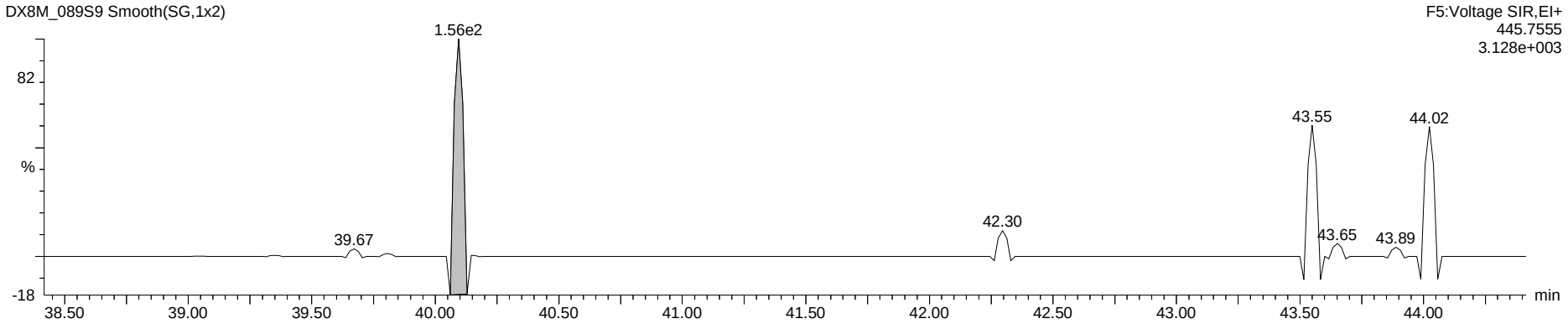
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

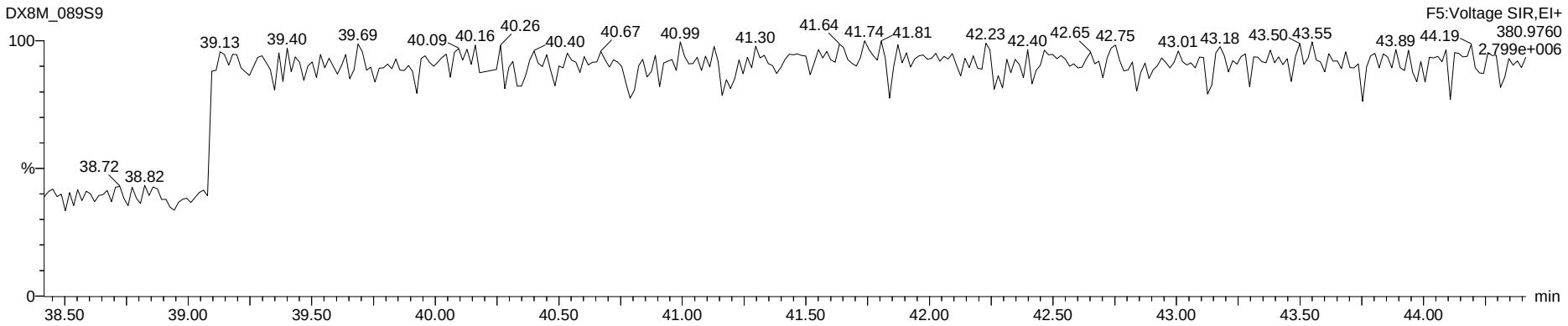
Total Hexa-Furans



Octa DPE



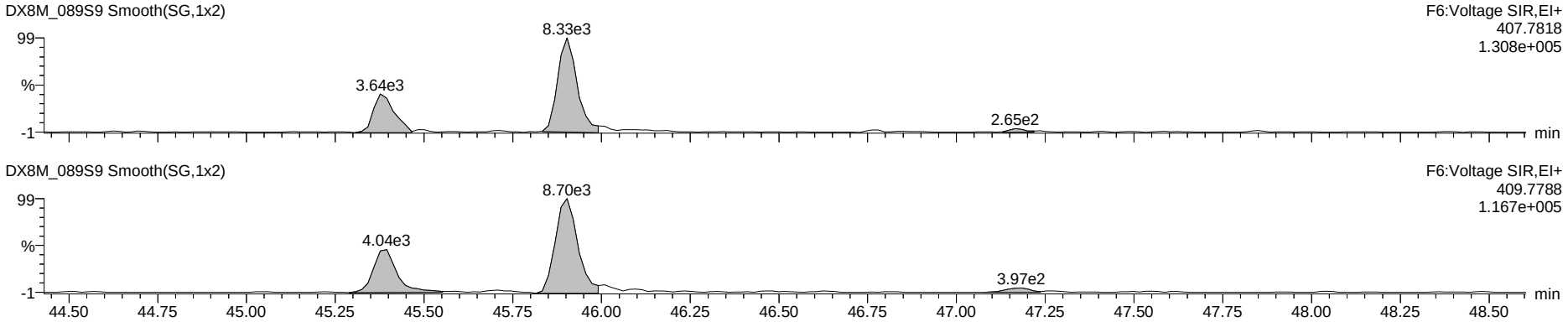
Hexa Lock



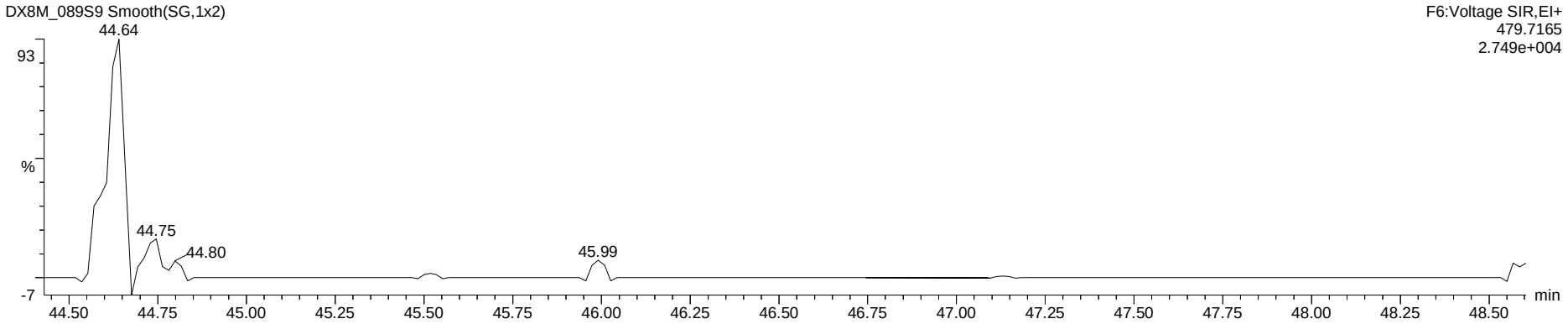
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

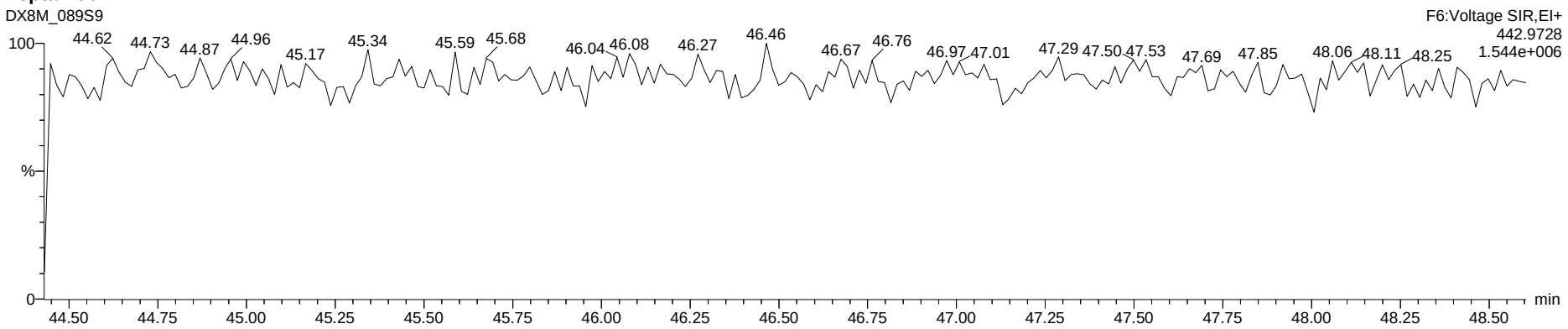
Total Hepta-Furans



Nona DPE



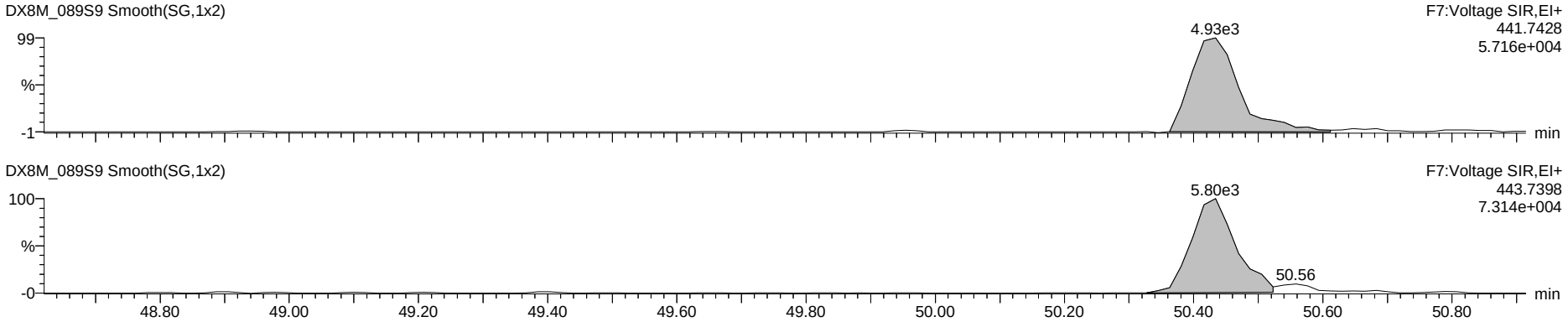
Hepta Lock



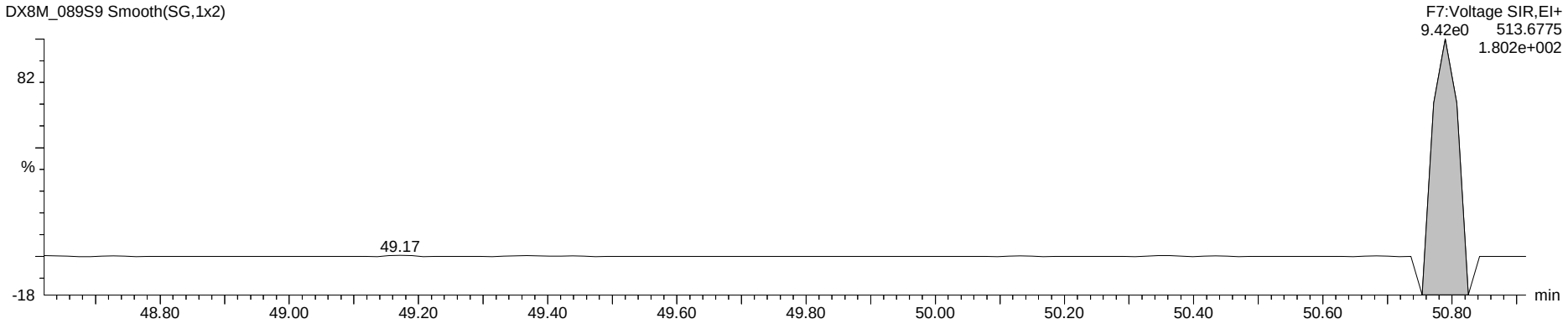
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S9, Date: 27-Jul-2018, Time: 02:05:28, ID: L29626-9,,, Description: 1,WG64557,1.0/20uL

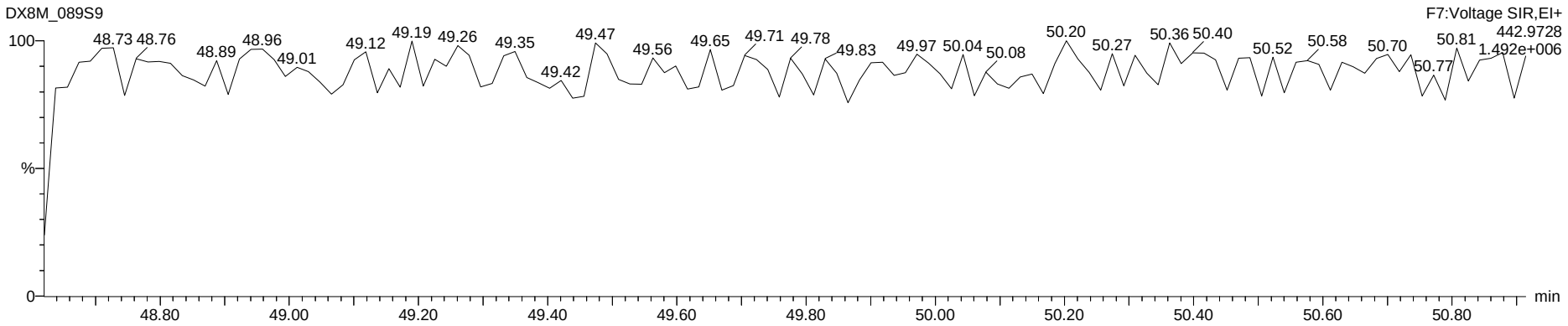
OCDF



Deca DPE



Octa Lock

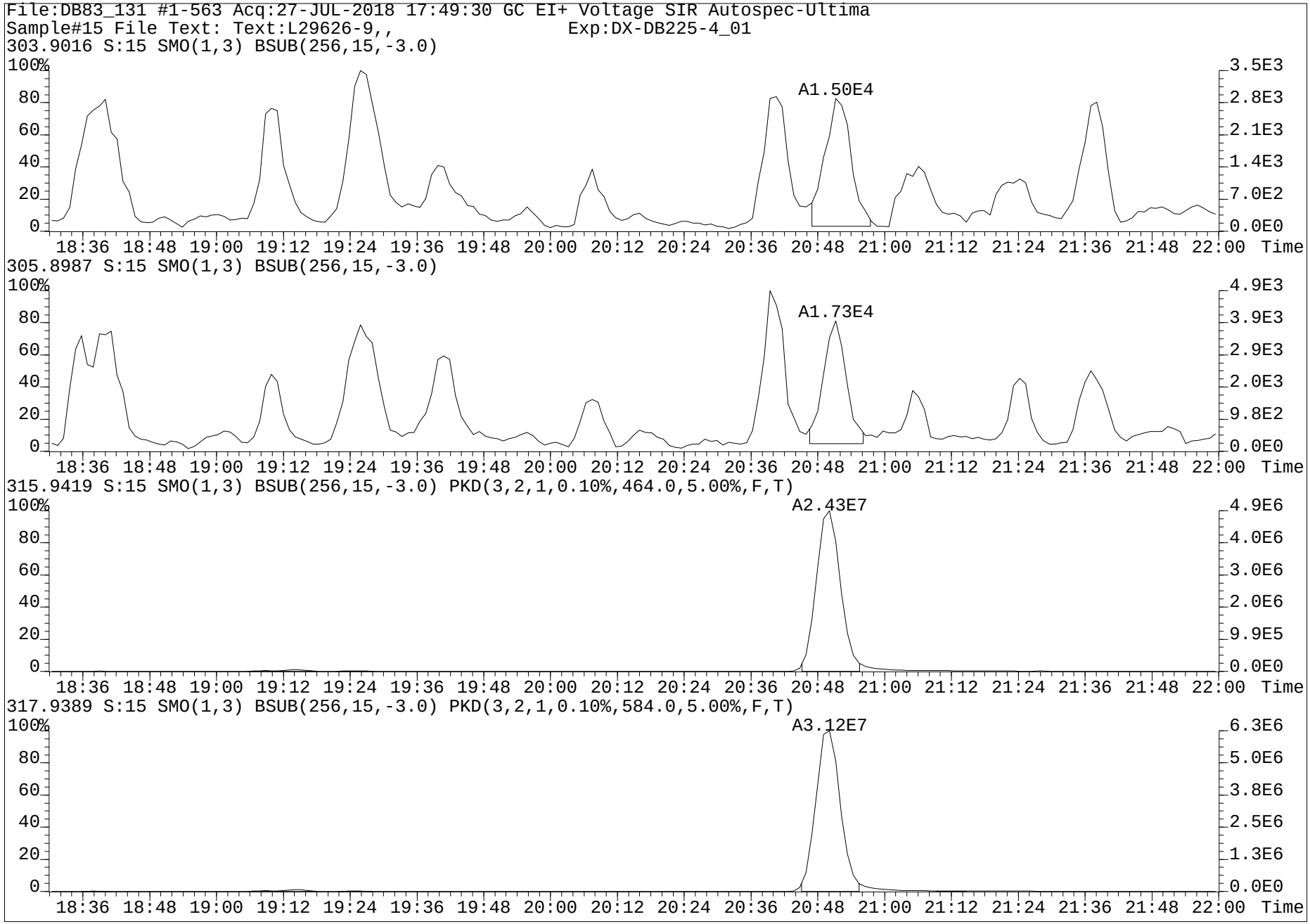


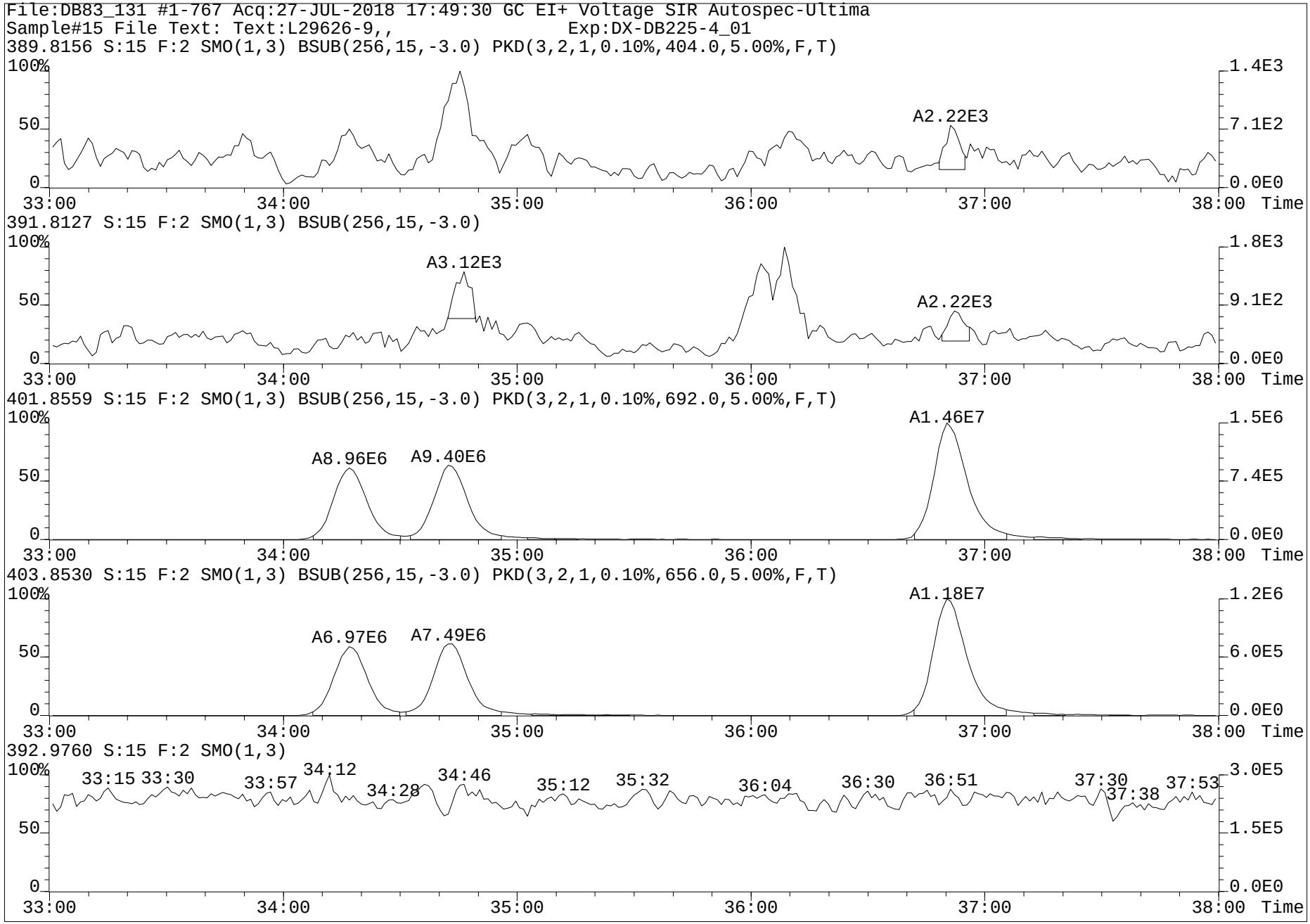
Run #20 Filename DB83_131 S: 15 I: 1 Acquired: 27-JUL-18 17:49:30 Processed: 30-JUL-18 10:41:50
Run: db83_131-a Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-9,, Comments: 1,WG64557,2.0/20uL
sample size: 10.550000 conc units: pg/g total toxicity: 0.02 F1: 1.0000 F2: 1.0000

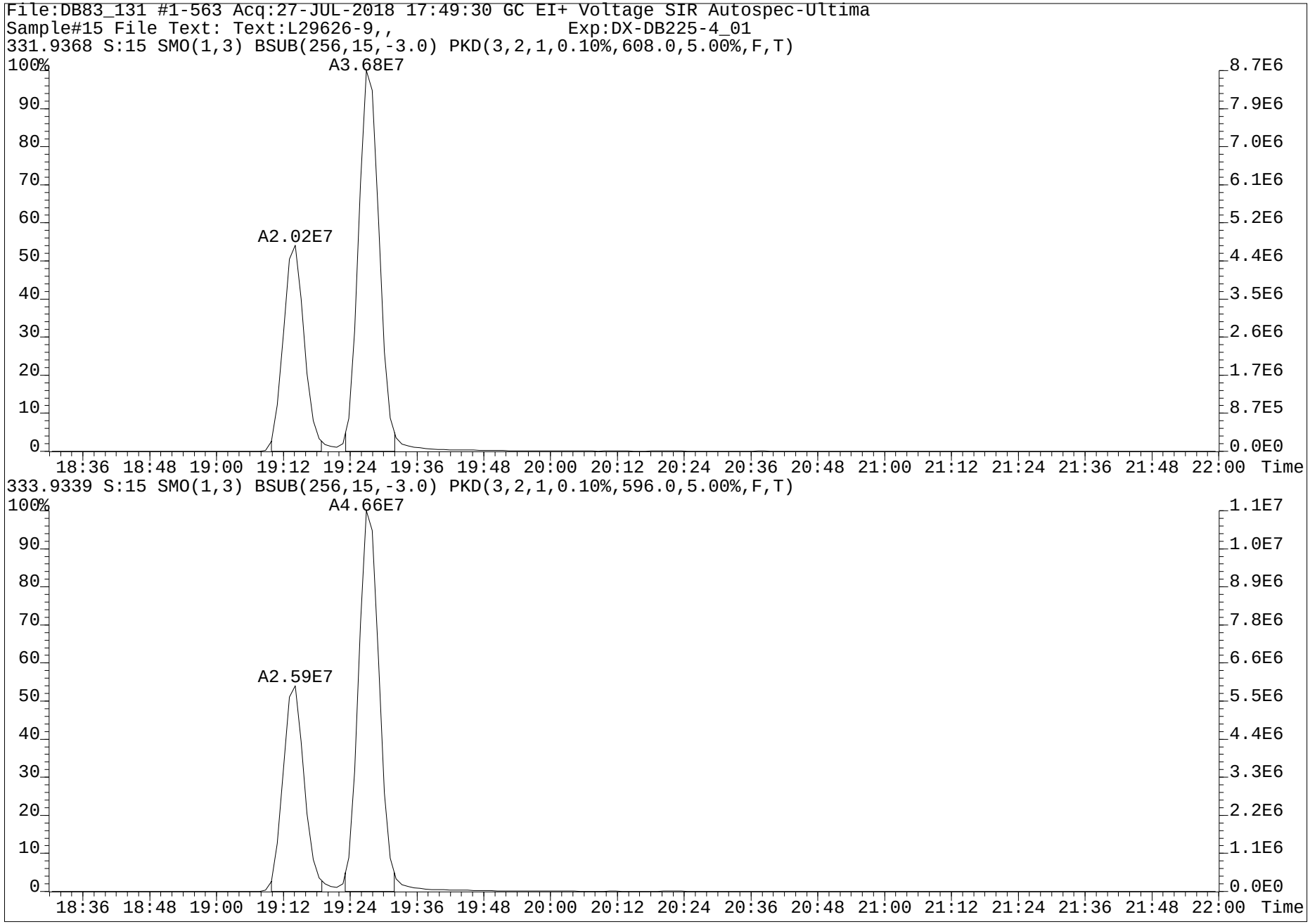
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	3.23e+04	0.86	y	20:51	0.114	0	0.0387	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	4.44e+03	1.00	n	36:51	0.056	0	0.2632	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	5.56e+07	0.78	y	20:50	70.564	-	0.0140	37.2	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.59e+07	1.29	y	34:17	107.985	-	0.2256	57.0	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.69e+07	1.26	y	34:43	110.978	-	0.2186	58.5	n
6	RS	13C-1,2,3,4-TCDD	1	8.34e+07	0.79	y	19:27	7.147	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.65e+07	1.23	y	36:52	4.572	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

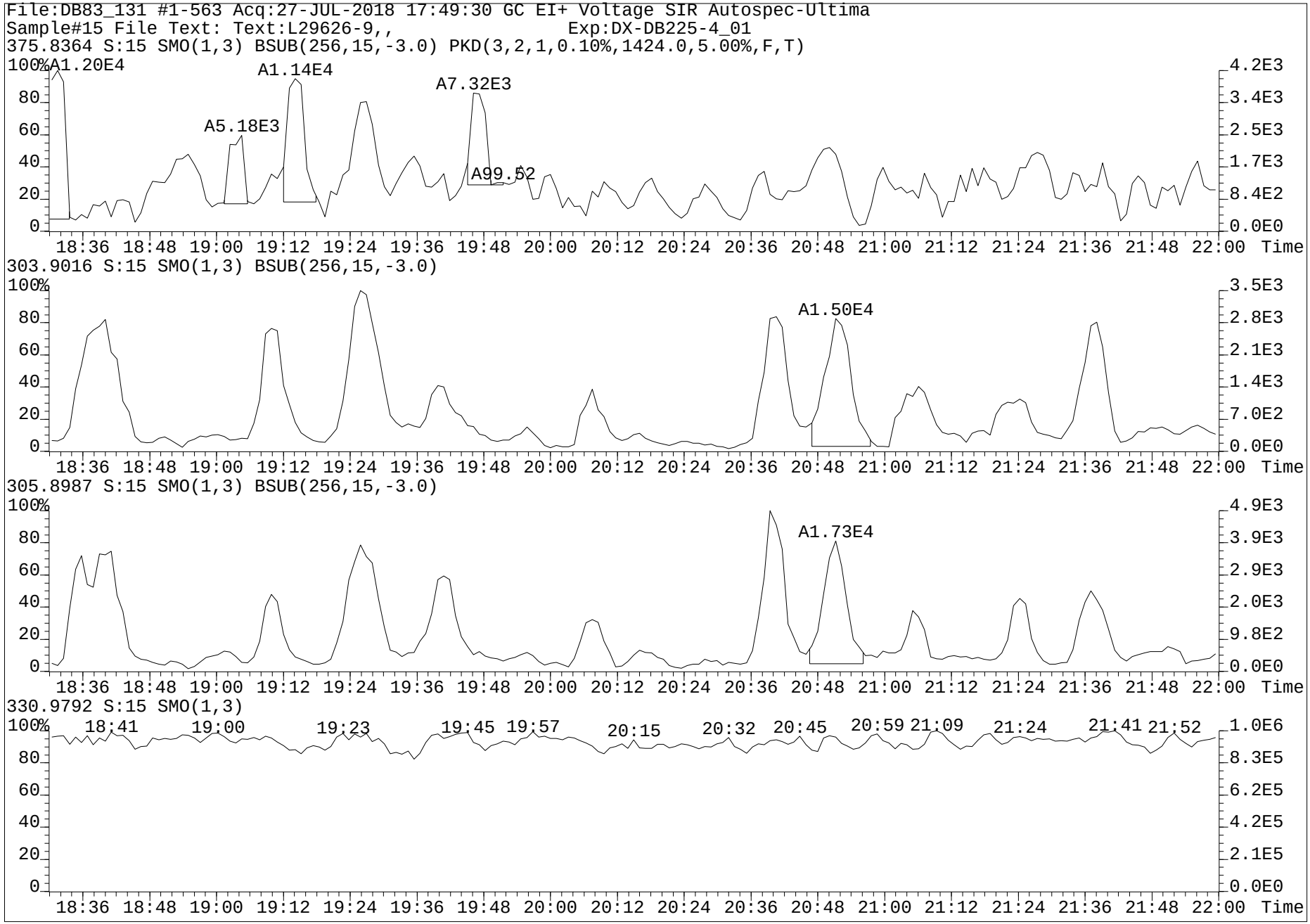
checked by
MO 31-JUL-18

pkg KB 30 JUL 2018


File:DB83_131 #1-563 Acq:27-JUL-2018 17:49:30 GC EI+ Voltage SIR Autospec-Ultima
Sample#15 File Text: Text:L29626-9,, Exp:DX-DB225-4_01
303.9016 S:15 SMO(1,3) BSUB(256,15,-3.0)
A1.50E4
305.8987 S:15 SMO(1,3) BSUB(256,15,-3.0)
A1.73E4
315.9419 S:15 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,464.0,5.00%,F,T)
A2.43E7
317.9389 S:15 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,584.0,5.00%,F,T)
A3.12E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 17:49:30 GC EI+ Voltage SIR Autospec-Ultima
Sample#15 File Text: Text:L29626-9,, Exp:DX-DB225-4_01
389.8156 S:15 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,404.0,5.00%,F,T)
A2.22E3
391.8127 S:15 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.12E3
A2.22E3
401.8559 S:15 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,692.0,5.00%,F,T)
A8.96E6
A9.40E6
A1.46E7
403.8530 S:15 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,656.0,5.00%,F,T)
A6.97E6
A7.49E6
A1.18E7
392.9760 S:15 F:2 SMO(1,3)
33:15
33:30
33:57
34:12
34:28
34:46
35:12
35:32
36:04
36:30
36:51
37:30
37:38
37:53
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.4E3
7.1E2
0.0E0
1.8E3
9.1E2
1.5E6
7.4E5
1.2E6
6.0E5
3.0E5
1.5E5


File:DB83_131 #1-563 Acq:27-JUL-2018 17:49:30 GC EI+ Voltage SIR Autospec-Ultima
Sample#15 File Text: Text:L29626-9,, Exp:DX-DB225-4_01
331.9368 S:15 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,608.0,5.00%,F,T)
A3.68E7
A2.02E7
100%
90
80
70
60
50
40
30
20
10
0
8.7E6
7.9E6
7.0E6
6.1E6
5.2E6
4.4E6
3.5E6
2.6E6
1.7E6
8.7E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:15 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,596.0,5.00%,F,T)
A4.66E7
A2.59E7
100%
90
80
70
60
50
40
30
20
10
0
1.1E7
1.0E7
8.9E6
7.8E6
6.6E6
5.5E6
4.4E6
3.3E6
2.2E6
1.1E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-563 Acq:27-JUL-2018 17:49:30 GC EI+ Voltage SIR Autospec-Ultima
Sample#15 File Text: Text:L29626-9,, Exp:DX-DB225-4_01
375.8364 S:15 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1424.0,5.00%,F,T)
A1.20E4
A1.14E4
A7.32E3
A5.18E3
A99.52
303.9016 S:15 SMO(1,3) BSUB(256,15,-3.0)
A1.50E4
305.8987 S:15 SMO(1,3) BSUB(256,15,-3.0)
A1.73E4
330.9792 S:15 SMO(1,3)
18:41 19:00 19:23 19:45 19:57 20:15 20:32 20:45 20:59 21:09 21:24 21:41 21:52
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

conc & DL × 1/10

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg/g	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	10.0 1.000	9.88e1	0.37	YES	25.33	0.086	0.1600		3.65e2	4.65e2
2	1,2,3,7,8-PeCDF	1.000	2.77e2	2.17	YES	33.67	0.294	0.0356		7.55e1	4.93e1
3	2,3,4,7,8-PeCDF	1.000			NO			0.0283		7.55e1	4.93e1
4	1,2,3,4,7,8-HxCDF	1.000	4.95e1	1.71	YES	40.81	0.059	0.0766		1.34e2	2.03e2
5	1,2,3,6,7,8-HxCDF	1.000	2.60e1	1.19	NO	40.94	0.029	0.0718		1.34e2	2.03e2
6	2,3,4,6,7,8-HxCDF	1.000			NO			0.0703		1.34e2	2.03e2
7	1,2,3,7,8,9-HxCDF	1.000			NO			0.0998		1.34e2	2.03e2
8	1,2,3,4,6,7,8-HpCDF	1.000	6.95e1	2.23	YES	45.36	0.104	0.2580		3.18e2	6.25e2
9	1,2,3,4,7,8,9-HpCDF	1.000	1.53e2	0.48	YES	47.18	0.278	0.3127		3.18e2	6.25e2
10	OCDF	1.000	9.54e1	1.32	YES	50.51	0.229	0.1774		3.51e2	2.00e-1
11	2,3,7,8-TCDD	1.000	5.68e1	3.79	YES	26.49	0.060	0.2178		5.90e2	2.75e2
12	1,2,3,7,8-PeCDD	1.000			NO			0.0556		2.25e1	1.25e2
13	1,2,3,4,7,8-HxCDD	1.000			NO			0.0352		1.20e2	2.99e-1
14	1,2,3,6,7,8-HxCDD	1.000			NO			0.0356		1.20e2	2.99e-1
15	1,2,3,7,8,9-HxCDD	1.000			NO			0.0353		1.20e2	2.99e-1
16	1,2,3,4,6,7,8-HpCDD	1.000	2.89e2	0.94	NO	46.74	0.641	0.2194		1.93e-1	5.41e2
17	OCDD	1.000	4.35e2	1.28	YES	50.36	1.254	0.3294		5.41e2	2.32e-1
18	13C-2,3,7,8-TCDF	1.000	2.50e6	0.68	NO	25.29	1583.492	2.3081	79.2	1.20e4	3.97e3
19	13C-1,2,3,7,8-PeCDF	1.000	2.04e6	1.40	NO	33.64	1791.405	2.6311	89.6	5.23e3	7.93e3
20	13C-2,3,4,7,8-PeCDF	1.000	2.10e6	1.38	NO	35.38	1909.414	2.7277	95.5	5.23e3	7.93e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	1.51e6	0.52	NO	40.76	1682.864	4.7211	84.1	9.18e3	1.23e4
22	13C-1,2,3,6,7,8-HxCDF	1.000	1.70e6	0.52	NO	40.94	1777.643	4.4201	88.9	9.18e3	1.23e4
23	13C-2,3,4,6,7,8-HxCDF	1.000	1.54e6	0.54	NO	41.87	1794.273	4.9465	89.7	9.18e3	1.23e4
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.38e6	0.56	NO	42.92	1635.706	5.0152	81.8	9.18e3	1.23e4
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.09e6	0.47	NO	45.36	1520.412	4.5578	76.0	9.30e3	7.23e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	8.81e5	0.46	NO	47.15	1577.719	5.8434	78.9	9.30e3	7.23e3
27	13C-2,3,7,8-TCDD	1.000	1.72e6	0.78	NO	26.52	1746.590	2.3610	87.3	5.14e3	5.04e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.22e6	0.68	NO	36.20	1894.903	1.7575	94.7	2.26e3	2.70e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.18e6	1.22	NO	42.16	1712.383	4.4309	85.6	6.80e3	8.73e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	1.40e6	1.20	NO	42.30	1915.418	4.1900	95.8	6.80e3	8.73e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	9.06e5	1.00	NO	46.74	1585.003	2.6424	79.3	2.39e3	5.27e3
32	13C-OCDD	1.000	1.36e6	0.86	NO	50.33	2706.832	7.2053	67.7	8.89e3	9.47e3
33	13C-1,2,3,4-TCDD	1.000	1.96e6	0.77	NO	26.20	86.589	0.1026	4.3	5.14e3	5.04e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.41e6	1.19	NO	42.72	98.435	0.2146	4.9	6.80e3	8.73e3
35	37Cl-2,3,7,8-TCDD	1.000	3.49e4			26.56	31.998	0.0897	80.0		4.29e2
36	Total Tetra-Furans	1.000					0.438	0.1600			4.65e2
37	Total Tetra-Dioxins	1.000					0.585	0.2178			2.75e2
38	Total Penta-Furans	1.000					0.294	0.0322			4.93e1
39	Total Penta-Dioxins	1.000					0.323	0.0556			1.25e2
40	Total Hexa-Furans	1.000					0.157	0.0760			2.03e2
41	Total Hexa-Dioxins	1.000					2.609	0.0341			2.99e-1
42	Total Hepta-Furans	1.000					0.619	0.2858			6.25e2
43	Total Hepta-Dioxins	1.000					0.641	0.2194			5.41e2
44	Hexa DPE	1.000	3.17e2			22.34					1.14e-1
45	Hepta DPE	1.000	4.00e1			37.45					1.13e-1
46	Octa DPE	1.000	1.68e2			39.96					1.70e-1
47	Nona DPE	1.000	7.71e1			48.50					1.64e-1
48	Deca DPE	1.000	1.56e-1			50.36					0.00e0
49	Tetra Lock	1.000	3.20e3			24.22					1.30e5
50	Penta Lock	1.000	1.23e5			29.48					1.65e5
51	Hexa Lock	1.000									3.60e5
52	Hepta Lock	1.000	4.66e3			47.46					2.04e5
53	Octa Lock	1.000	5.38e3			48.89					3.02e5
54	13C-Tetra-Furans	1.000					1583.492	2.3081			3.97e3
55	13C-Tetra-Dioxins	1.000					1833.179	2.4637			5.04e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

checked by fwo 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	26.24	4.654	YES	0.351
2	25.33	0.365	YES	0.086

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	26.49	3.793	YES	0.060
2	26.22	0.614	YES	0.101
3	25.27	1.700	YES	0.424

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	33.67	2.175	YES	0.294

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	35.52	2.174	YES	0.323

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	41.26	2.288	YES	0.070
2	40.94	1.192	NO	0.029
3	40.81	1.708	YES	0.059

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.94	4.422	YES	2.459
2	40.09	1.394	NO	0.150

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.18	0.482	YES	0.278
2	45.89	1.350	YES	0.237
3	45.36	2.229	YES	0.104

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.74	0.938	NO	0.641

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.29	0.684	NO	1583.4...

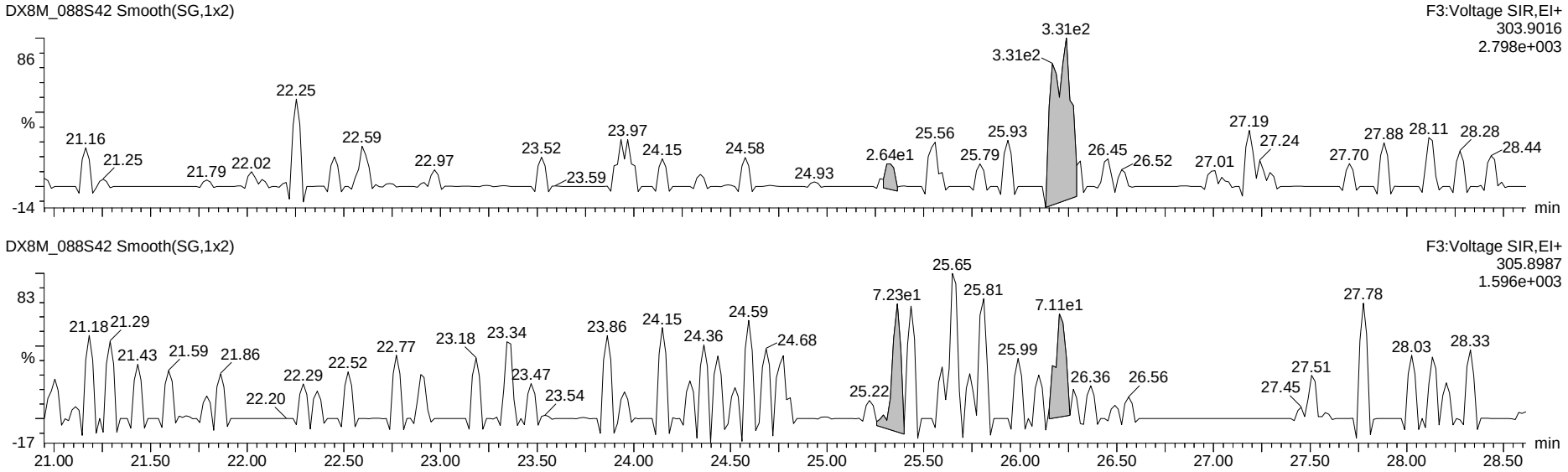
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

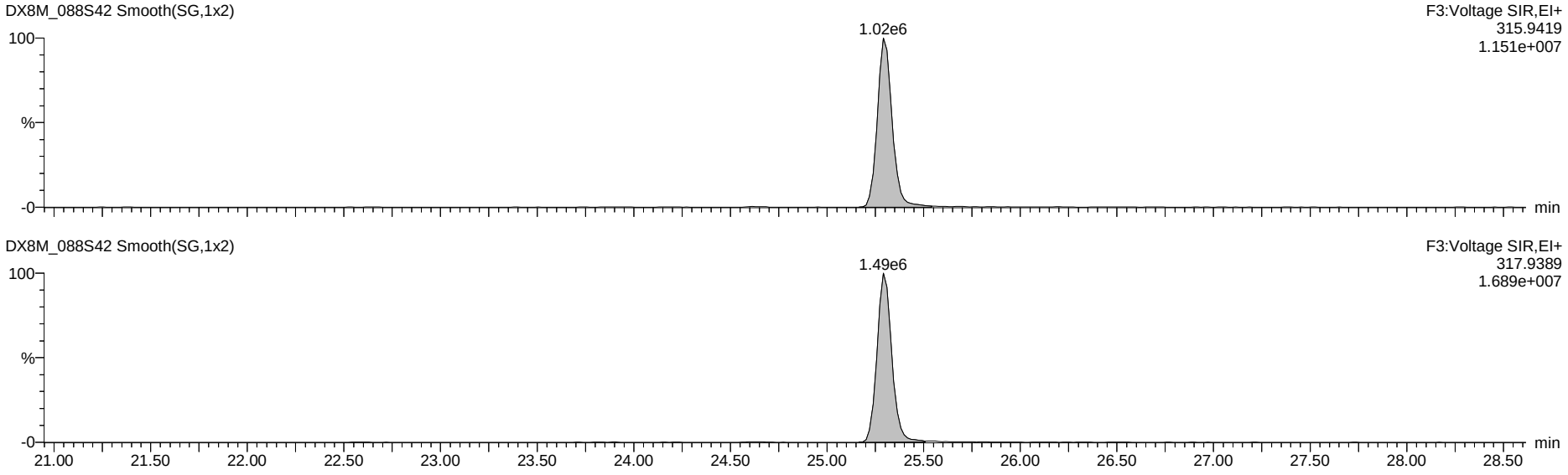
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



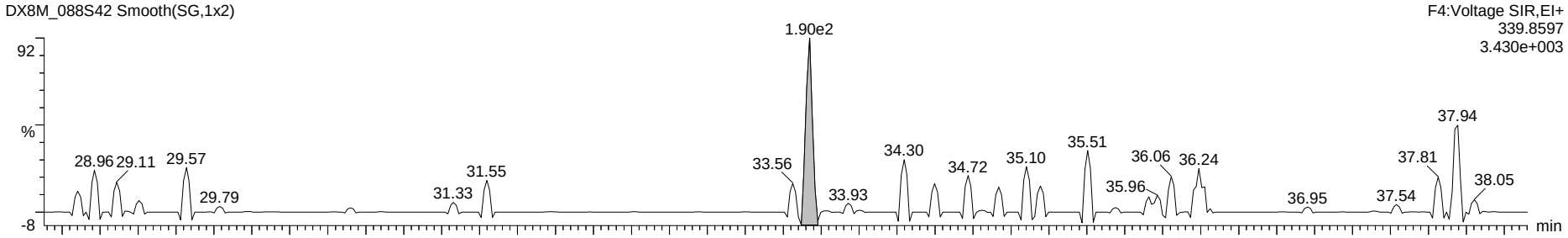
13C-Tetra-Furans

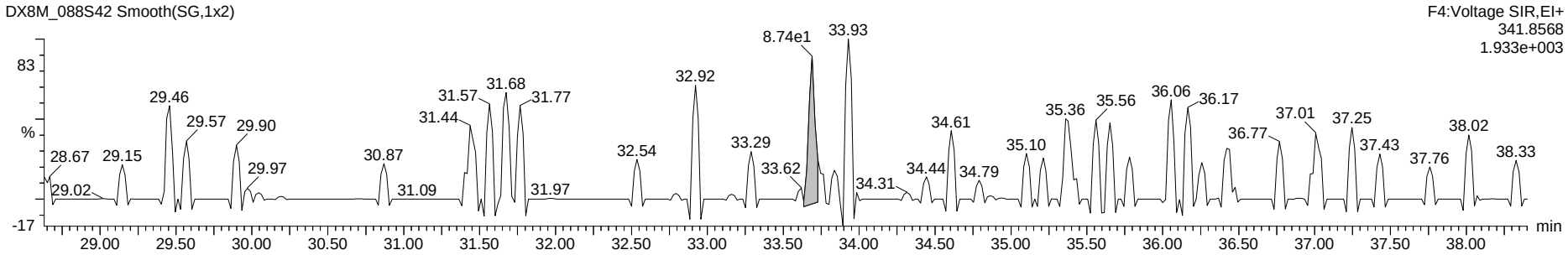


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

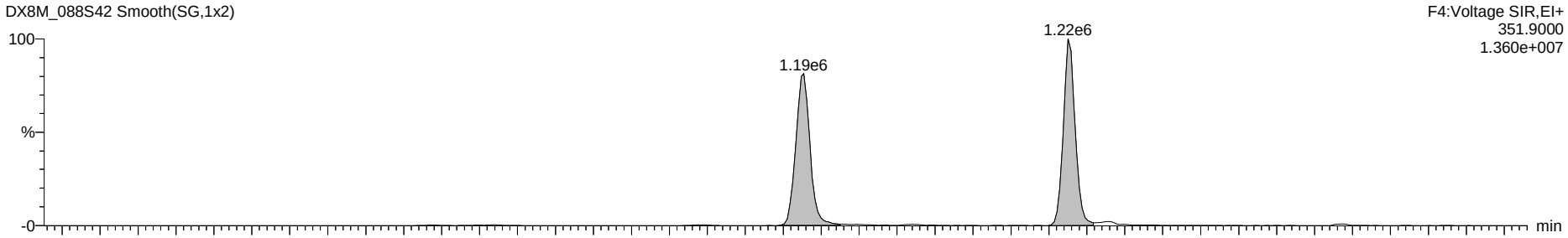
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

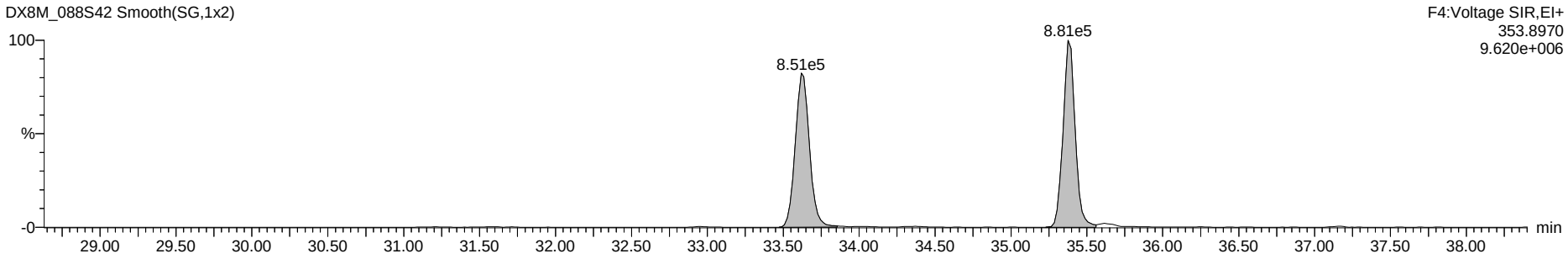
Total Penta-Furans





13C-Penta-Furans

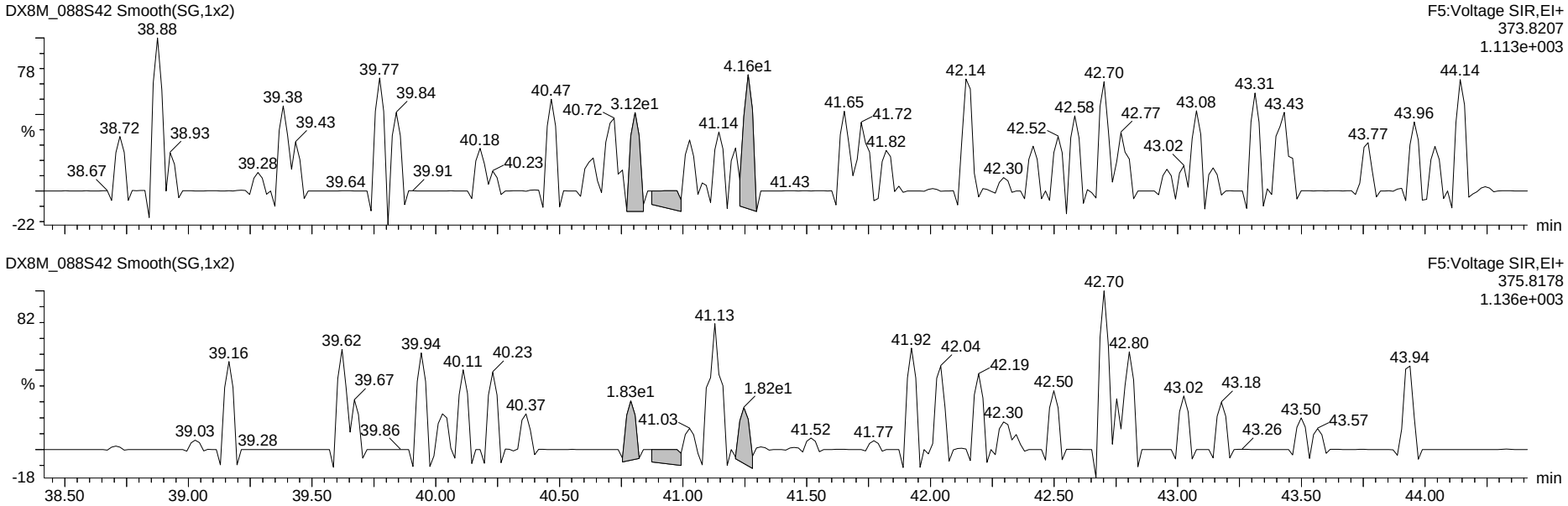




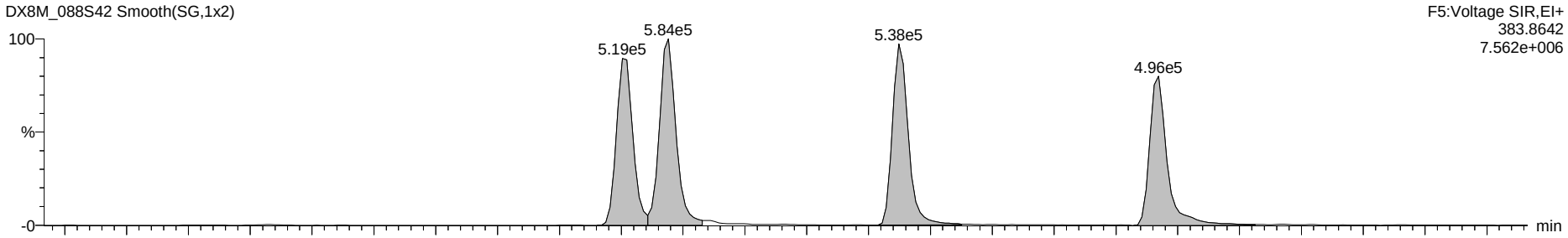
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

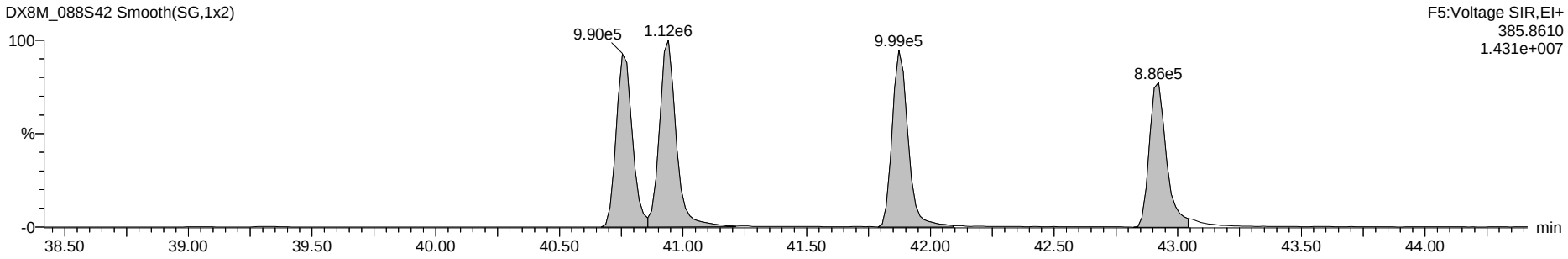
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



13C-Hexa-Furans

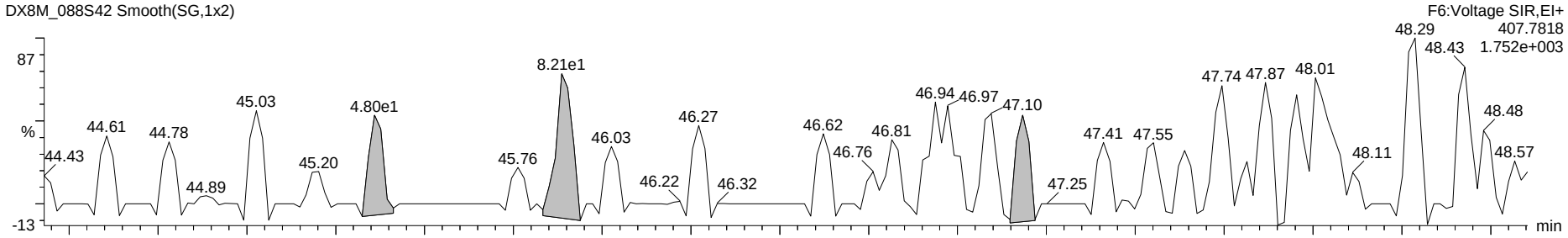


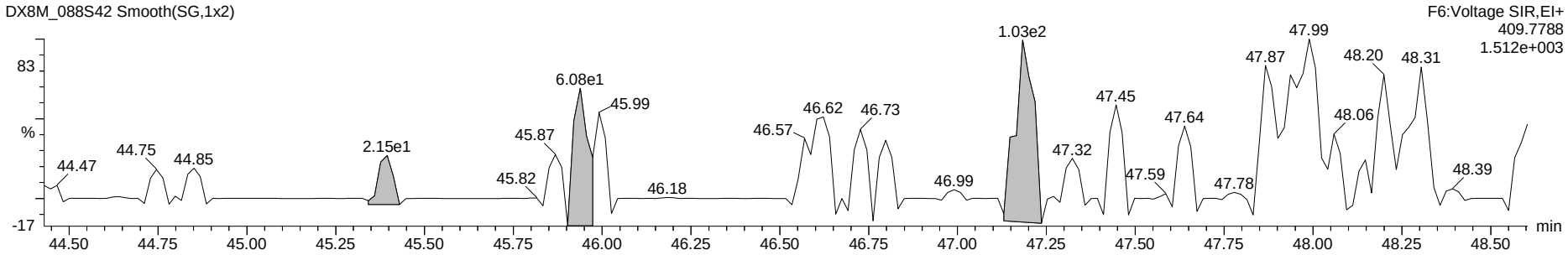


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

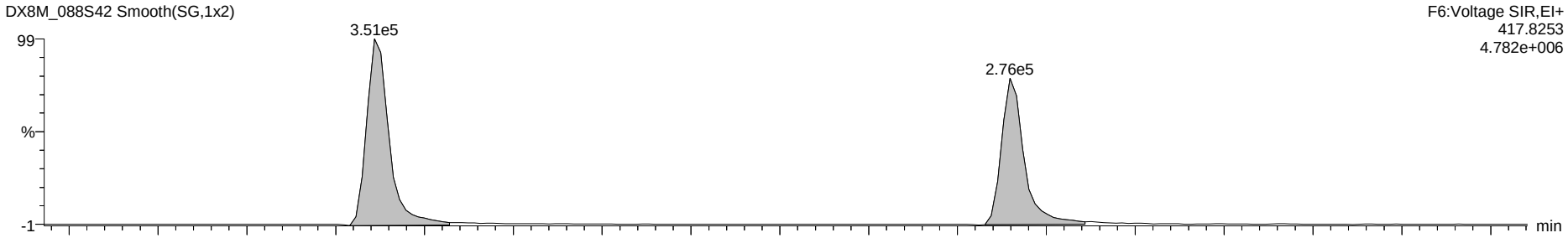
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

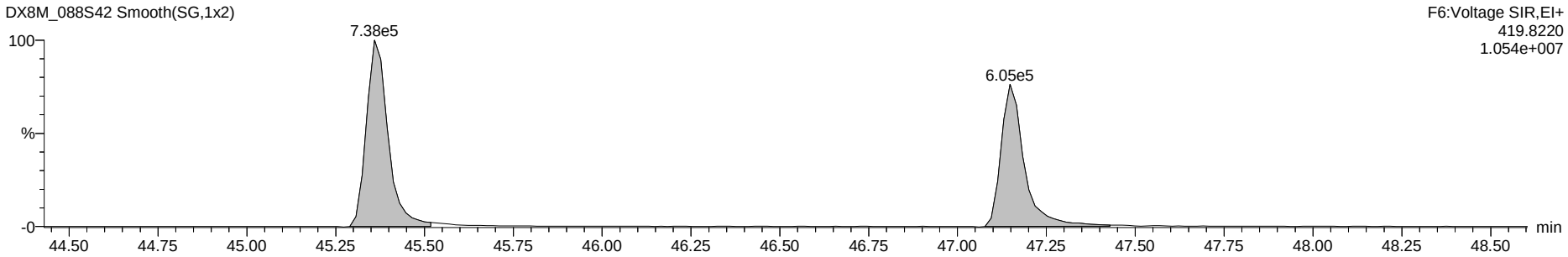
Total Hepta-Furans





13C-Hepta-Furans

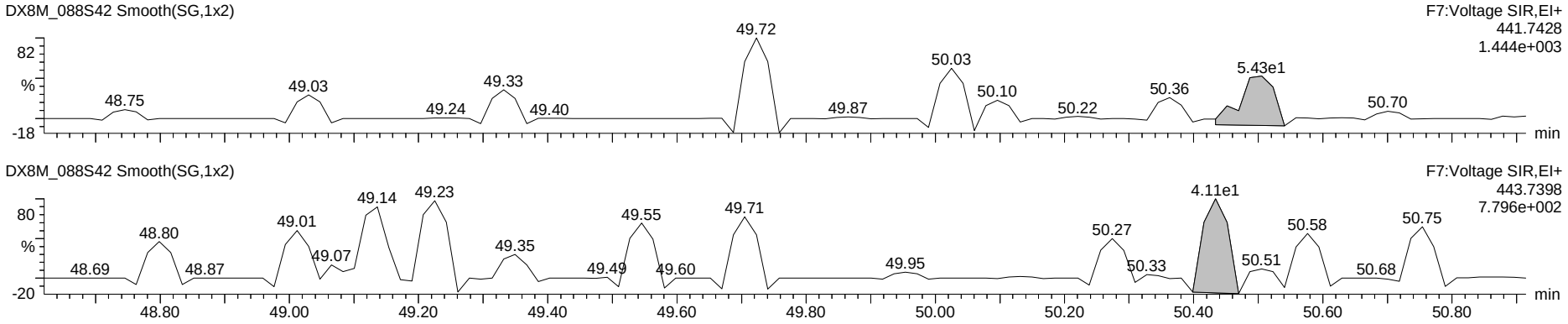




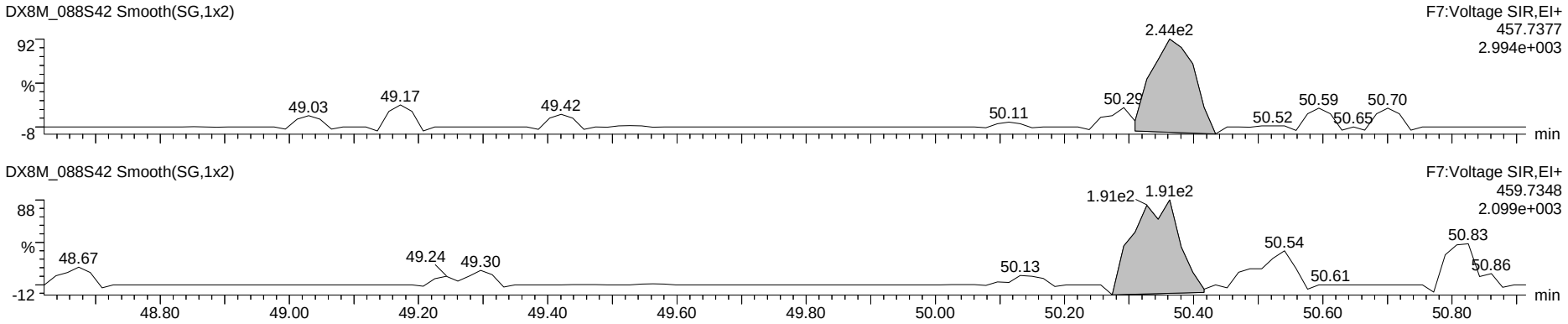
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

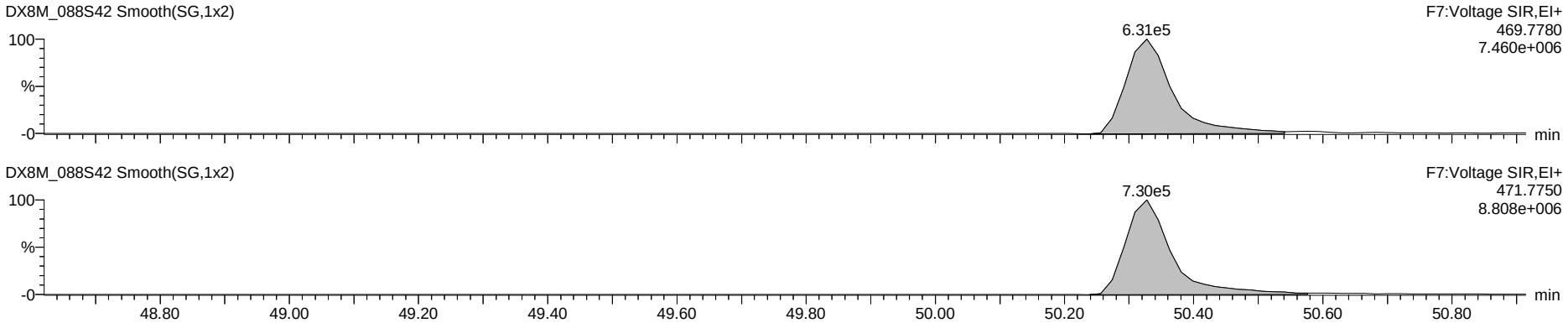
OCDF



OCDD



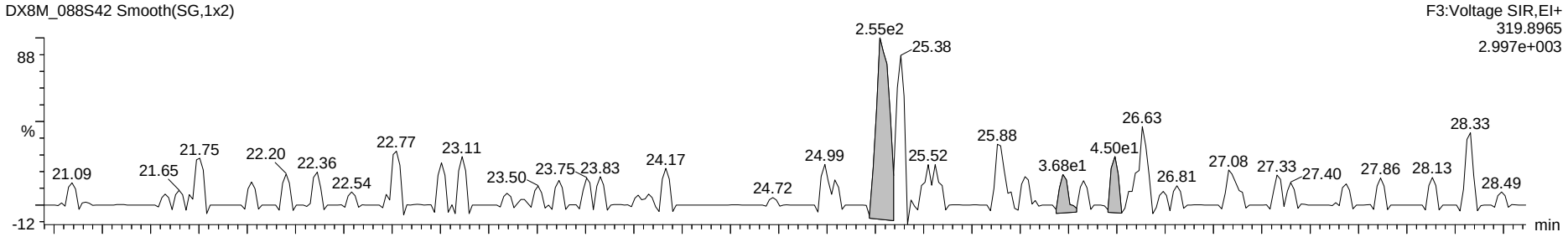
13C-OCDD

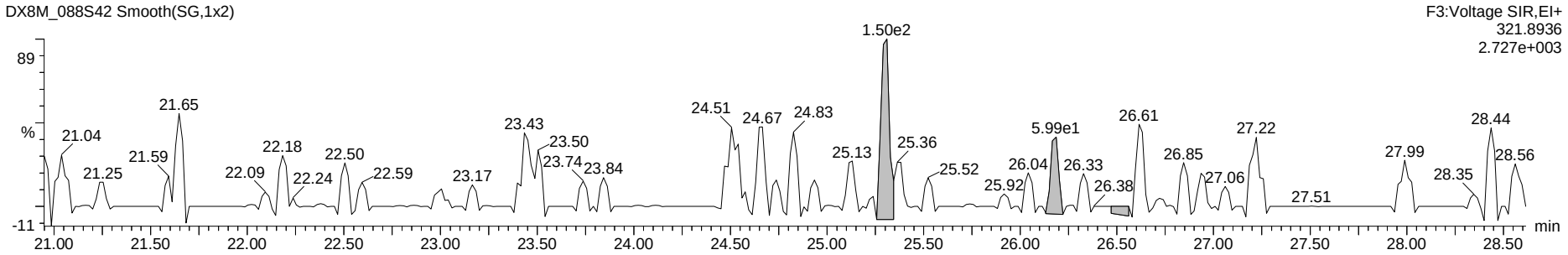


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

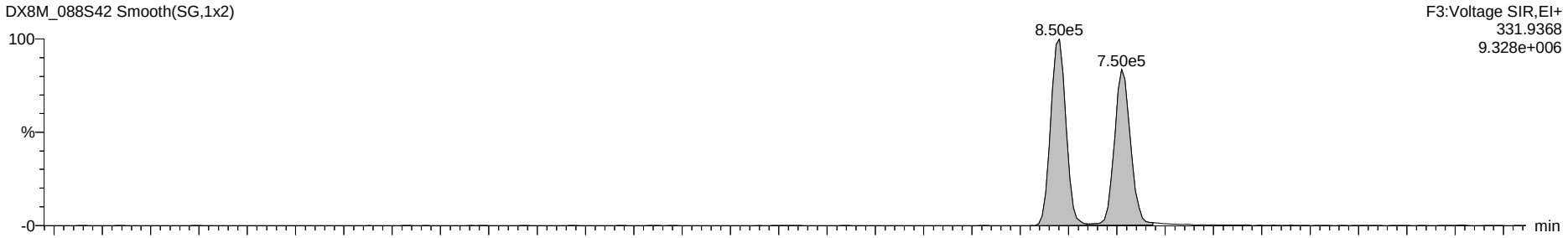
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

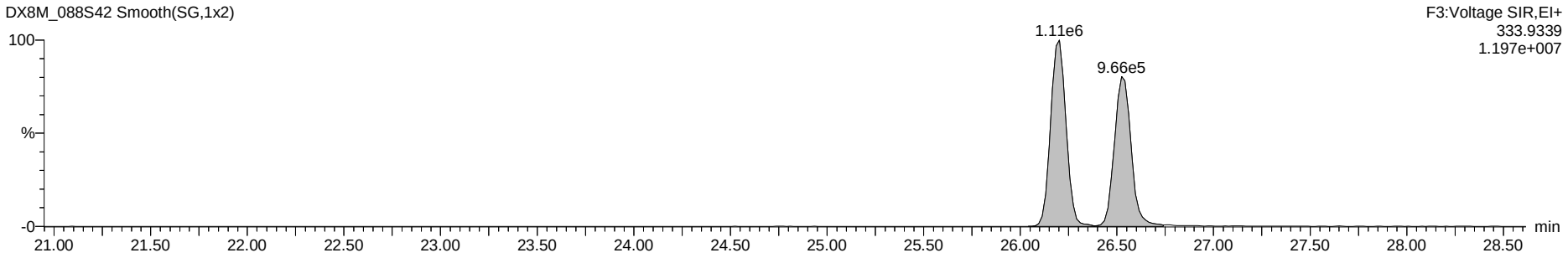
Total Tetra-Dioxins





13C-Tetra-Dioxins

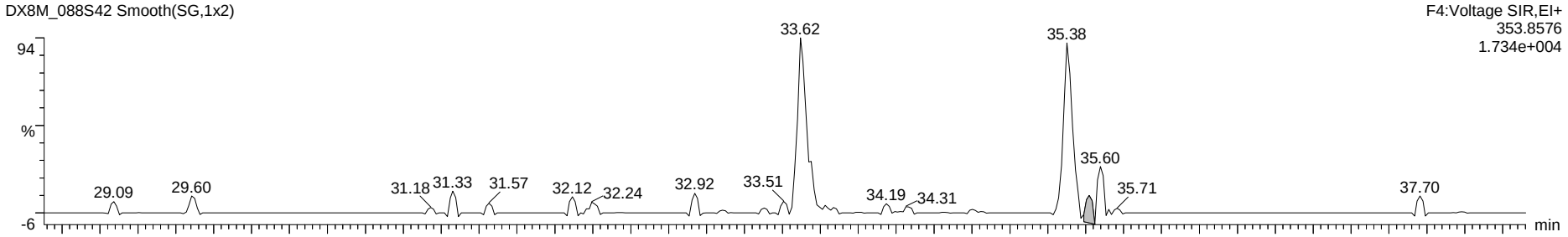


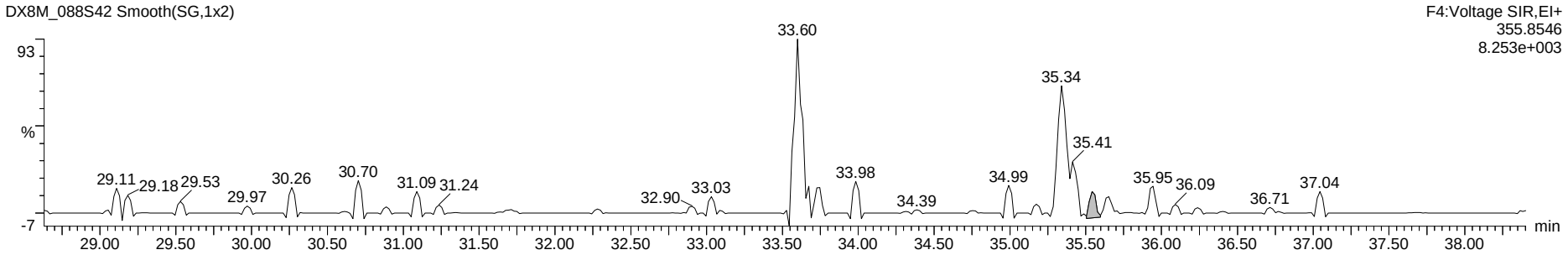


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

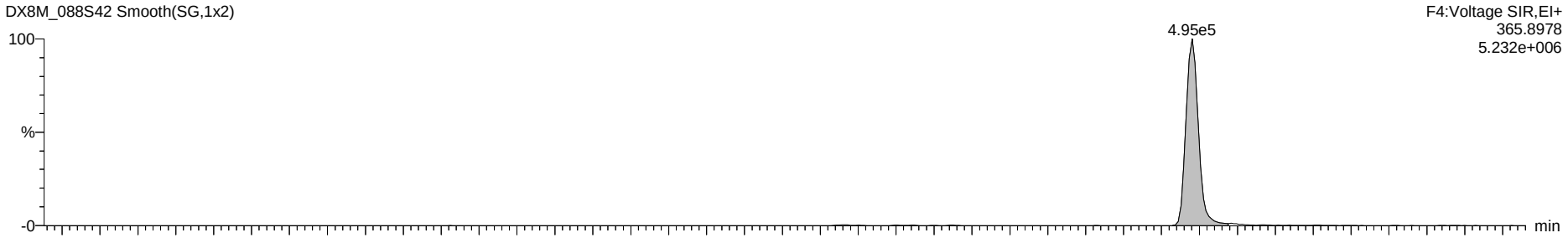
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

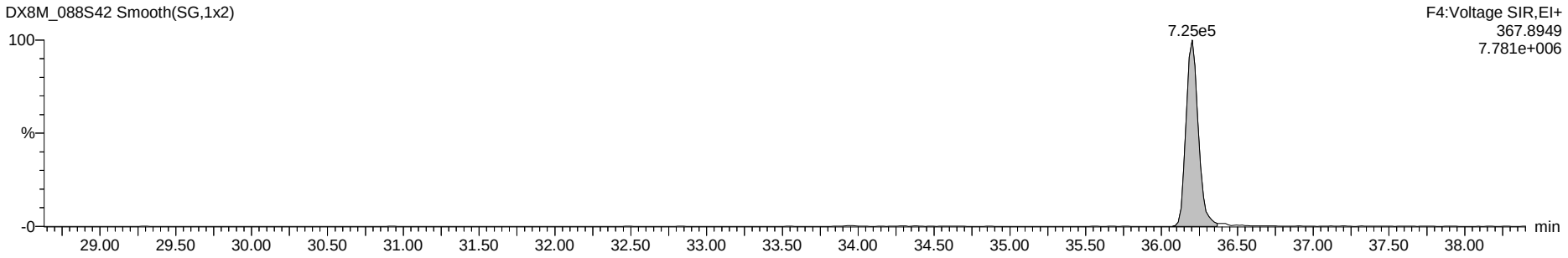
Total Penta-Dioxins





13C-Penta-Dioxins

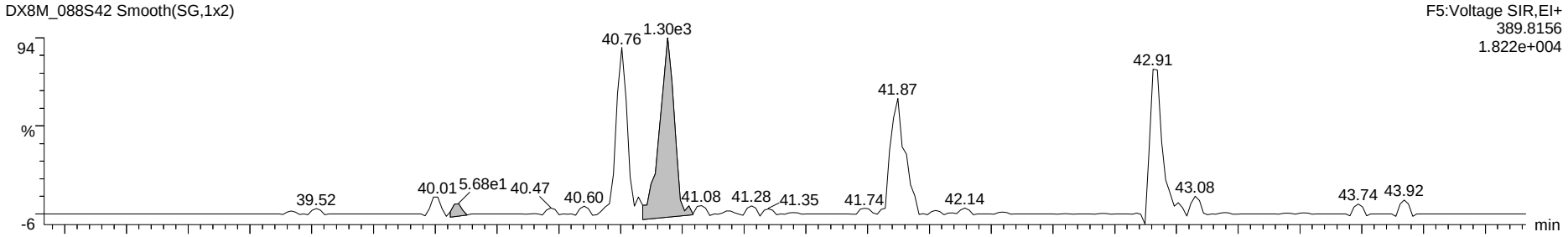


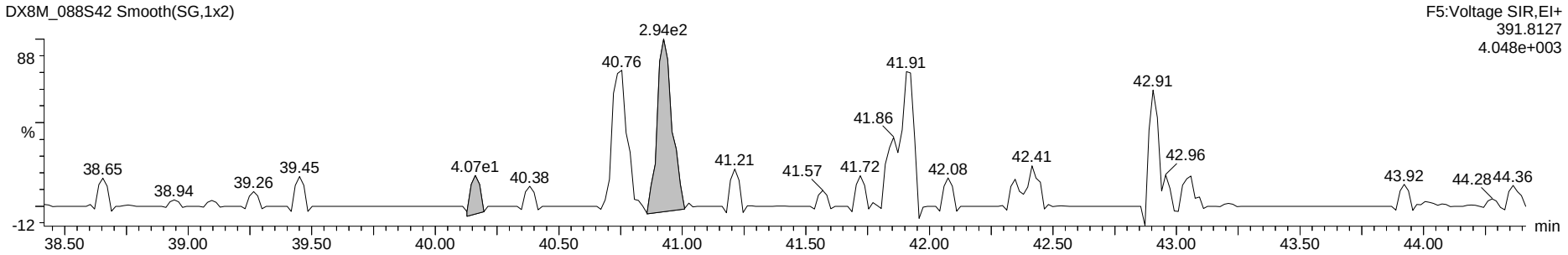


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

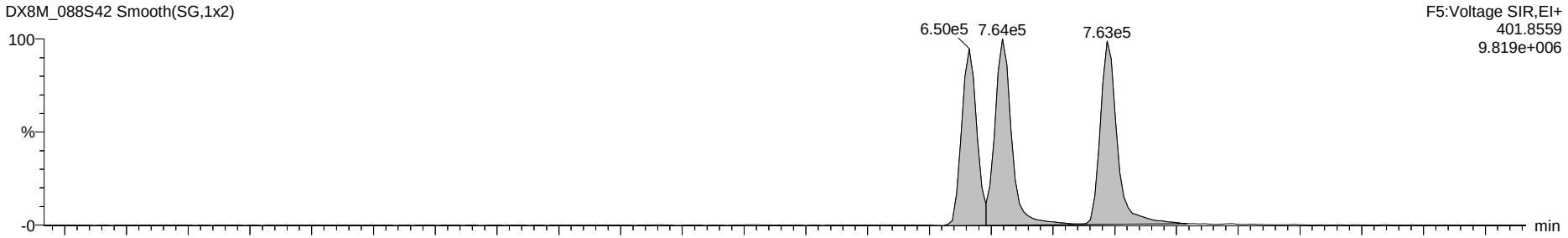
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

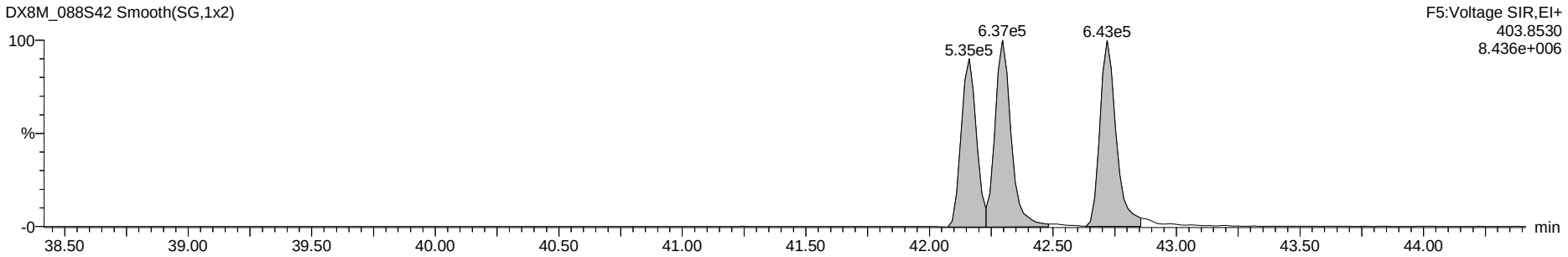
Total Hexa-Dioxins





13C-Hexa-Dioxins

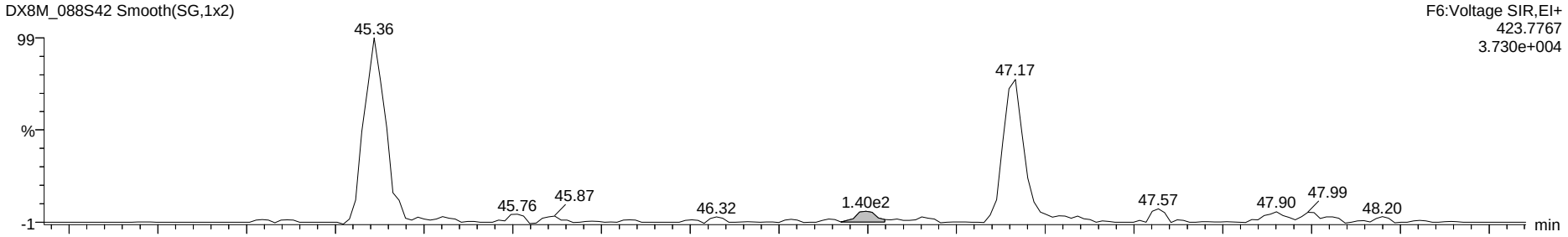


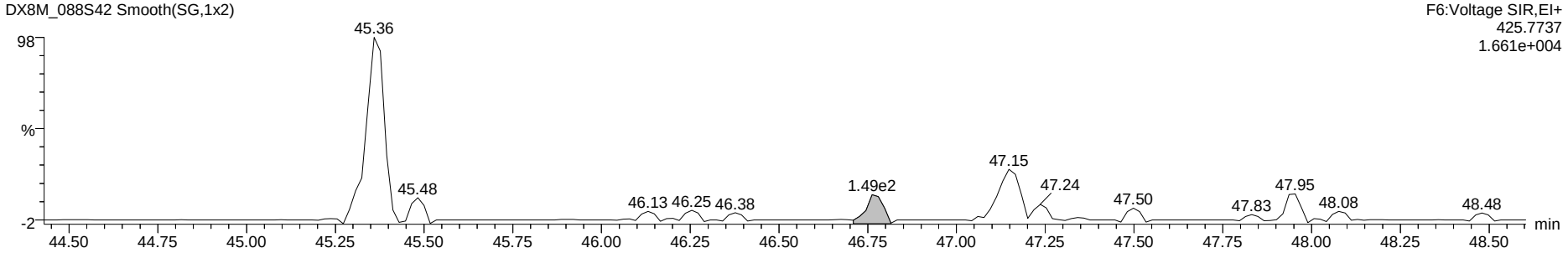


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

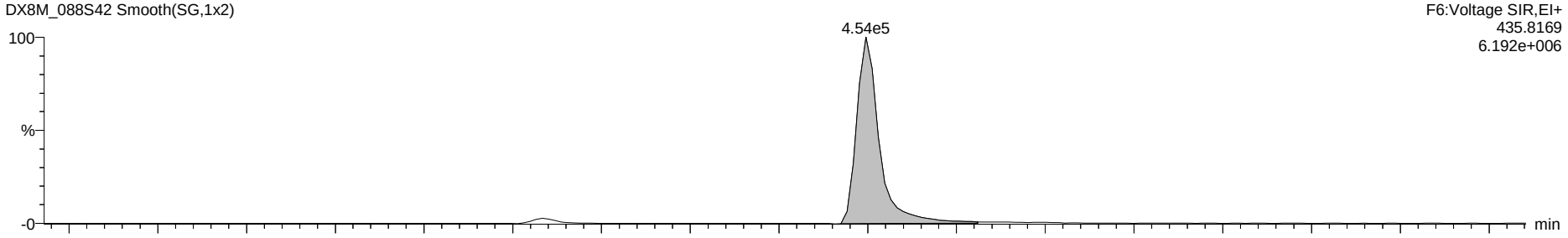
Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

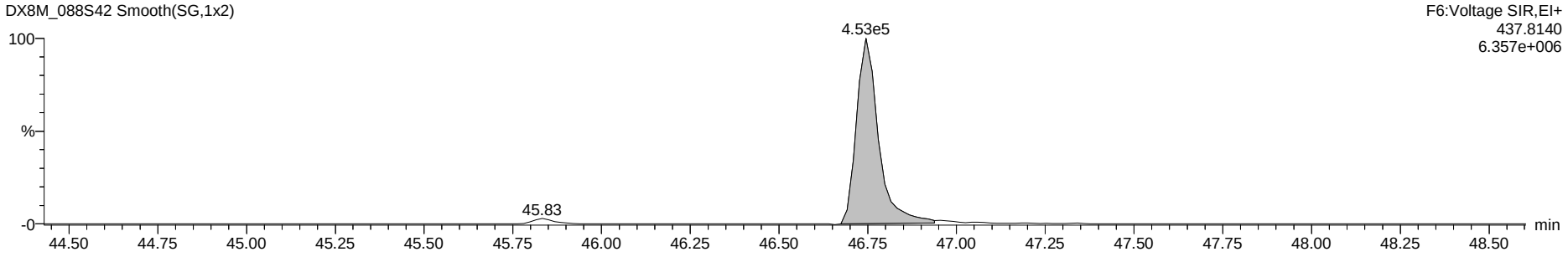
Total Hepta-Dioxins





13C-Hepta-Dioxins

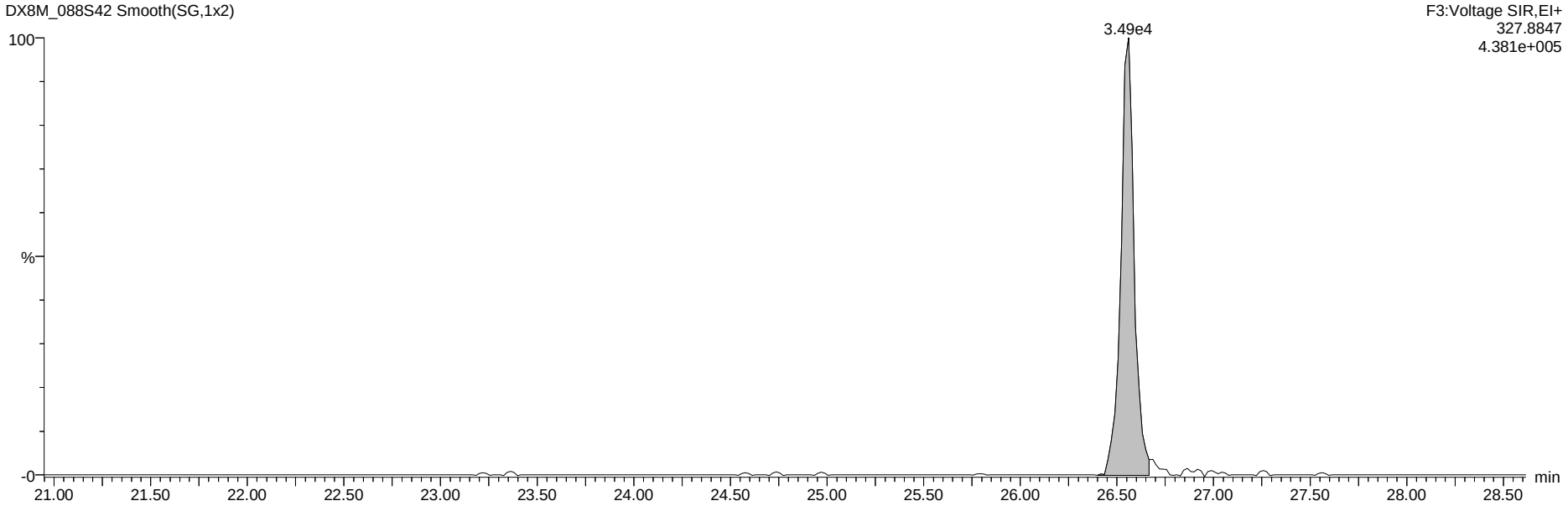




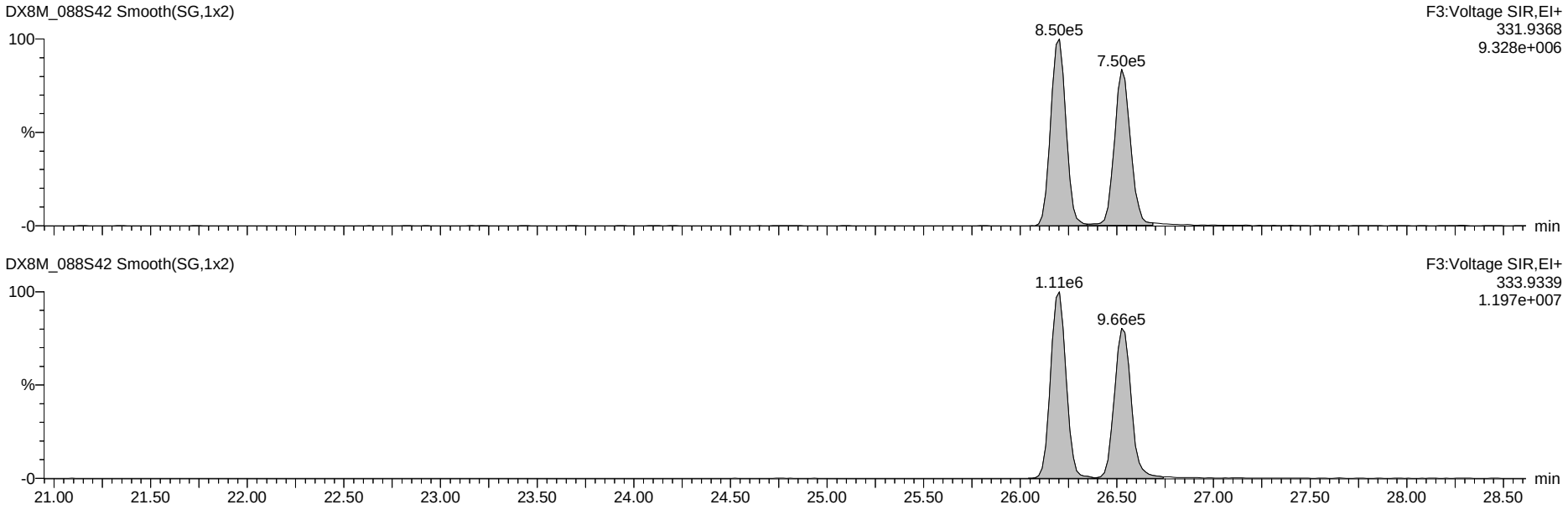
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



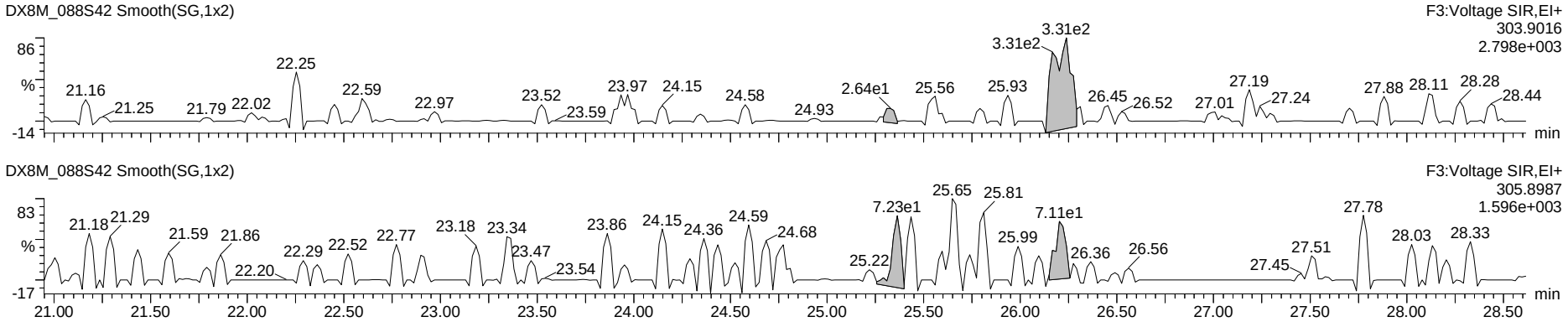
13C-Tetra-Dioxins



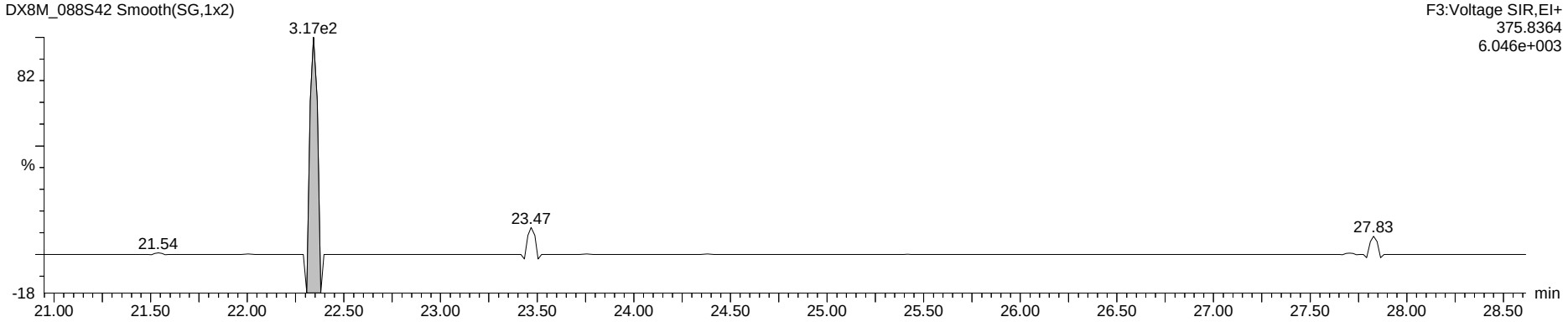
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

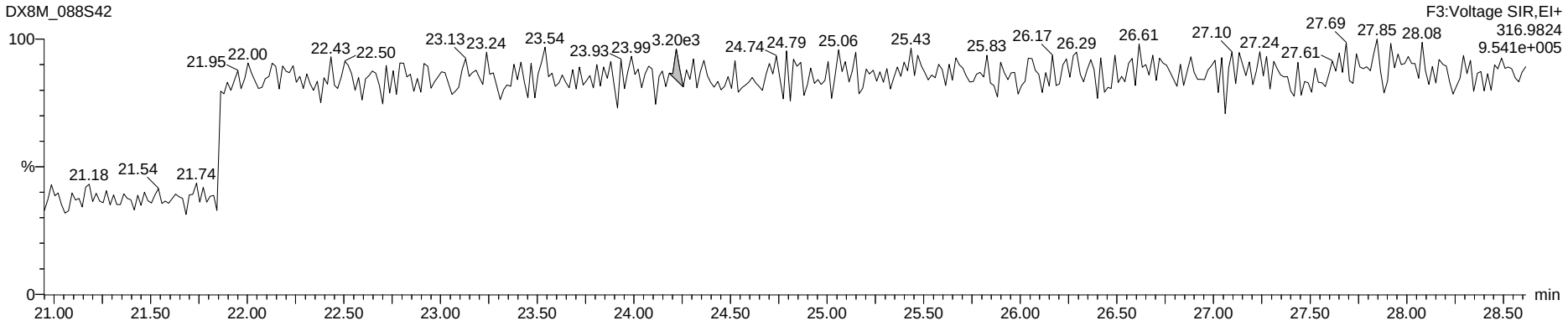
Total Tetra-Furans



Hexa DPE



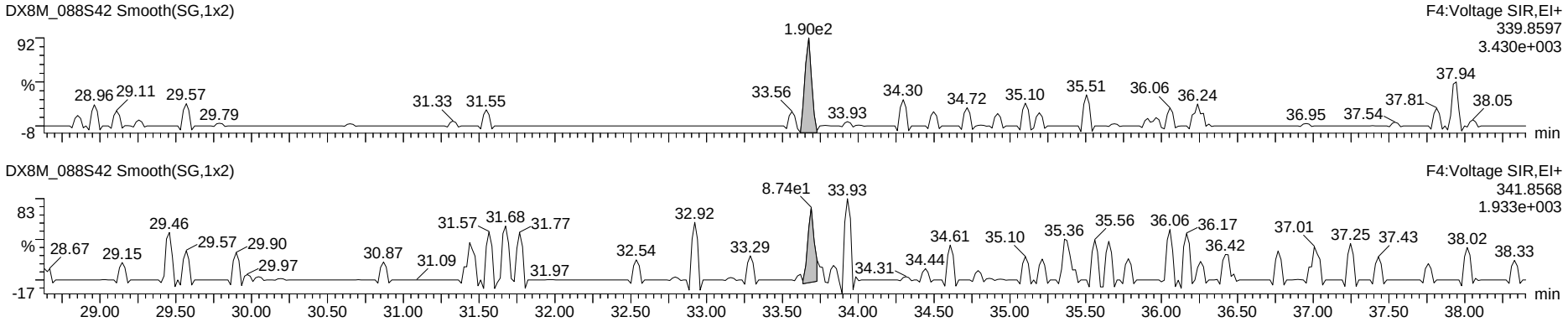
Tetra Lock



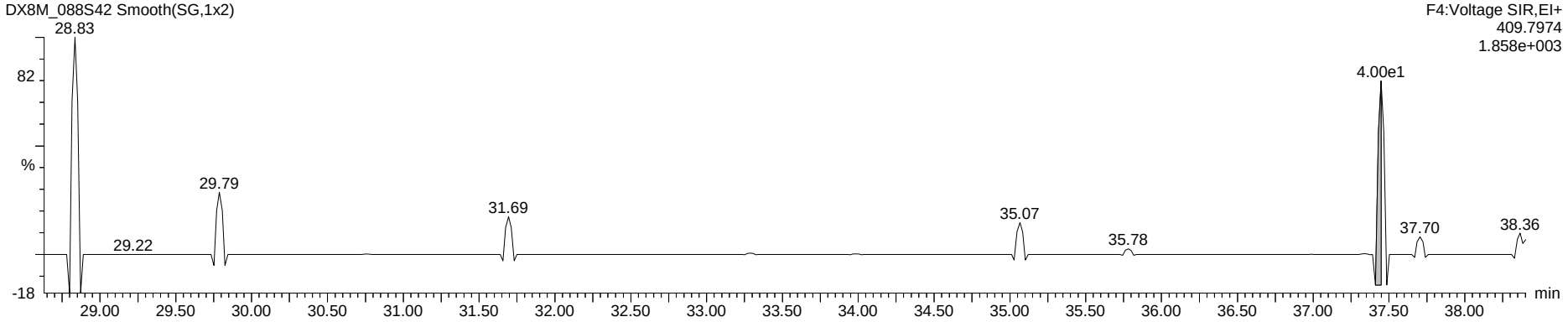
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

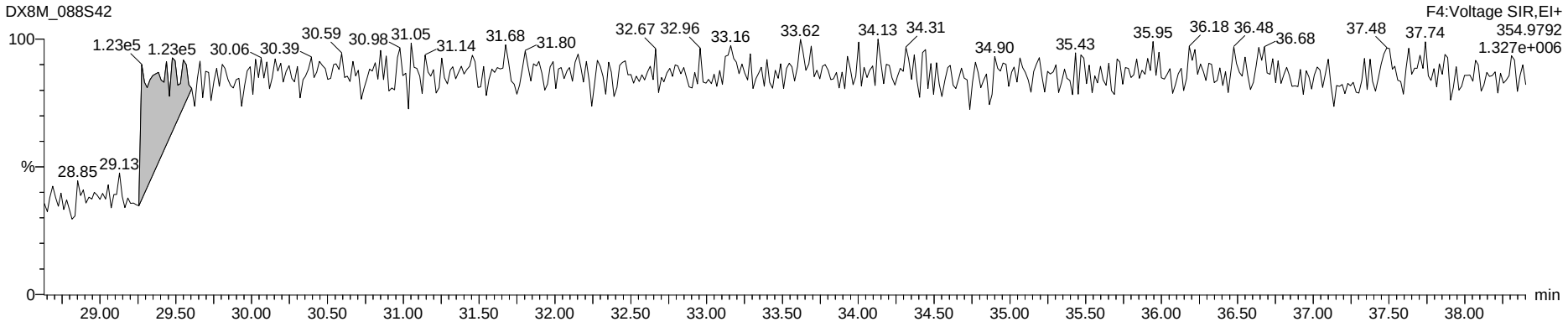
Total Penta-Furans



Hepta DPE



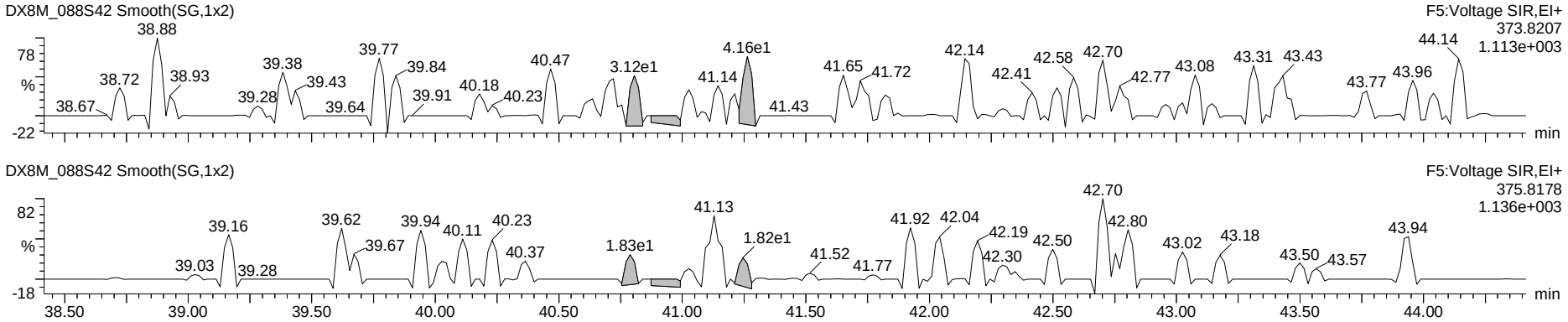
Penta Lock



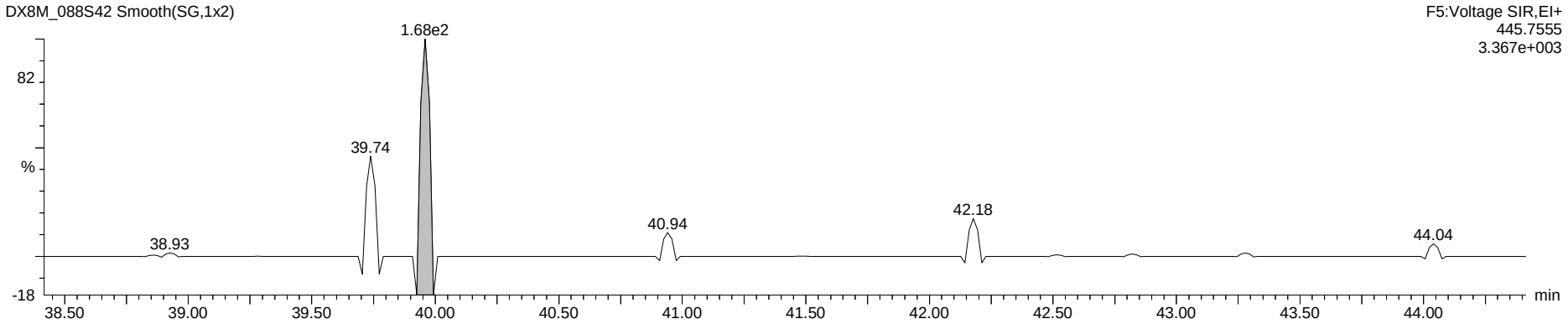
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

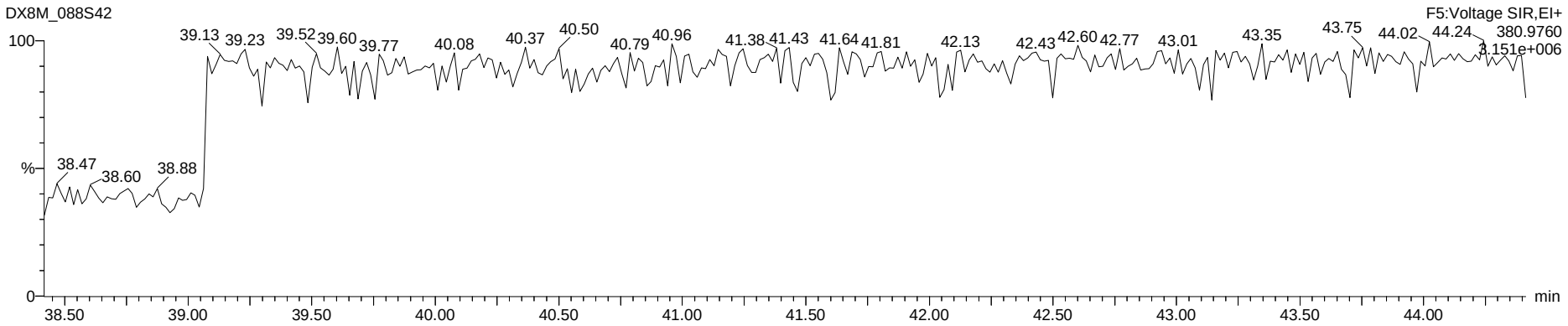
Total Hexa-Furans



Octa DPE



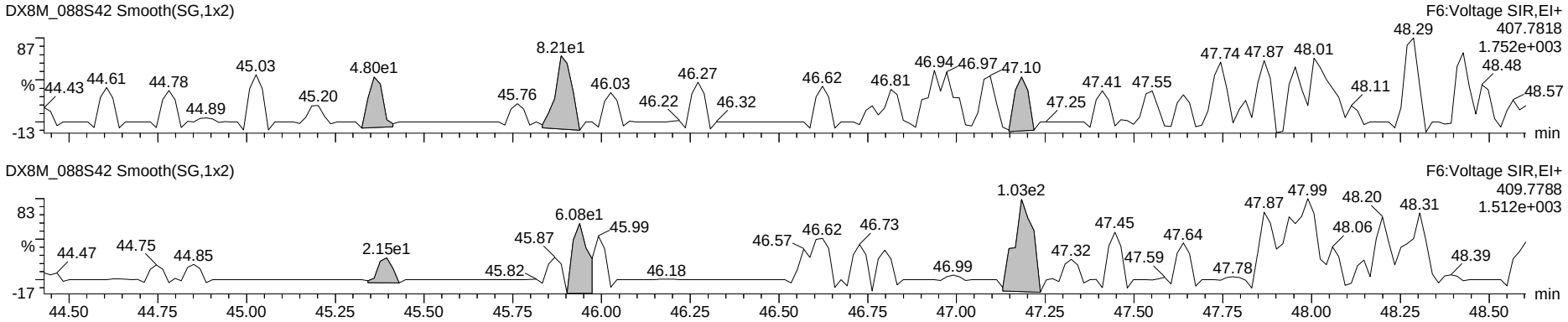
Hexa Lock



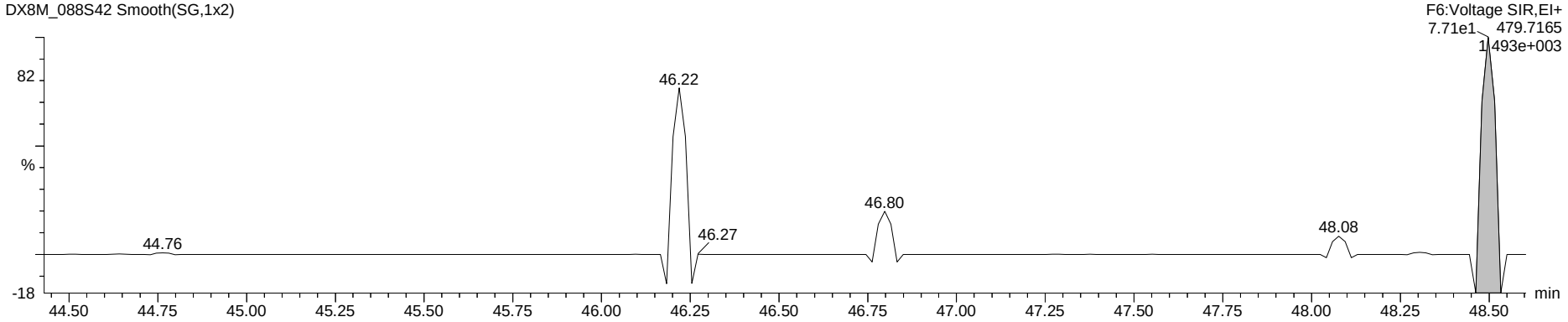
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

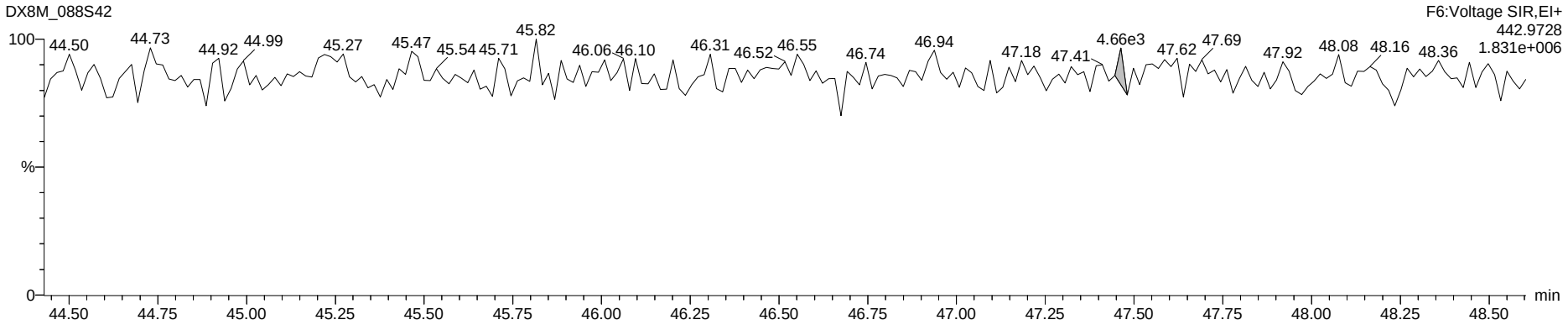
Total Hepta-Furans



Nona DPE



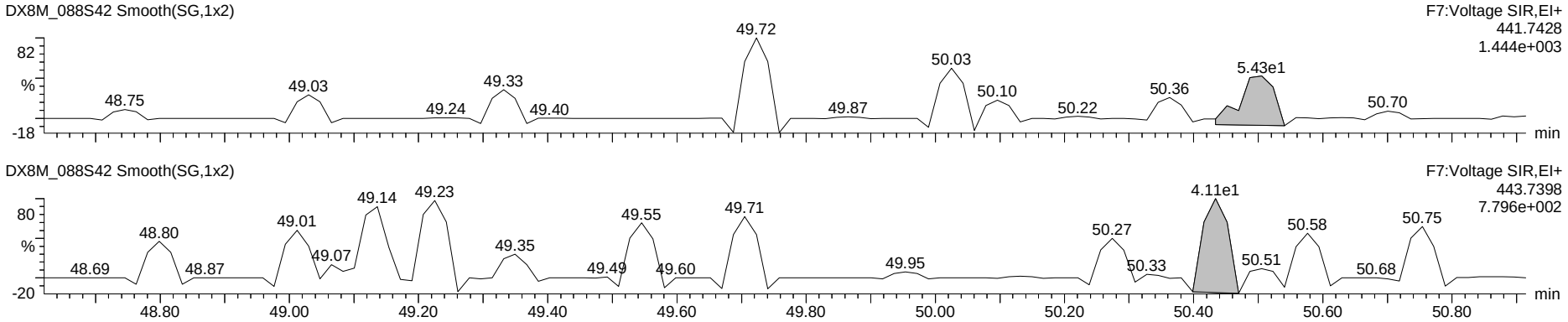
Hepta Lock



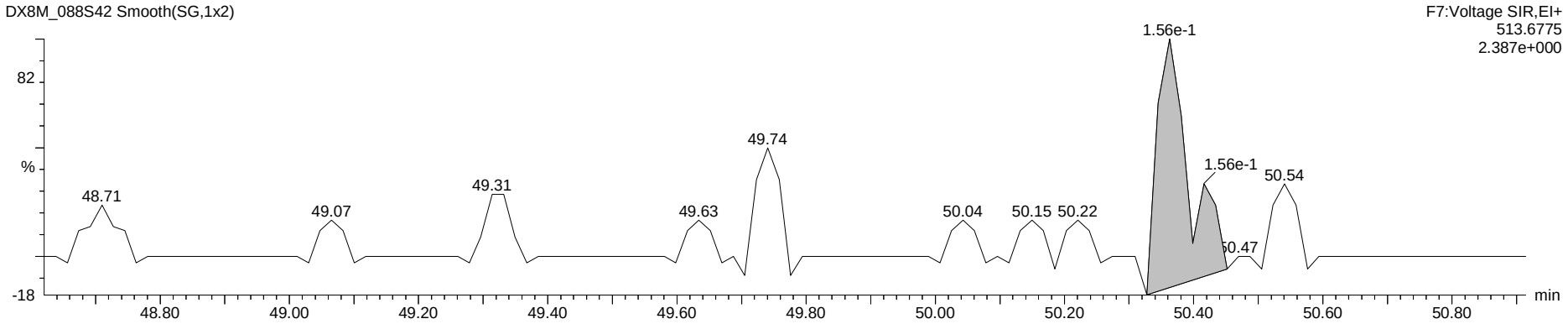
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S42, Date: 26-Jul-2018, Time: 10:11:59, ID: WG64557-101,,BLK, Description: 1,WG64557,1.0/20uL

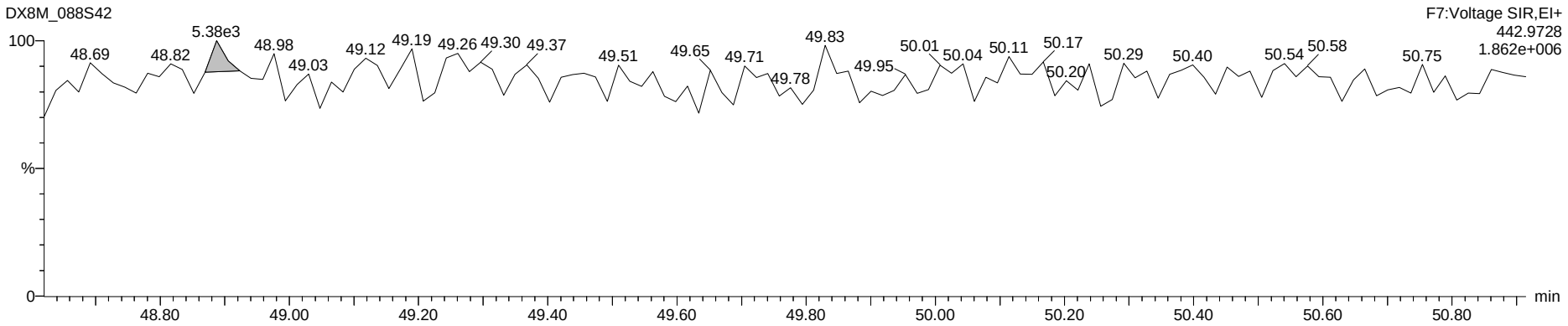
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	20.000	2.25e5	0.69	NO	25.34	10.976	0.0435		2.09e3	1.86e3
2	1,2,3,7,8-PeCDF	20.000	8.02e5	1.40	NO	33.67	48.275	0.0554		1.54e3	1.94e3
3	2,3,4,7,8-PeCDF	20.000	7.83e5	1.33	NO	35.43	47.159	0.0480		1.54e3	1.94e3
4	1,2,3,4,7,8-HxCDF	20.000	6.82e5	1.09	NO	40.79	49.264	0.0646		2.40e3	2.51e3
5	1,2,3,6,7,8-HxCDF	20.000	7.34e5	1.12	NO	40.96	48.555	0.0617		2.40e3	2.51e3
6	2,3,4,6,7,8-HxCDF	20.000	7.08e5	1.13	NO	41.91	50.377	0.0638		2.40e3	2.51e3
7	1,2,3,7,8,9-HxCDF	20.000	5.68e5	1.09	NO	42.94	51.343	0.0885		2.40e3	2.51e3
8	1,2,3,4,6,7,8-HpCDF	20.000	5.66e5	0.90	NO	45.38	51.775	0.0871		2.19e3	3.01e3
9	1,2,3,4,7,8,9-HpCDF	20.000	4.35e5	0.95	NO	47.17	51.631	0.1118		2.19e3	3.01e3
10	OCDF	20.000	6.29e5	0.82	NO	50.42	102.972	0.2925		6.93e3	1.81e3
11	2,3,7,8-TCDD	20.000	1.66e5	0.82	NO	26.58	10.106	0.0564		2.51e3	1.29e3
12	1,2,3,7,8-PeCDD	20.000	6.17e5	0.61	NO	36.24	55.132	0.1083		3.07e3	1.98e3
13	1,2,3,4,7,8-HxCDD	20.000	4.87e5	1.21	NO	42.18	50.143	0.1792		2.62e3	7.62e3
14	1,2,3,6,7,8-HxCDD	20.000	5.41e5	1.22	NO	42.31	51.426	0.1840		2.62e3	7.62e3
15	1,2,3,7,8,9-HxCDD	20.000	5.02e5	1.18	NO	42.74	49.404	0.1808		2.62e3	7.62e3
16	1,2,3,4,6,7,8-HpCDD	20.000	3.90e5	1.04	NO	46.76	55.258	0.0869		1.98e3	1.48e3
17	OCDD	20.000	5.11e5	0.89	NO	50.35	100.888	0.1694		2.14e3	2.06e3
18	13C-2,3,7,8-TCDF	20.000	2.24e6	0.72	NO	25.31	62.404	0.0651	62.4	5.01e3	5.06e3
19	13C-1,2,3,7,8-PeCDF	20.000	1.80e6	1.42	NO	33.64	69.476	0.0990	69.5	3.72e3	7.32e3
20	13C-2,3,4,7,8-PeCDF	20.000	1.77e6	1.38	NO	35.40	70.774	0.1027	70.8	3.72e3	7.32e3
21	13C-1,2,3,4,7,8-HxCDF	20.000	1.24e6	0.53	NO	40.77	62.495	0.1460	62.5	7.91e3	6.70e3
22	13C-1,2,3,6,7,8-HxCDF	20.000	1.42e6	0.54	NO	40.94	67.112	0.1366	67.1	7.91e3	6.70e3
23	13C-2,3,4,6,7,8-HxCDF	20.000	1.23e6	0.50	NO	41.87	65.075	0.1529	65.1	7.91e3	6.70e3
24	13C-1,2,3,7,8,9-HxCDF	20.000	1.11e6	0.50	NO	42.92	59.253	0.1550	59.3	7.91e3	6.70e3
25	13C-1,2,3,4,6,7,8-HpCDF	20.000	8.93e5	0.46	NO	45.36	56.394	0.1426	56.4	7.67e3	3.72e3
26	13C-1,2,3,4,7,8,9-HpCDF	20.000	6.72e5	0.46	NO	47.15	54.435	0.1828	54.4	7.67e3	3.72e3
27	13C-2,3,7,8-TCDD	20.000	1.48e6	0.79	NO	26.54	66.289	0.1034	66.3	5.90e3	4.04e3
28	13C-1,2,3,7,8-PeCDD	20.000	1.09e6	0.70	NO	36.22	74.408	0.0459	74.4	7.42e2	2.15e3
29	13C-1,2,3,4,7,8-HxCDD	20.000	9.68e5	1.25	NO	42.16	63.267	0.1125	63.3	2.98e3	5.70e3
30	13C-1,2,3,6,7,8-HxCDD	20.000	1.13e6	1.22	NO	42.30	69.586	0.1063	69.6	2.98e3	5.70e3
31	13C-1,2,3,4,6,7,8-HpCDD	20.000	7.09e5	0.98	NO	46.74	56.060	0.1354	56.1	3.13e3	5.51e3
32	13C-OCDD	20.000	9.95e5	0.91	NO	50.33	89.503	0.3547	44.8	1.01e4	9.80e3
33	13C-1,2,3,4-TCDD	20.000	2.22e6	0.75	NO	26.20	4.921	0.0051	4.9	5.90e3	4.04e3
34	13C-1,2,3,7,8,9-HxCDD	20.000	1.55e6	1.23	NO	42.72	5.442	0.0060	5.4	2.98e3	5.70e3
35	37Cl-2,3,7,8-TCDD	20.000	3.48e4			26.56	1.404	0.0223	70.2		2.38e3
36	Total Tetra-Furans	20.000					31.903	0.0435			1.86e3
37	Total Tetra-Dioxins	20.000					36.620	0.0564			1.29e3
38	Total Penta-Furans	20.000					107.310	0.0521			1.94e3
39	Total Penta-Dioxins	20.000					95.938	0.1083			1.98e3
40	Total Hexa-Furans	20.000					201.466	0.0663			2.51e3
41	Total Hexa-Dioxins	20.000					155.145	0.1750			7.62e3
42	Total Hepta-Furans	20.000					104.924	0.0988			3.01e3
43	Total Hepta-Dioxins	20.000					58.599	0.0869			1.48e3
44	Hexa DPE	1.000	2.01e2			26.22					1.57e-1
45	Hepta DPE	1.000	5.21e1			33.67					1.58e-1
46	Octa DPE	1.000	1.70e2			40.57					4.08e-1
47	Nona DPE	1.000	5.01e-1			47.43					1.79e-1
48	Deca DPE	1.000	1.22e2			48.67					5.78e-1
49	Tetra Lock	1.000									1.03e5
50	Penta Lock	1.000	1.00e5			29.68					1.83e5
51	Hexa Lock	1.000	5.78e5			38.72					3.52e5
52	Hepta Lock	1.000									2.18e5
53	Octa Lock	1.000									2.74e5
54	13C-Tetra-Furans	20.000					62.404	0.0651			5.06e3
55	13C-Tetra-Dioxins	20.000					71.209	0.1085			4.04e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

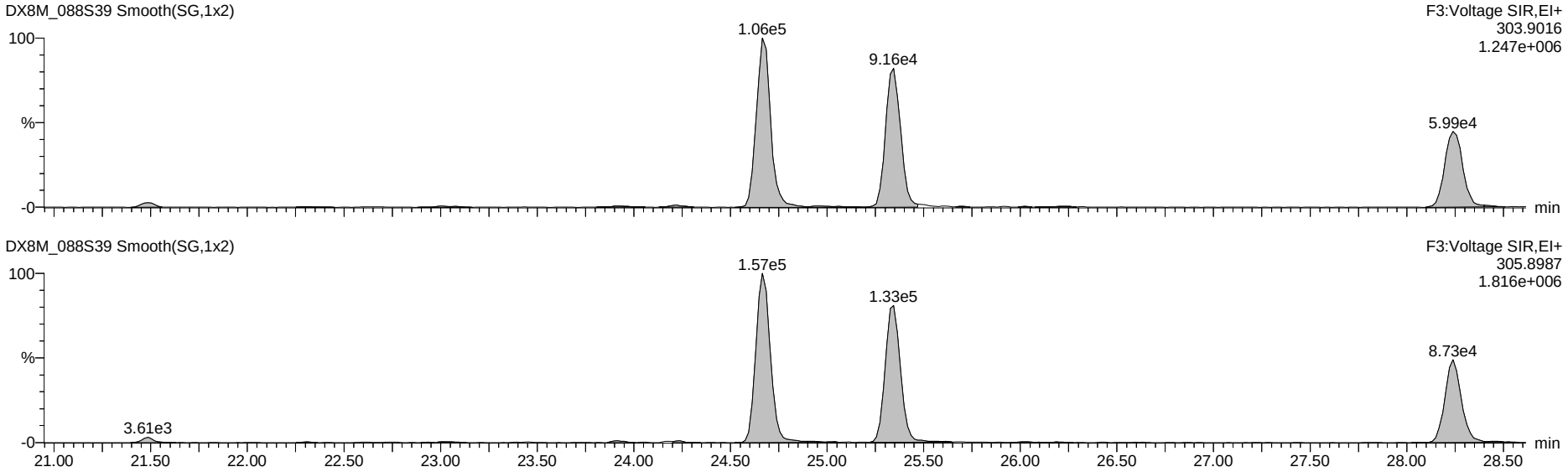
Checked by MW 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

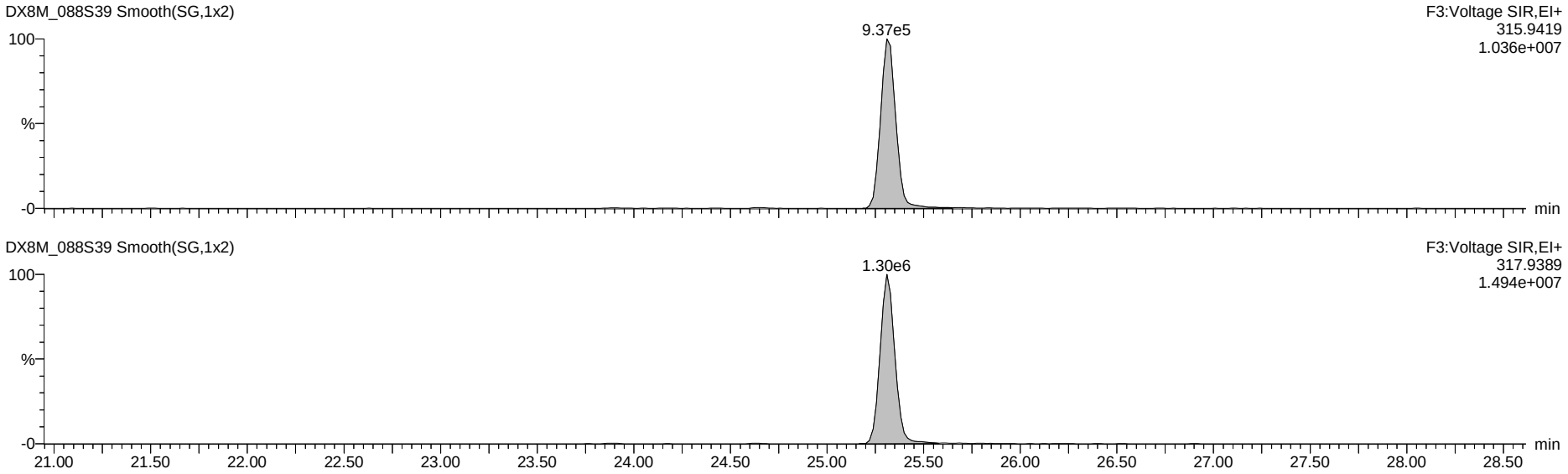
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



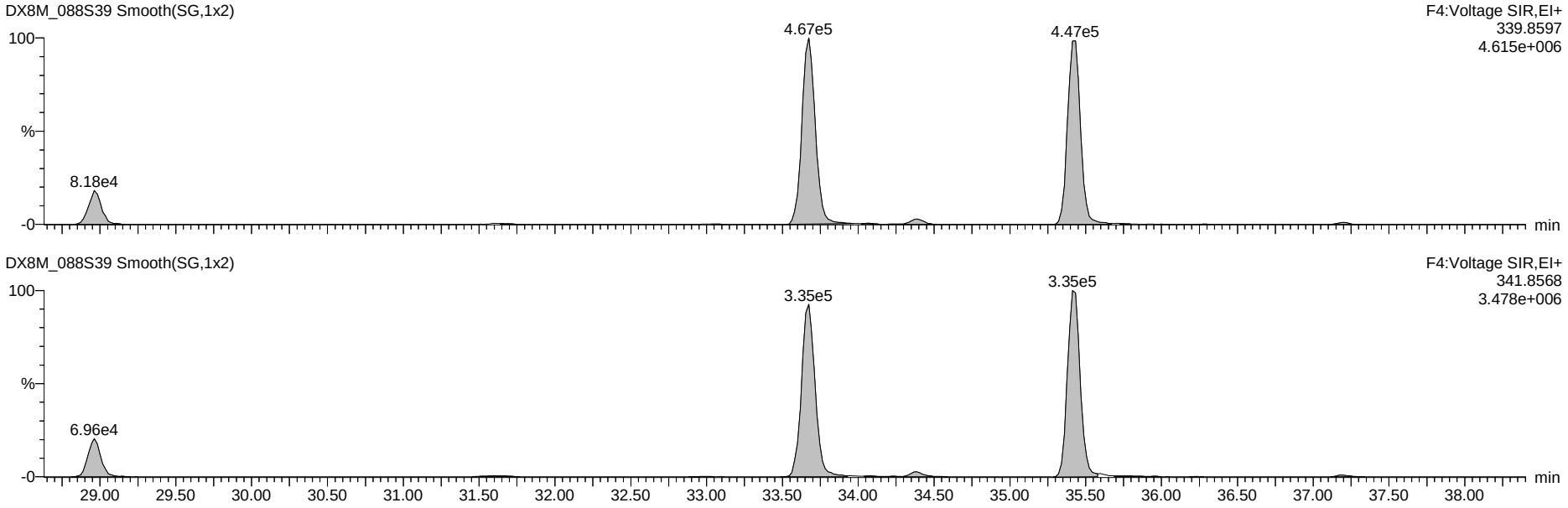
13C-Tetra-Furans



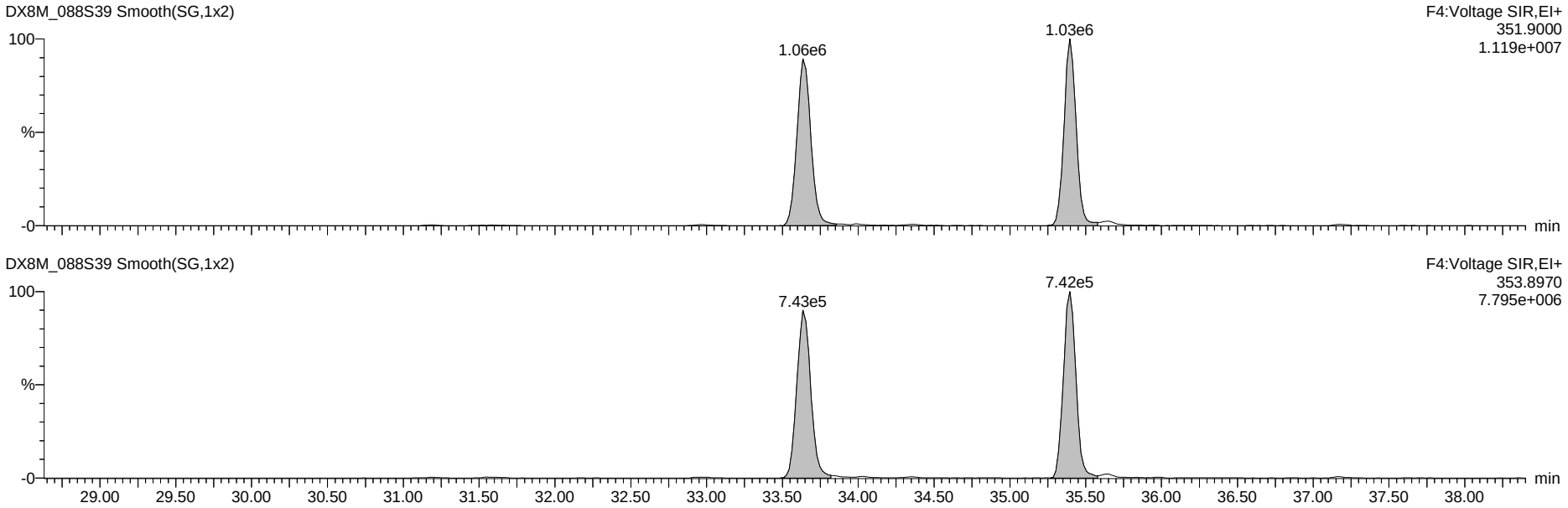
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Penta-Furans



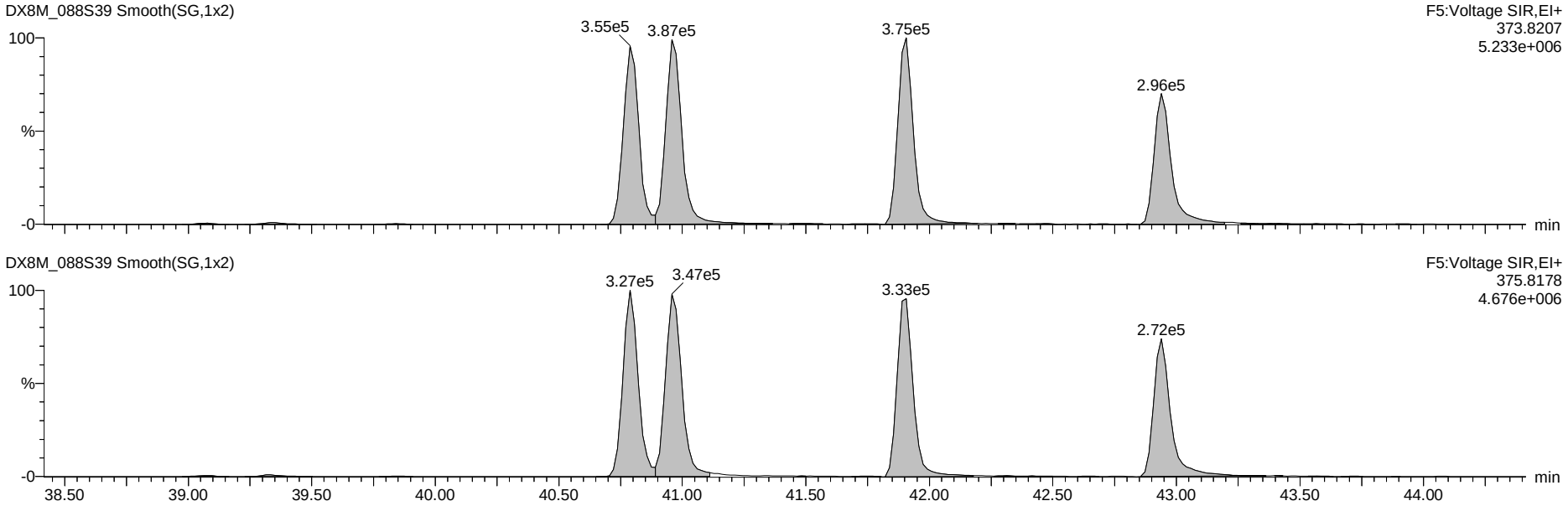
13C-Penta-Furans



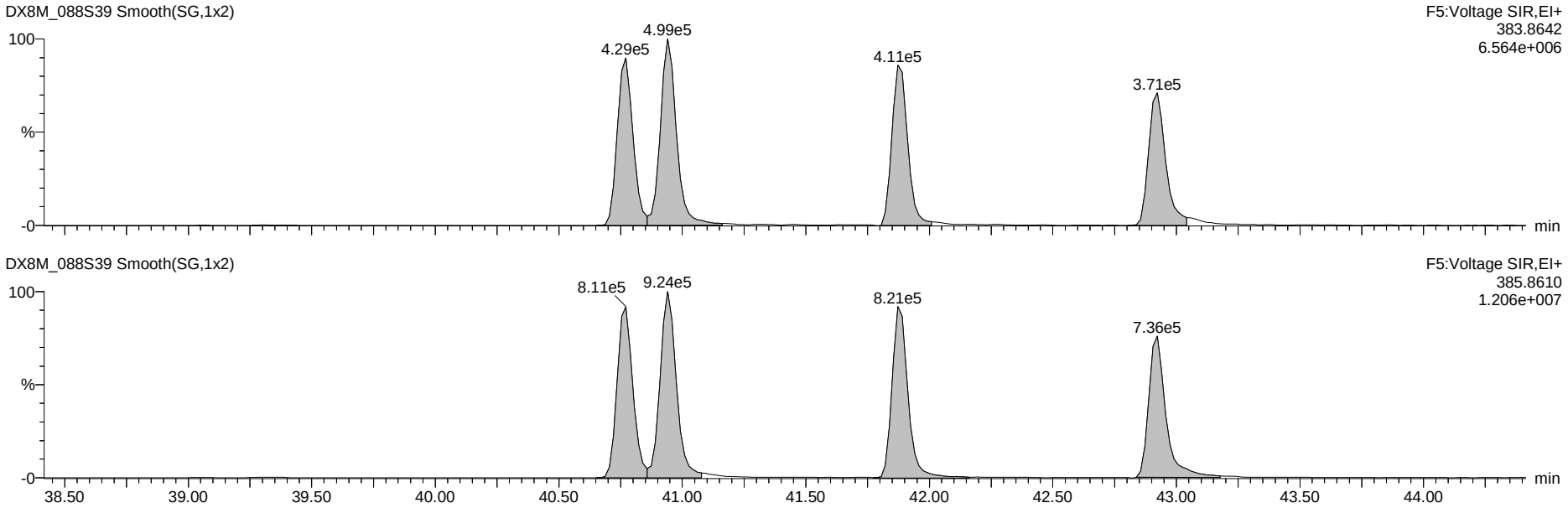
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



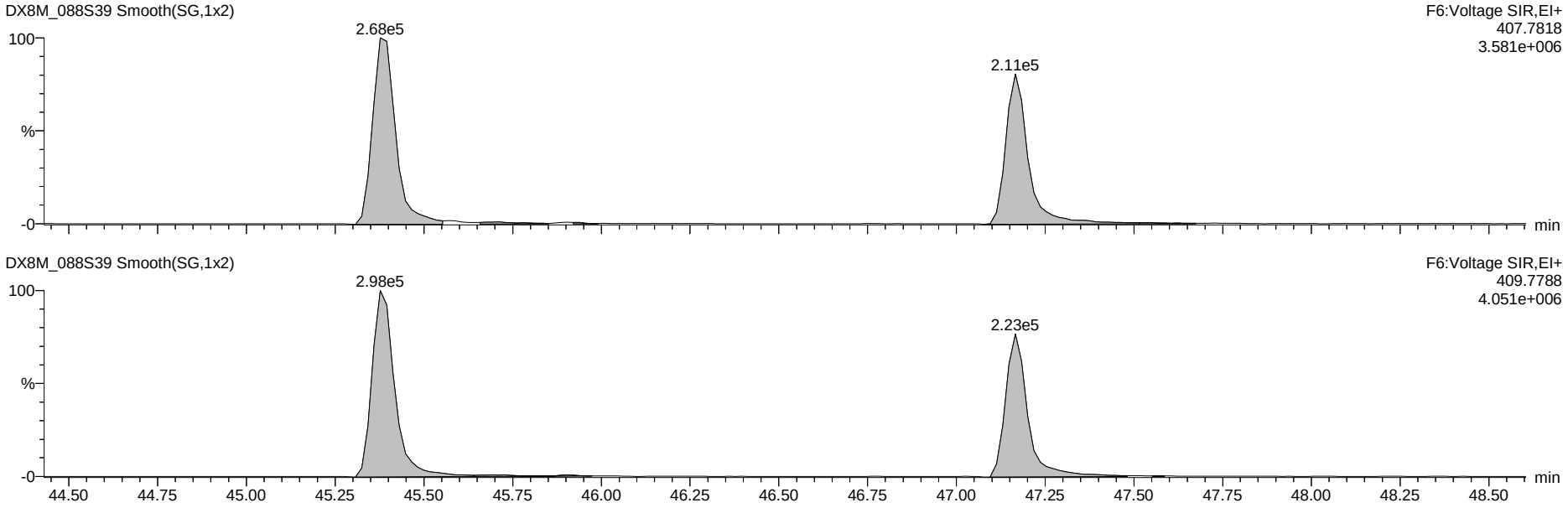
13C-Hexa-Furans



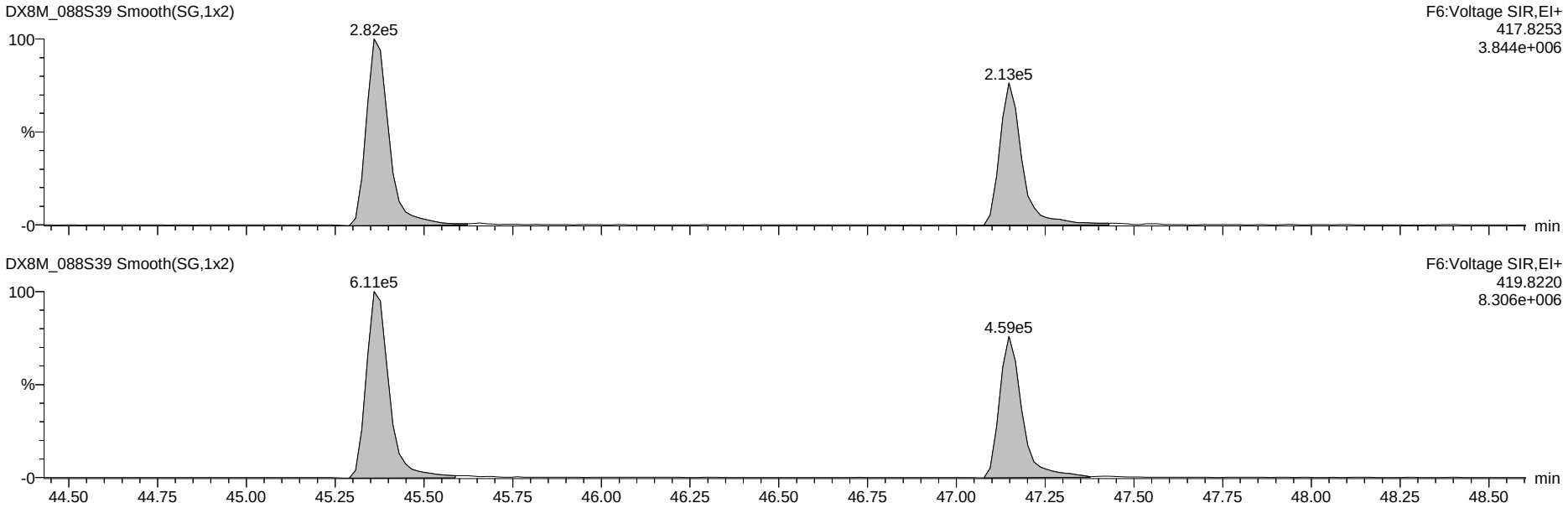
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



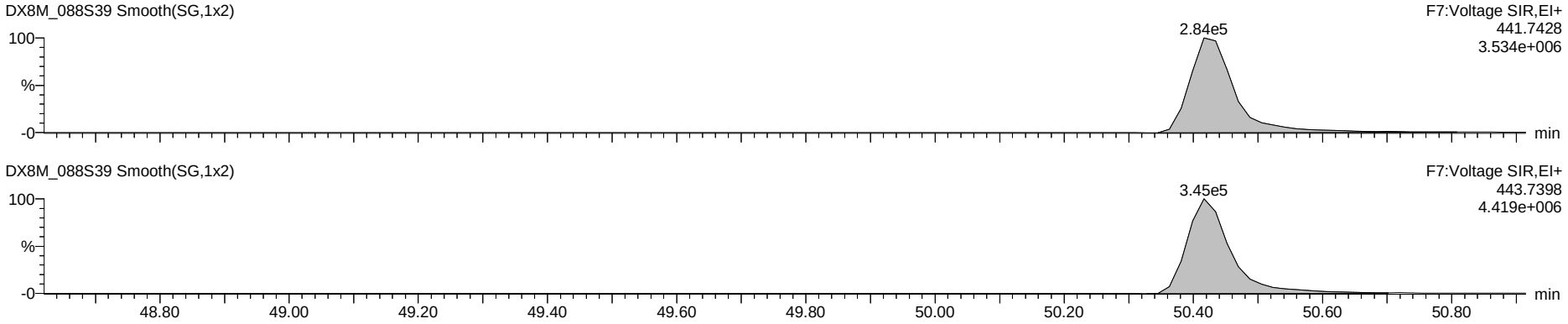
13C-Hepta-Furans



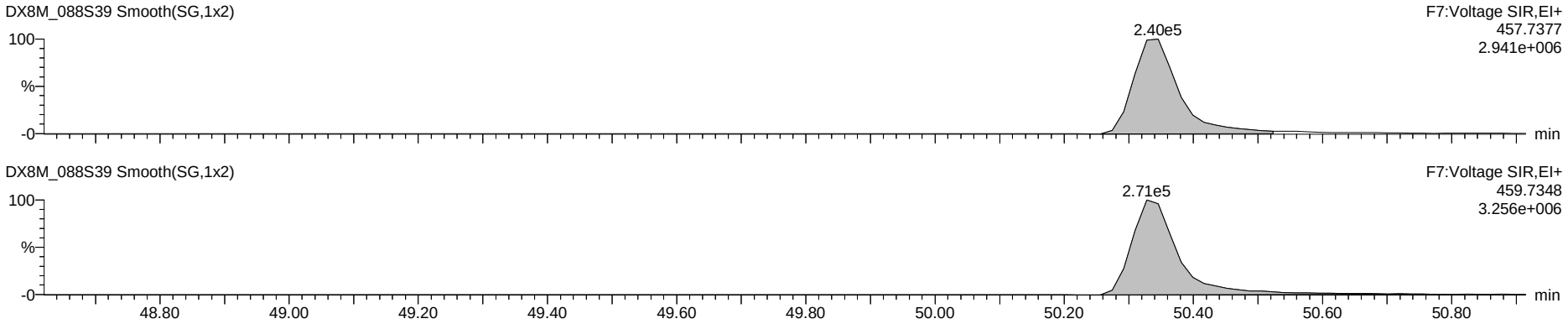
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

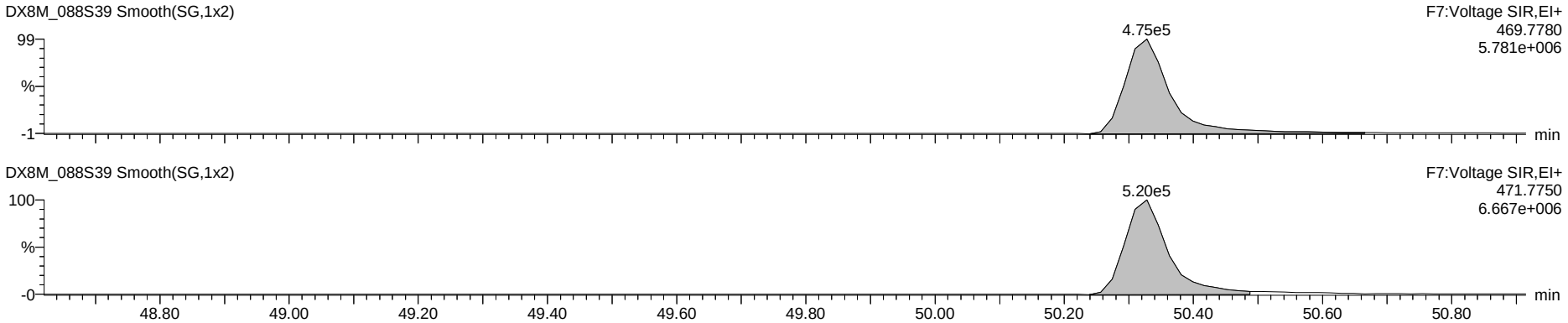
OCDF



OCDD



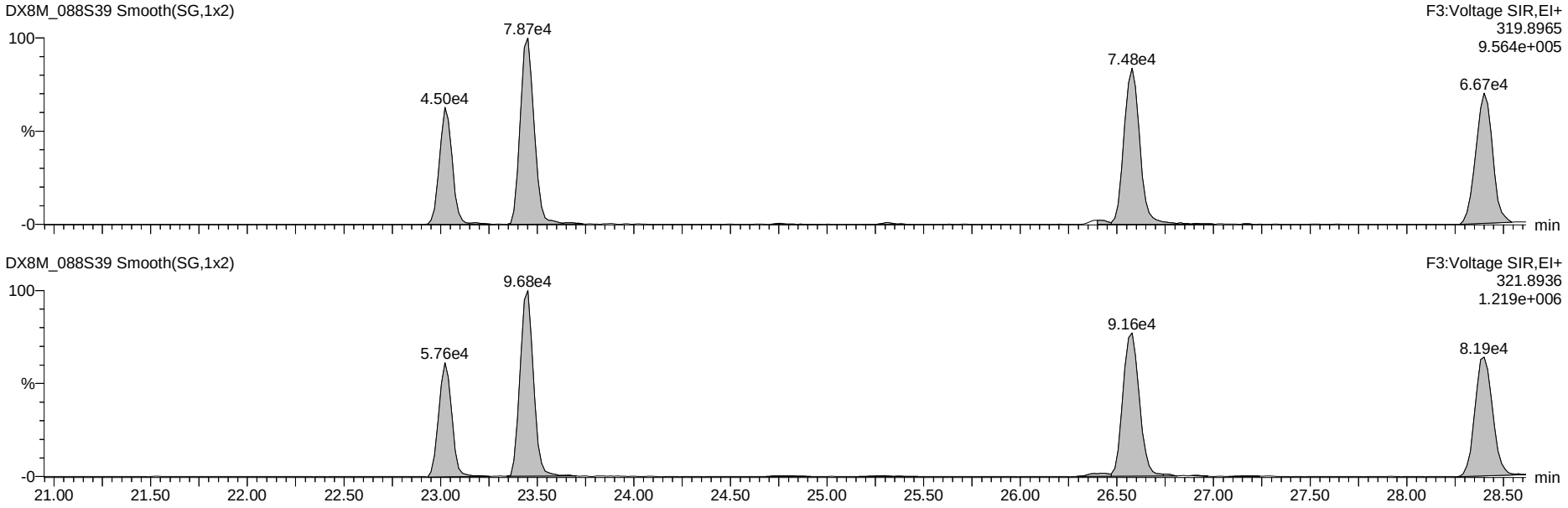
13C-OCDD



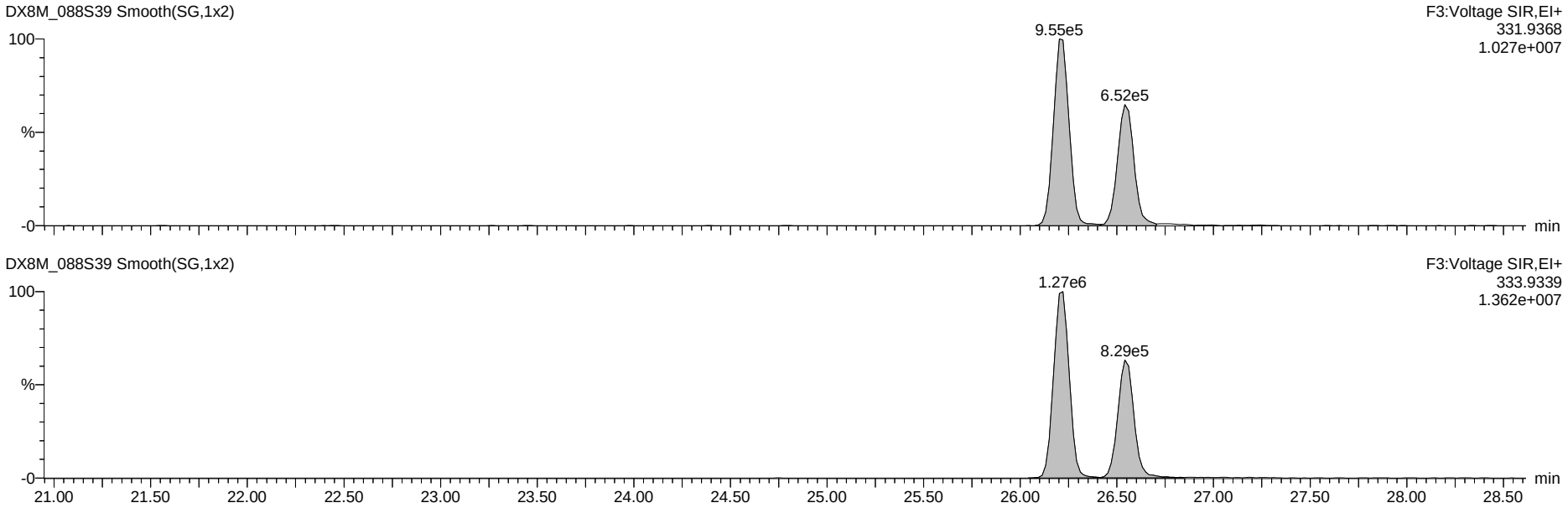
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Tetra-Dioxins



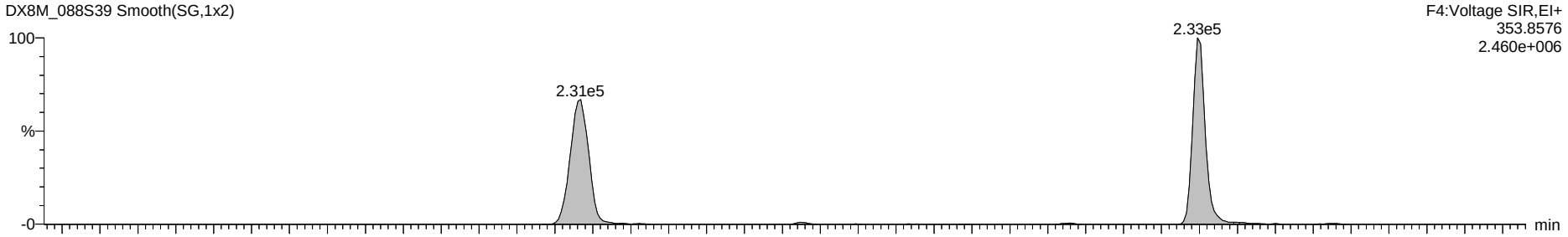
13C-Tetra-Dioxins

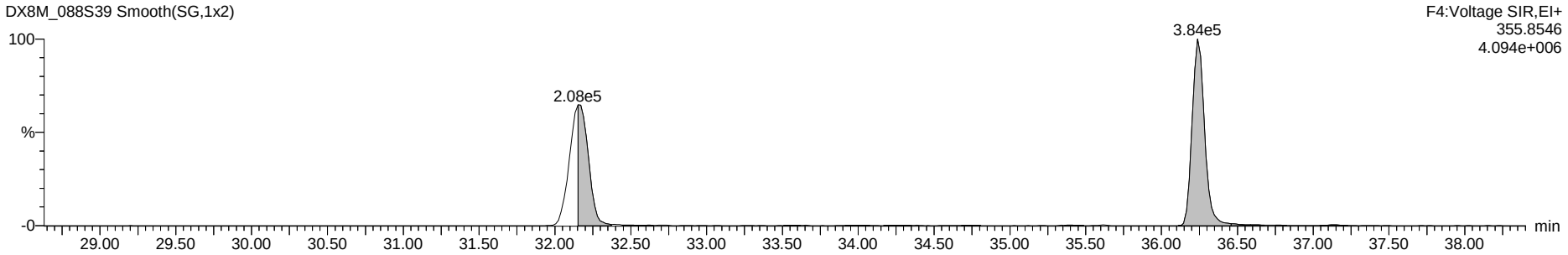


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

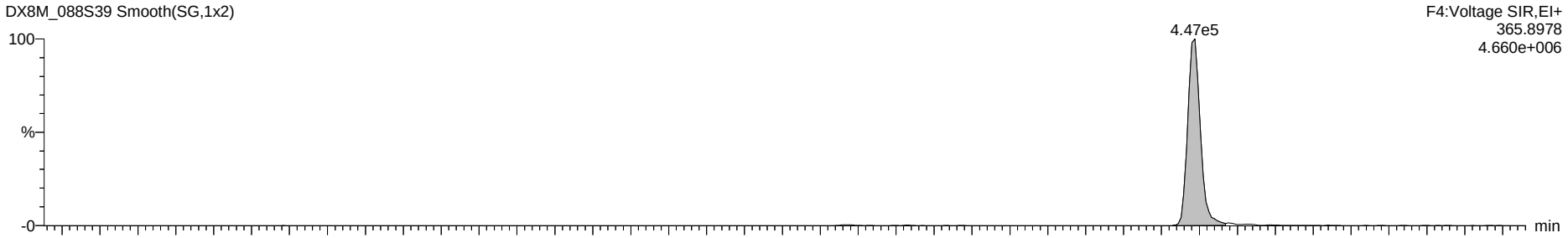
Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

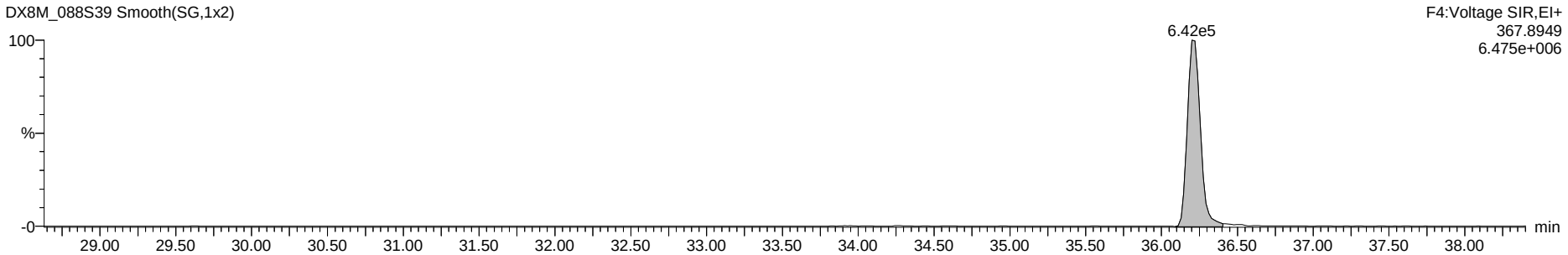
Total Penta-Dioxins





13C-Penta-Dioxins

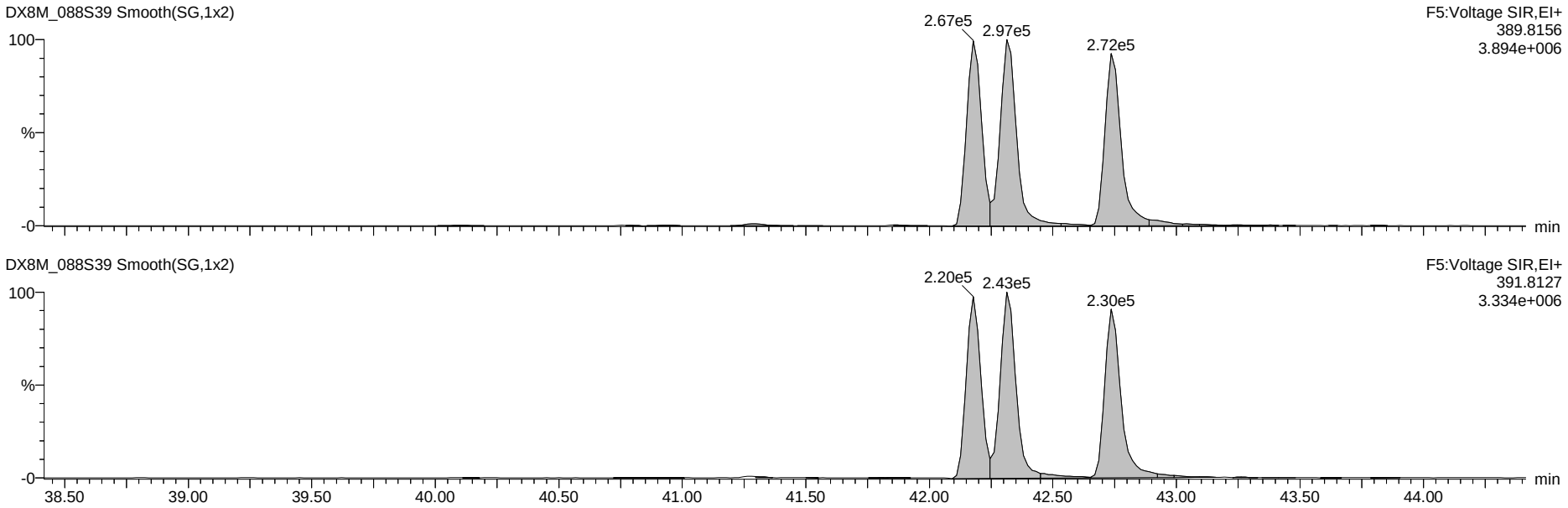




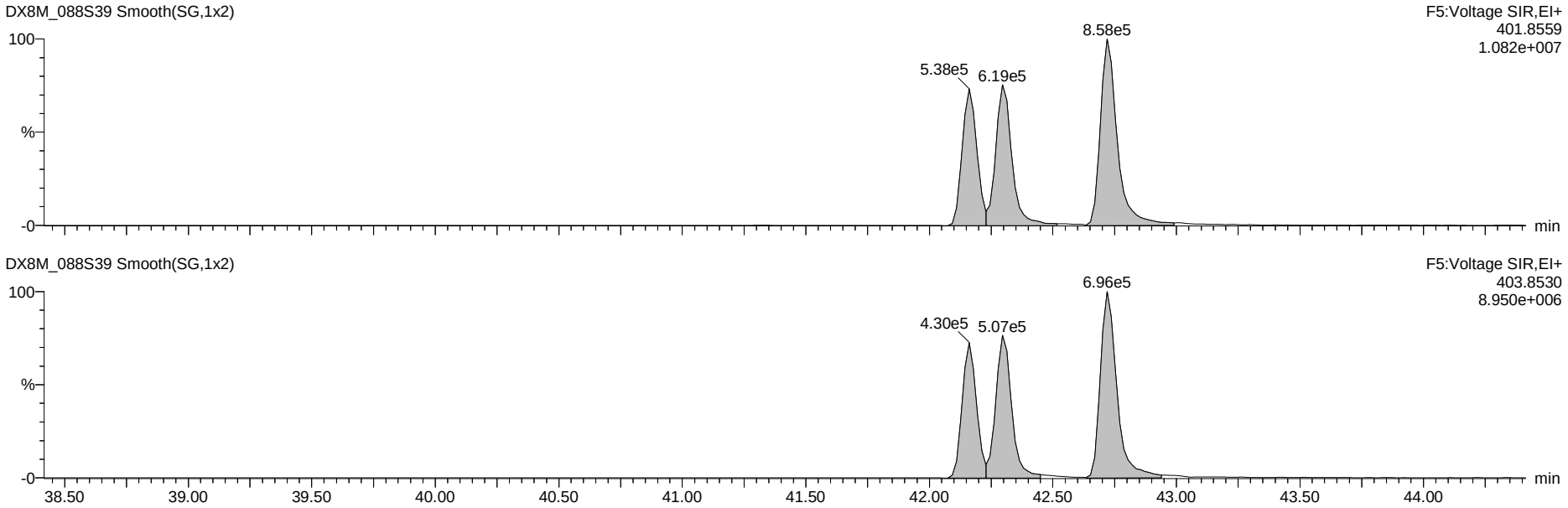
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Hexa-Dioxins



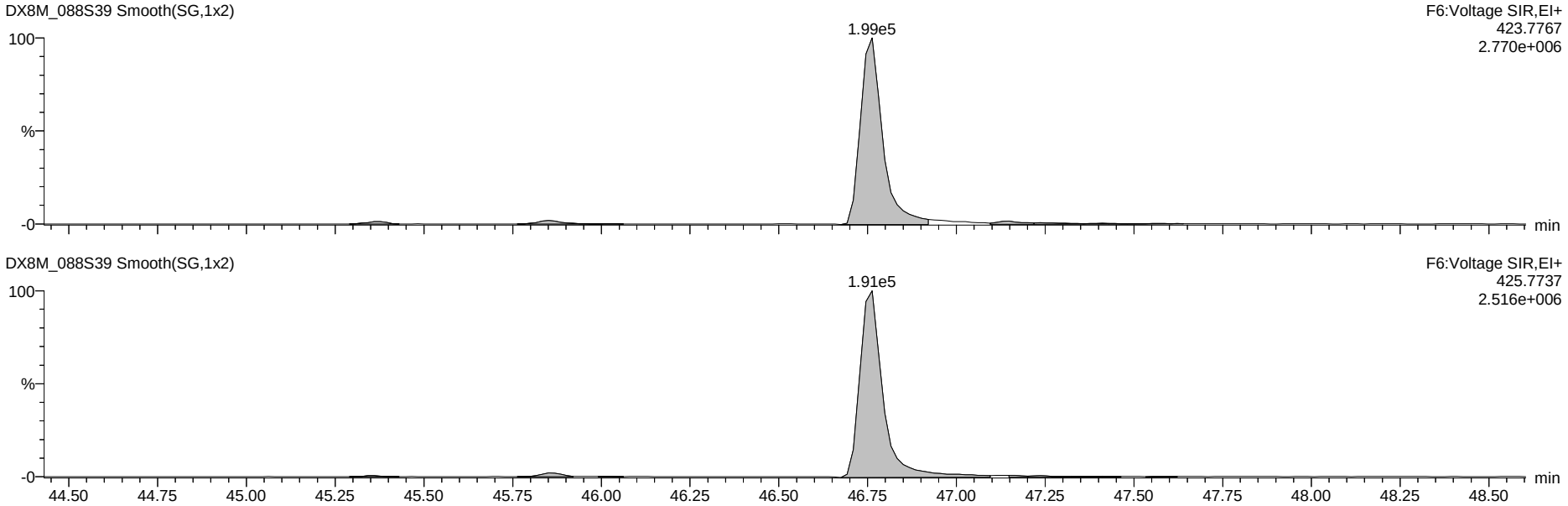
13C-Hexa-Dioxins



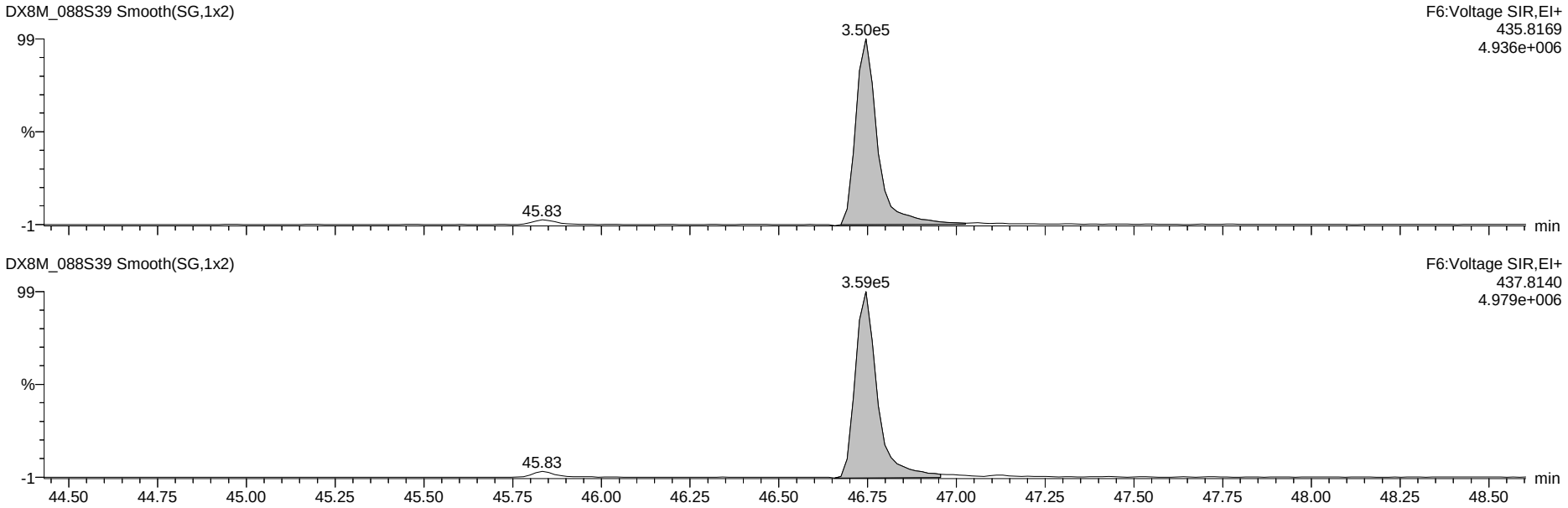
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



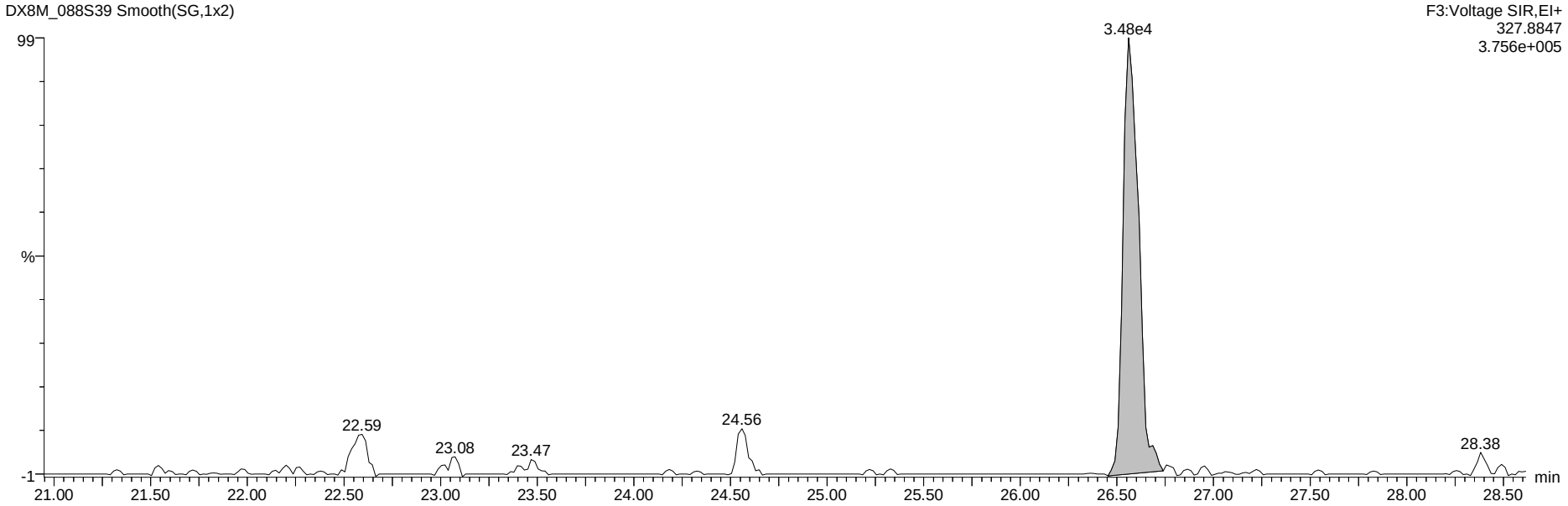
13C-Hepta-Dioxins



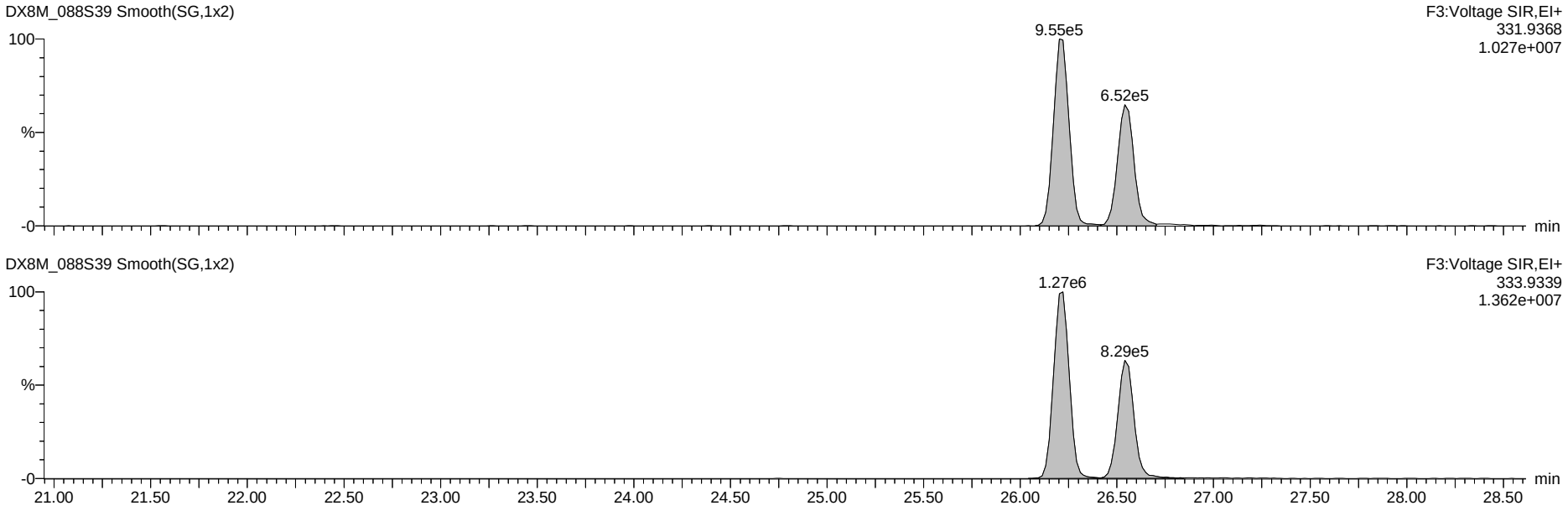
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



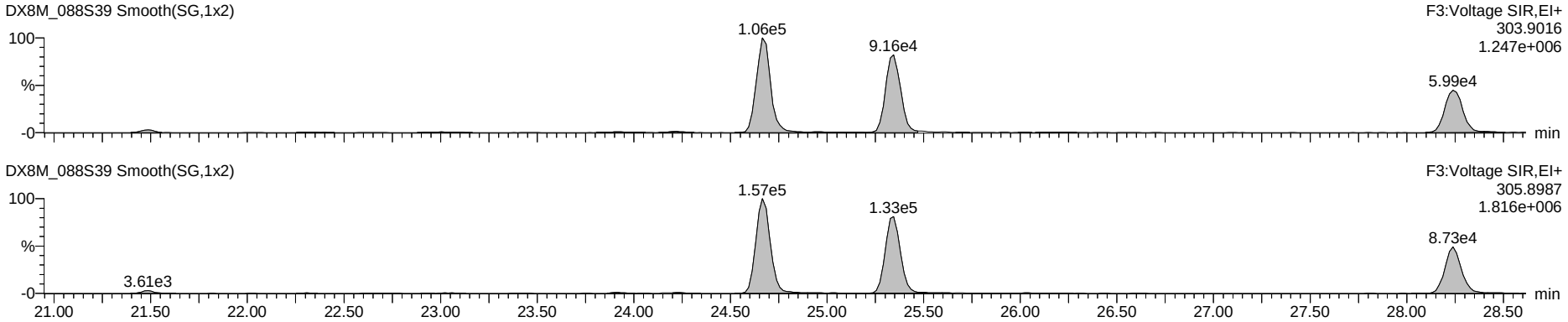
13C-Tetra-Dioxins



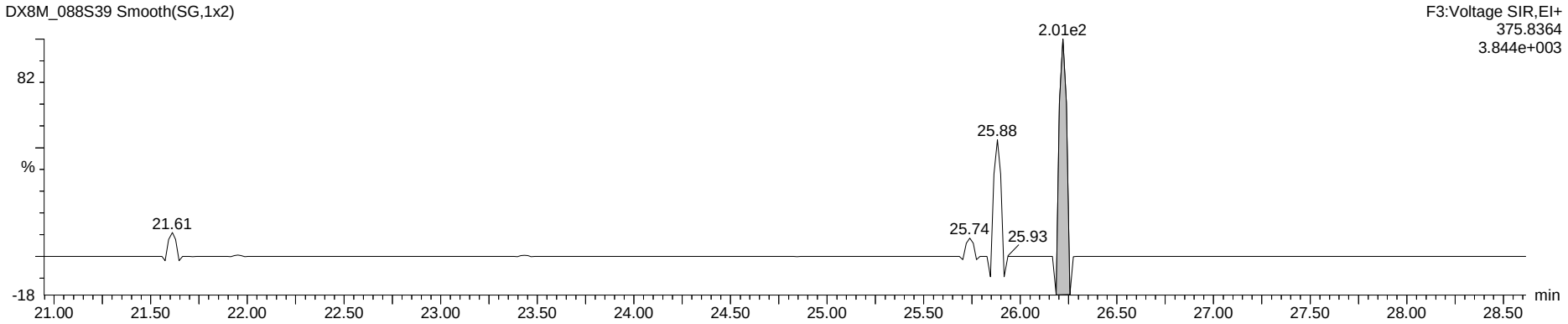
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

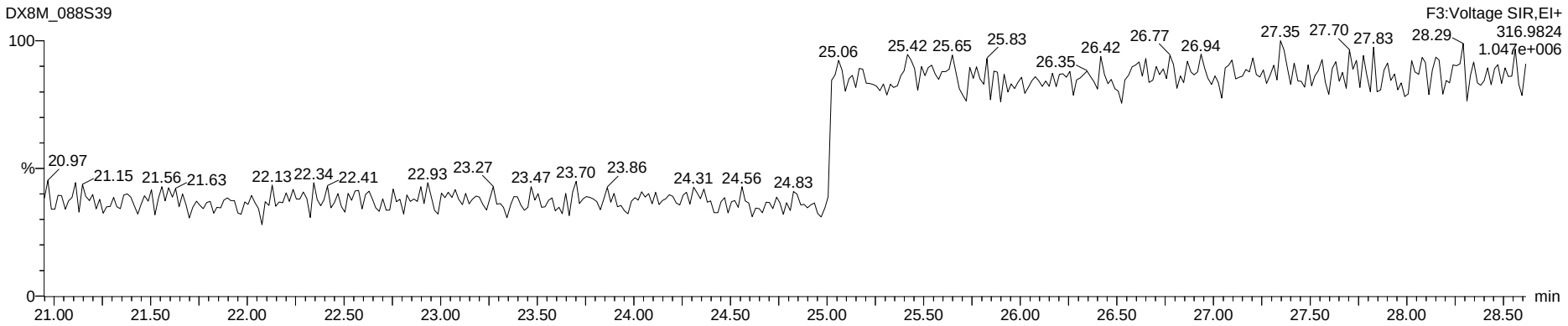
Total Tetra-Furans



Hexa DPE



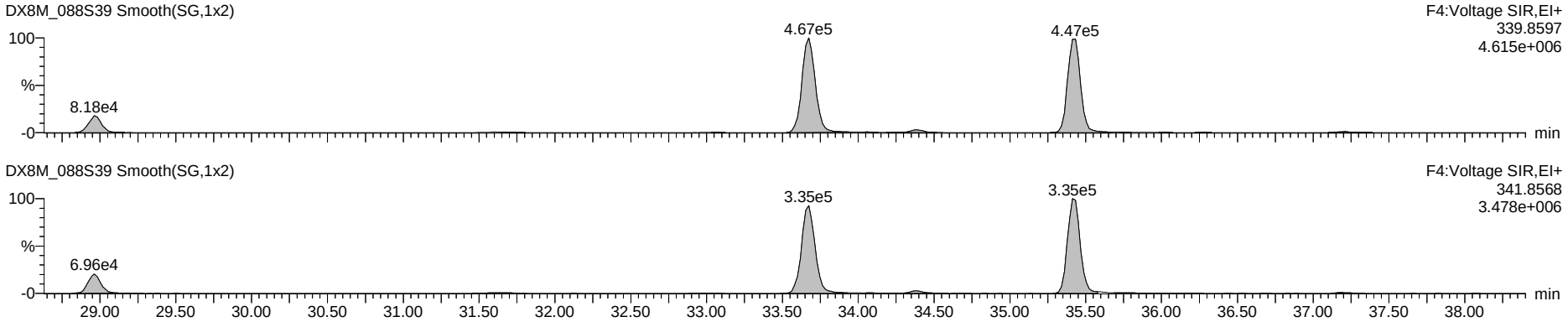
Tetra Lock



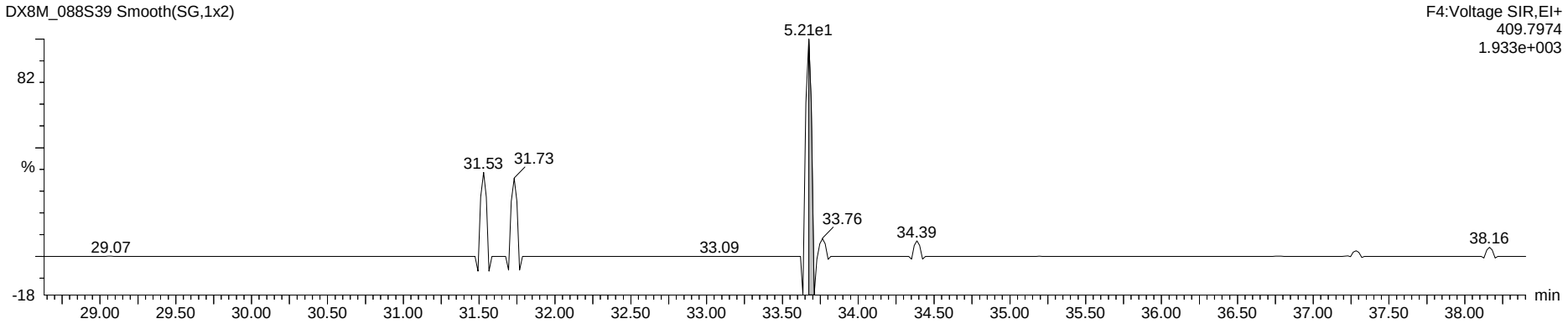
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

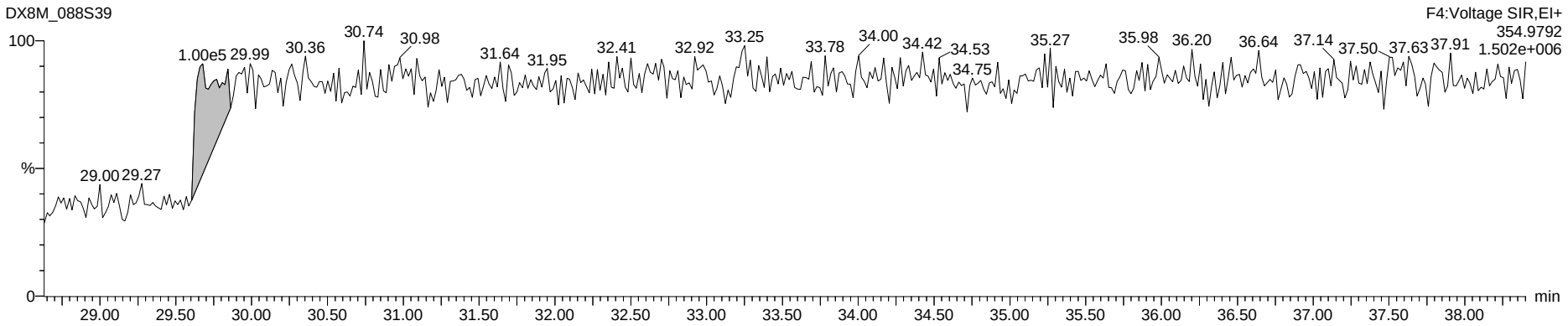
Total Penta-Furans



Hepta DPE



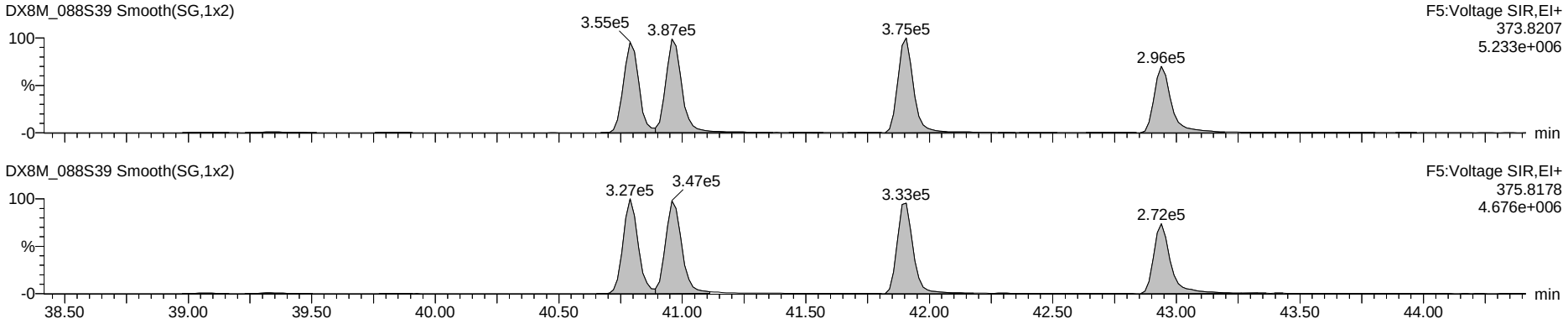
Penta Lock



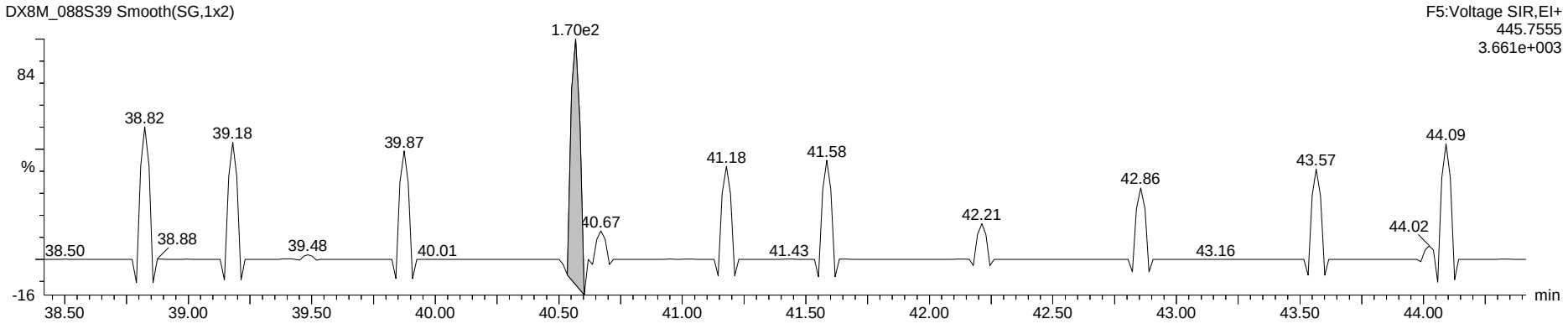
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

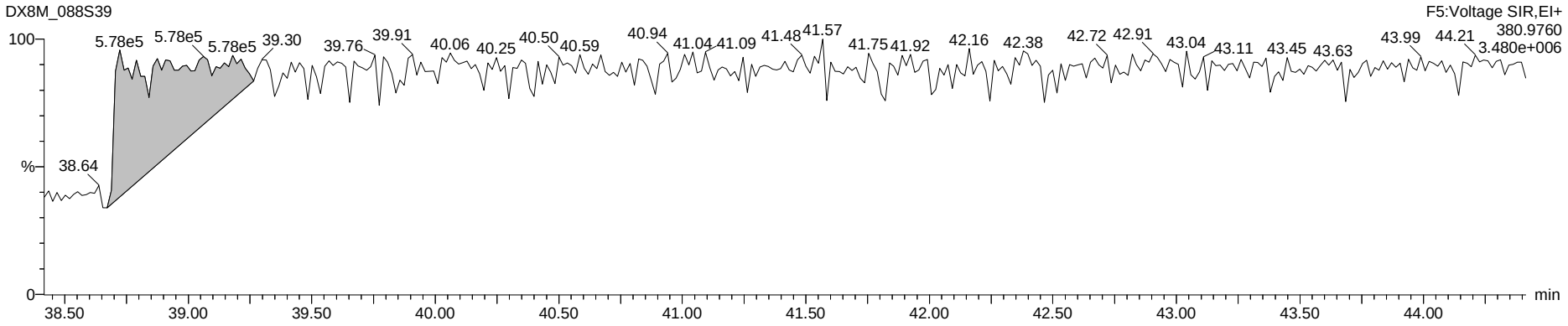
Total Hexa-Furans



Octa DPE



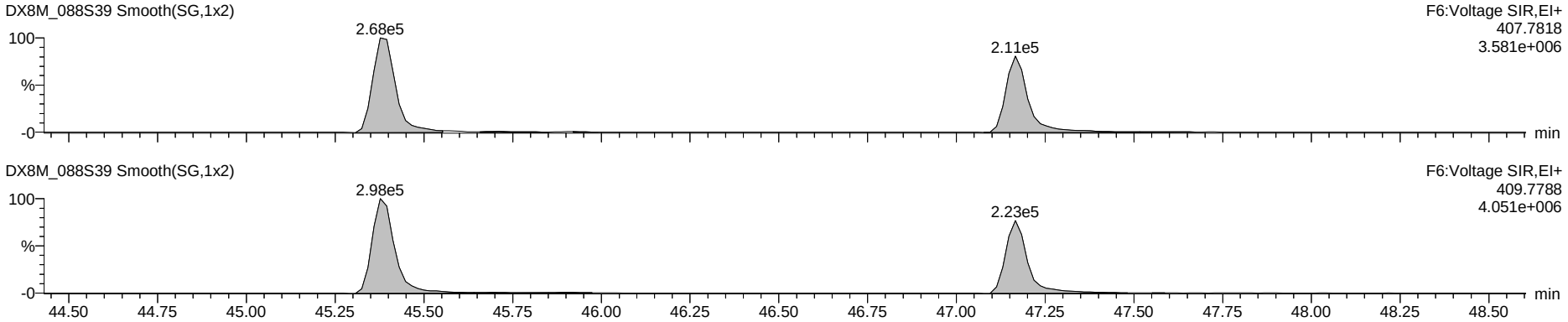
Hexa Lock



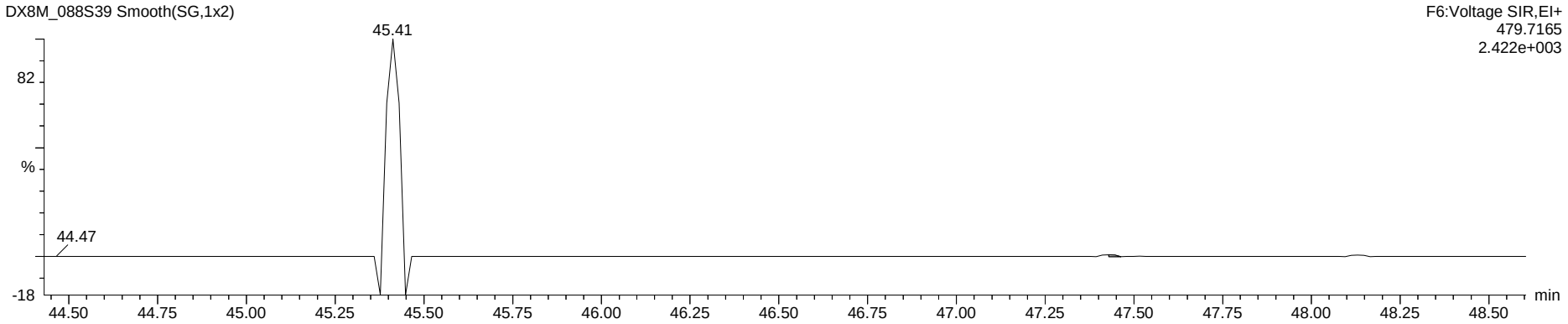
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

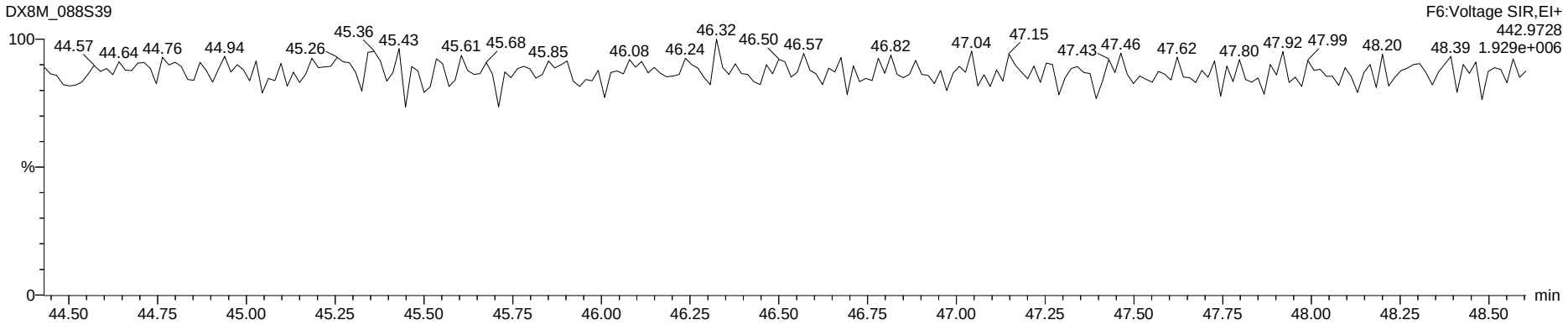
Total Hepta-Furans



Nona DPE



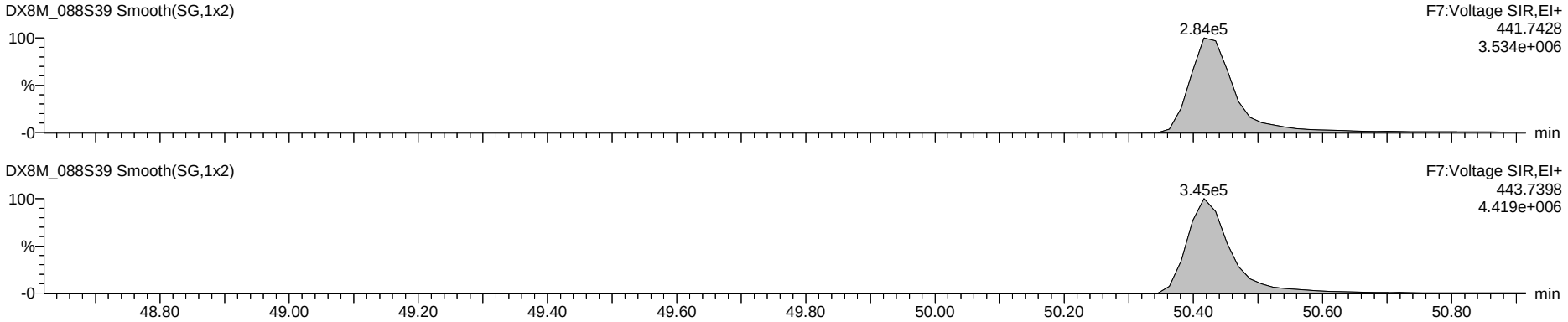
Hepta Lock



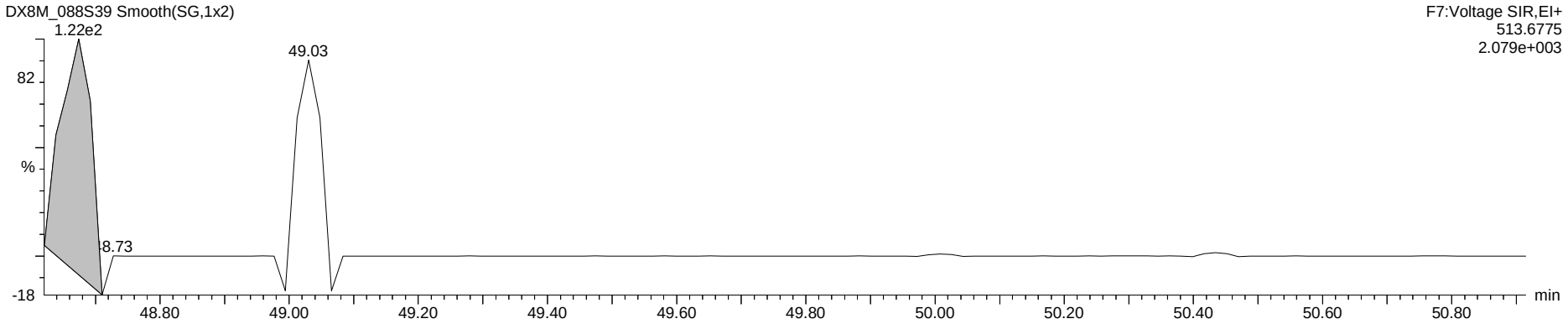
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S39, Date: 26-Jul-2018, Time: 07:29:01, ID: WG64557-102,,SPM, Description: 1,WG64557,1.0/20uL

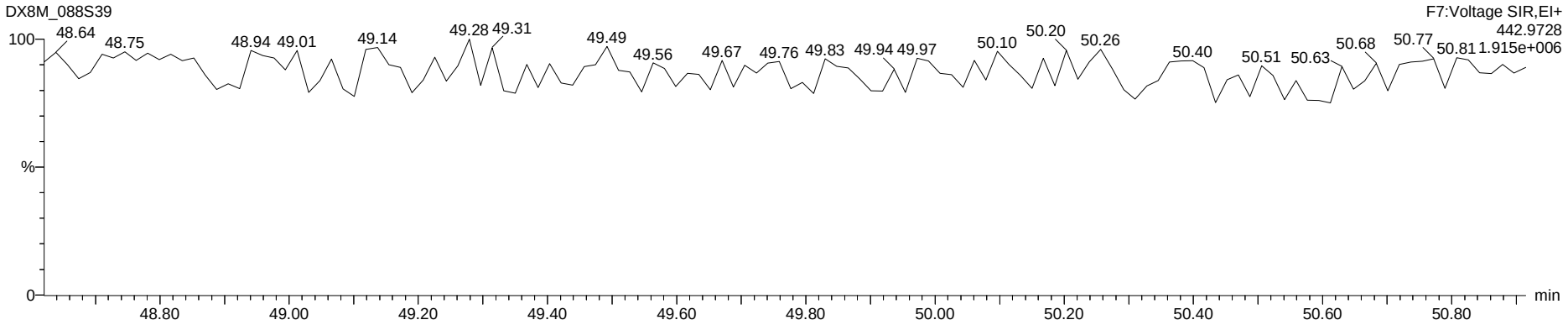
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg/g	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	9.236	2.10e5	0.75	NO	25.33	20.457	0.0517		1.20e3	1.16e3
2	1,2,3,7,8-PeCDF	9.236	5.19e4	1.36	NO	33.67	5.865	0.0698		1.09e3	1.16e3
3	2,3,4,7,8-PeCDF	9.236	1.43e5	1.49	NO	35.41	16.241	0.0607		1.09e3	1.16e3
4	1,2,3,4,7,8-HxCDF	9.236	2.97e4	1.23	NO	40.79	3.835	0.0392		8.59e2	7.86e2
5	1,2,3,6,7,8-HxCDF	9.236	2.18e4	1.16	NO	40.96	2.633	0.0372		8.59e2	7.86e2
6	2,3,4,6,7,8-HxCDF	9.236	9.24e3	1.14	NO	41.91	1.169	0.0379		8.59e2	7.86e2
7	1,2,3,7,8,9-HxCDF	9.236	3.69e2	0.83	YES	42.97	0.058	0.0536		8.59e2	7.86e2
8	1,2,3,4,6,7,8-HpCDF	9.236	2.87e4	1.05	NO	45.39	4.524	0.0443		6.20e2	8.80e2
9	1,2,3,4,7,8,9-HpCDF	9.236	4.84e2	1.11	NO	47.18	0.100	0.0586		6.20e2	8.80e2
10	OCDF	9.236	1.21e3	0.80	NO	50.43	0.298	0.0654		7.86e2	4.80e2
11	2,3,7,8-TCDD	9.236	6.99e4	0.77	NO	26.56	7.979	0.0445		7.79e2	8.09e2
12	1,2,3,7,8-PeCDD	9.236	3.28e4	0.64	NO	36.24	5.656	0.0465		8.85e2	2.39e2
13	1,2,3,4,7,8-HxCDD	9.236	9.52e3	0.99	YES	42.19	1.635	0.0940		1.22e3	1.82e3
14	1,2,3,6,7,8-HxCDD	9.236	3.33e4	1.15	NO	42.33	5.484	0.1010		1.22e3	1.82e3
15	1,2,3,7,8,9-HxCDD	9.236	4.03e3	1.37	NO	42.75	0.675	0.0972		1.22e3	1.82e3
16	1,2,3,4,6,7,8-HpCDD	9.236	3.35e4	1.01	NO	46.76	7.390	0.0982		1.07e3	1.22e3
17	OCDD	9.236	2.64e4	0.84	NO	50.35	7.798	0.0768		7.10e2	5.24e2
18	13C-2,3,7,8-TCDF	9.236	2.43e6	0.71	NO	25.31	99.991	0.1045	46.2	7.00e3	4.33e3
19	13C-1,2,3,7,8-PeCDF	9.236	2.07e6	1.39	NO	33.64	118.217	0.1358	54.6	5.21e3	5.41e3
20	13C-2,3,4,7,8-PeCDF	9.236	2.03e6	1.42	NO	35.40	119.660	0.1408	55.3	5.21e3	5.41e3
21	13C-1,2,3,4,7,8-HxCDF	9.236	1.50e6	0.52	NO	40.77	101.463	0.2573	46.9	1.13e4	7.11e3
22	13C-1,2,3,6,7,8-HxCDF	9.236	1.68e6	0.52	NO	40.94	106.338	0.2409	49.1	1.13e4	7.11e3
23	13C-2,3,4,6,7,8-HxCDF	9.236	1.50e6	0.52	NO	41.89	106.058	0.2695	49.0	1.13e4	7.11e3
24	13C-1,2,3,7,8,9-HxCDF	9.236	1.38e6	0.51	NO	42.94	98.692	0.2733	45.6	1.13e4	7.11e3
25	13C-1,2,3,4,6,7,8-HpCDF	9.236	1.12e6	0.47	NO	45.38	94.899	0.1591	43.8	4.72e3	4.38e3
26	13C-1,2,3,4,7,8,9-HpCDF	9.236	8.35e5	0.45	NO	47.17	90.442	0.2040	41.8	4.72e3	4.38e3
27	13C-2,3,7,8-TCDD	9.236	1.71e6	0.78	NO	26.54	112.633	0.2294	52.0	8.53e3	6.95e3
28	13C-1,2,3,7,8-PeCDD	9.236	1.22e6	0.70	NO	36.22	123.179	0.1252	56.9	3.28e3	2.25e3
29	13C-1,2,3,4,7,8-HxCDD	9.236	1.26e6	1.22	NO	42.16	109.906	0.3796	50.8	7.30e3	1.37e4
30	13C-1,2,3,6,7,8-HxCDD	9.236	1.41e6	1.23	NO	42.31	116.542	0.3590	53.8	7.30e3	1.37e4
31	13C-1,2,3,4,6,7,8-HpCDD	9.236	9.86e5	0.98	NO	46.76	104.312	0.1763	48.2	3.41e3	4.65e3
32	13C-OCDD	9.236	1.44e6	0.84	NO	50.33	173.013	0.5311	39.9	2.14e4	0.00e0
33	13C-1,2,3,4-TCDD	9.236	3.26e6	0.78	NO	26.20	15.638	0.0166	7.2	8.53e3	6.95e3
34	13C-1,2,3,7,8,9-HxCDD	9.236	2.52e6	1.28	NO	42.74	19.069	0.0329	8.8	7.30e3	1.37e4
35	37Cl-2,3,7,8-TCDD	9.236	3.93e4			26.56	2.339	0.0356	54.0		2.66e3
36	Total Tetra-Furans	9.236					24.207	0.0517			1.16e3
37	Total Tetra-Dioxins	9.236					8.359	0.0445			8.09e2
38	Total Penta-Furans	9.236					25.578	0.0658			1.16e3
39	Total Penta-Dioxins	9.236					7.072	0.0465			2.39e2
40	Total Hexa-Furans	9.236					10.170	0.0100			7.8002
41	Total Hexa-Dioxins	9.236					9.132	0.0940			1.82e3
42	Total Hepta-Furans	9.236					5.453	0.0510			8.80e2
43	Total Hepta-Dioxins	9.236					9.540	0.0982			1.22e3
44	Hexa DPE	1.000	4.20e1			21.24					0.00e0
45	Hepta DPE	1.000	3.36e1			33.58					0.00e0
46	Octa DPE	1.000	6.10e1			38.50					3.30e-2
47	Nona DPE	1.000	1.98e1			48.53					4.61e-2
48	Deca DPE	1.000	2.38e2			49.60					0.00e0
49	Tetra Lock	1.000	6.77e3			24.45					1.33e5
50	Penta Lock	1.000	5.63e3			29.55					1.38e5
51	Hexa Lock	1.000	2.78e5			38.96					3.53e5
52	Hepta Lock	1.000	2.43e4			47.55					1.92e5
53	Octa Lock	1.000	7.53e3			49.01					2.81e5
54	13C-Tetra-Furans	9.236					99.991	0.1045			4.33e3
55	13C-Tetra-Dioxins	9.236					128.271	0.2461			6.95e3

pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

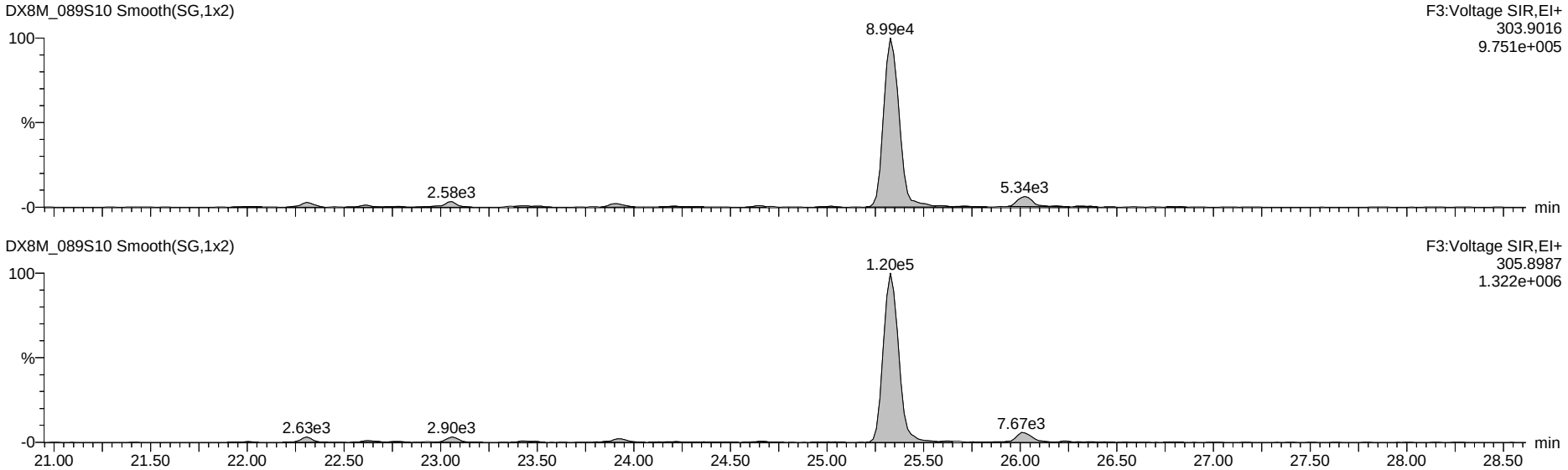
checked by KB 31-Jul-18

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

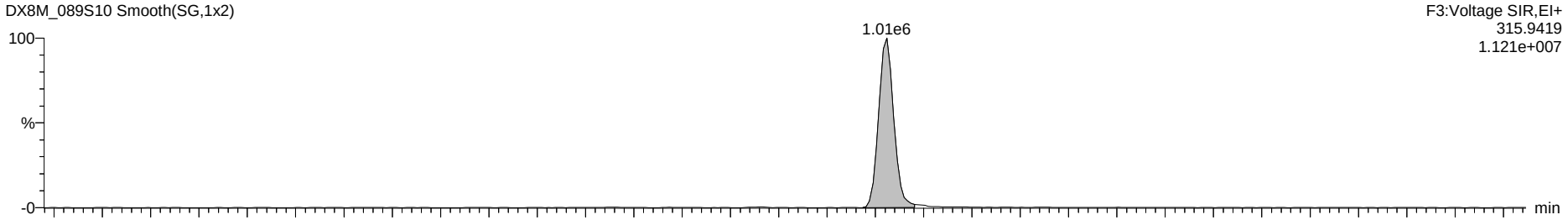
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

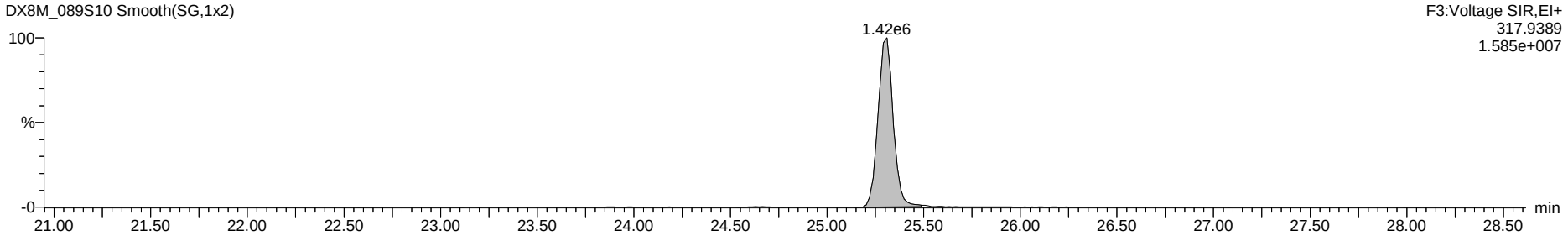
Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Tetra-Furans



13C-Tetra-Furans

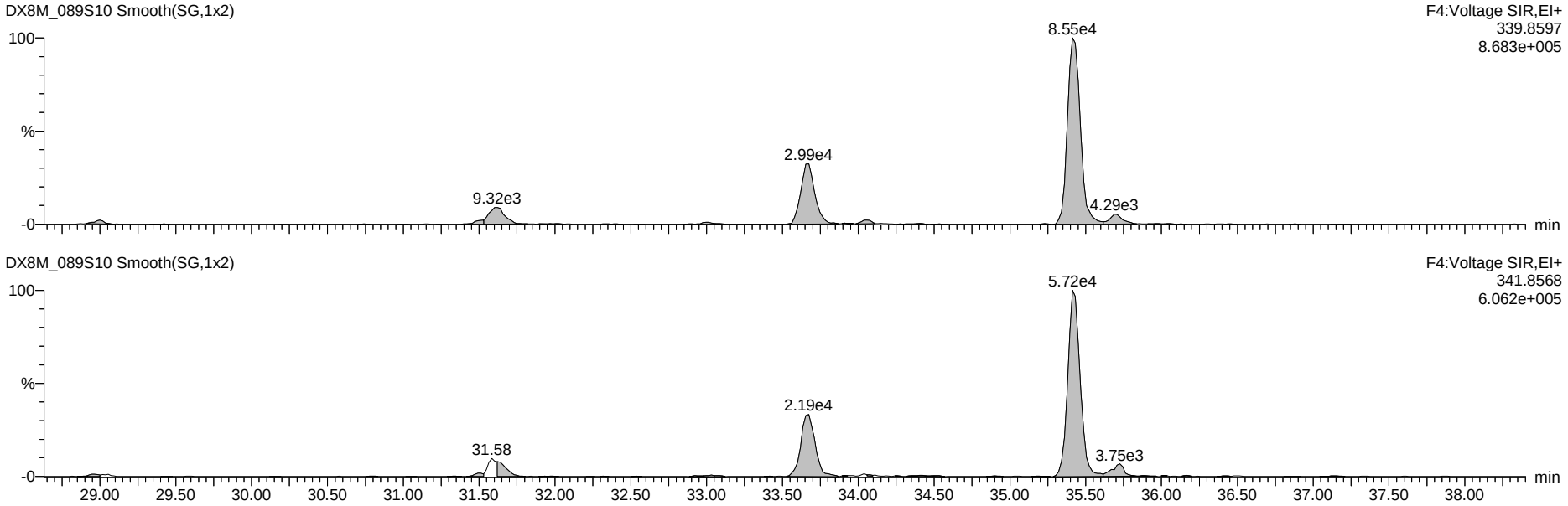




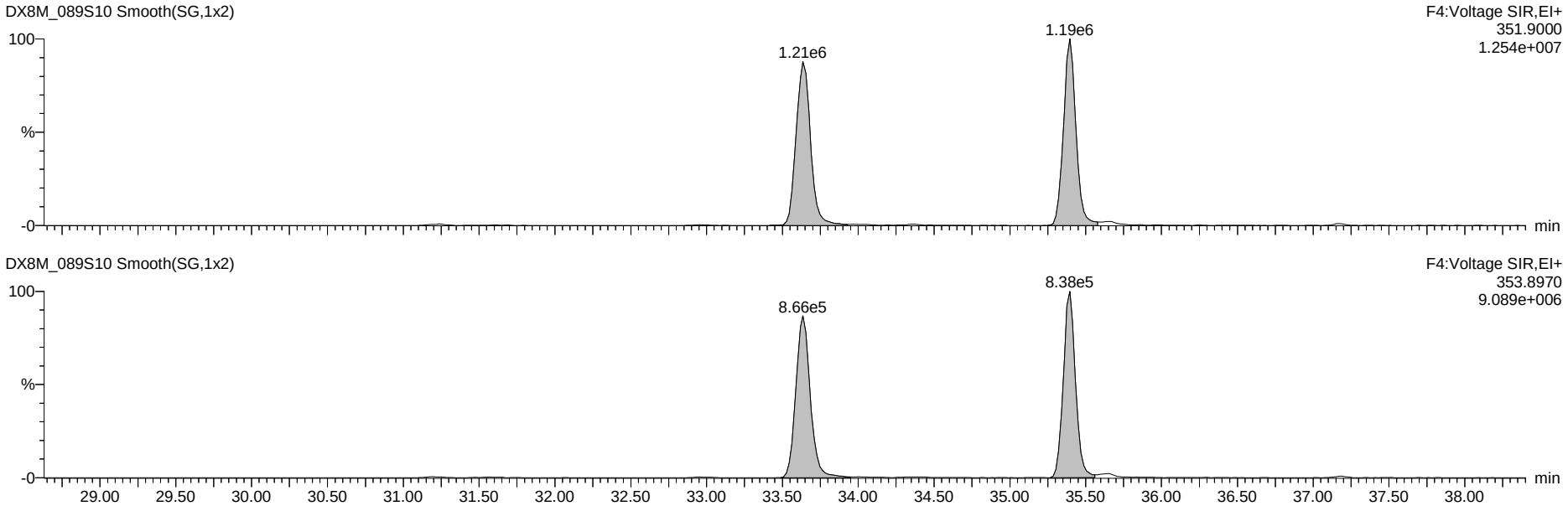
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Penta-Furans



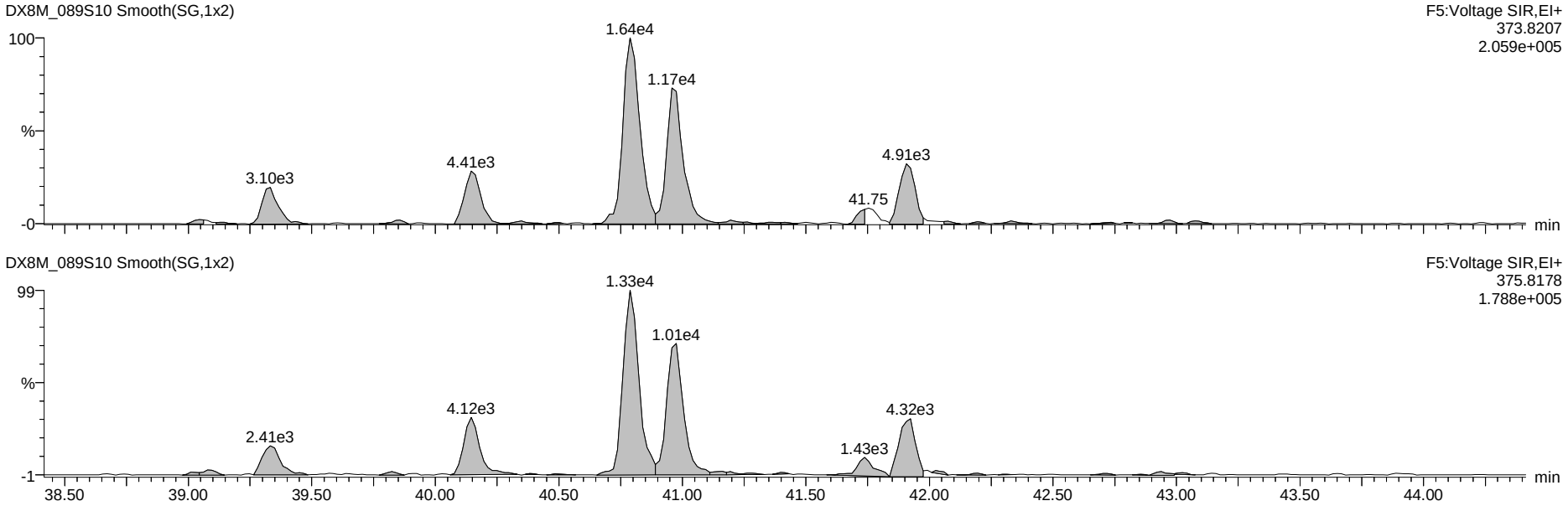
13C-Penta-Furans



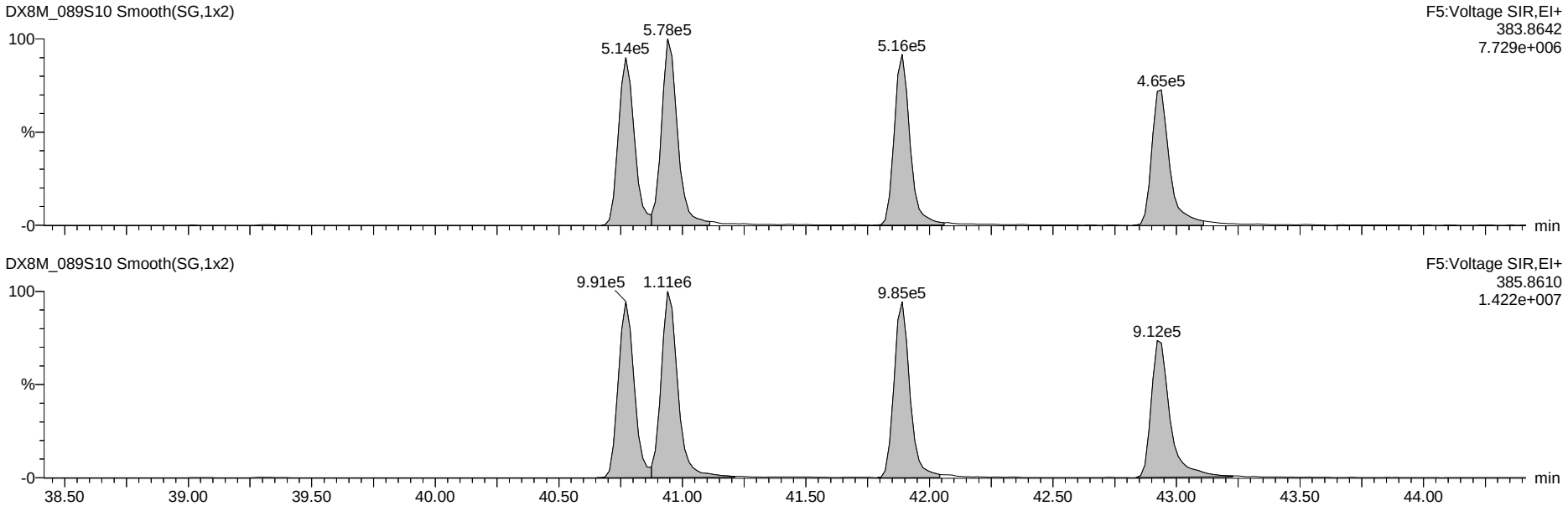
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Hexa-Furans



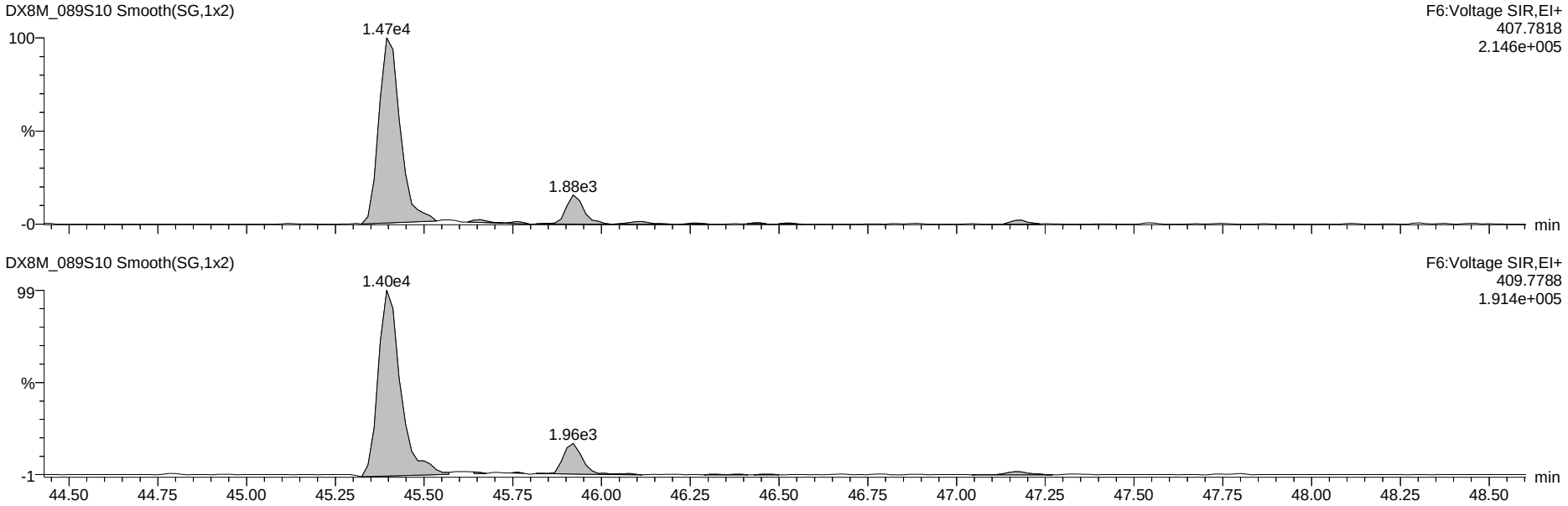
13C-Hexa-Furans



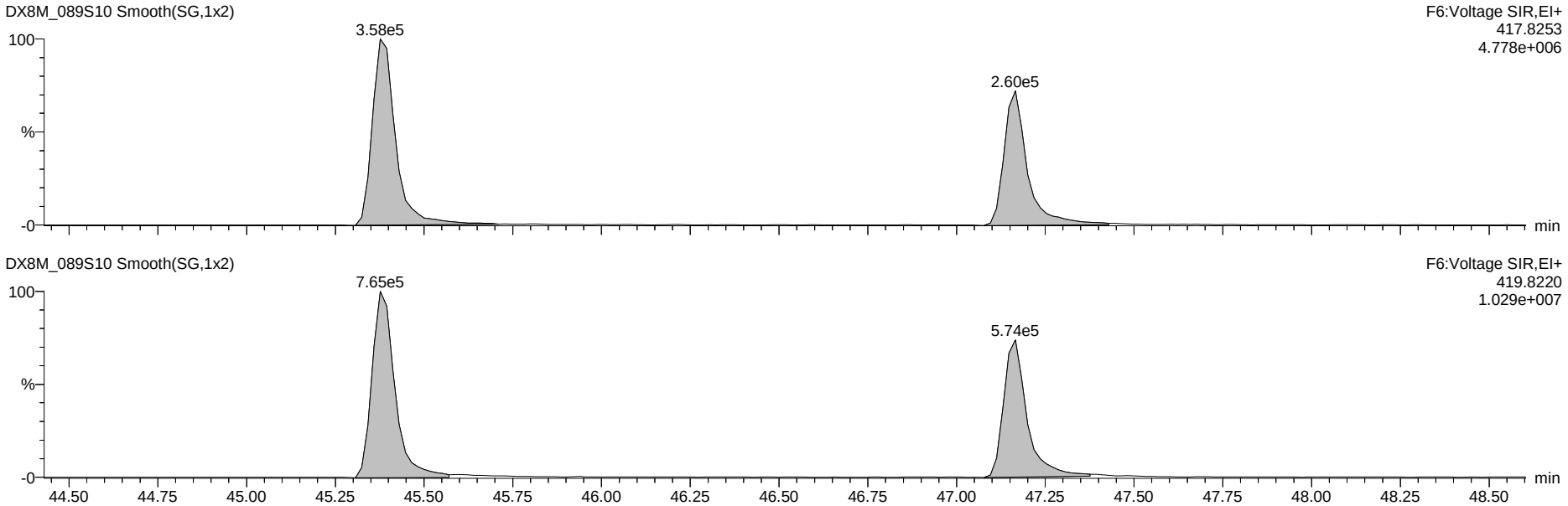
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Hepta-Furans



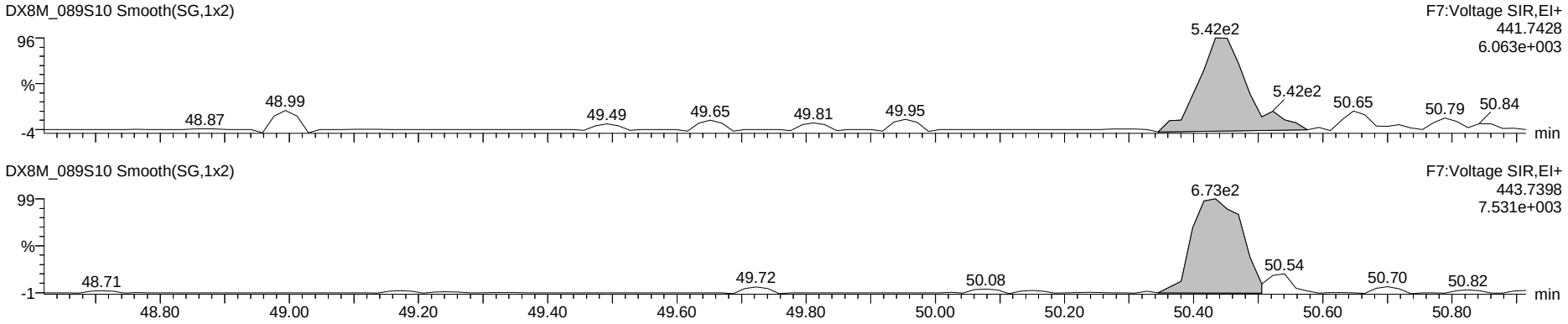
13C-Hepta-Furans



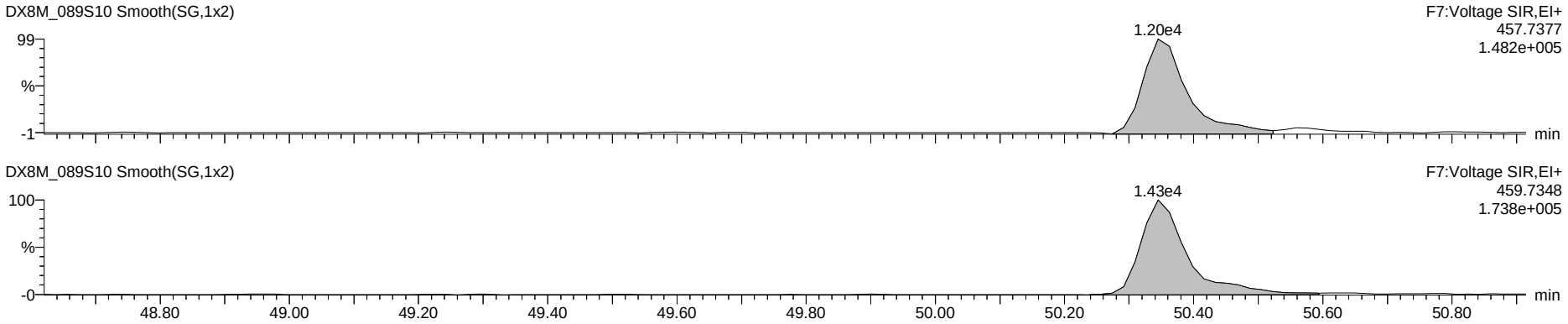
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

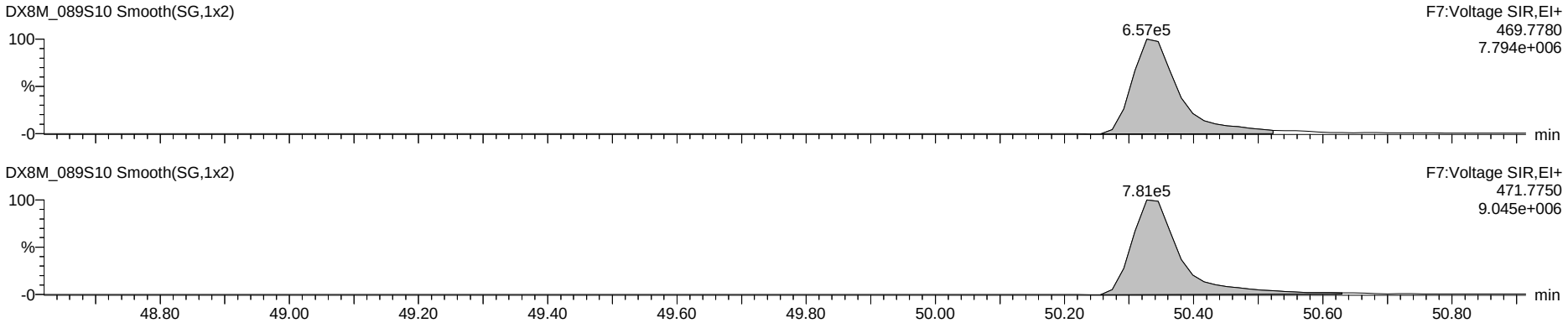
OCDF



OCDD



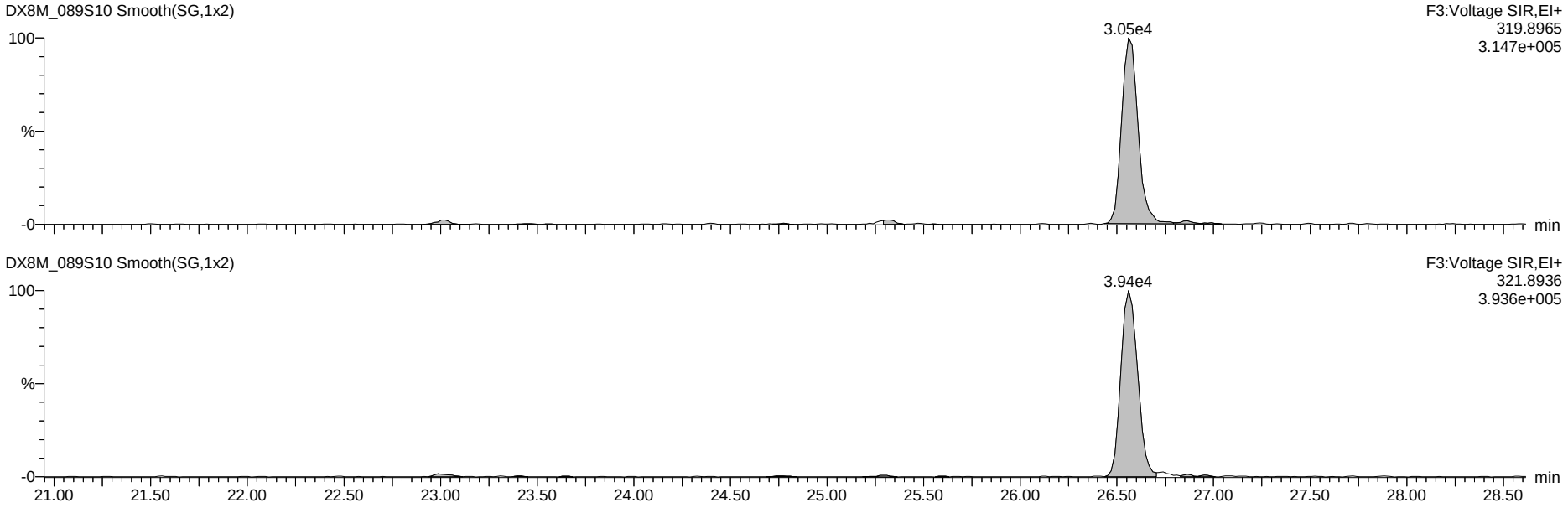
13C-OCDD



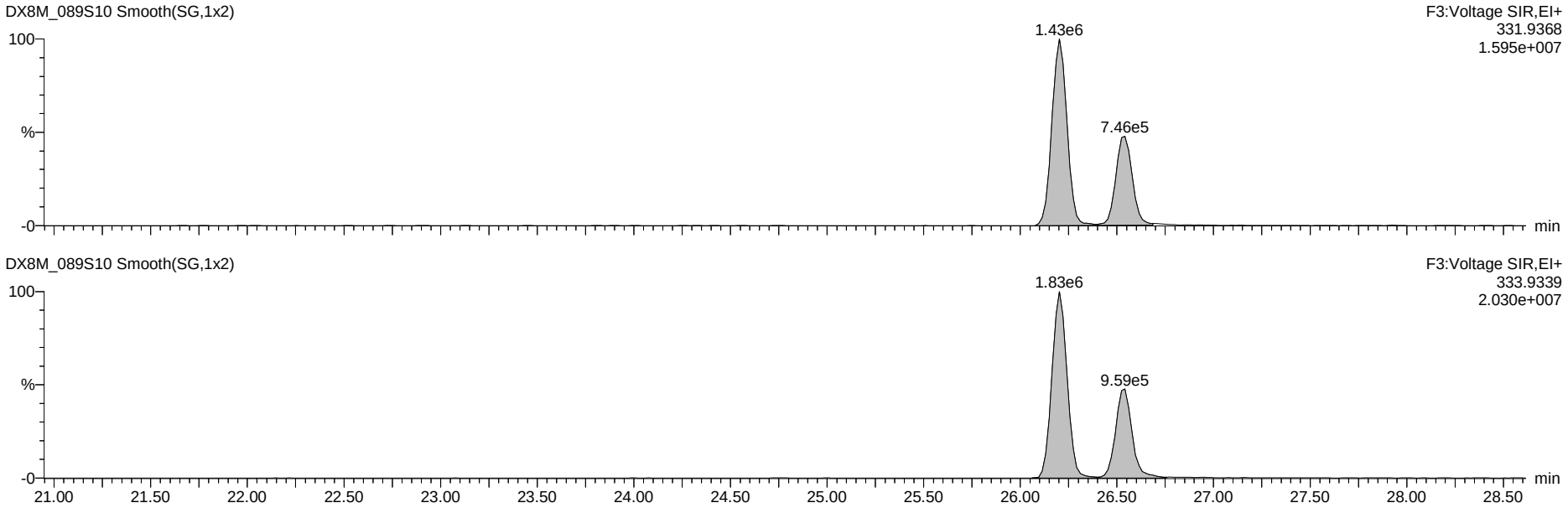
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Tetra-Dioxins



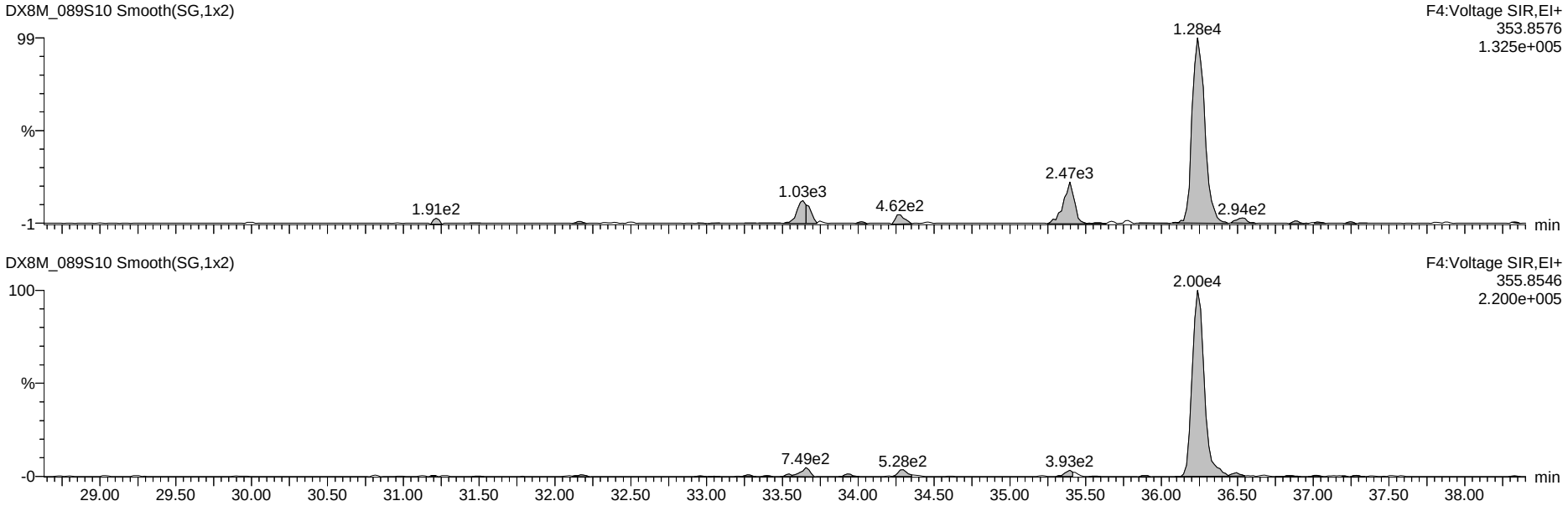
13C-Tetra-Dioxins



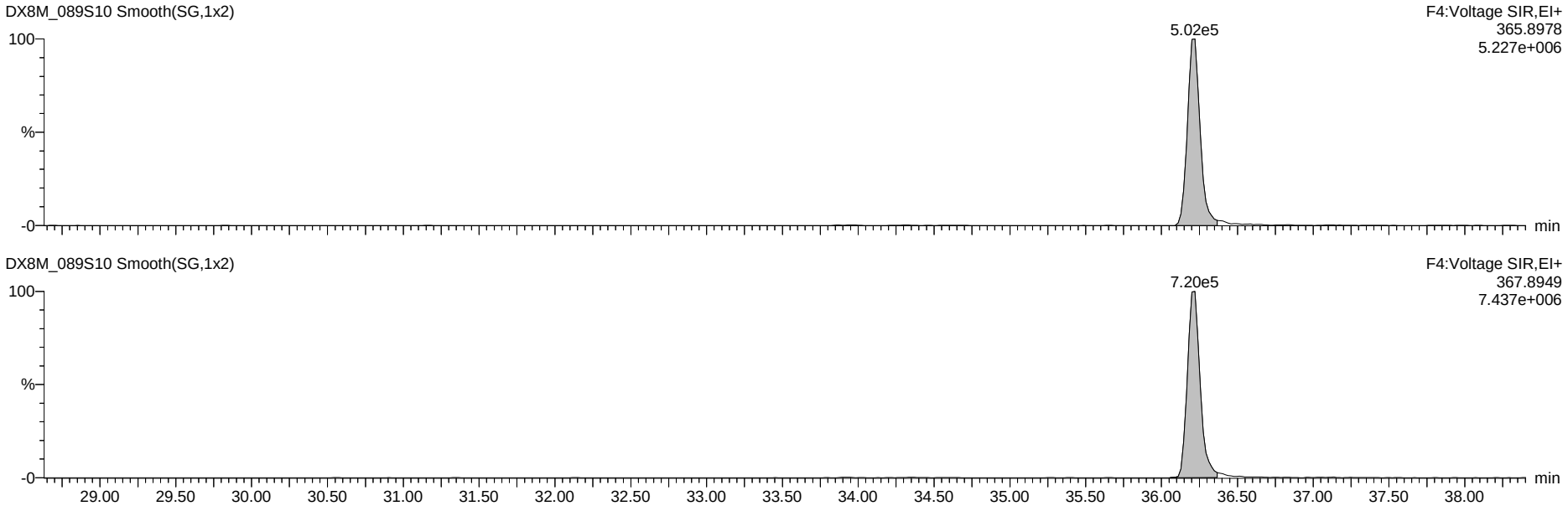
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Penta-Dioxins



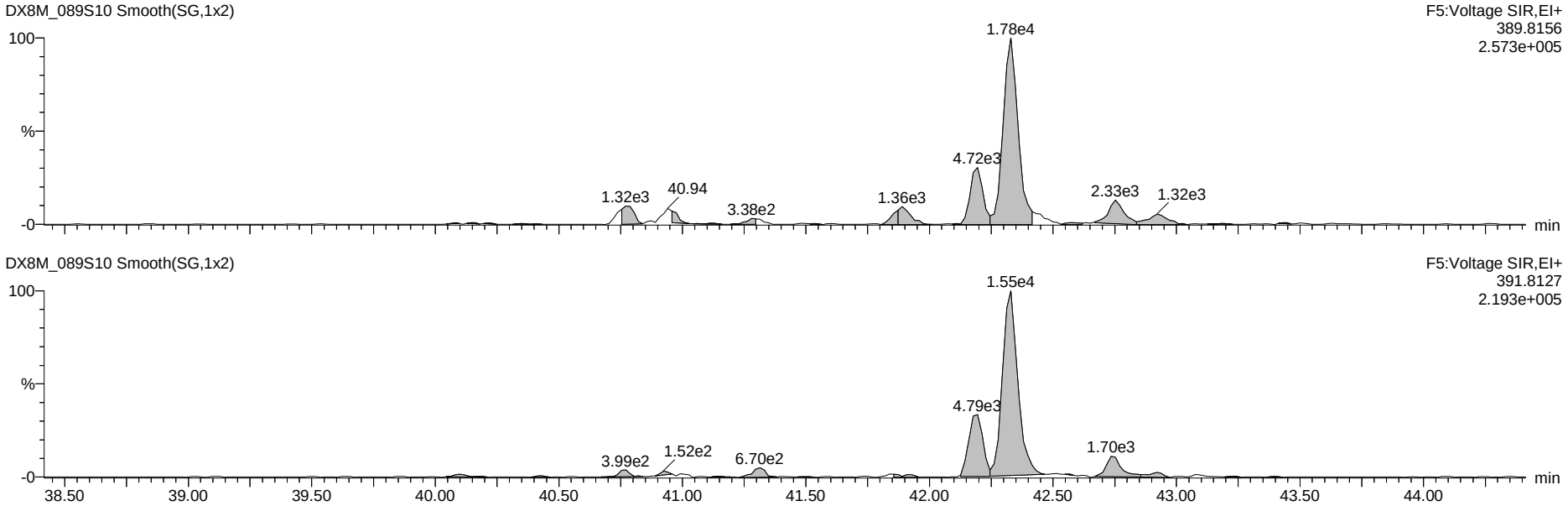
13C-Penta-Dioxins



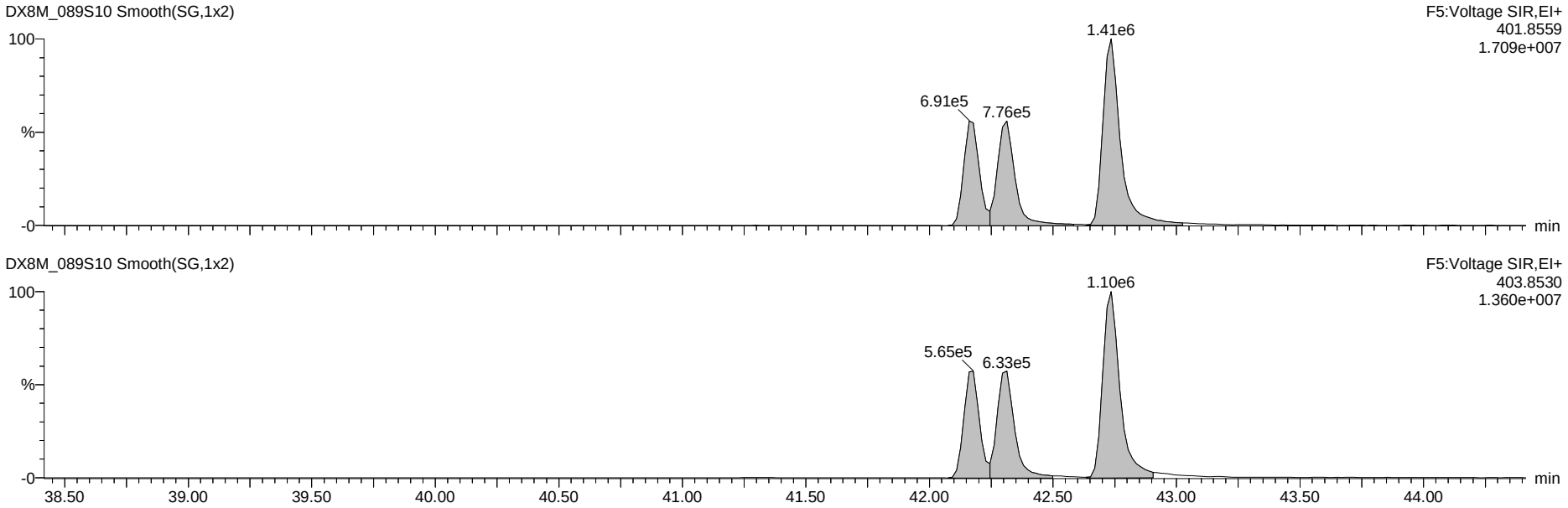
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Hexa-Dioxins



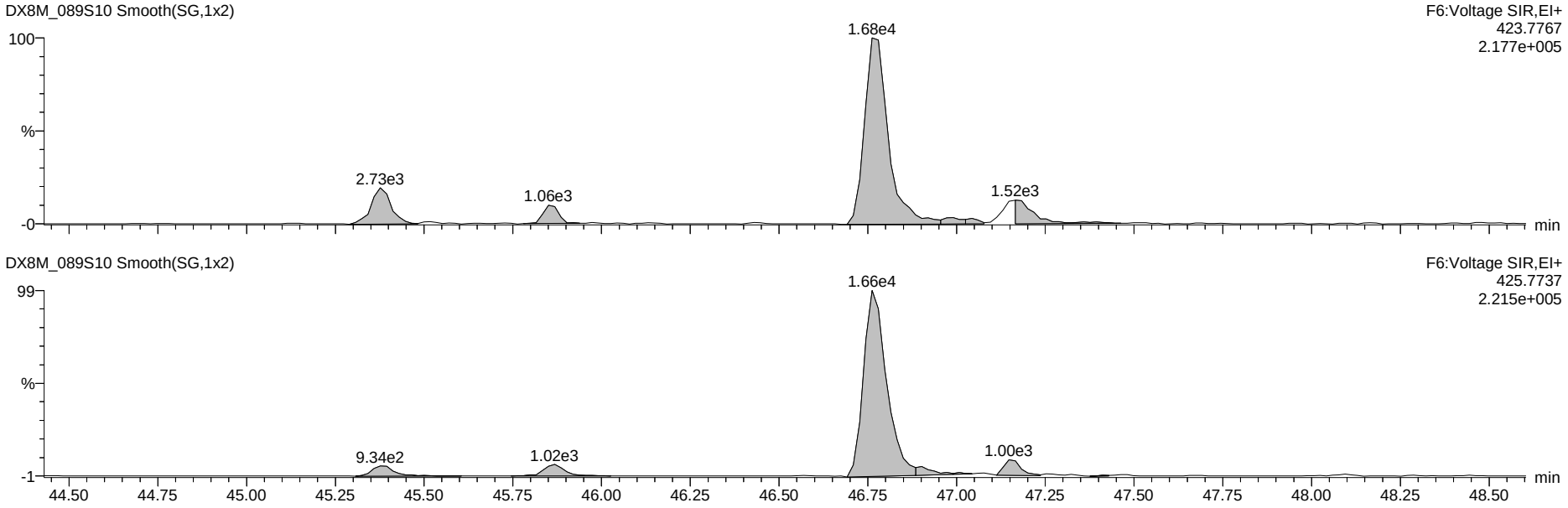
13C-Hexa-Dioxins



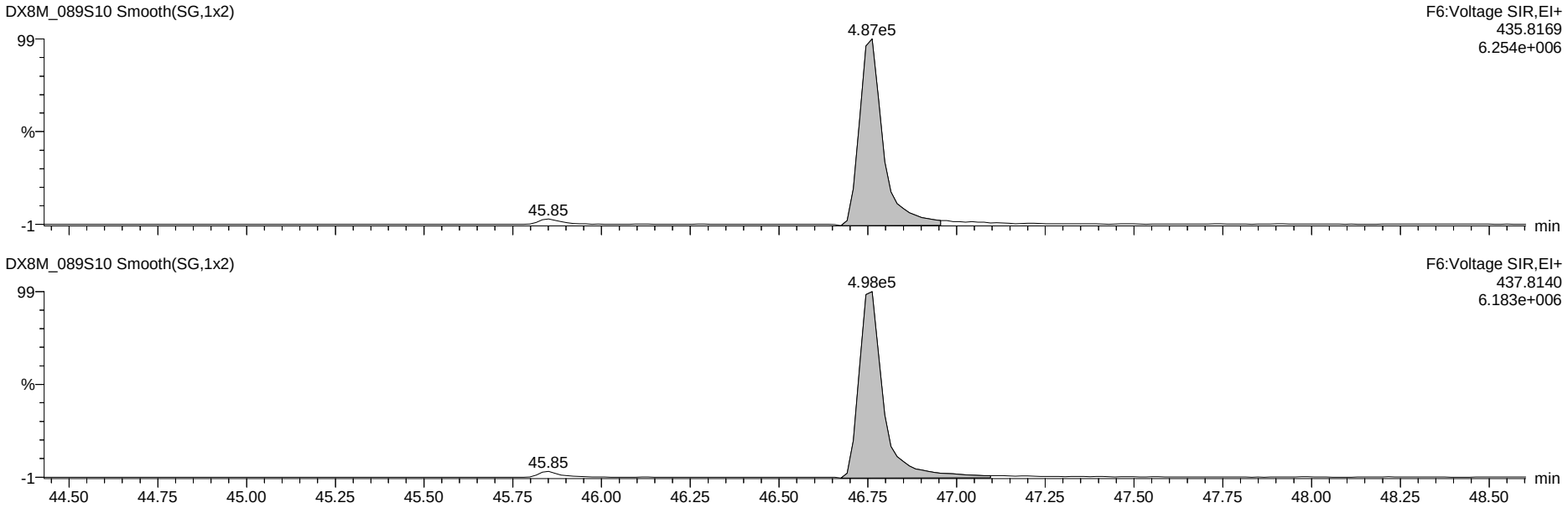
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

Total Hepta-Dioxins



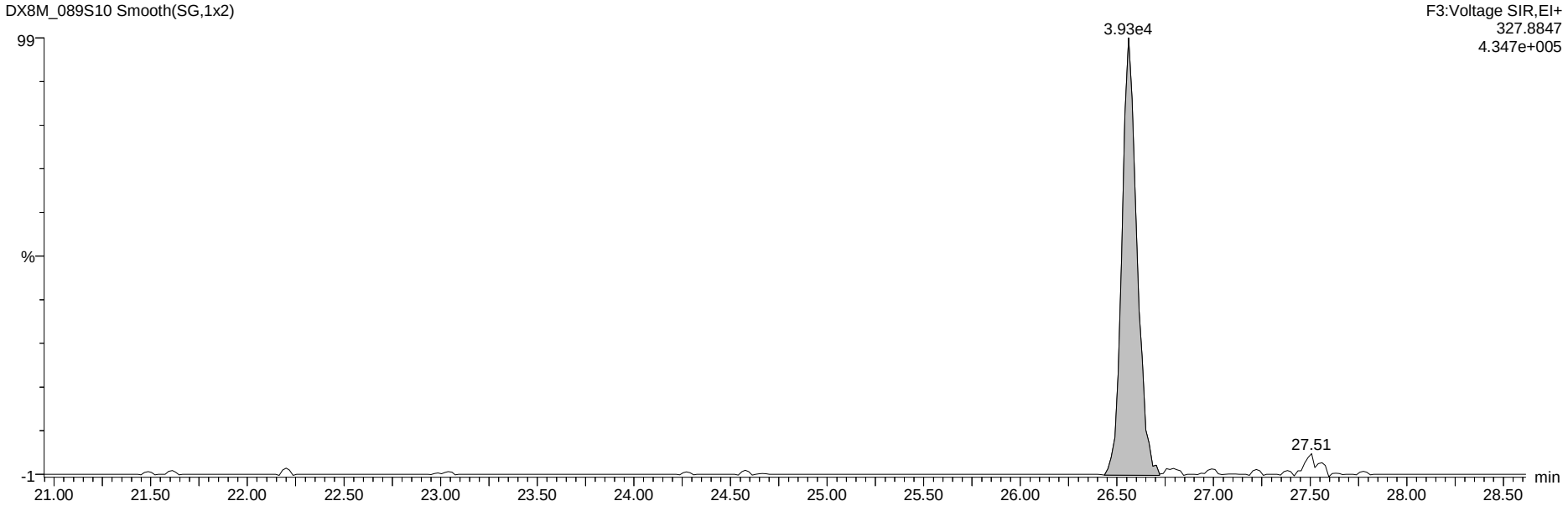
13C-Hepta-Dioxins



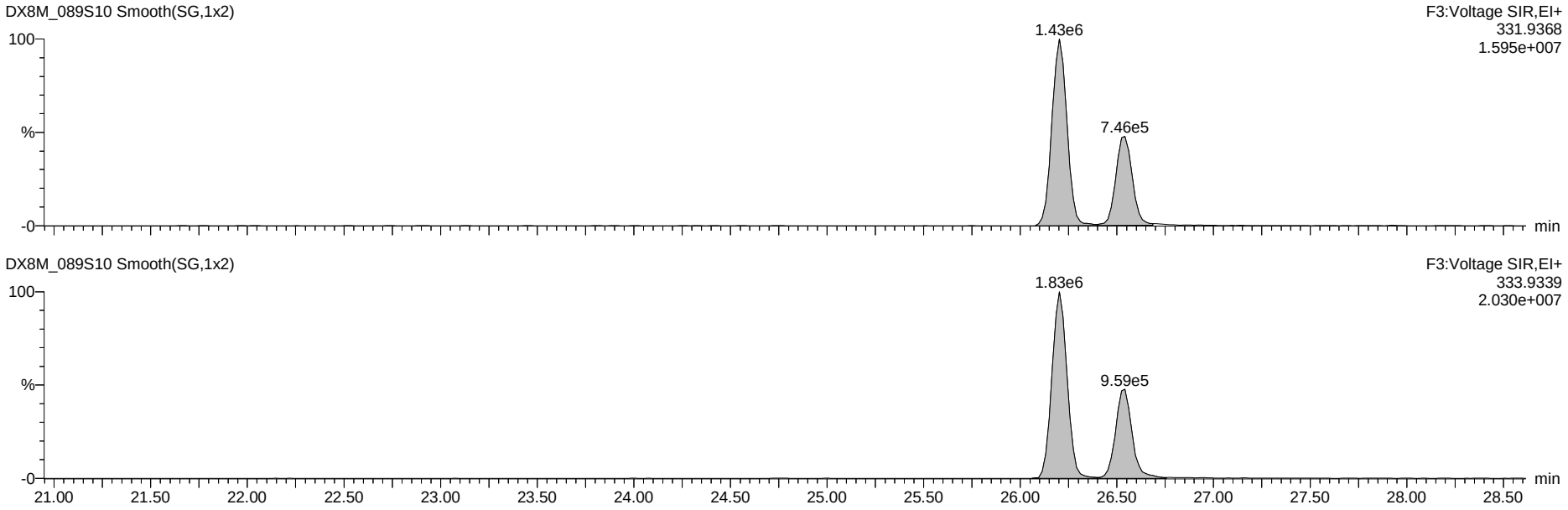
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

37Cl-2,3,7,8-TCDD



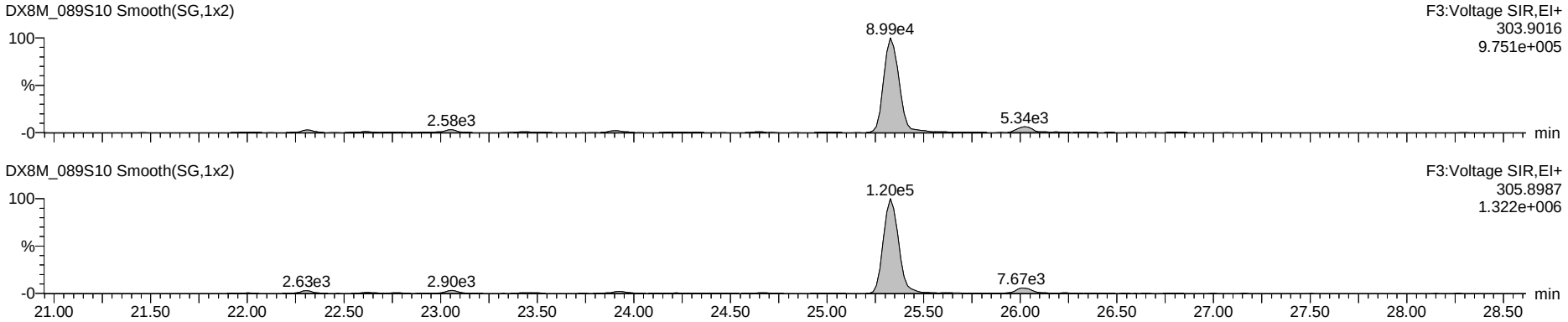
13C-Tetra-Dioxins



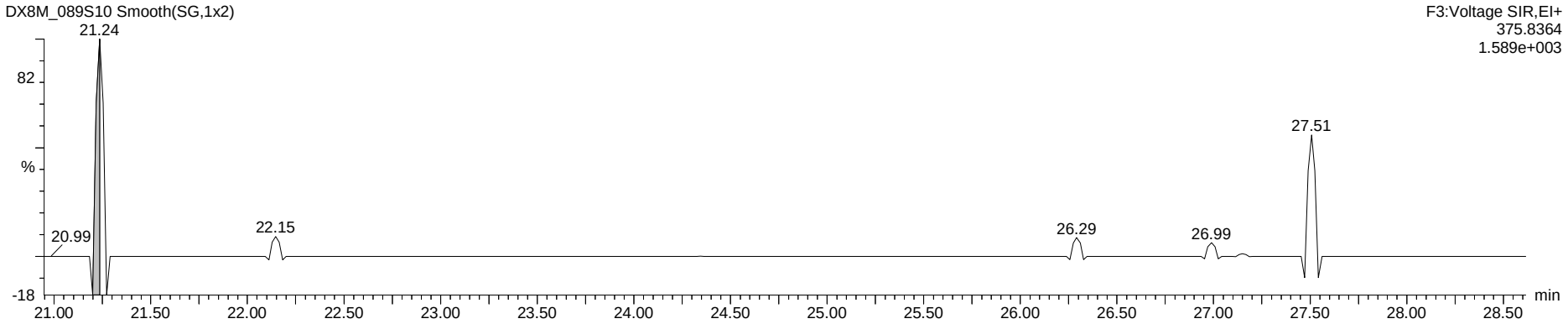
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

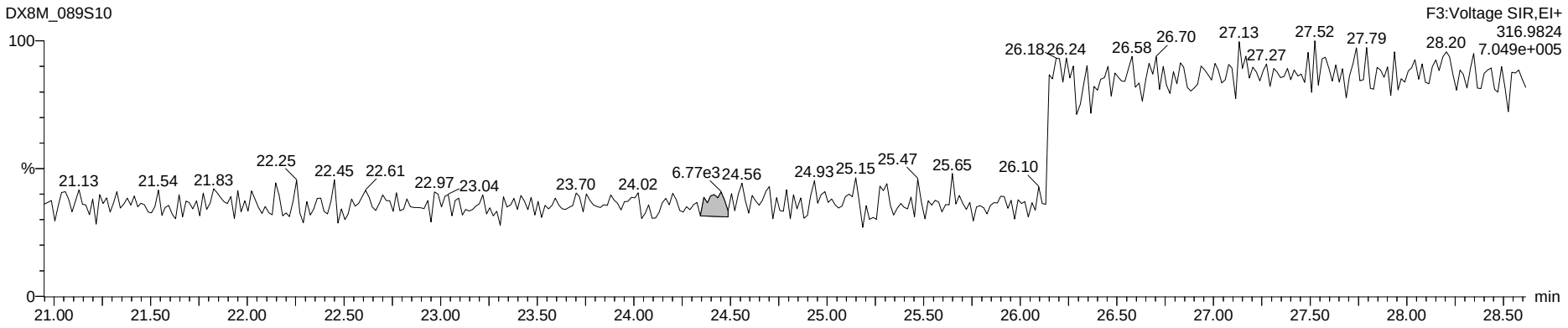
Total Tetra-Furans



Hexa DPE



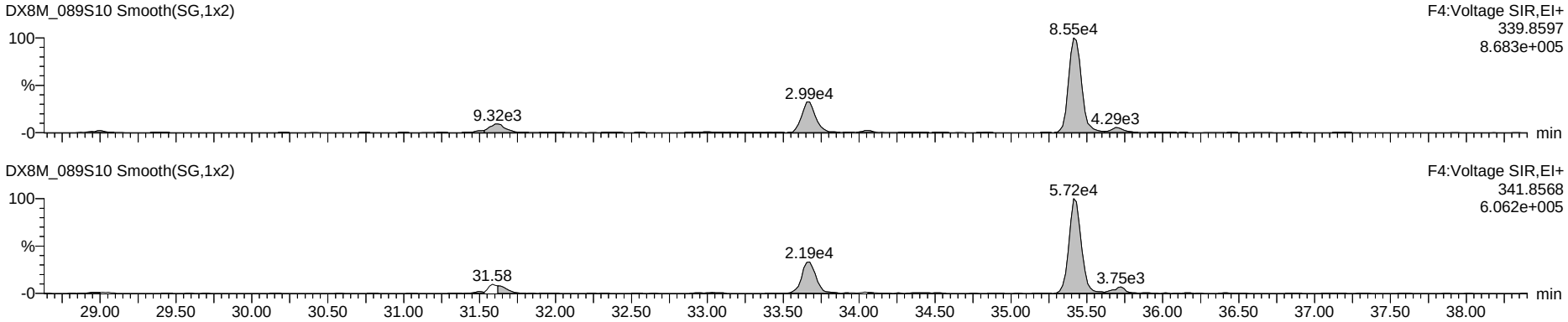
Tetra Lock



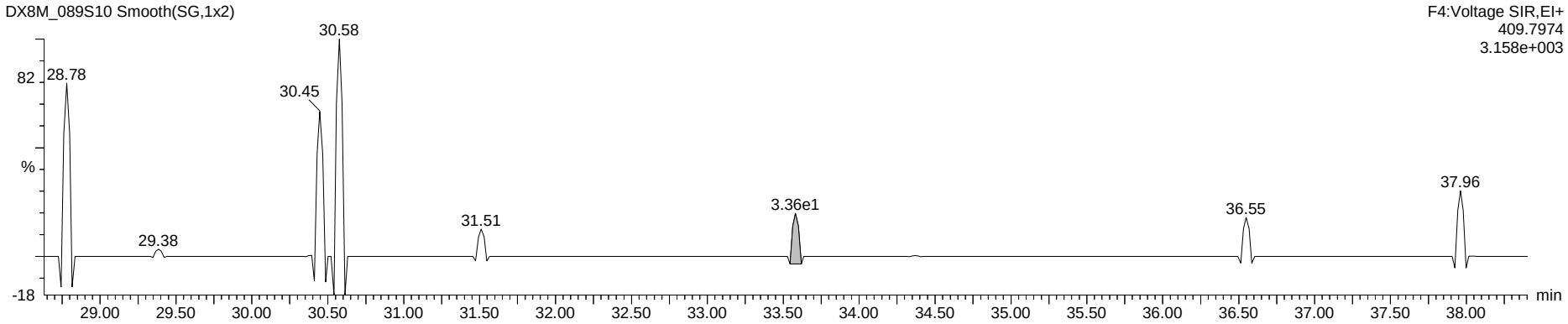
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

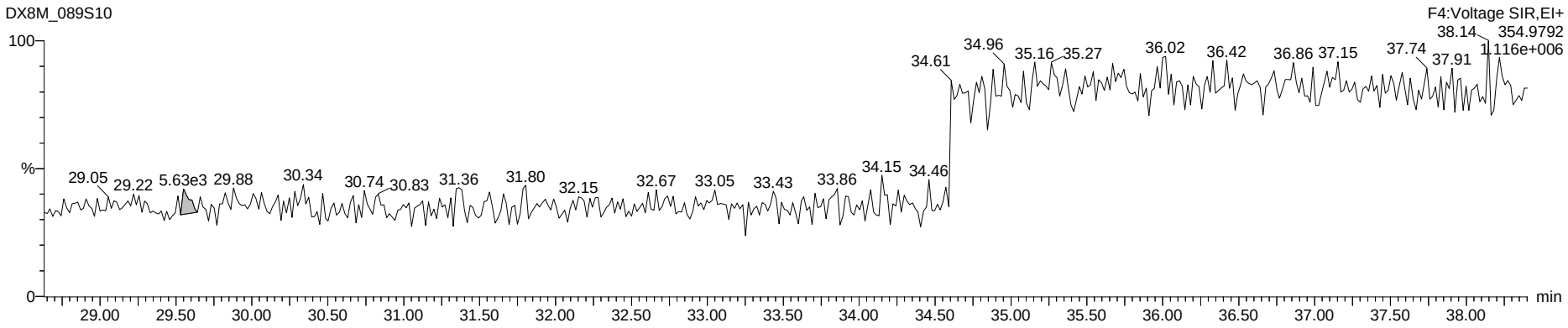
Total Penta-Furans



Hepta DPE



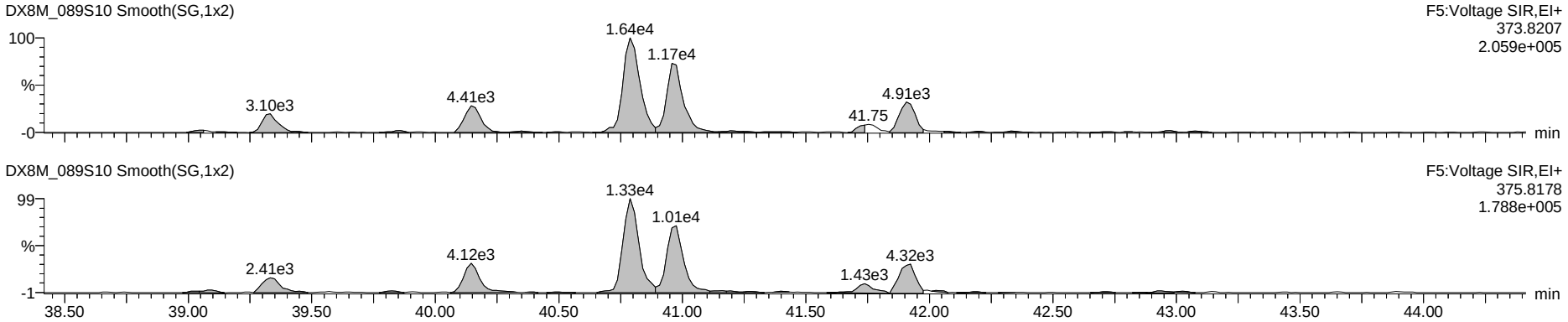
Penta Lock



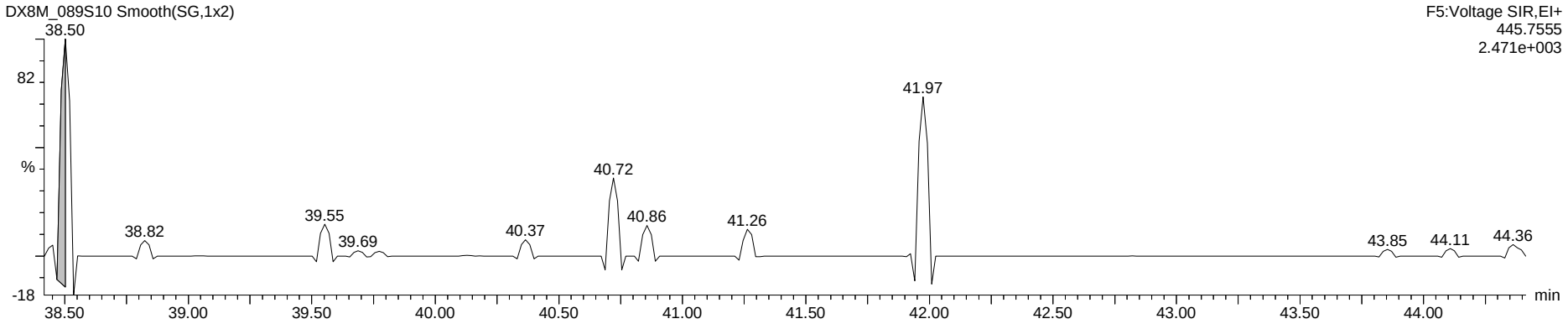
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

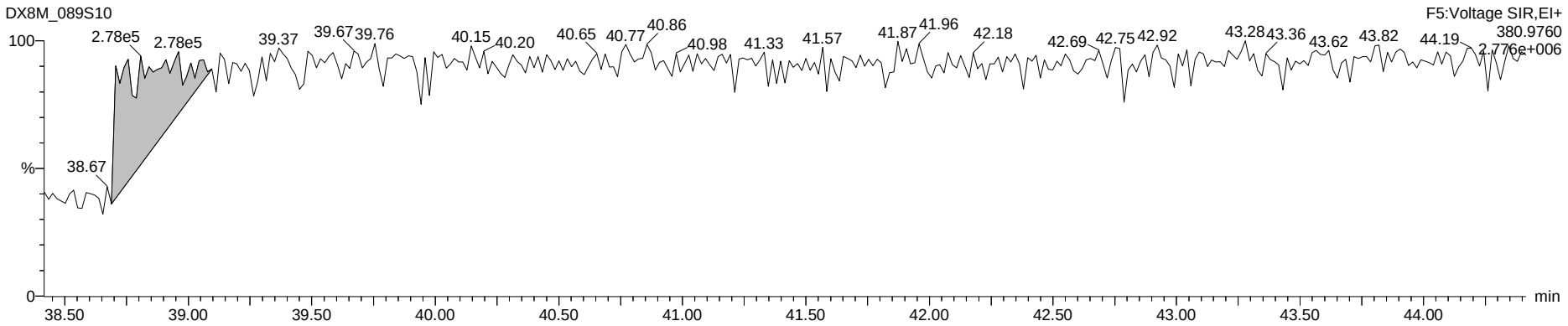
Total Hexa-Furans



Octa DPE



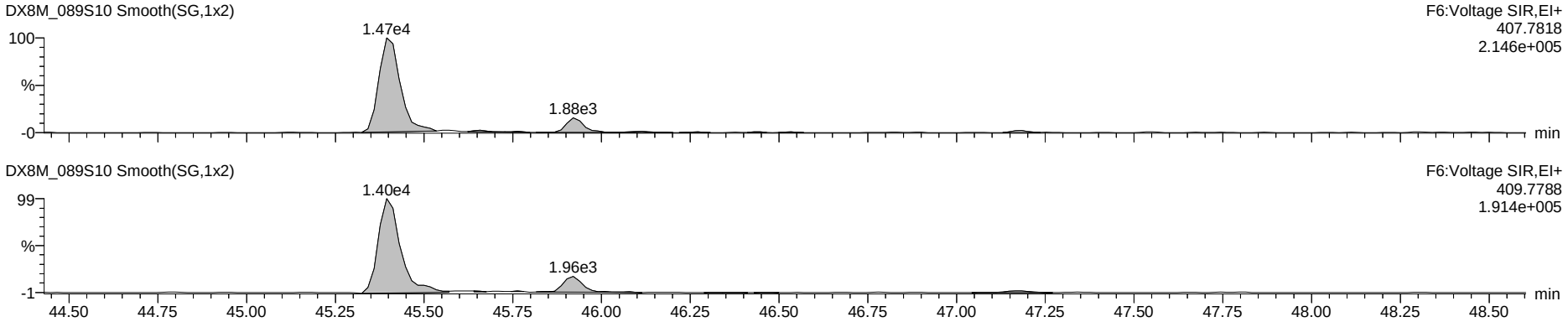
Hexa Lock



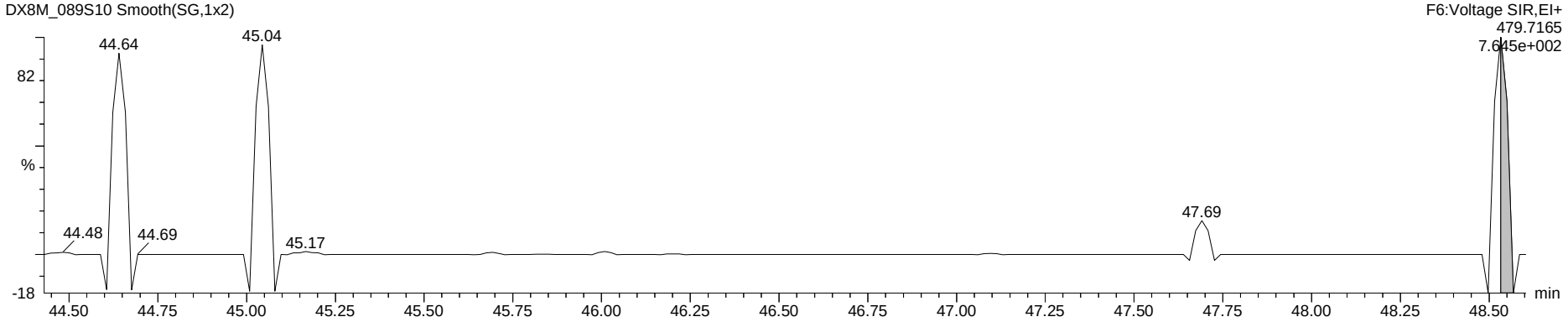
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

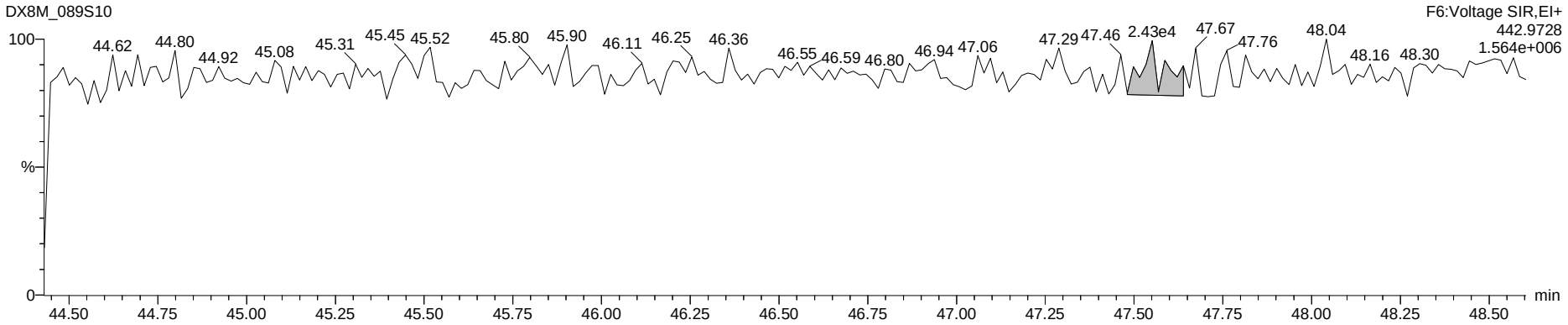
Total Hepta-Furans



Nona DPE



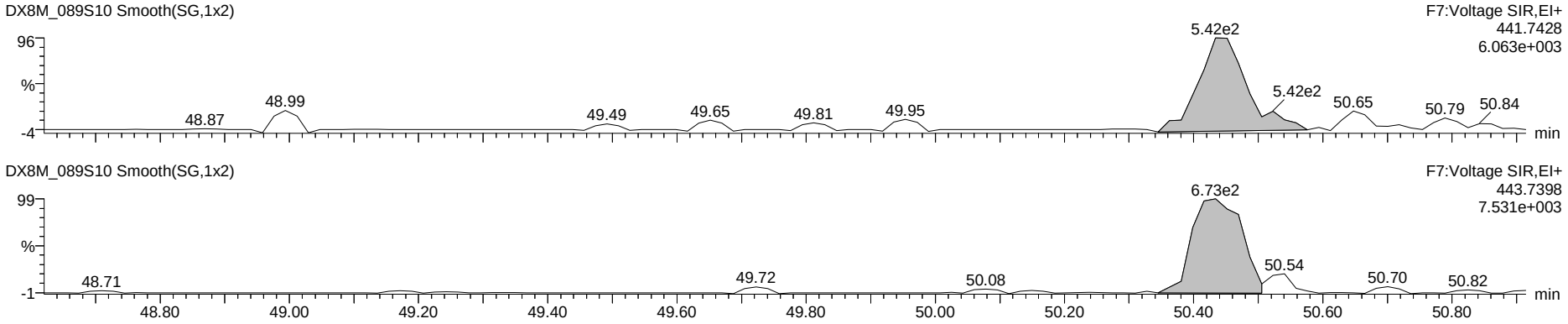
Hepta Lock



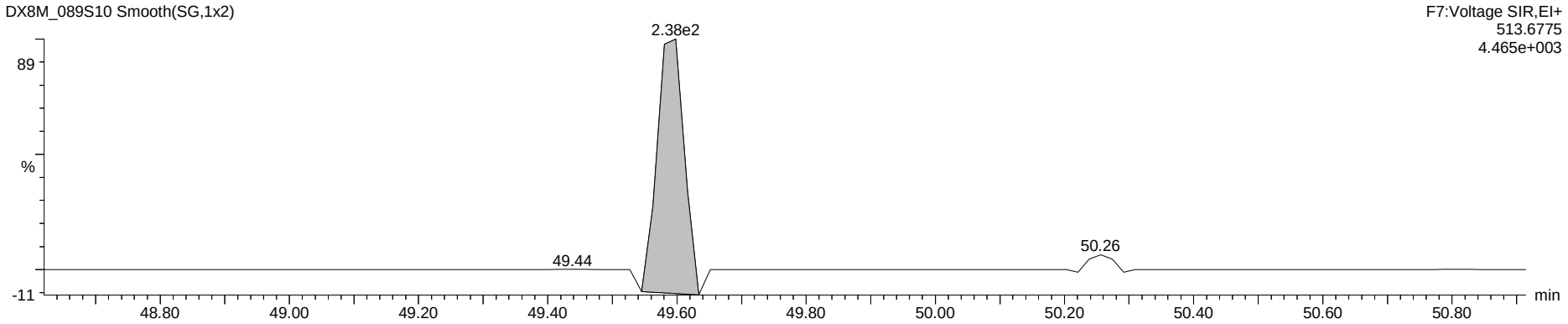
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S10, Date: 27-Jul-2018, Time: 03:00:41, ID: WG64557-104,,CRM, Description: 1,WG64557,1.0/20uL

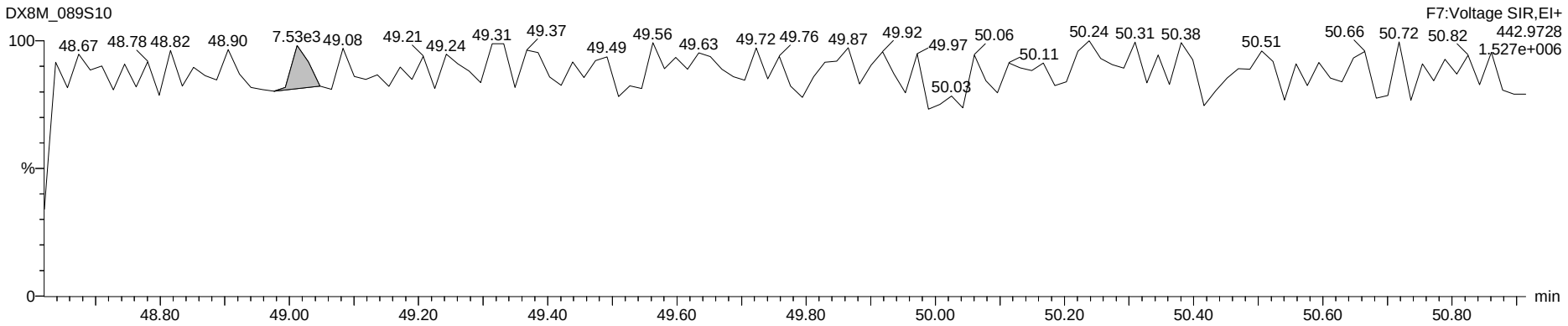
OCDF



Deca DPE



Octa Lock



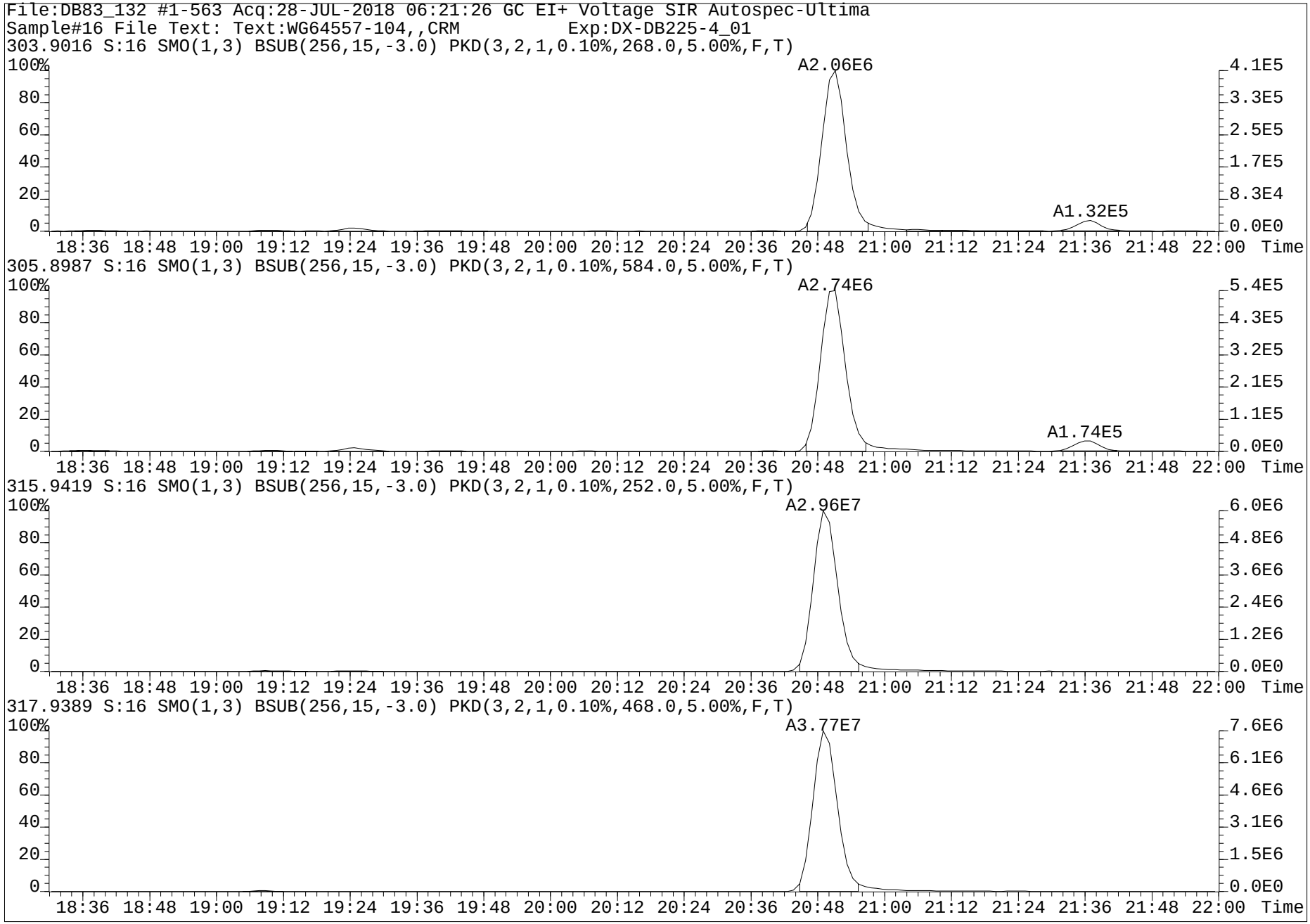
www.axysanalytical.com

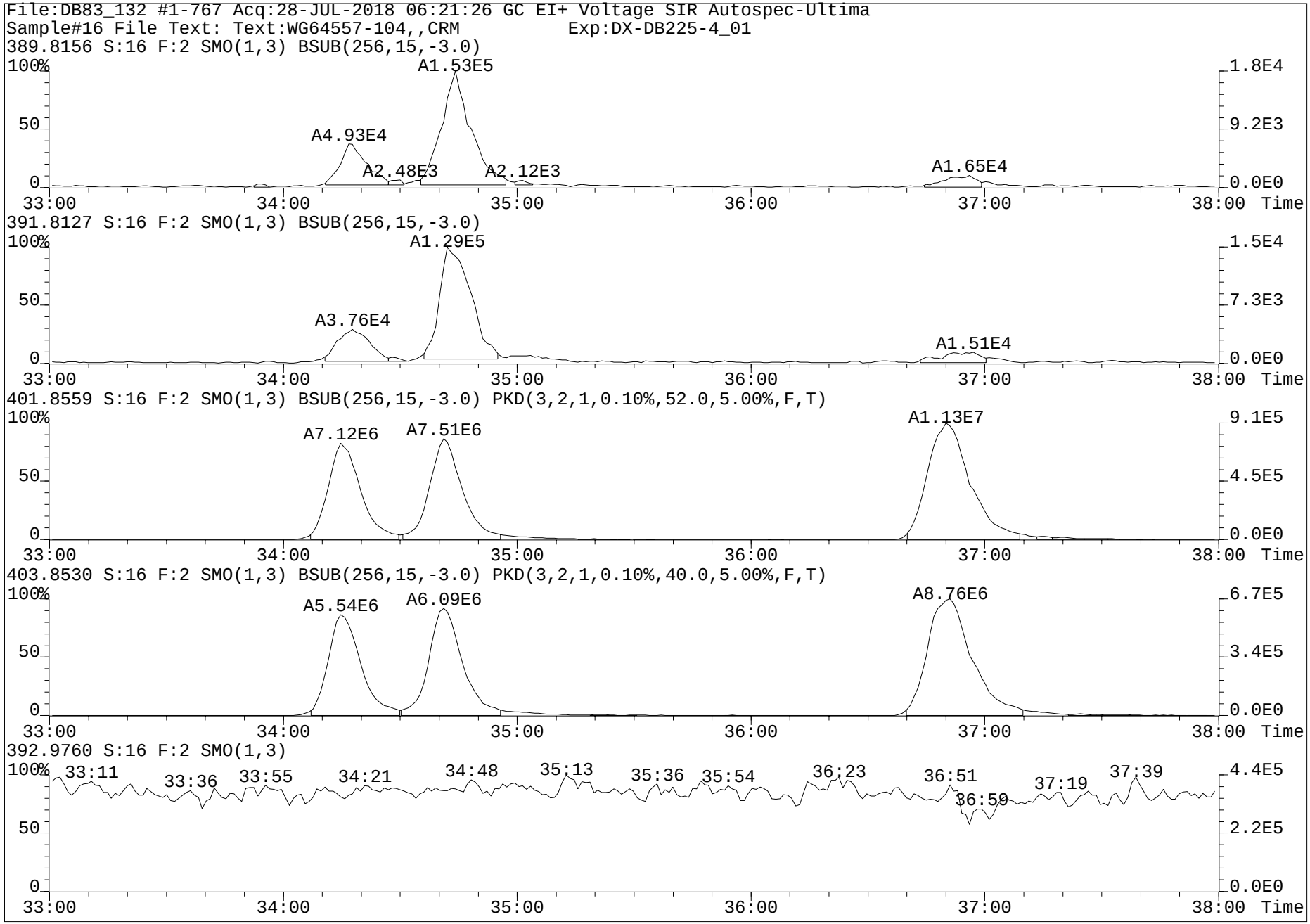
Run #11 Filename DB83_132 S: 16 I: 1 Acquired: 28-JUL-18 06:21:26 Processed: 30-JUL-18 11:30:36
Run: db83_132-b Analyte: db-hxd-s2 Cal: db83_121-6a Results: db83_132-b Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64557-104,,CRM Comments: 1,WG64557,2.0/20uL
sample size: 9.236000 conc units: pg/g total toxicity: 1.65 F1: 1.0000 F2: 1.0000

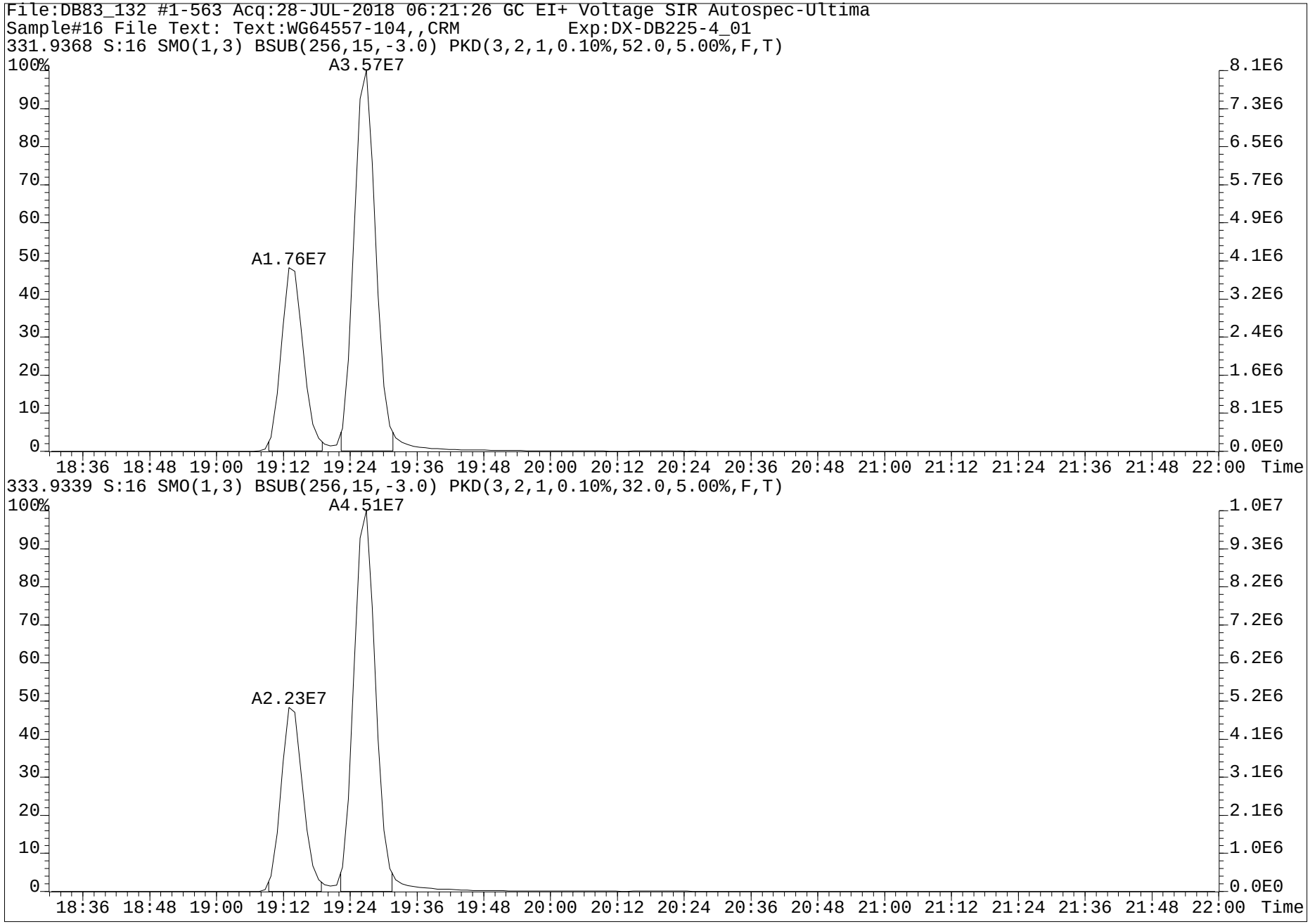
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	4.80e+06	0.75	y	20:51	15.932	2	0.0348	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	3.16e+04	1.09	y	36:52	0.566	0	0.3068	-	y
3	IS/RT	13C-2,3,7,8-TCDF	1	6.73e+07	0.78	y	20:49	100.868	-	0.0118	46.6	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.27e+07	1.28	y	34:16	129.114	-	0.0300	59.6	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.36e+07	1.23	y	34:42	134.331	-	0.0290	62.0	n
6	RS	13C-1,2,3,4-TCDD	1	8.08e+07	0.79	y	19:27	7.903	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.01e+07	1.29	y	36:52	3.967	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

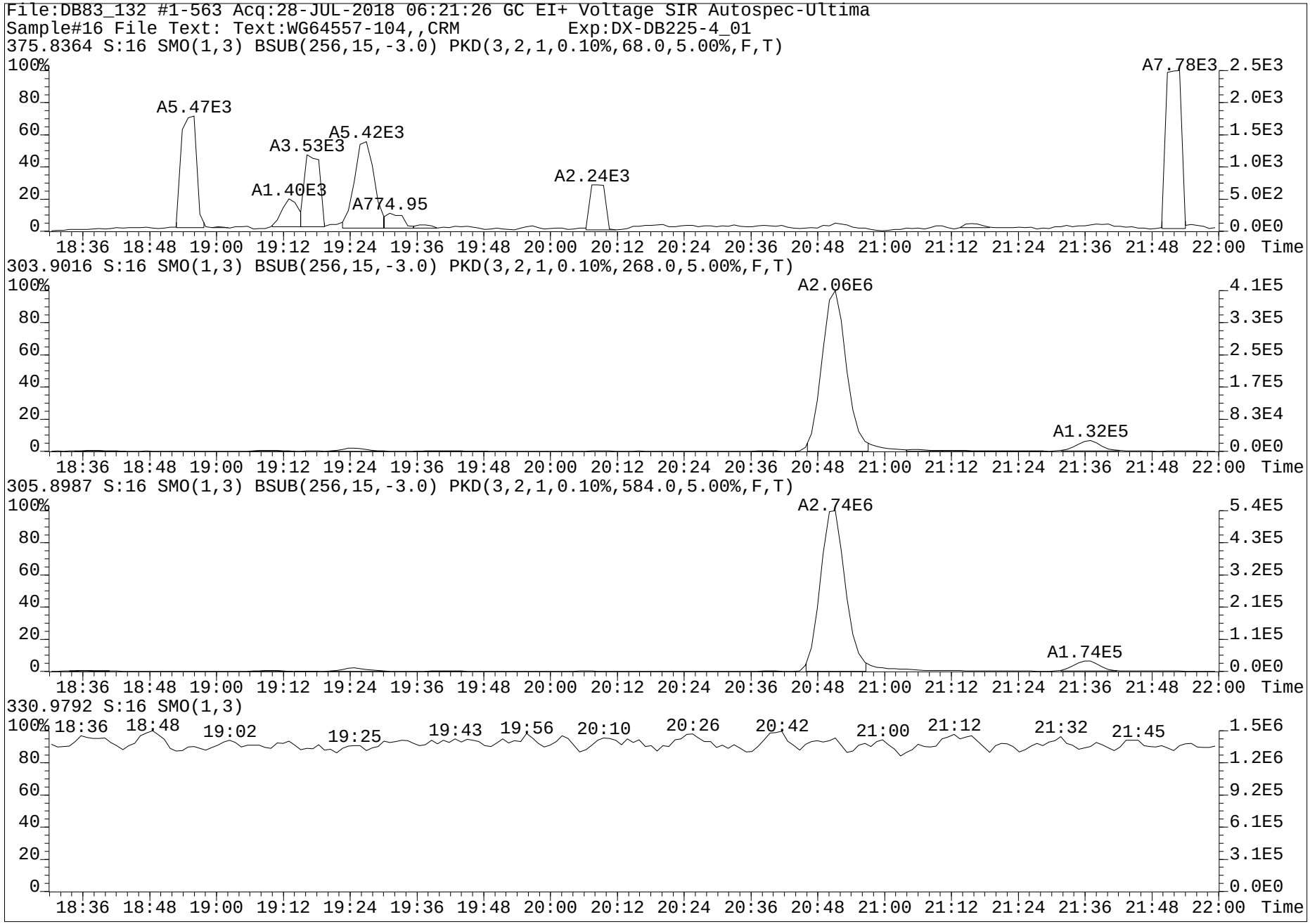
checked by
KW 31-Jul-18

AMy KB 30 JUL 2018


File:DB83_132 #1-563 Acq:28-JUL-2018 06:21:26 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:WG64557-104,,CRM Exp:DX-DB225-4_01
303.9016 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,268.0,5.00%,F,T)
A2.06E6
A1.32E5
305.8987 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,584.0,5.00%,F,T)
A2.74E6
A1.74E5
315.9419 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,252.0,5.00%,F,T)
A2.96E7
317.9389 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,468.0,5.00%,F,T)
A3.77E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_132 #1-767 Acq:28-JUL-2018 06:21:26 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:WG64557-104,,CRM Exp:DX-DB225-4_01
389.8156 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.53E5
A4.93E4
A2.48E3
A2.12E3
A1.65E4
391.8127 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.29E5
A3.76E4
A1.51E4
401.8559 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,52.0,5.00%,F,T)
A7.12E6
A7.51E6
A1.13E7
403.8530 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,40.0,5.00%,F,T)
A5.54E6
A6.09E6
A8.76E6
392.9760 S:16 F:2 SMO(1,3)
33:11
33:36
33:55
34:21
34:48
35:13
35:36
35:54
36:23
36:51
36:59
37:19
37:39
33:00
34:00
35:00
36:00
37:00
38:00
Time


File:DB83_132 #1-563 Acq:28-JUL-2018 06:21:26 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:WG64557-104,,CRM Exp:DX-DB225-4_01
331.9368 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,52.0,5.00%,F,T)
A3.57E7
A1.76E7
333.9339 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,32.0,5.00%,F,T)
A4.51E7
A2.23E7
Time


File:DB83_132 #1-563 Acq:28-JUL-2018 06:21:26 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:WG64557-104,,CRM Exp:DX-DB225-4_01
375.8364 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,68.0,5.00%,F,T)
A5.47E3
A3.53E3
A5.42E3
A1.40E3
A774.95
A2.24E3
A7.78E3
303.9016 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,268.0,5.00%,F,T)
A2.06E6
A1.32E5
305.8987 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,584.0,5.00%,F,T)
A2.74E6
A1.74E5
330.9792 S:16 SMO(1,3)
18:36 18:48 19:02 19:25 19:43 19:56 20:10 20:26 20:42 21:00 21:12 21:32 21:45
Time

SGS Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.pro\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq Date	Acq Time
1	DX8M_065CS1	DX041A-CAL,,/01	1,,1.0uL CS-0.2 Sens	04-Jun-18	17:29:08
2	DX8M_065CS2	DX041B-CAL,,/01	1,,1.0uL CS-1	04-Jun-18	19:18:47
3	DX8M_065CS3	DX041B-CAL,,/01	1,,1.0uL CS-1	04-Jun-18	20:28:43
4	DX8M_065CS4	DX041C-CAL,,/01	1,,1.0uL CS-2	04-Jun-18	21:21:16
5	DX8M_065CS5	DX041F-CAL,,/01	1,,1.0uL CS-5	04-Jun-18	22:16:47
6	DX8M_065CS6	DX041E-CAL,,/01	1,,1.0uL CS-4	04-Jun-18	23:11:40
7	DX8M_065CS7	DX041D-CAL,,/01-91	1,,1.0uL Cal Win/Res	05-Jun-18	00:06:54
8	DX8M_065CS8	DX003A-SSV,,/01	1,,1.0uL Cal	05-Jun-18	01:11:21

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	0.100	3.99e3	0.82	NO	25.24	0.935	0.9149	0.022	2.43	102	48
2	1,2,3,7,8-PeCDF	0.500	1.42e4	1.49	NO	33.56	0.932	0.9236	0.039	4.19	988	70
3	2,3,4,7,8-PeCDF	0.500	1.38e4	1.53	NO	35.34	0.946	0.9391	0.013	1.39	1087	82
4	1,2,3,4,7,8-HxCDF	0.500	1.14e4	1.36	NO	40.70	1.091	1.1161	0.036	3.26	525	583
5	1,2,3,6,7,8-HxCDF	0.500	1.18e4	1.27	NO	40.89	1.075	1.0626	0.029	2.74	530	533
6	2,3,4,6,7,8-HxCDF	0.500	1.09e4	1.26	NO	41.82	1.101	1.1400	0.036	3.17	483	620
7	1,2,3,7,8,9-HxCDF	0.500	9.41e3	1.20	NO	42.86	0.949	0.9992	0.030	2.99	436	475
8	1,2,3,4,6,7,8-HpCDF	0.500	9.75e3	1.01	NO	45.31	1.157	1.2235	0.041	3.38	743	377
9	1,2,3,4,7,8,9-HpCDF	0.500	8.29e3	1.02	NO	47.10	1.243	1.2522	0.017	1.37	603	309
10	OCDF	1.000	1.35e4	0.91	NO	50.33	1.117	1.2272	0.084	6.84	196075	1508
11	2,3,7,8-TCDD	0.100	3.32e3	0.77	NO	26.47	1.257	1.1119	0.079	7.15	29	88
12	1,2,3,7,8-PeCDD	0.500	8.02e3	0.53	NO	36.15	0.925	1.0267	0.055	5.33	51	310
13	1,2,3,4,7,8-HxCDD	0.500	7.65e3	1.19	NO	42.11	0.940	1.0036	0.036	3.60	31	140
14	1,2,3,6,7,8-HxCDD	0.500	7.38e3	1.41	NO	42.23	0.839	0.9343	0.029	3.09	30	138
15	1,2,3,7,8,9-HxCDD	0.500	8.39e3	1.24	NO	42.67	1.020	0.9712	0.032	3.34	28	148
16	1,2,3,4,6,7,8-HpCDD	0.500	6.99e3	1.02	NO	46.67	1.024	0.9956	0.020	2.04	118	58
17	OCDD	1.000	1.23e4	0.84	NO	50.26	1.021	1.0186	0.028	2.76	195090	416
18	13C-2,3,7,8-TCDF	100.000	4.26e6	0.77	NO	25.22	1.679	1.6147	0.046	2.83	3010	4894
19	13C-1,2,3,7,8-PeCDF	100.000	3.05e6	1.56	NO	33.54	1.203	1.1640	0.091	7.84	2789	2471
20	13C-2,3,4,7,8-PeCDF	100.000	2.92e6	1.54	NO	35.30	1.149	1.1228	0.100	8.87	3006	2748
21	13C-1,2,3,4,7,8-HxCDF	100.000	2.09e6	0.50	NO	40.69	1.345	1.2764	0.037	2.93	2103	6431
22	13C-1,2,3,6,7,8-HxCDF	100.000	2.20e6	0.52	NO	40.86	1.415	1.3633	0.031	2.30	2324	6789
23	13C-2,3,4,6,7,8-HxCDF	100.000	1.99e6	0.51	NO	41.81	1.280	1.2182	0.036	2.95	2086	6277
24	13C-1,2,3,7,8,9-HxCDF	100.000	1.98e6	0.52	NO	42.84	1.276	1.2015	0.043	3.61	2186	6453
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.69e6	0.46	NO	45.29	1.085	1.0186	0.040	3.89	2759	4177
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	1.33e6	0.47	NO	47.08	0.859	0.7945	0.043	5.44	2172	3262
27	13C-2,3,7,8-TCDD	100.000	2.64e6	0.79	NO	26.45	1.039	1.0042	0.038	3.74	2628	8006
28	13C-1,2,3,7,8-PeCDD	100.000	1.73e6	0.66	NO	36.13	0.683	0.6582	0.053	8.04	6063	12255
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.63e6	1.27	NO	42.08	1.048	0.9841	0.037	3.74	4886	2789
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.66e6	1.23	NO	42.23	1.069	1.0407	0.026	2.53	4952	2852
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	1.36e6	1.01	NO	46.67	0.878	0.8135	0.035	4.34	7804	3670
32	13C-OCDD	200.000	2.41e6	0.88	NO	50.24	0.776	0.7155	0.075	10.43	6227	4558
33	13C-1,2,3,4-TCDD	100.000	2.54e6	0.79	NO	26.13	253...	22602.6799	1977.986	8.75	2513	7580
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.55e6	1.30	NO	42.63	155...	14280.3905	2145.257	15.02	4690	2715
35	37Cl-2,3,7,8-TCDD	0.100	2.69e3			26.49	1.061	1.1134	0.079	7.11	77	
36	Total Tetra-Furans	0.100						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	0.100						1.1119	0.079	7.15		
38	Total Penta-Furans	0.500						0.9236	0.039	4.19		
39	Total Penta-Dioxins	0.500						1.0267	0.055	5.33		
40	Total Hexa-Furans	0.500						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	0.500						1.0036	0.036	3.60		
42	Total Hepta-Furans	0.500						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	0.500						0.9956	0.020	2.04		
44	Hexa DPE	0.000	1.60e1			23.86	0.000				313	
45	Hepta DPE	0.000	1.89e2			32.77	0.000				17979	
46	Octa DPE	0.000	3.46e0			41.03	0.000				-0	
47	Nona DPE	0.000	9.63e1			47.03	0.000				4353	
48	Deca DPE	0.000	4.76e1			50.27	0.000				1364	
49	Tetra Lock	0.000										
50	Penta Lock	0.000	9.33e5			29.24	0.000				2	
51	Hexa Lock	0.000	1.72e6			38.81	0.000				1	

PV LHE 06-JUNE-2018

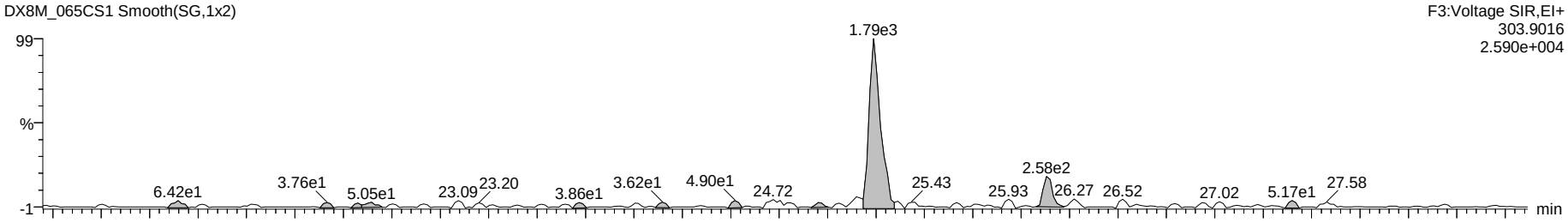
SVG 06 JUN 2018

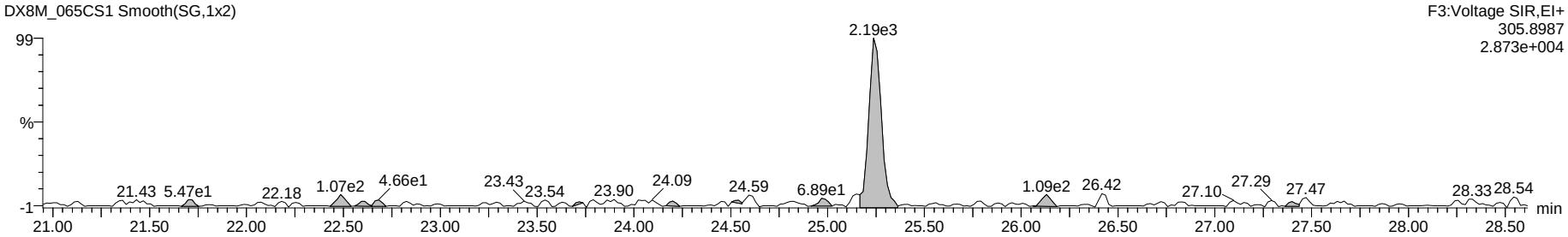
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

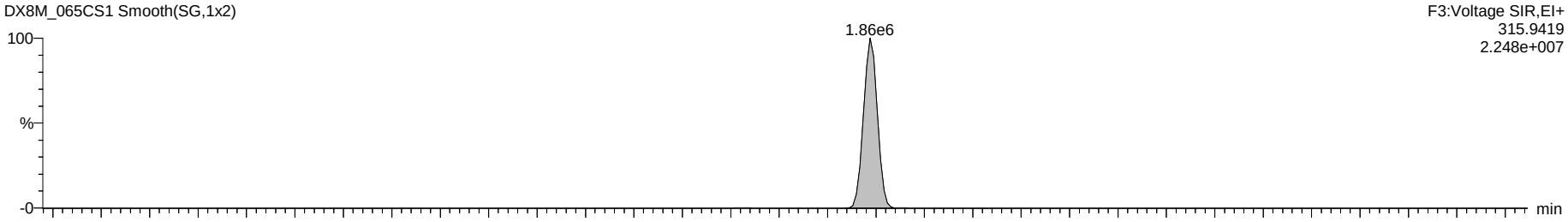
Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

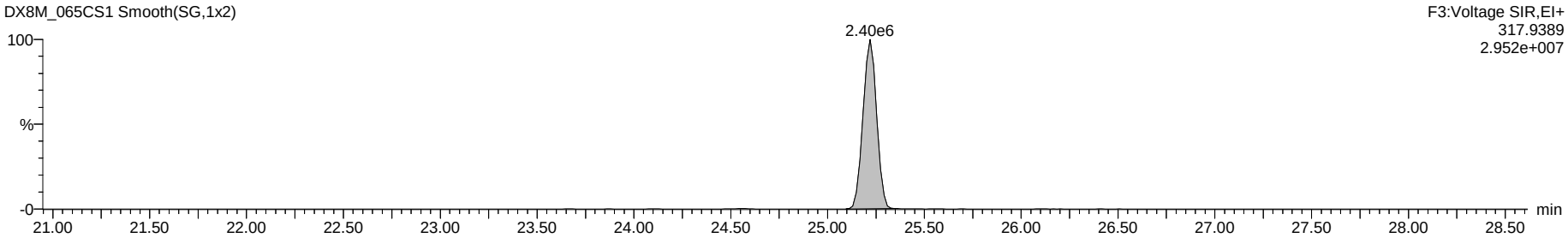
Total Tetra-Furans





13C-Tetra-Furans

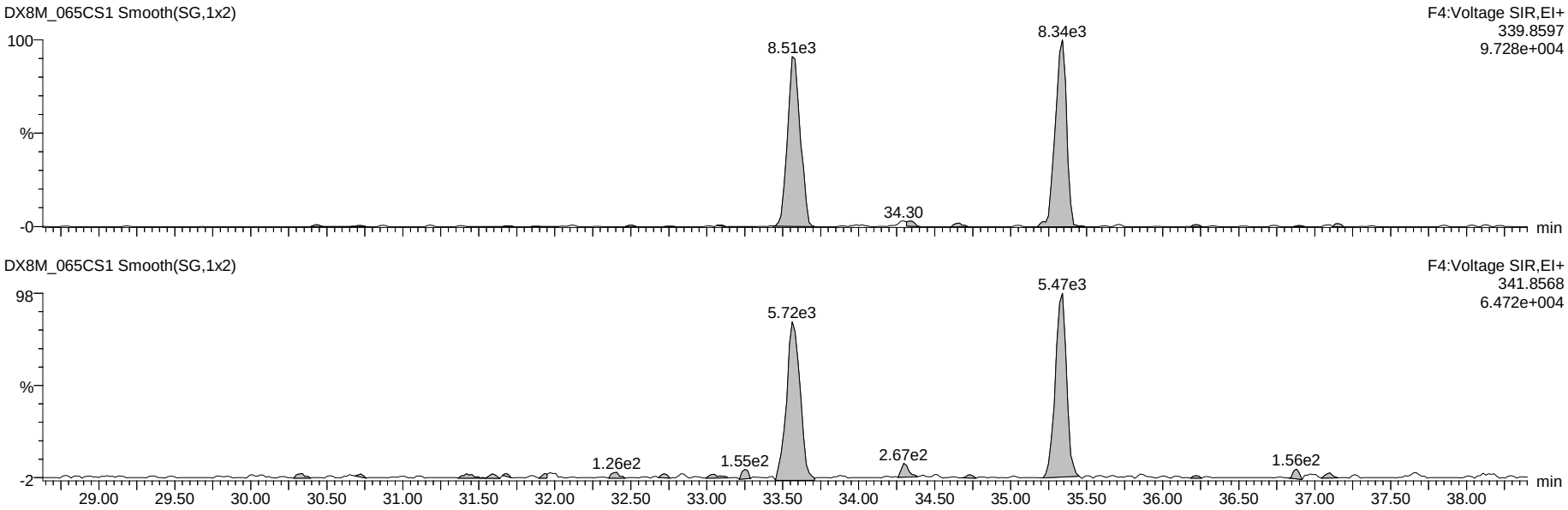




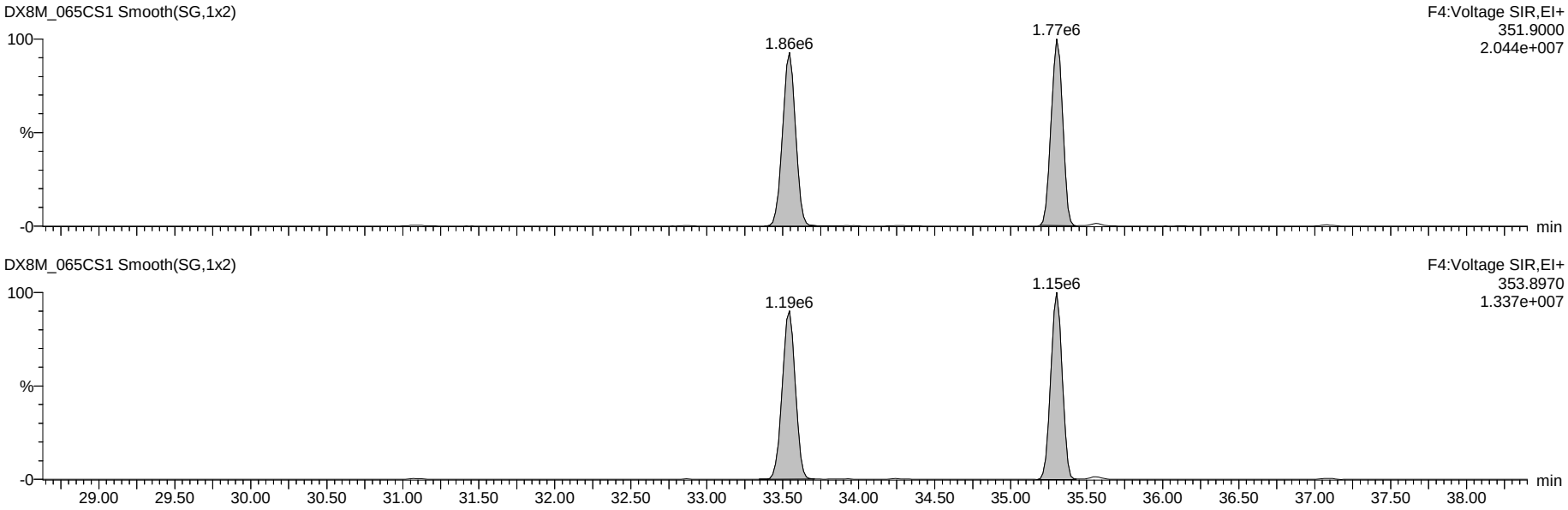
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Penta-Furans



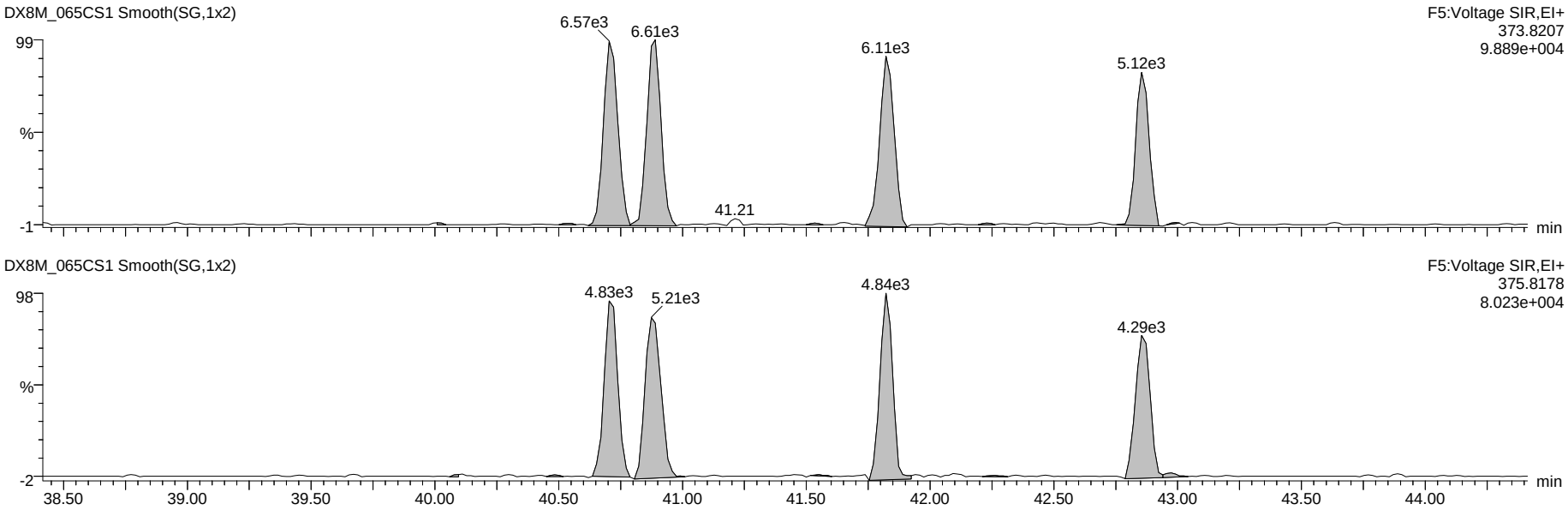
13C-Penta-Furans



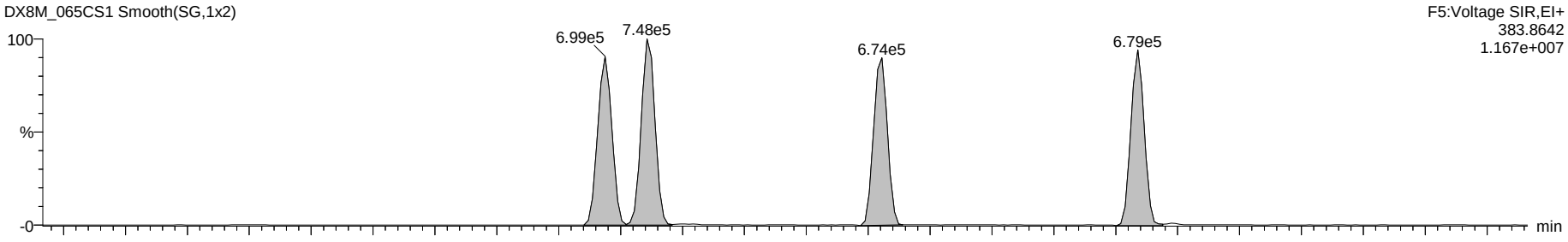
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

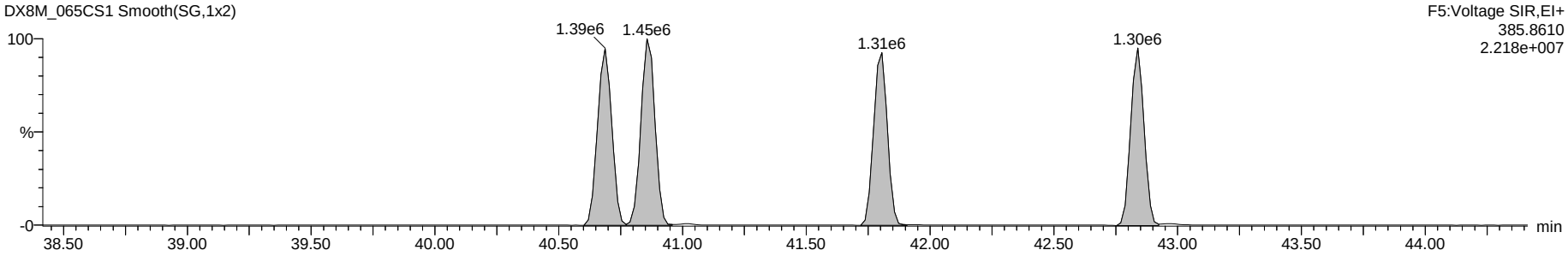
Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Hexa-Furans



13C-Hexa-Furans

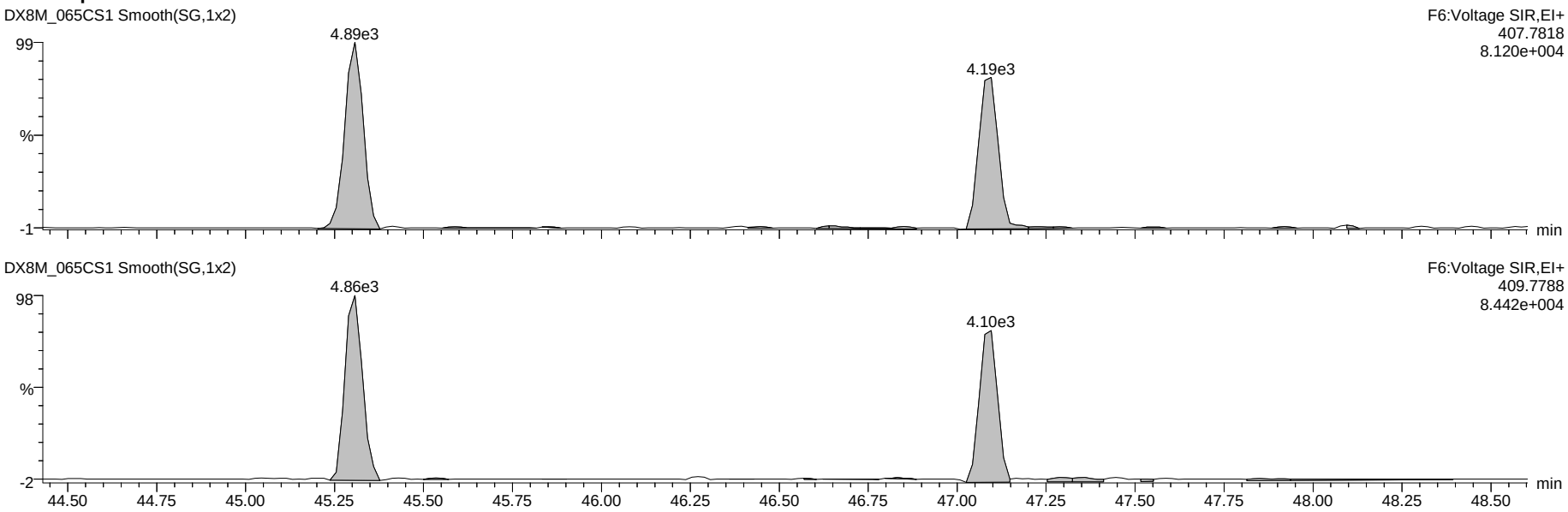




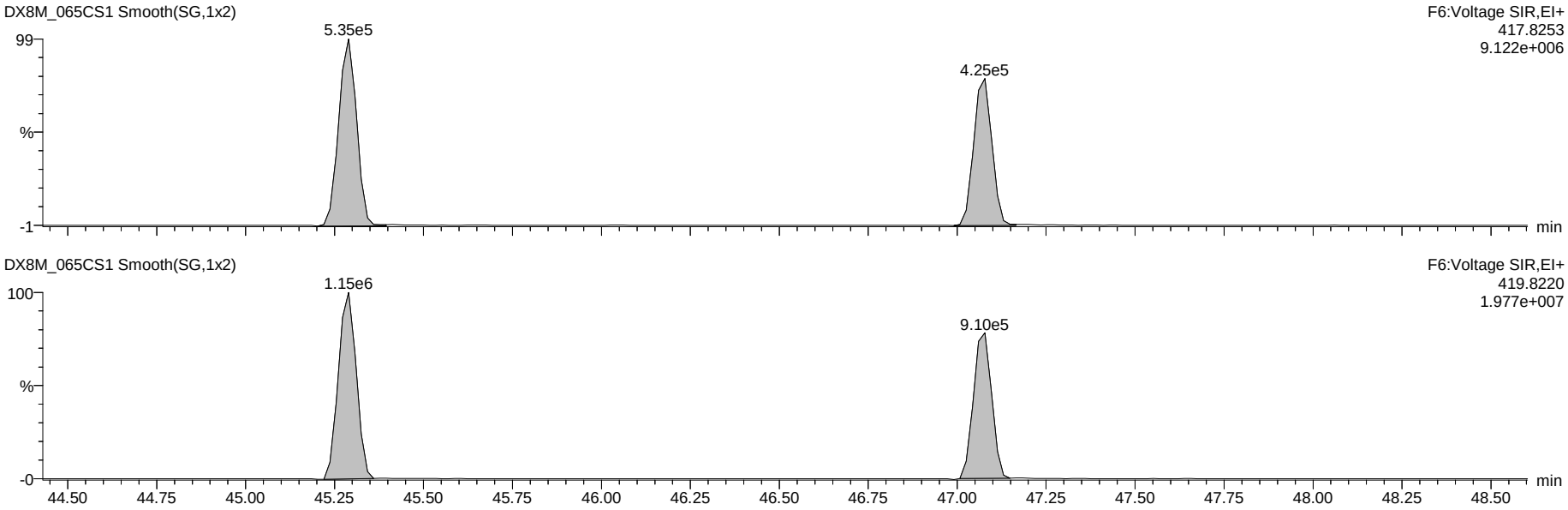
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Hepta-Furans



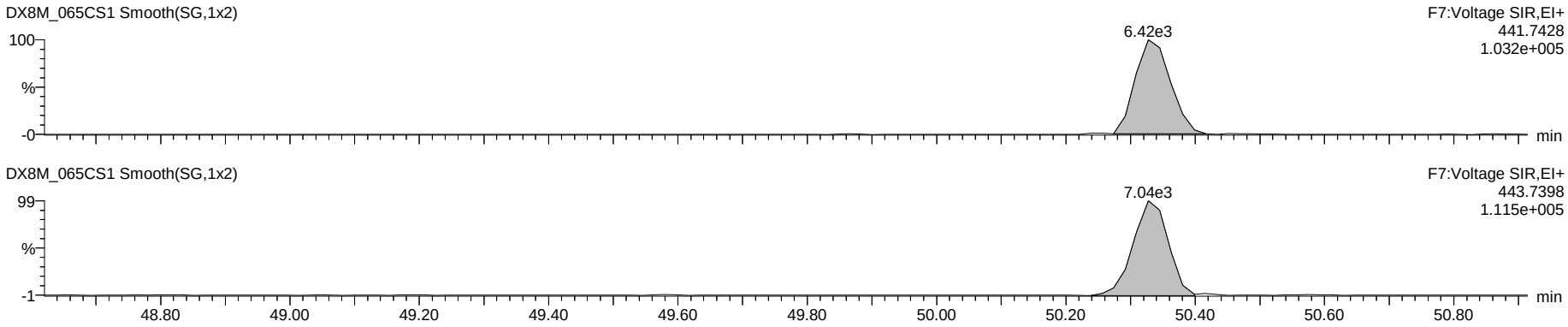
13C-Hepta-Furans



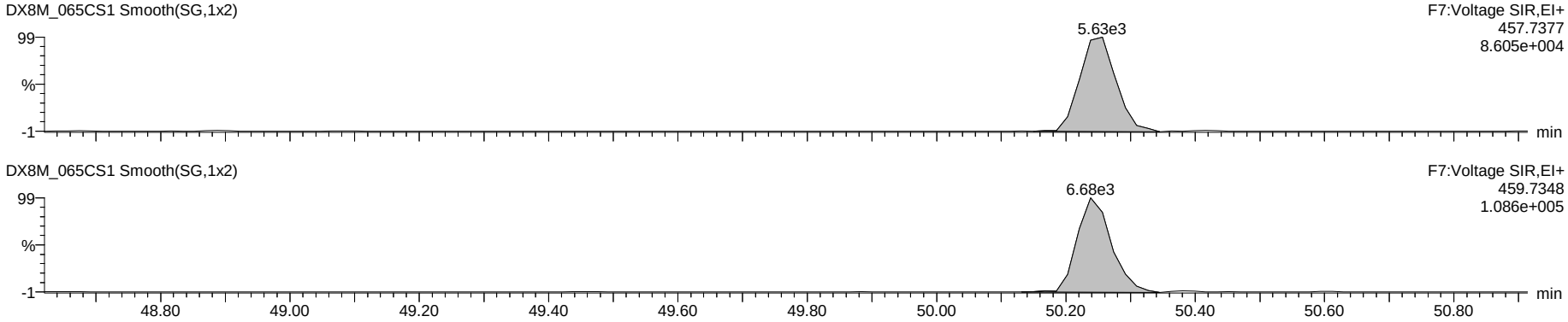
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

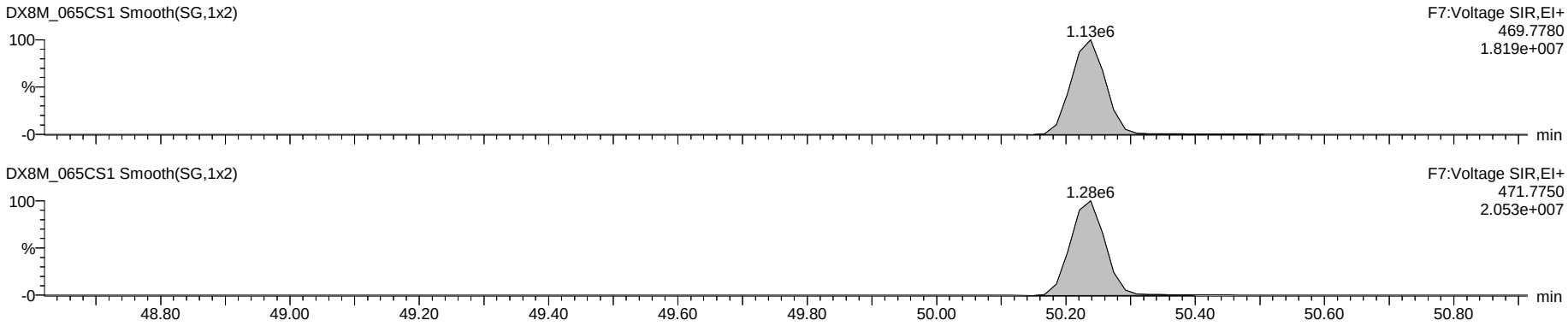
OCDF



OCDD



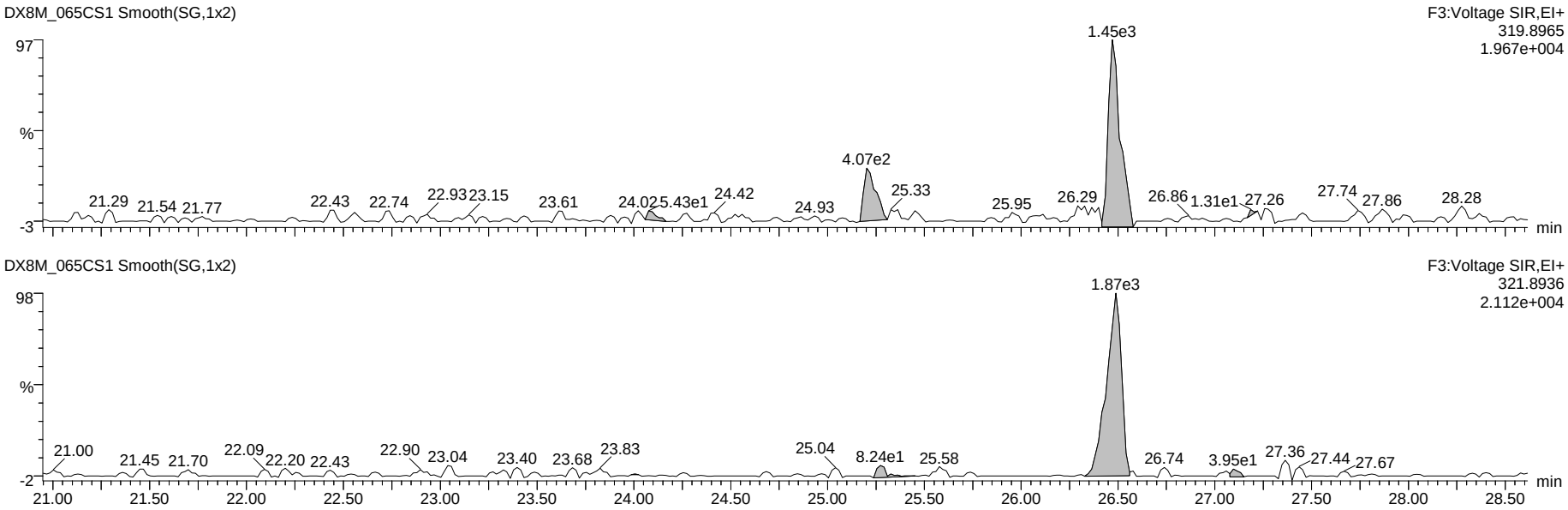
13C-OCDD



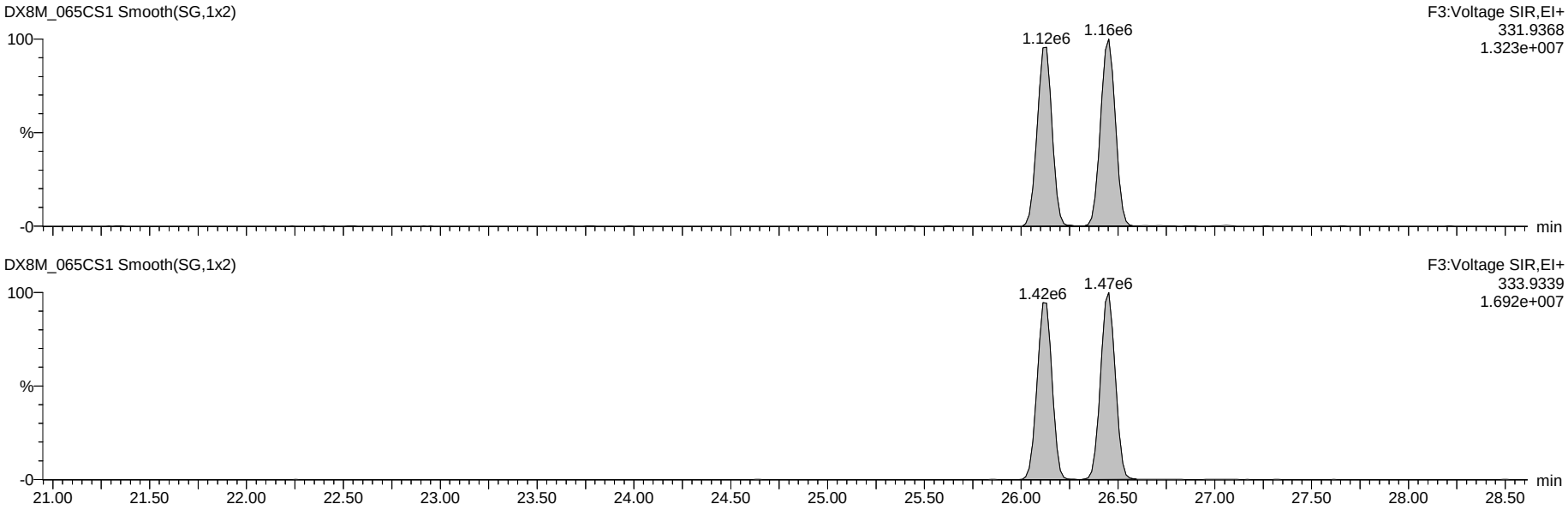
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Tetra-Dioxins



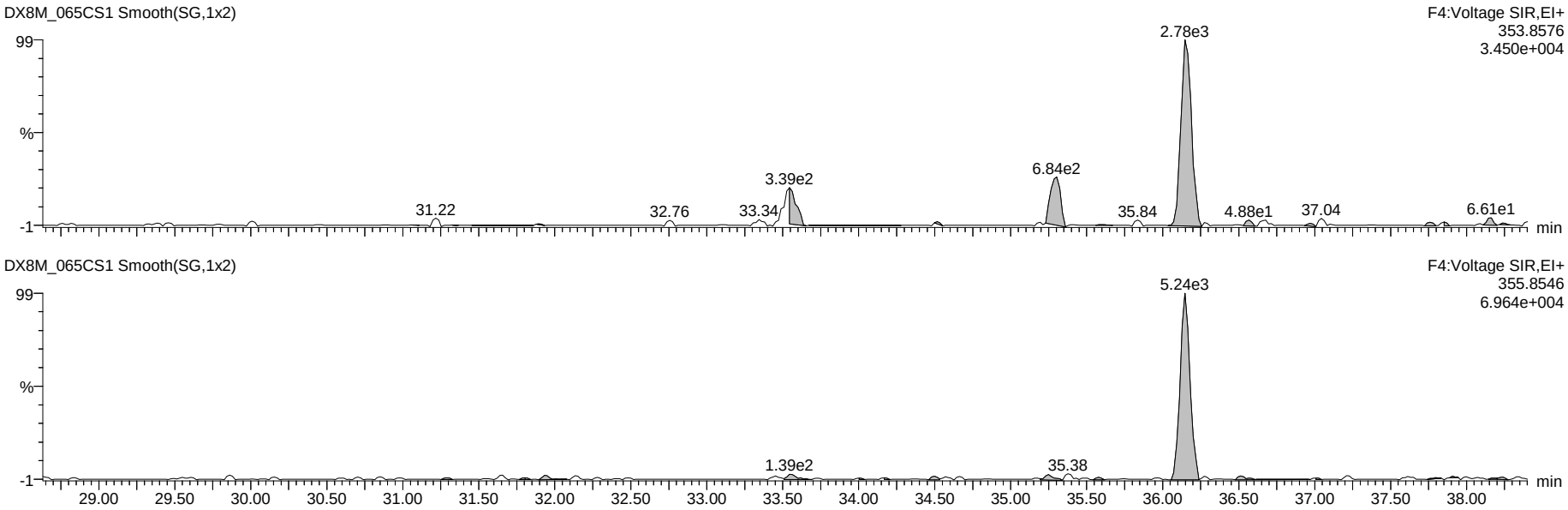
13C-Tetra-Dioxins



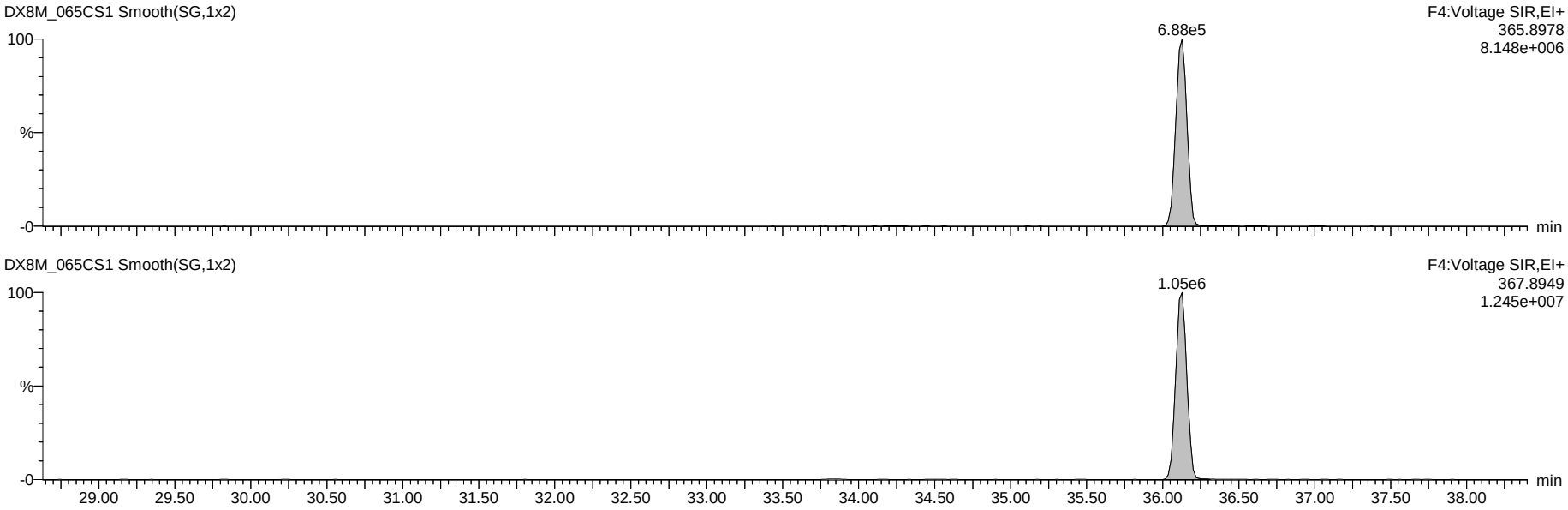
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Penta-Dioxins



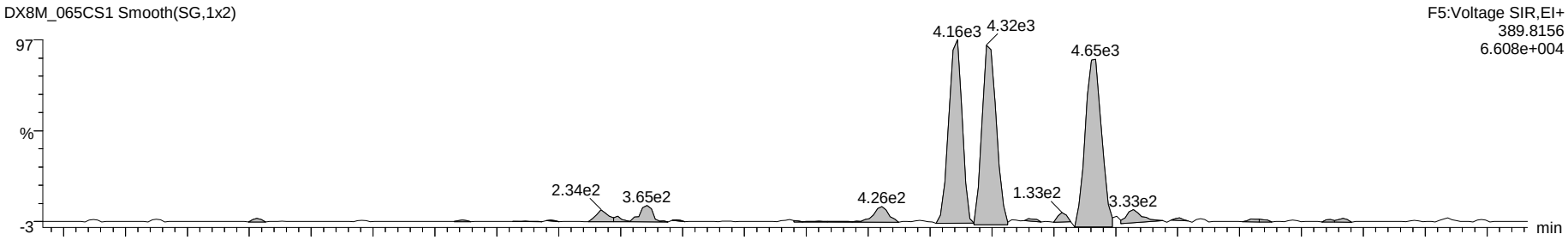
13C-Penta-Dioxins

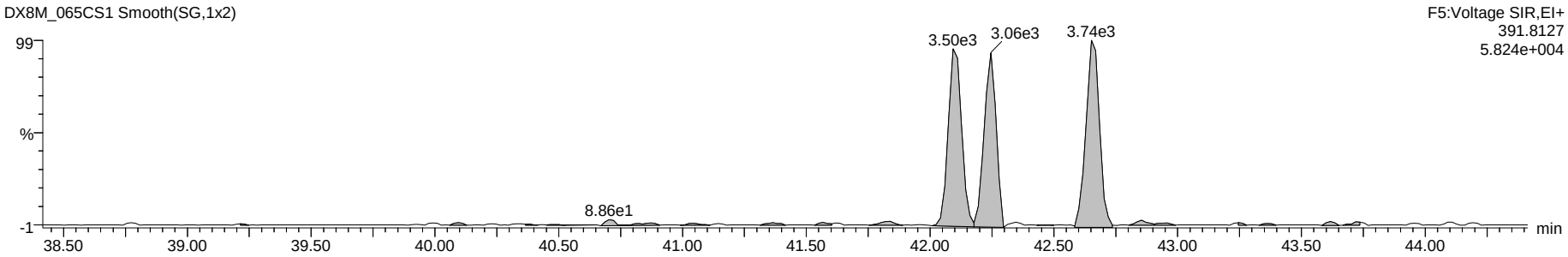


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

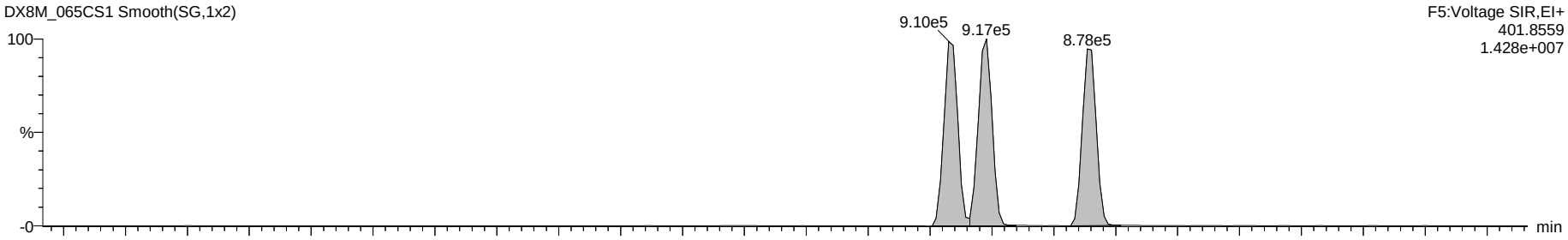
Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

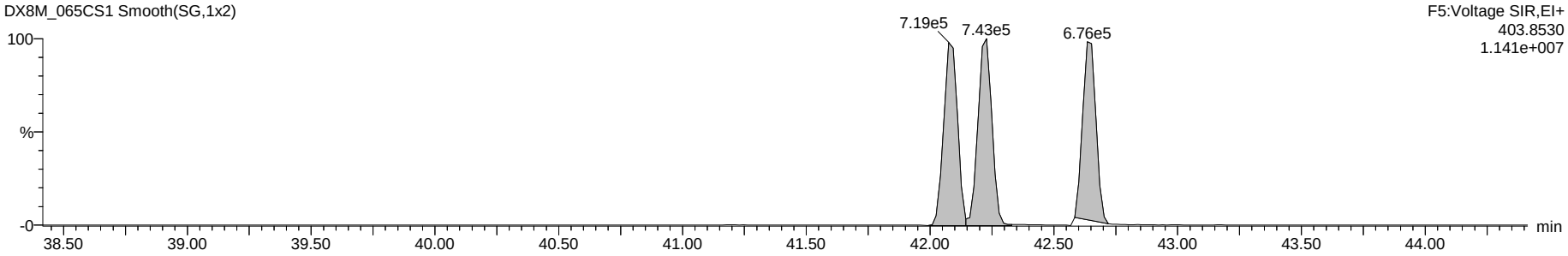
Total Hexa-Dioxins





13C-Hexa-Dioxins

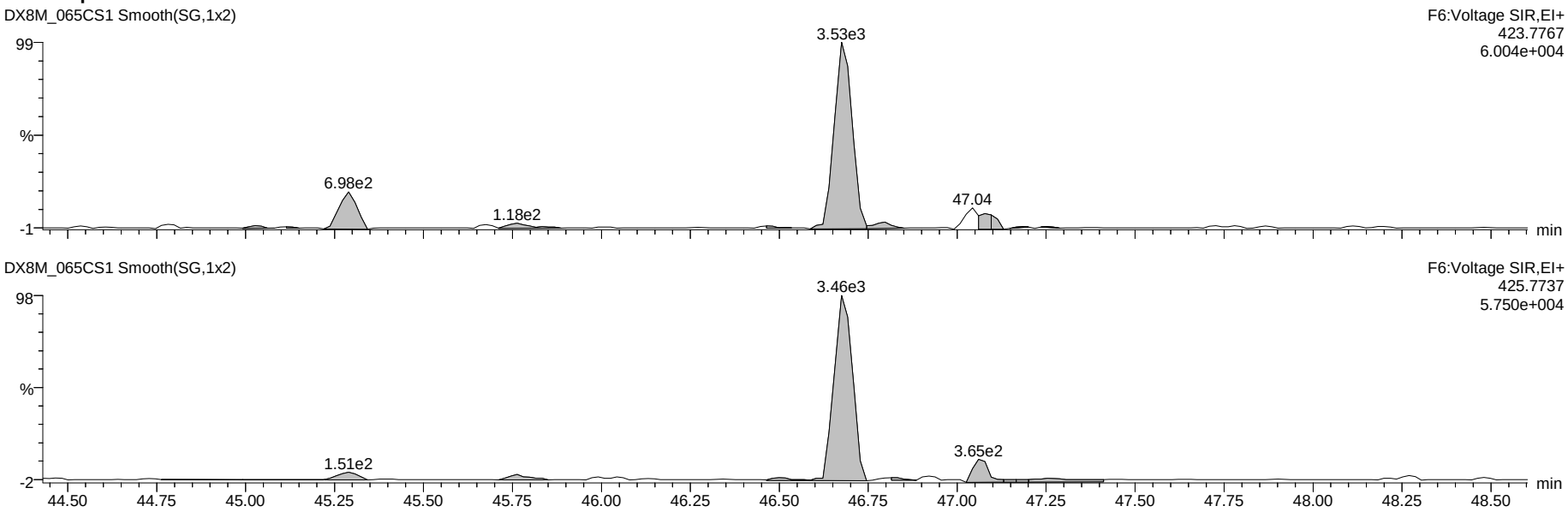




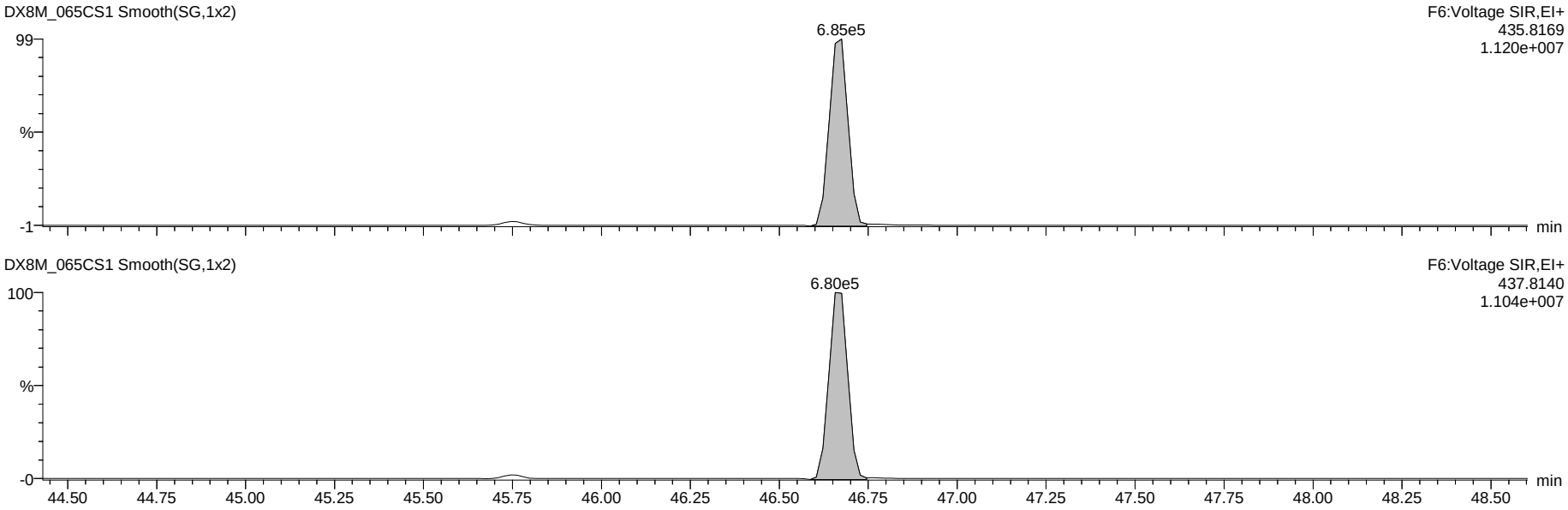
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

Total Hepta-Dioxins



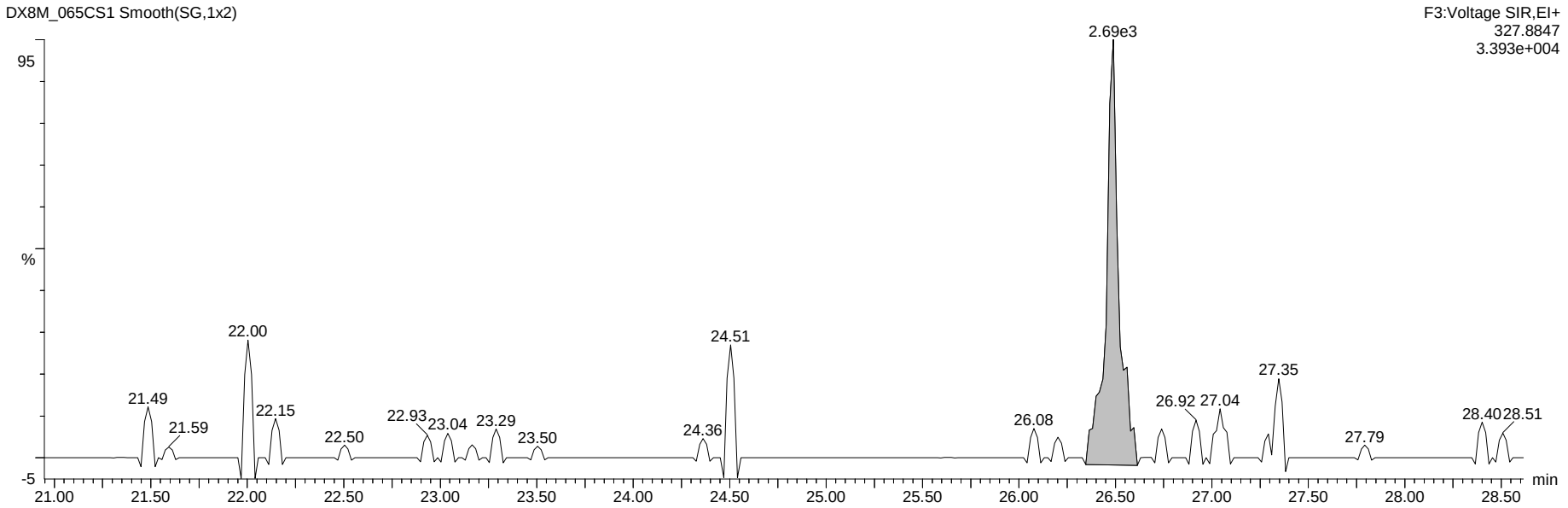
13C-Hepta-Dioxins



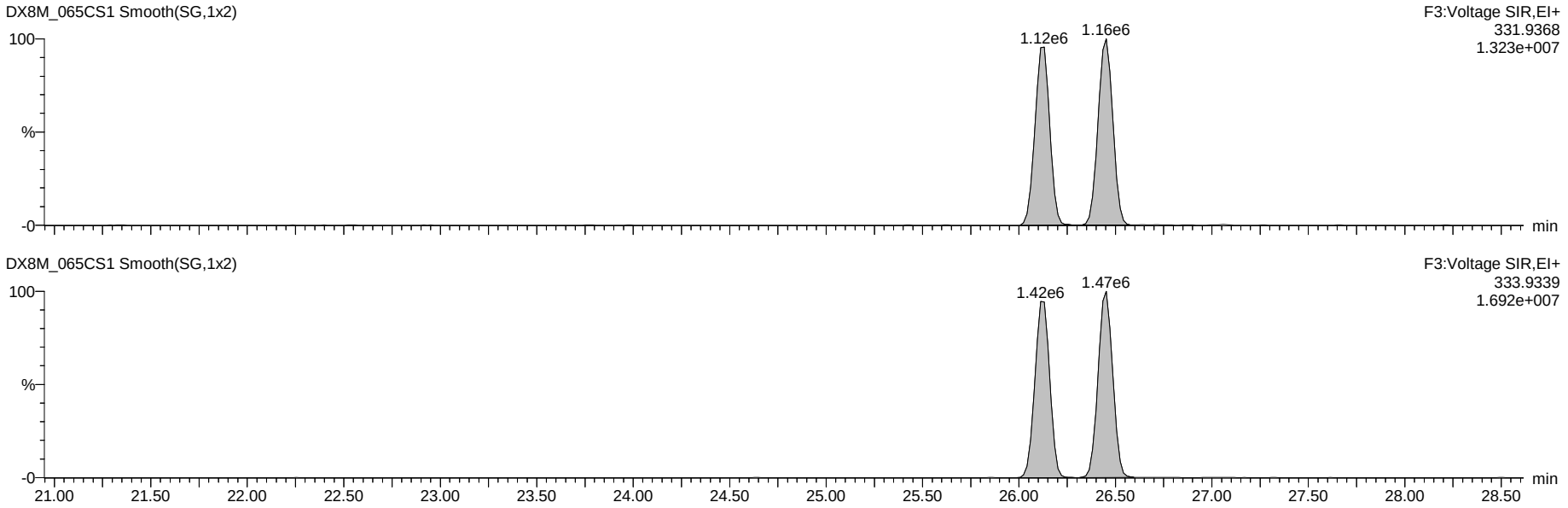
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

37Cl-2,3,7,8-TCDD



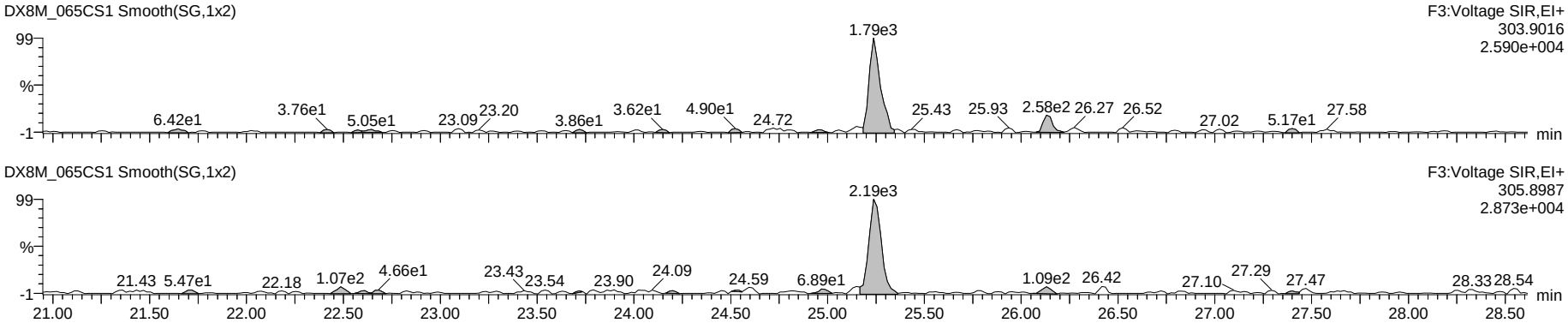
13C-Tetra-Dioxins



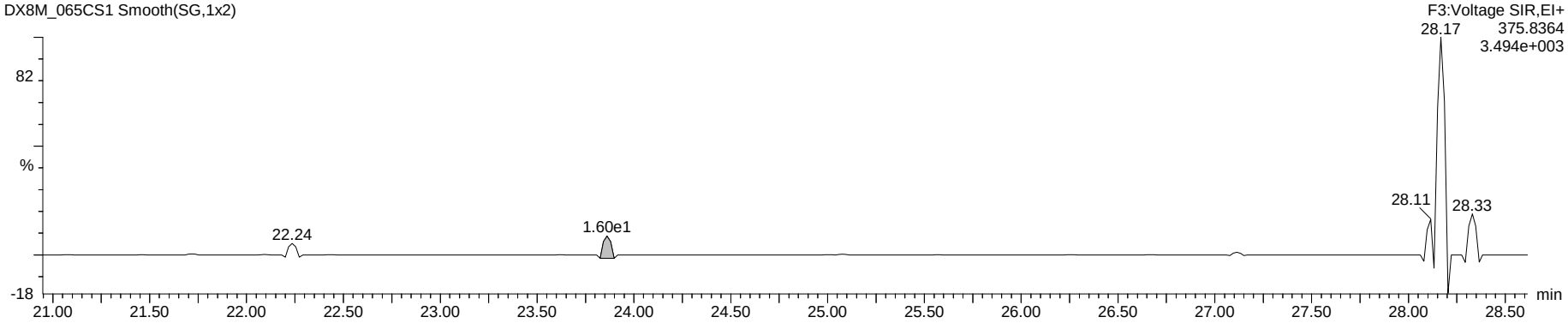
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

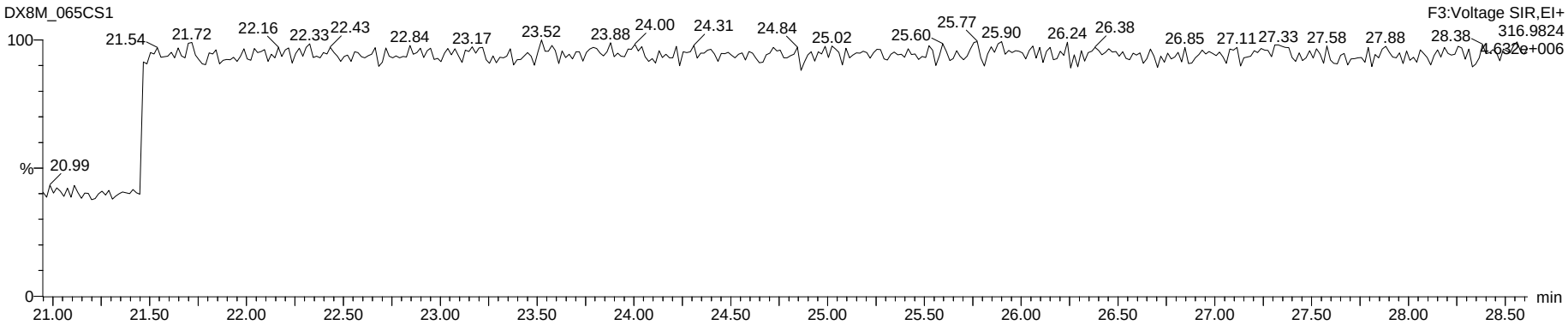
Total Tetra-Furans



Hexa DPE



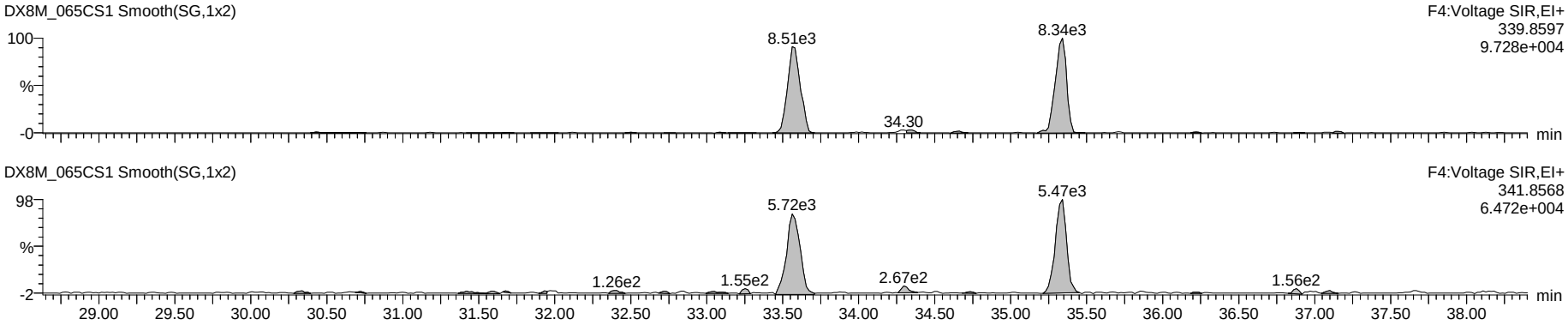
Tetra Lock



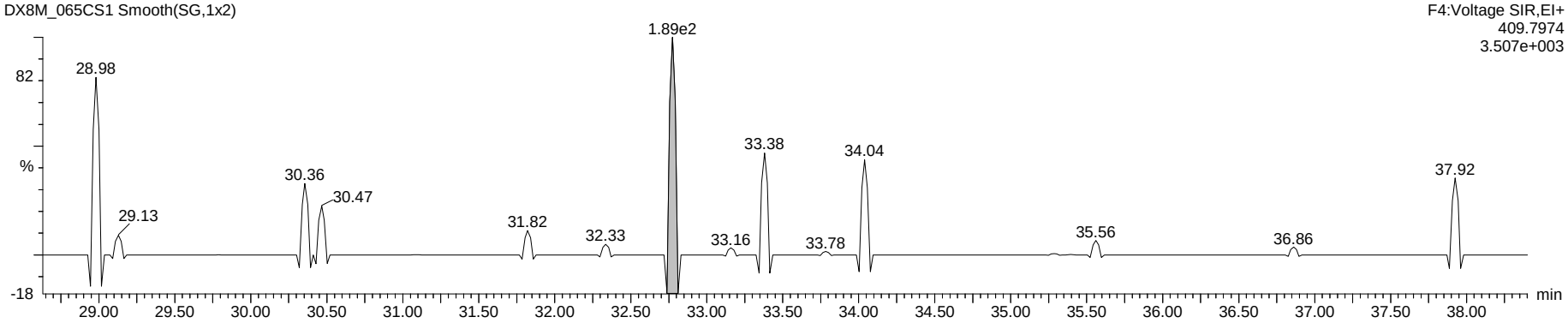
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

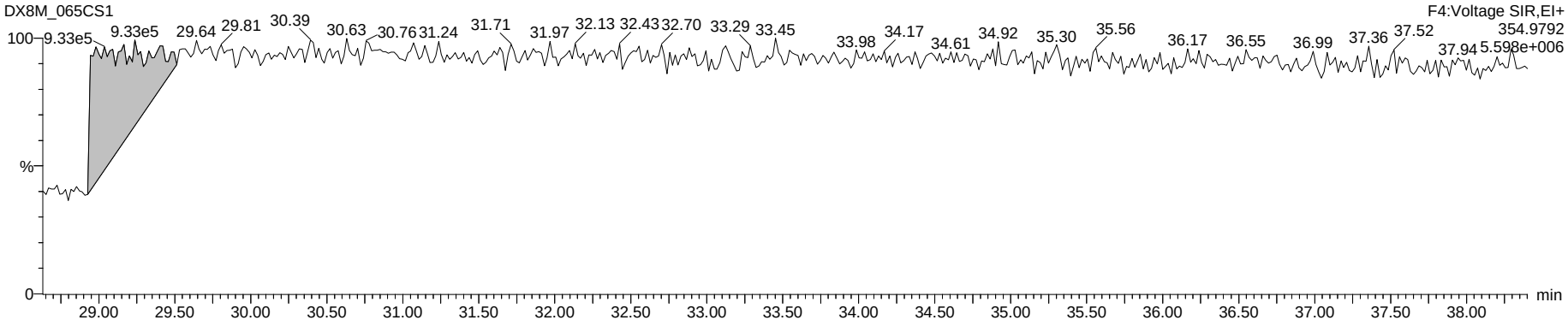
Total Penta-Furans



Hepta DPE



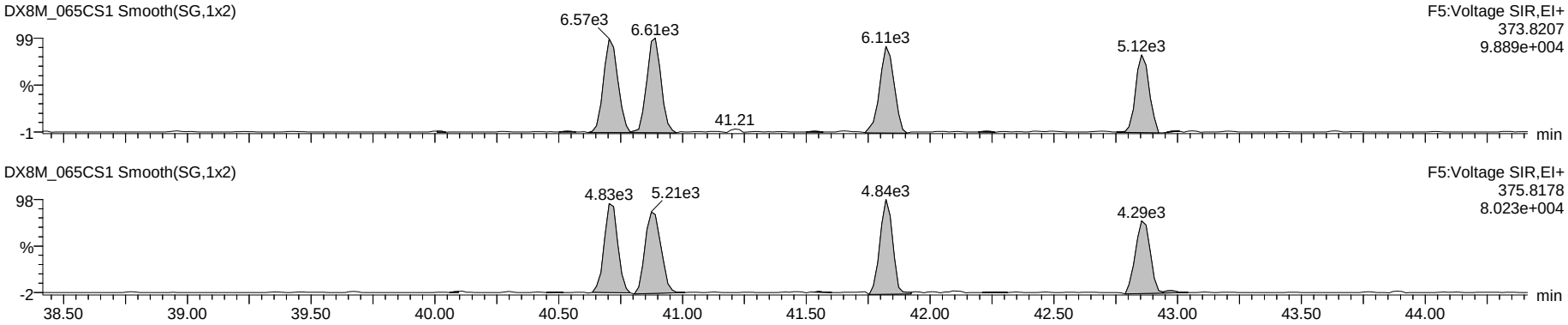
Penta Lock



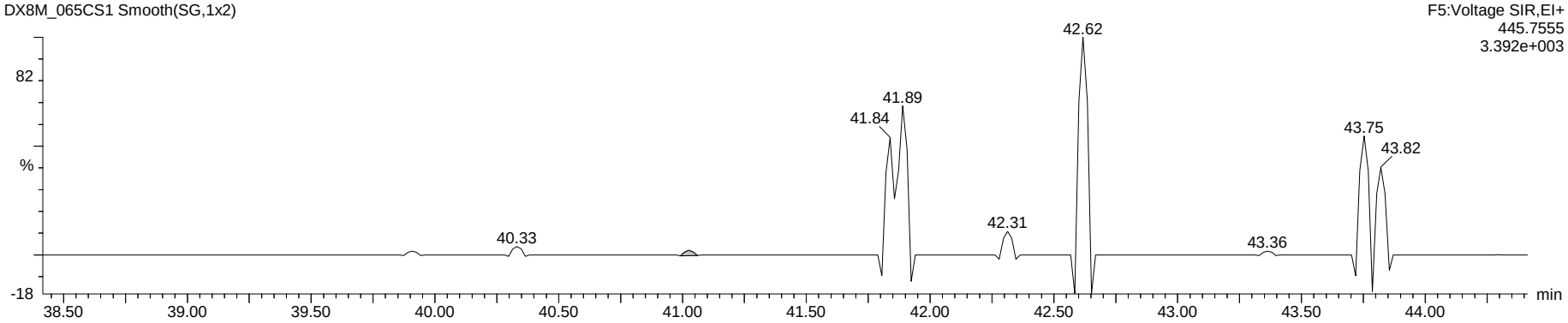
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

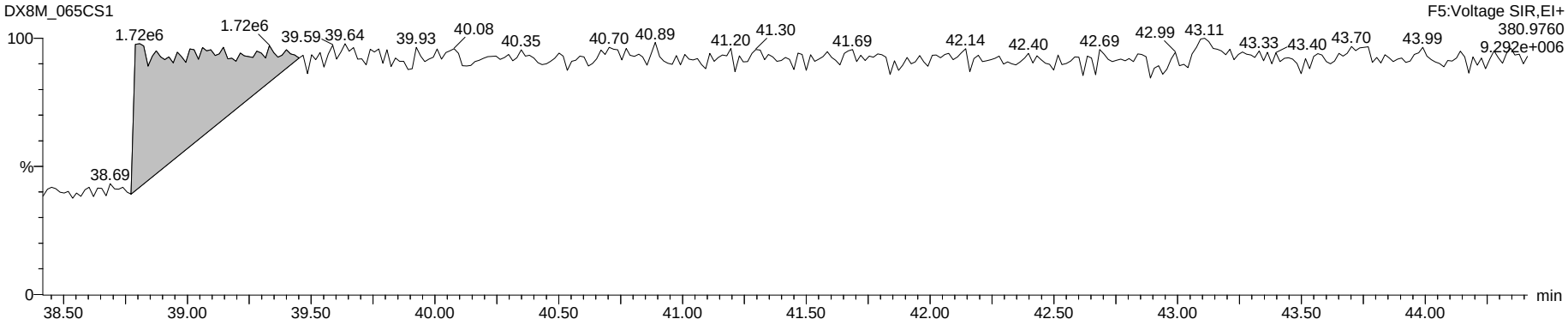
Total Hexa-Furans



Octa DPE



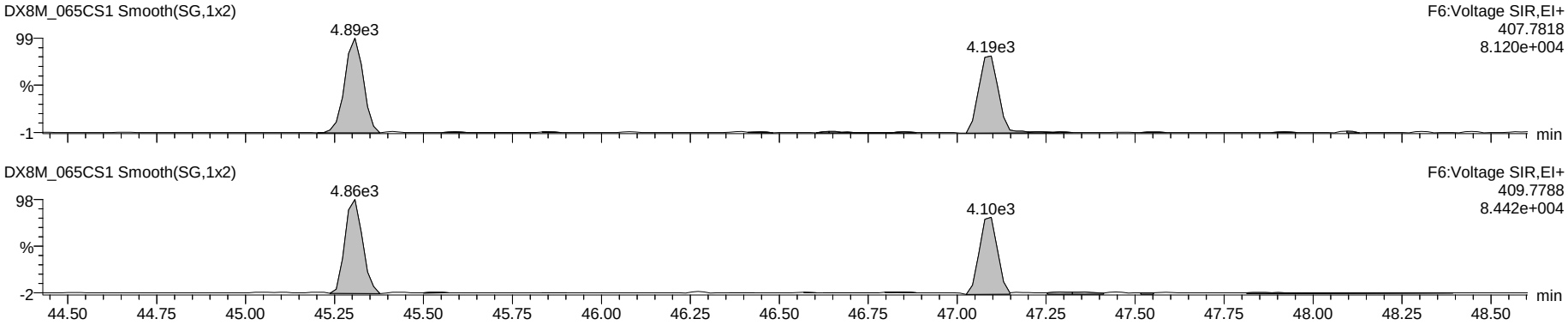
Hexa Lock



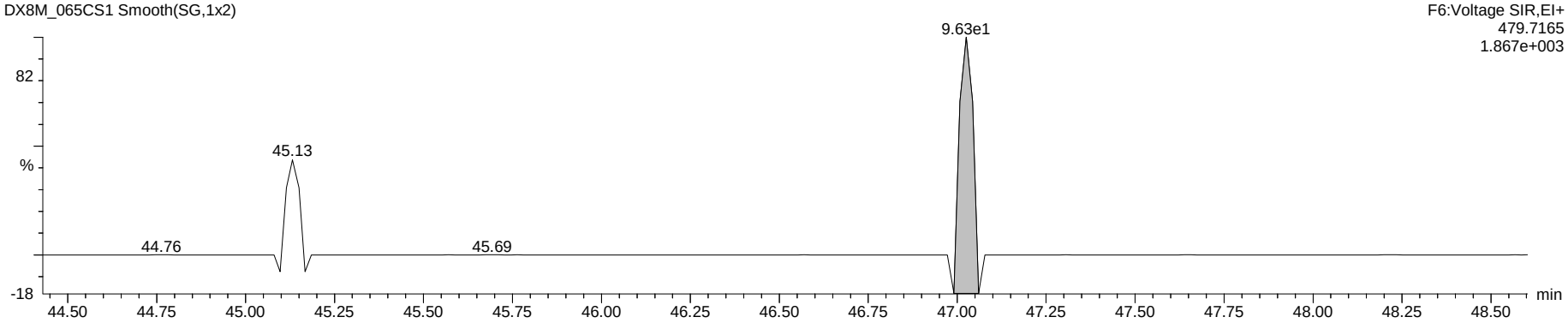
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

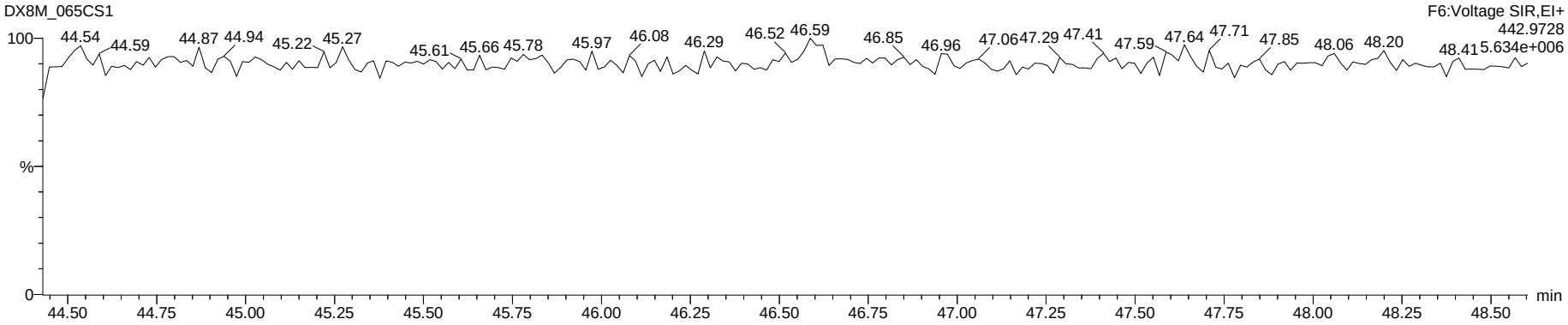
Total Hepta-Furans



Nona DPE



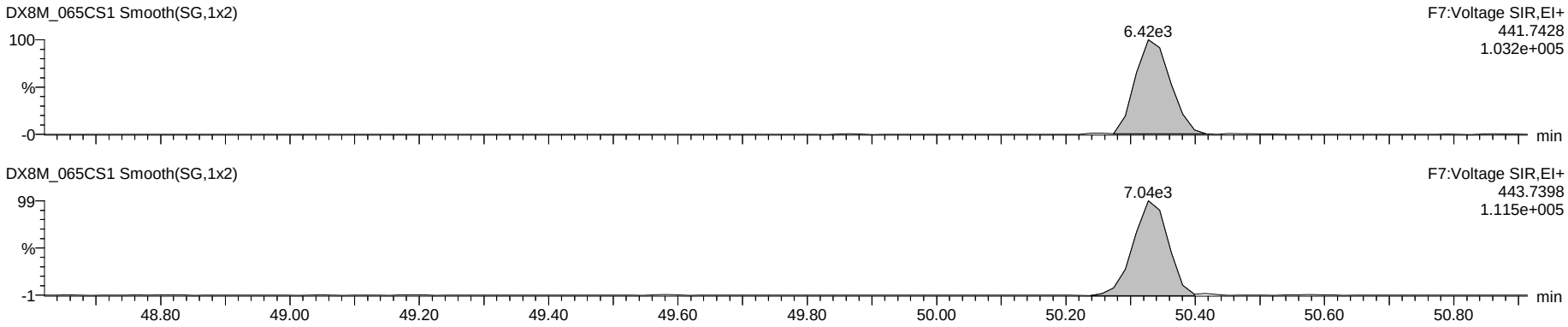
Hepta Lock



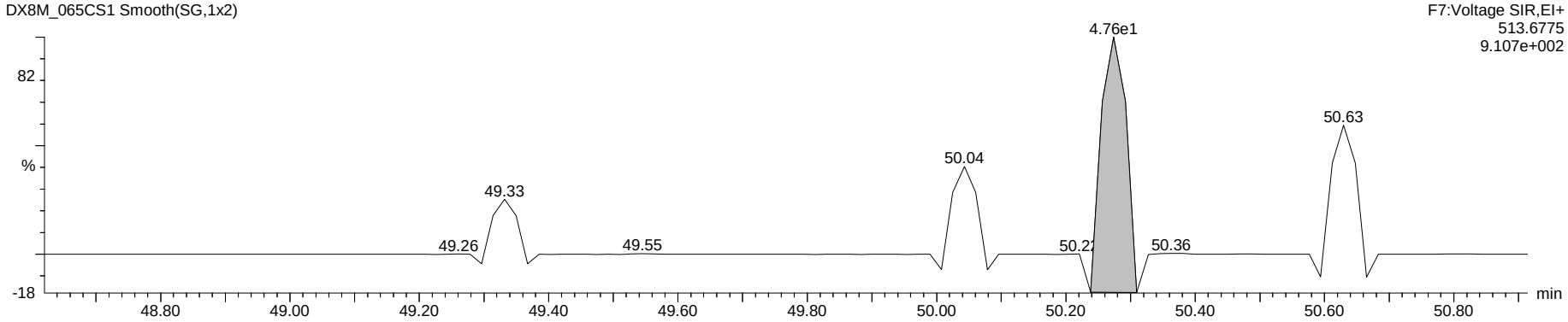
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS1, Date: 04-Jun-2018, Time: 17:29:08, ID: DX041A-CAL,,/01, Description: 1,,1.0uL CS-0.2 Sens

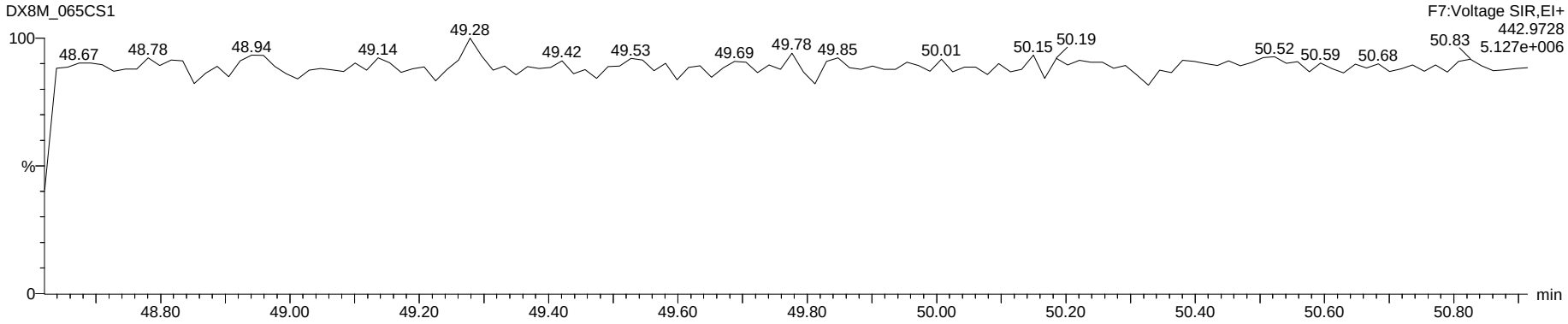
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	0.500	1.52e4	0.67	NO	25.26	0.879	0.9149	0.022	2.43	464	147
2	1,2,3,7,8-PeCDF	2.500	5.35e4	1.49	NO	33.58	0.901	0.9236	0.039	4.19	835	581
3	2,3,4,7,8-PeCDF	2.500	5.33e4	1.41	NO	35.32	0.932	0.9391	0.013	1.39	928	615
4	1,2,3,4,7,8-HxCDF	2.500	4.54e4	1.15	NO	40.70	1.143	1.1161	0.036	3.26	561	631
5	1,2,3,6,7,8-HxCDF	2.500	4.50e4	1.07	NO	40.89	1.060	1.0626	0.029	2.74	570	667
6	2,3,4,6,7,8-HxCDF	2.500	4.28e4	1.16	NO	41.82	1.118	1.1400	0.036	3.17	613	639
7	1,2,3,7,8,9-HxCDF	2.500	3.80e4	1.13	NO	42.85	1.022	0.9992	0.030	2.99	527	570
8	1,2,3,4,6,7,8-HpCDF	2.500	4.06e4	0.98	NO	45.31	1.283	1.2235	0.041	3.38	956	1105
9	1,2,3,4,7,8,9-HpCDF	2.500	3.10e4	0.92	NO	47.10	1.267	1.2522	0.017	1.37	728	875
10	OCDF	5.000	5.03e4	0.79	NO	50.33	1.225	1.2272	0.084	6.84	358356	374
11	2,3,7,8-TCDD	0.500	1.20e4	0.82	NO	26.49	1.149	1.1119	0.079	7.15	89	279
12	1,2,3,7,8-PeCDD	2.500	3.69e4	0.64	NO	36.17	1.090	1.0267	0.055	5.33	493	745
13	1,2,3,4,7,8-HxCDD	2.500	3.11e4	1.27	NO	42.11	1.016	1.0036	0.036	3.60	1352	762
14	1,2,3,6,7,8-HxCDD	2.500	3.11e4	1.20	NO	42.25	0.955	0.9343	0.029	3.09	1449	803
15	1,2,3,7,8,9-HxCDD	2.500	3.05e4	1.35	NO	42.67	0.964	0.9712	0.032	3.34	1437	719
16	1,2,3,4,6,7,8-HpCDD	2.500	2.42e4	1.00	NO	46.67	0.969	0.9956	0.020	2.04	255	587
17	OCDD	5.000	4.28e4	0.95	NO	50.26	1.044	1.0186	0.028	2.76	271	714607
18	13C-2,3,7,8-TCDF	100.000	3.45e6	0.78	NO	25.22	1.556	1.6147	0.046	2.83	3108	4541
19	13C-1,2,3,7,8-PeCDF	100.000	2.37e6	1.55	NO	33.54	1.072	1.1640	0.091	7.84	5919	5471
20	13C-2,3,4,7,8-PeCDF	100.000	2.29e6	1.56	NO	35.30	1.033	1.1228	0.100	8.87	6696	6224
21	13C-1,2,3,4,7,8-HxCDF	100.000	1.59e6	0.53	NO	40.69	1.246	1.2764	0.037	2.93	3065	5983
22	13C-1,2,3,6,7,8-HxCDF	100.000	1.70e6	0.53	NO	40.86	1.332	1.3633	0.031	2.30	3207	6205
23	13C-2,3,4,6,7,8-HxCDF	100.000	1.53e6	0.52	NO	41.81	1.201	1.2182	0.036	2.95	3071	5971
24	13C-1,2,3,7,8,9-HxCDF	100.000	1.49e6	0.52	NO	42.84	1.168	1.2015	0.043	3.61	2978	5873
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.27e6	0.46	NO	45.29	0.994	1.0186	0.040	3.89	4354	8804
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	9.78e5	0.45	NO	47.08	0.767	0.7945	0.043	5.44	3259	6805
27	13C-2,3,7,8-TCDD	100.000	2.10e6	0.78	NO	26.45	0.946	1.0042	0.038	3.74	2086	2789
28	13C-1,2,3,7,8-PeCDD	100.000	1.35e6	0.66	NO	36.13	0.611	0.6582	0.053	8.04	10048	14989
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.22e6	1.25	NO	42.09	0.960	0.9841	0.037	3.74	2277	3570
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.30e6	1.22	NO	42.23	1.024	1.0407	0.026	2.53	2478	4041
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	9.99e5	1.03	NO	46.67	0.784	0.8135	0.035	4.34	2743	5202
32	13C-OCDD	200.000	1.64e6	0.92	NO	50.24	0.644	0.7155	0.075	10.43	7319	5299
33	13C-1,2,3,4-TCDD	100.000	2.21e6	0.80	NO	26.13	221...	22602.6799	1977.986	8.75	2289	2949
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.27e6	1.27	NO	42.65	127...	14280.3905	2145.257	15.02	2386	3710
35	37Cl-2,3,7,8-TCDD	0.500	1.40e4			26.47	1.266	1.1134	0.079	7.11	537	
36	Total Tetra-Furans	0.500						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	0.500						1.1119	0.079	7.15		
38	Total Penta-Furans	2.500						0.9236	0.039	4.19		
39	Total Penta-Dioxins	2.500						1.0267	0.055	5.33		
40	Total Hexa-Furans	2.500						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	2.500						1.0036	0.036	3.60		
42	Total Hepta-Furans	2.500						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	2.500						0.9956	0.020	2.04		
44	Hexa DPE	0.000	2.29e2			24.83	0.000				5043	
45	Hepta DPE	0.000	2.05e2			36.20	0.000				11749	
46	Octa DPE	0.000	1.02e2			39.69	0.000				3122	
47	Nona DPE	0.000	2.51e0			46.53	0.000				127	
48	Deca DPE	0.000	1.01e2			50.19	0.000				2228	
49	Tetra Lock	0.000	1.49e4			24.40	0.000				1	
50	Penta Lock	0.000	1.38e6			29.68	0.000				1	
51	Hexa Lock	0.000	1.25e6			38.84	0.000				1	
52	Hepta Lock	0.000	2.79e4			47.38	0.000				0	
53	Octa Lock	0.000										
54	13C-Tetra-Furans	100.000						1.6147	0.046	2.83		
55	13C-Tetra-Dioxins	100.000						1.0042	0.038	3.74		

PV LHE 06-JUNE-2018

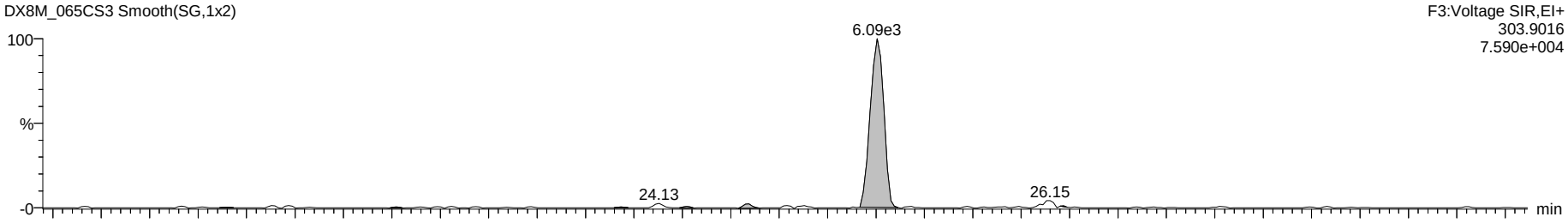
Shaykh 06 Jun 2018

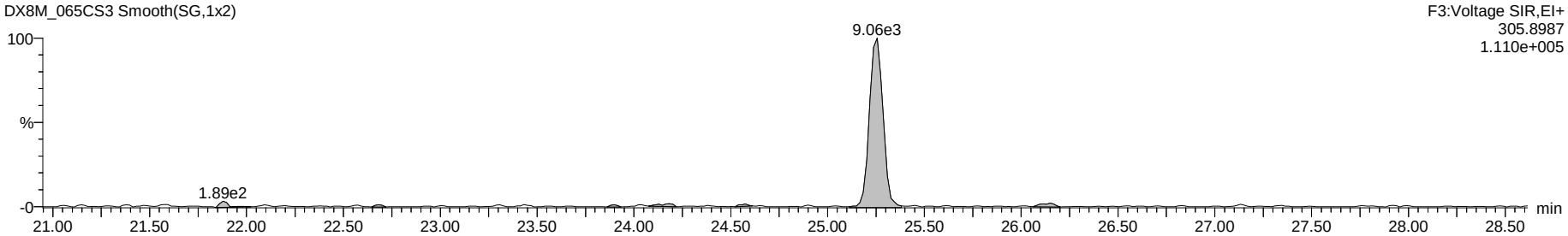
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

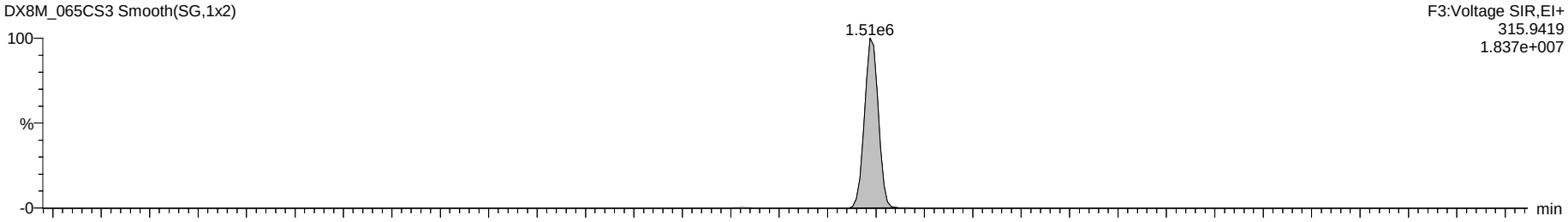
Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

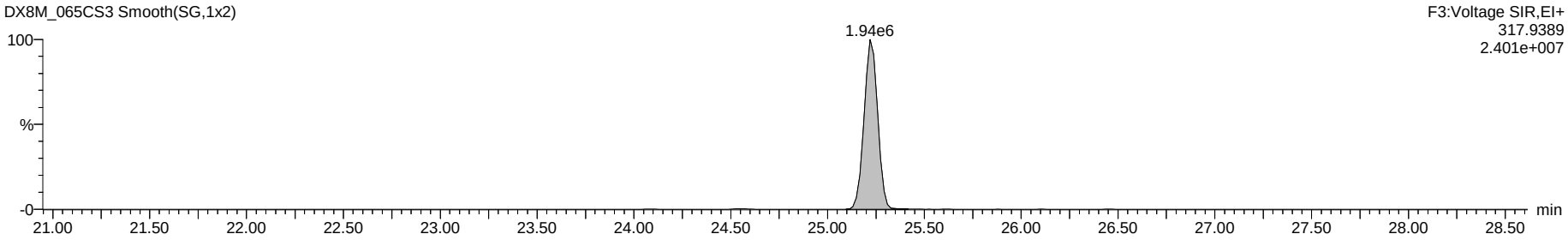
Total Tetra-Furans





13C-Tetra-Furans

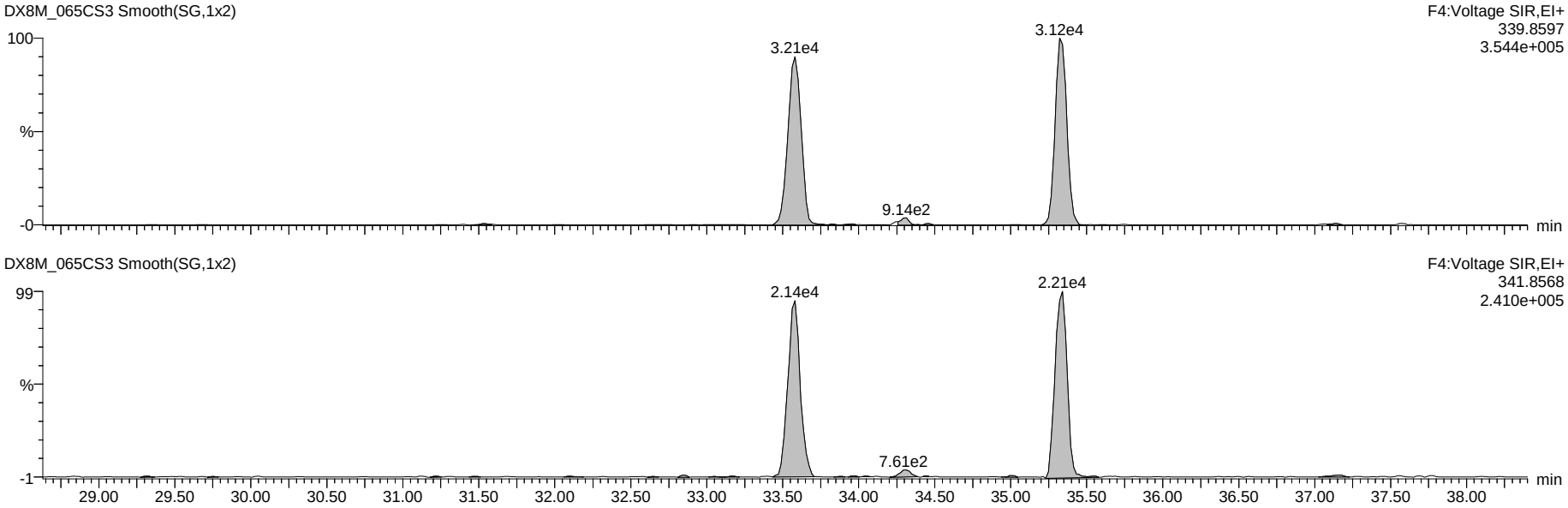




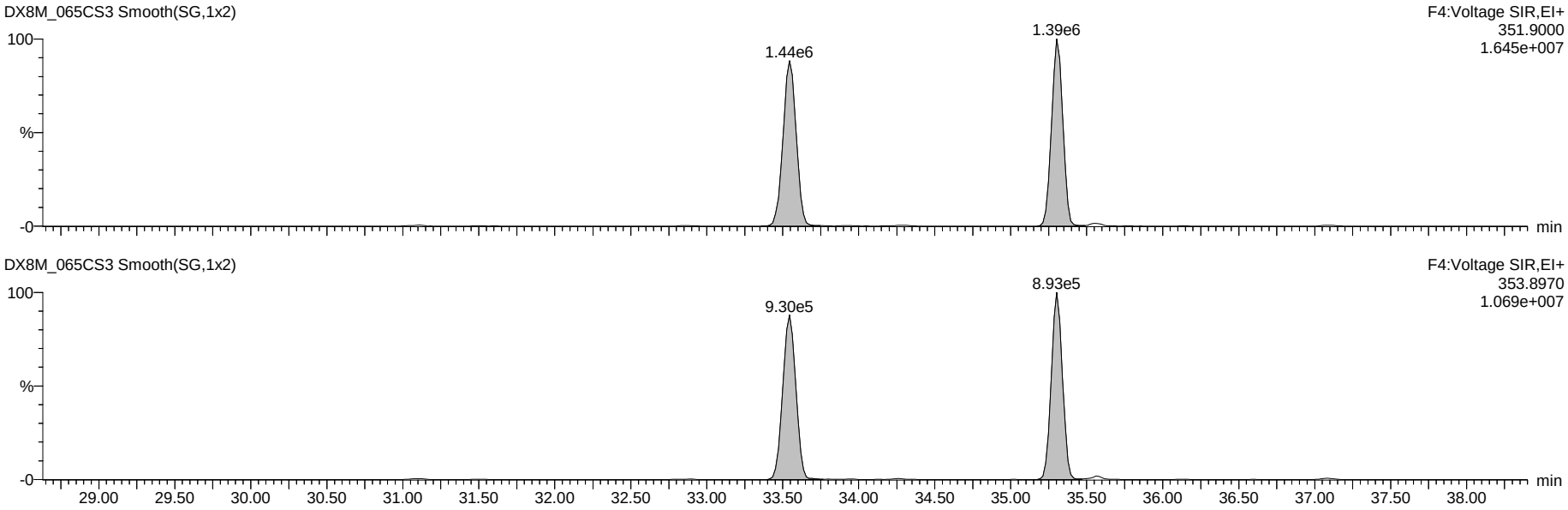
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Penta-Furans



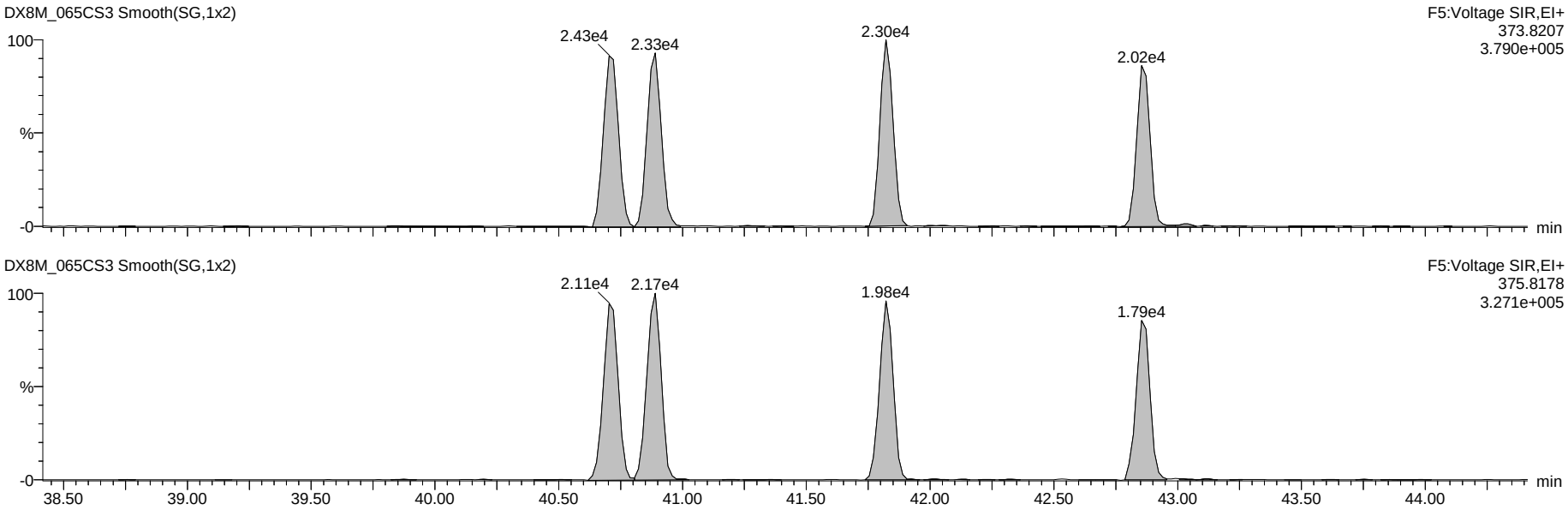
13C-Penta-Furans



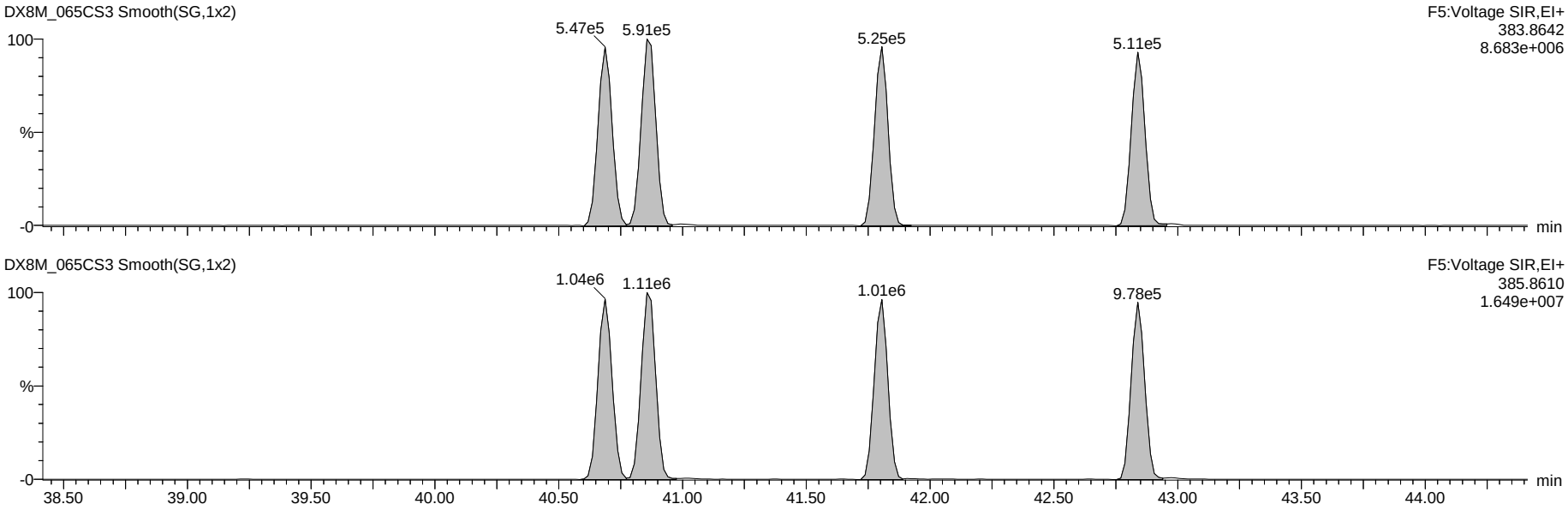
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Hexa-Furans



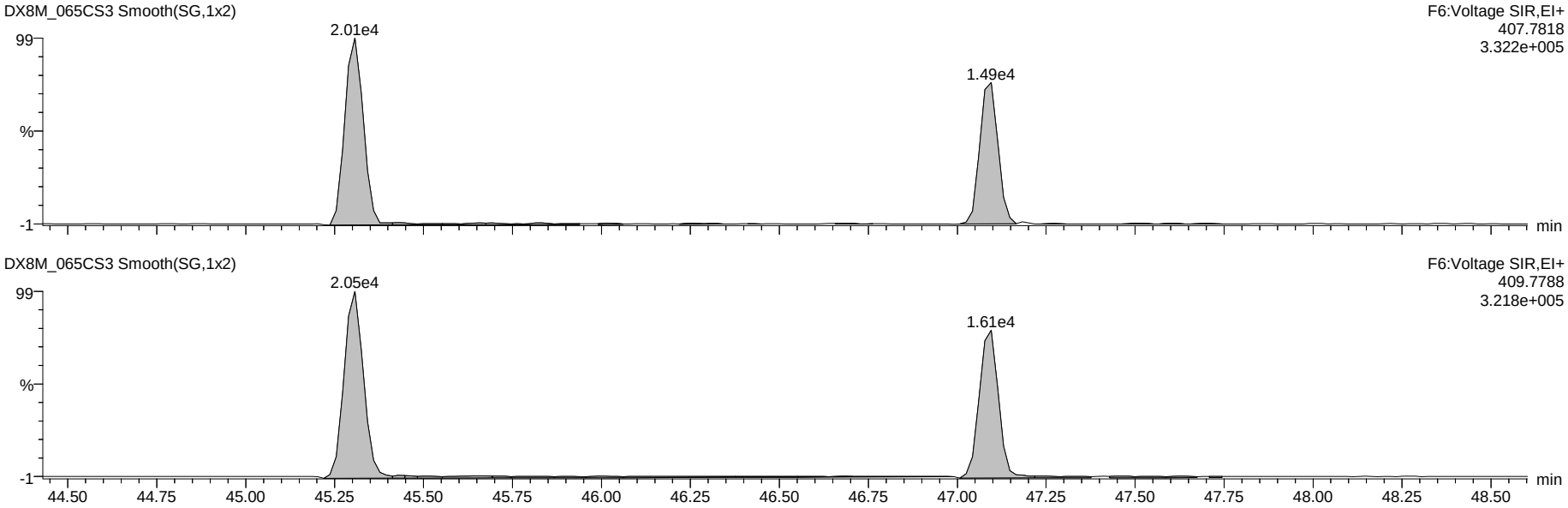
13C-Hexa-Furans



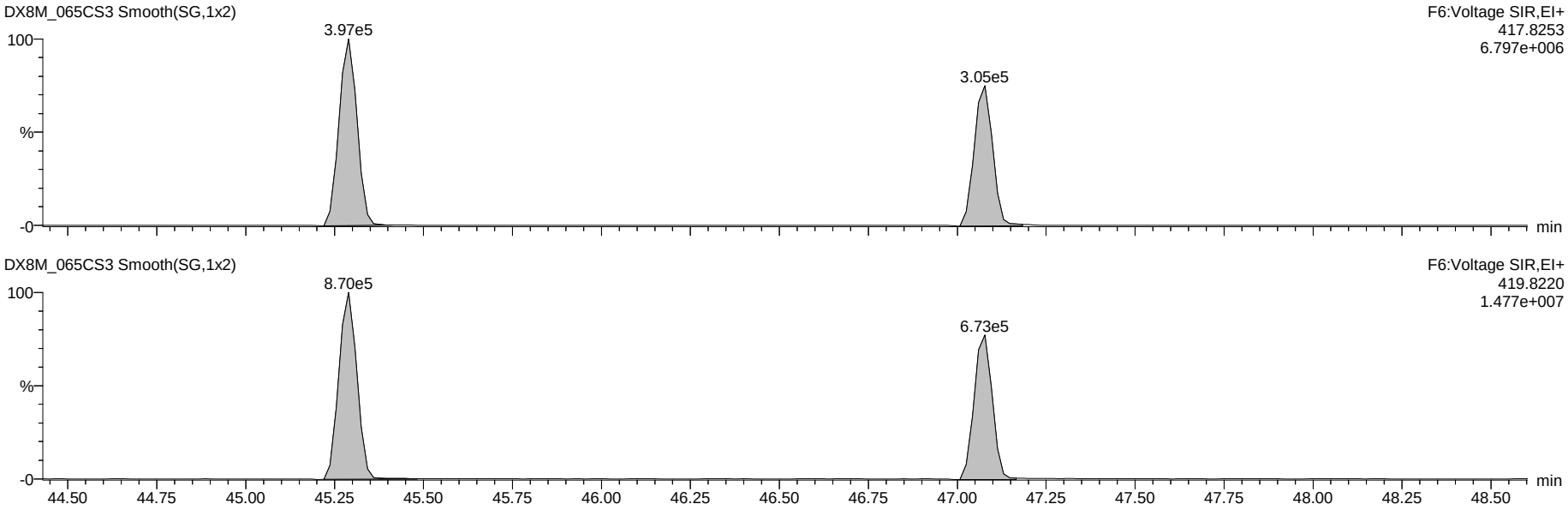
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Hepta-Furans



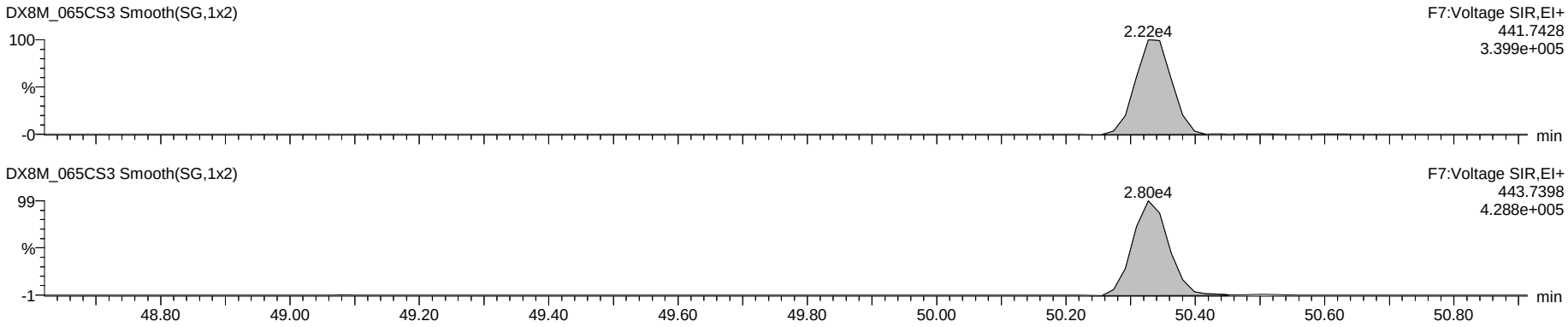
13C-Hepta-Furans



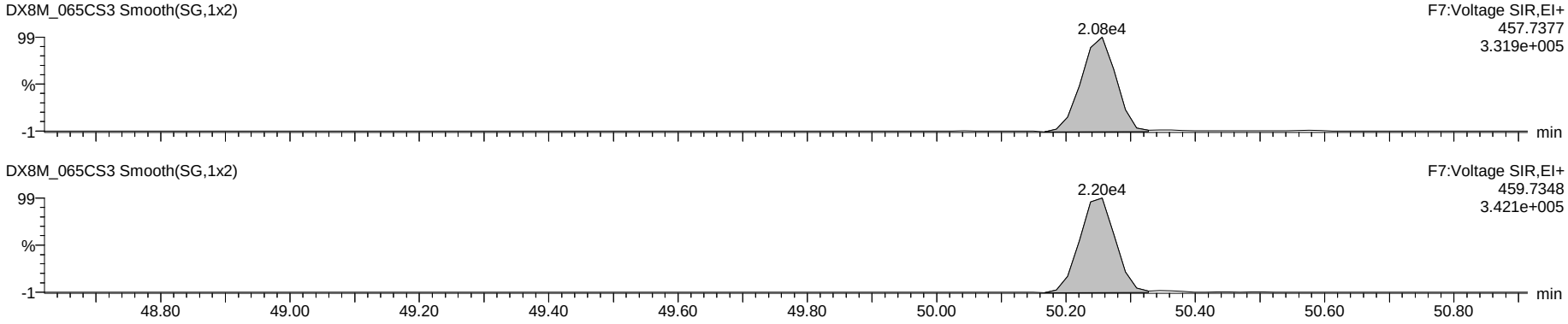
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

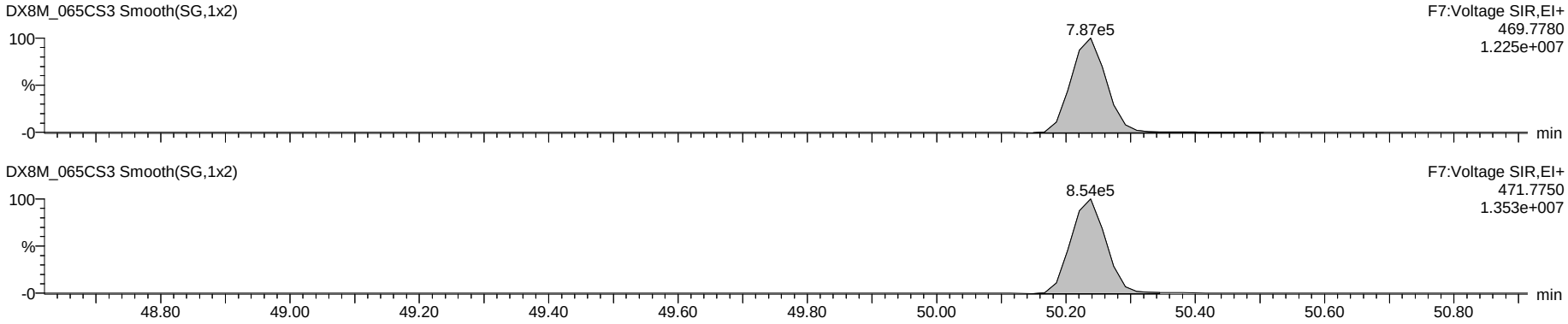
OCDF



OCDD



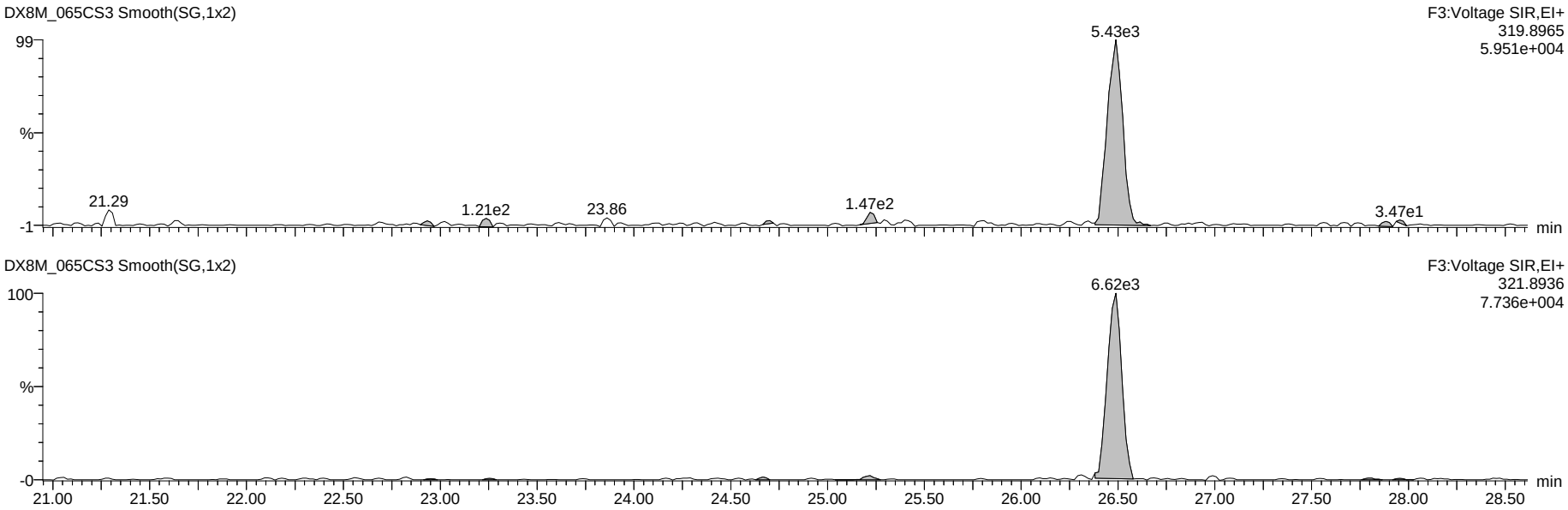
13C-OCDD



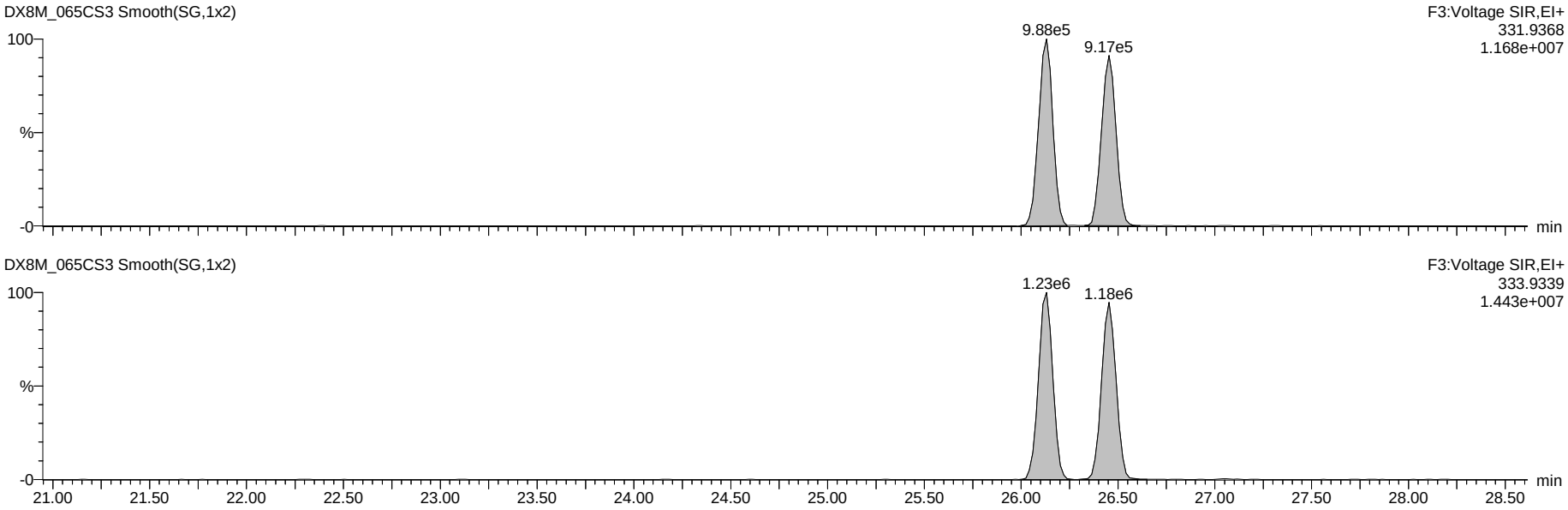
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Tetra-Dioxins



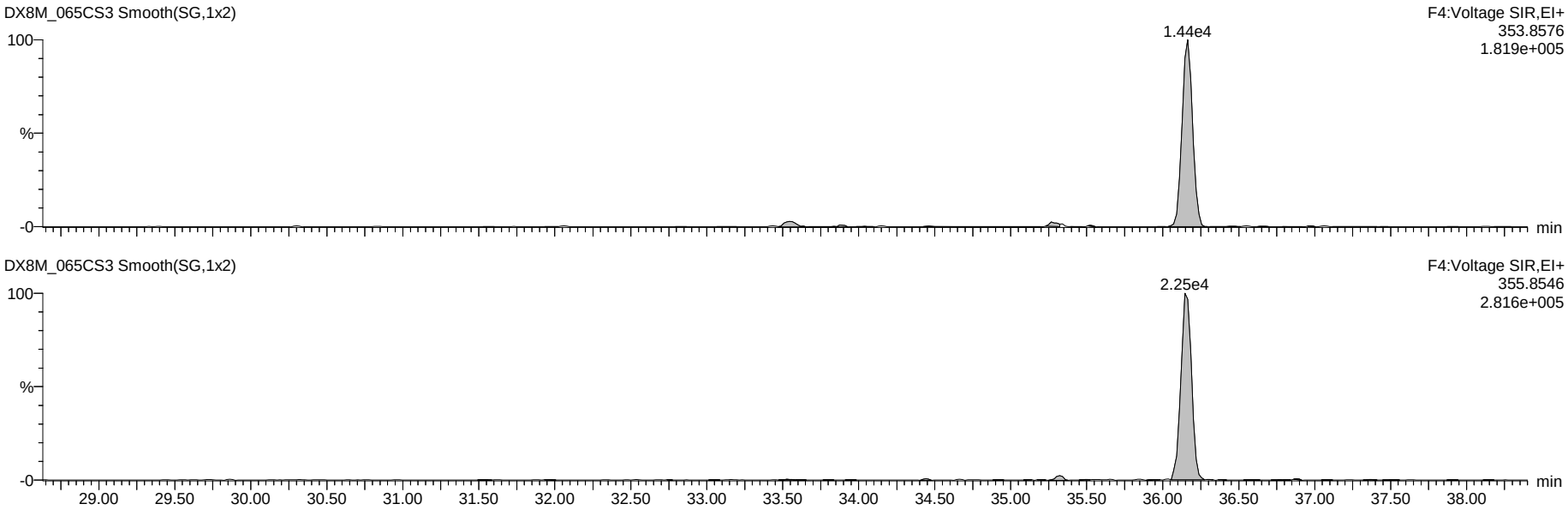
13C-Tetra-Dioxins



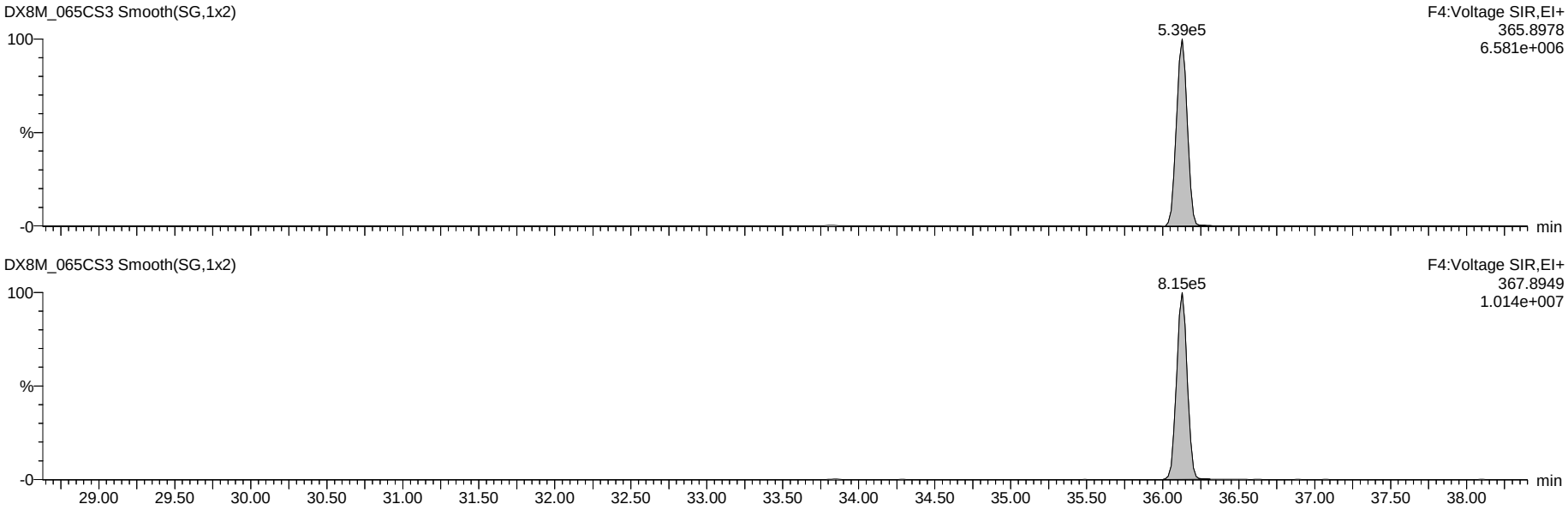
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Penta-Dioxins



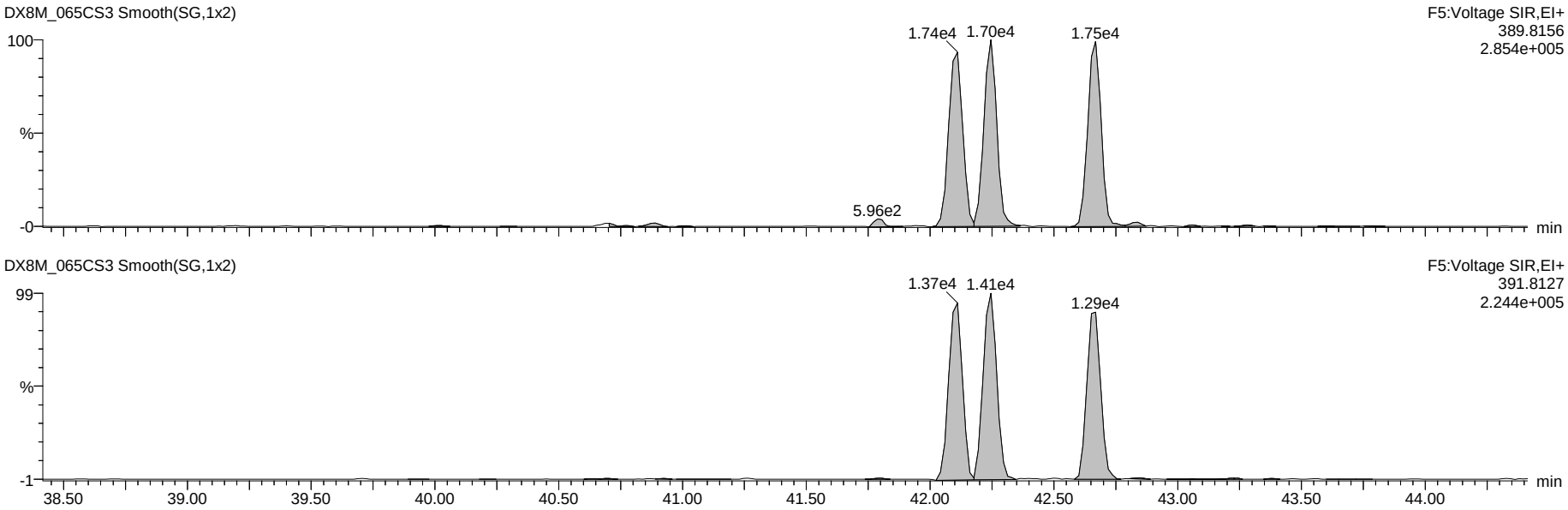
13C-Penta-Dioxins



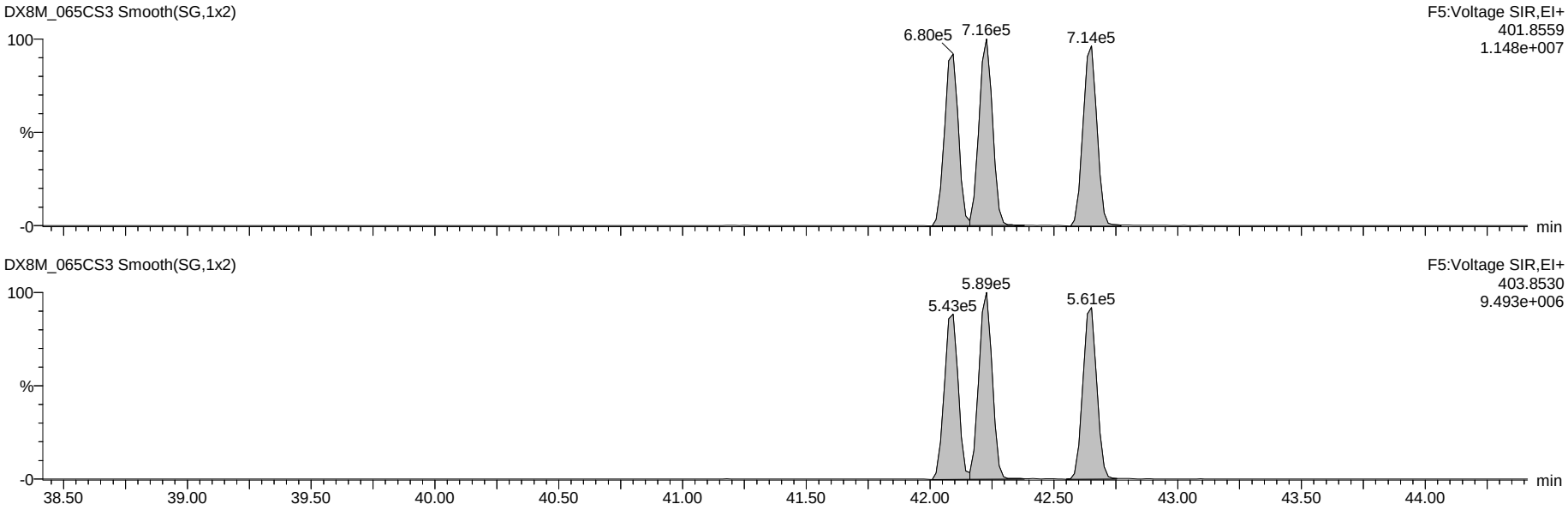
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Hexa-Dioxins



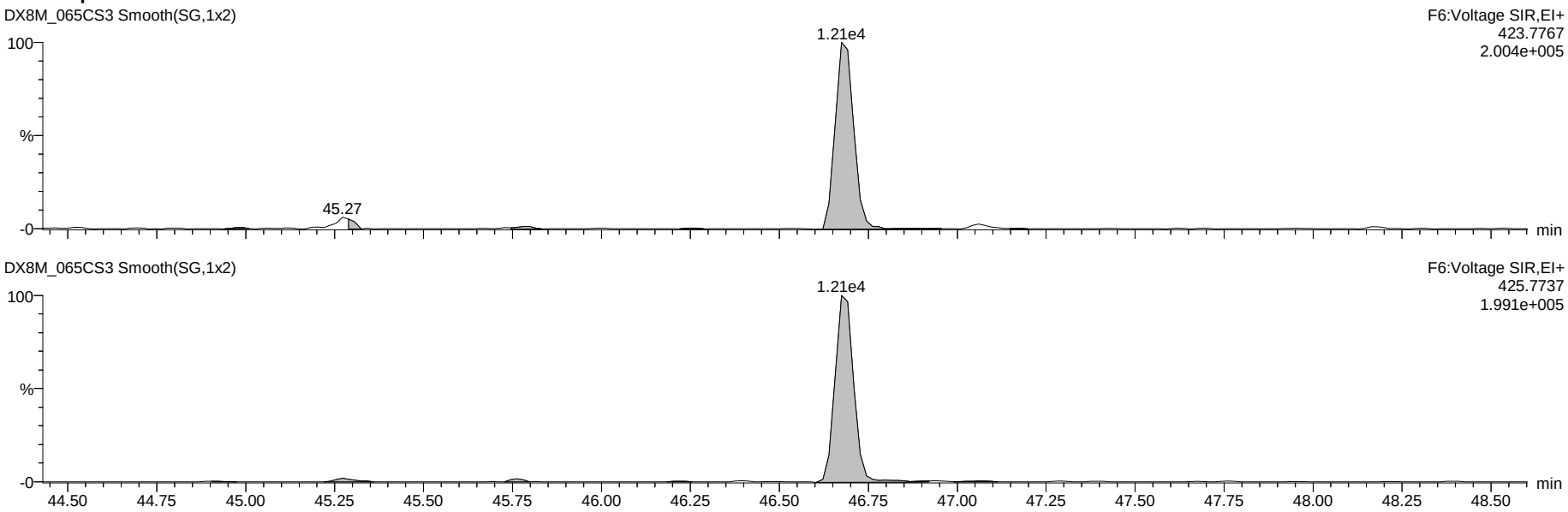
13C-Hexa-Dioxins



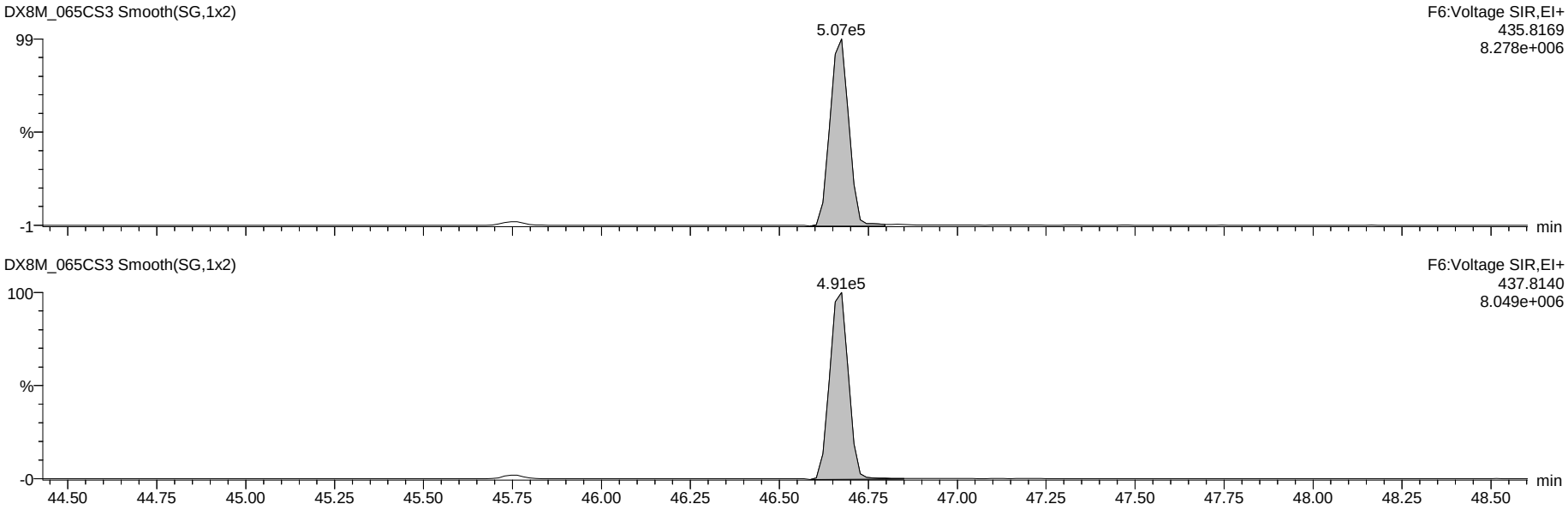
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

Total Hepta-Dioxins



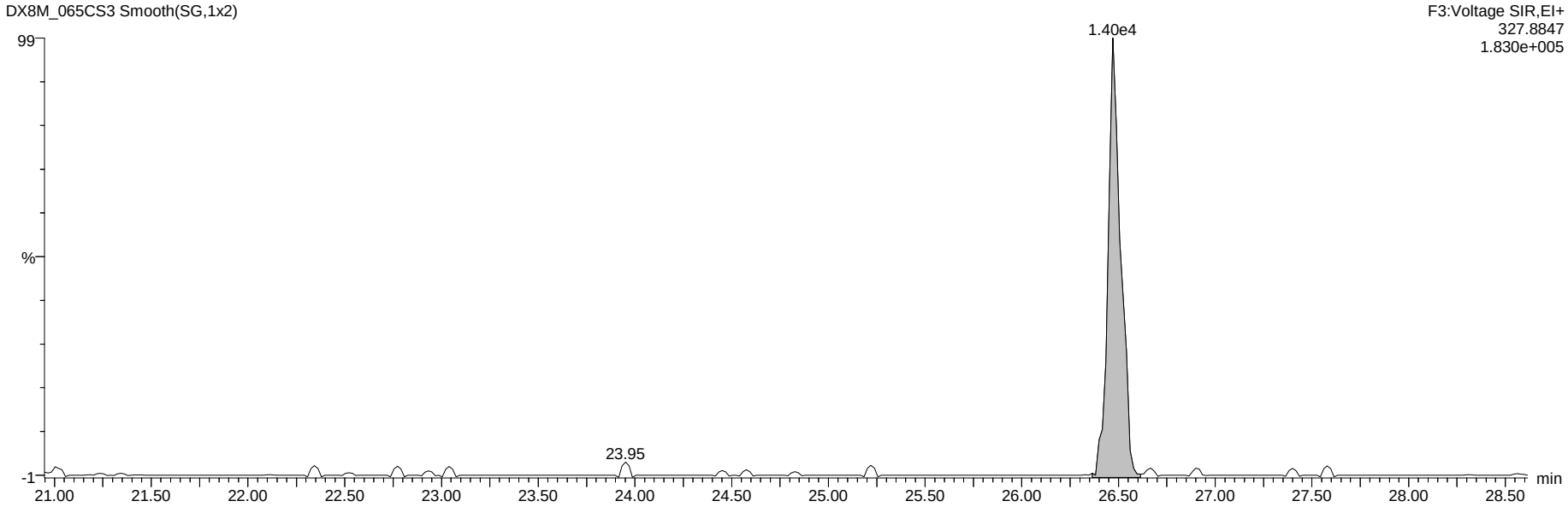
13C-Hepta-Dioxins



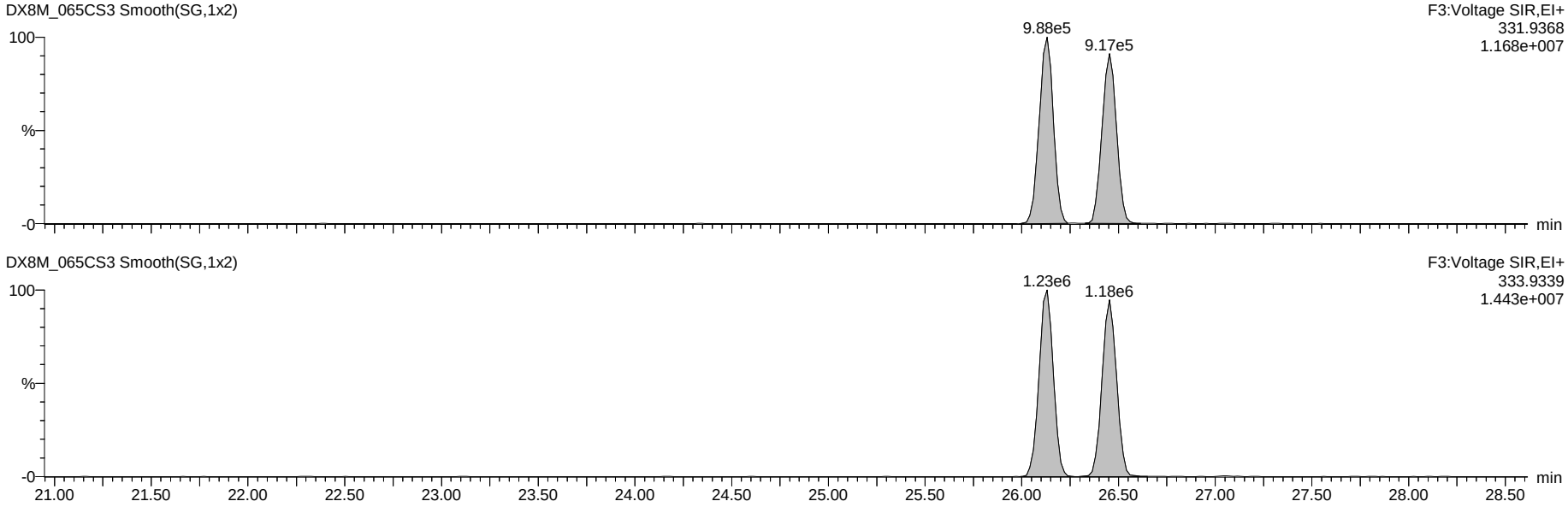
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

37Cl-2,3,7,8-TCDD



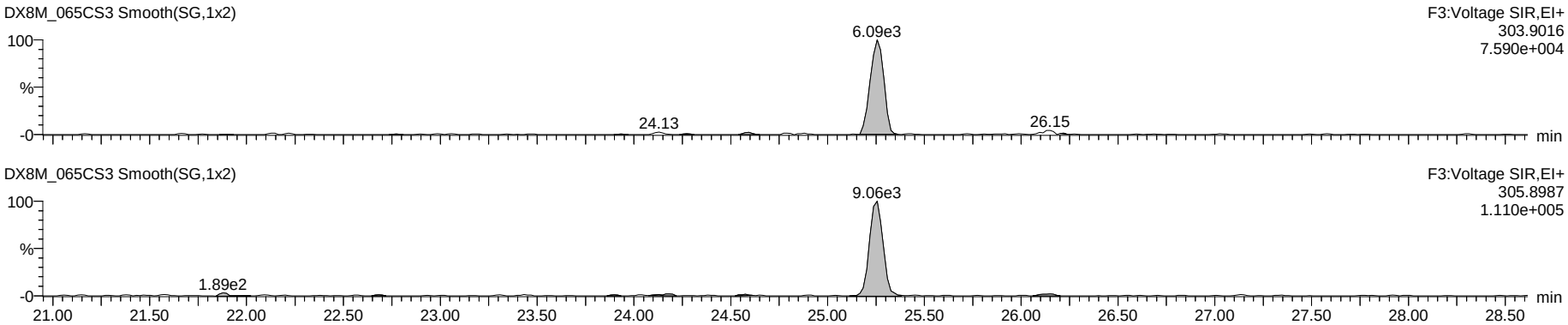
13C-Tetra-Dioxins



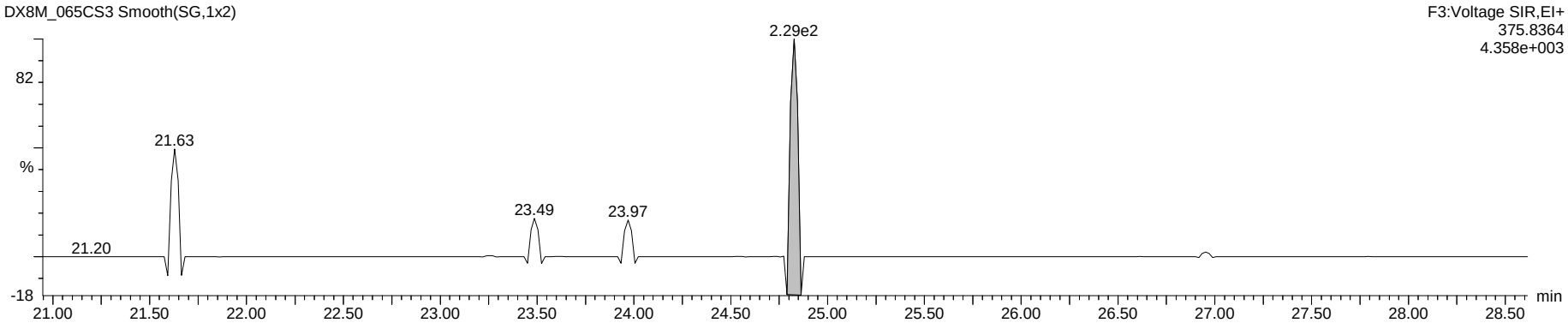
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

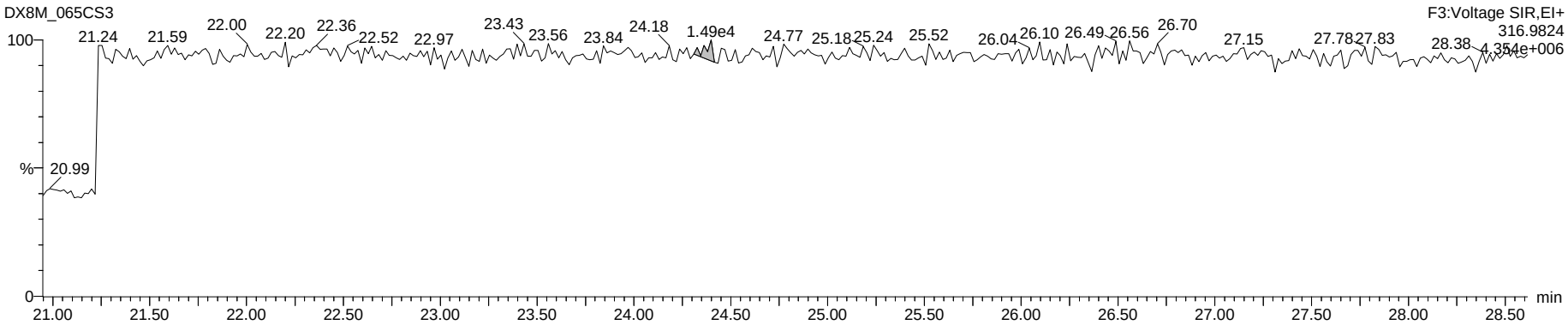
Total Tetra-Furans



Hexa DPE



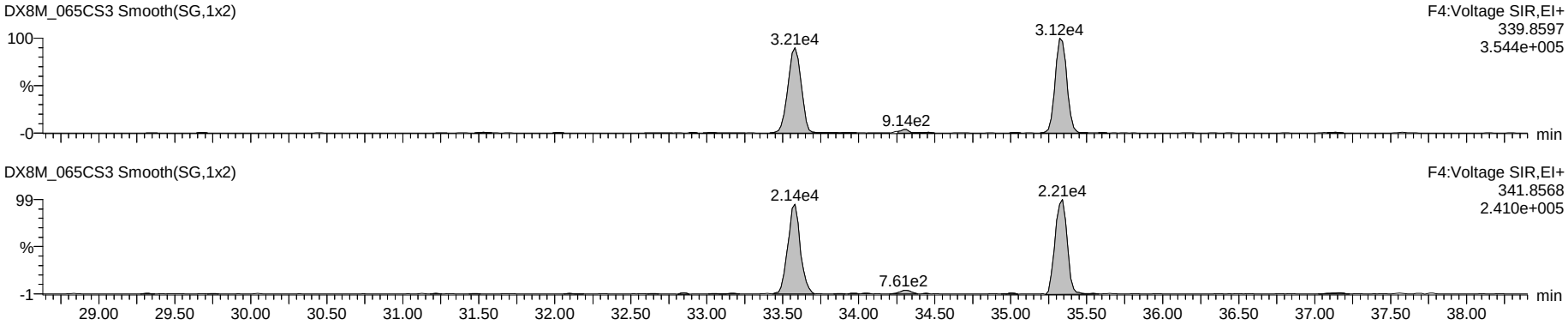
Tetra Lock



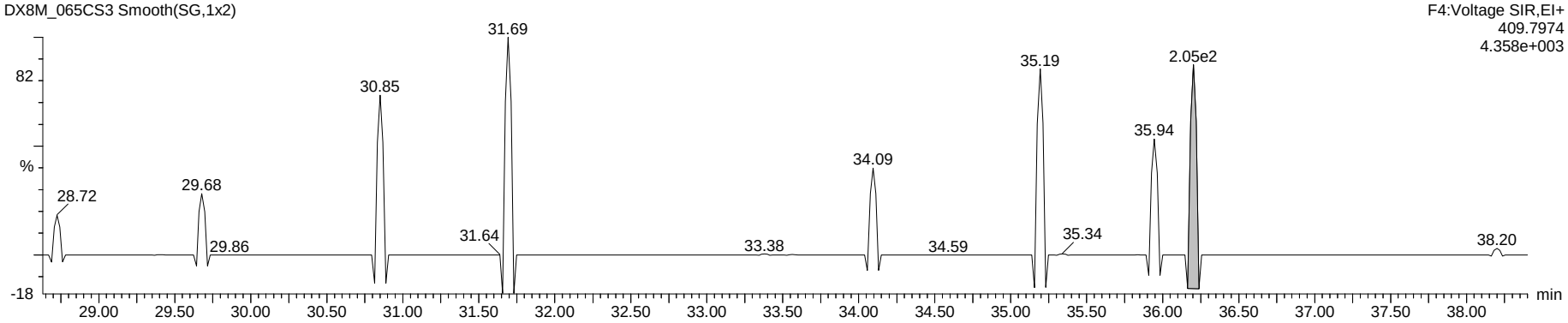
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

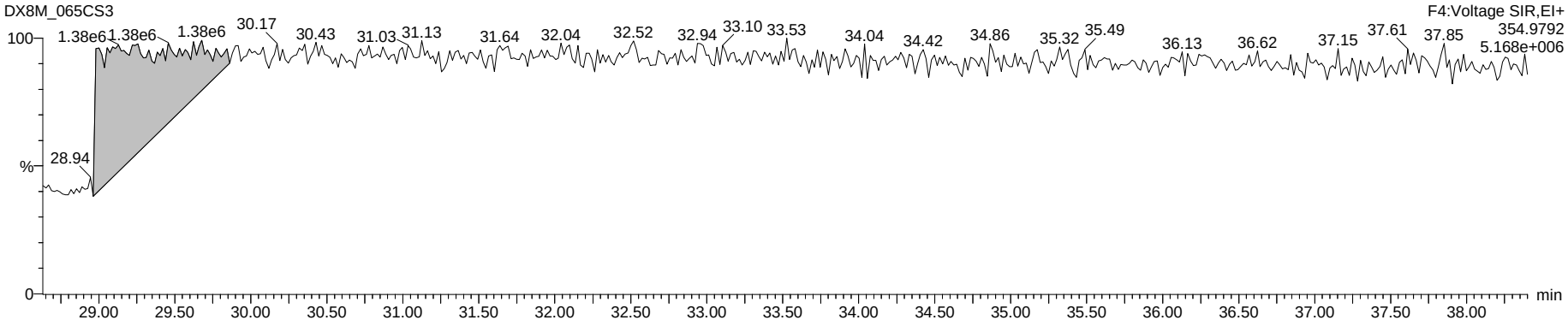
Total Penta-Furans



Hepta DPE



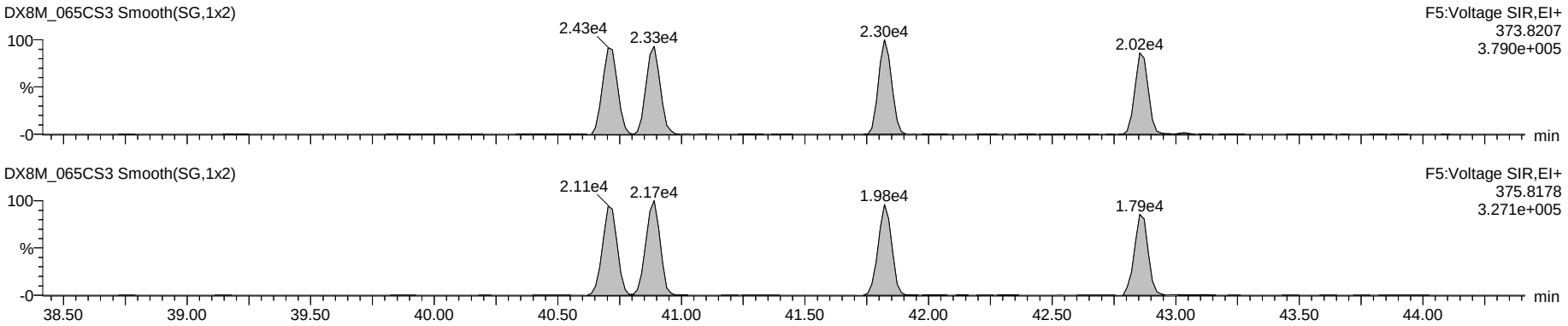
Penta Lock



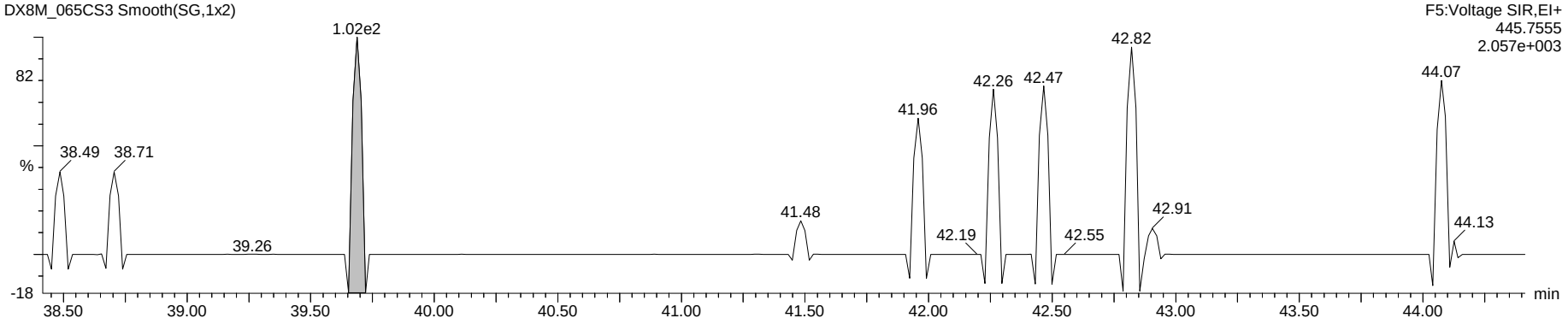
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

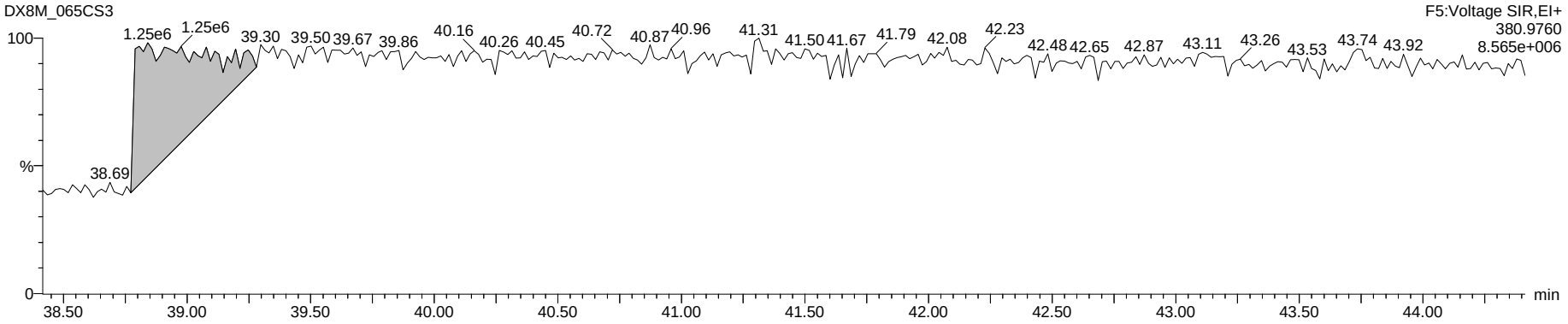
Total Hexa-Furans



Octa DPE



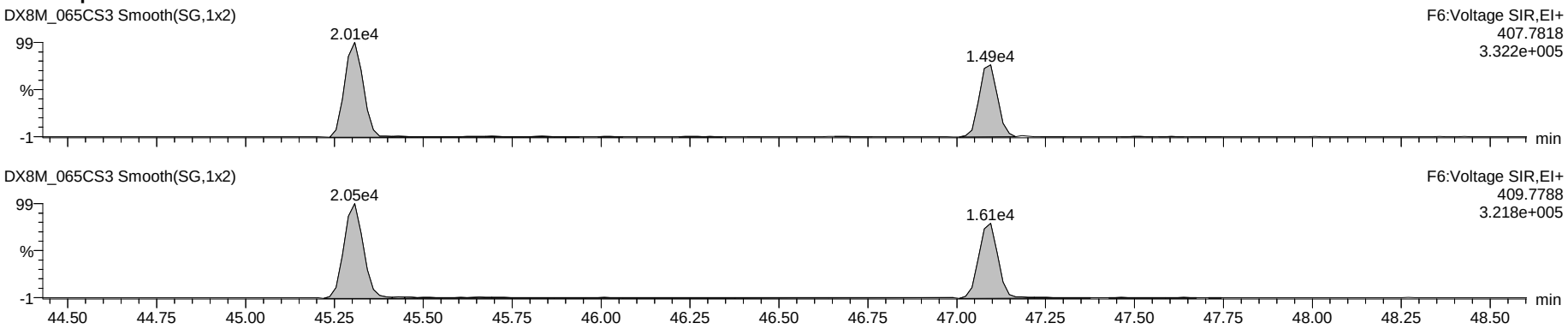
Hexa Lock



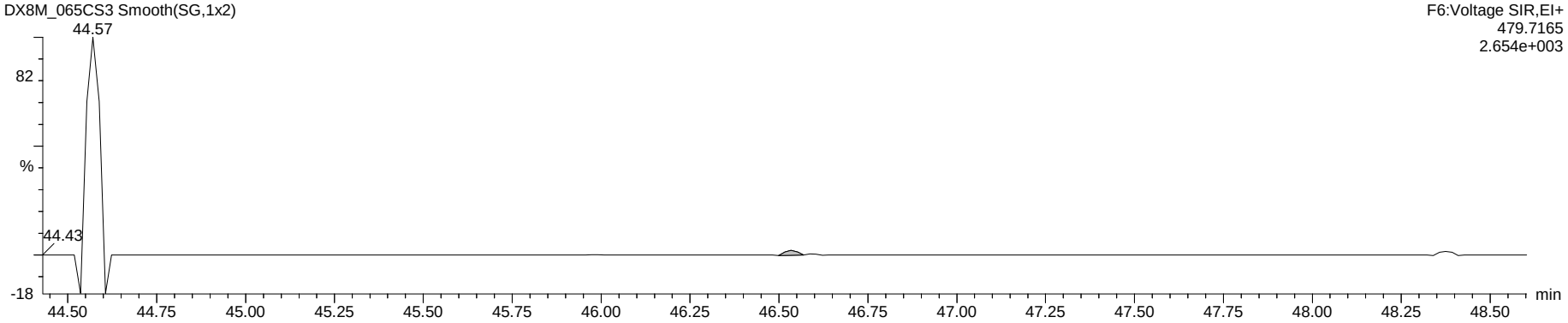
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

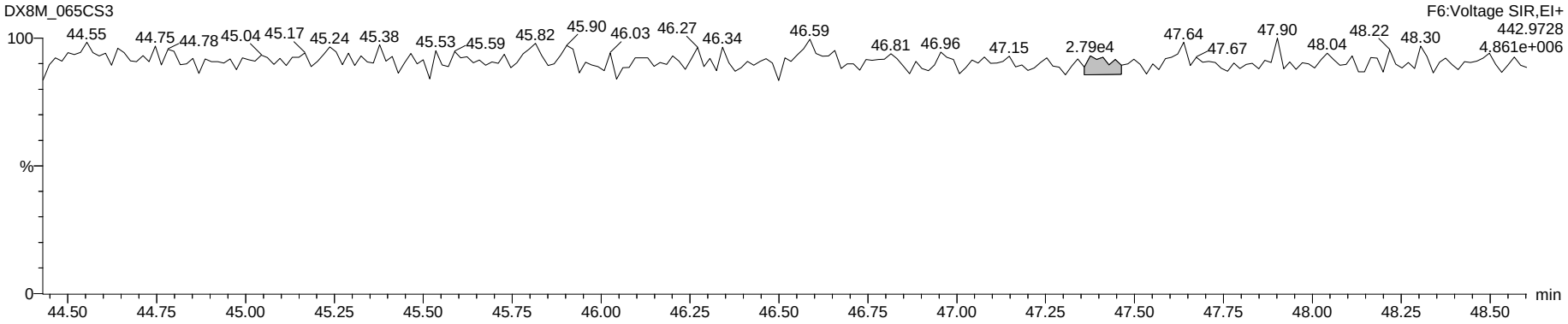
Total Hepta-Furans



Nona DPE



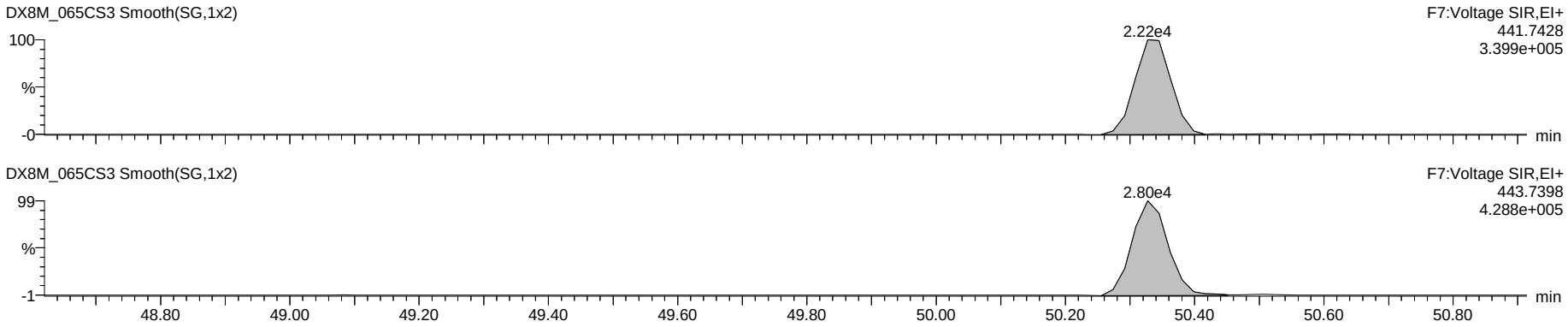
Hepta Lock



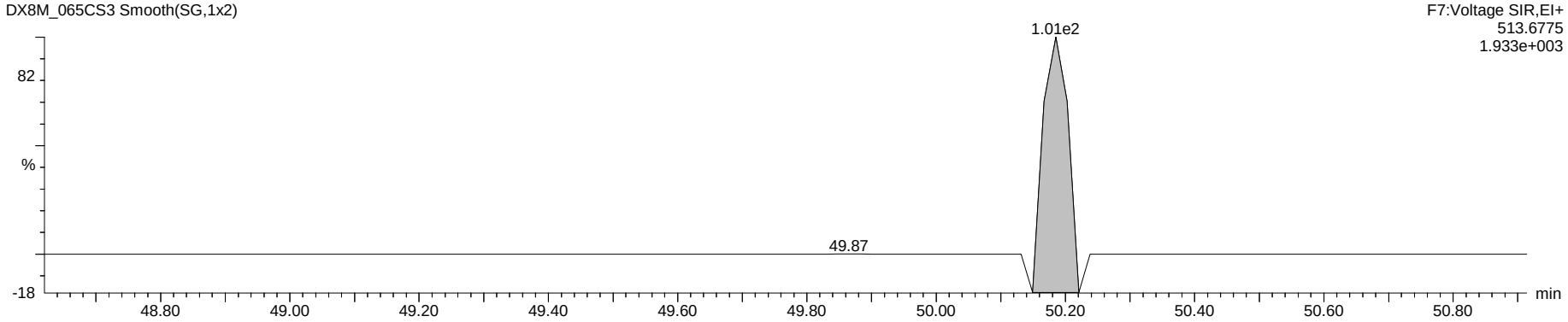
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS3, Date: 04-Jun-2018, Time: 20:28:43, ID: DX041B-CAL,,/01, Description: 1,,1.0uL CS-1

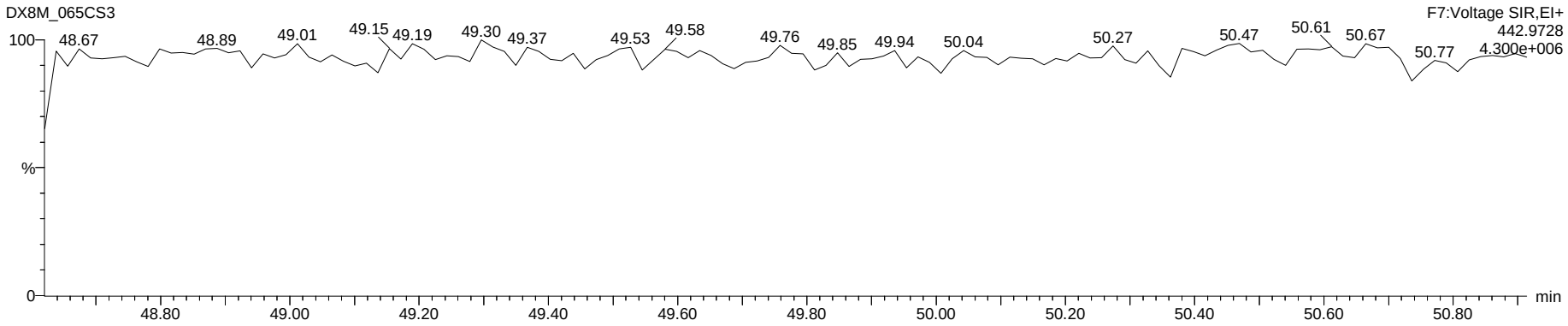
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	2.000	6.77e4	0.76	NO	25.26	0.901	0.9149	0.022	2.43	579	788
2	1,2,3,7,8-PeCDF	10.000	2.26e5	1.42	NO	33.58	0.859	0.9236	0.039	4.19	1645	1003
3	2,3,4,7,8-PeCDF	10.000	2.31e5	1.45	NO	35.34	0.917	0.9391	0.013	1.39	1998	1200
4	1,2,3,4,7,8-HxCDF	10.000	1.91e5	1.10	NO	40.72	1.053	1.1161	0.036	3.26	1480	1850
5	1,2,3,6,7,8-HxCDF	10.000	1.97e5	1.21	NO	40.89	1.012	1.0626	0.029	2.74	1557	1829
6	2,3,4,6,7,8-HxCDF	10.000	1.94e5	1.16	NO	41.84	1.106	1.1400	0.036	3.17	1517	1878
7	1,2,3,7,8,9-HxCDF	10.000	1.68e5	1.21	NO	42.87	0.977	0.9992	0.030	2.99	1369	1624
8	1,2,3,4,6,7,8-HpCDF	10.000	1.73e5	0.98	NO	45.31	1.211	1.2235	0.041	3.38	2593	642
9	1,2,3,4,7,8,9-HpCDF	10.000	1.37e5	0.99	NO	47.10	1.230	1.2522	0.017	1.37	2101	523
10	OCDF	20.000	2.22e5	0.84	NO	50.35	1.142	1.2272	0.084	6.84	1646	3724
11	2,3,7,8-TCDD	2.000	4.88e4	0.70	NO	26.49	1.047	1.1119	0.079	7.15	474	634
12	1,2,3,7,8-PeCDD	10.000	1.55e5	0.59	NO	36.17	1.039	1.0267	0.055	5.33	13440	3413
13	1,2,3,4,7,8-HxCDD	10.000	1.37e5	1.28	NO	42.11	0.984	1.0036	0.036	3.60	1061	2444
14	1,2,3,6,7,8-HxCDD	10.000	1.33e5	1.19	NO	42.25	0.910	0.9343	0.029	3.09	969	2388
15	1,2,3,7,8,9-HxCDD	10.000	1.32e5	1.25	NO	42.67	0.930	0.9712	0.032	3.34	1002	2310
16	1,2,3,4,6,7,8-HpCDD	10.000	1.14e5	1.01	NO	46.69	0.980	0.9956	0.020	2.04	6342	1365
17	OCDD	20.000	1.89e5	0.89	NO	50.26	0.971	1.0186	0.028	2.76	3072	3071
18	13C-2,3,7,8-TCDF	100.000	3.75e6	0.77	NO	25.24	1.603	1.6147	0.046	2.83	2776	5056
19	13C-1,2,3,7,8-PeCDF	100.000	2.63e6	1.57	NO	33.54	1.125	1.1640	0.091	7.84	2515	2404
20	13C-2,3,4,7,8-PeCDF	100.000	2.52e6	1.54	NO	35.32	1.077	1.1228	0.100	8.87	2739	2654
21	13C-1,2,3,4,7,8-HxCDF	100.000	1.82e6	0.52	NO	40.70	1.255	1.2764	0.037	2.93	2913	3156
22	13C-1,2,3,6,7,8-HxCDF	100.000	1.94e6	0.52	NO	40.87	1.343	1.3633	0.031	2.30	3178	3553
23	13C-2,3,4,6,7,8-HxCDF	100.000	1.75e6	0.54	NO	41.81	1.211	1.2182	0.036	2.95	2929	3193
24	13C-1,2,3,7,8,9-HxCDF	100.000	1.72e6	0.52	NO	42.86	1.188	1.2015	0.043	3.61	2917	3174
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.42e6	0.45	NO	45.29	0.985	1.0186	0.040	3.89	1895	3710
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	1.11e6	0.47	NO	47.08	0.768	0.7945	0.043	5.44	1591	2954
27	13C-2,3,7,8-TCDD	100.000	2.33e6	0.79	NO	26.45	0.994	1.0042	0.038	3.74	2149	2421
28	13C-1,2,3,7,8-PeCDD	100.000	1.49e6	0.67	NO	36.13	0.638	0.6582	0.053	8.04	6321	5533
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.39e6	1.27	NO	42.09	0.961	0.9841	0.037	3.74	4552	3368
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.46e6	1.22	NO	42.23	1.008	1.0407	0.026	2.53	4614	3585
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	1.16e6	0.99	NO	46.67	0.802	0.8135	0.035	4.34	5864	2774
32	13C-OCDD	200.000	1.95e6	0.87	NO	50.24	0.673	0.7155	0.075	10.43	4907	5297
33	13C-1,2,3,4-TCDD	100.000	2.34e6	0.78	NO	26.13	234...	22602.6799	1977.986	8.75	2265	2498
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.45e6	1.27	NO	42.65	144...	14280.3905	2145.257	15.02	4664	3453
35	37Cl-2,3,7,8-TCDD	2.000	5.03e4			26.49	1.073	1.1134	0.079	7.11	3664	
36	Total Tetra-Furans	2.000						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	2.000						1.1119	0.079	7.15		
38	Total Penta-Furans	10.000						0.9236	0.039	4.19		
39	Total Penta-Dioxins	10.000						1.0267	0.055	5.33		
40	Total Hexa-Furans	10.000						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	10.000						1.0036	0.036	3.60		
42	Total Hepta-Furans	10.000						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	10.000						0.9956	0.020	2.04		
44	Hexa DPE	0.000	1.85e2			21.41	0.000				5085	
45	Hepta DPE	0.000	8.25e1			33.65	0.000				9866	
46	Octa DPE	0.000	8.80e1			38.89	0.000				3249	
47	Nona DPE	0.000	8.08e1			48.20	0.000				6496	
48	Deca DPE	0.000	9.22e1			49.28	0.000				6597	
49	Tetra Lock	0.000	3.91e4			24.15	0.000				1	
50	Penta Lock	0.000	7.21e5			29.13	0.000				1	
51	Hexa Lock	0.000										
52	Hepta Lock	0.000	3.98e4			47.64	0.000				1	
53	Octa Lock	0.000										
54	13C-Tetra-Furans	100.000						1.6147	0.046	2.83		
55	13C-Tetra-Dioxins	100.000						1.0042	0.038	3.74		

PV LHE 06-JUNE-2018

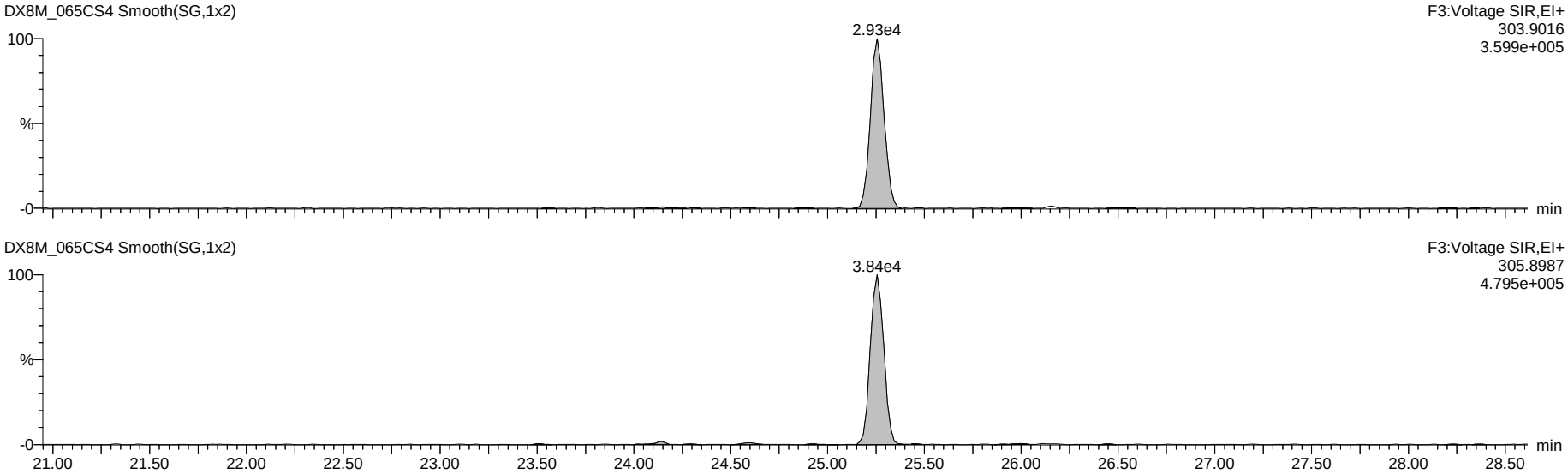
SVBy-K3 06JUN2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

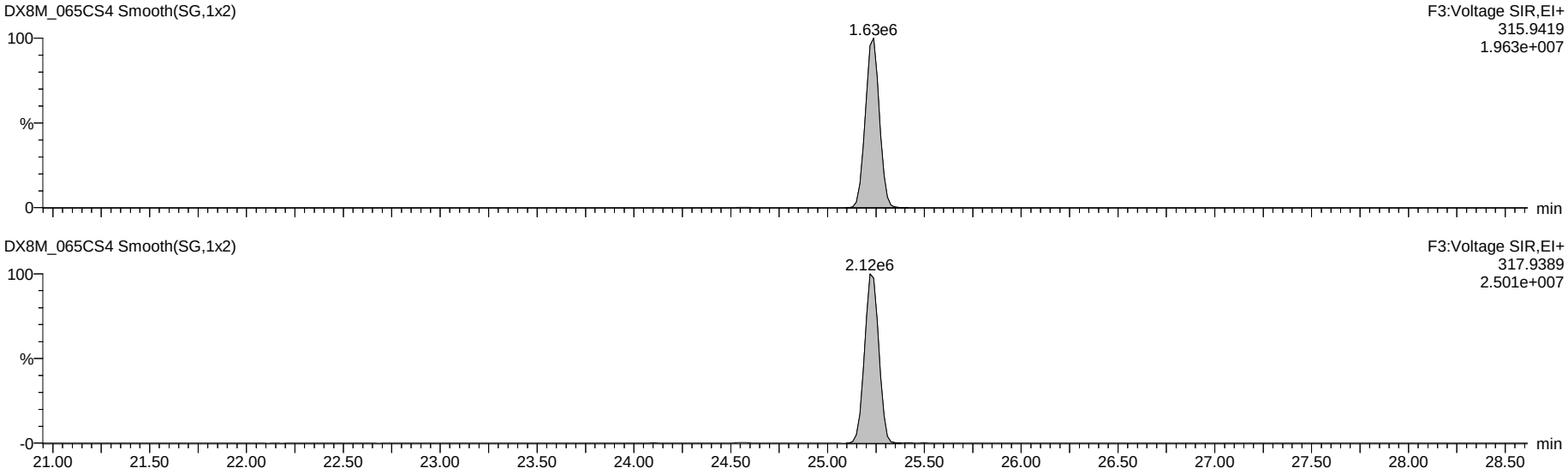
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Tetra-Furans



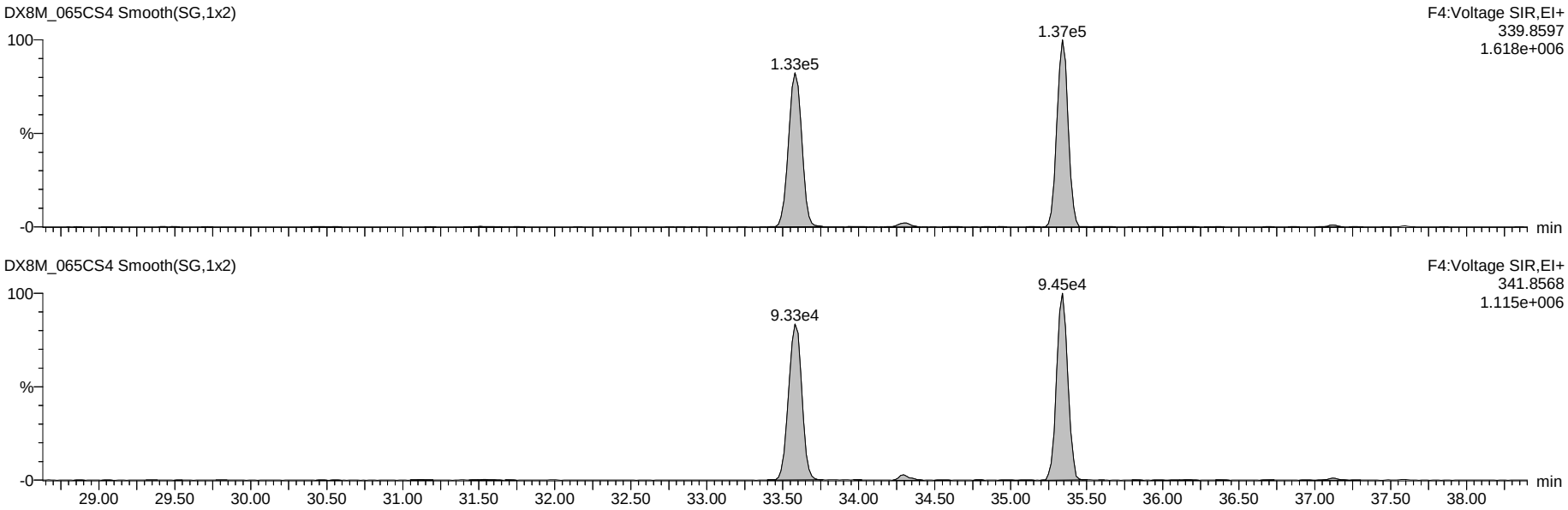
13C-Tetra-Furans



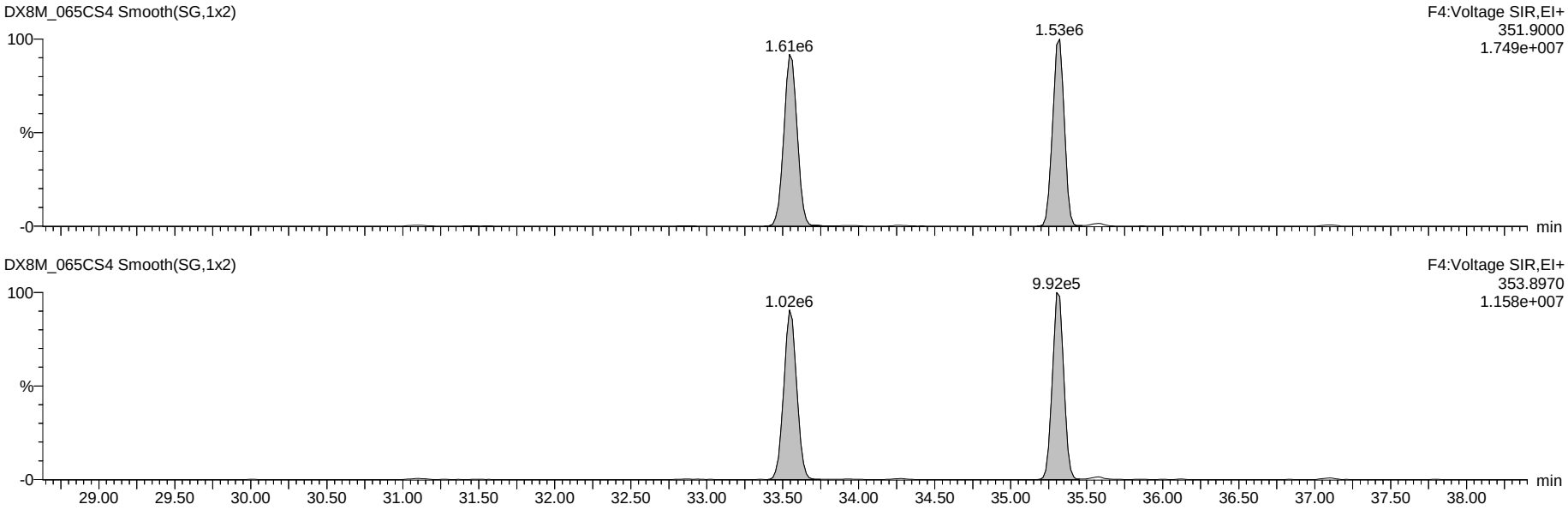
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Penta-Furans



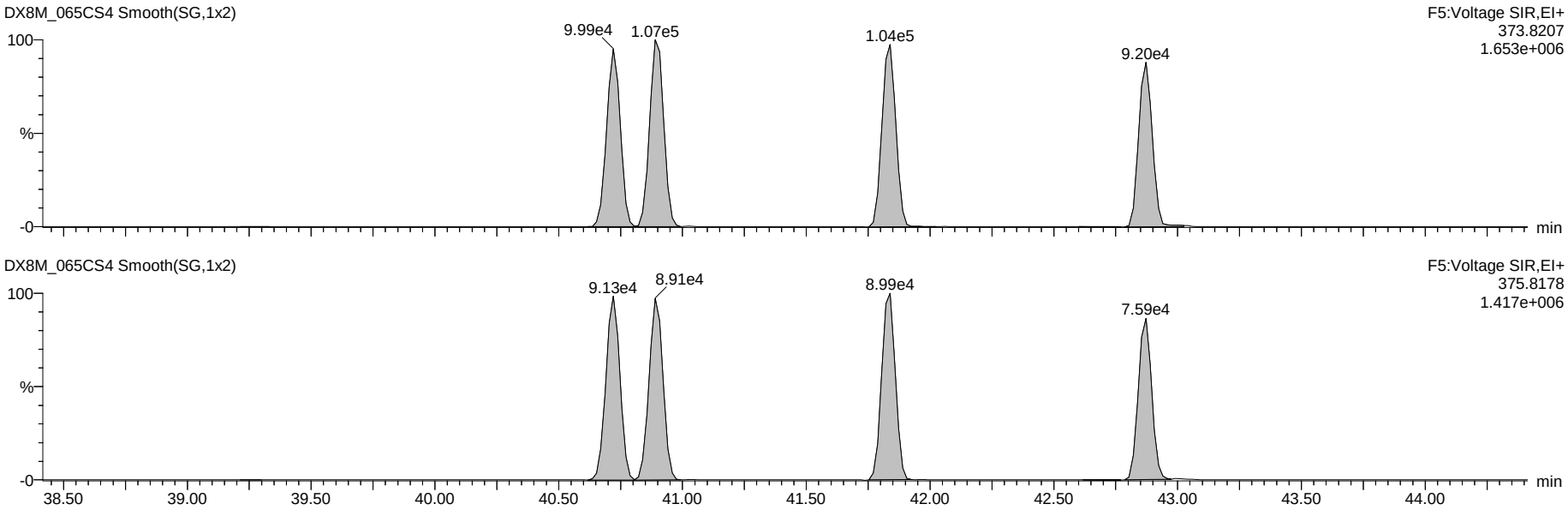
13C-Penta-Furans



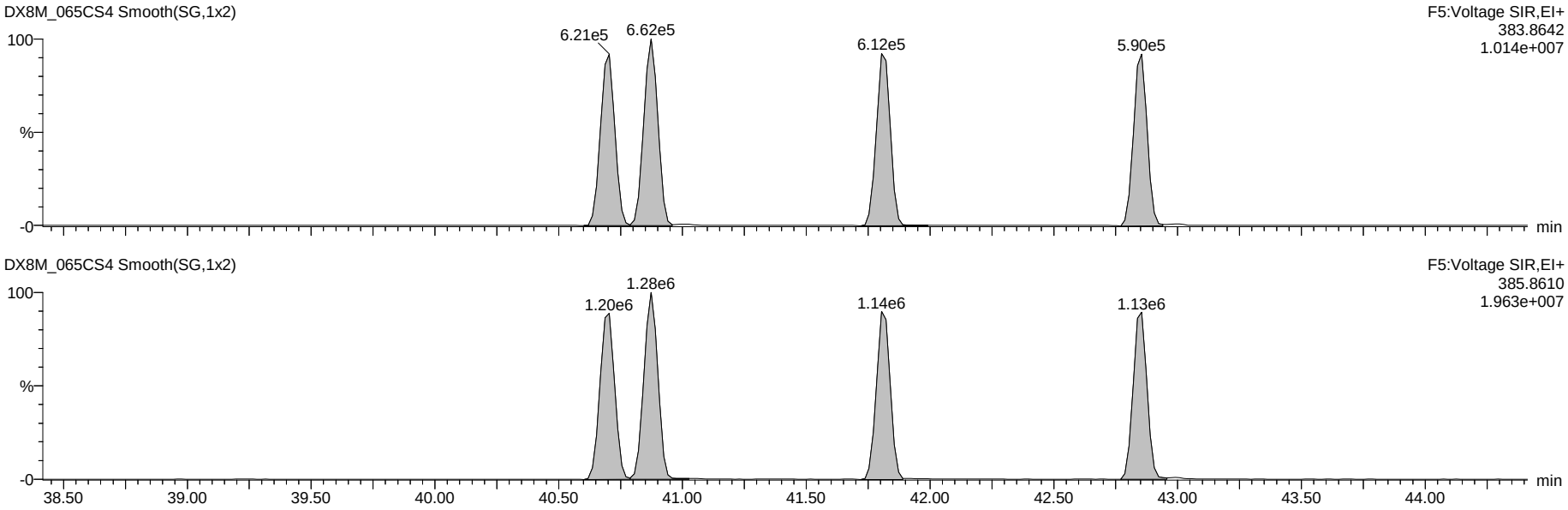
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Hexa-Furans



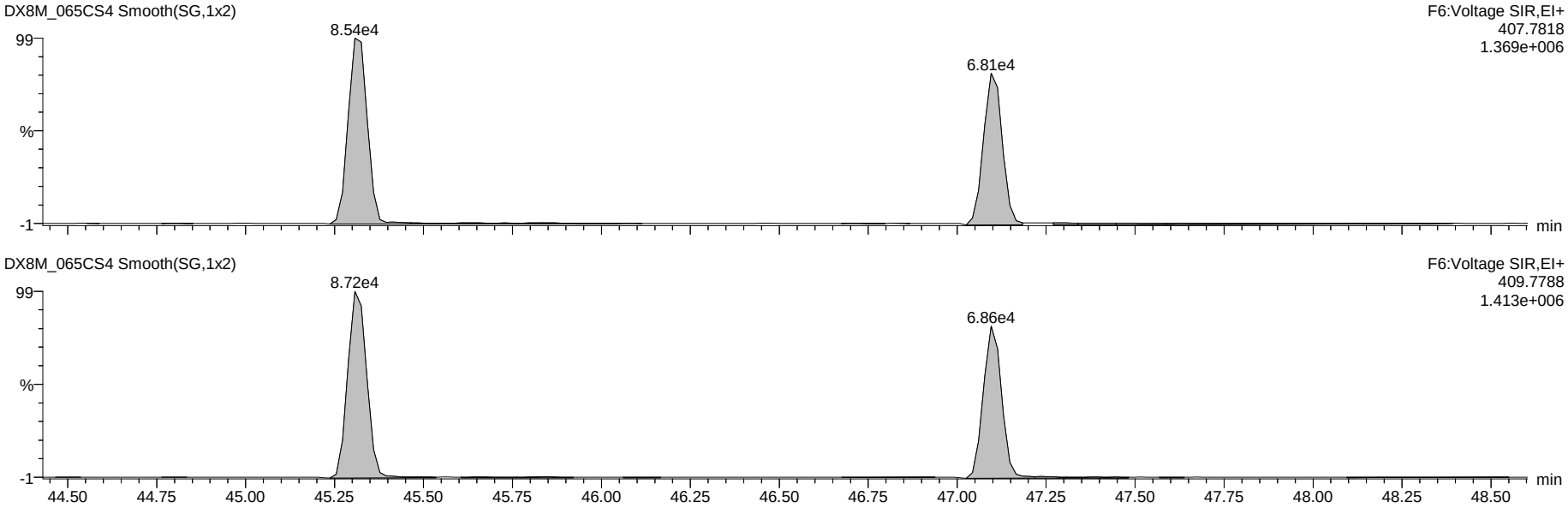
13C-Hexa-Furans



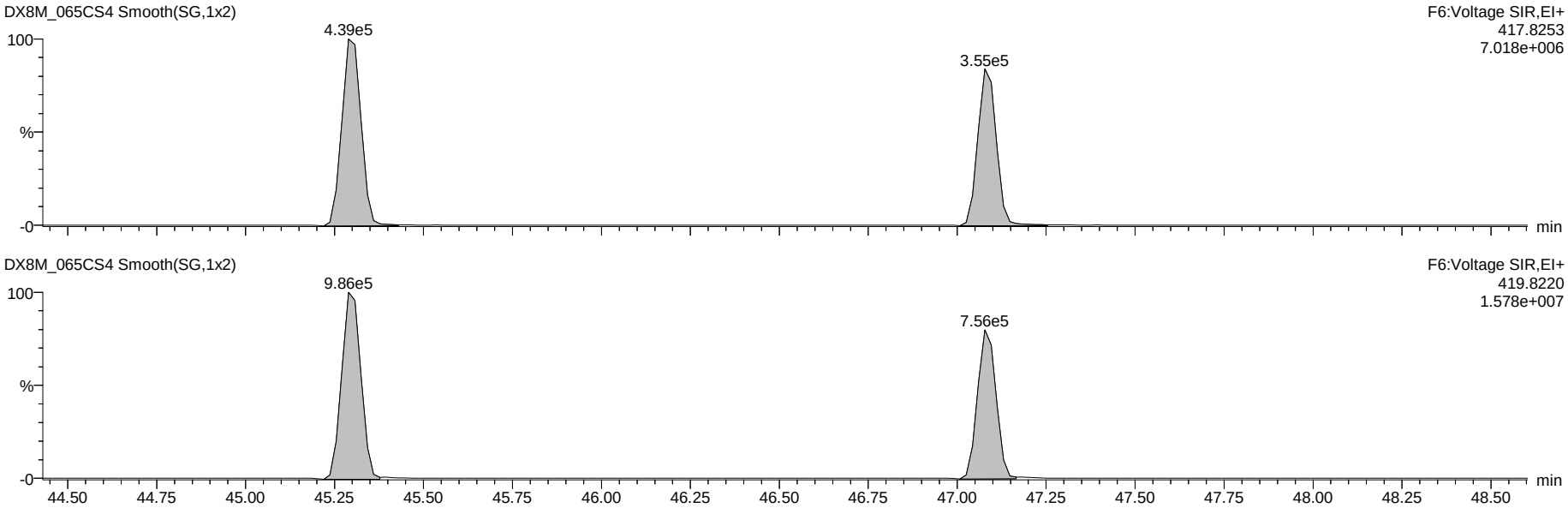
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Hepta-Furans



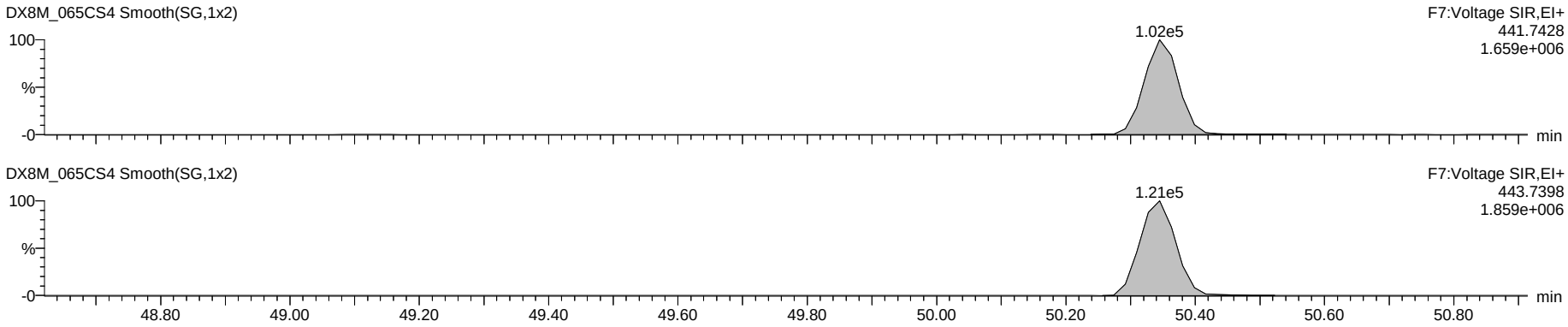
13C-Hepta-Furans



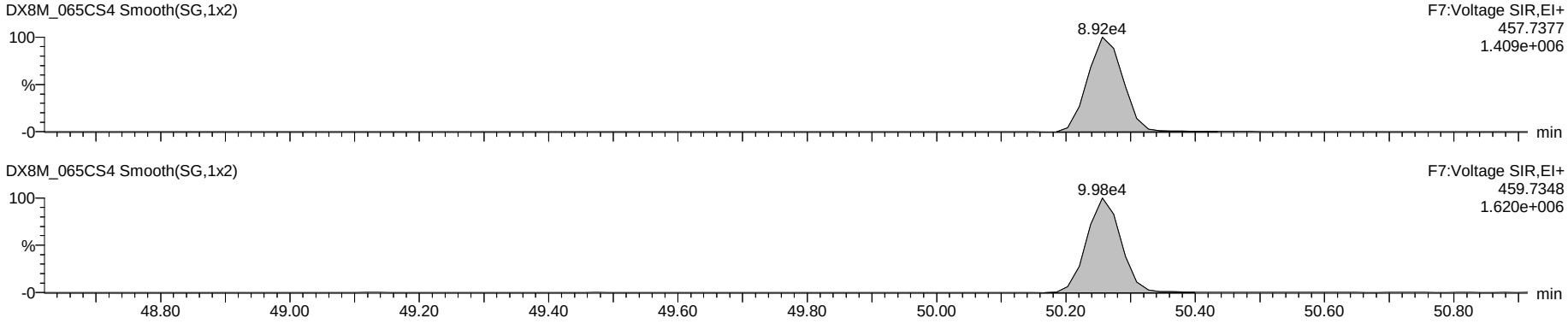
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

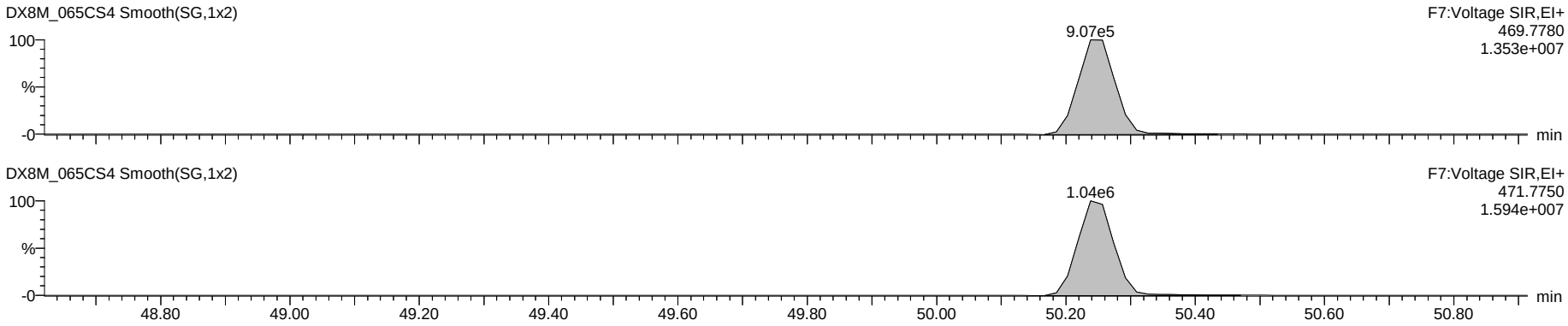
OCDF



OCDD



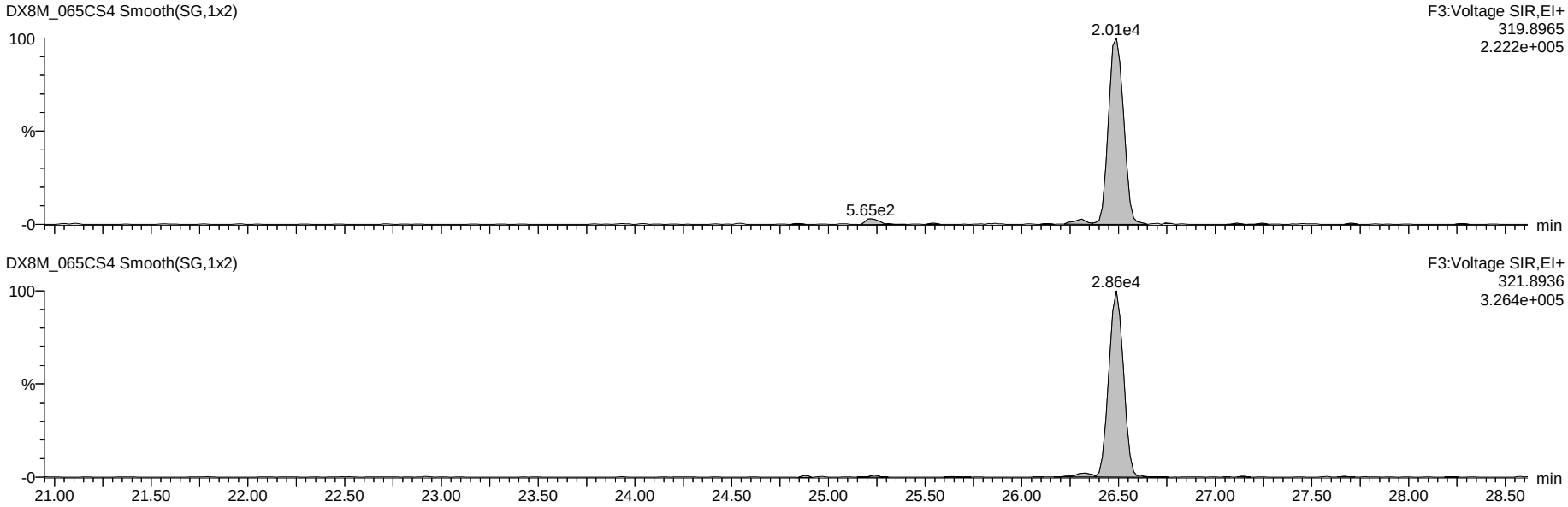
13C-OCDD



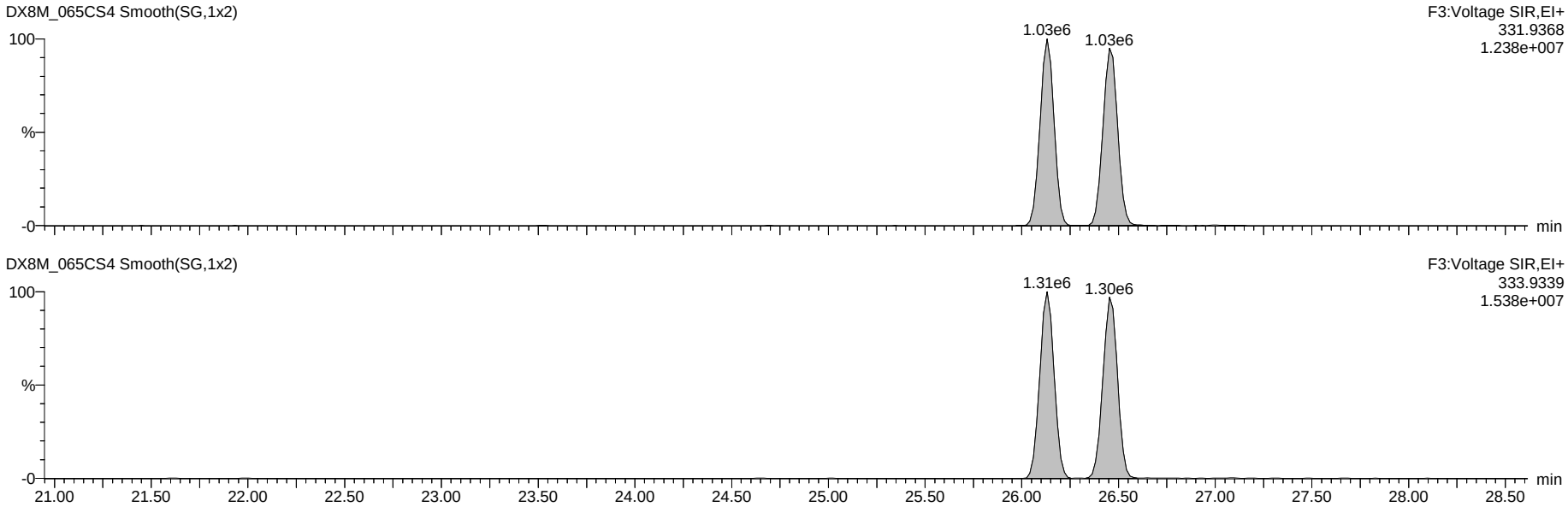
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Tetra-Dioxins



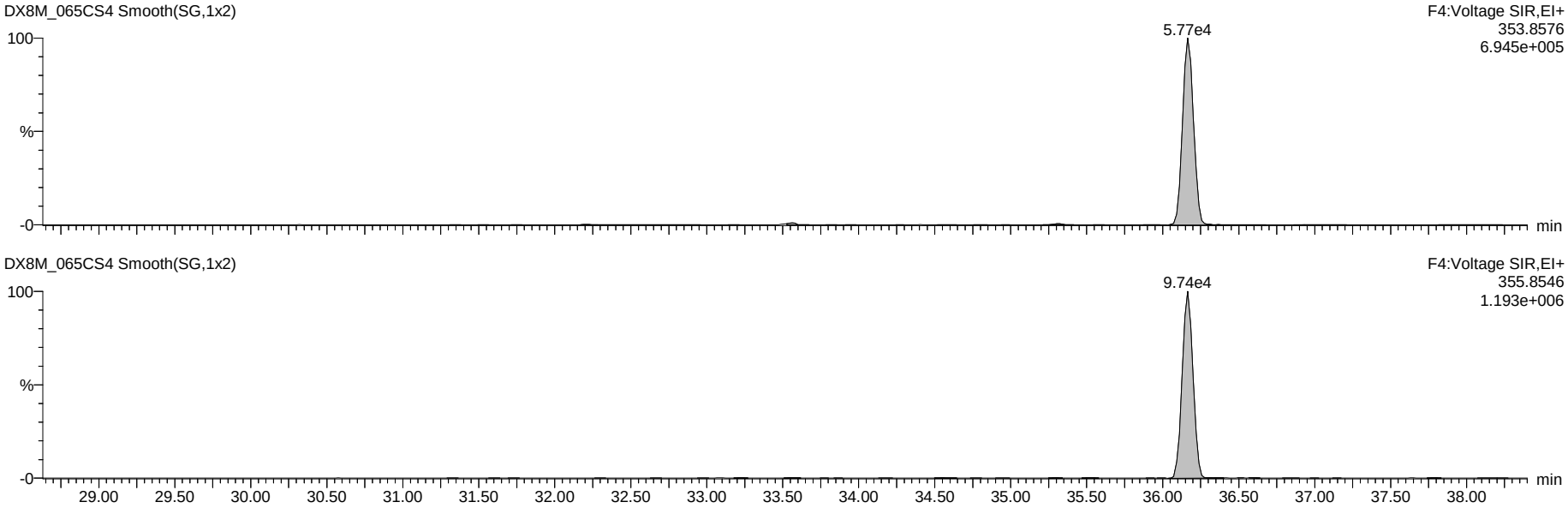
13C-Tetra-Dioxins



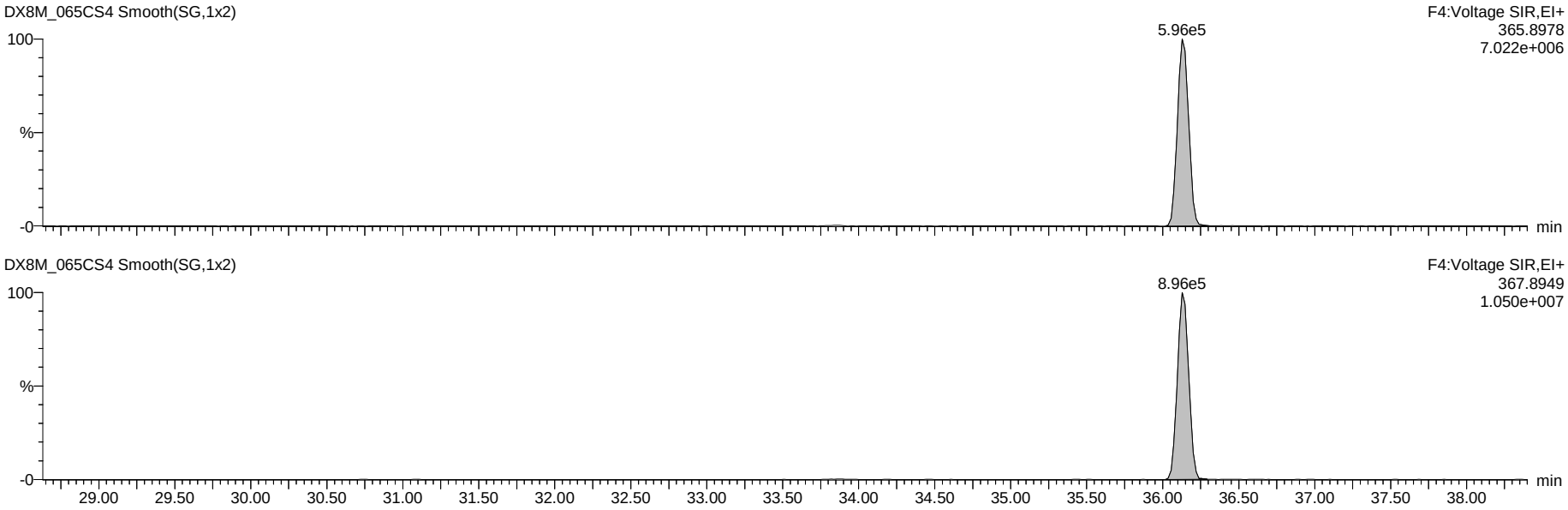
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Penta-Dioxins



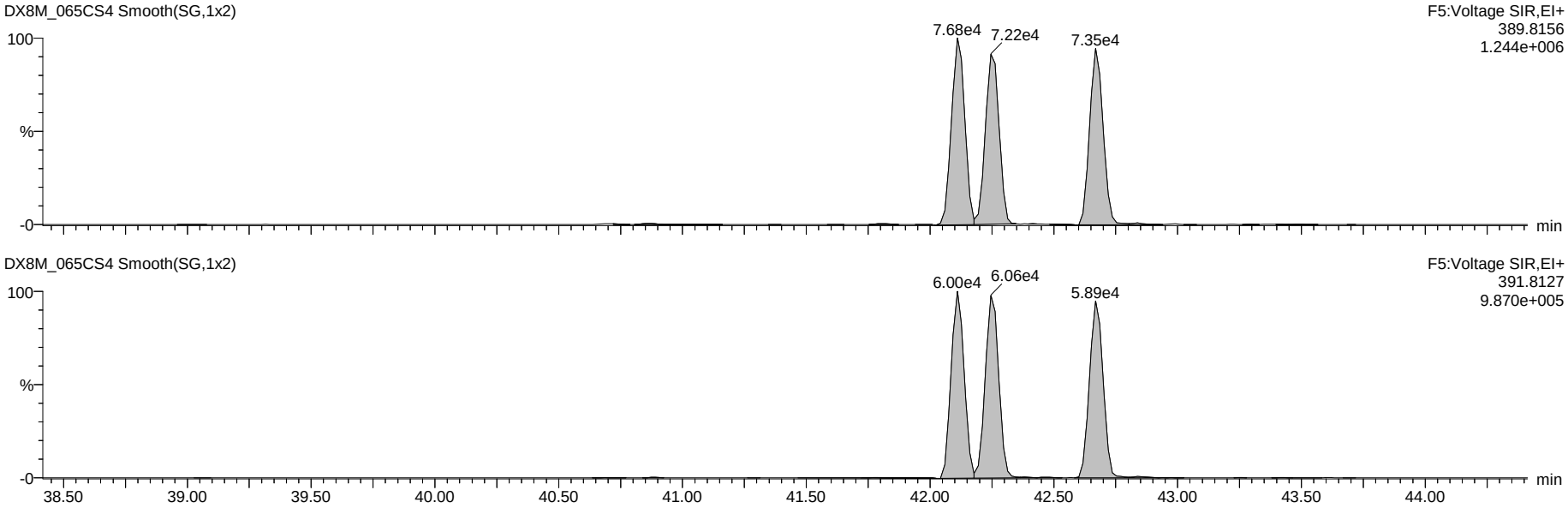
13C-Penta-Dioxins



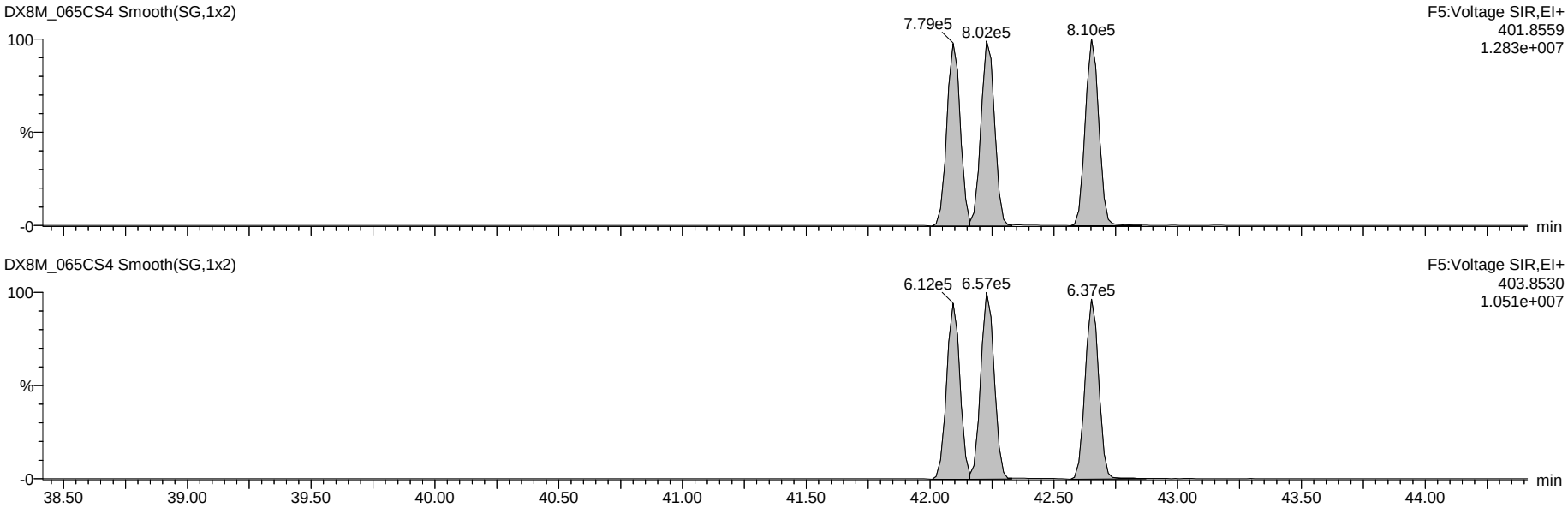
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Hexa-Dioxins



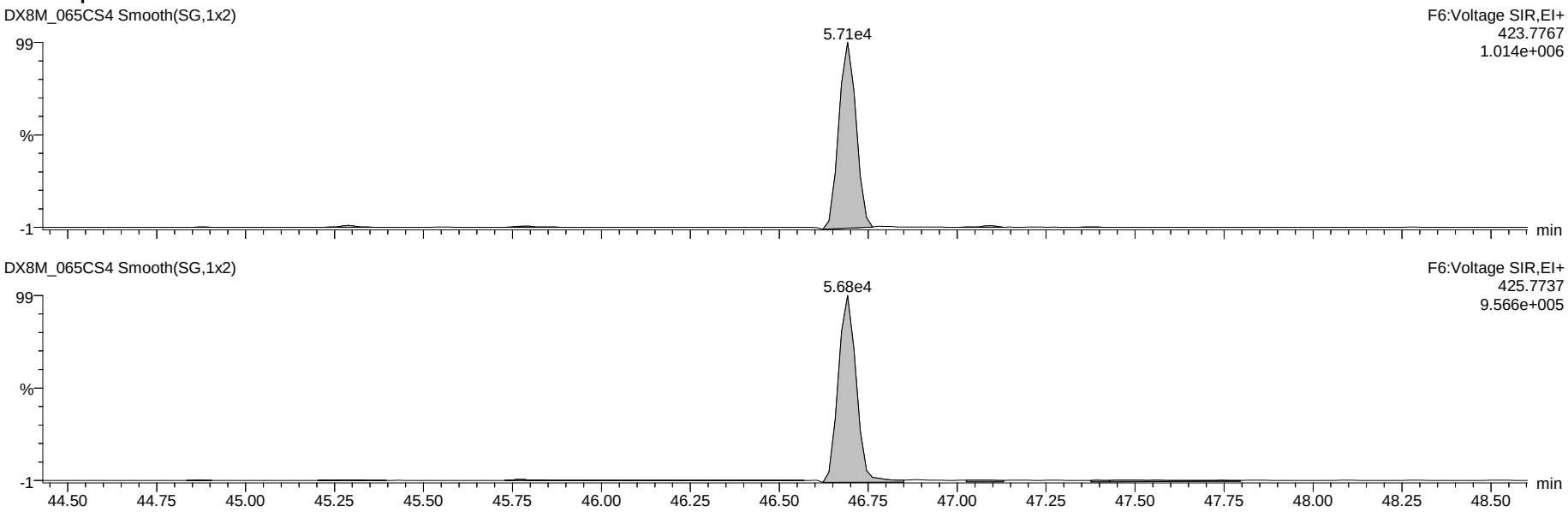
13C-Hexa-Dioxins



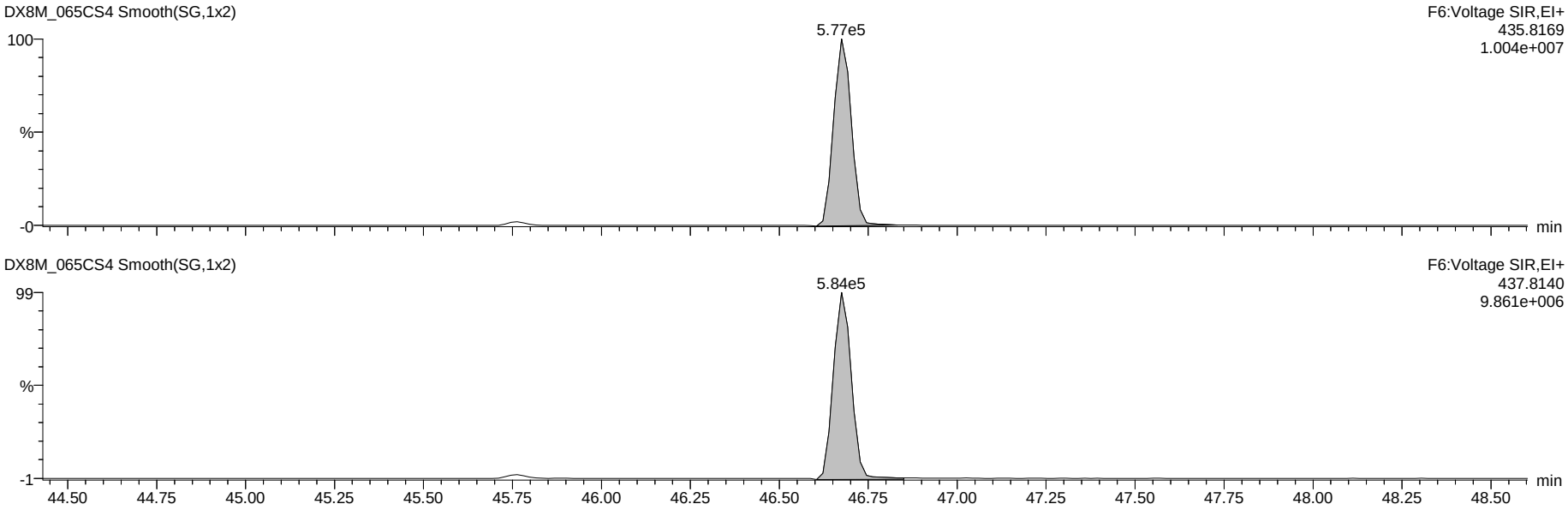
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

Total Hepta-Dioxins



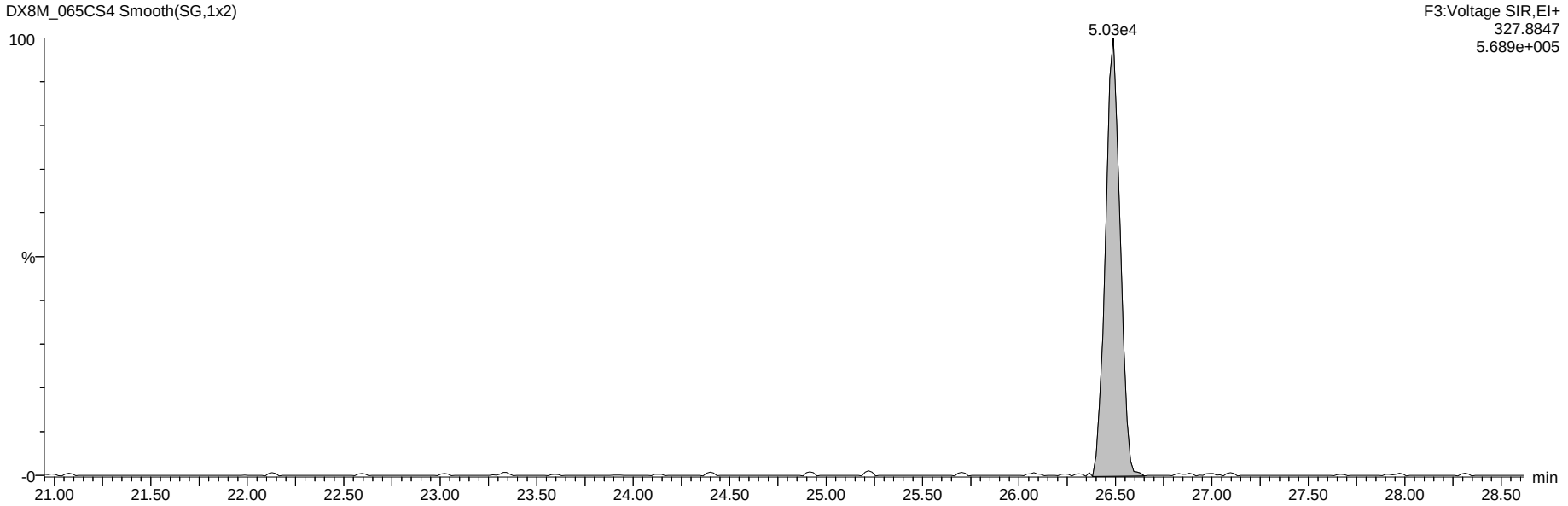
13C-Hepta-Dioxins



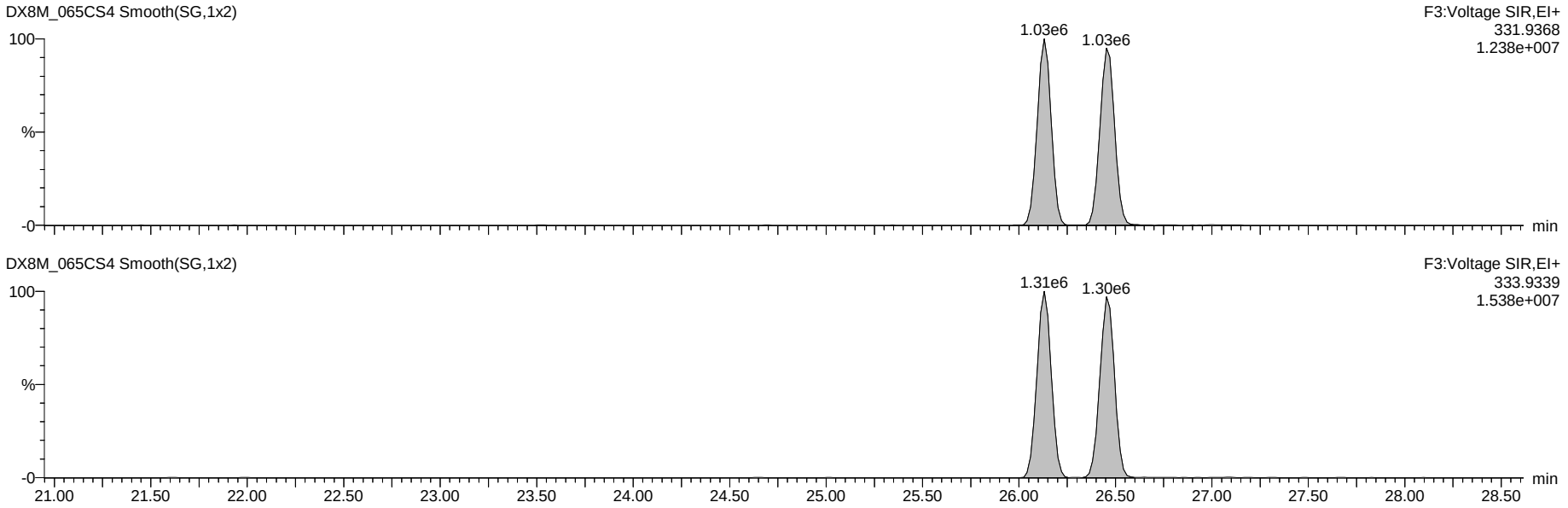
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

37Cl-2,3,7,8-TCDD



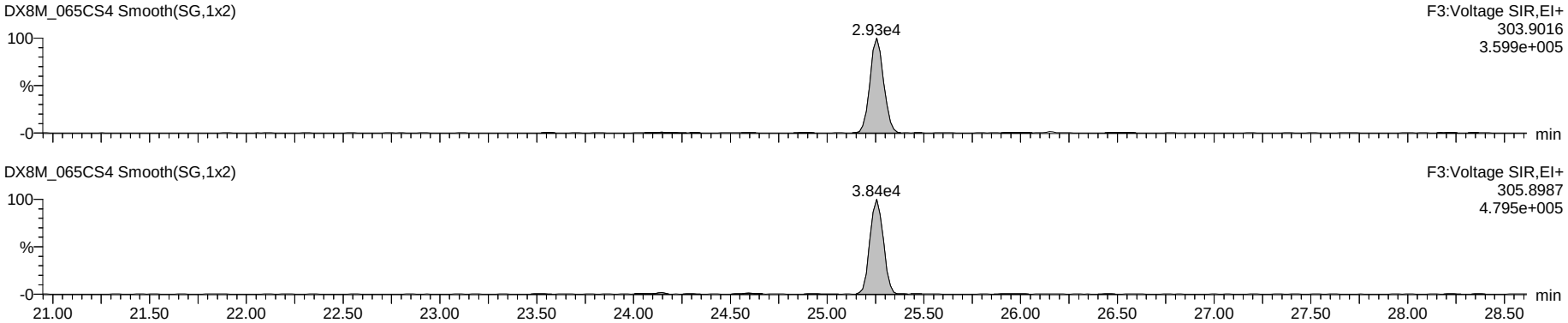
13C-Tetra-Dioxins



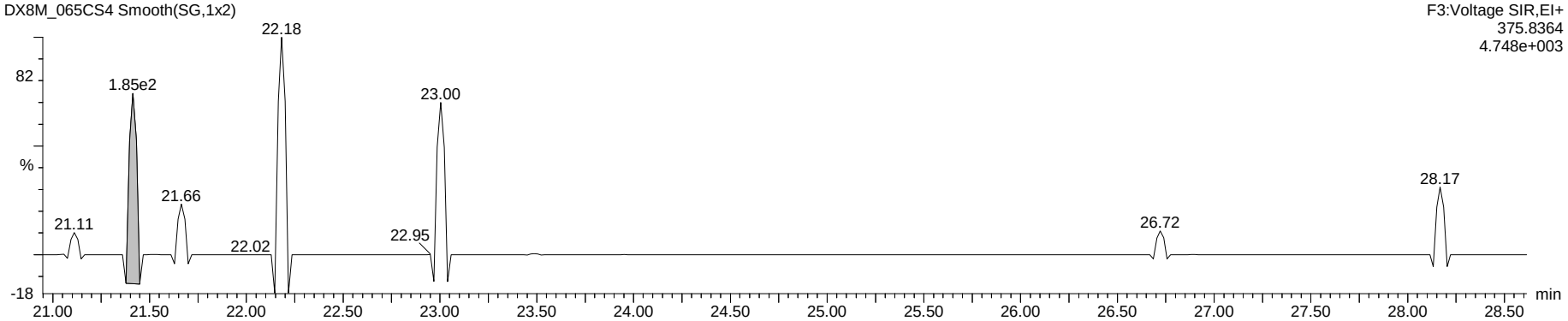
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

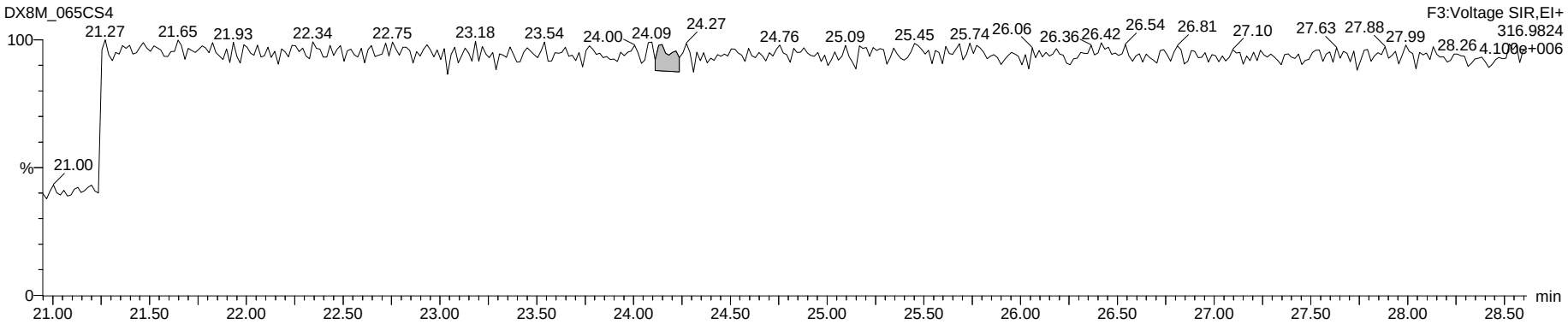
Total Tetra-Furans



Hexa DPE



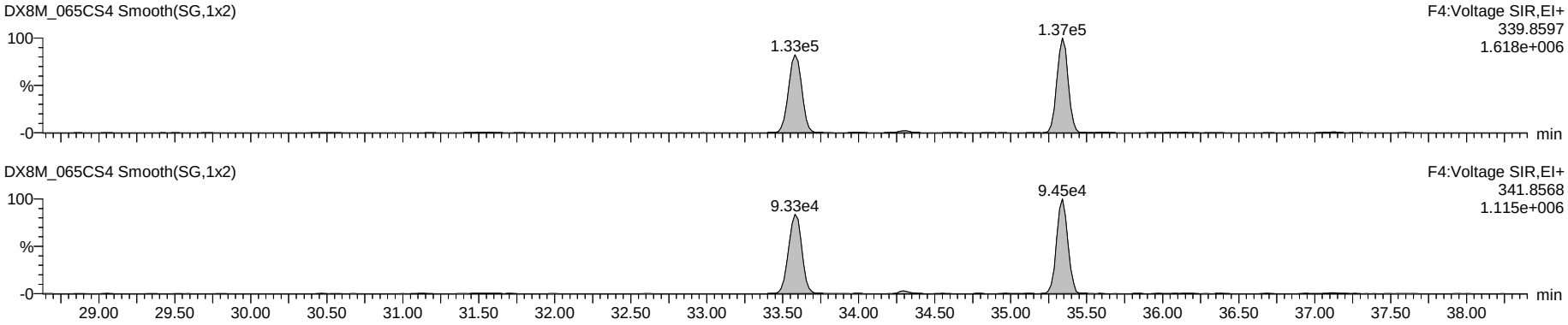
Tetra Lock



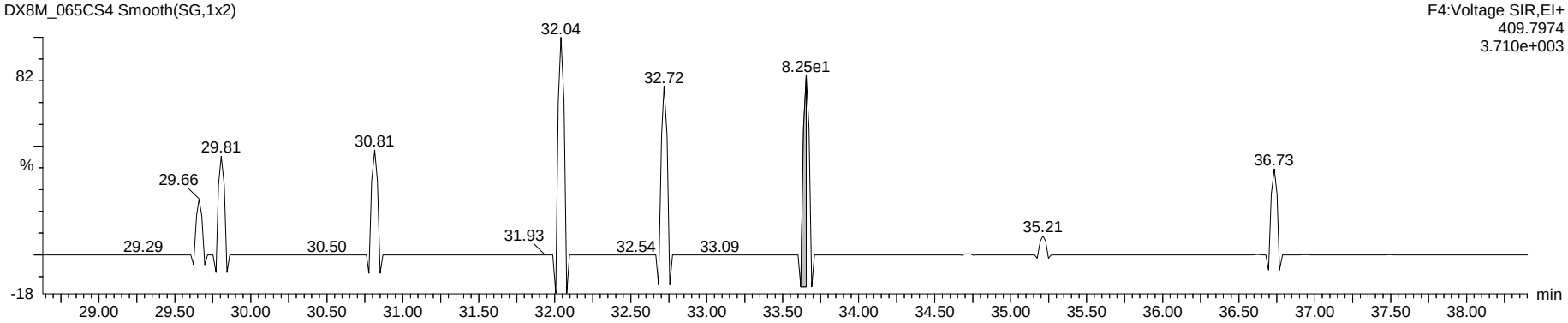
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

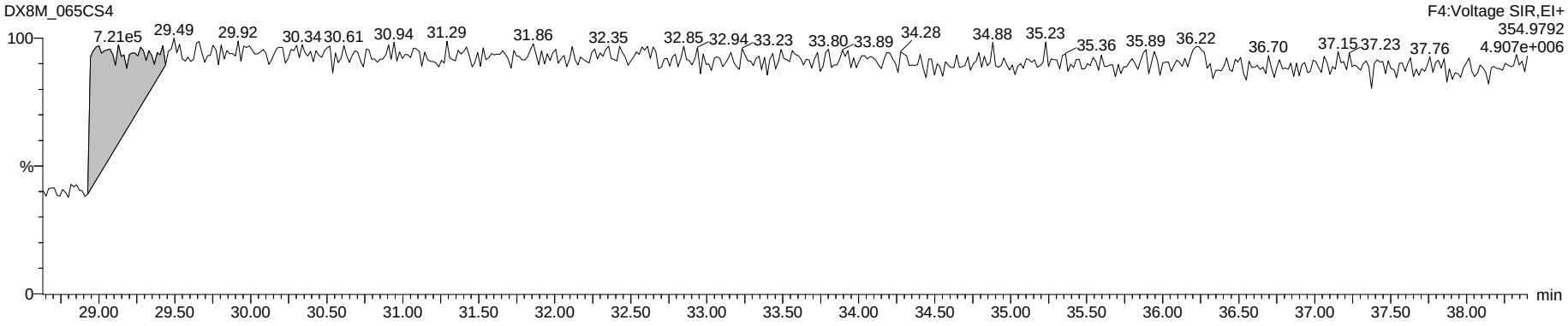
Total Penta-Furans



Hepta DPE



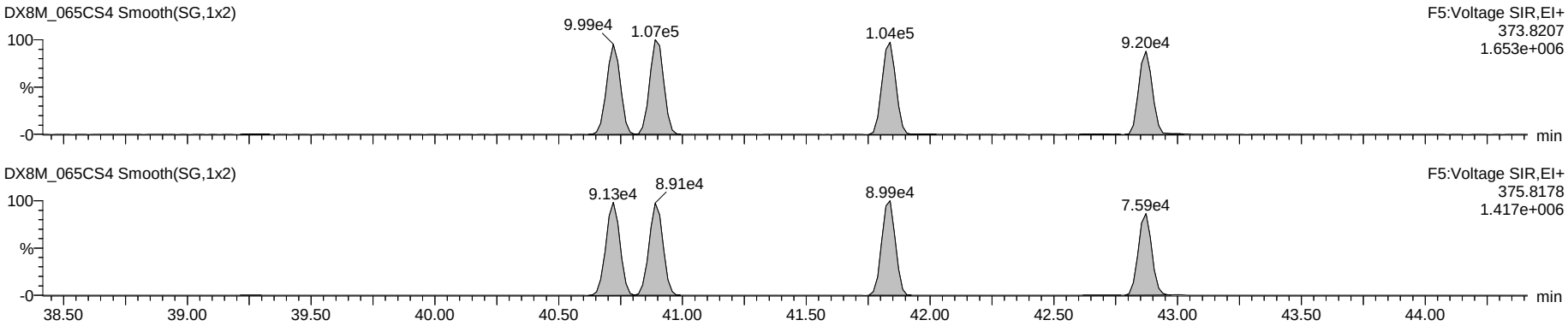
Penta Lock



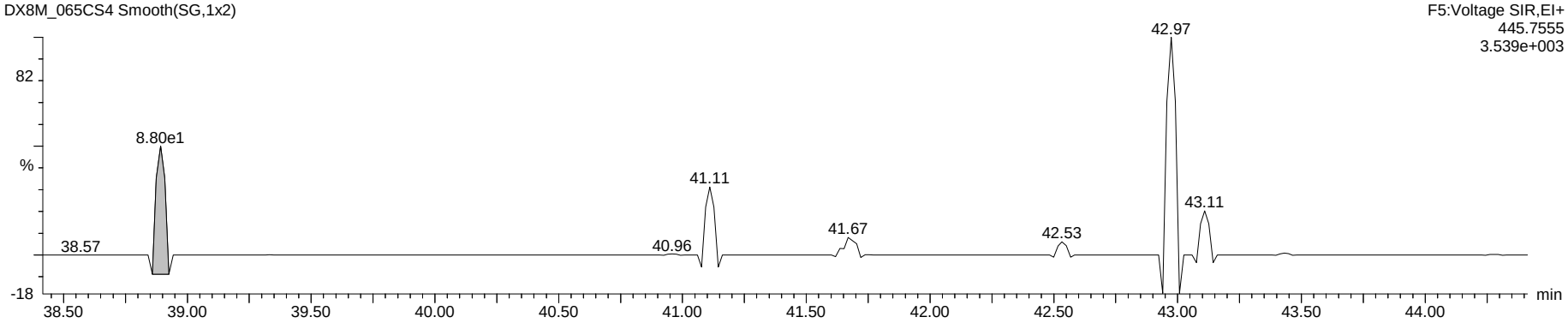
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

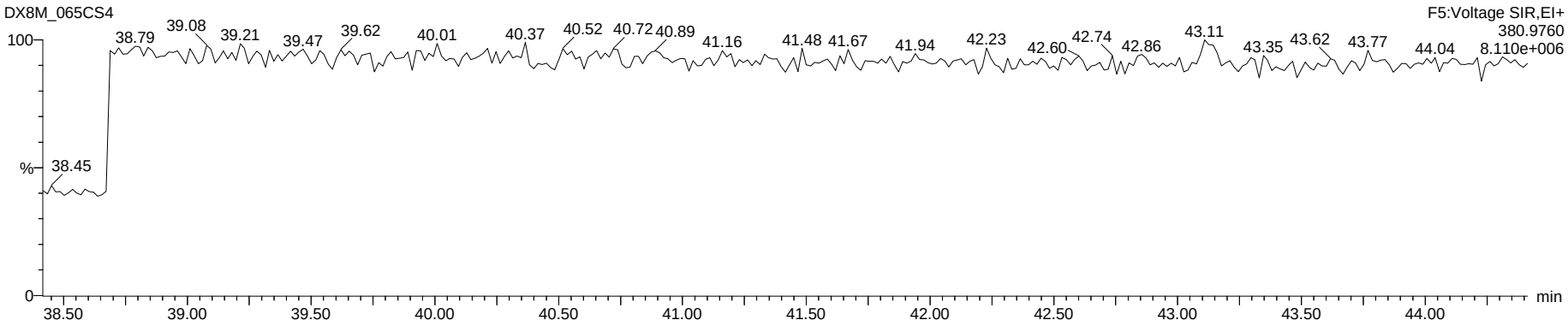
Total Hexa-Furans



Octa DPE



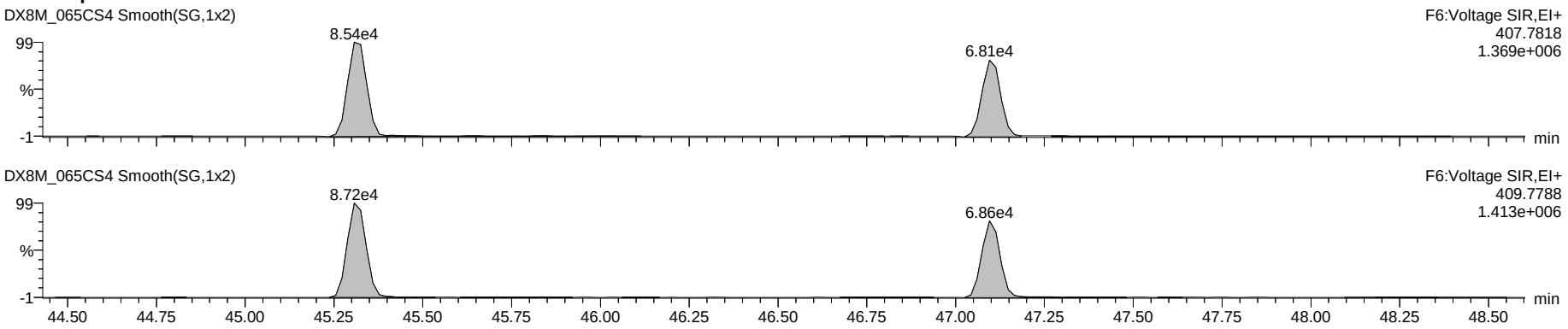
Hexa Lock



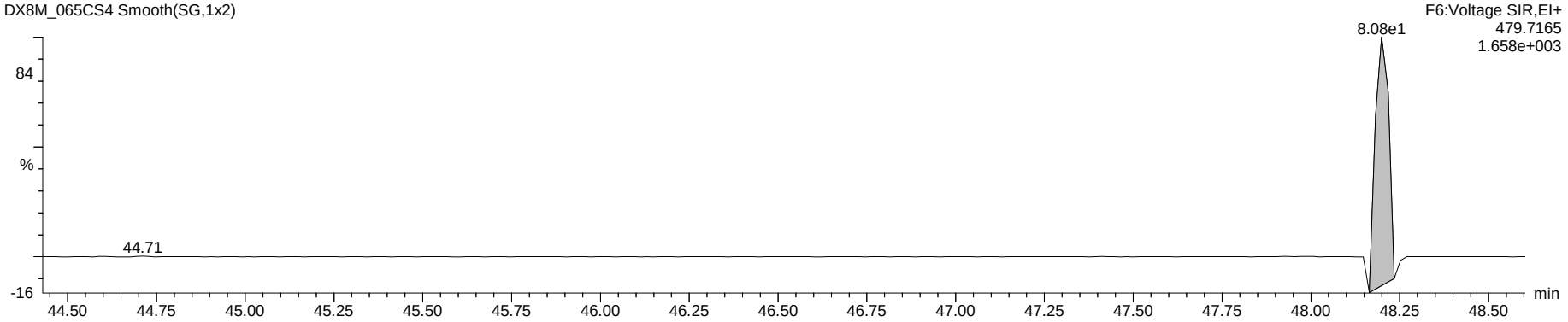
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

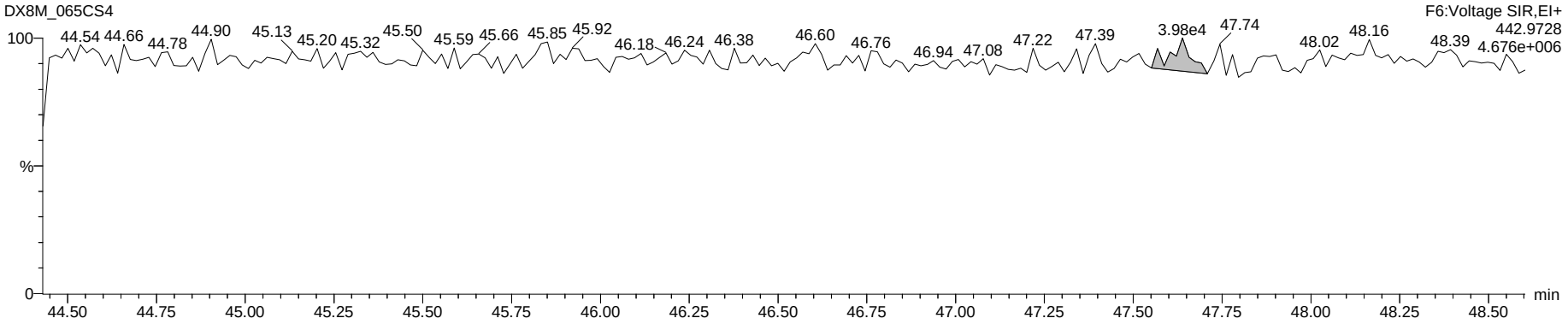
Total Hepta-Furans



Nona DPE



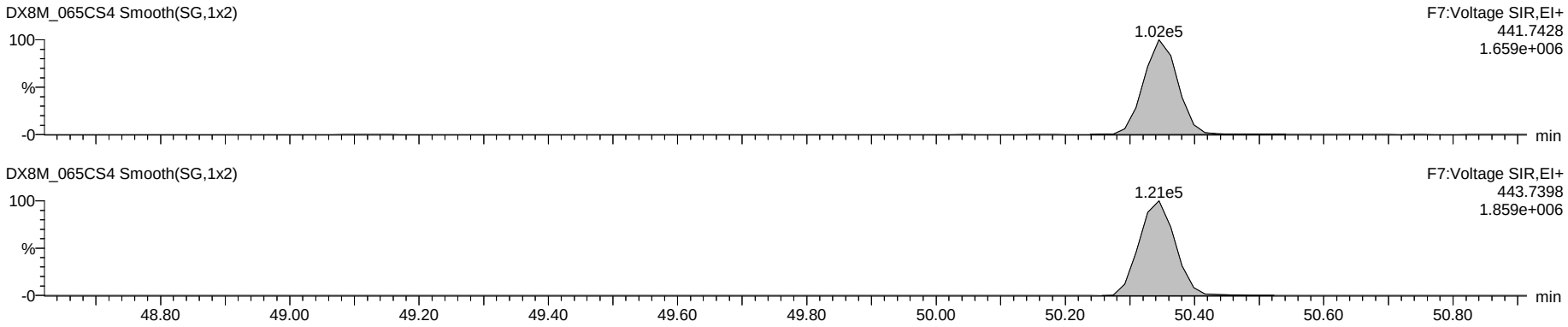
Hepta Lock



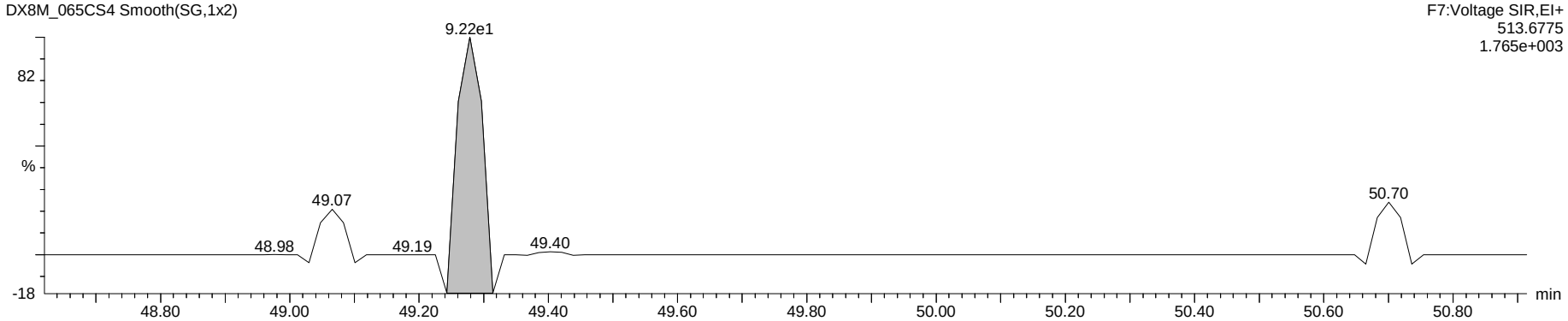
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS4, Date: 04-Jun-2018, Time: 21:21:16, ID: DX041C-CAL,,/01, Description: 1,,1.0uL CS-2

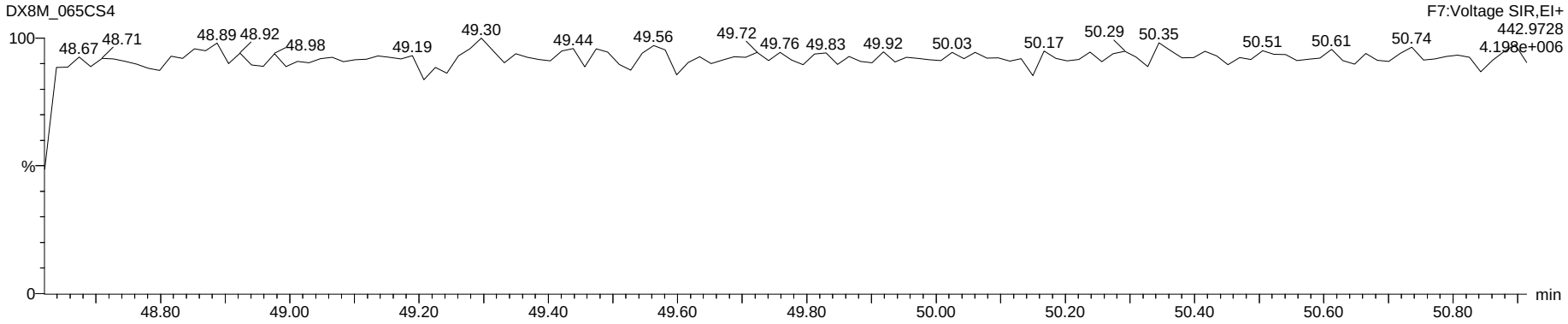
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	10.000	2.99e5	0.71	NO	25.26	0.937	0.9149	0.022	2.43	1572	1216
2	1,2,3,7,8-PeCDF	50.000	1.07e6	1.44	NO	33.58	0.970	0.9236	0.039	4.19	2653	3191
3	2,3,4,7,8-PeCDF	50.000	9.97e5	1.45	NO	35.34	0.938	0.9391	0.013	1.39	2898	3433
4	1,2,3,4,7,8-HxCDF	50.000	8.55e5	1.17	NO	40.72	1.134	1.1161	0.036	3.26	3964	4472
5	1,2,3,6,7,8-HxCDF	50.000	8.59e5	1.17	NO	40.89	1.058	1.0626	0.029	2.74	3919	4381
6	2,3,4,6,7,8-HxCDF	50.000	8.41e5	1.19	NO	41.84	1.188	1.1400	0.036	3.17	4028	4337
7	1,2,3,7,8,9-HxCDF	50.000	7.11e5	1.18	NO	42.87	1.019	0.9992	0.030	2.99	3442	3771
8	1,2,3,4,6,7,8-HpCDF	50.000	7.43e5	1.00	NO	45.31	1.242	1.2235	0.041	3.38	5574	6441
9	1,2,3,4,7,8,9-HpCDF	50.000	5.79e5	1.01	NO	47.10	1.277	1.2522	0.017	1.37	4508	5208
10	OCDF	100.000	1.01e6	0.86	NO	50.35	1.250	1.2272	0.084	6.84	20155	6070
11	2,3,7,8-TCDD	10.000	2.16e5	0.79	NO	26.49	1.088	1.1119	0.079	7.15	1536	883
12	1,2,3,7,8-PeCDD	50.000	6.46e5	0.64	NO	36.17	1.043	1.0267	0.055	5.33	2852	2931
13	1,2,3,4,7,8-HxCDD	50.000	5.96e5	1.22	NO	42.11	1.040	1.0036	0.036	3.60	3776	5462
14	1,2,3,6,7,8-HxCDD	50.000	5.99e5	1.27	NO	42.25	0.967	0.9343	0.029	3.09	3722	5229
15	1,2,3,7,8,9-HxCDD	50.000	5.92e5	1.24	NO	42.67	0.993	0.9712	0.032	3.34	3727	5291
16	1,2,3,4,6,7,8-HpCDD	50.000	4.71e5	1.03	NO	46.69	0.990	0.9956	0.020	2.04	4343	3330
17	OCDD	100.000	8.43e5	0.87	NO	50.26	1.039	1.0186	0.028	2.76	7460	5410
18	13C-2,3,7,8-TCDF	100.000	3.19e6	0.77	NO	25.24	1.597	1.6147	0.046	2.83	2887	3610
19	13C-1,2,3,7,8-PeCDF	100.000	2.21e6	1.51	NO	33.56	1.108	1.1640	0.091	7.84	7365	2813
20	13C-2,3,4,7,8-PeCDF	100.000	2.13e6	1.56	NO	35.32	1.066	1.1228	0.100	8.87	8475	2953
21	13C-1,2,3,4,7,8-HxCDF	100.000	1.51e6	0.52	NO	40.70	1.252	1.2764	0.037	2.93	1628	3685
22	13C-1,2,3,6,7,8-HxCDF	100.000	1.62e6	0.52	NO	40.87	1.348	1.3633	0.031	2.30	1781	4080
23	13C-2,3,4,6,7,8-HxCDF	100.000	1.42e6	0.53	NO	41.81	1.175	1.2182	0.036	2.95	1605	3550
24	13C-1,2,3,7,8,9-HxCDF	100.000	1.40e6	0.52	NO	42.86	1.158	1.2015	0.043	3.61	1580	3567
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.20e6	0.45	NO	45.29	0.992	1.0186	0.040	3.89	3194	4492
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	9.07e5	0.46	NO	47.08	0.753	0.7945	0.043	5.44	2548	3527
27	13C-2,3,7,8-TCDD	100.000	1.99e6	0.77	NO	26.45	0.997	1.0042	0.038	3.74	2161	508947
28	13C-1,2,3,7,8-PeCDD	100.000	1.24e6	0.65	NO	36.13	0.621	0.6582	0.053	8.04	4482	3014
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.15e6	1.24	NO	42.09	0.952	0.9841	0.037	3.74	2194	6072
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.24e6	1.22	NO	42.23	1.029	1.0407	0.026	2.53	2307	6533
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	9.51e5	1.01	NO	46.67	0.790	0.8135	0.035	4.34	2273	3295
32	13C-OCDD	200.000	1.62e6	0.90	NO	50.24	0.674	0.7155	0.075	10.43	7051	5385
33	13C-1,2,3,4-TCDD	100.000	1.99e6	0.78	NO	26.13	199...	22602.6799	1977.986	8.75	2244	521455
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.20e6	1.28	NO	42.65	120...	14280.3905	2145.257	15.02	2293	6230
35	37Cl-2,3,7,8-TCDD	10.000	2.14e5			26.49	1.071	1.1134	0.079	7.11	1666	
36	Total Tetra-Furans	10.000						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	10.000						1.1119	0.079	7.15		
38	Total Penta-Furans	50.000						0.9236	0.039	4.19		
39	Total Penta-Dioxins	50.000						1.0267	0.055	5.33		
40	Total Hexa-Furans	50.000						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	50.000						1.0036	0.036	3.60		
42	Total Hepta-Furans	50.000						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	50.000						0.9956	0.020	2.04		
44	Hexa DPE	0.000	1.23e2			21.93	0.000				2713	
45	Hepta DPE	0.000	6.37e2			37.59	0.000				24541	
46	Octa DPE	0.000	4.70e1			39.16	0.000				2483	
47	Nona DPE	0.000	1.42e2			47.06	0.000				9944	
48	Deca DPE	0.000	1.32e2			50.61	0.000				3805	
49	Tetra Lock	0.000	2.66e4			23.99	0.000				1	
50	Penta Lock	0.000	6.13e5			29.22	0.000				2	
51	Hexa Lock	0.000										
52	Hepta Lock	0.000										
53	Octa Lock	0.000	4.60e4			48.89	0.000				1	
54	13C-Tetra-Furans	100.000						1.6147	0.046	2.83		
55	13C-Tetra-Dioxins	100.000						1.0042	0.038	3.74		

PV LHE 06-JUNE-2018

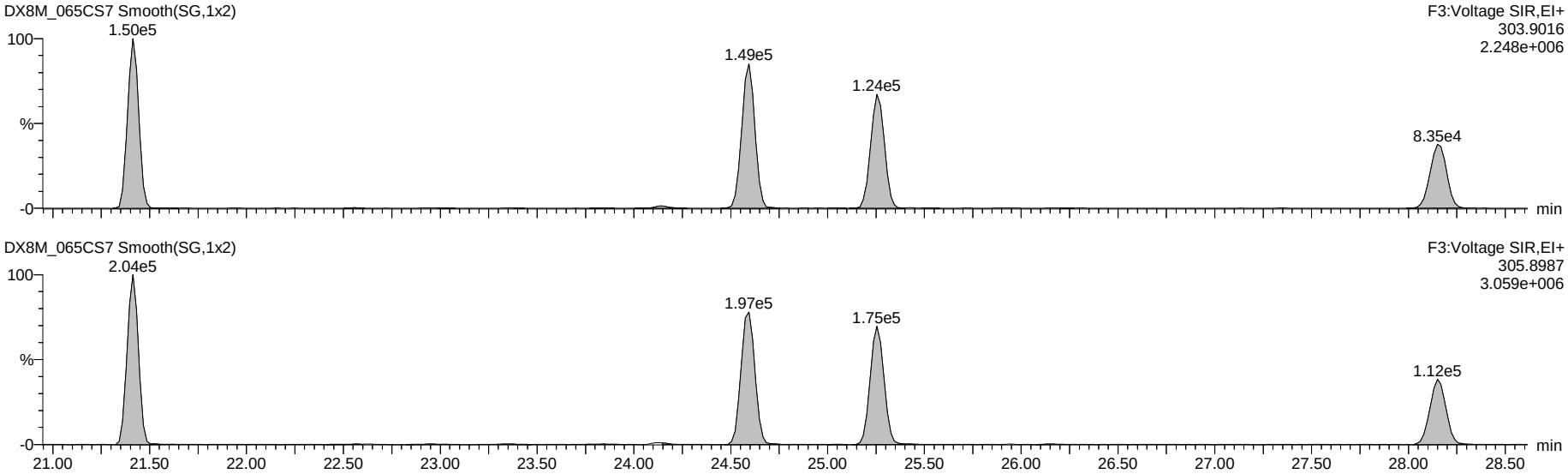
Sukyk3 06 Jun 2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

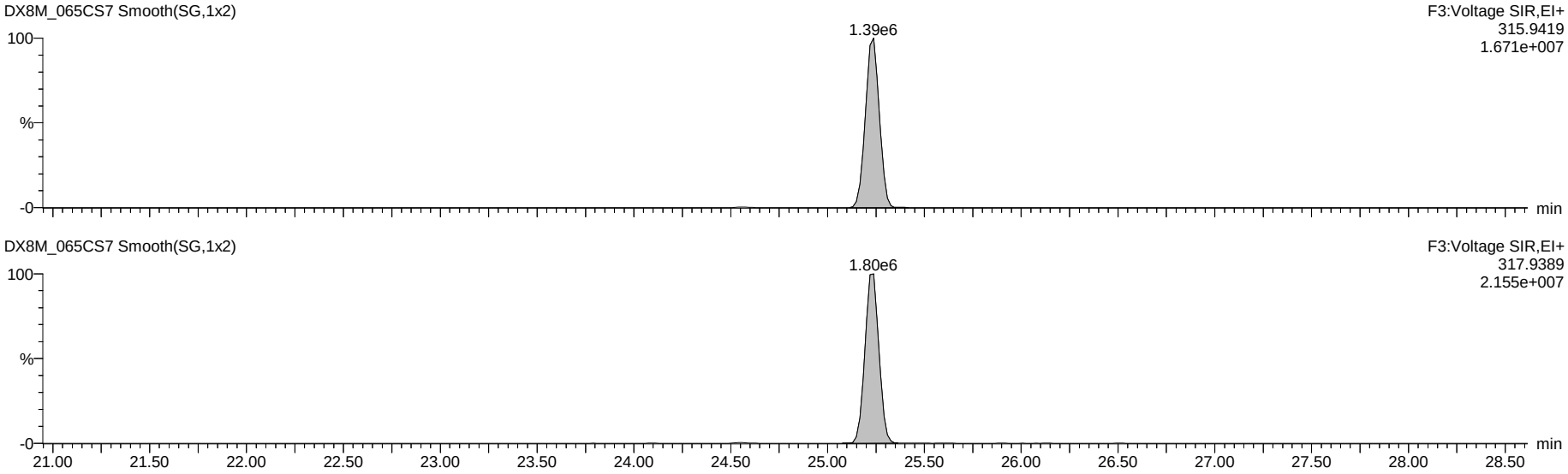
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



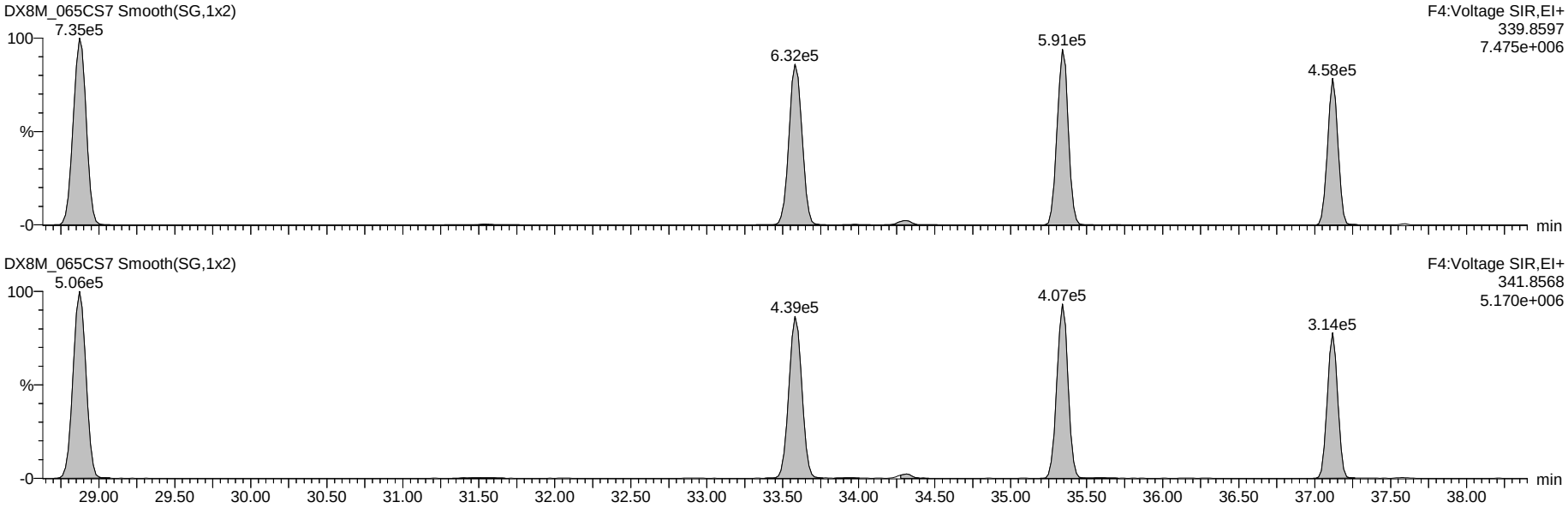
13C-Tetra-Furans



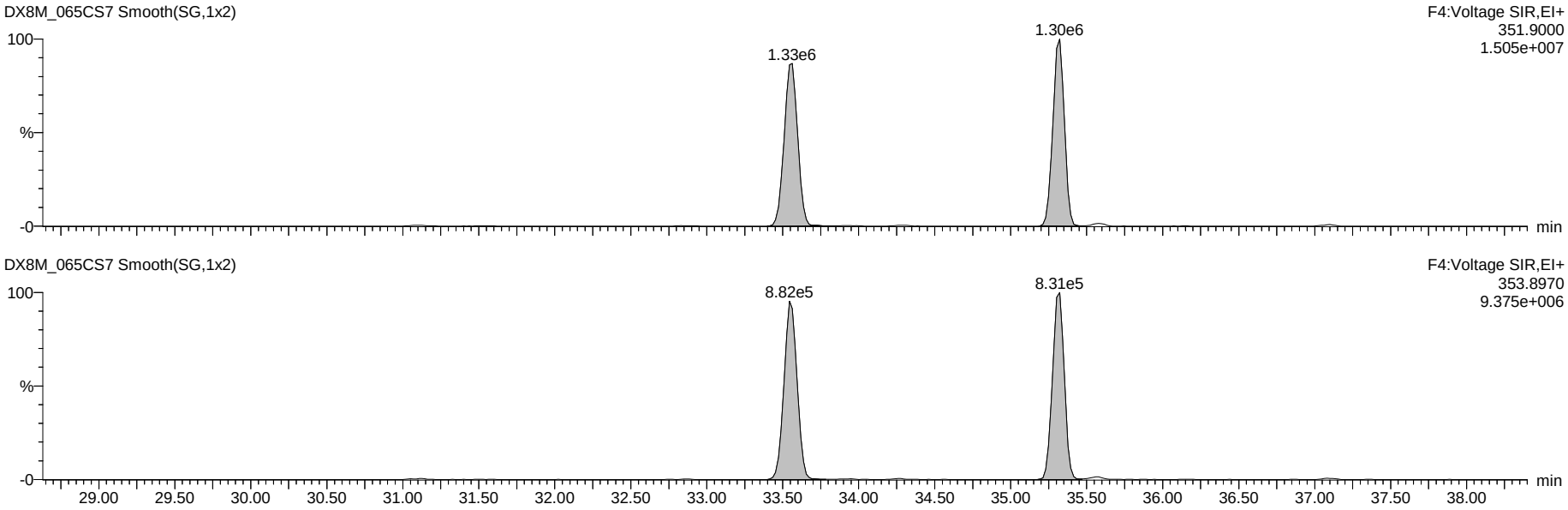
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



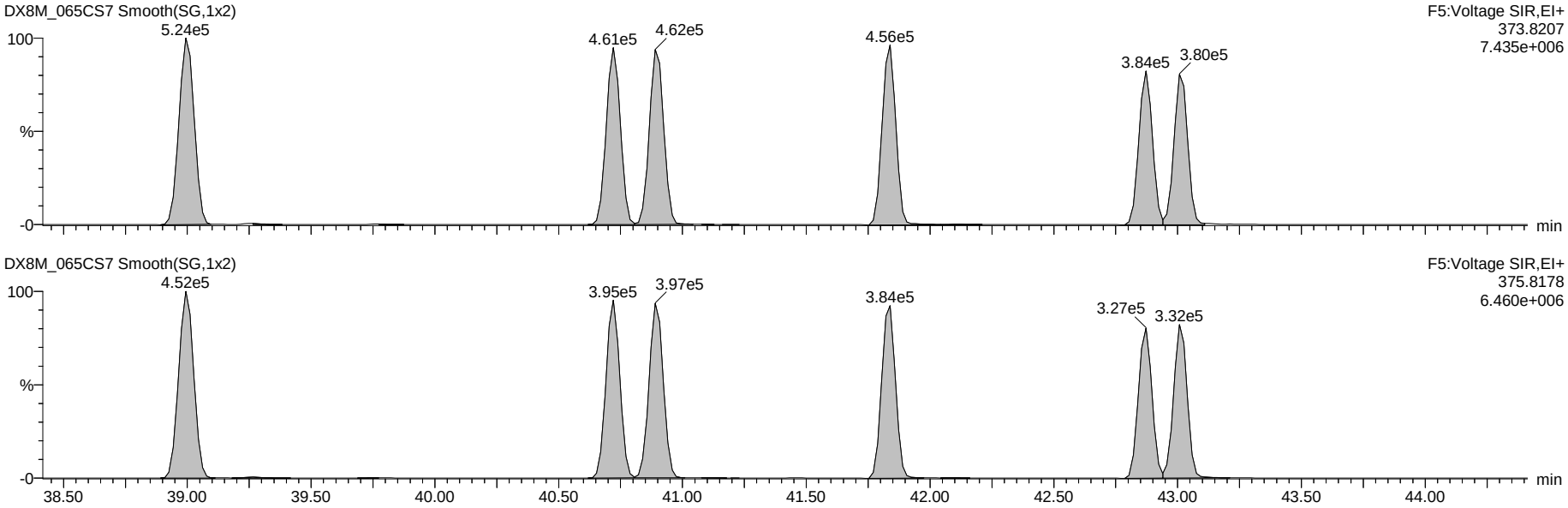
13C-Penta-Furans



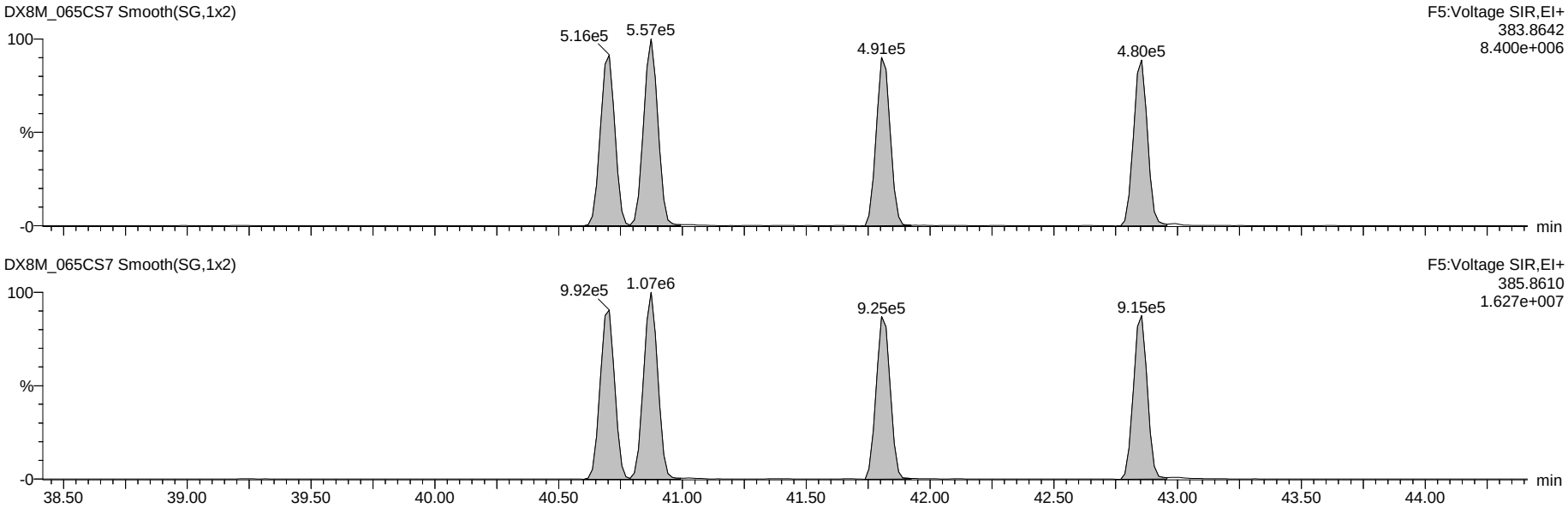
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



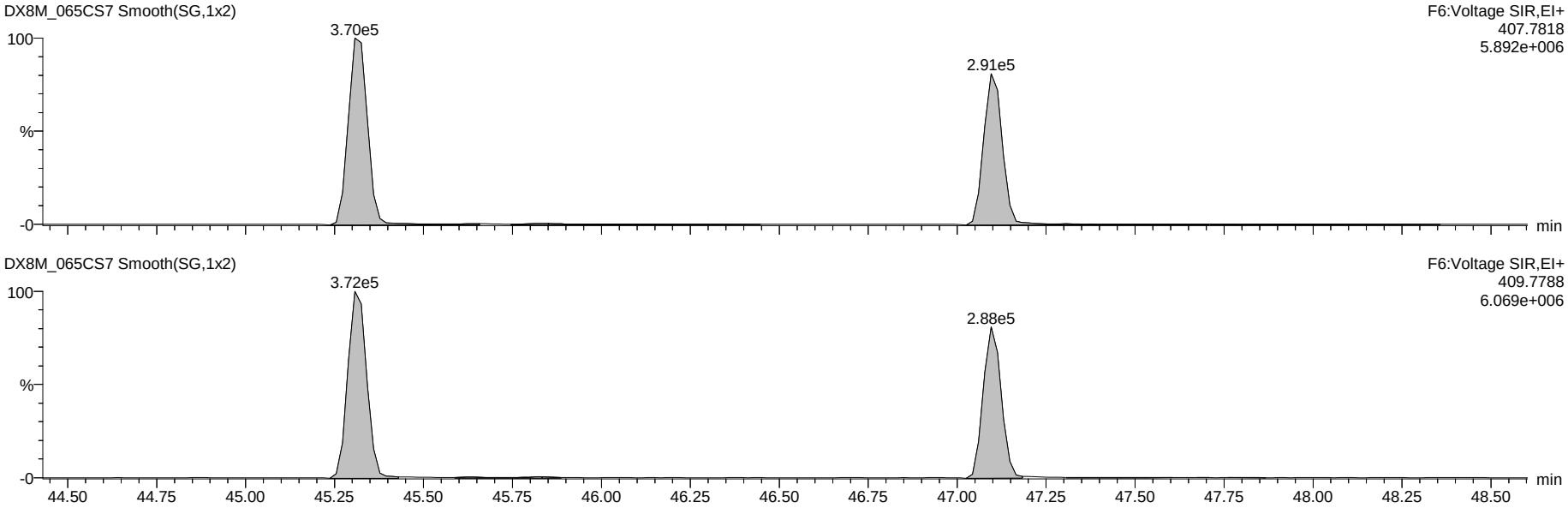
13C-Hexa-Furans



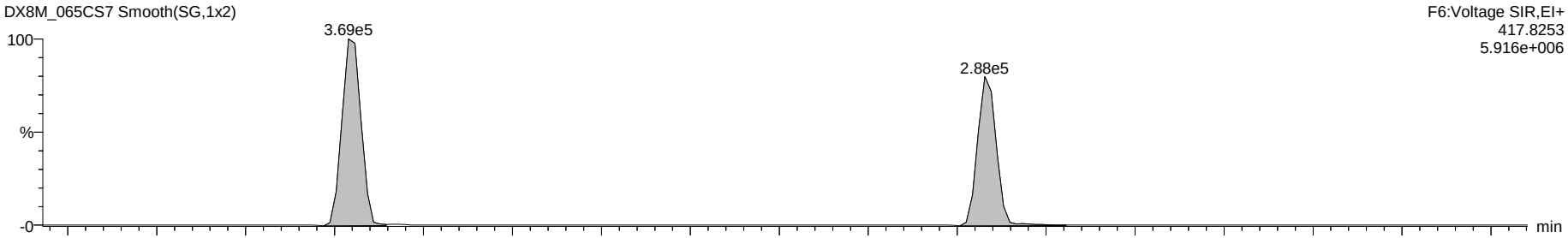
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

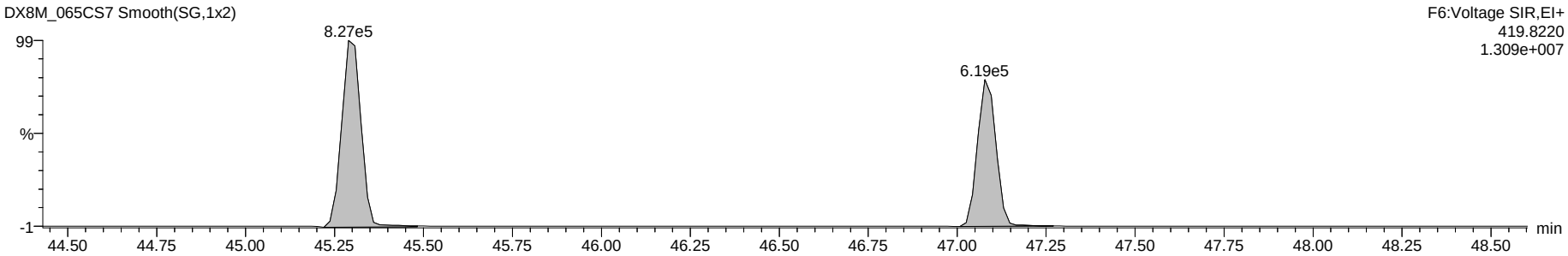
Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



13C-Hepta-Furans

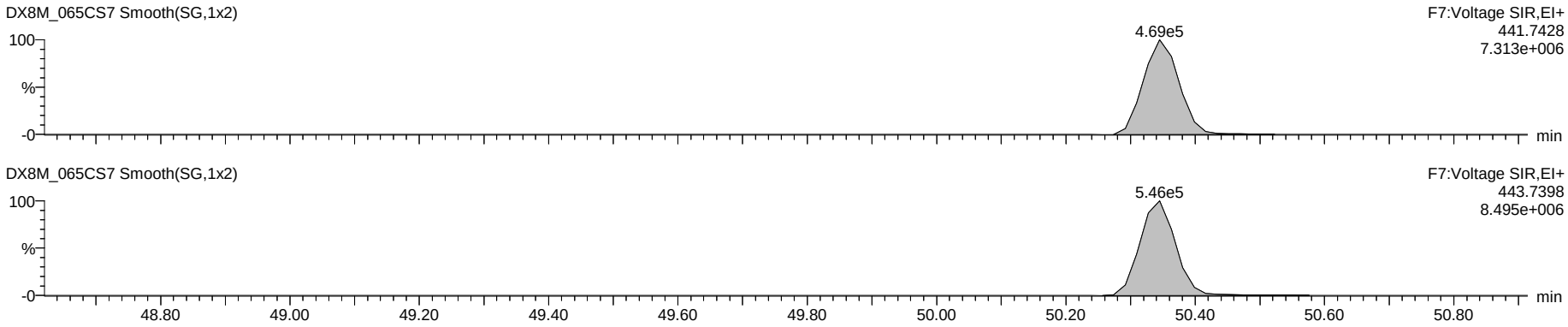




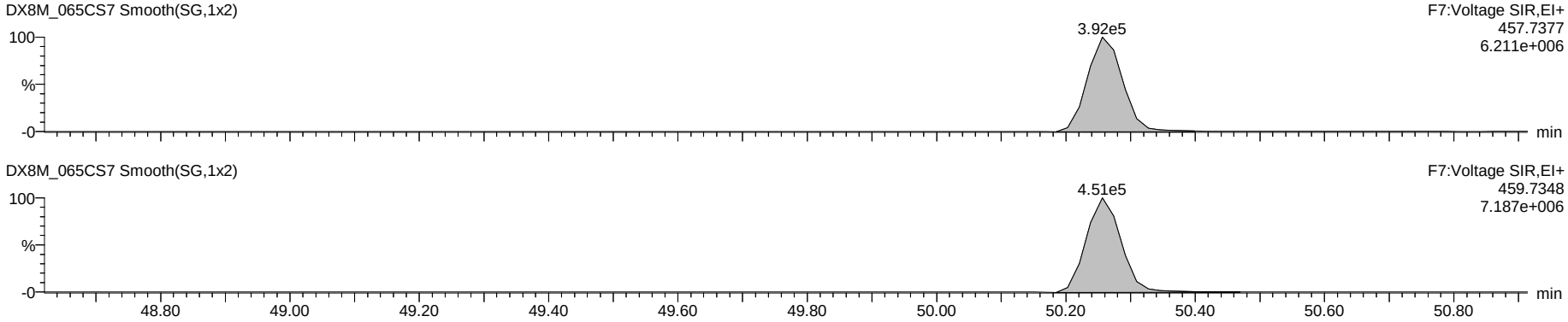
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

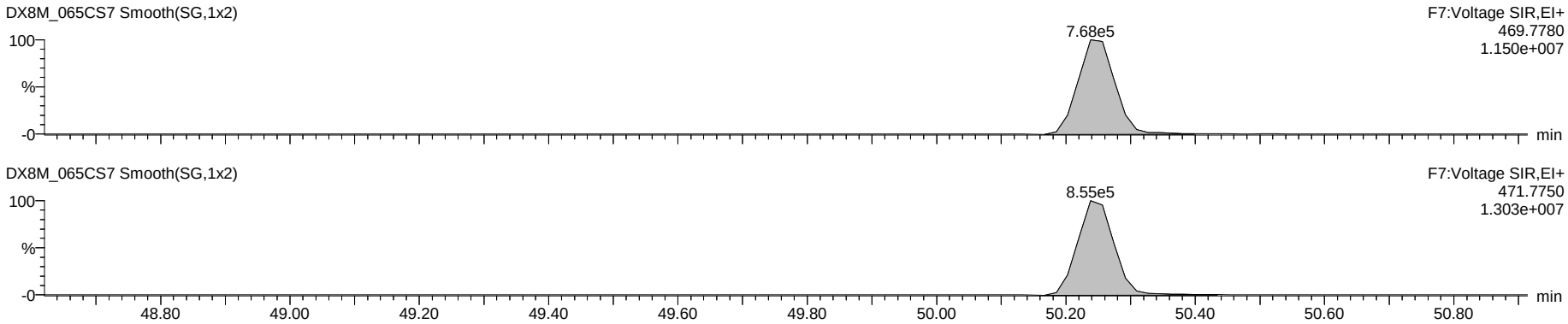
OCDF



OCDD



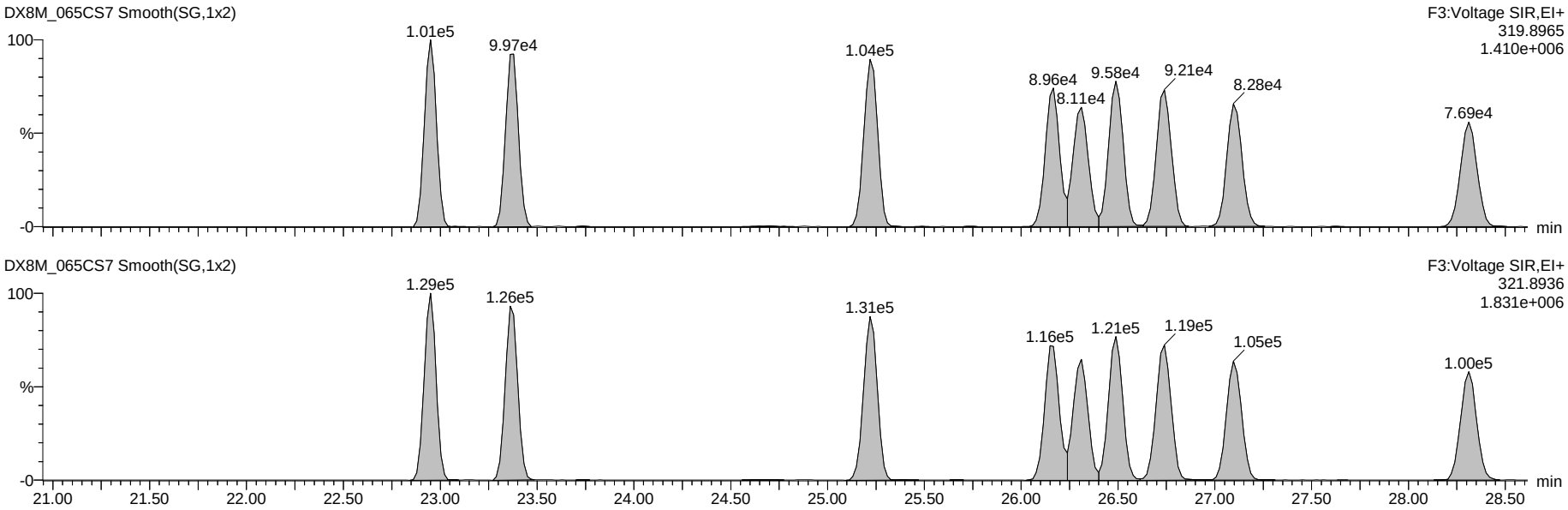
13C-OCDD



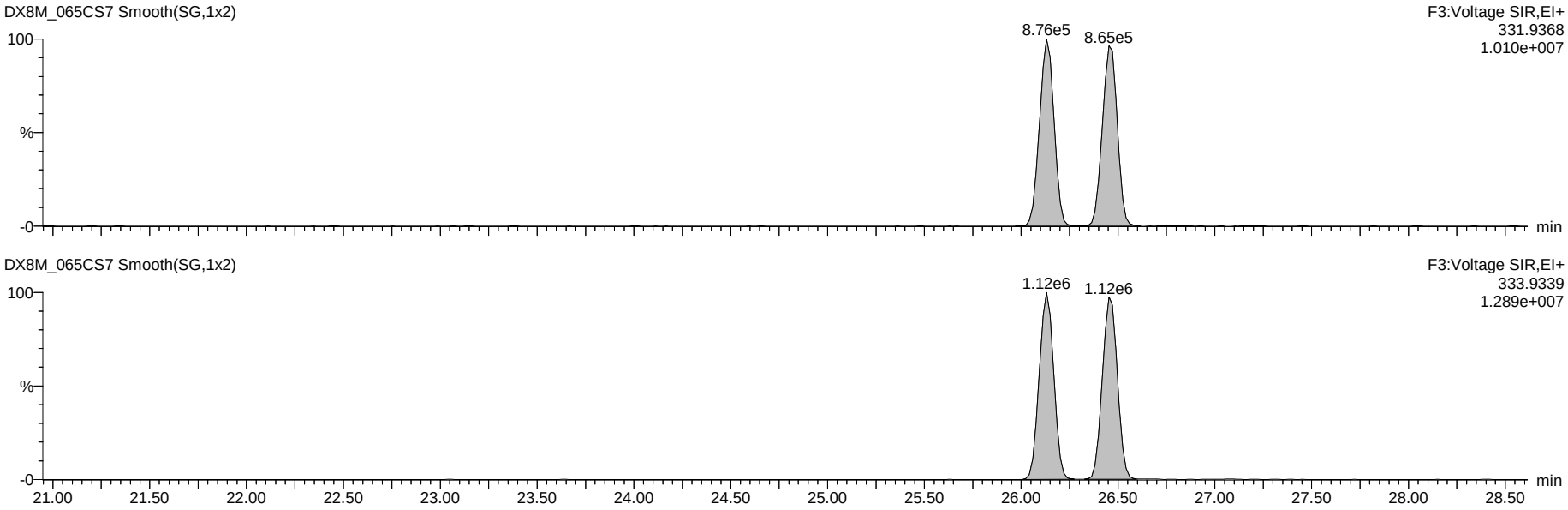
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



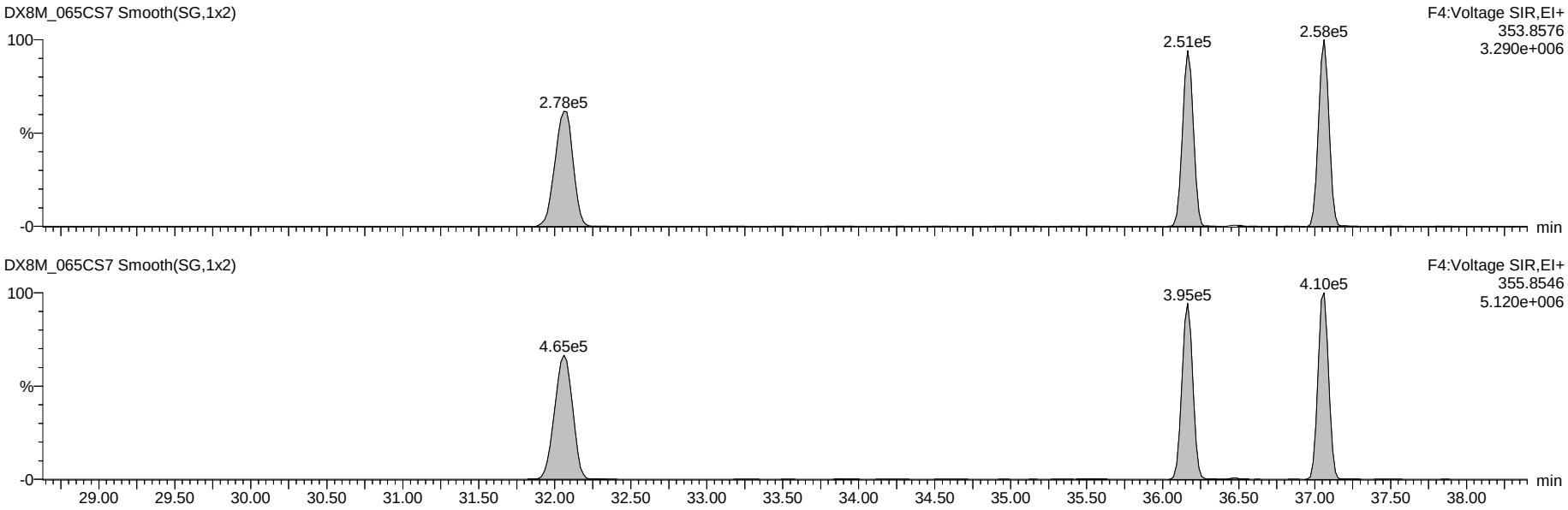
13C-Tetra-Dioxins



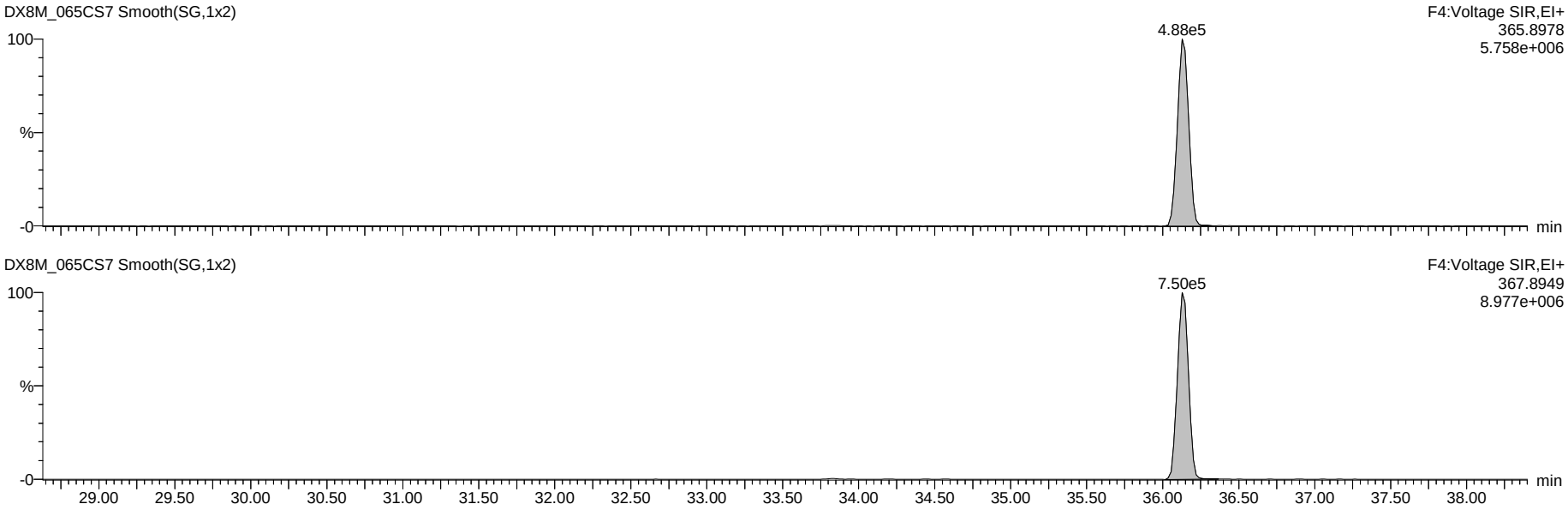
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



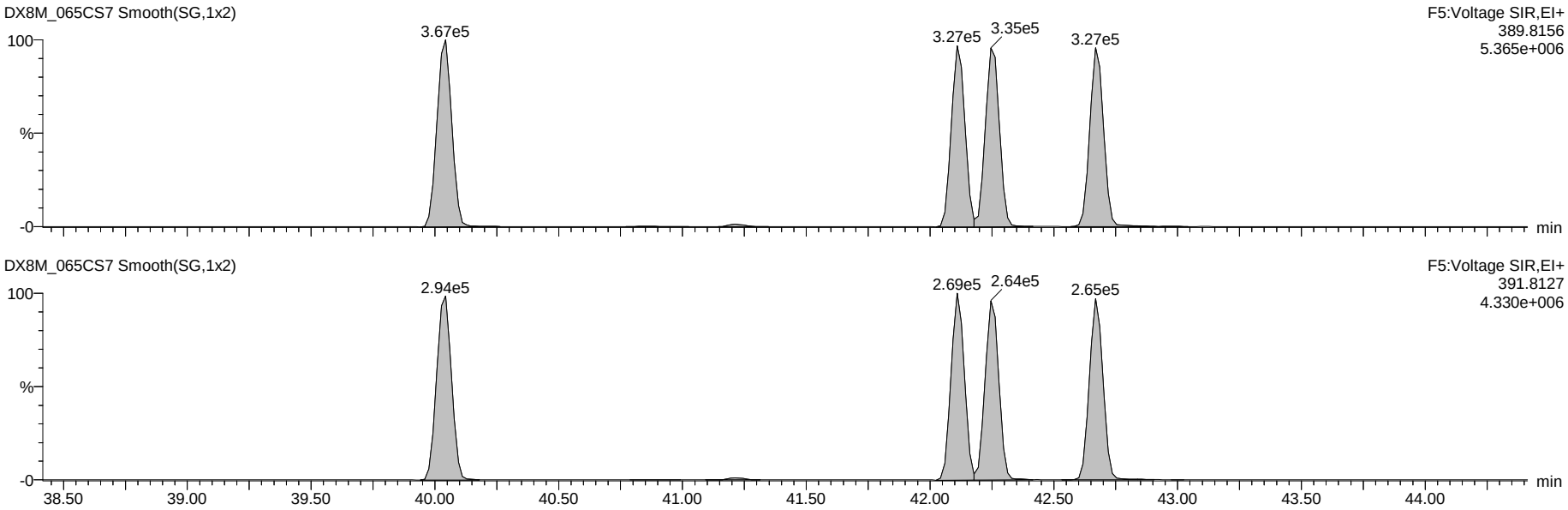
13C-Penta-Dioxins



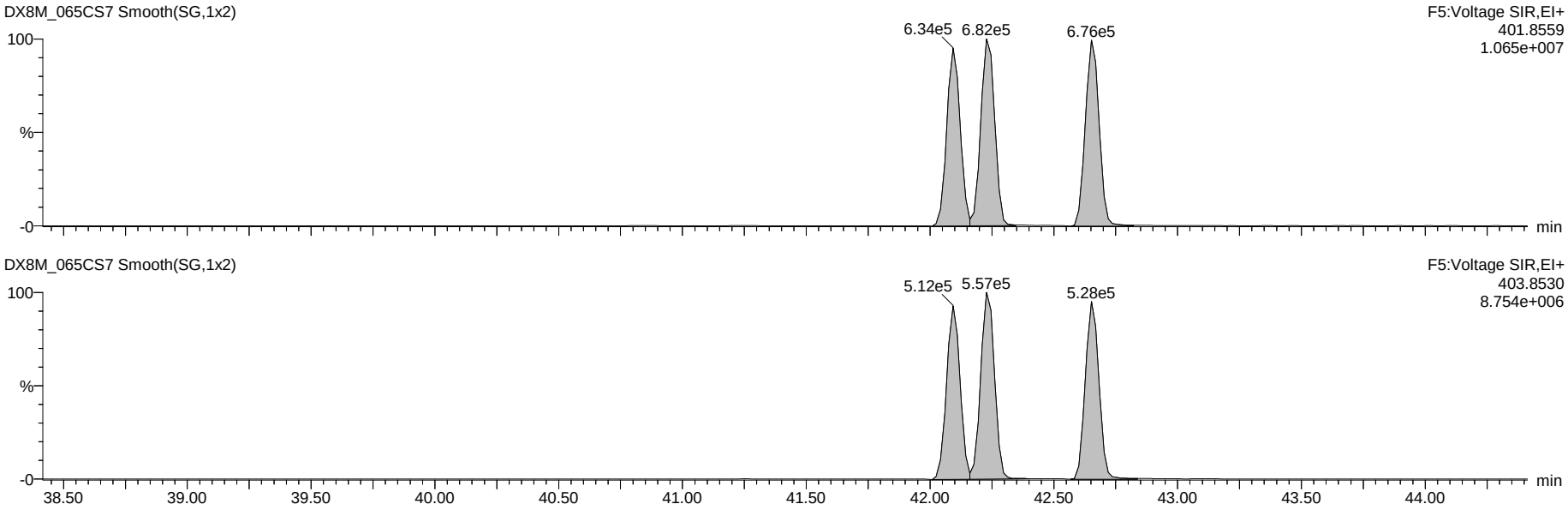
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



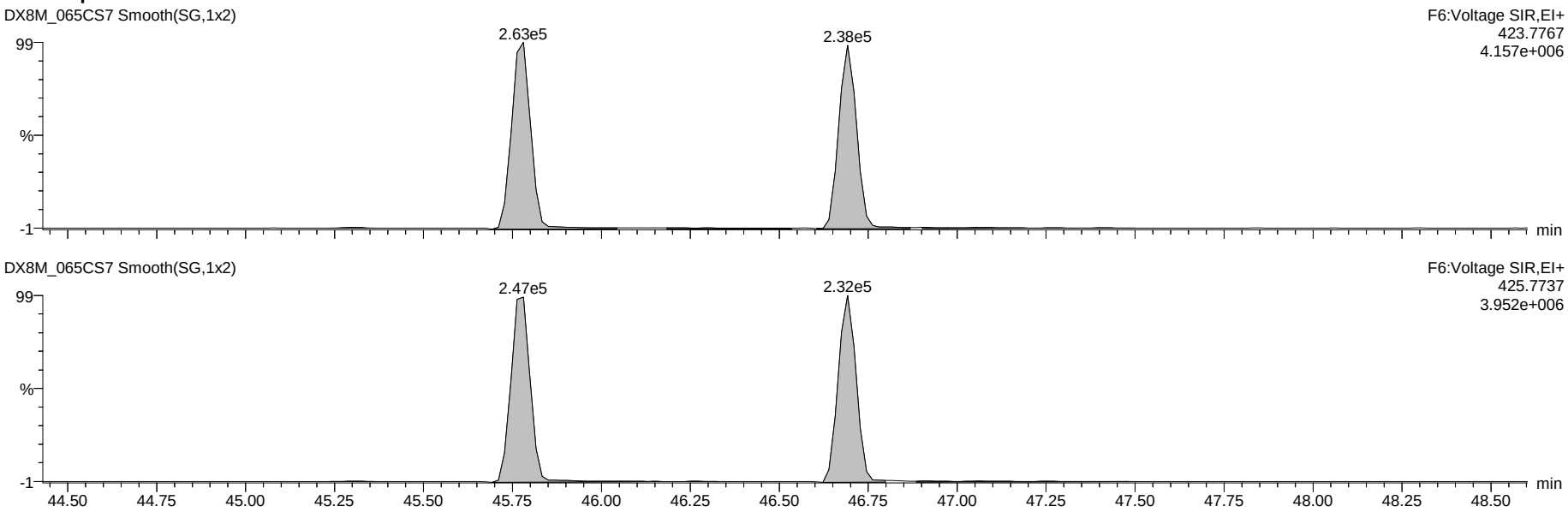
13C-Hexa-Dioxins



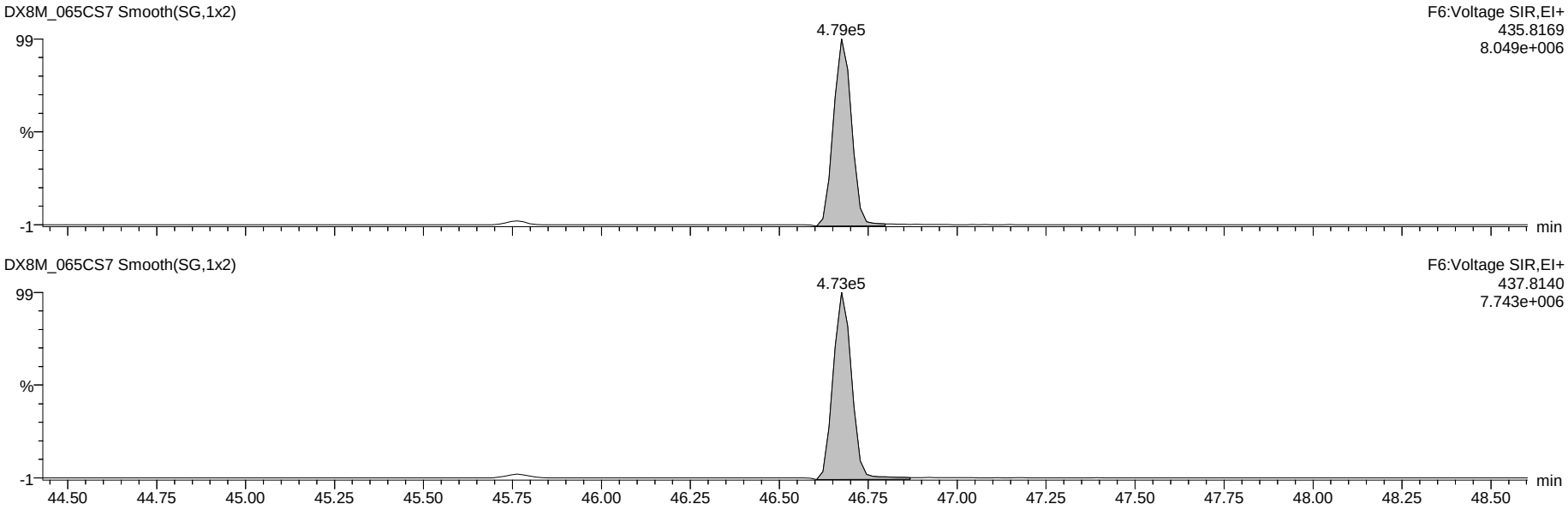
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



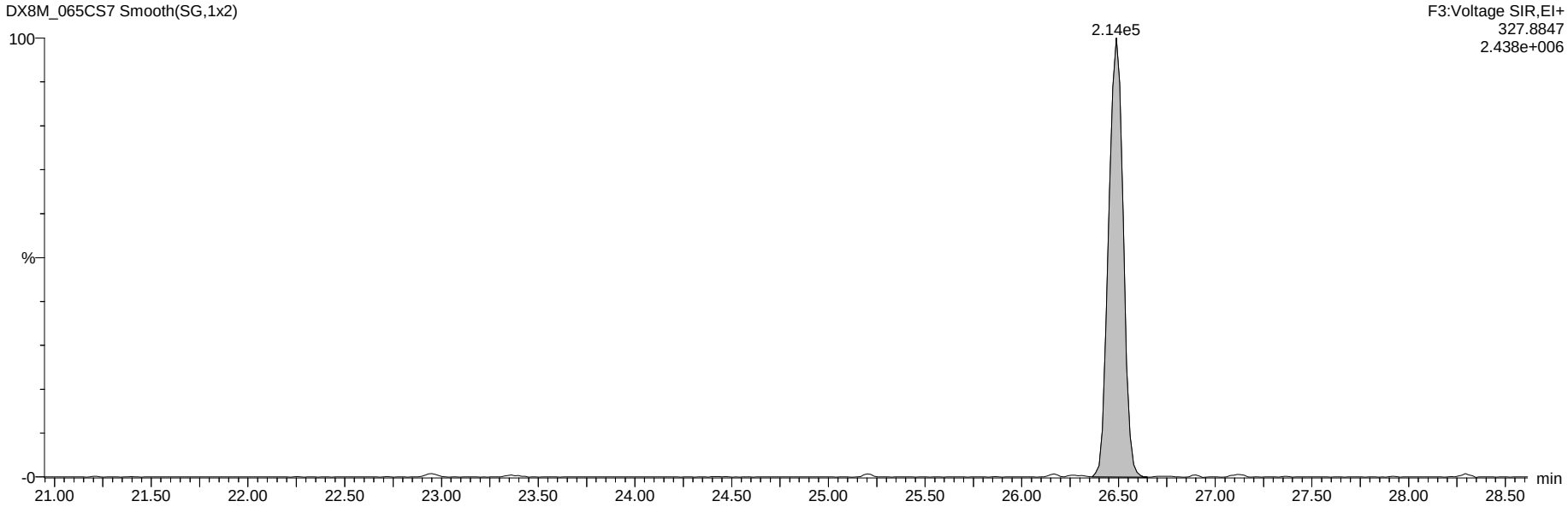
13C-Hepta-Dioxins



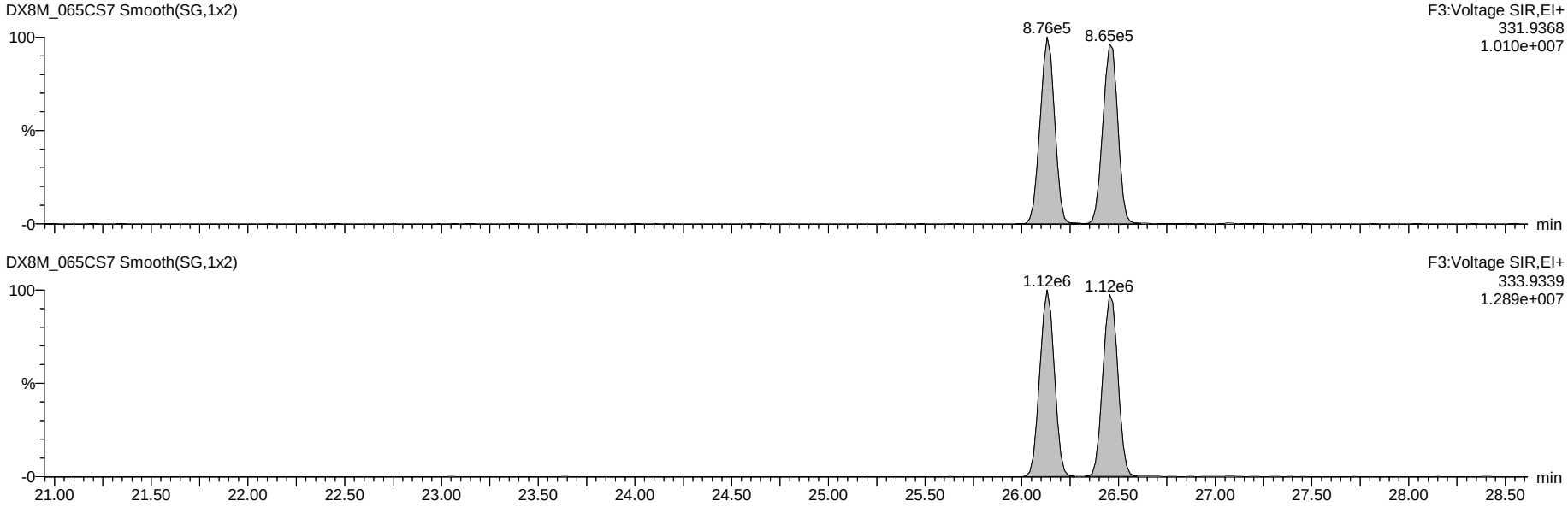
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



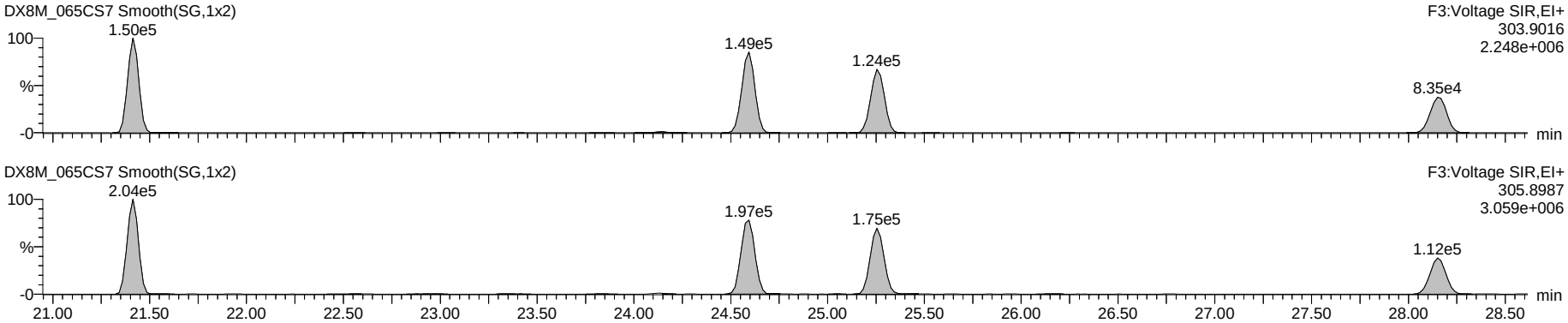
13C-Tetra-Dioxins



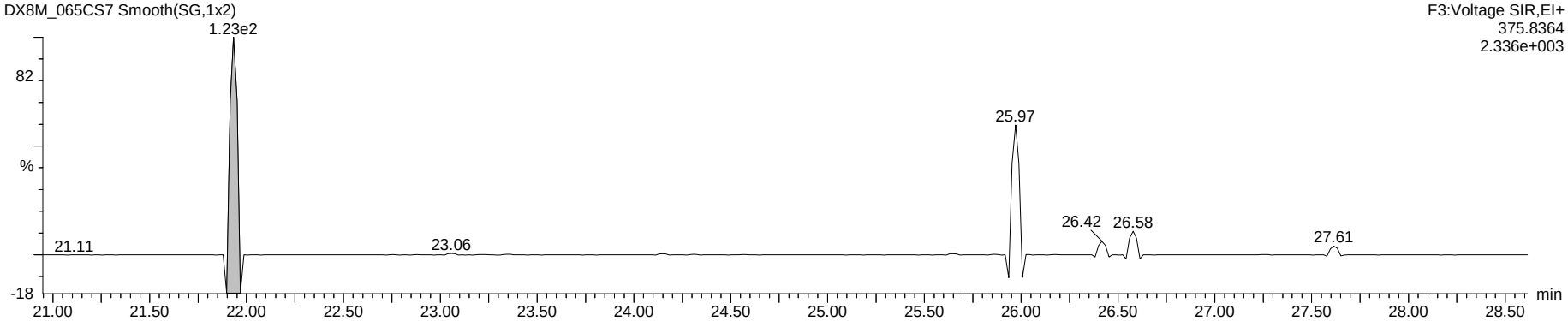
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

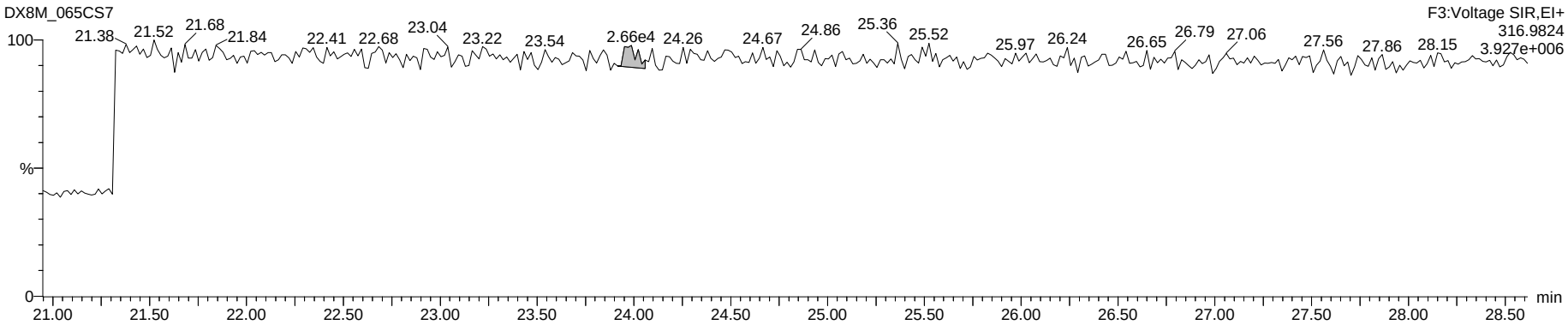
Total Tetra-Furans



Hexa DPE



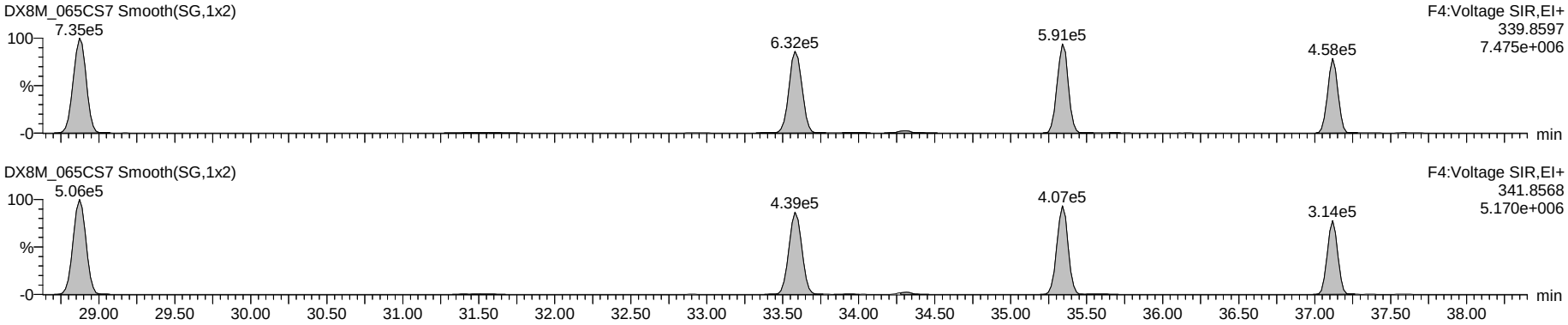
Tetra Lock



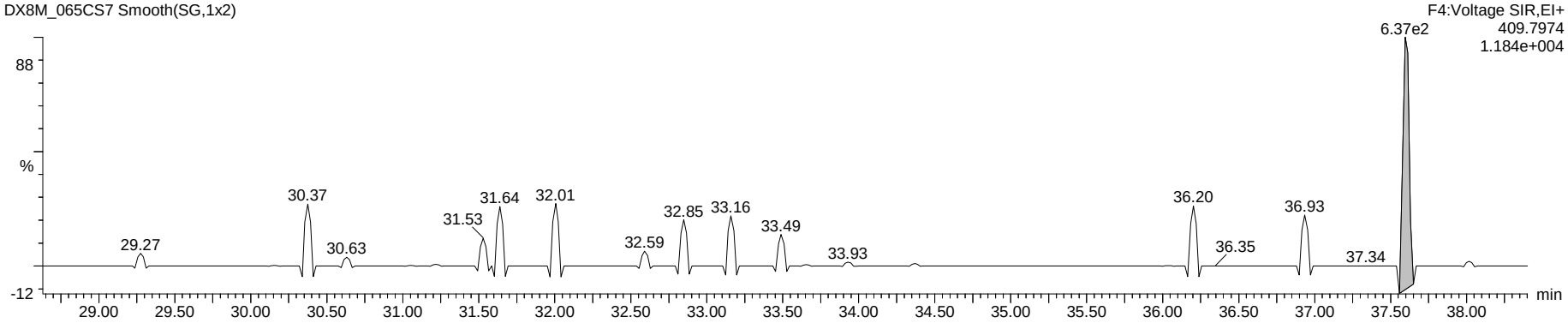
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

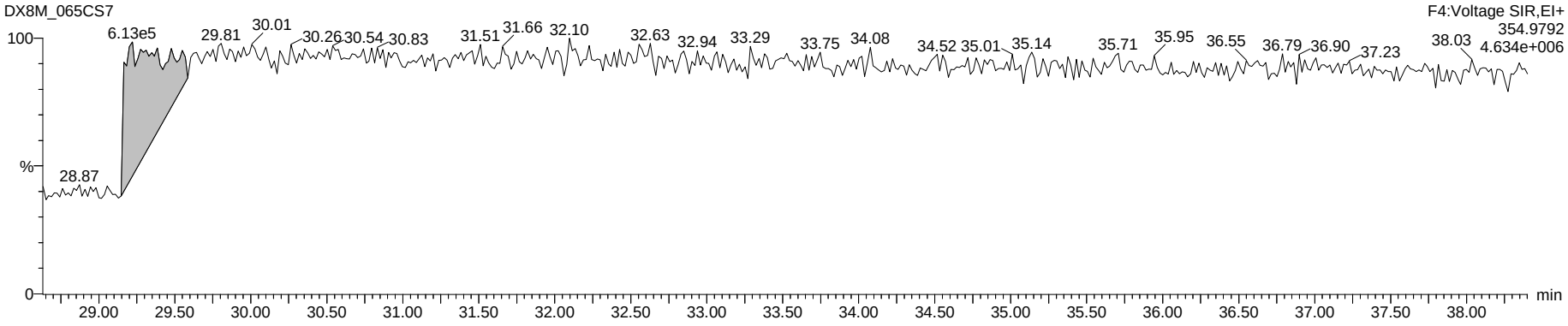
Total Penta-Furans



Hepta DPE



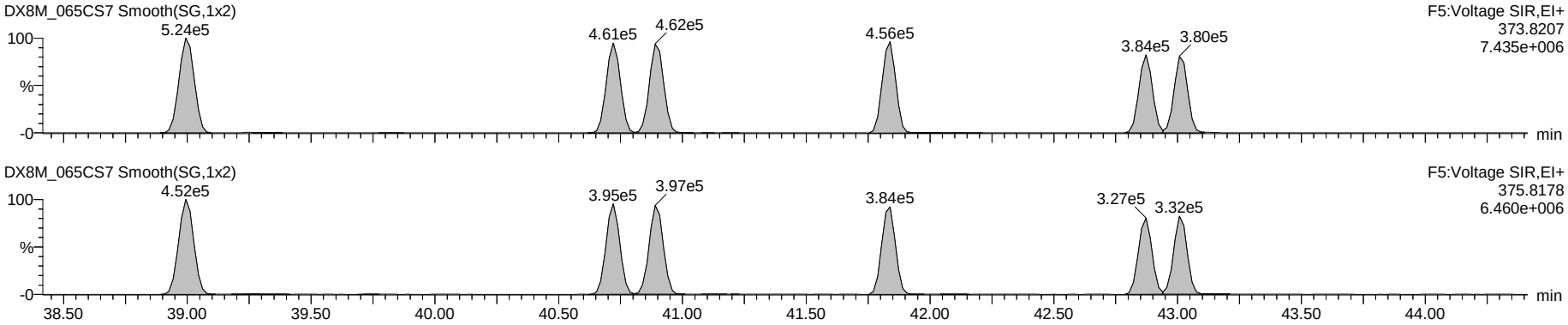
Penta Lock



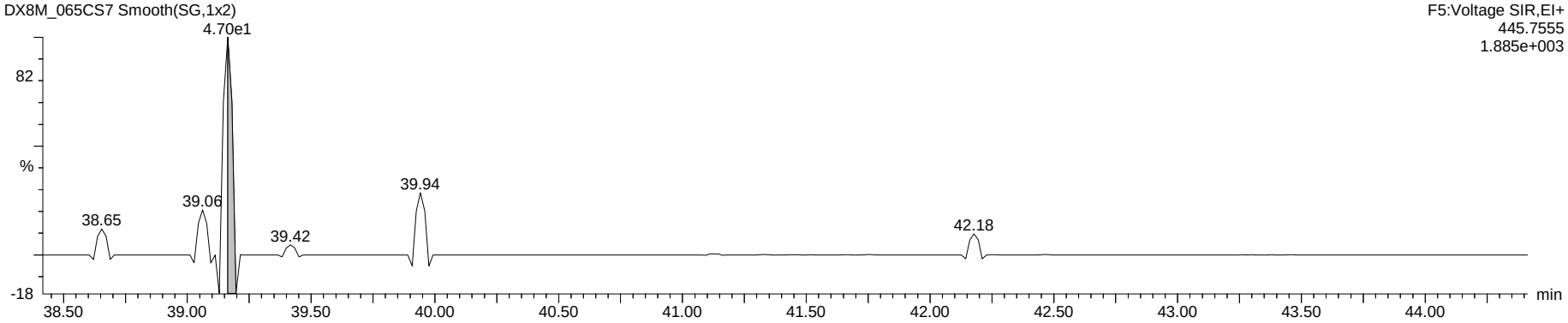
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

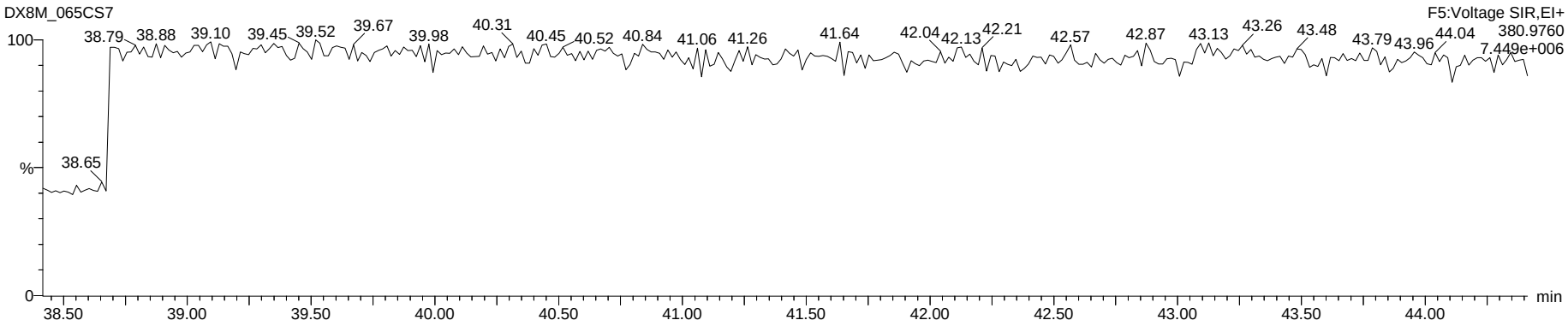
Total Hexa-Furans



Octa DPE



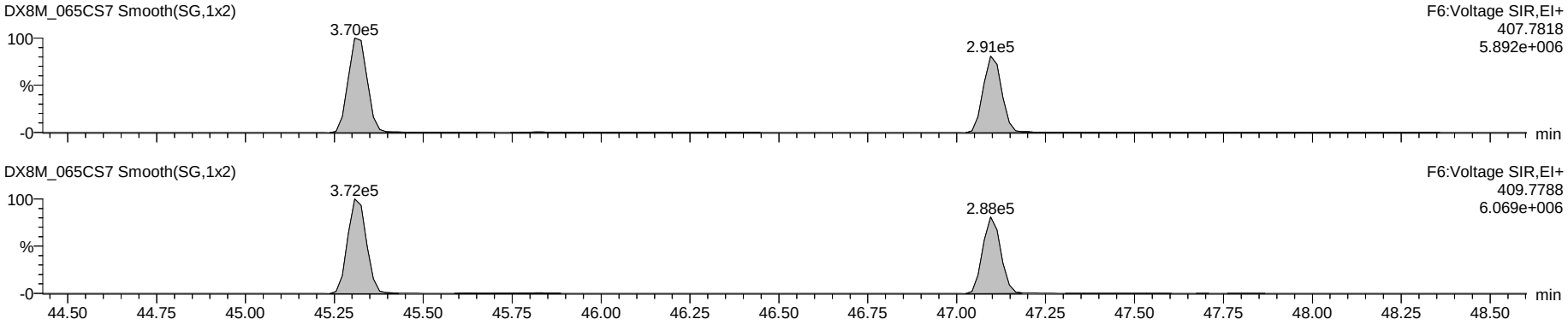
Hexa Lock



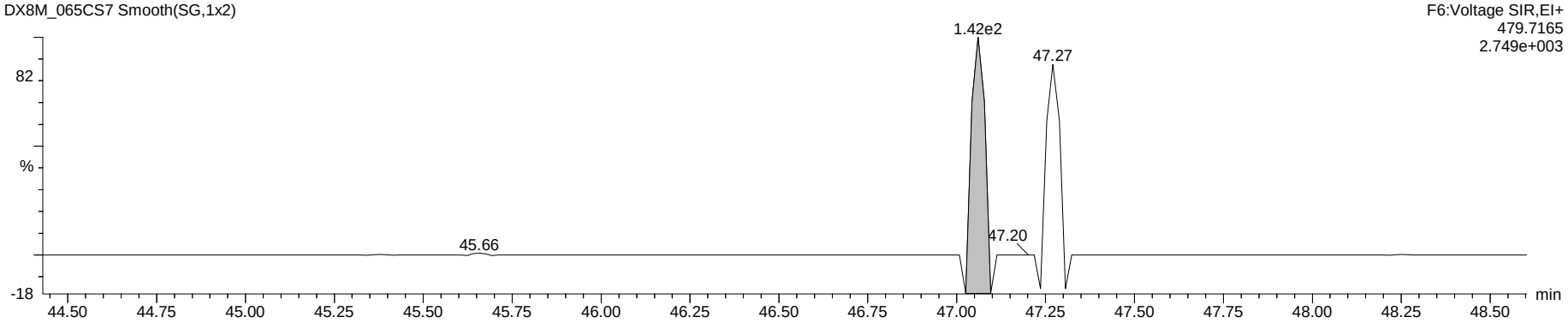
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

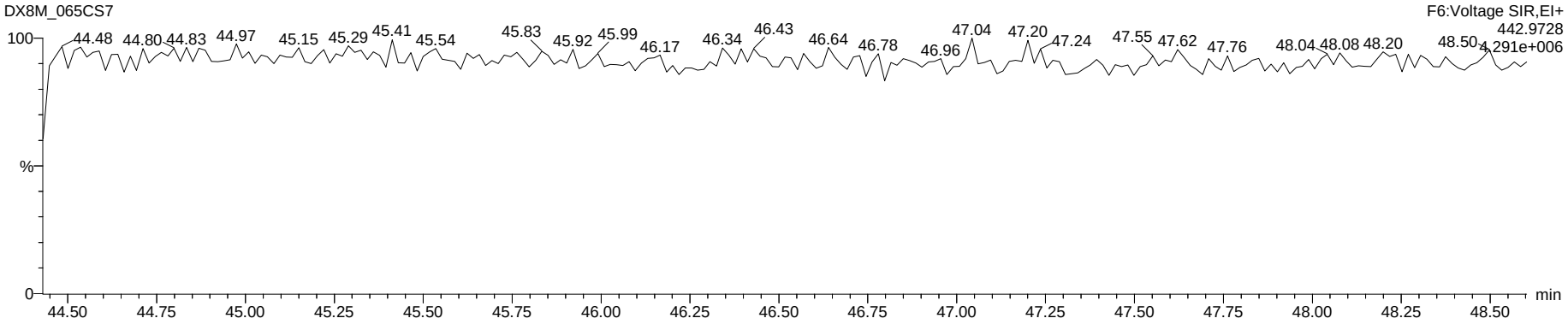
Total Hepta-Furans



Nona DPE



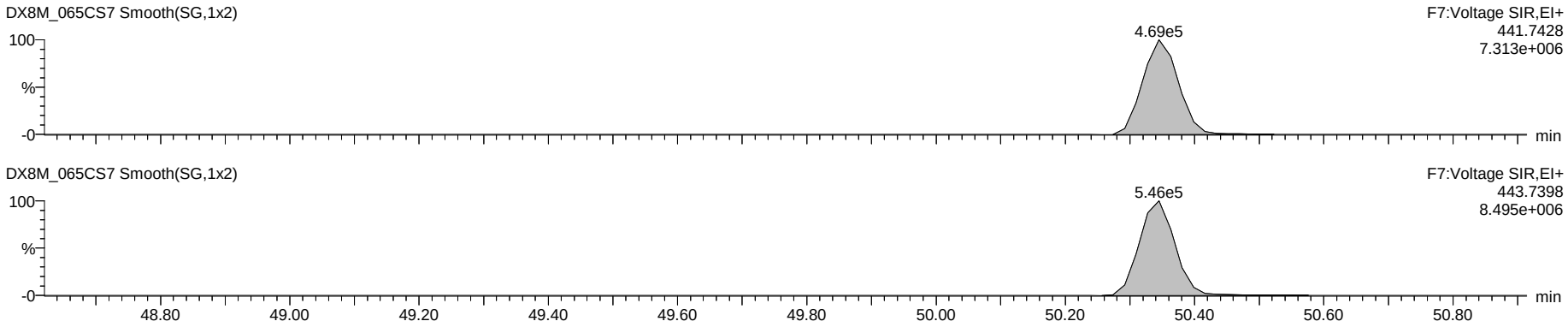
Hepta Lock



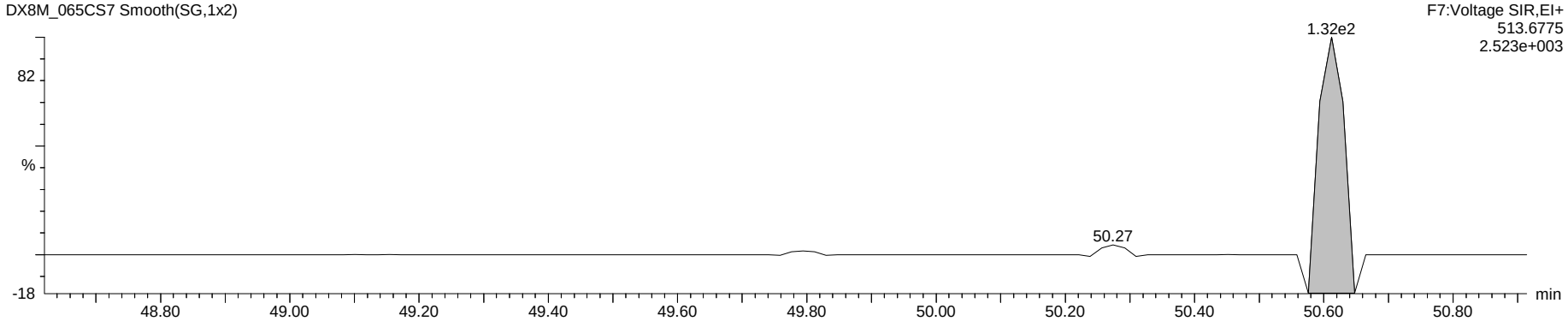
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

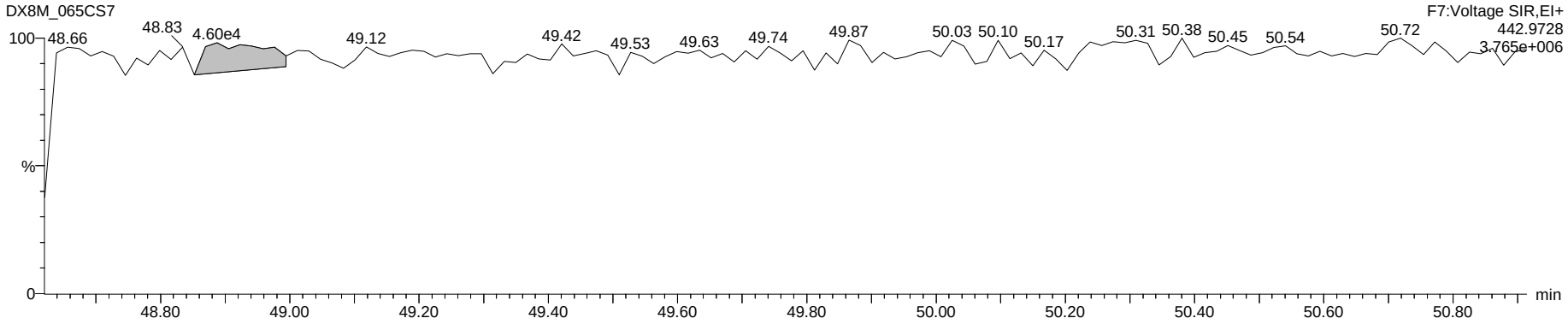
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	40.000	1.24e6	0.77	NO	25.26	0.926	0.9149	0.022	2.43	5010	4290
2	1,2,3,7,8-PeCDF	200.000	4.50e6	1.48	NO	33.58	0.934	0.9236	0.039	4.19	13354	11820
3	2,3,4,7,8-PeCDF	200.000	4.41e6	1.50	NO	35.32	0.953	0.9391	0.013	1.39	14302	12747
4	1,2,3,4,7,8-HxCDF	200.000	3.78e6	1.18	NO	40.70	1.142	1.1161	0.036	3.26	11924	9206
5	1,2,3,6,7,8-HxCDF	200.000	3.79e6	1.18	NO	40.89	1.070	1.0626	0.029	2.74	12048	9029
6	2,3,4,6,7,8-HxCDF	200.000	3.66e6	1.17	NO	41.82	1.163	1.1400	0.036	3.17	11977	9433
7	1,2,3,7,8,9-HxCDF	200.000	3.13e6	1.19	NO	42.86	1.006	0.9992	0.030	2.99	10393	8074
8	1,2,3,4,6,7,8-HpCDF	200.000	3.23e6	0.96	NO	45.31	1.228	1.2235	0.041	3.38	10839	13350
9	1,2,3,4,7,8,9-HpCDF	200.000	2.56e6	0.97	NO	47.10	1.251	1.2522	0.017	1.37	8264	9976
10	OCDF	400.000	4.71e6	0.89	NO	50.35	1.308	1.2272	0.084	6.84	45807	15492
11	2,3,7,8-TCDD	40.000	8.91e5	0.79	NO	26.47	1.065	1.1119	0.079	7.15	3595	10583
12	1,2,3,7,8-PeCDD	200.000	2.80e6	0.62	NO	36.17	1.037	1.0267	0.055	5.33	8413	7941
13	1,2,3,4,7,8-HxCDD	200.000	2.62e6	1.24	NO	42.11	1.022	1.0036	0.036	3.60	11364	17088
14	1,2,3,6,7,8-HxCDD	200.000	2.56e6	1.22	NO	42.25	0.944	0.9343	0.029	3.09	11299	17626
15	1,2,3,7,8,9-HxCDD	200.000	2.57e6	1.23	NO	42.67	0.973	0.9712	0.032	3.34	11135	17097
16	1,2,3,4,6,7,8-HpCDD	200.000	2.11e6	1.06	NO	46.67	1.012	0.9956	0.020	2.04	6453	8667
17	OCDD	400.000	3.73e6	0.87	NO	50.26	1.036	1.0186	0.028	2.76	3206	7576
18	13C-2,3,7,8-TCDF	100.000	3.35e6	0.78	NO	25.22	1.594	1.6147	0.046	2.83	2756	3385
19	13C-1,2,3,7,8-PeCDF	100.000	2.41e6	1.57	NO	33.54	1.149	1.1640	0.091	7.84	6596	2263
20	13C-2,3,4,7,8-PeCDF	100.000	2.31e6	1.56	NO	35.30	1.102	1.1228	0.100	8.87	7003	2496
21	13C-1,2,3,4,7,8-HxCDF	100.000	1.66e6	0.52	NO	40.69	1.268	1.2764	0.037	2.93	1721	5946
22	13C-1,2,3,6,7,8-HxCDF	100.000	1.77e6	0.53	NO	40.86	1.355	1.3633	0.031	2.30	1844	6140
23	13C-2,3,4,6,7,8-HxCDF	100.000	1.57e6	0.54	NO	41.81	1.206	1.2182	0.036	2.95	1737	5739
24	13C-1,2,3,7,8,9-HxCDF	100.000	1.56e6	0.53	NO	42.84	1.192	1.2015	0.043	3.61	1729	5868
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.32e6	0.45	NO	45.29	1.007	1.0186	0.040	3.89	3984	5514
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	1.02e6	0.46	NO	47.08	0.783	0.7945	0.043	5.44	3012	4180
27	13C-2,3,7,8-TCDD	100.000	2.09e6	0.76	NO	26.45	0.996	1.0042	0.038	3.74	1899	6321
28	13C-1,2,3,7,8-PeCDD	100.000	1.35e6	0.66	NO	36.13	0.643	0.6582	0.053	8.04	4504	8461
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.28e6	1.26	NO	42.09	0.980	0.9841	0.037	3.74	4759	1918
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.36e6	1.21	NO	42.23	1.040	1.0407	0.026	2.53	5247	2202
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	1.04e6	1.03	NO	46.67	0.799	0.8135	0.035	4.34	3115	5395
32	13C-OCDD	200.000	1.80e6	0.86	NO	50.24	0.690	0.7155	0.075	10.43	1755	24648
33	13C-1,2,3,4-TCDD	100.000	2.10e6	0.80	NO	26.11	209...	22602.6799	1977.986	8.75	1966	6215
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.31e6	1.24	NO	42.65	130...	14280.3905	2145.257	15.02	4852	1998
35	37Cl-2,3,7,8-TCDD	40.000	9.02e5			26.47	1.074	1.1134	0.079	7.11	9323	
36	Total Tetra-Furans	40.000						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	40.000						1.1119	0.079	7.15		
38	Total Penta-Furans	200.000						0.9236	0.039	4.19		
39	Total Penta-Dioxins	200.000						1.0267	0.055	5.33		
40	Total Hexa-Furans	200.000						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	200.000						1.0036	0.036	3.60		
42	Total Hepta-Furans	200.000						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	200.000						0.9956	0.020	2.04		
44	Hexa DPE	0.000	2.22e2			26.22	0.000				15111	
45	Hepta DPE	0.000	3.50e3			37.54	0.000				23	
46	Octa DPE	0.000	7.17e1			38.60	0.000				2206	
47	Nona DPE	0.000	7.65e1			46.53	0.000				7	
48	Deca DPE	0.000	9.48e1			49.99	0.000				3073	
49	Tetra Lock	0.000	3.84e4			24.22	0.000				1	
50	Penta Lock	0.000	8.60e5			29.05	0.000				1	
51	Hexa Lock	0.000										
52	Hepta Lock	0.000	3.18e4			47.08	0.000				1	
53	Octa Lock	0.000	1.70e4			48.87	0.000				0	
54	13C-Tetra-Furans	100.000						1.6147	0.046	2.83		
55	13C-Tetra-Dioxins	100.000						1.0042	0.038	3.74		

PV LHE 06-JUNE-2018

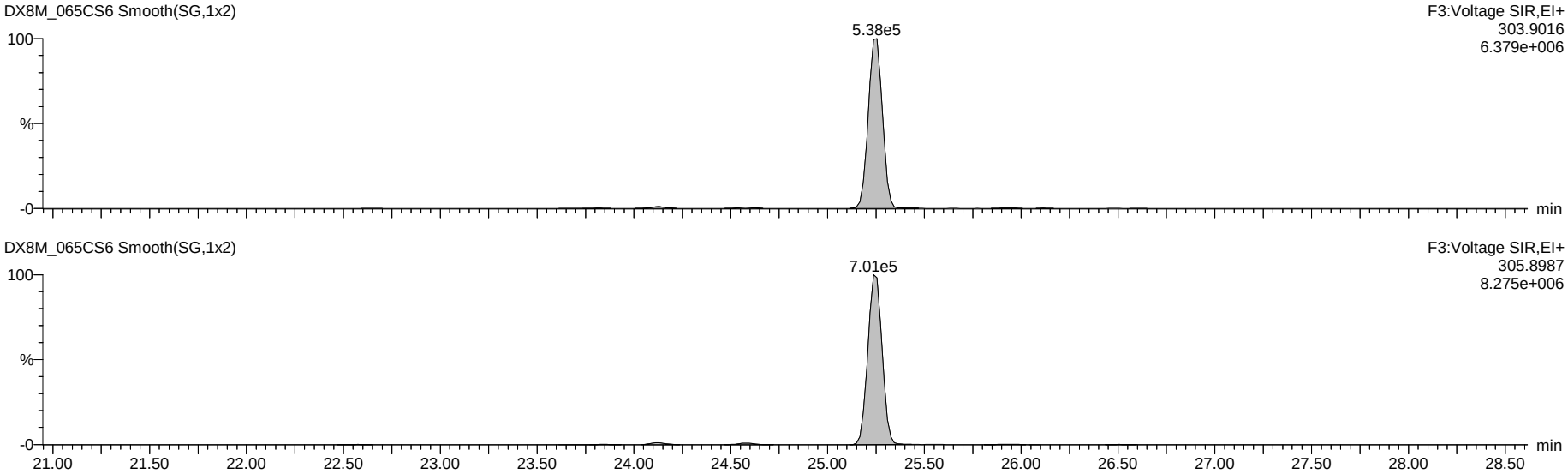
SVay KB 06 Jun 2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

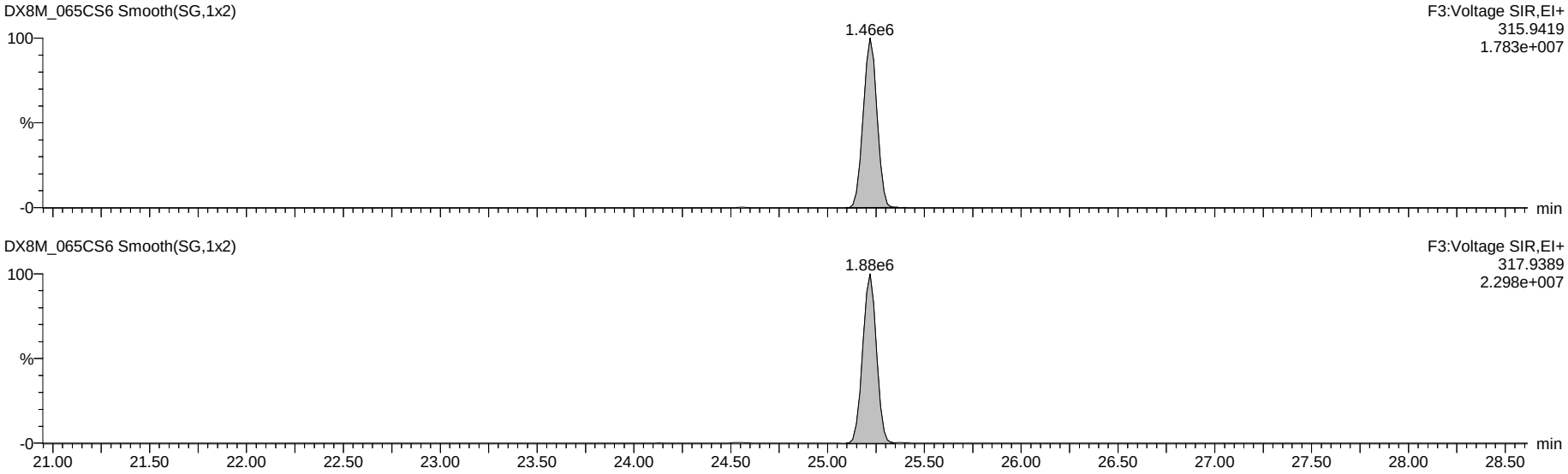
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Tetra-Furans



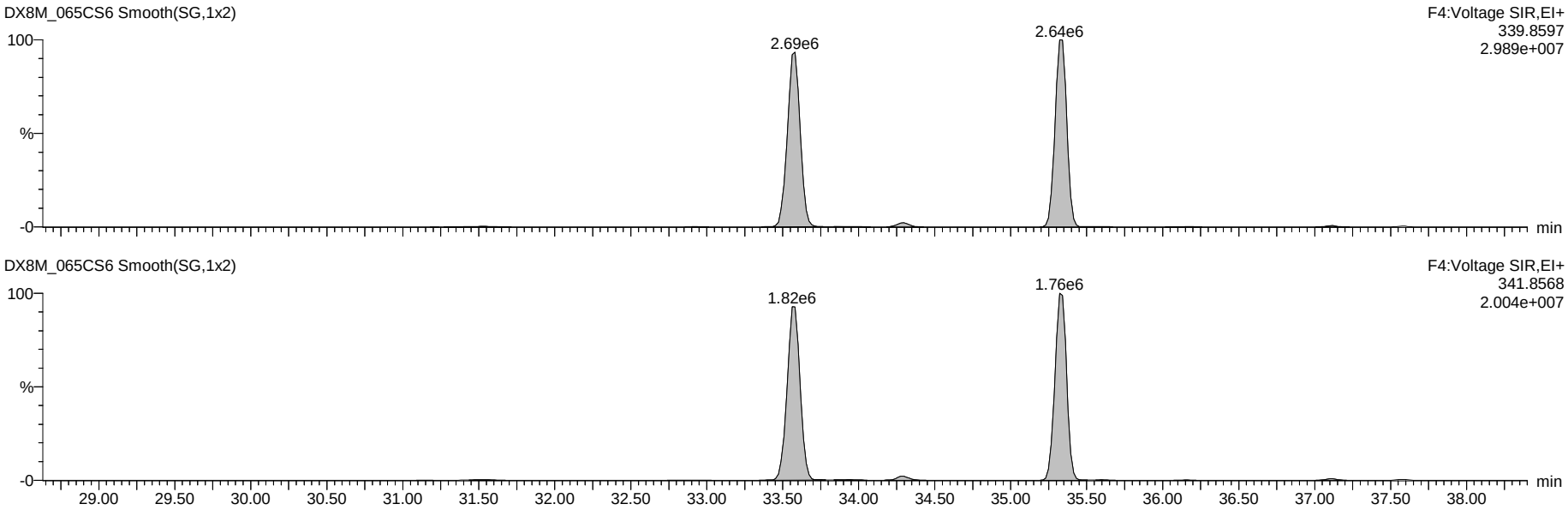
13C-Tetra-Furans



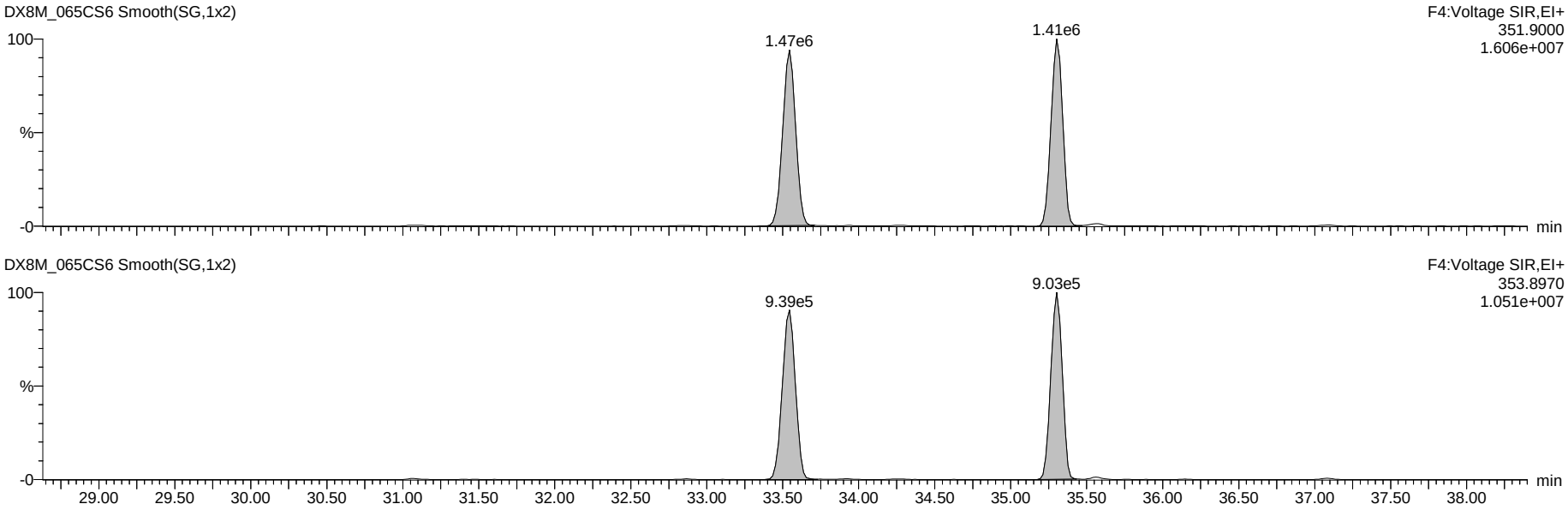
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Penta-Furans



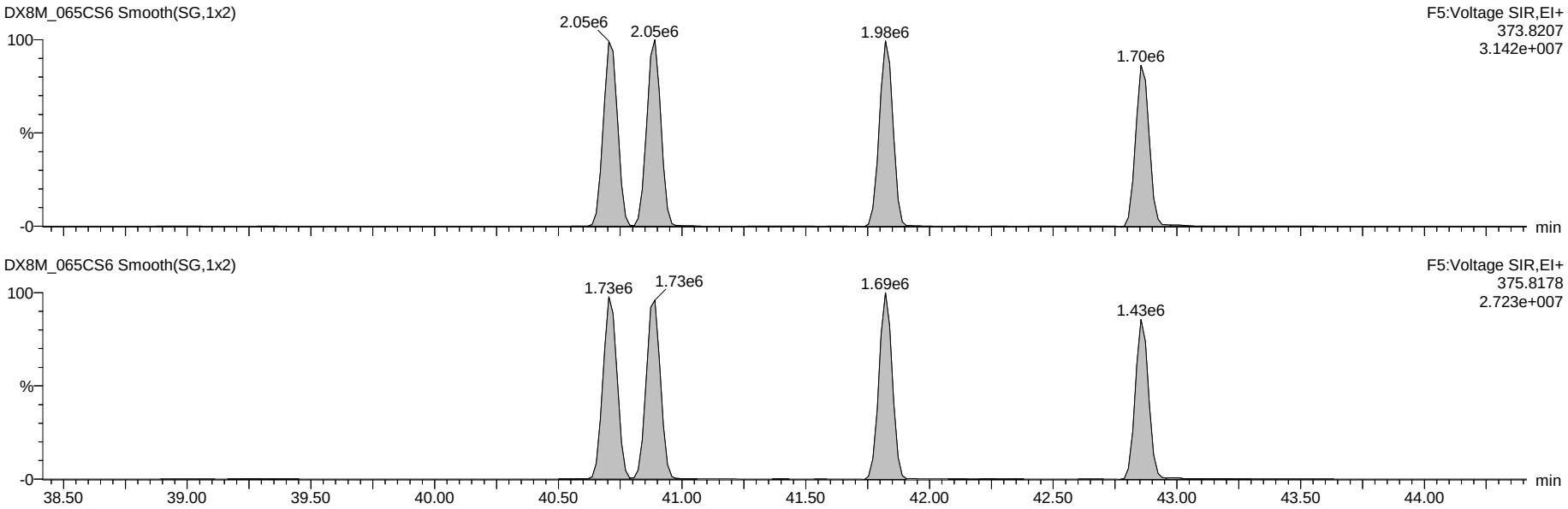
13C-Penta-Furans



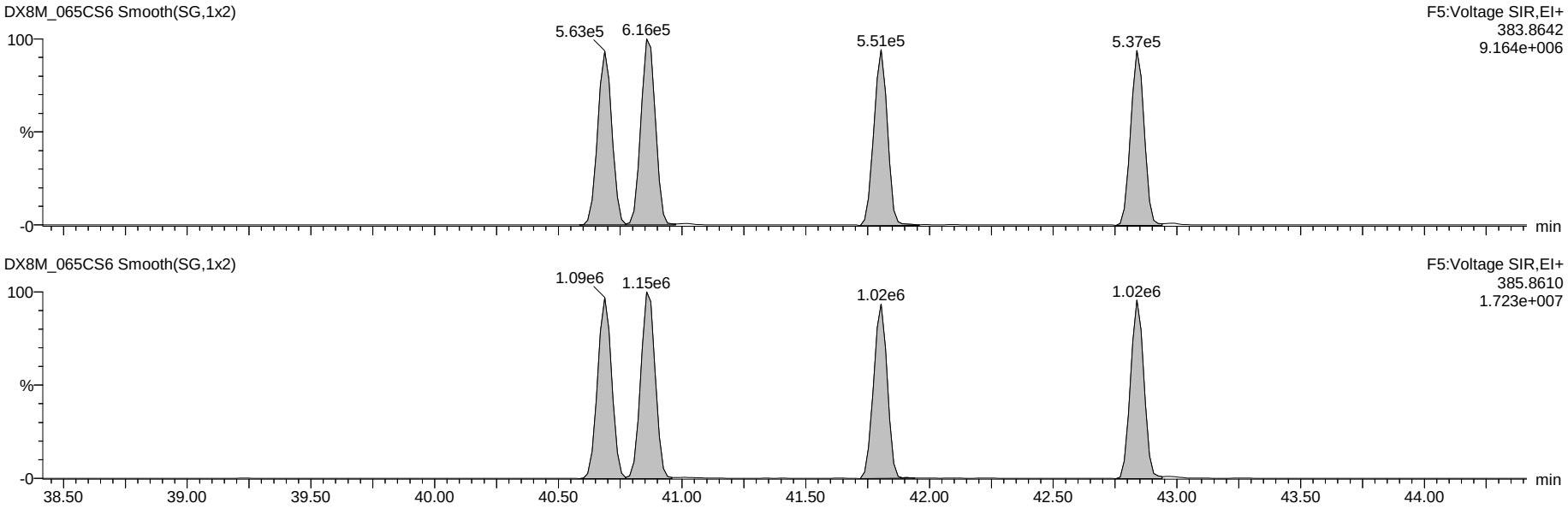
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Hexa-Furans



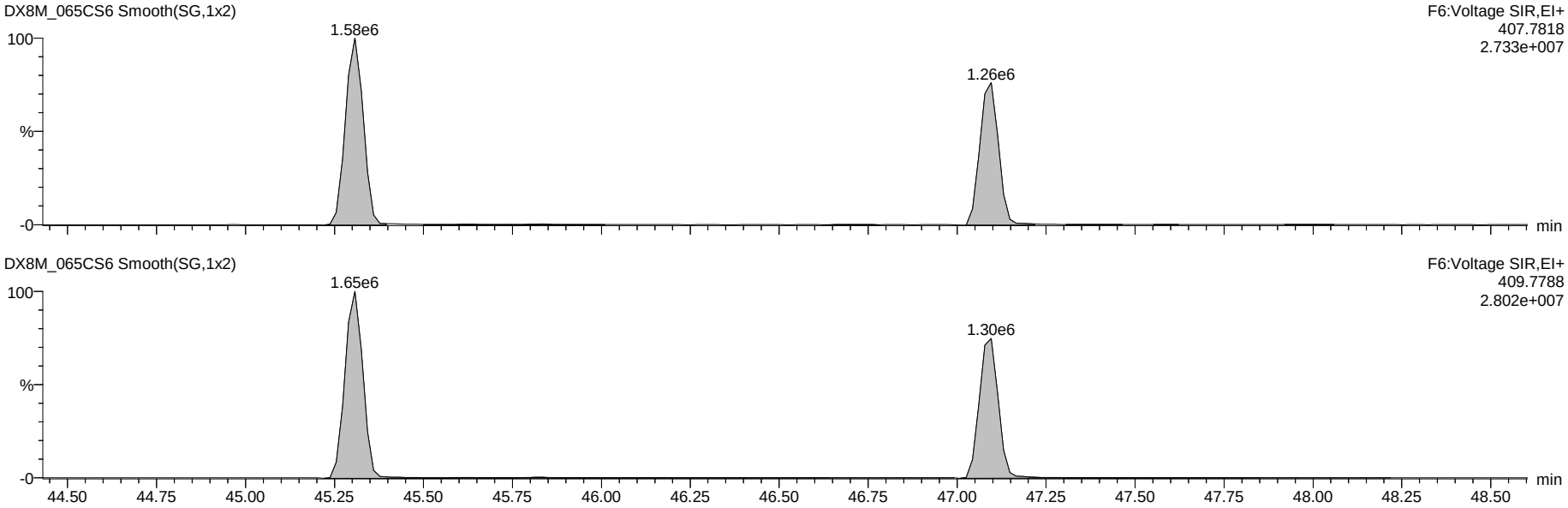
13C-Hexa-Furans



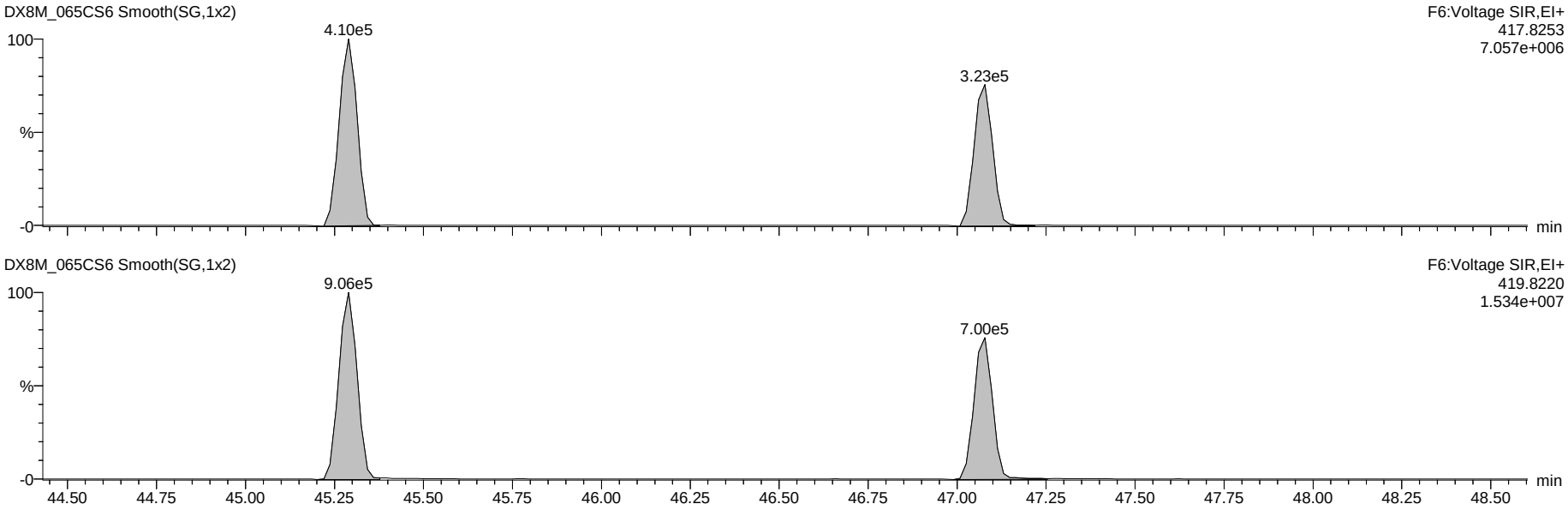
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Hepta-Furans



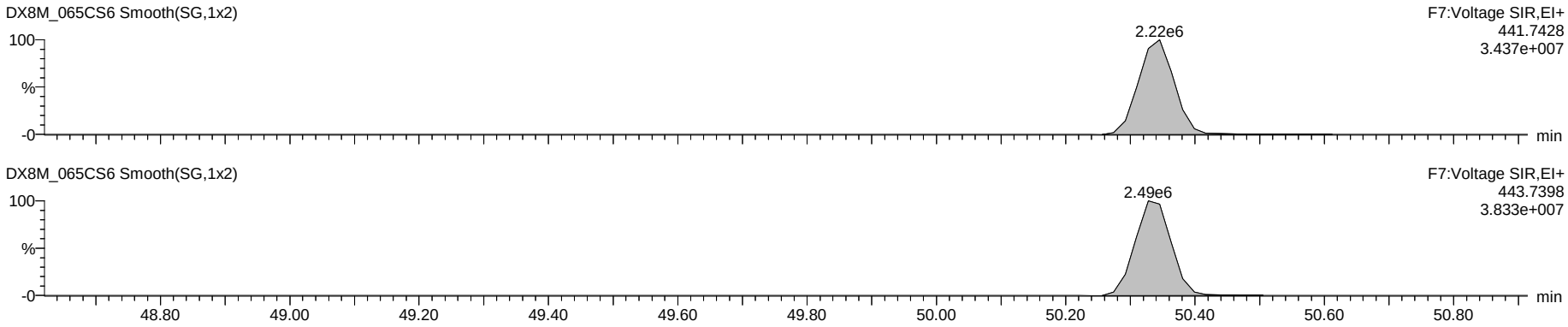
13C-Hepta-Furans



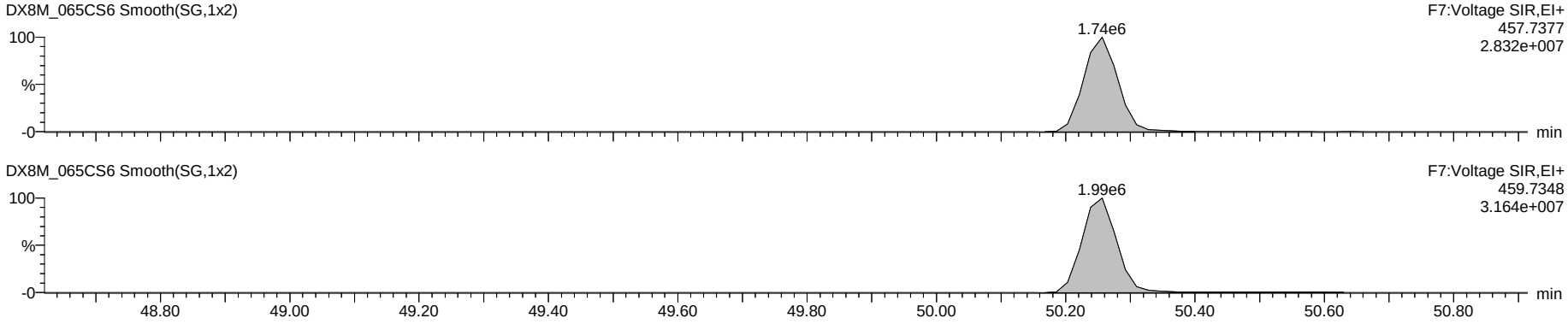
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

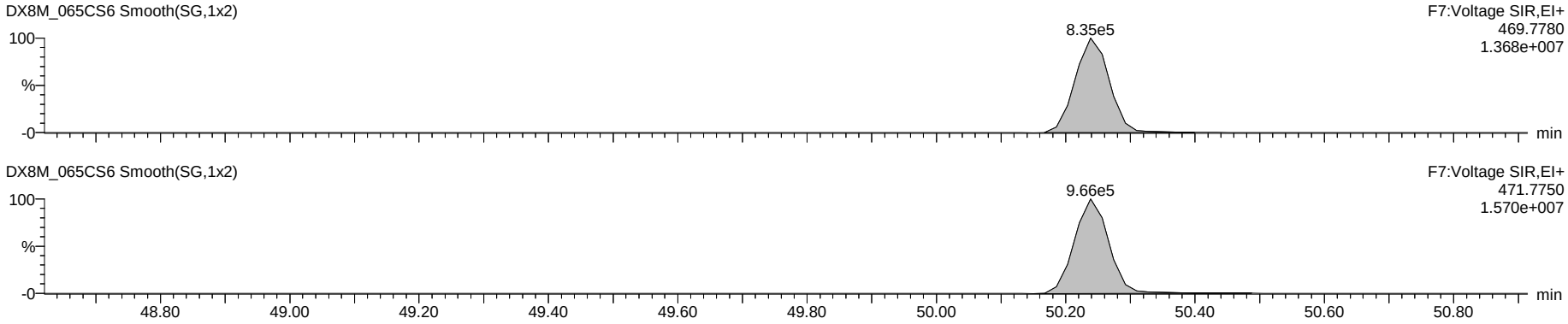
OCDF



OCDD



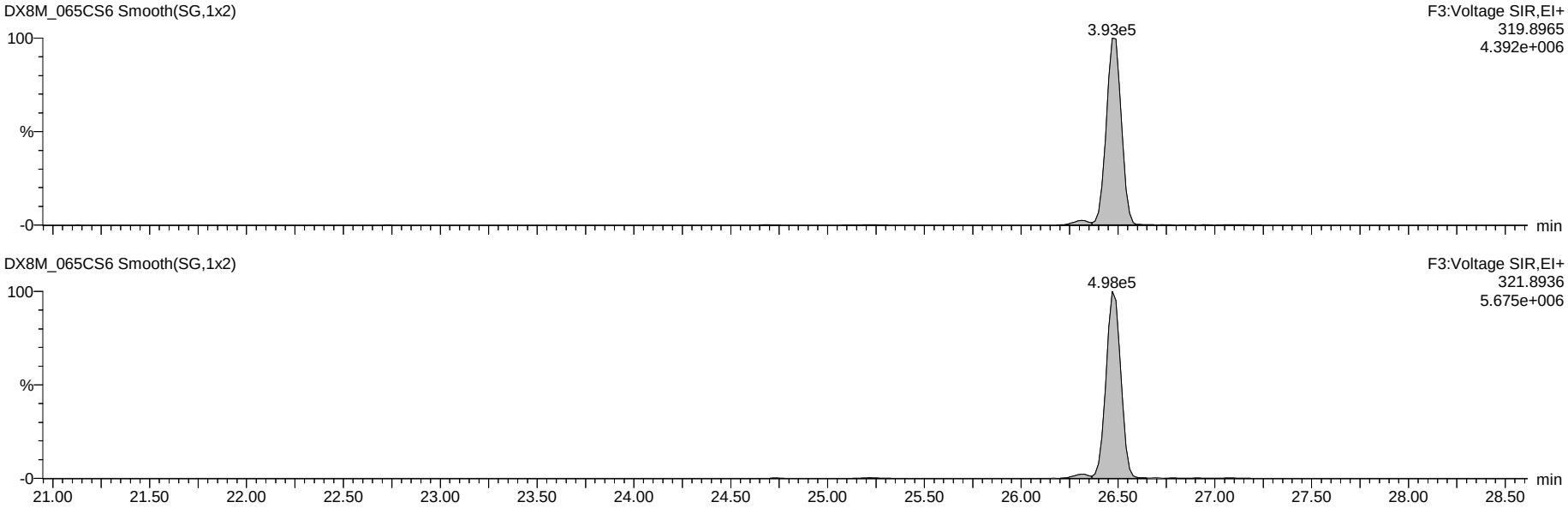
13C-OCDD



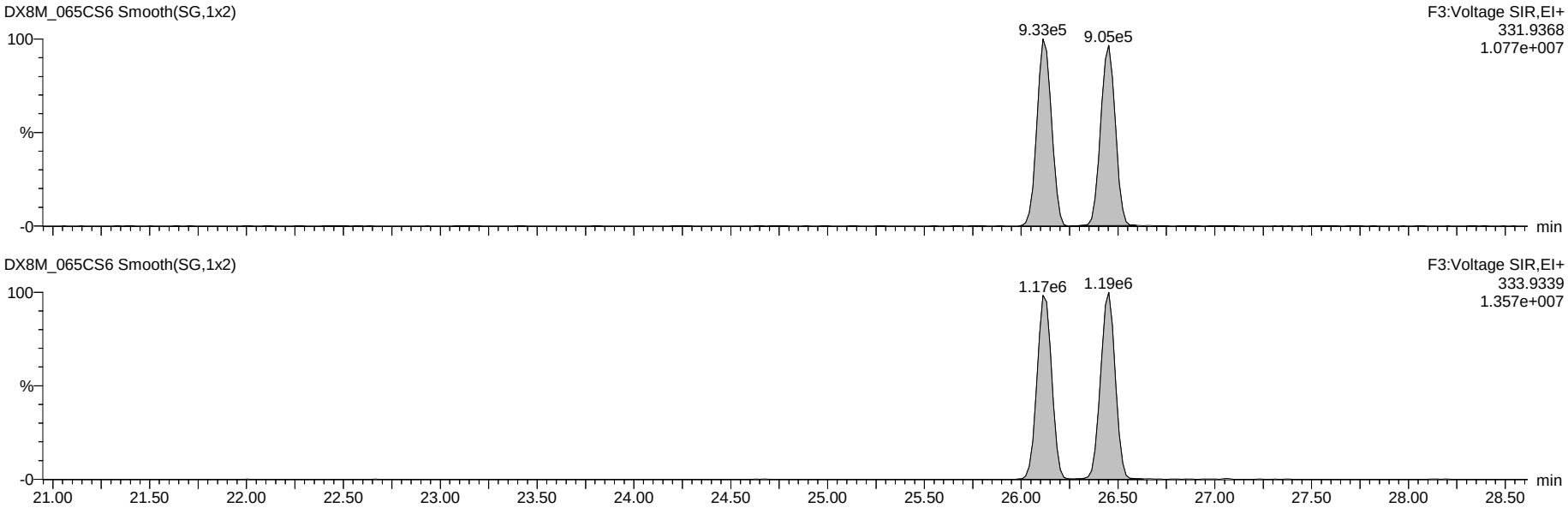
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Tetra-Dioxins



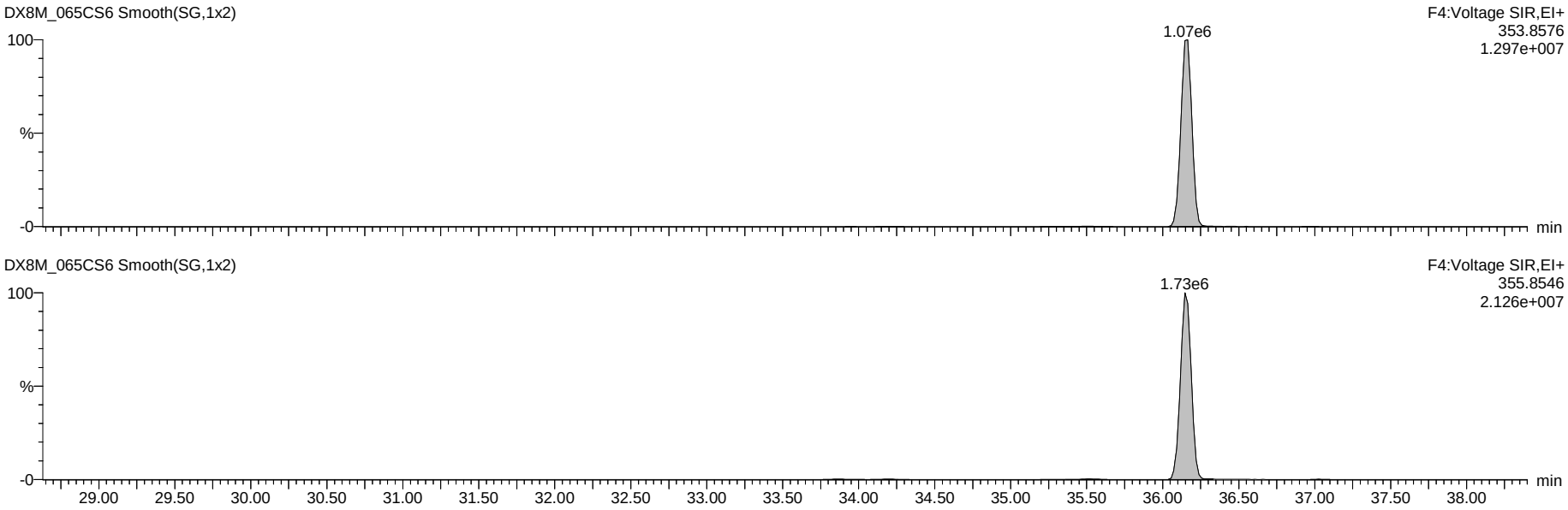
13C-Tetra-Dioxins



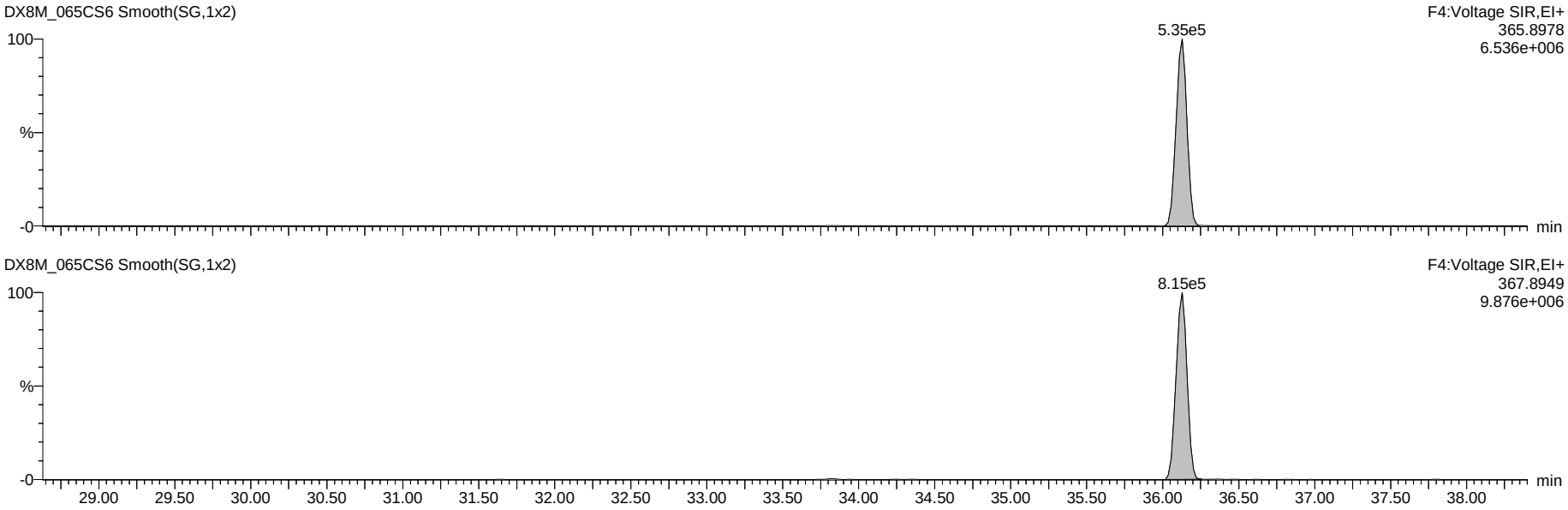
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Penta-Dioxins



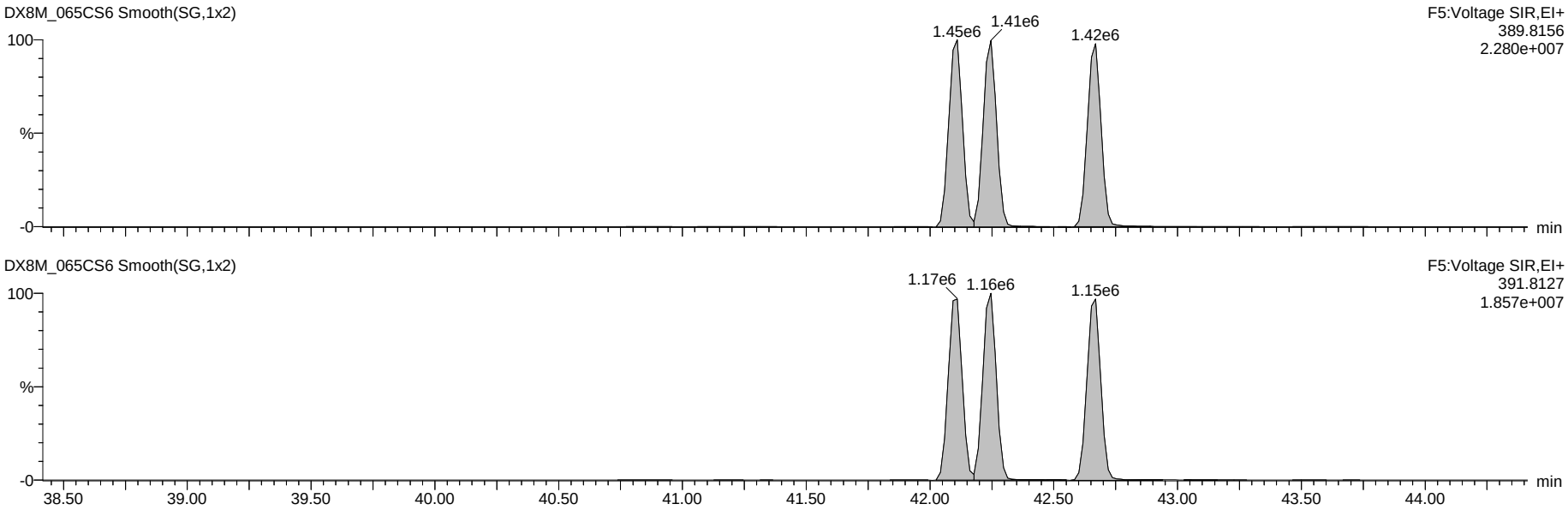
13C-Penta-Dioxins



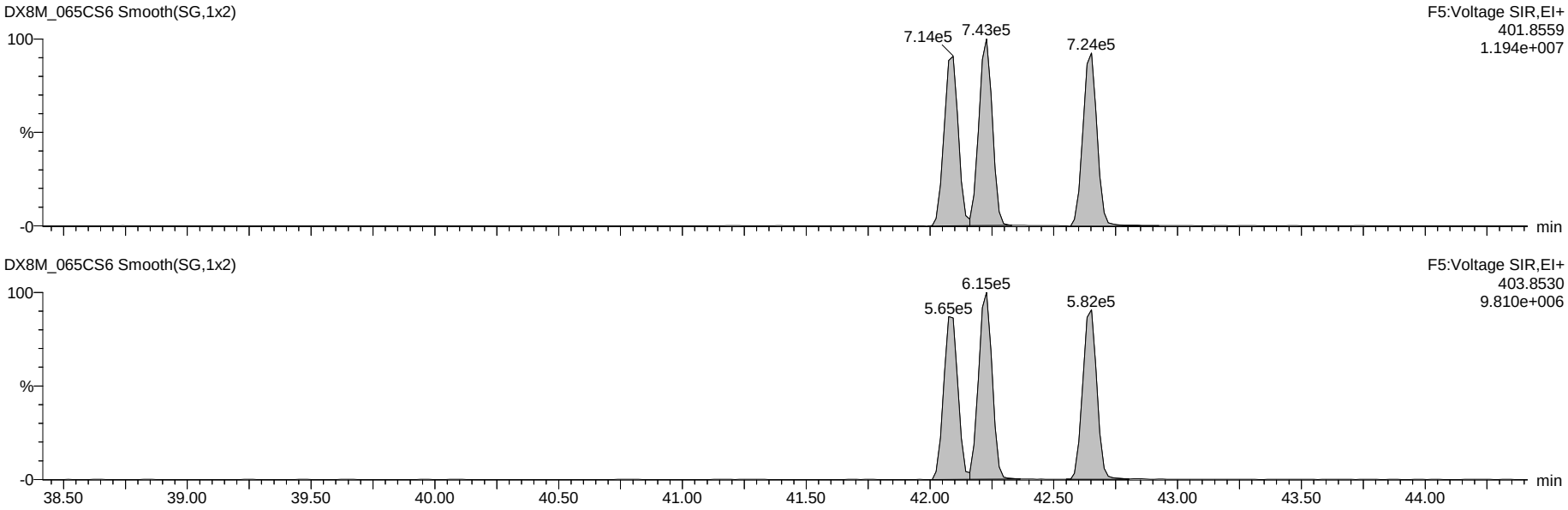
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Hexa-Dioxins



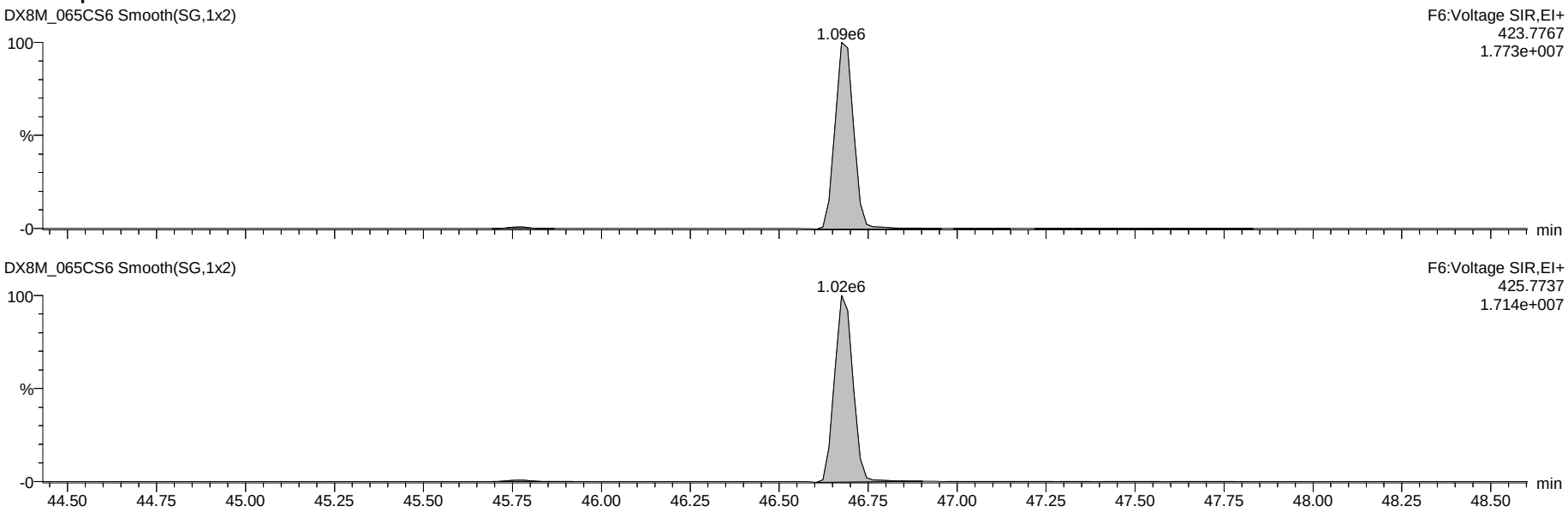
13C-Hexa-Dioxins



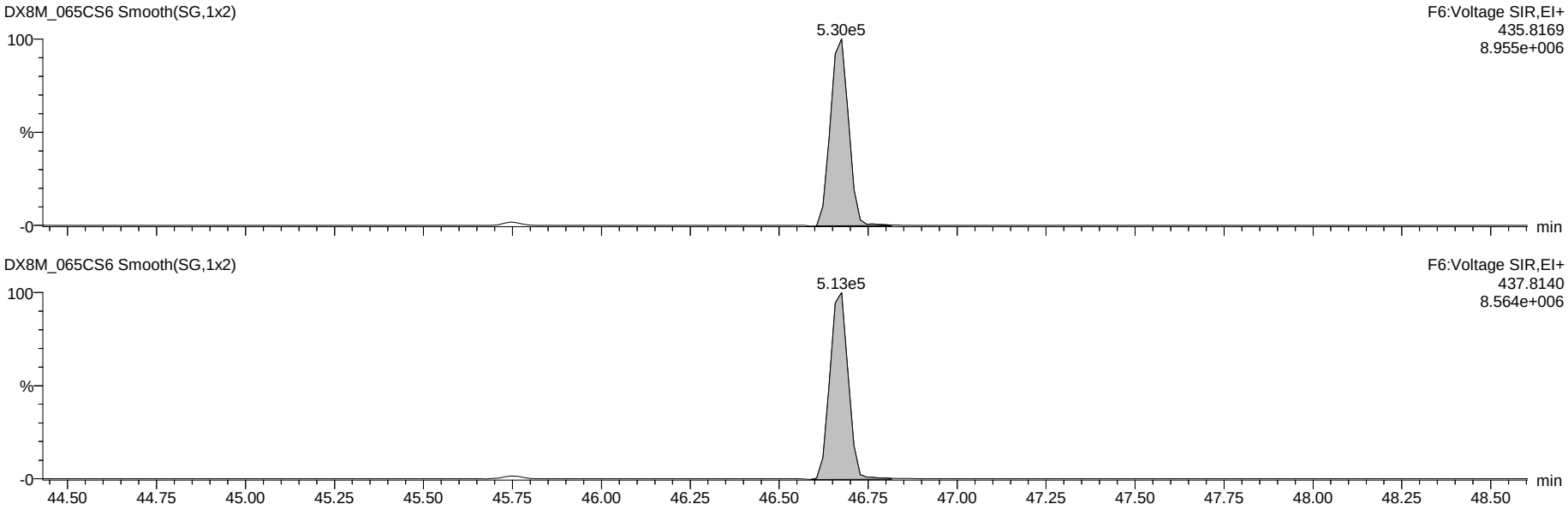
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

Total Hepta-Dioxins



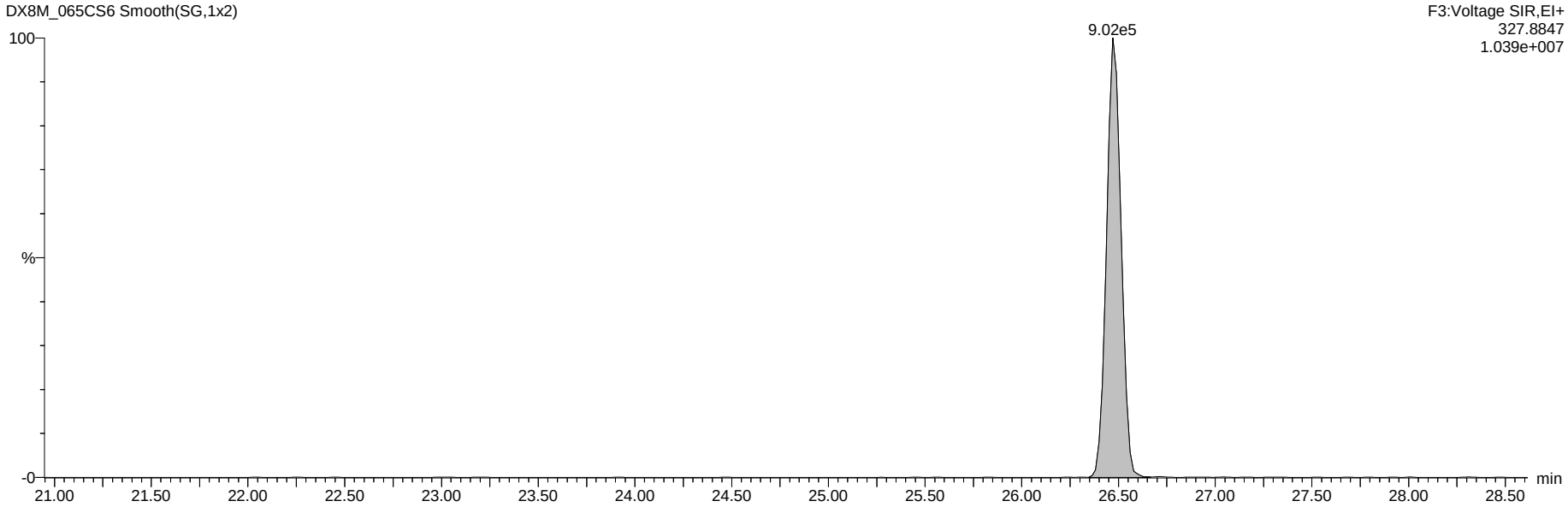
13C-Hepta-Dioxins



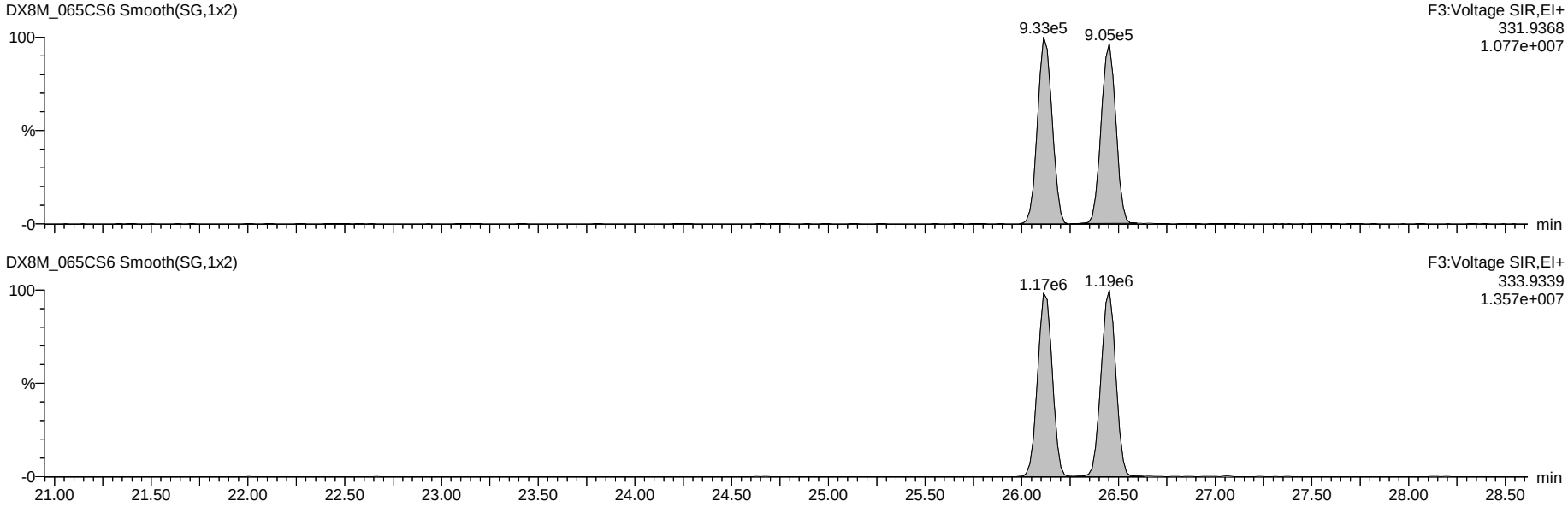
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

37Cl-2,3,7,8-TCDD



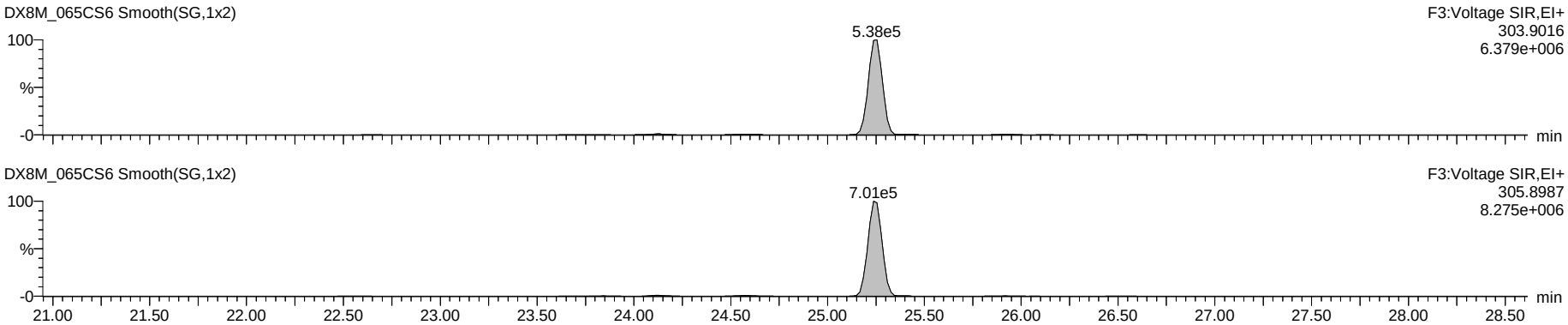
13C-Tetra-Dioxins



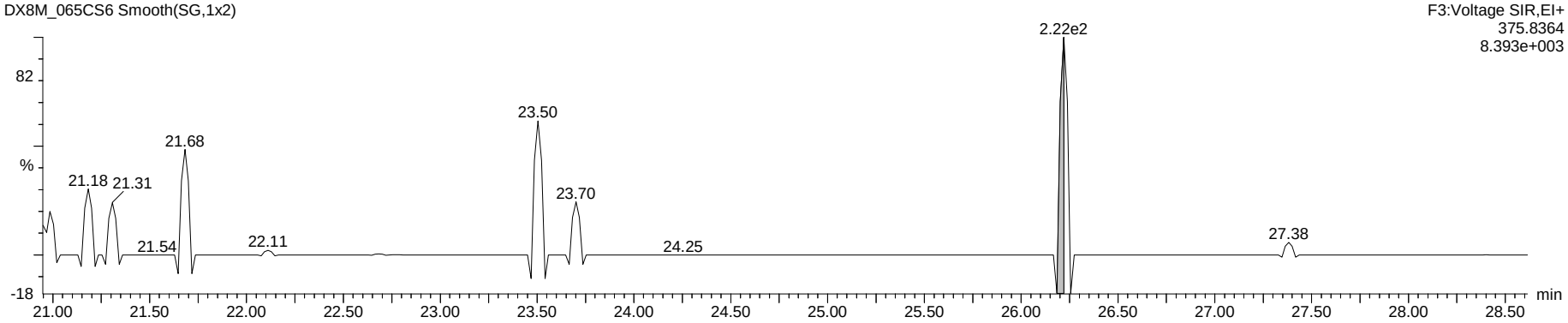
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

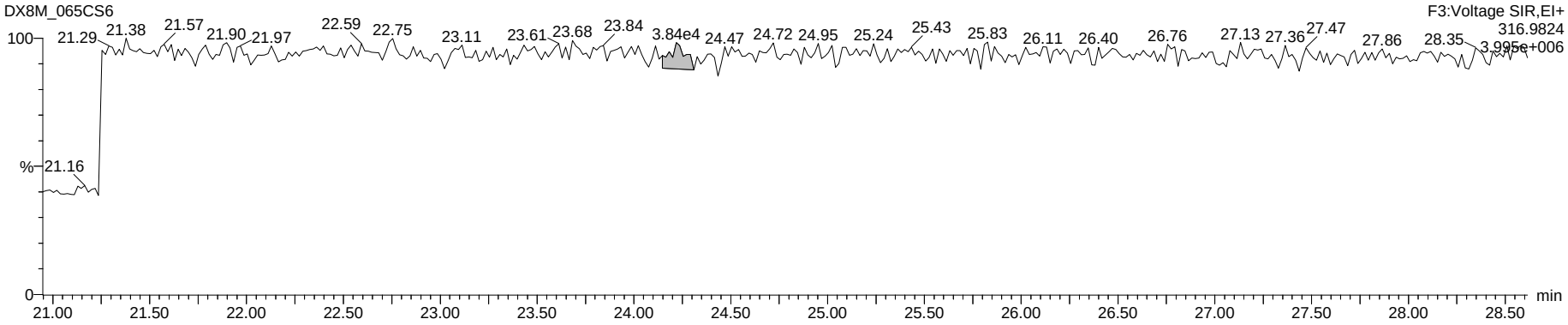
Total Tetra-Furans



Hexa DPE



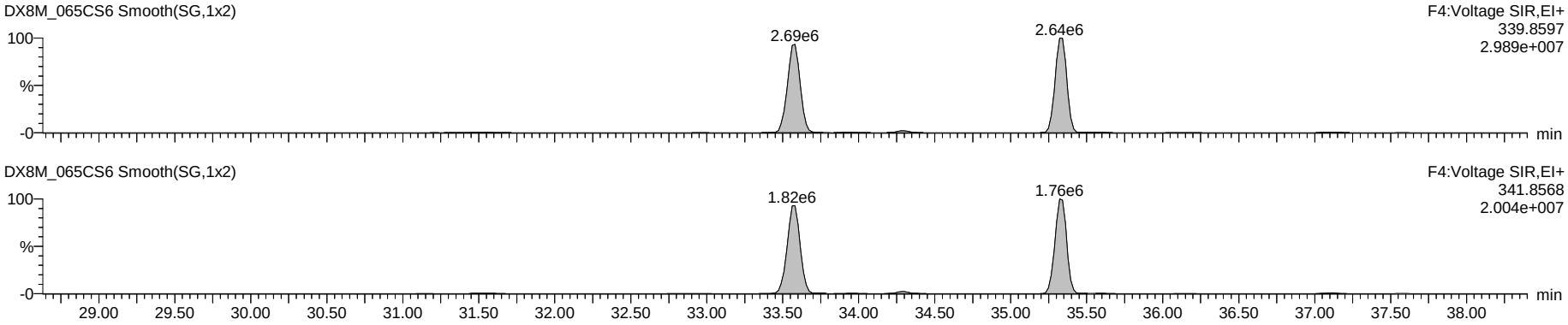
Tetra Lock



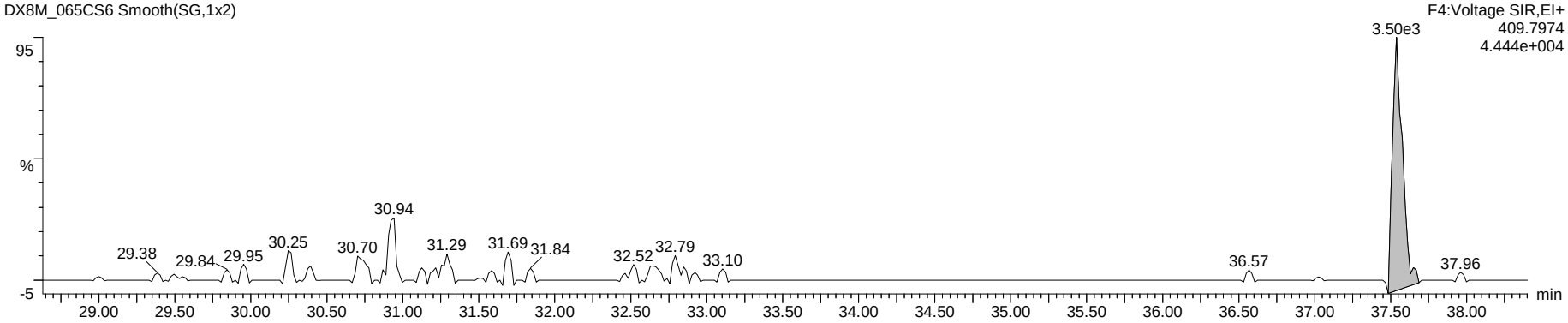
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

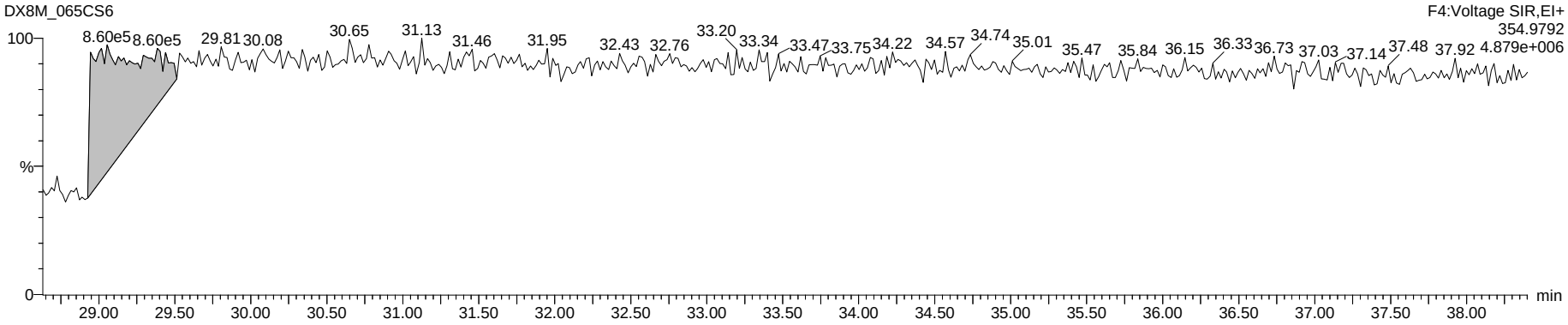
Total Penta-Furans



Hepta DPE



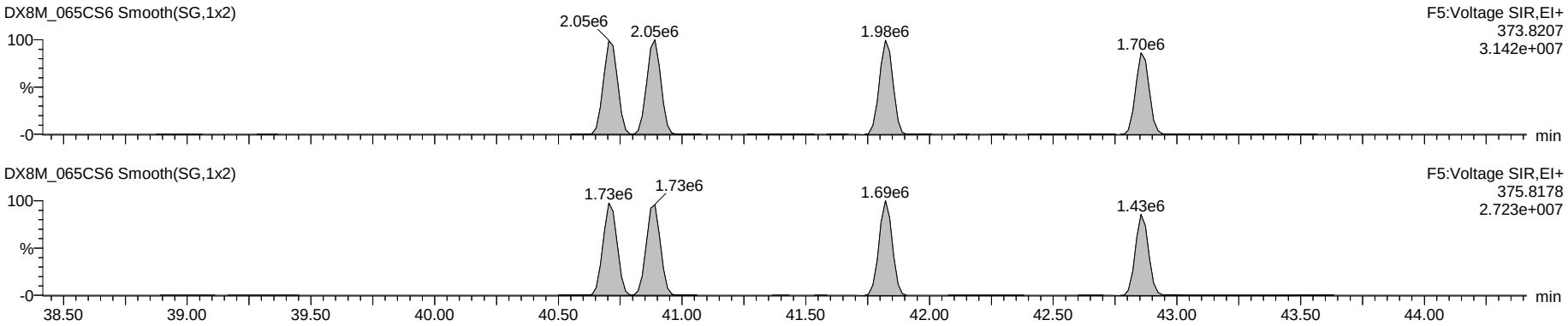
Penta Lock



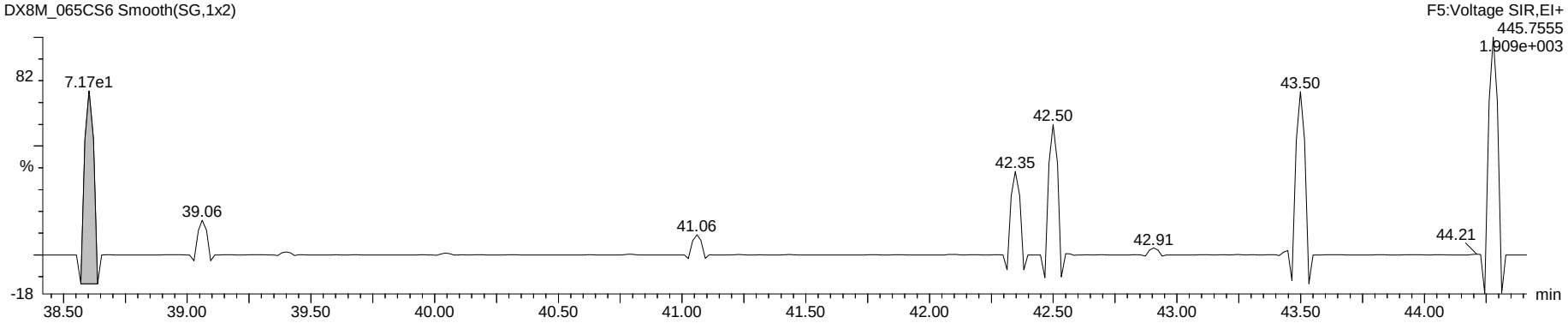
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

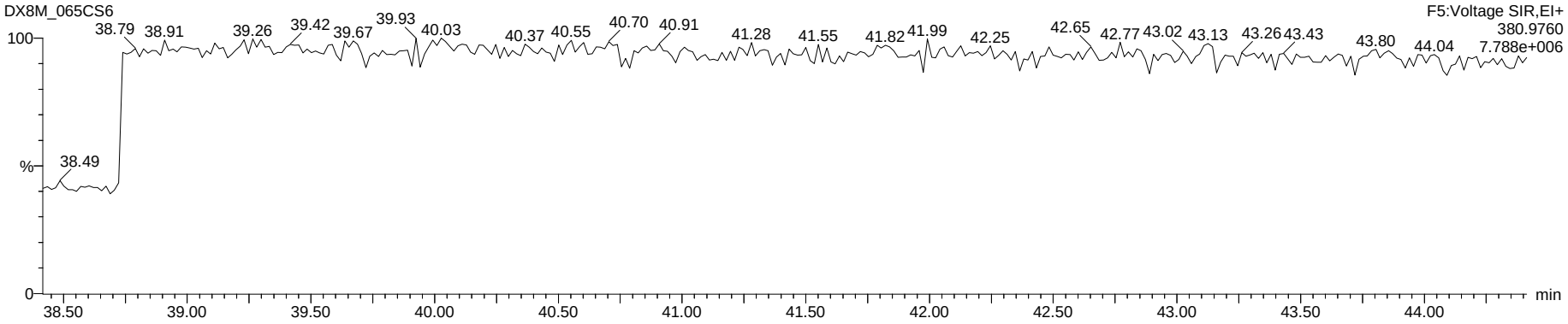
Total Hexa-Furans



Octa DPE



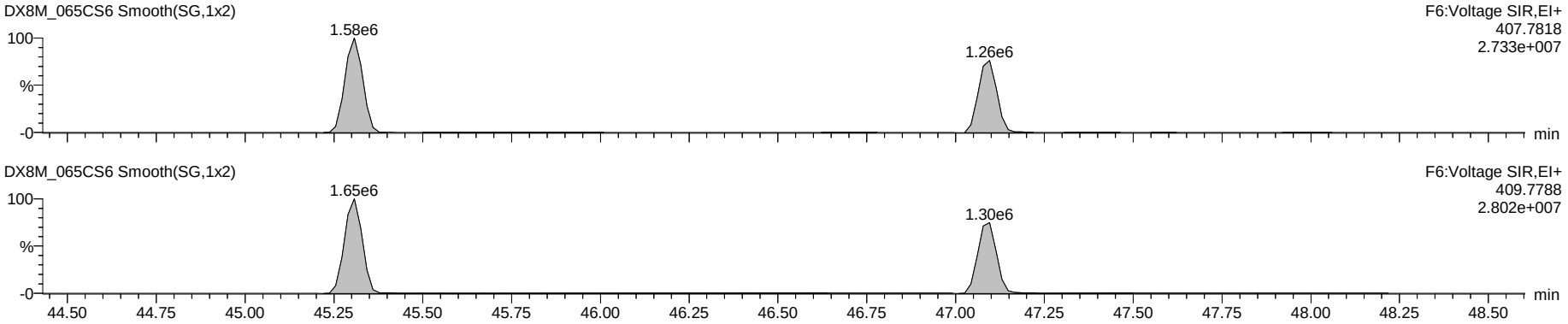
Hexa Lock



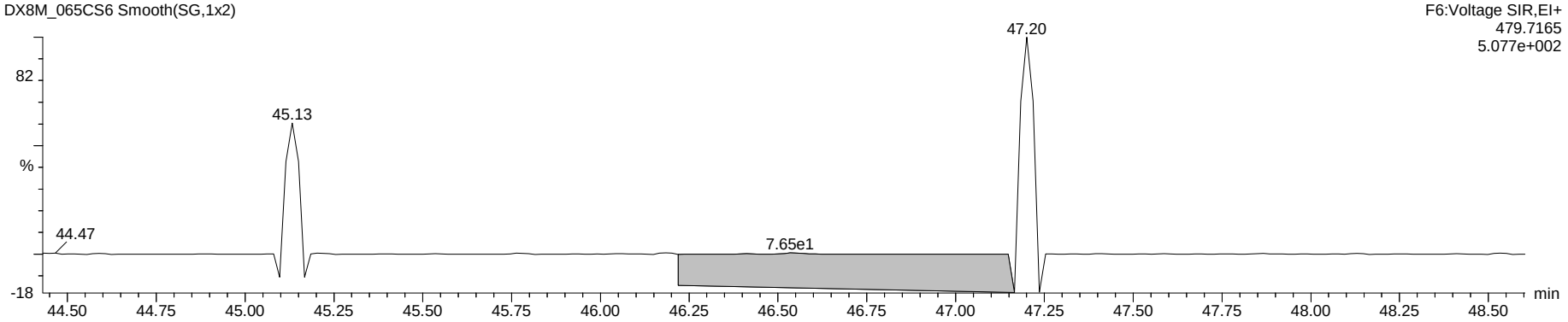
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

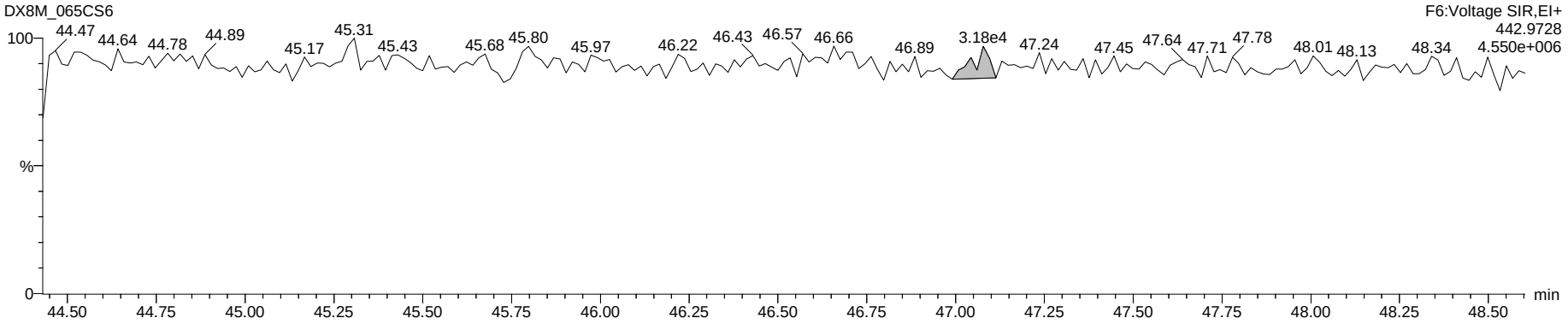
Total Hepta-Furans



Nona DPE



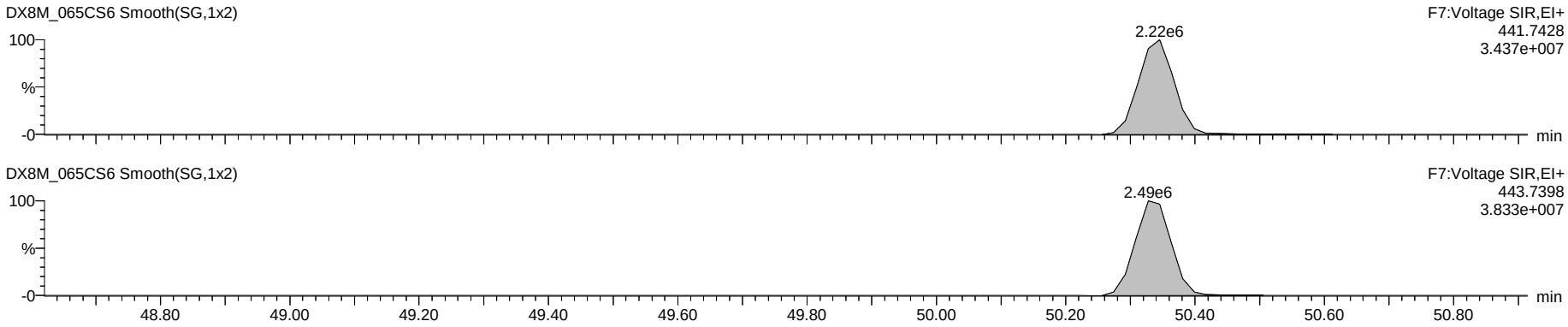
Hepta Lock



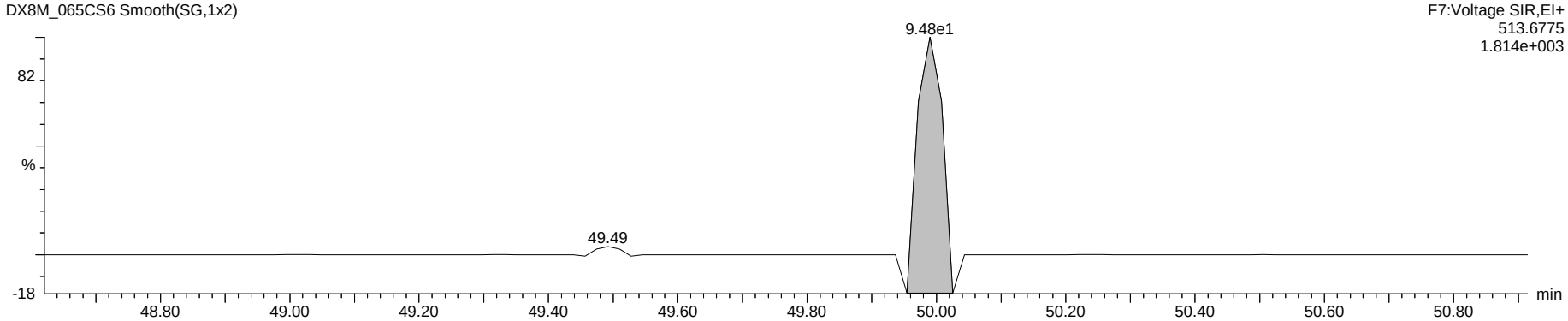
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS6, Date: 04-Jun-2018, Time: 23:11:40, ID: DX041E-CAL,,/01, Description: 1,,1.0uL CS-4

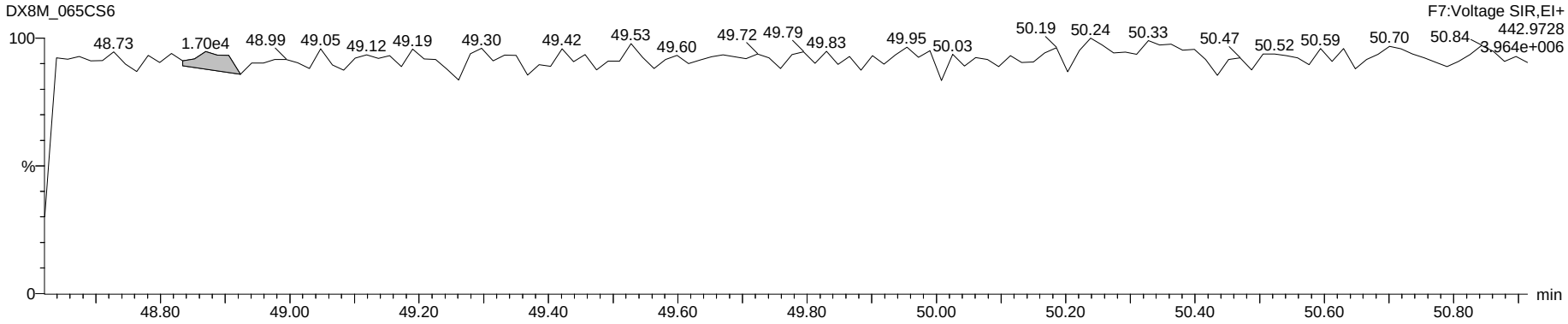
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	200.000	7.17e6	0.77	NO	25.26	0.911	0.9149	0.022	2.43	22158	22183
2	1,2,3,7,8-PeCDF	1000.000	2.98e7	1.47	NO	33.60	0.945	0.9236	0.039	4.19	89459	43544
3	2,3,4,7,8-PeCDF	1000.000	2.95e7	1.47	NO	35.34	0.948	0.9391	0.013	1.39	100969	50102
4	1,2,3,4,7,8-HxCDF	1000.000	2.61e7	1.18	NO	40.72	1.134	1.1161	0.036	3.26	52716	49278
5	1,2,3,6,7,8-HxCDF	1000.000	2.72e7	1.19	NO	40.91	1.100	1.0626	0.029	2.74	58446	52090
6	2,3,4,6,7,8-HxCDF	1000.000	2.57e7	1.19	NO	41.84	1.164	1.1400	0.036	3.17	55660	50594
7	1,2,3,7,8,9-HxCDF	1000.000	2.23e7	1.20	NO	42.87	1.022	0.9992	0.030	2.99	48492	44333
8	1,2,3,4,6,7,8-HpCDF	1000.000	2.28e7	1.01	NO	45.33	1.220	1.2235	0.041	3.38	44968	84091
9	1,2,3,4,7,8,9-HpCDF	1000.000	1.86e7	1.02	NO	47.11	1.245	1.2522	0.017	1.37	35372	67383
10	OCDF	2000.000	3.94e7	0.89	NO	50.36	1.321	1.2272	0.084	6.84	1682.0	973341
11	2,3,7,8-TCDD	200.000	5.32e6	0.78	NO	26.49	1.065	1.1119	0.079	7.15	34582	20910
12	1,2,3,7,8-PeCDD	1000.000	1.83e7	0.62	NO	36.17	1.026	1.0267	0.055	5.33	86212	72742
13	1,2,3,4,7,8-HxCDD	1000.000	1.83e7	1.25	NO	42.11	1.020	1.0036	0.036	3.60	56446	48039
14	1,2,3,6,7,8-HxCDD	1000.000	1.80e7	1.22	NO	42.26	0.941	0.9343	0.029	3.09	58187	48216
15	1,2,3,7,8,9-HxCDD	1000.000	1.75e7	1.23	NO	42.69	0.947	0.9712	0.032	3.34	53916	45269
16	1,2,3,4,6,7,8-HpCDD	1000.000	1.47e7	1.04	NO	46.69	0.998	0.9956	0.020	2.04	39682	95492
17	OCDD	2000.000	2.99e7	0.87	NO	50.27	1.001	1.0186	0.028	2.76	1672779	22017...
18	13C-2,3,7,8-TCDF	100.000	3.94e6	0.74	NO	25.24	1.659	1.6147	0.046	2.83	2819	5382
19	13C-1,2,3,7,8-PeCDF	100.000	3.15e6	1.54	NO	33.56	1.327	1.1640	0.091	7.84	6710	8542
20	13C-2,3,4,7,8-PeCDF	100.000	3.11e6	1.54	NO	35.32	1.310	1.1228	0.100	8.87	7608	9709
21	13C-1,2,3,4,7,8-HxCDF	100.000	2.30e6	0.52	NO	40.70	1.292	1.2764	0.037	2.93	2129	8318
22	13C-1,2,3,6,7,8-HxCDF	100.000	2.47e6	0.51	NO	40.87	1.386	1.3633	0.031	2.30	2240	8968
23	13C-2,3,4,6,7,8-HxCDF	100.000	2.20e6	0.53	NO	41.82	1.237	1.2182	0.036	2.95	2100	8250
24	13C-1,2,3,7,8,9-HxCDF	100.000	2.19e6	0.52	NO	42.86	1.226	1.2015	0.043	3.61	2116	8474
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	1.87e6	0.45	NO	45.31	1.048	1.0186	0.040	3.89	3711	5278
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	1.49e6	0.44	NO	47.10	0.837	0.7945	0.043	5.44	2854	4092
27	13C-2,3,7,8-TCDD	100.000	2.50e6	0.82	NO	26.45	1.052	1.0042	0.038	3.74	4030	5751
28	13C-1,2,3,7,8-PeCDD	100.000	1.79e6	0.67	NO	36.15	0.753	0.6582	0.053	8.04	7033	5504
29	13C-1,2,3,4,7,8-HxCDD	100.000	1.79e6	1.26	NO	42.11	1.004	0.9841	0.037	3.74	2932	3831
30	13C-1,2,3,6,7,8-HxCDD	100.000	1.92e6	1.26	NO	42.25	1.075	1.0407	0.026	2.53	3328	4327
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	1.48e6	1.05	NO	46.69	0.828	0.8135	0.035	4.34	3395	12557
32	13C-OCDD	200.000	2.98e6	0.89	NO	50.27	0.837	0.7155	0.075	10.43	15568	2916
33	13C-1,2,3,4-TCDD	100.000	2.37e6	0.80	NO	26.13	237...	22602.6799	1977.986	8.75	3941	5862
34	13C-1,2,3,7,8,9-HxCDD	100.000	1.78e6	1.23	NO	42.67	178...	14280.3905	2145.257	15.02	3012	3870
35	37Cl-2,3,7,8-TCDD	200.000	5.38e6			26.49	1.135	1.1134	0.079	7.11	43575	
36	Total Tetra-Furans	200.000						0.9149	0.022	2.43		
37	Total Tetra-Dioxins	200.000						1.1119	0.079	7.15		
38	Total Penta-Furans	1000.000						0.9236	0.039	4.19		
39	Total Penta-Dioxins	1000.000						1.0267	0.055	5.33		
40	Total Hexa-Furans	1000.000						1.1161	0.036	3.26		
41	Total Hexa-Dioxins	1000.000						1.0036	0.036	3.60		
42	Total Hepta-Furans	1000.000						1.2235	0.041	3.38		
43	Total Hepta-Dioxins	1000.000						0.9956	0.020	2.04		
44	Hexa DPE	0.000	1.45e3			23.47	0.000				5	
45	Hepta DPE	0.000	1.29e4			37.56	0.000				470647	
46	Octa DPE	0.000	7.82e1			40.13	0.000				9	
47	Nona DPE	0.000	7.92e1			48.53	0.000				2102	
48	Deca DPE	0.000	1.05e1			49.07	0.000				214	
49	Tetra Lock	0.000	2.59e4			24.20	0.000				1	
50	Penta Lock	0.000	1.43e6			29.33	0.000				1	
51	Hexa Lock	0.000										
52	Hepta Lock	0.000	5.95e4			47.10	0.000				4	
53	Octa Lock	0.000										
54	13C-Tetra-Furans	100.000						1.6147	0.046	2.83		
55	13C-Tetra-Dioxins	100.000						1.0042	0.038	3.74		

PV LHE 06-JUNE-2018

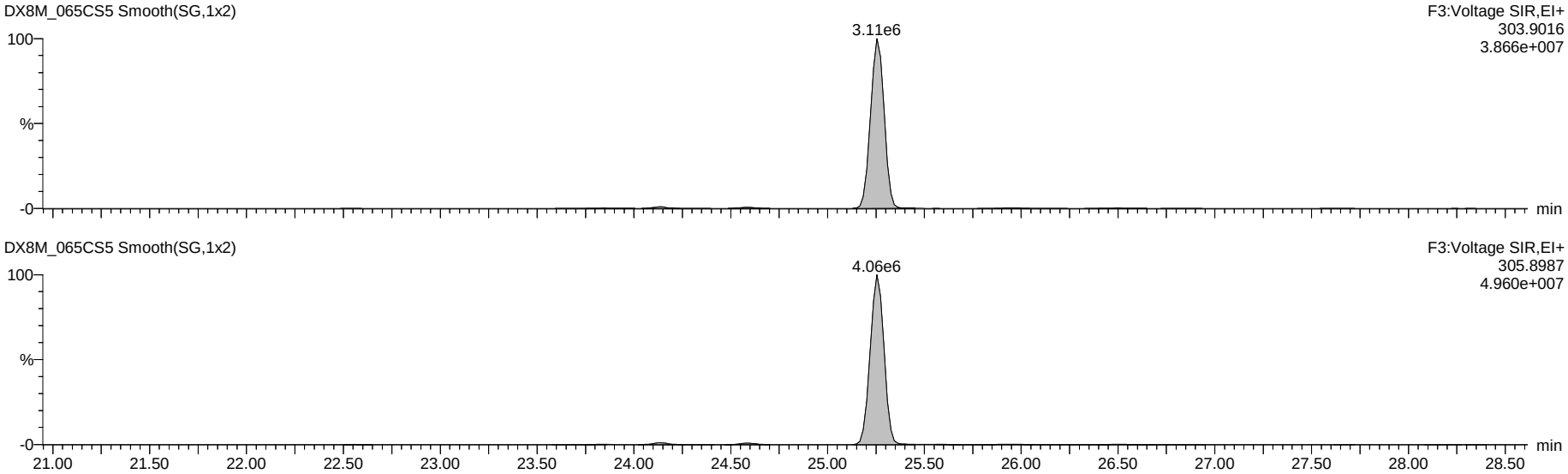
SVByKB 06Jun2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

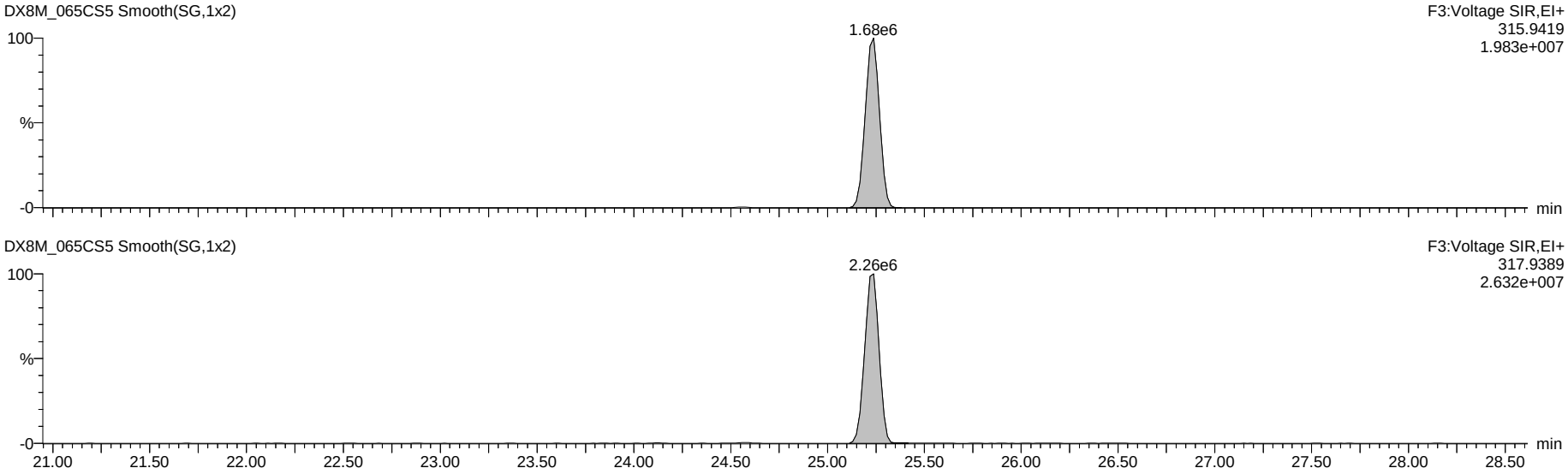
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: 06 Jun 2018 09:11:00

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Tetra-Furans



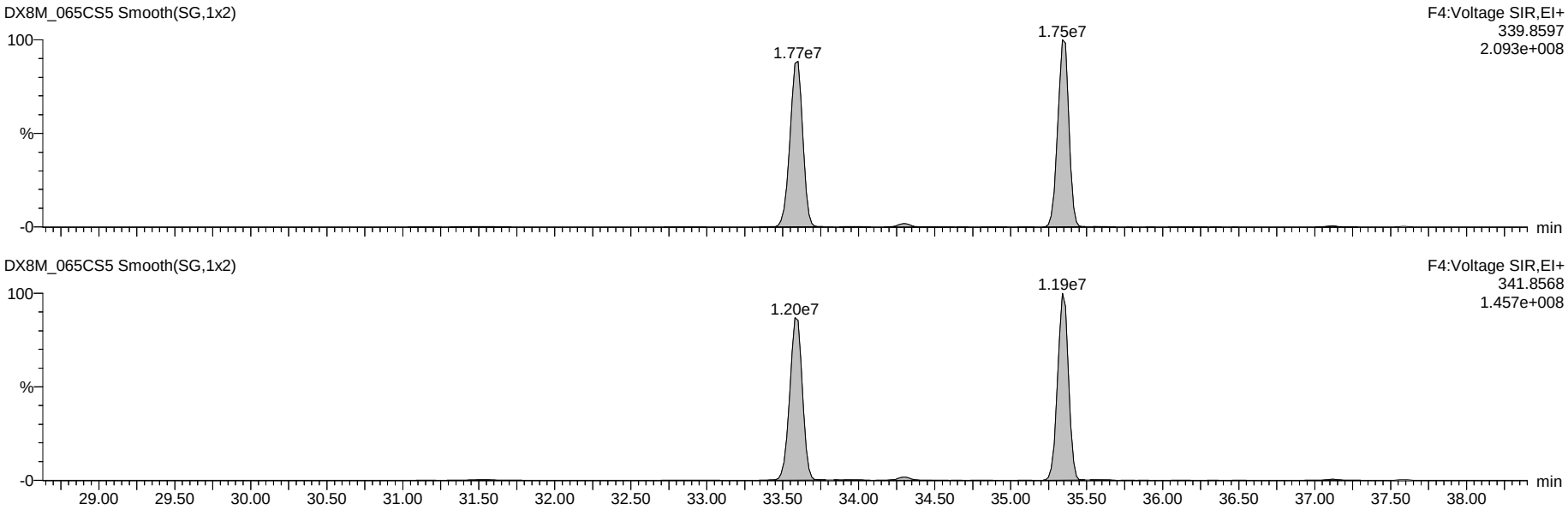
13C-Tetra-Furans



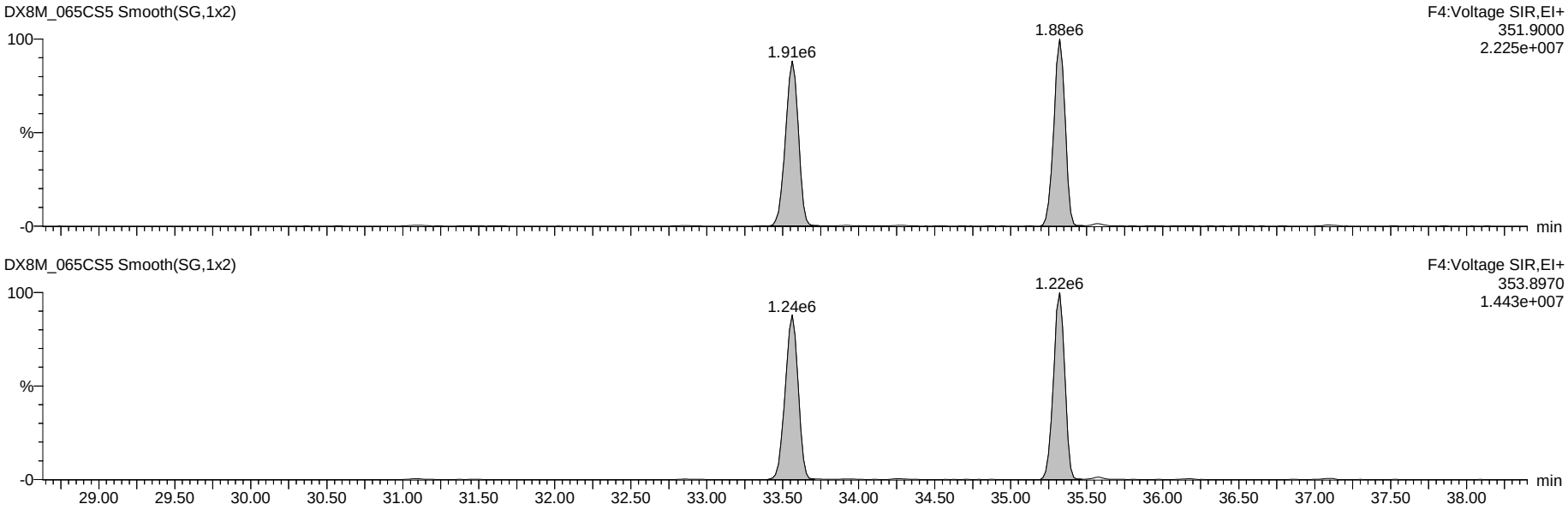
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Penta-Furans



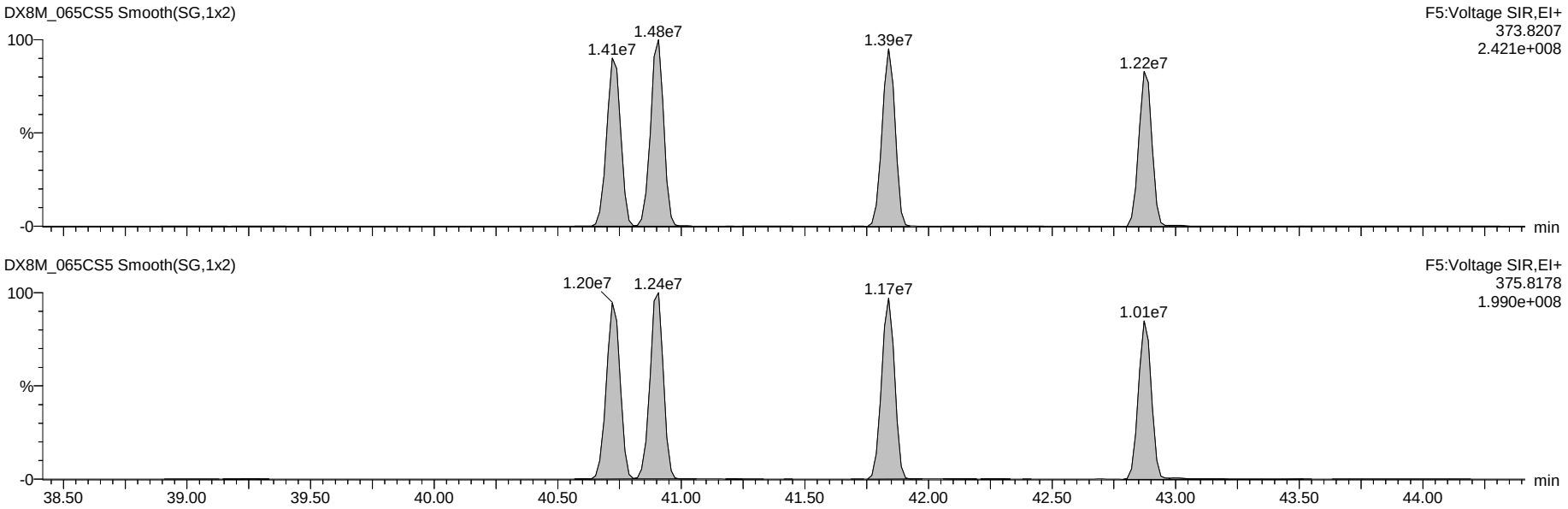
13C-Penta-Furans



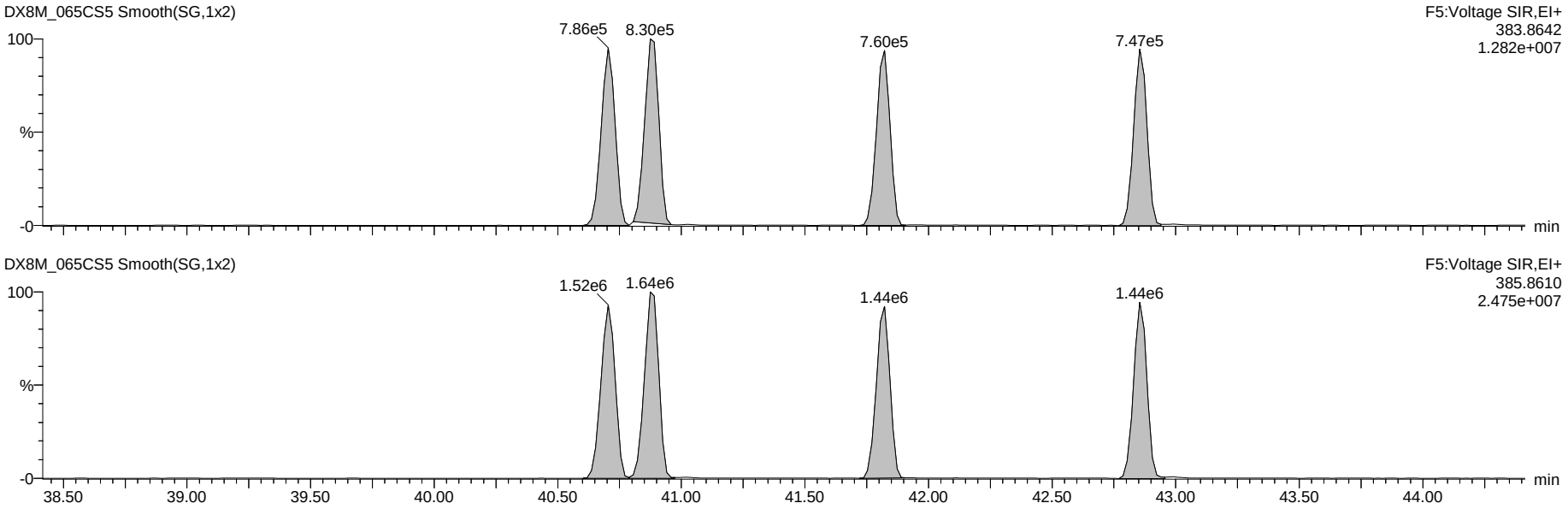
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Hexa-Furans



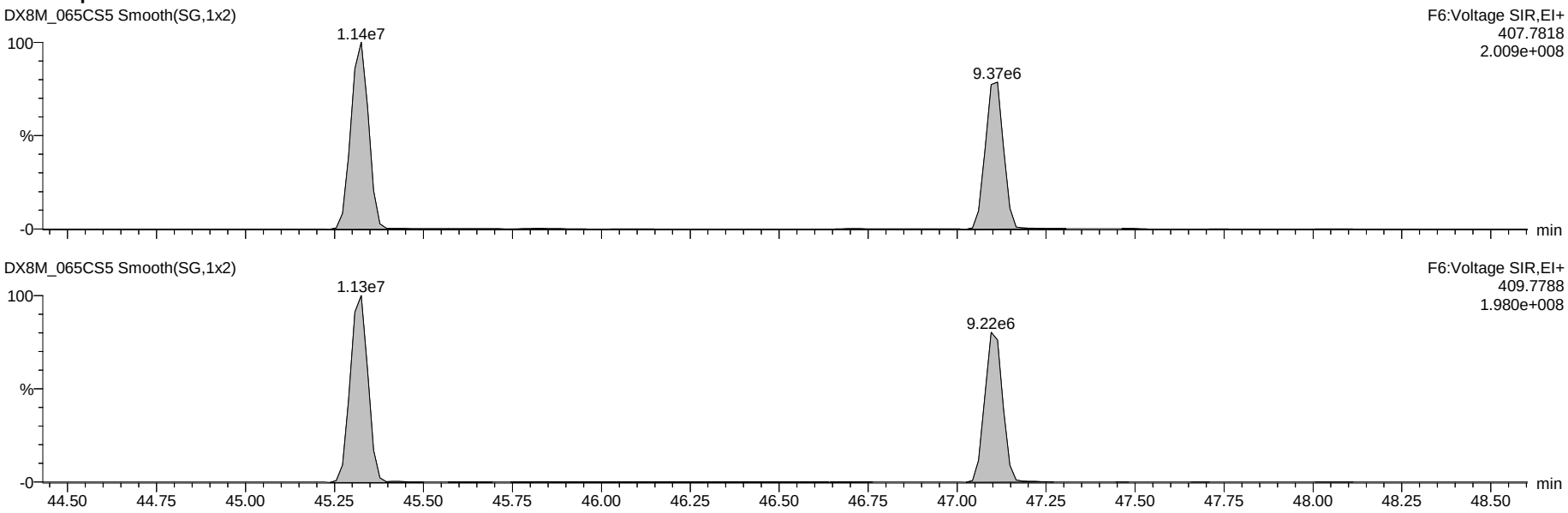
13C-Hexa-Furans



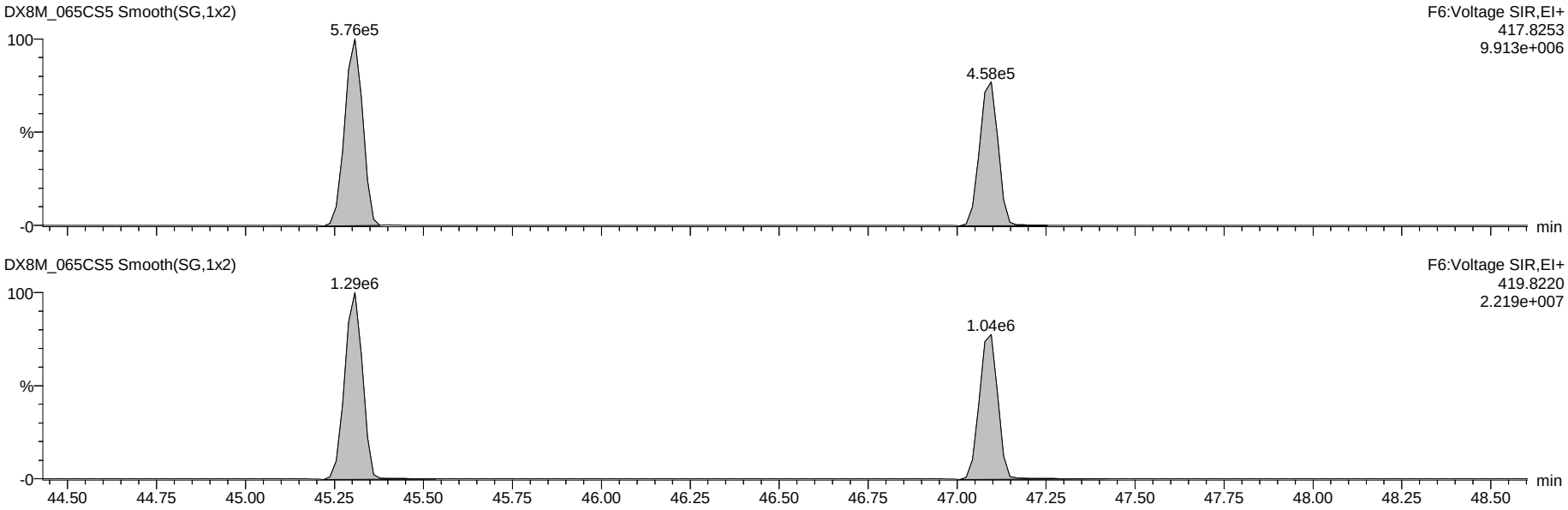
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Hepta-Furans



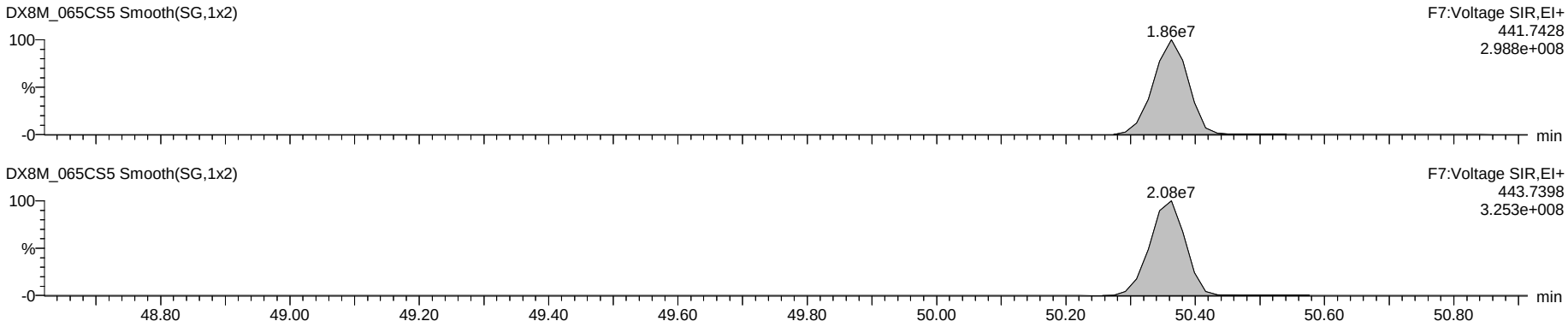
13C-Hepta-Furans



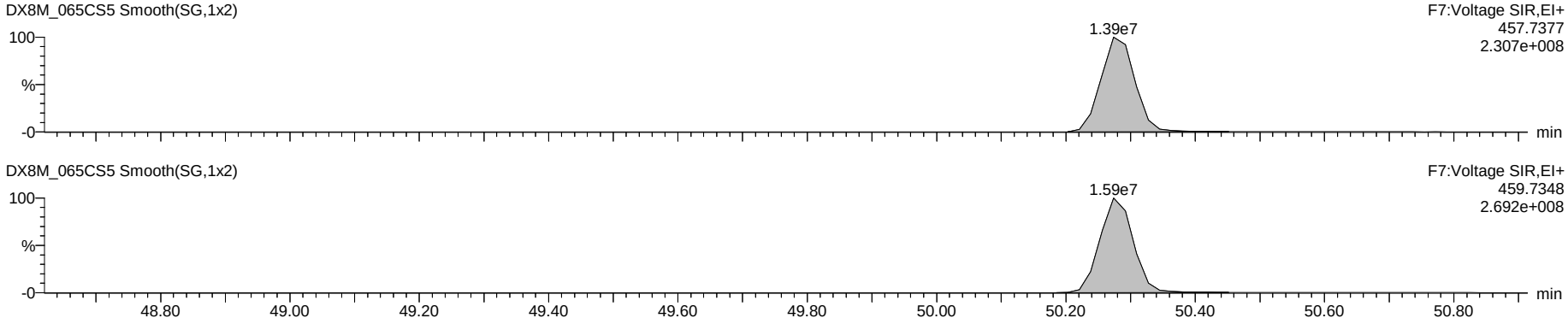
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

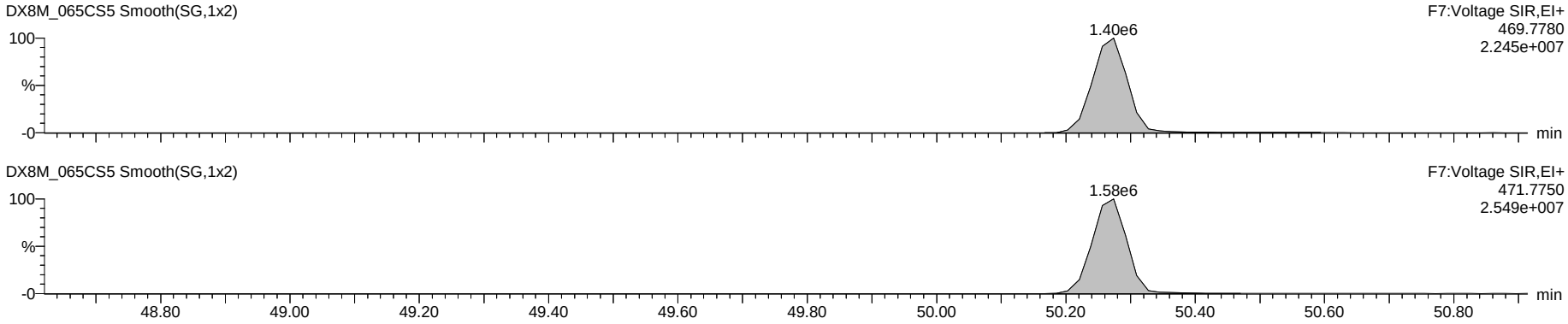
OCDF



OCDD



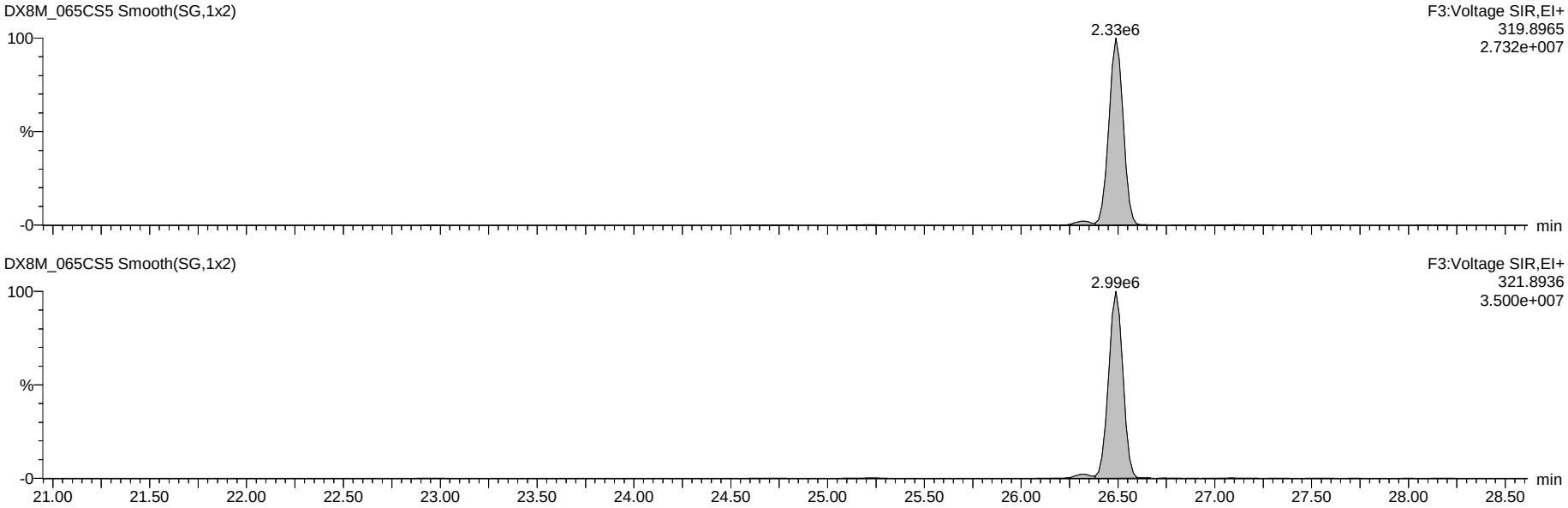
13C-OCDD



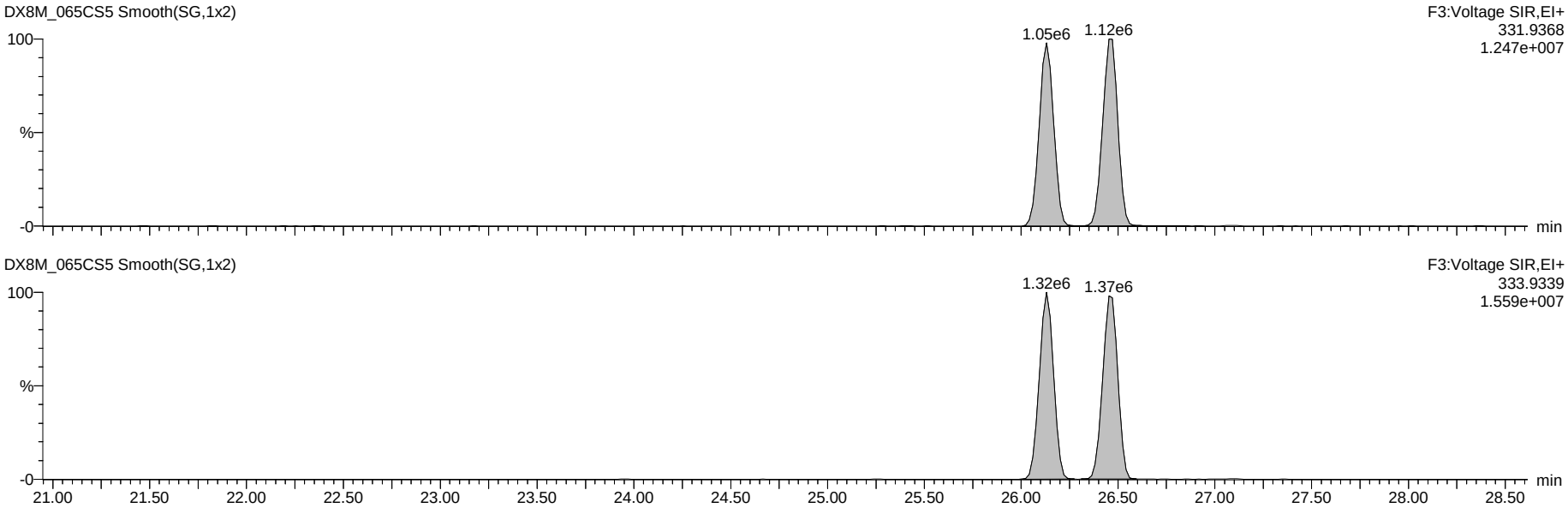
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Tetra-Dioxins



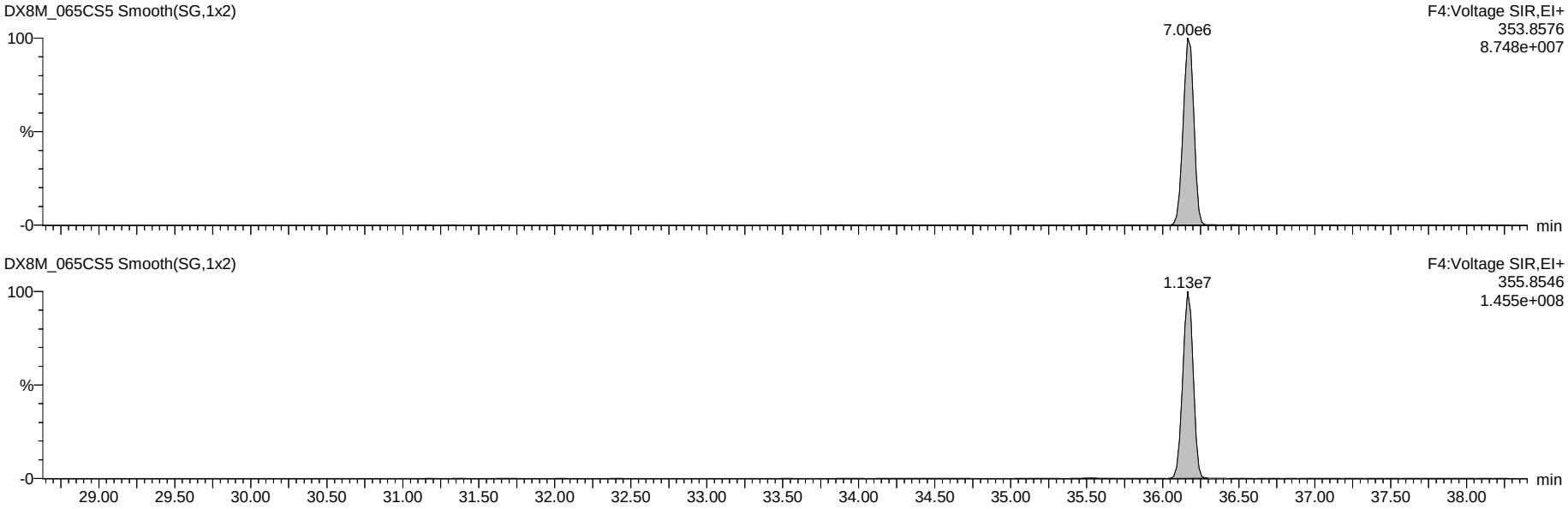
13C-Tetra-Dioxins



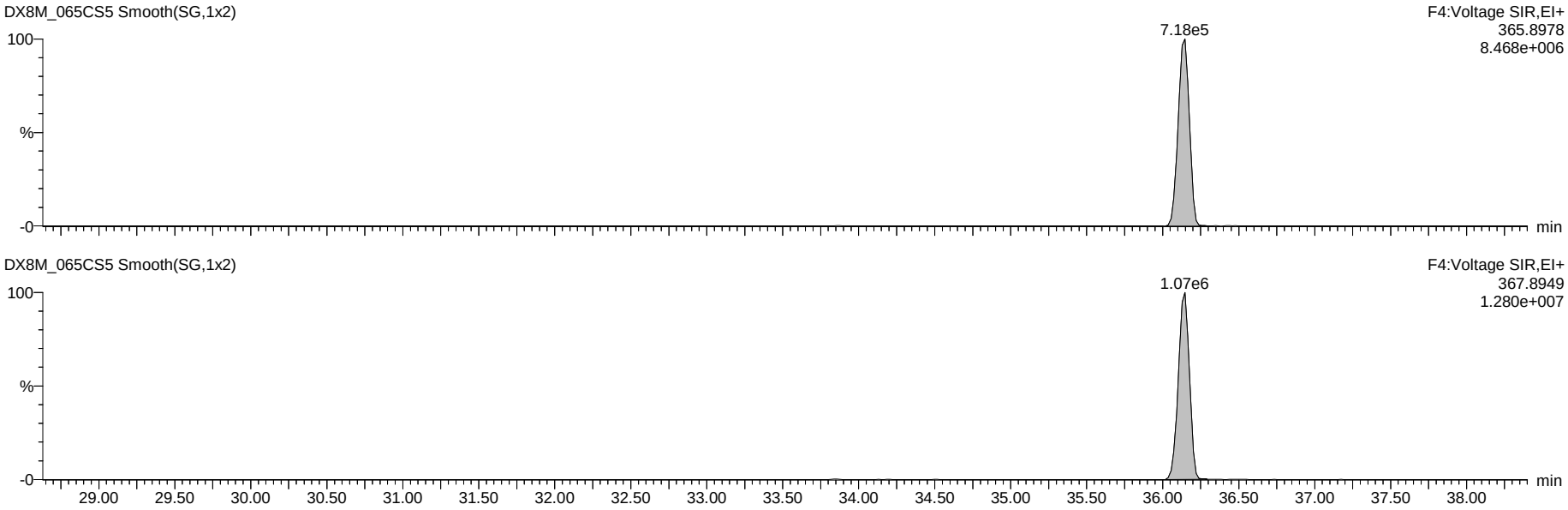
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Penta-Dioxins



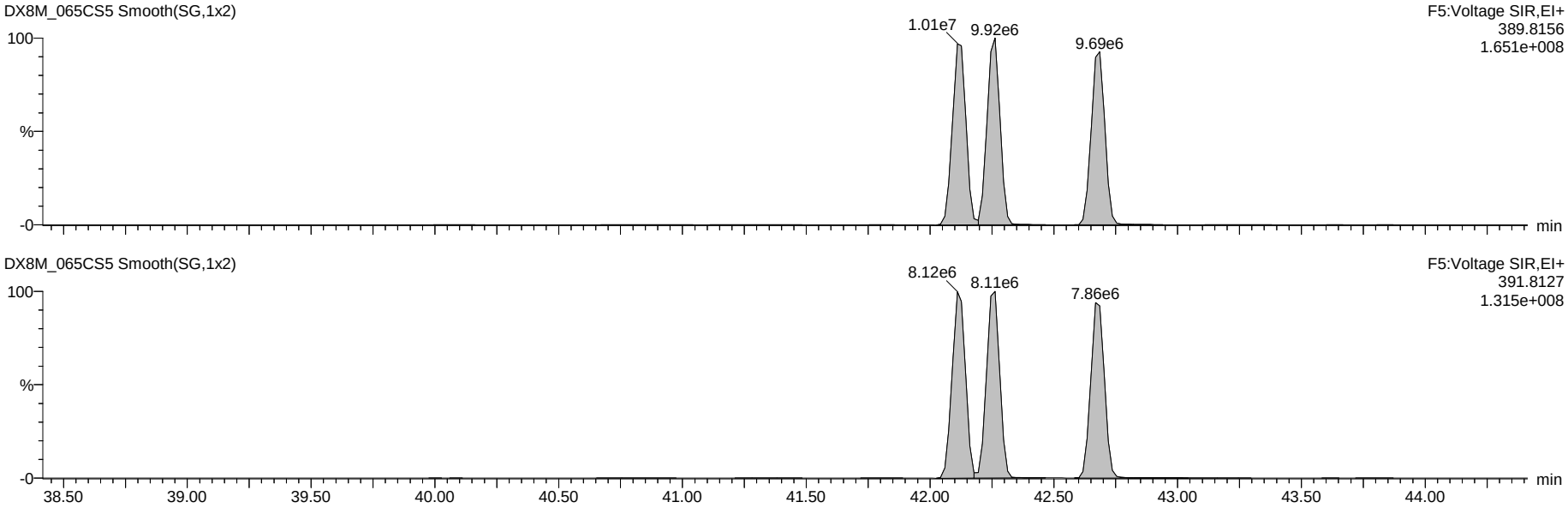
13C-Penta-Dioxins



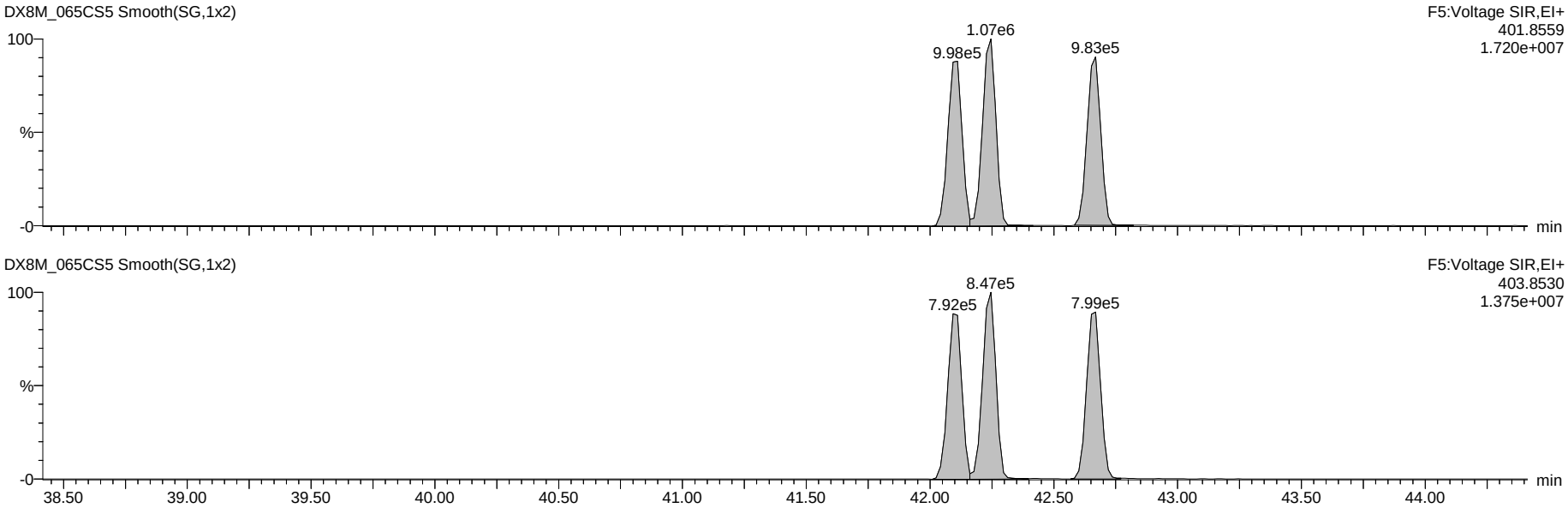
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Hexa-Dioxins



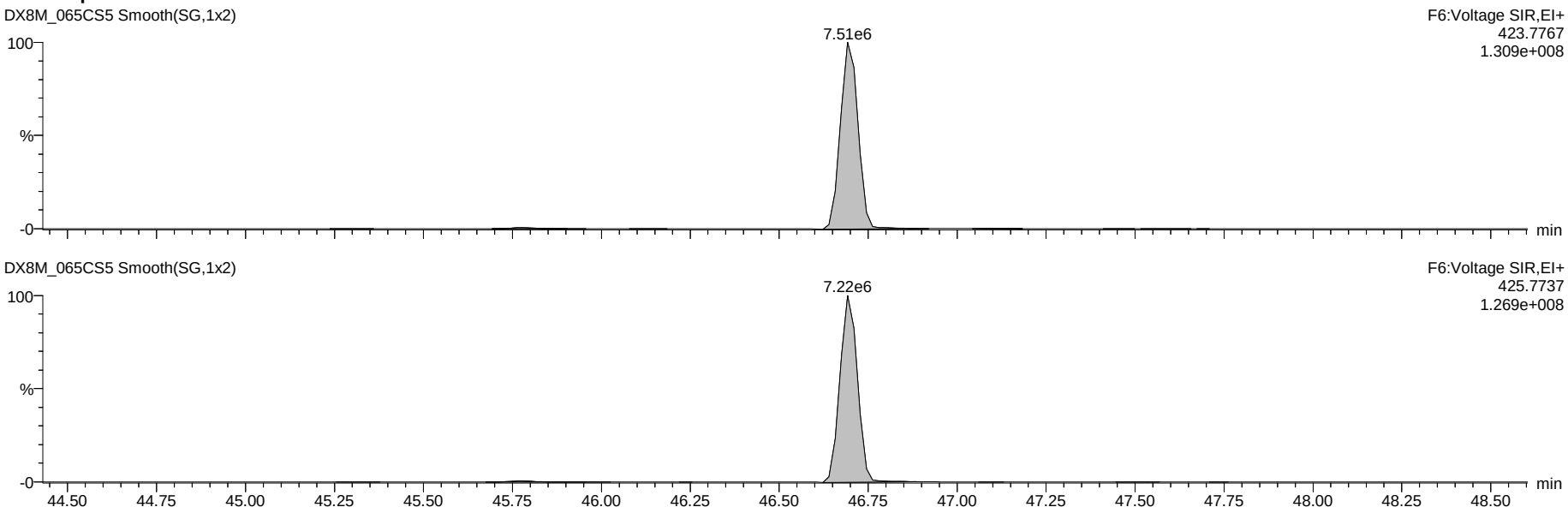
13C-Hexa-Dioxins



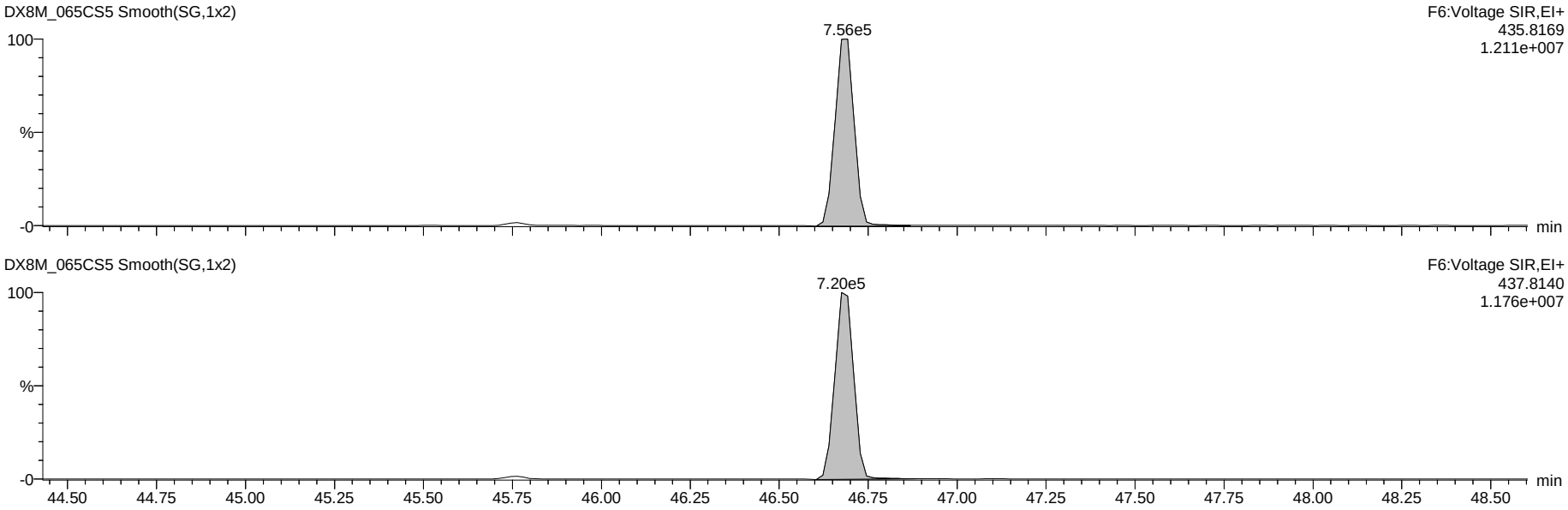
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

Total Hepta-Dioxins



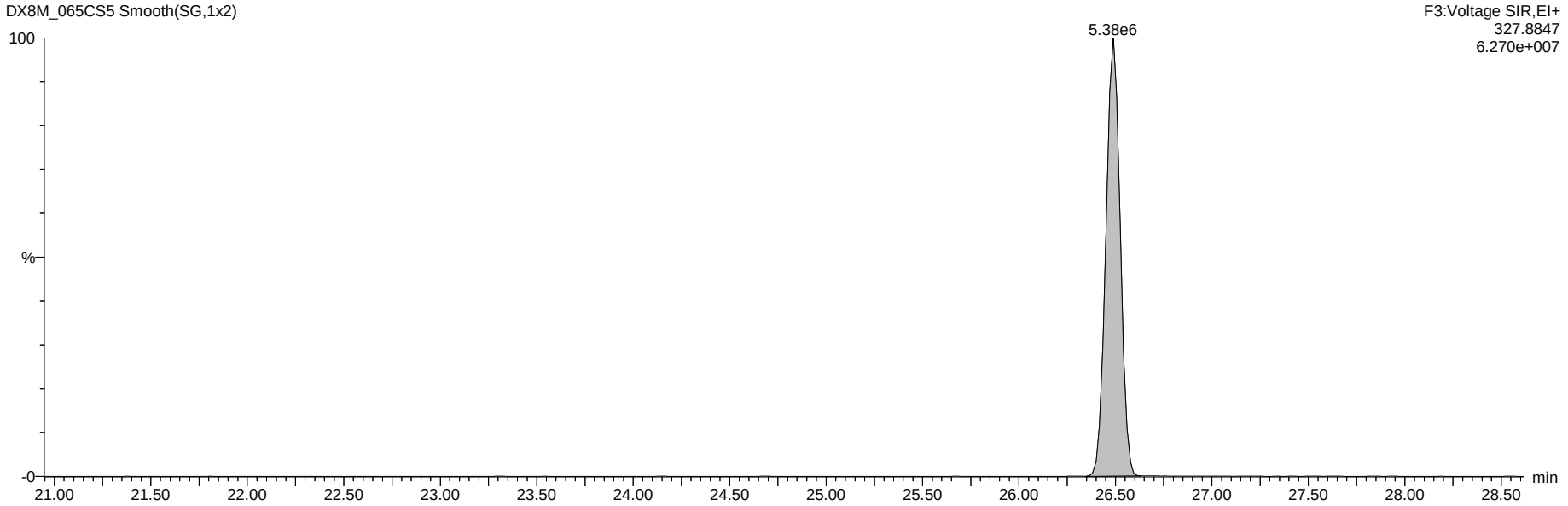
13C-Hepta-Dioxins



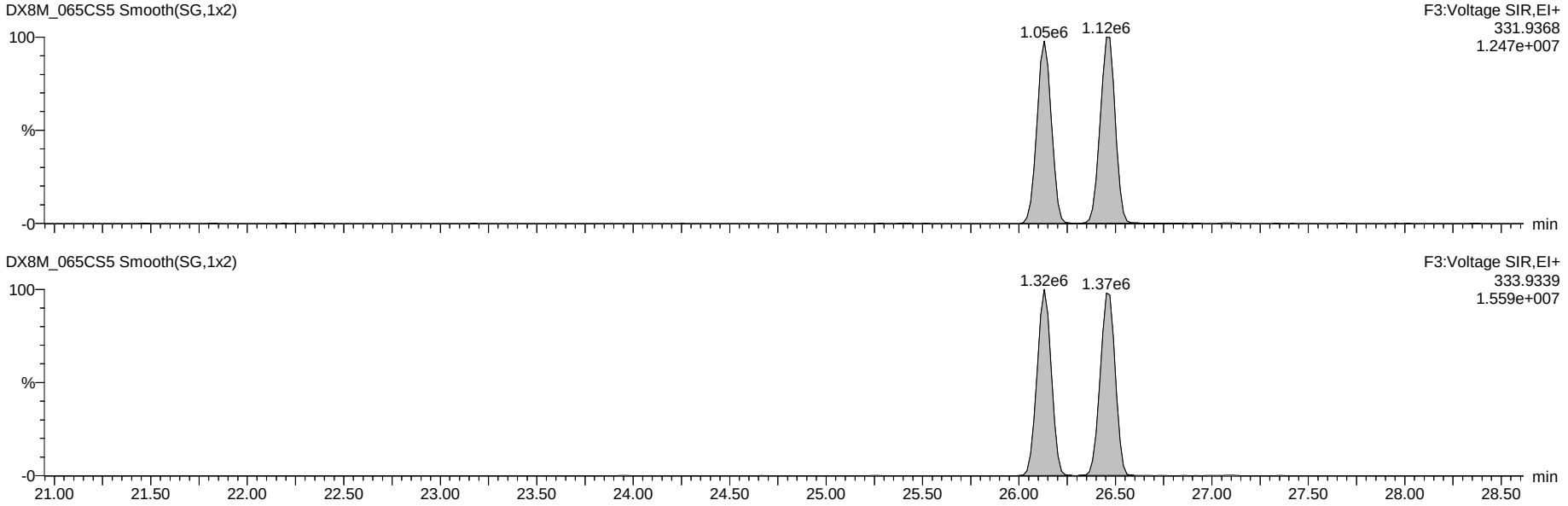
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

37Cl-2,3,7,8-TCDD



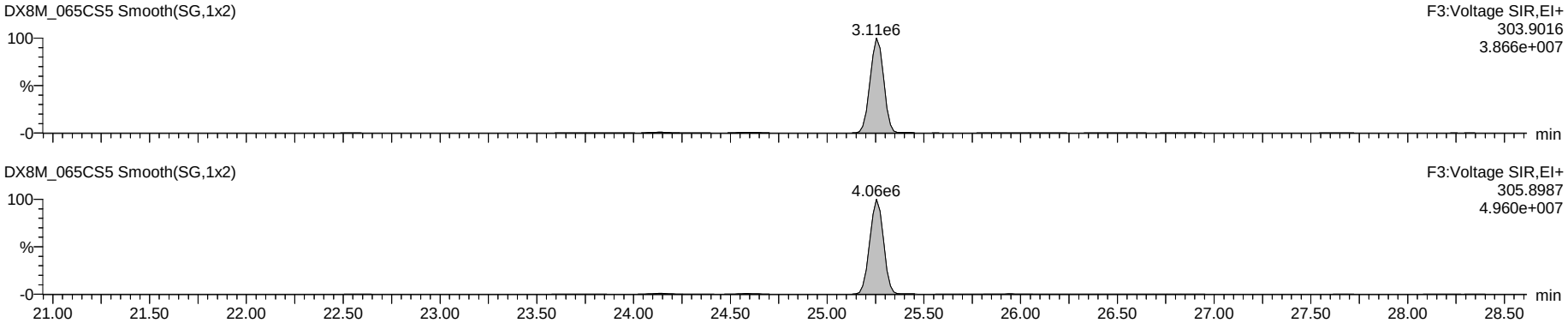
13C-Tetra-Dioxins



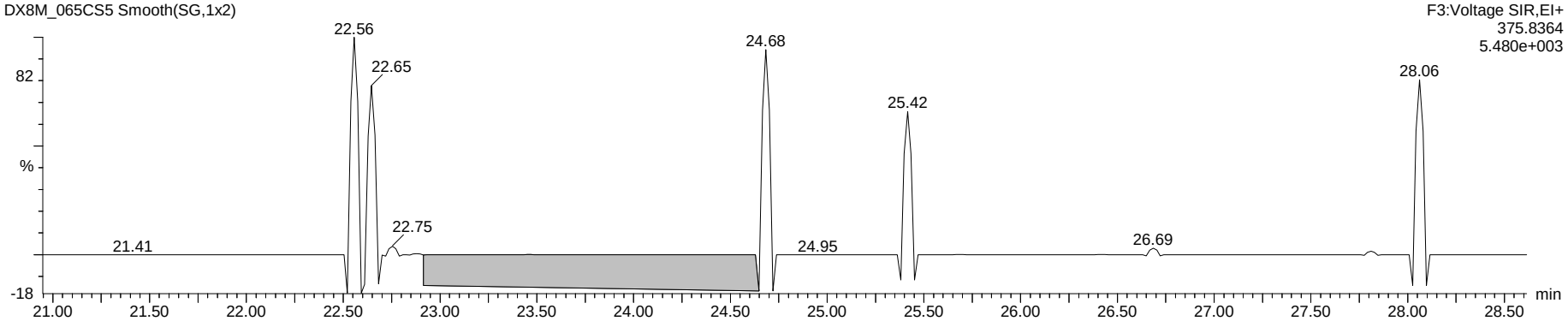
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

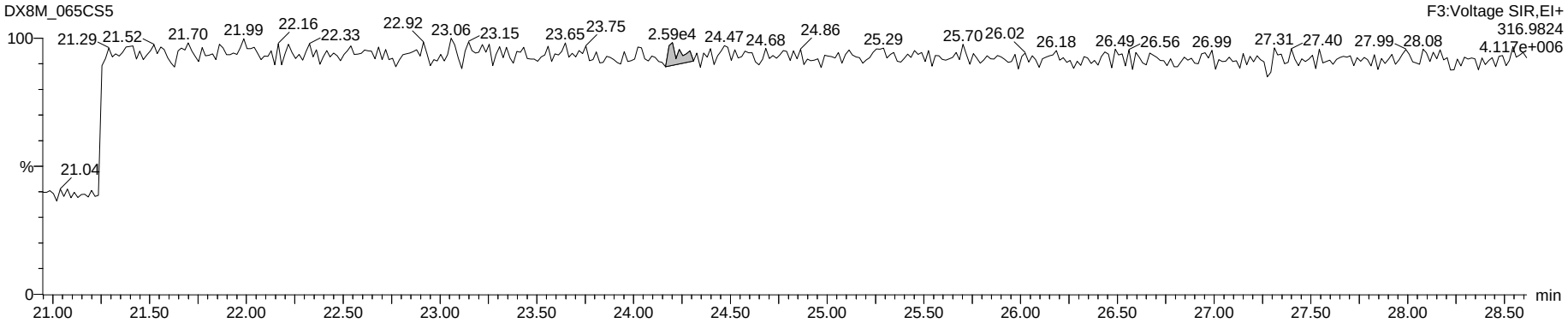
Total Tetra-Furans



Hexa DPE



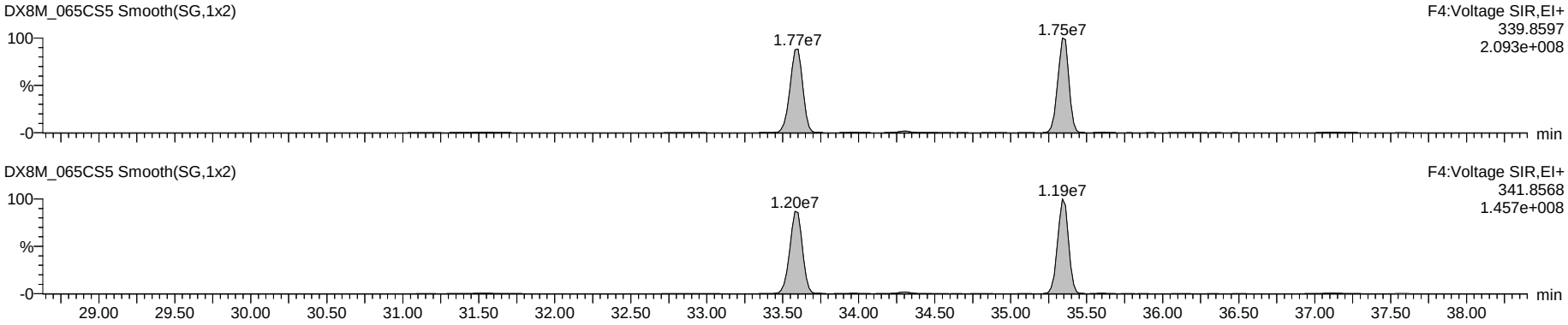
Tetra Lock



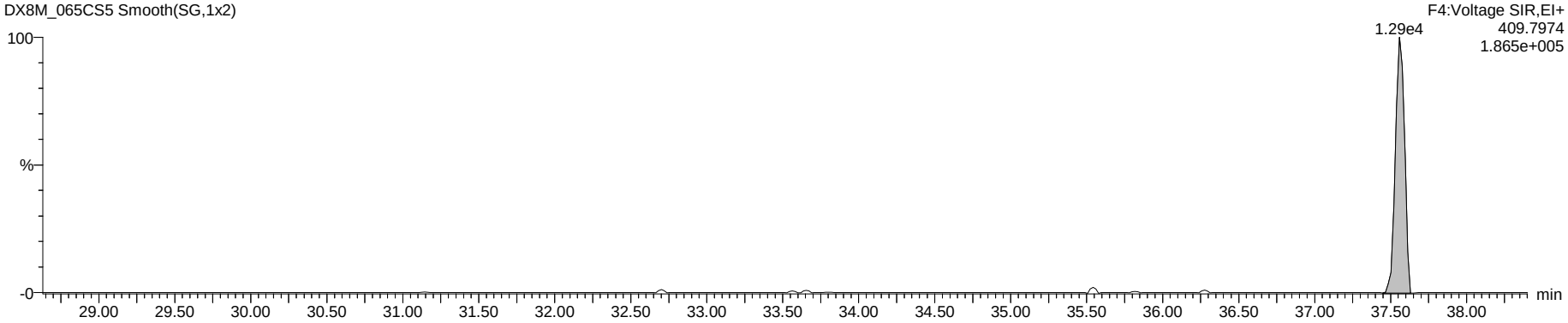
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

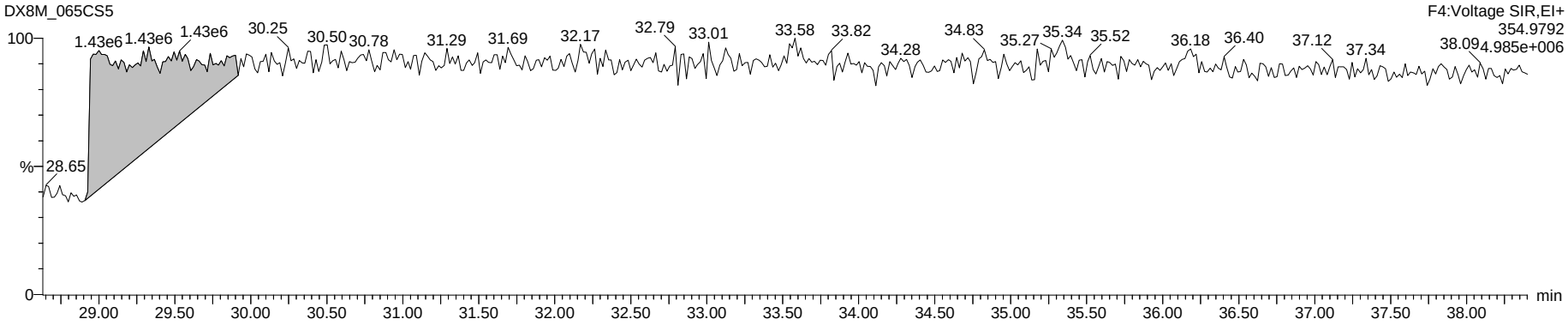
Total Penta-Furans



Hepta DPE



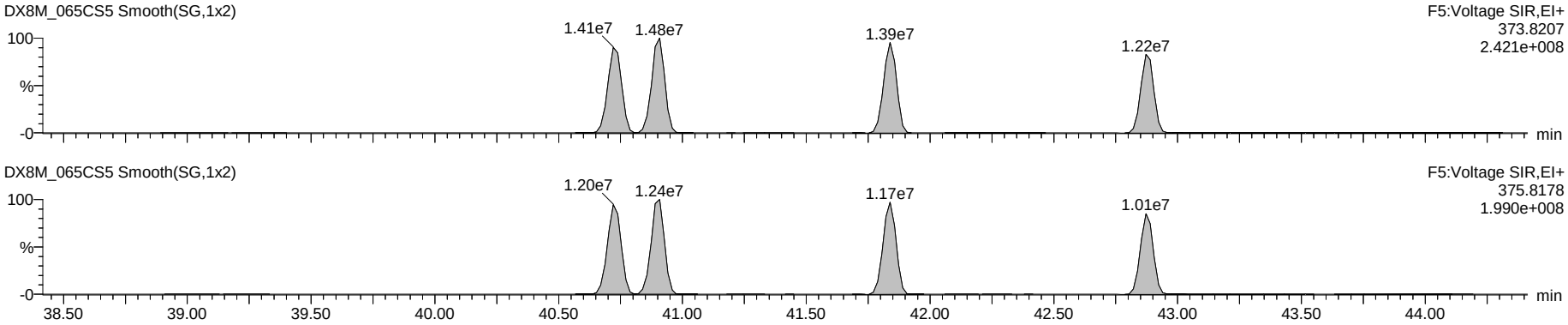
Penta Lock



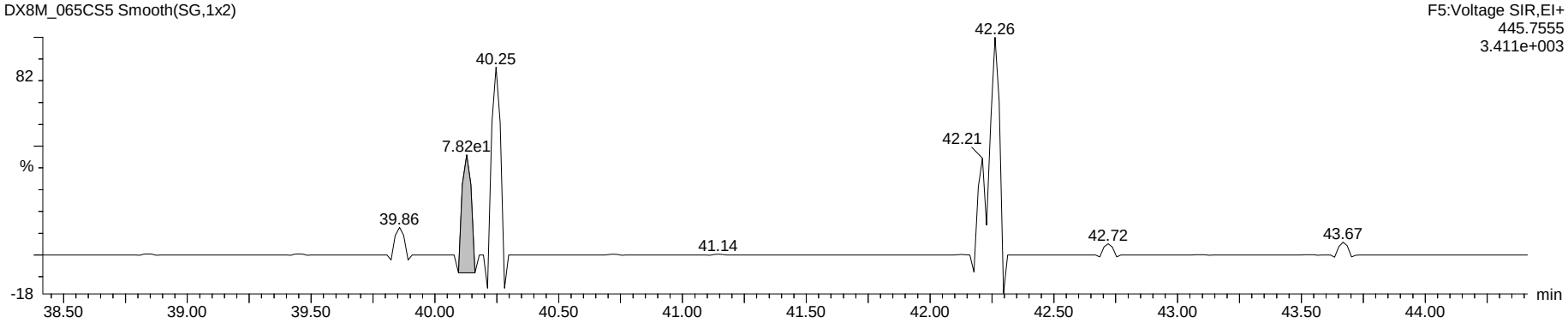
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

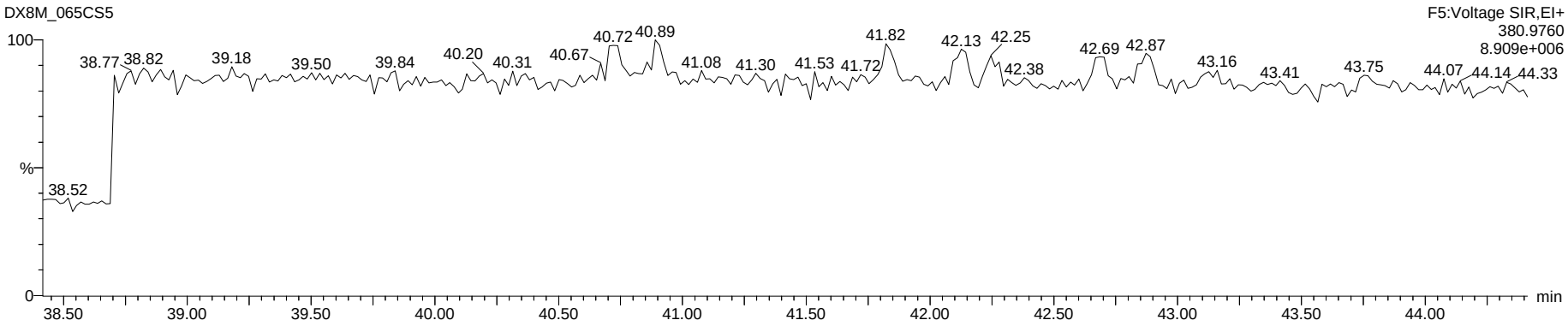
Total Hexa-Furans



Octa DPE



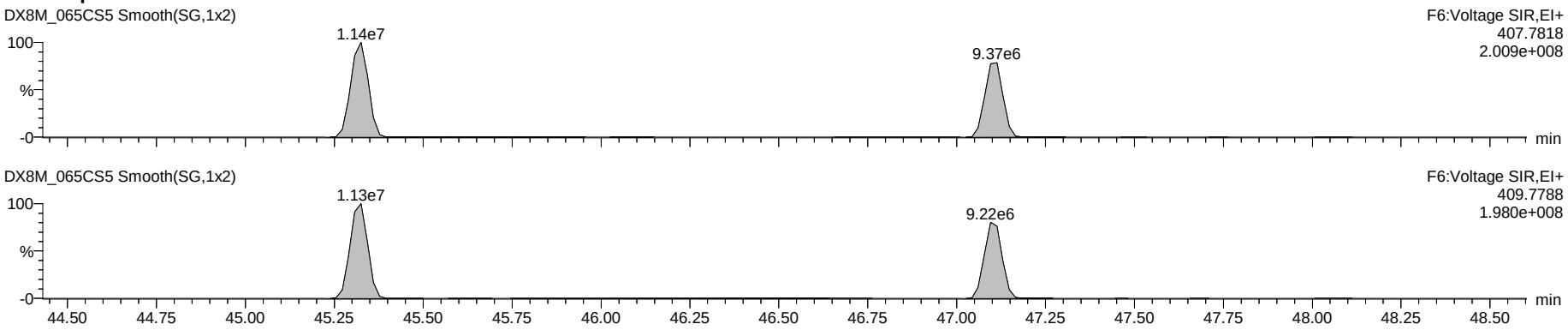
Hexa Lock



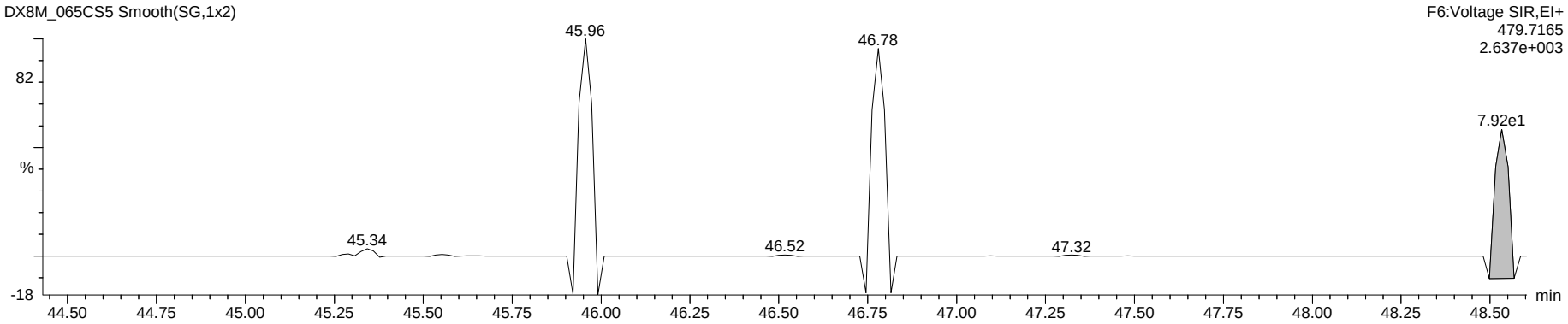
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

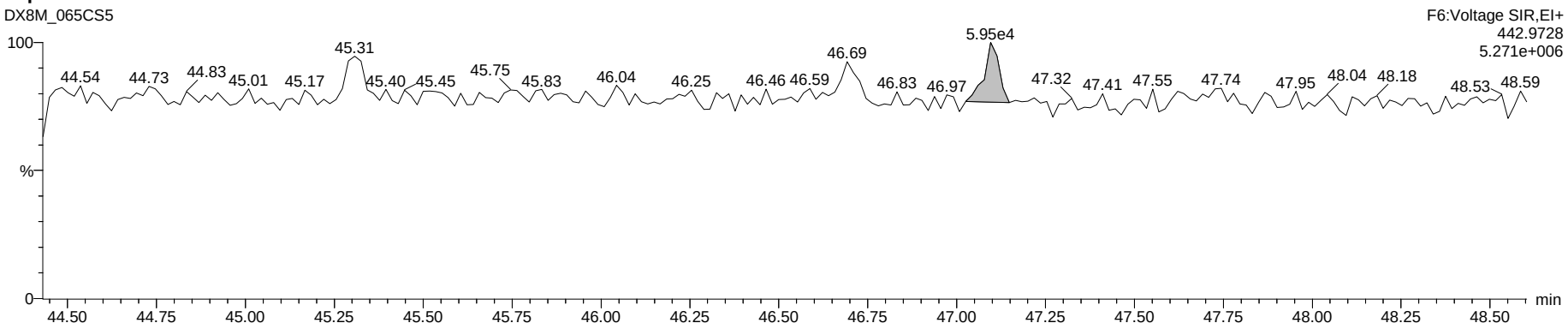
Total Hepta-Furans



Nona DPE



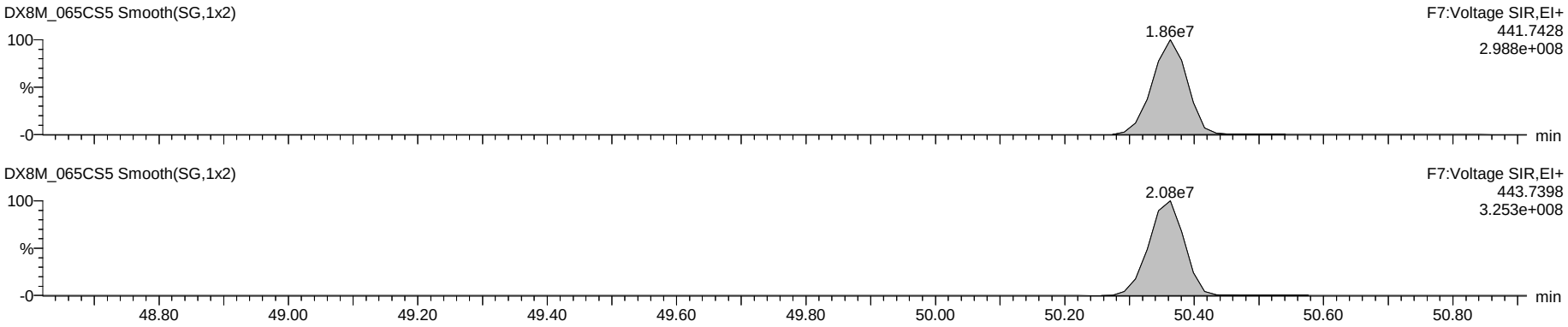
Hepta Lock



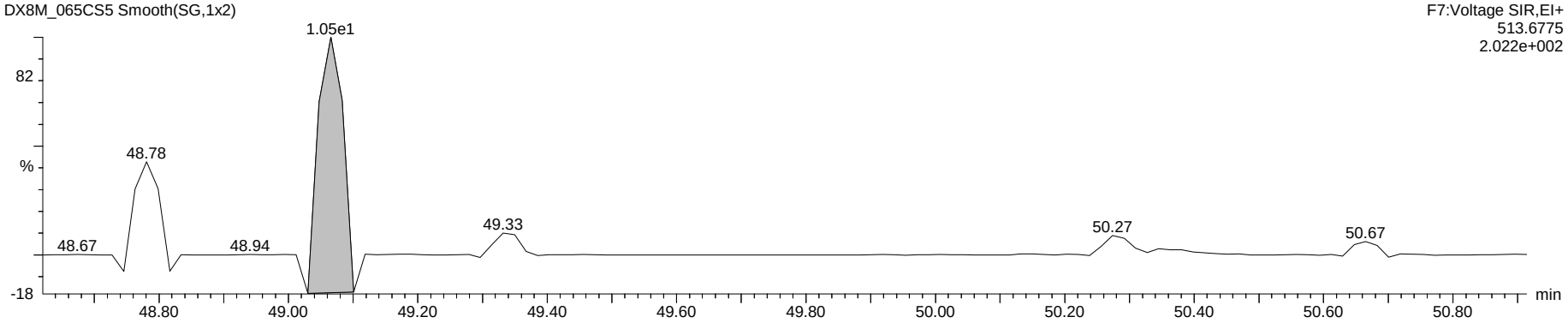
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6A.qld

Name: DX8M_065CS5, Date: 04-Jun-2018, Time: 22:16:47, ID: DX041F-CAL,,/01, Description: 1,,1.0uL CS-5

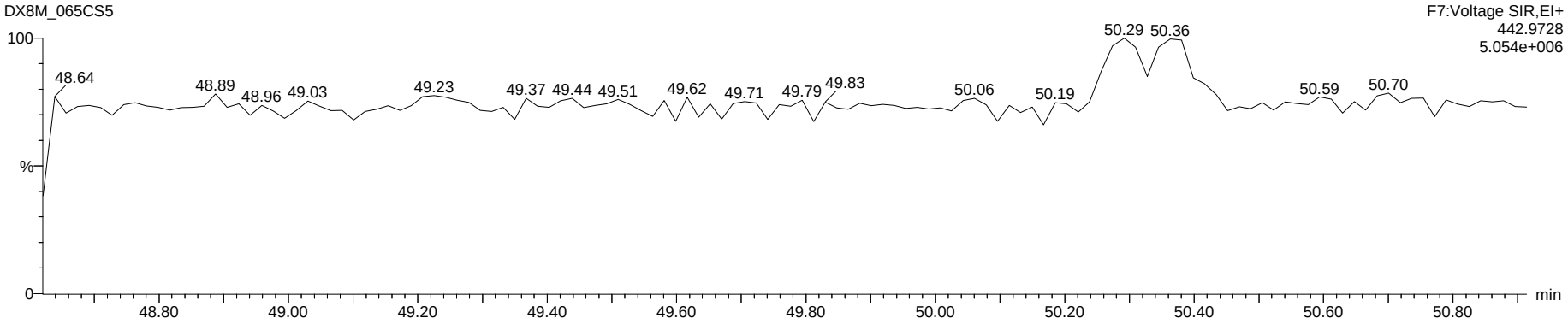
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	3.32e5	0.73	NO	25.26	10.264	0.0127	102.6	1.10e3	9.18e2
2	1,2,3,7,8-PeCDF	1.000	1.13e6	1.49	NO	33.58	50.216	0.0349	100.4	1.60e3	1.59e3
3	2,3,4,7,8-PeCDF	1.000	1.09e6	1.48	NO	35.34	49.594	0.0311	99.2	1.60e3	1.59e3
4	1,2,3,4,7,8-HxCDF	1.000	8.87e5	1.17	NO	40.72	48.481	0.0299	97.0	1.56e3	1.66e3
5	1,2,3,6,7,8-HxCDF	1.000	9.54e5	1.16	NO	40.89	50.355	0.0281	100.7	1.56e3	1.66e3
6	2,3,4,6,7,8-HxCDF	1.000	9.08e5	1.16	NO	41.84	50.923	0.0298	101.8	1.56e3	1.66e3
7	1,2,3,7,8,9-HxCDF	1.000	7.91e5	1.18	NO	42.87	50.662	0.0335	101.3	1.56e3	1.66e3
8	1,2,3,4,6,7,8-HpCDF	1.000	8.54e5	0.99	NO	45.31	53.764	0.0360	107.5	1.69e3	1.87e3
9	1,2,3,4,7,8,9-HpCDF	1.000	6.47e5	0.99	NO	47.10	49.530	0.0415	99.1	1.69e3	1.87e3
10	OCDF	1.000	1.11e6	0.87	NO	50.35	107.836	0.0211	107.8	8.83e2	4.18e2
11	2,3,7,8-TCDD	1.000	2.42e5	0.77	NO	26.49	10.069	0.0139	100.7	7.40e2	7.68e2
12	1,2,3,7,8-PeCDD	1.000	7.22e5	0.62	NO	36.17	51.628	0.0249	103.3	8.45e2	8.09e2
13	1,2,3,4,7,8-HxCDD	1.000	6.51e5	1.24	NO	42.11	51.275	0.0340	102.6	1.74e3	1.04e3
14	1,2,3,6,7,8-HxCDD	1.000	6.51e5	1.26	NO	42.25	52.033	0.0357	104.1	1.74e3	1.04e3
15	1,2,3,7,8,9-HxCDD	1.000	6.44e5	1.24	NO	42.67	50.912	0.0347	101.8	1.74e3	1.04e3
16	1,2,3,4,6,7,8-HpCDD	1.000	5.22e5	1.03	NO	46.69	51.465	0.0266	102.9	6.40e2	1.17e3
17	OCDD	1.000	8.62e5	0.89	NO	50.26	101.373	0.0600	101.4	1.61e3	1.46e3
18	13C-2,3,7,8-TCDF	1.000	3.54e6	0.76	NO	25.24	99.971	0.0725	100.0	4.98e3	6.63e3
19	13C-1,2,3,7,8-PeCDF	1.000	2.43e6	1.54	NO	33.56	95.186	0.0458	95.2	1.35e3	3.95e3
20	13C-2,3,4,7,8-PeCDF	1.000	2.35e6	1.56	NO	35.32	95.483	0.0475	95.5	1.35e3	3.95e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	1.64e6	0.52	NO	40.70	99.362	0.0610	99.4	3.84e3	2.51e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	1.78e6	0.52	NO	40.87	101.197	0.0571	101.2	3.84e3	2.51e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	1.56e6	0.52	NO	41.81	99.399	0.0639	99.4	3.84e3	2.51e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.56e6	0.54	NO	42.85	100.698	0.0648	100.7	3.84e3	2.51e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.30e6	0.46	NO	45.29	98.673	0.0685	98.7	2.82e3	2.87e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	1.04e6	0.46	NO	47.08	101.607	0.0878	101.6	2.82e3	2.87e3
27	13C-2,3,7,8-TCDD	1.000	2.16e6	0.81	NO	26.47	98.293	0.0873	98.3	5.13e3	3.58e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.36e6	0.65	NO	36.15	94.509	0.0723	94.5	3.94e3	7.77e2
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.27e6	1.26	NO	42.09	99.514	0.0562	99.5	1.76e3	2.75e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	1.34e6	1.25	NO	42.23	99.598	0.0531	99.6	1.76e3	2.75e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	1.02e6	1.02	NO	46.67	96.980	0.1276	97.0	4.17e3	4.30e3
32	13C-OCDD	1.000	1.67e6	0.88	NO	50.24	180.681	0.1429	90.3	2.04e3	6.30e3
33	13C-1,2,3,4-TCDD	1.000	2.19e6	0.78	NO	26.13	96.921	0.0850	96.9	5.13e3	3.58e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.29e6	1.23	NO	42.65	90.486	0.0500	90.5	1.76e3	2.75e3
35	37Cl-2,3,7,8-TCDD	1.000	2.21e5			26.49	9.050	0.0019	90.5		2.14e2
36	Total Tetra-Furans	1.000					10.504	0.0127			9.18e2
37	Total Tetra-Dioxins	1.000					10.411	0.0139			7.68e2
38	Total Penta-Furans	1.000					101.849	0.0333			1.59e3
39	Total Penta-Dioxins	1.000					52.140	0.0249			8.09e2
40	Total Hexa-Furans	1.000					201.824	0.0292			1.66e3
41	Total Hexa-Dioxins	1.000					155.428	0.0336			1.04e3
42	Total Hepta-Furans	1.000					105.030	0.0389			1.87e3
43	Total Hepta-Dioxins	1.000					52.954	0.0266			1.17e3
44	Hexa DPE	1.000	1.70e2			25.47					5.62e-1
45	Hepta DPE	1.000	6.00e2			37.58					5.80e1
46	Octa DPE	1.000	4.39e1			39.81					6.32e-1
47	Nona DPE	1.000	1.25e1			46.20					3.06e-1
48	Deca DPE	1.000	1.90e0			48.78					6.98e-1
49	Tetra Lock	1.000	1.11e3			23.74					2.12e5
50	Penta Lock	1.000	9.73e5			29.24					3.89e5
51	Hexa Lock	1.000	6.26e5			38.93					7.96e5
52	Hepta Lock	1.000	1.49e4			47.67					2.78e5
53	Octa Lock	1.000									2.52e5
54	13C-Tetra-Furans	1.000					99.971	0.0725			6.63e3
55	13C-Tetra-Dioxins	1.000					195.214	0.1723			3.58e3

pv'd by LHE 06-JUNE-2018

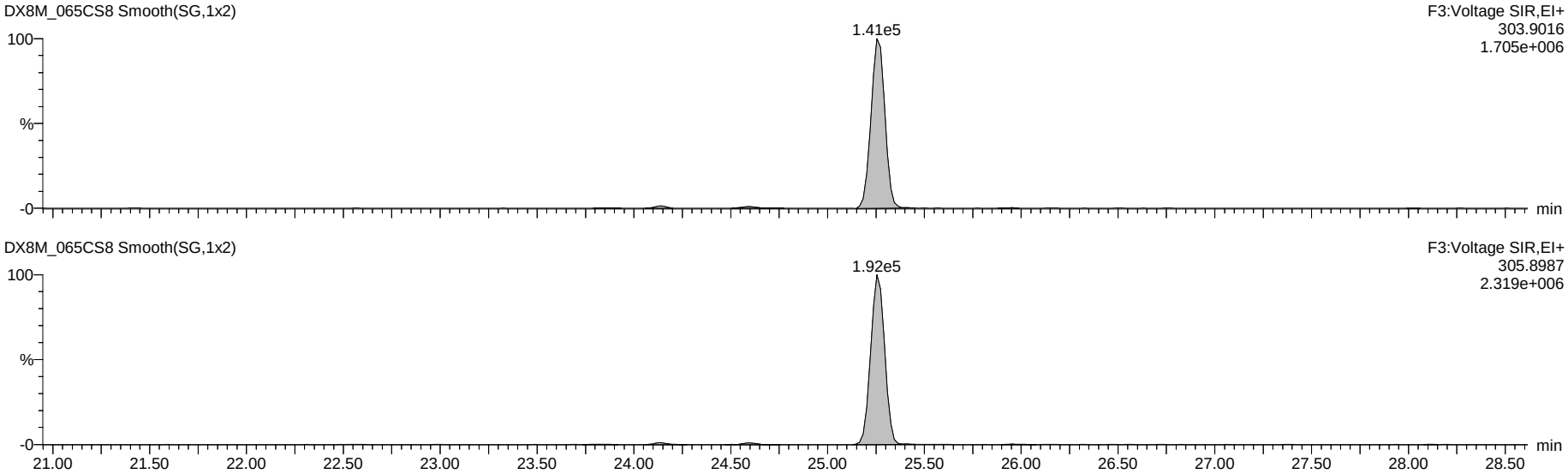
SVaj KB 06Jun2018

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

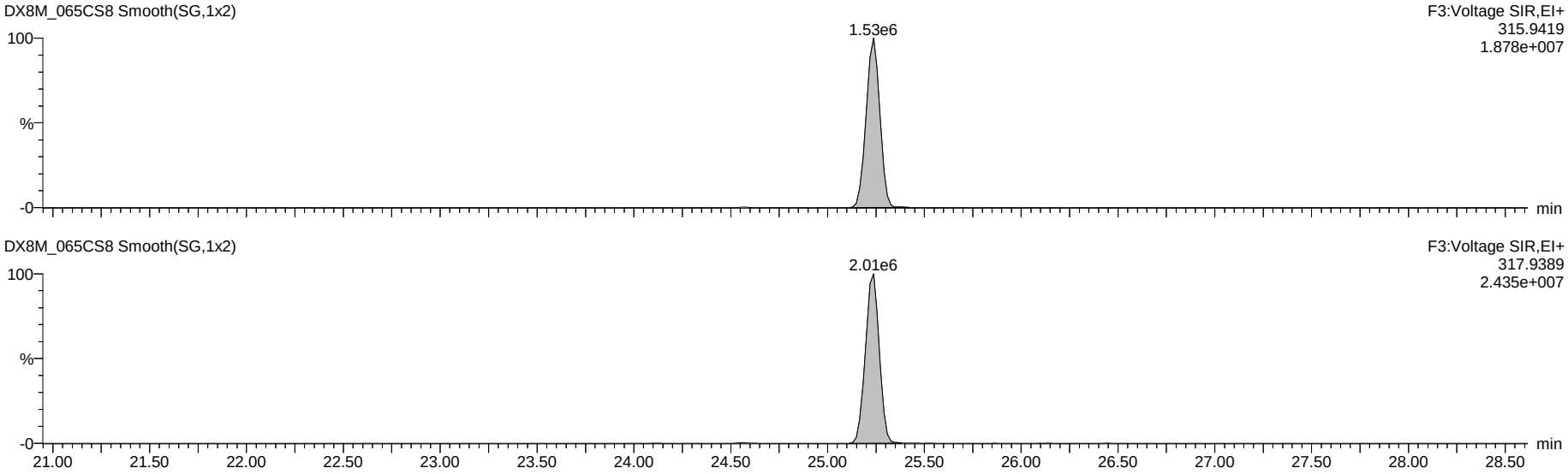
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.pro\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Tetra-Furans



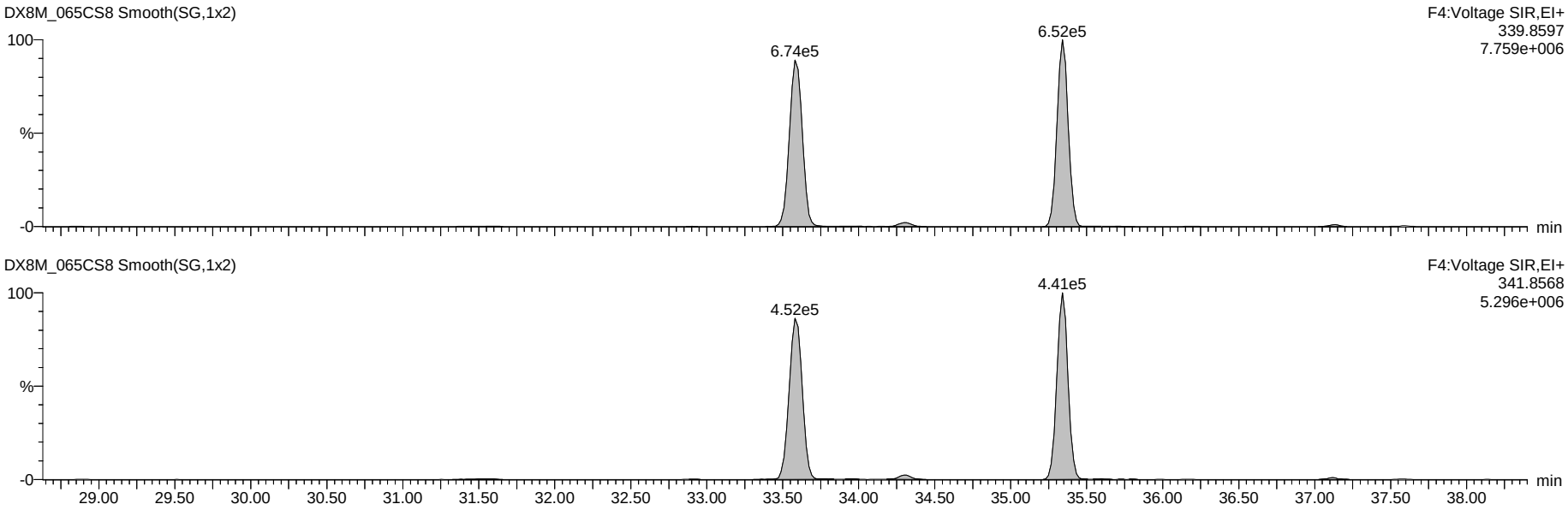
13C-Tetra-Furans



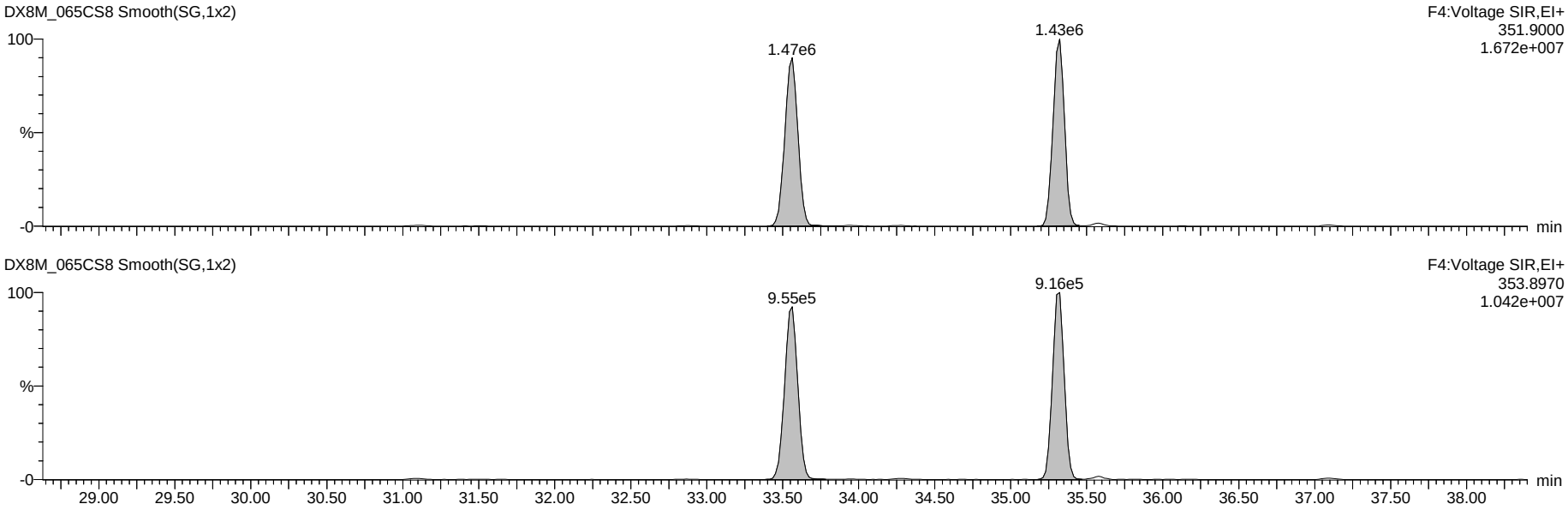
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Penta-Furans



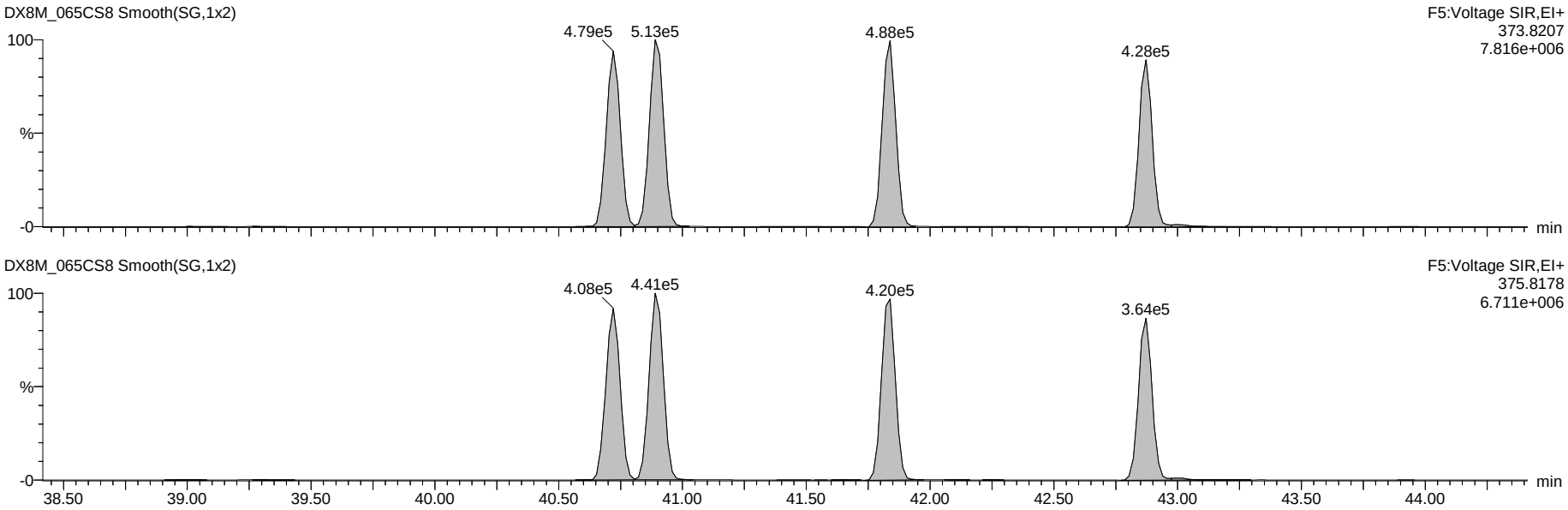
13C-Penta-Furans



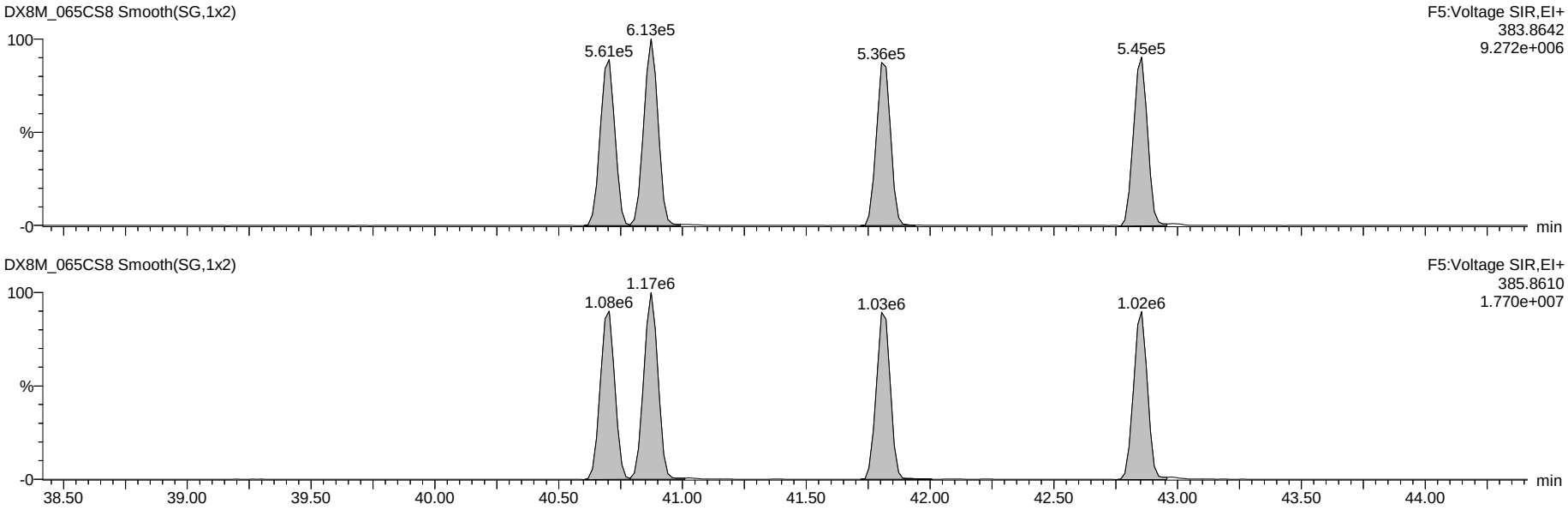
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Hexa-Furans



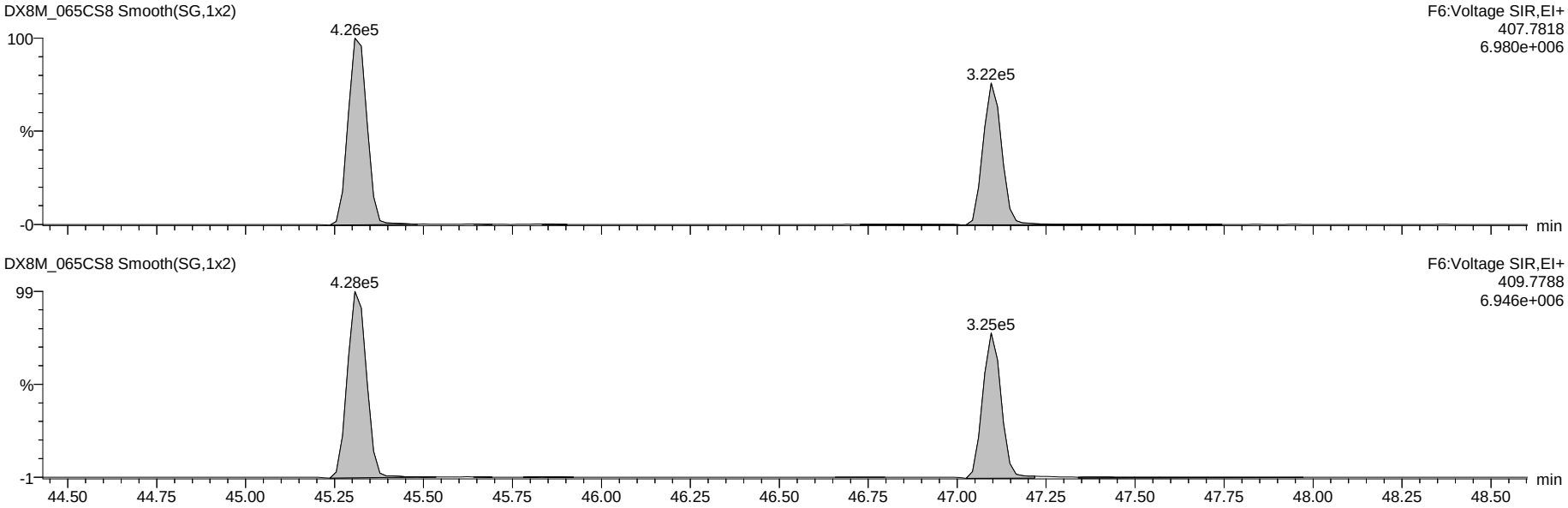
13C-Hexa-Furans



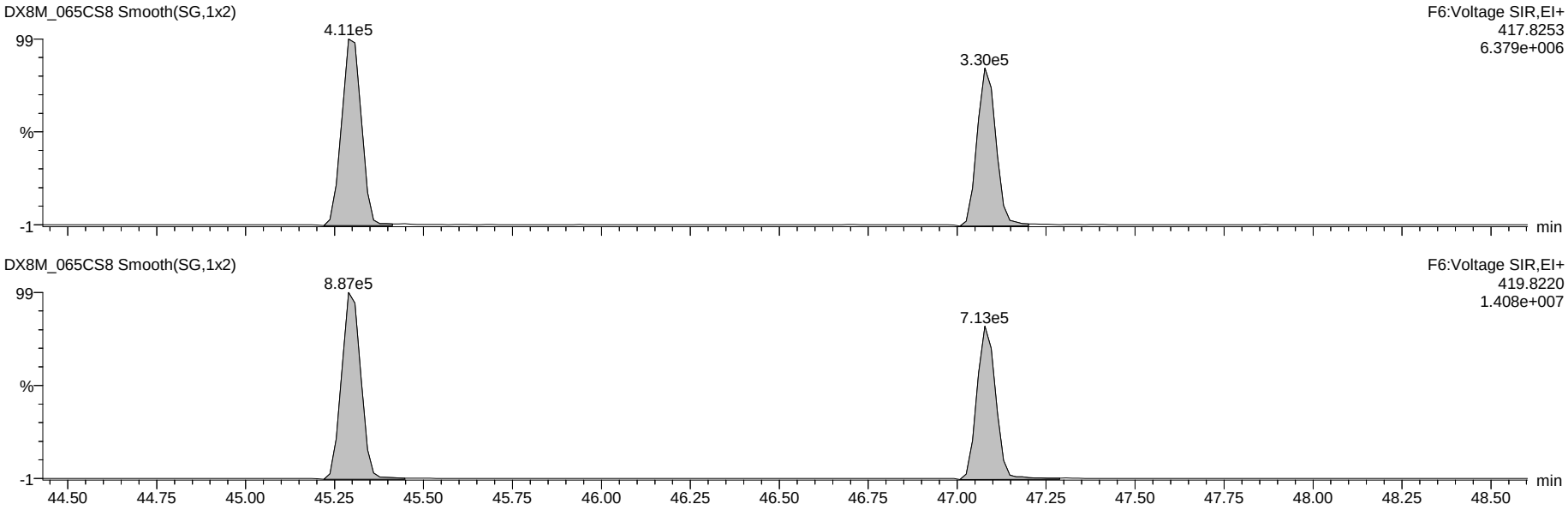
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Hepta-Furans



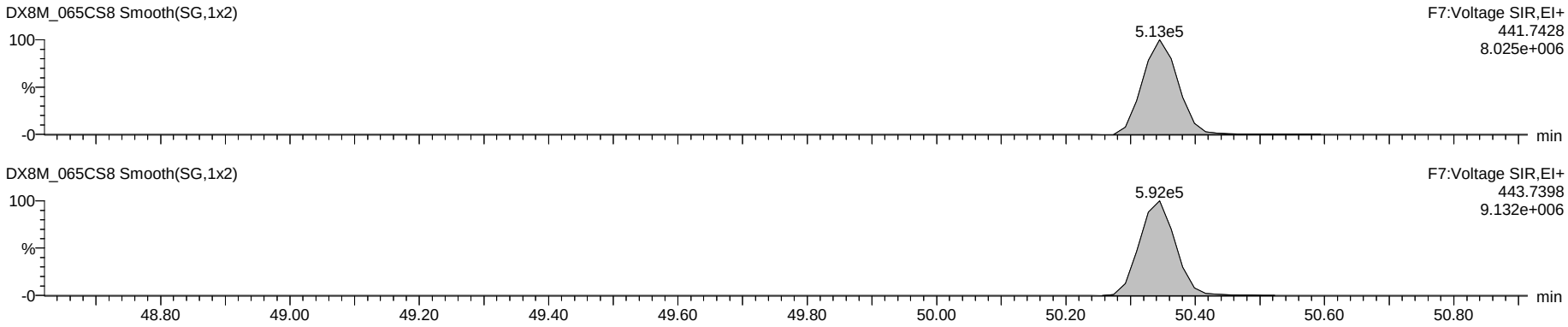
13C-Hepta-Furans



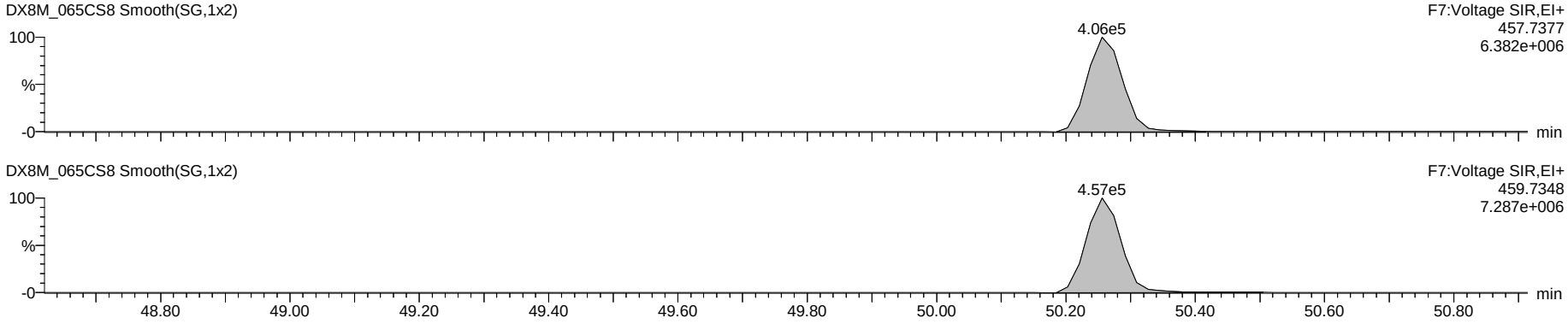
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

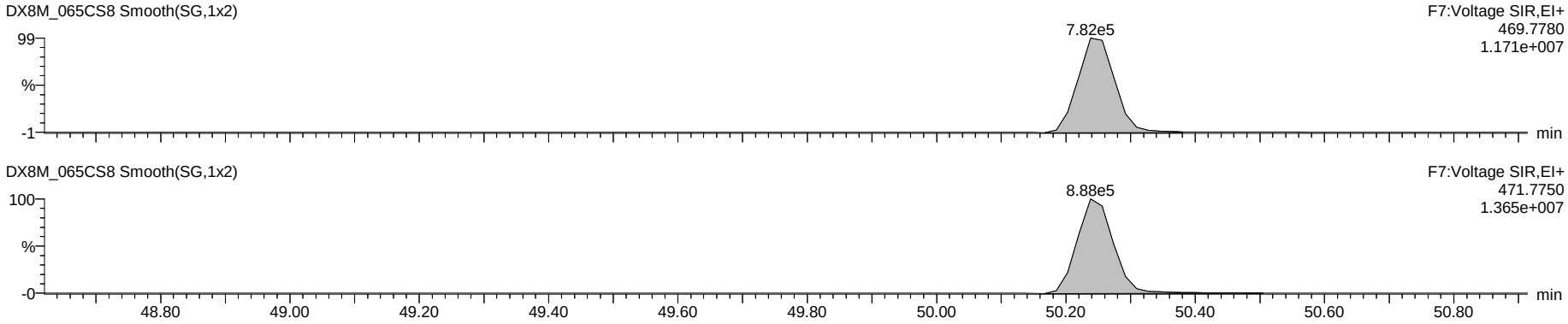
OCDF



OCDD



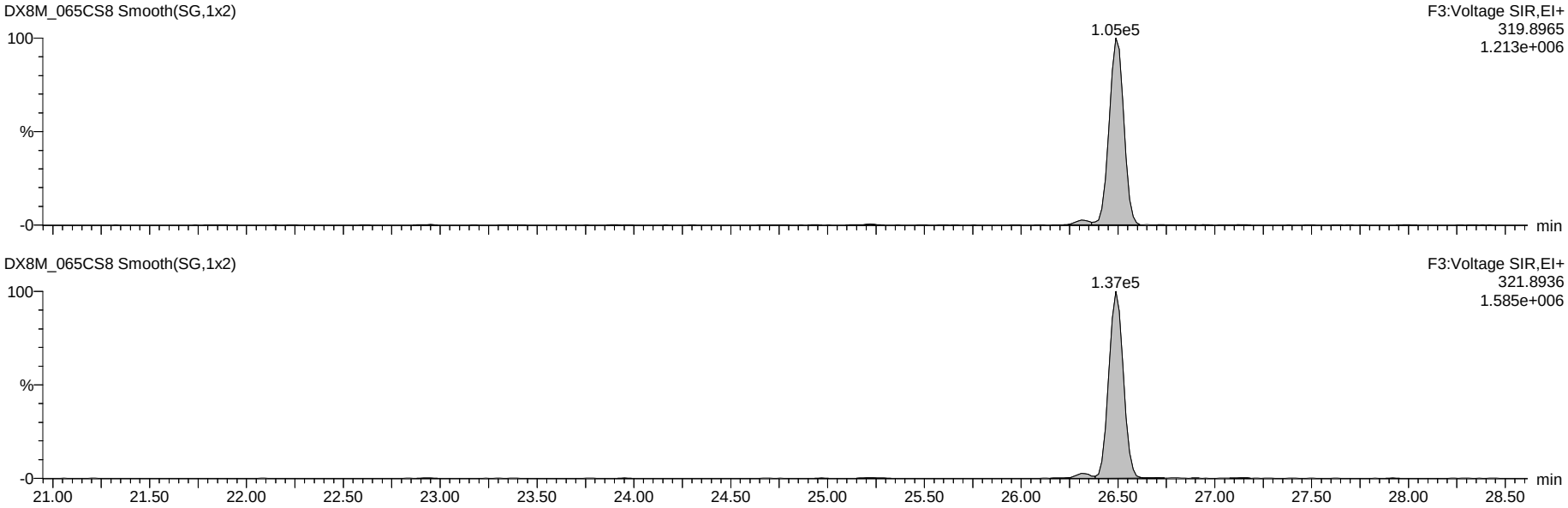
13C-OCDD



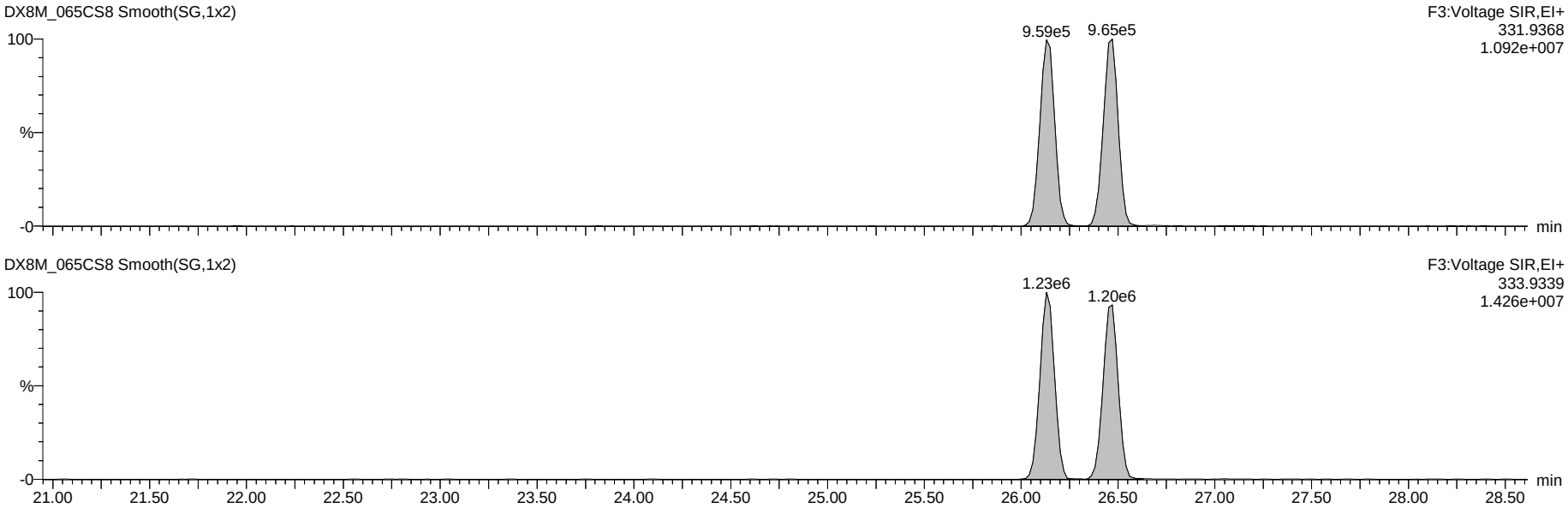
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Tetra-Dioxins



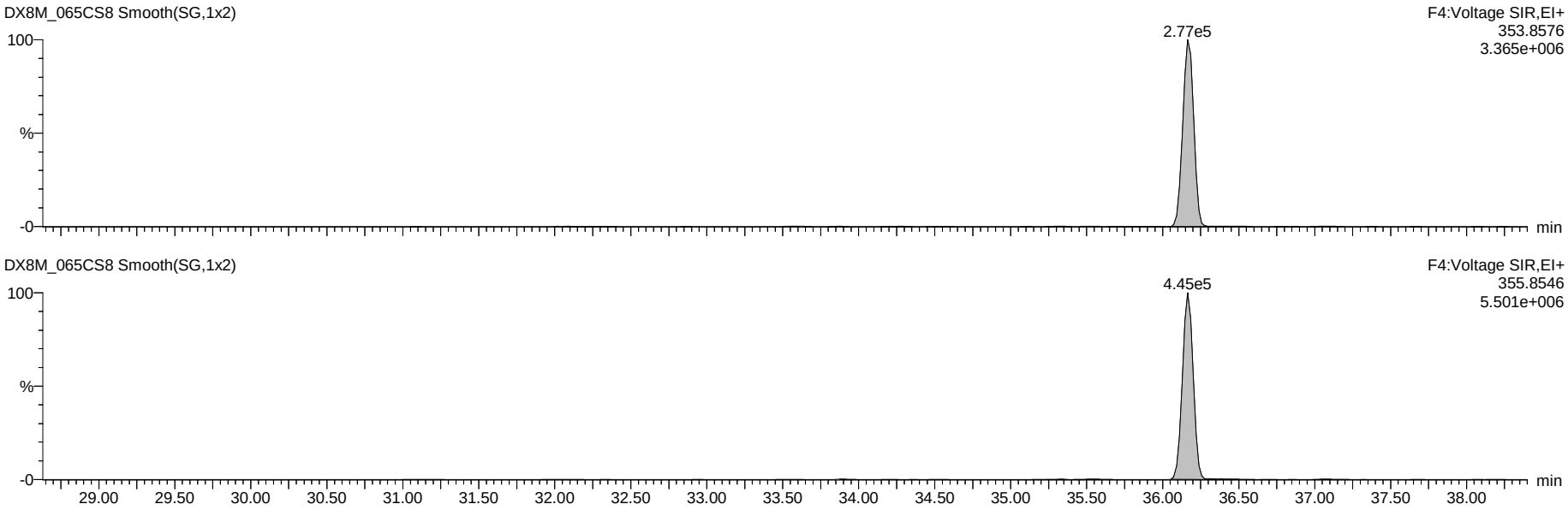
13C-Tetra-Dioxins



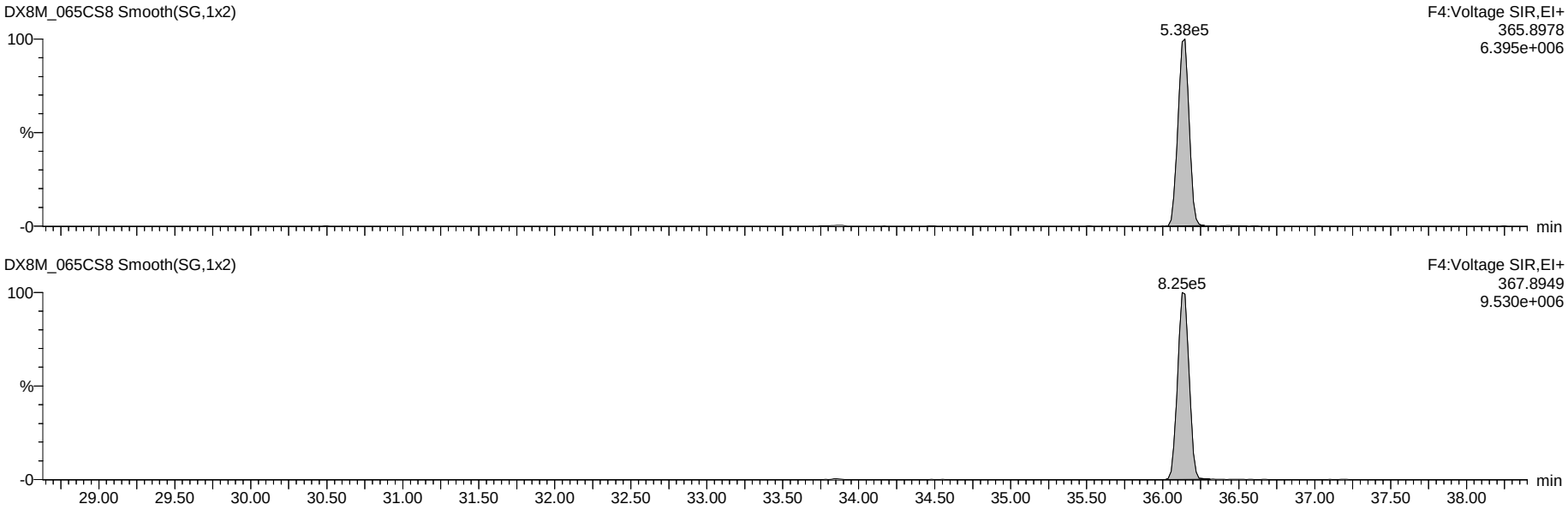
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Penta-Dioxins



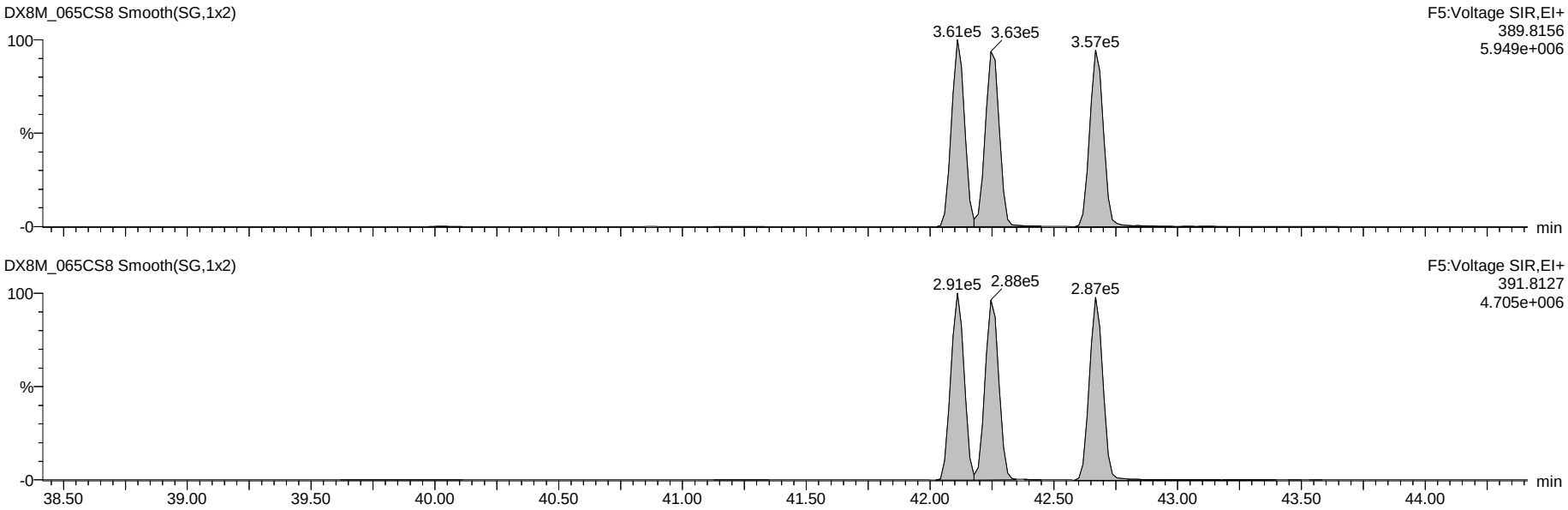
13C-Penta-Dioxins



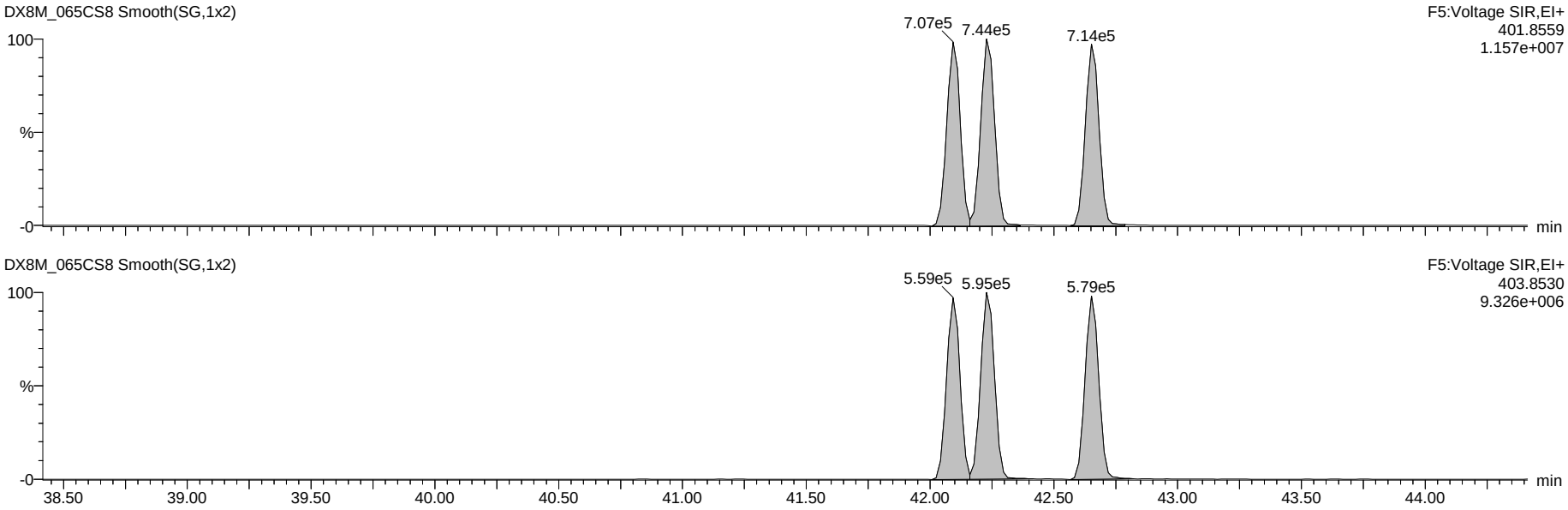
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Hexa-Dioxins



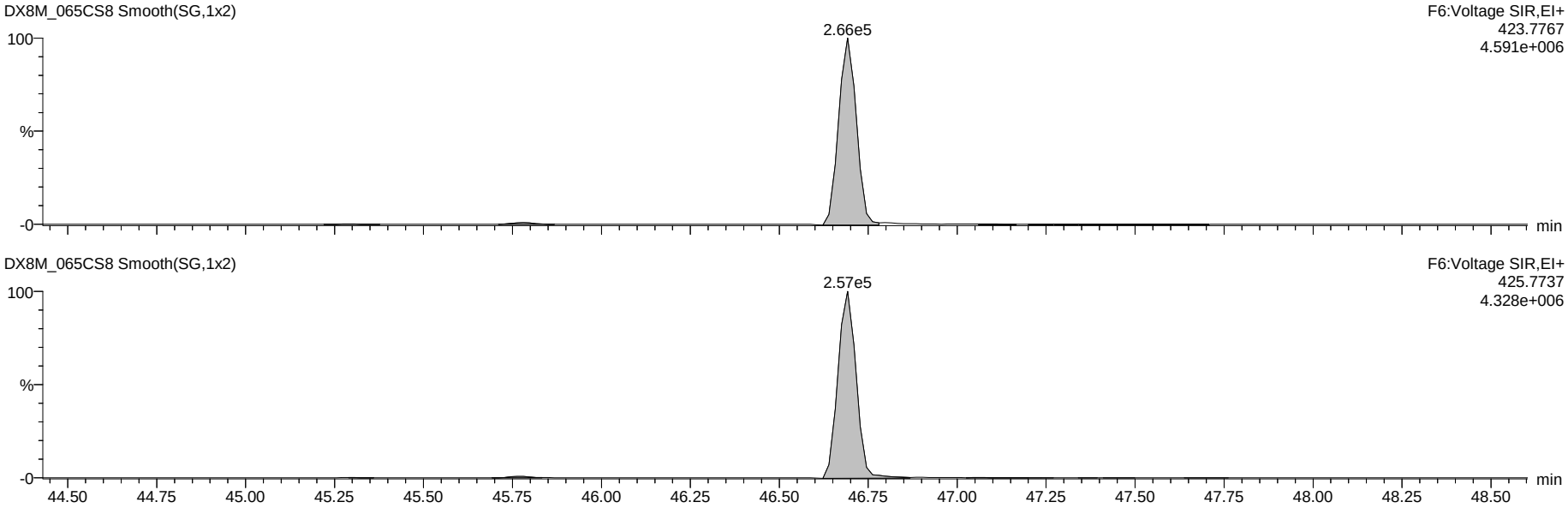
13C-Hexa-Dioxins



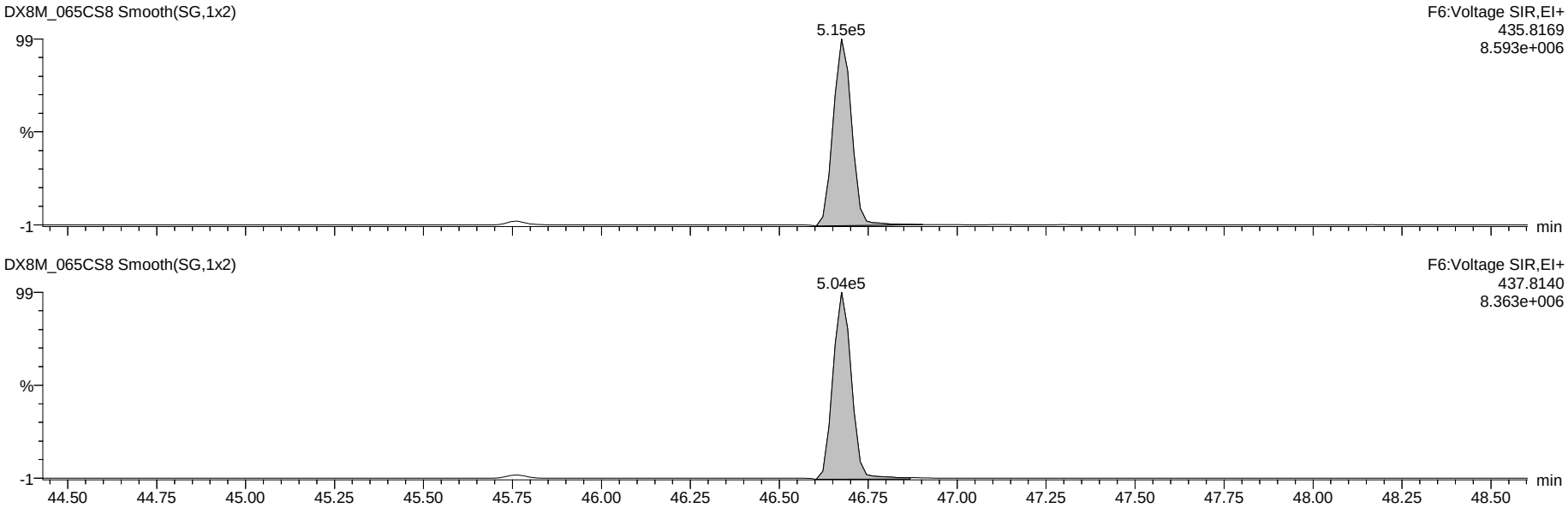
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

Total Hepta-Dioxins



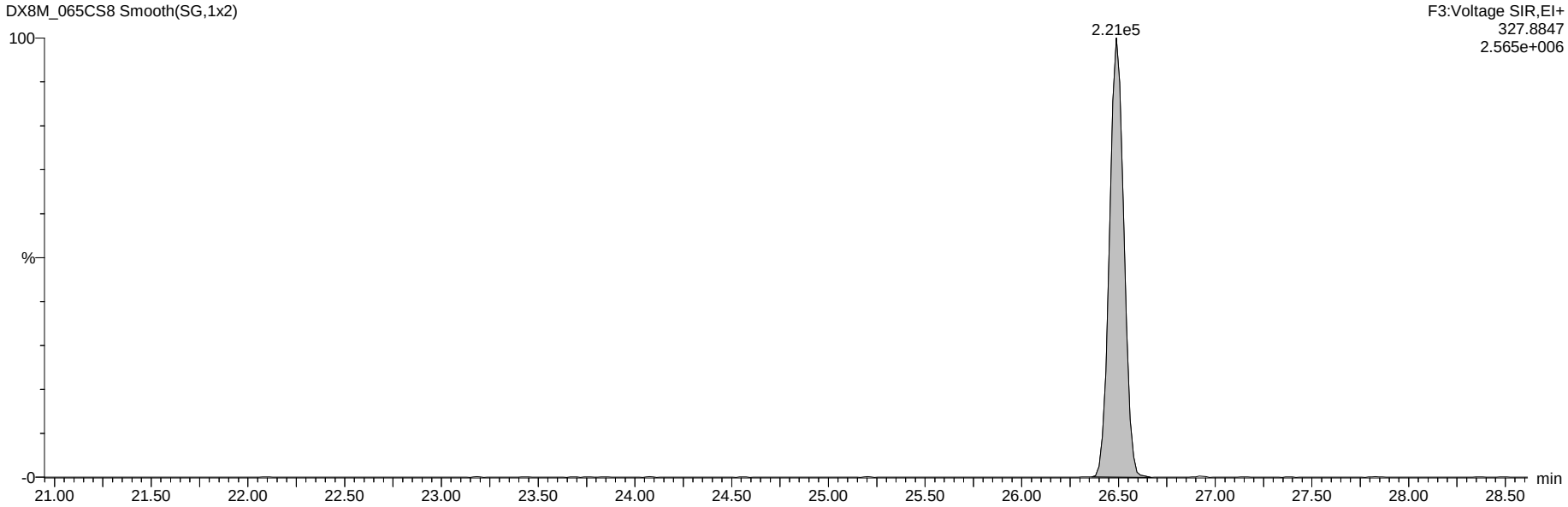
13C-Hepta-Dioxins



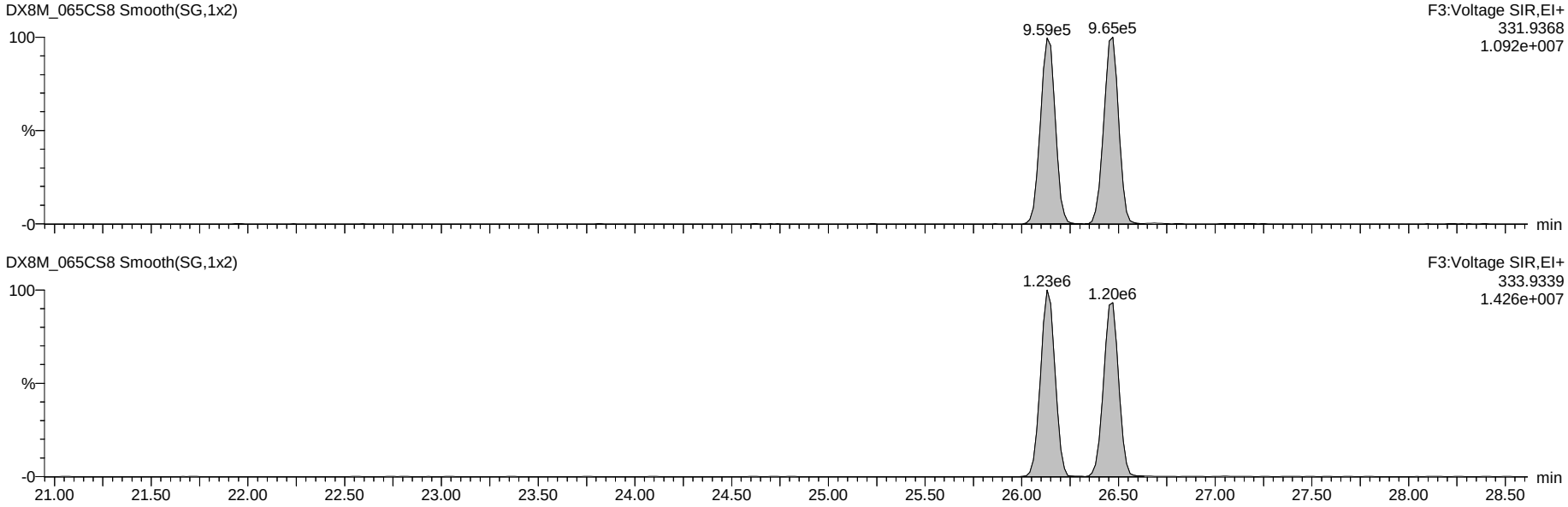
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

37Cl-2,3,7,8-TCDD



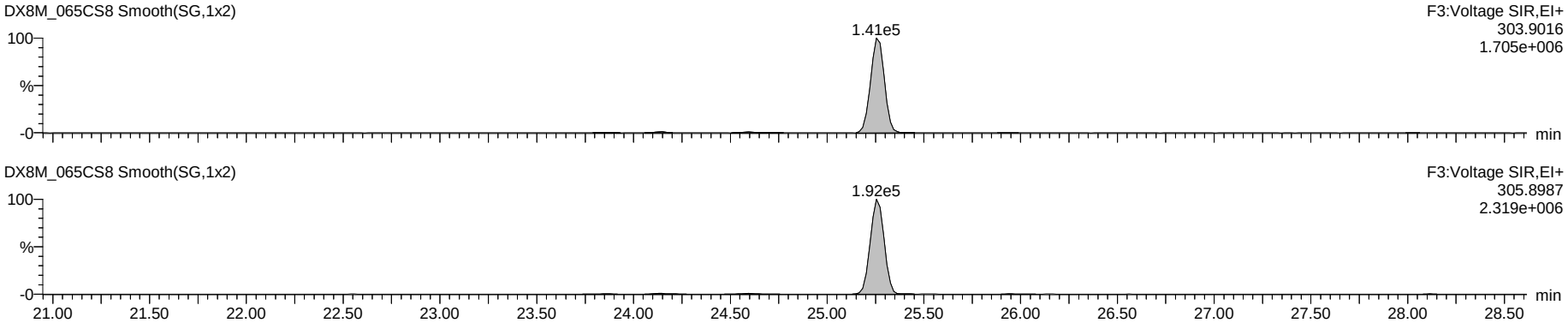
13C-Tetra-Dioxins



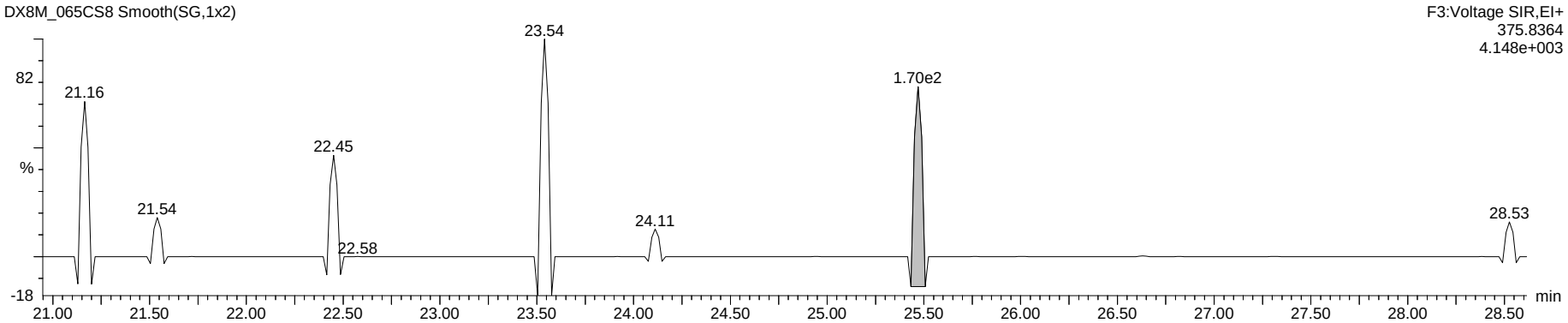
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

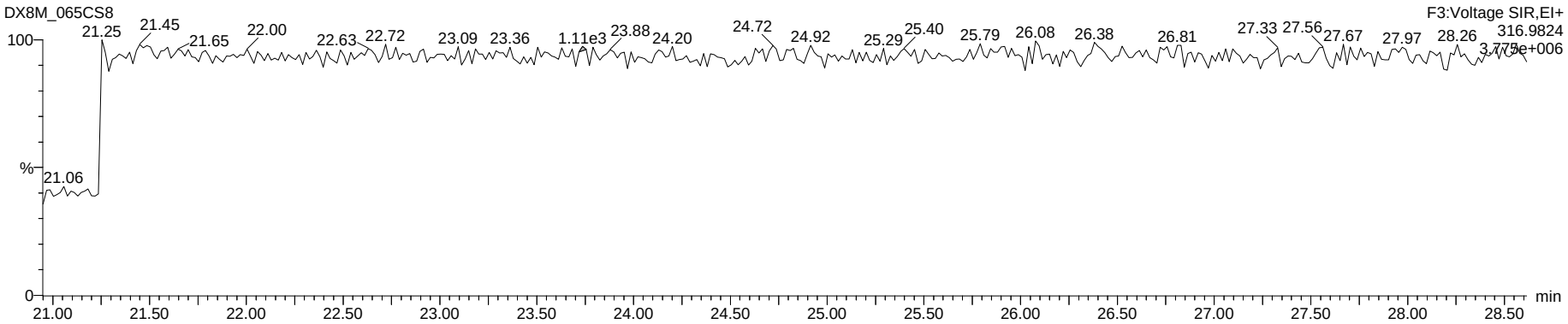
Total Tetra-Furans



Hexa DPE



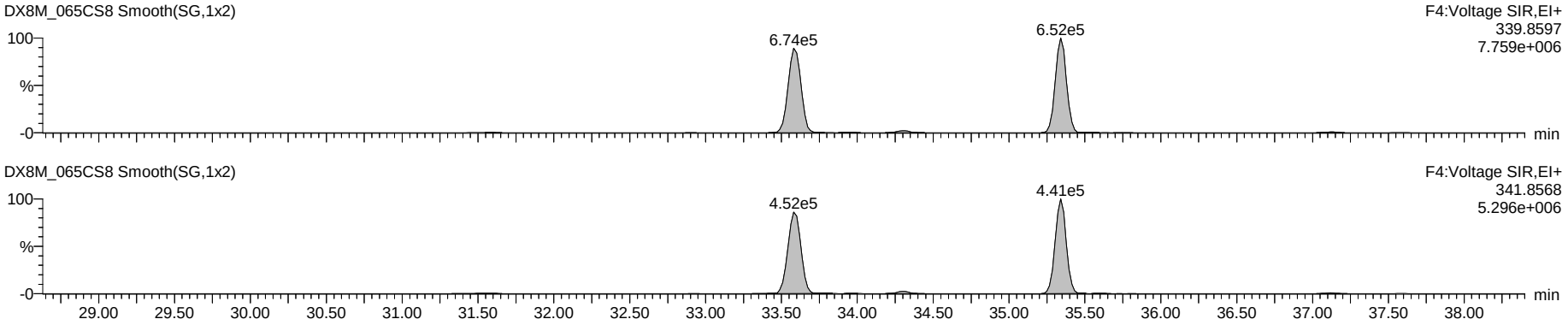
Tetra Lock



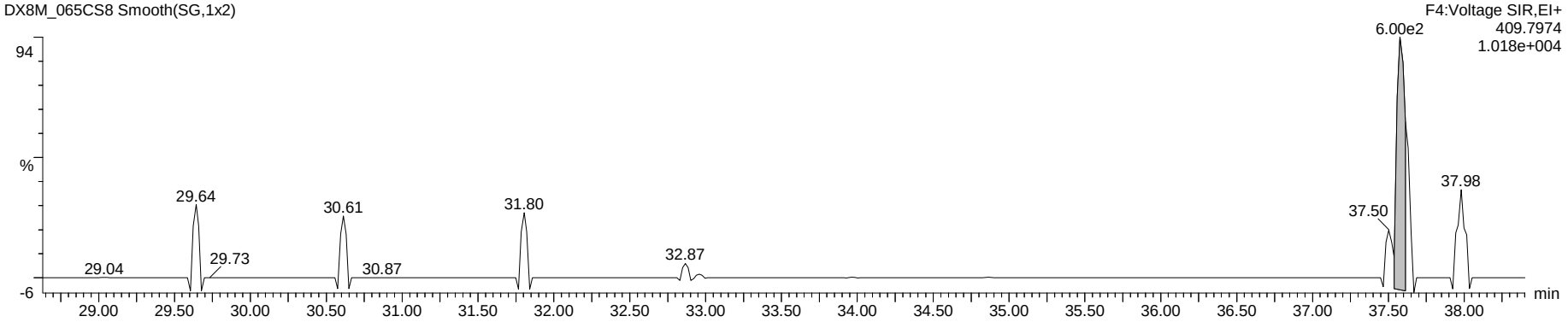
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

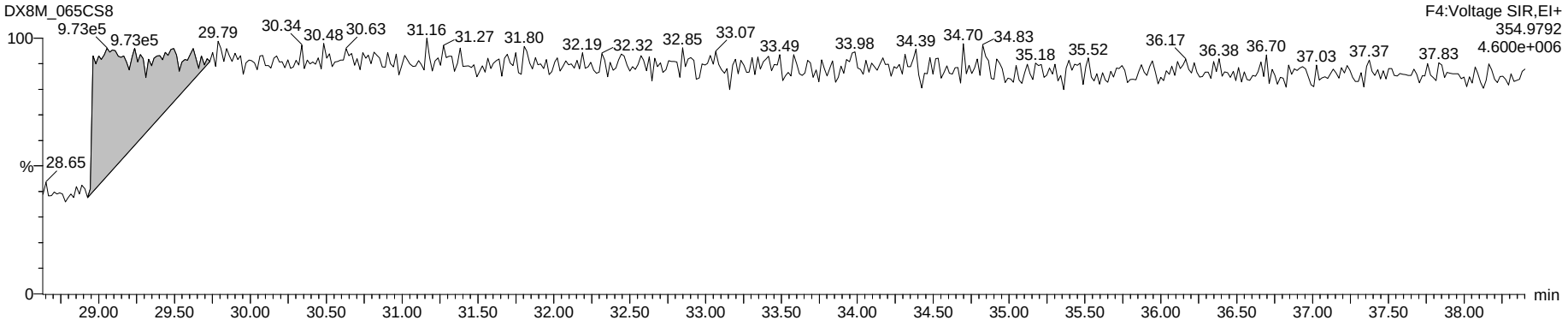
Total Penta-Furans



Hepta DPE



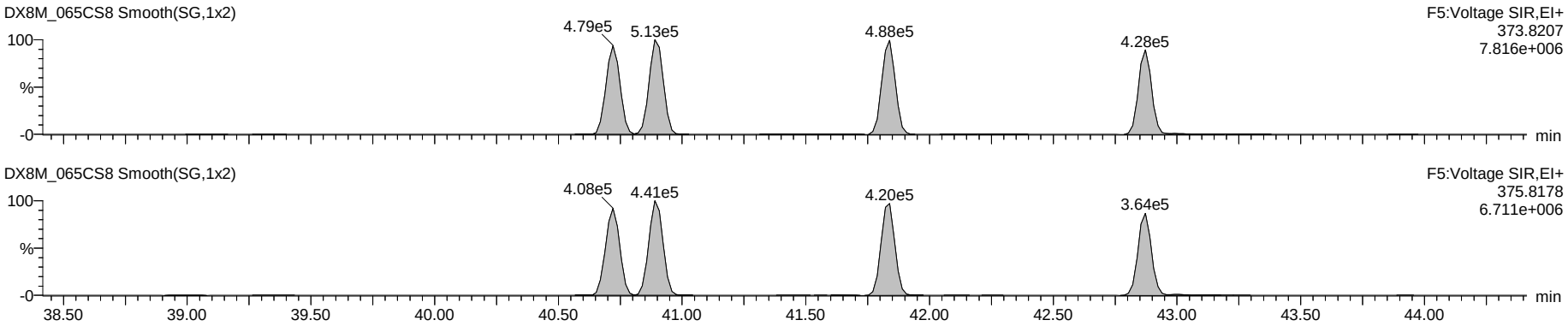
Penta Lock



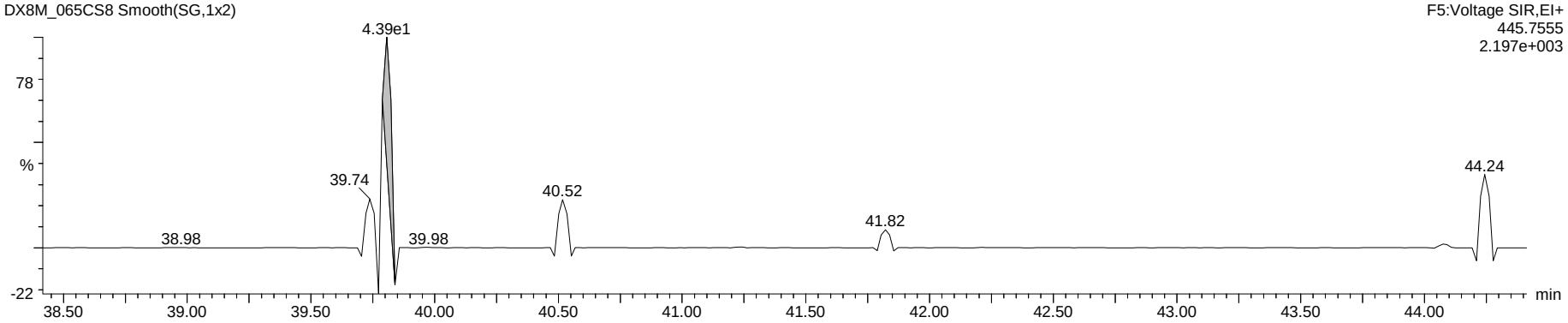
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

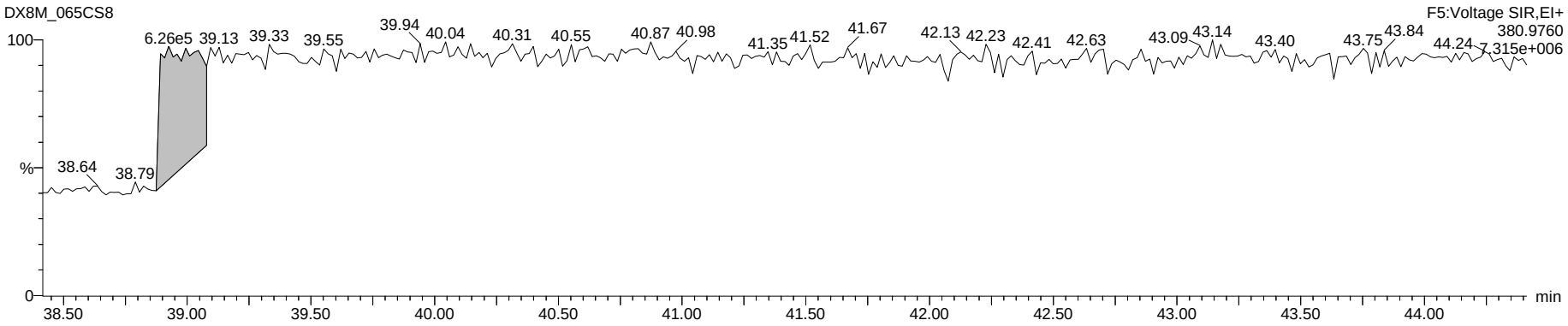
Total Hexa-Furans



Octa DPE



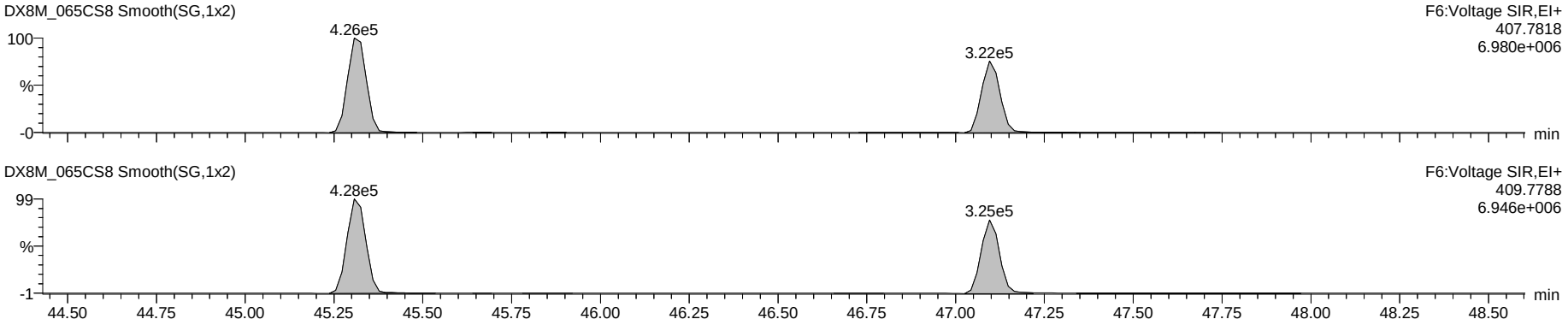
Hexa Lock



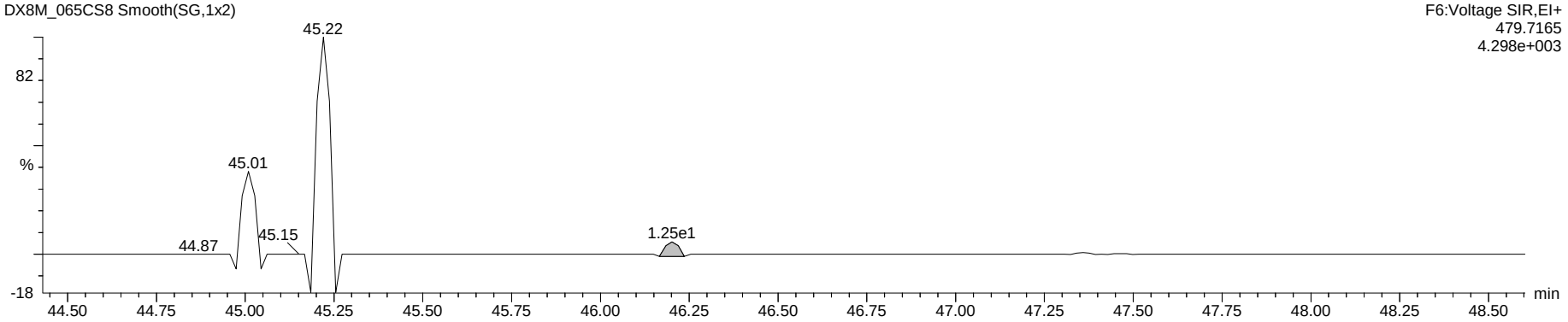
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

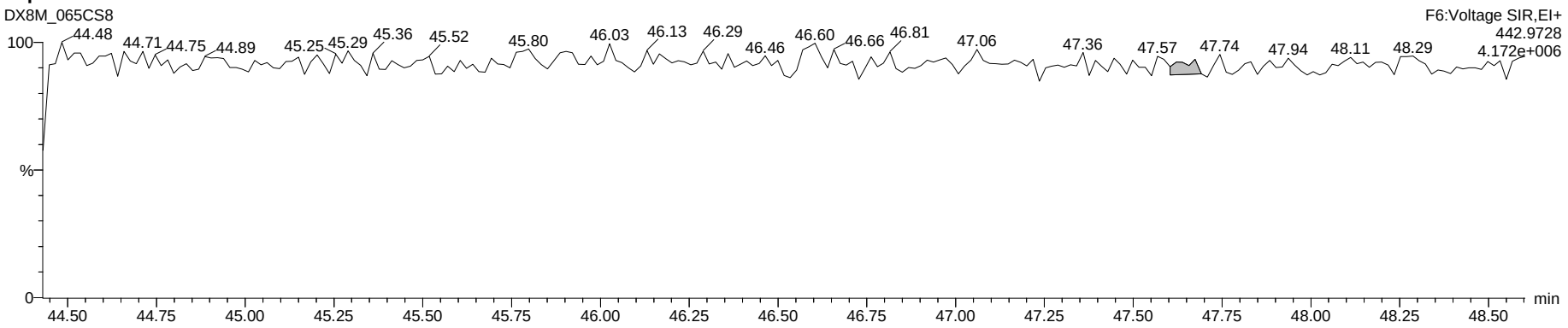
Total Hepta-Furans



Nona DPE



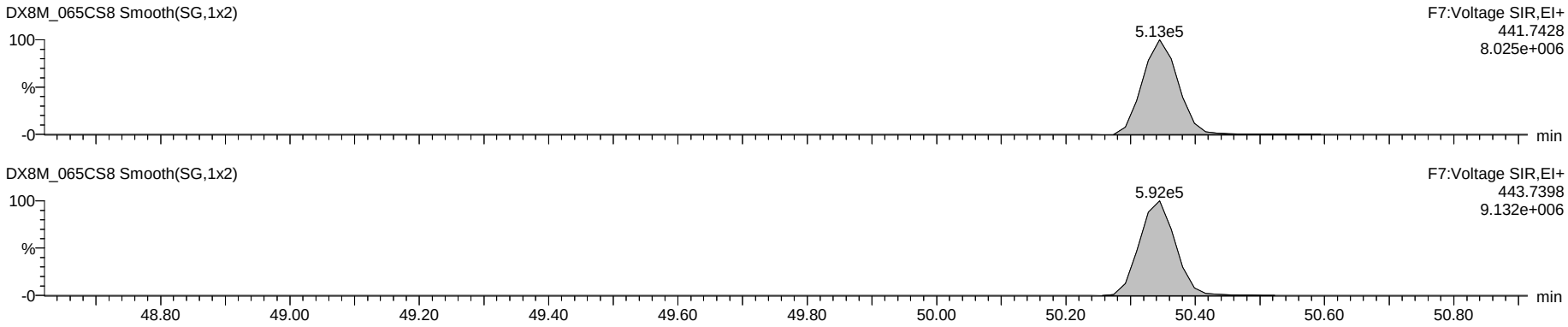
Hepta Lock



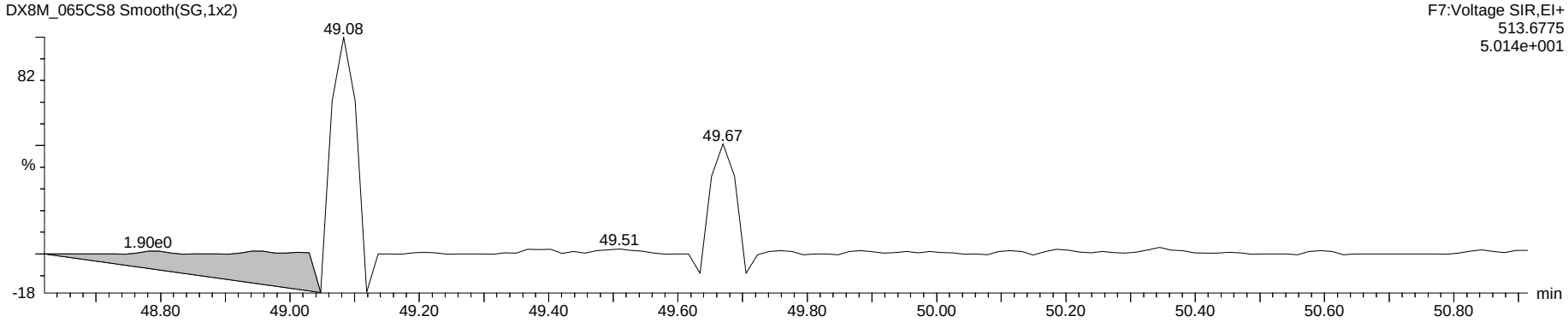
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_065C-6qc.qld

Name: DX8M_065CS8, Date: 05-Jun-2018, Time: 01:11:21, ID: DX003A-SSV,,/01, Description: 1,,1.0uL Cal

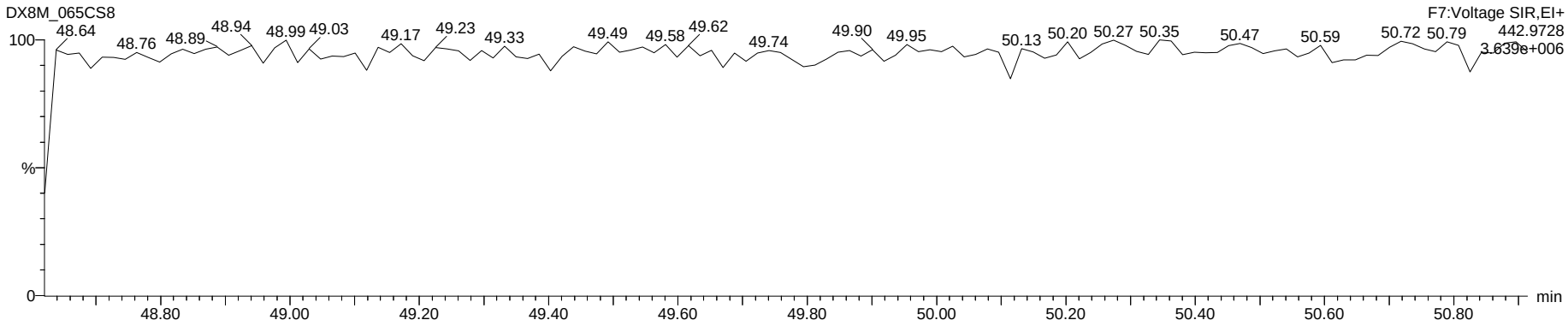
OCDF



Deca DPE



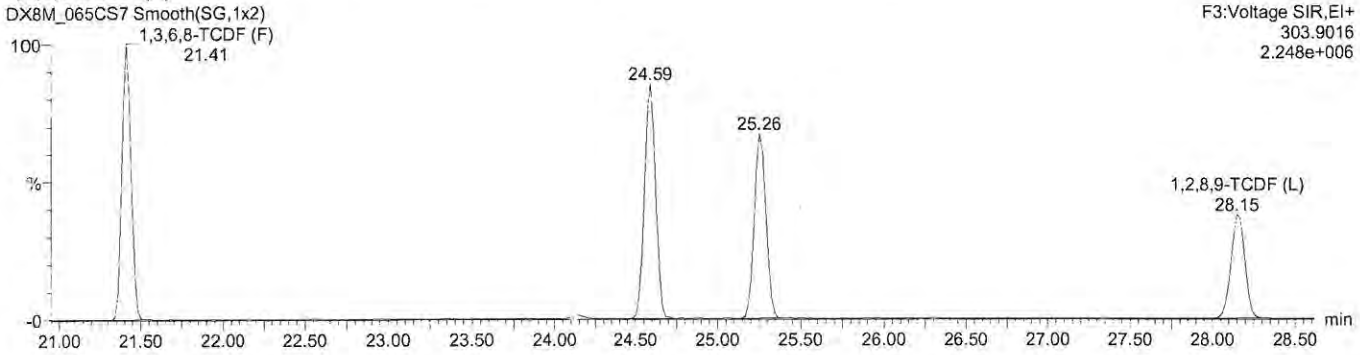
Octa Lock



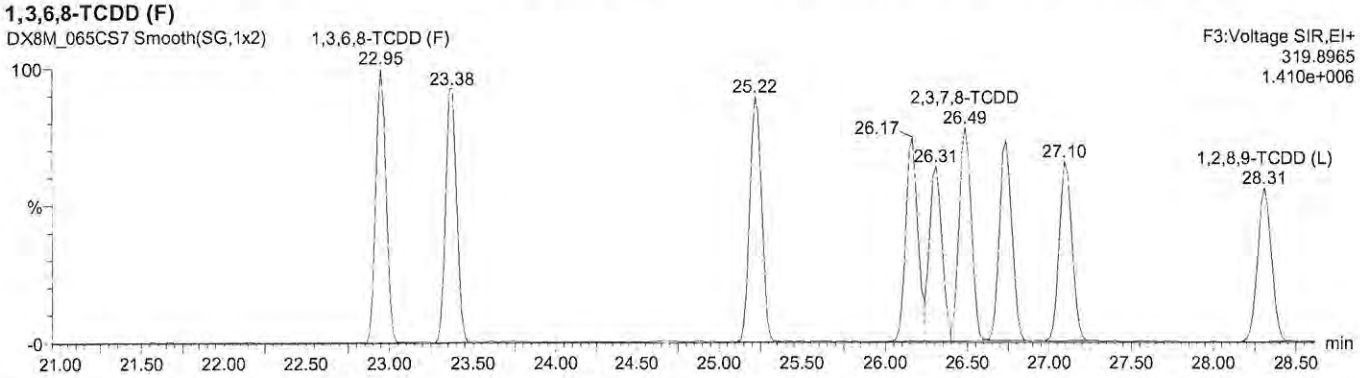
www.axysanalytical.com

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

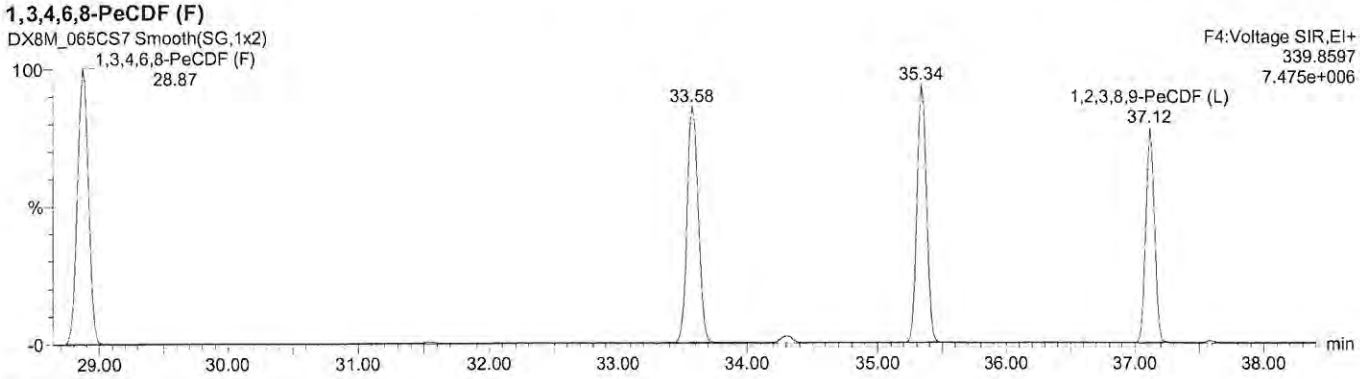
1,3,6,8-TCDF (F)



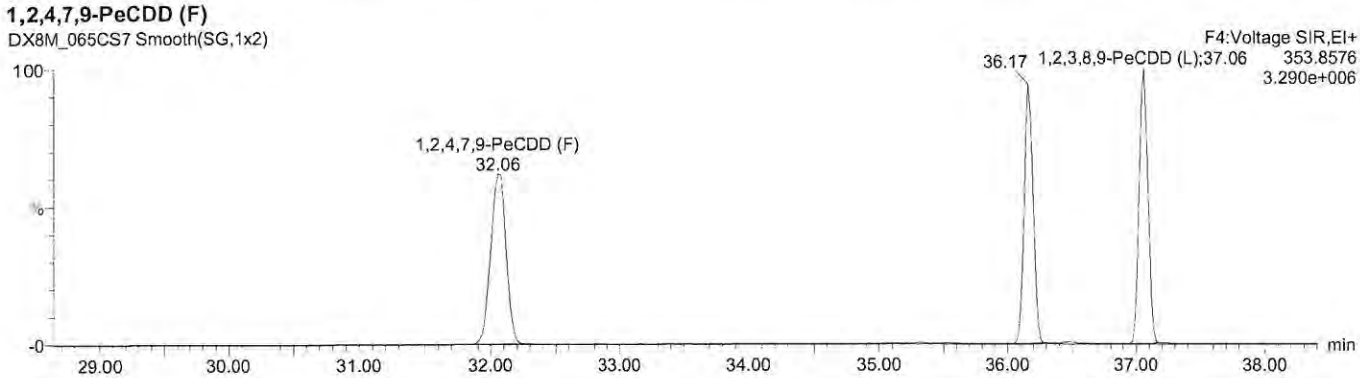
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



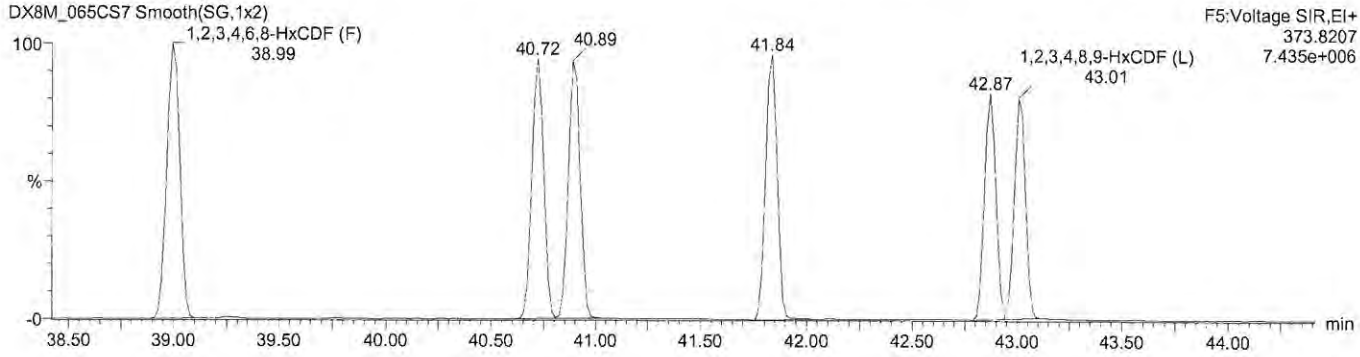
1,2,4,7,9-PeCDD (F)



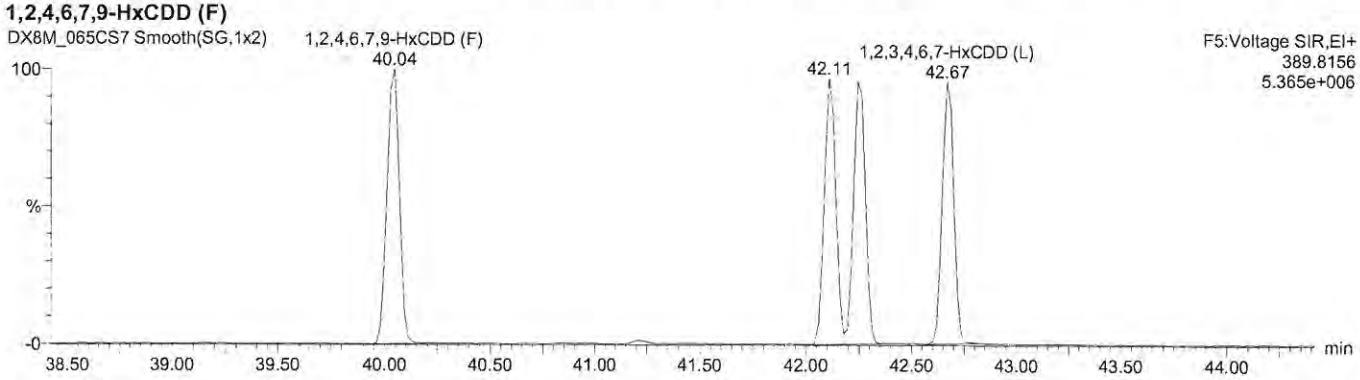
www.axysanalytical.com

Name: DX8M_065CS7, Date: 05-Jun-2018, Time: 00:06:54, ID: DX041D-CAL,,/01-91, Description: 1,,1.0uL Cal Win/Res

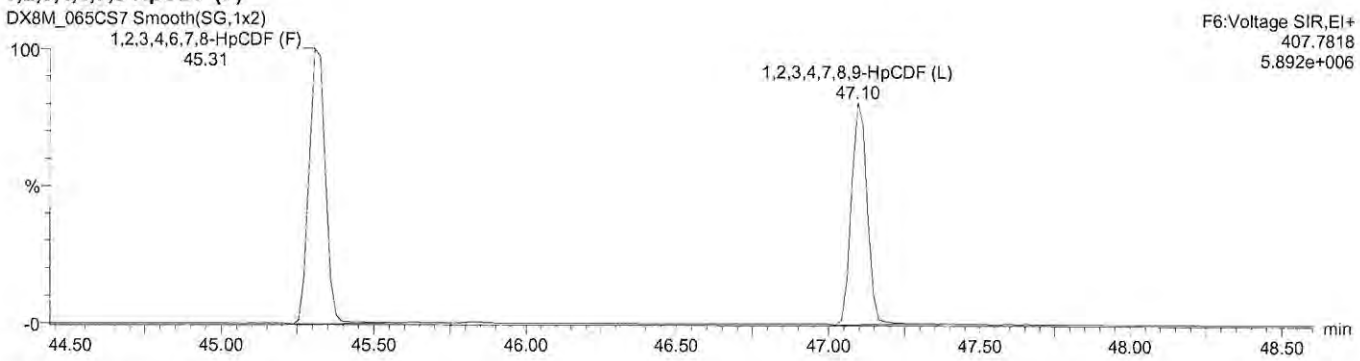
1,2,3,4,6,8-HxCDF (F)



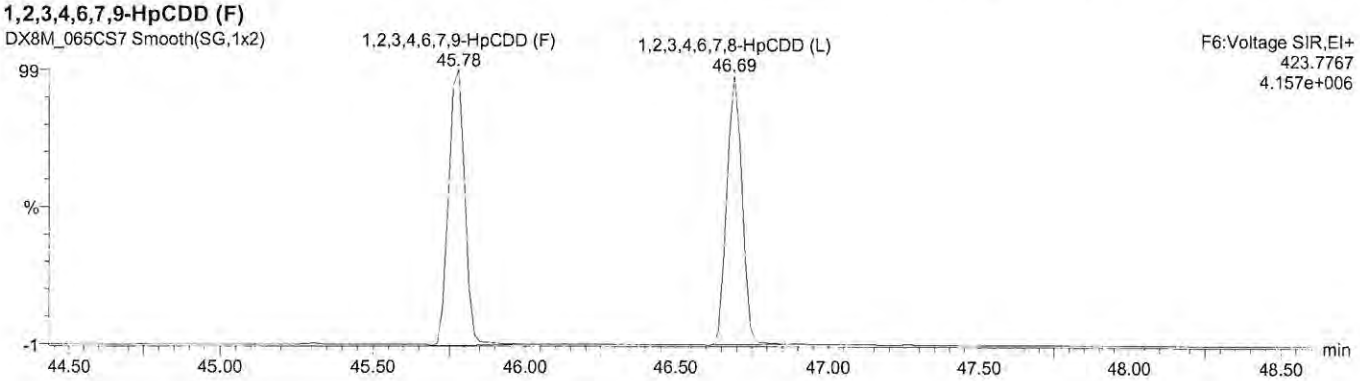
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



www.axysanalytical.com

Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 425

Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

Tune : BA
List : EW/BA
Check :
LIMS :
Logfile:

Date -list : 10-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_121	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	10-JUL-18 15:40:53
2	DB83_121	2	2	DX041C-CAL,,/01	1,,2.0uL CS-2	10-JUL-18 16:22:08
3	DB83_121	3	3	DX041B-CAL,,/01	1,,2.0uL CS-1	10-JUL-18 17:03:24
4	DB83_121	4	4	DX041A-CAL,,/01-16	1,,2.0uL CS-0.2/SENS	10-JUL-18 17:44:40
5	DB83_121	5	5	DX041F-CAL,,/01	1,,2.0uL CS-5	10-JUL-18 18:25:52
6	DB83_121	6	6	DX041E-CAL,,/01	1,,2.0uL CS-4	10-JUL-18 19:07:08
7	DB83_121	7	7	DX041D-CAL,,/01-90	1,,2.0uL CAL	10-JUL-18 19:48:20
8	DB83_121	8	8	DX003A-SSV,,/01	1,,2.0uL CAL	10-JUL-18 20:29:36

Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_121-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42

Name	Mean RRF	S. D.	%RSD	DB83_121 RRF#1	S4 SD	DB83_121 RRF#2	S3 SD	DB83_121 RRF#3	S2 SD	DB83_121 RRF#4	S7 SD	DB83_121 RRF#5	S6 SD	DB83_121 RRF#6	S5 SD
2,3,7,8-TCDF	0.9698	0.069	7.11 %	0.93	-0.5	0.91	-0.9	0.89	-1.2	1.04	1.1	1.03	0.9	1.01	0.6
1,2,3,7,8,9-HxCDD	0.9205	0.078	8.53 %	0.82	-1.3	0.89	-0.4	0.85	-0.9	0.97	0.7	0.99	0.9	1.00	1.0
13C-2,3,7,8-TCDF	1.7890	0.082	4.58 %	1.89	1.3	1.66	-1.6	1.75	-0.5	1.81	0.2	1.84	0.7	1.79	0.0
13C-1,2,3,4,7,8-HxCDD	1.0570	0.035	3.31 %	1.13	2.0	1.05	-0.2	1.03	-0.7	1.05	-0.2	1.05	-0.1	1.03	-0.8
13C-1,2,3,6,7,8-HxCDD	1.0907	0.042	3.84 %	1.17	1.9	1.06	-0.8	1.08	-0.1	1.10	0.3	1.07	-0.6	1.06	-0.7
13C-1,2,3,4-TCDD	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Hexa DPE	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Tetra Lock	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Hexa Lock	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-

PV by TD 12-Jul-2018

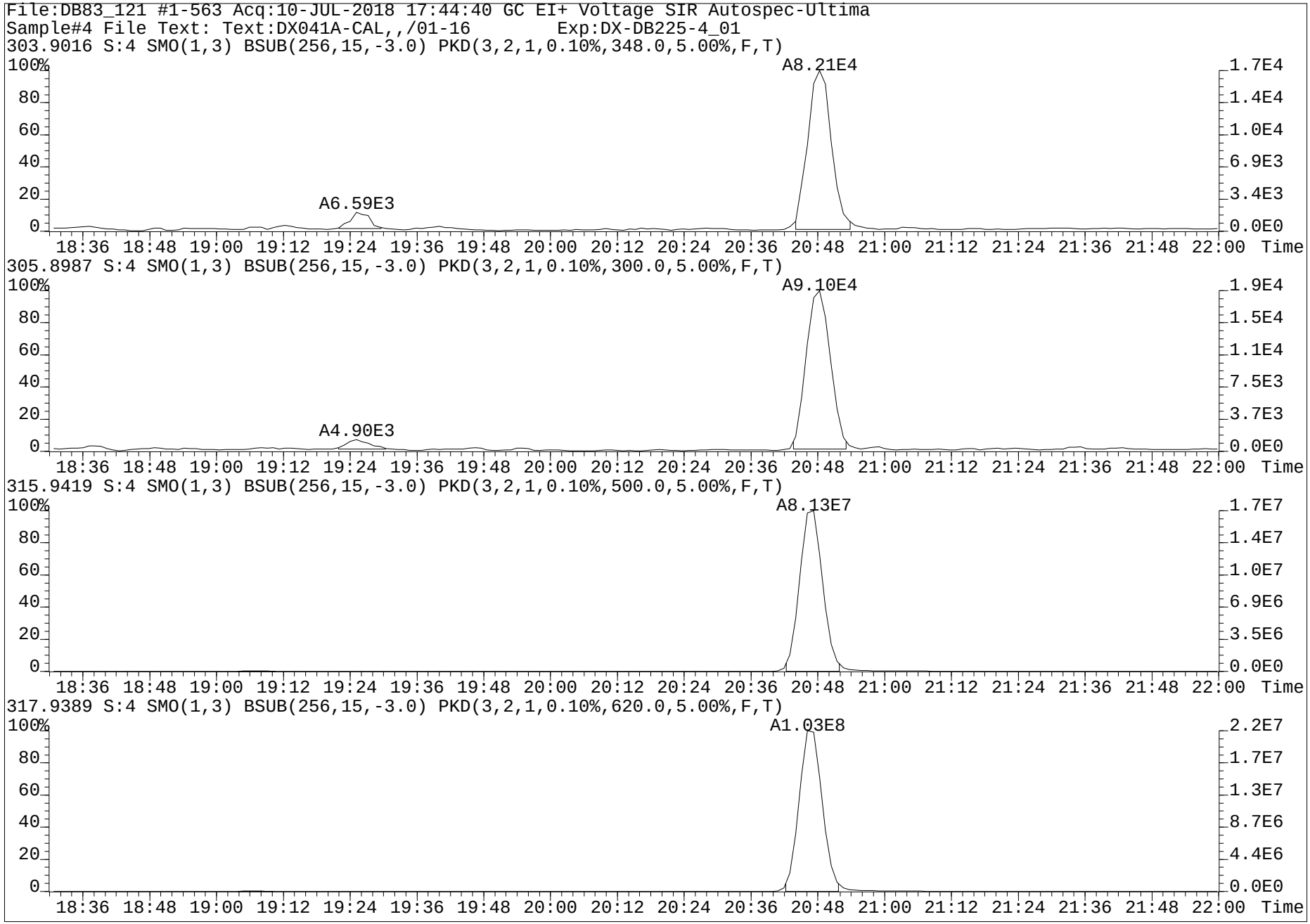
SV: TA 12-Jul-18

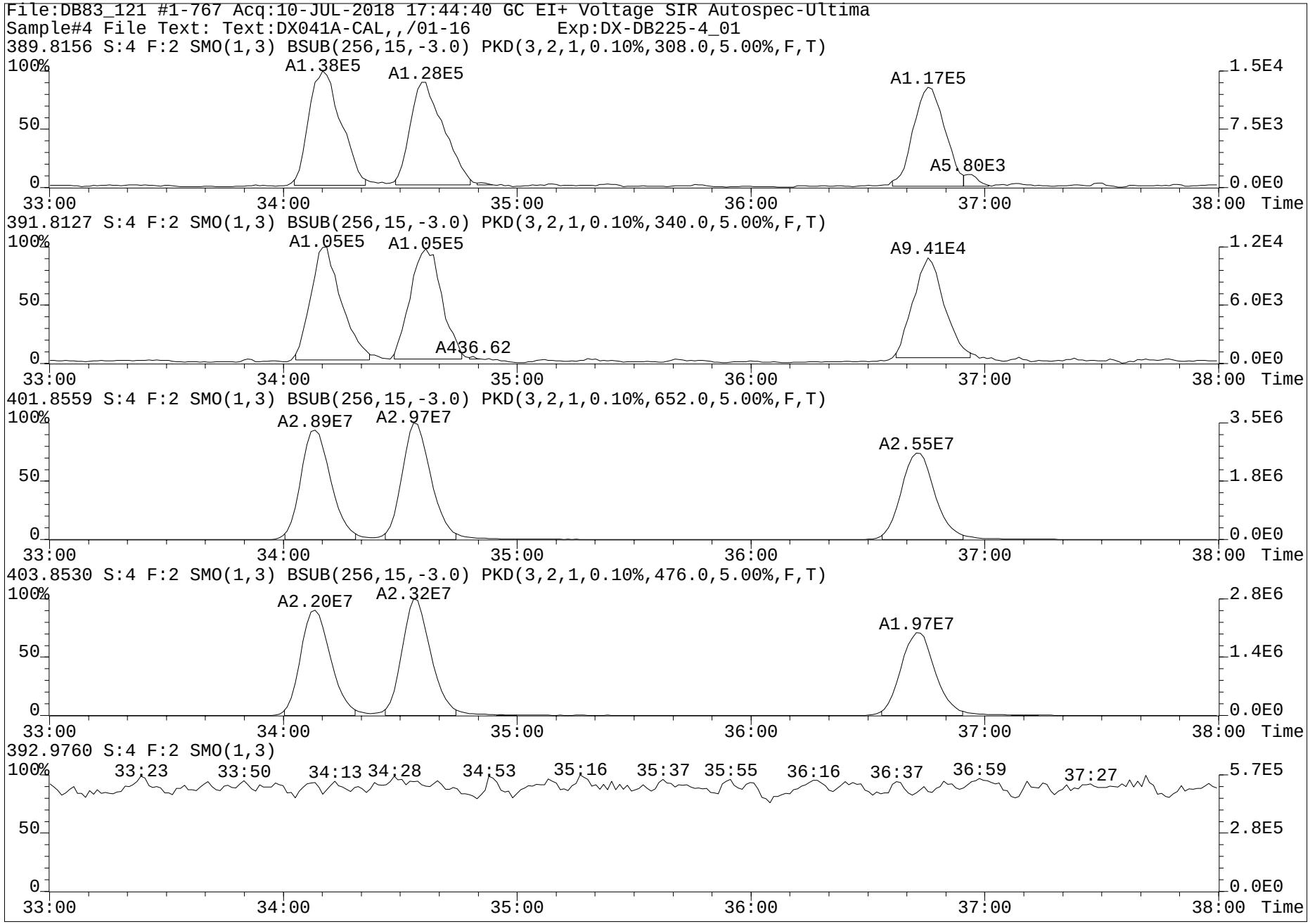
Run #1 Filename DB83_121 S: 4 I: 1 Acquired: 10-JUL-18 17:44:40 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_121-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041A-CAL,,/01-16 Comments: 1,,2.0uL CS-0.2/SENS F1: 0.20 F2: 1.00

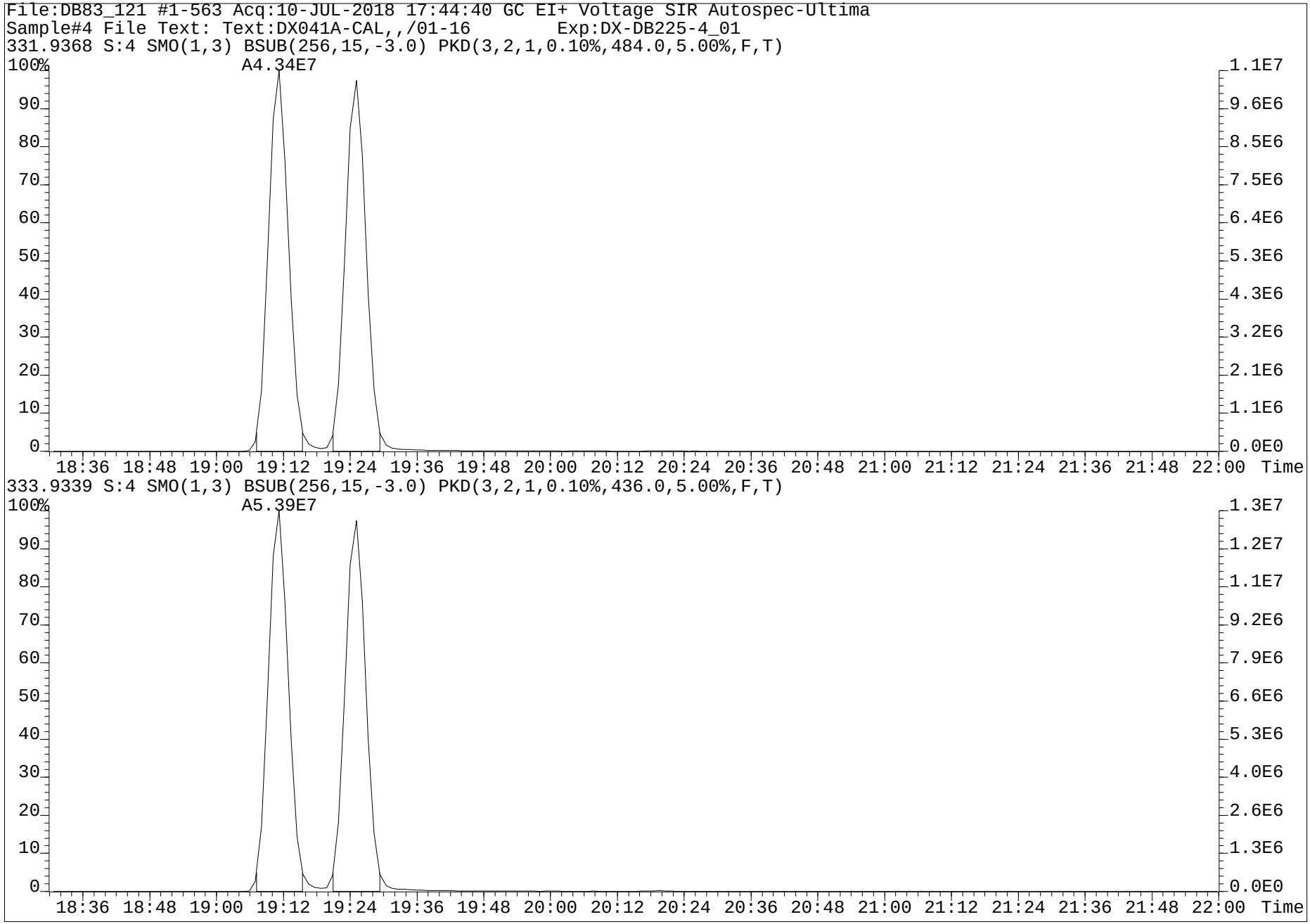
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	2,3,7,8-TCDF	0.10	1.72e+05	0.88 y	20:48	-	0.9332	y	y
2	Unk	1,2,3,7,8,9-HxCDD	0.50	2.11e+05	1.25 y	36:45	-	0.8156	y	n
3	IS/RT	13C-2,3,7,8-TCDF	100.00	1.84e+08	0.79 y	20:47	-	1.8937	y	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	5.08e+07	1.31 y	34:09	-	1.1255	y	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	5.28e+07	1.28 y	34:34	-	1.1697	y	n
6	RS	13C-1,2,3,4-TCDD	100.00	9.72e+07	0.81 y	19:25	9.72e+05	-	n	n
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	4.52e+07	1.30 y	36:43	4.52e+05	-	n	n
8	Tot	Hexa DPE	0.00	*		NotF»	Div0	-	n	n
9	Tot	Tetra Lock	0.00	-		-	-	-	n	n
10	Tot	Hexa Lock	0.00	-		-	-	-	n	n

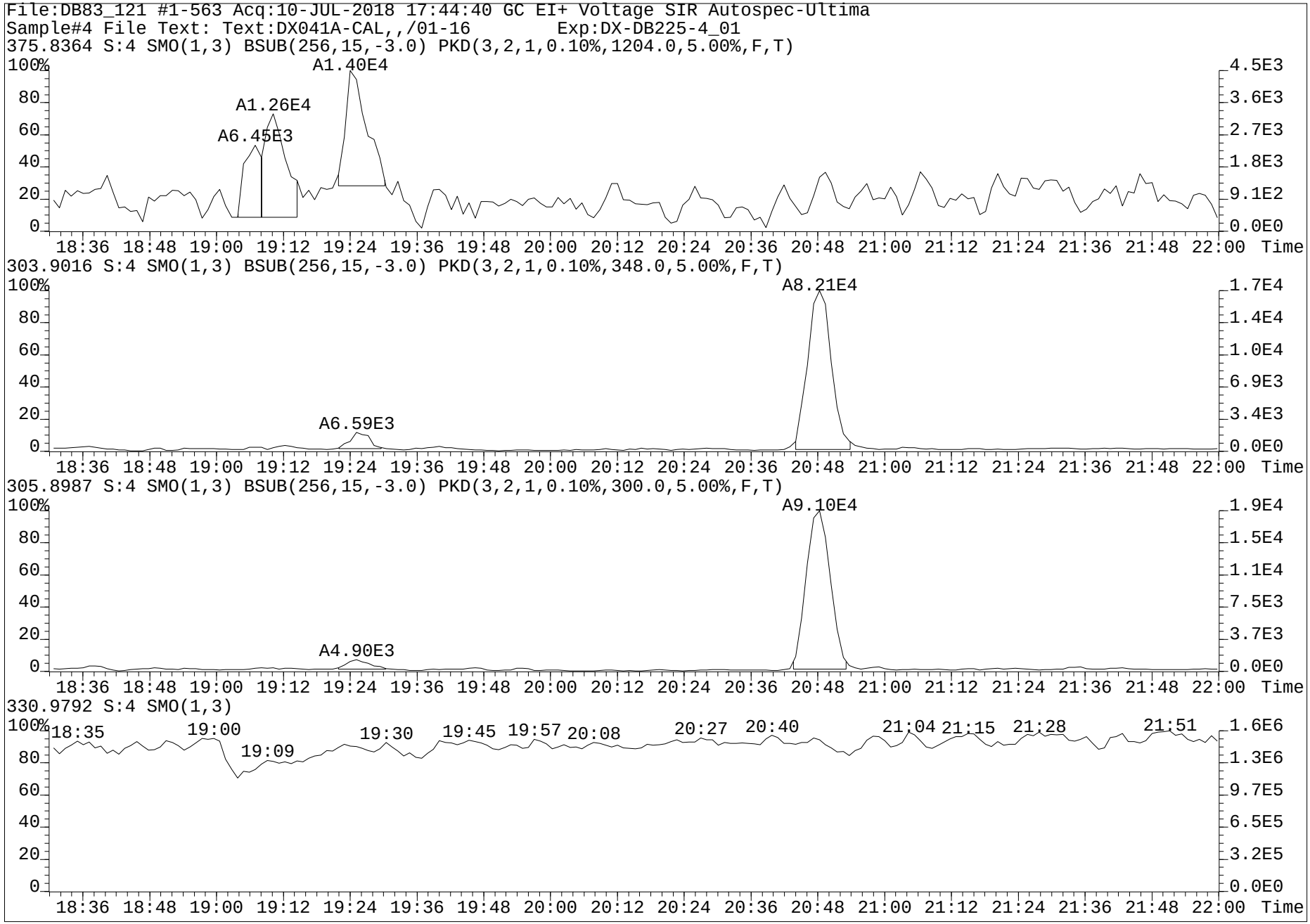
PV by TD 12-Jul-2018

SV:JT 12-Jul-18


File:DB83_121 #1-563 Acq:10-JUL-2018 17:44:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text: Text:DX041A-CAL,,/01-16 Exp:DX-DB225-4_01
303.9016 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,348.0,5.00%,F,T)
A8.21E4
A6.59E3
305.8987 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,300.0,5.00%,F,T)
A9.10E4
A4.90E3
315.9419 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,500.0,5.00%,F,T)
A8.13E7
317.9389 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,620.0,5.00%,F,T)
A1.03E8
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-767 Acq:10-JUL-2018 17:44:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text: Text:DX041A-CAL,,/01-16 Exp:DX-DB225-4_01
389.8156 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,308.0,5.00%,F,T)
A1.38E5
A1.28E5
A1.17E5
A5.80E3
1.5E4
7.5E3
0.0E0
391.8127 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,340.0,5.00%,F,T)
A1.05E5
A1.05E5
A436.62
A9.41E4
1.2E4
6.0E3
0.0E0
401.8559 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,652.0,5.00%,F,T)
A2.89E7
A2.97E7
A2.55E7
3.5E6
1.8E6
0.0E0
403.8530 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,476.0,5.00%,F,T)
A2.20E7
A2.32E7
A1.97E7
2.8E6
1.4E6
0.0E0
392.9760 S:4 F:2 SMO(1,3)
33:23 33:50 34:13 34:28 34:53 35:16 35:37 35:55 36:16 36:37 36:59 37:27
5.7E5
2.8E5
0.0E0
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time


File:DB83_121 #1-563 Acq:10-JUL-2018 17:44:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text: Text:DX041A-CAL,,/01-16 Exp:DX-DB225-4_01
331.9368 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,484.0,5.00%,F,T)
100%
A4.34E7
1.1E7
9.6E6
8.5E6
7.5E6
6.4E6
5.3E6
4.3E6
3.2E6
2.1E6
1.1E6
0.0E0
90
80
70
60
50
40
30
20
10
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,436.0,5.00%,F,T)
100%
A5.39E7
1.3E7
1.2E7
1.1E7
9.2E6
7.9E6
6.6E6
5.3E6
4.0E6
2.6E6
1.3E6
0.0E0
90
80
70
60
50
40
30
20
10
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

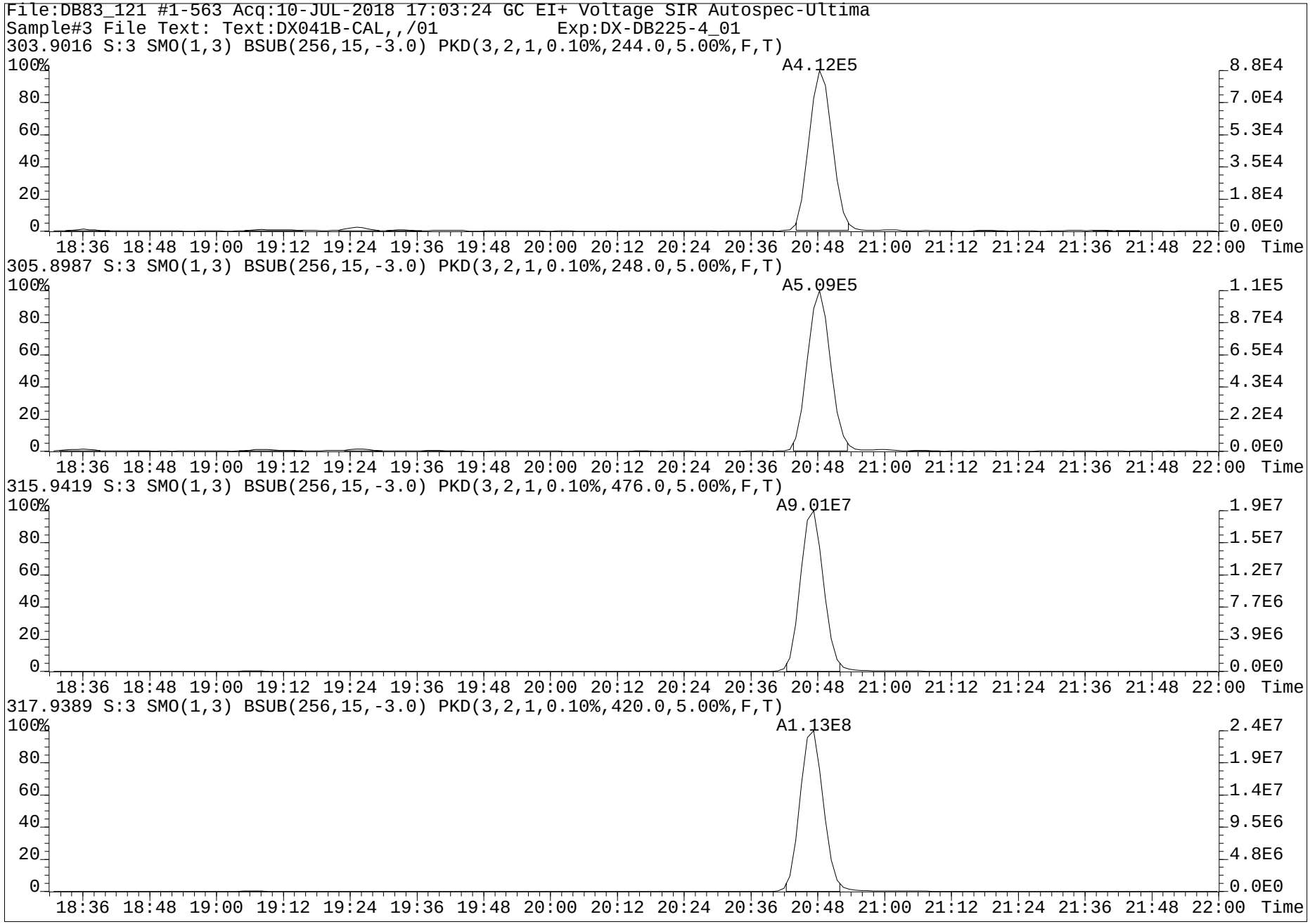

File:DB83_121 #1-563 Acq:10-JUL-2018 17:44:40 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text: Text:DX041A-CAL,,/01-16 Exp:DX-DB225-4_01
375.8364 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1204.0,5.00%,F,T)
A1.40E4
A1.26E4
A6.45E3
303.9016 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,348.0,5.00%,F,T)
A8.21E4
A6.59E3
305.8987 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,300.0,5.00%,F,T)
A9.10E4
A4.90E3
330.9792 S:4 SMO(1,3)
18:35
19:00
19:09
19:30
19:45
19:57
20:08
20:27
20:40
21:04
21:15
21:28
21:51
Time

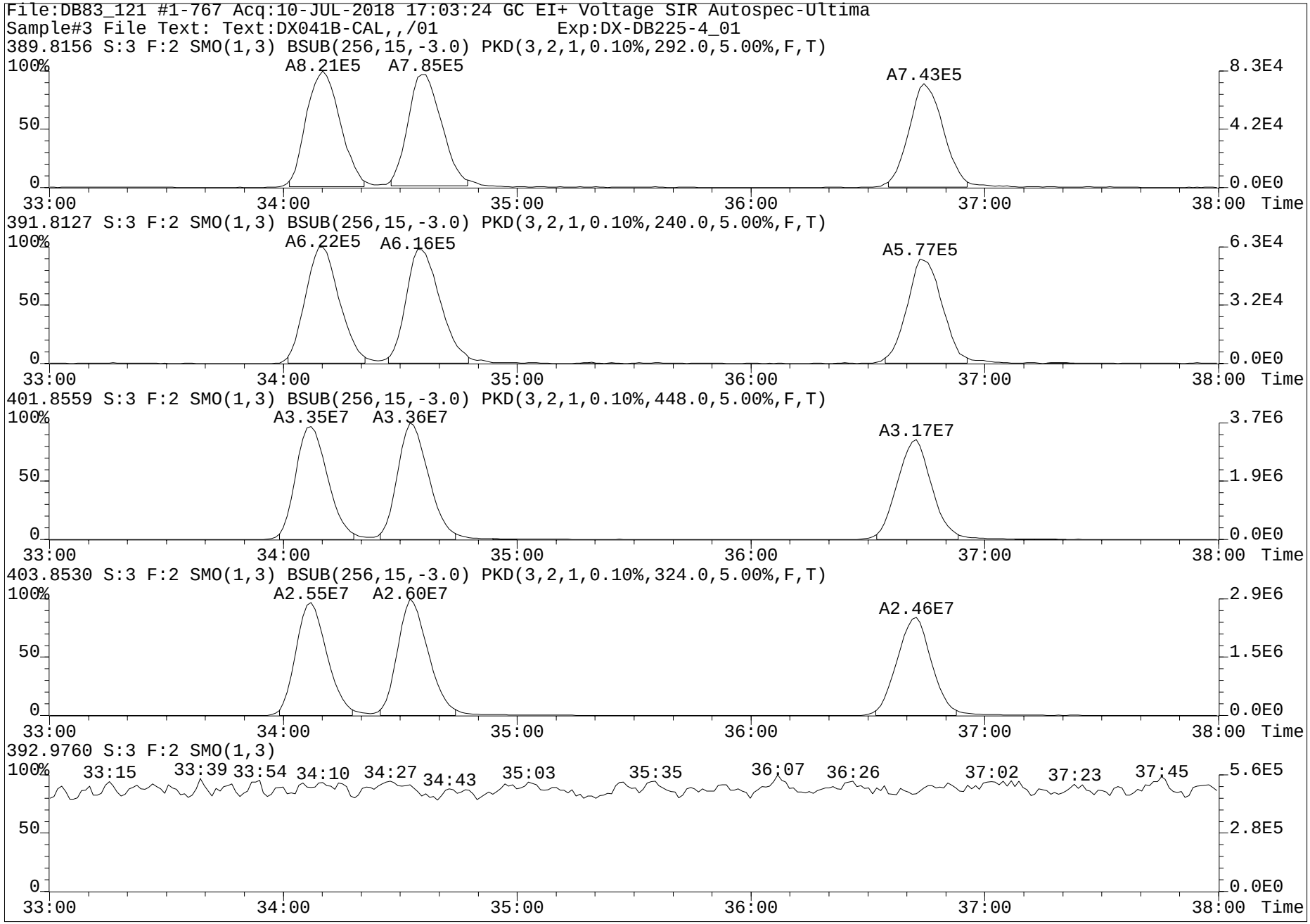
Run #2 Filename DB83_121 S: 3 I: 1 Acquired: 10-JUL-18 17:03:24 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041B-CAL,,/01 Comments: 1,,2.0uL CS-1 F1: 1.00 F2: 1.00

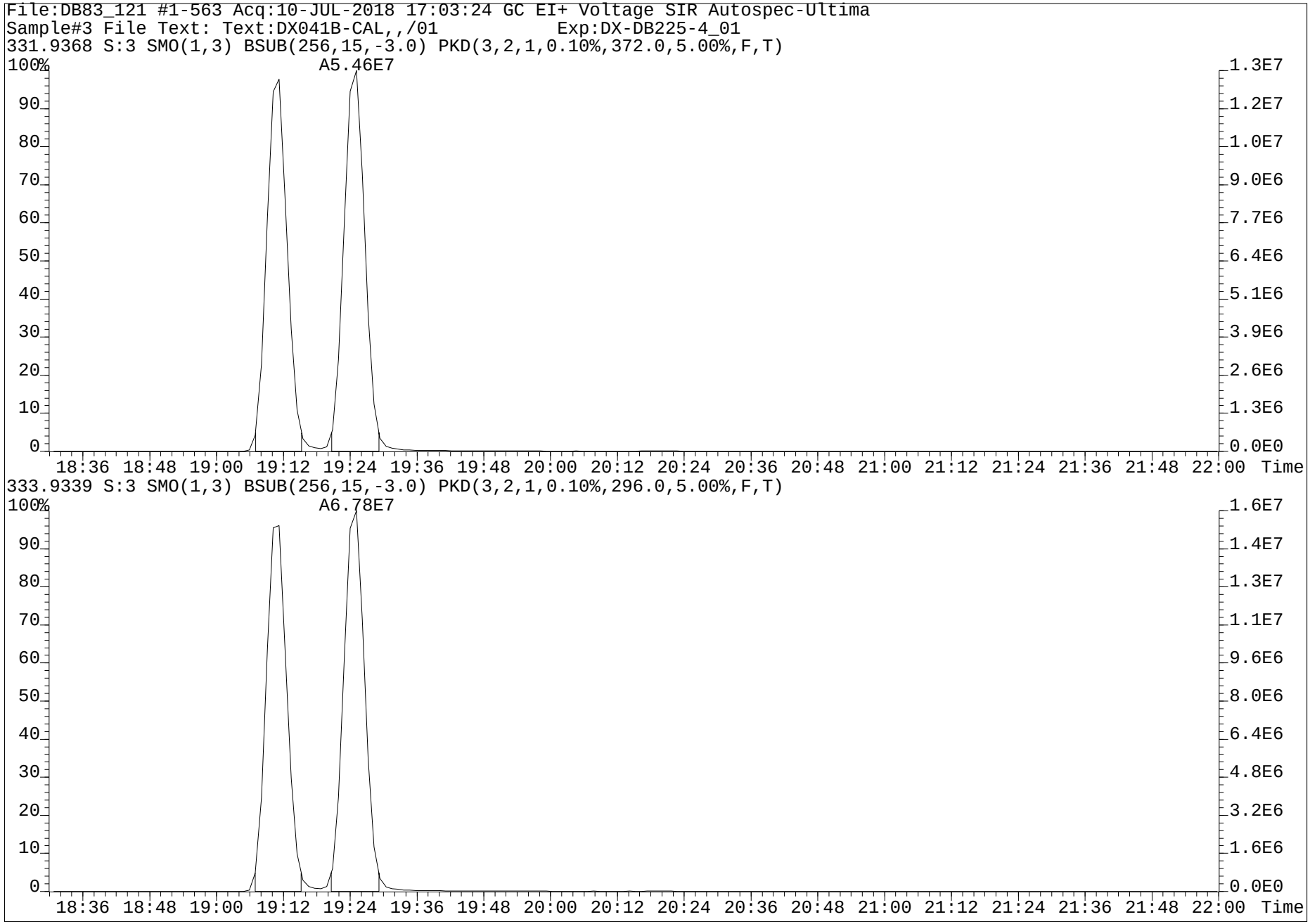
	Typ	Name	Amount	Resp	RA		RT	RF	RRF		Modified?	
1	Unk	2,3,7,8-TCDF	0.50	9.22e+05	0.81	y	20:48	-	0.9091	y	n	
2	Unk	1,2,3,7,8,9-HxCDD	2.50	1.32e+06	1.29	y	36:45	-	0.8899	y	n	
3	IS/RT	13C-2,3,7,8-TCDF	100.00	2.03e+08	0.80	y	20:47	-	1.6563	y	n	
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	5.91e+07	1.32	y	34:08	-	1.0495	y	n	
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	5.96e+07	1.29	y	34:33	-	1.0594	y	n	
6	RS	13C-1,2,3,4-TCDD	100.00	1.22e+08	0.80	y	19:25	1.22e+06	-	n	n	
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	5.63e+07	1.29	y	36:42	5.63e+05	-	n	n	
8	Tot	Hexa DPE	0.00	*			NotF»	Div0	-	n	n	
9	Tot	Tetra Lock	0.00	-			-	-	-	n	n	
10	Tot	Hexa Lock	0.00	-			-	-	-	n	n	

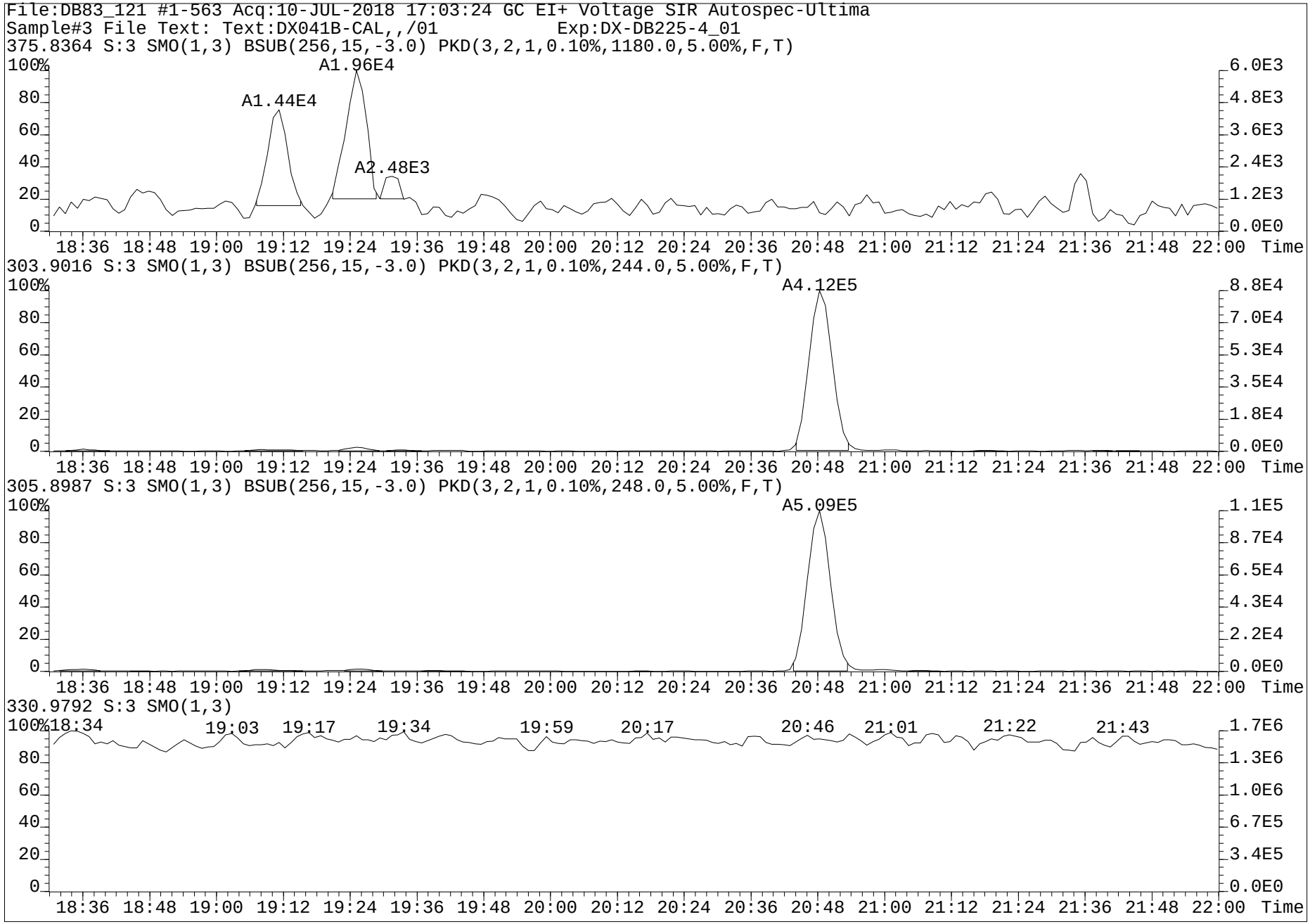
PV by TD 12-Jul-2018

SV: P^ 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 17:03:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text: Text:DX041B-CAL,,/01 Exp:DX-DB225-4_01
303.9016 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,244.0,5.00%,F,T)
A4.12E5
305.8987 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,248.0,5.00%,F,T)
A5.09E5
315.9419 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,476.0,5.00%,F,T)
A9.01E7
317.9389 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,420.0,5.00%,F,T)
A1.13E8
100%
80
60
40
20
0
8.8E4
7.0E4
5.3E4
3.5E4
1.8E4
0.0E0
1.1E5
8.7E4
6.5E4
4.3E4
2.2E4
1.9E7
1.5E7
1.2E7
7.7E6
3.9E6
2.4E7
1.9E7
1.4E7
9.5E6
4.8E6
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-767 Acq:10-JUL-2018 17:03:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text: Text:DX041B-CAL,,/01 Exp:DX-DB225-4_01
389.8156 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,292.0,5.00%,F,T)
A8.21E5
A7.85E5
A7.43E5
391.8127 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,240.0,5.00%,F,T)
A6.22E5
A6.16E5
A5.77E5
401.8559 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,448.0,5.00%,F,T)
A3.35E7
A3.36E7
A3.17E7
403.8530 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,324.0,5.00%,F,T)
A2.55E7
A2.60E7
A2.46E7
392.9760 S:3 F:2 SMO(1,3)
33:15
33:39
33:54
34:10
34:27
34:43
35:03
35:35
36:07
36:26
37:02
37:23
37:45
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
8.3E4
4.2E4
0.0E0
6.3E4
3.2E4
3.7E6
1.9E6
2.9E6
1.5E6
5.6E5
2.8E5


File:DB83_121 #1-563 Acq:10-JUL-2018 17:03:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text: Text:DX041B-CAL,,/01 Exp:DX-DB225-4_01
331.9368 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,372.0,5.00%,F,T)
A5.46E7
333.9339 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,296.0,5.00%,F,T)
A6.78E7
Time

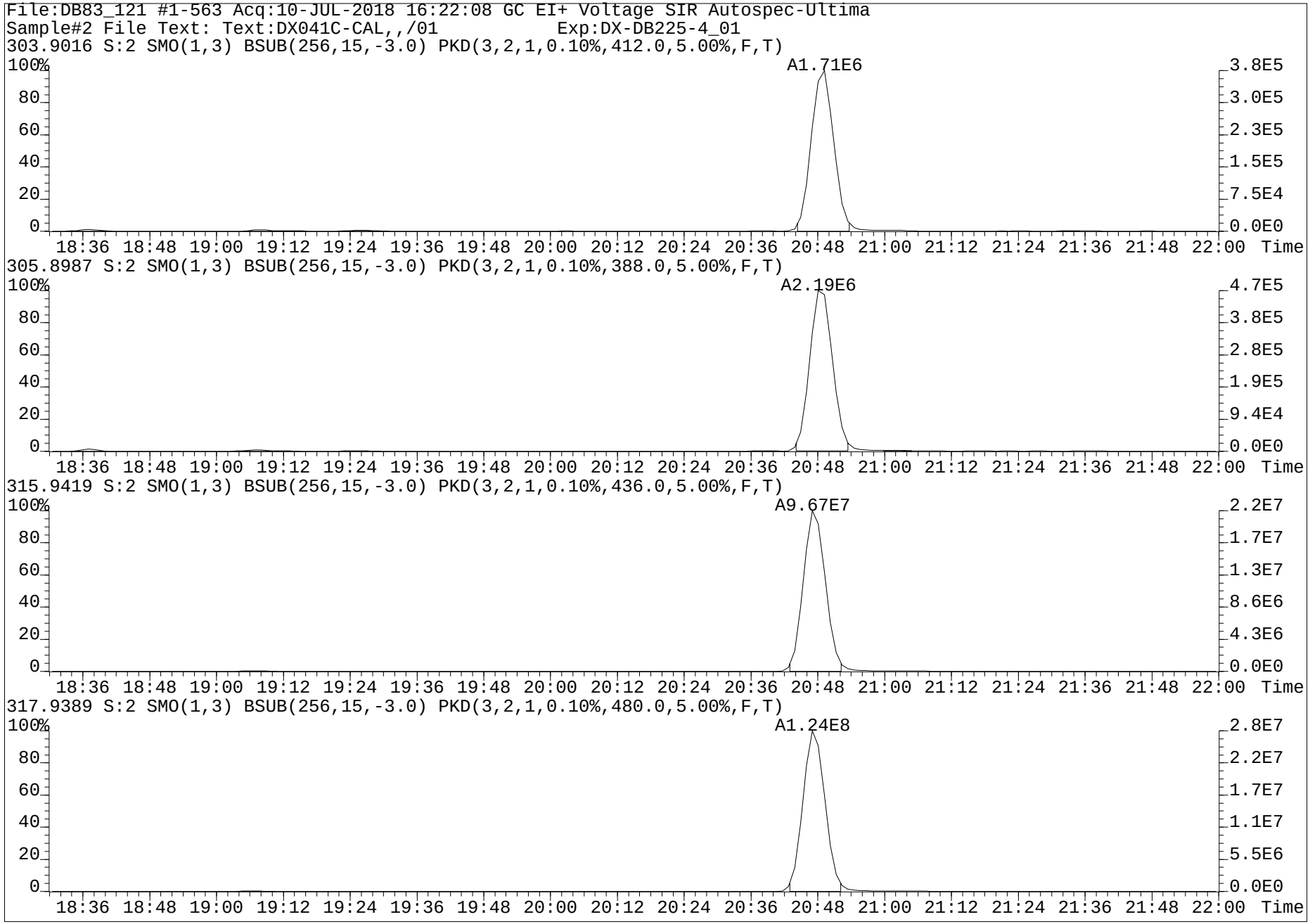

File:DB83_121 #1-563 Acq:10-JUL-2018 17:03:24 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text: Text:DX041B-CAL,,/01 Exp:DX-DB225-4_01
375.8364 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1180.0,5.00%,F,T)
A1.96E4
A1.44E4
A2.48E3
303.9016 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,244.0,5.00%,F,T)
A4.12E5
305.8987 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,248.0,5.00%,F,T)
A5.09E5
330.9792 S:3 SMO(1,3)
18:34
19:03
19:17
19:34
19:59
20:17
20:46
21:01
21:22
21:43
Time

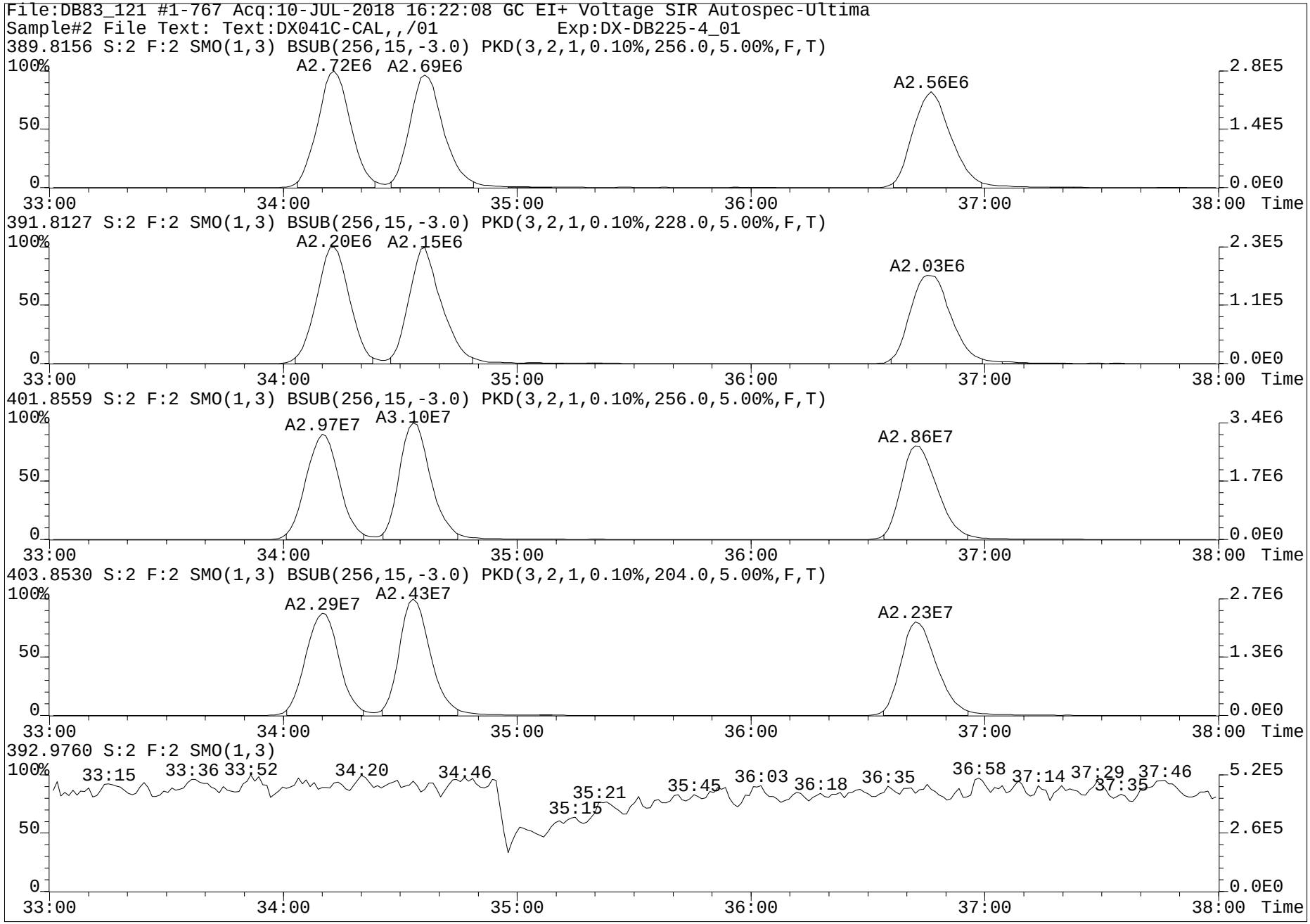
Run #3 Filename DB83_121 S: 2 I: 1 Acquired: 10-JUL-18 16:22:08 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041C-CAL,,/01 Comments: 1,,2.0uL CS-2 F1: 4.00 F2: 1.00

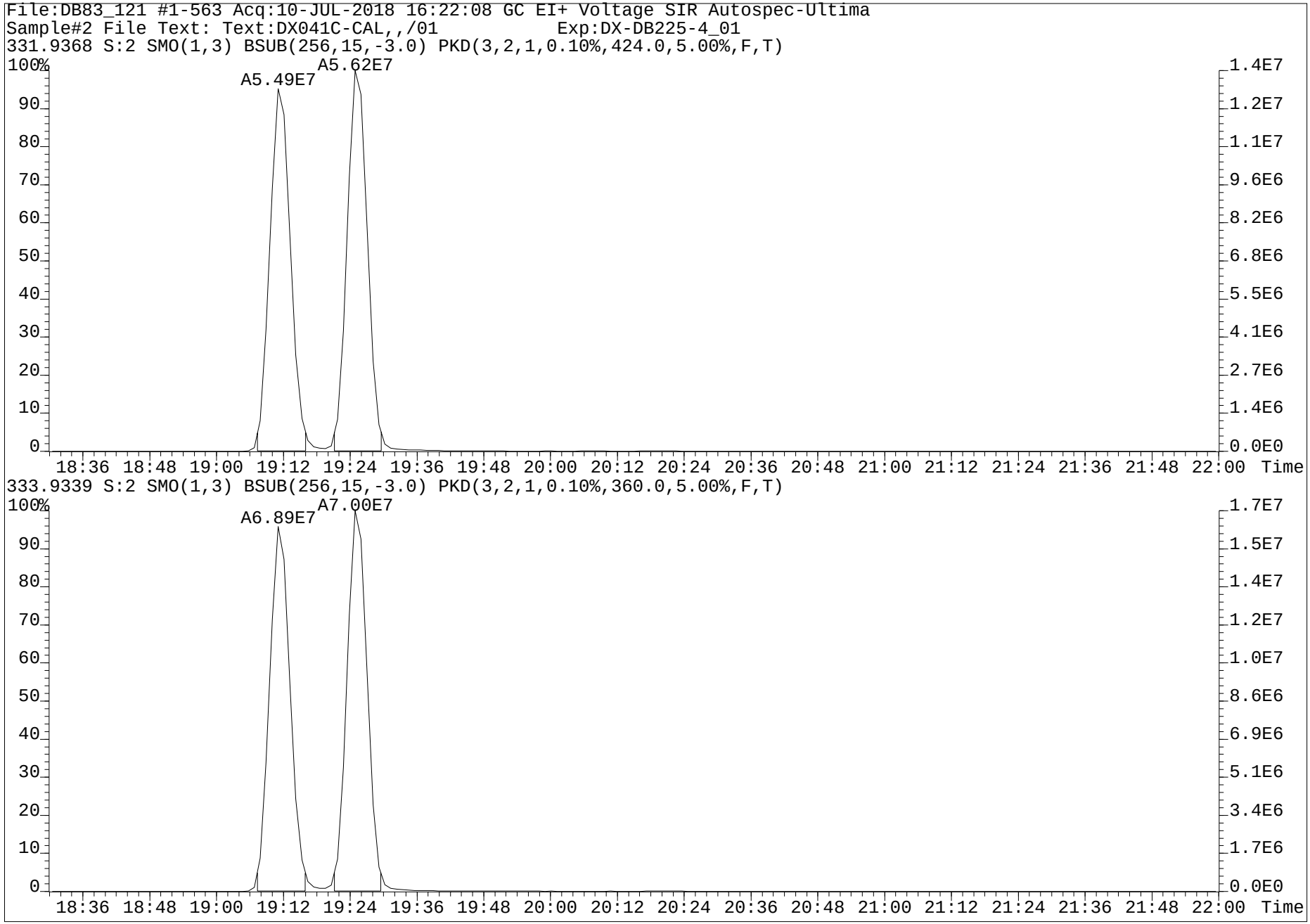
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	2,3,7,8-TCDF	2.00	3.90e+06	0.78 y	20:49	-	0.8851	y	n
2	Unk	1,2,3,7,8,9-HxCDD	10.00	4.60e+06	1.26 y	36:47	-	0.8526	y	n
3	IS/RT	13C-2,3,7,8-TCDF	100.00	2.20e+08	0.78 y	20:47	-	1.7466	y	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	5.26e+07	1.30 y	34:10	-	1.0338	y	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	5.52e+07	1.28 y	34:34	-	1.0849	y	n
6	RS	13C-1,2,3,4-TCDD	100.00	1.26e+08	0.80 y	19:25	1.26e+06	-	n	n
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	5.09e+07	1.28 y	36:43	5.09e+05	-	n	n
8	Tot	Hexa DPE	0.00	*		NotF»	Div0	-	n	n
9	Tot	Tetra Lock	0.00	-		-	-	-	n	n
10	Tot	Hexa Lock	0.00	-		-	-	-	n	n

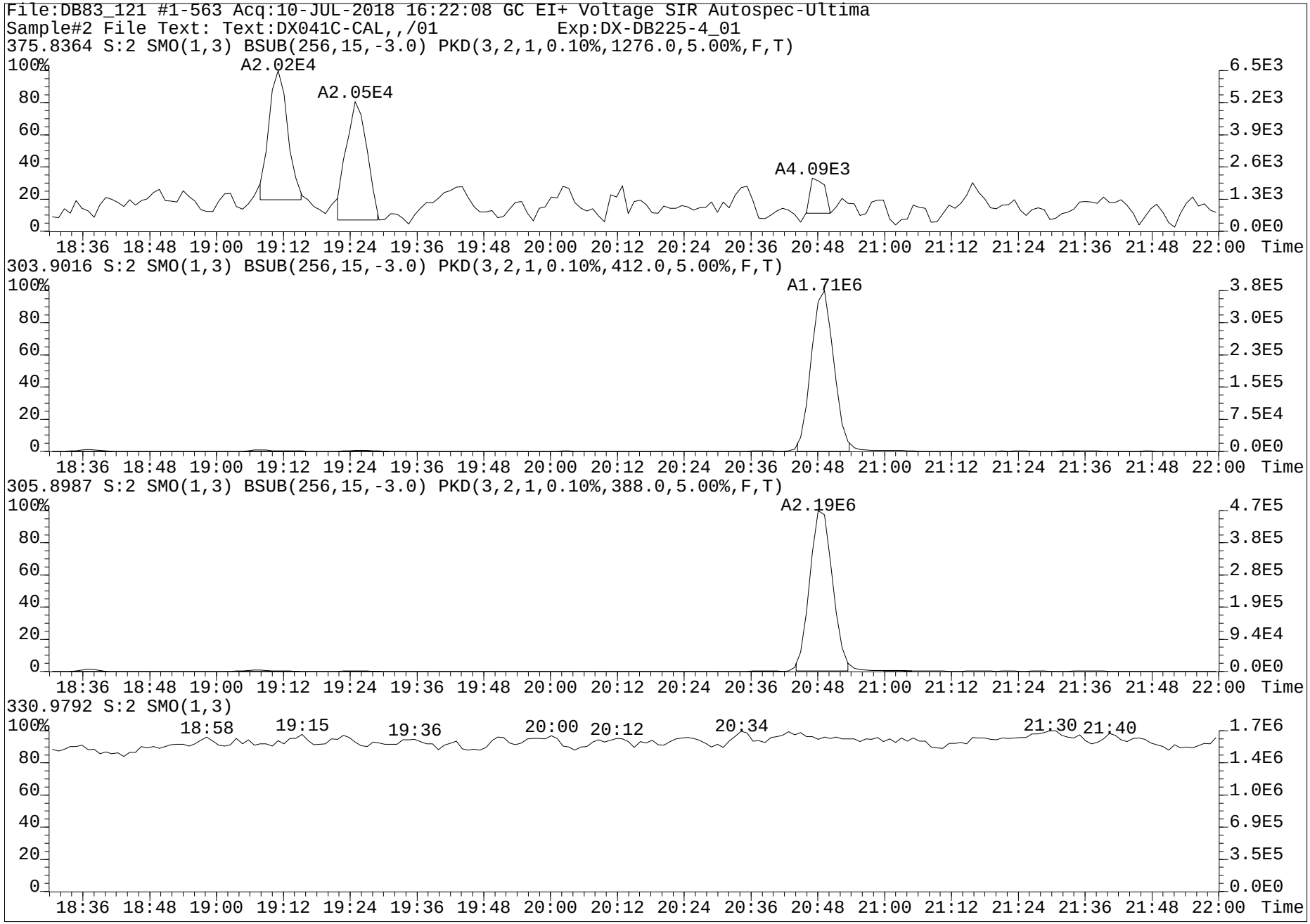
PV by TD 12-Jul-2018

SV: TD 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 16:22:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041C-CAL,,/01 Exp:DX-DB225-4_01
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,412.0,5.00%,F,T)
A1.71E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,388.0,5.00%,F,T)
A2.19E6
315.9419 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,436.0,5.00%,F,T)
A9.67E7
317.9389 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,480.0,5.00%,F,T)
A1.24E8
100%
80
60
40
20
0
3.8E5
3.0E5
2.3E5
1.5E5
7.5E4
0.0E0
4.7E5
3.8E5
2.8E5
1.9E5
9.4E4
0.0E0
2.2E7
1.7E7
1.3E7
8.6E6
4.3E6
0.0E0
2.8E7
2.2E7
1.7E7
1.1E7
5.5E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-767 Acq:10-JUL-2018 16:22:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041C-CAL,,/01 Exp:DX-DB225-4_01
389.8156 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,256.0,5.00%,F,T)
A2.72E6 A2.69E6
A2.56E6
391.8127 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,228.0,5.00%,F,T)
A2.20E6 A2.15E6
A2.03E6
401.8559 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,256.0,5.00%,F,T)
A2.97E7 A3.10E7
A2.86E7
403.8530 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,204.0,5.00%,F,T)
A2.29E7 A2.43E7
A2.23E7
392.9760 S:2 F:2 SMO(1,3)
33:15 33:36 33:52 34:20 34:46 35:15 35:21 35:45 36:03 36:18 36:35 36:58 37:14 37:29 37:35 37:46
100%
50
0
33:00 34:00 35:00 36:00 37:00 38:00 Time
2.8E5 1.4E5 0.0E0
2.3E5 1.1E5 0.0E0
3.4E6 1.7E6 0.0E0
2.7E6 1.3E6 0.0E0
5.2E5 2.6E5 0.0E0


File:DB83_121 #1-563 Acq:10-JUL-2018 16:22:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041C-CAL,,/01 Exp:DX-DB225-4_01
331.9368 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,424.0,5.00%,F,T)
A5.49E7
A5.62E7
333.9339 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,360.0,5.00%,F,T)
A6.89E7
A7.00E7
Time

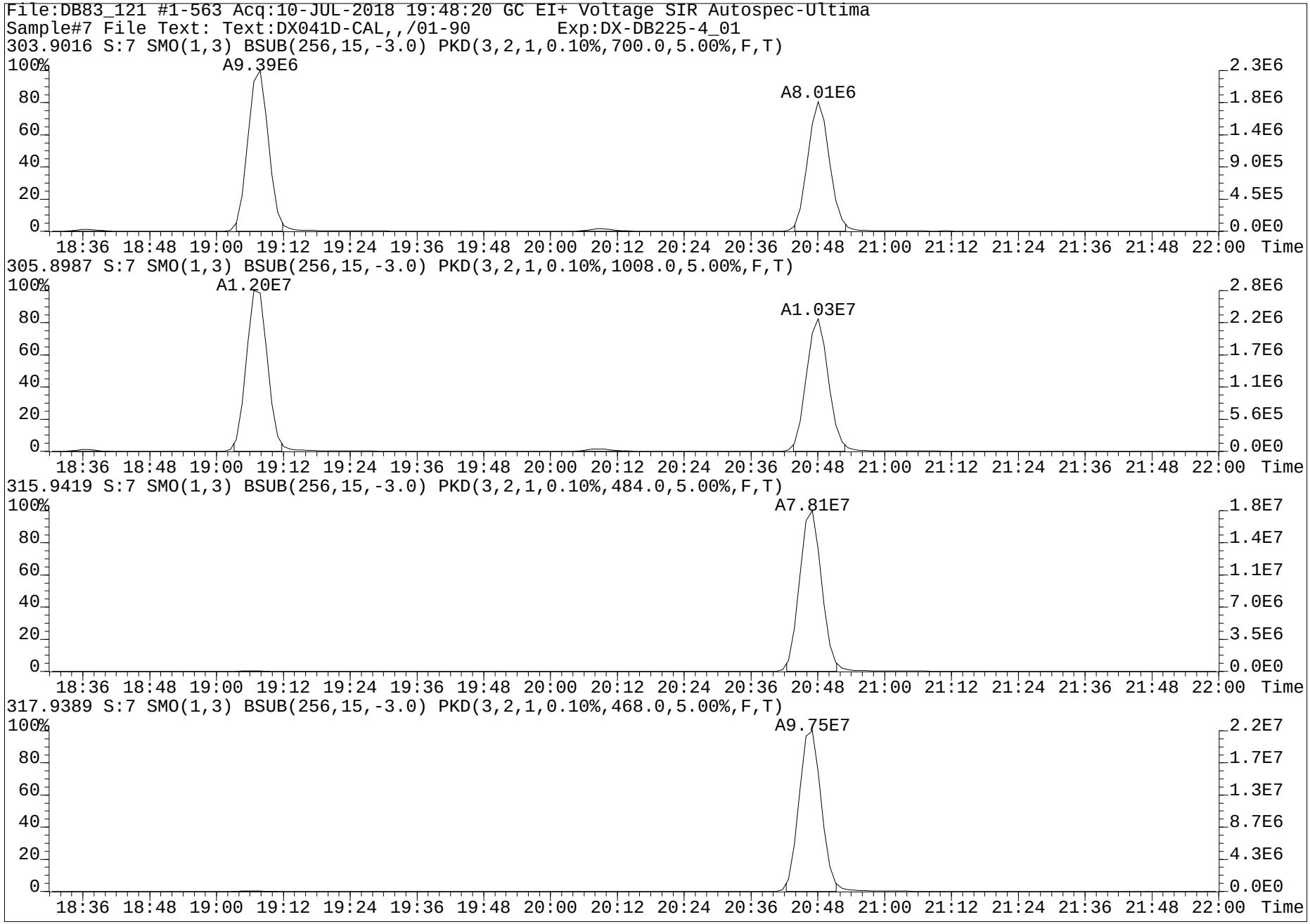

File:DB83_121 #1-563 Acq:10-JUL-2018 16:22:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041C-CAL,,/01 Exp:DX-DB225-4_01
375.8364 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1276.0,5.00%,F,T)
A2.02E4
A2.05E4
A4.09E3
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,412.0,5.00%,F,T)
A1.71E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,388.0,5.00%,F,T)
A2.19E6
330.9792 S:2 SMO(1,3)
18:58
19:15
19:36
20:00
20:12
20:34
21:30
21:40
Time

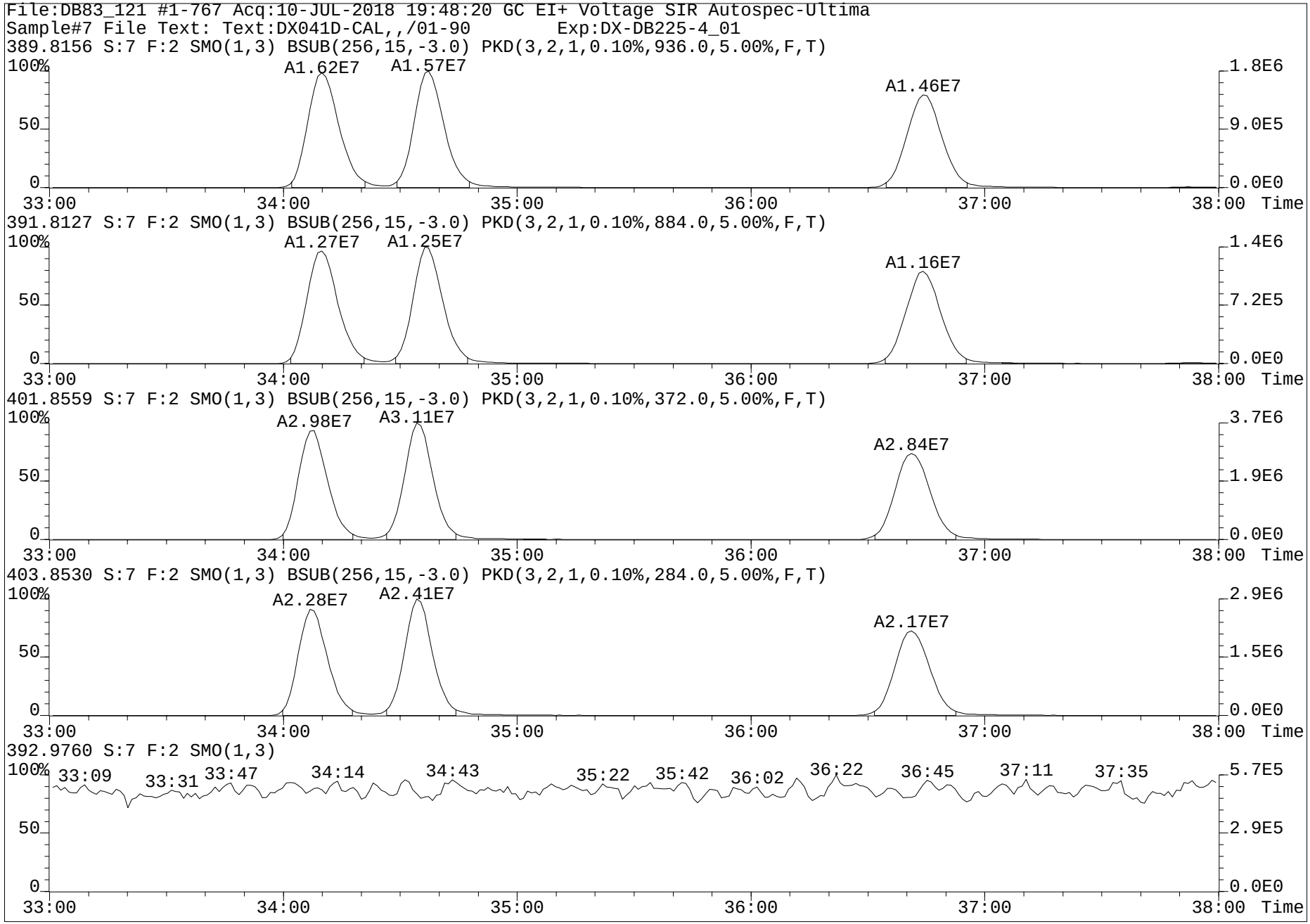
Run #4 Filename DB83_121 S: 7 I: 1 Acquired: 10-JUL-18 19:48:20 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-90 Comments: 1,,2.0uL CAL F1: 20.00 F2: 1.00

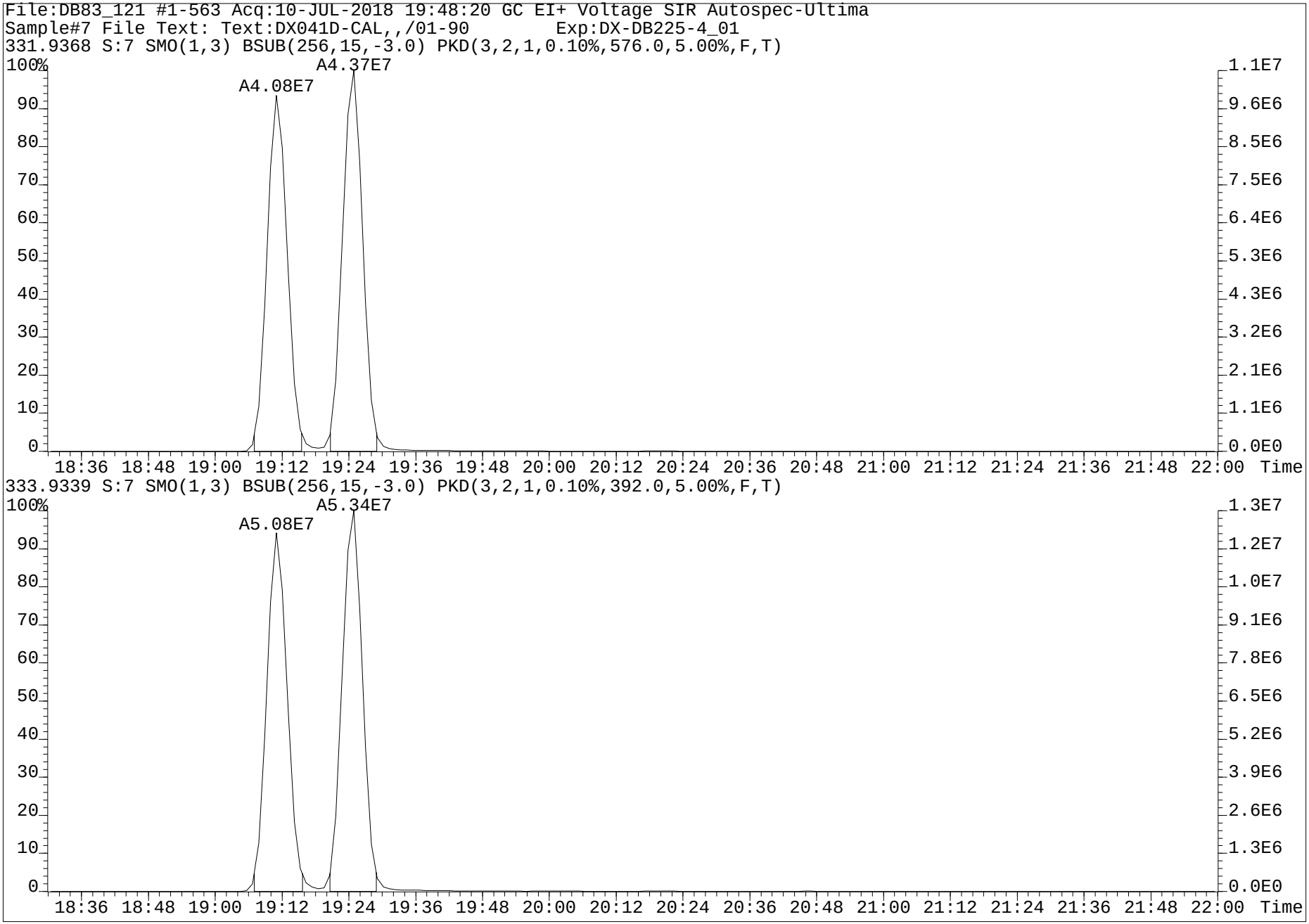
	Typ	Name	Amount	Resp	RA		RT	RF	RRF		Modified?	
1	Unk	2,3,7,8-TCDF	10.00	1.83e+07	0.78	y	20:48	-	1.0438	y	n	
2	Unk	1,2,3,7,8,9-HxCDD	50.00	2.62e+07	1.26	y	36:44	-	0.9718	y	n	
3	IS/RT	13C-2,3,7,8-TCDF	100.00	1.76e+08	0.80	y	20:47	-	1.8071	y	n	
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	5.26e+07	1.31	y	34:08	-	1.0497	y	n	
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	5.52e+07	1.29	y	34:35	-	1.1013	y	n	
6	RS	13C-1,2,3,4-TCDD	100.00	9.71e+07	0.82	y	19:25	9.71e+05	-	n	n	
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	5.01e+07	1.31	y	36:42	5.01e+05	-	n	n	
8	Tot	Hexa DPE	0.00	*			NotF»	Div0	-	n	n	
9	Tot	Tetra Lock	0.00	-			-	-	-	n	n	
10	Tot	Hexa Lock	0.00	-			-	-	-	n	n	

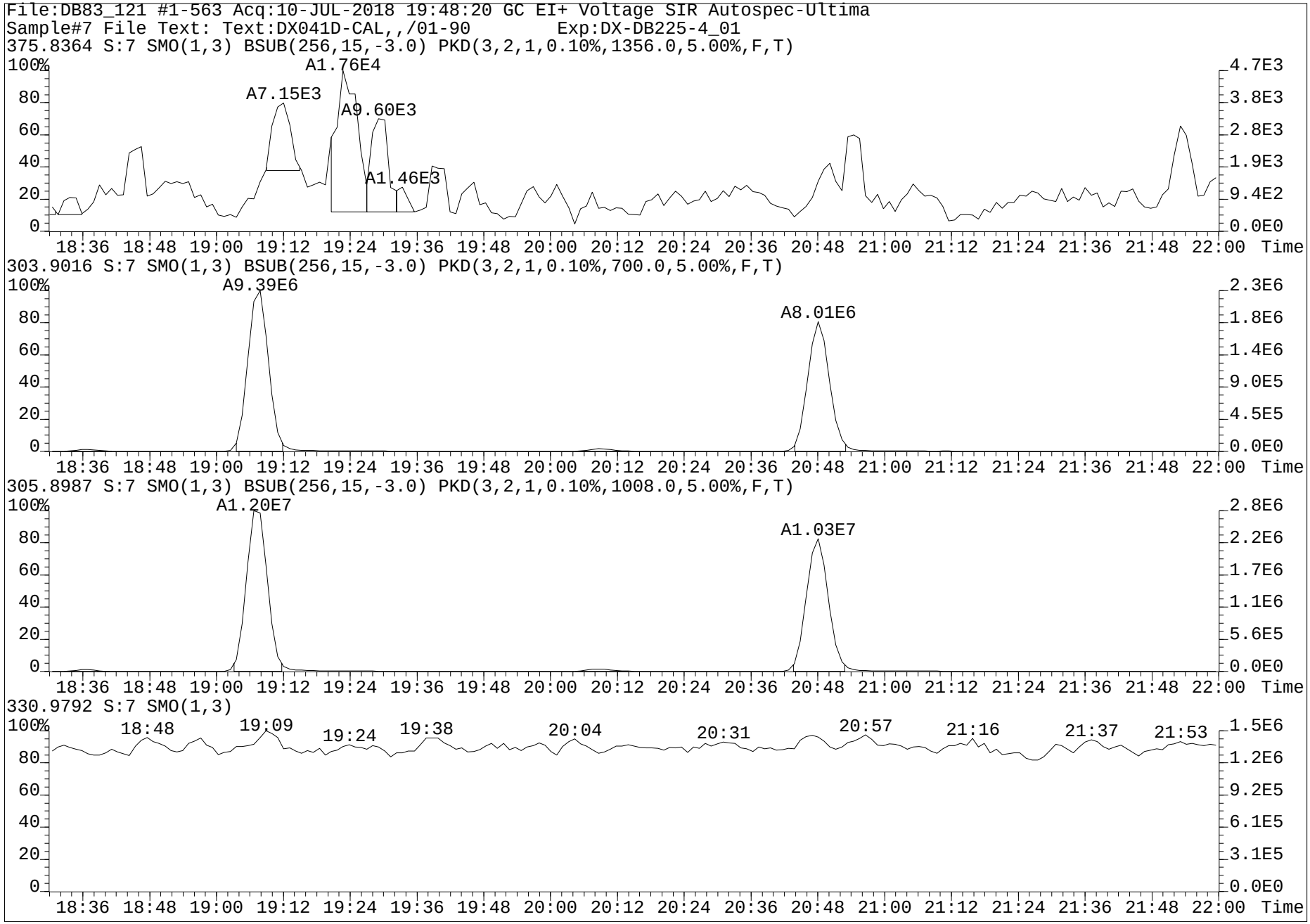
PV by TD 12-Jul-2018

SV: P^ 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,700.0,5.00%,F,T)
A9.39E6
A8.01E6
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1008.0,5.00%,F,T)
A1.20E7
A1.03E7
315.9419 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,484.0,5.00%,F,T)
A7.81E7
317.9389 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,468.0,5.00%,F,T)
A9.75E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
2.3E6
1.8E6
1.4E6
9.0E5
4.5E5
0.0E0
2.8E6
2.2E6
1.7E6
1.1E6
5.6E5
1.8E7
1.4E7
1.1E7
7.0E6
3.5E6
2.2E7
1.7E7
1.3E7
8.7E6
4.3E6


File:DB83_121 #1-767 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
389.8156 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,936.0,5.00%,F,T)
A1.62E7
A1.57E7
A1.46E7
391.8127 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,884.0,5.00%,F,T)
A1.27E7
A1.25E7
A1.16E7
401.8559 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,372.0,5.00%,F,T)
A2.98E7
A3.11E7
A2.84E7
403.8530 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,284.0,5.00%,F,T)
A2.28E7
A2.41E7
A2.17E7
392.9760 S:7 F:2 SMO(1,3)
33:09
33:31
33:47
34:14
34:43
35:22
35:42
36:02
36:22
36:45
37:11
37:35
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.8E6
9.0E5
0.0E0
1.4E6
7.2E5
3.7E6
1.9E6
2.9E6
1.5E6
5.7E5
2.9E5


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
331.9368 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,576.0,5.00%,F,T)
A4.08E7
A4.37E7
333.9339 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,392.0,5.00%,F,T)
A5.08E7
A5.34E7
Time


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
375.8364 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1356.0,5.00%,F,T)
A1.76E4
A7.15E3
A9.60E3
A1.46E3
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,700.0,5.00%,F,T)
A9.39E6
A8.01E6
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1008.0,5.00%,F,T)
A1.20E7
A1.03E7
330.9792 S:7 SMO(1,3)
18:48
19:09
19:24
19:38
20:04
20:31
20:57
21:16
21:37
21:53
Time

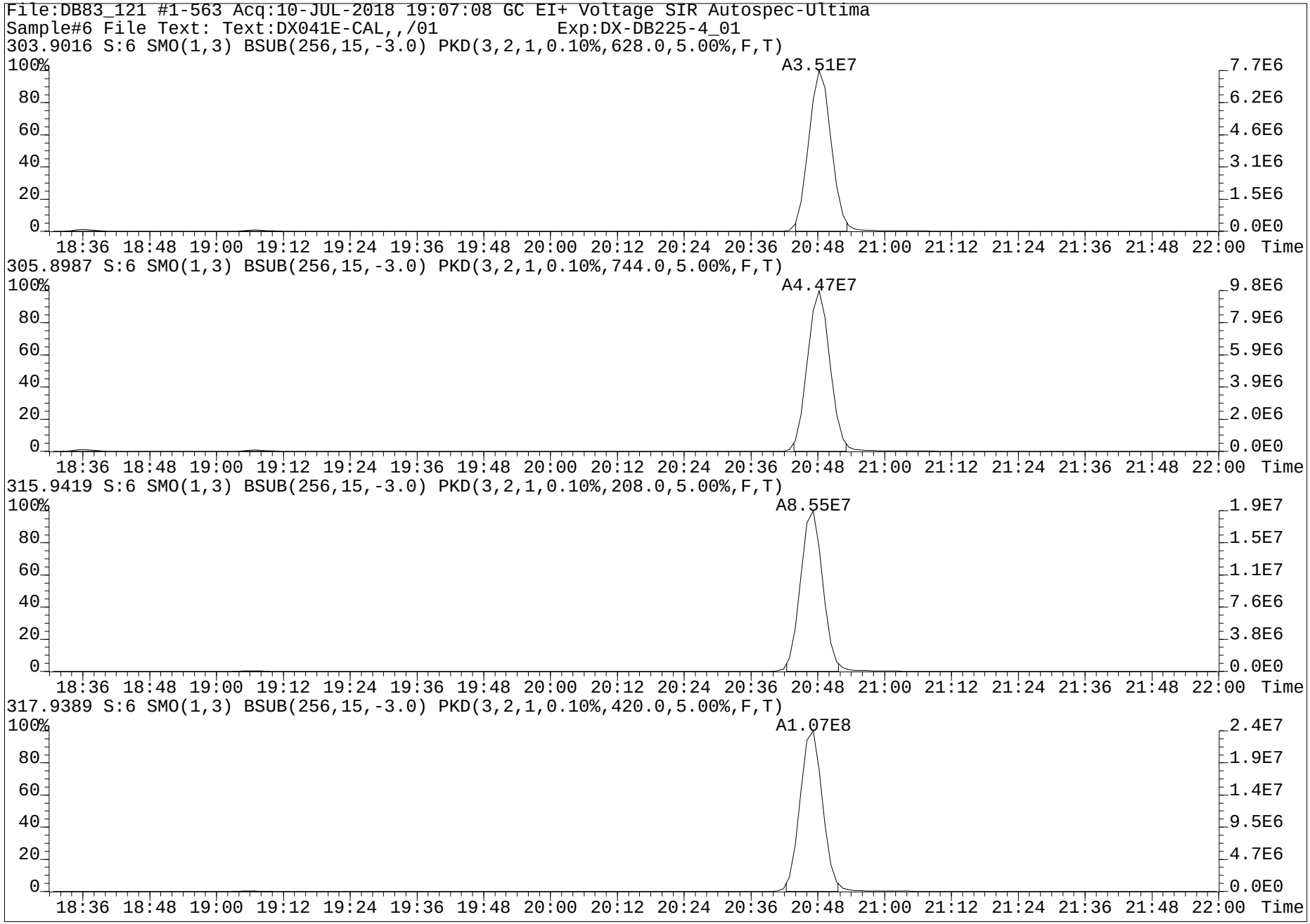
www.axysanalytical.com

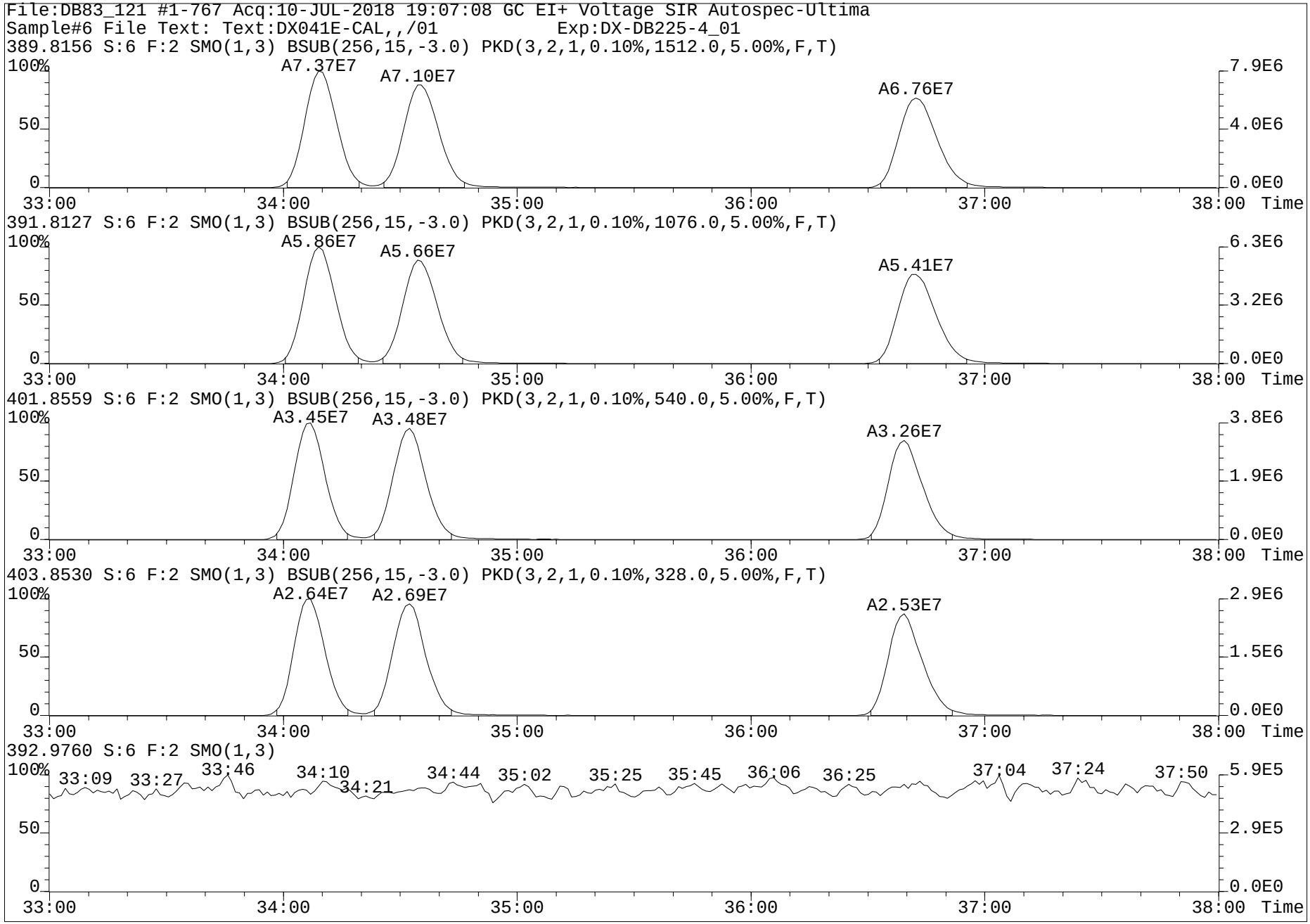
Run #5 Filename DB83_121 S: 6 I: 1 Acquired: 10-JUL-18 19:07:08 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041E-CAL,,/01 Comments: 1,,2.0uL CS-4 F1: 80.00 F2: 1.00

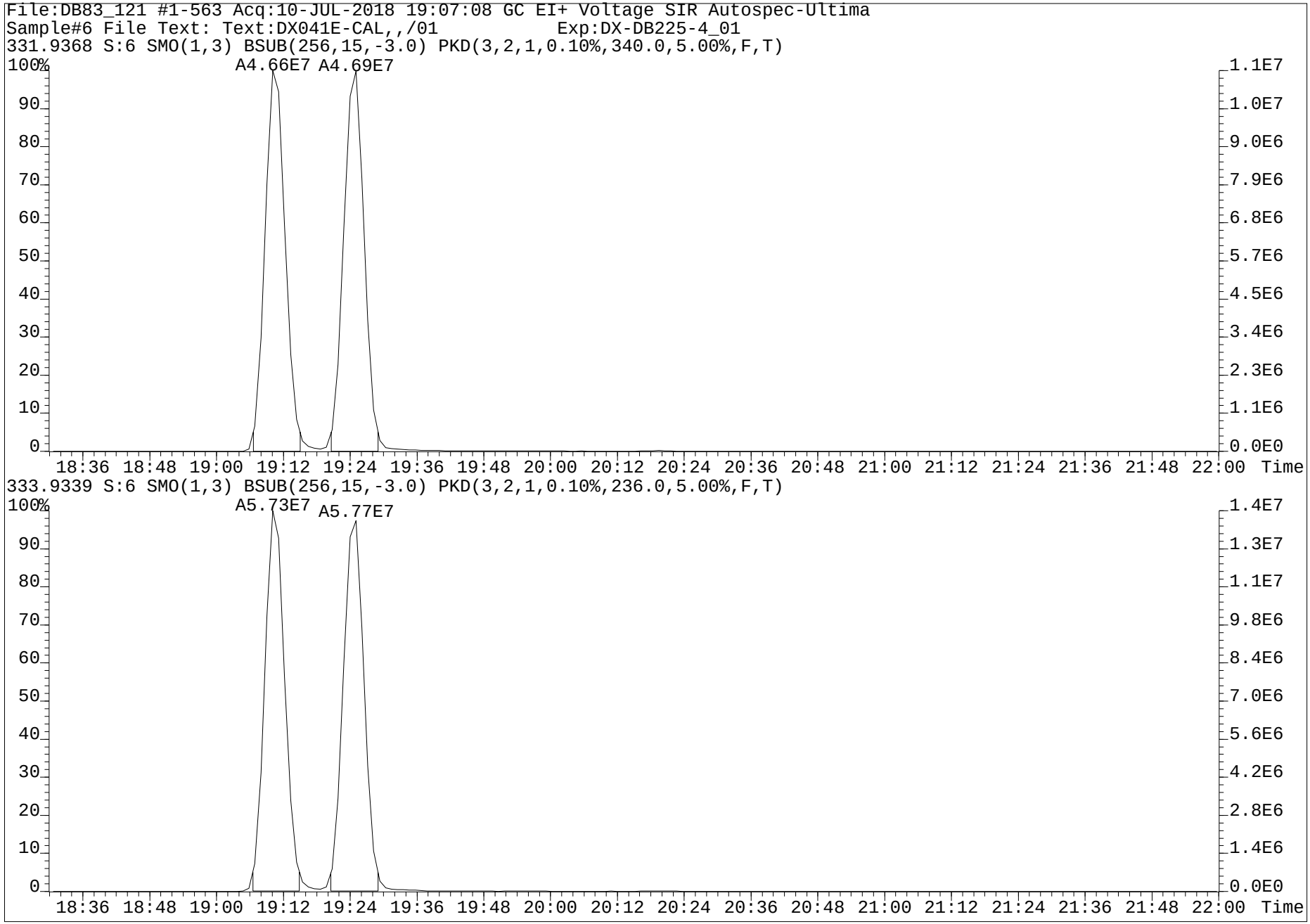
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	2,3,7,8-TCDF	40.00	7.98e+07	0.78 y	20:48	-	1.0349	y	n
2	Unk	1,2,3,7,8,9-HxCDD	200.00	1.22e+08	1.25 y	36:43	-	0.9922	y	n
3	IS/RT	13C-2,3,7,8-TCDF	100.00	1.93e+08	0.80 y	20:47	-	1.8426	y	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	6.10e+07	1.31 y	34:07	-	1.0543	y	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	6.17e+07	1.30 y	34:32	-	1.0672	y	n
6	RS	13C-1,2,3,4-TCDD	100.00	1.05e+08	0.81 y	19:25	1.05e+06	-	n	n
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	5.78e+07	1.29 y	36:40	5.78e+05	-	n	n
8	Tot	Hexa DPE	0.00	*		NotF»	Div0	-	n	n
9	Tot	Tetra Lock	0.00	-		-	-	-	n	n
10	Tot	Hexa Lock	0.00	-		-	-	-	n	n

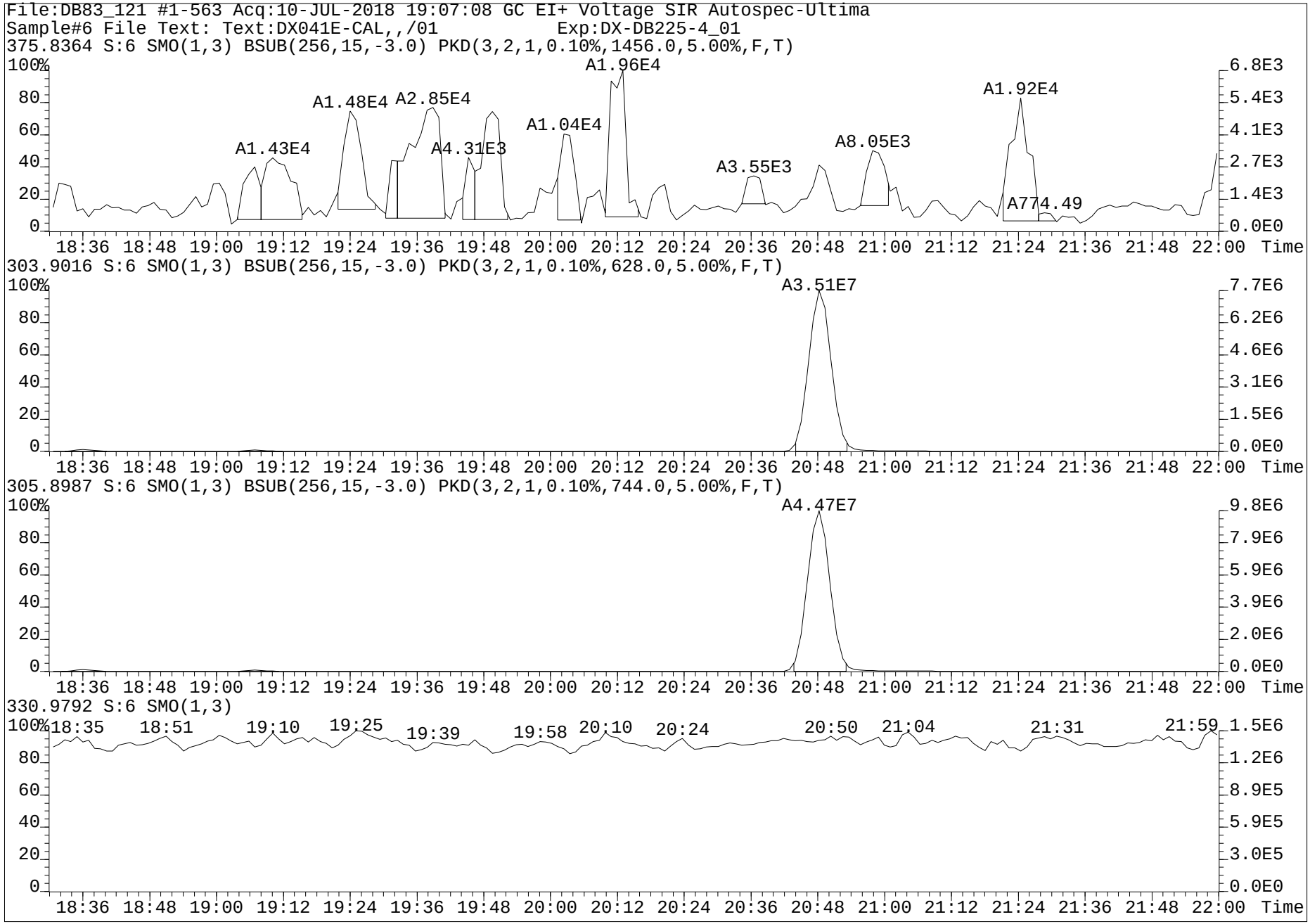
PV by TD 12-Jul-2018

SV: TD 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 19:07:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:DX041E-CAL,,/01 Exp:DX-DB225-4_01
303.9016 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,628.0,5.00%,F,T)
A3.51E7
305.8987 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,744.0,5.00%,F,T)
A4.47E7
315.9419 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,208.0,5.00%,F,T)
A8.55E7
317.9389 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,420.0,5.00%,F,T)
A1.07E8
100%
80
60
40
20
0
7.7E6
6.2E6
4.6E6
3.1E6
1.5E6
0.0E0
9.8E6
7.9E6
5.9E6
3.9E6
2.0E6
1.9E7
1.5E7
1.1E7
7.6E6
3.8E6
2.4E7
1.9E7
1.4E7
9.5E6
4.7E6
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-767 Acq:10-JUL-2018 19:07:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:DX041E-CAL,,/01 Exp:DX-DB225-4_01
389.8156 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1512.0,5.00%,F,T)
A7.37E7
A7.10E7
A6.76E7
391.8127 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1076.0,5.00%,F,T)
A5.86E7
A5.66E7
A5.41E7
401.8559 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,540.0,5.00%,F,T)
A3.45E7
A3.48E7
A3.26E7
403.8530 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,328.0,5.00%,F,T)
A2.64E7
A2.69E7
A2.53E7
392.9760 S:6 F:2 SMO(1,3)
33:09
33:27
33:46
34:10
34:21
34:44
35:02
35:25
35:45
36:06
36:25
37:04
37:24
37:50
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
7.9E6
4.0E6
0.0E0
6.3E6
3.2E6
0.0E0
3.8E6
1.9E6
0.0E0
2.9E6
1.5E6
0.0E0
5.9E5
2.9E5
0.0E0


File:DB83_121 #1-563 Acq:10-JUL-2018 19:07:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:DX041E-CAL,,/01 Exp:DX-DB225-4_01
331.9368 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,340.0,5.00%,F,T)
A4.66E7 A4.69E7
100%
90
80
70
60
50
40
30
20
10
0
1.1E7
1.0E7
9.0E6
7.9E6
6.8E6
5.7E6
4.5E6
3.4E6
2.3E6
1.1E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,236.0,5.00%,F,T)
A5.73E7 A5.77E7
100%
90
80
70
60
50
40
30
20
10
0
1.4E7
1.3E7
1.1E7
9.8E6
8.4E6
7.0E6
5.6E6
4.2E6
2.8E6
1.4E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

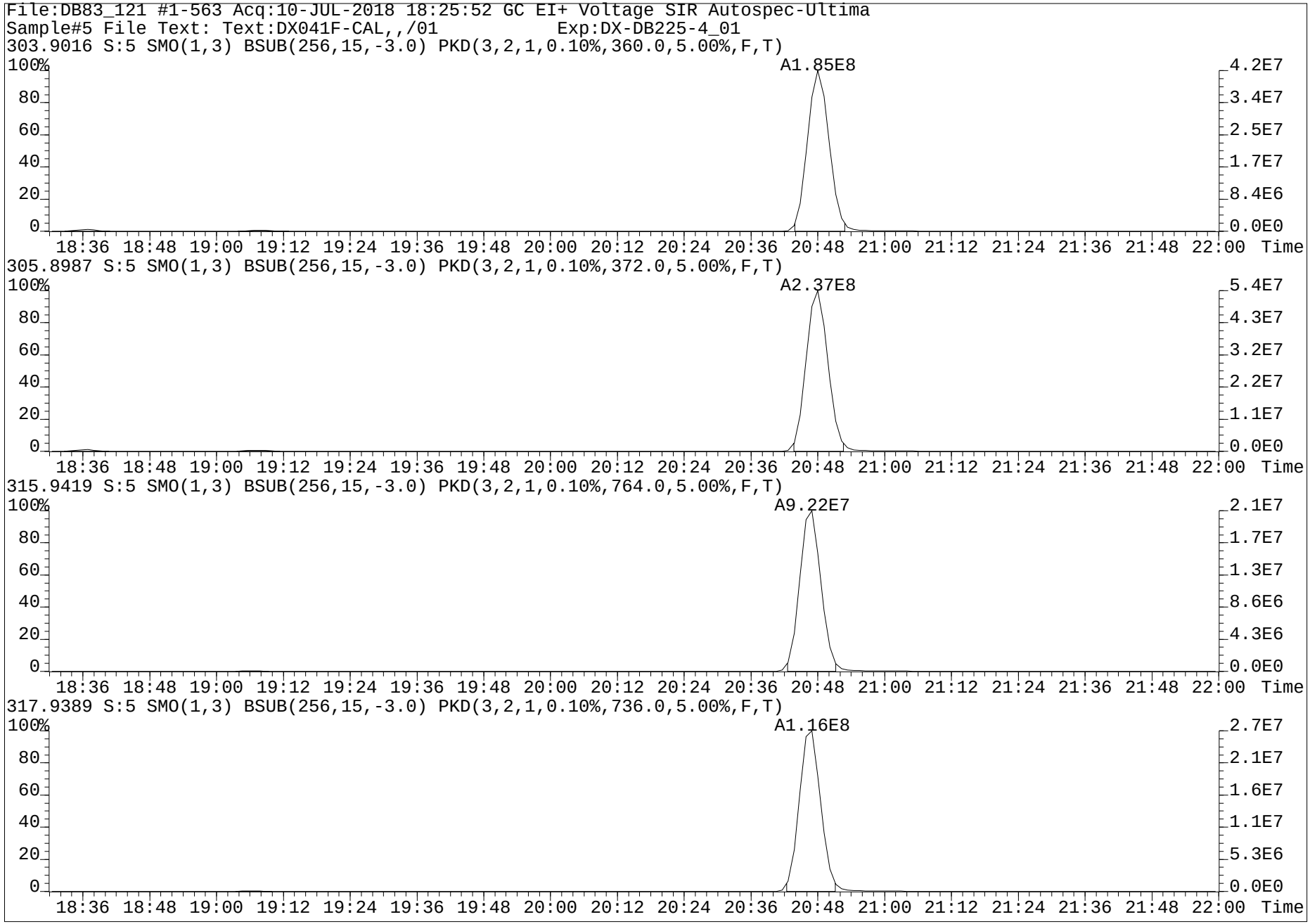

File:DB83_121 #1-563 Acq:10-JUL-2018 19:07:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text: Text:DX041E-CAL,,/01 Exp:DX-DB225-4_01
375.8364 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1456.0,5.00%,F,T)
A1.43E4
A1.48E4
A2.85E4
A4.31E3
A1.04E4
A1.96E4
A3.55E3
A8.05E3
A1.92E4
A774.49
303.9016 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,628.0,5.00%,F,T)
A3.51E7
305.8987 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,744.0,5.00%,F,T)
A4.47E7
330.9792 S:6 SMO(1,3)
18:35 18:51 19:10 19:25 19:39 19:58 20:10 20:24 20:50 21:04 21:31 21:59
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

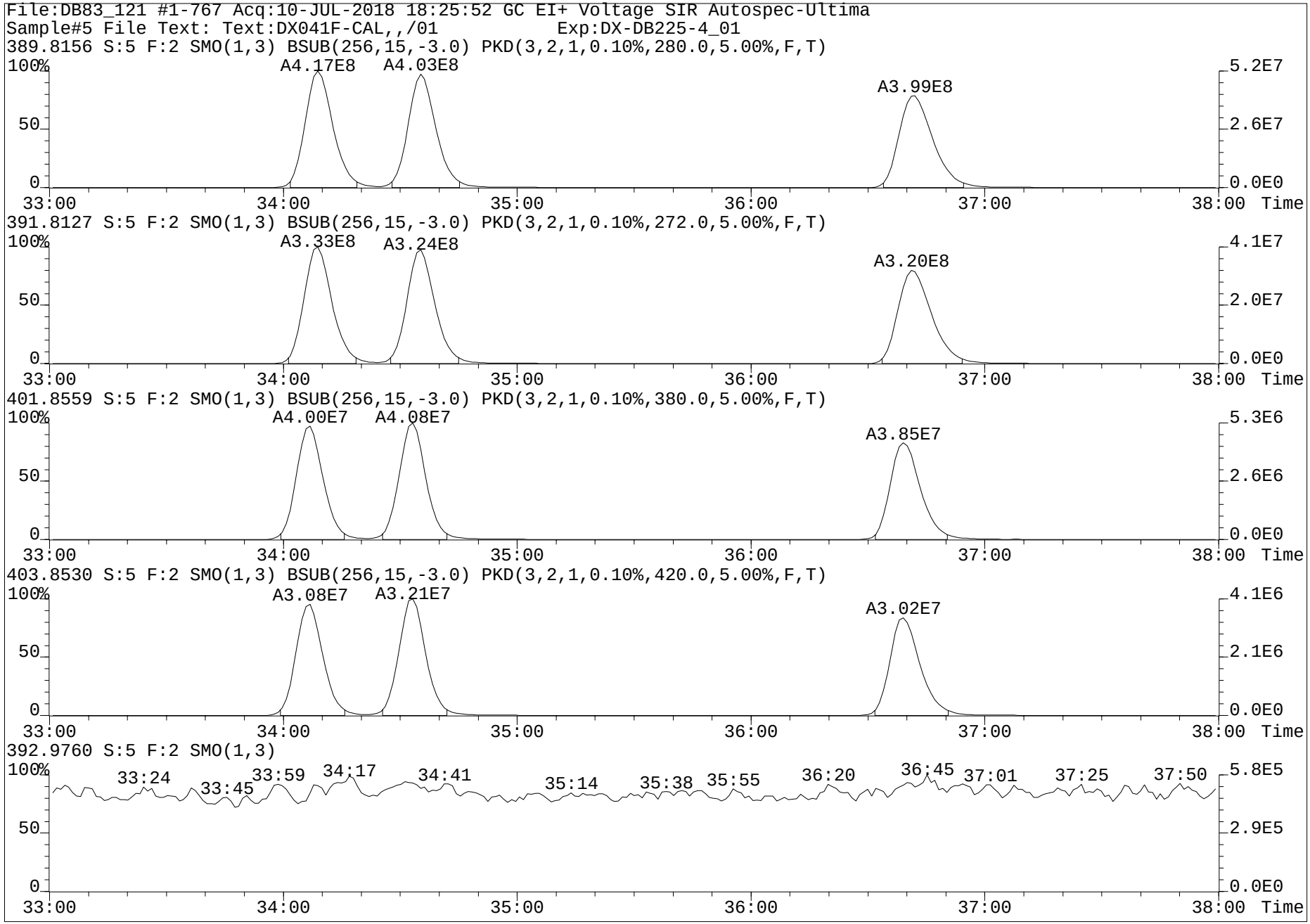
Run #6 Filename DB83_121 S: 5 I: 1 Acquired: 10-JUL-18 18:25:52 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041F-CAL,,/01 Comments: 1,,2.0uL CS-5 F1: 400.00 F2: 1.00

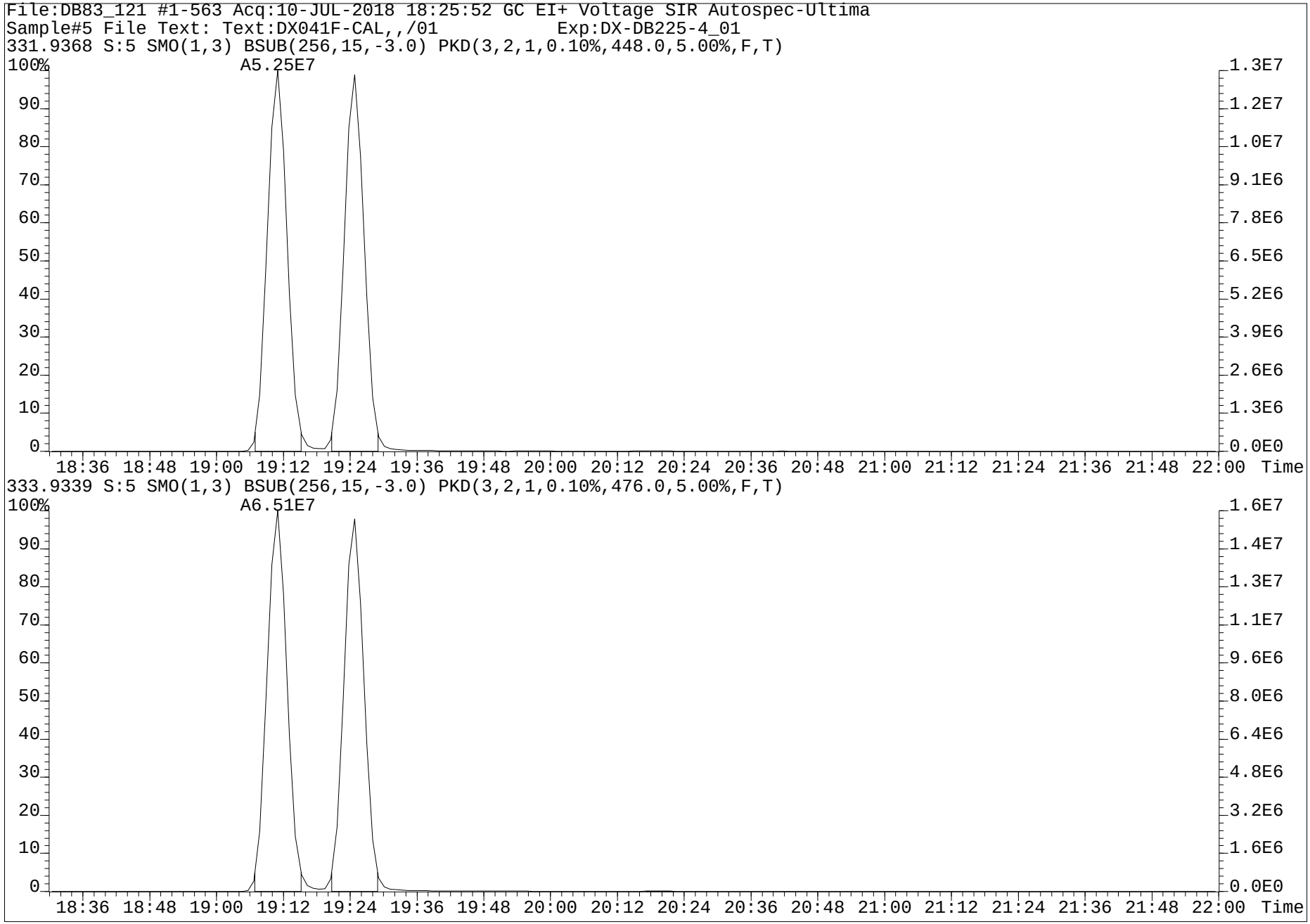
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	2,3,7,8-TCDF	200.00	4.22e+08	0.78 y	20:48	-	1.0129	y	n
2	Unk	1,2,3,7,8,9-HxCDD	1000.00	7.19e+08	1.25 y	36:43	-	1.0010	y	n
3	IS/RT	13C-2,3,7,8-TCDF	100.00	2.08e+08	0.79 y	20:47	-	1.7876	y	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	100.00	7.07e+07	1.30 y	34:07	-	1.0294	y	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	100.00	7.30e+07	1.27 y	34:33	-	1.0619	y	n
6	RS	13C-1,2,3,4-TCDD	100.00	1.16e+08	0.82 y	19:25	1.16e+06	-	n	n
7	RS	13C-1,2,3,7,8,9-HxCDD	100.00	6.87e+07	1.27 y	36:40	6.87e+05	-	n	n
8	Tot	Hexa DPE	0.00	*		NotF»	Div0	-	n	n
9	Tot	Tetra Lock	0.00	-		-	-	-	n	n
10	Tot	Hexa Lock	0.00	-		-	-	-	n	n

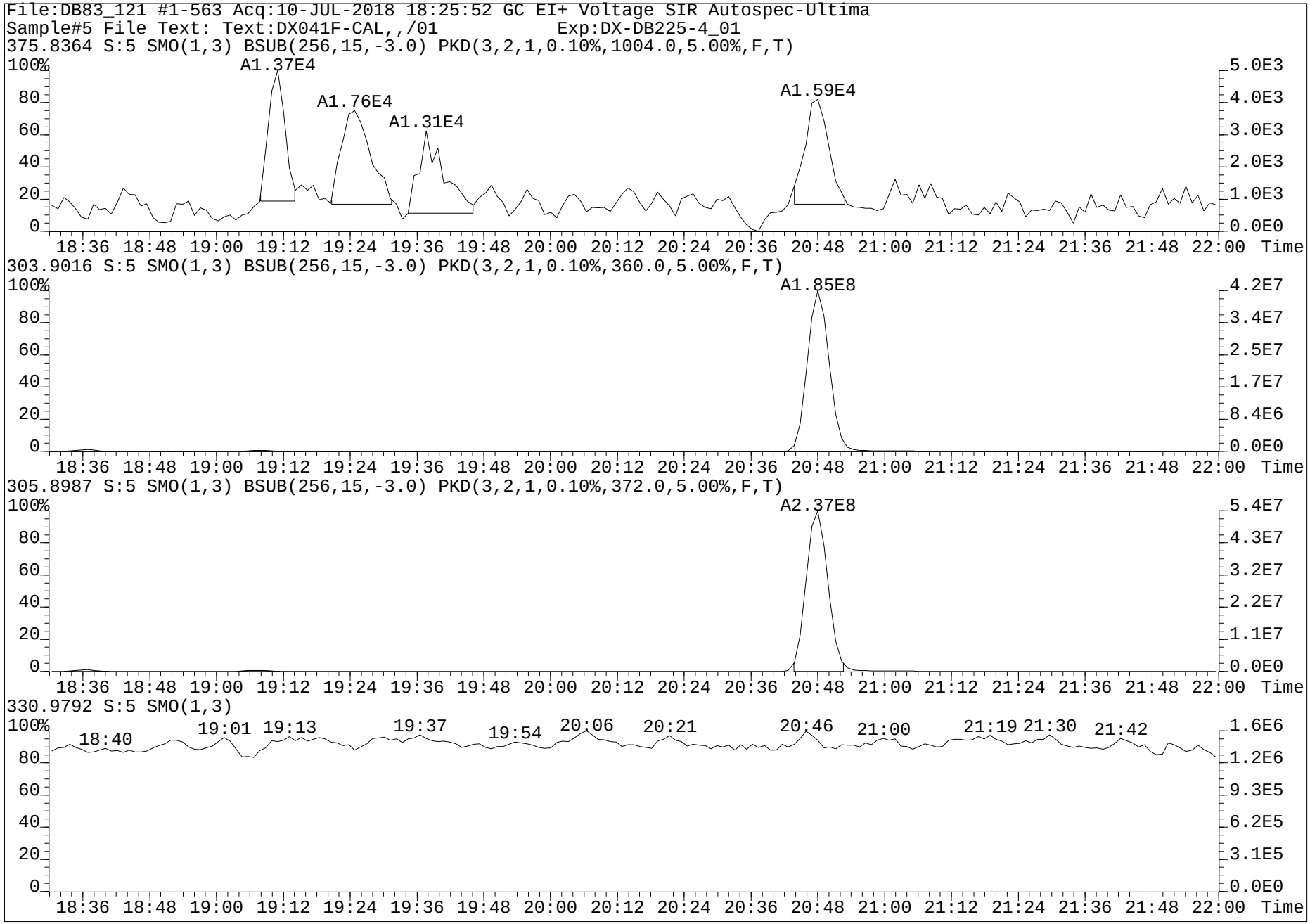
PV by TD 12-Jul-2018

SV: TA 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 18:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text: Text:DX041F-CAL,,/01 Exp:DX-DB225-4_01
303.9016 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,360.0,5.00%,F,T)
A1.85E8
305.8987 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,372.0,5.00%,F,T)
A2.37E8
315.9419 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,764.0,5.00%,F,T)
A9.22E7
317.9389 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,736.0,5.00%,F,T)
A1.16E8
100%
80
60
40
20
0
4.2E7
3.4E7
2.5E7
1.7E7
8.4E6
0.0E0
5.4E7
4.3E7
3.2E7
2.2E7
1.1E7
2.1E7
1.7E7
1.3E7
8.6E6
4.3E6
2.7E7
2.1E7
1.6E7
1.1E7
5.3E6
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-767 Acq:10-JUL-2018 18:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text: Text:DX041F-CAL,,/01 Exp:DX-DB225-4_01
389.8156 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,280.0,5.00%,F,T)
A4.17E8
A4.03E8
A3.99E8
5.2E7
2.6E7
0.0E0
391.8127 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,272.0,5.00%,F,T)
A3.33E8
A3.24E8
A3.20E8
4.1E7
2.0E7
0.0E0
401.8559 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,380.0,5.00%,F,T)
A4.00E7
A4.08E7
A3.85E7
5.3E6
2.6E6
0.0E0
403.8530 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,420.0,5.00%,F,T)
A3.08E7
A3.21E7
A3.02E7
4.1E6
2.1E6
0.0E0
392.9760 S:5 F:2 SMO(1,3)
33:24
33:45
33:59
34:17
34:41
35:14
35:38
35:55
36:20
36:45
37:01
37:25
37:50
5.8E5
2.9E5
0.0E0
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time


File:DB83_121 #1-563 Acq:10-JUL-2018 18:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text: Text:DX041F-CAL,,/01 Exp:DX-DB225-4_01
331.9368 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,448.0,5.00%,F,T)
100%
A5.25E7
1.3E7
1.2E7
1.0E7
9.1E6
7.8E6
6.5E6
5.2E6
3.9E6
2.6E6
1.3E6
0.0E0
90
80
70
60
50
40
30
20
10
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,476.0,5.00%,F,T)
100%
A6.51E7
1.6E7
1.4E7
1.3E7
1.1E7
9.6E6
8.0E6
6.4E6
4.8E6
3.2E6
1.6E6
0.0E0
90
80
70
60
50
40
30
20
10
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

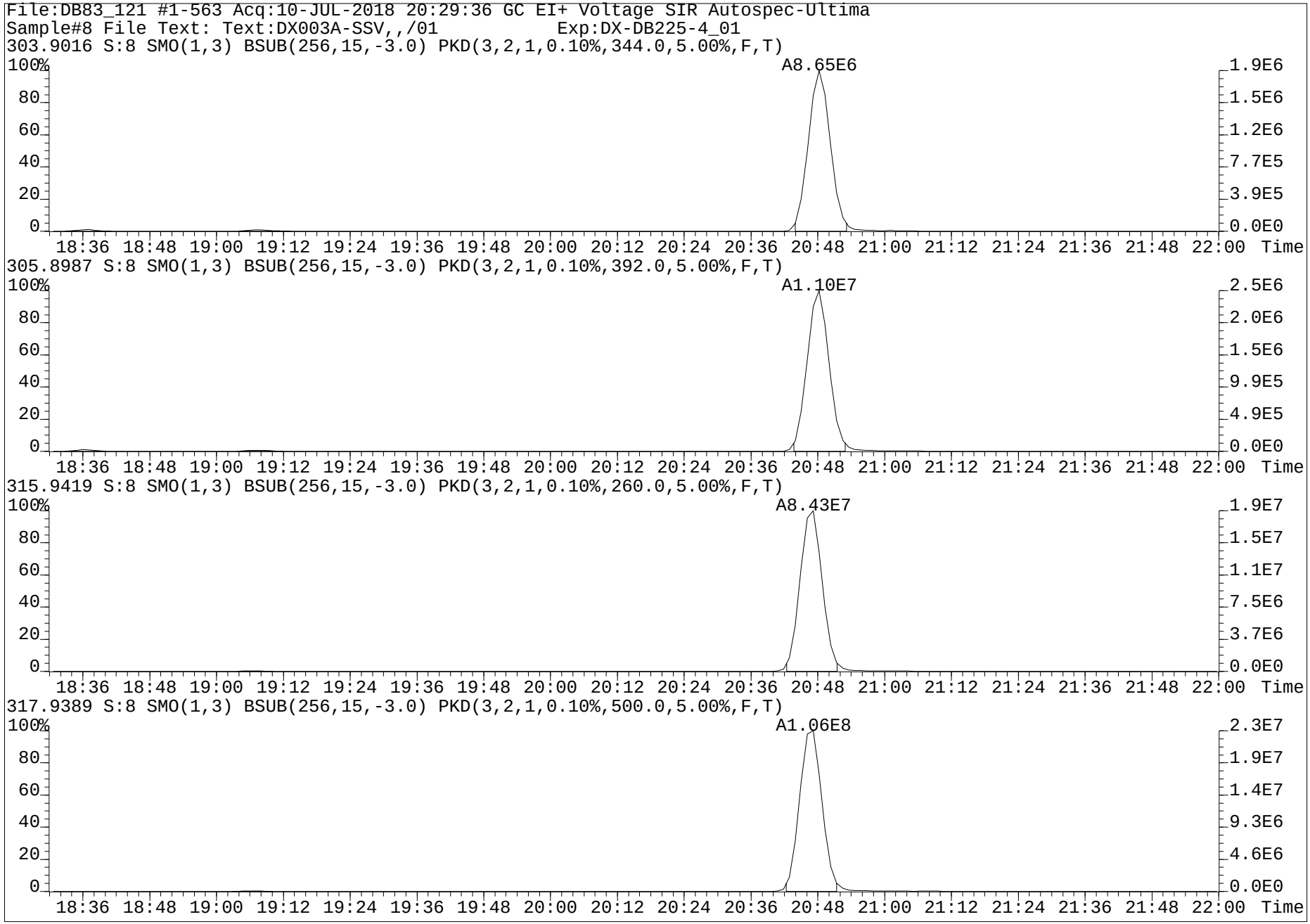

File:DB83_121 #1-563 Acq:10-JUL-2018 18:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text: Text:DX041F-CAL,,/01 Exp:DX-DB225-4_01
375.8364 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1004.0,5.00%,F,T)
A1.37E4
A1.76E4
A1.31E4
A1.59E4
303.9016 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,360.0,5.00%,F,T)
A1.85E8
305.8987 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,372.0,5.00%,F,T)
A2.37E8
330.9792 S:5 SMO(1,3)
18:40
19:01
19:13
19:37
19:54
20:06
20:21
20:46
21:00
21:19
21:30
21:42
Time

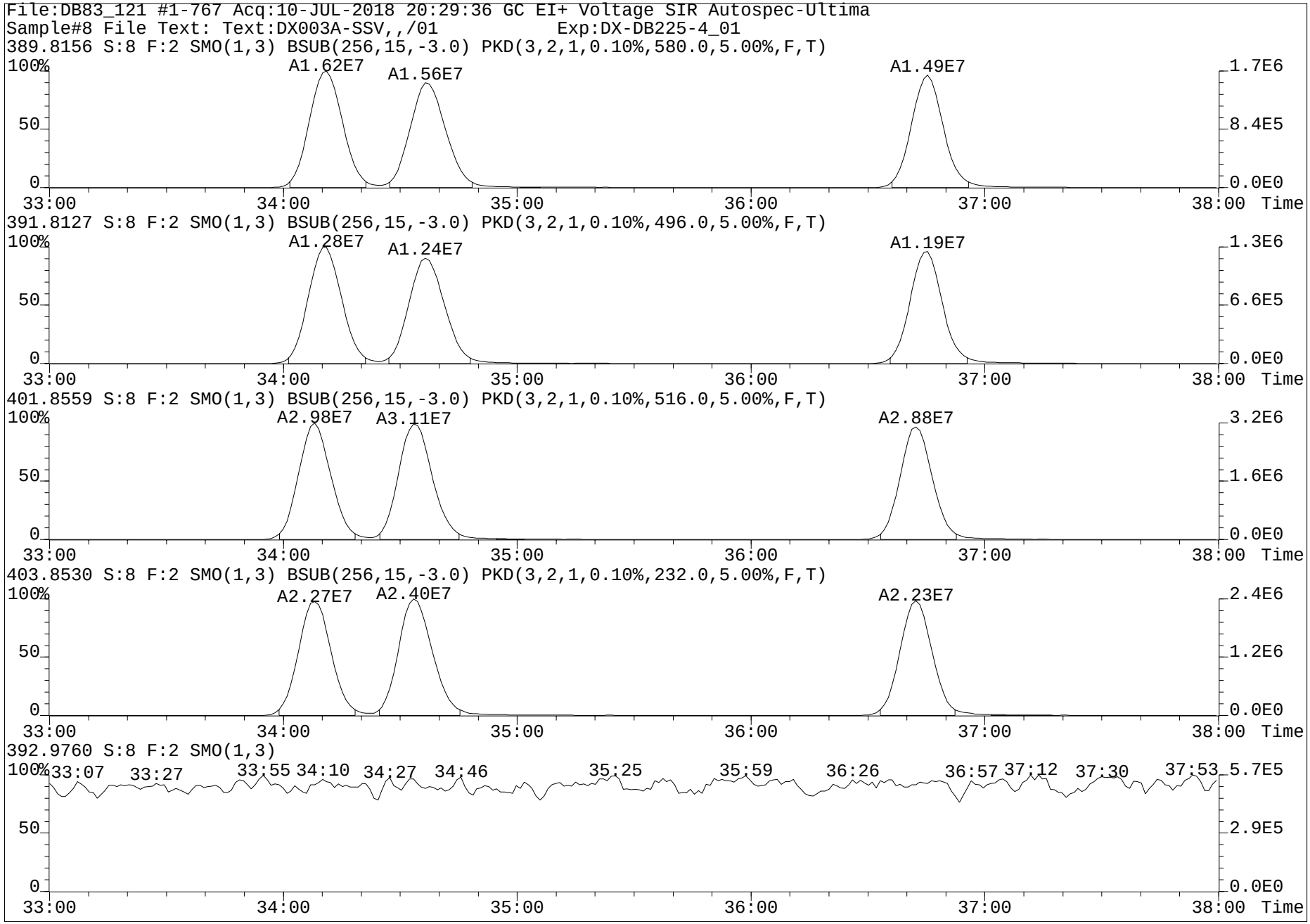
Run #7 Filename DB83_121 S: 8 I: 1 Acquired: 10-JUL-18 20:29:36 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX003A-SSV,,/01 Comments: 1,,2.0uL CAL
sample size: 1.000000 conc units: ng/mL total toxicity: 6.47 F1: 20.0000 F2: 1.0000

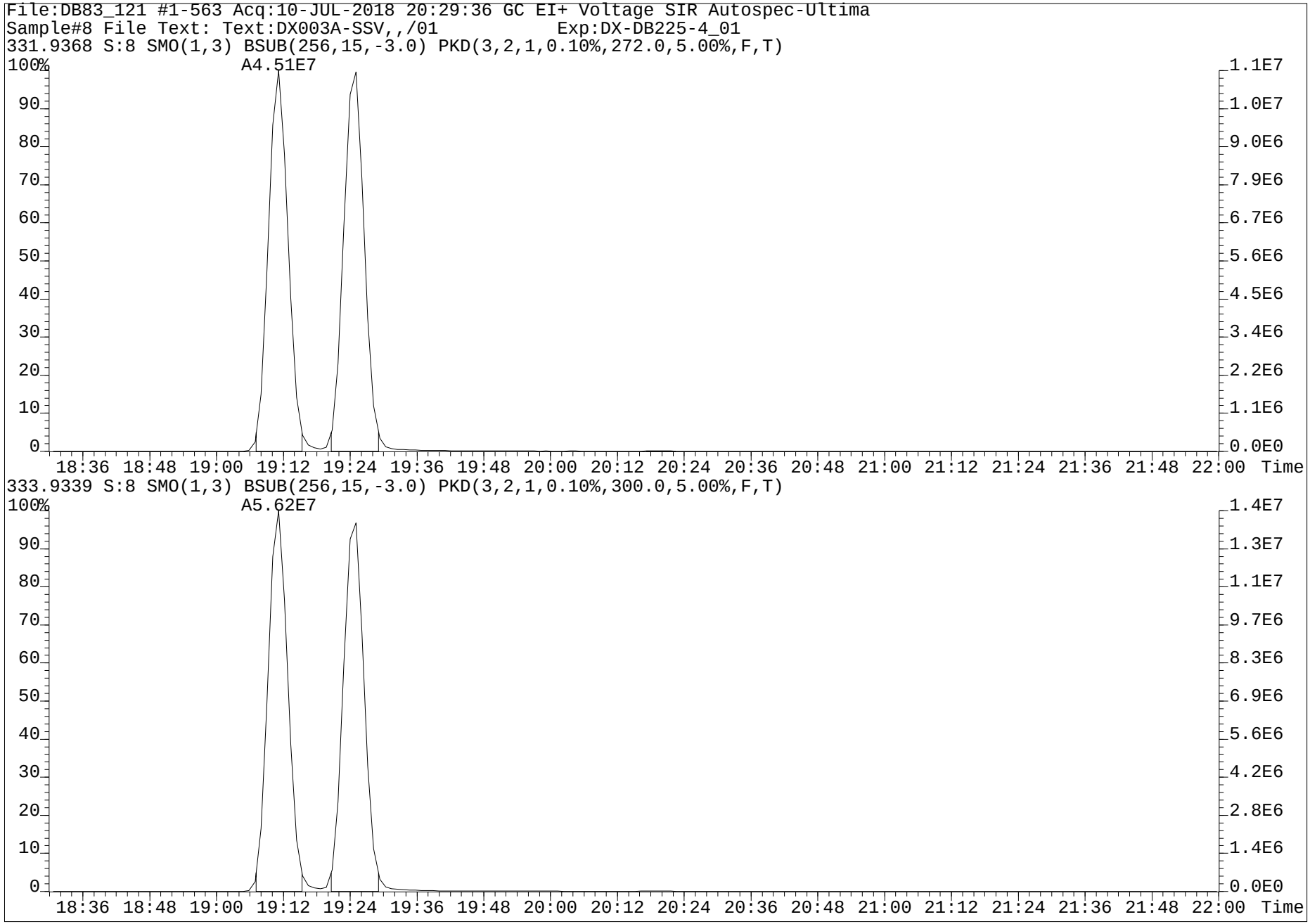
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	1.97e+07	0.79	y	20:48	10.656	1	0.0045	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	2.68e+07	1.25	y	36:45	54.071	5	0.0528	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	1.90e+08	0.79	y	20:47	102.400	-	0.0043	102.4	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	5.25e+07	1.31	y	34:08	97.184	-	0.0326	97.2	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	5.51e+07	1.29	y	34:34	98.861	-	0.0316	98.9	n
6	RS	13C-1,2,3,4-TCDD	1	1.04e+08	0.83	y	19:25	93.891	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	5.11e+07	1.29	y	36:42	93.223	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

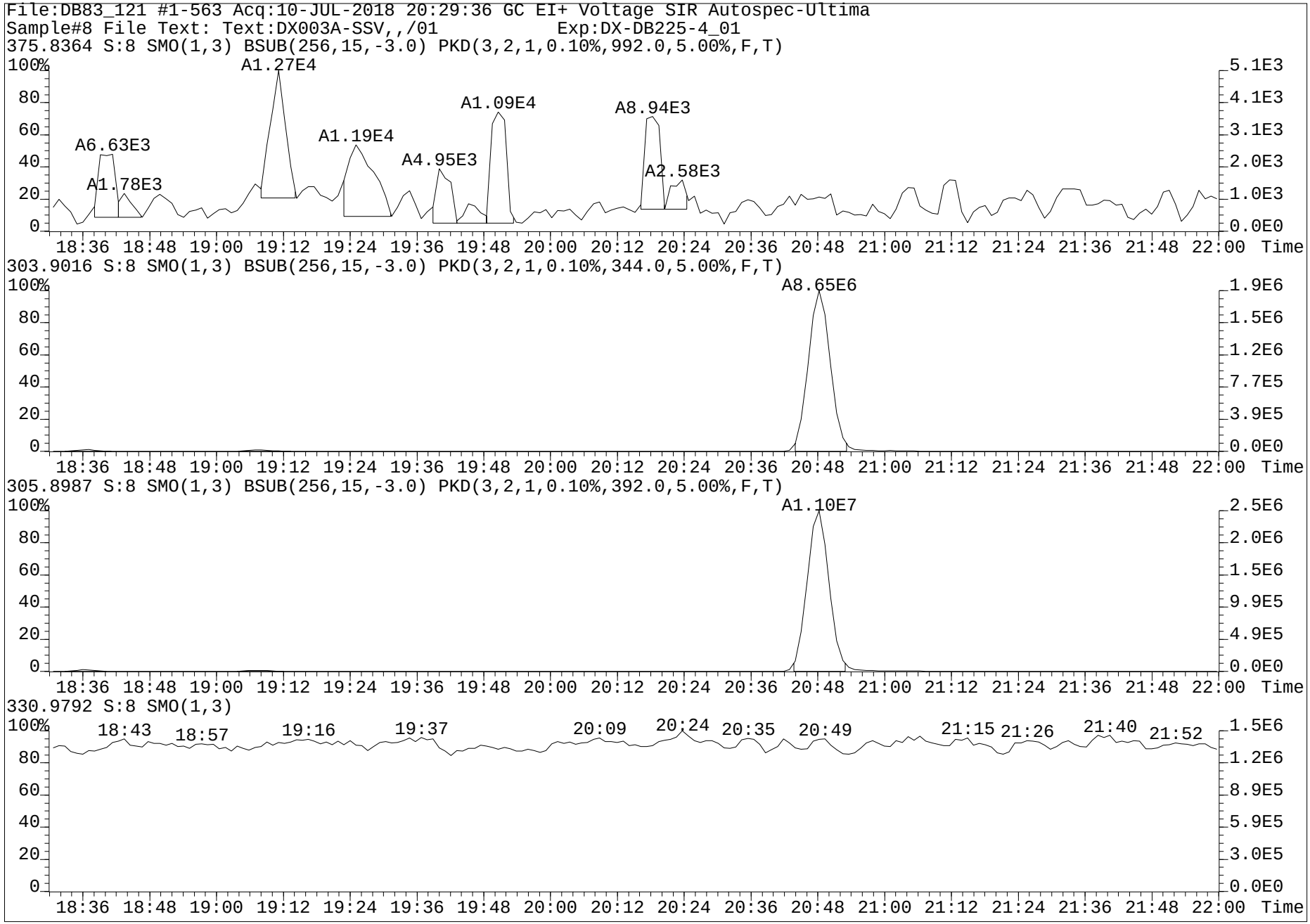
PV by TD 12-Jul-2018

SVIPA 12-Jul-18


File:DB83_121 #1-563 Acq:10-JUL-2018 20:29:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:DX003A-SSV,,/01 Exp:DX-DB225-4_01
303.9016 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,344.0,5.00%,F,T)
A8.65E6
305.8987 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,392.0,5.00%,F,T)
A1.10E7
315.9419 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,260.0,5.00%,F,T)
A8.43E7
317.9389 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,500.0,5.00%,F,T)
A1.06E8
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
1.9E6
1.5E6
1.2E6
7.7E5
3.9E5
0.0E0
2.5E6
2.0E6
1.5E6
9.9E5
4.9E5
0.0E0
1.9E7
1.5E7
1.1E7
7.5E6
3.7E6
0.0E0
2.3E7
1.9E7
1.4E7
9.3E6
4.6E6
0.0E0


File:DB83_121 #1-767 Acq:10-JUL-2018 20:29:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:DX003A-SSV,,/01 Exp:DX-DB225-4_01
389.8156 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,580.0,5.00%,F,T)
A1.62E7
A1.56E7
A1.49E7
391.8127 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,496.0,5.00%,F,T)
A1.28E7
A1.24E7
A1.19E7
401.8559 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,516.0,5.00%,F,T)
A2.98E7
A3.11E7
A2.88E7
403.8530 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,232.0,5.00%,F,T)
A2.27E7
A2.40E7
A2.23E7
392.9760 S:8 F:2 SMO(1,3)
33:07
33:27
33:55
34:10
34:27
34:46
35:25
35:59
36:26
36:57
37:12
37:30
37:53
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.7E6
8.4E5
0.0E0
1.3E6
6.6E5
3.2E6
1.6E6
2.4E6
1.2E6
5.7E5
2.9E5


File:DB83_121 #1-563 Acq:10-JUL-2018 20:29:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:DX003A-SSV,,/01 Exp:DX-DB225-4_01
331.9368 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,272.0,5.00%,F,T)
100% A4.51E7
1.1E7
1.0E7
9.0E6
7.9E6
6.7E6
5.6E6
4.5E6
3.4E6
2.2E6
1.1E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,300.0,5.00%,F,T)
100% A5.62E7
1.4E7
1.3E7
1.1E7
9.7E6
8.3E6
6.9E6
5.6E6
4.2E6
2.8E6
1.4E6
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-563 Acq:10-JUL-2018 20:29:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#8 File Text: Text:DX003A-SSV,,/01 Exp:DX-DB225-4_01
375.8364 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,992.0,5.00%,F,T)
A6.63E3
A1.78E3
A1.27E4
A1.19E4
A4.95E3
A1.09E4
A8.94E3
A2.58E3
303.9016 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,344.0,5.00%,F,T)
A8.65E6
305.8987 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,392.0,5.00%,F,T)
A1.10E7
330.9792 S:8 SMO(1,3)
18:43
18:57
19:16
19:37
20:09
20:24
20:35
20:49
21:15
21:26
21:40
21:52
Time

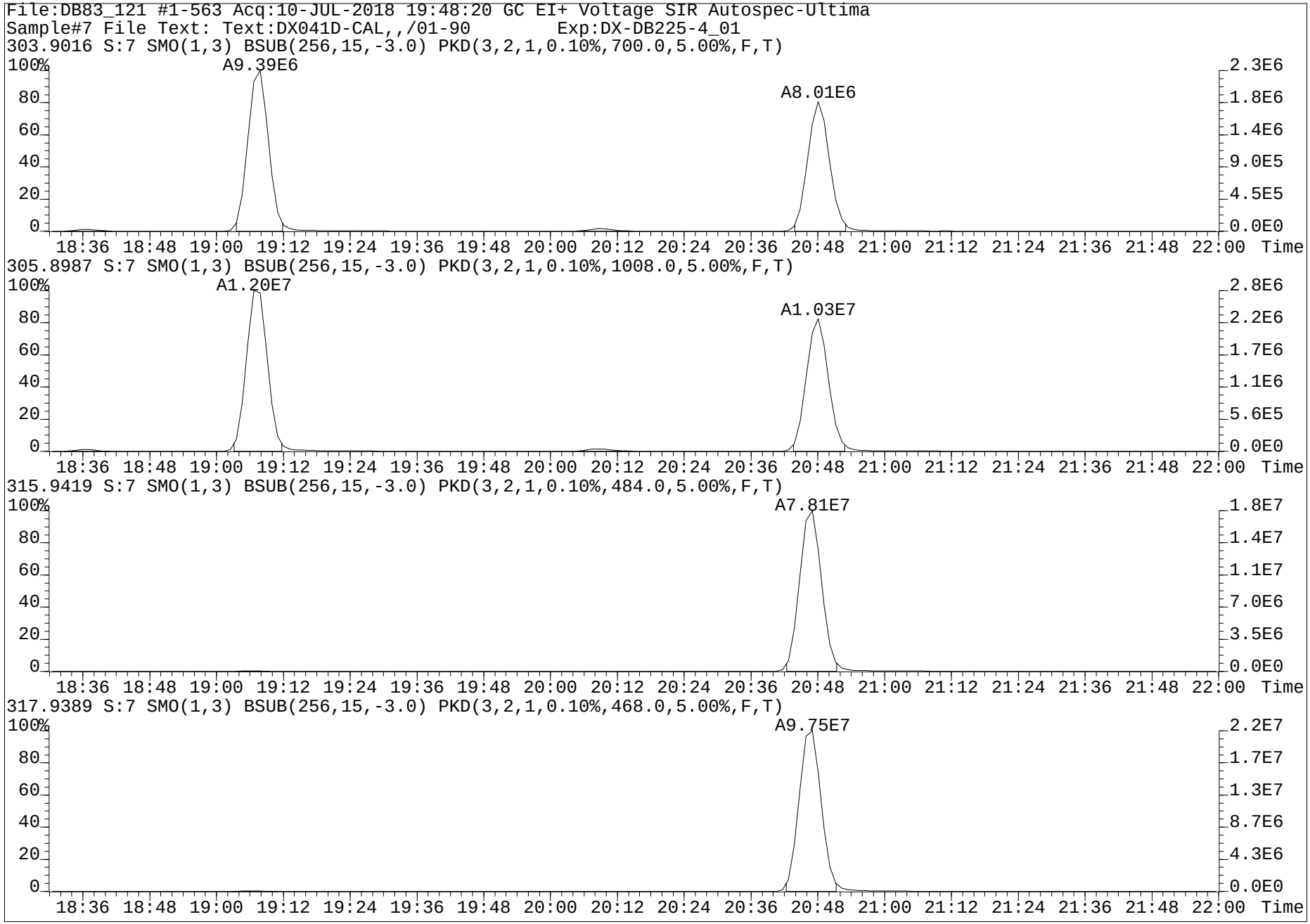
www.axysanalytical.com

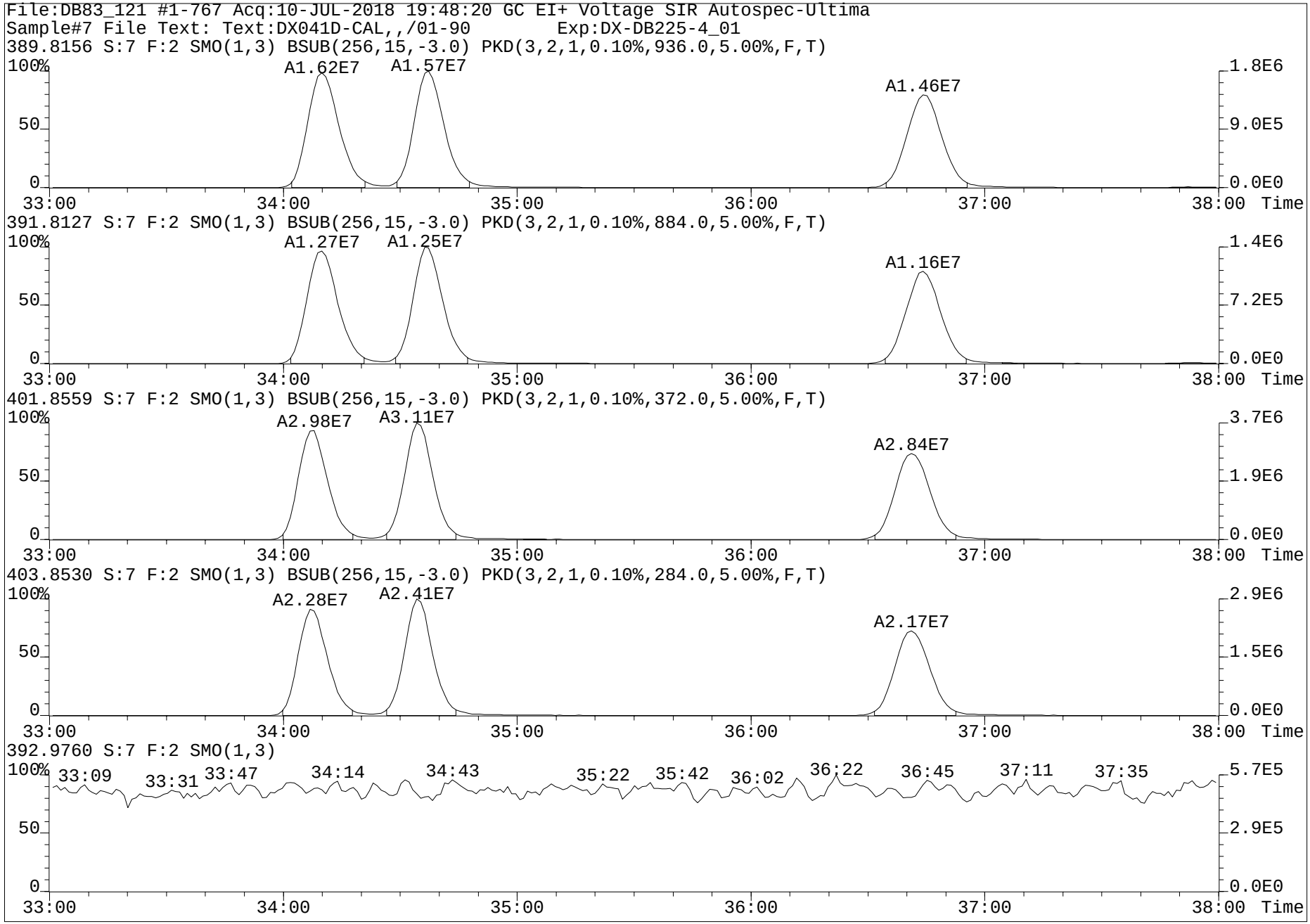
Run #8 Filename DB83_121 S: 7 I: 1 Acquired: 10-JUL-18 19:48:20 Processed: 12-JUL-18 08:19:37
Run: db83_121 Analyte: DB-HXD-C2 Cal: db83_113c-6a Results: db83_121-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-90 Comments: 1,,2.0uL CAL
sample size: 1.000000 conc units: ng/mL total toxicity: 6.35 F1: 20.0000 F2: 1.0000

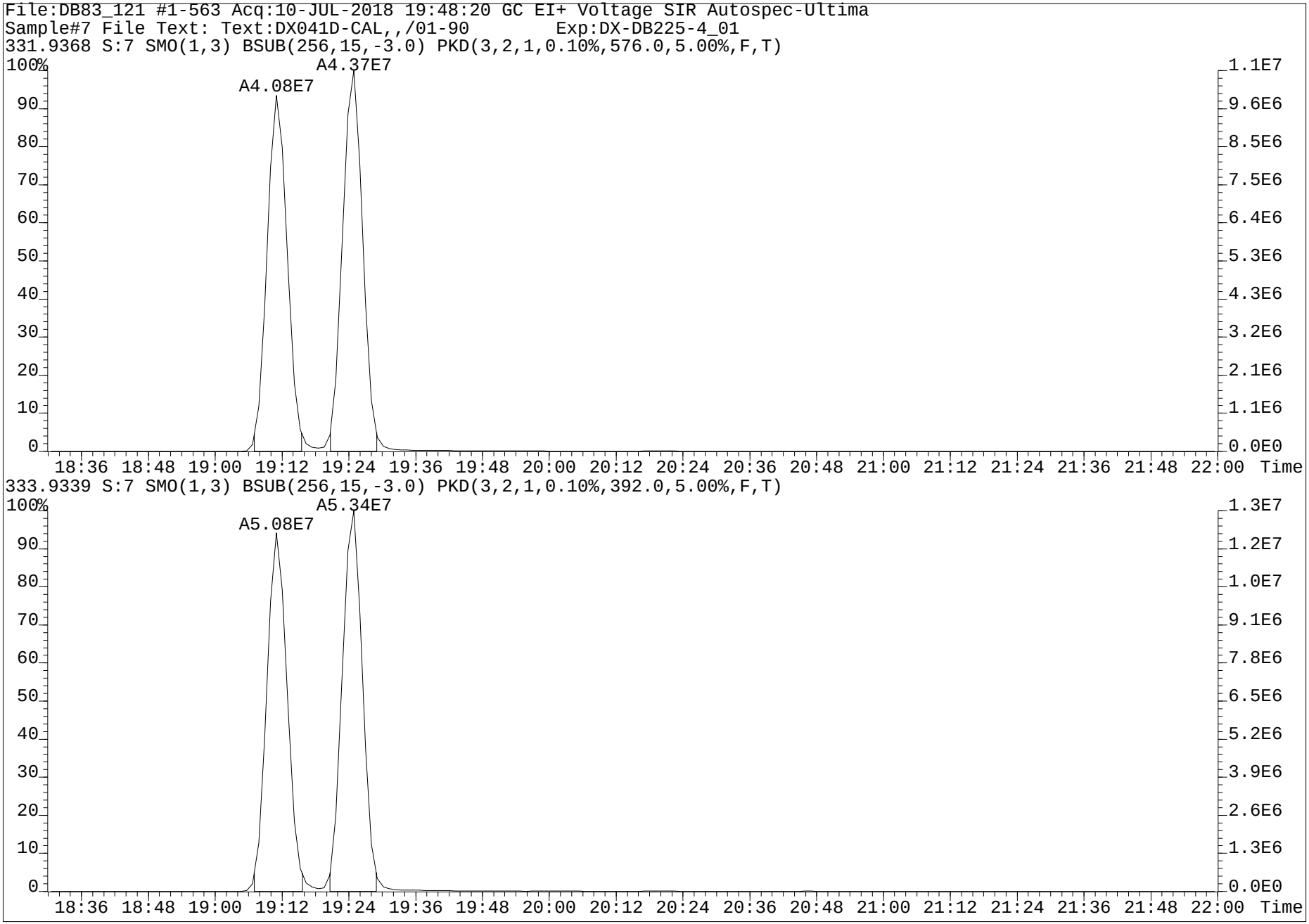
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	1.83e+07	0.78	y	20:48	10.763	1	0.0112	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	2.62e+07	1.26	y	36:44	52.785	5	0.0770	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	1.76e+08	0.80	y	20:47	101.012	-	0.0056	101.0	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	5.26e+07	1.31	y	34:08	99.307	-	0.0318	99.3	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	5.52e+07	1.29	y	34:35	100.970	-	0.0309	101.0	n
6	RS	13C-1,2,3,4-TCDD	1	9.71e+07	0.82	y	19:25	87.783	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	5.01e+07	1.31	y	36:42	91.409	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

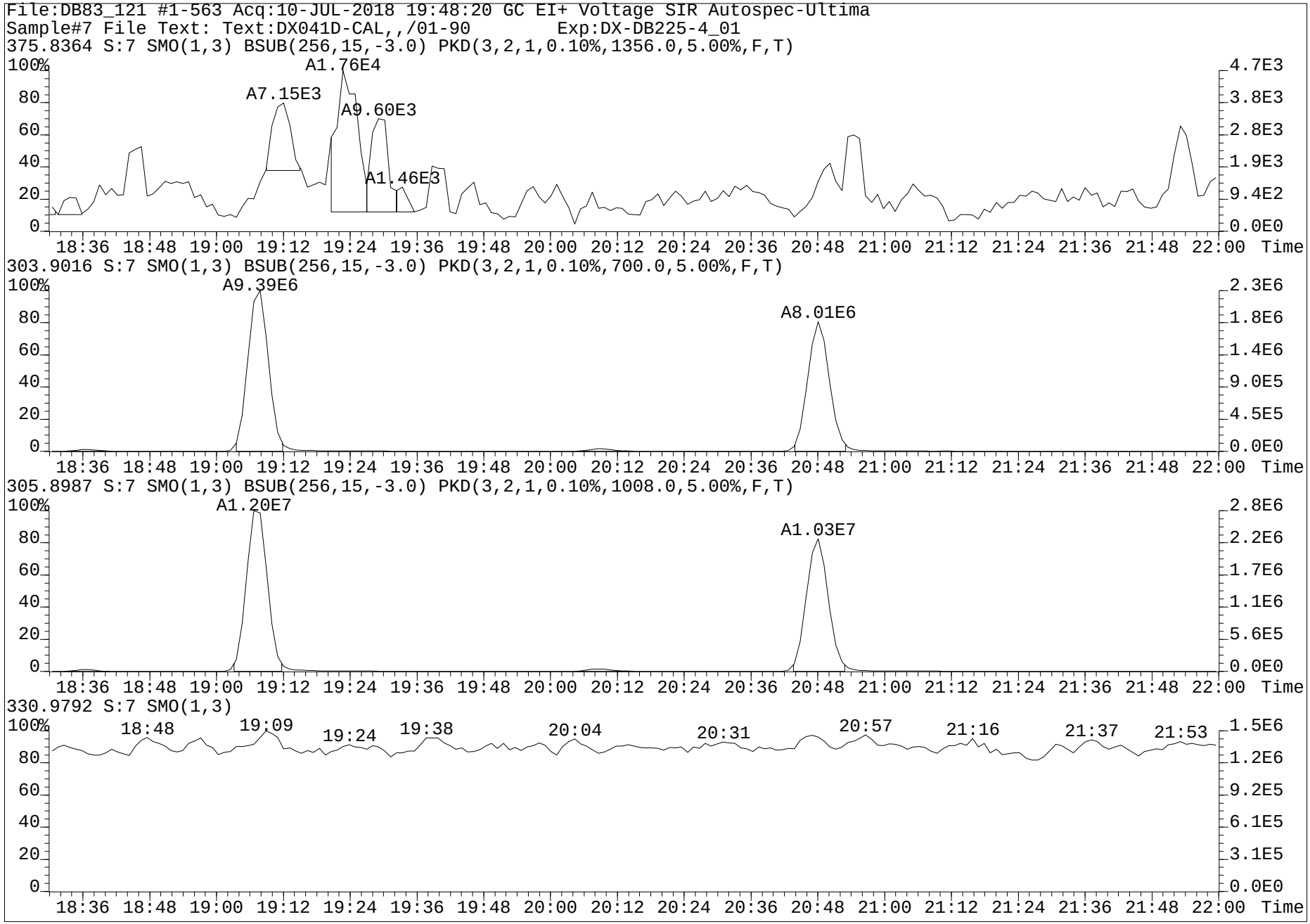
PV by TD 12-Jul-2018

SV. P^ 12-JUL-18


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,700.0,5.00%,F,T)
A9.39E6
A8.01E6
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1008.0,5.00%,F,T)
A1.20E7
A1.03E7
315.9419 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,484.0,5.00%,F,T)
A7.81E7
317.9389 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,468.0,5.00%,F,T)
A9.75E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
2.3E6
1.8E6
1.4E6
9.0E5
4.5E5
0.0E0
2.8E6
2.2E6
1.7E6
1.1E6
5.6E5
0.0E0
1.8E7
1.4E7
1.1E7
7.0E6
3.5E6
0.0E0
2.2E7
1.7E7
1.3E7
8.7E6
4.3E6
0.0E0


File:DB83_121 #1-767 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
389.8156 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,936.0,5.00%,F,T)
A1.62E7
A1.57E7
A1.46E7
391.8127 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,884.0,5.00%,F,T)
A1.27E7
A1.25E7
A1.16E7
401.8559 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,372.0,5.00%,F,T)
A2.98E7
A3.11E7
A2.84E7
403.8530 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,284.0,5.00%,F,T)
A2.28E7
A2.41E7
A2.17E7
392.9760 S:7 F:2 SMO(1,3)
33:09
33:31
33:47
34:14
34:43
35:22
35:42
36:02
36:22
36:45
37:11
37:35
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
1.8E6
9.0E5
0.0E0
1.4E6
7.2E5
3.7E6
1.9E6
2.9E6
1.5E6
5.7E5
2.9E5


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
331.9368 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,576.0,5.00%,F,T)
A4.08E7
A4.37E7
333.9339 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,392.0,5.00%,F,T)
A5.08E7
A5.34E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_121 #1-563 Acq:10-JUL-2018 19:48:20 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text: Text:DX041D-CAL,,/01-90 Exp:DX-DB225-4_01
375.8364 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1356.0,5.00%,F,T)
A1.76E4
A7.15E3
A9.60E3
A1.46E3
303.9016 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,700.0,5.00%,F,T)
A9.39E6
A8.01E6
305.8987 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1008.0,5.00%,F,T)
A1.20E7
A1.03E7
330.9792 S:7 SMO(1,3)
18:48
19:09
19:24
19:38
20:04
20:31
20:57
21:16
21:37
21:53
Time

SGS Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX8M_088S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	14:46:59
2	DX8M_088S2	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	15:55:08
3	DX8M_088S3	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	24-Jul-18	18:53:17
4	DX8M_088S4	WG64576-102,,SPM	1,WG64576,1.0/20uL	24-Jul-18	19:55:14
5	DX8M_088S5	DX051A-SUR,,/01	1,,1.0uL Inst Blank	24-Jul-18	20:47:42
6	DX8M_088S6	DX051A-SUR,,/01	1,,1.0uL Inst Blank	24-Jul-18	21:42:57
7	DX8M_088S7	WG64576-101,,BLK	1,WG64576,1.0/20uL	24-Jul-18	22:38:09
8	DX8M_088S8	L29628-18,L,	1,WG64578,1.0/20uL	24-Jul-18	23:33:23
9	DX8M_088S9	L29625-1,,	1,WG64576,1.0/20uL	25-Jul-18	00:28:35
10	DX8M_088S10	WG64576-103,,DUP	1,WG64576,1.0/20uL	25-Jul-18	01:23:43
11	DX8M_088S11	L29625-2,,	1,WG64576,1.0/20uL	25-Jul-18	02:18:51
12	DX8M_088S12	L29625-3,,	1,WG64576,1.0/20uL	25-Jul-18	03:14:06
13	DX8M_088S13	L29625-4,,	1,WG64576,1.0/20uL	25-Jul-18	04:09:19
14	DX8M_088S14	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	05:04:31
15	DX8M_088S15	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	17:34:53
16	DX8M_088S16	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	07:01:29
17	DX8M_088S17	L29625-5,,	1,WG64576,1.0/20uL	25-Jul-18	07:56:42
18	DX8M_088S18	L29625-6,,	1,WG64576,1.0/20uL	25-Jul-18	08:51:55
19	DX8M_088S19	L29625-7,,	1,WG64576,1.0/20uL	25-Jul-18	09:47:10
20	DX8M_088S20	L29625-8,,	1,WG64576,1.0/20uL	25-Jul-18	10:42:22
21	DX8M_088S21	L29625-9,,	1,WG64576,1.0/20uL	25-Jul-18	11:37:36
22	DX8M_088S22	L29625-10,,	1,WG64576,1.0/20uL	25-Jul-18	12:32:49
23	DX8M_088S23	L29625-11,,	1,WG64576,1.0/20uL	25-Jul-18	13:28:02
24	DX8M_088S24	L29625-12,,	1,WG64576,1.0/20uL	25-Jul-18	14:23:16
25	DX8M_088S25	L29625-13,,	1,WG64576,1.0/20uL	25-Jul-18	15:18:29
26	DX8M_088S26	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	16:13:43
27	DX8M_088S27	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	25-Jul-18	19:04:07
28	DX8M_088S28	WG64674-102,,SPM	1,WG64674,1.0/20uL	25-Jul-18	20:04:16
29	DX8M_088S29	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	20:56:40
30	DX8M_088S30	DX051A-SUR,,/01	1,,1.0uL Inst Blank	25-Jul-18	21:51:54
31	DX8M_088S31	WG64674-101,,BLK	1,WG64674,1.0/20uL	25-Jul-18	22:47:07
32	DX8M_088S32	L29625-14,,	1,WG64576,1.0/20uL	25-Jul-18	23:42:20
33	DX8M_088S33	L29625-15,,	1,WG64576,1.0/20uL	26-Jul-18	00:37:34
34	DX8M_088S34	L29625-16,,	1,WG64576,1.0/20uL	26-Jul-18	01:32:46
35	DX8M_088S35	L29625-17,,	1,WG64576,1.0/20uL	26-Jul-18	02:28:00
36	DX8M_088S36	L29347-1,,	1,WG64576,1.0/20uL	26-Jul-18	03:23:13
37	DX8M_088S37	L29654-1,,	1,WG64674,1.0/20uL	26-Jul-18	04:18:27
38	DX8M_088S38	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	05:13:41
39	DX8M_088S39	WG64557-102,,SPM	1,WG64557,1.0/20uL	26-Jul-18	07:29:01
40	DX8M_088S40	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	08:21:33
41	DX8M_088S41	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	09:16:46
42	DX8M_088S42	WG64557-101,,BLK	1,WG64557,1.0/20uL	26-Jul-18	10:11:59
43	DX8M_088S43	WG64557-105,,MDL	1,WG64557,1.0/20uL	26-Jul-18	11:07:12
44	DX8M_088S44	L29626-1,,	1,WG64557,1.0/20uL	26-Jul-18	12:02:26
45	DX8M_088S45	WG64557-103,,DUP	1,WG64557,1.0/20uL	26-Jul-18	12:57:39
46	DX8M_088S46	L29626-2,,	1,WG64557,1.0/20uL	26-Jul-18	13:52:53
47	DX8M_088S47	L29626-3,,	1,WG64557,1.0/20uL	26-Jul-18	14:48:06
48	DX8M_088S48	L29654-3,,	1,WG64674,1.0/20uL	26-Jul-18	15:43:19

www.axysanalytical.com

Compound name: -

#	Name	ID	Sample Text	Acq Date	Acq Time
49	DX8M_088S49	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	16:45:07

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	2.54e5	0.69	NO	25.33	10.598	0.0372	106.0	2.05e3	1.69e3
2	1,2,3,7,8-PeCDF	1.000	9.42e5	1.37	NO	33.65	50.633	0.0831	101.3	2.86e3	2.76e3
3	2,3,4,7,8-PeCDF	1.000	9.44e5	1.44	NO	35.41	50.536	0.0702	101.1	2.86e3	2.76e3
4	1,2,3,4,7,8-HxCDF	1.000	8.27e5	1.15	NO	40.79	51.446	0.0839	102.9	3.24e3	4.11e3
5	1,2,3,6,7,8-HxCDF	1.000	8.63e5	1.15	NO	40.96	51.415	0.0837	102.8	3.24e3	4.11e3
6	2,3,4,6,7,8-HxCDF	1.000	8.18e5	1.10	NO	41.89	50.127	0.0789	100.3	3.24e3	4.11e3
7	1,2,3,7,8,9-HxCDF	1.000	6.36e5	1.14	NO	42.94	48.313	0.1027	96.6	3.24e3	4.11e3
8	1,2,3,4,6,7,8-HpCDF	1.000	6.73e5	0.97	NO	45.38	51.285	0.0641	102.6	2.76e3	2.03e3
9	1,2,3,4,7,8,9-HpCDF	1.000	5.56e5	0.94	NO	47.17	52.601	0.0830	105.2	2.76e3	2.03e3
10	OCDF	1.000	8.34e5	0.84	NO	50.42	98.906	0.0000	98.9	2.31e-1	0.00e0
11	2,3,7,8-TCDD	1.000	2.08e5	0.75	NO	26.56	10.334	0.0622	103.3	2.37e3	2.73e3
12	1,2,3,7,8-PeCDD	1.000	6.60e5	0.60	NO	36.22	55.157	0.0765	110.3	2.51e3	1.62e3
13	1,2,3,4,7,8-HxCDD	1.000	5.85e5	1.21	NO	42.18	49.726	0.0661	99.5	2.57e3	1.92e3
14	1,2,3,6,7,8-HxCDD	1.000	6.32e5	1.21	NO	42.31	51.578	0.0682	103.2	2.57e3	1.92e3
15	1,2,3,7,8,9-HxCDD	1.000	5.96e5	1.21	NO	42.74	49.382	0.0669	98.8	2.57e3	1.92e3
16	1,2,3,4,6,7,8-HpCDD	1.000	4.88e5	1.13	NO	46.76	54.688	0.1682	109.4	4.08e3	3.89e3
17	OCDD	1.000	7.02e5	0.89	NO	50.35	100.361	0.0969	100.4	1.88e-1	3.17e3
18	13C-2,3,7,8-TCDF	1.000	2.62e6	0.67	NO	25.29	92.754	0.1427	92.8	1.14e4	6.14e3
19	13C-1,2,3,7,8-PeCDF	1.000	2.02e6	1.42	NO	33.62	98.812	0.2484	98.8	1.26e4	9.38e3
20	13C-2,3,4,7,8-PeCDF	1.000	1.99e6	1.36	NO	35.38	101.091	0.2575	101.1	1.26e4	9.38e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	1.44e6	0.52	NO	40.76	91.934	0.1711	91.9	6.81e3	7.52e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	1.58e6	0.53	NO	40.94	94.361	0.1601	94.4	6.81e3	7.52e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	1.43e6	0.51	NO	41.87	95.733	0.1792	95.7	6.81e3	7.52e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.32e6	0.51	NO	42.91	89.244	0.1817	89.2	6.81e3	7.52e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.07e6	0.43	NO	45.36	85.768	0.1699	85.8	5.98e3	5.38e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	8.44e5	0.45	NO	47.15	86.509	0.2178	86.5	5.98e3	5.38e3
27	13C-2,3,7,8-TCDD	1.000	1.81e6	0.78	NO	26.52	102.666	0.2064	102.7	6.29e3	9.49e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.17e6	0.69	NO	36.20	101.047	0.1111	101.0	4.22e3	1.35e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.17e6	1.20	NO	42.16	96.980	0.0890	97.0	2.69e3	3.06e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	1.31e6	1.19	NO	42.30	102.686	0.0841	102.7	2.69e3	3.06e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	8.96e5	0.96	NO	46.74	89.723	0.1327	89.7	3.35e3	3.73e3
32	13C-OCDD	1.000	1.37e6	0.88	NO	50.33	156.337	0.4254	78.2	2.00e4	1.14e-1
33	13C-1,2,3,4-TCDD	1.000	1.75e6	0.76	NO	26.20	77.512	0.1606	77.5	6.29e3	9.49e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.23e6	1.24	NO	42.72	85.985	0.0753	86.0	2.69e3	3.06e3
35	37Cl-2,3,7,8-TCDD	1.000	1.71e5			26.56	8.752	0.0508	87.5		4.31e3
36	Total Tetra-Furans	1.000					40.884	0.0372			1.69e3
37	Total Tetra-Dioxins	1.000					86.358	0.0622			2.73e3
38	Total Penta-Furans	1.000					195.923	0.0773			2.76e3
39	Total Penta-Dioxins	1.000					174.530	0.0765			1.62e3
40	Total Hexa-Furans	1.000					309.992	0.0838			4.11e3
41	Total Hexa-Dioxins	1.000					208.633	0.0647			1.92e3
42	Total Hepta-Furans	1.000					107.227	0.0733			2.03e3
43	Total Hepta-Dioxins	1.000					115.085	0.1682			3.89e3
44	Hexa DPE	1.000	3.07e1			26.27					0.00e0
45	Hepta DPE	1.000	1.90e2			37.59					1.00e-1
46	Octa DPE	1.000	1.51e2			38.82					1.21e-1
47	Nona DPE	1.000	1.44e2			48.25					3.24e-1
48	Deca DPE	1.000	1.69e1			49.30					3.50e-1
49	Tetra Lock	1.000	4.95e3			23.70					1.25e5
50	Penta Lock	1.000	1.44e5			29.29					1.97e5
51	Hexa Lock	1.000									5.51e5

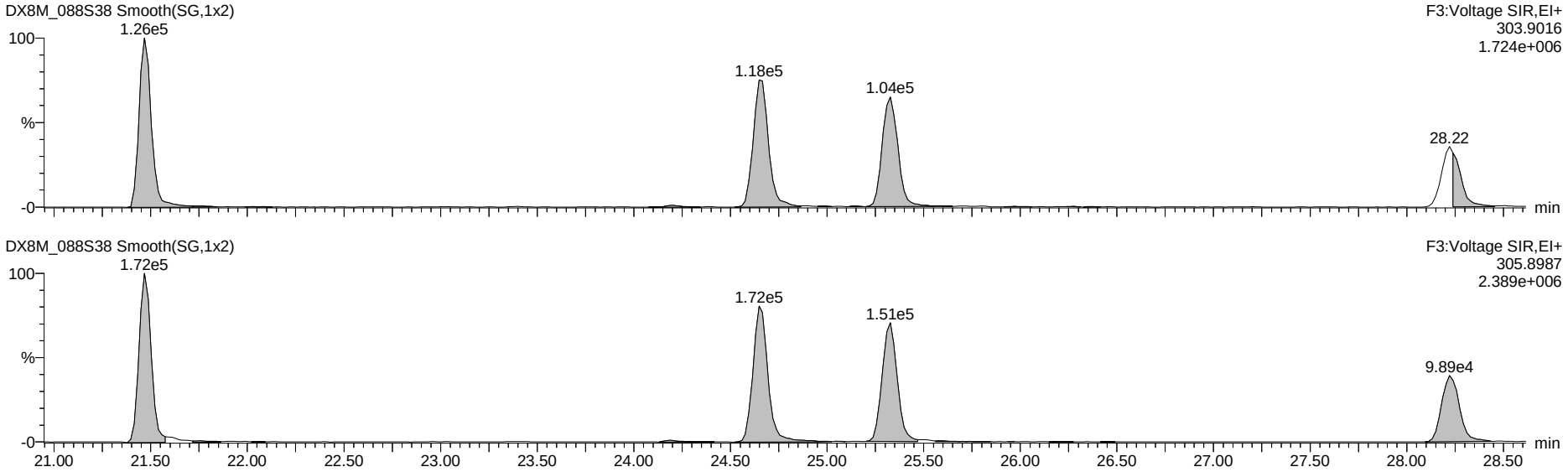
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

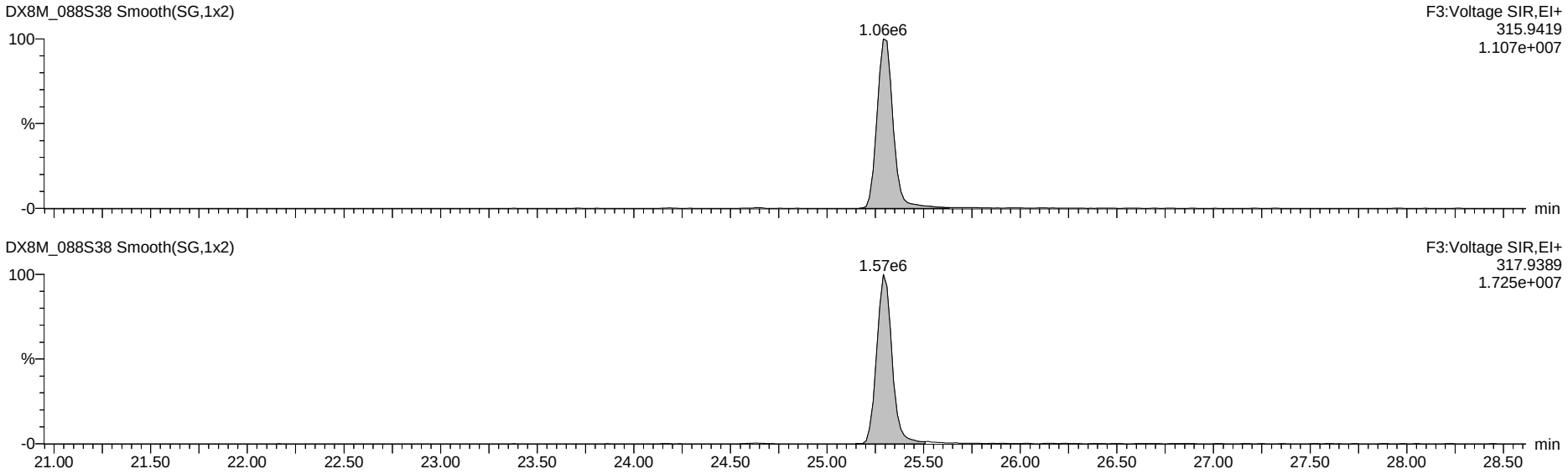
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



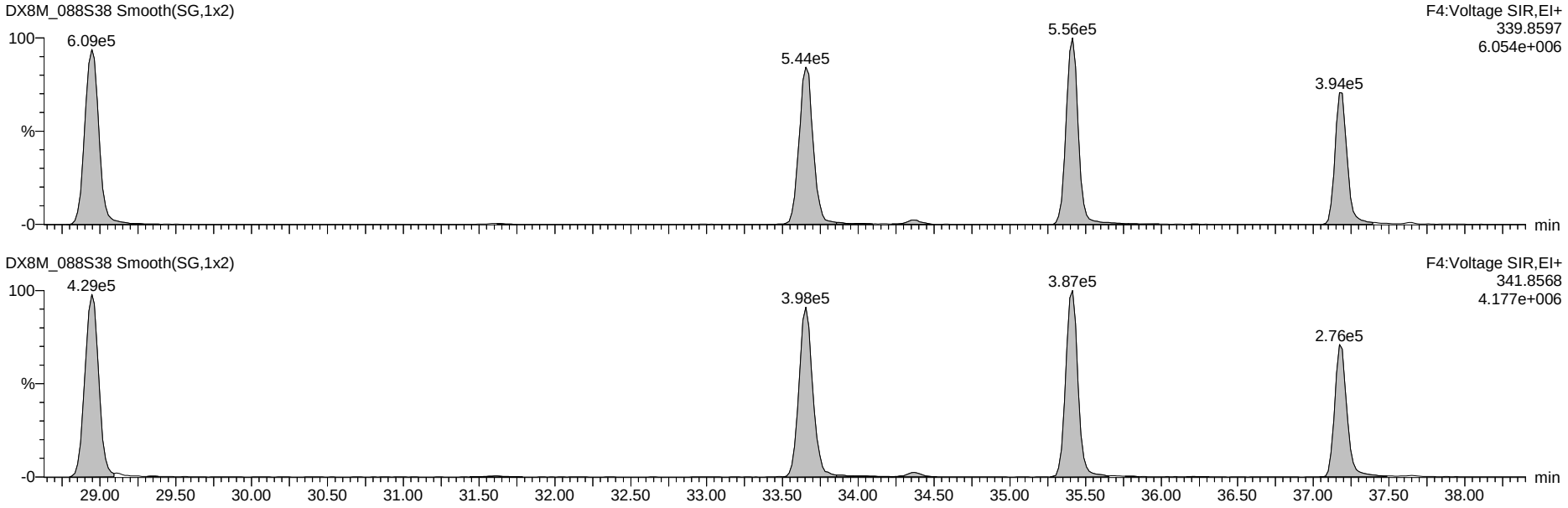
13C-Tetra-Furans



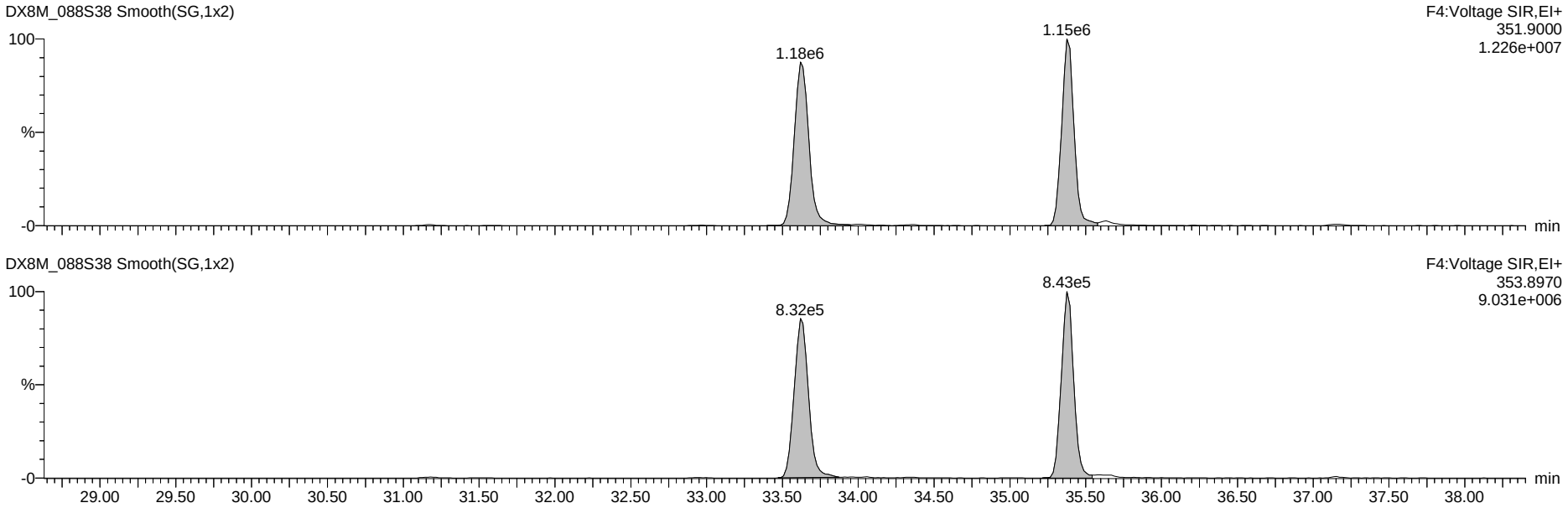
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



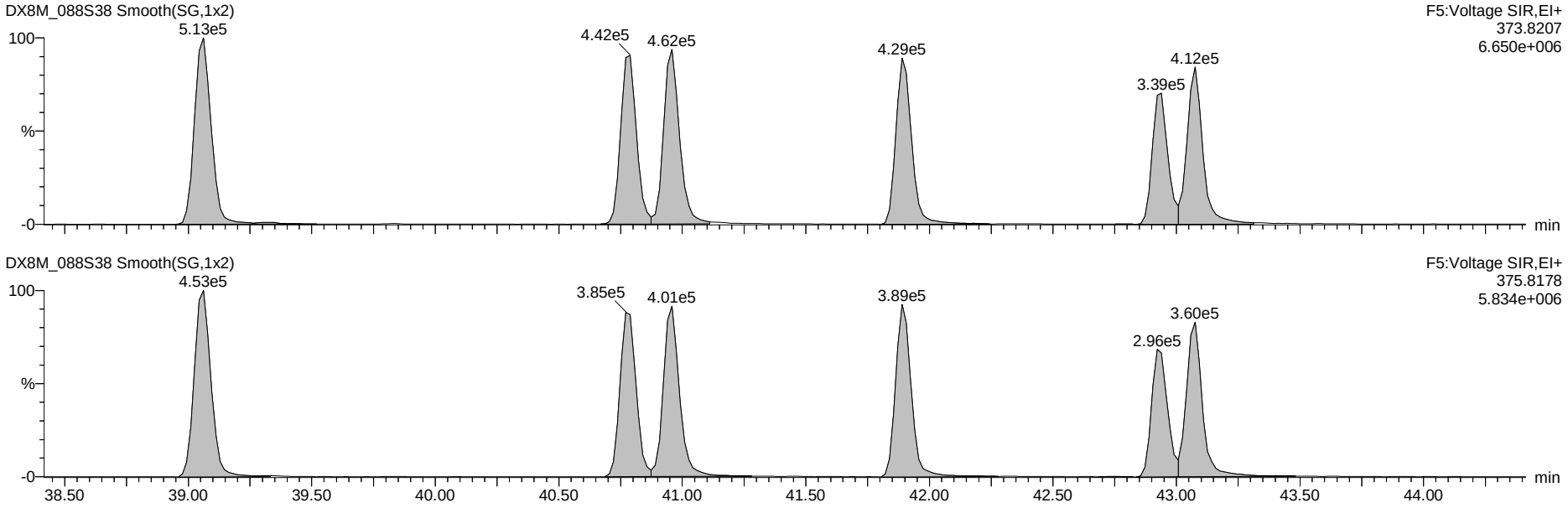
13C-Penta-Furans



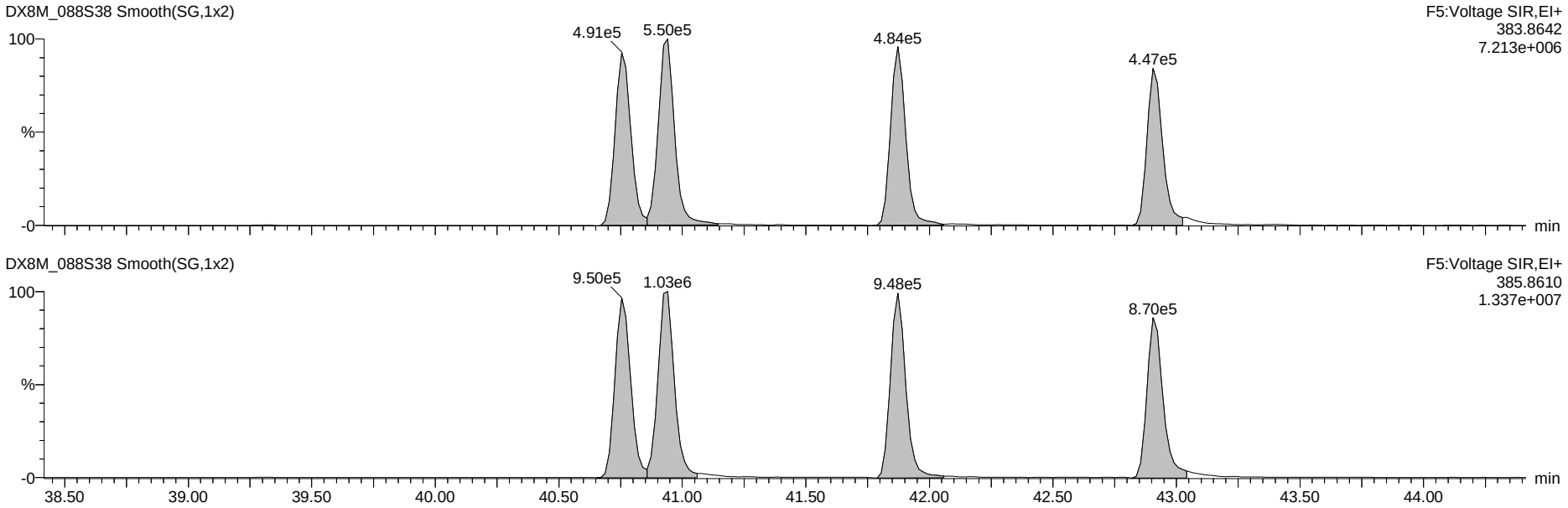
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



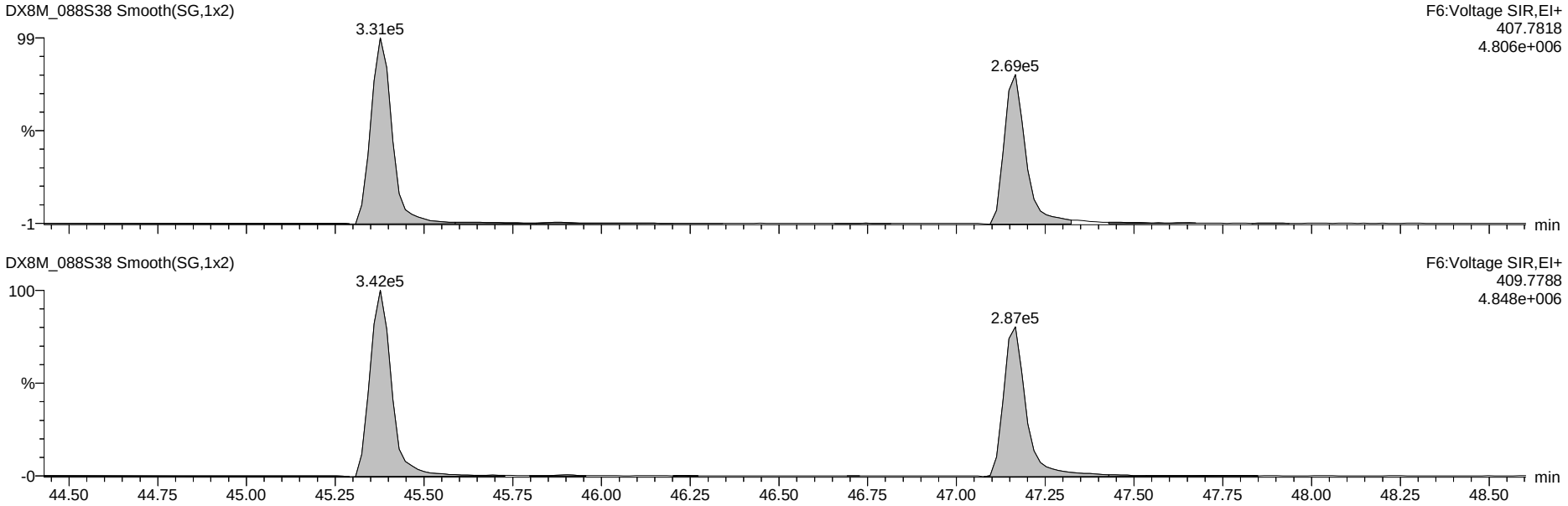
13C-Hexa-Furans



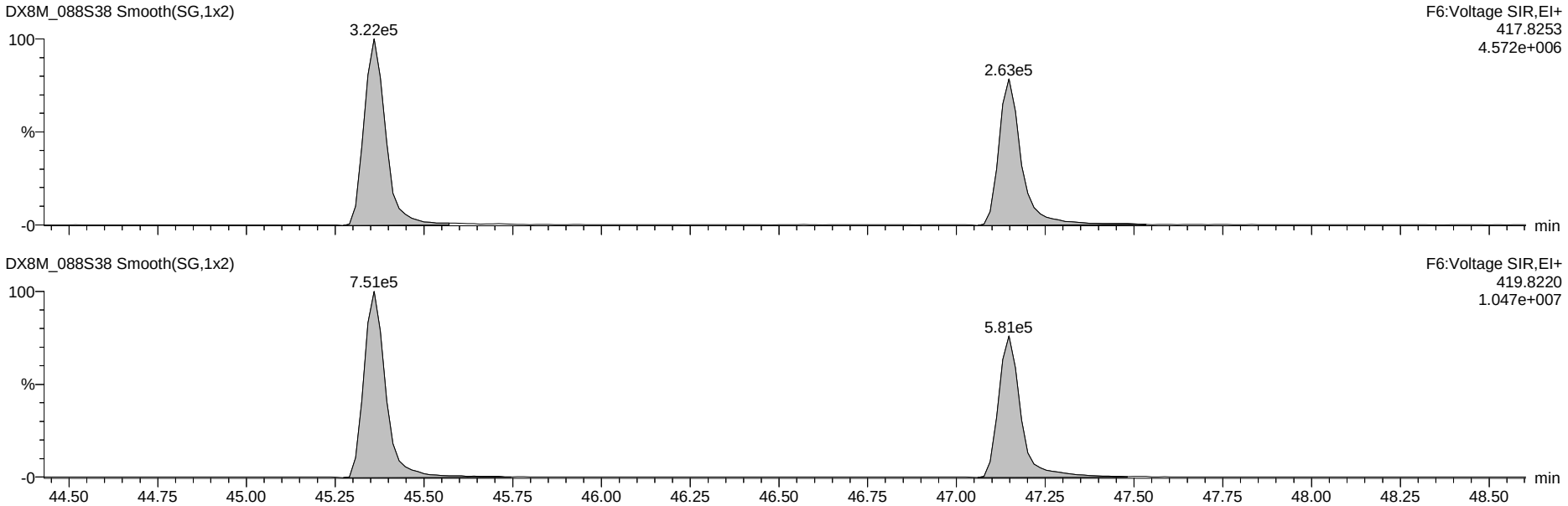
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



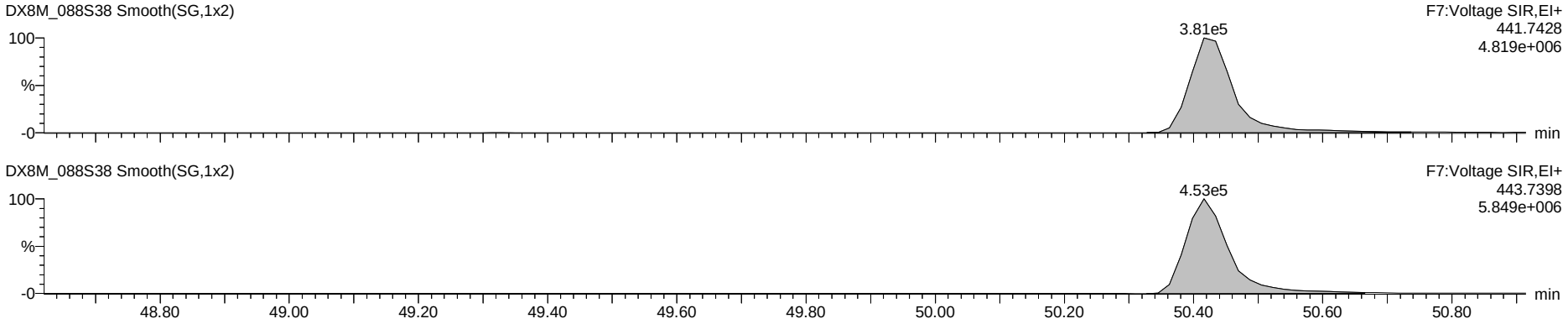
13C-Hepta-Furans



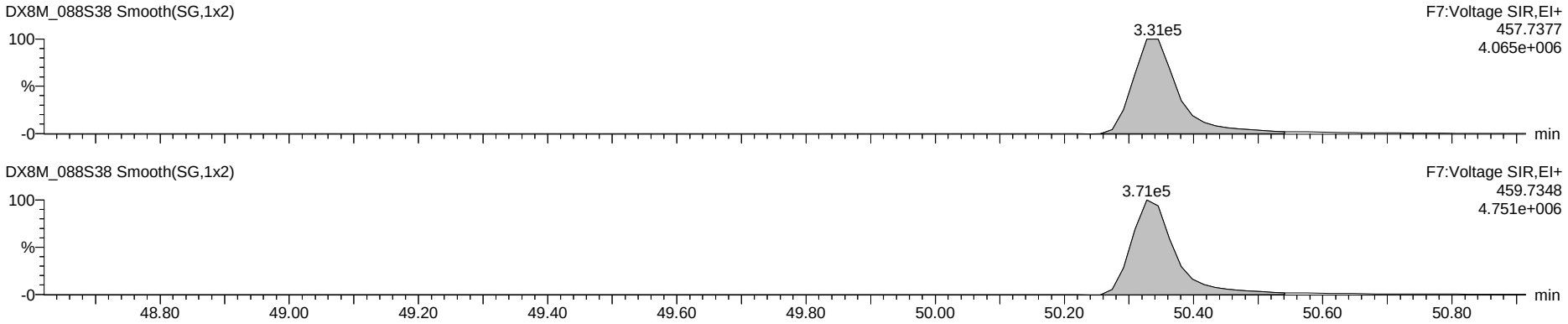
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

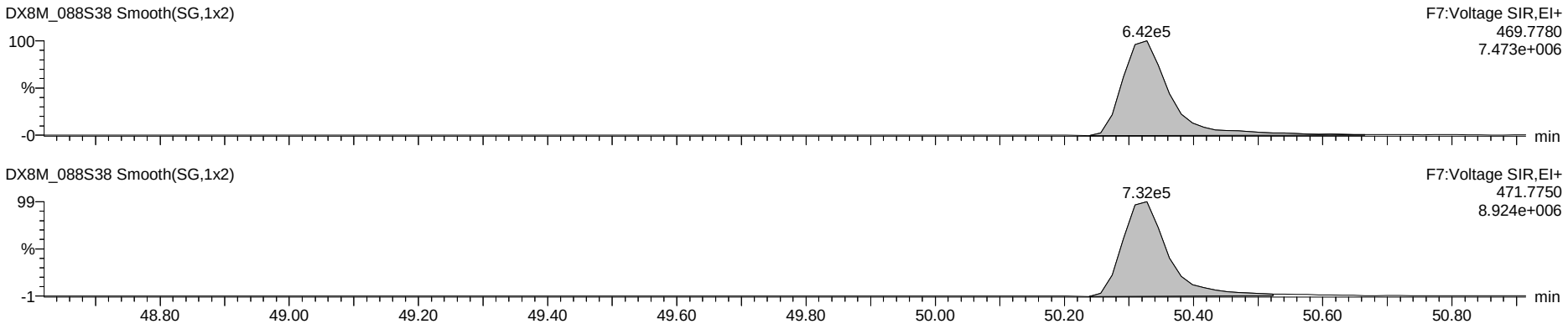
OCDF



OCDD



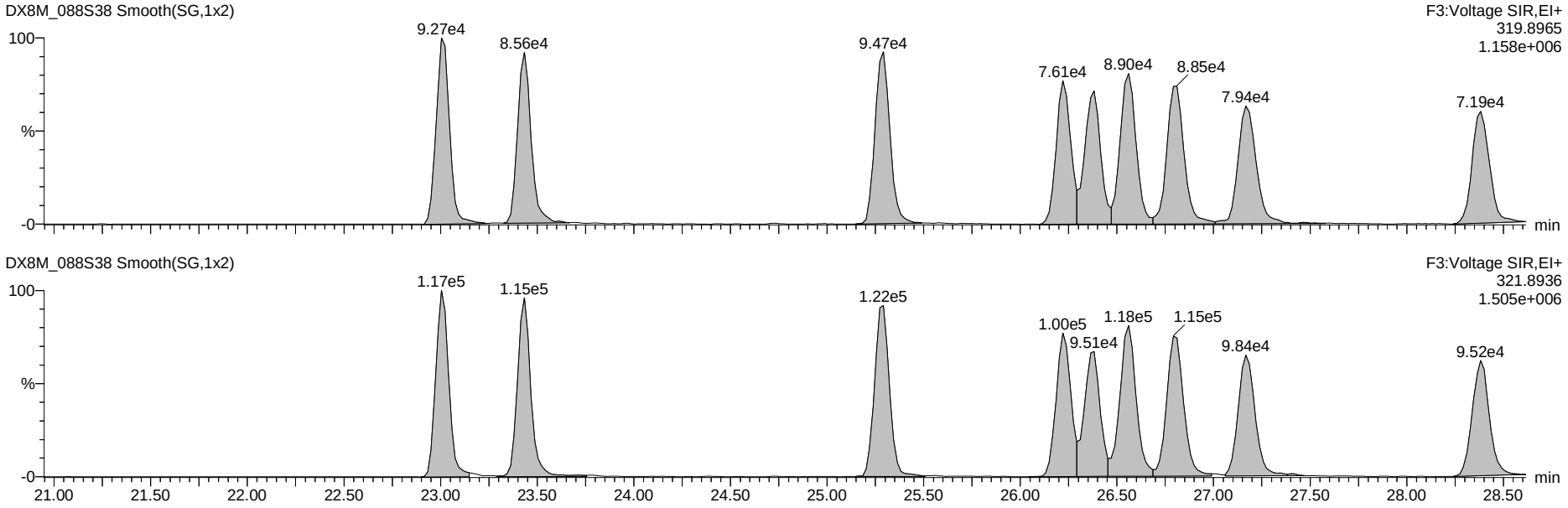
13C-OCDD



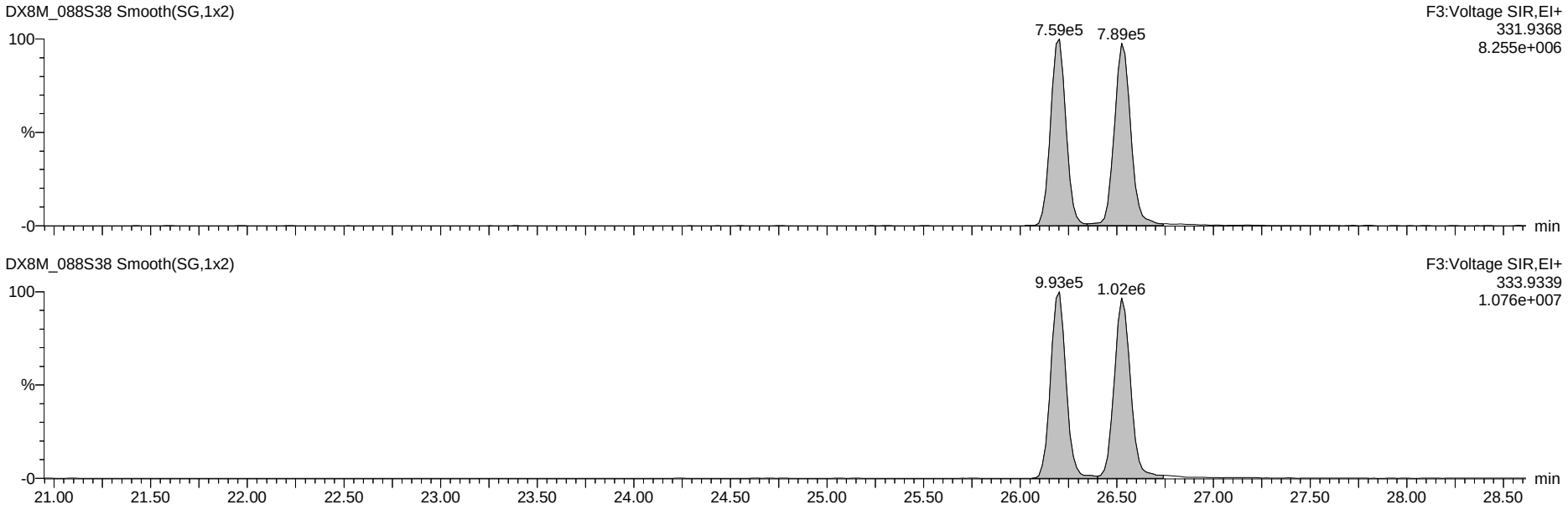
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



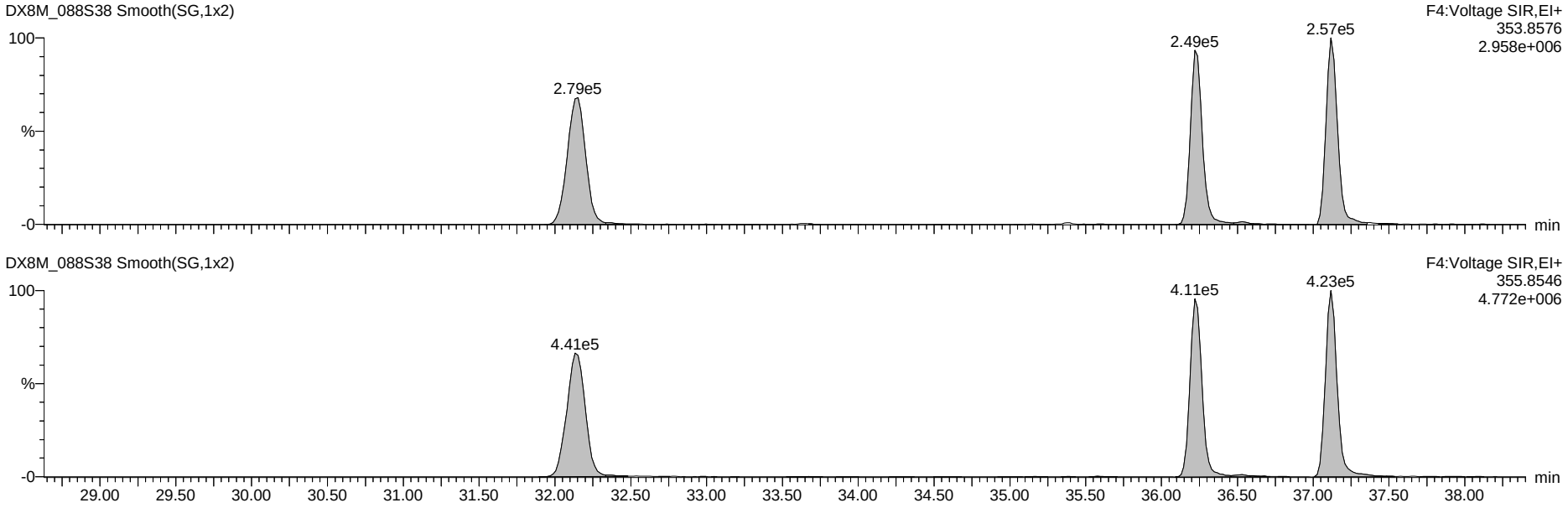
13C-Tetra-Dioxins



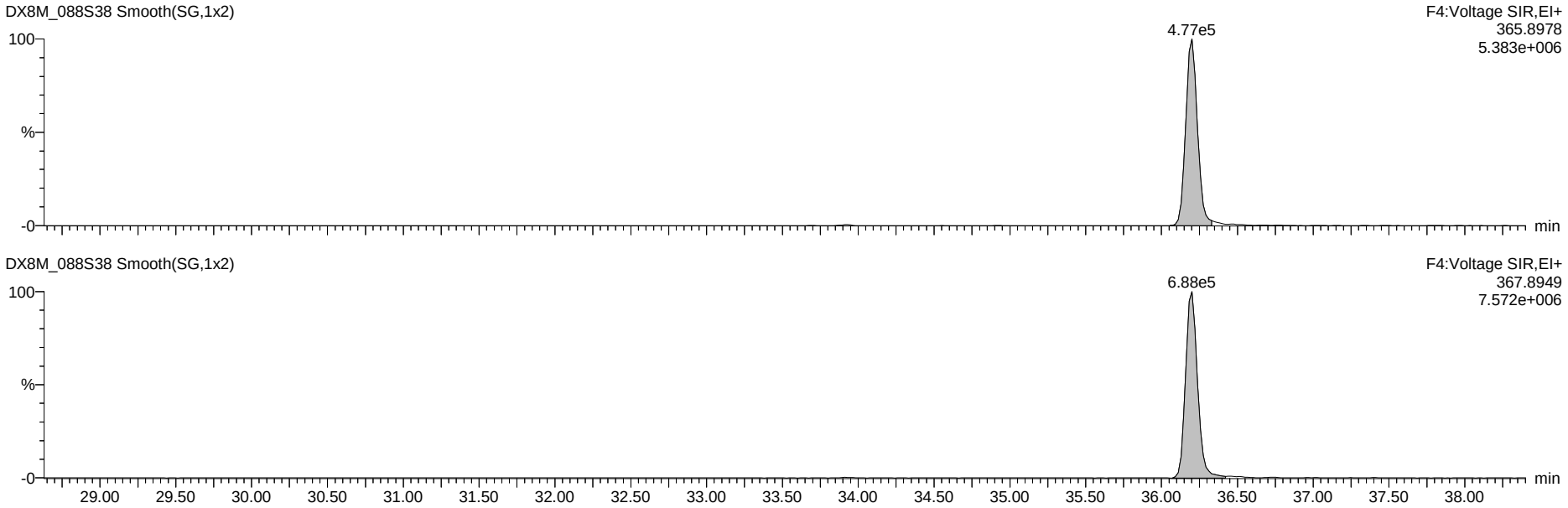
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



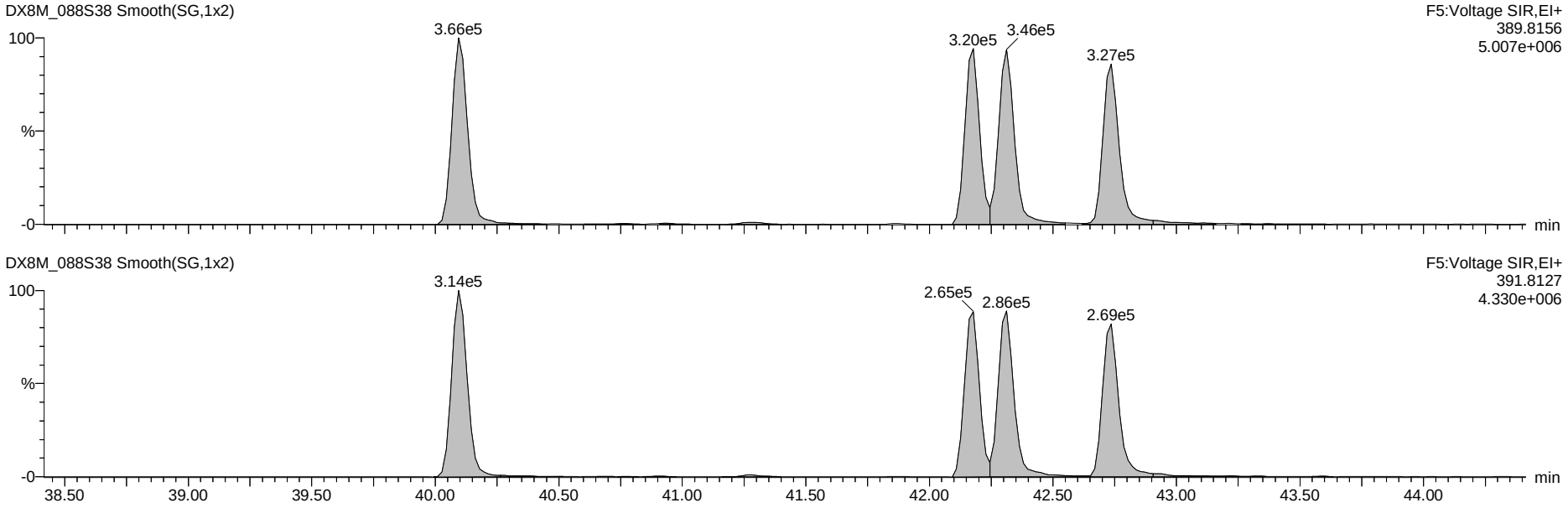
13C-Penta-Dioxins



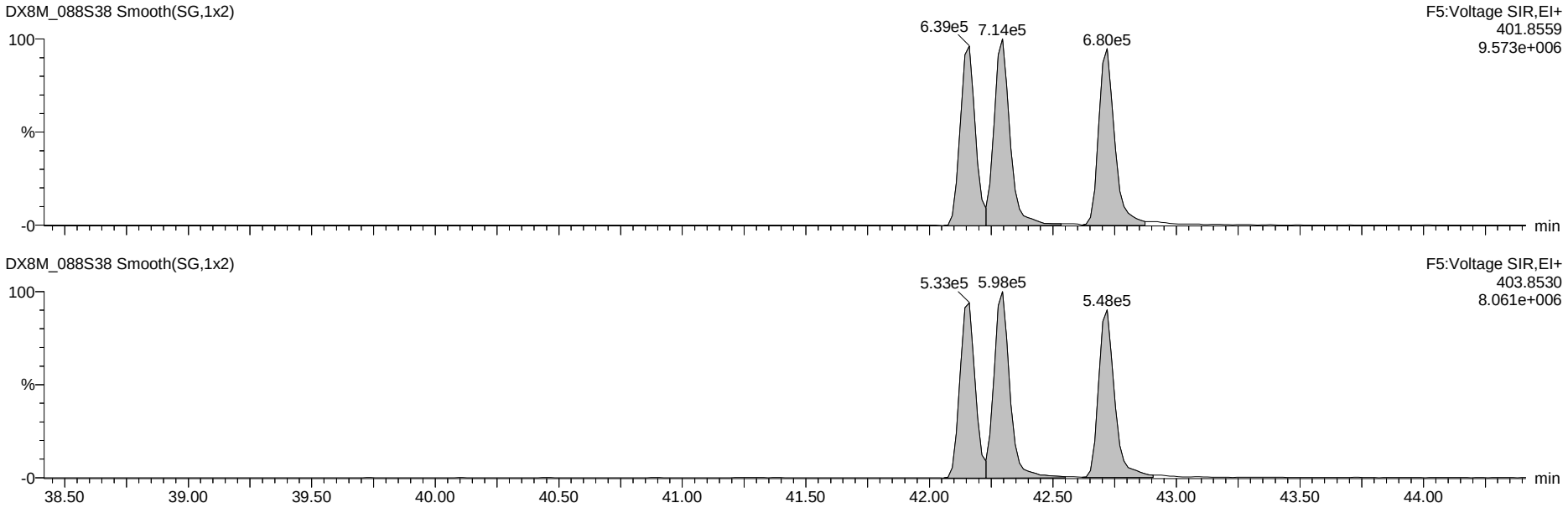
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



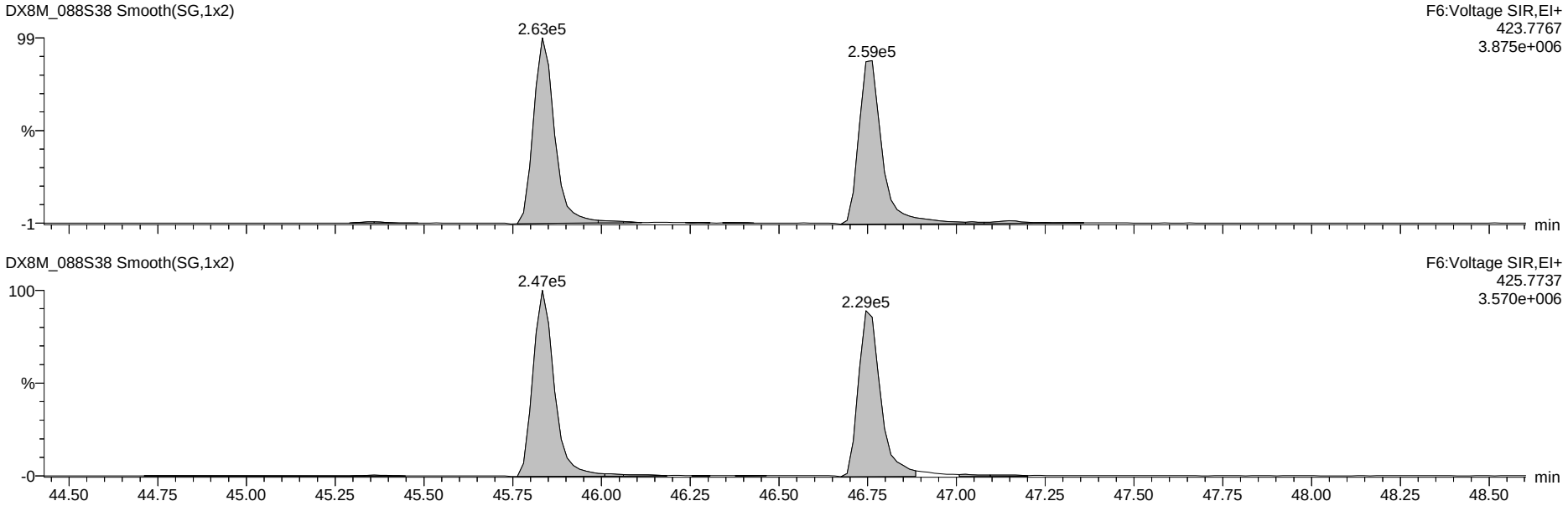
13C-Hexa-Dioxins



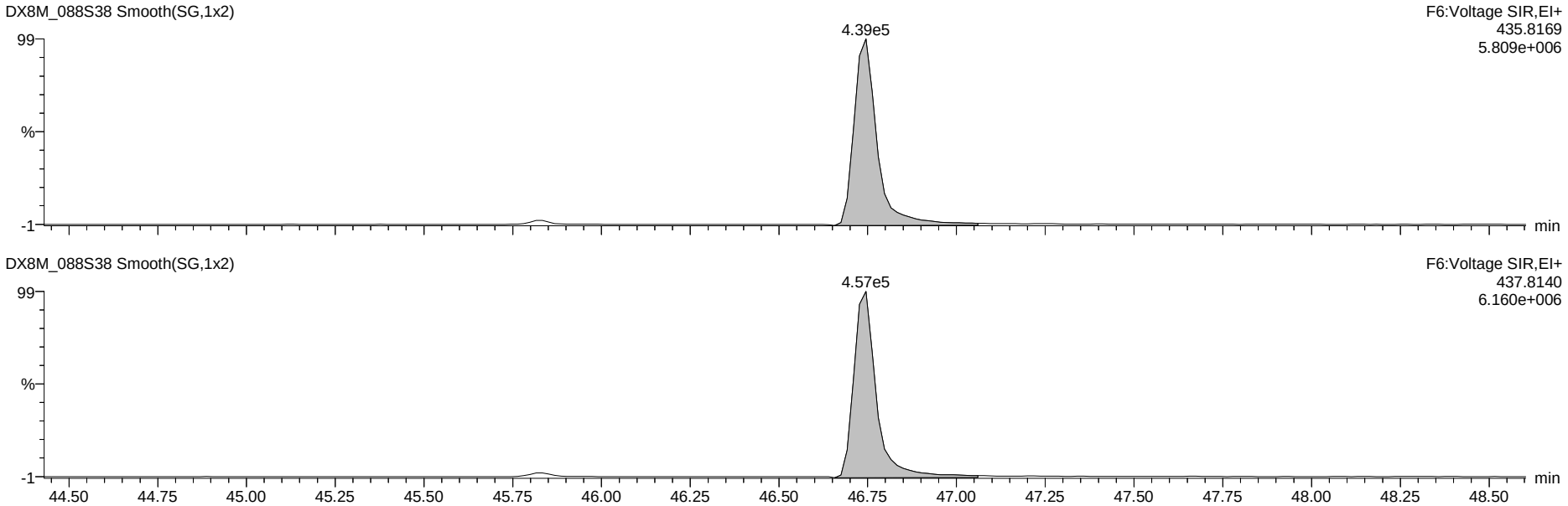
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



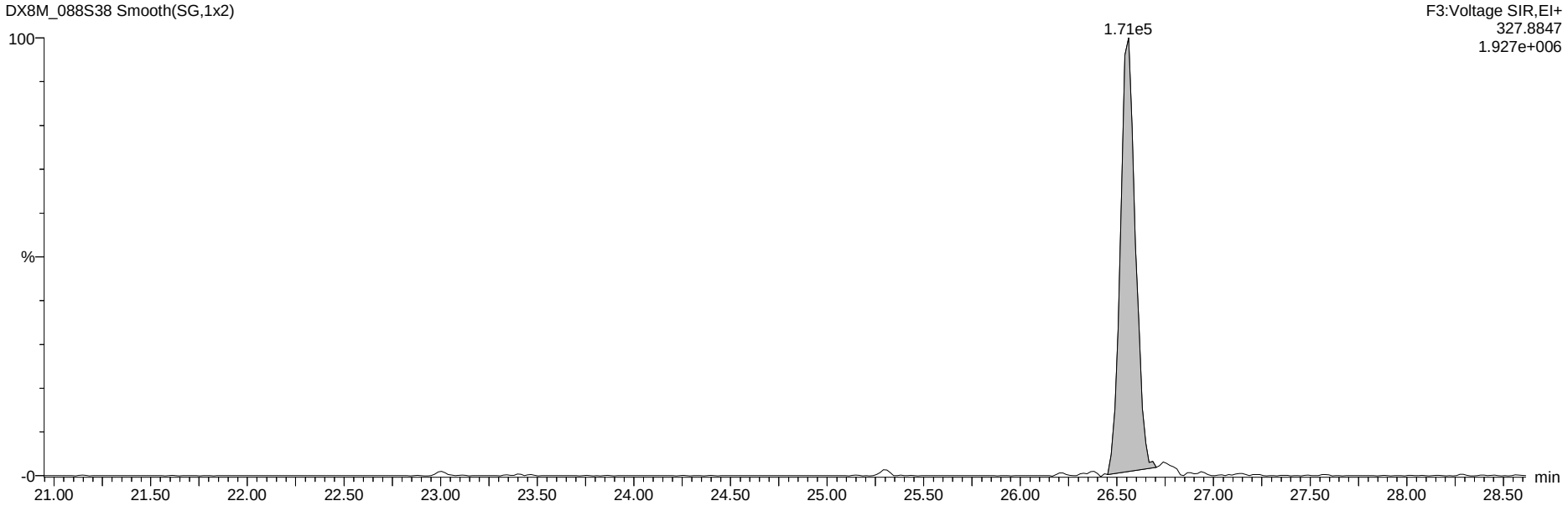
13C-Hepta-Dioxins



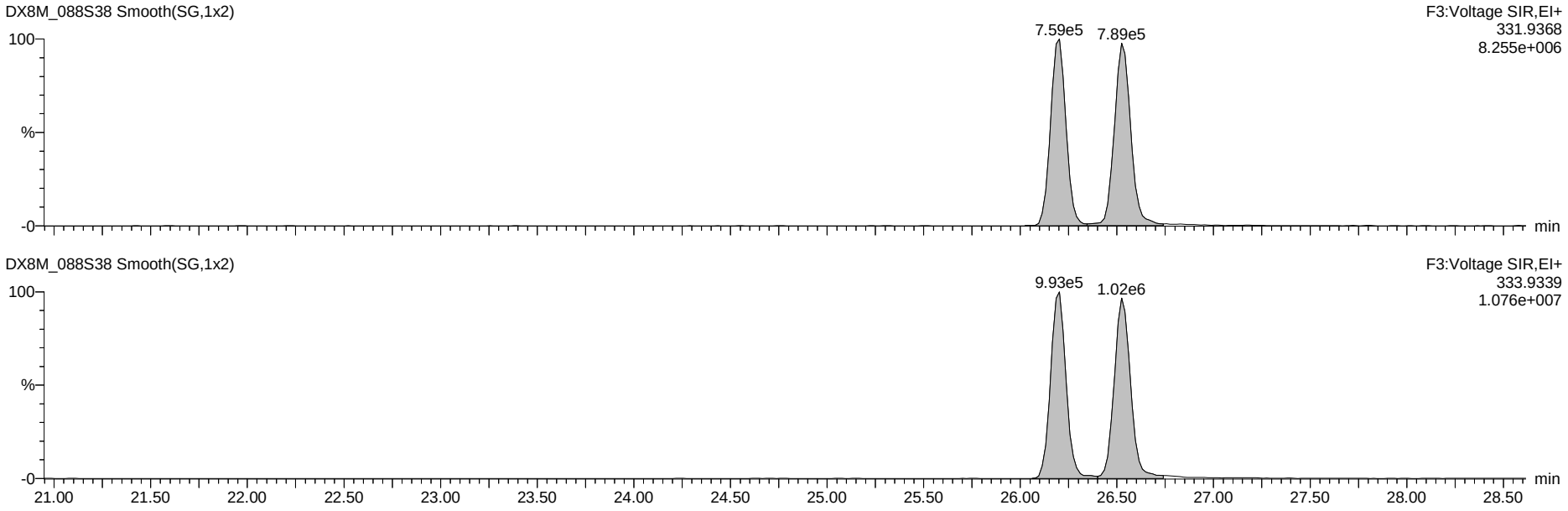
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



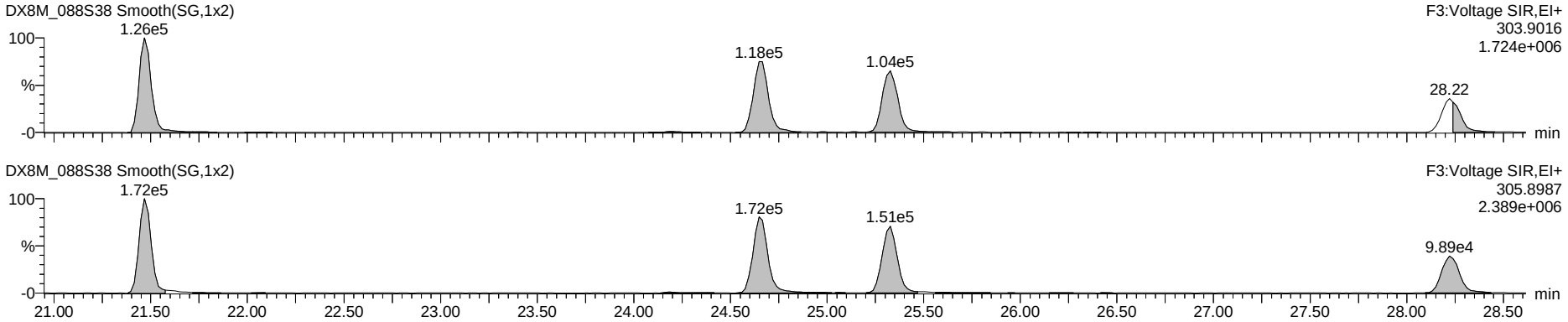
13C-Tetra-Dioxins



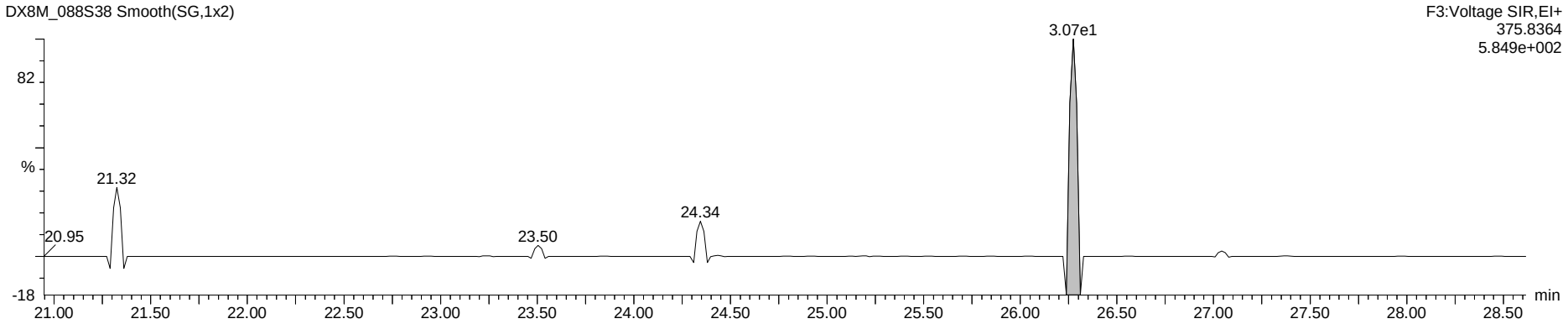
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

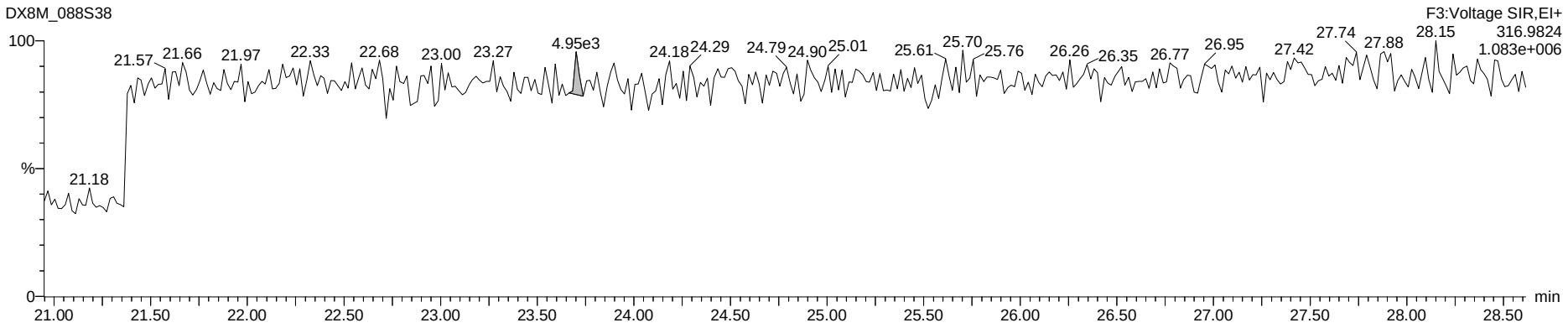
Total Tetra-Furans



Hexa DPE



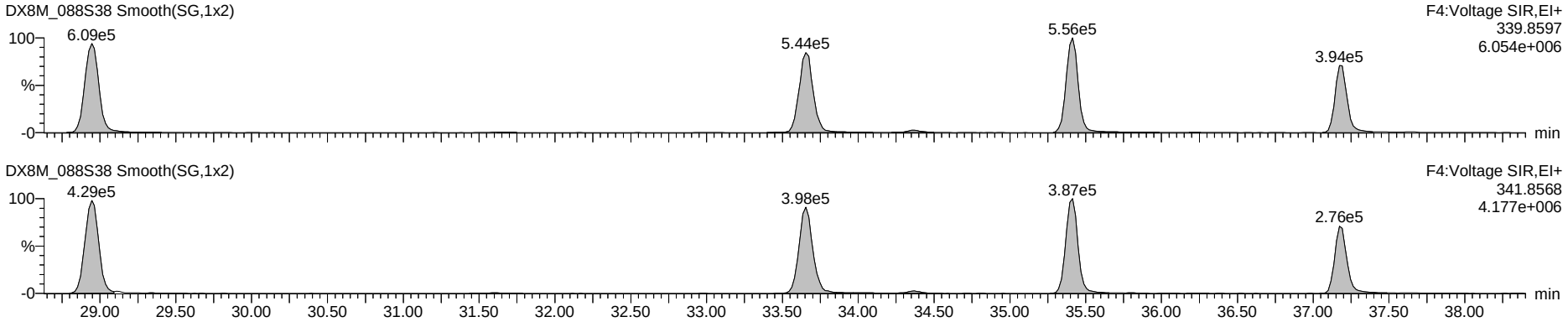
Tetra Lock



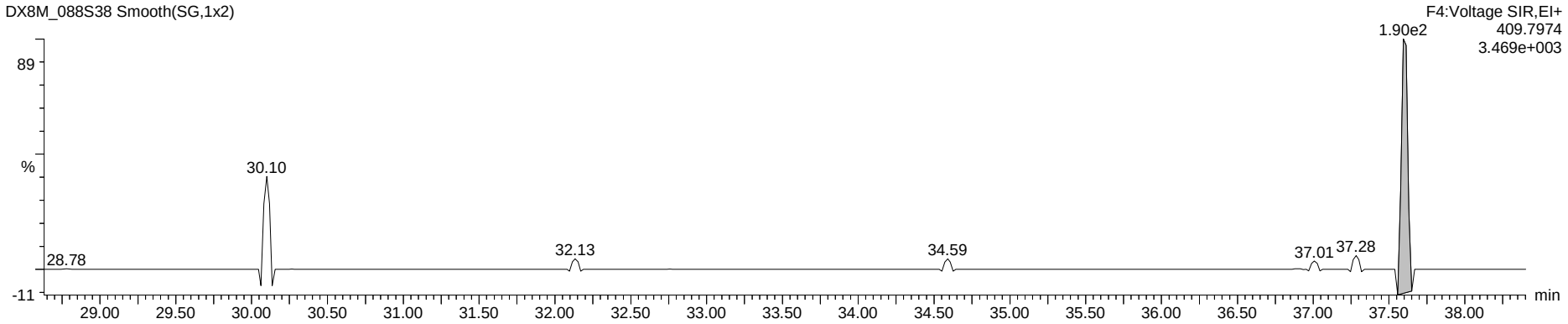
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

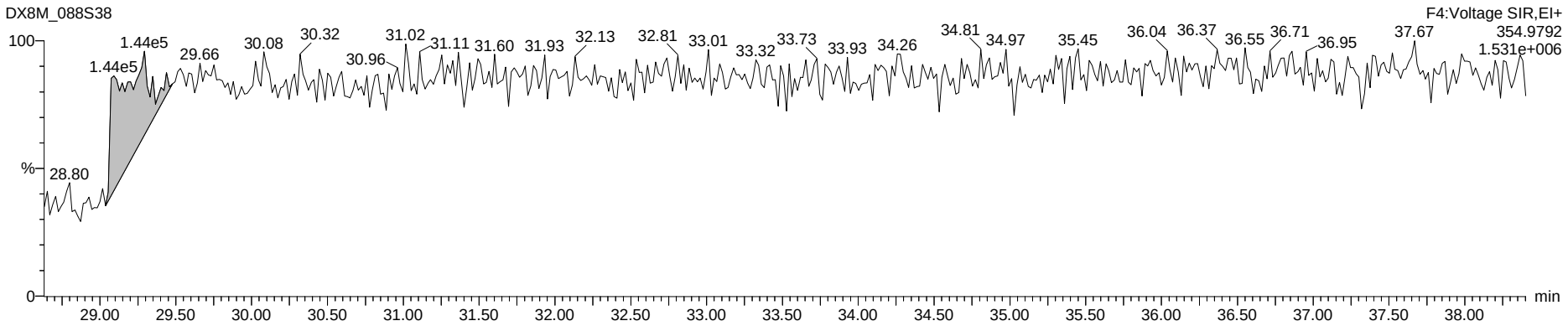
Total Penta-Furans



Hepta DPE



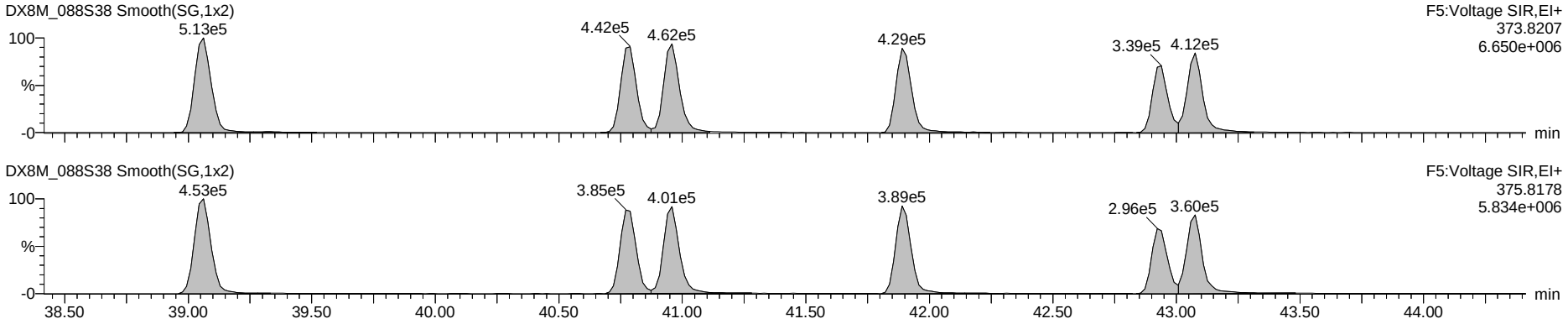
Penta Lock



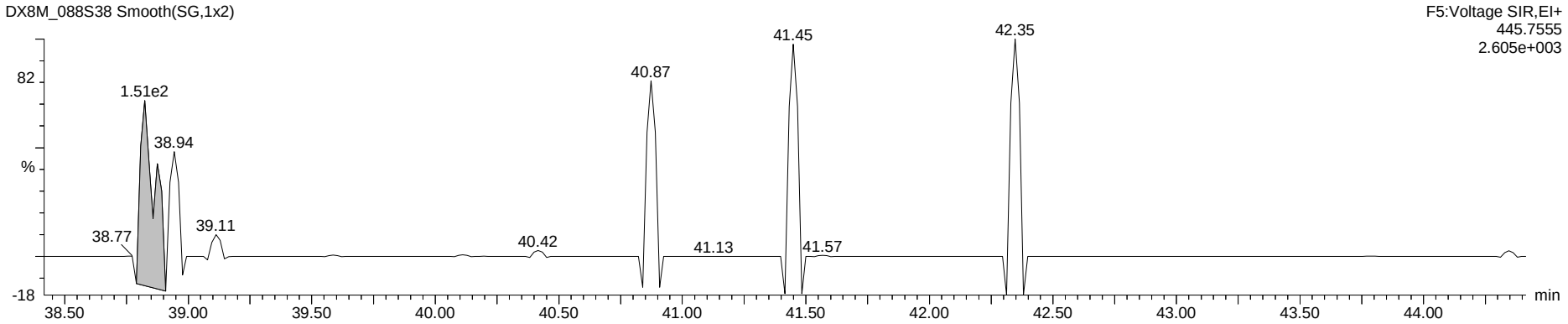
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

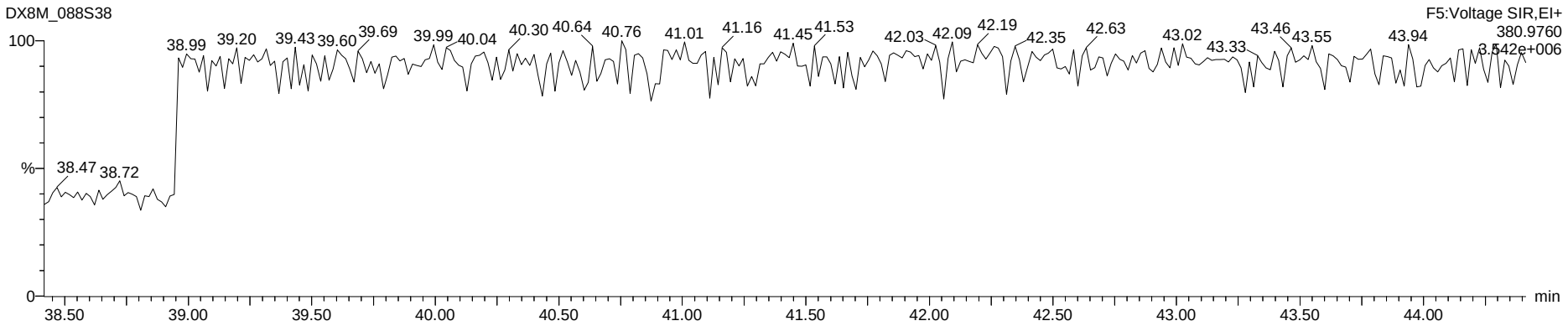
Total Hexa-Furans



Octa DPE



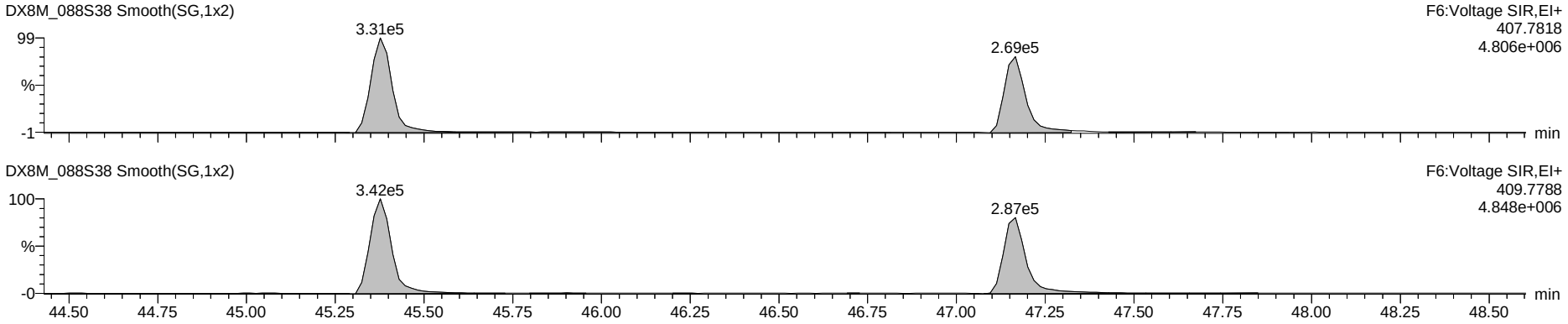
Hexa Lock



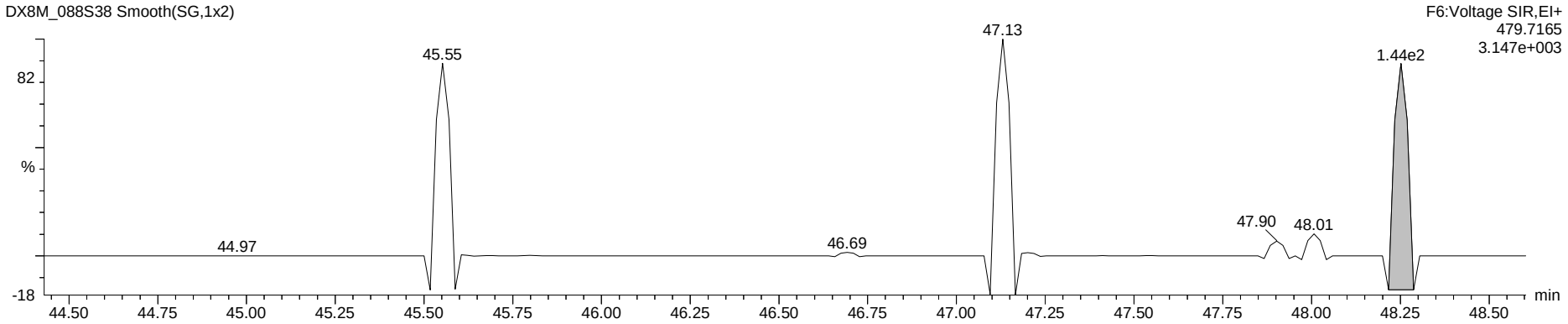
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

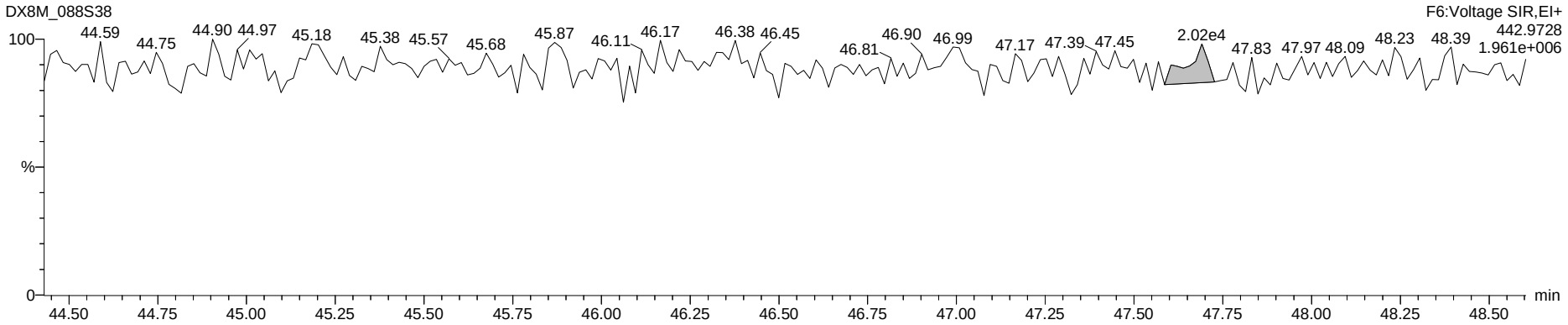
Total Hepta-Furans



Nona DPE



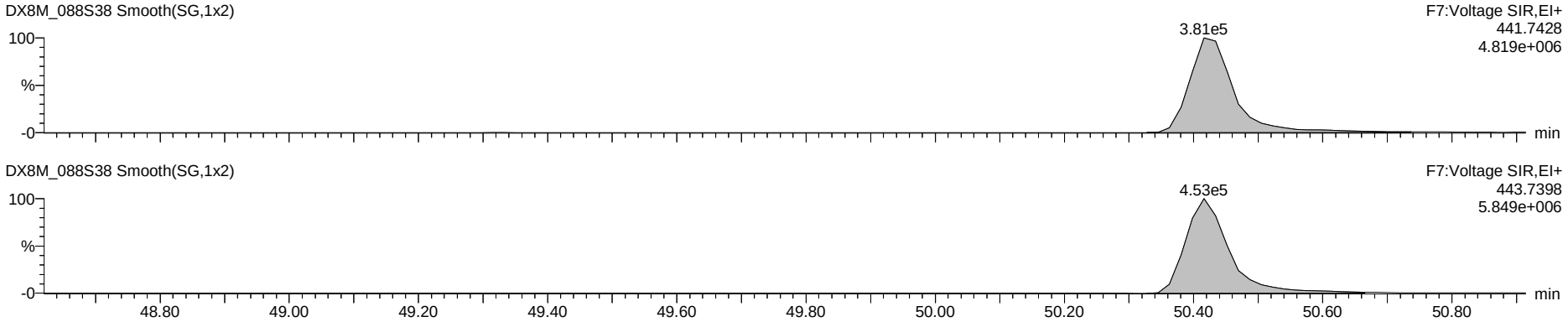
Hepta Lock



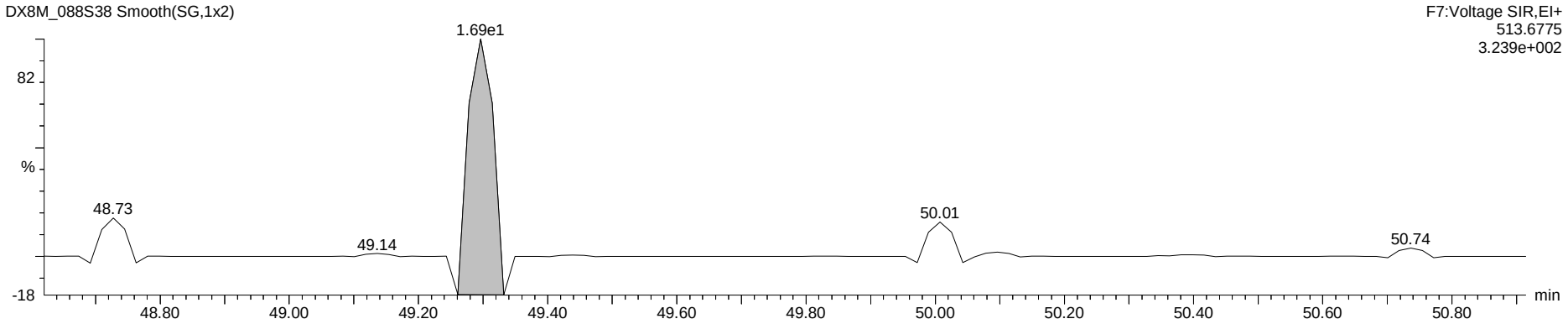
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

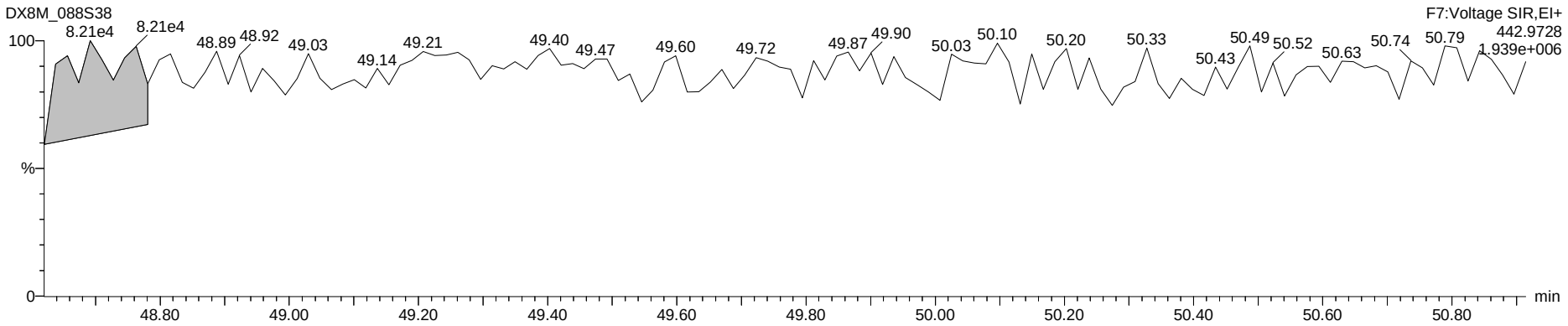
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	2.52e5	0.67	NO	25.33	11.108	0.0399	111.1	2.55e3	1.31e3
2	1,2,3,7,8-PeCDF	1.000	9.20e5	1.33	NO	33.67	49.666	0.0771	99.3	2.57e3	2.66e3
3	2,3,4,7,8-PeCDF	1.000	9.54e5	1.40	NO	35.41	50.136	0.0643	100.3	2.57e3	2.66e3
4	1,2,3,4,7,8-HxCDF	1.000	7.77e5	1.14	NO	40.79	48.622	0.0862	97.2	3.34e3	4.16e3
5	1,2,3,6,7,8-HxCDF	1.000	8.57e5	1.08	NO	40.96	50.036	0.0853	100.1	3.34e3	4.16e3
6	2,3,4,6,7,8-HxCDF	1.000	8.45e5	1.11	NO	41.91	52.915	0.0883	105.8	3.34e3	4.16e3
7	1,2,3,7,8,9-HxCDF	1.000	6.40e5	1.16	NO	42.94	48.456	0.1121	96.9	3.34e3	4.16e3
8	1,2,3,4,6,7,8-HpCDF	1.000	6.27e5	0.99	NO	45.38	52.981	0.1008	106.0	2.90e3	3.62e3
9	1,2,3,4,7,8,9-HpCDF	1.000	4.74e5	0.93	NO	47.17	50.798	0.1317	101.6	2.90e3	3.62e3
10	OCDF	1.000	7.34e5	0.79	NO	50.43	103.073	0.2063	103.1	6.16e-1	7.36e3
11	2,3,7,8-TCDD	1.000	1.98e5	0.77	NO	26.58	10.610	0.0518	106.1	1.74e3	2.18e3
12	1,2,3,7,8-PeCDD	1.000	6.46e5	0.62	NO	36.24	53.153	0.0848	106.3	2.75e3	1.85e3
13	1,2,3,4,7,8-HxCDD	1.000	5.43e5	1.20	NO	42.18	50.622	0.1121	101.2	4.37e3	2.78e3
14	1,2,3,6,7,8-HxCDD	1.000	6.08e5	1.18	NO	42.31	51.152	0.1179	102.3	4.37e3	2.78e3
15	1,2,3,7,8,9-HxCDD	1.000	5.89e5	1.20	NO	42.74	51.773	0.1145	103.5	4.37e3	2.78e3
16	1,2,3,4,6,7,8-HpCDD	1.000	4.23e5	1.08	NO	46.76	54.360	0.1006	108.7	1.88e3	2.35e3
17	OCDD	1.000	6.18e5	0.87	NO	50.35	104.534	0.0000	104.5	3.51e-1	5.00e-1
18	13C-2,3,7,8-TCDF	1.000	2.48e6	0.68	NO	25.31	92.573	0.1414	92.6	1.02e4	5.88e3
19	13C-1,2,3,7,8-PeCDF	1.000	2.00e6	1.39	NO	33.64	103.783	0.1934	103.8	9.08e3	6.80e3
20	13C-2,3,4,7,8-PeCDF	1.000	2.03e6	1.43	NO	35.40	108.754	0.2005	108.8	9.08e3	6.80e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	1.43e6	0.52	NO	40.77	94.062	0.1971	94.1	1.09e4	5.04e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	1.61e6	0.53	NO	40.94	99.142	0.1845	99.1	1.09e4	5.04e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	1.40e6	0.52	NO	41.87	96.423	0.2065	96.4	1.09e4	5.04e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.32e6	0.54	NO	42.92	92.334	0.2094	92.3	1.09e4	5.04e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	9.67e5	0.46	NO	45.36	79.642	0.1670	79.6	6.69e3	4.07e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	7.45e5	0.48	NO	47.15	78.624	0.2141	78.6	6.69e3	4.07e3
27	13C-2,3,7,8-TCDD	1.000	1.68e6	0.78	NO	26.54	100.737	0.1997	100.7	5.64e3	8.51e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.18e6	0.69	NO	36.20	108.439	0.0595	108.4	1.81e3	9.51e2
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.07e6	1.21	NO	42.16	91.152	0.1661	91.2	4.18e3	6.16e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	1.27e6	1.26	NO	42.30	102.516	0.1570	102.5	4.18e3	6.16e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	7.81e5	0.99	NO	46.74	80.543	0.1525	80.5	3.08e3	4.76e3
32	13C-OCDD	1.000	1.16e6	0.88	NO	50.33	136.142		68.1	0.00e0	0.00e0
33	13C-1,2,3,4-TCDD	1.000	1.66e6	0.77	NO	26.20	73.429	0.1473	73.4	5.64e3	8.51e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.19e6	1.23	NO	42.72	83.466	0.1364	83.5	4.18e3	6.16e3
35	37Cl-2,3,7,8-TCDD	1.000	1.63e5			26.56	8.840	0.0650	88.4		5.11e3
36	Total Tetra-Furans	1.000					43.193	0.0399			1.31e3
37	Total Tetra-Dioxins	1.000					88.331	0.0518			2.18e3
38	Total Penta-Furans	1.000					190.675	0.0712			2.66e3
39	Total Penta-Dioxins	1.000					166.397	0.0848			1.85e3
40	Total Hexa-Furans	1.000					311.965	0.0891			4.16e3
41	Total Hexa-Dioxins	1.000					214.443	0.1108			2.78e3
42	Total Hepta-Furans	1.000					106.726	0.1156			3.62e3
43	Total Hepta-Dioxins	1.000					117.443	0.1006			2.35e3
44	Hexa DPE	1.000	1.46e2			21.25					1.95e-1
45	Hepta DPE	1.000	1.03e2			38.16					1.28e-1
46	Octa DPE	1.000	1.09e2			41.30					1.67e-1
47	Nona DPE	1.000	8.99e1			48.08					2.26e-1
48	Deca DPE	1.000	1.99e1			49.58					0.00e0
49	Tetra Lock	1.000	5.85e3			24.27					1.34e5
50	Penta Lock	1.000	7.09e4			29.33					2.16e5
51	Hexa Lock	1.000	3.05e5			38.77					3.14e5
52	Hepta Lock	1.000	5.54e3			47.62					2.01e5
53	Octa Lock	1.000	1.03e4			48.96					2.40e5
54	13C-Tetra-Furans	1.000					92.573	0.1414			5.88e3
55	13C-Tetra-Dioxins	1.000					174.166	0.3470			8.51e3

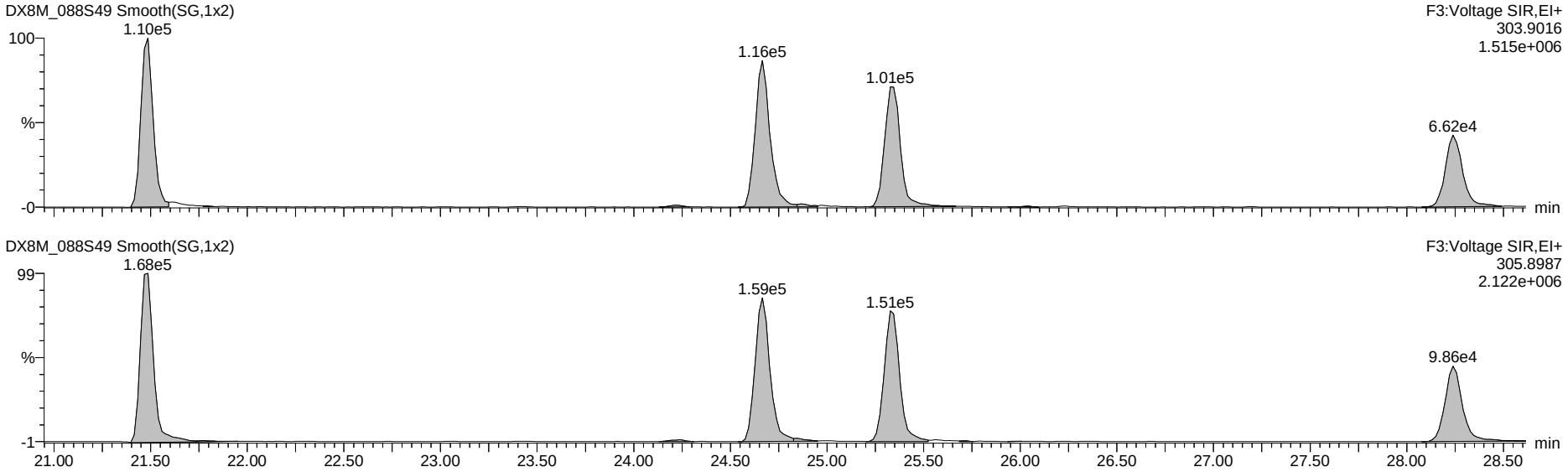
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

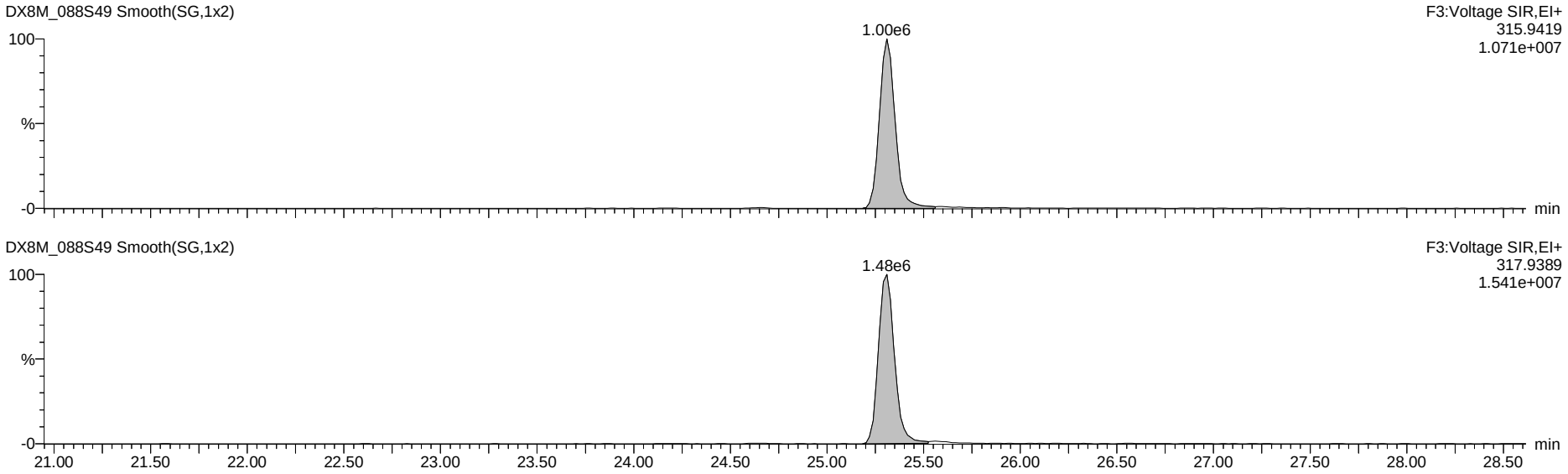
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



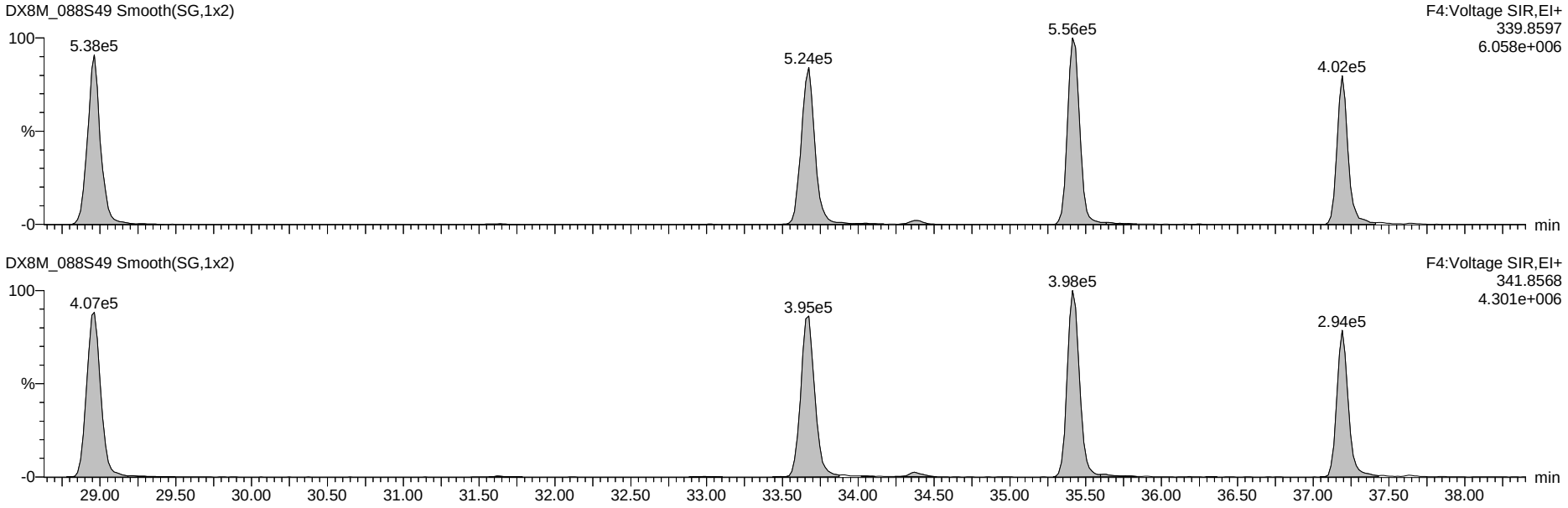
13C-Tetra-Furans



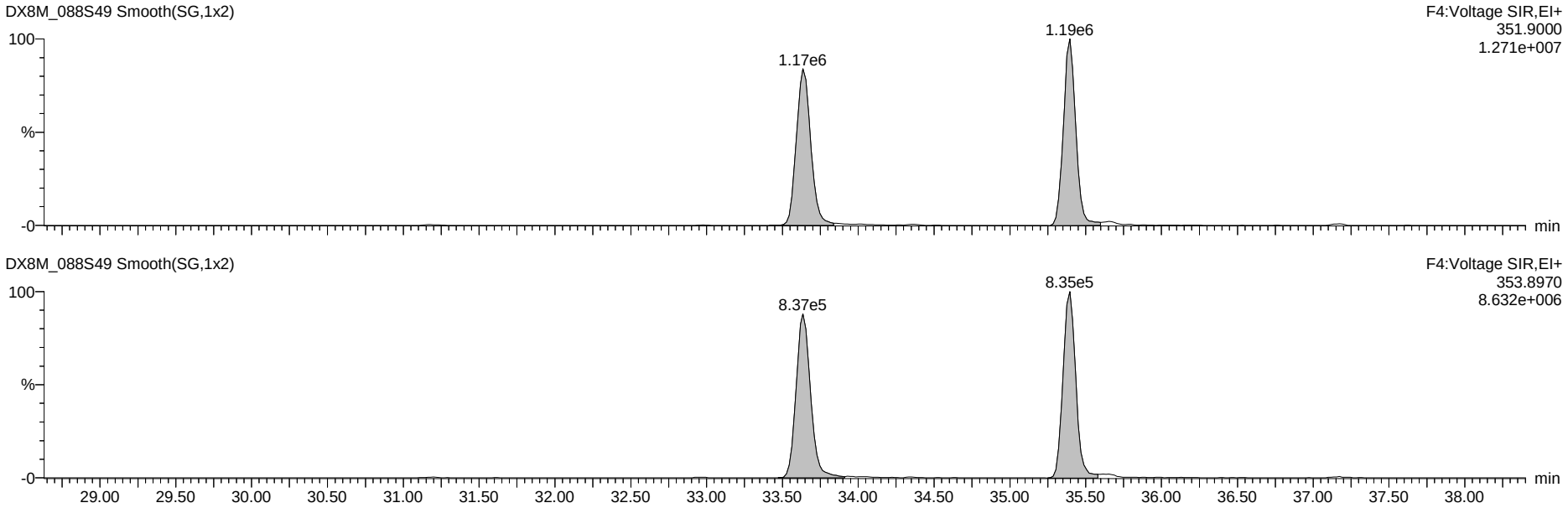
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



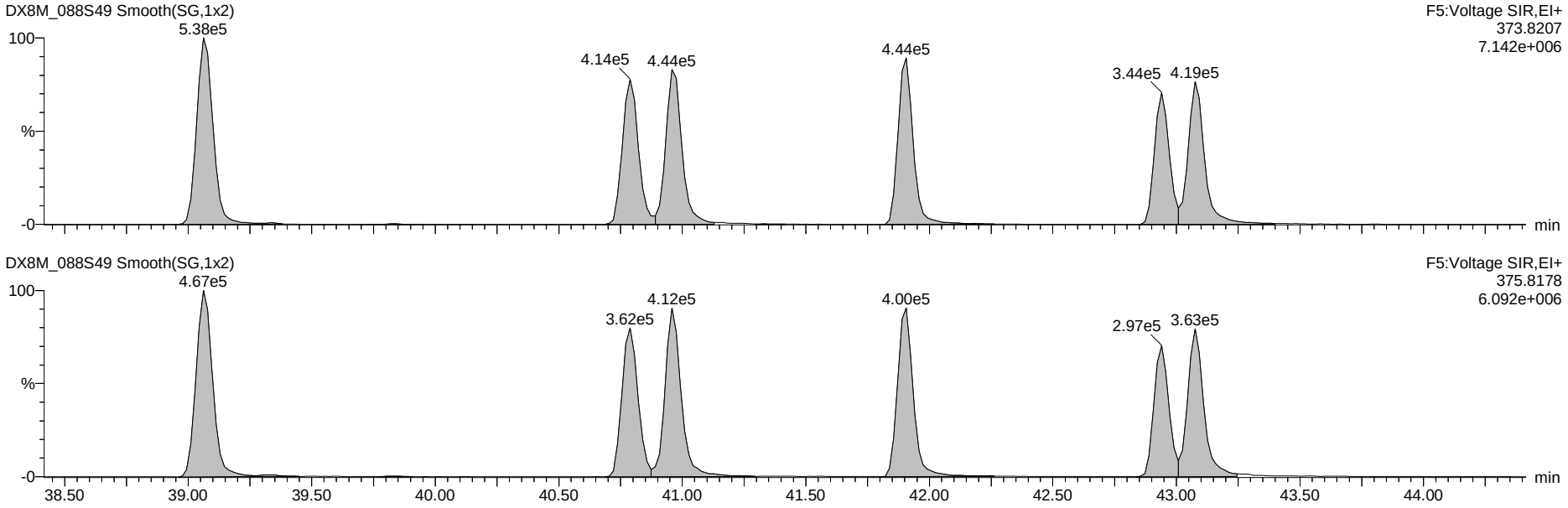
13C-Penta-Furans



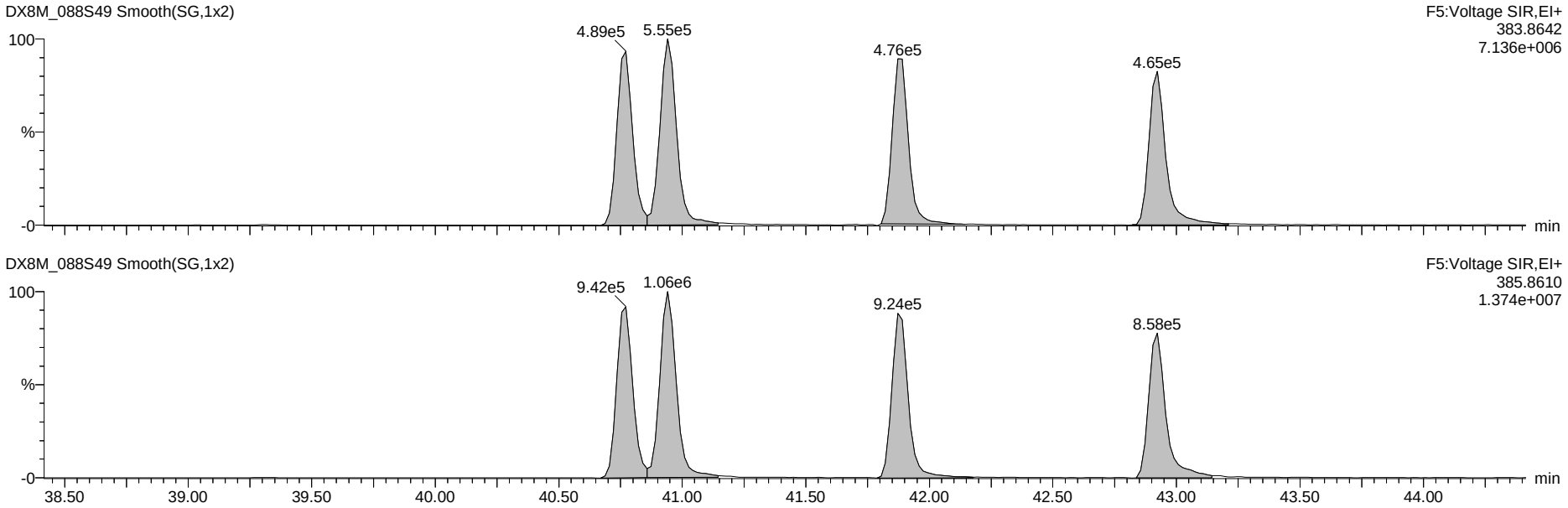
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



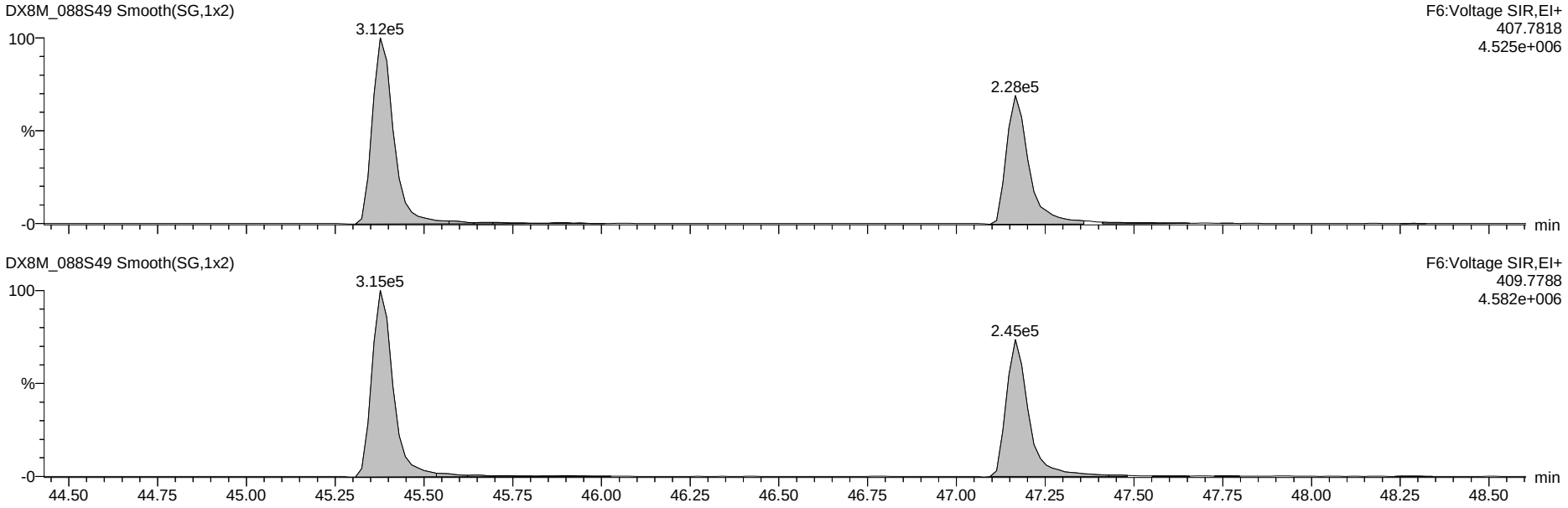
13C-Hexa-Furans



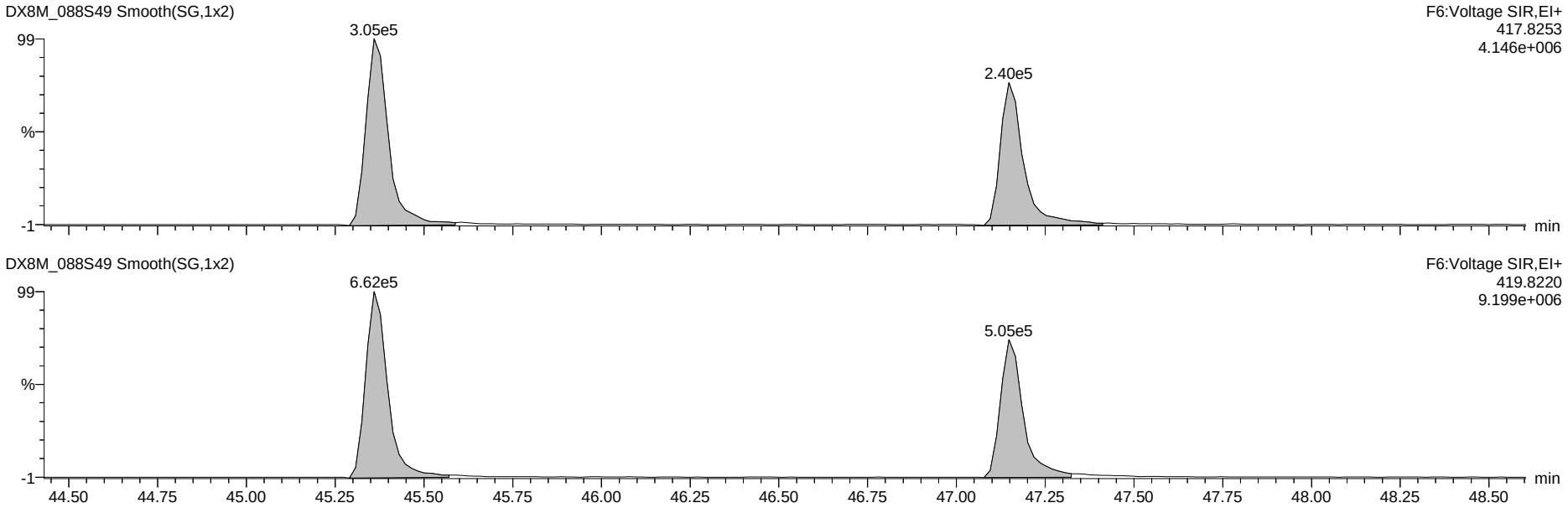
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



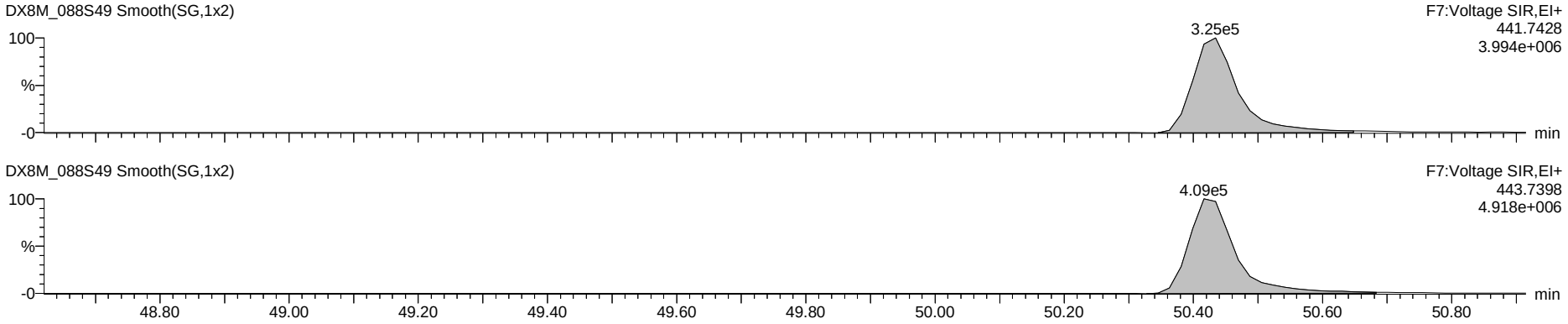
13C-Hepta-Furans



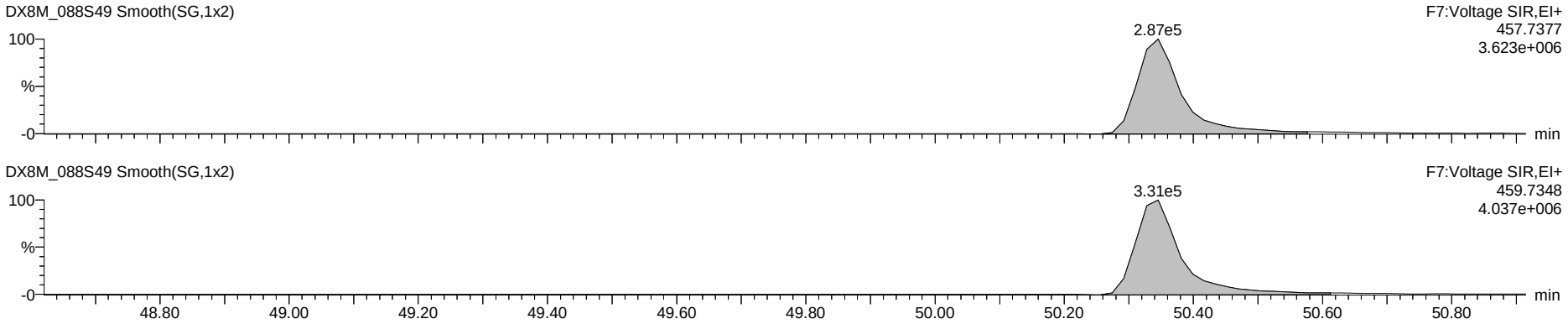
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

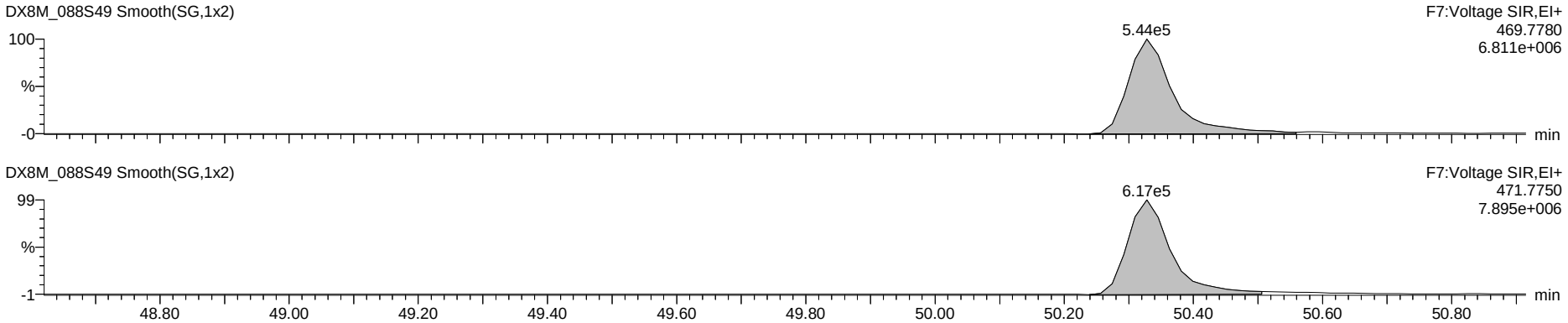
OCDF



OCDD



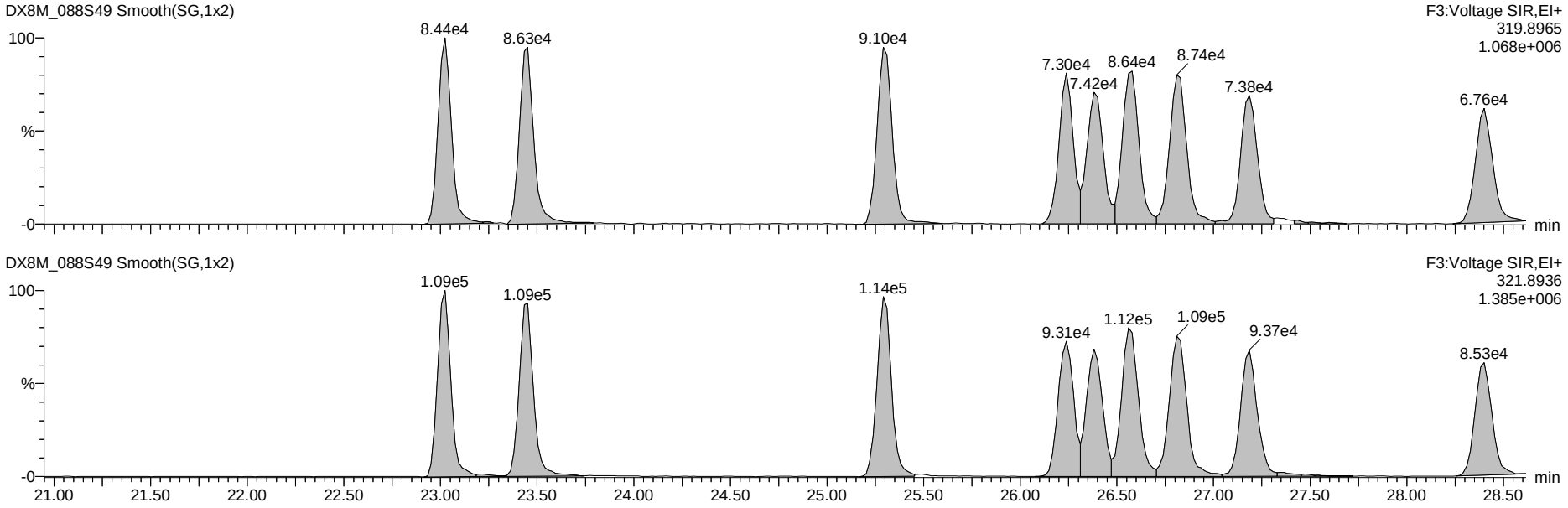
13C-OCDD



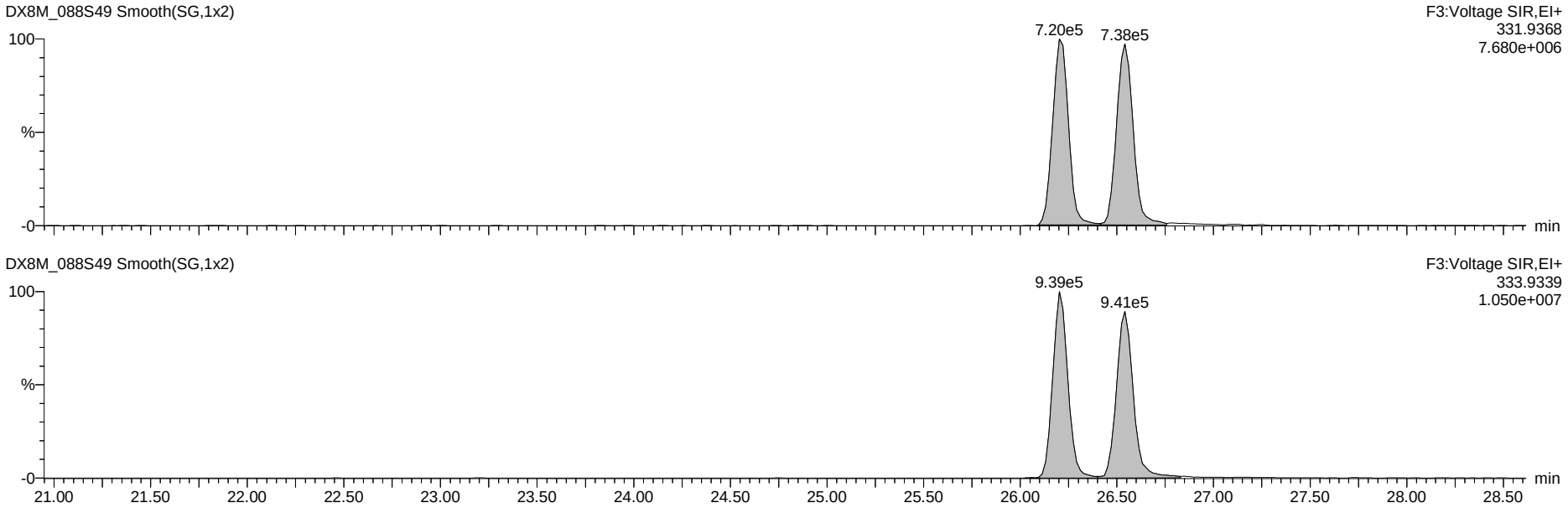
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



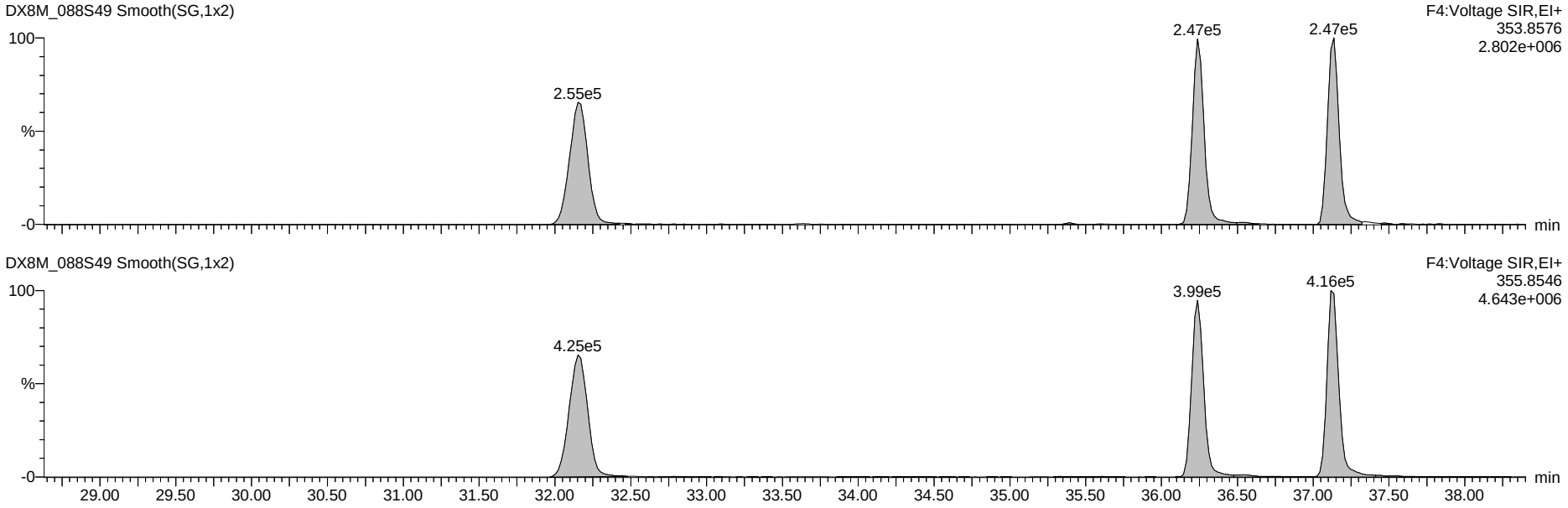
13C-Tetra-Dioxins



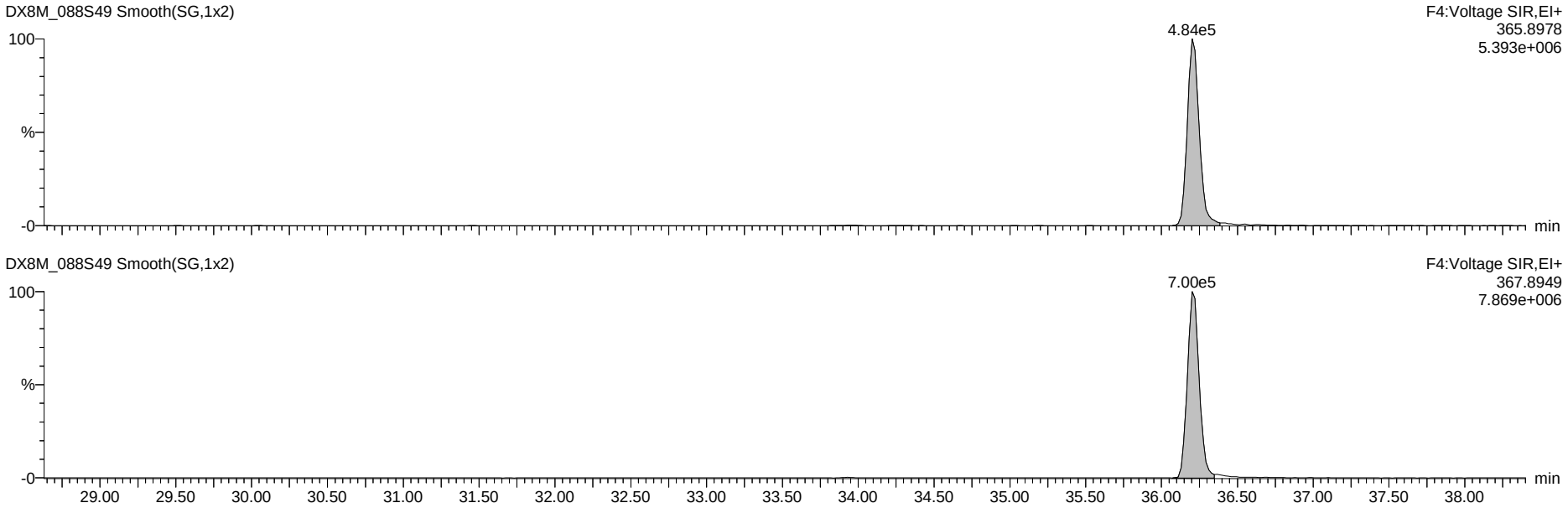
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



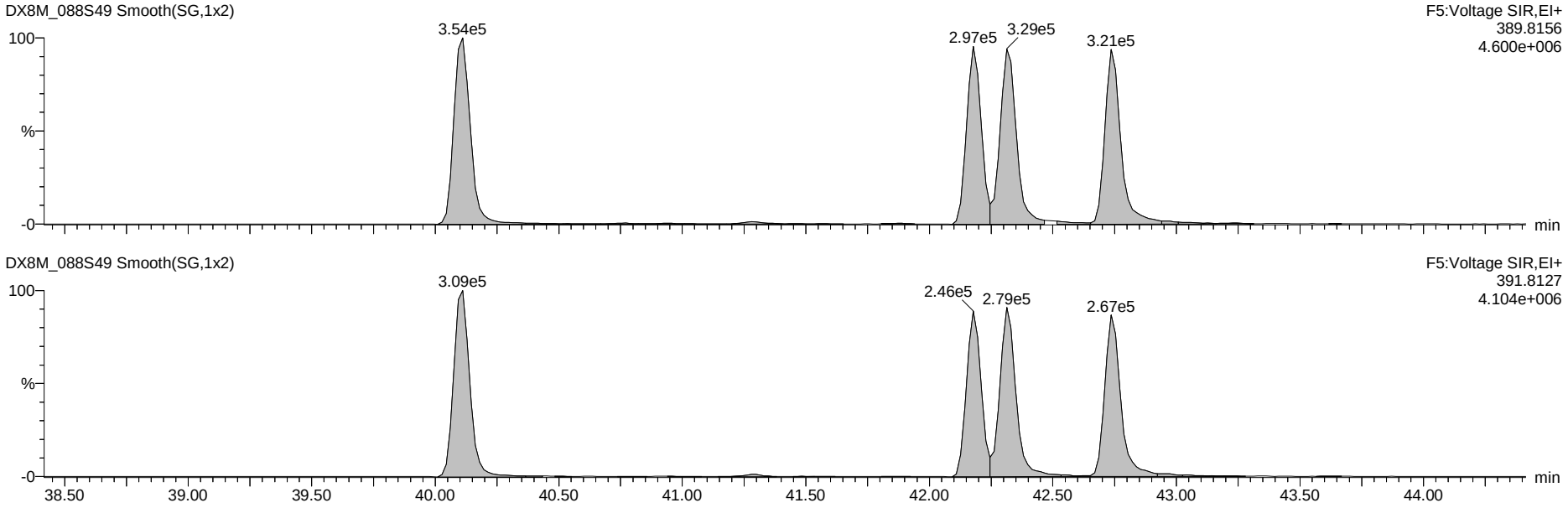
13C-Penta-Dioxins



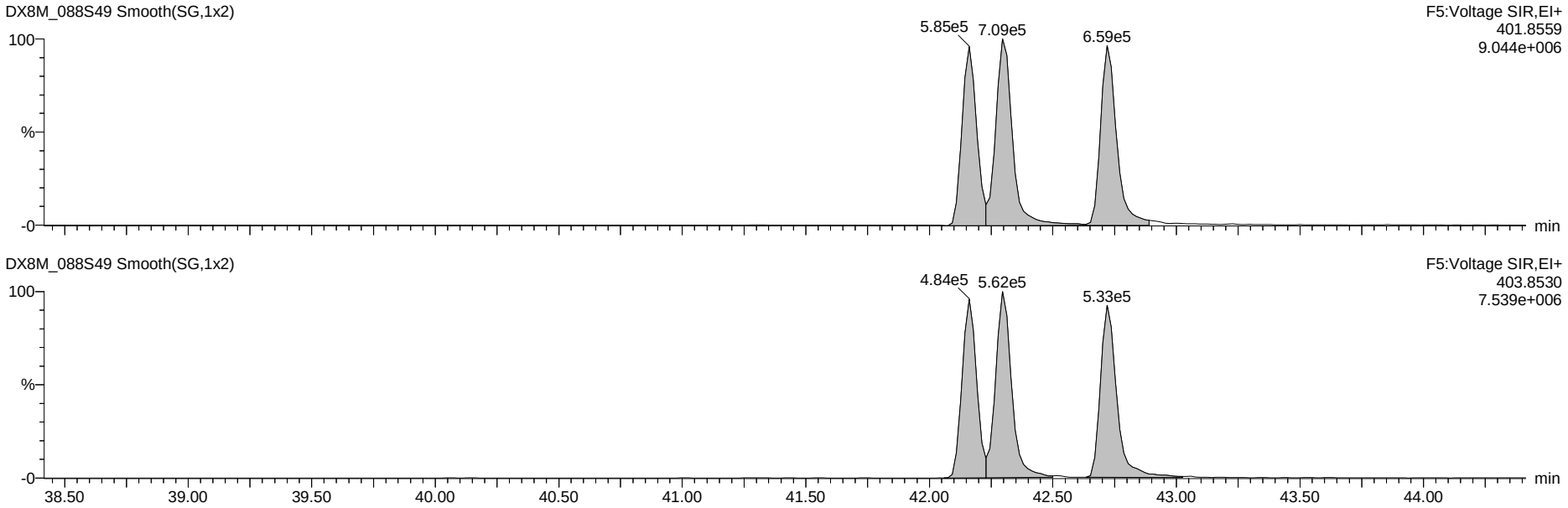
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



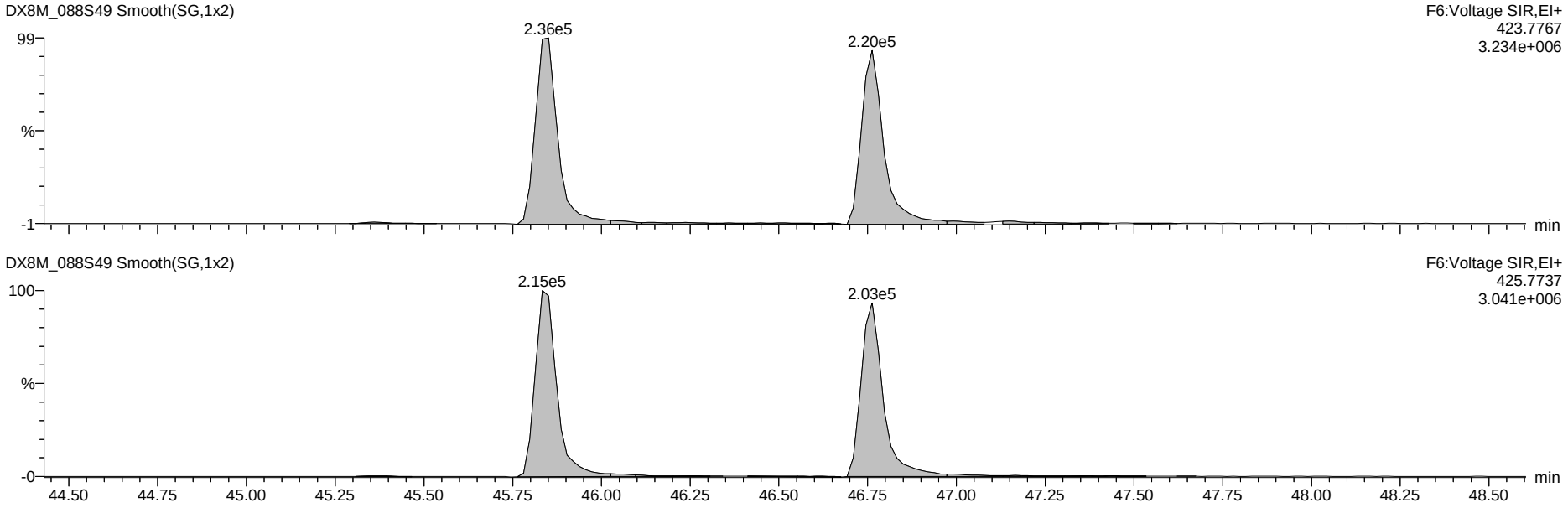
13C-Hexa-Dioxins



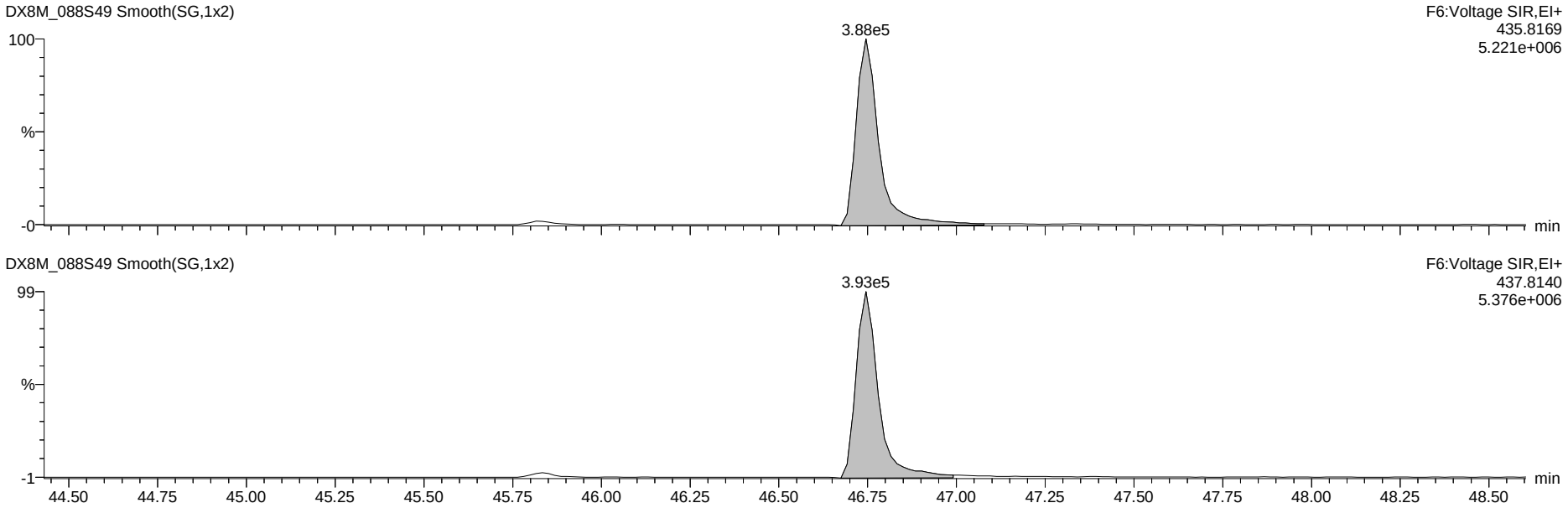
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



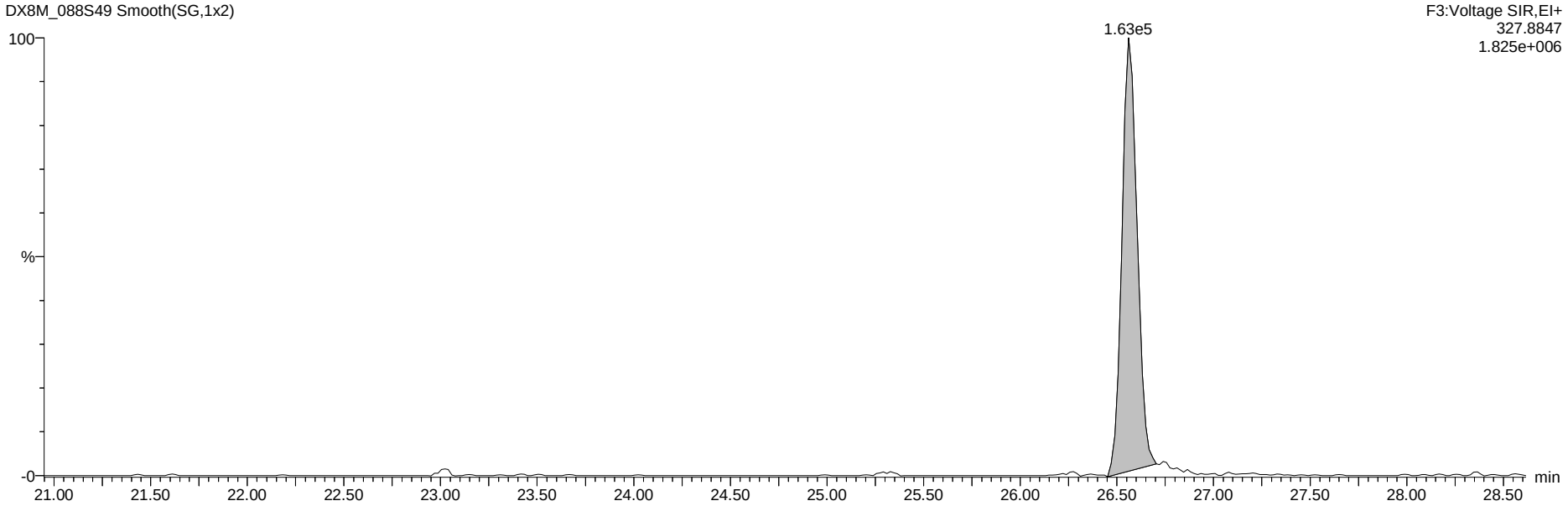
13C-Hepta-Dioxins



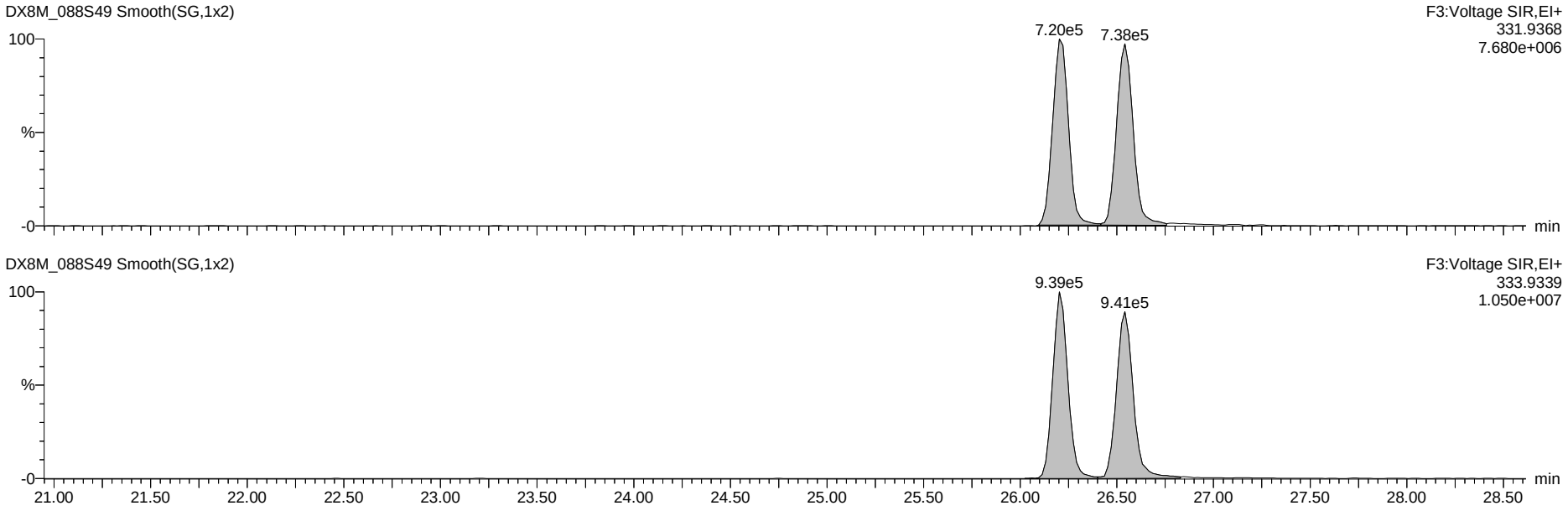
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



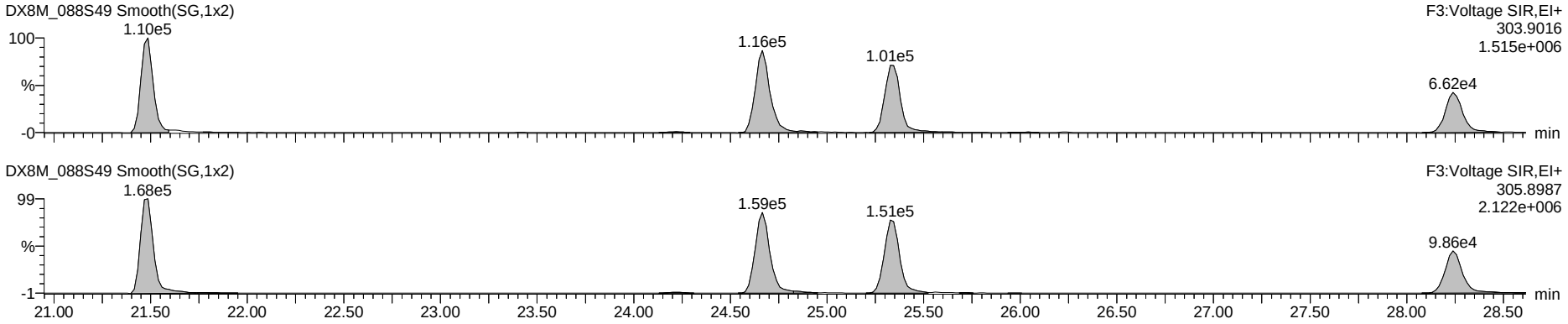
13C-Tetra-Dioxins



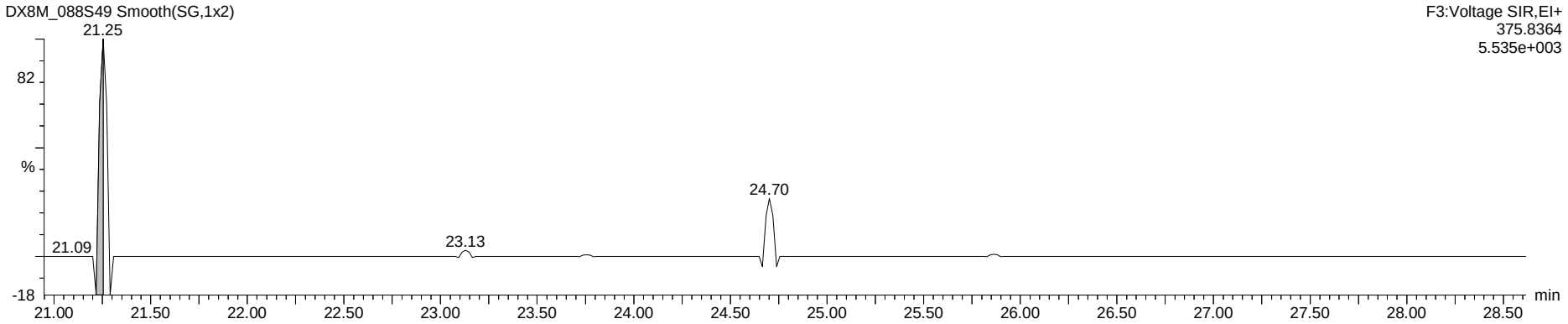
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

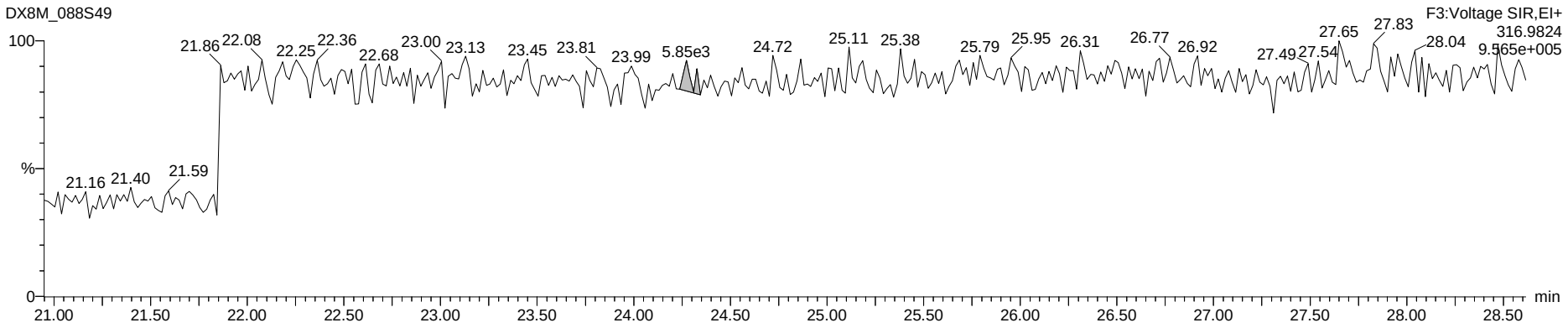
Total Tetra-Furans



Hexa DPE



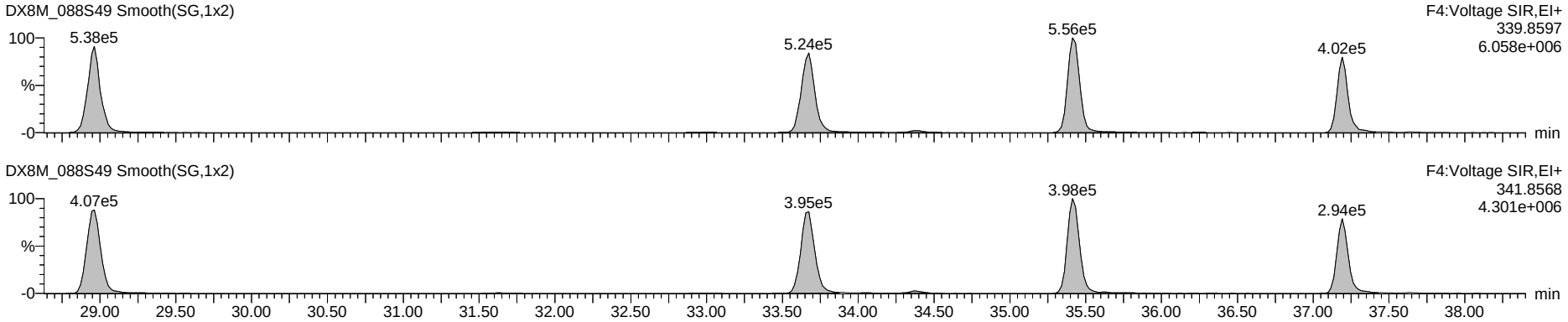
Tetra Lock



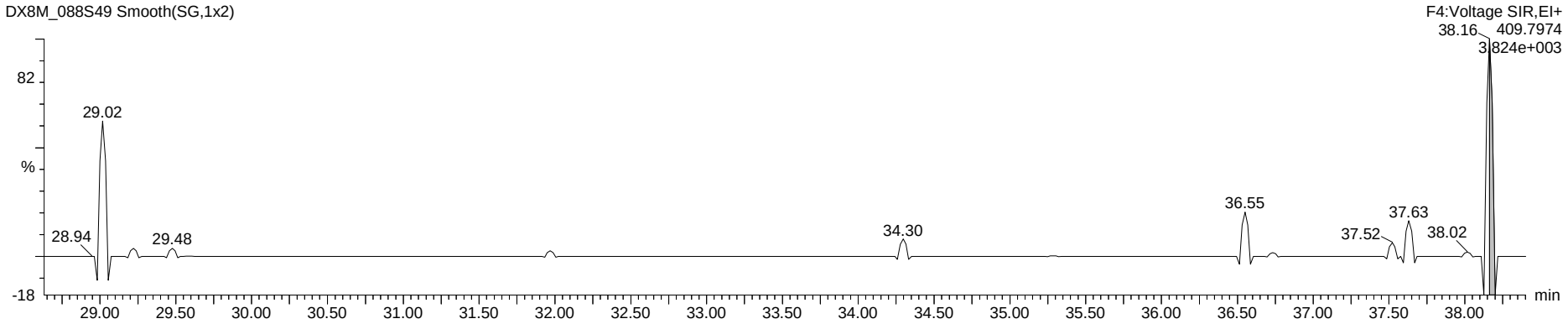
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

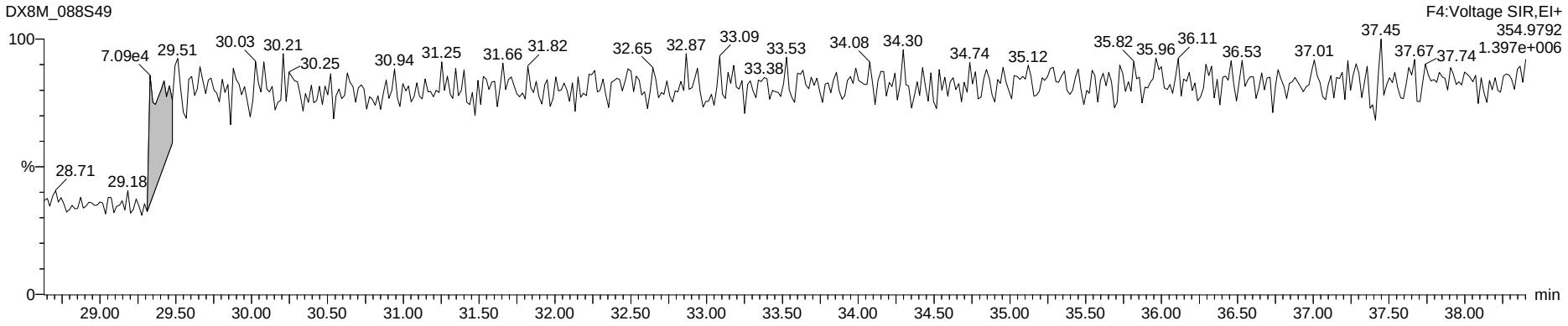
Total Penta-Furans



Hepta DPE



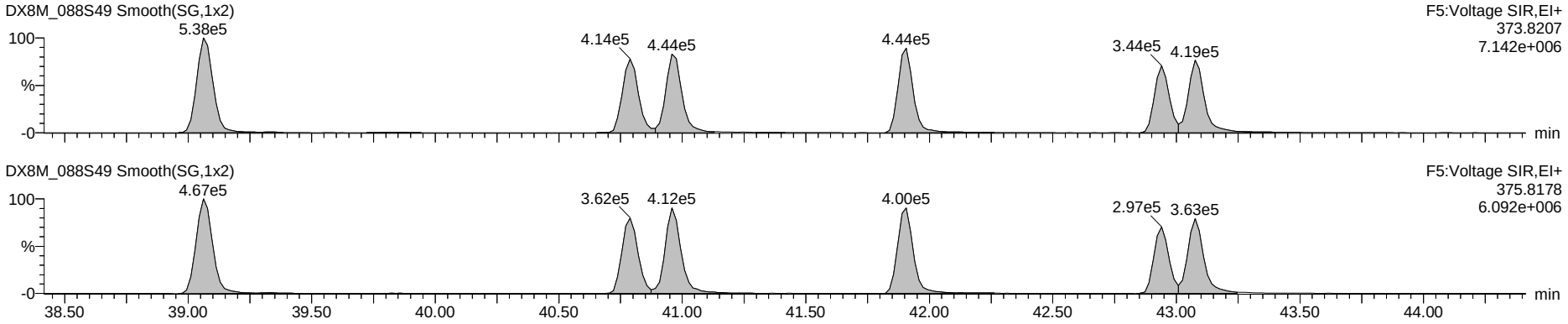
Penta Lock



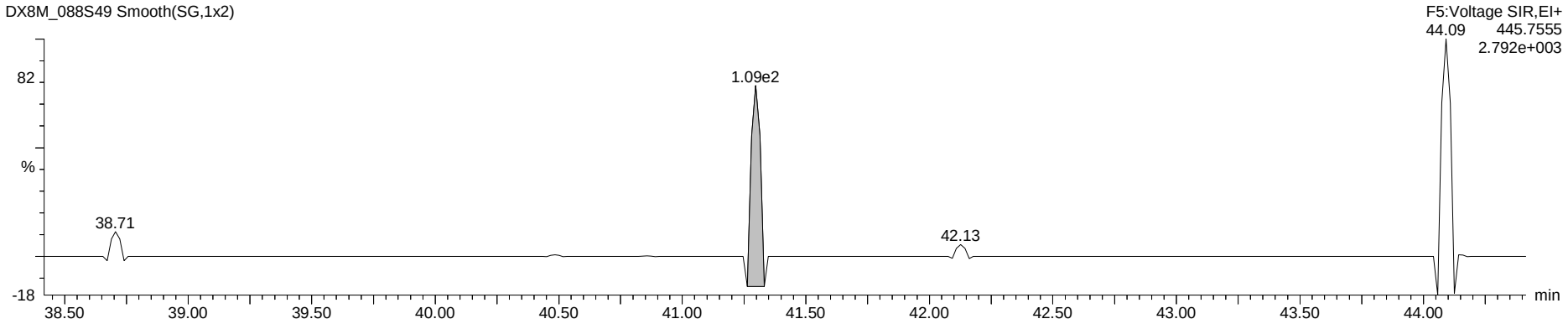
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

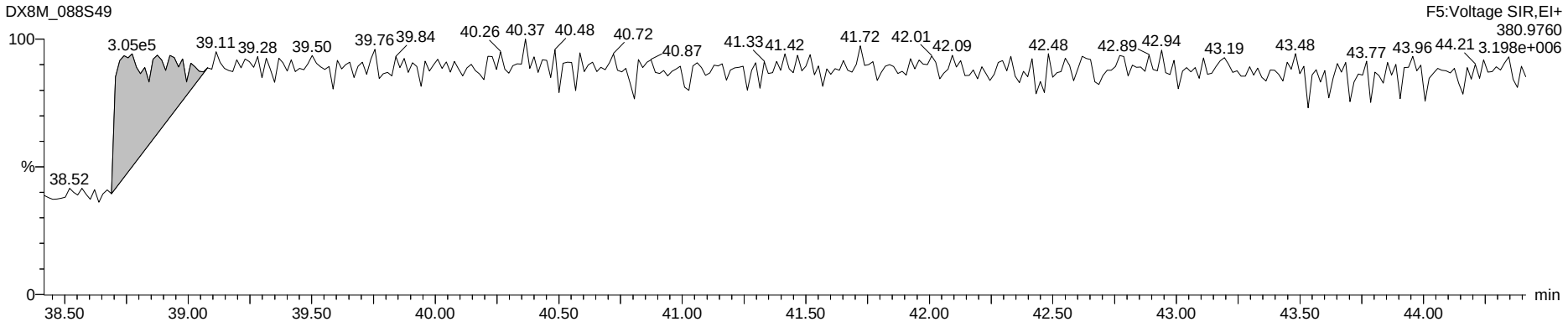
Total Hexa-Furans



Octa DPE



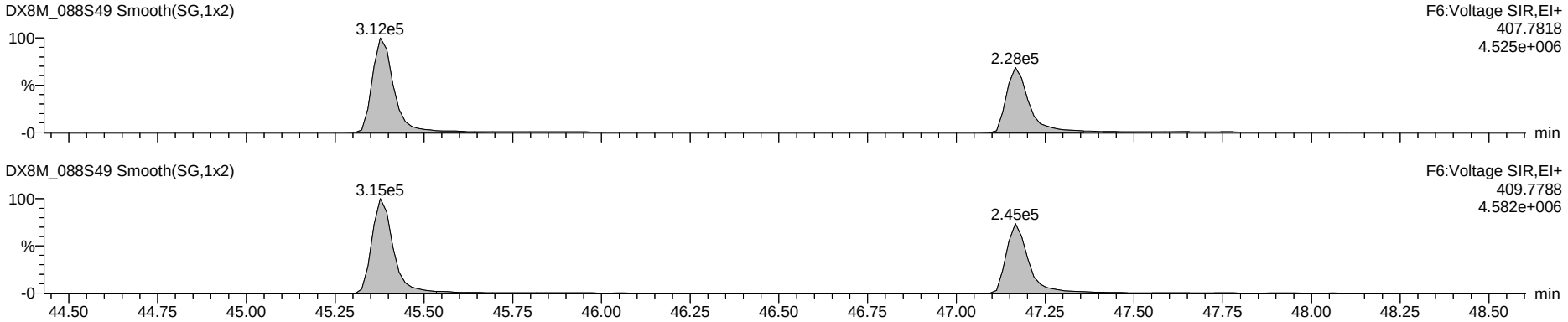
Hexa Lock



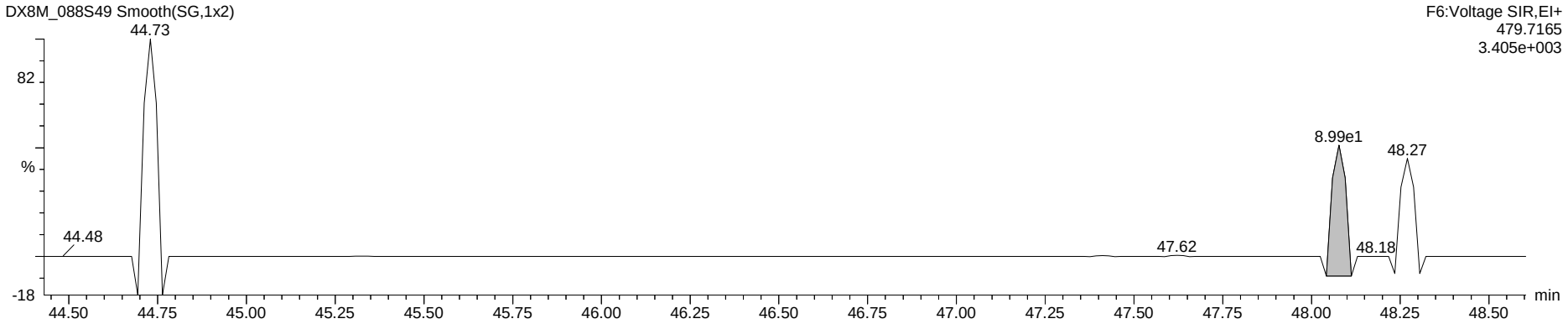
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

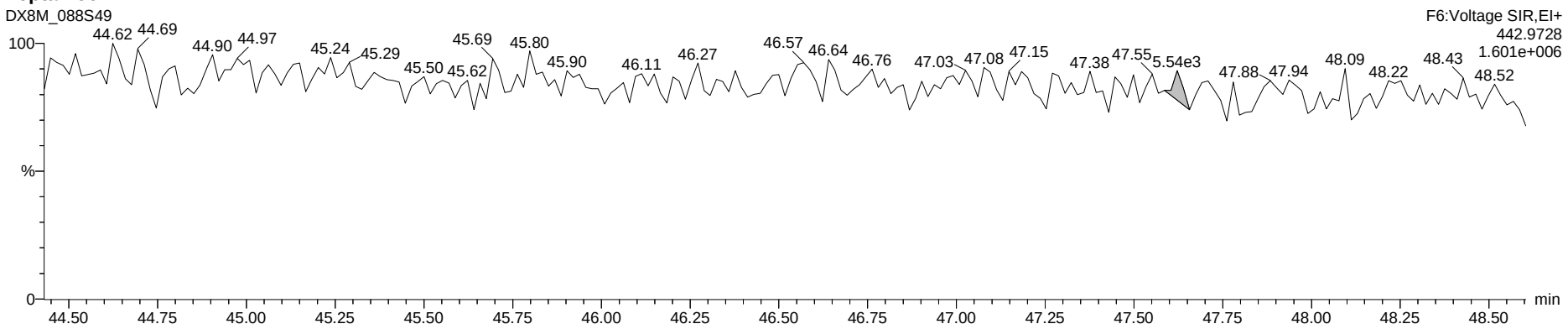
Total Hepta-Furans



Nona DPE



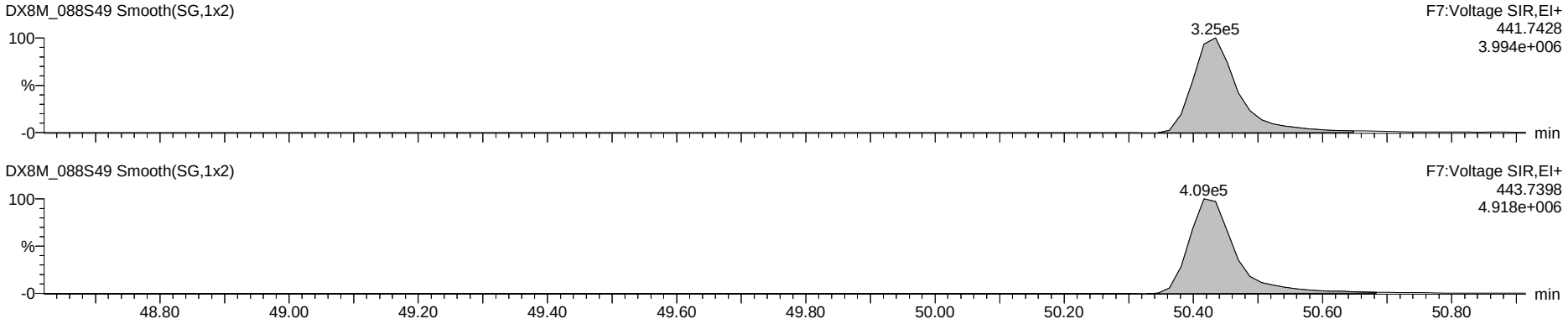
Hepta Lock



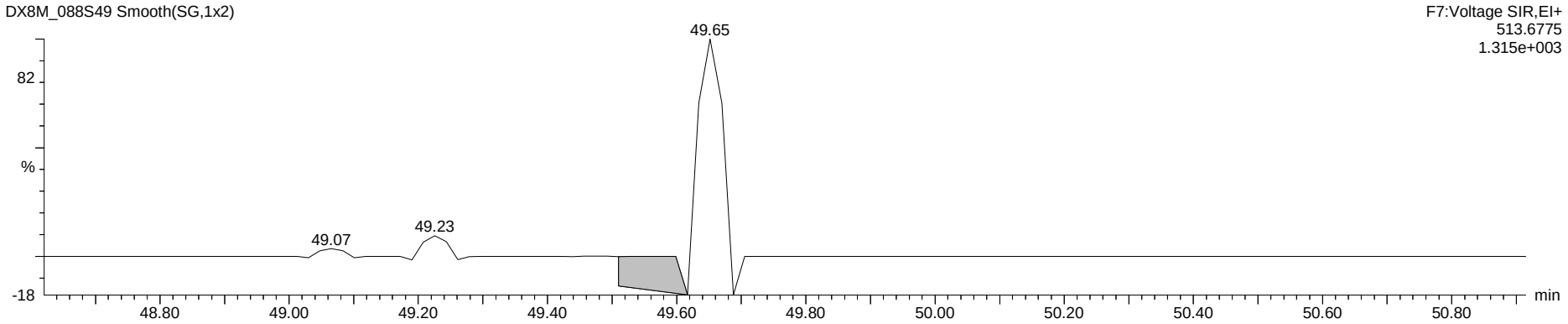
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_088-F.qld

Name: DX8M_088S49, Date: 26-Jul-2018, Time: 16:45:07, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

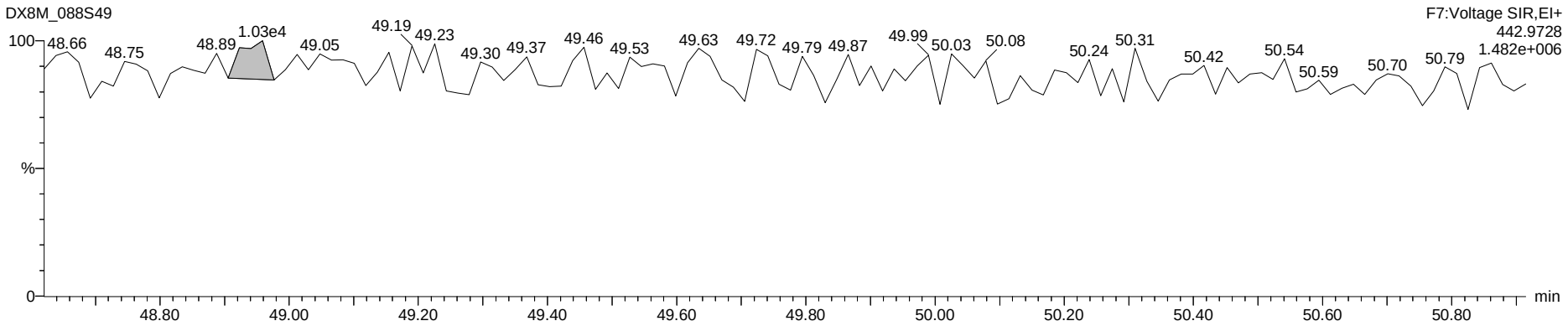
OCDF



Deca DPE



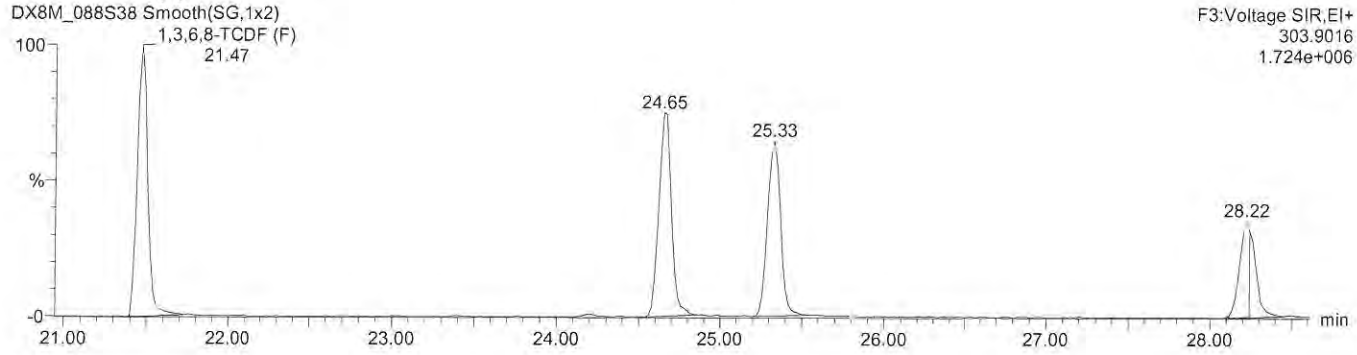
Octa Lock



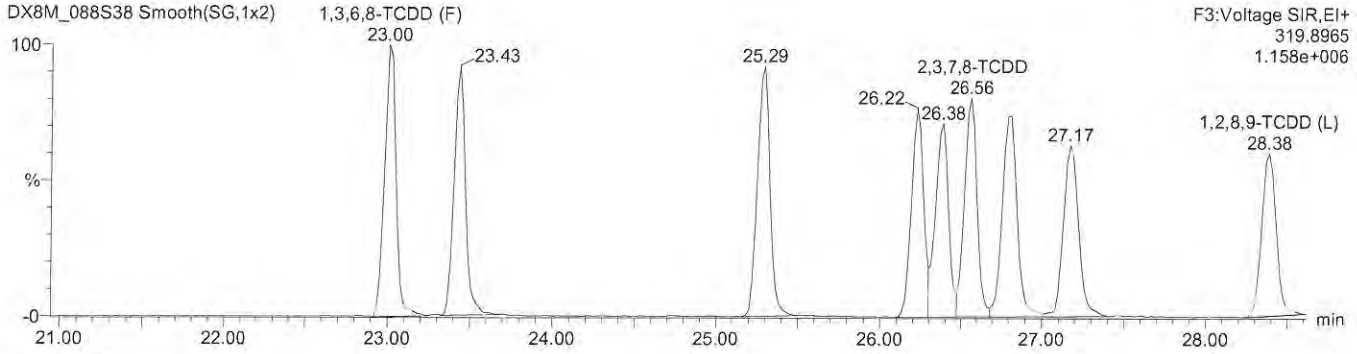
www.axysanalytical.com

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

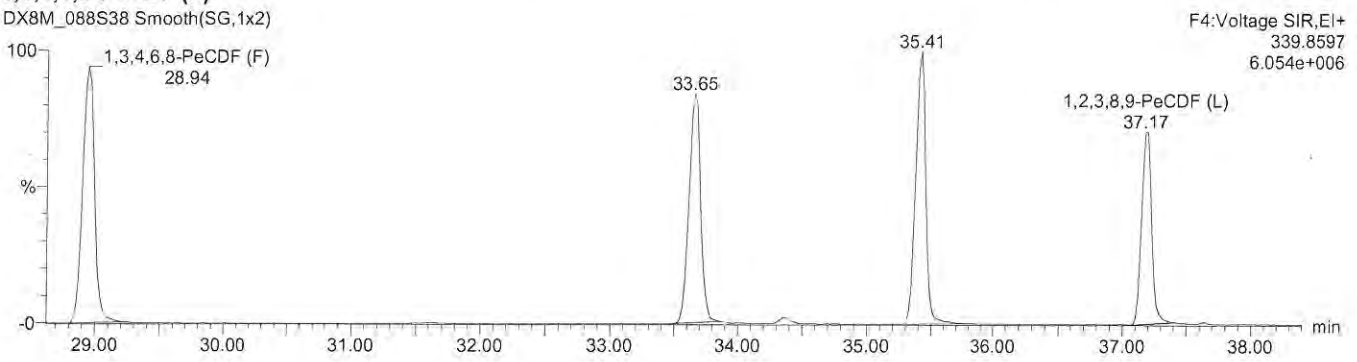
1,3,6,8-TCDF (F)



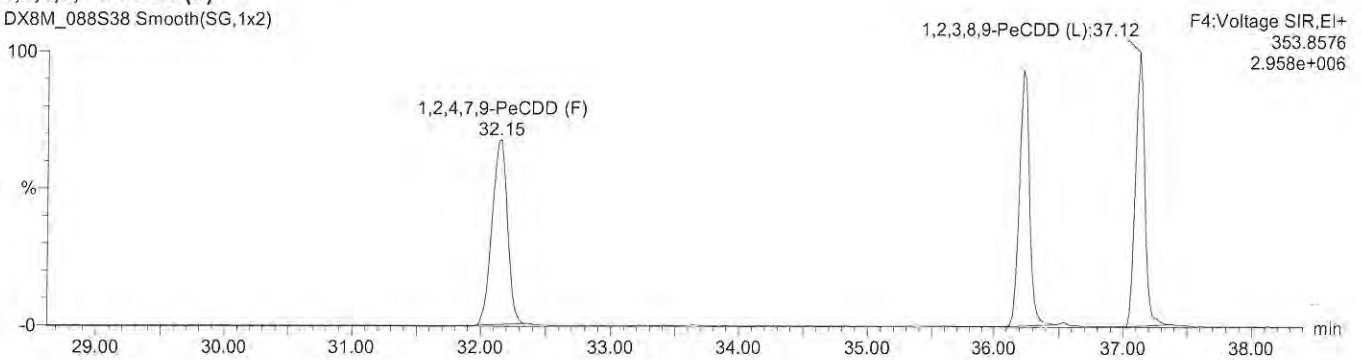
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



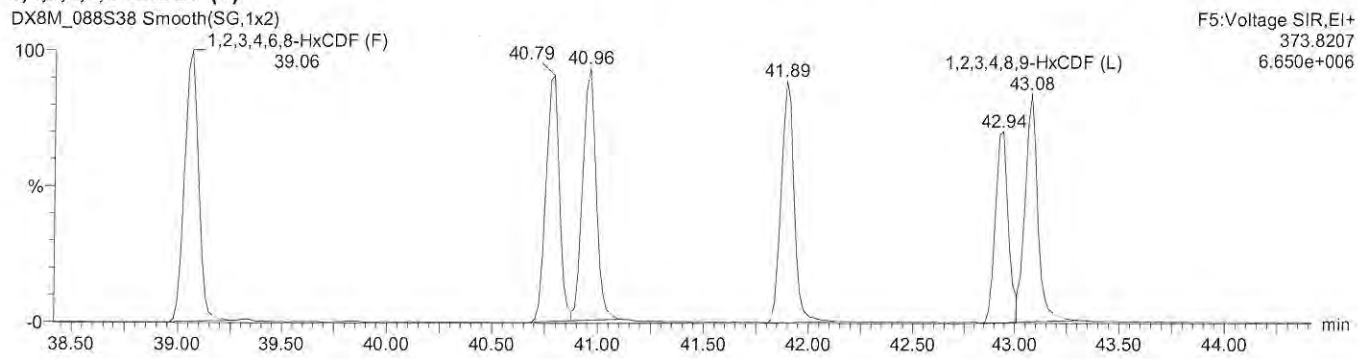
1,2,4,7,9-PeCDD (F)



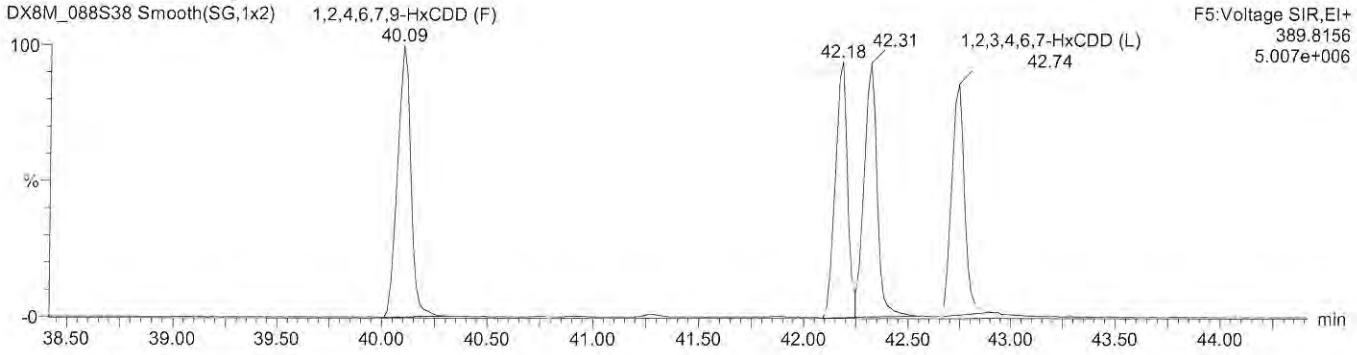
www.axysanalytical.com

Name: DX8M_088S38, Date: 26-Jul-2018, Time: 05:13:41, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

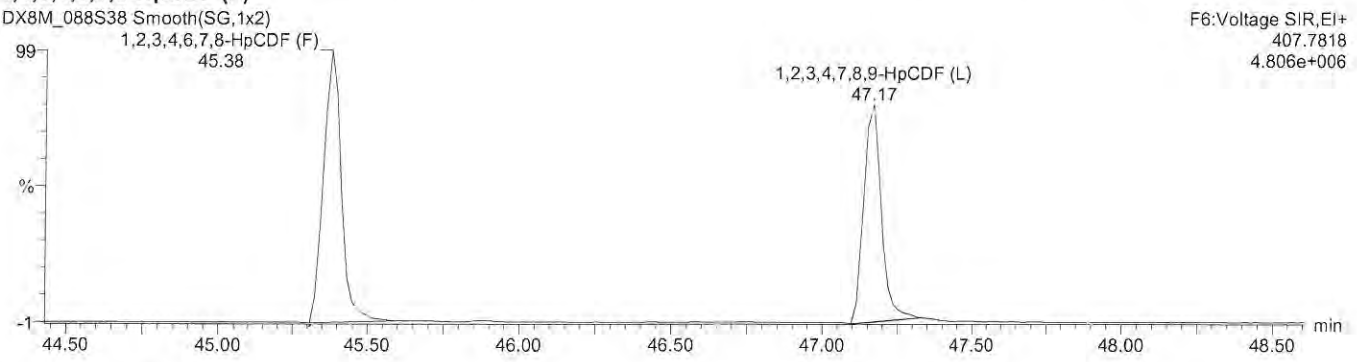
1,2,3,4,6,8-HxCDF (F)



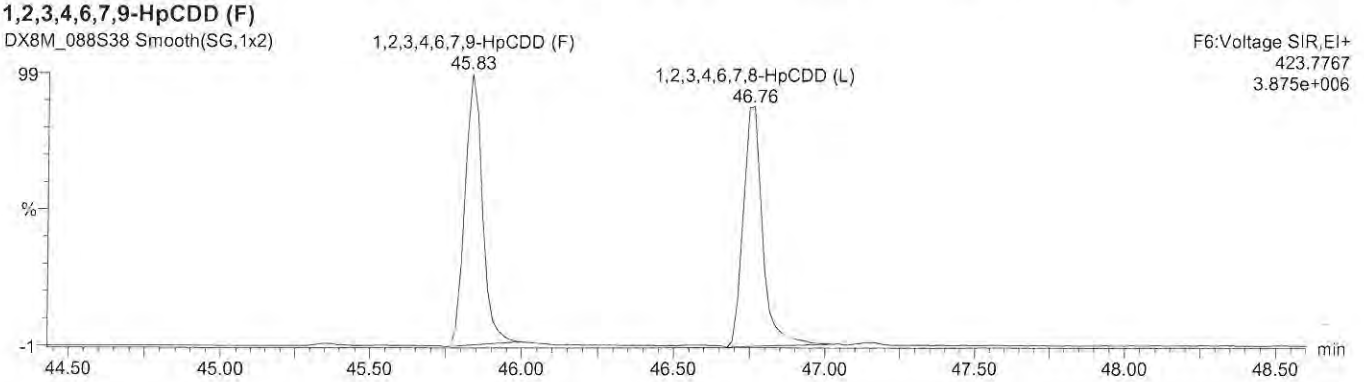
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



www.axysanalytical.com

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX8M_089S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	26-Jul-18	18:26:29
2	DX8M_089S2	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	19:34:50
3	DX8M_089S3	DX051A-SUR,,/01	1,,1.0uL Inst Blank	26-Jul-18	20:27:18
4	DX8M_089S4	L29626-4,,	1,WG64557,1.0/20uL	26-Jul-18	21:32:06
5	DX8M_089S5	L29626-5,,	1,WG64557,1.0/20uL	26-Jul-18	22:24:35
6	DX8M_089S6	L29626-6,,	1,WG64557,1.0/20uL	26-Jul-18	23:19:48
7	DX8M_089S7	L29626-7,,	1,WG64557,1.0/20uL	27-Jul-18	00:15:02
8	DX8M_089S8	L29626-8,,	1,WG64557,1.0/20uL	27-Jul-18	01:10:14
9	DX8M_089S9	L29626-9,,	1,WG64557,1.0/20uL	27-Jul-18	02:05:28
10	DX8M_089S10	WG64557-104,,CRM	1,WG64557,1.0/20uL	27-Jul-18	03:00:41
11	DX8M_089S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	27-Jul-18	03:55:54

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	2.15e5	0.74	NO	25.36	10.897	0.0495	109.0	2.42e3	1.75e3
2	1,2,3,7,8-PeCDF	1.000	8.77e5	1.47	NO	33.69	51.856	0.1065	103.7	3.75e3	2.75e3
3	2,3,4,7,8-PeCDF	1.000	8.84e5	1.48	NO	35.43	50.321	0.0866	100.6	3.75e3	2.75e3
4	1,2,3,4,7,8-HxCDF	1.000	7.87e5	1.23	NO	40.79	51.896	0.0660	103.8	2.57e3	2.91e3
5	1,2,3,6,7,8-HxCDF	1.000	8.24e5	1.23	NO	40.96	49.942	0.0628	99.9	2.57e3	2.91e3
6	2,3,4,6,7,8-HxCDF	1.000	8.04e5	1.18	NO	41.91	52.233	0.0674	104.5	2.57e3	2.91e3
7	1,2,3,7,8,9-HxCDF	1.000	5.64e5	1.22	NO	42.94	46.413	0.0875	92.8	2.57e3	2.91e3
8	1,2,3,4,6,7,8-HpCDF	1.000	6.67e5	1.02	NO	45.38	53.259	0.0733	106.5	1.96e3	3.24e3
9	1,2,3,4,7,8,9-HpCDF	1.000	5.74e5	1.02	NO	47.17	54.886	0.0892	109.8	1.96e3	3.24e3
10	OCDF	1.000	7.70e5	0.84	NO	50.42	100.025	0.1207	100.0	3.02e3	1.79e3
11	2,3,7,8-TCDD	1.000	1.71e5	0.78	NO	26.60	10.320	0.0663	103.2	2.00e3	2.68e3
12	1,2,3,7,8-PeCDD	1.000	5.98e5	0.62	NO	36.26	53.557	0.1309	107.1	4.17e3	2.36e3
13	1,2,3,4,7,8-HxCDD	1.000	5.47e5	1.17	NO	42.18	49.795	0.0707	99.6	2.67e3	1.97e3
14	1,2,3,6,7,8-HxCDD	1.000	5.93e5	1.16	NO	42.31	50.364	0.0734	100.7	2.67e3	1.97e3
15	1,2,3,7,8,9-HxCDD	1.000	5.55e5	1.20	NO	42.74	48.521	0.0717	97.0	2.67e3	1.97e3
16	1,2,3,4,6,7,8-HpCDD	1.000	4.29e5	1.10	NO	46.76	55.801	0.0946	111.6	1.56e3	2.58e3
17	OCDD	1.000	6.67e5	0.89	NO	50.35	104.399	0.4000	104.4	4.10e3	9.14e3
18	13C-2,3,7,8-TCDF	1.000	2.16e6	0.70	NO	25.33	88.743	0.1588	88.7	1.10e4	5.09e3
19	13C-1,2,3,7,8-PeCDF	1.000	1.83e6	1.39	NO	33.65	104.450	0.1904	104.5	5.11e3	8.76e3
20	13C-2,3,4,7,8-PeCDF	1.000	1.87e6	1.42	NO	35.40	110.543	0.1973	110.5	5.11e3	8.76e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	1.36e6	0.51	NO	40.77	92.629	0.2091	92.6	9.04e3	6.68e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	1.55e6	0.52	NO	40.94	99.175	0.1958	99.2	9.04e3	6.68e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	1.35e6	0.53	NO	41.89	96.475	0.2191	96.5	9.04e3	6.68e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.22e6	0.52	NO	42.92	88.107	0.2221	88.1	9.04e3	6.68e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.02e6	0.44	NO	45.36	87.501	0.1268	87.5	4.85e3	2.76e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	8.35e5	0.43	NO	47.15	91.519	0.1626	91.5	4.85e3	2.76e3
27	13C-2,3,7,8-TCDD	1.000	1.49e6	0.80	NO	26.56	98.640	0.1584	98.6	4.48e3	5.48e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.09e6	0.69	NO	36.22	109.587	0.1494	109.6	4.78e3	1.37e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.10e6	1.27	NO	42.16	96.915	0.2162	96.9	7.75e3	4.78e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	1.26e6	1.22	NO	42.30	105.387	0.2044	105.4	7.75e3	4.78e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	7.72e5	0.95	NO	46.74	82.581	0.1714	82.6	2.32e3	5.89e3
32	13C-OCDD	1.000	1.25e6	0.87	NO	50.33	152.675		76.3	0.00e0	0.00e0
33	13C-1,2,3,4-TCDD	1.000	1.51e6	0.76	NO	26.22	66.677	0.1061	66.7	4.48e3	5.48e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.15e6	1.27	NO	42.72	80.438	0.1711	80.4	7.75e3	4.78e3
35	37Cl-2,3,7,8-TCDD	1.000	1.38e5			26.60	8.223	0.1490	82.2		1.04e4
36	Total Tetra-Furans	1.000					45.144	0.0495			1.75e3
37	Total Tetra-Dioxins	1.000					89.812	0.0663			2.68e3
38	Total Penta-Furans	1.000					199.462	0.0972			2.75e3
39	Total Penta-Dioxins	1.000					159.524	0.1309			2.36e3
40	Total Hexa-Furans	1.000					310.667	0.0677			2.91e3
41	Total Hexa-Dioxins	1.000					205.916	0.0694			1.97e3
42	Total Hepta-Furans	1.000					109.004	0.0814			3.24e3
43	Total Hepta-Dioxins	1.000					118.015	0.0946			2.58e3
44	Hexa DPE	1.000	8.65e0			22.11					8.02e-2
45	Hepta DPE	1.000	4.54e2			37.63					0.00e0
46	Octa DPE	1.000	7.01e1			38.57					1.86e-1
47	Nona DPE	1.000	2.98e1			47.83					0.00e0
48	Deca DPE	1.000	4.52e1			49.76					0.00e0
49	Tetra Lock	1.000	1.18e3			24.59					1.22e5
50	Penta Lock	1.000	8.37e3			29.00					1.75e5
51	Hexa Lock	1.000	5.68e4			39.01					4.29e5

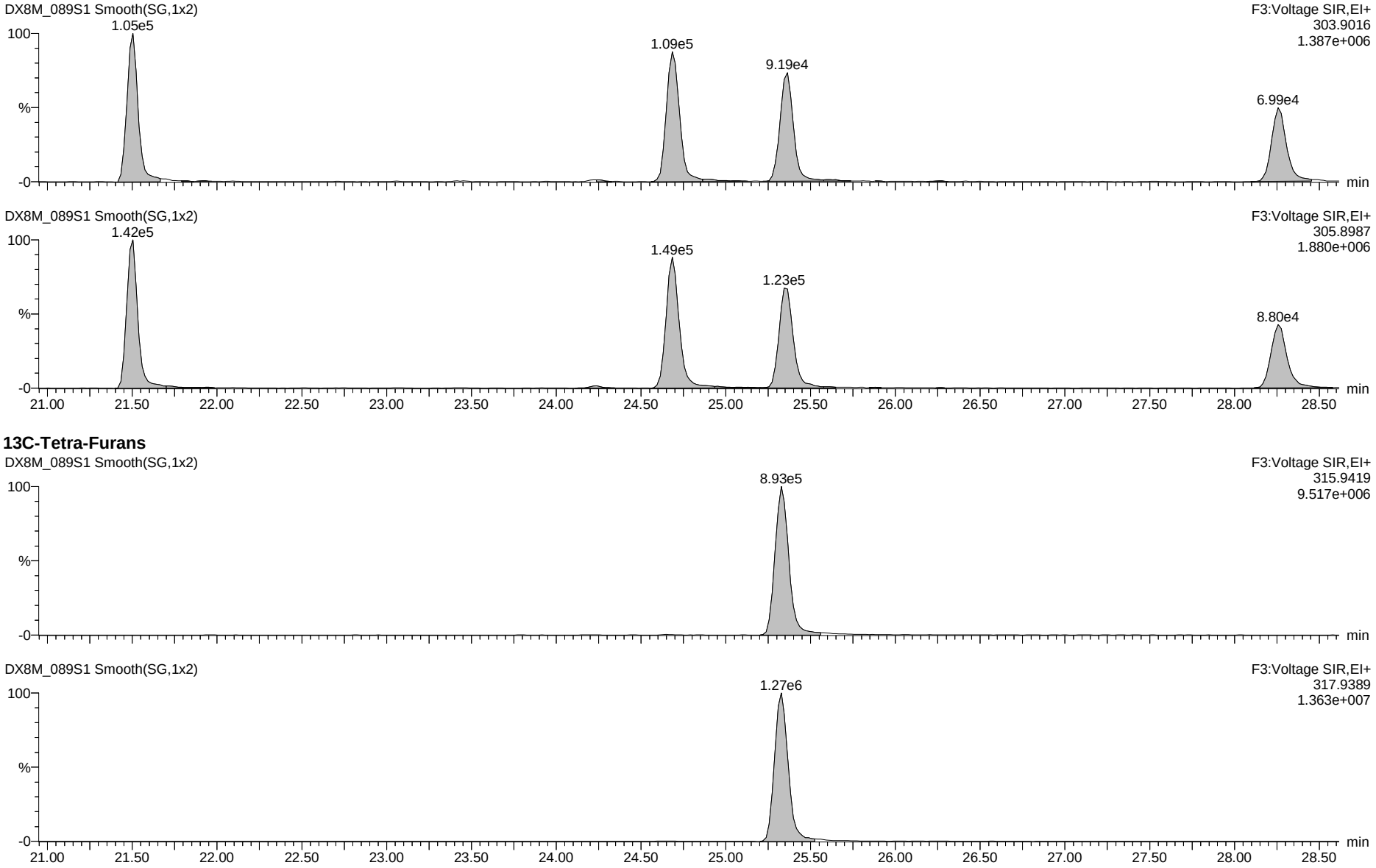
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans

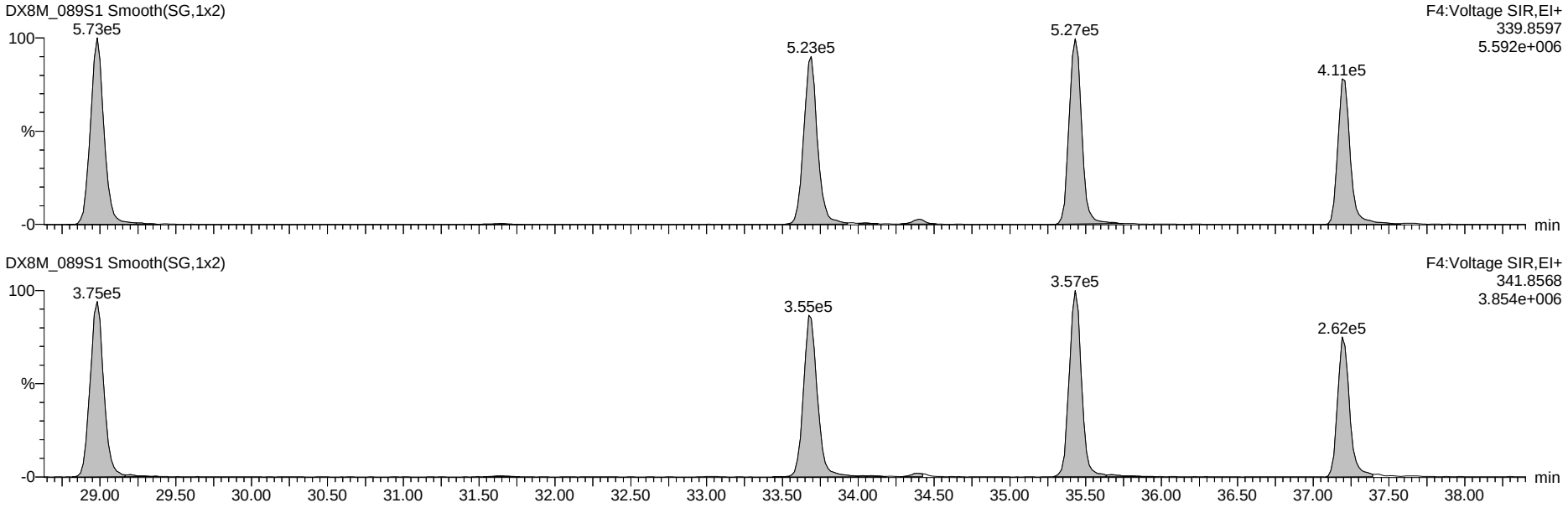


13C-Tetra-Furans

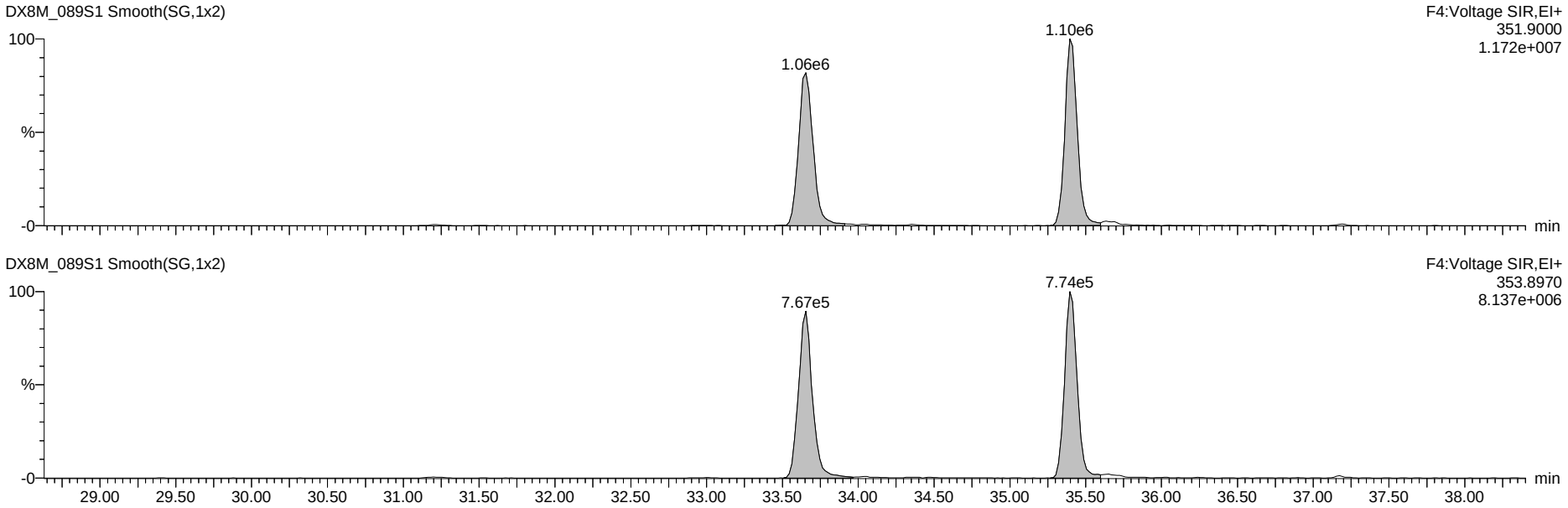
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



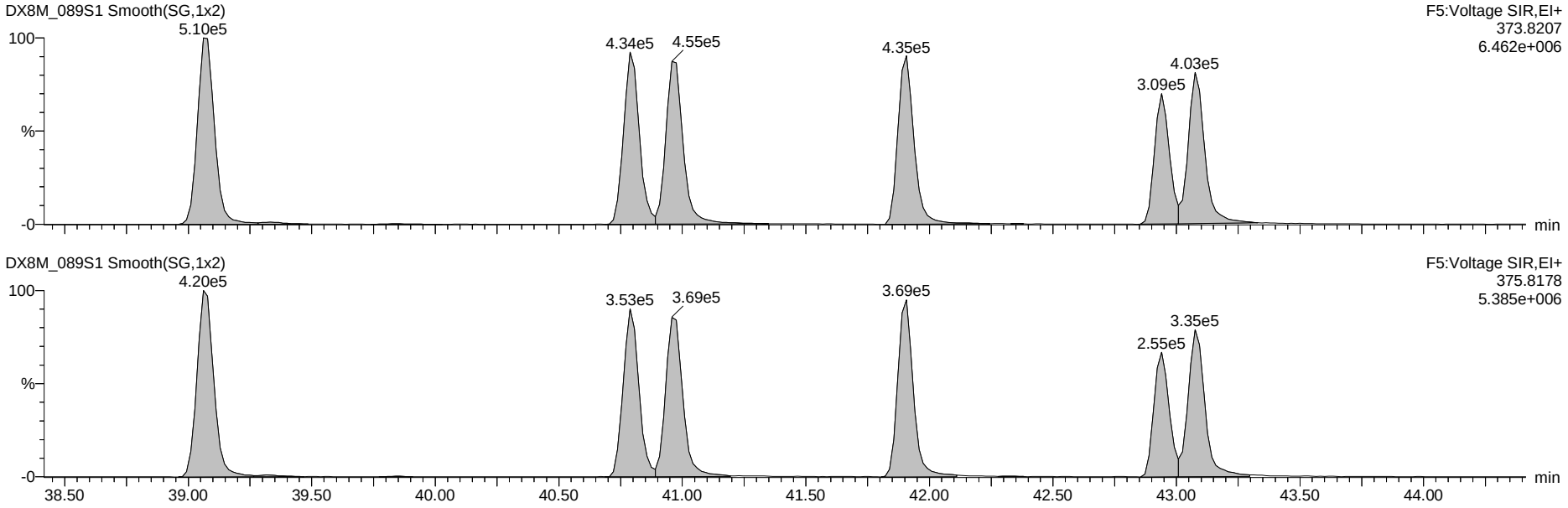
13C-Penta-Furans



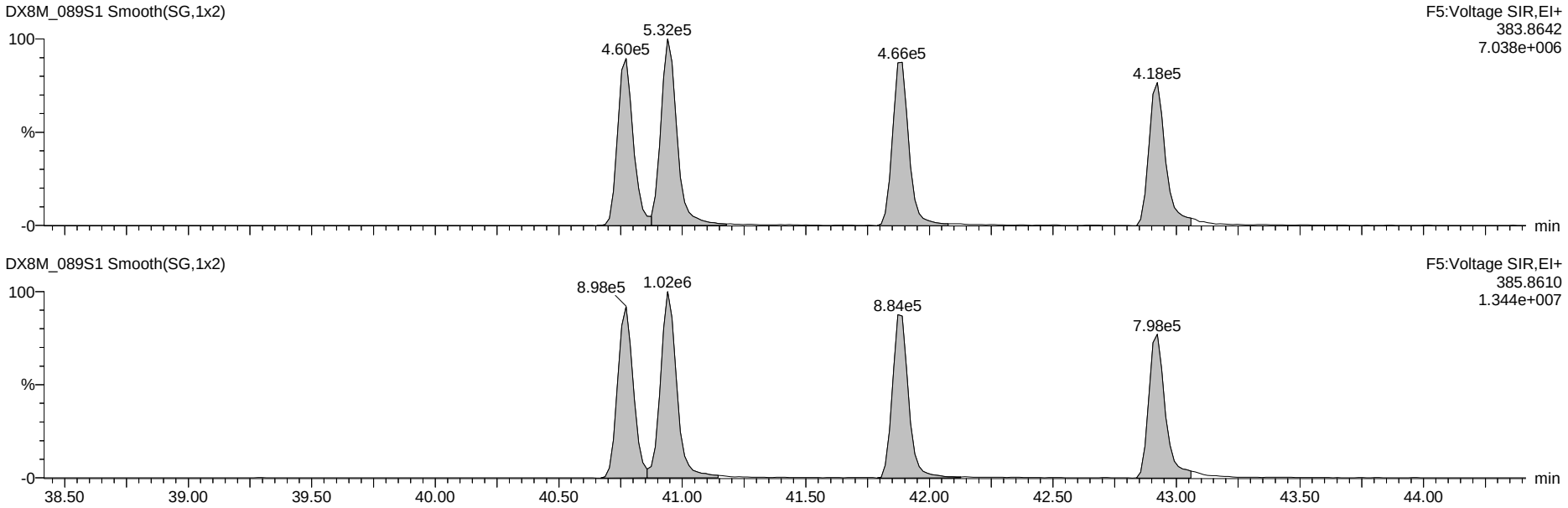
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



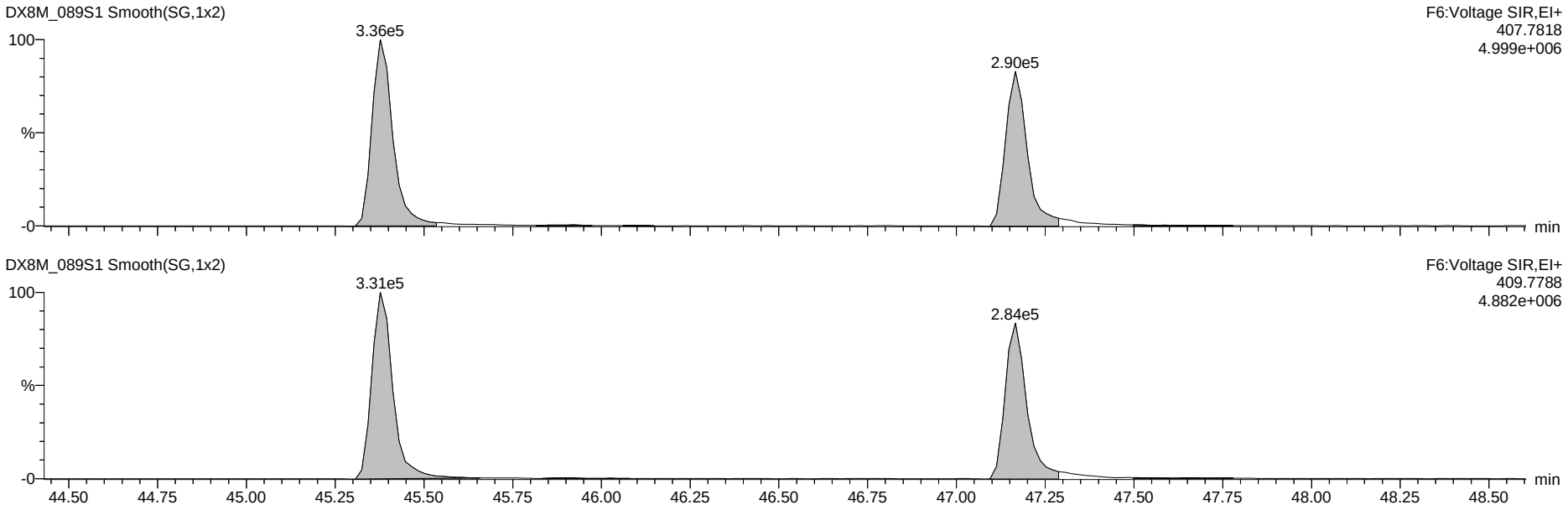
13C-Hexa-Furans



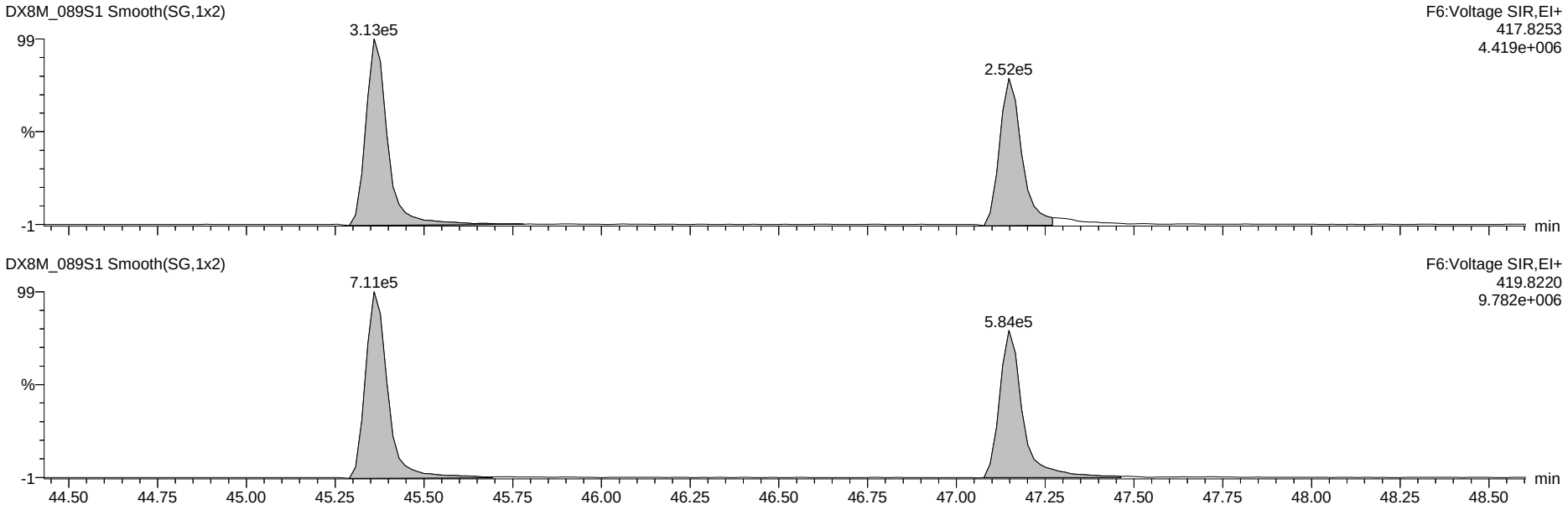
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



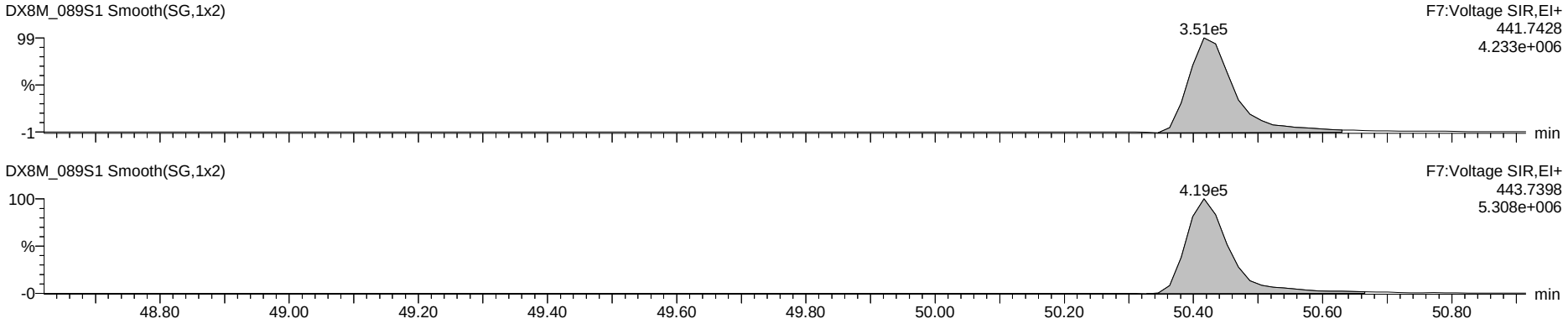
13C-Hepta-Furans



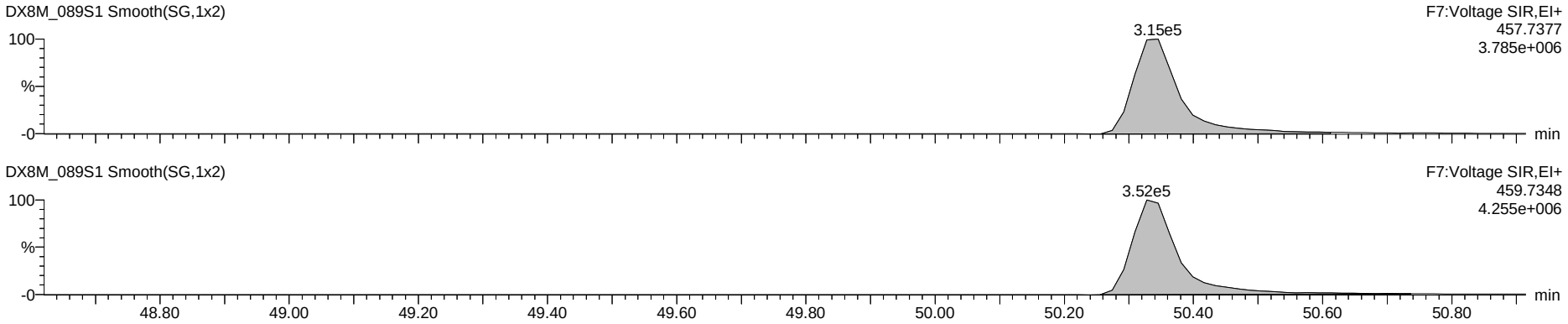
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

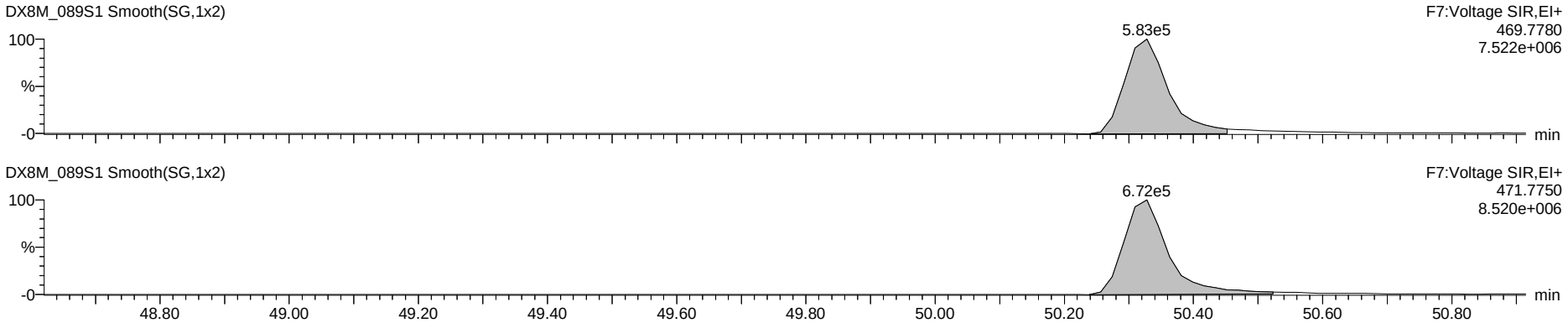
OCDF



OCDD



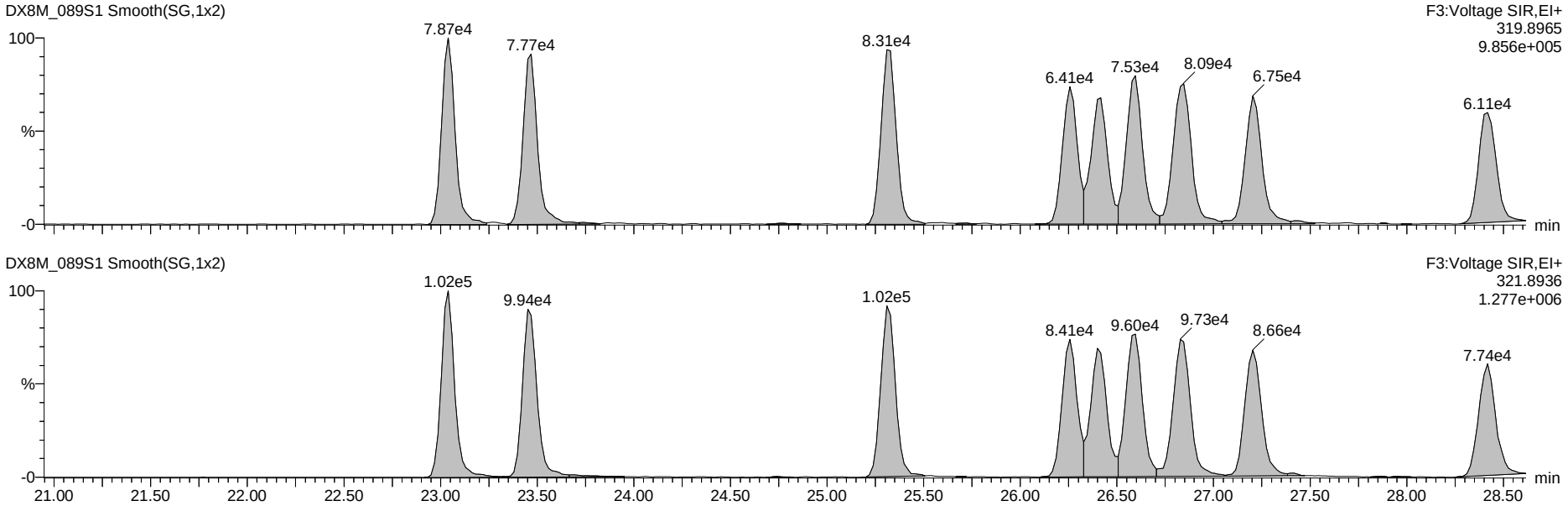
13C-OCDD



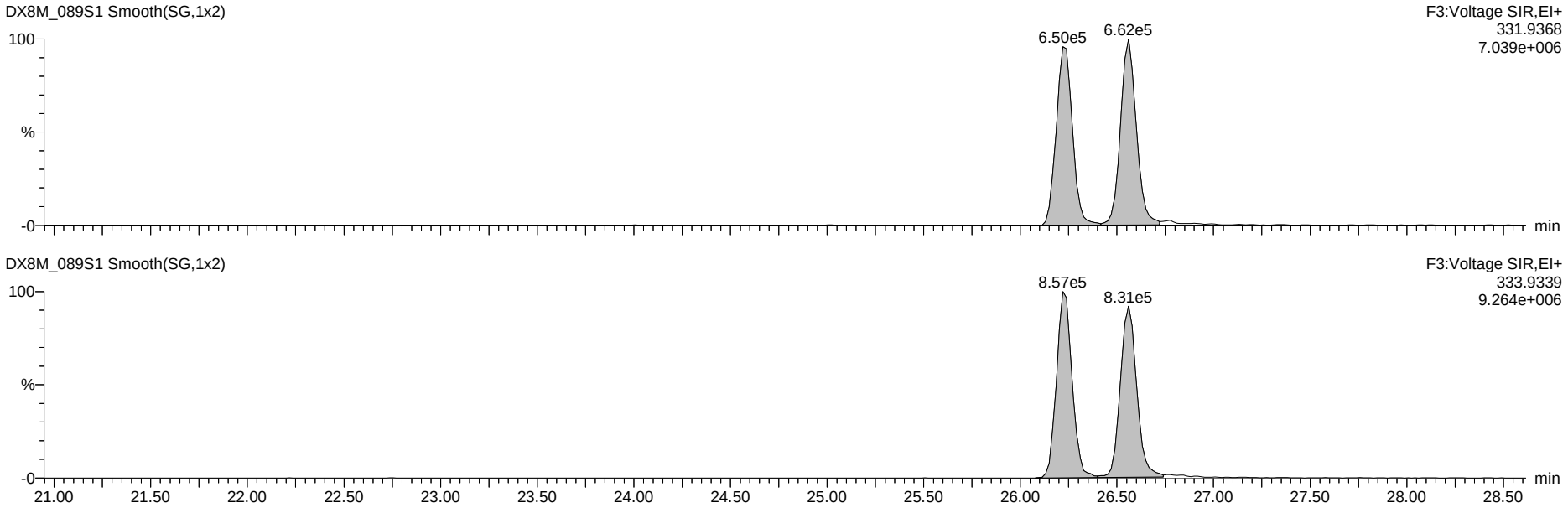
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



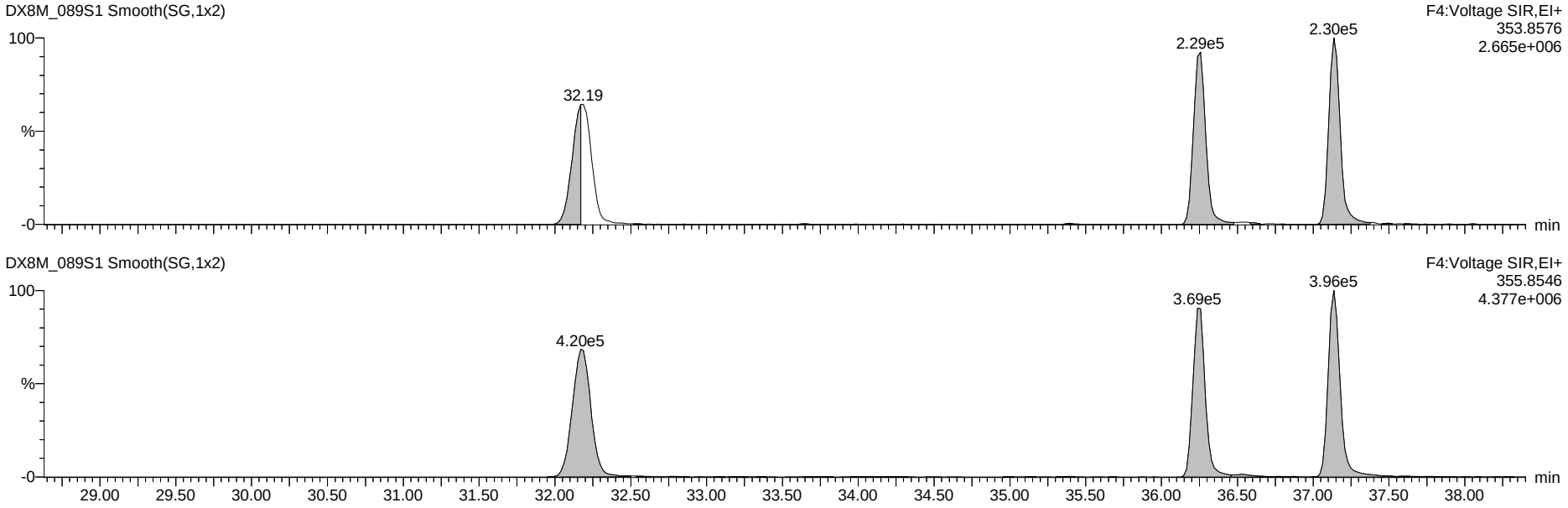
13C-Tetra-Dioxins



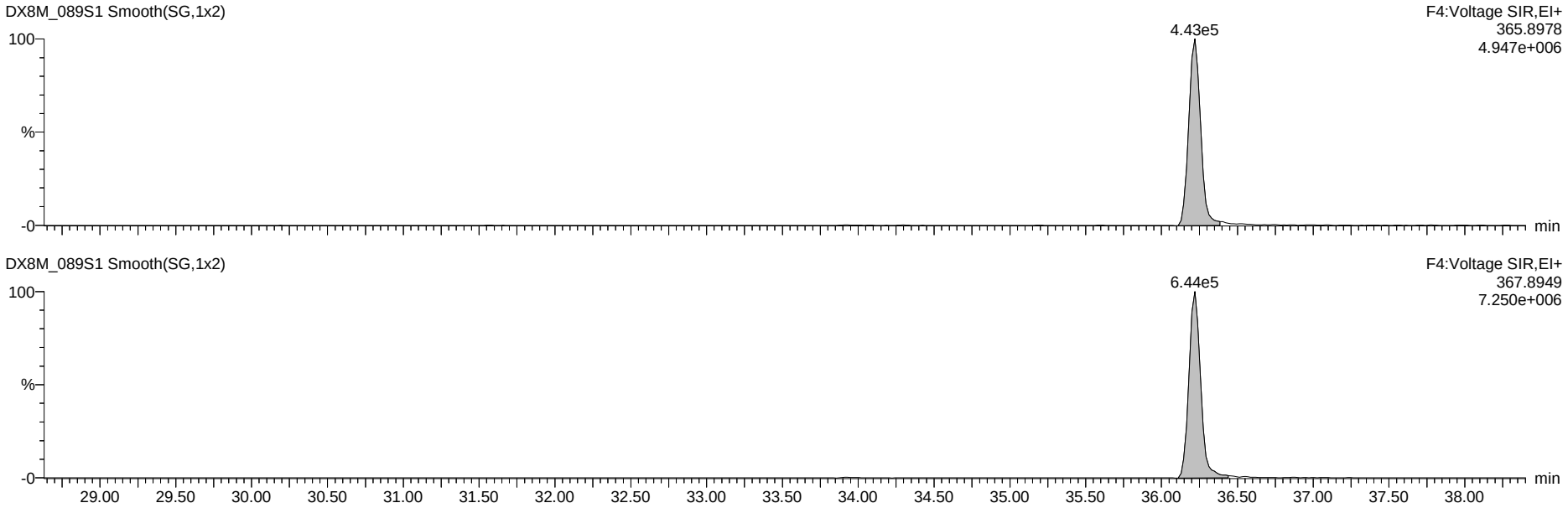
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



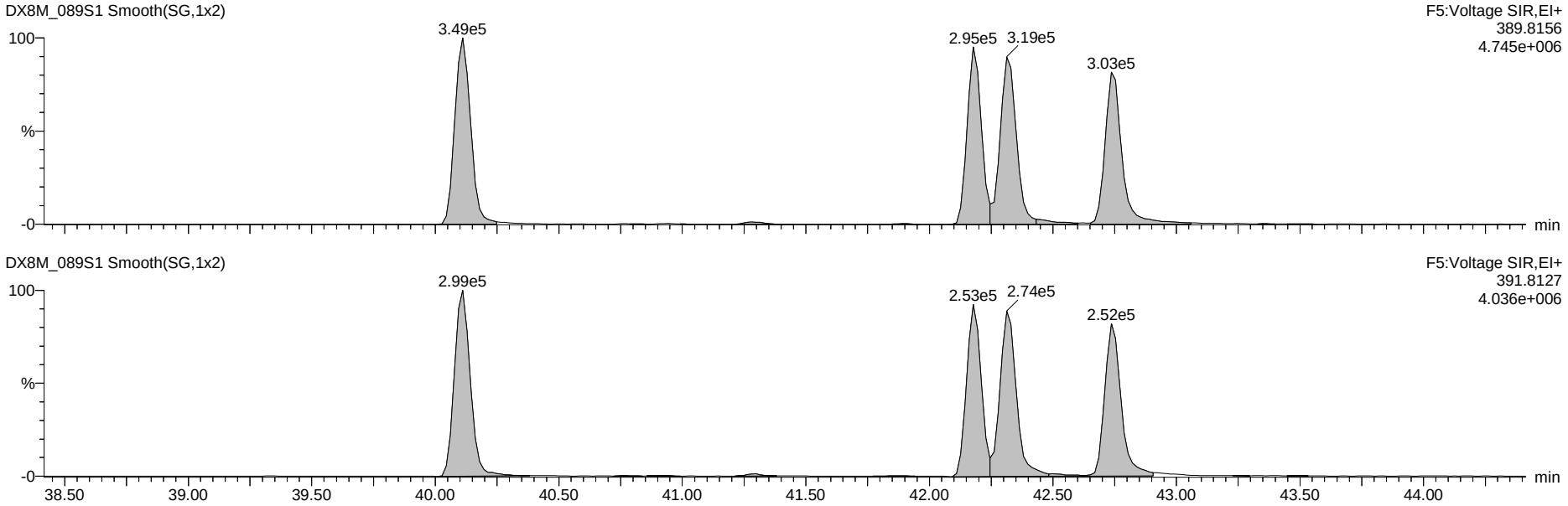
13C-Penta-Dioxins



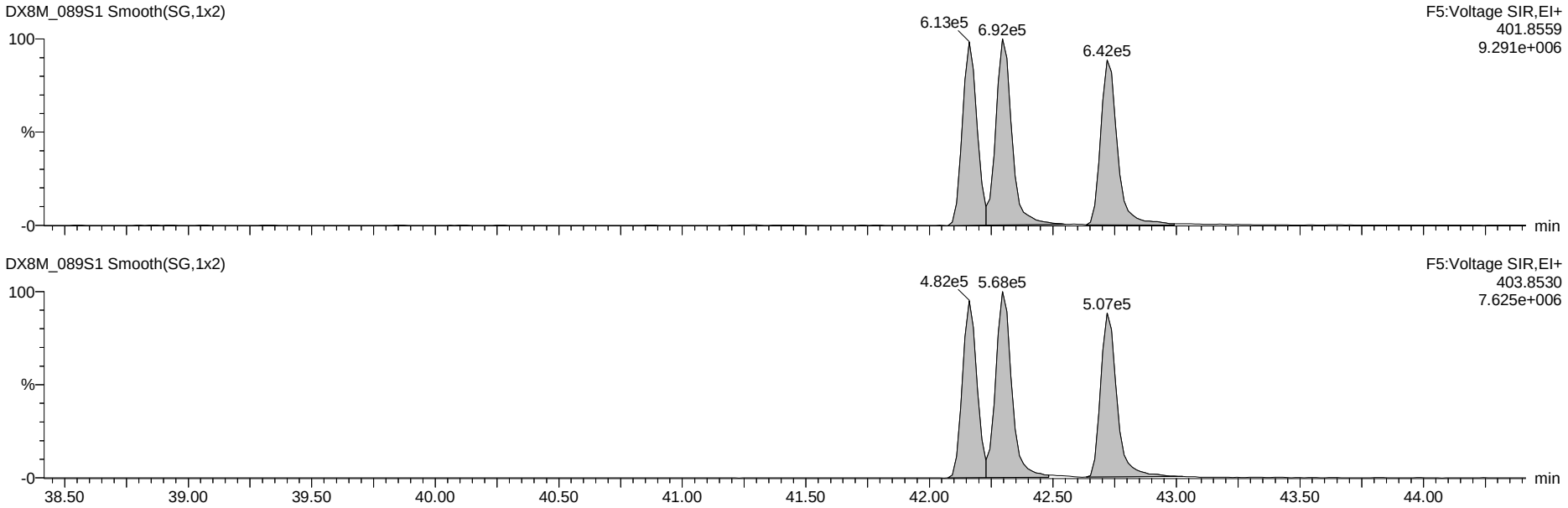
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



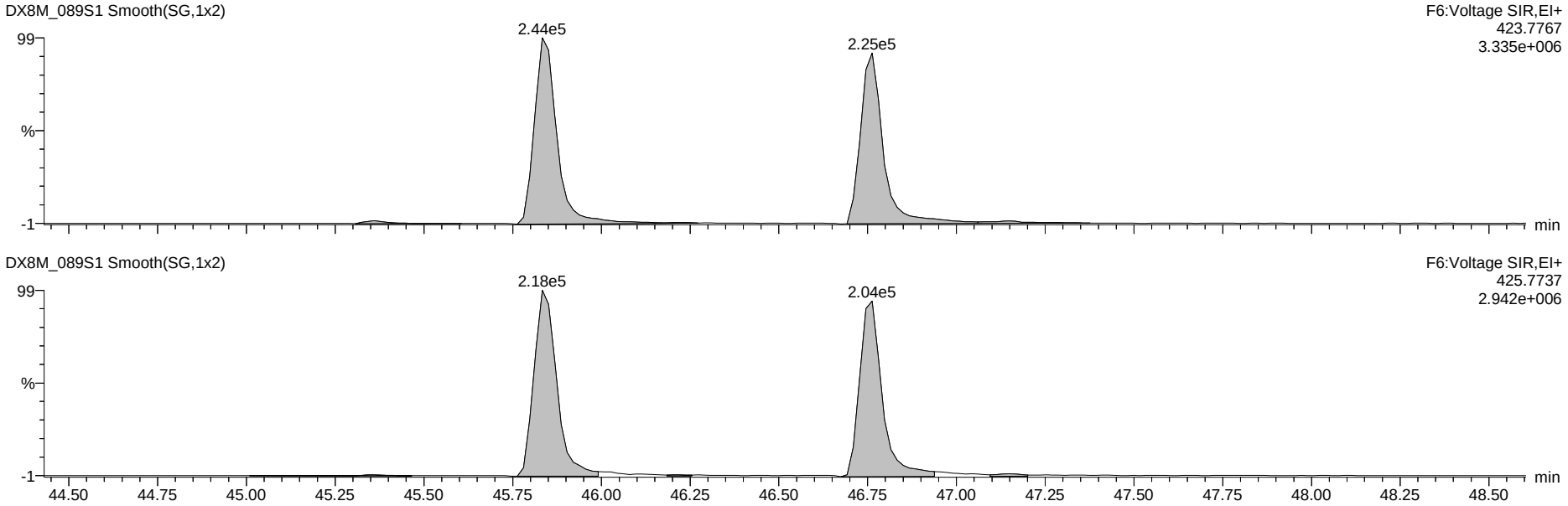
13C-Hexa-Dioxins



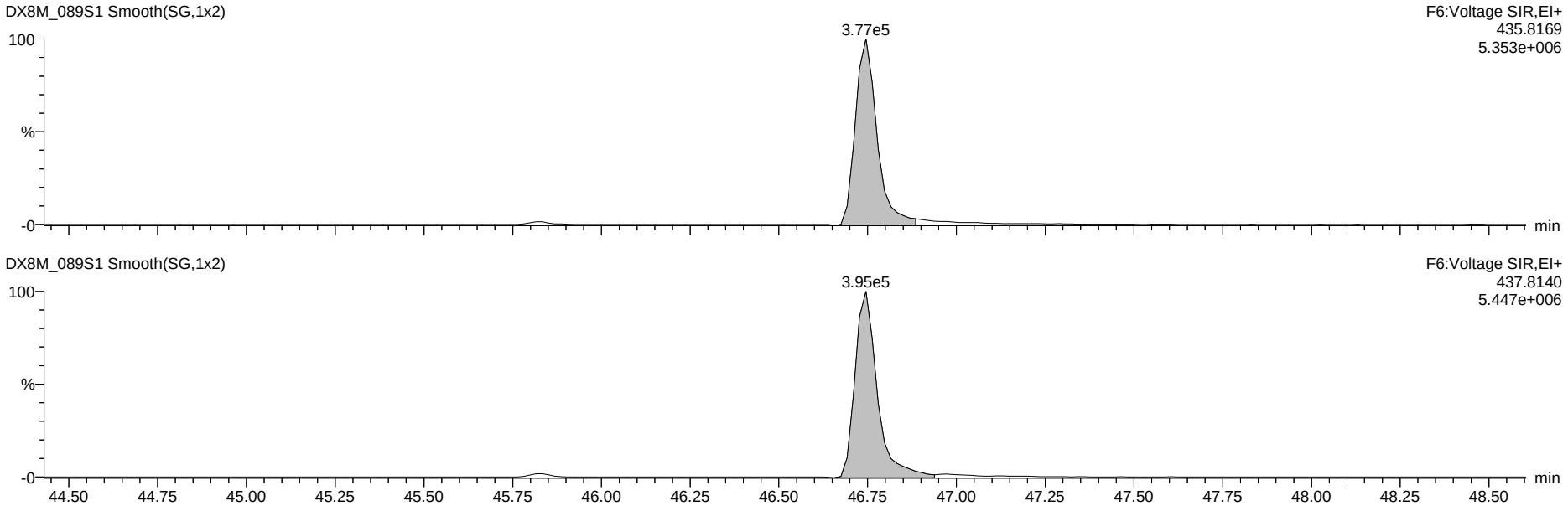
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



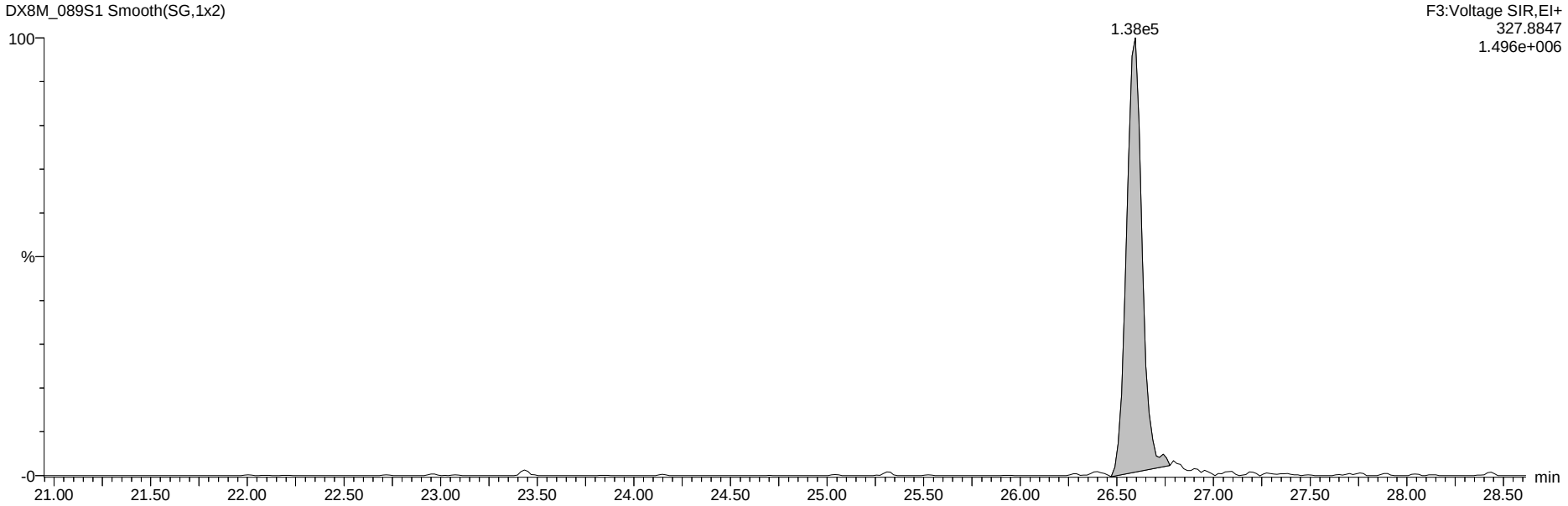
13C-Hepta-Dioxins



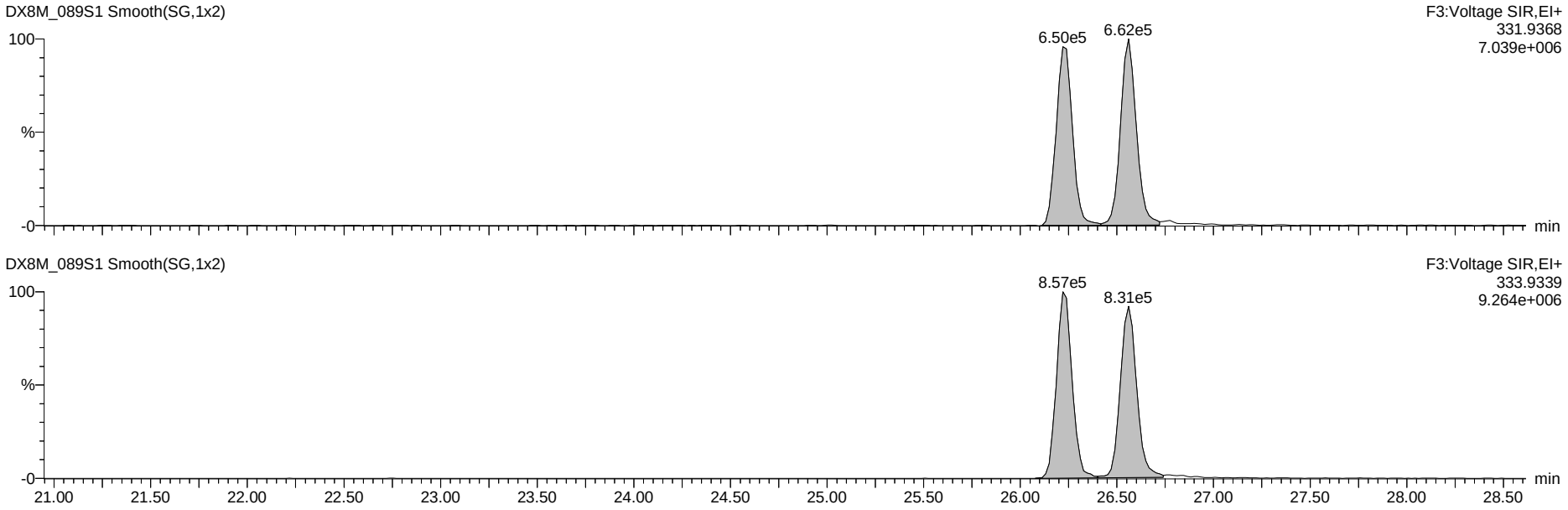
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



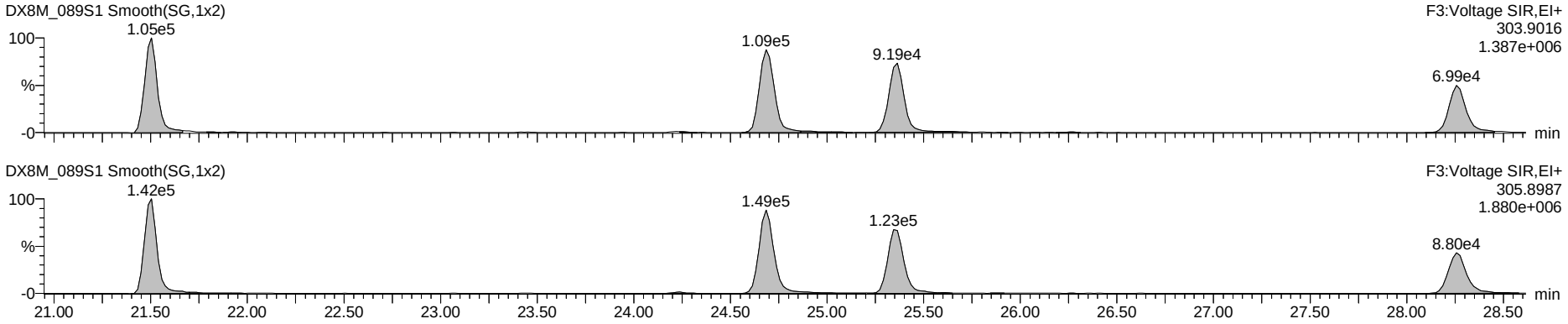
13C-Tetra-Dioxins



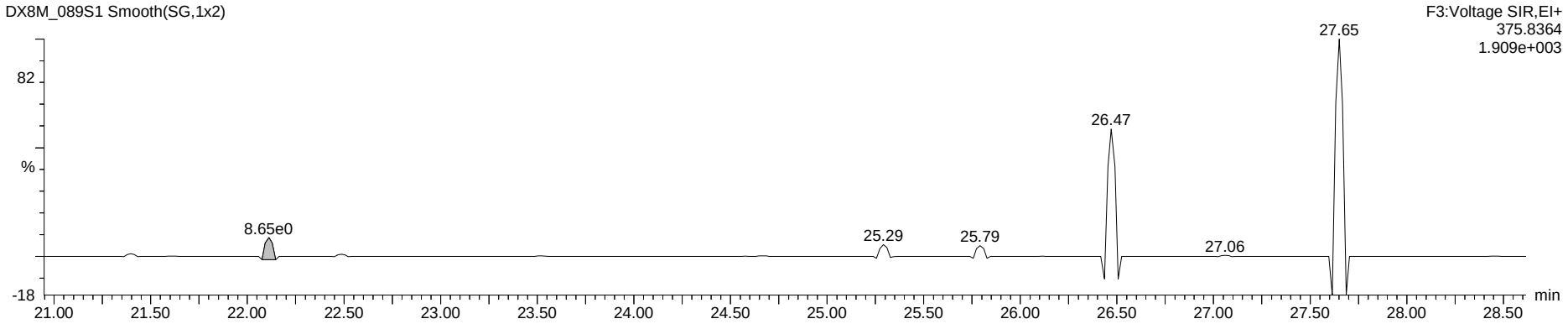
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

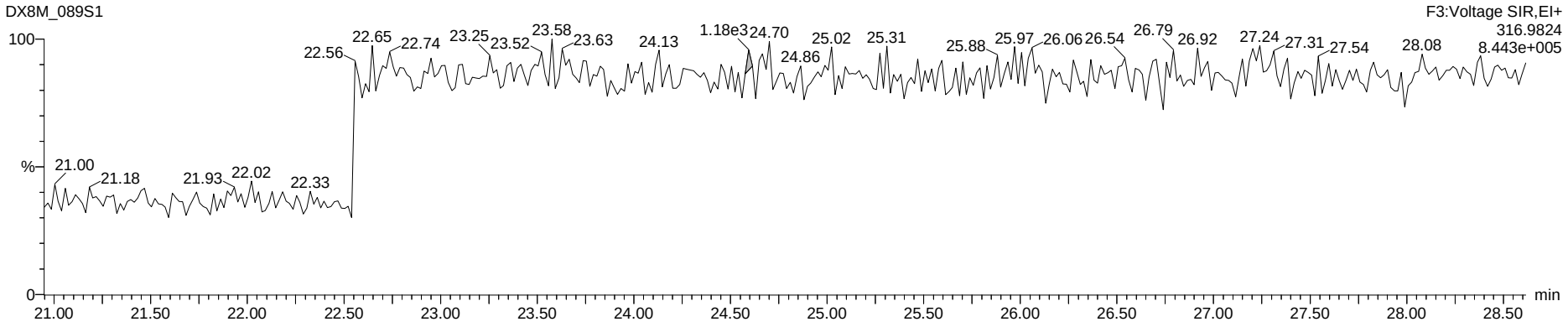
Total Tetra-Furans



Hexa DPE



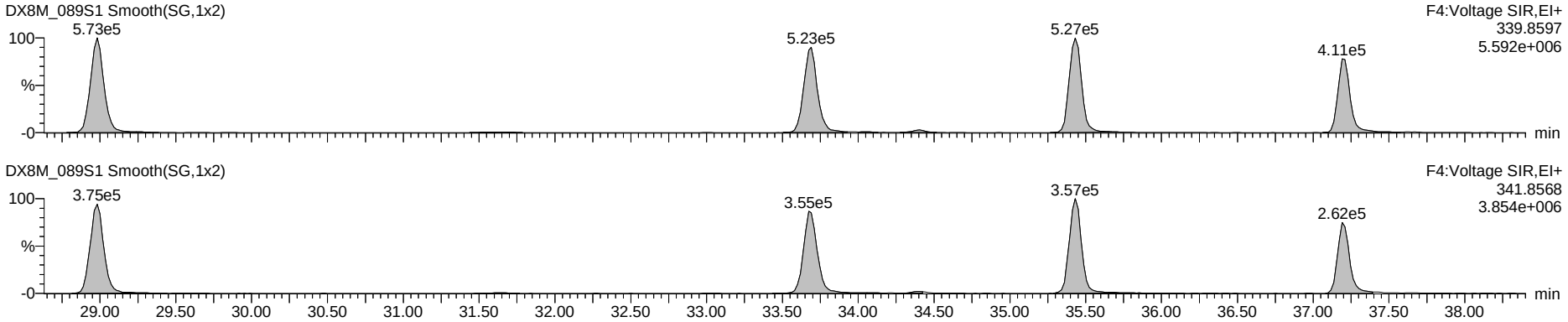
Tetra Lock



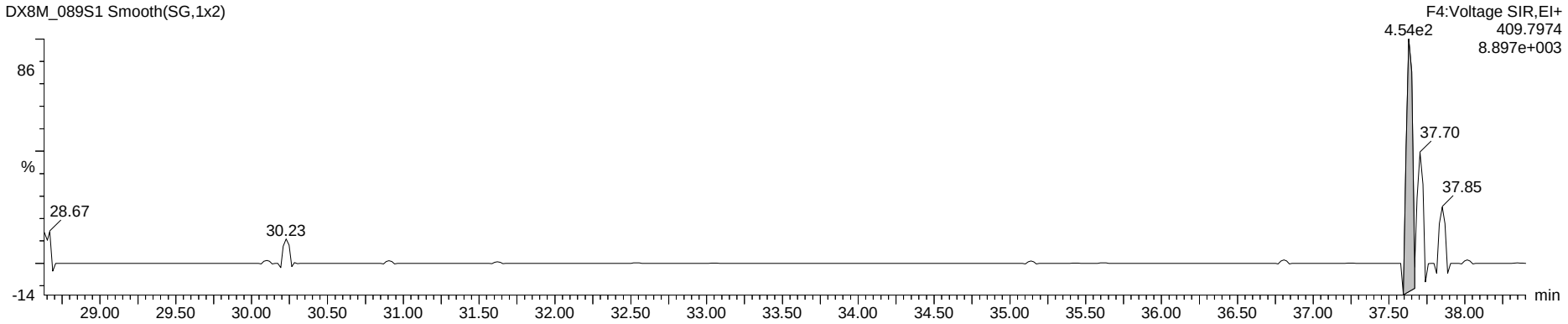
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

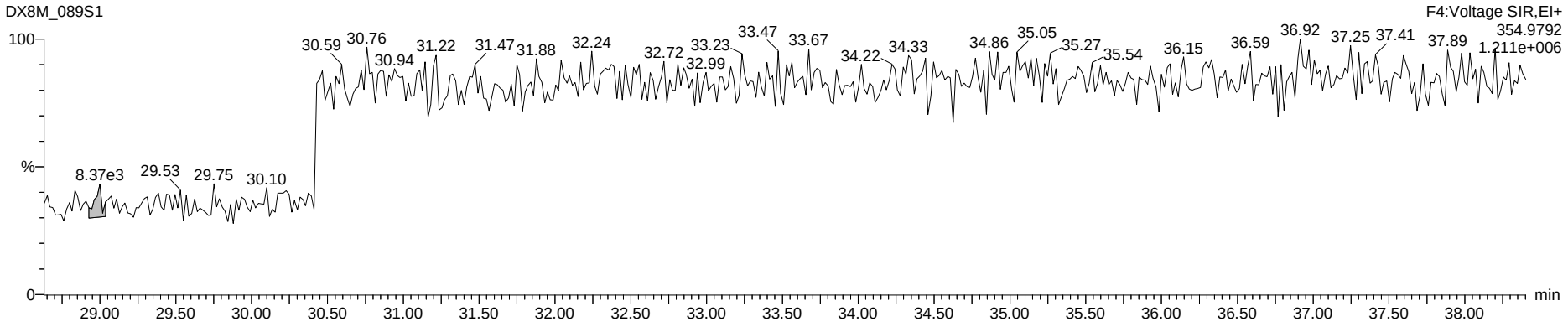
Total Penta-Furans



Hepta DPE



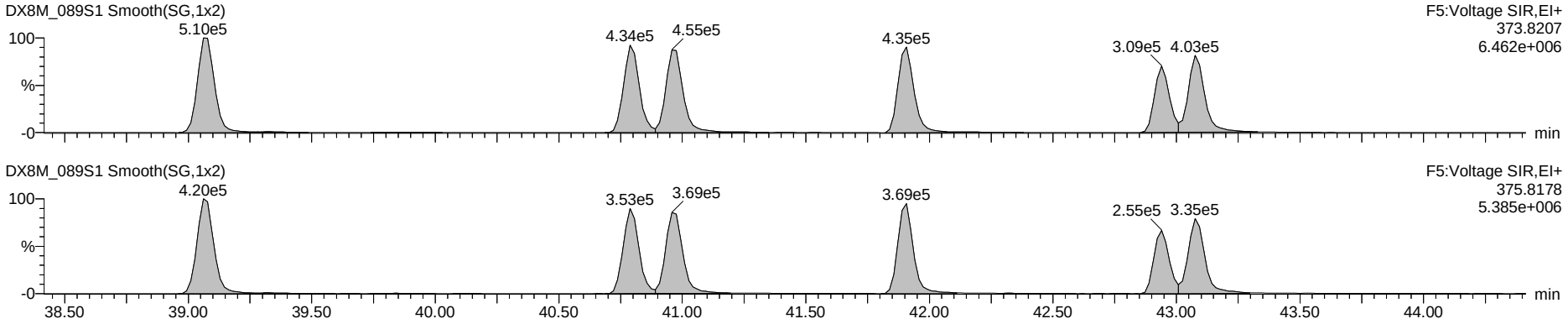
Penta Lock



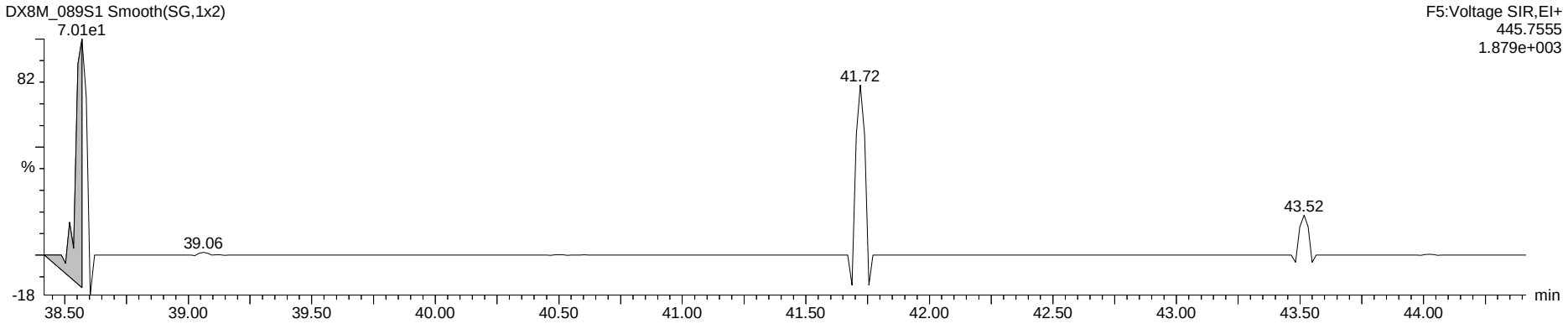
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

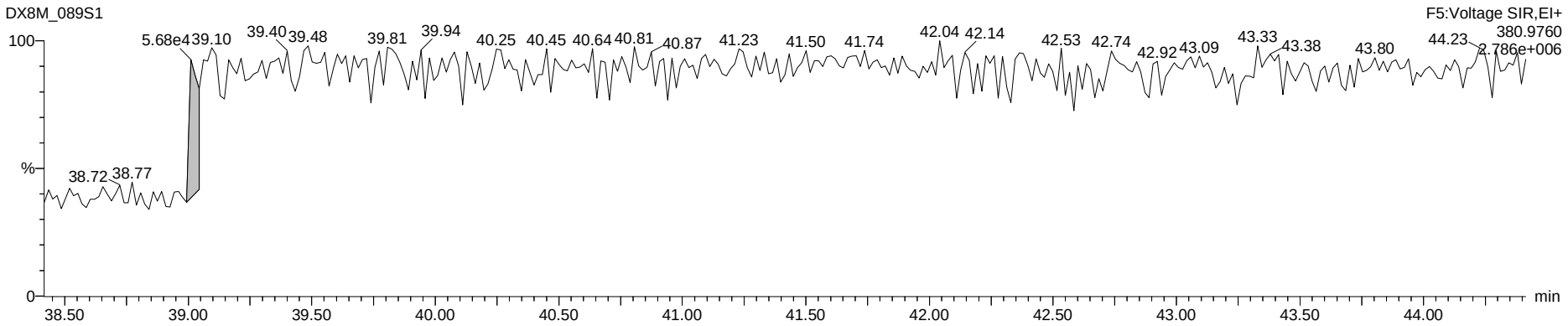
Total Hexa-Furans



Octa DPE



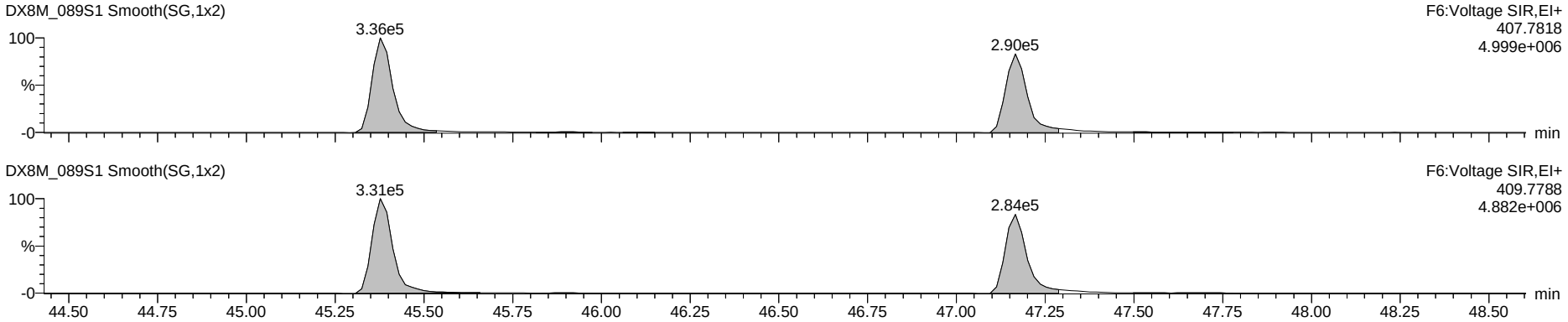
Hexa Lock



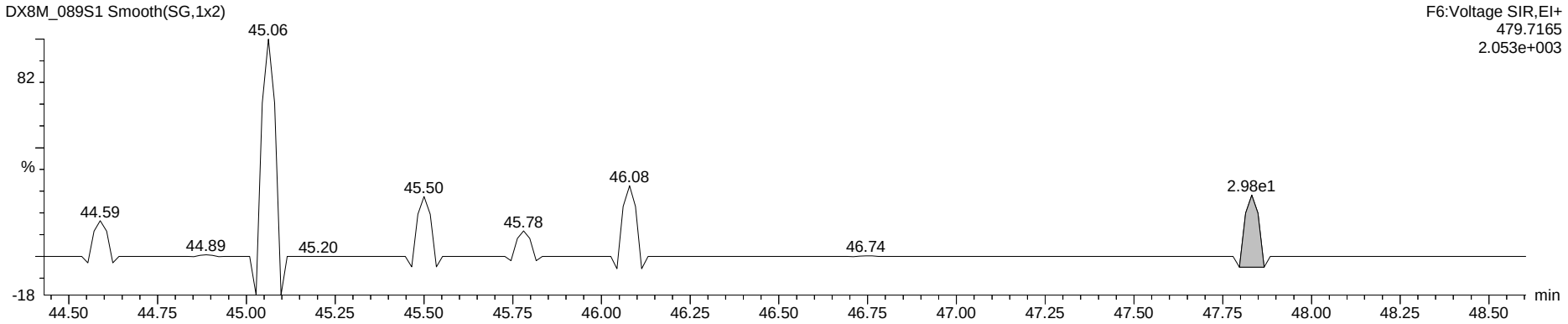
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

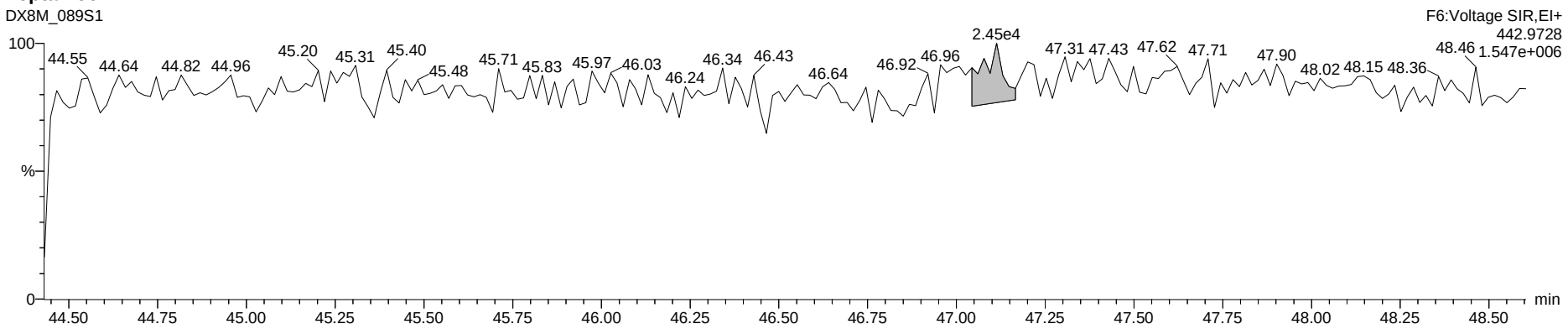
Total Hepta-Furans



Nona DPE



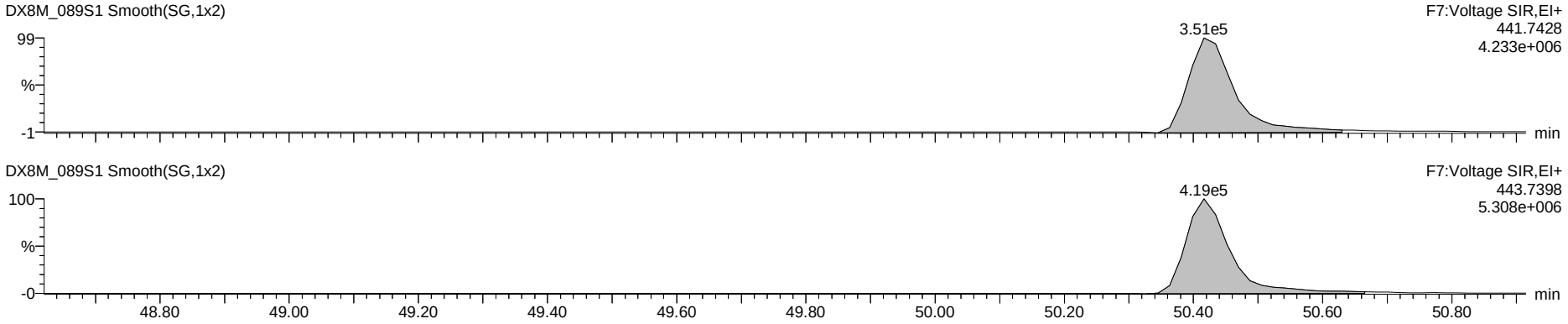
Hepta Lock



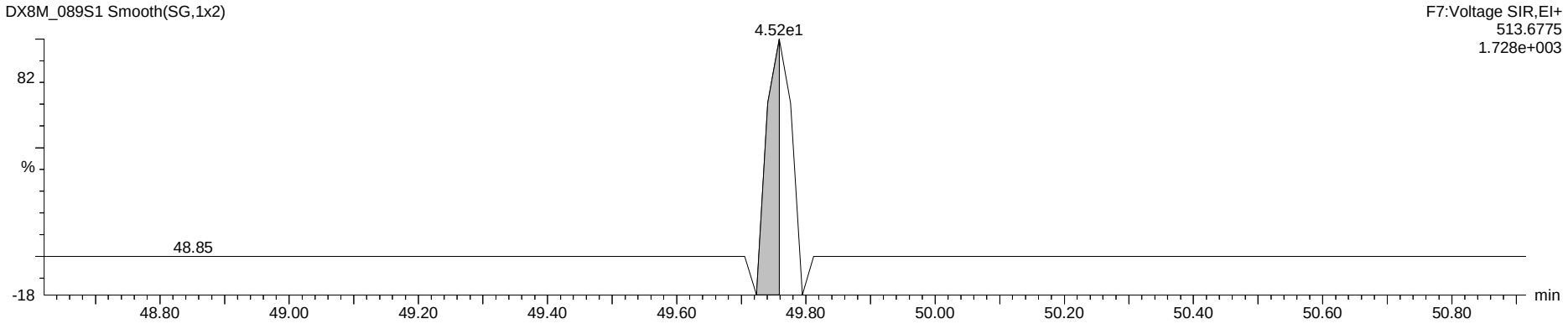
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

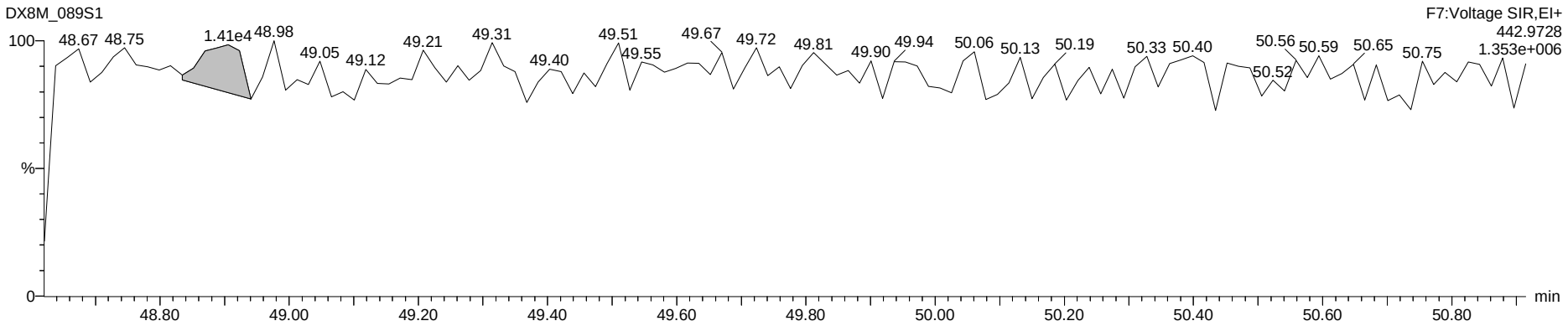
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	4.21e5	0.79	NO	25.33	11.204	0.0368	112.0	2.72e3	3.22e3
2	1,2,3,7,8-PeCDF	1.000	1.57e6	1.48	NO	33.65	51.939	0.0702	103.9	3.74e3	3.98e3
3	2,3,4,7,8-PeCDF	1.000	1.51e6	1.40	NO	35.41	49.845	0.0599	99.7	3.74e3	3.98e3
4	1,2,3,4,7,8-HxCDF	1.000	1.39e6	1.23	NO	40.79	54.486	0.0635	109.0	3.81e3	4.92e3
5	1,2,3,6,7,8-HxCDF	1.000	1.45e6	1.23	NO	40.96	51.646	0.0633	103.3	3.81e3	4.92e3
6	2,3,4,6,7,8-HxCDF	1.000	1.44e6	1.26	NO	41.91	54.927	0.0626	109.9	3.81e3	4.92e3
7	1,2,3,7,8,9-HxCDF	1.000	9.35e5	1.26	NO	42.94	47.760	0.0857	95.5	3.81e3	4.92e3
8	1,2,3,4,6,7,8-HpCDF	1.000	1.06e6	1.07	NO	45.40	53.990	0.1113	108.0	8.13e3	3.77e3
9	1,2,3,4,7,8,9-HpCDF	1.000	8.16e5	1.07	NO	47.18	54.864	0.1570	109.7	8.13e3	3.77e3
10	OCDF	1.000	1.28e6	0.82	NO	50.43	98.857	0.0000	98.9	0.00e0	1.69e-1
11	2,3,7,8-TCDD	1.000	3.32e5	0.78	NO	26.56	10.153	0.0367	101.5	1.87e3	2.91e3
12	1,2,3,7,8-PeCDD	1.000	1.07e6	0.61	NO	36.24	53.165	0.0620	106.3	3.36e3	2.05e3
13	1,2,3,4,7,8-HxCDD	1.000	9.35e5	1.24	NO	42.18	51.050	0.0488	102.1	2.62e3	2.43e3
14	1,2,3,6,7,8-HxCDD	1.000	1.04e6	1.17	NO	42.33	49.747	0.0478	99.5	2.62e3	2.43e3
15	1,2,3,7,8,9-HxCDD	1.000	9.49e5	1.23	NO	42.74	48.211	0.0480	96.4	2.62e3	2.43e3
16	1,2,3,4,6,7,8-HpCDD	1.000	7.15e5	1.07	NO	46.76	52.784	0.1037	105.6	3.13e3	3.96e3
17	OCDD	1.000	1.10e6	0.86	NO	50.35	102.275	0.0367	102.3	5.01e2	1.33e3
18	13C-2,3,7,8-TCDF	1.000	4.11e6	0.69	NO	25.31	88.987	0.0964	89.0	1.16e4	8.68e3
19	13C-1,2,3,7,8-PeCDF	1.000	3.26e6	1.43	NO	33.64	98.014	0.0874	98.0	6.90e3	6.32e3
20	13C-2,3,4,7,8-PeCDF	1.000	3.22e6	1.39	NO	35.40	100.393	0.0906	100.4	6.90e3	6.32e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	2.29e6	0.52	NO	40.77	93.148	0.1799	93.1	1.42e4	8.88e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	2.65e6	0.51	NO	40.94	100.864	0.1685	100.9	1.42e4	8.88e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	2.30e6	0.52	NO	41.89	97.874	0.1885	97.9	1.42e4	8.88e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.96e6	0.54	NO	42.92	84.707	0.1912	84.7	1.42e4	8.88e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.61e6	0.47	NO	45.38	81.933	0.1245	81.9	6.89e3	5.87e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	1.19e6	0.45	NO	47.17	77.605	0.1596	77.6	6.89e3	5.87e3
27	13C-2,3,7,8-TCDD	1.000	2.94e6	0.77	NO	26.54	102.292	0.0875	102.3	7.39e3	4.03e3
28	13C-1,2,3,7,8-PeCDD	1.000	1.96e6	0.69	NO	36.20	103.873	0.0500	103.9	2.59e3	1.69e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.82e6	1.25	NO	42.16	96.261	0.1384	96.3	4.12e3	9.59e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	2.23e6	1.23	NO	42.30	111.251	0.1309	111.3	4.12e3	9.59e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	1.36e6	0.98	NO	46.74	86.863	0.1184	86.9	6.88e3	2.82e3
32	13C-OCDD	1.000	2.10e6	0.89	NO	50.33	152.752	0.2555	76.4	1.84e4	0.00e0
33	13C-1,2,3,4-TCDD	1.000	2.86e6	0.76	NO	26.20	126.532	0.1112	126.5	7.39e3	4.03e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	1.93e6	1.17	NO	42.72	134.842	0.1836	134.8	4.12e3	9.59e3
35	37Cl-2,3,7,8-TCDD	1.000	2.92e5			26.56	9.171	0.0433	91.7		6.27e3
36	Total Tetra-Furans	1.000					44.154	0.0368			3.22e3
37	Total Tetra-Dioxins	1.000					85.140	0.0367			2.91e3
38	Total Penta-Furans	1.000					201.574	0.0656			3.98e3
39	Total Penta-Dioxins	1.000					169.371	0.0620			2.05e3
40	Total Hexa-Furans	1.000					320.000	0.0855			4.02e3
41	Total Hexa-Dioxins	1.000					207.044	0.0465			2.43e3
42	Total Hepta-Furans	1.000					111.277	0.1323			3.77e3
43	Total Hepta-Dioxins	1.000					120.550	0.1037			3.96e3
44	Hexa DPE	1.000	6.63e2			22.70					2.13e-2
45	Hepta DPE	1.000	6.82e2			37.65					1.94e-2
46	Octa DPE	1.000	8.93e1			40.77					1.30e-1
47	Nona DPE	1.000	9.06e1			47.95					0.00e0
48	Deca DPE	1.000	8.72e1			49.07					1.14e-1
49	Tetra Lock	1.000	6.14e4			24.13					8.75e4
50	Penta Lock	1.000	1.05e4			29.42					1.06e5
51	Hexa Lock	1.000	3.87e5			39.01					2.81e5
52	Hepta Lock	1.000	2.23e4			47.53					1.97e5
53	Octa Lock	1.000									2.24e5
54	13C-Tetra-Furans	1.000					88.987	0.0964			8.68e3
55	13C-Tetra-Dioxins	1.000					228.825	0.1986			4.03e3

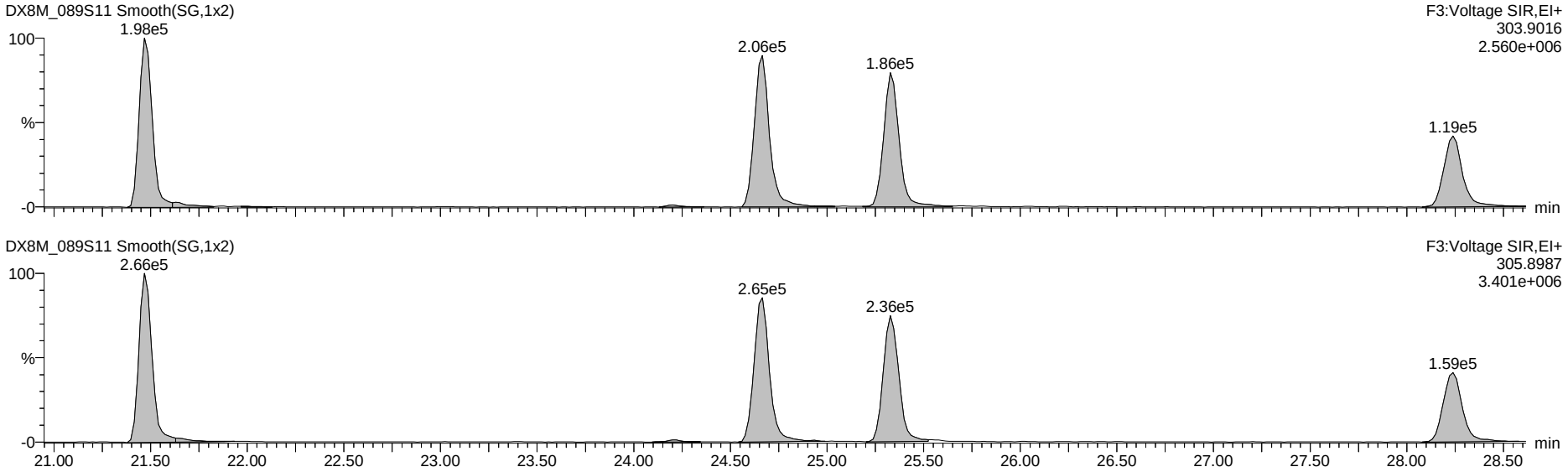
pv'd by KB 27-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

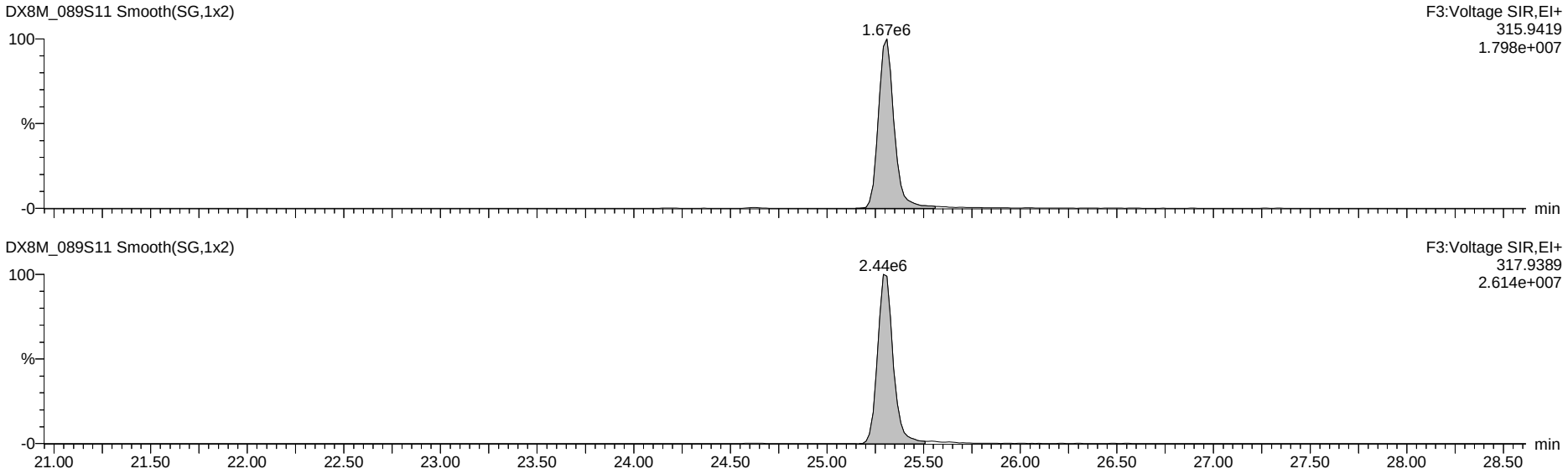
Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 05 Apr 2018 09:34:55
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



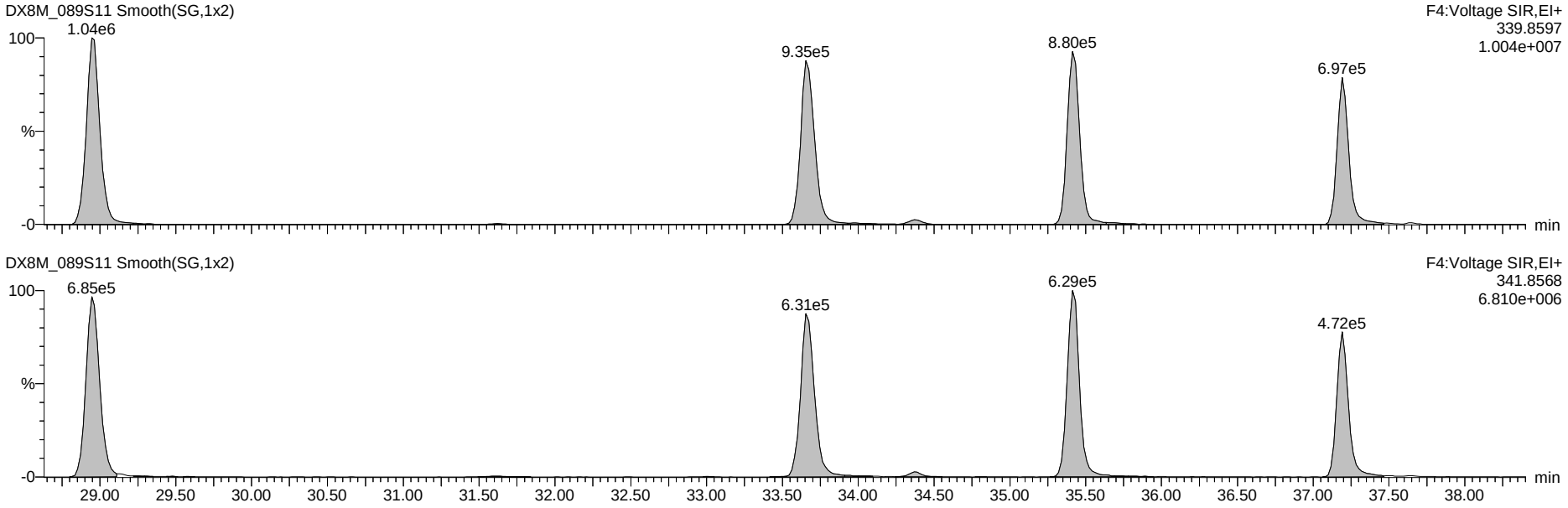
13C-Tetra-Furans



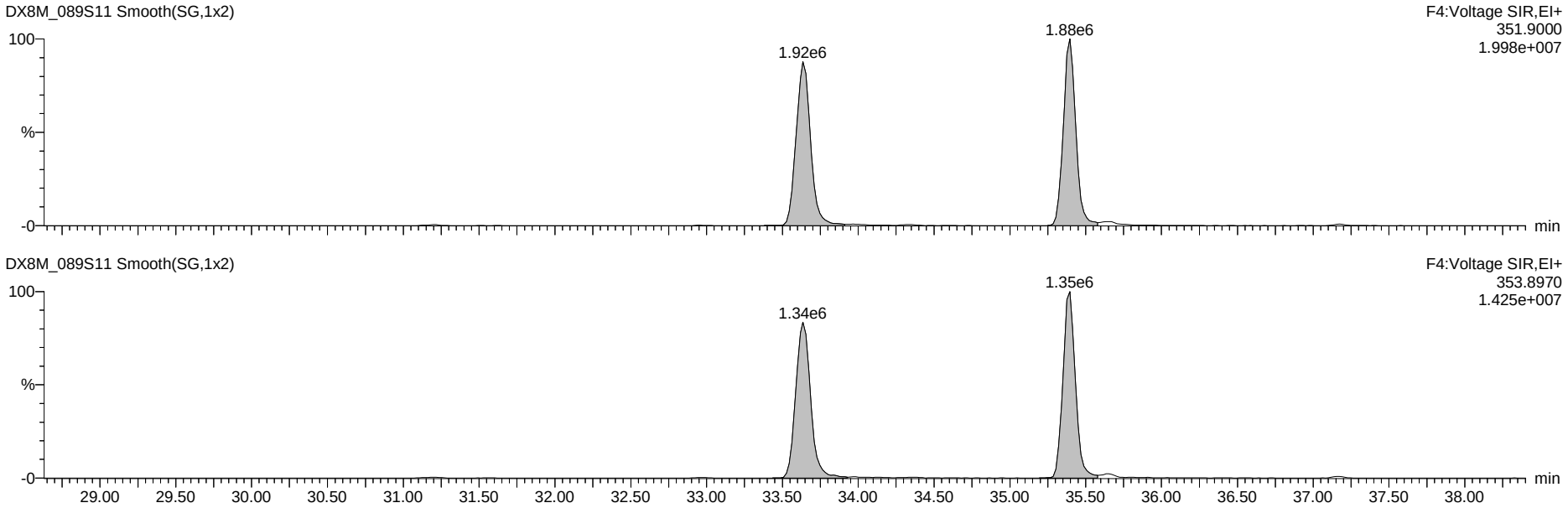
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



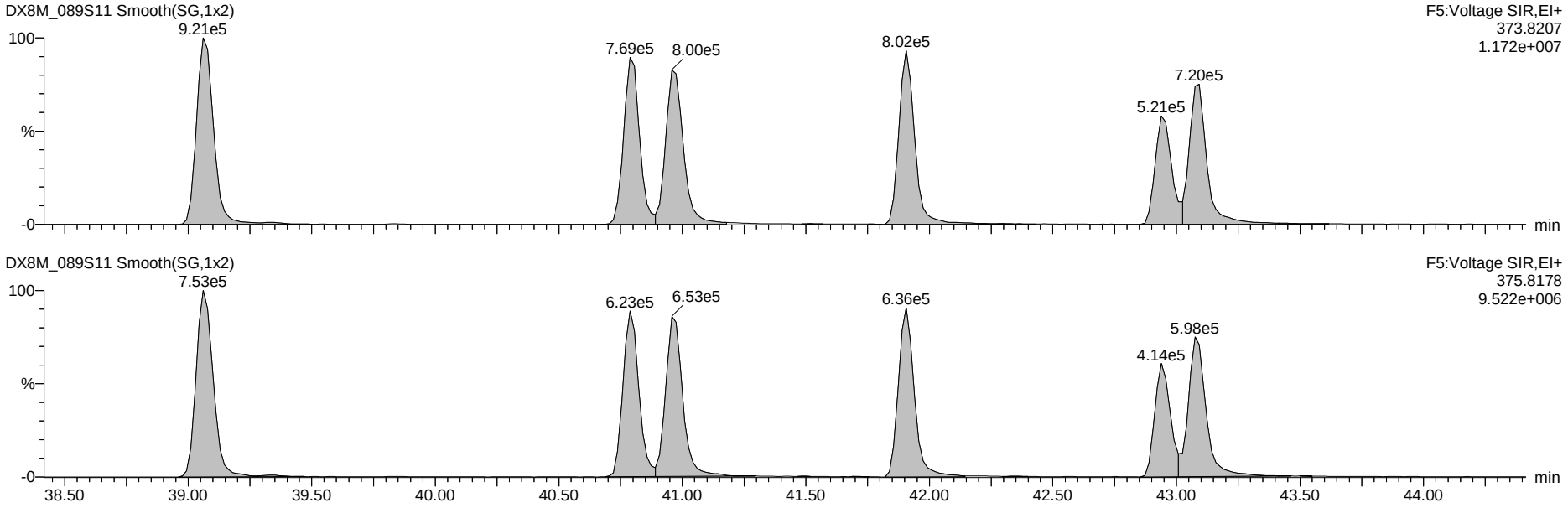
13C-Penta-Furans



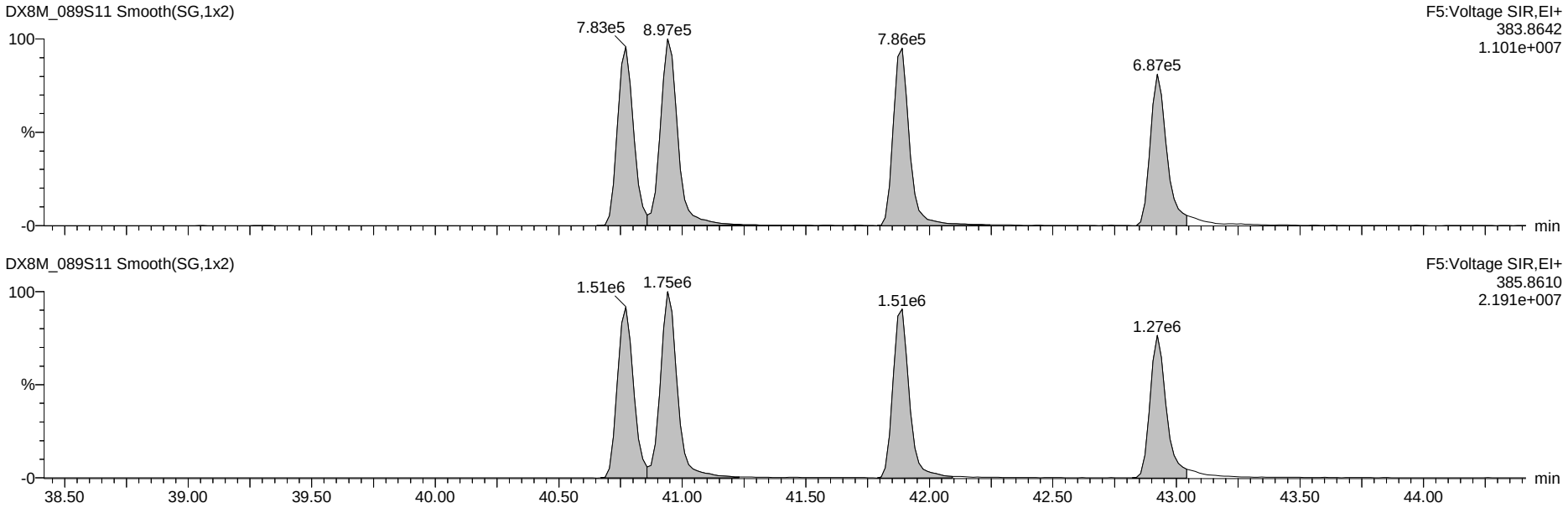
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



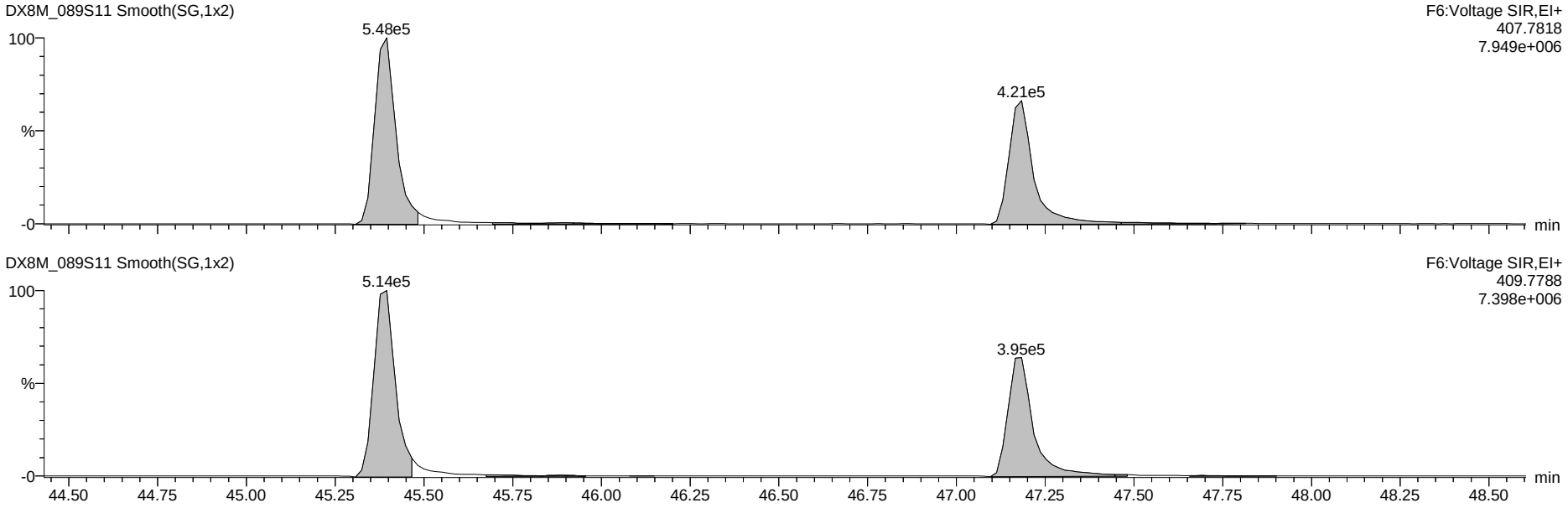
13C-Hexa-Furans



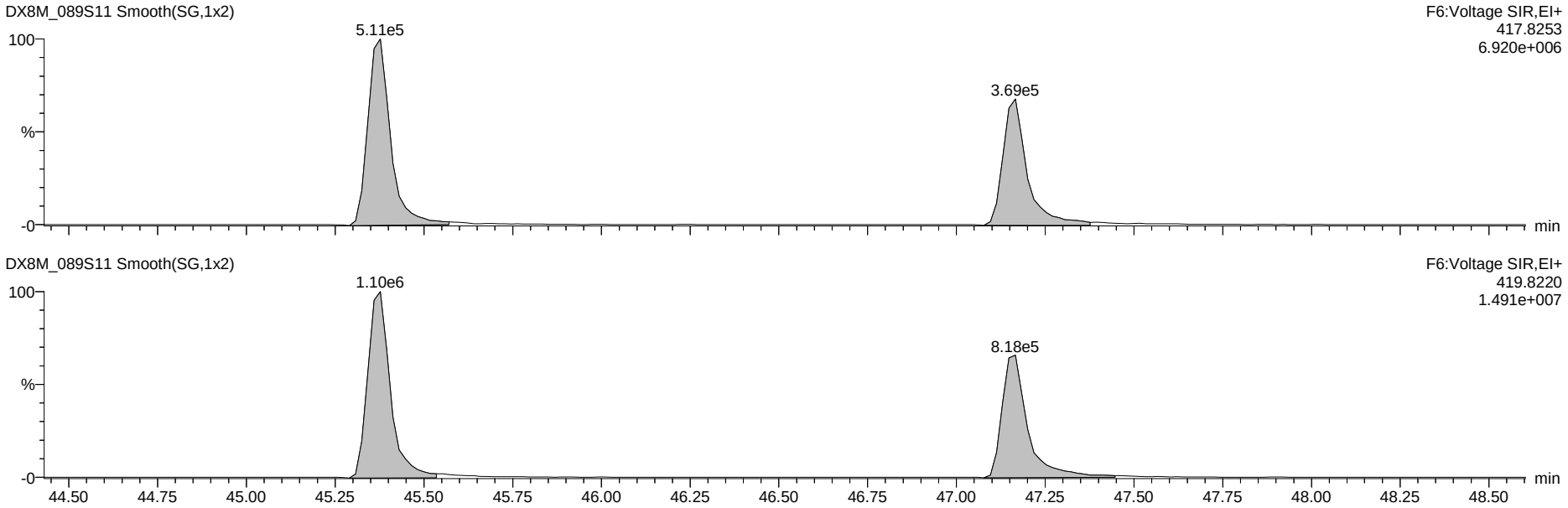
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



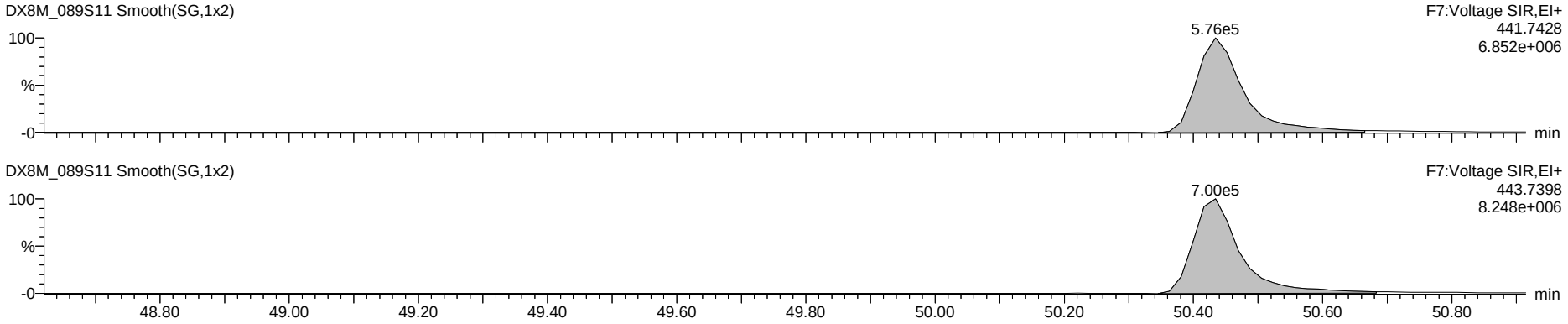
13C-Hepta-Furans



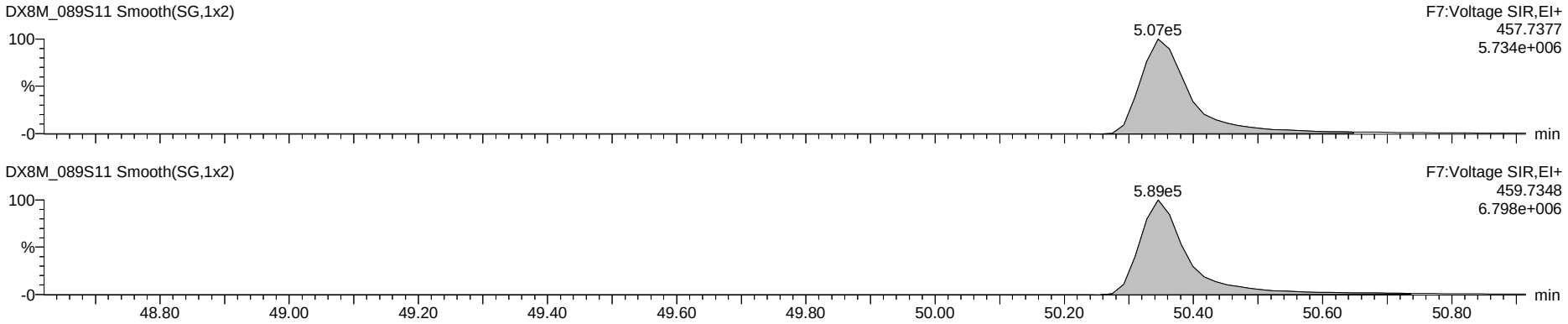
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

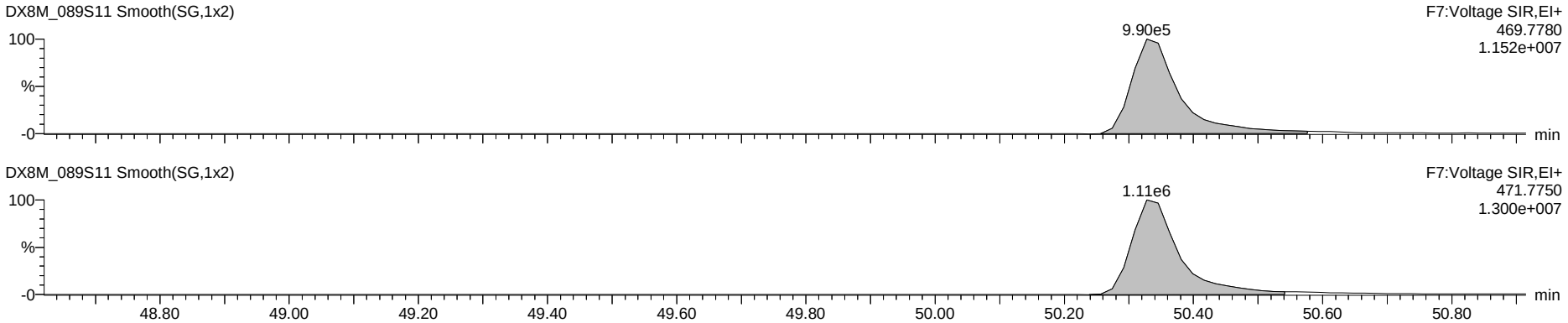
OCDF



OCDD



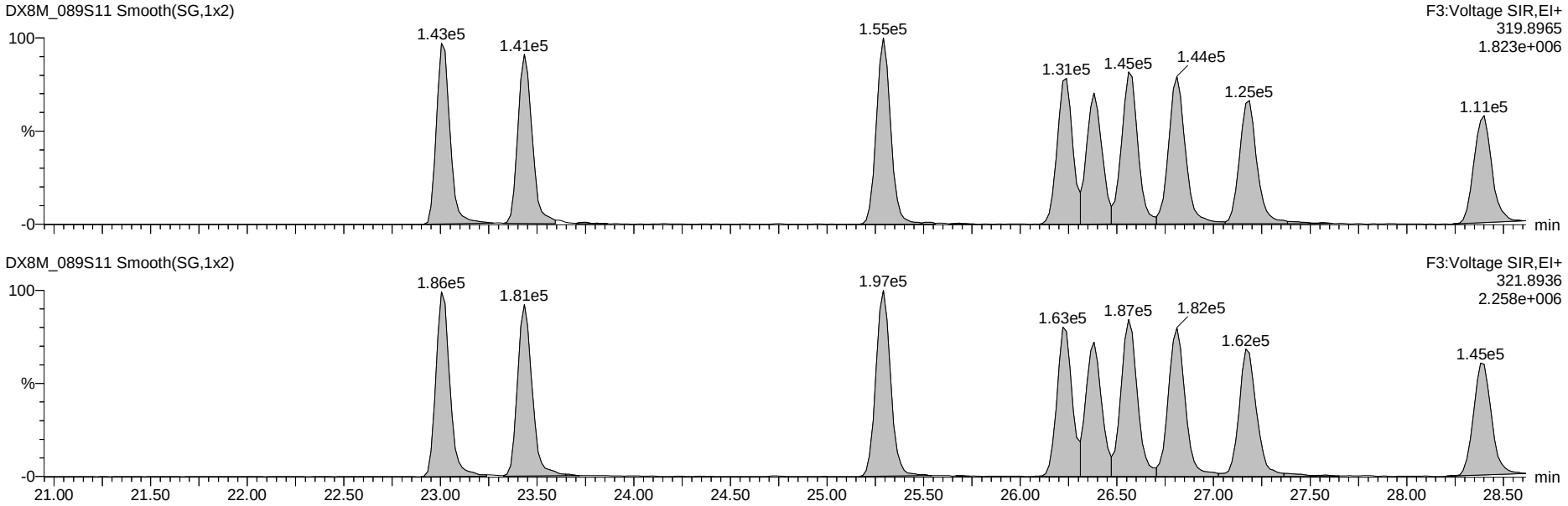
13C-OCDD



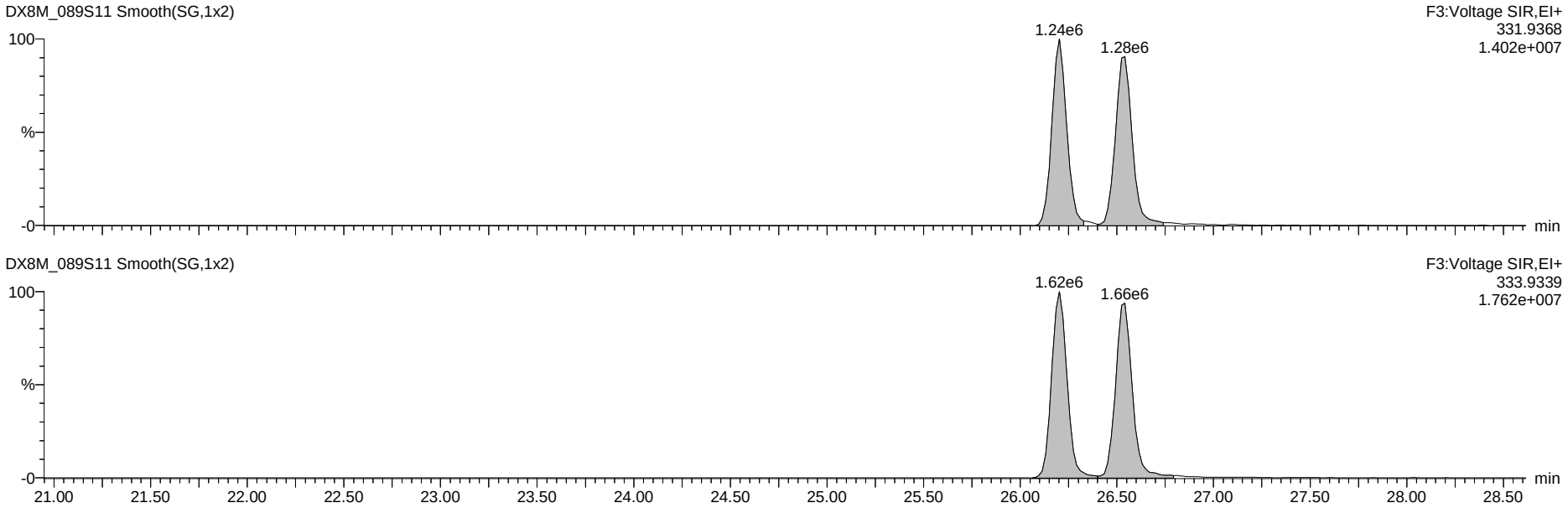
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



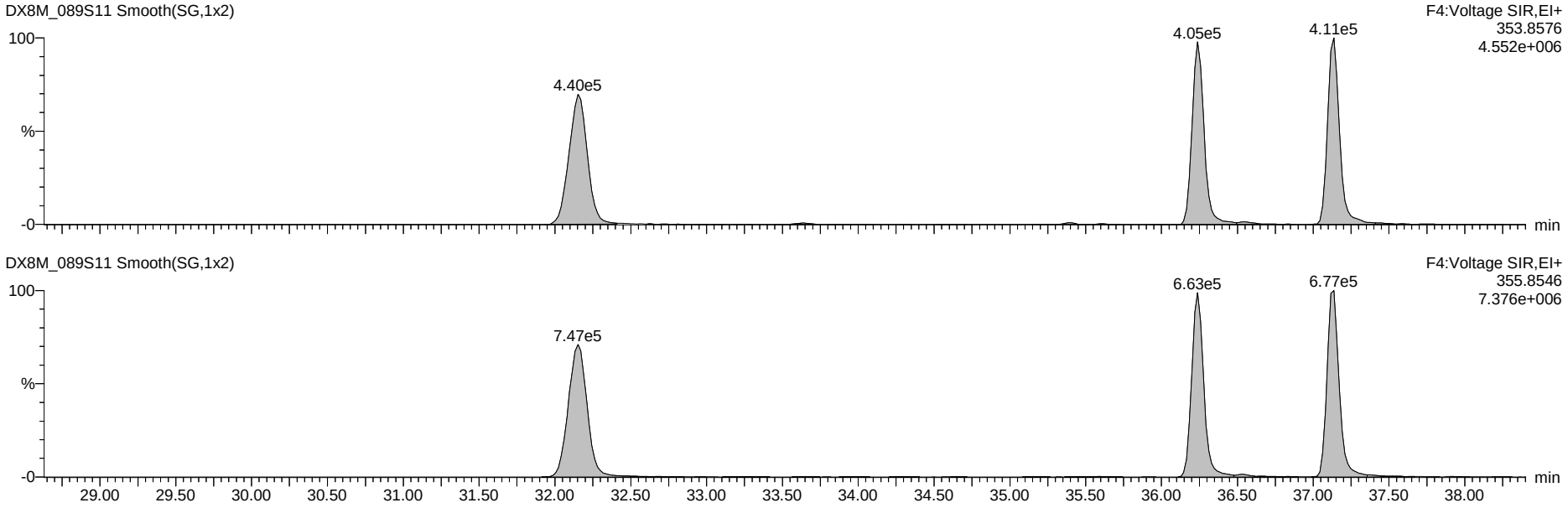
13C-Tetra-Dioxins



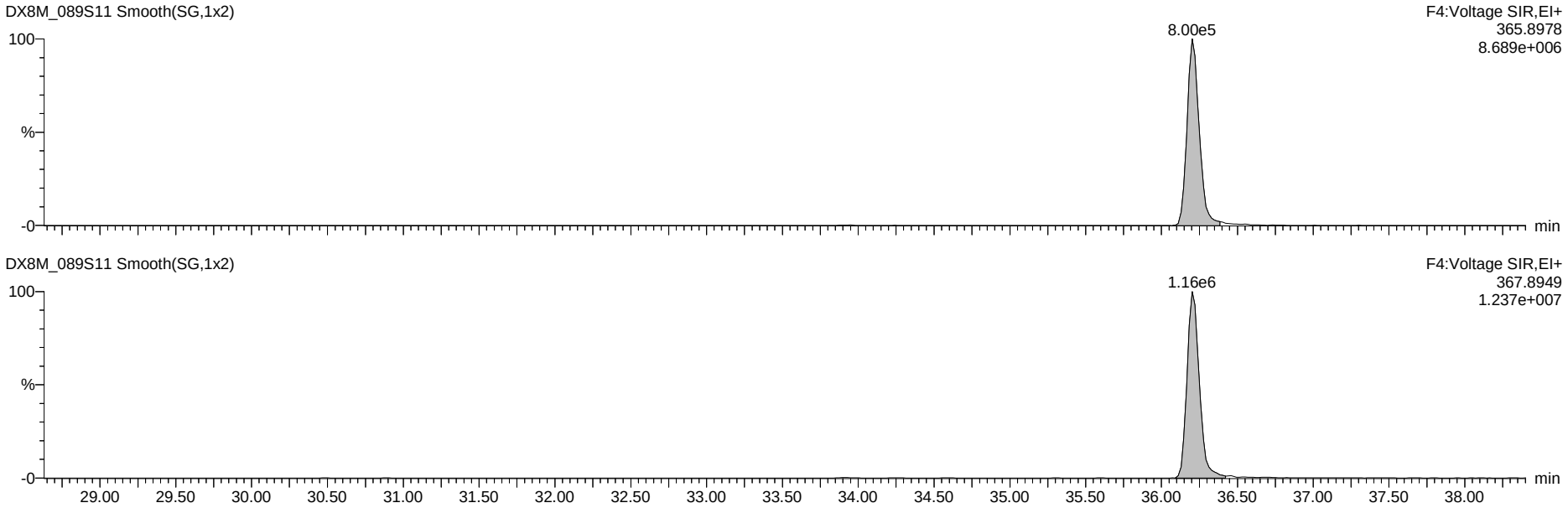
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



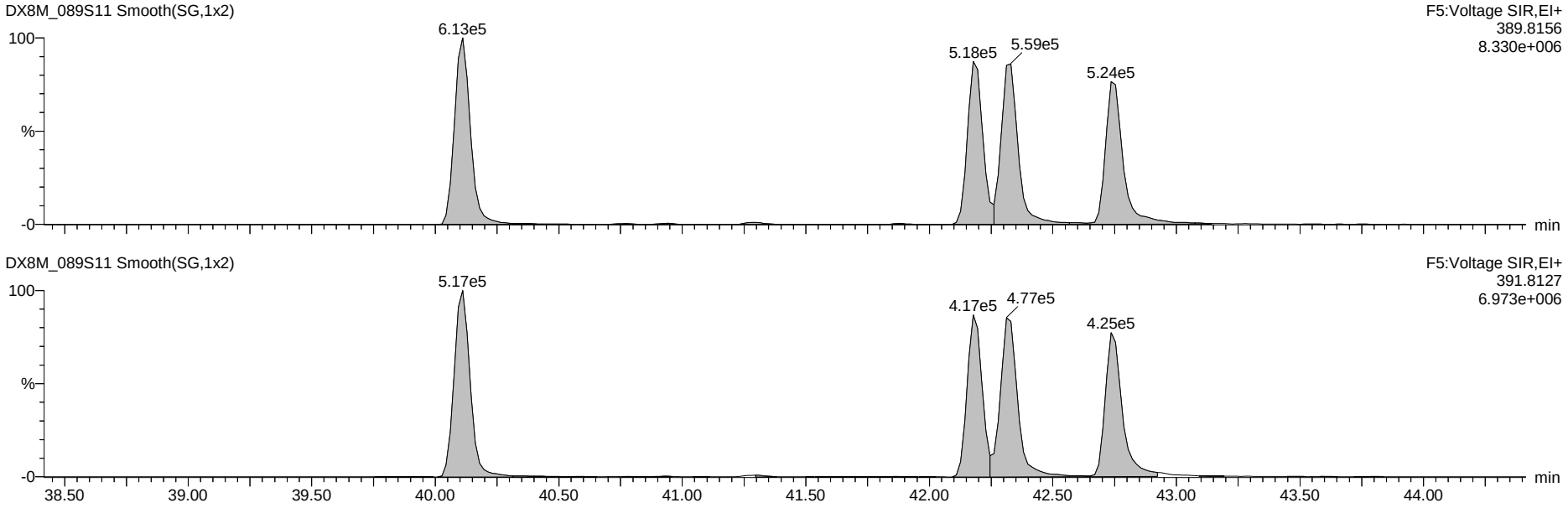
13C-Penta-Dioxins



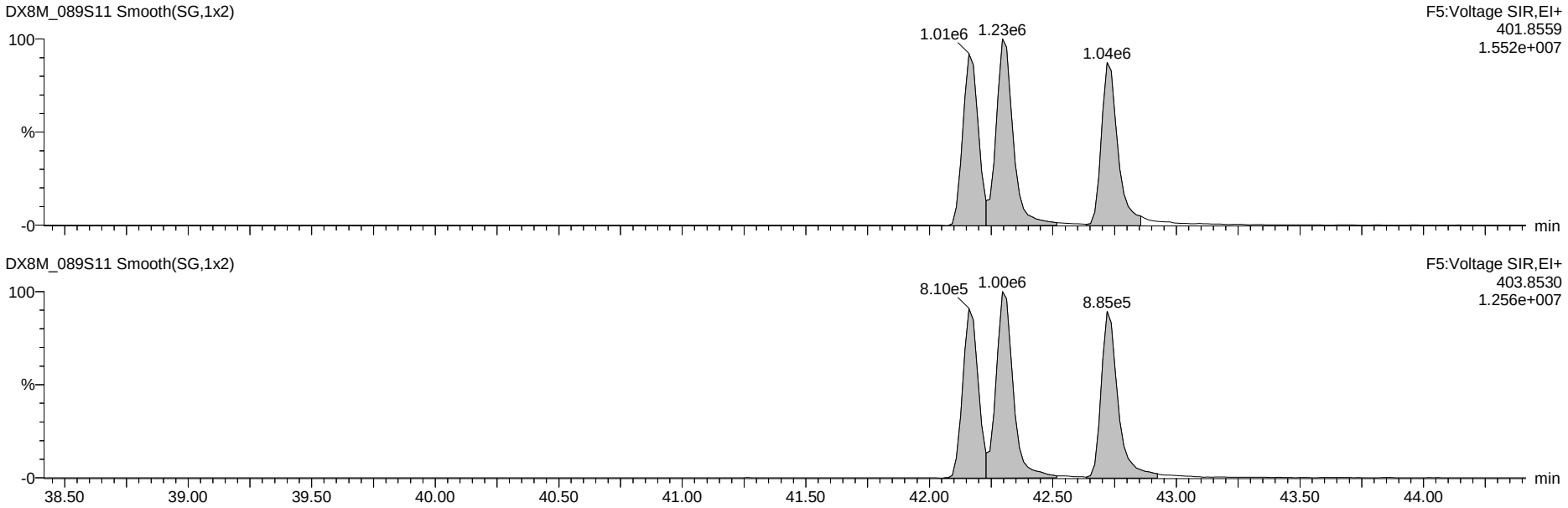
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



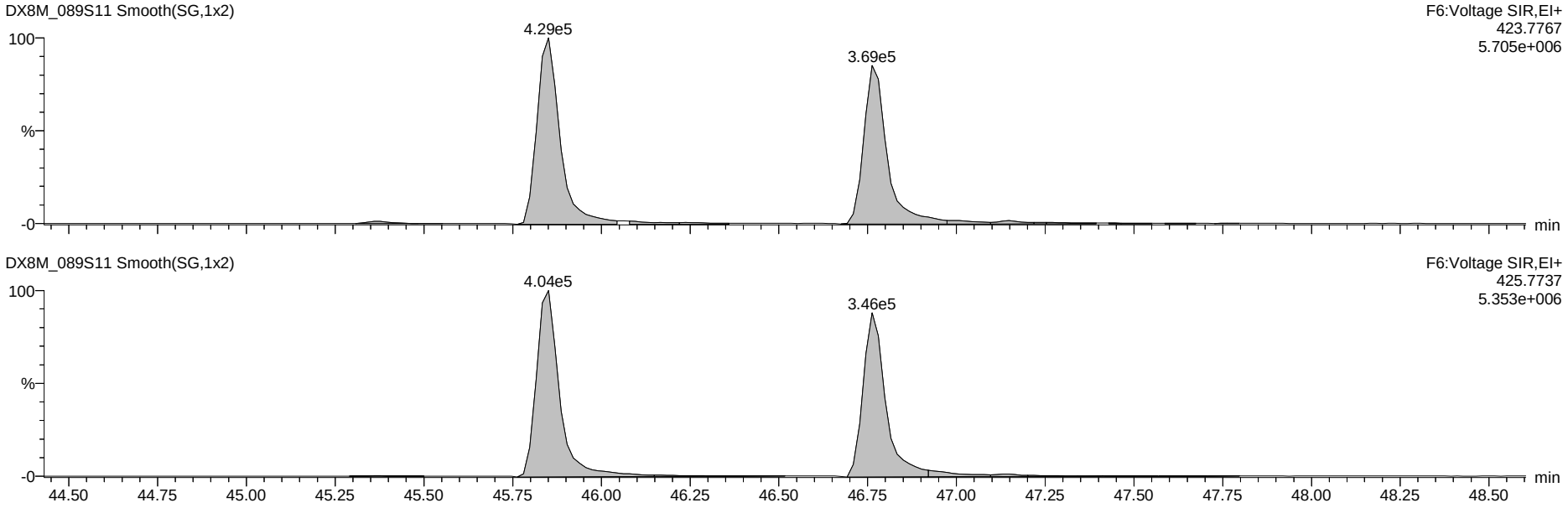
13C-Hexa-Dioxins



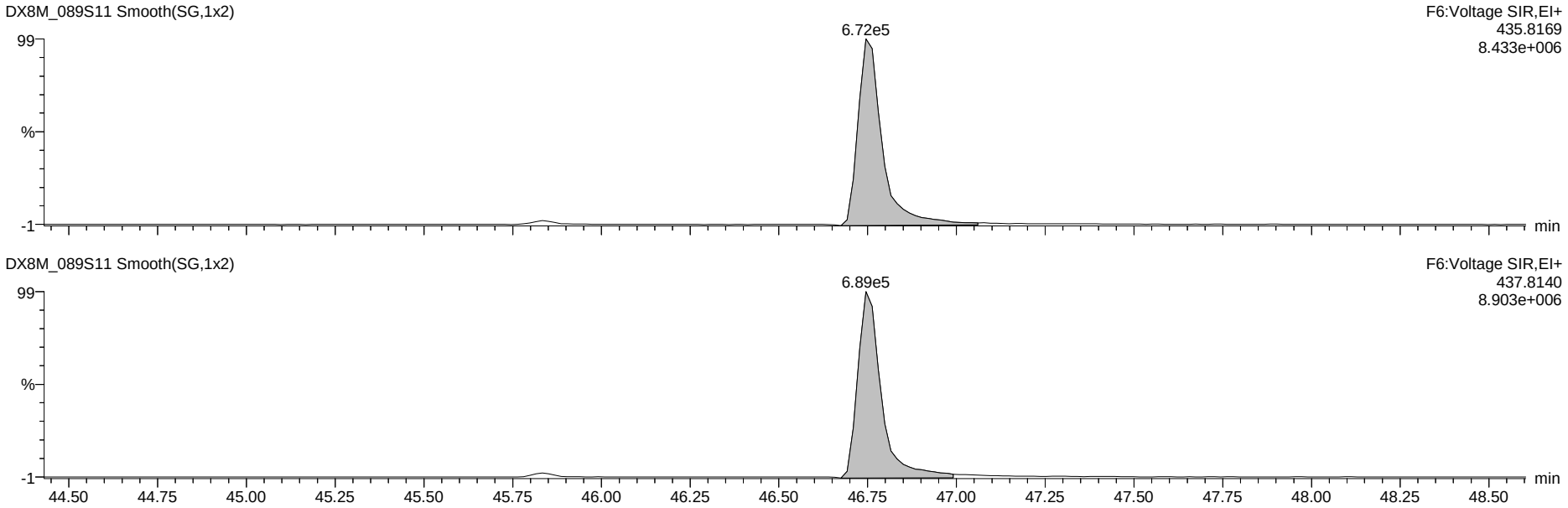
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



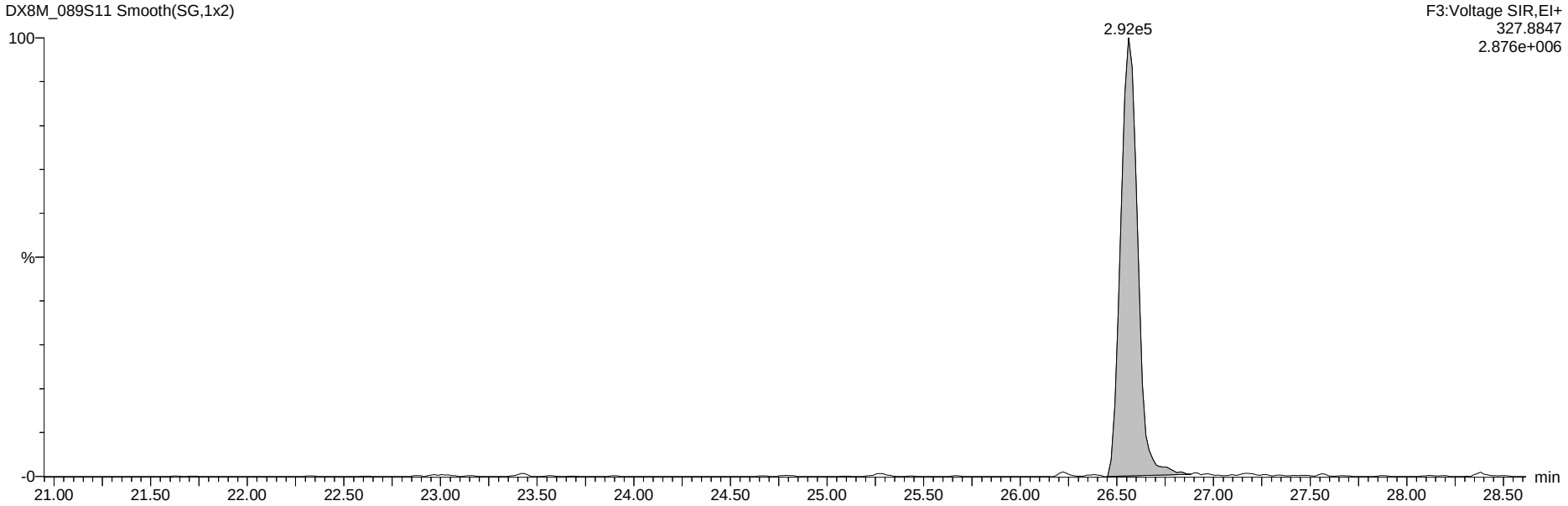
13C-Hepta-Dioxins



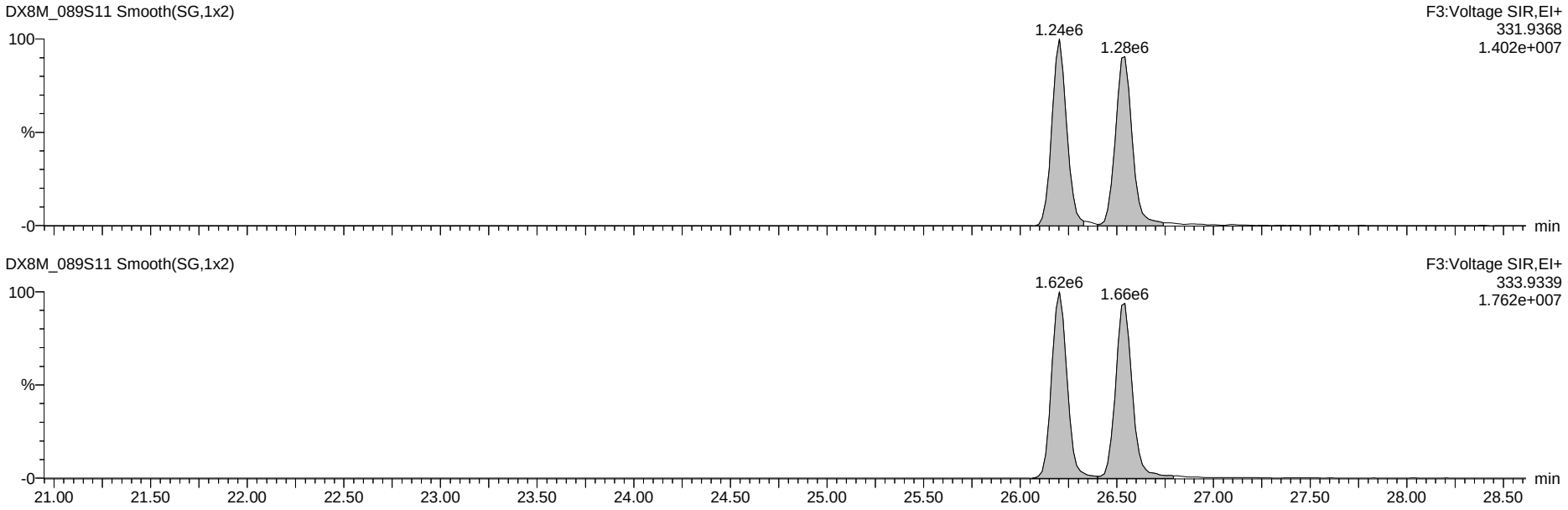
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



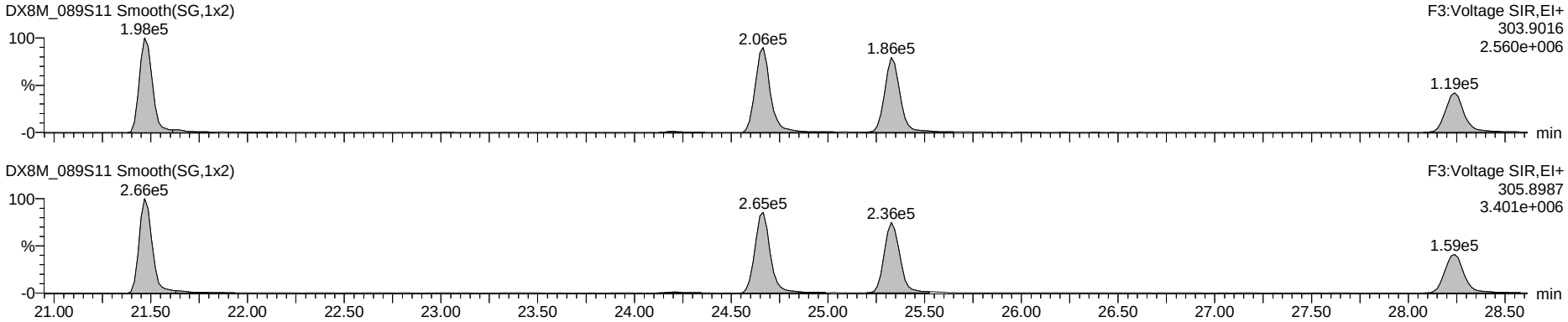
13C-Tetra-Dioxins



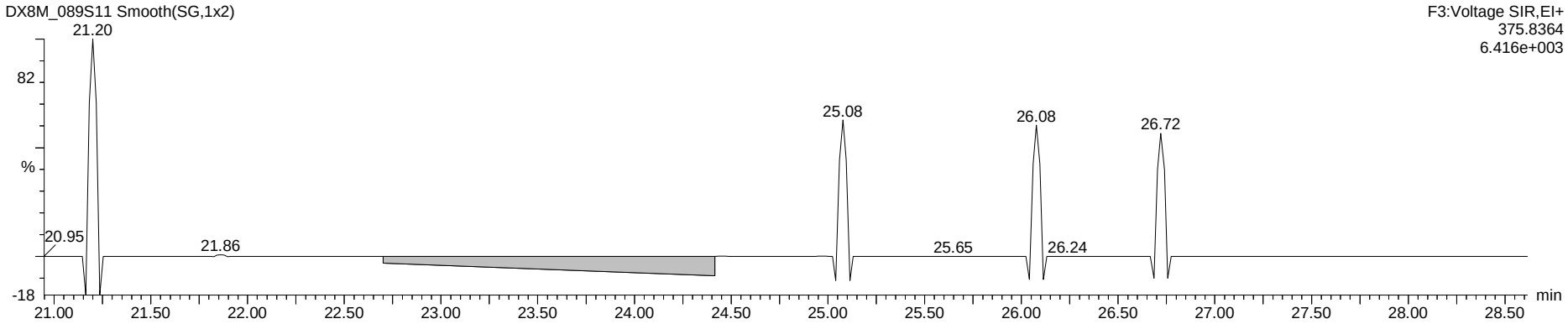
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

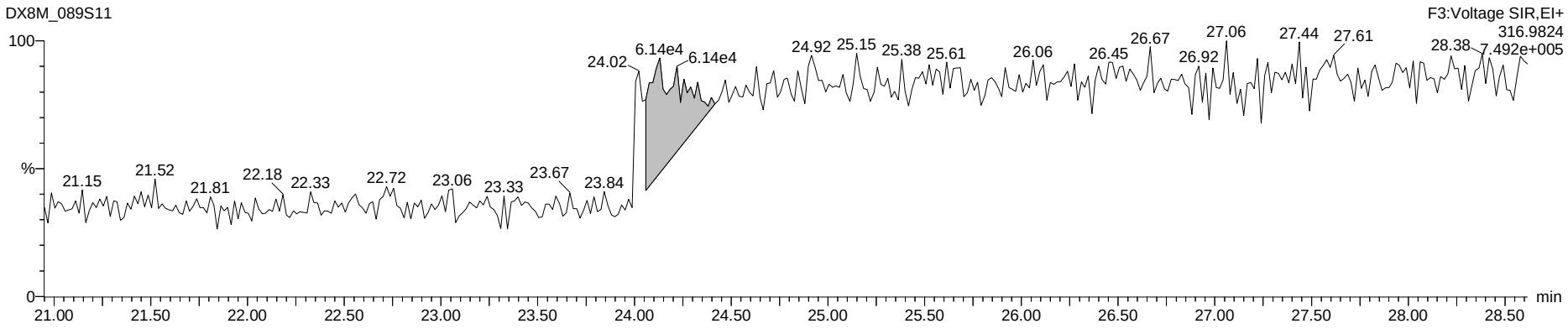
Total Tetra-Furans



Hexa DPE



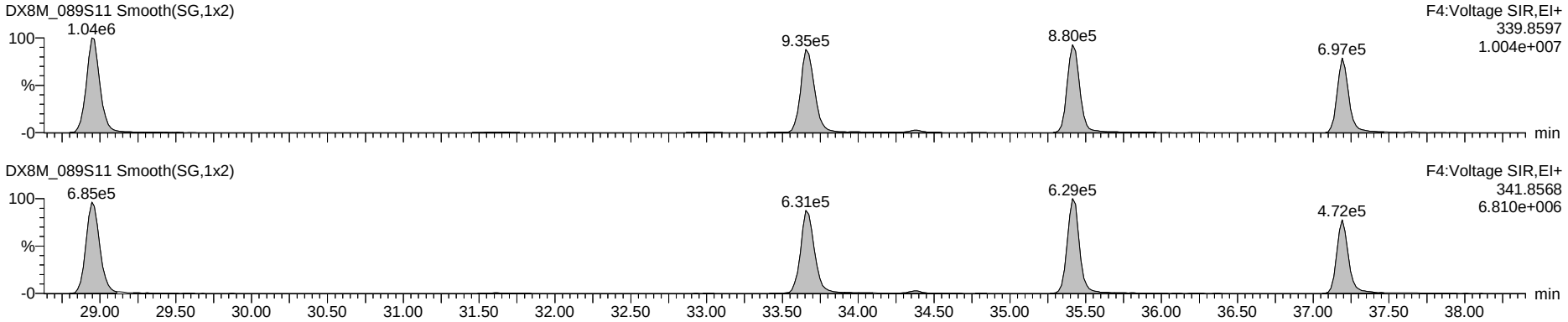
Tetra Lock



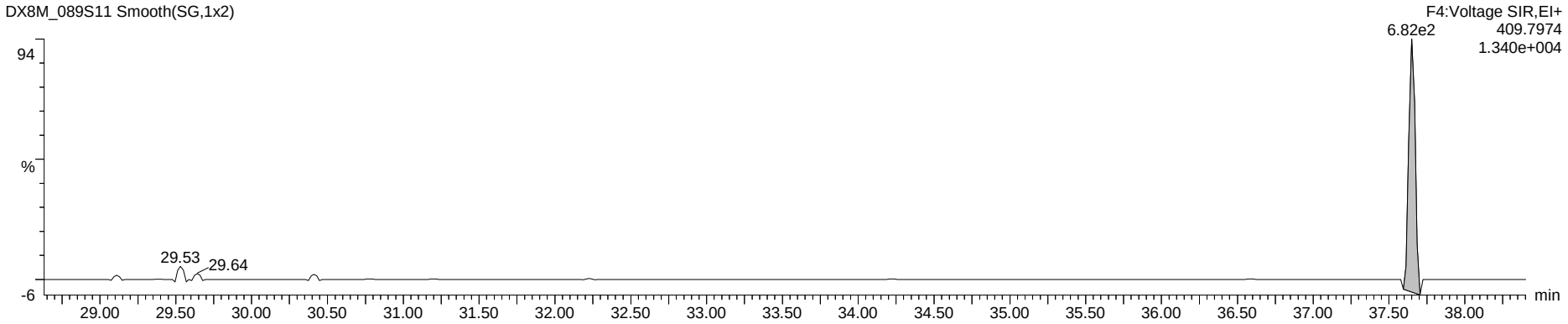
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

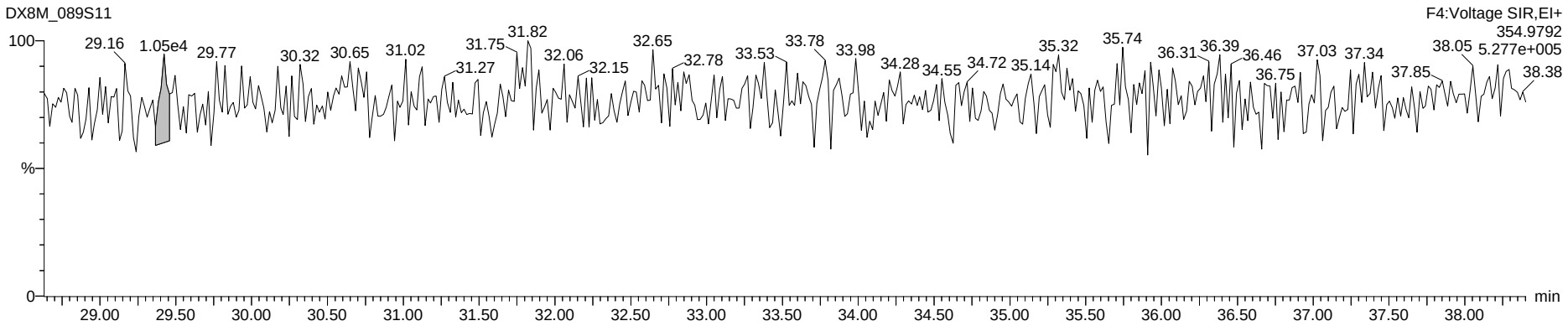
Total Penta-Furans



Hepta DPE



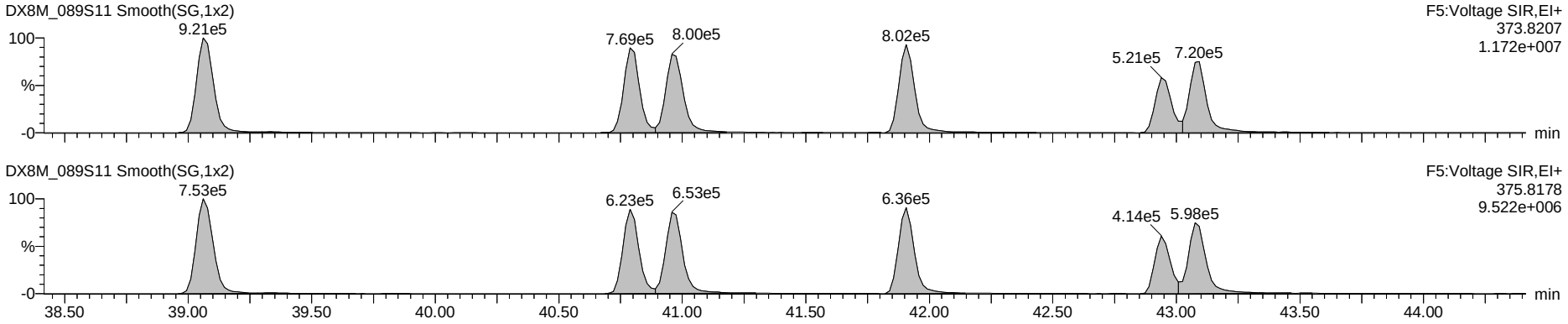
Penta Lock



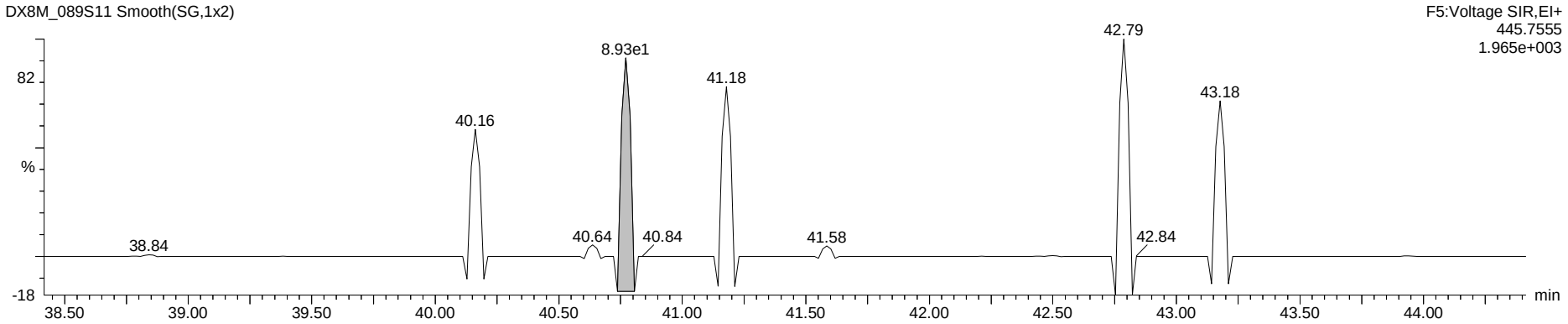
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

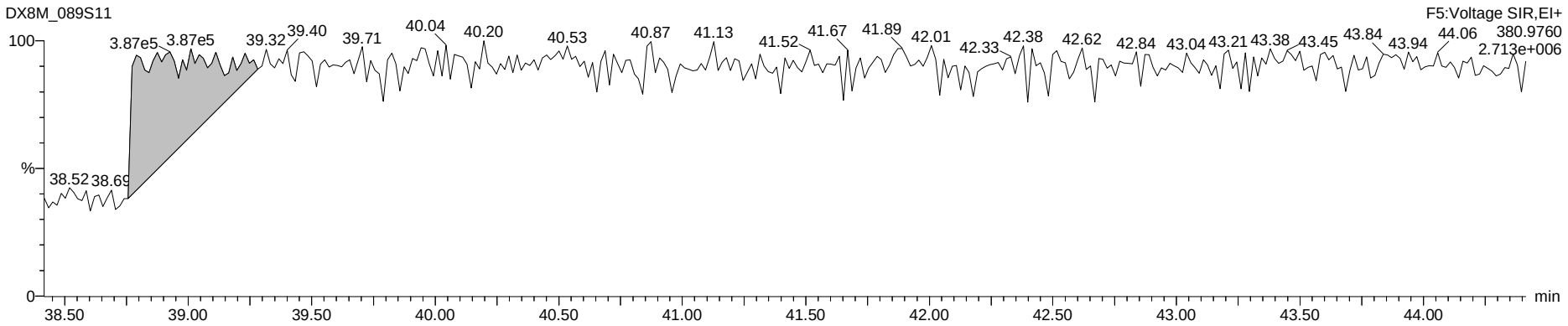
Total Hexa-Furans



Octa DPE



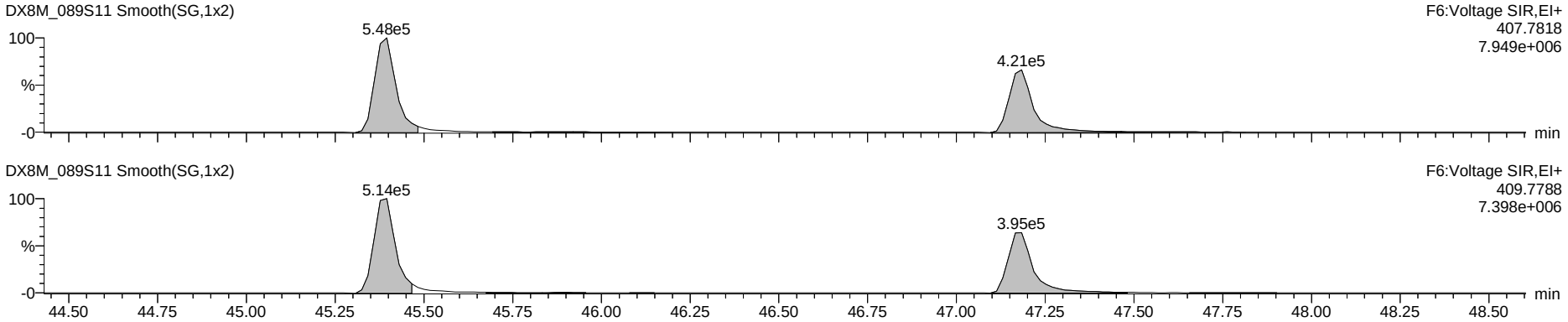
Hexa Lock



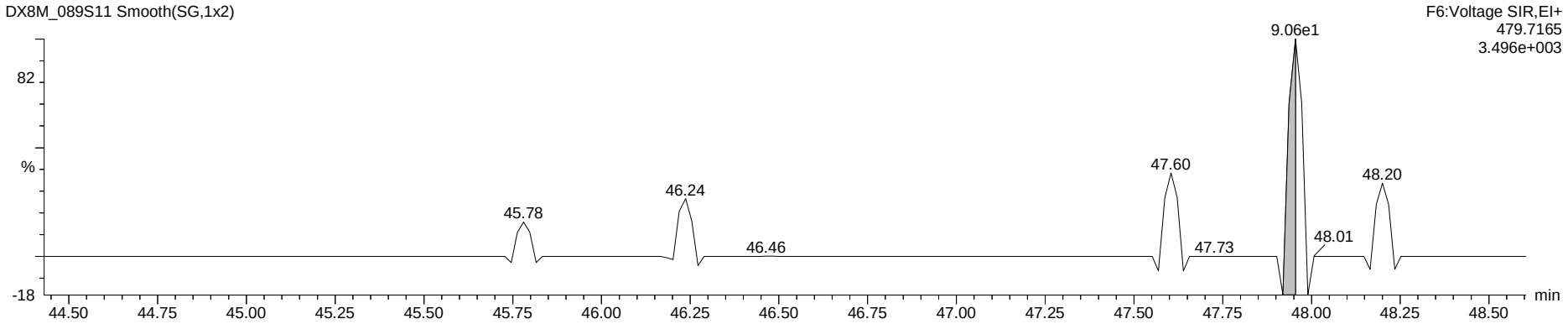
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

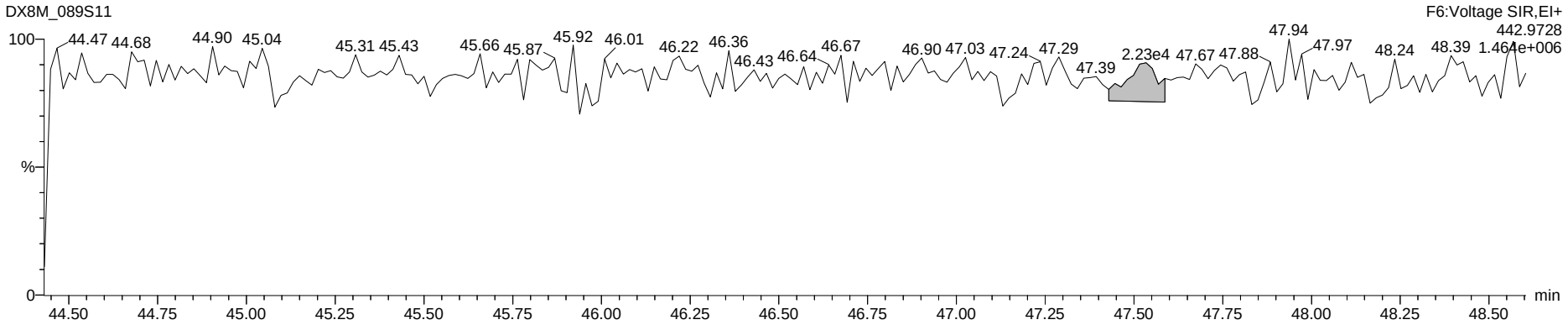
Total Hepta-Furans



Nona DPE



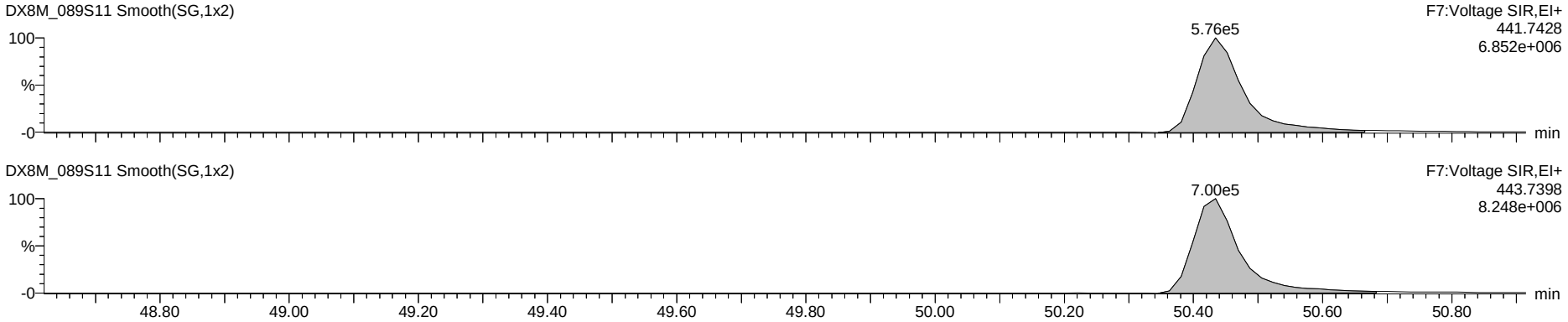
Hepta Lock



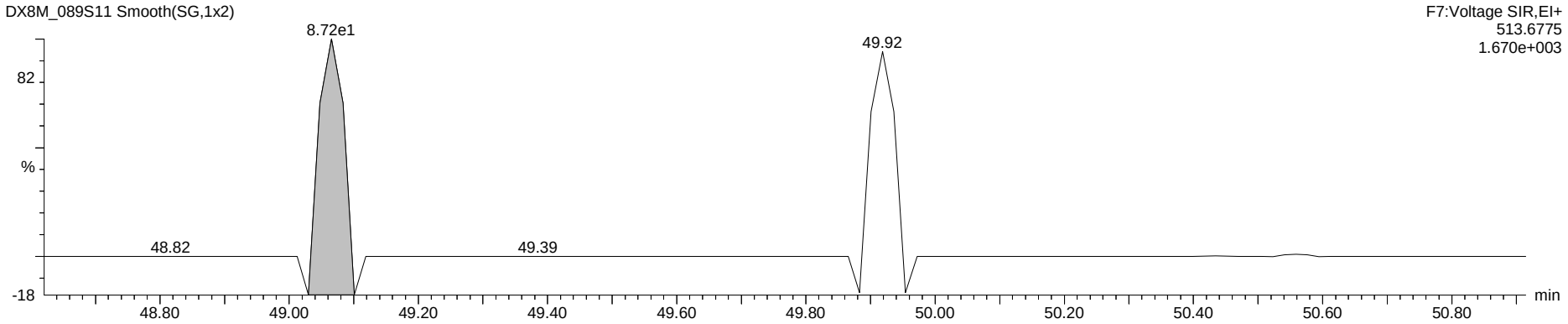
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_089-A.qld

Name: DX8M_089S11, Date: 27-Jul-2018, Time: 03:55:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

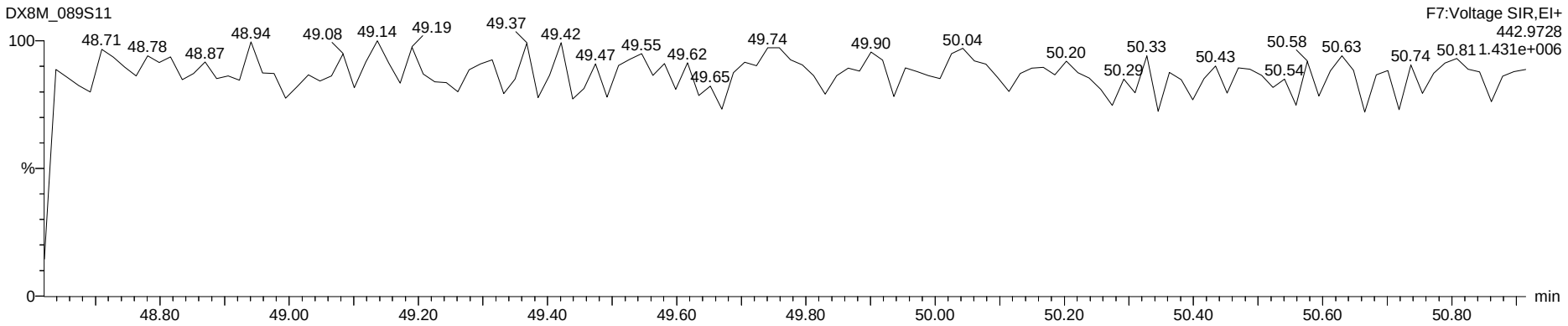
OCDF



Deca DPE



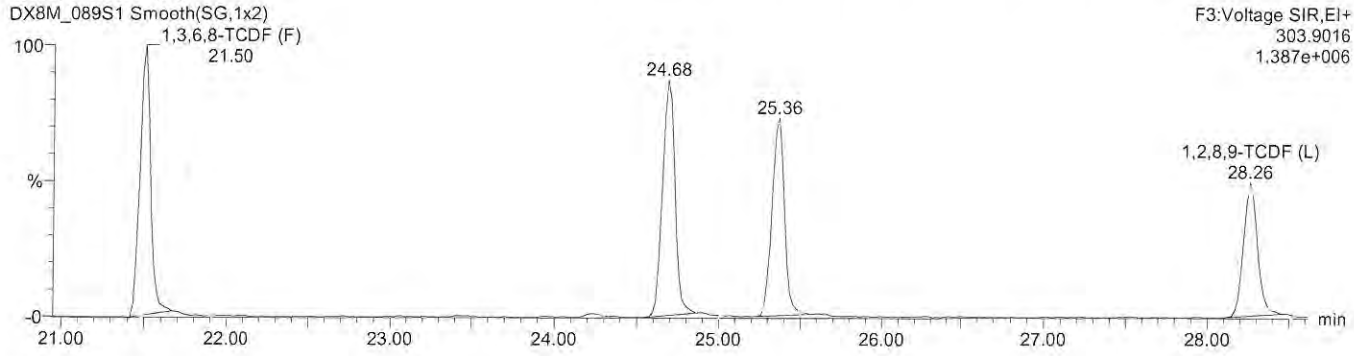
Octa Lock



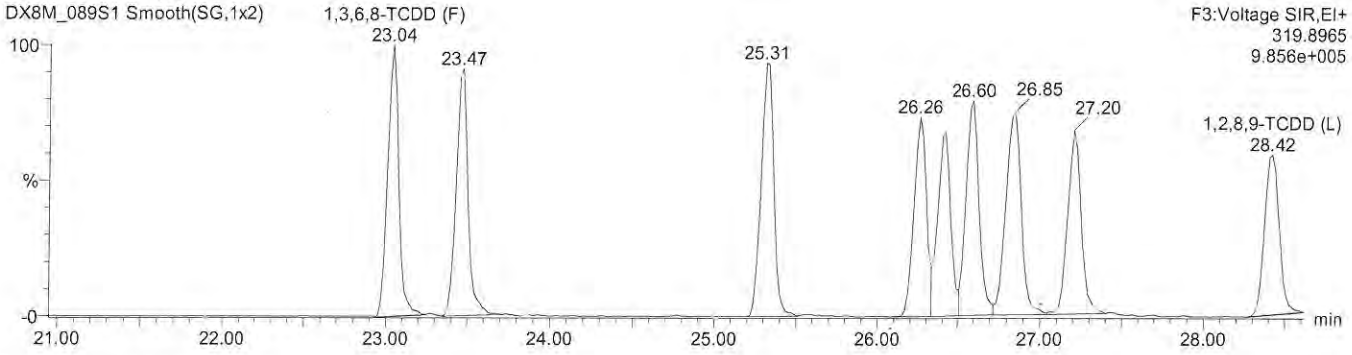
www.axysanalytical.com

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

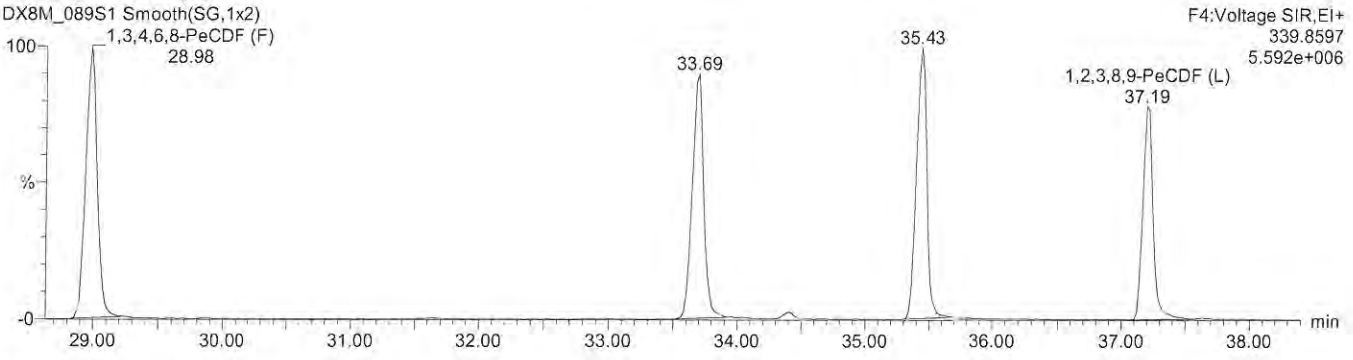
1,3,6,8-TCDF (F)



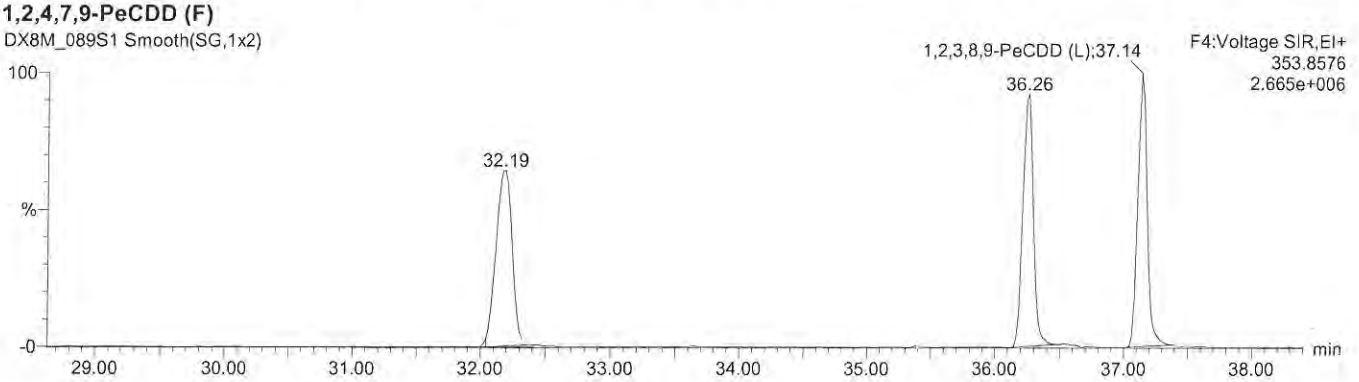
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



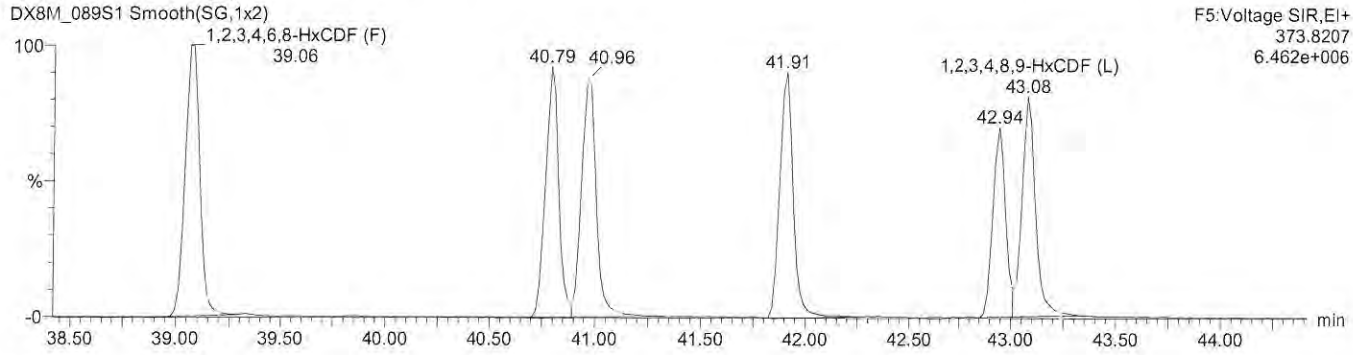
1,2,4,7,9-PeCDD (F)



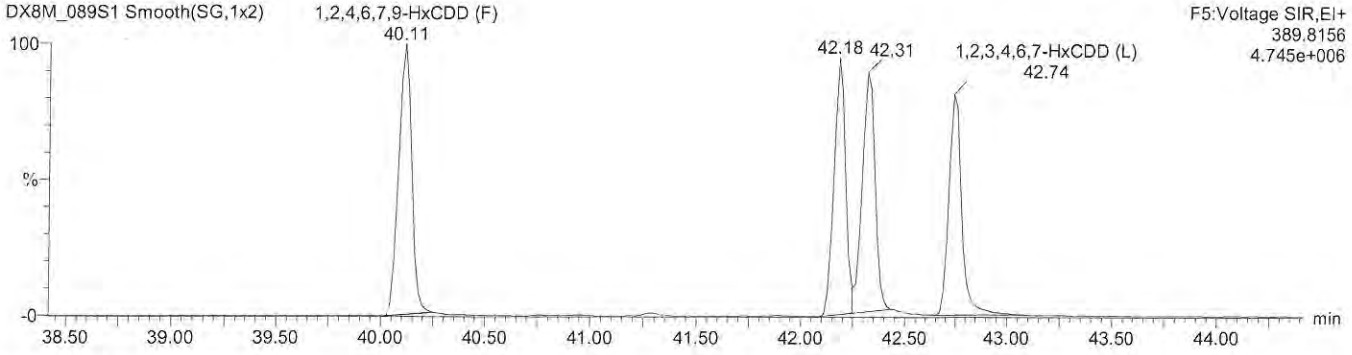
www.axysanalytical.com

Name: DX8M_089S1, Date: 26-Jul-2018, Time: 18:26:29, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

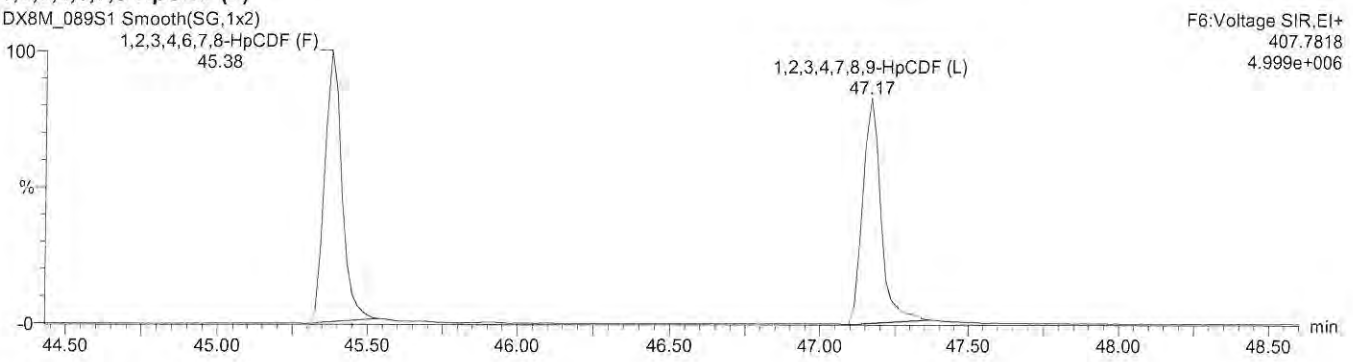
1,2,3,4,6,8-HxCDF (F)



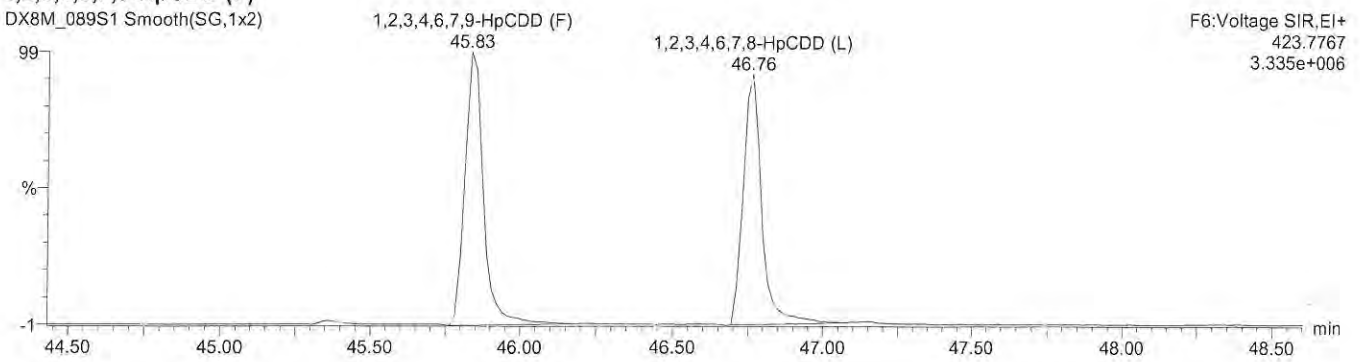
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



www.axysanalytical.com

Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA┐
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 400

Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

Tune : RT
List : EW
Check :
LIMS :
Logfile:

Date -list : 27-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

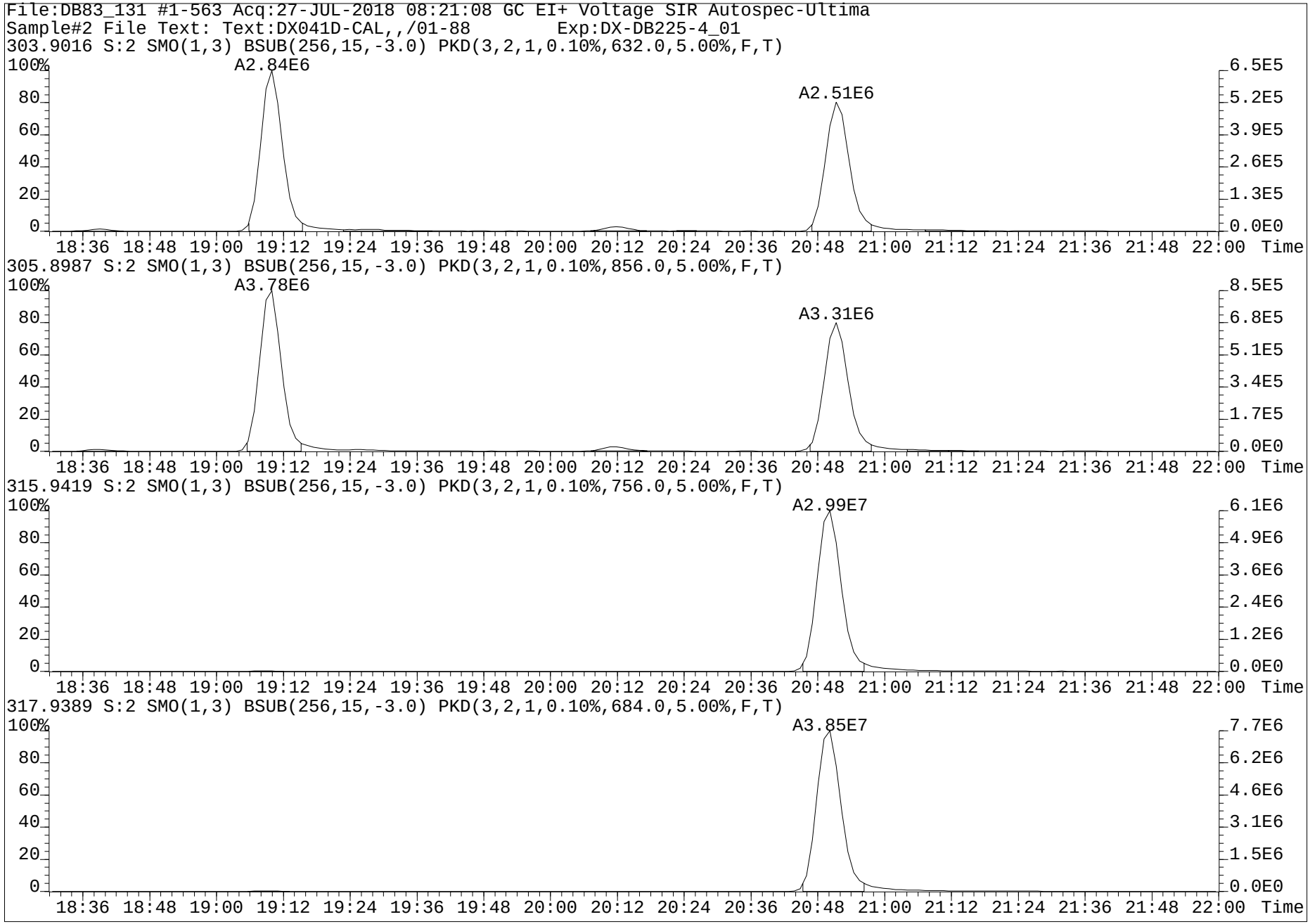
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_131	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	27-JUL-18 07:39:56
2	DB83_131	2	2	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 08:21:08
3	DB83_131	3	3	Toluene,,	1,,2.0uL	27-JUL-18 09:02:24
4	DB83_131	4	4	Toluene,,	1,,2.0uL	27-JUL-18 09:43:40
5	DB83_131	5	5	WG64557-101,,BLK	1,WG64557,2.0/20uL	27-JUL-18 10:24:52
6	DB83_131	6	6	L29626-1,,	1,WG64557,2.0/20uL	27-JUL-18 11:06:08
7	DB83_131	7	7	WG64557-103,,DUP	1,WG64557,2.0/20uL	27-JUL-18 11:47:24
8	DB83_131	8	8	L29626-2,,	1,WG64557,2.0/20uL	27-JUL-18 12:28:40
9	DB83_131	9	9	L29626-3,,	1,WG64557,2.0/20uL	27-JUL-18 13:09:52
10	DB83_131	10	10	L29626-4,,	1,WG64557,2.0/20uL	27-JUL-18 14:23:17
11	DB83_131	11	11	L29626-5,,	1,WG64557,2.0/20uL	27-JUL-18 15:04:33
12	DB83_131	12	12	L29626-6,,	1,WG64557,2.0/20uL	27-JUL-18 15:45:50
13	DB83_131	13	13	L29626-7,,	1,WG64557,2.0/20uL	27-JUL-18 16:27:06
14	DB83_131	14	14	L29626-8,,	1,WG64557,2.0/20uL	27-JUL-18 17:08:18
15	DB83_131	15	15	L29626-9,,	1,WG64557,2.0/20uL	27-JUL-18 17:49:30
16	DB83_131	16	16	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 18:30:46

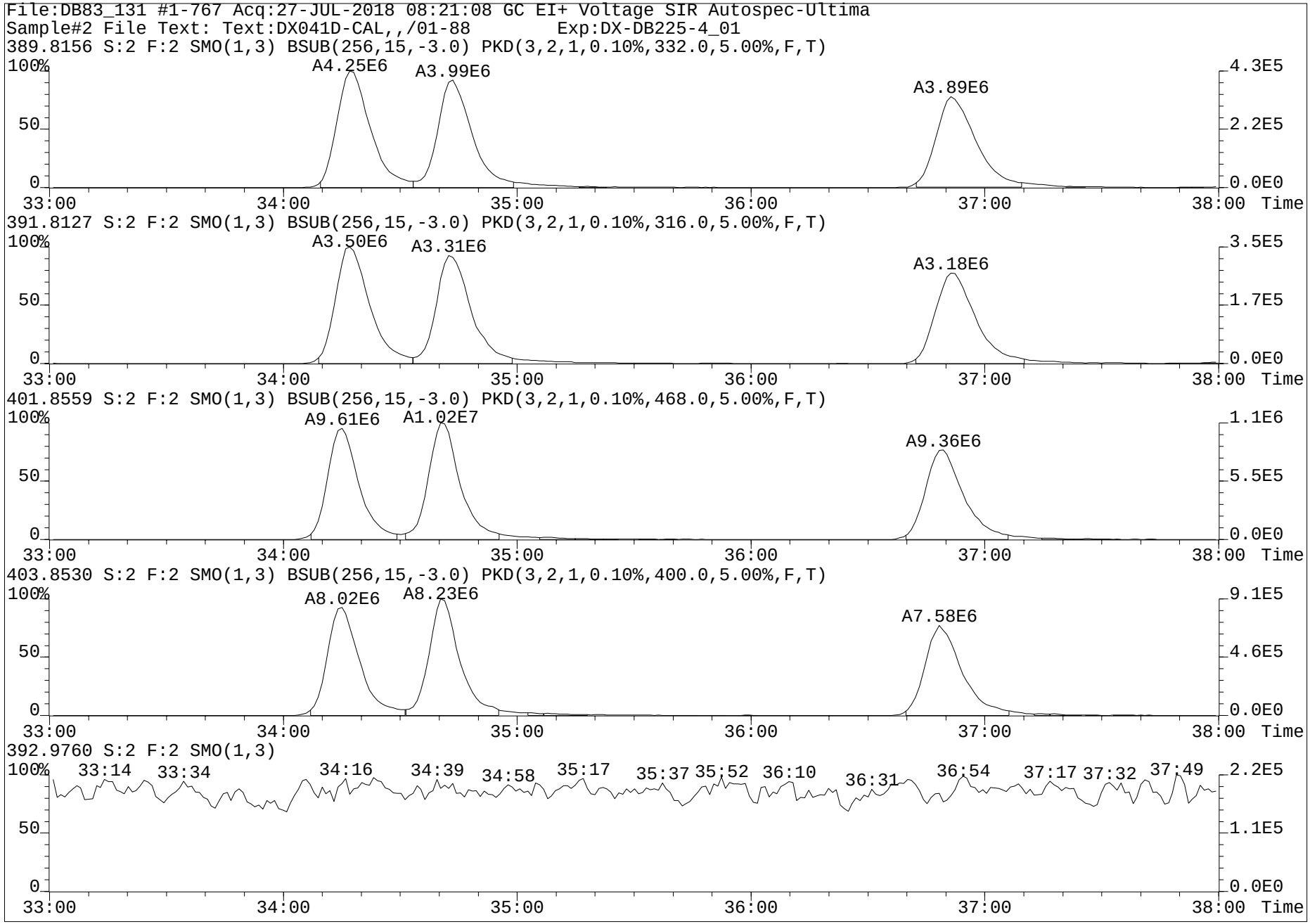
www.axysanalytical.com

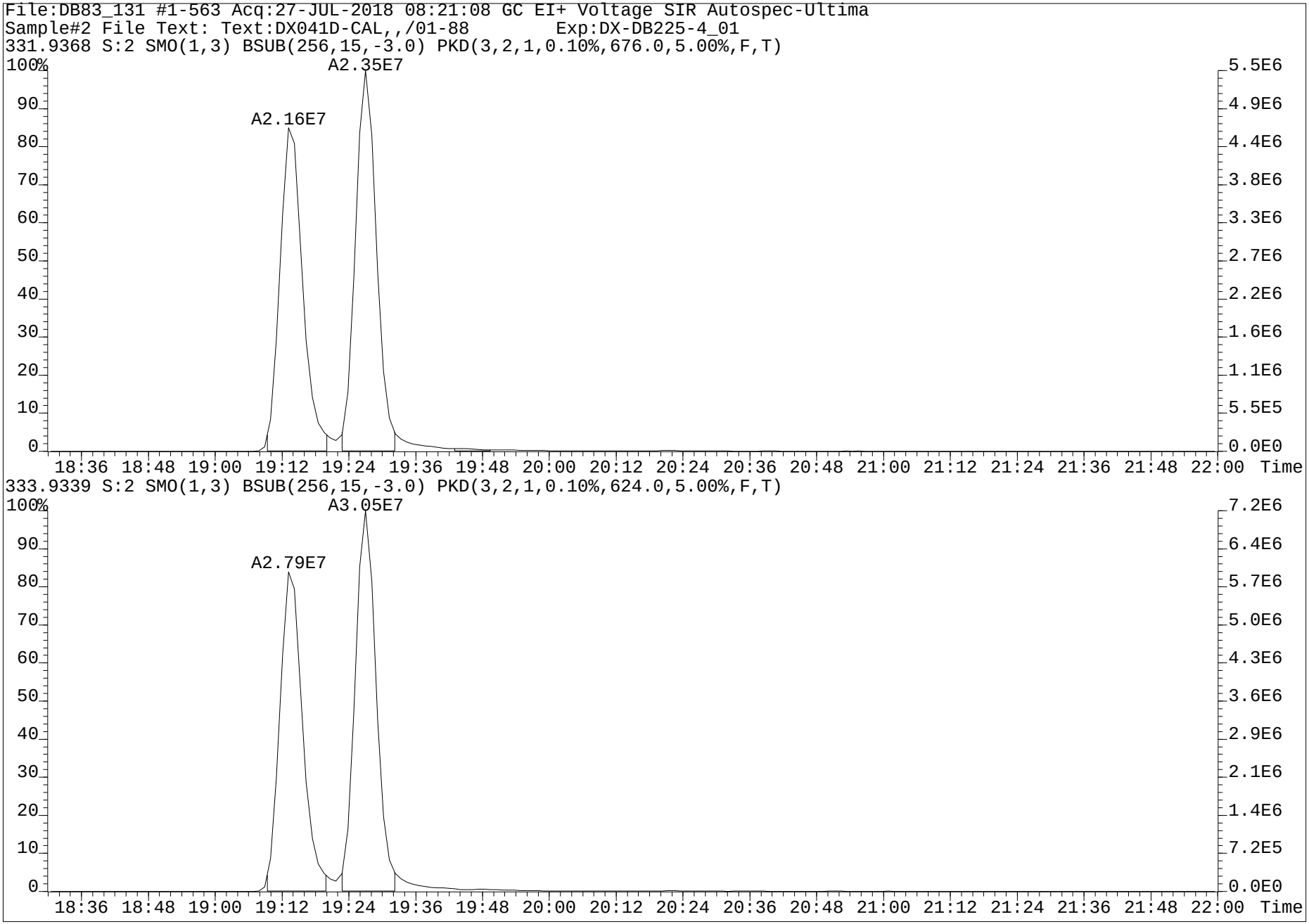
Run #8 Filename DB83_131 S: 2 I: 1 Acquired: 27-JUL-18 08:21:08 Processed: 30-JUL-18 10:41:49
Run: db83_131-a Analyte: db-hxd-c2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-88 Comments: 1,,2.0uL Cal
sample size: 1.000000 conc units: ng/mL total toxicity: 5.14 F1: 20.0000 F2: 1.0000

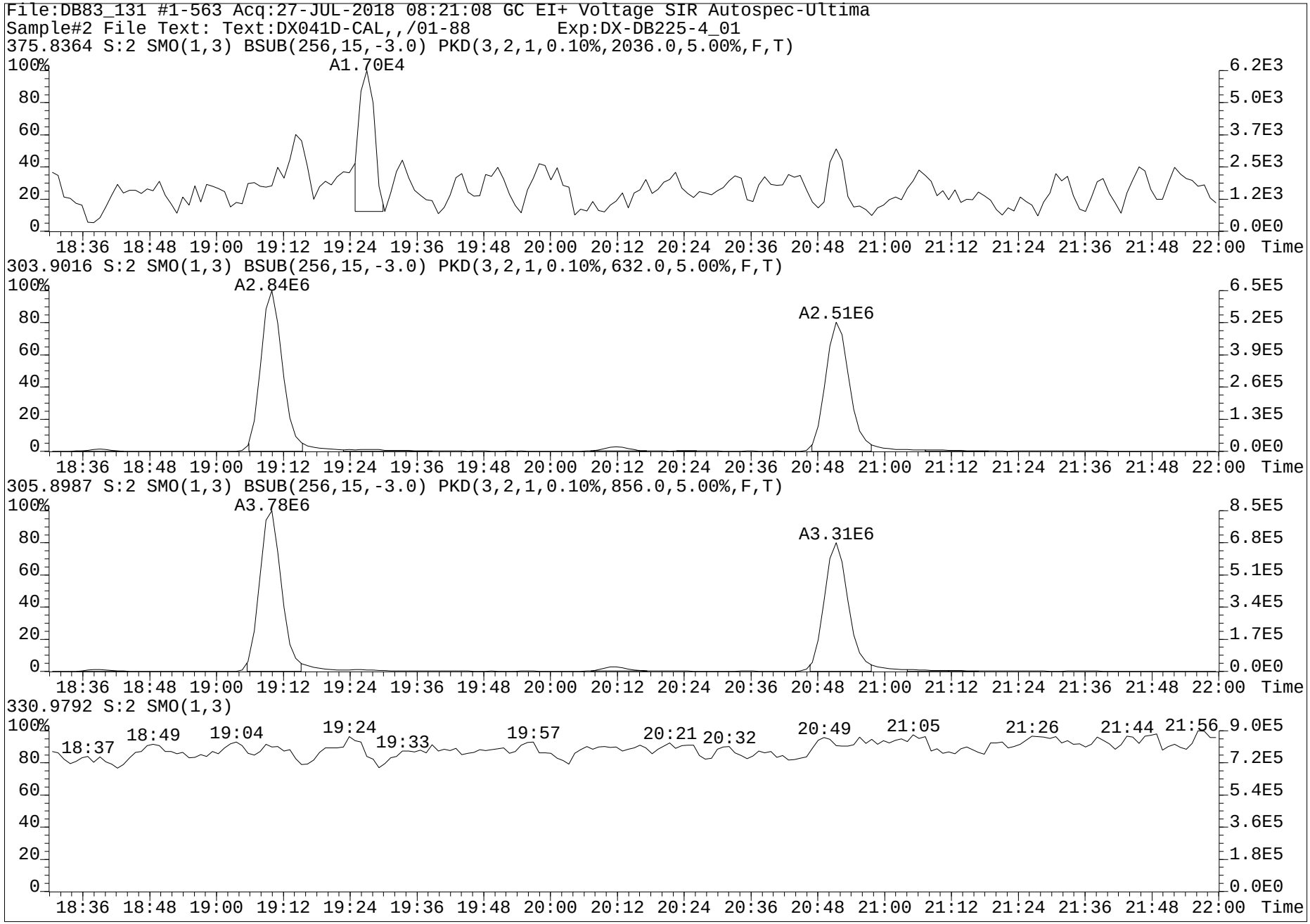
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	5.83e+06	0.76	y	20:51	8.778	1	0.0278	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	7.07e+06	1.22	y	36:53	42.574	4	0.0904	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	6.84e+07	0.78	y	20:50	70.796	-	0.0159	70.8	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	1.76e+07	1.20	y	34:16	98.396	-	0.1330	98.4	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	1.85e+07	1.24	y	34:41	99.931	-	0.1288	99.9	n
6	RS	13C-1,2,3,4-TCDD	1	5.40e+07	0.77	y	19:27	48.820	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	1.69e+07	1.23	y	36:50	30.898	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

AMyKB 30JUL2018


File:DB83_131 #1-563 Acq:27-JUL-2018 08:21:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,632.0,5.00%,F,T)
A2.84E6
A2.51E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,856.0,5.00%,F,T)
A3.78E6
A3.31E6
315.9419 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,756.0,5.00%,F,T)
A2.99E7
317.9389 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,684.0,5.00%,F,T)
A3.85E7
100%
80
60
40
20
0
6.5E5
5.2E5
3.9E5
2.6E5
1.3E5
0.0E0
8.5E5
6.8E5
5.1E5
3.4E5
1.7E5
6.1E6
4.9E6
3.6E6
2.4E6
1.2E6
7.7E6
6.2E6
4.6E6
3.1E6
1.5E6
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_131 #1-767 Acq:27-JUL-2018 08:21:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
389.8156 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,332.0,5.00%,F,T)
A4.25E6
A3.99E6
A3.89E6
391.8127 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,316.0,5.00%,F,T)
A3.50E6
A3.31E6
A3.18E6
401.8559 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,468.0,5.00%,F,T)
A9.61E6
A1.02E7
A9.36E6
403.8530 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,400.0,5.00%,F,T)
A8.02E6
A8.23E6
A7.58E6
392.9760 S:2 F:2 SMO(1,3)
33:14
33:34
34:16
34:39
34:58
35:17
35:37
35:52
36:10
36:31
36:54
37:17
37:32
37:49
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
4.3E5
2.2E5
0.0E0
3.5E5
1.7E5
1.1E6
5.5E5
9.1E5
4.6E5
1.1E5


File:DB83_131 #1-563 Acq:27-JUL-2018 08:21:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
331.9368 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,676.0,5.00%,F,T)
A2.35E7
A2.16E7
100%
90
80
70
60
50
40
30
20
10
0
5.5E6
4.9E6
4.4E6
3.8E6
3.3E6
2.7E6
2.2E6
1.6E6
1.1E6
5.5E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,624.0,5.00%,F,T)
A3.05E7
A2.79E7
100%
90
80
70
60
50
40
30
20
10
0
7.2E6
6.4E6
5.7E6
5.0E6
4.3E6
3.6E6
2.9E6
2.1E6
1.4E6
7.2E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

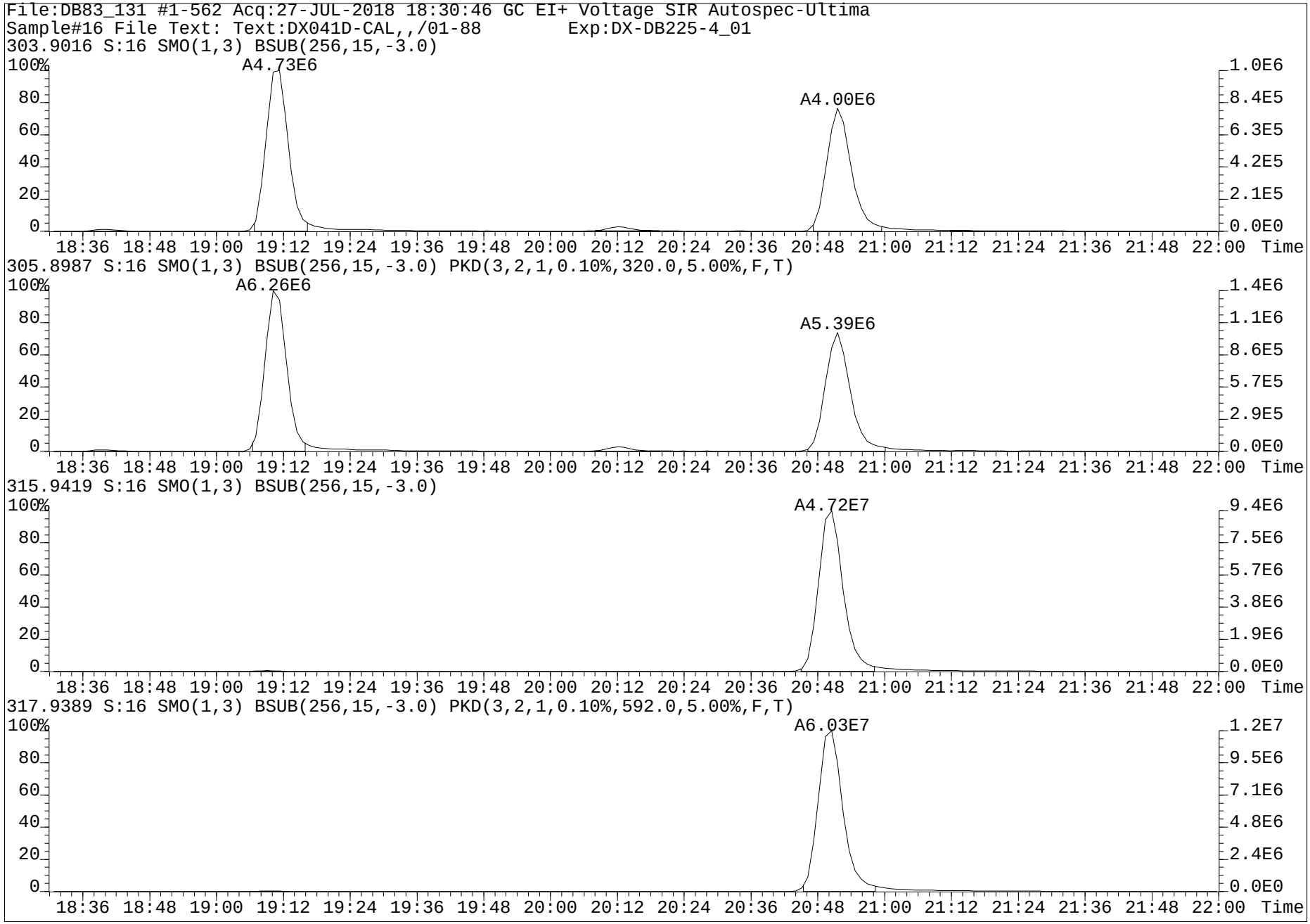

File:DB83_131 #1-563 Acq:27-JUL-2018 08:21:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
375.8364 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,2036.0,5.00%,F,T)
A1.70E4
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,632.0,5.00%,F,T)
A2.84E6
A2.51E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,856.0,5.00%,F,T)
A3.78E6
A3.31E6
330.9792 S:2 SMO(1,3)
18:37
18:49
19:04
19:24
19:33
19:57
20:21
20:32
20:49
21:05
21:26
21:44
21:56
Time

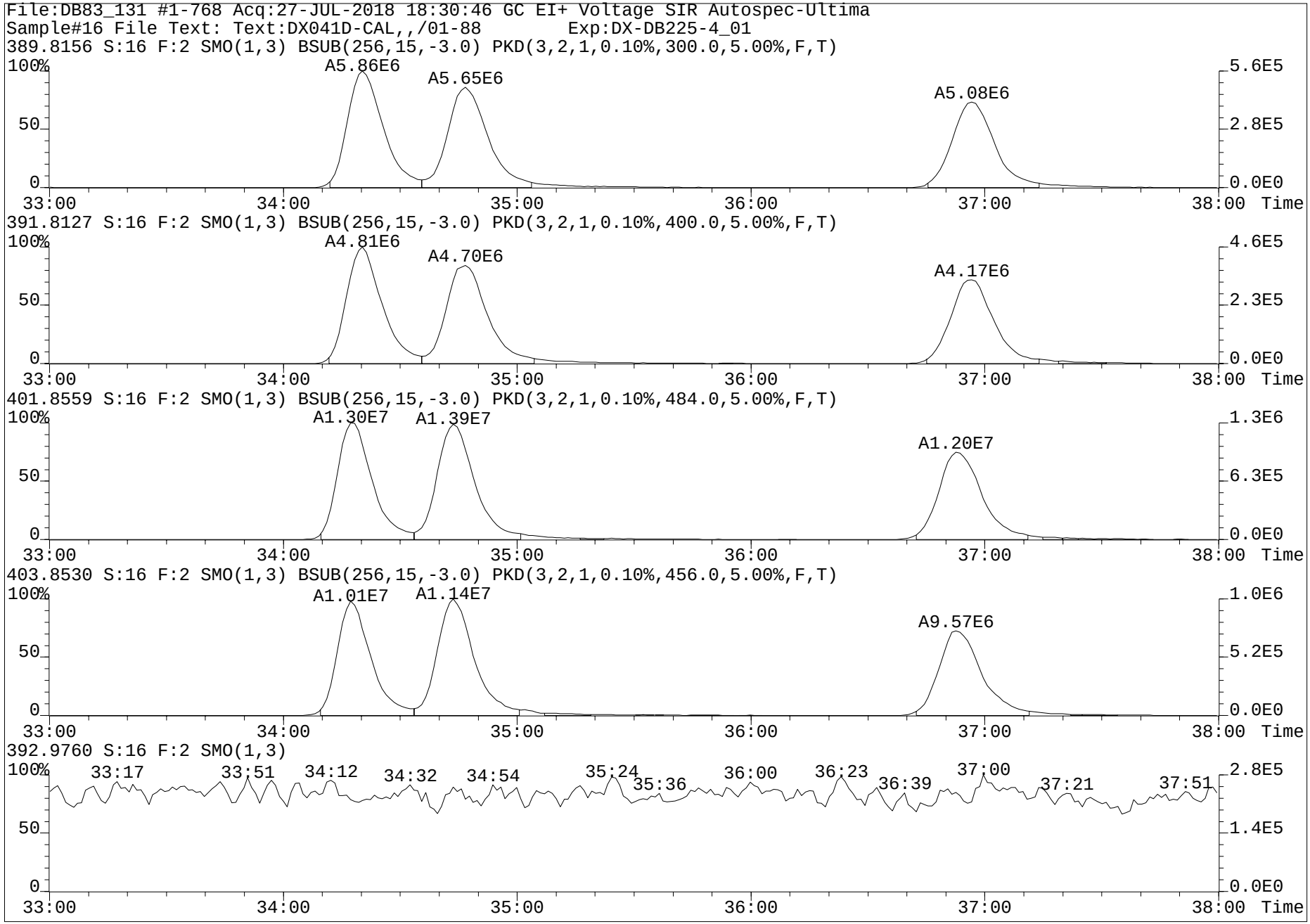
www.axysanalytical.com

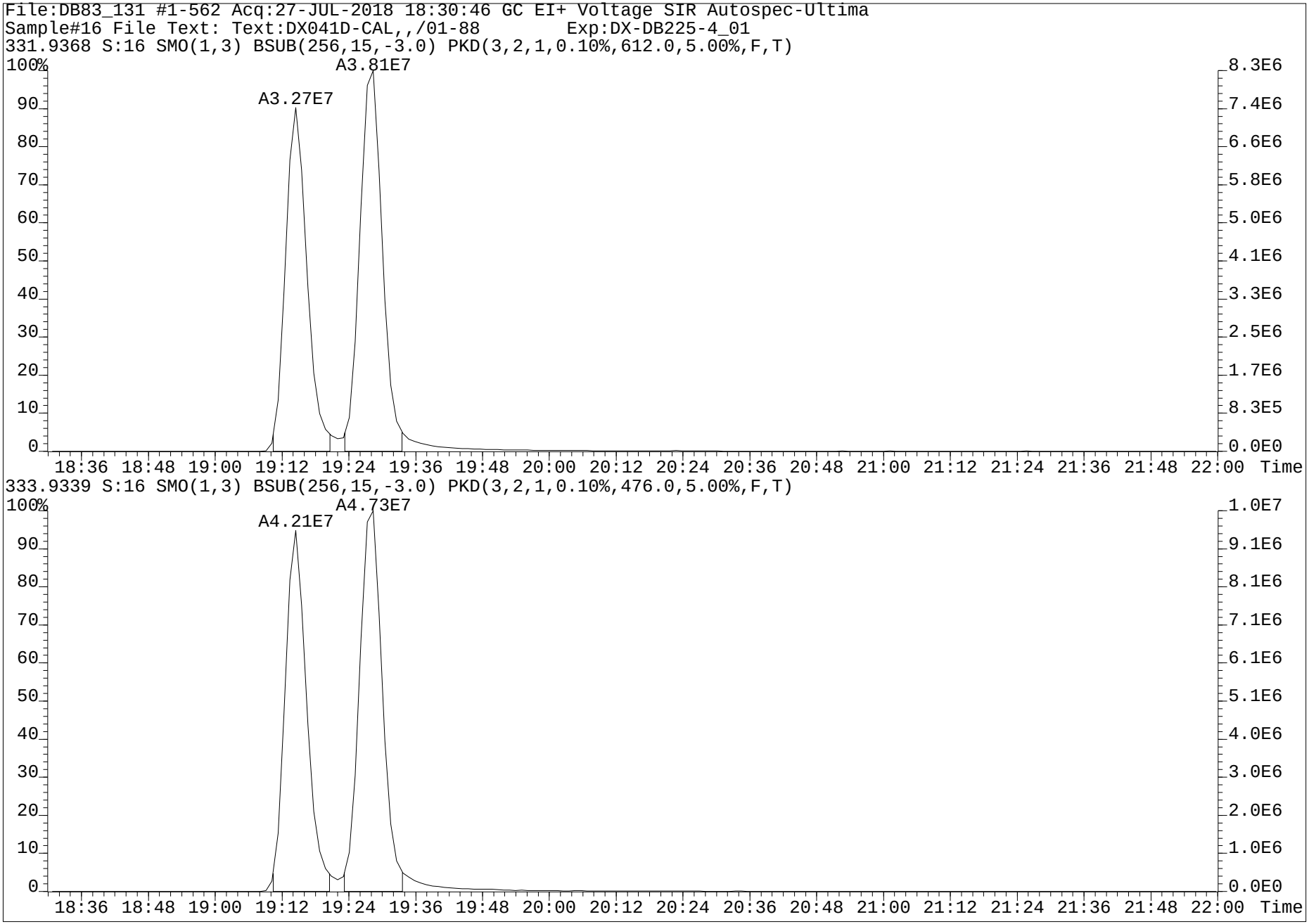
Run #21 Filename DB83_131 S: 16 I: 1 Acquired: 27-JUL-18 18:30:46 Processed: 30-JUL-18 10:41:50
Run: db83_131-a Analyte: db-hxd-c2 Cal: db83_121-6a Results: db83_131-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-88 Comments: 1,,2.0uL Cal
sample size: 1.000000 conc units: ng/mL total toxicity: 5.06 F1: 20.0000 F2: 1.0000

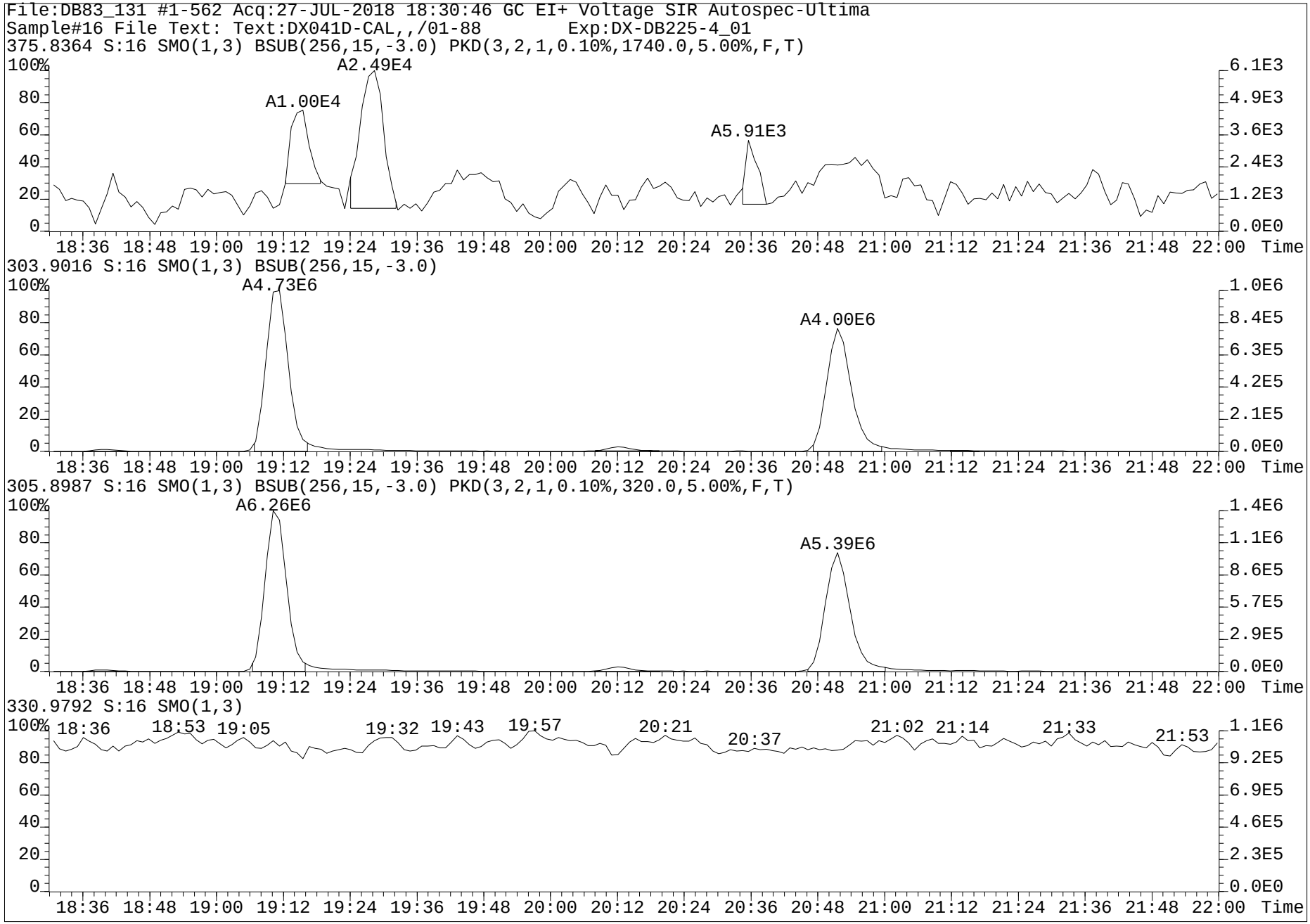
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	9.40e+06	0.74	y	20:52	9.012	1	0.0088	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	9.25e+06	1.22	y	36:58	41.592	4	0.0825	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	1.07e+08	0.78	y	20:50	70.315	-	0.0091	70.3	y
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	2.31e+07	1.28	y	34:19	101.155	-	0.1298	101.2	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	2.52e+07	1.22	y	34:45	107.071	-	0.1258	107.1	n
6	RS	13C-1,2,3,4-TCDD	1	8.55e+07	0.81	y	19:28	77.220	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.16e+07	1.26	y	36:54	39.393	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

pkg KB 31 JUL 2018


File:DB83_131 #1-562 Acq:27-JUL-2018 18:30:46 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
303.9016 S:16 SMO(1,3) BSUB(256,15,-3.0)
A4.73E6
A4.00E6
305.8987 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,320.0,5.00%,F,T)
A6.26E6
A5.39E6
315.9419 S:16 SMO(1,3) BSUB(256,15,-3.0)
A4.72E7
317.9389 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,592.0,5.00%,F,T)
A6.03E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
1.0E6
8.4E5
6.3E5
4.2E5
2.1E5
0.0E0
1.4E6
1.1E6
8.6E5
5.7E5
2.9E5
9.4E6
7.5E6
5.7E6
3.8E6
1.9E6
1.2E7
9.5E6
7.1E6
4.8E6
2.4E6


File:DB83_131 #1-768 Acq:27-JUL-2018 18:30:46 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
389.8156 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,300.0,5.00%,F,T)
A5.86E6
A5.65E6
A5.08E6
391.8127 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,400.0,5.00%,F,T)
A4.81E6
A4.70E6
A4.17E6
401.8559 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,484.0,5.00%,F,T)
A1.30E7
A1.39E7
A1.20E7
403.8530 S:16 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,456.0,5.00%,F,T)
A1.01E7
A1.14E7
A9.57E6
392.9760 S:16 F:2 SMO(1,3)
33:17
33:51
34:12
34:32
34:54
35:24
35:36
36:00
36:23
36:39
37:00
37:21
37:51
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time
5.6E5
2.8E5
0.0E0
4.6E5
2.3E5
1.3E6
6.3E5
1.0E6
5.2E5
2.8E5
1.4E5


File:DB83_131 #1-562 Acq:27-JUL-2018 18:30:46 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
331.9368 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,612.0,5.00%,F,T)
A3.81E7
A3.27E7
333.9339 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,476.0,5.00%,F,T)
A4.73E7
A4.21E7
Time


File:DB83_131 #1-562 Acq:27-JUL-2018 18:30:46 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
375.8364 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,1740.0,5.00%,F,T)
A1.00E4
A2.49E4
A5.91E3
303.9016 S:16 SMO(1,3) BSUB(256,15,-3.0)
A4.73E6
A4.00E6
305.8987 S:16 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,320.0,5.00%,F,T)
A6.26E6
A5.39E6
330.9792 S:16 SMO(1,3)
18:36 18:53 19:05 19:32 19:43 19:57 20:21 20:37 21:02 21:14 21:33 21:53
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_Log.mdb 21 Nov 2008 11:39:44
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX8M_090S1	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	27-Jul-18	15:50:50
2	DX8M_090S2	DX051A-SUR,,/01	1,,1.0uL Inst Blank	27-Jul-18	16:50:02
3	DX8M_090S3	DX051A-SUR,,/01	1,,1.0uL Inst Blank	27-Jul-18	17:42:27
4	DX8M_090S4	L29625-19,,	1,WG64577,1.0/20uL	27-Jul-18	18:51:35
5	DX8M_090S5	L29625-20,,	1,WG64577,1.0/20uL	27-Jul-18	19:44:04
6	DX8M_090S6	L29625-21,,	1,WG64577,1.0/20uL	27-Jul-18	20:47:28
7	DX8M_090S7	L29625-22,,	1,WG64577,1.0/20uL	27-Jul-18	21:39:49
8	DX8M_090S8	L29625-23,,	1,WG64577,1.0/20uL	27-Jul-18	22:35:04
9	DX8M_090S9	L29625-24,,	1,WG64577,1.0/20uL	27-Jul-18	23:30:17
10	DX8M_090S10	L29625-25,,	1,WG64577,1.0/20uL	28-Jul-18	00:25:31
11	DX8M_090S11	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	28-Jul-18	01:20:44
12	DX8M_090S12	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	02:25:11
13	DX8M_090S13	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	03:17:40
14	DX8M_090S14	WG64658-101,,TEST	1,WG64658,1.0/20uL	28-Jul-18	04:12:52
15	DX8M_090S15	DX051A-SUR,,/01	1,,1.0uL Inst Blank	28-Jul-18	05:08:06
16	DX8M_090S16	L29626-3,I,	1,WG64557,1.0/20uL	28-Jul-18	06:03:20
17	DX8M_090S17	L29626-5,I,	1,WG64557,1.0/20uL	28-Jul-18	06:58:34
18	DX8M_090S18	L29625-26,,	1,WG64577,1.0/20uL	28-Jul-18	07:53:46
19	DX8M_090S19	L29625-27,,	1,WG64577,1.0/20uL	28-Jul-18	08:49:00
20	DX8M_090S20	L29625-28,,	1,WG64577,1.0/20uL	28-Jul-18	09:44:12
21	DX8M_090S21	L29625-29,,	1,WG64577,1.0/20uL	28-Jul-18	10:39:27
22	DX8M_090S22	L29625-30,,	1,WG64577,1.0/20uL	28-Jul-18	11:34:40
23	DX8M_090S23	DX041D-CAL,,/01-89	1,,1.0uL Cal Win/Res	28-Jul-18	12:29:54

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 27 Jul 2018 10:49:00
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	4.79e5	0.75	NO	25.34	10.868	0.0293	108.7	3.20e3	2.21e3
2	1,2,3,7,8-PeCDF	1.000	1.86e6	1.46	NO	33.69	50.413	0.0536	100.8	4.10e3	2.95e3
3	2,3,4,7,8-PeCDF	1.000	1.81e6	1.46	NO	35.43	49.220	0.0467	98.4	4.10e3	2.95e3
4	1,2,3,4,7,8-HxCDF	1.000	1.48e6	1.20	NO	40.81	53.089	0.0712	106.2	4.50e3	6.08e3
5	1,2,3,6,7,8-HxCDF	1.000	1.59e6	1.20	NO	40.98	52.709	0.0702	105.4	4.50e3	6.08e3
6	2,3,4,6,7,8-HxCDF	1.000	1.51e6	1.21	NO	41.91	55.863	0.0715	111.7	4.50e3	6.08e3
7	1,2,3,7,8,9-HxCDF	1.000	1.04e6	1.24	NO	42.96	47.868	0.0953	95.7	4.50e3	6.08e3
8	1,2,3,4,6,7,8-HpCDF	1.000	1.31e6	1.01	NO	45.40	52.882	0.0508	105.8	3.05e3	4.14e3
9	1,2,3,4,7,8,9-HpCDF	1.000	1.05e6	1.10	NO	47.18	55.402	0.0698	110.8	3.05e3	4.14e3
10	OCDF	1.000	1.54e6	0.82	NO	50.43	97.047	0.0109	97.0	5.37e2	3.01e2
11	2,3,7,8-TCDD	1.000	3.81e5	0.78	NO	26.58	10.368	0.0401	103.7	3.49e3	2.42e3
12	1,2,3,7,8-PeCDD	1.000	1.24e6	0.60	NO	36.26	53.167	0.0698	106.3	3.75e3	3.45e3
13	1,2,3,4,7,8-HxCDD	1.000	1.02e6	1.21	NO	42.19	49.085	0.0585	98.2	4.46e3	2.46e3
14	1,2,3,6,7,8-HxCDD	1.000	1.13e6	1.20	NO	42.33	50.181	0.0583	100.4	4.46e3	2.46e3
15	1,2,3,7,8,9-HxCDD	1.000	1.06e6	1.21	NO	42.75	48.848	0.0581	97.7	4.46e3	2.46e3
16	1,2,3,4,6,7,8-HpCDD	1.000	9.34e5	1.10	NO	46.78	56.331	0.0909	112.7	2.95e3	5.39e3
17	OCDD	1.000	1.37e6	0.89	NO	50.36	104.224	0.0573	104.2	2.79e3	8.58e2
18	13C-2,3,7,8-TCDF	1.000	4.82e6	0.69	NO	25.31	89.612	0.0678	89.6	1.01e4	5.05e3
19	13C-1,2,3,7,8-PeCDF	1.000	4.00e6	1.36	NO	33.65	103.090	0.1001	103.1	7.58e3	8.53e3
20	13C-2,3,4,7,8-PeCDF	1.000	3.91e6	1.42	NO	35.40	104.597	0.1038	104.6	7.58e3	8.53e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	2.50e6	0.51	NO	40.77	90.146	0.1705	90.1	1.52e4	9.17e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	2.84e6	0.53	NO	40.96	96.085	0.1596	96.1	1.52e4	9.17e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	2.37e6	0.57	NO	41.89	89.486	0.1786	89.5	1.52e4	9.17e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	2.18e6	0.51	NO	42.92	83.694	0.1811	83.7	1.52e4	9.17e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	2.03e6	0.44	NO	45.38	91.860	0.1343	91.9	8.18e3	7.12e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	1.51e6	0.45	NO	47.17	87.399	0.1722	87.4	8.18e3	7.12e3
27	13C-2,3,7,8-TCDD	1.000	3.30e6	0.76	NO	26.54	98.722	0.1959	98.7	5.22e3	2.20e4
28	13C-1,2,3,7,8-PeCDD	1.000	2.28e6	0.70	NO	36.22	103.825	0.0645	103.8	1.09e3	4.79e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	2.08e6	1.23	NO	42.18	97.223	0.1512	97.2	9.26e3	7.37e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	2.40e6	1.19	NO	42.31	106.292	0.1430	106.3	9.26e3	7.37e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	1.67e6	0.95	NO	46.76	94.302	0.1479	94.3	9.33e3	4.12e3
32	13C-OCDD	1.000	2.58e6	0.87	NO	50.35	166.115	0.0027	83.1	2.12e2	0.00e0
33	13C-1,2,3,4-TCDD	1.000	3.33e6	0.79	NO	26.20	147.368	0.2899	147.4	5.22e3	2.20e4
34	13C-1,2,3,7,8,9-HxCDD	1.000	2.17e6	1.20	NO	42.74	152.010	0.2262	152.0	9.26e3	7.37e3
35	37Cl-2,3,7,8-TCDD	1.000	3.22e5			26.58	8.673	0.0523	86.7		8.05e3
36	Total Tetra-Furans	1.000					42.783	0.0293			2.21e3
37	Total Tetra-Dioxins	1.000					88.890	0.0401			2.42e3
38	Total Penta-Furans	1.000					195.173	0.0506			2.95e3
39	Total Penta-Dioxins	1.000					168.735	0.0698			3.45e3
40	Total Hexa-Furans	1.000					319.469	0.0735			6.08e3
41	Total Hexa-Dioxins	1.000					202.787	0.0562			2.46e3
42	Total Hepta-Furans	1.000					109.943	0.0596			4.14e3
43	Total Hepta-Dioxins	1.000					115.924	0.0909			5.39e3
44	Hexa DPE	1.000	4.07e2			21.41					5.02e-2
45	Hepta DPE	1.000	4.98e2			37.61					3.05e2
46	Octa DPE	1.000	1.24e2			40.60					0.00e0
47	Nona DPE	1.000	6.07e1			48.38					0.00e0
48	Deca DPE	1.000	7.50e1			50.65					3.32e-1
49	Tetra Lock	1.000	1.11e4			24.33					9.16e4
50	Penta Lock	1.000	1.18e4			29.16					1.60e5
51	Hexa Lock	1.000	2.02e5			39.04					3.51e5

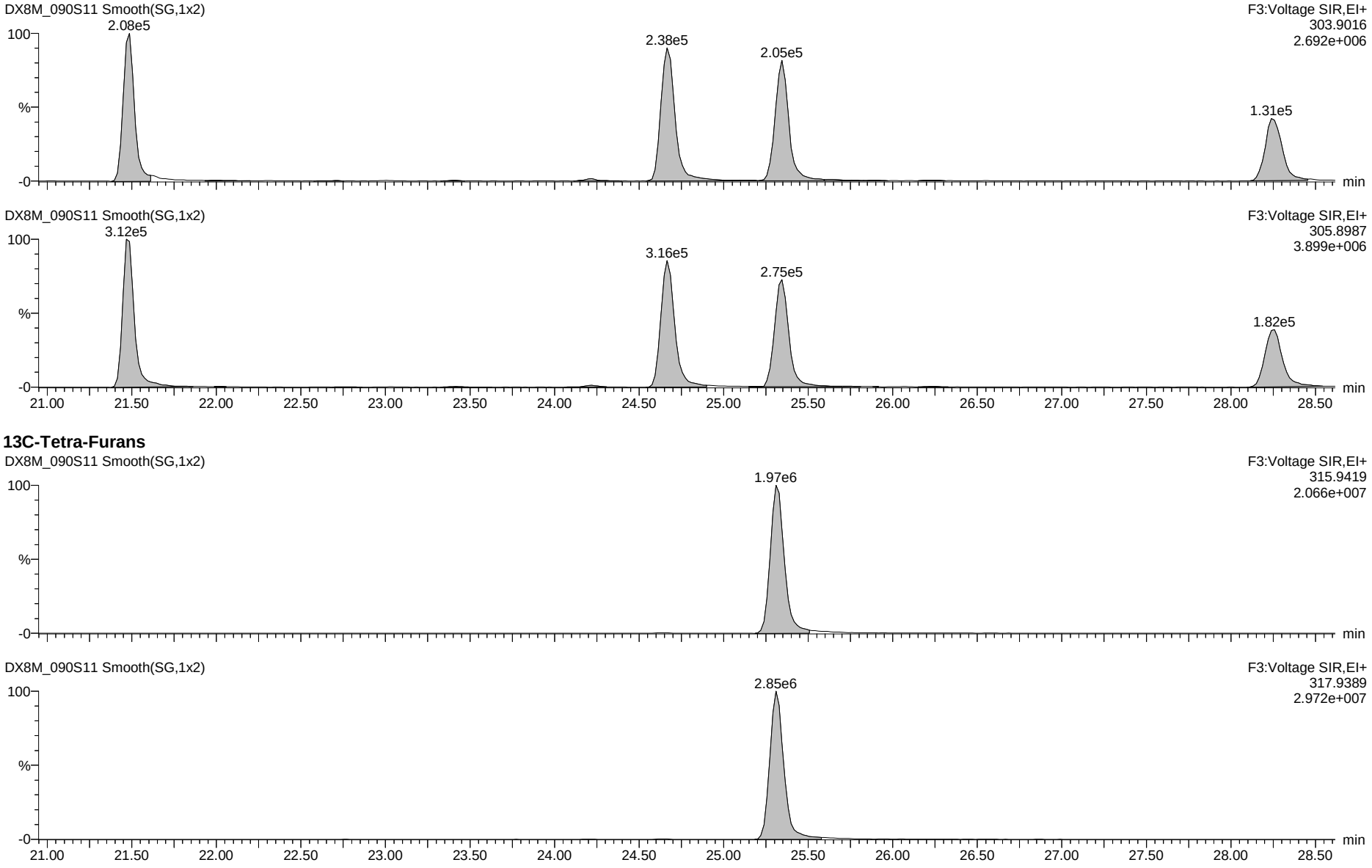
pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 27 Jul 2018 10:49:00
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans

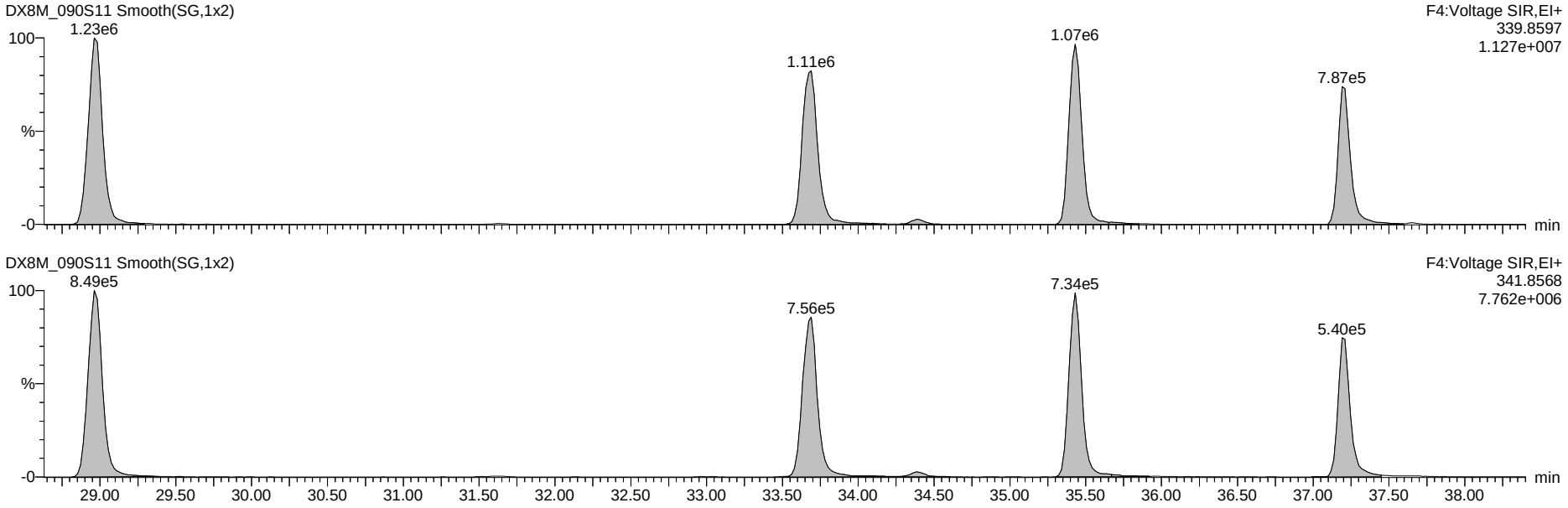


13C-Tetra-Furans

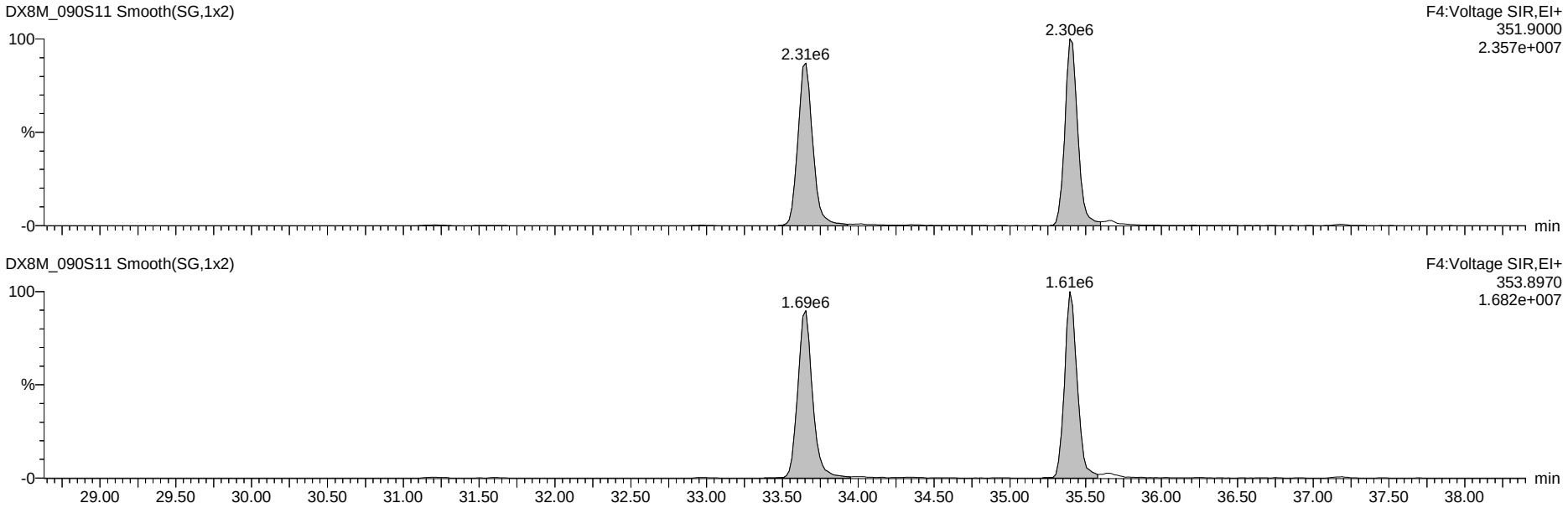
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



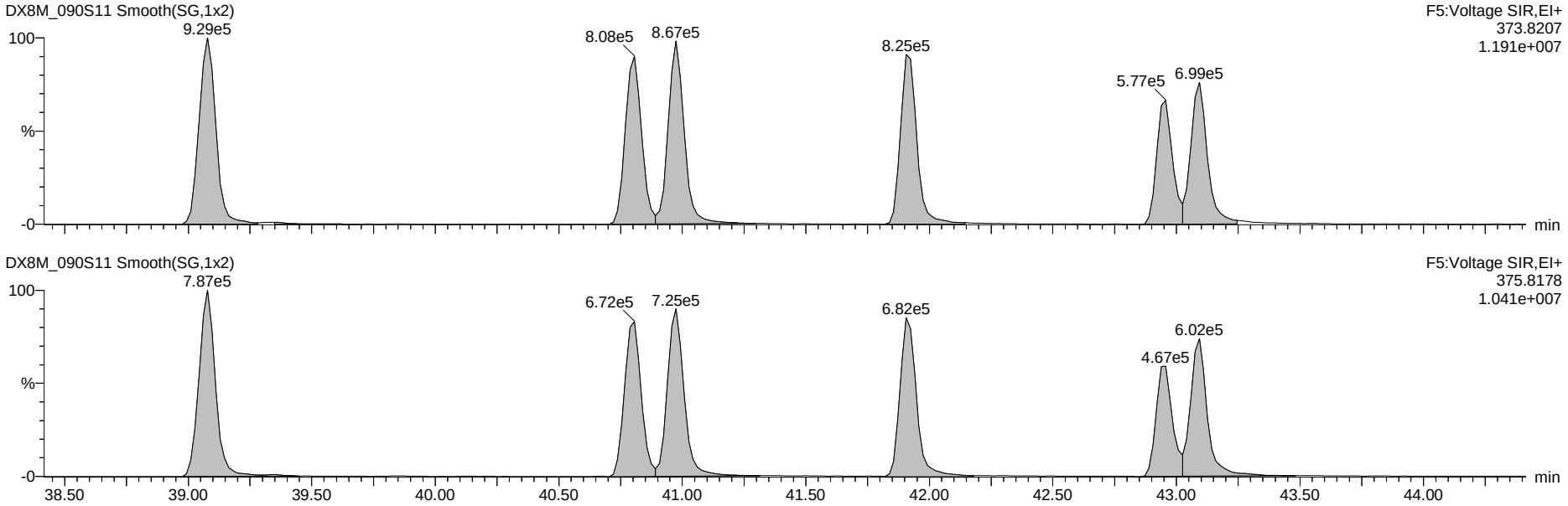
13C-Penta-Furans



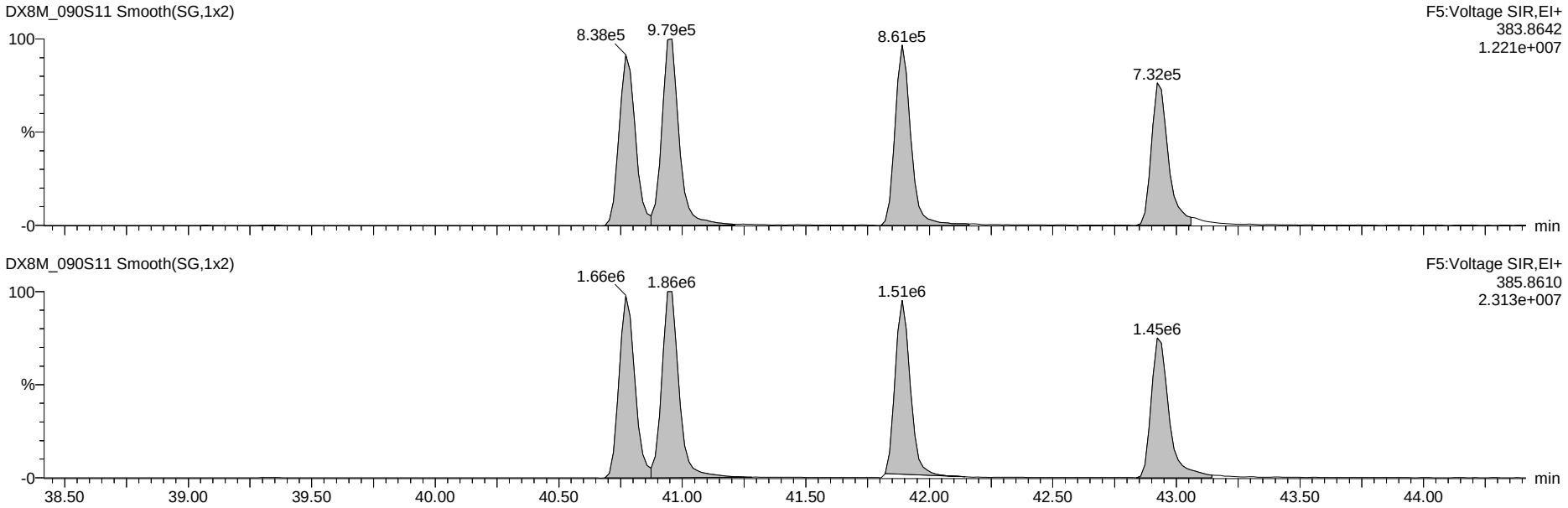
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans



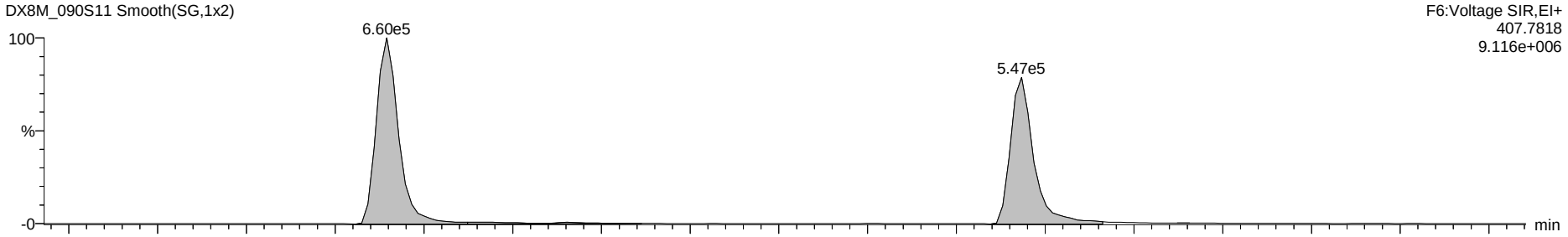
13C-Hexa-Furans

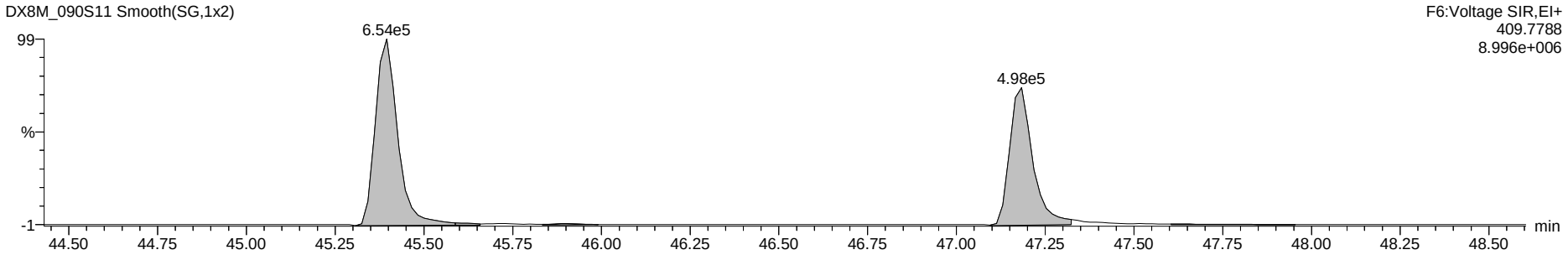


Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

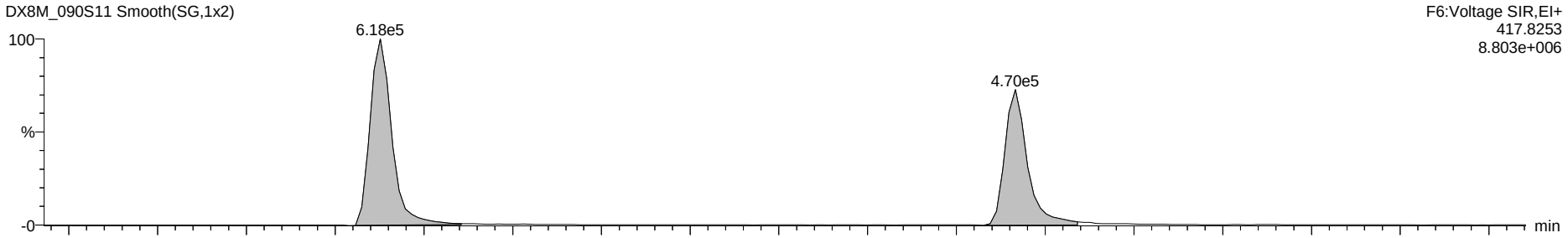
Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

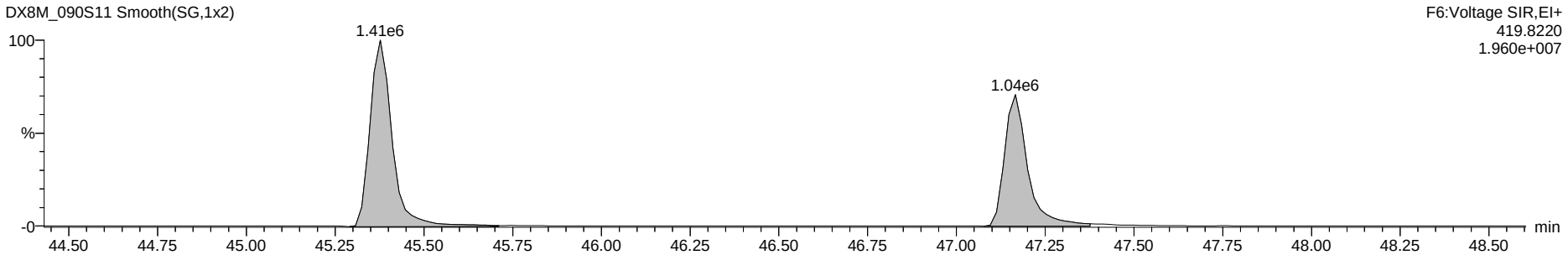
Total Hepta-Furans





13C-Hepta-Furans

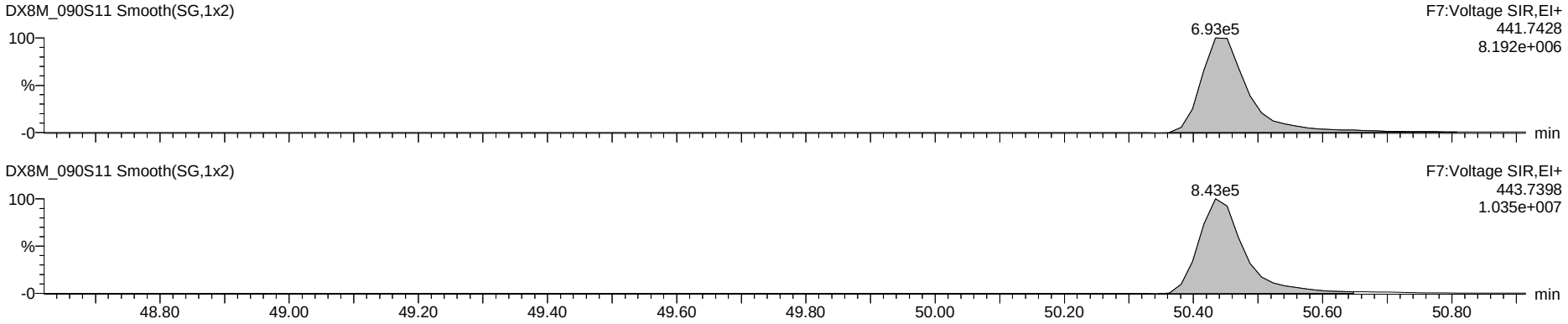




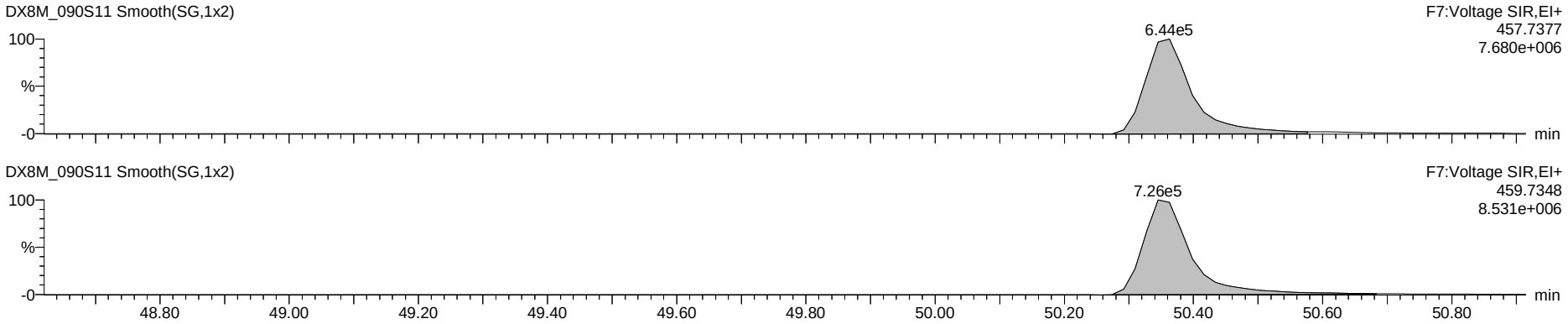
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

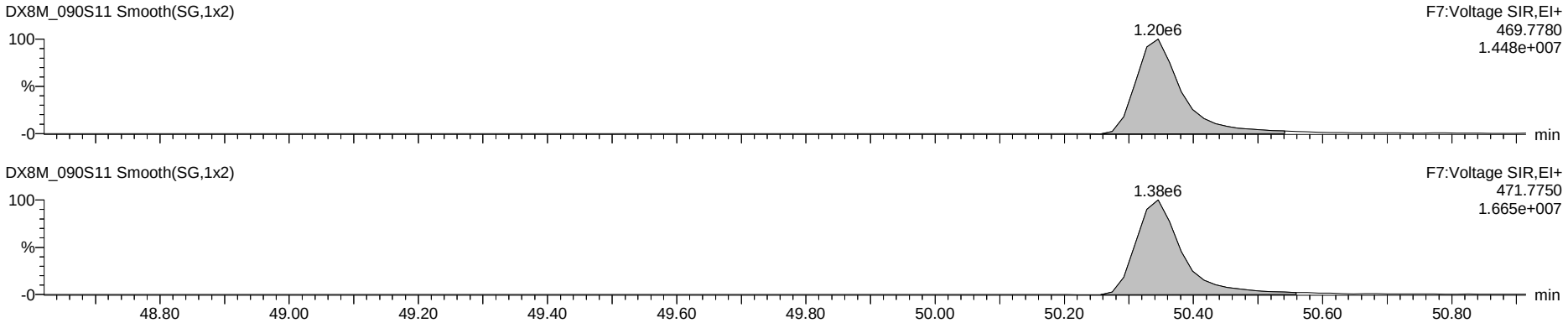
OCDF



OCDD



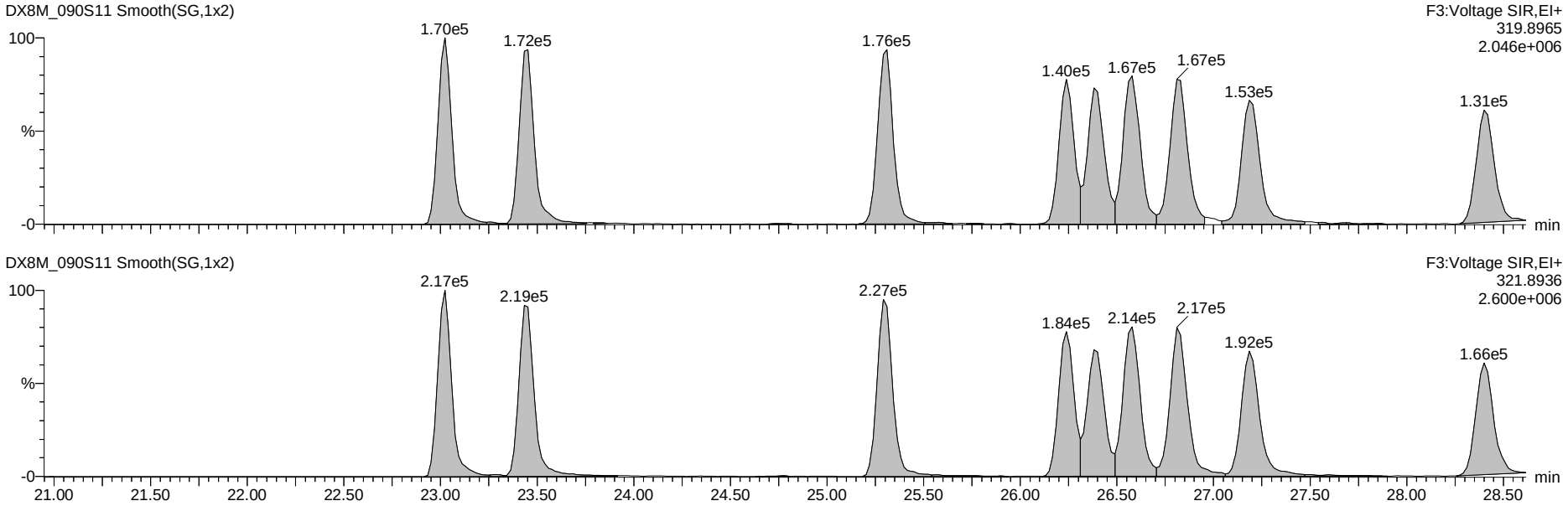
13C-OCDD



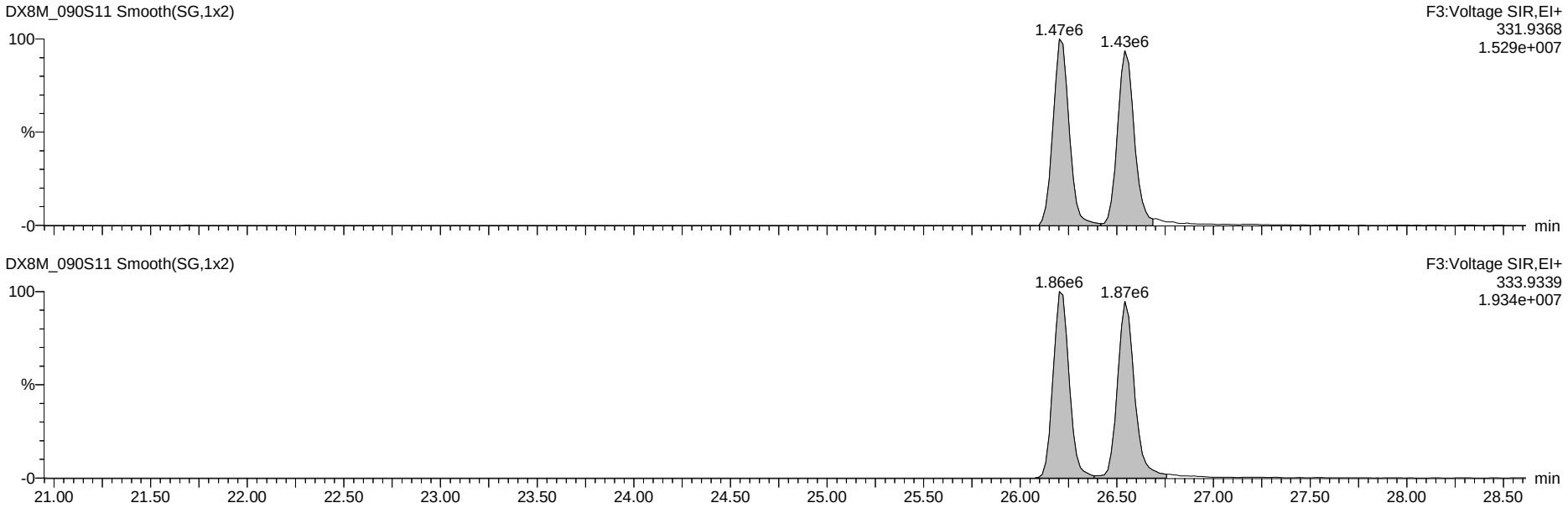
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



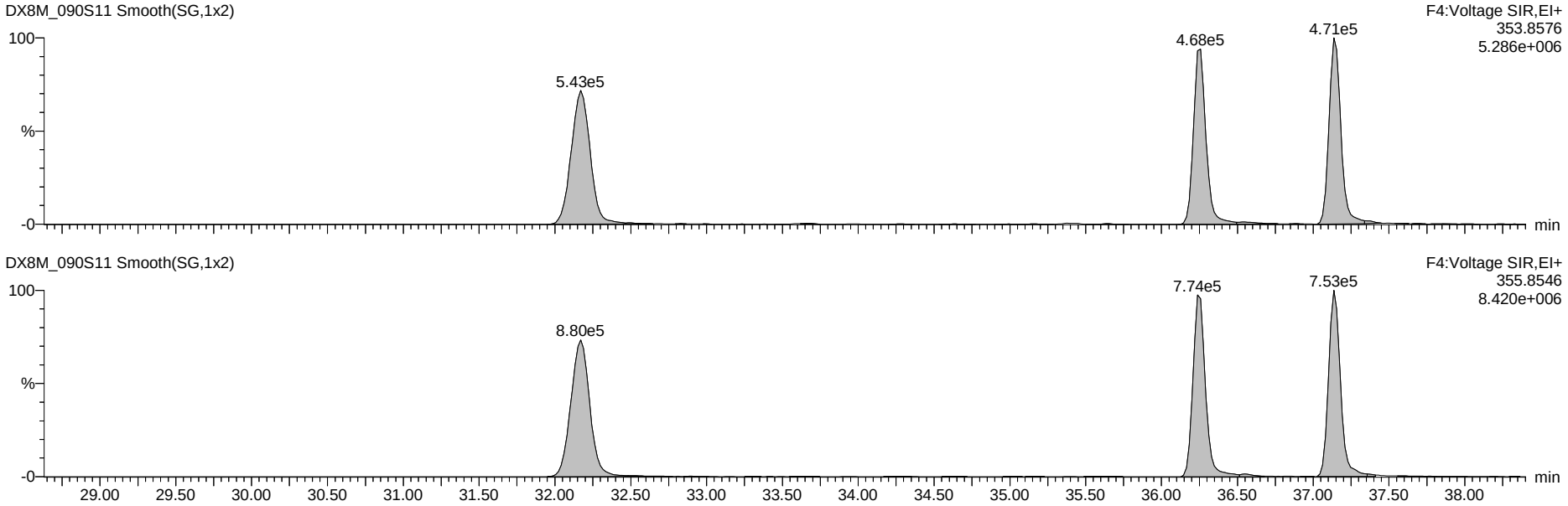
13C-Tetra-Dioxins



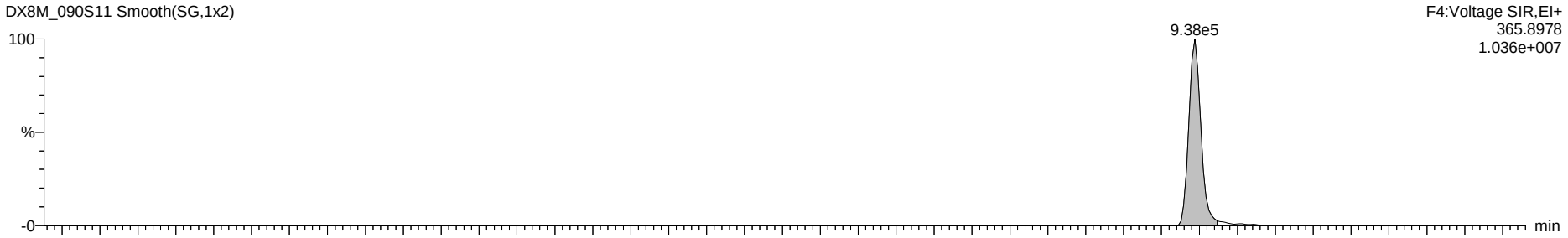
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

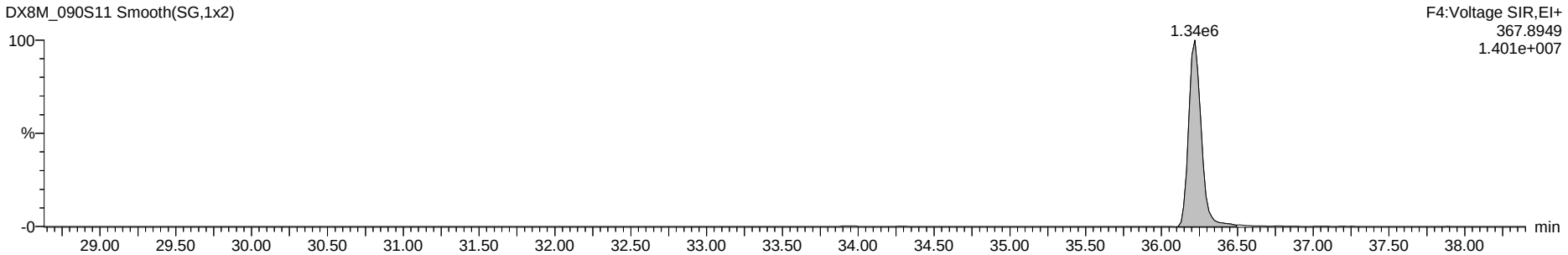
Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



13C-Penta-Dioxins

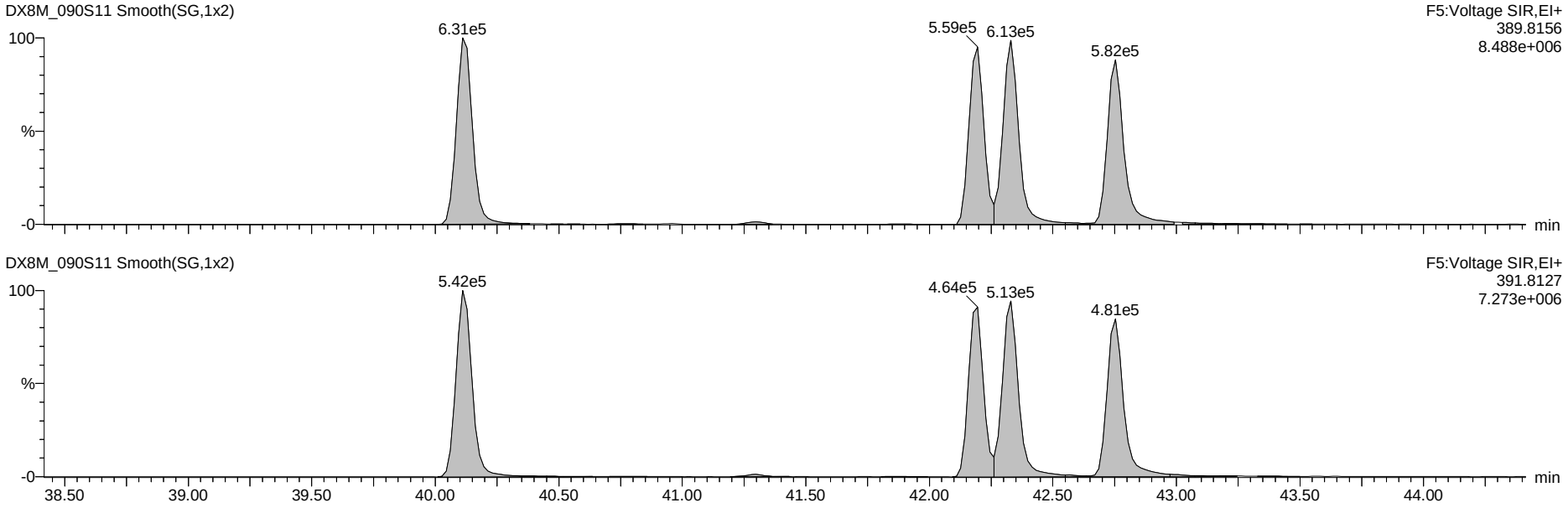




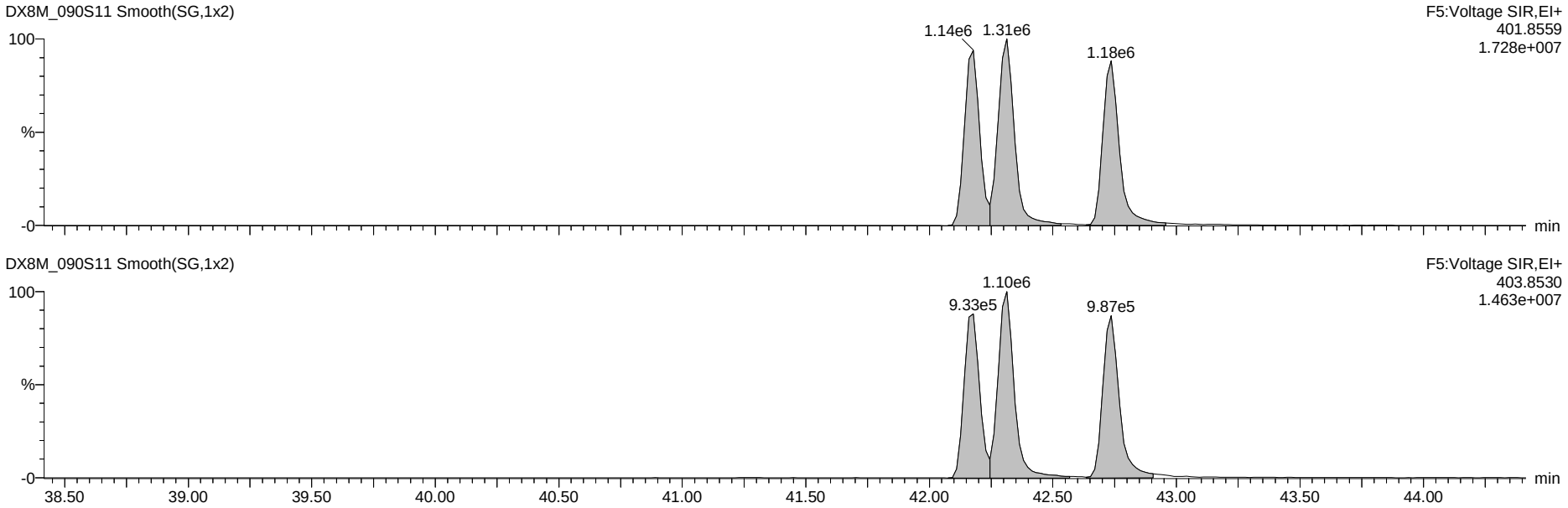
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



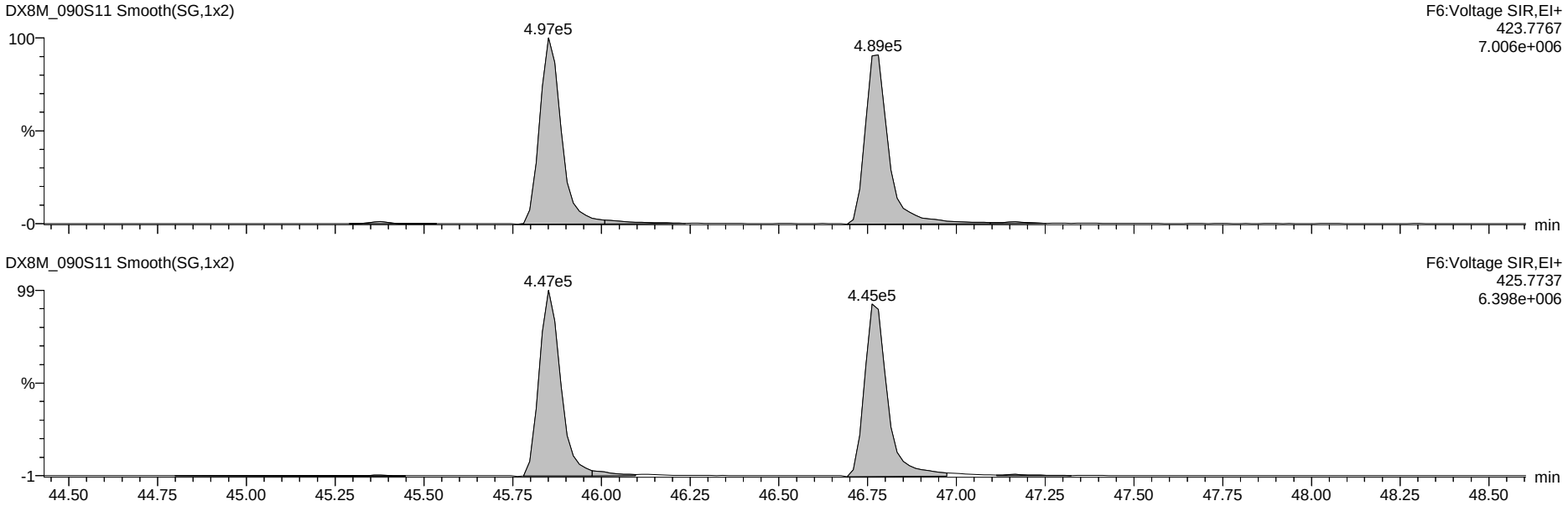
13C-Hexa-Dioxins



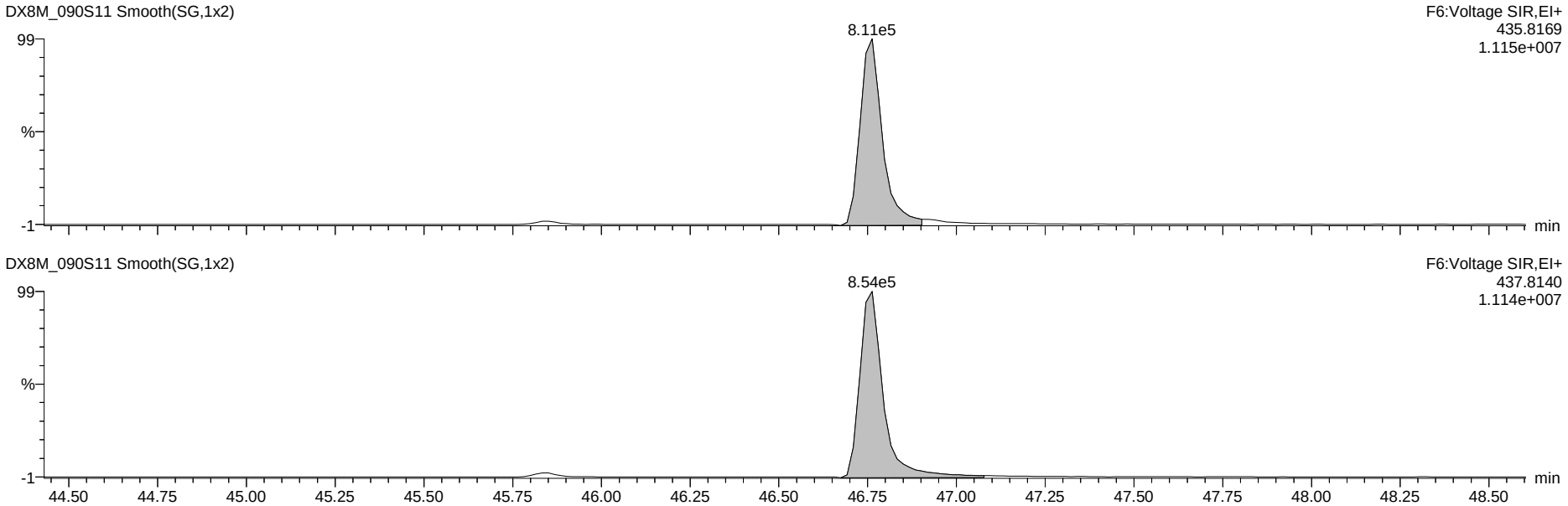
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



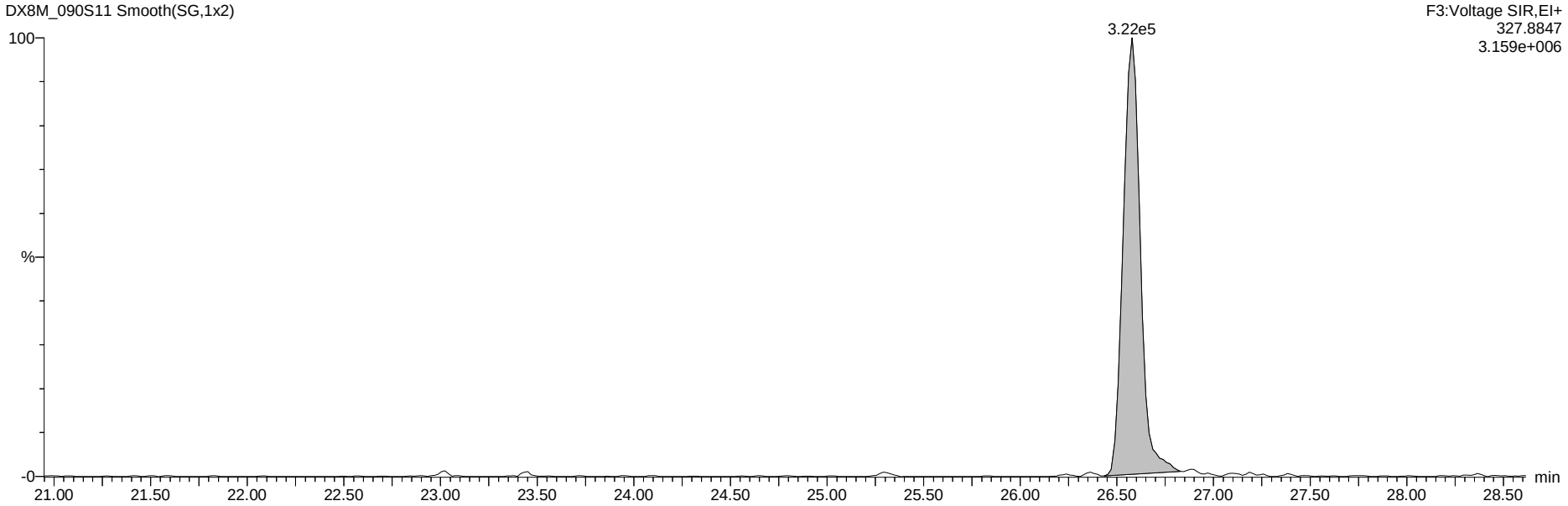
13C-Hepta-Dioxins



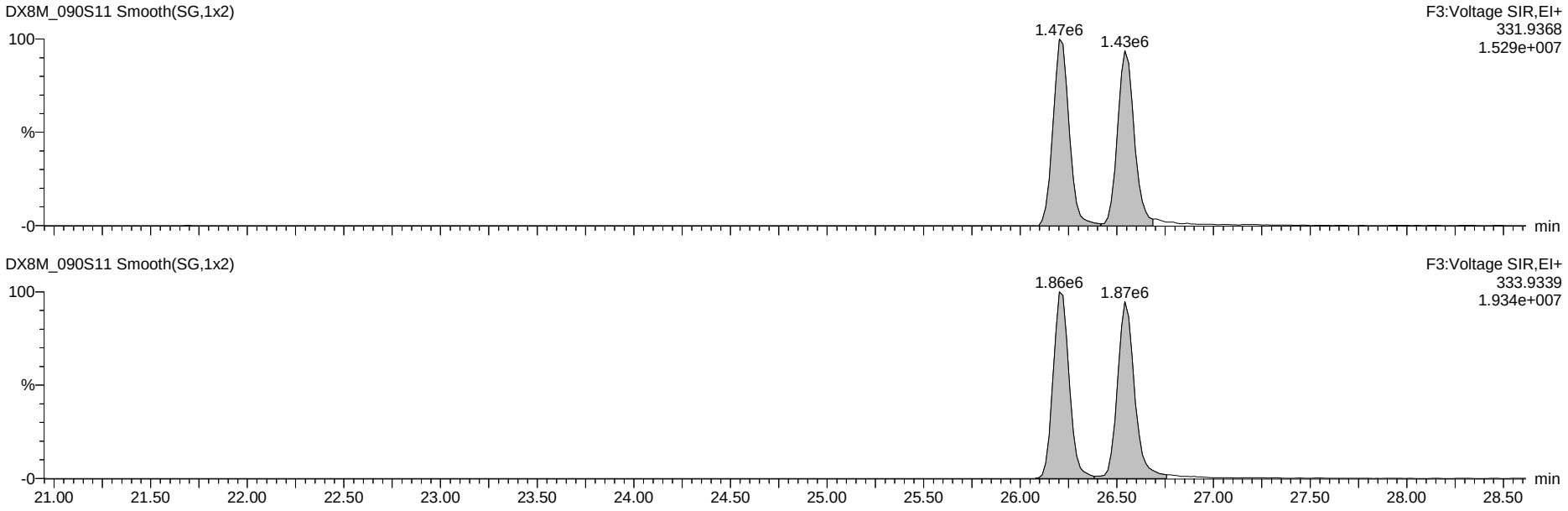
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



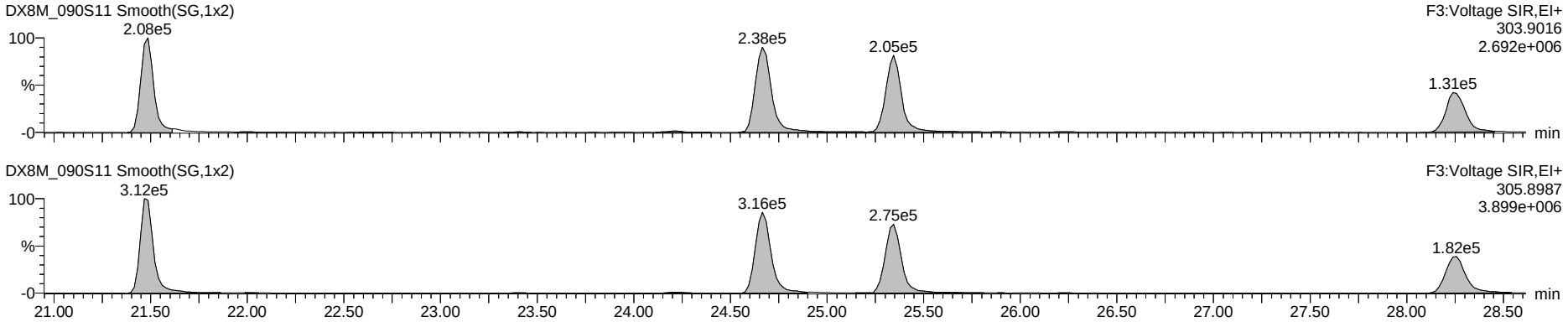
13C-Tetra-Dioxins



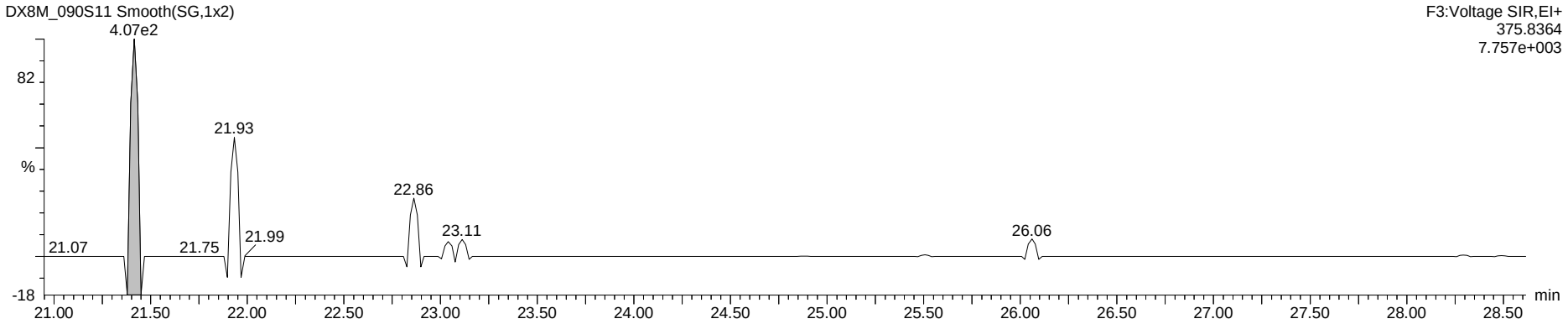
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

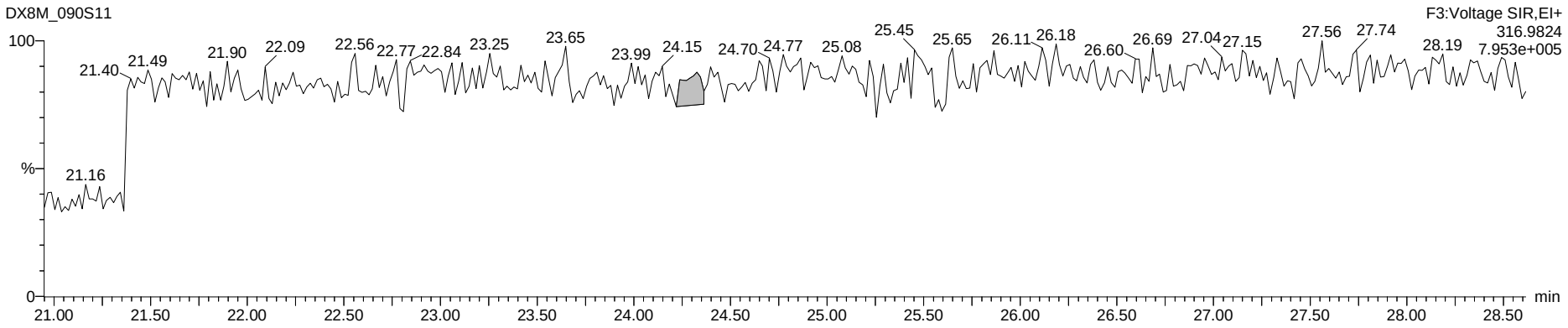
Total Tetra-Furans



Hexa DPE



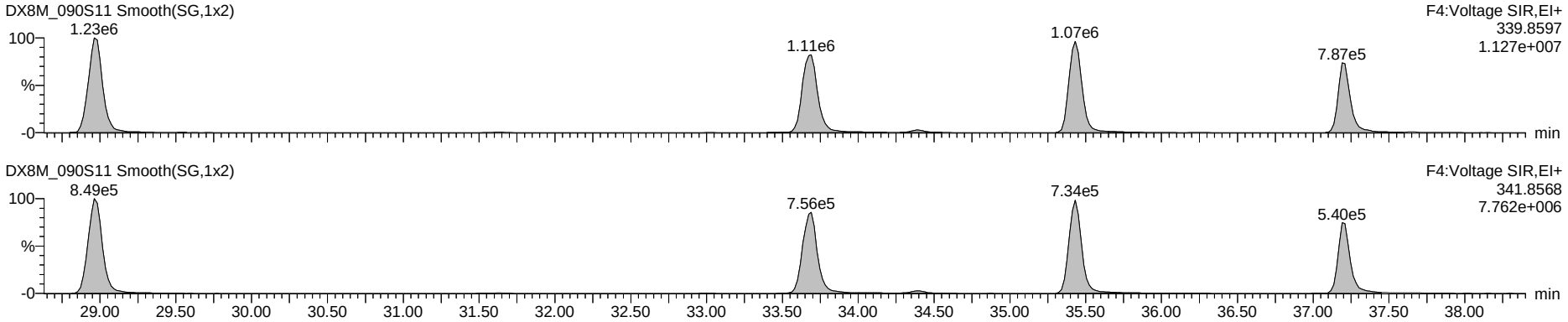
Tetra Lock



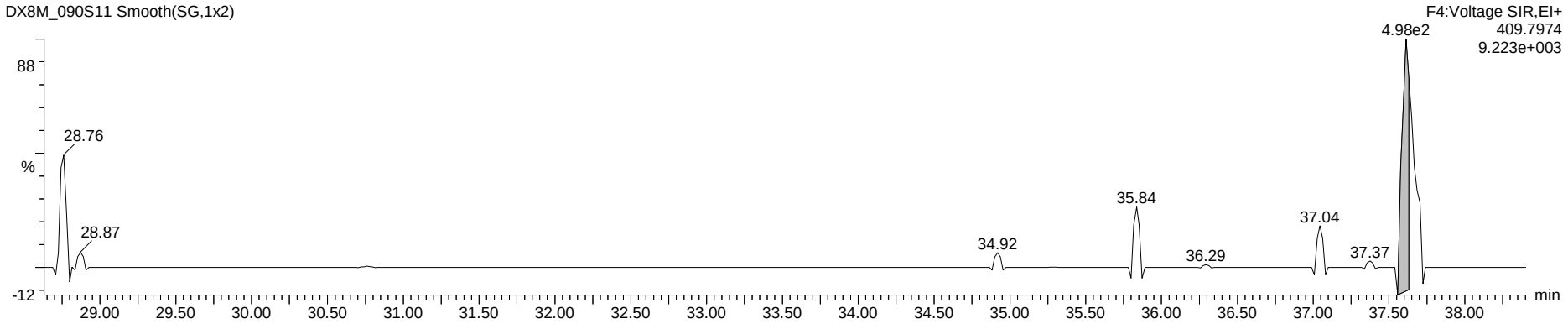
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

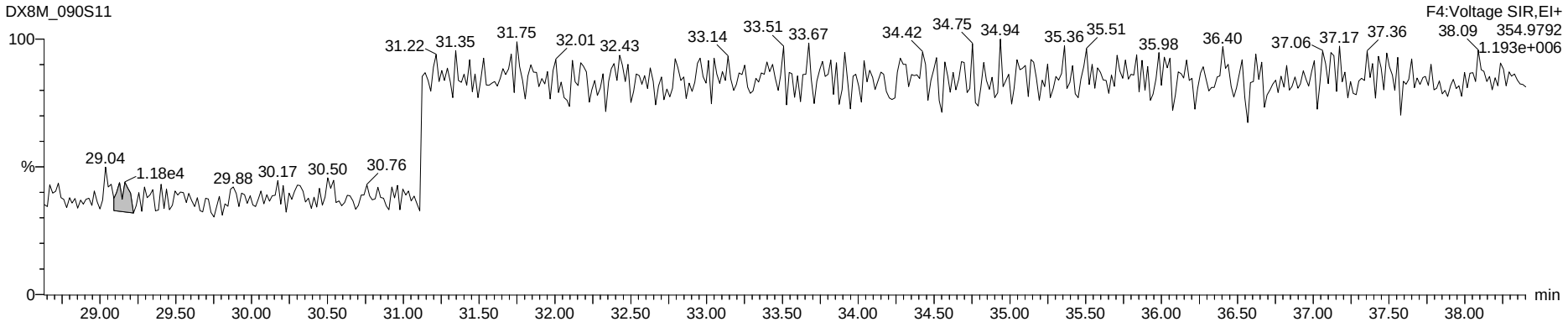
Total Penta-Furans



Hepta DPE



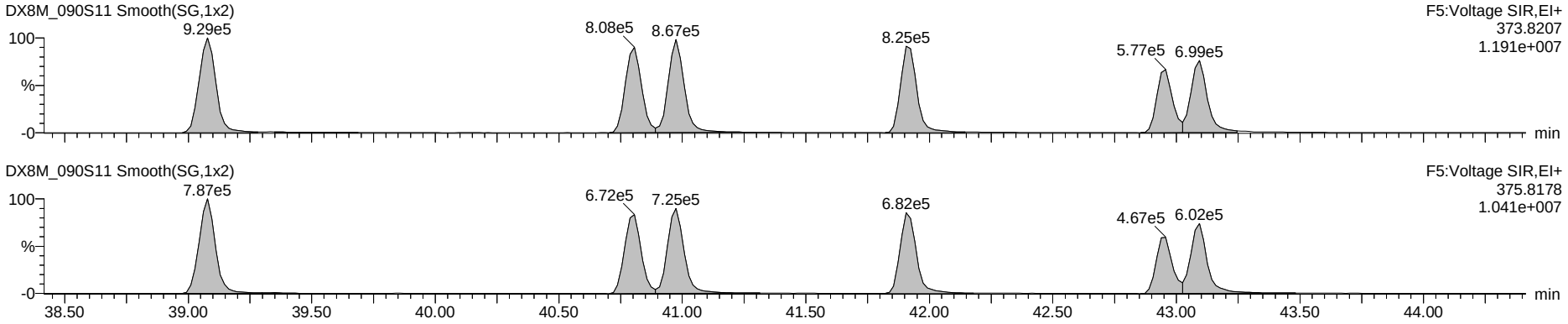
Penta Lock



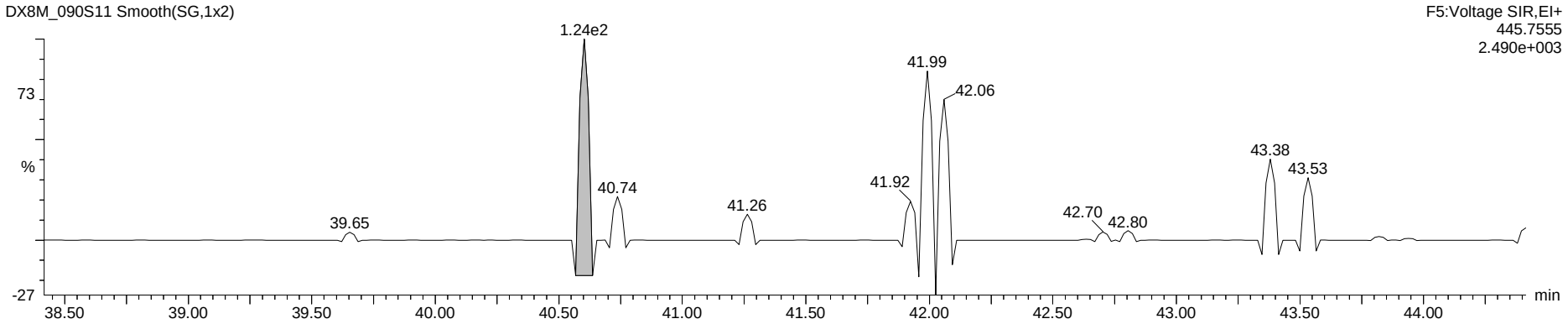
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

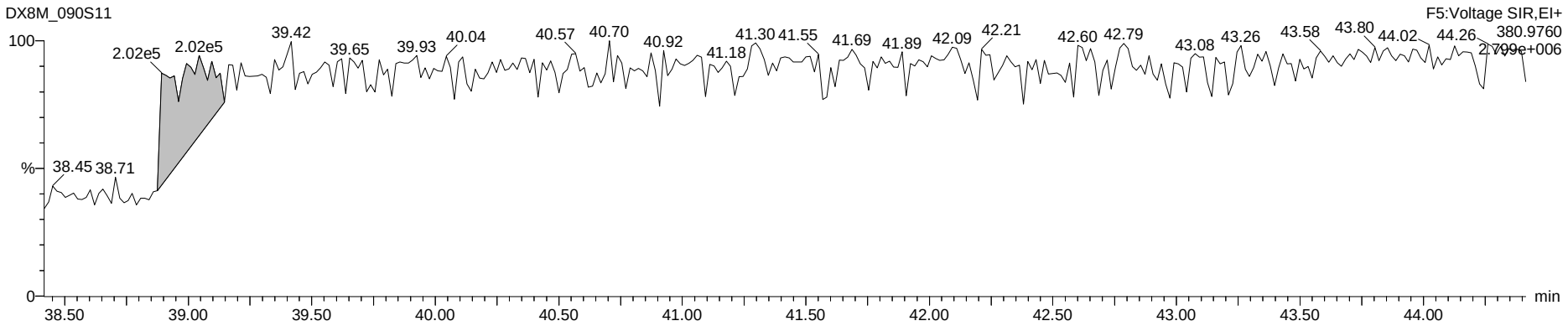
Total Hexa-Furans



Octa DPE



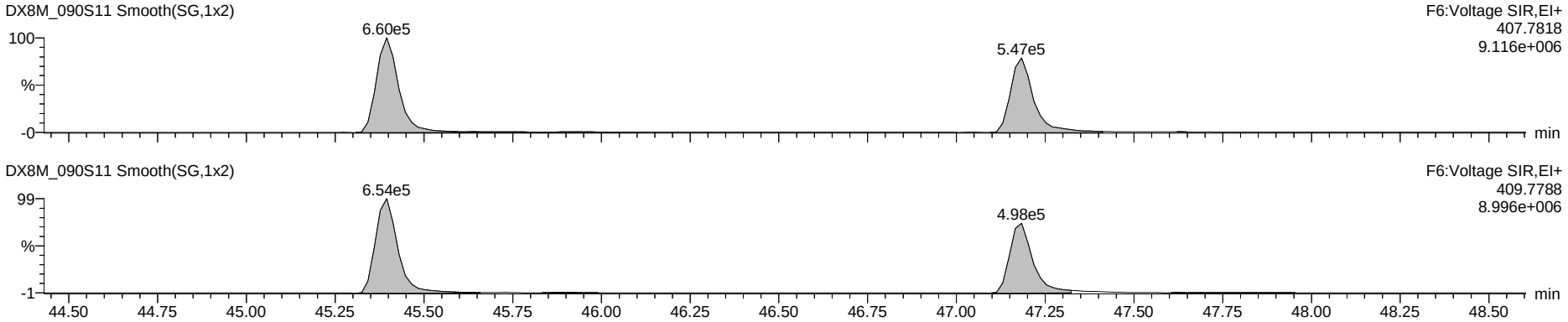
Hexa Lock



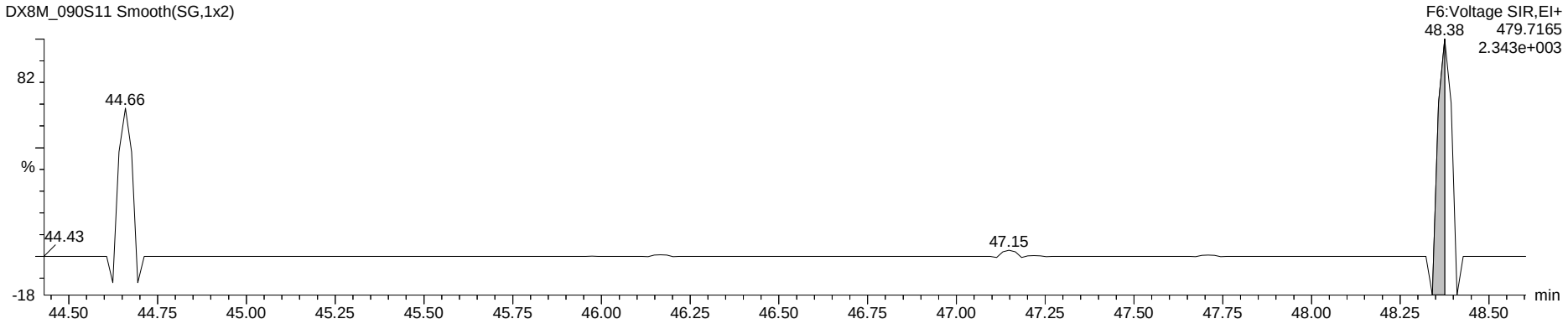
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

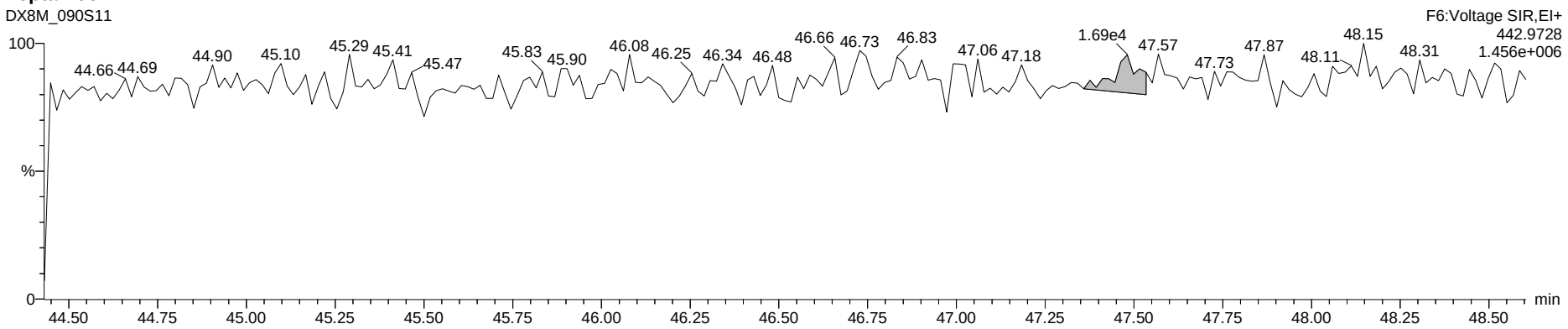
Total Hepta-Furans



Nona DPE



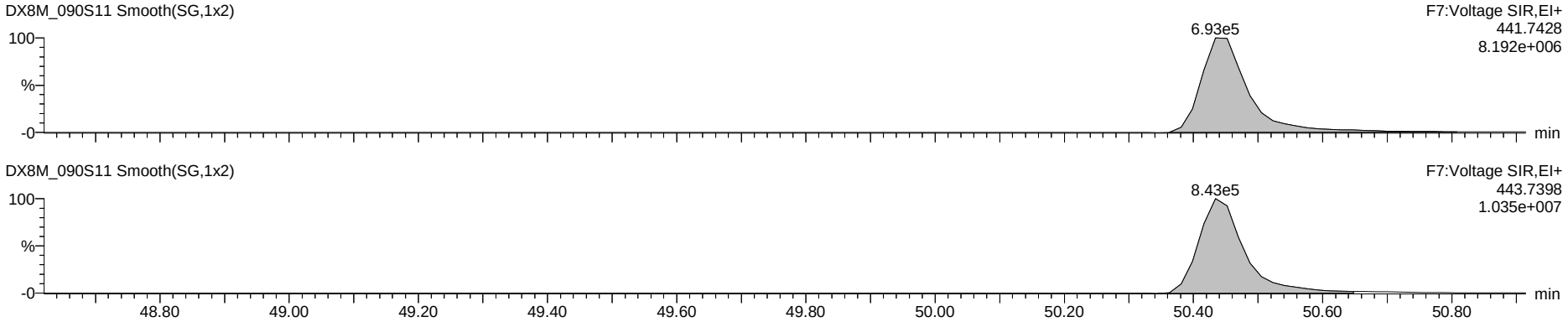
Hepta Lock



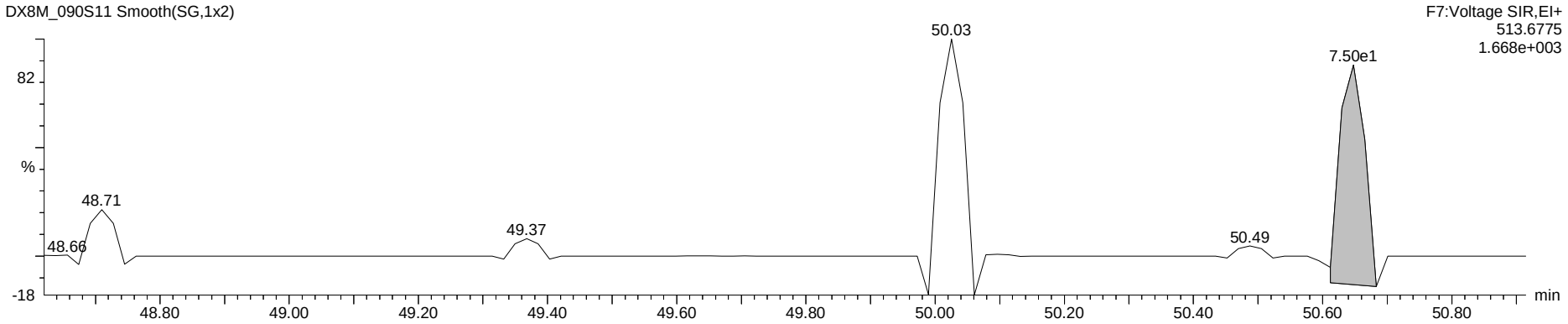
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

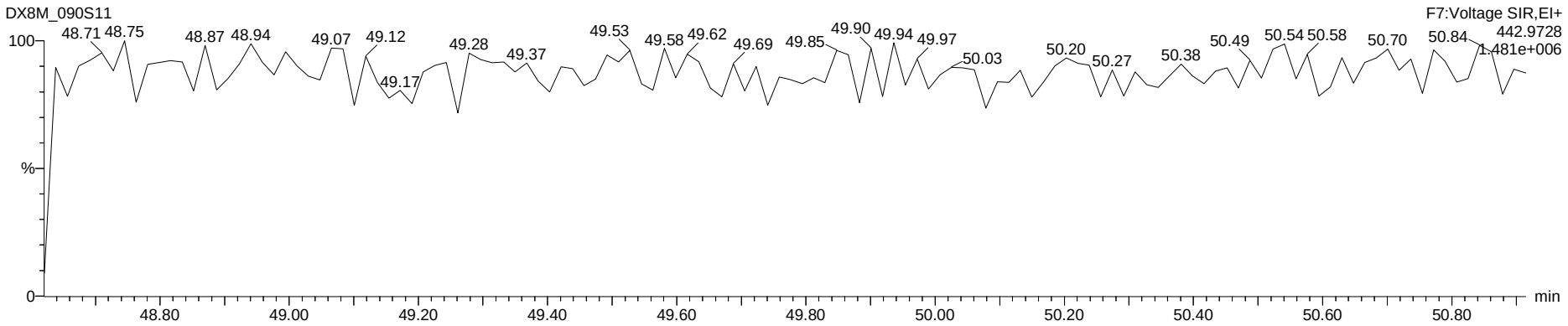
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	4.07e5	0.78	NO	25.33	11.388	0.0414	113.9	3.22e3	2.73e3
2	1,2,3,7,8-PeCDF	1.000	1.64e6	1.42	NO	33.67	49.061	0.0620	98.1	4.30e3	2.99e3
3	2,3,4,7,8-PeCDF	1.000	1.61e6	1.45	NO	35.41	49.010	0.0555	98.0	4.30e3	2.99e3
4	1,2,3,4,7,8-HxCDF	1.000	1.38e6	1.20	NO	40.79	52.698	0.0753	105.4	4.58e3	5.87e3
5	1,2,3,6,7,8-HxCDF	1.000	1.52e6	1.22	NO	40.98	51.900	0.0723	103.8	4.58e3	5.87e3
6	2,3,4,6,7,8-HxCDF	1.000	1.38e6	1.16	NO	41.91	51.308	0.0753	102.6	4.58e3	5.87e3
7	1,2,3,7,8,9-HxCDF	1.000	9.33e5	1.17	NO	42.96	48.022	0.1082	96.0	4.58e3	5.87e3
8	1,2,3,4,6,7,8-HpCDF	1.000	1.19e6	1.00	NO	45.40	54.047	0.0592	108.1	2.68e3	4.27e3
9	1,2,3,4,7,8,9-HpCDF	1.000	8.50e5	0.97	NO	47.18	53.976	0.0900	108.0	2.68e3	4.27e3
10	OCDF	1.000	1.39e6	0.82	NO	50.43	98.450	0.0126	98.5	1.89e2	5.93e2
11	2,3,7,8-TCDD	1.000	3.48e5	0.79	NO	26.58	10.271	0.0614	102.7	3.90e3	3.68e3
12	1,2,3,7,8-PeCDD	1.000	1.11e6	0.62	NO	36.24	54.689	0.0742	109.4	3.03e3	3.18e3
13	1,2,3,4,7,8-HxCDD	1.000	9.57e5	1.18	NO	42.18	49.135	0.0749	98.3	2.85e3	5.09e3
14	1,2,3,6,7,8-HxCDD	1.000	1.05e6	1.20	NO	42.33	50.592	0.0784	101.2	2.85e3	5.09e3
15	1,2,3,7,8,9-HxCDD	1.000	9.46e5	1.17	NO	42.75	46.879	0.0764	93.8	2.85e3	5.09e3
16	1,2,3,4,6,7,8-HpCDD	1.000	7.99e5	1.04	NO	46.76	54.985	0.1083	110.0	4.72e3	2.95e3
17	OCDD	1.000	1.19e6	0.86	NO	50.35	101.222	0.0672	101.2	6.53e2	2.81e3
18	13C-2,3,7,8-TCDF	1.000	3.90e6	0.71	NO	25.31	80.145	0.1020	80.1	1.37e4	6.49e3
19	13C-1,2,3,7,8-PeCDF	1.000	3.61e6	1.43	NO	33.64	102.844	0.1050	102.8	8.30e3	6.69e3
20	13C-2,3,4,7,8-PeCDF	1.000	3.50e6	1.43	NO	35.40	103.352	0.1088	103.4	8.30e3	6.69e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	2.34e6	0.53	NO	40.77	90.003	0.1898	90.0	1.60e4	7.84e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	2.75e6	0.52	NO	40.94	99.052	0.1777	99.1	1.60e4	7.84e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	2.36e6	0.53	NO	41.89	94.865	0.1989	94.9	1.60e4	7.84e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	1.94e6	0.53	NO	42.92	79.391	0.2016	79.4	1.60e4	7.84e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	1.79e6	0.43	NO	45.38	86.421	0.0957	86.4	6.44e3	3.17e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	1.26e6	0.47	NO	47.17	77.683	0.1227	77.7	6.44e3	3.17e3
27	13C-2,3,7,8-TCDD	1.000	3.05e6	0.74	NO	26.54	100.511	0.2406	100.5	1.61e4	1.35e4
28	13C-1,2,3,7,8-PeCDD	1.000	1.98e6	0.70	NO	36.22	99.799	0.1022	99.8	5.62e3	2.63e3
29	13C-1,2,3,4,7,8-HxCDD	1.000	1.94e6	1.21	NO	42.16	96.761	0.2104	96.8	8.58e3	1.18e4
30	13C-1,2,3,6,7,8-HxCDD	1.000	2.21e6	1.26	NO	42.31	104.323	0.1989	104.3	8.58e3	1.18e4
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	1.46e6	1.01	NO	46.76	87.969	0.1609	88.0	7.06e3	5.84e3
32	13C-OCDD	1.000	2.30e6	0.86	NO	50.35	157.846	0.3687	78.9	0.00e0	2.60e4
33	13C-1,2,3,4-TCDD	1.000	3.02e6	0.76	NO	26.20	133.494	0.3225	133.5	1.61e4	1.35e4
34	13C-1,2,3,7,8,9-HxCDD	1.000	2.04e6	1.20	NO	42.74	142.764	0.2955	142.8	8.58e3	1.18e4
35	37Cl-2,3,7,8-TCDD	1.000	2.70e5			26.56	8.047	0.0538	80.5		7.35e3
36	Total Tetra-Furans	1.000					47.128	0.0414			2.73e3
37	Total Tetra-Dioxins	1.000					85.639	0.0614			3.68e3
38	Total Penta-Furans	1.000					193.596	0.0593			2.99e3
39	Total Penta-Dioxins	1.000					165.078	0.0742			3.18e3
40	Total Hexa-Furans	1.000					315.864	0.0783			5.87e3
41	Total Hexa-Dioxins	1.000					203.223	0.0739			5.09e3
42	Total Hepta-Furans	1.000					112.695	0.0728			4.27e3
43	Total Hepta-Dioxins	1.000					119.390	0.1083			2.95e3
44	Hexa DPE	1.000	2.50e2			22.25					0.00e0
45	Hepta DPE	1.000	5.04e2			37.63					3.59e3
46	Octa DPE	1.000	1.15e1			40.69					8.74e-2
47	Nona DPE	1.000	1.35e2			47.67					0.00e0
48	Deca DPE	1.000	1.38e2			49.23					0.00e0
49	Tetra Lock	1.000	2.18e3			24.52					6.70e4
50	Penta Lock	1.000	2.80e3			29.44					9.65e4
51	Hexa Lock	1.000	2.96e5			38.89					3.27e5
52	Hepta Lock	1.000	1.34e4			47.36					1.75e5
53	Octa Lock	1.000									2.39e5
54	13C-Tetra-Furans	1.000					80.145	0.1020			6.49e3
55	13C-Tetra-Dioxins	1.000					234.005	0.5630			1.35e4

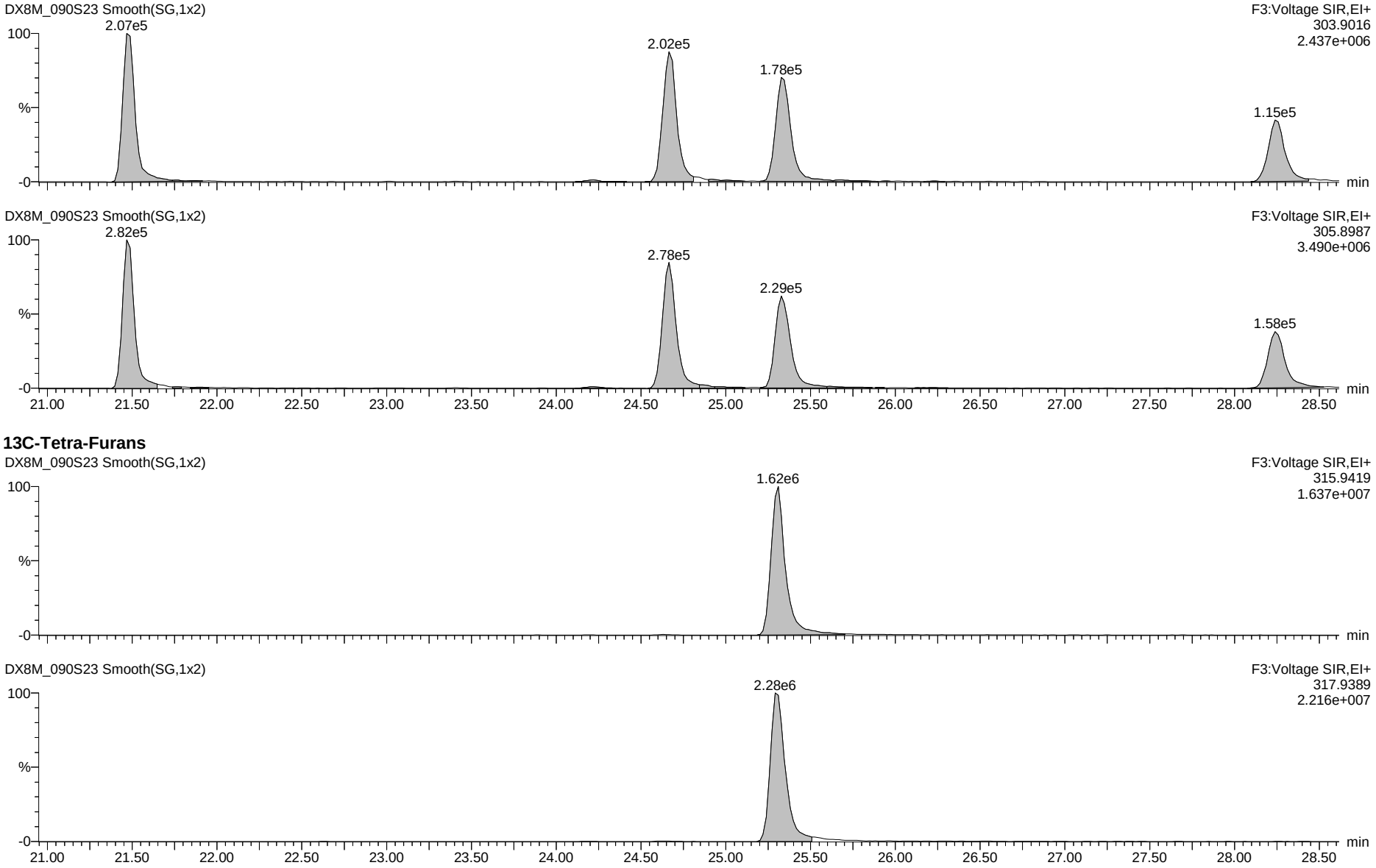
pv'd by KB 30-JUL-2018 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/g

Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Method: G:\Masslynx\Inst_M\Projects\180604DX.PRO\MethDB\DX_1613B_16.mdb 27 Jul 2018 10:49:00
Calibration: G:\Masslynx\Inst_M\Projects\180604DX.PRO\CurveDB\DX8M_065C-6A.cdb 06 Jun 2018 09:11:00

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans

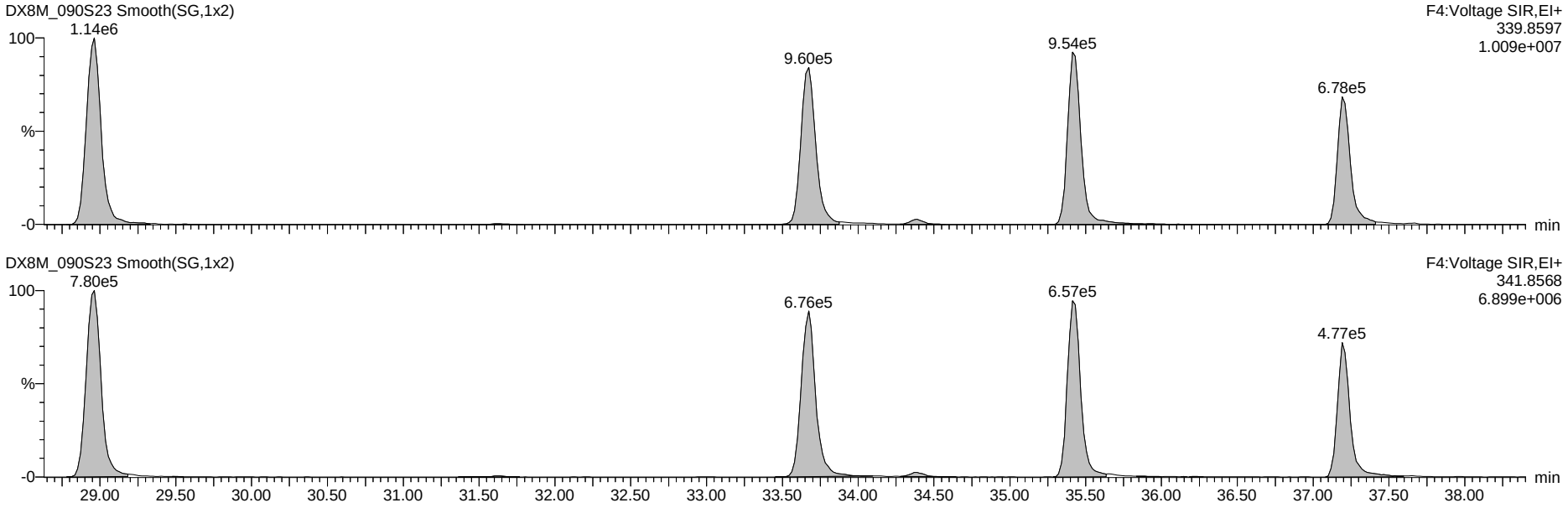


13C-Tetra-Furans

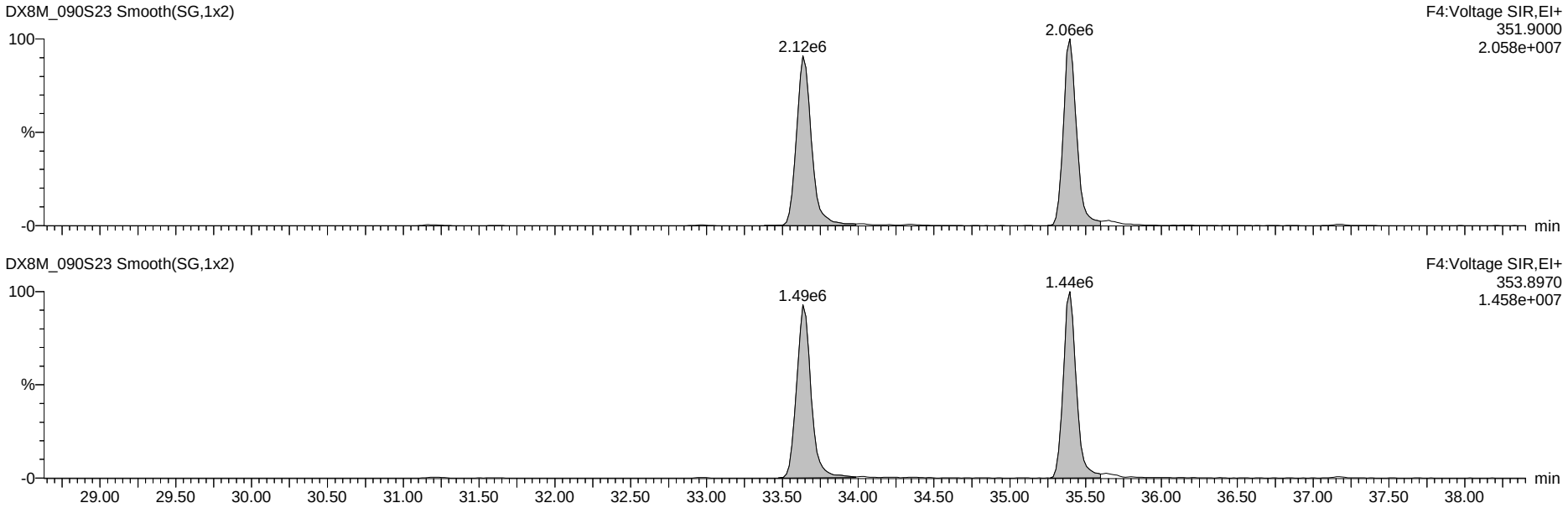
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



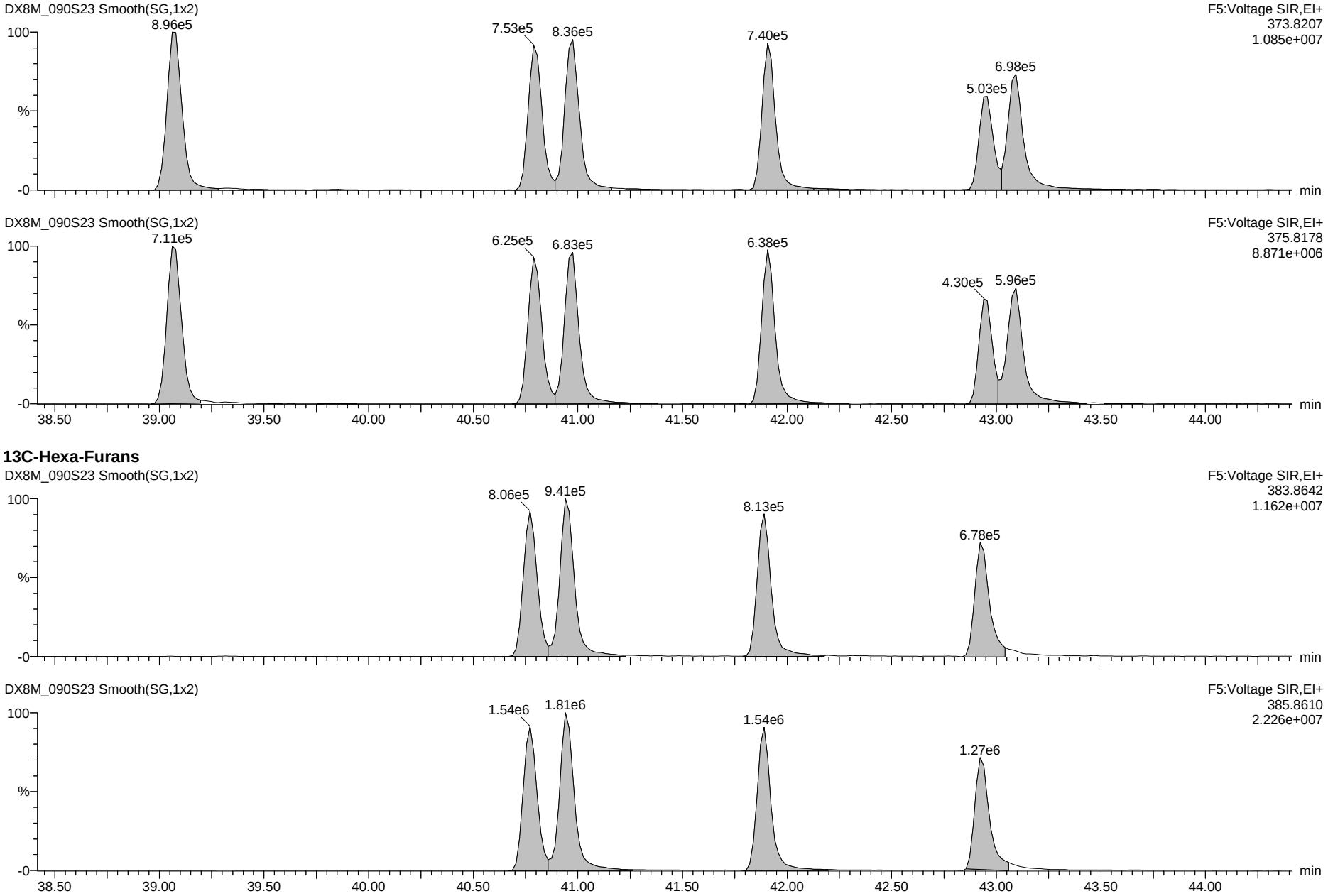
13C-Penta-Furans



Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Furans

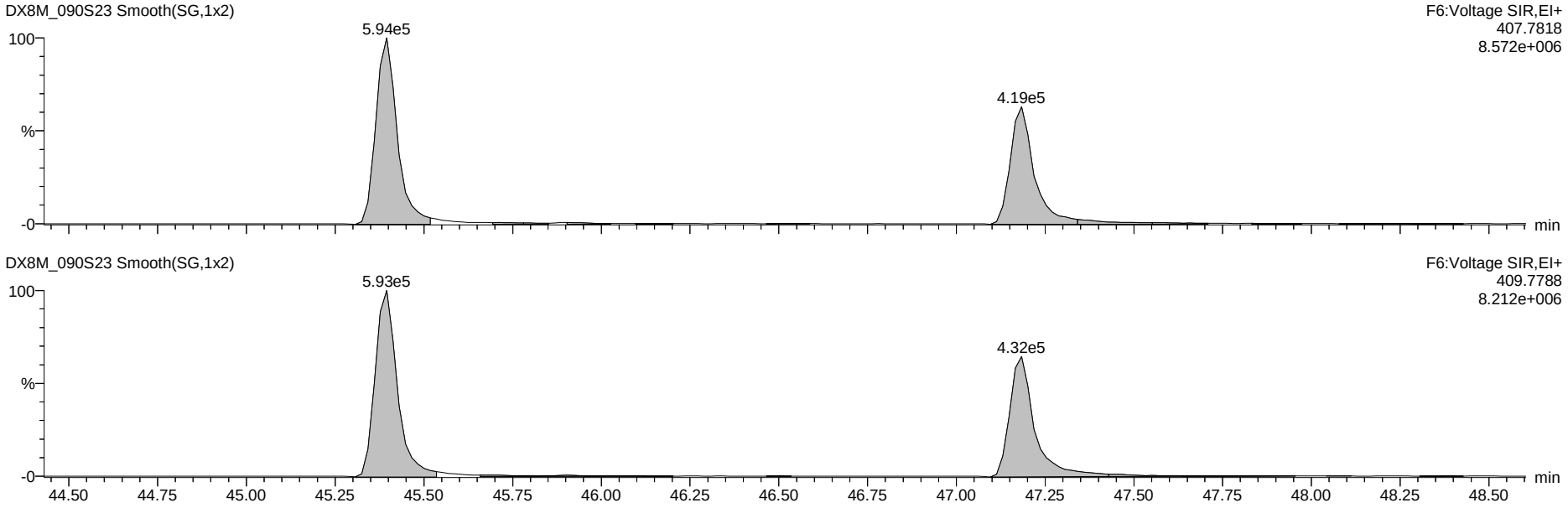


13C-Hexa-Furans

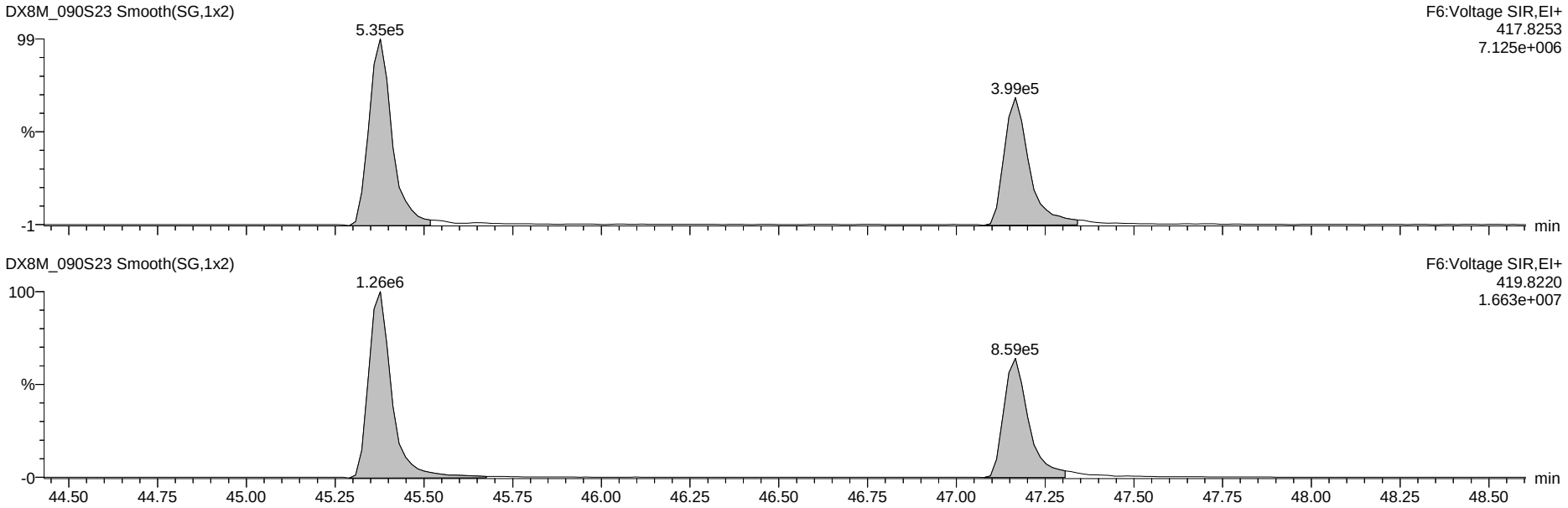
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Furans



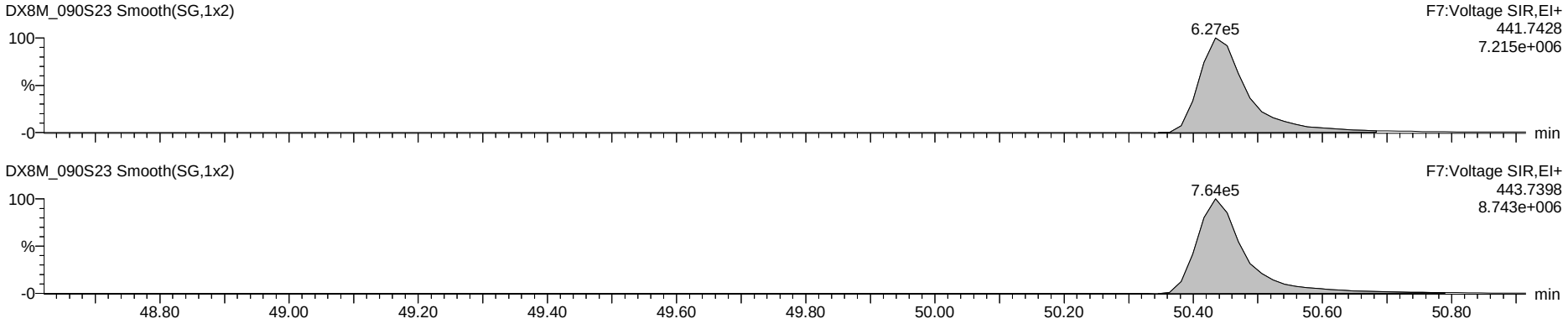
13C-Hepta-Furans



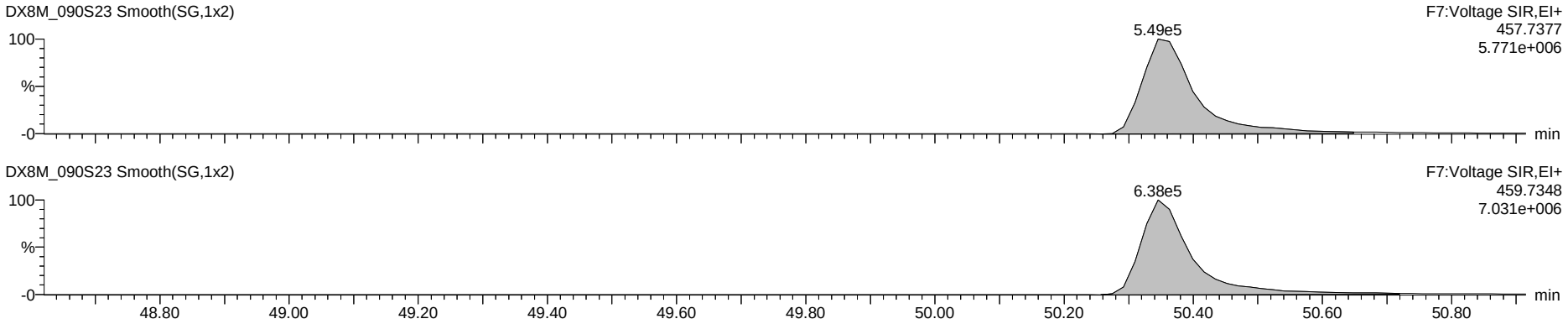
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

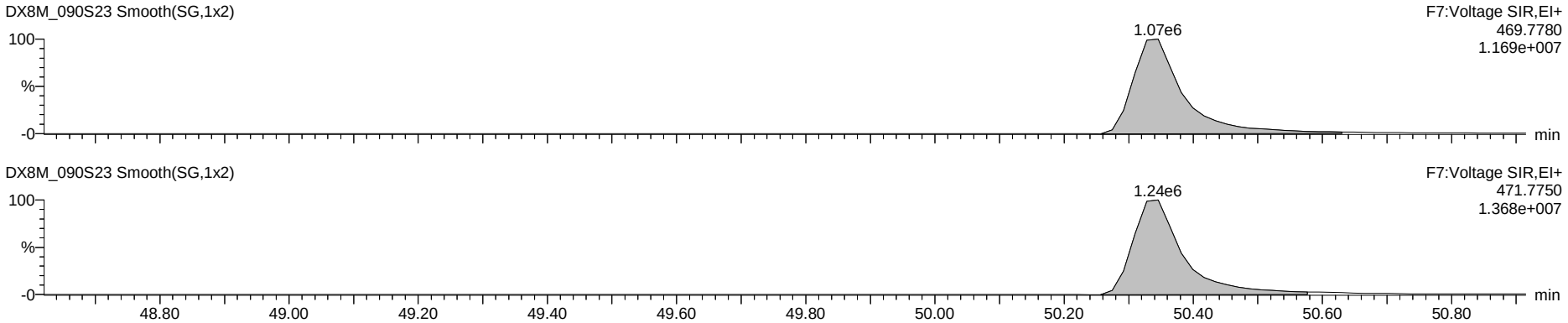
OCDF



OCDD



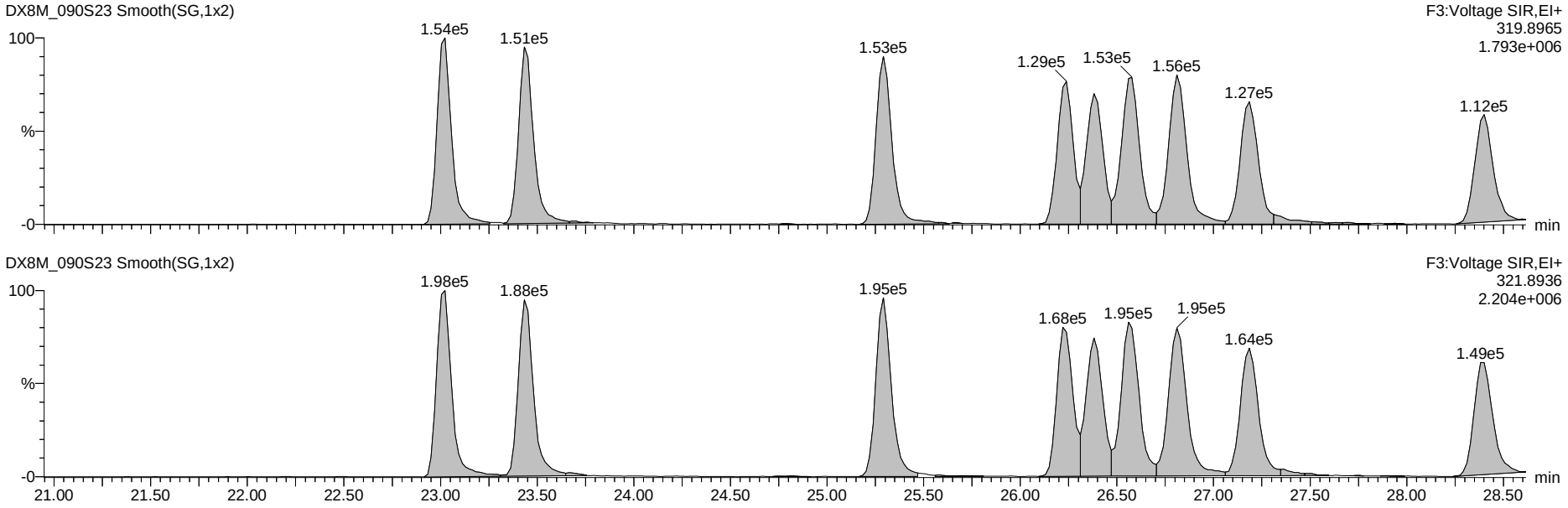
13C-OCDD



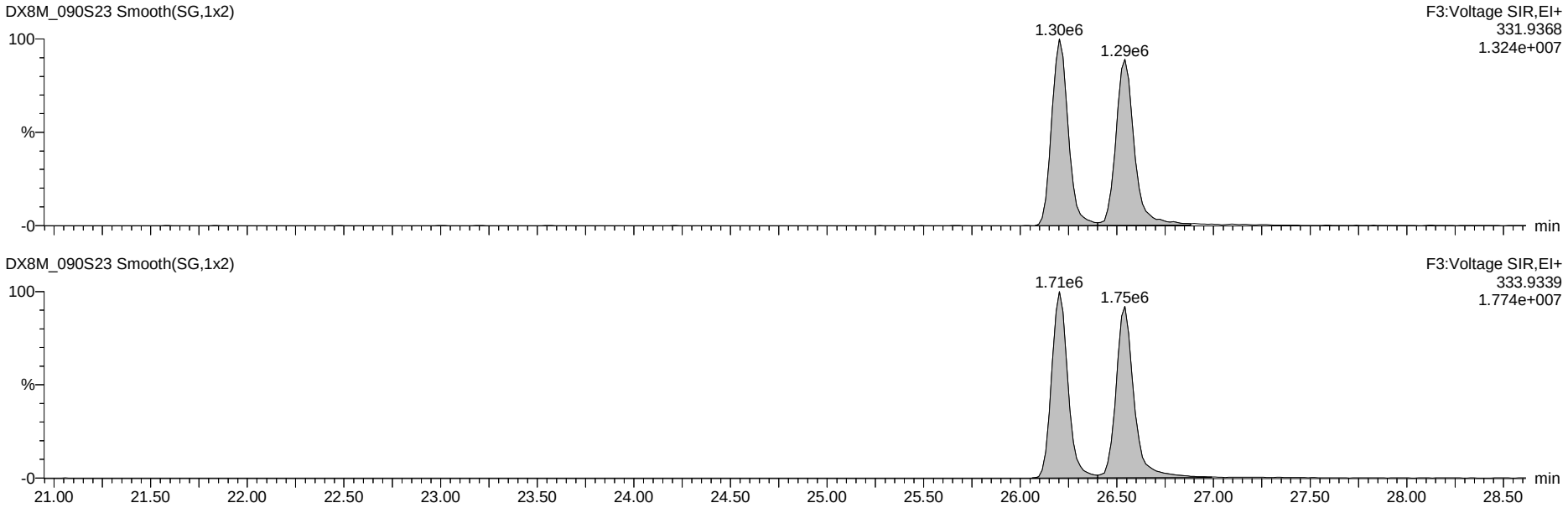
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



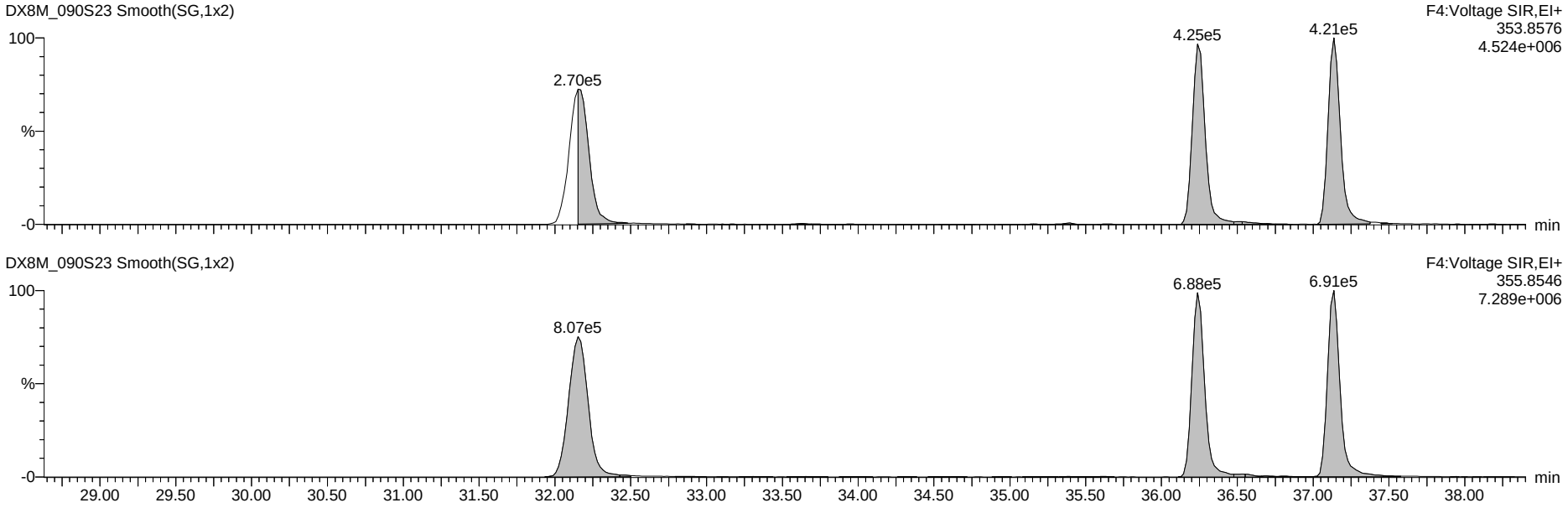
13C-Tetra-Dioxins



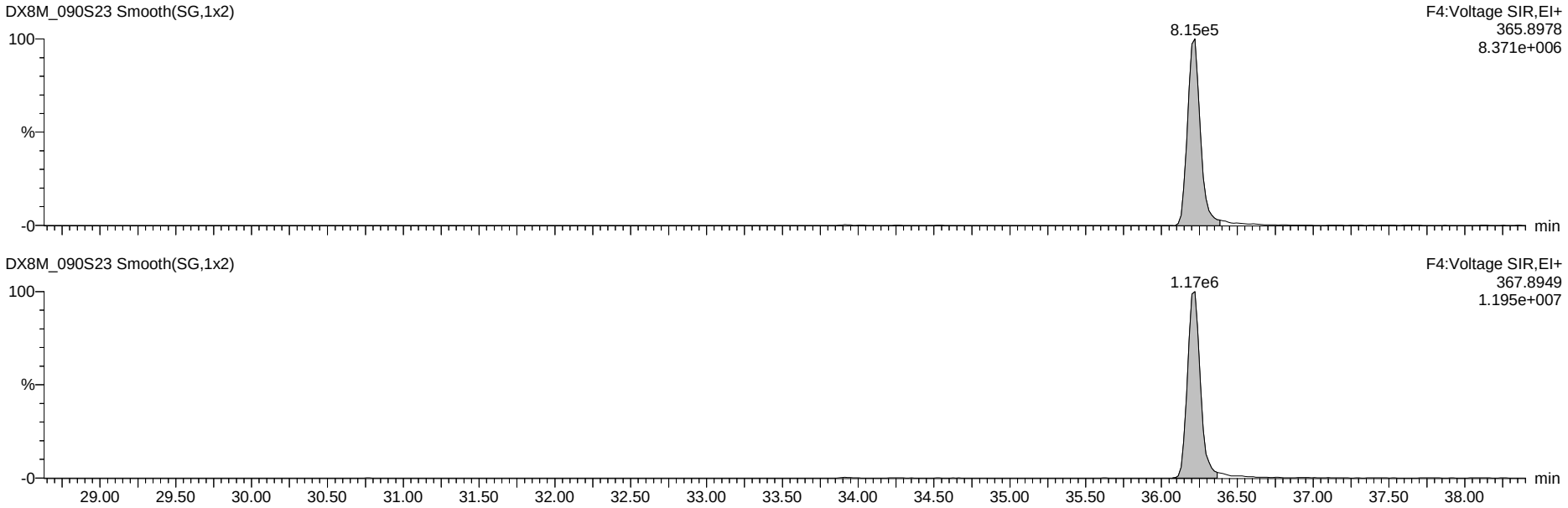
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



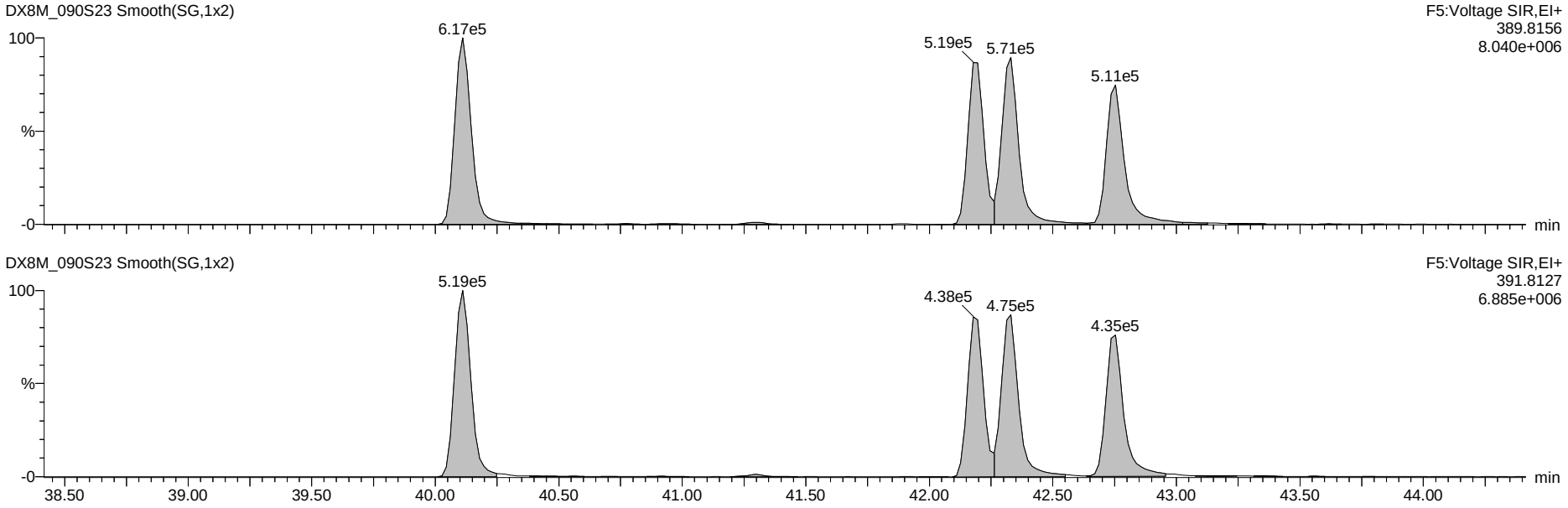
13C-Penta-Dioxins



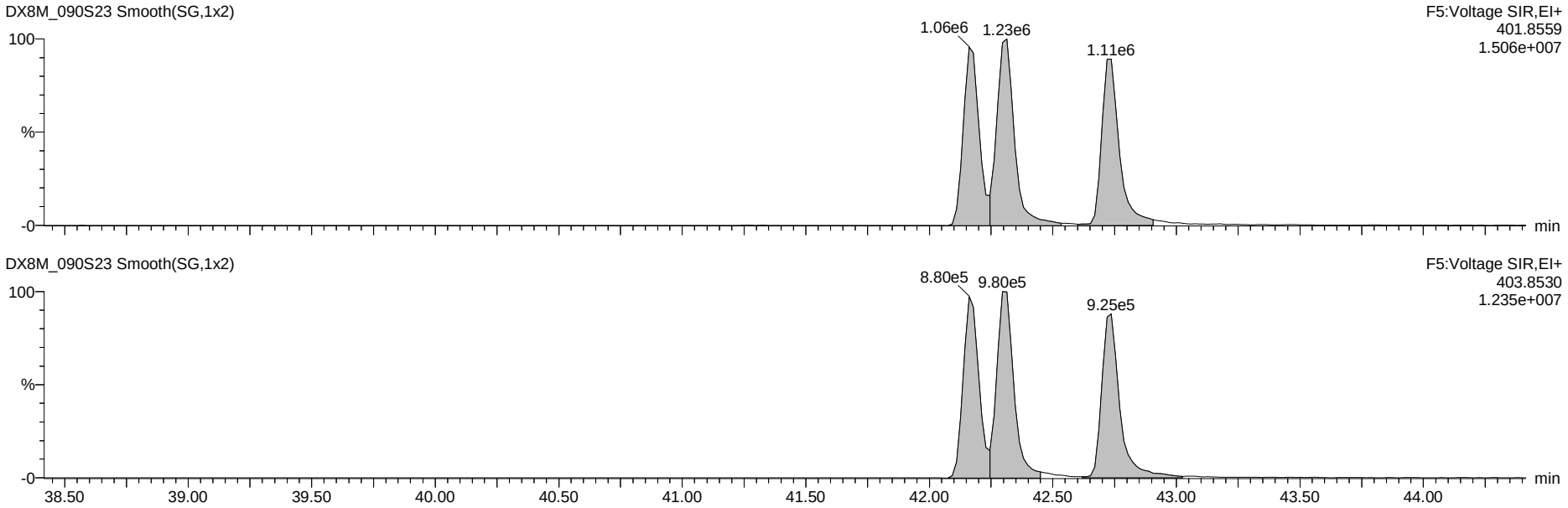
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



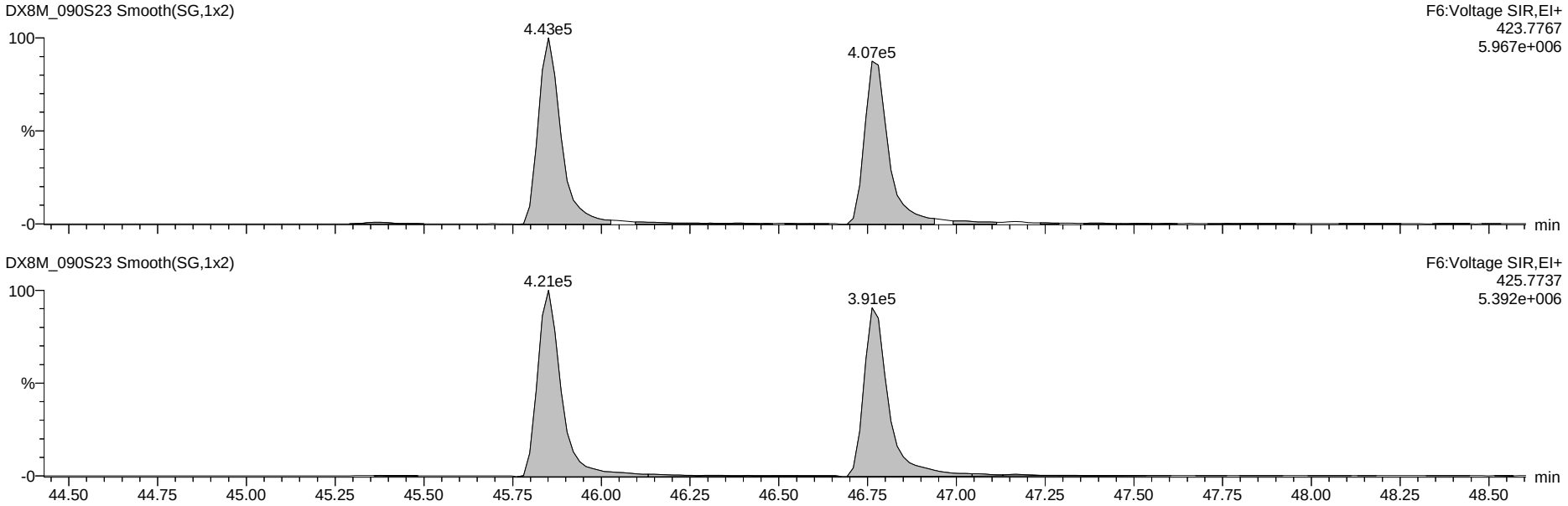
13C-Hexa-Dioxins



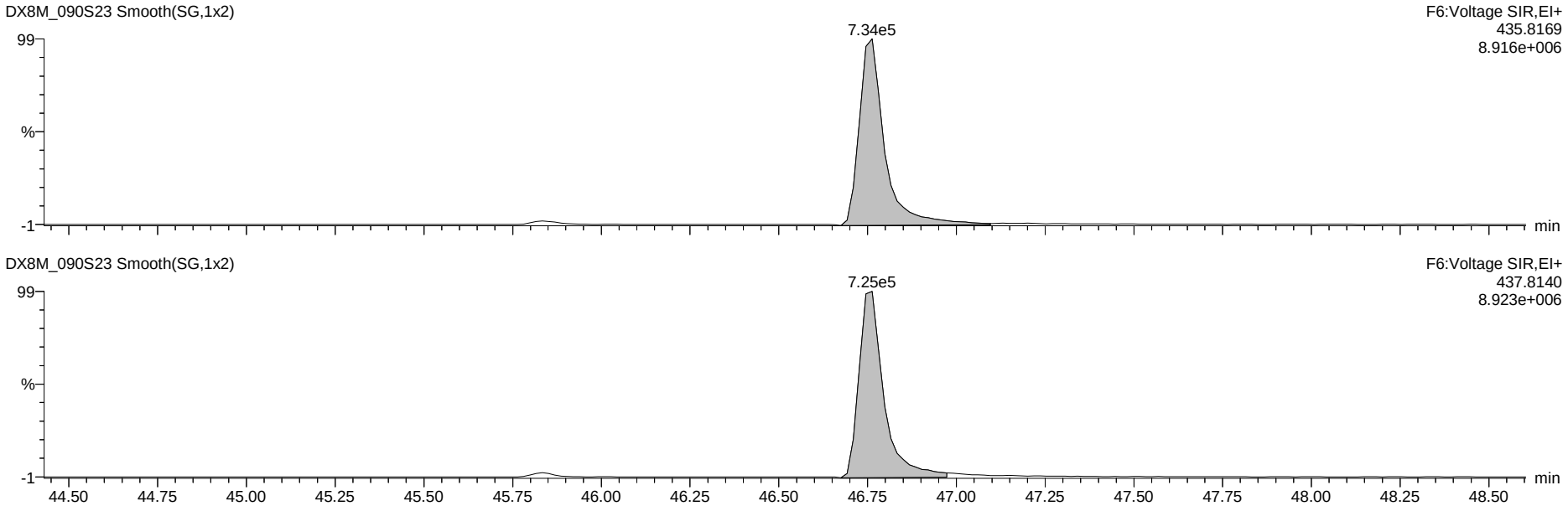
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

Total Hepta-Dioxins



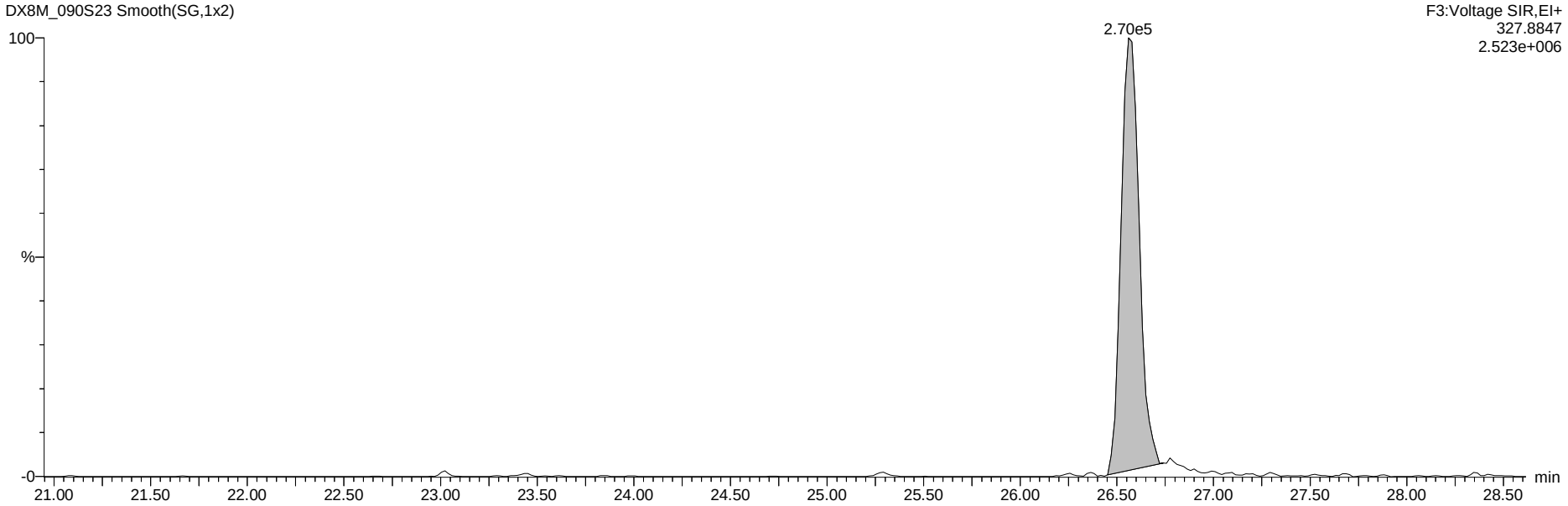
13C-Hepta-Dioxins



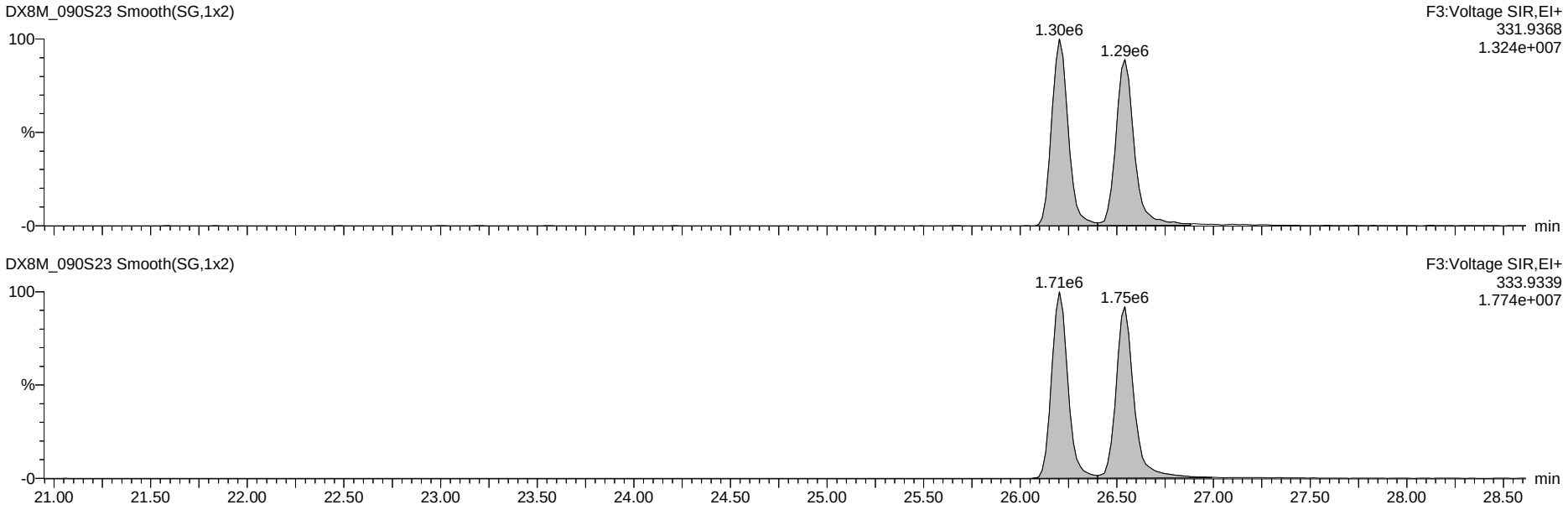
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

37Cl-2,3,7,8-TCDD



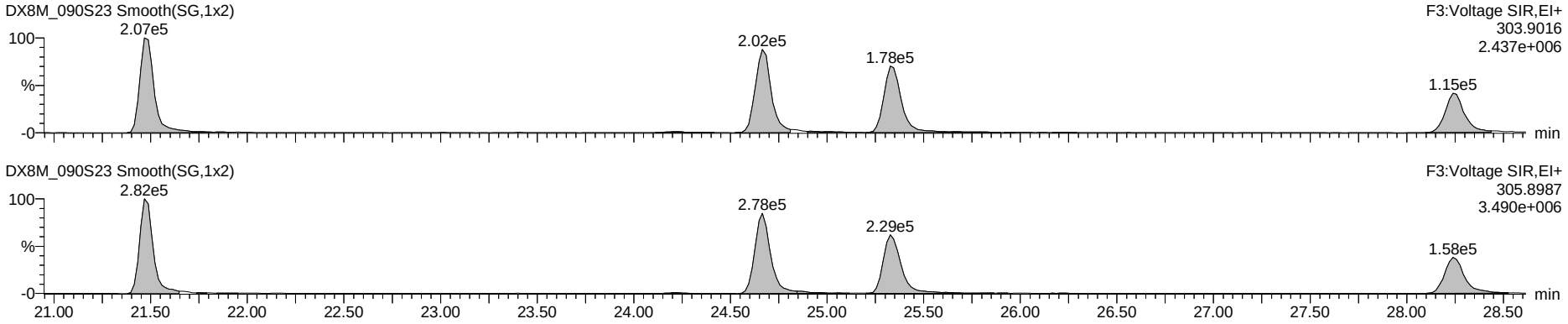
13C-Tetra-Dioxins



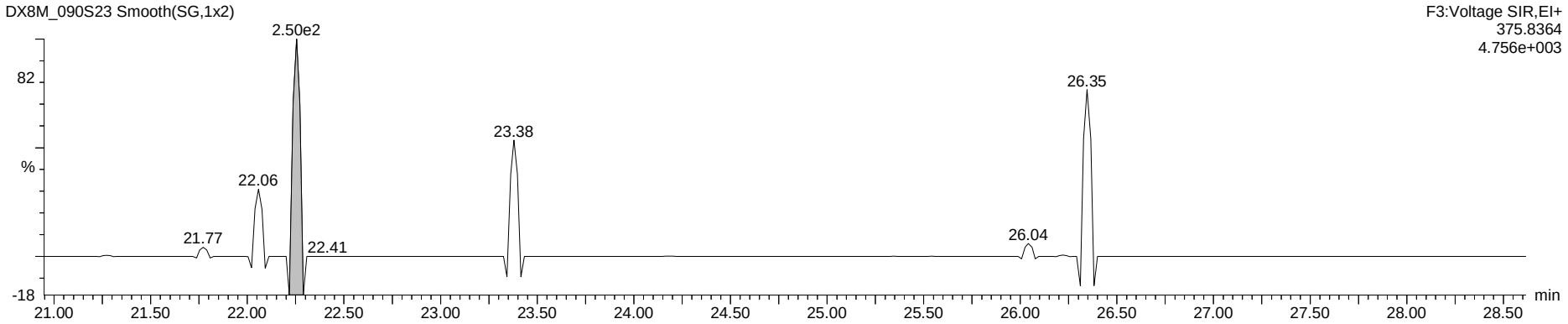
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

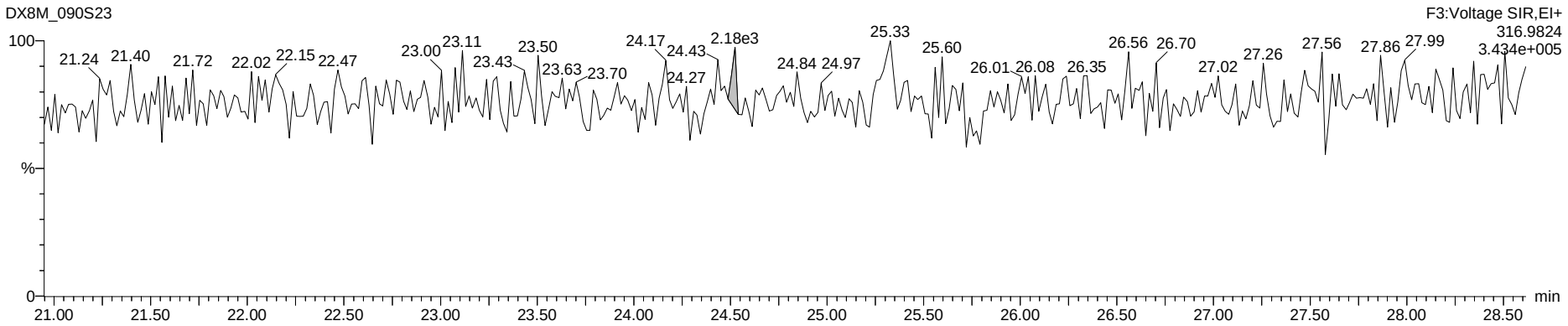
Total Tetra-Furans



Hexa DPE



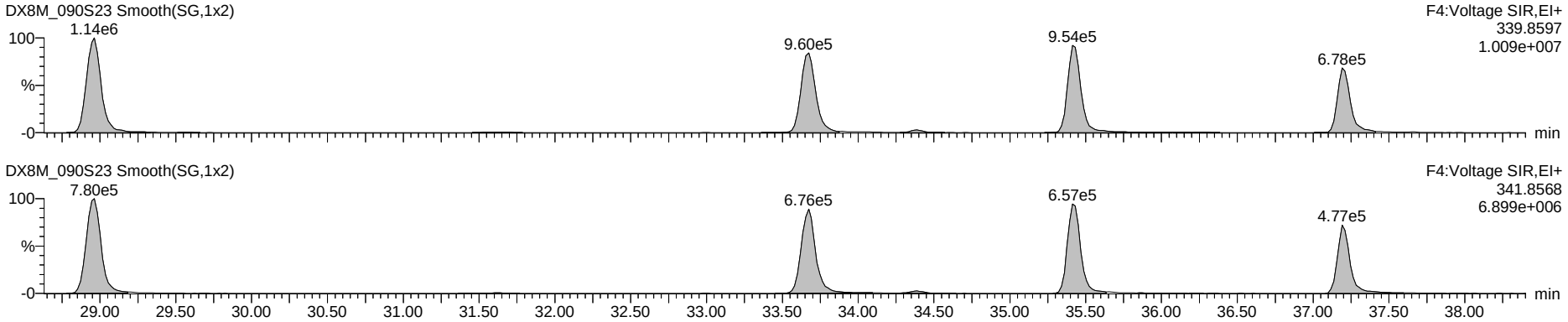
Tetra Lock



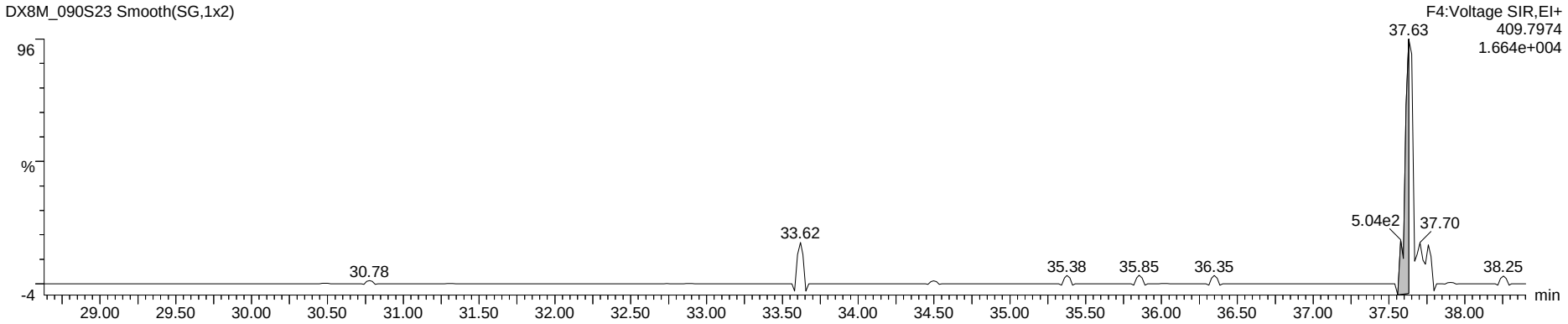
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

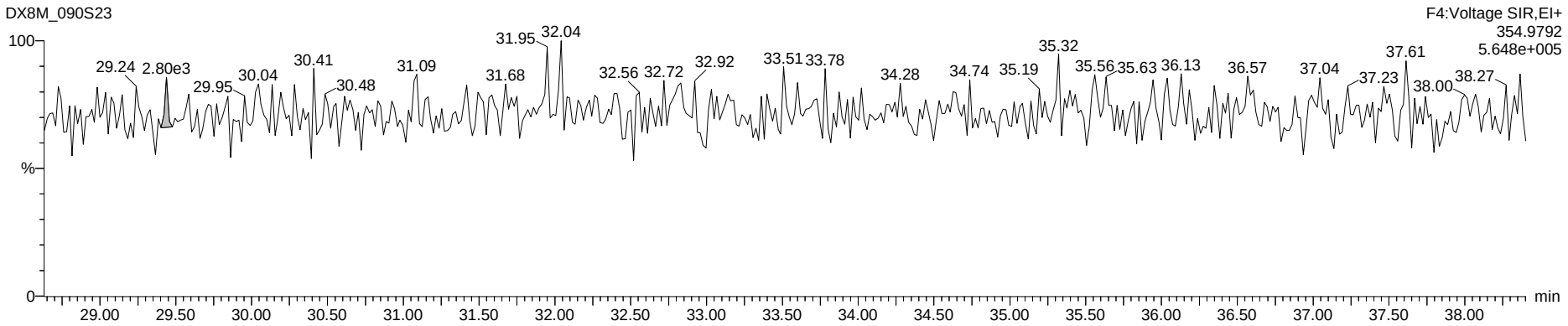
Total Penta-Furans



Hepta DPE



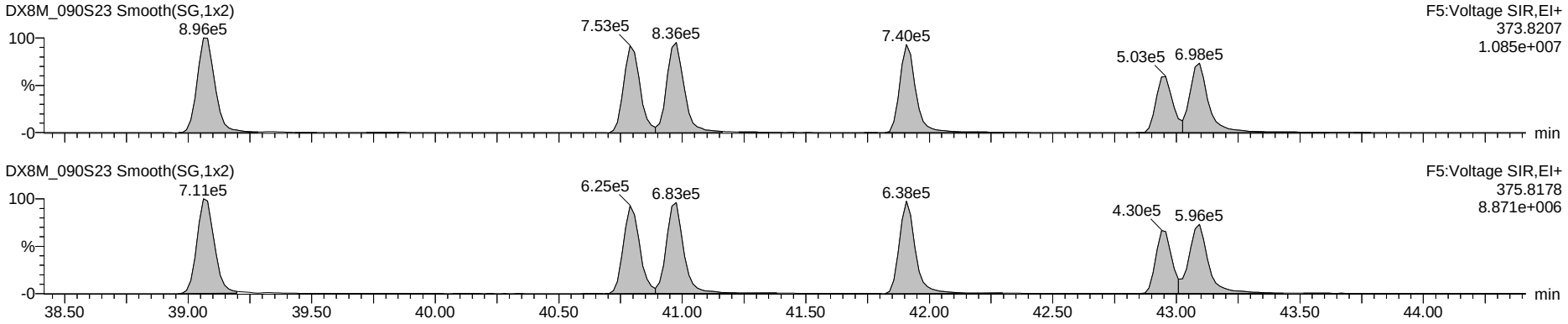
Penta Lock



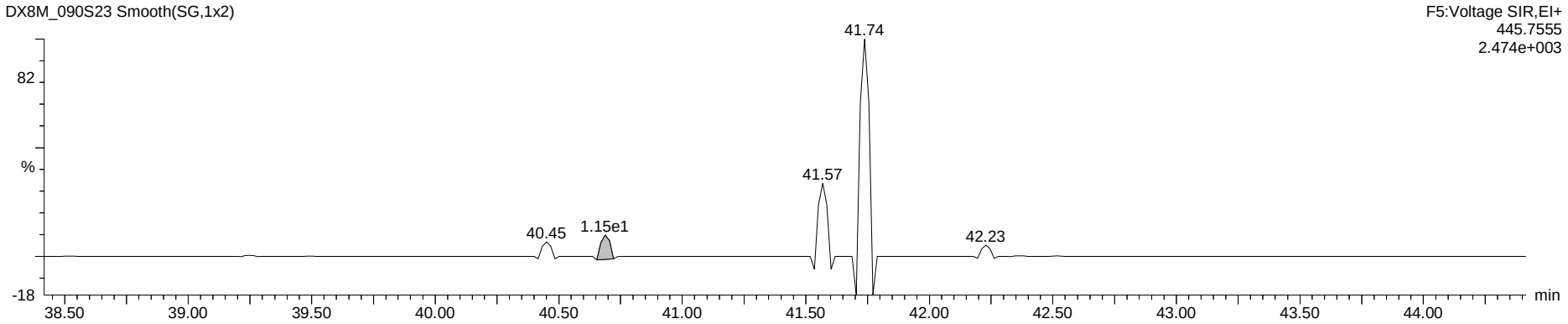
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

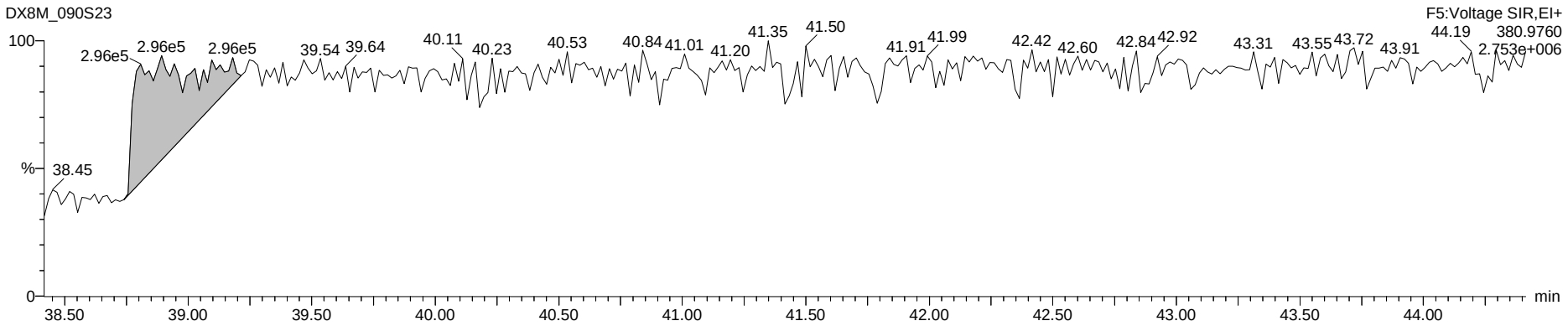
Total Hexa-Furans



Octa DPE



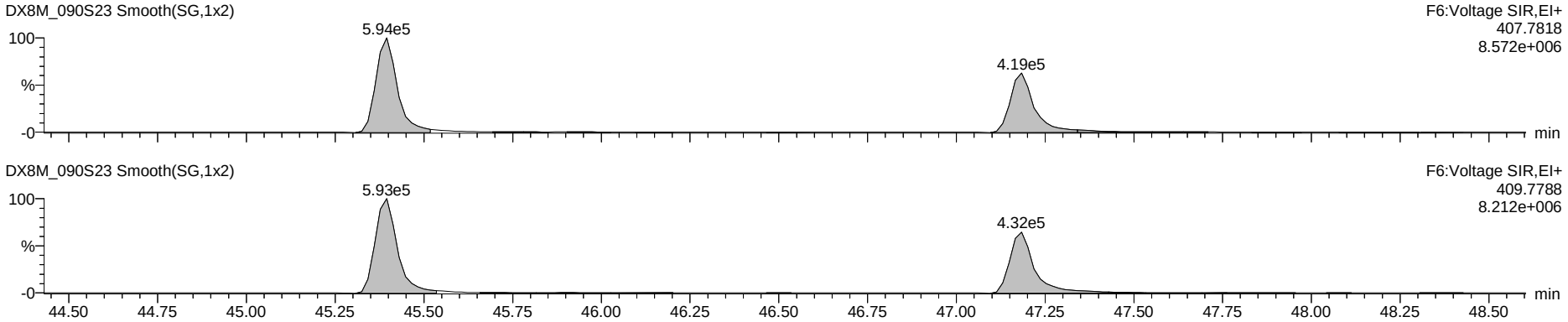
Hexa Lock



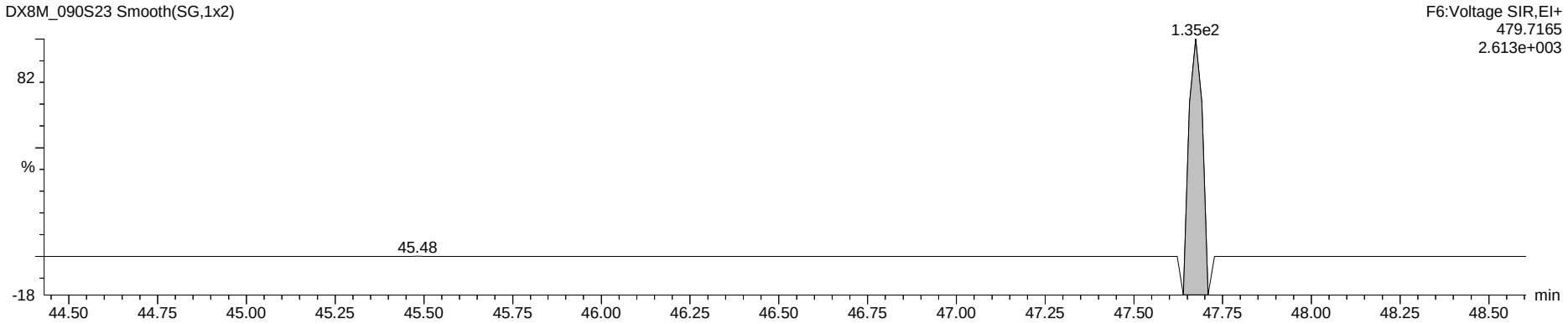
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

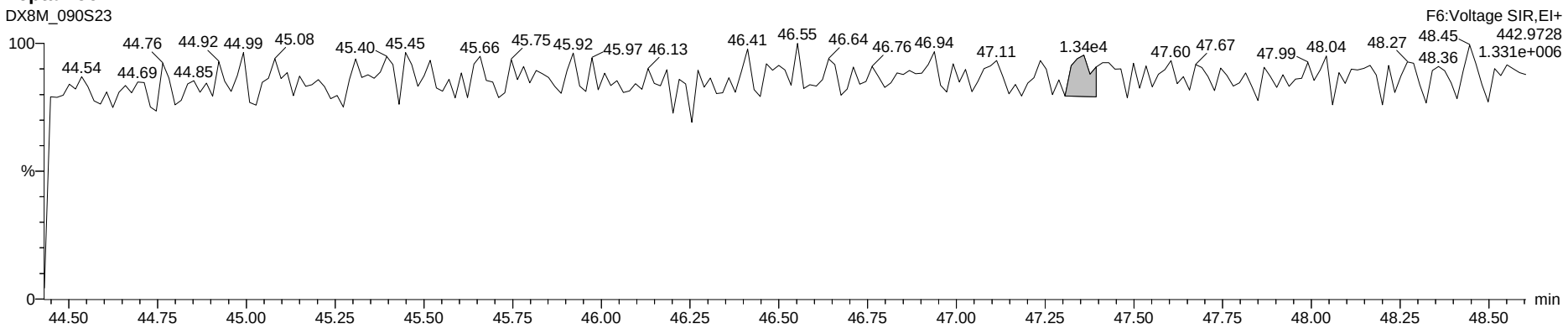
Total Hepta-Furans



Nona DPE



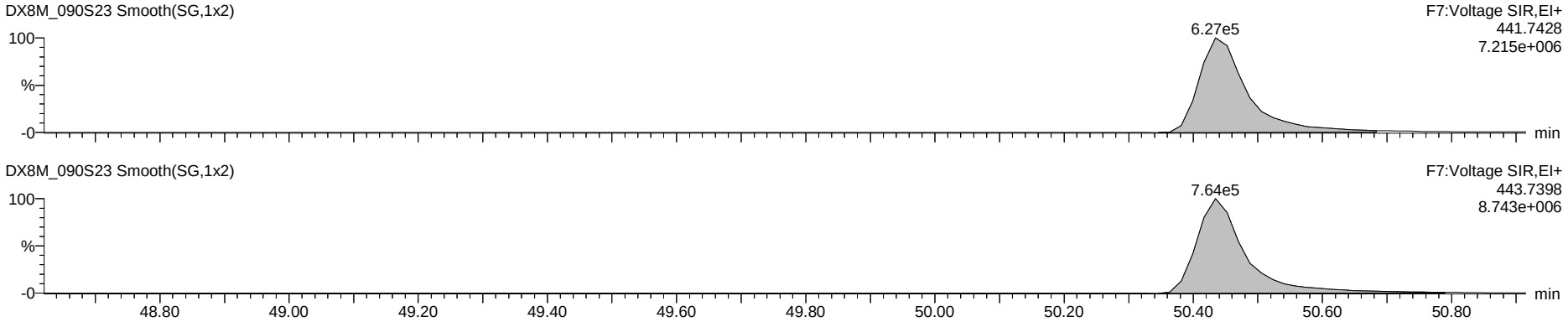
Hepta Lock



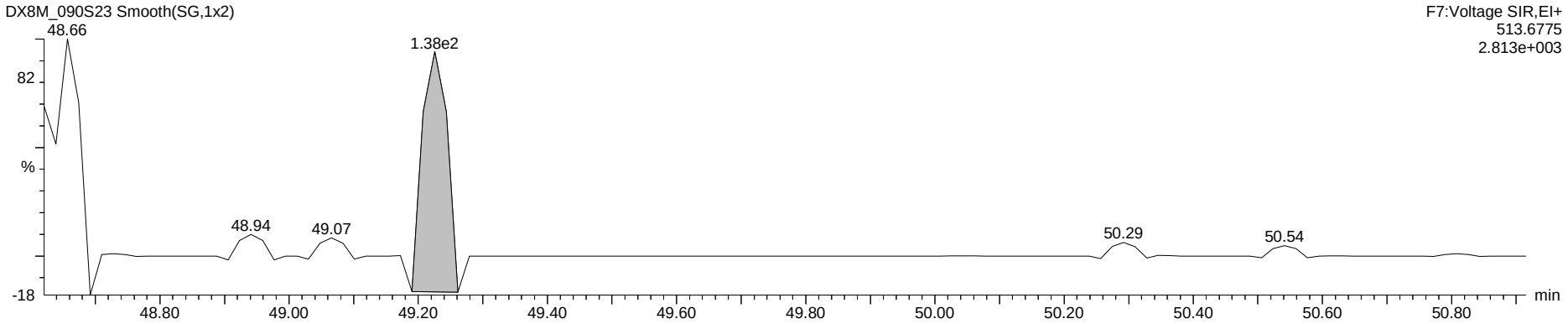
Dataset: G:\Masslynx\Inst_M\Projects\180604DX.PRO\DX8M_090-C.qld

Name: DX8M_090S23, Date: 28-Jul-2018, Time: 12:29:54, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

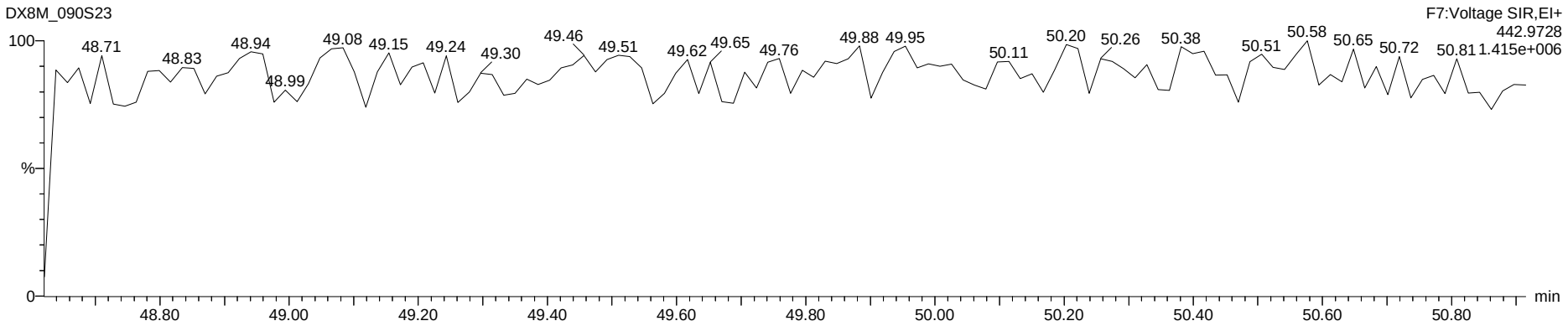
OCDF



Deca DPE



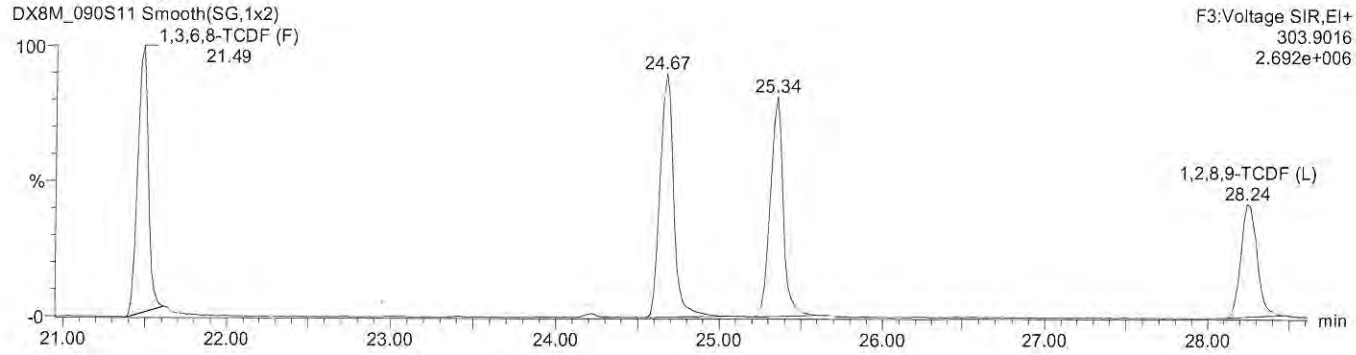
Octa Lock



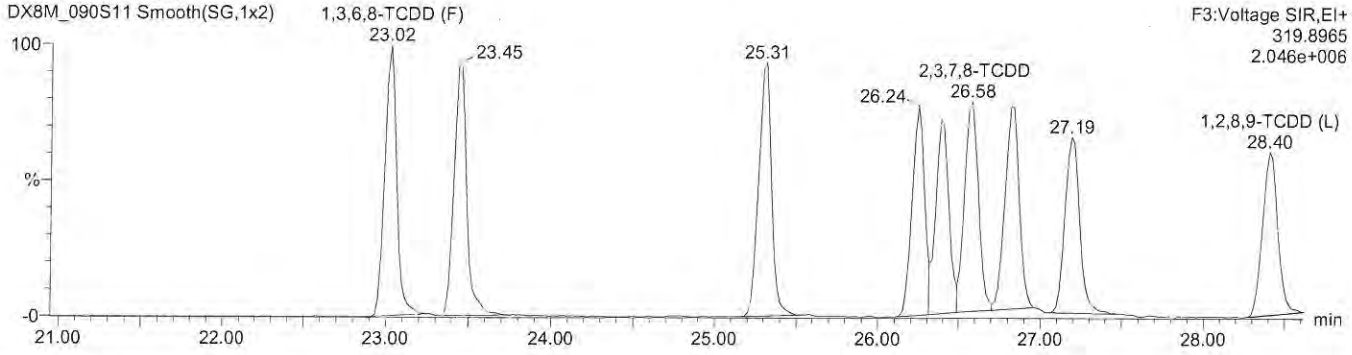
www.axysanalytical.com

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

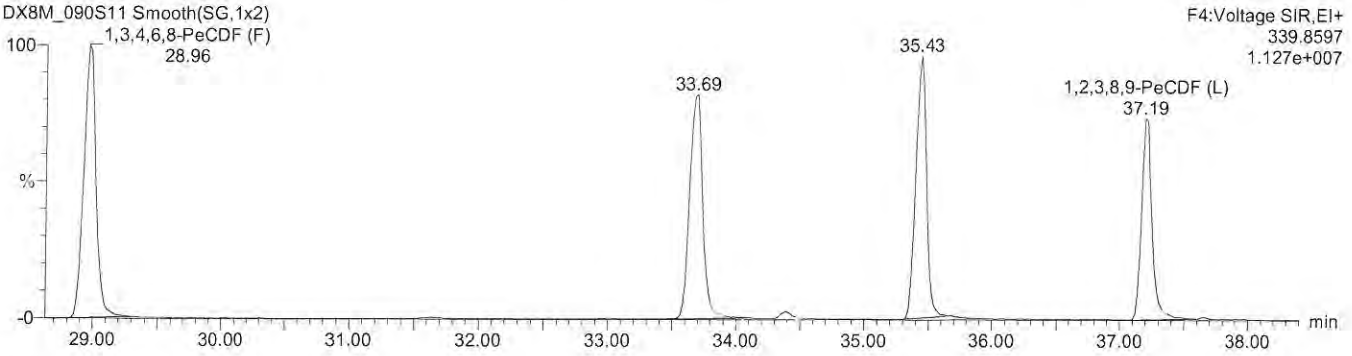
1,3,6,8-TCDF (F)



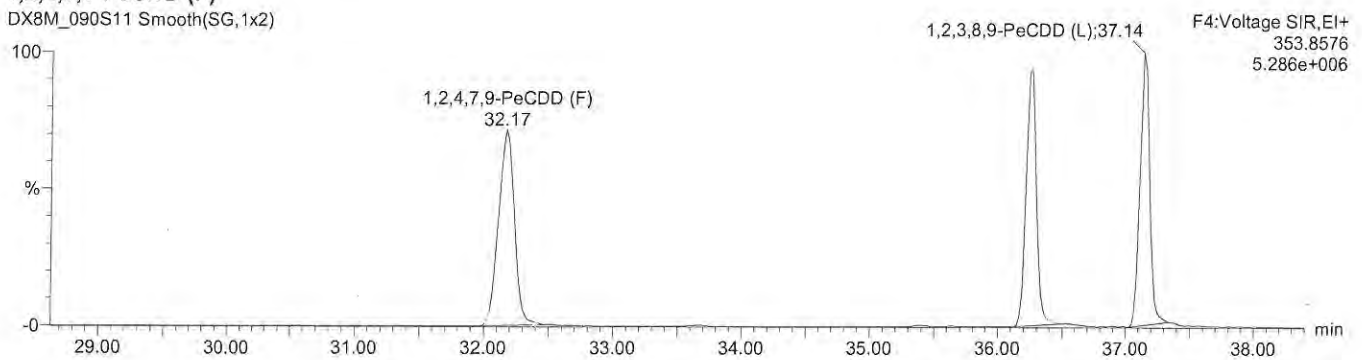
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



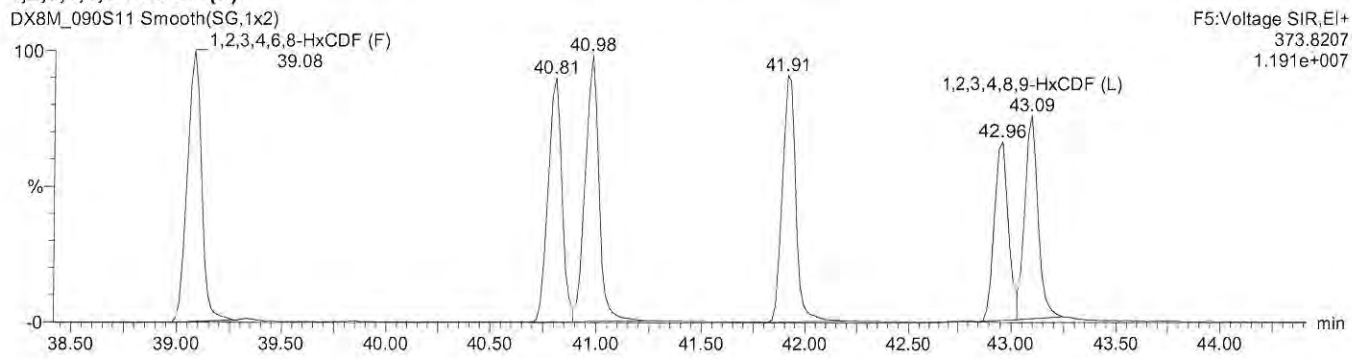
1,2,4,7,9-PeCDD (F)



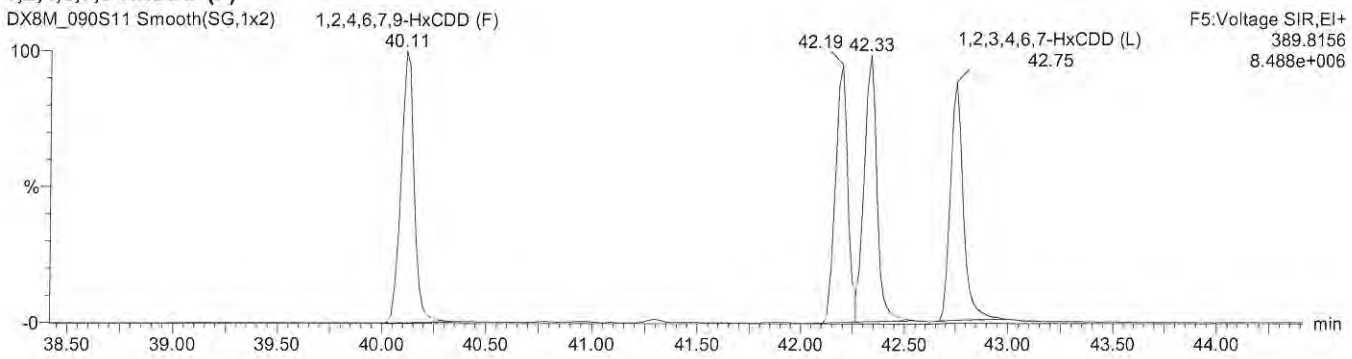
www.axysanalytical.com

Name: DX8M_090S11, Date: 28-Jul-2018, Time: 01:20:44, ID: DX041D-CAL,,/01-89, Description: 1,,1.0uL Cal Win/Res

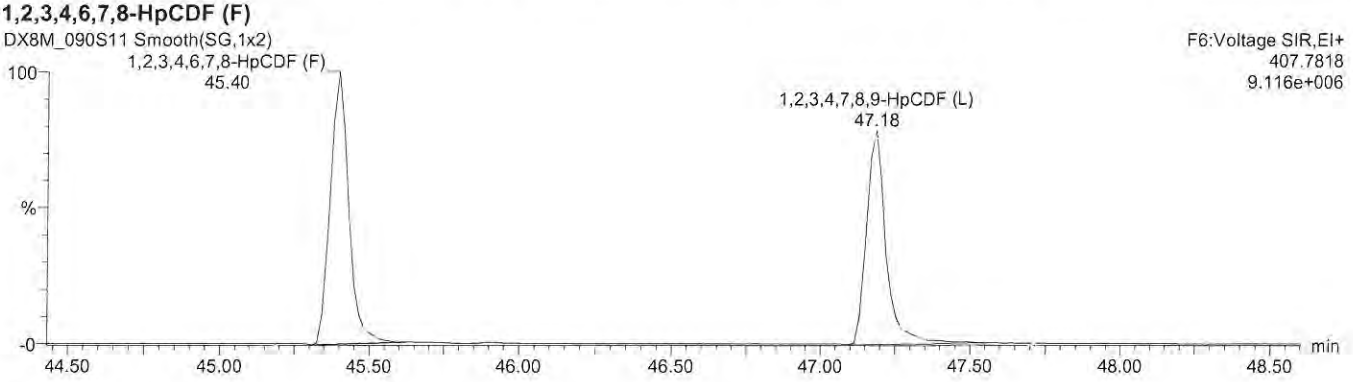
1,2,3,4,6,8-HxCDF (F)



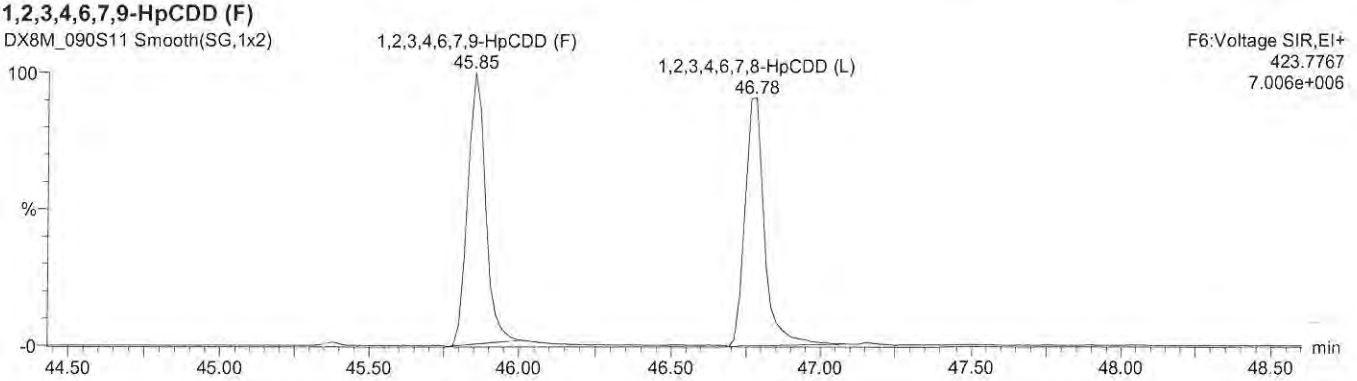
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



Experiment : DX-DB225-4_01
GC Program : DX-DB225-4_01
Column type : DB-225
Serial # : USA226732J/USA┐
kPa : 199
Vol injected: 2.0uL
PMT Voltage : 400

Temps -source: 250
-s resv: 160
-re_ent: 220
-cap_1 : 220
-cap_2 : 220

Tune : EW
List : EW
Check :
LIMS :
Logfile:

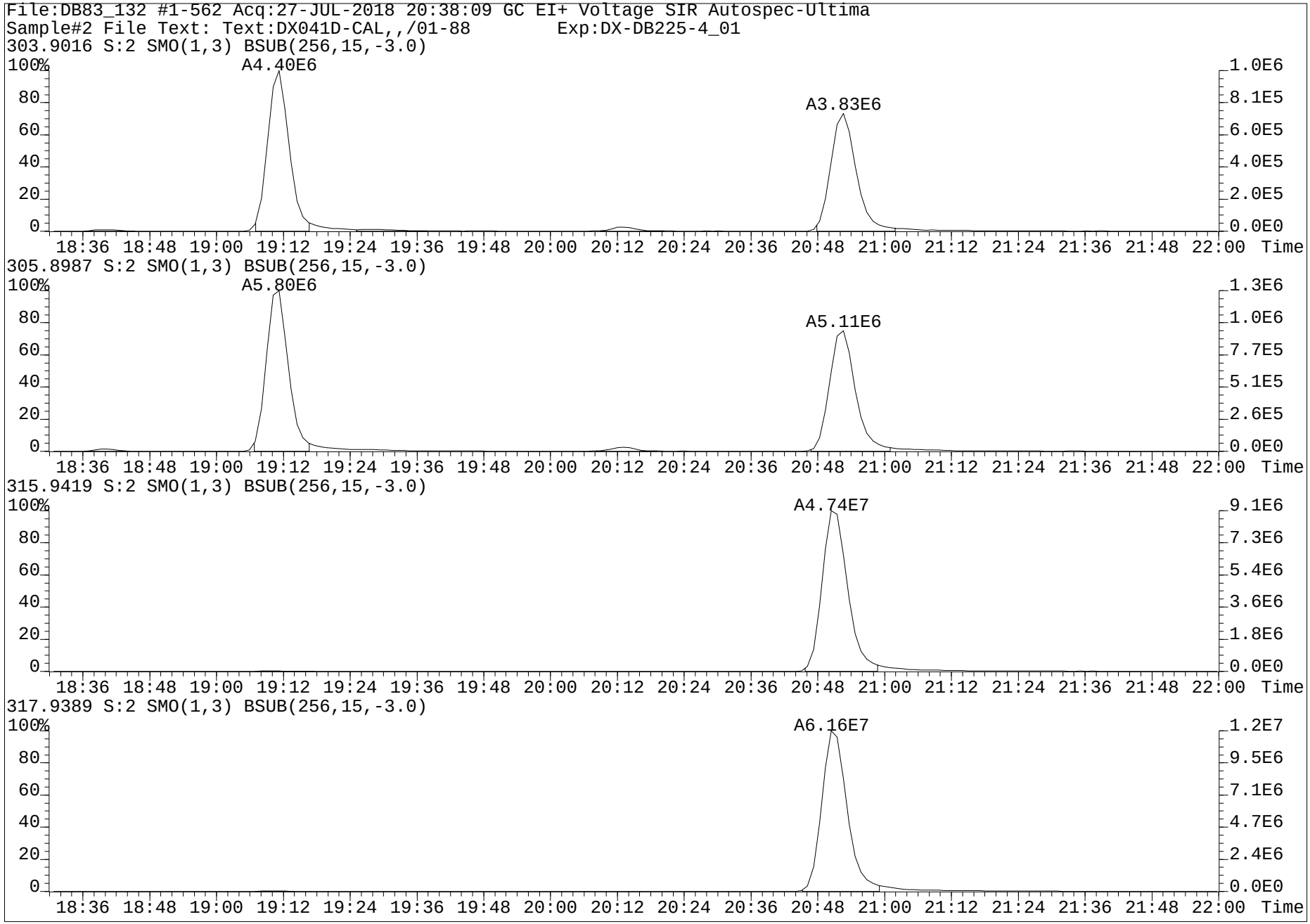
Date -list : 27-JUL-2018
-liner : 13-JUN-2018
-septum: 13-JUN-2018
-guard : 60cm 13-JUN-2018
-column: 10CM 03-APR-2018
-t line: NEW 14-SEP-2017

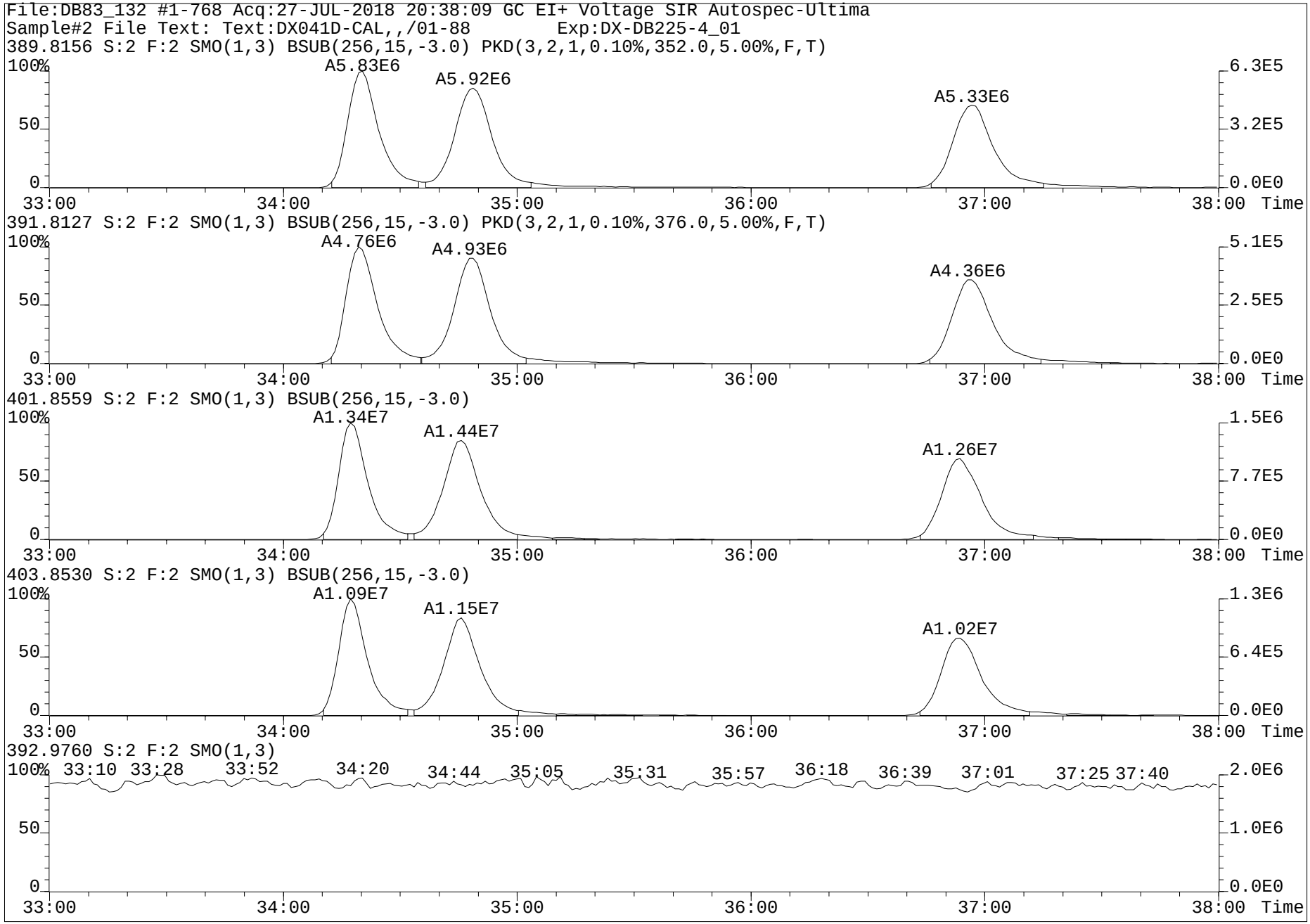
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DB83_132	1	1	DX003A-RSN,,/01-23	1,,2.0uL Win/Res	27-JUL-18 19:56:54
2	DB83_132	2	2	DX041D-CAL,,/01-88	1,,2.0uL Cal	27-JUL-18 20:38:09
3	DB83_132	3	3	Toluene,,	1,,2.0uL	27-JUL-18 21:25:34
4	DB83_132	4	4	Toluene,,	1,,2.0uL	27-JUL-18 22:06:51
5	DB83_132	5	5	WG64577-101,,BLK	1,WG64577,2.0/20uL	27-JUL-18 22:48:07
6	DB83_132	6	6	L29646-1,,	1,WG64577,2.0/20uL	27-JUL-18 23:29:20
7	DB83_132	7	7	L29646-2,,	1,WG64577,2.0/20uL	28-JUL-18 00:10:35
8	DB83_132	8	8	L29646-3,,	1,WG64577,2.0/20uL	28-JUL-18 00:51:48
9	DB83_132	9	9	L29625-18,,	1,WG64577,2.0/20uL	28-JUL-18 01:32:59
10	DB83_132	10	10	WG64577-103,,DUP	1,WG64577,2.0/20uL	28-JUL-18 02:14:11
11	DB83_132	11	11	L29625-19,,	1,WG64577,2.0/20uL	28-JUL-18 02:55:23
12	DB83_132	12	12	L29625-20,,	1,WG64577,2.0/20uL	28-JUL-18 03:36:38
13	DB83_132	13	13	L29625-21,,	1,WG64577,2.0/20uL	28-JUL-18 04:17:51
14	DB83_132	14	14	L29625-22,,	1,WG64577,2.0/20uL	28-JUL-18 04:59:03
15	DB83_132	15	15	L29347-2,,	1,WG64577,2.0/20uL	28-JUL-18 05:40:14
16	DB83_132	16	16	WG64557-104,,CRM	1,WG64557,2.0/20uL	28-JUL-18 06:21:26
17	DB83_132	17	17	DX041D-CAL,,/01-88	1,,2.0uL Cal	28-JUL-18 07:02:42

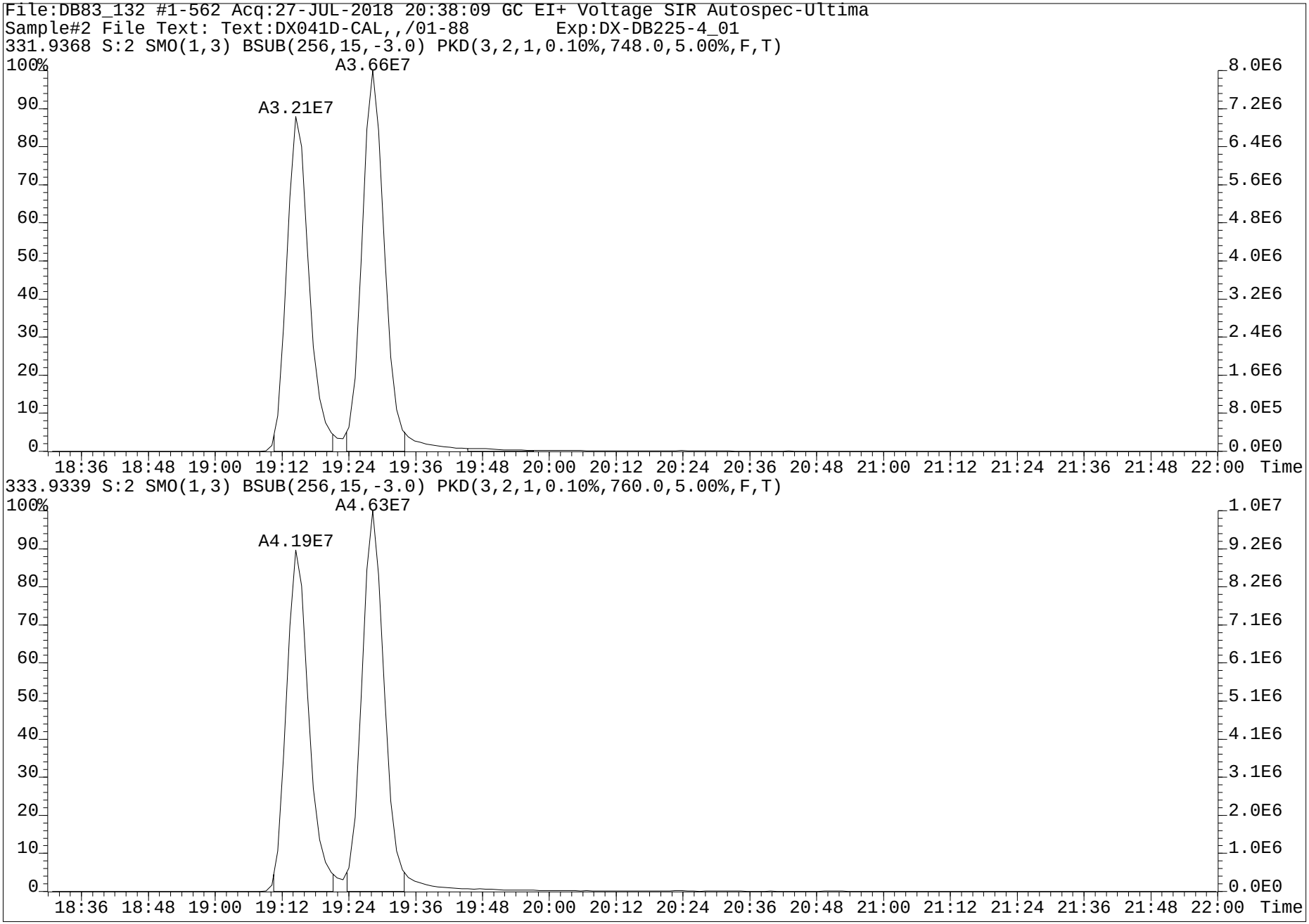
Run #8 Filename DB83_132 S: 2 I: 1 Acquired: 27-JUL-18 20:38:09 Processed: 30-JUL-18 11:30:36
Run: db83_132-b Analyte: db-hxd-c2 Cal: db83_121-6a Results: db83_132-b Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-88 Comments: 1,,2.0uL Cal
sample size: 1.000000 conc units: ng/mL total toxicity: 5.04 F1: 20.0000 F2: 1.0000

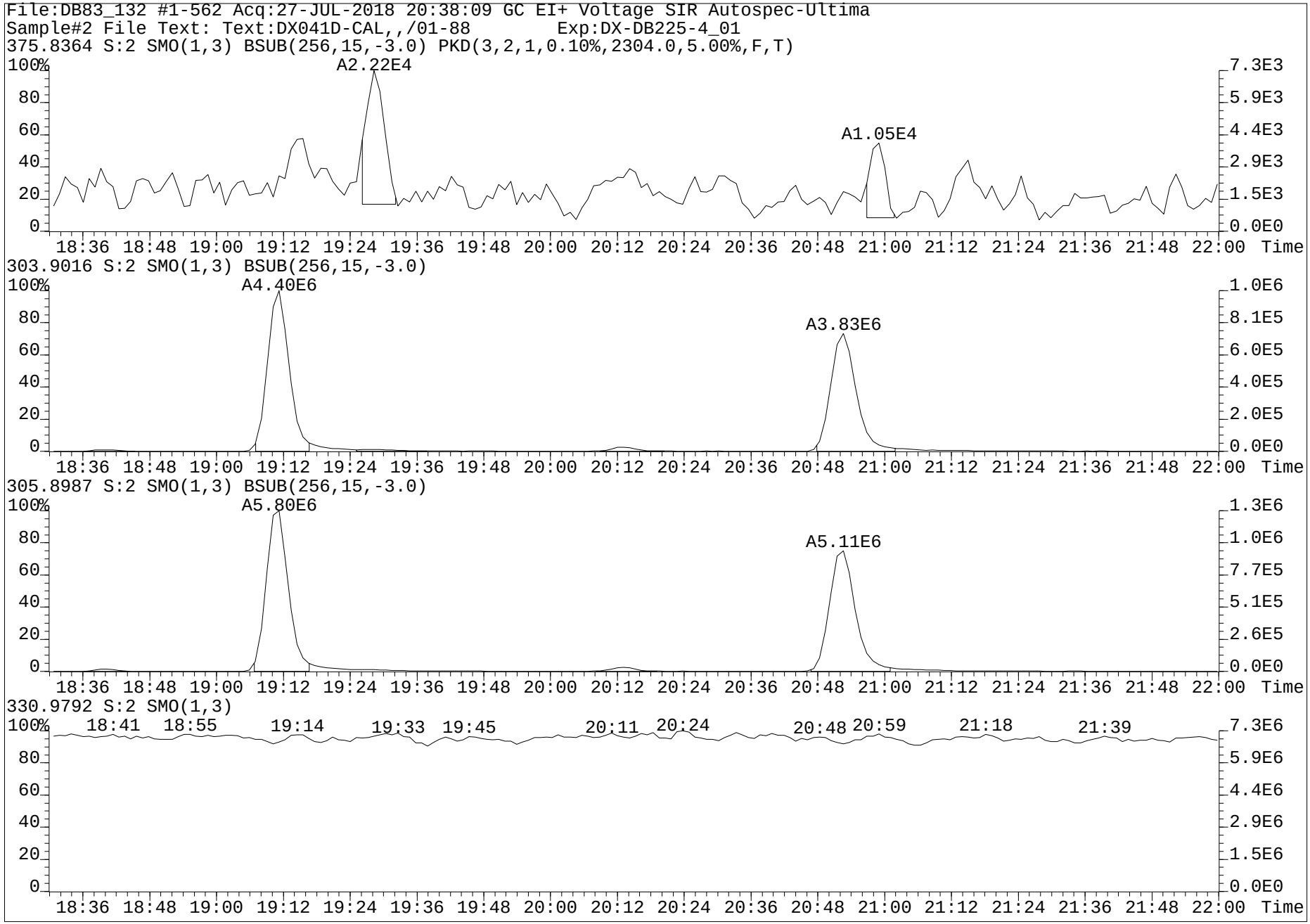
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	8.93e+06	0.75	y	20:53	8.449	1	0.0120	-	y
2	Unk	1,2,3,7,8,9-HxCDD	1	9.69e+06	1.22	y	36:58	41.924	4	0.0765	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	1.09e+08	0.77	y	20:50	73.501	-	0.0219	73.5	y
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	2.42e+07	1.23	y	34:18	100.548	-	0.1251	100.5	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	2.60e+07	1.25	y	34:46	104.456	-	0.1212	104.5	n
6	RS	13C-1,2,3,4-TCDD	1	8.29e+07	0.79	y	19:28	74.909	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.28e+07	1.24	y	36:55	41.562	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

30JUL2018


File:DB83_132 #1-562 Acq:27-JUL-2018 20:38:09 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0)
A4.40E6
A3.83E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0)
A5.80E6
A5.11E6
315.9419 S:2 SMO(1,3) BSUB(256,15,-3.0)
A4.74E7
317.9389 S:2 SMO(1,3) BSUB(256,15,-3.0)
A6.16E7
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_132 #1-768 Acq:27-JUL-2018 20:38:09 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
389.8156 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,352.0,5.00%,F,T)
A5.83E6
A5.92E6
A5.33E6
391.8127 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,376.0,5.00%,F,T)
A4.76E6
A4.93E6
A4.36E6
401.8559 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.34E7
A1.44E7
A1.26E7
403.8530 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.09E7
A1.15E7
A1.02E7
392.9760 S:2 F:2 SMO(1,3)
33:10 33:28 33:52 34:20 34:44 35:05 35:31 35:57 36:18 36:39 37:01 37:25 37:40
100%
50
0
6.3E5
3.2E5
0.0E0
5.1E5
2.5E5
1.5E6
7.7E5
1.3E6
6.4E5
2.0E6
1.0E6
33:00 34:00 35:00 36:00 37:00 38:00 Time


File:DB83_132 #1-562 Acq:27-JUL-2018 20:38:09 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
331.9368 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,748.0,5.00%,F,T)
A3.66E7
A3.21E7
333.9339 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,760.0,5.00%,F,T)
A4.63E7
A4.19E7
Time

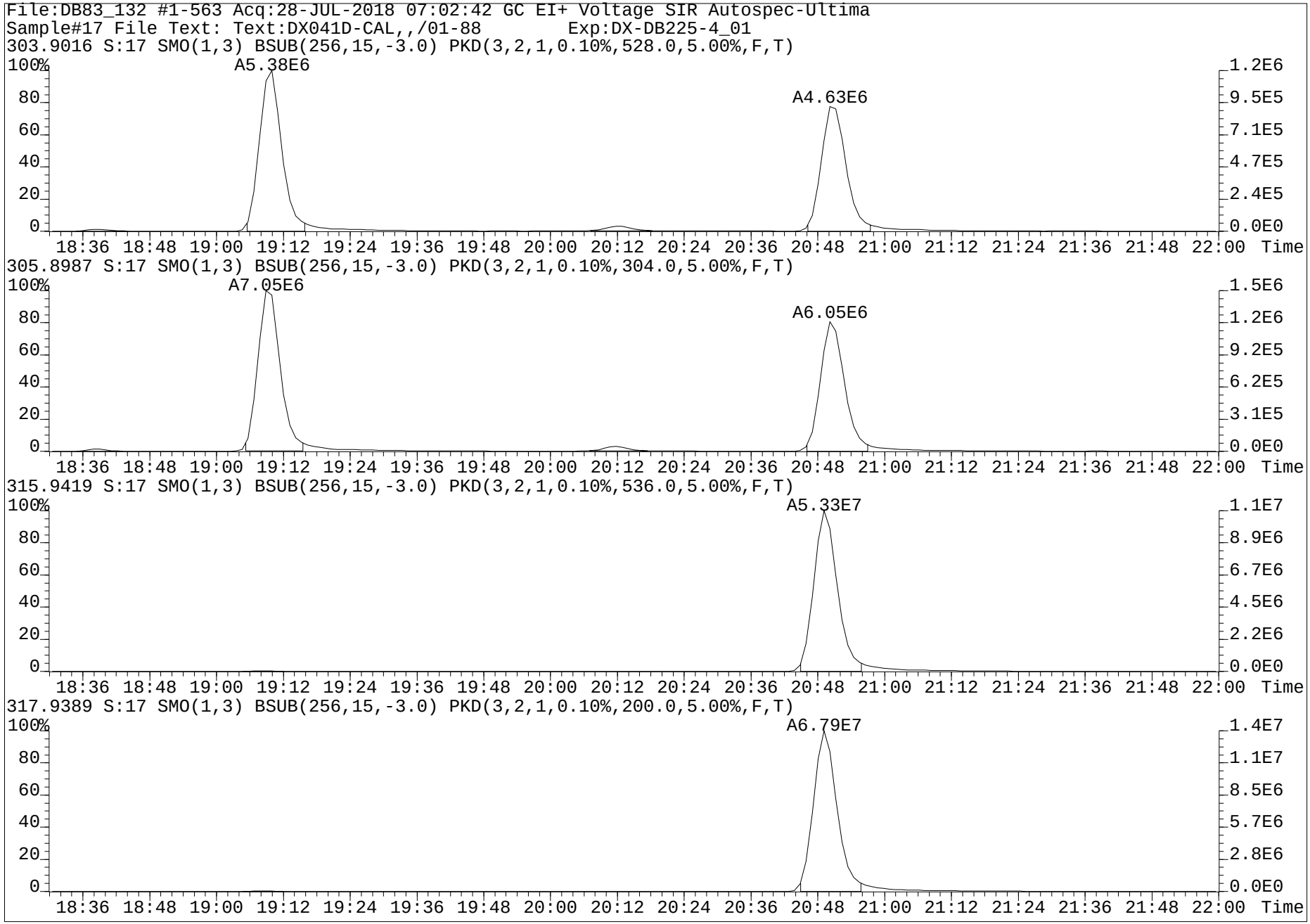

File:DB83_132 #1-562 Acq:27-JUL-2018 20:38:09 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
375.8364 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,2304.0,5.00%,F,T)
A2.22E4
A1.05E4
303.9016 S:2 SMO(1,3) BSUB(256,15,-3.0)
A4.40E6
A3.83E6
305.8987 S:2 SMO(1,3) BSUB(256,15,-3.0)
A5.80E6
A5.11E6
330.9792 S:2 SMO(1,3)
18:41 18:55 19:14 19:33 19:45 20:11 20:24 20:48 20:59 21:18 21:39
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

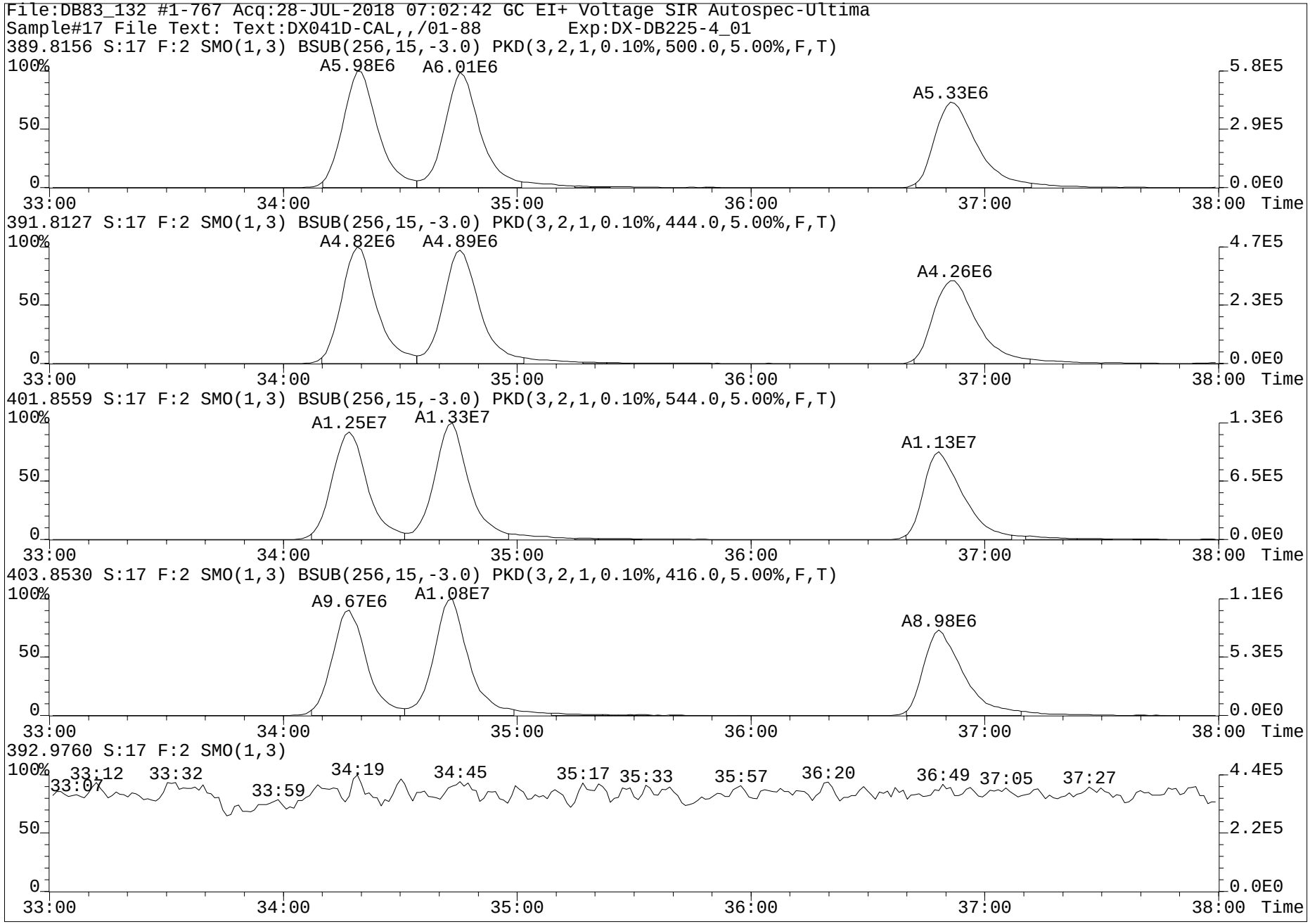
www.axysanalytical.com

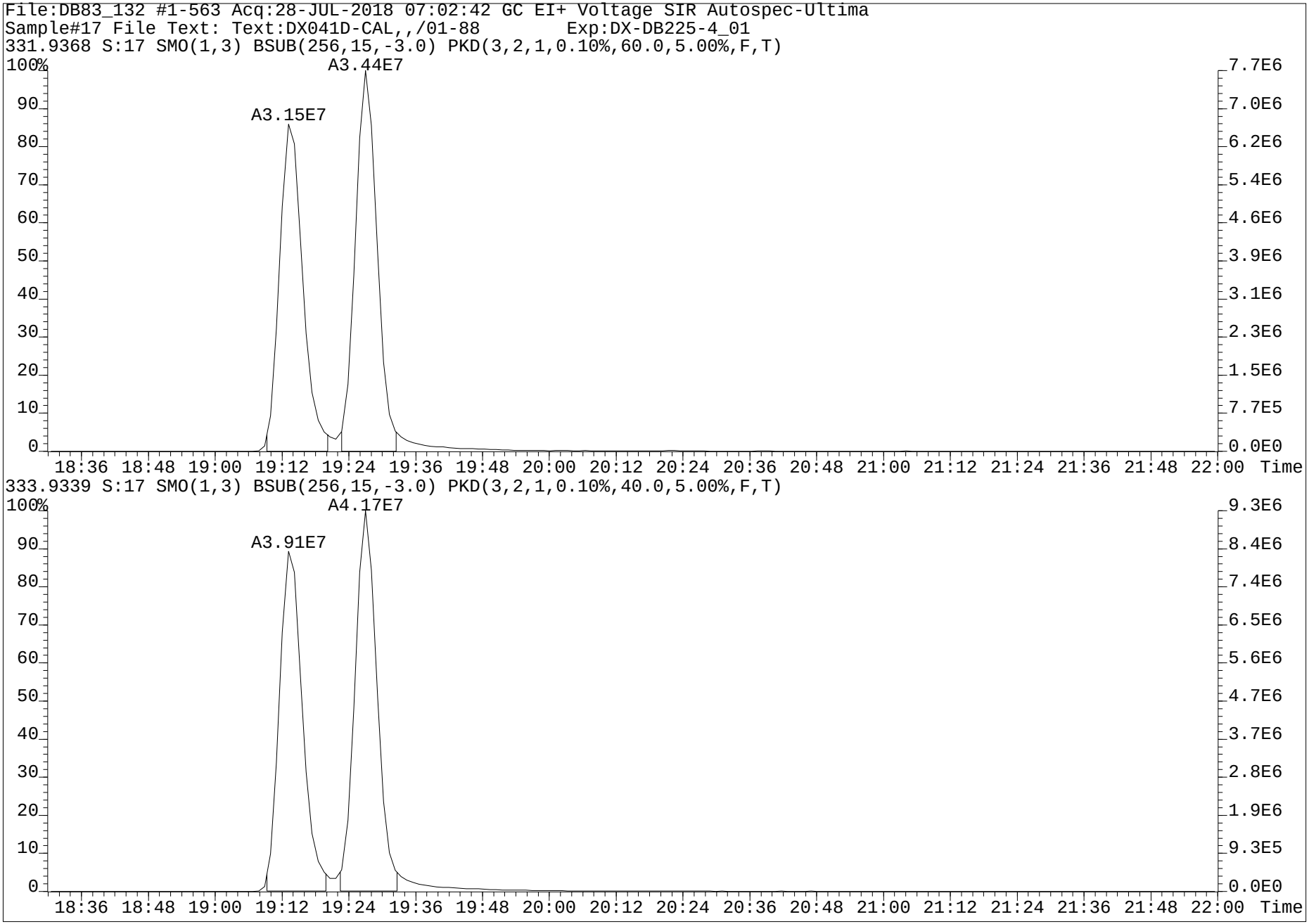
Run #12 Filename DB83_132 S: 17 I: 1 Acquired: 28-JUL-18 07:02:42 Processed: 30-JUL-18 11:30:36
Run: db83_132-b Analyte: db-hxd-c2 Cal: db83_121-6a Results: db83_132-b Version: V3.6 6-JAN-2000 17:51:42
Sample text: DX041D-CAL,,/01-88 Comments: 1,,2.0uL Cal
sample size: 1.000000 conc units: ng/mL total toxicity: 5.42 F1: 20.0000 F2: 1.0000

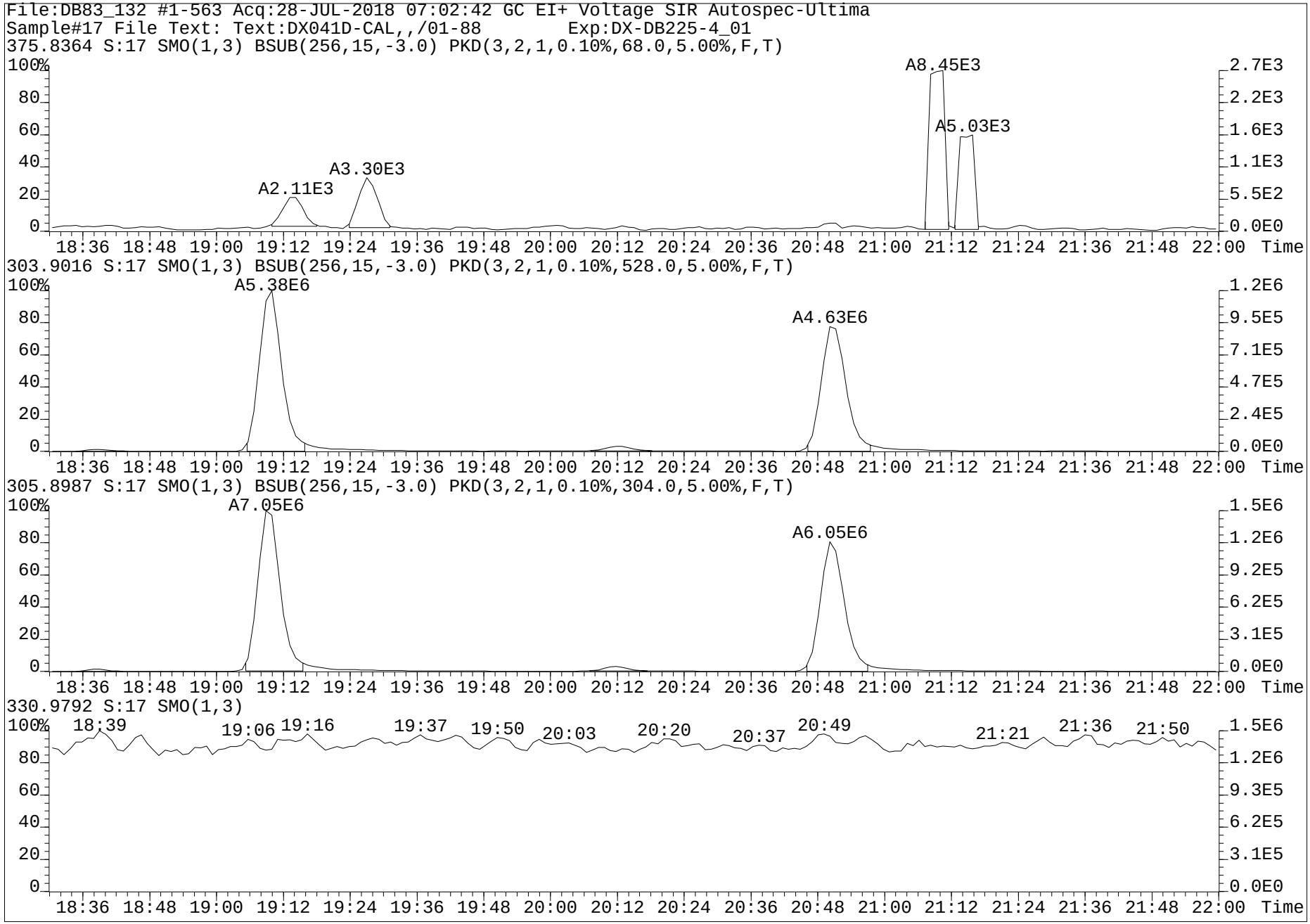
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	2,3,7,8-TCDF	1	1.07e+07	0.77	y	20:51	9.083	1	0.0085	-	n
2	Unk	1,2,3,7,8,9-HxCDD	1	9.60e+06	1.25	y	36:53	45.094	5	0.1136	-	n
3	IS/RT	13C-2,3,7,8-TCDF	1	1.21e+08	0.79	y	20:49	89.042	-	0.0060	89.0	n
4	IS/RT	13C-1,2,3,4,7,8-HxCDD	1	2.22e+07	1.29	y	34:17	103.518	-	0.1296	103.5	n
5	IS/RT	13C-1,2,3,6,7,8-HxCDD	1	2.41e+07	1.23	y	34:43	108.884	-	0.1256	108.9	n
6	RS	13C-1,2,3,4-TCDD	1	7.61e+07	0.82	y	19:27	68.762	-	-	-	n
7	RS	13C-1,2,3,7,8,9-HxCDD	1	2.03e+07	1.26	y	36:50	36.949	-	-	-	n
8	Tot	Hexa DPE	0	*			NotFnd	*	-	-	-	n
9	Tot	Tetra Lock	-	-			-	-	-	-	-	n
10	Tot	Hexa Lock	-	-			-	-	-	-	-	n

pMayKB30Jul2018


File:DB83_132 #1-563 Acq:28-JUL-2018 07:02:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#17 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
303.9016 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,528.0,5.00%,F,T)
A5.38E6
A4.63E6
305.8987 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,304.0,5.00%,F,T)
A7.05E6
A6.05E6
315.9419 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,536.0,5.00%,F,T)
A5.33E7
317.9389 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,200.0,5.00%,F,T)
A6.79E7
100%
80
60
40
20
0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
1.2E6
9.5E5
7.1E5
4.7E5
2.4E5
0.0E0
1.5E6
1.2E6
9.2E5
6.2E5
3.1E5
0.0E0
1.1E7
8.9E6
6.7E6
4.5E6
2.2E6
0.0E0
1.4E7
1.1E7
8.5E6
5.7E6
2.8E6
0.0E0


File:DB83_132 #1-767 Acq:28-JUL-2018 07:02:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#17 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
389.8156 S:17 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,500.0,5.00%,F,T)
A5.98E6
A6.01E6
A5.33E6
5.8E5
2.9E5
0.0E0
391.8127 S:17 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,444.0,5.00%,F,T)
A4.82E6
A4.89E6
A4.26E6
4.7E5
2.3E5
0.0E0
401.8559 S:17 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,544.0,5.00%,F,T)
A1.25E7
A1.33E7
A1.13E7
1.3E6
6.5E5
0.0E0
403.8530 S:17 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,416.0,5.00%,F,T)
A9.67E6
A1.08E7
A8.98E6
1.1E6
5.3E5
0.0E0
392.9760 S:17 F:2 SMO(1,3)
33:07
33:12
33:32
33:59
34:19
34:45
35:17
35:33
35:57
36:20
36:49
37:05
37:27
4.4E5
2.2E5
0.0E0
100%
50
0
33:00
34:00
35:00
36:00
37:00
38:00
Time


File:DB83_132 #1-563 Acq:28-JUL-2018 07:02:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#17 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
331.9368 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,60.0,5.00%,F,T)
A3.44E7
A3.15E7
100%
90
80
70
60
50
40
30
20
10
0
7.7E6
7.0E6
6.2E6
5.4E6
4.6E6
3.9E6
3.1E6
2.3E6
1.5E6
7.7E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time
333.9339 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,40.0,5.00%,F,T)
A4.17E7
A3.91E7
100%
90
80
70
60
50
40
30
20
10
0
9.3E6
8.4E6
7.4E6
6.5E6
5.6E6
4.7E6
3.7E6
2.8E6
1.9E6
9.3E5
0.0E0
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time


File:DB83_132 #1-563 Acq:28-JUL-2018 07:02:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#17 File Text: Text:DX041D-CAL,,/01-88 Exp:DX-DB225-4_01
375.8364 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,68.0,5.00%,F,T)
A2.11E3
A3.30E3
A8.45E3
A5.03E3
303.9016 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,528.0,5.00%,F,T)
A5.38E6
A4.63E6
305.8987 S:17 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.10%,304.0,5.00%,F,T)
A7.05E6
A6.05E6
330.9792 S:17 SMO(1,3)
18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 20:36 20:48 21:00 21:12 21:24 21:36 21:48 22:00 Time

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
BFR	BTBPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	DBDPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	HBB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	PBEB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
Bisphenols	Bisphenol A	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol AF	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol B	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol E	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol F	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol S	SGS AXYS MLA-113	MLA-113		Y																		Y											
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
OC Pesticides	"Organochlorine Pesticides" category (CA only)	EPA 608	MLA-007																					Y										
		EPA 625	MLA-007																					Y										
		EPA 8081	MLA-007			Y																												
	"Pesticides" category (CA only)	EPA 8270	MLA-007			Y																												
	2,4'-DDD	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDE	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDT	EPA 625	MLA-007																						Y									Y
		EPA 8270	MLA-007				Y						Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDD	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y		Y																				
		EPA 1699	MLA-028				Y								Y										Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDE	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y		Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids										Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 1699	MLA-028				Y							Y											Y							Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	4,4'-DDT	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Aldrin	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Alpha-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Beta-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Chlordane, technical	EPA 625	MLA-007																													Y		
		EPA 8270	MLA-007				Y			Y	Y		Y	Y												Y				Y	Y		Y		Y	
		SGS AXYS MLA-007	MLA-007				Y							Y												Y								Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y												Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	cis-Nonachlor	EPA 8270	MLA-007				Y					Y		Y												Y								Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Delta-HCH	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Dieldrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Endosulphan I	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Endosulphan II	EPA 608	MLA-007																						Y				Y	Y		Y		Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endosulphan sulphate	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin aldehyde	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007		Y		Y							Y									Y		Y									Y
	Endrin ketone	EPA 8081	MLA-007				Y			Y		Y		Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									
	Gamma-HCH (Lindane)	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor epoxide	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Hexachlorobenzene	EPA 1625	MLA-007																						Y				Y					Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Methoxychlor	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Mirex	EPA 8270	MLA-007				Y			Y		Y		Y											Y				Y	Y		Y		Y
		EPA 1699	MLA-028				Y							Y											Y									Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Oxychlordane	EPA 8270	MLA-007				Y					Y													Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y									Y							Y		Y								Y	
	Toxaphene	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y											Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	trans-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylnaphthalene	EPA 1625	MLA-021																															Y
		EPA 8270	MLA-021				Y			Y				Y											Y										
		SGS AXYS MLA-021	MLA-021		Y		Y							Y																				Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	Acenaphthene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y								Y										Y										Y
	Acenaphthylene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benz[a]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y			Y	Y																					
		SGS AXYS MLA-021	MLA-021				Y							Y											Y									Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Chrysene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Dibenz[a,h]anthracene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																			Y										
	Fluoranthene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Fluorene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Naphthalene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Perylene	SGS AXYS MLA-021	MLA-021		Y											Y								Y										
	Phenanthrene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Pyrene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Retene	SGS AXYS MLA-021	MLA-021		Y																			Y										
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033									Y																			Y			

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																					Y										
		EPA 8270	MLA-007			Y																												
	PCB Aroclor 1016	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007									Y																						
	PCB Aroclor 1221	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1232	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1242	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1248	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1254	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1260	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																				
		SGS AXYS MLA-010	MLA-010				Y							Y											Y								Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y								Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 101/90/89	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105/127	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107/109	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 111/117	EPA 8270	MLA-007									Y																						
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-901	MLA-901	Y																															
	PCB 118/106	EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 12/13	EPA 8270	MLA-007									Y																							
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH
	PCB 131/142	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 132/168	EPA 8270	MLA-007									Y																			
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 134/143	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-901	MLA-901	Y																											
	PCB 138/163/164	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 144/135	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	

Water, Non-Potable							
Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149/139	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 158/160	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 16/32	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 170/190	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 172/192	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 174/181	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 177 2,2',3,3',4,5',6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 187/182	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 196/203	EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y		Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y			Y				Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y					Y						Y			Y	Y	Y			Y	Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 23/34	EPA 8270	MLA-007									Y																					
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 24/27	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33/20/21	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 4/10	EPA 8270	MLA-007									Y																						
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 41/71/64/68	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 42/59	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 47/48/75	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y					Y													
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 49/43	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52/73	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56/60	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62/65	EPA 8270	MLA-007									Y																						
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66/80	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7/9	EPA 8270	MLA-007									Y																						
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 70/76	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 74/61	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 8/5	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83/108	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 85/120	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87/115/116	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 88/121	EPA 8270	MLA-007									Y																						
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 95/93	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 97/86	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 98/102	EPA 8270	MLA-007									Y																						
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB congeners, total	EPA 1668	MLA-010							Y																		Y						
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010											Y							Y												Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010											Y						Y													Y
		SGS AXYS MLA-010	MLA-010											Y						Y													Y
	Total Dichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Heptachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Hexachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Monochlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Octachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total PCBs	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Trichlorobiphenyls	EPA 1668	MLA-010											Y							Y												Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCDDF	"Dioxins and Dibenzofurans" category (CA only)	EPA 1613	MLA-017																					Y									
		EPA 8290	MLA-017			Y																												
	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y		Y	Y	Y	Y	Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,7,8-TCDD	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,7,8-TCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	OCDD	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	OCDF	EPA 1613	MLA-017									Y		Y							Y				Y			Y	Y				Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	Total HpCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HpCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HxCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HxCDF	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total PCDD	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDD+PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PeCDD	EPA 1613	MLA-017											Y							Y				Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y					Y			Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total PeCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDD	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
PFAS	4:2 Fluorotelomersulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	6:2 Fluorotelomersulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	8:2 Fluorotelomersulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Ethylperfluorooctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Methylperfluorooctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y									Y		Y					Y			Y	Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	4-Epitetracycline (ETC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Acetaminophen	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Albuterol	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Alprazolam	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amitriptyline	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amlodipine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Amphetamine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Atenolol	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Atorvastatin	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Azithromycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Benztropine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Betamethasone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Bisphenol A	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Caffeine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Carbadox	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Carbamazepine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cefotaxime	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Chlortetracycline (CTC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cimetidine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Ciprofloxacin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Clarithromycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Clinafloxacin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																	Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable							
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *
	Clonidine	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Cloxacillin	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Cocaine	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Codeine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Cotinine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Dehydronifedipine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Demeclocycline	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Diazepam	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Digoxigenin	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Digoxin	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Diltiazem	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Diphenhydramine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Doxycycline	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Enalapril	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Enrofloxacin	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Erythromycin	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Erythromycin anydrate	EPA 1694	MLA-075										Y																		Y
	Flumequine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Fluocinonide	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Fluoxetine	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Furosemide	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Gemfibrozil	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Glipizide	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Glyburide	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Hydrocodone	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Hydrocortisone	SGS AXYS MLA-075	MLA-075		Y																	Y								
	Ibuprofen	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075										Y																		Y
		SGS AXYS MLA-075	MLA-075		Y																	Y								
	Lincomycin	EPA 1694	MLA-075										Y																		Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Lomefloxacin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Meprobamate	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metformin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Miconazole	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Minocycline	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Naproxen	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfloxacin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norgestimate	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ofloxacin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ormetoprim	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxacillin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxolinic acid	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxycodone	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Paroxetine	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin G	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin V	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Promethazine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propranolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ranitidine	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Roxithromycin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sarafloxacin	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sertraline	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfachloropyridazine	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadiazine	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadimethoxine	EPA 1694	MLA-075										Y																				Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Sulfamerazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethizole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethoxazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfanilamide	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfathiazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tetracycline (TC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Theophylline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Thiabendazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triamterene	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclocarban	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclosan	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trimethoprim	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tylosin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Valsartan	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Verapamil	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Virginiamycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Warfarin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																	
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylornithine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Alanine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Arginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asparagine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Aspartate	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																	
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Carnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Carnosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	cholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Citrulline	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Creatinine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																		
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dopamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																		
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamate	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glycine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Leucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Lysine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methionine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Proline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Putrescine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serotonin	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Taurine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Threonine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y																														
TOP	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorononanoate (PFNA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-111	MLA-111		Y																		Y											
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-111	MLA-111		Y																		Y											

Note * Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Note ** PFAS by LC-MS/MS compliant with US DoD QSM 5.1 table B-15

Legend

Y	Accreditation scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFAS	Per- and Polyfluoroalkyl Substances
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
TOP	Total Oxidizable Precursors
California DPH	California Department of Public Health, Lab ID 2911
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

ANAB DoD	ANSI-ASQ National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.1 Standard)
CALA	Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)
ANAB ISO 17025	ANSI-ASQ National Accreditation Board, certificate ADE-1861.01, (ISO/IEC 17025:2005 Standard)

SGS AXYS

2045 Mills Road West
Sidney, BC, Canada V8L5X2

TEL: (250) 655-5800
TOLL-FREE: 1-888-373-0881

SGS AXYS Client No.: 4033

Client Address: 200 West Mercer Street
Suite 401
Seattle, WA, , 98119

The SGS AXYS contact for these data is Georgina Brooks.

PCB CONGENER ANALYSIS

TISSUE SAMPLES

PROJECT NAME: CLAM PO# 2018-0065

Contract: 4033
Data Package Identification: DPWG64993

Analysis WG64623

20 August 2018

www.axysanalytical.com

WINDWARD ENVIRONMENTAL
TISSUE SAMPLES

PCB CONGENER ANALYSIS
SGS AXYS METHOD: MLA-010

4033: L29626-1, -2, -4, -6, -7, & -9
Project Number: Clam PO#2018-0065

20 August 2018

NARRATIVE

This narrative describes the analysis of six tissue samples for polychlorinated biphenyl congeners (PCBs) using high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS).

SAMPLE RECEIPT AND STORAGE

The samples were received on July 3rd, 2018. Details of sample conditions on receipt are provided on the sample receiving records. The samples were stored at -20°C in the dark prior to extraction and analysis.

SAMPLE ANALYSIS

Extraction and analysis procedures were in general accordance with **'USEPA Method 1668, Revision C: *Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS*'**, as documented in SGS AXYS Method MLA-010. MSU-010 is a summary of MLA-010. A list of modifications to the EPA method is given on pages 29-31 of MSU-010.

The samples and QC samples were analyzed in batch WG64623, the composition of which is shown on the correlation table, and on the batch list heading the extraction workup sheets. The QC samples consisted of a procedural blank, a lab-generated reference sample known as the Ongoing Precision and Recovery (OPR), a sample duplicate, and a certified reference material (CRM). Canola oil was used as the matrix for the procedural blank and the OPR. Sample 'LDW18-C04-CLWB-Comp2' (Axys ID L29626-4) was analyzed in duplicate and the duplicate assigned Axys ID WG64623-103. The reference material was NRCC CARP-2.

For each sample, a weighed subsample of approximately 5 g was spiked with five times the routine quantity of ^{13}C-labeled quantification standards, and extracted in a Soxhlet apparatus using dichloromethane. The resulting extract was spiked with five times the routine quantity of ^{13}C-labeled cleanup standards, cleaned up using the standard chromatographic columns listed on the extraction workup sheets. The cleaned extract was split into a one-tenth portion and a nine-tenth portion.

The one-tenth portion was concentrated, spiked with ^{13}C-labeled recovery (internal) standards, and analyzed using an SPB Octyl column for the majority of the 209 congeners.

The nine-tenth portion was given further cleanup using carbon-celite, then concentrated, spiked with ^{13}C -labeled recovery standards, and analyzed on a DB-1 column for the subset of congeners designated as "toxic" by the World Health Organization (this subset is listed on page 2 of MSU-010).

For both the one-tenth portion for SPB Octyl analysis and the nine-tenth portion for toxics analysis, the final extract volume was 20 µL, and the injection volume was 1 µL.

CALCULATION

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures using Micromass OPUSQuan software. The equations for calculating concentrations from GC-MS peak areas are given on page 31 of MSU-010.

Standard reporting limits, and the calculation of sample specific detection limits (SDLs), are described on pages 22 and 23 of MSU-010.

Homologue totals were obtained by summing the concentration of all detected congeners at each level of chlorination. Toxic Equivalents (TEQs) were calculated using WHO 2005 MAMM TEFs. The homolog total and TEQ calculations included congener peaks that did not meet the method ion abundance ratio criteria.

A single result is reported for each congener. All of the WHO toxic congeners except PCBs 105 and 118 were reported from the DB-1 column analysis. All of the 209 congeners not on the WHO toxic list, plus PCBs 105 & 118, were reported from the SPB Octyl analysis. The results from the DB-1 and SPB Octyl runs are combined as necessary for the homolog total and TEQ calculations.

If the data validation chemists modified any of the concentrations, recoveries, or detection limits from as they appear on the quantification pages, these modifications are documented on the audit change reports included at the end of the analysis reports. Some of these edits may in addition be annotated by hand on the quantification pages.

REPORTING CONVENTIONS

For internal tracking, SGS Axys assigned Windward Environmental contract number 4033. Axys logged the samples under unique laboratory identifiers of the form L29626-X, where X is a numeral. All data reports refer to both the client and Axys IDs, which are cross-referenced on the correlation table.

The following data qualifier flags are used in this data package:

B	=	analyte detected in the sample and the blank, and the sample concentration is less than 10X the blank concentration
C/Cx	=	indicates the coelution of two or more congeners. The result for the coelution is reported once only, against the congener flagged 'C', which is the congener with the lowest IUPAC number 'x'. The remaining congeners in the coelution are flagged 'Cx'
J	=	concentration less than lowest calibration equivalent
K	=	a peak was detected that did not meet all the method criteria for positive identification as the target analyte; the reported value is the estimated maximum possible concentration
U	=	not detected
X	=	the result is reported on another page

Results are reported to three significant figures in units of nanograms per kilogram (ng/kg), on a wet weight basis.

QA/QC NOTES

The client samples and the QC samples were prepared alongside each other, and were subjected to the same analytical procedures. The sample data were reviewed and evaluated in relation to the batch QC samples.

- The results are not blank corrected.
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery corrected for possible losses during extraction and cleanup.
- All initial calibration, calibration verification, lab blank, OPR, duplicate, and labeled compound recovery specifications were met.

ANALYTICAL DISCUSSION

No additional work was required for batch WG64623.

DATA PACKAGE

This data package, assigned a unique identifier DPWG64993, includes the following:

- Method summary
- Correlation table
- Sample receiving documentation
- Laboratory extraction workup sheets
- Sample data reports (in order of Axys ID)
- Laboratory QC data reports
- Instrumental QC data reports and mass resolution printouts (organized by analysis start date)

- Audit change reports
- Sample raw data (in order of Axys ID)
- Laboratory QC raw data
- Instrumental QC raw data (organized by analysis start date)
- Accreditation Scope

I certify that this data package complies with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition I certify that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of SGS AXYS Analytical Services Ltd, authorizes the release of the data contained in this data package.

Brian Watson

Signed: Brian Watson, B.Sc.,
Data Validation Chemist

20 August 2018

Date Signed

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

SUMMARY OF SGS AXYS METHOD MLA-010 REV. 12 VER. 01:

ANALYTICAL METHOD FOR THE DETERMINATION OF 209 PCB CONGENERS BY EPA METHOD 1668A, EPA METHOD 1668C OR EPA METHOD CBC01.2

This analytical method determines the concentrations of all 209 PCB congeners in sediment, soil, sludge, tissue (including blood), aqueous samples, milk, solvent extracts, air samples and XAD-2 columns by high resolution gas chromatography and mass spectrometry (HRGC/HRMS). For EPA Method 1668A applications PCBs are reported using the congener numbering convention used in Method 1668A, for EPA Method 1668C and EPA Method CBC01.2 applications PCBs are reported using the congener numbering convention in EPA Method 1668C.

The concentrations of some PCB congeners are reported as the sum of two or more congeners due to coelution of the congeners. The coeluting congeners are listed below.

COELUTING PCB CONGENERS	
PCB 12, 13	PCB 93, 95, 98, 100, 102
PCB 30, 18	PCB 107, 124 (1668A) or PCB 108, 124 (1668C)
PCB 20, 28	PCB 110, 115
PCB 21, 33	PCB 128, 166
PCB 26, 29	PCB 129, 138, 160, 163
PCB 40, 41, 71	PCB 134, 143
PCB 44, 47, 65	PCB 135, 151, 154
PCB 45, 51	PCB 139, 140
PCB 49, 69	PCB 147, 149
PCB 50, 53	PCB 156, 157[1]
PCB 59, 62, 75	PCB 153, 168
PCB 61, 70, 74, 76	PCB 171, 173
PCB 83, 99	PCB 183,185
PCB 85, 116, 117	PCB 180, 193
PCB 86, 87, 97 108, 119, 125 (1668A) or PCB 86, 87, 97 109, 119, 125 (1668C)	PCB 197, 200
PCB 88, 91	PCB 198, 199
PCB 90, 101, 113	

[1] A second GC/MS analysis on a DB-1 column (30 m, 0.25 mm I.D., 0.25 μm film thickness) resolves the PCB 156/157 coeluting pair. This second analysis is performed upon request by the client.

The concentrations of all other PCB congeners are reported as the concentration of individual congeners.

A subset of congeners designated as “toxic” by the World Health Organization, can be reported with the associated toxic equivalents.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

WHO TOXIC PCB CONGENERS	CONGENER NUMBER
3,4,4',5-Tetrachlorobiphenyl (TeCB)	81
3,3',4,4'-TCB	77
2,3,3',4,4'-Pentachlorobiphenyl (PeCB)	105
2,3,4,4',5-PeCB	114
2,3',4,4',5-PeCB	118
2',3,4,4',5-PeCB	123
3,3',4,4',5-PeCB	126
2,3,3',4,4',5-Hexachlorobiphenyl (HxCB)	156
2,3,3',4,4',5'-HxCB	157
2,3',4,4',5,5'-HxCB	167
3,3',4,4',5,5'-HxCB	169
2,3,3',4,4',5,5'-HpCB	189

Upon client request, any subset of the 209 PCB congeners may be reported.

1.0 EXTRACTION AND CLEANUP PROCEDURES

All samples are spiked with ^{13}C-labelled surrogate standards prior to extraction and extracted as per the table below. Optional extraction procedures are shown within parentheses.

Matrix	Extraction
Aqueous	≤1% suspended solids: Liquid-liquid extraction with dichloromethane. >1% suspended solids: The sample is centrifuged prior to extraction and the particulate fraction is separately extracted by Soxhlet extraction with dichloromethane. The filtrate is liquid-liquid extracted with dichloromethane. The two extracts are then combined.
Solid (sediment, soil, sludge, particles on filter paper)	Soxhlet extraction with dichloromethane (Optional: Dean-Stark Soxhlet extraction with toluene, or Soxhlet extraction with 1:1 hexane:acetone)
Tissue	Soxhlet extraction with dichloromethane (Optional: Base digestion and liquid-liquid extraction with hexane)
Whole blood/serum/plasma	Liquid-liquid extraction with ethanol:hexane:saturated ammonium sulphate.
Milk	Liquid-liquid extraction with acetone and hexane.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

XAD-2 column and filter	XAD-2 adsorbent is dried and Soxhlet extracted with dichloromethane (optional Dean-Stark Soxhlet extraction with toluene). The filter is extracted by Dean-Stark Soxhlet extraction using toluene.
Ambient air (PUF and filter)	The PUF and filter(s) are Soxhlet extracted together using dichloromethane
Stationary Source Air Samples (Stack Gas sample trains)	The filter and XAD-2 adsorbent is dried and extracted by Soxhlet with toluene/acetone. Equipment rinsates are collected, dried and transferred to the round bottom flask of the Soxhlet apparatus of the XAD-2 and filters and extracted.

Extracts are routinely cleaned up using the following chromatography columns:

Multi-layered Acid/Base Silica
Alumina
Florisil

Extracts may additionally be cleaned up using some or all of the following procedures as necessary:

Column chromatography on Biobeads
Column chromatography on 4.5% carbon/Celite

2.0 INSTRUMENTATION

Instrumental analysis is performed on a SPB-Octyl capillary gas chromatographic column coupled to a high-resolution mass spectrometer (HRMS). Selected PFK ions are used as a reference for mass lock. Two masses from the molecular ion cluster are used to monitor each of the target analytes and ^{13}C-labelled surrogate standards.

Upon client request resolution of the PCB 156/157 co-elution is achieved using a DB-1 chromatography column.

Analysis of the extract on either a DB-1 or DB-5 column is useful to resolve potential interferences with PCB 169 (from PCB 190).

3.0 CALIBRATION

Initial calibration is performed using a 5 or 6 point calibration series of solutions that encompass the working concentration range. Initial calibration solutions contain the suite of labelled surrogate and recovery standards and natives listed in the table below. Calibration procedures use the mean RRFs determined from the initial calibration to calculate analyte concentrations. Calibration is verified at least once every 12 hours by analysis of a mid-level calibration solution. The mid level

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

calibration solution contains 209 PCB congeners and is used to establish the relative response factors and retention times for those PCB congeners not present in the multi-level standards solutions.

Alternately clients may request initial calibration be performed using a six point calibration series of solutions if lower detection limits are required (CS 0.2).

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Nominal Concentration of PCB Calibration Solutions

PCB CONGENER	Congener No.	Solution concentration (ng/mL)							
		A CS-0.2 (Hi sens) [1]	B CS-0.5 [3]	C CS-1	D CS-2	E CS-3	F CS-4	G CS-5	H CS-6 (optional)
Native Compounds									
2-MoCB	1	0.2	0.5	1.0	5.0	50	400	2000	n.a.
4-MoCB	3	0.2	0.5	1.0	5.0	50	400	2000	n.a.
2,2'-DiCB	4	0.2	0.5	1.0	5.0	50	400	2000	n.a.
4,4'-DiCB	15	0.2	0.5	1.0	5.0	50	400	2000	n.a.
2,2',6-TriCB	19	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,5-TriCB	23	0.2	0.5	1.0	5.0	50	400	2000	6000
2',3,5-TriCB	34	0.2	0.5	1.0	5.0	50	400	2000	6000
3,4,4'-TriCB	37	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',6,6'-TeCB	54	0.2	0.5	1.0	5.0	50	400	2000	6000
3,3',4,4'-TeCB	77	0.2	0.5	1.0	5.0	50	400	2000	6000
3,4,4',5-TeCB	81	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',4,6,6'-PeCB	104	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,3',4,4'-PeCB	105	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,4,4',5-PeCB	114	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3',4,4',5-PeCB	118	0.2	0.5	1.0	5.0	50	400	2000	6000
2',3,4,4',5-PeCB	123	0.2	0.5	1.0	5.0	50	400	2000	6000
3,3',4,4',5-PeCB	126	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',4,4',6,6'-HxCB	155	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,3',4,4',5-HxCB	156	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,3',4,4',5'-HxCB	157	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3',4,4',5,5'-HxCB	167	0.2	0.5	1.0	5.0	50	400	2000	6000
3,3',4,4',5,5'-HxCB	169	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,3'4,4',5-HpCB	170	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,4,4',5,5'-HpCB	180	0.2	0.5	1.0	5.0	50	400	2000	6000

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

PCB CONGENER	Congener No.	Solution concentration (ng/mL)							
		A CS-0.2 (Hi sens) [1]	B CS-0.5 [3]	C CS-1	D CS-2	E CS-3	F CS-4	G CS-5	H CS-6 (optional)
2,2',3,4,4',5,6'-HpCB	182	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,4',5,5',6-HpCB	187	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,4',5,6,6'-HpCB	188	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,3',4,4',5,5'-HpCB	189	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,3',5,5',6,6'-OcCB	202	0.2	0.5	1.0	5.0	50	400	2000	6000
2,3,3',4,4',5,5',6-OcCB	205	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,3',4,4',5,5',6-NoCB	206	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,3',4,5,5',6,6'-NoCB	208	0.2	0.5	1.0	5.0	50	400	2000	6000
2,2',3,3',4,4',5,5',6,6'-DeCB	209	0.2	0.5	1.0	5.0	50	400	2000	6000
Surrogate Standards									
$^{13}C_{12}$-2-MoCB	1L[2]	100	100	100	100	100	100	100	100
$^{13}C_{12}$-4-MoCB	3L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2'-DiCB	4L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-4,4'-DiCB	15L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4'-TriCB	37L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',6,6'-TeCB	54L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4',5-TeCB	81L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,6,6'-PeCB	104L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4'-PeCB	105L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,4',5-PeCB	114L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3',4,4',5-PeCB	118L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,4',6,6'-HxCB	155L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5'-HxCB	157L	100	100	100	100	100	100	100	100

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

PCB CONGENER	Congener No.	Solution concentration (ng/mL)							
		A CS-0.2 (Hi sens) [1]	B CS-0.5 [3]	C CS-1	D CS-2	E CS-3	F CS-4	G CS-5	H CS-6 (optional)
$^{13}C_{12}$-2,3',4,4',5,5'-HxCB	167L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5-HpCB	170L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4,4',5,5'-HpCB	180L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,5,5',6,6'-NoCB	208L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	100	100	100	100	100	100	100	100
Cleanup Standards									
$^{13}C_{12}$-2,4,4'-TriCB	28L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',5,5'-PeCB	111L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',5,5',6-HpCB	178L	100	100	100	100	100	100	100	100
Recovery Standards									
$^{13}C_{12}$-2,5-DiCB	9L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',5,5'-TeCB	52L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4',5,5'-PeCB	101L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3',4,4',5'-HxCB	138L	100	100	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5'-OcCB	194L	100	100	100	100	100	100	100	100

1 Additional concentration used for calibration of high sensitivity HRGC/HRMS systems.
2 Suffix "L" indicates labeled compound.
3 When unsmoothed data is required CS-0.2 is replaced by CS-0.5.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

4.0 QUANTIFICATION PROCEDURES

Analyte Identification

A chromatographic peak is identified as a target compound if the following criteria are met for the quantification and confirmation ions (where confirmation ions are available):

- Peak responses must be at least 2.5 times the background noise level.
- All peaks are acquired in the appropriate acquisition windows, when compared to the window standard.
- Peak centroids for the quantification and confirmation ions must coincide within two seconds.
- The relative ion abundance ratios must be within 15% of the expected ratio.

Calculations

Refer to Section 17.0 of EPA Method 1668A or 1668C for details of quantitative determination.

Aroclor equivalent concentrations may be calculated by converting the summed concentrations of a suite of characteristic PCB congeners to concentrations using empirical factors determined from the analysis of Aroclor mixtures.

Aroclor 1016[1] =	The sum of PCBs 8, 18/30, 31, 28/20 concentrations multiplied by 2.7;
Aroclor 1221 =	The sum of PCBs 1, 3, 8 concentrations multiplied by 1.4;
Aroclor 1232 =	The sum of PCBs 1, 3, 18/30 concentrations multiplied by 3.4;
Aroclor 1242[1] =	The sum of PCBs 8, 18/30, 31, 28/20 concentrations multiplied by 3.0;
Aroclor 1248 =	The sum of PCBs 44/47/65, 49/69, 66 concentrations multiplied by 6.1;
Aroclor 1254 =	The sum of PCBs 86/87/97/**108**/119/125, 83/99 concentrations multiplied by 8.0 (for EPA 1668A); OR The sum of PCBs 86/87/97/**109**/119/125, 83/99 concentrations multiplied by 8.0 (for EPA 1668C);
Aroclor 1260 =	The sum of PCBs 183/185, 180/193, 170 concentrations multiplied by 5.0;

Environmental samples with no clearly identified Aroclor signature are quantified as 1242/1254/1260 mixtures. Results may be reported as Aroclor 1248 instead of Aroclor 1242 and 1254 where the congener pattern clearly indicates this formulation. Other Aroclor formulations may be reported by calibration against the specific Aroclor solutions.

[1] Aroclors 1016 and 1242 may be reported as combined 1016/1242 using the 1242 factor

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Analyte Retention Times, Surrogates Used and RRT Windows for 209 PCB's by HRGC/MS

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
2 - MoCB	1	2051-60-7	1L		11:34:00	1L	11:34:00	1.000	-1,3	0.999	1.004
3 - MoCB	2	2051-61-8	1L/3L		13:38:00	3L	13:48:00	0.988	6	0.984	0.992
4 - MoCB	3	2051-62-9	3L		13:49:00	3L	13:48:00	1.001	-1,3	0.999	1.004
22' - DiCB	4	13029-08-8	4L		14:04:00	4L	14:03:00	1.001	-1,3	0.999	1.004
26 - DiCB	10	33146-45-1	4L/15L		14:14:00	4L	14:03:00	1.013	6	1.009	1.017
25 - DiCB	9	34883-39-1	4L/15L		16:06:00	4L	14:03:00	1.146	6	1.142	1.149
24 - DiCB	7	33284-50-3	4L/15L		16:16:00	4L	14:03:00	1.158	6	1.154	1.161
23' - DiCB	6	25569-80-6	4L/15L		16:31:00	4L	14:03:00	1.176	6	1.172	1.179
23 - DiCB	5	16605-91-7	4L/15L		16:49:00	4L	14:03:00	1.197	6	1.193	1.200
24' - DiCB	8	34883-43-7	4L/15L		16:58:00	4L	14:03:00	1.208	6	1.204	1.211
35 - DiCB	14	34883-41-5	4L/15L		18:39:00	15L	20:08:00	0.926	6	0.924	0.929
33' - DiCB	11	2050-67-1	4L/15L		19:32:00	15L	20:08:00	0.970	6	0.968	0.973
34' - DiCB	13	2974-90-5	4L/15L	12 + 13							
34 - DiCB	12	2974-92-7	4L/15L	12 + 13	19:51:00	15L	20:08:00	0.986	6	0.983	0.988
44' - DiCB	15	2050-68-2	15L		20:09:00	15L	20:08:00	1.001	-1,3	0.999	1.002
22'6 - TriCB	19	38444-73-4	19L		17:15:00	19L	17:13:00	1.002	-1,3	0.999	1.003
246 - TriCB	30	35693-92-6	19L/37L	18 + 30							
22'5 - TriCB	18	37680-65-2	19L/37L	18 + 30	19:09:00	19L	17:13:00	1.112	6	1.109	1.115
22'4 - TriCB	17	37680-66-3	19L/37L		19:36:00	19L	17:13:00	1.138	6	1.136	1.141
23'6 - TriCB	27	38444-76-7	19L/37L		19:50:00	19L	17:13:00	1.152	6	1.149	1.155
236 - TriCB	24	55702-45-9	19L/37L		19:58:00	19L	17:13:00	1.160	6	1.157	1.163
22'3 - TriCB	16	38444-78-9	19L/37L		20:05:00	19L	17:13:00	1.167	6	1.164	1.169
24'6 - TriCB	32	38444-77-8	19L/37L		20:37:00	19L	17:13:00	1.197	6	1.195	1.200
2'35 - TriCB	34	37680-68-5	19L/37L		21:56:00	19L	17:13:00	1.274	6	1.271	1.277
235 - TriCB	23	55720-44-0	19L/37L		22:06:00	19L	17:13:00	1.284	6	1.281	1.287
245 - TriCB	29	15862-07-4	19L/37L	26 + 29							
23'5 - TriCB	26	38444-81-4	19L/37L	26 + 29	22:26:00	19L	17:13:00	1.303	10	1.298	1.308
23'4 - TriCB	25	55712-37-3	19L/37L		22:40:00	37L	27:27:00	0.826	6	0.824	0.828
24'5 - TriCB	31	16606-02-3	19L/37L		22:59:00	37L	27:27:00	0.837	6	0.835	0.839

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
244' - TriCB	28	7012-37-5	19L/37L	20 + 28							
233' - TriCB	20	38444-84-7	19L/37L	20 + 28	23:18:00	37L	27:27:00	0.849	10	0.846	0.852
234 - TriCB	21	55702-46-0	19L/37L	21 + 33	23:30:00	37L	27:27:00	0.856	10	0.853	0.859
2'34 - TriCB	33	38444-86-9	19L/37L	21 + 33							
234' - TriCB	22	38444-85-8	19L/37L		23:57:00	37L	27:27:00	0.872	6	0.871	0.874
33'5 - TriCB	36	38444-87-0	19L/37L		25:35:00	37L	27:27:00	0.932	6	0.930	0.934
34'5 - TriCB	39	38444-88-1	19L/37L		25:58:00	37L	27:27:00	0.946	6	0.944	0.948
345 - TriCB	38	53555-66-1	19L/37L		26:33:00	37L	27:27:00	0.967	6	0.965	0.969
33'4 - TriCB	35	37680-69-6	19L/37L		27:03:00	37L	27:27:00	0.985	6	0.984	0.987
344' - TriCB	37	38444-90-5	37L		27:28:00	37L	27:27:00	1.001	-1,3	0.999	1.002
22'66' - TeCB	54	15968-05-5	54L		20:25:00	54L	20:25:00	1.000	-1,3	0.999	1.002
22'46 - TeCB	50	62796-65-0	54L/81L/77L	50 + 53	22:41:00	54L	20:25:00	1.111	10	1.107	1.115
22'56' - TeCB	53	41464-41-9	54L/81L/77L	50 + 53							
22'36 - TeCB	45	70362-45-7	54L/81L/77L	45 + 51	23:24:00	54L	20:25:00	1.146	10	1.142	1.150
22'46' - TeCB	51	68194-04-7	54L/81L/77L	45 + 51							
22'36' - TeCB	46	41464-47-5	54L/81L/77L		23:41:00	54L	20:25:00	1.160	6	1.158	1.162
22'55' - TeCB	52	35693-99-3	54L/81L/77L		25:11:00	54L	20:25:00	1.233	6	1.231	1.236
23'5'6 - TeCB	73	74338-23-1	54L/81L/77L		25:20:00	54L	20:25:00	1.241	6	1.238	1.243
22'35 - TeCB	43	70362-46-8	54L/81L/77L		25:26:00	54L	20:25:00	1.246	6	1.243	1.248
23'46 - TeCB	69	60233-24-1	54L/81L/77L	49 + 69							
22'45' - TeCB	49	41464-40-8	54L/81L/77L	49 + 69	25:40:00	54L	20:25:00	1.257	10	1.253	1.261
22'45 - TeCB	48	70362-47-9	54L/81L/77L		25:59:00	54L	20:25:00	1.273	6	1.270	1.275
2356 - TeCB	65	33284-54-7	54L/81L/77L	44 + 47 + 65							
22'44' - TeCB	47	2437-79-8	54L/81L/77L	44 + 47 + 65							
22'35' - TeCB	44	41464-39-5	54L/81L/77L	44 + 47 + 65	26:14:00	54L	20:25:00	1.285	10	1.281	1.289
2346 - TeCB	62	54230-22-7	54L/81L/77L	59 + 62 + 75							
244'6 - TeCB	75	32598-12-2	54L/81L/77L	59 + 62 + 75							
233'6 - TeCB	59	74472-33-6	54L/81L/77L	59 + 62 + 75	26:34:00	54L	20:25:00	1.301	10	1.297	1.305
22'34' - TeCB	42	36559-22-5	54L/81L/77L		26:45:00	54L	20:25:00	1.310	6	1.308	1.313
22'34 - TeCB	41	52663-59-9	54L/81L/77L	40 + 41 + 71							
23'4'6 - TeCB	71	41464-46-4	54L/81L/77L	40 + 41 + 71							
22'33' - TeCB	40	38444-93-8	54L/81L/77L	40 + 41 + 71	27:14:00	54L	20:25:00	1.334	10	1.330	1.338

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
234'6 - TeCB	64	52663-58-8	54L/81L/77L		27:31:00	54L	20:25:00	1.348	6	1.345	1.350
23'55' - TeCB	72	41464-42-0	54L/81L/77L		28:24:00	81L	34:31:00	0.823	6	0.821	0.824
23'45' - TeCB	68	73575-52-7	54L/81L/77L		28:42:00	81L	34:31:00	0.831	6	0.830	0.833
233'5 - TeCB	57	70424-67-8	54L/81L/77L		29:09:00	81L	34:31:00	0.845	6	0.843	0.846
233'5' - TeCB	58	41464-49-7	54L/81L/77L		29:23:00	81L	34:31:00	0.851	6	0.850	0.853
23'45 - TeCB	67	73575-53-8	54L/81L/77L		29:34:00	81L	34:31:00	0.857	6	0.855	0.858
234'5 - TeCB	63	74472-34-7	54L/81L/77L		29:50:00	81L	34:31:00	0.864	6	0.863	0.866
2345 - TeCB	61	33284-53-6	54L/81L/77L	61 + 70 + 74 + 76	30:11:00	81L	34:31:00	0.874	12	0.872	0.877
23'4'5 - TeCB	70	32598-11-1	54L/81L/77L	61 + 70 + 74 + 76							
2'345 - TeCB	76	70362-48-0	54L/81L/77L	61 + 70 + 74 + 76							
244'5 - TeCB	74	32690-93-0	54L/81L/77L	61 + 70 + 74 + 76							
23'44' - TeCB	66	32598-10-0	54L/81L/77L		30:32:00	81L	34:31:00	0.885	6	0.883	0.886
233'4 - TeCB	55	74338-24-2	54L/81L/77L		30:41:00	81L	34:31:00	0.889	6	0.887	0.890
233'4' - TeCB	56	41464-43-1	54L/81L/77L		31:13:00	81L	34:31:00	0.904	6	0.903	0.906
2344' - TeCB	60	33025-41-1	54L/81L/77L		31:27:00	81L	34:31:00	0.911	6	0.910	0.913
33'55' - TeCB	80	33284-52-5	54L/81L/77L		31:54:00	81L	34:31:00	0.924	6	0.923	0.926
33'45' - TeCB	79	41464-48-6	54L/81L/77L		33:29:00	81L	34:31:00	0.970	6	0.969	0.972
33'45 - TeCB	78	70362-49-1	54L/81L/77L		34:05:00	81L	34:31:00	0.987	6	0.986	0.989
344'5 - TeCB	81	70362-50-4	81L		34:32:00	81L	34:31:00	1.000	-1,3	1.000	1.001
33'44' - TeCB	77	32598-13-3	77L		35:08:00	77L	35:07:00	1.000	-1,3	1.000	1.001
22'466' - PeCB	104	56558-16-8	104L		26:10:00	104L	26:08:00	1.001	-1,3	0.999	1.002
22'366' - PeCB	96	73575-54-9	104L/123L/114L/ 118L/105L		26:32:00	104L	26:08:00	1.015	10	1.012	1.018
22'45'6 - PeCB	103	60145-21-3	104L/123L/114L/ 118L/105L		28:34:00	104L	26:08:00	1.093	6	1.091	1.095
22'356' - PeCB	94	73575-55-0	104L/123L/114L/ 118L/105L		28:48:00	104L	26:08:00	1.102	6	1.100	1.104
22'35'6 - PeCB	95	38379-99-6	104L/123L/114L/ 118L/105L	93 + 95 + 98 + 100 + 102							
22'44'6 - PeCB	100	39485-83-1	104L/123L/114L/ 118L/105L	93 + 95 + 98 + 100 + 102							
22'356 - PeCB	93	73575-56-1	104L/123L/114L/ 118L/105L	93 + 95 + 98 + 100 + 102	29:31:00	104L	26:08:00	1.129	34 *	1.123	1.136
22'456' - PeCB	102	68194-06-9	104L/123L/114L/ 118L/105L	93 + 95 + 98 + 100 + 102							

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
22'3'46 - PeCB	98	60233-25-2	104L/123L/114L/ 118L/105L	93 + 95 + 98 + 100 + 102							
22'346 - PeCB	88	55215-17-3	104L/123L/114L/ 118L/105L	88 + 91	30:07:00	104L	26:08:00	1.152	12	1.149	1.156
22'34'6 - PeCB	91	68194-05-8	104L/123L/114L/ 118L/105L	88 + 91							
22'33'6 - PeCB	84	52663-60-2	104L/123L/114L/ 118L/105L		30:23:00	104L	26:08:00	1.163	6	1.161	1.165
22'346' - PeCB	89	73575-57-2	104L/123L/114L/ 118L/105L		30:53:00	104L	26:08:00	1.182	6	1.180	1.184
23'45'6 - PeCB	121	56558-18-0	104L/123L/114L/ 118L/105L		31:20:00	104L	26:08:00	1.199	6	1.197	1.201
22'355' - PeCB	92	52663-61-3	104L/123L/114L/ 118L/105L		31:44:00	123L	37:12:00	0.853	6	0.852	0.854
233'5'6 - PeCB	113	68194-10-5	104L/123L/114L/ 118L/105L	90 + 101 + 113							
22'34'5 - PeCB	90	68194-07-0	104L/123L/114L/ 118L/105L	90 + 101 + 113	32:19:00	123L	37:12:00	0.869	10	0.866	0.871
22'455' - PeCB	101	37680-73-2	104L/123L/114L/ 118L/105L	90 + 101 + 113							
22'33'5 - PeCB	83	60145-20-2	104L/123L/114L/ 118L/105L	83 + 99	32:53:00	123L	37:12:00	0.884	12	0.881	0.887
22'44'5 - PeCB	99	38380-01-7	104L/123L/114L/ 118L/105L	83 + 99							
233'56 - PeCB	112	74472-36-9	104L/123L/114L/ 118L/105L		33:04:00	123L	37:12:00	0.889	6	0.888	0.890
23'44'6 - PeCB											
233'45' - PeCB	See following tables for information specific to EPA 1668A or 1668C										
22'345 - PeCB											
22'3'45 - PeCB											
2'3456' - PeCB											
22'345' - PeCB											
234'56 - PeCB	117	68194-11-6	104L/123L/114L/ 118L/105L	85 + 116 + 117							
23456 - PeCB	116	18259-05-7	104L/123L/114L/ 118L/105L	85 + 116 + 117							
22'344' - PeCB	85	65510-45-4	104L/123L/114L/ 118L/105L	85 + 116 + 117	34:12:00	123L	37:12:00	0.919	12	0.917	0.922

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
233'4'6 - PeCB	110	38380-03-9	104L/123L/114L/ 118L/105L	110 + 115	34:27:00	123L	37:12:00	0.926	10	0.924	0.928
2344'6 - PeCB	115	74472-38-1	104L/123L/114L/ 118L/105L	110 + 115							
22'33'4 - PeCB	82	52663-62-4	104L/123L/114L/ 118L/105L		34:43:00	123L	37:12:00	0.933	6	0.932	0.935
233'55' - PeCB	111	39635-32-0	104L/123L/114L/ 118L/105L		35:10:00	123L	37:12:00	0.945	6	0.944	0.947
23'455' - PeCB	120	68194-12-7	104L/123L/114L/ 118L/105L		35:38:00	123L	37:12:00	0.958	6	0.957	0.959
233'4'5 - PeCB											
2'3455' - PeCB	See following tables for information specific to EPA 1668A or 1668C										
233'46 - PeCB											
2'344'5 - PeCB	123	65510-44-3	123L		37:13:00	123L	37:12:00	1.000	-1,3	1.000	1.001
233'45 - PeCB	106	70424-69-0	104L/123L/114L/ 118L/105L		37:21:00	123L	37:12:00	1.004	6	1.003	1.005
23'44'5 - PeCB	118	31508-00-6	118L		37:34:00	118L	37:32:00	1.001	-1,3	1.000	1.002
2'33'45 - PeCB	122	76842-07-4	104L/123L/114L/ 118L/105L		37:55:00	118L	37:32:00	1.010	6	1.009	1.012
2344'5 - PeCB	114	74472-37-0	114L		38:07:00	114L	38:06:00	1.000	-1,3	1.000	1.001
233'44' - PeCB	105	32598-14-4	105L		38:48:00	105L	38:46:00	1.001	-1,3	0.999	1.001
33'455' - PeCB	127	39635-33-1	104L/123L/114L/ 118L/105L		40:21:00	105L	38:46:00	1.041	6	1.040	1.042
33'44'5 - PeCB	126	57465-28-8	126L		42:02:00	126L	42:01:00	1.000	-1,3	1.000	1.001
22'44'66' - HxCB	155	33979-03-2	155L		32:06:00	155L	32:05:00	1.001	-1,3	0.999	1.002
22'3566' - HxCB	152	68194-09-2	155L/156L/157L/ 167L/169L		32:17:00	155L	32:05:00	1.006	6	1.005	1.008
22'34'66' - HxCB	150	68194-08-1	155L/156L/157L/ 167L/169L		32:28:00	155L	32:05:00	1.012	6	1.010	1.014
22'33'66' - HxCB	136	38411-22-2	155L/156L/157L/ 167L/169L		32:51:00	155L	32:05:00	1.024	6	1.022	1.025
22'3466' - HxCB	145	74472-40-5	155L/156L/157L/ 167L/169L		33:10:00	155L	32:05:00	1.034	6	1.032	1.035
22'34'56' - HxCB	148	74472-41-6	155L/156L/157L/ 167L/169L		34:45:00	155L	32:05:00	1.083	6	1.082	1.085
22'355'6 - HxCB	151	52663-63-5	155L/156L/157L/ 167L/169L	135 + 151 + 154							

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
22'33'56' - HxCB	135	52744-13-5	155L/156L/157L/ 167L/169L	135 + 151 + 154	35:29:00	155L	32:05:00	1.106	22 *	1.103	1.109
22'44'5'6 - HxCB	154	60145-22-4	155L/156L/157L/ 167L/169L	135 + 151 + 154							
22'345'6 - HxCB	144	68194-14-9	155L/156L/157L/ 167L/169L		35:57:00	155L	32:05:00	1.121	6	1.119	1.122
22'34'56 - HxCB	147	68194-13-8	155L/156L/157L/ 167L/169L	147 + 149	36:20:00	155L	32:05:00	1.132	10	1.130	1.135
22'34'5'6 - HxCB	149	38380-04-0	155L/156L/157L/ 167L/169L	147 + 149							
22'33'56 - HxCB	134	52704-70-8	155L/156L/157L/ 167L/169L	134 + 143	36:36:00	155L	32:05:00	1.141	10	1.138	1.143
22'3456' - HxCB	143	68194-15-0	155L/156L/157L/ 167L/169L	134 + 143							
22'344'6 - HxCB	139	56030-56-9	155L/156L/157L/ 167L/169L	139 + 140	36:58:00	155L	32:05:00	1.152	10	1.150	1.155
22'344'6' - HxCB	140	59291-64-4	155L/156L/157L/ 167L/169L	139 + 140							
22'33'46 - HxCB	131	61798-70-7	155L/156L/157L/ 167L/169L		37:11:00	155L	32:05:00	1.159	6	1.157	1.161
22'3456 - HxCB	142	41411-61-4	155L/156L/157L/ 167L/169L		37:20:00	155L	32:05:00	1.164	6	1.162	1.165
22'33'46' - HxCB	132	38380-05-1	155L/156L/157L/ 167L/169L		37:39:00	155L	32:05:00	1.174	10	1.171	1.176
22'33'55' - HxCB	133	35694-04-3	155L/156L/157L/ 167L/169L		38:11:00	155L	32:05:00	1.190	6	1.189	1.192
233'55'6 - HxCB	165	74472-46-1	155L/156L/157L/ 167L/169L		38:37:00	167L	43:57:00	0.879	6	0.878	0.880
22'34'55' - HxCB	146	51908-16-8	155L/156L/157L/ 167L/169L		38:52:00	167L	43:57:00	0.884	6	0.883	0.885
233'45'6 - HxCB	161	74472-43-8	155L/156L/157L/ 167L/169L		39:01:00	167L	43:57:00	0.888	6	0.887	0.889
22'44'55' - HxCB	153	35065-27-1	155L/156L/157L/ 167L/169L	153 + 168	39:32:00	167L	43:57:00	0.900	10	0.898	0.901
23'44'5'6 - HxCB	168	59291-65-5	155L/156L/157L/ 167L/169L	153 + 168							
22'3455' - HxCB	141	52712-04-6	155L/156L/157L/ 167L/169L		39:43:00	167L	43:57:00	0.904	6	0.903	0.905
22'33'45' - HxCB	130	52663-66-8	155L/156L/157L/		40:08:00	167L	43:57:00	0.913	6	0.912	0.914

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
			167L/169L								
22'344'5 - HxCB	137	35694-06-5	155L/156L/157L/ 167L/169L		40:22:00	167L	43:57:00	0.918	6	0.917	0.920
233'4'5'6 - HxCB	164	74472-45-0	155L/156L/157L/ 167L/169L		40:29:00	167L	43:57:00	0.921	6	0.920	0.922
22'344'5' - HxCB	138	35065-28-2	155L/156L/157L/ 167L/169L	129 + 138 + 160 + 163							
233'4'56 - HxCB	163	74472-44-9	155L/156L/157L/ 167L/169L	129 + 138 + 160 + 163							
22'33'45 - HxCB	129	55215-18-4	155L/156L/157L/ 167L/169L	129 + 138 + 160 + 163	40:53:00	167L	43:57:00	0.930	14	0.928	0.933
233'456 - HxCB	160	41411-62-5	155L/156L/157L/ 167L/169L	129 + 138 + 160 + 163							
233'44'6 - HxCB	158	74472-42-7	155L/156L/157L/ 167L/169L		41:13:00	167L	43:57:00	0.938	6	0.937	0.939
2344'56 - HxCB	166	41411-63-6	155L/156L/157L/ 167L/169L	128 + 166							
22'33'44' - HxCB	128	38380-07-3	155L/156L/157L/ 167L/169L	128 + 166	42:08:00	167L	43:57:00	0.959	10	0.957	0.961
233'455' - HxCB	159	39635-35-3	155L/156L/157L/ 167L/169L		43:10:00	167L	43:57:00	0.982	6	0.981	0.983
233'4'55' - HxCB	162	39635-34-2	155L/156L/157L/ 167L/169L		43:28:00	167L	43:57:00	0.989	6	0.988	0.990
23'44'55' - HxCB	167	52663-72-6	167L		43:59:00	167L	43:57:00	1.001	-1,3	1.000	1.001
233'44'5 - HxCB	156	38380-08-4	156L/157L		45:11:00	156L/157L	45:10:00	1.000	6	0.999	1.001
233'44'5' - HxCB	157	69782-90-7	156L/157L	156 + 157							
33'44'55' - HxCB	169	32774-16-6	169L		48:36:00	169L	48:34:00	1.001	-1,3	1.000	1.001
22'34'566' - HpCB	188	74487-85-7	188L		38:06:00	188L	38:04:00	1.001	-1,3	1.000	1.001
22'33'566' - HpCB	179	52663-64-6	188L/189L		38:26:00	188L	38:04:00	1.010	6	1.008	1.011
22'344'66' - HpCB	184	74472-48-3	188L/189L		39:00:00	188L	38:04:00	1.025	6	1.023	1.026
22'33'466' - HpCB	176	52663-65-7	188L/189L		39:22:00	188L	38:04:00	1.034	6	1.033	1.035
22'34566' - HpCB	186	74472-49-4	188L/189L		39:50:00	188L	38:04:00	1.046	6	1.045	1.048
22'33'55'6 - HpCB	178	52663-67-9	188L/189L		41:17:00	188L	38:04:00	1.085	6	1.083	1.086
22'33'45'6 - HpCB	175	40186-70-7	188L/189L		41:57:00	188L	38:04:00	1.102	6	1.101	1.103
22'34'55'6 - HpCB	187	52663-68-0	188L/189L		42:15:00	188L	38:04:00	1.110	6	1.109	1.111

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
22'344'56' - HpCB	182	60145-23-5	188L/189L		42:27:00	188L	38:04:00	1.115	6	1.114	1.116
22'344'5'6 - HpCB	183	52663-69-1	188L/189L	183 + 185	42:56:00	188L	38:04:00	1.128	6	1.127	1.129
22'3455'6 - HpCB	185	52712-05-7	188L/189L	183 + 185							
22'33'456' - HpCB	174	38411-25-5	188L/189L		43:07:00	188L	38:04:00	1.133	6	1.131	1.134
22'33'4'56 - HpCB	177	52663-70-4	188L/189L		43:35:00	188L	38:04:00	1.145	6	1.144	1.146
22'344'56 - HpCB	181	74472-47-2	188L/189L		44:00:00	188L	38:04:00	1.156	6	1.155	1.157
22'33'44'6 - HpCB	171	52663-71-5	188L/189L	171 + 173	44:13:00	188L	38:04:00	1.162	10	1.159	1.164
22'33'456 - HpCB	173	68194-16-1	188L/189L	171 + 173							
22'33'455' - HpCB	172	52663-74-8	188L/189L		45:57:00	189L	51:13:00	0.897	6	0.896	0.898
233'455'6 - HpCB	192	74472-51-8	188L/189L		46:15:00	189L	51:13:00	0.903	6	0.902	0.904
233'4'55'6 - HpCB	193	69782-91-8	180L	180 + 193							
22'344'55' - HpCB	180	35065-29-3	180L	180 + 193	46:36:00	180L	46:35:00	1.000	6	0.999	1.001
233'44'5'6 - HpCB	191	74472-50-7	188L/189L		47:00:00	189L	51:13:00	0.918	6	0.917	0.919
22'33'44'5 - HpCB	170	35065-30-6	170L		47:57:00	170L	47:56:00	1.000	6	0.999	1.001
233'44'56 - HpCB	190	41411-64-7	188L/189L		48:31:00	189L	51:13:00	0.947	6	0.946	0.948
233'44'55' - HpCB	189	39635-31-9	189L		51:14:00	189L	51:13:00	1.000	-1,3	1.000	1.001
22'33'55'66' - OcCB	202	2136-99-4	202L		43:43:00	202L	43:41:00	1.001	-1,3	1.000	1.001
22'33'45'66' - OcCB	201	40186-71-8	202L/205L		44:41:00	202L	43:41:00	1.023	10	1.021	1.025
22'344'566' - OcCB	204	74472-52-9	202L/205L		45:23:00	202L	43:41:00	1.039	6	1.038	1.040
22'33'44'66' - OcCB	197	33091-17-7	202L/205L	197 + 200	45:41:00	202L	43:41:00	1.046	14 *	1.045	1.047
22'33'4566' - OcCB	200	52663-73-7	202L/205L	197 + 200							
22'33'455'6 - OcCB	198	68194-17-2	202L/205L	198 + 199	48:40:00	202L	43:41:00	1.114	10	1.112	1.116
22'33'455'6' - OcCB	199	52663-75-9	202L/205L	198 + 199							
22'33'44'56' - OcCB	196	42740-50-1	202L/205L		49:23:00	205L	53:54:00	0.916	6	0.915	0.917
22'344'55'6 - OcCB	203	52663-76-0	202L/205L		49:35:00	205L	53:54:00	0.920	6	0.919	0.921
22'33'44'56 - OcCB	195	52663-78-2	202L/205L		50:59:00	205L	53:54:00	0.946	6	0.945	0.947
22'33'44'55' - OcCB	194	35694-08-7	202L/205L		53:26:00	205L	53:54:00	0.991	6	0.990	0.992
233'44'55'6 - OcCB	205	74472-53-0	205L		53:56:00	205L	53:54:00	1.001	-1,3	1.000	1.001
22'33'455'66' - NoCB	208	52663-77-1	208L		50:43:00	208L	50:42:00	1.000	-1,3	1.000	1.001
22'33'44'566' - NoCB	207	52663-79-3	208L/206L		51:42:00	208L	50:42:00	1.020	6	1.019	1.021

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
22'33'44'55'6 - NoCB	206	40186-72-9	206L		55:45:00	206L	55:44:00	1.000	-1,3	1.000	1.001
22'33'44'55'66' - DeCB	209	2051-24-3	209L		57:26:00	209L	57:25:00	1.000	-1,3	1.000	1.001
LABELLED COMPOUND											
13C12-2 - MoCB	**1L**		9L		11:34:00	9L	16:05:00	0.719	30	0.704	0.735
13C12-4 - MoCB	**3L**		9L		13:48:00	9L	16:05:00	0.858	30	0.842	0.874
13C12-22' - DiCB	**4L**		9L		14:03:00	9L	16:05:00	0.874	30	0.858	0.889
13C12-44' - DiCB	**15L**		9L		20:08:00	9L	16:05:00	1.252	30	1.236	1.267
13C12-22'6 - TriCB	**19L**		9L		17:13:00	9L	16:05:00	1.070	30	1.055	1.086
13C12-344' - TriCB	**37L**		52L		27:27:00	52L	25:09:00	1.091	30	1.082	1.101
13C12-22'66' - TeCB	**54L**		52L		20:25:00	52L	25:09:00	0.812	20	0.805	0.818
13C12-33'44' - TeCB	**77L**		52L		35:07:00	52L	25:09:00	1.396	20	1.390	1.403
13C12-344'5 - TeCB	**81L**		52L		34:31:00	52L	25:09:00	1.372	20	1.366	1.379
13C12-22'466' - PeCB	**104L**		101L		26:08:00	101L	32:19:00	0.809	20	0.804	0.814
13C12-233'44' - PeCB	**105L**		101L		38:46:00	101L	32:19:00	1.200	20	1.194	1.205
13C12-2344'5 - PeCB	**114L**		101L		38:06:00	101L	32:19:00	1.179	20	1.174	1.184
13C12-23'44'5 - PeCB	**118L**		101L		37:32:00	101L	32:19:00	1.161	20	1.156	1.167
13C12-2'344'5 - PeCB	**123L**		101L		37:12:00	101L	32:19:00	1.151	20	1.146	1.156
13C12-33'44'5 - PeCB	**126L**		101L		42:01:00	101L	32:19:00	1.300	20	1.295	1.305
13C12-22'44'66' - HxCB	**155L**		138L		32:05:00	138L	40:48:00	0.786	20	0.782	0.790
13C12-233'44'5 - HxCB and	**156L**		138L		45:10:00	138L	40:48:00	1.107	20	1.103	1.111
13C12-233'44'5' - HxCB	**157L**		138L								
13C12-23'44'55' - HxCB	**167L**		138L		43:57:00	138L	40:48:00	1.077	20	1.073	1.081
13C12-33'44'55' - HxCB	**169L**		138L		48:34:00	138L	40:48:00	1.190	20	1.186	1.194
13C12-22'33'44'5 - HpCB	**170L**		194L		47:57:00	194L	53:25:00	0.898	20	0.891	0.904
13C12-22'344'55' - HpCB	**180L**		194L		46:36:00	194L	53:25:00	0.872	20	0.866	0.879
13C12-22'34'566' - HpCB	**188L**		194L		38:04:00	194L	53:25:00	0.713	20	0.710	0.716
13C12-233'44'55' - HpCB	**189L**		194L		51:13:00	194L	53:25:00	0.959	20	0.956	0.962
13C12-22'33'55'66' - OcCB	**202L**		194L		43:41:00	194L	53:25:00	0.818	20	0.815	0.821
13C12-233'44'55'6 - OcCB	**205L**		194L		53:54:00	194L	53:25:00	1.009	30	1.004	1.014
13C12-22'33'44'55'6 - NoCB	**206L**		194L		55:44:00	194L	53:25:00	1.043	30	1.039	1.048
13C12-22'33'455'66' - NoCB	**208L**		194L		50:42:00	194L	53:25:00	0.949	20	0.946	0.952
13C12-22'33'44'55'66' - DeCB	**209L**		194L		57:26:00	194L	53:25:00	1.075	30	1.071	1.080
LABELED CLEAN-UP STANDARD											

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labeled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
13C12-244' - TriCB	**28L**		52L		23:16:00	52L	25:09:00	0.925	20	0.918	0.932
13C12-233'55' - PeCB	**111L**		101L		35:09:00	101L	32:19:00	1.088	20	1.083	1.093
13C12-22'33'55'6 - HpCB	**178L**		138L		41:16:00	138L	40:48:00	1.011	20	1.007	1.016
LABELED INJECTION INTERNAL STANDARD											
13C12-25 - DiCB	**9L**		138L		16:05:00	138L	40:48:00	0.394	25	0.389	0.399
13C12-22'55' - TeCB	**52L**		138L		25:09:00	138L	40:48:00	0.616	25	0.611	0.622
13C12-22'455' - PeCB	**101L**		138L		32:19:00	138L	40:48:00	0.792	25	0.787	0.797
13C12-22'344'5' - HxCB	**138L**		138L		40:48:00	138L	40:48:00	1.000	100	0.980	1.020
13C12-22'33'44'55' - OcCB	**194L**		138L		53:25:00	138L	40:48:00	1.309	25	1.304	1.314

* RT window wider than prescribed by 1668A/C to accommodate for skewed peaks of coeluting compounds (PCB-95/100/93/102/98, PCB-151/135/154 and PCB-197/200)

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Theoretical Ion Abundance Ratios and QC Limits

Chlorine Atoms	m/z's Forming Ratio	Theoretical Ratio	Lower QC Limit	Upper QC Limit
1	M/(M+2)	3.13	2.66	3.60
2	M/(M+2)	1.56	1.33	1.79
3	M/(M+2)	1.04	0.88	1.20
4	M/(M+2)	0.77	0.65	0.89
5	(M+2)/(M+4)	1.55	1.32	1.78
6	(M+2)/(M+4)	1.24	1.05	1.43
7	(M+2)/(M+4)	1.05	0.89	1.21
8	(M+2)/(M+4)	0.89	0.76	1.02
9	(M+2)/(M+4)	0.77	0.65	0.89
10	(M+4)/(M+6)	1.16	0.99	1.33

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

The peak assignment of PCB Congener numbers 107, 108, 109 differs between EPA Method 1668A and EPA 1668C/CBC01.2. Congeners named PCB 108, 107 and 109 in Method 1668A are named PCB 109, 108 and 107, respectively, for EPA 1668C and EPA CBC01.2 applications.

Analyte Retention Times, Surrogates Used and RRT Windows for Congener Numbers 107, 108 and 109 in accordance with 1668A Specification

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labelled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
23'44'6 - PeCB	119	56558-17-9	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125							
233'45' - PeCB	108	70362-41-3	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125							
22'345 - PeCB	86	55312-69-1	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125	33:29:00	123L	37:12:00	0.900	16	0.897	0.904
22'3'45 - PeCB	97	41464-51-1	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125							
2'3456' - PeCB	125	74472-39-2	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125							
22'345' - PeCB	87	38380-02-8	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 108 + 119 + 125							
233'4'5 - PeCB	107	70424-68-9	104L/123L/114L/ 118L/105L	107 + 124	36:50:00	123L	37:12:00	0.990	10	0.988	0.992
2'3455' - PeCB	124	70424-70-3	104L/123L/114L/ 118L/105L	107 + 124							
233'46 - PeCB	109	74472-35-8	104L/123L/114L/ 118L/105L		37:05:00	123L	37:12:00	0.997	6	0.996	0.998

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Analyte Retention Times, Surrogates Used and RRT Windows for Optional Reporting of Congener Numbers 107, 108 and 109 in accordance with 1668C Specification

COMPOUND	Congener Number	CAS NO.	QUANTIFICATION REFERENCE	CO-ELUTIONS	COMPOUND RT	RT Reference	Labelled RT	RRT	RT Window (sec)	RRT Lower Limit	RRT Upper Limit
23'44'6 - PeCB	119	56558-17-9	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125							
2,3,3',4,6 - PeCB	109	74472-35-8	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125							
2,2',3,4,5 - PeCB	86	55312-69-1	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125	33:29:00	123L	37:12:00	0.900	16	0.897	0.904
2,2',3',4,5 - PeCB	97	41464-51-1	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125							
2',3,4,5,6' - PeCB	125	74472-39-2	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125							
2,2',3,4,5' - PeCB	87	38380-02-8	104L/123L/114L/ 118L/105L	86 + 87 + 97 + 109 + 119 + 125							
2,3,3',4,5' - PeCB	108	70362-41-3	104L/123L/114L/ 118L/105L	108 + 124	36:50:00	123L	37:12:00	0.990	10	0.988	0.992
2',3,4,5,5' - PeCB	124	70424-70-3	104L/123L/114L/ 118L/105L	108 + 124							
2,3,3',4',5 - PeCB	107	70424-68-9	104L/123L/114L/ 118L/105L		37:05:00	123L	37:12:00	0.997	6	0.996	0.998

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

4.1 Reporting Limits

Concentrations and detection limits for target compounds are reported. The isotope dilution/internal standard method of quantification, used to determine concentrations of target analytes, corrects the concentrations based on the percent recovery of the surrogate. Typical reporting units are pg/g, pg/L, or pg/sample. Concentrations for solids are reported on a dry weight basis. Concentrations in tissues (including blood/serum/plasma and milk) are reported on a wet weight basis and/or on a lipid weight basis when requested. Concentrations in aqueous samples are reported on a volume basis. Concentrations in XAD-2 resin, filters and stack gas samples are reported on a per sample basis or a per volume basis. Concentrations in particulate filters are reported on a per sample basis. Results may be expressed in other units if specified by contract. Unless otherwise specified, concentrations are reported to three significant figures.

Percent moisture is reported for all sediments, soils, and ash samples and for tissues when percent moisture is requested. Percent moisture is not reported for pulps and sludge, although it is determined for the calculation of a dry weight.

Percent lipid is reported if determined on a sample.

Various reporting limit options are offered to meet particular client and data quality objectives and should be defined specific to contract by the client and agreed to by SGS AXYS in advance of instrumental analysis:

Sample Specific Detection Limit (SDL) Reporting Limit

SDLs are determined from the analysis data by converting the minimum detectable area to a concentration following the same quantification procedures used to convert target peak responses to concentrations. The estimated minimum detectable area is determined as 2.5 times the height of the noise in the m/z channel of interest, converted to an area using the area:height ratio of the corresponding labelled surrogate peak. The SDL accounts for any effect of matrix on the detection system, for recovery achieved through the analytical work-up and for the exact sample size used.

SDLs do not account for background contribution, and sample results must be compared to the associated QC blank results for significance of detection.

The lower reporting limit for blood/serum/plasma samples is the SDL, for other matrices the lower reporting limit is the greater of SDL or 0.5 pg/sample.

EPA1668A and EPA1668C Specified Reporting Limit

An alternate reporting limit approach may be applied on written request of the customer: sample results are reported to minimum levels (“MLs”) according to section 17.6.1.4 of EPA methods 1668A/C. Depending on client request, the MLs used may be the MLs listed in 1688A/C or laboratory MLs. Laboratory MLs are determined as the greater of the low calibration equivalent or of the (mean + 2 standard deviations) values of laboratory blank concentrations. Values for laboratory blanks are updated annually for aqueous, solid and tissue sample matrices, using a minimum of 10 consecutively processed blanks representative of typical lab performance.

MLs do not account for sample specific matrix effect or sample specific recovery achieved through the analytical work-up. ML reporting limits do account for background detectable in laboratory blanks. ML reporting limit is a recognized convention for compliance monitoring based on Total PCB

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

values determined from summation of detected congeners.

The blank statistics are retained on file. QC blank results are reported to the SDL.

Laboratory Method detection limit (MDL) Reporting Limit

Laboratory MDLs are determined as specified by EPA Fed. Reg. 40 CFR Part 136 Appendix B (no iteration option). The 99% confidence level MDL is statistically determined based on analysis of a minimum of 7 replicate matrix spikes fortified at 1-5 times the estimated detection limit. MDLs are an estimate of detection limit determined at a point in time and do not compensate for sample specific matrix effect, sample specific recovery achieved through the analytical work-up; an implicit assumption of the MDL procedure followed is that blank results are centered around zero, and consequently, MDLs may not adequately account for background contribution as evidenced in QC blanks.

5.0 QUALITY ACCEPTANCE CRITERIA

Samples are analyzed in batches consisting of a maximum of twenty samples, one procedural blank and one spiked matrix (OPR) sample. A duplicate is analyzed, provided there is sufficient sample, with batches containing 7-20 samples. Matrix spike/matrix spike duplicate (MS/MSD) pairs may be analyzed on an individual contract basis. The batch is carried through the complete analytical process as a unit. For sample data to be reportable, the batch QC data must meet the established acceptance criteria presented on the analysis reports.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Acceptance Criteria according to EPA method 1668A for Chlorinated Biphenyls in CAL/VER, IPR, OPR, and Samples

Congener	Cong. No. [2]	Test conc. ng/mL	CAL/VER (%)		IPR [1] (%)		OPR [1] (%)		Labelled compound [1] % recovery in samples	
			Warning limits	Acceptance limits	RSD	$\overline{X}$	Warning limits	Acceptance limits	Warning limits	Acceptance limits
2-MoCB	1	50	75-125	70-130	40	60-140	70-130	50-150	-	-
4-MoCB	3	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2'-DiCB	4	50	75-125	70-130	40	60-140	70-130	50-150	-	-
4,4'-DiCB	15	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2'6-TrCB	19	50	75-125	70-130	40	60-140	70-130	50-150	-	-
3,4,4'-TrCB	37	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2'6,6'TeCB	54	50	75-125	70-130	40	60-140	70-130	50-150	-	-
3,3',4,4'-TeCB	77	50	75-125	70-130	40	60-140	70-130	50-150	-	-
3,4,4',5-TeCB	81	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',4,6,6'-PeCB	104	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,3',4,4'-PeCB	105	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,4,4',5-PeCB	114	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3',4,4',5-PeCB	118	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2',3,4,4',5-PeCB	123	50	75-125	70-130	40	60-140	70-130	50-150	-	-
3,3',4,4',5-PeCB	126	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',4,4',6,6'-HxCB	155	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,3',4,4',5-HxCB [3]	156	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,3',4,4',5'-HxCB [3]	157	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3',4,4',5,5'-HxCB	167	50	75-125	70-130	40	60-140	70-130	50-150	-	-
3,3',4,4',5,5'-HxCB	169	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',3,4',5,6,6'-HpCB	188	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,3',4,4',5,5'-HpCB	189	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',3,3',5,5',6,6'-OcCB	202	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,3,3',4,4',5,5',6-OcCB	205	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',3,3',4,4',5,5',6-NoCB	206	50	75-125	70-130	40	60-140	70-130	50-150	-	-
2,2',3,3,'4,5,5',6,6'-NoCB	208	50	75-125	70-130	40	60-140	70-130	50-150	-	-
DeCB	209	50	75-125	70-130	40	60-140	70-130	50-150	-	-
Labeled Compounds										
$^{13}C_{12}$-2-MoCB	1L	100	65-135	50-150	50	20-135	15-140	15-140	15-130	15-150
$^{13}C_{12}$-4-MoCB	3L	100	65-135	50-150	50	20-135	15-140	15-140	15-130	15-150
$^{13}C_{12}$-2,2'-DiCB	4L	100	65-135	50-150	50	35-135	30-140	30-140	25-130	25-150
$^{13}C_{12}$-4,4'-DiCB	15L	100	65-135	50-150	50	35-135	30-140	30-140	25-130	25-150
$^{13}C_{12}$-2,2',6-TrCB	19L	100	65-135	50-150	50	35-135	30-140	30-140	30-130	25-150
$^{13}C_{12}$-3,4,4'-TrCB	37L	100	65-135	50-150	50	35-135	30-140	30-140	30-130	25-150
$^{13}C_{12}$-2,2',6,6'-TeCB	54L	100	65-135	50-150	50	35-135	30-140	30-140	30-130	25-150

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Congener	Cong. No. [2]	Test conc. ng/mL	CAL/VER (%)		IPR [1] (%)		OPR [1] (%)		Labelled compound [1] % recovery in samples	
			Warning limits	Acceptance limits	RSD	$\bar{X}$	Warning limits	Acceptance limits	Warning limits	Acceptance limits
$^{13}C_{12}$-3,3',4,4'-TCB	77L	100	65-135	50-150	50	35-135	30-140	30-140	30-130	25-150
$^{13}C_{12}$-3,4,4',5-TeCB	81L	100	65-135	50-150	50	35-135	30-140	30-140	30-130	25-150
$^{13}C_{12}$-2,2',4,6,6'-PeCB	104L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3,3',4,4'-PeCB	105L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3,4,4',5-PeCB	114L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3',4,4',5-PeCB	118L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',4,4',6,6'-HxCB	155L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3,3',4,4',5-HxCB [3]	156L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3,3',4,4',5'-HxCB [3]	157L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3',4,4',5,5'-HxCB	167L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,3',4,4',5-HpCB	170L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,4,4',5,5'-HpCB	180L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2',3,3',4,4',5,5'-HpCB	189L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,3',4,5,5',6,6'-NoCB	208L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	100	65-135	50-150	50	35-135	30-140	30-140	40-130	25-150
Cleanup Standards										
$^{13}C_{12}$-2,4,4'-TriCB	28L	100		60-130	45	45-120	40-125	40-125	40-130	30-135
$^{13}C_{12}$-2,3,3',5,5'-PeCB	111L	100		60-130	45	45-120	40-125	40-125	40-130	30-135
$^{13}C_{12}$-2,2',3,3',5,5',6-HpCB	178L	100		60-130	45	45-120	40-125	40-125	40-130	30-135

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Acceptance Criteria according to EPA method 1668C for Chlorinated Biphenyls in CAL/VER, IPR, OPR, and Samples

Congener	Cong. No.[2]	Test conc. ng/mL	CAL/VER (%)		IPR[1] (%)		OPR[1] (%)		Labelled compound[1] % recovery in samples	
			Warning limits	Acceptance limits	RSD	$\bar{X}$	Warning limits	Acceptance limits	Warning limits	Acceptance limits
2-MoCB	1	50	75-125	75-125	25	70-130	70-130	60-135	-	-
4-MoCB	3	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2'-DiCB	4	50	75-125	75-125	25	70-130	70-130	60-135	-	-
4,4'-DiCB	15	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2'6-TrCB	19	50	75-125	75-125	25	70-130	70-130	60-135	-	-
3,4,4'-TrCB	37	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2'6,6'TeCB	54	50	75-125	75-125	25	70-130	70-130	60-135	-	-
3,3',4,4'-TeCB	77	50	75-125	75-125	25	70-130	70-130	60-135	-	-
3,4,4',5-TeCB	81	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',4,6,6'-PeCB	104	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,3',4,4'-PeCB	105	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,4,4',5-PeCB	114	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3',4,4',5-PeCB	118	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2',3,4,4',5-PeCB	123	50	75-125	75-125	25	70-130	70-130	60-135	-	-
3,3',4,4',5-PeCB	126	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',4,4',6,6'-HxCB	155	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,3',4,4',5-HxCB [3]	156	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,3',4,4',5'-HxCB [3]	157	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3',4,4',5,5'-HxCB	167	50	75-125	75-125	25	70-130	70-130	60-135	-	-
3,3',4,4',5,5'-HxCB	169	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',3,4',5,6,6'-HpCB	188	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,3',4,4',5,5'-HpCB	189	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',3,3',5,5',6,6'-OcCB	202	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,3,3',4,4',5,5',6-OcCB	205	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',3,3',4,4',5,5',6-NoCB	206	50	75-125	75-125	25	70-130	70-130	60-135	-	-
2,2',3,3,'4,5,5',6,6'-NoCB	208	50	75-125	75-125	25	70-130	70-130	60-135	-	-
DeCB	209	50	75-125	75-125	25	70-130	70-130	60-135	-	-
Labeled Compounds										
$^{13}C_{12}$-2-MoCB	1L	100	65-135	50-145	70	20-135	15-145	15-145	15-130	5-145
$^{13}C_{12}$-4-MoCB	3L	100	65-135	50-145	70	20-135	15-145	15-145	15-130	5-145
$^{13}C_{12}$-2,2'-DiCB	4L	100	65-135	50-145	70	20-135	15-145	15-145	25-130	5-145
$^{13}C_{12}$-4,4'-DiCB	15L	100	65-135	50-145	70	20-135	15-145	15-145	25-130	5-145
$^{13}C_{12}$-2,2',6-TrCB	19L	100	65-135	50-145	70	20-135	15-145	15-145	30-130	5-145
$^{13}C_{12}$-3,4,4'-TrCB	37L	100	65-135	50-145	70	20-135	15-145	15-145	30-130	5-145
$^{13}C_{12}$-2,2',6,6'-TeCB	54L	100	65-135	50-145	70	20-135	15-145	15-145	30-130	5-145

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd, 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Congener	Cong. No.[2]	Test conc. ng/mL	CAL/VER (%)		IPR[1] (%)		OPR[1] (%)		Labelled compound[1] % recovery in samples	
			Warning limits	Acceptance limits	RSD	$\bar{X}$	Warning limits	Acceptance limits	Warning limits	Acceptance limits
$^{13}C_{12}$-3,3',4,4'-TCB	77L	100	65-135	50-145	50	45-135	40-145	40-145	30-130	10-145
$^{13}C_{12}$-3,4,4',5-TeCB	81L	100	65-135	50-145	50	45-135	40-145	40-145	30-130	10-145
$^{13}C_{12}$-2,2',4,6,6'-PeCB	104L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3,3',4,4'-PeCB	105L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3,4,4',5-PeCB	114L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3',4,4',5-PeCB	118L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',4,4',6,6'-HxCB	155L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3,3',4,4',5-HxCB [3]	156L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3,3',4,4',5'-HxCB [3]	157L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3',4,4',5,5'-HxCB	167L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',4,4',5-HpCB	170L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,4,4',5,5'-HpCB	180L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2',3,3',4,4',5,5'-HpCB	189L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',4,5,5',6,6'-NoCB	208L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	100	65-135	50-145	50	45-135	40-145	40-145	40-130	10-145
Cleanup Standards										
$^{13}C_{12}$-2,4,4'-TriCB	28L	100		65-135	70	20-135	15-145	15-145	40-130	5-145
$^{13}C_{12}$-2,3,3',5,5'-PeCB	111L	100		75-125	50	45-135	40-145	40-145	40-130	10-145
$^{13}C_{12}$-2,2',3,3',5,5',6-HpCB	178L	100		75-125	50	45-135	40-145	40-145	40-130	10-145

Footnotes to the tables above:

1. QC acceptance criteria for IPR, OPR, and samples based on a 20 µL extract final volume
2. Suffix "L" indicates labelled compound.
3. PCBs 156 and 157 are tested as the sum of two concentrations

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

QC Specification Table: **QC Samples, Instrumental Analysis, and Analyte Quantification**

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	Analyte amounts in blank samples for PCB congeners 77, 81, 114, 123, 126 and 169 must be ≤ 2 pg/congener/sample, amounts of PCB congeners 156, 157, 167 and 189 must be ≤ 10 pg/congener/sample, and the maximal amount of PCB 11 must be ≤ 150 pg/sample. Amounts of all other individual PCB congeners or coelutions must be ≤ 50 pg/congener/sample in blank samples. The sum of all 209 congeners should be ≤ 300 pg/sample. Higher levels are acceptable where sample concentrations exceed 10 times the blank levels.
Sample Specific Detection Limit	Typical sample specific detection limits, determined from chromatographic noise, are in the range of 0.5 to 2.0 pg.
Initial Calibration	For 6- or 7-point calibration, a relative standard deviation of the RRF's ≤20% for all compounds. Ion ratios for all congeners must be within ±15% of theoretical for CS-0.2. Minimum S:N ratio 10:1 for all calibration standards. For CS-0.2, S:N ratio may be as low as 3:1 for di-PCBs and nona-PCBs. If the optional CS-6 calibration point fails, calibration may still be performed using the default CS-0.2 through CS-5 calibration range.
Continuing CAL VER	Refer to the tables above.
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Coders may use data from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Ion ratios must fall within ±15% of the theoretical values for positive identification of all targets in the calibration standards and samples.
Sensitivity	Refer to the S:N limits in "Initial Calibration" above.

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Summary of Modifications to EPA Methods 1668A and 1668C

The following sections of EPA Methods 1668A and 1668C have been modified as described below.

Section 4.2.1, 4.2.2: The protocol for washing reusable glassware includes a detergent wash, water rinse and baking at a minimum of 300°C for 8 hours. Immediately prior to use, glassware is solvent rinsed with toluene and hexane.

Section 4.7: The first cleanup column for tissue extracts is a gravity gel permeation column (SX-3 Biobeads). An anthropogenic isolation column 7.5.3 is not used.

Section 6.5.1: Glass wool is cleaned by rinsing twice with toluene and twice with hexane.

Section 7.12, 7.13, 9.0, 11.0: The concentration of the labelled toxics/LOC and the cleanup standard spiking solutions is 100 ng/mL and the sample spiking volume is 20 µL. The resulting final concentrations in the extracts are as specified in the method.

Section 7.14: Concentration of the labelled injection internal standard spiking solution (recovery standard) is modified so that a volume of 5 µL is added. The resulting amount of standard added to the final extract is the same as specified in the method. The solution is spiked into a 15 µL extract volume for a final extract volume of 20 µL.

Section 7.2.1: Sodium sulphate is baked at a minimum of 300°C for 8 hrs.

Section 7.5.1: Silica is activated by baking at 450°C in a muffle oven for at least 8 hrs.

Section 7.5.4.1.1: Florisil is baked at 450°C in a muffle over for at least 8 hrs, then deactivated with water to 2.0 % deactivation.

Section 10.3.3, 15.3.3: A S:N ratio of 3:1 for di-PCBs and nona-PCBs in CS0.2 calibration solution is acceptable.

Section 11.3, 11.5.7, 11.7: To avoid carry-over contamination particles larger than 1 mm in solid samples are by default not subject to grinding prior to extraction. Instead solid samples are homogenized prior to sub-sampling by breaking up clumps with a disposable spoon and mixing/stirring. If required by the client rocks larger than 0.4 cm are removed. Surrogate standard is added after homogenization and sub-sampling.

Section 11.5.6: Unless requested by the client, the aqueous portion after filtration of aqueous samples with >1% solids is not discarded but is extracted.

Section 11.5, 11.5.2, 11.5.5, 12.3 Solid samples are dried by mixing with anhydrous sodium sulphate. The dried solid is extracted using a Soxhlet extraction apparatus. The surrogate

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

spike is incorporated after the drying step. Equilibration time for the surrogate is 30 minutes. The extracting solvent for solids is dichloromethane.

Section 12.4, 11.8: The surrogate spike is incorporated into the sample after the drying step to eliminate the possibility of disproportional loss of volatile labelled and target compounds.

Section 12.4.2: The precleaning of the Soxhlet apparatus is carried out using toluene instead of dichloromethane, for 2 hours.

Section 12.4.9: Lipid analysis is carried out by sub-sampling two 2 g portions of the extract from a total 30 g extract weight. The cleanup standard is spiked into the extract after Soxhlet extraction and before any lipid analysis or rotary evaporation is done. The percent surrogate recoveries are corrected for the amount of extract used for lipid analysis.

Section 12.6.1.1: Rotary evaporation is done at 30°C. Daily cleaning of the rotary evaporators include dismantling and rinsing/soaking with solvent. Proofs are run periodically but are not archived daily.

Section 12.7.4: Before Florisil or alumina cleanup procedures, a solvent exchange is done by reducing under nitrogen to 300 uL and bulking up to 1mL in hexane. If toluene is present the extract is reduced to 50 uL under nitrogen and bulked up to 1 mL.

Section 12.7.7: Toluene (1 mL) is added to the eluate from the final column prior to rotary evaporation and nitrogen blow down concentration steps.

Section 13.1.1: GPC chromatography, by a gravity column, is routinely used only for tissue extracts. The GPC cleanup is optional for all other matrices.

Section 13.3.1: Routine layered silica column is as follows: 0.5 g neutral silica, 2 g 28% basic silica, 0.5 g neutral silica, 4 g 44% acidic silica, 4 g 22% acidic silica, 1 g neutral silica.

Section 13.3.4: The sample is loaded onto the column followed by 2-3 rinses of a least 1 mL, and eluted with 100mL of hexane.

Section 14.2: The volume of labelled injection internal standard (recovery standard) added to the extract is 5 µL, for a final extract volume of 20 µL. Hexane rather than nonane is used as the solvent to bring extract back to volume for re-analysis or to dilute extracts.

Section 15.3: The calibration solution containing all 209 PCB congeners is used as the CAL/VER solution.

*Section 17.*5: Extracts are diluted with hexane. The concentration of the labelled injection internal (recovery) standard is not re-adjusted to 100 pg/µL when dilutions are performed.

This document is the Intellectual Property of SGS AXYS Analytical Services Ltd. and contains Proprietary and Confidential Business Information. It may not be reproduced or distributed without written permission of the owner. © SGS AXYS Analytical Services Ltd., 2017.
SGS AXYS Analytical Services Ltd., 2045 Mills Road W., Sidney, BC, Canada, V8L 5X2. Tel. (250) 655-5800, fax (250) 655-5811.
This is not a controlled document; it is subject to change without notification.

SGS AXYS Analytical Services Ltd.

Section 17.0

$Conc_i$ - the concentrations of target analytes, and the labelled compound concentrations and recoveries, are calculated using the equations below. These procedures are equivalent to those described in the method but are more direct.

$$Conc_i = \frac{A_i}{A_{si}} \times \frac{M_{si}}{RRF_{i,si}} \times \frac{1}{M_x}$$

where A_i = summed areas of the primary and secondary m/z's for the analyte peak of interest (compound *i*)

A_{si} = summed areas of the primary and secondary m/z's for the labelled surrogate peak used to quantify *i*)

M_x = mass of sample taken for analysis

M_{si} = mass of labelled surrogate (compound *si*) added to sample as calculated by the concentration of standard spiked (pg/mL) multiplied by the volume spiked (mL)

$RRF_{i,si}$ = mean relative response factor of *i* to *si* from the five-point calibration range and defined individually as:

$$\frac{A_i}{A_{si}} \times \frac{M_{si}}{M_i}$$

Calculation of Surrogate Standard Concentrations and Percent Recoveries:
Concentrations of surrogate standards are calculated using the following equation:

$$Conc_{si} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}}$$

and, the percent recoveries of the surrogate standards are calculated using the following equation:

$$\%\text{Recovery} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}} \times \frac{1}{M_{si}} \times 100$$

where A_{rs} and A_{si} are the summed peak areas (from the primary and secondary m/z channels) of recovery standard and labelled surrogate added to the sample;
M_{rs} and M_{si} are the masses of recovery standard and labelled surrogate added to the sample, and;
$RRF_{si,rs}$ is the mean relative response factor of the labelled surrogate to the recovery standard as determined by the five-point calibration range and defined individually as:

$$\frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{M_{si}}$$

WINDWARD ENVIRONMENTAL

CORRELATION TABLE

PCB CONGENER ANALYSIS

Lab Name: SGS AXYS Analytical Services Ltd.	**Project Manager: Georgina Brooks**
Project: N/A	**Contract No: 4033**
Project Name: Clam PO#2018-0065	**SGS AXYS Method: MLA-010**
Data Package Identification: DPWG64993	**Program: Tissue Samples**
Client Sample No.	**Lab Sample ID**
LAB BLANK	WG64623-101
OPR	WG64623-102
CERTIFIED REFERENCE MATERIAL	WG64623-104
LDW18-C01-CLWB-Comp2	L29626-1
LDW18-C02-CLWB-Comp2	L29626-2
LDW18-C04-CLWB-Comp2	L29626-4 WG64623-103 DUPLICATE
LDW18-C06-CLWB-Comp2	L29626-6
LDW18-C08-CLWB-Comp2	L29626-7
LDW18-C11-CLWB-Comp2	L29626-9

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical	No.	AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/19/18	1027	LDW18-IT45-B1-Comp1	1	Sediment	X							L29625-1
6/19/18	1038	LDW18-IT45-B1-Comp2	1	Sediment	X							-2
6/19/18	1050	LDW18-IT45-B1-Comp3	1	Sediment	X							-3
6/19/18	1025	LDW18-IT45-B1-Comp1-FD	1	Sediment	X							-4
6/19/18	1038	LDW18-IT45-B1-Comp2-FD	1	Sediment	X							-5
6/19/18	1050	LDW18-IT45-B1-Comp-3-FD	1	Sediment	X							-6
6/19/18	1155	LDW18-IT45-B2-Comp1	1	Sediment	X							-7
6/19/18	1203	LDW18-IT45-B2-Comp2	1	Sediment	X							-8
6/19/18	1152	LDW18-IT45-B2-Comp3	1	Sediment	X							-9
6/19/18	1124	LDW18-IT45-B4-Comp1	1	Sediment	X							-10
6/19/18	1140	LDW18-IT45-B4-Comp2	1	Sediment	X							-11
6/19/18	1140	LDW18-IT45-B4-Comp3	1	Sediment	X							-12
Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	YARED LISANEWORK	
Signature: Stephanie Fisher			
Company: ARI	YL #736	YL #736	SGS-AXYS
Date/Time: 7/2/18 1705	7/2/18 17:05	07/03/18 8:53AM	03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical		No.AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/19/18	1122	LDW18-IT45-B5-Comp1	1	Sediment	X							L29625-13
6/19/18	1108	LDW18-IT45-B5-Comp2	1	Sediment	X							-14
6/19/18	1110	LDW18-IT45-B5-Comp3	1	Sediment	X							-15
6/20/18	1128	LDW18-IT45-B3-Comp1	1	Sediment	X							-16
6/20/18	1130	LDW18-IT45-B3-Comp2	1	Sediment	X							-17
6/20/18	1138	LDW18-IT45-B3-Comp-3	1	Sediment	X							-18
6/20/18	1010	LDW18-IT45-B6-Comp1	1	Sediment	X							-19
6/20/18	1019	LDW18-IT45-B6-Comp2	1	Sediment	X							-20
6/20/18	1059	LDW18-IT45-B6-Comp3	1	Sediment	X							-21
6/20/18	1032	LDW18-IT45-B6-Comp1-FD	1	Sediment	X							-22
6/20/18	1045	LDW18-IT45-B6-Comp2-FD	1	Sediment	X							-23
6/20/18	1114	LDW18-IT45-B6-Comp3-FD	1	Sediment	X							-24
		Total Number of Containers	12	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Print name: Yared Lisanework	Print name: Yared Lisanework	Print name:
Signature: Stephanie Fisher	Company: YL #736	Signature:	Company: SGS-AXYS
Company: AR1	Date/Time: 7/12/18 17:05	Company: YL #736	Date/Time: 03-Jul-2018
Date/Time: 7/12/18 1705		Date/Time: 07/03/18 8:53 AM	

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Sediment Collection	Ship to:	SGS Axys Analytical	No.	AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/20/18	1055	LDW18-IT45-B7-Comp1	1	Sediment	X							L29625-25
6/20/18	1105	LDW18-IT45-B7-Comp2	1	Sediment	X							-26
6/20/18	1120	LDW18-IT45-B7-Comp3	1	Sediment	X							-27
6/20/18	1012	LDW18-IT45-B8-Comp1	1	Sediment	X							-28
6/20/18	1025	LDW18-IT45-B8-Comp2	1	Sediment	X							-29
6/20/18	1039	LDW18-IT45-B8-Comp3	1	Sediment	X							-30
Total Number of Containers			6	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: AXYS	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 7/2/18 17:05	Date/Time: 07/03/18 8:53AM	Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

4033

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Sediment Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan							Comments / Instructions [Composite/Bag ID]
6/14/18	1215	LDW18-BNK2-1	1	Sediment	X							L29625-31
Total Number of Containers			1	Purchase Order / Statement of Work # PO 2018-0078								

1) Released by: Print name: Stephanie FISnell Signature: Stephanie FISnell Company: ARI Date/Time: 7/2/18 1705

1) Rec'd by: Print name: Yared Lisanework Company: YL #736 Date/Time: 07/02/18 1710

2) Released by: Print name: Yared Lisanework Signature: Company: YL #736 Date/Time: 07/03/18 8:53 AM

2) Rec'd by: Company: SGS-AXYS Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Sediment Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Freeze and Hold							Comments / Instructions [Composite/Bag ID]
5/15/2018	1023	LDW18-SSOT-2510	1	Sediment	X							L29625-32
5/15/2018	1303	LDW18-SSOT-2114	1	Sediment	X							-33
Total Number of Containers			2	Purchase Order / Statement of Work # PO 2018-0053								

1) Released by:
Print name: Stephanie Fisher
Signature: Stephanie Fisher
Company: ANJ
Date/Time: 7/2/18 1705

1) Rec'd by:
Print name: Yared Lisaneworke
Company: YL # 736
Date/Time: 07/02/18 17:05

2) Released by:
Print name: Yared Lisaneworke
Signature:
Company: YL # 736
Date/Time: 07/03/18 8:53 AM

2) Rec'd by:
Company: SGS AXYS
Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Clam Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks Shipping Date: 5/15-5/18/18
Shipper: Courier Airbill Number: N/A
Form filled out by: A. Vandervort Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furan	PCB Congeners						Comments / Instructions [Composite/Bag ID]
		LDW18-C01-CLWB-Comp2	1	Tissue	X							L29626-1
		LDW18-C02-CLWB-Comp2	1	Tissue	X							-2
		LDW18-C03-CLWB-Comp2	1	Tissue	X							-3
		LDW18-C04-CLWB-Comp2	1	Tissue	X							-4
		LDW18-C05-CLWB-Comp2	1	Tissue	X							-5
		LDW18-C06-CLWB-Comp2	1	Tissue	X							-6
		LDW18-C08-CLWB-Comp2	1	Tissue	X							-7
		LDW18-C10-CLWB-Comp2	1	Tissue	X							-8
		LDW18-C11-CLWB-Comp2	1	Tissue	X							-9
Total Number of Containers			9	Purchase Order / Statement of Work # PO 2018-0065								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: AR	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 07/02/18 1710	Date/Time: 07/03/18 8:53 AM	Date/Time: 03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

Chain of Custody Record & Laboratory Analysis Request

4033

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: WINDWARD	Phone:
Client Contact: AMARA VANDERVORT	
Client Project Name: PUWAMISH	
Client Project #:	Samplers:

Page: 1 of 2	
Date:	Ice Present?
No. of Coolers:	Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
LOW18-PWPS-A01	06/22/18	2:45pm	Polyethylene	1		L29627-1
LOW18-PWPS-A02	"	"	"	"		-2
LOW18-PWPS-A03	"	"	"	"		-3
LOW18-PWPS-A04	"	"	"	"		-4
LOW18-PWPS-A05	"	"	"	"		-5
LOW18-PWPS-A06	"	"	"	"		-6
LOW18-PWPS-A07	"	"	"	"		-7
LOW18-PWPS-A08	"	"	"	"		-8
LOW18-PWPS-A09	"	"	"	"		-9
LOW18-PWPS-A10	"	"	"	"		-10

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: SOSE GOMEZ-EYLES	Printed Name: S DUNNIHO	Printed Name: Stephanie Fisher	Printed Name: YARED LISANEWORK
	Company: INTEGRAL CONSULTING	Company: ARI	Company: ARI	Company: YL #736
	Date & Time: 06/22/18 2:45pm	Date & Time: 06/22/18 14:45	Date & Time: 7/2/18 1705	Date & Time: 07/02/18 17:05

YARED LISANEWORK 8:53 AM ⇒ 07/03/18

Received by: [illegible] 05-Jul-2018 SGS-AXYS 8:50

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

www.axysanalytical.com

4033

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: WINDWARD	Phone:
Client Contact: AMARA VANPELT	
Client Project Name: DUWAMISH	
Client Project #:	Samplers:

Page: 2 of 2

Date: | Ice Present?

No. of Coolers: | Cooler Temps:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
LOWI8-PWPS-A11	06/22/18	2:45pm	Polyethylene	1		L29627-11
LOWI8-PWPS-A11.Dup	"	"	"	"		-12
LOWI8-PWPS-A12	"	"	"	"		-13
LOWI8-PWPS-A13	"	"	"	"		-14
LOWI8-PWPS-A17	"	"	"	"		-15
LOWI8-PWPS-A18	"	"	"	"		-16
LOWI8-PWPS-A19	"	"	"	"		-17
LOWI8-PWPS-EXPBLK_PATH	"	"	"	"		-18

Comments/Special Instructions

Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Printed Name: JOSE GOMEZ-EYLES	Printed Name: DUNNIHOO	Printed Name: Stephanie Fisher	Printed Name: YARED LISANEWORK
Company: INTEGRAL CONSULTING	Company: ARI	Company: ARI	Company: YL #736
Date & Time: 06/27/18 2:45pm	Date & Time: 06/27/18 14:45	Date & Time: 7/2/18 1705	Date & Time: 07/02/18 17:05

YARED LISANEWORK 8:53 AM 07/03/18

Received by: 03-Jul-2018 SGS-AXYS 8:50

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name:	AOC3 Seep Collection	Ship to:	SGS Axys Analytical	No.	AOC320180703
Project Number:	Task 4	Attn:	Georgina Brooks	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	Courier	Airbill Number:	N/A
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					Comments / Instructions [Composite/Bag ID]
6/11/18	1612	LDW18-SP-RB1	2	Water	X	X			L29628		-1	Please HOLD PCB Congener Sample
6/11/18	1637	LDW18-SP-RB2	2	Water			X				-2	Sample on Hold
6/12/18	1206	LDW18-SP-30	1	Water			X				-3	Sample on Hold
6/12/18	0919	LDW18-SP-32	1	Water			X				-4	Sample on Hold
6/12/18	1056	LDW18-SP-35	1	Water			X				-5	Sample on Hold
6/12/18	1027	LDW18-SP-38	1	Water			X				-6	Sample on Hold
6/12/18	1205	LDW18-SP-42	2	Water	X	X					-7	Please HOLD PCB Congener Sample
6/12/18	1300	LDW18-SP-43	1	Water			X				-8	Sample on Hold
6/13/18	0953	LDW18-SP-06	1	Water			X				-9	Sample on Hold
6/13/18	1217	LDW18-SP-33	1	Water			X				-10	Sample on Hold
6/13/18	1235	LDW18-SP-24	2	Water	X	X					-11	Please HOLD PCB Congener Sample
6/13/18	1242	LDW18-SP-24-FD	2	Water	X	X					-12	Please HOLD PCB Congener Sample
Total Number of Containers			17	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	YARED LISANEWORK	Yared Lisanework	
Signature: Stephanie Fisher			
Company: ART	Company: YL #736	Company: YL #736	Company: SGS-AXYS
Date/Time: 7/2/18 1705	Date/Time: 07/2/18 17:05	Date/Time: 07/03/18 8:53 AM	Date/Time: 03-Jul-2018 8:30

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Seep Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					Comments / Instructions [Composite/Bag ID]
6/14/18	1408	LDW18-SP-05	1	Water			X		L29628 -		13	Sample on Hold
6/14/18	1041	LDW18-SP-57	2	Water	X	X					-14	Please HOLD PCB Congener Sample
6/14/18	1308	LDW18-SP-73	1	Water			X				-15	Sample on Hold
6/14/18	1314	LDW18-SP-74	1	Water			X				-16	Sample on Hold
6/14/18	1210	LDW18-SP-77	2	Water	X	X					-17	Please HOLD PCB Congener Sample
6/14/18	1204	LDW18-SP-78	2	Water	X	X					-18	Please HOLD PCB Congener Sample
6/14/18	0950	LDW18-SP-79	2	Water	X	X					-19	Please HOLD PCB Congener Sample
6/14/18	0953	LDW18-SP-84	1	Water			X				-20	Sample on Hold
6/14/18	1111	LDW18-SP-87	2	Water	X	X					-21	Please HOLD PCB Congener Sample
6/15/18	1133	LDW18-SP-01	2	Water	X	X					-22	Please HOLD PCB Congener Sample
6/15/18	1345	LDW18-SP-45	1	Water			X				-23	Sample on Hold
6/15/18	1316	LDW18-SP-47	1	Water			X				-24	Sample on Hold
Total Number of Containers			18	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by: Print name: Stephanie Fisher Signature: Stephanie Fisher Company: ADI Date/Time: 7/2/18 1105

1) Rec'd by: YARED LISANEWORK Company: YL #736 Date/Time: 07/02/18 17:05

2) Released by: Print name: Yared Lisanework Signature: [signature] Company: YL #736 Date/Time: 07/03/18 8:53AM

2) Rec'd by: [signature] Company: SGS-AXYS Date/Time: 03-Jul-2018 8:30

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

www.axysanalytical.com

CHAIN-OF-CUSTODY/TEST REQUEST FORM

4033

Project/Client Name: **AOC3 Seep Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **SGS Axys Analytical** No.AOC320180703
Attn: Georgina Brooks
Shipper: Courier
Form filled out by: A. Vandervort
Shipping Date: 5/15-5/18/18
Airbill Number: N/A
Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Dioxin/Furans	PCB Congeners All on HOLD	Hold Refrigerated					Comments / Instructions [Composite/Bag ID]
6/15/18	1325	LDW18-SP-66	2	Water	X	X			L291628-	25		Please HOLD PCB Congener Sample
6/15/18	1113	LDW18-SP-70	2	Water	X	X				-	26	Please HOLD PCB Congener Sample
6/15/18	1208	LDW18-SP-83	1	Water			X			-	27	Sample on Hold
6/15/18	1219	LDW18-SP-86	2	Water	X	X				-	28	Please HOLD PCB Congener Sample
6/15/18	1052	LDW18-SP-88	2	Water	X	X				-	29	Please HOLD PCB Congener Sample
Total Number of Containers			9	Purchase Order / Statement of Work # PO 2018-0069								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Stephanie Fisher	Yared Lisanework	Yared Lisanework	
Signature: Stephanie Fisher			
Company: ARI	YL #736	YL #736	SGS-AXYS
Date/Time: 7/2/18 1705	07/02/18 17:05	07/03/18 8:53AM	03-Jul-2018 8:50

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt:	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No)
Waybill #: HANDDELIVERY#3
Date Shipped: 03-JUL-18
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number:
Receipt No: WB23997

Login Number:

Received By: ABODDY
Log in by: Ava Voskuilen Signature: AV

Axys Sample ID's: L29625-1 to -21

Matrix Type: Solid

Condition of Shipping Container: Intact.

Temperature upon Receipt: 1.7 Celcius Ice bags thawing

Thermometer ID: 5613
Corrected Temperature: 2.2 Celcius

Custody Seals: Shipping Containers Yes /(No) Intact Yes /No Seal Numbers Yes /No
Samples Yes /(No) Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	Yes /(No)
Sample ID's	(Yes) /No	Sample Tag Numbers	Yes /(No)
Collection Location	Yes /(No)	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /No	Preservative Added	Yes /(No)
Collector's Name	Yes /(No)	Preservation Requested	Yes /(No)

Sample Tags	Yes /(No)		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No) Waybill #: HANDDELIVERY#5
Date Shipped: 03-JUL-18 Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number: Receipt No: WB23999

Login Number:

Received By: ABODDY Log in by: Ava Voskrundson Signature: AVe

Axys Sample ID's: L29627-1 to-18, L29626-1 to-9, L29625-22 to-33

Matrix Type: S

Condition of Shipping Container: Intact.

Temperature upon Receipt: 1.2 Celcius Ice bags thawing Thermometer ID: 5595
Corrected Temperature: 1.6 Celcius

Custody Seals: Shipping Containers Yes /(No) Intact Yes /No Seal Numbers Yes /No
Samples Yes /(No) Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	Yes /(No)
Sample ID's	(Yes) /No	Sample Tag Numbers	Yes /(No)
Collection Location	Yes /(No)	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /(No)	Preservative Added	Yes /(No)
Collector's Name	Yes /(No)	Preservation Requested	Yes /(No)

Sample Tags	Yes /(No)		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /(No)
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments: L29626-1 to-9 did not have Sampling dates or times.
L29627-12 has a Label Discrepancy
Label on c.o.c = LDW18-PWPS-All.Dup
Label on Jar = LDW18-PWPS-All Dup

Action Taken: logged in as per C.o.C

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /No
Date Shipped: 03-JUL-2018

Waybill #: HANDDELIVERY#1
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental

Project Number:

Receipt No: WB23995

Login Number:

Received By: ABODDY

Log in by: KDay

Signature:

Axys Sample ID's: L29628-1 to 11

Matrix Type: AQ

Condition of Shipping Container: Intact

Temperature upon Receipt: 5.3 Celcius Ice bags thawing

Thermometer ID: 5597
Corrected Temperature: 5.7 Celcius

Custody Seals: Shipping Containers Yes /No Intact Yes /No Seal Numbers Yes /No

Samples Yes /No Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No)
Date Shipped: 03-JUL-18
Waybill #: HANDDELIVERY#2
Date /Time Received: 03-JUL-18 08:50

SGS AXYS Client & Contract # 4033-Windward Environmental
Project Number:
Receipt No: WB23996
Login Number:

Received By: ABODDY
Log in by: KDay
Signature:
Axys Sample ID's: L29628-12 to 21 (1/2)
Matrix Type: AQ

Condition of Shipping Container: Intact.
Temperature upon Receipt: 6 Celcius Ice bags thawing
Thermometer ID: 5615
Corrected Temperature: 6.5 Celcius

Custody Seals: Shipping Containers Yes /(No) Intact Yes /No Seal Numbers Yes /No
Samples Yes /(No) Intact Yes /No Seal Numbers Yes /No

Chain of Custody or Documents:	(Yes)/No	Tracking Report /Packing List:	Yes /(No)
Sample ID's	(Yes)/No	Sample Tag Numbers	Yes /(No)
Collection Location	Yes /(No)	Sample Type	(Yes)/No
Date & Time Collection	(Yes)/No	Preservative Added	Yes /(No)
Collector's Name	Yes /(No)	Preservation Requested	Yes /(No)

Sample Tags	Yes /(No)		
Sample Labels	(Yes)/No		
Sample Labels Cross Referenced to COC	(Yes)/No	Information Agrees	(Yes)/No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

arrived above temperature

Action Taken:

FSA-015 Rev09, 22-Jan-2013

SGS AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /(No) Waybill #: **HANDDELIVERY#4**

Date Shipped: **03-JUL-18** Date /Time Received: **03-JUL-18 08:50**

SGS AXYS Client & Contract # **4033-Windward Environmental**

Project Number: Receipt No: **WB23998**

Login Number:

Received By: **ABODDY** Log in by: KDuy Signature:

Axys Sample ID's: L29628-21(2/2), 22 to 29

Matrix Type: **AQ**

Condition of Shipping Container: Intact

Temperature upon Receipt: **4.3 Celcius** **Ice bags thawing** Thermometer ID: **5610**

Corrected Temperature: **4.4 Celcius**

Custody Seals: Shipping Containers **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**

Samples **Yes /(No)** Intact **Yes /No** Seal Numbers **Yes /No**

Chain of Custody or Documents:	(Yes) /No	Tracking Report /Packing List:	(Yes) /No
Sample ID's	(Yes) /No	Sample Tag Numbers	(Yes) /No
Collection Location	(Yes) /No	Sample Type	(Yes) /No
Date & Time Collection	(Yes) /No	Preservative Added	(Yes) /No
Collector's Name	(Yes) /No	Preservation Requested	(Yes) /No

Sample Tags	(Yes) /No		
Sample Labels	(Yes) /No		
Sample Labels Cross Referenced to COC	(Yes) /No	Information Agrees	(Yes) /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

FSA-015 Rev09, 22-Jan-2013

4033

#5

8:50am

Ice Bags thawing

1.2°C

5595

www.axysanalytical.com

4033

#3

8:50 am

Ice Bags thawing

1.7 °C

5613

www.axysanalytical.com

4033

#4

RECEIVED
JUL 03 2018

8:50 am

Ice Bags thawing

4.3

5610

4033

#1

8:50 am

Ice Bags thawing

5597

5.3 °C

4033

#2

8:50am

Ice Bags thawing

6.0 C

5615

www.axysanalytical.com

4033
04-Jul-2018

WB23999

L29627-1 to -18
L29626-1 to -9
L29625-22 to -33

WB23997

L29625-1 to -21

processed by: AVK
04-Jul-2018

www.axysanalytical.com

~~4033~~

~~WB23995~~

L29628-1 to -11

~~WB23996~~

L29628-12 to -21 (1/2)

~~WB23998~~

L29628-21 2/2, -22 to -29

Processed by: BOD 04-Jul-2018

www.axysanalytical.com

for scanning
JBrooks
05-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-1		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp1				
19-JUN-18 10:27	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-2		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp2				
19-JUN-18 10:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-3		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp3				
19-JUN-18 10:50	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-4		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp1-FD				
19-JUN-18 10:25	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-5		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp2-FD				
19-JUN-18 10:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-6		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B1-Comp3-FD				
19-JUN-18 10:50	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-7		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp1 19-JUN-18 11:55	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-8		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp2 19-JUN-18 12:03	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-9		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B2-Comp3 19-JUN-18 11:52	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-10		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp1 19-JUN-18 11:24	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-11		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp2 19-JUN-18 11:40	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-12		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B4-Comp3 19-JUN-18 11:40	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-13		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp1				
19-JUN-18 11:22	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-14		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp2				
19-JUN-18 11:08	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-15		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B5-Comp3				
19-JUN-18 11:10	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-16		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp1 20-JUN-18 11:28	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-17		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp2 20-JUN-18 11:30	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-18		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B3-Comp3 20-JUN-18 11:38	Project #: DUWAMISH 2017			
Solid	2:MOISTURE	:		USD
Solid	7:MOISTURE	:		USD
Solid	DX017.1613	:		USD
Solid	DX017.1613-2	:		USD
Solid	HOMOGENIZATION	:		USD
EDataDeliv	DX017 EDD	:		USD
Data Package	DX017 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-19		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp1 20-JUN-18 10:10	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-20		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp2 20-JUN-18 10:19	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-21		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp3 20-JUN-18 10:59	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29625-22			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp1-FD					
20-JUN-18 10:32		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD
L29625-23			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp2-FD					
20-JUN-18 10:45		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD
L29625-24			03-JUL-18		
		Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B6-Comp3-FD					
20-JUN-18 11:14		Project #: DUWAMISH 2017			
Solid	2:MOISTURE			:	USD
Solid	7:MOISTURE			:	USD
Solid	DX017.1613			:	USD
Solid	DX017.1613-2			:	USD
Solid	HOMOGENIZATION			:	USD
EDataDeliv	DX017 EDD			:	USD
Data Package	DX017 DPKG			:	USD
ANY	SAMPLE RECEIPT		1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-25		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp1 20-JUN-18 10:55	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-26		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp2 20-JUN-18 11:05	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-27		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B7-Comp3 20-JUN-18 11:20	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 05, 2018
04:04 PM

Login Number: L29625
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-28		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp1 20-JUN-18 10:12	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-29		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp2 20-JUN-18 10:25	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-30		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-IT45-B8-Comp3 20-JUN-18 10:39	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 05, 2018

04:04 PM

Login Number: L29625

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29625-31		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-BNK2-1				
14-JUN-18 12:15	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-32		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-SSOT-2510				
15-MAY-18 10:23	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOLD		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD
L29625-33		03-JUL-18		
	Storage: WIF-4 10 C	Permit #: P-2017-02875-US		
LDW18-SSOT-2114				
15-MAY-18 13:03	Project #: DUWAMISH 2017			
Solid	2:MOISTURE		:	USD
Solid	7:MOISTURE		:	USD
Solid	DX017.1613		:	USD
Solid	DX017.1613-2		:	USD
Solid	HOLD		:	USD
Solid	HOMOGENIZATION		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 250 mL glass CLR	USD

www.axysanalytical.com

Revised to add PCBs.
for scanning
JBrooks
12-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 12, 2018
05:20 PM

Login Number: L29626
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-1		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C01-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-2		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C02-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-3		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C03-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 12, 2018

05:20 PM

Login Number: L29626

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-4		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C04-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-5		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C05-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-6		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C06-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 12, 2018

05:20 PM

Login Number: L29626

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29626-7		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C08-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-8		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C10-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
EDataDeliv	DX017 EDD		:	USD
Data Package	DX017 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29626-9		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-C11-CLWB-Comp2				
	Project #: DUWAMISH 2017			
Tissue	DX017.1613		:	USD
Tissue	DX017.1613-2		:	USD
Tissue	PB010.1668C		:	USD
Tissue	PB010.1668C-CC1		:	USD
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

www.axysanalytical.com

for scanning
JBrooks
06-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 06, 2018
03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-1		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A01		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-2		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A02		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-3		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A03		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE		:	USD
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-4		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A04		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+		:	USD
Plastic Passive	PH021.PRC		:	USD
EDataDeliv	PH021 EDD		:	USD
Data Package	PH021 DPKG		:	USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 06, 2018

03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-5		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A05		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-6		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A06		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-7		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A07		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-8		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A08		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-9		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A09		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-10		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A10		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-11		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A11		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-12		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A11.Dup		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-13		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A12		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-14		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A13		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-15		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A17		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-16		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A18		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 06, 2018

03:52 PM

Login Number: L29627

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29627-17		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-A19		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Comments: Spike surrogate, Extract, Ampoule and HOLD				
Plastic Passive	PAH SUR SPIKE	:		USD
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD
L29627-18		03-JUL-18		
	Storage: WIF-4 8D			
LDW18-PWPS-PWPS-ExpBlk_PAH		Matclient: POLYETHYLENE		
22-JUN-18 14:45	Project #: DUWAMISH 2017			
Plastic Passive	PH021.PAR+	:		USD
Plastic Passive	PH021.PRC	:		USD
EDataDeliv	PH021 EDD	:		USD
Data Package	PH021 DPKG	:		USD
ANY	SAMPLE RECEIPT	1	: 125 mL glass AMB	USD

www.axysanalytical.com

for scanning
9Brooks
9-July-2018

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-1		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-RB1				
11-JUN-18 16:12	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-2		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-RB2				
11-JUN-18 16:37	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-3		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-30				
12-JUN-18 12:06	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-4		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-32				
12-JUN-18 09:19	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-5		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-35				
12-JUN-18 10:56	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-6		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-38				
12-JUN-18 10:27	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-7		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-42				
12-JUN-18 12:05	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-8		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-43				
12-JUN-18 13:00	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-9		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-06				
13-JUN-18 09:53	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-10		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-33				
13-JUN-18 12:17	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-11			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-24					
13-JUN-18 12:35		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-12			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-24-FD					
13-JUN-18 12:42		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-13		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-05				
14-JUN-18 14:08	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-14		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-57				
14-JUN-18 10:41	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-15		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-73				
14-JUN-18 13:08	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-16		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-74				
14-JUN-18 13:14	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-17			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-77					
14-JUN-18 12:10		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-18			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-78					
14-JUN-18 12:04		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			Received	Due	PR
L29628-19			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-79					
14-JUN-18 09:50		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD
L29628-20			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-84					
14-JUN-18 09:53		Project #: DUWAMISH 2017			
Comments: HOLD					
EDataDeliv	DX017 EDD			:	USD
EDataDeliv	PB010 EDD			:	USD
Data Package	DX017 DPKG			:	USD
Data Package	PB010 DPKG			:	USD
Aqueous	4:SUSP SOLIDS			:	USD
Aqueous	DX017.1613			:	USD
Aqueous	DX017.1613-2			:	USD
Aqueous	HOLD			:	USD
Aqueous	PB010.1668C			:	USD
Aqueous	PRETREAT			:	USD
ANY	SAMPLE RECEIPT		1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-21		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-87				
14-JUN-18 11:11	Project #: DUWAMISH 2017			
Comments: 2/2 rec'd in WB23998				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-22		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-01				
15-JUN-18 11:33	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018
12:21 PM

Login Number: L29628
Account: 4033 Windward Environmental
Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-23		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-45				
15-JUN-18 13:45	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-24		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-47				
15-JUN-18 13:16	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	HOLD	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-25		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-66 15-JUN-18 13:25	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD
L29628-26		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-70 15-JUN-18 11:13	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD	:		USD
EDataDeliv	PB010 EDD	:		USD
Data Package	DX017 DPKG	:		USD
Data Package	PB010 DPKG	:		USD
Aqueous	4:SUSP SOLIDS	:		USD
Aqueous	DX017.1613	:		USD
Aqueous	DX017.1613-2	:		USD
Aqueous	PB010.1668C	:		USD
Aqueous	PRETREAT	:		USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification		Received	Due	PR
L29628-27		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-83				
15-JUN-18 12:08	Project #: DUWAMISH 2017			
Comments: HOLD				
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	HOLD		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	1	: 1 L glass AMB	USD
L29628-28		03-JUL-18		
	Storage: WIC-2, floor (coolers)			
LDW18-SP-86				
15-JUN-18 12:19	Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:	USD
EDataDeliv	PB010 EDD		:	USD
Data Package	DX017 DPKG		:	USD
Data Package	PB010 DPKG		:	USD
Aqueous	4:SUSP SOLIDS		:	USD
Aqueous	DX017.1613		:	USD
Aqueous	DX017.1613-2		:	USD
Aqueous	PB010.1668C		:	USD
Aqueous	PRETREAT		:	USD
ANY	SAMPLE RECEIPT	2	: 1 L glass AMB	USD

SGS AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jul. 09, 2018

12:21 PM

Login Number: L29628

Account: 4033 Windward Environmental

Project: DUWAMISH 2017

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L29628-29			03-JUL-18		
		Storage: WIC-2, floor (coolers)			
LDW18-SP-88 15-JUN-18 10:52		Project #: DUWAMISH 2017			
EDataDeliv	DX017 EDD		:		USD
EDataDeliv	PB010 EDD		:		USD
Data Package	DX017 DPKG		:		USD
Data Package	PB010 DPKG		:		USD
Aqueous	4:SUSP SOLIDS		:		USD
Aqueous	DX017.1613		:		USD
Aqueous	DX017.1613-2		:		USD
Aqueous	PB010.1668C		:		USD
Aqueous	PRETREAT		:		USD
ANY	SAMPLE RECEIPT		2	: 1 L glass AMB	USD

www.axysanalytical.com

4033

Brooks, Georgina (Sidney)

L29626

From: Amara Vandervort <amarav@windwardenv.com>
Sent: Thursday, July 12, 2018 7:47 AM
To: Brooks, Georgina (Sidney)
Subject: Duwamish Clam Samples for PCB Congener Analysis

Good morning,
EPA has approved the proposed list for PCB Congener analysis in the clam homogenates. The table below list the 6 samples to be analyzed and the 3 to be held. EPA will review the Aroclor and congener data after analyses is complete and would like the remaining 3 samples to be held frozen until they decide if they would like them analyzed as well, please.

Composite ID	Analyze	Hold
LDW18-C01-CLWB-Comp2	X	---
LDW18-C02-CLWB-Comp2	X	---
LDW18-C03-CLWB-Comp2	---	X
LDW18-C04-CLWB-Comp2	X	---
LDW18-C05-CLWB-Comp2	---	X
LDW18-C06-CLWB-Comp2	X	---
LDW18-C08-CLWB-Comp2	X	---
LDW18-C10-CLWB-Comp2	---	X
LDW18-C11-CLWB-Comp2	X	---

L29626
-1
-2
-3
-4
-5
-6
-7
-8
-9

Please let me know if you have any questions. Thanks. -Amara

BATCH ID: WG64623

Method ID: MLA-010 R12.01	
Method ID:	
Method ID:	
Analyst:	
Start Date:	**19-Jul-2018**
Batch List Author:	JHOLLEY
Checked By:	BC
Project Manager:	Georgina B
Glassware Type:	**Regular**
Glassware Treatment:	**Regular**
Rotovap Type:	**Regular**
Matrix:	**Tissue**
Sample size:	5 g
Moistures required?	NO
Lipids required?	NO
Extraction Solvent:	~~1:1 DCM Hexane~~ DCM
	19JUL2018 JCM
Biohazard Type:	None

Comments:

For CRM use 10g of CARP-2 (SC6775). Follow the rinse instructions for the CRM as written on the ampoule.

Overspike 5x SUR and 5x clean-up SUR.

After extraction, perform normal clean-up, then split 1/10 and 9/10. The 9/10 portion recieves a carbon column for DB-1 analysis.

Calibration: | PB109A-CAL/ & PB108(A-H)-CAL/

previous WG's associated with samples:

; #Keep Discards: 0

Contract #	Sample	Wt	Contract #	Sample	Wt
4033	L29626-1	5 g			
4033	L29626-2	5 g			
4033	L29626-4	5 g			
4033	L29626-6	5 g			
4033	L29626-7	5 g			
4033	L29626-9	5 g			

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
PB010.1668C	L29626-1, 2, 4, 6, 7, 9. WG64623-101, 102, 103, 104	(4325) #88,86,84,85 100uL PB050A-SUR/03 SDM	(4125) #27,25,29 100uL PB048A-SUR/07 DSZ	#30 (4318) 5uL PB020A-REC/08	20 uL	GCMS	**1/10 portion.**
PB010.1668C-CC1	L29626-1, 2, 4, 6, 7, 9. WG64623-101, 102, 103,	**Included in PB SUR**	**Included in PB SUR**	JDB #29 (4318) 5uL PB020A-REC/08	20 uL	GCMS	**9/10 portion.**
PB010.1668C-CC1	WG64623-104 (CRM)	**Included in PB SUR**	**Included in PB SUR**	FS 5uL PB020A-REC/	400 uL	GCMS	**9/10 portion of CRM.**

www.axysanalytical.com

BATCH ID: WG64623

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG64623-101 BLANK	0.3G SC5399 CANOLA OIL	PB010.1668C		
		PB010.1668C-CC1		
WG64623-102 SPM	0.3G SC5399 CANOLA OIL	PB010.1668C	1000uL PB071A-AUT/04 #208 (exact) SRM	
		PB010.1668C-CC1	Included in PB AUT	
WG64623-103 DUP	CHOOSE LARGEST SAMPLE AND UPDATE LIMS	PB010.1668C		
		PB010.1668C-CC1		
WG64623-104 CRM	USE 10G CARP2	PB010.1668C		
		PB010.1668C-CC1		

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64623 Date: 19-JUL-2018 Analyst: KN/BG/ML Contract #: 4033

Method: MLA-010 R12.01

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
L29626-1	Brown-green wet tissue	LDW18-C01-CLWB-Comp2 KN 19.JUL.2018	☐
L29626-2	Brown-green wet tissue	LDW18-C02-CLWB-Comp2	☐
L29626-4	Brown-green wet tissue	LDW18-C04-CLWB-Comp2	☐
L29626-6	Brown-green wet tissue, odourous	LDW18-C06-CLWB-Comp2	☐
L29626-7	Brown-green wet tissue	LDW18-C08-CLWB-Comp2	☐
L29626-9	Brown-green wet tissue	LDW18-C11-CLWB-Comp2	☐
			☐ 08AUG2018 CER
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

www.axysanalytical.com

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64623 Date: 19-JUL-2018 Analyst: ML/KN/BG Contract #: NONE

Method: MLA-010 R12.01

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
WG64623-101 (BLANK)	Pale yellow oil Procedural Blank	SC5399 Canola Oil Reference Jar #1	☐
WG64623-102 (SPM)	Pale yellow oil Spiked Matrix	SC5399 Canola Oil Reference Jar #1	☐ 08AUG2018 CER
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

FWO-305 Rev 07, 18-Dec-2012

Reviewed by CER date 08AUG2018

www.axysanalytical.com

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG64623 Date: 19-JUL-2018 Analyst: KN/BG/NL Contract #: 4033

Method: MLA-010 R12.01

Sample ID	Sample Type and Description	Original Labelling	LIMS label correct as per client
WG64623-103 (DUP)	Brown-green wet tissue Duplicate of L29626-4	LDW18-C04-CLWB-Comp2	☐
WG64623-104 (CRM)	Yellow beige tissue Certified Reference material	Carp-2 SC6775 #14	☑
		~~CARP 2~~ 4 KN 19-JUL-2018	☐ OBAUG2018 CER
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

FWO-305 Rev 07, 18-Dec-2012

Reviewed by CER date OBAUG2018

Page 1C of ~~3~~

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Sample Wt & Moistures: Batch ID: WG64623 Date: 19-JUL-2018 Chemist: KN/BG (INL) Balance or Syringe # ~~446~~ 5460/3545

KN 19-JUL-2018

Method: MLA-010 R12.01

Sample ID	Moisture (SLA-015) (all weights in grams)						Sample Wt or Vol (SLA-085) (g or mL)	Backup (g)
	Tare (a)	Tare + Wet	Tare + dry	Tare (b)	Tare + wet (2 x pipet + ampoule)	Tare + dry (ampoule + 2 x pipet)		
L29626-1						CER for JCM 08AUG2018	4.89	~5
L29626-2							5.28	~20
L29626-4							5.06	~15
L29626-6							4.98	~10
L29626-7							~5.23	~9
L29626-9							4.81	~10
WG64623-101 (BLANK)							0.306	N/A
WG64623-102 (SPM)							0.301	N/A
WG64623-103 (DUP)					KN 19 JUL-2018 ~~17.45+6.14=23.59~~		5.16	~~N~~ ~45 KN 08-AUG-2018
WG64623-104 (CRM)					17.45+6.14=23.59 KN 19-JUL-2018	7.86+6.89 =14.75	8.84	N/A

Moistures into oven: Date: _____ Time: _____ Temperature: _____ Chemist: _____ Oven #: ~~3264~~ CER. 08AUG2018

Out of Oven: ~~Date:~~ _____ Time: _____ Temperature: _____ Chemist: _____

FWO-306 Rev 10, 08-Feb-2018 Reviewed by CER date 08AUG2018 Page 2 of ~~2~~ 3

www.axysanalytical.com

SGS AXYS Analytical Services Ltd.

Extraction Information: Batch ID: WG64623 Date: 19 JUL 2018 Analyst: BG/KN/NL

Method: MLA-010 R12.01

Aqueous Extraction Information:

Stirring: Solvent used: DCM Lot/batch #: _____ Volume: _____mL Chemist: _____

Start Date: _____ time: _____ end Date: _____ time: _____

Shaking: Solvent used: DCM Lot/batch #: _____ # of shakes: _____ Volume: _____mL Chemist: _____

Date: _____ time: _____

☐ Aqueous Particulate

CHM (9)JUL18

Solids/Tissue Extraction Information:

Soxhlet: V Dean Stark: ____ Steam Distillation: ____ Base Digest: ____

Drying: Drying Time: 30 mins Analyst: BG/NL/KN Reagent: SODIUM SULFATE Lot/batch #: 106

Extraction Solvent used: DCM Volume: 300 mL Lot/batch #: 103067

Other reagent used: _____ Amount: _____ Lot/batch #: _____

Other reagent used: _____ Amount: _____ Lot/batch #: _____

CER 08AUG2018

Begin: Date: 19JUL2018 Time: 15:00 Analyst: KN/BG/NL **End:** Date: 20.Jul.2018 Time: 7:10 Analyst: AB

Begin: Date: _____ Time: _____ Analyst: _____ **End:** Date: _____ Time: _____ Analyst: _____

CER 08AUG2018

www.axysanalytical.com

Spiking Sheet: Batch ID: WG64623 Method: MLA-010 R12.01

Witness name/ initials: Jamie McGuire / JCM.

Sample ID	Before extraction Surr. ID: PBOSOA-SUR/03 Date: 19JUL2018 Vol.: 100 µL Syringe#: 4325 Ampoule: 88, 86, 84 Analyst: BG		Before extraction Surr. ID: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Analyst: _____		Cleanup Std. Surr.: PB048A-SUR/07 Date: 27-JUL-2018 Vol.: 100 µL Syringe#: 4128 Ampoule: 29, 28, 27 Start time: 15:15 Fin. time: 15:20	Cleanup Std. Surr.: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	Recovery 1/10 Surr.: PB020A-REC/08 Date: 03AUG2018 Vol.: 5 µL F.V.: 20 µL Syringe#: 4318 Ampoule: 30 Start time: 14:30 Fin. time: 14:35	Recovery 9/10 Surr.: PB020A-REC/08 Date: 07AUG2018 Vol.: 5 µL F.V.: 20/400 µL Syringe#: 4318 Ampoule: 29 Start time: 14:40 Fin. time: 14:45
	Time	Witness	Time	Witness	Analyst: IAN	Analyst:	Analyst: YFA	Analyst: YFA
L29626-1	1409	JCM.			☑	☑	☑	☑
L29626-2	1409	JCM.			☑	☑	☑	☑
L29626-4	1411	JCM			☑	☑	☑	☑
L29626-6	1411	JCM.			☑	☐	☑	☑
L29626-7	1412	JCM.			☑ †	☐	☑	☑
L29626-9	1413	JCM.			☑ *	☐	☑	☑
WG64623-101 (BLANK)	1413	JCM.			☑ *	☐	☑	☑
WG64623-102 (SPM)	1414	JCM.			☑ *	☐	☑	☑
WG64623-103 (DUP)	1413	JCM.			☑ Δ	☐	☑	☑
WG64623-104 (CRM)	1415	JCM.			☑ Δ	☐	☑	* ☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

08AUG2018 CER

CER 08AUG2018

Sample ID	Authentic Std: PB071A-AUT/04 Date: 19JUL2018 Vol.: 1000 µL Syringe#: exact Ampoule#: 208. Analyst: BG		Authentic Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Authentic Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____	
	Time	Witness	Time	Witness	Time	Witness
WG64623-102 SPM.	1405	JCM.				
		08AUG2018 CER.				

JCM FF JUL2018.

FWO-310 Rev 09, 10-Jan-2014

Reviewed by CER date 08AUG2018.

AXYS Analytical Services Ltd

Extract Splitting Sheet: Batch ID: WG64623 Balance #: 3545 Analyst: KN Date: 03-Aug-2018 Time: KN 03-Aug-2018 08:20

Method: MLA-010 R12.01

Sample ID	Weight (g)								
	C-tube (column a)	C-tube + total extract (column b)	Total Extract (b-a)	Portion + c-tube 9/10 DB1 (column c)	Portion: 9/10 ~~B~~ DB1 (c-a) KN 03-Aug-2018	Portion: 1/10 FCB (direct wt)	Portion: _____ (direct wt)	Portion: _____ (direct wt)	Portion: _____ (direct wt)
L29626-1	14.577	17.641	3.064	17.295	2.718	0.305			
L29626-2	14.573	18.089	3.516	17.688	3.115	0.352			
L29626-4	14.508	17.602	3.094	17.244	2.736	0.315			
L29626-6	14.592	17.813	3.221	17.438	2.846	0.322			
L29626-7	14.491	17.997	3.506	17.614	3.123	0.352			
L29626-9	14.593	17.862	3.269	17.503	2.910	0.329			
WG64623-101 (BLANK)	14.535	17.440	2.905	17.110	2.575	0.303			
WG64623-102 (SPM)	14.469	17.786	3.317	17.419	2.950	0.334			
WG64623-103 (DUP)	14.609	17.499	2.890	17.181	2.572	0.295			
WG64623-104 (CRM)	14.502	17.888	3.386	17.505	3.003	0.343			

08AUG2018 CER

Reviewed by CER Date 08AUG2018

www.axysanalytical.com

Extract Splitting Data

Work Group: IG64623
Analyst: KNIKELSKI

					colours indicate:			less than tare								
Sample #	Extraction Date	Units g	C-Tube	C-Tube + Extract	Extract	Aliquot 1 + C-Tube	Aliquot 1	Aliquot 2	Aliquot 3	Aliquot 4	Aliquot 5	Aliquot 6	Aliquot 7	Factor 1	Factor 2	Split Factor 3
								PCB							PCB	
L29626-1	19-JUL-18	g	14.577	17.641	3.064	17.295	2.718	0.305						1.1273	10.046	
L29626-2	19-JUL-18	g	14.573	18.089	3.516	17.688	3.115	0.352						1.1287	9.9886	
L29626-4	19-JUL-18	g	14.508	17.602	3.094	17.244	2.736	0.315						1.1308	9.8222	
L29626-6	19-JUL-18	g	14.592	17.813	3.221	17.438	2.846	0.322						1.1318	10.003	
L29626-7	19-JUL-18	g	14.491	17.997	3.506	17.614	3.123	0.352						1.1226	9.9602	
L29626-9	19-JUL-18	g	14.593	17.862	3.269	17.503	2.91	0.329						1.1234	9.9362	
WG64623-101	19-JUL-18	g	14.535	17.44	2.905	17.11	2.575	0.303						1.1282	9.5875	
WG64623-102	19-JUL-18	g	14.469	17.786	3.317	17.419	2.95	0.334						1.1244	9.9311	
WG64623-103	19-JUL-18	g	14.609	17.499	2.89	17.181	2.572	0.295						1.1236	9.7966	
WG64623-104	19-JUL-18	g	14.502	17.888	3.386	17.505	3.003	0.343						1.1275	9.8717	

entered by: KN date: 03-Aug-2018

checked by: CER date: 08AUG2018

AXYS Analytical Services Ltd

Extract Cleanup - Biobead/Cu **WorkGroup:** WG64623 **Method:** MLA-010 R12.01

Sample ID	BB #	BB#	Cu Test 1:	Cu Test 2:	Cu Test 3:	Cu Test 4:	Cu Test 5:	Cu Test 6:
	Portion: PB	Portion:	Date: / Time: / Portion: / Chemist:	Date: / Time: / Portion: / Chemist:	Date: / Time: / Portion: / Chemist:	Date: / Time: / Portion: / Chemist:	Date: / Time: / Portion: / Chemist:	Date: / Time: / Portion: / Chemist:
L29626-1	306		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
L29626-2	322		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
L29626-4	308	CER	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
L29626-6	309		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
L29626-7	318	08AUG2018	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
L29626-9	319		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
WG64623-101 (BLANK)	301		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
WG64623-102 (SPM)	317		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
WG64623-103 (DUP)	312		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
WG64623-104 (CRM)	311		____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve
			____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve	____ +ve ____ -ve

08AUG2018 CER

Reviewed by: CER Date: 08AUG2018.

AXYS Analytical Services Ltd

Extract Cleanup - Columning, etc. **WorkGroup:** WG64623

Method: MLA-010 R12.01

Cleanup Type	Portion	Date	Time	Batch # / Type	Chemist	Pre-Elute	F1 (solvent, batch #, vol [mL])	F2 (solvent, batch #, vol [mL])	F3 (solvent, batch #, vol [mL])
A/B Si (PCB/BE)	PB	30-JuL-2018	14:00	AB44% 4.0g	KN	No	Hex 100mL # 102919	N/A	N/A
CC (PCB)	PB	03-Aug	13:30	146 0.229	KN	No	Hex 15mL #102919	Tol 30mL # 102517	N/A
Al (PCB)	PB	02-AUG2018	11:15	317/6.09	YFA	No	Hex 10mL 102919	1:1 DCM:Hex 45mL 1293-04	N/A
Fl (PCB/BE)	PB	02AUG2018	13:30	472/8.09	YFA	No	15% DCM/Hex 25mL 1308-04	N/A	N/A
BB	PB	30-JuL-2018	11:00	orange series 301-324	KN	No	1:1 DCM:Hex 150mL # 1295-04	1:1 DCM:Hex 200mL #1295-04	N/A

Solvent Exchange

Before	Portion	Date	Time	Vol	Chemist
CC	PB	03-Aug-2018	11:30	300	KN

08AUG2018 CER

Extract Wash

Date:	
Chemist:	
Start time:	
Acid/Base Wash	**MeCN:H20 Wash**
20% KOH:	pH 10:
# times:	# times:
Water:	pH 7:
H2SO4:	pH 2:
# times:	
Water:	

Acetylation (AP)

Date:
Time (1st) (2nd)
200µL Hex:
50µL x2 Pyridine: lot #_____
50µL x2 Acetic Anhydride: batch #_____
Chemist:

Ext'n After Acetylation

Date:
Start Time:
1.75 mL 0.2M K_2CO_3: batch #_____
500µL x3 Hex:
Chemist:

08AUG2018 CER

Reviewed by: CER Date: 08AUG2018

www.axysanalytical.com

Notes: Batch ID: WG64623 Method: MLA-010 R12.01

Date:	Analyst	Fraction	Notes:
08AUG2018	CER	PB	None

08AUG2018 CER

Reviewed by CER date 08AUG2018

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Matrix:	TISSUE	**Sample Size:**	4.89 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 00:00:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K J	2.24	1.03 (Q)	2.46	1.003
3-MoCB	2		U		1.03 (Q)		
4-MoCB	3		J	2.51	1.03 (Q)	2.95	1.001
2,2'-DiCB	4		K	15.2	4.77 (S)	1.84	1.001
2,3-DiCB	5		U		4.24 (S)		
2,3'-DiCB	6			15.5	3.69 (S)	1.56	1.176
2,4-DiCB	7		J	5.93	3.74 (S)	1.78	1.158
2,4'-DiCB	8			39.7	3.36 (S)	1.61	1.208
2,5-DiCB	9		U		3.77 (S)		
2,6-DiCB	10		U		3.78 (S)		
3,3'-DiCB	11		K	9.64	4.04 (S)	1.90	0.968
3,4-DiCB	12	12 + 13	C K J	4.11	4.00 (S)	1.93	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		3.87 (S)		
4,4'-DiCB	15		K	25.6	5.01 (S)	1.83	1.000
2,2',3-TriCB	16			39.1	1.75 (S)	1.08	1.166
2,2',4-TriCB	17			64.5	1.56 (S)	1.13	1.138
2,2',5-TriCB	18	18 + 30	C	121	1.34 (S)	1.10	1.113
2,2',6-TriCB	19			19.9	1.61 (S)	1.03	1.001
2,3,3'-TriCB	20	20 + 28	C	322	2.26 (S)	1.03	0.847
2,3,4-TriCB	21	21 + 33	C	125	2.13 (S)	1.03	0.857
2,3,4'-TriCB	22			96.1	2.52 (S)	0.97	0.871
2,3,5-TriCB	23		U		2.32 (S)		
2,3,6-TriCB	24		U		1.20 (S)		
2,3',4-TriCB	25			27.9	1.92 (S)	0.93	0.824
2,3',5-TriCB	26	26 + 29	C	63.1	2.28 (S)	1.02	1.301
2,3',6-TriCB	27			18.0	1.10 (S)	0.94	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			226	2.11 (S)	1.00	0.836
2,4',6-TriCB	32			58.4	2.19 (S)	1.02	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		2.36 (S)		
3,3',4-TriCB	35		U		2.29 (S)		
3,3',5-TriCB	36		U		2.12 (S)		
3,4,4'-TriCB	37			60.4	2.65 (S)	0.94	1.001
3,4,5-TriCB	38		U		2.34 (S)		
3,4',5-TriCB	39		K J	2.77	2.29 (S)	0.85	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	226	1.37 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			121	1.37 (S)	0.74	1.312
2,2',3,5-TeCB	43			29.8	1.67 (S)	0.68	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	433	1.24 (S)	0.80	1.285
2,2',3,6-TeCB	45	45 + 51	C	70.7	1.36 (S)	0.75	1.146
2,2',3,6'-TeCB	46			21.5	1.53 (S)	0.85	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			84.3	1.37 (S)	0.73	1.273
2,2',4,5'-TeCB	49	49 + 69	C	302	1.16 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	73.0	1.33 (S)	0.77	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			622	1.29 (S)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	1.82	1.03 (Q)	0.91	1.000
2,3,3',4-TeCB	55			16.9	3.89 (S)	0.76	0.889
2,3,3',4'-TeCB	56			177	3.59 (S)	0.78	0.904
2,3,3',5-TeCB	57		U		3.30 (S)		
2,3,3',5'-TeCB	58		U		3.37 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	59.6	1.03 (S)	0.71	1.302
2,3,4,4'-TeCB	60			98.9	3.55 (S)	0.81	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	631	3.27 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			15.1	3.24 (S)	0.87	0.864
2,3,4',6-TeCB	64			179	1.03 (Q)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			479	3.51 (S)	0.78	0.883
2,3',4,5-TeCB	67		K	12.6	2.83 (S)	0.57	0.856
2,3',4,5'-TeCB	68		U		3.17 (S)		
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	7.70	3.18 (S)	0.79	0.822
2,3',5',6-TeCB	73		U		1.03 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		3.42 (S)		
3,3',4,5'-TeCB	79		J	7.24	2.90 (S)	0.69	0.969
3,3',5,5'-TeCB	80		U		3.17 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			81.3	2.47 (S)	1.58	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	469	2.22 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			127	2.41 (S)	1.59	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	136	1.84 (S)	1.69	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	398	1.87 (S)	1.56	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	99.0	2.11 (S)	1.71	1.155
2,2',3,4,6'-PeCB	89			9.18	2.28 (S)	1.68	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	760	1.87 (S)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			213	2.16 (S)	1.61	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	589	2.03 (S)	1.56	1.122
2,2',3,5,6'-PeCB	94		K J	4.31	2.26 (S)	1.21	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	4.43	1.03 (Q)	1.81	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			11.4	1.85 (S)	1.65	1.094
2,2',4,6,6'-PeCB	104		U		1.03 (Q)		
2,3,3',4,4'-PeCB	105			218	4.26 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		4.91 (S)		
2,3,3',4',5-PeCB	107			44.5	4.76 (S)	1.67	0.998
2,3,3',4,5'-PeCB	108	108 + 124	C	26.8	4.90 (S)	1.52	0.991
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	680	1.63 (S)	1.59	0.925
2,3,3',5,5'-PeCB	111		U		1.72 (S)		
2,3,3',5,6-PeCB	112		U		1.55 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			514	4.87 (S)	1.56	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	4.02	1.64 (S)	1.20	0.957
2,3',4,5',6-PeCB	121		U		1.64 (S)		
2',3,3',4,5-PeCB	122		K	11.0	5.42 (S)	1.22	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		5.02 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	137	2.31 (S)	1.23	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	907	2.32 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130		K	77.7	2.98 (S)	1.44	0.913
2,2',3,3',4,6-HxCB	131			9.64	2.78 (S)	1.28	1.160
2,2',3,3',4,6'-HxCB	132			243	2.92 (S)	1.28	1.175
2,2',3,3',5,5'-HxCB	133		K	39.4	2.78 (S)	1.03	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	60.6	2.68 (S)	1.23	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	448	1.28 (S)	1.29	1.105
2,2',3,3',6,6'-HxCB	136			104	1.03 (Q)	1.17	1.025
2,2',3,4,4',5-HxCB	137			54.2	2.86 (S)	1.35	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	19.9	2.48 (S)	1.42	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			110	2.55 (S)	1.17	0.903
2,2',3,4,5,6-HxCB	142		U		2.75 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			45.7	1.30 (S)	1.31	1.122
2,2',3,4,6,6'-HxCB	145		U		1.03 (Q)		
2,2',3,4',5,5'-HxCB	146			249	2.31 (S)	1.33	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	835	2.44 (S)	1.28	1.134
2,2',3,4',5,6'-HxCB	148		J	5.56	1.31 (S)	1.37	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	2.40	1.03 (Q)	0.79	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		1.03 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	986	2.12 (S)	1.25	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		1.03 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			87.4	1.81 (S)	1.30	0.938
2,3,3',4,5,5'-HxCB	159		U		1.96 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		1.94 (S)		
2,3,3',4',5,5'-HxCB	162		J	2.89	1.86 (S)	1.34	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			79.0	1.95 (S)	1.33	0.921
2,3,3',5,5',6-HxCB	165		U		2.24 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			83.5	1.70 (S)	1.10	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	57.9	1.51 (S)	1.06	1.163
2,2',3,3',4,5,5'-HpCB	172			17.4	1.56 (S)	0.96	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			109	1.46 (S)	1.03	1.133
2,2',3,3',4,5',6-HpCB	175		K	13.4	1.47 (S)	0.89	1.102
2,2',3,3',4,6,6'-HpCB	176			27.4	1.13 (S)	1.15	1.034
2,2',3,3',4',5,6-HpCB	177			201	1.20 (S)	1.06	1.146
2,2',3,3',5,5',6-HpCB	178			108	1.51 (S)	0.95	1.085
2,2',3,3',5,6,6'-HpCB	179			111	1.11 (S)	1.04	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	418	1.56 (S)	1.12	1.000
2,2',3,4,4',5,6-HpCB	181		U		1.42 (S)		
2,2',3,4,4',5,6'-HpCB	182		J	5.00	1.41 (S)	0.91	1.115
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	153	1.41 (S)	1.01	1.127
2,2',3,4,4',6,6'-HpCB	184		U		1.09 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		1.20 (S)		
2,2',3,4',5,5',6-HpCB	187			393	1.33 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188		K J	1.85	1.14 (S)	1.36	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			29.9	1.16 (S)	1.05	0.947
2,3,3',4,4',5',6-HpCB	191			11.8	1.14 (S)	1.02	0.917
2,3,3',4,5,5',6-HpCB	192		U		1.27 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K	20.2	1.17 (S)	0.74	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	11.6	1.26 (S)	0.72	0.945
2,2',3,3',4,4',5,6'-OcCB	196			34.9	1.03 (Q)	0.95	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C J	7.96	1.03 (Q)	0.82	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	78.5	1.03 (Q)	0.92	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K	18.6	1.03 (Q)	0.75	1.023
2,2',3,3',5,5',6,6'-OcCB	202			62.2	1.03 (Q)	0.89	1.000
2,2',3,4,4',5,5',6-OcCB	203			29.0	1.03 (Q)	0.84	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		1.03 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	3.96	1.05 (S)	1.01	1.000
2,2',3,3',4,4',5,5',6-NoCB	206		K	11.5	1.74 (S)	1.13	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.27 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		J	5.45	1.46 (S)	0.67	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K B J	6.41	1.03 (Q)	1.47	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-1_Form1A_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Matrix:	TISSUE	**Sample Size:**	4.89 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 00:00:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	4550	45.5	3.17	0.719
13C12-4-MoCB	3L			10000	4580	45.8	3.19	0.859
13C12-2,2'-DiCB	4L			10000	4910	49.1	1.56	0.874
13C12-4,4'-DiCB	15L			10000	4450	44.5	1.56	1.255
13C12-2,2',6-TriCB	19L			10000	5210	52.1	1.05	1.072
13C12-3,4,4'-TriCB	37L			10000	5780	57.8	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5260	52.6	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			10000	7240	72.4	0.76	1.397
13C12-3,4,4',5-TeCB	81L			10000	7040	70.4	0.74	1.373
13C12-2,2',4,6,6'-PeCB	104L			10000	5490	54.9	1.60	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	7950	79.5	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	6530	65.3	1.64	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	7060	70.6	1.50	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	7060	70.6	1.57	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	6760	67.6	1.58	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	5750	57.5	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	13100	65.4	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6930	69.3	1.24	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6490	64.9	1.28	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6510	65.1	1.04	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	6630	66.3	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	5580	55.8	1.04	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6850	68.5	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	6660	66.6	0.91	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6740	67.4	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	6180	61.8	0.81	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	6050	60.5	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5790	57.9	1.18	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	6110	61.1	1.08	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	6860	68.6	1.59	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	6630	66.3	1.03	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-1_Form2_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Matrix:	TISSUE	**Sample Size:**	4.89 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:09:33	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			28.1	0.115 (Q)	0.81	1.001
3,4,4',5-TeCB	81			3.21	0.115 (Q)	0.81	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			15.8	0.298 (S)	1.55	1.002
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			17.6	0.298 (S)	1.57	1.000
3,3',4,4',5-PeCB	126			3.41	0.309 (S)	1.59	1.001
2,3,3',4,4',5-HxCB	156			57.8	0.208 (S)	1.25	1.001
2,3,3',4,4',5'-HxCB	157			17.8	0.203 (S)	1.30	1.001
2,3',4,4',5,5'-HxCB	167			40.0	0.218 (S)	1.26	1.001
3,3',4,4',5,5'-HxCB	169			2.58	0.231 (S)	1.28	1.001
2,3,3',4,4',5,5'-HpCB	189			5.66	0.206 (S)	0.99	1.001

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-1_Form1A_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Matrix:	TISSUE	**Sample Size:**	4.89 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:09:33	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	7390	73.9	0.78	1.463
13C12-3,4,4',5-TeCB	81L			10000	7240	72.4	0.78	1.422
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	6250	62.5	1.57	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	6510	65.1	1.57	1.201
13C12-3,3',4,4',5-PeCB	126L			10000	7890	78.9	1.59	1.436
13C12-2,3,3',4,4',5-HxCB	156L			10000	7350	73.5	1.27	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	7050	70.5	1.27	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6900	69.0	1.26	1.094
13C12-3,3',4,4',5,5'-HxCB	169L			10000	7700	77.0	1.26	1.281
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	7360	73.6	1.05	1.408

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-1_Form2_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Matrix:	TISSUE	**Sample Size:**	4.89 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 00:00:21	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 6, PB8C_260 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		4.75
Total Dichloro Biphenyls		116
Total Trichloro Biphenyls		1240
Total Tetrachloro Biphenyls		3700
Total Pentachloro Biphenyls		4440
Total Hexachloro Biphenyls		4620
Total Heptachloro Biphenyls		1750
Total Octachloro Biphenyls		267
Total Nonachloro Biphenyls		17.0
Decachloro Biphenyl		6.41
TOTAL PCBs		16200

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-1_Form1AHT_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	4.89 g (wet)	**Lab Sample I.D.:**	L29626-1
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 6** **PB8C_260 S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			28.1	0.115	0.0001	2.81e-03	2.81e-03	2.81e-03
3,4,4',5-TeCB	81			3.21	0.115	0.0003	9.63e-04	9.63e-04	9.63e-04
2,3,3',4,4'-PeCB	105			218	4.26	0.00003	6.54e-03	6.54e-03	6.54e-03
2,3,4,4',5-PeCB	114			15.8	0.298	0.00003	4.74e-04	4.74e-04	4.74e-04
2,3',4,4',5-PeCB	118			514	4.87	0.00003	1.54e-02	1.54e-02	1.54e-02
2',3,4,4',5-PeCB	123			17.6	0.298	0.00003	5.28e-04	5.28e-04	5.28e-04
3,3',4,4',5-PeCB	126			3.41	0.309	0.1	3.41e-01	3.41e-01	3.41e-01
2,3,3',4,4',5-HxCB	156			57.8	0.208	0.00003	1.73e-03	1.73e-03	1.73e-03
2,3,3',4,4',5'-HxCB	157			17.8	0.203	0.00003	5.34e-04	5.34e-04	5.34e-04
2,3',4,4',5,5'-HxCB	167			40.0	0.218	0.00003	1.20e-03	1.20e-03	1.20e-03
3,3',4,4',5,5'-HxCB	169			2.58	0.231	0.03	7.74e-02	7.74e-02	7.74e-02
2,3,3',4,4',5,5'-HpCB	189			5.66	0.206	0.00003	1.70e-04	1.70e-04	1.70e-04
					TOTAL TEQ		0.449	0.449	0.449

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-1_TEQ_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	5.28 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 01:03:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K J	1.76	0.946 (Q)	4.09	1.001
3-MoCB	2		U		0.946 (Q)		
4-MoCB	3		K J	1.69	0.946 (Q)	4.04	1.000
2,2'-DiCB	4			14.2	3.51 (S)	1.54	1.001
2,3-DiCB	5		U		2.91 (S)		
2,3'-DiCB	6			13.4	2.53 (S)	1.62	1.175
2,4-DiCB	7		K J	3.39	2.57 (S)	2.39	1.158
2,4'-DiCB	8			26.5	2.31 (S)	1.61	1.207
2,5-DiCB	9		U		2.59 (S)		
2,6-DiCB	10		U		2.60 (S)		
3,3'-DiCB	11			12.2	2.77 (S)	1.36	0.968
3,4-DiCB	12	12 + 13	C K J	3.55	2.75 (S)	1.79	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.66 (S)		
4,4'-DiCB	15			17.1	3.30 (S)	1.75	1.001
2,2',3-TriCB	16			37.8	1.18 (S)	0.92	1.165
2,2',4-TriCB	17			76.8	1.05 (S)	1.02	1.137
2,2',5-TriCB	18	18 + 30	C	141	0.946 (Q)	1.01	1.112
2,2',6-TriCB	19			16.4	0.959 (S)	0.99	1.001
2,3,3'-TriCB	20	20 + 28	C	290	1.46 (S)	1.05	0.847
2,3,4-TriCB	21	21 + 33	C	109	1.38 (S)	1.05	0.857
2,3,4'-TriCB	22			77.6	1.63 (S)	1.09	0.872
2,3,5-TriCB	23		U		1.50 (S)		
2,3,6-TriCB	24		K J	1.00	0.946 (Q)	0.55	1.158
2,3',4-TriCB	25			31.3	1.24 (S)	0.99	0.824
2,3',5-TriCB	26	26 + 29	C	71.0	1.47 (S)	1.06	1.301
2,3',6-TriCB	27			24.9	0.946 (Q)	0.90	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			218	1.36 (S)	1.05	0.836
2,4',6-TriCB	32			59.5	1.41 (S)	0.99	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	1.77	1.52 (S)	1.28	1.273
3,3',4-TriCB	35		U		1.48 (S)		
3,3',5-TriCB	36		U		1.37 (S)		
3,4,4'-TriCB	37			43.8	1.87 (S)	1.08	1.001
3,4,5-TriCB	38		U		1.51 (S)		
3,4',5-TriCB	39		K J	2.09	1.47 (S)	0.87	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	191	1.15 (S)	0.74	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			104	1.15 (S)	0.77	1.313
2,2',3,5-TeCB	43		K	29.6	1.40 (S)	1.03	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	392	1.04 (S)	0.80	1.286
2,2',3,6-TeCB	45	45 + 51	C	70.3	1.14 (S)	0.78	1.147
2,2',3,6'-TeCB	46			19.0	1.28 (S)	0.80	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			78.7	1.15 (S)	0.78	1.274
2,2',4,5'-TeCB	49	49 + 69	C	298	0.968 (S)	0.79	1.260
2,2',4,6-TeCB	50	50 + 53	C	72.4	1.11 (S)	0.82	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			626	1.08 (S)	0.79	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	2.08	0.946 (Q)	0.52	1.001
2,3,3',4-TeCB	55			22.0	3.14 (S)	0.72	0.889
2,3,3',4'-TeCB	56			165	2.90 (S)	0.79	0.904
2,3,3',5-TeCB	57		U		2.66 (S)		
2,3,3',5'-TeCB	58		U		2.72 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	54.0	0.946 (Q)	0.83	1.303
2,3,4,4'-TeCB	60			88.2	2.86 (S)	0.80	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	629	2.64 (S)	0.77	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		K	15.0	2.61 (S)	0.65	0.864
2,3,4',6-TeCB	64			159	0.946 (Q)	0.79	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			435	2.83 (S)	0.78	0.883
2,3',4,5-TeCB	67			12.7	2.28 (S)	0.78	0.856
2,3',4,5'-TeCB	68		K J	3.27	2.56 (S)	0.96	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	6.87	2.56 (S)	0.67	0.822
2,3',5',6-TeCB	73		U		0.946 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		2.76 (S)		
3,3',4,5'-TeCB	79			8.43	2.34 (S)	0.83	0.968
3,3',5,5'-TeCB	80		U		2.56 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			89.7	2.44 (S)	1.61	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	566	2.19 (S)	1.50	0.885
2,2',3,3',6-PeCB	84			157	2.38 (S)	1.51	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	153	1.82 (S)	1.59	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	475	1.84 (S)	1.56	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	124	2.08 (S)	1.56	1.156
2,2',3,4,6'-PeCB	89		K	9.48	2.26 (S)	2.13	1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	987	1.85 (S)	1.58	0.868
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			266	2.13 (S)	1.65	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	717	2.00 (S)	1.53	1.121
2,2',3,5,6'-PeCB	94		J	4.10	2.24 (S)	1.62	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	4.65	0.946 (Q)	1.55	1.017
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			13.8	1.83 (S)	1.32	1.094
2,2',4,6,6'-PeCB	104		U		0.946 (Q)		
2,3,3',4,4'-PeCB	105			256	4.72 (S)	1.56	1.000
2,3,3',4,5-PeCB	106		U		5.90 (S)		
2,3,3',4',5-PeCB	107			56.1	5.73 (S)	1.51	0.997
2,3,3',4,5'-PeCB	108	108 + 124	C	32.0	5.89 (S)	1.61	0.990
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	852	1.61 (S)	1.62	0.925
2,3,3',5,5'-PeCB	111		U		1.70 (S)		
2,3,3',5,6-PeCB	112		U		1.53 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			664	6.00 (S)	1.53	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	4.23	1.62 (S)	1.09	0.958
2,3',4,5',6-PeCB	121		U		1.62 (S)		
2',3,3',4,5-PeCB	122		K	14.3	6.52 (S)	1.06	1.011
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		6.04 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	203	3.57 (S)	1.29	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1320	3.59 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			109	4.60 (S)	1.33	0.913
2,2',3,3',4,6-HxCB	131		K	11.0	4.30 (S)	1.73	1.161
2,2',3,3',4,6'-HxCB	132			358	4.52 (S)	1.23	1.176
2,2',3,3',5,5'-HxCB	133			43.4	4.30 (S)	1.32	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	84.9	4.14 (S)	1.29	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	587	0.946 (Q)	1.22	1.105
2,2',3,3',6,6'-HxCB	136			142	0.946 (Q)	1.25	1.025
2,2',3,4,4',5-HxCB	137			72.9	4.42 (S)	1.18	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K	24.2	3.83 (S)	1.53	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			178	3.95 (S)	1.30	0.903
2,2',3,4,5,6-HxCB	142		U		4.25 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			63.7	0.946 (Q)	1.41	1.122
2,2',3,4,6,6'-HxCB	145		U		0.946 (Q)		
2,2',3,4',5,5'-HxCB	146			357	3.58 (S)	1.32	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1140	3.78 (S)	1.26	1.135
2,2',3,4',5,6'-HxCB	148		K J	6.49	0.946 (Q)	0.90	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	4.26	0.946 (Q)	1.62	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	1.58	0.946 (Q)	1.15	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1460	3.28 (S)	1.26	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.946 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			125	2.80 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159		K	11.8	3.03 (S)	1.59	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		2.99 (S)		
2,3,3',4',5,5'-HxCB	162		K J	3.04	2.87 (S)	0.90	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			105	3.02 (S)	1.33	0.921
2,3,3',5,5',6-HxCB	165		U		3.47 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			156	1.21 (S)	1.09	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	91.1	1.15 (S)	1.02	1.164
2,2',3,3',4,5,5'-HpCB	172			32.5	1.19 (S)	1.13	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			203	1.12 (S)	1.06	1.134
2,2',3,3',4,5',6-HpCB	175		K	19.3	1.12 (S)	0.88	1.103
2,2',3,3',4,6,6'-HpCB	176			45.5	0.946 (Q)	0.96	1.034
2,2',3,3',4',5,6-HpCB	177			217	0.946 (Q)	1.04	1.146
2,2',3,3',5,5',6-HpCB	178			143	1.15 (S)	1.03	1.086
2,2',3,3',5,6,6'-HpCB	179			153	0.946 (Q)	1.05	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	680	1.10 (S)	0.99	1.000
2,2',3,4,4',5,6-HpCB	181		K J	2.25	1.09 (S)	0.41	1.156
2,2',3,4,4',5,6'-HpCB	182		U		1.08 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	239	1.08 (S)	1.05	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.946 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.946 (Q)		
2,2',3,4',5,5',6-HpCB	187			658	1.01 (S)	1.08	1.111
2,2',3,4',5,6,6'-HpCB	188		J	1.39	0.946 (Q)	0.90	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			47.2	0.946 (Q)	0.95	0.947
2,3,3',4,4',5',6-HpCB	191			16.3	0.946 (Q)	1.19	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.972 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			42.6	0.974 (S)	0.95	0.991
2,2',3,3',4,4',5,6-OcCB	195			23.4	1.05 (S)	0.99	0.945
2,2',3,3',4,4',5,6'-OcCB	196			66.8	0.982 (S)	0.93	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	17.7	0.946 (Q)	0.88	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	149	1.01 (S)	0.95	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			29.3	0.946 (Q)	0.97	1.023
2,2',3,3',5,5',6,6'-OcCB	202			81.8	0.946 (Q)	0.84	1.000
2,2',3,4,4',5,5',6-OcCB	203			59.3	0.946 (Q)	0.96	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.946 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	3.84	0.946 (Q)	0.99	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			12.9	1.39 (S)	0.77	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	1.50	1.06 (S)	0.65	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	3.43	1.26 (S)	1.02	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K B J	5.07	0.946 (Q)	1.72	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-2_Form1A_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	5.28 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 01:03:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	4110	41.1	3.19	0.720
13C12-4-MoCB	3L			10000	4240	42.4	3.16	0.859
13C12-2,2'-DiCB	4L			10000	4640	46.4	1.57	0.874
13C12-4,4'-DiCB	15L			10000	4810	48.1	1.56	1.255
13C12-2,2',6-TriCB	19L			10000	5240	52.4	1.06	1.073
13C12-3,4,4'-TriCB	37L			10000	5340	53.4	1.02	1.093
13C12-2,2',6,6'-TeCB	54L			10000	6430	64.3	0.82	0.811
13C12-3,3',4,4'-TeCB	77L			10000	6860	68.6	0.73	1.398
13C12-3,4,4',5-TeCB	81L			10000	6590	65.9	0.78	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	5640	56.4	1.55	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	8890	88.9	1.60	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	6780	67.8	1.57	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	7130	71.3	1.61	1.163
13C12-2',3,4,4',5-PeCB	123L			10000	6910	69.1	1.56	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	7100	71.0	1.55	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	5130	51.3	1.25	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	13100	65.7	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6530	65.3	1.26	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6570	65.7	1.28	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6490	64.9	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	6640	66.4	1.02	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	4870	48.7	1.05	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6910	69.1	1.06	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	4830	48.3	0.93	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6640	66.4	0.91	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	6380	63.8	0.79	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	5860	58.6	0.77	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5430	54.3	1.22	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	6850	68.5	1.05	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	6840	68.4	1.59	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	6680	66.8	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-2_Form2_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	5.28 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:48:55	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			28.3	0.107 (Q)	0.80	1.001
3,4,4',5-TeCB	81			1.83	0.107 (Q)	0.70	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			18.0	1.02 (S)	1.59	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			18.7	0.947 (S)	1.59	1.001
3,3',4,4',5-PeCB	126		K B	1.86	0.442 (S)	1.92	1.001
2,3,3',4,4',5-HxCB	156			84.4	0.212 (S)	1.29	1.000
2,3,3',4,4',5'-HxCB	157			21.3	0.179 (S)	1.28	1.001
2,3',4,4',5,5'-HxCB	167			51.9	0.299 (S)	1.21	1.001
3,3',4,4',5,5'-HxCB	169		K J	0.214	0.193 (S)	1.73	1.001
2,3,3',4,4',5,5'-HpCB	189			6.42	0.251 (S)	1.08	1.001

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-2_Form1A_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	5.28 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:48:55	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	6940	69.4	0.78	1.461
13C12-3,4,4',5-TeCB	81L			10000	6810	68.1	0.78	1.421
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	2470	24.7	1.60	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	2790	27.9	1.59	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	7360	73.6	1.58	1.436
13C12-2,3,3',4,4',5-HxCB	156L			10000	5410	54.1	1.27	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	5970	59.7	1.27	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	3820	38.2	1.26	1.093
13C12-3,3',4,4',5,5'-HxCB	169L			10000	7010	70.1	1.26	1.280
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6030	60.3	1.04	1.407

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-2_Form2_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Matrix:	TISSUE	**Sample Size:**	5.28 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 01:03:57	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 7, PB8C_260 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		3.45
Total Dichloro Biphenyls		90.3
Total Trichloro Biphenyls		1200
Total Tetrachloro Biphenyls		3510
Total Pentachloro Biphenyls		5480
Total Hexachloro Biphenyls		6570
Total Heptachloro Biphenyls		2710
Total Octachloro Biphenyls		474
Total Nonachloro Biphenyls		17.8
Decachloro Biphenyl		5.07
TOTAL PCBs		20100

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-2_Form1AHT_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	5.28 g (wet)	**Lab Sample I.D.:**	L29626-2
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 7** **PB8C_260 S: 6**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			28.3	0.107	0.0001	2.83e-03	2.83e-03	2.83e-03
3,4,4',5-TeCB	81			1.83	0.107	0.0003	5.49e-04	5.49e-04	5.49e-04
2,3,3',4,4'-PeCB	105			256	4.72	0.00003	7.68e-03	7.68e-03	7.68e-03
2,3,4,4',5-PeCB	114			18.0	1.02	0.00003	5.40e-04	5.40e-04	5.40e-04
2,3',4,4',5-PeCB	118			664	6.00	0.00003	1.99e-02	1.99e-02	1.99e-02
2',3,4,4',5-PeCB	123			18.7	0.947	0.00003	5.61e-04	5.61e-04	5.61e-04
3,3',4,4',5-PeCB	126		K	1.86	0.442	0.1	1.86e-01	1.86e-01	1.86e-01
2,3,3',4,4',5-HxCB	156			84.4	0.212	0.00003	2.53e-03	2.53e-03	2.53e-03
2,3,3',4,4',5'-HxCB	157			21.3	0.179	0.00003	6.39e-04	6.39e-04	6.39e-04
2,3',4,4',5,5'-HxCB	167			51.9	0.299	0.00003	1.56e-03	1.56e-03	1.56e-03
3,3',4,4',5,5'-HxCB	169		K	0.214	0.193	0.03	6.42e-03	6.42e-03	6.42e-03
2,3,3',4,4',5,5'-HpCB	189			6.42	0.251	0.00003	1.93e-04	1.93e-04	1.93e-04
					TOTAL TEQ		0.229	0.229	0.229

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-2_TEQ_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Matrix:	TISSUE	**Sample Size:**	5.06 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 02:07:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K J	1.47	0.971 (Q)	3.98	1.001
3-MoCB	2		U		0.971 (Q)		
4-MoCB	3		J	2.05	0.971 (Q)	3.33	1.001
2,2'-DiCB	4			14.4	3.33 (S)	1.45	1.001
2,3-DiCB	5		U		2.80 (S)		
2,3'-DiCB	6			18.7	2.43 (S)	1.64	1.175
2,4-DiCB	7		U		2.46 (S)		
2,4'-DiCB	8			30.0	2.21 (S)	1.61	1.207
2,5-DiCB	9		U		2.49 (S)		
2,6-DiCB	10		U		2.49 (S)		
3,3'-DiCB	11			9.99	2.66 (S)	1.36	0.968
3,4-DiCB	12	12 + 13	C J	4.73	2.63 (S)	1.65	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.55 (S)		
4,4'-DiCB	15			22.5	3.17 (S)	1.59	1.001
2,2',3-TriCB	16			34.0	0.971 (Q)	1.18	1.166
2,2',4-TriCB	17			76.3	0.971 (Q)	1.06	1.137
2,2',5-TriCB	18	18 + 30	C	128	0.971 (Q)	1.09	1.113
2,2',6-TriCB	19			17.9	0.971 (Q)	0.94	1.001
2,3,3'-TriCB	20	20 + 28	C	280	1.12 (S)	0.99	0.847
2,3,4-TriCB	21	21 + 33	C	90.0	1.06 (S)	1.00	0.857
2,3,4'-TriCB	22			72.1	1.25 (S)	1.02	0.871
2,3,5-TriCB	23		U		1.15 (S)		
2,3,6-TriCB	24		K J	1.85	0.971 (Q)	0.75	1.159
2,3',4-TriCB	25			33.4	0.971 (Q)	1.01	0.824
2,3',5-TriCB	26	26 + 29	C	69.9	1.13 (S)	1.01	1.301
2,3',6-TriCB	27			23.2	0.971 (Q)	1.12	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			202	1.04 (S)	1.01	0.836
2,4',6-TriCB	32			57.2	1.08 (S)	1.05	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	1.84	1.17 (S)	0.89	1.274
3,3',4-TriCB	35		K J	2.07	1.14 (S)	0.50	0.985
3,3',5-TriCB	36		U		1.05 (S)		
3,4,4'-TriCB	37			52.0	1.34 (S)	0.97	1.001
3,4,5-TriCB	38		U		1.16 (S)		
3,4',5-TriCB	39		J	3.00	1.13 (S)	1.17	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	232	0.971 (Q)	0.78	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			132	0.971 (Q)	0.79	1.313
2,2',3,5-TeCB	43			27.8	0.971 (Q)	0.76	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	511	0.971 (Q)	0.77	1.285
2,2',3,6-TeCB	45	45 + 51	C	76.8	0.971 (Q)	0.78	1.146
2,2',3,6'-TeCB	46			20.1	0.971 (Q)	0.71	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			92.0	0.971 (Q)	0.79	1.273
2,2',4,5'-TeCB	49	49 + 69	C	386	0.971 (Q)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	76.4	0.971 (Q)	0.76	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			797	0.971 (Q)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	1.66	0.971 (Q)	0.97	1.001
2,3,3',4-TeCB	55		K	20.5	3.01 (S)	0.63	0.889
2,3,3',4'-TeCB	56			187	2.78 (S)	0.79	0.904
2,3,3',5-TeCB	57		K J	2.68	2.55 (S)	1.06	0.843
2,3,3',5'-TeCB	58		K J	2.99	2.61 (S)	0.47	0.850
2,3,3',6-TeCB	59	59 + 62 + 75	C	67.7	0.971 (Q)	0.82	1.302
2,3,4,4'-TeCB	60			94.0	2.75 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	748	2.53 (S)	0.77	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			18.1	2.51 (S)	0.81	0.864
2,3,4',6-TeCB	64			185	0.971 (Q)	0.78	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			525	2.72 (S)	0.76	0.883
2,3',4,5-TeCB	67			15.9	2.19 (S)	0.74	0.856
2,3',4,5'-TeCB	68		J	6.47	2.45 (S)	0.69	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72			13.0	2.46 (S)	0.71	0.822
2,3',5',6-TeCB	73		U		0.971 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		2.65 (S)		
3,3',4,5'-TeCB	79		K	12.1	2.25 (S)	0.64	0.969
3,3',5,5'-TeCB	80		U		2.46 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			110	2.19 (S)	1.70	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	785	1.96 (S)	1.61	0.885
2,2',3,3',6-PeCB	84			229	2.13 (S)	1.62	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	194	1.63 (S)	1.54	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	634	1.65 (S)	1.54	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	168	1.87 (S)	1.67	1.155
2,2',3,4,6'-PeCB	89		K	9.05	2.02 (S)	1.07	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1240	1.66 (S)	1.63	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			350	1.91 (S)	1.58	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1020	1.80 (S)	1.58	1.121
2,2',3,5,6'-PeCB	94		K J	6.10	2.00 (S)	2.08	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	6.88	0.971 (Q)	1.53	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K	19.3	1.64 (S)	1.80	1.093
2,2',4,6,6'-PeCB	104		U		0.971 (Q)		
2,3,3',4,4'-PeCB	105			307	6.39 (S)	1.58	1.000
2,3,3',4,5-PeCB	106		U		7.31 (S)		
2,3,3',4',5-PeCB	107			72.1	7.10 (S)	1.64	0.997
2,3,3',4,5'-PeCB	108	108 + 124	C	36.5	7.29 (S)	1.53	0.991
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	1110	1.44 (S)	1.59	0.925
2,3,3',5,5'-PeCB	111		J	3.22	1.52 (S)	1.74	0.945
2,3,3',5,6-PeCB	112		U		1.37 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			800	7.63 (S)	1.56	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	6.53	1.46 (S)	1.39	0.958
2,3',4,5',6-PeCB	121		U		1.45 (S)		
2',3,3',4,5-PeCB	122		K	9.99	8.07 (S)	1.04	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		7.48 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	232	4.71 (S)	1.30	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1420	4.73 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			133	6.06 (S)	1.22	0.913
2,2',3,3',4,6-HxCB	131		K	15.8	5.67 (S)	1.46	1.160
2,2',3,3',4,6'-HxCB	132			434	5.96 (S)	1.25	1.175
2,2',3,3',5,5'-HxCB	133			57.2	5.66 (S)	1.14	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	102	5.45 (S)	1.30	1.140
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	736	0.971 (Q)	1.29	1.105
2,2',3,3',6,6'-HxCB	136			172	0.971 (Q)	1.24	1.025
2,2',3,4,4',5-HxCB	137			86.6	5.83 (S)	1.32	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	33.4	5.04 (S)	1.39	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			195	5.20 (S)	1.19	0.903
2,2',3,4,5,6-HxCB	142		U		5.60 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			67.3	0.971 (Q)	1.33	1.122
2,2',3,4,6,6'-HxCB	145		U		0.971 (Q)		
2,2',3,4',5,5'-HxCB	146			405	4.71 (S)	1.25	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	1420	4.98 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148		J	6.76	0.971 (Q)	1.26	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	4.48	0.971 (Q)	1.22	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	1.51	0.971 (Q)	3.00	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1560	4.32 (S)	1.28	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.971 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			134	3.69 (S)	1.31	0.938
2,3,3',4,5,5'-HxCB	159			8.90	3.99 (S)	1.08	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		3.94 (S)		
2,3,3',4',5,5'-HxCB	162		U		3.78 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			132	3.98 (S)	1.24	0.921
2,3,3',5,5',6-HxCB	165		U		4.57 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			151	0.971 (Q)	1.07	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	72.8	0.971 (Q)	1.18	1.163
2,2',3,3',4,5,5'-HpCB	172		K	26.1	0.971 (Q)	1.26	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			168	0.971 (Q)	1.01	1.134
2,2',3,3',4,5',6-HpCB	175			20.1	0.971 (Q)	1.20	1.103
2,2',3,3',4,6,6'-HpCB	176			41.2	0.971 (Q)	1.00	1.034
2,2',3,3',4',5,6-HpCB	177			204	0.971 (Q)	1.03	1.146
2,2',3,3',5,5',6-HpCB	178			150	0.971 (Q)	1.15	1.085
2,2',3,3',5,6,6'-HpCB	179			158	0.971 (Q)	1.11	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	634	0.971 (Q)	1.07	1.000
2,2',3,4,4',5,6-HpCB	181		K J	3.10	0.971 (Q)	1.40	1.157
2,2',3,4,4',5,6'-HpCB	182		K J	5.84	0.971 (Q)	2.50	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	204	0.971 (Q)	1.08	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.971 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.971 (Q)		
2,2',3,4',5,5',6-HpCB	187			566	0.971 (Q)	1.08	1.110
2,2',3,4',5,6,6'-HpCB	188		K J	2.21	0.971 (Q)	1.59	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			44.3	0.971 (Q)	1.15	0.947
2,3,3',4,4',5',6-HpCB	191		K	16.1	0.971 (Q)	1.21	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.971 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			39.2	0.971 (Q)	0.91	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	21.2	0.971 (Q)	0.72	0.945
2,2',3,3',4,4',5,6'-OcCB	196			63.0	0.971 (Q)	0.82	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	13.0	0.971 (Q)	0.87	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	144	0.971 (Q)	0.95	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K	29.4	0.971 (Q)	1.07	1.023
2,2',3,3',5,5',6,6'-OcCB	202			82.8	0.971 (Q)	0.86	1.000
2,2',3,4,4',5,5',6-OcCB	203			51.2	0.971 (Q)	0.79	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.971 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	3.00	0.971 (Q)	0.85	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			12.8	1.05 (S)	0.66	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	1.94	0.971 (Q)	1.38	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208		J	4.24	0.971 (Q)	0.86	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		B J	4.23	0.971 (Q)	1.20	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-4_Form1A_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Matrix:	TISSUE	**Sample Size:**	5.06 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 02:07:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	5300	53.0	3.17	0.719
13C12-4-MoCB	3L			10000	5230	52.3	3.14	0.858
13C12-2,2'-DiCB	4L			10000	5630	56.3	1.59	0.874
13C12-4,4'-DiCB	15L			10000	5530	55.3	1.56	1.254
13C12-2,2',6-TriCB	19L			10000	6560	65.6	1.06	1.072
13C12-3,4,4'-TriCB	37L			10000	6490	64.9	1.02	1.092
13C12-2,2',6,6'-TeCB	54L			10000	6300	63.0	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			10000	7670	76.7	0.77	1.397
13C12-3,4,4',5-TeCB	81L			10000	7450	74.5	0.76	1.373
13C12-2,2',4,6,6'-PeCB	104L			10000	6540	65.4	1.58	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	8530	85.3	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	7020	70.2	1.55	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	7440	74.4	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	7470	74.7	1.59	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	7020	70.2	1.61	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	6280	62.8	1.21	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	13700	68.4	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6950	69.5	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6930	69.3	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6430	64.3	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	6340	63.4	1.01	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	5580	55.8	1.03	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	7120	71.2	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	5020	50.2	0.92	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6850	68.5	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	6570	65.7	0.81	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	6390	63.9	0.77	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5540	55.4	1.22	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	7040	70.4	1.05	0.924
13C12-2,3,3',5,5'-PeCB	111L			10000	7540	75.4	1.62	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	7090	70.9	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-4_Form2_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Matrix:	TISSUE	**Sample Size:**	5.06 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			31.8	0.112 (Q)	0.79	1.001
3,4,4',5-TeCB	81			1.93	0.112 (Q)	0.81	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			18.6	0.331 (S)	1.56	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			23.3	0.332 (S)	1.59	1.001
3,3',4,4',5-PeCB	126		B	2.04	0.391 (S)	1.47	1.001
2,3,3',4,4',5-HxCB	156			92.6	0.138 (S)	1.27	1.001
2,3,3',4,4',5'-HxCB	157			26.0	0.139 (S)	1.24	1.001
2,3',4,4',5,5'-HxCB	167			58.2	0.137 (S)	1.24	1.001
3,3',4,4',5,5'-HxCB	169		U		0.200 (S)		
2,3,3',4,4',5,5'-HpCB	189			5.58	0.185 (S)	0.91	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DB1C_L29626-4_Form1A_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Matrix:	TISSUE	**Sample Size:**	5.06 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	8050	80.5	0.79	1.461
13C12-3,4,4',5-TeCB	81L			10000	8120	81.2	0.78	1.420
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	7640	76.4	1.60	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	7730	77.3	1.59	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	8580	85.8	1.60	1.435
13C12-2,3,3',4,4',5-HxCB	156L			10000	8040	80.4	1.27	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	7470	74.7	1.27	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	7850	78.5	1.27	1.094
13C12-3,3',4,4',5,5'-HxCB	169L			10000	8500	85.0	1.27	1.281
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	8140	81.4	1.05	1.408

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-4_Form2_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Matrix:	TISSUE	**Sample Size:**	5.06 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 02:07:34	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 8, PB8C_260 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		3.52
Total Dichloro Biphenyls		100
Total Trichloro Biphenyls		1140
Total Tetrachloro Biphenyls		4280
Total Pentachloro Biphenyls		7160
Total Hexachloro Biphenyls		7530
Total Heptachloro Biphenyls		2470
Total Octachloro Biphenyls		447
Total Nonachloro Biphenyls		19.0
Decachloro Biphenyl		4.23
TOTAL PCBs		23200

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-4_Form1AHT_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	5.06 g (wet)	**Lab Sample I.D.:**	L29626-4 (A)
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 8** **PB8C_260 S: 7**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			31.8	0.112	0.0001	3.18e-03	3.18e-03	3.18e-03
3,4,4',5-TeCB	81			1.93	0.112	0.0003	5.79e-04	5.79e-04	5.79e-04
2,3,3',4,4'-PeCB	105			307	6.39	0.00003	9.21e-03	9.21e-03	9.21e-03
2,3,4,4',5-PeCB	114			18.6	0.331	0.00003	5.58e-04	5.58e-04	5.58e-04
2,3',4,4',5-PeCB	118			800	7.63	0.00003	2.40e-02	2.40e-02	2.40e-02
2',3,4,4',5-PeCB	123			23.3	0.332	0.00003	6.99e-04	6.99e-04	6.99e-04
3,3',4,4',5-PeCB	126			2.04	0.391	0.1	2.04e-01	2.04e-01	2.04e-01
2,3,3',4,4',5-HxCB	156			92.6	0.138	0.00003	2.78e-03	2.78e-03	2.78e-03
2,3,3',4,4',5'-HxCB	157			26.0	0.139	0.00003	7.80e-04	7.80e-04	7.80e-04
2,3',4,4',5,5'-HxCB	167			58.2	0.137	0.00003	1.75e-03	1.75e-03	1.75e-03
3,3',4,4',5,5'-HxCB	169		U		0.200	0.03	0.00e+00	3.00e-03	6.00e-03
2,3,3',4,4',5,5'-HpCB	189			5.58	0.185	0.00003	1.67e-04	1.67e-04	1.67e-04
					TOTAL TEQ		0.248	0.251	0.254

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-4_TEQ_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Matrix:	TISSUE	**Sample Size:**	5.18 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K J	1.51	0.946 (Q)	1.73	1.003
3-MoCB	2		U		0.946 (Q)		
4-MoCB	3		J	1.94	0.946 (Q)	3.02	1.001
2,2'-DiCB	4			14.1	3.29 (S)	1.75	1.000
2,3-DiCB	5		U		2.59 (S)		
2,3'-DiCB	6			16.4	2.25 (S)	1.57	1.175
2,4-DiCB	7			7.79	2.28 (S)	1.45	1.158
2,4'-DiCB	8			28.3	2.05 (S)	1.54	1.206
2,5-DiCB	9		U		2.30 (S)		
2,6-DiCB	10		U		2.30 (S)		
3,3'-DiCB	11		K	9.73	2.46 (S)	1.98	0.968
3,4-DiCB	12	12 + 13	C K J	4.57	2.44 (S)	1.92	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.36 (S)		
4,4'-DiCB	15			20.6	2.82 (S)	1.73	1.001
2,2',3-TriCB	16			32.4	0.946 (Q)	1.02	1.166
2,2',4-TriCB	17			71.7	0.946 (Q)	1.11	1.138
2,2',5-TriCB	18	18 + 30	C	126	0.946 (Q)	1.01	1.113
2,2',6-TriCB	19			16.4	0.946 (Q)	1.14	1.001
2,3,3'-TriCB	20	20 + 28	C	277	1.28 (S)	1.02	0.847
2,3,4-TriCB	21	21 + 33	C	92.4	1.21 (S)	1.01	0.856
2,3,4'-TriCB	22			73.3	1.43 (S)	1.06	0.872
2,3,5-TriCB	23		U		1.32 (S)		
2,3,6-TriCB	24		K J	1.25	0.946 (Q)	0.58	1.159
2,3',4-TriCB	25			32.4	1.09 (S)	1.07	0.824
2,3',5-TriCB	26	26 + 29	C	70.9	1.29 (S)	1.00	1.302
2,3',6-TriCB	27			23.2	0.946 (Q)	0.89	1.152
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			202	1.20 (S)	1.03	0.836
2,4',6-TriCB	32			59.3	1.24 (S)	1.07	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	2.09	1.34 (S)	1.05	1.274
3,3',4-TriCB	35		K J	2.26	1.30 (S)	0.51	0.985
3,3',5-TriCB	36		U		1.20 (S)		
3,4,4'-TriCB	37			49.1	1.47 (S)	1.07	1.001
3,4,5-TriCB	38		U		1.33 (S)		
3,4',5-TriCB	39		J	2.65	1.30 (S)	1.07	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	241	0.946 (Q)	0.84	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			140	0.946 (Q)	0.82	1.313
2,2',3,5-TeCB	43			31.3	0.946 (Q)	0.73	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	549	0.946 (Q)	0.78	1.286
2,2',3,6-TeCB	45	45 + 51	C	83.0	0.946 (Q)	0.82	1.147
2,2',3,6'-TeCB	46			22.5	0.946 (Q)	0.85	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			100	0.946 (Q)	0.82	1.274
2,2',4,5'-TeCB	49	49 + 69	C	409	0.946 (Q)	0.78	1.260
2,2',4,6-TeCB	50	50 + 53	C	80.9	0.946 (Q)	0.79	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			819	0.946 (Q)	0.80	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	1.36	0.946 (Q)	0.84	1.001
2,3,3',4-TeCB	55		K	22.4	3.25 (S)	0.61	0.889
2,3,3',4'-TeCB	56			196	3.00 (S)	0.76	0.904
2,3,3',5-TeCB	57		U		2.75 (S)		
2,3,3',5'-TeCB	58		K J	3.76	2.81 (S)	0.64	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	71.0	0.946 (Q)	0.80	1.303
2,3,4,4'-TeCB	60			96.3	2.96 (S)	0.78	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	776	2.73 (S)	0.76	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			18.3	2.70 (S)	0.80	0.864
2,3,4',6-TeCB	64			191	0.946 (Q)	0.82	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			554	2.93 (S)	0.76	0.884
2,3',4,5-TeCB	67			16.6	2.36 (S)	0.72	0.856
2,3',4,5'-TeCB	68		J	6.98	2.64 (S)	0.77	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72			13.0	2.65 (S)	0.78	0.822
2,3',5',6-TeCB	73		U		0.946 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		2.85 (S)		
3,3',4,5'-TeCB	79			10.8	2.42 (S)	0.71	0.969
3,3',5,5'-TeCB	80		U		2.65 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			103	1.73 (S)	1.49	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	711	1.55 (S)	1.64	0.885
2,2',3,3',6-PeCB	84			221	1.68 (S)	1.57	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	175	1.29 (S)	1.57	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	550	1.30 (S)	1.55	0.900
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	162	1.47 (S)	1.68	1.155
2,2',3,4,6'-PeCB	89		K	10.9	1.60 (S)	1.28	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1120	1.31 (S)	1.60	0.868
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			348	1.51 (S)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1020	1.42 (S)	1.62	1.121
2,2',3,5,6'-PeCB	94		K	8.16	1.58 (S)	1.29	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	5.18	0.946 (Q)	1.64	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			22.5	1.29 (S)	1.62	1.094
2,2',4,6,6'-PeCB	104		U		0.946 (Q)		
2,3,3',4,4'-PeCB	105			270	6.10 (S)	1.50	1.001
2,3,3',4,5-PeCB	106		U		7.33 (S)		
2,3,3',4',5-PeCB	107		K	63.6	7.12 (S)	1.85	0.997
2,3,3',4,5'-PeCB	108	108 + 124	C K	30.6	7.32 (S)	1.31	0.990
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	985	1.14 (S)	1.62	0.924
2,3,3',5,5'-PeCB	111		U		1.20 (S)		
2,3,3',5,6-PeCB	112		U		1.08 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			730	7.63 (S)	1.57	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	6.49	1.15 (S)	1.72	0.958
2,3',4,5',6-PeCB	121		U		1.15 (S)		
2',3,3',4,5-PeCB	122			13.3	8.09 (S)	1.42	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		7.50 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	215	3.76 (S)	1.30	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1300	3.78 (S)	1.22	0.928
2,2',3,3',4,5'-HxCB	130			113	4.84 (S)	1.17	0.913
2,2',3,3',4,6-HxCB	131			16.1	4.52 (S)	1.39	1.160
2,2',3,3',4,6'-HxCB	132			399	4.75 (S)	1.28	1.176
2,2',3,3',5,5'-HxCB	133			51.1	4.52 (S)	1.36	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	96.9	4.35 (S)	1.08	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	709	0.946 (Q)	1.30	1.105
2,2',3,3',6,6'-HxCB	136			158	0.946 (Q)	1.21	1.025
2,2',3,4,4',5-HxCB	137			83.9	4.65 (S)	1.25	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K	32.3	4.02 (S)	1.00	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			167	4.15 (S)	1.23	0.903
2,2',3,4,5,6-HxCB	142		U		4.47 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			69.4	0.946 (Q)	1.33	1.122
2,2',3,4,6,6'-HxCB	145		U		0.946 (Q)		
2,2',3,4',5,5'-HxCB	146			411	3.76 (S)	1.28	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	1320	3.97 (S)	1.27	1.135
2,2',3,4',5,6'-HxCB	148		J	7.40	0.946 (Q)	1.17	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	4.55	0.946 (Q)	1.02	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	1.97	0.946 (Q)	3.28	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1410	3.45 (S)	1.29	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.946 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			115	2.95 (S)	1.18	0.938
2,3,3',4,5,5'-HxCB	159		K	7.99	3.18 (S)	1.02	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		3.15 (S)		
2,3,3',4',5,5'-HxCB	162		K J	3.48	3.02 (S)	0.84	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			108	3.17 (S)	1.33	0.921
2,3,3',5,5',6-HxCB	165		U		3.65 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			144	0.946 (Q)	1.08	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	75.0	0.946 (Q)	0.97	1.164
2,2',3,3',4,5,5'-HpCB	172			26.5	0.946 (Q)	1.03	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			162	0.946 (Q)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			18.6	0.946 (Q)	1.10	1.104
2,2',3,3',4,6,6'-HpCB	176			38.5	0.946 (Q)	1.09	1.035
2,2',3,3',4',5,6-HpCB	177			198	0.946 (Q)	1.06	1.147
2,2',3,3',5,5',6-HpCB	178			150	0.946 (Q)	1.02	1.086
2,2',3,3',5,6,6'-HpCB	179			153	0.946 (Q)	1.10	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	594	0.946 (Q)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181		K J	1.82	0.946 (Q)	0.87	1.157
2,2',3,4,4',5,6'-HpCB	182		K J	6.47	0.946 (Q)	1.30	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	203	0.946 (Q)	0.99	1.128
2,2',3,4,4',6,6'-HpCB	184		U		0.946 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.946 (Q)		
2,2',3,4',5,5',6-HpCB	187			637	0.946 (Q)	1.03	1.111
2,2',3,4',5,6,6'-HpCB	188		J	2.21	0.946 (Q)	1.08	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			40.3	0.946 (Q)	0.98	0.947
2,3,3',4,4',5',6-HpCB	191		K	14.0	0.946 (Q)	1.38	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.946 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			35.4	1.02 (S)	0.85	0.991
2,2',3,3',4,4',5,6-OcCB	195		K	17.2	1.10 (S)	1.16	0.945
2,2',3,3',4,4',5,6'-OcCB	196			54.8	0.946 (Q)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K	15.3	0.946 (Q)	1.12	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	144	0.946 (Q)	0.84	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			26.9	0.946 (Q)	0.79	1.022
2,2',3,3',5,5',6,6'-OcCB	202			82.6	0.946 (Q)	0.80	1.000
2,2',3,4,4',5,5',6-OcCB	203			50.3	0.946 (Q)	0.76	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.946 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	4.05	0.946 (Q)	0.70	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			10.8	1.29 (S)	0.86	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	1.63	0.946 (Q)	0.46	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	4.05	1.09 (S)	0.61	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		B J	3.65	0.946 (Q)	1.30	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-103_Form1A_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

Form 2

PCB CONGENER ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Matrix:	TISSUE	**Sample Size:**	5.18 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	3820	38.2	3.20	0.719
13C12-4-MoCB	3L			10000	3860	38.6	3.23	0.859
13C12-2,2'-DiCB	4L			10000	4250	42.5	1.59	0.874
13C12-4,4'-DiCB	15L			10000	4690	46.9	1.54	1.254
13C12-2,2',6-TriCB	19L			10000	4990	49.9	1.05	1.072
13C12-3,4,4'-TriCB	37L			10000	5190	51.9	1.07	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5120	51.2	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			10000	5330	53.3	0.76	1.398
13C12-3,4,4',5-TeCB	81L			10000	5050	50.5	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	5730	57.3	1.57	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	7440	74.4	1.56	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	5630	56.3	1.61	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	6120	61.2	1.56	1.163
13C12-2',3,4,4',5-PeCB	123L			10000	6020	60.2	1.58	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	5290	52.9	1.58	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	5440	54.4	1.27	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	11500	57.4	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	5820	58.2	1.30	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	5760	57.6	1.29	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	5550	55.5	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	5490	54.9	1.05	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	4670	46.7	1.06	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	5630	56.3	1.04	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	4080	40.8	0.91	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6060	60.6	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	5420	54.2	0.79	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	5270	52.7	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5250	52.5	1.22	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	5610	56.1	1.05	0.924
13C12-2,3,3',5,5'-PeCB	111L			10000	6540	65.4	1.58	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	5880	58.8	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-103_Form2_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Matrix:	TISSUE	**Sample Size:**	5.18 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			30.4	0.109 (S)	0.80	1.001
3,4,4',5-TeCB	81			2.04	0.109 (S)	0.81	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			17.2	0.547 (S)	1.75	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			18.8	0.551 (S)	1.62	1.002
3,3',4,4',5-PeCB	126		B	1.83	0.639 (S)	1.59	1.001
2,3,3',4,4',5-HxCB	156			84.5	0.255 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157			23.6	0.241 (S)	1.25	1.000
2,3',4,4',5,5'-HxCB	167			53.1	0.254 (S)	1.27	1.001
3,3',4,4',5,5'-HxCB	169		U		0.286 (S)		
2,3,3',4,4',5,5'-HpCB	189		K	5.19	0.259 (S)	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-103_Form1A_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Matrix:	TISSUE	**Sample Size:**	5.18 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	5480	54.8	0.79	1.461
13C12-3,4,4',5-TeCB	81L			10000	5380	53.8	0.78	1.420
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	5080	50.8	1.58	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	5220	52.2	1.60	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	5690	56.9	1.57	1.435
13C12-2,3,3',4,4',5-HxCB	156L			10000	5440	54.4	1.26	1.153
13C12-2,3,3',4,4',5'-HxCB	157L			10000	5360	53.6	1.28	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	5320	53.2	1.27	1.093
13C12-3,3',4,4',5,5'-HxCB	169L			10000	5690	56.9	1.25	1.280
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	5530	55.3	1.05	1.407

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-103_Form2_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Project No.**	CLAM PO# 2018-0065
Matrix:	TISSUE	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Receipt Date:	03-Jul-2018	**Sample Size:**	5.18 g (wet)
Extraction Date:	19-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB1, SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename(s):**	**DT8C_270 S: 9, PB8C_260 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	PB8C_260 S: 4
Concentration Units:	ng/kg (wet weight basis)	**Cal. Ver. Data Filename:**	PB8C_260 S: 1

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		3.45
Total Dichloro Biphenyls		101
Total Trichloro Biphenyls		1130
Total Tetrachloro Biphenyls		4490
Total Pentachloro Biphenyls		6590
Total Hexachloro Biphenyls		6960
Total Heptachloro Biphenyls		2470
Total Octachloro Biphenyls		431
Total Nonachloro Biphenyls		16.5
Decachloro Biphenyl		3.65
TOTAL PCBs		22200

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_WG64623-103_Form1AHT_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4033

Sample Collection: N/A

Project No. CLAM PO# 2018-0065

Matrix: TISSUE

Lab Sample I.D.: WG64623-103 (DUP L29626-4)

Sample Size: 5.18 g (wet)

GC Column ID(s): DB1
SPB OCTYL

Concentration Units: ng/kg (wet weight basis)

Sample Data Filename(s): **DT8C_270 S: 9**
PB8C_260 S: 8

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			30.4	0.109	0.0001	3.04e-03	3.04e-03	3.04e-03
3,4,4',5-TeCB	81			2.04	0.109	0.0003	6.12e-04	6.12e-04	6.12e-04
2,3,3',4,4'-PeCB	105			270	6.10	0.00003	8.10e-03	8.10e-03	8.10e-03
2,3,4,4',5-PeCB	114			17.2	0.547	0.00003	5.16e-04	5.16e-04	5.16e-04
2,3',4,4',5-PeCB	118			730	7.63	0.00003	2.19e-02	2.19e-02	2.19e-02
2',3,4,4',5-PeCB	123			18.8	0.551	0.00003	5.64e-04	5.64e-04	5.64e-04
3,3',4,4',5-PeCB	126			1.83	0.639	0.1	1.83e-01	1.83e-01	1.83e-01
2,3,3',4,4',5-HxCB	156			84.5	0.255	0.00003	2.54e-03	2.54e-03	2.54e-03
2,3,3',4,4',5'-HxCB	157			23.6	0.241	0.00003	7.08e-04	7.08e-04	7.08e-04
2,3',4,4',5,5'-HxCB	167			53.1	0.254	0.00003	1.59e-03	1.59e-03	1.59e-03
3,3',4,4',5,5'-HxCB	169		U		0.286	0.03	0.00e+00	4.29e-03	8.58e-03
2,3,3',4,4',5,5'-HpCB	189		K	5.19	0.259	0.00003	1.56e-04	1.56e-04	1.56e-04
					TOTAL TEQ		0.223	0.227	0.231

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_WG64623-103_TEQ_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

PCB CONGENER ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Client ID: LDW18-C04-CLWB-Comp2

Concentration Units: ng/kg (wet weight basis)

COMPOUND	IUPAC NO.	L29626-4 (A) LAB FLAG [1]	L29626-4 (A) CONC. FOUND	WG64623-103 LAB FLAG [1]	WG64623-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2-MoCB	1	K J	1.47	K J	1.51		
3-MoCB	2	U		U			
4-MoCB	3	J	2.05	J	1.94	1.99	5.63
2,2'-DiCB	4		14.4		14.1	14.3	2.45
2,3-DiCB	5	U		U			
2,3'-DiCB	6		18.7		16.4	17.5	12.7
2,4-DiCB	7	U			7.79		
2,4'-DiCB	8		30.0		28.3	29.1	5.99
2,5-DiCB	9	U		U			
2,6-DiCB	10	U		U			
3,3'-DiCB	11		9.99	K	9.73		
3,4-DiCB	12	C J	4.73	C K J	4.57		
3,4'-DiCB	13	C12		C12			
3,5-DiCB	14	U		U			
4,4'-DiCB	15		22.5		20.6	21.6	8.96
2,2',3-TriCB	16		34.0		32.4	33.2	5.10
2,2',4-TriCB	17		76.3		71.7	74.0	6.31
2,2',5-TriCB	18	C	128	C	126	127	1.85
2,2',6-TriCB	19		17.9		16.4	17.2	8.44
2,3,3'-TriCB	20	C	280	C	277	278	1.35
2,3,4-TriCB	21	C	90.0	C	92.4	91.2	2.62
2,3,4'-TriCB	22		72.1		73.3	72.7	1.62
2,3,5-TriCB	23	U		U			
2,3,6-TriCB	24	K J	1.85	K J	1.25		
2,3',4-TriCB	25		33.4		32.4	32.9	3.18
2,3',5-TriCB	26	C	69.9	C	70.9	70.4	1.53
2,3',6-TriCB	27		23.2		23.2	23.2	0.022
2,4,4'-TriCB	28	C20		C20			
2,4,5-TriCB	29	C26		C26			
2,4,6-TriCB	30	C18		C18			
2,4',5-TriCB	31		202		202	202	0.119
2,4',6-TriCB	32		57.2		59.3	58.2	3.49
2',3,4-TriCB	33	C21		C21			
2',3,5-TriCB	34	J	1.84	J	2.09	1.97	12.8
3,3',4-TriCB	35	K J	2.07	K J	2.26		
3,3',5-TriCB	36	U		U			
3,4,4'-TriCB	37		52.0		49.1	50.6	5.72
3,4,5-TriCB	38	U		U			
3,4',5-TriCB	39	J	3.00	J	2.65	2.82	12.6
2,2',3,3'-TeCB	40	C	232	C	241	237	3.93
2,2',3,4-TeCB	41	C40		C40			
2,2',3,4'-TeCB	42		132		140	136	5.69
2,2',3,5-TeCB	43		27.8		31.3	29.6	11.7
2,2',3,5'-TeCB	44	C	511	C	549	530	7.14
2,2',3,6-TeCB	45	C	76.8	C	83.0	79.9	7.84
2,2',3,6'-TeCB	46		20.1		22.5	21.3	11.4
2,2',4,4'-TeCB	47	C44		C44			
2,2',4,5-TeCB	48		92.0		100	96.0	8.48
2,2',4,5'-TeCB	49	C	386	C	409	397	5.63
2,2',4,6-TeCB	50	C	76.4	C	80.9	78.6	5.74
2,2',4,6'-TeCB	51	C45		C45			
2,2',5,5'-TeCB	52		797		819	808	2.74
2,2',5,6'-TeCB	53	C50		C50			
2,2',6,6'-TeCB	54	K J	1.66	J	1.36		
2,3,3',4-TeCB	55	K	20.5	K	22.4		

COMPOUND	IUPAC NO.	L29626-4 (A) LAB FLAG [1]	L29626-4 (A) CONC. FOUND	WG64623-103 LAB FLAG [1]	WG64623-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3,3',4'-TeCB	56		187		196	191	4.33
2,3,3',5-TeCB	57	K J	2.68	U			
2,3,3',5'-TeCB	58	K J	2.99	K J	3.76		
2,3,3',6-TeCB	59	C	67.7	C	71.0	69.4	4.64
2,3,4,4'-TeCB	60		94.0		96.3	95.2	2.40
2,3,4,5-TeCB	61	C	748	C	776	762	3.67
2,3,4,6-TeCB	62	C59		C59			
2,3,4',5-TeCB	63		18.1		18.3	18.2	0.599
2,3,4',6-TeCB	64		185		191	188	3.64
2,3,5,6-TeCB	65	C44		C44			
2,3',4,4'-TeCB	66		525		554	540	5.34
2,3',4,5-TeCB	67		15.9		16.6	16.3	4.58
2,3',4,5'-TeCB	68	J	6.47	J	6.98	6.73	7.70
2,3',4,6-TeCB	69	C49		C49			
2,3',4',5-TeCB	70	C61		C61			
2,3',4',6-TeCB	71	C40		C40			
2,3',5,5'-TeCB	72		13.0		13.0	13.0	0.246
2,3',5',6-TeCB	73	U		U			
2,4,4',5-TeCB	74	C61		C61			
2,4,4',6-TeCB	75	C59		C59			
2',3,4,5-TeCB	76	C61		C61			
3,3',4,4'-TeCB	77		31.8		30.4	31.1	4.71
3,3',4,5-TeCB	78	U		U			
3,3',4,5'-TeCB	79	K	12.1		10.8		
3,3',5,5'-TeCB	80	U		U			
3,4,4',5-TeCB	81		1.93		2.04	1.98	5.45
2,2',3,3',4-PeCB	82		110		103	106	5.88
2,2',3,3',5-PeCB	83	C	785	C	711	748	9.88
2,2',3,3',6-PeCB	84		229		221	225	3.59
2,2',3,4,4'-PeCB	85	C	194	C	175	185	10.6
2,2',3,4,5-PeCB	86	C	634	C	550	592	14.3
2,2',3,4,5'-PeCB	87	C86		C86			
2,2',3,4,6-PeCB	88	C	168	C	162	165	3.75
2,2',3,4,6'-PeCB	89	K	9.05	K	10.9		
2,2',3,4',5-PeCB	90	C	1240	C	1120	1180	10.3
2,2',3,4',6-PeCB	91	C88		C88			
2,2',3,5,5'-PeCB	92		350		348	349	0.352
2,2',3,5,6-PeCB	93	C	1020	C	1020	1020	0.255
2,2',3,5,6'-PeCB	94	K J	6.10	K	8.16		
2,2',3,5',6-PeCB	95	C93		C93			
2,2',3,6,6'-PeCB	96	J	6.88	J	5.18	6.03	28.1
2,2',3',4,5-PeCB	97	C86		C86			
2,2',3',4,6-PeCB	98	C93		C93			
2,2',4,4',5-PeCB	99	C83		C83			
2,2',4,4',6-PeCB	100	C93		C93			
2,2',4,5,5'-PeCB	101	C90		C90			
2,2',4,5,6'-PeCB	102	C93		C93			
2,2',4,5',6-PeCB	103	K	19.3		22.5		
2,2',4,6,6'-PeCB	104	U		U			
2,3,3',4,4'-PeCB	105		307		270	288	12.9
2,3,3',4,5-PeCB	106	U		U			
2,3,3',4',5-PeCB	107		72.1	K	63.6		
2,3,3',4,5'-PeCB	108	C	36.5	C K	30.6		
2,3,3',4,6-PeCB	109	C86		C86			
2,3,3',4',6-PeCB	110	C	1110	C	985	1050	11.9
2,3,3',5,5'-PeCB	111	J	3.22	U			
2,3,3',5,6-PeCB	112	U		U			
2,3,3',5',6-PeCB	113	C90		C90			
2,3,4,4',5-PeCB	114		18.6		17.2	17.9	7.93
2,3,4,4',6-PeCB	115	C110		C110			
2,3,4,5,6-PeCB	116	C85		C85			
2,3,4',5,6-PeCB	117	C85		C85			
2,3',4,4',5-PeCB	118		800		730	765	9.19
2,3',4,4',6-PeCB	119	C86		C86			

COMPOUND	IUPAC NO.	L29626-4 (A) LAB FLAG [1]	L29626-4 (A) CONC. FOUND	WG64623-103 LAB FLAG [1]	WG64623-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3',4,5,5'-PeCB	120	J	6.53	J	6.49	6.51	0.737
2,3',4,5',6-PeCB	121	U		U			
2',3,3',4,5-PeCB	122	K	9.99		13.3		
2',3,4,4',5-PeCB	123		23.3		18.8	21.0	21.3
2',3,4,5,5'-PeCB	124	C108		C108			
2',3,4,5,6'-PeCB	125	C86		C86			
3,3',4,4',5-PeCB	126		2.04		1.83	1.94	11.1
3,3',4,5,5'-PeCB	127	U		U			
2,2',3,3',4,4'-HxCB	128	C	232	C	215	223	7.73
2,2',3,3',4,5-HxCB	129	C	1420	C	1300	1360	8.72
2,2',3,3',4,5'-HxCB	130		133		113	123	16.4
2,2',3,3',4,6-HxCB	131	K	15.8		16.1		
2,2',3,3',4,6'-HxCB	132		434		399	417	8.58
2,2',3,3',5,5'-HxCB	133		57.2		51.1	54.1	11.3
2,2',3,3',5,6-HxCB	134	C	102	C	96.9	99.6	5.43
2,2',3,3',5,6'-HxCB	135	C	736	C	709	723	3.68
2,2',3,3',6,6'-HxCB	136		172		158	165	8.66
2,2',3,4,4',5-HxCB	137		86.6		83.9	85.3	3.12
2,2',3,4,4',5'-HxCB	138	C129		C129			
2,2',3,4,4',6-HxCB	139	C	33.4	C K	32.3		
2,2',3,4,4',6'-HxCB	140	C139		C139			
2,2',3,4,5,5'-HxCB	141		195		167	181	15.2
2,2',3,4,5,6-HxCB	142	U		U			
2,2',3,4,5,6'-HxCB	143	C134		C134			
2,2',3,4,5',6-HxCB	144		67.3		69.4	68.4	3.04
2,2',3,4,6,6'-HxCB	145	U		U			
2,2',3,4',5,5'-HxCB	146		405		411	408	1.63
2,2',3,4',5,6-HxCB	147	C	1420	C	1320	1370	7.38
2,2',3,4',5,6'-HxCB	148	J	6.76	J	7.40	7.08	9.11
2,2',3,4',5',6-HxCB	149	C147		C147			
2,2',3,4',6,6'-HxCB	150	J	4.48	K J	4.55		
2,2',3,5,5',6-HxCB	151	C135		C135			
2,2',3,5,6,6'-HxCB	152	K J	1.51	K J	1.97		
2,2',4,4',5,5'-HxCB	153	C	1560	C	1410	1480	9.77
2,2',4,4',5,6'-HxCB	154	C135		C135			
2,2',4,4',6,6'-HxCB	155	U		U			
2,3,3',4,4',5-HxCB	156		92.6		84.5	88.5	9.11
2,3,3',4,4',5'-HxCB	157		26.0		23.6	24.8	9.75
2,3,3',4,4',6-HxCB	158		134		115	124	15.8
2,3,3',4,5,5'-HxCB	159		8.90	K	7.99		
2,3,3',4,5,6-HxCB	160	C129		C129			
2,3,3',4,5',6-HxCB	161	U		U			
2,3,3',4',5,5'-HxCB	162	U		K J	3.48		
2,3,3',4',5,6-HxCB	163	C129		C129			
2,3,3',4',5',6-HxCB	164		132		108	120	20.1
2,3,3',5,5',6-HxCB	165	U		U			
2,3,4,4',5,6-HxCB	166	C128		C128			
2,3',4,4',5,5'-HxCB	167		58.2		53.1	55.6	9.08
2,3',4,4',5',6-HxCB	168	C153		C153			
3,3',4,4',5,5'-HxCB	169	U		U			
2,2',3,3',4,4',5-HpCB	170		151		144	148	4.41
2,2',3,3',4,4',6-HpCB	171	C	72.8	C	75.0	73.9	3.04
2,2',3,3',4,5,5'-HpCB	172	K	26.1		26.5		
2,2',3,3',4,5,6-HpCB	173	C171		C171			
2,2',3,3',4,5,6'-HpCB	174		168		162	165	3.48
2,2',3,3',4,5',6-HpCB	175		20.1		18.6	19.4	7.60
2,2',3,3',4,6,6'-HpCB	176		41.2		38.5	39.8	6.77
2,2',3,3',4',5,6-HpCB	177		204		198	201	3.13
2,2',3,3',5,5',6-HpCB	178		150		150	150	0.094
2,2',3,3',5,6,6'-HpCB	179		158		153	155	3.22
2,2',3,4,4',5,5'-HpCB	180	C	634	C	594	614	6.51
2,2',3,4,4',5,6-HpCB	181	K J	3.10	K J	1.82		
2,2',3,4,4',5,6'-HpCB	182	K J	5.84	K J	6.47		
2,2',3,4,4',5',6-HpCB	183	C	204	C	203	204	0.388

COMPOUND	IUPAC NO.	L29626-4 (A) LAB FLAG [1]	L29626-4 (A) CONC. FOUND	WG64623-103 LAB FLAG [1]	WG64623-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,2',3,4,4',6,6'-HpCB	184	U		U			
2,2',3,4,5,5',6-HpCB	185	C183		C183			
2,2',3,4,5,6,6'-HpCB	186	U		U			
2,2',3,4',5,5',6-HpCB	187		566		637	601	11.8
2,2',3,4',5,6,6'-HpCB	188	K J	2.21	J	2.21		
2,3,3',4,4',5,5'-HpCB	189		5.58	K	5.19		
2,3,3',4,4',5,6-HpCB	190		44.3		40.3	42.3	9.34
2,3,3',4,4',5',6-HpCB	191	K	16.1	K	14.0		
2,3,3',4,5,5',6-HpCB	192	U		U			
2,3,3',4',5,5',6-HpCB	193	C180		C180			
2,2',3,3',4,4',5,5'-OcCB	194		39.2		35.4	37.3	10.0
2,2',3,3',4,4',5,6-OcCB	195	K	21.2	K	17.2		
2,2',3,3',4,4',5,6'-OcCB	196		63.0		54.8	58.9	14.0
2,2',3,3',4,4',6,6'-OcCB	197	C	13.0	C K	15.3		
2,2',3,3',4,5,5',6-OcCB	198	C	144	C	144	144	0.430
2,2',3,3',4,5,5',6'-OcCB	199	C198		C198			
2,2',3,3',4,5,6,6'-OcCB	200	C197		C197			
2,2',3,3',4,5',6,6'-OcCB	201	K	29.4		26.9		
2,2',3,3',5,5',6,6'-OcCB	202		82.8		82.6	82.7	0.294
2,2',3,4,4',5,5',6-OcCB	203		51.2		50.3	50.8	1.85
2,2',3,4,4',5,6,6'-OcCB	204	U		U			
2,3,3',4,4',5,5',6-OcCB	205	J	3.00	K J	4.05		
2,2',3,3',4,4',5,5',6-NoCB	206		12.8		10.8	11.8	17.1
2,2',3,3',4,4',5,6,6'-NoCB	207	K J	1.94	K J	1.63		
2,2',3,3',4,5,5',6,6'-NoCB	208	J	4.24	K J	4.05		
2,2',3,3',4,4',5,5',6,6'-DeCB	209	J	4.23	J	3.65	3.94	14.7

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 17-Aug-2018 13:33:33; Application: XMLTransformer-1.16.49;
Report Filename: RPD_PCB1668_RPDC_WG64623-103_L29626-4_.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	4.98 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 04:14:54	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	6.91	1.00 (Q)	3.19	1.001
3-MoCB	2		U		1.00 (Q)		
4-MoCB	3		K J	4.44	1.00 (Q)	3.79	1.001
2,2'-DiCB	4			23.0	3.55 (S)	1.71	1.000
2,3-DiCB	5		U		3.15 (S)		
2,3'-DiCB	6			24.9	2.74 (S)	1.64	1.175
2,4-DiCB	7		K J	2.90	2.78 (S)	2.10	1.158
2,4'-DiCB	8			38.8	2.50 (S)	1.70	1.207
2,5-DiCB	9		K J	3.23	2.81 (S)	1.83	1.145
2,6-DiCB	10		U		2.81 (S)		
3,3'-DiCB	11			10.4	3.00 (S)	1.69	0.968
3,4-DiCB	12	12 + 13	C K J	4.23	2.97 (S)	2.89	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.88 (S)		
4,4'-DiCB	15			24.8	3.73 (S)	1.56	1.000
2,2',3-TriCB	16			47.1	1.15 (S)	1.12	1.166
2,2',4-TriCB	17			94.4	1.02 (S)	0.99	1.139
2,2',5-TriCB	18	18 + 30	C	183	1.00 (Q)	1.05	1.113
2,2',6-TriCB	19			22.5	1.07 (S)	1.09	1.001
2,3,3'-TriCB	20	20 + 28	C	338	2.25 (S)	1.02	0.847
2,3,4-TriCB	21	21 + 33	C	114	2.13 (S)	1.06	0.856
2,3,4'-TriCB	22			84.0	2.51 (S)	1.04	0.872
2,3,5-TriCB	23		U		2.32 (S)		
2,3,6-TriCB	24		J	1.84	1.00 (Q)	1.07	1.159
2,3',4-TriCB	25			42.8	1.92 (S)	1.00	0.824
2,3',5-TriCB	26	26 + 29	C	97.0	2.27 (S)	0.99	1.302
2,3',6-TriCB	27			30.3	1.00 (Q)	0.95	1.152
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			275	2.10 (S)	1.03	0.836
2,4',6-TriCB	32			73.5	2.18 (S)	1.04	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	2.35	2.35 (S)	1.31	1.274
3,3',4-TriCB	35		U		2.28 (S)		
3,3',5-TriCB	36		U		2.12 (S)		
3,4,4'-TriCB	37			55.8	2.62 (S)	1.00	1.001
3,4,5-TriCB	38		U		2.33 (S)		
3,4',5-TriCB	39		K J	4.20	2.28 (S)	0.87	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	300	1.00 (Q)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			159	1.00 (Q)	0.82	1.313
2,2',3,5-TeCB	43			38.4	1.15 (S)	0.86	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	675	1.00 (Q)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	100	1.00 (Q)	0.81	1.147
2,2',3,6'-TeCB	46			26.9	1.05 (S)	0.85	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			115	1.00 (Q)	0.82	1.274
2,2',4,5'-TeCB	49	49 + 69	C	499	1.00 (Q)	0.80	1.260
2,2',4,6-TeCB	50	50 + 53	C	98.6	1.00 (Q)	0.74	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1000	1.00 (Q)	0.81	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	2.19	1.00 (Q)	1.16	1.001
2,3,3',4-TeCB	55			30.4	4.52 (S)	0.84	0.889
2,3,3',4'-TeCB	56			250	4.18 (S)	0.76	0.904
2,3,3',5-TeCB	57		U		3.83 (S)		
2,3,3',5'-TeCB	58		U		3.92 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	87.6	1.00 (Q)	0.83	1.302
2,3,4,4'-TeCB	60			101	4.12 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1000	3.80 (S)	0.76	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			23.1	3.76 (S)	0.69	0.864
2,3,4',6-TeCB	64			244	1.00 (Q)	0.79	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			679	4.08 (S)	0.75	0.884
2,3',4,5-TeCB	67			17.3	3.28 (S)	0.73	0.856
2,3',4,5'-TeCB	68		J	5.56	3.68 (S)	0.69	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72			14.5	3.69 (S)	0.80	0.822
2,3',5',6-TeCB	73		U		1.00 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		3.97 (S)		
3,3',4,5'-TeCB	79		K	14.2	3.37 (S)	0.97	0.969
3,3',5,5'-TeCB	80		U		3.69 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			141	2.95 (S)	1.56	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	869	2.65 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			240	2.88 (S)	1.60	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	223	2.20 (S)	1.59	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	738	2.23 (S)	1.59	0.900
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	183	2.52 (S)	1.62	1.155
2,2',3,4,6'-PeCB	89			14.4	2.73 (S)	1.45	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1420	2.24 (S)	1.59	0.868
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			365	2.58 (S)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1080	2.42 (S)	1.60	1.121
2,2',3,5,6'-PeCB	94		J	7.22	2.70 (S)	1.78	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	6.80	1.00 (Q)	1.63	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			18.8	2.21 (S)	1.62	1.094
2,2',4,6,6'-PeCB	104		U		1.00 (Q)		
2,3,3',4,4'-PeCB	105			349	5.25 (S)	1.61	1.001
2,3,3',4,5-PeCB	106		U		3.02 (S)		
2,3,3',4',5-PeCB	107			88.7	2.94 (S)	1.57	0.997
2,3,3',4,5'-PeCB	108	108 + 124	C	45.9	6.04 (S)	1.77	0.990
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	1300	1.95 (S)	1.58	0.924
2,3,3',5,5'-PeCB	111		K J	2.39	2.05 (S)	3.38	0.945
2,3,3',5,6-PeCB	112		U		1.85 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			962	6.04 (S)	1.58	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	7.02	1.96 (S)	2.26	0.958
2,3',4,5',6-PeCB	121		U		1.96 (S)		
2',3,3',4,5-PeCB	122		K	18.0	3.34 (S)	2.13	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		K J	4.16	3.09 (S)	1.85	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	256	3.41 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1680	3.43 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			162	4.39 (S)	1.26	0.913
2,2',3,3',4,6-HxCB	131			20.0	4.10 (S)	1.14	1.160
2,2',3,3',4,6'-HxCB	132			489	4.31 (S)	1.24	1.176
2,2',3,3',5,5'-HxCB	133			65.6	4.10 (S)	1.38	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	118	3.95 (S)	1.32	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	851	1.00 (Q)	1.24	1.105
2,2',3,3',6,6'-HxCB	136			184	1.00 (Q)	1.24	1.025
2,2',3,4,4',5-HxCB	137			110	4.22 (S)	1.31	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C K	39.5	3.65 (S)	1.05	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			228	3.76 (S)	1.28	0.903
2,2',3,4,5,6-HxCB	142		U		4.06 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			81.1	1.00 (Q)	1.31	1.122
2,2',3,4,6,6'-HxCB	145		K J	1.35	1.00 (Q)	0.73	1.035
2,2',3,4',5,5'-HxCB	146			482	3.41 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1660	3.60 (S)	1.26	1.135
2,2',3,4',5,6'-HxCB	148			9.07	1.00 (Q)	1.28	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	4.74	1.00 (Q)	1.46	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	1.66	1.00 (Q)	0.90	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1890	3.13 (S)	1.26	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		1.00 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			167	2.67 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159			9.62	2.89 (S)	1.15	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		2.86 (S)		
2,3,3',4',5,5'-HxCB	162		J	5.04	2.74 (S)	1.20	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			143	2.88 (S)	1.26	0.921
2,3,3',5,5',6-HxCB	165		U		3.31 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			186	1.00 (Q)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	98.7	1.00 (Q)	0.98	1.164
2,2',3,3',4,5,5'-HpCB	172			33.2	1.00 (Q)	1.09	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			203	1.00 (Q)	0.98	1.134
2,2',3,3',4,5',6-HpCB	175			25.6	1.00 (Q)	1.03	1.104
2,2',3,3',4,6,6'-HpCB	176			53.4	1.00 (Q)	1.07	1.035
2,2',3,3',4',5,6-HpCB	177			278	1.00 (Q)	1.00	1.147
2,2',3,3',5,5',6-HpCB	178			192	1.00 (Q)	1.03	1.086
2,2',3,3',5,6,6'-HpCB	179			206	1.00 (Q)	1.06	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	806	1.00 (Q)	1.03	1.000
2,2',3,4,4',5,6-HpCB	181		K J	2.95	1.00 (Q)	1.80	1.157
2,2',3,4,4',5,6'-HpCB	182		K J	5.97	1.00 (Q)	1.63	1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	270	1.00 (Q)	1.08	1.128
2,2',3,4,4',6,6'-HpCB	184		U		1.00 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		1.00 (Q)		
2,2',3,4',5,5',6-HpCB	187			752	1.00 (Q)	1.03	1.111
2,2',3,4',5,6,6'-HpCB	188		K J	2.12	1.00 (Q)	1.52	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			54.6	1.00 (Q)	1.01	0.947
2,3,3',4,4',5',6-HpCB	191			18.6	1.00 (Q)	1.10	0.917
2,3,3',4,5,5',6-HpCB	192		U		1.00 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			54.5	1.00 (Q)	0.87	0.991
2,2',3,3',4,4',5,6-OcCB	195			23.5	1.00 (Q)	0.81	0.945
2,2',3,3',4,4',5,6'-OcCB	196			72.2	1.00 (Q)	1.01	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	19.5	1.00 (Q)	0.90	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	164	1.00 (Q)	0.97	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			35.2	1.00 (Q)	0.97	1.022
2,2',3,3',5,5',6,6'-OcCB	202			105	1.00 (Q)	0.95	1.000
2,2',3,4,4',5,5',6-OcCB	203			54.2	1.00 (Q)	0.93	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		1.00 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	4.02	1.00 (Q)	1.02	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			14.1	1.00 (Q)	0.75	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		J	2.17	1.00 (Q)	0.68	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	5.04	1.00 (Q)	0.65	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		B J	4.84	1.00 (Q)	1.01	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-6_Form1A_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	4.98 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 04:14:54	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	5180	51.8	3.19	0.719
13C12-4-MoCB	3L			10000	4340	43.4	3.13	0.859
13C12-2,2'-DiCB	4L			10000	5150	51.5	1.56	0.874
13C12-4,4'-DiCB	15L			10000	4760	47.6	1.57	1.255
13C12-2,2',6-TriCB	19L			10000	5080	50.8	1.05	1.072
13C12-3,4,4'-TriCB	37L			10000	5420	54.2	1.04	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5640	56.4	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			10000	7120	71.2	0.75	1.398
13C12-3,4,4',5-TeCB	81L			10000	7130	71.3	0.74	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	5890	58.9	1.62	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	9080	90.8	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	7730	77.3	1.57	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	8120	81.2	1.56	1.163
13C12-2',3,4,4',5-PeCB	123L			10000	8160	81.6	1.61	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	7150	71.5	1.60	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	6100	61.0	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	15200	75.9	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	7660	76.6	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	7450	74.5	1.29	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	7500	75.0	1.02	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	7640	76.4	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	6390	63.9	1.06	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	7990	79.9	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	5870	58.7	0.93	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	7790	77.9	0.92	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	7530	75.3	0.76	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	7050	70.5	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	6290	62.9	1.23	1.075
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	6190	61.9	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	7680	76.8	1.59	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	7680	76.8	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-6_Form2_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	4.98 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:47:09	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			40.1	0.114 (Q)	0.79	1.001
3,4,4',5-TeCB	81			2.14	0.114 (Q)	0.87	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			22.6	0.515 (S)	1.61	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			23.6	0.504 (S)	1.59	1.001
3,3',4,4',5-PeCB	126		B	2.87	0.623 (S)	1.51	1.001
2,3,3',4,4',5-HxCB	156			105	0.155 (S)	1.28	1.001
2,3,3',4,4',5'-HxCB	157			30.3	0.158 (S)	1.33	1.001
2,3',4,4',5,5'-HxCB	167			67.8	0.155 (S)	1.29	1.001
3,3',4,4',5,5'-HxCB	169		J	0.312	0.187 (S)	1.08	1.001
2,3,3',4,4',5,5'-HpCB	189			7.39	0.205 (S)	1.15	1.001

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DB1C_L29626-6_Form1A_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	4.98 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:47:09	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	7740	77.4	0.80	1.461
13C12-3,4,4',5-TeCB	81L			10000	7240	72.4	0.79	1.421
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	7450	74.5	1.59	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	7790	77.9	1.60	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	7910	79.1	1.58	1.436
13C12-2,3,3',4,4',5-HxCB	156L			10000	8570	85.7	1.26	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	7850	78.5	1.26	1.167
13C12-2,3',4,4',5,5'-HxCB	167L			10000	8360	83.6	1.26	1.095
13C12-3,3',4,4',5,5'-HxCB	169L			10000	8230	82.3	1.27	1.281
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	8300	83.0	1.04	1.408

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-6_Form2_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Matrix:	TISSUE	**Sample Size:**	4.98 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 04:14:54	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 10, PB8C_260 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		11.4
Total Dichloro Biphenyls		132
Total Trichloro Biphenyls		1470
Total Tetrachloro Biphenyls		5520
Total Pentachloro Biphenyls		8130
Total Hexachloro Biphenyls		8860
Total Heptachloro Biphenyls		3200
Total Octachloro Biphenyls		532
Total Nonachloro Biphenyls		21.3
Decachloro Biphenyl		4.84
TOTAL PCBs		27900

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-6_Form1AHT_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	4.98 g (wet)	**Lab Sample I.D.:**	L29626-6
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 10** **PB8C_260 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			40.1	0.114	0.0001	4.01e-03	4.01e-03	4.01e-03
3,4,4',5-TeCB	81			2.14	0.114	0.0003	6.42e-04	6.42e-04	6.42e-04
2,3,3',4,4'-PeCB	105			349	5.25	0.00003	1.05e-02	1.05e-02	1.05e-02
2,3,4,4',5-PeCB	114			22.6	0.515	0.00003	6.78e-04	6.78e-04	6.78e-04
2,3',4,4',5-PeCB	118			962	6.04	0.00003	2.89e-02	2.89e-02	2.89e-02
2',3,4,4',5-PeCB	123			23.6	0.504	0.00003	7.08e-04	7.08e-04	7.08e-04
3,3',4,4',5-PeCB	126			2.87	0.623	0.1	2.87e-01	2.87e-01	2.87e-01
2,3,3',4,4',5-HxCB	156			105	0.155	0.00003	3.15e-03	3.15e-03	3.15e-03
2,3,3',4,4',5'-HxCB	157			30.3	0.158	0.00003	9.09e-04	9.09e-04	9.09e-04
2,3',4,4',5,5'-HxCB	167			67.8	0.155	0.00003	2.03e-03	2.03e-03	2.03e-03
3,3',4,4',5,5'-HxCB	169			0.312	0.187	0.03	9.36e-03	9.36e-03	9.36e-03
2,3,3',4,4',5,5'-HpCB	189			7.39	0.205	0.00003	2.22e-04	2.22e-04	2.22e-04
					TOTAL TEQ		0.348	0.348	0.348

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-6_TEQ_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	5.23 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 05:18:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	1.66	0.952 (Q)	2.83	1.001
3-MoCB	2		U		0.952 (Q)		
4-MoCB	3		K J	2.16	0.952 (Q)	4.90	1.001
2,2'-DiCB	4		K	13.8	2.29 (S)	1.90	1.001
2,3-DiCB	5		U		1.95 (S)		
2,3'-DiCB	6			20.1	1.70 (S)	1.53	1.177
2,4-DiCB	7		J	1.91	1.72 (S)	1.33	1.158
2,4'-DiCB	8			24.6	1.54 (S)	1.55	1.208
2,5-DiCB	9		U		1.73 (S)		
2,6-DiCB	10		U		1.74 (S)		
3,3'-DiCB	11		K	8.81	1.86 (S)	1.22	0.968
3,4-DiCB	12	12 + 13	C J	5.73	1.84 (S)	1.58	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.78 (S)		
4,4'-DiCB	15			18.1	2.24 (S)	1.54	1.000
2,2',3-TriCB	16			27.4	0.952 (Q)	0.94	1.167
2,2',4-TriCB	17			66.2	0.952 (Q)	1.03	1.138
2,2',5-TriCB	18	18 + 30	C	124	0.952 (Q)	1.06	1.114
2,2',6-TriCB	19			15.9	0.952 (Q)	0.98	1.002
2,3,3'-TriCB	20	20 + 28	C	236	1.72 (S)	1.02	0.848
2,3,4-TriCB	21	21 + 33	C	72.5	1.63 (S)	1.01	0.857
2,3,4'-TriCB	22			55.8	1.93 (S)	1.01	0.872
2,3,5-TriCB	23		U		1.78 (S)		
2,3,6-TriCB	24		K J	1.79	0.952 (Q)	1.40	1.160
2,3',4-TriCB	25			37.7	1.47 (S)	1.03	0.825
2,3',5-TriCB	26	26 + 29	C	83.5	1.74 (S)	1.03	1.302
2,3',6-TriCB	27			25.8	0.952 (Q)	1.08	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			188	1.61 (S)	1.02	0.836
2,4',6-TriCB	32			53.4	1.67 (S)	1.00	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		1.80 (S)		
3,3',4-TriCB	35		U		1.75 (S)		
3,3',5-TriCB	36		U		1.62 (S)		
3,4,4'-TriCB	37			39.4	2.04 (S)	1.14	1.001
3,4,5-TriCB	38		U		1.79 (S)		
3,4',5-TriCB	39		K J	2.54	1.75 (S)	0.81	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	208	0.952 (Q)	0.80	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			117	0.952 (Q)	0.78	1.313
2,2',3,5-TeCB	43			28.8	1.04 (S)	0.86	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	487	0.952 (Q)	0.79	1.285
2,2',3,6-TeCB	45	45 + 51	C	68.8	0.952 (Q)	0.78	1.147
2,2',3,6'-TeCB	46		K	18.7	0.952 (Q)	0.89	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			85.7	0.952 (Q)	0.80	1.273
2,2',4,5'-TeCB	49	49 + 69	C	397	0.952 (Q)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	74.8	0.952 (Q)	0.78	1.112
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			774	0.952 (Q)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	1.30	0.952 (Q)	0.84	1.001
2,3,3',4-TeCB	55			22.5	3.62 (S)	0.88	0.889
2,3,3',4'-TeCB	56			179	3.35 (S)	0.77	0.904
2,3,3',5-TeCB	57		K J	3.35	3.07 (S)	0.90	0.843
2,3,3',5'-TeCB	58		K J	3.96	3.14 (S)	0.65	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	72.0	0.952 (Q)	0.81	1.302
2,3,4,4'-TeCB	60			91.9	3.30 (S)	0.82	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	756	3.04 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			18.8	3.02 (S)	0.80	0.864
2,3,4',6-TeCB	64			178	0.952 (Q)	0.81	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			533	3.27 (S)	0.77	0.884
2,3',4,5-TeCB	67		K	17.9	2.63 (S)	0.91	0.855
2,3',4,5'-TeCB	68		J	6.71	2.95 (S)	0.80	0.830
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72			15.8	2.96 (S)	0.77	0.822
2,3',5',6-TeCB	73		U		0.952 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		3.18 (S)		
3,3',4,5'-TeCB	79			12.0	2.70 (S)	0.68	0.969
3,3',5,5'-TeCB	80		U		2.96 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			119	0.952 (Q)	1.67	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	852	0.952 (Q)	1.62	0.885
2,2',3,3',6-PeCB	84			209	0.952 (Q)	1.56	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	219	0.952 (Q)	1.59	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	651	0.952 (Q)	1.65	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	178	0.952 (Q)	1.68	1.155
2,2',3,4,6'-PeCB	89			12.1	0.952 (Q)	1.47	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1380	0.952 (Q)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			438	0.952 (Q)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1060	0.952 (Q)	1.59	1.122
2,2',3,5,6'-PeCB	94		K J	7.51	0.952 (Q)	1.29	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	6.44	0.952 (Q)	1.51	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			25.2	0.952 (Q)	1.40	1.094
2,2',4,6,6'-PeCB	104		U		0.952 (Q)		
2,3,3',4,4'-PeCB	105			331	7.68 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		8.01 (S)		
2,3,3',4',5-PeCB	107			79.0	7.78 (S)	1.48	0.998
2,3,3',4,5'-PeCB	108	108 + 124	C	43.4	8.00 (S)	1.43	0.991
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	1170	0.952 (Q)	1.58	0.925
2,3,3',5,5'-PeCB	111		U		0.952 (Q)		
2,3,3',5,6-PeCB	112		U		0.952 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			897	8.01 (S)	1.55	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K	8.69	0.952 (Q)	1.83	0.959
2,3',4,5',6-PeCB	121		J	1.24	0.952 (Q)	1.47	1.200
2',3,3',4,5-PeCB	122		K	15.2	8.85 (S)	2.01	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		8.19 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	249	4.91 (S)	1.22	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1560	4.94 (S)	1.24	0.929
2,2',3,3',4,5'-HxCB	130			155	6.33 (S)	1.19	0.913
2,2',3,3',4,6-HxCB	131		K	17.9	5.92 (S)	1.50	1.161
2,2',3,3',4,6'-HxCB	132			456	6.22 (S)	1.29	1.175
2,2',3,3',5,5'-HxCB	133			85.4	5.91 (S)	1.13	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	116	5.69 (S)	1.18	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1000	0.952 (Q)	1.25	1.105
2,2',3,3',6,6'-HxCB	136			201	0.952 (Q)	1.27	1.025
2,2',3,4,4',5-HxCB	137			101	6.08 (S)	1.25	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	36.1	5.27 (S)	1.20	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			148	5.43 (S)	1.27	0.903
2,2',3,4,5,6-HxCB	142		U		5.84 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			85.9	0.952 (Q)	1.26	1.122
2,2',3,4,6,6'-HxCB	145		U		0.952 (Q)		
2,2',3,4',5,5'-HxCB	146			526	4.92 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	1650	5.19 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			12.3	0.952 (Q)	1.36	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	5.27	0.952 (Q)	1.04	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	1.65	0.952 (Q)	1.18	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1760	4.51 (S)	1.31	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	1.02	0.952 (Q)	1.57	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			152	3.85 (S)	1.29	0.938
2,3,3',4,5,5'-HxCB	159		U		4.16 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.12 (S)		
2,3,3',4',5,5'-HxCB	162		K J	4.49	3.95 (S)	1.45	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			143	4.15 (S)	1.21	0.921
2,3,3',5,5',6-HxCB	165		U		4.77 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			147	0.952 (Q)	1.09	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	99.7	0.952 (Q)	0.94	1.163
2,2',3,3',4,5,5'-HpCB	172			27.7	0.952 (Q)	1.06	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			142	0.952 (Q)	1.03	1.134
2,2',3,3',4,5',6-HpCB	175		K	28.4	0.952 (Q)	1.23	1.103
2,2',3,3',4,6,6'-HpCB	176			51.1	0.952 (Q)	1.04	1.034
2,2',3,3',4',5,6-HpCB	177			317	0.952 (Q)	1.08	1.146
2,2',3,3',5,5',6-HpCB	178			245	0.952 (Q)	1.03	1.085
2,2',3,3',5,6,6'-HpCB	179			214	0.952 (Q)	1.10	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	812	0.952 (Q)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181		K J	2.94	0.952 (Q)	0.67	1.156
2,2',3,4,4',5,6'-HpCB	182		K J	7.43	0.952 (Q)	0.72	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	266	0.952 (Q)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184		U		0.952 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.952 (Q)		
2,2',3,4',5,5',6-HpCB	187			828	0.952 (Q)	1.02	1.110
2,2',3,4',5,6,6'-HpCB	188		J	2.62	0.952 (Q)	1.20	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			53.9	0.952 (Q)	1.07	0.947
2,3,3',4,4',5',6-HpCB	191		K	22.6	0.952 (Q)	0.89	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.952 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K	39.2	0.952 (Q)	1.03	0.991
2,2',3,3',4,4',5,6-OcCB	195			15.7	0.952 (Q)	0.86	0.945
2,2',3,3',4,4',5,6'-OcCB	196			65.2	0.952 (Q)	0.83	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	14.4	0.952 (Q)	0.92	1.044
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	157	0.952 (Q)	0.88	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			41.6	0.952 (Q)	0.87	1.022
2,2',3,3',5,5',6,6'-OcCB	202			142	0.952 (Q)	0.90	1.001
2,2',3,4,4',5,5',6-OcCB	203			46.8	0.952 (Q)	0.88	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.952 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	3.78	0.952 (Q)	1.39	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			10.0	1.06 (S)	0.86	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	1.10	0.952 (Q)	0.35	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		J	3.02	0.952 (Q)	0.68	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K B J	4.54	0.952 (Q)	1.50	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-7_Form1A_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	5.23 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 05:18:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	4640	46.4	3.21	0.719
13C12-4-MoCB	3L			10000	4610	46.1	3.18	0.858
13C12-2,2'-DiCB	4L			10000	5170	51.7	1.54	0.873
13C12-4,4'-DiCB	15L			10000	5110	51.1	1.57	1.254
13C12-2,2',6-TriCB	19L			10000	5740	57.4	1.04	1.071
13C12-3,4,4'-TriCB	37L			10000	5440	54.4	1.06	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5600	56.0	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			10000	6430	64.3	0.77	1.397
13C12-3,4,4',5-TeCB	81L			10000	6430	64.3	0.74	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	6060	60.6	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	6980	69.8	1.60	1.200
13C12-2,3,4,4',5-PeCB	114L			10000	6390	63.9	1.56	1.179
13C12-2,3',4,4',5-PeCB	118L			10000	6850	68.5	1.57	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	6780	67.8	1.60	1.151
13C12-3,3',4,4',5-PeCB	126L			10000	5780	57.8	1.56	1.301
13C12-2,2',4,4',6,6'-HxCB	155L			10000	6520	65.2	1.25	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	12700	63.6	1.29	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6330	63.3	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6540	65.4	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6190	61.9	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	6130	61.3	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	5140	51.4	1.04	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6280	62.8	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	4520	45.2	0.92	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6430	64.3	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	6050	60.5	0.78	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	5800	58.0	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5660	56.6	1.17	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	5810	58.1	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	6480	64.8	1.62	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	6420	64.2	1.02	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-7_Form2_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	5.23 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 15:26:35	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			31.3	0.107 (Q)	0.78	1.001
3,4,4',5-TeCB	81			2.36	0.107 (Q)	0.87	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			22.3	1.53 (S)	1.57	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			25.8	1.41 (S)	1.63	1.000
3,3',4,4',5-PeCB	126		B	2.41	1.04 (S)	1.77	1.001
2,3,3',4,4',5-HxCB	156			101	0.107 (Q)	1.27	1.001
2,3,3',4,4',5'-HxCB	157			28.7	0.107 (Q)	1.32	1.001
2,3',4,4',5,5'-HxCB	167			70.9	0.107 (Q)	1.25	1.001
3,3',4,4',5,5'-HxCB	169		J	0.261	0.107 (Q)	1.43	1.001
2,3,3',4,4',5,5'-HpCB	189			6.70	0.155 (S)	0.95	1.001

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-7_Form1A_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	5.23 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 15:26:35	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	8540	85.4	0.78	1.461
13C12-3,4,4',5-TeCB	81L			10000	7900	79.0	0.80	1.420
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	4520	45.2	1.58	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	4990	49.9	1.59	1.201
13C12-3,3',4,4',5-PeCB	126L			10000	8390	83.9	1.57	1.436
13C12-2,3,3',4,4',5-HxCB	156L			10000	7670	76.7	1.27	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	8310	83.1	1.26	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6860	68.6	1.28	1.094
13C12-3,3',4,4',5,5'-HxCB	169L			10000	8440	84.4	1.26	1.281
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	8170	81.7	1.05	1.408

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-7_Form2_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Matrix:	TISSUE	**Sample Size:**	5.23 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 05:18:32	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 11, PB8C_260 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		3.82
Total Dichloro Biphenyls		93.1
Total Trichloro Biphenyls		1030
Total Tetrachloro Biphenyls		4210
Total Pentachloro Biphenyls		7750
Total Hexachloro Biphenyls		8670
Total Heptachloro Biphenyls		3270
Total Octachloro Biphenyls		526
Total Nonachloro Biphenyls		14.1
Decachloro Biphenyl		4.54
TOTAL PCBs		25600

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-7_Form1AHT_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	5.23 g (wet)	**Lab Sample I.D.:**	L29626-7
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 11** **PB8C_260 S: 10**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			31.3	0.107	0.0001	3.13e-03	3.13e-03	3.13e-03
3,4,4',5-TeCB	81			2.36	0.107	0.0003	7.08e-04	7.08e-04	7.08e-04
2,3,3',4,4'-PeCB	105			331	7.68	0.00003	9.93e-03	9.93e-03	9.93e-03
2,3,4,4',5-PeCB	114			22.3	1.53	0.00003	6.69e-04	6.69e-04	6.69e-04
2,3',4,4',5-PeCB	118			897	8.01	0.00003	2.69e-02	2.69e-02	2.69e-02
2',3,4,4',5-PeCB	123			25.8	1.41	0.00003	7.74e-04	7.74e-04	7.74e-04
3,3',4,4',5-PeCB	126			2.41	1.04	0.1	2.41e-01	2.41e-01	2.41e-01
2,3,3',4,4',5-HxCB	156			101	0.107	0.00003	3.03e-03	3.03e-03	3.03e-03
2,3,3',4,4',5'-HxCB	157			28.7	0.107	0.00003	8.61e-04	8.61e-04	8.61e-04
2,3',4,4',5,5'-HxCB	167			70.9	0.107	0.00003	2.13e-03	2.13e-03	2.13e-03
3,3',4,4',5,5'-HxCB	169			0.261	0.107	0.03	7.83e-03	7.83e-03	7.83e-03
2,3,3',4,4',5,5'-HpCB	189			6.70	0.155	0.00003	2.01e-04	2.01e-04	2.01e-04
					TOTAL TEQ		0.297	0.297	0.297

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-7_TEQ_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	4.81 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 14:01:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_261 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_261 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	2.91	1.03 (Q)	3.06	1.001
3-MoCB	2		U		1.03 (Q)		
4-MoCB	3		K J	2.57	1.03 (Q)	4.64	1.000
2,2'-DiCB	4			8.41	4.09 (S)	1.78	1.001
2,3-DiCB	5		U		2.94 (S)		
2,3'-DiCB	6			14.0	2.56 (S)	1.59	1.176
2,4-DiCB	7		K J	3.81	2.63 (S)	1.28	1.158
2,4'-DiCB	8			21.0	2.34 (S)	1.38	1.207
2,5-DiCB	9		U		2.62 (S)		
2,6-DiCB	10		U		2.65 (S)		
3,3'-DiCB	11		J	7.77	2.79 (S)	1.71	0.969
3,4-DiCB	12	12 + 13	C J	5.32	2.77 (S)	1.79	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.71 (S)		
4,4'-DiCB	15		K	15.9	3.06 (S)	1.88	1.000
2,2',3-TriCB	16			30.7	1.40 (S)	1.15	1.166
2,2',4-TriCB	17			68.4	1.24 (S)	0.99	1.138
2,2',5-TriCB	18	18 + 30	C	116	1.06 (S)	1.06	1.113
2,2',6-TriCB	19			13.9	1.47 (S)	1.14	1.001
2,3,3'-TriCB	20	20 + 28	C	274	1.42 (S)	1.03	0.847
2,3,4-TriCB	21	21 + 33	C	92.4	1.38 (S)	1.01	0.856
2,3,4'-TriCB	22			67.1	1.58 (S)	0.96	0.871
2,3,5-TriCB	23		U		1.49 (S)		
2,3,6-TriCB	24		J	1.11	1.03 (Q)	0.89	1.159
2,3',4-TriCB	25			39.7	1.24 (S)	1.04	0.824
2,3',5-TriCB	26	26 + 29	C	92.9	1.45 (S)	1.00	1.302
2,3',6-TriCB	27			22.3	1.03 (Q)	1.12	1.151
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			221	1.36 (S)	1.00	0.836
2,4',6-TriCB	32			55.8	1.40 (S)	1.03	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	1.81	1.48 (S)	0.95	1.274
3,3',4-TriCB	35		K J	1.66	1.49 (S)	0.64	0.985
3,3',5-TriCB	36		U		1.34 (S)		
3,4,4'-TriCB	37			38.2	1.52 (S)	1.00	1.001
3,4,5-TriCB	38		U		1.48 (S)		
3,4',5-TriCB	39		J	2.50	1.45 (S)	0.96	0.946

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	218	1.08 (S)	0.77	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			123	1.09 (S)	0.79	1.313
2,2',3,5-TeCB	43			21.2	1.20 (S)	0.83	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	513	1.03 (Q)	0.80	1.286
2,2',3,6-TeCB	45	45 + 51	C	74.8	1.08 (S)	0.73	1.147
2,2',3,6'-TeCB	46			18.8	1.21 (S)	0.76	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			85.7	1.07 (S)	0.73	1.274
2,2',4,5'-TeCB	49	49 + 69	C	403	1.03 (Q)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	72.8	1.04 (S)	0.75	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			853	1.03 (Q)	0.79	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K J	1.62	1.03 (Q)	0.53	1.000
2,3,3',4-TeCB	55			18.5	2.85 (S)	0.84	0.889
2,3,3',4'-TeCB	56			208	2.58 (S)	0.79	0.904
2,3,3',5-TeCB	57		K J	4.18	2.37 (S)	0.51	0.843
2,3,3',5'-TeCB	58		J	4.10	2.38 (S)	0.79	0.850
2,3,3',6-TeCB	59	59 + 62 + 75	C	73.9	1.03 (Q)	0.74	1.302
2,3,4,4'-TeCB	60			102	2.53 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	790	2.38 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			20.7	2.54 (S)	0.70	0.864
2,3,4',6-TeCB	64			187	1.03 (Q)	0.80	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			561	2.54 (S)	0.77	0.884
2,3',4,5-TeCB	67			19.3	2.06 (S)	0.79	0.856
2,3',4,5'-TeCB	68			9.09	2.28 (S)	0.77	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72			16.2	2.26 (S)	0.66	0.822
2,3',5',6-TeCB	73		U		1.03 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		2.56 (S)		
3,3',4,5'-TeCB	79			14.1	2.13 (S)	0.81	0.969
3,3',5,5'-TeCB	80		U		2.29 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82			107	2.79 (S)	1.43	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	774	2.53 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			220	2.70 (S)	1.61	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	190	2.11 (S)	1.43	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	652	2.15 (S)	1.58	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C	175	2.40 (S)	1.59	1.155
2,2',3,4,6'-PeCB	89		K	10.5	2.60 (S)	1.28	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1270	2.13 (S)	1.52	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			420	2.50 (S)	1.56	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	997	2.28 (S)	1.64	1.121
2,2',3,5,6'-PeCB	94		K J	7.28	2.56 (S)	1.06	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	5.98	1.03 (Q)	1.49	1.016
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			20.5	2.09 (S)	1.54	1.093
2,2',4,6,6'-PeCB	104		U		1.03 (Q)		
2,3,3',4,4'-PeCB	105			293	4.64 (S)	1.60	1.000
2,3,3',4,5-PeCB	106		U		4.80 (S)		
2,3,3',4',5-PeCB	107			65.2	4.92 (S)	1.49	0.997
2,3,3',4,5'-PeCB	108	108 + 124	C	38.9	5.26 (S)	1.71	0.991
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C	1050	1.88 (S)	1.61	0.925
2,3,3',5,5'-PeCB	111		K J	3.01	1.90 (S)	2.38	0.945
2,3,3',5,6-PeCB	112		U		1.83 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			765	5.56 (S)	1.56	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	6.45	1.83 (S)	1.72	0.958
2,3',4,5',6-PeCB	121		U		1.86 (S)		
2',3,3',4,5-PeCB	122			14.9	5.80 (S)	1.41	1.010
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		5.61 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	215	3.94 (S)	1.23	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1240	3.83 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			118	4.77 (S)	1.30	0.913
2,2',3,3',4,6-HxCB	131			14.3	4.08 (S)	1.16	1.160
2,2',3,3',4,6'-HxCB	132			344	4.28 (S)	1.26	1.176
2,2',3,3',5,5'-HxCB	133			60.3	4.08 (S)	1.19	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	82.3	3.95 (S)	1.38	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	560	1.03 (Q)	1.23	1.105
2,2',3,3',6,6'-HxCB	136			158	1.03 (Q)	1.22	1.025
2,2',3,4,4',5-HxCB	137			79.2	4.35 (S)	1.09	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	27.3	3.59 (S)	1.24	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			135	3.80 (S)	1.31	0.903
2,2',3,4,5,6-HxCB	142		U		4.10 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			56.0	1.03 (Q)	1.34	1.122
2,2',3,4,6,6'-HxCB	145		U		1.03 (Q)		
2,2',3,4',5,5'-HxCB	146			335	3.41 (S)	1.24	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	1120	3.57 (S)	1.27	1.134
2,2',3,4',5,6'-HxCB	148		K J	7.32	1.03 (Q)	1.74	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	5.04	1.03 (Q)	1.56	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	1.72	1.03 (Q)	1.89	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1150	3.22 (S)	1.23	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		1.03 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			120	2.99 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159		J	7.24	3.37 (S)	1.23	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		2.89 (S)		
2,3,3',4',5,5'-HxCB	162		K J	3.36	3.08 (S)	0.94	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			109	3.19 (S)	1.29	0.921
2,3,3',5,5',6-HxCB	165		U		3.34 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170			130	1.57 (S)	1.03	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	82.4	1.54 (S)	1.16	1.164
2,2',3,3',4,5,5'-HpCB	172			32.2	1.59 (S)	1.07	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			151	1.40 (S)	1.00	1.134
2,2',3,3',4,5',6-HpCB	175			19.0	1.45 (S)	0.95	1.103
2,2',3,3',4,6,6'-HpCB	176			36.7	1.03 (Q)	1.00	1.035
2,2',3,3',4',5,6-HpCB	177			264	1.06 (S)	1.07	1.146
2,2',3,3',5,5',6-HpCB	178			178	1.45 (S)	0.98	1.086
2,2',3,3',5,6,6'-HpCB	179			143	1.03 (Q)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	564	1.41 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181		K J	2.79	1.44 (S)	1.68	1.157
2,2',3,4,4',5,6'-HpCB	182		U		1.42 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	225	1.46 (S)	0.99	1.128
2,2',3,4,4',6,6'-HpCB	184		U		1.03 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		1.05 (S)		
2,2',3,4',5,5',6-HpCB	187			562	1.28 (S)	1.03	1.111
2,2',3,4',5,6,6'-HpCB	188		J	2.72	1.04 (S)	1.08	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190			42.2	1.15 (S)	1.12	0.947
2,3,3',4,4',5',6-HpCB	191			16.3	1.15 (S)	0.91	0.917
2,3,3',4,5,5',6-HpCB	192		U		1.29 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			36.9	1.23 (S)	0.93	0.991
2,2',3,3',4,4',5,6-OcCB	195			18.9	1.38 (S)	0.91	0.945
2,2',3,3',4,4',5,6'-OcCB	196			50.4	1.11 (S)	0.94	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	13.0	1.03 (Q)	0.80	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	130	1.13 (S)	0.94	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K	31.6	1.03 (Q)	1.02	1.023
2,2',3,3',5,5',6,6'-OcCB	202			86.1	1.03 (Q)	0.92	1.001
2,2',3,4,4',5,5',6-OcCB	203		K	41.5	1.05 (S)	1.13	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		1.03 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	3.27	1.10 (S)	0.83	1.000
2,2',3,3',4,4',5,5',6-NoCB	206		K	14.5	2.79 (S)	0.63	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		U		2.07 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		K	9.83	2.54 (S)	0.58	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K B J	4.82	1.08 (S)	2.42	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-9_Form1A_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	4.81 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 14:01:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_261 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_261 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	3670	36.7	3.17	0.719
13C12-4-MoCB	3L			10000	4330	43.3	3.12	0.859
13C12-2,2'-DiCB	4L			10000	4720	47.2	1.61	0.873
13C12-4,4'-DiCB	15L			10000	6040	60.4	1.58	1.254
13C12-2,2',6-TriCB	19L			10000	5440	54.4	1.05	1.072
13C12-3,4,4'-TriCB	37L			10000	6290	62.9	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5680	56.8	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			10000	6900	69.0	0.74	1.397
13C12-3,4,4',5-TeCB	81L			10000	7150	71.5	0.77	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	5680	56.8	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	7370	73.7	1.56	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	6090	60.9	1.58	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	6490	64.9	1.55	1.163
13C12-2',3,4,4',5-PeCB	123L			10000	6520	65.2	1.61	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	6100	61.0	1.56	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	6890	68.9	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	13900	69.3	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	7370	73.7	1.24	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6460	64.6	1.31	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	8250	82.5	1.03	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	8410	84.1	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	6600	66.0	1.08	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	8250	82.5	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	7390	73.9	0.89	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	7400	74.0	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	7040	70.4	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	6690	66.9	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	6470	64.7	1.19	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	6700	67.0	1.04	0.924
13C12-2,3,3',5,5'-PeCB	111L			10000	6080	60.8	1.61	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	6960	69.6	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_L29626-9_Form2_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	4.81 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg (wet weight basis)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			27.1	0.117 (Q)	0.81	1.001
3,4,4',5-TeCB	81			2.23	0.117 (Q)	0.71	1.002
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114			19.5	0.726 (S)	1.50	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123			21.8	0.717 (S)	1.72	1.001
3,3',4,4',5-PeCB	126		B	1.92	0.798 (S)	1.43	1.001
2,3,3',4,4',5-HxCB	156			91.3	0.170 (S)	1.27	1.001
2,3,3',4,4',5'-HxCB	157			24.1	0.162 (S)	1.31	1.001
2,3',4,4',5,5'-HxCB	167			53.3	0.171 (S)	1.26	1.001
3,3',4,4',5,5'-HxCB	169		U		0.190 (S)		
2,3,3',4,4',5,5'-HpCB	189			5.92	0.163 (S)	1.11	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; B = analyte found in the associated blank and concentration in sample is less than 10X the concentration in the associated blank; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DB1C_L29626-9_Form1A_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	4.81 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	8360	83.6	0.80	1.461
13C12-3,4,4',5-TeCB	81L			10000	8070	80.7	0.79	1.420
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	7080	70.8	1.59	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	7190	71.9	1.58	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	8340	83.4	1.60	1.435
13C12-2,3,3',4,4',5-HxCB	156L			10000	8350	83.5	1.28	1.154
13C12-2,3,3',4,4',5'-HxCB	157L			10000	8270	82.7	1.27	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	8120	81.2	1.26	1.094
13C12-3,3',4,4',5,5'-HxCB	169L			10000	8690	86.9	1.26	1.281
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	8500	85.0	1.04	1.408

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_L29626-9_Form2_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Matrix:	TISSUE	**Sample Size:**	4.81 g (wet)
Sample Receipt Date:	03-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 14:01:03	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 12, PB8C_261 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_261 S: 1
Concentration Units:	ng/kg (wet weight basis)		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		5.48
Total Dichloro Biphenyls		76.2
Total Trichloro Biphenyls		1140
Total Tetrachloro Biphenyls		4440
Total Pentachloro Biphenyls		7130
Total Hexachloro Biphenyls		6120
Total Heptachloro Biphenyls		2460
Total Octachloro Biphenyls		412
Total Nonachloro Biphenyls		24.3
Decachloro Biphenyl		4.82
TOTAL PCBs		21800

(1) Where applicable, custom lab flags have been used on this report.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-9_Form1AHT_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	CLAM PO# 2018-0065
Sample Size:	4.81 g (wet)	**Lab Sample I.D.:**	L29626-9
Concentration Units:	ng/kg (wet weight basis)	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 12** **PB8C_261 S: 7**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG 1	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			27.1	0.117	0.0001	2.71e-03	2.71e-03	2.71e-03
3,4,4',5-TeCB	81			2.23	0.117	0.0003	6.69e-04	6.69e-04	6.69e-04
2,3,3',4,4'-PeCB	105			293	4.64	0.00003	8.79e-03	8.79e-03	8.79e-03
2,3,4,4',5-PeCB	114			19.5	0.726	0.00003	5.85e-04	5.85e-04	5.85e-04
2,3',4,4',5-PeCB	118			765	5.56	0.00003	2.30e-02	2.30e-02	2.30e-02
2',3,4,4',5-PeCB	123			21.8	0.717	0.00003	6.54e-04	6.54e-04	6.54e-04
3,3',4,4',5-PeCB	126			1.92	0.798	0.1	1.92e-01	1.92e-01	1.92e-01
2,3,3',4,4',5-HxCB	156			91.3	0.170	0.00003	2.74e-03	2.74e-03	2.74e-03
2,3,3',4,4',5'-HxCB	157			24.1	0.162	0.00003	7.23e-04	7.23e-04	7.23e-04
2,3',4,4',5,5'-HxCB	167			53.3	0.171	0.00003	1.60e-03	1.60e-03	1.60e-03
3,3',4,4',5,5'-HxCB	169		U		0.190	0.03	0.00e+00	2.85e-03	5.70e-03
2,3,3',4,4',5,5'-HpCB	189			5.92	0.163	0.00003	1.78e-04	1.78e-04	1.78e-04
					TOTAL TEQ		0.234	0.236	0.239

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_L29626-9_TEQ_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Matrix:	TISSUE	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K J	1.03	0.959 (Q)	5.13	1.003
3-MoCB	2		U		0.959 (Q)		
4-MoCB	3		K J	1.05	0.959 (Q)	6.89	1.000
2,2'-DiCB	4		U		4.08 (S)		
2,3-DiCB	5		U		3.53 (S)		
2,3'-DiCB	6		U		3.07 (S)		
2,4-DiCB	7		U		3.12 (S)		
2,4'-DiCB	8		U		2.80 (S)		
2,5-DiCB	9		U		3.14 (S)		
2,6-DiCB	10		U		3.15 (S)		
3,3'-DiCB	11		K J	4.77	3.36 (S)	1.08	0.968
3,4-DiCB	12	12 + 13	C U		3.33 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		3.22 (S)		
4,4'-DiCB	15		U		4.10 (S)		
2,2',3-TriCB	16		U		1.27 (S)		
2,2',4-TriCB	17		U		1.13 (S)		
2,2',5-TriCB	18	18 + 30	C U		0.976 (S)		
2,2',6-TriCB	19		U		1.06 (S)		
2,3,3'-TriCB	20	20 + 28	C K J	2.18	1.20 (S)	0.82	0.847
2,3,4-TriCB	21	21 + 33	C U		1.13 (S)		
2,3,4'-TriCB	22		U		1.34 (S)		
2,3,5-TriCB	23		U		1.23 (S)		
2,3,6-TriCB	24		U		0.959 (Q)		
2,3',4-TriCB	25		U		1.02 (S)		
2,3',5-TriCB	26	26 + 29	C U		1.21 (S)		
2,3',6-TriCB	27		U		0.959 (Q)		
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31		U		1.12 (S)		
2,4',6-TriCB	32		U		1.16 (S)		
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		1.25 (S)		
3,3',4-TriCB	35		U		1.22 (S)		
3,3',5-TriCB	36		U		1.13 (S)		
3,4,4'-TriCB	37		U		1.51 (S)		
3,4,5-TriCB	38		U		1.24 (S)		
3,4',5-TriCB	39		U		1.21 (S)		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C U		1.29 (S)		
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		U		1.29 (S)		
2,2',3,5-TeCB	43		U		1.58 (S)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C K J	1.73	1.17 (S)	0.41	1.286
2,2',3,6-TeCB	45	45 + 51	C U		1.28 (S)		
2,2',3,6'-TeCB	46		U		1.44 (S)		
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		U		1.29 (S)		
2,2',4,5'-TeCB	49	49 + 69	C U		1.09 (S)		
2,2',4,6-TeCB	50	50 + 53	C U		1.25 (S)		
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		K J	1.50	1.21 (S)	1.11	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		0.959 (Q)		
2,3,3',4-TeCB	55		U		1.21 (S)		
2,3,3',4'-TeCB	56		U		1.12 (S)		
2,3,3',5-TeCB	57		U		1.03 (S)		
2,3,3',5'-TeCB	58		U		1.05 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C U		0.967 (S)		
2,3,4,4'-TeCB	60		U		1.11 (S)		
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C J	1.85	1.02 (S)	0.86	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		1.01 (S)		
2,3,4',6-TeCB	64		U		0.959 (Q)		
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		U		1.09 (S)		
2,3',4,5-TeCB	67		U		0.959 (Q)		
2,3',4,5'-TeCB	68		U		0.989 (S)		
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		0.991 (S)		
2,3',5',6-TeCB	73		U		0.959 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		U		1.07 (S)		
3,3',4,5'-TeCB	79		U		0.959 (Q)		
3,3',5,5'-TeCB	80		U		0.991 (S)		
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		U		1.70 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C U		1.53 (S)		
2,2',3,3',6-PeCB	84		U		1.66 (S)		
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C U		1.27 (S)		
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C U		1.29 (S)		
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C U		1.45 (S)		
2,2',3,4,6'-PeCB	89		U		1.58 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C U		1.29 (S)		
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		U		1.49 (S)		
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C U		1.40 (S)		
2,2',3,5,6'-PeCB	94		U		1.56 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		0.959 (Q)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		U		1.28 (S)		
2,2',4,6,6'-PeCB	104		U		0.959 (Q)		
2,3,3',4,4'-PeCB	105		U		1.02 (S)		
2,3,3',4,5-PeCB	106		U		1.18 (S)		
2,3,3',4',5-PeCB	107		U		1.14 (S)		
2,3,3',4,5'-PeCB	108	108 + 124	C U		1.17 (S)		
2,3,3',4,6-PeCB	109	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3,3',4',6-PeCB	110	110 + 115	C J	1.38	1.12 (S)	1.40	0.925
2,3,3',5,5'-PeCB	111		U		1.19 (S)		
2,3,3',5,6-PeCB	112		U		1.07 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		J	1.62	1.23 (S)	1.58	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		1.13 (S)		
2,3',4,5',6-PeCB	121		U		1.13 (S)		
2',3,3',4,5-PeCB	122		U		1.30 (S)		
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	108 + 124	C108				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		U		1.20 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C U		1.28 (S)		
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C K J	2.15	1.29 (S)	0.65	0.929
2,2',3,3',4,5'-HxCB	130		U		1.65 (S)		
2,2',3,3',4,6-HxCB	131		U		1.54 (S)		
2,2',3,3',4,6'-HxCB	132		U		1.62 (S)		
2,2',3,3',5,5'-HxCB	133		U		1.54 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		1.49 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C U		1.31 (S)		
2,2',3,3',6,6'-HxCB	136		U		0.959 (Q)		
2,2',3,4,4',5-HxCB	137		U		1.59 (S)		
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C U		1.37 (S)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		U		1.42 (S)		
2,2',3,4,5,6-HxCB	142		U		1.53 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		1.33 (S)		
2,2',3,4,6,6'-HxCB	145		U		1.00 (S)		
2,2',3,4',5,5'-HxCB	146		U		1.28 (S)		
2,2',3,4',5,6-HxCB	147	147 + 149	C U		1.36 (S)		
2,2',3,4',5,6'-HxCB	148		U		1.35 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.960 (S)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.959 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C U		1.18 (S)		
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.959 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		U		1.01 (S)		
2,3,3',4,5,5'-HxCB	159		U		1.09 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		1.07 (S)		
2,3,3',4',5,5'-HxCB	162		U		1.03 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		1.08 (S)		
2,3,3',5,5',6-HxCB	165		U		1.25 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		K J	1.48	1.39 (S)	0.74	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C U		1.35 (S)		
2,2',3,3',4,5,5'-HpCB	172		U		1.40 (S)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		U		1.31 (S)		
2,2',3,3',4,5',6-HpCB	175		U		1.32 (S)		
2,2',3,3',4,6,6'-HpCB	176		U		1.01 (S)		
2,2',3,3',4',5,6-HpCB	177		U		1.08 (S)		
2,2',3,3',5,5',6-HpCB	178		U		1.35 (S)		
2,2',3,3',5,6,6'-HpCB	179		U		0.995 (S)		
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C U		1.29 (S)		
2,2',3,4,4',5,6-HpCB	181		U		1.27 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		1.27 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C U		1.27 (S)		
2,2',3,4,4',6,6'-HpCB	184		U		0.978 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		1.08 (S)		
2,2',3,4',5,5',6-HpCB	187		U		1.19 (S)		
2,2',3,4',5,6,6'-HpCB	188		U		1.00 (S)		
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		U		1.04 (S)		
2,3,3',4,4',5',6-HpCB	191		U		1.02 (S)		
2,3,3',4,5,5',6-HpCB	192		U		1.14 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		U		1.49 (S)		
2,2',3,3',4,4',5,6-OcCB	195		U		1.61 (S)		
2,2',3,3',4,4',5,6'-OcCB	196		U		1.18 (S)		
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U		0.959 (Q)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C U		1.22 (S)		
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		U		0.959 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		U		1.01 (S)		
2,2',3,4,4',5,5',6-OcCB	203		U		1.11 (S)		
2,2',3,4,4',5,6,6'-OcCB	204		U		0.959 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		1.20 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		1.68 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		1.25 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		1.47 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		J	1.32	0.977 (S)	1.19	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-101_Form1A_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Matrix:	TISSUE	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB8C_260 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	4640	46.4	3.17	0.719
13C12-4-MoCB	3L			10000	4720	47.2	3.17	0.859
13C12-2,2'-DiCB	4L			10000	5100	51.0	1.58	0.874
13C12-4,4'-DiCB	15L			10000	4770	47.7	1.56	1.255
13C12-2,2',6-TriCB	19L			10000	5610	56.1	1.04	1.072
13C12-3,4,4'-TriCB	37L			10000	5580	55.8	1.01	1.092
13C12-2,2',6,6'-TeCB	54L			10000	5860	58.6	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			10000	6580	65.8	0.75	1.397
13C12-3,4,4',5-TeCB	81L			10000	6570	65.7	0.76	1.373
13C12-2,2',4,6,6'-PeCB	104L			10000	5830	58.3	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	7720	77.2	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	6320	63.2	1.56	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	6500	65.0	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	6450	64.5	1.57	1.152
13C12-3,3',4,4',5-PeCB	126L			10000	6440	64.4	1.58	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	5300	53.0	1.28	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	12600	63.1	1.25	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6400	64.0	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6430	64.3	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6390	63.9	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	6320	63.2	1.01	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	4930	49.3	1.04	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6130	61.3	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	4870	48.7	0.87	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	6210	62.1	0.93	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	5910	59.1	0.85	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	5700	57.0	0.74	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	5520	55.2	1.18	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	5880	58.8	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	6290	62.9	1.62	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	6190	61.9	1.03	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-101_Form2_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Matrix:	TISSUE	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	ng/kg		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		J	0.314	0.113 (Q)	0.88	1.001
3,4,4',5-TeCB	81		K J	0.261	0.113 (Q)	1.09	1.001
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		J	0.232	0.113 (S)	1.45	1.001
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		U		0.200 (S)		
3,3',4,4',5-PeCB	126		J	0.292	0.125 (S)	1.65	1.001
2,3,3',4,4',5-HxCB	156		J	0.274	0.167 (S)	1.06	1.001
2,3,3',4,4',5'-HxCB	157		J	0.256	0.140 (S)	1.23	1.001
2,3',4,4',5,5'-HxCB	167		J	0.234	0.160 (S)	1.07	1.001
3,3',4,4',5,5'-HxCB	169		U		0.177 (S)		
2,3,3',4,4',5,5'-HpCB	189		K J	0.265	0.205 (S)	1.24	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; X = result reported separately.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-101_Form1A_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Matrix:	TISSUE	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Sample Data Filename:**	**DT8C_270 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	7510	75.1	0.80	1.461
13C12-3,4,4',5-TeCB	81L			10000	6810	68.1	0.79	1.420
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			10000	6370	63.7	1.59	1.245
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			10000	6320	63.2	1.59	1.200
13C12-3,3',4,4',5-PeCB	126L			10000	7410	74.1	1.60	1.434
13C12-2,3,3',4,4',5-HxCB	156L			10000	6410	64.1	1.27	1.153
13C12-2,3,3',4,4',5'-HxCB	157L			10000	7100	71.0	1.27	1.166
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6470	64.7	1.27	1.093
13C12-3,3',4,4',5,5'-HxCB	169L			10000	7060	70.6	1.27	1.280
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6750	67.5	1.05	1.407

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-101_Form2_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

HOMOLOGUE TOTAL PCB ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Matrix:	TISSUE	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	DB1, SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename(s):**	**DT8C_270 S: 5, PB8C_260 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1
Concentration Units:	ng/kg		

PCB HOMOLOGUE GROUP	LAB FLAG [1]	CONC. FOUND
Total Monochloro Biphenyls		2.08
Total Dichloro Biphenyls		4.77
Total Trichloro Biphenyls		2.18
Total Tetrachloro Biphenyls		5.66
Total Pentachloro Biphenyls		3.52
Total Hexachloro Biphenyls		2.91
Total Heptachloro Biphenyls		1.75
Total Octachloro Biphenyls	U	
Total Nonachloro Biphenyls	U	
Decachloro Biphenyl		1.32
TOTAL PCBs		24.2

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form1668HTII.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_WG64623-101_Form1AHT_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Sample Collection:**	N/A
Matrix:	TISSUE	**Project No.**	N/A
Sample Size:	5.00 g	**Lab Sample I.D.:**	WG64623-101
Concentration Units:	ng/kg	**GC Column ID(s):**	DB1 SPB OCTYL
		Sample Data Filename(s):	**DT8C_270 S: 5** **PB8C_260 S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 MAMM TEF	TEQ U=0	TEQ U=1/2 RL	TEQ U=RL
3,3',4,4'-TeCB	77			0.314	0.113	0.0001	3.14e-05	3.14e-05	3.14e-05
3,4,4',5-TeCB	81		K	0.261	0.113	0.0003	7.83e-05	7.83e-05	7.83e-05
2,3,3',4,4'-PeCB	105		U		1.02	0.00003	0.00e+00	1.53e-05	3.06e-05
2,3,4,4',5-PeCB	114			0.232	0.113	0.00003	6.96e-06	6.96e-06	6.96e-06
2,3',4,4',5-PeCB	118			1.62	1.23	0.00003	4.86e-05	4.86e-05	4.86e-05
2',3,4,4',5-PeCB	123		U		0.200	0.00003	0.00e+00	3.00e-06	6.00e-06
3,3',4,4',5-PeCB	126			0.292	0.125	0.1	2.92e-02	2.92e-02	2.92e-02
2,3,3',4,4',5-HxCB	156			0.274	0.167	0.00003	8.22e-06	8.22e-06	8.22e-06
2,3,3',4,4',5'-HxCB	157			0.256	0.140	0.00003	7.68e-06	7.68e-06	7.68e-06
2,3',4,4',5,5'-HxCB	167			0.234	0.160	0.00003	7.02e-06	7.02e-06	7.02e-06
3,3',4,4',5,5'-HxCB	169		U		0.177	0.03	0.00e+00	2.66e-03	5.31e-03
2,3,3',4,4',5,5'-HpCB	189		K	0.265	0.205	0.00003	7.95e-06	7.95e-06	7.95e-06
					TOTAL TEQ		0.0294	0.0321	0.0347

(1) Where applicable, custom lab flags may have been used on this report; U = not detected at RL; C = co-eluting congener.
(2) On this form, concentrations that do not meet quantification criteria are reported, flagged, and used in the TEQ calculations.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 17-Aug-2018 13:32:46; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_HomTotals-TEQsC_WG64623-101_TEQ_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Matrix:	TISSUE	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB8C_260 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1			3.06	50.0	48.4	30.0 - 67.5	96.9
4-MoCB	3			3.15	50.0	48.1	30.0 - 67.5	96.2
2,2'-DiCB	4			1.52	50.0	46.0	30.0 - 67.5	92.0
4,4'-DiCB	15			1.54	50.0	46.8	30.0 - 67.5	93.7
2,2',6-TriCB	19			1.03	50.0	50.5	30.0 - 67.5	101
3,4,4'-TriCB	37			1.08	50.0	49.4	30.0 - 67.5	98.8
2,2',6,6'-TeCB	54			0.80	50.0	50.3	30.0 - 67.5	101
3,3',4,4'-TeCB	77		X					
3,4,4',5-TeCB	81		X					
2,2',4,6,6'-PeCB	104			1.56	50.0	49.9	30.0 - 67.5	99.7
2,3,3',4,4'-PeCB	105			1.57	50.0	46.9	30.0 - 67.5	93.7
2,3,4,4',5-PeCB	114		X					
2,3',4,4',5-PeCB	118			1.52	50.0	49.6	30.0 - 67.5	99.2
2',3,4,4',5-PeCB	123		X					
3,3',4,4',5-PeCB	126		X					
2,2',4,4',6,6'-HxCB	155			1.31	50.0	50.0	30.0 - 67.5	100
2,3,3',4,4',5-HxCB	156	156 + 157	C X					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167		X					
3,3',4,4',5,5'-HxCB	169		X					
2,2',3,4',5,6,6'-HpCB	188			1.02	50.0	50.5	30.0 - 67.5	101
2,3,3',4,4',5,5'-HpCB	189		X					
2,2',3,3',5,5',6,6'-OcCB	202			0.88	50.0	55.6	30.0 - 67.5	111
2,3,3',4,4',5,5',6-OcCB	205			0.87	50.0	49.9	30.0 - 67.5	99.8
2,2',3,3',4,4',5,5',6-NoCB	206			0.80	50.0	51.3	30.0 - 67.5	103
2,2',3,3',4,5,5',6,6'-NoCB	208			0.78	50.0	52.4	30.0 - 67.5	105
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.21	50.0	52.4	30.0 - 67.5	105

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-102_Form8A_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Matrix:	TISSUE	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB8C_260 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_260 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_260 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L			3.21	500	276	75.0 - 725	55.2
13C12-4-MoCB	3L			3.18	500	261	75.0 - 725	52.1
13C12-2,2'-DiCB	4L			1.58	500	277	75.0 - 725	55.4
13C12-4,4'-DiCB	15L			1.58	500	255	75.0 - 725	51.1
13C12-2,2',6-TriCB	19L			1.05	500	307	75.0 - 725	61.5
13C12-3,4,4'-TriCB	37L			1.04	500	278	75.0 - 725	55.6
13C12-2,2',6,6'-TeCB	54L			0.80	500	318	75.0 - 725	63.7
13C12-3,3',4,4'-TeCB	77L			0.75	500	333	200 - 725	66.6
13C12-3,4,4',5-TeCB	81L			0.75	500	330	200 - 725	65.9
13C12-2,2',4,6,6'-PeCB	104L			1.57	500	298	200 - 725	59.5
13C12-2,3,3',4,4'-PeCB	105L			1.57	500	412	200 - 725	82.3
13C12-2,3,4,4',5-PeCB	114L			1.58	500	324	200 - 725	64.7
13C12-2,3',4,4',5-PeCB	118L			1.60	500	343	200 - 725	68.5
13C12-2',3,4,4',5-PeCB	123L			1.58	500	340	200 - 725	67.9
13C12-3,3',4,4',5-PeCB	126L			1.58	500	342	200 - 725	68.4
13C12-2,2',4,4',6,6'-HxCB	155L			1.26	500	277	200 - 725	55.4
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.27	1000	682	400 - 1450	68.2
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.26	500	338	200 - 725	67.6
13C12-3,3',4,4',5,5'-HxCB	169L			1.27	500	351	200 - 725	70.2
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.04	500	255	200 - 725	51.0
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.03	500	327	200 - 725	65.4
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.88	500	245	200 - 725	49.0
13C12-2,3,3',4,4',5,5',6-OcCB	205L			0.90	500	326	200 - 725	65.2
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.80	500	304	200 - 725	60.9
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			0.77	500	298	200 - 725	59.6
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.19	500	283	200 - 725	56.7
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			1.05	500	293	75.0 - 725	58.5
13C12-2,3,3',5,5'-PeCB	111L			1.62	500	325	200 - 725	64.9
13C12-2,2',3,3',5,5',6-HpCB	178L			1.06	500	323	200 - 725	64.5

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PCBTFC_WG64623-102_Form8B_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Matrix:	TISSUE	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**OPR Data Filename:**	**DT8C_270 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.79	50.0	51.9	30.0 - 67.5	104
3,4,4',5-TeCB	81			0.77	50.0	52.8	30.0 - 67.5	106
2,3,3',4,4'-PeCB	105		X					
2,3,4,4',5-PeCB	114			1.55	50.0	50.4	30.0 - 67.5	101
2,3',4,4',5-PeCB	118		X					
2',3,4,4',5-PeCB	123			1.56	50.0	50.4	30.0 - 67.5	101
3,3',4,4',5-PeCB	126			1.57	50.0	52.8	30.0 - 67.5	106
2,3,3',4,4',5-HxCB	156			1.24	50.0	51.8	30.0 - 67.5	104
2,3,3',4,4',5'-HxCB	157			1.27	50.0	52.1	30.0 - 67.5	104
2,3',4,4',5,5'-HxCB	167			1.26	50.0	51.9	30.0 - 67.5	104
3,3',4,4',5,5'-HxCB	169			1.28	50.0	51.8	30.0 - 67.5	104
2,3,3',4,4',5,5'-HpCB	189			1.00	50.0	51.8	30.0 - 67.5	104

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-102_Form8A_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Matrix:	TISSUE	**Initial Calibration Date:**	14-Aug-2018
Extraction Date:	19-Jul-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**OPR Data Filename:**	**DT8C_270 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DT8C_270 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DT8C_270 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.79	500	604	200 - 725	121
13C12-3,4,4',5-TeCB	81L			0.78	500	582	200 - 725	116
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			1.59	500	552	200 - 725	110
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L			1.60	500	564	200 - 725	113
13C12-3,3',4,4',5-PeCB	126L			1.59	500	611	200 - 725	122
13C12-2,3,3',4,4',5-HxCB	156L			1.26	500	556	200 - 725	111
13C12-2,3,3',4,4',5'-HxCB	157L			1.27	500	542	200 - 725	108
13C12-2,3',4,4',5,5'-HxCB	167L			1.28	500	555	200 - 725	111
13C12-3,3',4,4',5,5'-HxCB	169L			1.26	500	589	200 - 725	118
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.05	500	570	200 - 725	114

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DB1C_WG64623-102_Form8B_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8G

PCB CONGENER CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NRCC CARP-2

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Matrix:	TISSUE	**Sample Size:**	8.84 g (wet)
Extraction Date:	19-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**CRM Data Filename:**	**PB8C_261 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	PB8C_260 S: 4
Concentration Units:	ug/kg (wet weight basis)	**Cal. Ver. Data Filename:**	PB8C_261 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	DETERMINED	CERTIFIED / REFERENCE
2,4'-DiCB	8			4.59	4.8 +/- 1.8
2,2',5-TriCB	18	18 + 30	C	29.3	27.3 +/- 4
2,3,3'-TriCB	20	20 + 28	C	44.5	34 +/- 7.2
2,4,4'-TriCB	28	20 + 28	C20		
2,4,6-TriCB	30	18 + 30	C18		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	150	86.6 +/- 25.9
2,2',4,4'-TeCB	47	44 + 47 + 65	C44		
2,2',5,5'-TeCB	52			158	138 +/- 43
2,3,5,6-TeCB	65	44 + 47 + 65	C44		
2,3',4,4'-TeCB	66			165	174 +/- 52
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	150	145 +/- 48
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	77.8	174 +/- 52
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93		
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93		
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93		
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90		
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93		
2,3,3',4,4'-PeCB	105			58.9	53.2 +/- 15.6
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90		
2,3',4,4',5-PeCB	118			151	148 +/- 33
2,2',3,3',4,4'-HxCB	128	128 + 166	C	20.2	20.4 +/- 4.4
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	125	103 +/- 30
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	99.2	105 +/- 22
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129		
2,3,3',4',5',6-HxCB	164			4.64	103 +/- 30
2,3,4,4',5,6-HxCB	166	128 + 166	C128		
2,3',4,4',5',6-HxCB	168	153 + 168	C153		
2,2',3,3',4,4',5-HpCB	170			19.1	20.6 +/- 2.9
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	57.2	53.3 +/- 13
2,2',3,4,4',5,6'-HpCB	182		J	0.403	37.1 +/- 6.3
2,2',3,4',5,5',6-HpCB	187			41.8	37.1 +/- 6.3
2,3,3',4,4',5,6-HpCB	190			5.36	20.6 +/- 2.9
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180		
2,2',3,3',4,4',5,5'-OcCB	194			11.3	10.9 +/- 3.1
2,2',3,3',4,4',5,5',6-NoCB	206		J	4.37	4.4 +/- 1.1
2,2',3,3',4,4',5,5',6,6'-DeCB	209			4.96	4.6 +/- 2

(1) Where applicable, custom lab flags have been used on this report; J = concentration less than lowest calibration equivalent; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688G.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-104_Form8G_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 8H

PCB CONGENER CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NRCC CARP-2

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Matrix:	TISSUE	**Sample Size:**	8.84 g (wet)
Extraction Date:	19-Jul-2018	**Initial Calibration Date:**	07-Jul-2018
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**CRM Data Filename:**	**PB8C_261 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	PB8C_260 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB8C_261 S: 1

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	SPIKE CONC.	CONC. FOUND	% RECOVERY	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			10000	4190	41.9	3.29	0.719
13C12-4-MoCB	3L			10000	4220	42.2	3.13	0.858
13C12-2,2'-DiCB	4L			10000	4400	44.0	1.56	0.873
13C12-4,4'-DiCB	15L			10000	4430	44.3	1.56	1.254
13C12-2,2',6-TriCB	19L			10000	3960	39.6	1.05	1.072
13C12-3,4,4'-TriCB	37L			10000	4120	41.2	1.04	1.092
13C12-2,2',6,6'-TeCB	54L			10000	4220	42.2	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			10000	4760	47.6	0.77	1.398
13C12-3,4,4',5-TeCB	81L			10000	4800	48.0	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			10000	4280	42.8	1.60	0.808
13C12-2,3,3',4,4'-PeCB	105L			10000	4390	43.9	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	4400	44.0	1.55	1.179
13C12-2,3',4,4',5-PeCB	118L			10000	4540	45.4	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	4470	44.7	1.54	1.151
13C12-3,3',4,4',5-PeCB	126L			10000	4590	45.9	1.57	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			10000	3700	37.0	1.24	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	8860	44.3	1.22	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	4500	45.0	1.28	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			10000	4350	43.5	1.23	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	6090	60.9	1.02	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	5980	59.8	1.03	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			10000	4460	44.6	1.03	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	4330	43.3	1.01	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			10000	4260	42.6	0.89	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			10000	4330	43.3	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			10000	5020	50.2	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			10000	4740	47.4	0.78	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			10000	4340	43.4	1.18	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			10000	4780	47.8	1.06	0.925
13C12-2,3,3',5,5'-PeCB	111L			10000	4600	46.0	1.58	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	4830	48.3	1.05	1.011

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form16688H.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PCBTFC_WG64623-104_Form8H_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

www.axysanalytical.com

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 278
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

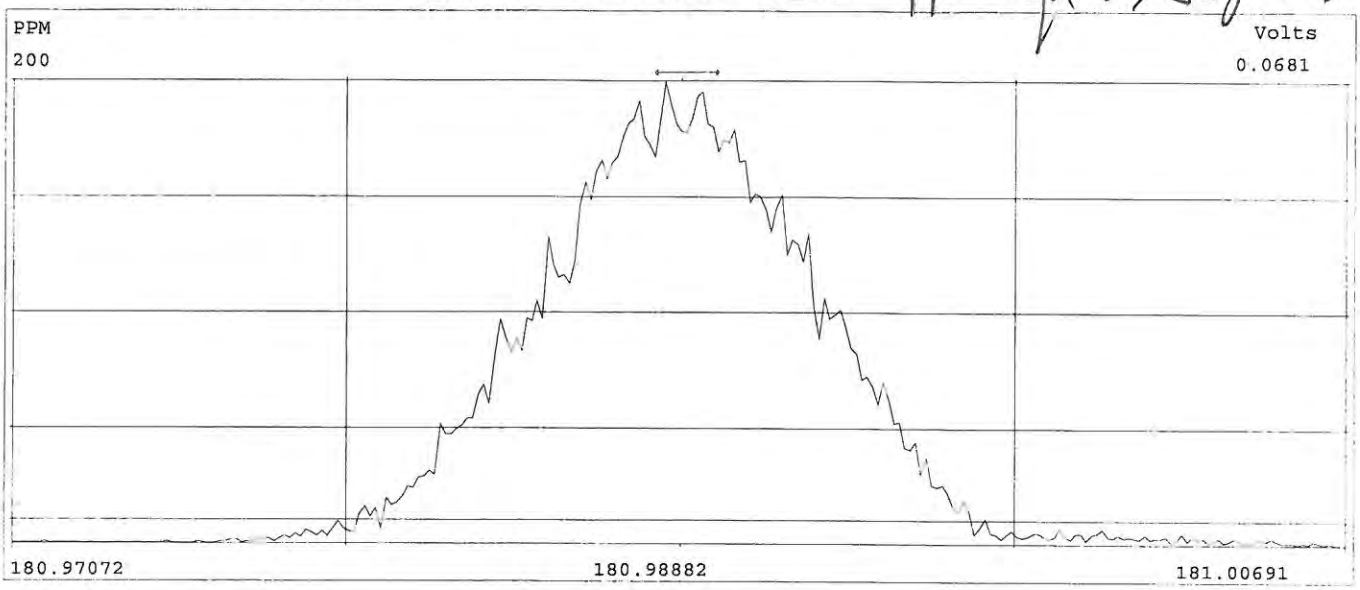
Tune : XX
List : BA
Check :
LIMS :
Logfile:

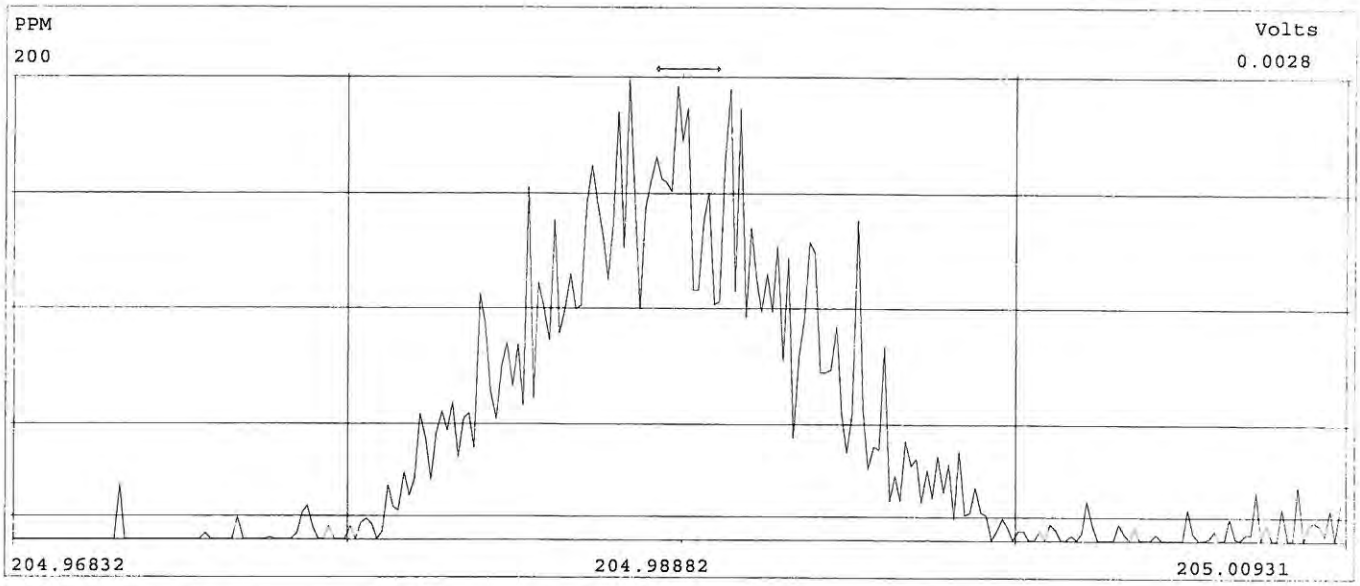
Date -list : 07-JUL-2018
-liner : 03-JUL-2018
-septum: 06-JUL-2018
-guard : NEW 03-JUL-2018
-column: NEW 03-JUN-2018
-t line: NEW 03-JUN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_220	1	1	PB108A-CAL,,/01-7	1,,1.0uL CS-0.2 Sens	7-JUL-18 17:42:35
2	PB8C_220	2	2	PB108A-CAL,,/01-7	1,,1.0uL CS-0.2 Sens	7-JUL-18 18:49:19
3	PB8C_220	3	3	PB108B-CAL,,/01-6	1,,1.0uL CS-1	7-JUL-18 19:53:17
4	PB8C_220	4	4	PB108C-CAL,,/01-8	1,,1.0uL CS-1	7-JUL-18 20:57:02
5	PB8C_220A	1	5	PB108G-CAL,,/01-7	1,,1.0uL CS-5	7-JUL-18 22:17:06
6	PB8C_220A	2	6	PB108F-CAL,,/01-8	1,,1.0uL CS-4	7-JUL-18 23:20:51
7	PB8C_220A	3	7	PB108E-CAL,,/01-6	1,,1.0uL CS-3	8-JUL-18 00:24:37
8	PB8C_220A	4	8	PB108D-CAL,,/01-7	1,,1.0uL CS-2	8-JUL-18 01:28:19
9	PB8C_220A	5	9	PB109A-CAL,,/01-23	1,,1.0uL CAL WIN/RES	8-JUL-18 02:32:13
10	PB8C_220A	6	10	PB108H-CAL,,/01-8	1,,1.0uL CS-6	8-JUL-18 03:35:55
11	PB8C_220A	7	11	TOLUENE,,	1,,1.0uL	8-JUL-18 04:39:38
12	PB8C_220A	8	12	TOLUENE,,	1,,1.0uL	8-JUL-18 05:43:22
13	PB8C_220A	9	13	TOLUENE,,	1,,1.0uL	8-JUL-18 06:47:04
14	PB8C_220A	10	14	TOLUENE,,	1,,1.0uL	8-JUL-18 07:50:47

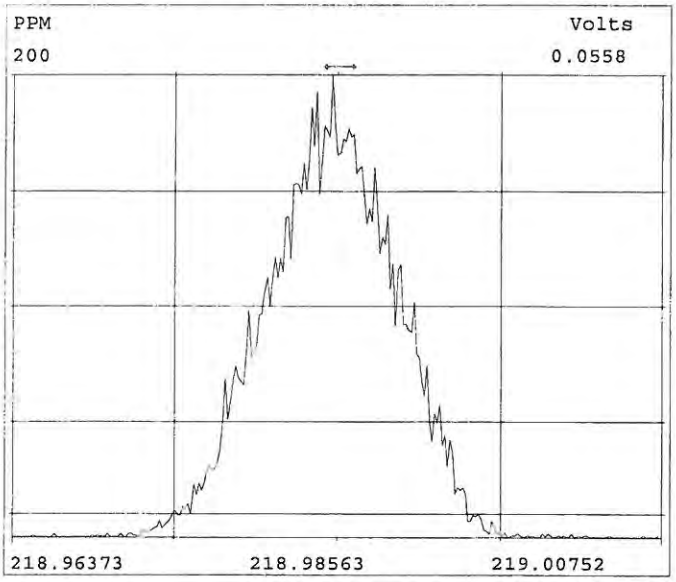
Peak Locate Examination: 7-JUL-2018:17:37 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

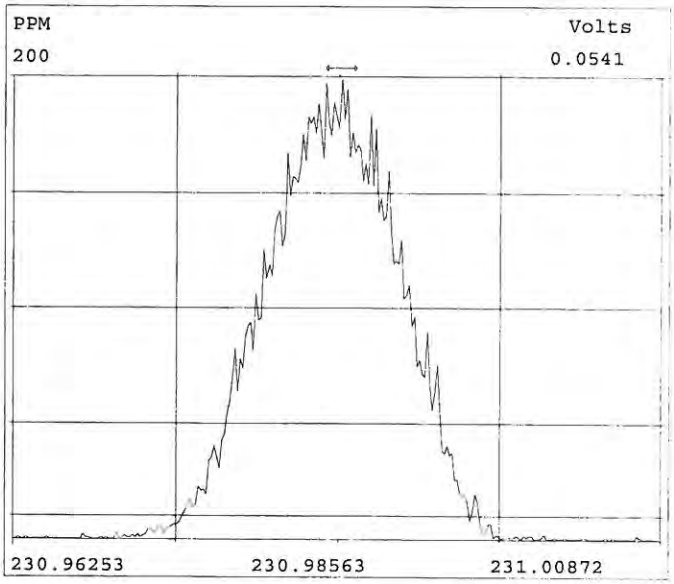
Approved xx 07 July 2018

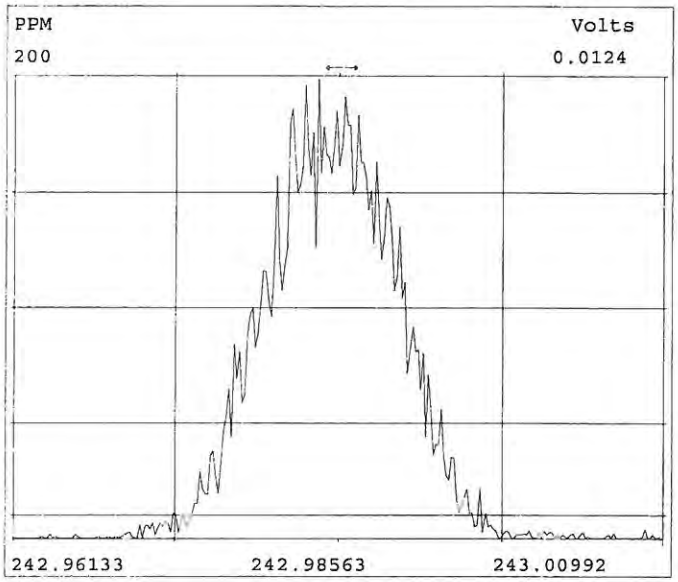


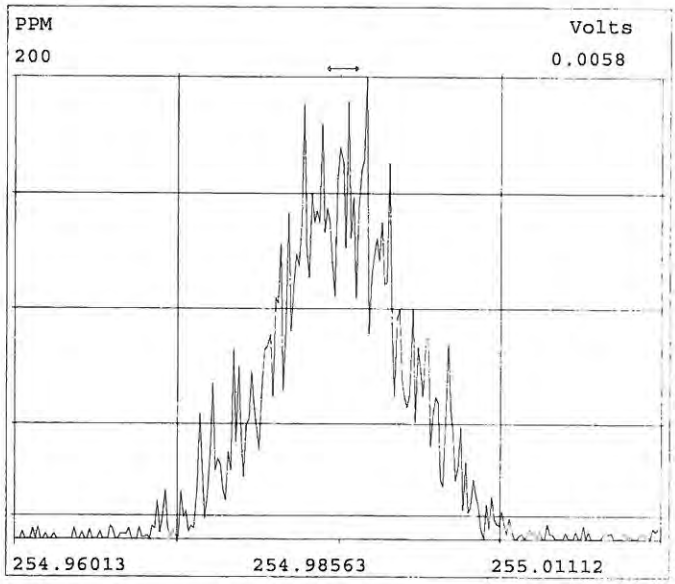


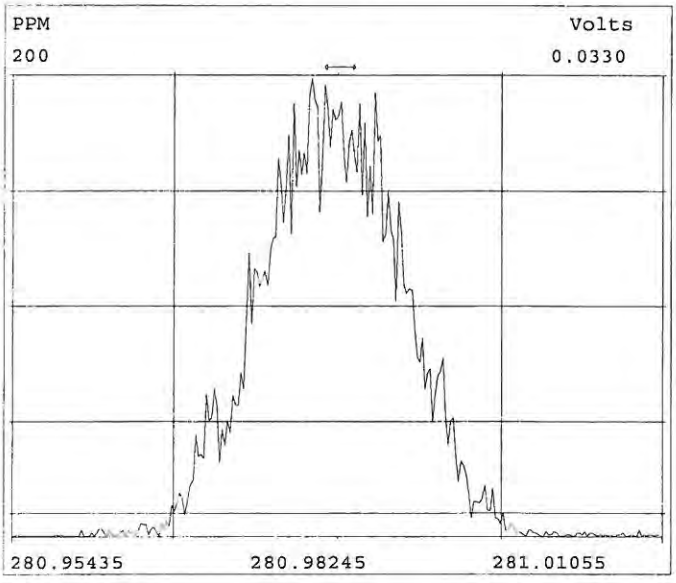
Peak Locate Examination: 7-JUL-2018:17:38 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

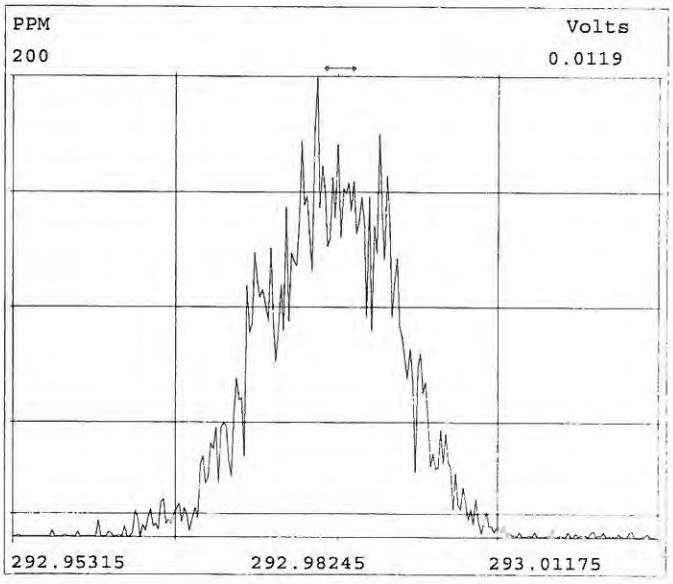




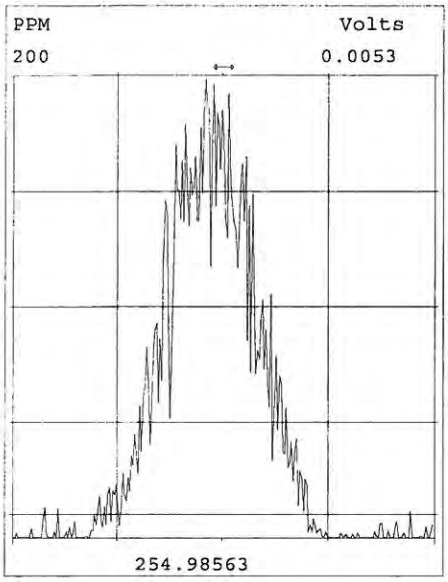


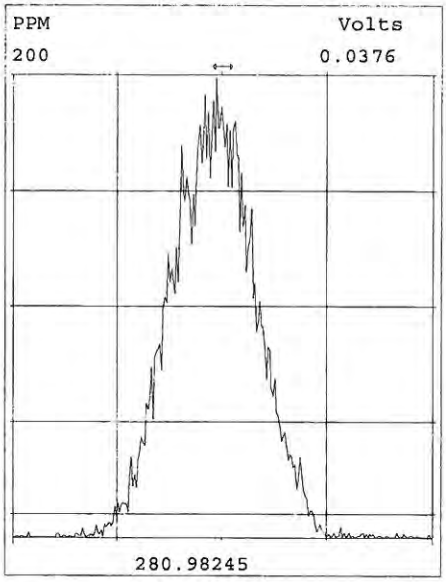


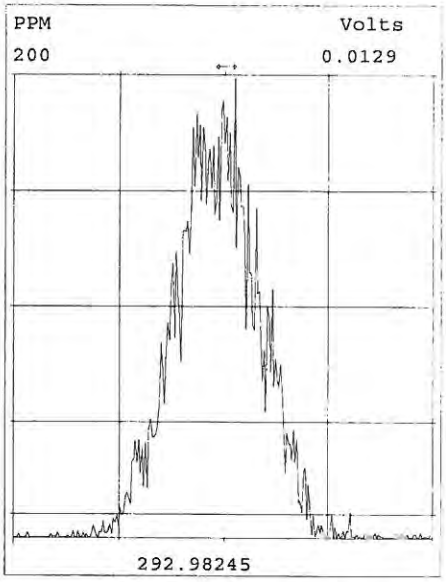


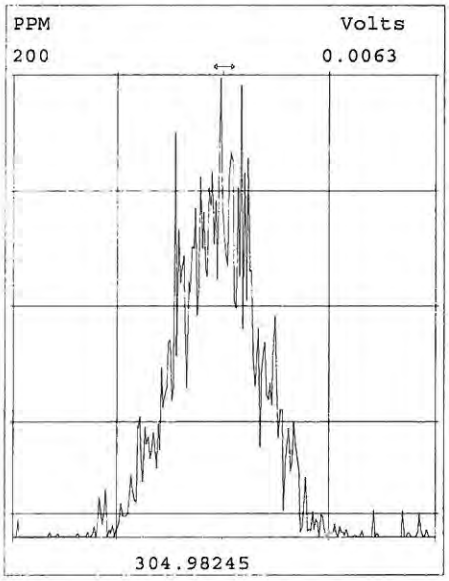


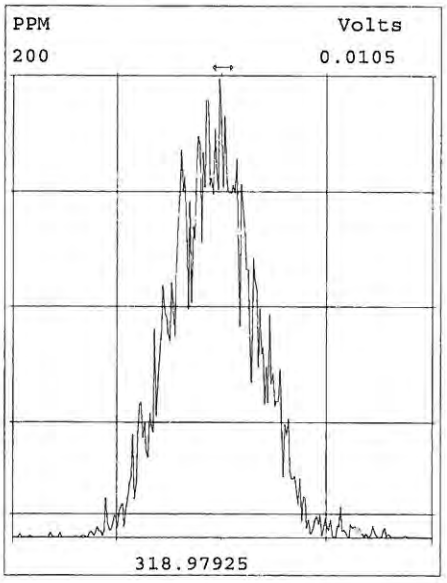
Peak Locate Examination: 7-JUL-2018:17:38 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

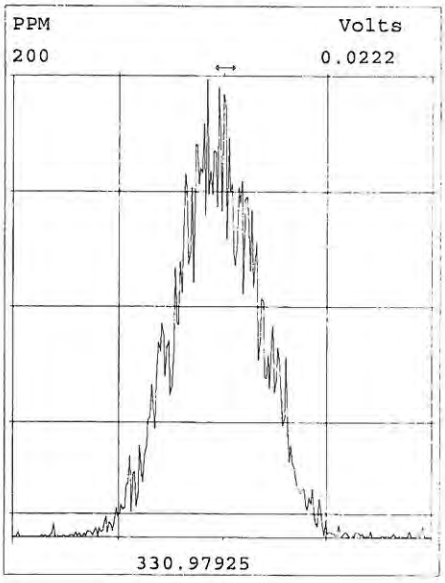


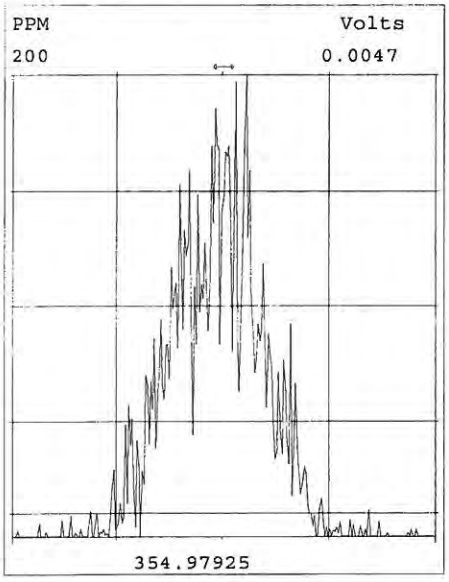




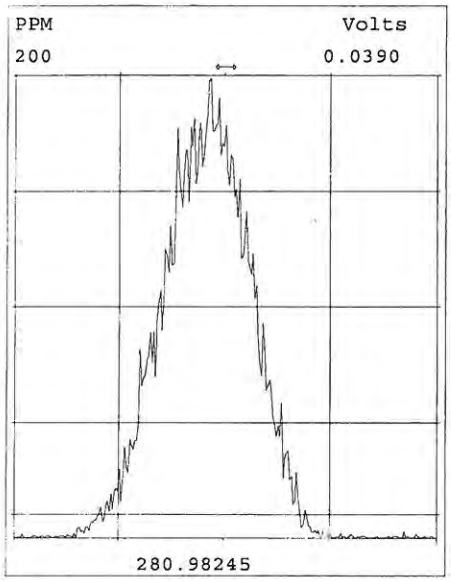


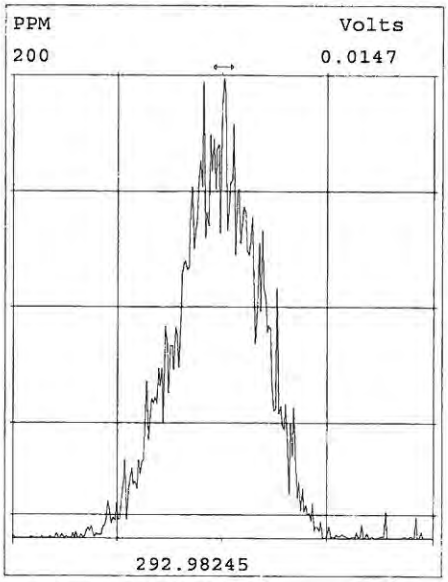


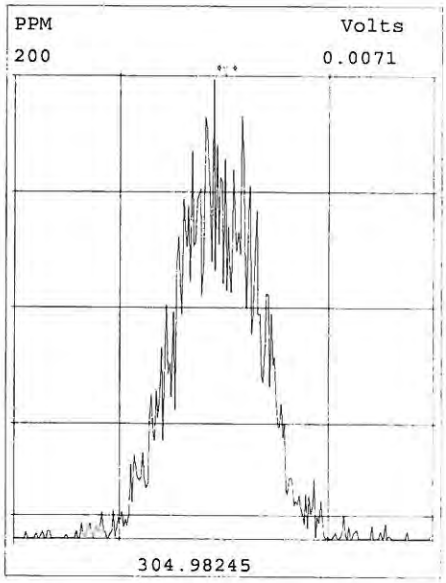


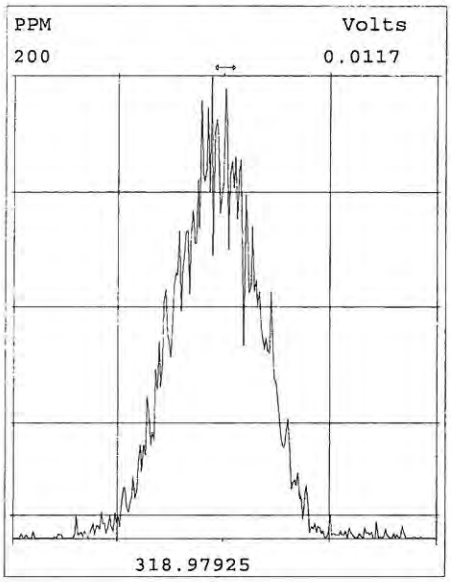


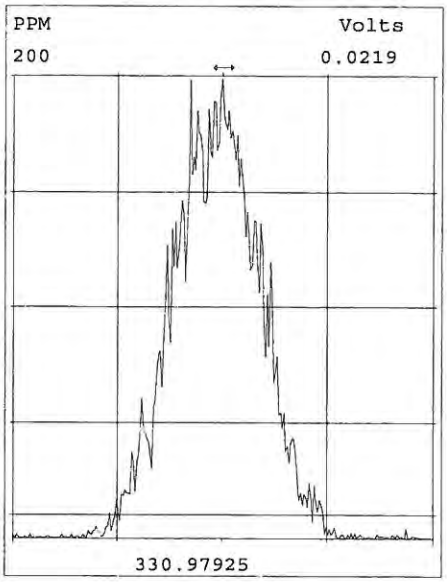
Peak Locate Examination: 7-JUL-2018:17:39 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

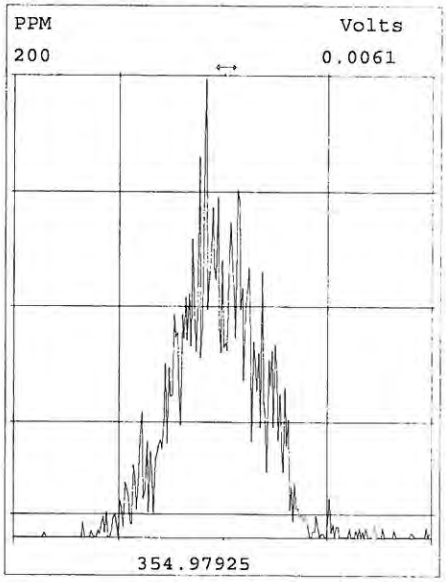


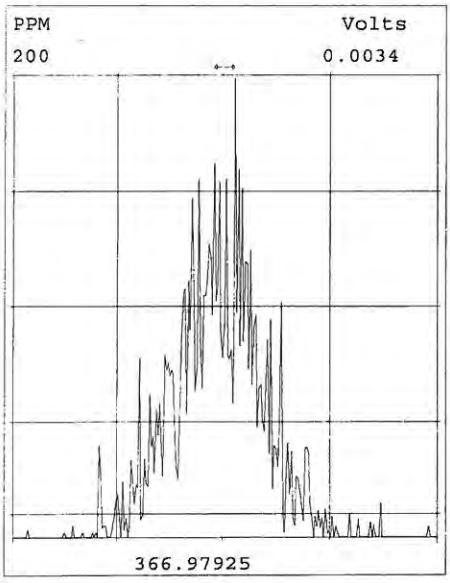


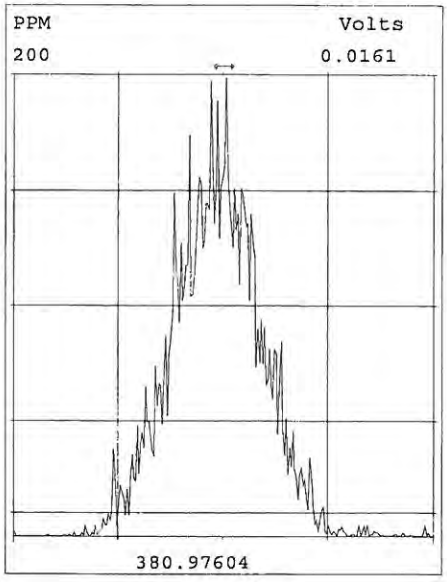




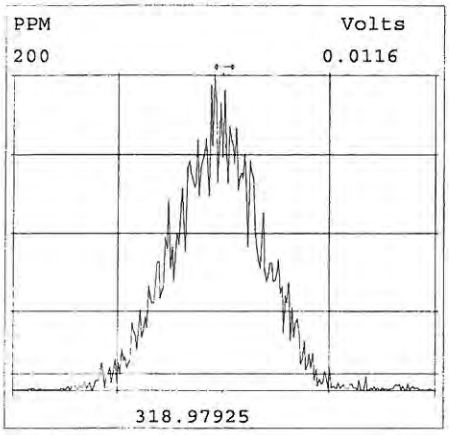


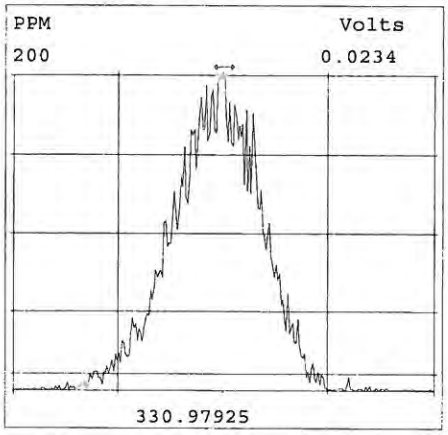


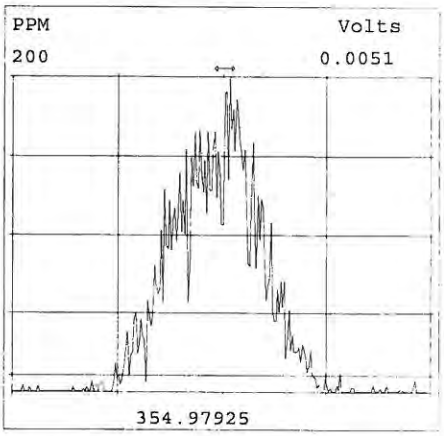


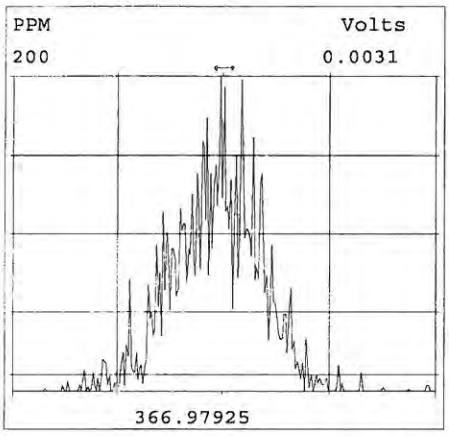


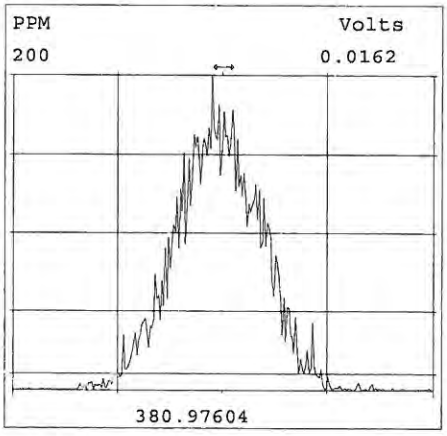
Peak Locate Examination: 7-JUL-2018:17:39 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

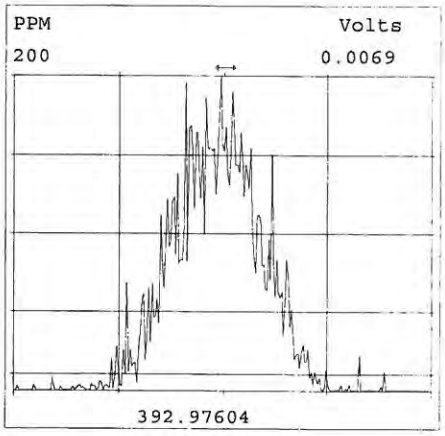


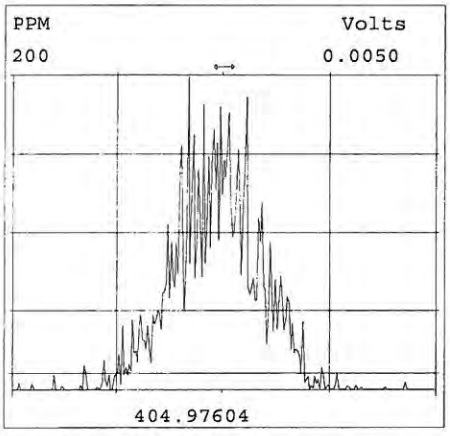


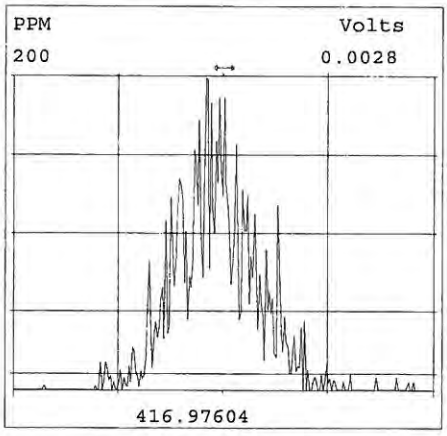


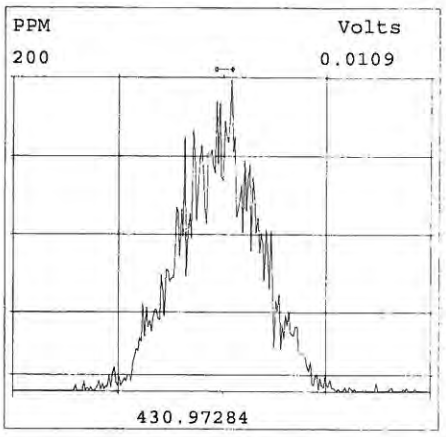


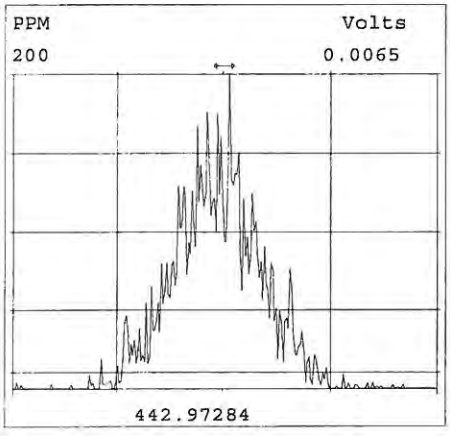




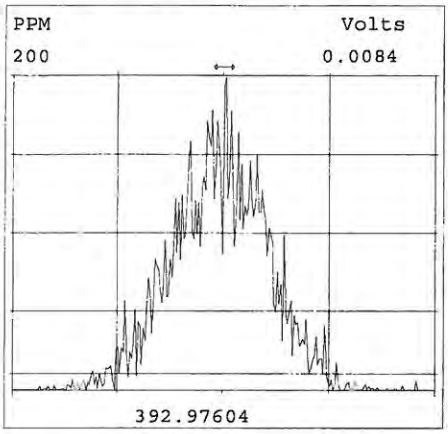


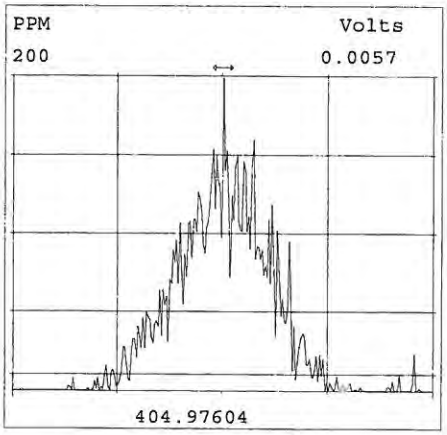


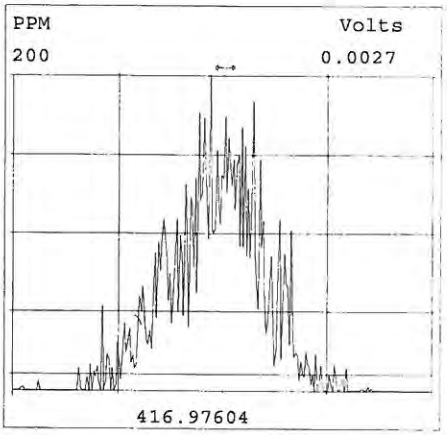


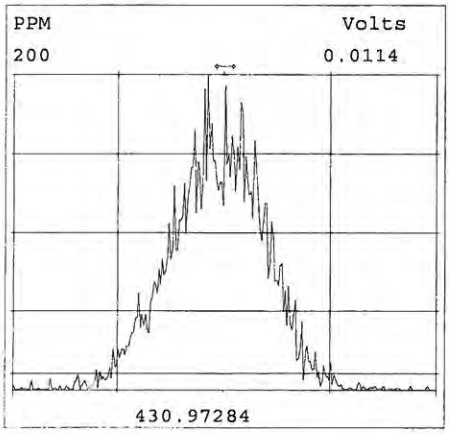


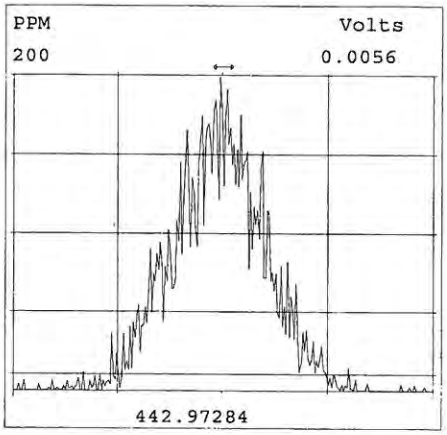
Peak Locate Examination: 7-JUL-2018:17:40 File:PB8C_220CAL
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

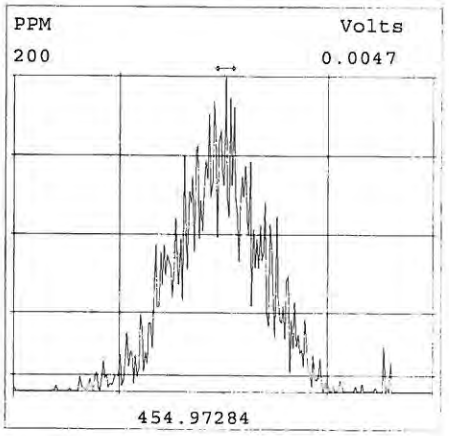


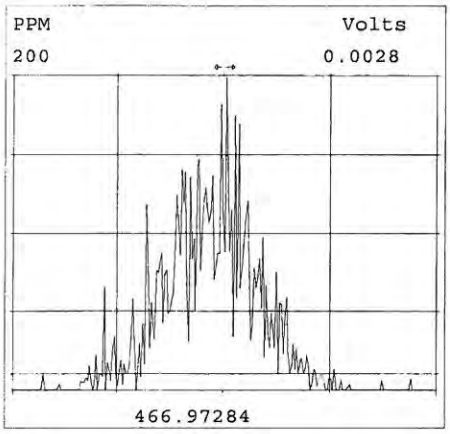


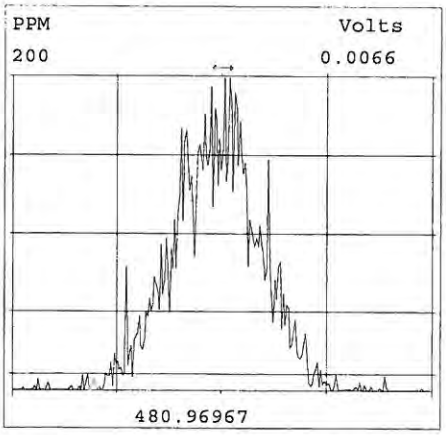


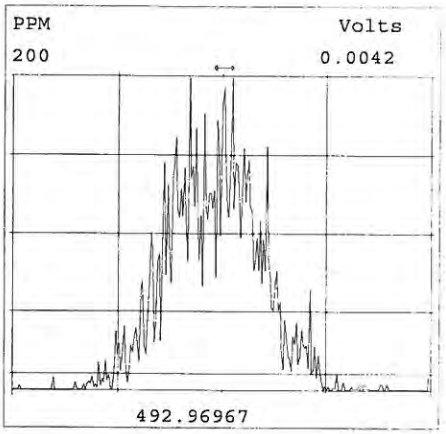


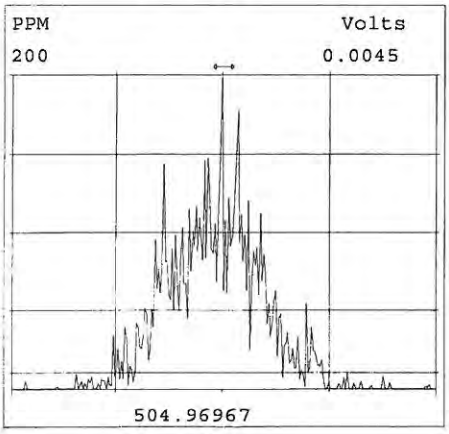


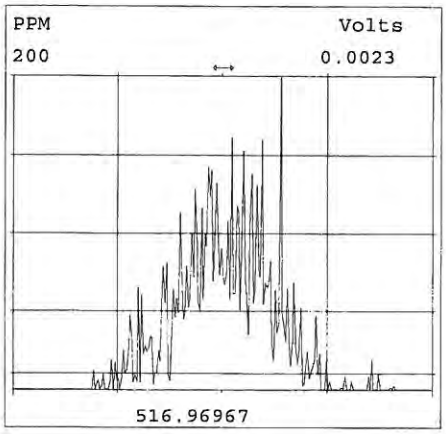






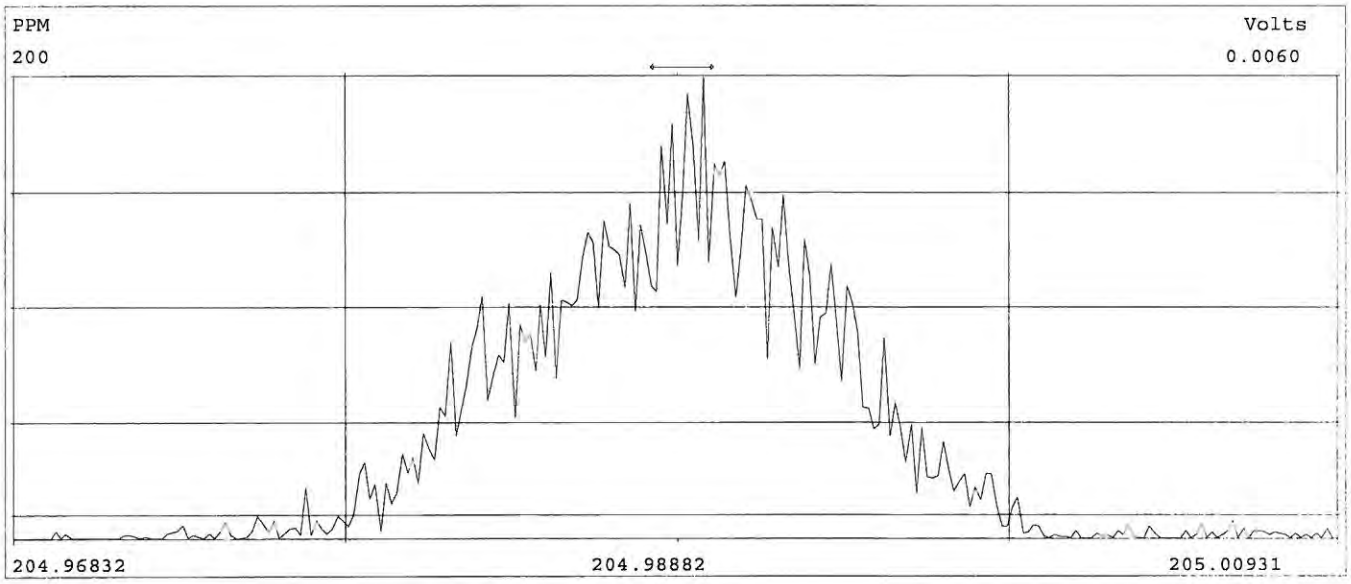




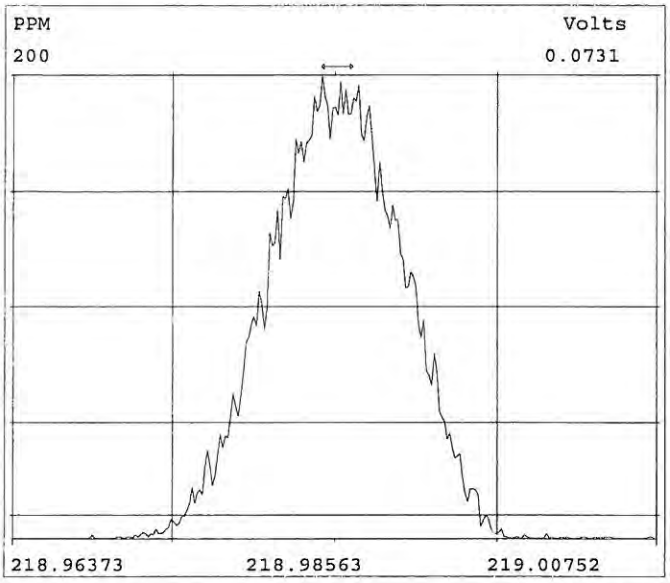


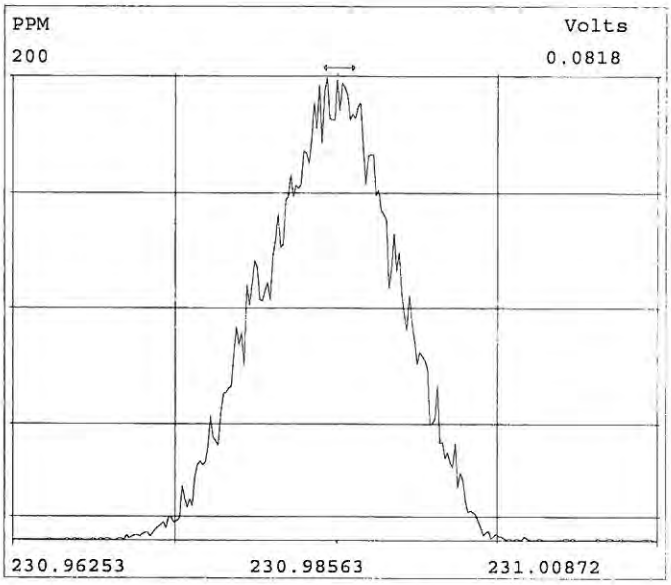
Peak Locate Examination: 7-JUL-2018:22:13 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

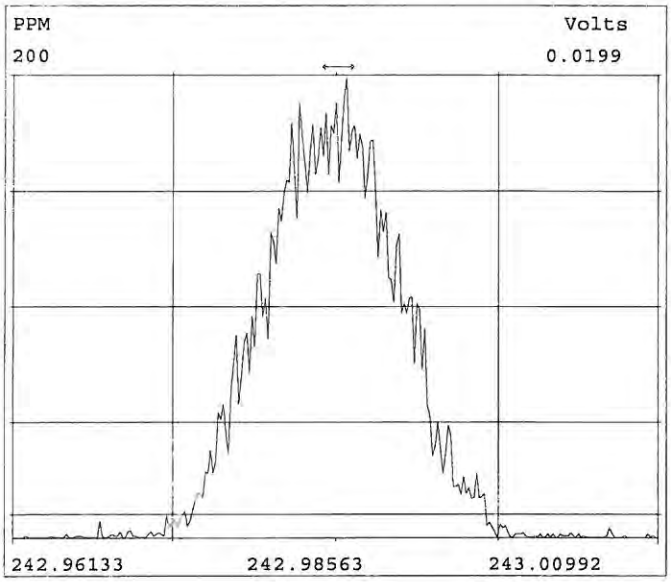
Approval yx 07 July 2018

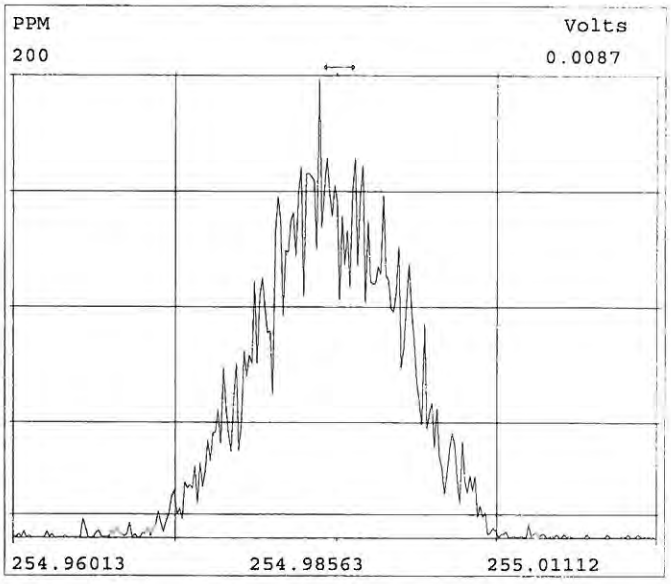


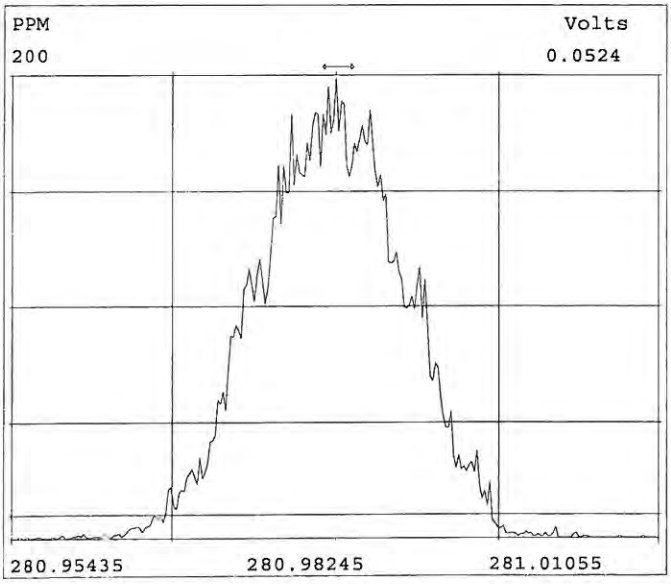
Peak Locate Examination: 7-JUL-2018:22:14 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

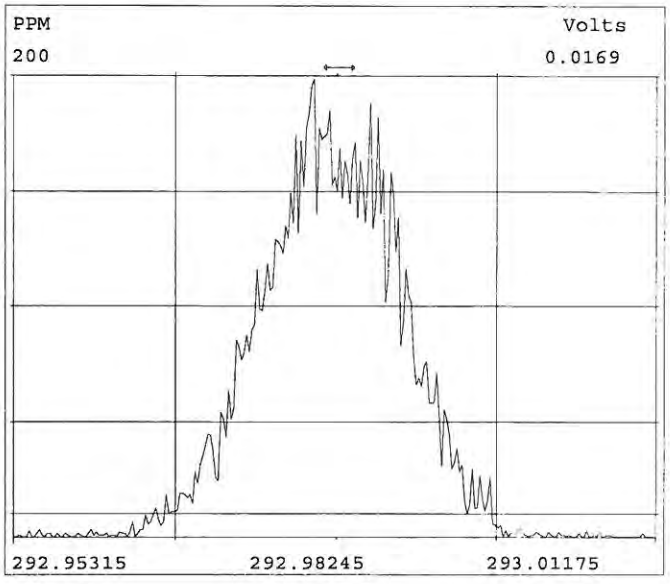




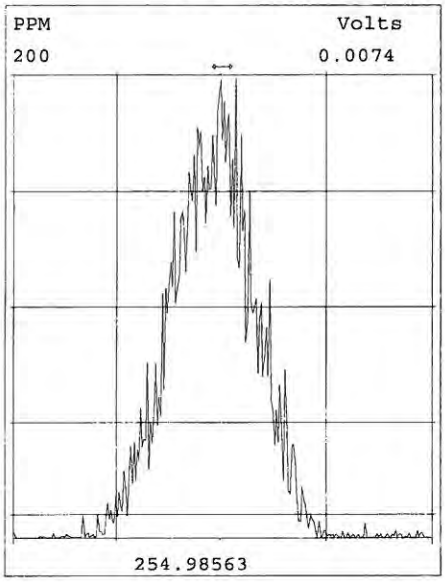


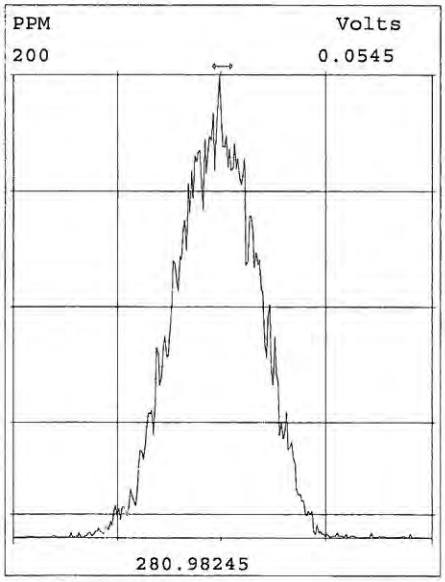


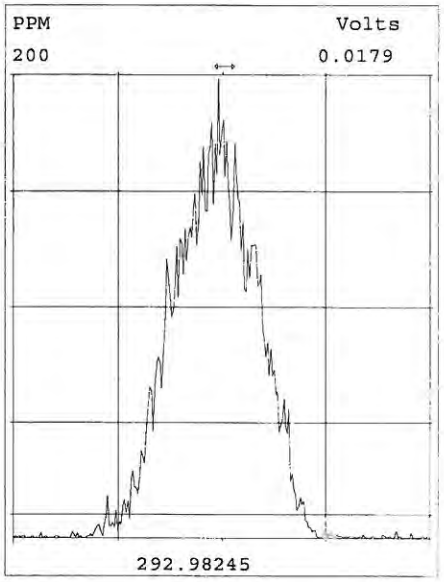


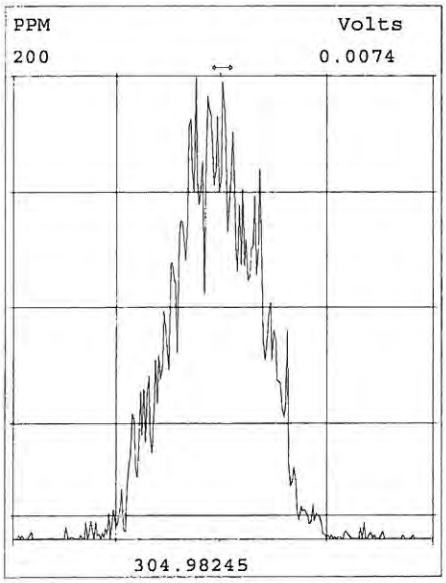


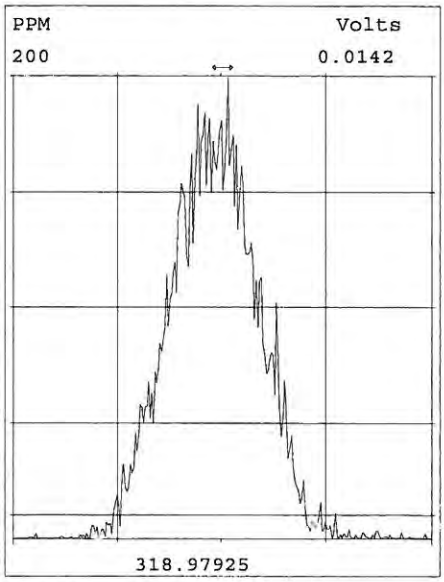
Peak Locate Examination: 7-JUL-2018:22:14 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

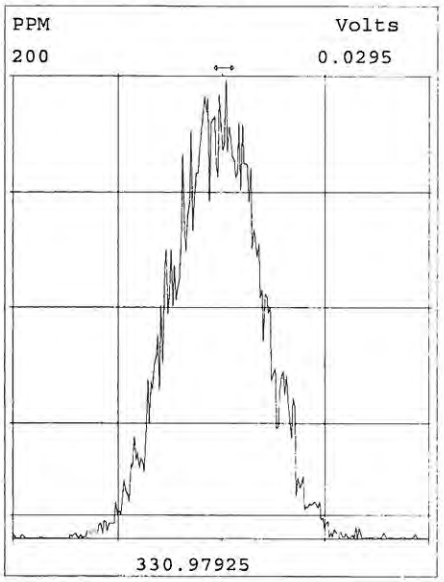


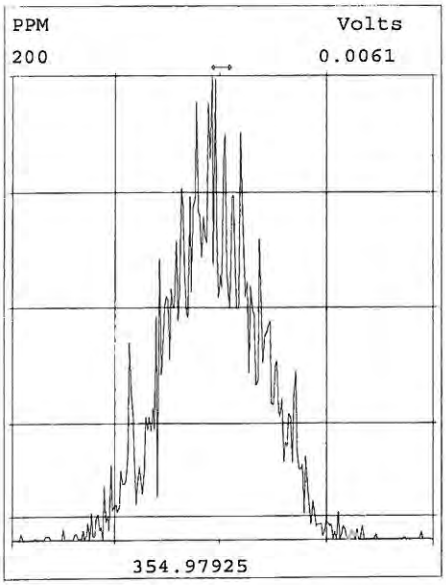




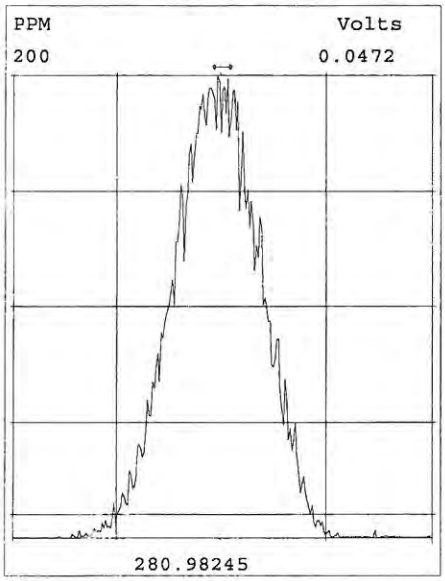


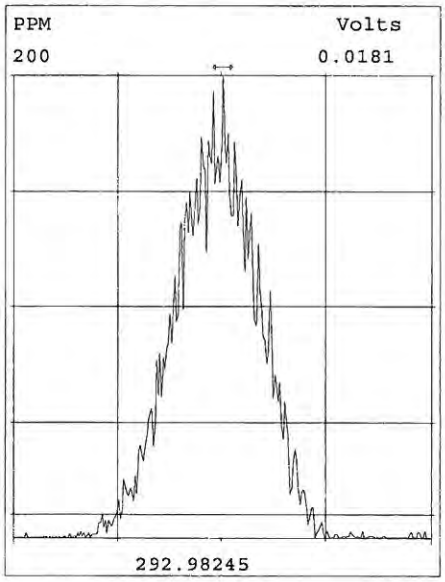


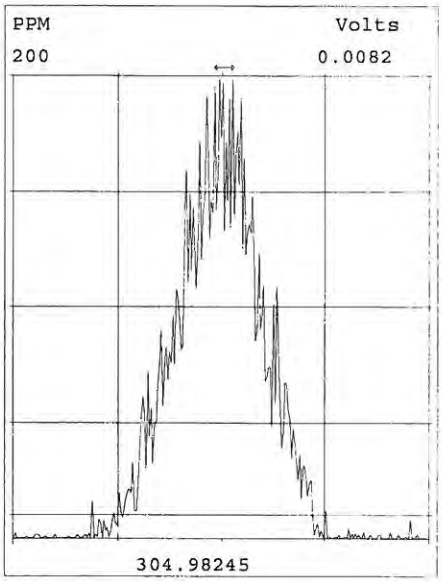


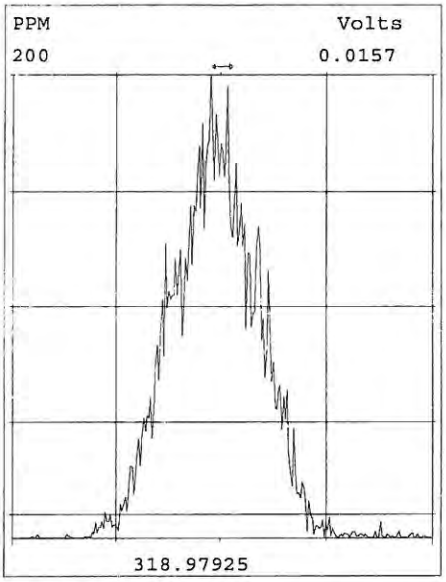


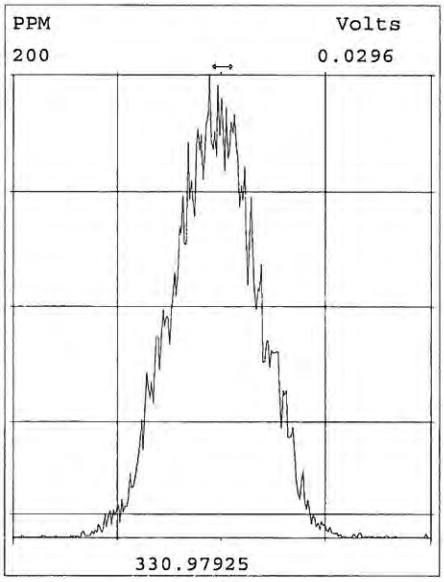
Peak Locate Examination: 7-JUL-2018:22:14 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

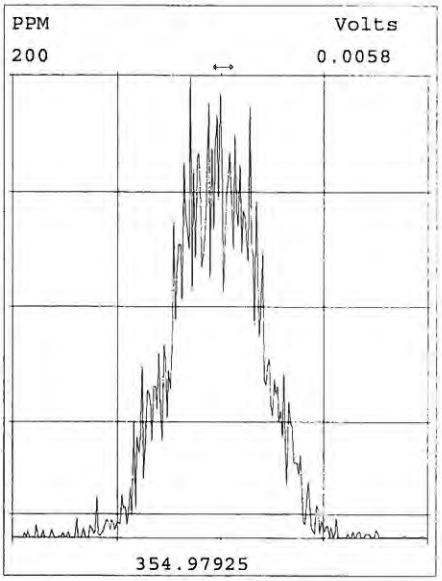


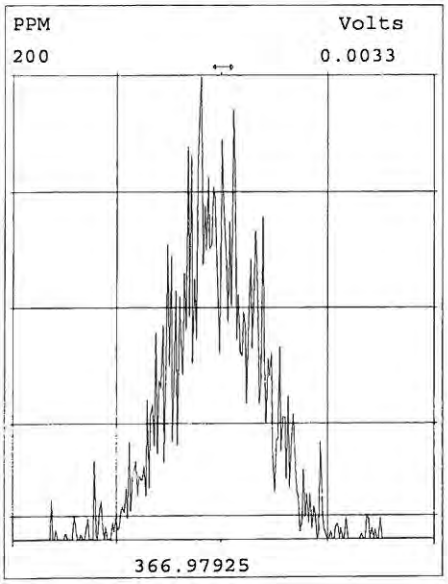


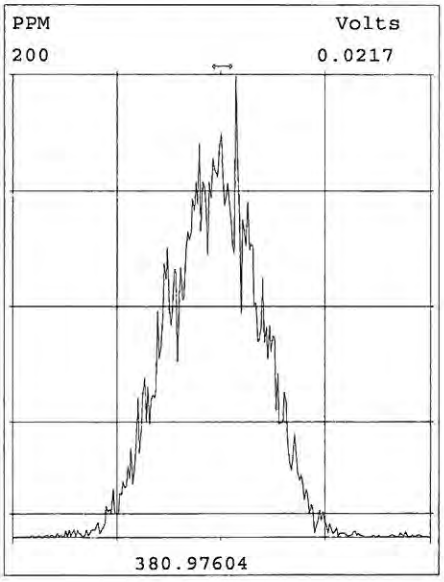




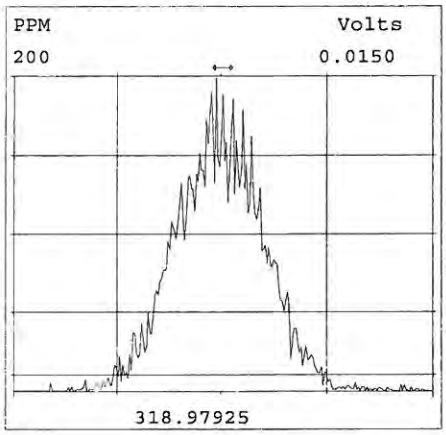


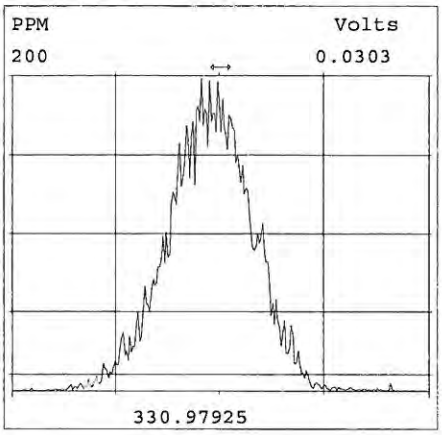


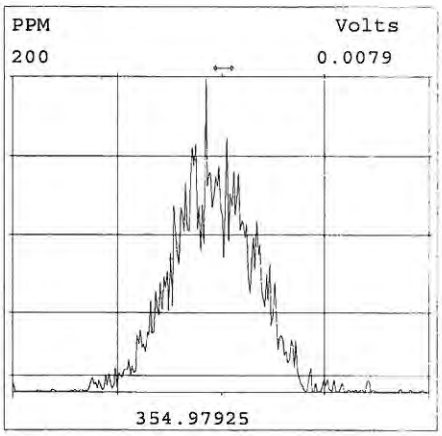


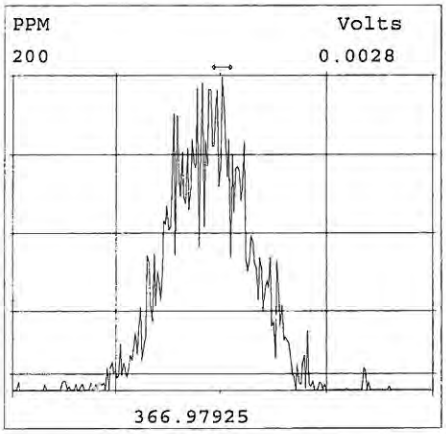


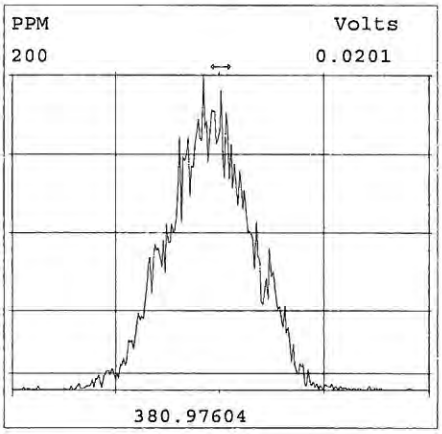
Peak Locate Examination: 7-JUL-2018:22:15 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

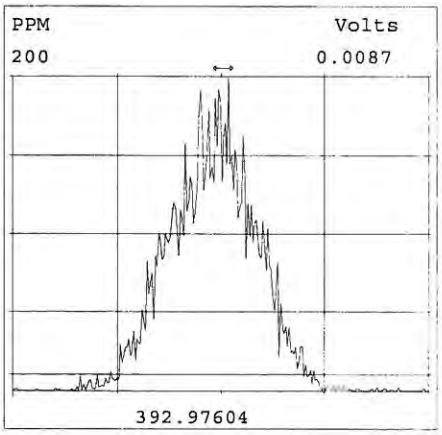


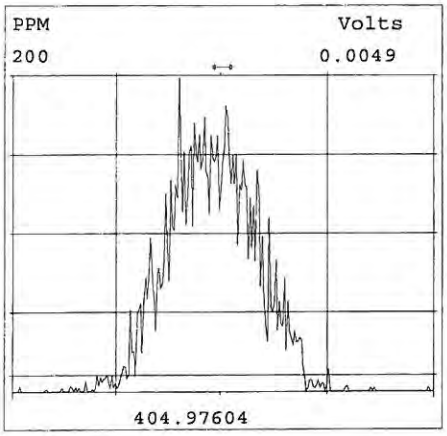


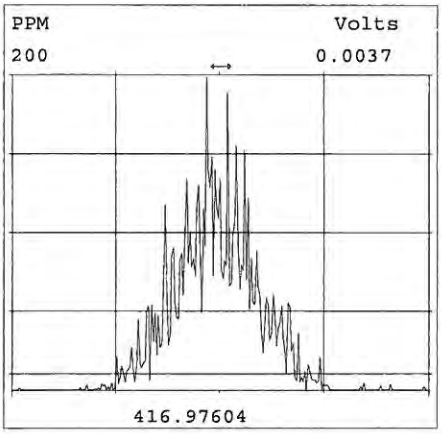


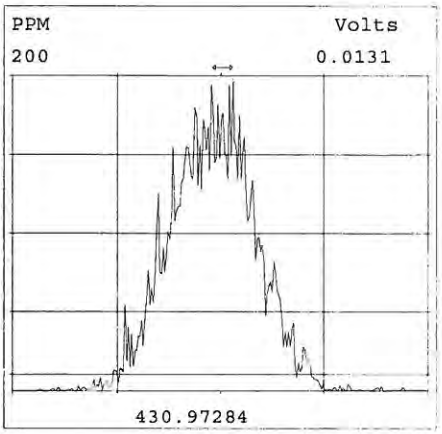


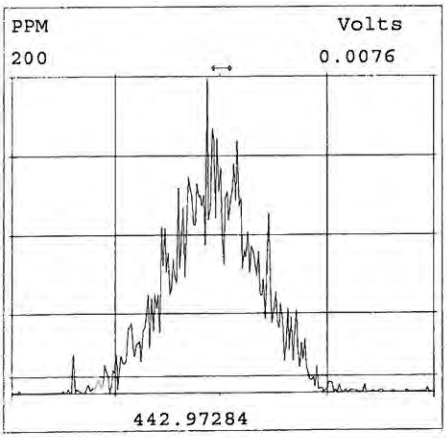




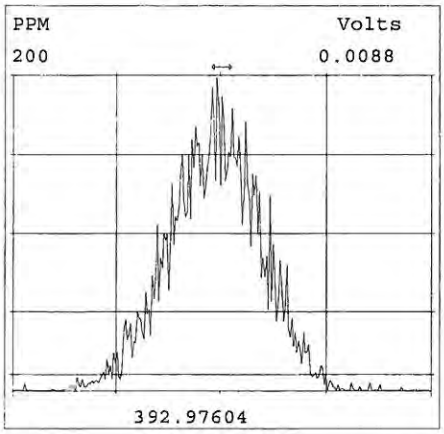


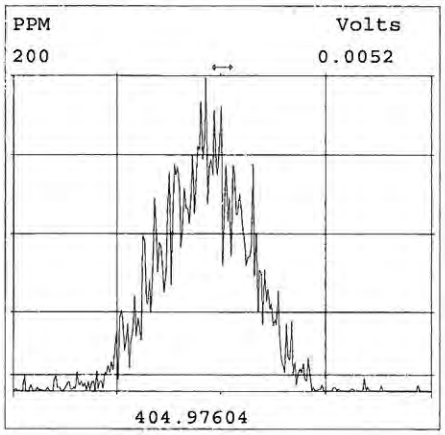


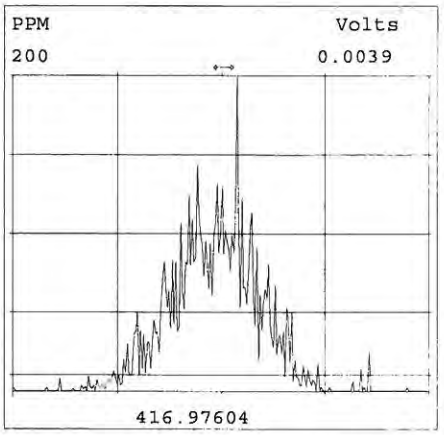


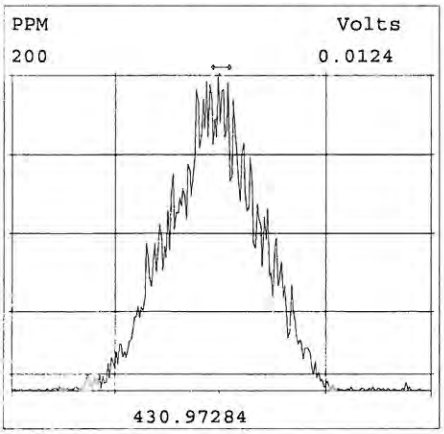


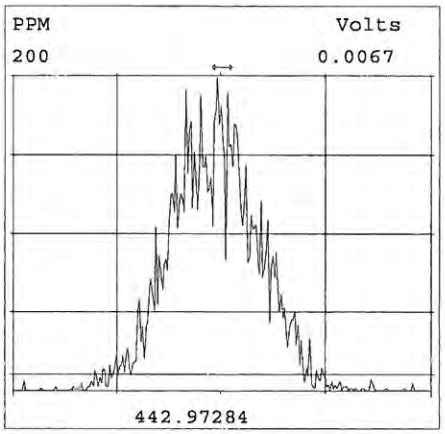
Peak Locate Examination: 7-JUL-2018:22:15 File:PB8C_220ACAL/220CAL2
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

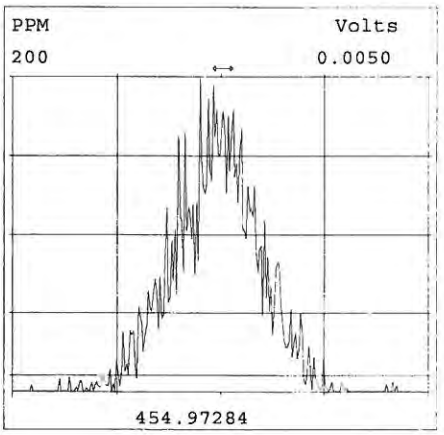


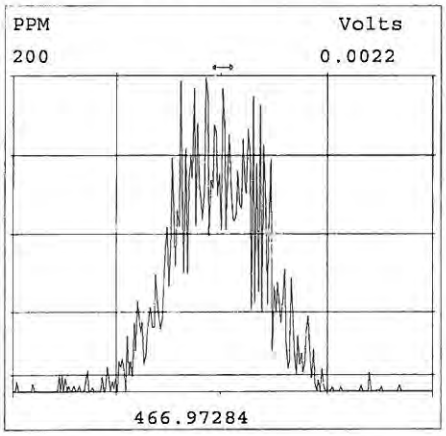


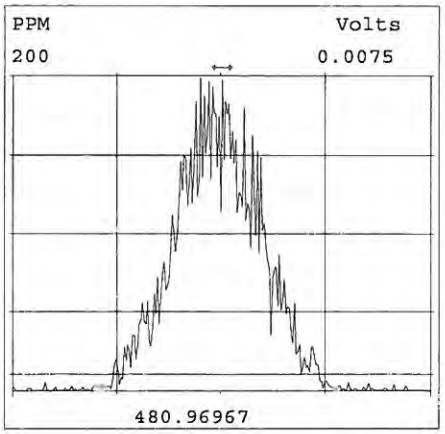


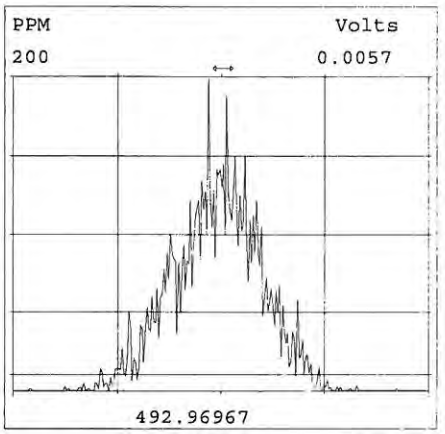


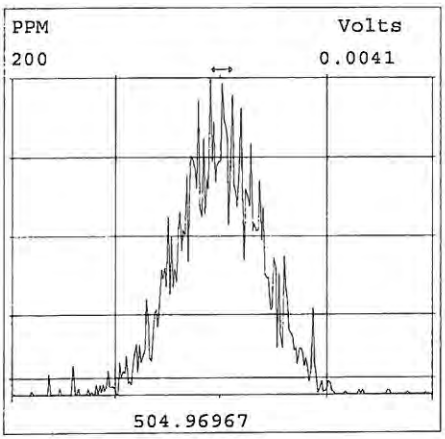


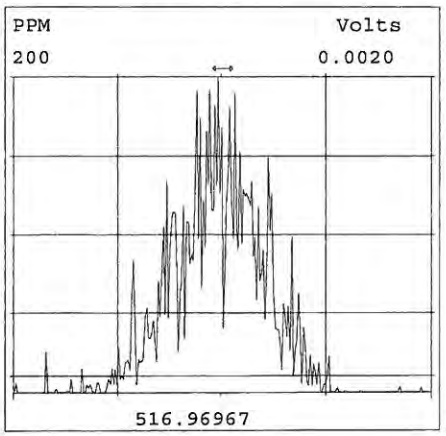






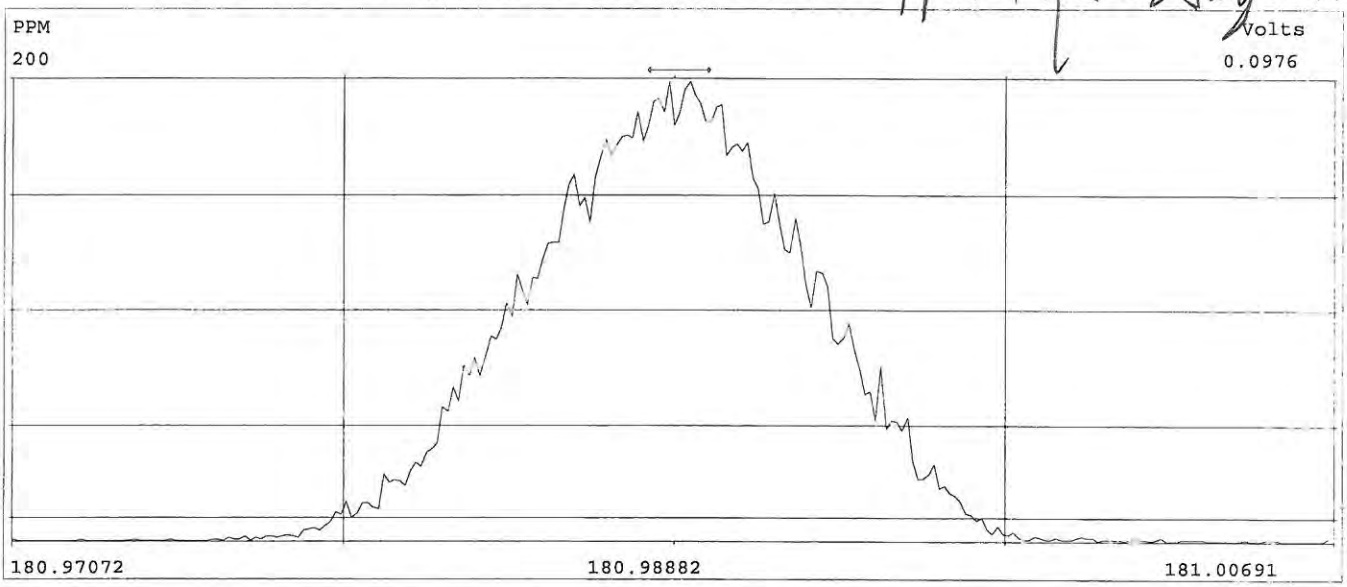


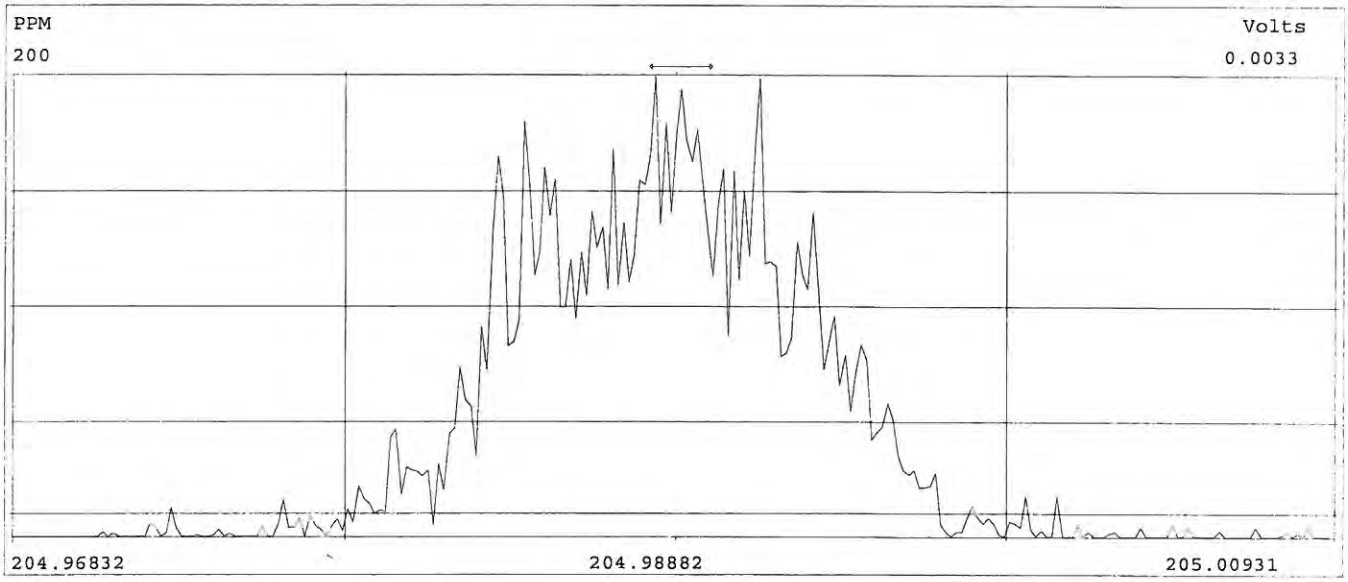


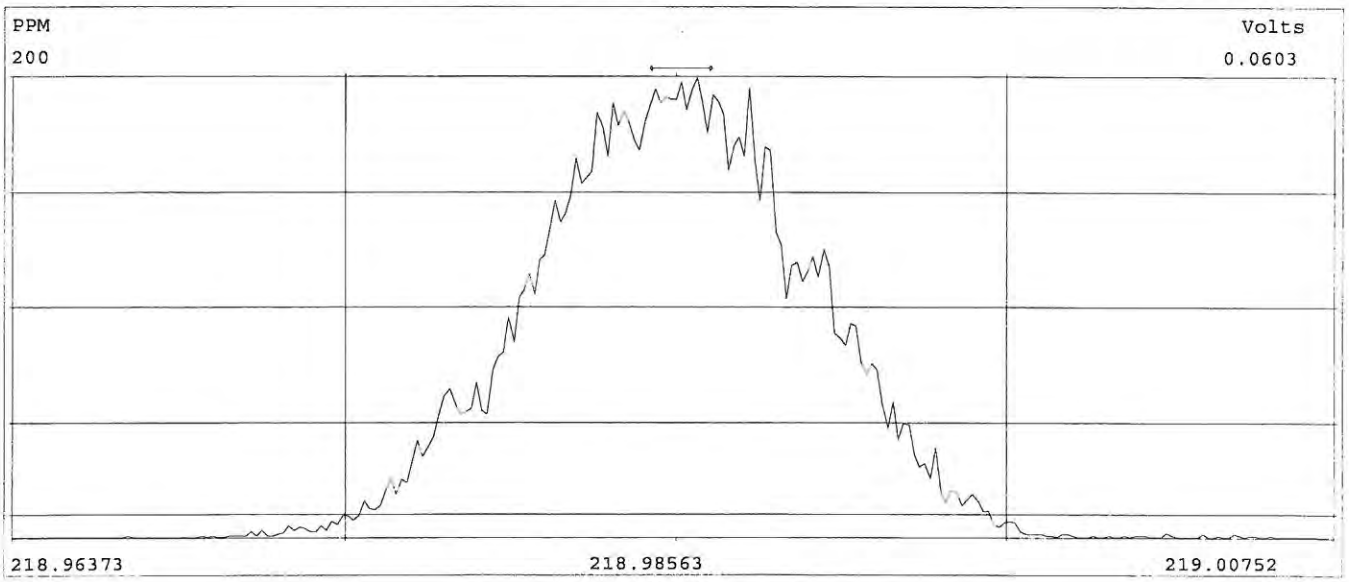


Peak Locate Examination: 8-JUL-2018:09:15 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

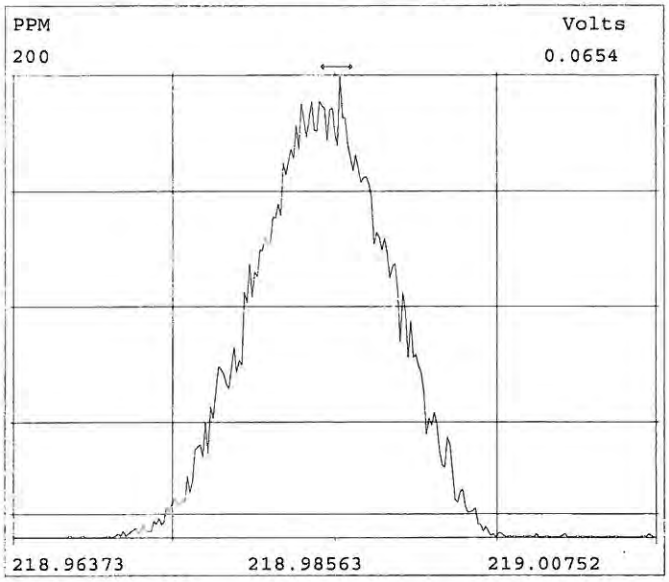
Approval jx 08 July 2018

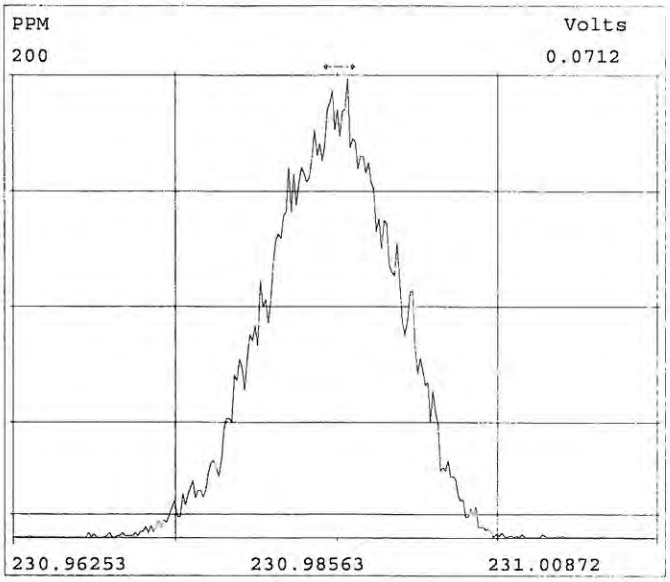


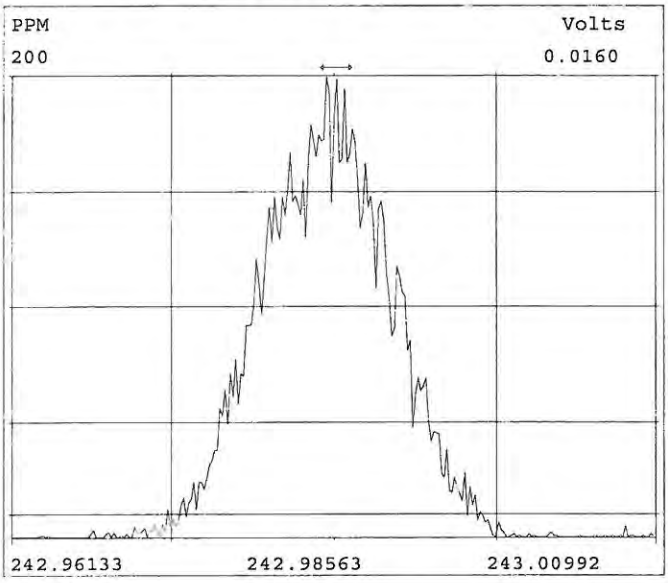


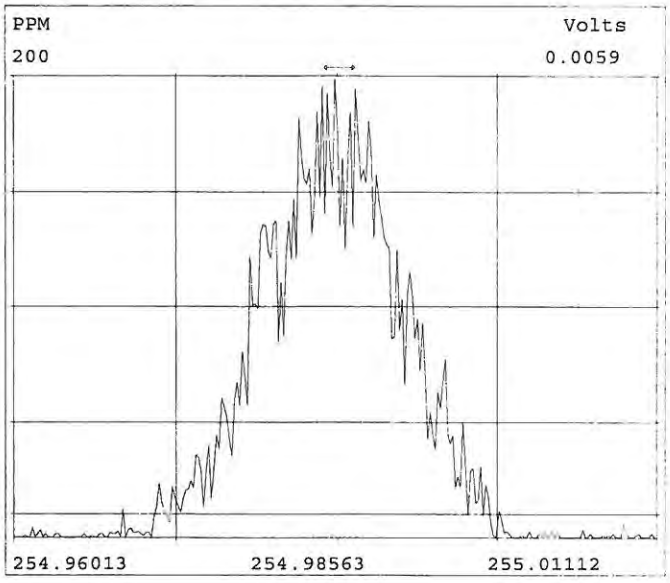


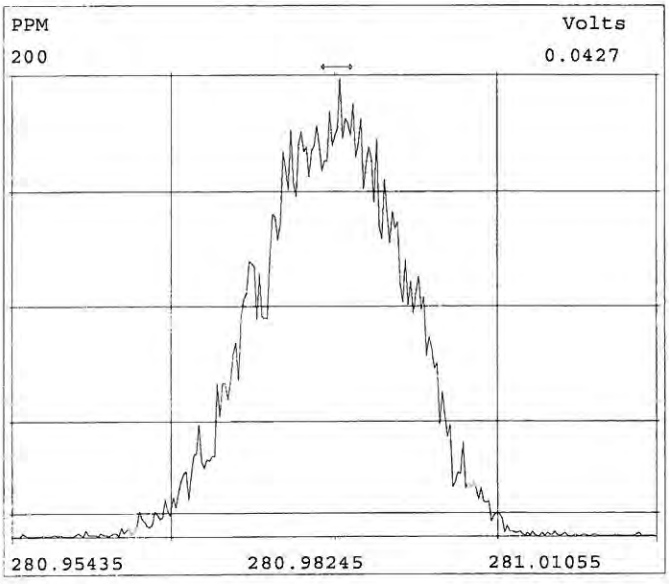
Peak Locate Examination: 8-JUL-2018:09:16 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

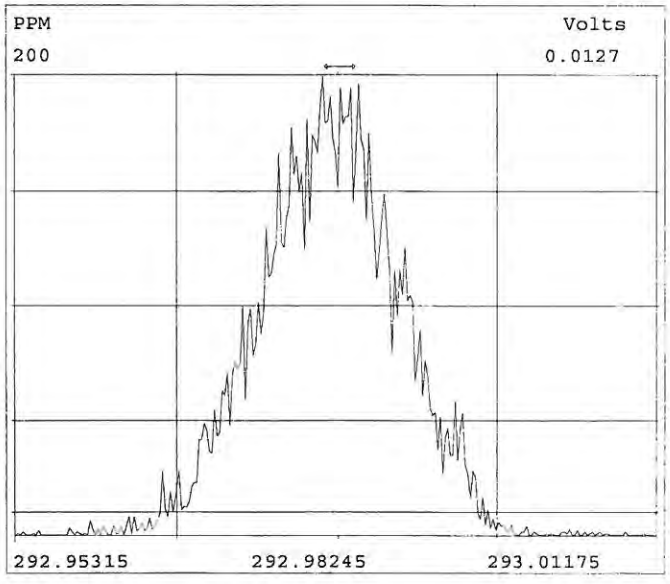




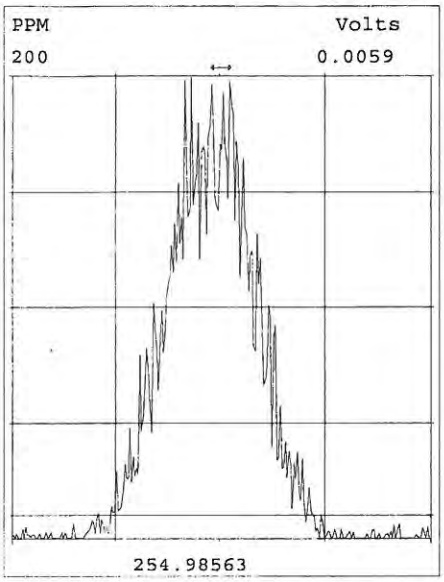


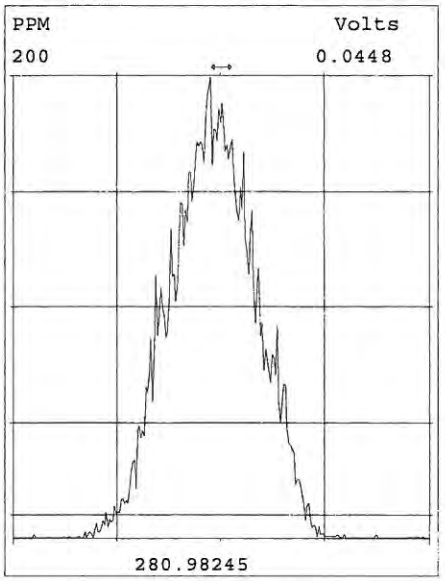


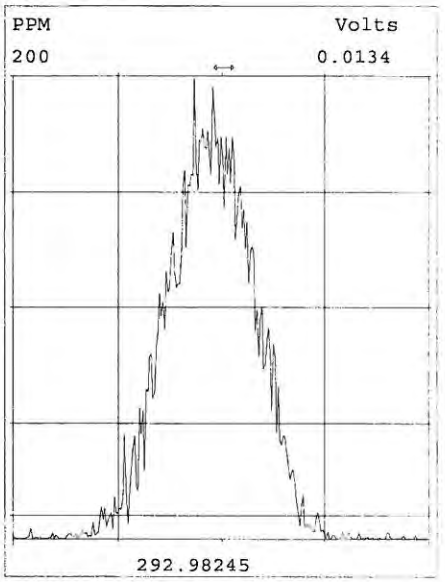


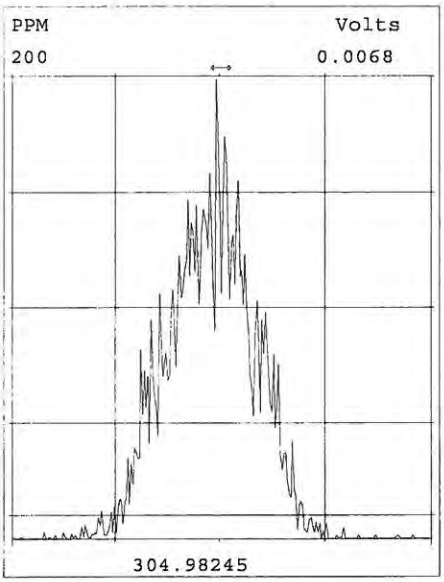


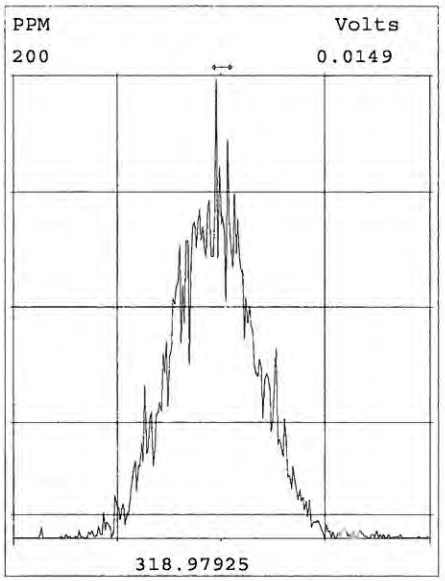
Peak Locate Examination: 8-JUL-2018:09:16 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

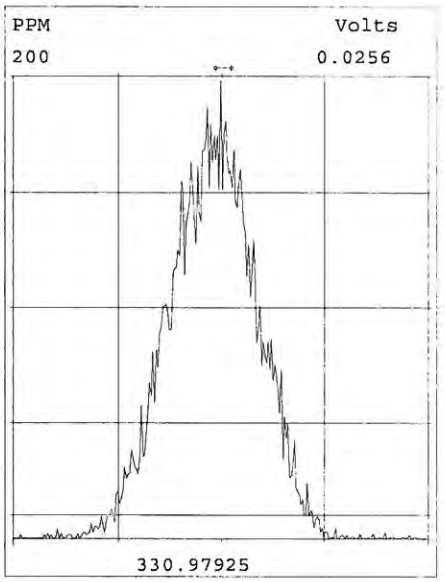


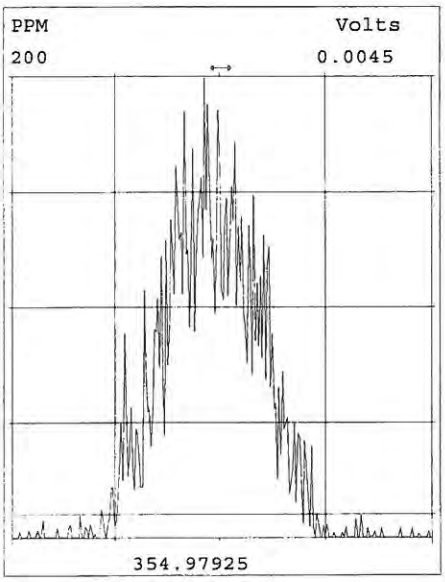




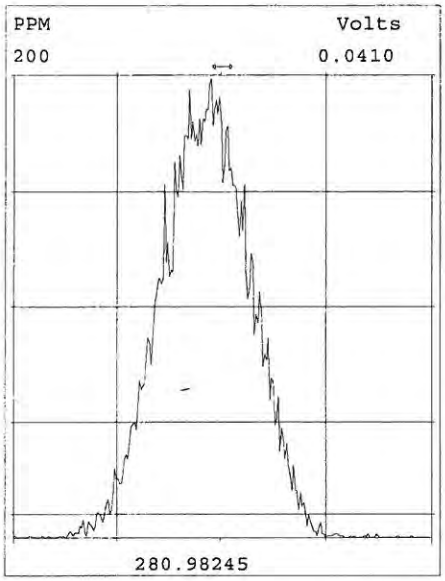


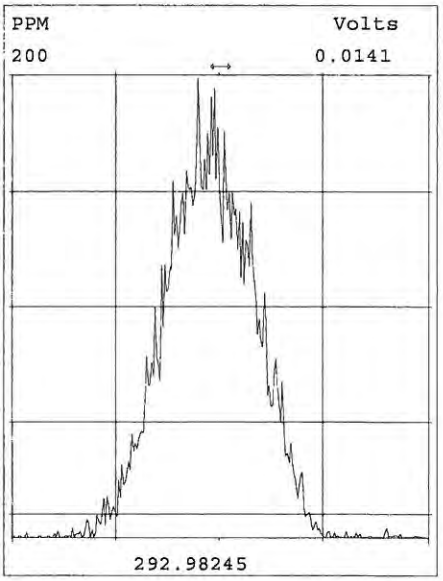


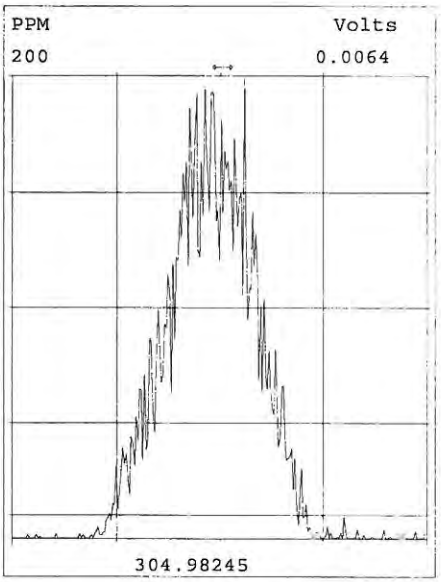


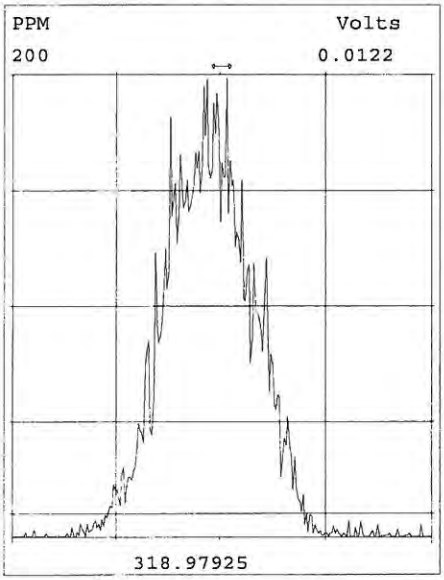


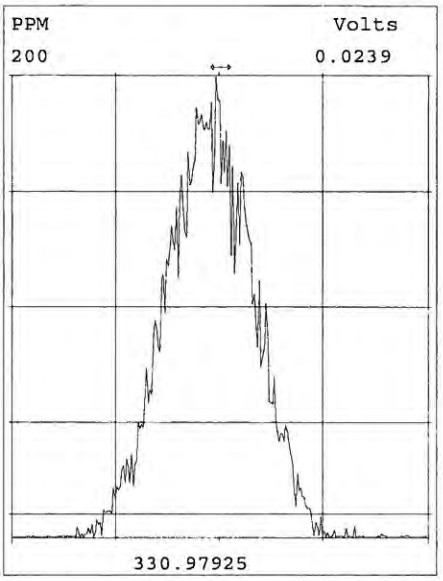
Peak Locate Examination: 8-JUL-2018:09:16 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

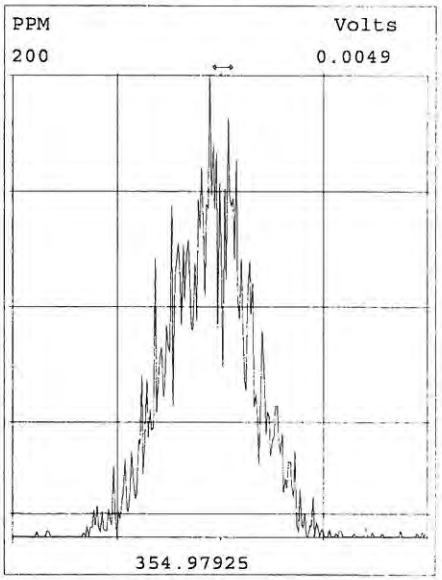


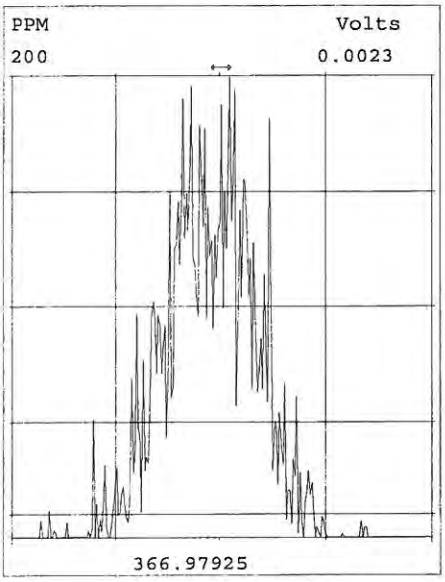


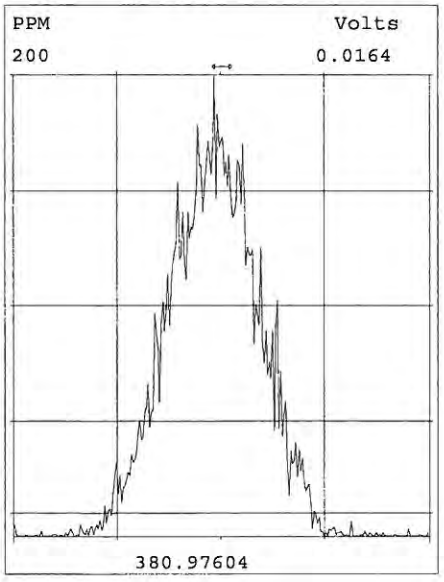




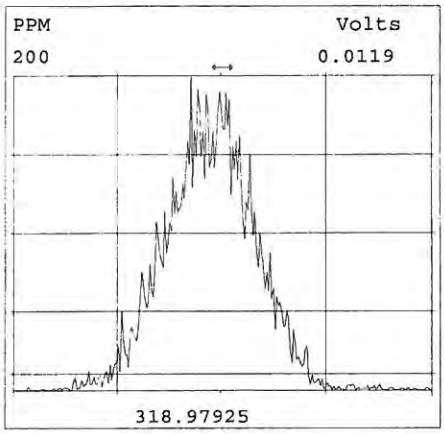


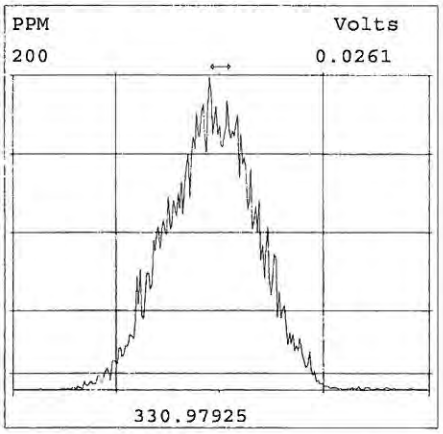


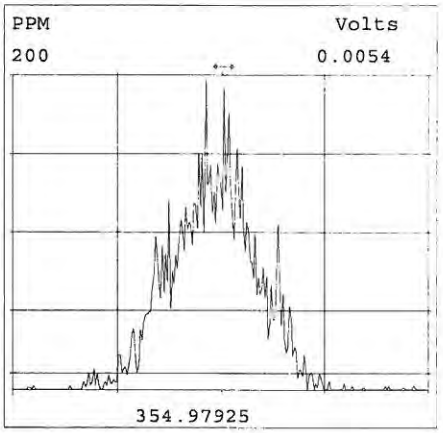


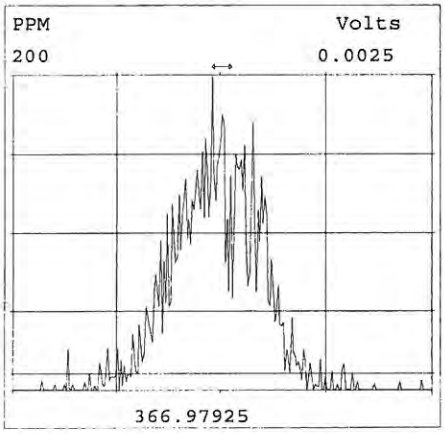


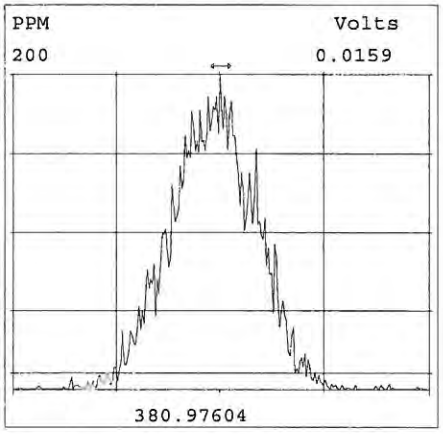
Peak Locate Examination: 8-JUL-2018:09:17 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

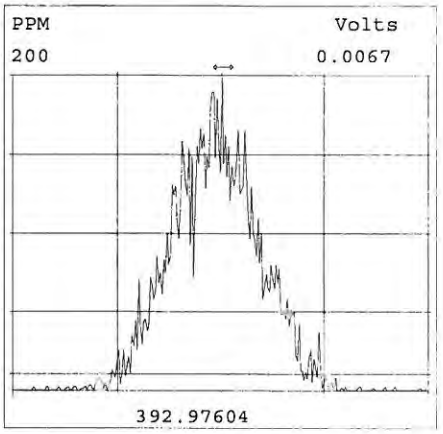


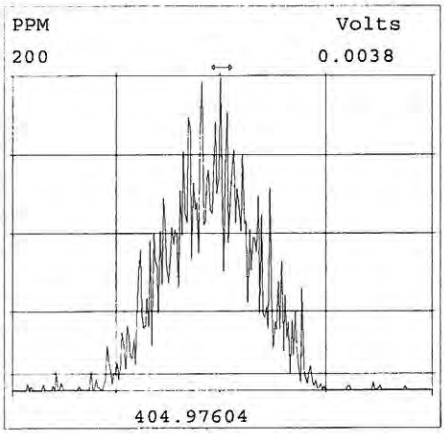


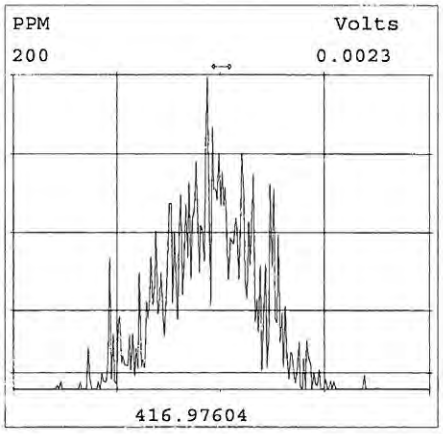


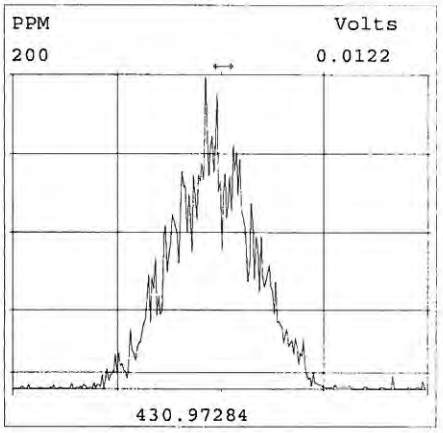


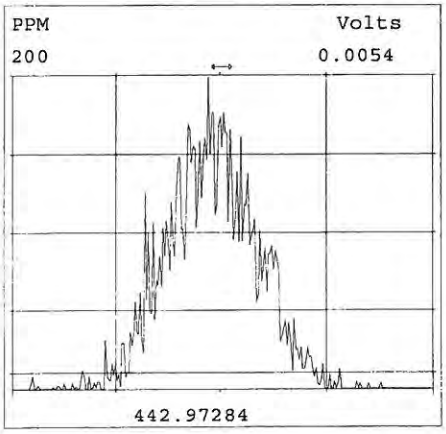




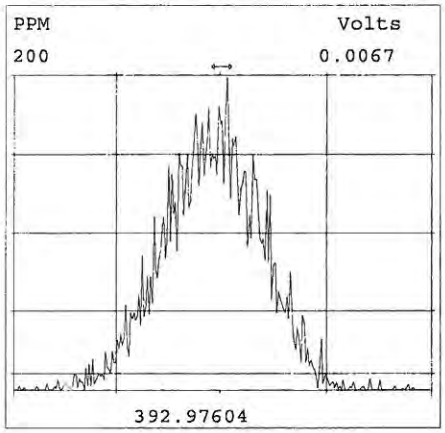


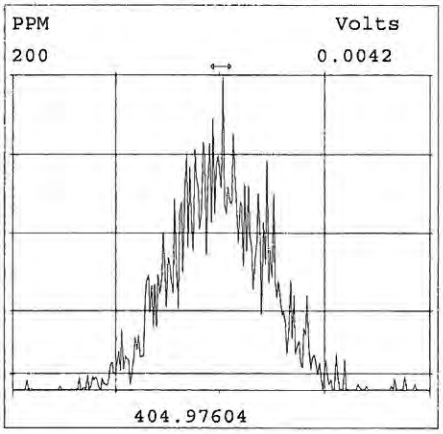


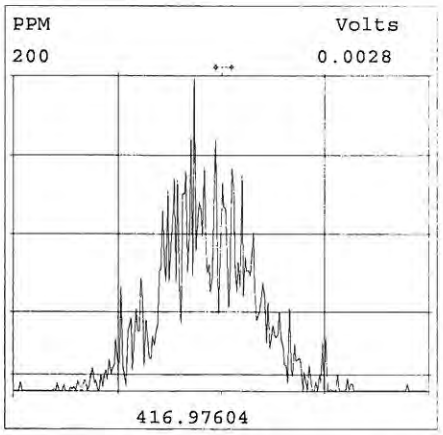


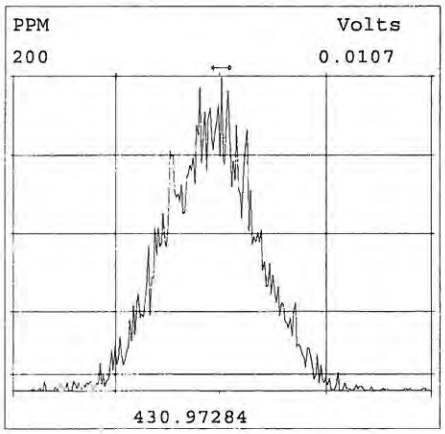


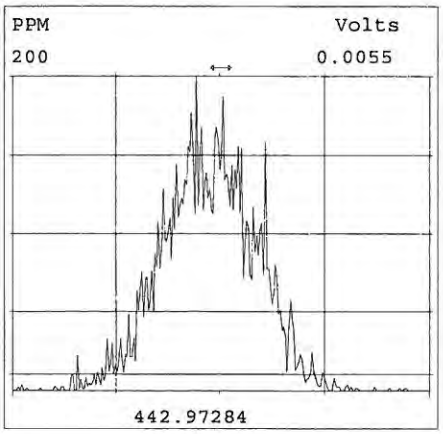
Peak Locate Examination: 8-JUL-2018:09:17 File:PB8C_220ACAL2
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

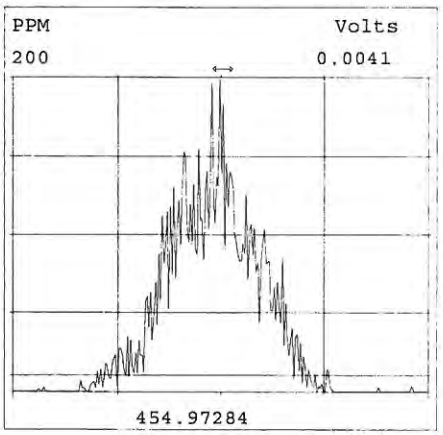


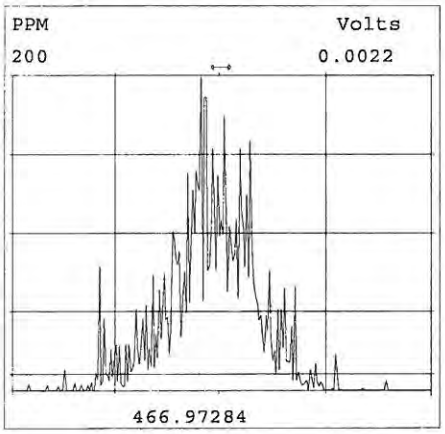


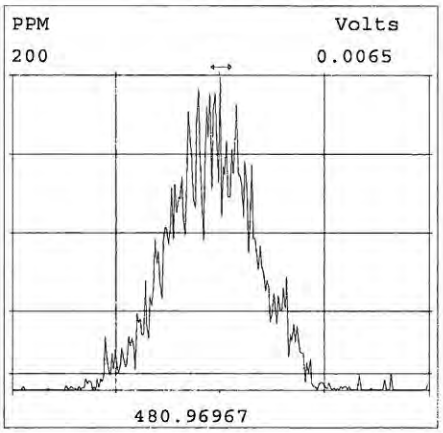


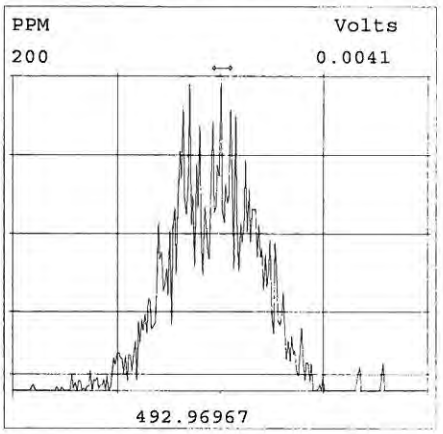


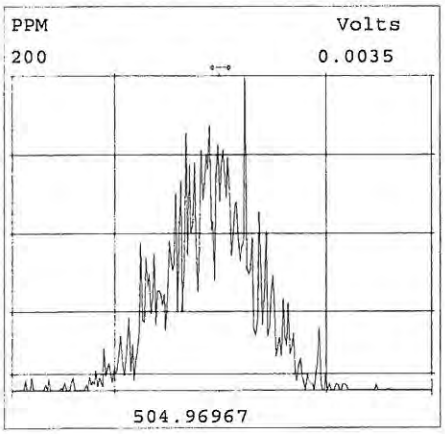


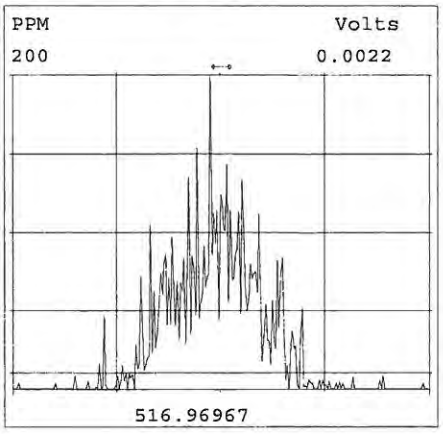












www.axysanalytical.com

PB8C_220-7A

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ultc	PB8C_220	1	1	1668A-C8	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2 »	y
2 c	ultc	PB8C_220	4	1	1668A-C8	1.0000	1.0000	1.000000	y	PB108C-CAL,,»	1,,1.0uL CS-1	y
3 c	ultc	PB8C_220A	4	1	1668A-C8	5.0000	1.0000	1.000000	y	PB108D-CAL,,»	1,,1.0uL CS-2	y
4 c	ultc	PB8C_220A	3	1	1668A-C8	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3	y
5 c	ultc	PB8C_220A	2	1	1668A-C8	400.0000	1.0000	1.000000	y	PB108F-CAL,,»	1,,1.0uL CS-4	y
6 c	ultc	PB8C_220A	1	1	1668A-C8	2000.00»	1.0000	1.000000	y	PB108G-CAL,,»	1,,1.0uL CS-5	y
7 c	ultc	PB8C_220A	6	1	1668A-C8	6000.00»	1.0000	1.000000	y	PB108H-CAL,,»	1,,1.0uL CS-6	y
8 q	ultc	PB8C_220A	5	1	1668A-C8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL CAL WIN»	y

SGS AXYS METHOD MLA-010 Rev 12

Form 3A
PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8C_220 S: 1
CS1 Data Filename: PB8C_220 S: 4
CS2 Data Filename: PB8C_220A S: 4
CS3 Data Filename: PB8C_220A S: 3
CS4 Data Filename: PB8C_220A S: 2
CS5 Data Filename: PB8C_220A S: 1
CS6 Data Filename: PB8C_220A S: 6

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.**	**CO-ELUTIONS**	**LAB FLAG[1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[2] (%RSD)**
2-MoCB	1			1.07	1.05	1.11	1.09	1.10	1.02		1.07	3.46
4-MoCB	3			1.11	1.01	1.07	1.09	1.10	1.10		1.08	3.55
2,2'-DiCB	4			0.97	0.94	0.98	0.99	1.03	1.05		0.99	4.14
4,4'-DiCB	15			0.85	0.89	0.90	0.92	0.93	0.96		0.91	4.50
2,2',6-TriCB	19			1.08	1.05	1.05	1.06	1.08	1.11	1.06	1.07	2.11
3,4,4'-TriCB	37			0.98	0.98	1.00	0.99	1.03	1.05	0.96	1.00	3.27
2,2',6,6'-TeCB	54			1.04	1.02	1.06	1.07	1.08	1.10	1.03	1.06	2.71
3,3',4,4'-TeCB	77			1.05	1.01	1.01	1.02	1.03	1.06	1.03	1.03	1.99
3,4,4',5-TeCB	81			1.02	0.96	1.04	1.02	1.05	1.07	1.04	1.03	3.35
2,2',4,6,6'-PeCB	104			1.03	1.05	1.08	1.05	1.07	1.11	1.07	1.07	2.30
2,3,3',4,4'-PeCB	105			1.03	0.95	1.04	1.03	1.03	1.07	1.04	1.03	3.45
2,3,4,4',5-PeCB	114			1.00	1.01	1.07	1.07	1.07	1.11	1.08	1.06	3.55
2,3',4,4',5-PeCB	118			1.08	0.98	1.05	1.03	1.04	1.09	1.05	1.04	3.33
2',3,4,4',5-PeCB	123			0.94	0.94	0.98	0.98	0.99	1.03	1.00	0.98	3.19
3,3',4,4',5-PeCB	126			1.01	1.01	1.06	1.03	1.05	1.09	1.05	1.04	2.59
2,2',4,4',6,6'-HxCB	155			1.07	0.96	0.98	1.01	1.04	1.06	1.03	1.02	4.12
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.08	1.07	1.12	1.10	1.11	1.14	1.08	1.10	2.24
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			1.03	1.05	1.14	1.12	1.14	1.17	1.14	1.11	4.67
3,3',4,4',5,5'-HxCB	169			1.05	1.01	1.06	1.05	1.06	1.09	1.06	1.05	2.32
2,2',3,4',5,6,6'-HpCB	188			0.96	0.94	0.96	0.96	1.00	1.03	0.97	0.98	2.92
2,3,3',4,4',5,5'-HpCB	189			1.16	0.95	1.09	1.03	1.06	1.08	1.05	1.06	5.83
2,2',3,3',5,5',6,6'-OcCB	202			0.89	0.83	0.86	0.86	0.88	0.91	0.89	0.87	3.14
2,3,3',4,4',5,5',6-OcCB	205			0.97	0.92	1.00	0.99	0.99	1.03	1.00	0.99	3.45
2,2',3,3',4,4',5,5',6-NoCB	206			1.09	0.96	1.00	0.99	0.99	1.02	0.97	1.00	4.46
2,2',3,3',4,5,5',6,6'-NoCB	208			0.95	0.90	0.94	0.94	0.96	0.98	0.95	0.95	2.57
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.22	1.04	1.07	1.01	1.04	1.05	1.02	1.06	6.55

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form16683A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_07-Jul-2018_PB8C__Form3A_GS76996.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3B
PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8C_220 S: 1
CS1 Data Filename: PB8C_220 S: 4
CS2 Data Filename: PB8C_220A S: 4
CS3 Data Filename: PB8C_220A S: 3
CS4 Data Filename: PB8C_220A S: 2
CS5 Data Filename: PB8C_220A S: 1
CS6 Data Filename: PB8C_220A S: 6

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.[1]**	**CO-ELUTIONS**	**LAB FLAG[2]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[3] (%RSD)**
13C12-2-MoCB	1L			1.06	1.05	1.08	1.09	1.14	1.18	1.29	1.13	7.50
13C12-4-MoCB	3L			0.99	1.00	1.00	1.02	1.07	1.13	1.31	1.07	10.6
13C12-2,2'-DiCB	4L			0.64	0.65	0.65	0.65	0.67	0.72	0.80	0.68	8.43
13C12-4,4'-DiCB	15L			1.02	1.01	0.99	1.00	1.02	1.10	1.32	1.07	11.1
13C12-2,2',6-TriCB	19L			0.53	0.52	0.54	0.54	0.56	0.58	0.67	0.56	9.42
13C12-3,4,4'-TriCB	37L			1.64	1.63	1.52	1.60	1.56	1.74	2.16	1.69	12.8
13C12-2,2',6,6'-TeCB	54L			1.40	1.41	1.42	1.43	1.48	1.53	1.70	1.48	7.14
13C12-3,3',4,4'-TeCB	77L			1.30	1.23	1.18	1.25	1.19	1.35	1.69	1.31	13.3
13C12-3,4,4',5-TeCB	81L			1.27	1.22	1.15	1.21	1.18	1.34	1.67	1.29	13.7
13C12-2,2',4,6,6'-PeCB	104L			1.36	1.32	1.40	1.45	1.52	1.57	1.70	1.47	9.00
13C12-2,3,3',4,4'-PeCB	105L			1.41	1.40	1.29	1.31	1.30	1.43	1.69	1.40	9.92
13C12-2,3,4,4',5-PeCB	114L			1.29	1.29	1.21	1.25	1.30	1.49	1.64	1.35	11.5
13C12-2,3',4,4',5-PeCB	118L			1.31	1.32	1.25	1.26	1.28	1.42	1.71	1.37	12.0
13C12-2',3,4,4',5-PeCB	123L			1.34	1.34	1.26	1.30	1.30	1.46	1.74	1.39	12.0
13C12-3,3',4,4',5-PeCB	126L			1.23	1.21	1.11	1.16	1.13	1.29	1.62	1.25	14.0
13C12-2,2',4,4',6,6'-HxCB	155L			1.50	1.51	1.59	1.60	1.74	1.79	1.90	1.66	9.04
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.25	1.24	1.21	1.25	1.31	1.47	1.65	1.34	12.1
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			1.21	1.20	1.18	1.22	1.26	1.37	1.55	1.28	10.3
13C12-3,3',4,4',5,5'-HxCB	169L			1.22	1.30	1.23	1.29	1.27	1.38	1.64	1.33	10.9
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.80	1.63	1.75	1.76	1.96	2.12	2.18	1.89	10.9
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.48	1.39	1.40	1.42	1.47	1.60	1.85	1.52	10.8
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.69	1.54	1.71	1.72	1.88	1.91	2.03	1.78	9.16
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.42	1.43	1.42	1.41	1.52	1.61	1.72	1.50	7.96
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			1.02	1.03	1.04	1.04	1.11	1.18	1.26	1.10	8.51
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.26	1.25	1.28	1.25	1.36	1.44	1.60	1.35	9.73
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.29	1.28	1.29	1.31	1.42	1.50	1.55	1.38	8.22
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			1.74	1.76	1.69	1.73	1.67	1.66	1.65	1.70	2.52
13C12-2,3,3',5,5'-PeCB	111L			1.28	1.28	1.25	1.29	1.29	1.39	1.60	1.34	9.12
13C12-2,2',3,3',5,5',6-HpCB	178L			0.94	0.91	0.94	0.96	0.98	0.96	0.97	0.95	2.57

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form16683B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_07-Jul-2018_PB8C__Form3B_GS76996.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3C

PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8C_220 S: 1

CS1 Data Filename: PB8C_220 S: 4

CS2 Data Filename: PB8C_220A S: 4

CS3 Data Filename: PB8C_220A S: 3

CS4 Data Filename: PB8C_220A S: 2

CS5 Data Filename: PB8C_220A S: 1

CS6 Data Filename: PB8C_220A S: 6

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [2]
2-MoCB	1			**M/M+2**	3.33	3.15	3.15	3.14	3.12	2.71		2.66-3.60
4-MoCB	3			**M/M+2**	3.27	3.06	3.15	3.12	3.12	3.06		2.66-3.60
2,2'-DiCB	4			**M/M+2**	1.52	1.59	1.58	1.54	1.54	1.54		1.33-1.79
4,4'-DiCB	15			**M/M+2**	1.56	1.49	1.56	1.55	1.54	1.54		1.33-1.79
2,2',6-TriCB	19			**M/M+2**	0.99	1.06	1.05	1.06	1.07	1.07	1.04	0.88-1.20
3,4,4'-TriCB	37			**M/M+2**	0.99	1.03	1.03	1.02	1.03	1.04	1.02	0.88-1.20
2,2',6,6'-TeCB	54			**M/M+2**	0.74	0.80	0.76	0.78	0.79	0.78	0.85	0.65-0.89
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.78	0.77	0.80	0.77	0.77	0.81	0.65-0.89
3,4,4',5-TeCB	81			**M/M+2**	0.83	0.80	0.78	0.77	0.77	0.77	0.78	0.65-0.89
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.57	1.68	1.56	1.57	1.56	1.55	1.52	1.32-1.78
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.52	1.53	1.53	1.57	1.53	1.56	1.56	1.32-1.78
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.41	1.55	1.60	1.56	1.57	1.56	1.56	1.32-1.78
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.47	1.51	1.59	1.53	1.52	1.56	1.55	1.32-1.78
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.67	1.51	1.60	1.55	1.55	1.55	1.55	1.32-1.78
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.49	1.62	1.53	1.56	1.54	1.55	1.57	1.32-1.78
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.42	1.26	1.24	1.28	1.26	1.24	1.28	1.05-1.43
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.24	1.23	1.25	1.25	1.25	1.25	1.21	1.05-1.43
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.02	1.22	1.22	1.26	1.25	1.25	1.25	1.05-1.43
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.39	1.32	1.23	1.26	1.26	1.27	1.26	1.05-1.43
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	0.94	1.02	1.02	1.05	1.04	1.05	1.04	0.89-1.21
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.10	0.99	1.07	1.03	1.05	1.05	1.05	0.89-1.21
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.79	0.94	0.89	0.88	0.89	0.90	0.88	0.76-1.02
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.85	0.91	0.91	0.90	0.88	0.90	0.90	0.76-1.02
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.76	0.82	0.79	0.78	0.77	0.78	0.78	0.65-0.89
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.82	0.78	0.79	0.78	0.79	0.79	0.79	0.65-0.89
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.08	1.14	1.16	1.16	1.17	1.17	1.18	0.99-1.33

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form16683C.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_07-Jul-2018_PB8C__Form3C_GS76996.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3D
PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018

Instrument ID: HR GC/MS

GC Column ID: SPB OCTYL

CS0 Data Filename: PB8C_220 S: 1
CS1 Data Filename: PB8C_220 S: 4
CS2 Data Filename: PB8C_220A S: 4
CS3 Data Filename: PB8C_220A S: 3
CS4 Data Filename: PB8C_220A S: 2
CS5 Data Filename: PB8C_220A S: 1
CS6 Data Filename: PB8C_220A S: 6

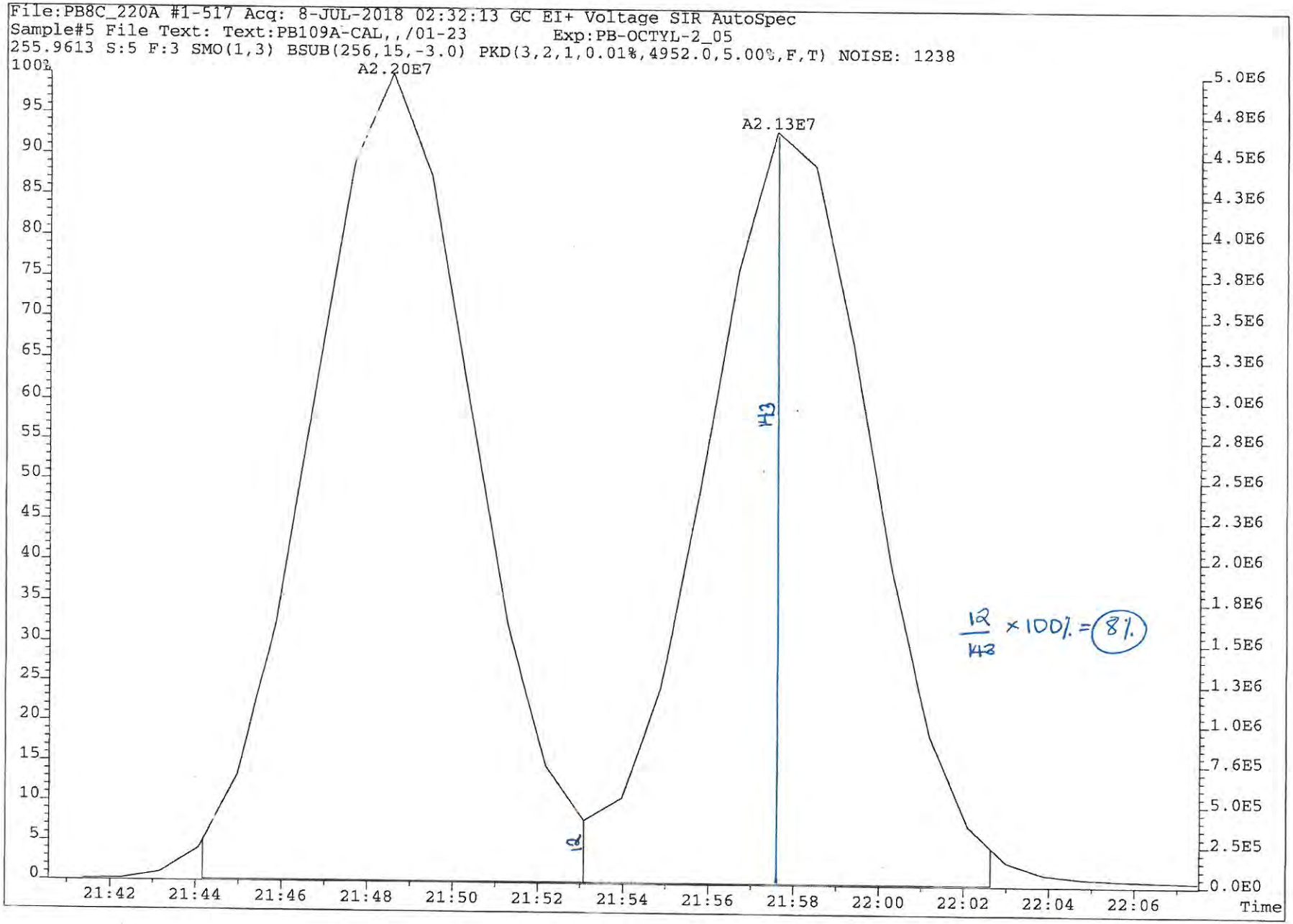
LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	M/Z's FORMING RATIO [3]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [3]
13C12-2-MoCB	1L			**M/M+2**	3.21	3.14	3.13	3.21	3.17	3.12	3.06	2.66-3.60
13C12-4-MoCB	3L			**M/M+2**	3.14	3.18	3.11	3.09	3.17	3.17	3.14	2.66-3.60
13C12-2,2'-DiCB	4L			**M/M+2**	1.57	1.59	1.57	1.60	1.58	1.59	1.59	1.33-1.79
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.57	1.58	1.58	1.57	1.59	1.57	1.33-1.79
13C12-2,2',6-TriCB	19L			**M/M+2**	1.05	1.06	1.06	1.06	1.05	1.06	1.05	0.88-1.20
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	1.05	1.04	1.05	1.06	1.06	1.04	0.88-1.20
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.79	0.80	0.80	0.79	0.80	0.79	0.80	0.65-0.89
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.74	0.76	0.72	0.77	0.71	0.74	0.77	0.65-0.89
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.77	0.72	0.76	0.72	0.73	0.74	0.74	0.65-0.89
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.59	1.56	1.55	1.57	1.57	1.58	1.53	1.32-1.78
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.58	1.58	1.59	1.54	1.60	1.59	1.58	1.32-1.78
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.57	1.62	1.60	1.58	1.61	1.58	1.59	1.32-1.78
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.53	1.59	1.58	1.55	1.58	1.56	1.57	1.32-1.78
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.59	1.59	1.55	1.57	1.56	1.57	1.58	1.32-1.78
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.59	1.54	1.57	1.60	1.57	1.56	1.32-1.78
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.25	1.27	1.27	1.24	1.23	1.28	1.05-1.43
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.22	1.27	1.27	1.26	1.27	1.26	1.05-1.43
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.26	1.26	1.26	1.23	1.24	1.25	1.27	1.05-1.43
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.24	1.25	1.24	1.25	1.25	1.27	1.05-1.43
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	1.04	1.06	1.07	1.02	1.05	1.05	0.89-1.21
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.02	1.04	1.02	1.05	1.05	1.01	1.05	0.89-1.21
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.91	0.90	0.90	0.89	0.90	0.91	0.76-1.02
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.87	0.89	0.87	0.88	0.88	0.89	0.86	0.76-1.02
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.76	0.78	0.79	0.79	0.79	0.79	0.65-0.89
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.77	0.75	0.78	0.78	0.78	0.77	0.79	0.65-0.89
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.19	1.15	1.19	1.17	1.16	1.18	1.18	0.99-1.33
CLEAN-UP STANDARD												
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.06	1.05	1.06	1.05	1.07	1.06	1.05	0.88-1.20
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.62	1.63	1.63	1.58	1.57	1.62	1.32-1.78
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.01	1.03	1.03	1.04	1.06	1.05	1.03	0.89-1.21

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

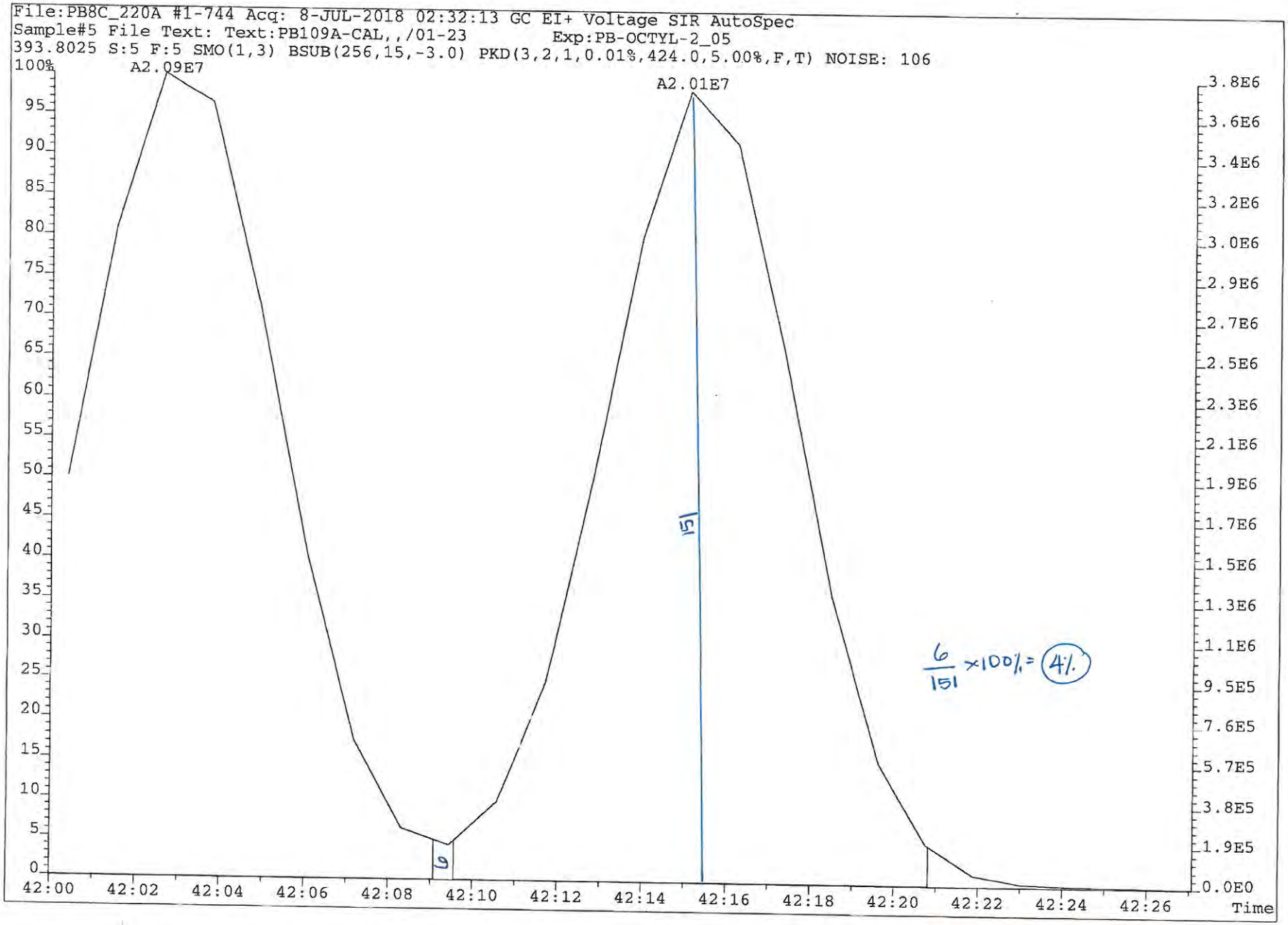
These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Bjorn Arvi_____

For Axys Internal Use Only [XSL Template: Form16683D.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_07-Jul-2018_PB8C__Form3D_GS76996.html; Workgroup: WG64623; Design ID: 240]



PI by RA 09JUL2018
SV: JM 9-JUL-18


File:PB8C_220A #1-744 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T) NOISE: 106
100%
A2.09E7
A2.01E7
151
6
6/151 x100% = 4%
PV by RA 09JUL2018
SV: JR 9-JUL-18
Time

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 269
Vol injected: 1.0uL
PMT Voltage : 399

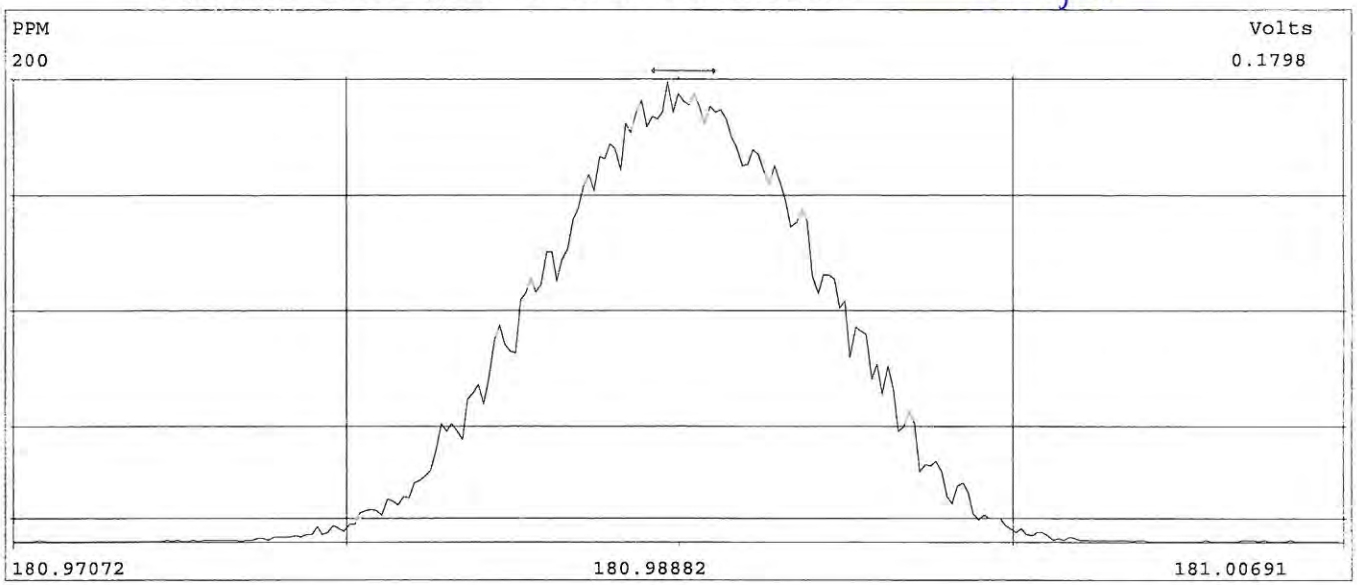
Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

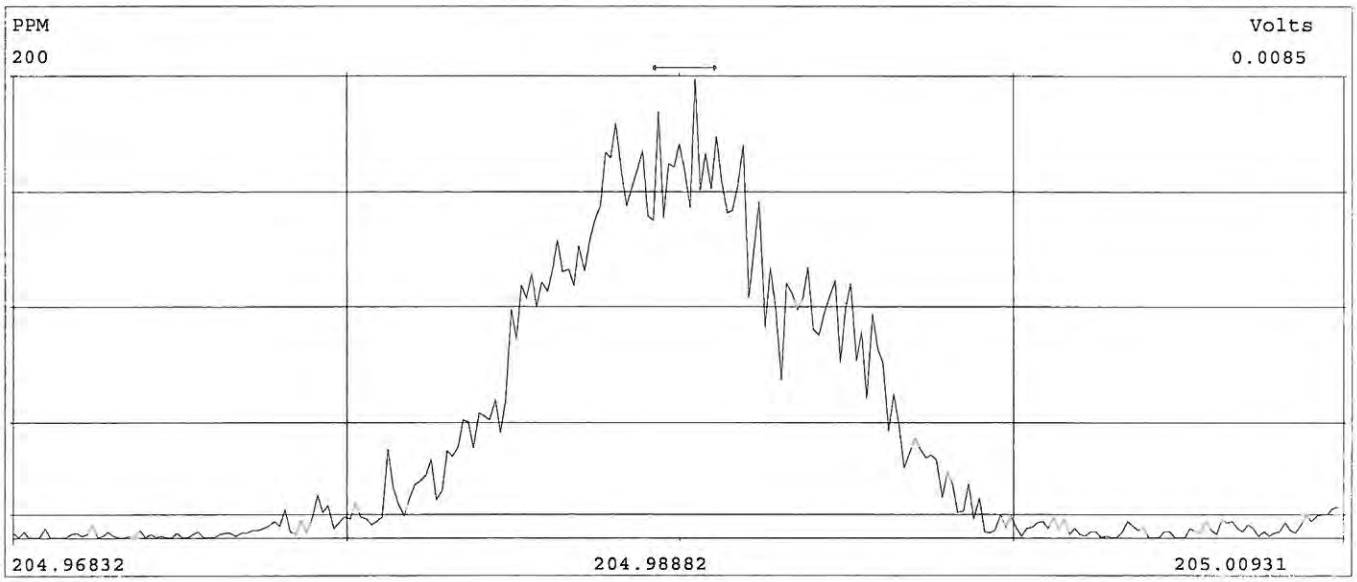
Tune : BA
List : BA
Check :
LIMS :
Logfile:

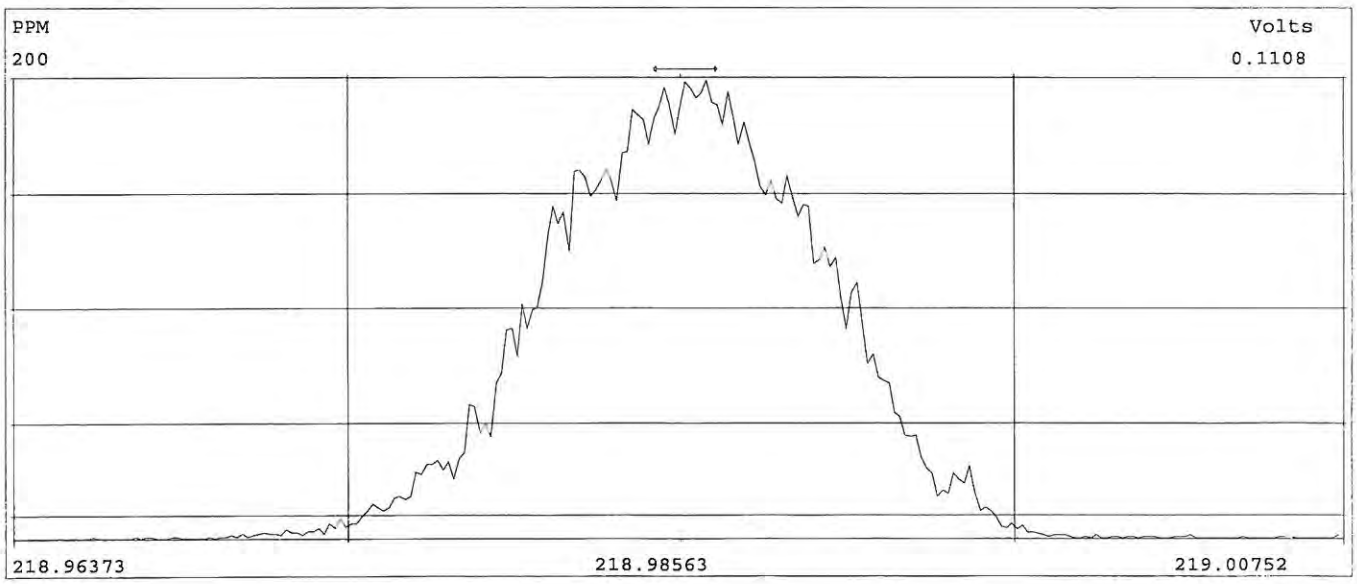
Date -list : 07-AUG-2018
-liner : 03-AUG-2018
-septum: 03-AUG-2018
-guard : NEW 03-AUG-2018
-column: NEW 03-JUN-2018
-t line: 45CM 03-JUN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_260	1	1	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	7-AUG-18 19:45:48
2	PB8C_260	2	2	WG64623-102,,SPM 1/10	1,WG64623,1.0/20uL	7-AUG-18 20:49:32
3	PB8C_260	3	3	PB053A-SUR,,/02	1,,1.0uL Inst Blank	7-AUG-18 21:53:10
4	PB8C_260	4	4	WG64623-101,,BLK 1/10	1,WG64623,1.0/20uL	7-AUG-18 22:56:44
5	PB8C_260	5	5	L29626-1,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 00:00:21
6	PB8C_260	6	6	L29626-2,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 01:03:57
7	PB8C_260	7	7	L29626-4,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 02:07:34
8	PB8C_260	8	8	WG64623-103,,DUP 1/10	1,WG64623,1.0/20uL	8-AUG-18 03:11:14
9	PB8C_260	9	9	L29626-6,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 04:14:54
10	PB8C_260	10	10	L29626-7,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 05:18:32
11	PB8C_260	11	11	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 06:22:20

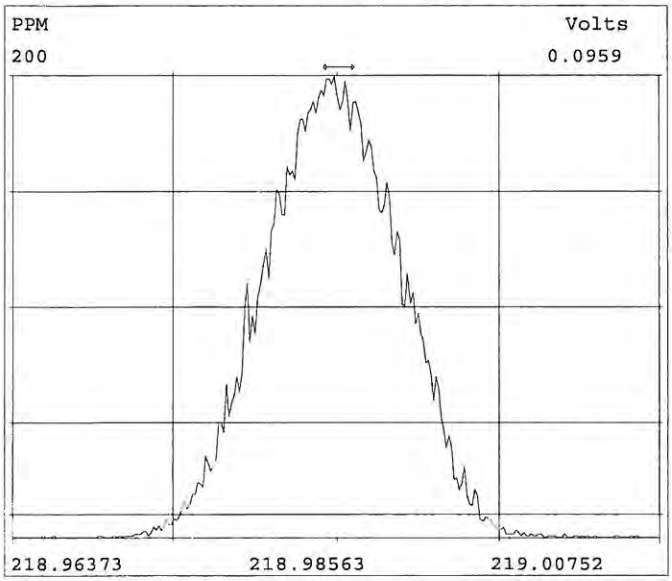
Peak Locate Examination: 7-AUG-2018:19:42 File:PB8C_259DCAL2/260CAL Approved by JM 07-Aug-18
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

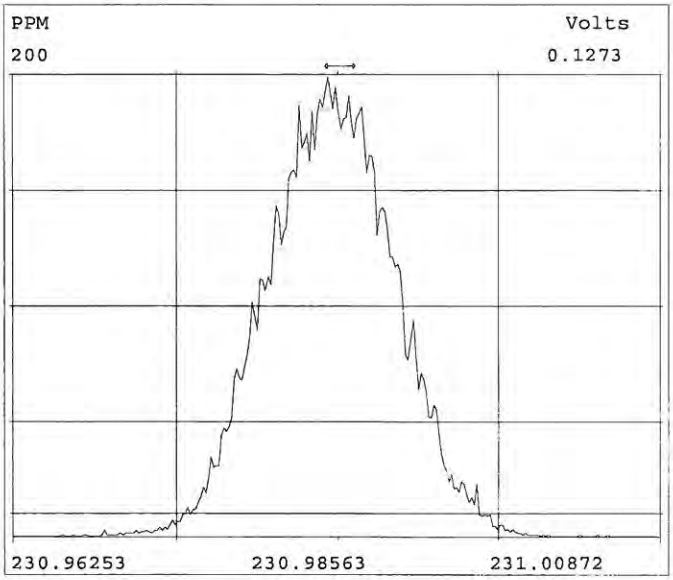


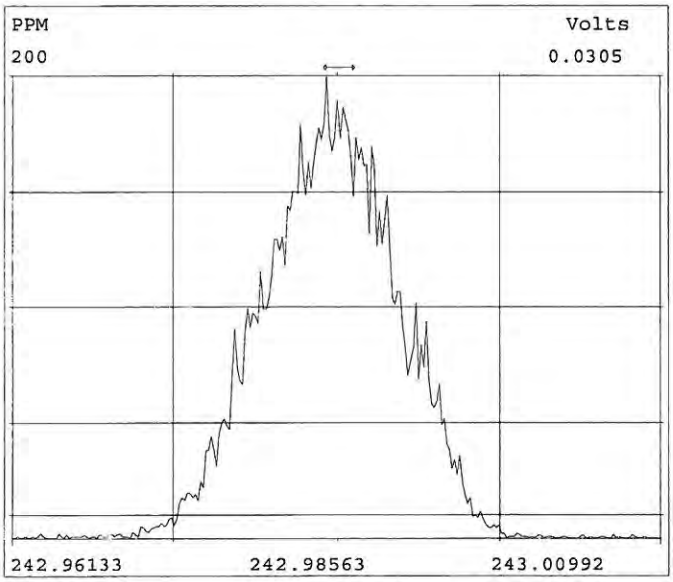


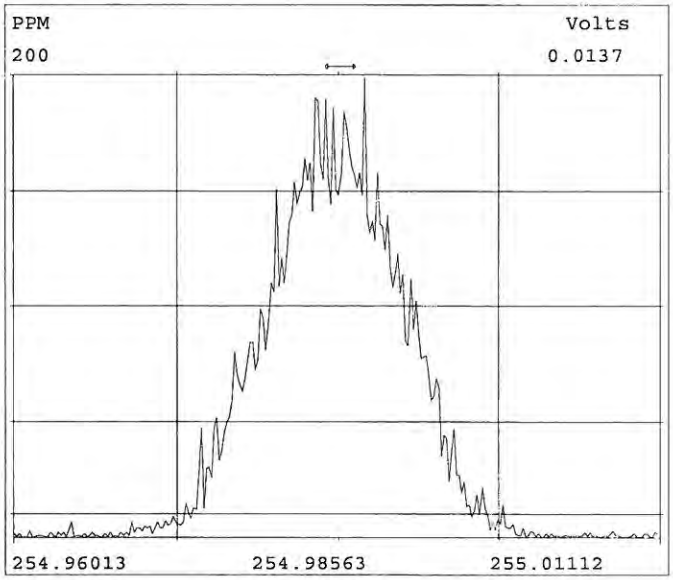


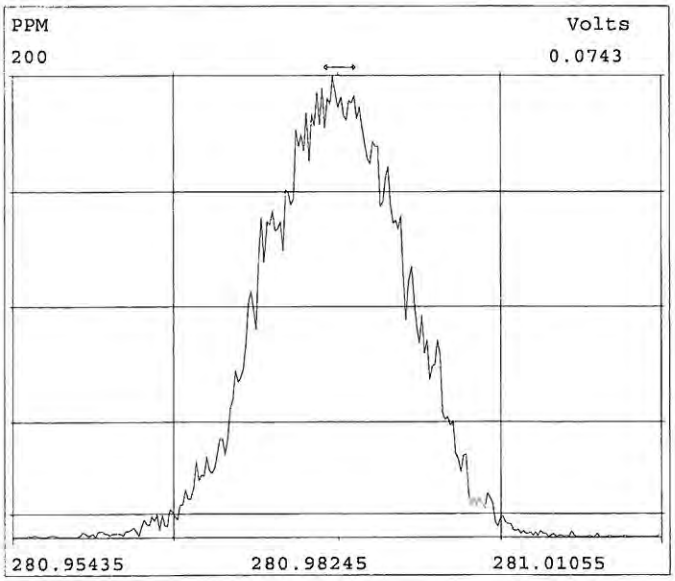
Peak Locate Examination: 7-AUG-2018:19:43 File:PB8C_259DCAL2/260CAL
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

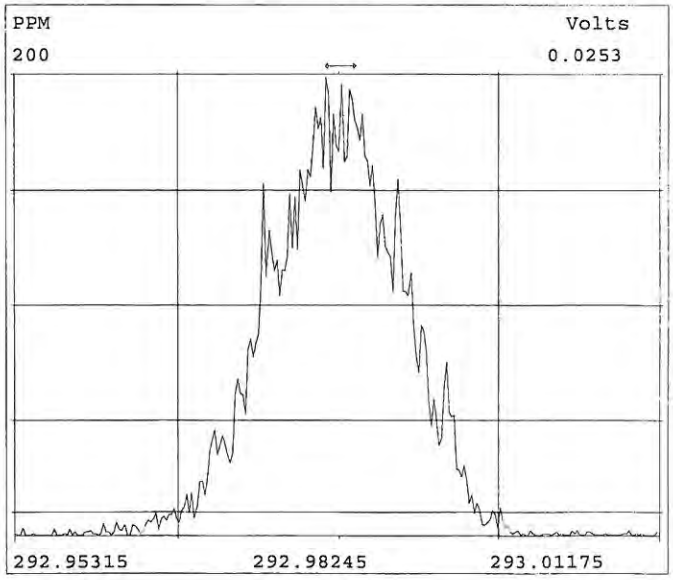




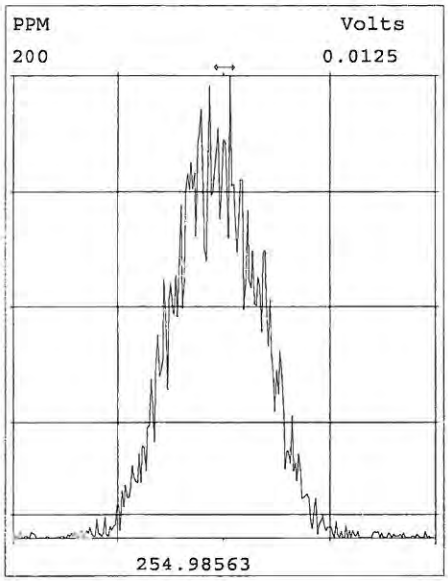


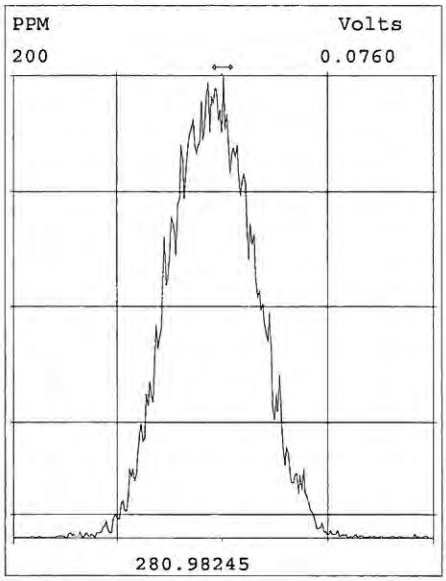


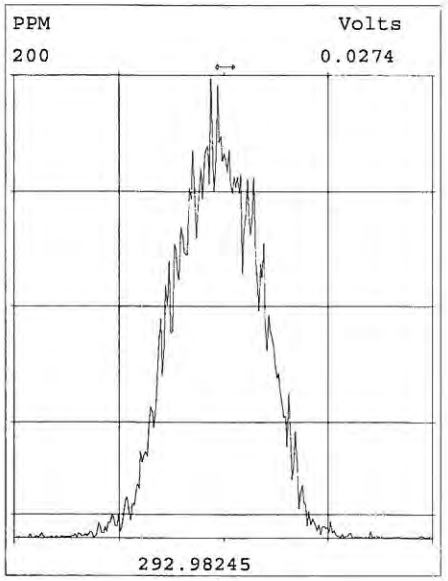


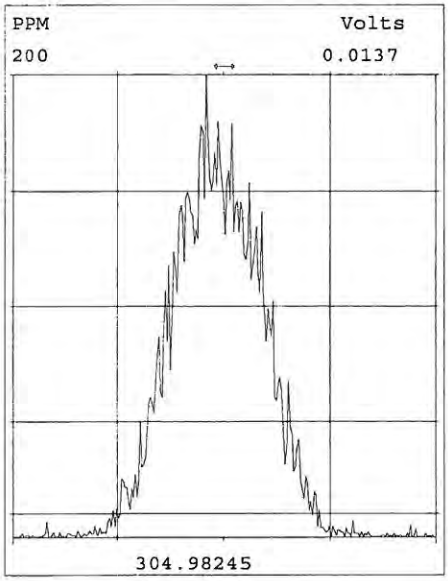


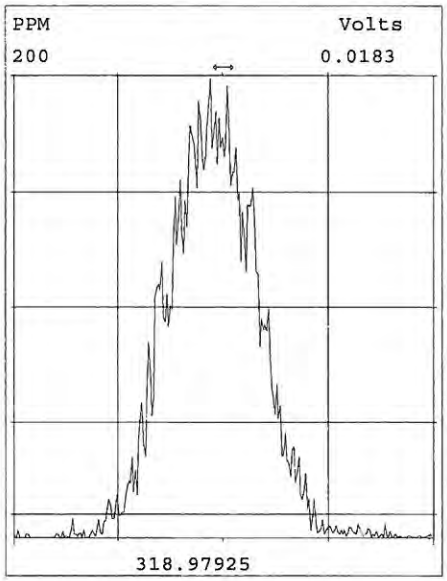
Peak Locate Examination: 7-AUG-2018:19:43 File:PB8C_259DCAL2/260CAL
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

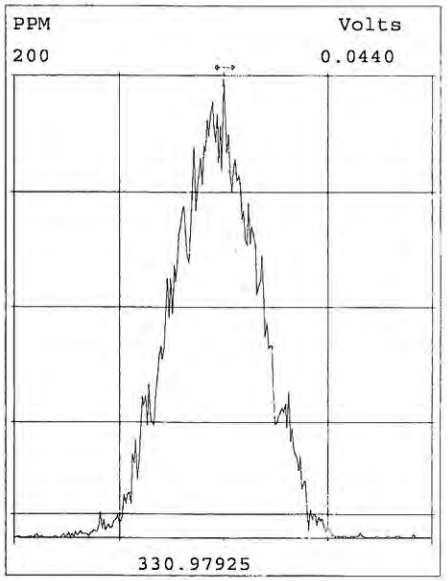


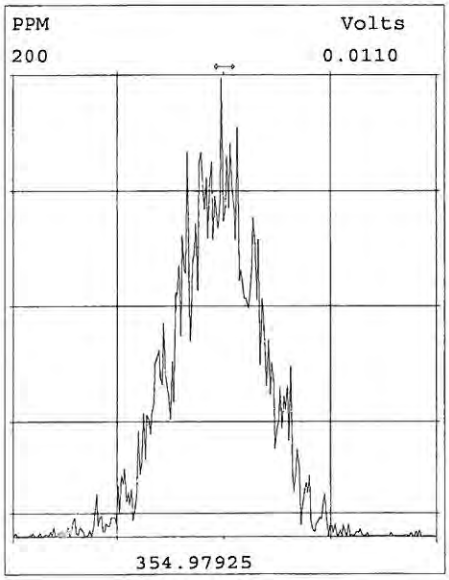




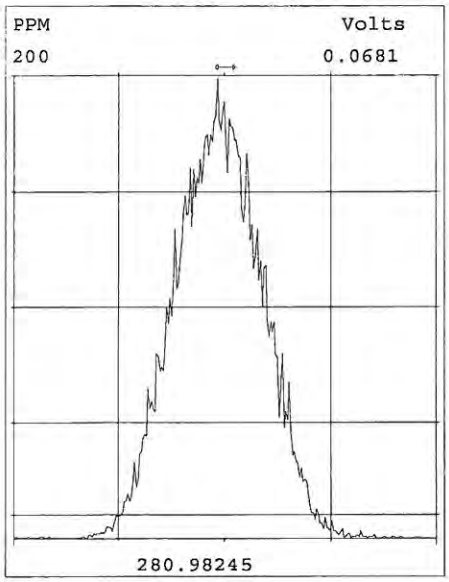


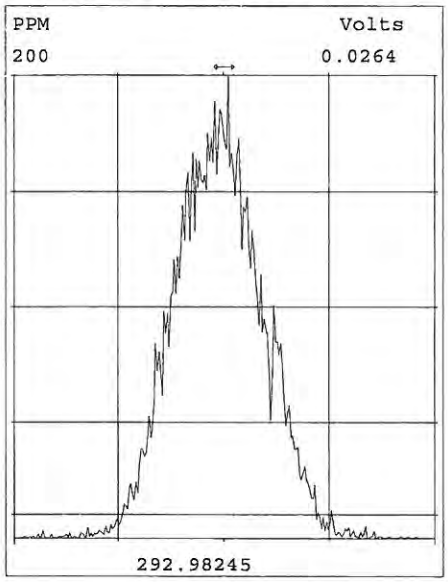


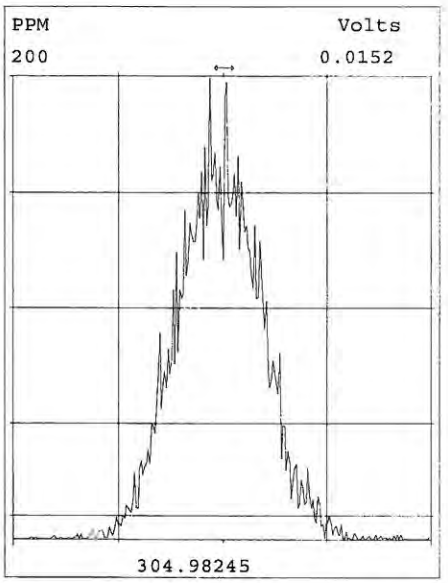


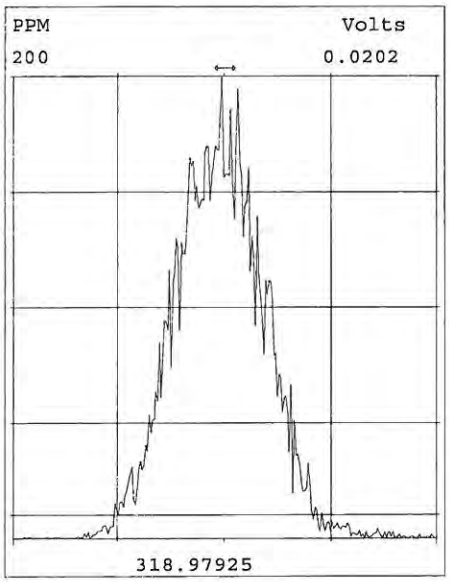


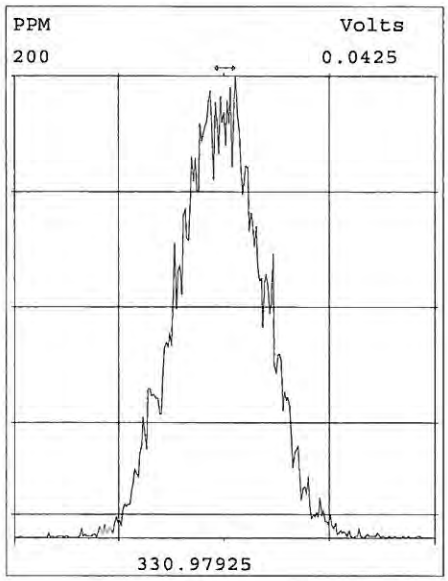
Peak Locate Examination: 7-AUG-2018:19:44 File:PB8C_259DCAL2/260CAL
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

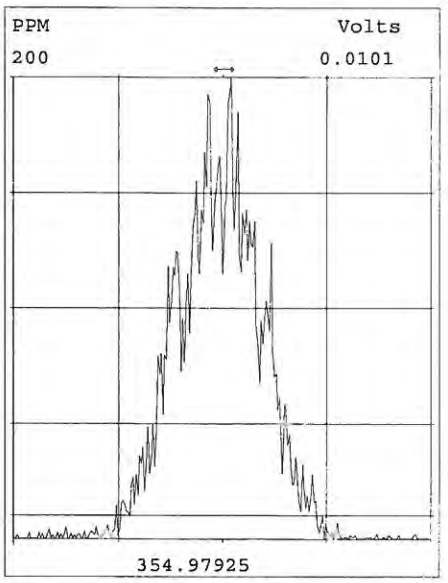


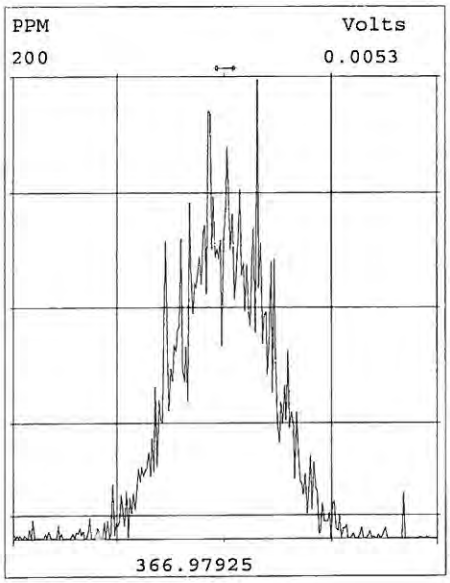


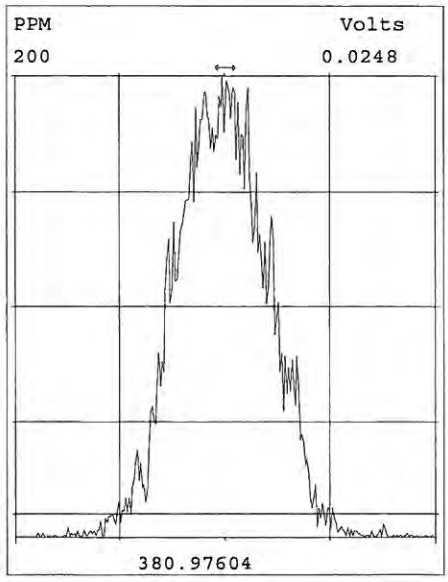




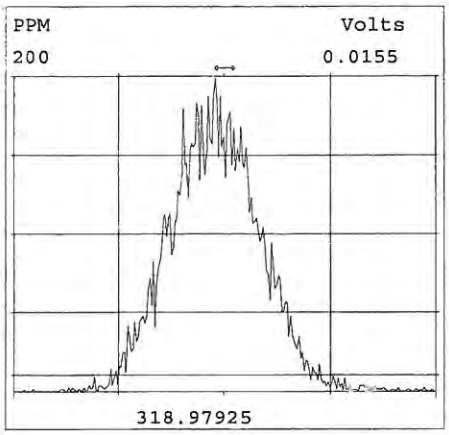


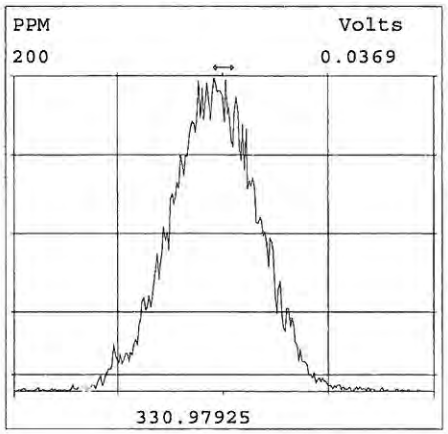


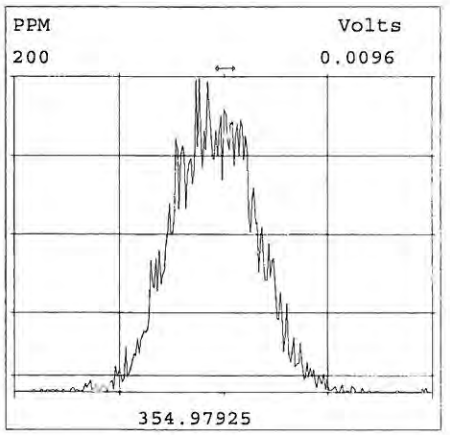


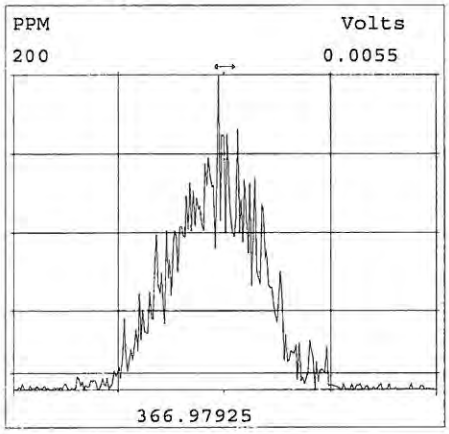


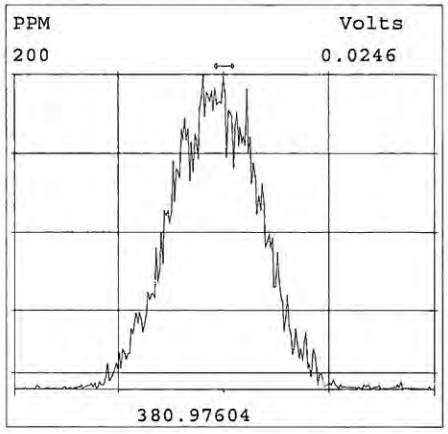
Peak Locate Examination: 7-AUG-2018:19:44 File:PB8C_259DCAL2/260CAL
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

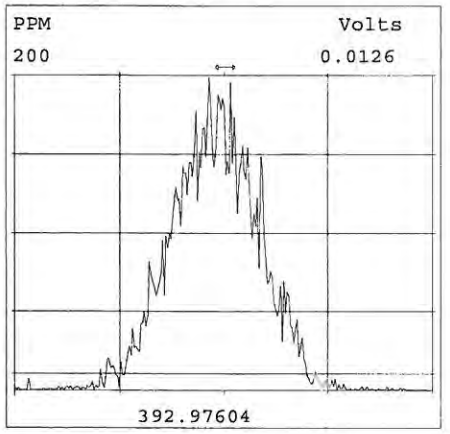


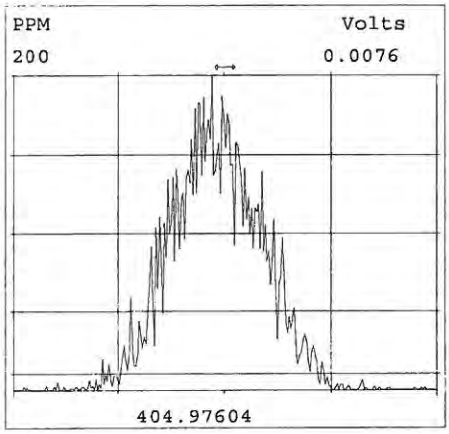


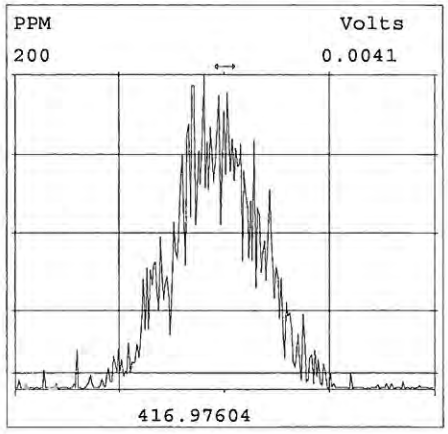


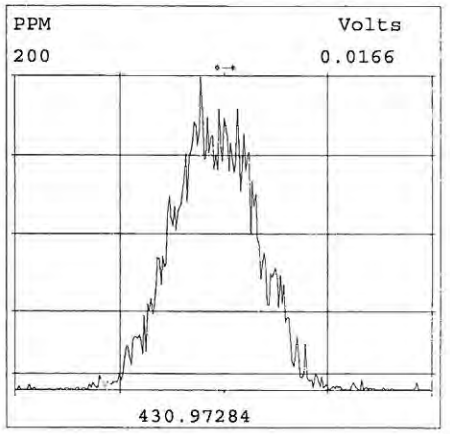


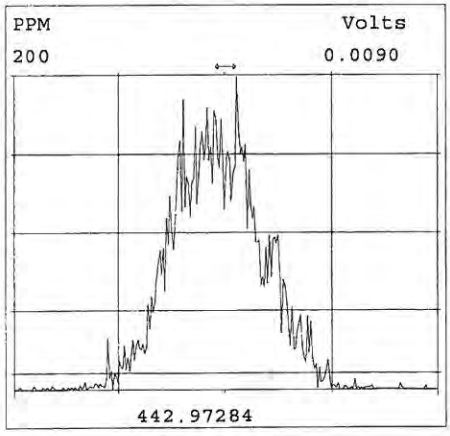




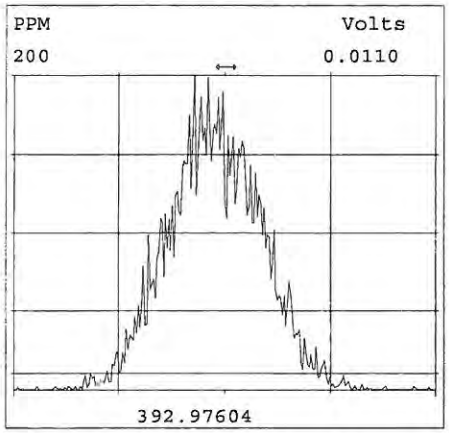


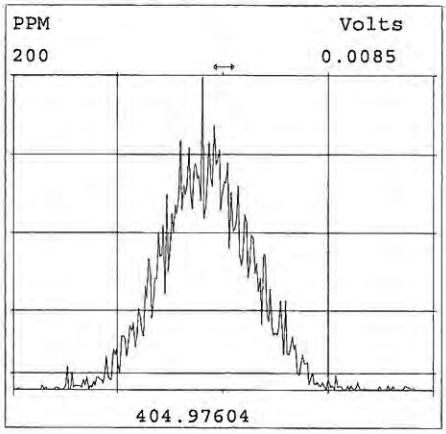


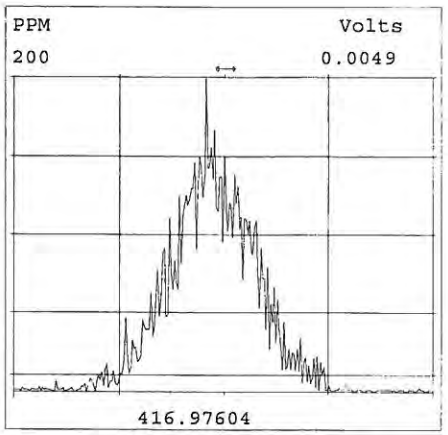


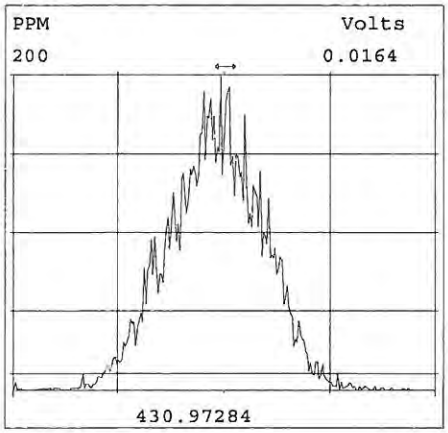


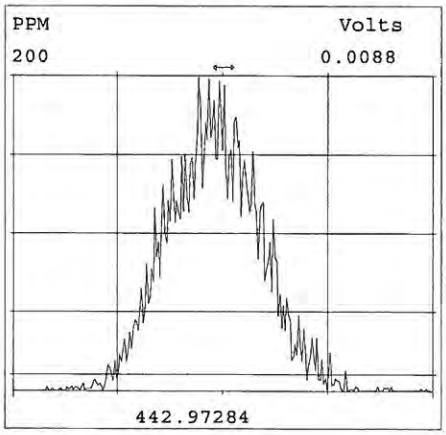
Peak Locate Examination: 7-AUG-2018:19:45 File:PB8C_259DCAL2/260CAL
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

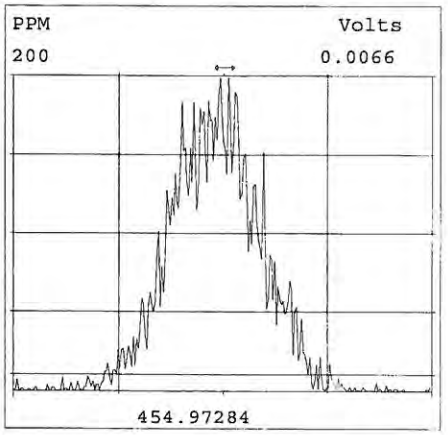


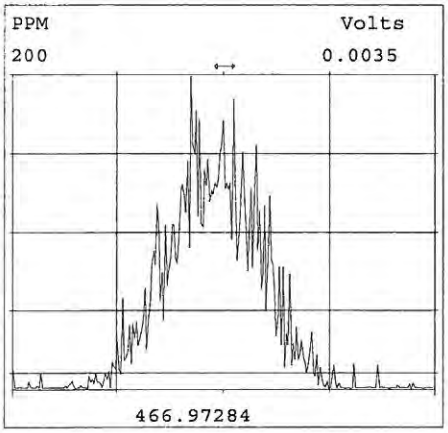


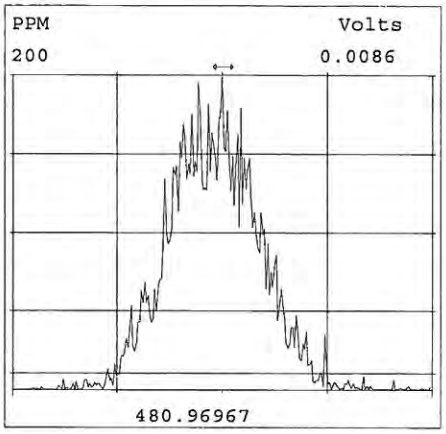


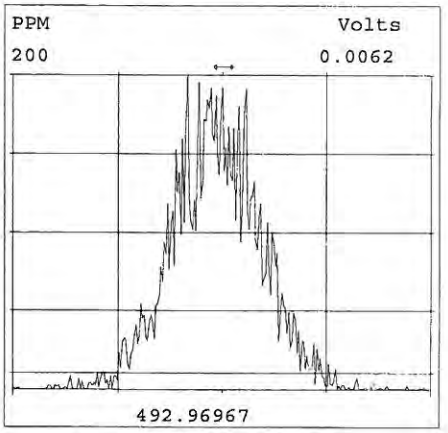


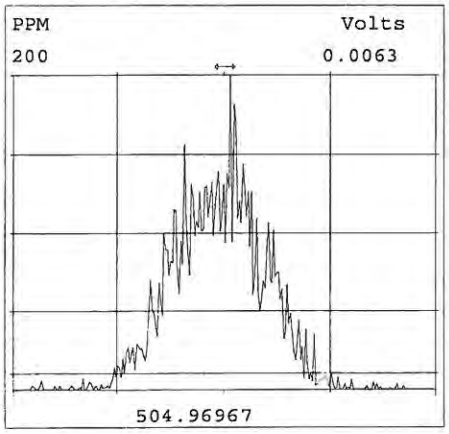


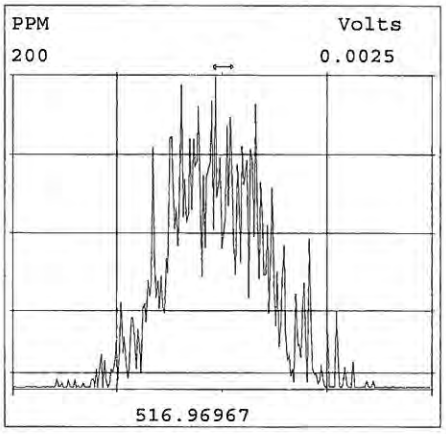






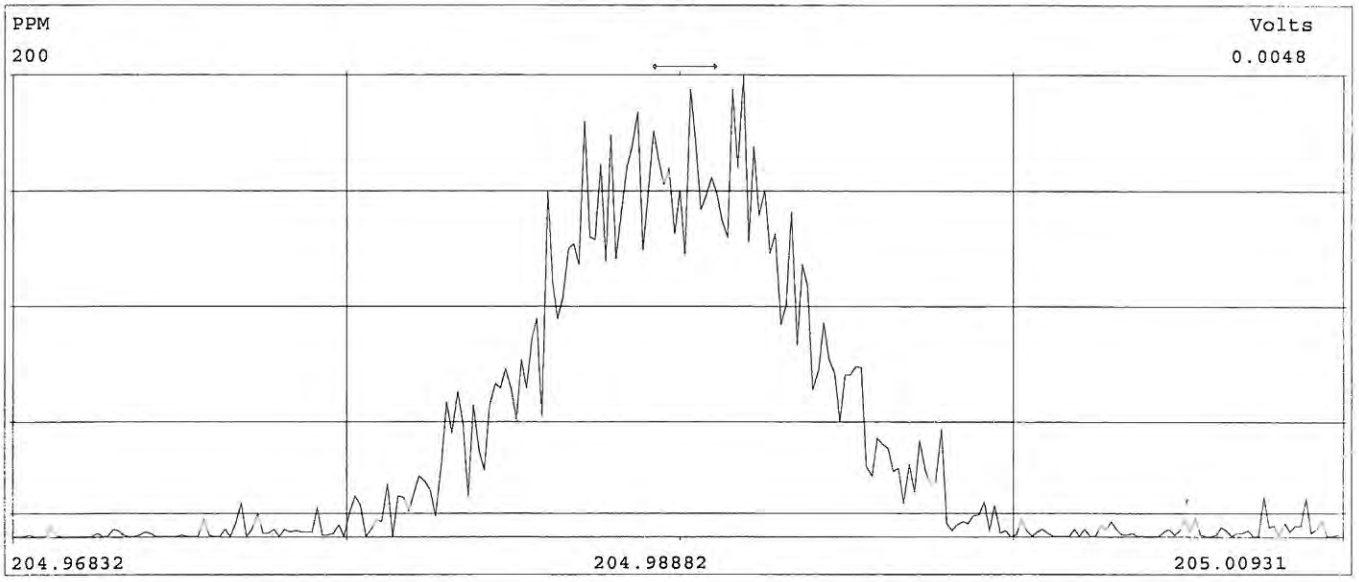


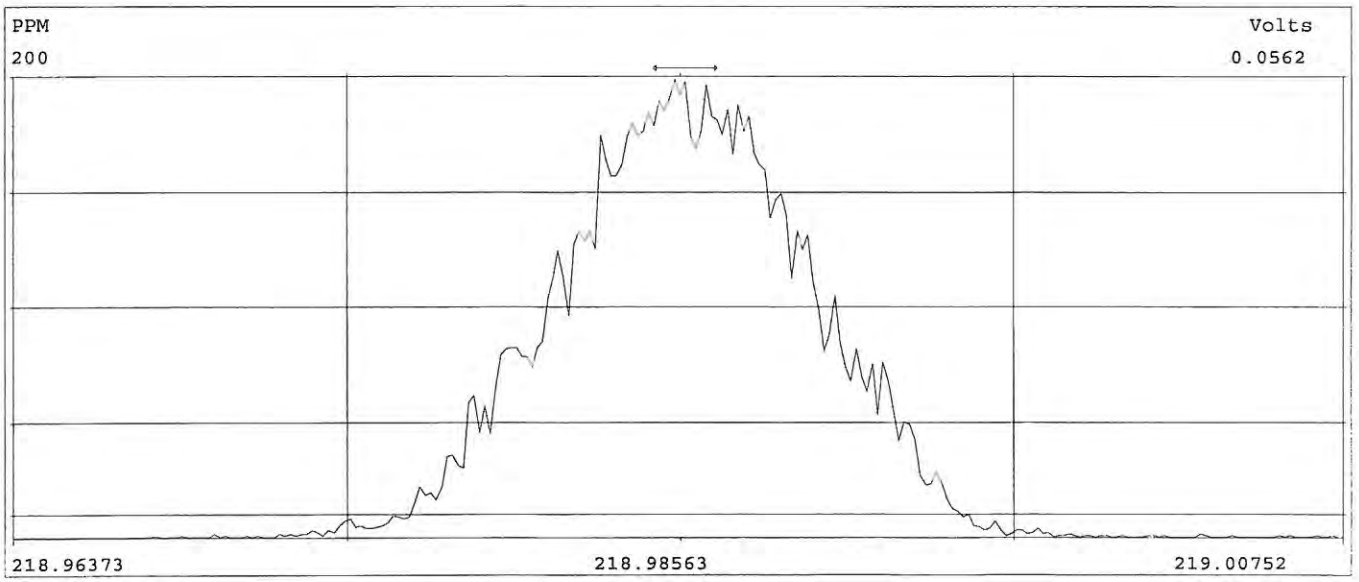




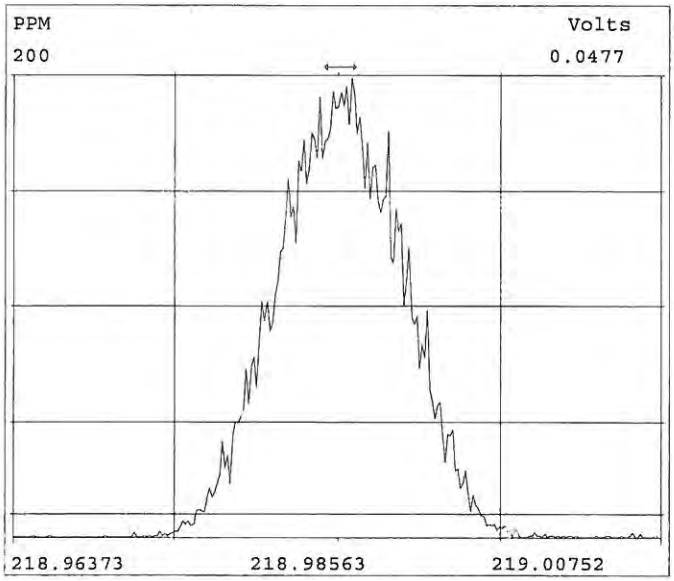
Peak Locate Examination: 8-AUG-2018:07:34 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

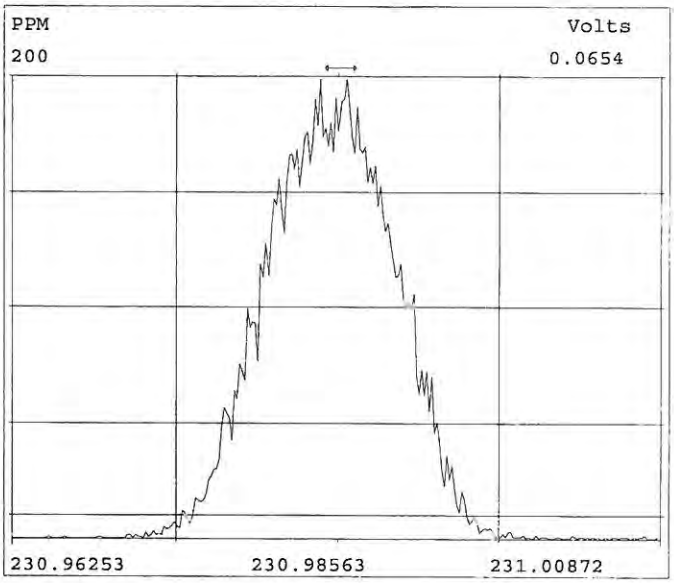
Approved SP 08Aug18

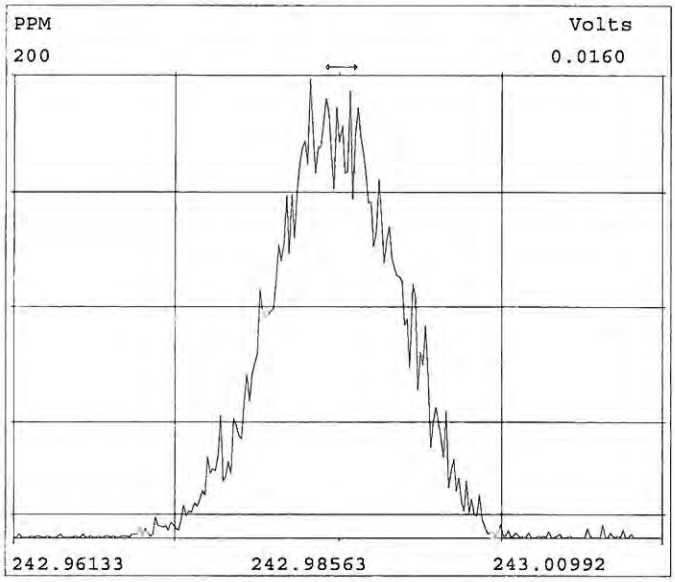


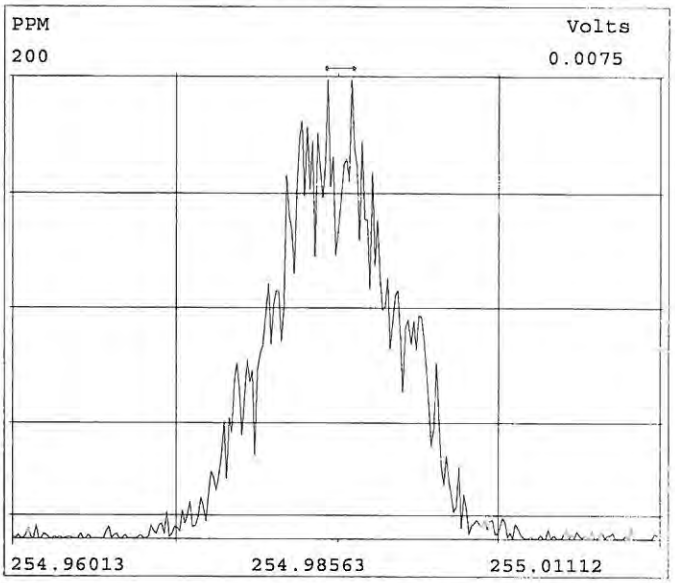


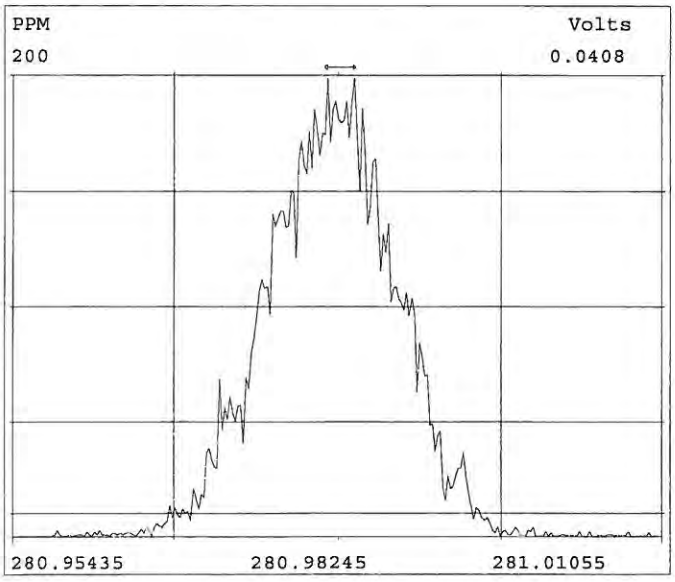
Peak Locate Examination: 8-AUG-2018:07:35 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

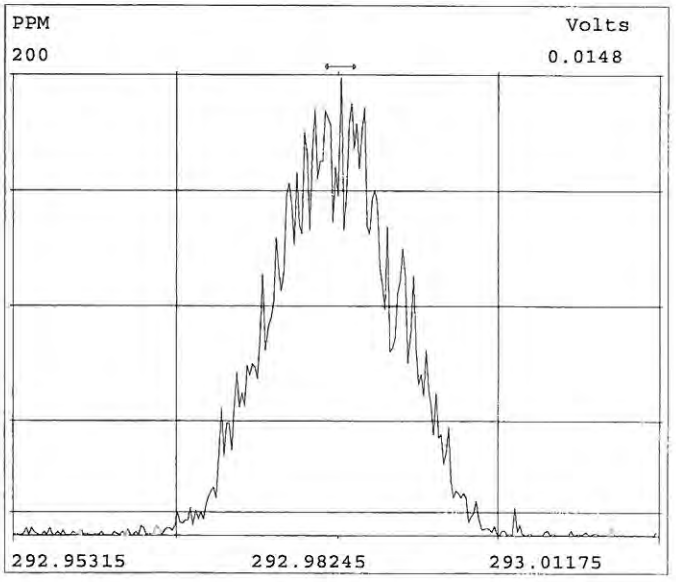




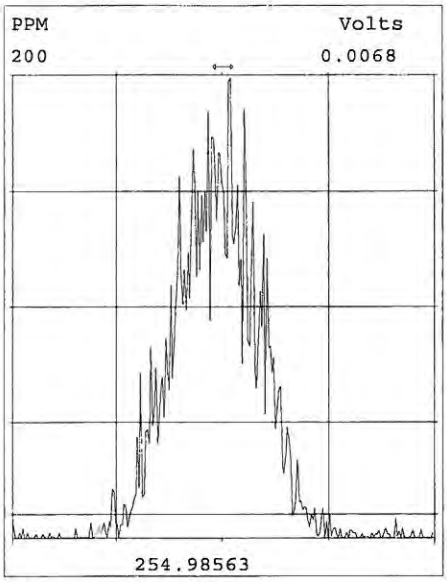


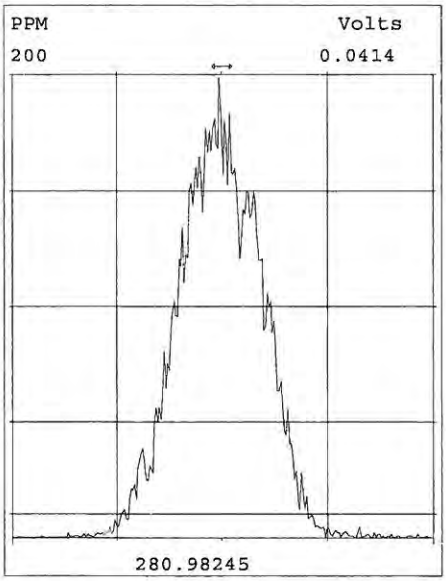


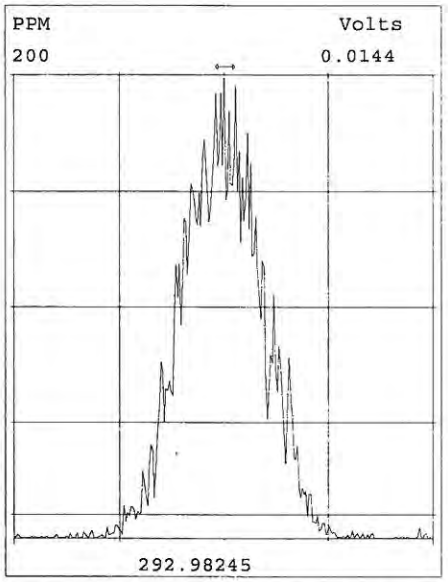


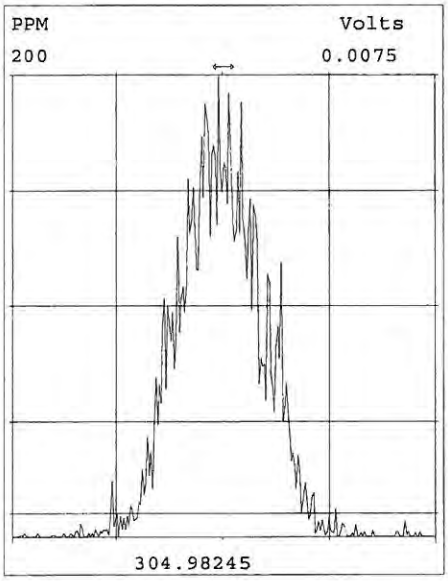


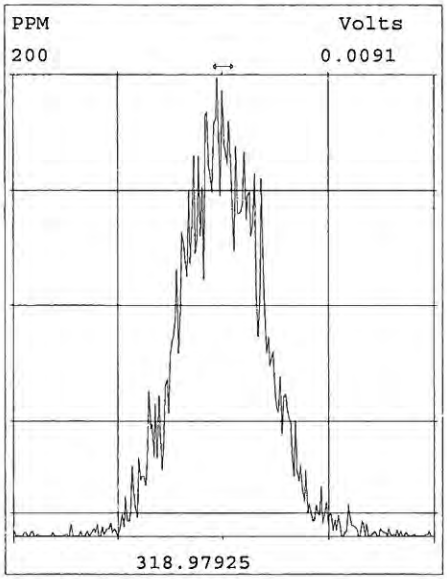
Peak Locate Examination: 8-AUG-2018:07:35 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

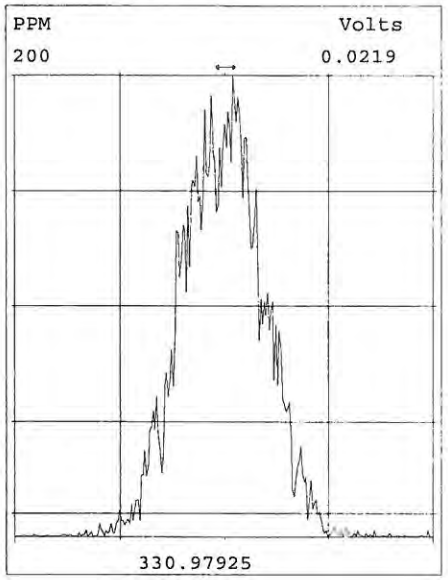


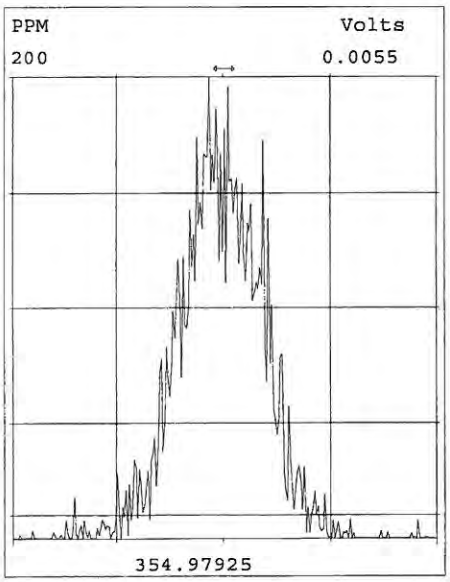




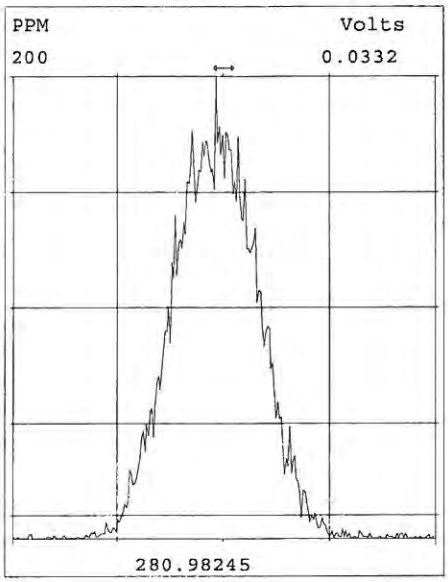


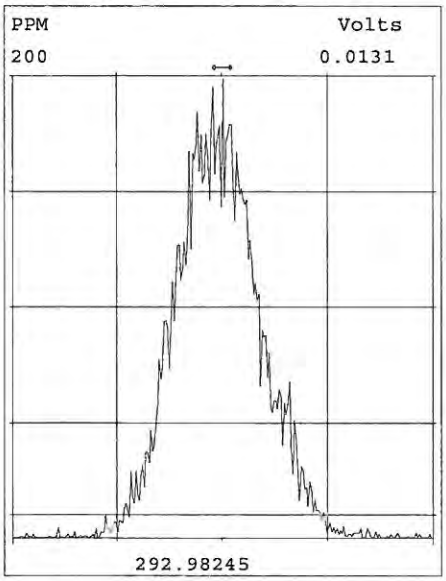


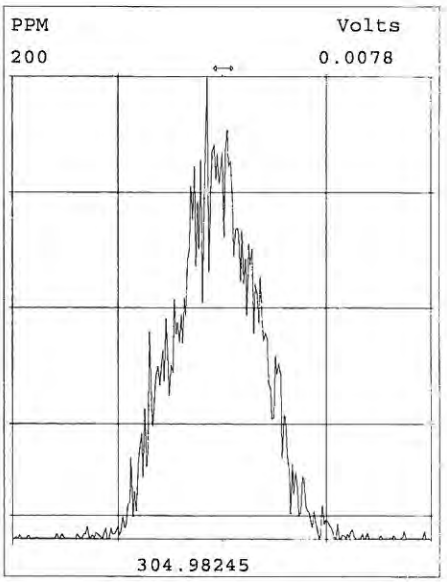


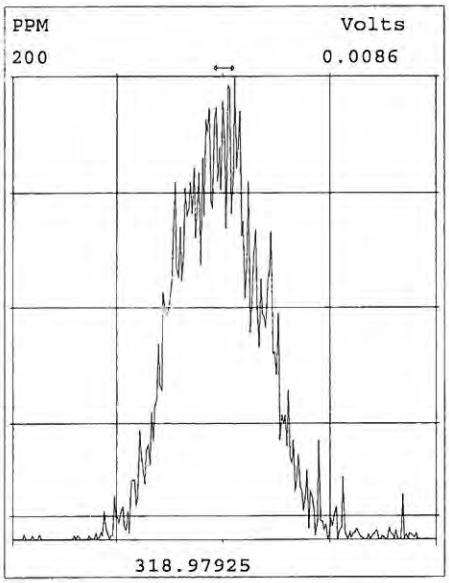


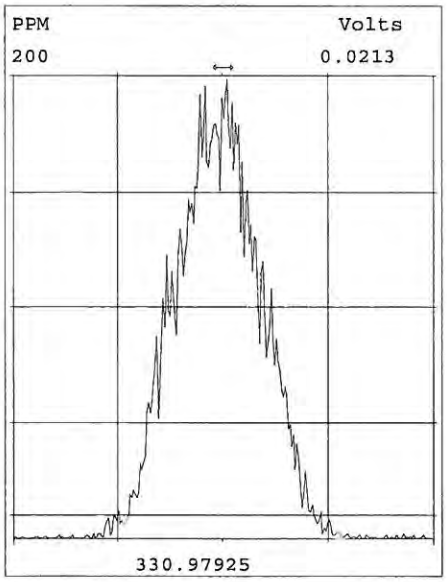
Peak Locate Examination: 8-AUG-2018:07:36 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

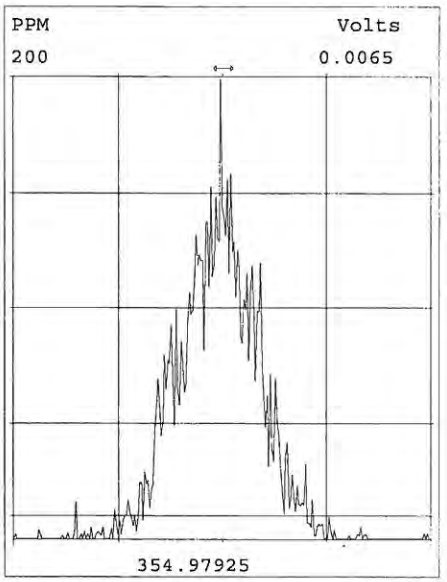


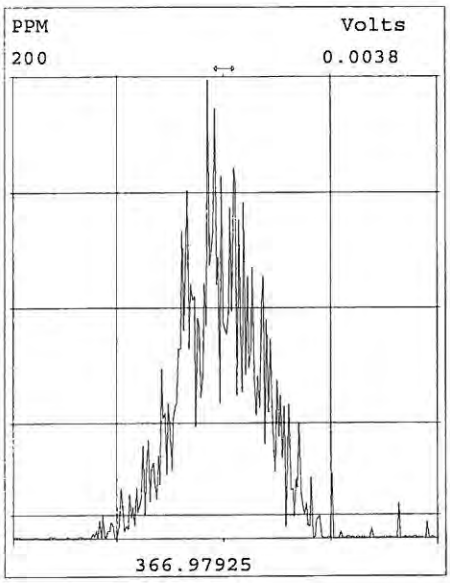


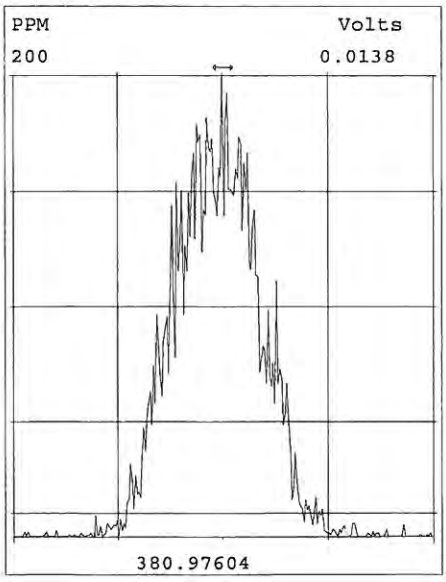




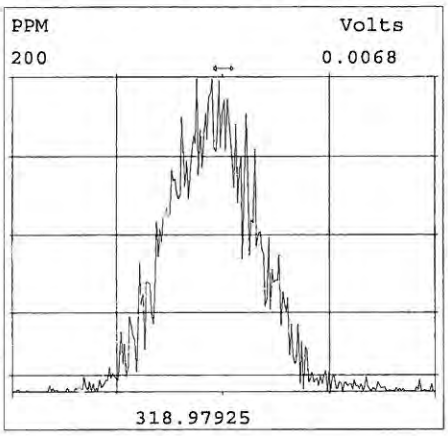


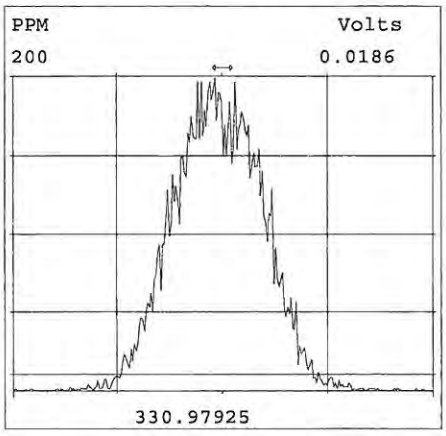


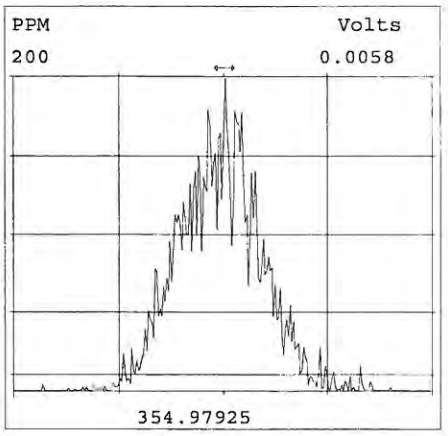


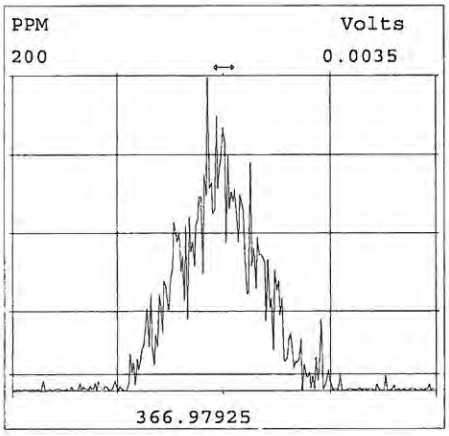


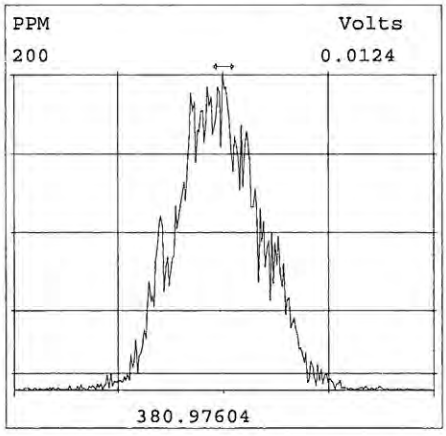
Peak Locate Examination: 8-AUG-2018:07:37 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

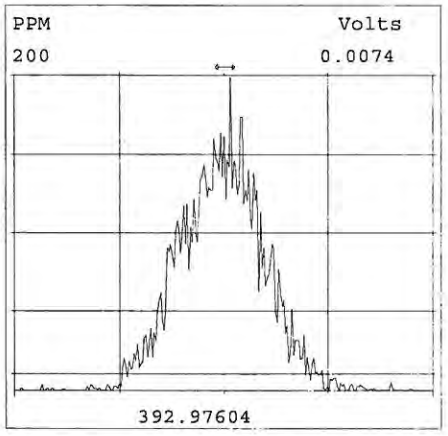


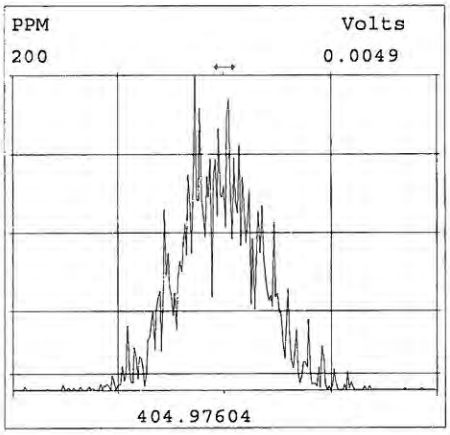


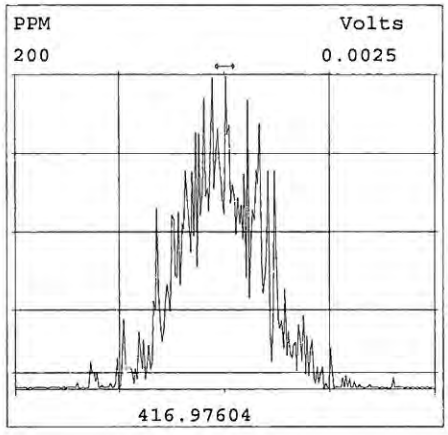


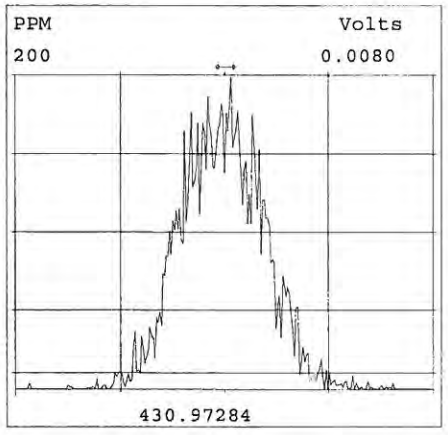


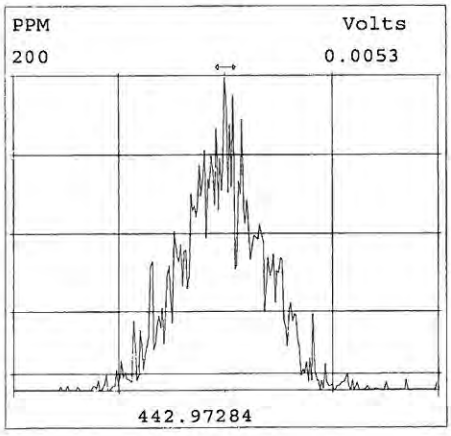




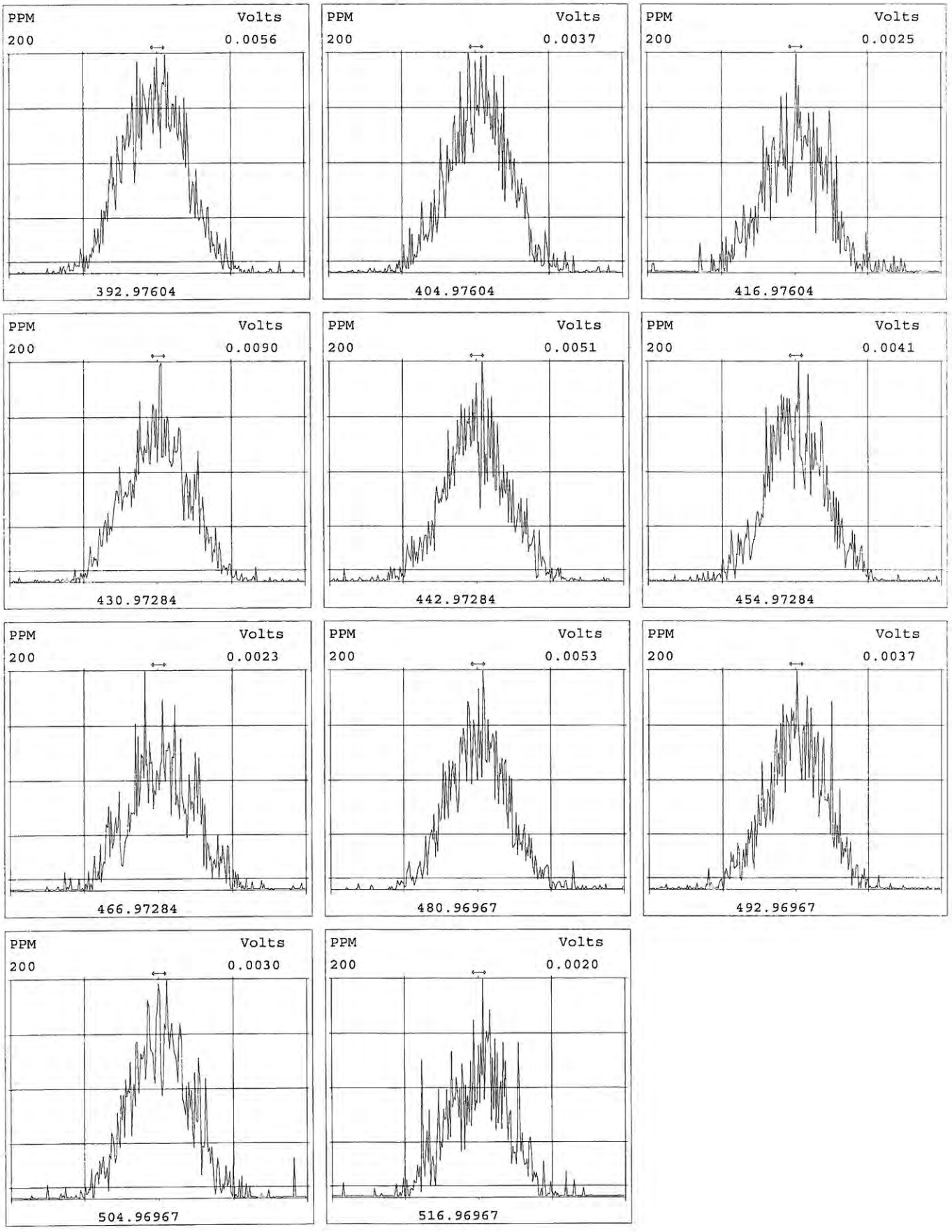








Peak Locate Examination: 8-AUG-2018:07:37 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668



OPUSquan 9-AUG-2018 Page 1

PB8C_260-A

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ultc	PB8C_220	1	1	1668A-C8	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2 »	y
2 c	ultc	PB8C_220	4	1	1668A-C8	1.0000	1.0000	1.000000	y	PB108C-CAL,,»	1,,1.0uL CS-1	y
3 c	ultc	PB8C_220A	4	1	1668A-C8	5.0000	1.0000	1.000000	y	PB108D-CAL,,»	1,,1.0uL CS-2	y
4 c	ultc	PB8C_220A	3	1	1668A-C8	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3	y
5 c	ultc	PB8C_220A	2	1	1668A-C8	400.0000	1.0000	1.000000	y	PB108F-CAL,,»	1,,1.0uL CS-4	y
6 c	ultc	PB8C_220A	1	1	1668A-C8	2000.00»	1.0000	1.000000	y	PB108G-CAL,,»	1,,1.0uL CS-5	y
7 c	ultc	PB8C_220A	6	1	1668A-C8	6000.00»	1.0000	1.000000	y	PB108H-CAL,,»	1,,1.0uL CS-6	y
8 q	ultc	PB8C_260	1	1	1668a-cv8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y
9 q	ultc	PB8C_260	2	1	1668a-s8	1.0000	5.0000	20.000000	y	WG64623-102,»	1,WG64623,1.0/20»	y
10 q	ultc	PB8C_260	3	1	1668a-s8	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL Inst Bl»	y
11 q	ultc	PB8C_260	4	1	1668a-s8	1.0000	5.0000	5.000000	y	WG64623-101,»	1,WG64623,1.0/20»	y
12 q	ultc	PB8C_260	5	1	1668a-s8	1.0000	5.0000	4.890000	y	L29626-1,, 1»	1,WG64623,1.0/20»	y
13 q	ultc	PB8C_260	6	1	1668a-s8	1.0000	5.0000	5.280000	y	L29626-2,, 1»	1,WG64623,1.0/20»	y
14 q	ultc	PB8C_260	7	1	1668a-s8	1.0000	5.0000	5.060000	y	L29626-4,, 1»	1,WG64623,1.0/20»	y
15 q	ultc	PB8C_260	8	1	1668a-s8	1.0000	5.0000	5.180000	y	WG64623-103,»	1,WG64623,1.0/20»	y
16 q	ultc	PB8C_260	9	1	1668a-s8	1.0000	5.0000	4.980000	y	L29626-6,, 1»	1,WG64623,1.0/20»	y
17 q	ultc	PB8C_260	10	1	1668a-s8	1.0000	5.0000	5.230000	y	L29626-7,, 1»	1,WG64623,1.0/20»	y
18 q	ultc	PB8C_260	11	1	1668a-cv8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y

OPUSquan 9-AUG-2018 Page 1

PB8C_260-AC

	c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1	c	ultc	PB8C_260	1	1	1668xb-c8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y
2	q	ultc	PB8C_260	3	1	1668xb-s8	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL Inst Bl»	y
3	q	ultc	PB8C_260	4	1	1668xb-s8	1.0000	5.0000	5.000000	y	WG64623-101,»	1,WG64623,1.0/20»	y
4	q	ultc	PB8C_260	5	1	1668xb-s8	1.0000	5.0000	4.890000	y	L29626-1,, 1»	1,WG64623,1.0/20»	y
5	q	ultc	PB8C_260	6	1	1668xb-s8	1.0000	5.0000	5.280000	y	L29626-2,, 1»	1,WG64623,1.0/20»	y
6	q	ultc	PB8C_260	7	1	1668xb-s8	1.0000	5.0000	5.060000	y	L29626-4,, 1»	1,WG64623,1.0/20»	y
7	q	ultc	PB8C_260	8	1	1668xb-s8	1.0000	5.0000	5.180000	y	WG64623-103,»	1,WG64623,1.0/20»	y
8	q	ultc	PB8C_260	9	1	1668xb-s8	1.0000	5.0000	4.980000	y	L29626-6,, 1»	1,WG64623,1.0/20»	y
9	q	ultc	PB8C_260	10	1	1668xb-s8	1.0000	5.0000	5.230000	y	L29626-7,, 1»	1,WG64623,1.0/20»	y

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:45:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.09	2.66-3.60	23.7	18.8 - 31.3
4-MoCB	3			**M/M+2**	3.05	2.66-3.60	25.8	18.8 - 31.3
2,2'-DiCB	4			**M/M+2**	1.53	1.33-1.79	24.1	18.8 - 31.3
4,4'-DiCB	15			**M/M+2**	1.48	1.33-1.79	28.8	21.0 - 35.0
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	25.9	18.8 - 31.3
3,4,4'-TriCB	37			**M/M+2**	1.03	0.88-1.20	24.5	18.8 - 31.3
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	51.4	37.5 - 62.5
3,3',4,4'-TeCB	77			**M/M+2**	0.78	0.65-0.89	47.2	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.77	0.65-0.89	47.0	37.5 - 62.5
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.56	1.32-1.78	51.0	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.57	1.32-1.78	51.2	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.52	1.32-1.78	51.4	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.52	1.32-1.78	48.2	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.51	1.32-1.78	54.7	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.55	1.32-1.78	49.5	41.8 - 69.6
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.27	1.05-1.43	51.0	37.5 - 62.5
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.26	1.05-1.43	104	75.0 - 125
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.25	1.05-1.43	56.7	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.05-1.43	53.3	37.5 - 62.5
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	50.7	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.04	0.89-1.21	47.1	37.5 - 62.5
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.89	0.76-1.02	81.5	63.2 - 105
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	77.2	56.3 - 93.8
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.81	0.65-0.89	75.5	56.3 - 93.8
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.79	0.65-0.89	85.5	62.9 - 105
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.19	0.99-1.33	73.9	56.3 - 93.8

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PB8C_260S1__Form4A_SJ2414748.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:45:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.15	2.66-3.60	91.2	50.0 - 145
13C12-4-MoCB	3L			**M/M+2**	3.14	2.66-3.60	85.5	50.0 - 145
13C12-2,2'-DiCB	4L			**M/M+2**	1.58	1.33-1.79	92.8	50.0 - 145
13C12-4,4'-DiCB	15L			**M/M+2**	1.56	1.33-1.79	87.9	50.0 - 145
13C12-2,2',6-TriCB	19L			**M/M+2**	1.06	0.88-1.20	102	50.0 - 145
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	0.88-1.20	82.6	50.0 - 145
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	87.9	50.0 - 145
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.74	0.65-0.89	93.1	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.75	0.65-0.89	95.8	50.0 - 145
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.60	1.32-1.78	89.9	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.59	1.32-1.78	89.3	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.57	1.32-1.78	91.8	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.60	1.32-1.78	95.6	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.32-1.78	95.3	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.32-1.78	87.1	50.0 - 145
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.24	1.05-1.43	89.6	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.27	1.05-1.43	189	100 - 290
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.24	1.05-1.43	96.3	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	94.1	50.0 - 145
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	81.5	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.04	0.89-1.21	90.4	50.0 - 145
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.88	0.76-1.02	85.6	50.0 - 145
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.88	0.76-1.02	89.7	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.65-0.89	85.9	50.0 - 145
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	87.4	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.19	0.99-1.33	78.1	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	91.2	65.0 - 135
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	86.1	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	91.5	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S1__Form4B_SJ2414748.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:45:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PB8C_260S1__Form6A_SJ2414748.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:45:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.825
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.373	1.360-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.797-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.200	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.161
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.301	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S1__Form6B_SJ2414748.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018 **CAL Data Filename:** PB8C_260 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 07-Aug-2018

GC Column ID: SPB OCTYL **Analysis Time:** 19:45:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.02	**M/M+2**	3.15	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			1.09	**M/M+2**	1.54	1.33-1.79	1.198	1.195 - 1.202
2,3'-DiCB	6			1.26	**M/M+2**	1.55	1.33-1.79	1.176	1.172 - 1.179
2,4-DiCB	7			1.24	**M/M+2**	1.55	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.38	**M/M+2**	1.53	1.33-1.79	1.208	1.204 - 1.211
2,5-DiCB	9			1.23	**M/M+2**	1.54	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			1.23	**M/M+2**	1.53	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.15	**M/M+2**	1.52	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.16	**M/M+2**	1.52	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.20	**M/M+2**	1.55	1.33-1.79	0.926	0.923 - 0.928
2,2',3-TriCB	16			0.89	**M/M+2**	1.03	0.88-1.20	1.166	1.163 - 1.168
2,2',4-TriCB	17			1.00	**M/M+2**	1.05	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.16	**M/M+2**	1.05	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.26	**M/M+2**	1.03	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.33	**M/M+2**	1.04	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.13	**M/M+2**	1.04	0.88-1.20	0.871	0.869 - 0.873
2,3,5-TriCB	23			1.22	**M/M+2**	1.02	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.29	**M/M+2**	1.06	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.48	**M/M+2**	1.03	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.25	**M/M+2**	1.03	0.88-1.20	1.301	1.296 - 1.306
2,3',6-TriCB	27			1.41	**M/M+2**	1.06	0.88-1.20	1.151	1.148 - 1.154
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.35	**M/M+2**	1.02	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			1.30	**M/M+2**	1.02	0.88-1.20	1.197	1.194 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.21	**M/M+2**	1.03	0.88-1.20	1.274	1.271 - 1.277
3,3',4-TriCB	35			1.24	**M/M+2**	1.02	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.34	**M/M+2**	1.04	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			1.22	**M/M+2**	1.03	0.88-1.20	0.967	0.965 - 0.969
3,4',5-TriCB	39			1.24	**M/M+2**	1.05	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.86	**M/M+2**	0.79	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.86	**M/M+2**	0.79	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.70	**M/M+2**	0.79	0.65-0.89	1.246	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.95	**M/M+2**	0.79	0.65-0.89	1.285	1.281 - 1.289
2,2',3,6-TeCB	45	45 + 51	C	0.87	**M/M+2**	0.78	0.65-0.89	1.146	1.142 - 1.150
2,2',3,6'-TeCB	46			0.77	**M/M+2**	0.78	0.65-0.89	1.160	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.86	**M/M+2**	0.79	0.65-0.89	1.273	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.02	**M/M+2**	0.79	0.65-0.89	1.256	1.252 - 1.260
2,2',4,6-TeCB	50	50 + 53	C	0.89	**M/M+2**	0.79	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.91	**M/M+2**	0.80	0.65-0.89	1.233	1.231 - 1.236
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.90	**M/M+2**	0.79	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.98	**M/M+2**	0.77	0.65-0.89	0.905	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.07	**M/M+2**	0.77	0.65-0.89	0.844	0.842 - 0.845
2,3,3',5'-TeCB	58			1.04	**M/M+2**	0.78	0.65-0.89	0.851	0.850 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.15	**M/M+2**	0.79	0.65-0.89	1.301	1.297 - 1.305
2,3,4,4'-TeCB	60			0.99	**M/M+2**	0.77	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.08	**M/M+2**	0.77	0.65-0.89	0.874	0.871 - 0.877
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			1.09	**M/M+2**	0.77	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			1.20	**M/M+2**	0.79	0.65-0.89	1.348	1.346 - 1.351
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			1.00	**M/M+2**	0.77	0.65-0.89	0.884	0.883 - 0.885
2,3',4,5-TeCB	67			1.24	**M/M+2**	0.77	0.65-0.89	0.856	0.854 - 0.857
2,3',4,5'-TeCB	68			1.11	**M/M+2**	0.77	0.65-0.89	0.831	0.830 - 0.833
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.11	**M/M+2**	0.78	0.65-0.89	0.822	0.821 - 0.824
2,3',5',6-TeCB	73			1.20	**M/M+2**	0.79	0.65-0.89	1.240	1.237 - 1.242
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			1.03	**M/M+2**	0.78	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.21	**M/M+2**	0.82	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.11	**M/M+2**	0.76	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.70	**M+2/M+4**	1.59	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.78	**M+2/M+4**	1.60	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.72	**M+2/M+4**	1.54	1.32-1.78	1.164	1.162 - 1.166
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.94	**M+2/M+4**	1.59	1.32-1.78	0.919	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	0.93	**M+2/M+4**	1.58	1.32-1.78	0.900	0.897 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.82	**M+2/M+4**	1.61	1.32-1.78	1.154	1.150 - 1.157
2,2',3,4,6'-PeCB	89			0.76	**M+2/M+4**	1.61	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.92	**M+2/M+4**	1.61	1.32-1.78	0.868	0.866 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.80	**M+2/M+4**	1.59	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.85	**M+2/M+4**	1.58	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.76	**M+2/M+4**	1.58	1.32-1.78	1.103	1.101 - 1.105
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.12	**M+2/M+4**	1.57	1.32-1.78	1.016	1.013 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			0.93	**M+2/M+4**	1.56	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.02	**M+2/M+4**	1.52	1.32-1.78	1.005	1.003 - 1.006
2,3,3',4',5-PeCB	107 [4]			1.05	**M+2/M+4**	1.52	1.32-1.78	0.998	0.996 - 0.999
2,3,3',4,5'-PeCB	108 [4]	108 + 124	C	1.02	**M+2/M+4**	1.54	1.32-1.78	0.991	0.989 - 0.993
2,3,3',4,6-PeCB	109 [4]	86 + 87 + 97 + 109 + 119 + 125	C86						
2,3,3',4',6-PeCB	110	110 + 115	C	1.06	**M+2/M+4**	1.57	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.01	**M+2/M+4**	1.61	1.32-1.78	0.945	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.12	**M+2/M+4**	1.61	1.32-1.78	0.889	0.888 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.05	**M+2/M+4**	1.55	1.32-1.78	0.959	0.957 - 0.960
2,3',4,5',6-PeCB	121			1.05	**M+2/M+4**	1.55	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.93	**M+2/M+4**	1.54	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	108 + 124	C108						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			1.00	**M+2/M+4**	1.54	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.92	**M+2/M+4**	1.23	1.05-1.43	0.958	0.957 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	0.92	**M+2/M+4**	1.26	1.05-1.43	0.930	0.927 - 0.933
2,2',3,3',4,5'-HxCB	130			0.72	**M+2/M+4**	1.28	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.77	**M+2/M+4**	1.26	1.05-1.43	1.160	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.73	**M+2/M+4**	1.27	1.05-1.43	1.176	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.77	**M+2/M+4**	1.24	1.05-1.43	1.192	1.190 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.80	**M+2/M+4**	1.27	1.05-1.43	1.142	1.140 - 1.145
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.81	**M+2/M+4**	1.26	1.05-1.43	1.107	1.102 - 1.113
2,2',3,3',6,6'-HxCB	136			1.11	**M+2/M+4**	1.27	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.75	**M+2/M+4**	1.27	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.86	**M+2/M+4**	1.26	1.05-1.43	1.154	1.151 - 1.156
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.84	**M+2/M+4**	1.27	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.78	**M+2/M+4**	1.24	1.05-1.43	1.165	1.164 - 1.167
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.79	**M+2/M+4**	1.24	1.05-1.43	1.122	1.121 - 1.124
2,2',3,4,6,6'-HxCB	145			1.05	**M+2/M+4**	1.26	1.05-1.43	1.035	1.033 - 1.036
2,2',3,4',5,5'-HxCB	146			0.92	**M+2/M+4**	1.25	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.87	**M+2/M+4**	1.25	1.05-1.43	1.134	1.131 - 1.137
2,2',3,4',5,6'-HxCB	148			0.78	**M+2/M+4**	1.27	1.05-1.43	1.084	1.083 - 1.086
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.10	**M+2/M+4**	1.25	1.05-1.43	1.013	1.012 - 1.015
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.16	**M+2/M+4**	1.24	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.01	**M+2/M+4**	1.26	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.18	**M+2/M+4**	1.26	1.05-1.43	0.938	0.936 - 0.939
2,3,3',4,5,5'-HxCB	159			1.09	**M+2/M+4**	1.25	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.10	**M+2/M+4**	1.27	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.15	**M+2/M+4**	1.20	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.09	**M+2/M+4**	1.27	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			0.95	**M+2/M+4**	1.25	1.05-1.43	0.878	0.877 - 0.879
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5',6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.12	**M+2/M+4**	1.06	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.76	**M+2/M+4**	1.05	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.73	**M+2/M+4**	1.03	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.78	**M+2/M+4**	1.04	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.78	**M+2/M+4**	1.05	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.01	**M+2/M+4**	1.05	0.89-1.21	1.034	1.033 - 1.036
2,2',3,3',4',5,6-HpCB	177			0.95	**M+2/M+4**	1.03	0.89-1.21	1.146	1.145 - 1.148
2,2',3,3',5,5',6-HpCB	178			0.76	**M+2/M+4**	1.03	0.89-1.21	1.085	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.03	**M+2/M+4**	1.04	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.01	**M+2/M+4**	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.81	**M+2/M+4**	1.04	0.89-1.21	1.157	1.156 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.81	**M+2/M+4**	1.05	0.89-1.21	1.116	1.115 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.81	**M+2/M+4**	1.03	0.89-1.21	1.128	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.05	**M+2/M+4**	1.05	0.89-1.21	1.024	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			0.95	**M+2/M+4**	1.04	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.86	**M+2/M+4**	1.03	0.89-1.21	1.110	1.109 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.98	**M+2/M+4**	1.05	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5',6-HpCB	191			1.00	**M+2/M+4**	1.03	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.90	**M+2/M+4**	1.05	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.81	**M+2/M+4**	0.87	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.75	**M+2/M+4**	0.89	0.76-1.02	0.945	0.944 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.73	**M+2/M+4**	0.88	0.76-1.02	0.915	0.914 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	1.02	**M+2/M+4**	0.91	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.71	**M+2/M+4**	0.91	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			1.01	**M+2/M+4**	0.90	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.78	**M+2/M+4**	0.90	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.99	**M+2/M+4**	0.89	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.21	**M+2/M+4**	0.78	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.
(4) PCB Congener numbers 107, 108, and 109 defined as per EPA1668C specifications.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form1668346A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S1__Form346A_SJ2414738_GS76996.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**CAL Data Filename:**	PB8C_260 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	07-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	19:45:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.03	**M/M+2**	3.15	2.66-3.60	0.719	0.704 - 0.735
13C12-4-MoCB	3L			0.92	**M/M+2**	3.14	2.66-3.60	0.859	0.843 - 0.875
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.58	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.94	**M/M+2**	1.56	1.33-1.79	1.254	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.57	**M/M+2**	1.06	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.40	**M/M+2**	1.04	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.30	**M/M+2**	0.80	0.65-0.89	0.811	0.805 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.22	**M/M+2**	0.74	0.65-0.89	1.397	1.391 - 1.404
13C12-3,4,4',5-TeCB	81L			1.24	**M/M+2**	0.75	0.65-0.89	1.373	1.367 - 1.380
13C12-2,2',4,6,6'-PeCB	104L			1.33	**M+2/M+4**	1.60	1.32-1.78	0.808	0.802 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.25	**M+2/M+4**	1.59	1.32-1.78	1.200	1.195 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.24	**M+2/M+4**	1.57	1.32-1.78	1.179	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.30	**M+2/M+4**	1.60	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.33	**M+2/M+4**	1.57	1.32-1.78	1.151	1.146 - 1.156
13C12-3,3',4,4',5-PeCB	126L			1.09	**M+2/M+4**	1.55	1.32-1.78	1.301	1.296 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.49	**M+2/M+4**	1.24	1.05-1.43	0.785	0.781 - 0.789
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.26	**M+2/M+4**	1.27	1.05-1.43	1.108	1.104 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.24	**M+2/M+4**	1.24	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.25	**M+2/M+4**	1.27	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.96	**M+2/M+4**	1.06	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.15	**M+2/M+4**	1.06	0.89-1.21	0.872	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.54	**M+2/M+4**	1.06	0.89-1.21	0.712	0.708 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.37	**M+2/M+4**	1.04	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.53	**M+2/M+4**	0.88	0.76-1.02	0.817	0.814 - 0.820
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.35	**M+2/M+4**	0.88	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.94	**M+2/M+4**	0.76	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.18	**M+2/M+4**	0.78	0.65-0.89	0.949	0.945 - 0.952

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form1668346B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S1__Form346B_SJ2414738_GS76996.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:22:20

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.11	2.66-3.60	23.8	18.8 - 31.3
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	26.9	18.8 - 31.3
2,2'-DiCB	4			**M/M+2**	1.53	1.33-1.79	24.7	18.8 - 31.3
4,4'-DiCB	15			**M/M+2**	1.76	1.33-1.79	26.7	21.0 - 35.0
2,2',6-TriCB	19			**M/M+2**	1.04	0.88-1.20	25.9	18.8 - 31.3
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	24.0	18.8 - 31.3
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	52.2	37.5 - 62.5
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.65-0.89	44.9	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.77	0.65-0.89	47.5	37.5 - 62.5
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.54	1.32-1.78	51.2	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.54	1.32-1.78	54.1	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.53	1.32-1.78	52.1	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.54	1.32-1.78	48.7	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.53	1.32-1.78	55.9	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.60	1.32-1.78	54.3	41.8 - 69.6
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.24	1.05-1.43	51.5	37.5 - 62.5
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.28	1.05-1.43	104	75.0 - 125
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.23	1.05-1.43	56.6	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.21	1.05-1.43	52.1	37.5 - 62.5
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	50.7	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	47.2	37.5 - 62.5
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	79.6	63.2 - 105
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.88	0.76-1.02	76.4	56.3 - 93.8
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	75.9	56.3 - 93.8
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.79	0.65-0.89	84.6	62.9 - 105
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.17	0.99-1.33	73.5	56.3 - 93.8

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S11__Form4A_SJ2414771.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:22:20

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.13	2.66-3.60	92.1	50.0 - 145
13C12-4-MoCB	3L			**M/M+2**	3.17	2.66-3.60	85.5	50.0 - 145
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.33-1.79	88.8	50.0 - 145
13C12-4,4'-DiCB	15L			**M/M+2**	1.56	1.33-1.79	88.8	50.0 - 145
13C12-2,2',6-TriCB	19L			**M/M+2**	1.05	0.88-1.20	102	50.0 - 145
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.05	0.88-1.20	81.7	50.0 - 145
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	86.4	50.0 - 145
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	92.0	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.75	0.65-0.89	93.7	50.0 - 145
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.55	1.32-1.78	88.2	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.56	1.32-1.78	83.5	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.54	1.32-1.78	86.7	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.57	1.32-1.78	89.5	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.32-1.78	90.5	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.60	1.32-1.78	77.5	50.0 - 145
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.24	1.05-1.43	94.3	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.25	1.05-1.43	180	100 - 290
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.25	1.05-1.43	91.3	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.28	1.05-1.43	90.7	50.0 - 145
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	83.1	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	0.89-1.21	92.1	50.0 - 145
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.89	0.76-1.02	85.3	50.0 - 145
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.88	0.76-1.02	92.4	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.65-0.89	85.9	50.0 - 145
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	85.3	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.14	0.99-1.33	79.6	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.07	0.88-1.20	92.3	65.0 - 135
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.61	1.32-1.78	87.4	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.02	0.89-1.21	89.5	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S11__Form4B_SJ2414771.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:22:20

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.000	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.000	0.999-1.003
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.000	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S11__Form6A_SJ2414771.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_260 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	06:22:20

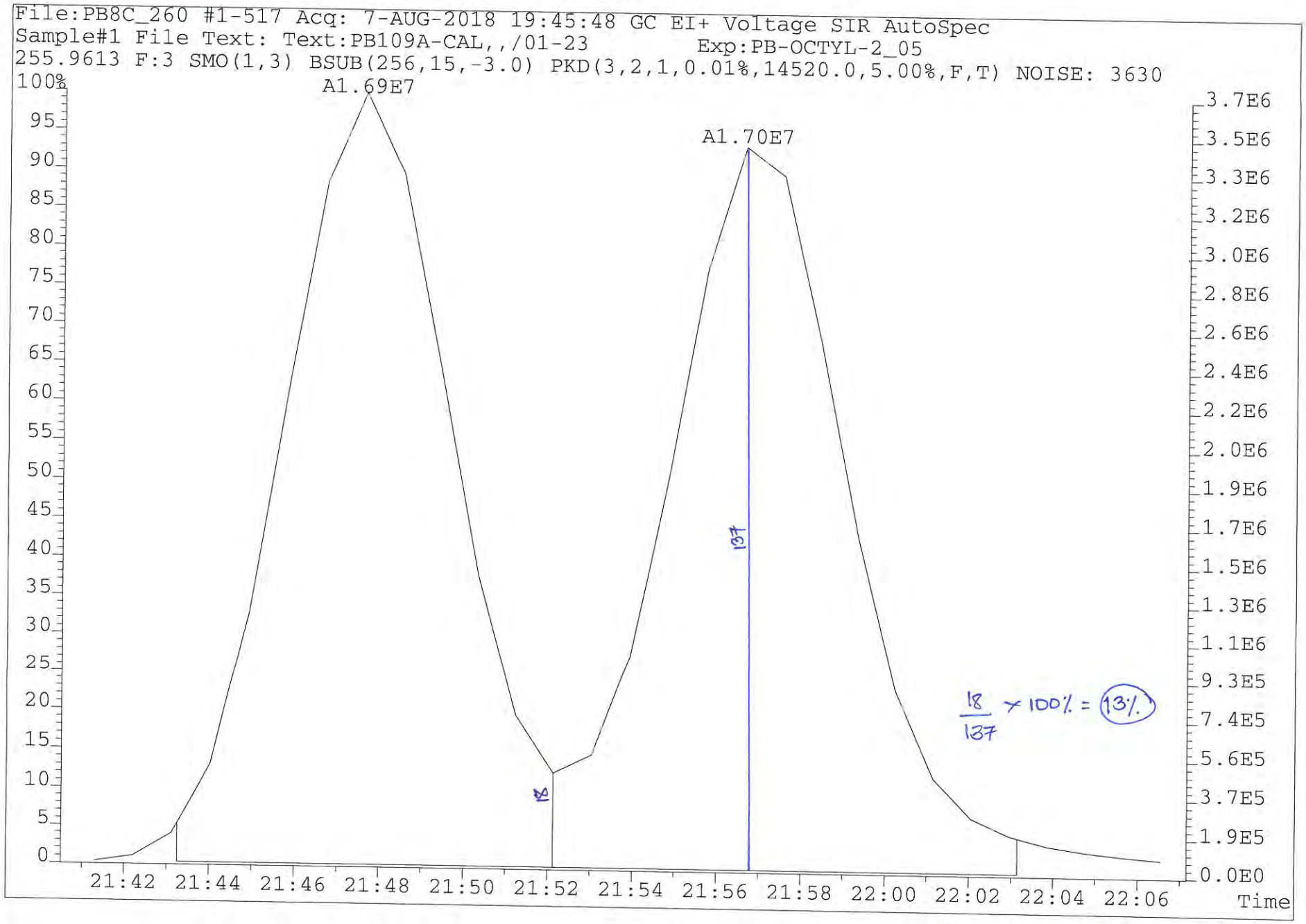
LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.687-0.750
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.827-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.843-0.906
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.255	1.224-1.287
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.104
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.093	1.073-1.113
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.398	1.385-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.388
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.191-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.180	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.163	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.152	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.302	1.292-1.313
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.823
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.912-0.939
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.003-1.020

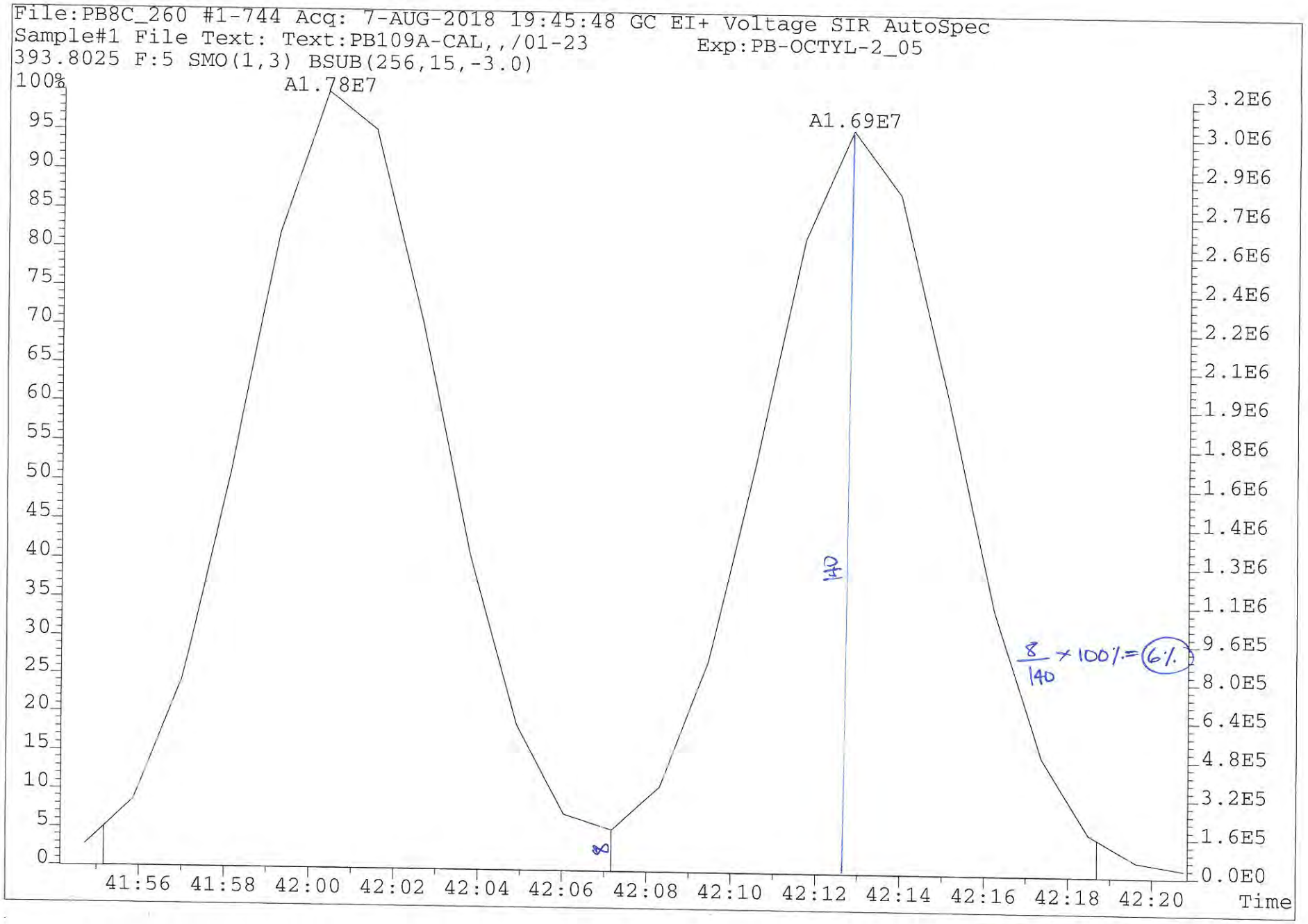
(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_260S11__Form6B_SJ2414771.html; Workgroup: WG64623; Design ID: 240]


File:PB8C_260 #1-517 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14520.0,5.00%,F,T) NOISE: 3630
A1.69E7
A1.70E7
18
137
18/137 x 100% = 13%
PV by RA 08AUG2018
Time



PV by RA 08AUG2018

www.axysanalytical.com

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 269
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

Tune : SY
List : BA
Check :
LIMS :
Logfile:

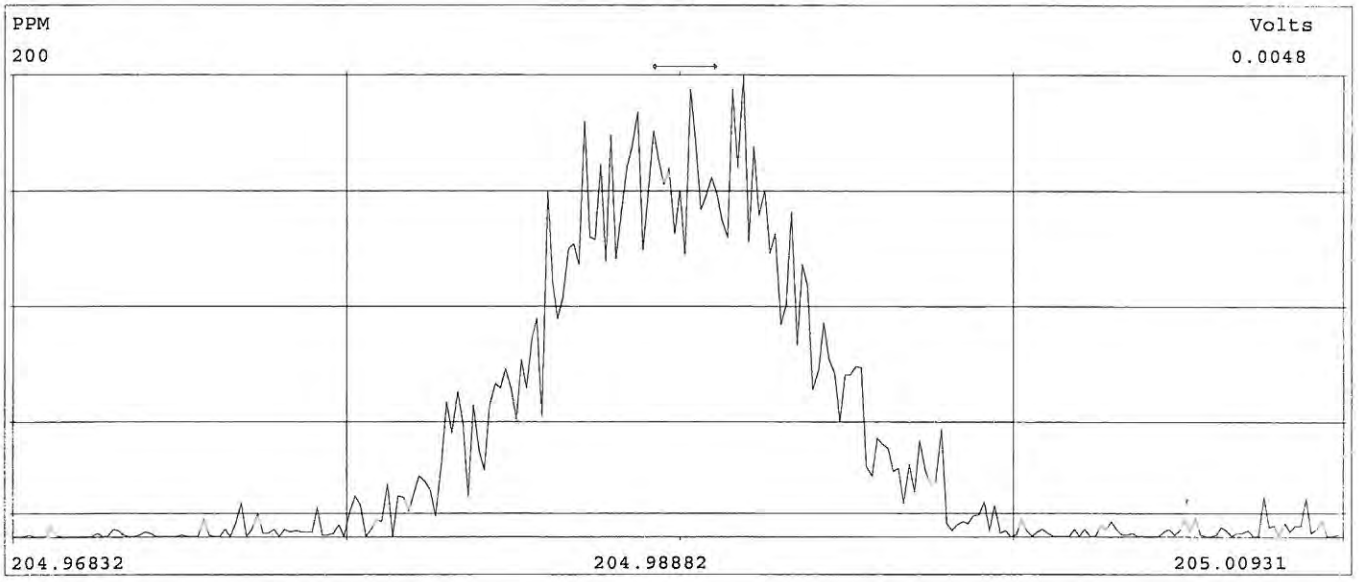
Date -list : 08-AUG-2018
-liner : 03-AUG-2018
-septum: 03-AUG-2018
-guard : NEW 03-AUG-2018
-column: NEW 03-JUN-2018
-t line: 45CM 03-JUN-2018

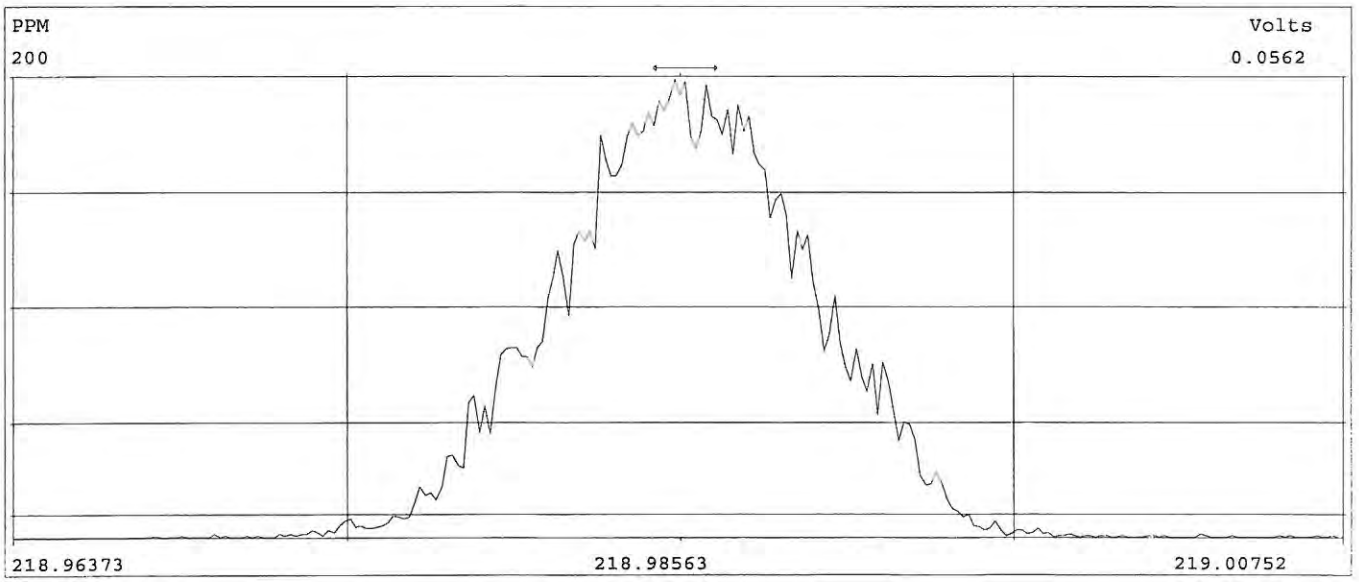
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_261	1	1	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 07:38:49
2	PB8C_261	2	2	WG64446-102,,SPM	1,WG64446,1.0/20uL	8-AUG-18 08:42:25
3	PB8C_261	3	3	PB053A-SUR,,/02	1,,1.0uL Inst Blank	8-AUG-18 09:46:02
4	PB8C_261	4	4	WG64446-101,,BLK	1,WG64446,1.0/20uL	8-AUG-18 10:49:49
5	PB8C_261	5	5	WG64784-101,,BLK	1,WG64784,2.0/20uL	8-AUG-18 11:53:38
6	PB8C_261	6	6	L13328-90,,PRF	1,WG64784,2.0/20uL	8-AUG-18 12:57:22
7	PB8C_261	7	7	L29626-9,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 14:01:03
8	PB8C_261	8	8	L29579-21,,	1,WG64446,1.0/20uL	8-AUG-18 15:04:42
9	PB8C_261	9	9	L29579-22,,	1,WG64446,1.0/20uL	8-AUG-18 16:08:22
10	PB8C_261	10	10	WG64623-104,,CRM 1/10	1,WG64623,1.0/~~400uL~~ 20µL	8-AUG-18 17:12:02
11	PB8C_261	11	11	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 18:15:40

16 Aug 2018

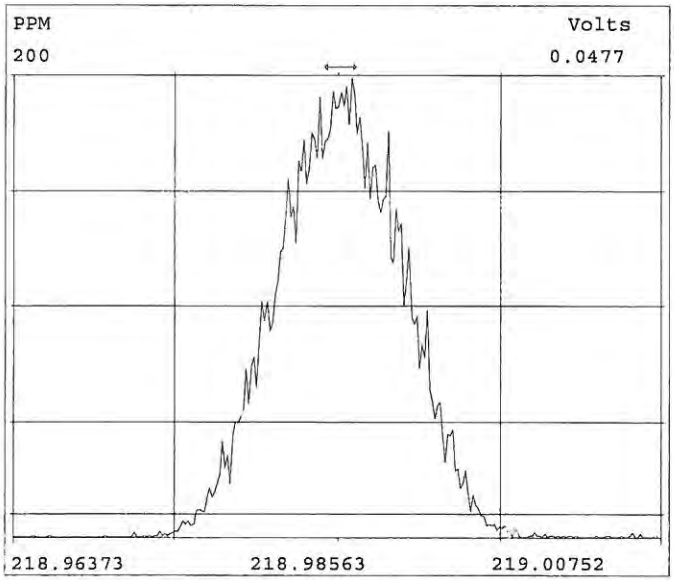
Peak Locate Examination: 8-AUG-2018:07:34 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

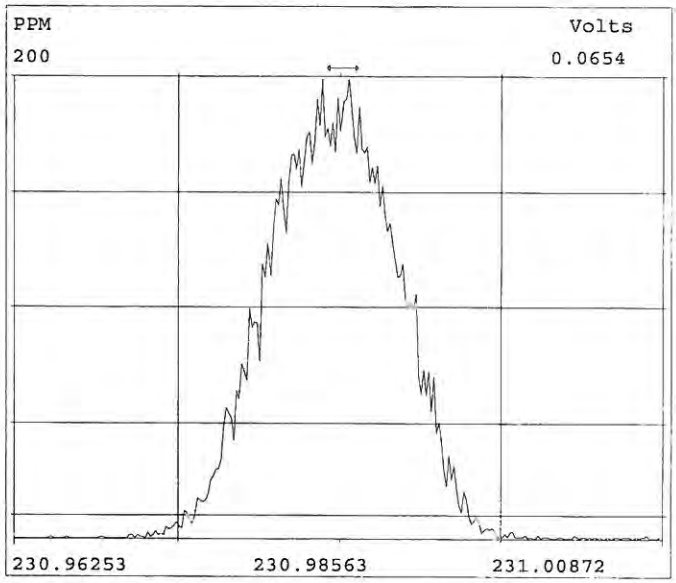
Approved SP 08Aug18

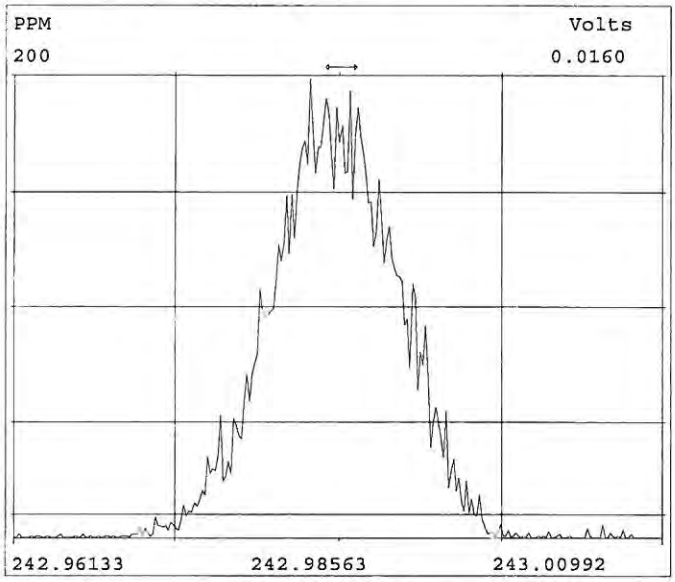


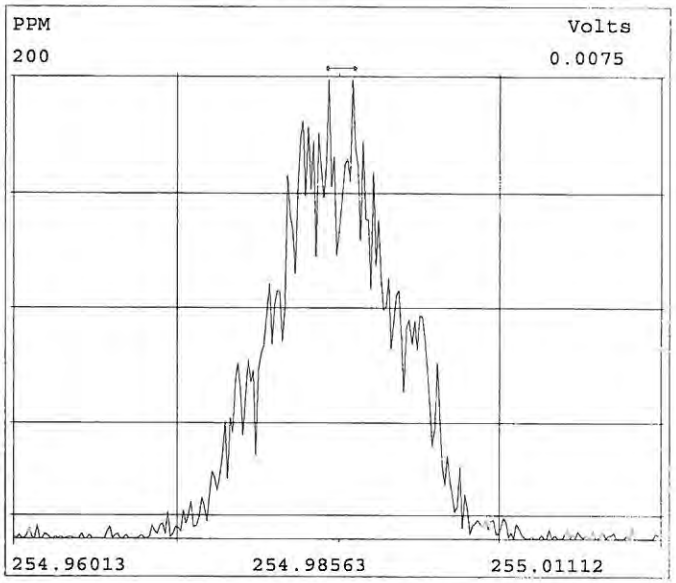


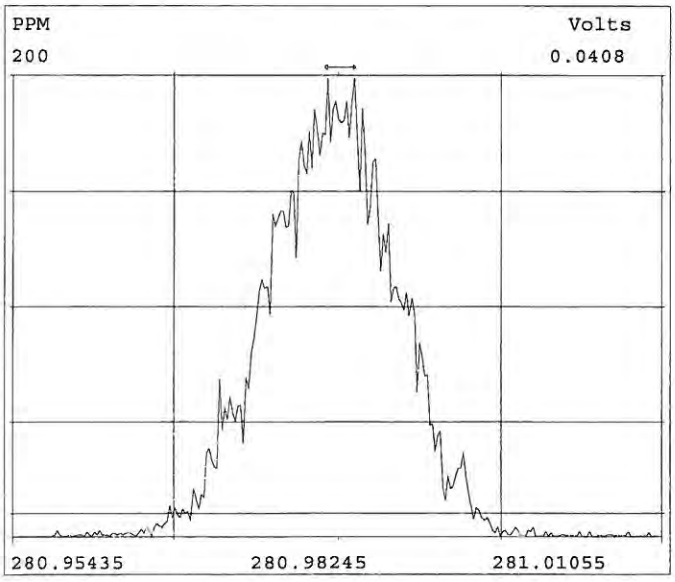
Peak Locate Examination: 8-AUG-2018:07:35 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

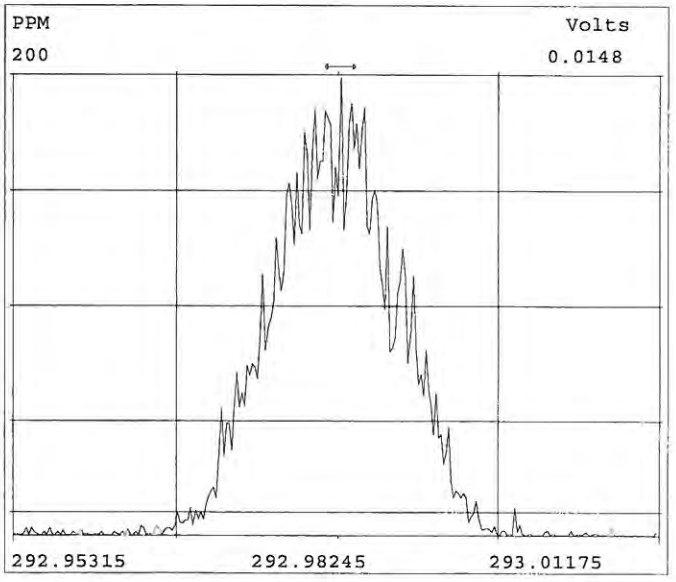




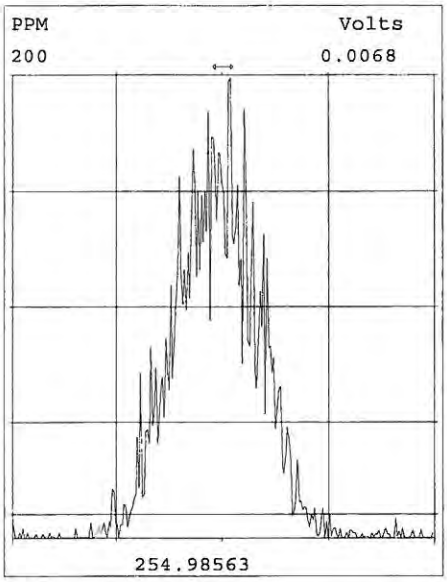


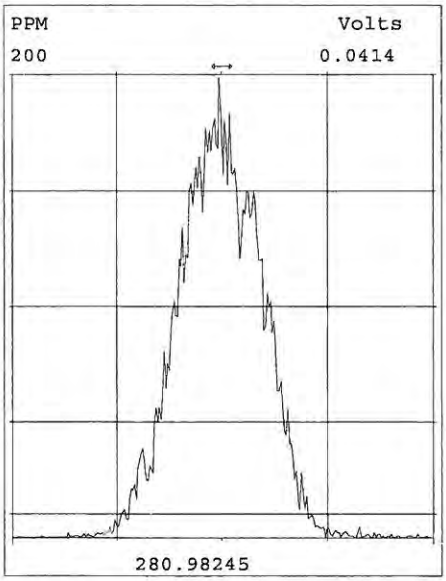


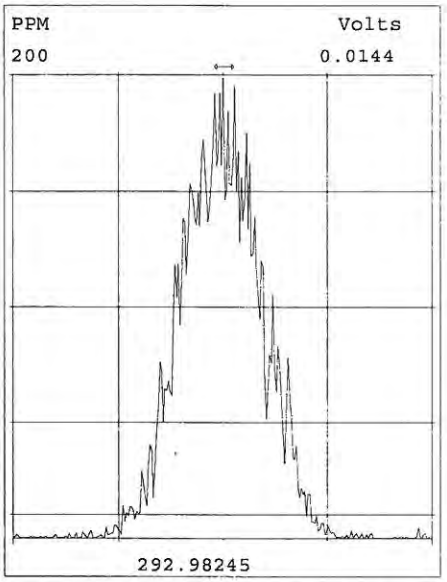


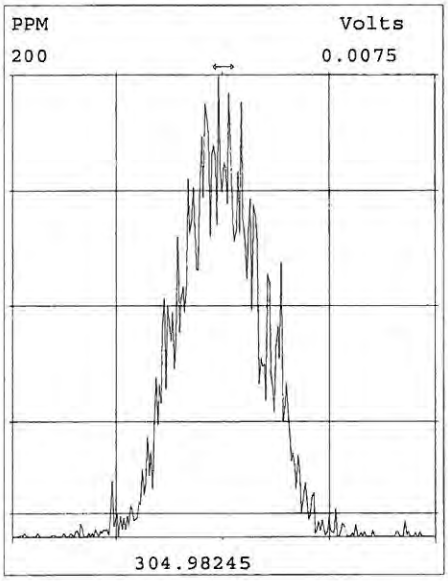


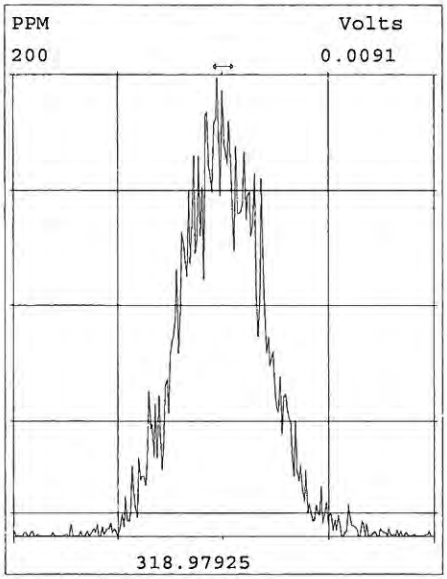
Peak Locate Examination: 8-AUG-2018:07:35 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

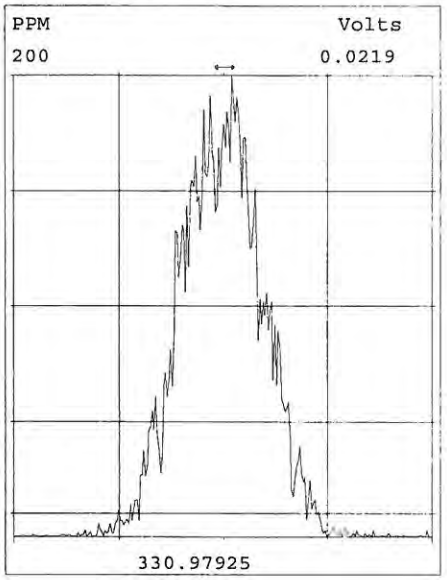


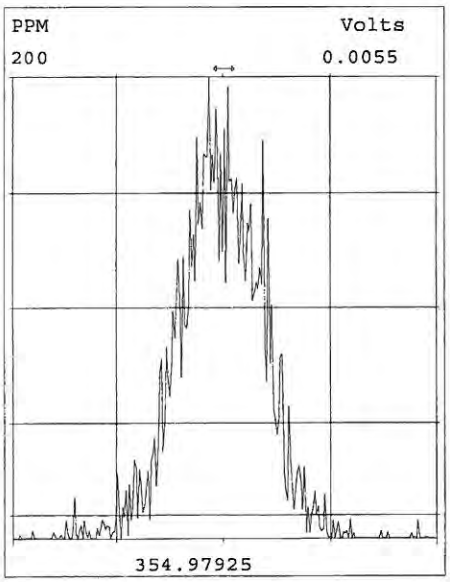




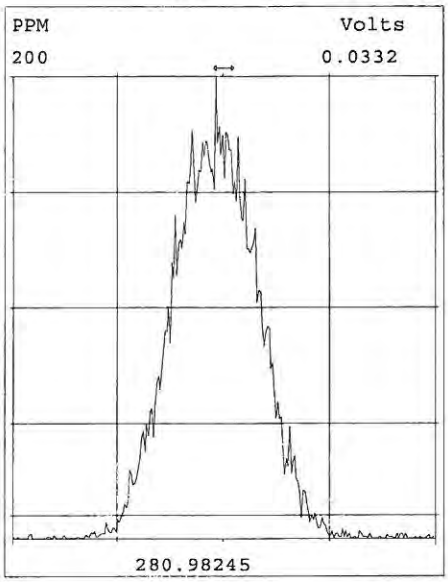


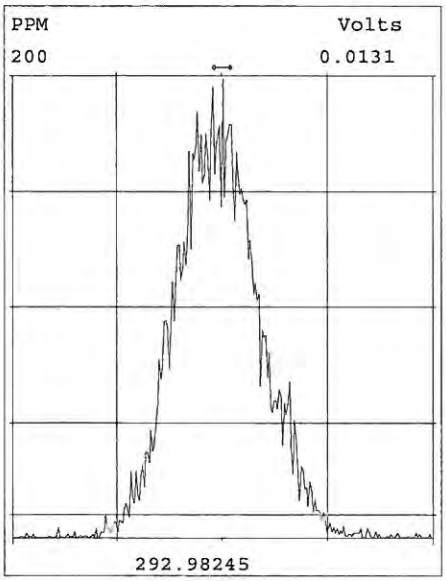


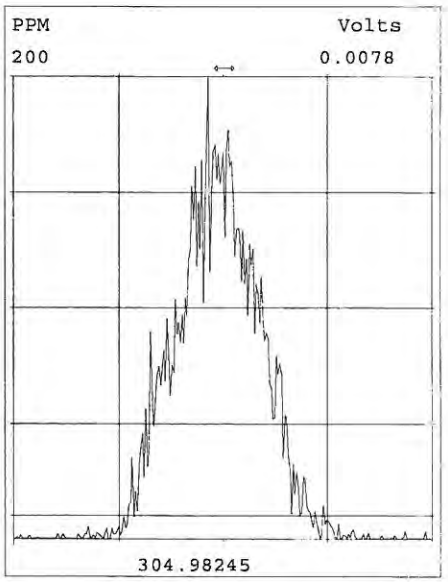


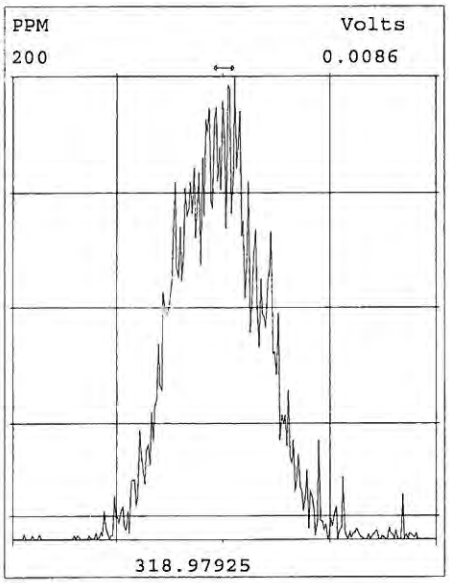


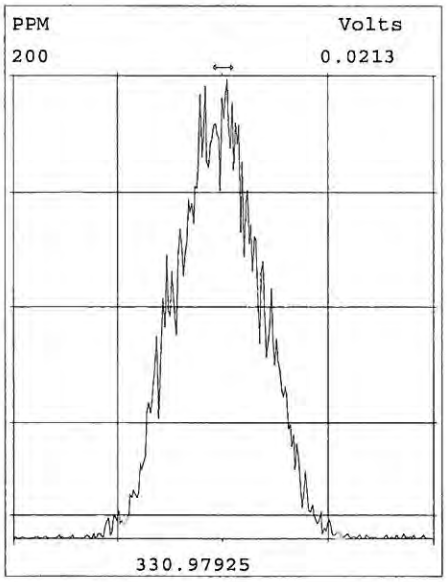
Peak Locate Examination: 8-AUG-2018:07:36 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

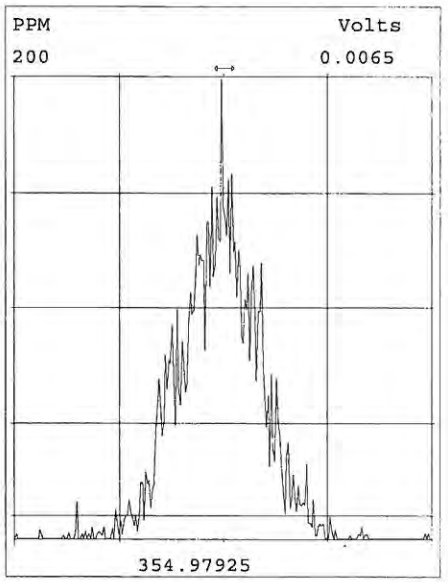


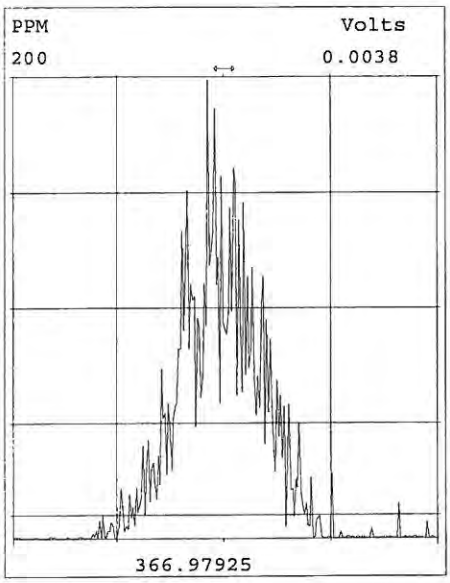


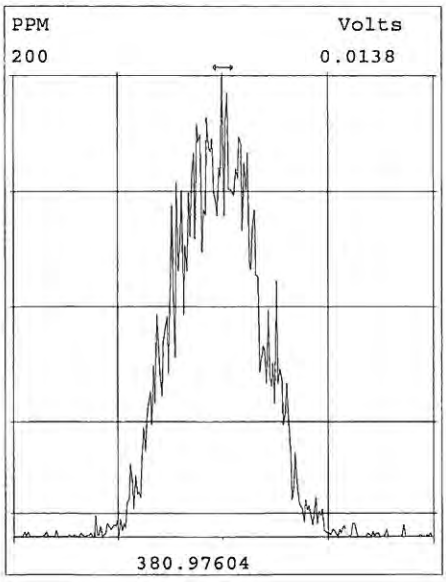




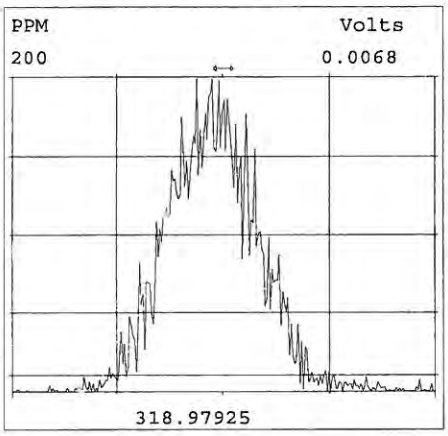


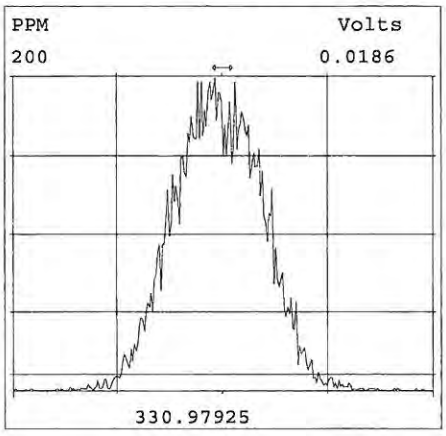


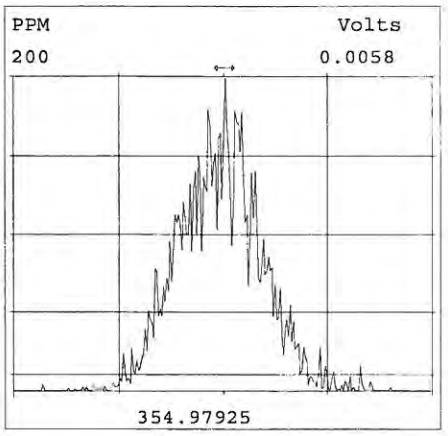


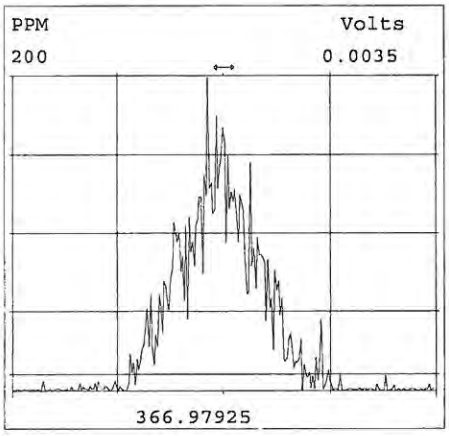


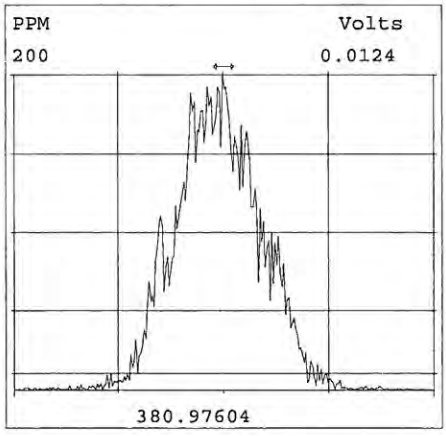
Peak Locate Examination: 8-AUG-2018:07:37 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

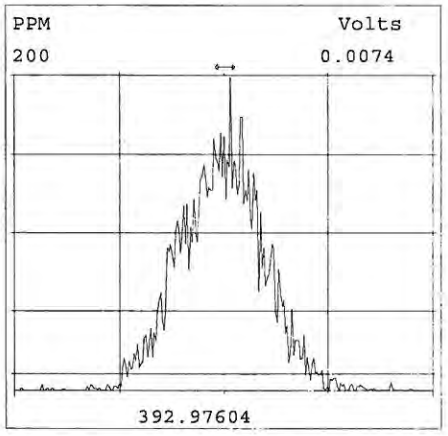


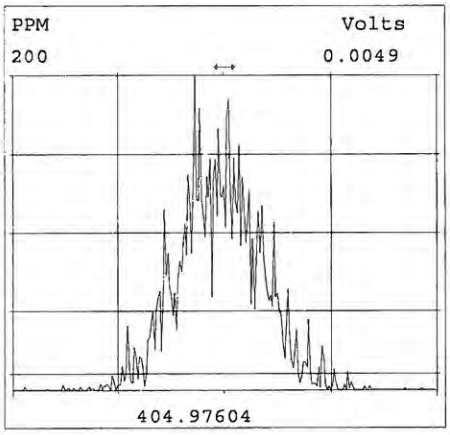


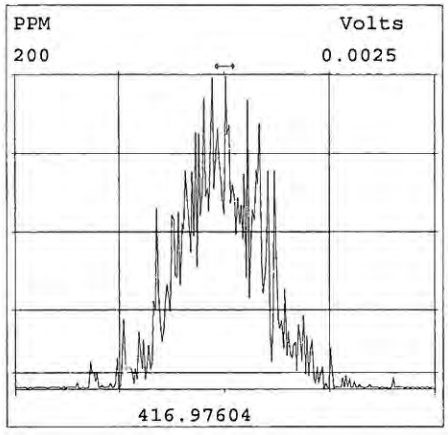


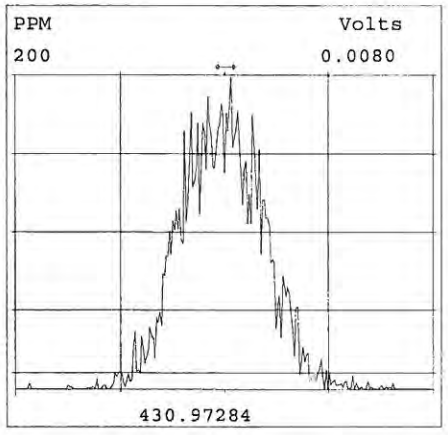


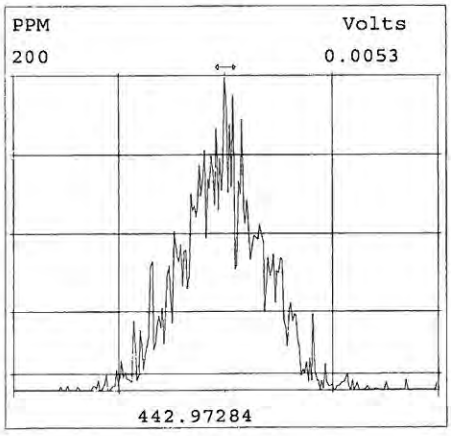




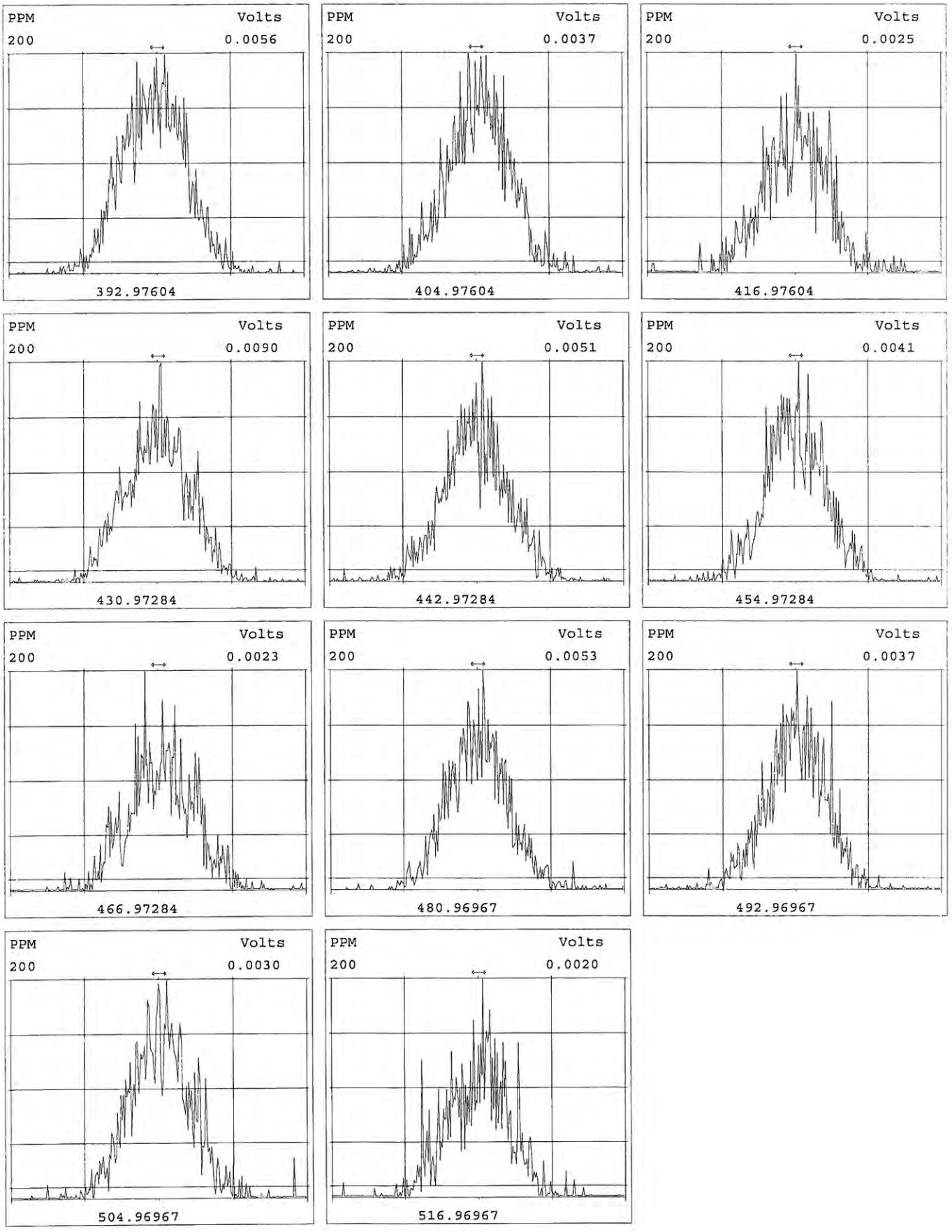






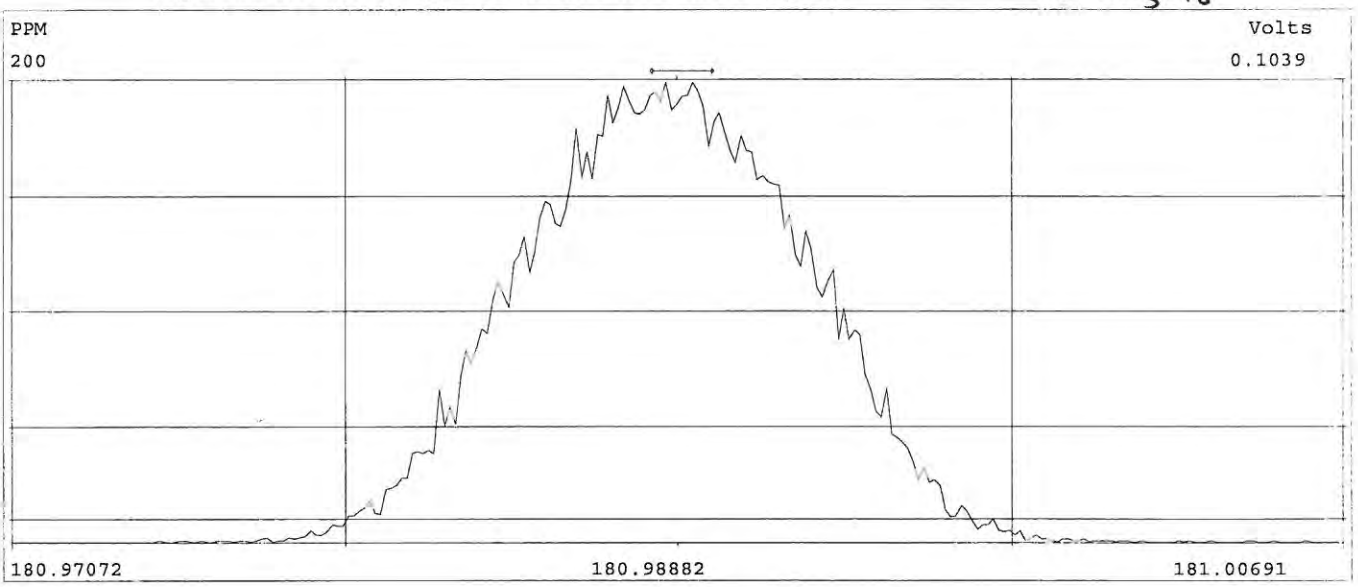


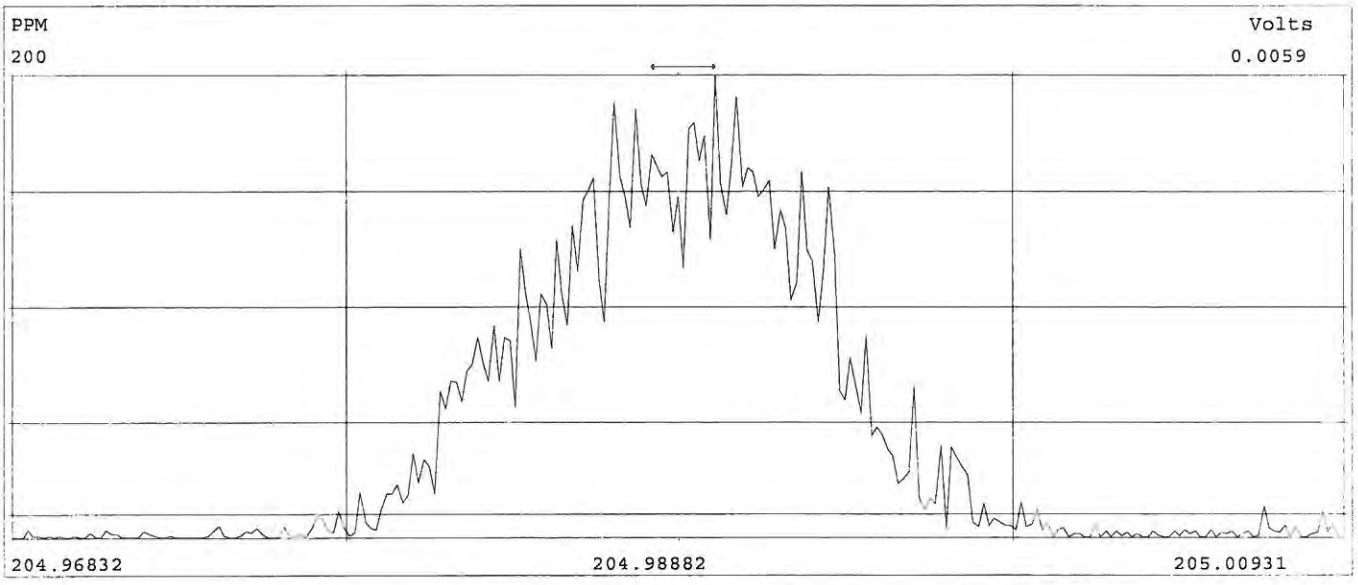
Peak Locate Examination: 8-AUG-2018:07:37 File:PB8C_260CAL2/261CAL
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

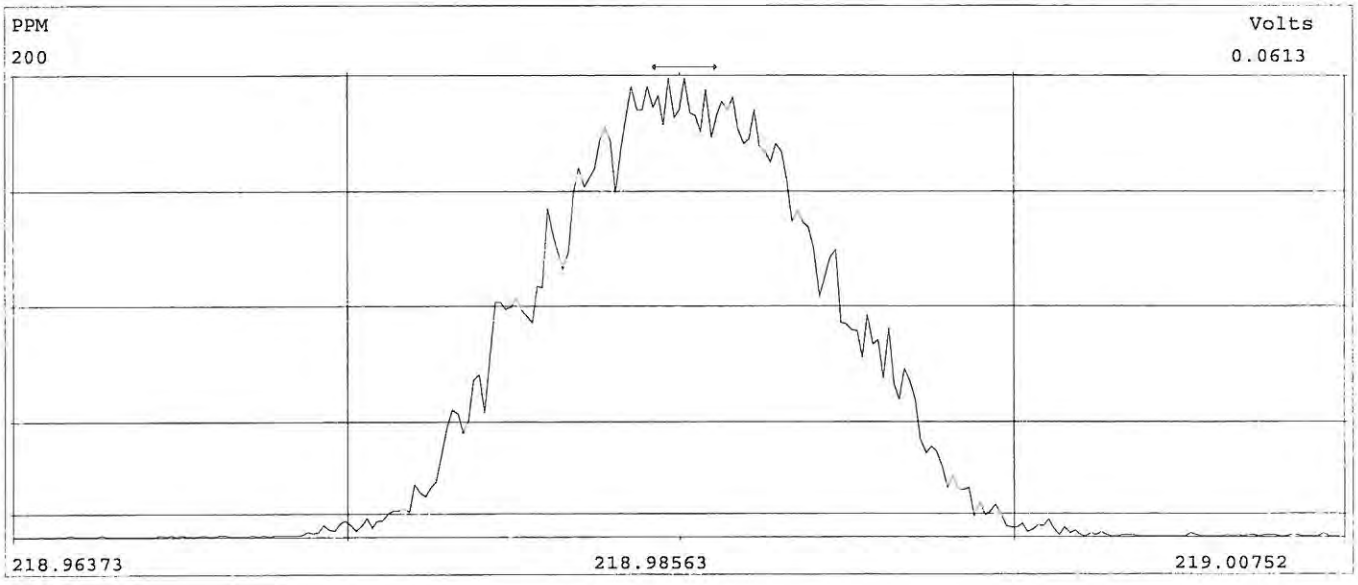


Peak Locate Examination: 8-AUG-2018:19:31 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:1 Reference:PFK_1668

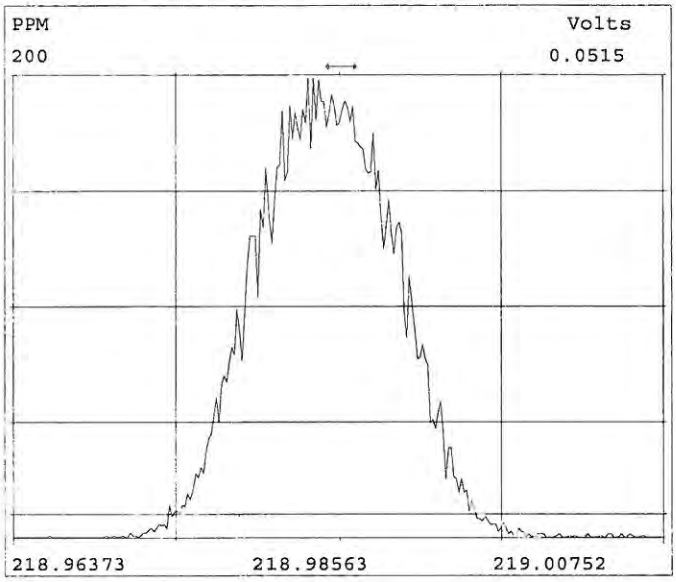
Approved by JP
8-Aug-18

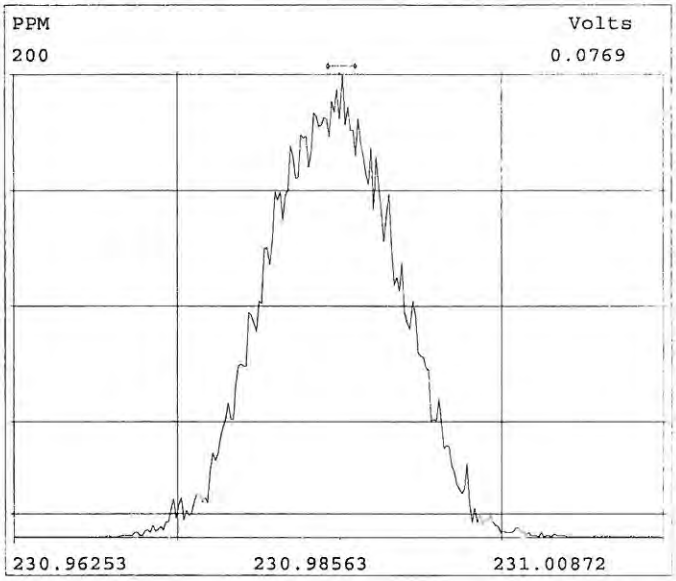


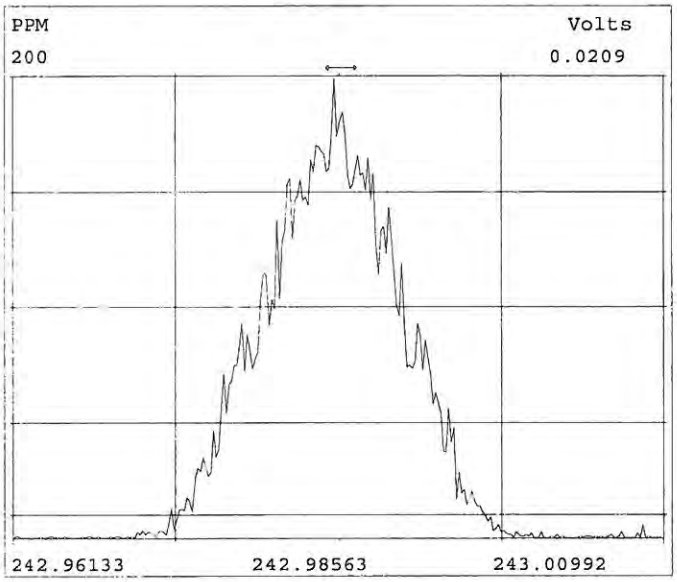


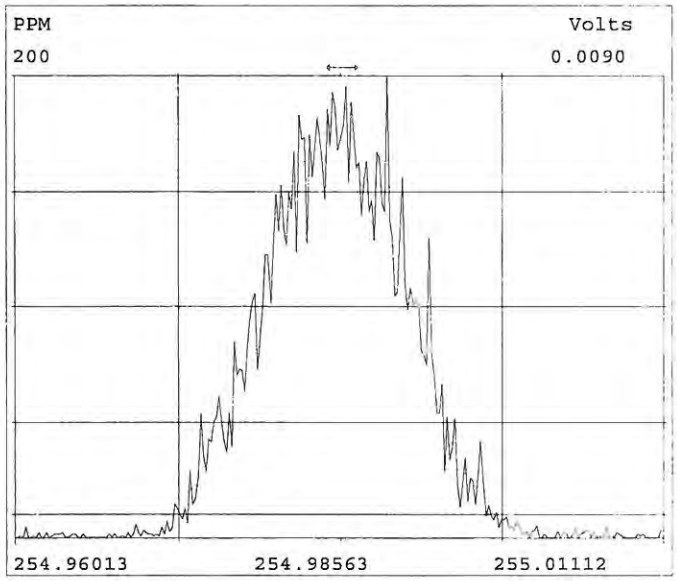


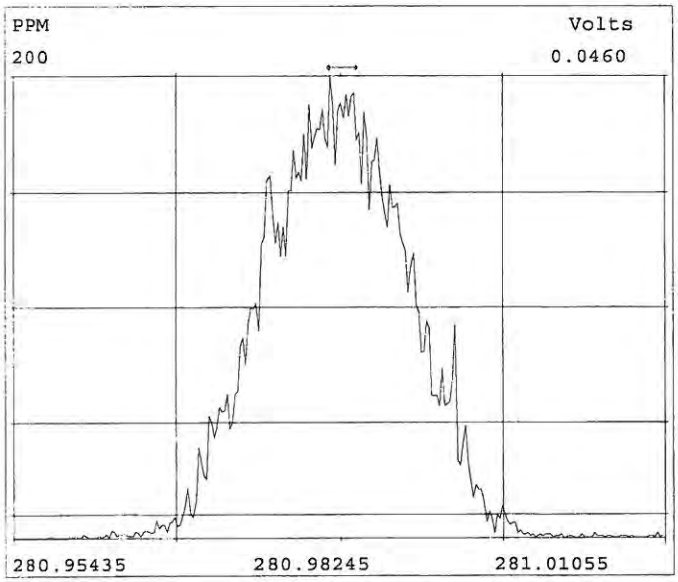
Peak Locate Examination: 8-AUG-2018:19:32 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:2 Reference:PFK_1668

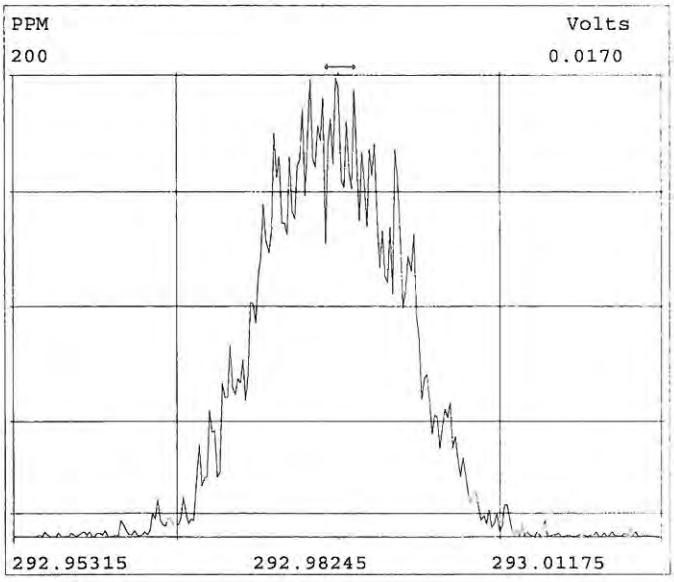




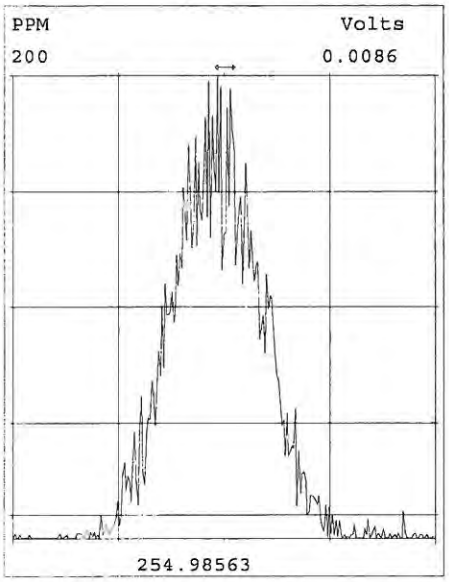


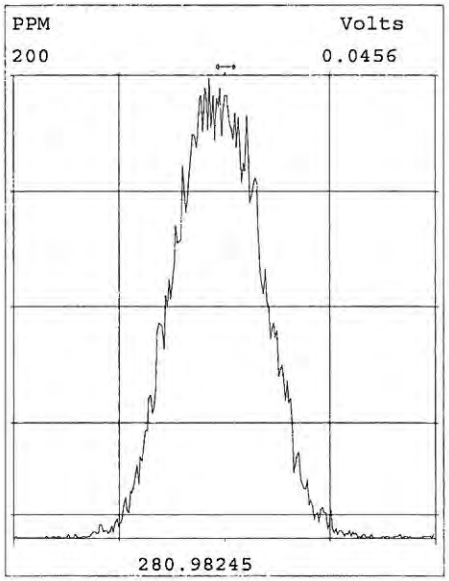


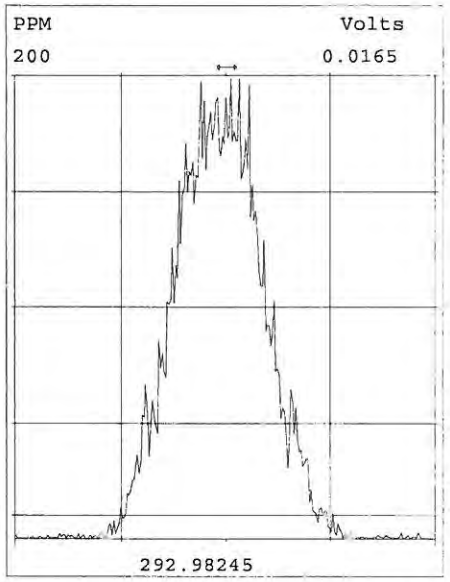


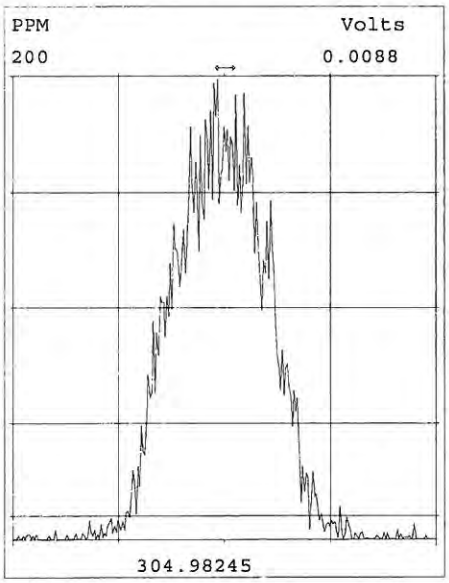


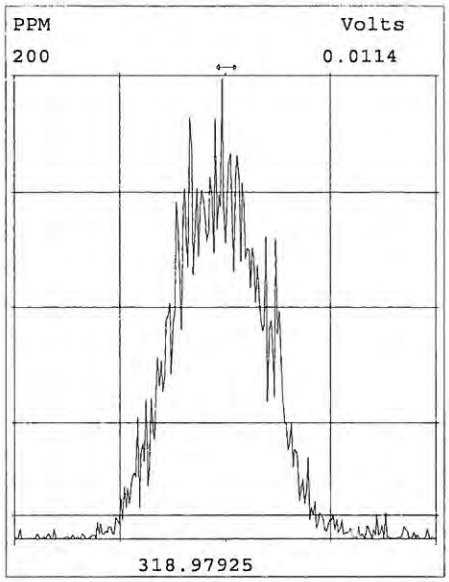
Peak Locate Examination: 8-AUG-2018:19:32 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:3 Reference:PFK_1668

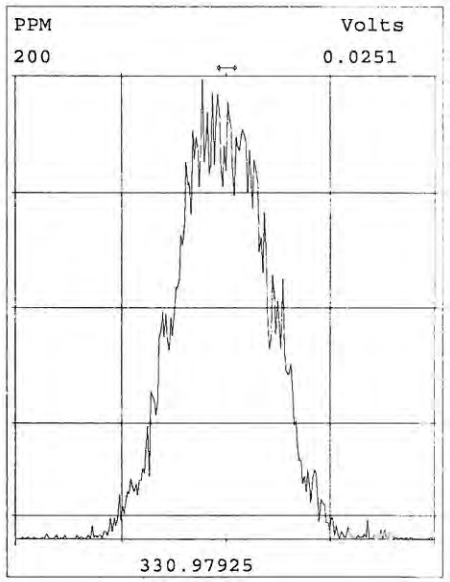


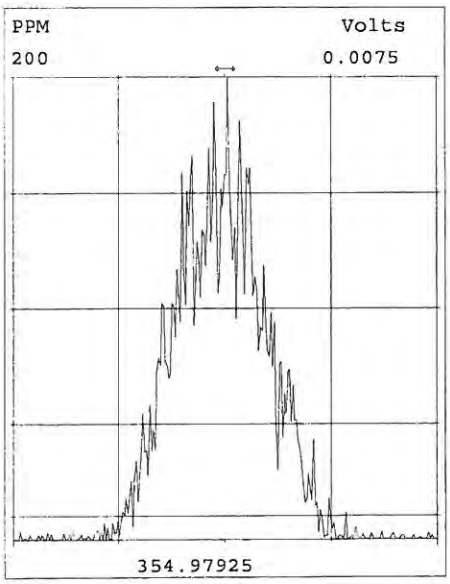




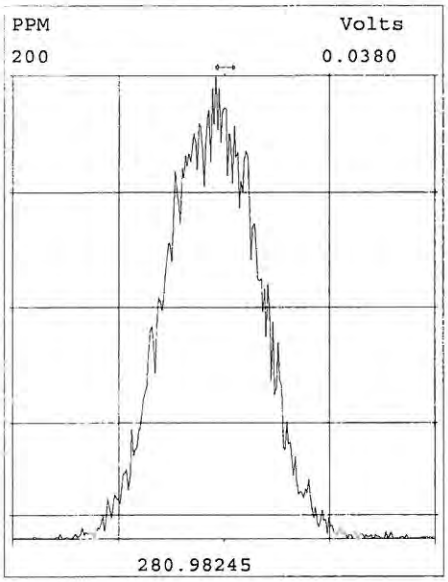


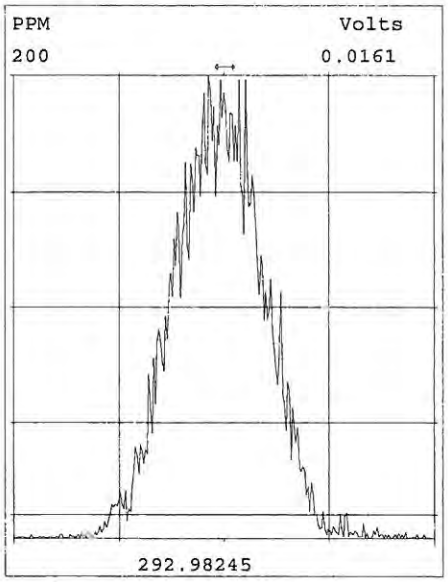


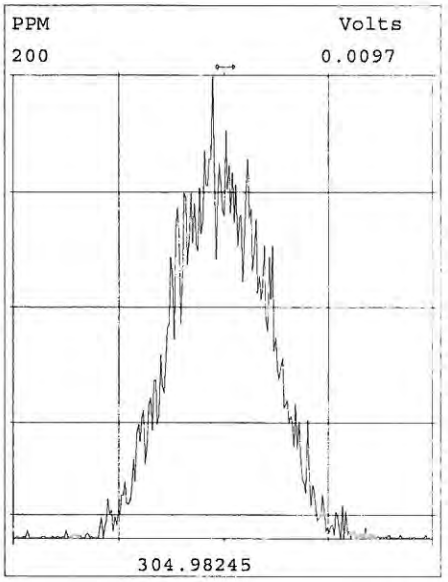


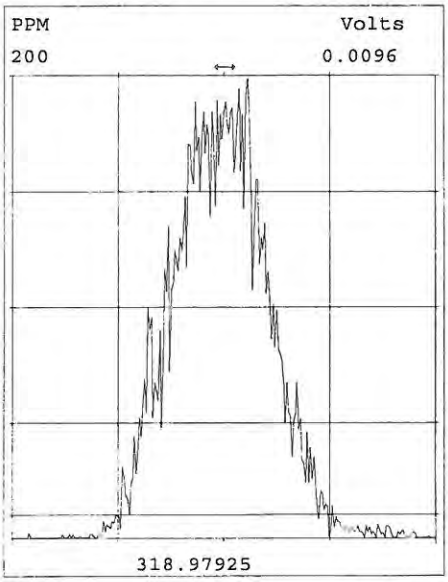


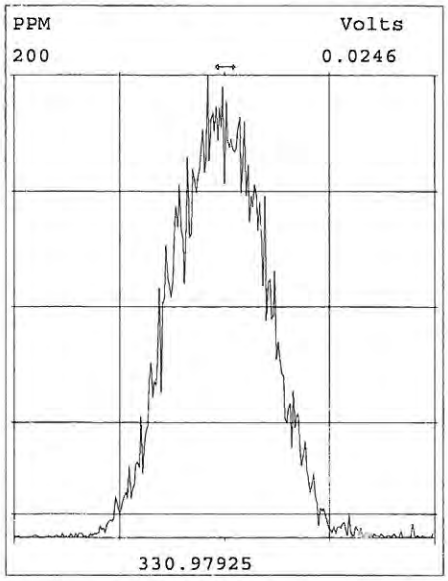
Peak Locate Examination: 8-AUG-2018:19:33 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:4 Reference:PFK_1668

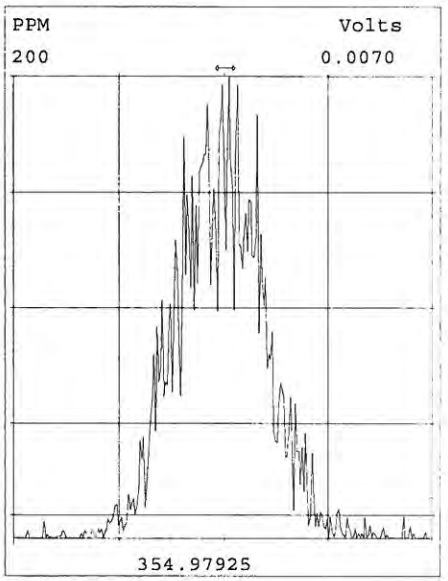


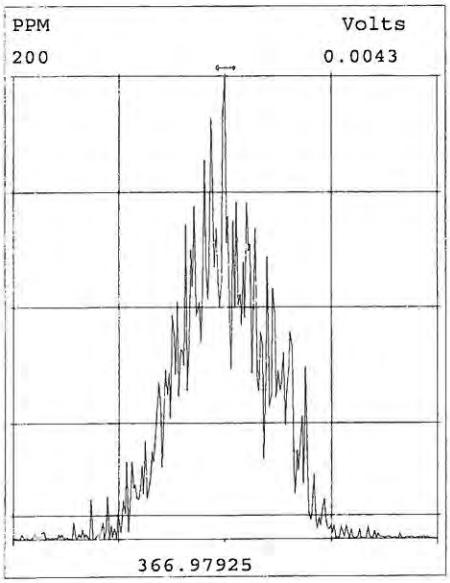


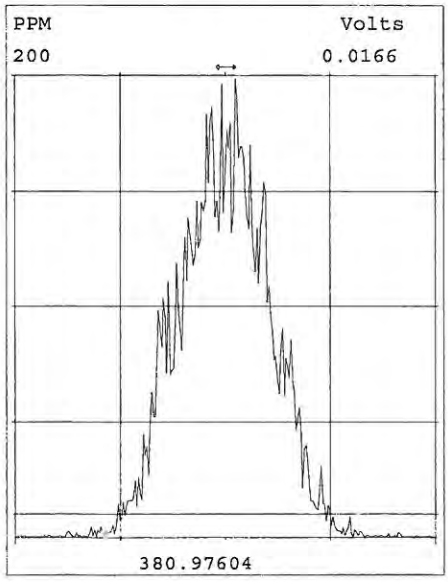




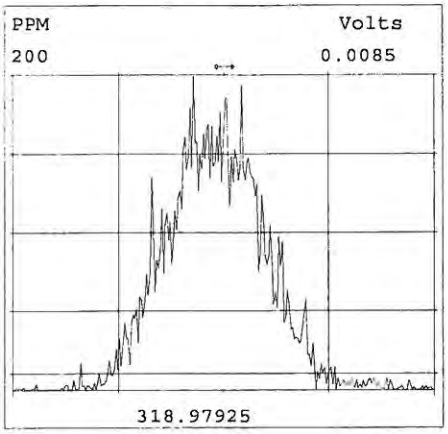


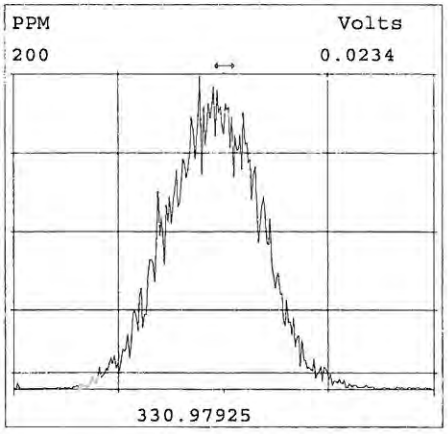


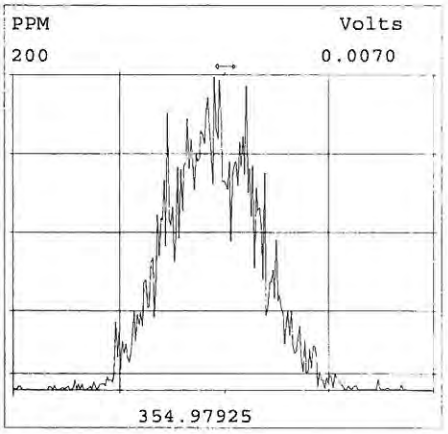


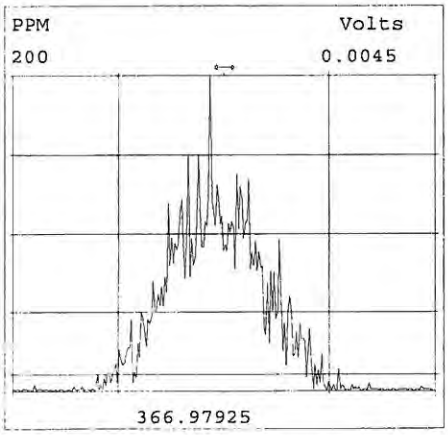


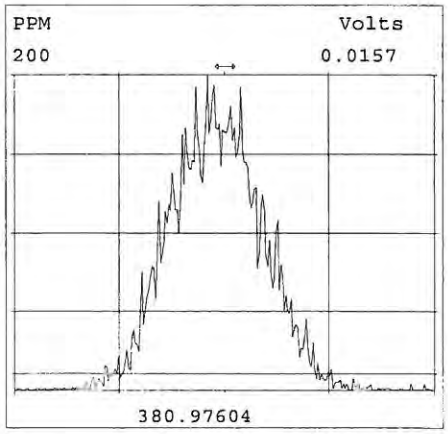
Peak Locate Examination: 8-AUG-2018:19:33 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:5 Reference:PFK_1668

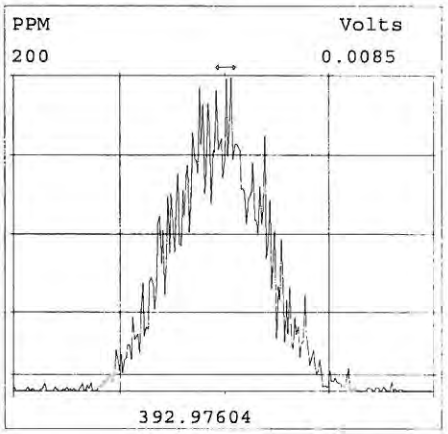


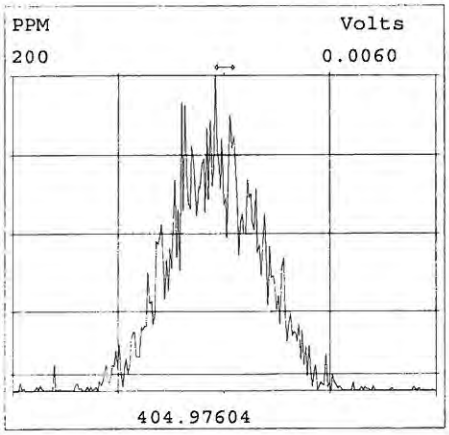


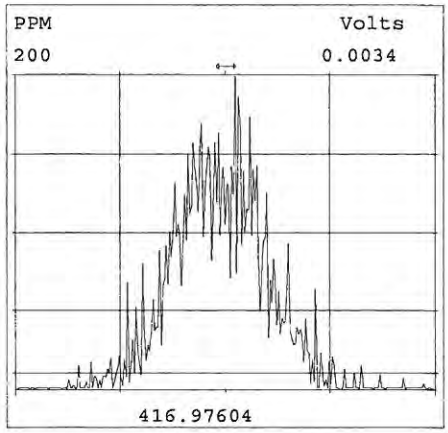


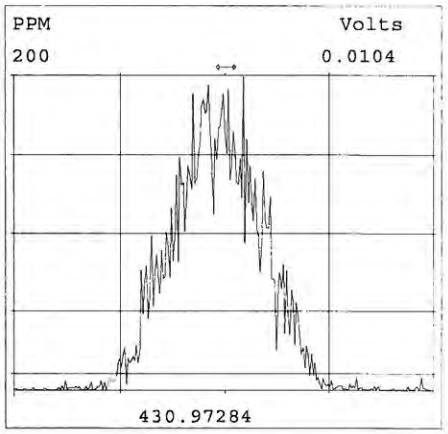


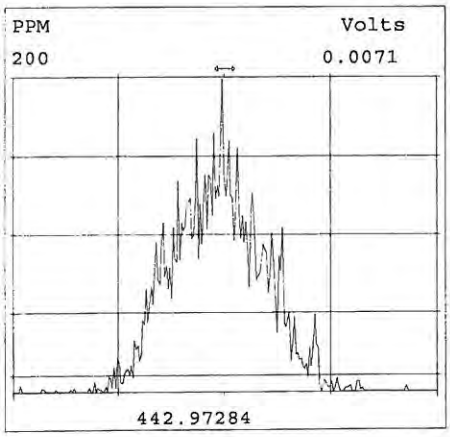




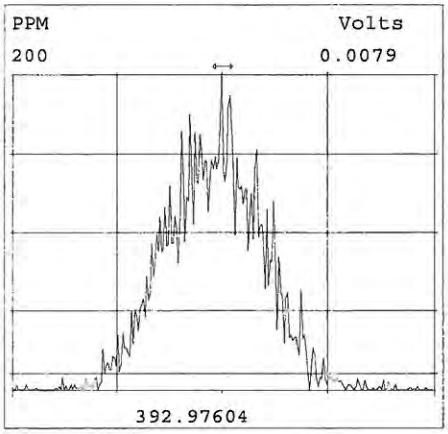


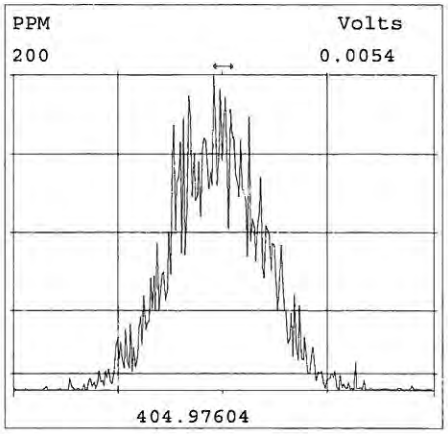


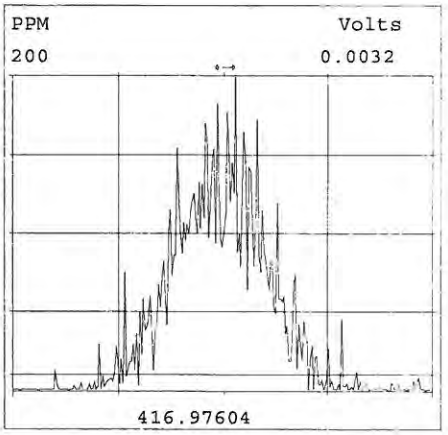


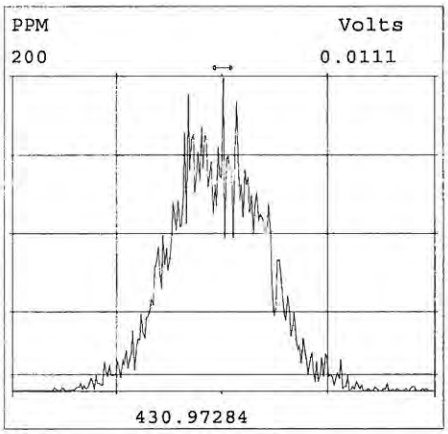


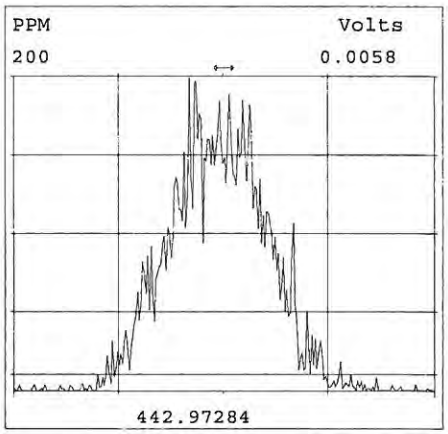
Peak Locate Examination: 8-AUG-2018:19:34 File:PB8C_261CAL2/262CAL
Experiment:PB-OCTYL-2_05 Function:6 Reference:PFK_1668

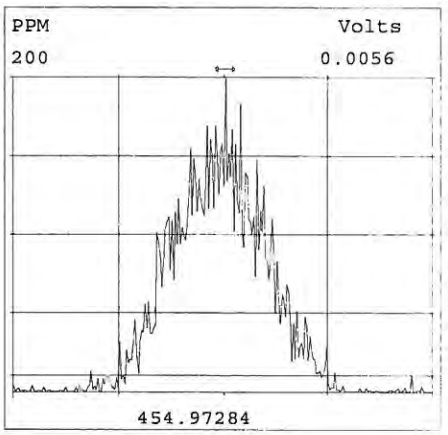


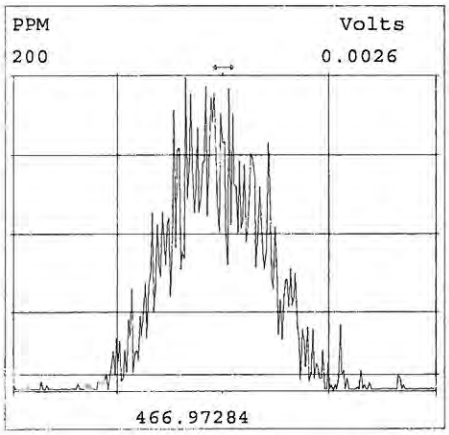


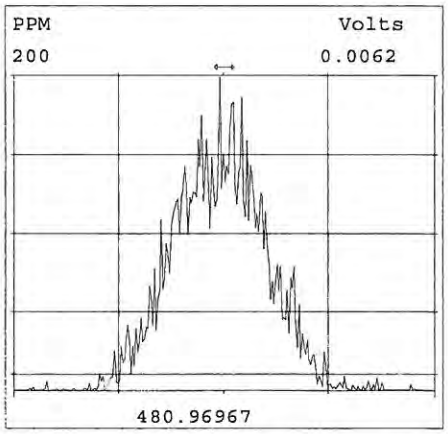


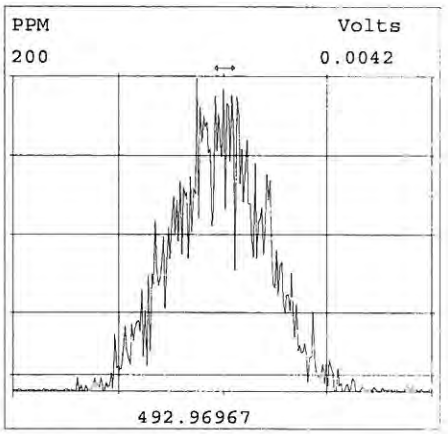


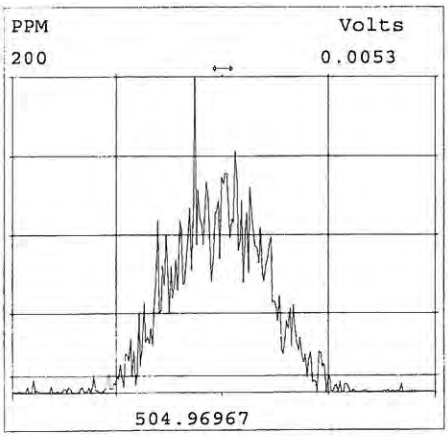


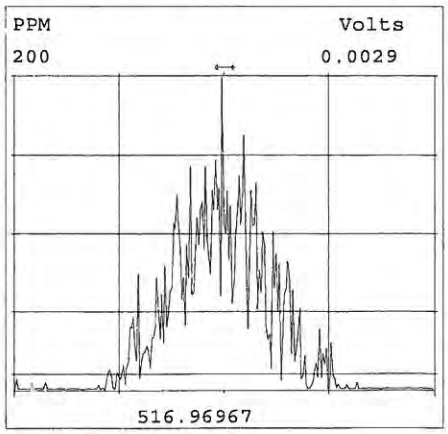












PB8C_261-C

	c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1	c	ultc	PB8C_220	1	1	1668A-C8	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2 »	y
2	c	ultc	PB8C_220	4	1	1668A-C8	1.0000	1.0000	1.000000	y	PB108C-CAL,,»	1,,1.0uL CS-1	y
3	c	ultc	PB8C_220A	4	1	1668A-C8	5.0000	1.0000	1.000000	y	PB108D-CAL,,»	1,,1.0uL CS-2	y
4	c	ultc	PB8C_220A	3	1	1668A-C8	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3	y
5	c	ultc	PB8C_220A	2	1	1668A-C8	400.0000	1.0000	1.000000	y	PB108F-CAL,,»	1,,1.0uL CS-4	y
6	c	ultc	PB8C_220A	1	1	1668A-C8	2000.00»	1.0000	1.000000	y	PB108G-CAL,,»	1,,1.0uL CS-5	y
7	c	ultc	PB8C_220A	6	1	1668A-C8	6000.00»	1.0000	1.000000	y	PB108H-CAL,,»	1,,1.0uL CS-6	y
8	q	ultc	PB8C_261	1	1	1668a-cv8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y
9	q	ultc	PB8C_261	3	1	1668a-s8	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL Inst Bl»	y
10	q	ultc	PB8C_261	7	1	1668a-s8	1.0000	5.0000	4.810000	y	L29626-9,, 1»	1,WG64623,1.0/20»	y
11	q	ultc	PB8C_261	10	1	1668a-s8	1.0000	5.0000	8.840000	y	WG64623-104,»	1,WG64623,1.0/40»	y
12	q	ultc	PB8C_261	11	1	1668a-cv8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y

www.axysanalytical.com

PB8C_261-CC

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ultc	PB8C_261	1	1	1668xb-c8	1.0000	1.0000	1.000000	y	PB109A-CAL,,»	1,,1.0uL Cal Win»	y
2 q	ultc	PB8C_261	3	1	1668xb-s8	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL Inst Bl»	y
3 q	ultc	PB8C_261	7	1	1668xb-s8	1.0000	5.0000	4.810000	y	L29626-9,, 1»	1,WG64623,1.0/20»	y
4 q	ultc	PB8C_261	10	1	1668xb-s8	1.0000	5.0000	8.840000	y	WG64623-104,»	1,WG64623,1.0/40»	y

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:38:49

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.07	2.66-3.60	23.8	18.8 - 31.3
4-MoCB	3			**M/M+2**	3.07	2.66-3.60	25.9	18.8 - 31.3
2,2'-DiCB	4			**M/M+2**	1.55	1.33-1.79	24.0	18.8 - 31.3
4,4'-DiCB	15			**M/M+2**	1.53	1.33-1.79	28.9	21.0 - 35.0
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	25.9	18.8 - 31.3
3,4,4'-TriCB	37			**M/M+2**	1.04	0.88-1.20	24.2	18.8 - 31.3
2,2',6,6'-TeCB	54			**M/M+2**	0.78	0.65-0.89	51.0	37.5 - 62.5
3,3',4,4'-TeCB	77			**M/M+2**	0.77	0.65-0.89	46.9	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	46.8	37.5 - 62.5
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.54	1.32-1.78	50.8	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.59	1.32-1.78	53.8	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.55	1.32-1.78	51.2	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.55	1.32-1.78	49.7	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.56	1.32-1.78	49.3	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.53	1.32-1.78	54.3	41.8 - 69.6
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.23	1.05-1.43	51.3	37.5 - 62.5
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.31	1.05-1.43	104	75.0 - 125
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.29	1.05-1.43	56.8	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.35	1.05-1.43	52.6	37.5 - 62.5
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.05	0.89-1.21	50.5	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.04	0.89-1.21	46.5	37.5 - 62.5
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	79.8	63.2 - 105
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	76.5	56.3 - 93.8
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	76.3	56.3 - 93.8
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.78	0.65-0.89	85.9	62.9 - 105
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.18	0.99-1.33	74.3	56.3 - 93.8

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S1__Form4A_SJ2415211.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:38:49

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.15	2.66-3.60	91.8	50.0 - 145
13C12-4-MoCB	3L			**M/M+2**	3.17	2.66-3.60	86.0	50.0 - 145
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.33-1.79	91.6	50.0 - 145
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.33-1.79	87.6	50.0 - 145
13C12-2,2',6-TriCB	19L			**M/M+2**	1.06	0.88-1.20	102	50.0 - 145
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.06	0.88-1.20	82.0	50.0 - 145
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.79	0.65-0.89	89.8	50.0 - 145
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.75	0.65-0.89	92.4	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.76	0.65-0.89	92.3	50.0 - 145
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.58	1.32-1.78	88.6	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.58	1.32-1.78	86.6	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.59	1.32-1.78	86.9	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	89.9	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.32-1.78	91.3	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.58	1.32-1.78	81.1	50.0 - 145
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	98.5	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.27	1.05-1.43	180	100 - 290
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.23	1.05-1.43	91.7	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.26	1.05-1.43	91.4	50.0 - 145
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.05	0.89-1.21	86.8	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.02	0.89-1.21	93.9	50.0 - 145
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.89	0.76-1.02	87.7	50.0 - 145
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.88	0.76-1.02	92.0	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.76	0.65-0.89	87.0	50.0 - 145
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	84.9	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.21	0.99-1.33	79.8	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	91.4	65.0 - 135
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.61	1.32-1.78	86.9	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.06	0.89-1.21	88.5	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S1__Form4B_SJ2415211.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:38:49

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.000	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_PB8C_261S1__Form6A_SJ2415211.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:38:49

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.718	0.687-0.749
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.858	0.827-0.889
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.071	1.040-1.102
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.383-1.410
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.373	1.360-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.180	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.152	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.302	1.292-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.099-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.069-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.966
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.823
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.065-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.003-1.020

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S1__Form6B_SJ2415211.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 07-Jul-2018 **CAL Data Filename:** PB8C_261 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 08-Aug-2018

GC Column ID: SPB OCTYL **Analysis Time:** 07:38:49

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.01	**M/M+2**	3.13	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			1.09	**M/M+2**	1.54	1.33-1.79	1.197	1.194 - 1.201
2,3'-DiCB	6			1.26	**M/M+2**	1.54	1.33-1.79	1.176	1.172 - 1.179
2,4-DiCB	7			1.22	**M/M+2**	1.55	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.37	**M/M+2**	1.55	1.33-1.79	1.207	1.203 - 1.210
2,5-DiCB	9			1.23	**M/M+2**	1.52	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			1.21	**M/M+2**	1.55	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			1.15	**M/M+2**	1.56	1.33-1.79	0.968	0.966 - 0.971
3,4-DiCB	12	12 + 13	C	1.16	**M/M+2**	1.55	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.19	**M/M+2**	1.52	1.33-1.79	0.925	0.923 - 0.928
2,2',3-TriCB	16			0.88	**M/M+2**	1.10	0.88-1.20	1.167	1.164 - 1.170
2,2',4-TriCB	17			0.99	**M/M+2**	1.09	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.16	**M/M+2**	1.06	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.25	**M/M+2**	1.03	0.88-1.20	0.847	0.844 - 0.850
2,3,4-TriCB	21	21 + 33	C	1.30	**M/M+2**	1.02	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.13	**M/M+2**	1.01	0.88-1.20	0.871	0.869 - 0.873
2,3,5-TriCB	23			1.20	**M/M+2**	1.01	0.88-1.20	1.283	1.280 - 1.286
2,3,6-TriCB	24			1.29	**M/M+2**	1.05	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.44	**M/M+2**	1.01	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.23	**M/M+2**	1.01	0.88-1.20	1.302	1.297 - 1.307
2,3',6-TriCB	27			1.42	**M/M+2**	1.07	0.88-1.20	1.152	1.149 - 1.155
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.32	**M/M+2**	1.02	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			1.27	**M/M+2**	1.01	0.88-1.20	1.198	1.195 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.20	**M/M+2**	1.02	0.88-1.20	1.273	1.270 - 1.276
3,3',4-TriCB	35			1.20	**M/M+2**	1.03	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.33	**M/M+2**	1.02	0.88-1.20	0.931	0.929 - 0.933
3,4,5-TriCB	38			1.20	**M/M+2**	1.00	0.88-1.20	0.966	0.965 - 0.968
3,4',5-TriCB	39			1.23	**M/M+2**	1.02	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.87	**M/M+2**	0.78	0.65-0.89	1.336	1.331 - 1.340
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.86	**M/M+2**	0.79	0.65-0.89	1.313	1.310 - 1.315
2,2',3,5-TeCB	43			0.78	**M/M+2**	0.78	0.65-0.89	1.246	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.96	**M/M+2**	0.79	0.65-0.89	1.286	1.282 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.87	**M/M+2**	0.79	0.65-0.89	1.147	1.143 - 1.151
2,2',3,6'-TeCB	46			0.78	**M/M+2**	0.79	0.65-0.89	1.161	1.159 - 1.164
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.88	**M/M+2**	0.79	0.65-0.89	1.273	1.271 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.04	**M/M+2**	0.78	0.65-0.89	1.257	1.253 - 1.262
2,2',4,6-TeCB	50	50 + 53	C	0.91	**M/M+2**	0.78	0.65-0.89	1.111	1.107 - 1.115
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.94	**M/M+2**	0.78	0.65-0.89	1.234	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.88	**M/M+2**	0.77	0.65-0.89	0.888	0.887 - 0.890
2,3,3',4'-TeCB	56			0.98	**M/M+2**	0.79	0.65-0.89	0.904	0.902 - 0.905

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.06	**M/M+2**	0.77	0.65-0.89	0.843	0.842 - 0.845
2,3,3',5'-TeCB	58			1.06	**M/M+2**	0.77	0.65-0.89	0.850	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.17	**M/M+2**	0.78	0.65-0.89	1.302	1.298 - 1.306
2,3,4,4'-TeCB	60			1.00	**M/M+2**	0.76	0.65-0.89	0.910	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.06	**M/M+2**	0.79	0.65-0.89	0.874	0.871 - 0.877
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			0.99	**M/M+2**	0.76	0.65-0.89	0.864	0.862 - 0.865
2,3,4',6-TeCB	64			1.21	**M/M+2**	0.78	0.65-0.89	1.349	1.346 - 1.351
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.99	**M/M+2**	0.76	0.65-0.89	0.883	0.882 - 0.885
2,3',4,5-TeCB	67			1.22	**M/M+2**	0.77	0.65-0.89	0.856	0.854 - 0.857
2,3',4,5'-TeCB	68			1.11	**M/M+2**	0.77	0.65-0.89	0.831	0.829 - 0.832
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.12	**M/M+2**	0.77	0.65-0.89	0.822	0.820 - 0.823
2,3',5',6-TeCB	73			1.12	**M/M+2**	0.78	0.65-0.89	1.241	1.238 - 1.243
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			0.99	**M/M+2**	0.76	0.65-0.89	0.987	0.985 - 0.988
3,3',4,5'-TeCB	79			1.19	**M/M+2**	0.78	0.65-0.89	0.970	0.968 - 0.971
3,3',5,5'-TeCB	80			1.10	**M/M+2**	0.76	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.72	**M+2/M+4**	1.58	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.79	**M+2/M+4**	1.59	1.32-1.78	0.884	0.881 - 0.886
2,2',3,3',6-PeCB	84			0.74	**M+2/M+4**	1.63	1.32-1.78	1.164	1.162 - 1.166
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.95	**M+2/M+4**	1.58	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 109 + 119 + 125	C	0.93	**M+2/M+4**	1.60	1.32-1.78	0.900	0.896 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 109 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.84	**M+2/M+4**	1.59	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.77	**M+2/M+4**	1.61	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.94	**M+2/M+4**	1.59	1.32-1.78	0.868	0.866 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.81	**M+2/M+4**	1.56	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.88	**M+2/M+4**	1.58	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.78	**M+2/M+4**	1.58	1.32-1.78	1.103	1.101 - 1.105
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.16	**M+2/M+4**	1.56	1.32-1.78	1.016	1.013 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 109 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			0.96	**M+2/M+4**	1.59	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.13	**M+2/M+4**	1.53	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107 [4]			1.10	**M+2/M+4**	1.53	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4,5'-PeCB	108 [4]	108 + 124	C	1.03	**M+2/M+4**	1.54	1.32-1.78	0.991	0.988 - 0.993
2,3,3',4,6-PeCB	109 [4]	86 + 87 + 97 + 109 + 119 + 125	C86						
2,3,3',4',6-PeCB	110	110 + 115	C	1.07	**M+2/M+4**	1.57	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.06	**M+2/M+4**	1.58	1.32-1.78	0.945	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.10	**M+2/M+4**	1.57	1.32-1.78	0.889	0.887 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 109 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.10	**M+2/M+4**	1.55	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5',6-PeCB	121			1.08	**M+2/M+4**	1.62	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.94	**M+2/M+4**	1.55	1.32-1.78	1.011	1.009 - 1.012
2',3,4,5,5'-PeCB	124	108 + 124	C108						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 109 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.97	**M+2/M+4**	1.58	1.32-1.78	1.041	1.039 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.90	**M+2/M+4**	1.27	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	0.93	**M+2/M+4**	1.24	1.05-1.43	0.930	0.928 - 0.933
2,2',3,3',4,5'-HxCB	130			0.74	**M+2/M+4**	1.27	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.87	**M+2/M+4**	1.25	1.05-1.43	1.161	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.83	**M+2/M+4**	1.30	1.05-1.43	1.176	1.173 - 1.179
2,2',3,3',5,5'-HxCB	133			0.87	**M+2/M+4**	1.29	1.05-1.43	1.193	1.191 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.90	**M+2/M+4**	1.25	1.05-1.43	1.143	1.140 - 1.146
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.94	**M+2/M+4**	1.26	1.05-1.43	1.108	1.102 - 1.114
2,2',3,3',6,6'-HxCB	136			1.26	**M+2/M+4**	1.27	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.81	**M+2/M+4**	1.25	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.99	**M+2/M+4**	1.23	1.05-1.43	1.154	1.151 - 1.157
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.93	**M+2/M+4**	1.28	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.87	**M+2/M+4**	1.26	1.05-1.43	1.166	1.164 - 1.168
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.91	**M+2/M+4**	1.29	1.05-1.43	1.123	1.121 - 1.125
2,2',3,4,6,6'-HxCB	145			1.16	**M+2/M+4**	1.26	1.05-1.43	1.035	1.034 - 1.037
2,2',3,4',5,5'-HxCB	146			1.04	**M+2/M+4**	1.28	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.99	**M+2/M+4**	1.26	1.05-1.43	1.135	1.132 - 1.137
2,2',3,4',5,6'-HxCB	148			0.90	**M+2/M+4**	1.25	1.05-1.43	1.084	1.083 - 1.086
2,2',3,4',5',6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.22	**M+2/M+4**	1.26	1.05-1.43	1.013	1.012 - 1.015
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.32	**M+2/M+4**	1.26	1.05-1.43	1.008	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.10	**M+2/M+4**	1.27	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.19	**M+2/M+4**	1.25	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.05	**M+2/M+4**	1.28	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.23	**M+2/M+4**	1.30	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.15	**M+2/M+4**	1.27	1.05-1.43	0.990	0.989 - 0.991
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.11	**M+2/M+4**	1.29	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.06	**M+2/M+4**	1.24	1.05-1.43	0.878	0.877 - 0.879
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5',6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.13	**M+2/M+4**	1.04	0.89-1.21	1.001	1.000 - 1.002
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.68	**M+2/M+4**	1.03	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.66	**M+2/M+4**	1.05	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.75	**M+2/M+4**	1.05	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.72	**M+2/M+4**	1.04	0.89-1.21	1.103	1.102 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.05	**M+2/M+4**	1.06	0.89-1.21	1.034	1.033 - 1.036
2,2',3,3',4',5,6-HpCB	177			0.99	**M+2/M+4**	1.04	0.89-1.21	1.146	1.145 - 1.147
2,2',3,3',5,5',6-HpCB	178			0.72	**M+2/M+4**	1.06	0.89-1.21	1.086	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.10	**M+2/M+4**	1.05	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.00	**M+2/M+4**	1.04	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.73	**M+2/M+4**	1.06	0.89-1.21	1.157	1.156 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.74	**M+2/M+4**	1.06	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.71	**M+2/M+4**	1.05	0.89-1.21	1.129	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.12	**M+2/M+4**	1.05	0.89-1.21	1.024	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			0.99	**M+2/M+4**	1.05	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.82	**M+2/M+4**	1.03	0.89-1.21	1.111	1.109 - 1.112
2,3,3',4,4',5,6-HpCB	190			0.91	**M+2/M+4**	1.05	0.89-1.21	0.946	0.945 - 0.947
2,3,3',4,4',5',6-HpCB	191			0.91	**M+2/M+4**	1.04	0.89-1.21	0.917	0.916 - 0.918
2,3,3',4,5,5',6-HpCB	192			0.81	**M+2/M+4**	1.06	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.80	**M+2/M+4**	0.88	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.71	**M+2/M+4**	0.88	0.76-1.02	0.945	0.944 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.70	**M+2/M+4**	0.89	0.76-1.02	0.915	0.914 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.97	**M+2/M+4**	0.89	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.69	**M+2/M+4**	0.89	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			0.91	**M+2/M+4**	0.90	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.74	**M+2/M+4**	0.89	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.92	**M+2/M+4**	0.89	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.25	**M+2/M+4**	0.81	0.65-0.89	1.019	1.019 - 1.020

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.
(4) PCB Congener numbers 107, 108, and 109 defined as per EPA1668C specifications.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form1668346A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S1__Form346A_SJ2415206_GS77025.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES, ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**CAL Data Filename:**	PB8C_261 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	07:38:49

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.04	**M/M+2**	3.15	2.66-3.60	0.718	0.703 - 0.734
13C12-4-MoCB	3L			0.92	**M/M+2**	3.17	2.66-3.60	0.858	0.842 - 0.874
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.59	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.93	**M/M+2**	1.58	1.33-1.79	1.254	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.57	**M/M+2**	1.06	0.88-1.20	1.071	1.055 - 1.087
13C12-3,4,4'-TriCB	37L			1.39	**M/M+2**	1.06	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.33	**M/M+2**	0.79	0.65-0.89	0.811	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.21	**M/M+2**	0.75	0.65-0.89	1.397	1.390 - 1.403
13C12-3,4,4',5-TeCB	81L			1.19	**M/M+2**	0.76	0.65-0.89	1.373	1.367 - 1.380
13C12-2,2',4,6,6'-PeCB	104L			1.31	**M+2/M+4**	1.58	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.22	**M+2/M+4**	1.58	1.32-1.78	1.201	1.196 - 1.206
13C12-2,3,4,4',5-PeCB	114L			1.18	**M+2/M+4**	1.59	1.32-1.78	1.180	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.23	**M+2/M+4**	1.56	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.27	**M+2/M+4**	1.57	1.32-1.78	1.152	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.02	**M+2/M+4**	1.58	1.32-1.78	1.302	1.297 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.64	**M+2/M+4**	1.27	1.05-1.43	0.785	0.781 - 0.789
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.21	**M+2/M+4**	1.27	1.05-1.43	1.108	1.104 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.18	**M+2/M+4**	1.23	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.22	**M+2/M+4**	1.26	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.91	**M+2/M+4**	1.07	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.11	**M+2/M+4**	1.04	0.89-1.21	0.872	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.64	**M+2/M+4**	1.05	0.89-1.21	0.712	0.708 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.42	**M+2/M+4**	1.02	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.56	**M+2/M+4**	0.89	0.76-1.02	0.817	0.814 - 0.820
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.38	**M+2/M+4**	0.88	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.95	**M+2/M+4**	0.76	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.14	**M+2/M+4**	0.78	0.65-0.89	0.949	0.946 - 0.952

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form1668346B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S1__Form346B_SJ2415206_GS77025.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:15:40

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.11	2.66-3.60	23.9	18.8 - 31.3
4-MoCB	3			**M/M+2**	3.06	2.66-3.60	25.5	18.8 - 31.3
2,2'-DiCB	4			**M/M+2**	1.57	1.33-1.79	24.0	18.8 - 31.3
4,4'-DiCB	15			**M/M+2**	1.59	1.33-1.79	29.3	21.0 - 35.0
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	25.8	18.8 - 31.3
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	23.7	18.8 - 31.3
2,2',6,6'-TeCB	54			**M/M+2**	0.78	0.65-0.89	50.9	37.5 - 62.5
3,3',4,4'-TeCB	77			**M/M+2**	0.78	0.65-0.89	46.0	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.76	0.65-0.89	47.5	37.5 - 62.5
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.55	1.32-1.78	50.7	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.56	1.32-1.78	51.9	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.53	1.32-1.78	51.3	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.54	1.32-1.78	49.7	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.55	1.32-1.78	49.5	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.52	1.32-1.78	50.1	41.8 - 69.6
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.24	1.05-1.43	50.2	37.5 - 62.5
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.27	1.05-1.43	102	75.0 - 125
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.25	1.05-1.43	56.1	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.33	1.05-1.43	52.0	37.5 - 62.5
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.05	0.89-1.21	49.4	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	46.6	37.5 - 62.5
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	84.6	63.2 - 105
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	0.76-1.02	75.8	56.3 - 93.8
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.80	0.65-0.89	73.7	56.3 - 93.8
2,2',3,3',4,5,5',6,6'-NoCB	208			**M+2/M+4**	0.79	0.65-0.89	83.2	62.9 - 105
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.17	0.99-1.33	72.7	56.3 - 93.8

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S11__Form4A_SJ2415219.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:15:40

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.17	2.66-3.60	89.7	50.0 - 145
13C12-4-MoCB	3L			**M/M+2**	3.11	2.66-3.60	83.9	50.0 - 145
13C12-2,2'-DiCB	4L			**M/M+2**	1.60	1.33-1.79	92.1	50.0 - 145
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.33-1.79	87.7	50.0 - 145
13C12-2,2',6-TriCB	19L			**M/M+2**	1.04	0.88-1.20	102	50.0 - 145
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	0.88-1.20	83.7	50.0 - 145
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	88.2	50.0 - 145
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	101	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.78	0.65-0.89	102	50.0 - 145
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.58	1.32-1.78	84.5	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.56	1.32-1.78	87.9	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.57	1.32-1.78	89.6	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	94.4	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.32-1.78	93.4	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.60	1.32-1.78	93.4	50.0 - 145
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	83.1	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	185	100 - 290
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.27	1.05-1.43	94.3	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.25	1.05-1.43	90.6	50.0 - 145
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	90.6	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	0.89-1.21	94.1	50.0 - 145
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.76-1.02	83.9	50.0 - 145
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.89	0.76-1.02	91.2	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.78	0.65-0.89	87.2	50.0 - 145
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	92.7	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.18	0.99-1.33	81.6	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.05	0.88-1.20	91.0	65.0 - 135
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.59	1.32-1.78	91.3	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.03	0.89-1.21	89.0	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S11__Form4B_SJ2415219.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:15:40

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.000	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S11__Form6A_SJ2415219.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_261 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	08-Aug-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:15:40

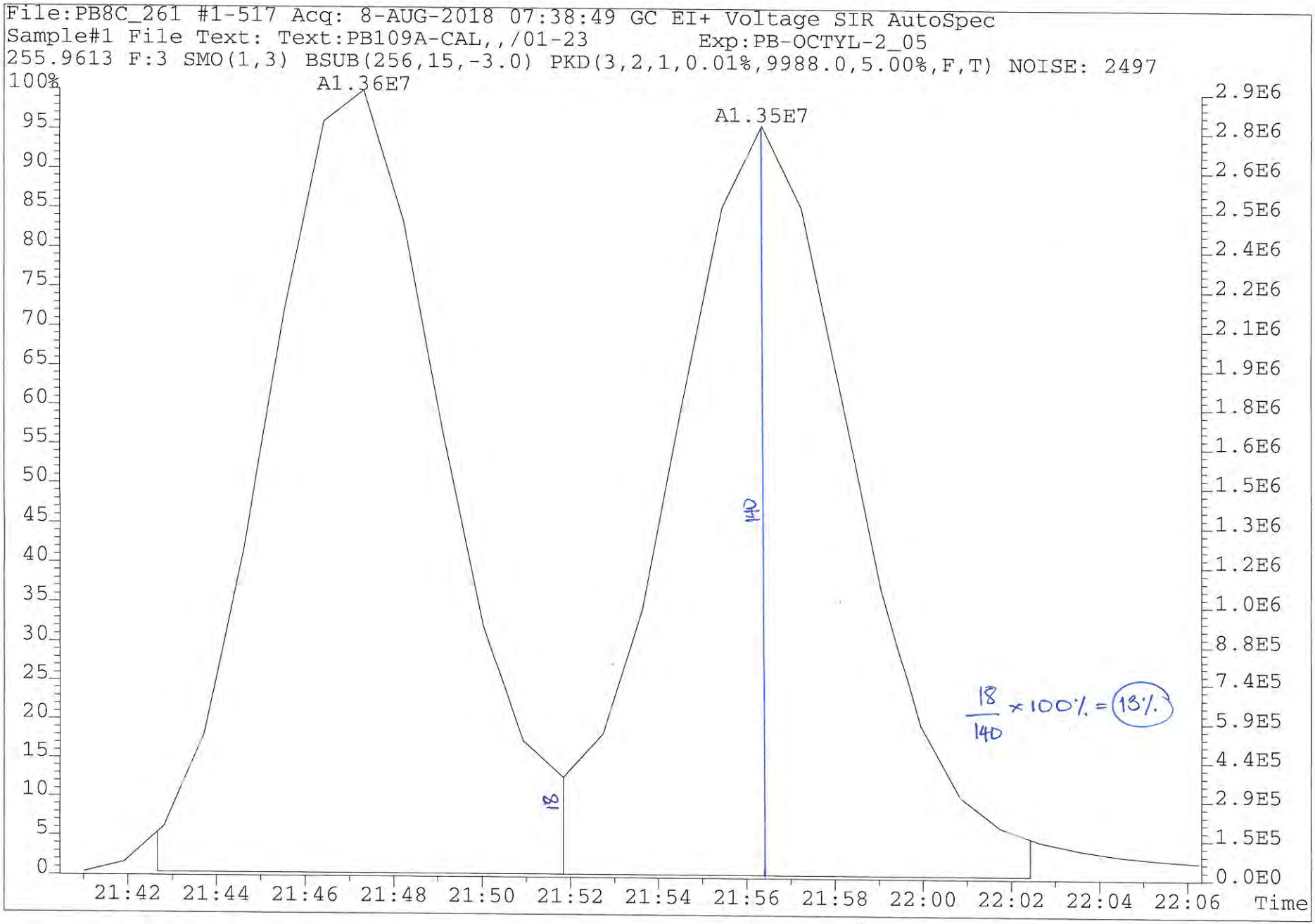
LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.858	0.827-0.889
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.825
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.398	1.385-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.711	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.823
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.011	1.003-1.020

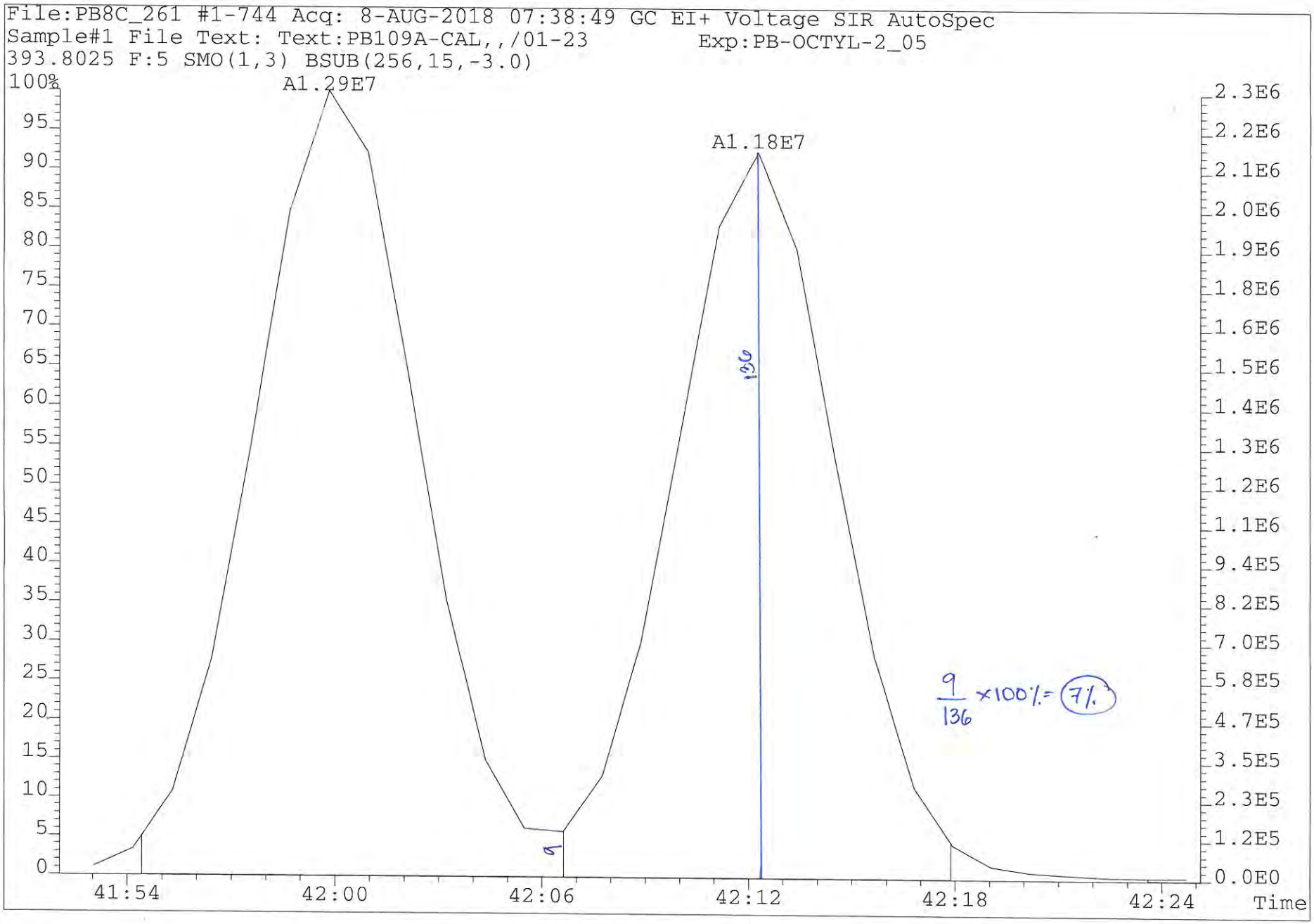
(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_PB8C_261S11__Form6B_SJ2415219.html; Workgroup: WG64623; Design ID: 240]


File:PB8C_261 #1-517 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9988.0,5.00%,F,T) NOISE: 2497
A1.36E7
A1.35E7
18
140
18/140 x 100% = 13%
PV by RA 09AUG2018
Time


File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.29E7
A1.18E7
136
9
9/136 x100% = 7%
PV by RA 09AUG2018
Time

www.axysanalytical.com

Experiment : PB-DB1-1_01
GC Program : PB-DB1-1_01
Column type : DB1
Serial # : US5410581H/240
kPa : 288
Vol injected: 1.0uL
PMT Voltage : 399

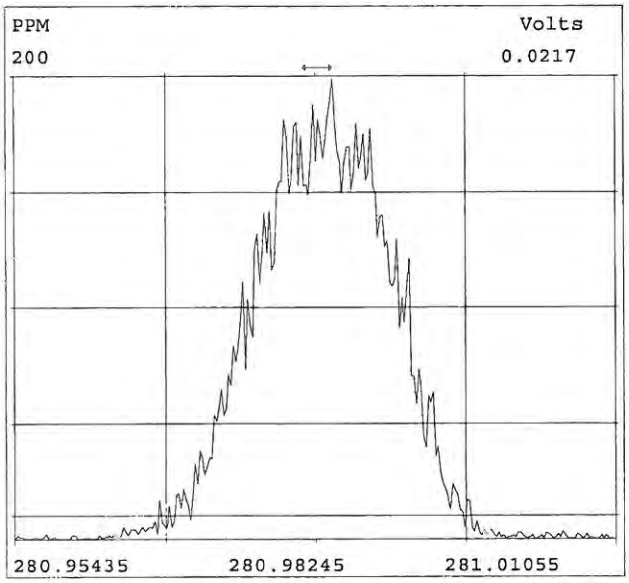
Temps -source: 280
-s resv: 160
-re_ent: 290
-cap_1 : 290
-cap_2 : 290

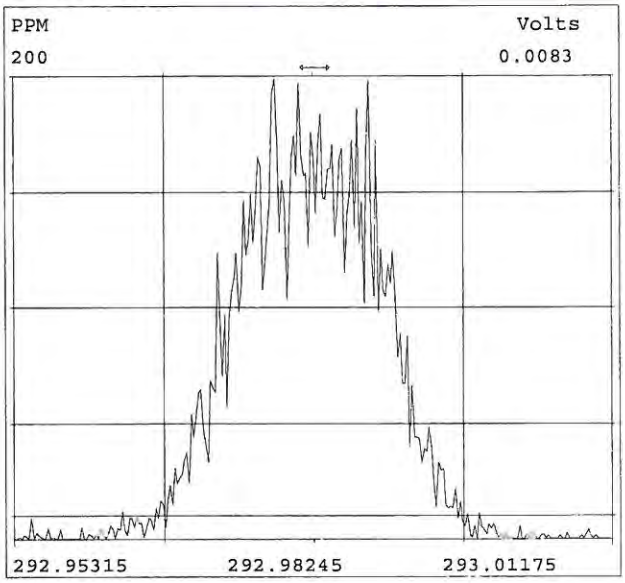
Tune : EW
List : RLS
Check :
LIMS :
Logfile:

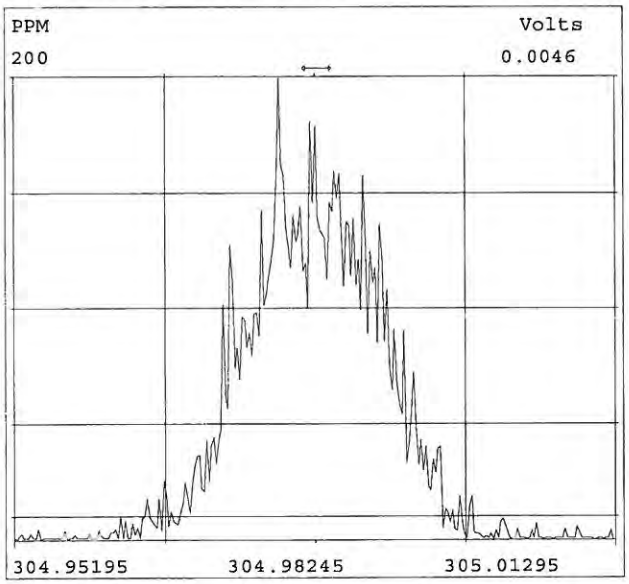
Date -list : 14-AUG-2018
-liner : 14-AUG-2018
-septum: 14-AUG-2018
-guard : 50cm 14-AUG-2018
-column: 15cm 14-AUG-2018
-t line: NEW 02-JAN-2018

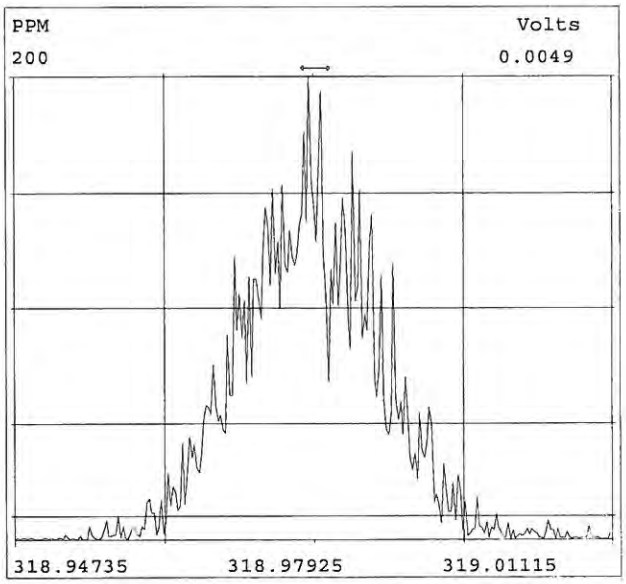
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DT8C_269C	1	1	Toluene,,	1,,1.0uL	14-AUG-18 20:43:52
2	DT8C_269C	2	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 21:23:13
3	DT8C_269C	3	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 22:02:35
4	DT8C_269C	4	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 22:41:57
5	DT8C_269C	5	3	PB108C-CAL,,/01-08	1,,1.0uL CS-1	14-AUG-18 23:21:23
6	DT8C_269C	6	4	PB108D-CAL,,/01-07	1,,1.0uL CS-2	15-AUG-18 00:00:45
7	DT8C_269C	7	5	PB108G-CAL,,/01-07	1,,1.0uL CS-5	15-AUG-18 00:40:07
8	DT8C_269C	8	6	PB108F-CAL,,/01-08	1,,1.0uL CS-4	15-AUG-18 01:19:29
9	DT8C_269C	9	7	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 01:58:52

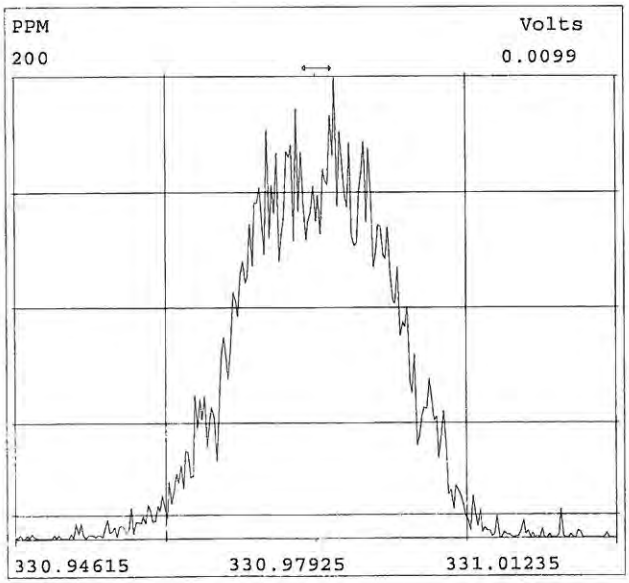
Peak Locate Examination:14-AUG-2018:20:40 File:DT8C_269CCAL Approved by EW 14-Aug-2018
Experiment:PB-DB1-1_01 Function:1 Reference:PFK_1668

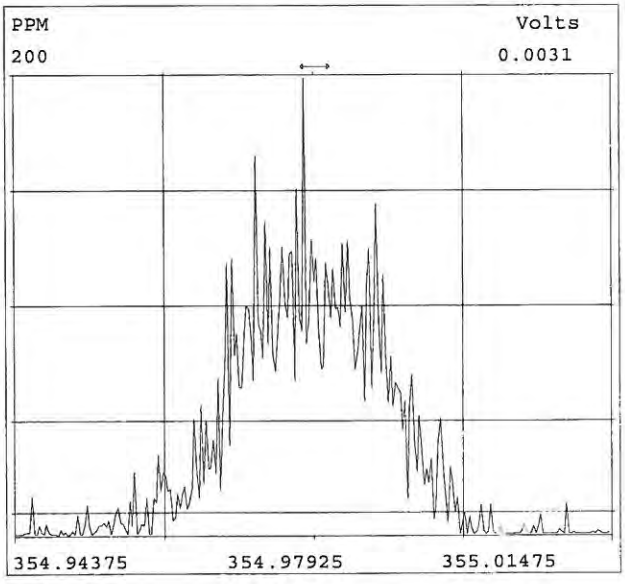




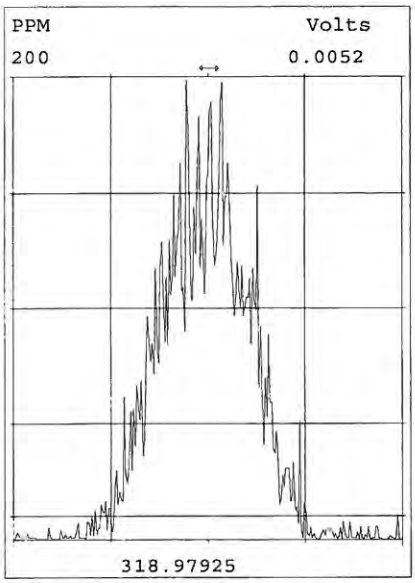


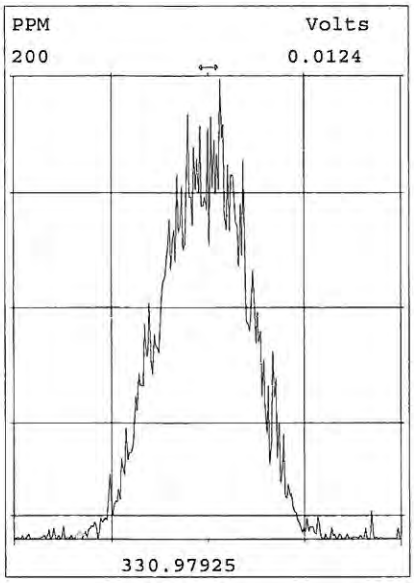


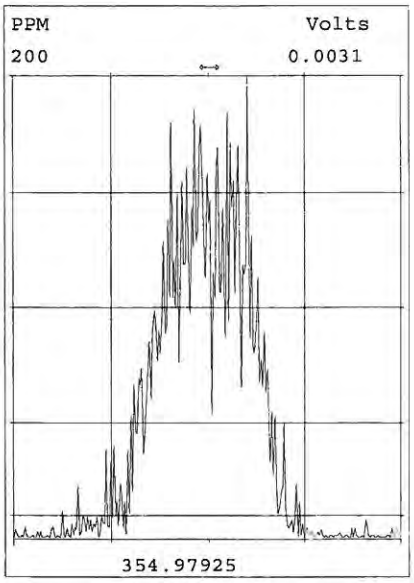


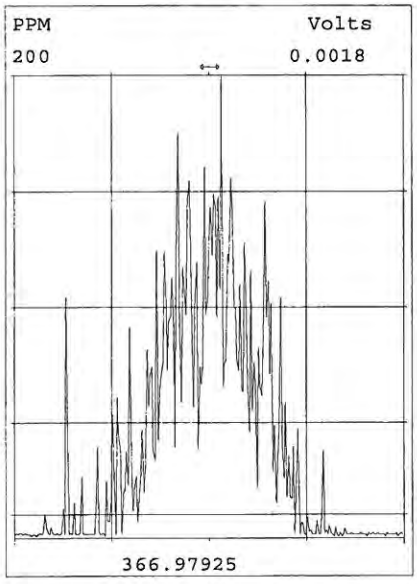


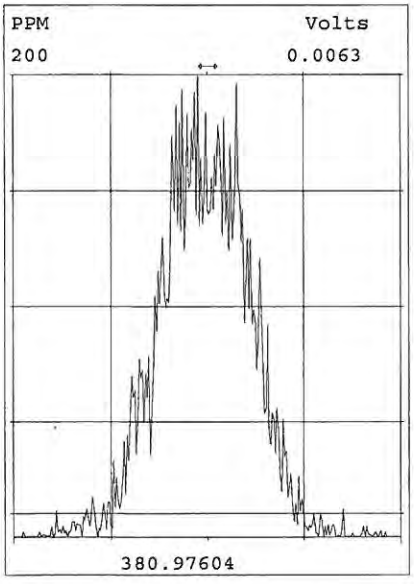
Peak Locate Examination:14-AUG-2018:20:40 File:DT8C_269CCAL
Experiment:PB-DB1-1_01 Function:2 Reference:PFK_1668

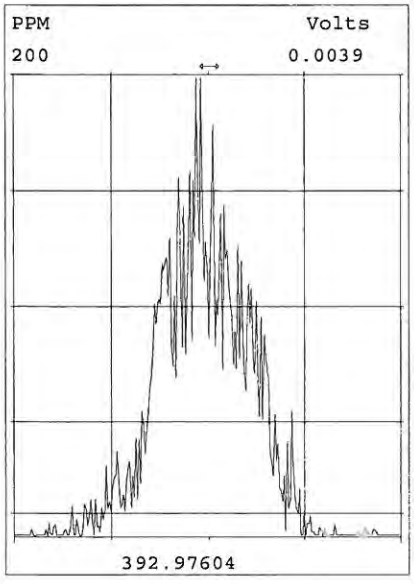


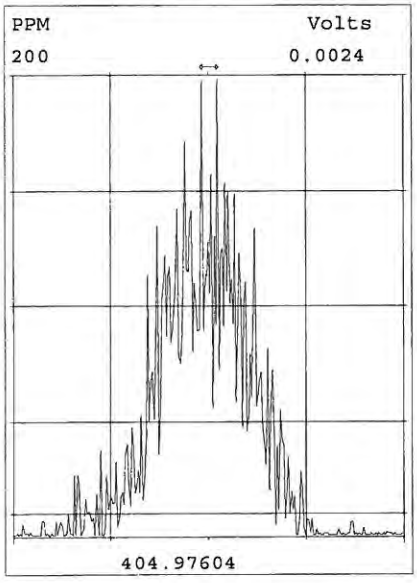


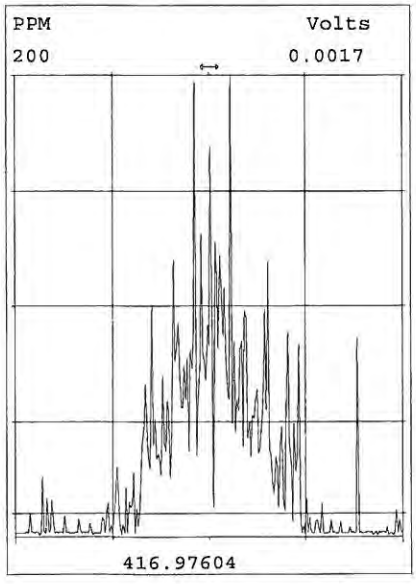




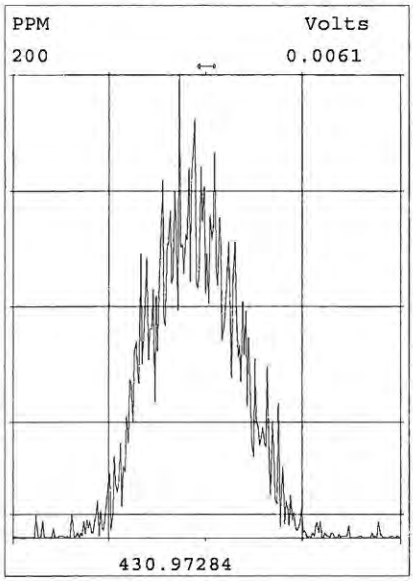


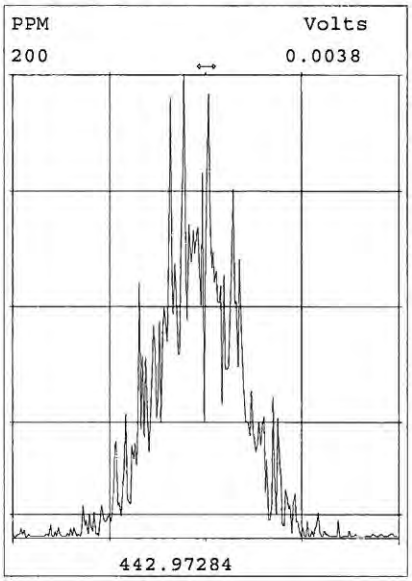


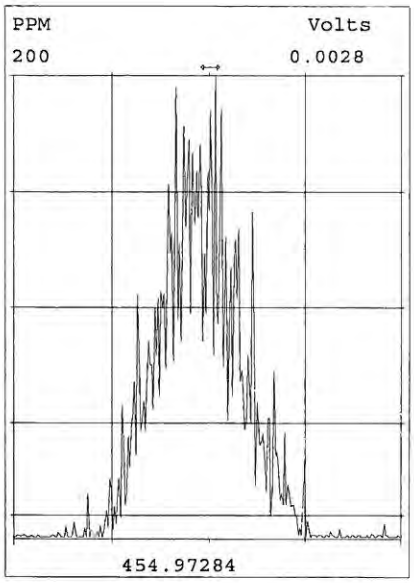


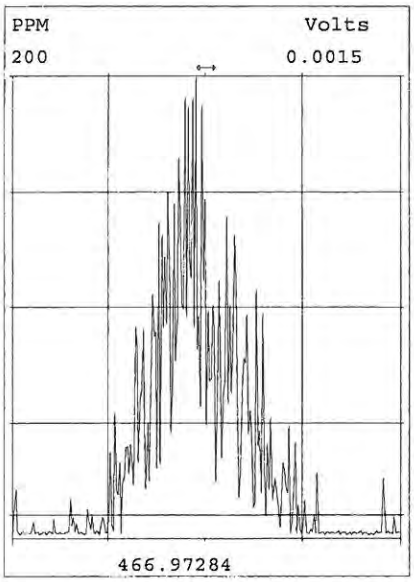


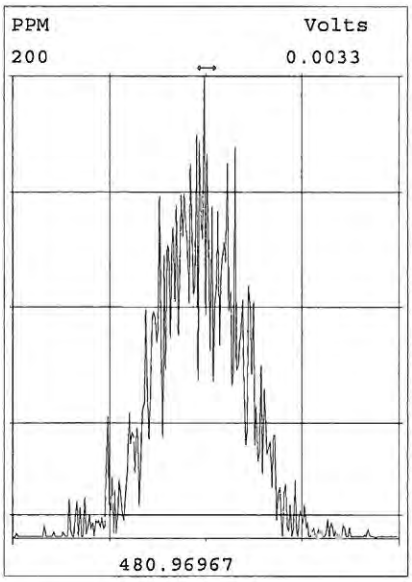
Peak Locate Examination:14-AUG-2018:20:41 File:DT8C_269CCAL
Experiment:PB-DB1-1_01 Function:3 Reference:PFK_1668

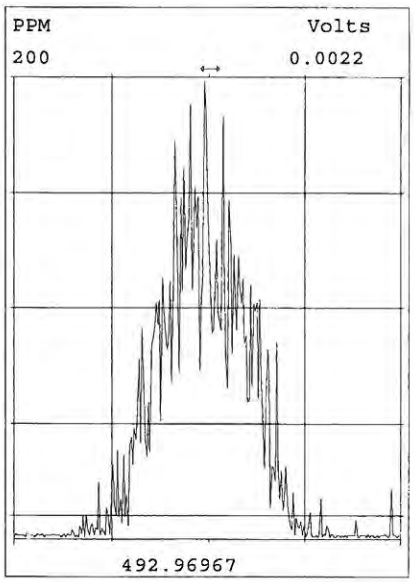


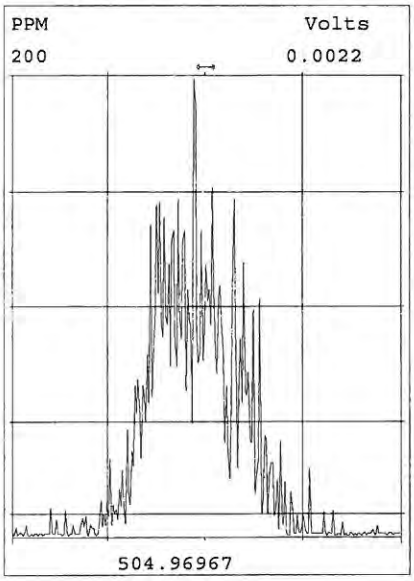


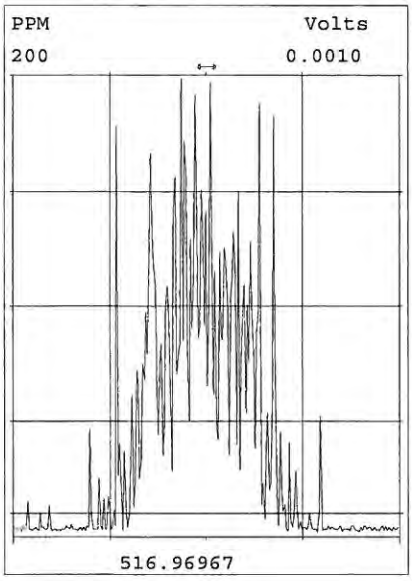






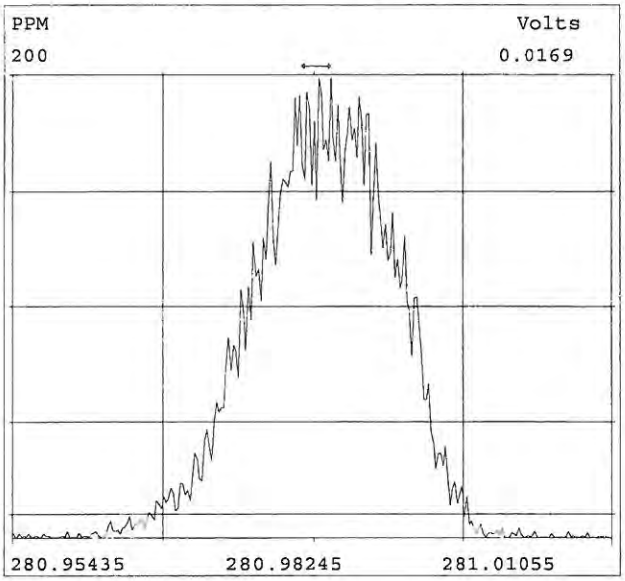


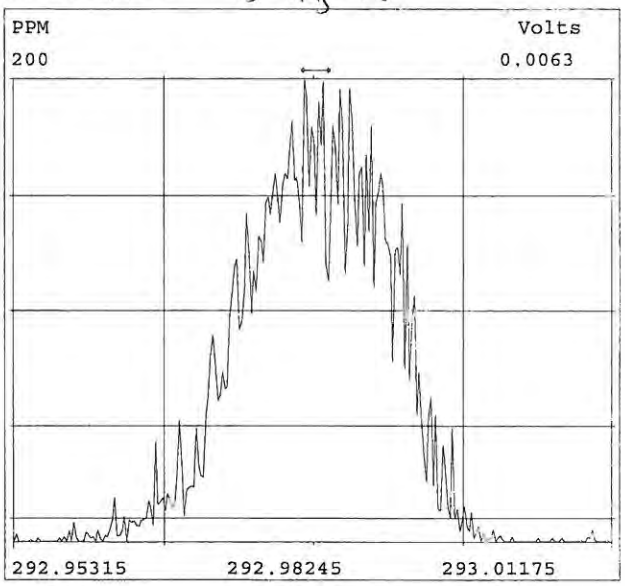


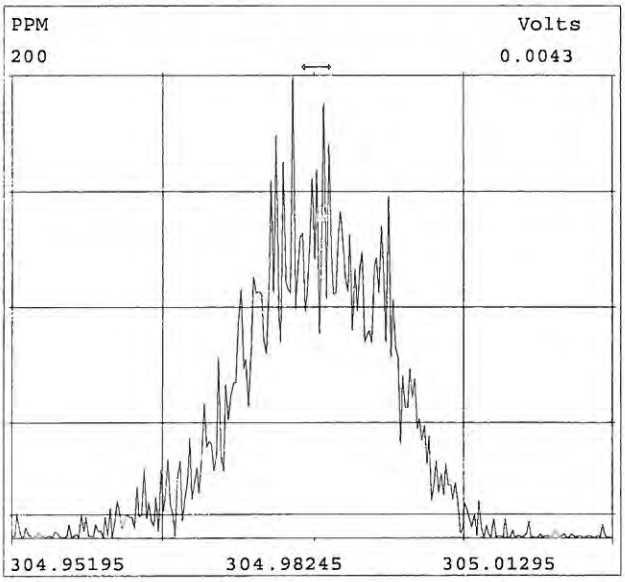


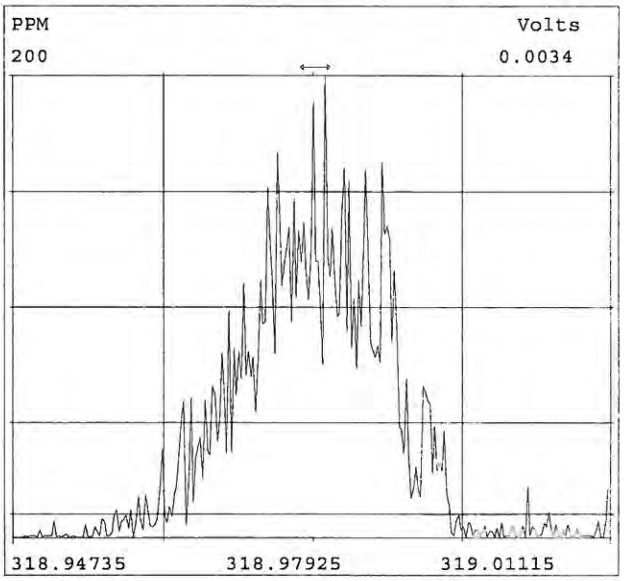
Peak Locate Examination:15-AUG-2018:08:37 File:DT8C_269CCAL2
Experiment:PB-DB1-1_01 Function:1 Reference:PFK_1668

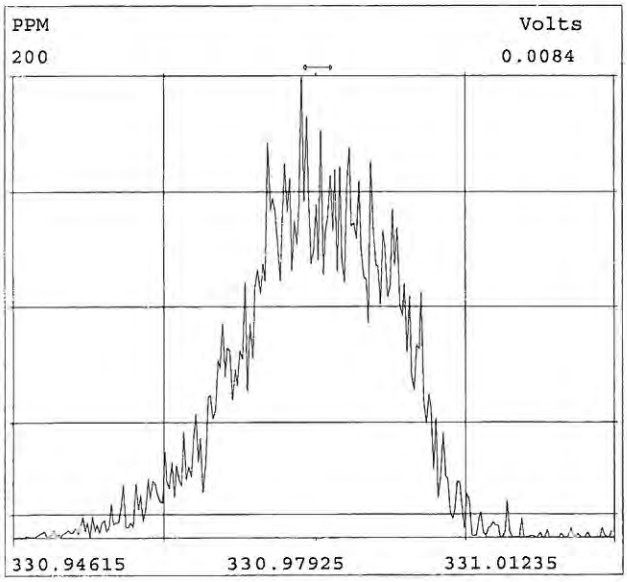
Approved by RLS
15-Aug-18

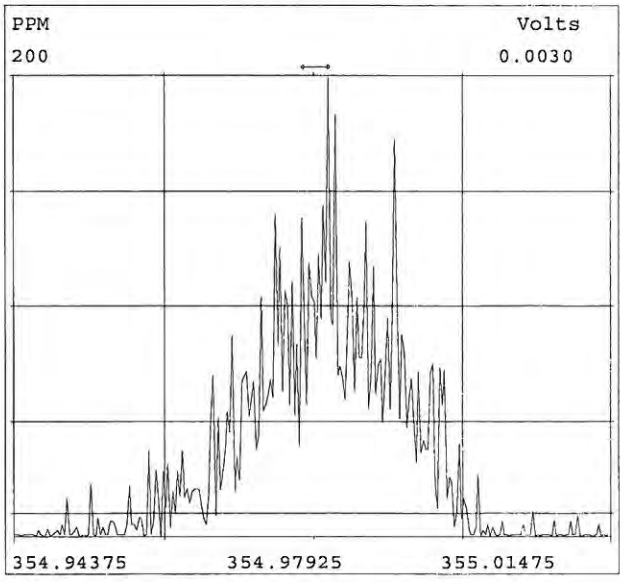




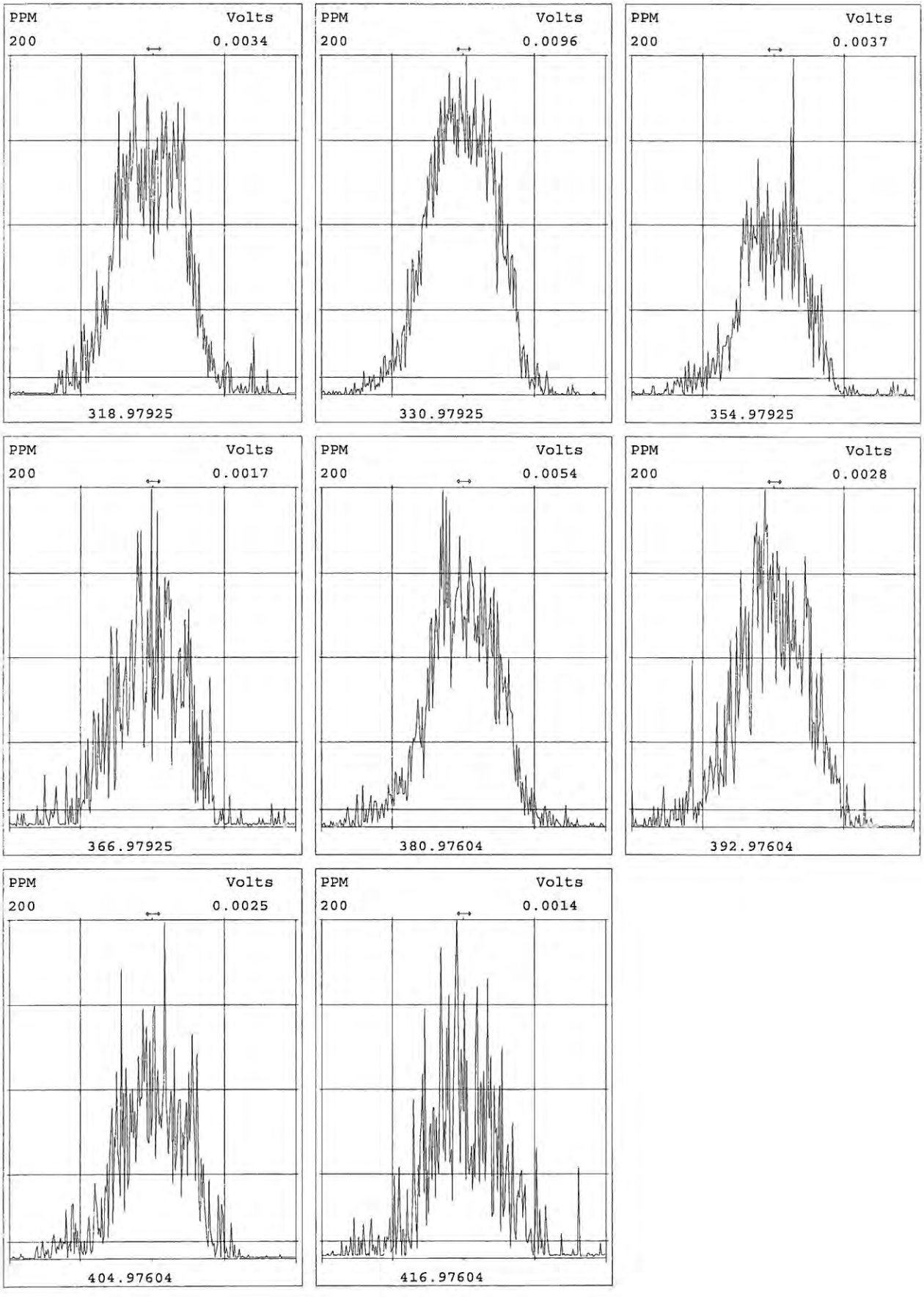




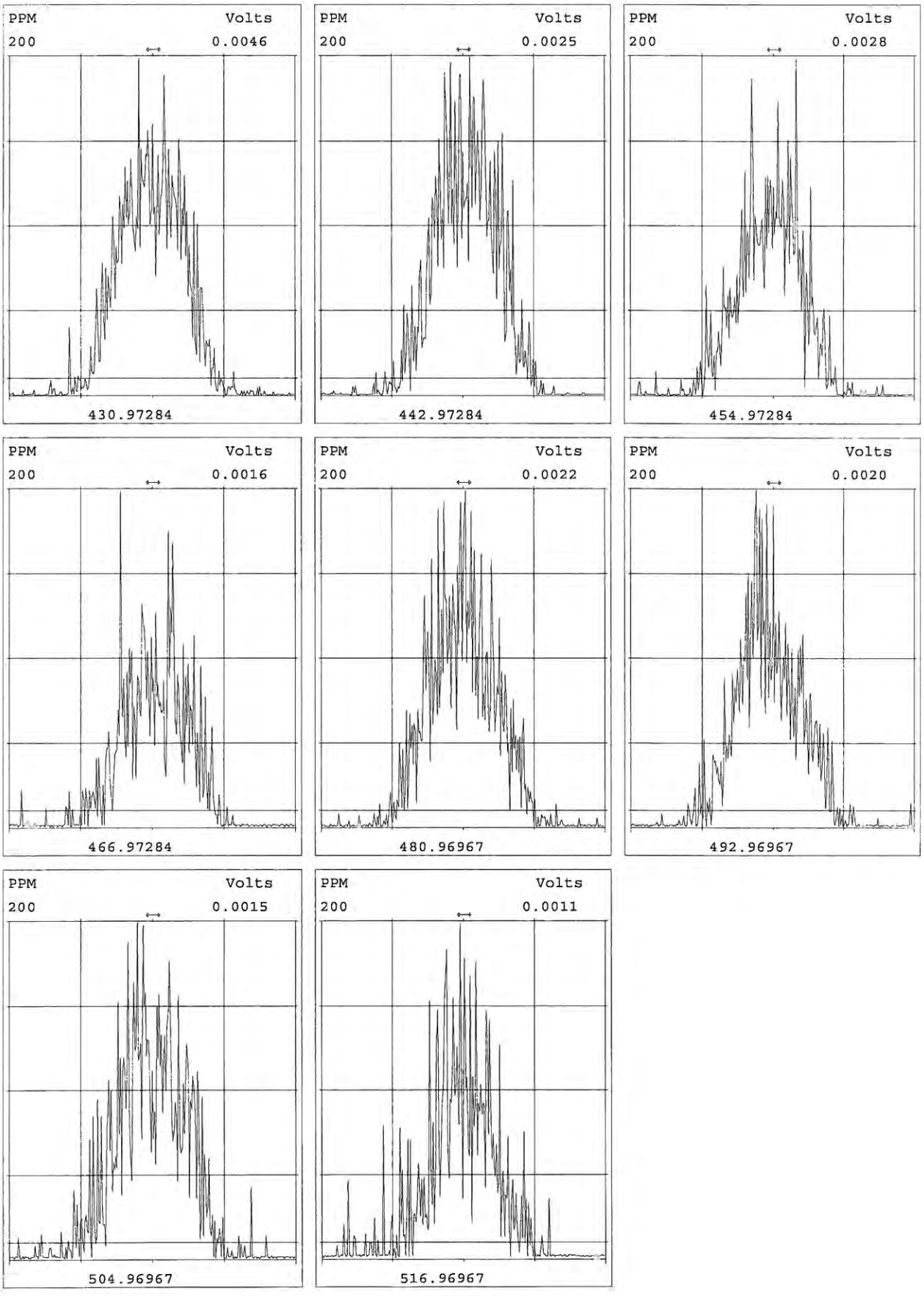




Peak Locate Examination:15-AUG-2018:08:38 File:DT8C_269CCAL2
Experiment:PB-DB1-1_01 Function:2 Reference:PFK_1668



Peak Locate Examination:15-AUG-2018:08:39 File:DT8C_269CCAL2
Experiment:PB-DB1-1_01 Function:3 Reference:PFK_1668



DT8C_269C-6A

c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1 c	ultc	DT8C_269C	5	1	1668a-db1-c5	1.0000	1.0000	1.000000	y	PB108C-CAL,,»	1,,1.0uL CS-1	y
2 c	ultc	DT8C_269C	6	1	1668a-db1-c5	5.0000	1.0000	1.000000	y	PB108D-CAL,,»	1,,1.0uL CS-2	y
3 c	ultc	DT8C_269C	9	1	1668a-db1-c5	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3/CAL	y
4 c	ultc	DT8C_269C	8	1	1668a-db1-c5	400.0000	1.0000	1.000000	y	PB108F-CAL,,»	1,,1.0uL CS-4	y
5 c	ultc	DT8C_269C	7	1	1668a-db1-c5	2000.00»	1.0000	1.000000	y	PB108G-CAL,,»	1,,1.0uL CS-5	y
6 c	ultc	DT8C_269C	3	1	1668a-db1-c5	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2/»	y
7 q	ultc	DT8C_269C	4	1	1668a-db1-c5	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2/»	y

SGS AXYS METHOD MLA-010 Rev 12

Form 3A
PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Aug-2018

Instrument ID: HR GC/MS

GC Column ID: DB1

CS0 Data Filename: DT8C_269C S: 3
CS1 Data Filename: DT8C_269C S: 5
CS2 Data Filename: DT8C_269C S: 6
CS3 Data Filename: DT8C_269C S: 9
CS4 Data Filename: DT8C_269C S: 8
CS5 Data Filename: DT8C_269C S: 7
CS6 Data Filename: N/A

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.**	**CO-ELUTIONS**	**LAB FLAG[1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[2] (%RSD)**
3,3',4,4'-TeCB	77			1.01	1.02	1.04	1.06	1.08	1.11		1.05	3.51
3,4,4',5-TeCB	81			0.91	1.06	1.04	1.07	1.06	1.11		1.04	6.69
2,3,3',4,4'-PeCB	105			0.92	1.03	1.04	1.07	1.07	1.13		1.04	6.79
2,3,4,4',5-PeCB	114			1.21	1.10	1.09	1.12	1.12	1.19		1.14	4.37
2,3',4,4',5-PeCB	118			1.15	1.03	1.02	1.08	1.06	1.12		1.08	4.47
2',3,4,4',5-PeCB	123			1.00	0.98	1.03	1.01	1.05	1.10		1.03	4.30
3,3',4,4',5-PeCB	126			0.90	1.07	1.05	1.09	1.09	1.14		1.06	7.77
2,3,3',4,4',5-HxCB	156			1.11	1.07	1.14	1.15	1.16	1.20		1.14	3.83
2,3,3',4,4',5'-HxCB	157			1.25	1.04	1.06	1.09	1.09	1.12		1.11	6.69
2,3',4,4',5,5'-HxCB	167			1.17	1.07	1.11	1.16	1.18	1.22		1.15	4.49
3,3',4,4',5,5'-HxCB	169			1.10	1.05	1.05	1.06	1.09	1.12		1.08	2.72
2,2',3,3',4,4',5-HpCB	170		K	0.89	0.89	0.88	0.93	0.95	0.98		0.92	4.14
2,2',3,4,4',5,5'-HpCB	180			0.94	0.93	0.94	0.96	0.97	1.01		0.96	3.22
2,3,3',4,4',5,5'-HpCB	189			0.97	1.03	0.96	0.97	1.00	1.03		0.99	3.10

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16683A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_14-Aug-2018_DT8C__Form3A_GS77158.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3B
PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Aug-2018

Instrument ID: HR GC/MS

GC Column ID: DB1

CS0 Data Filename: DT8C_269C S: 3
CS1 Data Filename: DT8C_269C S: 5
CS2 Data Filename: DT8C_269C S: 6
CS3 Data Filename: DT8C_269C S: 9
CS4 Data Filename: DT8C_269C S: 8
CS5 Data Filename: DT8C_269C S: 7
CS6 Data Filename: N/A

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO. [1]**	**CO-ELUTIONS**	**LAB FLAG[2]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[3] (%RSD)**
13C12-3,3',4,4'-TeCB	77L			1.19	1.15	1.16	1.17	1.24	1.42		1.22	8.32
13C12-3,4,4',5-TeCB	81L			1.21	1.18	1.18	1.18	1.26	1.44		1.24	8.29
13C12-2,3,3',4,4'-PeCB	105L			1.41	1.35	1.36	1.36	1.45	1.65		1.43	8.01
13C12-2,3,4,4',5-PeCB	114L			1.39	1.34	1.32	1.36	1.43	1.64		1.41	8.24
13C12-2,3',4,4',5-PeCB	118L			1.56	1.46	1.45	1.48	1.56	1.79		1.55	8.33
13C12-2',3,4,4',5-PeCB	123L			1.47	1.44	1.43	1.44	1.51	1.75		1.51	8.11
13C12-3,3',4,4',5-PeCB	126L			1.28	1.21	1.21	1.24	1.31	1.51		1.29	8.87
13C12-2,3,3',4,4',5-HxCB	156L			1.19	1.17	1.17	1.17	1.23	1.36		1.22	6.09
13C12-2,3,3',4,4',5'-HxCB	157L			1.32	1.28	1.27	1.29	1.37	1.61		1.36	9.53
13C12-2,3',4,4',5,5'-HxCB	167L			1.15	1.15	1.14	1.16	1.22	1.36		1.19	7.35
13C12-3,3',4,4',5,5'-HxCB	169L			1.11	1.10	1.12	1.13	1.17	1.33		1.16	7.38
13C12-2,2',3,3',4,4',5-HpCB	170L			0.69	0.70	0.71	0.72	0.75	0.83		0.73	6.97
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.85	0.86	0.86	0.88	0.92	1.01		0.90	6.88
13C12-2,3,3',4,4',5,5'-HpCB	189L			0.91	0.91	0.94	0.94	0.97	1.10		0.96	7.31
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.03	1.05	1.04	1.06	1.13	1.35		1.11	10.9
CLEAN-UP STANDARD												
13C12-2,3,3',5,5'-PeCB	111L			1.25	1.22	1.21	1.24	1.23	1.25		1.24	1.36
13C12-2,2',3,3',5,5',6-HpCB	178L			0.87	0.88	0.87	0.89	0.89	0.88		0.88	1.06

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(3) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16683B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_14-Aug-2018_DT8C__Form3B_GS77158.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3C
PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Aug-2018

Instrument ID: HR GC/MS

GC Column ID: DB1

CS0 Data Filename: DT8C_269C S: 3
CS1 Data Filename: DT8C_269C S: 5
CS2 Data Filename: DT8C_269C S: 6
CS3 Data Filename: DT8C_269C S: 9
CS4 Data Filename: DT8C_269C S: 8
CS5 Data Filename: DT8C_269C S: 7
CS6 Data Filename: N/A

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [2]
3,3',4,4'-TeCB	77			**M/M+2**	0.93	0.83	0.80	0.79	0.78	0.79		0.65-0.89
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.82	0.76	0.78	0.78	0.78		0.65-0.89
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.55	1.50	1.56	1.57	1.56	1.57		1.32-1.78
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.45	1.49	1.55	1.55	1.56	1.58		1.32-1.78
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.38	1.53	1.65	1.58	1.57	1.54		1.32-1.78
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.66	1.63	1.53	1.59	1.58	1.60		1.32-1.78
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.68	1.70	1.59	1.57	1.57	1.57		1.32-1.78
2,3,3',4,4',5-HxCB	156			**M+2/M+4**	1.03	1.22	1.32	1.26	1.27	1.26		1.05-1.43
2,3,3',4,4',5'-HxCB	157			**M+2/M+4**	1.68	1.41	1.31	1.27	1.26	1.26		1.05-1.43
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.18	1.32	1.23	1.25	1.27	1.26		1.05-1.43
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.39	1.33	1.28	1.27	1.27		1.05-1.43
2,2',3,3',4,4',5-HpCB	170		K	**M+2/M+4**	0.80	0.99	0.95	1.02	0.98	1.00		0.89-1.21
2,2',3,4,4',5,5'-HpCB	180			**M+2/M+4**	1.15	1.01	1.00	1.00	1.00	1.00		0.89-1.21
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	0.94	1.00	0.95	1.00	0.99	1.00		0.89-1.21

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16683C.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_14-Aug-2018_DT8C__Form3C_GS77158.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 3D
PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Aug-2018

Instrument ID: HR GC/MS

GC Column ID: DB1

CS0 Data Filename: DT8C_269C S: 3
CS1 Data Filename: DT8C_269C S: 5
CS2 Data Filename: DT8C_269C S: 6
CS3 Data Filename: DT8C_269C S: 9
CS4 Data Filename: DT8C_269C S: 8
CS5 Data Filename: DT8C_269C S: 7
CS6 Data Filename: N/A

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	M/Z's FORMING RATIO [3]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [3]
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.79	0.79	0.79	0.79	0.79	0.78		0.65-0.89
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.79	0.79	0.79	0.79	0.79	0.81		0.65-0.89
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.58	1.60	1.59	1.59	1.59	1.59		1.32-1.78
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.61	1.61	1.58	1.58	1.59	1.58		1.32-1.78
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.58	1.57	1.56	1.57	1.58	1.56		1.32-1.78
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.59	1.63	1.59	1.57	1.59	1.59		1.32-1.78
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.57	1.60	1.59	1.59	1.60	1.59		1.32-1.78
13C12-2,3,3',4,4',5-HxCB	156L			**M+2/M+4**	1.26	1.27	1.27	1.28	1.29	1.29		1.05-1.43
13C12-2,3,3',4,4',5'-HxCB	157L			**M+2/M+4**	1.31	1.30	1.32	1.33	1.33	1.32		1.05-1.43
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.27	1.30	1.27	1.27	1.28	1.28		1.05-1.43
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.30	1.29	1.28	1.26	1.29	1.29		1.05-1.43
13C12-2,2',3,3',4,4',5-HpCB	170L			**M+2/M+4**	1.06	1.04	1.03	1.04	1.04	1.04		0.89-1.21
13C12-2,2',3,4,4',5,5'-HpCB	180L			**M+2/M+4**	1.04	1.04	1.02	1.03	1.06	1.04		0.89-1.21
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	1.02	1.05	1.04	1.02	1.06		0.89-1.21
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.14	1.12	1.14	1.12	1.13	1.13		0.99-1.33
CLEAN-UP STANDARD												
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.60	1.61	1.62	1.60	1.59		1.32-1.78
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.03	1.06	1.04	1.04	1.04	1.04		0.89-1.21

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(3) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16683D.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_14-Aug-2018_DT8C__Form3D_GS77158.html; Workgroup: WG64623; Design ID: 240]

www.axysanalytical.com

Experiment : PB-DB1-1_01
GC Program : PB-DB1-1_01
Column type : DB1
Serial # : US5410581H/240¶
kPa : 288
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 280
-s resv: 160
-re_ent: 290
-cap_1 : 290
-cap_2 : 290

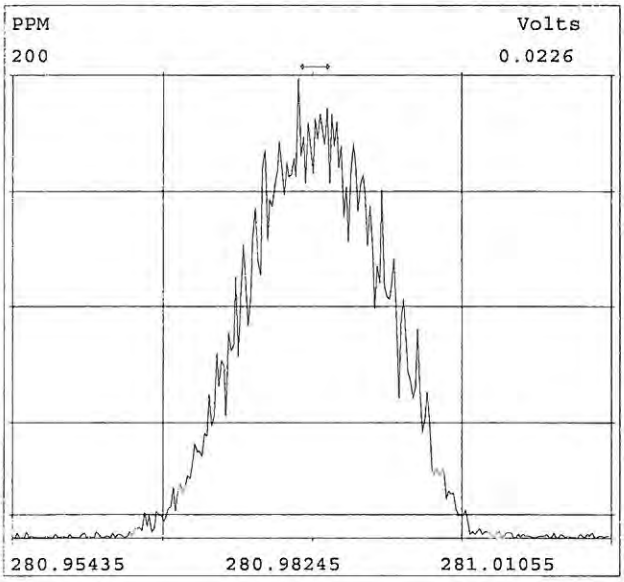
Tune : RLS
List : RLS
Check : RLS
LIMS :
Logfile:

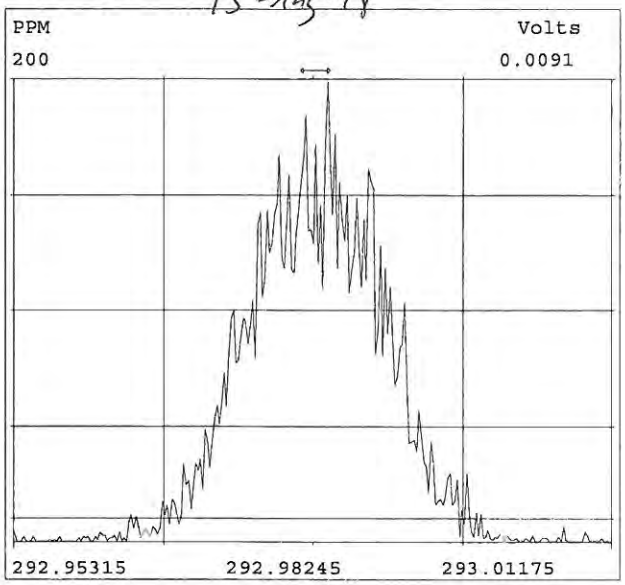
Date -list : 15-AUG-2018
-liner : 14-AUG-2018
-septum: 14-AUG-2018
-guard : 50cm 14-AUG-2018
-column: 15cm 14-AUG-2018
-t line: NEW 02-JAN-2018

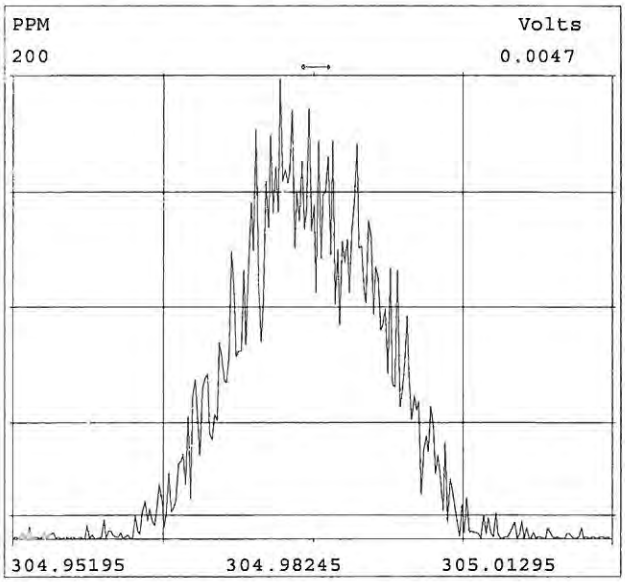
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DT8C_270	1	1	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 08:51:02
2	DT8C_270	2	2	WG64623-102,,SPM 9/10	1,WG64623,1.0/20uL	15-AUG-18 09:32:00
3	DT8C_270	3	3	PB053A-SUR,,/02	1,,1.0uL INST BLK	15-AUG-18 10:11:21
4	DT8C_270	4	4	PB053A-SUR,,/02	1,,1.0uL INST BLK	15-AUG-18 10:50:43
5	DT8C_270	5	5	WG64623-101,,BLK 9/10	1,WG64623,1.0/20uL	15-AUG-18 11:30:06
6	DT8C_270	6	6	L29626-1,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 12:09:33
7	DT8C_270	7	7	L29626-2,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 12:48:55
8	DT8C_270	8	8	L29626-4,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 13:28:16
9	DT8C_270	9	9	WG64623-103,,DUP 9/10	1,WG64623,1.0/20uL	15-AUG-18 14:07:43
10	DT8C_270	10	10	L29626-6,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 14:47:09
11	DT8C_270	11	11	L29626-7,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 15:26:35
12	DT8C_270	12	12	L29626-9,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 16:06:01
13	DT8C_270	13	13	WG64623-104,,CRM 9/10	1,WG64623,1.0/400uL	15-AUG-18 16:45:27
14	DT8C_270	14	14	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 17:24:49

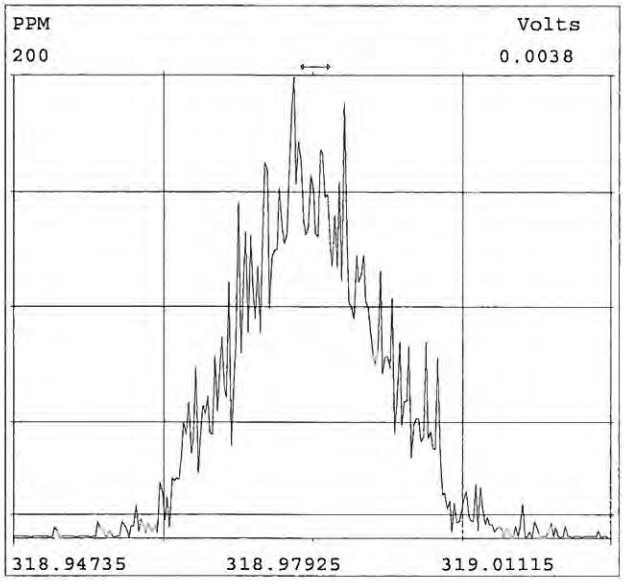
Peak Locate Examination:15-AUG-2018:08:48 File:DT8C_270CAL
Experiment:PB-DB1-1_01 Function:1 Reference:PFK_1668

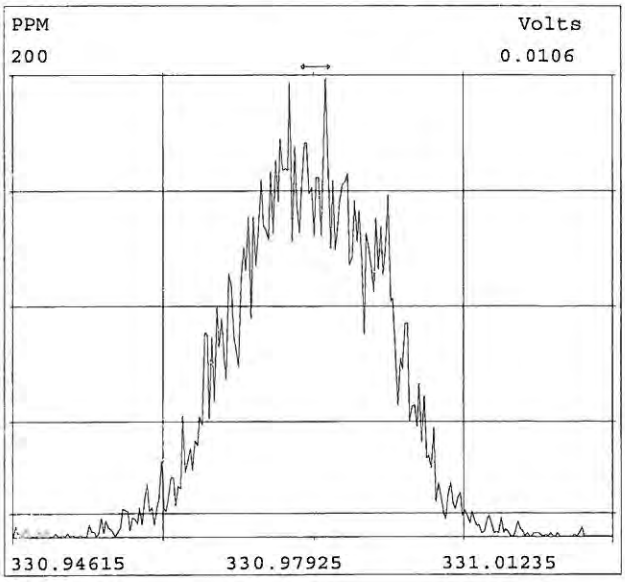
Approved by RLS
15-Aug-18

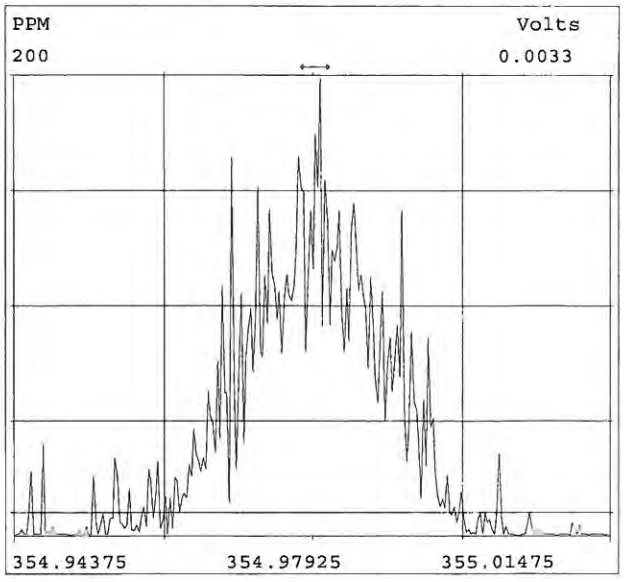




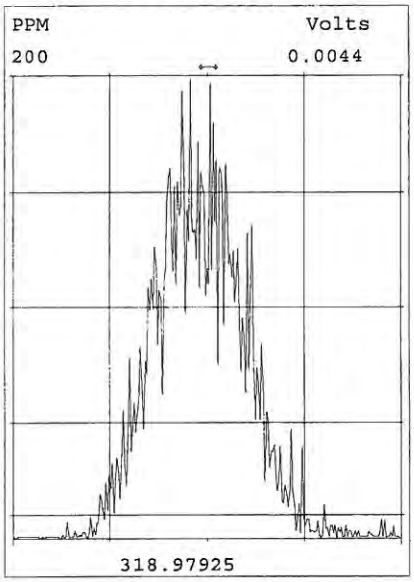


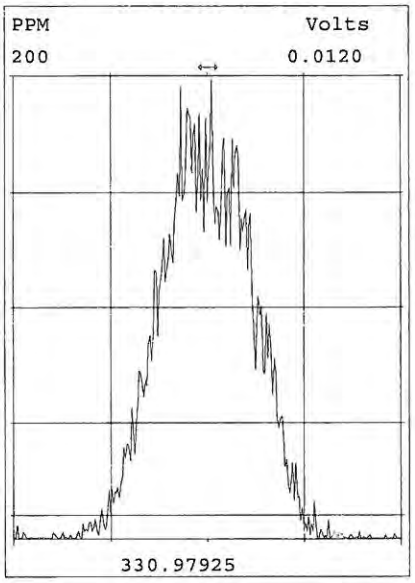


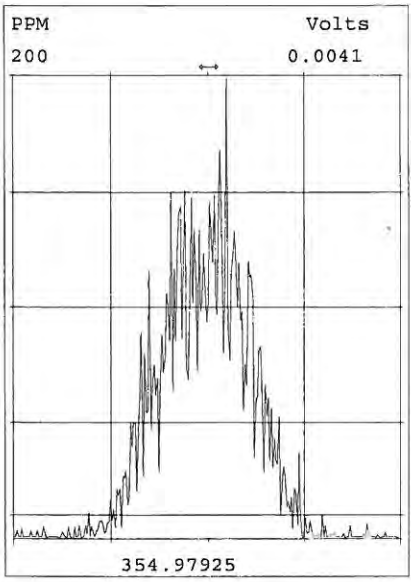


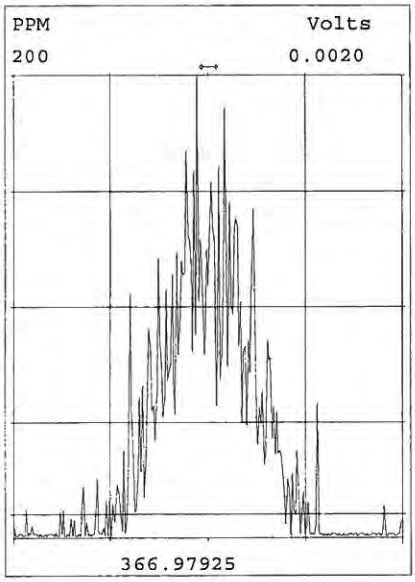


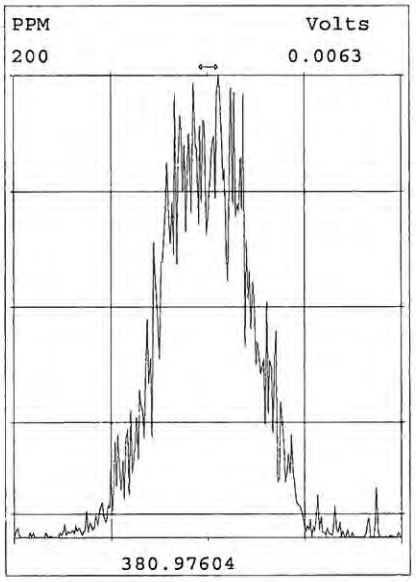
Peak Locate Examination:15-AUG-2018:08:49 File:DT8C_270CAL
Experiment:PB-DB1-1_01 Function:2 Reference:PFK_1668

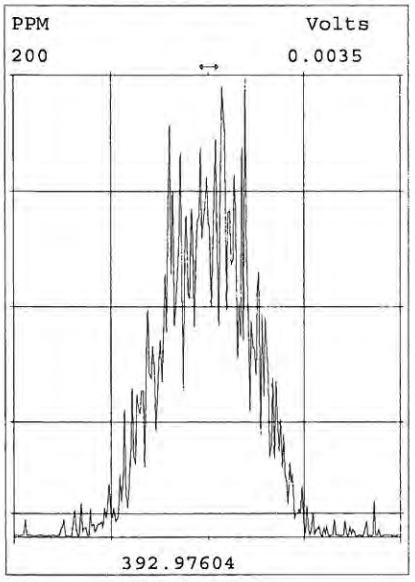


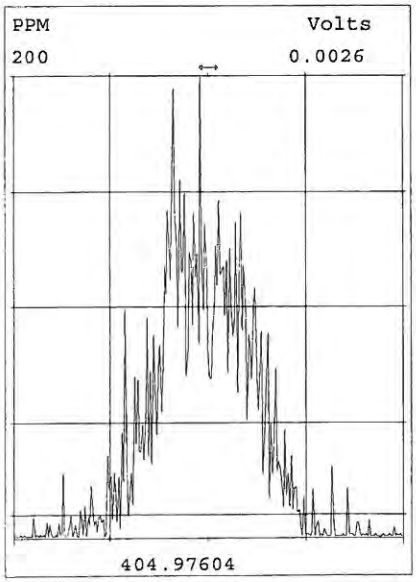


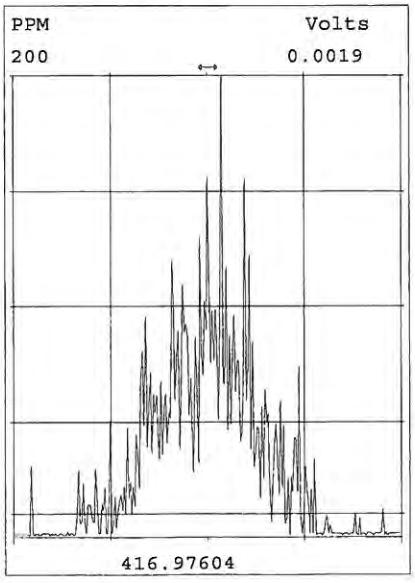




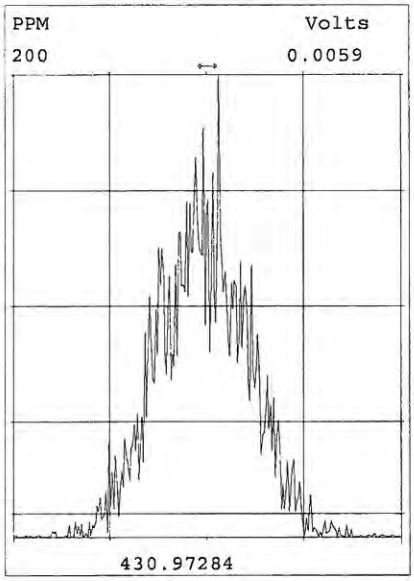


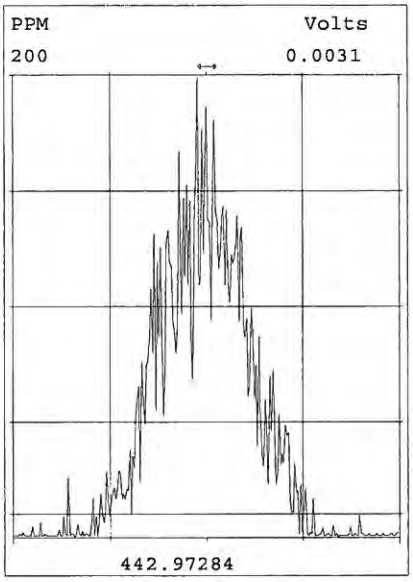


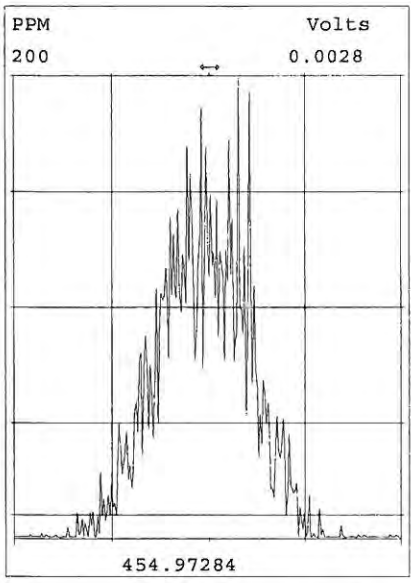


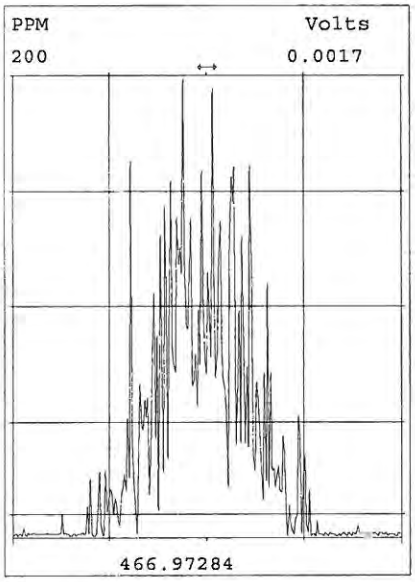


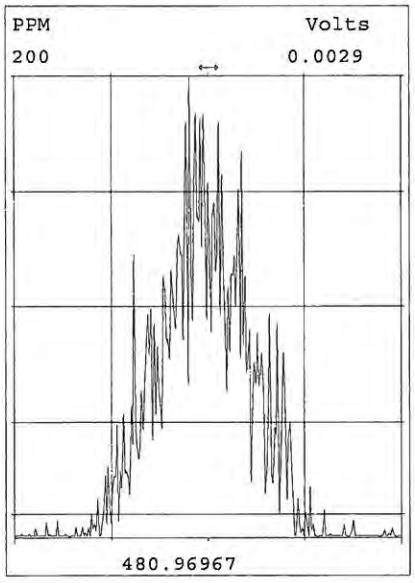
Peak Locate Examination:15-AUG-2018:08:49 File:DT8C_270CAL
Experiment:PB-DB1-1_01 Function:3 Reference:PFK_1668

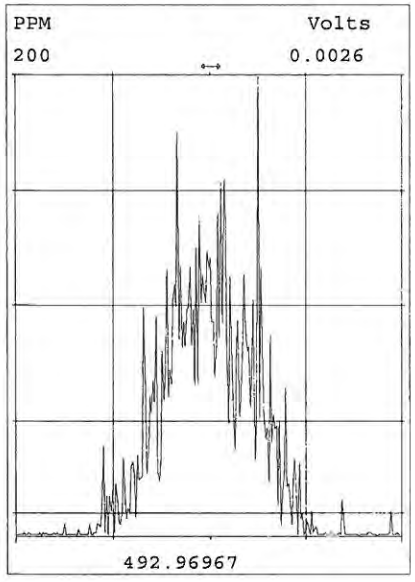


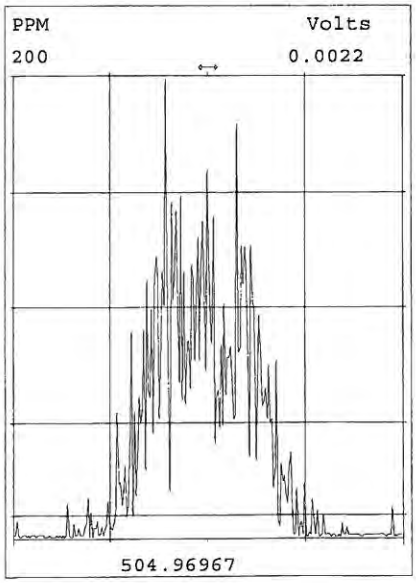


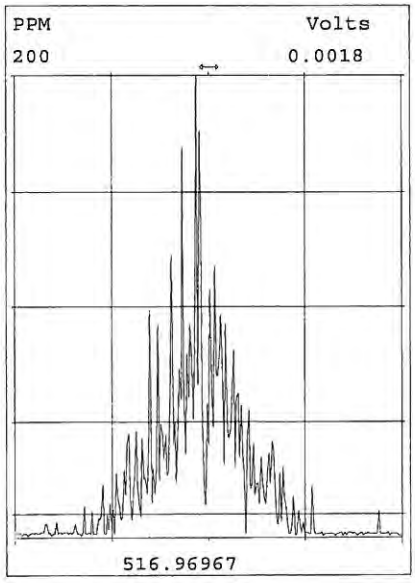




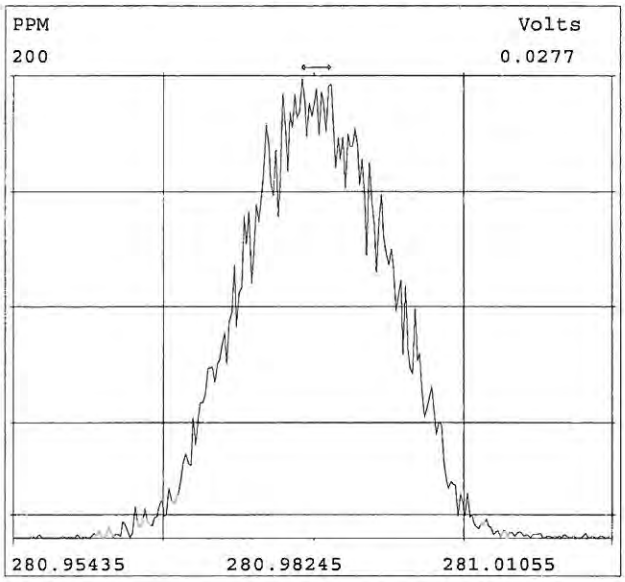


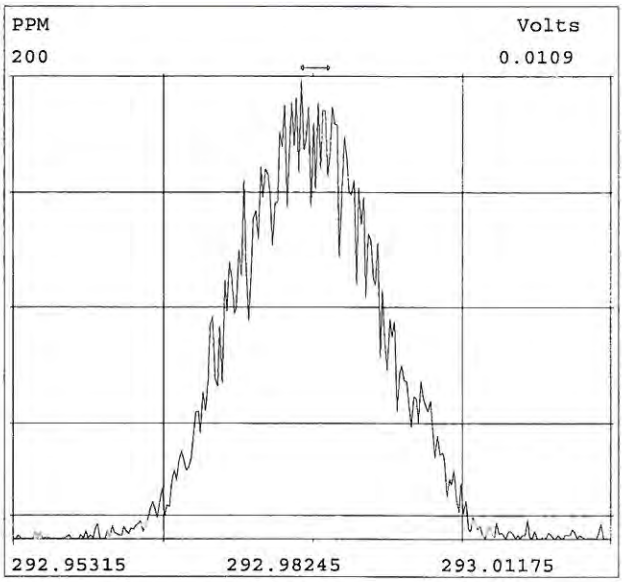


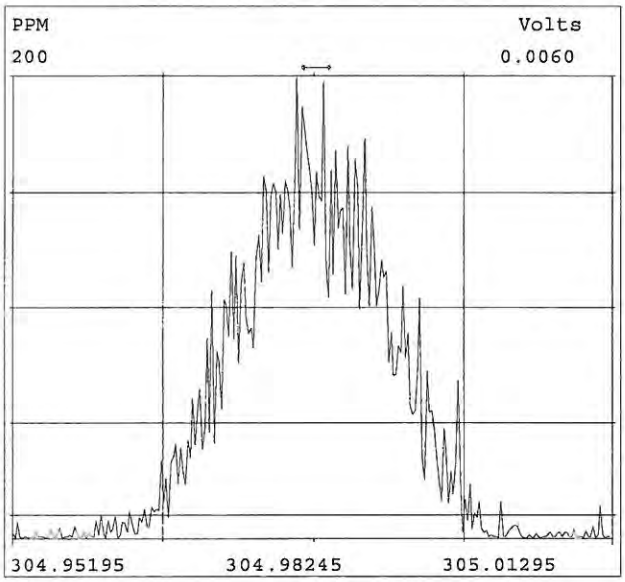


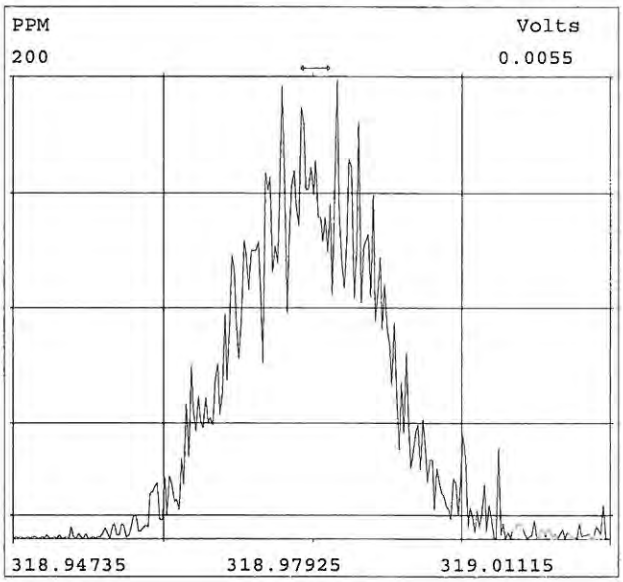


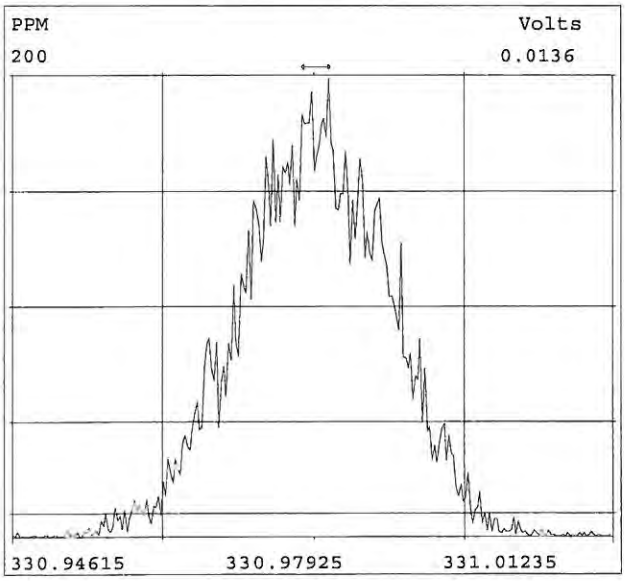
Peak Locate Examination:15-AUG-2018:18:28 File:DT8C_270CAL2 Approved by EW 15-Aug-2018
Experiment:PB-DB1-1_01 Function:1 Reference:PFK_1668

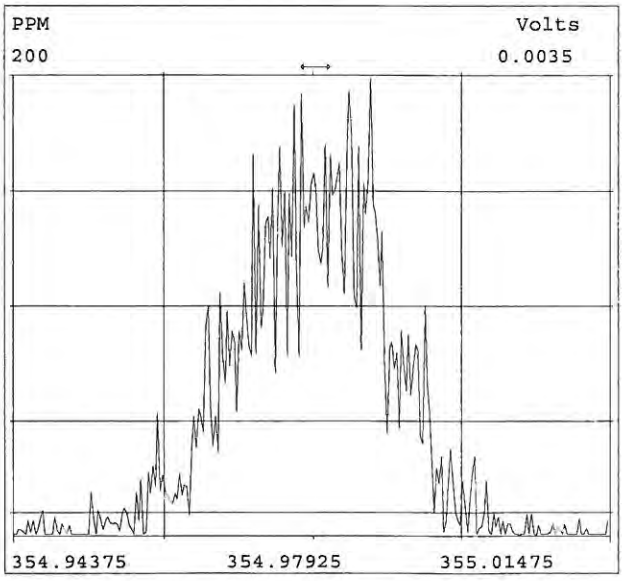




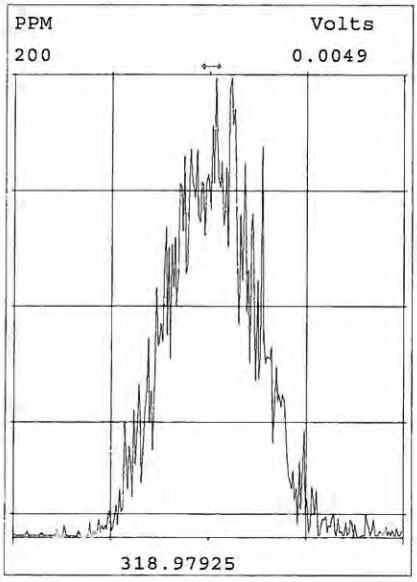


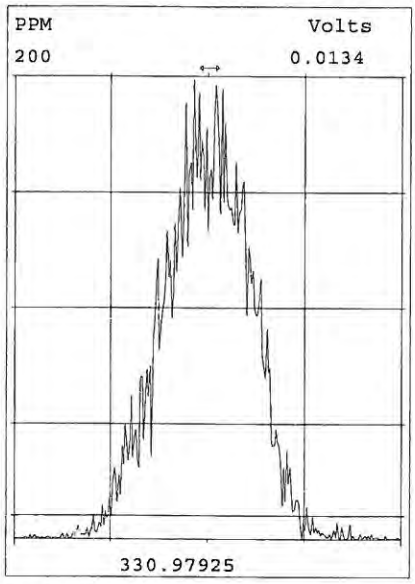


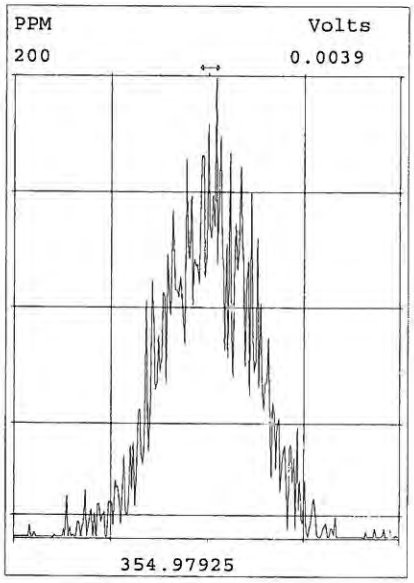


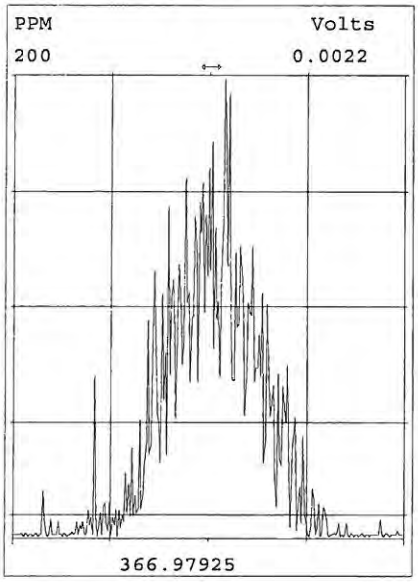


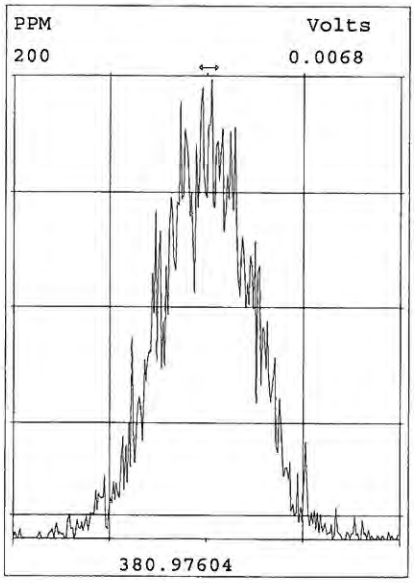
Peak Locate Examination:15-AUG-2018:18:30 File:DT8C_270CAL2
Experiment:PB-DB1-1_01 Function:2 Reference:PFK_1668

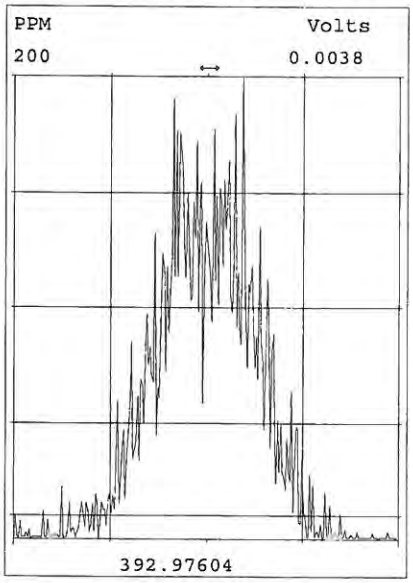


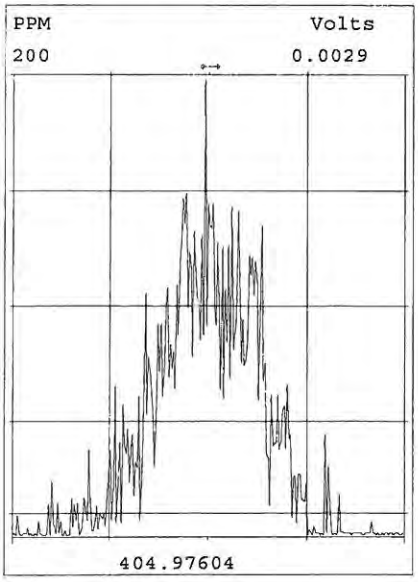


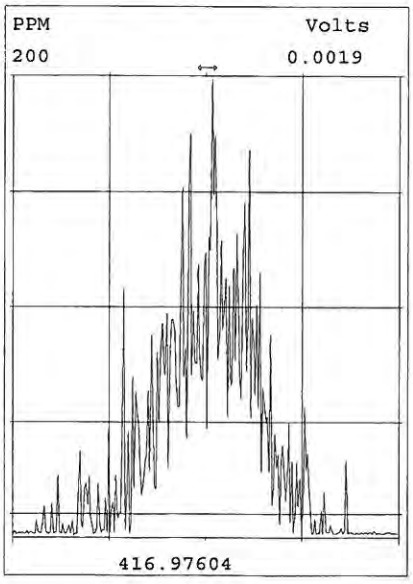




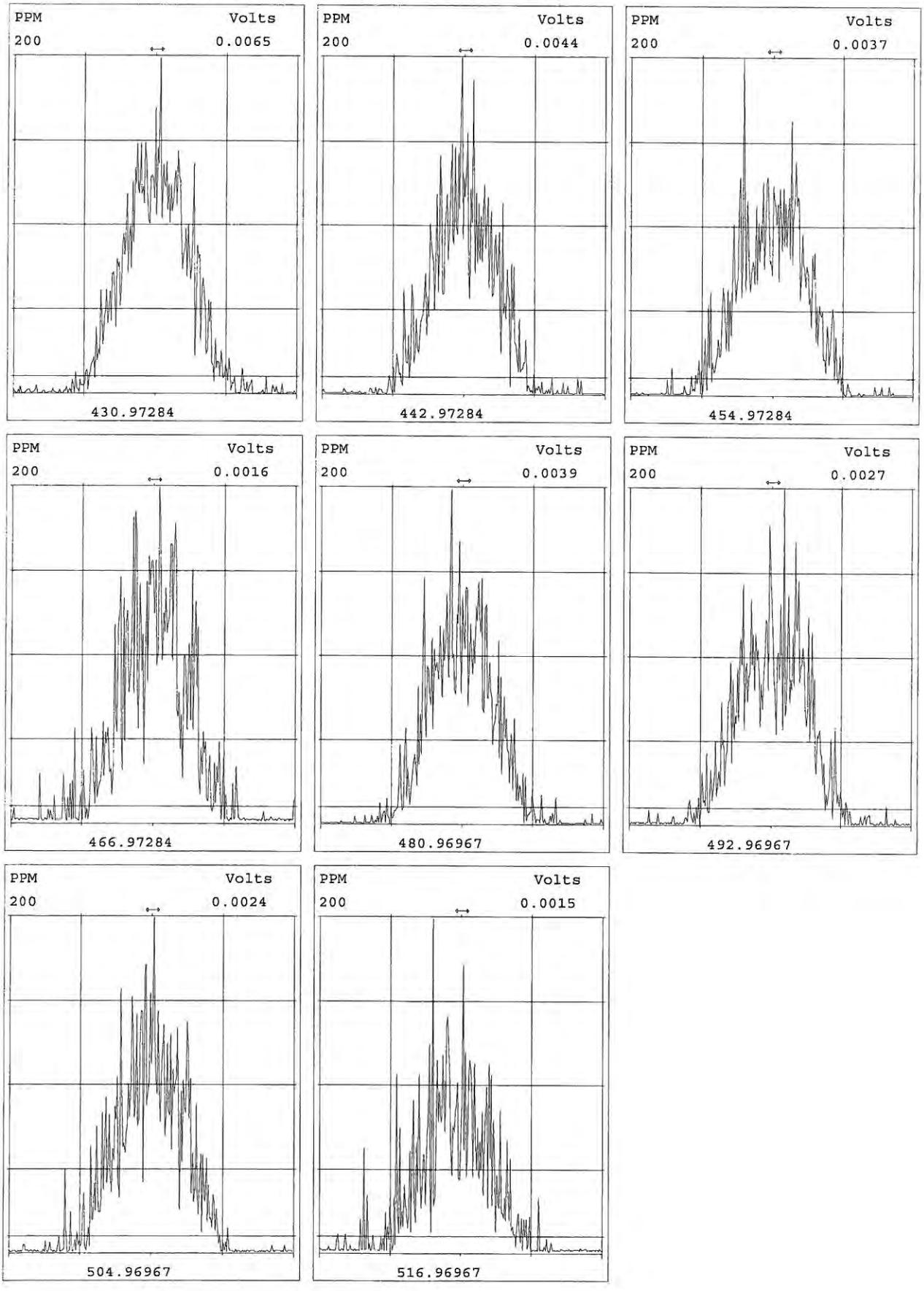








Peak Locate Examination:15-AUG-2018:18:31 File:DT8C_270CAL2
Experiment:PB-DB1-1_01 Function:3 Reference:PFK_1668



www.axysanalytical.com

DT8C_270-A

	c/q	Data Area	Data File	S	I	AnalyteTable	Factr #1	Factr #2	Size	HC	Sample Text	Comments	Done
1	c	ultc	DT8C_269C	5	1	1668a-db1-c5	1.0000	1.0000	1.000000	y	PB108C-CAL,,»	1,,1.0uL CS-1	y
2	c	ultc	DT8C_269C	6	1	1668a-db1-c5	5.0000	1.0000	1.000000	y	PB108D-CAL,,»	1,,1.0uL CS-2	y
3	c	ultc	DT8C_269C	9	1	1668a-db1-c5	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3/CAL	y
4	c	ultc	DT8C_269C	8	1	1668a-db1-c5	400.0000	1.0000	1.000000	y	PB108F-CAL,,»	1,,1.0uL CS-4	y
5	c	ultc	DT8C_269C	7	1	1668a-db1-c5	2000.00»	1.0000	1.000000	y	PB108G-CAL,,»	1,,1.0uL CS-5	y
6	c	ultc	DT8C_269C	3	1	1668a-db1-c5	0.2000	1.0000	1.000000	y	PB108A-CAL,,»	1,,1.0uL CS-0.2/»	y
7	q	ultc	DT8C_270	1	1	1668a-db1-c5	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3/CAL	y
8	q	ultc	DT8C_270	2	1	1668a-db1-s5	1.0000	5.0000	20.000000	y	WG64623-102,»	1,WG64623,1.0/20»	y
9	q	ultc	DT8C_270	3	1	1668a-db1-s5	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL INST BLK	y
10	q	ultc	DT8C_270	4	1	1668a-db1-s5	1.0000	0.1000	1.000000	y	PB053A-SUR,,»	1,,1.0uL INST BLK	y
11	q	ultc	DT8C_270	5	1	1668a-db1-s5	1.0000	5.0000	5.000000	y	WG64623-101,»	1,WG64623,1.0/20»	y
12	q	ultc	DT8C_270	6	1	1668a-db1-s5	1.0000	5.0000	4.890000	y	L29626-1,, 9»	1,WG64623,1.0/20»	y
13	q	ultc	DT8C_270	7	1	1668a-db1-s5	1.0000	5.0000	5.280000	y	L29626-2,, 9»	1,WG64623,1.0/20»	y
14	q	ultc	DT8C_270	8	1	1668a-db1-s5	1.0000	5.0000	5.060000	y	L29626-4,, 9»	1,WG64623,1.0/20»	y
15	q	ultc	DT8C_270	9	1	1668a-db1-s5	1.0000	5.0000	5.180000	y	WG64623-103,»	1,WG64623,1.0/20»	y
16	q	ultc	DT8C_270	10	1	1668a-db1-s5	1.0000	5.0000	4.980000	y	L29626-6,, 9»	1,WG64623,1.0/20»	y
17	q	ultc	DT8C_270	11	1	1668a-db1-s5	1.0000	5.0000	5.230000	y	L29626-7,, 9»	1,WG64623,1.0/20»	y
18	q	ultc	DT8C_270	12	1	1668a-db1-s5	1.0000	5.0000	4.810000	y	L29626-9,, 9»	1,WG64623,1.0/20»	y
19	q	ultc	DT8C_270	13	1	1668a-db1-s5	1.0000	5.0000	8.840000	y	WG64623-104,»	1,WG64623,1.0/40»	y
20	q	ultc	DT8C_270	14	1	1668a-db1-c5	50.0000	1.0000	1.000000	y	PB108E-CAL,,»	1,,1.0uL CS-3/CAL	y

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	08:51:02

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.65-0.89	50.3	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	51.0	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.59	1.32-1.78	50.6	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.54	1.32-1.78	48.8	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.59	1.32-1.78	48.2	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.58	1.32-1.78	49.8	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.56	1.32-1.78	50.1	37.5 - 62.5
2,3,3',4,4',5-HxCB	156			**M+2/M+4**	1.26	1.05-1.43	50.3	37.5 - 62.5
2,3,3',4,4',5'-HxCB	157			**M+2/M+4**	1.28	1.05-1.43	49.4	37.5 - 62.5
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.24	1.05-1.43	50.4	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.29	1.05-1.43	49.7	37.5 - 62.5
2,2',3,3',4,4',5-HpCB	170			**M+2/M+4**	0.99	0.89-1.21	50.5	37.5 - 62.5
2,2',3,4,4',5,5'-HpCB	180			**M+2/M+4**	1.01	0.89-1.21	50.0	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	0.99	0.89-1.21	49.3	37.5 - 62.5

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DT8C_270S1__Form4A_SJ2418683.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	08:51:02

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.78	0.65-0.89	98.0	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.79	0.65-0.89	96.3	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.60	1.32-1.78	99.3	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.62	1.32-1.78	99.1	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	99.8	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.58	1.32-1.78	100	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.59	1.32-1.78	101	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L			**M+2/M+4**	1.26	1.05-1.43	98.8	50.0 - 145
13C12-2,3,3',4,4',5'-HxCB	157L			**M+2/M+4**	1.32	1.05-1.43	99.0	50.0 - 145
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.26	1.05-1.43	97.4	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	95.9	50.0 - 145
13C12-2,2',3,3',4,4',5-HpCB	170L			**M+2/M+4**	1.04	0.89-1.21	97.5	50.0 - 145
13C12-2,2',3,4,4',5,5'-HpCB	180L			**M+2/M+4**	1.05	0.89-1.21	97.6	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	0.89-1.21	95.9	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.14	0.99-1.33	90.8	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	101	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.03	0.89-1.21	97.7	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DT8C_270S1__Form4B_SJ2418683.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	08:51:02

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	0.999-1.003
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.001	0.999-1.003
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	0.999-1.002
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	0.999-1.003
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	0.999-1.003
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.002	0.999-1.003
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156			13C12-2,3,3',4,4',5-HxCB	156L	1.001	0.999-1.003
2,3,3',4,4',5'-HxCB	157			13C12-2,3,3',4,4',5'-HxCB	157L	1.001	0.999-1.003
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	0.999-1.002
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	0.999-1.002
2,2',3,3',4,4',5-HpCB	170			13C12-2,2',3,3',4,4',5-HpCB	170L	1.001	0.999-1.002
2,2',3,4,4',5,5'-HpCB	180			13C12-2,2',3,4,4',5,5'-HpCB	180L	1.001	0.999-1.003
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	0.999-1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DT8C_270S1__Form6A_SJ2418683.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	08:51:02

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.462	1.448-1.476
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.421	1.407-1.435
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.294	1.283-1.304
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.244	1.233-1.255
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.210	1.199-1.221
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.198	1.188-1.209
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.435	1.424-1.445
13C12-2,3,3',4,4',5-HxCB	156L			13C12-2,2',3,4,4',5'-HxCB	138L	1.153	1.146-1.161
13C12-2,3,3',4,4',5'-HxCB	157L			13C12-2,2',3,4,4',5'-HxCB	138L	1.166	1.158-1.173
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.093	1.085-1.101
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.280	1.273-1.288
13C12-2,2',3,3',4,4',5-HpCB	170L			13C12-2,2',3,4,4',5'-HxCB	138L	1.301	1.293-1.308
13C12-2,2',3,4,4',5,5'-HpCB	180L			13C12-2,2',3,4,4',5'-HxCB	138L	1.221	1.213-1.228
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,4,4',5'-HxCB	138L	1.407	1.399-1.414
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,4,4',5'-HxCB	138L	1.571	1.559-1.582
CLEANUP STANDARD							
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.076-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.040	1.033-1.048

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DT8C_270S1__Form6B_SJ2418683.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4A
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	17:24:49

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
3,3',4,4'-TeCB	77			**M/M+2**	0.78	0.65-0.89	49.7	37.5 - 62.5
3,4,4',5-TeCB	81			**M/M+2**	0.79	0.65-0.89	50.7	37.5 - 62.5
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.61	1.32-1.78	50.3	37.5 - 62.5
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.56	1.32-1.78	48.9	37.5 - 62.5
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.55	1.32-1.78	50.6	37.5 - 62.5
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.57	1.32-1.78	48.7	37.5 - 62.5
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.58	1.32-1.78	49.7	37.5 - 62.5
2,3,3',4,4',5-HxCB	156			**M+2/M+4**	1.26	1.05-1.43	49.7	37.5 - 62.5
2,3,3',4,4',5'-HxCB	157			**M+2/M+4**	1.30	1.05-1.43	48.9	37.5 - 62.5
2,3',4,4',5,5'-HxCB	167			**M+2/M+4**	1.28	1.05-1.43	49.4	37.5 - 62.5
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.25	1.05-1.43	48.8	37.5 - 62.5
2,2',3,3',4,4',5-HpCB	170			**M+2/M+4**	0.99	0.89-1.21	49.4	37.5 - 62.5
2,2',3,4,4',5,5'-HpCB	180			**M+2/M+4**	0.98	0.89-1.21	50.4	37.5 - 62.5
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.00	0.89-1.21	49.5	37.5 - 62.5

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1668A, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DT8C_270S14__Form4A_SJ2418698.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 4B
PCB CONGENER CALIBRATION VERIFICATION

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	17:24:49

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.79	0.65-0.89	94.6	50.0 - 145
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.78	0.65-0.89	93.6	50.0 - 145
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.60	1.32-1.78	95.2	50.0 - 145
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.58	1.32-1.78	95.1	50.0 - 145
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.57	1.32-1.78	92.8	50.0 - 145
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.59	1.32-1.78	96.2	50.0 - 145
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.59	1.32-1.78	94.6	50.0 - 145
13C12-2,3,3',4,4',5-HxCB	156L			**M+2/M+4**	1.28	1.05-1.43	95.2	50.0 - 145
13C12-2,3,3',4,4',5'-HxCB	157L			**M+2/M+4**	1.31	1.05-1.43	95.0	50.0 - 145
13C12-2,3',4,4',5,5'-HxCB	167L			**M+2/M+4**	1.27	1.05-1.43	96.8	50.0 - 145
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	96.7	50.0 - 145
13C12-2,2',3,3',4,4',5-HpCB	170L			**M+2/M+4**	1.05	0.89-1.21	98.9	50.0 - 145
13C12-2,2',3,4,4',5,5'-HpCB	180L			**M+2/M+4**	1.05	0.89-1.21	96.9	50.0 - 145
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	0.89-1.21	97.7	50.0 - 145
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.12	0.99-1.33	99.6	50.0 - 145
CLEAN-UP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	99.3	75.0 - 125
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.03	0.89-1.21	99.6	75.0 - 125

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) See Table 8, Method 1668A, for m/z specifications.
(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: 1668_PCB1668_DT8C_270S14__Form4B_SJ2418698.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6A
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	17:24:49

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.002	0.999-1.003
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.001	0.999-1.003
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	0.999-1.002
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	0.999-1.003
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.002	0.999-1.003
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.002	0.999-1.003
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156			13C12-2,3,3',4,4',5-HxCB	156L	1.001	0.999-1.003
2,3,3',4,4',5'-HxCB	157			13C12-2,3,3',4,4',5'-HxCB	157L	1.001	0.999-1.003
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	0.999-1.002
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	0.999-1.002
2,2',3,3',4,4',5-HpCB	170			13C12-2,2',3,3',4,4',5-HpCB	170L	1.001	0.999-1.002
2,2',3,4,4',5,5'-HpCB	180			13C12-2,2',3,4,4',5,5'-HpCB	180L	1.001	0.999-1.002
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	0.999-1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DT8C_270S14__Form6A_SJ2418698.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

Form 6B
PCB CONGENER RELATIVE RETENTION TIMES

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Aug-2018	**VER Data Filename:**	DT8C_270 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	15-Aug-2018
GC Column ID:	DB1	**Analysis Time:**	17:24:49

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.461	1.447-1.475
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.422	1.408-1.436
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.295	1.285-1.306
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.245	1.235-1.256
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.210	1.200-1.221
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.200	1.189-1.210
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.436	1.425-1.446
13C12-2,3,3',4,4',5-HxCB	156L			13C12-2,2',3,4,4',5'-HxCB	138L	1.154	1.146-1.161
13C12-2,3,3',4,4',5'-HxCB	157L			13C12-2,2',3,4,4',5'-HxCB	138L	1.166	1.158-1.173
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.093	1.085-1.101
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.280	1.272-1.287
13C12-2,2',3,3',4,4',5-HpCB	170L			13C12-2,2',3,4,4',5'-HxCB	138L	1.301	1.293-1.309
13C12-2,2',3,4,4',5,5'-HpCB	180L			13C12-2,2',3,4,4',5'-HxCB	138L	1.221	1.213-1.228
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,4,4',5'-HxCB	138L	1.407	1.399-1.415
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,4,4',5'-HxCB	138L	1.570	1.559-1.582
CLEANUP STANDARD							
13C12-2,3,3',5,5'-PeCB	111L			13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L			13C12-2,2',3,4,4',5'-HxCB	138L	1.039	1.032-1.047

(1) Suffix "L" indicates labeled compound
(2) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49; Report Filename: 1668_PCB1668_DT8C_270S14__Form6B_SJ2418698.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Sample Data Filename:	**PB8C_260 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 00:00:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL1-PCB-2								
CL5-PCB-126								
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-155								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-1_Audit1A_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-1

Sample Data Filename: **PB8C_260 S: 5** **Instrument ID:** HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 00:00:21 **GC Column ID:** SPB OCTYL

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL1-PCB-2				NDR	ND(R)			EANDAYA	09-AUG-2018
CL5-PCB-126	5.75	3.30	0.574	ND(R)	NDR			EANDAYA	09-AUG-2018
CL6-PCB-128/166	4.62	2.31	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	4.64	2.32	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	5.95	2.98	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	5.56	2.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	5.85	2.92	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	5.56	2.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	5.35	2.68	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	5.72	2.86	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	4.95	2.48	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	5.10	2.55	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	5.50	2.75	0.500					EANDAYA	09-AUG-2018
CL6-PCB-146	4.63	2.31	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	4.88	2.44	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	4.24	2.12	0.500					EANDAYA	09-AUG-2018
CL6-PCB-155				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-156/157	5.00	2.50	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	3.62	1.81	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	3.92	1.96	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	3.87	1.94	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	3.71	1.86	0.500	ND				EANDAYA	09-AUG-2018
CL6-PCB-164	3.90	1.95	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	4.49	2.24	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	3.55	1.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	4.05	2.03	0.500					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-1_Audit1B_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Sample Data Filename:	**PB8C_260 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 00:00:21	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	22.7	45.5	2.01					
13C-CL1-PCB-3	22.8	45.8	2.01					
13C-CL2-PCB-4	24.4	49.1	2.01					
13C-CL2-PCB-15	22.1	44.5	2.01					
13C-CL3-PCB-19	25.9	52.1	2.01					
13C-CL3-PCB-37	28.8	57.8	2.01					
13C-CL4-PCB-54	26.2	52.6	2.01					
13C-CL4-PCB-77	36.0	72.4	2.01					
13C-CL4-PCB-81	35.0	70.4	2.01					
13C-CL5-PCB-104	27.3	54.9	2.01					
13C-CL5-PCB-105	39.6	79.5	2.01					
13C-CL5-PCB-114	32.5	65.3	2.01					
13C-CL5-PCB-118	35.1	70.6	2.01					
13C-CL5-PCB-123	35.1	70.6	2.01					
13C-CL5-PCB-126	33.6	67.6	2.01					
13C-CL6-PCB-155	28.6	57.5	2.01					
13C-CL6-PCB-156/157	32.5	65.4	2.01					
13C-CL6-PCB-167	34.5	69.3	2.01					
13C-CL6-PCB-169	32.3	64.9	2.01					
13C-CL7-PCB-170	32.4	65.1	2.01					
13C-CL7-PCB-180	33.0	66.3	2.01					
13C-CL7-PCB-188	27.8	55.8	2.01					
13C-CL7-PCB-189	34.1	68.5	2.01					
13C-CL8-PCB-202	33.2	66.6	2.01					
13C-CL8-PCB-205	33.5	67.4	2.01					
13C-CL9-PCB-206	30.8	61.8	2.01					
13C-CL9-PCB-208	30.1	60.5	2.01					
13C-CL10-PCB-209	28.8	57.9	2.01					
CLEANUP STANDARD								
13C-CL3-PCB-28	30.4	61.1	2.01					
13C-CL5-PCB-111	34.1	68.6	2.01					
13C-CL7-PCB-178	33.0	66.3	2.01					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-1_Audit2A_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-1

Sample Data Filename: **PB8C_260 S: 5**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 00:00:21

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-1_Audit2B_PB8C_260S5_SJ2414758.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Sample Data Filename:	**DT8C_270 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:09:33	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-1_Audit1A_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Sample Data Filename:	**DT8C_270 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:09:33	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-1_Audit1B_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-1
Sample Data Filename:	**DT8C_270 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:09:33	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	328	73.9	0.225					
13C-CL4-PCB-81	321	72.4	0.225					
13C-CL5-PCB-105	316	71.3	0.225					
13C-CL5-PCB-114	277	62.5	0.225					
13C-CL5-PCB-118	279	62.8	0.225					
13C-CL5-PCB-123	289	65.1	0.225					
13C-CL5-PCB-126	350	78.9	0.225					
13C-CL6-PCB-156	326	73.5	0.225					
13C-CL6-PCB-157	313	70.5	0.225					
13C-CL6-PCB-167	306	69.0	0.225					
13C-CL6-PCB-169	341	77.0	0.225					
13C-CL7-PCB-189	326	73.6	0.225					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-1_Audit2A_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C01-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-1

Sample Data Filename: **DT8C_270 S: 6** **Instrument ID:** HR GC/MS

Analysis Date: 15-Aug-2018 **Time:** 12:09:33 **GC Column ID:** DB1

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-1_Audit2B_DT8C_270S6_SJ2418690.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**PB8C_260 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 01:03:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-145								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-155								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-2_Audit1A_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-2

Sample Data Filename: **PB8C_260 S: 6**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 01:03:57

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL6-PCB-128/166	7.15	3.57	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	7.18	3.59	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	9.21	4.60	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	8.60	4.30	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	9.04	4.52	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	8.59	4.30	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	8.28	4.14	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	8.85	4.42	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	7.66	3.83	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	7.89	3.95	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	8.50	4.25	0.500					EANDAYA	09-AUG-2018
CL6-PCB-145				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-146	7.16	3.58	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	7.56	3.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	6.56	3.28	0.500					EANDAYA	09-AUG-2018
CL6-PCB-155				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-156/157	7.34	3.67	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	5.60	2.80	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	6.06	3.03	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	5.99	2.99	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	5.74	2.87	0.500	ND(R)	NDR			EANDAYA	09-AUG-2018
CL6-PCB-164	6.04	3.02	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	6.94	3.47	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	5.80	2.90	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	6.00	3.00	0.500					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-2_Audit1B_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**PB8C_260 S: 6**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 01:03:57	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	20.6	41.1	2.00					
13C-CL1-PCB-3	21.2	42.4	2.00					
13C-CL2-PCB-4	23.2	46.4	2.00					
13C-CL2-PCB-15	24.1	48.1	2.00					
13C-CL3-PCB-19	26.2	52.4	2.00					
13C-CL3-PCB-37	26.7	53.4	2.00					
13C-CL4-PCB-54	32.2	64.3	2.00					
13C-CL4-PCB-77	34.3	68.6	2.00					
13C-CL4-PCB-81	33.0	65.9	2.00					
13C-CL5-PCB-104	28.2	56.4	2.00					
13C-CL5-PCB-105	44.5	88.9	2.00					
13C-CL5-PCB-114	33.9	67.8	2.00					
13C-CL5-PCB-118	35.7	71.3	2.00					
13C-CL5-PCB-123	34.6	69.1	2.00					
13C-CL5-PCB-126	35.6	71.0	2.00					
13C-CL6-PCB-155	25.7	51.3	2.00					
13C-CL6-PCB-156/157	32.9	65.7	2.00					
13C-CL6-PCB-167	32.7	65.3	2.00					
13C-CL6-PCB-169	32.9	65.7	2.00					
13C-CL7-PCB-170	32.5	64.9	2.00					
13C-CL7-PCB-180	33.2	66.4	2.00					
13C-CL7-PCB-188	24.4	48.7	2.00					
13C-CL7-PCB-189	34.6	69.1	2.00					
13C-CL8-PCB-202	24.2	48.3	2.00					
13C-CL8-PCB-205	33.2	66.4	2.00					
13C-CL9-PCB-206	31.9	63.8	2.00					
13C-CL9-PCB-208	29.3	58.6	2.00					
13C-CL10-PCB-209	27.2	54.3	2.00					
CLEANUP STANDARD								
13C-CL3-PCB-28	34.3	68.5	2.00					
13C-CL5-PCB-111	34.2	68.4	2.00					
13C-CL7-PCB-178	33.4	66.8	2.00					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-2_Audit2A_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-2

Sample Data Filename: **PB8C_260 S: 6**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 01:03:57

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-2_Audit2B_PB8C_260S6_SJ2414761.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DT8C_270 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:48:55	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-2_Audit1A_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DT8C_270 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:48:55	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-2_Audit1B_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-2
Sample Data Filename:	**DT8C_270 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 12:48:55	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	308	69.4	0.226					
13C-CL4-PCB-81	302	68.1	0.226					
13C-CL5-PCB-105	252	56.9	0.226					
13C-CL5-PCB-114	110	24.7	0.226					
13C-CL5-PCB-118	120	27.0	0.226					
13C-CL5-PCB-123	124	27.9	0.226					
13C-CL5-PCB-126	326	73.6	0.226					
13C-CL6-PCB-156	240	54.1	0.226					
13C-CL6-PCB-157	264	59.7	0.226					
13C-CL6-PCB-167	169	38.2	0.226					
13C-CL6-PCB-169	310	70.1	0.226					
13C-CL7-PCB-189	267	60.3	0.226					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-2_Audit2A_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C02-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-2

Sample Data Filename: **DT8C_270 S: 7**

Instrument ID: HR GC/MS

Analysis Date: 15-Aug-2018 **Time:** 12:48:55

GC Column ID: DB1

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-2_Audit2B_DT8C_270S7_SJ2418691.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**PB8C_260 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 02:07:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL5-PCB-104								
CL5-PCB-126								
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-155								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								
CL7-PCB-184								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-4_Audit1A_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-4 (A)

Sample Data Filename: **PB8C_260 S: 7** **Instrument ID:** HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 02:07:34 **GC Column ID:** SPB OCTYL

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL5-PCB-104				NDR	ND(R)			EANDAYA	09-AUG-2018
CL5-PCB-126	9.41	1.40	0.149	ND(R)	NDR			EANDAYA	09-AUG-2018
CL6-PCB-128/166	9.41	4.71	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	9.46	4.73	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	12.1	6.06	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	11.3	5.67	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	11.9	5.96	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	11.3	5.66	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	10.9	5.45	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	11.7	5.83	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	10.1	5.04	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	10.4	5.20	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	11.2	5.60	0.500					EANDAYA	09-AUG-2018
CL6-PCB-146	9.42	4.71	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	9.95	4.98	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	8.64	4.32	0.500					EANDAYA	09-AUG-2018
CL6-PCB-155				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-156/157	10.2	5.08	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	7.38	3.69	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	7.98	3.99	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	7.89	3.94	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	7.56	3.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-164	7.95	3.98	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	9.14	4.57	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	7.53	3.77	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	8.13	4.07	0.500					EANDAYA	09-AUG-2018
CL7-PCB-184				NDR	ND(R)			EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-4_Audit1B_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**PB8C_260 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 02:07:34	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	27.0	53.0	1.96					
13C-CL1-PCB-3	26.6	52.3	1.96					
13C-CL2-PCB-4	28.6	56.3	1.96					
13C-CL2-PCB-15	28.2	55.3	1.96					
13C-CL3-PCB-19	33.4	65.6	1.96					
13C-CL3-PCB-37	33.0	64.9	1.96					
13C-CL4-PCB-54	32.1	63.0	1.96					
13C-CL4-PCB-77	39.1	76.7	1.96					
13C-CL4-PCB-81	37.9	74.5	1.96					
13C-CL5-PCB-104	33.3	65.4	1.96					
13C-CL5-PCB-105	43.4	85.3	1.96					
13C-CL5-PCB-114	35.7	70.2	1.96					
13C-CL5-PCB-118	37.9	74.4	1.96					
13C-CL5-PCB-123	38.0	74.7	1.96					
13C-CL5-PCB-126	35.7	70.2	1.96					
13C-CL6-PCB-155	32.0	62.8	1.96					
13C-CL6-PCB-156/157	34.8	68.4	1.96					
13C-CL6-PCB-167	35.4	69.5	1.96					
13C-CL6-PCB-169	35.3	69.3	1.96					
13C-CL7-PCB-170	32.7	64.3	1.96					
13C-CL7-PCB-180	32.3	63.4	1.96					
13C-CL7-PCB-188	28.4	55.8	1.96					
13C-CL7-PCB-189	36.2	71.2	1.96					
13C-CL8-PCB-202	25.5	50.2	1.96					
13C-CL8-PCB-205	34.9	68.5	1.96					
13C-CL9-PCB-206	33.4	65.7	1.96					
13C-CL9-PCB-208	32.5	63.9	1.96					
13C-CL10-PCB-209	28.2	55.4	1.96					
CLEANUP STANDARD								
13C-CL3-PCB-28	35.8	70.4	1.96					
13C-CL5-PCB-111	38.4	75.4	1.96					
13C-CL7-PCB-178	36.1	70.9	1.96					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-4_Audit2A_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-4 (A)

Sample Data Filename: **PB8C_260 S: 7**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 02:07:34

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-4_Audit2B_PB8C_260S7_SJ2414763.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**DT8C_270 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL6-PCB-169								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-4_Audit1A_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**DT8C_270 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL6-PCB-169	0.153	0.200	1.31		ND			EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-4_Audit1B_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**DT8C_270 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	356	80.5	0.226					
13C-CL4-PCB-81	359	81.2	0.226					
13C-CL5-PCB-105	353	79.8	0.226					
13C-CL5-PCB-114	338	76.4	0.226					
13C-CL5-PCB-118	340	76.9	0.226					
13C-CL5-PCB-123	342	77.3	0.226					
13C-CL5-PCB-126	379	85.8	0.226					
13C-CL6-PCB-156	356	80.4	0.226					
13C-CL6-PCB-157	330	74.7	0.226					
13C-CL6-PCB-167	347	78.5	0.226					
13C-CL6-PCB-169	376	85.0	0.226					
13C-CL7-PCB-189	360	81.4	0.226					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-4_Audit2A_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-4 (A)
Sample Data Filename:	**DT8C_270 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 13:28:16	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-4_Audit2B_DT8C_270S8_SJ2418692.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**PB8C_260 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL5-PCB-126								
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-145								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-155								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								
CL7-PCB-184								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-103_Audit1A_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**PB8C_260 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL5-PCB-126	10.0	3.57	0.355					EANDAYA	09-AUG-2018
CL6-PCB-128/166	7.51	3.76	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	7.55	3.78	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	9.68	4.84	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	9.04	4.52	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	9.51	4.75	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	9.03	4.52	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	8.70	4.35	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	9.30	4.65	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	8.05	4.02	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	8.29	4.15	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	8.94	4.47	0.500					EANDAYA	09-AUG-2018
CL6-PCB-145				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-146	7.52	3.76	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	7.94	3.97	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	6.89	3.45	0.500					EANDAYA	09-AUG-2018
CL6-PCB-155				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-156/157	8.10	4.05	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	5.89	2.95	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	6.37	3.18	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	6.29	3.15	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	6.04	3.02	0.500	ND(R)	NDR			EANDAYA	09-AUG-2018
CL6-PCB-164	6.35	3.17	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	7.29	3.65	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	6.27	3.13	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	6.56	3.28	0.500					EANDAYA	09-AUG-2018
CL7-PCB-184				NDR	ND(R)			EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-103_Audit1B_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**PB8C_260 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	19.5	38.2	1.96					
13C-CL1-PCB-3	19.7	38.6	1.96					
13C-CL2-PCB-4	21.7	42.5	1.96					
13C-CL2-PCB-15	23.9	46.9	1.96					
13C-CL3-PCB-19	25.4	49.9	1.96					
13C-CL3-PCB-37	26.5	51.9	1.96					
13C-CL4-PCB-54	26.1	51.2	1.96					
13C-CL4-PCB-77	27.2	53.3	1.96					
13C-CL4-PCB-81	25.8	50.5	1.96					
13C-CL5-PCB-104	29.2	57.3	1.96					
13C-CL5-PCB-105	38.0	74.4	1.96					
13C-CL5-PCB-114	28.7	56.3	1.96					
13C-CL5-PCB-118	31.3	61.2	1.96					
13C-CL5-PCB-123	30.7	60.2	1.96					
13C-CL5-PCB-126	27.0	52.9	1.96					
13C-CL6-PCB-155	27.8	54.4	1.96					
13C-CL6-PCB-156/157	29.3	57.4	1.96					
13C-CL6-PCB-167	29.7	58.2	1.96					
13C-CL6-PCB-169	29.4	57.6	1.96					
13C-CL7-PCB-170	28.3	55.5	1.96					
13C-CL7-PCB-180	28.0	54.9	1.96					
13C-CL7-PCB-188	23.9	46.7	1.96					
13C-CL7-PCB-189	28.7	56.3	1.96					
13C-CL8-PCB-202	20.8	40.8	1.96					
13C-CL8-PCB-205	30.9	60.6	1.96					
13C-CL9-PCB-206	27.6	54.2	1.96					
13C-CL9-PCB-208	26.9	52.7	1.96					
13C-CL10-PCB-209	26.8	52.5	1.96					
CLEANUP STANDARD								
13C-CL3-PCB-28	28.6	56.1	1.96					
13C-CL5-PCB-111	33.4	65.4	1.96					
13C-CL7-PCB-178	30.0	58.8	1.96					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-103_Audit2A_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**PB8C_260 S: 8**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 03:11:14	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-103_Audit2B_PB8C_260S8_SJ2414765.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**DT8C_270 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-103_Audit1A_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**DT8C_270 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-103_Audit1B_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**DT8C_270 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	244	54.8	0.225					
13C-CL4-PCB-81	239	53.8	0.225					
13C-CL5-PCB-105	236	53.1	0.225					
13C-CL5-PCB-114	226	50.8	0.225					
13C-CL5-PCB-118	225	50.6	0.225					
13C-CL5-PCB-123	232	52.2	0.225					
13C-CL5-PCB-126	253	56.9	0.225					
13C-CL6-PCB-156	242	54.4	0.225					
13C-CL6-PCB-157	239	53.6	0.225					
13C-CL6-PCB-167	237	53.2	0.225					
13C-CL6-PCB-169	253	56.9	0.225					
13C-CL7-PCB-189	246	55.3	0.225					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-103_Audit2A_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C04-CLWB-Comp2 (Duplicate)
Sample Collection: N/A

SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-103 (DUP L29626-4)
Sample Data Filename:	**DT8C_270 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:07:43	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-103_Audit2B_DT8C_270S9_SJ2418693.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**PB8C_260 S: 9**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 04:14:54	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL5-PCB-104								
CL5-PCB-106								
CL5-PCB-107								
CL5-PCB-122								
CL5-PCB-126								
CL5-PCB-127	2.51	4.16	1.66	43000	71400	1.66	1.71	1.85
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-155								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								
CL7-PCB-184								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-6_Audit1A_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-6

Sample Data Filename: **PB8C_260 S: 9**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 04:14:54

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL5-PCB-104				NDR	ND(R)			EANDAYA	09-AUG-2018
CL5-PCB-106	6.05	3.02	0.500					EANDAYA	09-AUG-2018
CL5-PCB-107	5.87	2.94	0.500					EANDAYA	09-AUG-2018
CL5-PCB-122	6.68	3.34	0.500					EANDAYA	09-AUG-2018
CL5-PCB-126	7.71	3.86	0.500					EANDAYA	09-AUG-2018
CL5-PCB-127	6.19	3.09	0.500	ND	NDR			EANDAYA	09-AUG-2018
CL6-PCB-128/166	6.82	3.41	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	6.85	3.43	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	8.79	4.39	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	8.21	4.10	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	8.63	4.31	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	8.20	4.10	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	7.90	3.95	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	8.44	4.22	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	7.31	3.65	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	7.53	3.76	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	8.11	4.06	0.500					EANDAYA	09-AUG-2018
CL6-PCB-146	6.83	3.41	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	7.21	3.60	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	6.26	3.13	0.500					EANDAYA	09-AUG-2018
CL6-PCB-155				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-156/157	7.15	3.57	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	5.35	2.67	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	5.78	2.89	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	5.71	2.86	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	5.48	2.74	0.500	ND				EANDAYA	09-AUG-2018
CL6-PCB-164	5.76	2.88	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	6.62	3.31	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	5.40	2.70	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	5.87	2.94	0.500					EANDAYA	09-AUG-2018
CL7-PCB-184				NDR	ND(R)			EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-6_Audit1B_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-6

Sample Data Filename: **PB8C_260 S: 9** **Instrument ID:** HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 04:14:54 **GC Column ID:** SPB OCTYL

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	25.9	51.8	2.00					
13C-CL1-PCB-3	21.7	43.4	2.00					
13C-CL2-PCB-4	25.8	51.5	2.00					
13C-CL2-PCB-15	23.8	47.6	2.00					
13C-CL3-PCB-19	25.4	50.8	2.00					
13C-CL3-PCB-37	27.1	54.2	2.00					
13C-CL4-PCB-54	28.2	56.4	2.00					
13C-CL4-PCB-77	35.6	71.2	2.00					
13C-CL4-PCB-81	35.6	71.3	2.00					
13C-CL5-PCB-104	29.4	58.9	2.00					
13C-CL5-PCB-105	45.4	90.8	2.00					
13C-CL5-PCB-114	38.6	77.3	2.00					
13C-CL5-PCB-118	40.6	81.2	2.00					
13C-CL5-PCB-123	40.8	81.6	2.00					
13C-CL5-PCB-126	35.8	71.5	2.00					
13C-CL6-PCB-155	30.5	61.0	2.00					
13C-CL6-PCB-156/157	38.0	75.9	2.00					
13C-CL6-PCB-167	38.3	76.6	2.00					
13C-CL6-PCB-169	37.2	74.5	2.00					
13C-CL7-PCB-170	37.5	75.0	2.00					
13C-CL7-PCB-180	38.2	76.4	2.00					
13C-CL7-PCB-188	31.9	63.9	2.00					
13C-CL7-PCB-189	39.9	79.9	2.00					
13C-CL8-PCB-202	29.3	58.7	2.00					
13C-CL8-PCB-205	39.0	77.9	2.00					
13C-CL9-PCB-206	37.6	75.3	2.00					
13C-CL9-PCB-208	35.2	70.5	2.00					
13C-CL10-PCB-209	31.4	62.9	2.00					
CLEANUP STANDARD								
13C-CL3-PCB-28	30.9	61.9	2.00					
13C-CL5-PCB-111	38.4	76.8	2.00					
13C-CL7-PCB-178	38.4	76.8	2.00					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-6_Audit2A_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-6

Sample Data Filename: **PB8C_260 S: 9**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 04:14:54

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-6_Audit2B_PB8C_260S9_SJ2414767.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DT8C_270 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:47:09	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-6_Audit1A_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DT8C_270 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:47:09	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-6_Audit1B_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-6

Sample Data Filename: **DT8C_270 S: 10** **Instrument ID:** HR GC/MS

Analysis Date: 15-Aug-2018 **Time:** 14:47:09 **GC Column ID:** DB1

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	342	77.4	0.226					
13C-CL4-PCB-81	320	72.4	0.226					
13C-CL5-PCB-105	341	77.2	0.226					
13C-CL5-PCB-114	329	74.5	0.226					
13C-CL5-PCB-118	351	79.4	0.226					
13C-CL5-PCB-123	344	77.9	0.226					
13C-CL5-PCB-126	350	79.1	0.226					
13C-CL6-PCB-156	378	85.7	0.226					
13C-CL6-PCB-157	347	78.5	0.226					
13C-CL6-PCB-167	369	83.6	0.226					
13C-CL6-PCB-169	364	82.3	0.226					
13C-CL7-PCB-189	367	83.0	0.226					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-6_Audit2A_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C06-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-6
Sample Data Filename:	**DT8C_270 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 14:47:09	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-6_Audit2B_DT8C_270S10_SJ2418694.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**PB8C_260 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 05:18:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL1-PCB-2								
CL5-PCB-104								
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-145								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159								
CL6-PCB-161								
CL6-PCB-162								
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-7_Audit1A_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-7

Sample Data Filename: **PB8C_260 S: 10** **Instrument ID:** HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 05:18:32 **GC Column ID:** SPB OCTYL

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL1-PCB-2					ND			EANDAYA	09-AUG-2018
CL5-PCB-104				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-128/166	9.82	4.91	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	9.88	4.94	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	12.7	6.33	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	11.8	5.92	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	12.4	6.22	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	11.8	5.91	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	11.4	5.69	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	12.2	6.08	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	10.5	5.27	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	10.9	5.43	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	11.7	5.84	0.500					EANDAYA	09-AUG-2018
CL6-PCB-145				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-146	9.84	4.92	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	10.4	5.19	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	9.02	4.51	0.500					EANDAYA	09-AUG-2018
CL6-PCB-156/157	10.9	5.45	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	7.70	3.85	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	8.33	4.16	0.500					EANDAYA	09-AUG-2018
CL6-PCB-161	8.23	4.12	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	7.90	3.95	0.500	ND(R)	NDR			EANDAYA	09-AUG-2018
CL6-PCB-164	8.30	4.15	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	9.54	4.77	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	8.27	4.13	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	8.53	4.27	0.500					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-7_Audit1B_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**PB8C_260 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 05:18:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	23.3	46.4	1.99					
13C-CL1-PCB-3	23.1	46.1	1.99					
13C-CL2-PCB-4	25.9	51.7	1.99					
13C-CL2-PCB-15	25.7	51.1	1.99					
13C-CL3-PCB-19	28.8	57.4	1.99					
13C-CL3-PCB-37	27.3	54.4	1.99					
13C-CL4-PCB-54	28.1	56.0	1.99					
13C-CL4-PCB-77	32.3	64.3	1.99					
13C-CL4-PCB-81	32.3	64.3	1.99					
13C-CL5-PCB-104	30.4	60.6	1.99					
13C-CL5-PCB-105	35.0	69.8	1.99					
13C-CL5-PCB-114	32.1	63.9	1.99					
13C-CL5-PCB-118	34.4	68.5	1.99					
13C-CL5-PCB-123	34.0	67.8	1.99					
13C-CL5-PCB-126	29.0	57.8	1.99					
13C-CL6-PCB-155	32.7	65.2	1.99					
13C-CL6-PCB-156/157	31.9	63.6	1.99					
13C-CL6-PCB-167	31.8	63.3	1.99					
13C-CL6-PCB-169	32.8	65.4	1.99					
13C-CL7-PCB-170	31.1	61.9	1.99					
13C-CL7-PCB-180	30.8	61.3	1.99					
13C-CL7-PCB-188	25.8	51.4	1.99					
13C-CL7-PCB-189	31.5	62.8	1.99					
13C-CL8-PCB-202	22.7	45.2	1.99					
13C-CL8-PCB-205	32.3	64.3	1.99					
13C-CL9-PCB-206	30.4	60.5	1.99					
13C-CL9-PCB-208	29.1	58.0	1.99					
13C-CL10-PCB-209	28.4	56.6	1.99					
CLEANUP STANDARD								
13C-CL3-PCB-28	29.2	58.1	1.99					
13C-CL5-PCB-111	32.5	64.8	1.99					
13C-CL7-PCB-178	32.2	64.2	1.99					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-7_Audit2A_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-7

Sample Data Filename: **PB8C_260 S: 10**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 05:18:32

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-7_Audit2B_PB8C_260S10_SJ2414769.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DT8C_270 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 15:26:35	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-7_Audit1A_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DT8C_270 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 15:26:35	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-7_Audit1B_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-7

Sample Data Filename: **DT8C_270 S: 11** **Instrument ID:** HR GC/MS

Analysis Date: 15-Aug-2018 **Time:** 15:26:35 **GC Column ID:** DB1

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	380	85.4	0.225					
13C-CL4-PCB-81	352	79.0	0.225					
13C-CL5-PCB-105	327	73.3	0.225					
13C-CL5-PCB-114	201	45.2	0.225					
13C-CL5-PCB-118	222	49.8	0.225					
13C-CL5-PCB-123	222	49.9	0.225					
13C-CL5-PCB-126	373	83.9	0.225					
13C-CL6-PCB-156	342	76.7	0.225					
13C-CL6-PCB-157	370	83.1	0.225					
13C-CL6-PCB-167	305	68.6	0.225					
13C-CL6-PCB-169	376	84.4	0.225					
13C-CL7-PCB-189	364	81.7	0.225					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-7_Audit2A_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C08-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-7
Sample Data Filename:	**DT8C_270 S: 11**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 15:26:35	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-7_Audit2B_DT8C_270S11_SJ2418695.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033 **Lab Sample I.D.:** L29626-9

Sample Data Filename: **PB8C_261 S: 7** **Instrument ID:** HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 14:01:03 **GC Column ID:** SPB OCTYL

Extract Volume (uL): 20 **Injection Volume (uL):** 1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL1-PCB-2								
CL6-PCB-128/166								
CL6-PCB-138/163/129/160								
CL6-PCB-130								
CL6-PCB-131								
CL6-PCB-132								
CL6-PCB-133								
CL6-PCB-134/143								
CL6-PCB-137								
CL6-PCB-139/140								
CL6-PCB-141								
CL6-PCB-142								
CL6-PCB-146								
CL6-PCB-147/149								
CL6-PCB-153/168								
CL6-PCB-156/157								
CL6-PCB-158								
CL6-PCB-159	6.63	7.24	1.09				1.05	1.23
CL6-PCB-161								
CL6-PCB-162	3.86	3.36	0.871				1.17	0.94
CL6-PCB-164								
CL6-PCB-165								
CL6-PCB-167								
CL6-PCB-169								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-9_Audit1A_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033
Lab Sample I.D.: L29626-9
Sample Data Filename: **PB8C_261 S: 7**
Instrument ID: HR GC/MS
Analysis Date: 08-Aug-2018 **Time:** 14:01:03
GC Column ID: SPB OCTYL
Extract Volume (uL): 20
Injection Volume (uL): 1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL1-PCB-2				NDR	ND(R)			EANDAYA	09-AUG-2018
CL6-PCB-128/166	7.88	3.94	0.500					EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	7.67	3.83	0.500					EANDAYA	09-AUG-2018
CL6-PCB-130	9.53	4.77	0.500					EANDAYA	09-AUG-2018
CL6-PCB-131	8.16	4.08	0.500					EANDAYA	09-AUG-2018
CL6-PCB-132	8.56	4.28	0.500					EANDAYA	09-AUG-2018
CL6-PCB-133	8.16	4.08	0.500					EANDAYA	09-AUG-2018
CL6-PCB-134/143	7.89	3.95	0.500					EANDAYA	09-AUG-2018
CL6-PCB-137	8.71	4.35	0.500					EANDAYA	09-AUG-2018
CL6-PCB-139/140	7.19	3.59	0.500					EANDAYA	09-AUG-2018
CL6-PCB-141	7.61	3.80	0.500					EANDAYA	09-AUG-2018
CL6-PCB-142	8.20	4.10	0.500					EANDAYA	09-AUG-2018
CL6-PCB-146	6.82	3.41	0.500					EANDAYA	09-AUG-2018
CL6-PCB-147/149	7.14	3.57	0.500					EANDAYA	09-AUG-2018
CL6-PCB-153/168	6.45	3.22	0.500					EANDAYA	09-AUG-2018
CL6-PCB-156/157	8.45	4.23	0.500					EANDAYA	09-AUG-2018
CL6-PCB-158	5.98	2.99	0.500					EANDAYA	09-AUG-2018
CL6-PCB-159	6.74	3.37	0.500	ND(R)				EANDAYA	09-AUG-2018
CL6-PCB-161	5.79	2.89	0.500					EANDAYA	09-AUG-2018
CL6-PCB-162	6.16	3.08	0.500	ND	NDR			EANDAYA	09-AUG-2018
CL6-PCB-164	6.38	3.19	0.500					EANDAYA	09-AUG-2018
CL6-PCB-165	6.68	3.34	0.500					EANDAYA	09-AUG-2018
CL6-PCB-167	5.95	2.98	0.500					EANDAYA	09-AUG-2018
CL6-PCB-169	7.34	3.67	0.500					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-9_Audit1B_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**PB8C_261 S: 7**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 14:01:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	18.5	36.7	1.99					
13C-CL1-PCB-3	21.8	43.3	1.99					
13C-CL2-PCB-4	23.7	47.2	1.99					
13C-CL2-PCB-15	30.4	60.4	1.99					
13C-CL3-PCB-19	27.4	54.4	1.99					
13C-CL3-PCB-37	31.6	62.9	1.99					
13C-CL4-PCB-54	28.6	56.8	1.99					
13C-CL4-PCB-77	34.7	69.0	1.99					
13C-CL4-PCB-81	36.0	71.5	1.99					
13C-CL5-PCB-104	28.6	56.8	1.99					
13C-CL5-PCB-105	37.1	73.7	1.99					
13C-CL5-PCB-114	30.6	60.9	1.99					
13C-CL5-PCB-118	32.7	64.9	1.99					
13C-CL5-PCB-123	32.8	65.2	1.99					
13C-CL5-PCB-126	30.7	61.0	1.99					
13C-CL6-PCB-155	34.6	68.9	1.99					
13C-CL6-PCB-156/157	34.9	69.3	1.99					
13C-CL6-PCB-167	37.1	73.7	1.99					
13C-CL6-PCB-169	32.5	64.6	1.99					
13C-CL7-PCB-170	41.5	82.5	1.99					
13C-CL7-PCB-180	42.3	84.1	1.99					
13C-CL7-PCB-188	33.2	66.0	1.99					
13C-CL7-PCB-189	41.5	82.5	1.99					
13C-CL8-PCB-202	37.2	73.9	1.99					
13C-CL8-PCB-205	37.2	74.0	1.99					
13C-CL9-PCB-206	35.4	70.4	1.99					
13C-CL9-PCB-208	33.6	66.9	1.99					
13C-CL10-PCB-209	32.5	64.7	1.99					
CLEANUP STANDARD								
13C-CL3-PCB-28	33.7	67.0	1.99					
13C-CL5-PCB-111	30.6	60.8	1.99					
13C-CL7-PCB-178	35.0	69.6	1.99					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-9_Audit2A_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.: 4033

Lab Sample I.D.: L29626-9

Sample Data Filename: **PB8C_261 S: 7**

Instrument ID: HR GC/MS

Analysis Date: 08-Aug-2018 **Time:** 14:01:03

GC Column ID: SPB OCTYL

Extract Volume (uL): 20

Injection Volume (uL): 1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_L29626-9_Audit2B_PB8C_261S7_SJ2415215.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DT8C_270 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-9_Audit1A_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	CLAM PO# 2018-0065
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DT8C_270 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-9_Audit1B_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	CLAM PO# 2018-0065		
Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DT8C_270 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	372	83.6	0.225					
13C-CL4-PCB-81	359	80.7	0.225					
13C-CL5-PCB-105	332	74.7	0.225					
13C-CL5-PCB-114	315	70.8	0.225					
13C-CL5-PCB-118	317	71.2	0.225					
13C-CL5-PCB-123	320	71.9	0.225					
13C-CL5-PCB-126	371	83.4	0.225					
13C-CL6-PCB-156	371	83.5	0.225					
13C-CL6-PCB-157	368	82.7	0.225					
13C-CL6-PCB-167	362	81.2	0.225					
13C-CL6-PCB-169	387	86.9	0.225					
13C-CL7-PCB-189	378	85.0	0.225					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-9_Audit2A_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
LDW18-C11-CLWB-Comp2
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. CLAM PO# 2018-0065

Contract No.:	4033	**Lab Sample I.D.:**	L29626-9
Sample Data Filename:	**DT8C_270 S: 12**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 16:06:01	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_L29626-9_Audit2B_DT8C_270S12_SJ2418696.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	N/A
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**PB8C_260 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-101_Audit1A_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

		Project No.	N/A
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**PB8C_260 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-101_Audit1B_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**PB8C_260 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	24.2	46.4	1.92					
13C-CL1-PCB-3	24.6	47.2	1.92					
13C-CL2-PCB-4	26.6	51.0	1.92					
13C-CL2-PCB-15	24.9	47.7	1.92					
13C-CL3-PCB-19	29.3	56.1	1.92					
13C-CL3-PCB-37	29.1	55.8	1.92					
13C-CL4-PCB-54	30.6	58.6	1.92					
13C-CL4-PCB-77	34.3	65.8	1.92					
13C-CL4-PCB-81	34.3	65.7	1.92					
13C-CL5-PCB-104	30.4	58.3	1.92					
13C-CL5-PCB-105	40.2	77.2	1.92					
13C-CL5-PCB-114	33.0	63.2	1.92					
13C-CL5-PCB-118	33.9	65.0	1.92					
13C-CL5-PCB-123	33.6	64.5	1.92					
13C-CL5-PCB-126	33.6	64.4	1.92					
13C-CL6-PCB-155	27.7	53.0	1.92					
13C-CL6-PCB-156/157	32.9	63.1	1.92					
13C-CL6-PCB-167	33.4	64.0	1.92					
13C-CL6-PCB-169	33.5	64.3	1.92					
13C-CL7-PCB-170	33.3	63.9	1.92					
13C-CL7-PCB-180	32.9	63.2	1.92					
13C-CL7-PCB-188	25.7	49.3	1.92					
13C-CL7-PCB-189	32.0	61.3	1.92					
13C-CL8-PCB-202	25.4	48.7	1.92					
13C-CL8-PCB-205	32.4	62.1	1.92					
13C-CL9-PCB-206	30.8	59.1	1.92					
13C-CL9-PCB-208	29.7	57.0	1.92					
13C-CL10-PCB-209	28.8	55.2	1.92					
CLEANUP STANDARD								
13C-CL3-PCB-28	30.7	58.8	1.92					
13C-CL5-PCB-111	32.8	62.9	1.92					
13C-CL7-PCB-178	32.3	61.9	1.92					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-101_Audit2A_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**PB8C_260 S: 4**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 22:56:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-101_Audit2B_PB8C_260S4_SJ2414755.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**DT8C_270 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL5-PCB-123								

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-101_Audit1A_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**DT8C_270 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL5-PCB-123	0.114	0.200	1.75	NDR	ND(R)			EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-101_Audit1B_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**DT8C_270 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	333	75.1	0.226					
13C-CL4-PCB-81	302	68.1	0.226					
13C-CL5-PCB-105	293	66.2	0.226					
13C-CL5-PCB-114	282	63.7	0.226					
13C-CL5-PCB-118	273	61.6	0.226					
13C-CL5-PCB-123	280	63.2	0.226					
13C-CL5-PCB-126	328	74.1	0.226					
13C-CL6-PCB-156	284	64.1	0.226					
13C-CL6-PCB-157	315	71.0	0.226					
13C-CL6-PCB-167	287	64.7	0.226					
13C-CL6-PCB-169	313	70.6	0.226					
13C-CL7-PCB-189	299	67.5	0.226					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-101_Audit2A_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. N/A

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-101
Sample Data Filename:	**DT8C_270 S: 5**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 11:30:06	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-101_Audit2B_DT8C_270S5_SJ2418688.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**PB8C_260 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-102_Audit1A_PB8C_260S2_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**PB8C_260 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-102_Audit1B_PB8C_260S2_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**PB8C_260 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	27.8	55.2	1.99					
13C-CL1-PCB-3	26.2	52.1	1.99					
13C-CL2-PCB-4	27.9	55.4	1.99					
13C-CL2-PCB-15	25.7	51.1	1.99					
13C-CL3-PCB-19	31.0	61.5	1.99					
13C-CL3-PCB-37	28.0	55.6	1.99					
13C-CL4-PCB-54	32.1	63.7	1.99					
13C-CL4-PCB-77	33.5	66.6	1.99					
13C-CL4-PCB-81	33.2	65.9	1.99					
13C-CL5-PCB-104	30.0	59.5	1.99					
13C-CL5-PCB-105	41.4	82.3	1.99					
13C-CL5-PCB-114	32.6	64.7	1.99					
13C-CL5-PCB-118	34.5	68.5	1.99					
13C-CL5-PCB-123	34.2	67.9	1.99					
13C-CL5-PCB-126	34.4	68.4	1.99					
13C-CL6-PCB-155	27.9	55.4	1.99					
13C-CL6-PCB-156/157	34.3	68.2	1.99					
13C-CL6-PCB-167	34.0	67.6	1.99					
13C-CL6-PCB-169	35.3	70.2	1.99					
13C-CL7-PCB-188	25.7	51.0	1.99					
13C-CL7-PCB-189	32.9	65.4	1.99					
13C-CL8-PCB-202	24.7	49.0	1.99					
13C-CL8-PCB-205	32.8	65.2	1.99					
13C-CL9-PCB-206	30.7	60.9	1.99					
13C-CL9-PCB-208	30.0	59.6	1.99					
13C-CL10-PCB-209	28.5	56.7	1.99					
CLEANUP STANDARD								
13C-CL3-PCB-28	29.5	58.5	1.99					
13C-CL5-PCB-111	32.7	64.9	1.99					
13C-CL7-PCB-178	32.5	64.5	1.99					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-102_Audit2A_PB8C_260S2_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**PB8C_260 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	07-Aug-2018 **Time:** 20:49:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	100	500	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	100	500	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	100	500	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	100	500	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	100	500	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	100	500	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	100	500	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	100	500	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	100	500	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	100	500	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	200	1000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	100	500	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	100	500	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	100	500	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	100	500	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	100	500	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	100	500	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	100	500	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	100	500	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	100	500	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	100	500	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	100	500	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	100	500	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-102_Audit2B_PB8C_260S2_SJ2414750.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**DT8C_270 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-102_Audit1A_DT8C_270S2_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**DT8C_270 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

There were no differences found between the parsed and reported data.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-102_Audit1B_DT8C_270S2_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**DT8C_270 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL4-PCB-77	537	121	0.225					
13C-CL4-PCB-81	518	116	0.225					
13C-CL5-PCB-105	510	115	0.225					
13C-CL5-PCB-114	491	110	0.225					
13C-CL5-PCB-118	480	108	0.225					
13C-CL5-PCB-123	502	113	0.225					
13C-CL5-PCB-126	544	122	0.225					
13C-CL6-PCB-156	495	111	0.225					
13C-CL6-PCB-157	482	108	0.225					
13C-CL6-PCB-167	494	111	0.225					
13C-CL6-PCB-169	524	118	0.225					
13C-CL7-PCB-189	507	114	0.225					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-102_Audit2A_DT8C_270S2_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Spiked Matrix
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-102
Sample Data Filename:	**DT8C_270 S: 2**	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Aug-2018 **Time:** 09:32:00	**GC Column ID:**	DB1
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL4-PCB-77	100	500	5					EANDAYA	17-AUG-2018
13C-CL4-PCB-81	100	500	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-105	100	500	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-114	100	500	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-118	100	500	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-123	100	500	5					EANDAYA	17-AUG-2018
13C-CL5-PCB-126	100	500	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-156	100	500	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-157	100	500	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-167	100	500	5					EANDAYA	17-AUG-2018
13C-CL6-PCB-169	100	500	5					EANDAYA	17-AUG-2018
13C-CL7-PCB-189	100	500	5					EANDAYA	17-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:31:44; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_DB1C_WG64623-102_Audit2B_DT8C_270S2_SJ2418684.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Sample Data Filename:	**PB8C_261 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. CONC.	FINAL CONC.	CHANGE CONC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
CL1-PCB-1	376	0.376	0.001					
CL1-PCB-2	14.7	0.015	0.001					
CL1-PCB-3	42.6	0.043	0.001					
CL2-PCB-4	6810	6.81	0.001					
CL2-PCB-5	44.3	0.044	0.001					
CL2-PCB-6	3940	3.94	0.001					
CL2-PCB-7	175	0.175	0.001					
CL2-PCB-8	4590	4.59	0.001					
CL2-PCB-9	367	0.367	0.001					
CL2-PCB-10	260	0.260	0.001					
CL2-PCB-11	41.2	0.041	0.001					
CL2-PCB-12/13	190	0.190	0.001					
CL2-PCB-14								
CL2-PCB-15	468	0.468	0.001					
CL3-PCB-16	3940	3.94	0.001					
CL3-PCB-17	12200	12.2	0.001					
CL3-PCB-30/18	29300	29.3	0.001					
CL3-PCB-19	3220	3.22	0.001					
CL3-PCB-28/20	44500	44.5	0.001					
CL3-PCB-21/33	4210	4.21	0.001					
CL3-PCB-22	7040	7.04	0.001					
CL3-PCB-23	57.2	0.057	0.001					
CL3-PCB-24	219	0.219	0.001					
CL3-PCB-25	9280	9.28	0.001					
CL3-PCB-26/29	30800	30.8	0.001					
CL3-PCB-27	3530	3.53	0.001					
CL3-PCB-31	36600	36.6	0.001					
CL3-PCB-32	14200	14.2	0.001					
CL3-PCB-34	911	0.911	0.001					
CL3-PCB-35								
CL3-PCB-36								
CL3-PCB-37	875	0.875	0.001					
CL3-PCB-38	164	0.164	0.001					
CL3-PCB-39	438	0.438	0.001					
CL4-PCB-41/40/71	59000	59.0	0.001					
CL4-PCB-42	39200	39.2	0.001					
CL4-PCB-43	5660	5.66	0.001					
CL4-PCB-44/47/65	150000	150	0.001					
CL4-PCB-45/51	13100	13.1	0.001					
CL4-PCB-46	3020	3.02	0.001					
CL4-PCB-48	12700	12.7	0.001					
CL4-PCB-69/49	126000	126	0.001					
CL4-PCB-50/53	11600	11.6	0.001					
CL4-PCB-52	158000	158	0.001					
CL4-PCB-54	105	0.105	0.001					
CL4-PCB-55								
CL4-PCB-56	22300	22.3	0.001					
CL4-PCB-57	892	0.892	0.001					
CL4-PCB-58	779	0.779	0.001					
CL4-PCB-59/62/75	12800	12.8	0.001					
CL4-PCB-60	27000	27.0	0.001					
CL4-PCB-61/70/74/76	137000	137	0.001					
CL4-PCB-63	11400	11.4	0.001					

CL4-PCB-64	58400	58.4	0.001
CL4-PCB-66	165000	165	0.001
CL4-PCB-67	906	0.906	0.001
CL4-PCB-68	1940	1.94	0.001
CL4-PCB-72	2790	2.79	0.001
CL4-PCB-73			
CL4-PCB-77	1420	1.42	0.001
CL4-PCB-78			
CL4-PCB-79	2210	2.21	0.001
CL4-PCB-80			
CL4-PCB-81	176	0.176	0.001
CL5-PCB-82	24700	24.7	0.001
CL5-PCB-83/99	141000	141	0.001
CL5-PCB-84	27900	27.9	0.001
CL5-PCB-117/116/85	55900	55.9	0.001
CB-109/119/86/97/125/87	121000	121	0.001
CL5-PCB-88/91	28800	28.8	0.001
CL5-PCB-89	1910	1.91	0.001
CL5-PCB-113/90/101	150000	150	0.001
CL5-PCB-92	30700	30.7	0.001
L5-PCB-95/100/93/102/98	77800	77.8	0.001
CL5-PCB-94	792	0.792	0.001
CL5-PCB-96	759	0.759	0.001
CL5-PCB-103	1370	1.37	0.001
CL5-PCB-104	15.5	0.016	0.001
CL5-PCB-105	58900	58.9	0.001
CL5-PCB-106			
CL5-PCB-107	15700	15.7	0.001
CL5-PCB-108/124	3150	3.15	0.001
CL5-PCB-110/115	159000	159	0.001
CL5-PCB-111	229	0.229	0.001
CL5-PCB-112			
CL5-PCB-114	5630	5.63	0.001
CL5-PCB-118	151000	151	0.001
CL5-PCB-120	823	0.823	0.001
CL5-PCB-121	66.7	0.067	0.001
CL5-PCB-122	1200	1.20	0.001
CL5-PCB-123	4320	4.32	0.001
CL5-PCB-126	344	0.344	0.001
CL5-PCB-127	196	0.196	0.001
CL6-PCB-128/166	20200	20.2	0.001
CL6-PCB-138/163/129/160	125000	125	0.001
CL6-PCB-130	9650	9.65	0.001
CL6-PCB-131	917	0.917	0.001
CL6-PCB-132	22400	22.4	0.001
CL6-PCB-133	2350	2.35	0.001
CL6-PCB-134/143	3940	3.94	0.001
CL6-PCB-151/135/154	23500	23.5	0.001
CL6-PCB-136	4840	4.84	0.001
CL6-PCB-137	6270	6.27	0.001
CL6-PCB-139/140	1930	1.93	0.001
CL6-PCB-141	14300	14.3	0.001
CL6-PCB-142			
CL6-PCB-144	3120	3.12	0.001
CL6-PCB-145	31.0	0.031	0.001
CL6-PCB-146	20000	20.0	0.001
CL6-PCB-147/149	54900	54.9	0.001
CL6-PCB-148	206	0.206	0.001
CL6-PCB-150	123	0.123	0.001
CL6-PCB-152	57.9	0.058	0.001
CL6-PCB-153/168	99200	99.2	0.001
CL6-PCB-155	34.2	0.034	0.001
CL6-PCB-156/157	11600	11.6	0.001
CL6-PCB-158	10100	10.1	0.001
CL6-PCB-159	812	0.812	0.001
CL6-PCB-161			
CL6-PCB-162	588	0.588	0.001
CL6-PCB-164	4640	4.64	0.001
CL6-PCB-165	154	0.154	0.001
CL6-PCB-167	5210	5.21	0.001

CL6-PCB-169	113	0.113	0.001
CL7-PCB-170	19100	19.1	0.001
CL7-PCB-171/173	7450	7.45	0.001
CL7-PCB-172	6430	6.43	0.001
CL7-PCB-174	16000	16.0	0.001
CL7-PCB-175	1140	1.14	0.001
CL7-PCB-176	1900	1.90	0.001
CL7-PCB-177	10900	10.9	0.001
CL7-PCB-178	6330	6.33	0.001
CL7-PCB-179	6170	6.17	0.001
CL7-PCB-180/193	57200	57.2	0.001
CL7-PCB-181	267	0.267	0.001
CL7-PCB-182	403	0.403	0.001
CL7-PCB-183/185	19600	19.6	0.001
CL7-PCB-184	59.6	0.060	0.001
CL7-PCB-186			
CL7-PCB-187	41800	41.8	0.001
CL7-PCB-188	77.5	0.077	0.001
CL7-PCB-189	1020	1.02	0.001
CL7-PCB-190	5360	5.36	0.001
CL7-PCB-191	1060	1.06	0.001
CL7-PCB-192	91.2	0.091	0.001
CL8-PCB-194	11300	11.3	0.001
CL8-PCB-195	4560	4.56	0.001
CL8-PCB-196	6610	6.61	0.001
CL8-PCB-197/200	1870	1.87	0.001
CL8-PCB-198/199	17000	17.0	0.001
CL8-PCB-201	1590	1.59	0.001
CL8-PCB-202	2790	2.79	0.001
CL8-PCB-203	9740	9.74	0.001
CL8-PCB-204	46.5	0.047	0.001
CL8-PCB-205	716	0.716	0.001
CL9-PCB-206	4370	4.37	0.001
CL9-PCB-207	751	0.751	0.001
CL9-PCB-208	1970	1.97	0.001
CL10-PCB-209	4960	4.96	0.001

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-104_Audit1A_PB8C_261S10_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 1B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Sample Data Filename:	**PB8C_261 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

COMPOUND	ORIG. SDL	FINAL SDL	CHANGE SDL (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
CL1-PCB-1	0.381	0.0004	0.001					EANDAYA	09-AUG-2018
CL1-PCB-2	0.455	0.0005	0.001					EANDAYA	09-AUG-2018
CL1-PCB-3	0.472	0.0005	0.001					EANDAYA	09-AUG-2018
CL2-PCB-4	7.14	0.0071	0.001					EANDAYA	09-AUG-2018
CL2-PCB-5	5.85	0.0058	0.001					EANDAYA	09-AUG-2018
CL2-PCB-6	5.08	0.0051	0.001					EANDAYA	09-AUG-2018
CL2-PCB-7	5.24	0.0052	0.001					EANDAYA	09-AUG-2018
CL2-PCB-8	4.65	0.0047	0.001					EANDAYA	09-AUG-2018
CL2-PCB-9	5.21	0.0052	0.001					EANDAYA	09-AUG-2018
CL2-PCB-10	5.27	0.0053	0.001					EANDAYA	09-AUG-2018
CL2-PCB-11	5.54	0.0055	0.001					EANDAYA	09-AUG-2018
CL2-PCB-12/13	5.50	0.0055	0.001					EANDAYA	09-AUG-2018
CL2-PCB-14	5.38	0.0054	0.001					EANDAYA	09-AUG-2018
CL2-PCB-15	6.52	0.0065	0.001					EANDAYA	09-AUG-2018
CL3-PCB-16	1.12	0.0011	0.001					EANDAYA	09-AUG-2018
CL3-PCB-17	0.989	0.0010	0.001					EANDAYA	09-AUG-2018
CL3-PCB-30/18	0.845	0.0008	0.001					EANDAYA	09-AUG-2018
CL3-PCB-19	1.16	0.0012	0.001					EANDAYA	09-AUG-2018
CL3-PCB-28/20	11.1	0.0111	0.001					EANDAYA	09-AUG-2018
CL3-PCB-21/33	10.7	0.0107	0.001					EANDAYA	09-AUG-2018
CL3-PCB-22	12.3	0.0123	0.001					EANDAYA	09-AUG-2018
CL3-PCB-23	11.6	0.0116	0.001					EANDAYA	09-AUG-2018
CL3-PCB-24	0.760	0.0008	0.001					EANDAYA	09-AUG-2018
CL3-PCB-25	9.64	0.0096	0.001					EANDAYA	09-AUG-2018
CL3-PCB-26/29	11.3	0.0113	0.001					EANDAYA	09-AUG-2018
CL3-PCB-27	0.693	0.0007	0.001					EANDAYA	09-AUG-2018
CL3-PCB-31	10.5	0.0105	0.001					EANDAYA	09-AUG-2018
CL3-PCB-32	10.9	0.0109	0.001					EANDAYA	09-AUG-2018
CL3-PCB-34	11.5	0.0115	0.001					EANDAYA	09-AUG-2018
CL3-PCB-35	11.6	0.0116	0.001					EANDAYA	09-AUG-2018
CL3-PCB-36	10.4	0.0104	0.001					EANDAYA	09-AUG-2018
CL3-PCB-37	11.8	0.0118	0.001					EANDAYA	09-AUG-2018
CL3-PCB-38	11.5	0.0115	0.001					EANDAYA	09-AUG-2018
CL3-PCB-39	11.2	0.0112	0.001					EANDAYA	09-AUG-2018
CL4-PCB-41/40/71	0.650	0.0007	0.001					EANDAYA	09-AUG-2018
CL4-PCB-42	0.658	0.0007	0.001					EANDAYA	09-AUG-2018
CL4-PCB-43	0.724	0.0007	0.001					EANDAYA	09-AUG-2018
CL4-PCB-44/47/65	0.591	0.0006	0.001					EANDAYA	09-AUG-2018
CL4-PCB-45/51	0.651	0.0007	0.001					EANDAYA	09-AUG-2018
CL4-PCB-46	0.730	0.0007	0.001					EANDAYA	09-AUG-2018
CL4-PCB-48	0.643	0.0006	0.001					EANDAYA	09-AUG-2018
CL4-PCB-69/49	0.546	0.0005	0.001					EANDAYA	09-AUG-2018
CL4-PCB-50/53	0.624	0.0006	0.001					EANDAYA	09-AUG-2018
CL4-PCB-52	0.602	0.0006	0.001					EANDAYA	09-AUG-2018
CL4-PCB-54	0.446	0.0004	0.001					EANDAYA	09-AUG-2018
CL4-PCB-55	121	0.121	0.001					EANDAYA	09-AUG-2018
CL4-PCB-56	109	0.109	0.001					EANDAYA	09-AUG-2018
CL4-PCB-57	100	0.100	0.001					EANDAYA	09-AUG-2018
CL4-PCB-58	100	0.100	0.001					EANDAYA	09-AUG-2018
CL4-PCB-59/62/75	0.484	0.0005	0.001					EANDAYA	09-AUG-2018
CL4-PCB-60	107	0.107	0.001					EANDAYA	09-AUG-2018
CL4-PCB-61/70/74/76	101	0.101	0.001					EANDAYA	09-AUG-2018
CL4-PCB-63	107	0.107	0.001					EANDAYA	09-AUG-2018

CL4-PCB-64	0.468	0.0005	0.001	EANDAYA	09-AUG-2018
CL4-PCB-66	107	0.107	0.001	EANDAYA	09-AUG-2018
CL4-PCB-67	87.3	0.0873	0.001	EANDAYA	09-AUG-2018
CL4-PCB-68	96.4	0.0964	0.001	EANDAYA	09-AUG-2018
CL4-PCB-72	95.3	0.0953	0.001	EANDAYA	09-AUG-2018
CL4-PCB-73	0.504	0.0005	0.001	EANDAYA	09-AUG-2018
CL4-PCB-77	114	0.114	0.001	EANDAYA	09-AUG-2018
CL4-PCB-78	108	0.108	0.001	EANDAYA	09-AUG-2018
CL4-PCB-79	89.9	0.0899	0.001	EANDAYA	09-AUG-2018
CL4-PCB-80	96.7	0.0967	0.001	EANDAYA	09-AUG-2018
CL4-PCB-81	111	0.111	0.001	EANDAYA	09-AUG-2018
CL5-PCB-82	25.7	0.0257	0.001	EANDAYA	09-AUG-2018
CL5-PCB-83/99	23.4	0.0234	0.001	EANDAYA	09-AUG-2018
CL5-PCB-84	24.9	0.0249	0.001	EANDAYA	09-AUG-2018
CL5-PCB-117/116/85	19.4	0.0194	0.001	EANDAYA	09-AUG-2018
CB-109/119/86/97/125/87	19.8	0.0198	0.001	EANDAYA	09-AUG-2018
CL5-PCB-88/91	22.2	0.0222	0.001	EANDAYA	09-AUG-2018
CL5-PCB-89	24.0	0.0240	0.001	EANDAYA	09-AUG-2018
CL5-PCB-113/90/101	19.7	0.0197	0.001	EANDAYA	09-AUG-2018
CL5-PCB-92	23.0	0.0230	0.001	EANDAYA	09-AUG-2018
L5-PCB-95/100/93/102/98	21.0	0.0210	0.001	EANDAYA	09-AUG-2018
CL5-PCB-94	23.6	0.0236	0.001	EANDAYA	09-AUG-2018
CL5-PCB-96	0.526	0.0005	0.001	EANDAYA	09-AUG-2018
CL5-PCB-103	19.3	0.0193	0.001	EANDAYA	09-AUG-2018
CL5-PCB-104	0.497	0.0005	0.001	EANDAYA	09-AUG-2018
CL5-PCB-105	272	0.272	0.001	EANDAYA	09-AUG-2018
CL5-PCB-106	238	0.238	0.001	EANDAYA	09-AUG-2018
CL5-PCB-107	245	0.245	0.001	EANDAYA	09-AUG-2018
CL5-PCB-108/124	261	0.261	0.001	EANDAYA	09-AUG-2018
CL5-PCB-110/115	17.3	0.0173	0.001	EANDAYA	09-AUG-2018
CL5-PCB-111	17.5	0.0175	0.001	EANDAYA	09-AUG-2018
CL5-PCB-112	16.9	0.0169	0.001	EANDAYA	09-AUG-2018
CL5-PCB-114	274	0.274	0.001	EANDAYA	09-AUG-2018
CL5-PCB-118	264	0.264	0.001	EANDAYA	09-AUG-2018
CL5-PCB-120	16.9	0.0169	0.001	EANDAYA	09-AUG-2018
CL5-PCB-121	17.2	0.0172	0.001	EANDAYA	09-AUG-2018
CL5-PCB-122	288	0.288	0.001	EANDAYA	09-AUG-2018
CL5-PCB-123	277	0.277	0.001	EANDAYA	09-AUG-2018
CL5-PCB-126	298	0.298	0.001	EANDAYA	09-AUG-2018
CL5-PCB-127	279	0.279	0.001	EANDAYA	09-AUG-2018
CL6-PCB-128/166	195	0.195	0.001	EANDAYA	09-AUG-2018
CL6-PCB-138/163/129/160	190	0.190	0.001	EANDAYA	09-AUG-2018
CL6-PCB-130	236	0.236	0.001	EANDAYA	09-AUG-2018
CL6-PCB-131	202	0.202	0.001	EANDAYA	09-AUG-2018
CL6-PCB-132	212	0.212	0.001	EANDAYA	09-AUG-2018
CL6-PCB-133	202	0.202	0.001	EANDAYA	09-AUG-2018
CL6-PCB-134/143	196	0.196	0.001	EANDAYA	09-AUG-2018
CL6-PCB-151/135/154	1.20	0.0012	0.001	EANDAYA	09-AUG-2018
CL6-PCB-136	0.897	0.0009	0.001	EANDAYA	09-AUG-2018
CL6-PCB-137	216	0.216	0.001	EANDAYA	09-AUG-2018
CL6-PCB-139/140	178	0.178	0.001	EANDAYA	09-AUG-2018
CL6-PCB-141	189	0.189	0.001	EANDAYA	09-AUG-2018
CL6-PCB-142	203	0.203	0.001	EANDAYA	09-AUG-2018
CL6-PCB-144	1.24	0.0012	0.001	EANDAYA	09-AUG-2018
CL6-PCB-145	0.968	0.0010	0.001	EANDAYA	09-AUG-2018
CL6-PCB-146	169	0.169	0.001	EANDAYA	09-AUG-2018
CL6-PCB-147/149	177	0.177	0.001	EANDAYA	09-AUG-2018
CL6-PCB-148	1.25	0.0012	0.001	EANDAYA	09-AUG-2018
CL6-PCB-150	0.924	0.0009	0.001	EANDAYA	09-AUG-2018
CL6-PCB-152	0.855	0.0009	0.001	EANDAYA	09-AUG-2018
CL6-PCB-153/168	160	0.160	0.001	EANDAYA	09-AUG-2018
CL6-PCB-155	0.904	0.0009	0.001	EANDAYA	09-AUG-2018
CL6-PCB-156/157	198	0.198	0.001	EANDAYA	09-AUG-2018
CL6-PCB-158	148	0.148	0.001	EANDAYA	09-AUG-2018
CL6-PCB-159	167	0.167	0.001	EANDAYA	09-AUG-2018
CL6-PCB-161	143	0.143	0.001	EANDAYA	09-AUG-2018
CL6-PCB-162	153	0.153	0.001	EANDAYA	09-AUG-2018
CL6-PCB-164	158	0.158	0.001	EANDAYA	09-AUG-2018
CL6-PCB-165	166	0.166	0.001	EANDAYA	09-AUG-2018
CL6-PCB-167	151	0.151	0.001	EANDAYA	09-AUG-2018

CL6-PCB-169	166	0.166	0.001	EANDAYA	09-AUG-2018
CL7-PCB-170	2.27	0.0023	0.001	EANDAYA	09-AUG-2018
CL7-PCB-171/173	2.84	0.0028	0.001	EANDAYA	09-AUG-2018
CL7-PCB-172	2.92	0.0029	0.001	EANDAYA	09-AUG-2018
CL7-PCB-174	2.57	0.0026	0.001	EANDAYA	09-AUG-2018
CL7-PCB-175	2.66	0.0027	0.001	EANDAYA	09-AUG-2018
CL7-PCB-176	1.82	0.0018	0.001	EANDAYA	09-AUG-2018
CL7-PCB-177	1.94	0.0019	0.001	EANDAYA	09-AUG-2018
CL7-PCB-178	2.67	0.0027	0.001	EANDAYA	09-AUG-2018
CL7-PCB-179	1.75	0.0017	0.001	EANDAYA	09-AUG-2018
CL7-PCB-180/193	2.16	0.0022	0.001	EANDAYA	09-AUG-2018
CL7-PCB-181	2.64	0.0026	0.001	EANDAYA	09-AUG-2018
CL7-PCB-182	2.61	0.0026	0.001	EANDAYA	09-AUG-2018
CL7-PCB-183/185	2.69	0.0027	0.001	EANDAYA	09-AUG-2018
CL7-PCB-184	1.71	0.0017	0.001	EANDAYA	09-AUG-2018
CL7-PCB-186	1.94	0.0019	0.001	EANDAYA	09-AUG-2018
CL7-PCB-187	2.35	0.0024	0.001	EANDAYA	09-AUG-2018
CL7-PCB-188	1.72	0.0017	0.001	EANDAYA	09-AUG-2018
CL7-PCB-189	5.31	0.0053	0.001	EANDAYA	09-AUG-2018
CL7-PCB-190	2.12	0.0021	0.001	EANDAYA	09-AUG-2018
CL7-PCB-191	2.12	0.0021	0.001	EANDAYA	09-AUG-2018
CL7-PCB-192	2.36	0.0024	0.001	EANDAYA	09-AUG-2018
CL8-PCB-194	4.28	0.0043	0.001	EANDAYA	09-AUG-2018
CL8-PCB-195	4.78	0.0048	0.001	EANDAYA	09-AUG-2018
CL8-PCB-196	1.63	0.0016	0.001	EANDAYA	09-AUG-2018
CL8-PCB-197/200	1.19	0.0012	0.001	EANDAYA	09-AUG-2018
CL8-PCB-198/199	1.66	0.0017	0.001	EANDAYA	09-AUG-2018
CL8-PCB-201	1.26	0.0013	0.001	EANDAYA	09-AUG-2018
CL8-PCB-202	1.21	0.0012	0.001	EANDAYA	09-AUG-2018
CL8-PCB-203	1.54	0.0015	0.001	EANDAYA	09-AUG-2018
CL8-PCB-204	1.24	0.0012	0.001	EANDAYA	09-AUG-2018
CL8-PCB-205	3.76	0.0038	0.001	EANDAYA	09-AUG-2018
CL9-PCB-206	2.12	0.0021	0.001	EANDAYA	09-AUG-2018
CL9-PCB-207	1.53	0.0015	0.001	EANDAYA	09-AUG-2018
CL9-PCB-208	1.83	0.0018	0.001	EANDAYA	09-AUG-2018
CL10-PCB-209	0.891	0.0009	0.001	EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit1B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-104_Audit1B_PB8C_261S10_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2A CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Sample Data Filename:	**PB8C_261 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. REC.	FINAL REC.	CHANGE REC. (Final/Orig.)	ORIG. AREA	FINAL AREA	CHANGE AREA (Final/Orig.)	ORIG. RATIO	FINAL RATIO
13C-CL1-PCB-1	21.2	41.9	1.97					
13C-CL1-PCB-3	21.4	42.2	1.97					
13C-CL2-PCB-4	22.3	44.0	1.97					
13C-CL2-PCB-15	22.4	44.3	1.97					
13C-CL3-PCB-19	20.1	39.6	1.97					
13C-CL3-PCB-37	20.9	41.2	1.97					
13C-CL4-PCB-54	21.4	42.2	1.97					
13C-CL4-PCB-77	24.1	47.6	1.97					
13C-CL4-PCB-81	24.3	48.0	1.97					
13C-CL5-PCB-104	21.7	42.8	1.97					
13C-CL5-PCB-105	22.3	43.9	1.97					
13C-CL5-PCB-114	22.3	44.0	1.97					
13C-CL5-PCB-118	23.0	45.4	1.97					
13C-CL5-PCB-123	22.7	44.7	1.97					
13C-CL5-PCB-126	23.3	45.9	1.97					
13C-CL6-PCB-155	18.8	37.0	1.97					
13C-CL6-PCB-156/157	22.4	44.3	1.97					
13C-CL6-PCB-167	22.8	45.0	1.97					
13C-CL6-PCB-169	22.0	43.5	1.97					
13C-CL7-PCB-170	30.9	60.9	1.97					
13C-CL7-PCB-180	30.3	59.8	1.97					
13C-CL7-PCB-188	22.6	44.6	1.97					
13C-CL7-PCB-189	21.9	43.3	1.97					
13C-CL8-PCB-202	21.6	42.6	1.97					
13C-CL8-PCB-205	22.0	43.3	1.97					
13C-CL9-PCB-206	25.4	50.2	1.97					
13C-CL9-PCB-208	24.0	47.4	1.97					
13C-CL10-PCB-209	22.0	43.4	1.97					
CLEANUP STANDARD								
13C-CL3-PCB-28	24.2	47.8	1.97					
13C-CL5-PCB-111	23.3	46.0	1.97					
13C-CL7-PCB-178	24.4	48.3	1.97					

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2A.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-104_Audit2A_PB8C_261S10_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

SGS AXYS METHOD MLA-010 Rev 12

AUDIT 2B CHANGE REPORT

CLIENT SAMPLE NO.
Certified Reference Material
Sample Collection:
N/A

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4033	**Lab Sample I.D.:**	WG64623-104
Sample Data Filename:	**PB8C_261 S: 10**	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Aug-2018 **Time:** 17:12:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Injection Volume (uL):**	1.0

LABELED COMPOUND	ORIG. SPIKE	FINAL SPIKE	CHANGE SPIKE (Final/Orig.)	ORIG. QUAL	FINAL QUAL	ORIG. RT	FINAL RT	REVIEWED BY	REVIEWED DATE
13C-CL1-PCB-1	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL1-PCB-3	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-4	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL2-PCB-15	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-19	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL3-PCB-37	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-54	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-77	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL4-PCB-81	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-104	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-105	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-114	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-118	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-123	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-126	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-155	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-156/157	4000	20000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-167	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL6-PCB-169	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-170	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-180	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-188	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-189	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-202	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL8-PCB-205	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-206	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL9-PCB-208	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL10-PCB-209	2000	10000	5					EANDAYA	09-AUG-2018
CLEANUP STANDARD									
13C-CL3-PCB-28	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL5-PCB-111	2000	10000	5					EANDAYA	09-AUG-2018
13C-CL7-PCB-178	2000	10000	5					EANDAYA	09-AUG-2018

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Audit2B.xsl; Created: 17-Aug-2018 13:29:53; Application: XMLTransformer-1.16.49;
Report Filename: AUDIT_PCB1668_PCBTFC_WG64623-104_Audit2B_PB8C_261S10_SJ2415217.html; Workgroup: WG64623; Design ID: 240]

OPUSquan 9-AUG-2018 Page 1

Run #12 Filename PB8C_260 S: 5 I: 1 Acquired: 8-AUG-18 00:00:21 Processed: 8-AUG-18 07:42:31
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-1,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.890000 ✓ conc units: pg/g ✓ total toxicity: 1136.25 F1: 1.0000 F2: 5.0000 ✓

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	4.08e+04	2.46	n	11:30	2.239	2	0.4484	-	n
2	Unk	CL1-PCB-3	1	4.44e+04	2.95	y	13:43	2.513	3	0.5610	-	n
3	Unk	CL2-PCB-4	1	1.68e+05	1.84	n	13:57	15.216	15	4.7736	-	y
4	Unk	CL2-PCB-15	1	3.65e+05	1.83	n	20:01	25.553	26	5.0147	-	n
5	Unk	CL3-PCB-19	1	2.06e+05	1.03	y	17:07	19.892	20	1.6089	-	n
6	Unk	CL3-PCB-37	1	9.27e+05	0.94	y	27:19	60.393	60	2.6500	-	n
7	Unk	CL4-PCB-54	1	2.36e+04	0.91	n	20:16	1.822	2	1.0069	-	y
8	Unk	CL4-PCB-81	1	2.81e+04	0.77	y	34:22	1.909	2	3.5517	-	y
9	Unk	CL4-PCB-77	1	3.75e+05	0.72	y	34:57	24.442	24	3.5705	-	n
10	Unk	CL5-PCB-104	0	*	*	n	NotFnd	*	*	0.7333	-	n
11	Unk	CL5-PCB-123	1	2.08e+05	1.08	n	37:02	15.737	16	5.1223	-	y
12	Unk	CL5-PCB-118	1	7.11e+06	1.56	y	37:21	514.203	514	4.8725	-	n
13	Unk	CL5-PCB-114	1	2.08e+05	1.81	n	37:55	16.190	16	5.3532	-	n
14	Unk	CL5-PCB-105	1	3.43e+06	1.49	y	38:35	217.723	218	4.2568	-	n
15	Unk	CL5-PCB-126	1	4.16e+04	2.13	n	41:50	3.431	3	~~5.7524~~ 3.3	-	y
16	Unk	CL6-PCB-155	1	1.23e+04	9.13	n	31:53	0.966	1	0.7941	-	y
17	Unk	CL6-PCB-167	1	5.61e+05	1.30	y	43:45	43.343	43	3.5508	-	y
18	Unk	CL6-PCB-156/157	1	9.10e+05	1.33	y	44:57	72.216	72	4.9963 SDL	-	n
19	Unk	CL6-PCB-169	1	2.01e+04	0.65	n	48:21	1.690	2	4.0519 x 1/2	-	y
20	Unk	CL7-PCB-188	1	2.13e+04	1.36	n	37:50	1.845	2	1.1390	-	y
21	Unk	CL7-PCB-189	1	6.71e+04	0.83	n	51:01	5.411	5	1.1088	-	n
22	Unk	CL8-PCB-202	1	7.27e+05	0.89	y	43:27	62.166	62	0.7543	-	y
23	Unk	CL8-PCB-205	1	4.47e+04	1.01	y	53:41	3.962	4	1.0518	-	n
24	Unk	CL9-PCB-208	1	4.73e+04	0.67	y	50:27	5.445	5	1.4627	-	n
25	Unk	CL9-PCB-206	1	8.83e+04	1.13	n	55:29	11.530	12	1.7426	-	y
26	Unk	CL10-PCB-209	1	6.13e+04	1.47	n	57:08	6.411	6	0.9330	-	n
27	IS	13C-CL1-PCB-1	1	3.48e+07	3.17	y	11:28	463.226	0	3.1949	22.7	n
28	IS	13C-CL1-PCB-3	1	3.34e+07	3.19	y	13:42	466.543	0	3.3534	22.8	n
29	IS	13C-CL2-PCB-4	1	2.27e+07	1.56	y	13:56	499.448	0	1.1567	24.4	n
30	IS	13C-CL2-PCB-15	1	3.21e+07	1.56	y	20:01	452.909	0	0.7419	22.1	n
31	IS	13C-CL3-PCB-19	1	1.98e+07	1.05	y	17:06	530.130	0	7.3378	25.9	n
32	IS	13C-CL3-PCB-37	1	3.14e+07	1.03	y	27:18	588.676	0	7.6395	28.8	n
33	REF	13C-CL4-CHECK	1	2.50e+07	0.79	y	20:16	535.574	0	2.0709	26.2	n
34	IS	13C-CL4-PCB-81	1	2.92e+07	0.74	y	34:20	716.435	0	2.2809	35.0	n
35	IS	13C-CL4-PCB-77	1	3.05e+07	0.76	y	34:56	736.532	0	2.2448	36.0	n
36	IS	13C-CL5-PCB-104	1	2.27e+07	1.60	y	25:57	558.693	0	0.2518	27.3	n
37	IS	13C-CL5-PCB-123	1	2.76e+07	1.57	y	36:59	718.408	0	1.9502	35.1	n
38	IS	13C-CL5-PCB-118	1	2.71e+07	1.50	y	37:20	718.320	0	1.9898	35.1	n
39	IS	13C-CL5-PCB-114	1	2.48e+07	1.64	y	37:53	664.264	0	2.0054	32.5	n
40	IS	13C-CL5-PCB-105	1	3.13e+07	1.57	y	38:34	809.614	0	1.9365	39.6	n
41	IS	13C-CL5-PCB-126	1	2.38e+07	1.58	y	41:49	688.097	0	2.1686	33.6	n
42	IS	13C-CL6-PCB-155	1	2.56e+07	1.26	y	31:51	585.298	0	0.2268	28.6	n
43	IS	13C-CL6-PCB-167	1	2.38e+07	1.24	y	43:44	705.312	0	0.4026	34.5	n
44	IS	13C-CL6-PCB-156/157	1	4.68e+07	1.26	y	44:57	1330.486	0	0.3860	32.5	n

SV BJ
15 Aug 2018

PV by RA 09AUG2018

45	IS	13C-CL6-PCB-169	1	2.31e+07	1.28	y	48:21	660.155	0	0.3887	32.3	n
46	REF	13C-CL7-CHECK	1	2.43e+07	1.04	y	37:50	567.868	0	0.2707	27.8	n
47	IS	13C-CL7-PCB-189	1	2.39e+07	1.03	y	50:59	696.992	0	0.8804	34.1	n
48	IS	13C-CL8-PCB-202	1	2.74e+07	0.91	y	43:26	677.996	0	0.2360	33.2	n
49	IS	13C-CL8-PCB-205	1	2.34e+07	0.87	y	53:40	685.639	0	0.5804	33.5	n
50	IS	13C-CL9-PCB-208	1	1.88e+07	0.78	y	50:26	615.387	0	0.4507	30.1	n
51	IS	13C-CL9-PCB-206	1	1.56e+07	0.81	y	55:28	628.939	0	0.5536	30.8	n
52	IS	13C-CL10-PCB-209	1	1.84e+07	1.18	y	57:07	589.076	0	0.3316	28.8	n
53	RS	13C-CL2-PCB-9	1	1.36e+08	1.56	y	15:57	15.114	0	-	-	n
54	RS	13C-CL4-PCB-52	1	6.46e+07	0.79	y	25:00	14.377	0	-	-	n
55	RS	13C-CL5-PCB-101	1	5.64e+07	1.57	y	32:07	14.841	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.37e+07	1.26	y	40:34	15.465	0	-	-	n
57	RS	13C-CL8-PCB-194	1	4.63e+07	0.91	y	53:10	16.791	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.34e+07	1.08	y	23:07	621.400	0	7.5932	30.4	n
59	C/Up	13C-CL5-PCB-111	1	2.58e+07	1.59	y	34:56	698.047	0	0.3683	34.1	n
60	C/Up	13C-CL7-PCB-178	1	1.68e+07	1.03	y	41:02	675.154	0	0.4390	33.0	n
61	IS	13C-CL4-PCB-54	1	2.50e+07	0.79	y	20:16	535.574	0	2.0709	26.2	n
62	IS	13C-CL7-PCB-188	1	2.43e+07	1.04	y	37:50	567.868	0	0.2707	27.8	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #4 Filename PB8C_260 S: 5 I: 1 Acquired: 8-AUG-18 00:00:21 Processed: 8-AUG-18 07:48:21
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-1,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.890000 ✓ conc units: pg/g ✓ total toxicity: 15032.» F1: 1.0000 F2: 5.0000 ✓

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	1	1.34e+04	1.99	n	13:32	0.785	1	0.5311	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	3.7800	-	n
3	Unk	CL2-PCB-9	0	*	*	n	NotFnd	*	*	3.7743	-	n
4	Unk	CL2-PCB-7	1	9.86e+04	1.78	y	16:08	5.931	6	3.7395	-	n
5	Unk	CL2-PCB-6	1	2.62e+05	1.56	y	16:23	15.530	16	3.6891	-	n
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	4.2424	-	n
7	Unk	CL2-PCB-8	1	7.36e+05	1.61	y	16:50	39.725	40	3.3561	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	3.8690	-	n
9	Unk	CL2-PCB-11	1	1.48e+05	1.90	n	19:23	9.636	10	4.0376	-	y
10	Unk	CL2-PCB-12/13	1	6.38e+04	1.93	n	19:41	4.106	4	3.9963	-	y
11	Unk	CL3-PCB-30/18	1	1.76e+06	1.10	y	19:02	121.035	121	1.3373	-	n
12	Unk	CL3-PCB-17	1	8.06e+05	1.13	y	19:28	64.484	64	1.5551	-	n
13	Unk	CL3-PCB-27	1	3.17e+05	0.94	y	19:41	17.962	18	1.1018	-	n
14	Unk	CL3-PCB-24	1	1.49e+04	1.40	n	19:50	0.926	1	1.2034	-	y
15	Unk	CL3-PCB-16	1	4.35e+05	1.08	y	19:56	39.130	39	1.7466	-	n
16	Unk	CL3-PCB-32	1	9.51e+05	1.02	y	20:28	58.369	58	2.1902	-	y
17	Unk	CL3-PCB-34	1	2.52e+04	1.14	y	21:47	1.663	2	2.3563	-	y
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	2.3249	-	n
19	Unk	CL3-PCB-26/29	1	9.88e+05	1.02	y	22:15	63.096	63	2.2781	-	n
20	Unk	CL3-PCB-25	1	5.17e+05	0.93	y	22:30	27.866	28	1.9228	-	n
21	Unk	CL3-PCB-31	1	3.82e+06	1.00	y	22:50	225.752	226	2.1096	-	n
22	Unk	CL3-PCB-28/20	1	5.09e+06	1.03	y	23:08	322.117	322	2.2562	-	n
23	Unk	CL3-PCB-21/33	1	2.10e+06	1.03	y	23:23	125.441	125	2.1339	-	n
24	Unk	CL3-PCB-22	1	1.36e+06	0.97	y	23:47	96.068	96	2.5210	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	2.1227	-	n
26	Unk	CL3-PCB-39	1	4.32e+04	0.85	n	25:49	2.767	3	2.2850	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	2.3363	-	n
28	Unk	CL3-PCB-35	0	*	*	n	NotFnd	*	*	2.2920	-	n
29	Unk	CL4-PCB-50/53	1	8.97e+05	0.77	y	22:31	72.992	73	1.3263	-	n
30	Unk	CL4-PCB-45/51	1	8.48e+05	0.75	y	23:14	70.739	71	1.3601	-	y
31	Unk	CL4-PCB-46	1	2.28e+05	0.85	y	23:32	21.473	21	1.5316	-	n
32	Unk	CL4-PCB-52	1	7.87e+06	0.78	y	25:01	622.113	622	1.2890	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.9849	-	n
34	Unk	CL4-PCB-43	1	2.90e+05	0.68	y	25:15	29.832	30	1.6743	-	n
35	Unk	CL4-PCB-69/49	1	4.26e+06	0.78	y	25:31	302.117	302	1.1554	-	n
36	Unk	CL4-PCB-48	1	1.00e+06	0.73	y	25:48	84.278	84	1.3700	-	n
37	Unk	CL4-PCB-44/47/65	1	5.67e+06	0.80	y	26:03	433.306	433	1.2446	-	n
38	Unk	CL4-PCB-59/62/75	1	9.46e+05	0.71	y	26:23	59.643	60	1.0273	-	n
39	Unk	CL4-PCB-42	1	1.45e+06	0.74	y	26:35	121.255	121	1.3663	-	n
40	Unk	CL4-PCB-41/40/71	1	2.67e+06	0.79	y	27:06	225.549	226	1.3743	-	y
41	Unk	CL4-PCB-64	1	2.97e+06	0.79	y	27:20	179.255	179	0.9829	-	n
42	Unk	CL4-PCB-72	1	1.18e+05	0.79	y	28:14	7.704	8	3.1761	-	n
43	Unk	CL4-PCB-68	1	4.77e+04	0.64	n	28:31	3.111	3	3.1685	-	n
44	Unk	CL4-PCB-57	1	2.14e+04	0.76	y	28:58	1.450	1	3.2954	-	n

45	Unk	CL4-PCB-58	1	1.93e+04	0.55	n	29:12	1.338	1	3.3716	-	y
46	Unk	CL4-PCB-67	1	2.18e+05	0.57	n	29:23	12.646	13	2.8256	-	n
47	Unk	CL4-PCB-63	1	2.27e+05	0.87	y	29:39	15.121	15	3.2372	-	n
48	Unk	CL4-PCB-61/70/74/76	1	9.39e+06	0.75	y	30:02	631.262	631	3.2676	-	n
49	Unk	CL4-PCB-66	1	6.64e+06	0.78	y	30:20	478.992	479	3.5079	-	y
50	Unk	CL4-PCB-55	1	2.11e+05	0.76	y	30:32	16.886	17	3.8884	-	y
51	Unk	CL4-PCB-56	1	2.40e+06	0.78	y	31:02	177.388	177	3.5937	-	y
52	Unk	CL4-PCB-60	1	1.36e+06	0.81	y	31:17	98.913	99	3.5457	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	3.1739	-	n
54	Unk	CL4-PCB-79	1	1.21e+05	0.69	y	33:16	7.239	7	2.8996	-	y
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	3.4185	-	n
56	Unk	CL5-PCB-96	1	6.49e+04	1.81	n	26:22	4.431	4	0.6857	-	n
57	Unk	CL5-PCB-103	1	1.40e+05	1.65	y	28:23	11.437	11	1.8512	-	n
58	Unk	CL5-PCB-94	1	4.30e+04	1.21	n	28:37	4.310	4	2.2647	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	6.57e+06	1.56	y	29:07	589.420	589	2.0287	-	y
60	Unk	CL5-PCB-88/91	1	1.06e+06	1.71	y	29:58	99.024	99	2.1075	-	n
61	Unk	CL5-PCB-84	1	1.20e+06	1.59	y	30:12	127.363	127	2.4076	-	y
62	Unk	CL5-PCB-89	1	9.08e+04	1.68	y	30:42	9.179	9	2.2848	-	n
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.6439	-	n
64	Unk	CL5-PCB-92	1	2.23e+06	1.61	y	31:32	212.964	213	2.1560	-	n
65	Unk	CL5-PCB-113/90/101	1	9.17e+06	1.56	y	32:09	759.645	760	1.8723	-	n
66	Unk	CL5-PCB-83/99	1	4.78e+06	1.57	y	32:44	469.118	469	2.2173	-	n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.5450	-	n
68	Unk	CB-109/119/86/97/125/87	1	4.82e+06	1.56	y	33:20	398.442	398	1.8677	-	y
69	Unk	CL5-PCB-117/116/85	1	1.67e+06	1.69	y	34:00	135.664	136	1.8397	-	y
70	Unk	CL5-PCB-110/115	1	9.43e+06	1.59	y	34:13	679.722	680	1.6294	-	n
71	Unk	CL5-PCB-82	1	7.44e+05	1.58	y	34:32	81.304	81	2.4700	-	n
72	Unk	CL5-PCB-111	1	2.16e+04	4.99	n	34:59	1.640	2	1.7190	-	n
73	Unk	CL5-PCB-120	1	5.52e+04	1.20	n	35:24	4.018	4	1.6449	-	y
74	Unk	CL5-PCB-108/124	1	3.58e+05	1.52	y	36:38	26.799	27	4.8978	-	n
75	Unk	CL5-PCB-107	1	6.12e+05	1.67	y	36:54	44.527	45	4.7644	-	y
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	4.9060	-	n
77	Unk	CL5-PCB-122	1	1.32e+05	1.22	n	37:42	10.955	11	5.4192	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	5.0194	-	n
79	Unk	CL6-PCB-152	1	8.97e+03	0.95	n	32:06	0.665	1	0.8894	-	n
80	Unk	CL6-PCB-150	1	3.08e+04	0.79	n	32:15	2.400	2	0.9353	-	n
81	Unk	CL6-PCB-136	1	1.34e+06	1.17	y	32:39	103.507	104	0.9241	-	n
82	Unk	CL6-PCB-145	1	1.03e+04	1.55	n	32:54	0.842	1	0.9773	-	n
83	Unk	CL6-PCB-148	1	5.09e+04	1.37	y	34:31	5.564	6	1.3122	-	n
84	Unk	CL6-PCB-151/135/154	1	4.21e+06	1.29	y	35:11	447.908	448	1.2774	-	y
85	Unk	CL6-PCB-144	1	4.23e+05	1.31	y	35:45	45.703	46	1.2959	-	n
86	Unk	CL6-PCB-147/149	1	8.51e+06	1.28	y	36:07	834.825	835	4.8848	-	n
87	Unk	CL6-PCB-134/143	1	5.64e+05	1.23	y	36:20	60.568	61	5.3507	-	n
88	Unk	CL6-PCB-139/140	1	2.00e+05	1.42	y	36:45	19.879	20	4.9510	-	n
89	Unk	CL6-PCB-131	1	8.64e+04	1.28	y	36:57	9.642	10	5.5625	-	y
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	5.4957	-	n
91	Unk	CL6-PCB-132	1	2.07e+06	1.28	y	37:26	242.591	243	5.8471	-	y
92	Unk	CL6-PCB-133	1	3.53e+05	1.03	n	37:58	39.409	39	5.5561	-	y
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	4.4854	-	n
94	Unk	CL6-PCB-146	1	2.68e+06	1.33	y	38:39	249.084	249	4.6260	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	3.8706	-	n
96	Unk	CL6-PCB-153/168	1	1.16e+07	1.25	y	39:17	986.185	986	4.2394	-	n
97	Unk	CL6-PCB-141	1	1.07e+06	1.17	y	39:30	109.932	110	5.1018	-	n

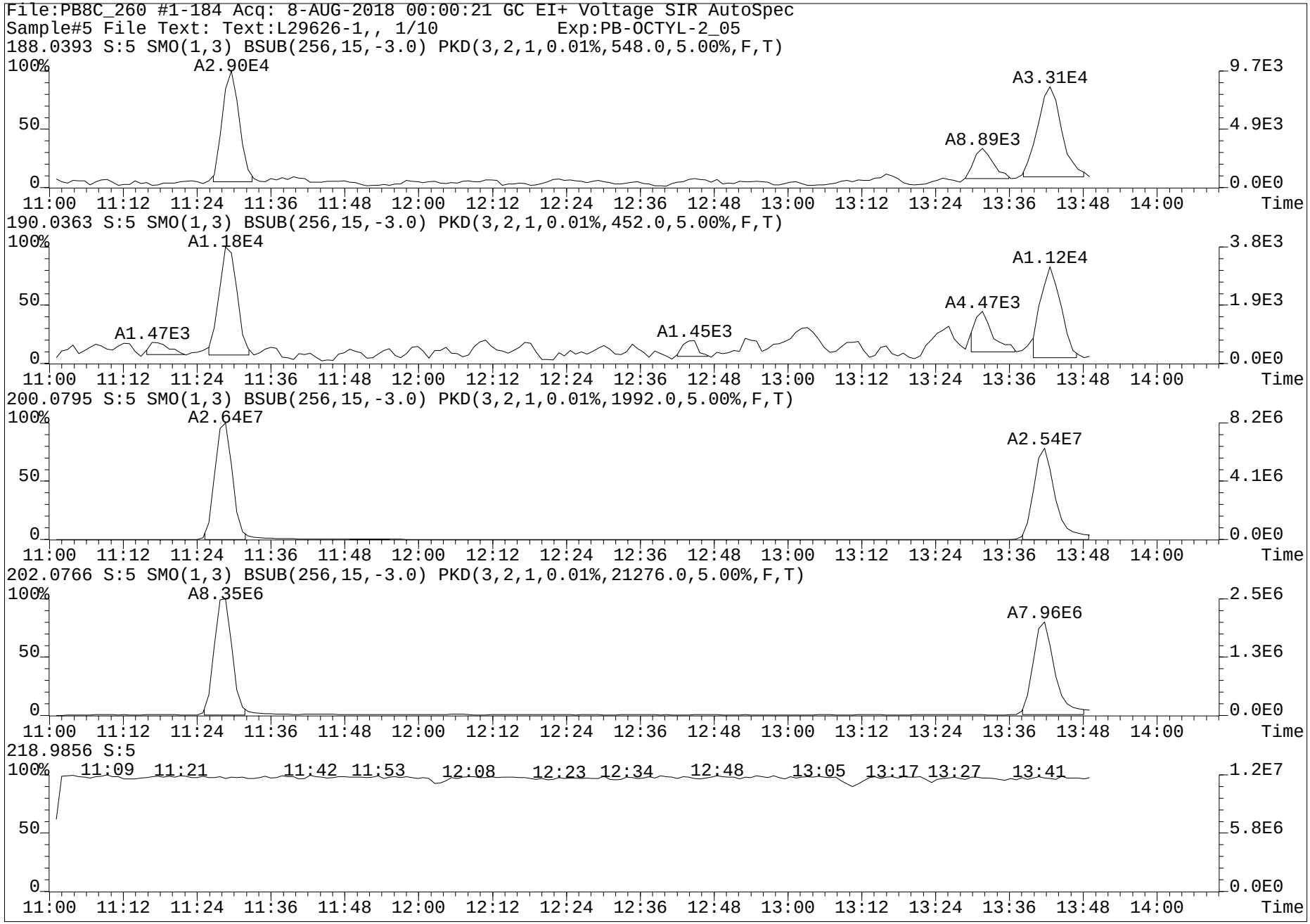
SDL x112

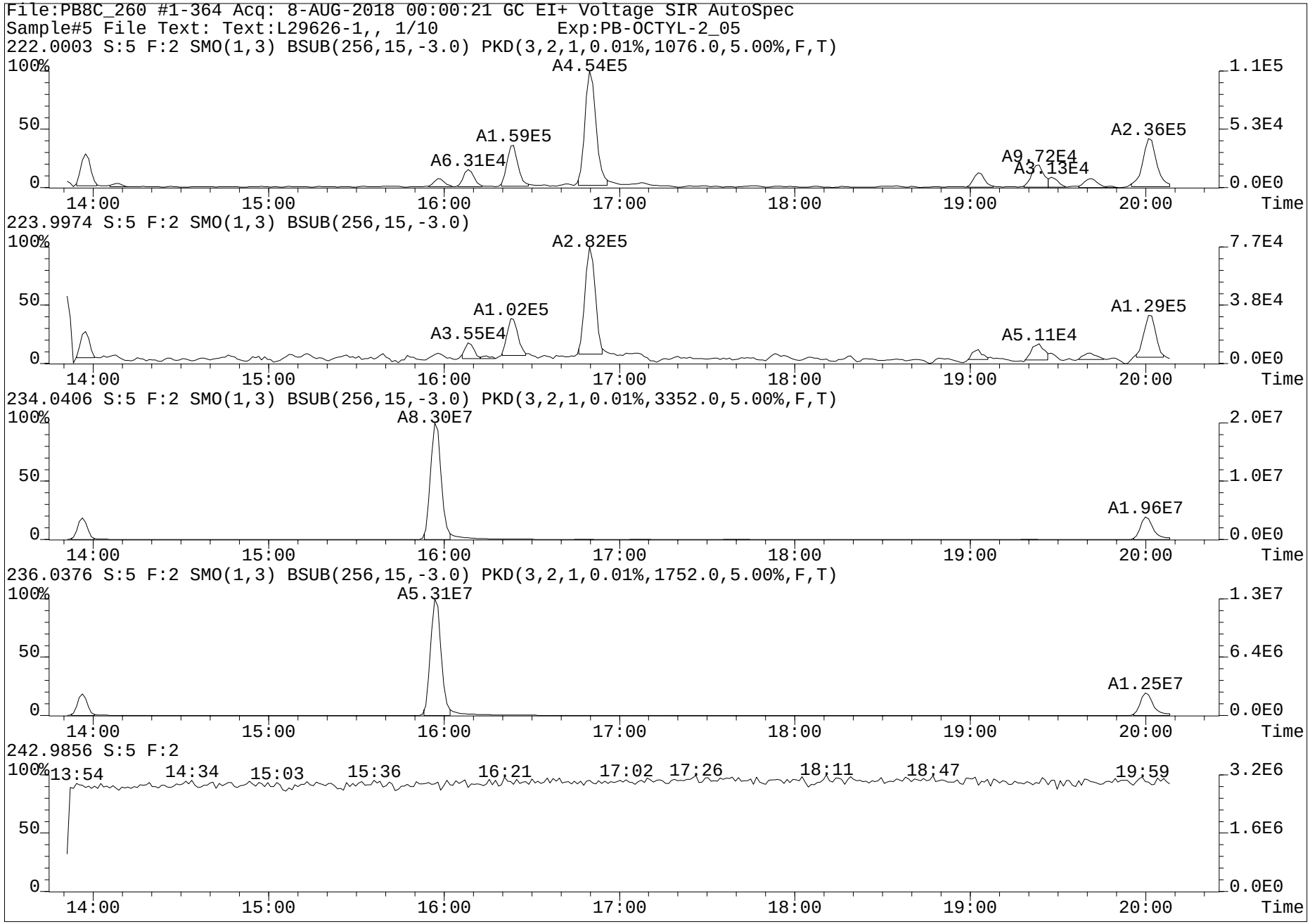
98	Unk	CL6-PCB-130	1	6.50e+05	1.44	n	39:56	77.702	78	5.9524	-	n
99	Unk	CL6-PCB-137	1	4.73e+05	1.35	y	40:08	54.235	54	5.7187	-	y
100	Unk	CL6-PCB-164	1	1.01e+06	1.33	y	40:16	79.000	79	3.9031	-	y
101	Unk	CL6-PCB-138/163/129/160	1	9.73e+06	1.27	y	40:35	907.183	907	4.6438	-	y
102	Unk	CL6-PCB-158	1	1.20e+06	1.30	y	41:00	87.417	87	3.6227	-	n
103	Unk	CL6-PCB-128/166	1	1.48e+06	1.23	y	41:56	137.435	137	4.6194	-	n
104	Unk	CL6-PCB-159	0	*	*	n	NotFnd	*	*	3.9150	-	n
105	Unk	CL6-PCB-162	1	3.88e+04	1.34	y	43:15	2.890	3	3.7132	-	y
106	Unk	CL7-PCB-179	1	1.35e+06	1.04	y	38:13	111.150	111	1.1100	-	y
107	Unk	CL7-PCB-184	0	*	*	n	NotFnd	*	*	1.0914	-	n
108	Unk	CL7-PCB-176	1	3.27e+05	1.15	y	39:07	27.408	27	1.1318	-	y
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	1.2044	-	n
110	Unk	CL7-PCB-178	1	9.69e+05	0.95	y	41:04	108.441	108	1.5090	-	n
111	Unk	CL7-PCB-175	1	1.23e+05	0.89	n	41:42	13.359	13	1.4700	-	y
112	Unk	CL7-PCB-187	1	4.00e+06	1.05	y	42:00	392.955	393	1.3258	-	y
113	Unk	CL7-PCB-182	1	4.78e+04	0.91	y	42:12	5.004	5	1.4119	-	y
114	Unk	CL7-PCB-183/185	1	1.46e+06	1.01	y	42:39	152.733	153	1.4136	-	y
115	Unk	CL7-PCB-174	1	1.00e+06	1.03	y	42:53	108.857	109	1.4618	-	y
116	Unk	CL7-PCB-177	1	2.25e+06	1.06	y	43:22	200.725	201	1.2026	-	n
117	Unk	CL7-PCB-181	0	*	*	n	NotFnd	*	*	1.4222	-	n
118	Unk	CL7-PCB-171/173	1	5.18e+05	1.06	y	44:00	57.861	58	1.5079	-	n
119	Unk	CL7-PCB-172	1	1.50e+05	0.96	y	45:43	17.370	17	1.5602	-	y
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	1.2736	-	n
121	Unk	CL7-PCB-180/193	1	3.61e+06	1.12	y	46:23	417.968	418	1.5579	-	y
122	Unk	CL7-PCB-191	1	1.39e+05	1.02	y	46:45	11.758	12	1.1434	-	y
123	Unk	CL7-PCB-170	1	6.60e+05	1.10	y	47:43	83.505	84	1.6996	-	y
124	Unk	CL7-PCB-190	1	3.47e+05	1.05	y	48:17	29.893	30	1.1626	-	y
125	Unk	CL8-PCB-201	1	2.33e+05	0.75	n	44:26	18.596	19	0.7131	-	n
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.7283	-	n
127	Unk	CL8-PCB-197/200	1	1.00e+05	0.82	y	45:24	7.962	8	0.7070	-	y
128	Unk	CL8-PCB-198/199	1	6.92e+05	0.92	y	48:26	78.545	79	1.0126	-	y
129	Unk	CL8-PCB-196	1	3.17e+05	0.95	y	49:07	34.867	35	0.9807	-	n
130	Unk	CL8-PCB-203	1	2.80e+05	0.84	y	49:19	28.987	29	0.9241	-	y
131	Unk	CL8-PCB-195	1	1.09e+05	0.72	n	50:44	11.645	12	1.2574	-	n
132	Unk	CL8-PCB-194	1	2.03e+05	0.74	n	53:12	20.184	20	1.1689	-	n
133	Unk	CL9-PCB-207	1	1.07e+04	1.56	n	51:26	1.051	1	1.2743	-	y
134	IS	13C-CL1-PCB-1	1	3.48e+07	3.17	y	11:28	508.136	0	3.5046	24.8	n
135	IS	13C-CL1-PCB-3	1	3.34e+07	3.19	y	13:42	545.380	0	3.9201	26.7	n
136	IS	13C-CL2-PCB-4	1	2.27e+07	1.56	y	13:56	538.298	0	1.2467	26.3	n
137	IS	13C-CL2-PCB-15	1	3.21e+07	1.56	y	20:01	515.501	0	0.8444	25.2	n
138	IS	13C-CL3-PCB-19	1	1.98e+07	1.05	y	17:06	522.046	0	7.2259	25.5	n
139	IS	13C-CL3-PCB-37	1	3.14e+07	1.03	y	27:18	712.281	0	9.2436	34.8	n
140	REF	13C-CL4-CHECK	1	2.50e+07	0.79	y	20:16	609.611	0	2.3572	29.8	n
141	IS	13C-CL4-PCB-81	1	2.92e+07	0.74	y	34:20	747.553	0	2.3800	36.6	n
142	IS	13C-CL4-PCB-77	1	3.05e+07	0.76	y	34:56	791.006	0	2.4108	38.7	n
143	IS	13C-CL5-PCB-104	1	2.27e+07	1.60	y	25:57	621.390	0	0.2800	30.4	n
144	IS	13C-CL5-PCB-123	1	2.76e+07	1.57	y	36:59	753.741	0	2.0462	36.9	n
145	IS	13C-CL5-PCB-118	1	2.71e+07	1.50	y	37:20	751.685	0	2.0822	36.8	n
146	IS	13C-CL5-PCB-114	1	2.48e+07	1.64	y	37:53	723.241	0	2.1834	35.4	n
147	IS	13C-CL5-PCB-105	1	3.13e+07	1.57	y	38:34	906.638	0	2.1686	44.3	n
148	IS	13C-CL5-PCB-126	1	2.38e+07	1.58	y	41:49	790.301	0	2.4908	38.6	n

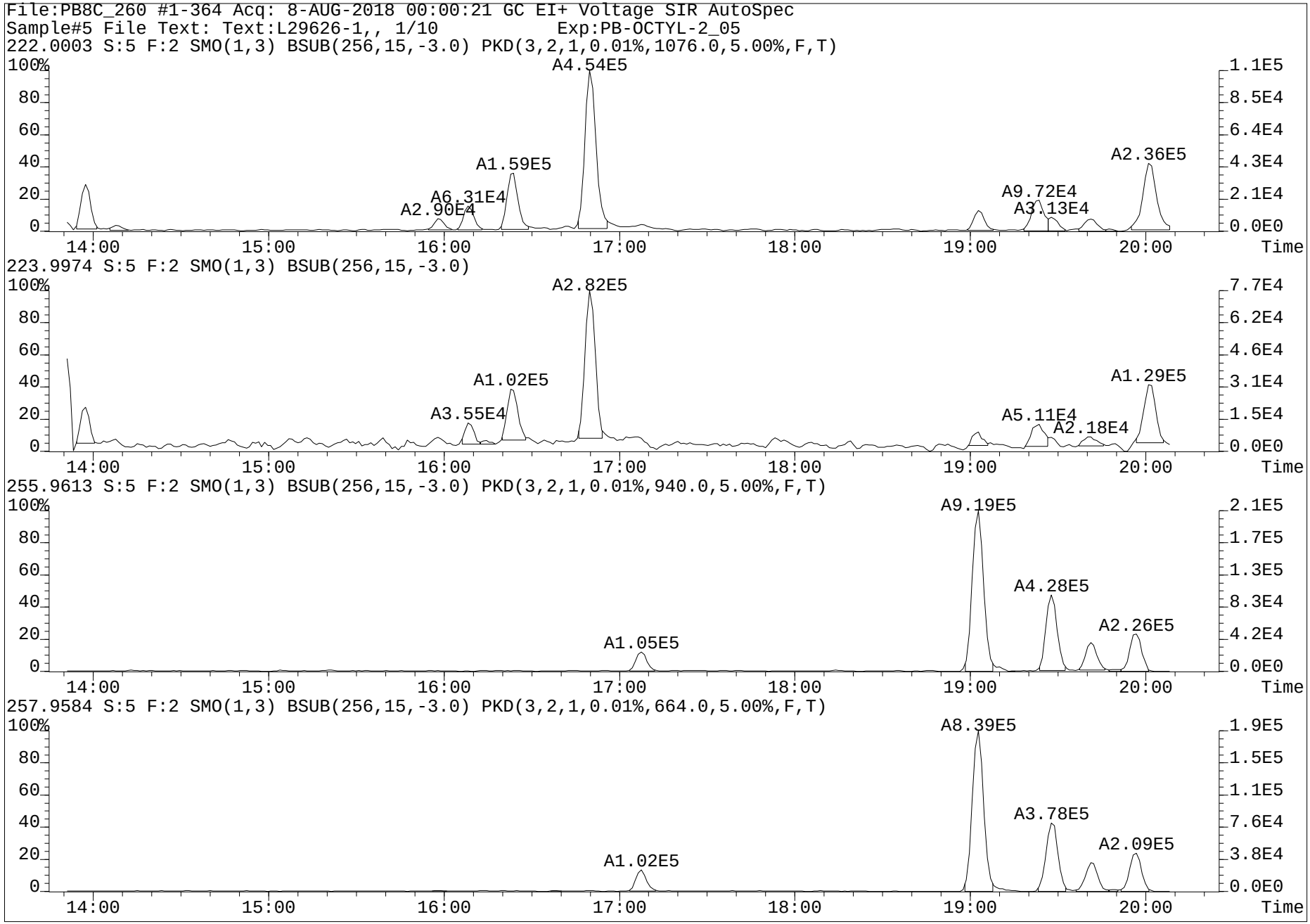
SDL x 1/2

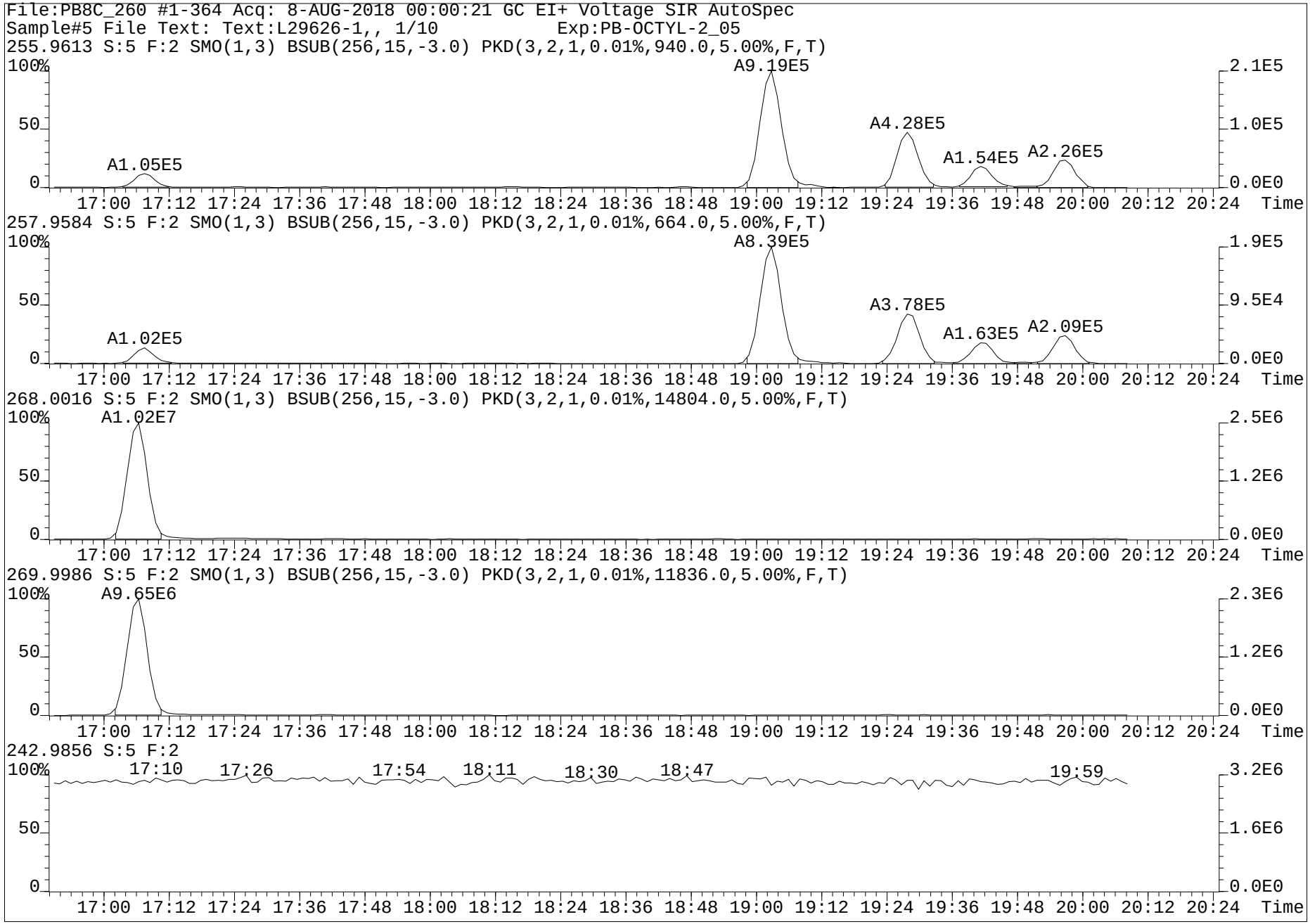
www.axysanalytical.com

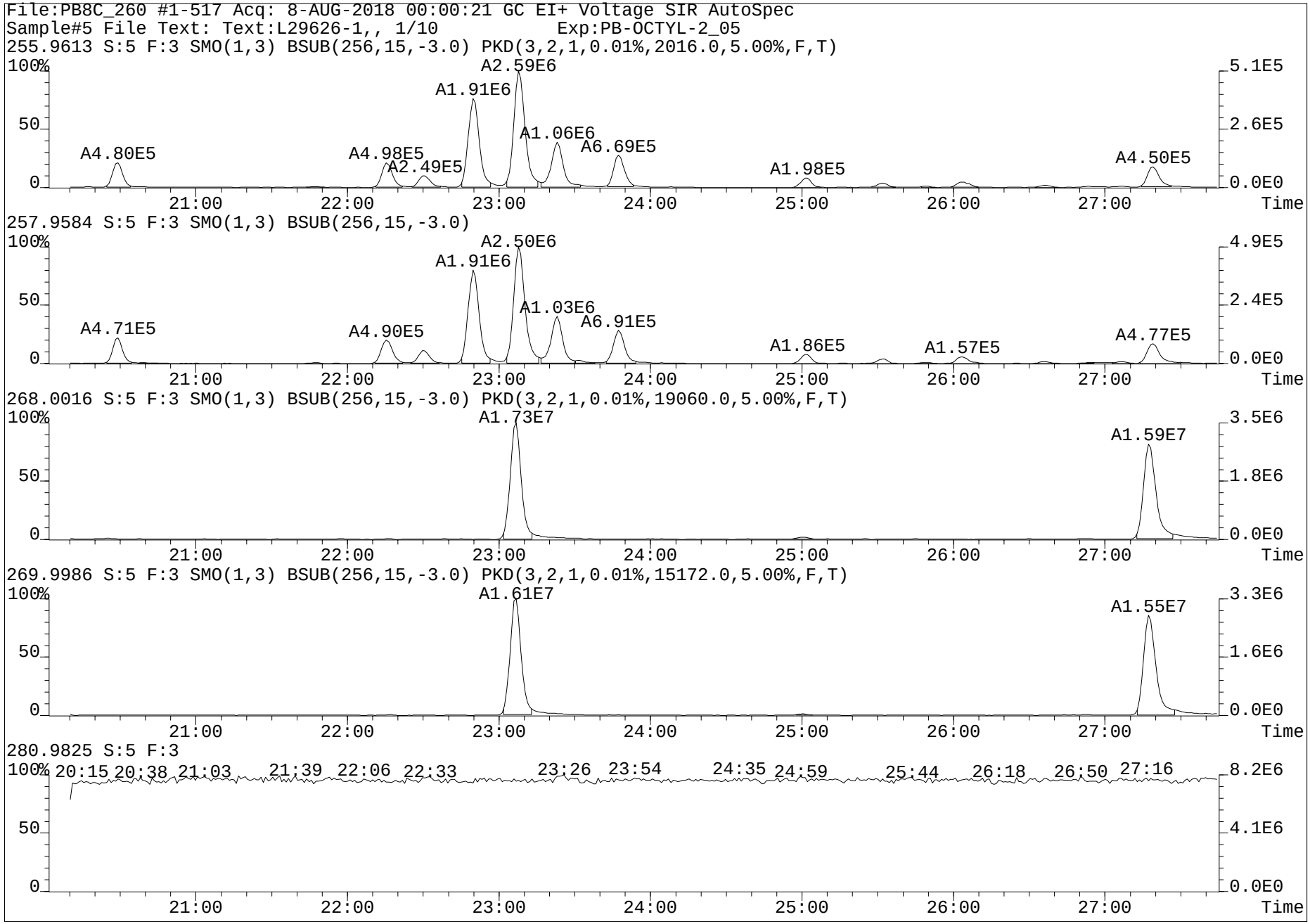
149	IS	13C-CL6-PCB-155	1	2.56e+07	1.26	y	31:51	653.552	0	0.2533	32.0	n
150	IS	13C-CL6-PCB-167	1	2.38e+07	1.24	y	43:44	732.127	0	0.4179	35.8	n
151	IS	13C-CL6-PCB-156/157	1	4.68e+07	1.26	y	44:57	1411.550	0	0.4095	34.5	n
152	IS	13C-CL6-PCB-169	1	2.31e+07	1.28	y	48:21	701.800	0	0.4132	34.3	n
153	IS	13C-CL7-PCB-188	1	2.43e+07	1.04	y	37:50	697.147	0	0.3323	34.1	n
154	IS	13C-CL7-PCB-180	1	1.76e+07	1.06	y	46:23	675.035	0	0.4444	33.0	n
155	IS	13C-CL7-PCB-170	1	1.45e+07	1.04	y	47:42	663.000	0	0.5295	32.4	n
156	IS	13C-CL8-PCB-202	1	2.74e+07	0.91	y	43:26	791.617	0	0.2756	38.7	n
157	IS	13C-CL8-PCB-205	1	2.34e+07	0.87	y	53:40	764.092	0	0.6468	37.4	n
158	IS	13C-CL9-PCB-208	1	1.88e+07	0.78	y	50:26	703.879	0	0.5156	34.4	n
159	IS	13C-CL9-PCB-206	1	1.56e+07	0.81	y	55:28	732.406	0	0.6447	35.8	n
160	RS/RT	13C-CL2-PCB-9	1	1.36e+08	1.56	y	15:57	17.409	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	6.46e+07	0.79	y	25:00	14.305	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	5.64e+07	1.57	y	32:07	15.009	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	5.37e+07	1.26	y	40:34	16.178	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	4.63e+07	0.91	y	53:10	16.967	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.34e+07	1.08	y	23:07	681.280	0	8.3249	33.3	n
166	C/Up	13C-CL5-PCB-111	1	2.58e+07	1.59	y	34:56	810.854	0	0.4278	39.7	n
167	C/UP	13C-CL7-PCB-178	1	1.68e+07	1.03	y	41:02	738.146	0	0.4799	36.1	n
168	IS	13C-CL4-PCB-54	1	2.50e+07	0.79	y	20:16	609.611	0	2.3572	29.8	n
169	Unk	CL7-PCB-189	1	6.71e+04	0.83	n	51:01	5.742	0	1.1766	-	n
170	IS	13C-CL7-PCB-189	1	2.39e+07	1.03	y	50:59	771.194	0	0.9742	37.7	n
171	Unk	CL10-PCB-209	1	6.13e+04	1.47	n	57:08	6.509	0	0.9474	-	n
172	IS	13C-CL10-PCB-209	1	1.84e+07	1.18	y	57:07	754.221	0	0.4245	36.9	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

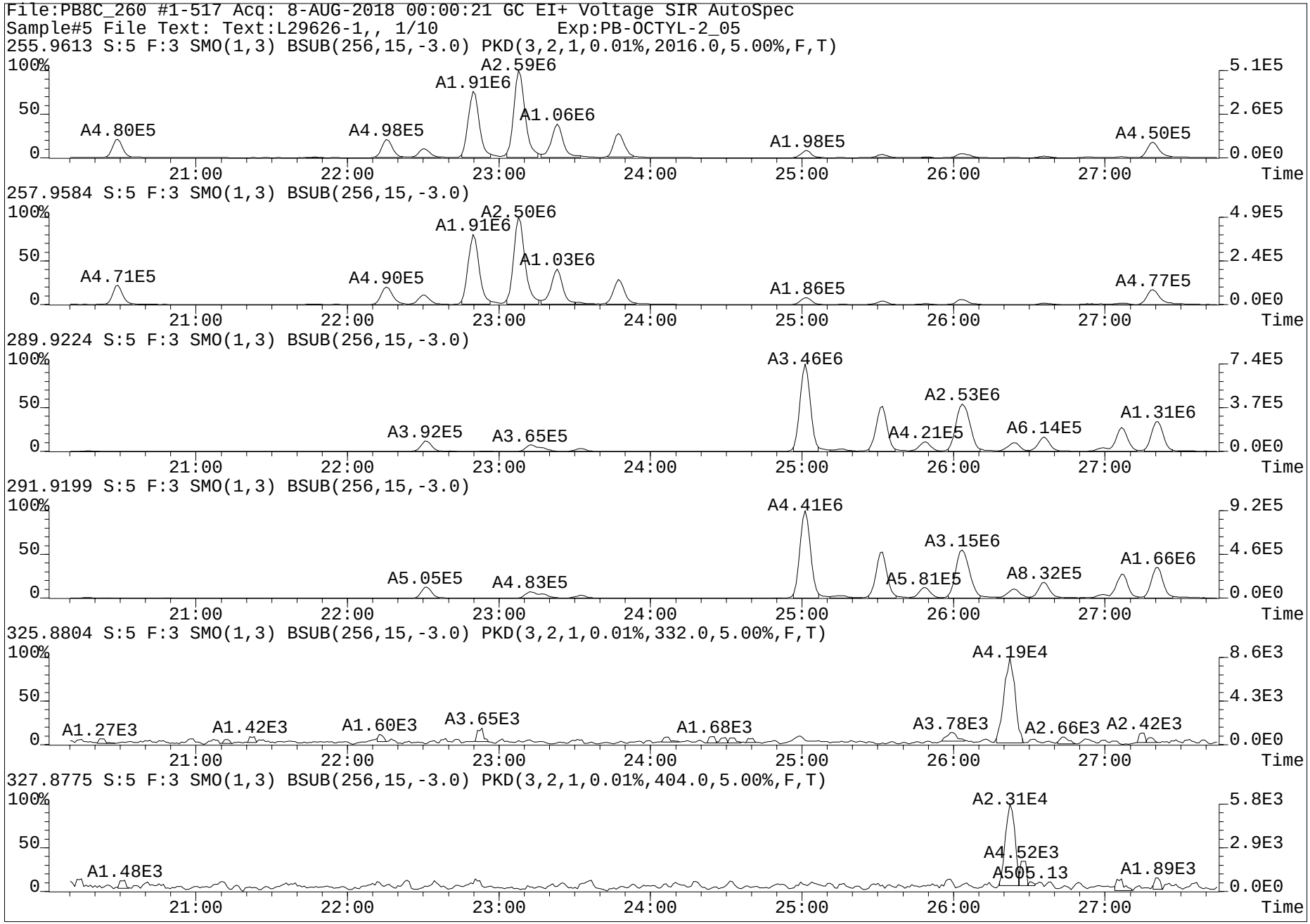

File:PB8C_260 #1-184 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A2.90E4
A3.31E4
A8.89E3
9.7E3
4.9E3
0.0E0
190.0363 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A1.18E4
A1.12E4
A4.47E3
A1.47E3
A1.45E3
3.8E3
1.9E3
0.0E0
200.0795 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1992.0,5.00%,F,T)
A2.64E7
A2.54E7
8.2E6
4.1E6
0.0E0
202.0766 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21276.0,5.00%,F,T)
A8.35E6
A7.96E6
2.5E6
1.3E6
0.0E0
218.9856 S:5
11:09 11:21 11:42 11:53 12:08 12:23 12:34 12:48 13:05 13:17 13:27 13:41
1.2E7
5.8E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

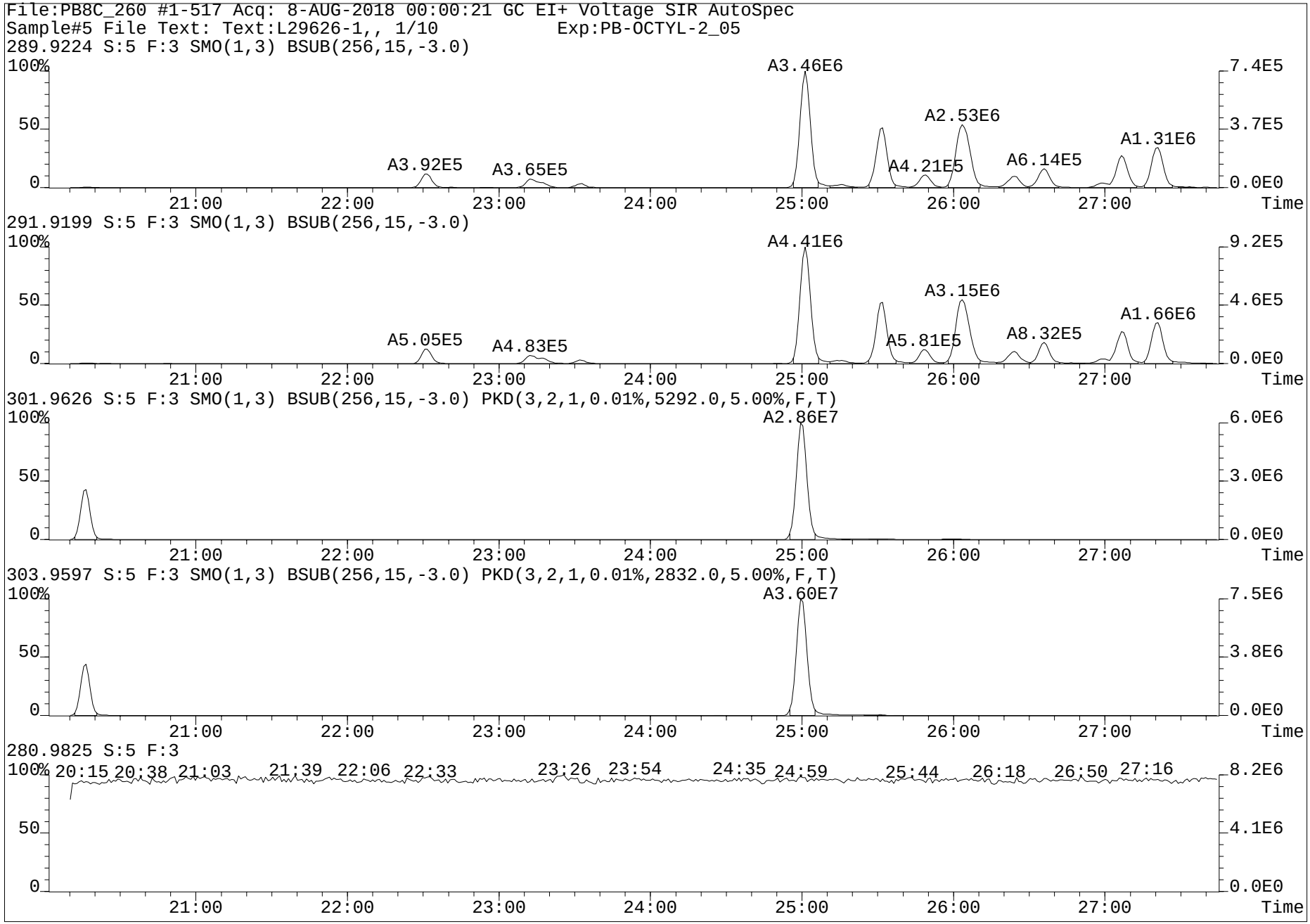

File:PB8C_260 #1-364 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1076.0,5.00%,F,T)
A4.54E5
A1.59E5
A6.31E4
A9.72E4
A3.13E4
A2.36E5
223.9974 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0)
A2.82E5
A1.02E5
A3.55E4
A5.11E4
A1.29E5
234.0406 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3352.0,5.00%,F,T)
A8.30E7
A1.96E7
236.0376 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1752.0,5.00%,F,T)
A5.31E7
A1.25E7
242.9856 S:5 F:2
13:54
14:34
15:03
15:36
16:21
17:02
17:26
18:11
18:47
19:59
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
1.1E5
5.3E4
0.0E0
7.7E4
3.8E4
2.0E7
1.0E7
1.3E7
6.4E6
3.2E6
1.6E6

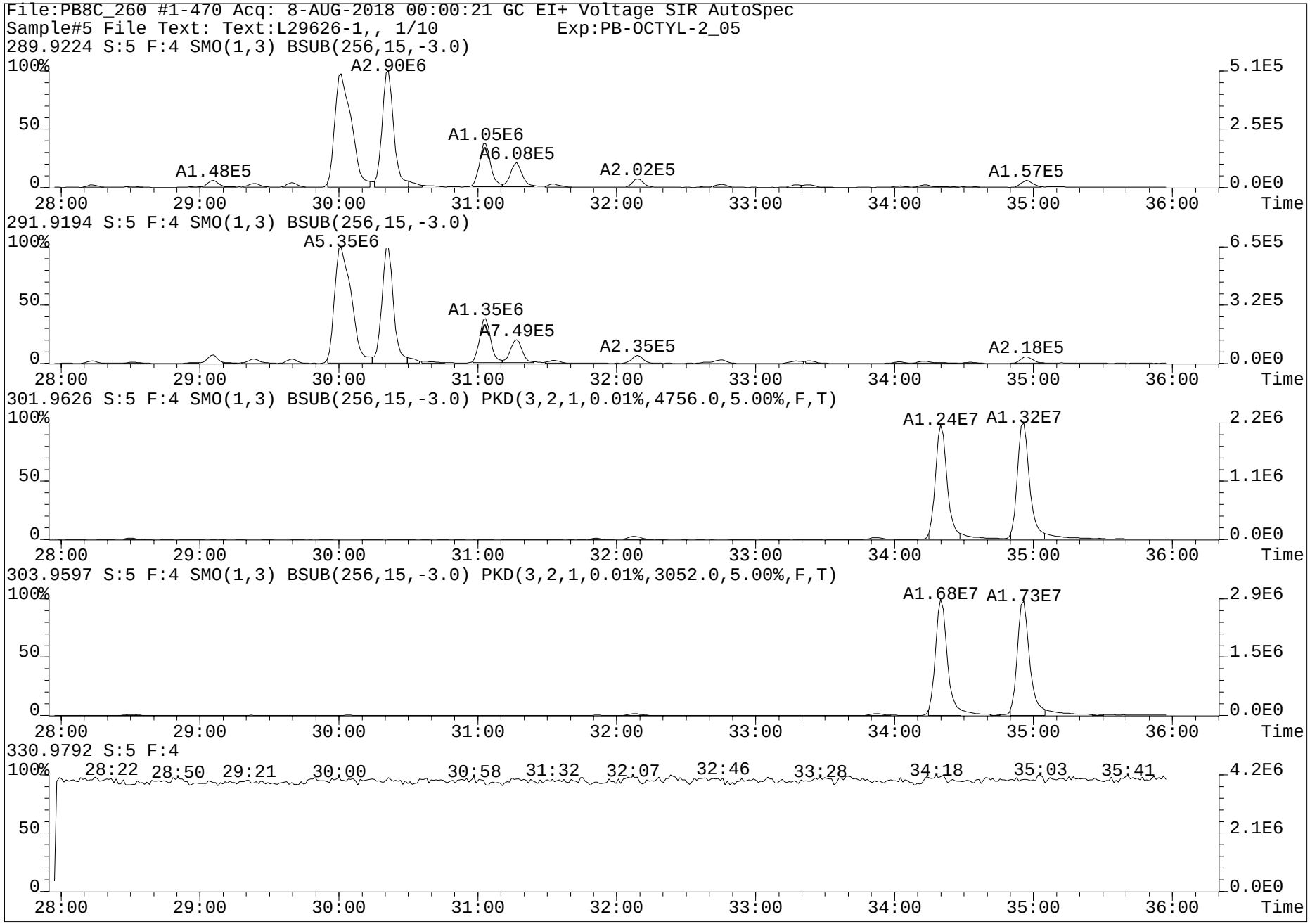

File:PB8C_260 #1-364 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1076.0,5.00%,F,T)
A4.54E5
A1.59E5
A6.31E4
A2.90E4
A2.36E5
A9.72E4
A3.13E4
223.9974 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0)
A2.82E5
A1.02E5
A3.55E4
A1.29E5
A5.11E4
A2.18E4
255.9613 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,940.0,5.00%,F,T)
A9.19E5
A4.28E5
A2.26E5
A1.05E5
257.9584 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A8.39E5
A3.78E5
A2.09E5
A1.02E5
Time

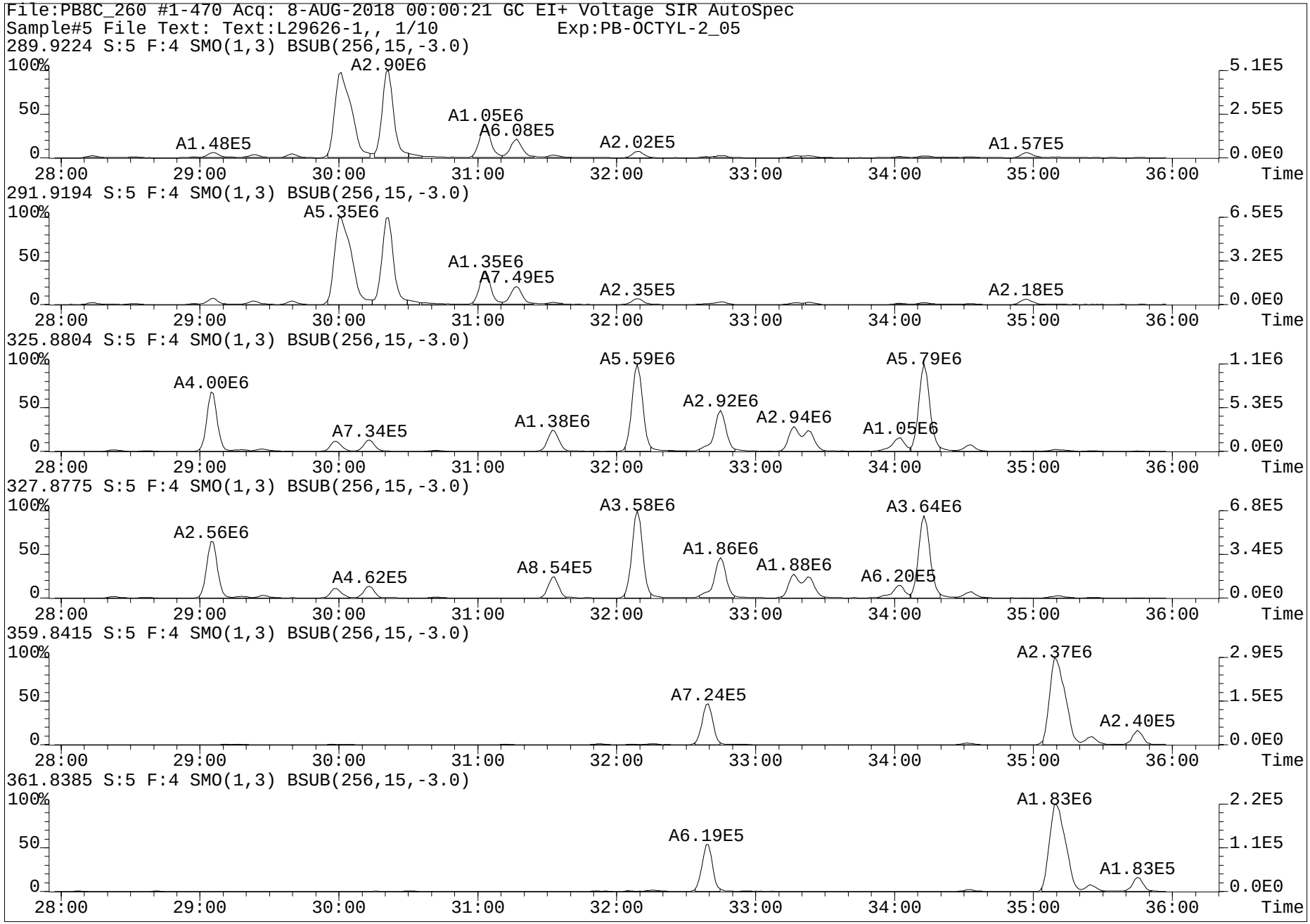

File:PB8C_260 #1-364 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,940.0,5.00%,F,T)
A9.19E5
A4.28E5
A1.54E5
A2.26E5
A1.05E5
257.9584 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A8.39E5
A3.78E5
A1.63E5
A2.09E5
A1.02E5
268.0016 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14804.0,5.00%,F,T)
A1.02E7
269.9986 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11836.0,5.00%,F,T)
A9.65E6
242.9856 S:5 F:2
17:10
17:26
17:54
18:11
18:30
18:47
19:59
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
2.1E5
1.0E5
0.0E0
1.9E5
9.5E4
2.5E6
1.2E6
2.3E6
3.2E6
1.6E6

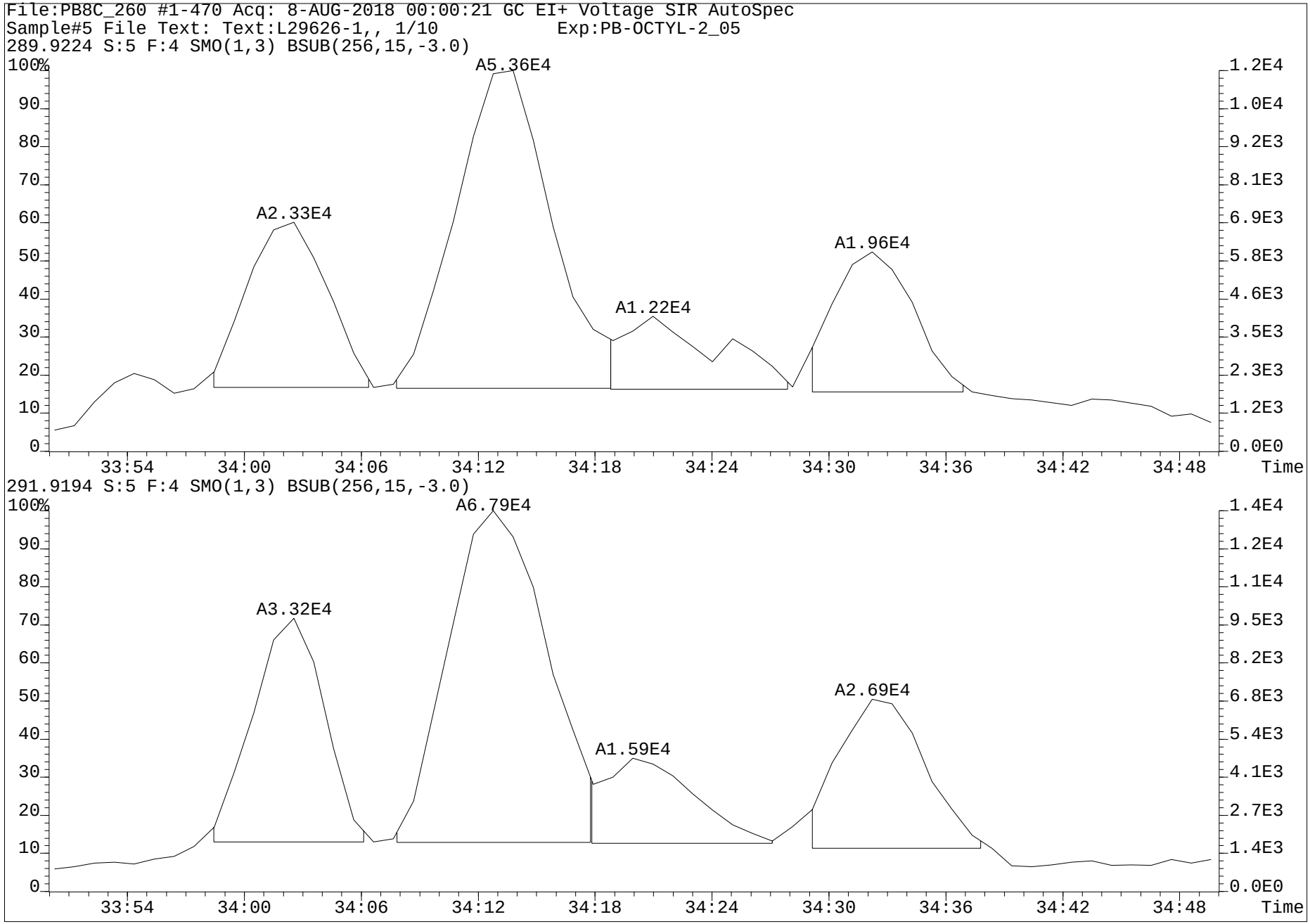

File:PB8C_260 #1-517 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2016.0,5.00%,F,T)
A2.59E6
A1.91E6
A1.06E6
A6.69E5
A4.80E5
A4.98E5
A2.49E5
A1.98E5
A4.50E5
257.9584 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.50E6
A1.91E6
A1.03E6
A6.91E5
A4.71E5
A4.90E5
A1.86E5
A1.57E5
A4.77E5
268.0016 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19060.0,5.00%,F,T)
A1.73E7
A1.59E7
269.9986 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15172.0,5.00%,F,T)
A1.61E7
A1.55E7
280.9825 S:5 F:3
20:15 20:38 21:03 21:39 22:06 22:33 23:26 23:54 24:35 24:59 25:44 26:18 26:50 27:16
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
5.1E5 2.6E5 0.0E0
4.9E5 2.4E5 0.0E0
3.5E6 1.8E6 0.0E0
3.3E6 1.6E6 0.0E0
8.2E6 4.1E6 0.0E0

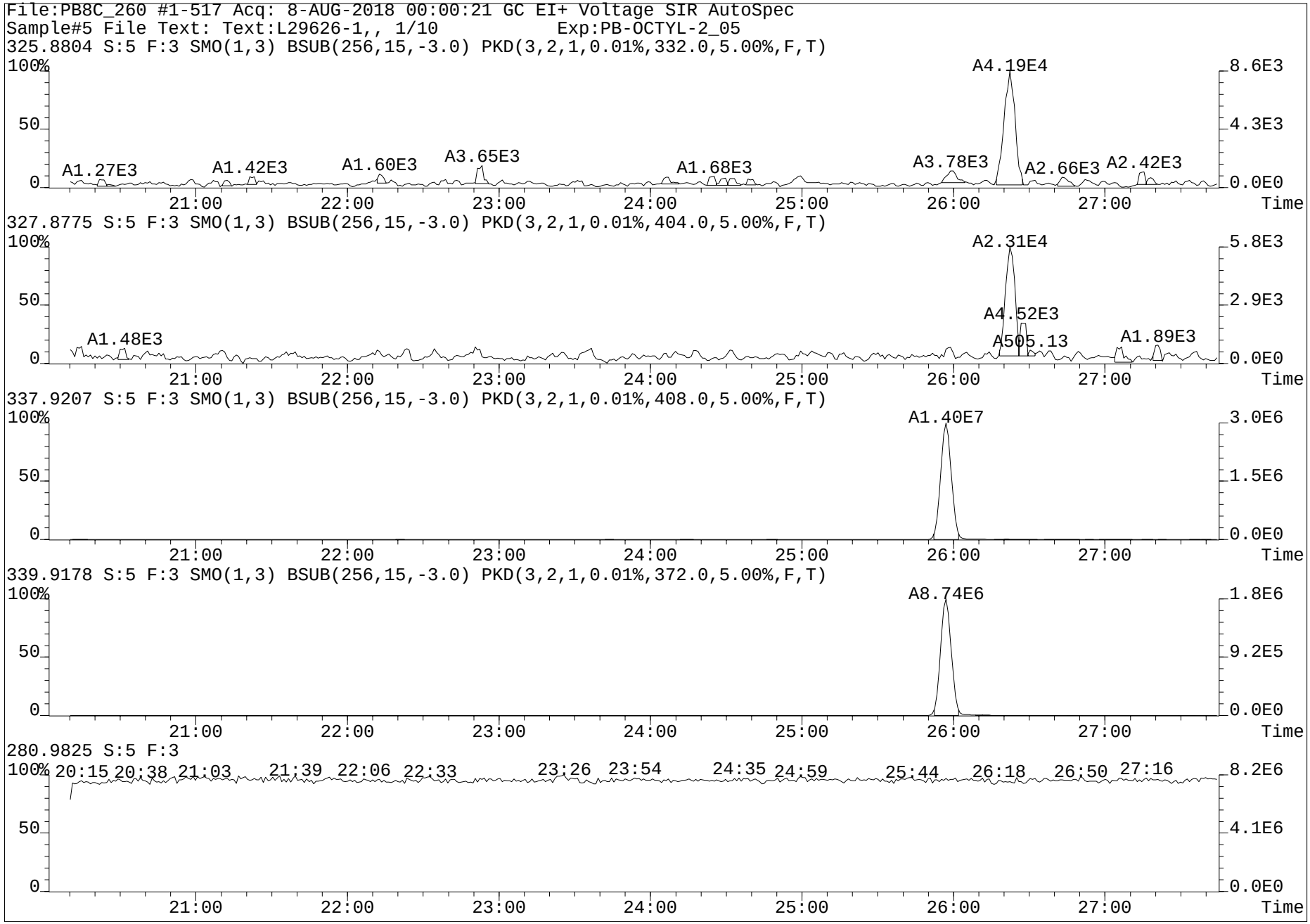

File:PB8C_260 #1-517 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2016.0,5.00%,F,T)
A4.80E5
A4.98E5
A1.91E6
A2.59E6
A1.06E6
A1.98E5
A4.50E5
257.9584 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.71E5
A4.90E5
A1.91E6
A2.50E6
A1.03E6
A1.86E5
A4.77E5
289.9224 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.92E5
A3.65E5
A3.46E6
A2.53E6
A4.21E5
A6.14E5
A1.31E6
291.9199 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.05E5
A4.83E5
A4.41E6
A3.15E6
A5.81E5
A8.32E5
A1.66E6
325.8804 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A1.27E3
A1.42E3
A1.60E3
A3.65E3
A1.68E3
A3.78E3
A4.19E4
A2.66E3
A2.42E3
327.8775 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A1.48E3
A4.52E3
A505.13
A2.31E4
A1.89E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.1E5
2.6E5
0.0E0
4.9E5
2.4E5
7.4E5
3.7E5
9.2E5
4.6E5
8.6E3
4.3E3
5.8E3
2.9E3

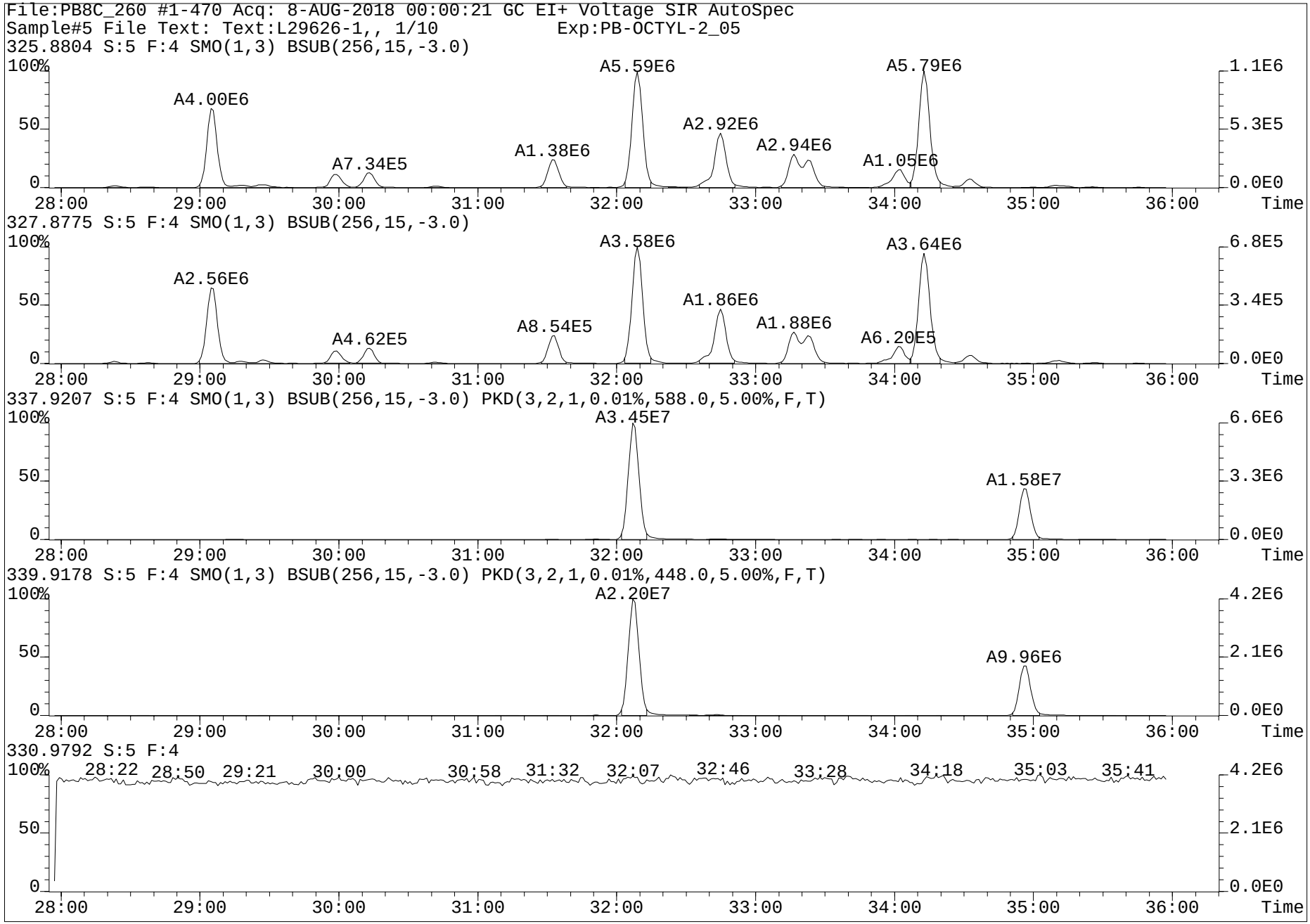

File:PB8C_260 #1-517 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.46E6
A2.53E6
A1.31E6
A3.92E5
A3.65E5
A4.21E5
A6.14E5
7.4E5
3.7E5
0.0E0
291.9199 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.41E6
A3.15E6
A1.66E6
A5.05E5
A4.83E5
A5.81E5
A8.32E5
9.2E5
4.6E5
0.0E0
301.9626 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5292.0,5.00%,F,T)
A2.86E7
6.0E6
3.0E6
0.0E0
303.9597 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2832.0,5.00%,F,T)
A3.60E7
7.5E6
3.8E6
0.0E0
280.9825 S:5 F:3
20:15 20:38 21:03 21:39 22:06 22:33 23:26 23:54 24:35 24:59 25:44 26:18 26:50 27:16
8.2E6
4.1E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

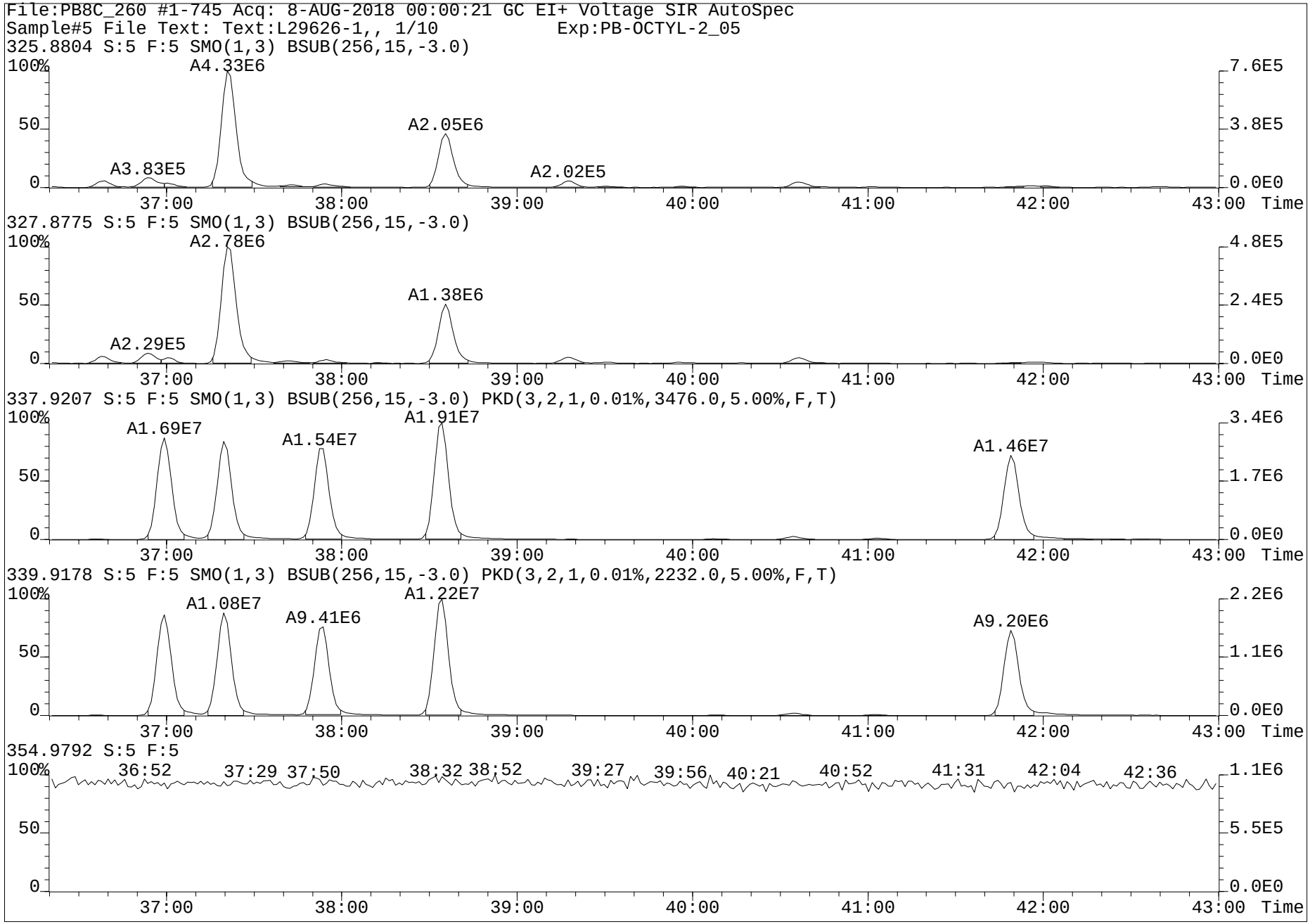

File:PB8C_260 #1-470 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.90E6
A1.05E6
A6.08E5
A1.48E5
A2.02E5
A1.57E5
291.9194 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.35E6
A1.35E6
A7.49E5
A2.35E5
A2.18E5
301.9626 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4756.0,5.00%,F,T)
A1.24E7
A1.32E7
303.9597 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3052.0,5.00%,F,T)
A1.68E7
A1.73E7
330.9792 S:5 F:4
28:22
28:50
29:21
30:00
30;58
31:32
32:07
32:46
33:28
34:18
35:03
35:41
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
5.1E5
2.5E5
0.0E0
6.5E5
3.2E5
2.2E6
1.1E6
2.9E6
1.5E6
4.2E6
2.1E6

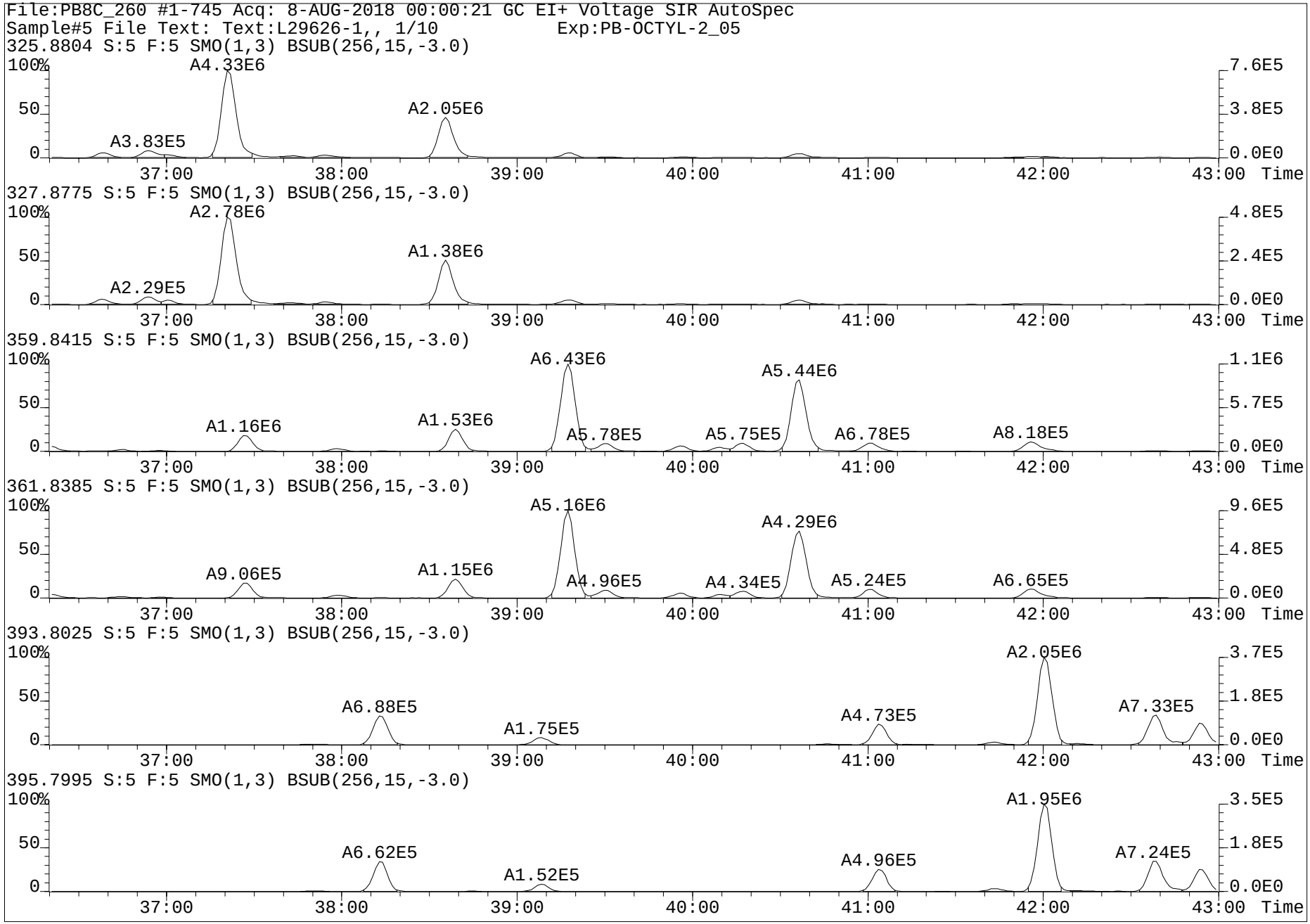

File:PB8C_260 #1-470 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.90E6
A1.05E6
A6.08E5
A1.48E5
A2.02E5
A1.57E5
5.1E5
2.5E5
0.0E0
291.9194 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.35E6
A1.35E6
A7.49E5
A2.35E5
A2.18E5
6.5E5
3.2E5
0.0E0
325.8804 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.59E6
A5.79E6
A4.00E6
A2.92E6
A1.38E6
A2.94E6
A7.34E5
A1.05E6
1.1E6
5.3E5
0.0E0
327.8775 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.58E6
A3.64E6
A2.56E6
A1.86E6
A8.54E5
A1.88E6
A4.62E5
A6.20E5
6.8E5
3.4E5
0.0E0
359.8415 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.37E6
A7.24E5
A2.40E5
2.9E5
1.5E5
0.0E0
361.8385 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.83E6
A6.19E5
A1.83E5
2.2E5
1.1E5
0.0E0
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time

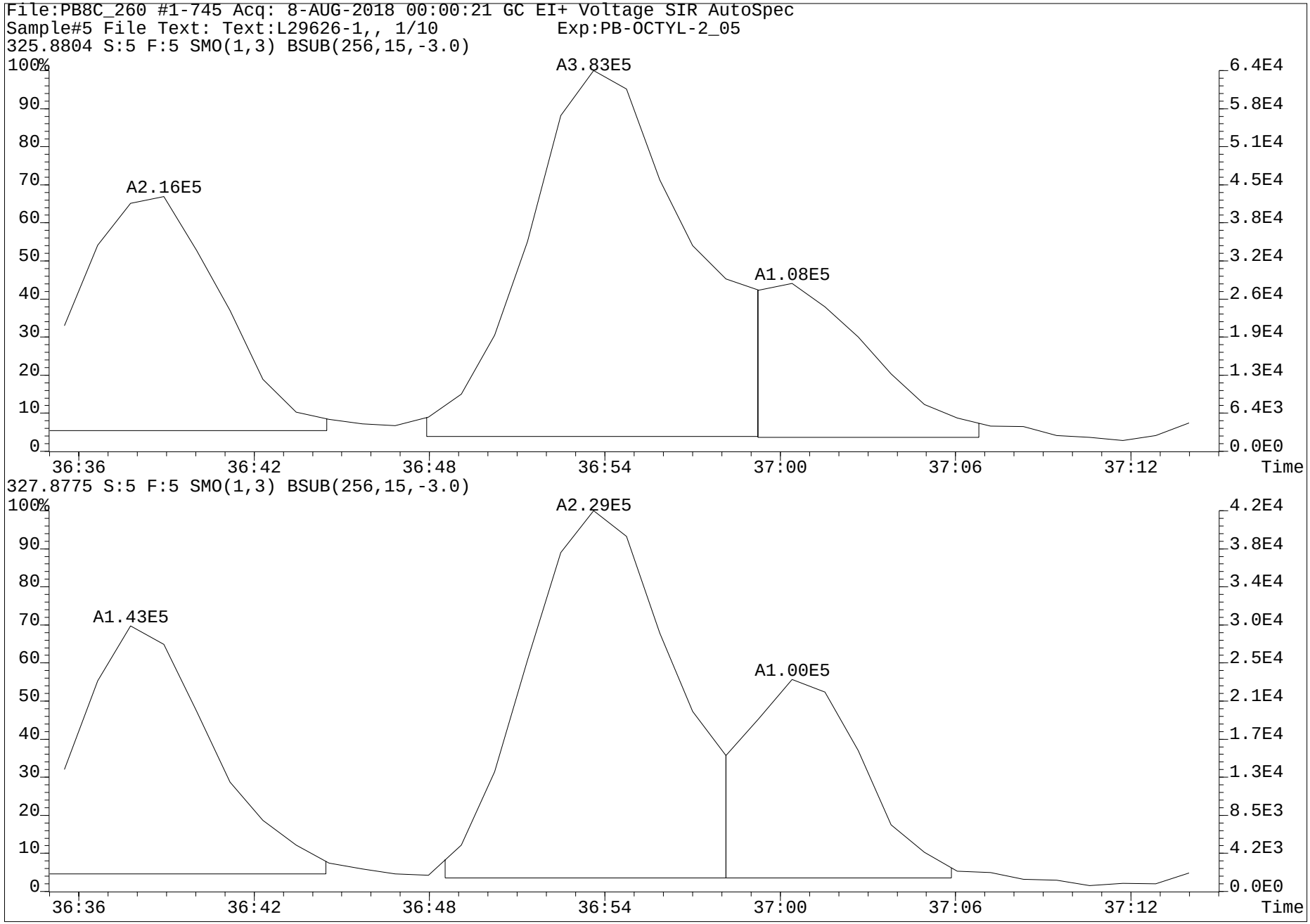

File:PB8C_260 #1-470 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.36E4
A2.33E4
A1.96E4
A1.22E4
291.9194 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.79E4
A3.32E4
A2.69E4
A1.59E4
Time

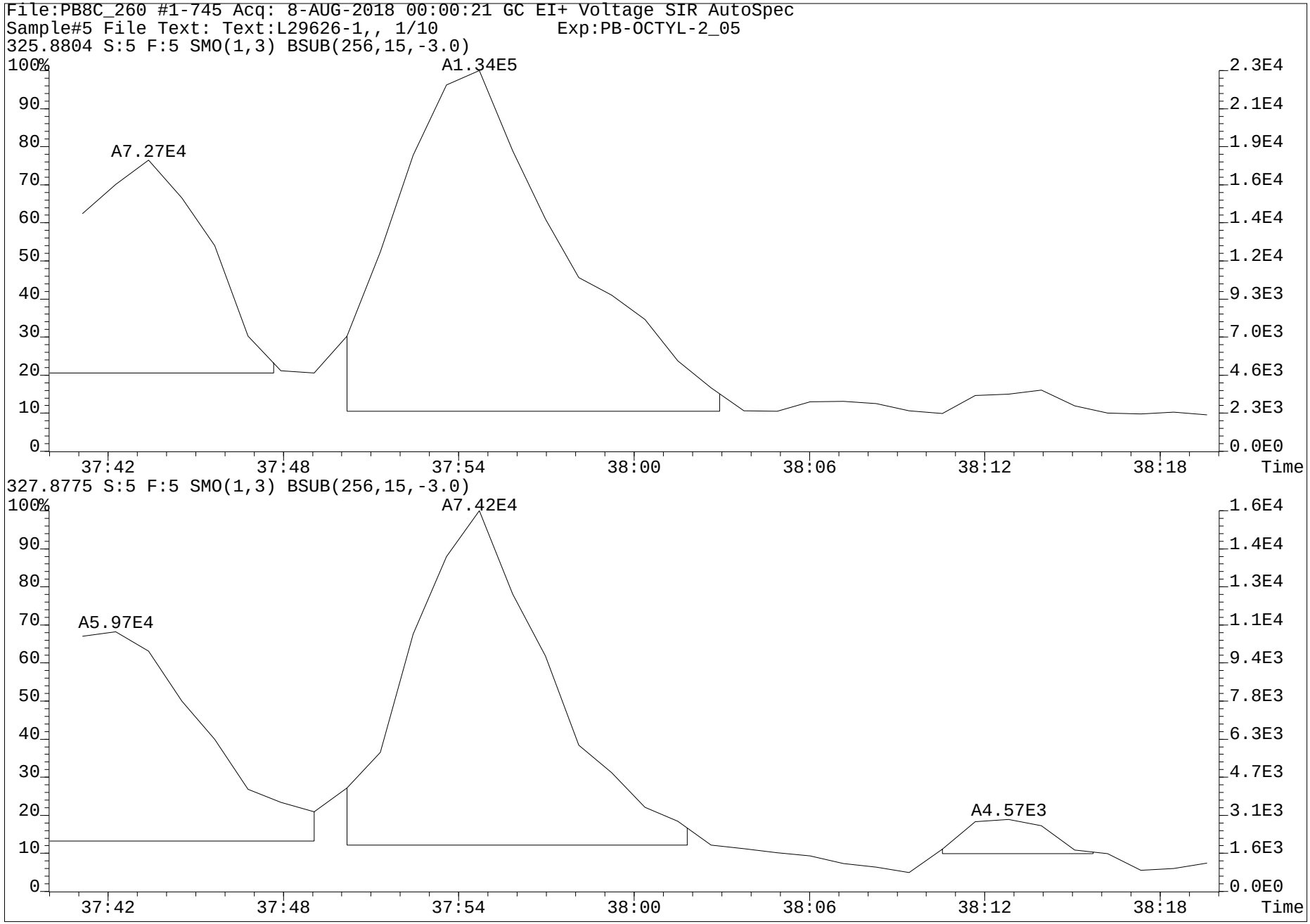

File:PB8C_260 #1-517 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A4.19E4
A1.27E3
A1.42E3
A1.60E3
A3.65E3
A1.68E3
A3.78E3
A2.66E3
A2.42E3
327.8775 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A2.31E4
A4.52E3
A1.48E3
A505.13
A1.89E3
337.9207 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A1.40E7
339.9178 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A8.74E6
280.9825 S:5 F:3
20:15 20:38 21:03 21:39 22:06 22:33 23:26 23:54 24:35 24:59 25:44 26:18 26:50 27:16
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

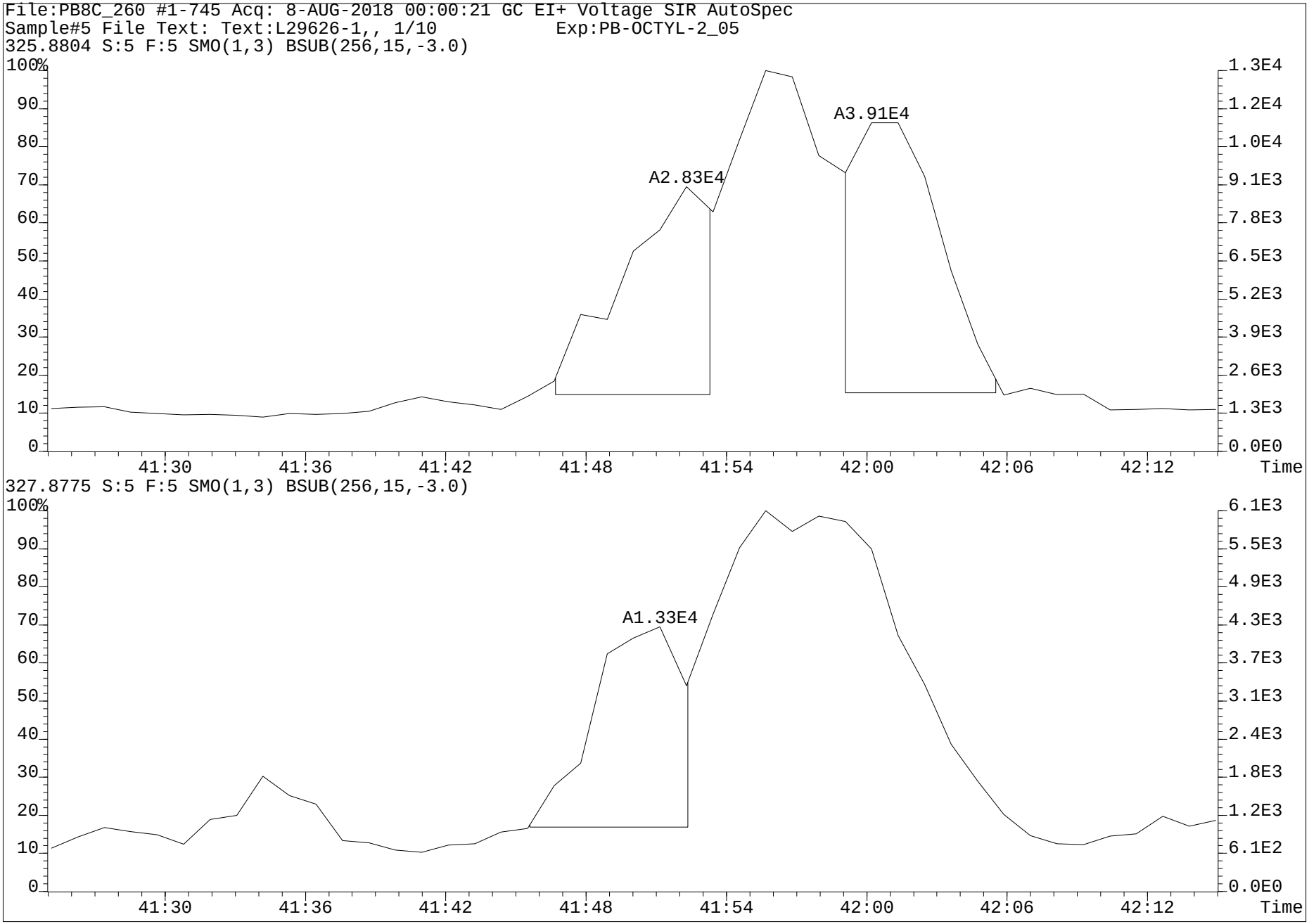

File:PB8C_260 #1-470 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.00E6
A7.34E5
A1.38E6
A5.59E6
A2.92E6
A2.94E6
A1.05E6
A5.79E6
327.8775 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.56E6
A4.62E5
A8.54E5
A3.58E6
A1.86E6
A1.88E6
A6.20E5
A3.64E6
337.9207 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,588.0,5.00%,F,T)
A3.45E7
A1.58E7
339.9178 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A2.20E7
A9.96E6
330.9792 S:5 F:4
28:22 28:50 29:21 30:00 30:58 31:32 32:07 32:46 33:28 34:18 35:03 35:41
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
1.1E6 5.3E5 0.0E0
6.8E5 3.4E5 0.0E0
6.6E6 3.3E6 0.0E0
4.2E6 2.1E6 0.0E0
4.2E6 2.1E6 0.0E0

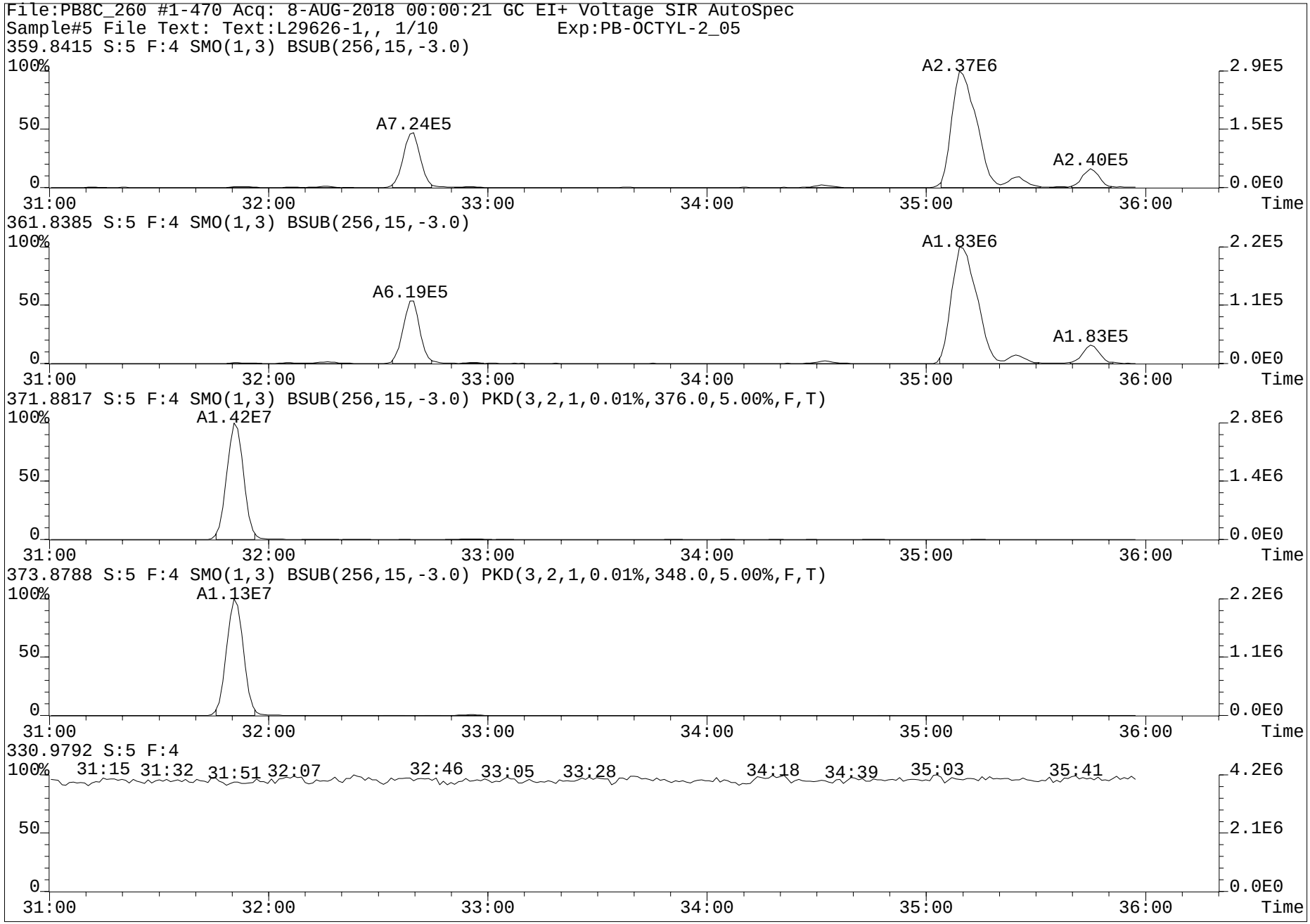

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.33E6
A2.05E6
A3.83E5
A2.02E5
7.6E5
3.8E5
0.0E0
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.78E6
A1.38E6
A2.29E5
4.8E5
2.4E5
0.0E0
337.9207 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3476.0,5.00%,F,T)
A1.69E7
A1.54E7
A1.91E7
A1.46E7
3.4E6
1.7E6
0.0E0
339.9178 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2232.0,5.00%,F,T)
A1.08E7
A9.41E6
A1.22E7
A9.20E6
2.2E6
1.1E6
0.0E0
354.9792 S:5 F:5
36:52
37:29
37:50
38:32
38:52
39:27
39:56
40:21
40:52
41:31
42:04
42:36
1.1E6
5.5E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

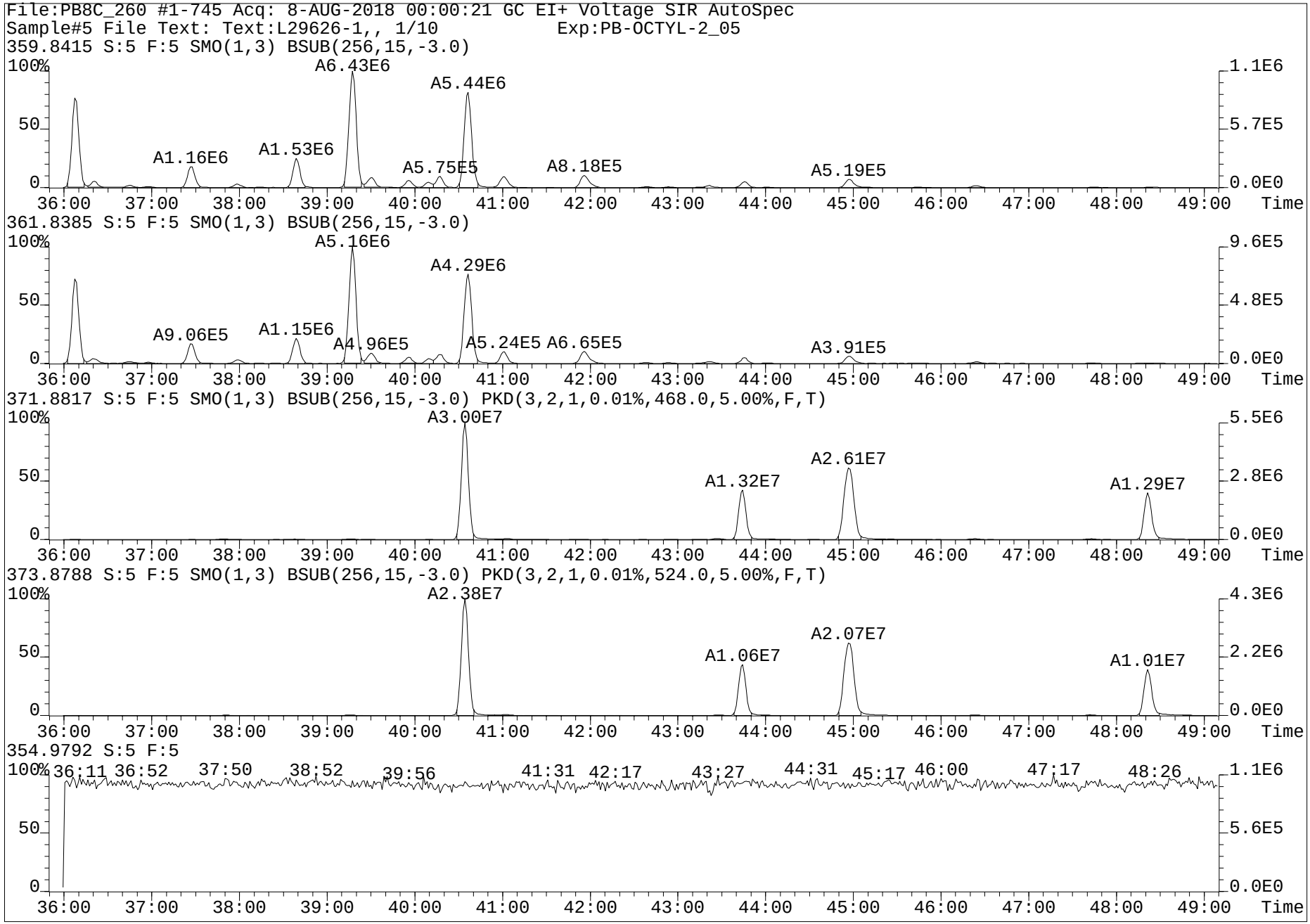

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.33E6
A2.05E6
A3.83E5
7.6E5
3.8E5
0.0E0
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.78E6
A1.38E6
A2.29E5
4.8E5
2.4E5
0.0E0
359.8415 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.43E6
A5.44E6
A1.16E6
A1.53E6
A5.78E5
A5.75E5
A6.78E5
A8.18E5
1.1E6
5.7E5
0.0E0
361.8385 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.16E6
A4.29E6
A9.06E5
A1.15E6
A4.96E5
A4.34E5
A5.24E5
A6.65E5
9.6E5
4.8E5
0.0E0
393.8025 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.05E6
A6.88E5
A1.75E5
A4.73E5
A7.33E5
3.7E5
1.8E5
0.0E0
395.7995 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.95E6
A6.62E5
A1.52E5
A4.96E5
A7.24E5
3.5E5
1.8E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

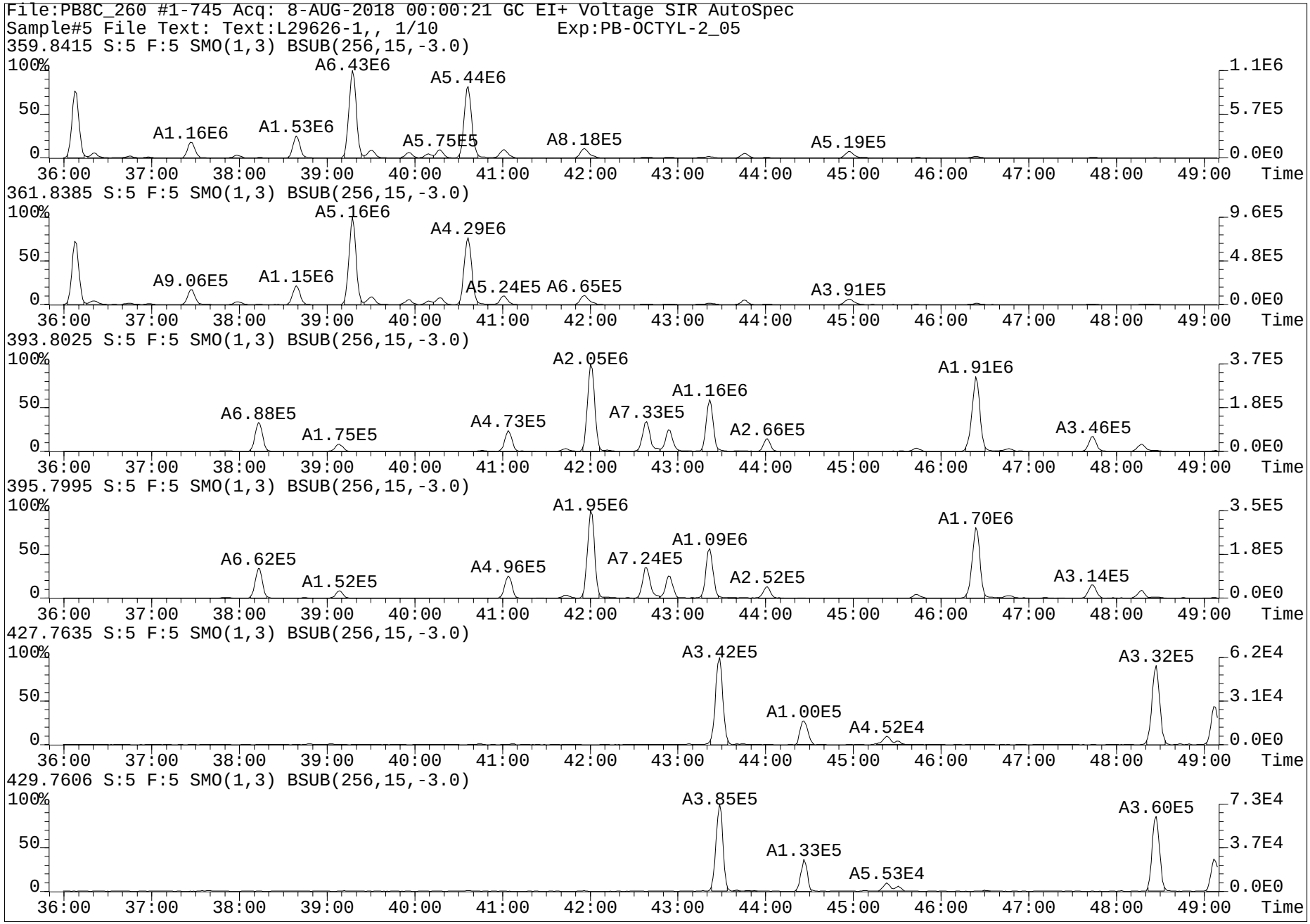

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10
Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.16E5
A3.83E5
A1.08E5
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.43E5
A2.29E5
A1.00E5
Time

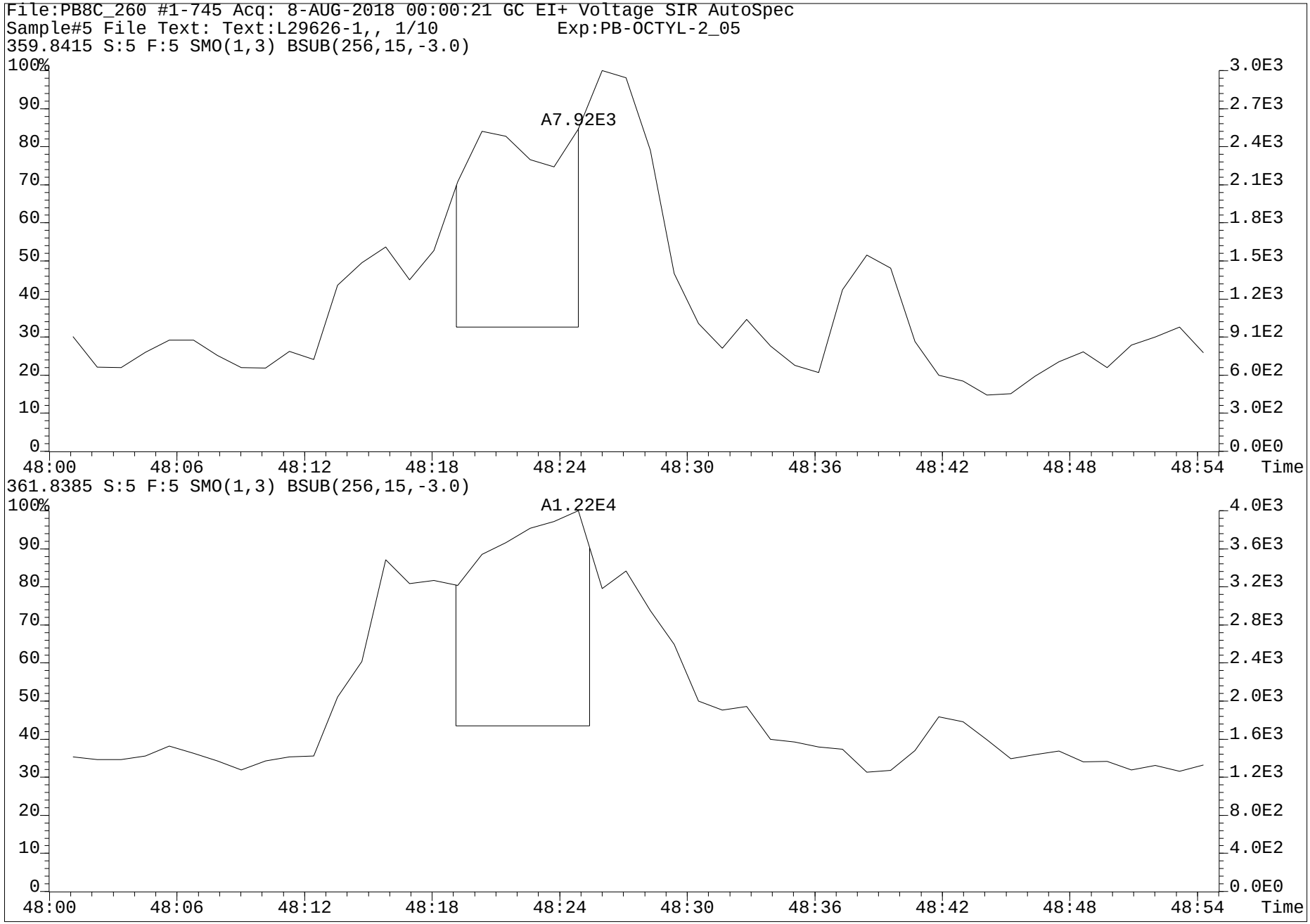

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.34E5
A7.27E4
100%
90
80
70
60
50
40
30
20
10
0
2.3E4
2.1E4
1.9E4
1.6E4
1.4E4
1.2E4
9.3E3
7.0E3
4.6E3
2.3E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.42E4
A5.97E4
A4.57E3
100%
90
80
70
60
50
40
30
20
10
0
1.6E4
1.4E4
1.3E4
1.1E4
9.4E3
7.8E3
6.3E3
4.7E3
3.1E3
1.6E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

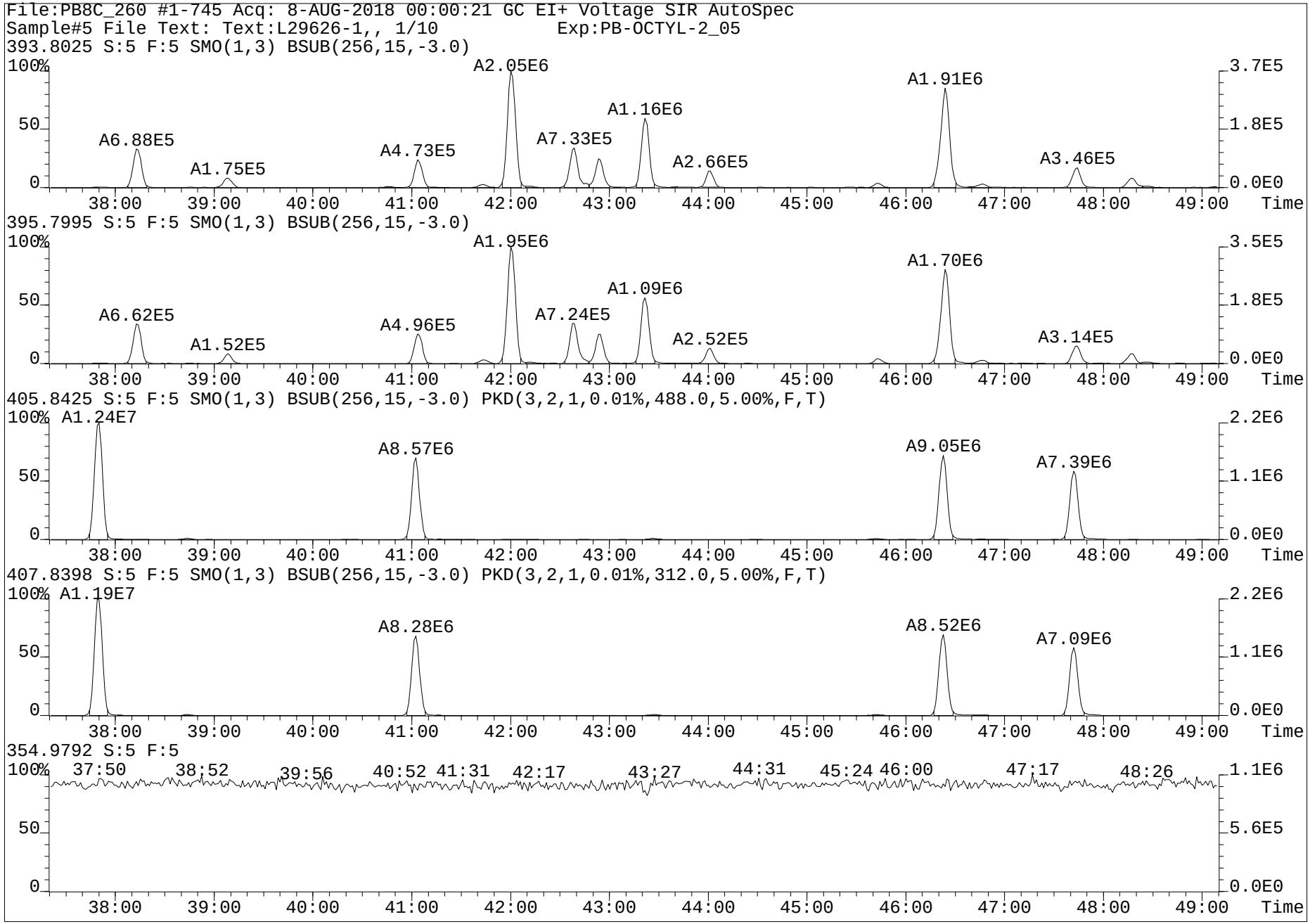

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.83E4
A3.91E4
Time
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.33E4
Time

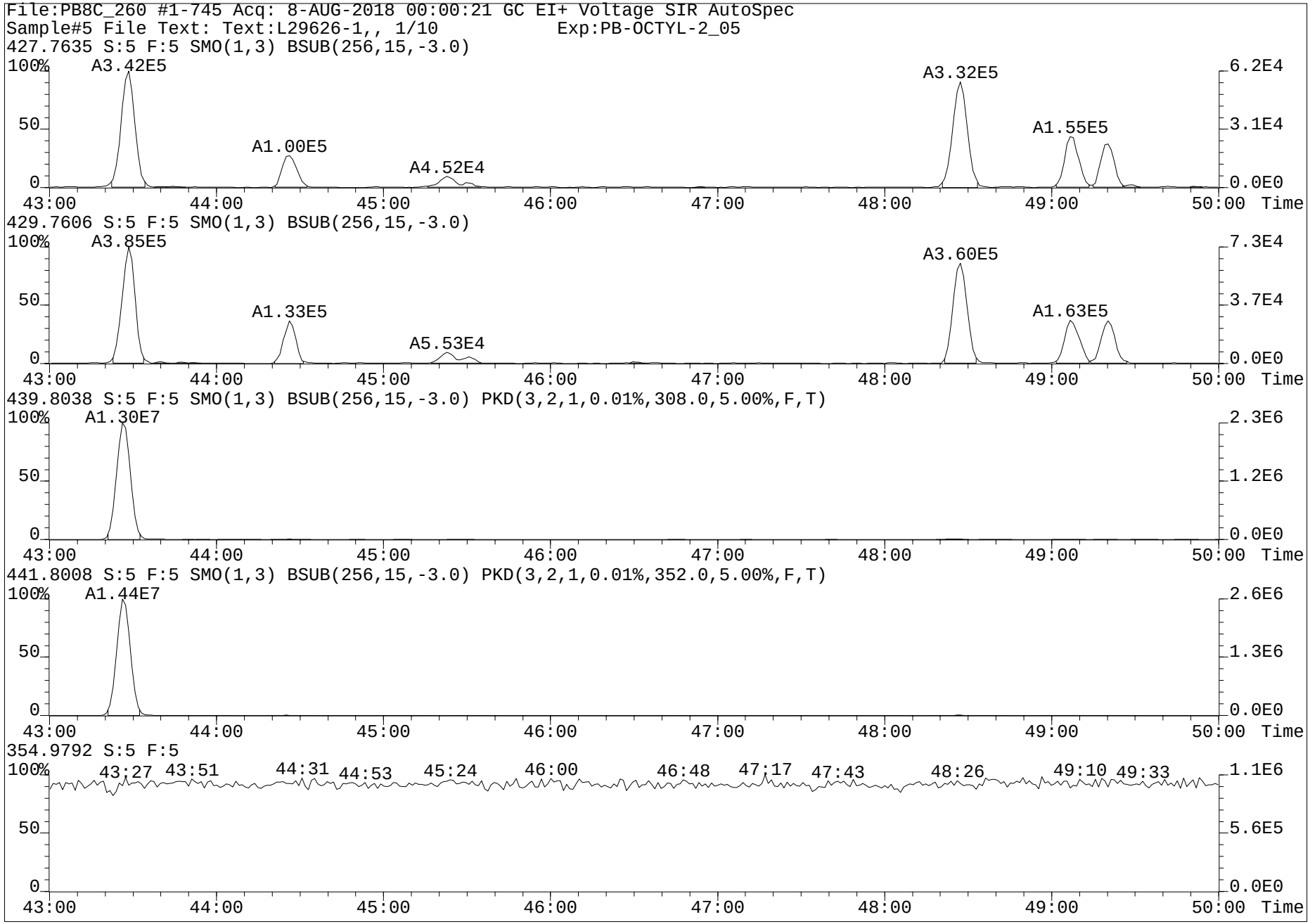

File:PB8C_260 #1-470 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.24E5
A2.37E6
A2.40E5
361.8385 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.19E5
A1.83E6
A1.83E5
371.8817 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A1.42E7
373.8788 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.13E7
330.9792 S:5 F:4
31:15 31:32 31:51 32:07 32:46 33:05 33:28 34:18 34:39 35:03 35:41
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
2.9E5 1.5E5 0.0E0
2.2E5 1.1E5 0.0E0
2.8E6 1.4E6 0.0E0
2.2E6 1.1E6 0.0E0
4.2E6 2.1E6 0.0E0

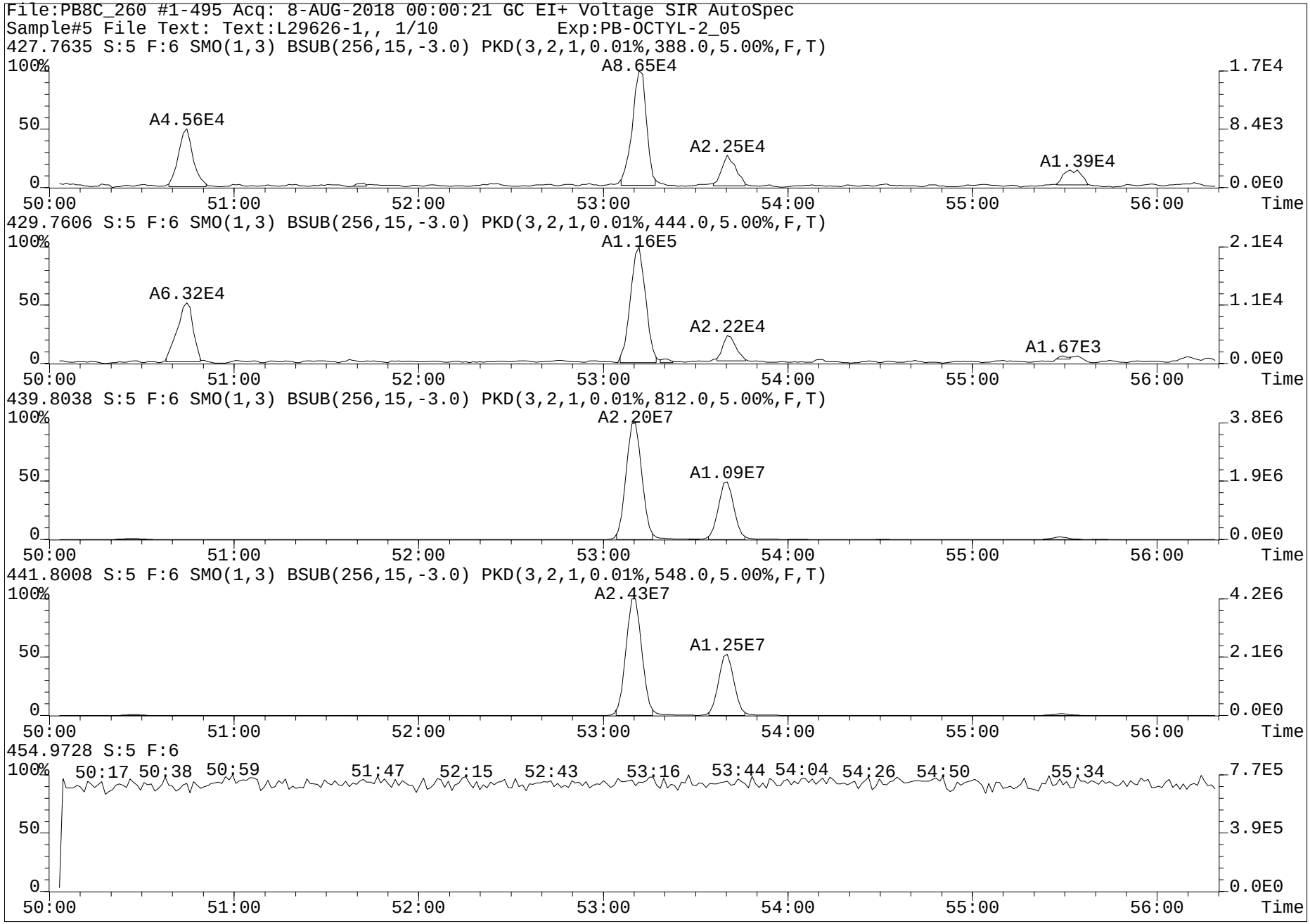

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.43E6
A5.44E6
A1.16E6
A1.53E6
A5.75E5
A8.18E5
A5.19E5
361.8385 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.16E6
A4.29E6
A9.06E5
A1.15E6
A4.96E5
A5.24E5
A6.65E5
A3.91E5
371.8817 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A3.00E7
A2.61E7
A1.32E7
A1.29E7
373.8788 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A2.38E7
A2.07E7
A1.06E7
A1.01E7
354.9792 S:5 F:5
36:11 36:52 37:50 38:52 39:56 41:31 42:17 43:27 44:31 45:17 46:00 47:17 48:26
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
1.1E6
5.7E5
0.0E0
9.6E5
4.8E5
5.5E6
2.8E6
4.3E6
2.2E6
5.6E5

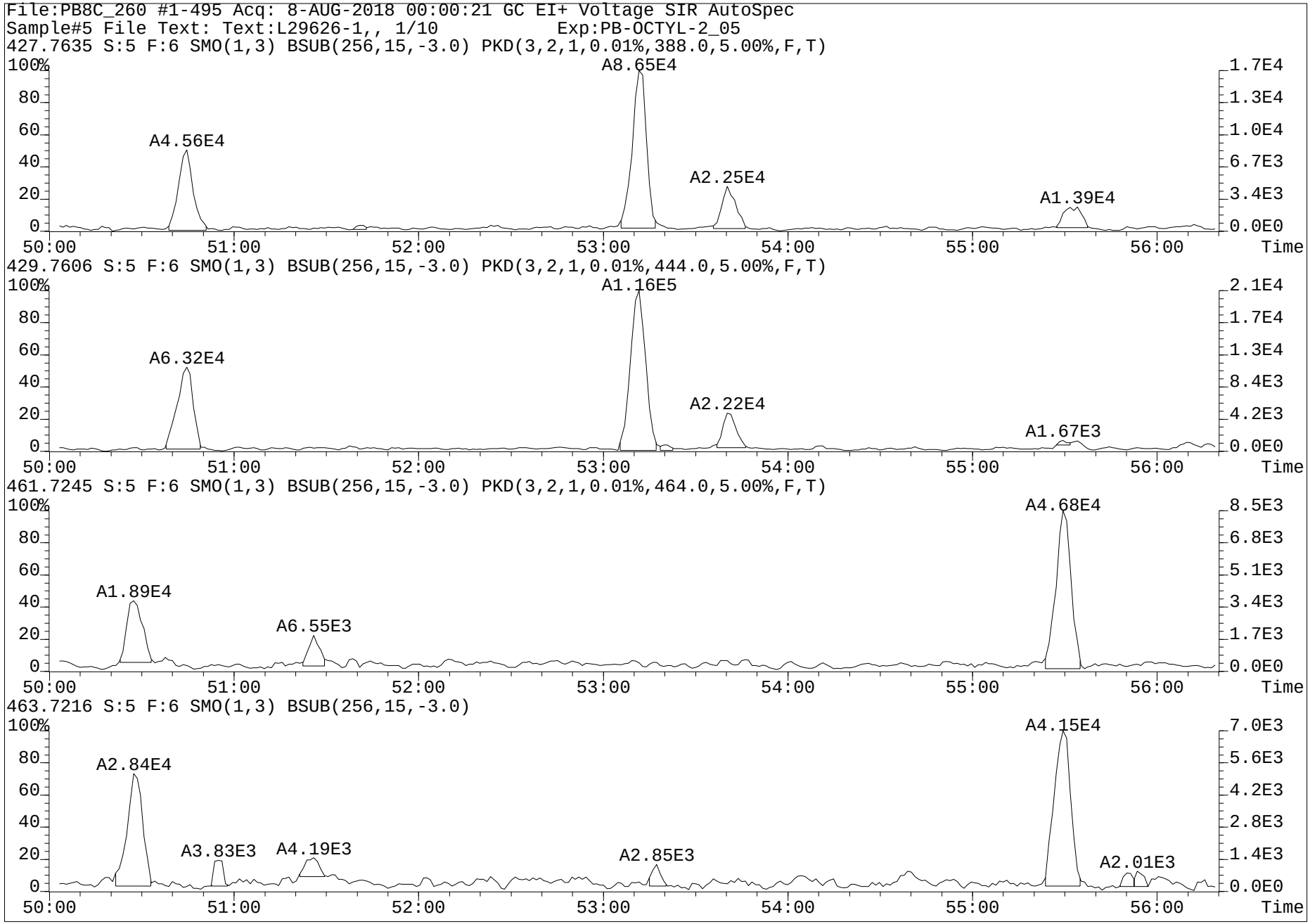

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.43E6
A5.44E6
A1.16E6
A1.53E6
A5.75E5
A8.18E5
A5.19E5
361.8385 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.16E6
A4.29E6
A9.06E5
A1.15E6
A5.24E5
A6.65E5
A3.91E5
393.8025 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.05E6
A1.91E6
A1.16E6
A6.88E5
A7.33E5
A4.73E5
A1.75E5
A2.66E5
A3.46E5
395.7995 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.95E6
A1.70E6
A1.09E6
A6.62E5
A7.24E5
A4.96E5
A1.52E5
A2.52E5
A3.14E5
427.7635 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.42E5
A3.32E5
A1.00E5
A4.52E4
429.7606 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.85E5
A3.60E5
A1.33E5
A5.53E4
Time

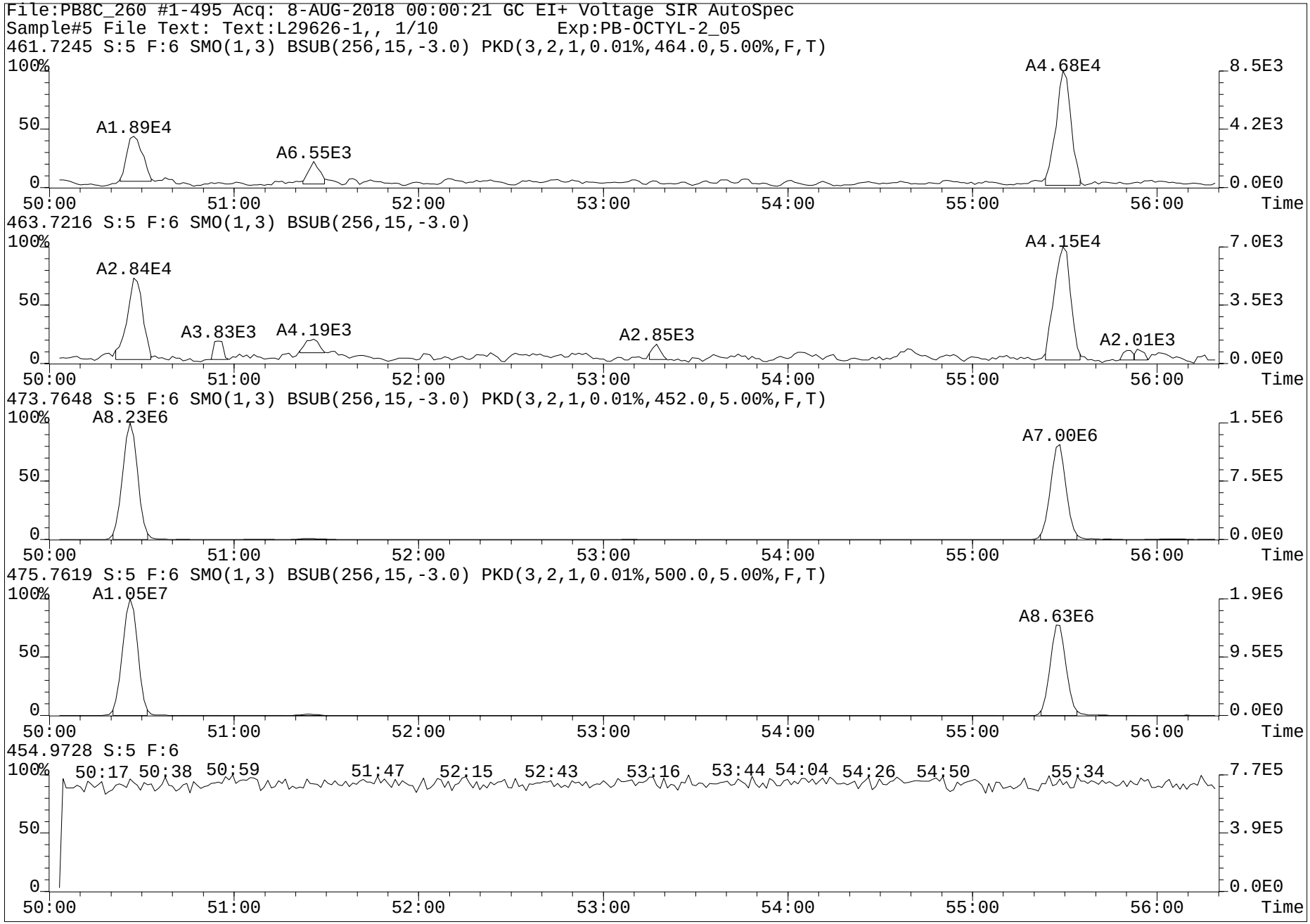

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.92E3
361.8385 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.22E4
Time

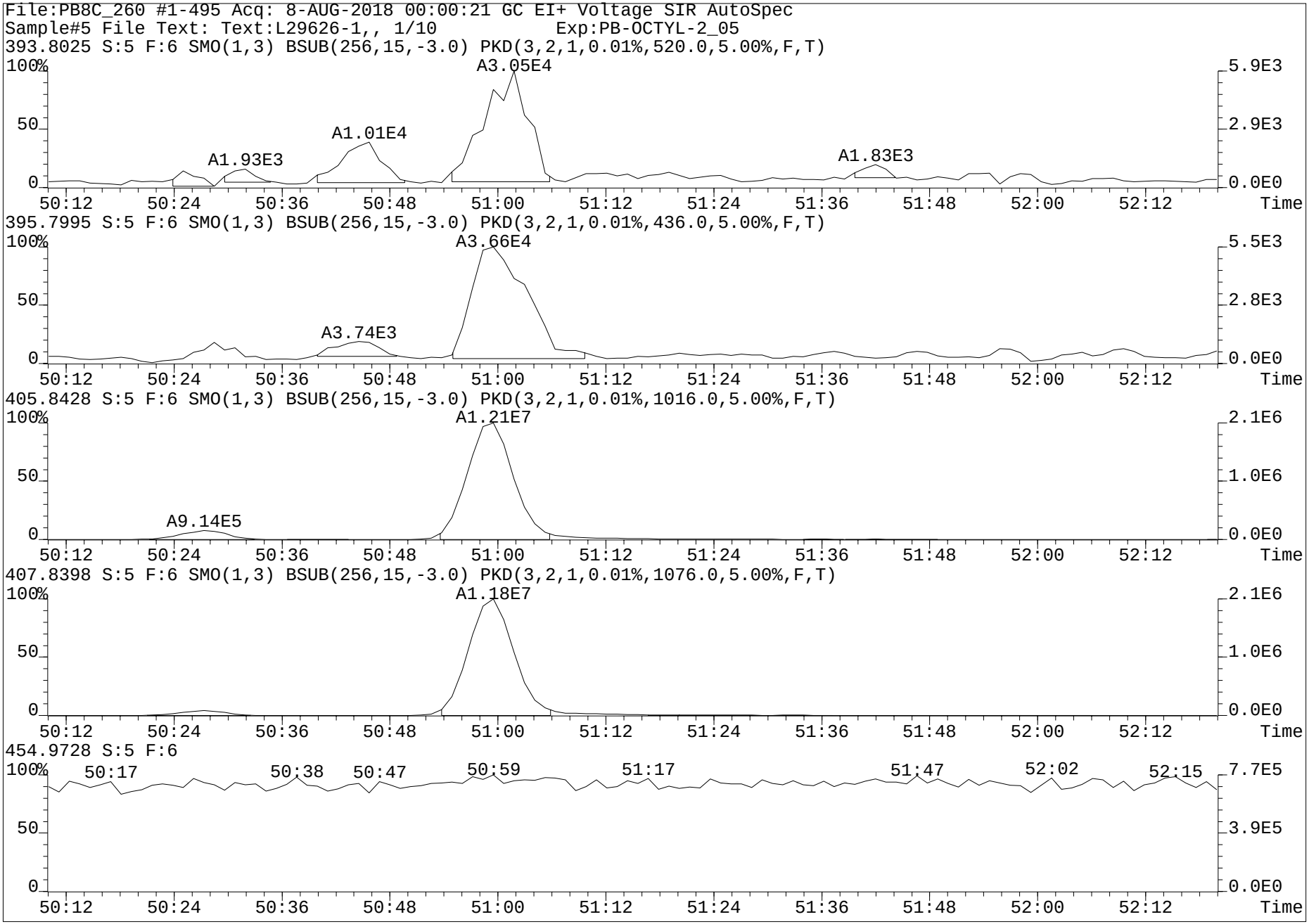

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.88E5
A1.75E5
A4.73E5
A2.05E6
A7.33E5
A1.16E6
A2.66E5
A1.91E6
A3.46E5
395.7995 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.62E5
A1.52E5
A4.96E5
A1.95E6
A7.24E5
A1.09E6
A2.52E5
A1.70E6
A3.14E5
405.8425 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A1.24E7
A8.57E6
A9.05E6
A7.39E6
407.8398 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
A1.19E7
A8.28E6
A8.52E6
A7.09E6
354.9792 S:5 F:5
37:50
38:52
39:56
40:52
41:31
42:17
43:27
44:31
45:24
46:00
47:17
48:26
100%
50
0
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
3.7E5
1.8E5
0.0E0
3.5E5
2.2E6
1.1E6
5.6E5

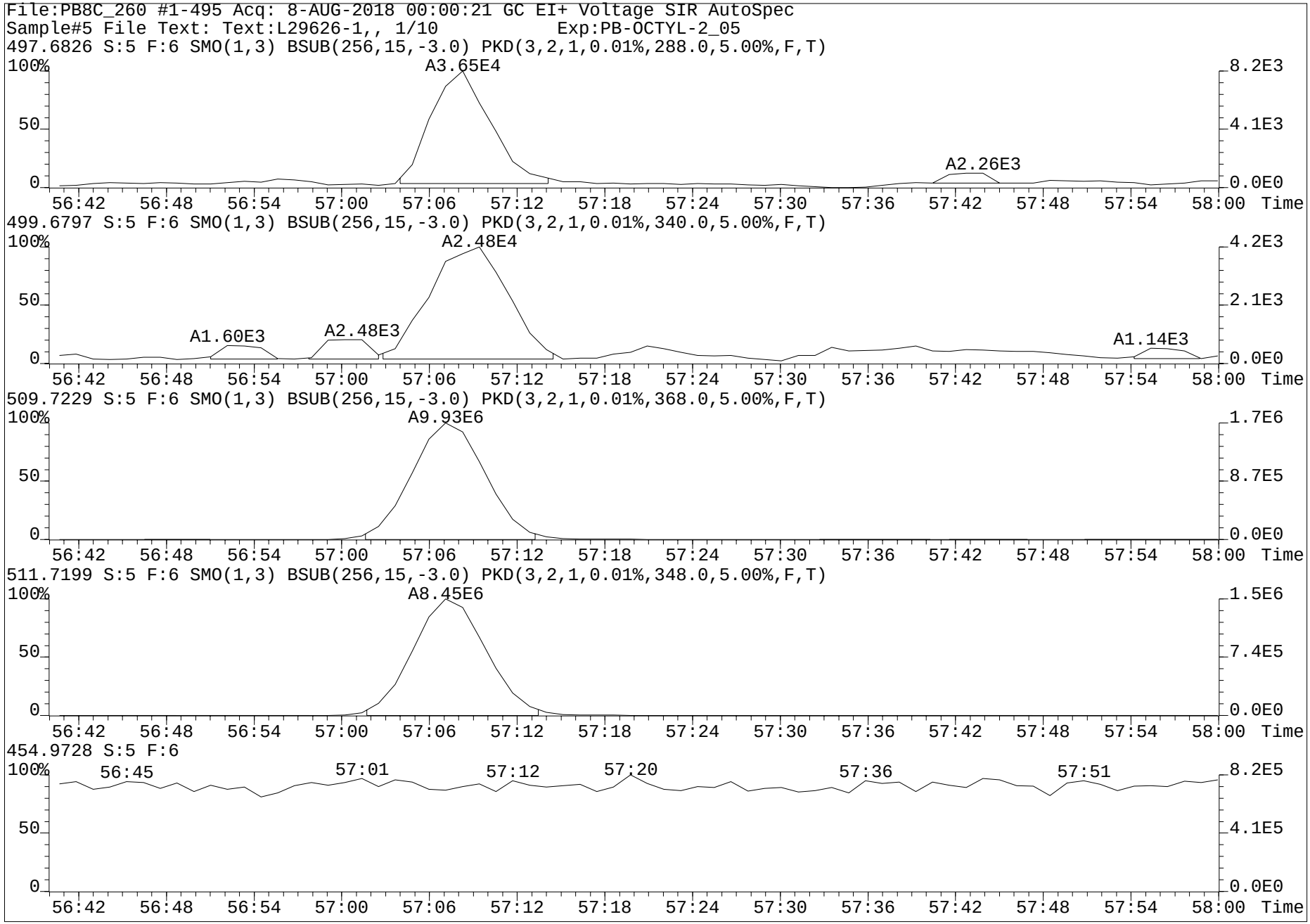

File:PB8C_260 #1-745 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.42E5
A1.00E5
A4.52E4
A3.32E5
A1.55E5
6.2E4
3.1E4
0.0E0
429.7606 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.85E5
A1.33E5
A5.53E4
A3.60E5
A1.63E5
7.3E4
3.7E4
0.0E0
439.8038 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A1.30E7
2.3E6
1.2E6
0.0E0
441.8008 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A1.44E7
2.6E6
1.3E6
0.0E0
354.9792 S:5 F:5
43:27 43:51 44:31 44:53 45:24 46:00 46:48 47:17 47:43 48:26 49:10 49:33
1.1E6
5.6E5
0.0E0
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A8.65E4
A4.56E4
A2.25E4
A1.39E4
429.7606 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A1.16E5
A6.32E4
A2.22E4
A1.67E3
439.8038 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,812.0,5.00%,F,T)
A2.20E7
A1.09E7
441.8008 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A2.43E7
A1.25E7
454.9728 S:5 F:6
50:17 50:38 50:59 51:47 52:15 52:43 53:16 53:44 54:04 54:26 54:50 55:34
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
1.7E4 8.4E3 0.0E0
2.1E4 1.1E4 0.0E0
3.8E6 1.9E6 0.0E0
4.2E6 2.1E6 0.0E0
7.7E5 3.9E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A8.65E4
A4.56E4
A2.25E4
A1.39E4
429.7606 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A1.16E5
A6.32E4
A2.22E4
A1.67E3
461.7245 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A4.68E4
A1.89E4
A6.55E3
463.7216 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0)
A4.15E4
A2.84E4
A3.83E3
A4.19E3
A2.85E3
A2.01E3
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
1.7E4
1.3E4
1.0E4
6.7E3
3.4E3
0.0E0
2.1E4
1.7E4
1.3E4
8.4E3
4.2E3
0.0E0
8.5E3
6.8E3
5.1E3
3.4E3
1.7E3
0.0E0
7.0E3
5.6E3
4.2E3
2.8E3
1.4E3
0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A1.89E4
A6.55E3
A4.68E4
463.7216 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0)
A2.84E4
A3.83E3
A4.19E3
A2.85E3
A4.15E4
A2.01E3
473.7648 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A8.23E6
A7.00E6
475.7619 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,500.0,5.00%,F,T)
A1.05E7
A8.63E6
454.9728 S:5 F:6
50:17 50:38 50:59 51:47 52:15 52:43 53:16 53:44 54:04 54:26 54:50 55:34
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
8.5E3 4.2E3 0.0E0
7.0E3 3.5E3 0.0E0
1.5E6 7.5E5 0.0E0
1.9E6 9.5E5 0.0E0
7.7E5 3.9E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A3.05E4
A1.01E4
A1.93E3
A1.83E3
395.7995 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A3.66E4
A3.74E3
405.8428 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1016.0,5.00%,F,T)
A1.21E7
A9.14E5
407.8398 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1076.0,5.00%,F,T)
A1.18E7
454.9728 S:5 F:6
50:17
50:38
50:47
50:59
51:17
51:47
52:02
52:15
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
5.9E3
2.9E3
0.0E0
5.5E3
2.8E3
2.1E6
1.0E6
7.7E5
3.9E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 00:00:21 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:L29626-1,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A3.65E4
A2.26E3
8.2E3
4.1E3
0.0E0
499.6797 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A2.48E4
A1.60E3
A2.48E3
A1.14E3
4.2E3
2.1E3
0.0E0
509.7229 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A9.93E6
1.7E6
8.7E5
0.0E0
511.7199 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A8.45E6
1.5E6
7.4E5
0.0E0
454.9728 S:5 F:6
56:45
57:01
57:12
57:20
57:36
57:51
8.2E5
4.1E5
0.0E0
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

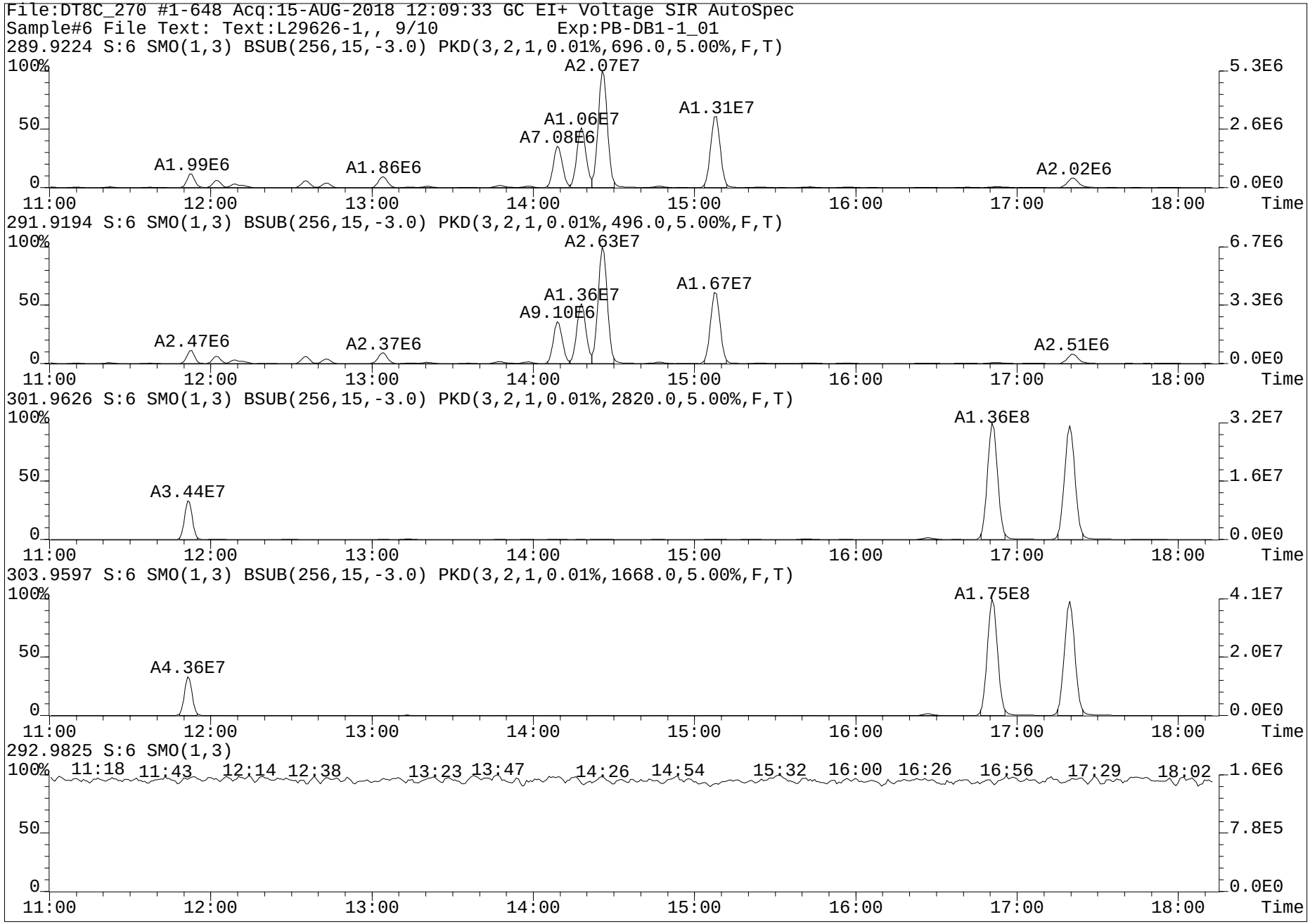
www.axysanalytical.com

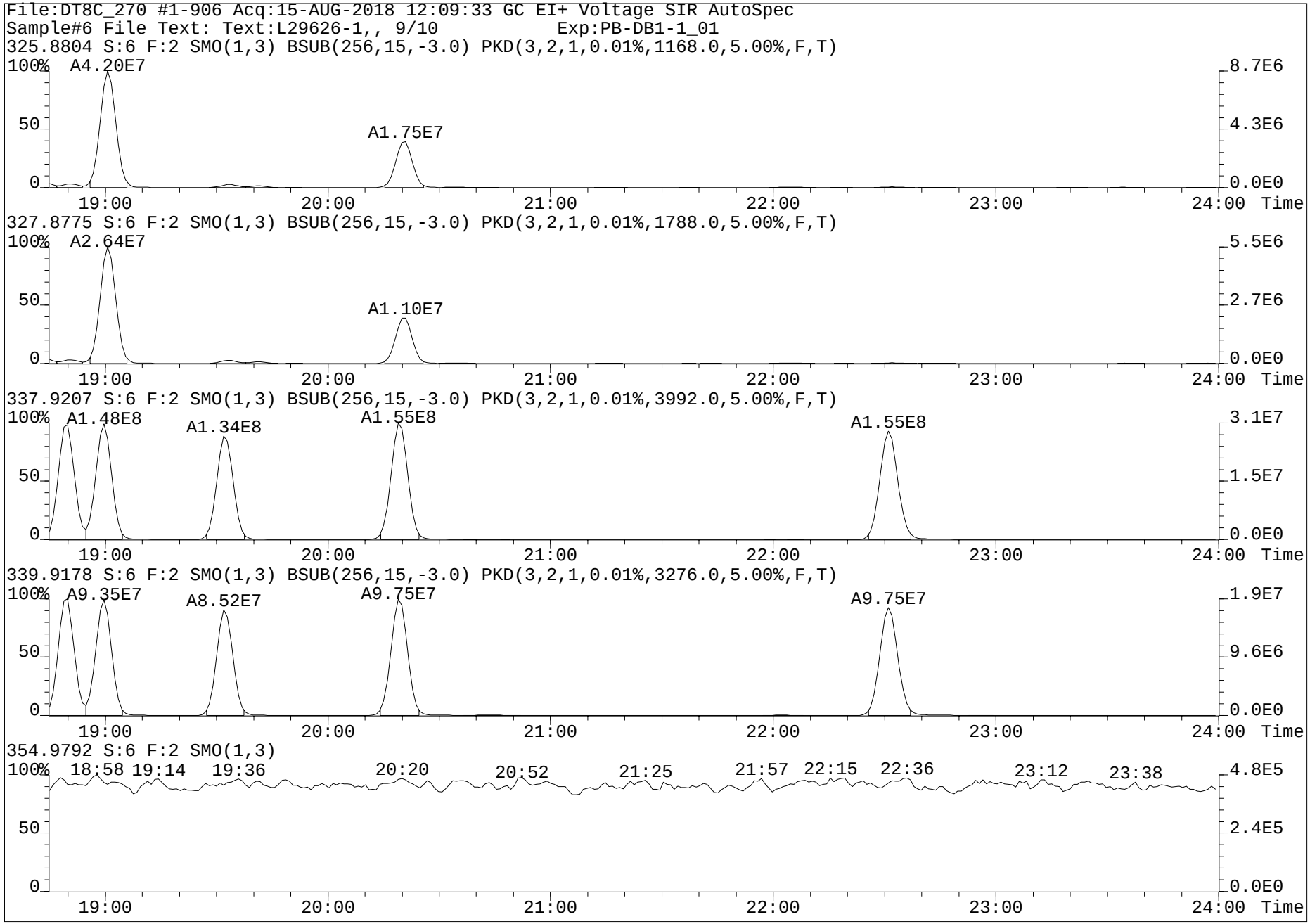
Run #12 Filename DT8C_270 S: 6 I: 1 Acquired: 15-AUG-18 12:09:33 Processed: 17-AUG-18 09:04:13
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-1,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.890000 conc units: pg/g total toxicity: 1436.99 F1: 1.0000 F2: 5.0000

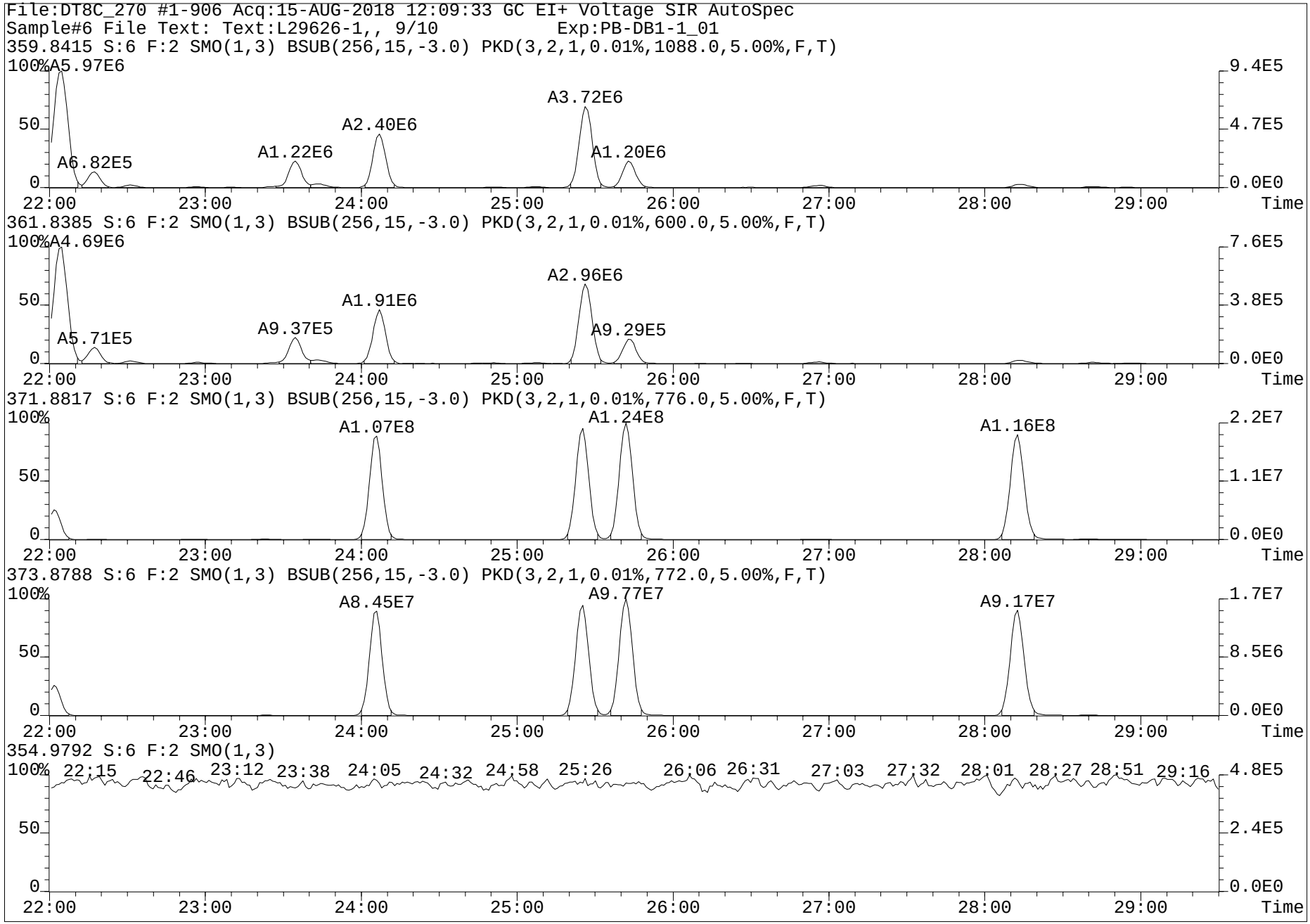
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	5.09e+05	0.81	y	16:53	3.210	3	0.0810	-	n
2	Unk	CL4-PCB-77	1	4.52e+06	0.81	y	17:21	28.073	28	0.0818	-	n
3	Unk	CL5-PCB-123	1	2.15e+06	1.57	y	18:50	17.602	18	0.2976	-	n
4	Unk	CL5-PCB-118	1	6.84e+07	1.59	y	19:01	538.312	538	0.2843	-	n
5	Unk	CL5-PCB-114	1	1.92e+06	1.55	y	19:34	15.755	16	0.2977	-	n
6	Unk	CL5-PCB-105	1	2.86e+07	1.59	y	20:21	221.833	222	0.2913	-	n
7	Unk	CL5-PCB-126	1	4.46e+05	1.59	y	22:32	3.410	3	0.3091	-	n
8	Unk	CL6-PCB-167	1	4.31e+06	1.26	y	24:07	39.990	40	0.2184	-	n
9	Unk	CL6-PCB-156	1	6.68e+06	1.25	y	25:26	57.758	58	0.2078	-	n
10	Unk	CL6-PCB-157	1	2.13e+06	1.30	y	25:43	17.771	18	0.2028	-	n
11	Unk	CL6-PCB-169	1	2.83e+05	1.28	y	28:14	2.584	3	0.2307	-	n
12	Unk	CL7-PCB-180	1	2.99e+06	0.99	y	26:56	384.922	385	1.9679	-	n
13	Unk	CL7-PCB-170	1	1.05e+06	1.03	y	28:42	100.105	100	1.5328	-	n
14	Unk	CL7-PCB-189	1	4.51e+05	0.99	y	31:02	5.659	6	0.2064	-	n
15	IS	13C-CL4-PCB-81	1	3.11e+08	0.78	y	16:51	6566.294	0	0.7707	321.1	n
16	IS	13C-CL4-PCB-77	1	3.13e+08	0.78	y	17:20	6700.165	0	0.7825	327.6	n
17	IS	13C-CL5-PCB-123	1	2.43e+08	1.57	y	18:50	5905.514	0	1.8374	288.8	n
18	IS	13C-CL5-PCB-118	1	2.41e+08	1.58	y	19:00	5700.029	0	1.7865	278.7	n
19	IS	13C-CL5-PCB-114	1	2.19e+08	1.57	y	19:32	5671.202	0	1.9572	277.3	n
20	IS	13C-CL5-PCB-105	1	2.53e+08	1.59	y	20:19	6467.137	0	1.9350	316.2	n
21	IS	13C-CL5-PCB-126	1	2.53e+08	1.59	y	22:31	7152.131	0	2.1417	349.7	n
22	IS	13C-CL6-PCB-167	1	1.91e+08	1.26	y	24:06	6257.262	0	0.6697	306.0	n
23	IS	13C-CL6-PCB-156	1	2.08e+08	1.27	y	25:25	6669.394	0	0.6576	326.1	n
24	IS	13C-CL6-PCB-157	1	2.22e+08	1.27	y	25:42	6390.586	0	0.5897	312.5	n
25	IS	13C-CL6-PCB-169	1	2.07e+08	1.26	y	28:13	6981.779	0	0.6896	341.4	n
26	IS	13C-CL7-PCB-180	1	1.65e+07	1.05	y	26:54	719.542	0	0.7252	35.2	n
27	IS	13C-CL7-PCB-170	1	2.33e+07	1.05	y	28:40	1242.918	0	0.8887	60.8	n
28	IS	13C-CL7-PCB-189	1	1.64e+08	1.05	y	31:01	6676.176	0	0.6775	326.5	n
29	IS	13C-CL10-PCB-209	1	5.63e+06	1.12	y	34:37	198.558	0	0.3695	9.7	n
30	RS	13C-CL4-PCB-52	1	7.80e+07	0.79	y	11:51	39.924	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.59e+07	1.60	y	15:41	40.118	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	5.23e+07	1.26	y	22:02	41.670	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	4.19e+07	1.61	y	17:03	1240.877	0	0.3683	60.7	n
34	C/Up	13C-CL7-PCB-178	1	5.83e+06	1.04	y	22:55	258.825	0	0.7402	12.7	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

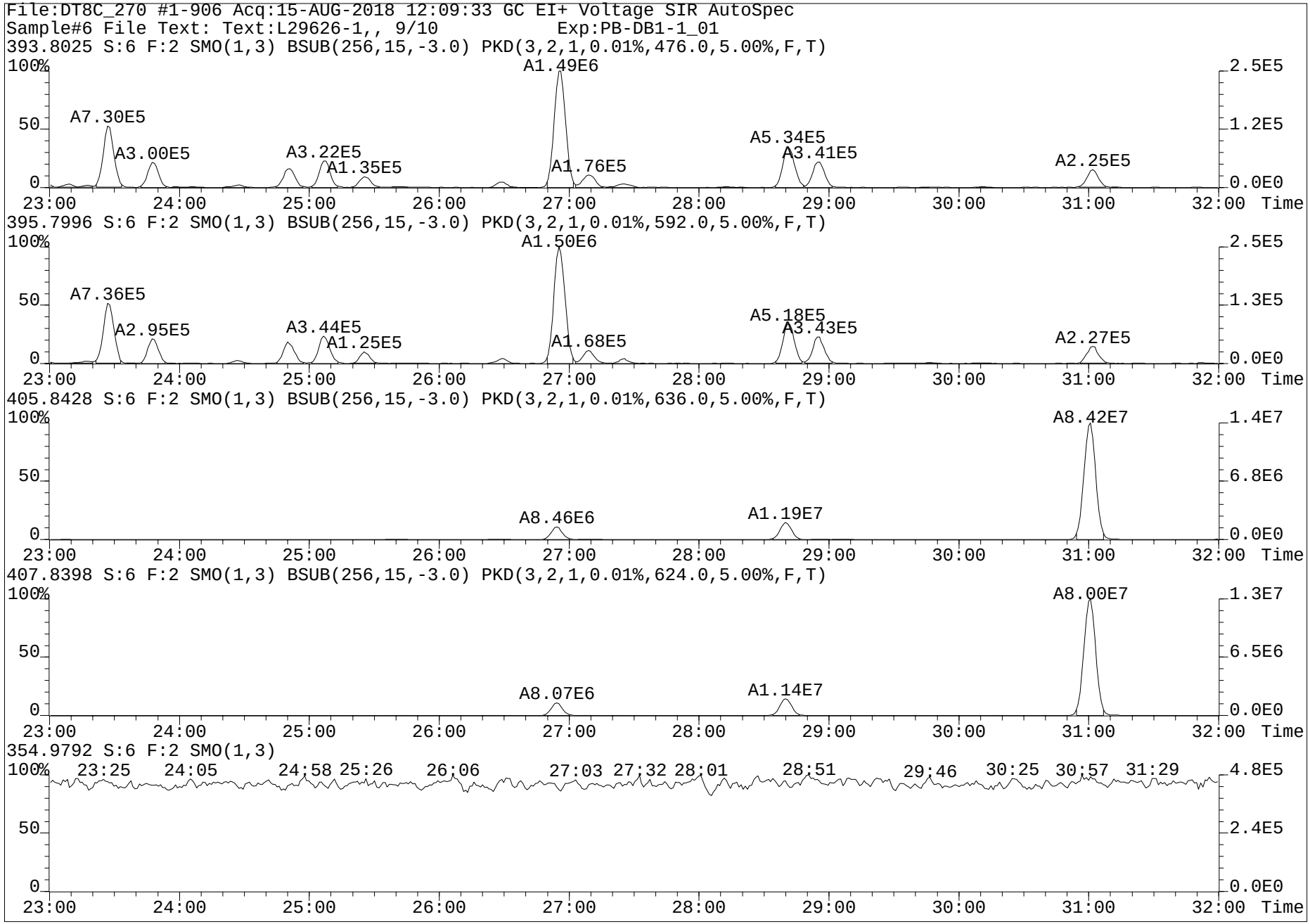
SV BW
17 Aug 2018

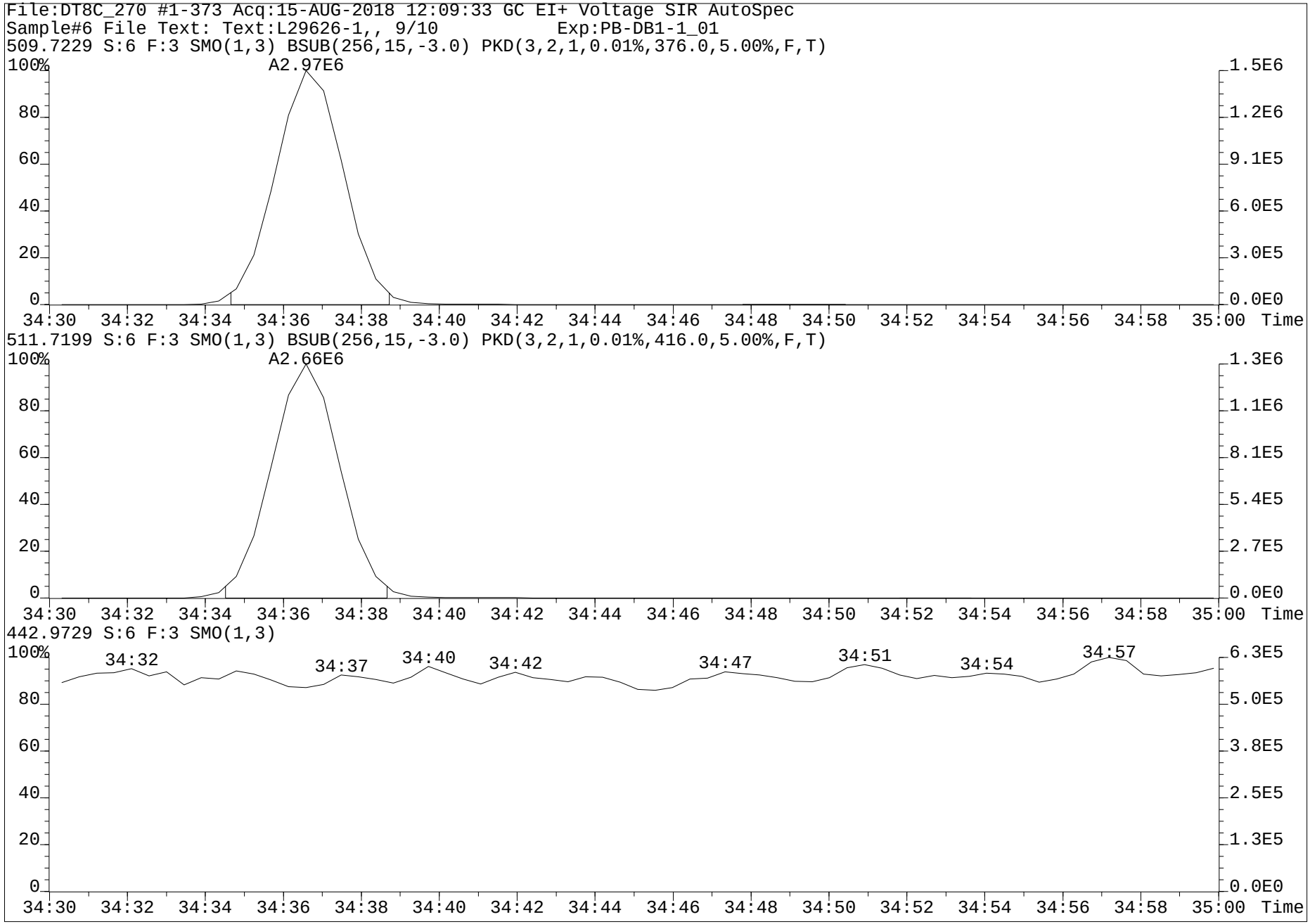
PV by RA 17AUG18

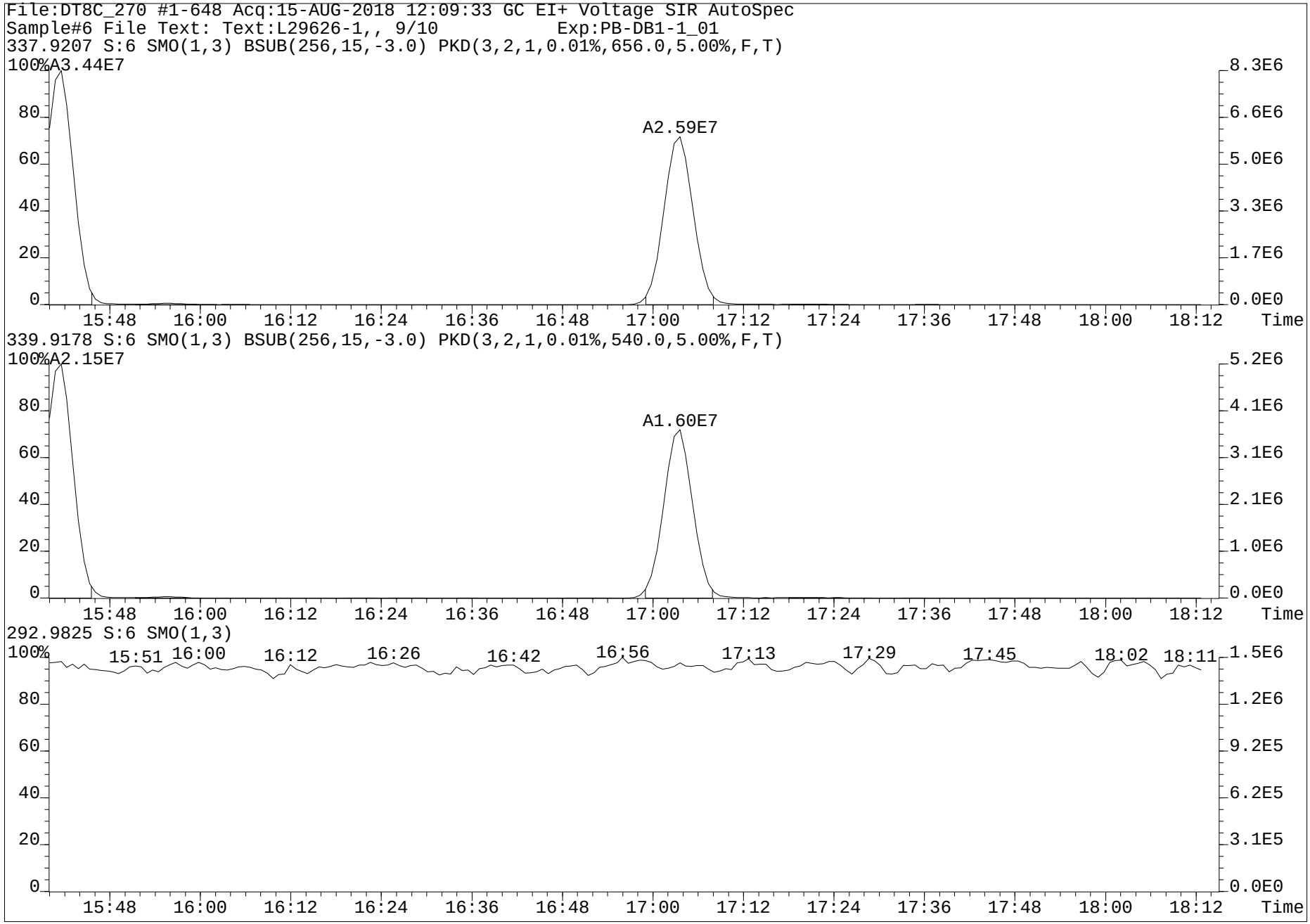

File:DT8C_270 #1-648 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
289.9224 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
A2.07E7
A1.31E7
A1.06E7
A7.08E6
A1.99E6
A1.86E6
A2.02E6
5.3E6
2.6E6
0.0E0
291.9194 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A2.63E7
A1.67E7
A1.36E7
A9.10E6
A2.47E6
A2.37E6
A2.51E6
6.7E6
3.3E6
0.0E0
301.9626 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2820.0,5.00%,F,T)
A1.36E8
A3.44E7
3.2E7
1.6E7
0.0E0
303.9597 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1668.0,5.00%,F,T)
A1.75E8
A4.36E7
4.1E7
2.0E7
0.0E0
292.9825 S:6 SMO(1,3)
11:18 11:43 12:14 12:38 13:23 13:47 14:26 14:54 15:32 16:00 16:26 16:56 17:29 18:02
1.6E6
7.8E5
0.0E0
100%
50
0
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
325.8804 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1168.0,5.00%,F,T)
100% A4.20E7
A1.75E7
8.7E6
4.3E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
327.8775 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1788.0,5.00%,F,T)
100% A2.64E7
A1.10E7
5.5E6
2.7E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
337.9207 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3992.0,5.00%,F,T)
100% A1.48E8
A1.34E8
A1.55E8
A1.55E8
3.1E7
1.5E7
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
339.9178 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3276.0,5.00%,F,T)
100% A9.35E7
A8.52E7
A9.75E7
A9.75E7
1.9E7
9.6E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
354.9792 S:6 F:2 SMO(1,3)
100% 18:58 19:14 19:36 20:20 20:52 21:25 21:57 22:15 22:36 23:12 23:38
4.8E5
2.4E5
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
359.8415 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1088.0,5.00%,F,T)
A5.97E6
A6.82E5
A1.22E6
A2.40E6
A3.72E6
A1.20E6
361.8385 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,600.0,5.00%,F,T)
A4.69E6
A5.71E5
A9.37E5
A1.91E6
A2.96E6
A9.29E5
371.8817 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,776.0,5.00%,F,T)
A1.07E8
A1.24E8
A1.16E8
373.8788 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,772.0,5.00%,F,T)
A8.45E7
A9.77E7
A9.17E7
354.9792 S:6 F:2 SMO(1,3)
22:15 22:46 23:12 23:38 24:05 24:32 24:58 25:26 26:06 26:31 27:03 27:32 28:01 28:27 28:51 29:16
100%
50
0
9.4E5
4.7E5
0.0E0
7.6E5
3.8E5
2.2E7
1.1E7
1.7E7
8.5E6
4.8E5
2.4E5
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
393.8025 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,476.0,5.00%,F,T)
A7.30E5
A3.00E5
A3.22E5
A1.35E5
A1.49E6
A1.76E5
A5.34E5
A3.41E5
A2.25E5
395.7996 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,592.0,5.00%,F,T)
A7.36E5
A2.95E5
A3.44E5
A1.25E5
A1.50E6
A1.68E5
A5.18E5
A3.43E5
A2.27E5
405.8428 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,636.0,5.00%,F,T)
A8.46E6
A1.19E7
A8.42E7
407.8398 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,624.0,5.00%,F,T)
A8.07E6
A1.14E7
A8.00E7
354.9792 S:6 F:2 SMO(1,3)
23:25 24:05 24:58 25:26 26:06 27:03 27:32 28:01 28:51 29:46 30:25 30:57 31:29
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
2.5E5
1.2E5
0.0E0
1.3E5
1.4E7
6.8E6
1.3E7
6.5E6
4.8E5
2.4E5


File:DT8C_270 #1-373 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
509.7229 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A2.97E6
511.7199 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A2.66E6
442.9729 S:6 F:3 SMO(1,3)
34:32
34:37
34:40
34:42
34:47
34:51
34:54
34:57
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 12:09:33 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-1,, 9/10 Exp:PB-DB1-1_01
337.9207 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,656.0,5.00%,F,T)
100%A3.44E7
A2.59E7
8.3E6
6.6E6
5.0E6
3.3E6
1.7E6
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
339.9178 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
100%A2.15E7
A1.60E7
5.2E6
4.1E6
3.1E6
2.1E6
1.0E6
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
292.9825 S:6 SMO(1,3)
100%
15:51 16:00 16:12 16:26 16:42 16:56 17:13 17:29 17:45 18:02 18:11
1.5E6
1.2E6
9.2E5
6.2E5
3.1E5
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

Run #13 Filename PB8C_260 S: 6 I: 1 Acquired: 8-AUG-18 01:03:57 Processed: 8-AUG-18 07:42:31
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-2,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.280000 conc units: pg/g total toxicity: 1348.58 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.52e+04	4.09	n	11:29	1.756	2	0.4425	-	n
2	Unk	CL1-PCB-3	1	3.36e+04	4.04	n	13:41	1.689	2	0.5346	-	n
3	Unk	CL2-PCB-4	1	1.80e+05	1.54	y	13:57	14.166	14	3.5115	-	n
4	Unk	CL2-PCB-15	1	3.23e+05	1.75	y	20:01	17.138	17	3.2953	-	n
5	Unk	CL3-PCB-19	1	2.09e+05	0.99	y	17:07	16.414	16	0.9587	-	n
6	Unk	CL3-PCB-37	1	6.62e+05	1.08	y	27:19	43.775	44	1.8693	-	n
7	Unk	CL4-PCB-54	1	3.50e+04	0.52	n	20:16	2.077	2	0.7084	-	n
8	Unk	CL4-PCB-81	1	2.27e+04	0.97	n	34:20	1.544	2	3.1146	-	y
9	Unk	CL4-PCB-77	1	3.99e+05	0.81	y	34:56	25.726	26	3.1355	-	n
10	Unk	CL5-PCB-104	0	*	*	n	NotFnd	*	*	0.7237	-	n
11	Unk	CL5-PCB-123	1	1.97e+05	2.06	n	37:00	15.308	15	6.4780	-	y
12	Unk	CL5-PCB-118	1	9.23e+06	1.53	y	37:20	664.183	664	6.0000	-	y
13	Unk	CL5-PCB-114	1	2.90e+05	1.39	y	37:54	21.834	22	6.4569	-	n
14	Unk	CL5-PCB-105	1	4.47e+06	1.56	y	38:35	255.613	256	4.7248	-	n
15	Unk	CL5-PCB-126	1	1.67e+04	1.10	n	41:50	1.319	1	6.8237	-	y
16	Unk	CL6-PCB-155	1	9.55e+03	0.69	n	31:52	0.795	1	0.5977	-	y
17	Unk	CL6-PCB-167	1	6.35e+05	1.48	n	43:45	49.230	49	5.8030	-	n
18	Unk	CL6-PCB-156/157	1	1.34e+06	1.27	y	44:56	100.394	100	7.3438	-	n
19	Unk	CL6-PCB-169	1	6.84e+03	1.32	y	48:21	0.537	1	6.0026	-	y
20	Unk	CL7-PCB-188	1	1.57e+04	0.90	y	37:51	1.393	1	0.9287	-	y
21	Unk	CL7-PCB-189	1	9.26e+04	1.02	y	51:00	6.646	7	0.8873	-	n
22	Unk	CL8-PCB-202	1	7.73e+05	0.84	y	43:27	81.820	82	0.8742	-	n
23	Unk	CL8-PCB-205	1	4.76e+04	0.99	y	53:41	3.840	4	0.7560	-	n
24	Unk	CL9-PCB-208	1	3.21e+04	1.02	n	50:27	3.427	3	1.2615	-	n
25	Unk	CL9-PCB-206	1	1.13e+05	0.77	y	55:29	12.891	13	1.3856	-	n
26	Unk	CL10-PCB-209	1	5.06e+04	1.72	n	57:08	5.066	5	0.8750	-	n
27	IS	13C-CL1-PCB-1	1	3.54e+07	3.19	y	11:28	389.718	0	2.7743	20.6	n
28	IS	13C-CL1-PCB-3	1	3.48e+07	3.16	y	13:41	401.709	0	2.9119	21.2	n
29	IS	13C-CL2-PCB-4	1	2.42e+07	1.57	y	13:56	439.677	0	1.6200	23.2	n
30	IS	13C-CL2-PCB-15	1	3.92e+07	1.56	y	20:00	456.473	0	1.0390	24.1	n
31	IS	13C-CL3-PCB-19	1	2.25e+07	1.06	y	17:06	497.140	0	5.2726	26.2	n
32	IS	13C-CL3-PCB-37	1	2.87e+07	1.02	y	27:18	506.114	0	6.9048	26.7	n
33	REF	13C-CL4-CHECK	1	3.02e+07	0.82	y	20:15	609.224	0	1.3183	32.2	n
34	IS	13C-CL4-PCB-81	1	2.70e+07	0.78	y	34:20	624.607	0	1.8122	33.0	n
35	IS	13C-CL4-PCB-77	1	2.86e+07	0.73	y	34:55	650.377	0	1.7835	34.3	n
36	IS	13C-CL5-PCB-104	1	2.15e+07	1.55	y	25:56	534.379	0	0.2473	28.2	n
37	IS	13C-CL5-PCB-123	1	2.49e+07	1.56	y	36:59	655.080	0	1.5063	34.6	n
38	IS	13C-CL5-PCB-118	1	2.52e+07	1.61	y	37:19	676.010	0	1.5368	35.7	n
39	IS	13C-CL5-PCB-114	1	2.38e+07	1.57	y	37:53	642.371	0	1.5489	33.9	n
40	IS	13C-CL5-PCB-105	1	3.23e+07	1.60	y	38:34	842.358	0	1.4957	44.5	n
41	IS	13C-CL5-PCB-126	1	2.30e+07	1.55	y	41:48	673.340	0	1.6750	35.6	n
42	IS	13C-CL6-PCB-155	1	2.23e+07	1.25	y	31:50	485.916	0	0.2221	25.7	n
43	IS	13C-CL6-PCB-167	1	2.19e+07	1.26	y	43:43	619.337	0	0.2783	32.7	n
44	IS	13C-CL6-PCB-156/157	1	4.60e+07	1.27	y	44:56	1245.322	0	0.2668	32.9	n

SDL x1/2

SV RJ 15 Aug 2018

PV by RA 09AUG18

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	2.29e+07	1.28	y	48:21	623.296	0	0.2687	32.9	n
46	REF	13C-CL7-CHECK	1	2.18e+07	1.05	y	37:49	461.974	0	0.1764	24.4	n
47	IS	13C-CL7-PCB-189	1	2.49e+07	1.06	y	50:59	654.889	0	0.6853	34.6	n
48	IS	13C-CL8-PCB-202	1	2.05e+07	0.93	y	43:26	458.173	0	0.1838	24.2	n
49	IS	13C-CL8-PCB-205	1	2.37e+07	0.91	y	53:39	629.571	0	0.4438	33.2	n
50	IS	13C-CL9-PCB-208	1	1.88e+07	0.77	y	50:26	555.629	0	0.2706	29.3	n
51	IS	13C-CL9-PCB-206	1	1.66e+07	0.79	y	55:27	604.735	0	0.3324	31.9	n
52	IS	13C-CL10-PCB-209	1	1.78e+07	1.22	y	57:07	514.603	0	0.2330	27.2	n
53	RS	13C-CL2-PCB-9	1	1.53e+08	1.56	y	15:56	15.692	0	-	-	n
54	RS	13C-CL4-PCB-52	1	6.34e+07	0.79	y	24:59	13.077	0	-	-	n
55	RS	13C-CL5-PCB-101	1	5.17e+07	1.60	y	32:06	12.593	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.23e+07	1.27	y	40:34	13.928	0	-	-	n
57	RS	13C-CL8-PCB-194	1	4.75e+07	0.88	y	53:09	15.947	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.70e+07	1.05	y	23:06	649.318	0	6.8629	34.3	n
59	C/Up	13C-CL5-PCB-111	1	2.37e+07	1.59	y	34:56	648.663	0	0.3736	34.2	n
60	C/Up	13C-CL7-PCB-178	1	1.66e+07	1.05	y	41:02	633.034	0	0.3065	33.4	n
61	IS	13C-CL4-PCB-54	1	3.02e+07	0.82	y	20:15	609.224	0	1.3183	32.2	n
62	IS	13C-CL7-PCB-188	1	2.18e+07	1.05	y	37:49	461.974	0	0.1764	24.4	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

Run #5 Filename PB8C_260 S: 6 I: 1 Acquired: 8-AUG-18 01:03:57 Processed: 8-AUG-18 07:48:22
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-2,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.280000 conc units: pg/g total toxicity: 18720.» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	0	*	*	n	NotFnd	*	*	0.5149	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	2.5966	-	n
3	Unk	CL2-PCB-9	0	*	*	n	NotFnd	*	*	2.5928	-	n
4	Unk	CL2-PCB-7	1	7.04e+04	2.39	n	16:08	3.391	3	2.5689	-	y
5	Unk	CL2-PCB-6	1	2.83e+05	1.62	y	16:22	13.435	13	2.5342	-	y
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	2.9143	-	n
7	Unk	CL2-PCB-8	1	6.12e+05	1.61	y	16:49	26.455	26	2.3054	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	2.6578	-	n
9	Unk	CL2-PCB-11	1	2.34e+05	1.36	y	19:22	12.163	12	2.7736	-	y
10	Unk	CL2-PCB-12/13	1	6.88e+04	1.79	n	19:41	3.545	4	2.7452	-	n
11	Unk	CL3-PCB-30/18	1	2.21e+06	1.01	y	19:01	140.886	141	0.9050	-	y
12	Unk	CL3-PCB-17	1	1.03e+06	1.02	y	19:27	76.830	77	1.0524	-	n
13	Unk	CL3-PCB-27	1	4.73e+05	0.90	y	19:41	24.858	25	0.7457	-	y
14	Unk	CL3-PCB-24	1	1.74e+04	0.55	n	19:48	1.001	1	0.8144	-	y
15	Unk	CL3-PCB-16	1	4.53e+05	0.92	y	19:55	37.801	38	1.1820	-	y
16	Unk	CL3-PCB-32	1	1.04e+06	0.99	y	20:29	59.510	60	1.4126	-	n
17	Unk	CL3-PCB-34	1	2.89e+04	1.28	n	21:46	1.769	2	1.5197	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.4994	-	n
19	Unk	CL3-PCB-26/29	1	1.20e+06	1.06	y	22:15	71.043	71	1.4692	-	n
20	Unk	CL3-PCB-25	1	6.27e+05	0.99	y	22:30	31.342	31	1.2401	-	n
21	Unk	CL3-PCB-31	1	3.96e+06	1.05	y	22:49	217.565	218	1.3606	-	n
22	Unk	CL3-PCB-28/20	1	4.94e+06	1.05	y	23:08	289.743	290	1.4551	-	n
23	Unk	CL3-PCB-21/33	1	1.97e+06	1.05	y	23:23	109.177	109	1.3762	-	n
24	Unk	CL3-PCB-22	1	1.18e+06	1.09	y	23:48	77.601	78	1.6259	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.3690	-	n
26	Unk	CL3-PCB-39	1	3.52e+04	0.87	n	25:49	2.092	2	1.4737	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.5068	-	n
28	Unk	CL3-PCB-35	1	2.12e+04	1.68	n	26:53	1.263	1	1.4782	-	n
29	Unk	CL4-PCB-50/53	1	9.72e+05	0.82	y	22:30	72.404	72	1.1116	-	n
30	Unk	CL4-PCB-45/51	1	9.20e+05	0.78	y	23:14	70.291	70	1.1400	-	y
31	Unk	CL4-PCB-46	1	2.21e+05	0.80	y	23:32	19.029	19	1.2837	-	n
32	Unk	CL4-PCB-52	1	8.64e+06	0.79	y	25:00	625.531	626	1.0804	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.8255	-	n
34	Unk	CL4-PCB-43	1	3.15e+05	1.03	n	25:15	29.601	30	1.4033	-	n
35	Unk	CL4-PCB-69/49	1	4.59e+06	0.79	y	25:31	297.989	298	0.9684	-	n
36	Unk	CL4-PCB-48	1	1.02e+06	0.78	y	25:48	78.722	79	1.1483	-	n
37	Unk	CL4-PCB-44/47/65	1	5.61e+06	0.80	y	26:03	391.889	392	1.0431	-	n
38	Unk	CL4-PCB-59/62/75	1	9.37e+05	0.83	y	26:23	54.034	54	0.8611	-	n
39	Unk	CL4-PCB-42	1	1.35e+06	0.77	y	26:35	103.849	104	1.1452	-	n
40	Unk	CL4-PCB-41/40/71	1	2.47e+06	0.74	y	27:05	190.645	191	1.1519	-	y
41	Unk	CL4-PCB-64	1	2.88e+06	0.79	y	27:20	159.155	159	0.8238	-	n
42	Unk	CL4-PCB-72	1	1.15e+05	0.67	y	28:13	6.870	7	2.5636	-	n
43	Unk	CL4-PCB-68	1	5.48e+04	0.96	n	28:32	3.267	3	2.5574	-	n
44	Unk	CL4-PCB-57	1	2.64e+04	0.62	n	28:56	1.636	2	2.6598	-	n

45	Unk	CL4-PCB-58	1	3.47e+04	0.55	n	29:12	2.200	2	2.7214	-	y
46	Unk	CL4-PCB-67	1	2.38e+05	0.78	y	29:23	12.668	13	2.2806	-	n
47	Unk	CL4-PCB-63	1	2.47e+05	0.65	n	29:39	15.028	15	2.6129	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.02e+07	0.77	y	30:02	628.579	629	2.6374	-	n
49	Unk	CL4-PCB-66	1	6.59e+06	0.78	y	30:20	435.376	435	2.8313	-	y
50	Unk	CL4-PCB-55	1	3.01e+05	0.72	y	30:31	22.017	22	3.1385	-	y
51	Unk	CL4-PCB-56	1	2.44e+06	0.79	y	31:02	164.961	165	2.9007	-	n
52	Unk	CL4-PCB-60	1	1.32e+06	0.80	y	31:16	88.179	88	2.8619	-	y
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	2.5618	-	n
54	Unk	CL4-PCB-79	1	1.54e+05	0.83	y	33:15	8.430	8	2.3404	-	y
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	2.7592	-	n
56	Unk	CL5-PCB-96	1	7.02e+04	1.55	y	26:22	4.645	5	0.6614	-	n
57	Unk	CL5-PCB-103	1	1.73e+05	1.32	y	28:22	13.766	14	1.8283	-	n
58	Unk	CL5-PCB-94	1	4.22e+04	1.62	y	28:36	4.095	4	2.2366	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	8.24e+06	1.53	y	29:05	716.991	717	2.0036	-	y
60	Unk	CL5-PCB-88/91	1	1.37e+06	1.56	y	29:58	123.900	124	2.0814	-	n
61	Unk	CL5-PCB-84	1	1.52e+06	1.51	y	30:12	156.803	157	2.3778	-	n
62	Unk	CL5-PCB-89	1	9.67e+04	2.13	n	30:42	9.477	9	2.2565	-	n
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.6236	-	n
64	Unk	CL5-PCB-92	1	2.87e+06	1.65	y	31:32	265.793	266	2.1293	-	n
65	Unk	CL5-PCB-113/90/101	1	1.23e+07	1.58	y	32:07	987.029	987	1.8491	-	y
66	Unk	CL5-PCB-83/99	1	5.96e+06	1.50	y	32:43	566.419	566	2.1898	-	n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.5258	-	n
68	Unk	CB-109/119/86/97/125/87	1	5.93e+06	1.56	y	33:19	475.152	475	1.8446	-	y
69	Unk	CL5-PCB-117/116/85	1	1.94e+06	1.59	y	34:00	152.913	153	1.8169	-	n
70	Unk	CL5-PCB-110/115	1	1.22e+07	1.62	y	34:12	852.291	852	1.6092	-	y
71	Unk	CL5-PCB-82	1	8.47e+05	1.61	y	34:32	89.738	90	2.4394	-	n
72	Unk	CL5-PCB-111	1	2.22e+04	0.85	n	34:57	1.640	2	1.6977	-	y
73	Unk	CL5-PCB-120	1	6.00e+04	1.09	n	35:25	4.234	4	1.6245	-	y
74	Unk	CL5-PCB-108/124	1	4.41e+05	1.61	y	36:37	31.973	32	5.8908	-	y
75	Unk	CL5-PCB-107	1	7.95e+05	1.51	y	36:52	56.054	56	5.7304	-	y
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	5.9007	-	n
77	Unk	CL5-PCB-122	1	1.79e+05	1.06	n	37:43	14.343	14	6.5179	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	6.0371	-	n
79	Unk	CL6-PCB-152	1	2.19e+04	1.15	y	32:04	1.583	2	0.6201	-	y
80	Unk	CL6-PCB-150	1	5.60e+04	1.62	n	32:15	4.260	4	0.6521	-	y
81	Unk	CL6-PCB-136	1	1.88e+06	1.25	y	32:38	141.760	142	0.6443	-	y
82	Unk	CL6-PCB-145	1	9.10e+03	0.37	n	32:52	0.724	1	0.6813	-	y
83	Unk	CL6-PCB-148	1	6.08e+04	0.90	n	34:31	6.489	6	0.9148	-	y
84	Unk	CL6-PCB-151/135/154	1	5.65e+06	1.22	y	35:11	586.966	587	0.8906	-	y
85	Unk	CL6-PCB-144	1	6.04e+05	1.41	y	35:43	63.717	64	0.9035	-	y
86	Unk	CL6-PCB-147/149	1	1.20e+07	1.26	y	36:07	1144.217	1144	7.5559	-	n
87	Unk	CL6-PCB-134/143	1	8.10e+05	1.29	y	36:19	84.909	85	8.2764	-	y
88	Unk	CL6-PCB-139/140	1	2.49e+05	1.53	n	36:43	24.152	24	7.6582	-	n
89	Unk	CL6-PCB-131	1	1.01e+05	1.73	n	36:58	11.023	11	8.6040	-	y
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	8.5008	-	n
91	Unk	CL6-PCB-132	1	3.13e+06	1.23	y	37:26	358.209	358	9.0442	-	n
92	Unk	CL6-PCB-133	1	3.99e+05	1.32	y	37:58	43.412	43	8.5942	-	n
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	6.9381	-	n
94	Unk	CL6-PCB-146	1	3.94e+06	1.32	y	38:38	356.979	357	7.1554	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	5.9870	-	n
96	Unk	CL6-PCB-153/168	1	1.75e+07	1.26	y	39:17	1455.780	1456	6.5575	-	n
97	Unk	CL6-PCB-141	1	1.78e+06	1.30	y	39:29	177.748	178	7.8915	-	n

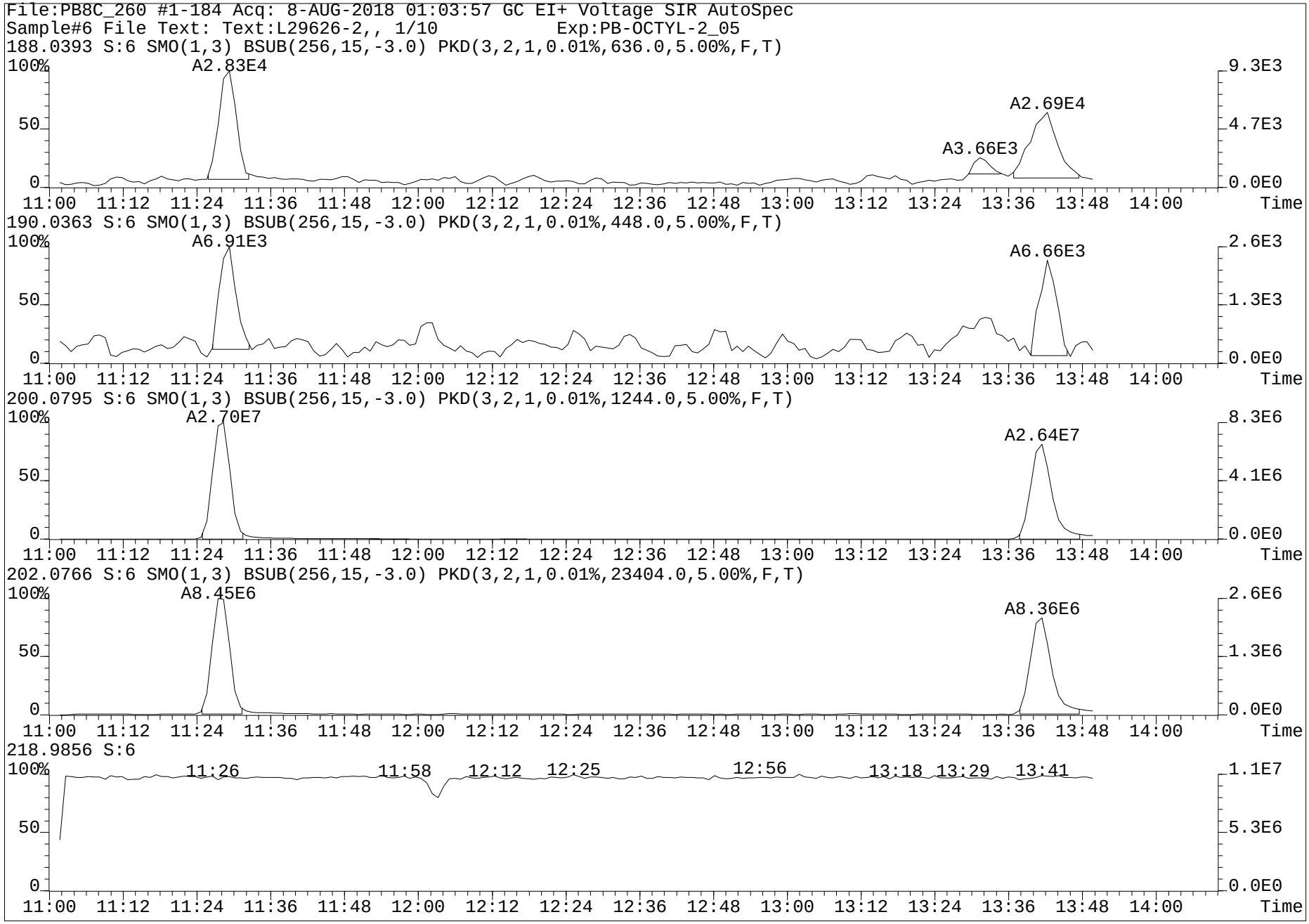
SDL x 1/2

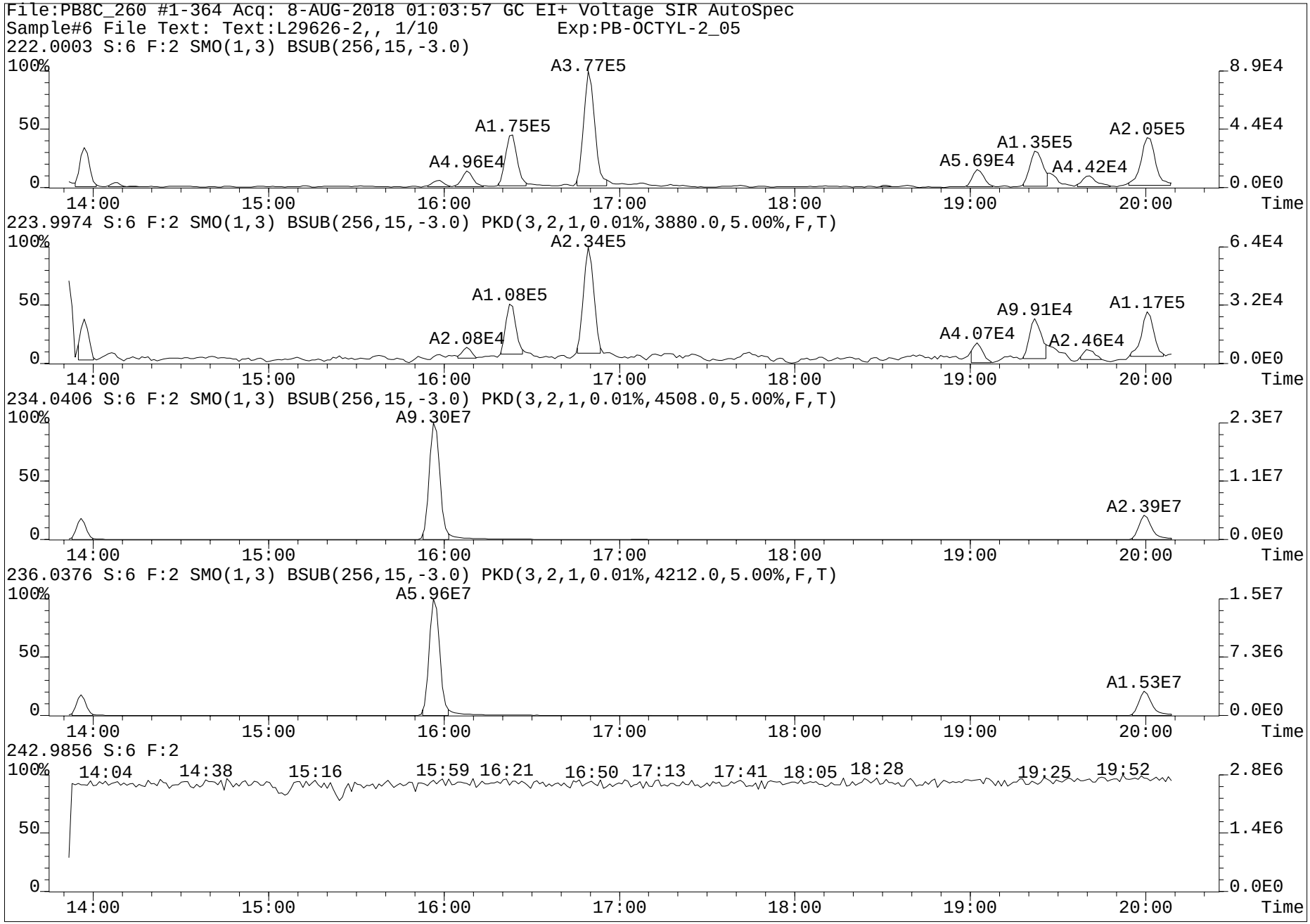
www.axysanalytical.com

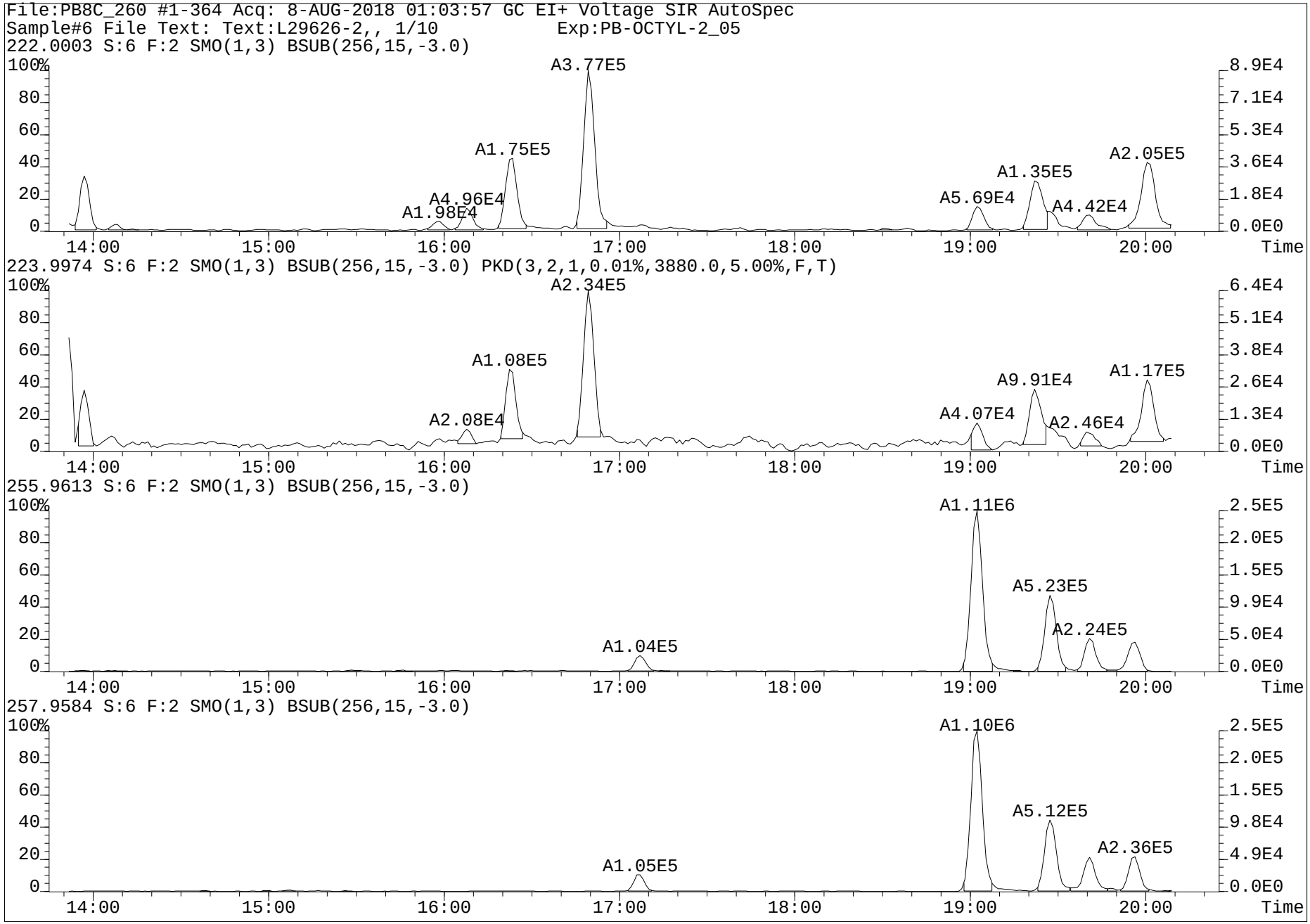
98	Unk	CL6-PCB-130	1	9.38e+05	1.33	y	39:55	109.453	109	9.2072	-	y
99	Unk	CL6-PCB-137	1	6.51e+05	1.18	y	40:08	72.932	73	8.8457	-	n
100	Unk	CL6-PCB-164	1	1.37e+06	1.33	y	40:16	105.103	105	6.0373	SDC	n
101	Unk	CL6-PCB-138/163/129/160	1	1.45e+07	1.25	y	40:35	1323.676	1324	7.1831	-	n
102	Unk	CL6-PCB-158	1	1.77e+06	1.25	y	41:00	125.317	125	5.6036	-	n
103	Unk	CL6-PCB-128/166	1	2.24e+06	1.29	y	41:55	202.889	203	7.1453	x 1½	y
104	Unk	CL6-PCB-159	1	1.54e+05	1.59	n	42:53	11.807	12	6.0557	-	n
105	Unk	CL6-PCB-162	1	4.17e+04	0.90	n	43:13	3.036	3	5.7436	-	y
106	Unk	CL7-PCB-179	1	1.94e+06	1.05	y	38:12	152.734	153	0.8474	-	n
107	Unk	CL7-PCB-184	1	4.16e+03	1.64	n	38:42	0.322	0	0.8332	-	n
108	Unk	CL7-PCB-176	1	5.67e+05	0.96	y	39:07	45.454	45	0.8641	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	0.9195	-	n
110	Unk	CL7-PCB-178	1	1.34e+06	1.03	y	41:03	143.099	143	1.1521	-	n
111	Unk	CL7-PCB-175	1	1.85e+05	0.88	n	41:42	19.287	19	1.1223	-	n
112	Unk	CL7-PCB-187	1	7.01e+06	1.08	y	42:00	657.896	658	1.0122	-	n
113	Unk	CL7-PCB-182	0	*	*	n	NotFnd	*	*	1.0779	-	n
114	Unk	CL7-PCB-183/185	1	2.39e+06	1.05	y	42:38	239.162	239	1.0792	-	n
115	Unk	CL7-PCB-174	1	1.96e+06	1.06	y	42:53	203.239	203	1.1160	-	n
116	Unk	CL7-PCB-177	1	2.55e+06	1.04	y	43:20	217.063	217	0.9181	-	y
117	Unk	CL7-PCB-181	1	2.24e+04	0.41	n	43:43	2.254	2	1.0858	-	n
118	Unk	CL7-PCB-171/173	1	8.53e+05	1.02	y	44:00	91.063	91	1.1512	-	n
119	Unk	CL7-PCB-172	1	2.95e+05	1.13	y	45:43	32.520	33	1.1911	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	0.9723	-	n
121	Unk	CL7-PCB-180/193	1	6.55e+06	0.99	y	46:23	679.742	680	1.0959	-	y
122	Unk	CL7-PCB-191	1	2.02e+05	1.19	y	46:46	16.347	16	0.8730	-	n
123	Unk	CL7-PCB-170	1	1.37e+06	1.09	y	47:42	156.373	156	1.2077	-	n
124	Unk	CL7-PCB-190	1	5.73e+05	0.95	y	48:16	47.168	47	0.8876	-	y
125	Unk	CL8-PCB-201	1	3.45e+05	0.97	y	44:25	29.291	29	0.7138	-	n
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.7290	-	n
127	Unk	CL8-PCB-197/200	1	2.10e+05	0.88	y	45:23	17.681	18	0.7077	-	y
128	Unk	CL8-PCB-198/199	1	1.23e+06	0.95	y	48:25	148.596	149	1.0135	-	y
129	Unk	CL8-PCB-196	1	5.72e+05	0.93	y	49:07	66.774	67	0.9816	-	n
130	Unk	CL8-PCB-203	1	5.39e+05	0.96	y	49:19	59.291	59	0.9249	-	n
131	Unk	CL8-PCB-195	1	2.06e+05	0.99	y	50:43	23.410	23	1.0477	-	n
132	Unk	CL8-PCB-194	1	4.02e+05	0.95	y	53:11	42.566	43	0.9739	-	n
133	Unk	CL9-PCB-207	1	1.70e+04	0.65	n	51:25	1.501	2	1.0576	-	n
134	IS	13C-CL1-PCB-1	1	3.54e+07	3.19	y	11:28	427.501	0	3.0432	22.6	n
135	IS	13C-CL1-PCB-3	1	3.48e+07	3.16	y	13:41	469.590	0	3.4040	24.8	n
136	IS	13C-CL2-PCB-4	1	2.42e+07	1.57	y	13:56	473.878	0	1.7460	25.0	n
137	IS	13C-CL2-PCB-15	1	3.92e+07	1.56	y	20:00	519.558	0	1.1825	27.4	n
138	IS	13C-CL3-PCB-19	1	2.25e+07	1.06	y	17:06	489.559	0	5.1922	25.8	n
139	IS	13C-CL3-PCB-37	1	2.87e+07	1.02	y	27:18	612.383	0	8.3546	32.3	n
140	REF	13C-CL4-CHECK	1	3.02e+07	0.82	y	20:15	693.441	0	1.5005	36.6	n
141	IS	13C-CL4-PCB-81	1	2.70e+07	0.78	y	34:20	651.736	0	1.8909	34.4	n
142	IS	13C-CL4-PCB-77	1	2.86e+07	0.73	y	34:55	698.478	0	1.9154	36.9	n
143	IS	13C-CL5-PCB-104	1	2.15e+07	1.55	y	25:56	594.347	0	0.2751	31.4	n
144	IS	13C-CL5-PCB-123	1	2.49e+07	1.56	y	36:59	687.299	0	1.5804	36.3	n
145	IS	13C-CL5-PCB-118	1	2.52e+07	1.61	y	37:19	707.410	0	1.6082	37.4	n
146	IS	13C-CL5-PCB-114	1	2.38e+07	1.57	y	37:53	699.404	0	1.6864	36.9	n
147	IS	13C-CL5-PCB-105	1	3.23e+07	1.60	y	38:34	943.307	0	1.6749	49.8	n
148	IS	13C-CL5-PCB-126	1	2.30e+07	1.55	y	41:48	773.352	0	1.9237	40.8	n

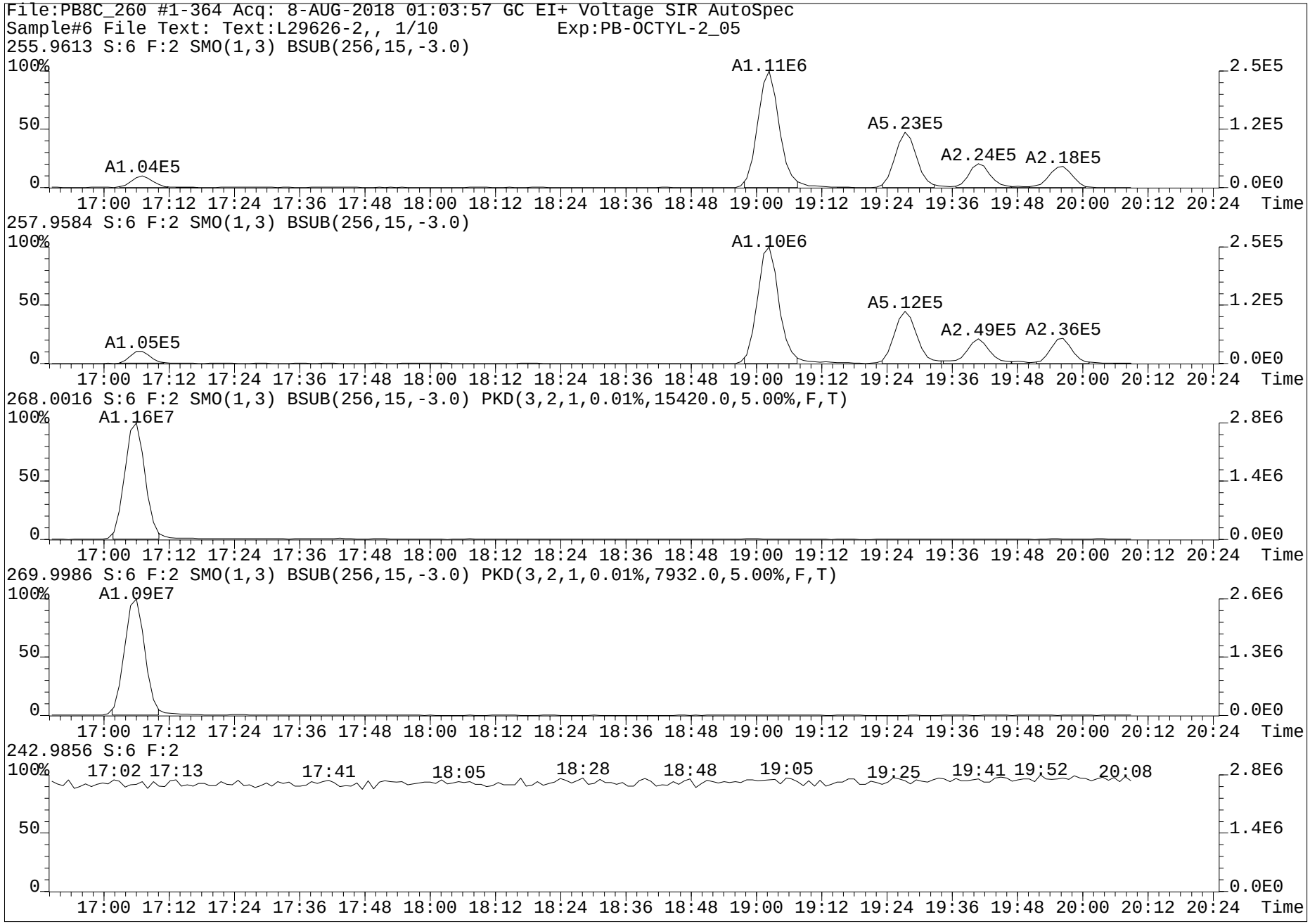
www.axysanalytical.com

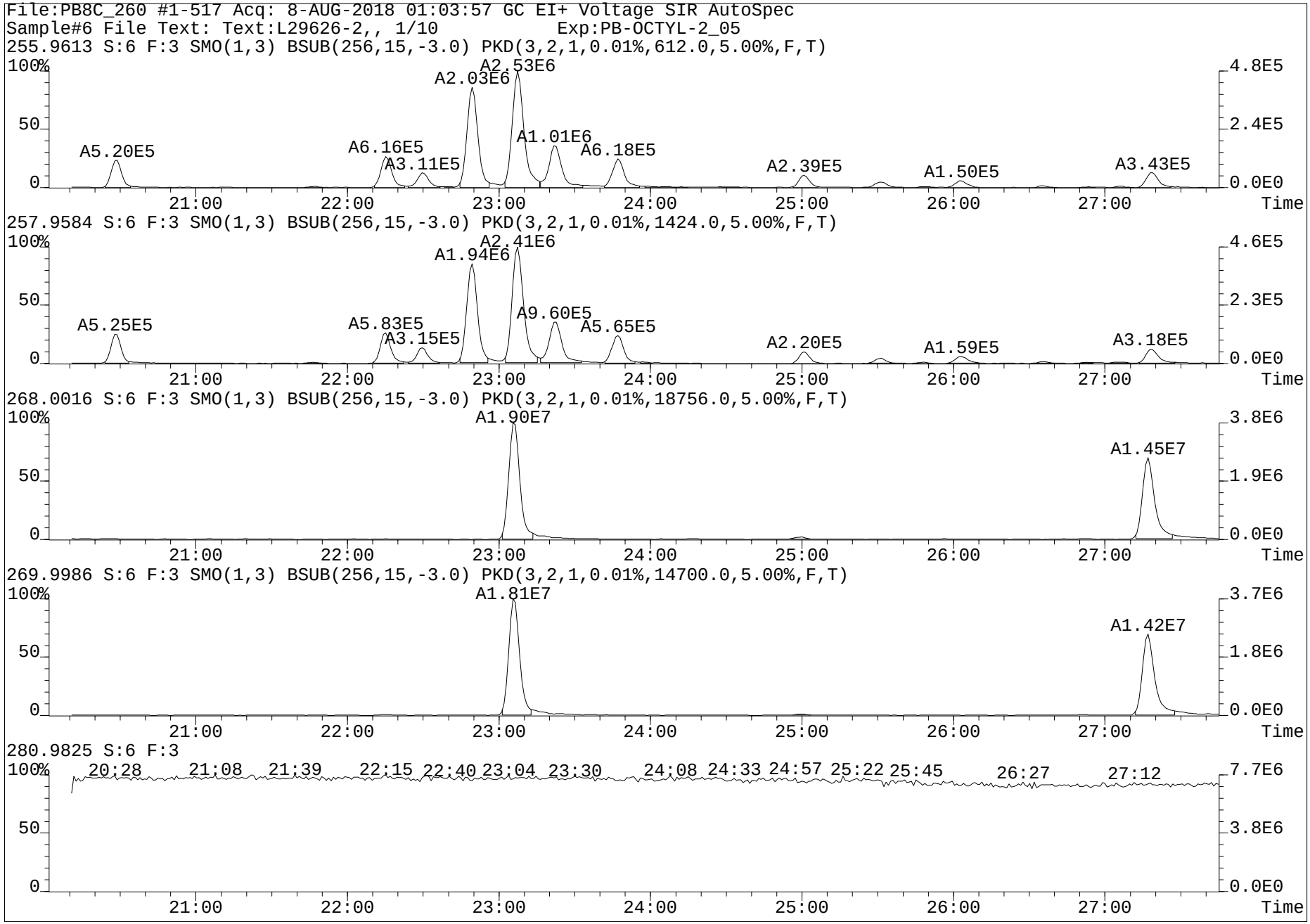
149	IS	13C-CL6-PCB-155	1	2.23e+07	1.25	y	31:50	542.581	0	0.2480	28.6	n
150	IS	13C-CL6-PCB-167	1	2.19e+07	1.26	y	43:43	642.883	0	0.2889	33.9	n
151	IS	13C-CL6-PCB-156/157	1	4.60e+07	1.27	y	44:56	1321.198	0	0.2830	34.9	n
152	IS	13C-CL6-PCB-169	1	2.29e+07	1.28	y	48:21	662.616	0	0.2856	35.0	n
153	IS	13C-CL7-PCB-188	1	2.18e+07	1.05	y	37:49	567.146	0	0.2165	29.9	n
154	IS	13C-CL7-PCB-180	1	1.81e+07	1.02	y	46:22	629.596	0	0.2895	33.2	n
155	IS	13C-CL7-PCB-170	1	1.49e+07	1.05	y	47:41	614.991	0	0.3450	32.5	n
156	IS	13C-CL8-PCB-202	1	2.05e+07	0.93	y	43:26	534.956	0	0.2147	28.2	n
157	IS	13C-CL8-PCB-205	1	2.37e+07	0.91	y	53:39	701.609	0	0.4946	37.0	n
158	IS	13C-CL9-PCB-208	1	1.88e+07	0.77	y	50:26	635.527	0	0.3095	33.6	n
159	IS	13C-CL9-PCB-206	1	1.66e+07	0.79	y	55:27	704.220	0	0.3870	37.2	n
160	RS/RT	13C-CL2-PCB-9	1	1.53e+08	1.56	y	15:56	18.075	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	6.34e+07	0.79	y	24:59	13.012	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	5.17e+07	1.60	y	32:06	12.736	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	5.23e+07	1.27	y	40:34	14.570	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	4.75e+07	0.88	y	53:09	16.113	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.70e+07	1.05	y	23:06	711.889	0	7.5243	37.6	n
166	C/Up	13C-CL5-PCB-111	1	2.37e+07	1.59	y	34:56	753.489	0	0.4340	39.8	n
167	C/UP	13C-CL7-PCB-178	1	1.66e+07	1.05	y	41:02	692.096	0	0.3351	36.5	n
168	IS	13C-CL4-PCB-54	1	3.02e+07	0.82	y	20:15	693.441	0	1.5005	36.6	n
169	Unk	CL7-PCB-189	1	9.26e+04	1.02	y	51:00	7.052	0	0.9416	-	n
170	IS	13C-CL7-PCB-189	1	2.49e+07	1.06	y	50:59	724.609	0	0.7583	38.3	n
171	Unk	CL10-PCB-209	1	5.06e+04	1.72	n	57:08	5.144	0	0.8885	-	n
172	IS	13C-CL10-PCB-209	1	1.78e+07	1.22	y	57:07	658.870	0	0.2984	34.8	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

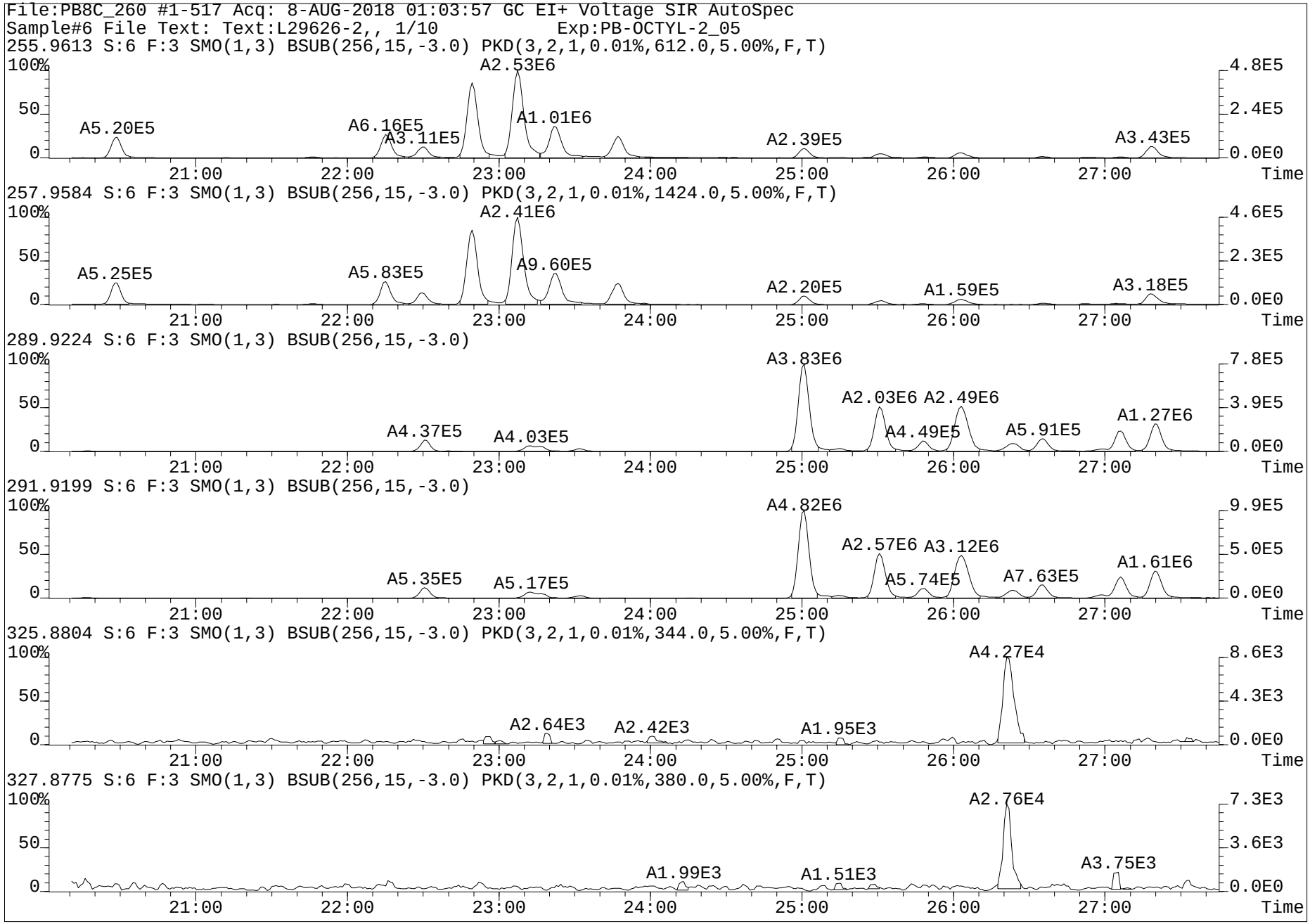

File:PB8C_260 #1-184 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,636.0,5.00%,F,T)
A2.83E4
A2.69E4
A3.66E3
9.3E3
4.7E3
0.0E0
190.0363 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A6.91E3
A6.66E3
2.6E3
1.3E3
0.0E0
200.0795 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1244.0,5.00%,F,T)
A2.70E7
A2.64E7
8.3E6
4.1E6
0.0E0
202.0766 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,23404.0,5.00%,F,T)
A8.45E6
A8.36E6
2.6E6
1.3E6
0.0E0
218.9856 S:6
11:26
11:58
12:12
12:25
12:56
13:18
13:29
13:41
1.1E7
5.3E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

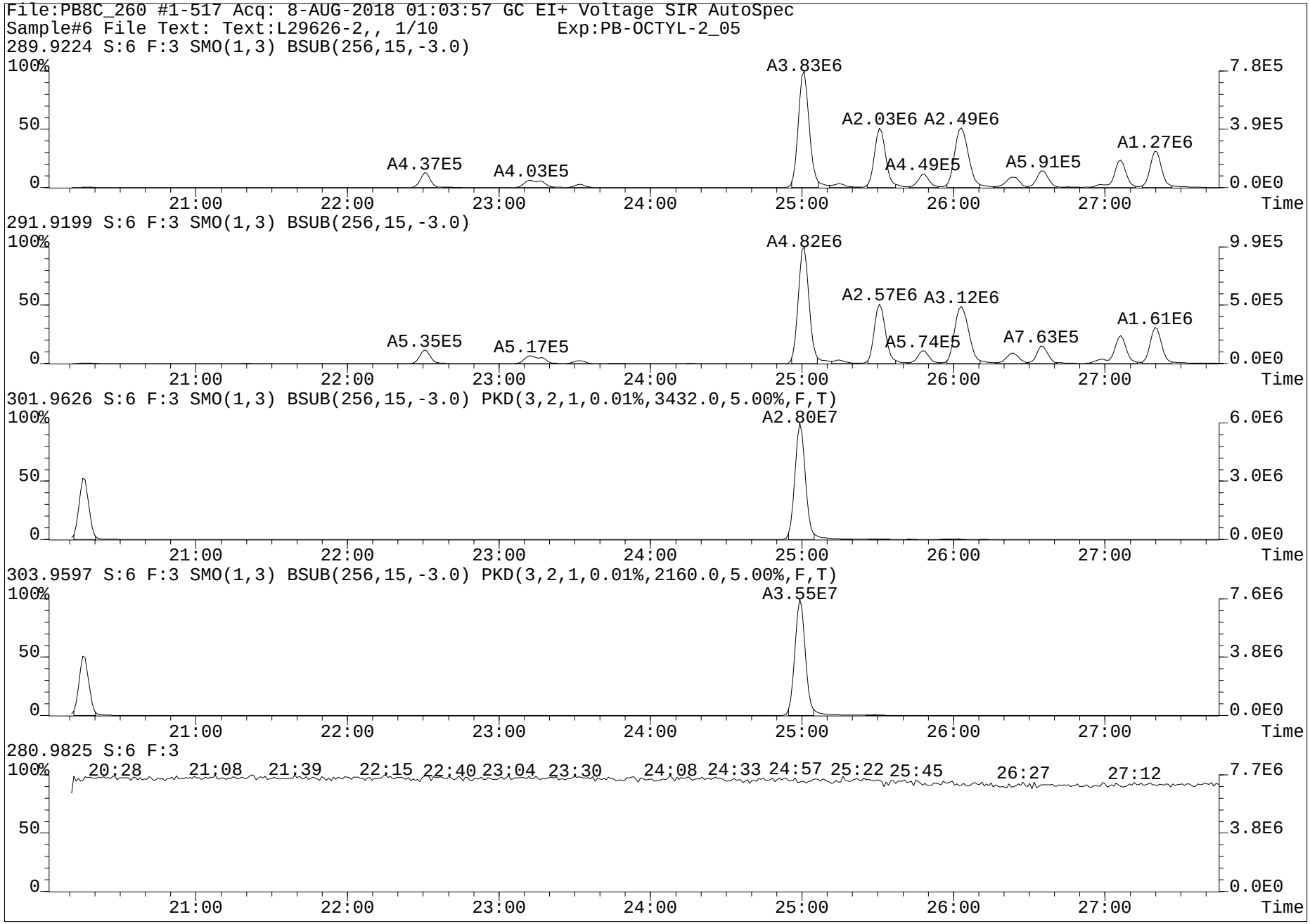

File:PB8C_260 #1-364 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.77E5
A1.75E5
A4.96E4
A1.35E5
A5.69E4
A4.42E4
A2.05E5
8.9E4
4.4E4
0.0E0
223.9974 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3880.0,5.00%,F,T)
A2.34E5
A1.08E5
A2.08E4
A9.91E4
A4.07E4
A2.46E4
A1.17E5
6.4E4
3.2E4
0.0E0
234.0406 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4508.0,5.00%,F,T)
A9.30E7
A2.39E7
2.3E7
1.1E7
0.0E0
236.0376 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4212.0,5.00%,F,T)
A5.96E7
A1.53E7
1.5E7
7.3E6
0.0E0
242.9856 S:6 F:2
14:04
14:38
15:16
15:59
16:21
16:50
17:13
17:41
18:05
18:28
19:25
19:52
2.8E6
1.4E6
0.0E0
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time

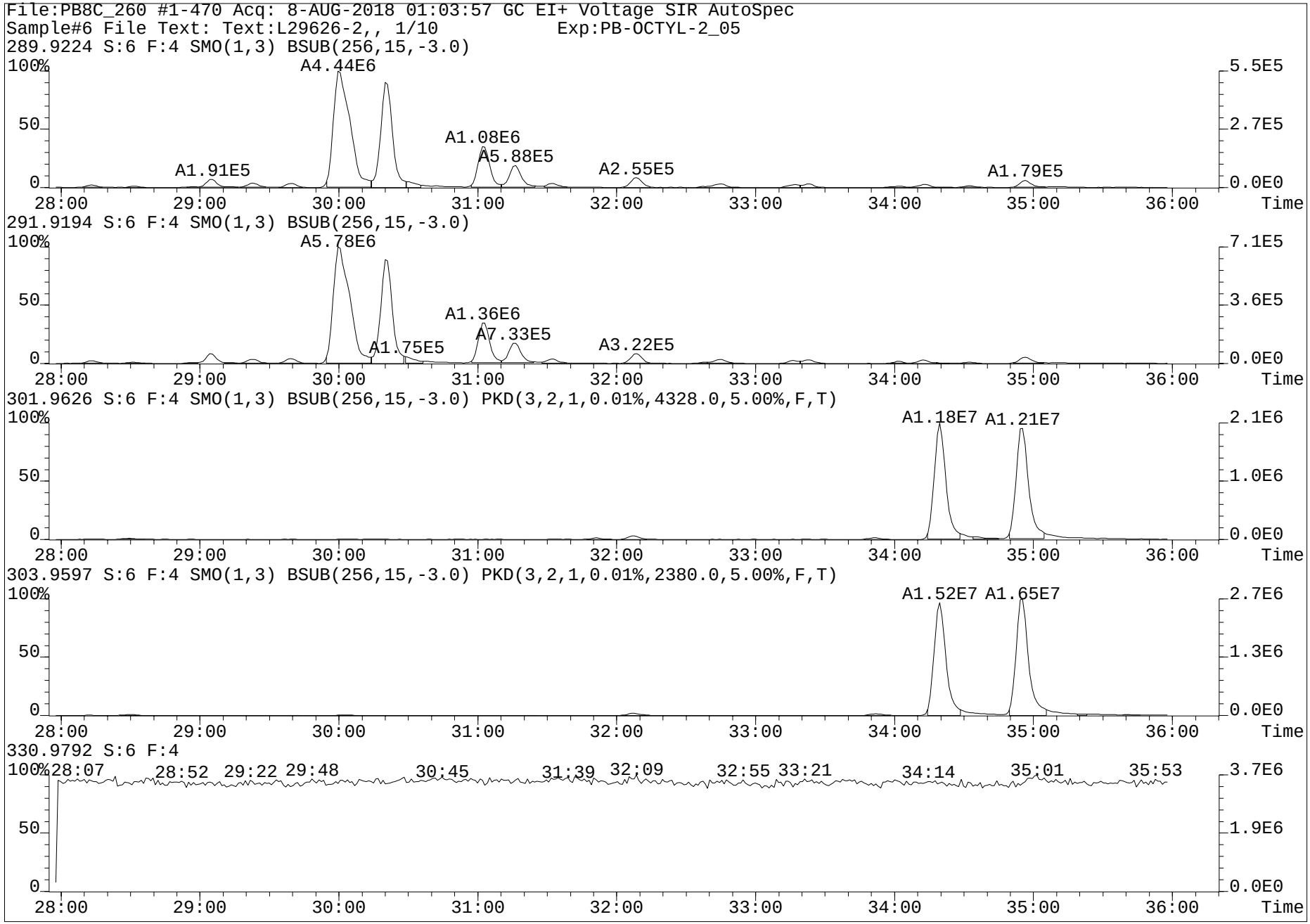

File:PB8C_260 #1-364 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.77E5
A1.75E5
A4.96E4
A1.98E4
A5.69E4
A1.35E5
A4.42E4
A2.05E5
223.9974 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3880.0,5.00%,F,T)
A2.34E5
A1.08E5
A2.08E4
A4.07E4
A9.91E4
A2.46E4
A1.17E5
255.9613 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.11E6
A1.04E5
A5.23E5
A2.24E5
257.9584 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.10E6
A1.05E5
A5.12E5
A2.36E5
Time

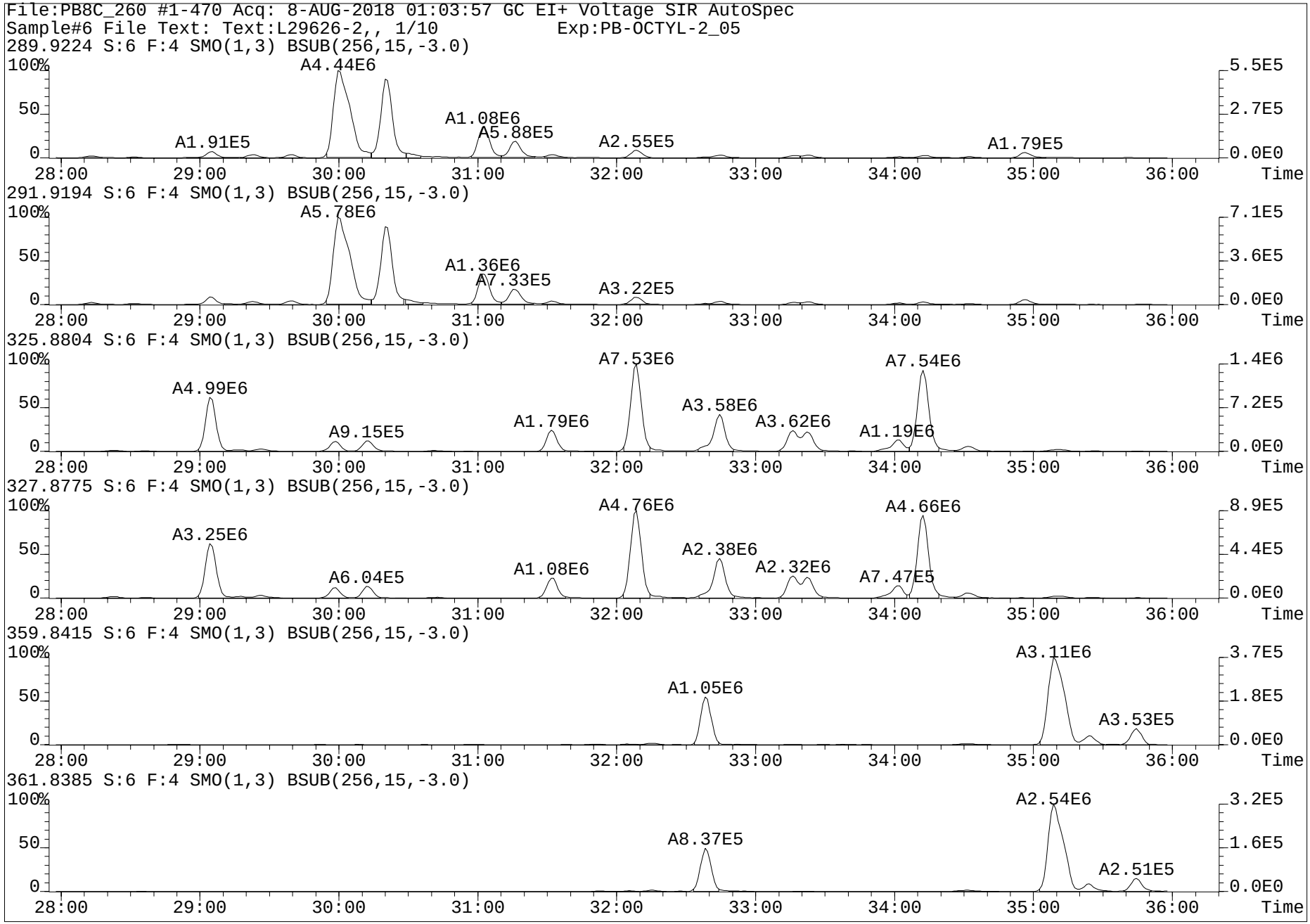

File:PB8C_260 #1-364 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.11E6
A5.23E5
A2.24E5
A2.18E5
A1.04E5
257.9584 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.10E6
A5.12E5
A2.49E5
A2.36E5
A1.05E5
268.0016 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15420.0,5.00%,F,T)
A1.16E7
269.9986 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7932.0,5.00%,F,T)
A1.09E7
242.9856 S:6 F:2
17:02 17:13 17:41 18:05 18:28 18:48 19:05 19:25 19:41 19:52 20:08
100%
50
0
2.5E5
1.2E5
0.0E0
2.8E6
1.4E6
2.6E6
1.3E6
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

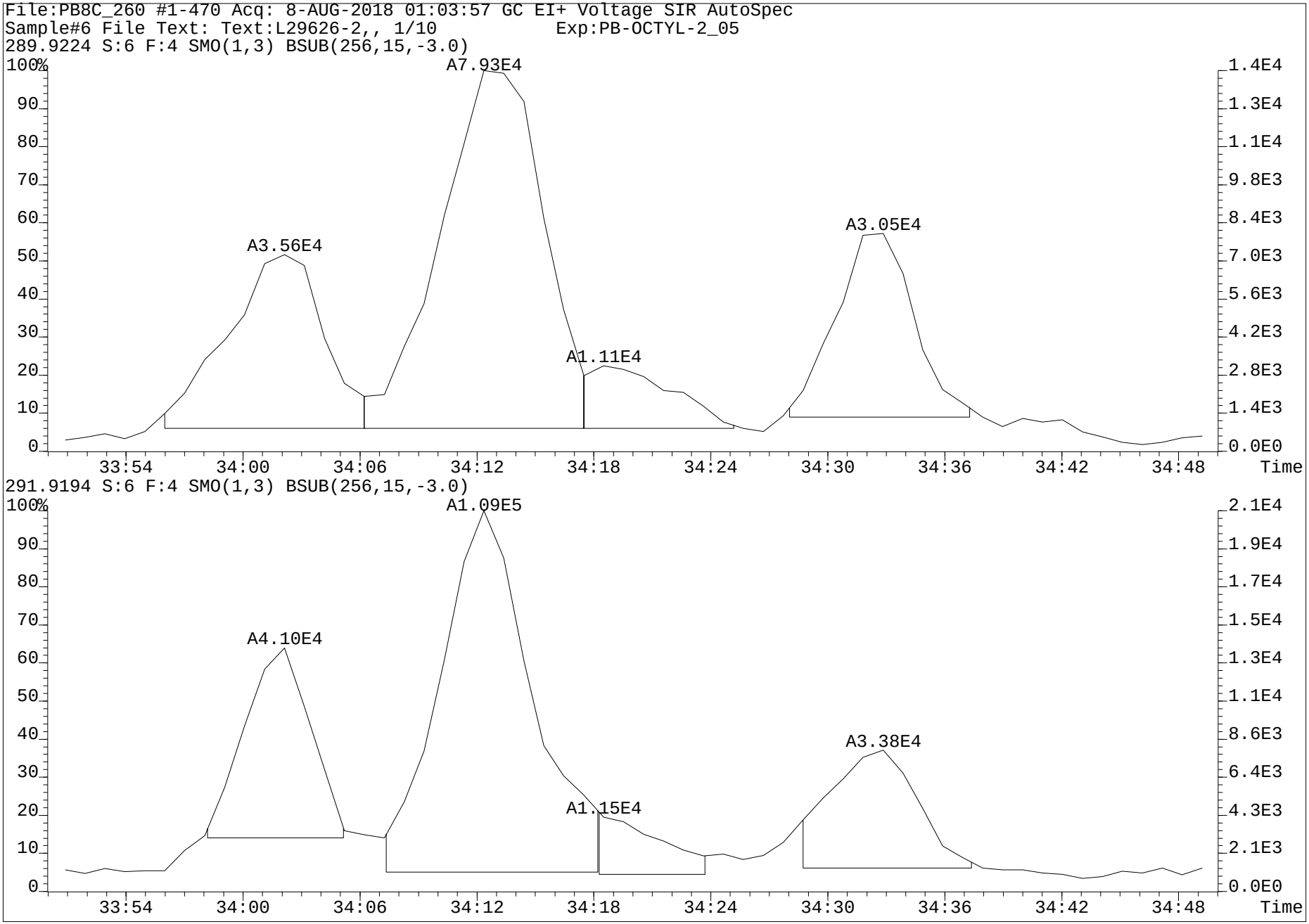

File:PB8C_260 #1-517 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,612.0,5.00%,F,T)
A2.53E6
A2.03E6
A1.01E6
A6.16E5
A3.11E5
A6.18E5
A5.20E5
A2.39E5
A1.50E5
A3.43E5
257.9584 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1424.0,5.00%,F,T)
A2.41E6
A1.94E6
A9.60E5
A5.83E5
A3.15E5
A5.65E5
A5.25E5
A2.20E5
A1.59E5
A3.18E5
268.0016 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,18756.0,5.00%,F,T)
A1.90E7
A1.45E7
269.9986 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14700.0,5.00%,F,T)
A1.81E7
A1.42E7
280.9825 S:6 F:3
20:28 21:08 21:39 22:15 22:40 23:04 23:30 24:08 24:33 24:57 25:22 25:45 26:27 27:12
100%
50
0
4.8E5
2.4E5
0.0E0
4.6E5
2.3E5
3.8E6
1.9E6
3.7E6
1.8E6
7.7E6
3.8E6
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

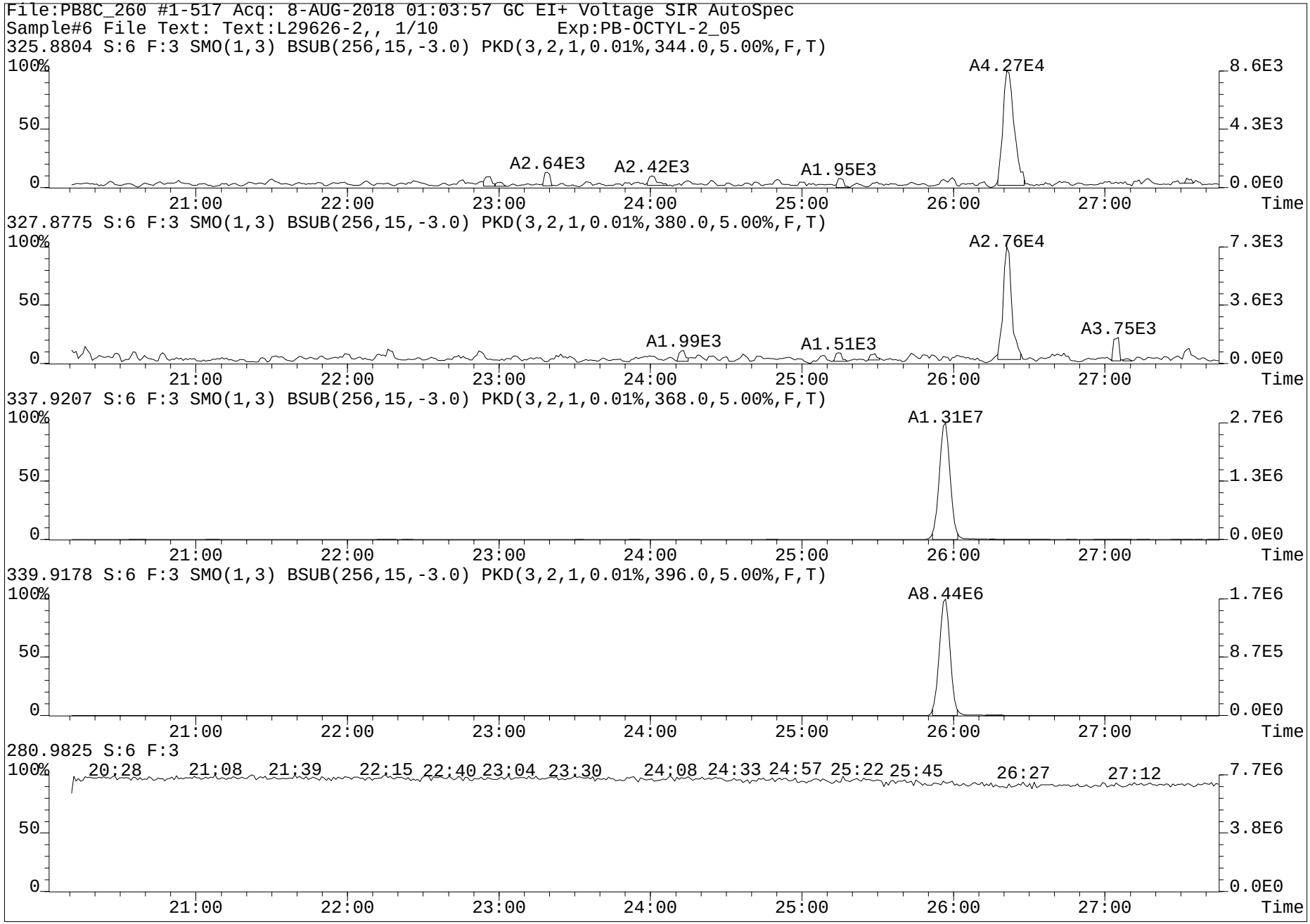

File:PB8C_260 #1-517 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,612.0,5.00%,F,T)
A5.20E5
A6.16E5
A3.11E5
A2.53E6
A1.01E6
A2.39E5
A3.43E5
257.9584 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1424.0,5.00%,F,T)
A5.25E5
A5.83E5
A2.41E6
A9.60E5
A2.20E5
A1.59E5
A3.18E5
289.9224 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.37E5
A4.03E5
A3.83E6
A2.03E6
A2.49E6
A4.49E5
A5.91E5
A1.27E6
291.9199 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.35E5
A5.17E5
A4.82E6
A2.57E6
A3.12E6
A5.74E5
A7.63E5
A1.61E6
325.8804 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,344.0,5.00%,F,T)
A2.64E3
A2.42E3
A1.95E3
A4.27E4
327.8775 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.99E3
A1.51E3
A2.76E4
A3.75E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
4.8E5
2.4E5
0.0E0
4.6E5
2.3E5
0.0E0
7.8E5
3.9E5
0.0E0
9.9E5
5.0E5
0.0E0
8.6E3
4.3E3
0.0E0
7.3E3
3.6E3
0.0E0

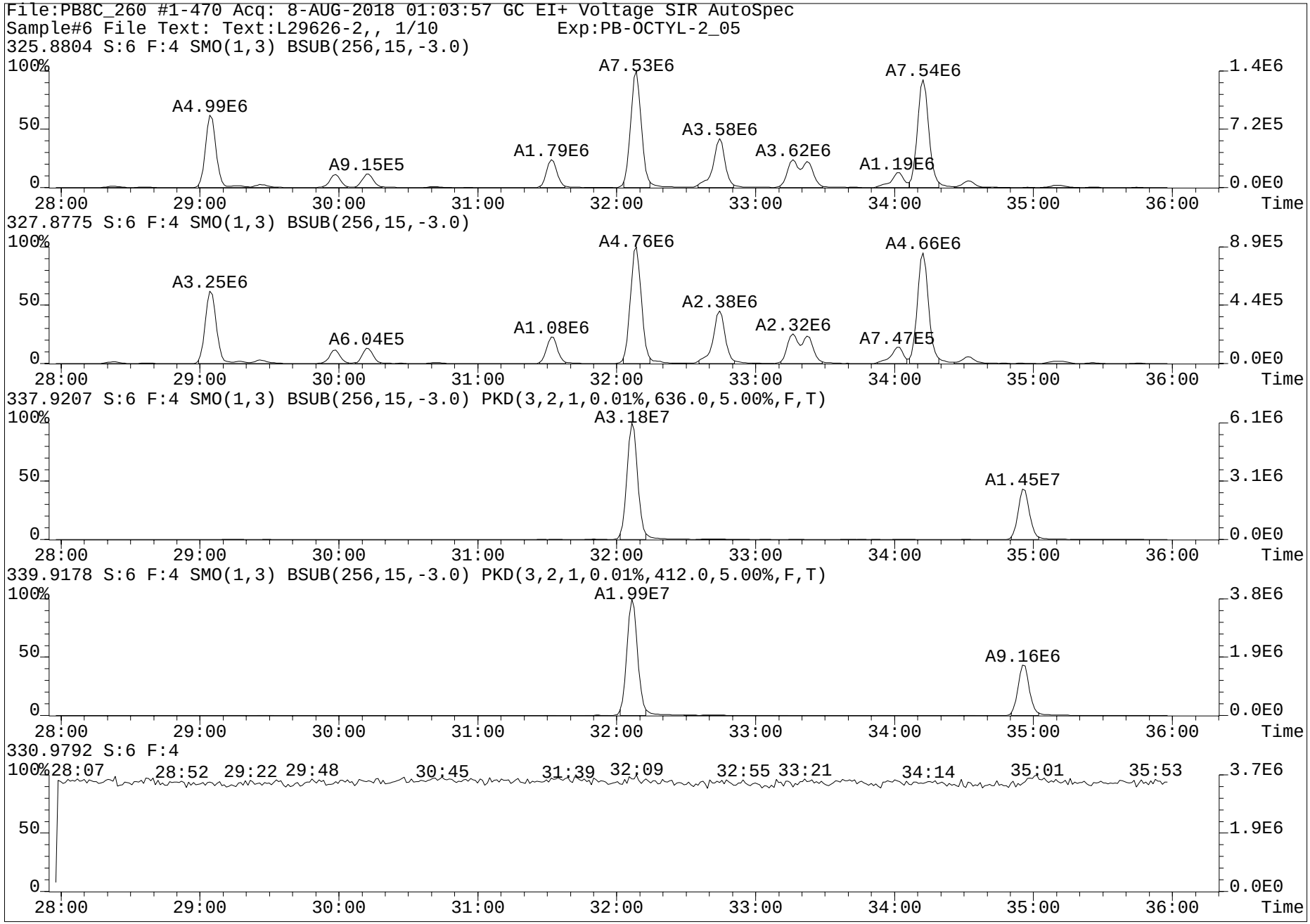

File:PB8C_260 #1-517 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.83E6
A2.03E6
A2.49E6
A1.27E6
A4.37E5
A4.03E5
A4.49E5
A5.91E5
7.8E5
3.9E5
0.0E0
291.9199 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.82E6
A2.57E6
A3.12E6
A1.61E6
A5.35E5
A5.17E5
A5.74E5
A7.63E5
9.9E5
5.0E5
0.0E0
301.9626 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3432.0,5.00%,F,T)
A2.80E7
6.0E6
3.0E6
0.0E0
303.9597 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2160.0,5.00%,F,T)
A3.55E7
7.6E6
3.8E6
0.0E0
280.9825 S:6 F:3
20:28 21:08 21:39 22:15 22:40 23:04 23:30 24:08 24:33 24:57 25:22 25:45 26:27 27:12
7.7E6
3.8E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

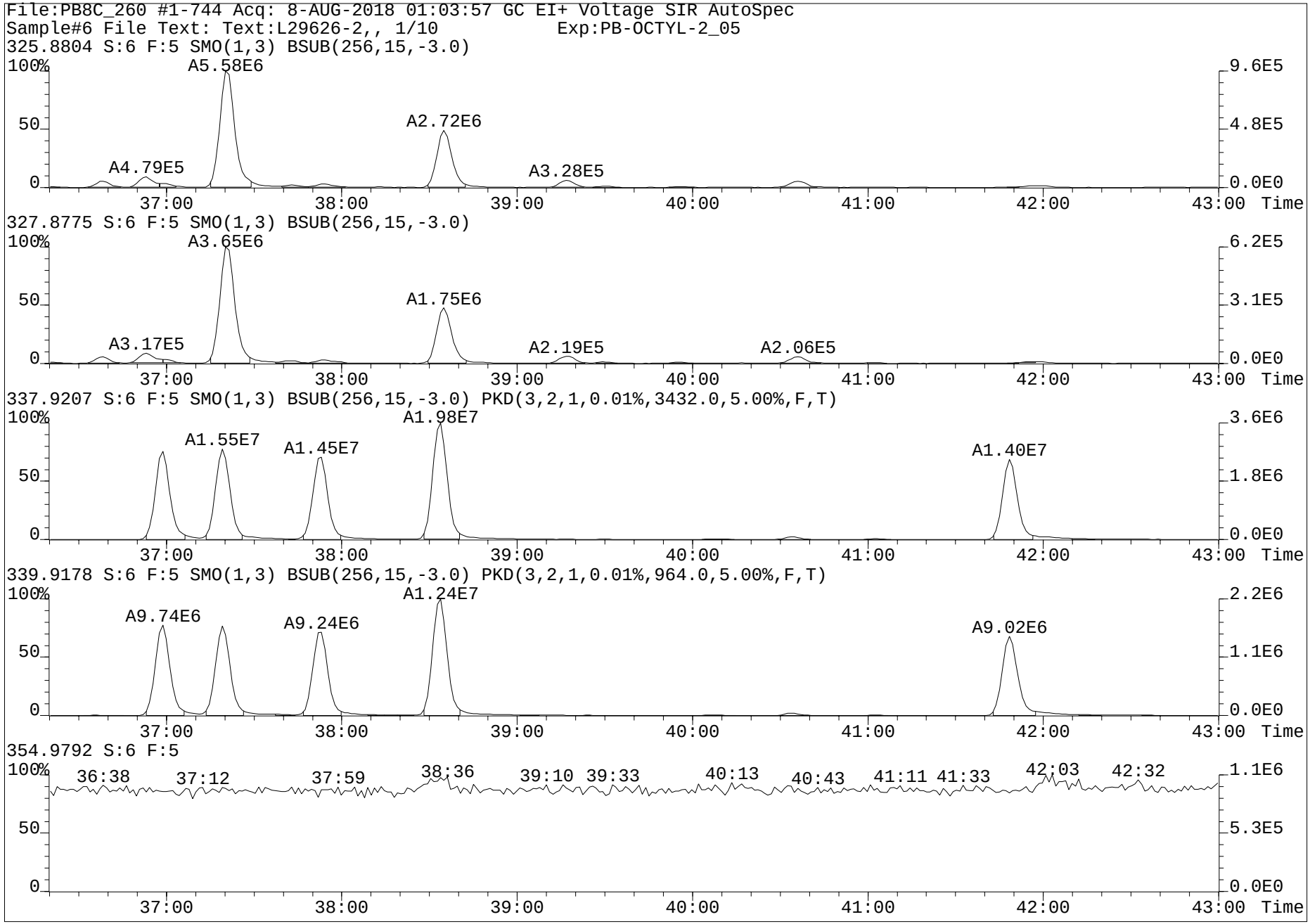

File:PB8C_260 #1-470 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.44E6
A1.91E5
A1.08E6
A5.88E5
A2.55E5
A1.79E5
291.9194 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.78E6
A1.75E5
A1.36E6
A7.33E5
A3.22E5
301.9626 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4328.0,5.00%,F,T)
A1.18E7
A1.21E7
303.9597 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2380.0,5.00%,F,T)
A1.52E7
A1.65E7
330.9792 S:6 F:4
28:07
28:52
29:22
29:48
30:45
31:39
32:09
32:55
33:21
34:14
35:01
35:53
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
5.5E5
2.7E5
0.0E0
7.1E5
3.6E5
2.1E6
1.0E6
2.7E6
1.3E6
3.7E6
1.9E6

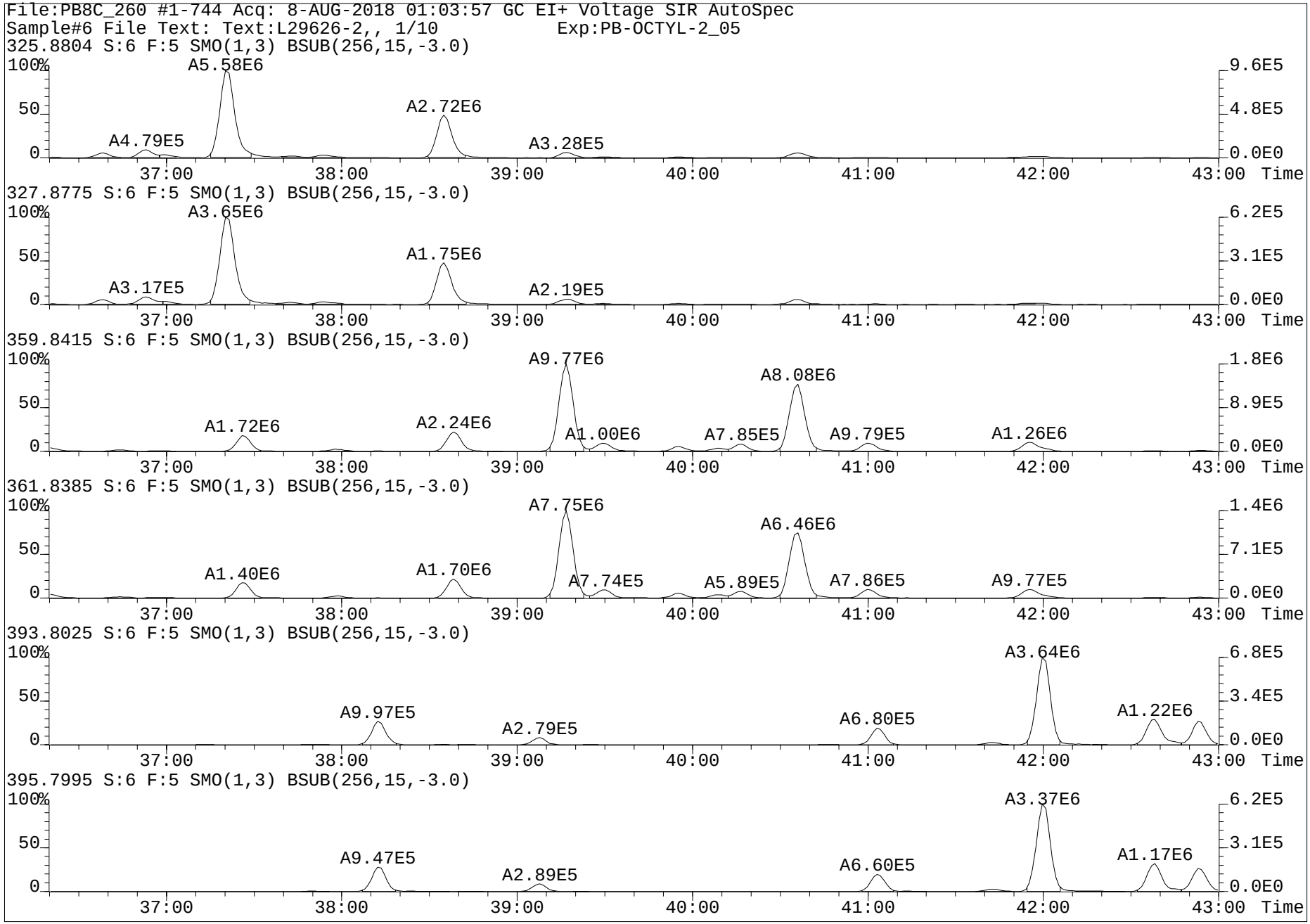

File:PB8C_260 #1-470 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.44E6
A1.08E6
A5.88E5
A1.91E5
A2.55E5
A1.79E5
291.9194 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.78E6
A1.36E6
A7.33E5
A3.22E5
325.8804 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.53E6
A7.54E6
A4.99E6
A3.58E6
A1.79E6
A3.62E6
A9.15E5
A1.19E6
327.8775 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.76E6
A4.66E6
A3.25E6
A2.38E6
A1.08E6
A2.32E6
A6.04E5
A7.47E5
359.8415 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.11E6
A1.05E6
A3.53E5
361.8385 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.54E6
A8.37E5
A2.51E5
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
5.5E5
2.7E5
0.0E0
7.1E5
3.6E5
1.4E6
7.2E5
8.9E5
4.4E5
3.7E5
1.8E5
3.2E5
1.6E5

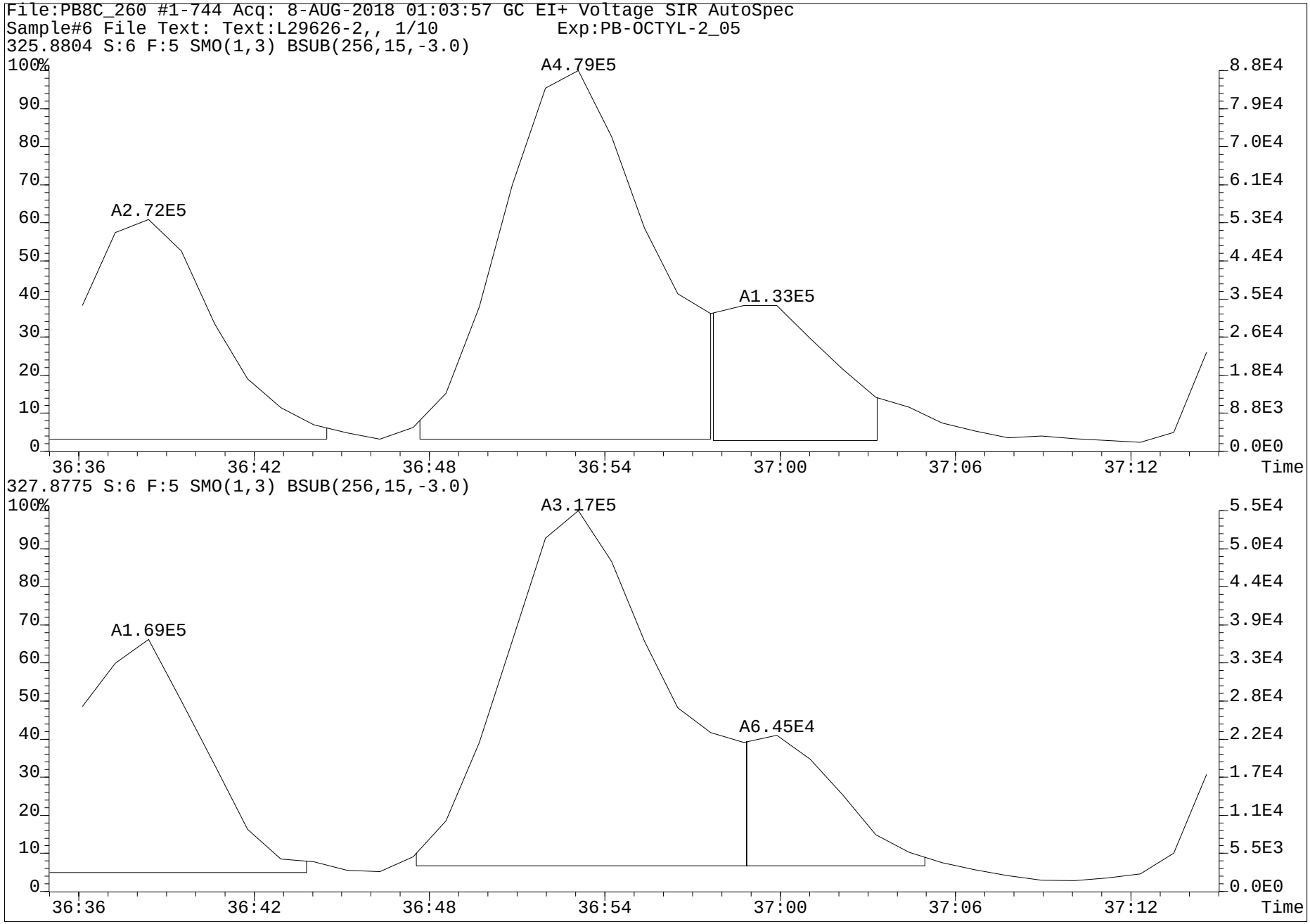

File:PB8C_260 #1-470 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.93E4
A3.56E4
A3.05E4
A1.11E4
291.9194 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.09E5
A4.10E4
A3.38E4
A1.15E4
Time

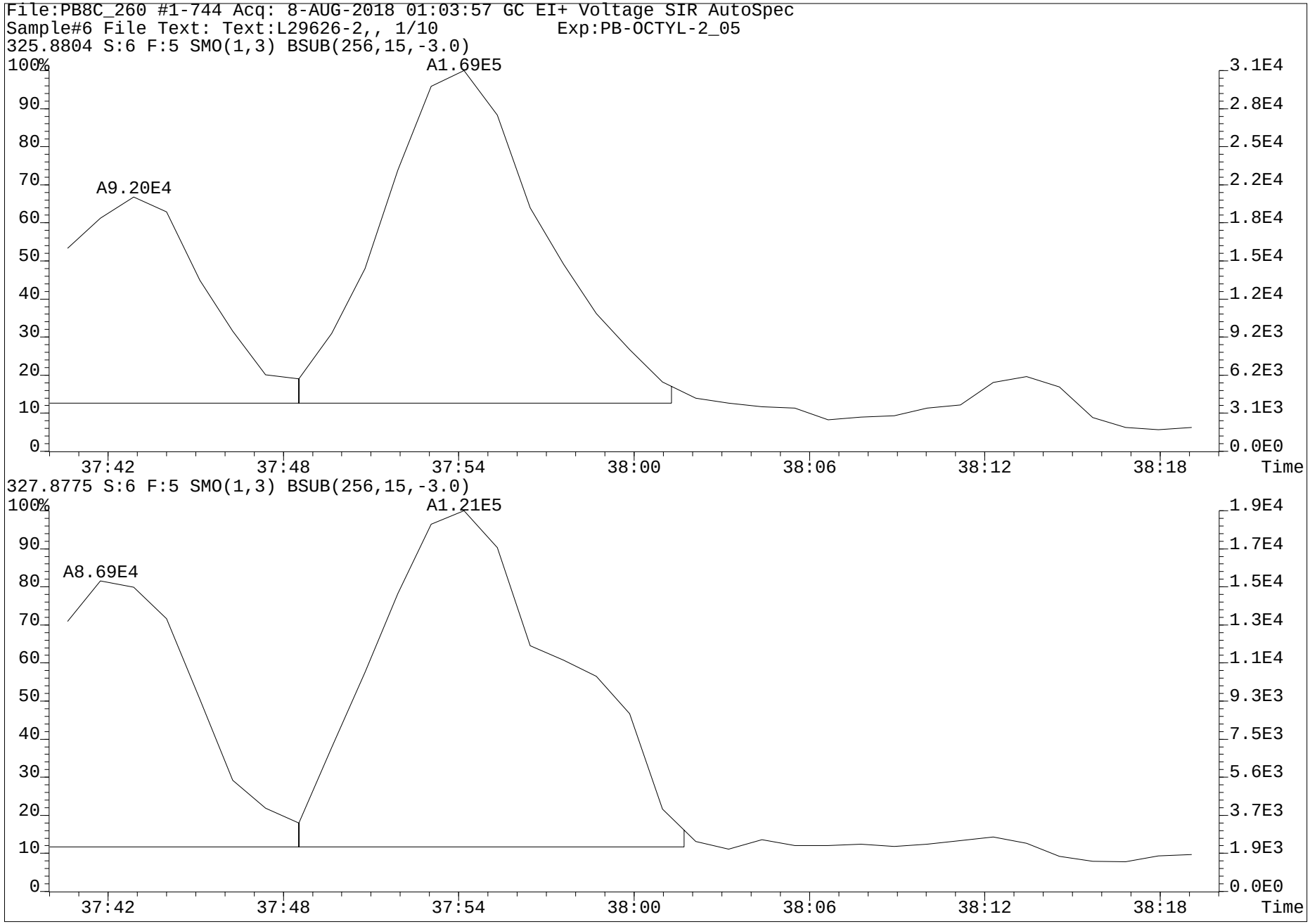

File:PB8C_260 #1-517 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,344.0,5.00%,F,T)
A4.27E4
A2.64E3
A2.42E3
A1.95E3
327.8775 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A2.76E4
A1.99E3
A1.51E3
A3.75E3
337.9207 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A1.31E7
339.9178 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A8.44E6
280.9825 S:6 F:3
20:28 21:08 21:39 22:15 22:40 23:04 23:30 24:08 24:33 24:57 25:22 25:45 26:27 27:12
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
8.6E3 4.3E3 0.0E0
7.3E3 3.6E3 0.0E0
2.7E6 1.3E6 0.0E0
1.7E6 8.7E5 0.0E0
7.7E6 3.8E6 0.0E0

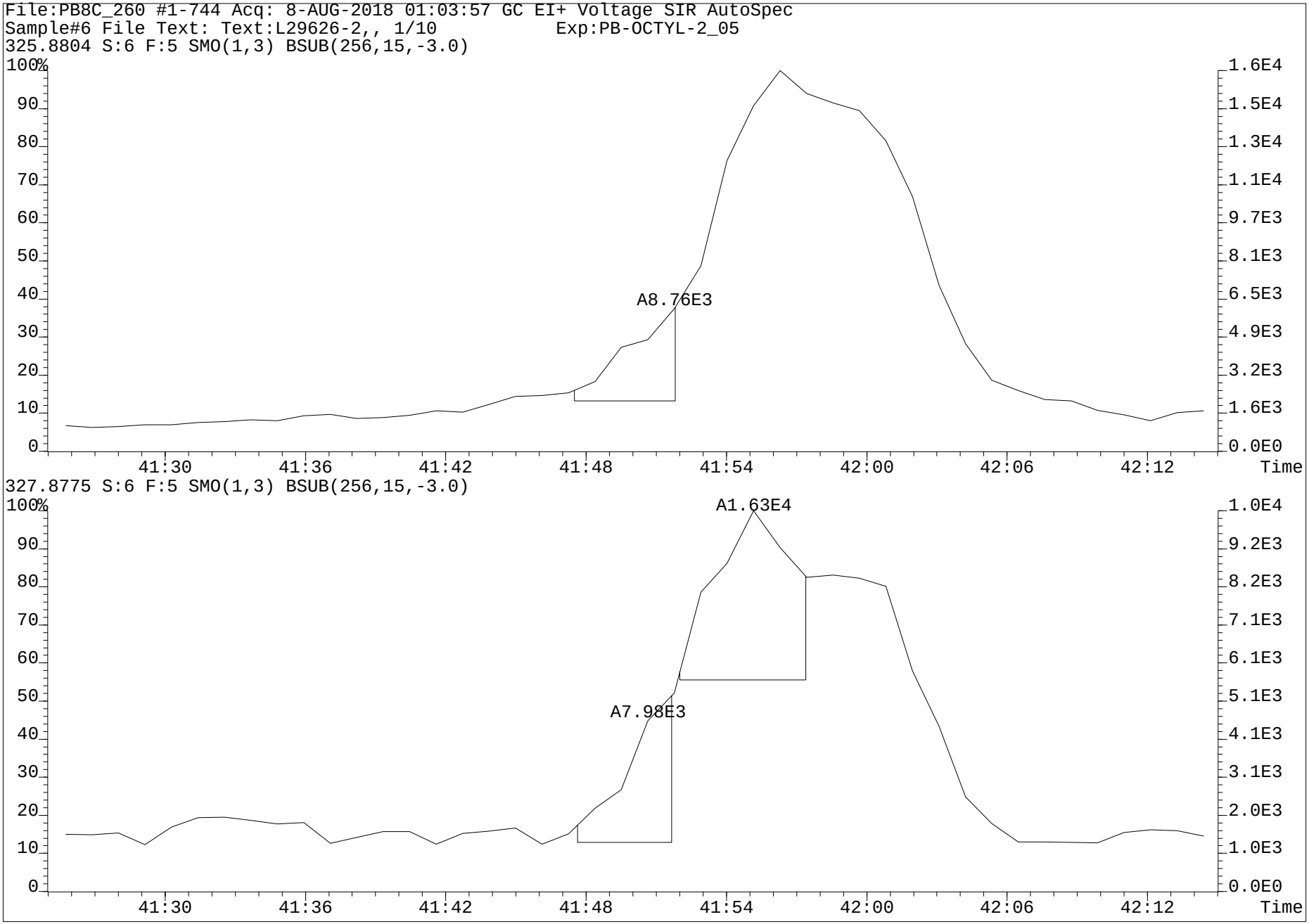

File:PB8C_260 #1-470 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.99E6
A9.15E5
A1.79E6
A7.53E6
A3.58E6
A3.62E6
A1.19E6
A7.54E6
327.8775 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.25E6
A6.04E5
A1.08E6
A4.76E6
A2.38E6
A2.32E6
A7.47E5
A4.66E6
337.9207 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,636.0,5.00%,F,T)
A3.18E7
A1.45E7
339.9178 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A1.99E7
A9.16E6
330.9792 S:6 F:4
28:07 28:52 29:22 29:48 30:45 31:39 32:09 32:55 33:21 34:14 35:01 35:53
Time

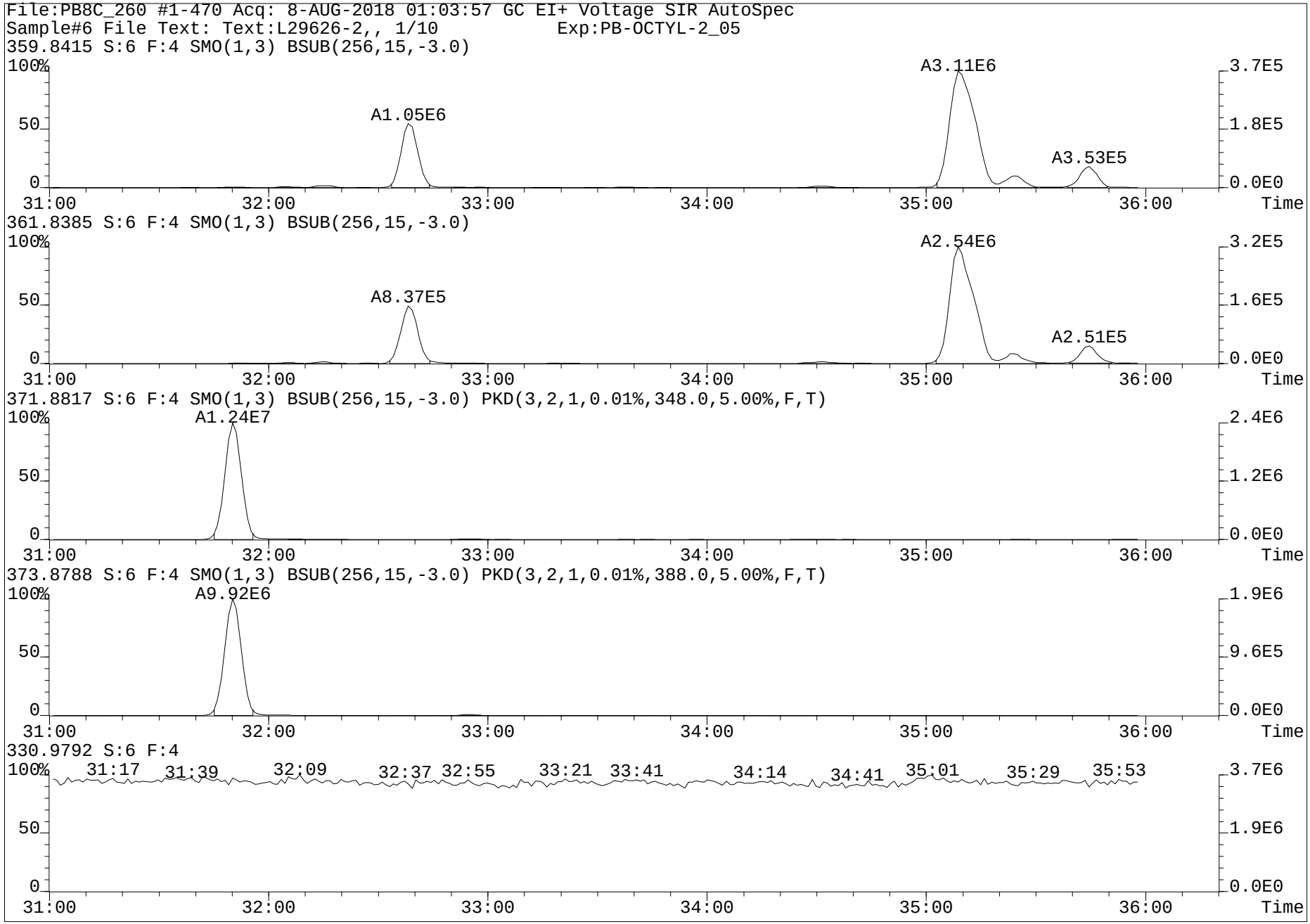

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.58E6
A2.72E6
A4.79E5
A3.28E5
9.6E5
4.8E5
0.0E0
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.65E6
A1.75E6
A3.17E5
A2.19E5
A2.06E5
6.2E5
3.1E5
0.0E0
337.9207 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3432.0,5.00%,F,T)
A1.98E7
A1.55E7
A1.45E7
A1.40E7
3.6E6
1.8E6
0.0E0
339.9178 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,964.0,5.00%,F,T)
A1.24E7
A9.74E6
A9.24E6
A9.02E6
2.2E6
1.1E6
0.0E0
354.9792 S:6 F:5
36:38
37:12
37:59
38:36
39:10
39:33
40:13
40:43
41:11
41:33
42:03
42:32
1.1E6
5.3E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

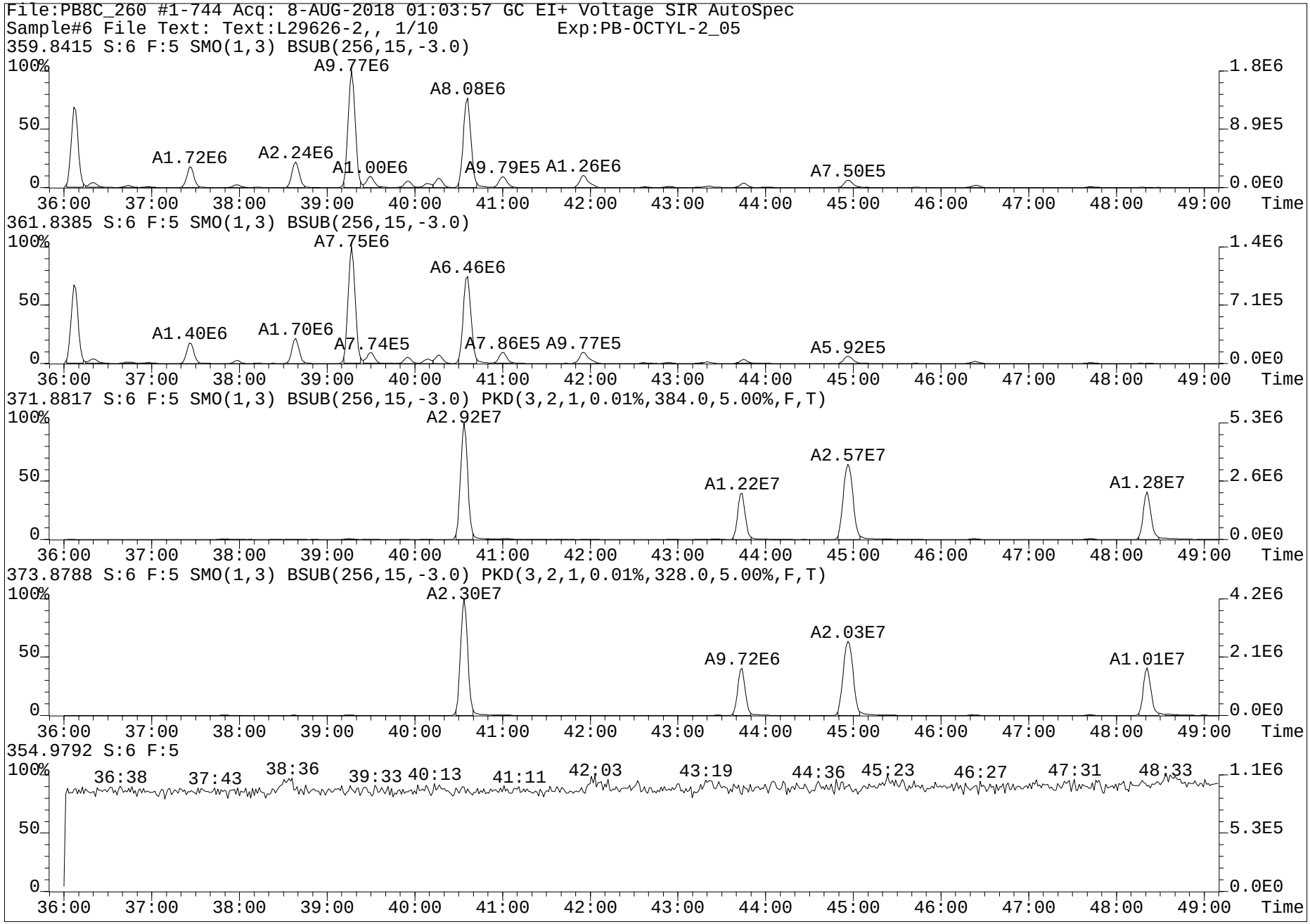

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.58E6
A2.72E6
A4.79E5
A3.28E5
9.6E5
4.8E5
0.0E0
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.65E6
A1.75E6
A3.17E5
A2.19E5
6.2E5
3.1E5
0.0E0
359.8415 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.77E6
A8.08E6
A1.72E6
A2.24E6
A1.00E6
A7.85E5
A9.79E5
A1.26E6
1.8E6
8.9E5
0.0E0
361.8385 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.75E6
A6.46E6
A1.40E6
A1.70E6
A7.74E5
A5.89E5
A7.86E5
A9.77E5
1.4E6
7.1E5
0.0E0
393.8025 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.64E6
A9.97E5
A2.79E5
A6.80E5
A1.22E6
6.8E5
3.4E5
0.0E0
395.7995 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.37E6
A9.47E5
A2.89E5
A6.60E5
A1.17E6
6.2E5
3.1E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

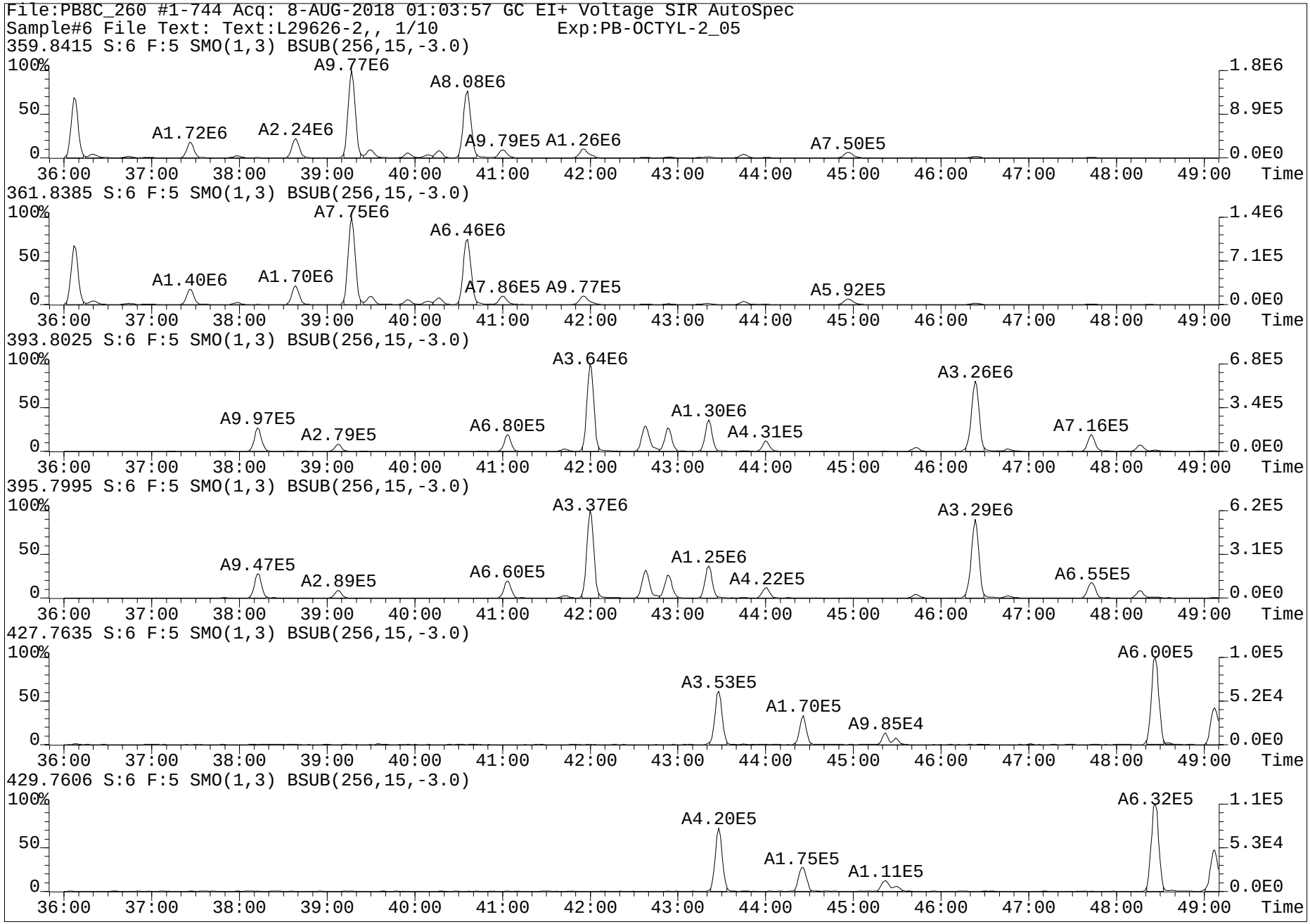

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.79E5
A2.72E5
A1.33E5
100%
90
80
70
60
50
40
30
20
10
0
8.8E4
7.9E4
7.0E4
6.1E4
5.3E4
4.4E4
3.5E4
2.6E4
1.8E4
8.8E3
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.17E5
A1.69E5
A6.45E4
100%
90
80
70
60
50
40
30
20
10
0
5.5E4
5.0E4
4.4E4
3.9E4
3.3E4
2.8E4
2.2E4
1.7E4
1.1E4
5.5E3
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time

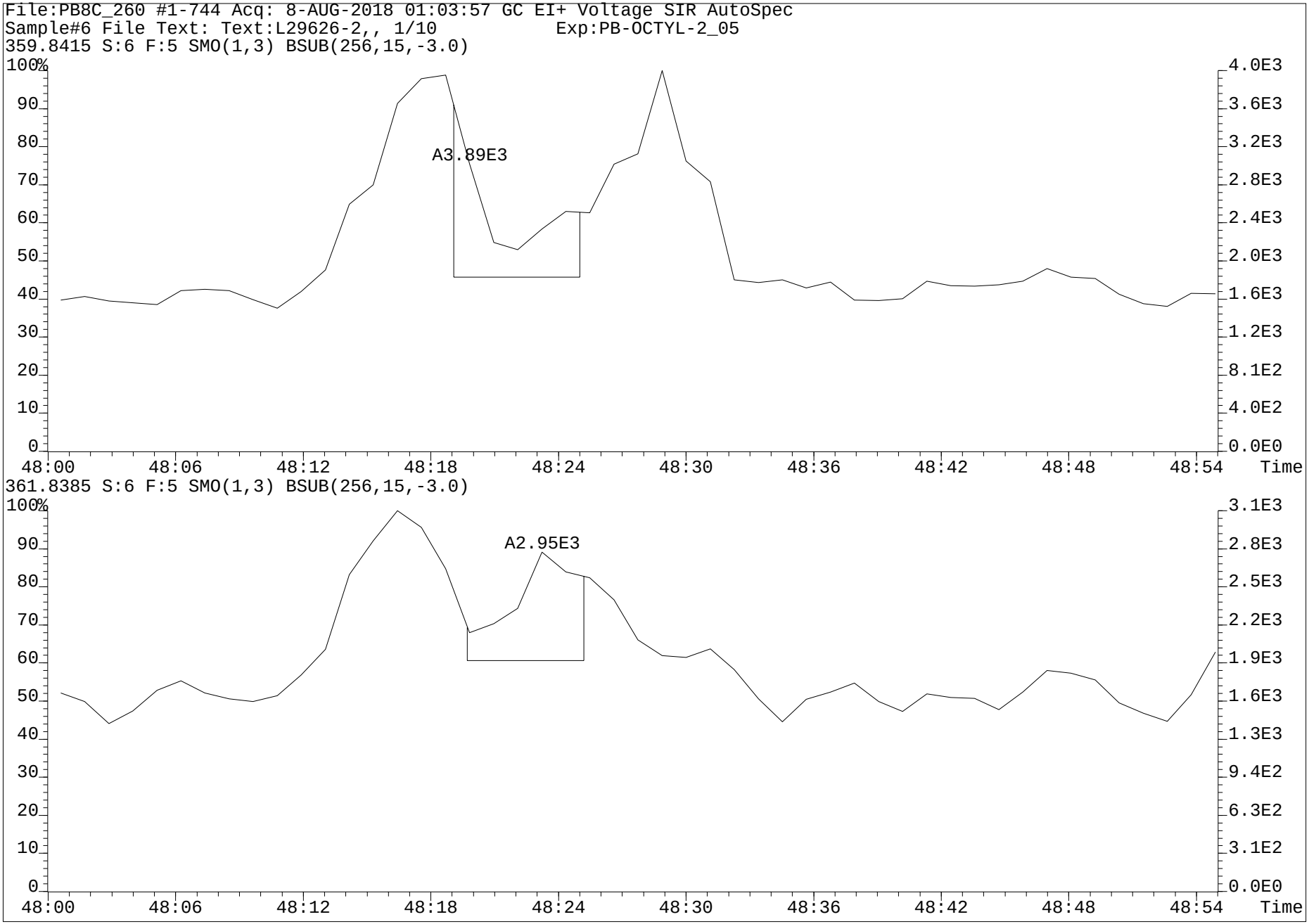

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.69E5
A9.20E4
100%
90
80
70
60
50
40
30
20
10
0
3.1E4
2.8E4
2.5E4
2.2E4
1.8E4
1.5E4
1.2E4
9.2E3
6.2E3
3.1E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.21E5
A8.69E4
100%
90
80
70
60
50
40
30
20
10
0
1.9E4
1.7E4
1.5E4
1.3E4
1.1E4
9.3E3
7.5E3
5.6E3
3.7E3
1.9E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

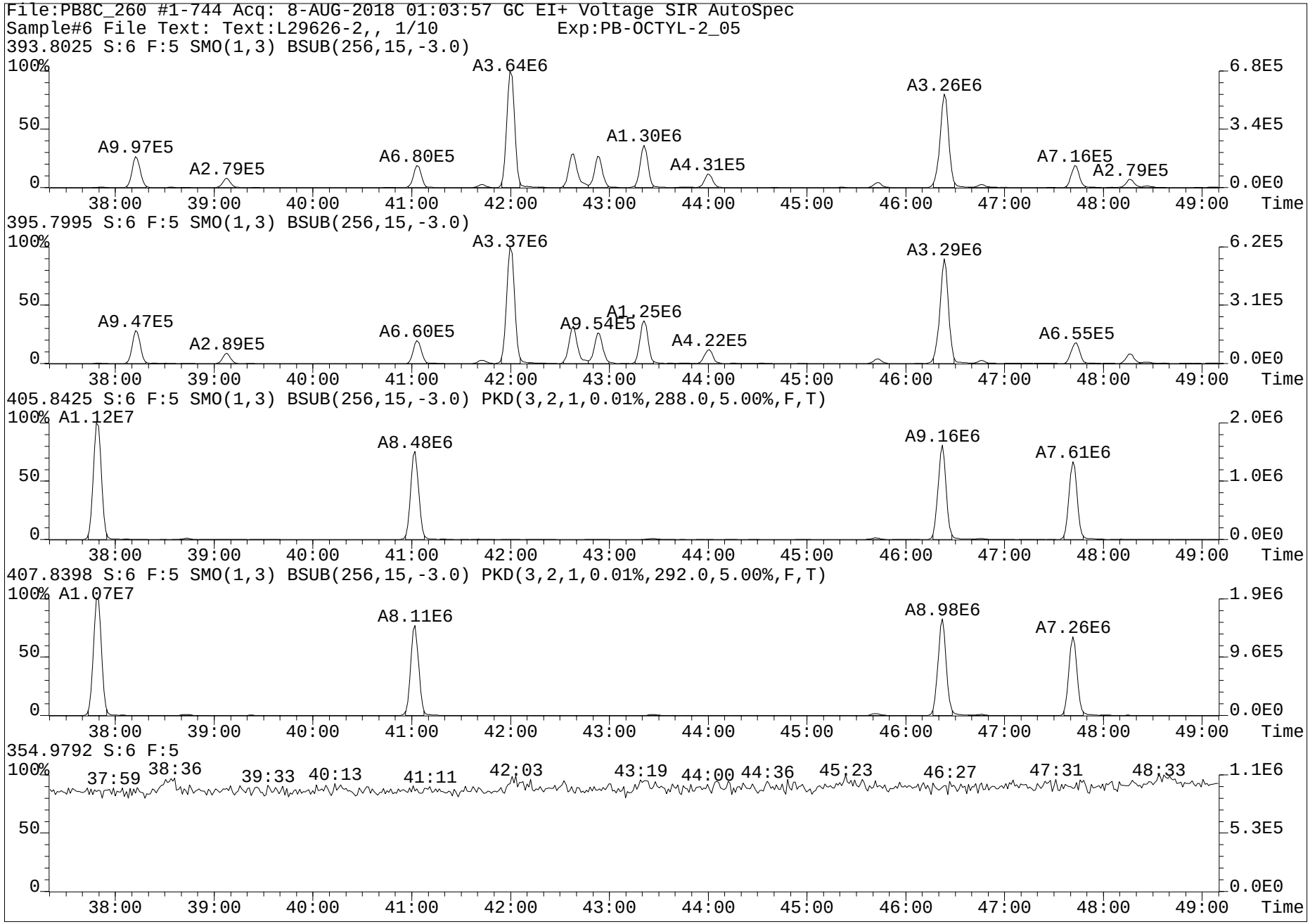

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
1.6E4
1.5E4
1.3E4
1.1E4
9.7E3
8.1E3
6.5E3
4.9E3
3.2E3
1.6E3
0.0E0
A8.76E3
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
1.0E4
9.2E3
8.2E3
7.1E3
6.1E3
5.1E3
4.1E3
3.1E3
2.0E3
1.0E3
0.0E0
A1.63E4
A7.98E3
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time

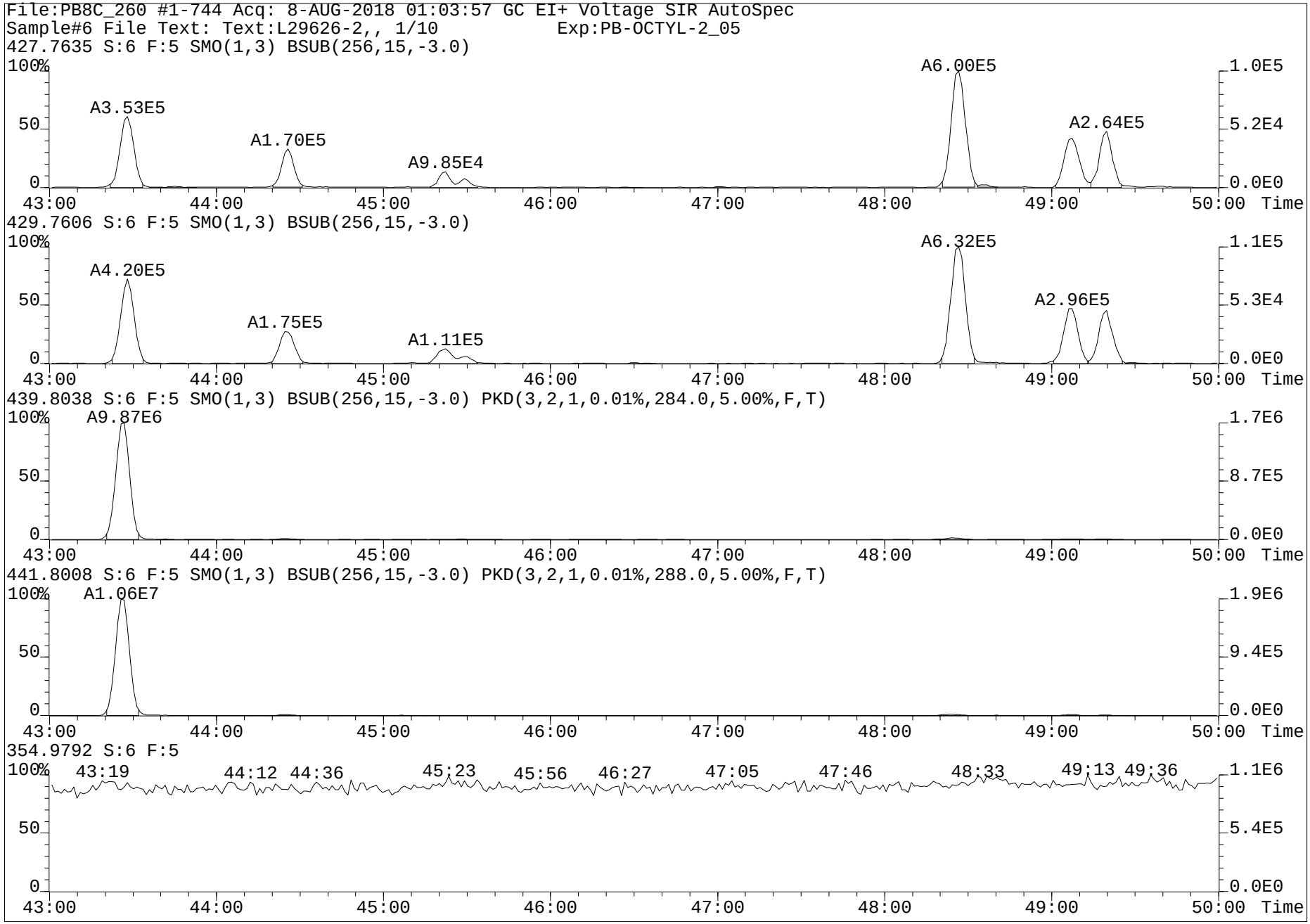

File:PB8C_260 #1-470 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.05E6
A3.11E6
A3.53E5
361.8385 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0)
A8.37E5
A2.54E6
A2.51E5
371.8817 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.24E7
373.8788 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A9.92E6
330.9792 S:6 F:4
31:17 31:39 32:09 32:37 32:55 33:21 33:41 34:14 34:41 35:01 35:29 35:53
31:00 32:00 33:00 34:00 35:00 36:00 Time

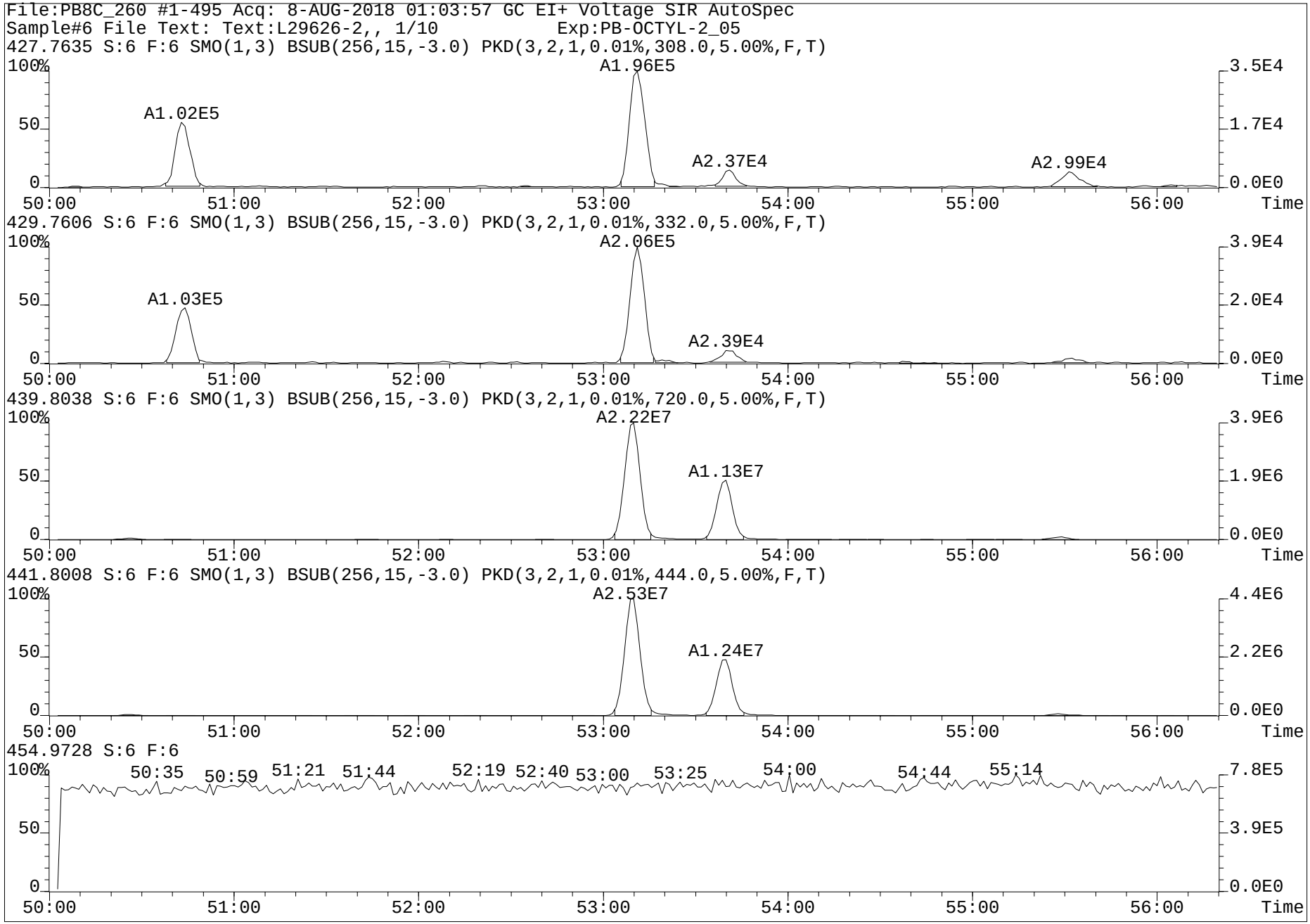

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.77E6
A8.08E6
A1.72E6
A2.24E6
A1.00E6
A9.79E5
A1.26E6
A7.50E5
361.8385 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.75E6
A6.46E6
A1.40E6
A1.70E6
A7.74E5
A7.86E5
A9.77E5
A5.92E5
371.8817 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A2.92E7
A2.57E7
A1.22E7
A1.28E7
373.8788 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A2.30E7
A2.03E7
A9.72E6
A1.01E7
354.9792 S:6 F:5
36:38
37:43
38:36
39:33
40:13
41:11
42:03
43:19
44:36
45:23
46:27
47:31
48:33
100%
50
0
1.8E6
8.9E5
0.0E0
1.4E6
7.1E5
5.3E6
2.6E6
4.2E6
2.1E6
1.1E6
5.3E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time

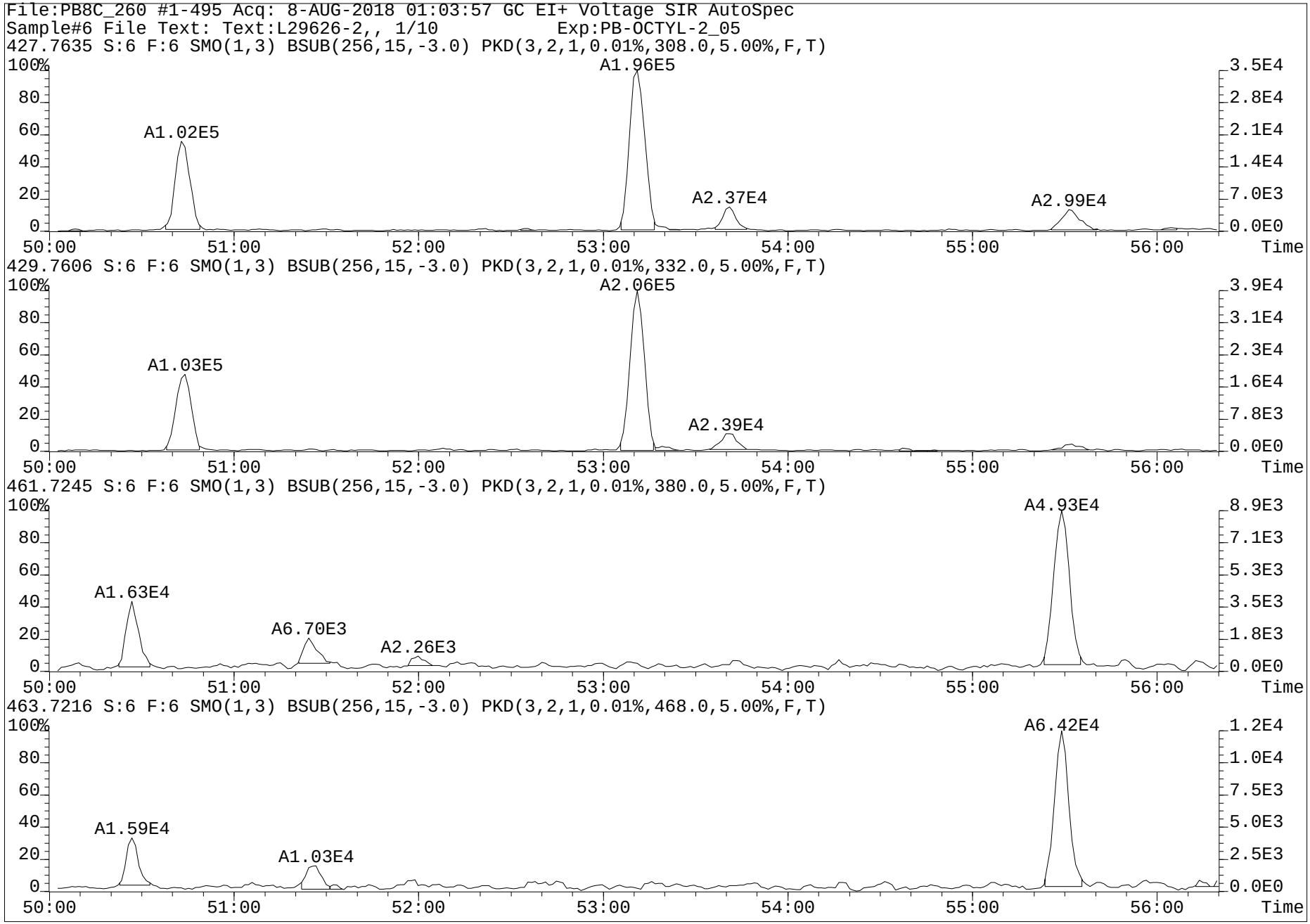

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.77E6
A8.08E6
A1.72E6
A2.24E6
A9.79E5
A1.26E6
A7.50E5
1.8E6
8.9E5
0.0E0
361.8385 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.75E6
A6.46E6
A1.40E6
A1.70E6
A7.86E5
A9.77E5
A5.92E5
1.4E6
7.1E5
0.0E0
393.8025 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.64E6
A3.26E6
A9.97E5
A2.79E5
A6.80E5
A1.30E6
A4.31E5
A7.16E5
6.8E5
3.4E5
0.0E0
395.7995 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.37E6
A3.29E6
A9.47E5
A2.89E5
A6.60E5
A1.25E6
A4.22E5
A6.55E5
6.2E5
3.1E5
0.0E0
427.7635 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.00E5
A3.53E5
A1.70E5
A9.85E4
1.0E5
5.2E4
0.0E0
429.7606 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.32E5
A4.20E5
A1.75E5
A1.11E5
1.1E5
5.3E4
0.0E0
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

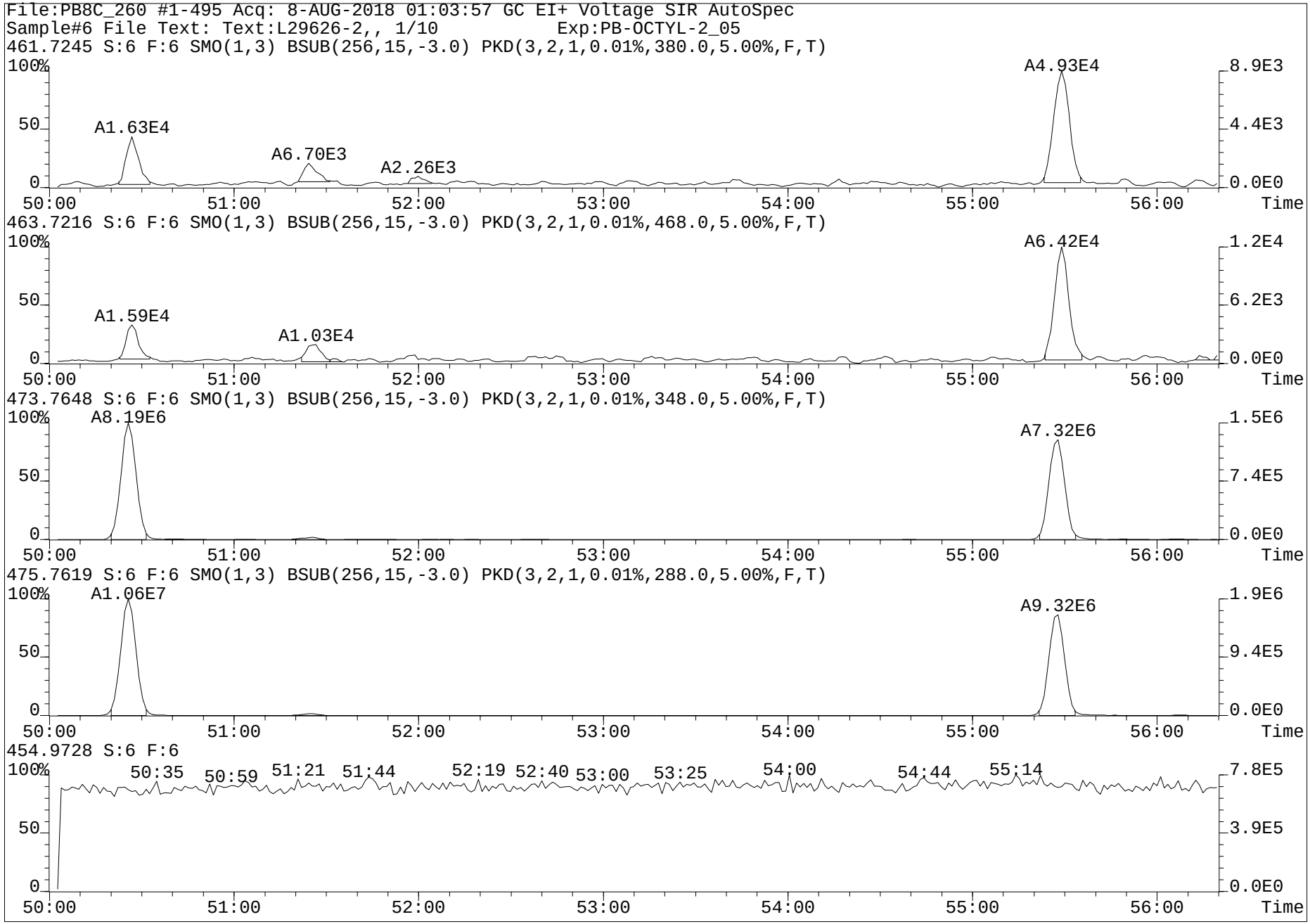

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.89E3
361.8385 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.95E3
Time

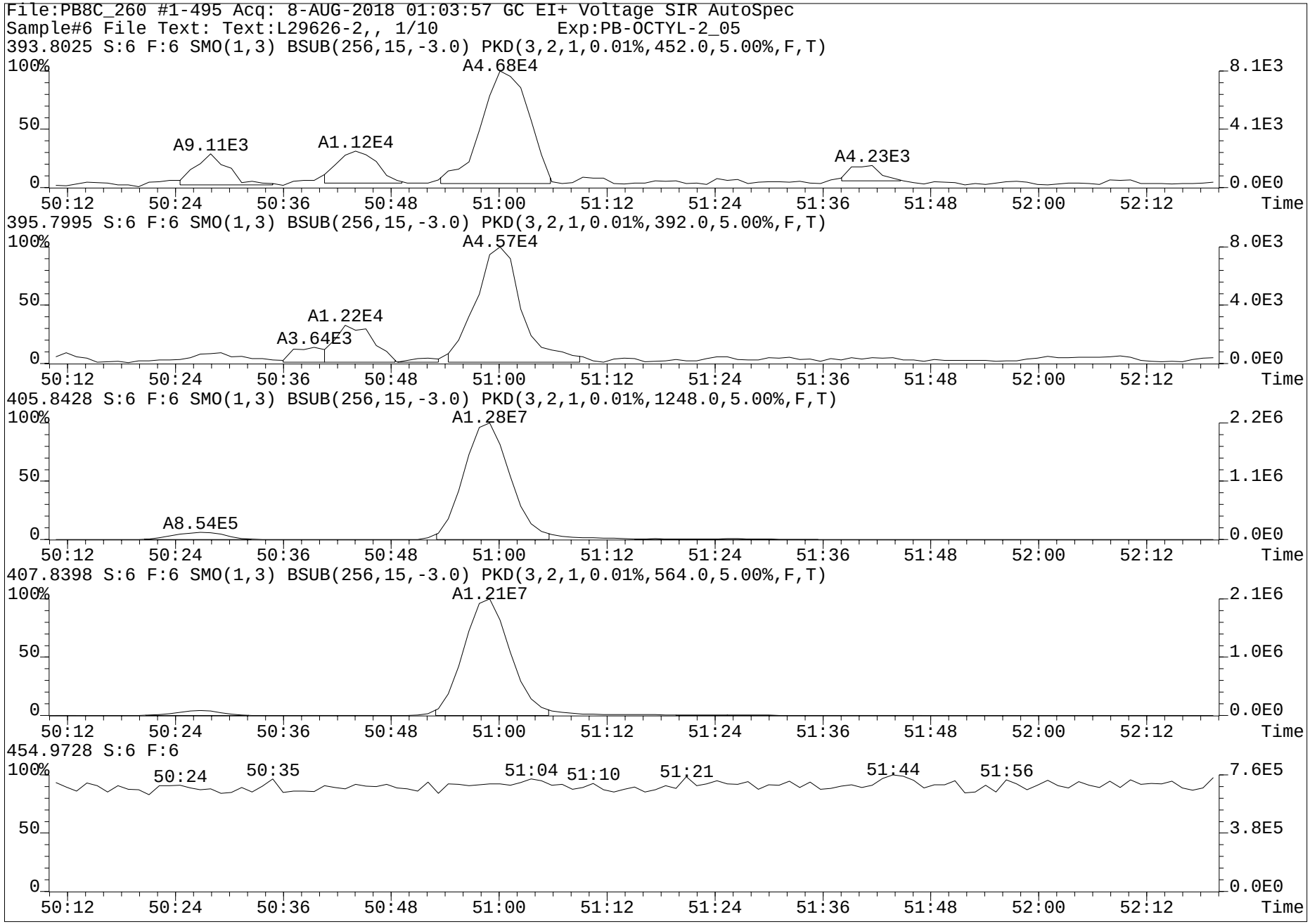

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.97E5
A2.79E5
A6.80E5
A3.64E6
A1.30E6
A4.31E5
A3.26E6
A7.16E5
A2.79E5
6.8E5
3.4E5
0.0E0
395.7995 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.47E5
A2.89E5
A6.60E5
A3.37E6
A9.54E5
A1.25E6
A4.22E5
A3.29E6
A6.55E5
6.2E5
3.1E5
0.0E0
405.8425 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.12E7
A8.48E6
A9.16E6
A7.61E6
2.0E6
1.0E6
0.0E0
407.8398 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A1.07E7
A8.11E6
A8.98E6
A7.26E6
1.9E6
9.6E5
0.0E0
354.9792 S:6 F:5
37:59
38:36
39:33
40:13
41:11
42:03
43:19
44:00
44:36
45:23
46:27
47:31
48:33
1.1E6
5.3E5
0.0E0
100%
50
0
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time

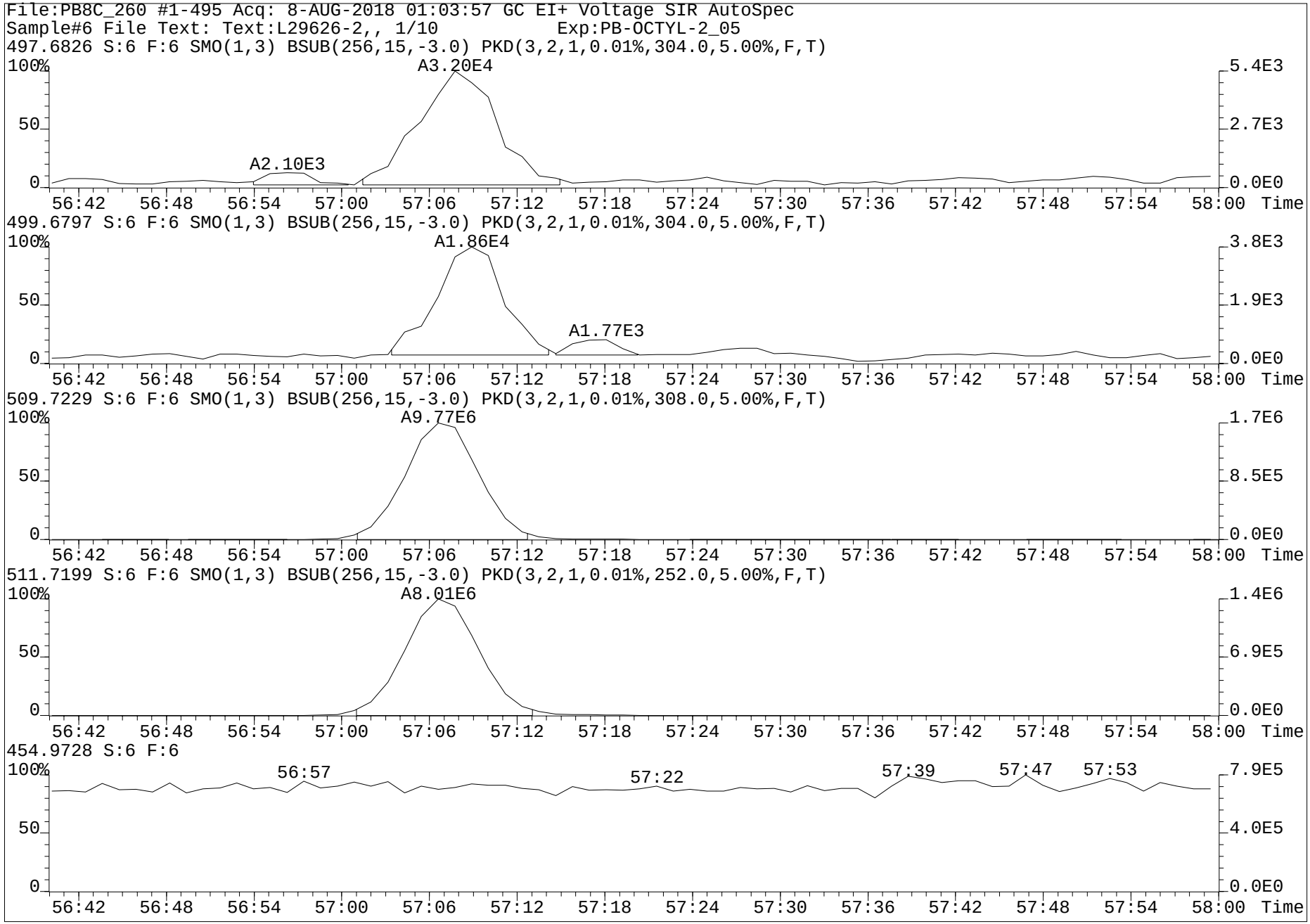

File:PB8C_260 #1-744 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.53E5
A1.70E5
A9.85E4
A6.00E5
A2.64E5
429.7606 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.20E5
A1.75E5
A1.11E5
A6.32E5
A2.96E5
439.8038 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,284.0,5.00%,F,T)
A9.87E6
441.8008 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.06E7
354.9792 S:6 F:5
43:19
44:12
44:36
45:23
45:56
46:27
47:05
47:46
48:33
49:13
49:36
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
1.0E5
5.2E4
0.0E0
1.1E5
5.3E4
1.7E6
8.7E5
1.9E6
9.4E5
1.1E6
5.4E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A1.96E5
A1.02E5
A2.37E4
A2.99E4
429.7606 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A2.06E5
A1.03E5
A2.39E4
439.8038 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,720.0,5.00%,F,T)
A2.22E7
A1.13E7
441.8008 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A2.53E7
A1.24E7
454.9728 S:6 F:6
50:35
50:59
51:21
51:44
52:19
52:40
53:00
53:25
54:00
54:44
55:14
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
3.5E4
1.7E4
0.0E0
3.9E4
2.0E4
3.9E6
1.9E6
4.4E6
2.2E6
7.8E5
3.9E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A1.96E5
A1.02E5
A2.37E4
A2.99E4
429.7606 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A2.06E5
A1.03E5
A2.39E4
461.7245 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A4.93E4
A1.63E4
A6.70E3
A2.26E3
463.7216 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A6.42E4
A1.59E4
A1.03E4
Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.63E4
A6.70E3
A2.26E3
A4.93E4
463.7216 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A1.59E4
A1.03E4
A6.42E4
473.7648 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A8.19E6
A7.32E6
475.7619 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.06E7
A9.32E6
454.9728 S:6 F:6
50:35
50:59
51:21
51:44
52:19
52:40
53:00
53:25
54:00
54:44
55:14
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
8.9E3
4.4E3
0.0E0
1.2E4
6.2E3
1.5E6
7.4E5
1.9E6
9.4E5
7.8E5
3.9E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A4.68E4
A9.11E3
A1.12E4
A4.23E3
395.7995 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A4.57E4
A1.22E4
A3.64E3
405.8428 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1248.0,5.00%,F,T)
A1.28E7
A8.54E5
407.8398 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,564.0,5.00%,F,T)
A1.21E7
454.9728 S:6 F:6
50:24
50:35
51:04
51:10
51:21
51:44
51:56
100%
50
0
8.1E3
4.1E3
0.0E0
8.0E3
4.0E3
2.2E6
1.1E6
2.1E6
1.0E6
7.6E5
3.8E5
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time

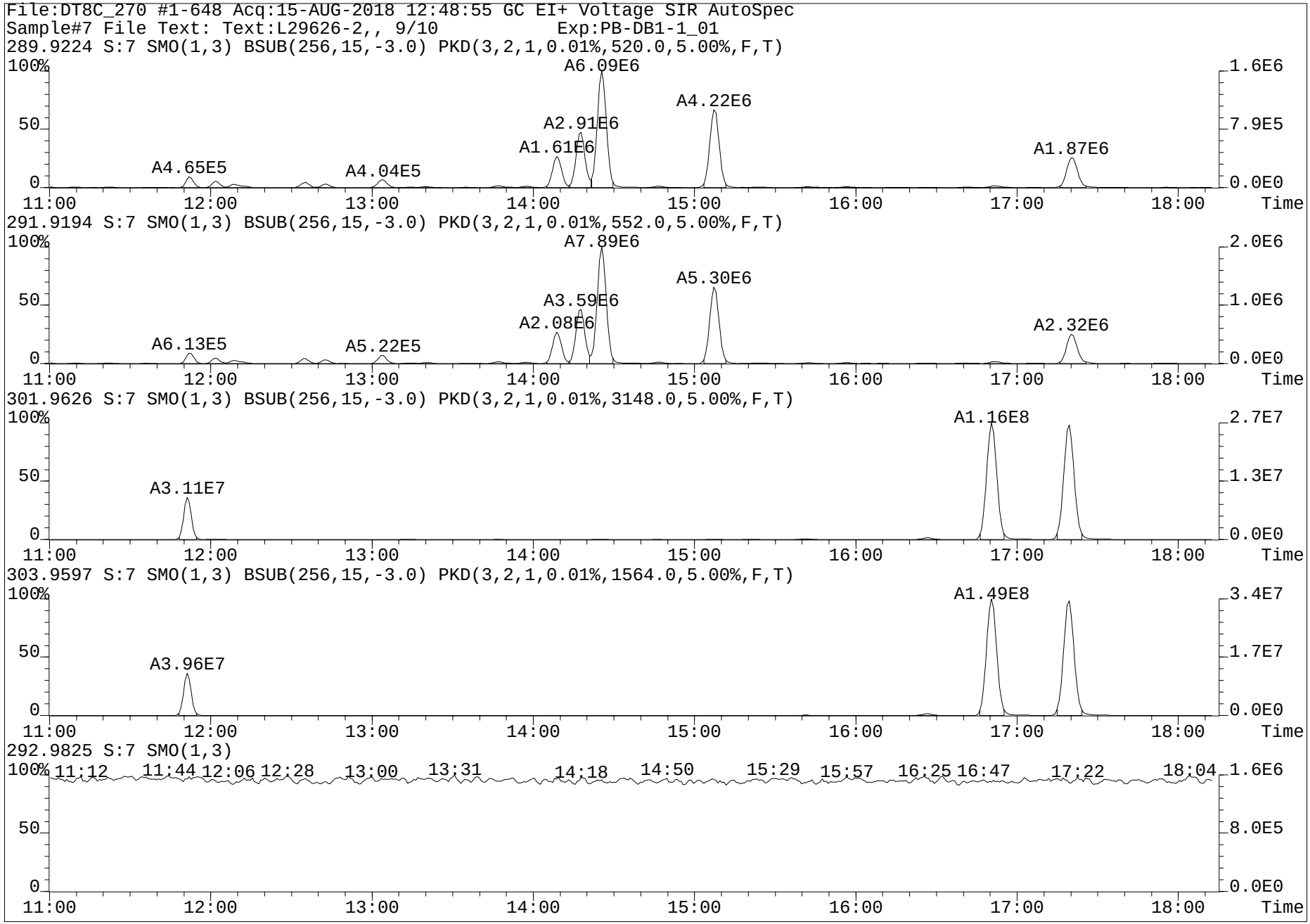

File:PB8C_260 #1-495 Acq: 8-AUG-2018 01:03:57 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:L29626-2,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A3.20E4
A2.10E3
499.6797 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A1.86E4
A1.77E3
509.7229 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A9.77E6
511.7199 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A8.01E6
454.9728 S:6 F:6
56:57
57:22
57:39
57:47
57:53
100%
50
0
5.4E3
2.7E3
0.0E0
3.8E3
1.9E3
1.7E6
8.5E5
1.4E6
6.9E5
7.9E5
4.0E5
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

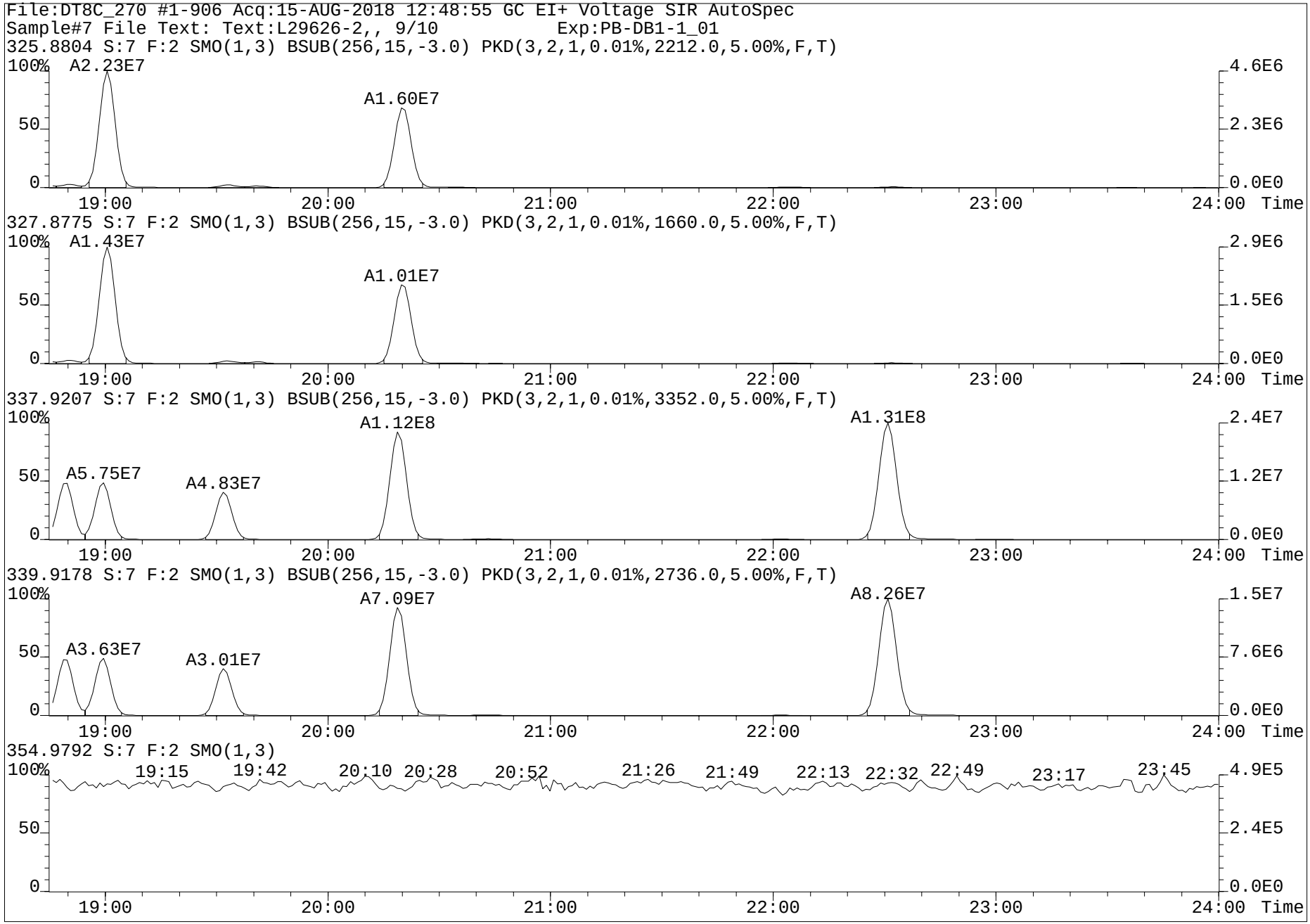
Run #13 Filename DT8C_270 S: 7 I: 1 Acquired: 15-AUG-18 12:48:55 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-2,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.280000 conc units: pg/g total toxicity: 1984.73 F1: 1.0000 F2: 5.0000

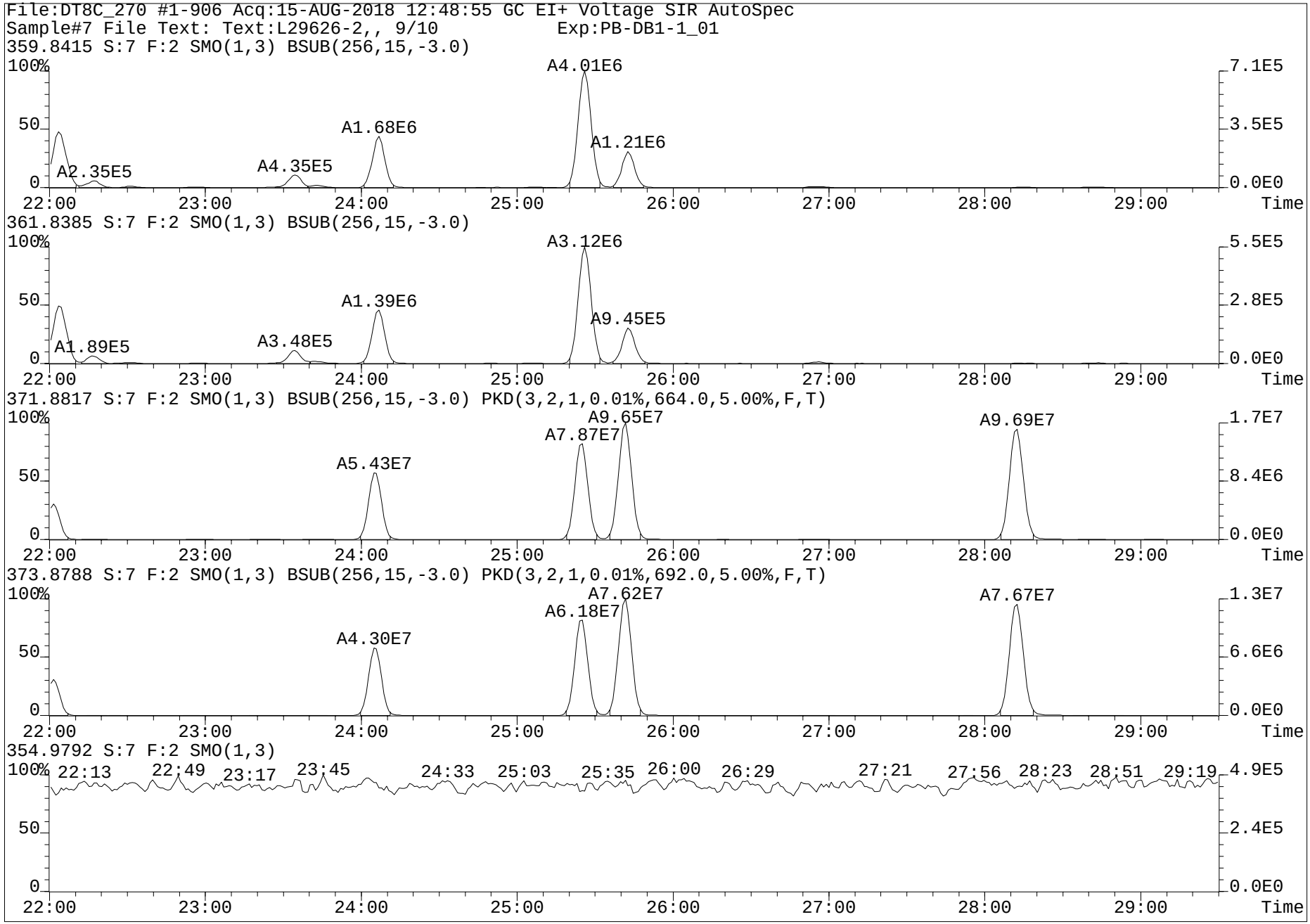
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	2.67e+05	0.70	y	16:52	1.827	2	0.0798	-	n
2	Unk	CL4-PCB-77	1	4.20e+06	0.80	y	17:20	28.288	28	0.0802	-	n
3	Unk	CL5-PCB-123	1	9.57e+05	1.59	y	18:50	18.675	19	0.9465	-	n
4	Unk	CL5-PCB-118	1	3.65e+07	1.56	y	19:00	685.033	685	0.8876	-	n
5	Unk	CL5-PCB-114	1	8.46e+05	1.59	y	19:33	17.970	18	1.0186	-	n
6	Unk	CL5-PCB-105	1	2.61e+07	1.58	y	20:20	260.046	260	0.4856	-	n
7	Unk	CL5-PCB-126	1	2.22e+05	1.92	n ✓	22:32	1.860	2	0.4421	-	n
8	Unk	CL6-PCB-167	1	3.07e+06	1.21	y	24:06	51.865	52	0.2990	-	y
9	Unk	CL6-PCB-156	1	7.13e+06	1.29	y	25:25	84.401	84	0.2120	-	y
10	Unk	CL6-PCB-157	1	2.15e+06	1.28	y	25:43	21.322	21	0.1792	-	n
11	Unk	CL6-PCB-169	1	2.11e+04	1.73	n	28:14	0.214	0	0.1931	-	y
12	Unk	CL7-PCB-180	1	1.19e+06	1.02	y	26:55	608.251	608	7.8506	-	n
13	Unk	CL7-PCB-170	1	5.24e+05	0.96	y	28:41	198.562	199	5.9689	-	n
14	Unk	CL7-PCB-189	1	4.17e+05	1.08	y	31:02	6.416	6	0.2506	-	n
15	IS	13C-CL4-PCB-81	1	2.65e+08	0.78	y	16:50	5714.348	0	0.8131	301.7	n
16	IS	13C-CL4-PCB-77	1	2.67e+08	0.78	y	17:19	5826.546	0	0.8255	307.6	n
17	IS	13C-CL5-PCB-123	1	9.43e+07	1.59	y	18:49	2342.338	0	1.5656	123.7	n
18	IS	13C-CL5-PCB-118	1	9.38e+07	1.59	y	18:59	2265.657	0	1.5223	119.6	n
19	IS	13C-CL5-PCB-114	1	7.84e+07	1.60	y	19:32	2074.771	0	1.6677	109.5	n
20	IS	13C-CL5-PCB-105	1	1.82e+08	1.58	y	20:19	4773.637	0	1.6489	252.0	n
21	IS	13C-CL5-PCB-126	1	2.13e+08	1.58	y	22:31	6173.210	0	1.8250	325.9	n
22	IS	13C-CL6-PCB-167	1	9.73e+07	1.26	y	24:05	3203.293	0	0.5861	169.1	n
23	IS	13C-CL6-PCB-156	1	1.41e+08	1.27	y	25:25	4540.096	0	0.5755	239.7	n
24	IS	13C-CL6-PCB-157	1	1.73e+08	1.27	y	25:42	5004.722	0	0.5160	264.2	n
25	IS	13C-CL6-PCB-169	1	1.74e+08	1.26	y	28:12	5879.768	0	0.6034	310.5	n
26	IS	13C-CL7-PCB-180	1	3.85e+06	1.06	y	26:54	168.382	0	0.5175	8.9	n
27	IS	13C-CL7-PCB-170	1	5.42e+06	1.02	y	28:40	290.799	0	0.6341	15.4	n
28	IS	13C-CL7-PCB-189	1	1.24e+08	1.04	y	31:00	5063.026	0	0.4834	267.3	n
29	IS	13C-CL10-PCB-209	1	1.23e+06	1.11	y	34:36	43.574	0	0.4548	2.3	n
30	RS	13C-CL4-PCB-52	1	7.08e+07	0.79	y	11:51	33.562	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.06e+07	1.60	y	15:41	33.653	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	4.82e+07	1.26	y	22:02	35.525	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	9.22e+06	1.63	y	17:03	279.172	0	0.4150	14.7	n
34	C/Up	13C-CL7-PCB-178	1	1.27e+06	1.00	y	22:54	56.661	0	0.5282	3.0	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

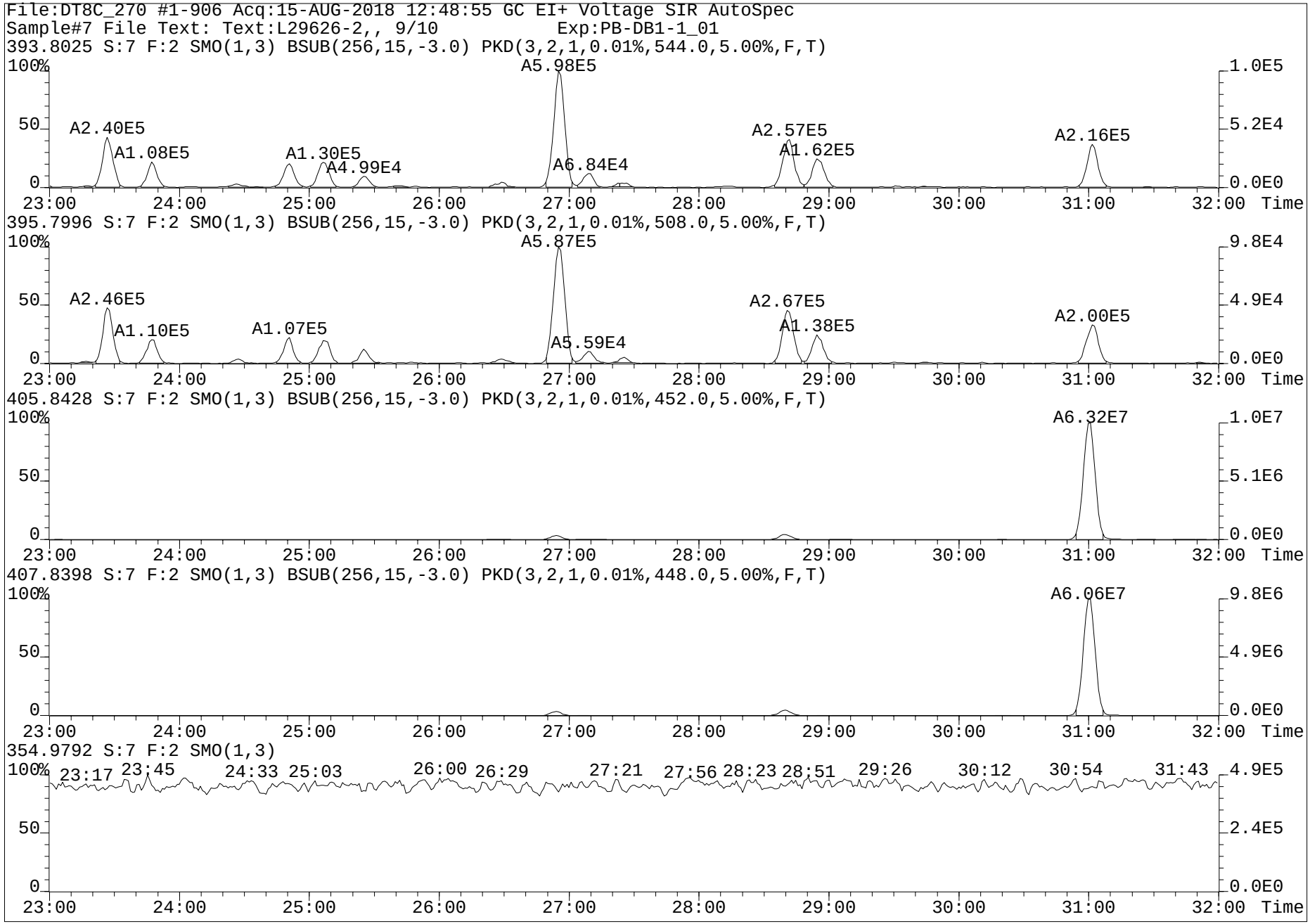
SV BW
17 Aug 2018

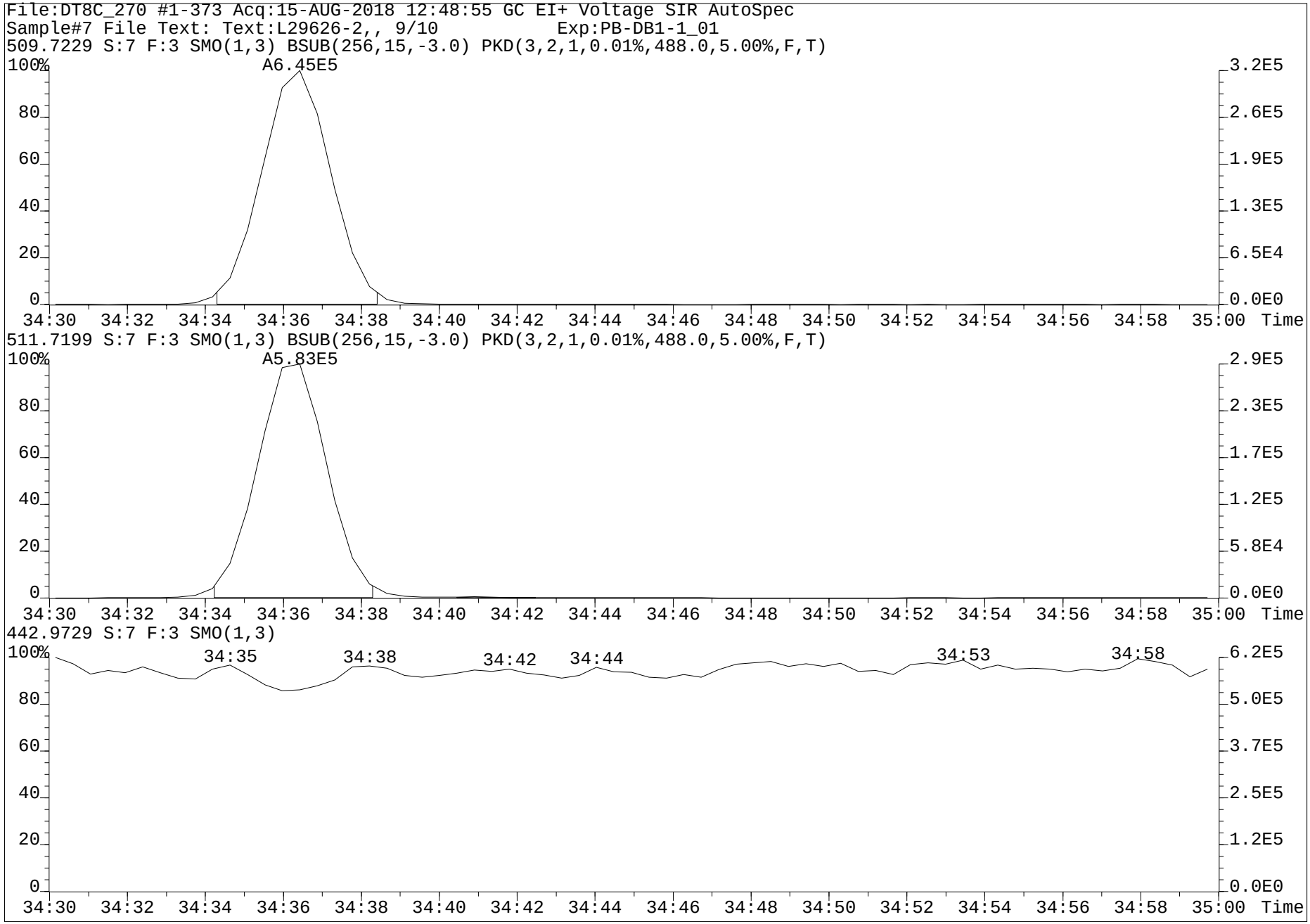
PV by RA 17AUG2018

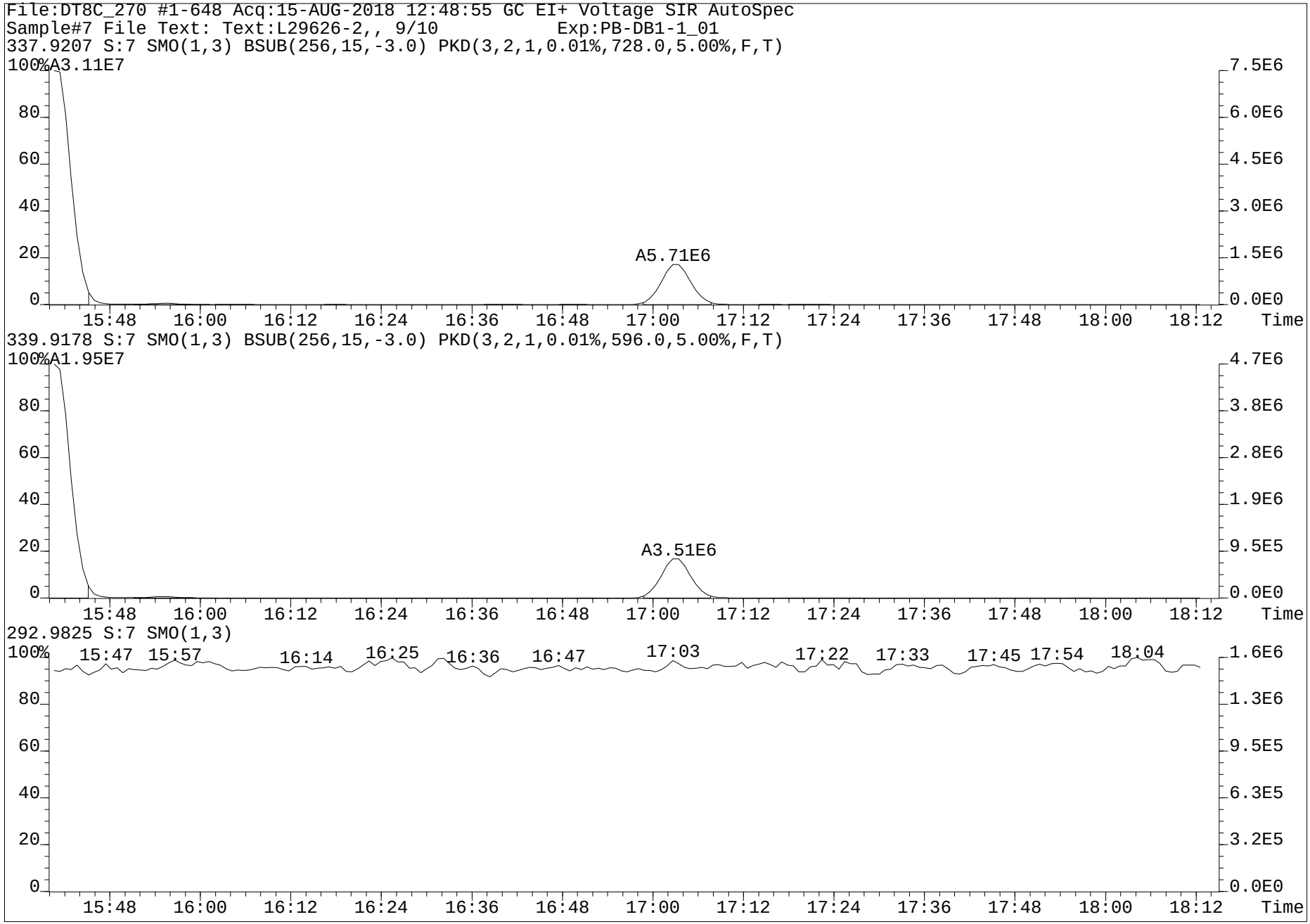

File:DT8C_270 #1-648 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
289.9224 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A6.09E6
A4.22E6
A2.91E6
A1.61E6
A1.87E6
A4.65E5
A4.04E5
1.6E6
7.9E5
0.0E0
291.9194 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,552.0,5.00%,F,T)
A7.89E6
A5.30E6
A3.59E6
A2.08E6
A2.32E6
A6.13E5
A5.22E5
2.0E6
1.0E6
0.0E0
301.9626 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3148.0,5.00%,F,T)
A1.16E8
A3.11E7
2.7E7
1.3E7
0.0E0
303.9597 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1564.0,5.00%,F,T)
A1.49E8
A3.96E7
3.4E7
1.7E7
0.0E0
292.9825 S:7 SMO(1,3)
11:12 11:44 12:06 12:28 13:00 13:31 14:18 14:50 15:29 15:57 16:25 16:47 17:22 18:04
1.6E6
8.0E5
0.0E0
100%
50
0
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
325.8804 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2212.0,5.00%,F,T)
A2.23E7
A1.60E7
327.8775 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1660.0,5.00%,F,T)
A1.43E7
A1.01E7
337.9207 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3352.0,5.00%,F,T)
A1.12E8
A1.31E8
A5.75E7
A4.83E7
339.9178 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2736.0,5.00%,F,T)
A7.09E7
A8.26E7
A3.63E7
A3.01E7
354.9792 S:7 F:2 SMO(1,3)
19:15 19:42 20:10 20:28 20:52 21:26 21:49 22:13 22:32 22:49 23:17 23:45
100%
50
0
19:00 20:00 21:00 22:00 23:00 24:00 Time
4.6E6 2.3E6 0.0E0
2.9E6 1.5E6 0.0E0
2.4E7 1.2E7 0.0E0
1.5E7 7.6E6 0.0E0
4.9E5 2.4E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
359.8415 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.01E6
A1.68E6
A1.21E6
A2.35E5
A4.35E5
7.1E5
3.5E5
0.0E0
361.8385 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.12E6
A1.39E6
A9.45E5
A1.89E5
A3.48E5
5.5E5
2.8E5
0.0E0
371.8817 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A9.65E7
A7.87E7
A9.69E7
A5.43E7
1.7E7
8.4E6
0.0E0
373.8788 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,692.0,5.00%,F,T)
A7.62E7
A6.18E7
A7.67E7
A4.30E7
1.3E7
6.6E6
0.0E0
354.9792 S:7 F:2 SMO(1,3)
22:13 22:49 23:17 23:45 24:33 25:03 25:35 26:00 26:29 27:21 27:56 28:23 28:51 29:19
4.9E5
2.4E5
0.0E0
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
393.8025 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A2.40E5
A1.08E5
A1.30E5
A4.99E4
A5.98E5
A6.84E4
A2.57E5
A1.62E5
A2.16E5
395.7996 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,508.0,5.00%,F,T)
A2.46E5
A1.10E5
A1.07E5
A5.87E5
A5.59E4
A2.67E5
A1.38E5
A2.00E5
405.8428 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A6.32E7
407.8398 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A6.06E7
354.9792 S:7 F:2 SMO(1,3)
23:17 23:45 24:33 25:03 26:00 26:29 27:21 27:56 28:23 28:51 29:26 30:12 30:54 31:43
Time


File:DT8C_270 #1-373 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
509.7229 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A6.45E5
511.7199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A5.83E5
442.9729 S:7 F:3 SMO(1,3)
34:35
34:38
34:42
34:44
34:53
34:58
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 12:48:55 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-2,, 9/10 Exp:PB-DB1-1_01
337.9207 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,728.0,5.00%,F,T)
100%A3.11E7
A5.71E6
339.9178 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
100%A1.95E7
A3.51E6
292.9825 S:7 SMO(1,3)
100%
15:47 15:57 16:14 16:25 16:36 16:47 17:03 17:22 17:33 17:45 17:54 18:04
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

www.axysanalytical.com

Run #14 Filename PB8C_260 S: 7 I: 1 Acquired: 8-AUG-18 02:07:34 Processed: 8-AUG-18 07:42:31
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-4,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.060000 conc units: pg/g total toxicity: 1579.47 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL		Rec	M?
1	Unk	CL1-PCB-1	1	3.87e+04	3.98	n	11:29	1.473	1	0.6454		-	n
2	Unk	CL1-PCB-3	1	5.10e+04	3.33	y	13:42	2.047	2	0.8111		-	n
3	Unk	CL2-PCB-4	1	2.26e+05	1.45	y	13:57	14.442	14	3.3339		-	n
4	Unk	CL2-PCB-15	1	4.95e+05	1.59	y	20:01	22.517	23	3.1747		-	n
5	Unk	CL3-PCB-19	1	2.89e+05	0.94	y	17:07	17.874	18	0.8193		-	n
6	Unk	CL3-PCB-37	1	1.17e+06	0.97	y	27:19	52.036	52	1.3407		-	n
7	Unk	CL4-PCB-54	1	3.36e+04	0.97	n	20:17	1.656	2	0.5184		-	n
8	Unk	CL4-PCB-81	1	3.01e+04	0.67	y	34:21	1.480	1	2.8695		-	y
9	Unk	CL4-PCB-77	1	5.98e+05	0.71	y	34:56	28.069	28	2.8450		-	y
10	Unk	CL5-PCB-104	1	1.05e+04	1.81	n	25:58	0.596	1	0.5460		-	n
11	Unk	CL5-PCB-123	1	3.14e+05	1.67	y	37:01	17.902	18	7.8374		-	n
12	Unk	CL5-PCB-118	1	1.46e+07	1.56	y	37:20	799.931	800	7.6329		-	y
13	Unk	CL5-PCB-114	1	3.61e+05	1.66	y	37:54	20.888	21	7.8953		-	n
14	Unk	CL5-PCB-105	1	6.47e+06	1.58	y	38:35	306.693	307	6.3923		-	n
15	Unk	CL5-PCB-126	1	2.49e+04	1.27	n	41:50	1.578	2	~~9.4062~~	1.4	-	y
16	Unk	CL6-PCB-155	1	1.58e+04	1.00	n	31:51	0.936	1	0.5067		-	n
17	Unk	CL6-PCB-167	1	9.41e+05	1.36	y	43:45	59.842	60	7.5343		-	n
18	Unk	CL6-PCB-156/157	1	1.83e+06	1.12	y	44:56	114.831	115	10.1528	SOL	-	y
19	Unk	CL6-PCB-169	1	1.06e+04	0.74	n	48:23	0.688	1	8.1318	x1/2	-	y
20	Unk	CL7-PCB-188	1	3.42e+04	1.59	n	37:51	2.212	2	0.5476		-	n
21	Unk	CL7-PCB-189	1	8.00e+04	1.20	y	51:01	4.638	5	0.7075		-	n
22	Unk	CL8-PCB-202	1	9.77e+05	0.86	y	43:28	82.832	83	0.6590		-	n
23	Unk	CL8-PCB-205	1	4.61e+04	0.85	y	53:41	3.002	3	0.6374		-	n
24	Unk	CL9-PCB-208	1	5.21e+04	0.86	y	50:28	4.240	4	0.9216		-	n
25	Unk	CL9-PCB-206	1	1.40e+05	0.66	y	55:29	12.839	13	1.0534		-	n
26	Unk	CL10-PCB-209	1	5.19e+04	1.20	y	57:09	4.231	4	0.6184		-	n
27	IS	13C-CL1-PCB-1	1	4.84e+07	3.17	y	11:28	533.634	0	3.4825		27.0	n
28	IS	13C-CL1-PCB-3	1	4.55e+07	3.14	y	13:41	525.727	0	3.6553		26.6	n
29	IS	13C-CL2-PCB-4	1	3.11e+07	1.59	y	13:56	566.172	0	0.9400		28.6	n
30	IS	13C-CL2-PCB-15	1	4.77e+07	1.56	y	20:00	556.553	0	0.6028		28.2	n
31	IS	13C-CL3-PCB-19	1	2.99e+07	1.06	y	17:06	660.368	0	4.7900		33.4	n
32	IS	13C-CL3-PCB-37	1	4.46e+07	1.02	y	27:18	652.799	0	4.7815		33.0	n
33	REF	13C-CL4-CHECK	1	3.79e+07	0.81	y	20:16	633.906	0	1.3888		32.1	n
34	IS	13C-CL4-PCB-81	1	3.91e+07	0.76	y	34:20	749.259	0	1.5109		37.9	n
35	IS	13C-CL4-PCB-77	1	4.09e+07	0.77	y	34:55	771.774	0	1.4870		39.1	n
36	IS	13C-CL5-PCB-104	1	3.27e+07	1.58	y	25:57	657.619	0	0.1736		33.3	n
37	IS	13C-CL5-PCB-123	1	3.53e+07	1.59	y	36:59	751.468	0	2.6503		38.0	n
38	IS	13C-CL5-PCB-118	1	3.45e+07	1.59	y	37:20	748.344	0	2.7040		37.9	n
39	IS	13C-CL5-PCB-114	1	3.23e+07	1.55	y	37:53	706.089	0	2.7252		35.7	n
40	IS	13C-CL5-PCB-105	1	4.06e+07	1.58	y	38:34	858.299	0	2.6317		43.4	n
41	IS	13C-CL5-PCB-126	1	2.98e+07	1.61	y	41:49	706.065	0	2.9471		35.7	n
42	IS	13C-CL6-PCB-155	1	3.27e+07	1.21	y	31:51	631.850	0	0.1852		32.0	n
43	IS	13C-CL6-PCB-167	1	2.79e+07	1.29	y	43:44	698.807	0	0.4338		35.4	n
44	IS	13C-CL6-PCB-156/157	1	5.74e+07	1.27	y	44:57	1376.427	0	0.4159		34.8	n

SV BW
15 Aug 2018

PV by RA 09AUG2018

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	2.88e+07	1.26	y	48:22	696.803	0	0.4188	35.3	n
46	REF	13C-CL7-CHECK	1	3.14e+07	1.03	y	37:50	561.212	0	0.1773	28.4	n
47	IS	13C-CL7-PCB-189	1	3.22e+07	1.03	y	50:59	716.326	0	0.6692	36.2	n
48	IS	13C-CL8-PCB-202	1	2.67e+07	0.92	y	43:27	504.778	0	0.1514	25.5	n
49	IS	13C-CL8-PCB-205	1	3.07e+07	0.87	y	53:40	689.104	0	0.5276	34.9	n
50	IS	13C-CL9-PCB-208	1	2.57e+07	0.77	y	50:26	642.653	0	0.2678	32.5	n
51	IS	13C-CL9-PCB-206	1	2.15e+07	0.81	y	55:28	661.005	0	0.3289	33.4	n
52	IS	13C-CL10-PCB-209	1	2.28e+07	1.22	y	57:07	557.784	0	0.1796	28.2	n
53	RS	13C-CL2-PCB-9	1	1.59e+08	1.56	y	15:57	17.068	0	-	-	n
54	RS	13C-CL4-PCB-52	1	7.99e+07	0.79	y	25:00	17.178	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.67e+07	1.63	y	32:07	16.945	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	6.15e+07	1.26	y	40:34	17.104	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.86e+07	0.87	y	53:10	20.523	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	4.87e+07	1.05	y	23:06	708.162	0	4.7525	35.8	n
59	C/Up	13C-CL5-PCB-111	1	3.42e+07	1.62	y	34:56	758.295	0	0.2740	38.4	n
60	C/Up	13C-CL7-PCB-178	1	2.11e+07	1.05	y	41:02	713.053	0	0.3338	36.1	n
61	IS	13C-CL4-PCB-54	1	3.79e+07	0.81	y	20:16	633.906	0	1.3888	32.1	n
62	IS	13C-CL7-PCB-188	1	3.14e+07	1.03	y	37:50	561.212	0	0.1773	28.4	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

Run #6 Filename PB8C_260 S: 7 I: 1 Acquired: 8-AUG-18 02:07:34 Processed: 8-AUG-18 07:48:22
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-4,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.060000 conc units: pg/g total toxicity: 21587.» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	0	*	*	n	NotFnd	*	*	0.7654	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	2.4909	-	n
3	Unk	CL2-PCB-9	1	3.98e+04	1.86	n	15:57	1.622	2	2.4872	-	y
4	Unk	CL2-PCB-7	1	3.19e+04	1.46	y	16:08	1.291	1	2.4643	-	y
5	Unk	CL2-PCB-6	1	4.68e+05	1.64	y	16:22	18.651	19	2.4310	-	y
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	2.7957	-	n
7	Unk	CL2-PCB-8	1	8.27e+05	1.61	y	16:49	30.013	30	2.2116	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	2.5495	-	n
9	Unk	CL2-PCB-11	1	2.29e+05	1.36	y	19:22	9.994	10	2.6607	-	n
10	Unk	CL2-PCB-12/13	1	1.10e+05	1.65	y	19:41	4.732	5	2.6334	-	n
11	Unk	CL3-PCB-30/18	1	2.80e+06	1.09	y	19:02	128.268	128	0.7041	-	n
12	Unk	CL3-PCB-17	1	1.43e+06	1.06	y	19:27	76.319	76	0.8188	-	n
13	Unk	CL3-PCB-27	1	6.16e+05	1.12	y	19:41	23.228	23	0.5801	-	n
14	Unk	CL3-PCB-24	1	4.48e+04	0.75	n	19:49	1.848	2	0.6336	-	n
15	Unk	CL3-PCB-16	1	5.69e+05	1.18	y	19:56	34.044	34	0.9196	-	n
16	Unk	CL3-PCB-32	1	1.40e+06	1.05	y	20:29	57.223	57	1.0847	-	n
17	Unk	CL3-PCB-34	1	4.18e+04	0.89	y	21:47	1.839	2	1.1669	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.1514	-	n
19	Unk	CL3-PCB-26/29	1	1.64e+06	1.01	y	22:15	69.867	70	1.1282	-	n
20	Unk	CL3-PCB-25	1	9.31e+05	1.01	y	22:30	33.399	33	0.9522	-	n
21	Unk	CL3-PCB-31	1	5.14e+06	1.01	y	22:49	202.216	202	1.0448	-	n
22	Unk	CL3-PCB-28/20	1	6.66e+06	0.99	y	23:08	280.329	280	1.1174	-	n
23	Unk	CL3-PCB-21/33	1	2.26e+06	1.00	y	23:23	90.049	90	1.0568	-	n
24	Unk	CL3-PCB-22	1	1.53e+06	1.02	y	23:47	72.130	72	1.2485	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.0512	-	n
26	Unk	CL3-PCB-39	1	7.04e+04	1.17	y	25:49	3.000	3	1.1316	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.1570	-	n
28	Unk	CL3-PCB-35	1	4.85e+04	0.50	n	26:53	2.071	2	1.1351	-	n
29	Unk	CL4-PCB-50/53	1	1.35e+06	0.76	y	22:30	76.374	76	0.7373	-	y
30	Unk	CL4-PCB-45/51	1	1.32e+06	0.78	y	23:14	76.771	77	0.7561	-	y
31	Unk	CL4-PCB-46	1	3.08e+05	0.71	y	23:32	20.123	20	0.8515	-	n
32	Unk	CL4-PCB-52	1	1.45e+07	0.78	y	25:01	797.339	797	0.7166	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.5475	-	y
34	Unk	CL4-PCB-43	1	3.90e+05	0.76	y	25:14	27.831	28	0.9307	-	y
35	Unk	CL4-PCB-69/49	1	7.84e+06	0.79	y	25:31	386.181	386	0.6423	-	n
36	Unk	CL4-PCB-48	1	1.57e+06	0.79	y	25:48	91.954	92	0.7616	-	n
37	Unk	CL4-PCB-44/47/65	1	9.64e+06	0.77	y	26:03	511.333	511	0.6919	-	n
38	Unk	CL4-PCB-59/62/75	1	1.55e+06	0.82	y	26:23	67.742	68	0.5711	-	n
39	Unk	CL4-PCB-42	1	2.27e+06	0.79	y	26:36	132.115	132	0.7596	-	n
40	Unk	CL4-PCB-41/40/71	1	3.96e+06	0.78	y	27:05	231.855	232	0.7640	-	y
41	Unk	CL4-PCB-64	1	4.40e+06	0.78	y	27:20	184.537	185	0.5464	-	n
42	Unk	CL4-PCB-72	1	2.86e+05	0.71	y	28:13	12.996	13	2.4606	-	n
43	Unk	CL4-PCB-68	1	1.43e+05	0.69	y	28:31	6.466	6	2.4547	-	n
44	Unk	CL4-PCB-57	1	5.70e+04	1.06	n	28:56	2.683	3	2.5530	-	y

45	Unk	CL4-PCB-58	1	6.20e+04	0.47	n	29:12	2.987	3	2.6120	-	y
46	Unk	CL4-PCB-67	1	3.94e+05	0.74	y	29:23	15.887	16	2.1890	-	n
47	Unk	CL4-PCB-63	1	3.92e+05	0.81	y	29:39	18.142	18	2.5079	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.60e+07	0.77	y	30:02	747.884	748	2.5315	-	n
49	Unk	CL4-PCB-66	1	1.05e+07	0.76	y	30:20	525.318	525	2.7176	-	n
50	Unk	CL4-PCB-55	1	3.69e+05	0.63	n	30:31	20.518	21	3.0124	-	y
51	Unk	CL4-PCB-56	1	3.65e+06	0.79	y	31:03	187.311	187	2.7841	-	n
52	Unk	CL4-PCB-60	1	1.86e+06	0.79	y	31:16	94.024	94	2.7469	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	2.4589	-	n
54	Unk	CL4-PCB-79	1	2.92e+05	0.64	n	33:16	12.110	12	2.2464	-	y
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	2.6483	-	n
56	Unk	CL5-PCB-96	1	1.37e+05	1.53	y	26:22	6.881	7	0.5571	-	n
57	Unk	CL5-PCB-103	1	3.20e+05	1.80	n	28:22	19.275	19	1.6382	-	y
58	Unk	CL5-PCB-94	1	8.27e+04	2.08	n	28:37	6.102	6	2.0041	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	1.54e+07	1.58	y	29:06	1017.689	1018	1.7953	-	y
60	Unk	CL5-PCB-88/91	1	2.45e+06	1.67	y	29:59	168.219	168	1.8650	-	n
61	Unk	CL5-PCB-84	1	2.92e+06	1.62	y	30:12	228.610	229	2.1306	-	n
62	Unk	CL5-PCB-89	1	1.22e+05	1.07	n	30:42	9.050	9	2.0219	-	n
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.4548	-	n
64	Unk	CL5-PCB-92	1	4.98e+06	1.58	y	31:32	349.587	350	1.9080	-	n
65	Unk	CL5-PCB-113/90/101	1	2.04e+07	1.63	y	32:09	1241.495	1241	1.6569	-	n
66	Unk	CL5-PCB-83/99	1	1.09e+07	1.61	y	32:43	784.811	785	1.9622	-	y
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.3672	-	n
68	Unk	CB-109/119/86/97/125/87	1	1.04e+07	1.54	y	33:19	634.336	634	1.6528	-	y
69	Unk	CL5-PCB-117/116/85	1	3.24e+06	1.54	y	34:00	194.328	194	1.6280	-	n
70	Unk	CL5-PCB-110/115	1	2.09e+07	1.59	y	34:12	1109.870	1110	1.4419	-	n
71	Unk	CL5-PCB-82	1	1.36e+06	1.70	y	34:32	109.604	110	2.1858	-	n
72	Unk	CL5-PCB-111	1	5.76e+04	1.74	y	34:56	3.224	3	1.5212	-	y
73	Unk	CL5-PCB-120	1	1.22e+05	1.39	y	35:26	6.534	7	1.4556	-	n
74	Unk	CL5-PCB-108/124	1	6.63e+05	1.53	y	36:38	36.470	36	7.2942	-	y
75	Unk	CL5-PCB-107	1	1.35e+06	1.64	y	36:53	72.132	72	7.0956	-	n
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	7.3064	-	n
77	Unk	CL5-PCB-122	1	1.64e+05	1.04	n	37:42	9.989	10	8.0707	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	7.4753	-	n
79	Unk	CL6-PCB-152	1	2.59e+04	3.00	n	32:04	1.506	2	0.5786	-	y
80	Unk	CL6-PCB-150	1	7.32e+04	1.22	y	32:16	4.478	4	0.6085	-	n
81	Unk	CL6-PCB-136	1	2.84e+06	1.24	y	32:38	171.792	172	0.6012	-	n
82	Unk	CL6-PCB-145	1	9.49e+03	3.18	n	32:57	0.607	1	0.6358	-	n
83	Unk	CL6-PCB-148	1	7.87e+04	1.26	y	34:32	6.757	7	0.8536	-	n
84	Unk	CL6-PCB-151/135/154	1	8.81e+06	1.29	y	35:11	736.068	736	0.8310	-	y
85	Unk	CL6-PCB-144	1	7.94e+05	1.33	y	35:44	67.315	67	0.8431	-	y
86	Unk	CL6-PCB-147/149	1	1.84e+07	1.25	y	36:07	1418.647	1419	9.9518	-	n
87	Unk	CL6-PCB-134/143	1	1.21e+06	1.30	y	36:19	102.340	102	10.9009	-	y
88	Unk	CL6-PCB-139/140	1	4.28e+05	1.39	y	36:44	33.376	33	10.0866	-	n
89	Unk	CL6-PCB-131	1	1.81e+05	1.46	n	36:56	15.833	16	11.3323	-	y
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	11.1963	-	n
91	Unk	CL6-PCB-132	1	4.71e+06	1.25	y	37:26	434.395	434	11.9122	-	n
92	Unk	CL6-PCB-133	1	6.53e+05	1.14	y	37:59	57.176	57	11.3194	-	n
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	9.1381	-	n
94	Unk	CL6-PCB-146	1	5.55e+06	1.25	y	38:38	404.545	405	9.4244	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	7.8855	-	n
96	Unk	CL6-PCB-153/168	1	2.33e+07	1.28	y	39:17	1557.210	1557	8.6368	-	n
97	Unk	CL6-PCB-141	1	2.43e+06	1.19	y	39:29	195.120	195	10.3938	-	n

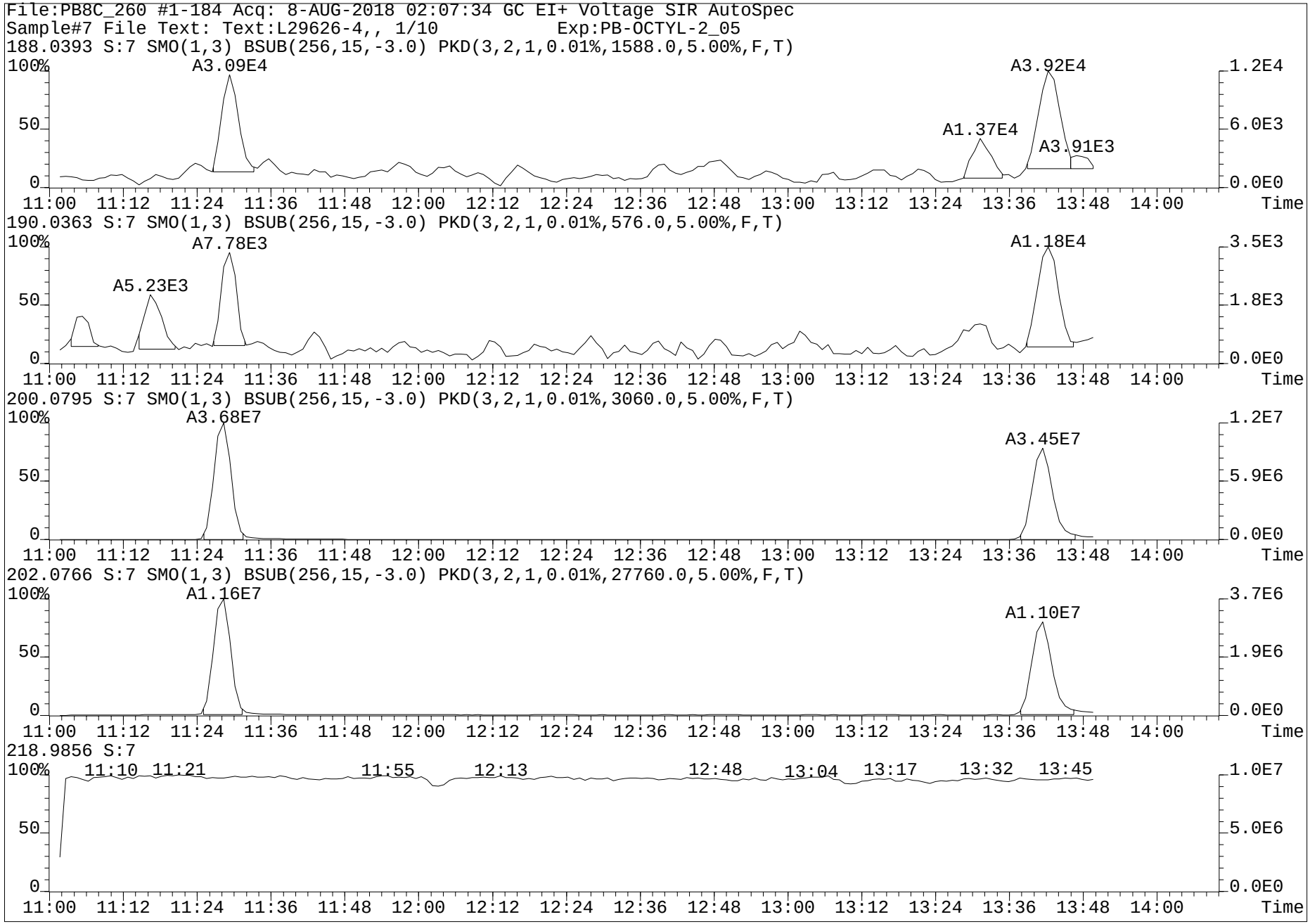
SDL x 1/2

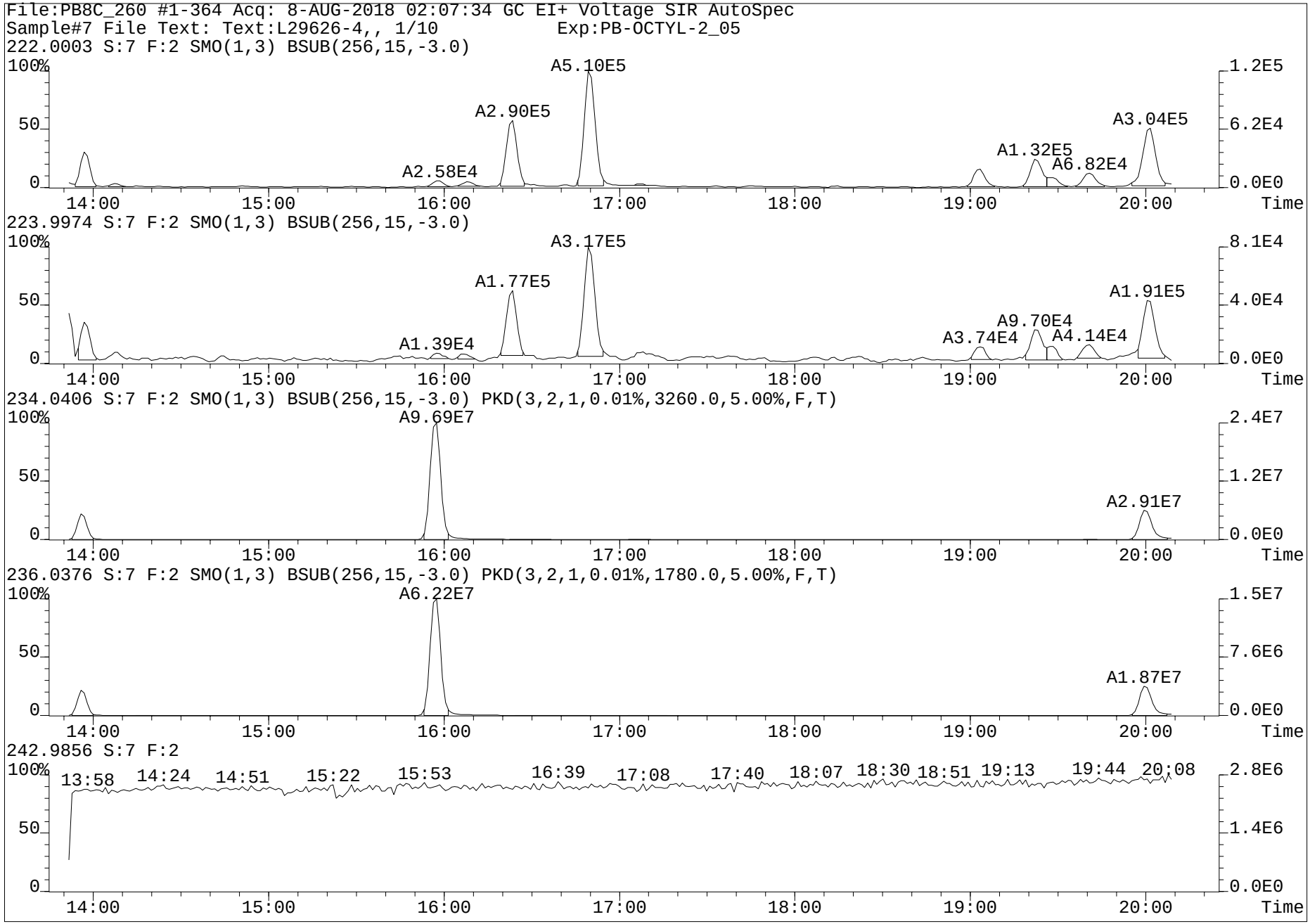
98	Unk	CL6-PCB-130	1	1.42e+06	1.22	y	39:55	133.400	133	12.1267	-	n
99	Unk	CL6-PCB-137	1	9.61e+05	1.32	y	40:09	86.596	87	11.6506	-	n
100	Unk	CL6-PCB-164	1	2.15e+06	1.24	y	40:17	131.968	132	7.9517	-	n
101	Unk	CL6-PCB-138/163/129/160	1	1.94e+07	1.26	y	40:36	1420.411	1420	9.4608	-	n
102	Unk	CL6-PCB-158	1	2.35e+06	1.31	y	41:00	134.249	134	7.3804	-	n
103	Unk	CL6-PCB-128/166	1	3.19e+06	1.30	y	41:55	231.863	232	9.4110	-	y
104	Unk	CL6-PCB-159	1	1.44e+05	1.08	y	42:54	8.902	9	7.9759	-	n
105	Unk	CL6-PCB-162	1	6.14e+04	1.61	n	43:14	3.591	4	7.5649	-	y
106	Unk	CL7-PCB-179	1	2.61e+06	1.11	y	38:13	157.576	158	0.5285	-	n
107	Unk	CL7-PCB-184	1	9.53e+03	1.28	n	38:43	0.565	1	0.5197	-	n
108	Unk	CL7-PCB-176	1	6.69e+05	1.00	y	39:08	41.154	41	0.5389	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	0.5735	-	n
110	Unk	CL7-PCB-178	1	1.83e+06	1.15	y	41:04	149.644	150	0.7185	-	n
111	Unk	CL7-PCB-175	1	2.52e+05	1.20	y	41:43	20.101	20	0.6999	-	n
112	Unk	CL7-PCB-187	1	7.85e+06	1.08	y	42:00	565.593	566	0.6313	-	n
113	Unk	CL7-PCB-182	1	7.62e+04	2.50	n	42:13	5.843	6	0.6723	-	n
114	Unk	CL7-PCB-183/185	1	2.66e+06	1.08	y	42:38	204.135	204	0.6731	-	n
115	Unk	CL7-PCB-174	1	2.12e+06	1.01	y	42:54	168.240	168	0.6960	-	n
116	Unk	CL7-PCB-177	1	3.13e+06	1.03	y	43:21	204.275	204	0.5726	-	n
117	Unk	CL7-PCB-181	1	4.01e+04	1.40	n	43:46	3.095	3	0.6772	-	n
118	Unk	CL7-PCB-171/173	1	8.88e+05	1.18	y	44:01	72.752	73	0.7180	-	n
119	Unk	CL7-PCB-172	1	3.08e+05	1.26	n	45:43	26.068	26	0.7429	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	0.6064	-	n
121	Unk	CL7-PCB-180/193	1	7.02e+06	1.07	y	46:23	634.424	634	0.8014	-	n
122	Unk	CL7-PCB-191	1	2.59e+05	1.21	n	46:46	16.101	16	0.5444	-	n
123	Unk	CL7-PCB-170	1	1.58e+06	1.07	y	47:43	150.941	151	0.8561	-	n
124	Unk	CL7-PCB-190	1	7.01e+05	1.15	y	48:16	44.276	44	0.5536	-	n
125	Unk	CL8-PCB-201	1	4.31e+05	1.07	n	44:26	29.419	29	0.5376	-	n
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.5490	-	n
127	Unk	CL8-PCB-197/200	1	1.92e+05	0.87	y	45:24	12.975	13	0.5330	-	y
128	Unk	CL8-PCB-198/199	1	1.49e+06	0.95	y	48:27	144.492	144	0.7633	-	n
129	Unk	CL8-PCB-196	1	6.71e+05	0.82	y	49:07	62.990	63	0.7393	-	y
130	Unk	CL8-PCB-203	1	5.79e+05	0.79	y	49:19	51.235	51	0.6966	-	n
131	Unk	CL8-PCB-195	1	2.32e+05	0.72	n	50:44	21.232	21	0.8846	-	n
132	Unk	CL8-PCB-194	1	4.61e+05	0.91	y	53:11	39.162	39	0.8223	-	n
133	Unk	CL9-PCB-207	1	2.81e+04	1.38	n	51:25	1.938	2	0.7865	-	n
134	IS	13C-CL1-PCB-1	1	4.84e+07	3.17	y	11:28	585.370	0	3.8201	29.6	n
135	IS	13C-CL1-PCB-3	1	4.55e+07	3.14	y	13:41	614.564	0	4.2730	31.1	n
136	IS	13C-CL2-PCB-4	1	3.11e+07	1.59	y	13:56	610.212	0	1.0131	30.9	n
137	IS	13C-CL2-PCB-15	1	4.77e+07	1.56	y	20:00	633.469	0	0.6862	32.1	n
138	IS	13C-CL3-PCB-19	1	2.99e+07	1.06	y	17:06	650.298	0	4.7169	32.9	n
139	IS	13C-CL3-PCB-37	1	4.46e+07	1.02	y	27:18	789.868	0	5.7854	40.0	n
140	REF	13C-CL4-CHECK	1	3.79e+07	0.81	y	20:16	721.536	0	1.5807	36.5	n
141	IS	13C-CL4-PCB-81	1	3.91e+07	0.76	y	34:20	781.803	0	1.5766	39.6	n
142	IS	13C-CL4-PCB-77	1	4.09e+07	0.77	y	34:55	828.853	0	1.5970	41.9	n
143	IS	13C-CL5-PCB-104	1	3.27e+07	1.58	y	25:57	731.417	0	0.1931	37.0	n
144	IS	13C-CL5-PCB-123	1	3.53e+07	1.59	y	36:59	788.428	0	2.7806	39.9	n
145	IS	13C-CL5-PCB-118	1	3.45e+07	1.59	y	37:20	783.104	0	2.8296	39.6	n
146	IS	13C-CL5-PCB-114	1	3.23e+07	1.55	y	37:53	768.780	0	2.9672	38.9	n
147	IS	13C-CL5-PCB-105	1	4.06e+07	1.58	y	38:34	961.158	0	2.9470	48.6	n
148	IS	13C-CL5-PCB-126	1	2.98e+07	1.61	y	41:49	810.938	0	3.3848	41.0	n

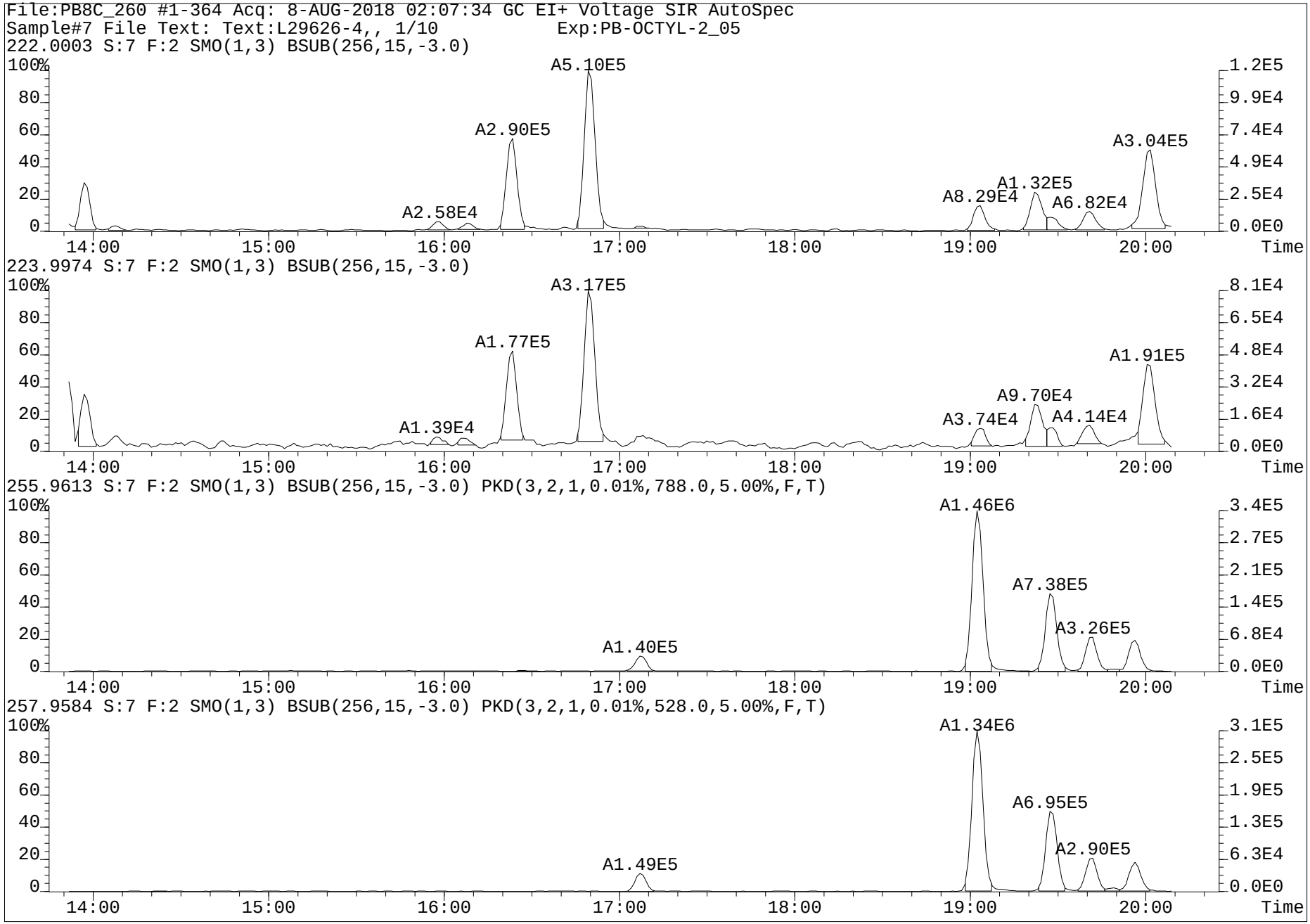
SDL x 1/2

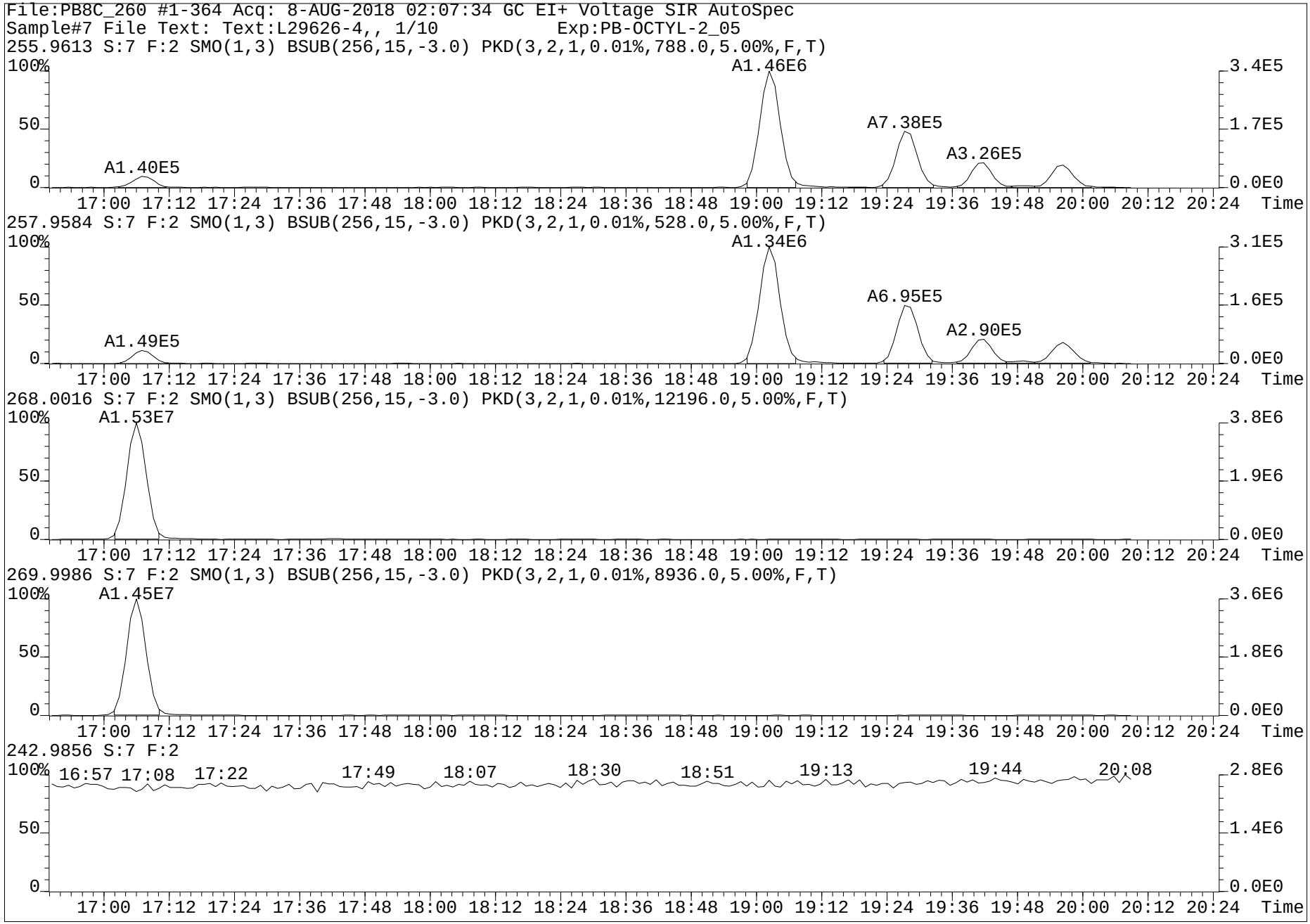
www.axysanalytical.com

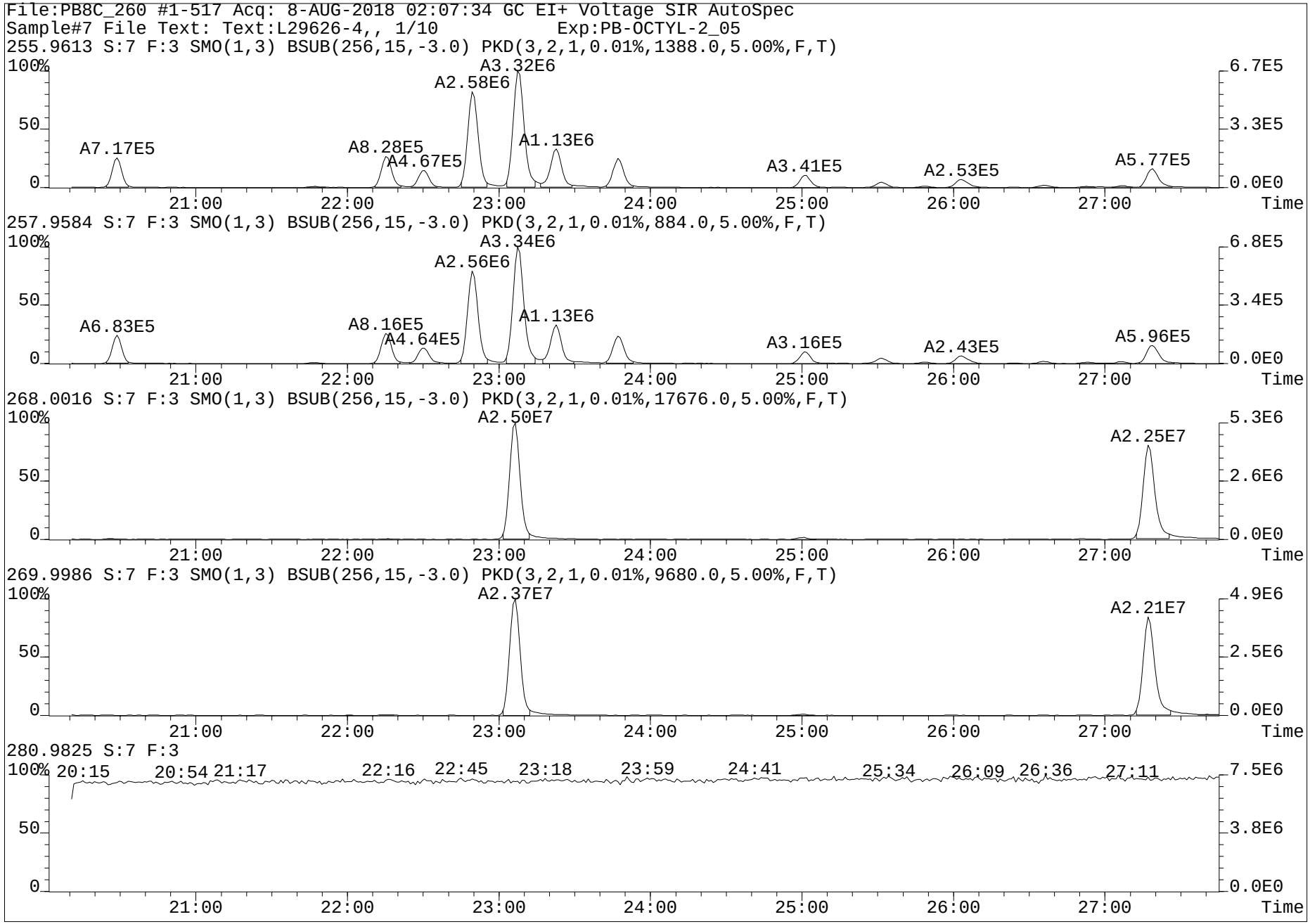
149	IS	13C-CL6-PCB-155	1	3.27e+07	1.21	y	31:51	705.533	0	0.2068	35.7	n
150	IS	13C-CL6-PCB-167	1	2.79e+07	1.29	y	43:44	725.375	0	0.4503	36.7	n
151	IS	13C-CL6-PCB-156/157	1	5.74e+07	1.27	y	44:57	1460.290	0	0.4413	36.9	n
152	IS	13C-CL6-PCB-169	1	2.88e+07	1.26	y	48:22	740.759	0	0.4452	37.5	n
153	IS	13C-CL7-PCB-188	1	3.14e+07	1.03	y	37:50	688.976	0	0.2177	34.9	n
154	IS	13C-CL7-PCB-180	1	2.17e+07	1.01	y	46:22	638.011	0	0.2911	32.3	n
155	IS	13C-CL7-PCB-170	1	1.85e+07	1.06	y	47:41	647.002	0	0.3469	32.7	n
156	IS	13C-CL8-PCB-202	1	2.67e+07	0.92	y	43:27	589.371	0	0.1768	29.8	n
157	IS	13C-CL8-PCB-205	1	3.07e+07	0.87	y	53:40	767.954	0	0.5879	38.9	n
158	IS	13C-CL9-PCB-208	1	2.57e+07	0.77	y	50:26	735.065	0	0.3063	37.2	n
159	IS	13C-CL9-PCB-206	1	2.15e+07	0.81	y	55:28	769.746	0	0.3830	38.9	n
160	RS/RT	13C-CL2-PCB-9	1	1.59e+08	1.56	y	15:57	19.660	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	7.99e+07	0.79	y	25:00	17.092	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	6.67e+07	1.63	y	32:07	17.137	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	6.15e+07	1.26	y	40:34	17.892	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	5.86e+07	0.87	y	53:10	20.737	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	4.87e+07	1.05	y	23:06	776.403	0	5.2104	39.3	n
166	C/Up	13C-CL5-PCB-111	1	3.42e+07	1.62	y	34:56	880.838	0	0.3183	44.6	n
167	C/UP	13C-CL7-PCB-178	1	2.11e+07	1.05	y	41:02	779.582	0	0.3650	39.4	n
168	IS	13C-CL4-PCB-54	1	3.79e+07	0.81	y	20:16	721.536	0	1.5807	36.5	n
169	Unk	CL7-PCB-189	1	8.00e+04	1.20	y	51:01	4.921	0	0.7508	-	n
170	IS	13C-CL7-PCB-189	1	3.22e+07	1.03	y	50:59	792.586	0	0.7404	40.1	n
171	Unk	CL10-PCB-209	1	5.19e+04	1.20	y	57:09	4.296	0	0.6279	-	n
172	IS	13C-CL10-PCB-209	1	2.28e+07	1.22	y	57:07	714.157	0	0.2300	36.1	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

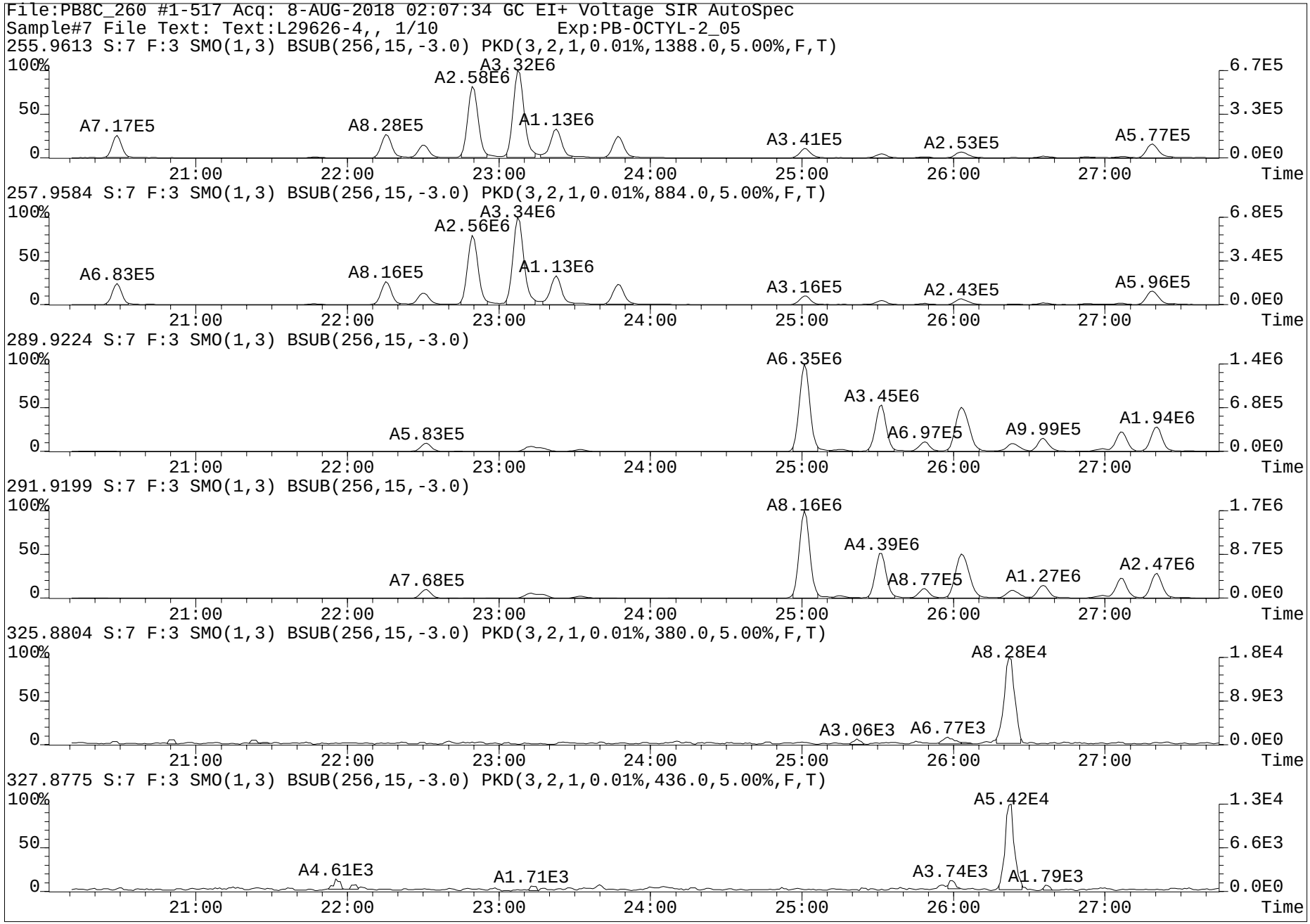

File:PB8C_260 #1-184 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1588.0,5.00%,F,T)
A3.09E4
A3.92E4
A1.37E4
A3.91E3
190.0363 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,576.0,5.00%,F,T)
A7.78E3
A5.23E3
A1.18E4
200.0795 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3060.0,5.00%,F,T)
A3.68E7
A3.45E7
202.0766 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,27760.0,5.00%,F,T)
A1.16E7
A1.10E7
218.9856 S:7
11:10 11:21 11:55 12:13 12:48 13:04 13:17 13:32 13:45
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

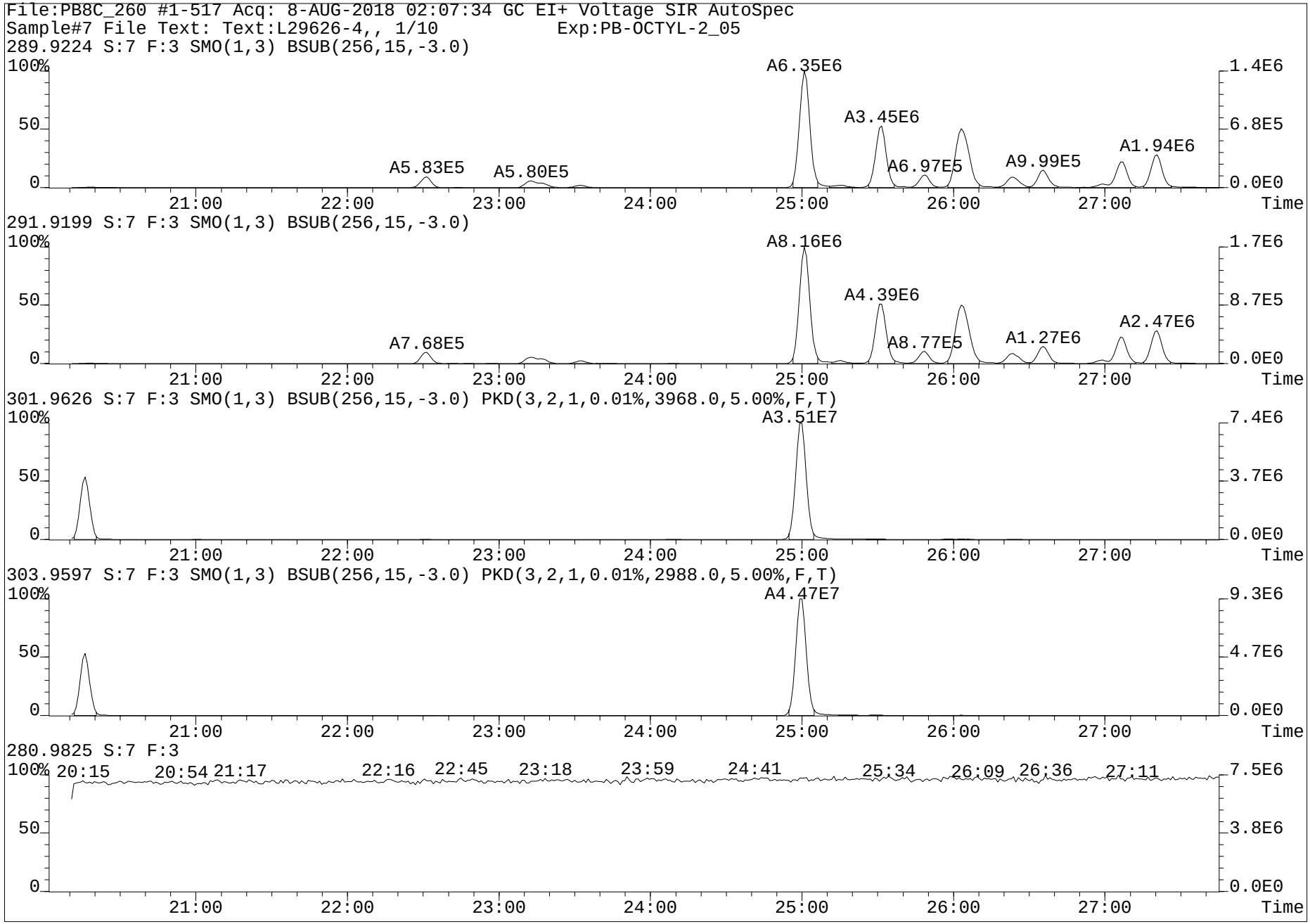

File:PB8C_260 #1-364 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.10E5
A2.90E5
A3.04E5
A1.32E5
A6.82E4
A2.58E4
223.9974 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.17E5
A1.77E5
A1.91E5
A9.70E4
A3.74E4
A4.14E4
A1.39E4
234.0406 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3260.0,5.00%,F,T)
A9.69E7
A2.91E7
236.0376 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1780.0,5.00%,F,T)
A6.22E7
A1.87E7
242.9856 S:7 F:2
13:58 14:24 14:51 15:22 15:53 16:39 17:08 17:40 18:07 18:30 18:51 19:13 19:44 20:08
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.2E5 6.2E4 0.0E0
8.1E4 4.0E4 0.0E0
2.4E7 1.2E7 0.0E0
1.5E7 7.6E6 0.0E0
2.8E6 1.4E6 0.0E0

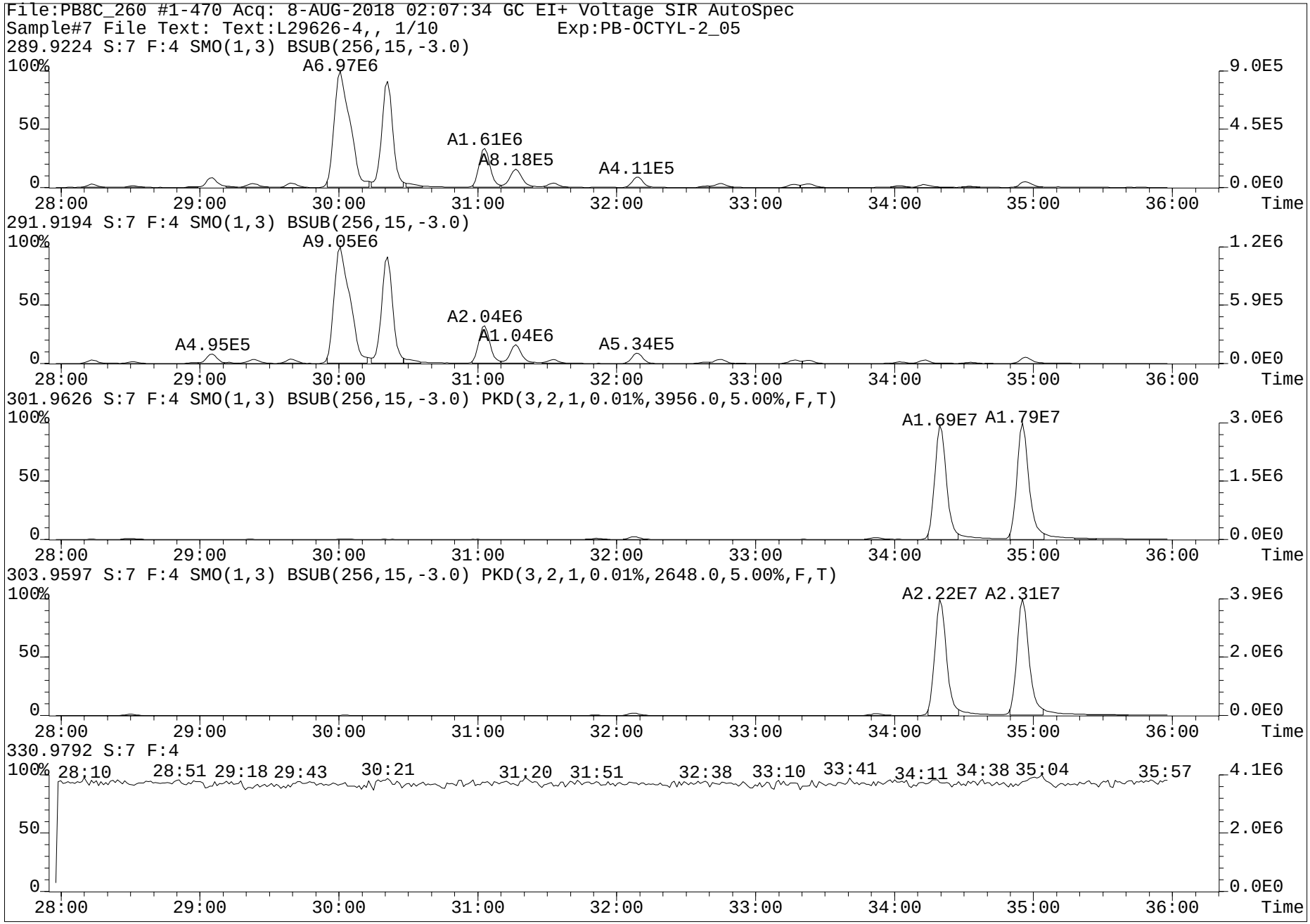

File:PB8C_260 #1-364 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.10E5
A2.90E5
A3.04E5
A1.32E5
A8.29E4
A6.82E4
A2.58E4
223.9974 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.17E5
A1.77E5
A1.91E5
A9.70E4
A3.74E4
A4.14E4
A1.39E4
255.9613 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,788.0,5.00%,F,T)
A1.46E6
A7.38E5
A3.26E5
A1.40E5
257.9584 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A1.34E6
A6.95E5
A2.90E5
A1.49E5
Time

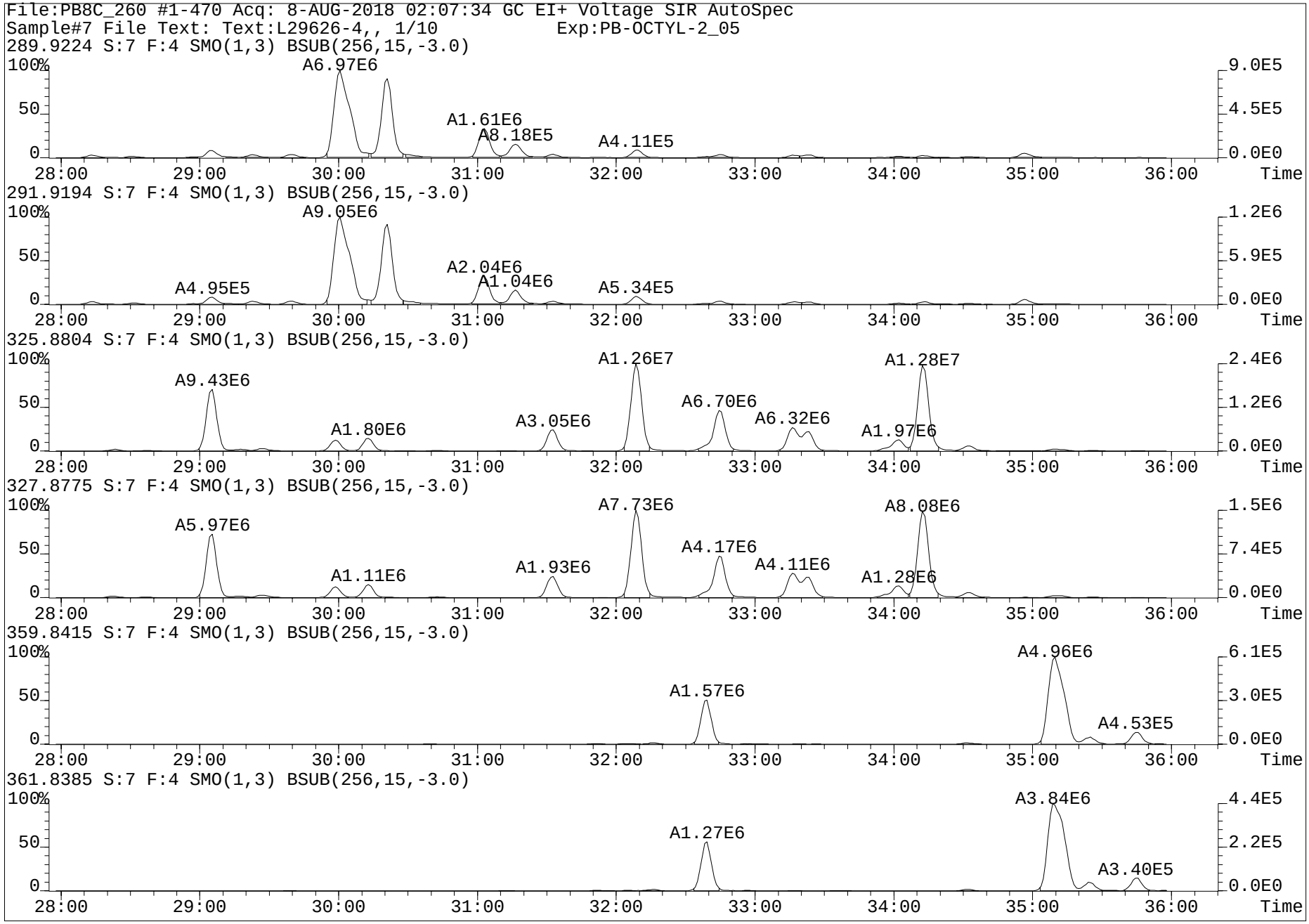

File:PB8C_260 #1-364 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,788.0,5.00%,F,T)
A1.46E6
A7.38E5
A3.26E5
A1.40E5
257.9584 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A1.34E6
A6.95E5
A2.90E5
A1.49E5
268.0016 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12196.0,5.00%,F,T)
A1.53E7
269.9986 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8936.0,5.00%,F,T)
A1.45E7
242.9856 S:7 F:2
16:57 17:08 17:22 17:49 18:07 18:30 18:51 19:13 19:44 20:08
100%
50
0
3.4E5
1.7E5
0.0E0
3.1E5
1.6E5
3.8E6
1.9E6
3.6E6
1.8E6
2.8E6
1.4E6
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

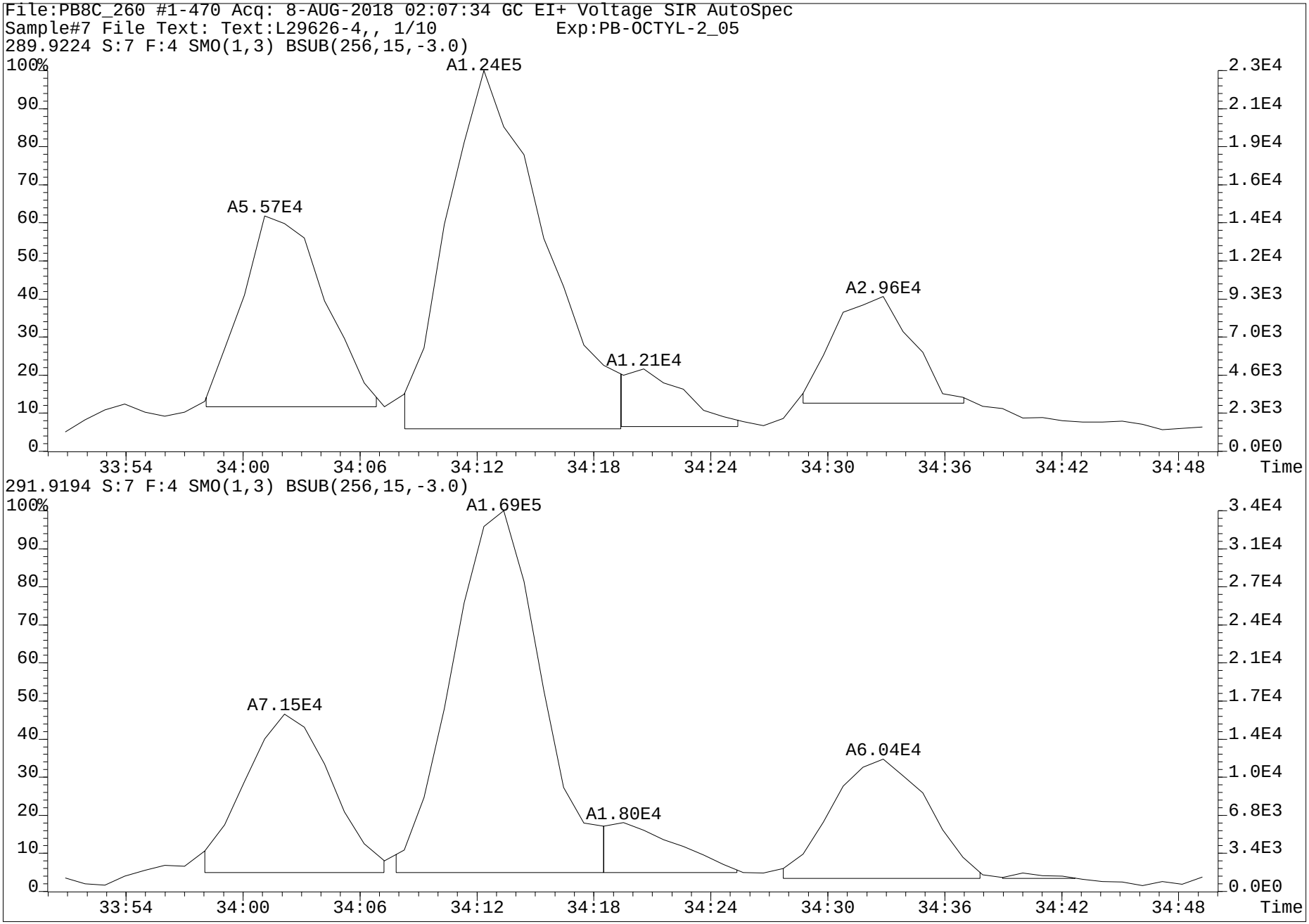

File:PB8C_260 #1-517 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A3.32E6
A2.58E6
A7.17E5
A8.28E5
A4.67E5
A1.13E6
A3.41E5
A2.53E5
A5.77E5
257.9584 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,884.0,5.00%,F,T)
A3.34E6
A2.56E6
A6.83E5
A8.16E5
A4.64E5
A1.13E6
A3.16E5
A2.43E5
A5.96E5
268.0016 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17676.0,5.00%,F,T)
A2.50E7
A2.25E7
269.9986 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9680.0,5.00%,F,T)
A2.37E7
A2.21E7
280.9825 S:7 F:3
20:15 20:54 21:17 22:16 22:45 23:18 23:59 24:41 25:34 26:09 26:36 27:11
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
6.7E5 3.3E5 0.0E0
6.8E5 3.4E5 0.0E0
5.3E6 2.6E6 0.0E0
4.9E6 2.5E6 0.0E0
7.5E6 3.8E6 0.0E0

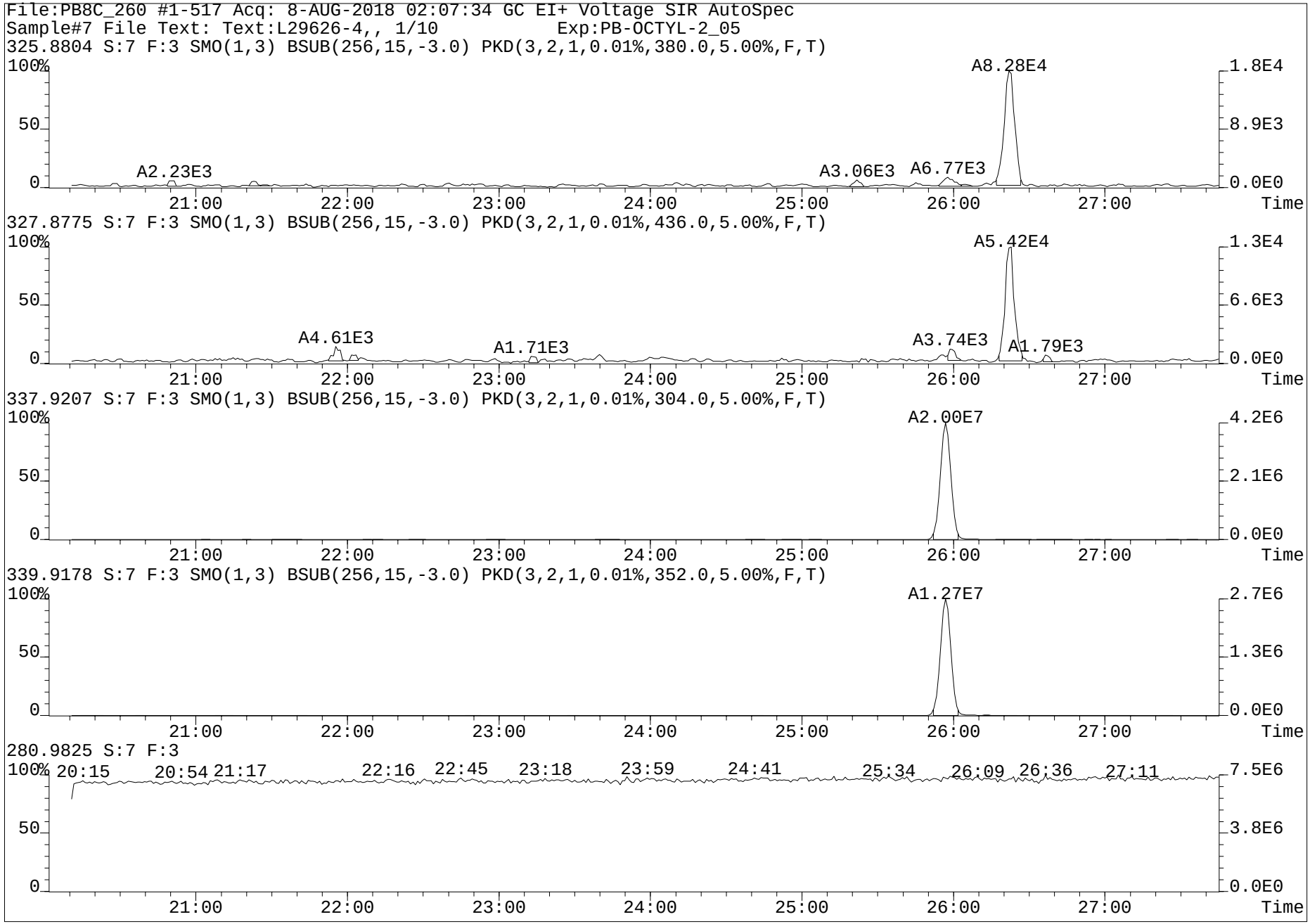

File:PB8C_260 #1-517 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A7.17E5
A8.28E5
A2.58E6
A3.32E6
A1.13E6
A3.41E5
A2.53E5
A5.77E5
257.9584 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,884.0,5.00%,F,T)
A6.83E5
A8.16E5
A2.56E6
A3.34E6
A1.13E6
A3.16E5
A2.43E5
A5.96E5
289.9224 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.83E5
A6.35E6
A3.45E6
A6.97E5
A9.99E5
A1.94E6
291.9199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A7.68E5
A8.16E6
A4.39E6
A8.77E5
A1.27E6
A2.47E6
325.8804 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A3.06E3
A6.77E3
A8.28E4
327.8775 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A4.61E3
A1.71E3
A3.74E3
A5.42E4
A1.79E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
6.7E5
3.3E5
0.0E0
6.8E5
3.4E5
1.4E6
6.8E5
1.7E6
8.7E5
1.8E4
8.9E3
1.3E4
6.6E3

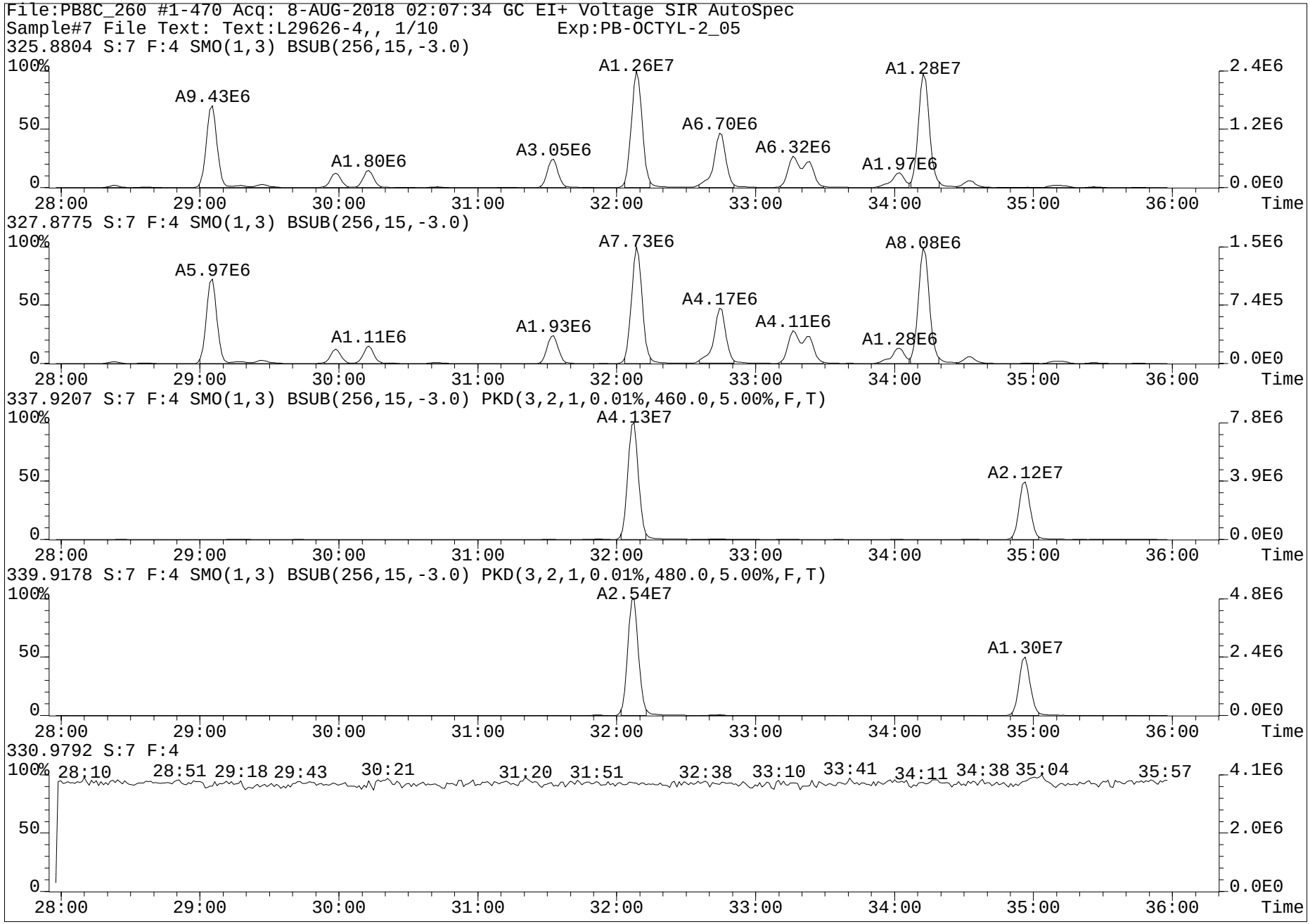

File:PB8C_260 #1-517 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.35E6
A3.45E6
A5.83E5
A5.80E5
A6.97E5
A9.99E5
A1.94E6
291.9199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A8.16E6
A4.39E6
A7.68E5
A8.77E5
A1.27E6
A2.47E6
301.9626 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3968.0,5.00%,F,T)
A3.51E7
303.9597 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2988.0,5.00%,F,T)
A4.47E7
280.9825 S:7 F:3
20:15 20:54 21:17 22:16 22:45 23:18 23:59 24:41 25:34 26:09 26:36 27:11
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.4E6 6.8E5 0.0E0
1.7E6 8.7E5 0.0E0
7.4E6 3.7E6 0.0E0
9.3E6 4.7E6 0.0E0
7.5E6 3.8E6 0.0E0

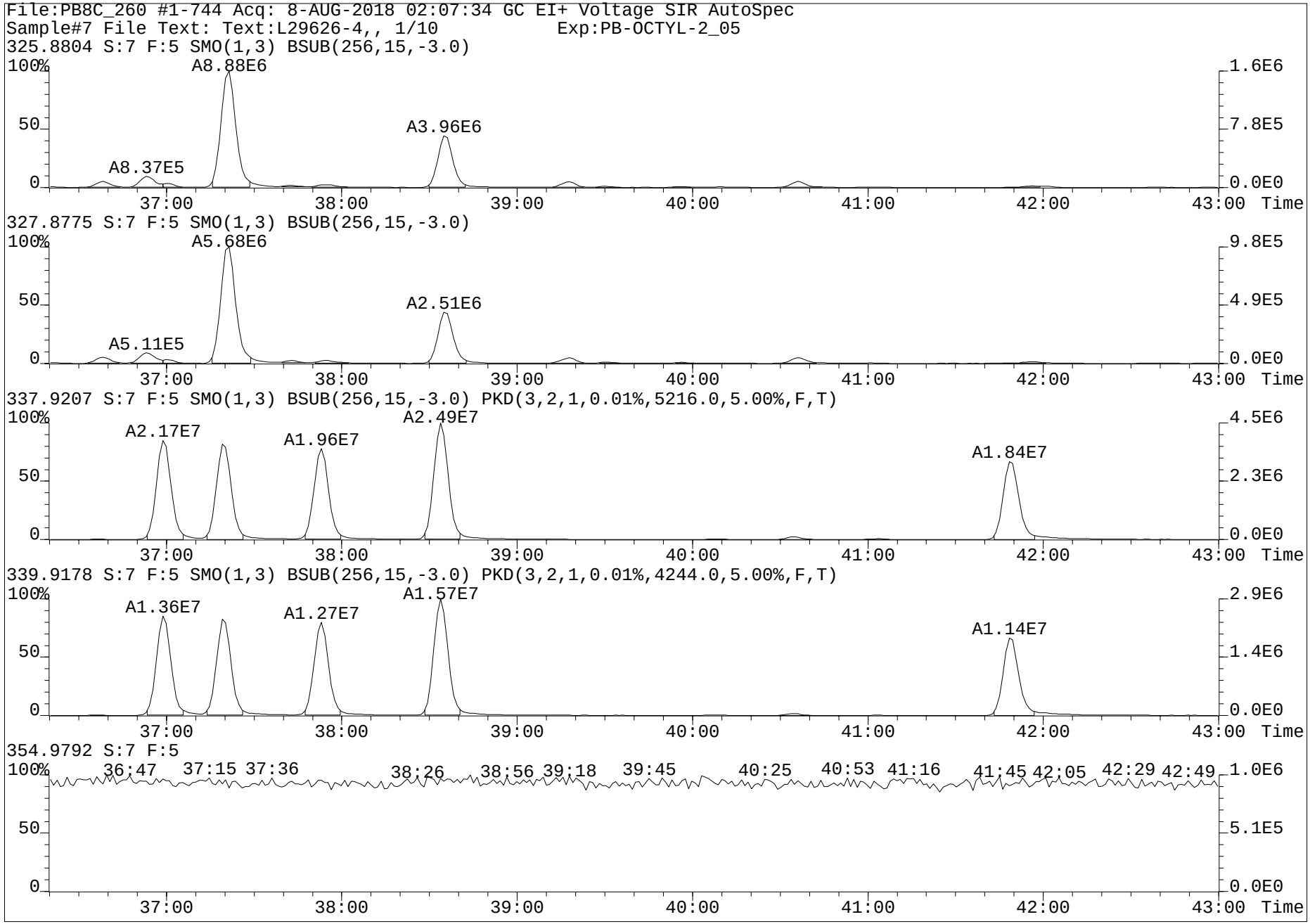

File:PB8C_260 #1-470 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.97E6
A1.61E6
A8.18E5
A4.11E5
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.05E6
A4.95E5
A2.04E6
A1.04E6
A5.34E5
301.9626 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3956.0,5.00%,F,T)
A1.69E7
A1.79E7
303.9597 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2648.0,5.00%,F,T)
A2.22E7
A2.31E7
330.9792 S:7 F:4
28:10
28:51
29:18
29:43
30:21
31:20
31:51
32:38
33:10
33:41
34:11
34:38
35:04
35:57
Time

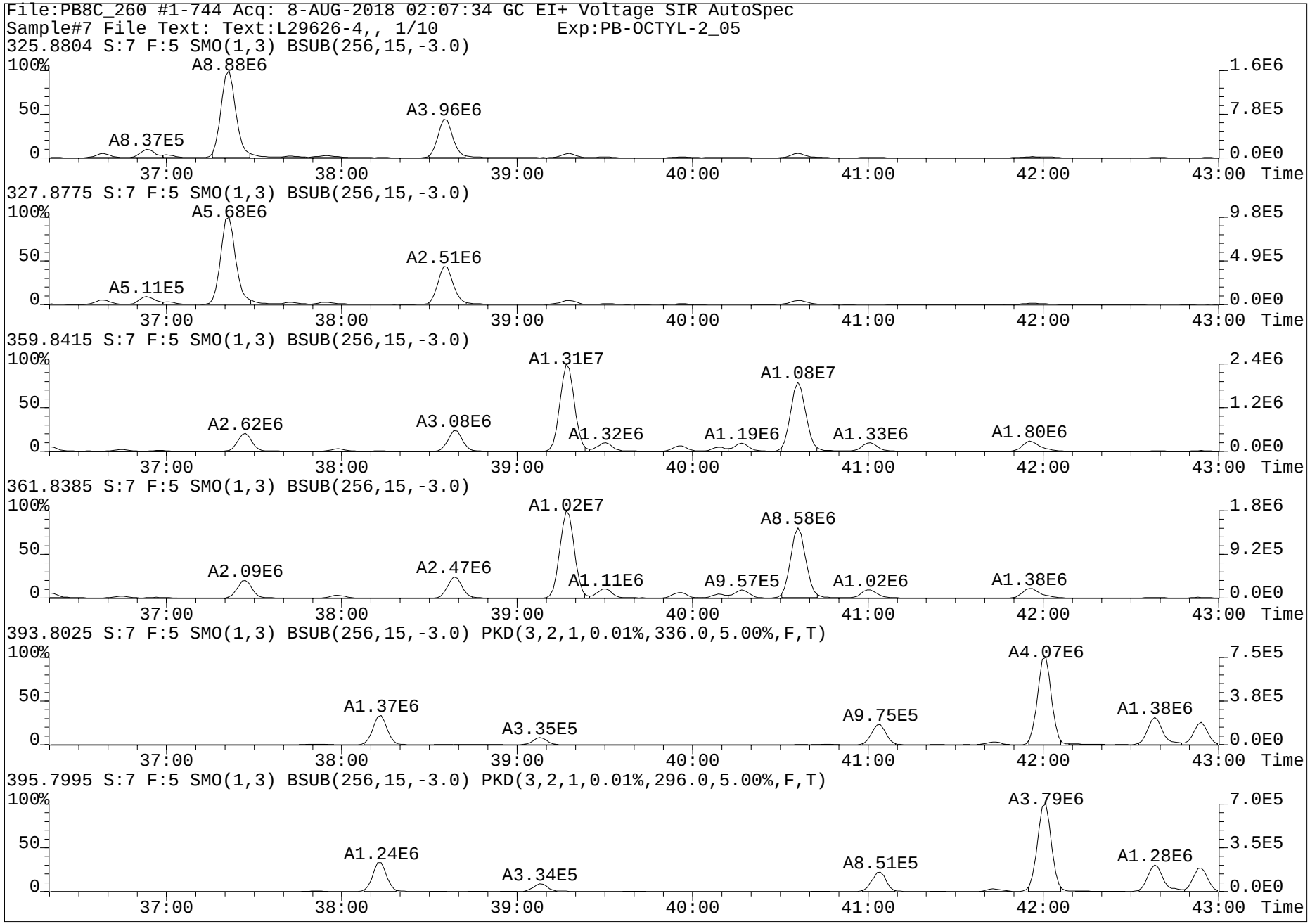

File:PB8C_260 #1-470 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.97E6
A1.61E6
A8.18E5
A4.11E5
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.05E6
A4.95E5
A2.04E6
A1.04E6
A5.34E5
325.8804 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.26E7
A1.28E7
A9.43E6
A6.70E6
A6.32E6
A1.80E6
A3.05E6
A1.97E6
327.8775 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.73E6
A8.08E6
A5.97E6
A4.17E6
A4.11E6
A1.11E6
A1.93E6
A1.28E6
359.8415 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.96E6
A1.57E6
A4.53E5
361.8385 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.84E6
A1.27E6
A3.40E5
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
9.0E5
4.5E5
0.0E0
1.2E6
5.9E5
2.4E6
1.2E6
1.5E6
7.4E5
6.1E5
3.0E5
4.4E5
2.2E5

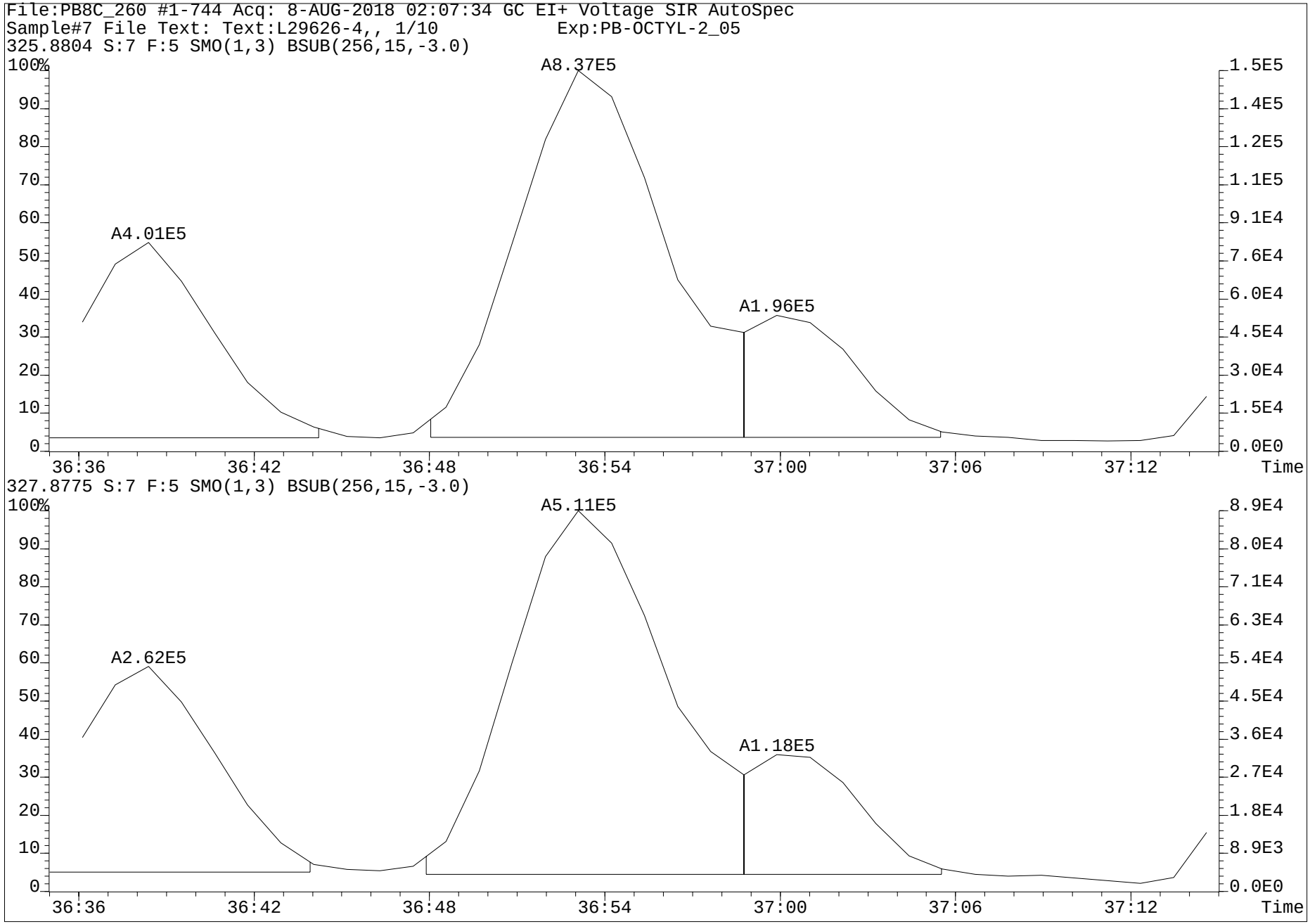

File:PB8C_260 #1-470 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.24E5
A5.57E4
A2.96E4
A1.21E4
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.69E5
A7.15E4
A6.04E4
A1.80E4
Time

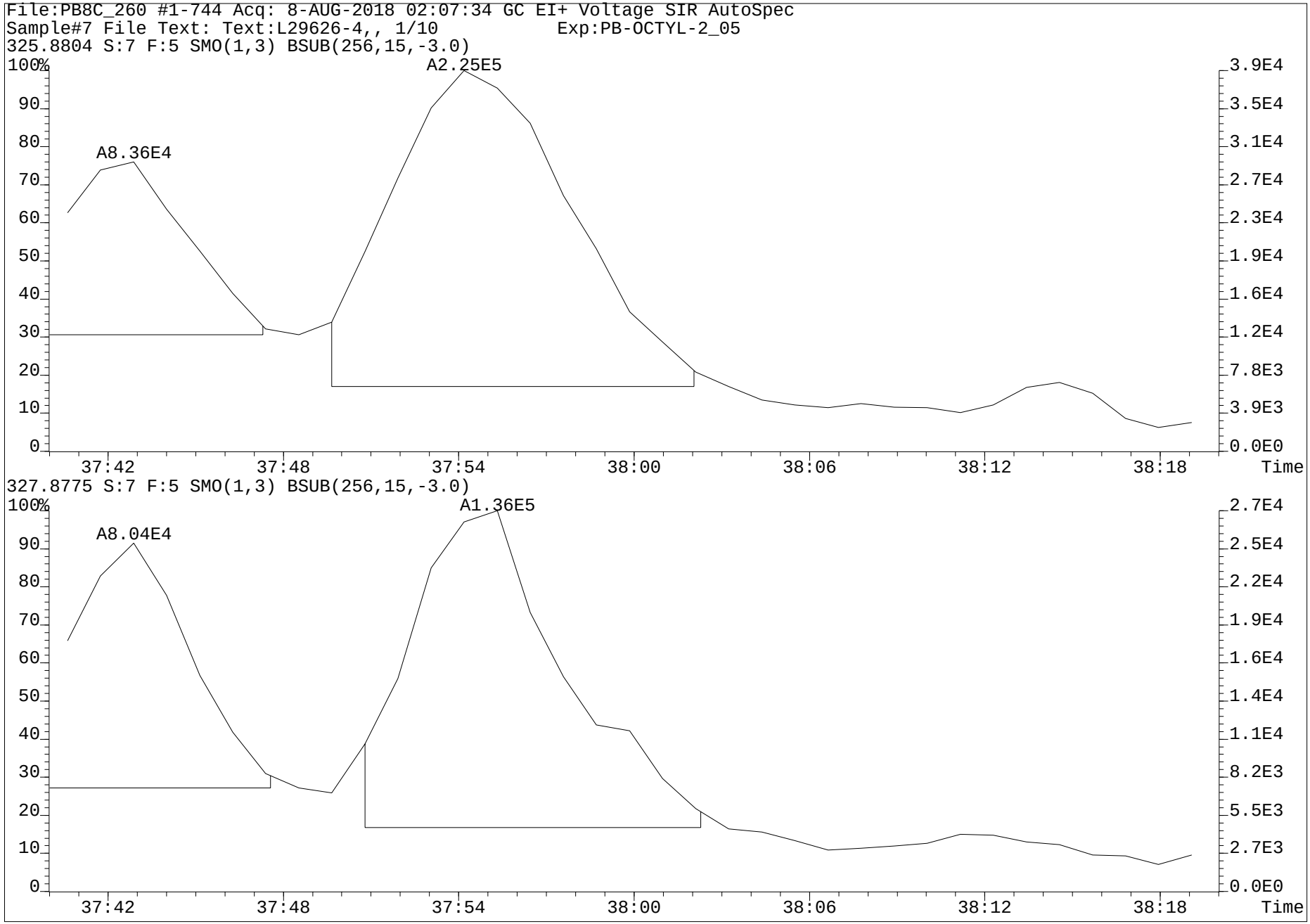

File:PB8C_260 #1-517 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A8.28E4
A2.23E3
A3.06E3
A6.77E3
327.8775 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A5.42E4
A4.61E3
A1.71E3
A3.74E3
A1.79E3
337.9207 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A2.00E7
339.9178 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A1.27E7
280.9825 S:7 F:3
20:15
20:54
21:17
22:16
22:45
23:18
23:59
24:41
25:34
26:09
26:36
27:11
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.8E4
8.9E3
0.0E0
1.3E4
6.6E3
4.2E6
2.1E6
2.7E6
1.3E6
7.5E6
3.8E6

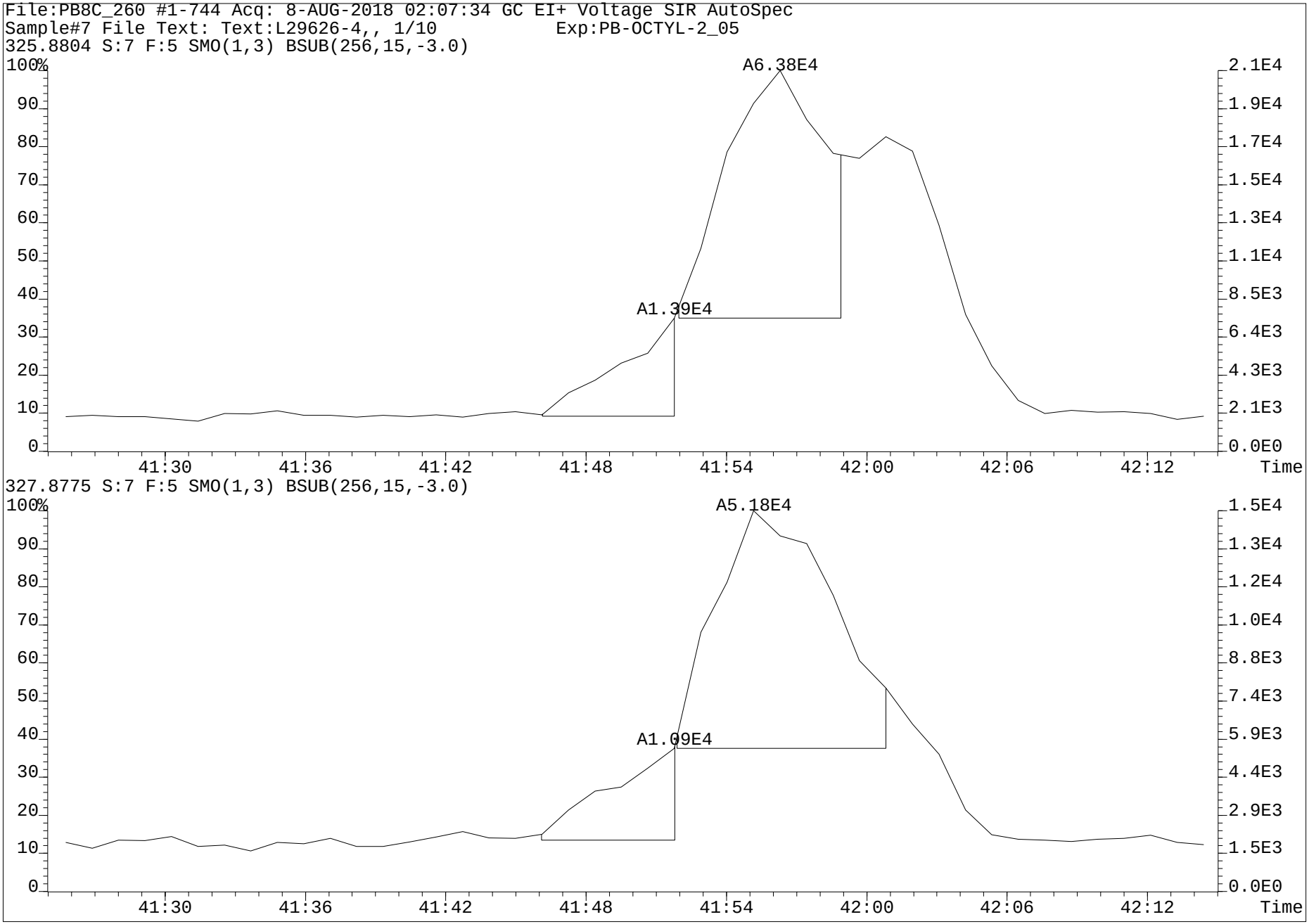

File:PB8C_260 #1-470 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.43E6
A1.80E6
A3.05E6
A1.26E7
A6.70E6
A6.32E6
A1.97E6
A1.28E7
327.8775 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.97E6
A1.11E6
A1.93E6
A7.73E6
A4.17E6
A4.11E6
A1.28E6
A8.08E6
337.9207 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A4.13E7
A2.12E7
339.9178 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,480.0,5.00%,F,T)
A2.54E7
A1.30E7
330.9792 S:7 F:4
28:10 28:51 29:18 29:43 30:21 31:20 31:51 32:38 33:10 33:41 34:11 34:38 35:04 35:57
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.4E6 1.2E6 0.0E0
1.5E6 7.4E5 0.0E0
7.8E6 3.9E6 0.0E0
4.8E6 2.4E6 0.0E0
4.1E6 2.0E6 0.0E0

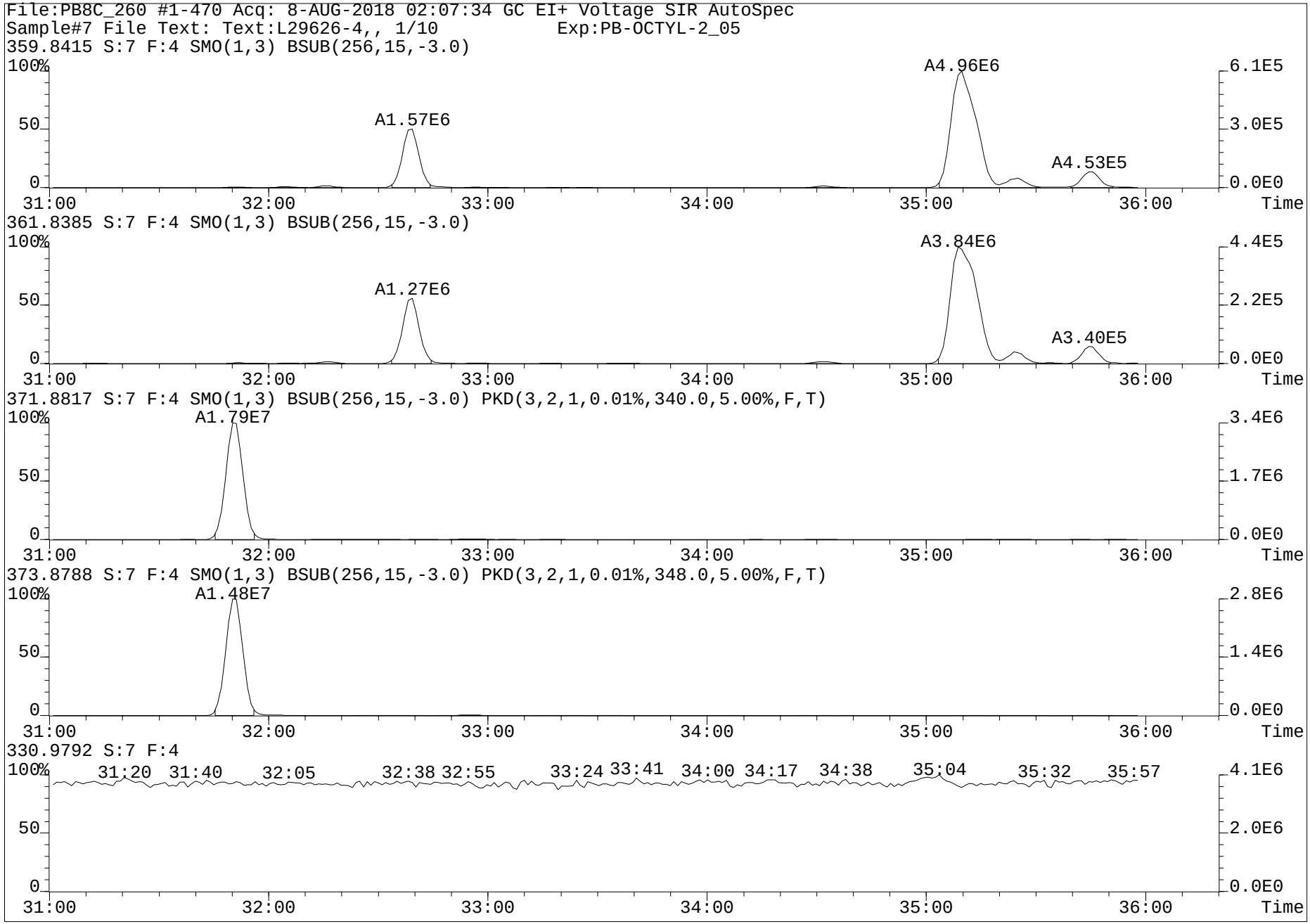

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.88E6
A3.96E6
A8.37E5
1.6E6
7.8E5
0.0E0
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.68E6
A2.51E6
A5.11E5
9.8E5
4.9E5
0.0E0
337.9207 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5216.0,5.00%,F,T)
A2.49E7
A2.17E7
A1.96E7
A1.84E7
4.5E6
2.3E6
0.0E0
339.9178 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4244.0,5.00%,F,T)
A1.57E7
A1.36E7
A1.27E7
A1.14E7
2.9E6
1.4E6
0.0E0
354.9792 S:7 F:5
36:47 37:15 37:36 38:26 38:56 39:18 39:45 40:25 40:53 41:16 41:45 42:05 42:29 42:49
1.0E6
5.1E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

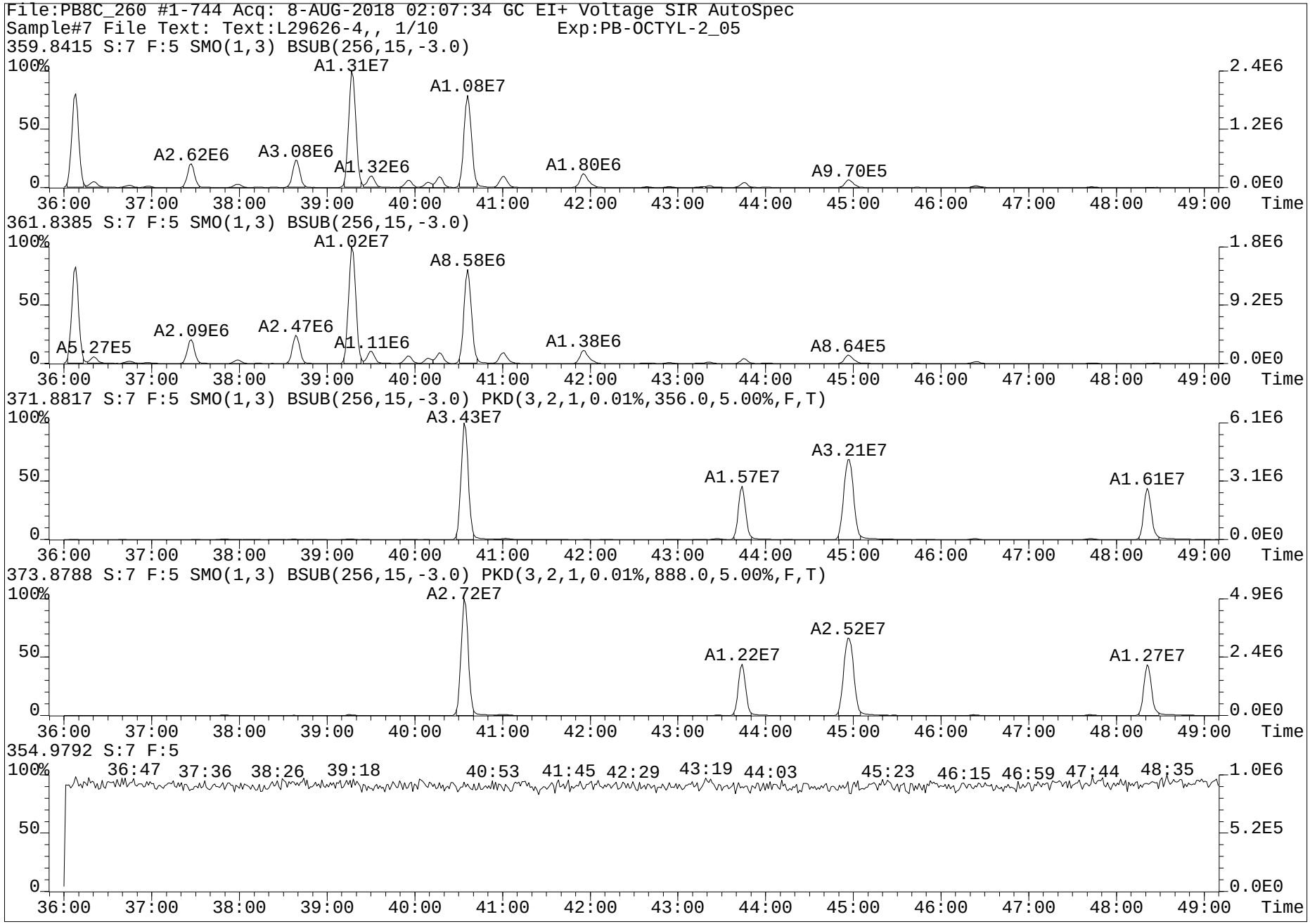

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.88E6
A3.96E6
A8.37E5
1.6E6
7.8E5
0.0E0
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.68E6
A2.51E6
A5.11E5
9.8E5
4.9E5
0.0E0
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.31E7
A1.08E7
A2.62E6
A3.08E6
A1.32E6
A1.19E6
A1.33E6
A1.80E6
2.4E6
1.2E6
0.0E0
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.02E7
A8.58E6
A2.09E6
A2.47E6
A1.11E6
A9.57E5
A1.02E6
A1.38E6
1.8E6
9.2E5
0.0E0
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,336.0,5.00%,F,T)
A4.07E6
A1.37E6
A3.35E5
A9.75E5
A1.38E6
7.5E5
3.8E5
0.0E0
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A3.79E6
A1.24E6
A3.34E5
A8.51E5
A1.28E6
7.0E5
3.5E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

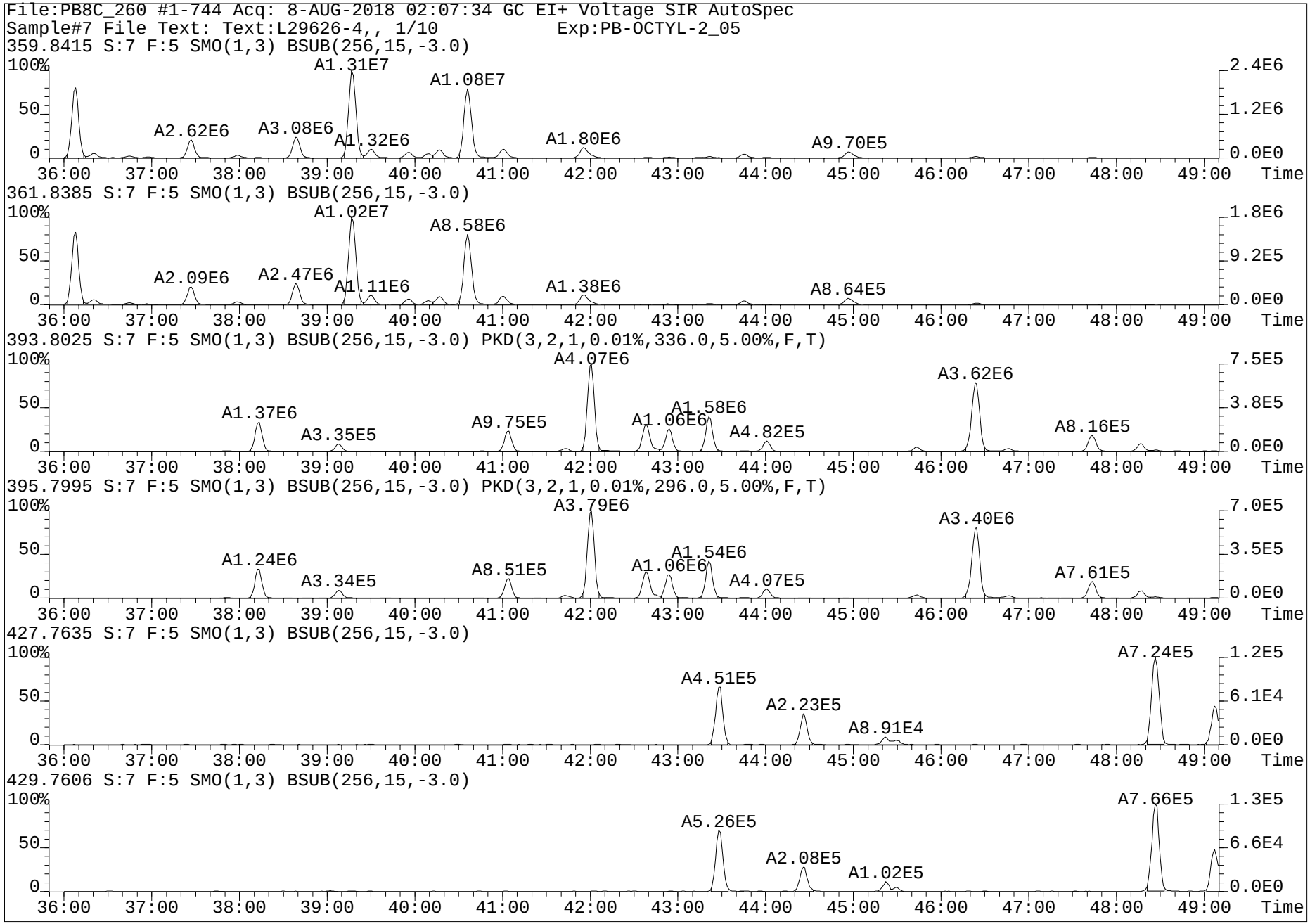

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.37E5
A4.01E5
A1.96E5
100%
90
80
70
60
50
40
30
20
10
0
1.5E5
1.4E5
1.2E5
1.1E5
9.1E4
7.6E4
6.0E4
4.5E4
3.0E4
1.5E4
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.11E5
A2.62E5
A1.18E5
100%
90
80
70
60
50
40
30
20
10
0
8.9E4
8.0E4
7.1E4
6.3E4
5.4E4
4.5E4
3.6E4
2.7E4
1.8E4
8.9E3
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time

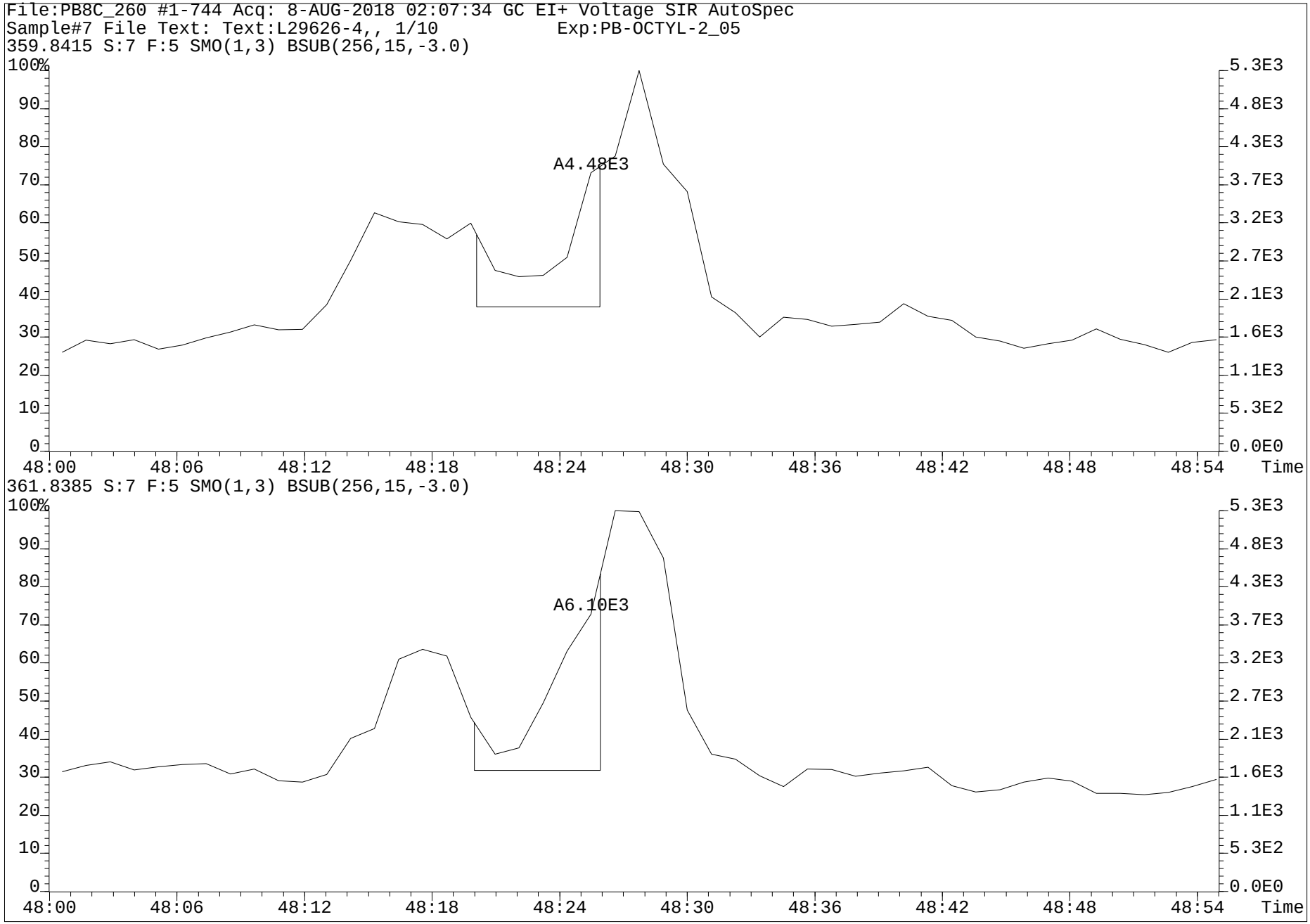

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.25E5
A8.36E4
100%
90
80
70
60
50
40
30
20
10
0
3.9E4
3.5E4
3.1E4
2.7E4
2.3E4
1.9E4
1.6E4
1.2E4
7.8E3
3.9E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.36E5
A8.04E4
100%
90
80
70
60
50
40
30
20
10
0
2.7E4
2.5E4
2.2E4
1.9E4
1.6E4
1.4E4
1.1E4
8.2E3
5.5E3
2.7E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

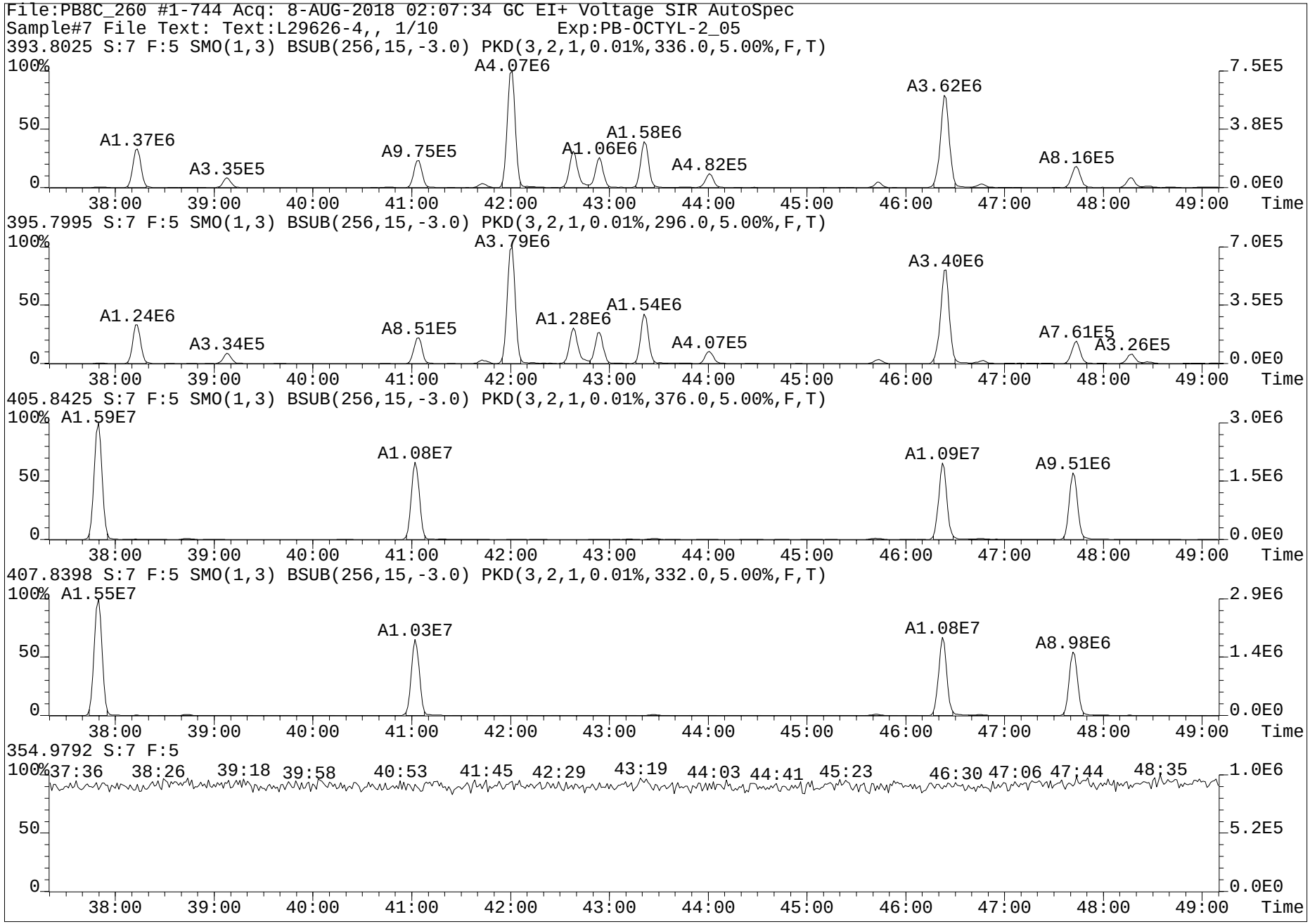

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.38E4
A1.39E4
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.18E4
A1.09E4
Time

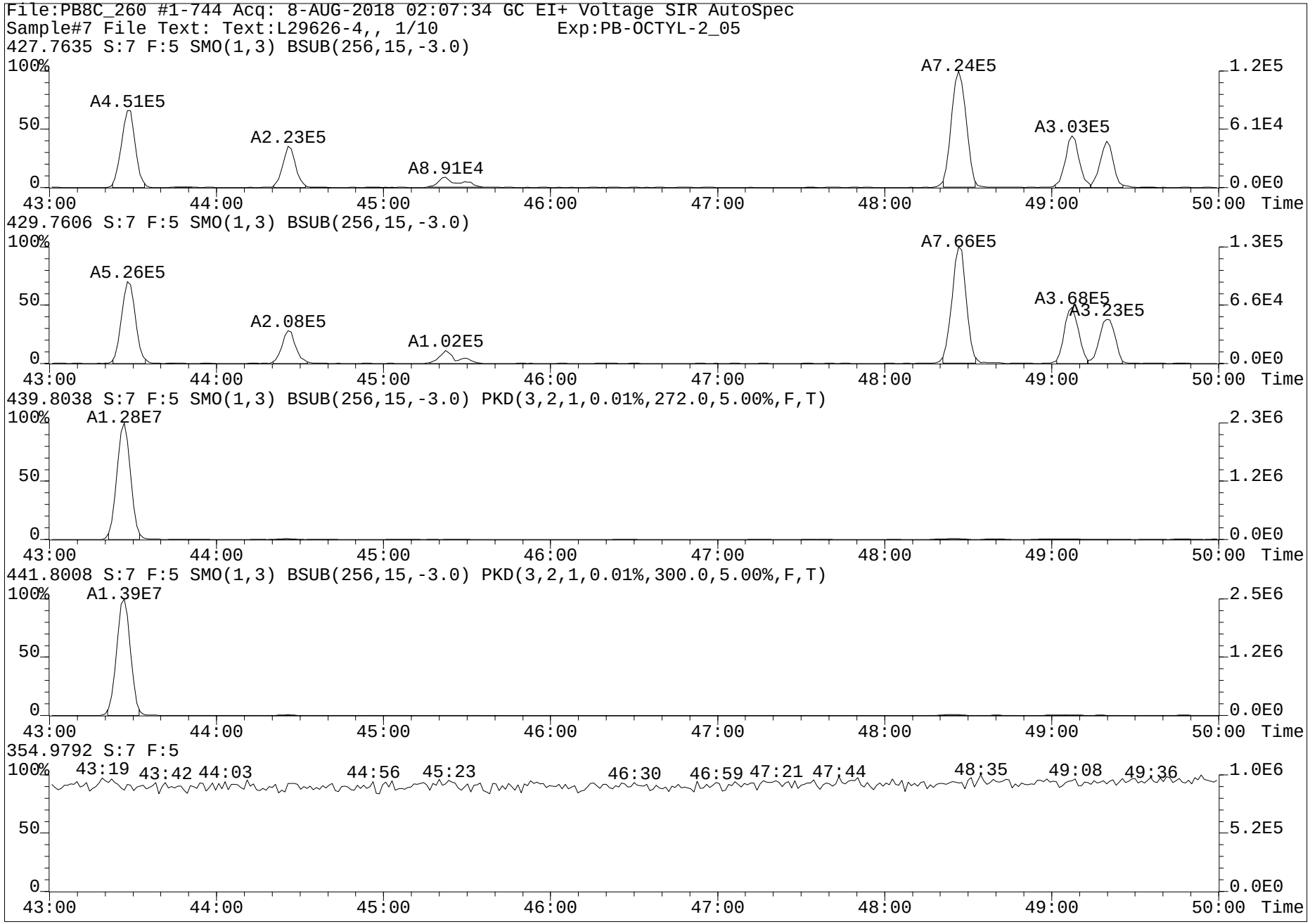

File:PB8C_260 #1-470 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.57E6
A4.96E6
A4.53E5
361.8385 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.27E6
A3.84E6
A3.40E5
371.8817 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A1.79E7
373.8788 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.48E7
330.9792 S:7 F:4
31:20 31:40 32:05 32:38 32:55 33:24 33:41 34:00 34:17 34:38 35:04 35:32 35:57
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
6.1E5 3.0E5 0.0E0
4.4E5 2.2E5 0.0E0
3.4E6 1.7E6 0.0E0
2.8E6 1.4E6 0.0E0
4.1E6 2.0E6 0.0E0

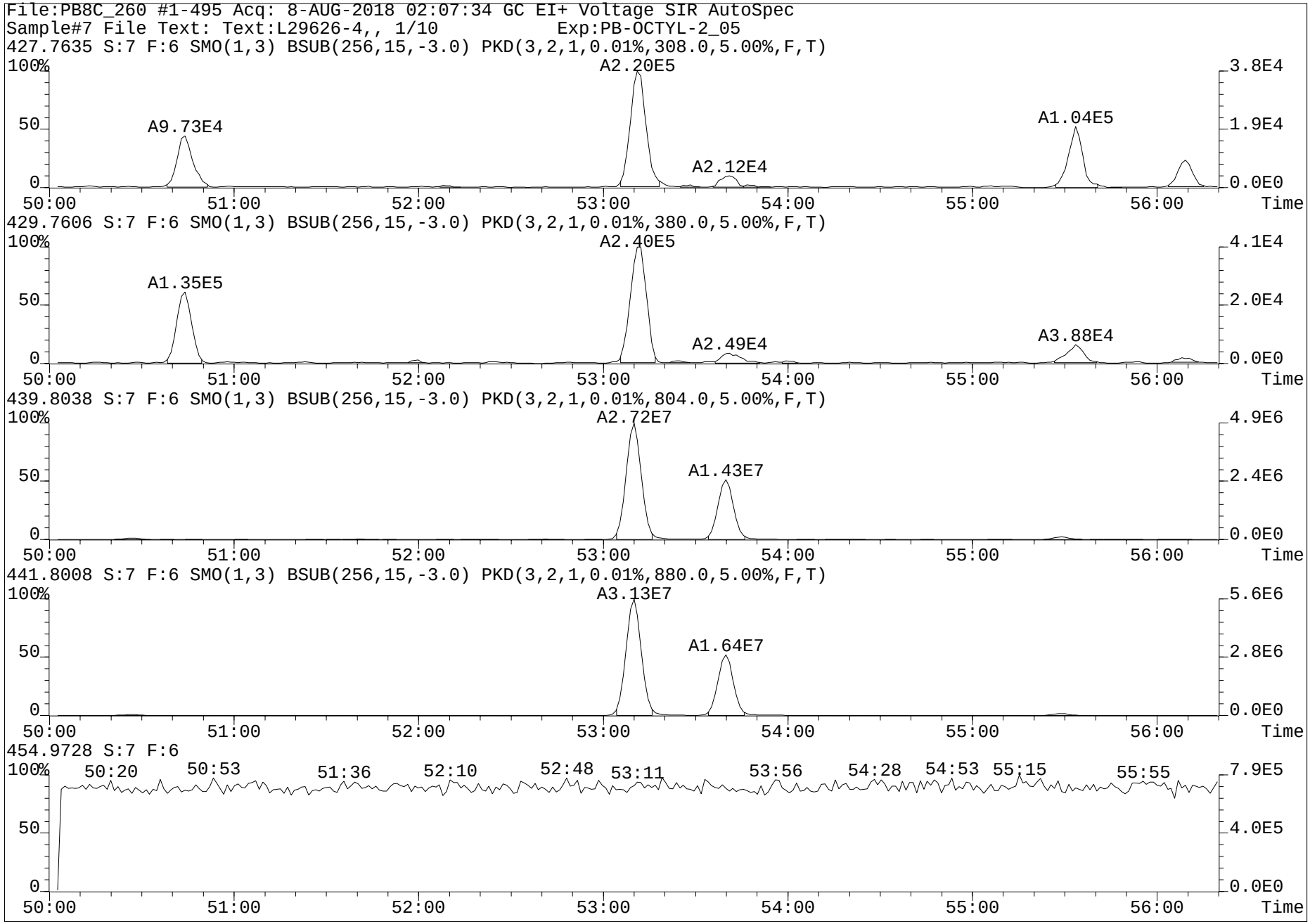

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.31E7
A1.08E7
A2.62E6
A3.08E6
A1.32E6
A1.80E6
A9.70E5
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.02E7
A8.58E6
A5.27E5
A2.09E6
A2.47E6
A1.11E6
A1.38E6
A8.64E5
371.8817 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A3.43E7
A3.21E7
A1.57E7
A1.61E7
373.8788 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,888.0,5.00%,F,T)
A2.72E7
A2.52E7
A1.22E7
A1.27E7
354.9792 S:7 F:5
36:47 37:36 38:26 39:18 40:53 41:45 42:29 43:19 44:03 45:23 46:15 46:59 47:44 48:35
Time

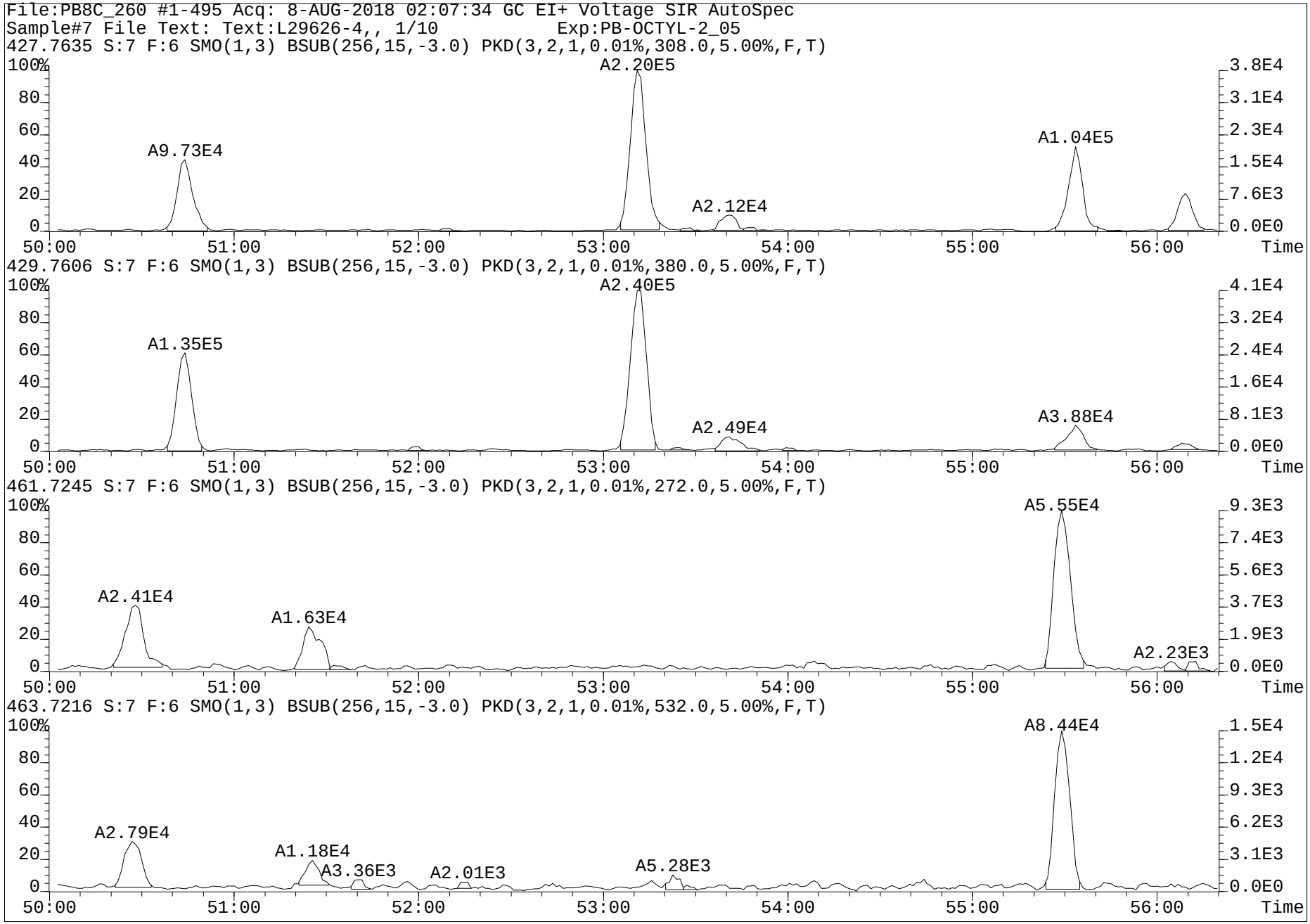

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.31E7
A1.08E7
A2.62E6
A3.08E6
A1.32E6
A1.80E6
A9.70E5
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.02E7
A8.58E6
A2.09E6
A2.47E6
A1.11E6
A1.38E6
A8.64E5
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,336.0,5.00%,F,T)
A4.07E6
A3.62E6
A1.37E6
A3.35E5
A9.75E5
A1.58E6
A1.06E6
A4.82E5
A8.16E5
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A3.79E6
A3.40E6
A1.24E6
A3.34E5
A8.51E5
A1.54E6
A1.06E6
A4.07E5
A7.61E5
427.7635 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.24E5
A4.51E5
A2.23E5
A8.91E4
429.7606 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.66E5
A5.26E5
A2.08E5
A1.02E5
Time

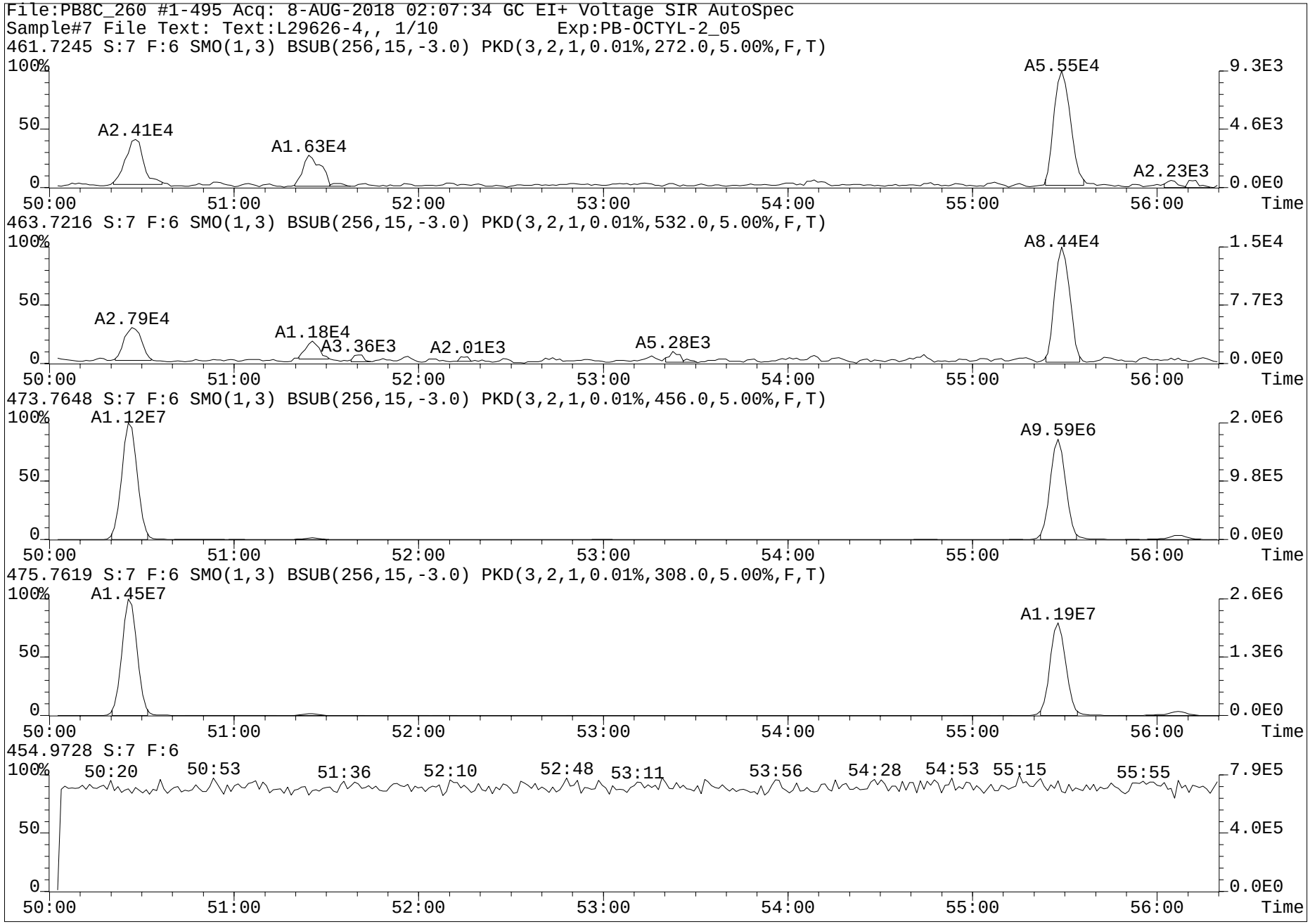

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.48E3
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.10E3
100%
90
80
70
60
50
40
30
20
10
0
5.3E3
4.8E3
4.3E3
3.7E3
3.2E3
2.7E3
2.1E3
1.6E3
1.1E3
5.3E2
0.0E0
48:00
48:06
48:12
48:18
48:24
48:30
48:36
48:42
48:48
48:54
Time

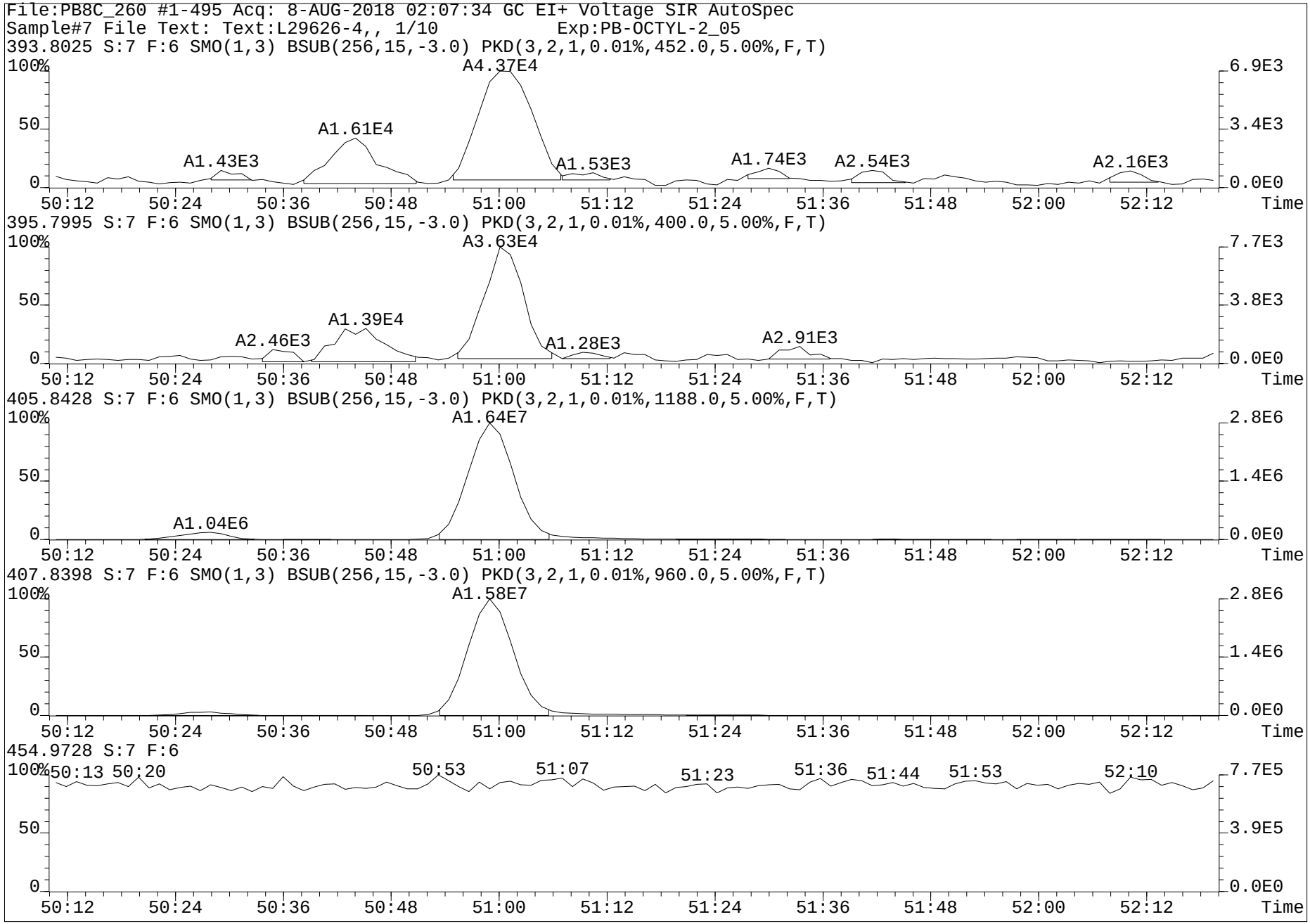

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,336.0,5.00%,F,T)
A1.37E6
A3.35E5
A9.75E5
A4.07E6
A1.06E6
A1.58E6
A4.82E5
A3.62E6
A8.16E5
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A1.24E6
A3.34E5
A8.51E5
A3.79E6
A1.28E6
A1.54E6
A4.07E5
A3.40E6
A7.61E5
A3.26E5
405.8425 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A1.59E7
A1.08E7
A1.09E7
A9.51E6
407.8398 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A1.55E7
A1.03E7
A1.08E7
A8.98E6
354.9792 S:7 F:5
37:36 38:26 39:18 39:58 40:53 41:45 42:29 43:19 44:03 44:41 45:23 46:30 47:06 47:44 48:35
100%
50
0
7.5E5
3.8E5
0.0E0
7.0E5
3.5E5
3.0E6
1.5E6
2.9E6
1.4E6
1.0E6
5.2E5
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00
Time

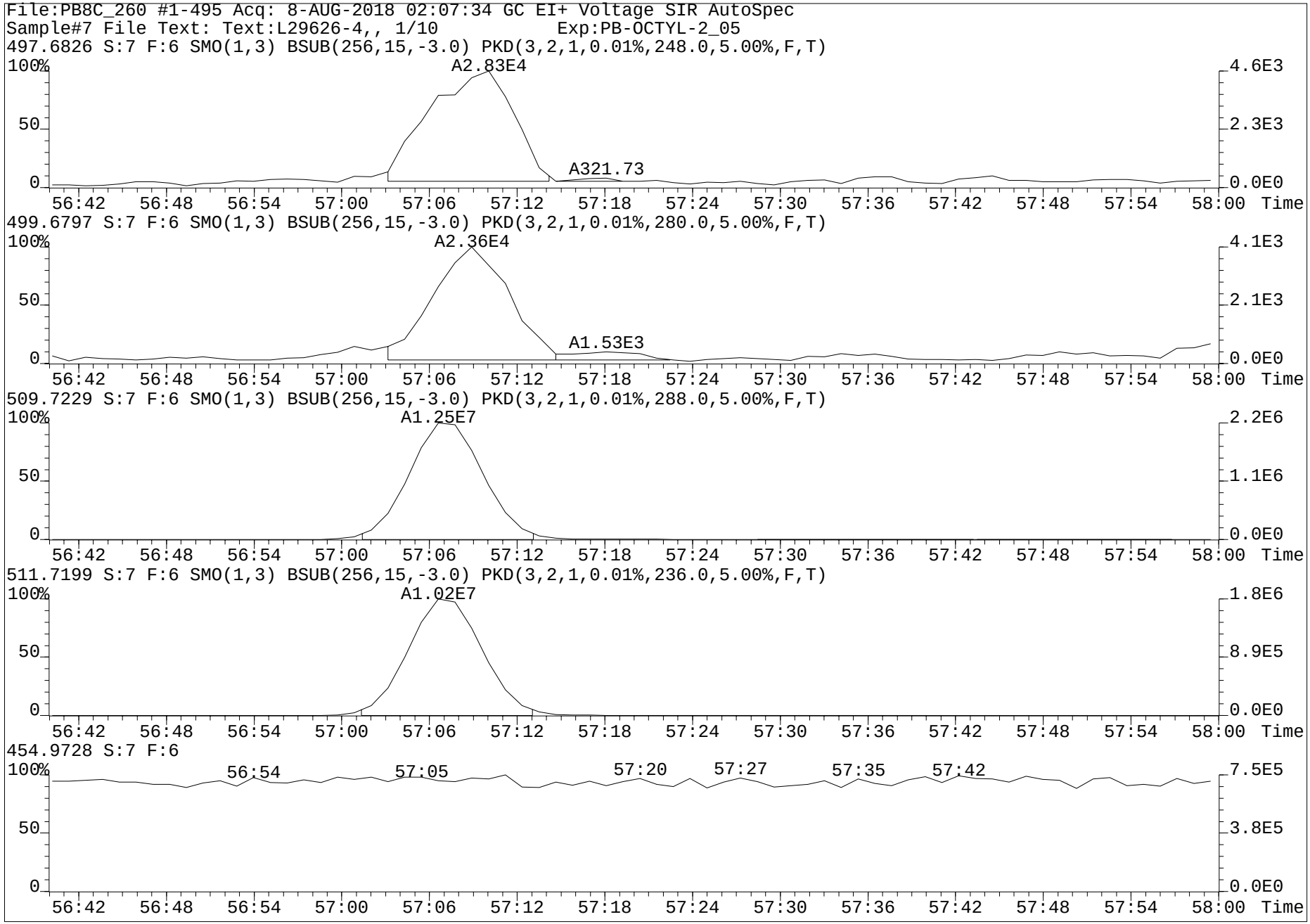

File:PB8C_260 #1-744 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.51E5
A2.23E5
A8.91E4
A7.24E5
A3.03E5
429.7606 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.26E5
A2.08E5
A1.02E5
A7.66E5
A3.68E5
A3.23E5
439.8038 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A1.28E7
441.8008 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A1.39E7
354.9792 S:7 F:5
43:19
43:42
44:03
44:56
45:23
46:30
46:59
47:21
47:44
48:35
49:08
49:36
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
1.2E5
6.1E4
0.0E0
1.3E5
6.6E4
2.3E6
1.2E6
2.5E6
1.0E6
5.2E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A2.20E5
A9.73E4
A2.12E4
A1.04E5
3.8E4
1.9E4
0.0E0
429.7606 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A2.40E5
A1.35E5
A2.49E4
A3.88E4
4.1E4
2.0E4
0.0E0
439.8038 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,804.0,5.00%,F,T)
A2.72E7
A1.43E7
4.9E6
2.4E6
0.0E0
441.8008 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,880.0,5.00%,F,T)
A3.13E7
A1.64E7
5.6E6
2.8E6
0.0E0
454.9728 S:7 F:6
50:20
50:53
51:36
52:10
52:48
53:11
53:56
54:28
54:53
55:15
55:55
7.9E5
4.0E5
0.0E0
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A2.20E5
A9.73E4
A1.04E5
A2.12E4
429.7606 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A2.40E5
A1.35E5
A3.88E4
A2.49E4
461.7245 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A5.55E4
A2.41E4
A1.63E4
A2.23E3
463.7216 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,532.0,5.00%,F,T)
A8.44E4
A2.79E4
A1.18E4
A3.36E3
A2.01E3
A5.28E3
Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A2.41E4
A1.63E4
A5.55E4
A2.23E3
463.7216 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,532.0,5.00%,F,T)
A2.79E4
A1.18E4
A3.36E3
A2.01E3
A5.28E3
A8.44E4
473.7648 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A1.12E7
A9.59E6
475.7619 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A1.45E7
A1.19E7
454.9728 S:7 F:6
50:20
50:53
51:36
52:10
52:48
53:11
53:56
54:28
54:53
55:15
55:55
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
9.3E3
4.6E3
0.0E0
1.5E4
7.7E3
2.0E6
9.8E5
2.6E6
1.3E6
7.9E5
4.0E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A4.37E4
A1.61E4
A1.43E3
A1.53E3
A1.74E3
A2.54E3
A2.16E3
6.9E3
3.4E3
0.0E0
395.7995 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
A3.63E4
A1.39E4
A2.46E3
A1.28E3
A2.91E3
7.7E3
3.8E3
0.0E0
405.8428 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1188.0,5.00%,F,T)
A1.64E7
A1.04E6
2.8E6
1.4E6
0.0E0
407.8398 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,960.0,5.00%,F,T)
A1.58E7
2.8E6
1.4E6
0.0E0
454.9728 S:7 F:6
50:13 50:20 50:53 51:07 51:23 51:36 51:44 51:53 52:10
7.7E5
3.9E5
0.0E0
100%
50
0
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12 Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 02:07:34 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-4,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,248.0,5.00%,F,T)
A2.83E4
A321.73
4.6E3
2.3E3
0.0E0
499.6797 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A2.36E4
A1.53E3
4.1E3
2.1E3
0.0E0
509.7229 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.25E7
2.2E6
1.1E6
0.0E0
511.7199 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A1.02E7
1.8E6
8.9E5
0.0E0
454.9728 S:7 F:6
56:54
57:05
57:20
57:27
57:35
57:42
7.5E5
3.8E5
0.0E0
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

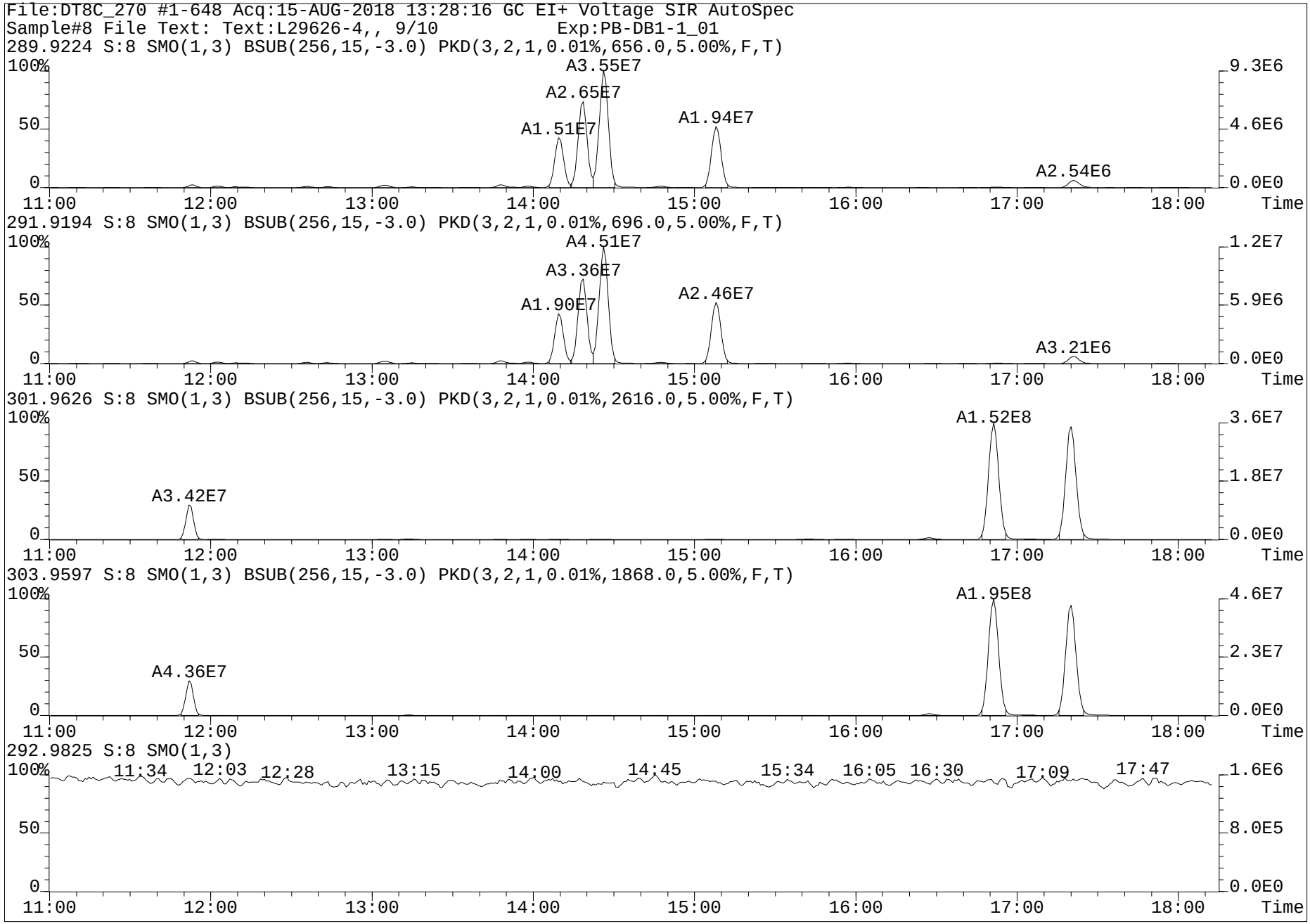
www.axysanalytical.com

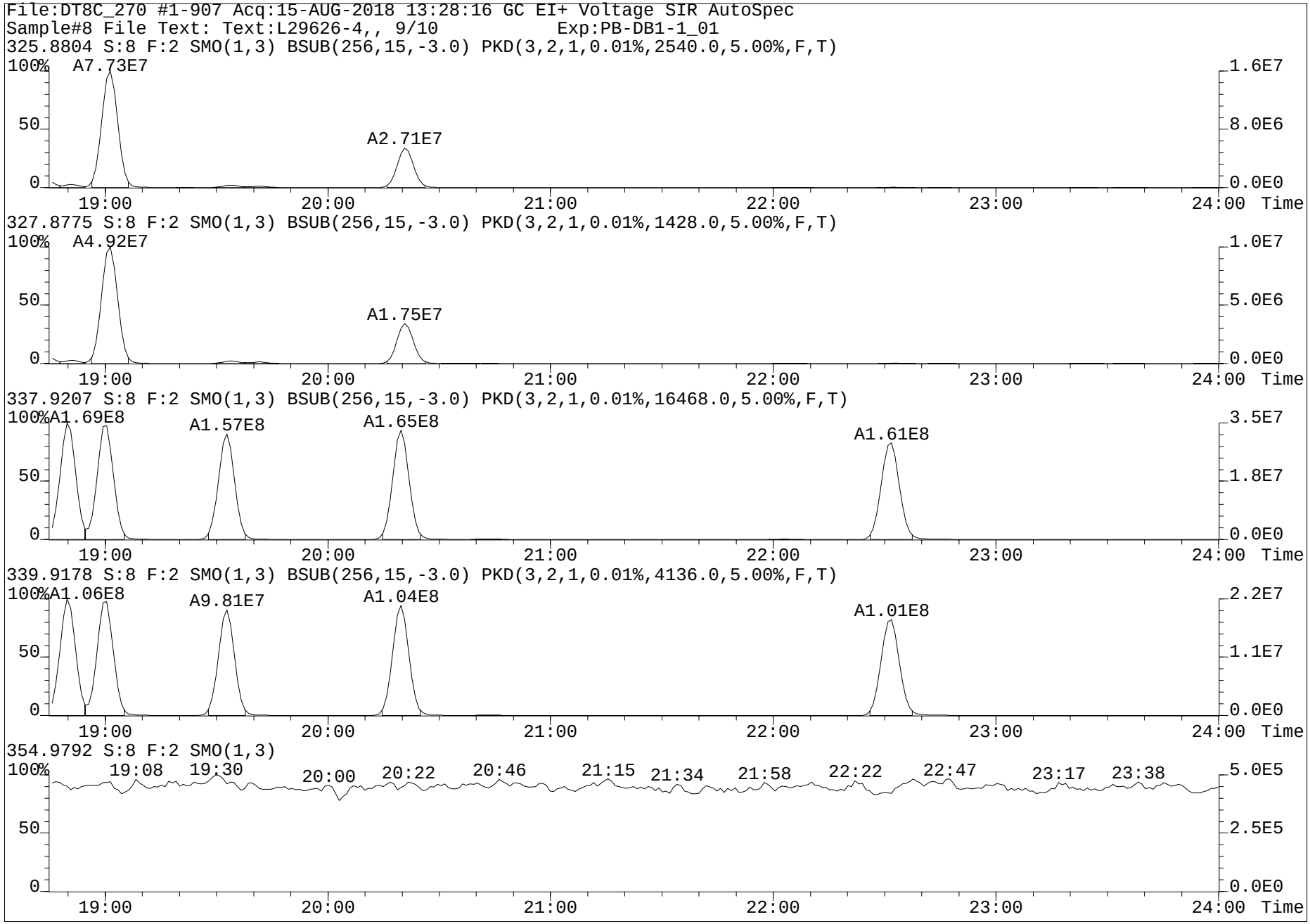
Run #14 Filename DT8C_270 S: 8 I: 1 Acquired: 15-AUG-18 13:28:16 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-4,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.060000 conc units: pg/g total toxicity: 2173.53 F1: 1.0000 F2: 5.0000

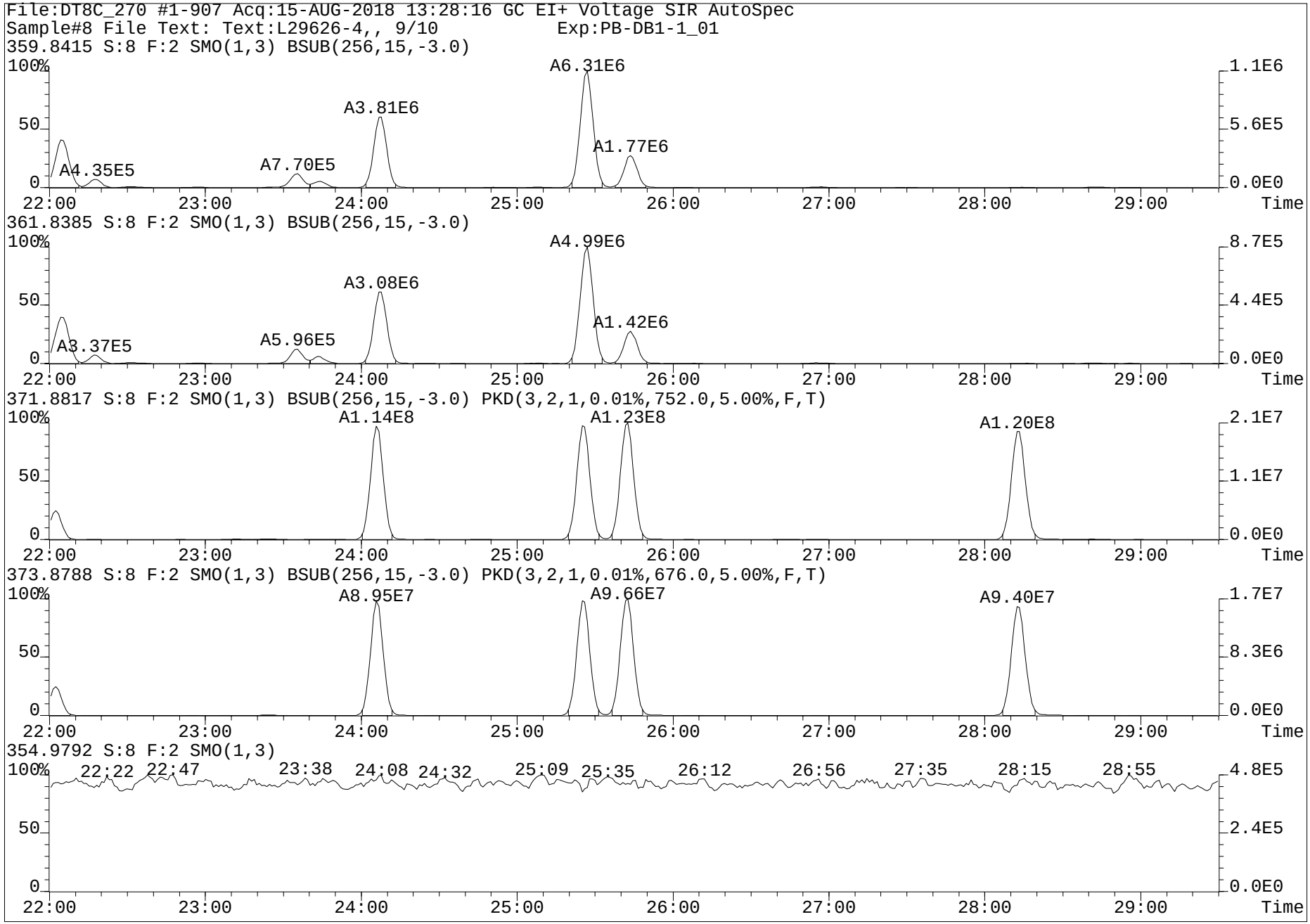
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.53e+05	0.81	y	16:53	1.928	2	0.0787	-	n
2	Unk	CL4-PCB-77	1	5.75e+06	0.79	y	17:21	31.820	32	0.0813	-	n
3	Unk	CL5-PCB-123	1	3.33e+06	1.59	y	18:51	23.269	23	0.3322	-	n
4	Unk	CL5-PCB-118	1	1.27e+08	1.57	y	19:01	826.388	826	0.3251	-	n
5	Unk	CL5-PCB-114	1	2.73e+06	1.56	y	19:34	18.633	19	0.3313	-	n
6	Unk	CL5-PCB-105	1	4.46e+07	1.56	y	20:21	314.207	314	0.3490	-	n
7	Unk	CL5-PCB-126	1	2.86e+05	1.47	y	22:33	2.044	2	0.3911	-	n
8	Unk	CL6-PCB-167	1	6.88e+06	1.24	y	24:07	58.152	58	0.1369	-	y
9	Unk	CL6-PCB-156	1	1.13e+07	1.27	y	25:26	92.573	93	0.1377	-	y
10	Unk	CL6-PCB-157	1	3.19e+06	1.24	y	25:44	25.997	26	0.1391	-	y
11	Unk	CL6-PCB-169	1	2.09e+04	1.34	y	28:13	0.179	0	~~0.1532~~ 0.2	-	y
12	Unk	CL7-PCB-180	1	1.28e+06	1.10	y	26:56	595.297	595	7.1176	-	n
13	Unk	CL7-PCB-170	1	6.83e+05	1.01	y	28:42	177.464	177	4.1577	-	n
14	Unk	CL7-PCB-189	1	4.75e+05	0.91	y	31:02	5.576	6	0.1845	-	n
15	IS	13C-CL4-PCB-81	1	3.47e+08	0.78	y	16:51	7094.744	0	0.7340	359.0	n
16	IS	13C-CL4-PCB-77	1	3.39e+08	0.79	y	17:20	7035.316	0	0.7452	356.0	n
17	IS	13C-CL5-PCB-123	1	2.75e+08	1.59	y	18:50	6754.915	0	5.2390	341.8	n
18	IS	13C-CL5-PCB-118	1	2.81e+08	1.59	y	19:00	6716.883	0	5.0939	339.9	n
19	IS	13C-CL5-PCB-114	1	2.55e+08	1.60	y	19:33	6675.098	0	5.5806	337.8	n
20	IS	13C-CL5-PCB-105	1	2.69e+08	1.58	y	20:20	6970.050	0	5.5175	352.7	n
21	IS	13C-CL5-PCB-126	1	2.61e+08	1.60	y	22:32	7495.147	0	6.1069	379.3	n
22	IS	13C-CL6-PCB-167	1	2.03e+08	1.27	y	24:06	6859.085	0	0.6343	347.1	n
23	IS	13C-CL6-PCB-156	1	2.12e+08	1.27	y	25:25	7026.400	0	0.6228	355.5	n
24	IS	13C-CL6-PCB-157	1	2.19e+08	1.27	y	25:42	6523.787	0	0.5585	330.1	n
25	IS	13C-CL6-PCB-169	1	2.14e+08	1.27	y	28:13	7428.208	0	0.6531	375.9	n
26	IS	13C-CL7-PCB-180	1	4.44e+06	1.05	y	26:55	199.343	0	0.5838	10.1	n
27	IS	13C-CL7-PCB-170	1	8.26e+06	1.03	y	28:40	454.718	0	0.7154	23.0	n
28	IS	13C-CL7-PCB-189	1	1.69e+08	1.05	y	31:01	7113.152	0	0.5454	359.9	n
29	IS	13C-CL10-PCB-209	1	1.14e+06	1.14	y	34:37	41.499	0	0.4502	2.1	n
30	RS	13C-CL4-PCB-52	1	7.78e+07	0.78	y	11:52	38.467	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.34e+07	1.61	y	15:42	37.022	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	4.90e+07	1.27	y	22:02	37.684	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	4.74e+07	1.63	y	17:04	1420.644	0	0.3743	71.9	n
34	C/Up	13C-CL7-PCB-178	1	1.27e+06	1.06	y	22:55	58.461	0	0.5959	3.0	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

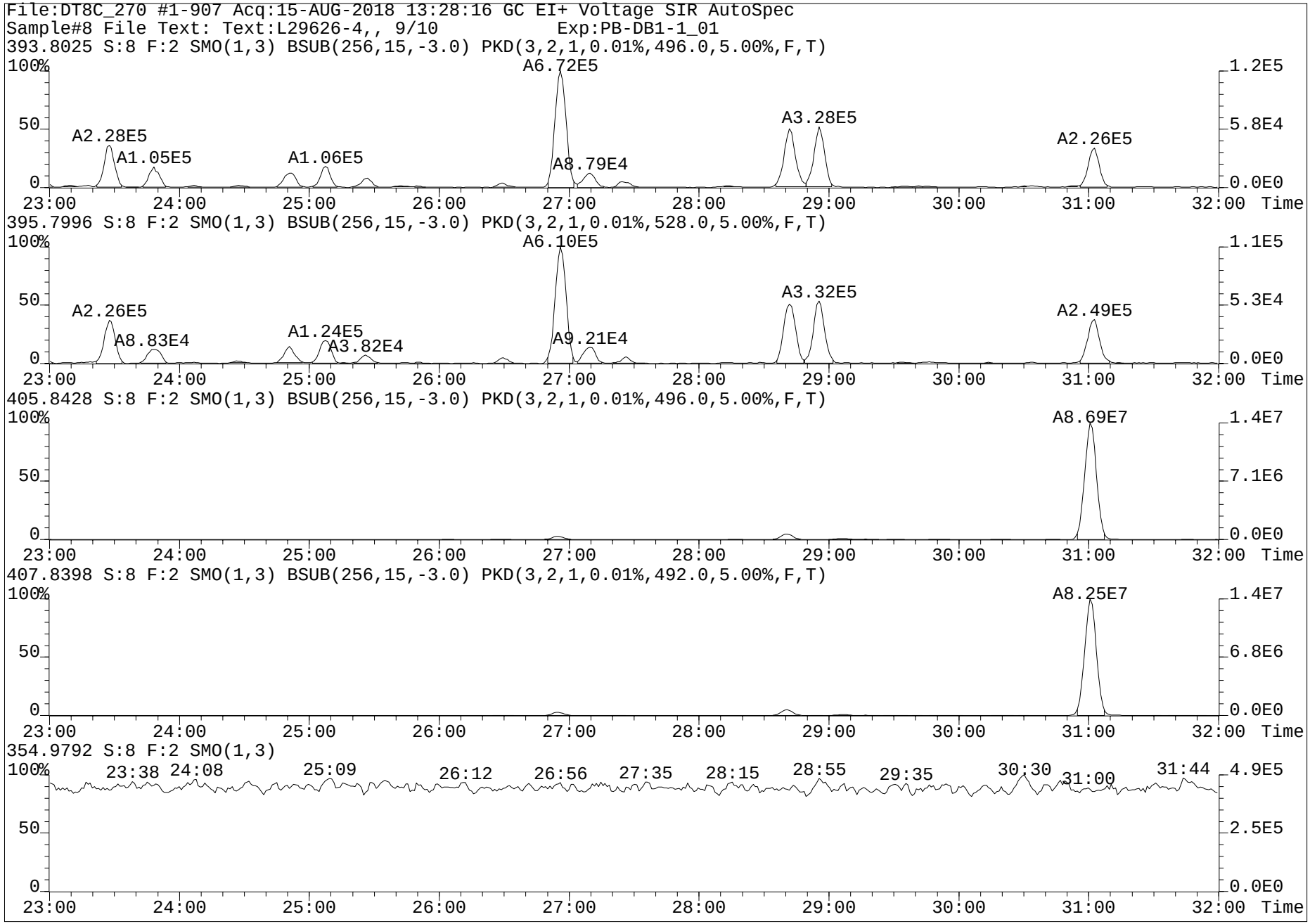
SV BW
17 Aug 2018

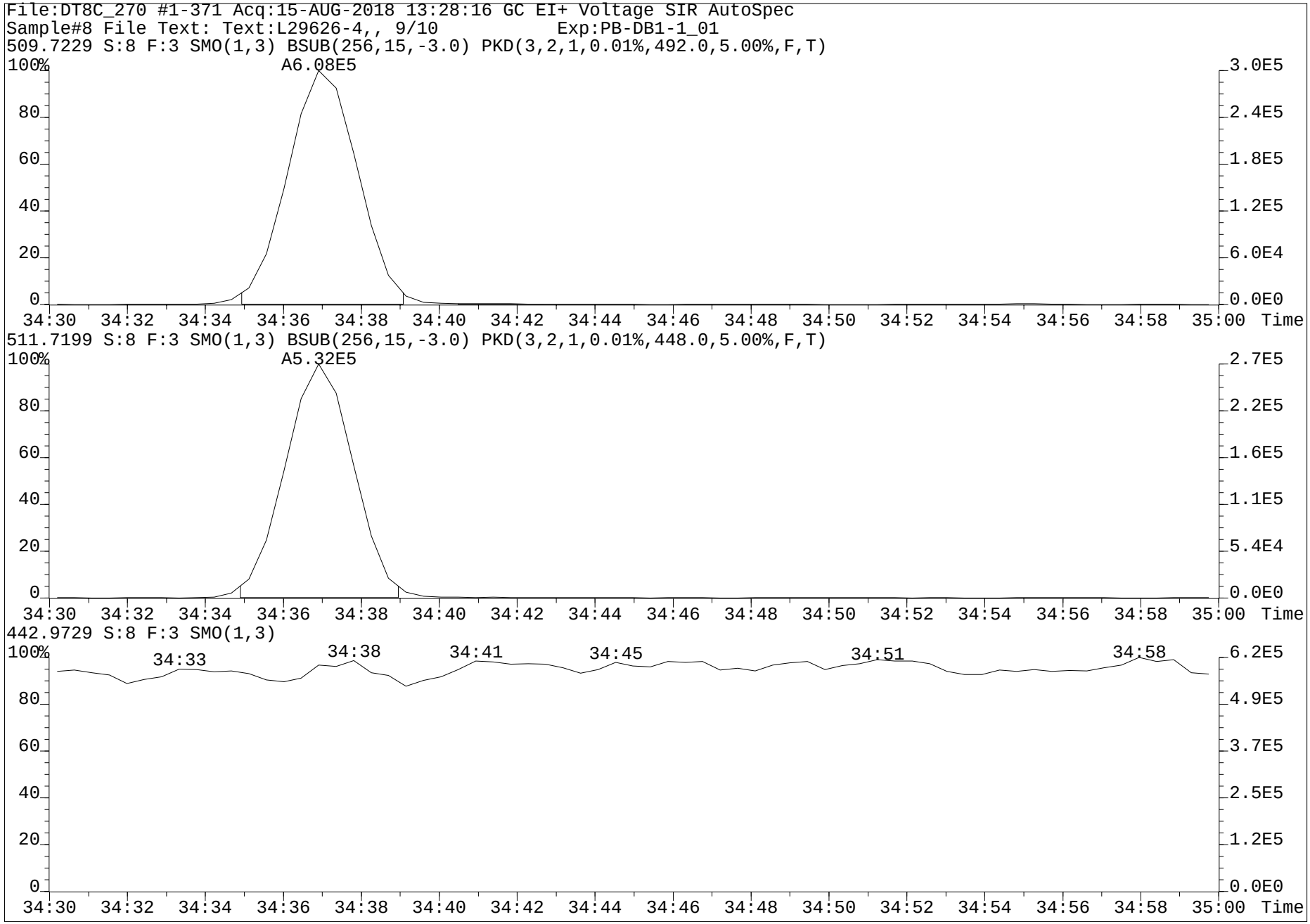
PV by RA 17AUG20

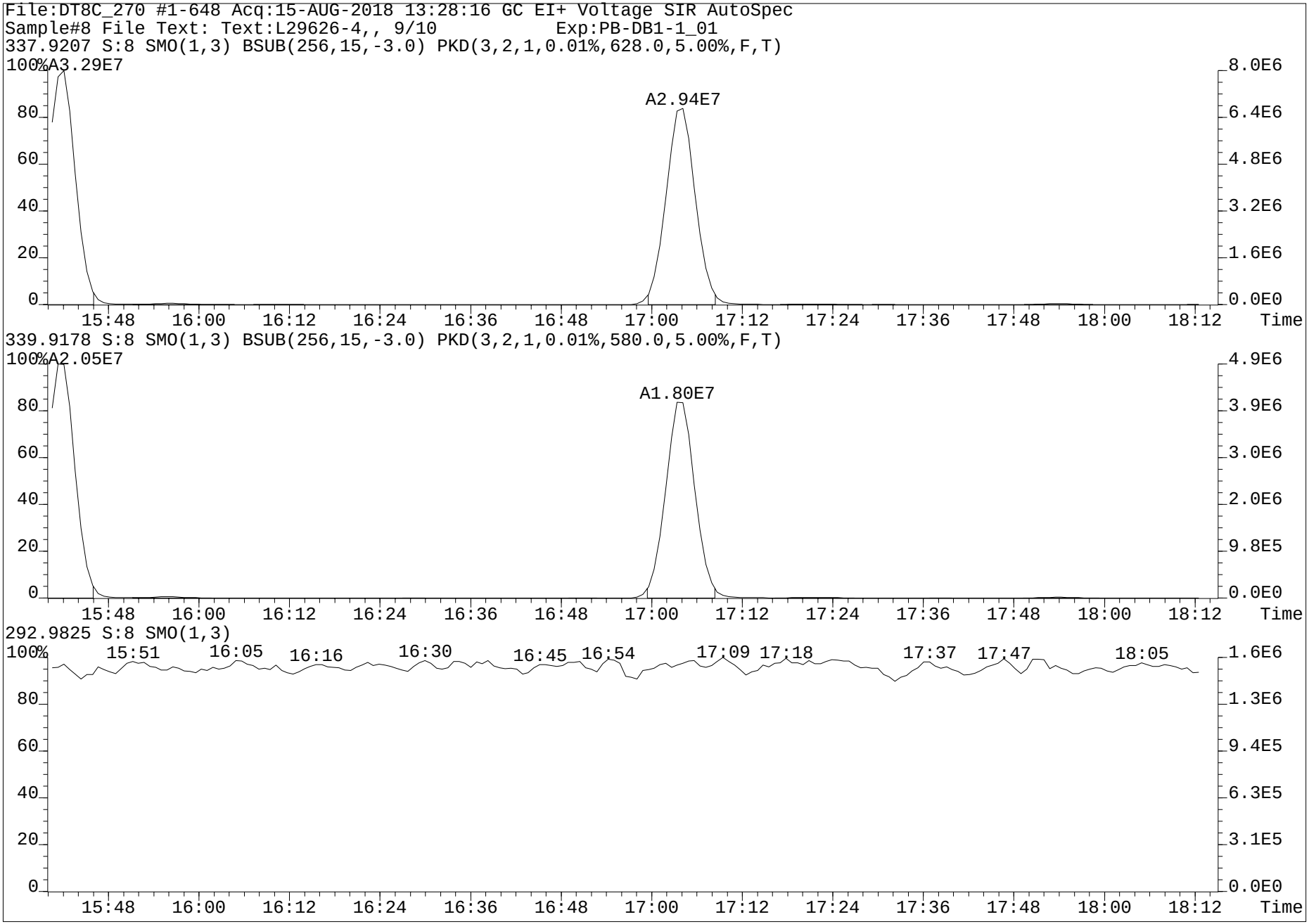

File:DT8C_270 #1-648 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
289.9224 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,656.0,5.00%,F,T)
A3.55E7
A2.65E7
A1.51E7
A1.94E7
A2.54E6
291.9194 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
A4.51E7
A3.36E7
A1.90E7
A2.46E7
A3.21E6
301.9626 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2616.0,5.00%,F,T)
A1.52E8
A3.42E7
303.9597 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1868.0,5.00%,F,T)
A1.95E8
A4.36E7
292.9825 S:8 SMO(1,3)
11:34
12:03
12:28
13:15
14:00
14:45
15:34
16:05
16:30
17:09
17:47
100%
50
0
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
Time
9.3E6
4.6E6
0.0E0
1.2E7
5.9E6
3.6E7
1.8E7
4.6E7
2.3E7
1.6E6
8.0E5


File:DT8C_270 #1-907 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
325.8804 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2540.0,5.00%,F,T)
A7.73E7
A2.71E7
327.8775 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1428.0,5.00%,F,T)
A4.92E7
A1.75E7
337.9207 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16468.0,5.00%,F,T)
A1.69E8
A1.57E8
A1.65E8
A1.61E8
339.9178 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4136.0,5.00%,F,T)
A1.06E8
A9.81E7
A1.04E8
A1.01E8
354.9792 S:8 F:2 SMO(1,3)
19:08
19:30
20:00
20:22
20:46
21:15
21:34
21:58
22:22
22:47
23:17
23:38
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
1.6E7
8.0E6
0.0E0
1.0E7
5.0E6
3.5E7
1.8E7
2.2E7
1.1E7
5.0E5
2.5E5


File:DT8C_270 #1-907 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
359.8415 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.31E6
A3.81E6
A1.77E6
A4.35E5
A7.70E5
1.1E6
5.6E5
0.0E0
361.8385 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.99E6
A3.08E6
A1.42E6
A3.37E5
A5.96E5
8.7E5
4.4E5
0.0E0
371.8817 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,752.0,5.00%,F,T)
A1.14E8
A1.23E8
A1.20E8
2.1E7
1.1E7
0.0E0
373.8788 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,676.0,5.00%,F,T)
A8.95E7
A9.66E7
A9.40E7
1.7E7
8.3E6
0.0E0
354.9792 S:8 F:2 SMO(1,3)
22:22 22:47 23:38 24:08 24:32 25:09 25:35 26:12 26:56 27:35 28:15 28:55
4.8E5
2.4E5
0.0E0
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
393.8025 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A6.72E5
A3.28E5
A2.28E5
A1.05E5
A1.06E5
A8.79E4
A2.26E5
1.2E5
5.8E4
0.0E0
395.7996 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A6.10E5
A3.32E5
A2.26E5
A8.83E4
A1.24E5
A3.82E4
A9.21E4
A2.49E5
1.1E5
5.3E4
0.0E0
405.8428 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A8.69E7
1.4E7
7.1E6
0.0E0
407.8398 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A8.25E7
1.4E7
6.8E6
0.0E0
354.9792 S:8 F:2 SMO(1,3)
23:38 24:08 25:09 26:12 26:56 27:35 28:15 28:55 29:35 30:30 31:00 31:44
4.9E5
2.5E5
0.0E0
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time


File:DT8C_270 #1-371 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
509.7229 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A6.08E5
511.7199 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A5.32E5
442.9729 S:8 F:3 SMO(1,3)
34:33
34:38
34:41
34:45
34:51
34:58
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 13:28:16 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:L29626-4,, 9/10 Exp:PB-DB1-1_01
337.9207 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,628.0,5.00%,F,T)
100%A3.29E7
A2.94E7
8.0E6
6.4E6
4.8E6
3.2E6
1.6E6
0.0E0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
339.9178 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
100%A2.05E7
A1.80E7
4.9E6
3.9E6
3.0E6
2.0E6
9.8E5
0.0E0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
292.9825 S:8 SMO(1,3)
100%
15:51 16:05 16:16 16:30 16:45 16:54 17:09 17:18 17:37 17:47 18:05
1.6E6
1.3E6
9.4E5
6.3E5
3.1E5
0.0E0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

Run #15 Filename PB8C_260 S: 8 I: 1 Acquired: 8-AUG-18 03:11:14 Processed: 8-AUG-18 07:42:31
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-103,,DUP 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.180000 ✓ conc units: pg/g ✓ total toxicity: 1447.78 F1: 1.0000 F2: 5.0000 ✓

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.10e+04	1.73	n	11:29	1.507	2	0.4771	-	n
2	Unk	CL1-PCB-3	1	3.87e+04	3.02	y	13:42	1.935	2	0.6054	-	n
3	Unk	CL2-PCB-4	1	1.81e+05	1.75	y	13:56	14.093	14	3.2916	-	n
4	Unk	CL2-PCB-15	1	4.17e+05	1.73	y	20:00	20.585	21	2.8249	-	n
5	Unk	CL3-PCB-19	1	2.20e+05	1.14	y	17:06	16.426	16	0.8138	-	n
6	Unk	CL3-PCB-37	1	1.00e+06	1.07	y	27:19	49.141	49	1.4731	-	n
7	Unk	CL4-PCB-54	1	2.52e+04	0.84	y	20:16	1.357	1	0.4158	-	n
8	Unk	CL4-PCB-81	1	3.07e+04	0.87	y	34:20	1.973	2	3.2245	-	y
9	Unk	CL4-PCB-77	1	4.87e+05	0.75	y	34:56	29.149	29	3.3478	-	n
10	Unk	CL5-PCB-104	0	*	*	n	NotFnd	*	*	0.4828	-	n
11	Unk	CL5-PCB-123	1	2.30e+05	1.14	n	37:00	16.922	17	8.1118	-	n
12	Unk	CL5-PCB-118	1	1.06e+07	1.57	y	37:20	729.634	730	7.6275	-	n
13	Unk	CL5-PCB-114	1	2.55e+05	1.29	n	37:54	19.071	19	8.4263	-	n
14	Unk	CL5-PCB-105	1	4.79e+06	1.50	y	38:35	269.643	270	6.1026	-	n
15	Unk	CL5-PCB-126	1	2.04e+04	1.36	y	41:49	1.783	2	~~10.0494~~ 3.57	-	y
16	Unk	CL6-PCB-155	1	7.14e+03	2.45	n	31:51	0.527	1	0.4845	-	n
17	Unk	CL6-PCB-167	1	6.29e+05	1.23	y	43:45	51.658	52	6.2698	-	y
18	Unk	CL6-PCB-156/157	1	1.35e+06	1.34	y	44:56	108.799	109	8.1018	-	y
19	Unk	CL6-PCB-169	1	6.96e+03	1.70	n	48:22	0.588	1	6.5640	-	y
20	Unk	CL7-PCB-188	1	2.57e+04	1.08	y	37:50	2.211	2	0.5316	-	n
21	Unk	CL7-PCB-189	1	6.90e+04	1.03	y	51:00	5.632	6	1.0329	-	n
22	Unk	CL8-PCB-202	1	7.11e+05	0.80	y	43:27	82.589	83	0.6872	-	n
23	Unk	CL8-PCB-205	1	4.94e+04	0.70	n	53:40	4.046	4	0.7669	-	n
24	Unk	CL9-PCB-208	1	3.68e+04	0.61	n	50:27	4.047	4	1.0890	-	n
25	Unk	CL9-PCB-206	1	8.72e+04	0.86	y	55:28	10.812	11	1.2880	-	n
26	Unk	CL10-PCB-209	1	3.81e+04	1.30	y	57:07	3.652	4	0.6762	-	n
27	IS	13C-CL1-PCB-1	1	3.71e+07	3.20	y	11:27	376.126	0	3.0844	19.5	n
28	IS	13C-CL1-PCB-3	1	3.57e+07	3.23	y	13:41	380.151	0	3.2375	19.7	n
29	IS	13C-CL2-PCB-4	1	2.50e+07	1.59	y	13:56	418.393	0	1.1550	21.7	n
30	IS	13C-CL2-PCB-15	1	4.30e+07	1.54	y	19:59	461.828	0	0.7408	23.9	n
31	IS	13C-CL3-PCB-19	1	2.41e+07	1.05	y	17:05	491.208	0	4.8303	25.4	n
32	IS	13C-CL3-PCB-37	1	3.94e+07	1.07	y	27:17	511.730	0	4.7619	26.5	n
33	REF	13C-CL4-CHECK	1	3.39e+07	0.81	y	20:15	504.213	0	1.0408	26.1	n
34	IS	13C-CL4-PCB-81	1	2.92e+07	0.76	y	34:19	497.712	0	1.4542	25.8	n
35	IS	13C-CL4-PCB-77	1	3.14e+07	0.76	y	34:55	525.575	0	1.4312	27.2	n
36	IS	13C-CL5-PCB-104	1	2.70e+07	1.57	y	25:56	564.292	0	0.1574	29.2	n
37	IS	13C-CL5-PCB-123	1	2.68e+07	1.58	y	36:59	593.020	0	1.2255	30.7	n
38	IS	13C-CL5-PCB-118	1	2.67e+07	1.56	y	37:19	603.317	0	1.2503	31.3	n
39	IS	13C-CL5-PCB-114	1	2.44e+07	1.61	y	37:52	554.447	0	1.2601	28.7	n
40	IS	13C-CL5-PCB-105	1	3.34e+07	1.56	y	38:33	733.089	0	1.2168	38.0	n
41	IS	13C-CL5-PCB-126	1	2.12e+07	1.58	y	41:48	521.127	0	1.3627	27.0	n
42	IS	13C-CL6-PCB-155	1	2.56e+07	1.27	y	31:50	536.372	0	0.1440	27.8	n
43	IS	13C-CL6-PCB-167	1	2.11e+07	1.30	y	43:43	573.358	0	0.4754	29.7	n
44	IS	13C-CL6-PCB-156/157	1	4.35e+07	1.27	y	44:56	1131.894	0	0.4557	29.3	n

SV BJ
16 Aug 2018

PV by RA 09AUG2018

45	IS	13C-CL6-PCB-169	1	2.17e+07	1.29	y	48:21	567.546	0	0.4589	29.4	n
46	REF	13C-CL7-CHECK	1	2.31e+07	1.06	y	37:48	460.510	0	0.1124	23.9	n
47	IS	13C-CL7-PCB-189	1	2.23e+07	1.04	y	50:59	554.542	0	0.8988	28.7	n
48	IS	13C-CL8-PCB-202	1	1.90e+07	0.91	y	43:26	401.842	0	0.1509	20.8	n
49	IS	13C-CL8-PCB-205	1	2.38e+07	0.88	y	53:39	596.953	0	1.0906	30.9	n
50	IS	13C-CL9-PCB-208	1	1.86e+07	0.78	y	50:25	519.657	0	0.3051	26.9	n
51	IS	13C-CL9-PCB-206	1	1.55e+07	0.79	y	55:27	533.626	0	0.3747	27.6	n
52	IS	13C-CL10-PCB-209	1	1.89e+07	1.22	y	57:06	517.698	0	0.1923	26.8	n
53	RS	13C-CL2-PCB-9	1	1.69e+08	1.57	y	15:56	17.685	0	-	-	n
54	RS	13C-CL4-PCB-52	1	8.78e+07	0.78	y	24:59	18.446	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.27e+07	1.63	y	32:06	15.560	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.54e+07	1.26	y	40:34	15.048	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.13e+07	0.89	y	53:09	17.541	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	4.27e+07	1.05	y	23:05	552.296	0	4.7330	28.6	n
59	C/Up	13C-CL5-PCB-111	1	2.80e+07	1.58	y	34:56	644.653	0	0.2123	33.4	n
60	C/Up	13C-CL7-PCB-178	1	1.58e+07	1.06	y	41:02	579.015	0	0.2002	30.0	n
61	IS	13C-CL4-PCB-54	1	3.39e+07	0.81	y	20:15	504.213	0	1.0408	26.1	n
62	IS	13C-CL7-PCB-188	1	2.31e+07	1.06	y	37:48	460.510	0	0.1124	23.9	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #7 Filename PB8C_260 S: 8 I: 1 Acquired: 8-AUG-18 03:11:14 Processed: 8-AUG-18 07:48:23
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-103,,DUP 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.180000 conc units: pg/g total toxicity: 20759.» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	0	*	*	n	NotFnd	*	*	0.5697	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	2.3048	-	n
3	Unk	CL2-PCB-9	1	3.87e+04	1.93	n	15:56	1.788	2	2.3014	-	y
4	Unk	CL2-PCB-7	1	1.70e+05	1.45	y	16:08	7.794	8	2.2801	-	y
5	Unk	CL2-PCB-6	1	3.64e+05	1.57	y	16:22	16.429	16	2.2494	-	y
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	2.5868	-	n
7	Unk	CL2-PCB-8	1	6.87e+05	1.54	y	16:48	28.267	28	2.0463	-	y
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	2.3591	-	n
9	Unk	CL2-PCB-11	1	1.97e+05	1.98	n	19:21	9.728	10	2.4619	-	y
10	Unk	CL2-PCB-12/13	1	9.34e+04	1.92	n	19:40	4.574	5	2.4367	-	y
11	Unk	CL3-PCB-30/18	1	2.40e+06	1.01	y	19:01	125.917	126	0.6567	-	n
12	Unk	CL3-PCB-17	1	1.17e+06	1.11	y	19:26	71.652	72	0.7636	-	y
13	Unk	CL3-PCB-27	1	5.37e+05	0.89	y	19:41	23.233	23	0.5410	-	y
14	Unk	CL3-PCB-24	1	2.64e+04	0.58	n	19:48	1.245	1	0.5909	-	y
15	Unk	CL3-PCB-16	1	4.72e+05	1.02	y	19:55	32.352	32	0.8576	-	y
16	Unk	CL3-PCB-32	1	1.27e+06	1.07	y	20:28	59.256	59	1.2423	-	n
17	Unk	CL3-PCB-34	1	4.15e+04	1.05	y	21:46	2.091	2	1.3365	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.3187	-	n
19	Unk	CL3-PCB-26/29	1	1.46e+06	1.00	y	22:15	70.947	71	1.2921	-	n
20	Unk	CL3-PCB-25	1	7.87e+05	1.07	y	22:29	32.354	32	1.0906	-	n
21	Unk	CL3-PCB-31	1	4.49e+06	1.03	y	22:49	202.460	202	1.1966	-	n
22	Unk	CL3-PCB-28/20	1	5.73e+06	1.02	y	23:07	276.565	277	1.2797	-	n
23	Unk	CL3-PCB-21/33	1	2.03e+06	1.01	y	23:22	92.444	92	1.2103	-	n
24	Unk	CL3-PCB-22	1	1.36e+06	1.06	y	23:47	73.308	73	1.4299	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.2040	-	n
26	Unk	CL3-PCB-39	1	5.41e+04	1.07	y	25:48	2.645	3	1.2961	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.3251	-	n
28	Unk	CL3-PCB-35	1	4.62e+04	0.51	n	26:53	2.262	2	1.3000	-	n
29	Unk	CL4-PCB-50/53	1	1.17e+06	0.79	y	22:30	80.884	81	0.6776	-	n
30	Unk	CL4-PCB-45/51	1	1.18e+06	0.82	y	23:14	83.034	83	0.6949	-	n
31	Unk	CL4-PCB-46	1	2.83e+05	0.85	y	23:31	22.545	23	0.7825	-	n
32	Unk	CL4-PCB-52	1	1.22e+07	0.80	y	25:00	819.466	819	0.6585	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.5032	-	n
34	Unk	CL4-PCB-43	1	3.60e+05	0.73	y	25:15	31.286	31	0.8554	-	y
35	Unk	CL4-PCB-69/49	1	6.81e+06	0.78	y	25:31	408.559	409	0.5903	-	n
36	Unk	CL4-PCB-48	1	1.41e+06	0.82	y	25:48	100.103	100	0.6999	-	n
37	Unk	CL4-PCB-44/47/65	1	8.49e+06	0.78	y	26:03	549.186	549	0.6358	-	n
38	Unk	CL4-PCB-59/62/75	1	1.33e+06	0.80	y	26:23	70.962	71	0.5249	-	n
39	Unk	CL4-PCB-42	1	1.97e+06	0.82	y	26:35	139.857	140	0.6981	-	n
40	Unk	CL4-PCB-41/40/71	1	3.38e+06	0.84	y	27:04	241.164	241	0.7021	-	y
41	Unk	CL4-PCB-64	1	3.75e+06	0.82	y	27:20	191.391	191	0.5022	-	n
42	Unk	CL4-PCB-72	1	2.36e+05	0.78	y	28:12	13.028	13	2.6509	-	n
43	Unk	CL4-PCB-68	1	1.27e+05	0.77	y	28:30	6.984	7	2.6446	-	y
44	Unk	CL4-PCB-57	1	4.62e+04	1.18	n	28:56	2.650	3	2.7505	-	y

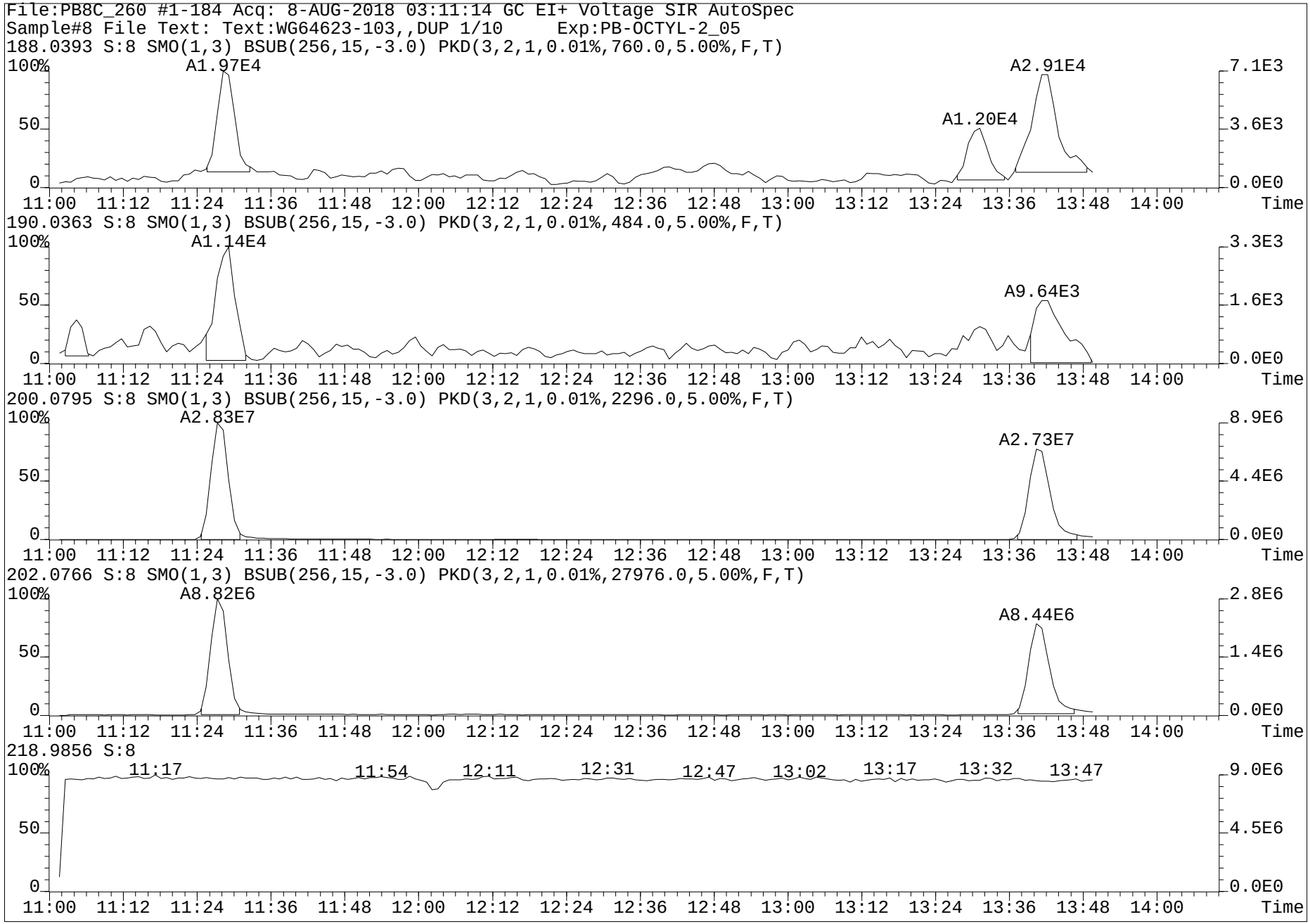
45	Unk	CL4-PCB-58	1	6.40e+04	0.64	n	29:12	3.760	4	2.8141	-	y
46	Unk	CL4-PCB-67	1	3.38e+05	0.72	y	29:22	16.632	17	2.3583	-	n
47	Unk	CL4-PCB-63	1	3.24e+05	0.80	y	29:39	18.251	18	2.7019	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.36e+07	0.76	y	30:00	775.843	776	2.7273	-	y
49	Unk	CL4-PCB-66	1	9.07e+06	0.76	y	30:20	554.144	554	2.9278	-	y
50	Unk	CL4-PCB-55	1	3.30e+05	0.61	n	30:30	22.359	22	3.2454	-	y
51	Unk	CL4-PCB-56	1	3.13e+06	0.76	y	31:02	195.598	196	2.9995	-	n
52	Unk	CL4-PCB-60	1	1.56e+06	0.78	y	31:15	96.310	96	2.9594	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	2.6491	-	n
54	Unk	CL4-PCB-79	1	2.15e+05	0.71	y	33:15	10.845	11	2.4201	-	n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	2.8532	-	n
56	Unk	CL5-PCB-96	1	8.33e+04	1.64	y	26:21	5.183	5	0.5065	-	n
57	Unk	CL5-PCB-103	1	3.01e+05	1.62	y	28:22	22.479	22	1.2934	-	n
58	Unk	CL5-PCB-94	1	8.94e+04	1.29	n	28:36	8.163	8	1.5822	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	1.25e+07	1.62	y	29:05	1020.341	1020	1.4174	-	y
60	Unk	CL5-PCB-88/91	1	1.91e+06	1.68	y	29:57	162.020	162	1.4724	-	y
61	Unk	CL5-PCB-84	1	2.27e+06	1.57	y	30:12	220.552	221	1.6821	-	n
62	Unk	CL5-PCB-89	1	1.18e+05	1.28	n	30:40	10.913	11	1.5962	-	y
63	Unk	CL5-PCB-121	1	1.12e+04	0.53	n	31:07	0.745	1	1.1485	-	n
64	Unk	CL5-PCB-92	1	4.01e+06	1.57	y	31:32	348.357	348	1.5063	-	n
65	Unk	CL5-PCB-113/90/101	1	1.48e+07	1.60	y	32:07	1119.443	1119	1.3081	-	y
66	Unk	CL5-PCB-83/99	1	7.95e+06	1.64	y	32:43	710.909	711	1.5491	-	y
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.0794	-	n
68	Unk	CB-109/119/86/97/125/87	1	7.30e+06	1.55	y	33:18	549.714	550	1.3049	-	y
69	Unk	CL5-PCB-117/116/85	1	2.36e+06	1.57	y	34:00	174.743	175	1.2853	-	n
70	Unk	CL5-PCB-110/115	1	1.50e+07	1.62	y	34:11	985.482	985	1.1384	-	y
71	Unk	CL5-PCB-82	1	1.04e+06	1.49	y	34:31	103.341	103	1.7256	-	n
72	Unk	CL5-PCB-111	0	*	*	n	NotFnd	*	*	1.2010	-	n
73	Unk	CL5-PCB-120	1	9.78e+04	1.72	y	35:25	6.486	6	1.1492	-	y
74	Unk	CL5-PCB-108/124	1	4.49e+05	1.31	n	36:37	30.561	31	7.3155	-	y
75	Unk	CL5-PCB-107	1	9.59e+05	1.85	n	36:53	63.590	64	7.1163	-	n
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	7.3278	-	n
77	Unk	CL5-PCB-122	1	1.77e+05	1.42	y	37:42	13.324	13	8.0943	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	7.4971	-	n
79	Unk	CL6-PCB-152	1	2.64e+04	3.28	n	32:04	1.971	2	0.5841	-	n
80	Unk	CL6-PCB-150	1	5.80e+04	1.02	n	32:15	4.550	5	0.6143	-	n
81	Unk	CL6-PCB-136	1	2.03e+06	1.21	y	32:38	157.531	158	0.6069	-	n
82	Unk	CL6-PCB-145	1	1.01e+04	3.47	n	32:53	0.832	1	0.6418	-	y
83	Unk	CL6-PCB-148	1	6.72e+04	1.17	y	34:31	7.402	7	0.8618	-	n
84	Unk	CL6-PCB-151/135/154	1	6.62e+06	1.30	y	35:11	709.469	709	0.8389	-	y
85	Unk	CL6-PCB-144	1	6.38e+05	1.33	y	35:43	69.393	69	0.8511	-	y
86	Unk	CL6-PCB-147/149	1	1.34e+07	1.27	y	36:07	1317.600	1318	7.9419	-	y
87	Unk	CL6-PCB-134/143	1	8.97e+05	1.08	y	36:19	96.933	97	8.6993	-	y
88	Unk	CL6-PCB-139/140	1	3.23e+05	1.00	n	36:44	32.323	32	8.0495	-	y
89	Unk	CL6-PCB-131	1	1.43e+05	1.39	y	36:56	16.090	16	9.0436	SDL	y
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	8.9351	-	n
91	Unk	CL6-PCB-132	1	3.37e+06	1.28	y	37:26	398.676	399	9.5063	x 1/2	y
92	Unk	CL6-PCB-133	1	4.55e+05	1.36	y	37:57	51.068	51	9.0333	-	y
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	7.2925	-	n
94	Unk	CL6-PCB-146	1	4.40e+06	1.28	y	38:37	411.204	411	7.5210	-	y
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	6.2929	-	n
96	Unk	CL6-PCB-153/168	1	1.65e+07	1.29	y	39:16	1412.217	1412	6.8925	-	y
97	Unk	CL6-PCB-141	1	1.62e+06	1.23	y	39:29	167.482	167	8.2946	-	y

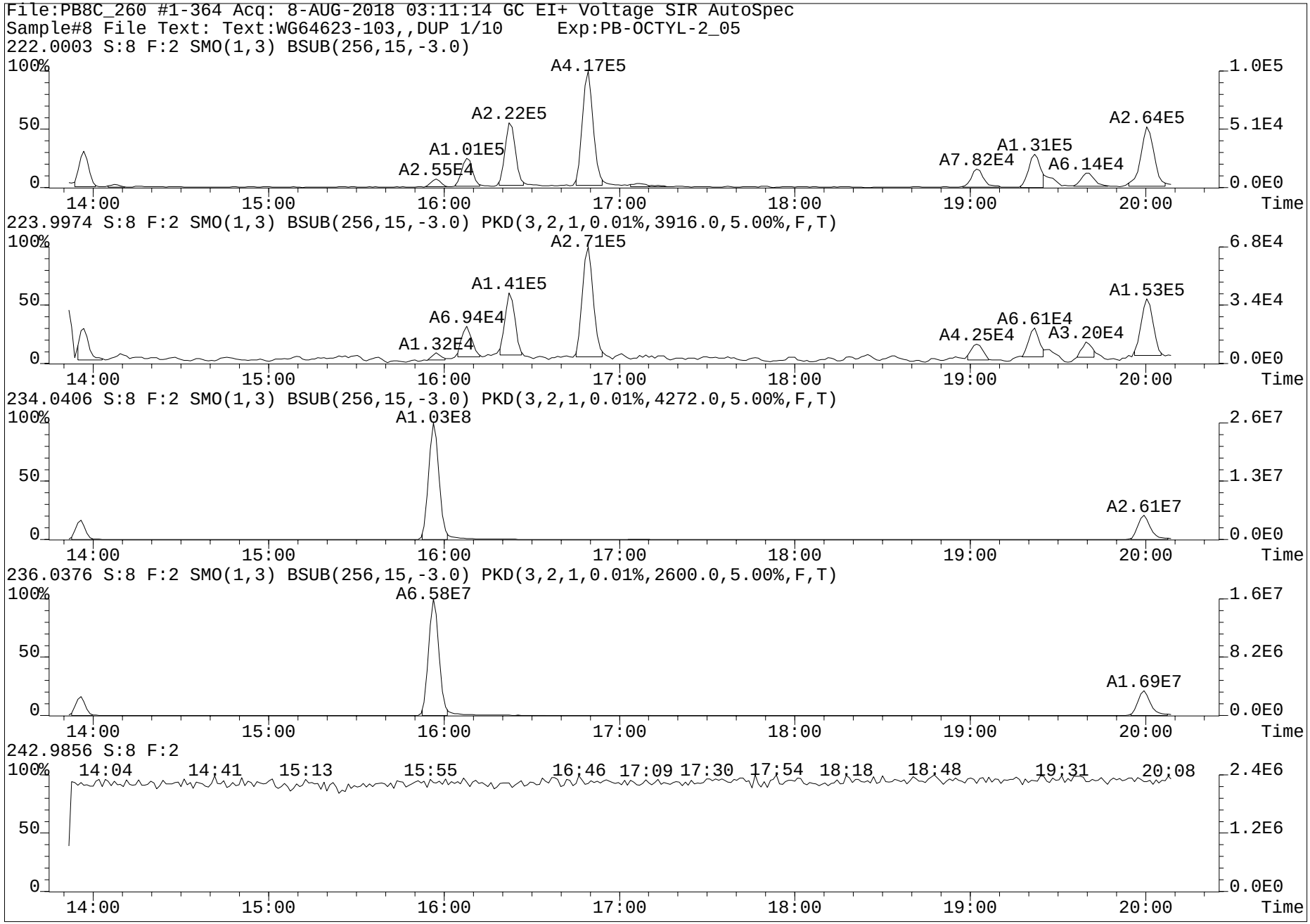
98	Unk	CL6-PCB-130	1	9.41e+05	1.17	y	39:54	113.193	113	9.6776	-	y
99	Unk	CL6-PCB-137	1	7.26e+05	1.25	y	40:08	83.932	84	9.2976	-	y
100	Unk	CL6-PCB-164	1	1.37e+06	1.33	y	40:16	107.827	108	6.3457	-	y
101	Unk	CL6-PCB-138/163/129/160	1	1.39e+07	1.22	y	40:35	1301.741	1302	7.5501	-	y
102	Unk	CL6-PCB-158	1	1.57e+06	1.18	y	41:00	114.569	115	5.8899	-	y
103	Unk	CL6-PCB-128/166	1	2.30e+06	1.30	y	41:55	214.595	215	7.5104	-	n
104	Unk	CL6-PCB-159	1	1.01e+05	1.02	n	42:53	7.989	8	6.3650	-	y
105	Unk	CL6-PCB-162	1	4.64e+04	0.84	n	43:14	3.480	3	6.0370	-	y
106	Unk	CL7-PCB-179	1	1.85e+06	1.10	y	38:12	152.575	153	0.5210	-	n
107	Unk	CL7-PCB-184	1	9.49e+03	0.87	n	38:45	0.769	1	0.5123	-	n
108	Unk	CL7-PCB-176	1	4.57e+05	1.09	y	39:07	38.459	38	0.5312	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	0.5653	-	n
110	Unk	CL7-PCB-178	1	1.33e+06	1.02	y	41:03	149.503	150	0.7083	-	n
111	Unk	CL7-PCB-175	1	1.71e+05	1.10	y	41:43	18.630	19	0.6900	-	n
112	Unk	CL7-PCB-187	1	6.46e+06	1.03	y	42:00	636.581	637	0.6223	-	n
113	Unk	CL7-PCB-182	1	6.17e+04	1.30	n	42:12	6.471	6	0.6627	-	n
114	Unk	CL7-PCB-183/185	1	1.94e+06	0.99	y	42:38	203.354	203	0.6635	-	n
115	Unk	CL7-PCB-174	1	1.50e+06	1.05	y	42:53	162.477	162	0.6861	-	n
116	Unk	CL7-PCB-177	1	2.22e+06	1.06	y	43:21	197.978	198	0.5644	-	n
117	Unk	CL7-PCB-181	1	1.72e+04	0.87	n	43:43	1.816	2	0.6676	-	n
118	Unk	CL7-PCB-171/173	1	6.69e+05	0.97	y	44:00	75.001	75	0.7078	-	n
119	Unk	CL7-PCB-172	1	2.29e+05	1.03	y	45:42	26.525	27	0.7323	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	0.5978	-	n
121	Unk	CL7-PCB-180/193	1	5.11e+06	1.06	y	46:23	594.428	594	0.7525	-	n
122	Unk	CL7-PCB-191	1	1.64e+05	1.38	n	46:46	13.974	14	0.5367	-	n
123	Unk	CL7-PCB-170	1	1.17e+06	1.08	y	47:42	144.432	144	0.7904	-	n
124	Unk	CL7-PCB-190	1	4.67e+05	0.98	y	48:16	40.327	40	0.5457	-	n
125	Unk	CL8-PCB-201	1	3.02e+05	0.79	y	44:24	26.947	27	0.5387	-	y
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.5502	-	n
127	Unk	CL8-PCB-197/200	1	1.73e+05	1.12	n	45:23	15.292	15	0.5341	-	y
128	Unk	CL8-PCB-198/199	1	1.13e+06	0.84	y	48:25	143.867	144	0.7649	-	y
129	Unk	CL8-PCB-196	1	4.46e+05	0.90	y	49:06	54.768	55	0.7408	-	n
130	Unk	CL8-PCB-203	1	4.34e+05	0.76	y	49:19	50.297	50	0.6981	-	n
131	Unk	CL8-PCB-195	1	1.44e+05	1.16	n	50:43	17.230	17	1.0991	-	n
132	Unk	CL8-PCB-194	1	3.18e+05	0.85	y	53:11	35.418	35	1.0218	-	n
133	Unk	CL9-PCB-207	1	1.75e+04	0.46	n	51:24	1.628	2	0.9455	-	y
134	IS	13C-CL1-PCB-1	1	3.71e+07	3.20	y	11:27	412.591	0	3.3835	21.4	n
135	IS	13C-CL1-PCB-3	1	3.57e+07	3.23	y	13:41	444.390	0	3.7846	23.0	n
136	IS	13C-CL2-PCB-4	1	2.50e+07	1.59	y	13:56	450.938	0	1.2449	23.4	n
137	IS	13C-CL2-PCB-15	1	4.30e+07	1.54	y	19:59	525.653	0	0.8431	27.2	n
138	IS	13C-CL3-PCB-19	1	2.41e+07	1.05	y	17:05	483.717	0	4.7567	25.1	n
139	IS	13C-CL3-PCB-37	1	3.94e+07	1.07	y	27:17	619.179	0	5.7618	32.1	n
140	REF	13C-CL4-CHECK	1	3.39e+07	0.81	y	20:15	573.914	0	1.1847	29.7	n
141	IS	13C-CL4-PCB-81	1	2.92e+07	0.76	y	34:19	519.330	0	1.5174	26.9	n
142	IS	13C-CL4-PCB-77	1	3.14e+07	0.76	y	34:55	564.446	0	1.5370	29.2	n
143	IS	13C-CL5-PCB-104	1	2.70e+07	1.57	y	25:56	627.617	0	0.1751	32.5	n
144	IS	13C-CL5-PCB-123	1	2.68e+07	1.58	y	36:59	622.187	0	1.2857	32.2	n
145	IS	13C-CL5-PCB-118	1	2.67e+07	1.56	y	37:19	631.340	0	1.3084	32.7	n
146	IS	13C-CL5-PCB-114	1	2.44e+07	1.61	y	37:52	603.674	0	1.3720	31.3	n
147	IS	13C-CL5-PCB-105	1	3.34e+07	1.56	y	38:33	820.943	0	1.3627	42.5	n
148	IS	13C-CL5-PCB-126	1	2.12e+07	1.58	y	41:48	598.531	0	1.5651	31.0	n

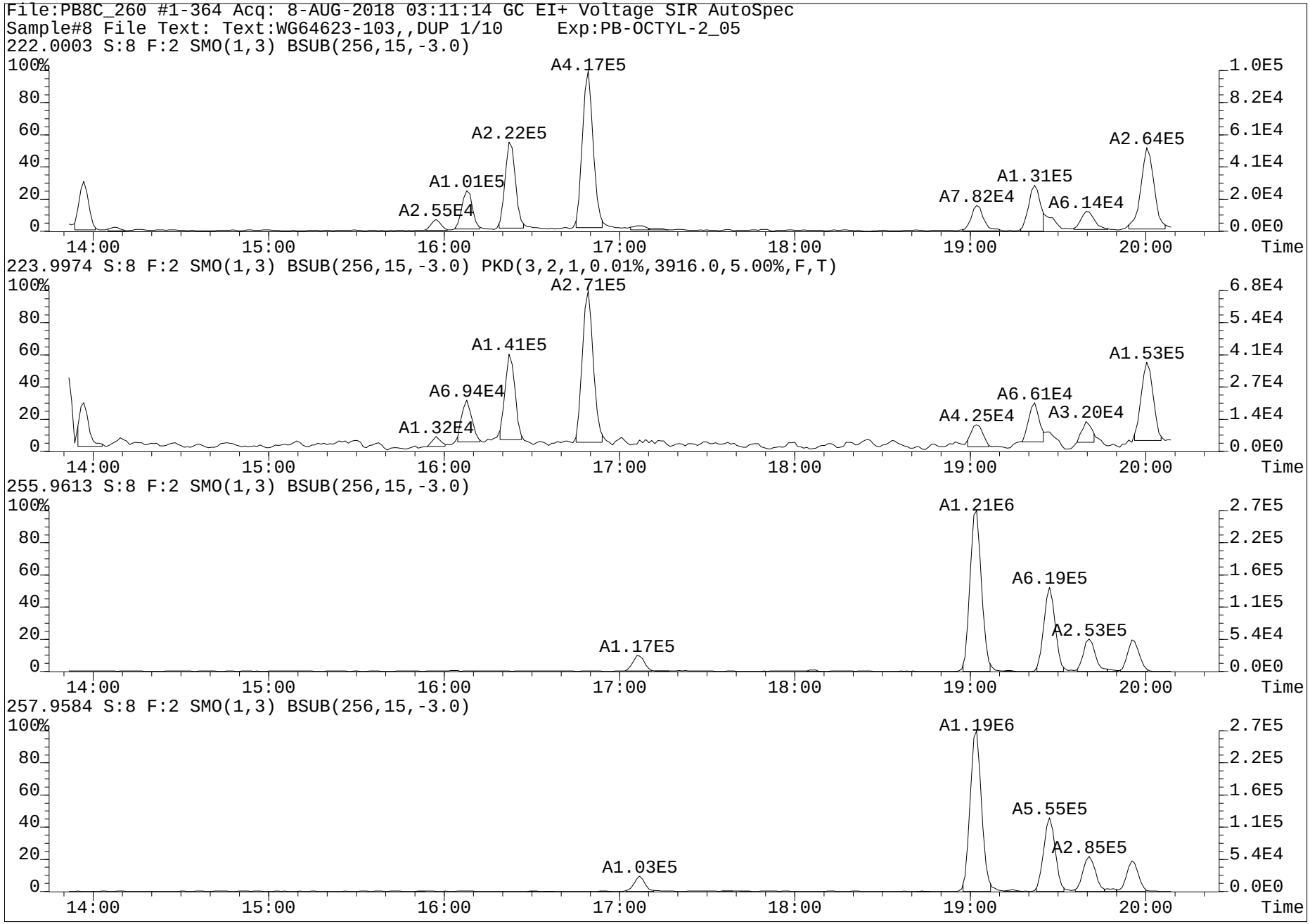
SDL x 1/2

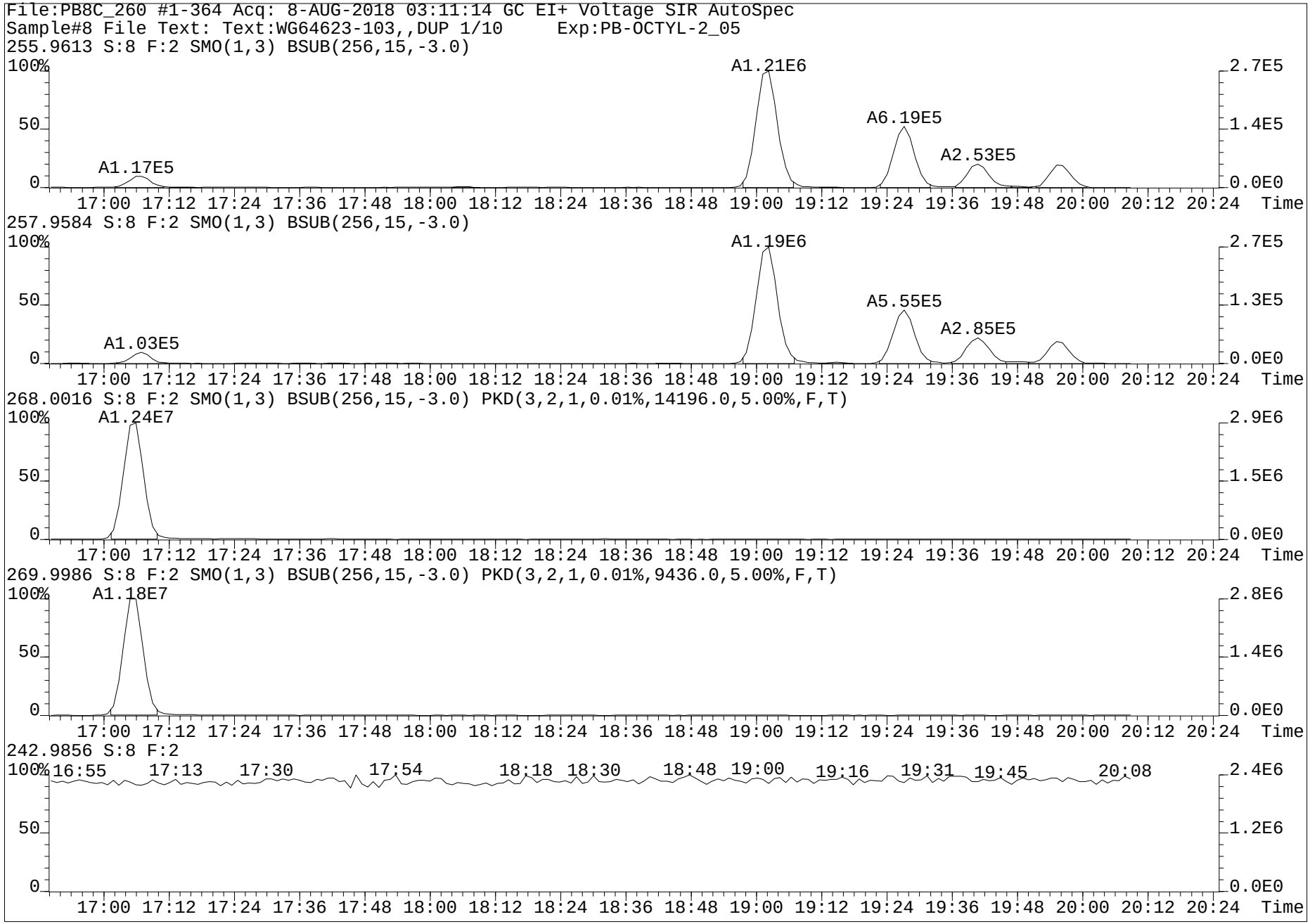
www.axysanalytical.com

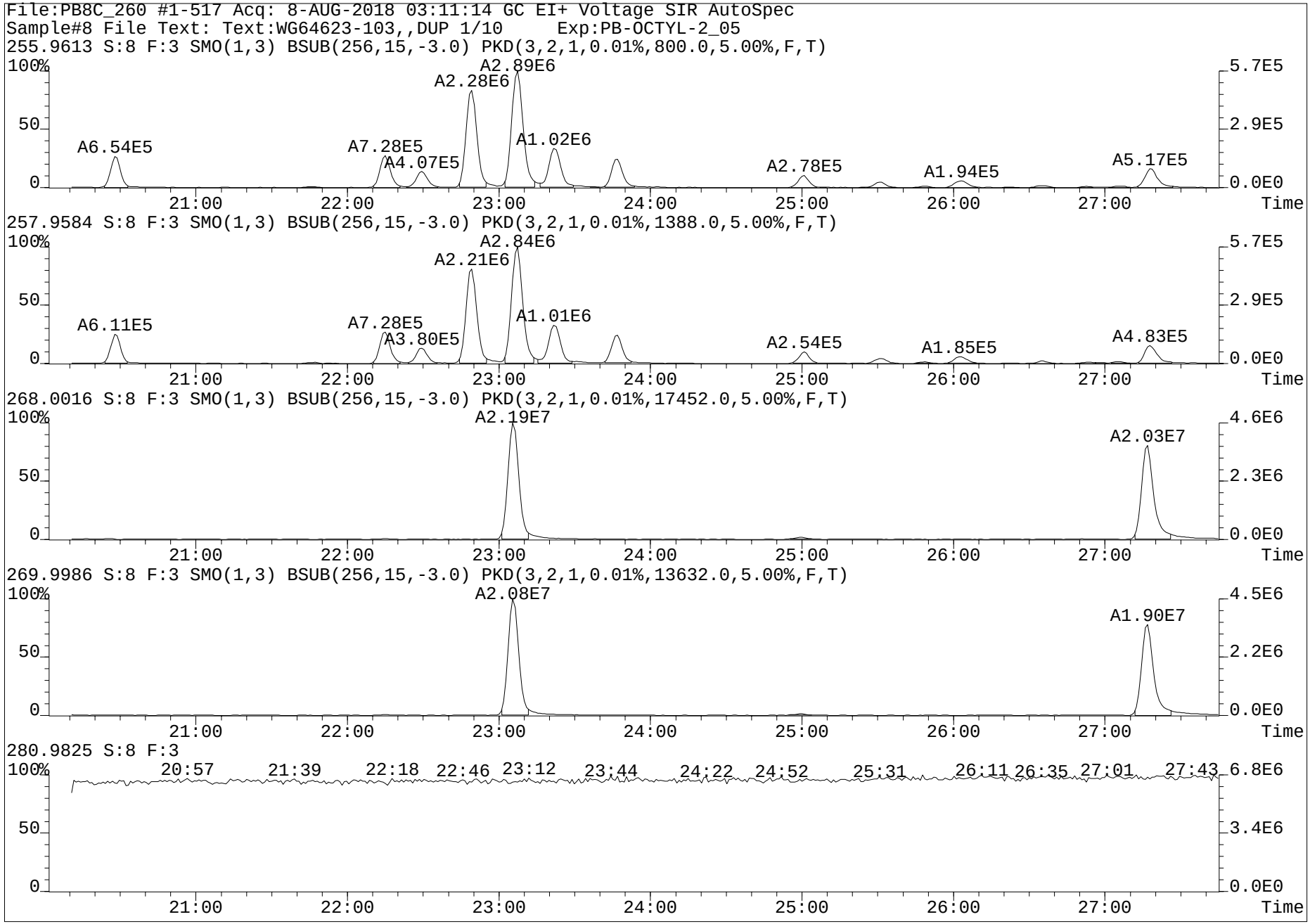
149	IS	13C-CL6-PCB-155	1	2.56e+07	1.27	y	31:50	598.921	0	0.1608	31.0	n
150	IS	13C-CL6-PCB-167	1	2.11e+07	1.30	y	43:43	595.157	0	0.4934	30.8	n
151	IS	13C-CL6-PCB-156/157	1	4.35e+07	1.27	y	44:56	1200.859	0	0.4835	31.1	n
152	IS	13C-CL6-PCB-169	1	2.17e+07	1.29	y	48:21	603.349	0	0.4879	31.3	n
153	IS	13C-CL7-PCB-188	1	2.31e+07	1.06	y	37:48	565.348	0	0.1380	29.3	n
154	IS	13C-CL7-PCB-180	1	1.65e+07	1.05	y	46:22	540.573	0	0.1845	28.0	n
155	IS	13C-CL7-PCB-170	1	1.40e+07	1.07	y	47:41	546.369	0	0.2198	28.3	n
156	IS	13C-CL8-PCB-202	1	1.90e+07	0.91	y	43:26	469.184	0	0.1761	24.3	n
157	IS	13C-CL8-PCB-205	1	2.38e+07	0.88	y	53:39	665.258	0	1.2154	34.5	n
158	IS	13C-CL9-PCB-208	1	1.86e+07	0.78	y	50:25	594.383	0	0.3490	30.8	n
159	IS	13C-CL9-PCB-206	1	1.55e+07	0.79	y	55:27	621.412	0	0.4363	32.2	n
160	RS/RT	13C-CL2-PCB-9	1	1.69e+08	1.57	y	15:56	20.370	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	8.78e+07	0.78	y	24:59	18.353	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	6.27e+07	1.63	y	32:06	15.737	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	5.54e+07	1.26	y	40:34	15.741	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	5.13e+07	0.89	y	53:09	17.724	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	4.27e+07	1.05	y	23:05	605.517	0	5.1891	31.4	n
166	C/Up	13C-CL5-PCB-111	1	2.80e+07	1.58	y	34:56	748.831	0	0.2466	38.8	n
167	C/UP	13C-CL7-PCB-178	1	1.58e+07	1.06	y	41:02	633.037	0	0.2139	32.8	n
168	IS	13C-CL4-PCB-54	1	3.39e+07	0.81	y	20:15	573.914	0	1.1847	29.7	n
169	Unk	CL7-PCB-189	1	6.90e+04	1.03	y	51:00	5.977	0	1.0961	-	n
170	IS	13C-CL7-PCB-189	1	2.23e+07	1.04	y	50:59	613.579	0	0.9945	31.8	n
171	Unk	CL10-PCB-209	1	3.81e+04	1.30	y	57:07	3.708	0	0.6866	-	n
172	IS	13C-CL10-PCB-209	1	1.89e+07	1.22	y	57:06	662.833	0	0.2462	34.3	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

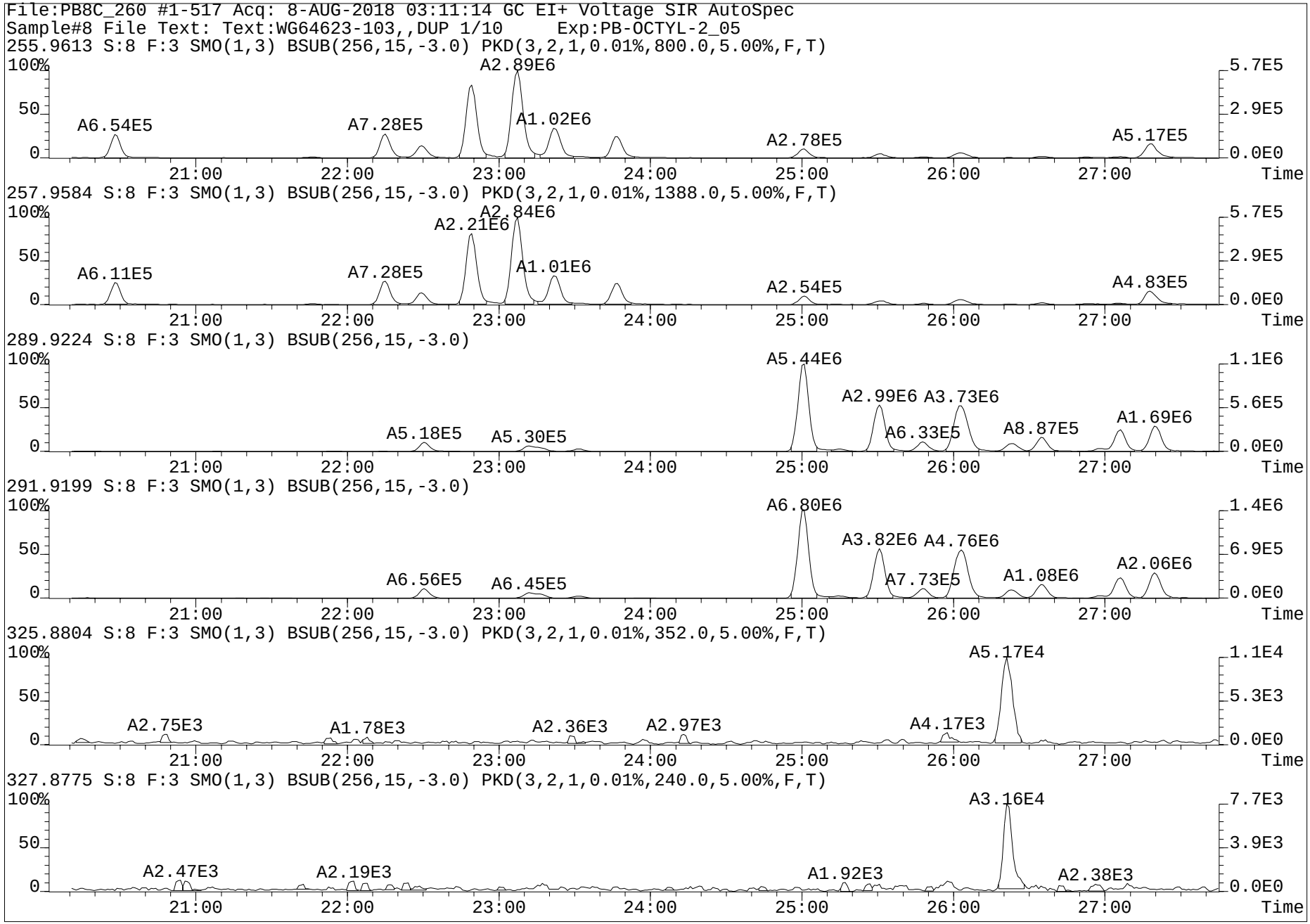

File:PB8C_260 #1-184 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
188.0393 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,760.0,5.00%,F,T)
A1.97E4
A1.20E4
A2.91E4
190.0363 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A1.14E4
A9.64E3
200.0795 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2296.0,5.00%,F,T)
A2.83E7
A2.73E7
202.0766 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,27976.0,5.00%,F,T)
A8.82E6
A8.44E6
218.9856 S:8
11:17
11:54
12:11
12:31
12:47
13:02
13:17
13:32
13:47
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
7.1E3
3.6E3
0.0E0
3.3E3
1.6E3
8.9E6
4.4E6
2.8E6
1.4E6
9.0E6
4.5E6

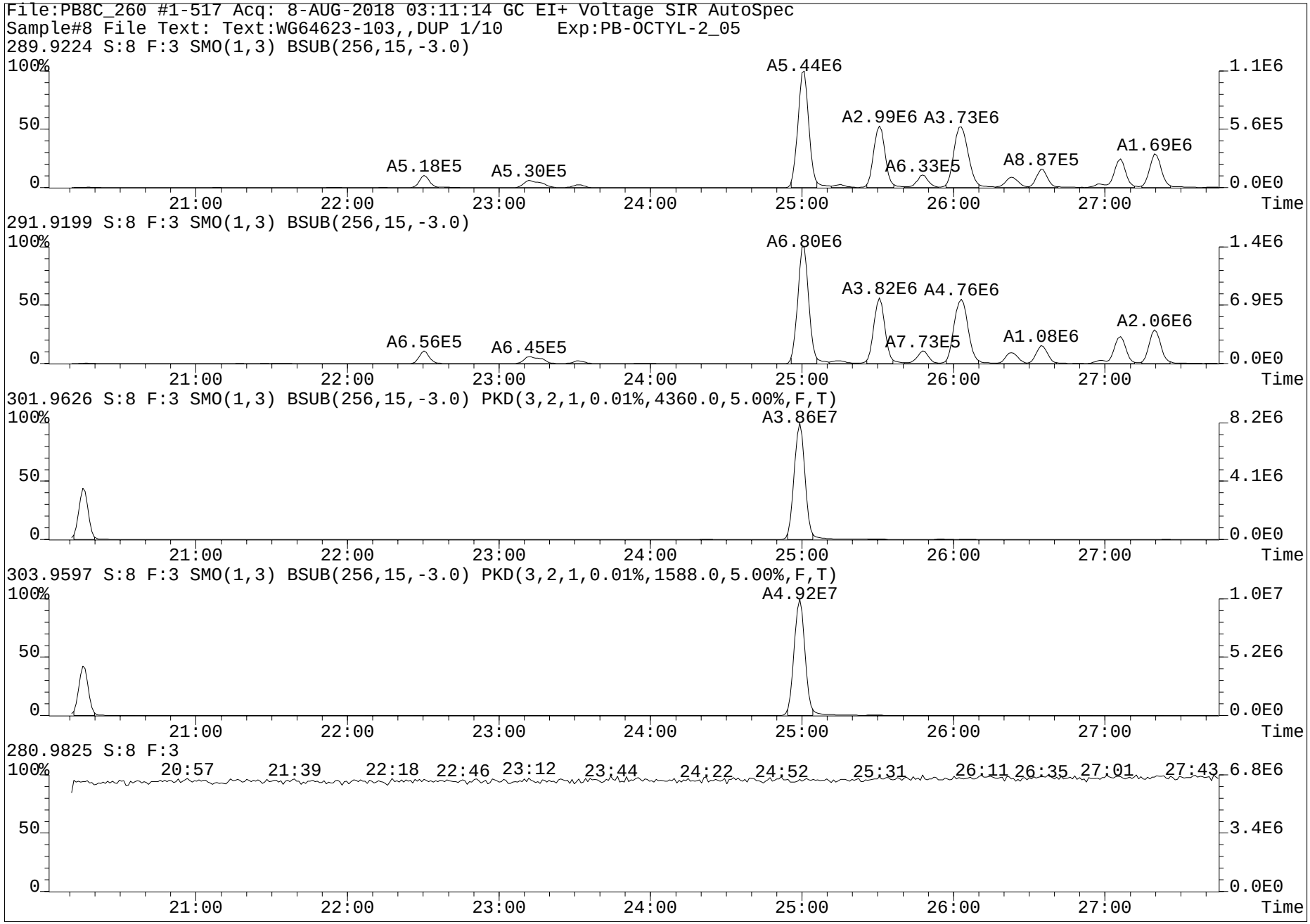

File:PB8C_260 #1-364 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
222.0003 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.17E5
A2.22E5
A1.01E5
A2.55E4
A7.82E4
A1.31E5
A6.14E4
A2.64E5
223.9974 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3916.0,5.00%,F,T)
A2.71E5
A1.41E5
A6.94E4
A1.32E4
A4.25E4
A6.61E4
A3.20E4
A1.53E5
234.0406 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4272.0,5.00%,F,T)
A1.03E8
A2.61E7
236.0376 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2600.0,5.00%,F,T)
A6.58E7
A1.69E7
242.9856 S:8 F:2
14:04 14:41 15:13 15:55 16:46 17:09 17:30 17:54 18:18 18:48 19:31 20:08
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.0E5 5.1E4 0.0E0
6.8E4 3.4E4 0.0E0
2.6E7 1.3E7 0.0E0
1.6E7 8.2E6 0.0E0
2.4E6 1.2E6 0.0E0

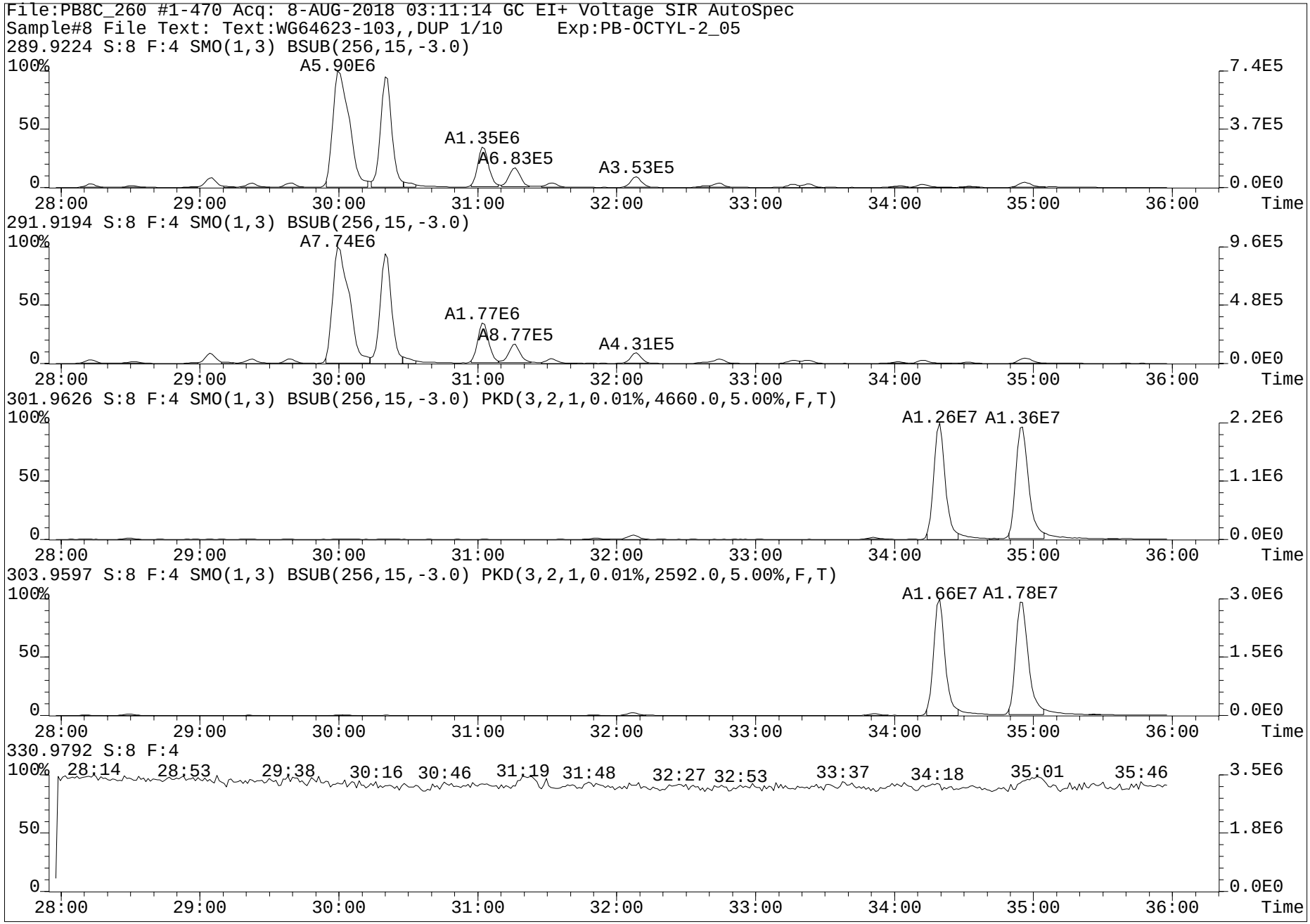

File:PB8C_260 #1-364 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
222.0003 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.17E5
A2.22E5
A1.01E5
A2.55E4
A2.64E5
A1.31E5
A7.82E4
A6.14E4
223.9974 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3916.0,5.00%,F,T)
A2.71E5
A1.41E5
A6.94E4
A1.32E4
A1.53E5
A6.61E4
A4.25E4
A3.20E4
255.9613 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.21E6
A6.19E5
A2.53E5
A1.17E5
257.9584 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.19E6
A5.55E5
A2.85E5
A1.03E5
100%
80
60
40
20
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
1.0E5
8.2E4
6.1E4
4.1E4
2.0E4
0.0E0
6.8E4
5.4E4
4.1E4
2.7E4
1.4E4
2.7E5
2.2E5
1.6E5
1.1E5
5.4E4

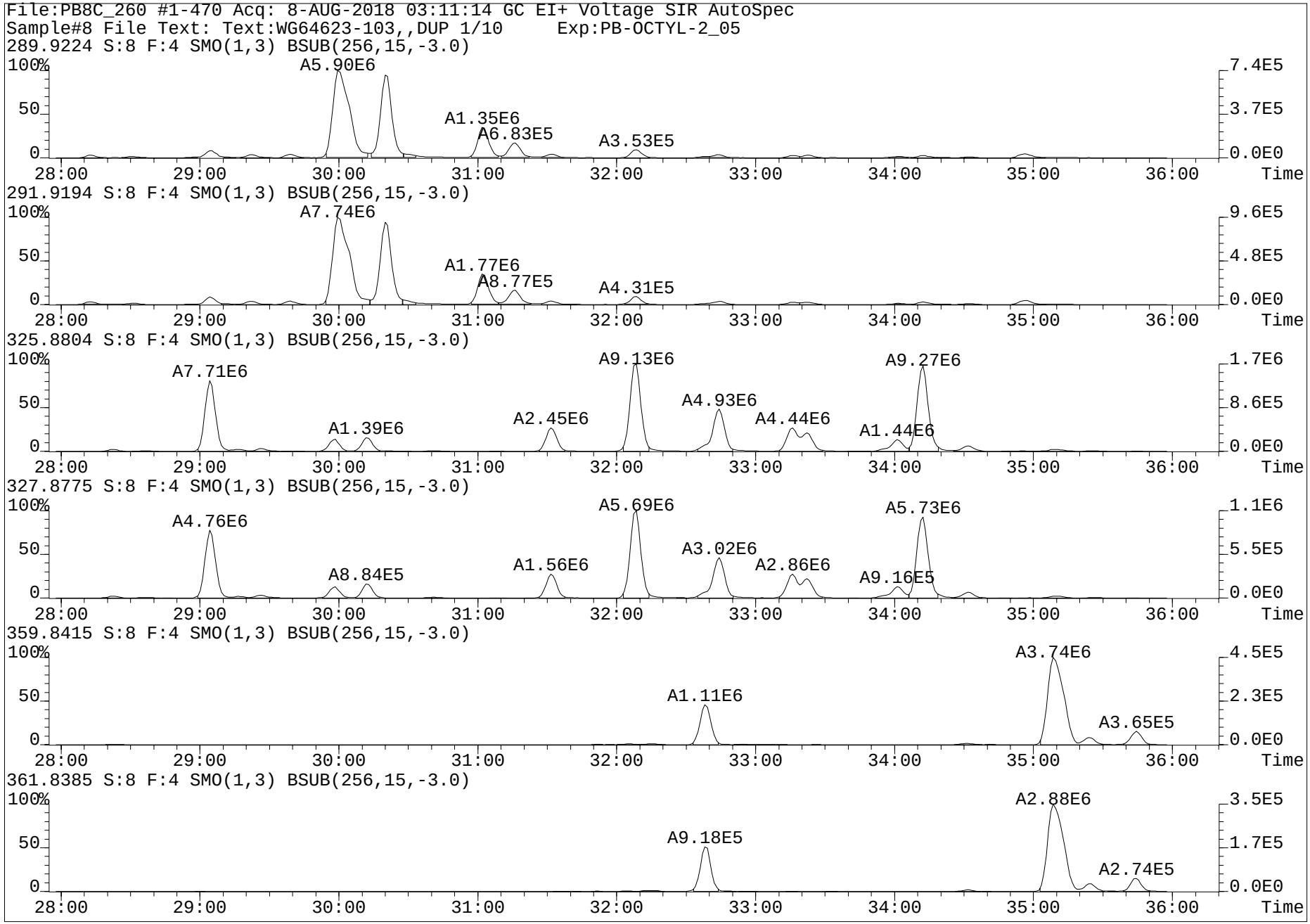

File:PB8C_260 #1-364 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
255.9613 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.21E6
A6.19E5
A2.53E5
A1.17E5
257.9584 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.19E6
A5.55E5
A2.85E5
A1.03E5
268.0016 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14196.0,5.00%,F,T)
A1.24E7
269.9986 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9436.0,5.00%,F,T)
A1.18E7
242.9856 S:8 F:2
16:55 17:13 17:30 17:54 18:18 18:30 18:48 19:00 19:16 19:31 19:45 20:08
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

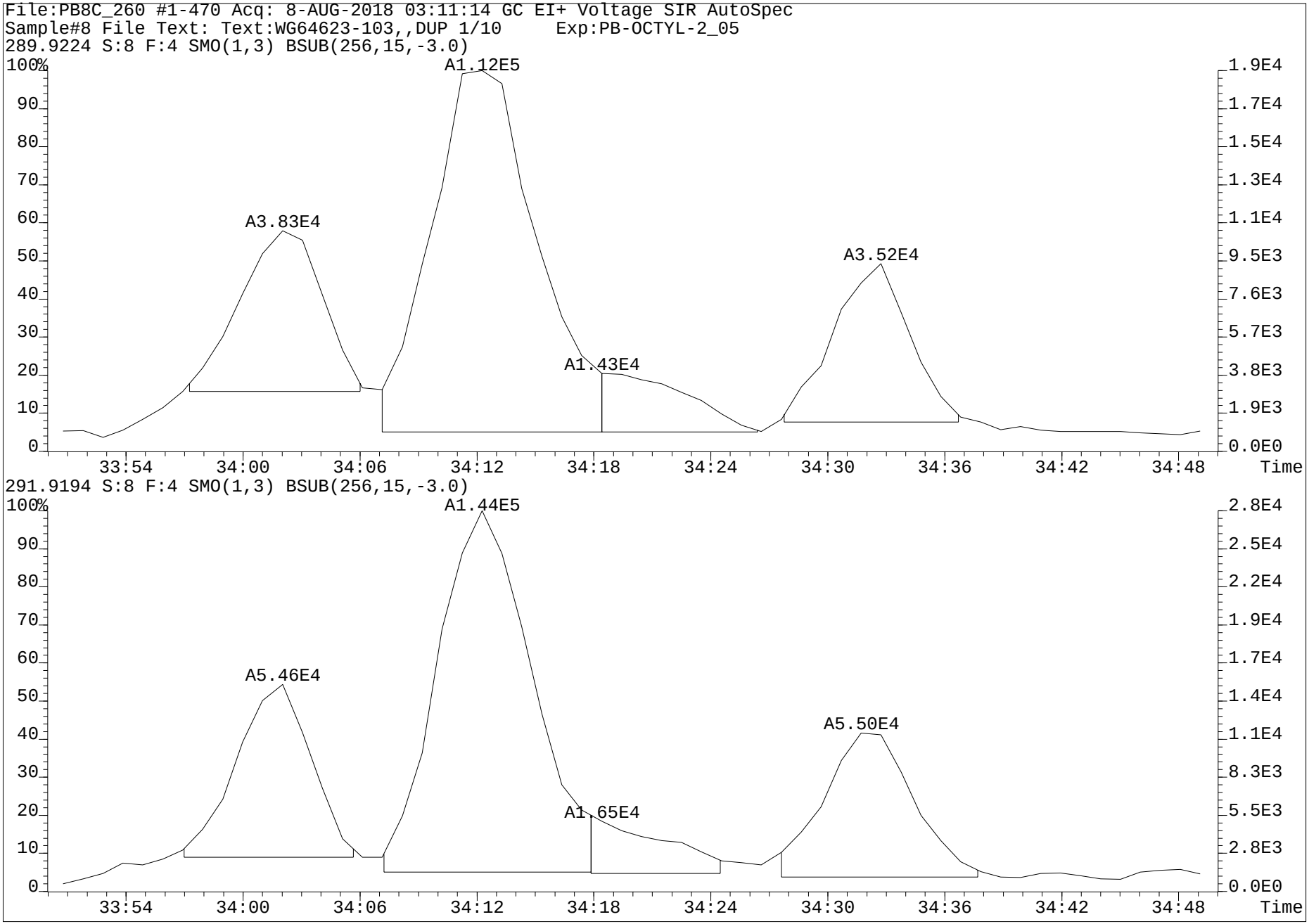

File:PB8C_260 #1-517 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
255.9613 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,800.0,5.00%,F,T)
A6.54E5
A7.28E5
A4.07E5
A2.28E6
A2.89E6
A1.02E6
A2.78E5
A1.94E5
A5.17E5
257.9584 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A6.11E5
A7.28E5
A3.80E5
A2.21E6
A2.84E6
A1.01E6
A2.54E5
A1.85E5
A4.83E5
268.0016 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17452.0,5.00%,F,T)
A2.19E7
A2.03E7
269.9986 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13632.0,5.00%,F,T)
A2.08E7
A1.90E7
280.9825 S:8 F:3
20:57 21:39 22:18 22:46 23:12 23:44 24:22 24:52 25:31 26:11 26:35 27:01 27:43
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
5.7E5
2.9E5
0.0E0
4.6E6
2.3E6
4.5E6
2.2E6
6.8E6
3.4E6

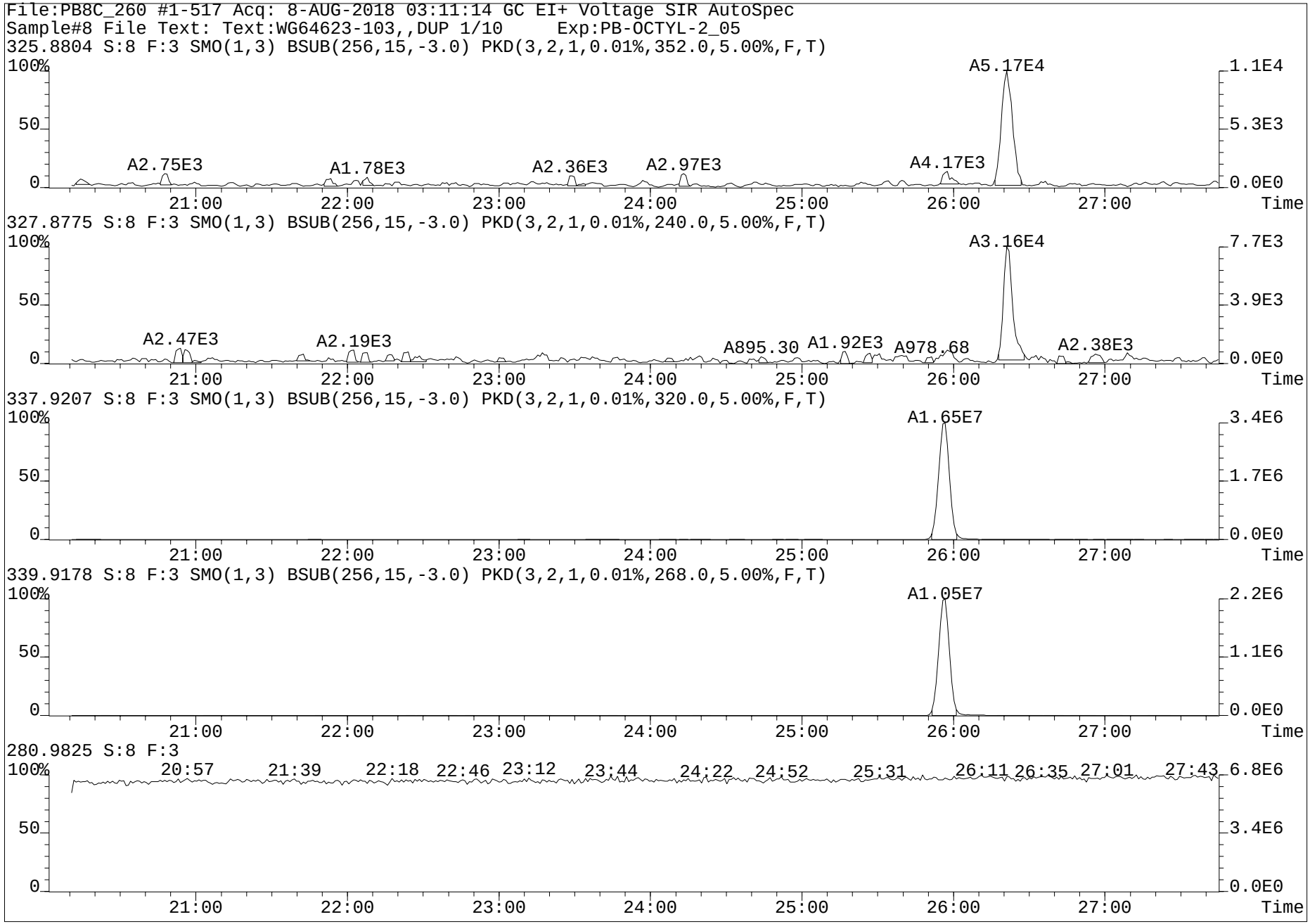

File:PB8C_260 #1-517 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
255.9613 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,800.0,5.00%,F,T)
A6.54E5
A7.28E5
A2.89E6
A1.02E6
A2.78E5
A5.17E5
257.9584 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A6.11E5
A7.28E5
A2.21E6
A2.84E6
A1.01E6
A2.54E5
A4.83E5
289.9224 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.18E5
A5.30E5
A5.44E6
A2.99E6
A3.73E6
A6.33E5
A8.87E5
A1.69E6
291.9199 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.56E5
A6.45E5
A6.80E6
A3.82E6
A4.76E6
A7.73E5
A1.08E6
A2.06E6
325.8804 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A2.75E3
A1.78E3
A2.36E3
A2.97E3
A4.17E3
A5.17E4
327.8775 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,240.0,5.00%,F,T)
A2.47E3
A2.19E3
A1.92E3
A2.38E3
A3.16E4
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.7E5
2.9E5
0.0E0
1.1E6
5.6E5
1.4E6
6.9E5
1.1E4
5.3E3
7.7E3
3.9E3

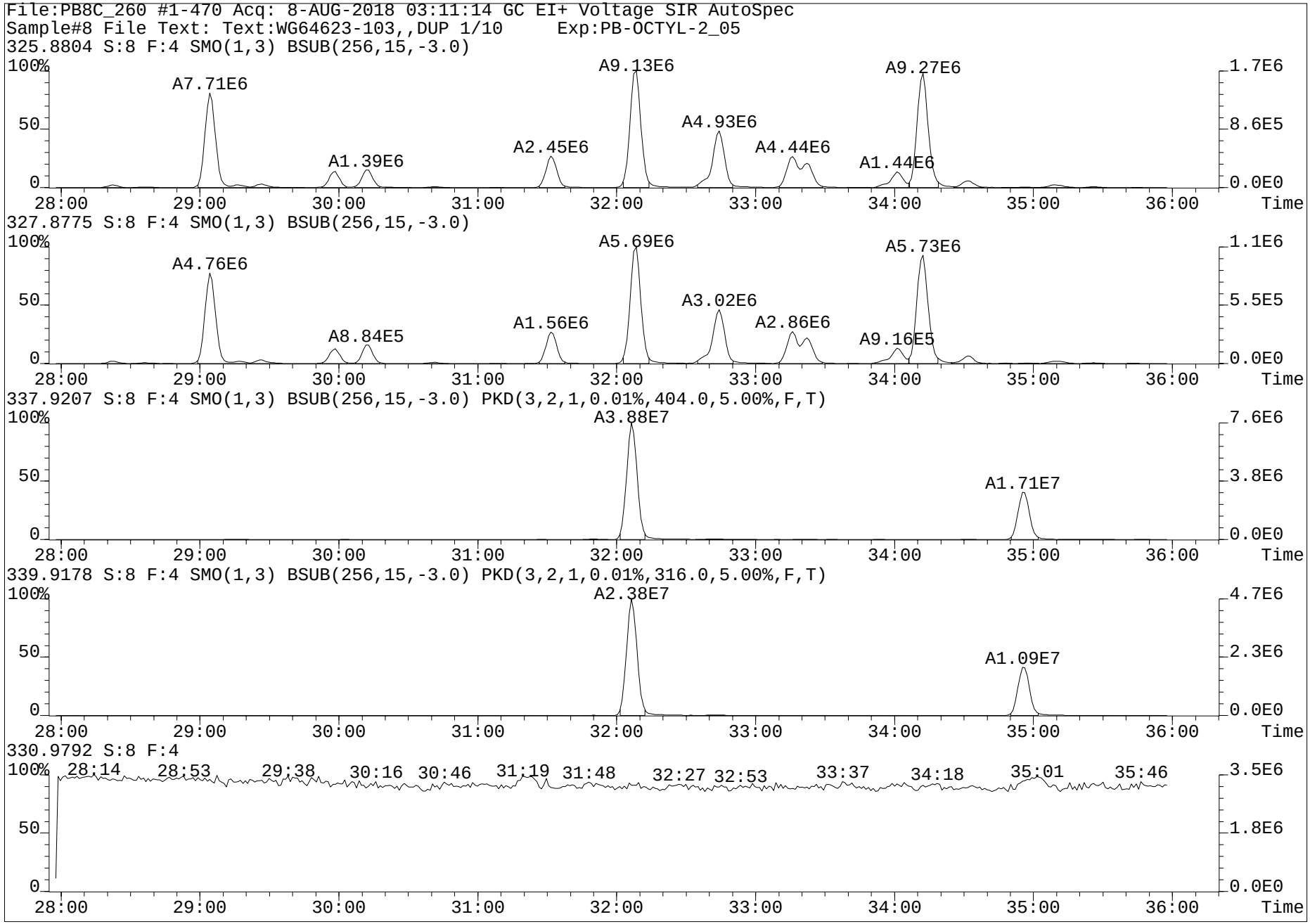

File:PB8C_260 #1-517 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
289.9224 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.44E6
A2.99E6
A3.73E6
A1.69E6
A6.33E5
A8.87E5
A5.18E5
A5.30E5
291.9199 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.80E6
A3.82E6
A4.76E6
A2.06E6
A7.73E5
A1.08E6
A6.56E5
A6.45E5
301.9626 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4360.0,5.00%,F,T)
A3.86E7
303.9597 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1588.0,5.00%,F,T)
A4.92E7
280.9825 S:8 F:3
20:57
21:39
22:18
22:46
23:12
23:44
24:22
24:52
25:31
26:11
26:35
27:01
27:43
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.1E6
5.6E5
0.0E0
1.4E6
6.9E5
8.2E6
4.1E6
1.0E7
5.2E6
6.8E6
3.4E6

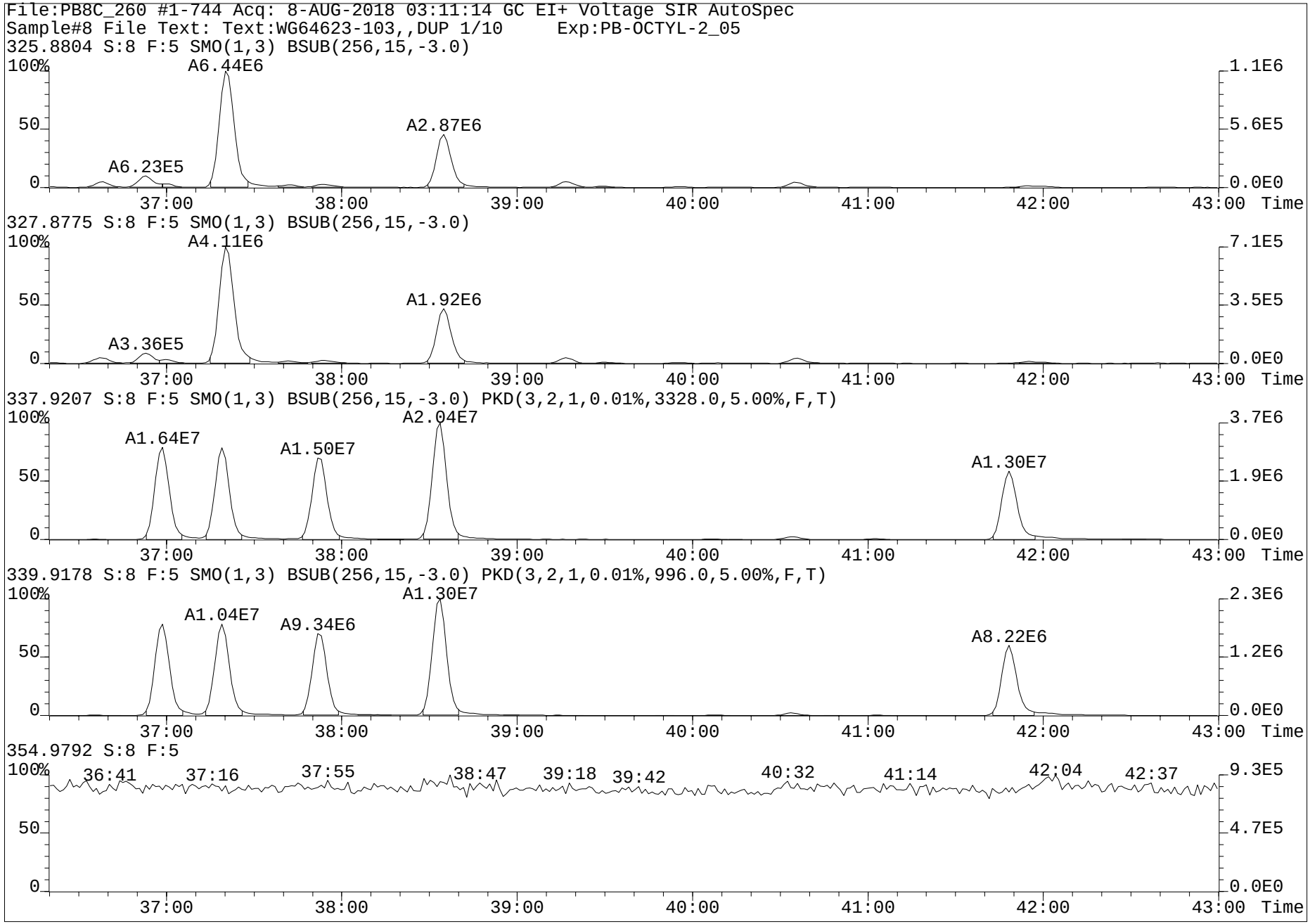

File:PB8C_260 #1-470 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
289.9224 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.90E6
A1.35E6
A6.83E5
A3.53E5
291.9194 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.74E6
A1.77E6
A8.77E5
A4.31E5
301.9626 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4660.0,5.00%,F,T)
A1.26E7
A1.36E7
303.9597 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2592.0,5.00%,F,T)
A1.66E7
A1.78E7
330.9792 S:8 F:4
28:14
28:53
29:38
30:16
30:46
31:19
31:48
32:27
32:53
33:37
34:18
35:01
35:46
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
7.4E5
3.7E5
0.0E0
9.6E5
4.8E5
2.2E6
1.1E6
3.0E6
1.5E6
3.5E6
1.8E6

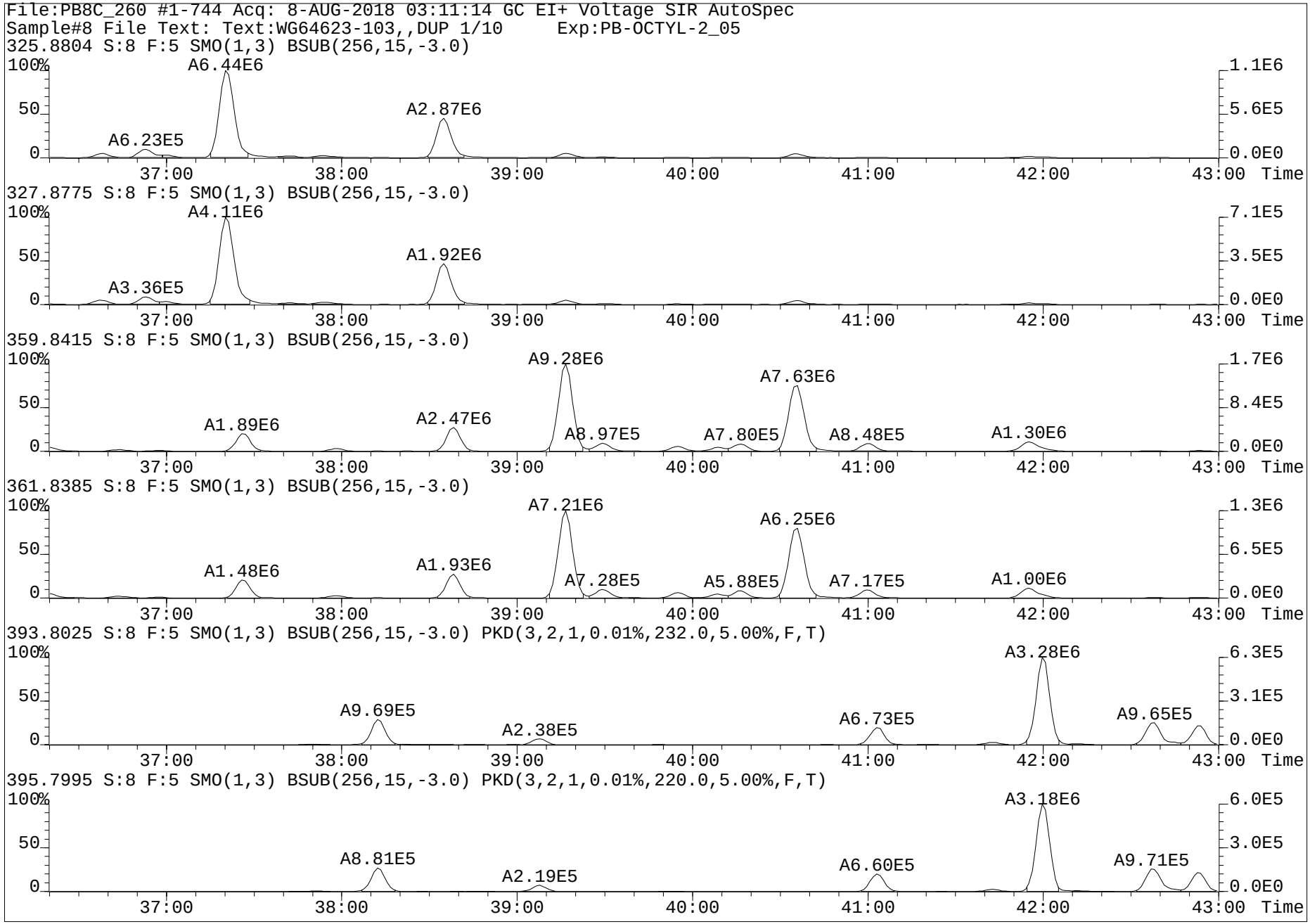

File:PB8C_260 #1-470 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
289.9224 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.90E6
A1.35E6
A6.83E5
A3.53E5
291.9194 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.74E6
A1.77E6
A8.77E5
A4.31E5
325.8804 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.71E6
A1.39E6
A2.45E6
A9.13E6
A4.93E6
A4.44E6
A9.27E6
A1.44E6
327.8775 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.76E6
A8.84E5
A1.56E6
A5.69E6
A3.02E6
A2.86E6
A5.73E6
A9.16E5
359.8415 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.11E6
A3.74E6
A3.65E5
361.8385 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.18E5
A2.88E6
A2.74E5
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
7.4E5
3.7E5
0.0E0
9.6E5
4.8E5
1.7E6
8.6E5
1.1E6
5.5E5
4.5E5
2.3E5
3.5E5
1.7E5

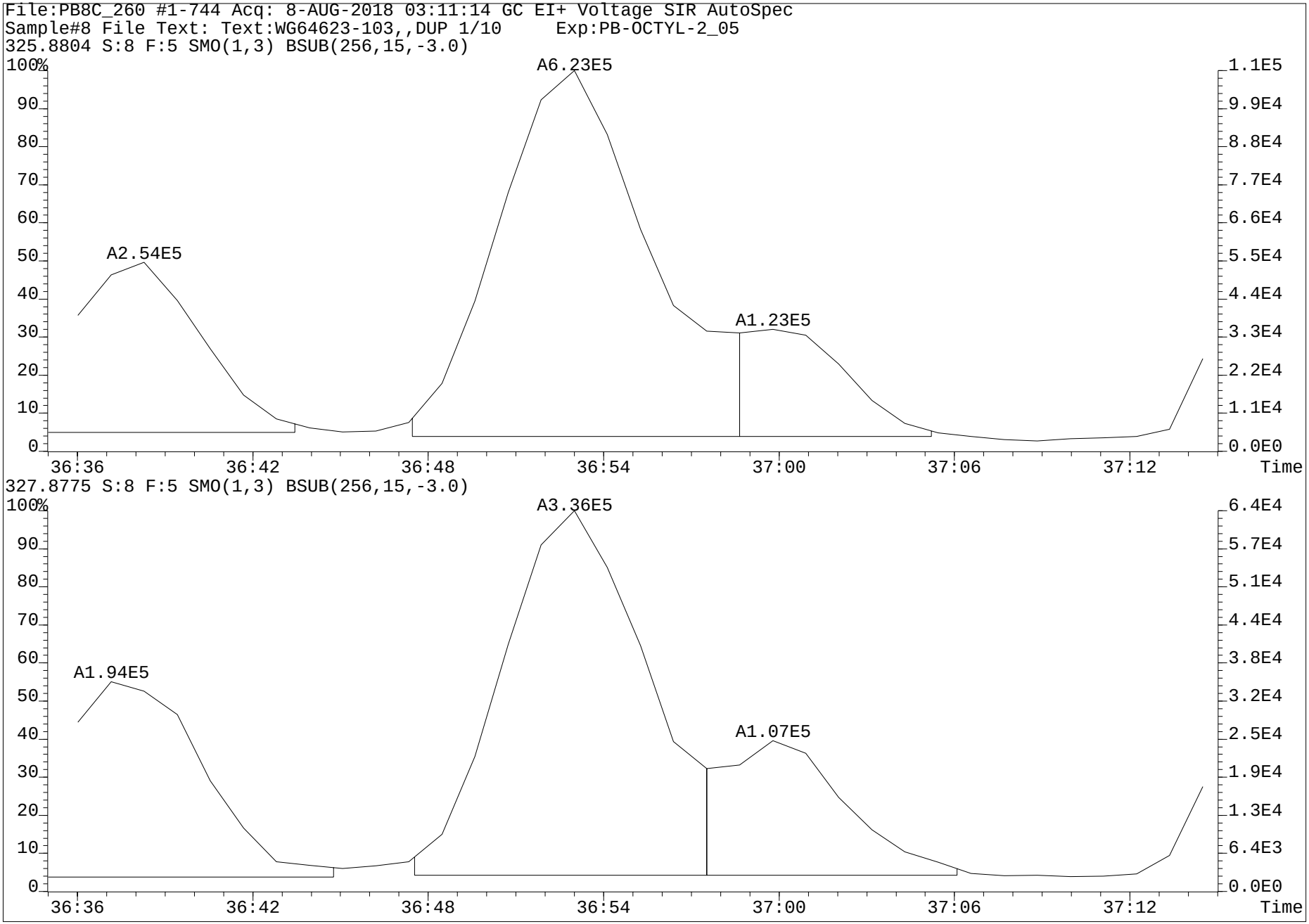

File:PB8C_260 #1-470 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
289.9224 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.12E5
A3.83E4
A3.52E4
A1.43E4
291.9194 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.44E5
A5.46E4
A5.50E4
A1.65E4
Time

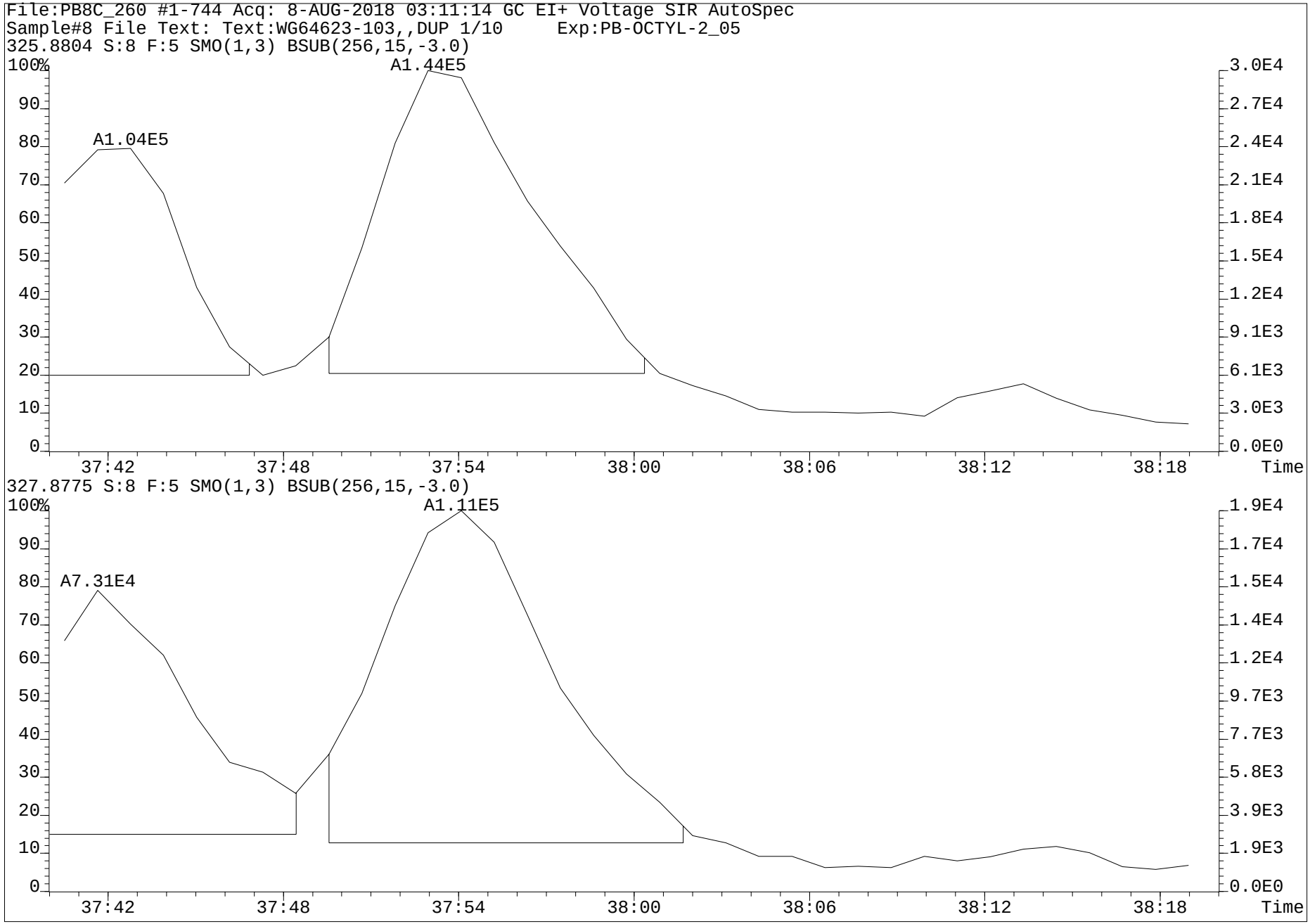

File:PB8C_260 #1-517 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A5.17E4
A2.75E3
A1.78E3
A2.36E3
A2.97E3
A4.17E3
327.8775 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,240.0,5.00%,F,T)
A3.16E4
A2.47E3
A2.19E3
A895.30
A1.92E3
A978.68
A2.38E3
337.9207 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A1.65E7
339.9178 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,268.0,5.00%,F,T)
A1.05E7
280.9825 S:8 F:3
20:57 21:39 22:18 22:46 23:12 23:44 24:22 24:52 25:31 26:11 26:35 27:01 27:43
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.1E4 5.3E3 0.0E0
7.7E3 3.9E3 0.0E0
3.4E6 1.7E6 0.0E0
2.2E6 1.1E6 0.0E0
6.8E6 3.4E6 0.0E0

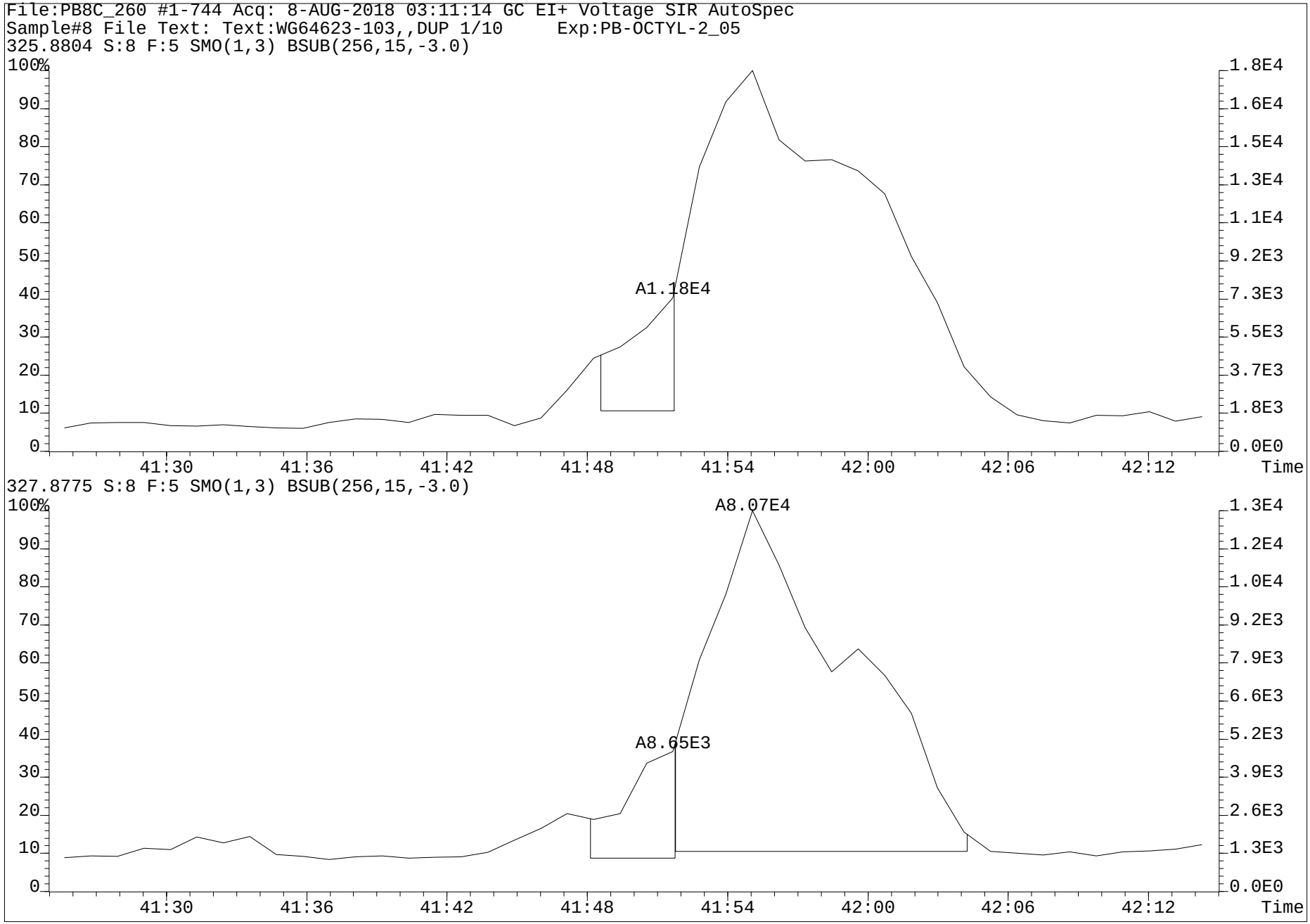

File:PB8C_260 #1-470 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.71E6
A1.39E6
A2.45E6
A9.13E6
A4.93E6
A4.44E6
A1.44E6
A9.27E6
327.8775 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.76E6
A8.84E5
A1.56E6
A5.69E6
A3.02E6
A2.86E6
A9.16E5
A5.73E6
337.9207 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A3.88E7
A1.71E7
339.9178 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A2.38E7
A1.09E7
330.9792 S:8 F:4
28:14 28:53 29:38 30:16 30:46 31:19 31:48 32:27 32:53 33:37 34:18 35:01 35:46
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
1.7E6 8.6E5 0.0E0
1.1E6 5.5E5 0.0E0
7.6E6 3.8E6 0.0E0
4.7E6 2.3E6 0.0E0
3.5E6 1.8E6 0.0E0

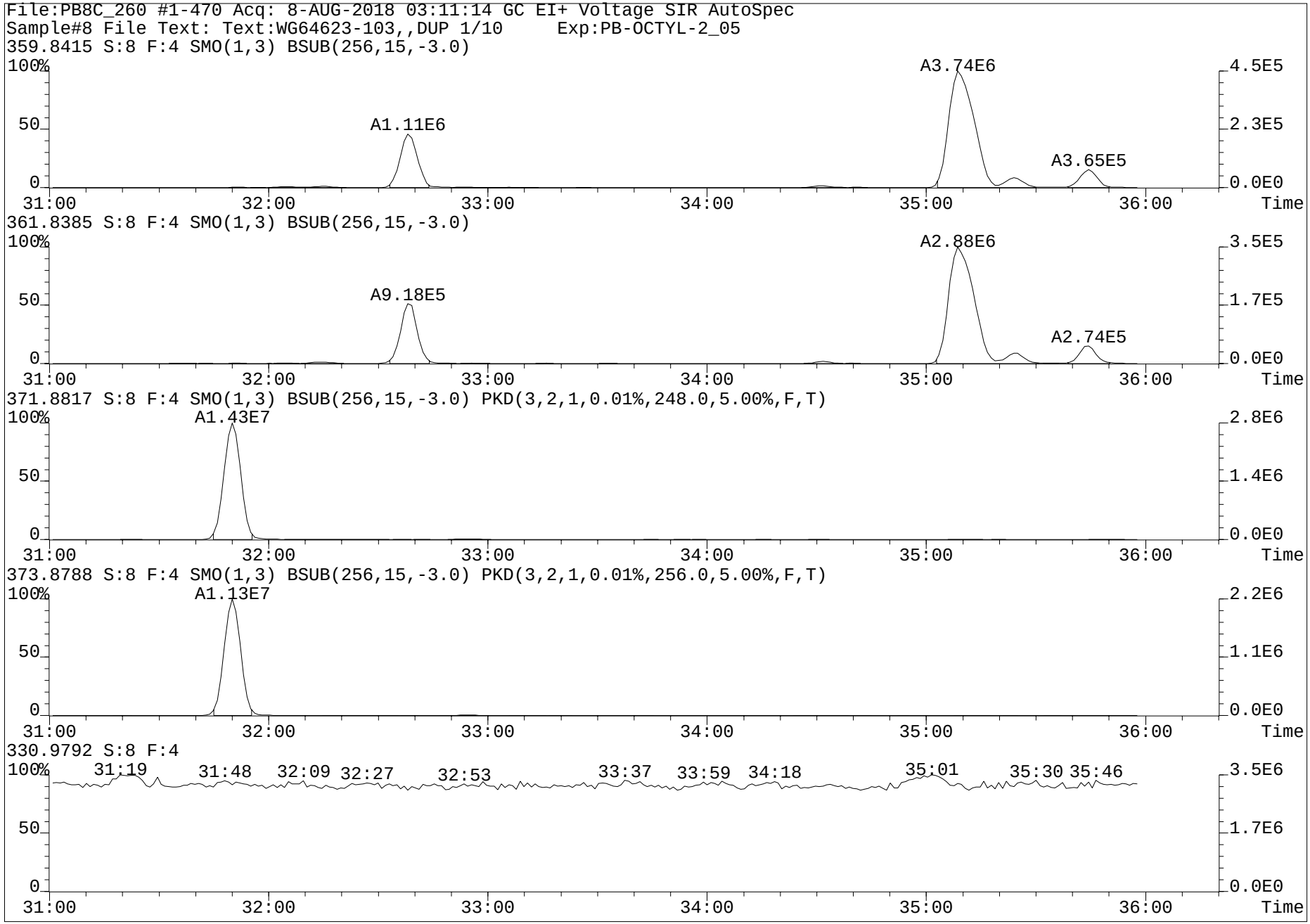

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.44E6
A2.87E6
A6.23E5
327.8775 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.11E6
A1.92E6
A3.36E5
337.9207 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3328.0,5.00%,F,T)
A2.04E7
A1.64E7
A1.50E7
A1.30E7
339.9178 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,996.0,5.00%,F,T)
A1.30E7
A1.04E7
A9.34E6
A8.22E6
354.9792 S:8 F:5
36:41
37:16
37:55
38:47
39:18
39:42
40:32
41:14
42:04
42:37
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
1.1E6
5.6E5
0.0E0
7.1E5
3.5E5
3.7E6
1.9E6
2.3E6
1.2E6
9.3E5
4.7E5

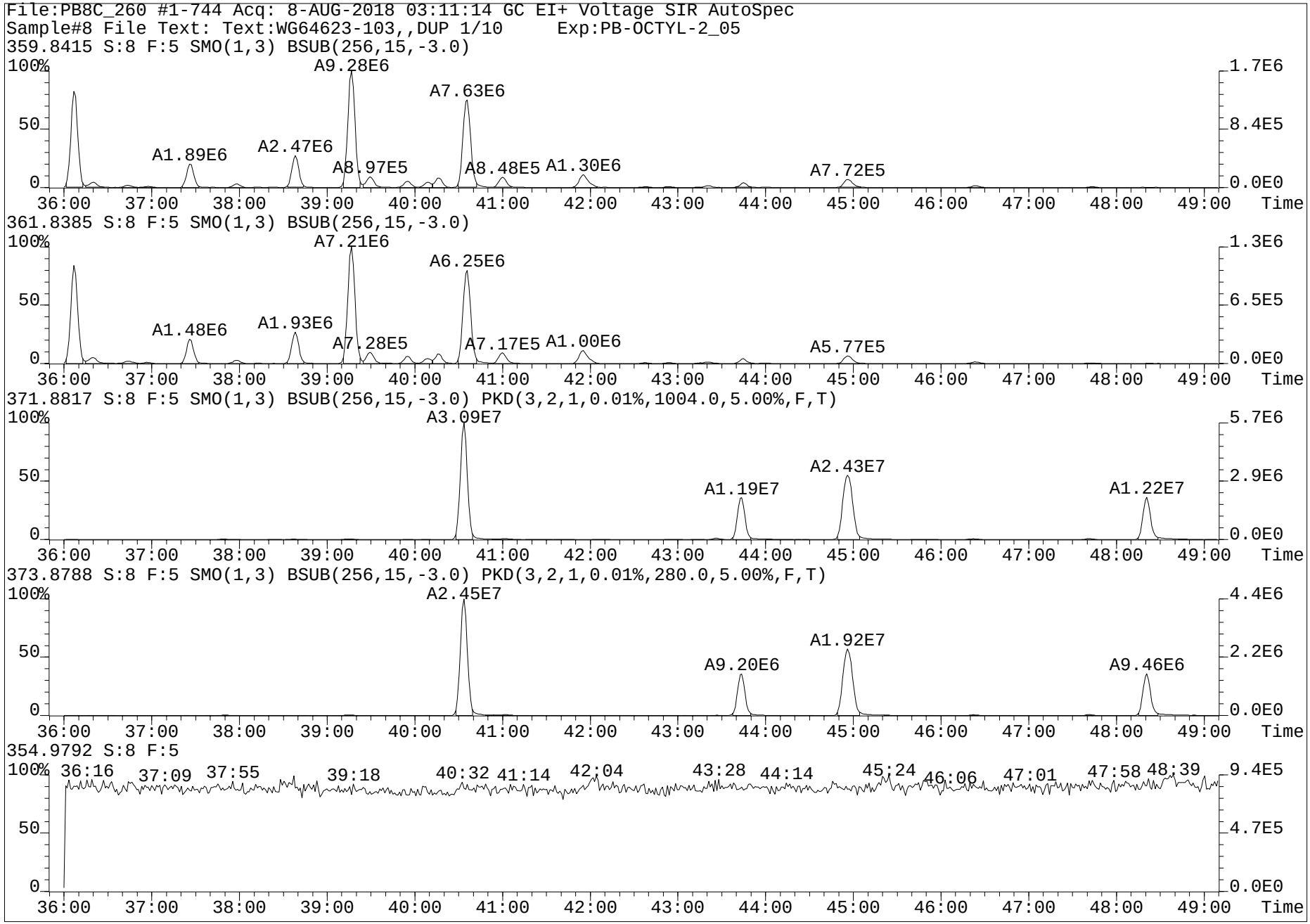

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.44E6
A2.87E6
A6.23E5
327.8775 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.11E6
A1.92E6
A3.36E5
359.8415 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.28E6
A7.63E6
A1.89E6
A2.47E6
A8.97E5
A7.80E5
A8.48E5
A1.30E6
361.8385 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.21E6
A6.25E6
A1.48E6
A1.93E6
A7.28E5
A5.88E5
A7.17E5
A1.00E6
393.8025 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A3.28E6
A9.69E5
A2.38E5
A6.73E5
A9.65E5
395.7995 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A3.18E6
A8.81E5
A2.19E5
A6.60E5
A9.71E5
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

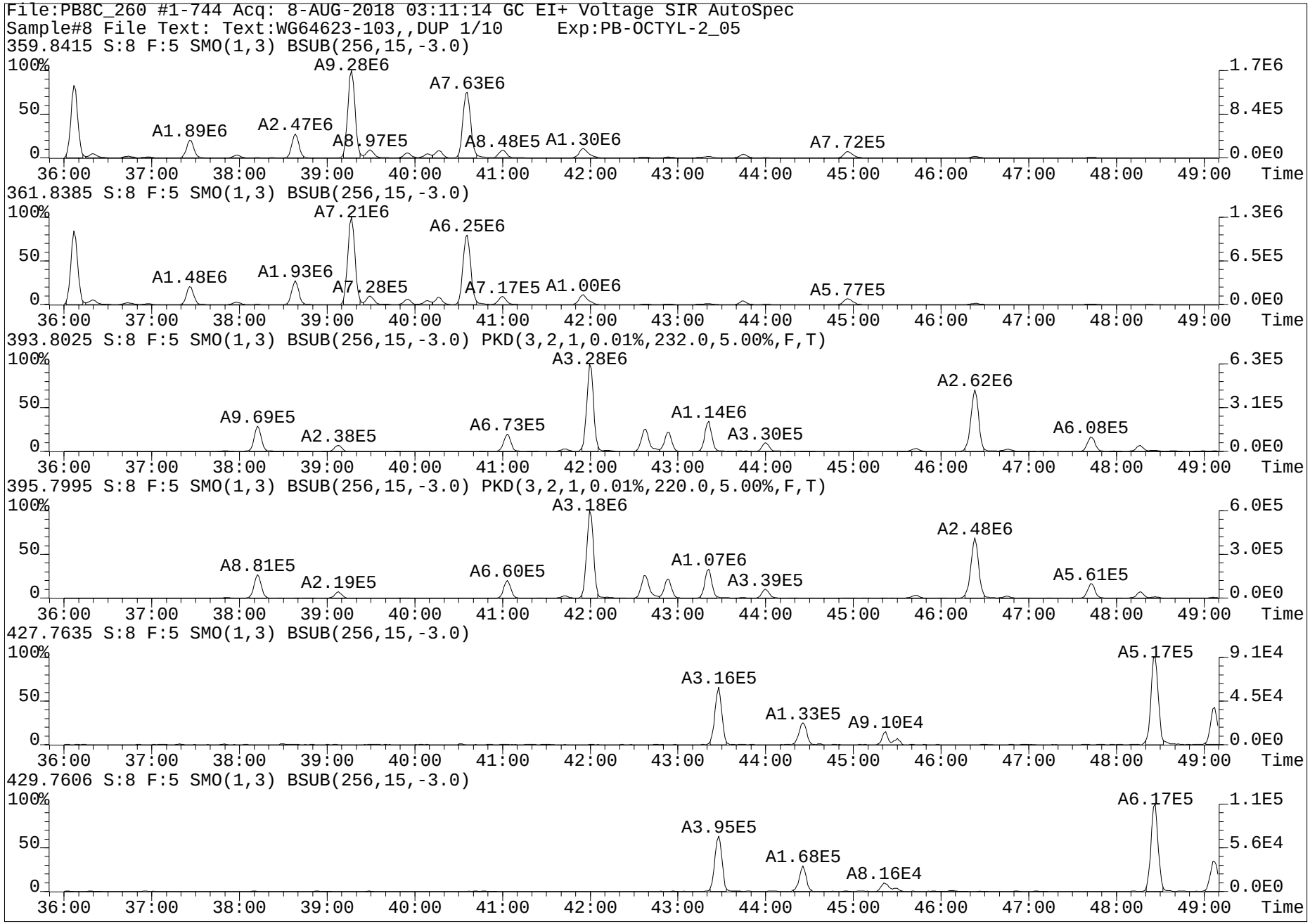

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.23E5
A2.54E5
A1.23E5
100%
90
80
70
60
50
40
30
20
10
0
1.1E5
9.9E4
8.8E4
7.7E4
6.6E4
5.5E4
4.4E4
3.3E4
2.2E4
1.1E4
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time
327.8775 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.36E5
A1.94E5
A1.07E5
100%
90
80
70
60
50
40
30
20
10
0
6.4E4
5.7E4
5.1E4
4.4E4
3.8E4
3.2E4
2.5E4
1.9E4
1.3E4
6.4E3
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time

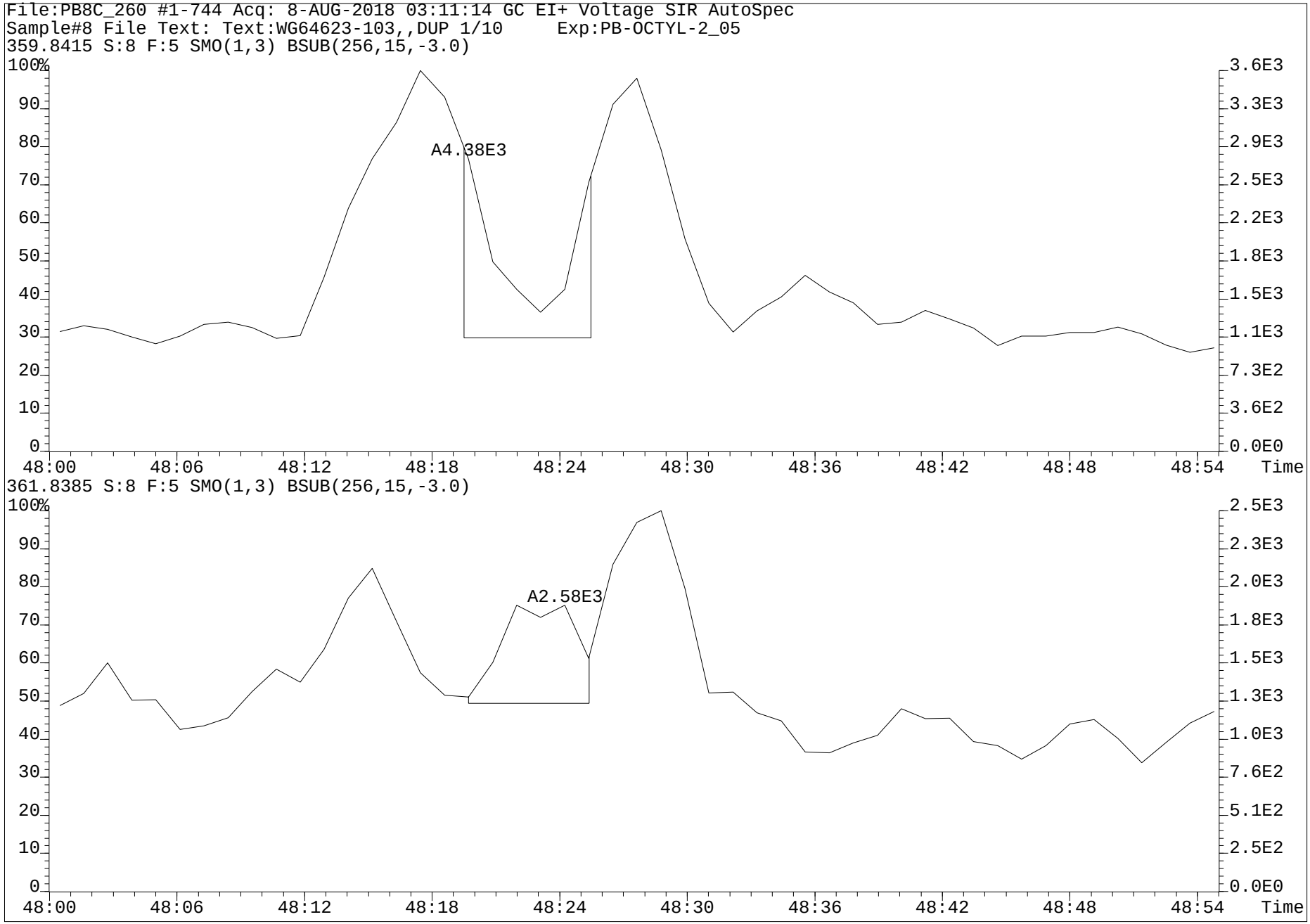

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.44E5
A1.04E5
100%
90
80
70
60
50
40
30
20
10
0
3.0E4
2.7E4
2.4E4
2.1E4
1.8E4
1.5E4
1.2E4
9.1E3
6.1E3
3.0E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.11E5
A7.31E4
100%
90
80
70
60
50
40
30
20
10
0
1.9E4
1.7E4
1.5E4
1.4E4
1.2E4
9.7E3
7.7E3
5.8E3
3.9E3
1.9E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

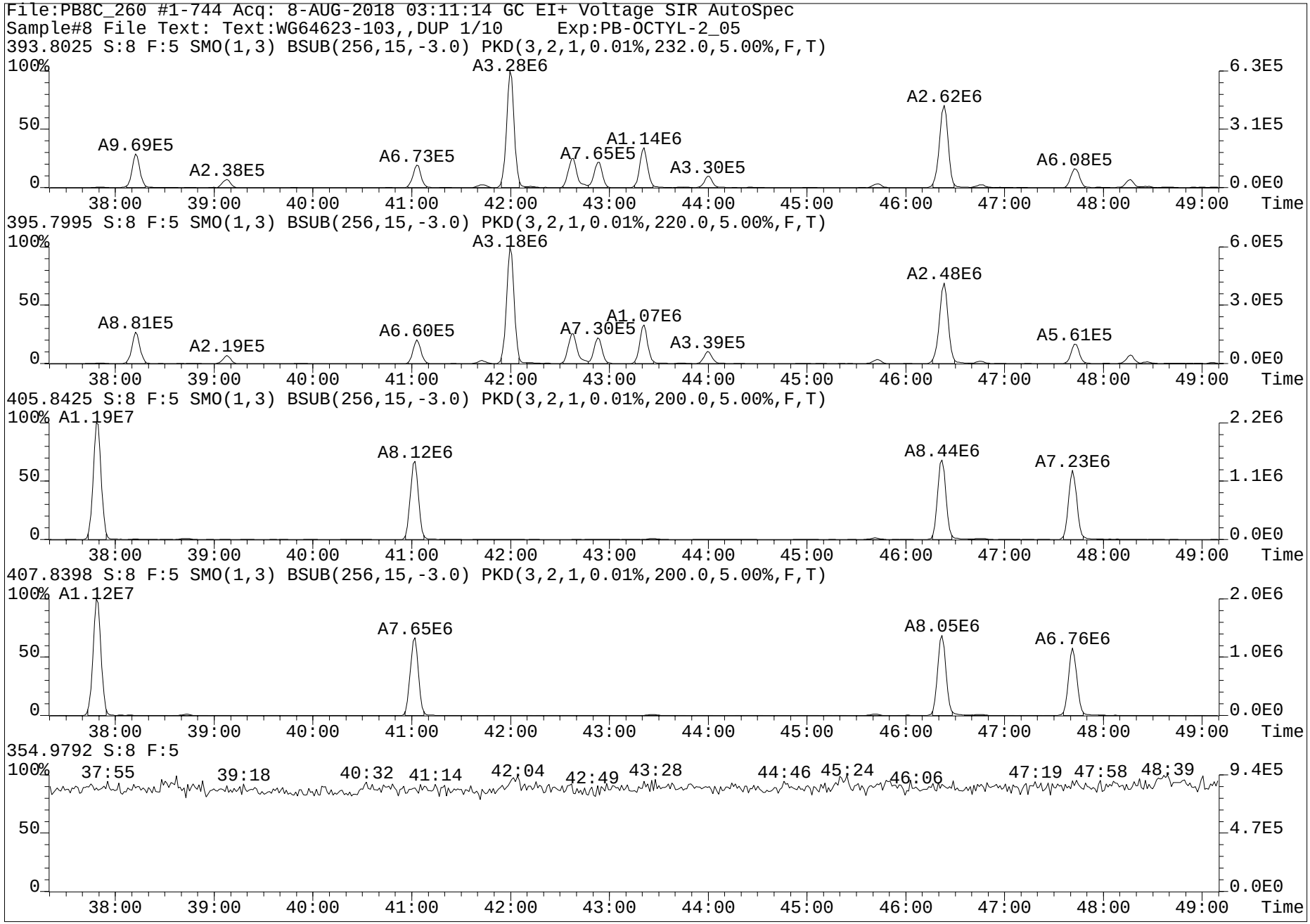

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
325.8804 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.18E4
327.8775 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.07E4
A8.65E3
Time

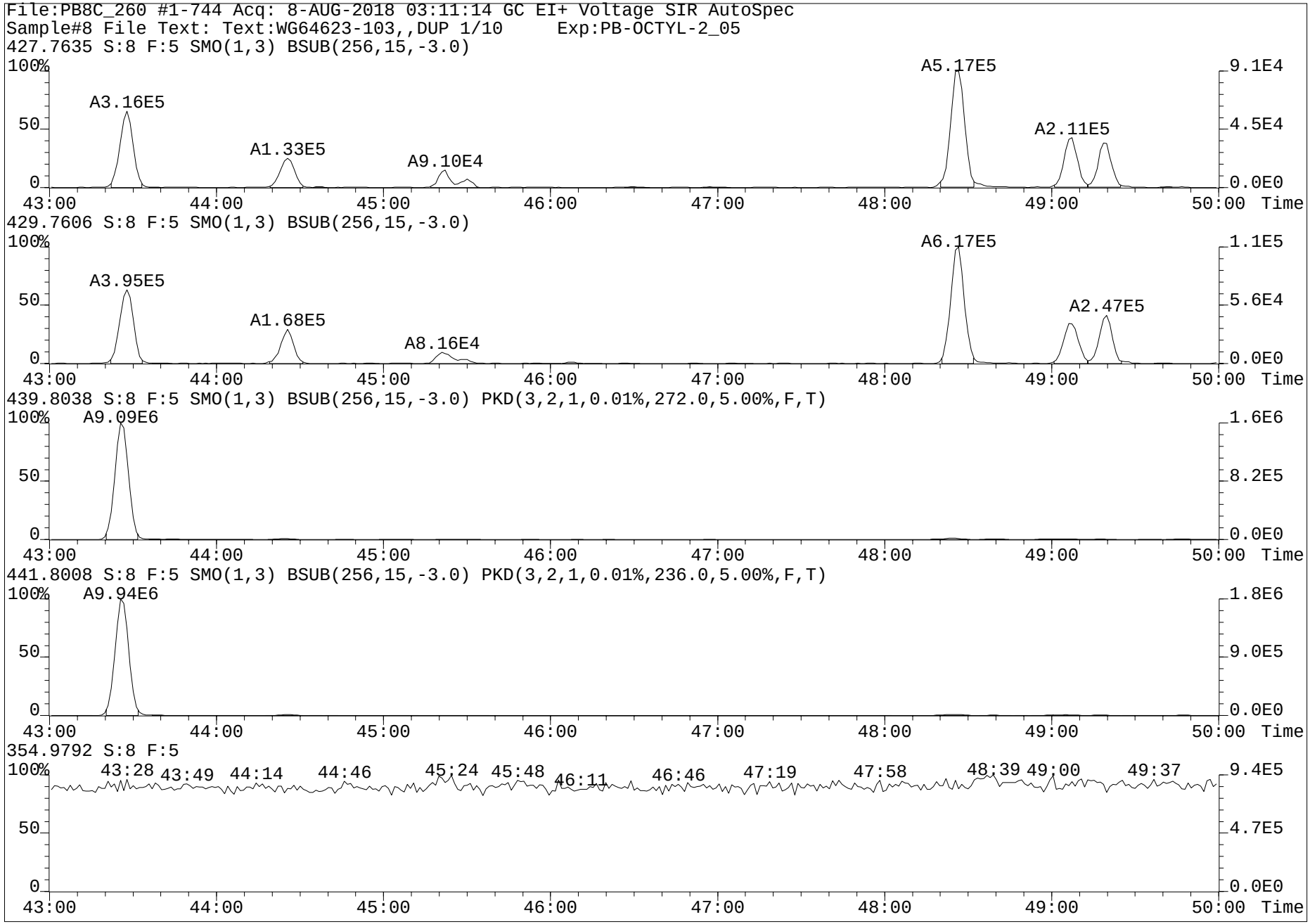

File:PB8C_260 #1-470 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
359.8415 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.11E6
A3.74E6
A3.65E5
361.8385 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.18E5
A2.88E6
A2.74E5
371.8817 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,248.0,5.00%,F,T)
A1.43E7
373.8788 S:8 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,256.0,5.00%,F,T)
A1.13E7
330.9792 S:8 F:4
31:19
31:48
32:09
32:27
32:53
33:37
33:59
34:18
35:01
35:30
35:46
100%
50
0
31:00
32:00
33:00
34:00
35:00
36:00
Time
4.5E5
2.3E5
0.0E0
3.5E5
1.7E5
2.8E6
1.4E6
2.2E6
1.1E6
3.5E6
1.7E6

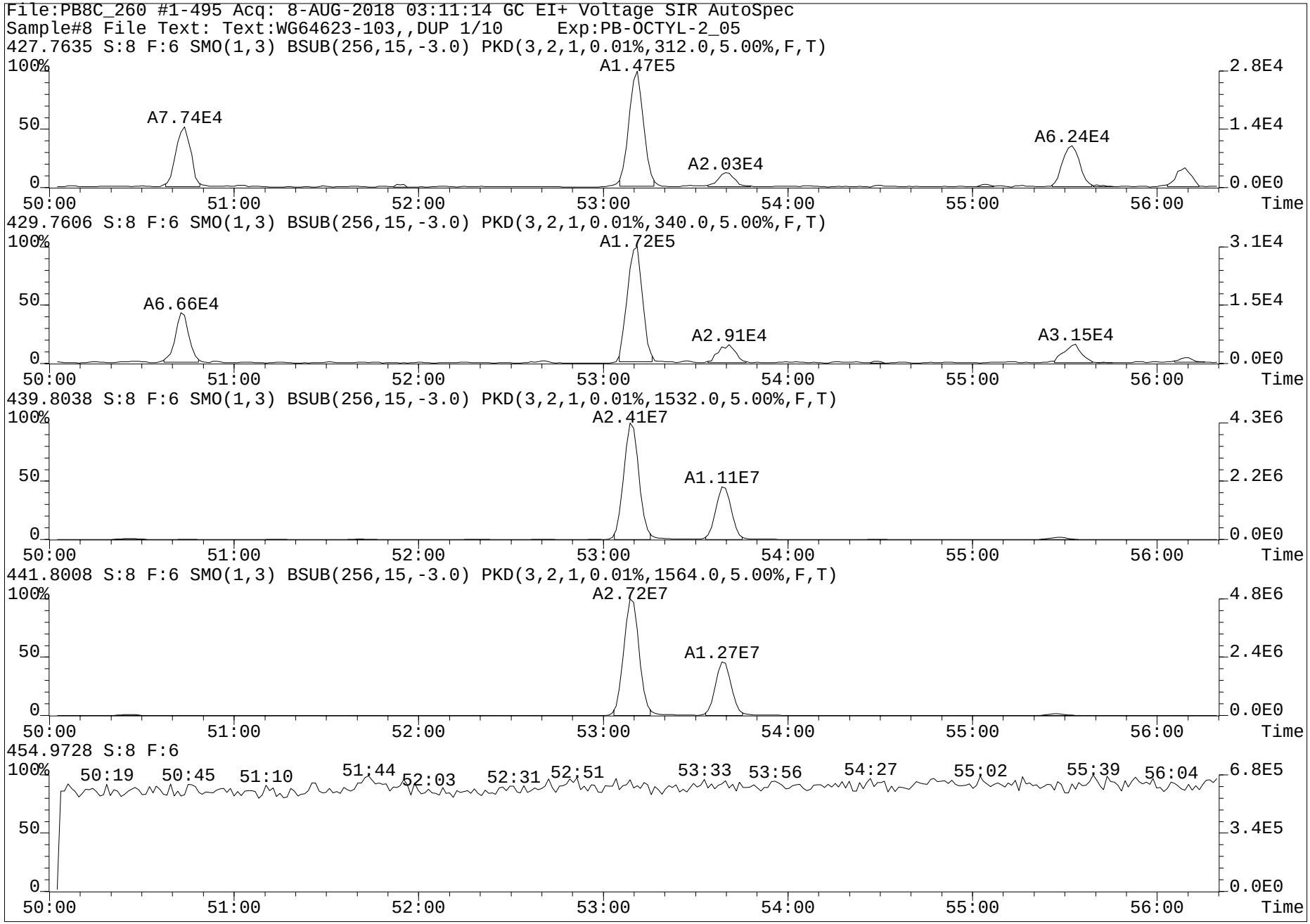

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
359.8415 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.28E6
A7.63E6
A1.89E6
A2.47E6
A8.97E5
A8.48E5
A1.30E6
A7.72E5
361.8385 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.21E6
A6.25E6
A1.48E6
A1.93E6
A7.28E5
A7.17E5
A1.00E6
A5.77E5
371.8817 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1004.0,5.00%,F,T)
A3.09E7
A2.43E7
A1.19E7
A1.22E7
373.8788 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A2.45E7
A1.92E7
A9.20E6
A9.46E6
354.9792 S:8 F:5
36:16
37:09
37:55
39:18
40:32
41:14
42:04
43:28
44:14
45:24
46:06
47:01
47:58
48:39
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
1.7E6
8.4E5
0.0E0
1.3E6
6.5E5
5.7E6
2.9E6
4.4E6
2.2E6
9.4E5
4.7E5

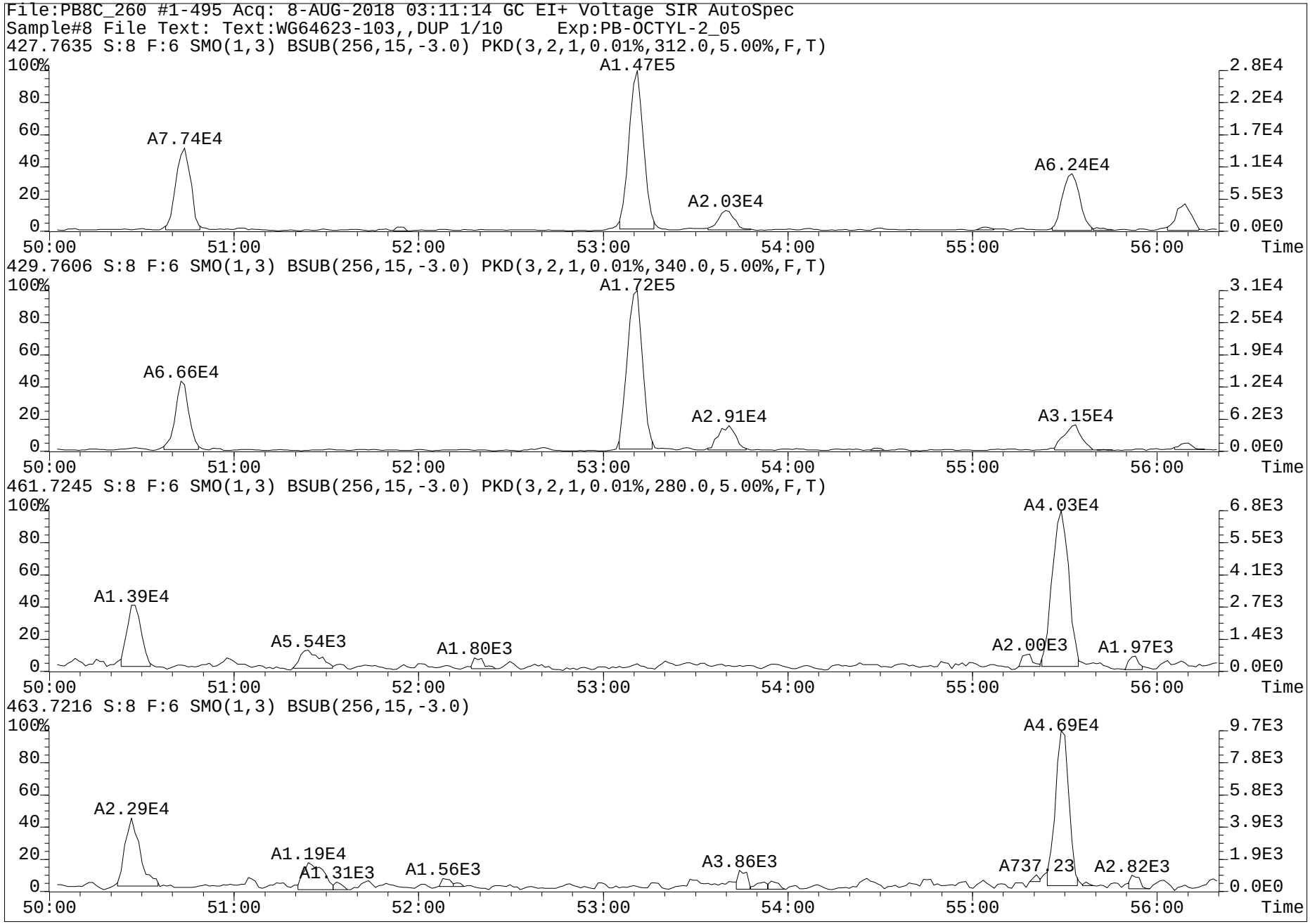

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
359.8415 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.28E6
A7.63E6
A1.89E6
A2.47E6
A8.97E5
A8.48E5
A1.30E6
A7.72E5
1.7E6
8.4E5
0.0E0
361.8385 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.21E6
A6.25E6
A1.48E6
A1.93E6
A7.28E5
A7.17E5
A1.00E6
A5.77E5
1.3E6
6.5E5
0.0E0
393.8025 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A3.28E6
A2.62E6
A9.69E5
A2.38E5
A6.73E5
A1.14E6
A3.30E5
A6.08E5
6.3E5
3.1E5
0.0E0
395.7995 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A3.18E6
A2.48E6
A8.81E5
A2.19E5
A6.60E5
A1.07E6
A3.39E5
A5.61E5
6.0E5
3.0E5
0.0E0
427.7635 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.17E5
A3.16E5
A1.33E5
A9.10E4
9.1E4
4.5E4
0.0E0
429.7606 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.17E5
A3.95E5
A1.68E5
A8.16E4
1.1E5
5.6E4
0.0E0
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

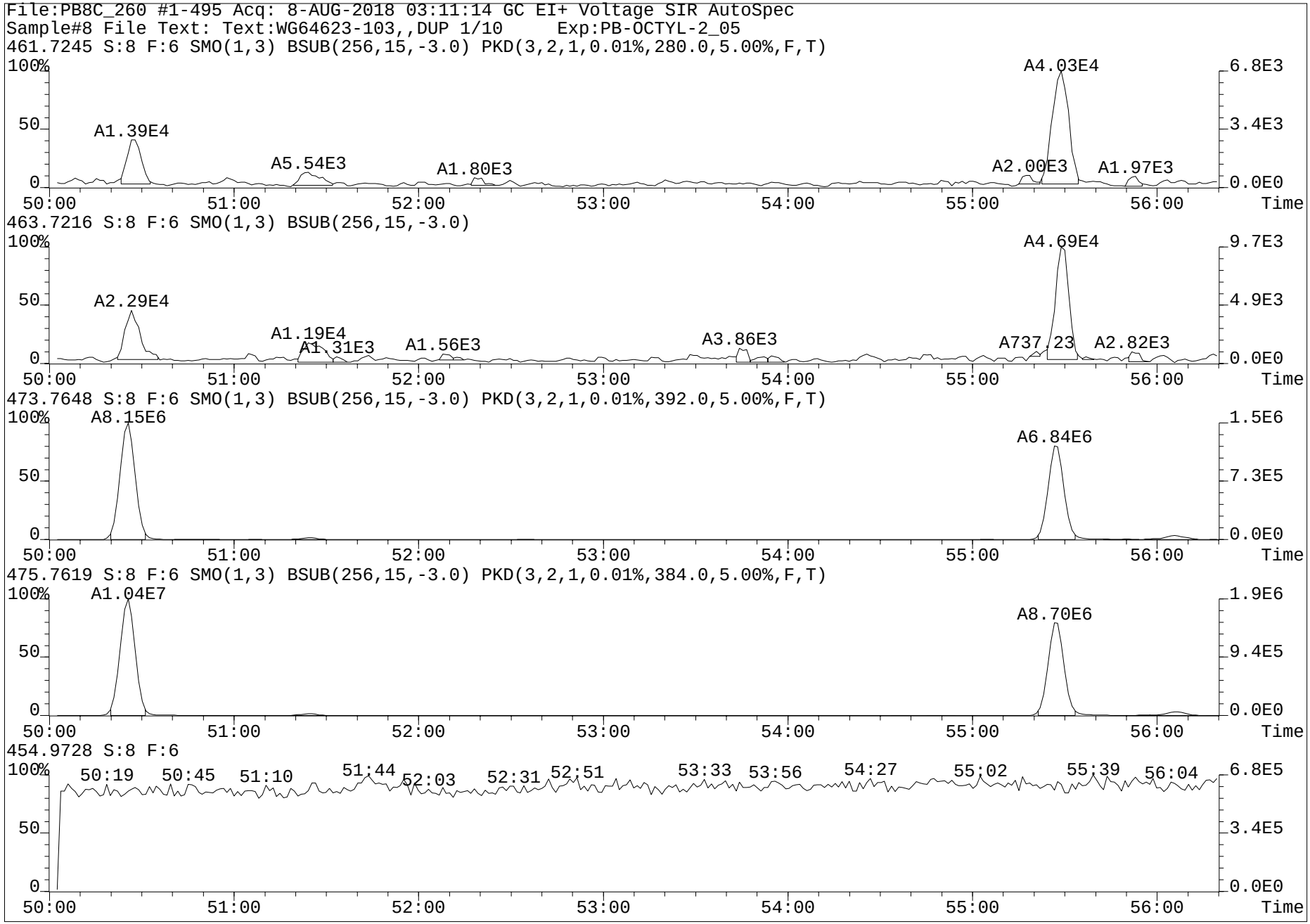

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
359.8415 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.38E3
361.8385 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.58E3
Time

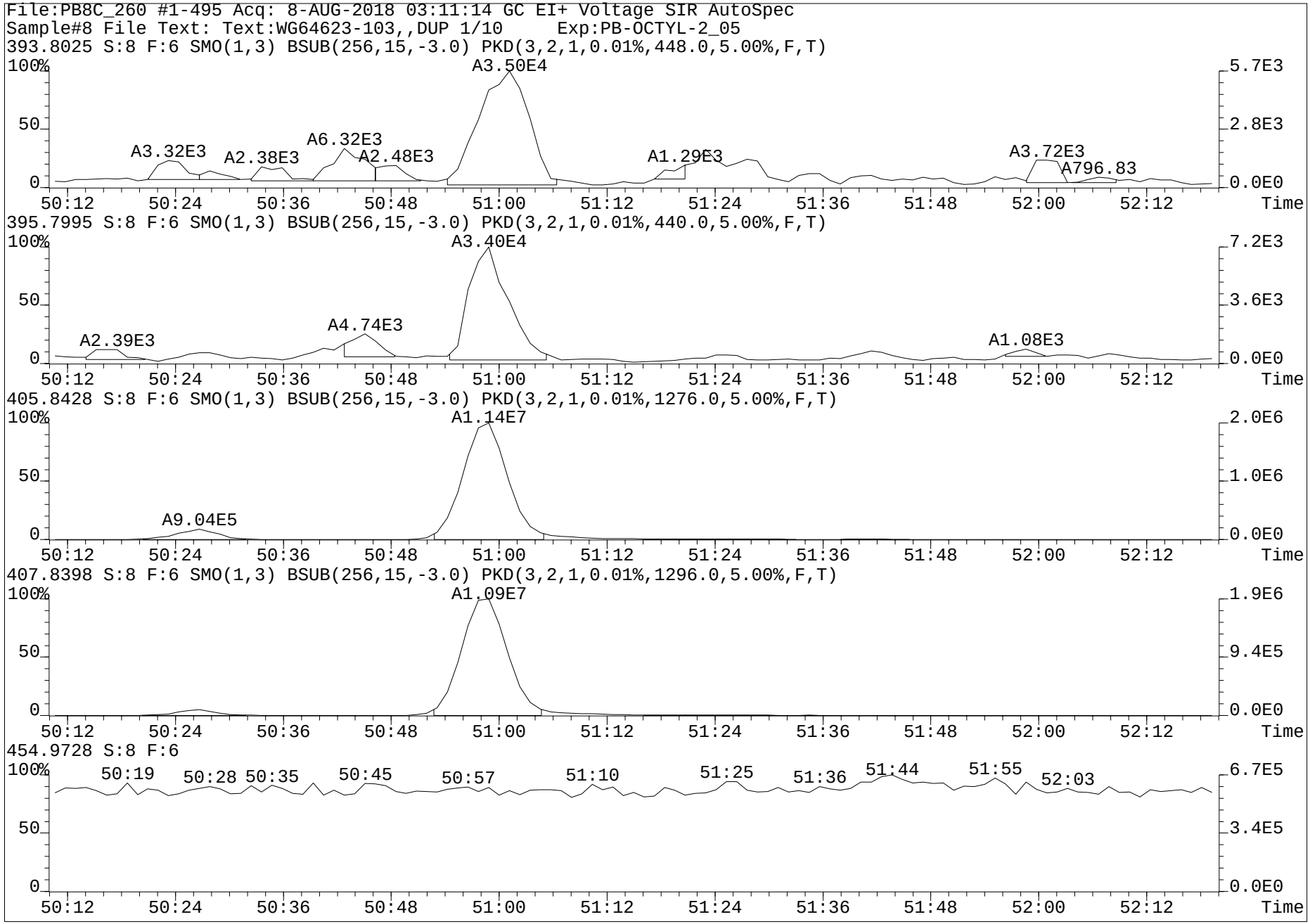

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
393.8025 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A9.69E5
A2.38E5
A6.73E5
A3.28E6
A7.65E5
A1.14E6
A3.30E5
A2.62E6
A6.08E5
395.7995 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A8.81E5
A2.19E5
A6.60E5
A3.18E6
A7.30E5
A1.07E6
A3.39E5
A2.48E6
A5.61E5
405.8425 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,200.0,5.00%,F,T)
A1.19E7
A8.12E6
A8.44E6
A7.23E6
407.8398 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,200.0,5.00%,F,T)
A1.12E7
A7.65E6
A8.05E6
A6.76E6
354.9792 S:8 F:5
37:55
39:18
40:32
41:14
42:04
42:49
43:28
44:46
45:24
46:06
47:19
47:58
48:39
100%
50
0
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
6.3E5
3.1E5
0.0E0
6.0E5
3.0E5
2.2E6
1.1E6
2.0E6
1.0E6
9.4E5
4.7E5

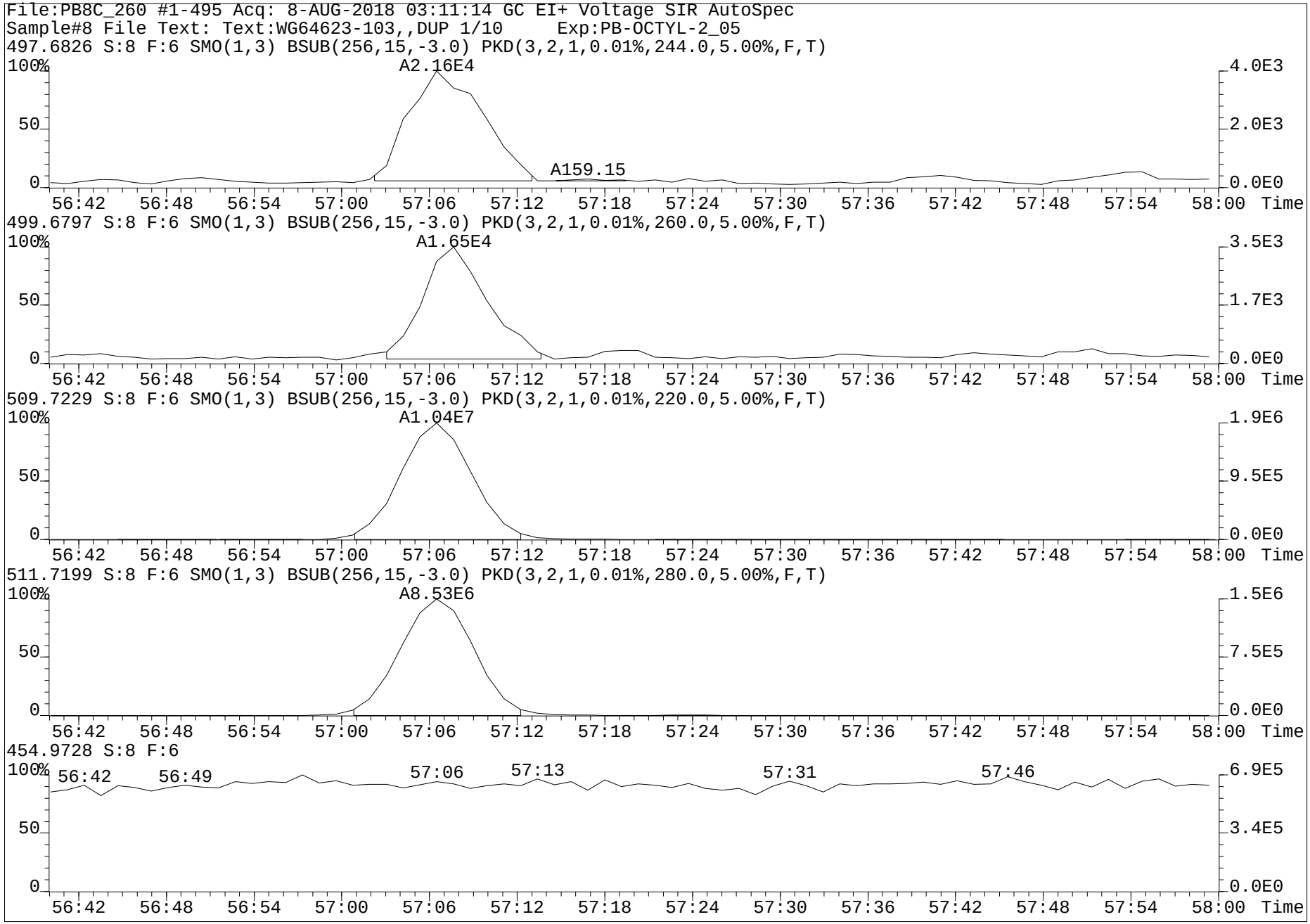

File:PB8C_260 #1-744 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
427.7635 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.16E5
A1.33E5
A9.10E4
A5.17E5
A2.11E5
429.7606 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.95E5
A1.68E5
A8.16E4
A6.17E5
A2.47E5
439.8038 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A9.09E6
441.8008 S:8 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A9.94E6
354.9792 S:8 F:5
43:28 43:49 44:14 44:46 45:24 45:48 46:11 46:46 47:19 47:58 48:39 49:00 49:37
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
9.1E4 4.5E4 0.0E0
1.1E5 5.6E4 0.0E0
1.6E6 8.2E5 0.0E0
1.8E6 9.0E5 0.0E0
9.4E5 4.7E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
427.7635 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
A1.47E5
A7.74E4
A2.03E4
A6.24E4
429.7606 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A1.72E5
A6.66E4
A2.91E4
A3.15E4
439.8038 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1532.0,5.00%,F,T)
A2.41E7
A1.11E7
441.8008 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1564.0,5.00%,F,T)
A2.72E7
A1.27E7
454.9728 S:8 F:6
50:19 50:45 51:10 51:44 52:03 52:31 52:51 53:33 53:56 54:27 55:02 55:39 56:04
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
2.8E4 1.4E4 0.0E0
3.1E4 1.5E4 0.0E0
4.3E6 2.2E6 0.0E0
4.8E6 2.4E6 0.0E0
6.8E5 3.4E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
427.7635 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
A1.47E5
A7.74E4
A2.03E4
A6.24E4
429.7606 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A1.72E5
A6.66E4
A2.91E4
A3.15E4
461.7245 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A4.03E4
A1.39E4
A5.54E3
A1.80E3
A2.00E3
A1.97E3
463.7216 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0)
A4.69E4
A2.29E4
A1.19E4
A1.31E3
A1.56E3
A3.86E3
A737.23
A2.82E3
Time


File:PB8C_260 #1-495 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
461.7245 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A1.39E4
A5.54E3
A1.80E3
A2.00E3
A4.03E4
A1.97E3
463.7216 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0)
A2.29E4
A1.19E4
A1.31E3
A1.56E3
A3.86E3
A737 23
A4.69E4
A2.82E3
473.7648 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A8.15E6
A6.84E6
475.7619 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A1.04E7
A8.70E6
454.9728 S:8 F:6
50:19
50:45
51:10
51:44
52:03
52:31
52:51
53:33
53:56
54:27
55:02
55:39
56:04
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
6.8E3
3.4E3
0.0E0
9.7E3
4.9E3
1.5E6
7.3E5
1.9E6
9.4E5
6.8E5
3.4E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
393.8025 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A3.50E4
A3.32E3
A2.38E3
A6.32E3
A2.48E3
A1.29E3
A3.72E3
A796.83
395.7995 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A3.40E4
A2.39E3
A4.74E3
A1.08E3
405.8428 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1276.0,5.00%,F,T)
A1.14E7
A9.04E5
407.8398 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1296.0,5.00%,F,T)
A1.09E7
454.9728 S:8 F:6
50:19
50:28
50:35
50:45
50:57
51:10
51:25
51:36
51:44
51:55
52:03
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
5.7E3
2.8E3
0.0E0
7.2E3
3.6E3
2.0E6
1.0E6
1.9E6
9.4E5
6.7E5
3.4E5

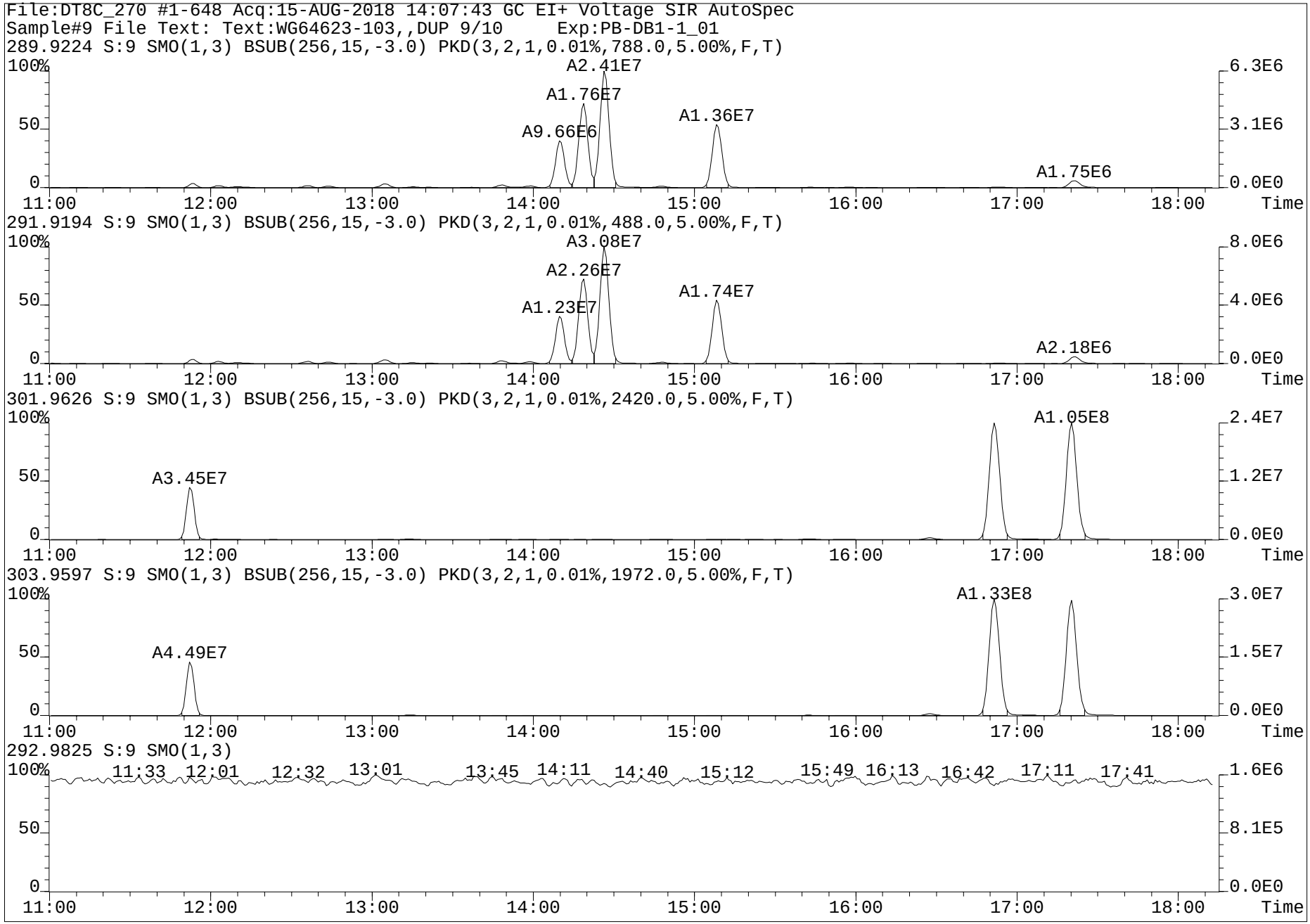

File:PB8C_260 #1-495 Acq: 8-AUG-2018 03:11:14 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:WG64623-103,,DUP 1/10 Exp:PB-OCTYL-2_05
497.6826 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,244.0,5.00%,F,T)
A2.16E4
A159.15
499.6797 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A1.65E4
509.7229 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A1.04E7
511.7199 S:8 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A8.53E6
454.9728 S:8 F:6
56:42
56:49
57:06
57:13
57:31
57:46
100%
50
0
4.0E3
2.0E3
0.0E0
3.5E3
1.7E3
1.9E6
9.5E5
1.5E6
7.5E5
6.9E5
3.4E5
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

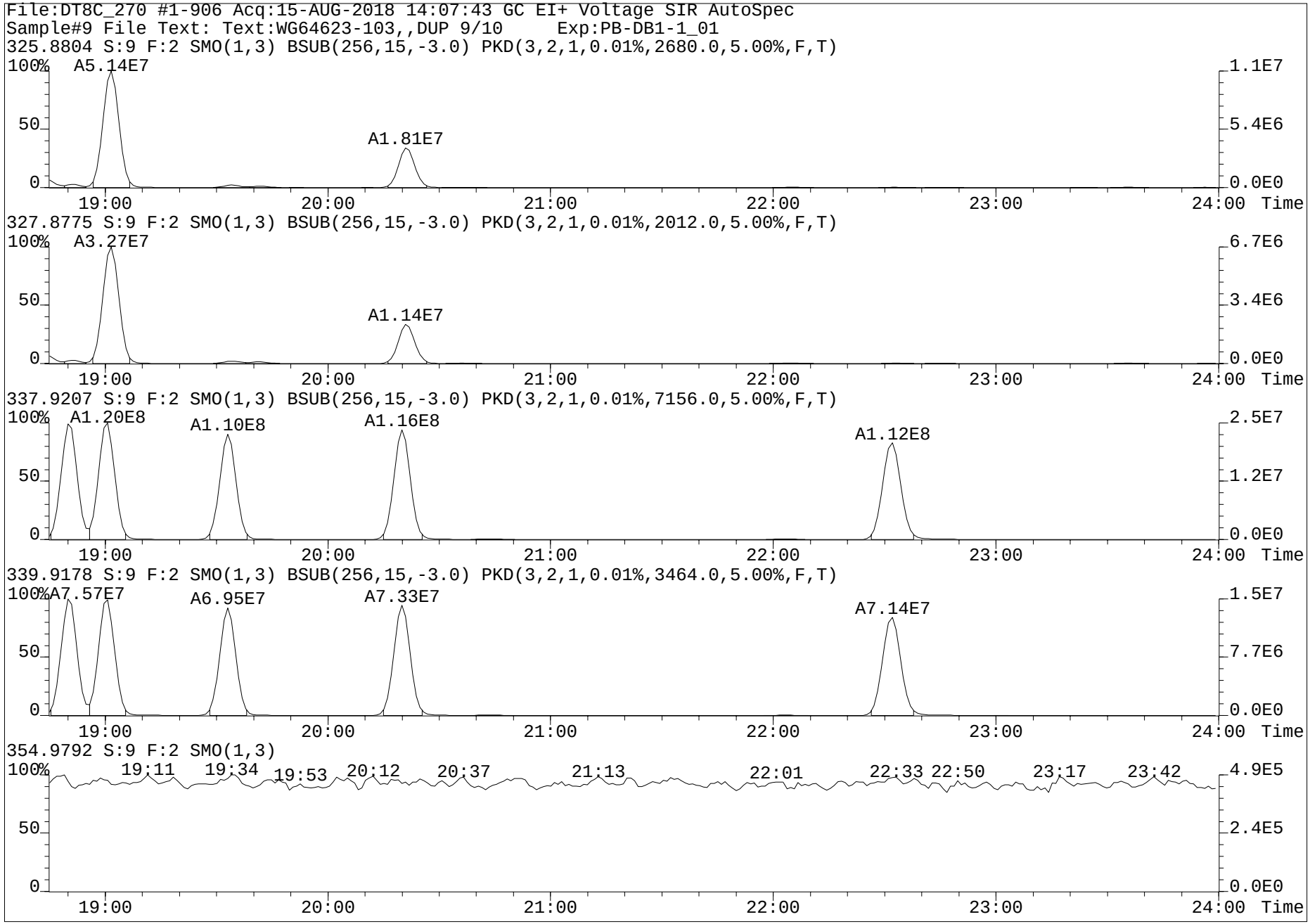
Run #15 Filename DT8C_270 S: 9 I: 1 Acquired: 15-AUG-18 14:07:43 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-103,,DUP 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.180000 conc units: pg/g total toxicity: 1998.06 F1: 1.0000 F2: 5.0000

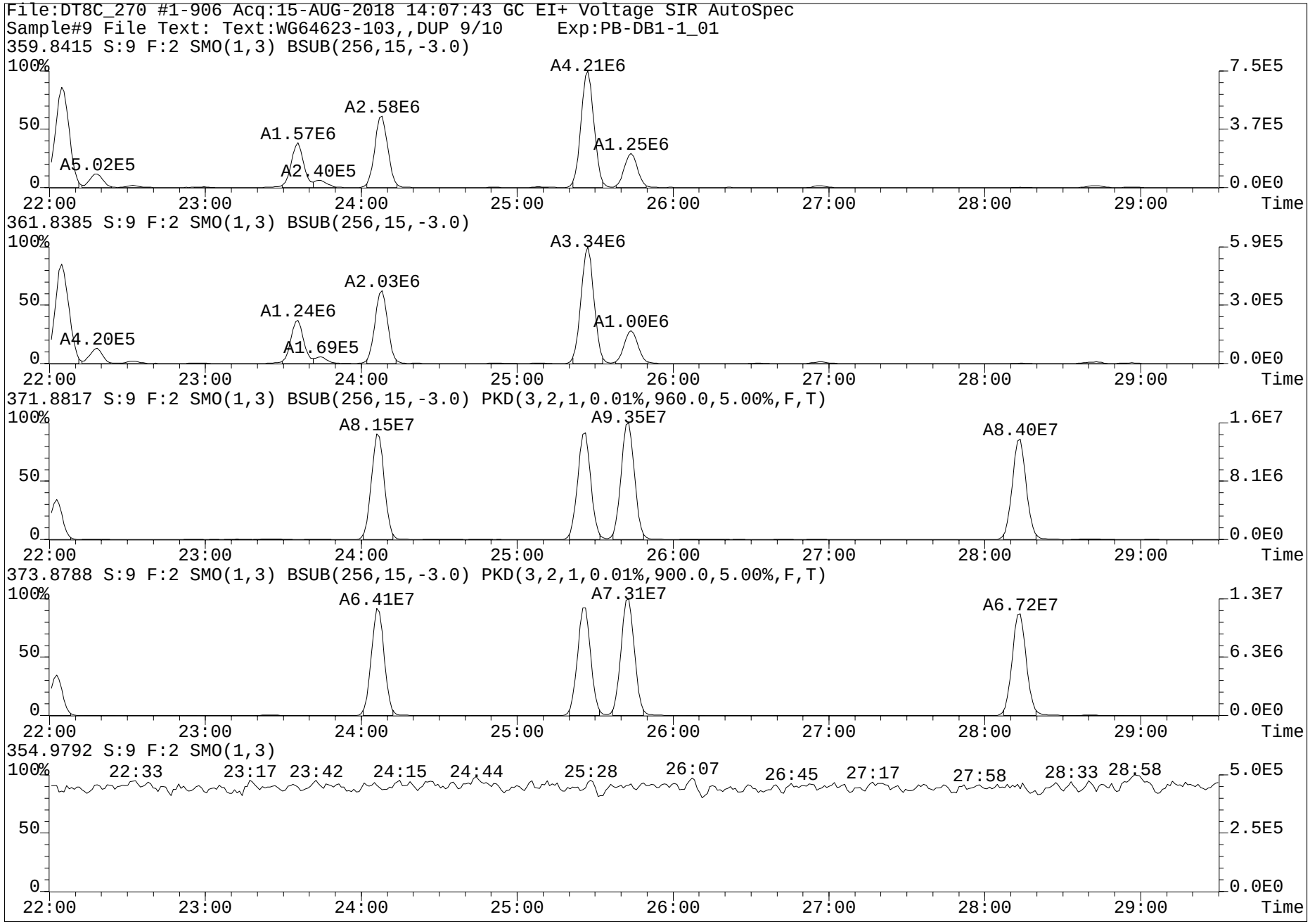
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	2.60e+05	0.81	y	16:53	2.036	2	0.1093	-	n
2	Unk	CL4-PCB-77	1	3.93e+06	0.80	y	17:21	30.356	30	0.1089	-	n
3	Unk	CL5-PCB-123	1	1.97e+06	1.62	y	18:52	18.788	19	0.5513	-	n
4	Unk	CL5-PCB-118	1	8.41e+07	1.57	y	19:02	771.156	771	0.5270	-	n
5	Unk	CL5-PCB-114	1	1.82e+06	1.75	y	19:34	17.211	17	0.5465	-	n
6	Unk	CL5-PCB-105	1	2.96e+07	1.59	y	20:21	288.839	289	0.5754	-	n
7	Unk	CL5-PCB-126	1	1.84e+05	1.59	y	22:33	1.829	2	0.6393	-	n
8	Unk	CL6-PCB-167	1	4.61e+06	1.27	y	24:07	53.099	53	0.2537	-	y
9	Unk	CL6-PCB-156	1	7.55e+06	1.26	y	25:26	84.509	85	0.2553	-	n
10	Unk	CL6-PCB-157	1	2.25e+06	1.25	y	25:43	23.580	24	0.2414	-	y
11	Unk	CL6-PCB-169	1	1.05e+04	1.57	n	28:15	0.124	0	0.2858	-	y
12	Unk	CL7-PCB-180	1	1.79e+06	0.99	y	26:56	541.064	541	4.6954	-	n
13	Unk	CL7-PCB-170	1	1.31e+06	1.09	y	28:42	160.277	160	1.9331	-	n
14	Unk	CL7-PCB-189	1	3.25e+05	0.85	n	31:03	5.192	5	0.2589	-	n
15	IS	13C-CL4-PCB-81	1	2.36e+08	0.78	y	16:51	4621.113	0	0.6943	239.4	n
16	IS	13C-CL4-PCB-77	1	2.37e+08	0.79	y	17:20	4711.814	0	0.7048	244.1	n
17	IS	13C-CL5-PCB-123	1	1.96e+08	1.60	y	18:50	4485.093	0	2.4834	232.3	n
18	IS	13C-CL5-PCB-118	1	1.96e+08	1.60	y	19:00	4343.319	0	2.4146	225.0	n
19	IS	13C-CL5-PCB-114	1	1.79e+08	1.58	y	19:33	4361.488	0	2.6453	225.9	n
20	IS	13C-CL5-PCB-105	1	1.90e+08	1.59	y	20:20	4558.902	0	2.6154	236.2	n
21	IS	13C-CL5-PCB-126	1	1.84e+08	1.57	y	22:32	4888.957	0	2.8948	253.2	n
22	IS	13C-CL6-PCB-167	1	1.46e+08	1.27	y	24:06	4570.647	0	0.7636	236.8	n
23	IS	13C-CL6-PCB-156	1	1.52e+08	1.26	y	25:26	4670.768	0	0.7498	241.9	n
24	IS	13C-CL6-PCB-157	1	1.67e+08	1.28	y	25:43	4606.460	0	0.6723	238.6	n
25	IS	13C-CL6-PCB-169	1	1.51e+08	1.25	y	28:13	4889.415	0	0.7863	253.3	n
26	IS	13C-CL7-PCB-180	1	6.66e+06	1.04	y	26:55	277.958	0	0.5112	14.4	n
27	IS	13C-CL7-PCB-170	1	1.71e+07	1.07	y	28:41	872.752	0	0.6264	45.2	n
28	IS	13C-CL7-PCB-189	1	1.22e+08	1.05	y	31:01	4753.121	0	0.4776	246.2	n
29	IS	13C-CL10-PCB-209	1	1.63e+06	1.12	y	34:37	55.127	0	0.4143	2.9	n
30	RS	13C-CL4-PCB-52	1	7.95e+07	0.77	y	11:52	38.400	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.61e+07	1.61	y	15:42	38.030	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	5.15e+07	1.26	y	22:03	38.691	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	4.03e+07	1.61	y	17:04	1122.981	0	0.4594	58.2	n
34	C/Up	13C-CL7-PCB-178	1	1.52e+06	1.01	y	22:55	64.728	0	0.5218	3.4	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

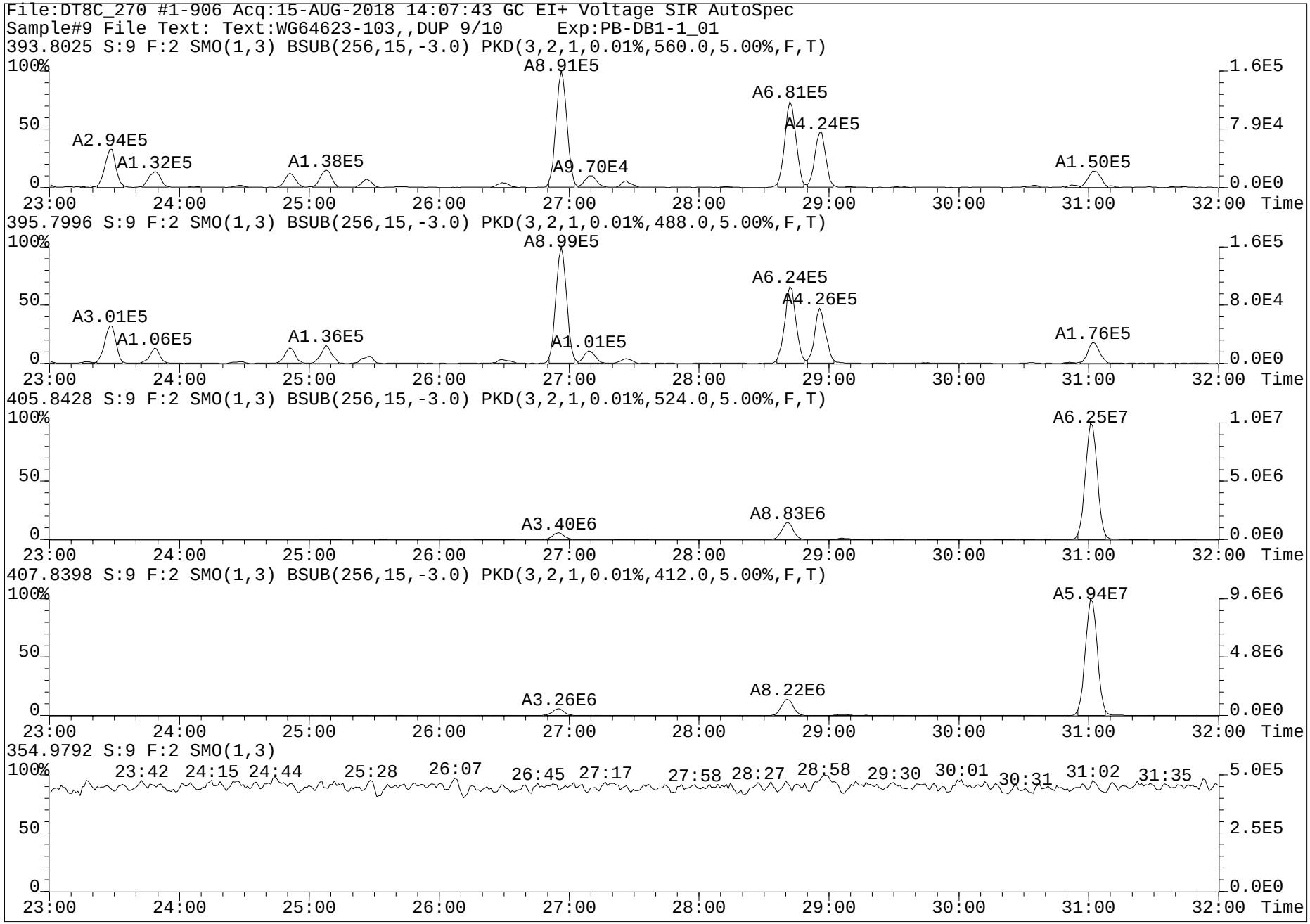
SV BJ
17 Aug 2018

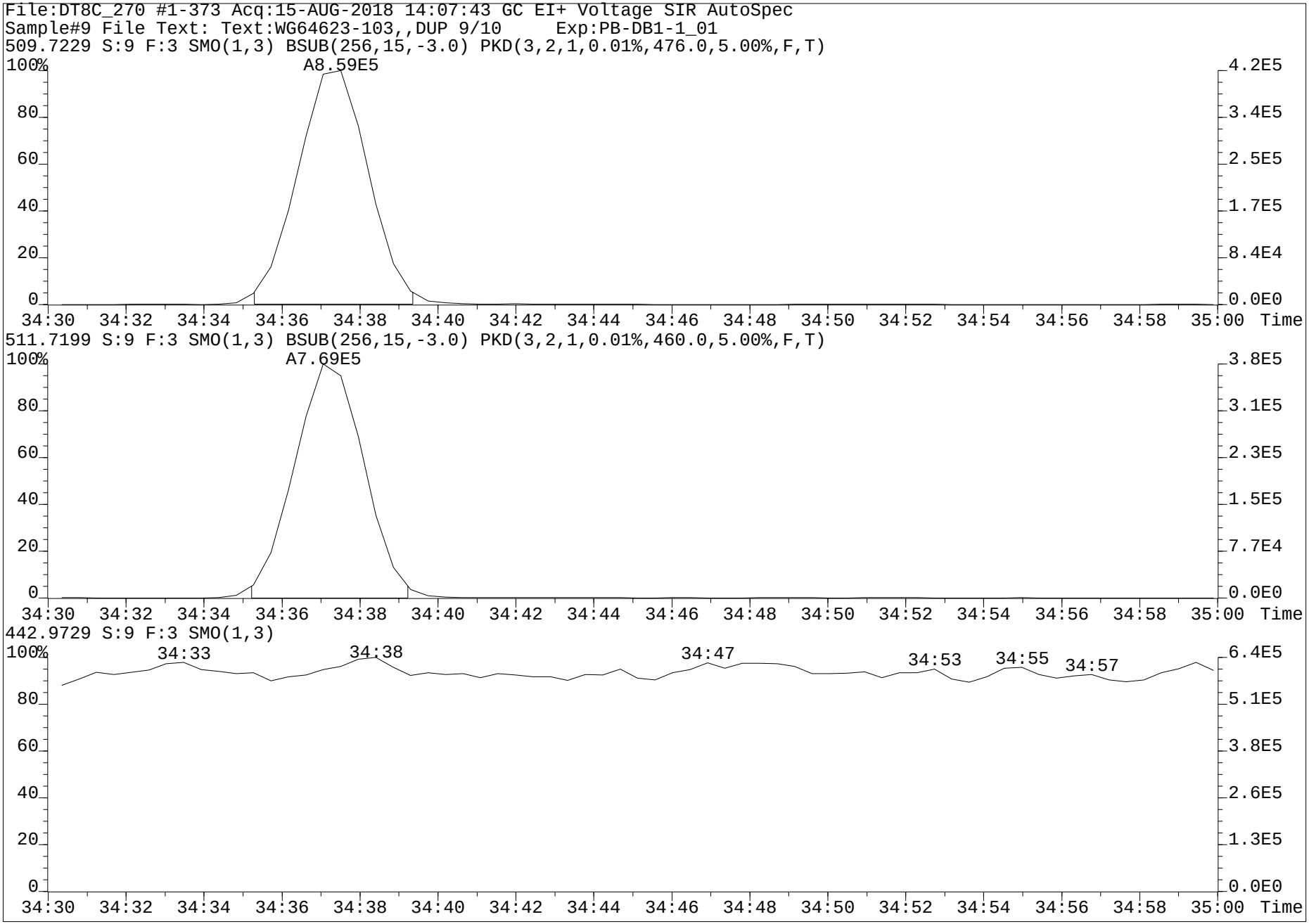
PV by RA 17AUG2018

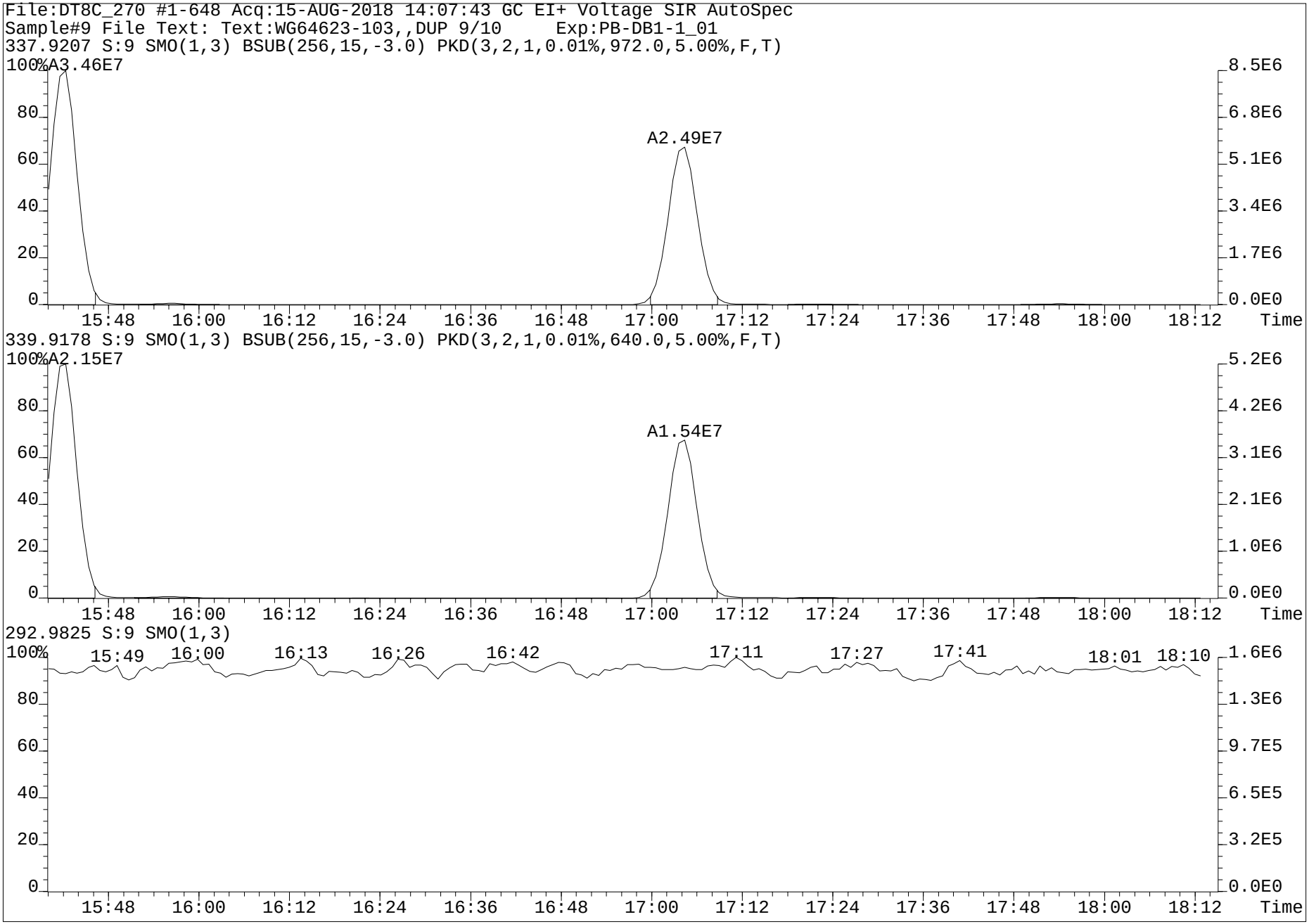

File:DT8C_270 #1-648 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
289.9224 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,788.0,5.00%,F,T)
A2.41E7
A1.76E7
A1.36E7
A9.66E6
A1.75E6
291.9194 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A3.08E7
A2.26E7
A1.74E7
A1.23E7
A2.18E6
301.9626 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2420.0,5.00%,F,T)
A1.05E8
A3.45E7
303.9597 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1972.0,5.00%,F,T)
A1.33E8
A4.49E7
292.9825 S:9 SMO(1,3)
11:33 12:01 12:32 13:01 13:45 14:11 14:40 15:12 15:49 16:13 16:42 17:11 17:41
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
6.3E6 3.1E6 0.0E0
8.0E6 4.0E6 0.0E0
2.4E7 1.2E7 0.0E0
3.0E7 1.5E7 0.0E0
1.6E6 8.1E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
325.8804 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2680.0,5.00%,F,T)
100% A5.14E7
A1.81E7
1.1E7
5.4E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
327.8775 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2012.0,5.00%,F,T)
100% A3.27E7
A1.14E7
6.7E6
3.4E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
337.9207 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7156.0,5.00%,F,T)
100% A1.20E8
A1.10E8
A1.16E8
A1.12E8
2.5E7
1.2E7
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
339.9178 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3464.0,5.00%,F,T)
100% A7.57E7
A6.95E7
A7.33E7
A7.14E7
1.5E7
7.7E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
354.9792 S:9 F:2 SMO(1,3)
100% 19:11 19:34 19:53 20:12 20:37 21:13 22:01 22:33 22:50 23:17 23:42
4.9E5
2.4E5
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
359.8415 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.21E6
A2.58E6
A1.57E6
A1.25E6
A5.02E5
A2.40E5
361.8385 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.34E6
A2.03E6
A1.24E6
A1.00E6
A4.20E5
A1.69E5
371.8817 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,960.0,5.00%,F,T)
A8.15E7
A9.35E7
A8.40E7
373.8788 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
A6.41E7
A7.31E7
A6.72E7
354.9792 S:9 F:2 SMO(1,3)
22:33
23:17
23:42
24:15
24:44
25:28
26:07
26:45
27:17
27:58
28:33
28:58
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time
7.5E5
3.7E5
0.0E0
5.9E5
3.0E5
1.6E7
8.1E6
1.3E7
6.3E6
5.0E5
2.5E5


File:DT8C_270 #1-906 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
393.8025 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A8.91E5
A6.81E5
A4.24E5
A2.94E5
A1.32E5
A1.38E5
A9.70E4
A1.50E5
395.7996 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A8.99E5
A6.24E5
A4.26E5
A3.01E5
A1.06E5
A1.36E5
A1.01E5
A1.76E5
405.8428 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A6.25E7
A3.40E6
A8.83E6
407.8398 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A5.94E7
A3.26E6
A8.22E6
354.9792 S:9 F:2 SMO(1,3)
23:42 24:15 24:44 25:28 26:07 26:45 27:17 27:58 28:27 28:58 29:30 30:01 30:31 31:02 31:35
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
1.6E5
7.9E4
0.0E0
8.0E4
1.0E7
5.0E6
9.6E6
4.8E6
5.0E5
2.5E5


File:DT8C_270 #1-373 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
509.7229 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,476.0,5.00%,F,T)
A8.59E5
511.7199 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A7.69E5
442.9729 S:9 F:3 SMO(1,3)
34:33
34:38
34:47
34:53
34:55
34:57
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 14:07:43 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:WG64623-103,,DUP 9/10 Exp:PB-DB1-1_01
337.9207 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,972.0,5.00%,F,T)
100%A3.46E7
A2.49E7
8.5E6
6.8E6
5.1E6
3.4E6
1.7E6
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
339.9178 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
100%A2.15E7
A1.54E7
5.2E6
4.2E6
3.1E6
2.1E6
1.0E6
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time
292.9825 S:9 SMO(1,3)
100%
15:49 16:00 16:13 16:26 16:42 17:11 17:27 17:41 18:01 18:10
1.6E6
1.3E6
9.7E5
6.5E5
3.2E5
0.0E0
80
60
40
20
0
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

OPUSquan 9-AUG-2018 Page 1

Run #16 Filename PB8C_260 S: 9 I: 1 Acquired: 8-AUG-18 04:14:54 Processed: 8-AUG-18 07:42:32
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-6,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.980000 ✓ conc units: pg/g ✓ total toxicity: 1880.52 F1: 1.0000 F2: 5.0000 ✓

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	1.57e+05	3.19	y	11:28	6.912	7	0.4459	-	n
2	Unk	CL1-PCB-3	1	8.12e+04	3.79	n	13:42	4.438	4	0.7206	-	n
3	Unk	CL2-PCB-4	1	2.92e+05	1.71	y	13:56	23.012	23	3.5544	-	n
4	Unk	CL2-PCB-15	1	4.15e+05	1.56	y	20:00	24.811	25	3.7262	-	y
5	Unk	CL3-PCB-19	1	2.49e+05	1.09	y	17:06	22.522	23	1.0714	-	n
6	Unk	CL3-PCB-37	1	9.22e+05	1.00	y	27:19	55.763	56	2.6167	-	n
7	Unk	CL4-PCB-54	1	3.48e+04	1.16	n	20:16	2.185	2	0.6598	-	y
8	Unk	CL4-PCB-81	1	3.41e+04	0.45	n	34:20	1.992	2	4.1973	-	y
9	Unk	CL4-PCB-77	1	6.40e+05	0.83	y	34:56	36.801	37	4.2615	-	n
10	Unk	CL5-PCB-104	1	1.07e+04	0.47	n	25:58	0.734	1	0.5321	-	n
11	Unk	CL5-PCB-123	1	4.29e+05	2.22	n	37:00	24.407	24	6.2080	-	n
12	Unk	CL5-PCB-118	1	1.76e+07	1.58	y	37:20	961.735	962	6.0448	-	n
13	Unk	CL5-PCB-114	1	4.36e+05	2.11	n	37:54	24.928	25	6.3158	-	y
14	Unk	CL5-PCB-105	1	7.21e+06	1.61	y	38:35	349.137	349	5.2451	-	n
15	Unk	CL5-PCB-126	1	3.58e+04	1.53	y	41:49	2.424	2	7.7125	SOL x 1/2	y
16	Unk	CL6-PCB-155	1	1.26e+04	2.17	n	31:52	0.810	1	0.4670	-	n
17	Unk	CL6-PCB-167	1	1.05e+06	1.29	y	43:44	63.508	64	5.4048	-	n
18	Unk	CL6-PCB-156/157	1	2.20e+06	1.32	y	44:56	130.707	131	7.1469	SOL -	n
19	Unk	CL6-PCB-169	1	1.35e+04	1.89	n	48:22	0.855	1	5.8705	x 1/2 -	y
20	Unk	CL7-PCB-188	1	3.30e+04	1.52	n	37:51	2.118	2	0.5117	-	n
21	Unk	CL7-PCB-189	1	1.30e+05	1.09	y	51:00	7.603	8	0.6981	-	n
22	Unk	CL8-PCB-202	1	1.28e+06	0.95	y	43:27	105.092	105	0.5344	-	n
23	Unk	CL8-PCB-205	1	6.18e+04	1.02	y	53:41	4.019	4	0.4047	-	y
24	Unk	CL9-PCB-208	1	6.00e+04	0.65	n	50:27	5.035	5	0.7202	-	n
25	Unk	CL9-PCB-206	1	1.55e+05	0.75	y	55:29	14.139	14	0.8065	-	n
26	Unk	CL10-PCB-209	1	5.92e+04	1.01	y	57:08	4.836	5	0.5173	-	n
27	IS	13C-CL1-PCB-1	1	4.25e+07	3.19	y	11:27	519.594	0	2.6219	25.9	n
28	IS	13C-CL1-PCB-3	1	3.40e+07	3.13	y	13:41	435.828	0	2.7520	21.7	n
29	IS	13C-CL2-PCB-4	1	2.56e+07	1.56	y	13:56	517.305	0	2.2164	25.8	n
30	IS	13C-CL2-PCB-15	1	3.69e+07	1.57	y	20:00	478.010	0	1.4214	23.8	n
31	IS	13C-CL3-PCB-19	1	2.08e+07	1.05	y	17:05	509.697	0	4.7405	25.4	n
32	IS	13C-CL3-PCB-37	1	3.33e+07	1.04	y	27:17	543.554	0	5.6835	27.1	n
33	REF	13C-CL4-CHECK	1	3.03e+07	0.80	y	20:15	565.621	0	1.4345	28.2	n
34	IS	13C-CL4-PCB-81	1	3.34e+07	0.74	y	34:19	715.456	0	1.8011	35.6	n
35	IS	13C-CL4-PCB-77	1	3.40e+07	0.75	y	34:55	715.029	0	1.7725	35.6	n
36	IS	13C-CL5-PCB-104	1	2.75e+07	1.62	y	25:56	590.981	0	0.1313	29.4	n
37	IS	13C-CL5-PCB-123	1	3.60e+07	1.61	y	36:59	818.828	0	2.0379	40.8	n
38	IS	13C-CL5-PCB-118	1	3.51e+07	1.56	y	37:19	814.668	0	2.0792	40.6	n
39	IS	13C-CL5-PCB-114	1	3.32e+07	1.57	y	37:52	775.852	0	2.0955	38.6	n
40	IS	13C-CL5-PCB-105	1	4.04e+07	1.58	y	38:33	911.534	0	2.0236	45.4	n
41	IS	13C-CL5-PCB-126	1	2.84e+07	1.60	y	41:48	718.081	0	2.2661	35.8	n
42	IS	13C-CL6-PCB-155	1	3.07e+07	1.29	y	31:50	612.447	0	0.1315	30.5	n
43	IS	13C-CL6-PCB-167	1	2.98e+07	1.27	y	43:43	768.713	0	0.2625	38.3	n
44	IS	13C-CL6-PCB-156/157	1	6.15e+07	1.26	y	44:56	1524.348	0	0.2517	38.0	n

SV BJ 16 Aug 2018

PV by RA 09AUG2018

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	3.00e+07	1.29	y	48:21	747.887	0	0.2535	37.2	n
46	REF	13C-CL7-CHECK	1	3.21e+07	1.06	y	37:48	641.084	0	0.1285	31.9	n
47	IS	13C-CL7-PCB-189	1	3.23e+07	1.03	y	50:58	801.701	0	0.7935	39.9	n
48	IS	13C-CL8-PCB-202	1	2.79e+07	0.93	y	43:26	588.998	0	0.1454	29.3	n
49	IS	13C-CL8-PCB-205	1	3.13e+07	0.92	y	53:39	782.255	0	0.5047	39.0	n
50	IS	13C-CL9-PCB-208	1	2.53e+07	0.75	y	50:25	707.615	0	0.1830	35.2	n
51	IS	13C-CL9-PCB-206	1	2.20e+07	0.76	y	55:27	755.947	0	0.2247	37.6	n
52	IS	13C-CL10-PCB-209	1	2.31e+07	1.23	y	57:07	631.426	0	0.1805	31.4	n
53	RS	13C-CL2-PCB-9	1	1.46e+08	1.56	y	15:56	15.874	0	-	-	n
54	RS	13C-CL4-PCB-52	1	7.26e+07	0.81	y	24:59	15.873	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.34e+07	1.55	y	32:06	16.381	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	6.05e+07	1.26	y	40:34	17.105	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.34e+07	0.89	y	53:09	18.992	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.82e+07	1.04	y	23:06	621.006	0	5.6490	30.9	n
59	C/Up	13C-CL5-PCB-111	1	3.26e+07	1.59	y	34:55	770.414	0	0.2722	38.4	n
60	C/Up	13C-CL7-PCB-178	1	2.21e+07	1.05	y	41:02	770.643	0	0.2168	38.4	n
61	IS	13C-CL4-PCB-54	1	3.03e+07	0.80	y	20:15	565.621	0	1.4345	28.2	n
62	IS	13C-CL7-PCB-188	1	3.21e+07	1.06	y	37:48	641.084	0	0.1285	31.9	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #8 Filename PB8C_260 S: 9 I: 1 Acquired: 8-AUG-18 04:14:54 Processed: 8-AUG-18 07:48:23
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-6,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.980000 ✓ conc units: pg/g ✓ total toxicity: 26013.» F1: 1.0000 F2: 5.0000 ✓

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	0	*	*	n	NotFnd	*	*	0.5992	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	2.8107	-	n
3	Unk	CL2-PCB-9	1	6.19e+04	1.83	n	15:57	3.234	3	2.8065	-	n
4	Unk	CL2-PCB-7	1	5.60e+04	2.10	n	16:08	2.899	3	2.7806	-	n
5	Unk	CL2-PCB-6	1	4.87e+04	1.64	y	16:22	24.896	25	2.7431	-	n
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	3.1545	-	n
7	Unk	CL2-PCB-8	1	8.35e+05	1.70	y	16:49	38.826	39	2.4955	-	y
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	2.8768	-	n
9	Unk	CL2-PCB-11	1	1.87e+05	1.69	y	19:22	10.437	10	3.0022	-	y
10	Unk	CL2-PCB-12/13	1	7.65e+04	2.89	n	19:40	4.233	4	2.9715	-	y
11	Unk	CL3-PCB-30/18	1	2.86e+06	1.05	y	19:01	183.164	183	0.8790	-	y
12	Unk	CL3-PCB-17	1	1.26e+06	0.99	y	19:27	94.353	94	1.0221	-	y
13	Unk	CL3-PCB-27	1	5.73e+05	0.95	y	19:41	30.284	30	0.7242	-	y
14	Unk	CL3-PCB-24	1	3.18e+04	1.07	y	19:48	1.837	2	0.7910	-	y
15	Unk	CL3-PCB-16	1	5.63e+05	1.12	y	19:55	47.146	47	1.1480	-	n
16	Unk	CL3-PCB-32	1	1.28e+06	1.04	y	20:28	73.476	73	2.1825	-	n
17	Unk	CL3-PCB-34	1	3.82e+04	1.31	n	21:46	2.349	2	2.3480	-	y
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	2.3167	-	n
19	Unk	CL3-PCB-26/29	1	1.63e+06	0.99	y	22:15	97.038	97	2.2701	-	n
20	Unk	CL3-PCB-25	1	8.51e+05	1.00	y	22:29	42.775	43	1.9160	-	n
21	Unk	CL3-PCB-31	1	4.99e+06	1.03	y	22:49	275.002	275	2.1022	-	n
22	Unk	CL3-PCB-28/20	1	5.73e+06	1.02	y	23:07	338.078	338	2.2482	-	n
23	Unk	CL3-PCB-21/33	1	2.05e+06	1.06	y	23:22	114.481	114	2.1263	-	n
24	Unk	CL3-PCB-22	1	1.28e+06	1.04	y	23:47	84.030	84	2.5121	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	2.1152	-	n
26	Unk	CL3-PCB-39	1	7.03e+04	0.87	n	25:49	4.196	4	2.2770	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	2.3280	-	n
28	Unk	CL3-PCB-35	1	2.77e+04	0.51	n	26:52	1.661	2	2.2839	-	n
29	Unk	CL4-PCB-50/53	1	1.42e+06	0.74	y	22:30	98.565	99	0.9133	-	n
30	Unk	CL4-PCB-45/51	1	1.41e+06	0.81	y	23:14	100.433	100	0.9366	-	y
31	Unk	CL4-PCB-46	1	3.35e+05	0.85	y	23:32	26.875	27	1.0547	-	n
32	Unk	CL4-PCB-52	1	1.48e+07	0.81	y	25:00	1000.550	1001	0.8876	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.6783	-	n
34	Unk	CL4-PCB-43	1	4.39e+05	0.86	y	25:14	38.426	38	1.1530	-	y
35	Unk	CL4-PCB-69/49	1	8.26e+06	0.80	y	25:31	499.414	499	0.7957	-	n
36	Unk	CL4-PCB-48	1	1.61e+06	0.82	y	25:48	115.332	115	0.9435	-	n
37	Unk	CL4-PCB-44/47/65	1	1.04e+07	0.79	y	26:02	674.784	675	0.8571	-	n
38	Unk	CL4-PCB-59/62/75	1	1.63e+06	0.83	y	26:22	87.594	88	0.7075	-	n
39	Unk	CL4-PCB-42	1	2.22e+06	0.82	y	26:35	158.586	159	0.9409	-	n
40	Unk	CL4-PCB-41/40/71	1	4.17e+06	0.79	y	27:04	299.711	300	0.9464	-	y
41	Unk	CL4-PCB-64	1	4.75e+06	0.79	y	27:20	244.393	244	0.6769	-	n
42	Unk	CL4-PCB-72	1	2.60e+05	0.80	y	28:13	14.470	14	3.6919	-	n
43	Unk	CL4-PCB-68	1	1.00e+05	0.69	y	28:30	5.564	6	3.6831	-	n
44	Unk	CL4-PCB-57	1	4.64e+04	0.46	n	28:56	2.681	3	3.8306	-	n

45	Unk	CL4-PCB-58	1	5.77e+04	0.66	y	29:11	3.412	3	3.9192	-	y
46	Unk	CL4-PCB-67	1	3.49e+05	0.73	y	29:22	17.285	17	3.2845	-	n
47	Unk	CL4-PCB-63	1	4.08e+05	0.69	y	29:39	23.142	23	3.7630	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.75e+07	0.76	y	30:01	1004.549	1005	3.7983	-	n
49	Unk	CL4-PCB-66	1	1.10e+07	0.75	y	30:20	679.376	679	4.0776	-	n
50	Unk	CL4-PCB-55	1	4.46e+05	0.84	y	30:31	30.426	30	4.5200	-	y
51	Unk	CL4-PCB-56	1	3.97e+06	0.76	y	31:02	249.886	250	4.1774	-	n
52	Unk	CL4-PCB-60	1	1.62e+06	0.75	y	31:15	100.585	101	4.1216	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	3.6894	-	n
54	Unk	CL4-PCB-79	1	2.78e+05	0.97	n	33:16	14.160	14	3.3706	-	n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	3.9737	-	n
56	Unk	CL5-PCB-96	1	1.31e+05	1.63	y	26:21	6.799	7	0.4671	-	n
57	Unk	CL5-PCB-103	1	3.01e+05	1.62	y	28:22	18.768	19	2.2110	-	n
58	Unk	CL5-PCB-94	1	9.47e+04	1.78	y	28:36	7.224	7	2.7048	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	1.58e+07	1.60	y	29:05	1082.053	1082	2.4229	-	y
60	Unk	CL5-PCB-88/91	1	2.58e+06	1.62	y	29:57	182.952	183	2.5170	-	y
61	Unk	CL5-PCB-84	1	2.96e+06	1.60	y	30:12	239.783	240	2.8755	-	n
62	Unk	CL5-PCB-89	1	1.87e+05	1.45	y	30:41	14.355	14	2.7288	-	n
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.9634	-	n
64	Unk	CL5-PCB-92	1	5.03e+06	1.57	y	31:32	365.485	365	2.5750	-	n
65	Unk	CL5-PCB-113/90/101	1	2.26e+07	1.59	y	32:07	1422.328	1422	2.2362	-	y
66	Unk	CL5-PCB-83/99	1	1.16e+07	1.59	y	32:43	868.695	869	2.6482	-	n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.8452	-	n
68	Unk	CB-109/119/86/97/125/87	1	1.17e+07	1.59	y	33:18	737.735	738	2.2307	-	y
69	Unk	CL5-PCB-117/116/85	1	3.59e+06	1.59	y	34:00	222.634	223	2.1972	-	n
70	Unk	CL5-PCB-110/115	1	2.37e+07	1.58	y	34:11	1303.012	1303	1.9460	-	y
71	Unk	CL5-PCB-82	1	1.69e+06	1.56	y	34:32	140.661	141	2.9499	-	n
72	Unk	CL5-PCB-111	1	4.12e+04	3.38	n	34:56	2.386	2	2.0531	-	y
73	Unk	CL5-PCB-120	1	1.27e+05	2.26	n	35:25	7.022	7	1.9645	-	y
74	Unk	CL5-PCB-108/124	1	8.06e+05	1.77	y	36:37	45.873	46	6.0355	-	y
75	Unk	CL5-PCB-107	1	1.60e+06	1.57	y	36:52	88.656	89	5.8712	-	n
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	6.0457	-	n
77	Unk	CL5-PCB-122	1	2.86e+05	2.13	n	37:42	18.026	18	6.6780	-	n
78	Unk	CL5-PCB-127	1	~~4.30e+04~~ 7.14	~~1.71~~ 1.85	~~y~~ n	40:08	~~2.509~~ 4.163	3	6.1854	-	y
79	Unk	CL6-PCB-152	1	2.91e+04	0.90	n	32:04	1.663	2	0.4998	-	n
80	Unk	CL6-PCB-150	1	7.89e+04	1.46	n	32:15	4.738	5	0.5255	-	n
81	Unk	CL6-PCB-136	1	3.09e+06	1.24	y	32:38	183.516	184	0.5192	-	n
82	Unk	CL6-PCB-145	1	2.15e+04	0.73	n	32:56	1.350	1	0.5491	-	n
83	Unk	CL6-PCB-148	1	1.08e+05	1.28	y	34:31	9.068	9	0.7373	-	n
84	Unk	CL6-PCB-151/135/154	1	1.04e+07	1.24	y	35:11	850.846	851	0.7177	-	y
85	Unk	CL6-PCB-144	1	9.74e+05	1.31	y	35:43	81.074	81	0.7281	-	y
86	Unk	CL6-PCB-147/149	1	2.19e+07	1.26	y	36:07	1657.659	1658	7.2095	-	n
87	Unk	CL6-PCB-134/143	1	1.43e+06	1.32	y	36:19	118.029	118	7.8970	-	n
88	Unk	CL6-PCB-139/140	1	5.16e+05	1.05	n	36:43	39.482	39	7.3071	-	n
89	Unk	CL6-PCB-131	1	2.32e+05	1.14	y	36:56	19.952	20	8.2095	-	y
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	8.1110	-	n
91	Unk	CL6-PCB-132	1	5.41e+06	1.24	y	37:26	488.866	489	8.6296	-	n
92	Unk	CL6-PCB-133	1	7.64e+05	1.38	y	37:58	65.618	66	8.2002	-	n
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	6.6200	-	n
94	Unk	CL6-PCB-146	1	6.74e+06	1.26	y	38:38	482.212	482	6.8274	-	y
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	5.7126	-	n
96	Unk	CL6-PCB-153/168	1	2.89e+07	1.26	y	39:16	1893.550	1894	6.2568	-	n
97	Unk	CL6-PCB-141	1	2.88e+06	1.28	y	39:29	227.582	228	7.5297	-	n

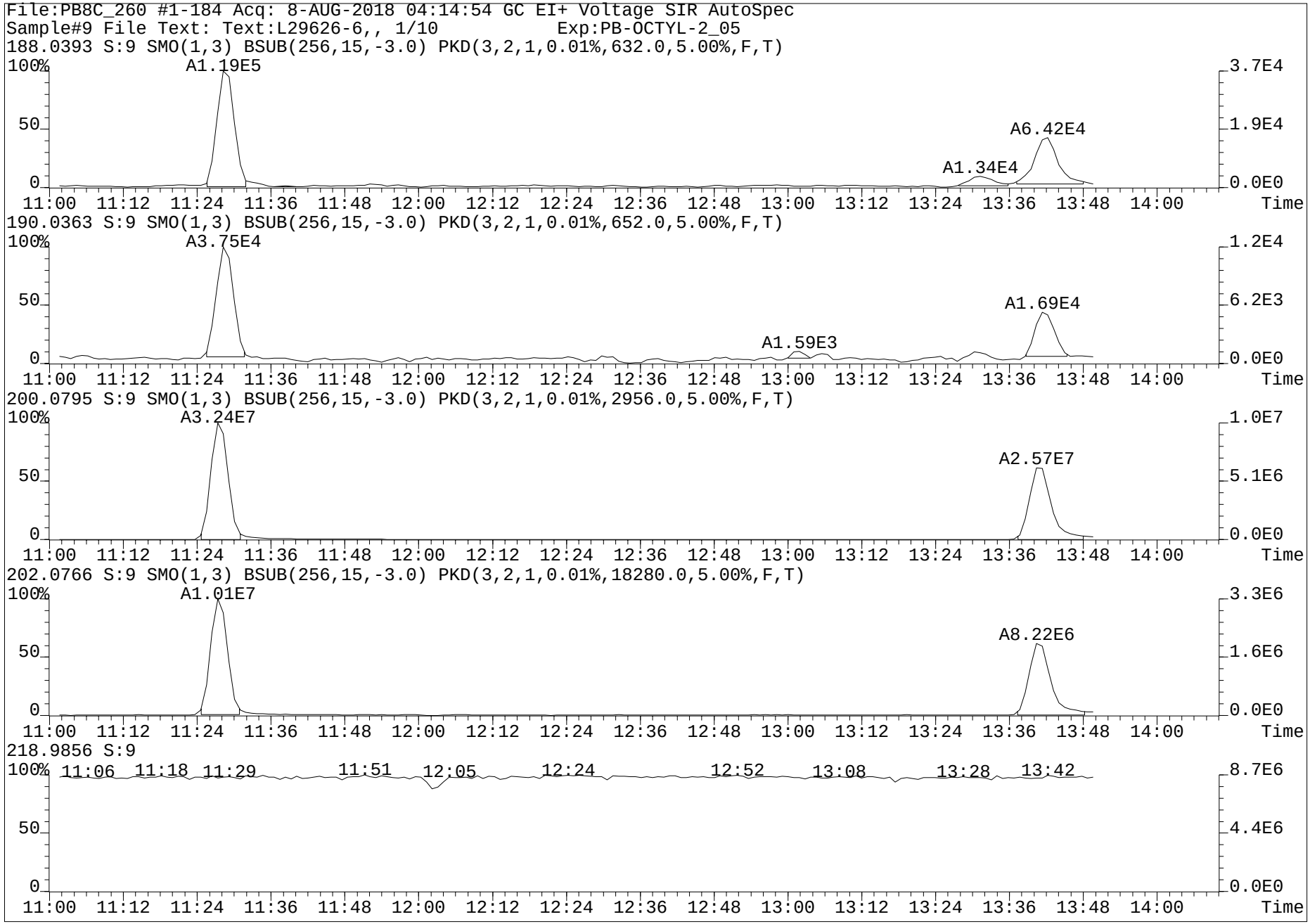
SDL x 1/2

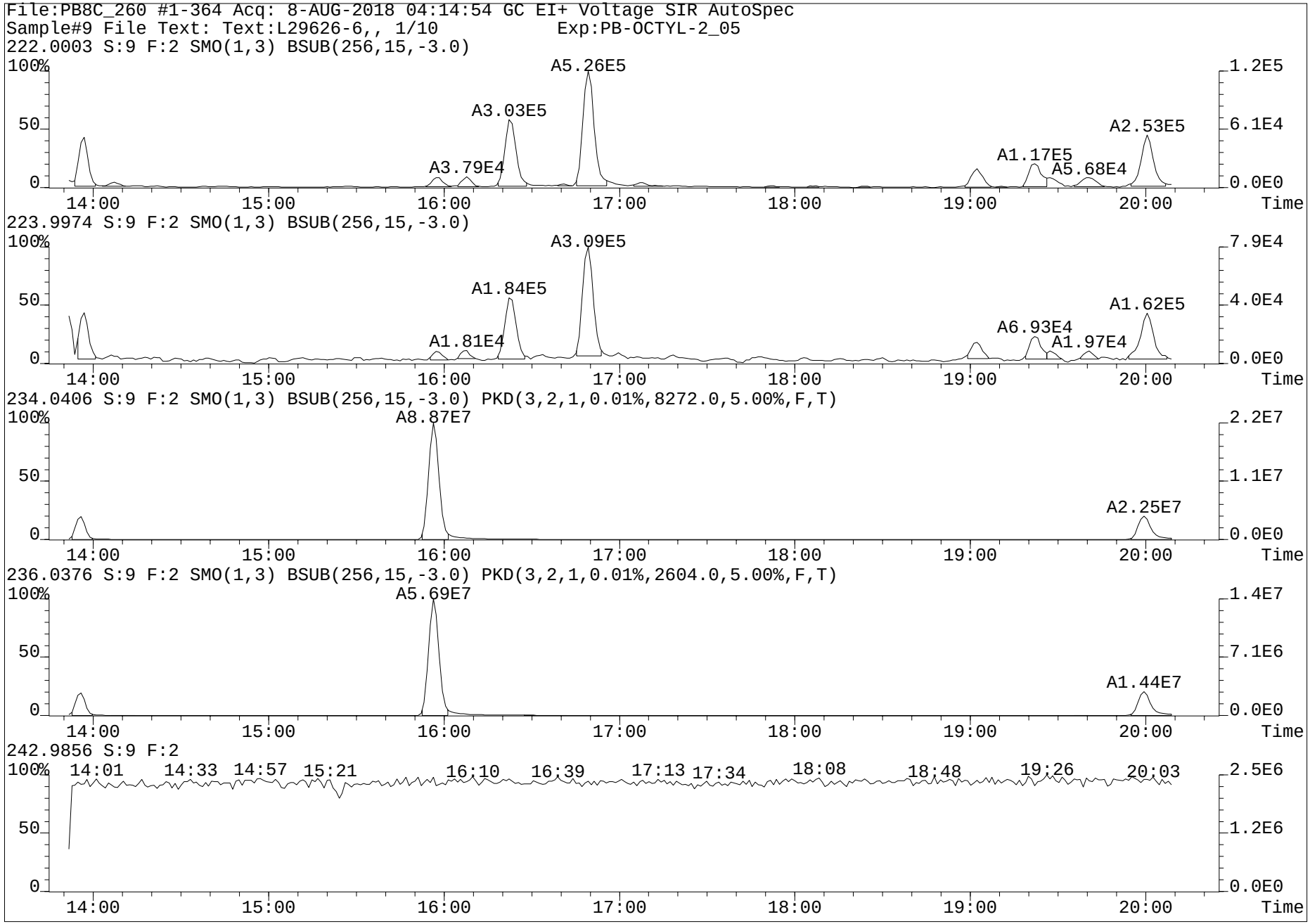
98	Unk	CL6-PCB-130	1	1.76e+06	1.26	y	39:54	162.163	162	8.7851	-	y
99	Unk	CL6-PCB-137	1	1.25e+06	1.31	y	40:08	110.153	110	8.4401	-	n
100	Unk	CL6-PCB-164	1	2.37e+06	1.26	y	40:16	143.356	143	5.7605	-	n
101	Unk	CL6-PCB-138/163/129/160	1	2.34e+07	1.25	y	40:35	1681.051	1681	6.8538	-	n
102	Unk	CL6-PCB-158	1	2.99e+06	1.25	y	41:00	167.327	167	5.3467	-	n
103	Unk	CL6-PCB-128/166	1	3.59e+06	1.25	y	41:55	256.300	256	6.8177	-	n
104	Unk	CL6-PCB-159	1	1.59e+05	1.15	y	42:53	9.623	10	5.7780	-	y
105	Unk	CL6-PCB-162	1	8.78e+04	1.20	y	43:14	5.042	5	5.4803	-	y
106	Unk	CL7-PCB-179	1	3.42e+06	1.06	y	38:12	206.430	206	0.5011	-	n
107	Unk	CL7-PCB-184	1	9.65e+03	1.93	n	38:46	0.574	1	0.4927	-	n
108	Unk	CL7-PCB-176	1	8.66e+05	1.07	y	39:08	53.390	53	0.5109	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	0.5437	-	n
110	Unk	CL7-PCB-178	1	2.33e+06	1.03	y	41:03	191.643	192	0.6812	-	n
111	Unk	CL7-PCB-175	1	3.20e+05	1.03	y	41:43	25.603	26	0.6636	-	n
112	Unk	CL7-PCB-187	1	1.04e+07	1.03	y	42:00	751.860	752	0.5985	-	n
113	Unk	CL7-PCB-182	1	7.77e+04	1.63	n	42:13	5.972	6	0.6373	-	n
114	Unk	CL7-PCB-183/185	1	3.51e+06	1.08	y	42:38	270.038	270	0.6381	-	n
115	Unk	CL7-PCB-174	1	2.56e+06	0.98	y	42:53	203.454	203	0.6599	-	n
116	Unk	CL7-PCB-177	1	4.24e+06	1.00	y	43:21	277.736	278	0.5428	-	n
117	Unk	CL7-PCB-181	1	3.81e+04	1.80	n	43:45	2.951	3	0.6420	-	n
118	Unk	CL7-PCB-171/173	1	1.20e+06	0.98	y	44:00	98.715	99	0.6807	-	n
119	Unk	CL7-PCB-172	1	3.91e+05	1.09	y	45:42	33.220	33	0.7043	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	0.5749	-	n
121	Unk	CL7-PCB-180/193	1	9.45e+06	1.03	y	46:23	805.694	806	0.6987	-	n
122	Unk	CL7-PCB-191	1	2.99e+05	1.10	y	46:45	18.602	19	0.5161	-	n
123	Unk	CL7-PCB-170	1	2.00e+06	1.06	y	47:42	185.988	186	0.7666	-	n
124	Unk	CL7-PCB-190	1	8.62e+05	1.01	y	48:16	54.588	55	0.5248	-	n
125	Unk	CL8-PCB-201	1	5.23e+05	0.97	y	44:24	35.226	35	0.4454	-	y
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.4549	-	n
127	Unk	CL8-PCB-197/200	1	2.92e+05	0.90	y	45:23	19.463	19	0.4416	-	y
128	Unk	CL8-PCB-198/199	1	1.72e+06	0.97	y	48:25	164.435	164	0.6325	-	y
129	Unk	CL8-PCB-196	1	7.80e+05	1.01	y	49:06	72.207	72	0.6125	-	n
130	Unk	CL8-PCB-203	1	6.21e+05	0.93	y	49:19	54.169	54	0.5772	-	n
131	Unk	CL8-PCB-195	1	2.61e+05	0.81	y	50:43	23.523	24	0.5507	-	n
132	Unk	CL8-PCB-194	1	6.50e+05	0.87	y	53:10	54.462	54	0.5119	-	n
133	Unk	CL9-PCB-207	1	3.10e+04	0.68	y	51:25	2.165	2	0.6093	-	n
134	IS	13C-CL1-PCB-1	1	4.25e+07	3.19	y	11:27	569.969	0	2.8761	28.4	n
135	IS	13C-CL1-PCB-3	1	3.40e+07	3.13	y	13:41	509.475	0	3.2170	25.4	n
136	IS	13C-CL2-PCB-4	1	2.56e+07	1.56	y	13:56	557.544	0	2.3888	27.8	n
137	IS	13C-CL2-PCB-15	1	3.69e+07	1.57	y	20:00	544.071	0	1.6179	27.1	n
138	IS	13C-CL3-PCB-19	1	2.08e+07	1.05	y	17:05	501.924	0	4.6682	25.0	n
139	IS	13C-CL3-PCB-37	1	3.33e+07	1.04	y	27:17	657.685	0	6.8769	32.8	n
140	REF	13C-CL4-CHECK	1	3.03e+07	0.80	y	20:15	643.811	0	1.6328	32.1	n
141	IS	13C-CL4-PCB-81	1	3.34e+07	0.74	y	34:19	746.532	0	1.8793	37.2	n
142	IS	13C-CL4-PCB-77	1	3.40e+07	0.75	y	34:55	767.911	0	1.9036	38.2	n
143	IS	13C-CL5-PCB-104	1	2.75e+07	1.62	y	25:56	657.301	0	0.1460	32.7	n
144	IS	13C-CL5-PCB-123	1	3.60e+07	1.61	y	36:59	859.101	0	2.1381	42.8	n
145	IS	13C-CL5-PCB-118	1	3.51e+07	1.56	y	37:19	852.508	0	2.1757	42.5	n
146	IS	13C-CL5-PCB-114	1	3.32e+07	1.57	y	37:52	844.737	0	2.2815	42.1	n
147	IS	13C-CL5-PCB-105	1	4.04e+07	1.58	y	38:33	1020.773	0	2.2661	50.8	n
148	IS	13C-CL5-PCB-126	1	2.84e+07	1.60	y	41:48	824.739	0	2.6027	41.1	n

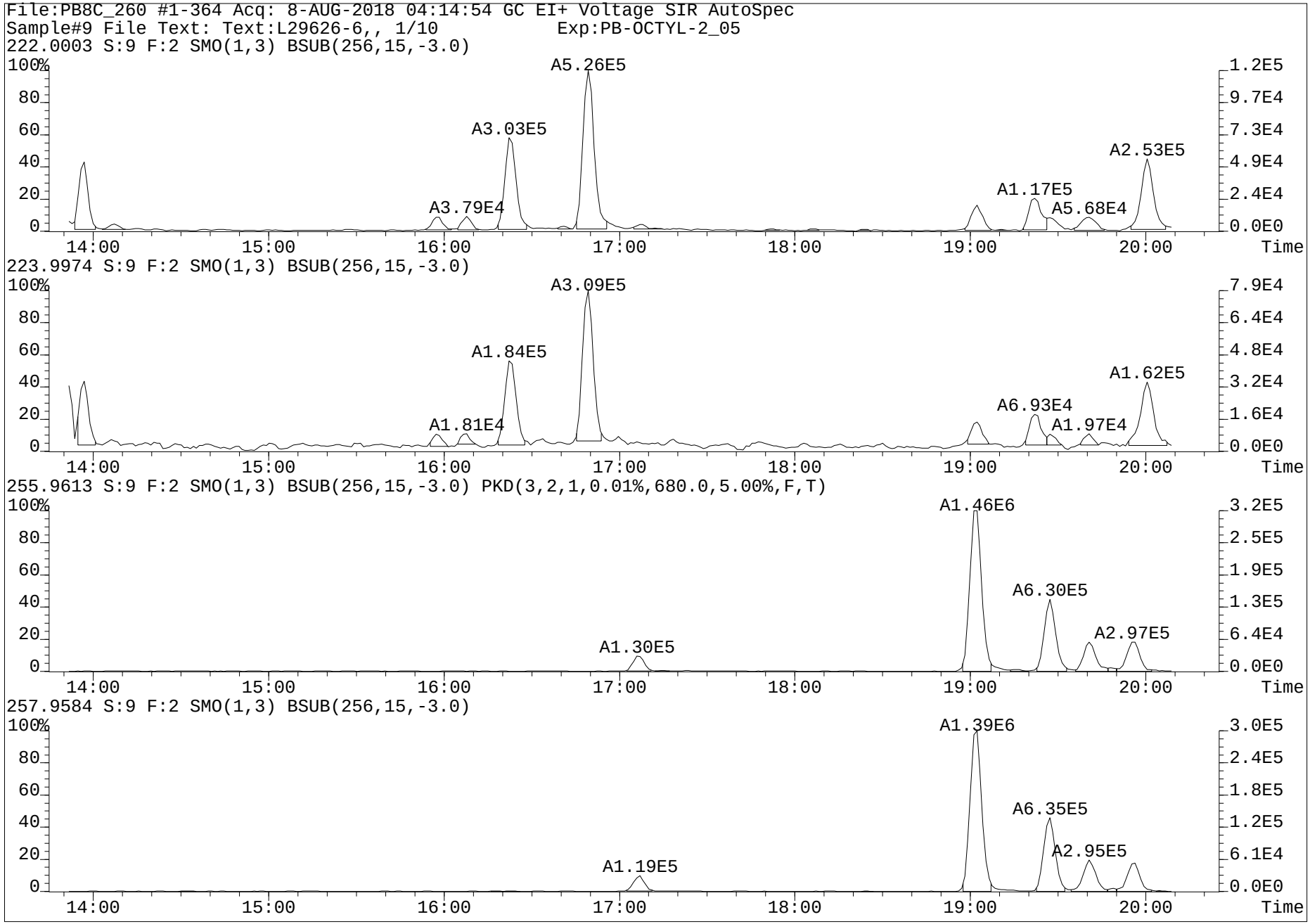
SOL
x(12

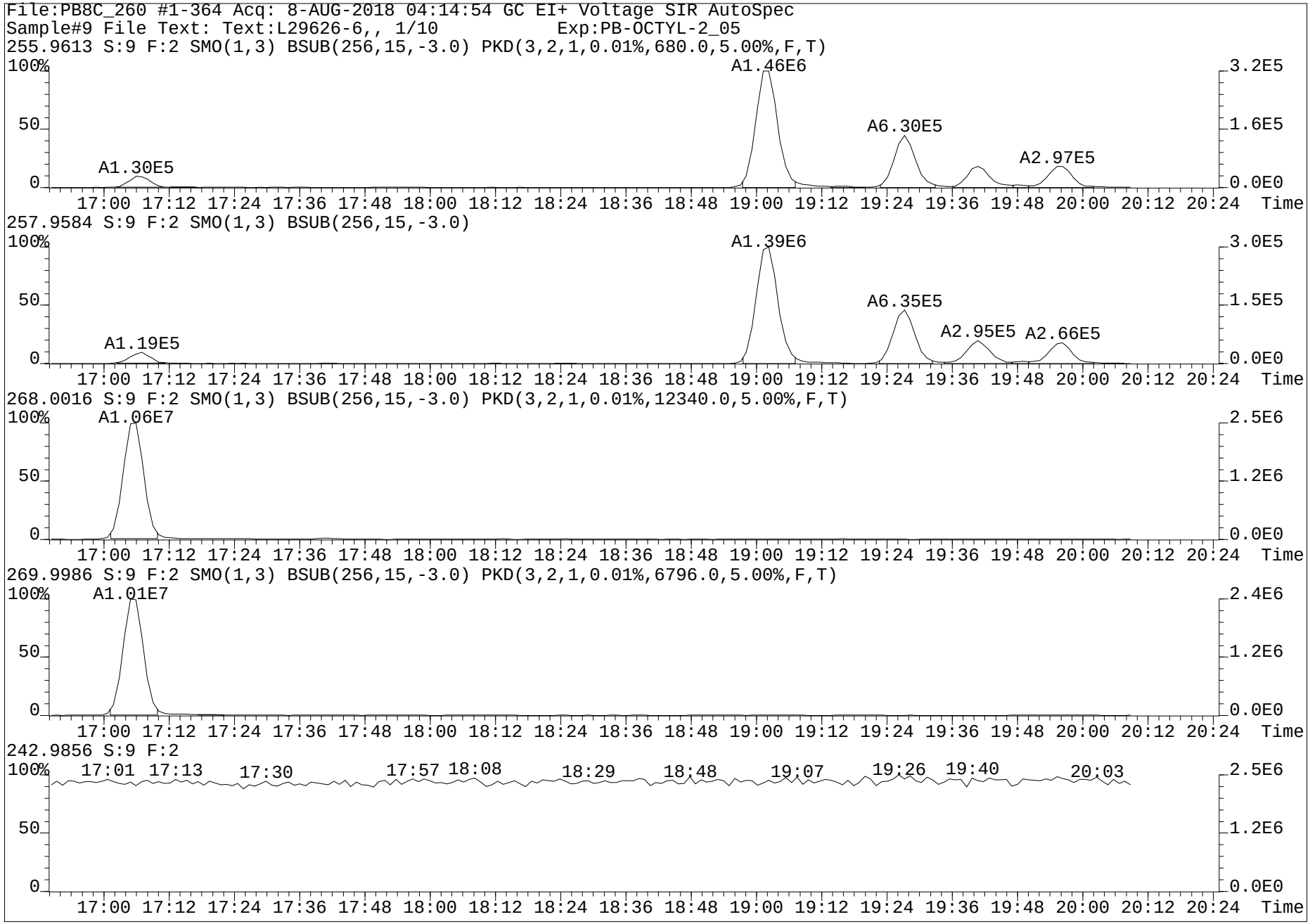
www.axysanalytical.com

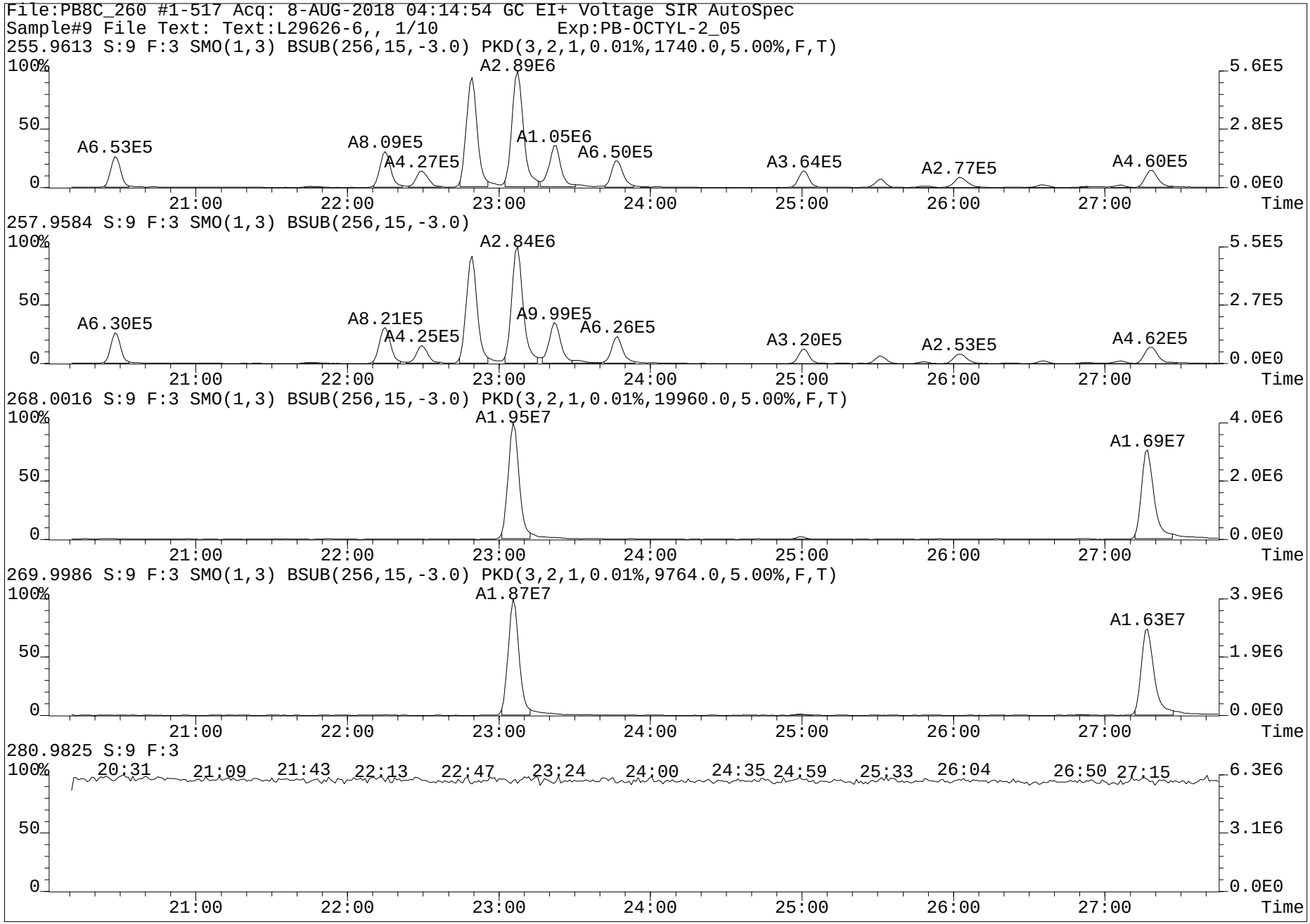
149	IS	13C-CL6-PCB-155	1	3.07e+07	1.29	y	31:50	683.867	0	0.1468	34.1	n
150	IS	13C-CL6-PCB-167	1	2.98e+07	1.27	y	43:43	797.939	0	0.2725	39.7	n
151	IS	13C-CL6-PCB-156/157	1	6.15e+07	1.26	y	44:56	1617.224	0	0.2670	40.3	n
152	IS	13C-CL6-PCB-169	1	3.00e+07	1.29	y	48:21	795.066	0	0.2694	39.6	n
153	IS	13C-CL7-PCB-188	1	3.21e+07	1.06	y	37:48	787.032	0	0.1577	39.2	n
154	IS	13C-CL7-PCB-180	1	2.34e+07	1.06	y	46:22	766.906	0	0.2109	38.2	n
155	IS	13C-CL7-PCB-170	1	1.93e+07	1.02	y	47:41	752.965	0	0.2513	37.5	n
156	IS	13C-CL8-PCB-202	1	2.79e+07	0.93	y	43:26	687.704	0	0.1698	34.2	n
157	IS	13C-CL8-PCB-205	1	3.13e+07	0.92	y	53:39	871.763	0	0.5625	43.4	n
158	IS	13C-CL9-PCB-208	1	2.53e+07	0.75	y	50:25	809.369	0	0.2093	40.3	n
159	IS	13C-CL9-PCB-206	1	2.20e+07	0.76	y	55:27	880.307	0	0.2617	43.8	n
160	RS/RT	13C-CL2-PCB-9	1	1.46e+08	1.56	y	15:56	18.284	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	7.26e+07	0.81	y	24:59	15.794	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	6.34e+07	1.55	y	32:06	16.567	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	6.05e+07	1.26	y	40:34	17.893	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	5.34e+07	0.89	y	53:09	19.190	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.82e+07	1.04	y	23:06	680.849	0	6.1934	33.9	n
166	C/Up	13C-CL5-PCB-111	1	3.26e+07	1.59	y	34:55	894.916	0	0.3161	44.6	n
167	C/UP	13C-CL7-PCB-178	1	2.21e+07	1.05	y	41:02	842.544	0	0.2370	42.0	n
168	IS	13C-CL4-PCB-54	1	3.03e+07	0.80	y	20:15	643.811	0	1.6328	32.1	n
169	Unk	CL7-PCB-189	1	1.30e+05	1.09	y	51:00	8.068	0	0.7408	-	n
170	IS	13C-CL7-PCB-189	1	3.23e+07	1.03	y	50:58	887.050	0	0.8779	44.2	n
171	Unk	CL10-PCB-209	1	5.92e+04	1.01	y	57:08	4.910	0	0.5253	-	n
172	IS	13C-CL10-PCB-209	1	2.31e+07	1.23	y	57:07	808.445	0	0.2311	40.3	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

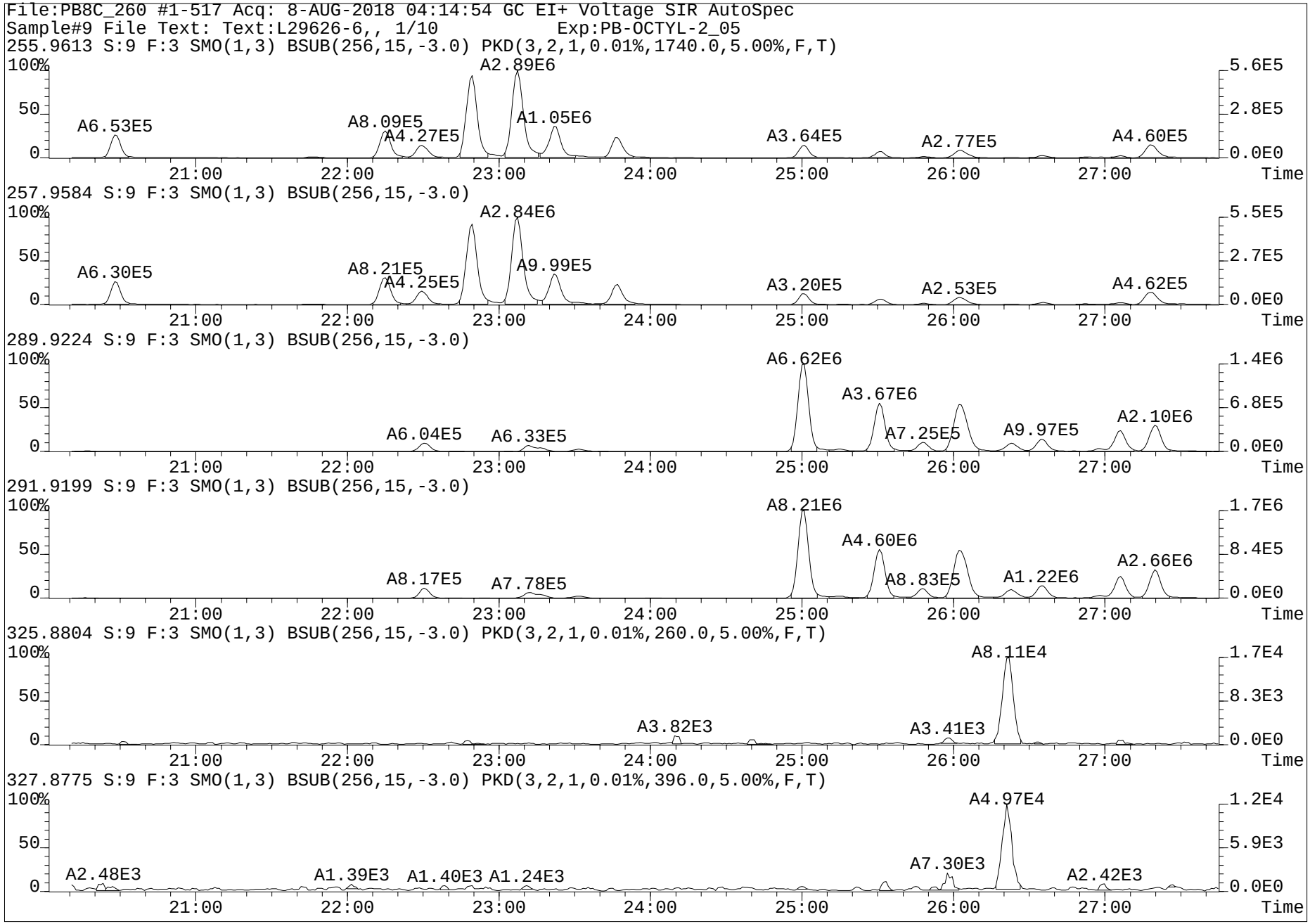

File:PB8C_260 #1-184 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,632.0,5.00%,F,T)
A1.19E5
A6.42E4
A1.34E4
190.0363 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,652.0,5.00%,F,T)
A3.75E4
A1.69E4
A1.59E3
200.0795 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2956.0,5.00%,F,T)
A3.24E7
A2.57E7
202.0766 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,18280.0,5.00%,F,T)
A1.01E7
A8.22E6
218.9856 S:9
11:06 11:18 11:29 11:51 12:05 12:24 12:52 13:08 13:28 13:42
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
3.7E4
1.9E4
0.0E0
1.2E4
6.2E3
1.0E7
5.1E6
3.3E6
1.6E6
8.7E6
4.4E6

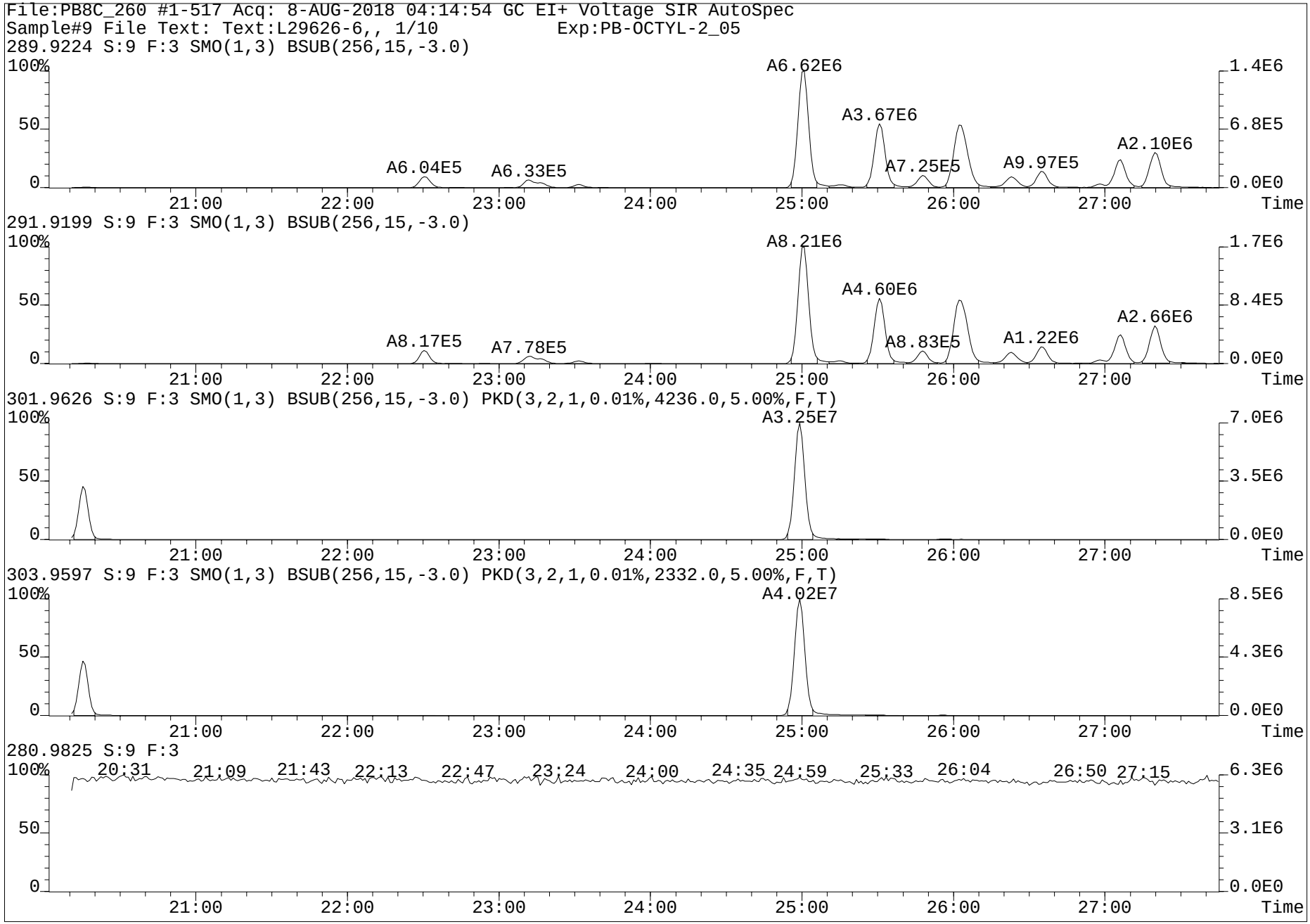

File:PB8C_260 #1-364 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.26E5
A3.03E5
A3.79E4
A1.17E5
A5.68E4
A2.53E5
223.9974 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.09E5
A1.84E5
A1.81E4
A6.93E4
A1.97E4
A1.62E5
234.0406 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8272.0,5.00%,F,T)
A8.87E7
A2.25E7
236.0376 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2604.0,5.00%,F,T)
A5.69E7
A1.44E7
242.9856 S:9 F:2
14:01 14:33 14:57 15:21 16:10 16:39 17:13 17:34 18:08 18:48 19:26 20:03
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.2E5 6.1E4 0.0E0
7.9E4 4.0E4 0.0E0
2.2E7 1.1E7 0.0E0
1.4E7 7.1E6 0.0E0
2.5E6 1.2E6 0.0E0

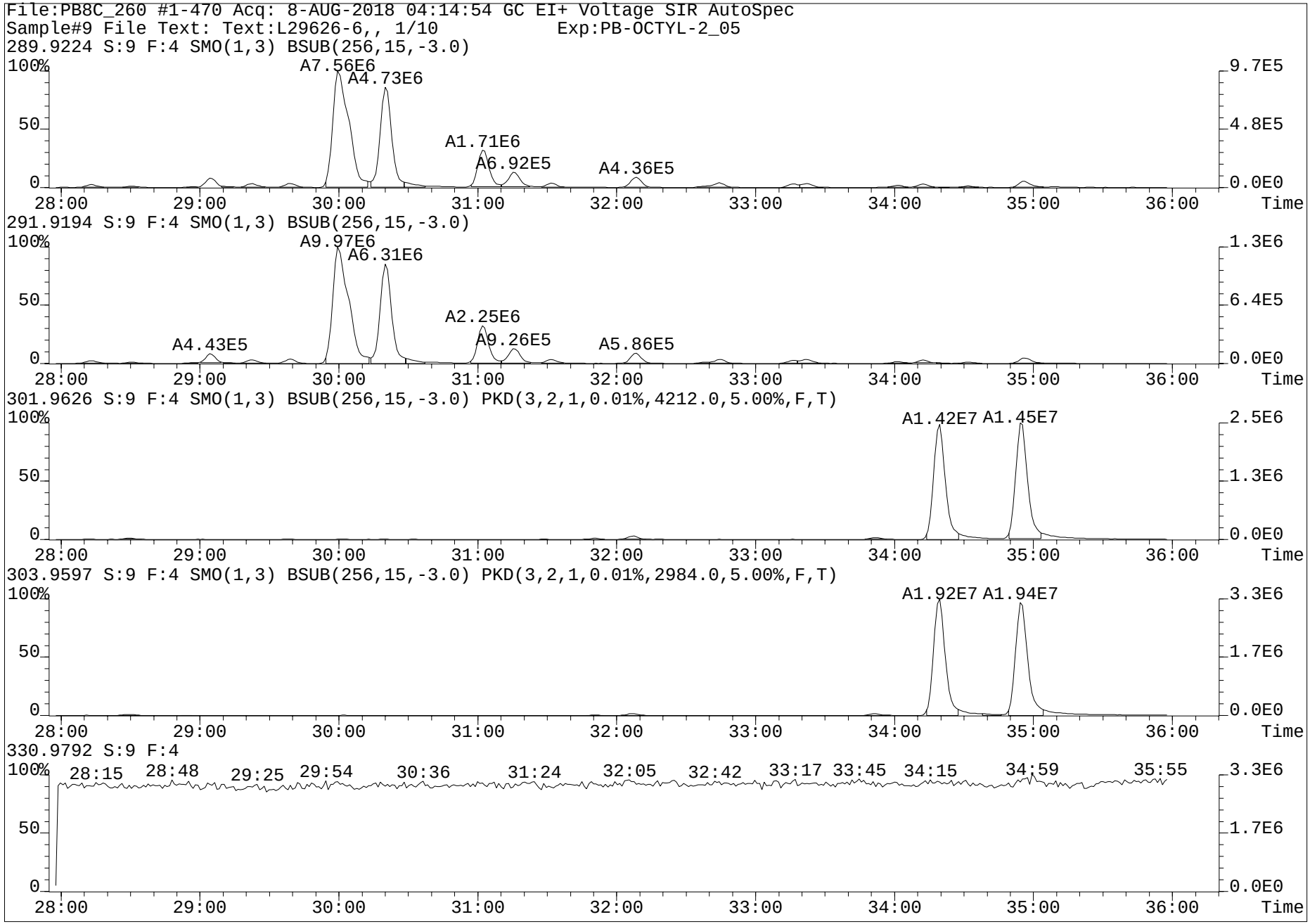

File:PB8C_260 #1-364 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.26E5
A3.03E5
A3.79E4
A1.17E5
A5.68E4
A2.53E5
223.9974 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.09E5
A1.84E5
A1.81E4
A6.93E4
A1.97E4
A1.62E5
255.9613 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,680.0,5.00%,F,T)
A1.46E6
A6.30E5
A1.30E5
A2.97E5
257.9584 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.39E6
A6.35E5
A1.19E5
A2.95E5
Time

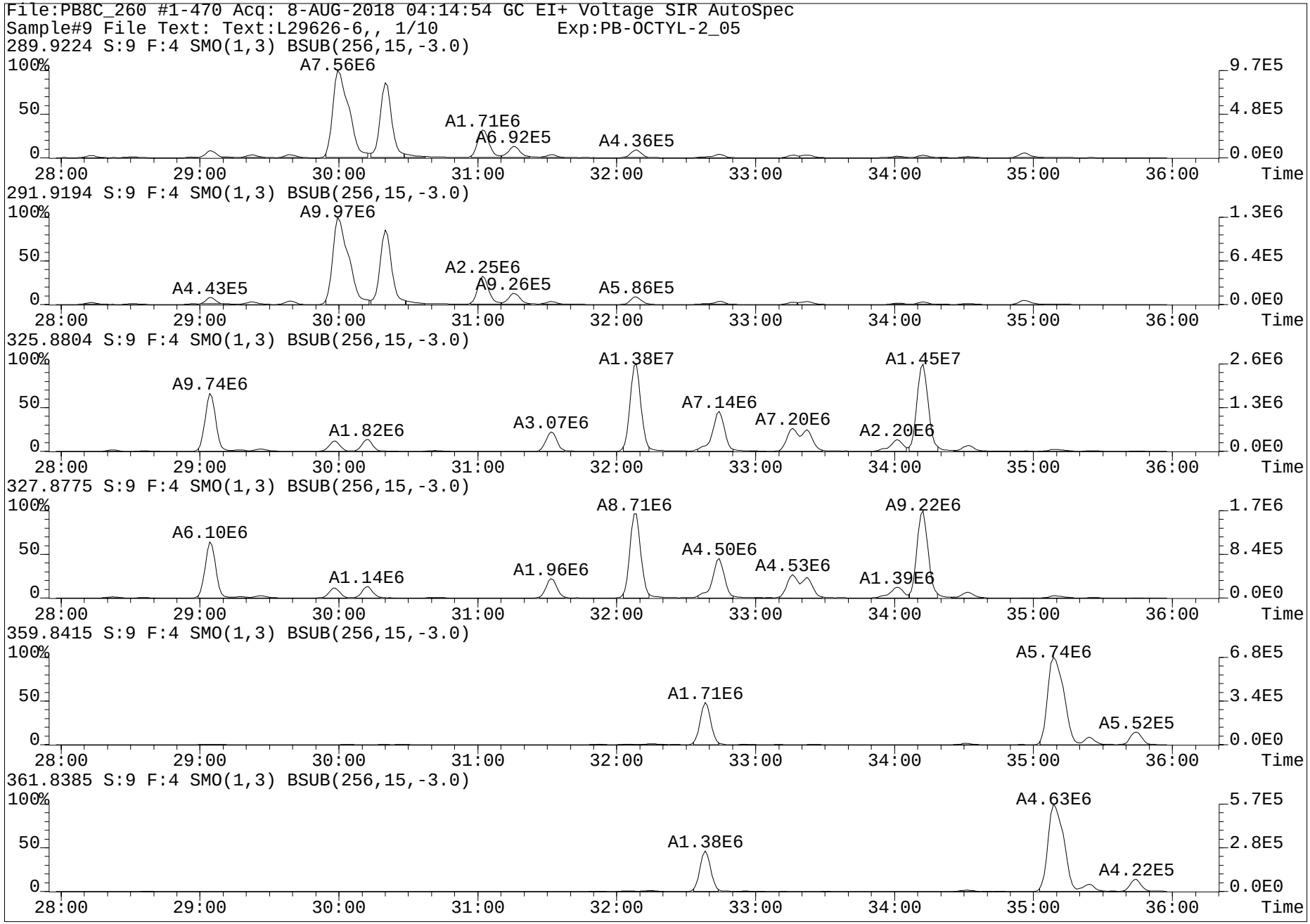

File:PB8C_260 #1-364 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,680.0,5.00%,F,T)
A1.46E6
A6.30E5
A2.97E5
A1.30E5
257.9584 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.39E6
A6.35E5
A2.95E5
A2.66E5
A1.19E5
268.0016 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12340.0,5.00%,F,T)
A1.06E7
269.9986 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6796.0,5.00%,F,T)
A1.01E7
242.9856 S:9 F:2
17:01 17:13 17:30 17:57 18:08 18:29 18:48 19:07 19:26 19:40 20:03
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
3.2E5
1.6E5
0.0E0
3.0E5
1.5E5
2.5E6
1.2E6
2.4E6

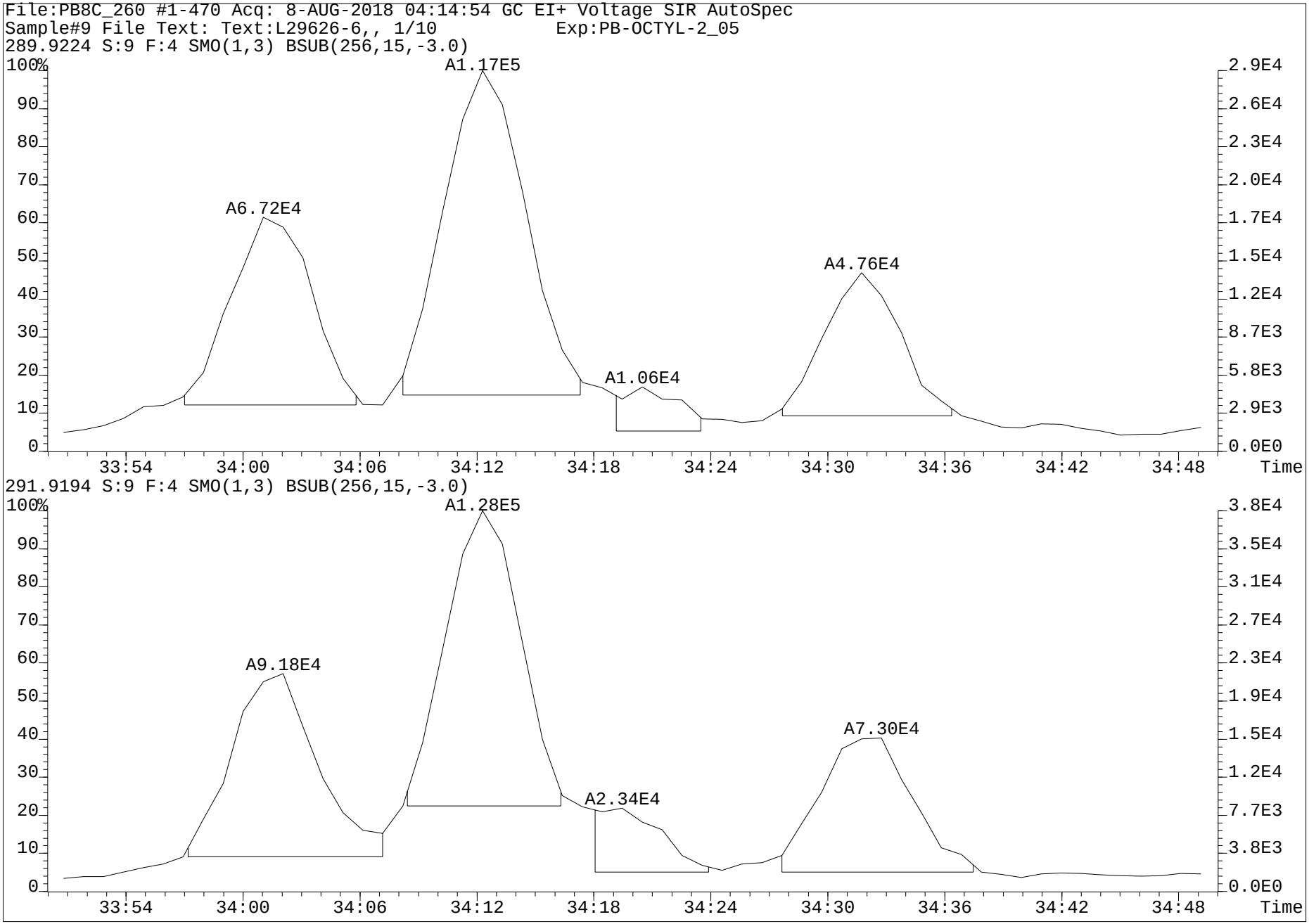

File:PB8C_260 #1-517 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1740.0,5.00%,F,T)
A6.53E5
A8.09E5
A4.27E5
A2.89E6
A1.05E6
A6.50E5
A3.64E5
A2.77E5
A4.60E5
257.9584 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.30E5
A8.21E5
A4.25E5
A2.84E6
A9.99E5
A6.26E5
A3.20E5
A2.53E5
A4.62E5
268.0016 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19960.0,5.00%,F,T)
A1.95E7
A1.69E7
269.9986 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9764.0,5.00%,F,T)
A1.87E7
A1.63E7
280.9825 S:9 F:3
20:31 21:09 21:43 22:13 22:47 23:24 24:00 24:35 24:59 25:33 26:04 26:50 27:15
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
5.6E5 2.8E5 0.0E0
5.5E5 2.7E5 0.0E0
4.0E6 2.0E6 0.0E0
3.9E6 1.9E6 0.0E0
6.3E6 3.1E6 0.0E0

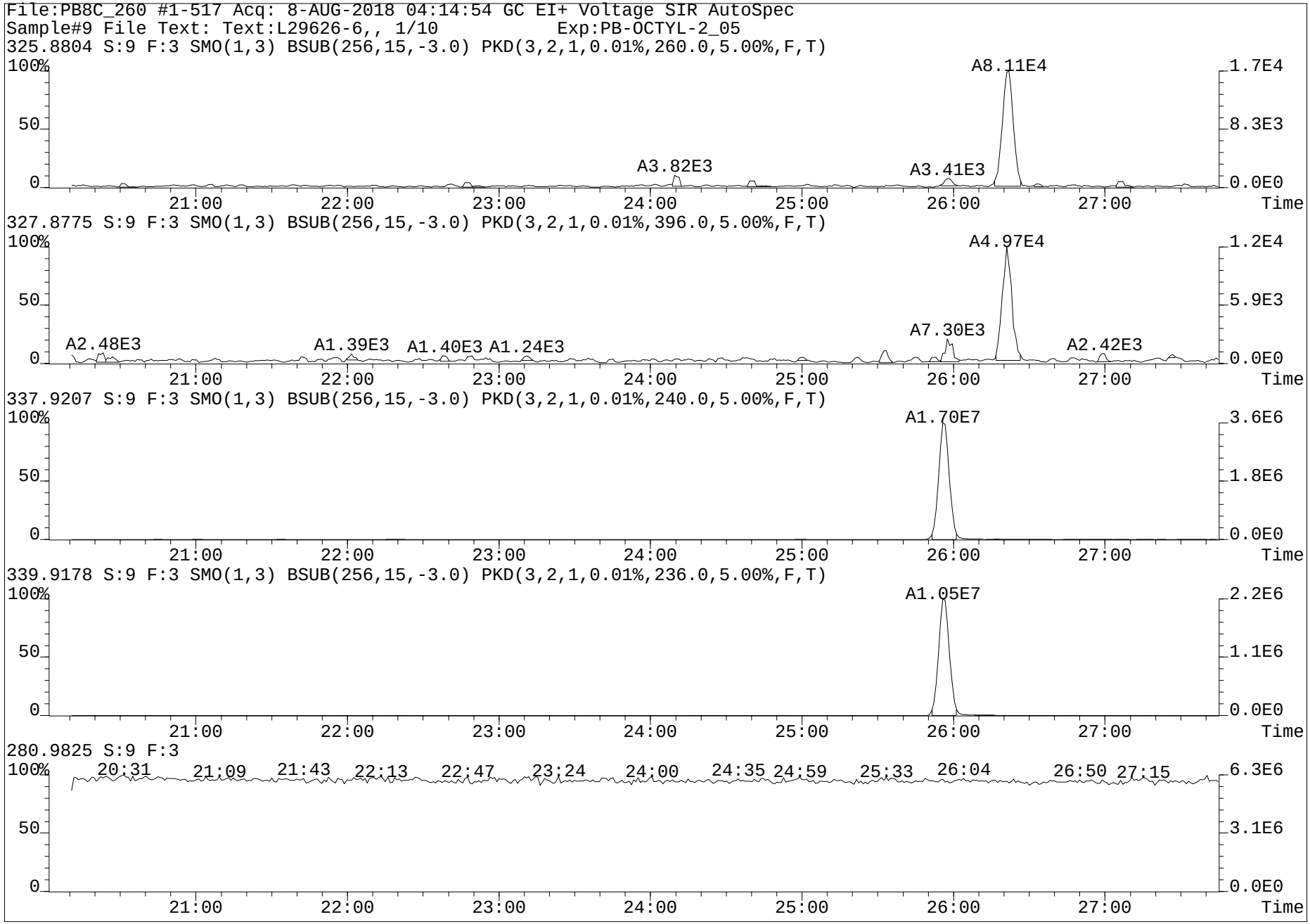

File:PB8C_260 #1-517 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1740.0,5.00%,F,T)
A6.53E5
A8.09E5
A4.27E5
A2.89E6
A1.05E6
A3.64E5
A2.77E5
A4.60E5
257.9584 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.30E5
A8.21E5
A4.25E5
A2.84E6
A9.99E5
A3.20E5
A2.53E5
A4.62E5
289.9224 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.04E5
A6.33E5
A6.62E6
A3.67E6
A7.25E5
A9.97E5
A2.10E6
291.9199 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A8.17E5
A7.78E5
A8.21E6
A4.60E6
A8.83E5
A1.22E6
A2.66E6
325.8804 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A3.82E3
A3.41E3
A8.11E4
327.8775 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A2.48E3
A1.39E3
A1.40E3
A1.24E3
A7.30E3
A4.97E4
A2.42E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.6E5
2.8E5
0.0E0
5.5E5
2.7E5
1.4E6
6.8E5
1.7E6
8.4E5
1.7E4
8.3E3
1.2E4
5.9E3

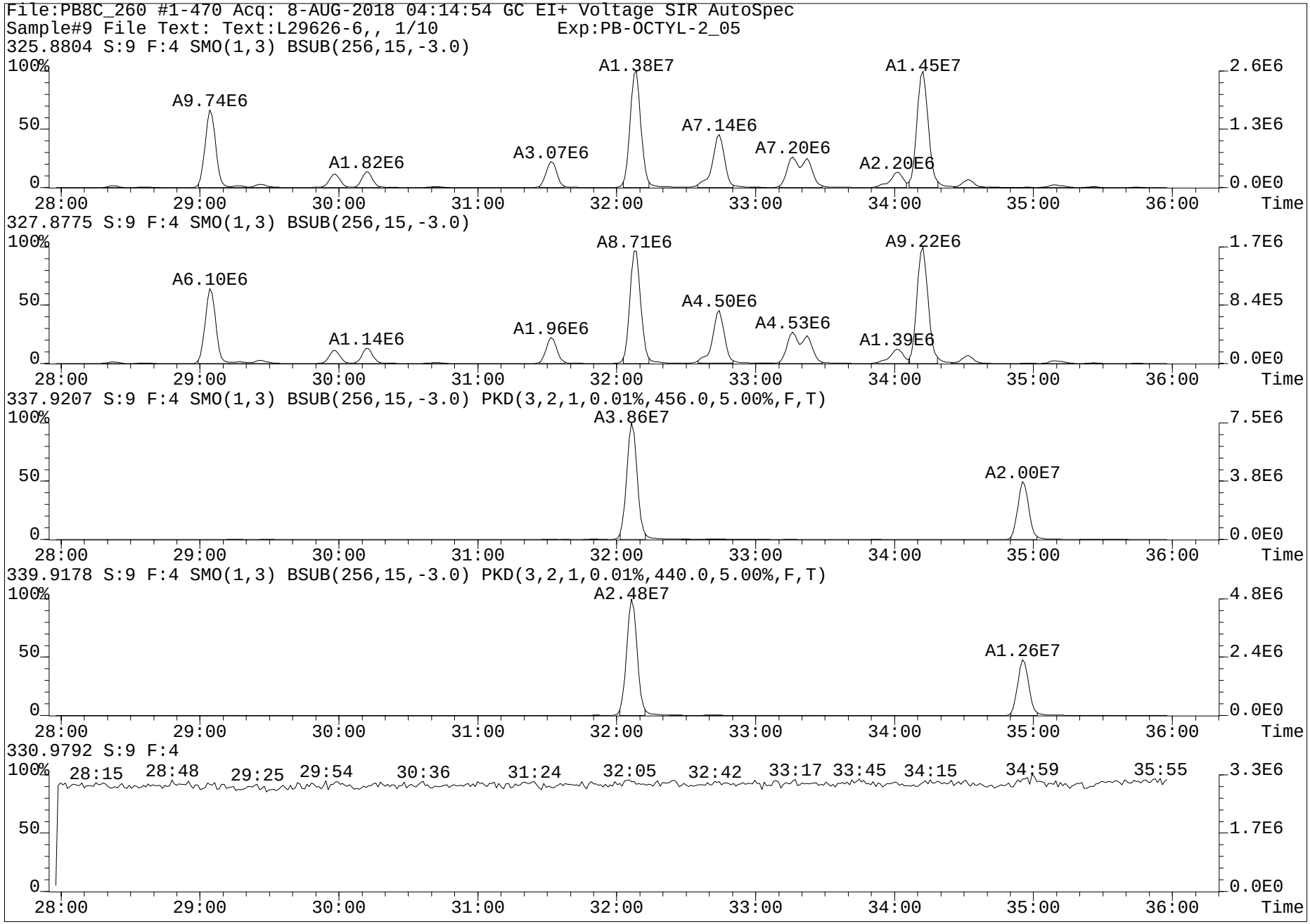

File:PB8C_260 #1-517 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.62E6
A3.67E6
A2.10E6
A7.25E5
A9.97E5
A6.04E5
A6.33E5
1.4E6
6.8E5
0.0E0
291.9199 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0)
A8.21E6
A4.60E6
A2.66E6
A8.83E5
A1.22E6
A8.17E5
A7.78E5
1.7E6
8.4E5
0.0E0
301.9626 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4236.0,5.00%,F,T)
A3.25E7
7.0E6
3.5E6
0.0E0
303.9597 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2332.0,5.00%,F,T)
A4.02E7
8.5E6
4.3E6
0.0E0
280.9825 S:9 F:3
20:31 21:09 21:43 22:13 22:47 23:24 24:00 24:35 24:59 25:33 26:04 26:50 27:15
6.3E6
3.1E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

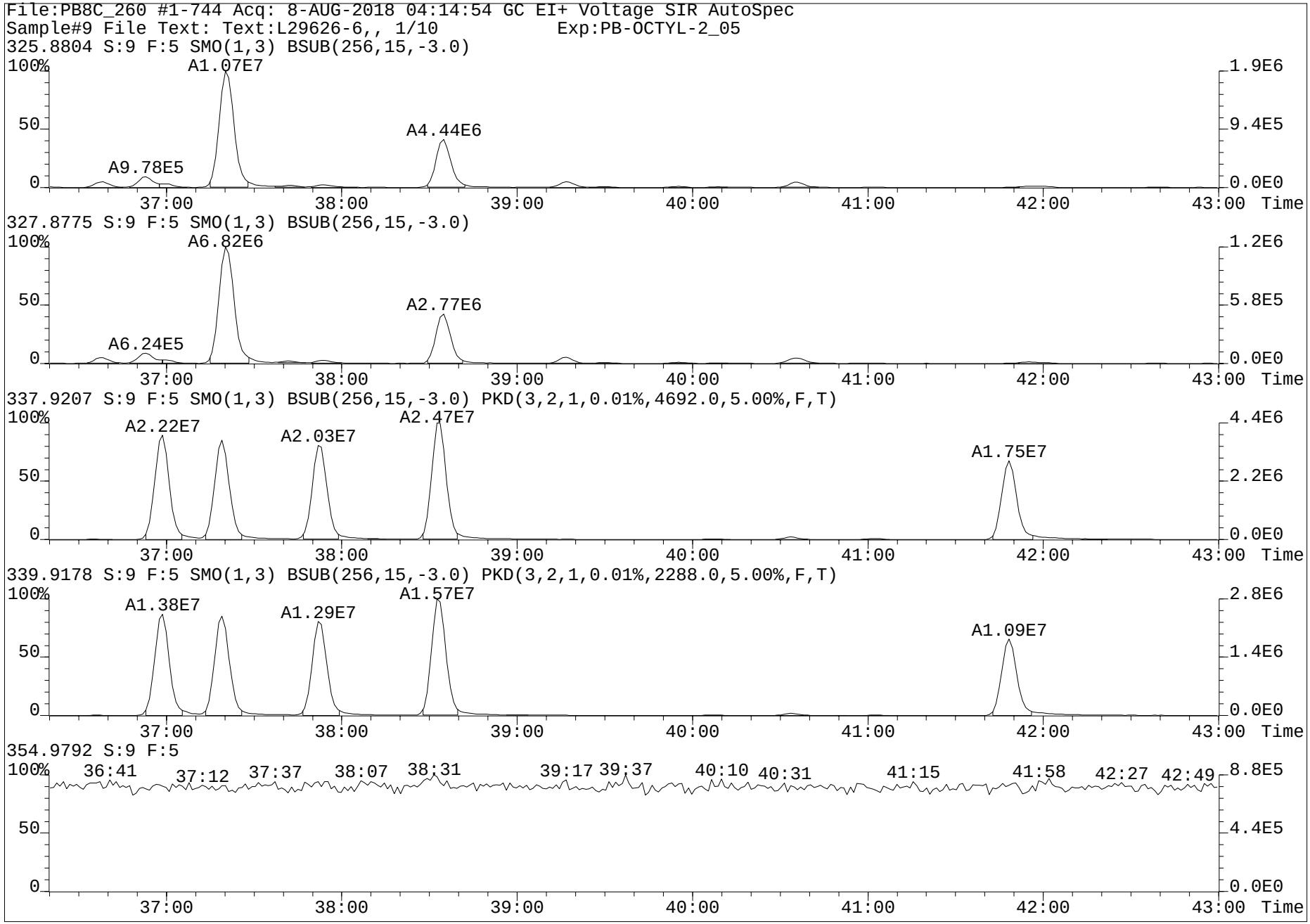

File:PB8C_260 #1-470 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.56E6
A4.73E6
A1.71E6
A6.92E5
A4.36E5
291.9194 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.97E6
A6.31E6
A2.25E6
A9.26E5
A4.43E5
A5.86E5
301.9626 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4212.0,5.00%,F,T)
A1.42E7
A1.45E7
303.9597 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2984.0,5.00%,F,T)
A1.92E7
A1.94E7
330.9792 S:9 F:4
28:15
28:48
29:25
29:54
30:36
31:24
32:05
32:42
33:17
33:45
34:15
34:59
35:55
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
9.7E5
4.8E5
0.0E0
1.3E6
6.4E5
2.5E6
1.3E6
3.3E6
1.7E6

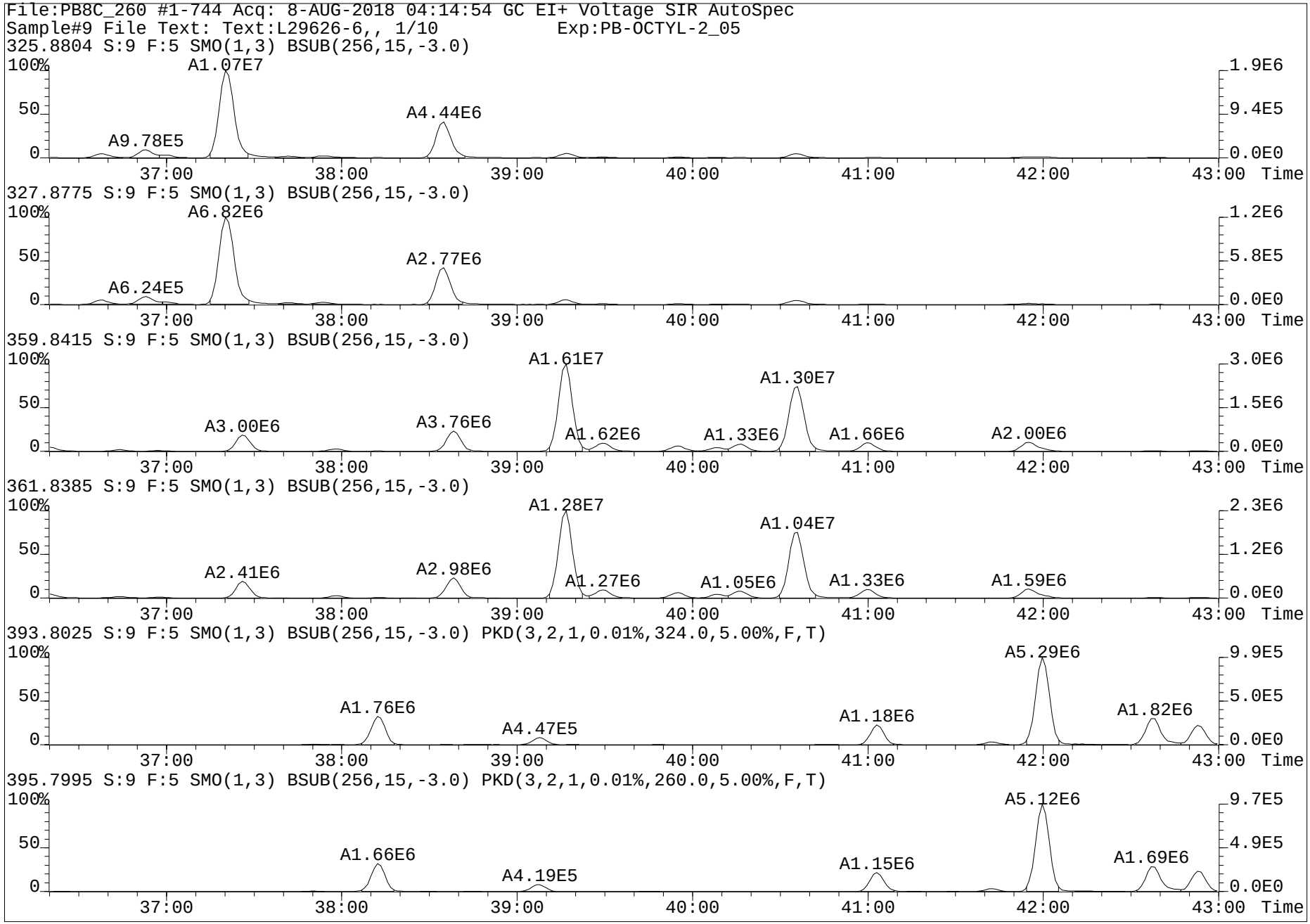

File:PB8C_260 #1-470 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.56E6
A1.71E6
A6.92E5
A4.36E5
291.9194 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.97E6
A4.43E5
A2.25E6
A9.26E5
A5.86E5
325.8804 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.38E7
A1.45E7
A9.74E6
A7.14E6
A7.20E6
A1.82E6
A3.07E6
A2.20E6
327.8775 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A8.71E6
A9.22E6
A6.10E6
A4.50E6
A4.53E6
A1.14E6
A1.96E6
A1.39E6
359.8415 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.74E6
A1.71E6
A5.52E5
361.8385 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.63E6
A1.38E6
A4.22E5
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time

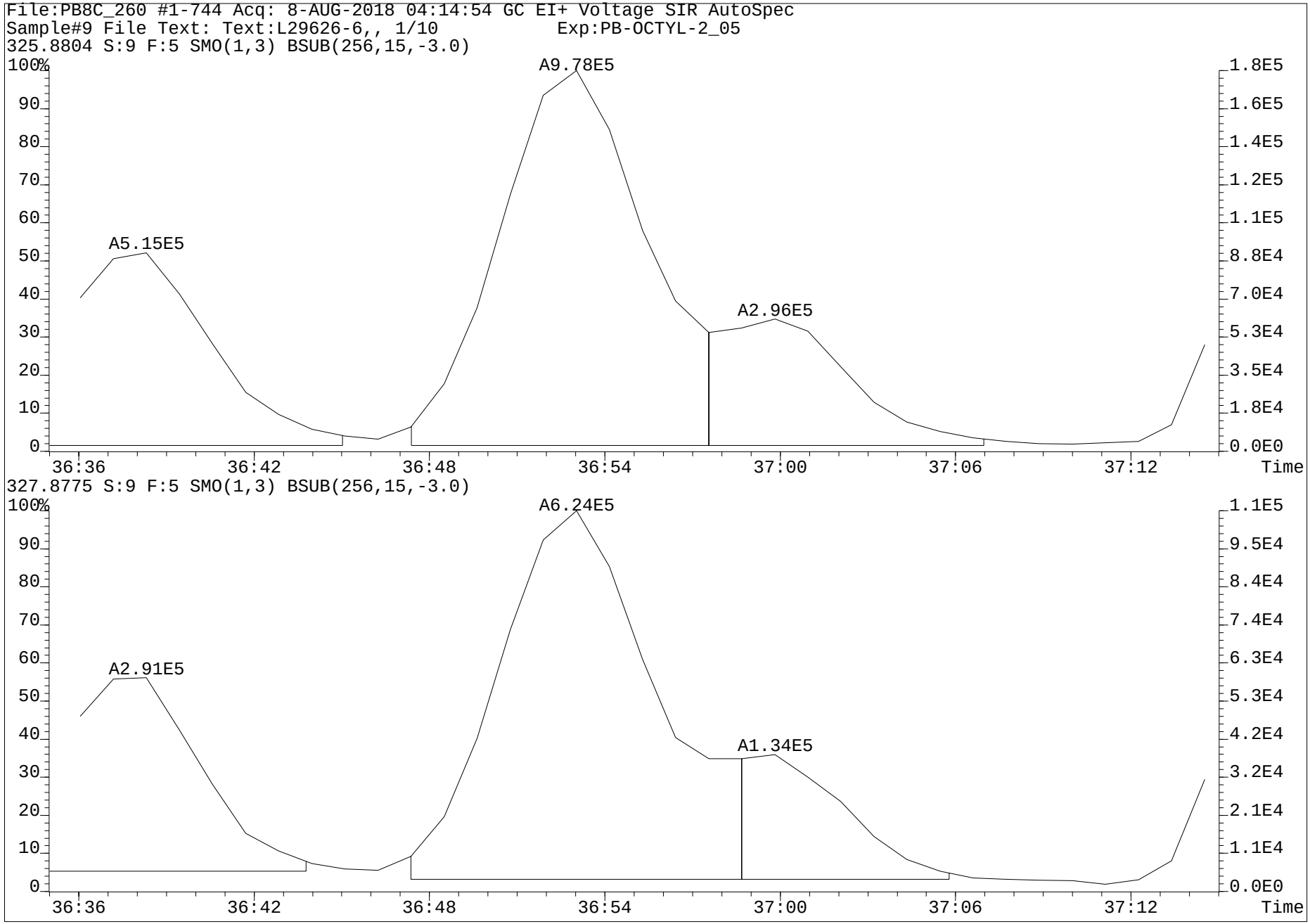

File:PB8C_260 #1-470 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.17E5
A6.72E4
A4.76E4
A1.06E4
291.9194 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.28E5
A9.18E4
A7.30E4
A2.34E4
Time

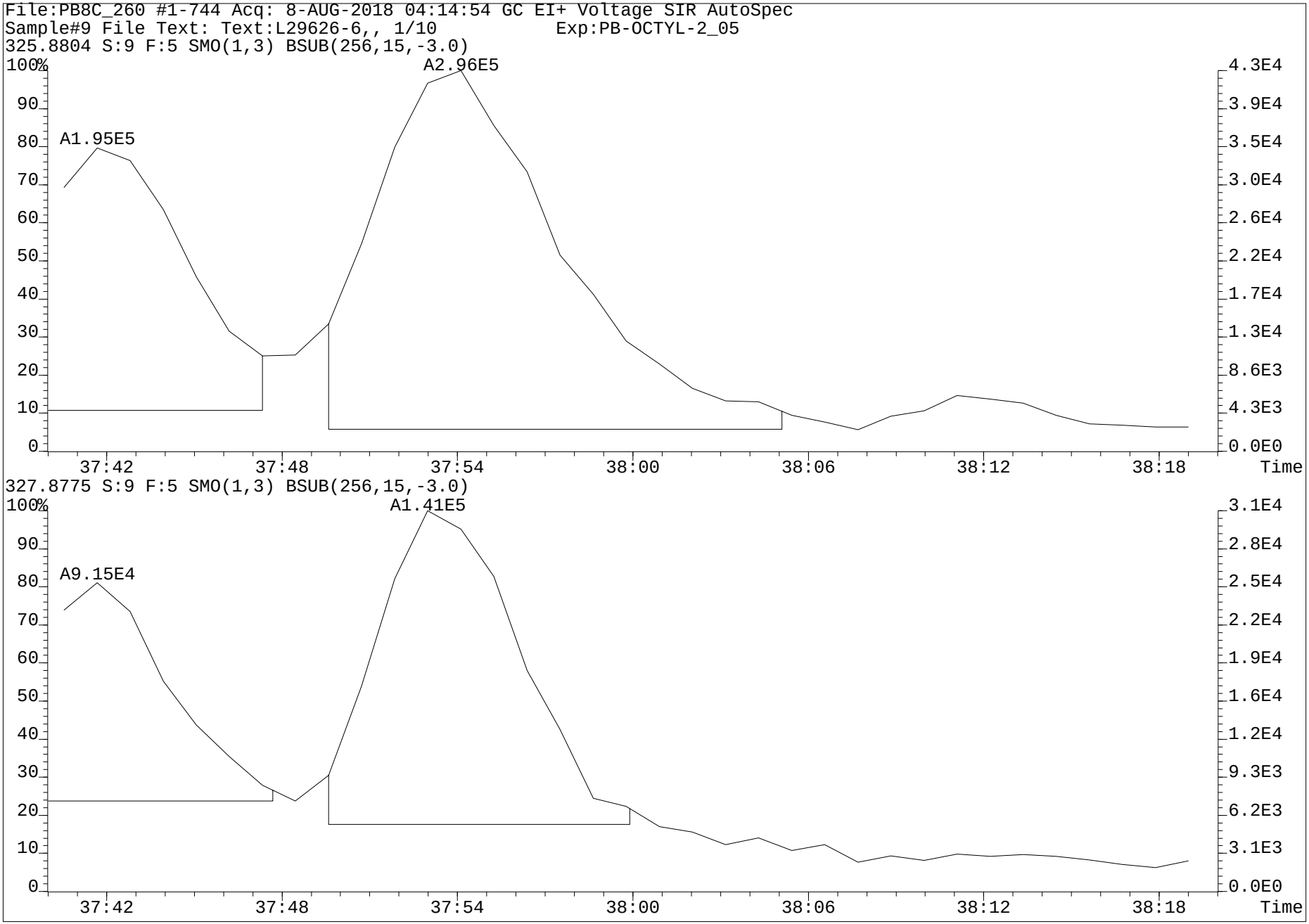

File:PB8C_260 #1-517 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A8.11E4
A3.82E3
A3.41E3
1.7E4
8.3E3
0.0E0
327.8775 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A4.97E4
A2.48E3
A1.39E3
A1.40E3
A1.24E3
A7.30E3
A2.42E3
1.2E4
5.9E3
0.0E0
337.9207 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,240.0,5.00%,F,T)
A1.70E7
3.6E6
1.8E6
0.0E0
339.9178 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A1.05E7
2.2E6
1.1E6
0.0E0
280.9825 S:9 F:3
20:31
21:09
21:43
22:13
22:47
23:24
24:00
24:35
24:59
25:33
26:04
26:50
27:15
6.3E6
3.1E6
0.0E0
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

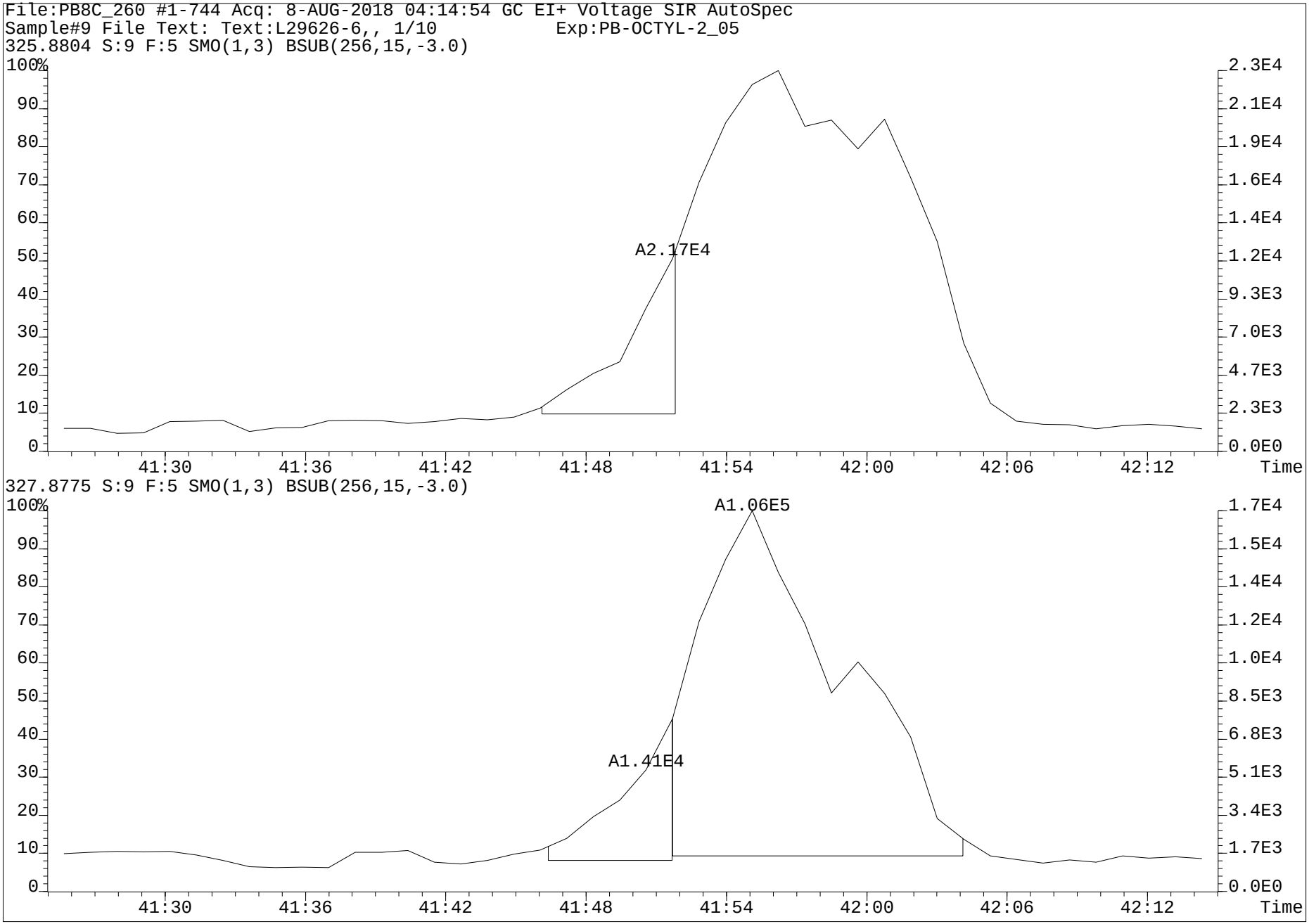

File:PB8C_260 #1-470 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.74E6
A1.82E6
A3.07E6
A1.38E7
A7.14E6
A7.20E6
A2.20E6
A1.45E7
327.8775 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.10E6
A1.14E6
A1.96E6
A8.71E6
A4.50E6
A4.53E6
A1.39E6
A9.22E6
337.9207 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A3.86E7
A2.00E7
339.9178 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A2.48E7
A1.26E7
330.9792 S:9 F:4
28:15 28:48 29:25 29:54 30:36 31:24 32:05 32:42 33:17 33:45 34:15 34:59 35:55
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.6E6 1.3E6 0.0E0
1.7E6 8.4E5 0.0E0
7.5E6 3.8E6 0.0E0
4.8E6 2.4E6 0.0E0
3.3E6 1.7E6 0.0E0

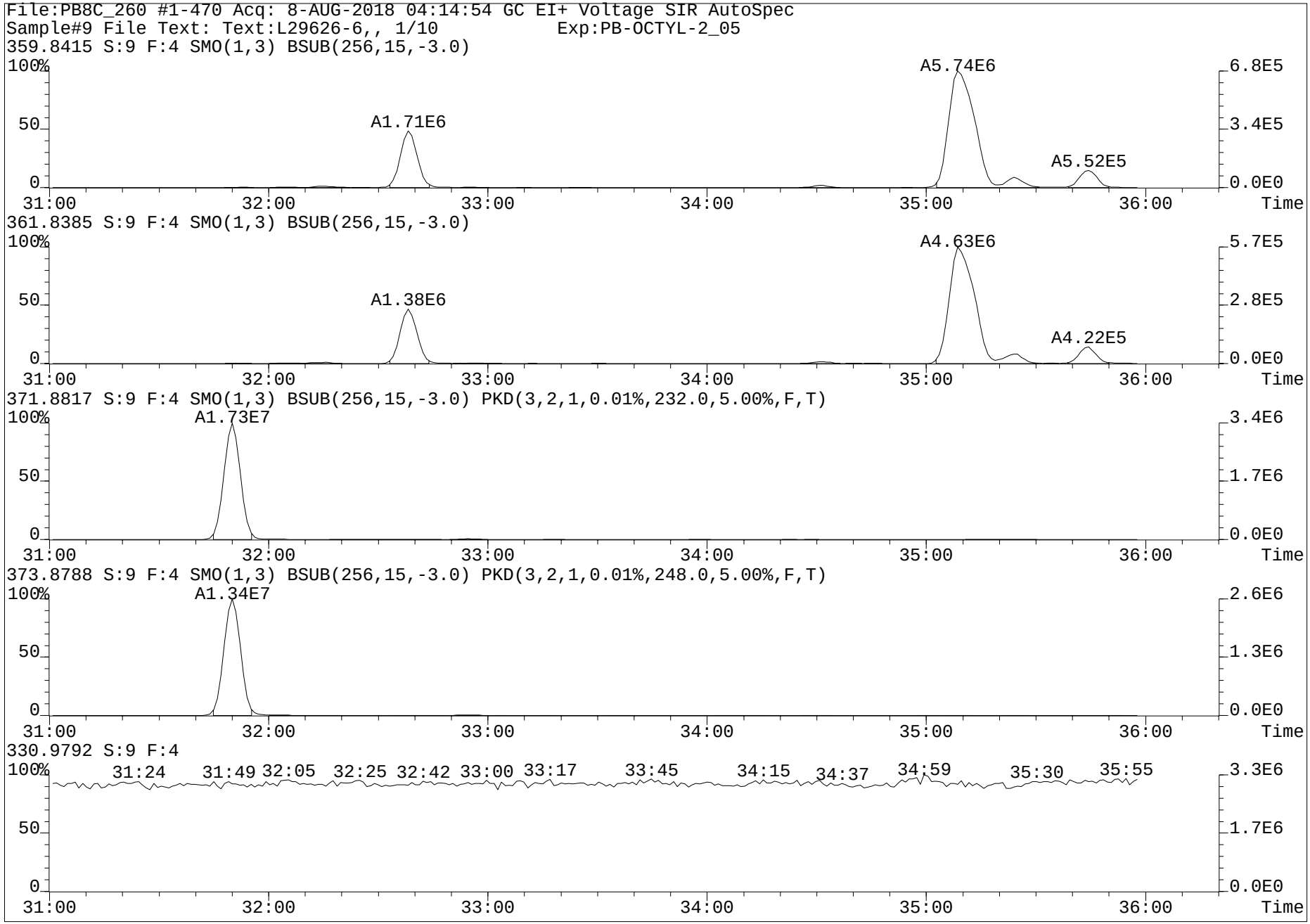

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.07E7
A4.44E6
A9.78E5
1.9E6
9.4E5
0.0E0
327.8775 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.82E6
A2.77E6
A6.24E5
1.2E6
5.8E5
0.0E0
337.9207 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4692.0,5.00%,F,T)
A2.22E7
A2.03E7
A2.47E7
A1.75E7
4.4E6
2.2E6
0.0E0
339.9178 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2288.0,5.00%,F,T)
A1.38E7
A1.29E7
A1.57E7
A1.09E7
2.8E6
1.4E6
0.0E0
354.9792 S:9 F:5
36:41 37:12 37:37 38:07 38:31 39:17 39:37 40:10 40:31 41:15 41:58 42:27 42:49
8.8E5
4.4E5
0.0E0
100%
50
0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time

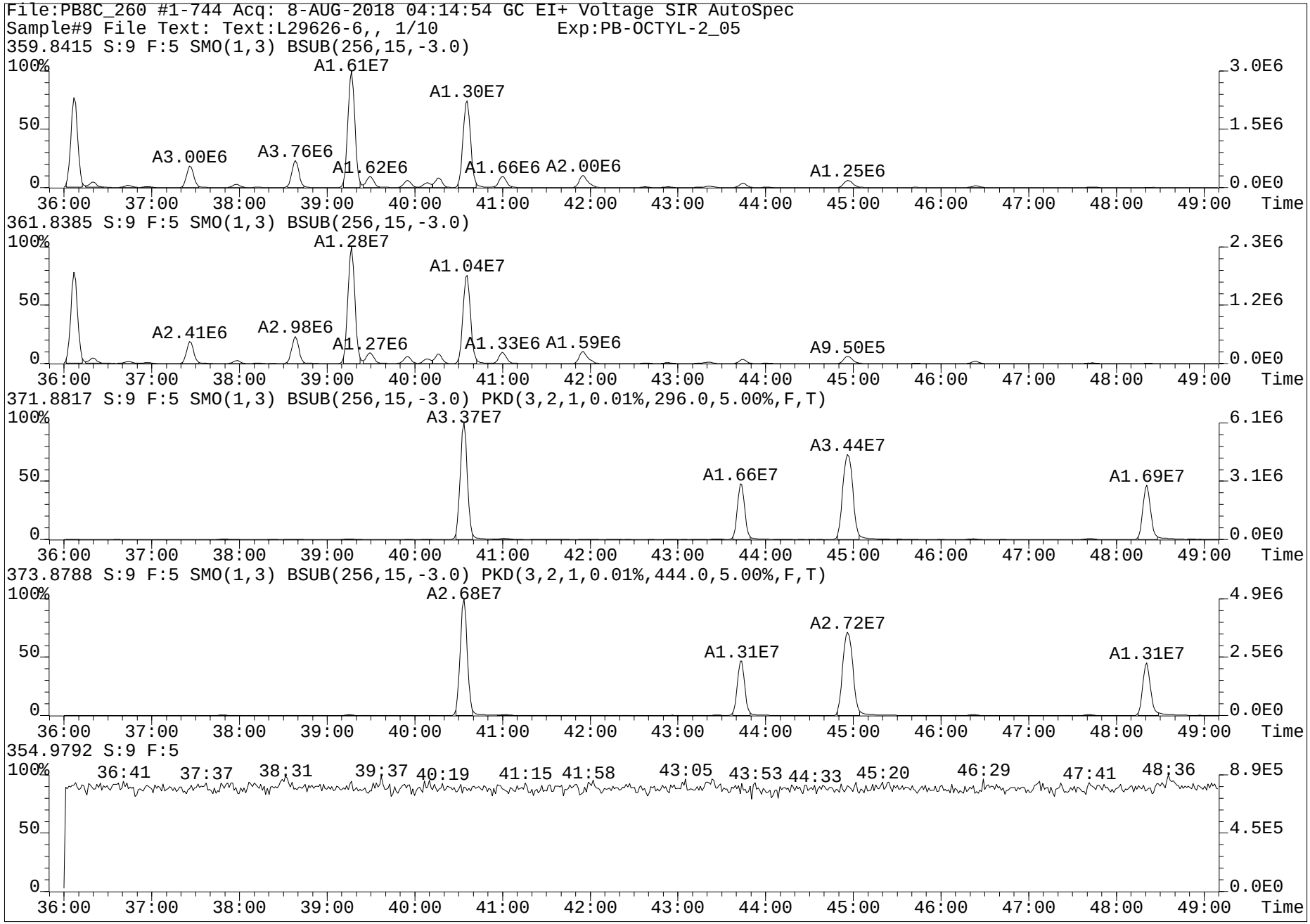

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.07E7
A4.44E6
A9.78E5
327.8775 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.82E6
A2.77E6
A6.24E5
359.8415 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.61E7
A1.30E7
A3.00E6
A3.76E6
A1.62E6
A1.33E6
A1.66E6
A2.00E6
361.8385 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.28E7
A1.04E7
A2.41E6
A2.98E6
A1.27E6
A1.05E6
A1.33E6
A1.59E6
393.8025 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A5.29E6
A1.76E6
A4.47E5
A1.18E6
A1.82E6
395.7995 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A5.12E6
A1.66E6
A4.19E5
A1.15E6
A1.69E6
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

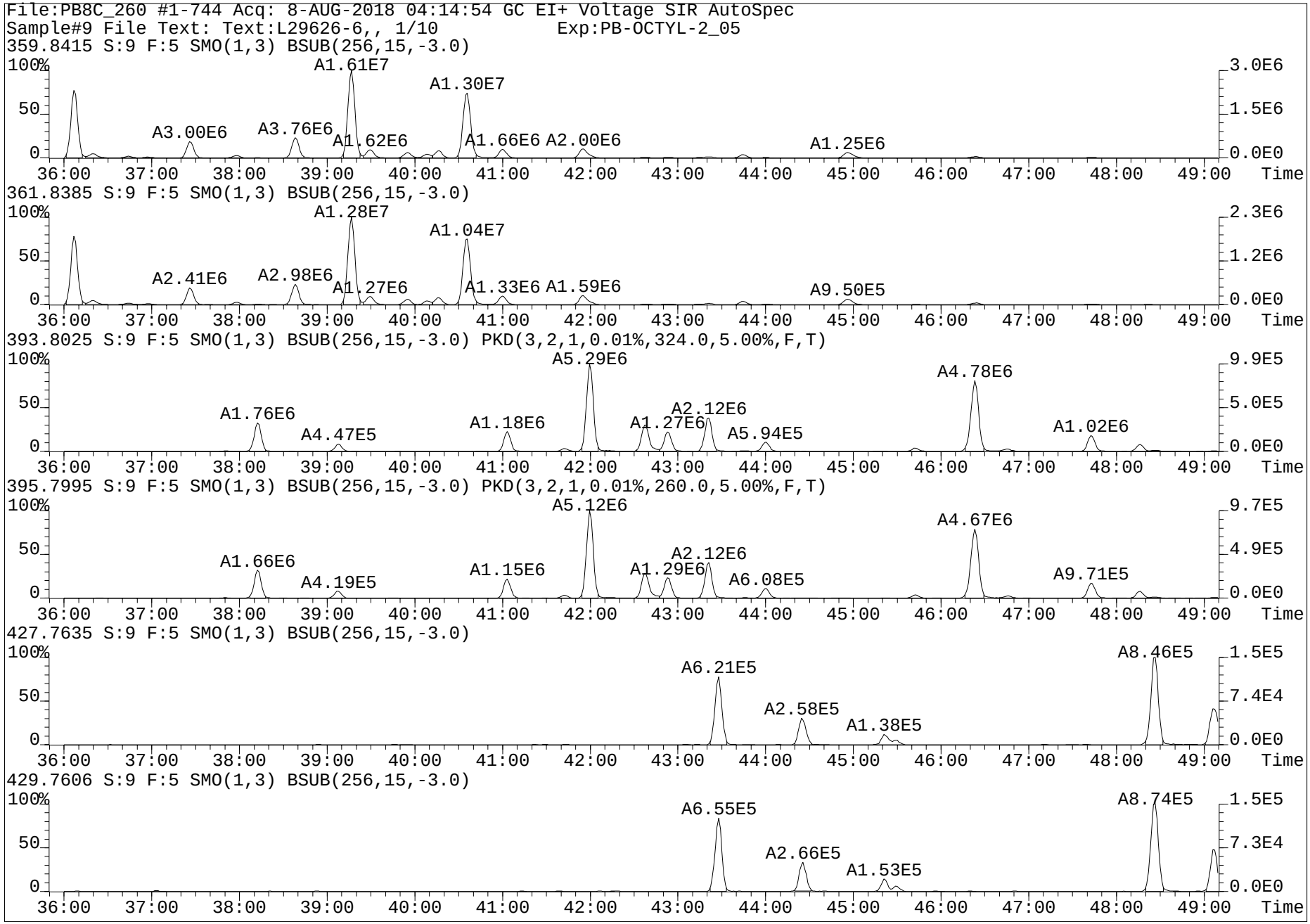

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.15E5
A9.78E5
A2.96E5
327.8775 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.91E5
A6.24E5
A1.34E5
Time

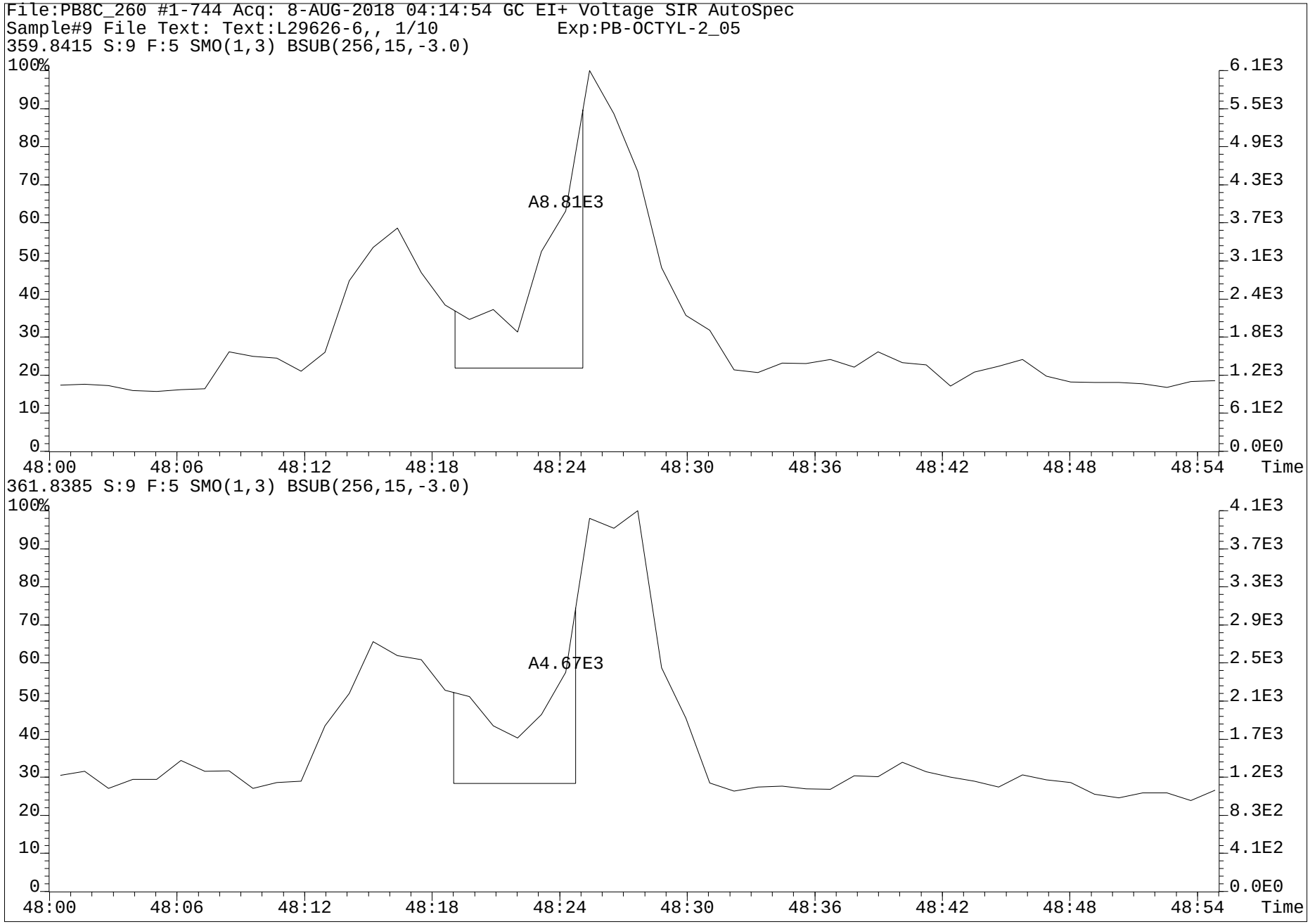

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.96E5
A1.95E5
100%
90
80
70
60
50
40
30
20
10
0
4.3E4
3.9E4
3.5E4
3.0E4
2.6E4
2.2E4
1.7E4
1.3E4
8.6E3
4.3E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.41E5
A9.15E4
100%
90
80
70
60
50
40
30
20
10
0
3.1E4
2.8E4
2.5E4
2.2E4
1.9E4
1.6E4
1.2E4
9.3E3
6.2E3
3.1E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

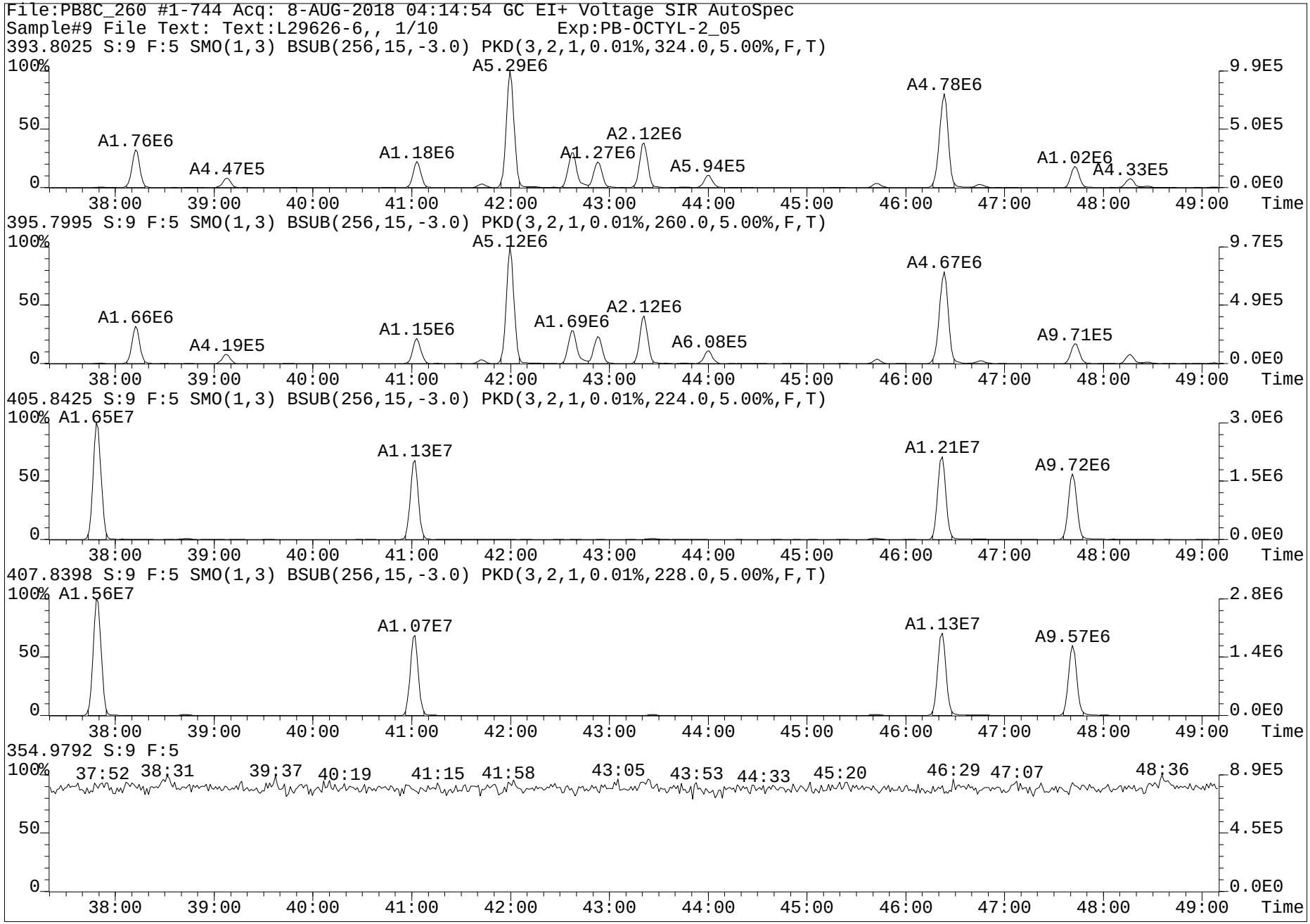

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
A2.17E4
2.3E4
2.1E4
1.9E4
1.6E4
1.4E4
1.2E4
9.3E3
7.0E3
4.7E3
2.3E3
0.0E0
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time
327.8775 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
A1.06E5
A1.41E4
1.7E4
1.5E4
1.4E4
1.2E4
1.0E4
8.5E3
6.8E3
5.1E3
3.4E3
1.7E3
0.0E0
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time

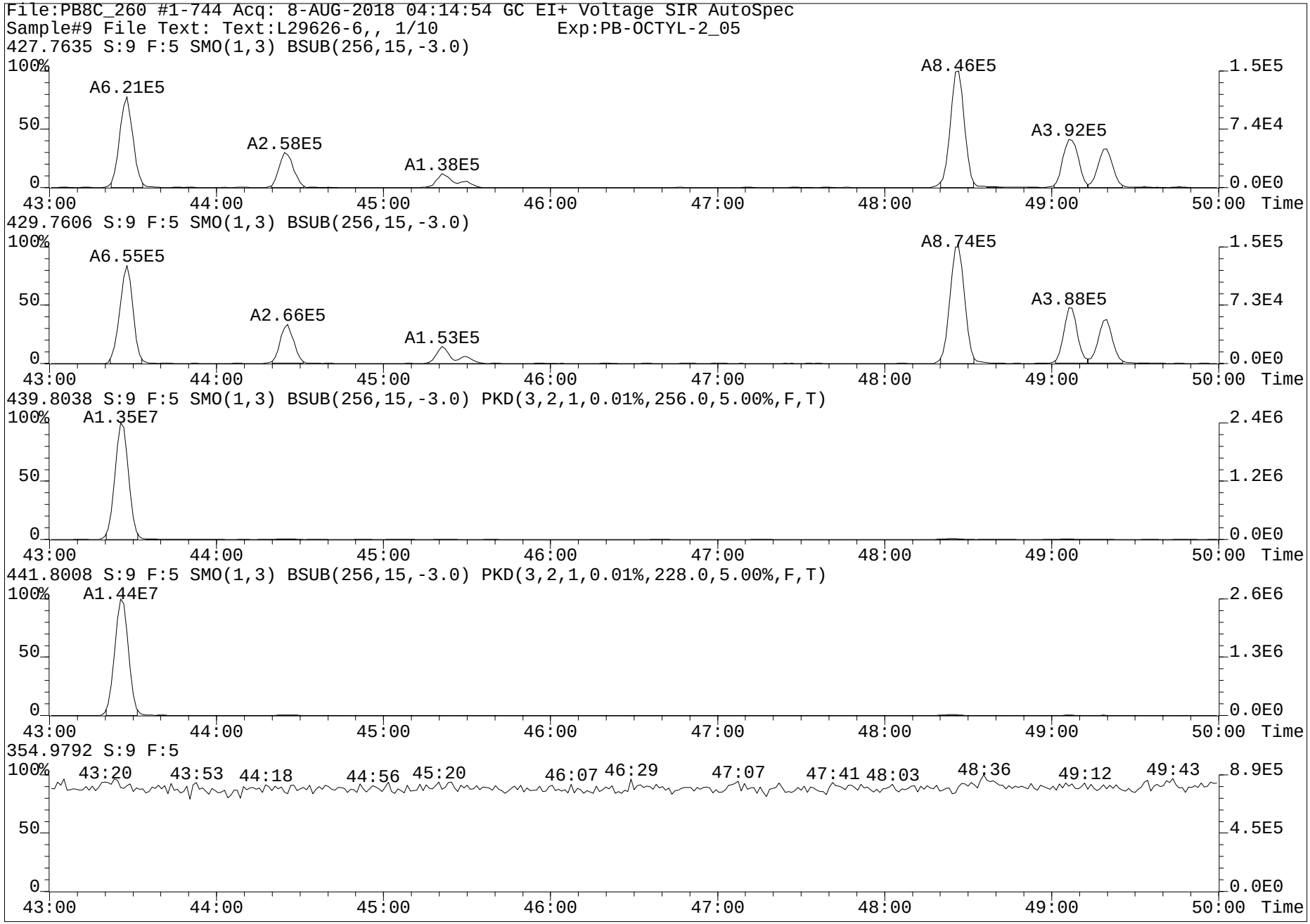

File:PB8C_260 #1-470 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.71E6
A5.74E6
A5.52E5
361.8385 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.38E6
A4.63E6
A4.22E5
371.8817 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A1.73E7
373.8788 S:9 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,248.0,5.00%,F,T)
A1.34E7
330.9792 S:9 F:4
31:24 31:49 32:05 32:25 32:42 33:00 33:17 33:45 34:15 34:37 34:59 35:30 35:55
31:00 32:00 33:00 34:00 35:00 36:00 Time

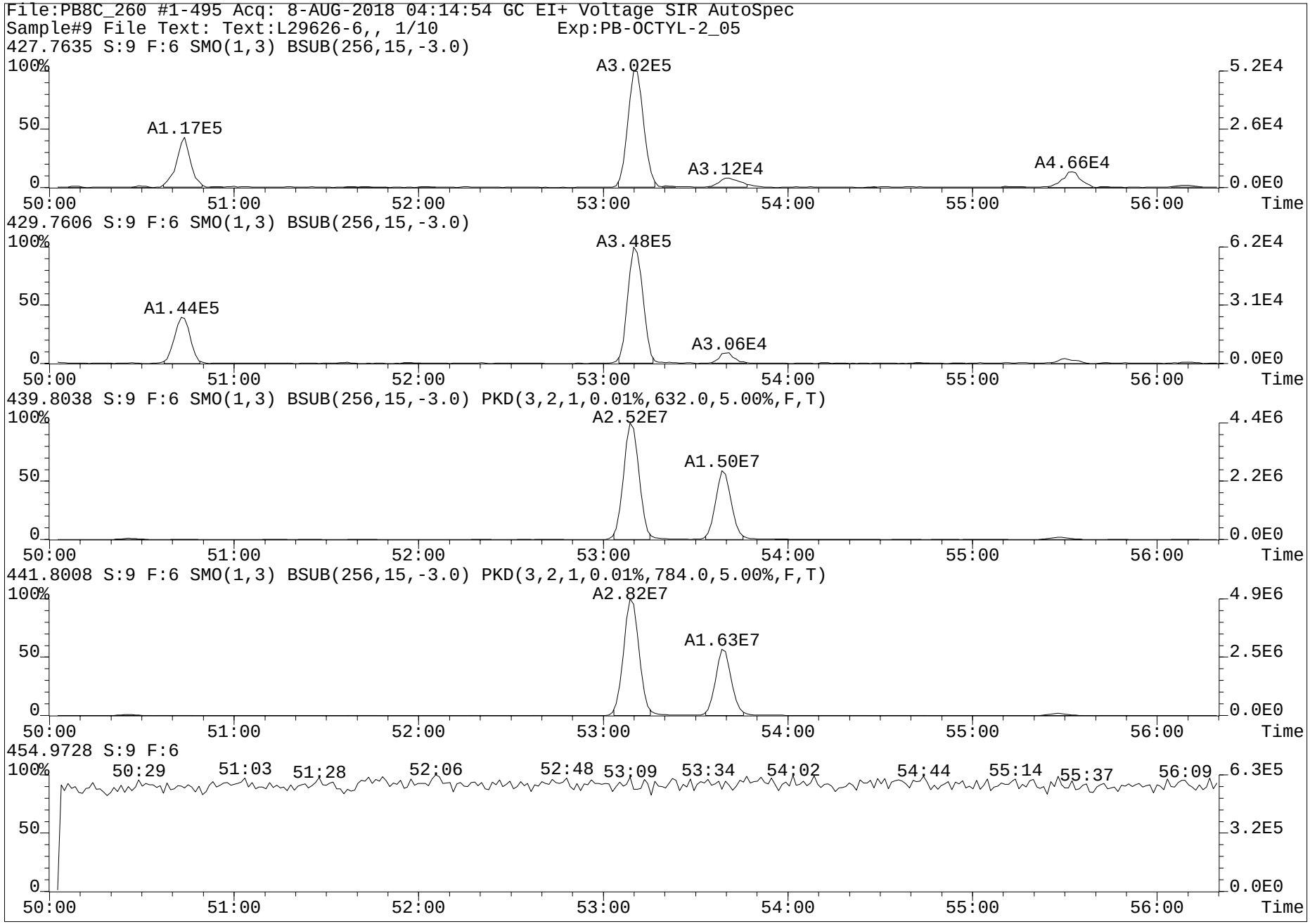

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.61E7
A1.30E7
A3.00E6
A3.76E6
A1.62E6
A1.66E6
A2.00E6
A1.25E6
361.8385 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.28E7
A1.04E7
A2.41E6
A2.98E6
A1.27E6
A1.33E6
A1.59E6
A9.50E5
371.8817 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A3.37E7
A3.44E7
A1.66E7
A1.69E7
373.8788 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A2.68E7
A2.72E7
A1.31E7
A1.31E7
354.9792 S:9 F:5
36:41
37:37
38:31
39:37
40:19
41:15
41:58
43:05
43:53
44:33
45:20
46:29
47:41
48:36
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
3.0E6
1.5E6
0.0E0
2.3E6
1.2E6
6.1E6
3.1E6
4.9E6
2.5E6
8.9E5
4.5E5

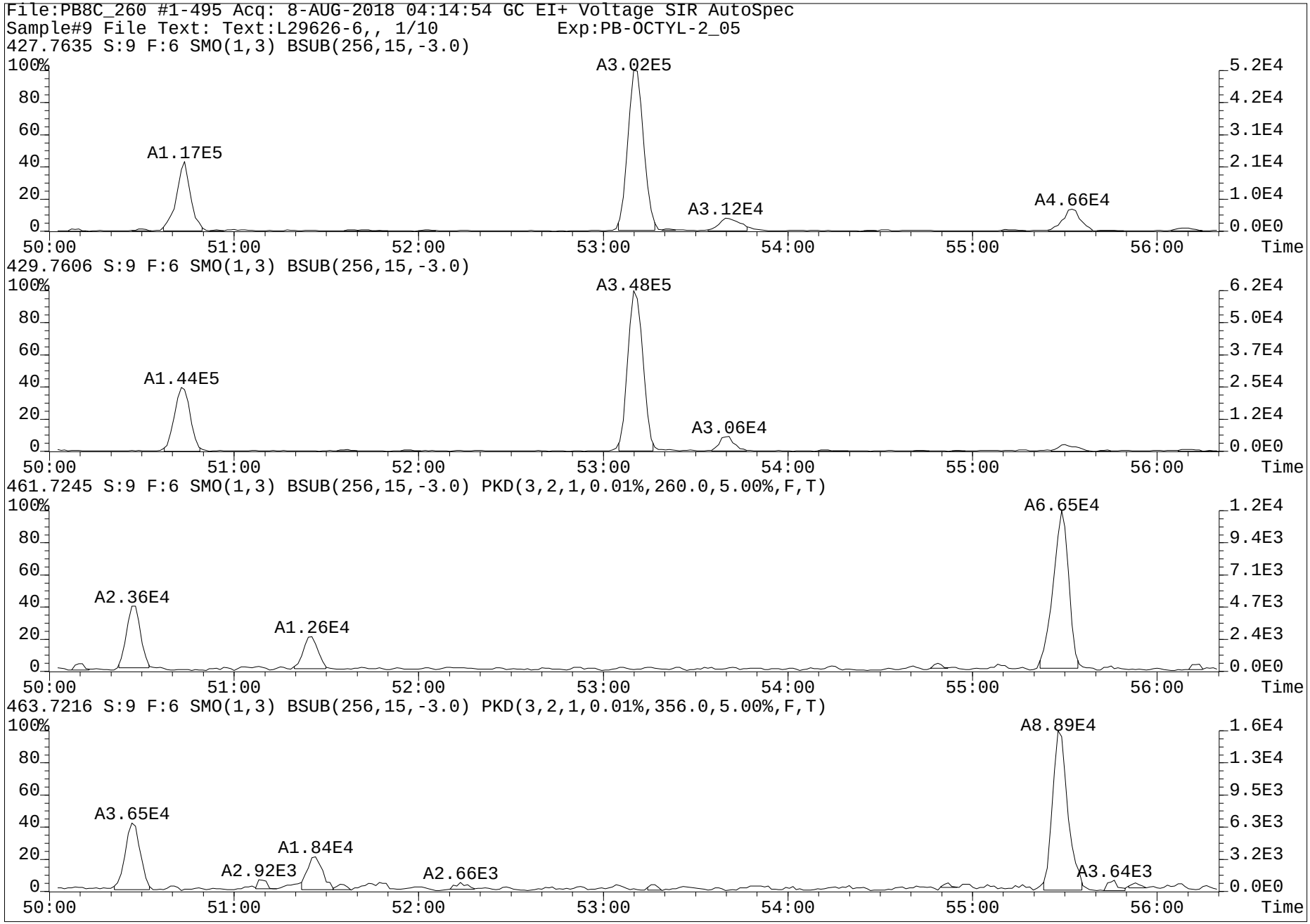

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.61E7
A1.30E7
A3.00E6
A3.76E6
A1.62E6
A1.66E6
A2.00E6
A1.25E6
361.8385 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.28E7
A1.04E7
A2.41E6
A2.98E6
A1.27E6
A1.33E6
A1.59E6
A9.50E5
393.8025 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A5.29E6
A4.78E6
A1.76E6
A4.47E5
A1.18E6
A2.12E6
A1.27E6
A5.94E5
A1.02E6
395.7995 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A5.12E6
A4.67E6
A1.66E6
A4.19E5
A1.15E6
A2.12E6
A1.29E6
A6.08E5
A9.71E5
427.7635 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.46E5
A6.21E5
A2.58E5
A1.38E5
429.7606 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.74E5
A6.55E5
A2.66E5
A1.53E5
Time

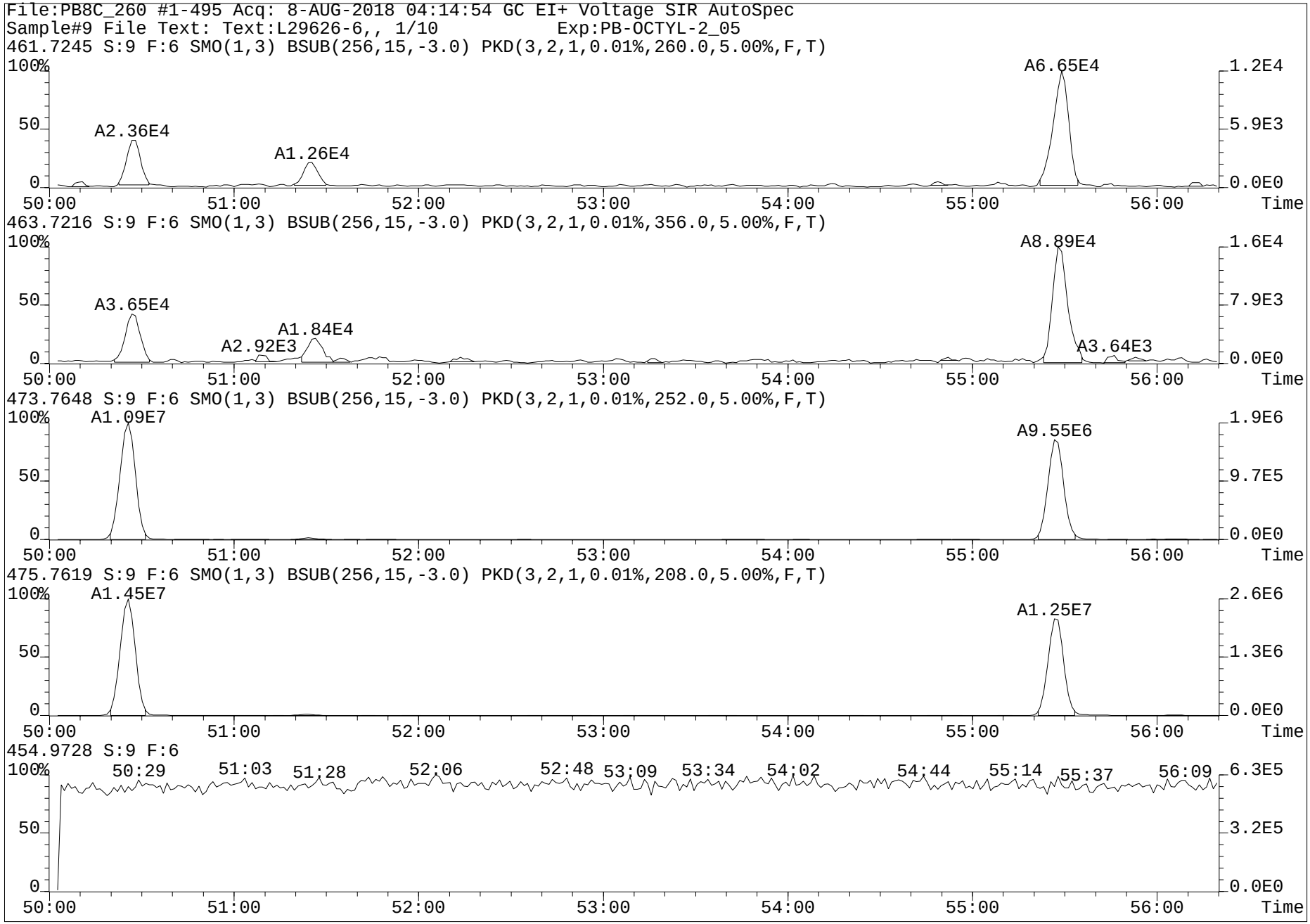

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
A8.81E3
6.1E3
5.5E3
4.9E3
4.3E3
3.7E3
3.1E3
2.4E3
1.8E3
1.2E3
6.1E2
0.0E0
48:00
48:06
48:12
48:18
48:24
48:30
48:36
48:42
48:48
48:54
Time
361.8385 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
A4.67E3
4.1E3
3.7E3
3.3E3
2.9E3
2.5E3
2.1E3
1.7E3
1.2E3
8.3E2
4.1E2
0.0E0
48:00
48:06
48:12
48:18
48:24
48:30
48:36
48:42
48:48
48:54
Time

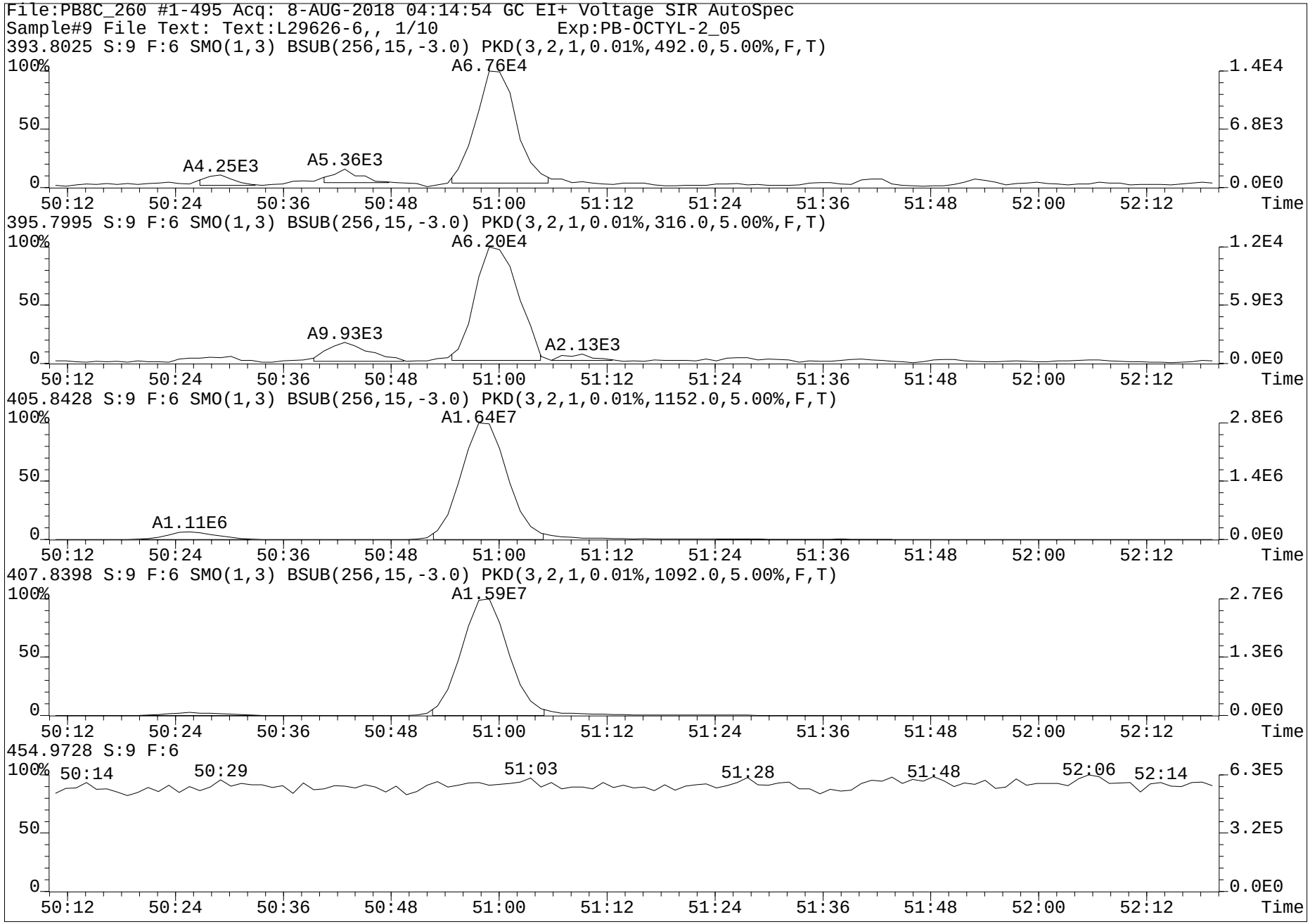

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A1.76E6
A4.47E5
A1.18E6
A5.29E6
A1.27E6
A2.12E6
A5.94E5
A4.78E6
A1.02E6
A4.33E5
395.7995 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A1.66E6
A4.19E5
A1.15E6
A5.12E6
A1.69E6
A2.12E6
A6.08E5
A4.67E6
A9.71E5
405.8425 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,224.0,5.00%,F,T)
A1.65E7
A1.13E7
A1.21E7
A9.72E6
407.8398 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,228.0,5.00%,F,T)
A1.56E7
A1.07E7
A1.13E7
A9.57E6
354.9792 S:9 F:5
37:52 38:31 39:37 40:19 41:15 41:58 43:05 43:53 44:33 45:20 46:29 47:07 48:36
100%
50
0
9.9E5
5.0E5
0.0E0
9.7E5
4.9E5
3.0E6
1.5E6
2.8E6
1.4E6
8.9E5
4.5E5
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00
Time

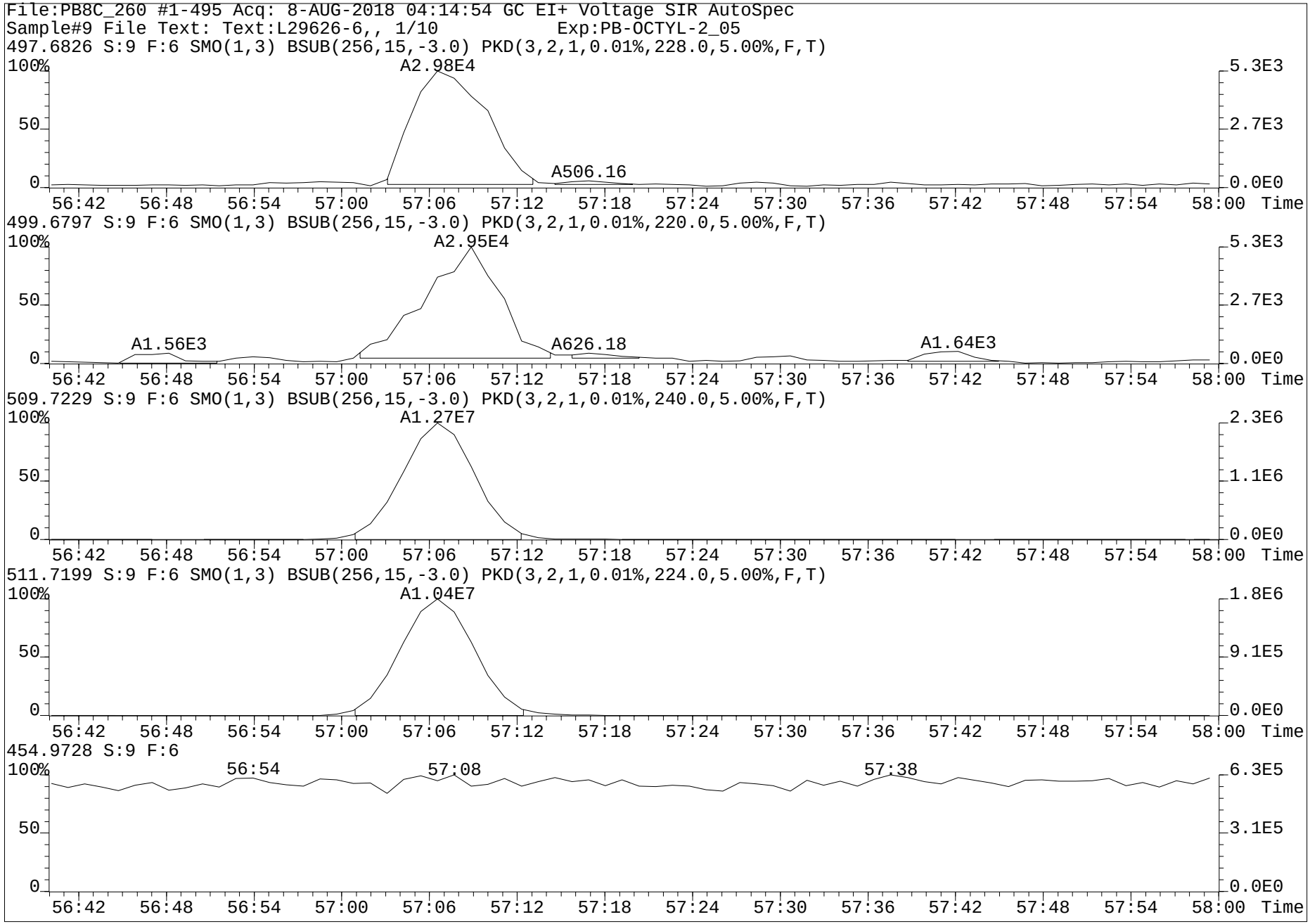

File:PB8C_260 #1-744 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.21E5
A2.58E5
A1.38E5
A8.46E5
A3.92E5
429.7606 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.55E5
A2.66E5
A1.53E5
A8.74E5
A3.88E5
439.8038 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,256.0,5.00%,F,T)
A1.35E7
441.8008 S:9 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,228.0,5.00%,F,T)
A1.44E7
354.9792 S:9 F:5
43:20 43:53 44:18 44:56 45:20 46:07 46:29 47:07 47:41 48:03 48:36 49:12 49:43
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
1.5E5
7.4E4
0.0E0
7.3E4
2.4E6
1.2E6
2.6E6
1.3E6
8.9E5
4.5E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0)
A1.17E5
A3.02E5
A3.12E4
A4.66E4
429.7606 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0)
A1.44E5
A3.48E5
A3.06E4
439.8038 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,632.0,5.00%,F,T)
A2.52E7
A1.50E7
441.8008 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,784.0,5.00%,F,T)
A2.82E7
A1.63E7
454.9728 S:9 F:6
50:29
51:03
51:28
52:06
52:48
53:09
53:34
54:02
54:44
55:14
55:37
56:09
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
5.2E4
2.6E4
0.0E0
6.2E4
3.1E4
4.4E6
2.2E6
4.9E6
2.5E6
6.3E5
3.2E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0)
A3.02E5
A1.17E5
A3.12E4
A4.66E4
429.7606 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0)
A3.48E5
A1.44E5
A3.06E4
461.7245 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A6.65E4
A2.36E4
A1.26E4
463.7216 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A8.89E4
A3.65E4
A1.84E4
A2.92E3
A2.66E3
A3.64E3
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
5.2E4
4.2E4
3.1E4
2.1E4
1.0E4
0.0E0
6.2E4
5.0E4
3.7E4
2.5E4
1.2E4
0.0E0
1.2E4
9.4E3
7.1E3
4.7E3
2.4E3
0.0E0
1.6E4
1.3E4
9.5E3
6.3E3
3.2E3
0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A2.36E4
A1.26E4
A6.65E4
463.7216 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A3.65E4
A2.92E3
A1.84E4
A8.89E4
A3.64E3
473.7648 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A1.09E7
A9.55E6
475.7619 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,208.0,5.00%,F,T)
A1.45E7
A1.25E7
454.9728 S:9 F:6
50:29
51:03
51:28
52:06
52:48
53:09
53:34
54:02
54:44
55:14
55:37
56:09
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
1.2E4
5.9E3
0.0E0
1.6E4
7.9E3
1.9E6
9.7E5
2.6E6
1.3E6
6.3E5
3.2E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A6.76E4
A4.25E3
A5.36E3
395.7995 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A6.20E4
A9.93E3
A2.13E3
405.8428 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A1.64E7
A1.11E6
407.8398 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1092.0,5.00%,F,T)
A1.59E7
454.9728 S:9 F:6
50:14
50:29
51:03
51:28
51:48
52:06
52:14
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
1.4E4
6.8E3
0.0E0
1.2E4
5.9E3
2.8E6
1.4E6
2.7E6
1.3E6
6.3E5
3.2E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 04:14:54 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:L29626-6,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,228.0,5.00%,F,T)
A2.98E4
A506.16
5.3E3
2.7E3
0.0E0
499.6797 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A2.95E4
A1.56E3
A626.18
A1.64E3
509.7229 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,240.0,5.00%,F,T)
A1.27E7
2.3E6
1.1E6
511.7199 S:9 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,224.0,5.00%,F,T)
A1.04E7
1.8E6
9.1E5
454.9728 S:9 F:6
56:54
57:08
57:38
6.3E5
3.1E5
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

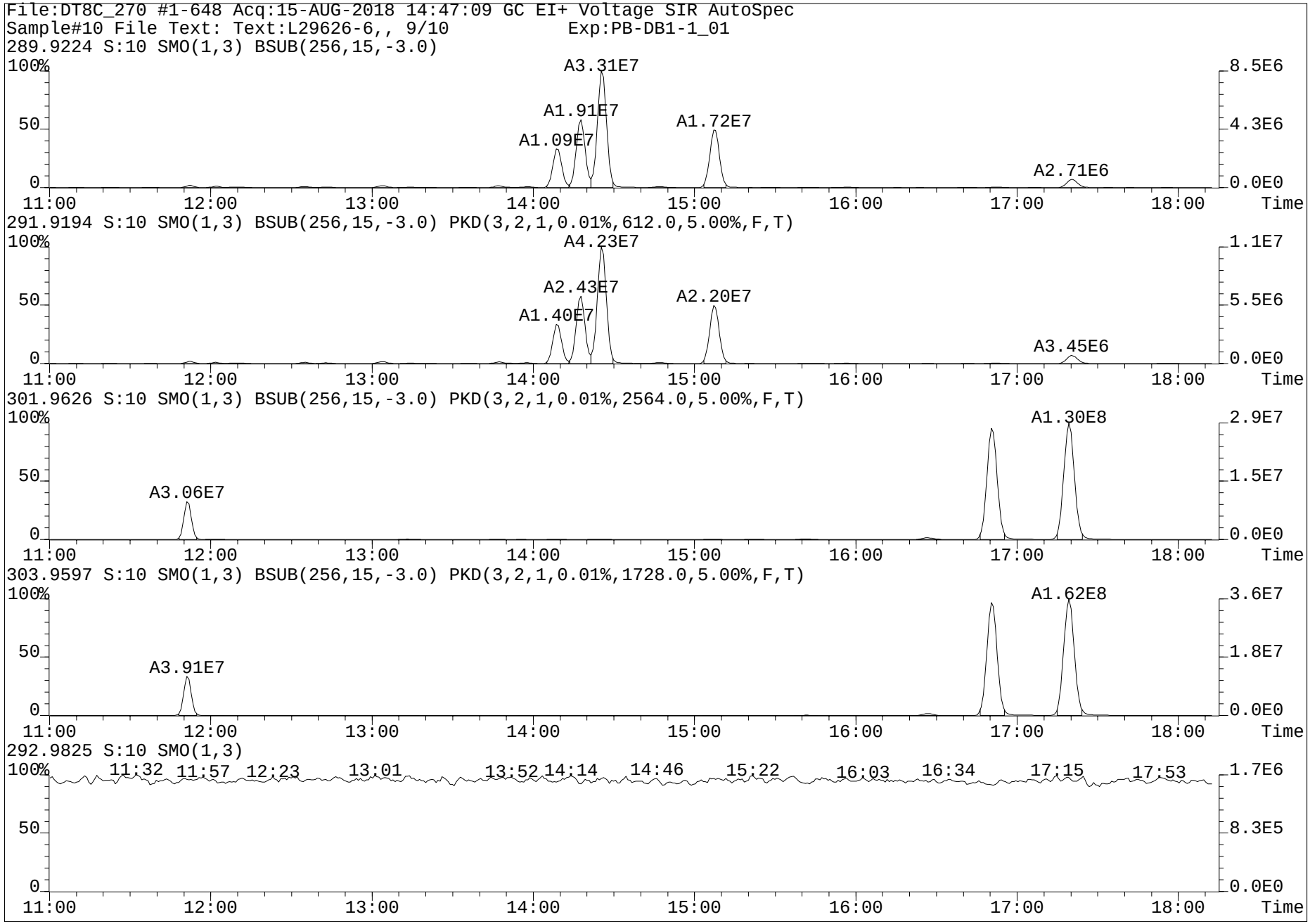
www.axysanalytical.com

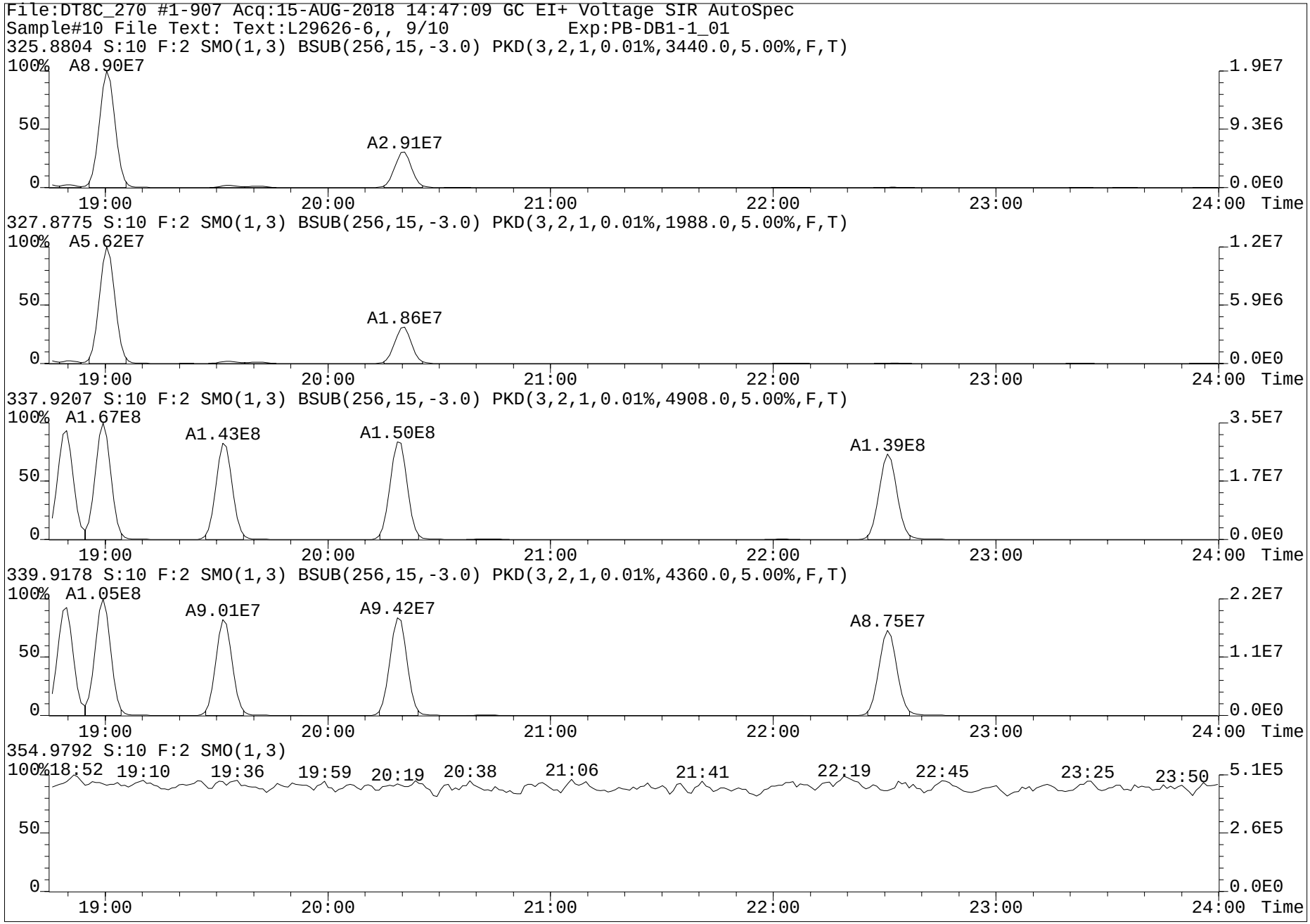
Run #16 Filename DT8C_270 S: 10 I: 1 Acquired: 15-AUG-18 14:47:09 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-6,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.980000 conc units: pg/g total toxicity: 2647.77 F1: 1.0000 F2: 5.0000

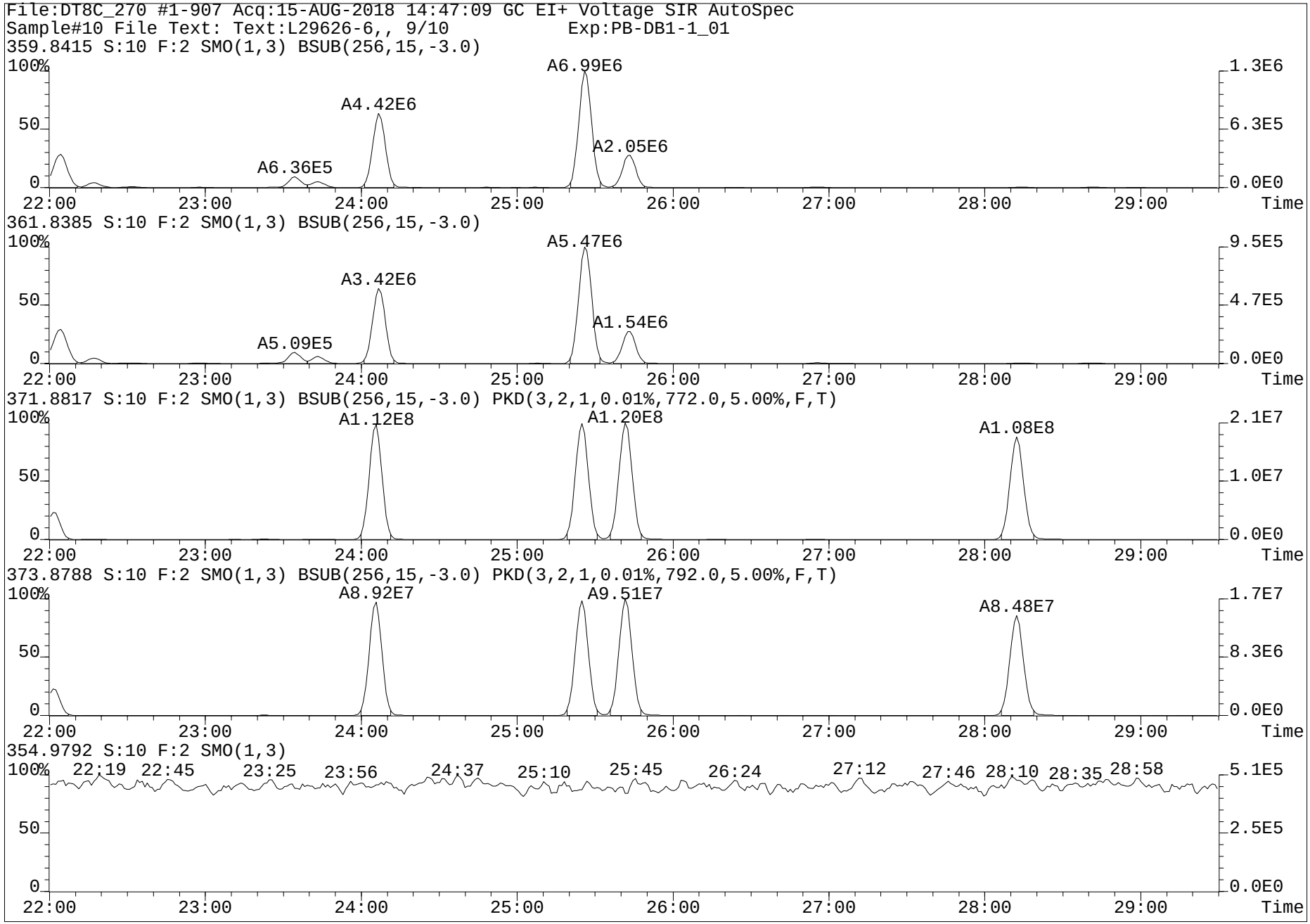
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.08e+05	0.87	y	16:52	2.142	2	0.1041	-	y
2	Unk	CL4-PCB-77	1	6.15e+06	0.79	y	17:20	40.138	40	0.0992	-	n
3	Unk	CL5-PCB-123	1	3.14e+06	1.59	y	18:50	23.614	24	0.5043	-	n
4	Unk	CL5-PCB-118	1	1.45e+08	1.58	y	19:00	995.384	995	0.4484	-	n
5	Unk	CL5-PCB-114	1	2.98e+06	1.61	y	19:33	22.607	23	0.5151	-	n
6	Unk	CL5-PCB-105	1	4.77e+07	1.56	y	20:20	376.743	377	0.5525	-	n
7	Unk	CL5-PCB-126	1	3.41e+05	1.51	y	22:32	2.865	3	0.6230	-	n
8	Unk	CL6-PCB-167	1	7.84e+06	1.29	y	24:07	67.804	68	0.1553	-	y
9	Unk	CL6-PCB-156	1	1.25e+07	1.28	y	25:26	104.628	105	0.1553	-	y
10	Unk	CL6-PCB-157	1	3.59e+06	1.33	y	25:43	30.315	30	0.1584	-	n
11	Unk	CL6-PCB-169	1	3.23e+04	1.08	y	28:13	0.312	0	0.1868	-	y
12	Unk	CL7-PCB-180	1	1.10e+06	1.02	y	26:56	740.386	740	10.5621	-	n
13	Unk	CL7-PCB-170	1	5.82e+05	0.95	y	28:41	233.447	233	6.3544	-	n
14	Unk	CL7-PCB-189	1	5.87e+05	1.15	y	31:02	7.386	7	0.2046	-	n
15	IS	13C-CL4-PCB-81	1	2.77e+08	0.79	y	16:50	6423.353	0	0.8029	319.9	n
16	IS	13C-CL4-PCB-77	1	2.92e+08	0.80	y	17:19	6867.122	0	0.8151	342.0	n
17	IS	13C-CL5-PCB-123	1	2.59e+08	1.60	y	18:49	6909.208	0	2.5311	344.1	n
18	IS	13C-CL5-PCB-118	1	2.72e+08	1.59	y	18:59	7047.710	0	2.4610	351.0	n
19	IS	13C-CL5-PCB-114	1	2.33e+08	1.59	y	19:32	6609.009	0	2.6961	329.1	n
20	IS	13C-CL5-PCB-105	1	2.44e+08	1.59	y	20:19	6845.386	0	2.6656	340.9	n
21	IS	13C-CL5-PCB-126	1	2.26e+08	1.58	y	22:31	7020.076	0	2.9504	349.6	n
22	IS	13C-CL6-PCB-167	1	2.01e+08	1.26	y	24:06	7418.349	0	0.7697	369.4	n
23	IS	13C-CL6-PCB-156	1	2.10e+08	1.26	y	25:25	7598.305	0	0.7557	378.4	n
24	IS	13C-CL6-PCB-157	1	2.15e+08	1.26	y	25:42	6965.981	0	0.6777	346.9	n
25	IS	13C-CL6-PCB-169	1	1.93e+08	1.27	y	28:12	7303.601	0	0.7925	363.7	n
26	IS	13C-CL7-PCB-180	1	3.10e+06	1.02	y	26:54	152.001	0	0.6678	7.6	n
27	IS	13C-CL7-PCB-170	1	5.43e+06	1.09	y	28:40	326.237	0	0.8183	16.2	n
28	IS	13C-CL7-PCB-189	1	1.61e+08	1.04	y	31:00	7360.510	0	0.6238	366.6	n
29	IS	13C-CL10-PCB-209	1	8.69e+05	1.11	y	34:36	34.496	0	0.4181	1.7	n
30	RS	13C-CL4-PCB-52	1	6.98e+07	0.78	y	11:51	35.068	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.00e+07	1.61	y	15:41	35.278	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	4.56e+07	1.27	y	22:01	35.679	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	2.40e+07	1.66	y	17:03	777.862	0	0.4182	38.7	n
34	C/Up	13C-CL7-PCB-178	1	9.35e+05	1.13	y	22:54	46.782	0	0.6816	2.3	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

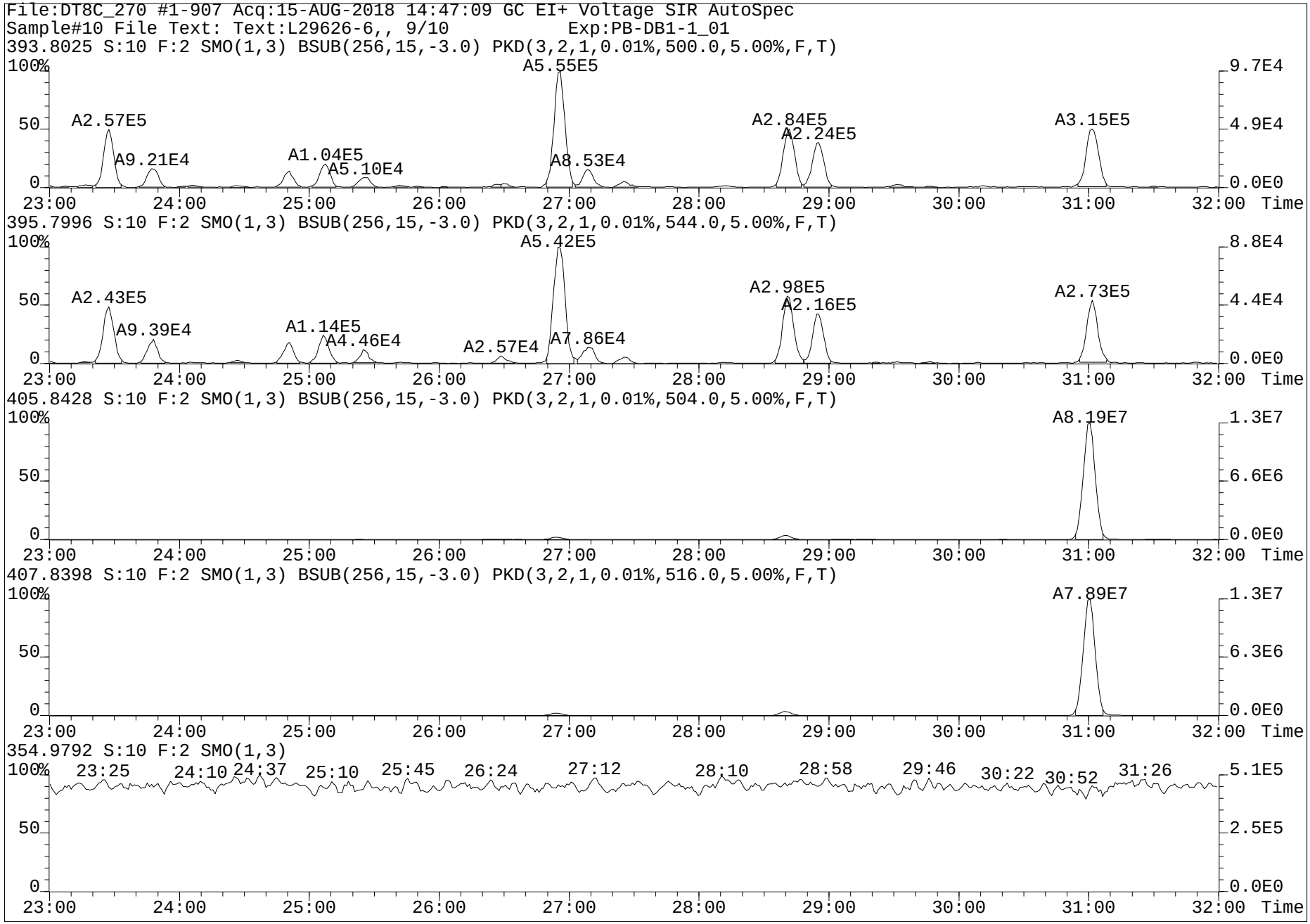
SV Bw
17 Aug 2018

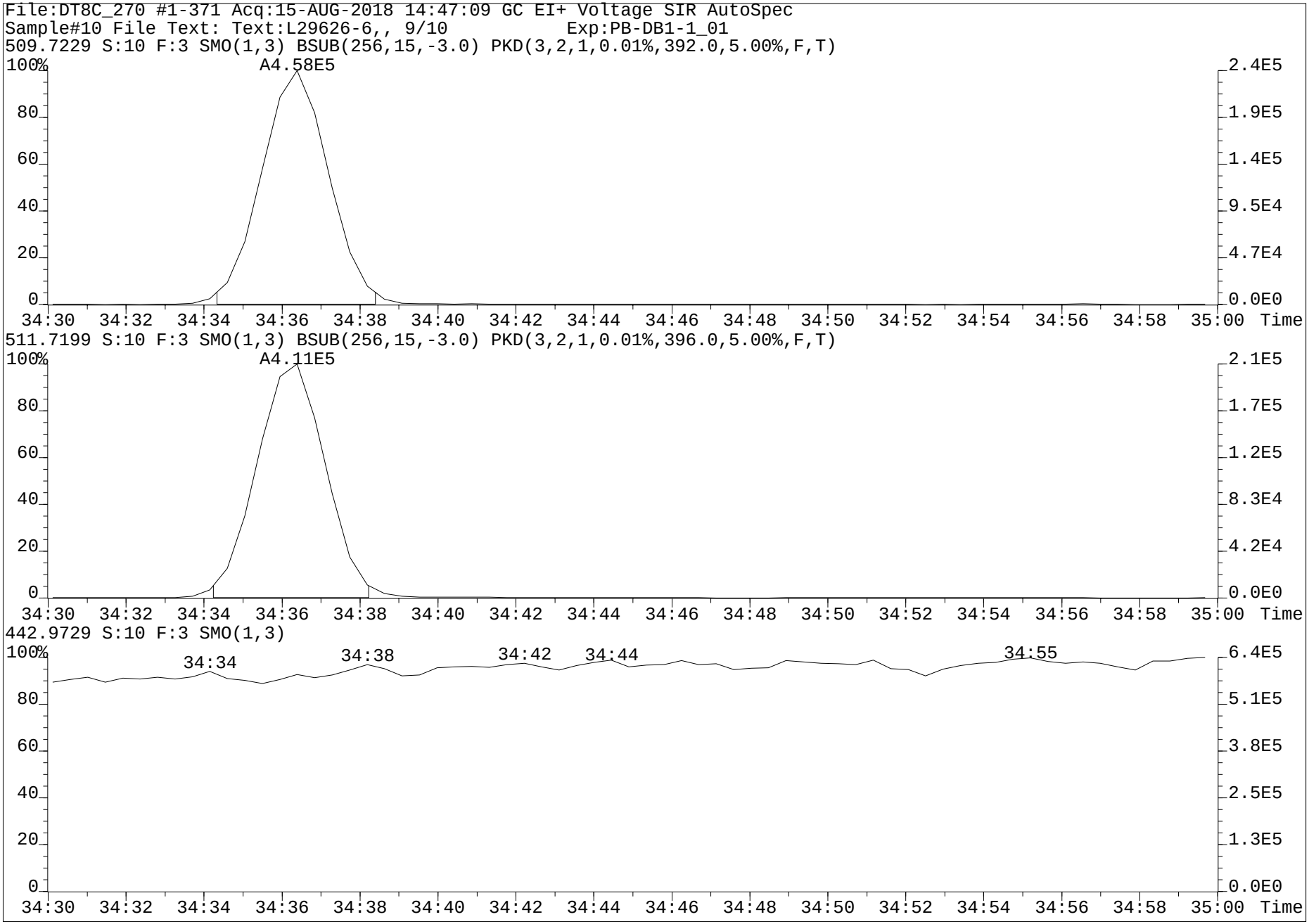
PV by RA 17AUG2018

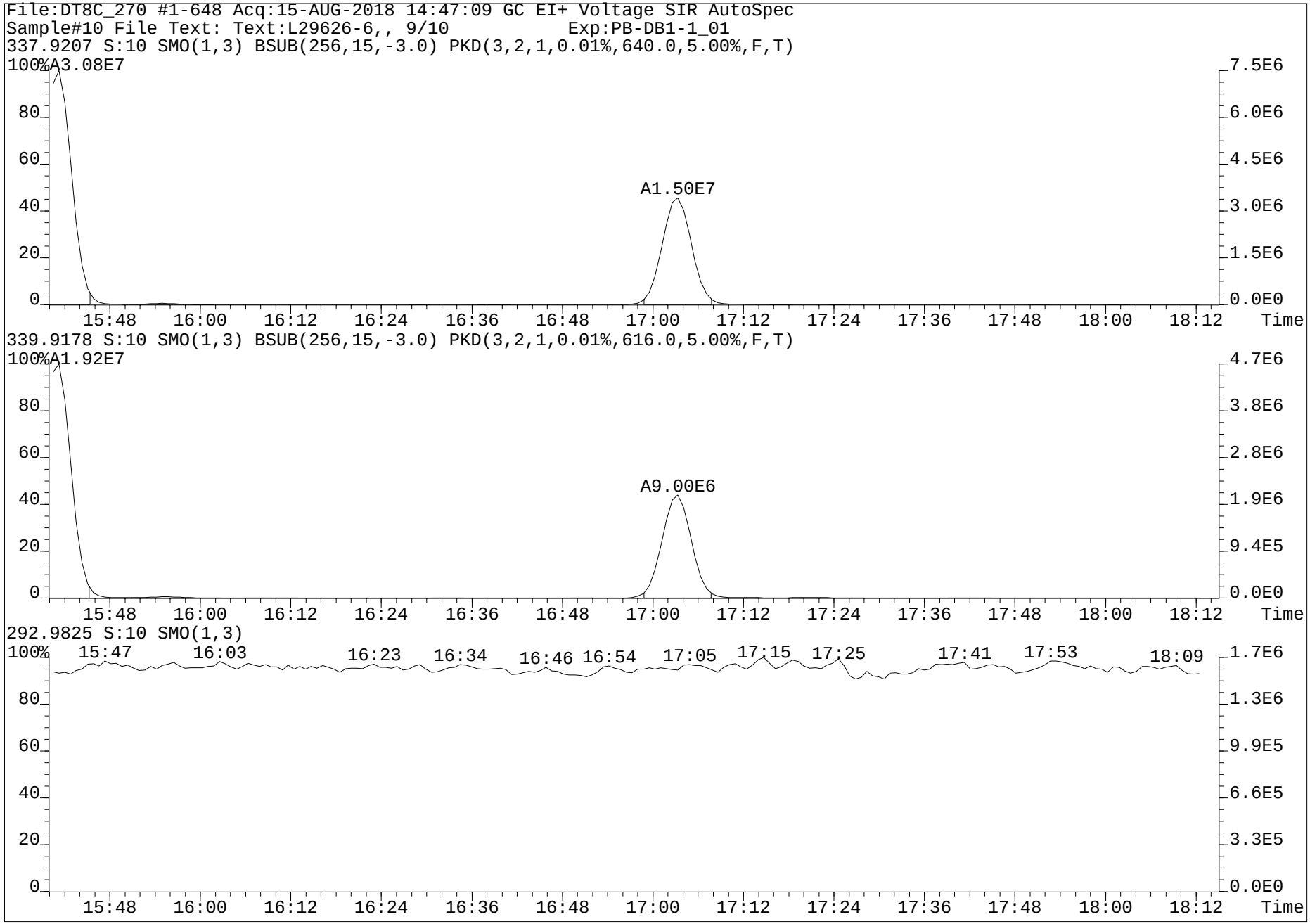

File:DT8C_270 #1-648 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
289.9224 S:10 SMO(1,3) BSUB(256,15,-3.0)
A3.31E7
A1.91E7
A1.72E7
A1.09E7
A2.71E6
291.9194 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,612.0,5.00%,F,T)
A4.23E7
A2.43E7
A2.20E7
A1.40E7
A3.45E6
301.9626 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2564.0,5.00%,F,T)
A1.30E8
A3.06E7
303.9597 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1728.0,5.00%,F,T)
A1.62E8
A3.91E7
292.9825 S:10 SMO(1,3)
11:32 11:57 12:23 13:01 13:52 14:14 14:46 15:22 16:03 16:34 17:15 17:53
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
8.5E6 4.3E6 0.0E0
1.1E7 5.5E6 0.0E0
2.9E7 1.5E7 0.0E0
3.6E7 1.8E7 0.0E0
1.7E6 8.3E5 0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
325.8804 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3440.0,5.00%,F,T)
100% A8.90E7
A2.91E7
1.9E7
9.3E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
327.8775 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1988.0,5.00%,F,T)
100% A5.62E7
A1.86E7
1.2E7
5.9E6
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
337.9207 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4908.0,5.00%,F,T)
100% A1.67E8
A1.43E8
A1.50E8
A1.39E8
3.5E7
1.7E7
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
339.9178 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4360.0,5.00%,F,T)
100% A1.05E8
A9.01E7
A9.42E7
A8.75E7
2.2E7
1.1E7
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
354.9792 S:10 F:2 SMO(1,3)
100% 18:52 19:10 19:36 19:59 20:19 20:38 21:06 21:41 22:19 22:45 23:25 23:50
5.1E5
2.6E5
0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
359.8415 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.99E6
A4.42E6
A2.05E6
A6.36E5
1.3E6
6.3E5
0.0E0
361.8385 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.47E6
A3.42E6
A1.54E6
A5.09E5
9.5E5
4.7E5
0.0E0
371.8817 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,772.0,5.00%,F,T)
A1.12E8
A1.20E8
A1.08E8
2.1E7
1.0E7
0.0E0
373.8788 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,792.0,5.00%,F,T)
A8.92E7
A9.51E7
A8.48E7
1.7E7
8.3E6
0.0E0
354.9792 S:10 F:2 SMO(1,3)
22:19 22:45 23:25 23:56 24:37 25:10 25:45 26:24 27:12 27:46 28:10 28:35 28:58
5.1E5
2.5E5
0.0E0
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
393.8025 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,500.0,5.00%,F,T)
A2.57E5
A9.21E4
A1.04E5
A5.10E4
A5.55E5
A8.53E4
A2.84E5
A2.24E5
A3.15E5
395.7996 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A2.43E5
A9.39E4
A1.14E5
A4.46E4
A2.57E4
A5.42E5
A7.86E4
A2.98E5
A2.16E5
A2.73E5
405.8428 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
A8.19E7
407.8398 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,516.0,5.00%,F,T)
A7.89E7
354.9792 S:10 F:2 SMO(1,3)
23:25
24:10
24:37
25:10
25:45
26:24
27:12
28:10
28:58
29:46
30:22
30:52
31:26
Time


File:DT8C_270 #1-371 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
509.7229 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A4.58E5
511.7199 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A4.11E5
442.9729 S:10 F:3 SMO(1,3)
34:34
34:38
34:42
34:44
34:55
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 14:47:09 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-6,, 9/10 Exp:PB-DB1-1_01
337.9207 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
100%A3.08E7
A1.50E7
339.9178 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,616.0,5.00%,F,T)
100%A1.92E7
A9.00E6
292.9825 S:10 SMO(1,3)
100%
15:47
16:03
16:23
16:34
16:46
16:54
17:05
17:15
17:25
17:41
17:53
18:09
15:48
16:00
16:12
16:24
16:36
16:48
17:00
17:12
17:24
17:36
17:48
18:00
18:12
Time

Run #17 Filename PB8C_260 S: 10 I: 1 Acquired: 8-AUG-18 05:18:32 Processed: 8-AUG-18 07:42:32
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-7,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.230000 conc units: pg/g total toxicity: 1761.84 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.96e+04	2.83	y	11:30	1.659	2	0.3510	-	n
2	Unk	CL1-PCB-3	1	4.92e+04	4.90	n	13:43	2.162	2	0.4549	-	n
3	Unk	CL2-PCB-4	1	2.05e+05	1.90	n	13:57	13.777	14	2.2929	-	y
4	Unk	CL2-PCB-15	1	3.82e+05	1.54	y	20:01	18.124	18	2.2369	-	y
5	Unk	CL3-PCB-19	1	2.33e+05	0.98	y	17:08	15.872	16	0.6434	-	n
6	Unk	CL3-PCB-37	1	8.58e+05	1.14	y	27:20	39.414	39	2.0433	-	n
7	Unk	CL4-PCB-54	1	2.69e+04	0.84	y	20:17	1.299	1	0.5527	-	y
8	Unk	CL4-PCB-81	1	2.64e+04	0.80	y	34:22	1.308	1	3.4682	-	y
9	Unk	CL4-PCB-77	1	5.78e+05	0.89	n	34:57	28.116	28	3.5380	-	n
10	Unk	CL5-PCB-104	1	1.06e+04	0.53	n	25:58	0.583	1	0.3842	-	n
11	Unk	CL5-PCB-123	1	4.27e+05	2.21	n	37:00	24.102	24	8.3336	-	y
12	Unk	CL5-PCB-118	1	1.68e+07	1.55	y	37:21	896.995	897	8.0097	-	n
13	Unk	CL5-PCB-114	1	4.10e+05	2.36	n	37:55	23.354	23	8.6590	-	n
14	Unk	CL5-PCB-105	1	6.36e+06	1.49	y	38:35	330.688	331	7.6788	-	y
15	Unk	CL5-PCB-126	1	1.08e+04	0.80	n	41:49	0.750	1	10.8324	-	y
16	Unk	CL6-PCB-155	1	1.86e+04	1.57	n	31:53	1.024	1	0.2777	-	n
17	Unk	CL6-PCB-167	1	1.04e+06	1.24	y	43:45	70.320	70	8.2690	-	n
18	Unk	CL6-PCB-156/157	1	1.85e+06	1.33	y	44:57	120.256	120	10.9003	-	n
19	Unk	CL6-PCB-169	1	1.33e+04	1.38	y	48:23	0.886	1	8.5345	-	y
20	Unk	CL7-PCB-188	1	3.80e+04	1.20	y	37:51	2.624	3	0.4961	-	n
21	Unk	CL7-PCB-189	1	7.65e+04	1.04	y	51:01	4.949	5	0.7775	-	n
22	Unk	CL8-PCB-202	1	1.53e+06	0.90	y	43:29	142.229	142	0.5011	-	y
23	Unk	CL8-PCB-205	1	5.53e+04	1.39	n	53:41	3.779	4	0.5516	-	n
24	Unk	CL9-PCB-208	1	3.42e+04	0.68	y	50:27	3.022	3	0.9496	-	y
25	Unk	CL9-PCB-206	1	1.02e+05	0.86	y	55:30	10.007	10	1.0604	-	n
26	Unk	CL10-PCB-209	1	5.78e+04	1.50	n	57:09	4.542	5	0.4439	-	n
27	IS	13C-CL1-PCB-1	1	4.25e+07	3.21	y	11:29	445.531	0	2.0053	23.3	n
28	IS	13C-CL1-PCB-3	1	4.03e+07	3.18	y	13:42	442.506	0	2.1049	23.1	n
29	IS	13C-CL2-PCB-4	1	2.87e+07	1.54	y	13:56	496.132	0	0.8475	25.9	n
30	IS	13C-CL2-PCB-15	1	4.43e+07	1.57	y	20:01	490.726	0	0.5435	25.7	n
31	IS	13C-CL3-PCB-19	1	2.62e+07	1.04	y	17:06	551.103	0	3.9985	28.8	n
32	IS	13C-CL3-PCB-37	1	4.17e+07	1.06	y	27:18	522.427	0	4.6404	27.3	n
33	REF	13C-CL4-CHECK	1	3.75e+07	0.79	y	20:16	537.397	0	0.9428	28.1	n
34	IS	13C-CL4-PCB-81	1	3.76e+07	0.74	y	34:21	616.921	0	1.3826	32.3	n
35	IS	13C-CL4-PCB-77	1	3.82e+07	0.77	y	34:56	617.005	0	1.3607	32.3	n
36	IS	13C-CL5-PCB-104	1	3.27e+07	1.59	y	25:57	581.519	0	0.1071	30.4	n
37	IS	13C-CL5-PCB-123	1	3.46e+07	1.60	y	36:59	650.616	0	1.2534	34.0	n
38	IS	13C-CL5-PCB-118	1	3.43e+07	1.57	y	37:20	657.813	0	1.2788	34.4	n
39	IS	13C-CL5-PCB-114	1	3.17e+07	1.56	y	37:53	613.102	0	1.2888	32.1	n
40	IS	13C-CL5-PCB-105	1	3.58e+07	1.60	y	38:34	669.759	0	1.2446	35.0	n
41	IS	13C-CL5-PCB-126	1	2.65e+07	1.56	y	41:49	554.415	0	1.3938	29.0	n
42	IS	13C-CL6-PCB-155	1	3.40e+07	1.25	y	31:51	625.431	0	0.1359	32.7	n
43	IS	13C-CL6-PCB-167	1	2.55e+07	1.31	y	43:44	607.904	0	0.1696	31.8	n
44	IS	13C-CL6-PCB-156/157	1	5.35e+07	1.29	y	44:57	1220.918	0	0.1626	31.9	n

SV BJ
16 Aug 2018

PV by RA 09AUG2018

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	2.73e+07	1.26	y	48:22	627.707	0	0.1637	32.8	n
46	REF	13C-CL7-CHECK	1	2.84e+07	1.04	y	37:50	493.734	0	0.1258	25.8	n
47	IS	13C-CL7-PCB-189	1	2.79e+07	1.03	y	50:59	602.629	0	0.9132	31.5	n
48	IS	13C-CL8-PCB-202	1	2.36e+07	0.92	y	43:27	433.738	0	0.1005	22.7	n
49	IS	13C-CL8-PCB-205	1	2.83e+07	0.88	y	53:40	617.278	0	0.6509	32.3	n
50	IS	13C-CL9-PCB-208	1	2.29e+07	0.75	y	50:26	556.337	0	0.1553	29.1	n
51	IS	13C-CL9-PCB-206	1	1.95e+07	0.78	y	55:28	580.592	0	0.1907	30.4	n
52	IS	13C-CL10-PCB-209	1	2.29e+07	1.17	y	57:07	543.194	0	0.1478	28.4	n
53	RS	13C-CL2-PCB-9	1	1.62e+08	1.56	y	15:58	16.804	0	-	-	n
54	RS	13C-CL4-PCB-52	1	9.02e+07	0.78	y	25:00	18.766	0	-	-	n
55	RS	13C-CL5-PCB-101	1	7.29e+07	1.57	y	32:08	17.934	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	6.25e+07	1.27	y	40:34	16.818	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.84e+07	0.90	y	53:10	19.787	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	4.48e+07	1.04	y	23:07	557.931	0	4.6122	29.2	n
59	C/Up	13C-CL5-PCB-111	1	3.18e+07	1.62	y	34:57	622.028	0	0.1817	32.5	n
60	C/Up	13C-CL7-PCB-178	1	1.91e+07	1.02	y	41:03	615.941	0	0.2240	32.2	n
61	IS	13C-CL4-PCB-54	1	3.75e+07	0.79	y	20:16	537.397	0	0.9428	28.1	n
62	IS	13C-CL7-PCB-188	1	2.84e+07	1.04	y	37:50	493.734	0	0.1258	25.8	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #9 Filename PB8C_260 S: 10 I: 1 Acquired: 8-AUG-18 05:18:32 Processed: 8-AUG-18 07:48:23
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-7,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.230000 conc units: pg/g total toxicity: 23800.» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	1	1.03e+04	3.33	y	13:32	0.467	0	0.4235	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	1.7368	-	n
3	Unk	CL2-PCB-9	1	3.60e+04	1.67	y	15:58	1.535	2	1.7343	-	y
4	Unk	CL2-PCB-7	1	4.52e+04	1.33	y	16:08	1.911	2	1.7183	-	y
5	Unk	CL2-PCB-6	1	4.82e+05	1.53	y	16:24	20.118	20	1.6951	-	n
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	1.9493	-	n
7	Unk	CL2-PCB-8	1	6.49e+05	1.55	y	16:50	24.623	25	1.5421	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	1.7777	-	n
9	Unk	CL2-PCB-11	1	1.93e+05	1.22	n	19:23	8.805	9	1.8552	-	y
10	Unk	CL2-PCB-12/13	1	1.27e+05	1.58	y	19:41	5.728	6	1.8362	-	n
11	Unk	CL3-PCB-30/18	1	2.56e+06	1.06	y	19:03	124.326	124	0.5412	-	n
12	Unk	CL3-PCB-17	1	1.17e+06	1.03	y	19:28	66.186	66	0.6293	-	n
13	Unk	CL3-PCB-27	1	6.45e+05	1.08	y	19:41	25.822	26	0.4459	-	y
14	Unk	CL3-PCB-24	1	4.10e+04	1.40	n	19:50	1.793	2	0.4870	-	y
15	Unk	CL3-PCB-16	1	4.32e+05	0.94	y	19:57	27.448	27	0.7068	-	y
16	Unk	CL3-PCB-32	1	1.23e+06	1.00	y	20:29	53.432	53	1.6736	-	n
17	Unk	CL3-PCB-34	1	3.72e+04	1.19	y	21:48	1.737	2	1.8005	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.7765	-	n
19	Unk	CL3-PCB-26/29	1	1.85e+06	1.03	y	22:16	83.492	83	1.7408	-	n
20	Unk	CL3-PCB-25	1	9.90e+05	1.03	y	22:31	37.685	38	1.4693	-	n
21	Unk	CL3-PCB-31	1	4.51e+06	1.02	y	22:50	188.230	188	1.6120	-	n
22	Unk	CL3-PCB-28/20	1	5.28e+06	1.02	y	23:09	235.673	236	1.7240	-	n
23	Unk	CL3-PCB-21/33	1	1.72e+06	1.01	y	23:23	72.521	73	1.6305	-	n
24	Unk	CL3-PCB-22	1	1.12e+06	1.01	y	23:48	55.844	56	1.9263	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.6220	-	n
26	Unk	CL3-PCB-39	1	5.61e+04	0.81	n	25:49	2.538	3	1.7460	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.7852	-	n
28	Unk	CL3-PCB-35	1	3.42e+04	0.65	n	26:54	1.550	2	1.7514	-	n
29	Unk	CL4-PCB-50/53	1	1.31e+06	0.78	y	22:32	74.756	75	0.8220	-	n
30	Unk	CL4-PCB-45/51	1	1.18e+06	0.78	y	23:15	68.777	69	0.8430	-	y
31	Unk	CL4-PCB-46	1	2.84e+05	0.89	n	23:32	18.684	19	0.9493	-	n
32	Unk	CL4-PCB-52	1	1.40e+07	0.78	y	25:01	773.942	774	0.7989	-	n
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.6105	-	n
34	Unk	CL4-PCB-43	1	4.00e+05	0.86	y	25:16	28.784	29	1.0377	-	n
35	Unk	CL4-PCB-69/49	1	8.00e+06	0.79	y	25:31	396.794	397	0.7161	-	n
36	Unk	CL4-PCB-48	1	1.46e+06	0.80	y	25:48	85.746	86	0.8492	-	n
37	Unk	CL4-PCB-44/47/65	1	9.12e+06	0.79	y	26:03	487.257	487	0.7714	-	y
38	Unk	CL4-PCB-59/62/75	1	1.63e+06	0.81	y	26:23	72.037	72	0.6367	-	y
39	Unk	CL4-PCB-42	1	2.00e+06	0.78	y	26:36	117.185	117	0.8469	-	n
40	Unk	CL4-PCB-41/40/71	1	3.52e+06	0.80	y	27:06	207.796	208	0.8518	-	y
41	Unk	CL4-PCB-64	1	4.21e+06	0.81	y	27:21	177.773	178	0.6092	-	n
42	Unk	CL4-PCB-72	1	3.47e+05	0.77	y	28:14	15.845	16	2.9581	-	n
43	Unk	CL4-PCB-68	1	1.47e+05	0.80	y	28:31	6.709	7	2.9511	-	n
44	Unk	CL4-PCB-57	1	7.07e+04	0.90	n	28:57	3.352	3	3.0692	-	n

45	Unk	CL4-PCB-58	1	8.15e+04	0.65	n	29:14	3.955	4	3.1402	-	y
46	Unk	CL4-PCB-67	1	4.40e+05	0.91	n	29:23	17.899	18	2.6317	-	n
47	Unk	CL4-PCB-63	1	4.03e+05	0.80	y	29:40	18.798	19	3.0150	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.61e+07	0.77	y	30:02	756.454	756	3.0434	-	n
49	Unk	CL4-PCB-66	1	1.06e+07	0.77	y	30:21	532.885	533	3.2671	-	n
50	Unk	CL4-PCB-55	1	4.03e+05	0.88	y	30:32	22.538	23	3.6216	-	y
51	Unk	CL4-PCB-56	1	3.45e+06	0.77	y	31:03	178.674	179	3.3471	-	n
52	Unk	CL4-PCB-60	1	1.80e+06	0.82	y	31:17	91.931	92	3.3024	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	2.9561	-	n
54	Unk	CL4-PCB-79	1	2.87e+05	0.68	y	33:17	11.958	12	2.7006	-	n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	3.1839	-	n
56	Unk	CL5-PCB-96	1	1.28e+05	1.51	y	26:22	6.436	6	0.4039	-	n
57	Unk	CL5-PCB-103	1	4.16e+05	1.40	y	28:23	25.154	25	0.6472	-	n
58	Unk	CL5-PCB-94	1	1.01e+05	1.29	n	28:37	7.512	8	0.7918	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	1.60e+07	1.59	y	29:07	1063.065	1063	0.7093	-	y
60	Unk	CL5-PCB-88/91	1	2.58e+06	1.68	y	29:59	177.613	178	0.7368	-	n
61	Unk	CL5-PCB-84	1	2.65e+06	1.56	y	30:12	208.794	209	0.8418	-	y
62	Unk	CL5-PCB-89	1	1.62e+05	1.47	y	30:42	12.130	12	0.7988	-	n
63	Unk	CL5-PCB-121	1	2.30e+04	1.47	y	31:09	1.237	1	0.5748	-	n
64	Unk	CL5-PCB-92	1	6.22e+06	1.57	y	31:32	438.207	438	0.7538	-	n
65	Unk	CL5-PCB-113/90/101	1	2.26e+07	1.56	y	32:09	1379.977	1380	0.6546	-	n
66	Unk	CL5-PCB-83/99	1	1.18e+07	1.62	y	32:44	852.193	852	0.7752	-	n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	0.5402	-	n
68	Unk	CB-109/119/86/97/125/87	1	1.07e+07	1.65	y	33:20	651.025	651	0.6530	-	y
69	Unk	CL5-PCB-117/116/85	1	3.64e+06	1.59	y	34:01	218.898	219	0.6432	-	n
70	Unk	CL5-PCB-110/115	1	2.19e+07	1.58	y	34:13	1165.163	1165	0.5697	-	n
71	Unk	CL5-PCB-82	1	1.47e+06	1.67	y	34:32	118.515	119	0.8635	-	n
72	Unk	CL5-PCB-111	0	*	*	n	NotFnd	*	*	0.6010	-	n
73	Unk	CL5-PCB-120	1	1.62e+05	1.83	n	35:27	8.694	9	0.5751	-	n
74	Unk	CL5-PCB-108/124	1	7.86e+05	1.43	y	36:38	43.399	43	7.9950	-	n
75	Unk	CL5-PCB-107	1	1.47e+06	1.48	y	36:54	79.038	79	7.7773	-	n
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	8.0084	-	n
77	Unk	CL5-PCB-122	1	2.48e+05	2.01	n	37:43	15.170	15	8.8461	-	y
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	8.1935	-	n
79	Unk	CL6-PCB-152	1	2.79e+04	1.18	y	32:06	1.647	2	0.3472	-	n
80	Unk	CL6-PCB-150	1	8.50e+04	1.04	n	32:15	5.268	5	0.3651	-	n
81	Unk	CL6-PCB-136	1	3.28e+06	1.27	y	32:39	201.058	201	0.3608	-	n
82	Unk	CL6-PCB-145	1	1.20e+04	1.75	n	32:57	0.774	1	0.3815	-	n
83	Unk	CL6-PCB-148	1	1.42e+05	1.36	y	34:31	12.307	12	0.5123	-	y
84	Unk	CL6-PCB-151/135/154	1	1.18e+07	1.25	y	35:11	1002.732	1003	0.4987	-	y
85	Unk	CL6-PCB-144	1	1.00e+06	1.26	y	35:45	85.918	86	0.5059	-	n
86	Unk	CL6-PCB-147/149	1	2.11e+07	1.25	y	36:07	1647.287	1647	10.3891	-	n
87	Unk	CL6-PCB-134/143	1	1.36e+06	1.18	y	36:21	116.102	116	11.3799	-	n
88	Unk	CL6-PCB-139/140	1	4.57e+05	1.20	y	36:45	36.079	36	10.5299	-	n
89	Unk	CL6-PCB-131	1	2.01e+05	1.50	n	36:58	17.873	18	11.8303	-	n
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	11.6884	-	n
91	Unk	CL6-PCB-132	1	4.88e+06	1.29	y	37:26	455.596	456	12.4356	-	y
92	Unk	CL6-PCB-133	1	9.63e+05	1.13	y	37:58	85.427	85	11.8169	-	y
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	9.5397	-	n
94	Unk	CL6-PCB-146	1	7.12e+06	1.26	y	38:39	525.960	526	9.8386	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	8.2320	-	n
96	Unk	CL6-PCB-153/168	1	2.61e+07	1.31	y	39:17	1762.965	1763	9.0163	-	n
97	Unk	CL6-PCB-141	1	1.82e+06	1.27	y	39:30	148.421	148	10.8506	-	n

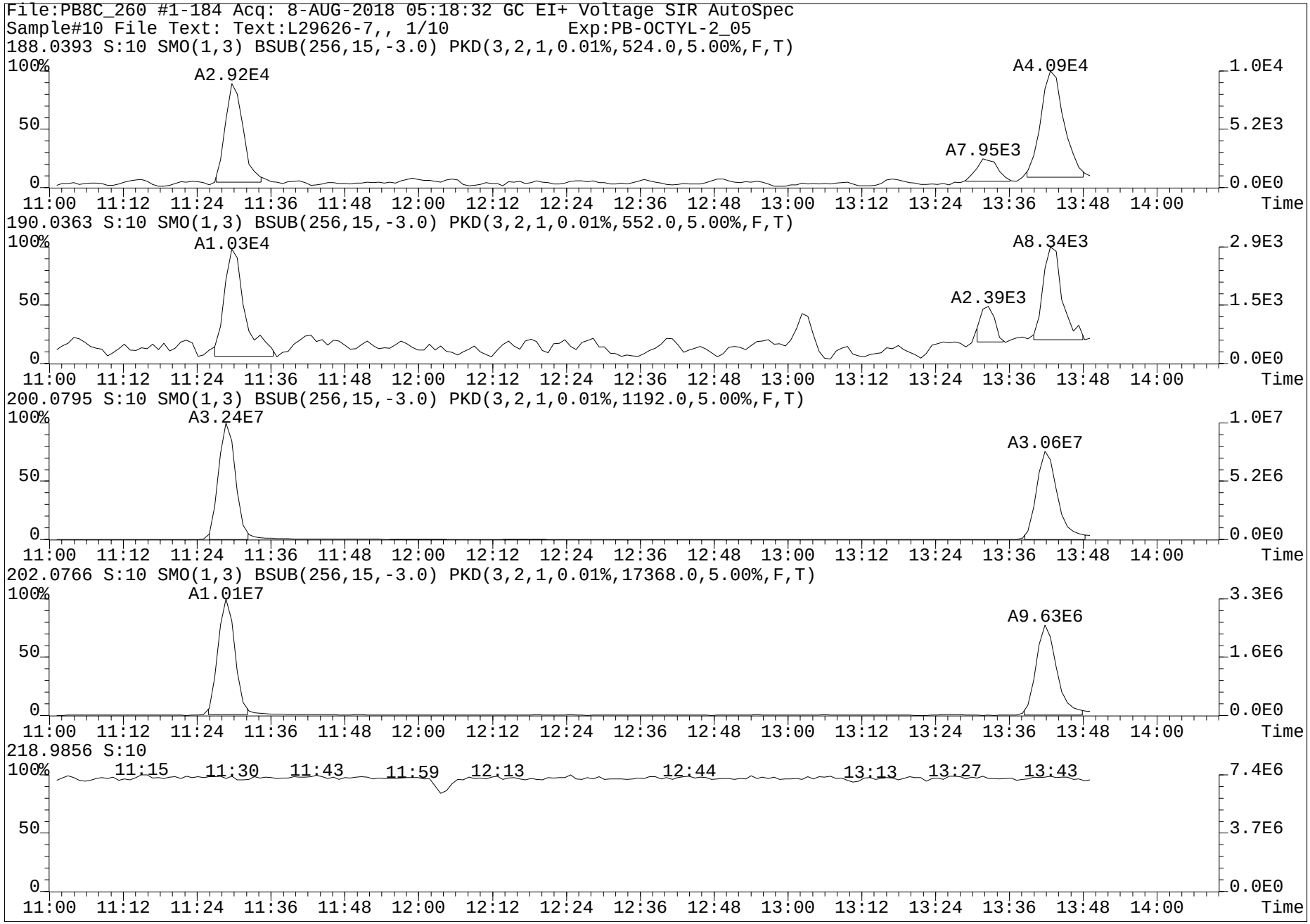
SDL x 1/2

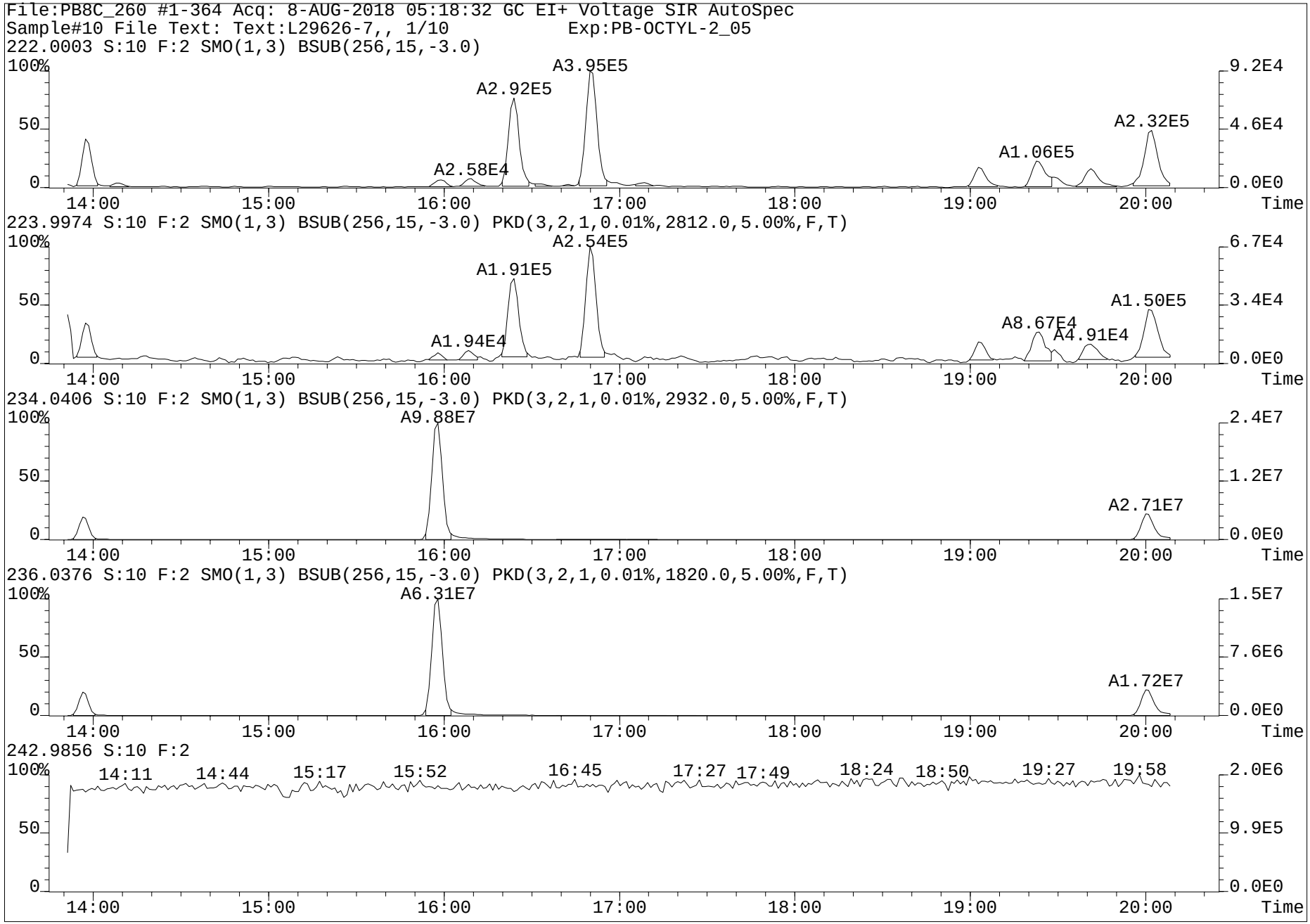
98	Unk	CL6-PCB-130	1	1.63e+06	1.19	y	39:56	155.225	155	12.6596	-	n
99	Unk	CL6-PCB-137	1	1.11e+06	1.25	y	40:08	101.434	101	12.1626	-	y
100	Unk	CL6-PCB-164	1	2.29e+06	1.21	y	40:16	142.585	143	8.3011	-	y
101	Unk	CL6-PCB-138/163/129/160	1	2.10e+07	1.24	y	40:37	1559.250	1559	9.8766	-	n
102	Unk	CL6-PCB-158	1	2.63e+06	1.29	y	41:00	152.179	152	7.7048	-	y
103	Unk	CL6-PCB-128/166	1	3.38e+06	1.22	y	41:56	249.411	249	9.8246	-	n
104	Unk	CL6-PCB-159	0	*	*	n	NotFnd	*	*	8.3264	-	n
105	Unk	CL6-PCB-162	1	7.57e+04	1.45	n	43:15	4.487	4	7.8973	-	y
106	Unk	CL7-PCB-179	1	3.25e+06	1.10	y	38:13	213.707	214	0.4785	-	n
107	Unk	CL7-PCB-184	0	*	*	n	NotFnd	*	*	0.4705	-	n
108	Unk	CL7-PCB-176	1	7.62e+05	1.04	y	39:08	51.138	51	0.4879	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	0.5192	-	n
110	Unk	CL7-PCB-178	1	2.74e+06	1.03	y	41:04	245.087	245	0.6505	-	n
111	Unk	CL7-PCB-175	1	3.26e+05	1.23	n	41:43	28.423	28	0.6337	-	n
112	Unk	CL7-PCB-187	1	1.05e+07	1.02	y	42:00	828.402	828	0.5715	-	n
113	Unk	CL7-PCB-182	1	8.87e+04	0.72	n	42:14	7.427	7	0.6087	-	n
114	Unk	CL7-PCB-183/185	1	3.17e+06	1.06	y	42:39	266.018	266	0.6094	-	n
115	Unk	CL7-PCB-174	1	1.64e+06	1.03	y	42:54	141.880	142	0.6302	-	n
116	Unk	CL7-PCB-177	1	4.44e+06	1.08	y	43:22	316.883	317	0.5184	-	n
117	Unk	CL7-PCB-181	1	3.48e+04	0.67	n	43:44	2.935	3	0.6131	-	n
118	Unk	CL7-PCB-171/173	1	1.12e+06	0.94	y	44:01	99.705	100	0.6500	-	n
119	Unk	CL7-PCB-172	1	2.99e+05	1.06	y	45:43	27.653	28	0.6726	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	0.5490	-	n
121	Unk	CL7-PCB-180/193	1	8.82e+06	1.06	y	46:24	811.960	812	0.6610	-	n
122	Unk	CL7-PCB-191	1	3.33e+05	0.89	n	46:46	22.606	23	0.4929	-	n
123	Unk	CL7-PCB-170	1	1.50e+06	1.09	y	47:44	147.073	147	0.7138	-	n
124	Unk	CL7-PCB-190	1	7.81e+05	1.07	y	48:17	53.860	54	0.5012	-	n
125	Unk	CL8-PCB-201	1	5.70e+05	0.87	y	44:25	41.605	42	0.3967	-	y
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.4051	-	n
127	Unk	CL8-PCB-197/200	1	1.99e+05	0.92	y	45:23	14.375	14	0.3933	-	y
128	Unk	CL8-PCB-198/199	1	1.52e+06	0.88	y	48:27	157.371	157	0.5633	-	n
129	Unk	CL8-PCB-196	1	6.49e+05	0.83	y	49:07	65.182	65	0.5455	-	n
130	Unk	CL8-PCB-203	1	4.95e+05	0.88	y	49:19	46.800	47	0.5140	-	y
131	Unk	CL8-PCB-195	1	1.60e+05	0.86	y	50:44	15.661	16	0.7859	-	n
132	Unk	CL8-PCB-194	1	4.32e+05	1.03	n	53:12	39.234	39	0.7305	-	n
133	Unk	CL9-PCB-207	1	1.48e+04	0.35	n	51:26	1.104	1	0.8014	-	y
134	IS	13C-CL1-PCB-1	1	4.25e+07	3.21	y	11:29	488.725	0	2.1998	25.6	n
135	IS	13C-CL1-PCB-3	1	4.03e+07	3.18	y	13:42	517.282	0	2.4606	27.1	n
136	IS	13C-CL2-PCB-4	1	2.87e+07	1.54	y	13:56	534.724	0	0.9134	28.0	n
137	IS	13C-CL2-PCB-15	1	4.43e+07	1.57	y	20:01	558.545	0	0.6186	29.2	n
138	IS	13C-CL3-PCB-19	1	2.62e+07	1.04	y	17:06	542.699	0	3.9375	28.4	n
139	IS	13C-CL3-PCB-37	1	4.17e+07	1.06	y	27:18	632.121	0	5.6147	33.1	n
140	REF	13C-CL4-CHECK	1	3.75e+07	0.79	y	20:16	611.685	0	1.0731	32.0	n
141	IS	13C-CL4-PCB-81	1	3.76e+07	0.74	y	34:21	643.717	0	1.4426	33.7	n
142	IS	13C-CL4-PCB-77	1	3.82e+07	0.77	y	34:56	662.638	0	1.4613	34.7	n
143	IS	13C-CL5-PCB-104	1	3.27e+07	1.59	y	25:57	646.778	0	0.1192	33.8	n
144	IS	13C-CL5-PCB-123	1	3.46e+07	1.60	y	36:59	682.616	0	1.3150	35.7	n
145	IS	13C-CL5-PCB-118	1	3.43e+07	1.57	y	37:20	688.367	0	1.3382	36.0	n
146	IS	13C-CL5-PCB-114	1	3.17e+07	1.56	y	37:53	667.537	0	1.4033	34.9	n
147	IS	13C-CL5-PCB-105	1	3.58e+07	1.60	y	38:34	750.023	0	1.3937	39.2	n
148	IS	13C-CL5-PCB-126	1	2.65e+07	1.56	y	41:49	636.763	0	1.6008	33.3	n

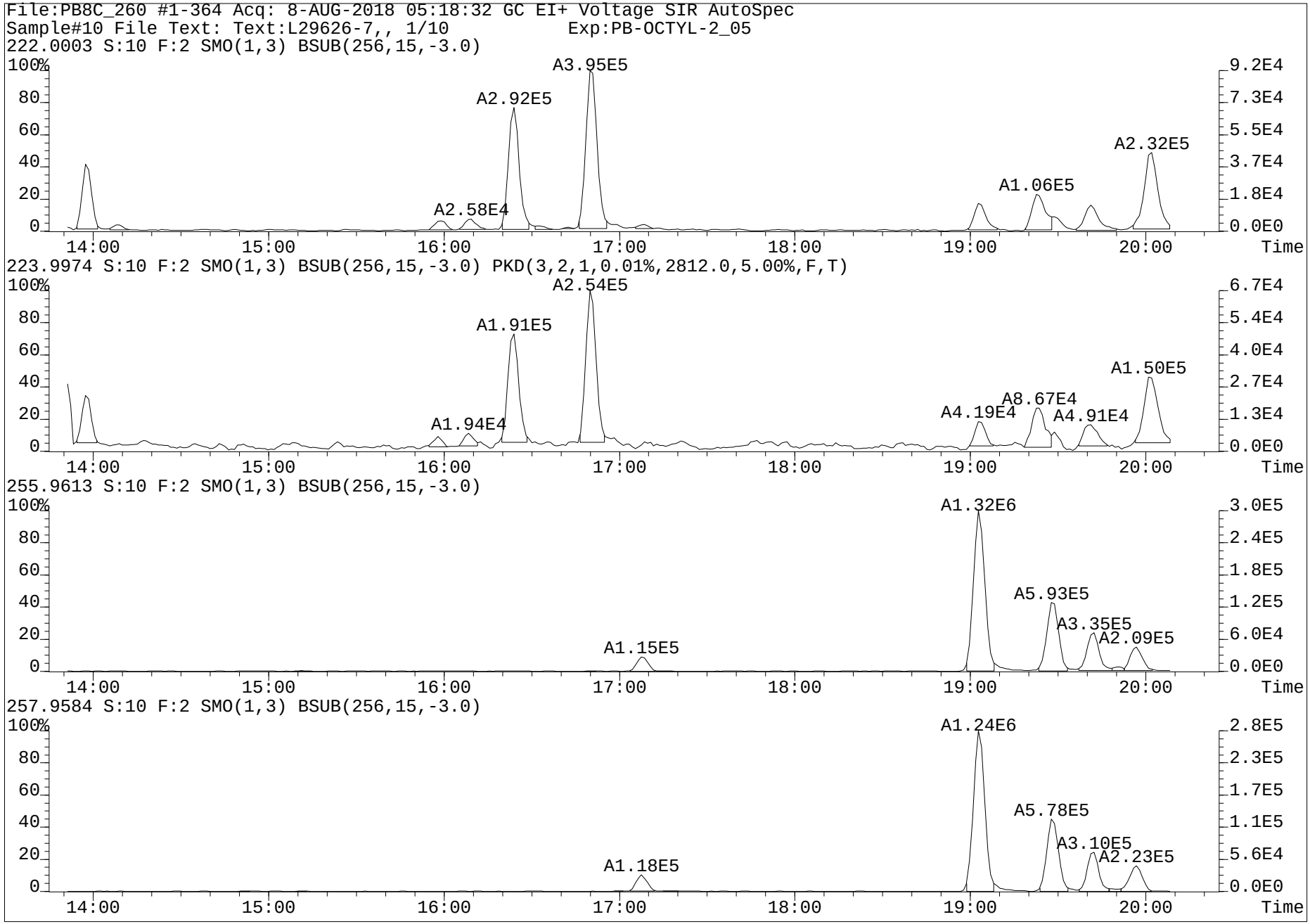
SDL x1/2

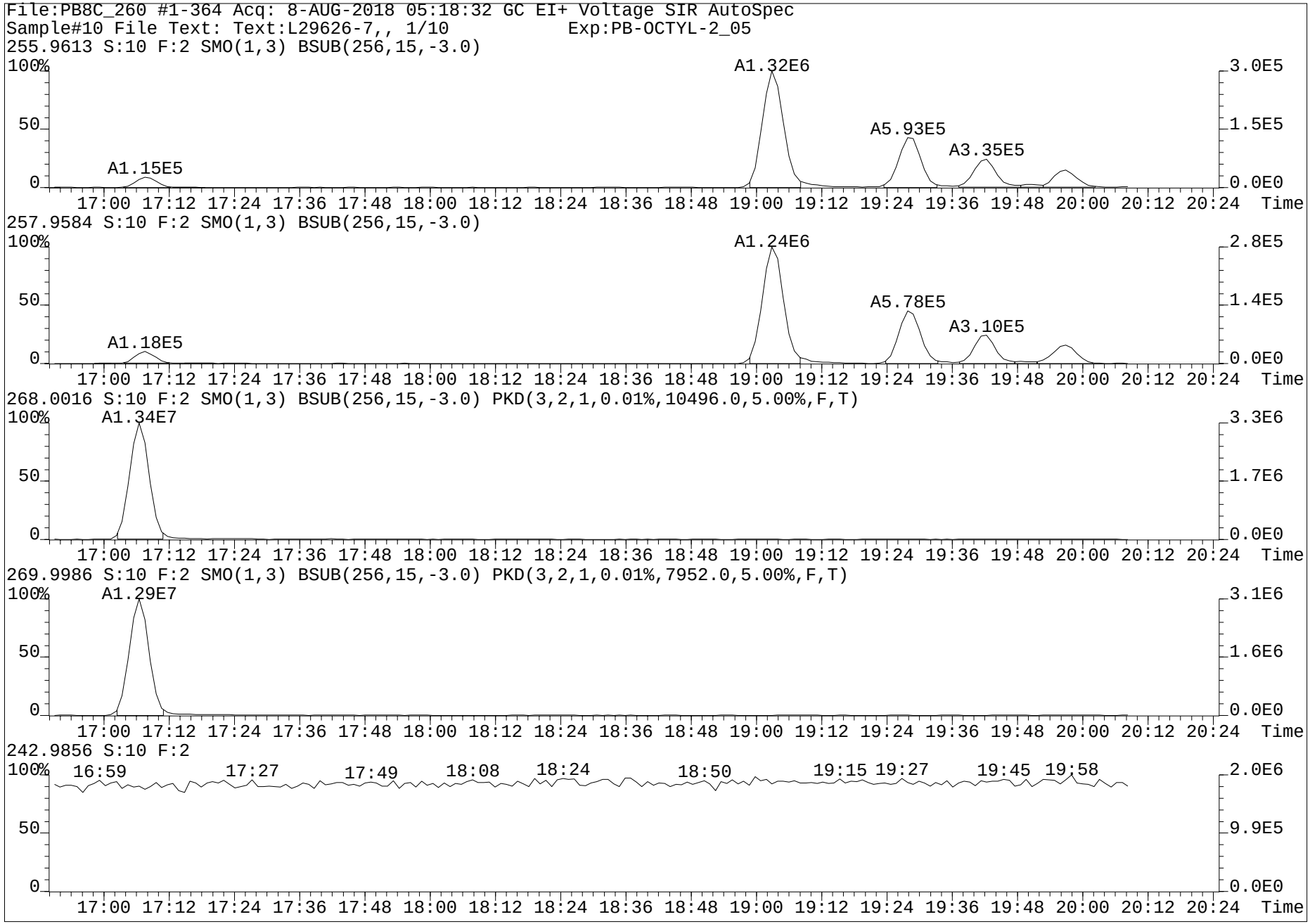
www.axysanalytical.com

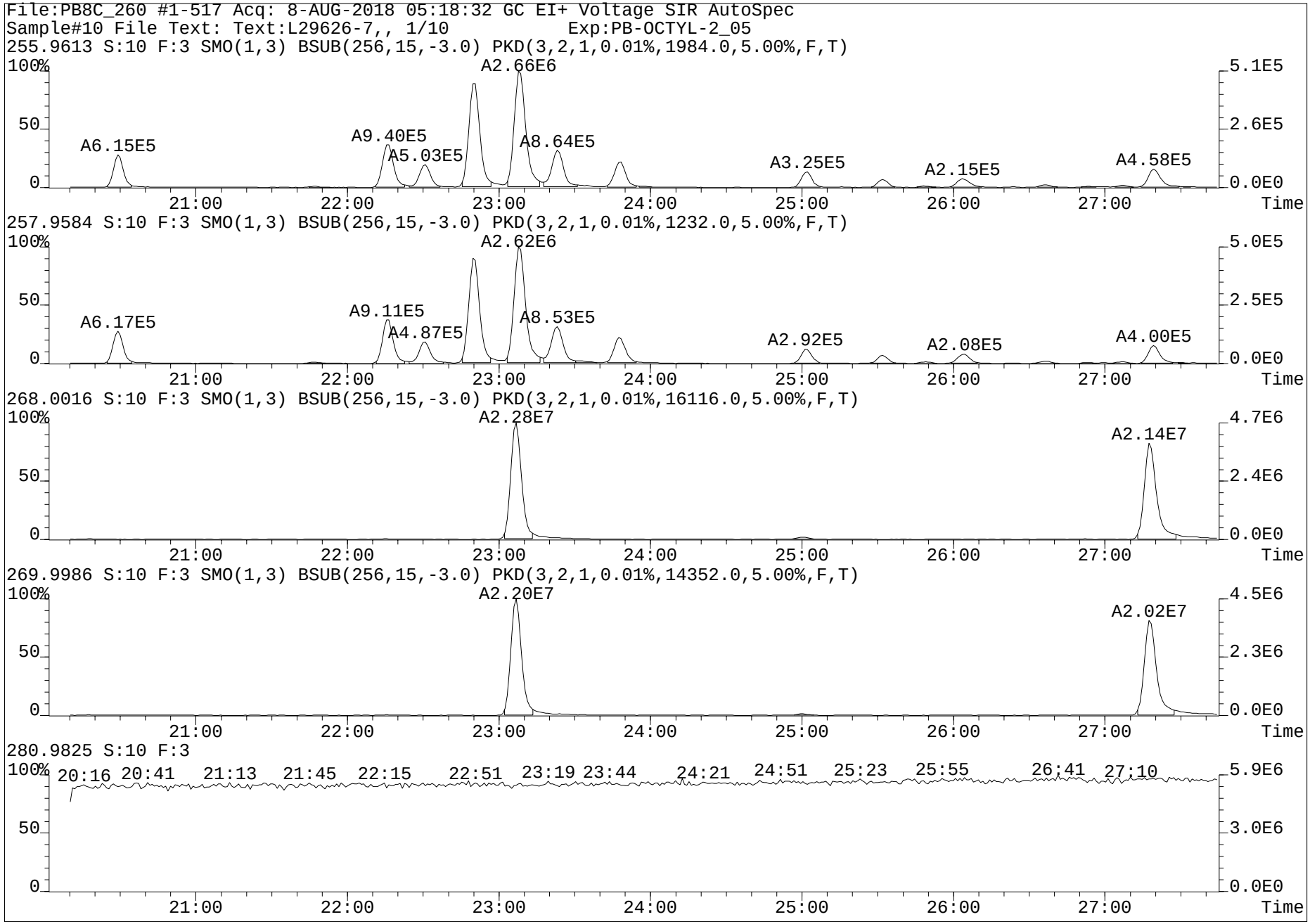
149	IS	13C-CL6-PCB-155	1	3.40e+07	1.25	y	31:51	698.365	0	0.1518	36.5	n
150	IS	13C-CL6-PCB-167	1	2.55e+07	1.31	y	43:44	631.016	0	0.1760	33.0	n
151	IS	13C-CL6-PCB-156/157	1	5.35e+07	1.29	y	44:57	1295.306	0	0.1725	33.9	n
152	IS	13C-CL6-PCB-169	1	2.73e+07	1.26	y	48:22	667.305	0	0.1740	34.9	n
153	IS	13C-CL7-PCB-188	1	2.84e+07	1.04	y	37:50	606.136	0	0.1545	31.7	n
154	IS	13C-CL7-PCB-180	1	2.06e+07	1.04	y	46:23	588.517	0	0.2066	30.8	n
155	IS	13C-CL7-PCB-170	1	1.75e+07	1.07	y	47:42	594.562	0	0.2461	31.1	n
156	IS	13C-CL8-PCB-202	1	2.36e+07	0.92	y	43:27	506.426	0	0.1174	26.5	n
157	IS	13C-CL8-PCB-205	1	2.83e+07	0.88	y	53:40	687.909	0	0.7254	36.0	n
158	IS	13C-CL9-PCB-208	1	2.29e+07	0.75	y	50:26	636.337	0	0.1776	33.3	n
159	IS	13C-CL9-PCB-206	1	1.95e+07	0.78	y	55:28	676.104	0	0.2221	35.4	n
160	RS/RT	13C-CL2-PCB-9	1	1.62e+08	1.56	y	15:58	19.356	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	9.02e+07	0.78	y	25:00	18.672	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	7.29e+07	1.57	y	32:08	18.137	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	6.25e+07	1.27	y	40:34	17.592	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	5.84e+07	0.90	y	53:10	19.994	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	4.48e+07	1.04	y	23:07	611.695	0	5.0567	32.0	n
166	C/Up	13C-CL5-PCB-111	1	3.18e+07	1.62	y	34:57	722.551	0	0.2110	37.8	n
167	C/UP	13C-CL7-PCB-178	1	1.91e+07	1.02	y	41:03	673.409	0	0.2449	35.2	n
168	IS	13C-CL4-PCB-54	1	3.75e+07	0.79	y	20:16	611.685	0	1.0731	32.0	n
169	Unk	CL7-PCB-189	1	7.65e+04	1.04	y	51:01	5.252	0	0.8250	-	n
170	IS	13C-CL7-PCB-189	1	2.79e+07	1.03	y	50:59	666.785	0	1.0104	34.9	n
171	Unk	CL10-PCB-209	1	5.78e+04	1.50	n	57:09	4.612	0	0.4508	-	n
172	IS	13C-CL10-PCB-209	1	2.29e+07	1.17	y	57:07	695.477	0	0.1892	36.4	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

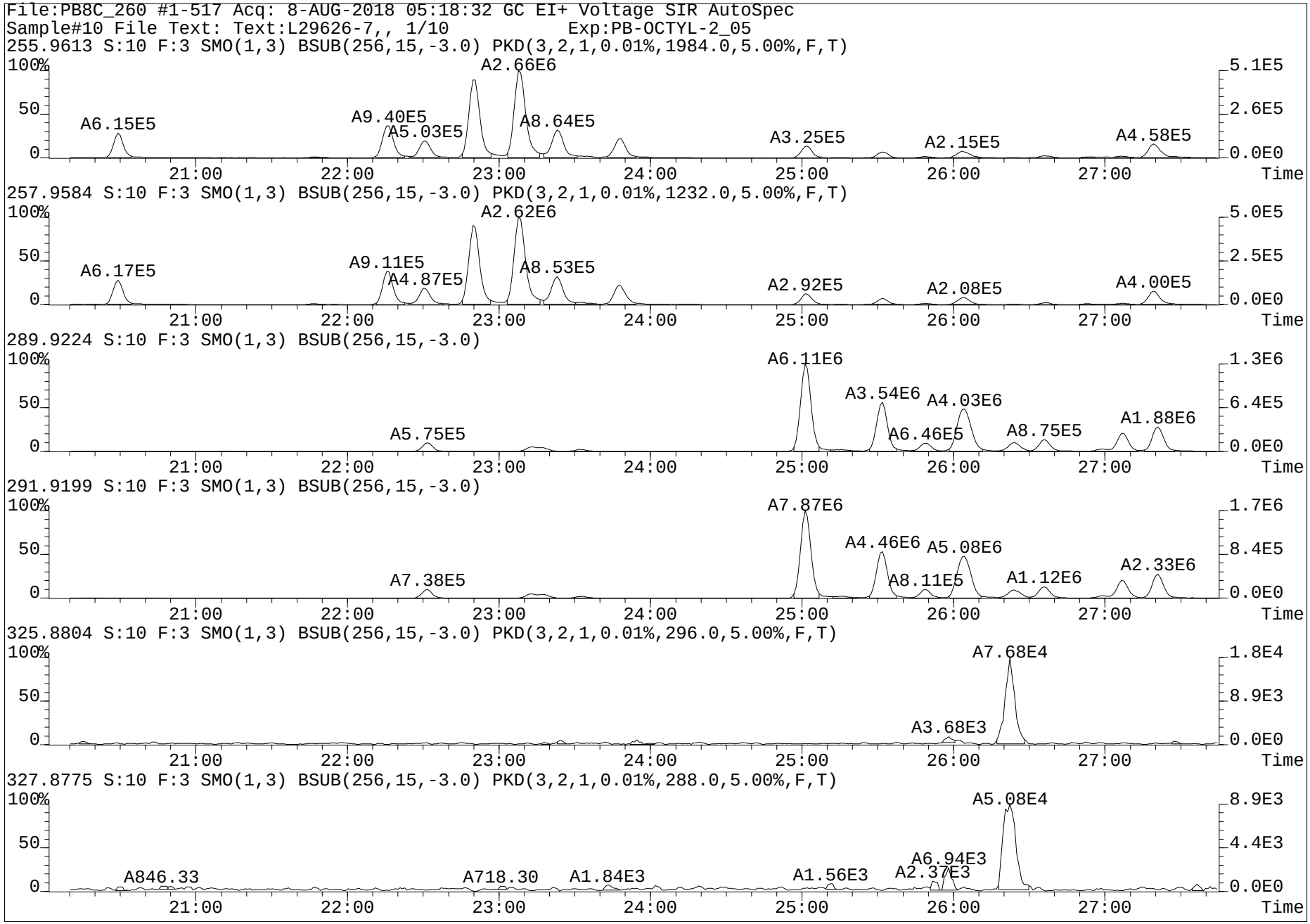

File:PB8C_260 #1-184 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A2.92E4
A4.09E4
A7.95E3
190.0363 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,552.0,5.00%,F,T)
A1.03E4
A8.34E3
A2.39E3
200.0795 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1192.0,5.00%,F,T)
A3.24E7
A3.06E7
202.0766 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17368.0,5.00%,F,T)
A1.01E7
A9.63E6
218.9856 S:10
11:15
11:30
11:43
11:59
12:13
12:44
13:13
13:27
13:43
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
1.0E4
5.2E3
0.0E0
2.9E3
1.5E3
1.0E7
5.2E6
3.3E6
1.6E6
7.4E6
3.7E6

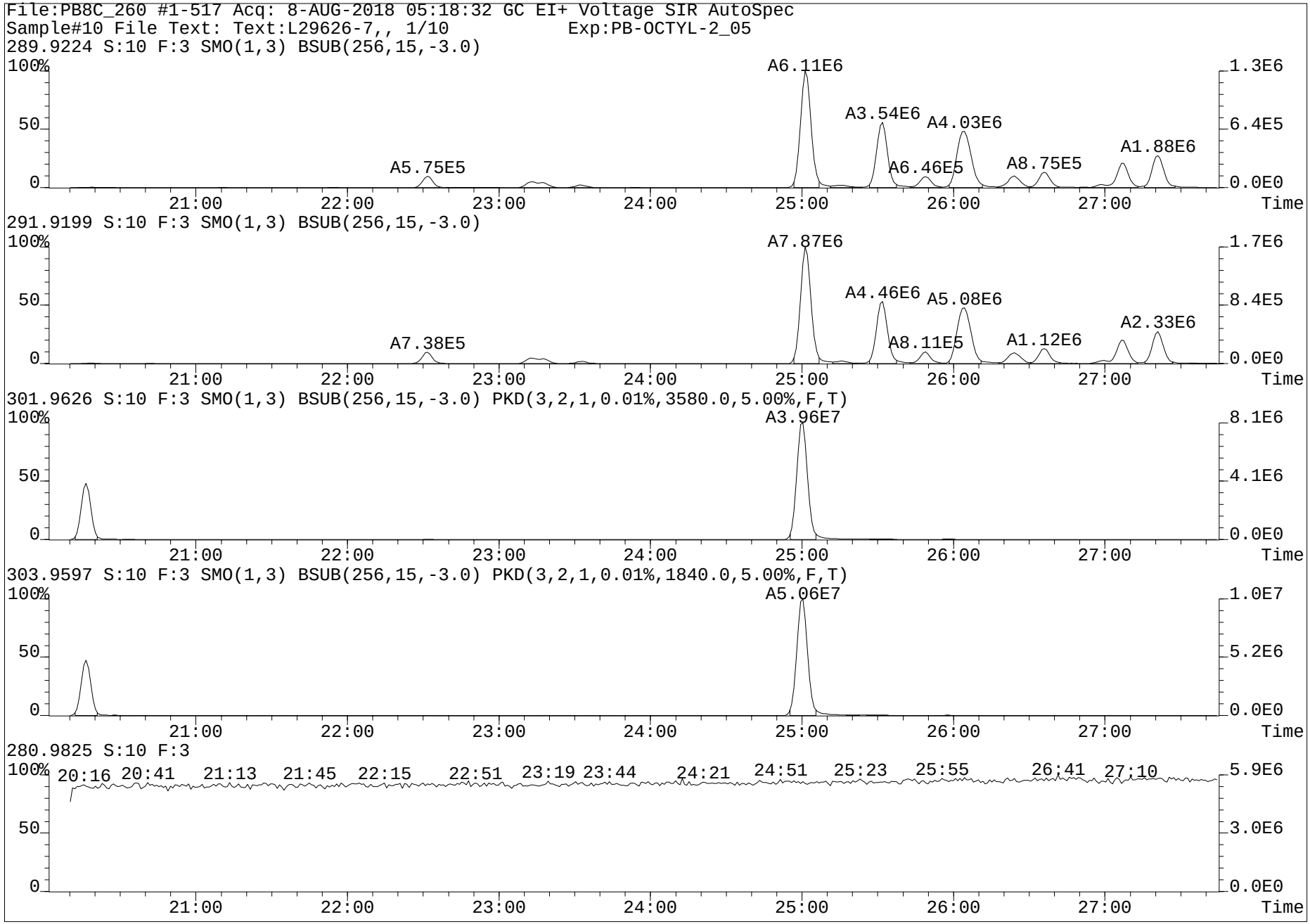

File:PB8C_260 #1-364 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.95E5
A2.92E5
A2.32E5
A1.06E5
A2.58E4
9.2E4
4.6E4
0.0E0
223.9974 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2812.0,5.00%,F,T)
A2.54E5
A1.91E5
A1.50E5
A8.67E4
A4.91E4
A1.94E4
6.7E4
3.4E4
0.0E0
234.0406 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2932.0,5.00%,F,T)
A9.88E7
A2.71E7
2.4E7
1.2E7
0.0E0
236.0376 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1820.0,5.00%,F,T)
A6.31E7
A1.72E7
1.5E7
7.6E6
0.0E0
242.9856 S:10 F:2
14:11
14:44
15:17
15:52
16:45
17:27
17:49
18:24
18:50
19:27
19:58
2.0E6
9.9E5
0.0E0
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time

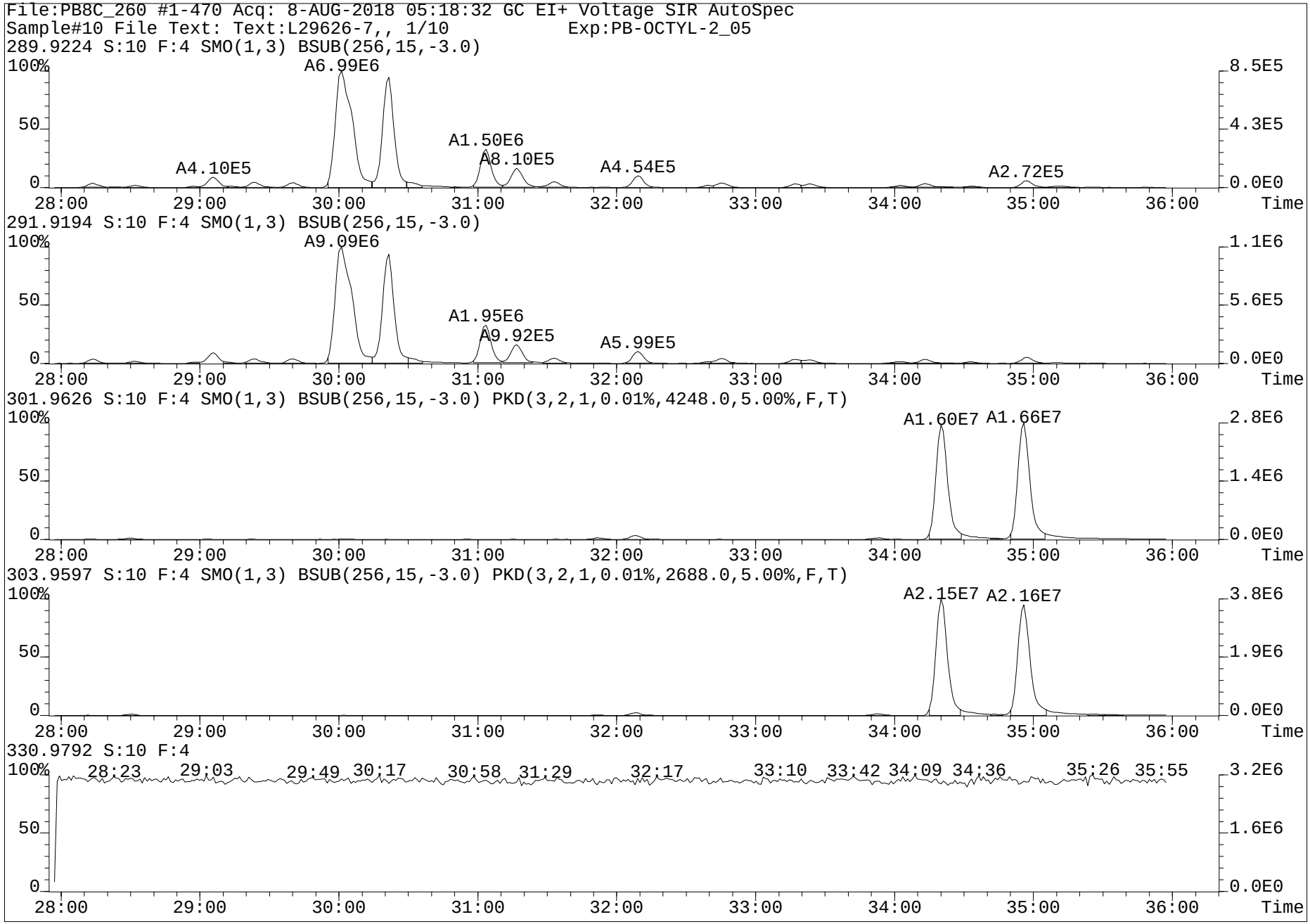

File:PB8C_260 #1-364 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.95E5
A2.92E5
A2.32E5
A1.06E5
A2.58E4
223.9974 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2812.0,5.00%,F,T)
A2.54E5
A1.91E5
A1.50E5
A8.67E4
A4.19E4
A4.91E4
A1.94E4
255.9613 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.32E6
A5.93E5
A3.35E5
A2.09E5
A1.15E5
257.9584 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.24E6
A5.78E5
A3.10E5
A2.23E5
A1.18E5
Time

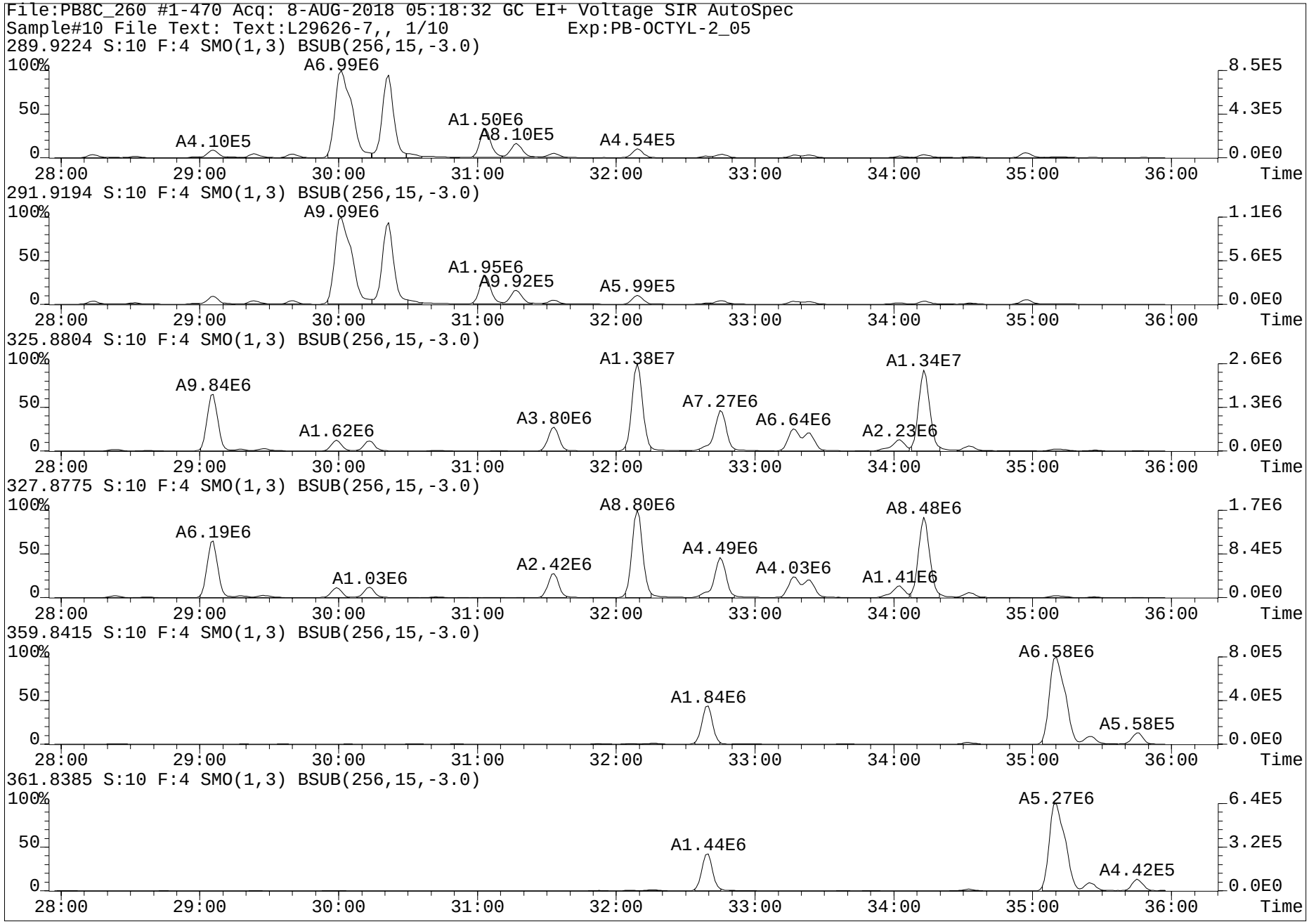

File:PB8C_260 #1-364 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.32E6
A5.93E5
A3.35E5
A1.15E5
257.9584 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.24E6
A5.78E5
A3.10E5
A1.18E5
268.0016 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10496.0,5.00%,F,T)
A1.34E7
269.9986 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7952.0,5.00%,F,T)
A1.29E7
242.9856 S:10 F:2
16:59 17:27 17:49 18:08 18:24 18:50 19:15 19:27 19:45 19:58
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

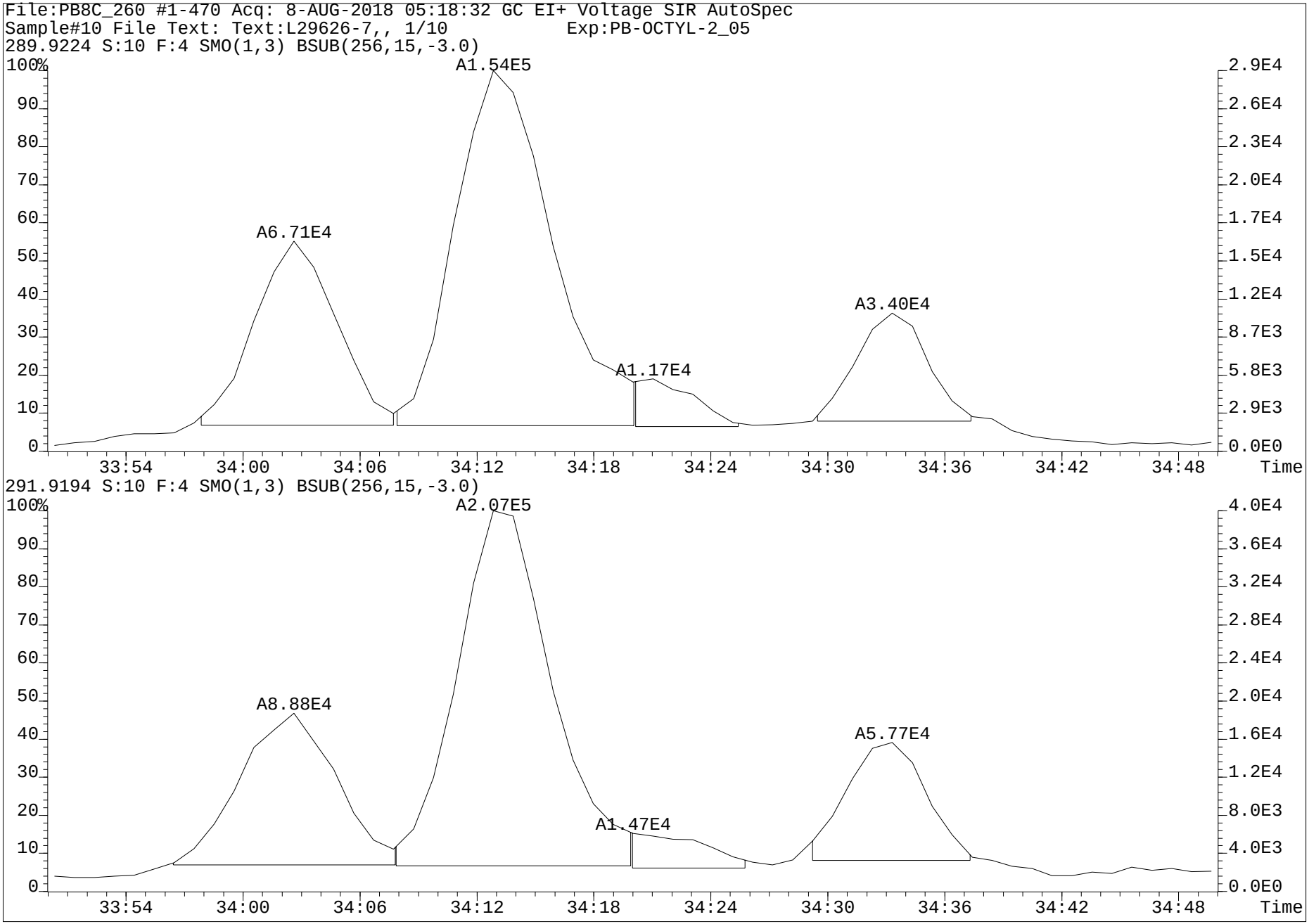

File:PB8C_260 #1-517 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1984.0,5.00%,F,T)
A2.66E6
A6.15E5
A9.40E5
A5.03E5
A8.64E5
A3.25E5
A2.15E5
A4.58E5
257.9584 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1232.0,5.00%,F,T)
A2.62E6
A6.17E5
A9.11E5
A4.87E5
A8.53E5
A2.92E5
A2.08E5
A4.00E5
268.0016 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16116.0,5.00%,F,T)
A2.28E7
A2.14E7
269.9986 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14352.0,5.00%,F,T)
A2.20E7
A2.02E7
280.9825 S:10 F:3
20:16 20:41 21:13 21:45 22:15 22:51 23:19 23:44 24:21 24:51 25:23 25:55 26:41 27:10
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
5.1E5 2.6E5 0.0E0
5.0E5 2.5E5 0.0E0
4.7E6 2.4E6 0.0E0
4.5E6 2.3E6 0.0E0
5.9E6 3.0E6 0.0E0

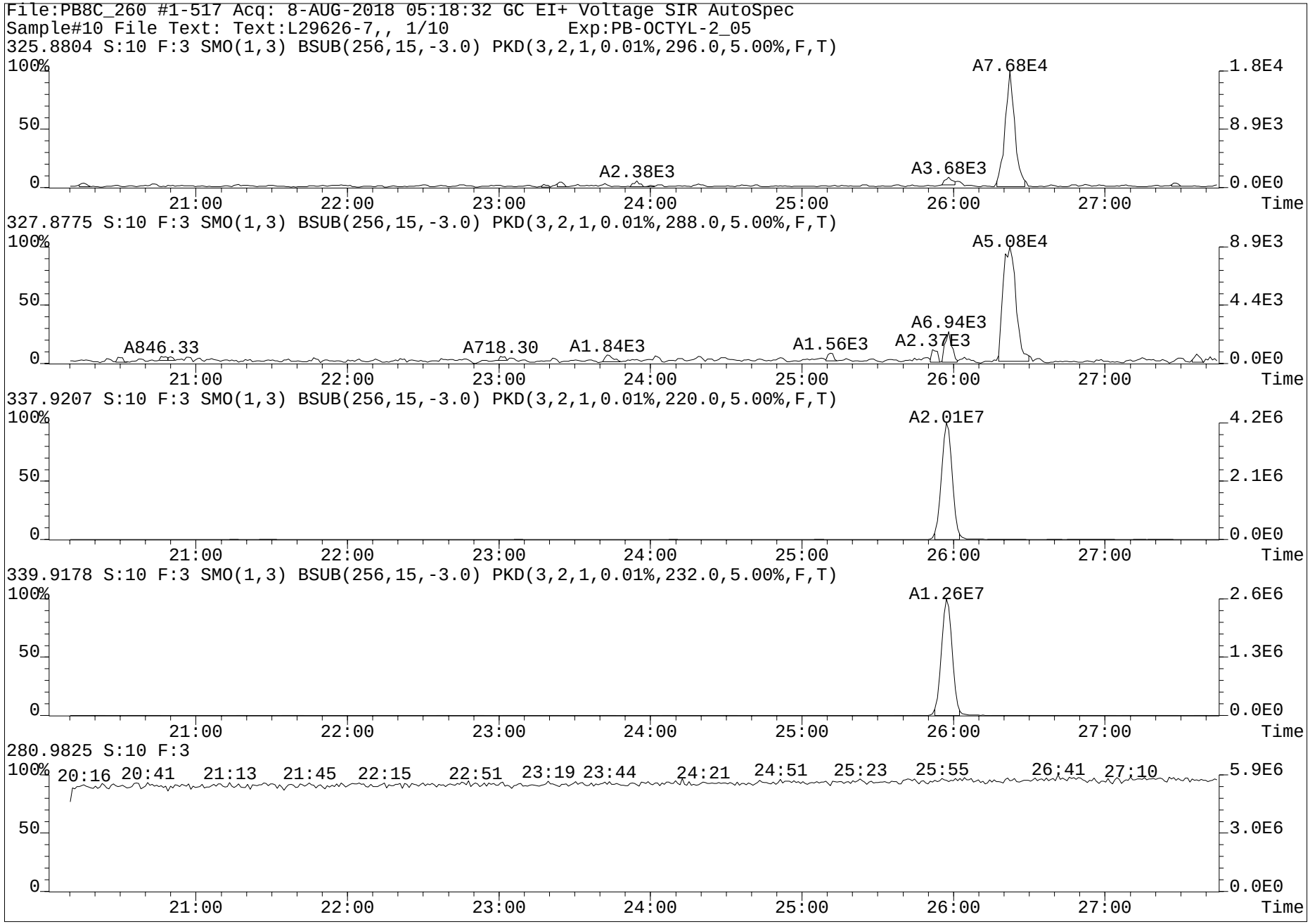

File:PB8C_260 #1-517 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1984.0,5.00%,F,T)
A6.15E5
A9.40E5
A5.03E5
A2.66E6
A8.64E5
A3.25E5
A2.15E5
A4.58E5
257.9584 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1232.0,5.00%,F,T)
A6.17E5
A9.11E5
A4.87E5
A2.62E6
A8.53E5
A2.92E5
A2.08E5
A4.00E5
289.9224 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.75E5
A6.11E6
A3.54E6
A4.03E6
A6.46E5
A8.75E5
A1.88E6
291.9199 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A7.38E5
A7.87E6
A4.46E6
A5.08E6
A8.11E5
A1.12E6
A2.33E6
325.8804 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A3.68E3
A7.68E4
327.8775 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A846.33
A718.30
A1.84E3
A1.56E3
A2.37E3
A6.94E3
A5.08E4
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.1E5
2.6E5
0.0E0
5.0E5
2.5E5
1.3E6
6.4E5
1.7E6
8.4E5
1.8E4
8.9E3
4.4E3

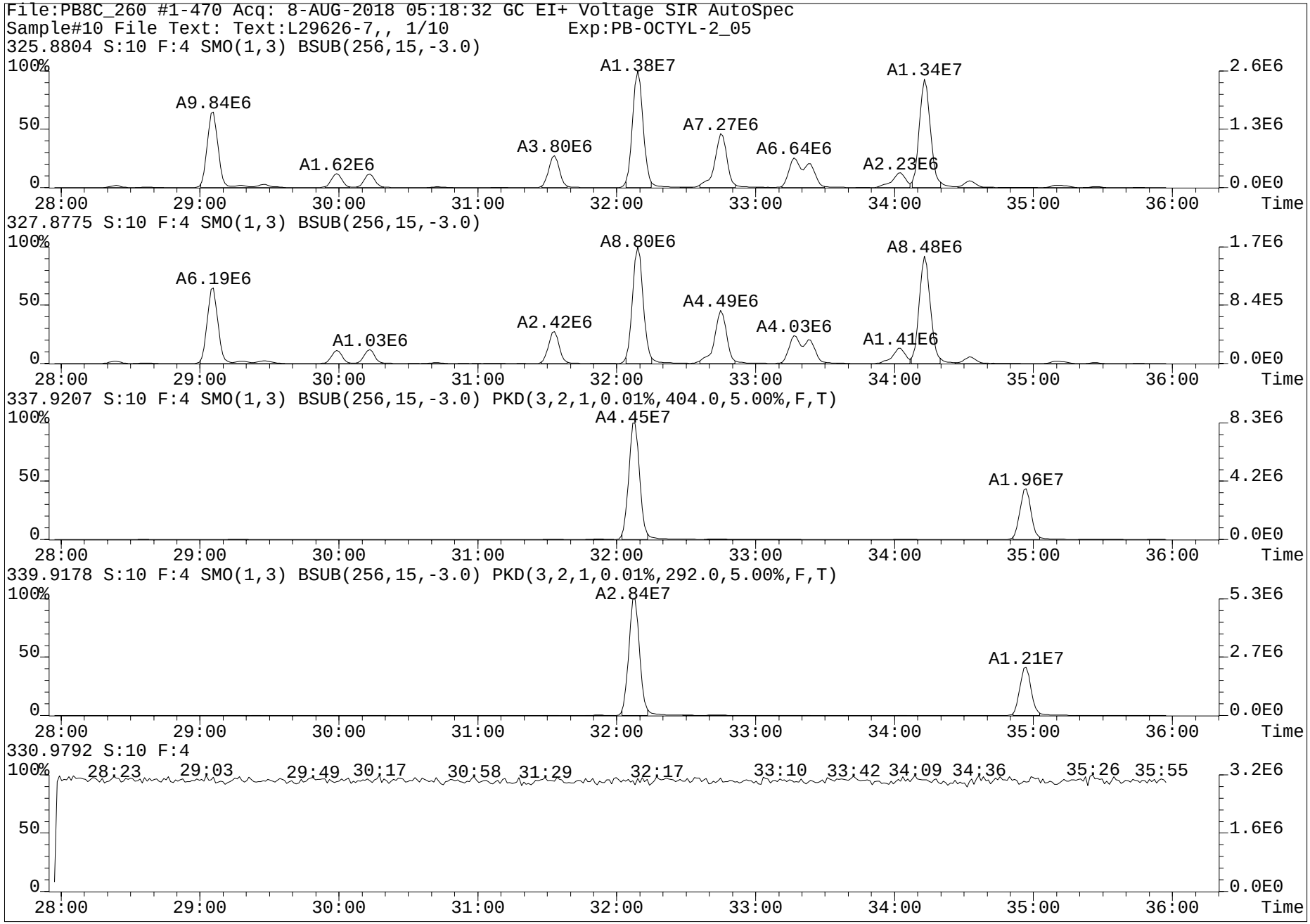

File:PB8C_260 #1-517 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.11E6
A3.54E6
A4.03E6
A1.88E6
A5.75E5
A6.46E5
A8.75E5
1.3E6
6.4E5
0.0E0
291.9199 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A7.87E6
A4.46E6
A5.08E6
A2.33E6
A7.38E5
A8.11E5
A1.12E6
1.7E6
8.4E5
0.0E0
301.9626 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3580.0,5.00%,F,T)
A3.96E7
8.1E6
4.1E6
0.0E0
303.9597 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1840.0,5.00%,F,T)
A5.06E7
1.0E7
5.2E6
0.0E0
280.9825 S:10 F:3
20:16 20:41 21:13 21:45 22:15 22:51 23:19 23:44 24:21 24:51 25:23 25:55 26:41 27:10
5.9E6
3.0E6
0.0E0
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

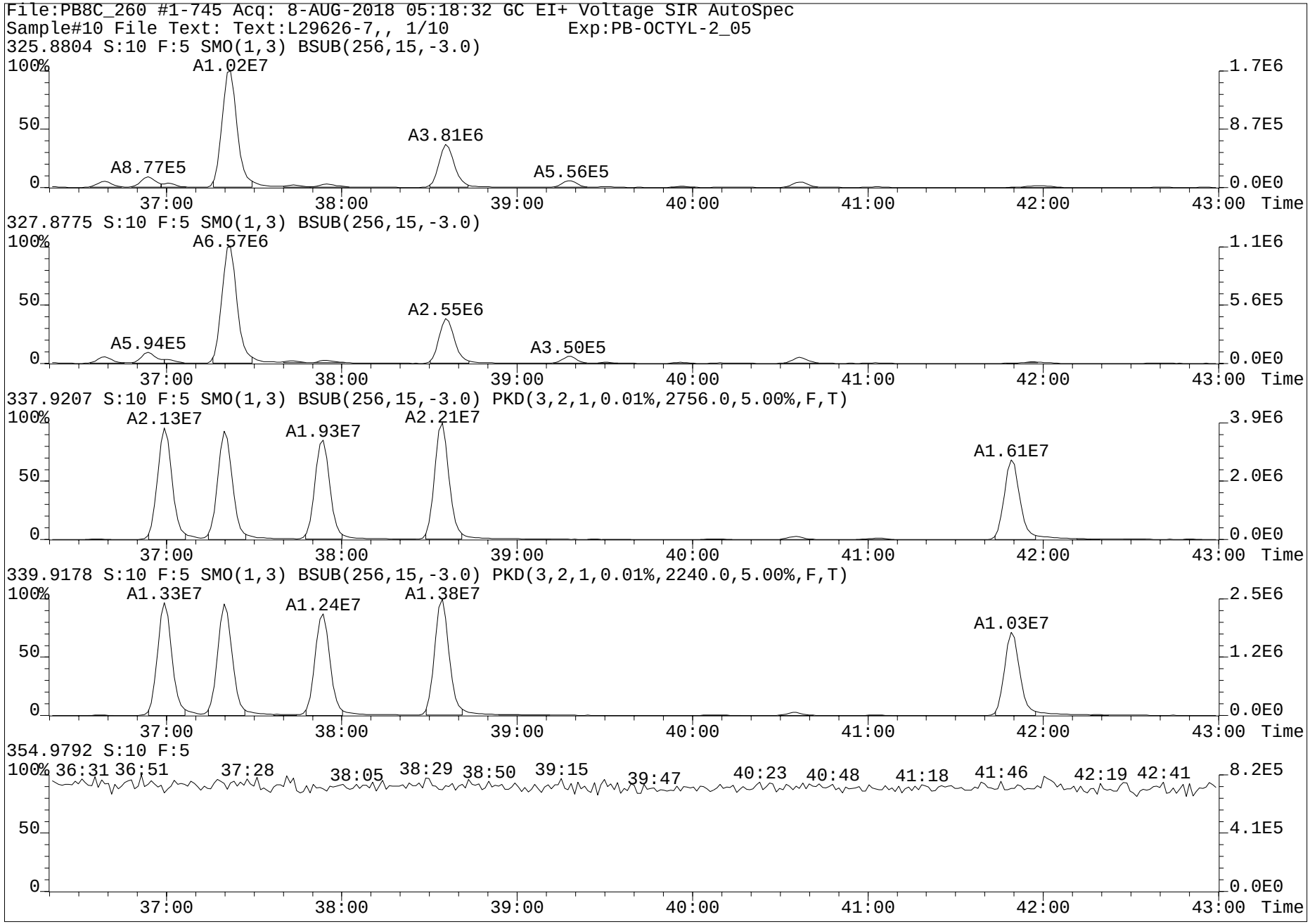

File:PB8C_260 #1-470 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.99E6
A4.10E5
A1.50E6
A8.10E5
A4.54E5
A2.72E5
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.09E6
A1.95E6
A9.92E5
A5.99E5
301.9626 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4248.0,5.00%,F,T)
A1.60E7
A1.66E7
303.9597 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2688.0,5.00%,F,T)
A2.15E7
A2.16E7
330.9792 S:10 F:4
28:23 29:03 29:49 30:17 30:58 31:29 32:17 33:10 33:42 34:09 34:36 35:26 35:55
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
8.5E5 4.3E5 0.0E0
1.1E6 5.6E5 0.0E0
2.8E6 1.4E6 0.0E0
3.8E6 1.9E6 0.0E0
3.2E6 1.6E6 0.0E0

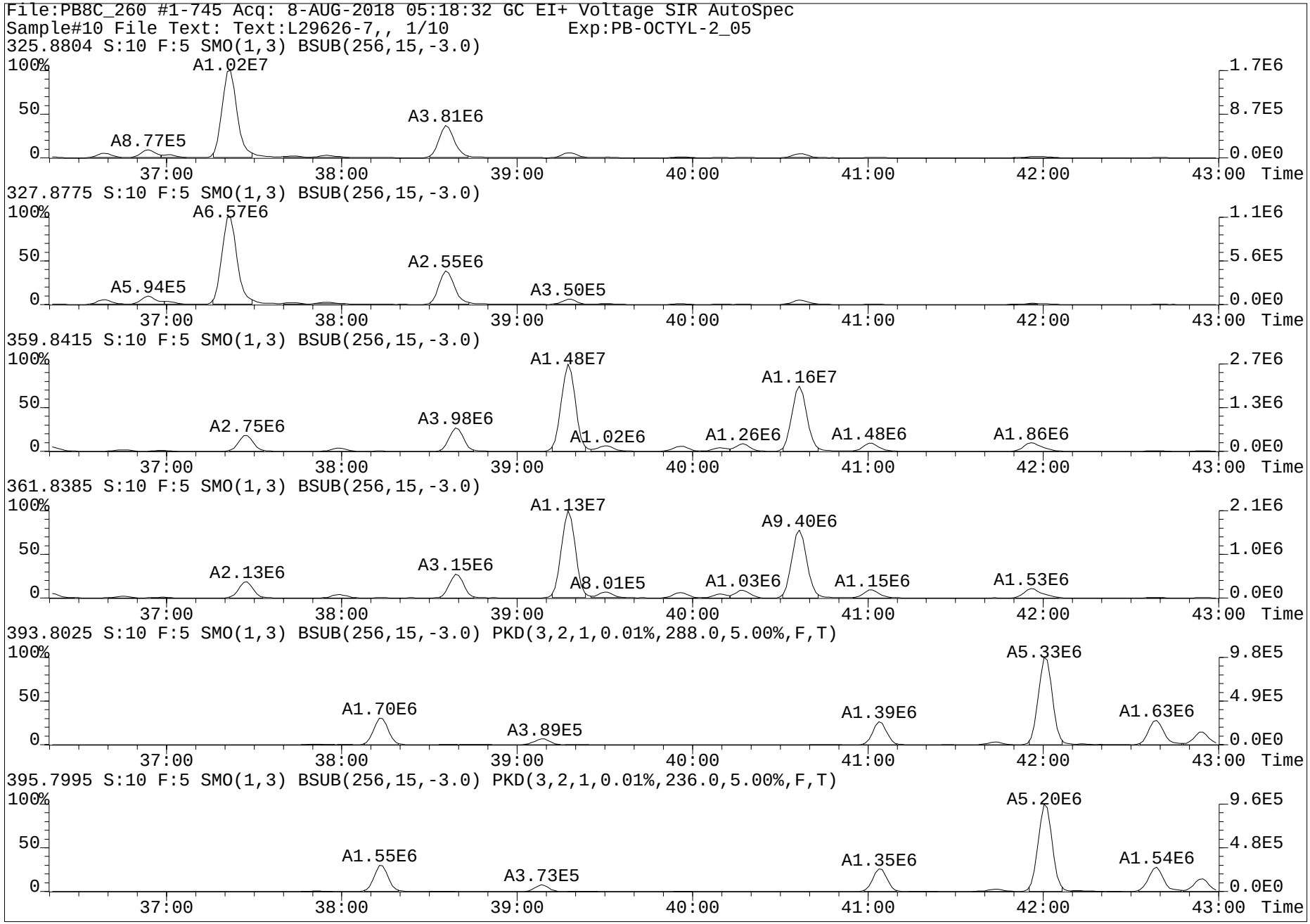

File:PB8C_260 #1-470 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.99E6
A4.10E5
A1.50E6
A8.10E5
A4.54E5
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.09E6
A1.95E6
A9.92E5
A5.99E5
325.8804 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.38E7
A1.34E7
A9.84E6
A7.27E6
A3.80E6
A6.64E6
A1.62E6
A2.23E6
327.8775 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A8.80E6
A8.48E6
A6.19E6
A4.49E6
A2.42E6
A4.03E6
A1.03E6
A1.41E6
359.8415 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.58E6
A1.84E6
A5.58E5
361.8385 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.27E6
A1.44E6
A4.42E5
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
8.5E5
4.3E5
0.0E0
1.1E6
5.6E5
2.6E6
1.3E6
1.7E6
8.4E5
8.0E5
4.0E5
6.4E5
3.2E5

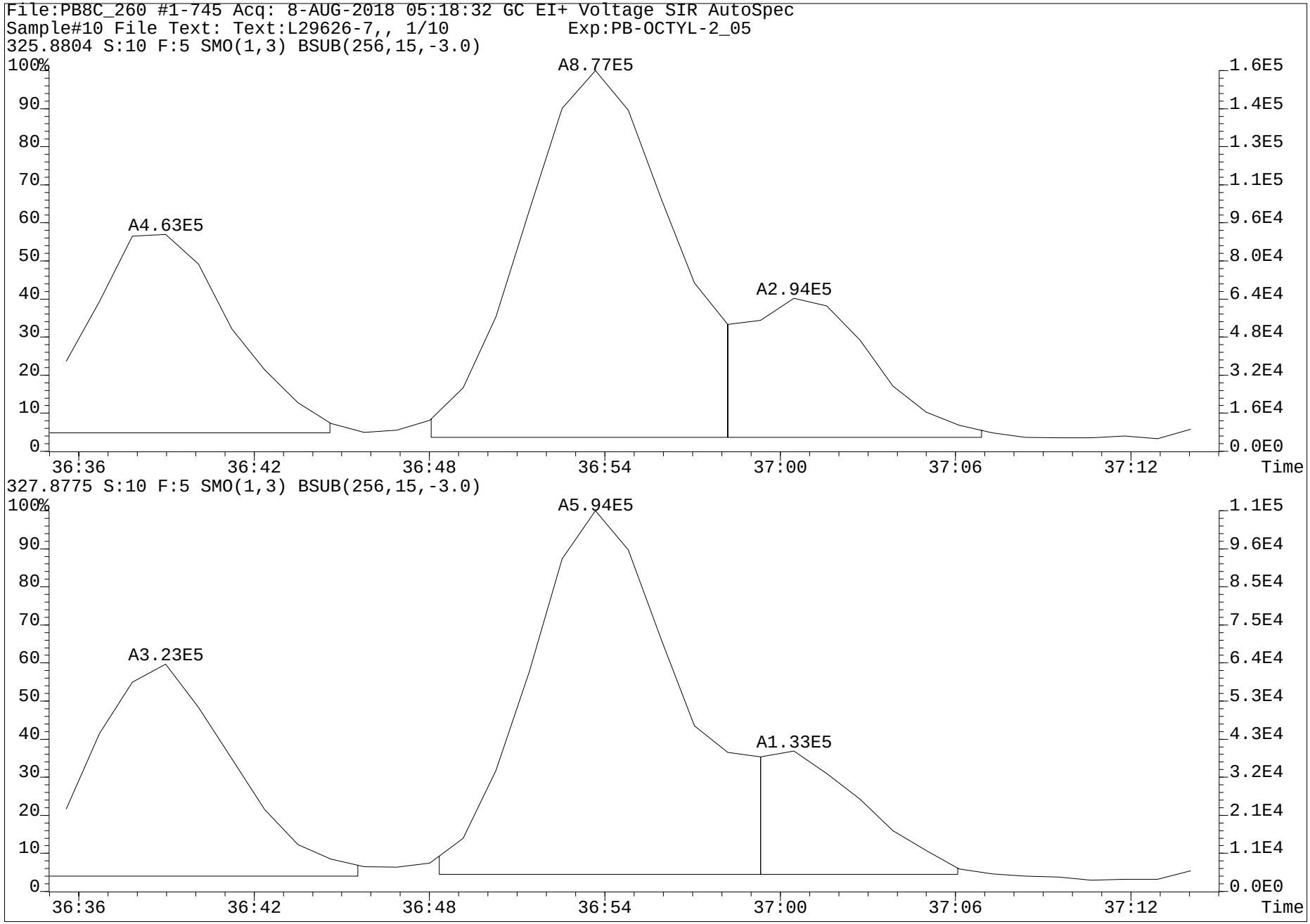

File:PB8C_260 #1-470 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.54E5
A6.71E4
A3.40E4
A1.17E4
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.07E5
A8.88E4
A5.77E4
A1.47E4
Time

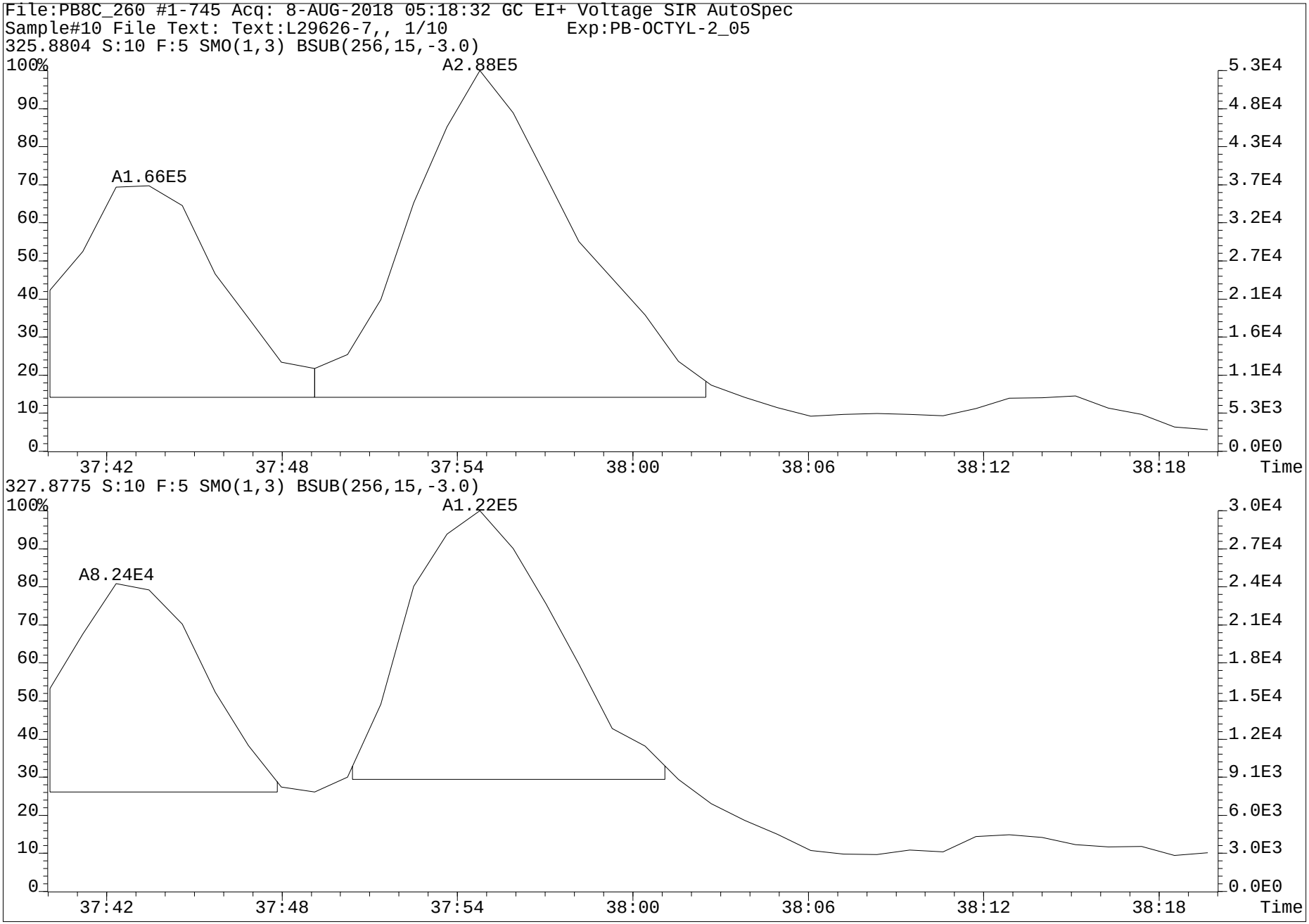

File:PB8C_260 #1-517 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A7.68E4
A2.38E3
A3.68E3
327.8775 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A5.08E4
A6.94E3
A2.37E3
A846.33
A718.30
A1.84E3
A1.56E3
337.9207 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,220.0,5.00%,F,T)
A2.01E7
339.9178 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A1.26E7
280.9825 S:10 F:3
20:16 20:41 21:13 21:45 22:15 22:51 23:19 23:44 24:21 24:51 25:23 25:55 26:41 27:10
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.8E4 8.9E3 0.0E0
4.4E3
2.1E6
4.2E6
1.3E6
2.6E6
3.0E6
5.9E6

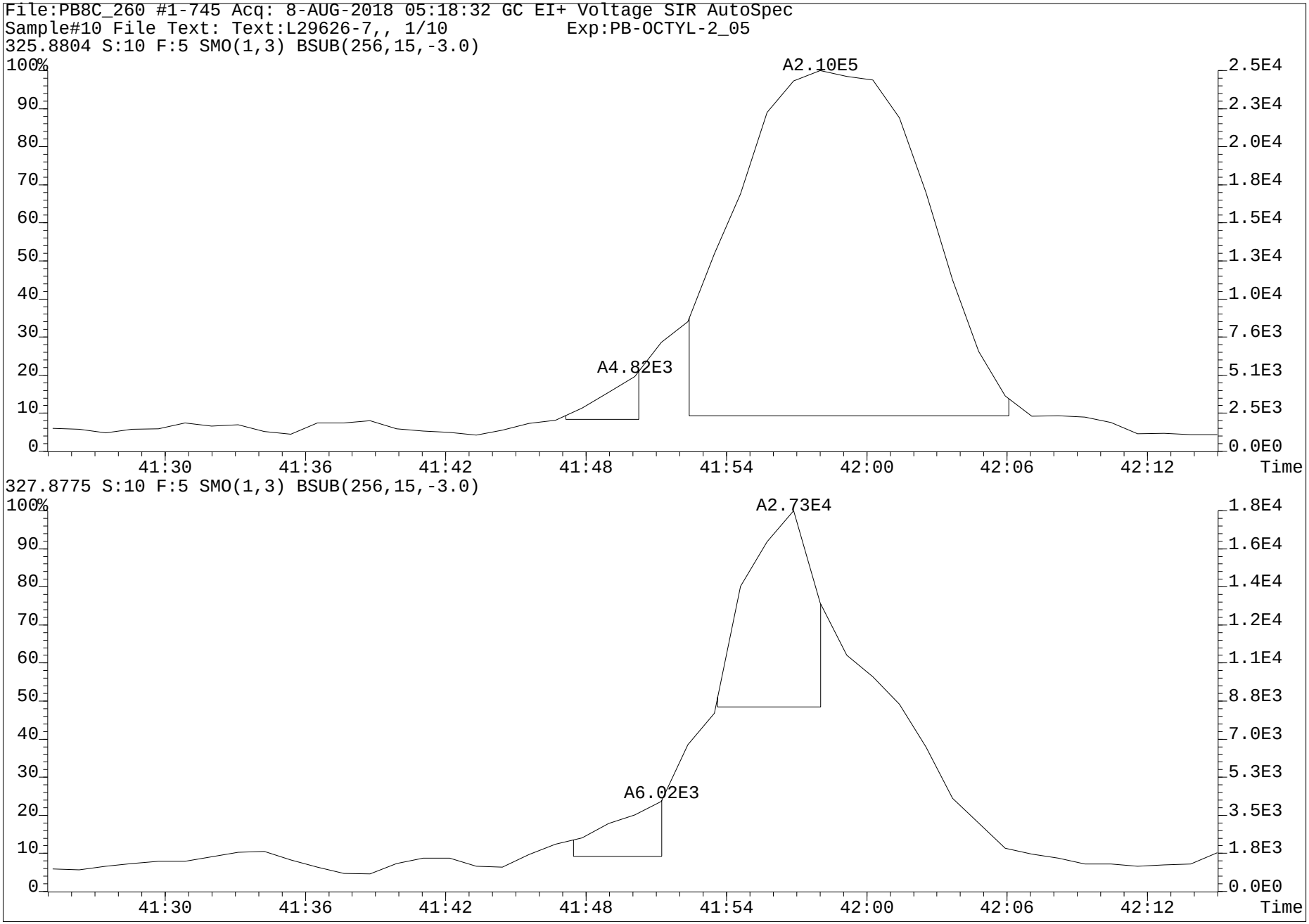

File:PB8C_260 #1-470 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.84E6
A1.62E6
A3.80E6
A1.38E7
A7.27E6
A6.64E6
A1.34E7
A2.23E6
327.8775 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.19E6
A1.03E6
A2.42E6
A8.80E6
A4.49E6
A4.03E6
A8.48E6
A1.41E6
337.9207 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A4.45E7
A1.96E7
339.9178 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A2.84E7
A1.21E7
330.9792 S:10 F:4
28:23 29:03 29:49 30:17 30:58 31:29 32:17 33:10 33:42 34:09 34:36 35:26 35:55
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.6E6 1.3E6 0.0E0
1.7E6 8.4E5 0.0E0
8.3E6 4.2E6 0.0E0
5.3E6 2.7E6 0.0E0
3.2E6 1.6E6 0.0E0

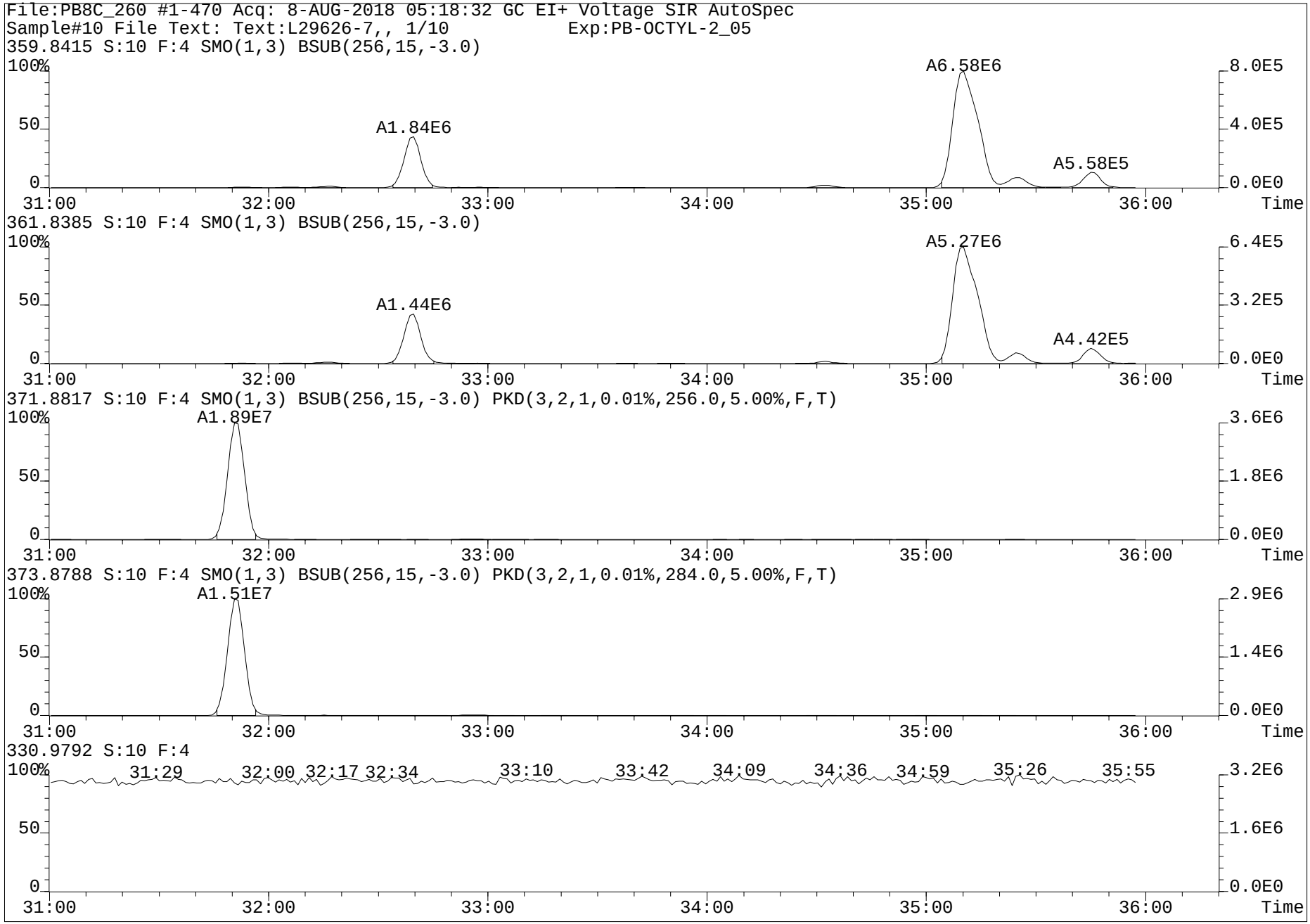

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.02E7
A8.77E5
A3.81E6
A5.56E5
1.7E6
8.7E5
0.0E0
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.57E6
A5.94E5
A2.55E6
A3.50E5
1.1E6
5.6E5
0.0E0
337.9207 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2756.0,5.00%,F,T)
A2.13E7
A1.93E7
A2.21E7
A1.61E7
3.9E6
2.0E6
0.0E0
339.9178 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2240.0,5.00%,F,T)
A1.33E7
A1.24E7
A1.38E7
A1.03E7
2.5E6
1.2E6
0.0E0
354.9792 S:10 F:5
36:31 36:51 37:28 38:05 38:29 38:50 39:15 39:47 40:23 40:48 41:18 41:46 42:19 42:41
8.2E5
4.1E5
0.0E0
100%
50
0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time

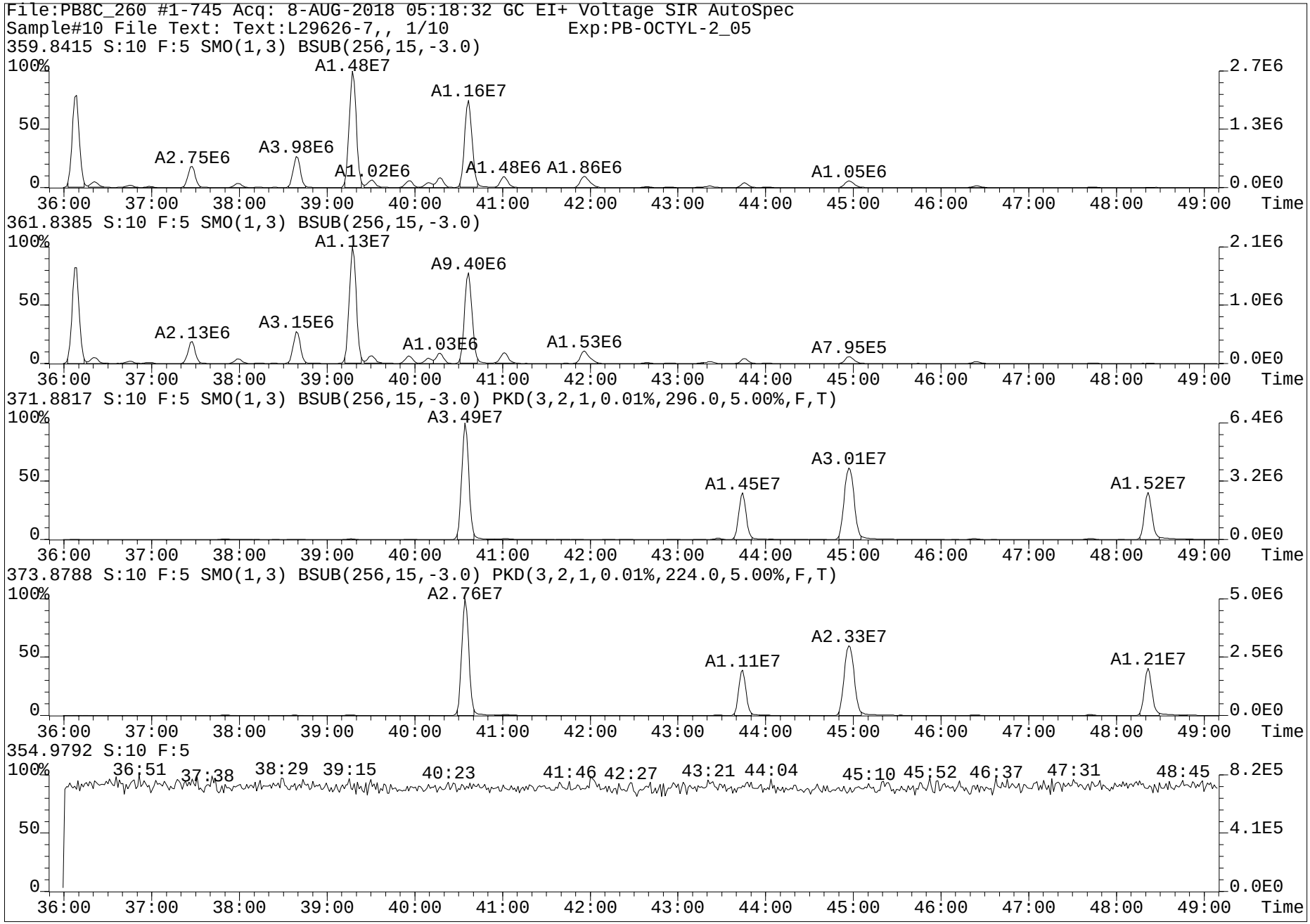

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.02E7
A8.77E5
A3.81E6
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.57E6
A5.94E5
A2.55E6
A3.50E5
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.48E7
A1.16E7
A2.75E6
A3.98E6
A1.02E6
A1.26E6
A1.48E6
A1.86E6
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.13E7
A9.40E6
A2.13E6
A3.15E6
A8.01E5
A1.03E6
A1.15E6
A1.53E6
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A5.33E6
A1.70E6
A3.89E5
A1.39E6
A1.63E6
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A5.20E6
A1.55E6
A3.73E5
A1.35E6
A1.54E6
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
1.7E6
8.7E5
0.0E0
1.1E6
5.6E5
2.7E6
1.3E6
2.1E6
1.0E6
9.8E5
4.9E5
9.6E5
4.8E5

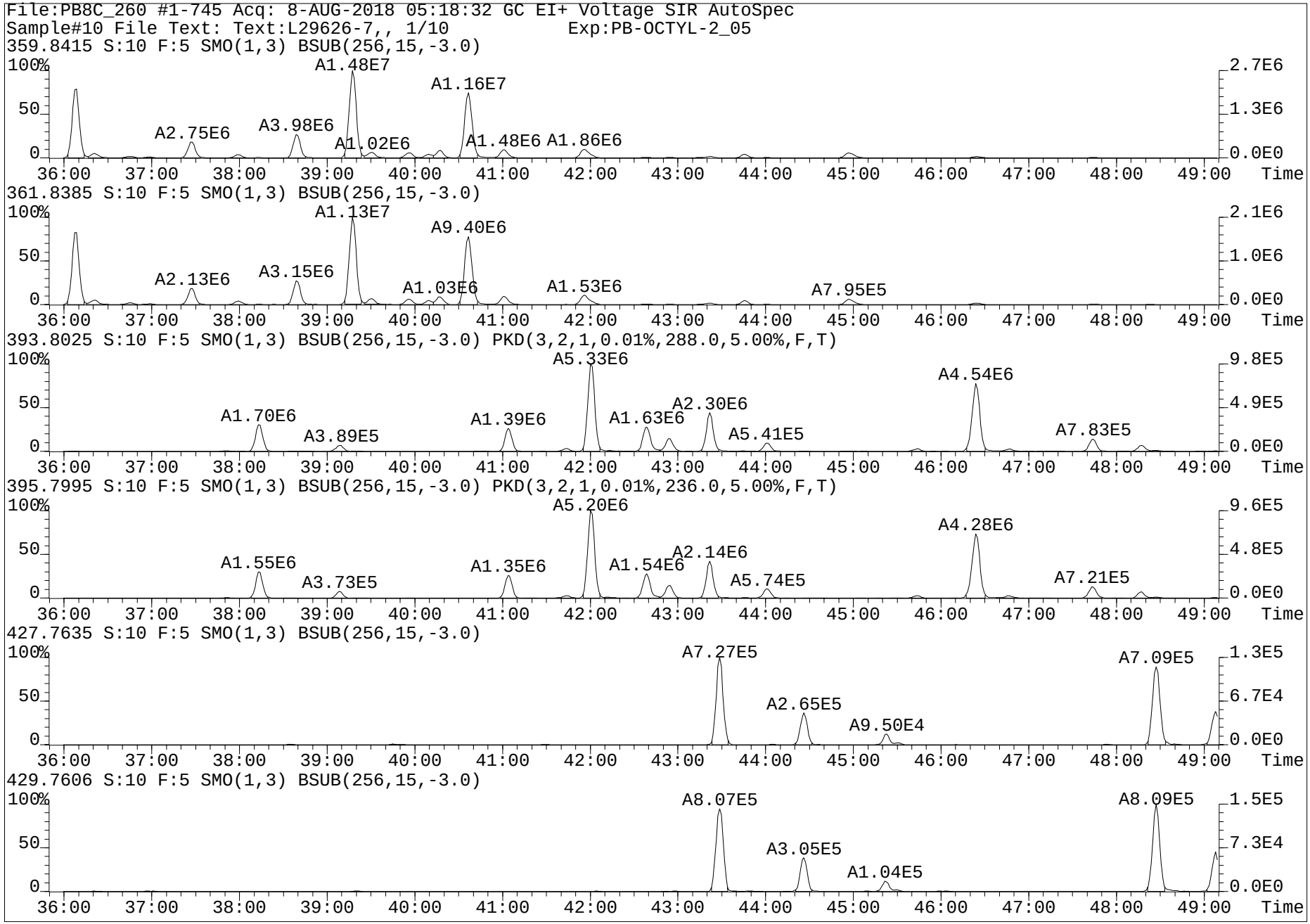

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.63E5
A8.77E5
A2.94E5
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.23E5
A5.94E5
A1.33E5
Time

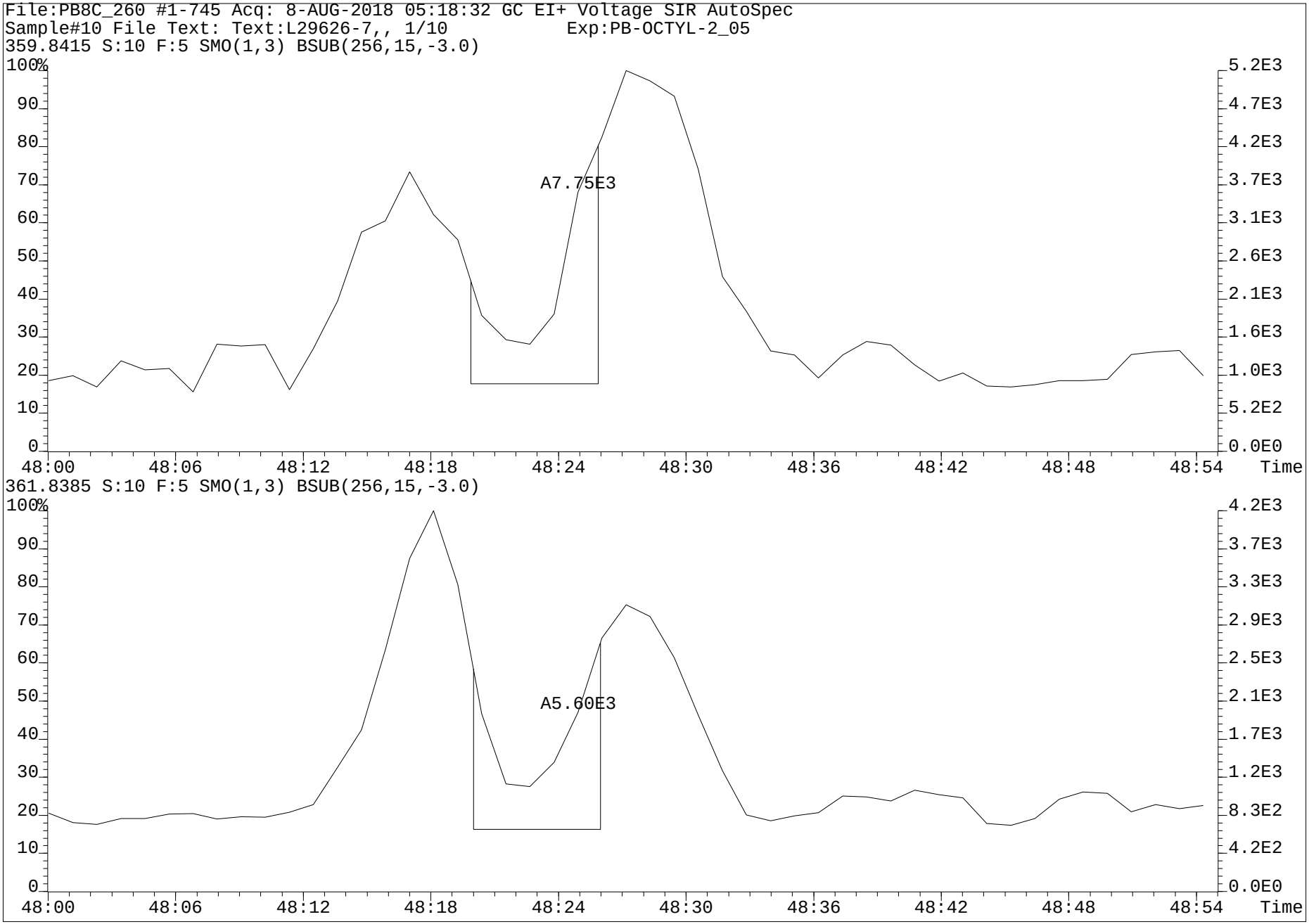

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.88E5
A1.66E5
100%
90
80
70
60
50
40
30
20
10
0
5.3E4
4.8E4
4.3E4
3.7E4
3.2E4
2.7E4
2.1E4
1.6E4
1.1E4
5.3E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.22E5
A8.24E4
100%
90
80
70
60
50
40
30
20
10
0
3.0E4
2.7E4
2.4E4
2.1E4
1.8E4
1.5E4
1.2E4
9.1E3
6.0E3
3.0E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

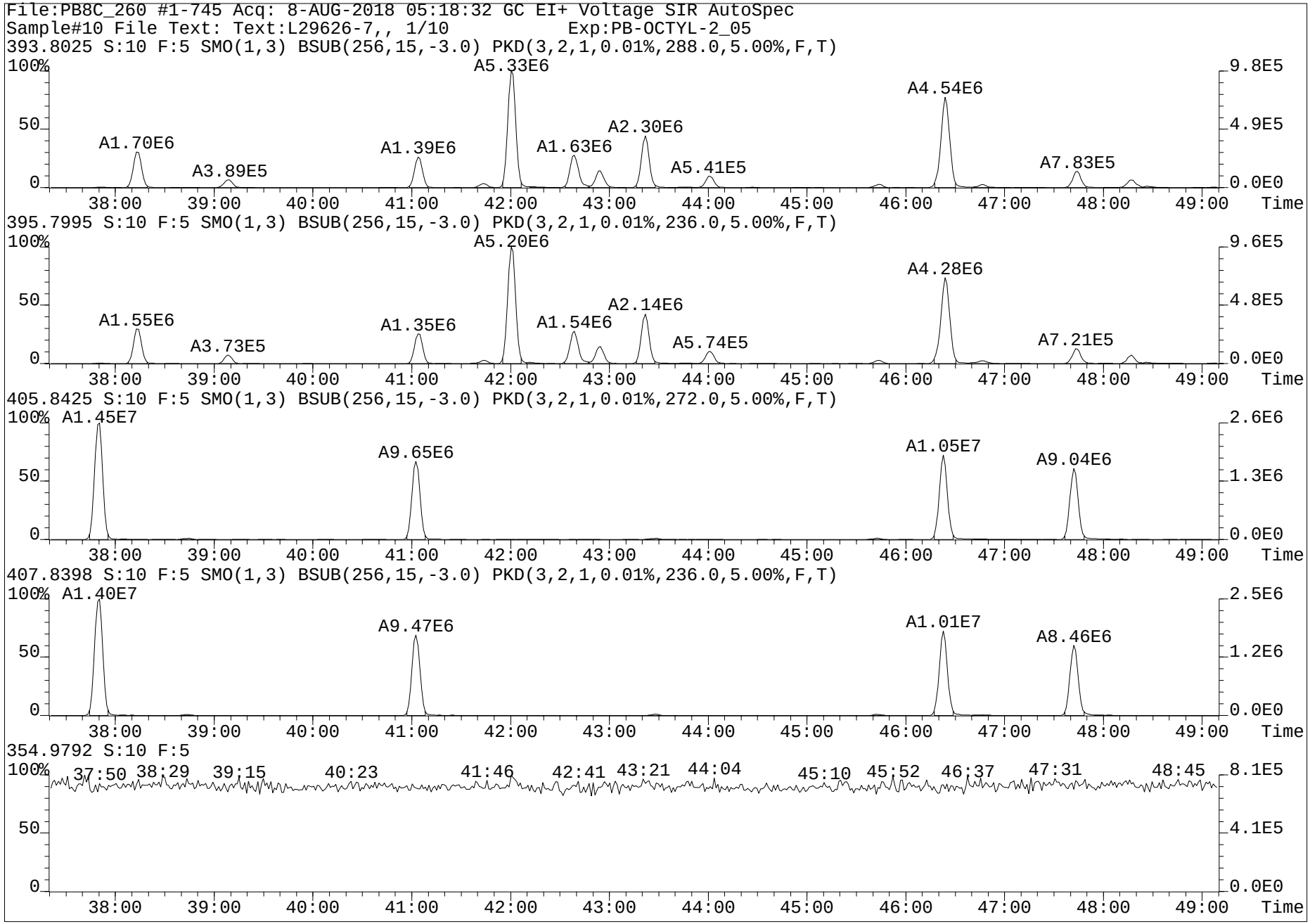

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.10E5
A4.82E3
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.73E4
A6.02E3
Time

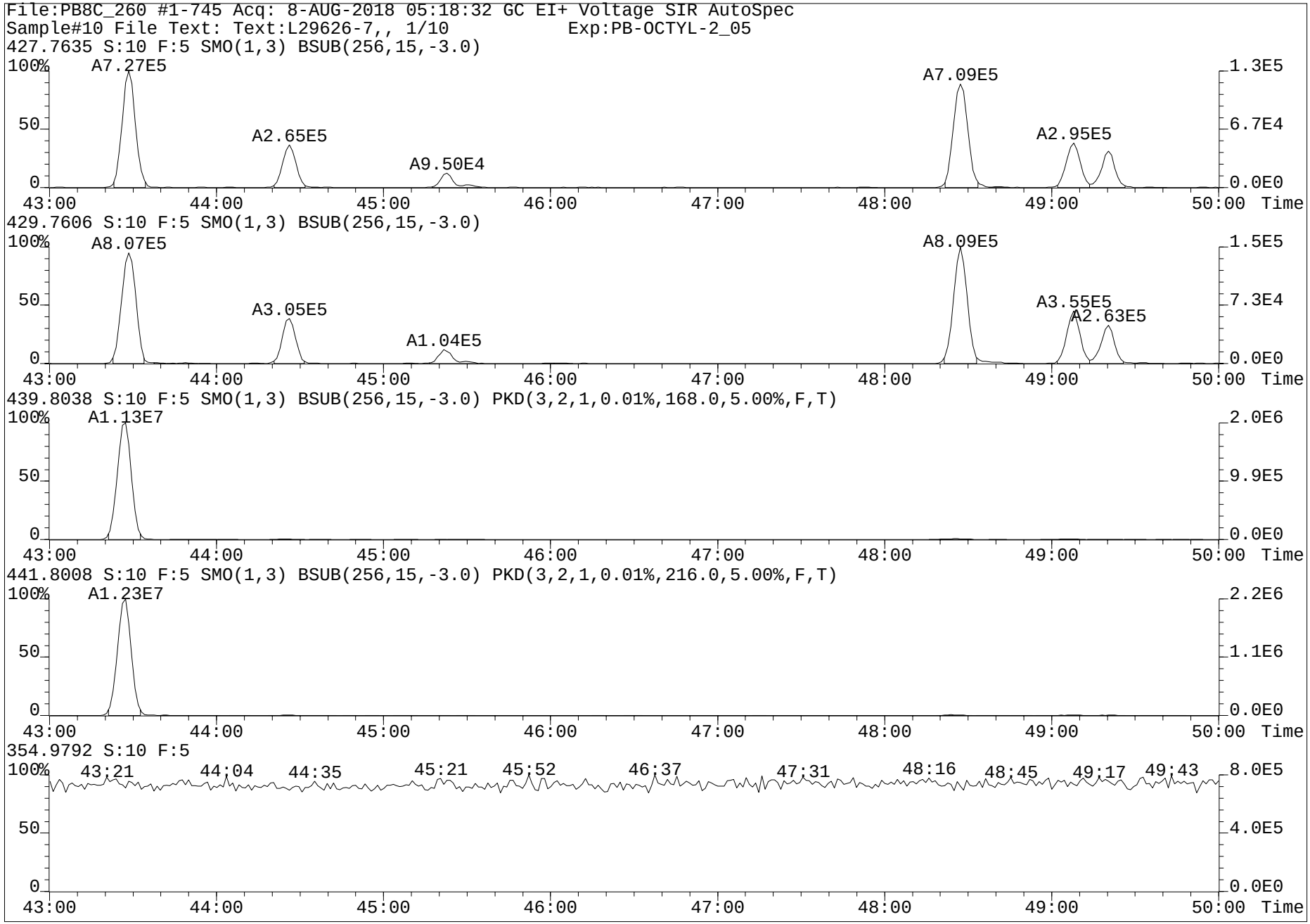

File:PB8C_260 #1-470 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.84E6
A6.58E6
A5.58E5
361.8385 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.44E6
A5.27E6
A4.42E5
371.8817 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,256.0,5.00%,F,T)
A1.89E7
373.8788 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,284.0,5.00%,F,T)
A1.51E7
330.9792 S:10 F:4
31:29
32:00
32:17
32:34
33:10
33:42
34:09
34:36
34:59
35:26
35:55
Time

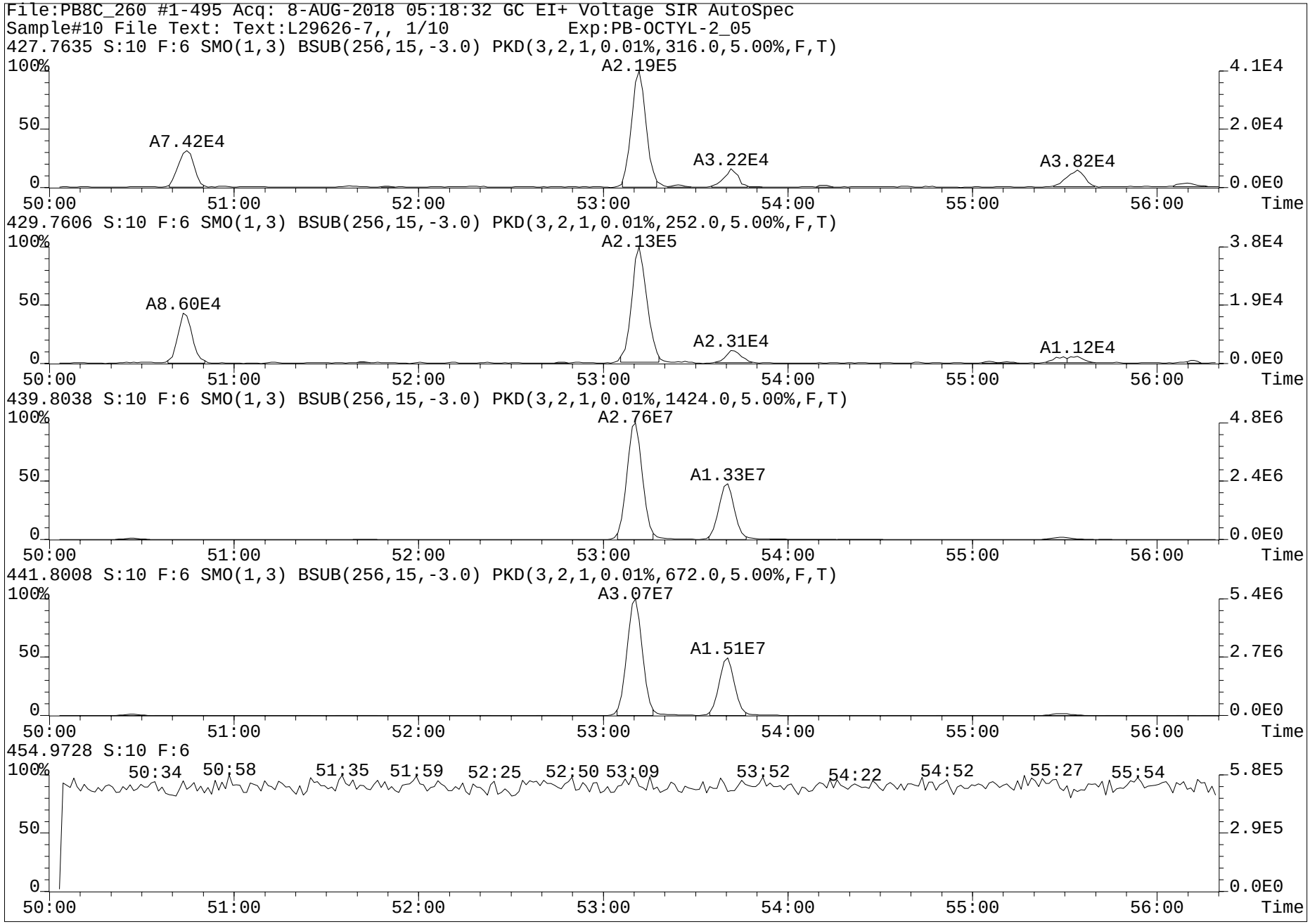

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.48E7
A1.16E7
A2.75E6
A3.98E6
A1.02E6
A1.48E6
A1.86E6
A1.05E6
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.13E7
A9.40E6
A2.13E6
A3.15E6
A1.03E6
A1.53E6
A7.95E5
371.8817 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
A3.49E7
A3.01E7
A1.45E7
A1.52E7
373.8788 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,224.0,5.00%,F,T)
A2.76E7
A2.33E7
A1.11E7
A1.21E7
354.9792 S:10 F:5
36:51 37:38 38:29 39:15 40:23 41:46 42:27 43:21 44:04 45:10 45:52 46:37 47:31 48:45
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
2.7E6
1.3E6
0.0E0
2.1E6
1.0E6
0.0E0
6.4E6
3.2E6
0.0E0
5.0E6
2.5E6
0.0E0
8.2E5
4.1E5
0.0E0

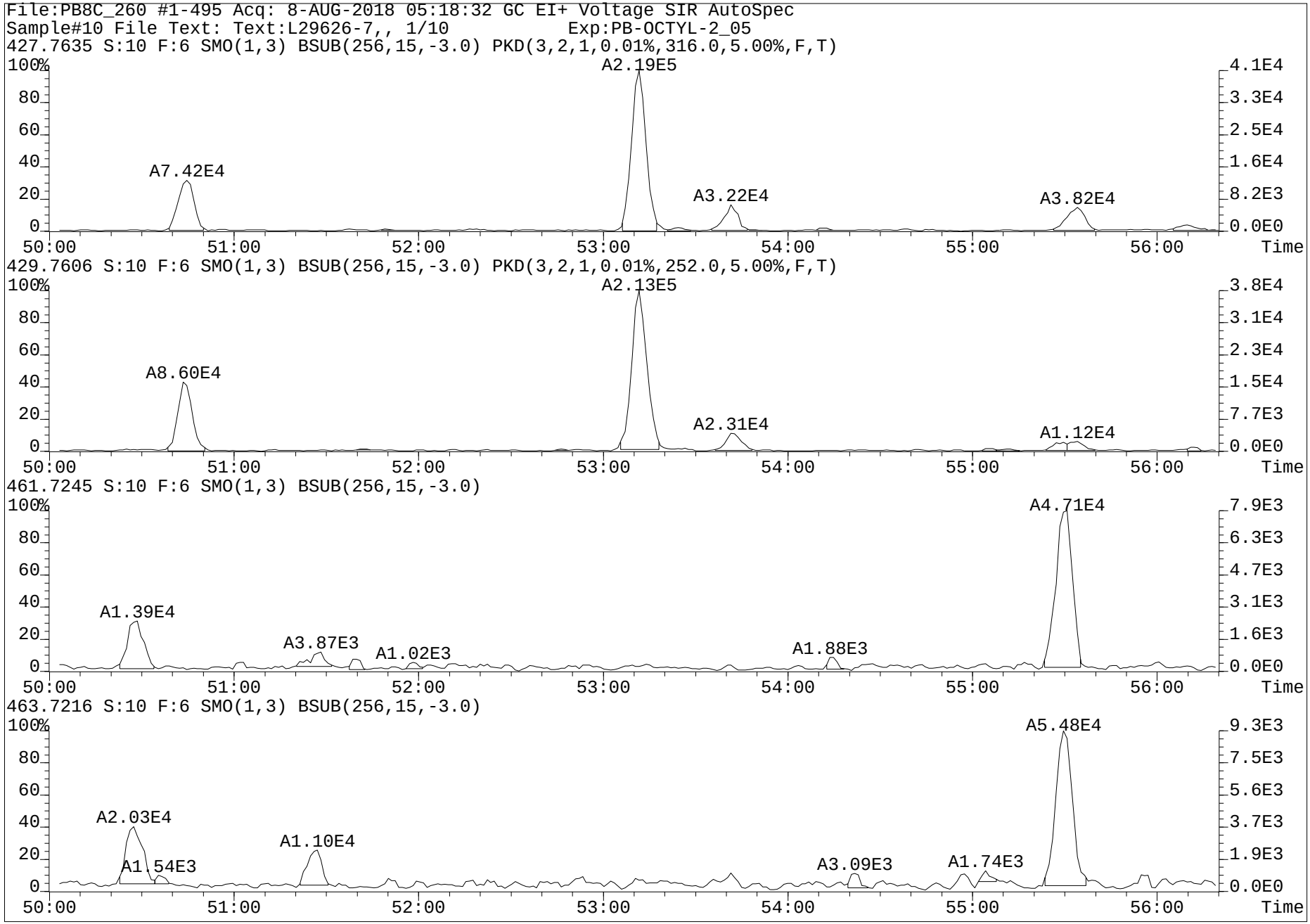

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.48E7
A1.16E7
A2.75E6
A3.98E6
A1.02E6
A1.48E6
A1.86E6
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.13E7
A9.40E6
A2.13E6
A3.15E6
A1.03E6
A1.53E6
A7.95E5
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A5.33E6
A4.54E6
A1.70E6
A3.89E5
A1.39E6
A1.63E6
A2.30E6
A5.41E5
A7.83E5
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A5.20E6
A4.28E6
A1.55E6
A3.73E5
A1.35E6
A1.54E6
A2.14E6
A5.74E5
A7.21E5
427.7635 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.27E5
A7.09E5
A2.65E5
A9.50E4
429.7606 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.07E5
A8.09E5
A3.05E5
A1.04E5
Time

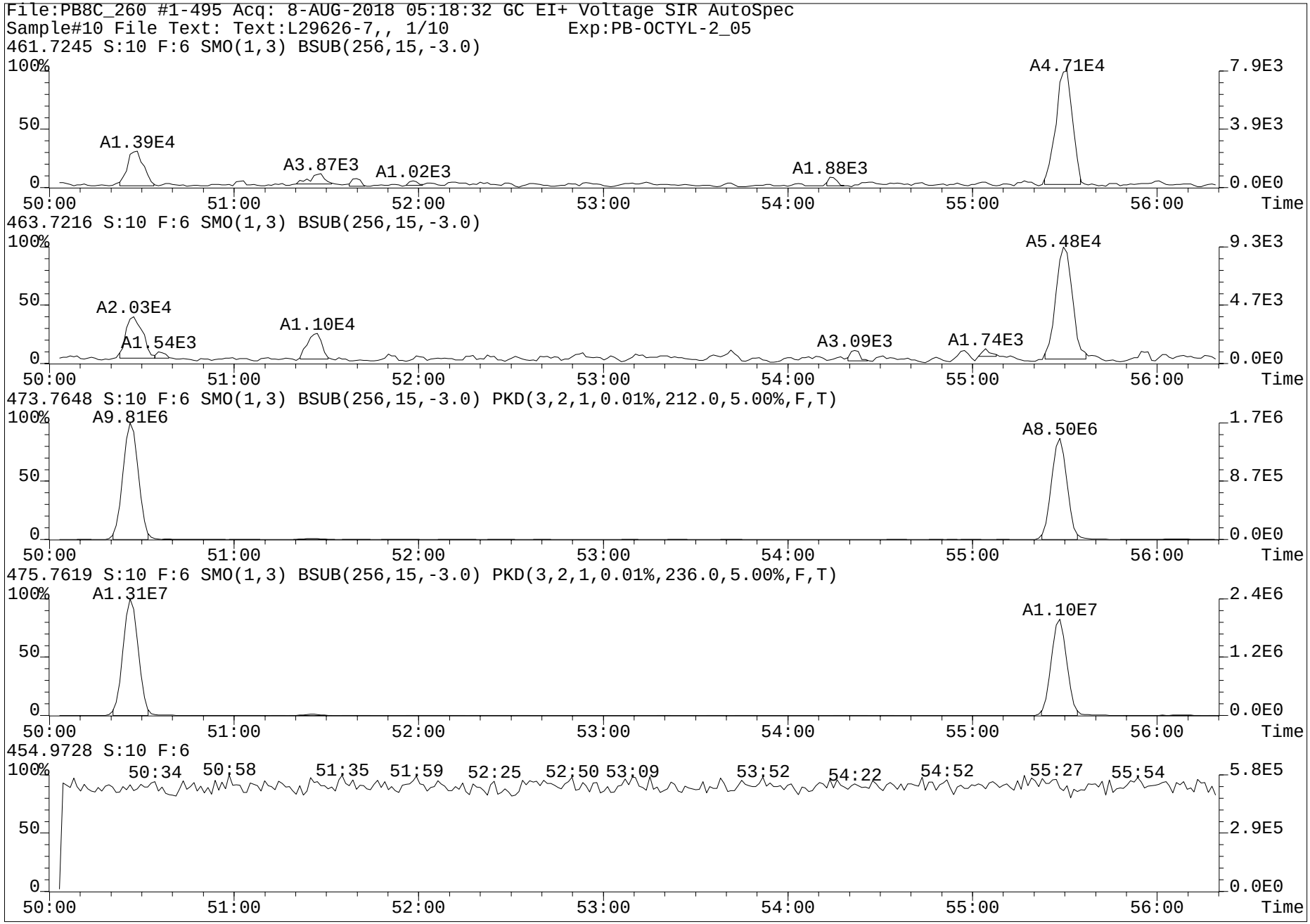

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.75E3
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.60E3
Time

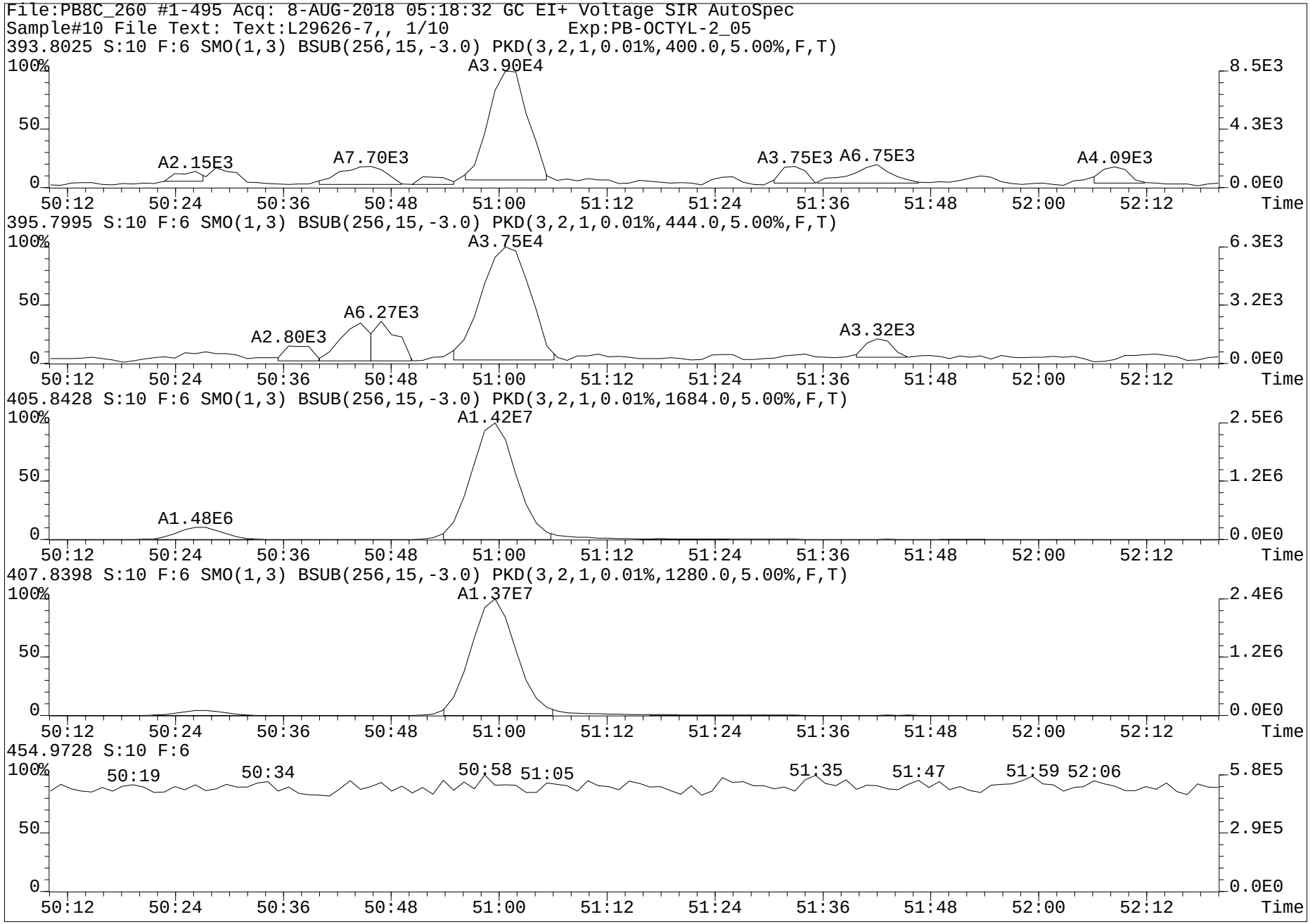

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.70E6
A3.89E5
A1.39E6
A5.33E6
A1.63E6
A2.30E6
A5.41E5
A4.54E6
A7.83E5
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A1.55E6
A3.73E5
A1.35E6
A5.20E6
A1.54E6
A2.14E6
A5.74E5
A4.28E6
A7.21E5
405.8425 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A1.45E7
A9.65E6
A1.05E7
A9.04E6
407.8398 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A1.40E7
A9.47E6
A1.01E7
A8.46E6
354.9792 S:10 F:5
37:50 38:29 39:15 40:23 41:46 42:41 43:21 44:04 45:10 45:52 46:37 47:31 48:45
100%
50
0
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
9.8E5 4.9E5 0.0E0
9.6E5 4.8E5 0.0E0
2.6E6 1.3E6 0.0E0
2.5E6 1.2E6 0.0E0
8.1E5 4.1E5 0.0E0

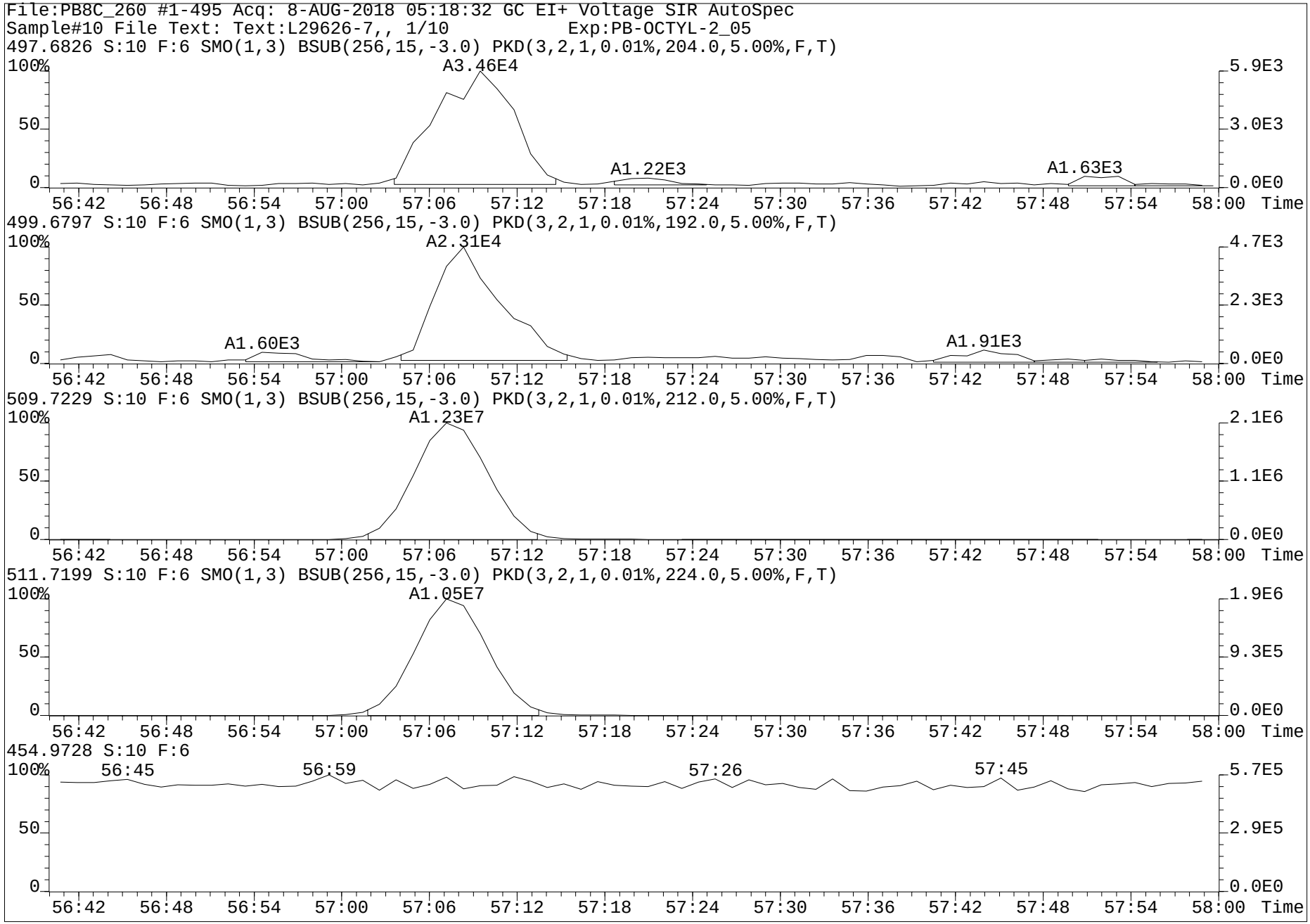

File:PB8C_260 #1-745 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.27E5
A2.65E5
A9.50E4
A7.09E5
A2.95E5
429.7606 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.07E5
A3.05E5
A1.04E5
A8.09E5
A3.55E5
A2.63E5
439.8038 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,168.0,5.00%,F,T)
A1.13E7
441.8008 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,216.0,5.00%,F,T)
A1.23E7
354.9792 S:10 F:5
43:21
44:04
44:35
45:21
45:52
46:37
47:31
48:16
48:45
49:17
49:43
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
1.3E5
6.7E4
0.0E0
1.5E5
7.3E4
2.0E6
9.9E5
2.2E6
1.1E6
8.0E5
4.0E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A2.19E5
A7.42E4
A3.22E4
A3.82E4
429.7606 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A2.13E5
A8.60E4
A2.31E4
A1.12E4
439.8038 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1424.0,5.00%,F,T)
A2.76E7
A1.33E7
441.8008 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,672.0,5.00%,F,T)
A3.07E7
A1.51E7
454.9728 S:10 F:6
50:34 50:58 51:35 51:59 52:25 52:50 53:09 53:52 54:22 54:52 55:27 55:54
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.1E4 2.0E4 0.0E0
3.8E4 1.9E4 0.0E0
4.8E6 2.4E6 0.0E0
5.4E6 2.7E6 0.0E0
5.8E5 2.9E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A2.19E5
A7.42E4
A3.22E4
A3.82E4
429.7606 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A2.13E5
A8.60E4
A2.31E4
A1.12E4
461.7245 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0)
A4.71E4
A1.39E4
A3.87E3
A1.02E3
A1.88E3
463.7216 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0)
A5.48E4
A2.03E4
A1.10E4
A1.54E3
A3.09E3
A1.74E3
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
4.1E4
3.3E4
2.5E4
1.6E4
8.2E3
0.0E0
3.8E4
3.1E4
2.3E4
1.5E4
7.7E3
7.9E3
6.3E3
4.7E3
3.1E3
1.6E3
9.3E3
7.5E3
5.6E3
3.7E3
1.9E3


File:PB8C_260 #1-495 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0)
A1.39E4
A3.87E3
A1.02E3
A1.88E3
A4.71E4
463.7216 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0)
A2.03E4
A1.54E3
A1.10E4
A3.09E3
A1.74E3
A5.48E4
473.7648 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,212.0,5.00%,F,T)
A9.81E6
A8.50E6
475.7619 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A1.31E7
A1.10E7
454.9728 S:10 F:6
50:34 50:58 51:35 51:59 52:25 52:50 53:09 53:52 54:22 54:52 55:27 55:54
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
7.9E3 3.9E3 0.0E0
9.3E3 4.7E3 0.0E0
1.7E6 8.7E5 0.0E0
2.4E6 1.2E6 0.0E0
5.8E5 2.9E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
A3.90E4
A2.15E3
A7.70E3
A3.75E3
A6.75E3
A4.09E3
395.7995 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A3.75E4
A6.27E3
A2.80E3
A3.32E3
405.8428 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1684.0,5.00%,F,T)
A1.42E7
A1.48E6
407.8398 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1280.0,5.00%,F,T)
A1.37E7
454.9728 S:10 F:6
50:19
50:34
50:58
51:05
51:35
51:47
51:59
52:06
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
8.5E3
4.3E3
0.0E0
6.3E3
3.2E3
2.5E6
1.2E6
2.4E6
5.8E5
2.9E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 05:18:32 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:L29626-7,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,204.0,5.00%,F,T)
A3.46E4
A1.22E3
A1.63E3
499.6797 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,192.0,5.00%,F,T)
A2.31E4
A1.60E3
A1.91E3
509.7229 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,212.0,5.00%,F,T)
A1.23E7
511.7199 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,224.0,5.00%,F,T)
A1.05E7
454.9728 S:10 F:6
56:45
56:59
57:26
57:45
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time
5.9E3
3.0E3
0.0E0
4.7E3
2.3E3
2.1E6
1.1E6
1.9E6
9.3E5
5.7E5
2.9E5

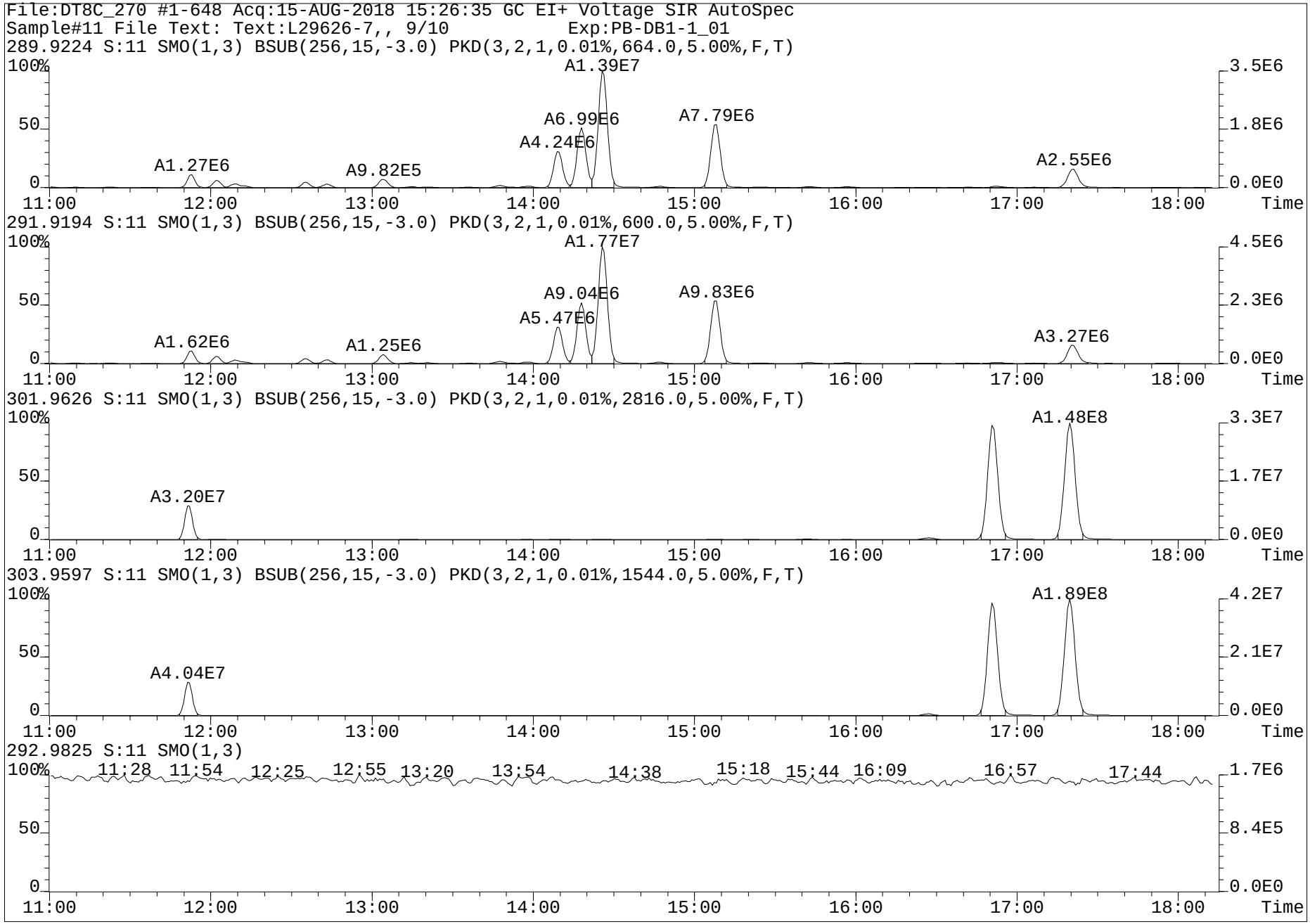
www.axysanalytical.com

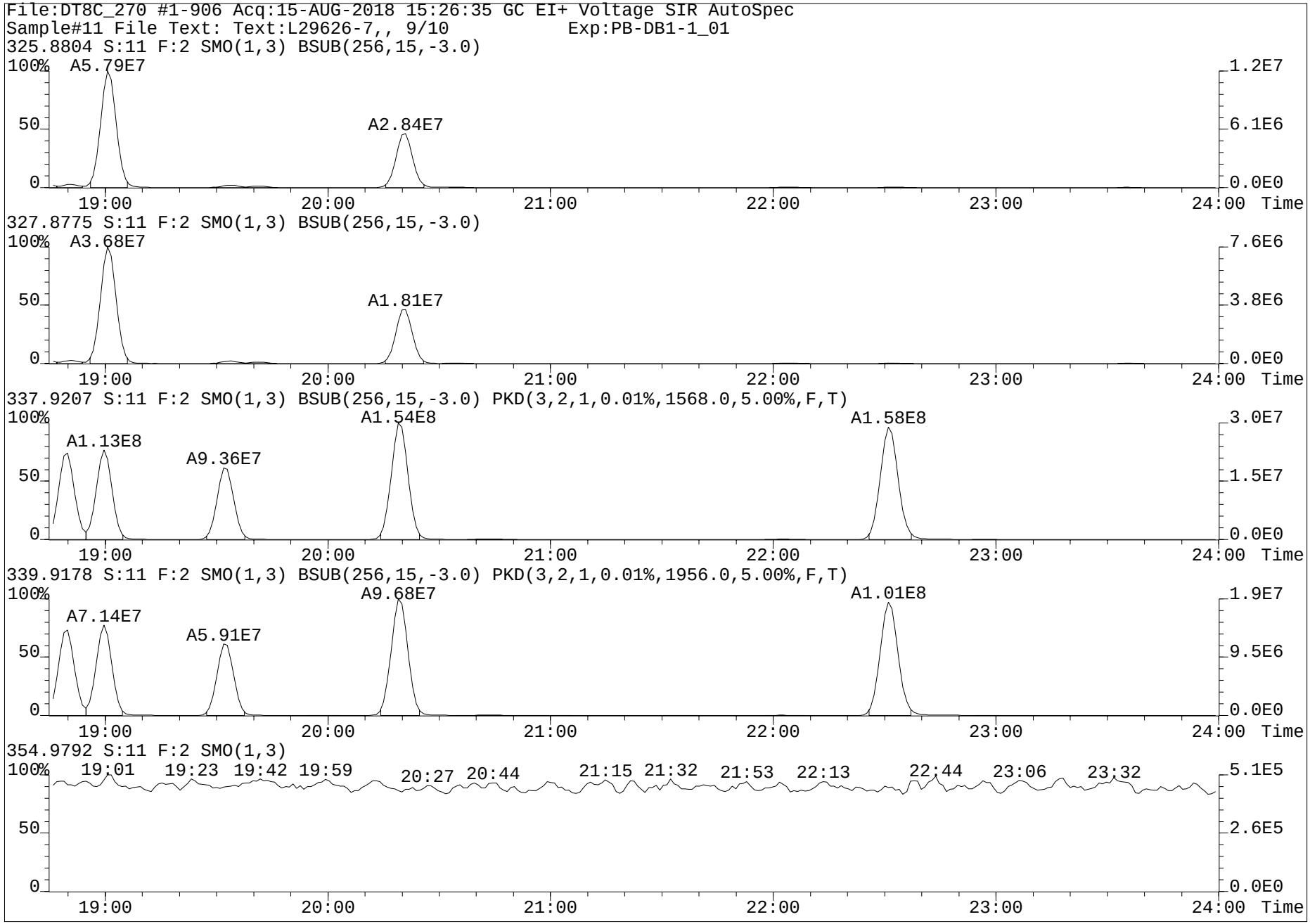
Run #17 Filename DT8C_270 S: 11 I: 1 Acquired: 15-AUG-18 15:26:35 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-7,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.230000 conc units: pg/g total toxicity: 2465.82 F1: 1.0000 F2: 5.0000

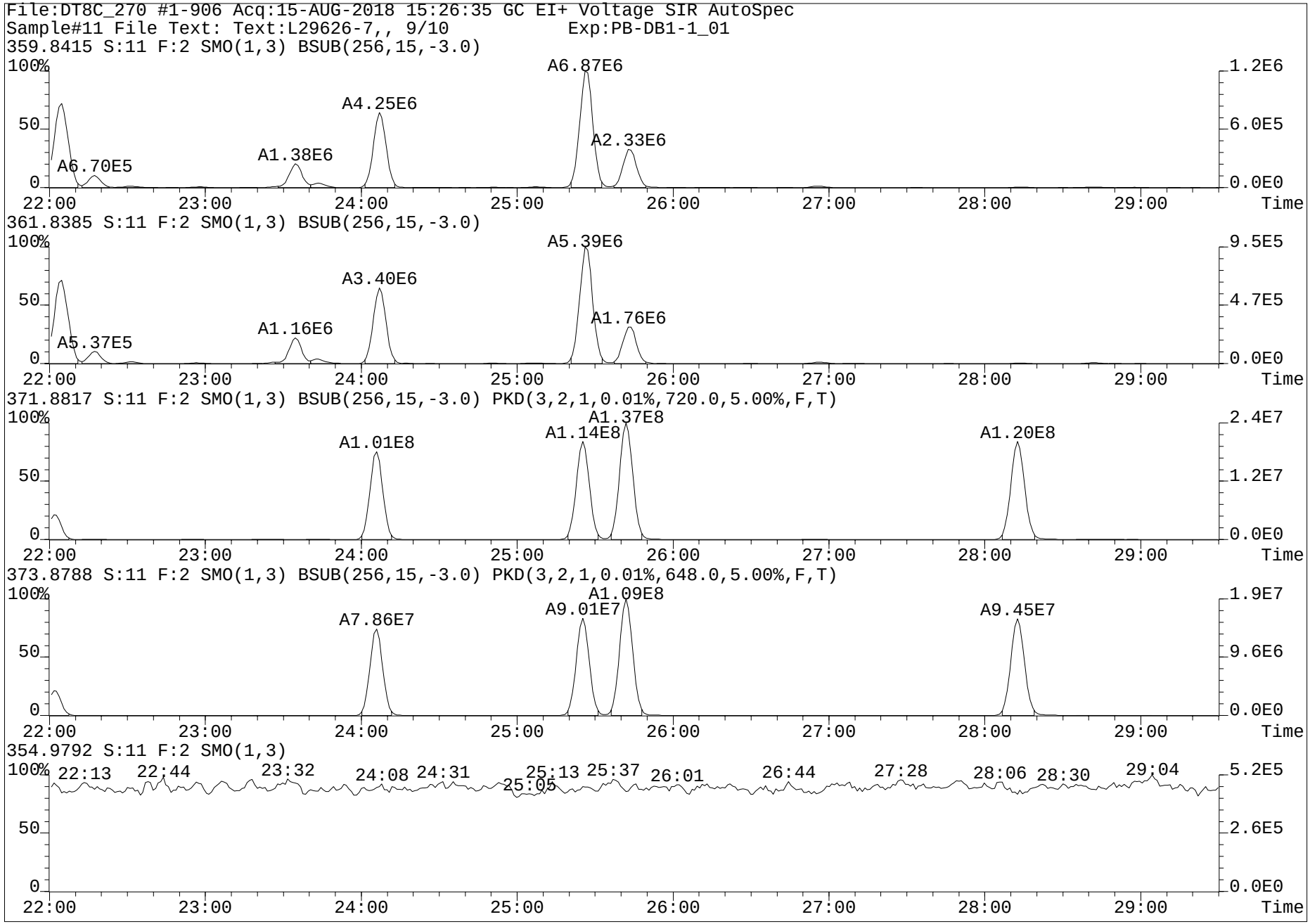
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	4.07e+05	0.87	y	16:53	2.360	2	0.0790	-	n
2	Unk	CL4-PCB-77	1	5.81e+06	0.78	y	17:21	31.278	31	0.0759	-	n
3	Unk	CL5-PCB-123	1	2.50e+06	1.63	y	18:50	25.833	26	1.4056	-	y
4	Unk	CL5-PCB-118	1	9.47e+07	1.57	y	19:01	912.807	913	1.2850	-	n
5	Unk	CL5-PCB-114	1	2.02e+06	1.57	y	19:33	22.295	22	1.5289	-	y
6	Unk	CL5-PCB-105	1	4.64e+07	1.57	y	20:20	340.192	340	1.0251	-	n
7	Unk	CL5-PCB-126	1	3.44e+05	1.77	y	22:32	2.405	2	1.0421	-	y
8	Unk	CL6-PCB-167	1	7.65e+06	1.25	y	24:07	70.889	71	0.0751	-	y
9	Unk	CL6-PCB-156	1	1.23e+07	1.27	y	25:26	100.905	101	0.0678	-	y
10	Unk	CL6-PCB-157	1	4.10e+06	1.32	y	25:43	28.735	29	0.0585	-	y
11	Unk	CL6-PCB-169	1	3.16e+04	1.43	y	28:14	0.261	0	0.0717	-	y
12	Unk	CL7-PCB-180	1	2.80e+06	0.99	y	26:56	737.701	738	3.5150	-	n
13	Unk	CL7-PCB-170	1	9.56e+05	0.92	y	28:42	183.461	183	2.6415	-	n
14	Unk	CL7-PCB-189	1	5.98e+05	0.95	y	31:02	6.699	7	0.1545	-	n
15	IS	13C-CL4-PCB-81	1	3.17e+08	0.80	y	16:51	6724.352	0	0.7715	351.7	n
16	IS	13C-CL4-PCB-77	1	3.37e+08	0.78	y	17:20	7270.662	0	0.7832	380.3	n
17	IS	13C-CL5-PCB-123	1	1.80e+08	1.59	y	18:50	4253.502	0	0.8569	222.5	n
18	IS	13C-CL5-PCB-118	1	1.84e+08	1.58	y	19:00	4240.831	0	0.8332	221.8	n
19	IS	13C-CL5-PCB-114	1	1.53e+08	1.58	y	19:32	3852.465	0	0.9128	201.5	n
20	IS	13C-CL5-PCB-105	1	2.50e+08	1.59	y	20:19	6244.906	0	0.9025	326.6	n
21	IS	13C-CL5-PCB-126	1	2.59e+08	1.57	y	22:31	7140.990	0	0.9989	373.5	n
22	IS	13C-CL6-PCB-167	1	1.79e+08	1.28	y	24:06	5840.192	0	0.5990	305.4	n
23	IS	13C-CL6-PCB-156	1	2.04e+08	1.27	y	25:25	6535.507	0	0.5881	341.8	n
24	IS	13C-CL6-PCB-157	1	2.46e+08	1.26	y	25:42	7074.694	0	0.5274	370.0	n
25	IS	13C-CL6-PCB-169	1	2.14e+08	1.26	y	28:13	7186.248	0	0.6167	375.8	n
26	IS	13C-CL7-PCB-180	1	7.56e+06	1.03	y	26:54	327.716	0	0.4427	17.1	n
27	IS	13C-CL7-PCB-170	1	1.08e+07	1.04	y	28:40	574.540	0	0.5425	30.0	n
28	IS	13C-CL7-PCB-189	1	1.72e+08	1.05	y	31:01	6956.379	0	0.4136	363.8	n
29	IS	13C-CL10-PCB-209	1	3.10e+06	1.11	y	34:37	109.075	0	0.3796	5.7	n
30	RS	13C-CL4-PCB-52	1	7.24e+07	0.79	y	11:52	34.675	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.36e+07	1.60	y	15:41	35.976	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	4.91e+07	1.26	y	22:02	36.549	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	2.18e+07	1.60	y	17:03	629.364	0	0.4434	32.9	n
34	C/Up	13C-CL7-PCB-178	1	2.91e+06	1.07	y	22:55	128.607	0	0.4519	6.7	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

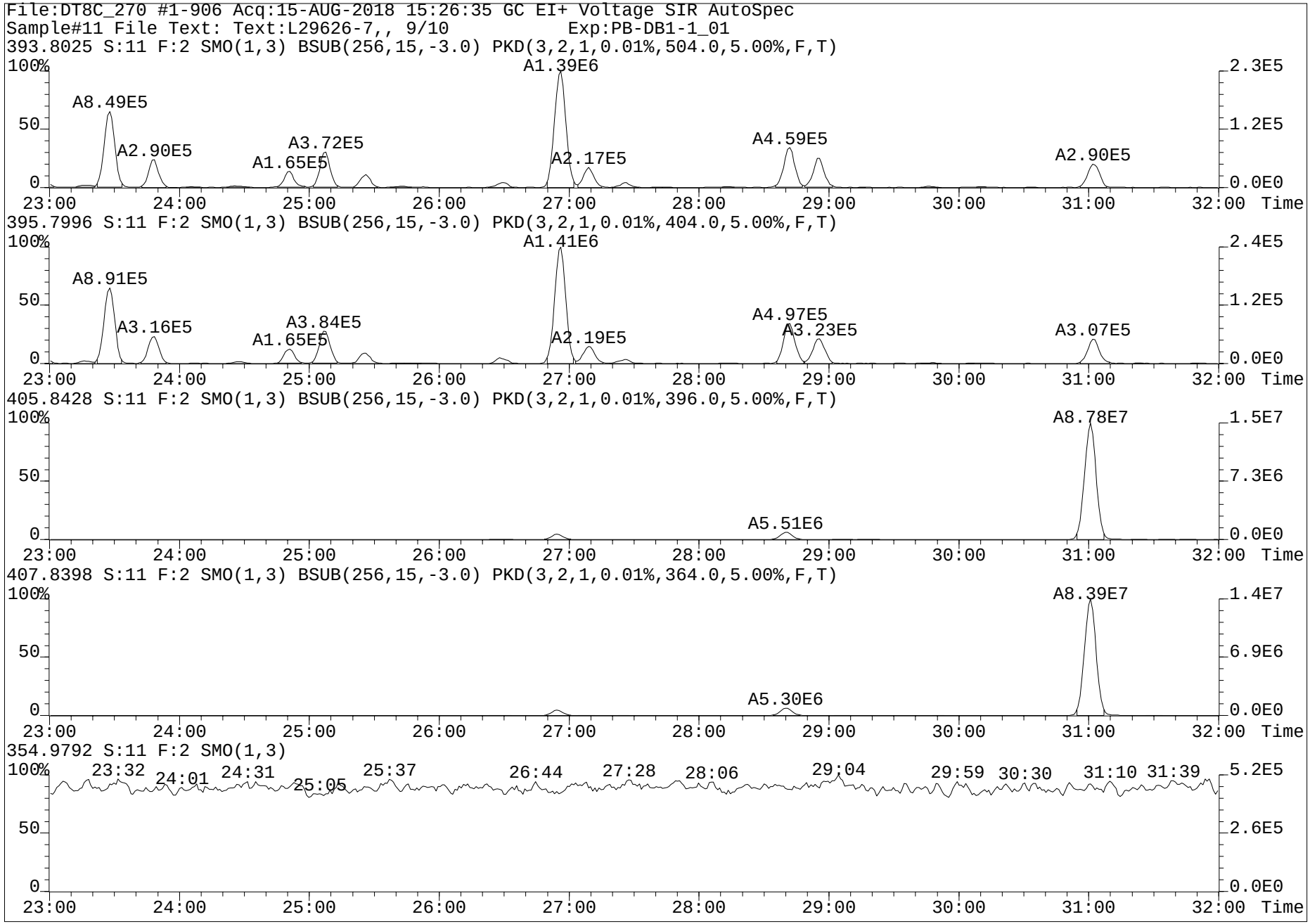
SV RJ
17 Aug 2018

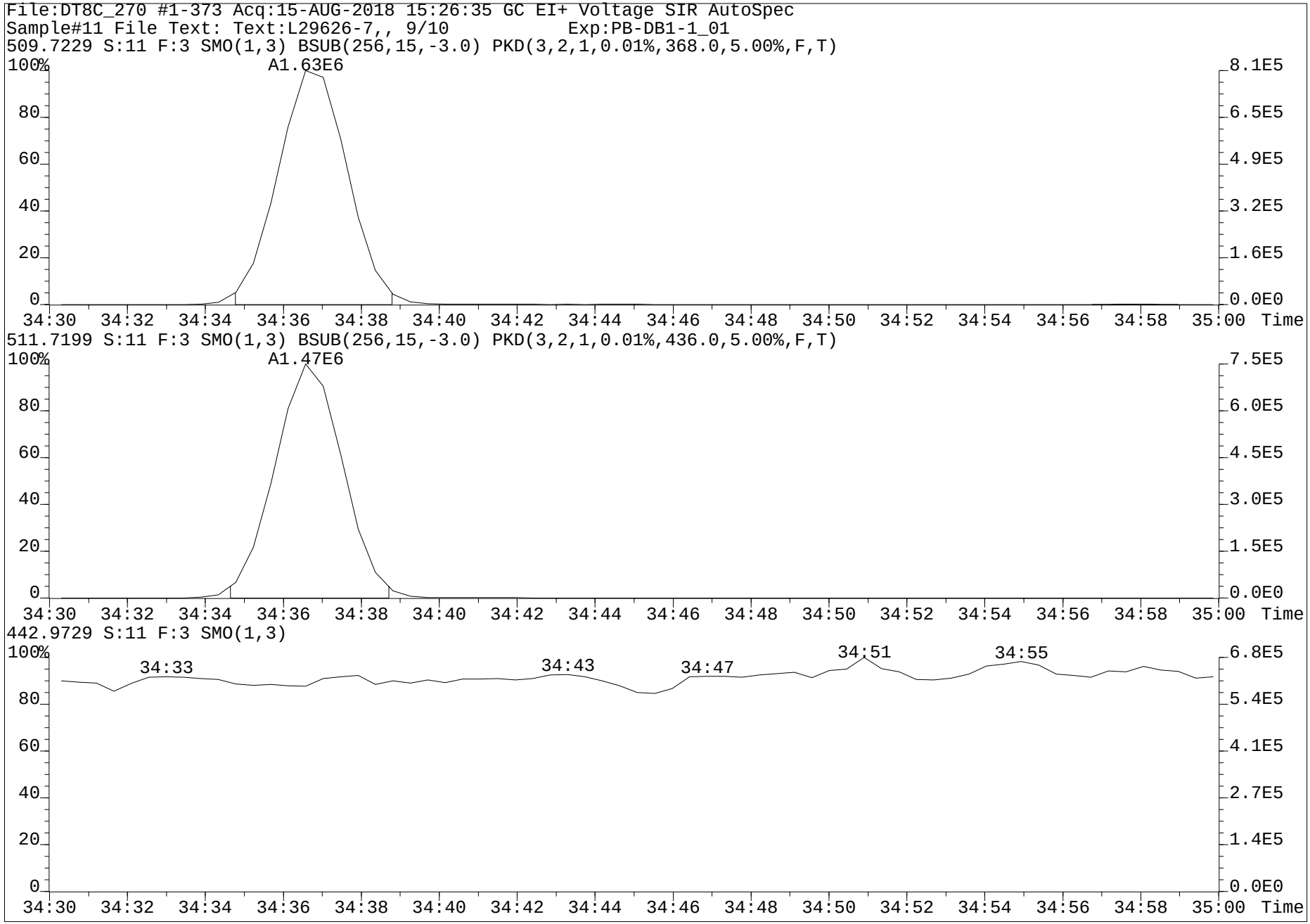
PV by RA 17AUG2018

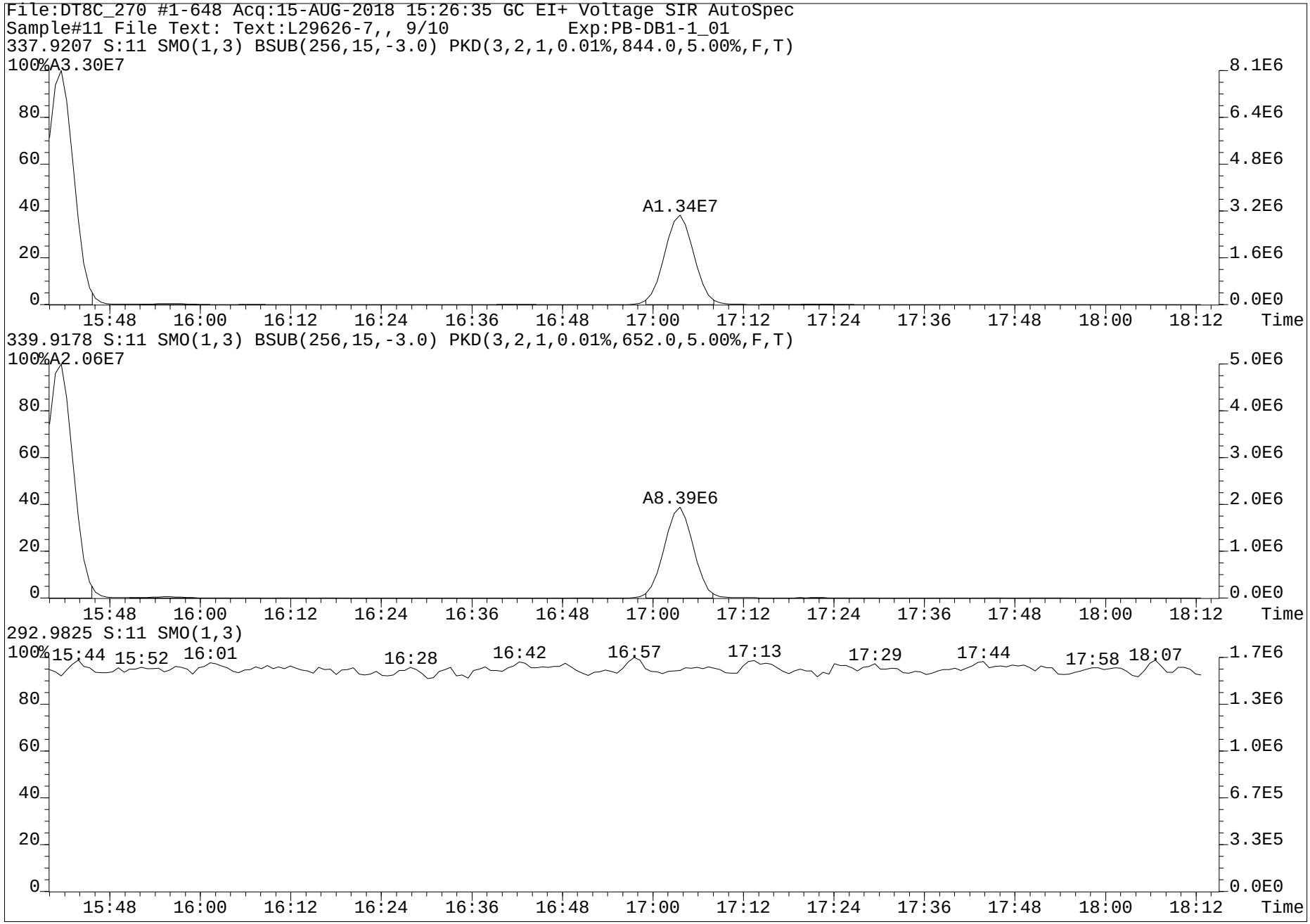

File:DT8C_270 #1-648 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
289.9224 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A1.39E7
A6.99E6
A7.79E6
A4.24E6
A1.27E6
A9.82E5
A2.55E6
291.9194 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,600.0,5.00%,F,T)
A1.77E7
A9.04E6
A9.83E6
A5.47E6
A1.62E6
A1.25E6
A3.27E6
301.9626 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2816.0,5.00%,F,T)
A1.48E8
A3.20E7
303.9597 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1544.0,5.00%,F,T)
A1.89E8
A4.04E7
292.9825 S:11 SMO(1,3)
11:28 11:54 12:25 12:55 13:20 13:54 14:38 15:18 15:44 16:09 16:57 17:44
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
3.5E6 1.8E6 0.0E0
4.5E6 2.3E6 0.0E0
3.3E7 1.7E7 0.0E0
4.2E7 2.1E7 0.0E0
1.7E6 8.4E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
325.8804 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.79E7
A2.84E7
327.8775 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.68E7
A1.81E7
337.9207 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1568.0,5.00%,F,T)
A1.13E8
A9.36E7
A1.54E8
A1.58E8
339.9178 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1956.0,5.00%,F,T)
A7.14E7
A5.91E7
A9.68E7
A1.01E8
354.9792 S:11 F:2 SMO(1,3)
19:01 19:23 19:42 19:59 20:27 20:44 21:15 21:32 21:53 22:13 22:44 23:06 23:32
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
1.2E7
6.1E6
0.0E0
7.6E6
3.8E6
3.0E7
1.5E7
1.9E7
9.5E6
5.1E5
2.6E5


File:DT8C_270 #1-906 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
359.8415 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.87E6
A4.25E6
A2.33E6
A1.38E6
A6.70E5
361.8385 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.39E6
A3.40E6
A1.76E6
A1.16E6
A5.37E5
371.8817 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,720.0,5.00%,F,T)
A1.37E8
A1.14E8
A1.01E8
A1.20E8
373.8788 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,648.0,5.00%,F,T)
A1.09E8
A9.01E7
A7.86E7
A9.45E7
354.9792 S:11 F:2 SMO(1,3)
22:13 22:44 23:32 24:08 24:31 25:13 25:37 26:01 26:44 27:28 28:06 28:30 29:04
25:05
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
1.2E6 6.0E5 0.0E0
9.5E5 4.7E5 0.0E0
2.4E7 1.2E7 0.0E0
1.9E7 9.6E6 0.0E0
5.2E5 2.6E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
393.8025 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
A8.49E5
A2.90E5
A1.65E5
A3.72E5
A1.39E6
A2.17E5
A4.59E5
A2.90E5
395.7996 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A8.91E5
A3.16E5
A1.65E5
A3.84E5
A1.41E6
A2.19E5
A4.97E5
A3.23E5
A3.07E5
405.8428 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A8.78E7
A5.51E6
407.8398 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,364.0,5.00%,F,T)
A8.39E7
A5.30E6
354.9792 S:11 F:2 SMO(1,3)
23:32
24:01
24:31
25:05
25:37
26:44
27:28
28:06
29:04
29:59
30:30
31:10
31:39
100%
50
0
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
Time
2.3E5
1.2E5
0.0E0
2.4E5
1.5E7
7.3E6
1.4E7
6.9E6
5.2E5
2.6E5


File:DT8C_270 #1-373 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
509.7229 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A1.63E6
511.7199 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A1.47E6
442.9729 S:11 F:3 SMO(1,3)
34:33
34:43
34:47
34:51
34:55
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 15:26:35 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:L29626-7,, 9/10 Exp:PB-DB1-1_01
337.9207 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,844.0,5.00%,F,T)
100%A3.30E7
A1.34E7
339.9178 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,652.0,5.00%,F,T)
100%A2.06E7
A8.39E6
292.9825 S:11 SMO(1,3)
100%
15:44 15:52 16:01 16:28 16:42 16:57 17:13 17:29 17:44 17:58 18:07
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

Run #10 Filename PB8C_261 S: 7 I: 1 Acquired: 8-AUG-18 14:01:03 Processed: 9-AUG-18 07:04:56
Run: pb8c_261-c Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_261-c Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-9,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.810000 conc units: pg/g total toxicity: 1515.39 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.84e+04	3.06	y	11:28	2.914	3	0.5198	-	n
2	Unk	CL1-PCB-3	1	3.83e+04	4.64	n	13:41	2.565	3	0.5731	-	y
3	Unk	CL2-PCB-4	1	7.99e+04	1.78	y	13:56	8.408	8	4.0939	-	n
4	Unk	CL2-PCB-15	1	2.76e+05	1.88	n	19:59	15.894	16	3.0615	-	y
5	Unk	CL3-PCB-19	1	1.36e+05	1.14	y	17:06	13.946	14	1.4732	-	n
6	Unk	CL3-PCB-37	1	6.68e+05	1.00	y	27:18	38.171	38	1.5233	-	n
7	Unk	CL4-PCB-54	1	2.37e+04	0.53	n	20:15	1.618	2	0.7545	-	y
8	Unk	CL4-PCB-81	1	2.92e+04	0.85	y	34:19	1.862	2	2.6067	-	y
9	Unk	CL4-PCB-77	1	3.56e+05	0.88	y	34:55	23.145	23	2.6454	-	n
10	Unk	CL5-PCB-104	0	*	*	n	NotFnd	*	*	0.6953	-	n
11	Unk	CL5-PCB-123	1	3.19e+05	1.55	y	36:59	23.933	24	5.6840	-	y
12	Unk	CL5-PCB-118	1	1.06e+07	1.56	y	37:20	765.213	765	5.5572	-	n
13	Unk	CL5-PCB-114	1	2.85e+05	1.29	n	37:53	21.834	22	5.7461	-	y
14	Unk	CL5-PCB-105	1	4.66e+06	1.60	y	38:34	293.480	293	4.6354	-	n
15	Unk	CL5-PCB-126	1	1.89e+04	1.32	n	41:48	1.585	2	6.6439	-	y
16	Unk	CL6-PCB-155	1	8.38e+03	0.75	n	31:50	0.591	1	0.6416	-	n
17	Unk	CL6-PCB-167	1	6.80e+05	1.19	y	43:44	53.245	53	5.9534	-	n
18	Unk	CL6-PCB-156/157	1	1.48e+06	1.37	y	44:56	119.081	119	8.4542	-	n
19	Unk	CL6-PCB-169	1	7.69e+03	1.15	y	48:21	0.699	1	7.3379	-	y
20	Unk	CL7-PCB-188	1	3.04e+04	1.08	y	37:51	2.722	3	1.0401	-	n
21	Unk	CL7-PCB-189	1	7.26e+04	0.80	n	50:59	5.950	6	0.9867	-	y
22	Unk	CL8-PCB-202	1	9.12e+05	0.92	y	43:27	86.107	86	0.8118	-	n
23	Unk	CL8-PCB-205	1	3.30e+04	0.83	y	53:40	3.267	3	1.1033	-	n
24	Unk	CL9-PCB-208	1	7.70e+04	0.58	n	50:28	9.826	10	2.5426	-	n
25	Unk	CL9-PCB-206	1	1.03e+05	0.63	n	55:29	14.517	15	2.7879	-	n
26	Unk	CL10-PCB-209	1	4.20e+04	2.42	n	57:08	4.817	5	1.0804	-	n
27	IS	13C-CL1-PCB-1	1	2.56e+07	3.17	y	11:27	384.079	0	3.5604	18.5	n
28	IS	13C-CL1-PCB-3	1	2.87e+07	3.12	y	13:41	452.883	0	3.7371	21.8	n
29	IS	13C-CL2-PCB-4	1	1.99e+07	1.61	y	13:55	493.568	0	1.7304	23.7	n
30	IS	13C-CL2-PCB-15	1	3.98e+07	1.58	y	19:59	632.350	0	1.1098	30.4	n
31	IS	13C-CL3-PCB-19	1	1.89e+07	1.05	y	17:05	569.398	0	5.4315	27.4	n
32	IS	13C-CL3-PCB-37	1	3.65e+07	1.03	y	27:17	657.898	0	5.4328	31.6	n
33	REF	13C-CL4-CHECK	1	2.88e+07	0.79	y	20:15	594.349	0	1.5922	28.6	n
34	IS	13C-CL4-PCB-81	1	3.17e+07	0.77	y	34:19	748.437	0	1.8574	36.0	n
35	IS	13C-CL4-PCB-77	1	3.11e+07	0.74	y	34:54	722.141	0	1.8279	34.7	n
36	IS	13C-CL5-PCB-104	1	2.60e+07	1.59	y	25:56	594.033	0	0.2923	28.6	n
37	IS	13C-CL5-PCB-123	1	2.82e+07	1.61	y	36:58	682.268	0	1.2130	32.8	n
38	IS	13C-CL5-PCB-118	1	2.75e+07	1.55	y	37:19	679.252	0	1.2376	32.7	n
39	IS	13C-CL5-PCB-114	1	2.56e+07	1.58	y	37:52	636.608	0	1.2473	30.6	n
40	IS	13C-CL5-PCB-105	1	3.21e+07	1.56	y	38:33	771.146	0	1.2045	37.1	n
41	IS	13C-CL5-PCB-126	1	2.38e+07	1.56	y	41:48	638.560	0	1.3489	30.7	n
42	IS	13C-CL6-PCB-155	1	2.89e+07	1.26	y	31:50	720.309	0	0.2341	34.6	n
43	IS	13C-CL6-PCB-167	1	2.39e+07	1.24	y	43:43	770.944	0	0.5019	37.1	n
44	IS	13C-CL6-PCB-156/157	1	4.68e+07	1.26	y	44:56	1450.826	0	0.4811	34.9	n

SDL x1/2

SV BW 15 Aug 2018

PV by RA 09AUG2018

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	2.17e+07	1.31	y	48:20	676.109	0	0.4845	32.5	n
46	REF	13C-CL7-CHECK	1	2.38e+07	1.08	y	37:48	690.550	0	0.3492	33.2	n
47	IS	13C-CL7-PCB-189	1	2.39e+07	1.02	y	50:58	863.422	0	0.8345	41.5	n
48	IS	13C-CL8-PCB-202	1	2.52e+07	0.89	y	43:25	772.814	0	0.2734	37.2	n
49	IS	13C-CL8-PCB-205	1	2.13e+07	0.87	y	53:39	774.309	0	0.6061	37.2	n
50	IS	13C-CL9-PCB-208	1	1.72e+07	0.78	y	50:25	699.466	0	0.5135	33.6	n
51	IS	13C-CL9-PCB-206	1	1.48e+07	0.77	y	55:27	736.142	0	0.6307	35.4	n
52	IS	13C-CL10-PCB-209	1	1.70e+07	1.19	y	57:06	676.557	0	0.3916	32.5	n
53	RS	13C-CL2-PCB-9	1	1.23e+08	1.56	y	15:56	13.847	0	-	-	n
54	RS	13C-CL4-PCB-52	1	6.81e+07	0.79	y	24:59	15.414	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.17e+07	1.61	y	32:06	16.511	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.01e+07	1.25	y	40:33	14.661	0	-	-	n
57	RS	13C-CL8-PCB-194	1	3.80e+07	0.87	y	53:09	14.006	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.91e+07	1.04	y	23:05	701.346	0	5.3999	33.7	n
59	C/Up	13C-CL5-PCB-111	1	2.53e+07	1.61	y	34:55	635.833	0	0.3799	30.6	n
60	C/Up	13C-CL7-PCB-178	1	1.67e+07	1.06	y	41:01	728.081	0	0.5272	35.0	n
61	IS	13C-CL4-PCB-54	1	2.88e+07	0.79	y	20:15	594.349	0	1.5922	28.6	n
62	IS	13C-CL7-PCB-188	1	2.38e+07	1.08	y	37:48	690.550	0	0.3492	33.2	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

Run #3 Filename PB8C_261 S: 7 I: 1 Acquired: 8-AUG-18 14:01:03 Processed: 9-AUG-18 07:06:41
Run: pb8c_261-cc Analyte: 1668xb-s8 Cal: pb8c_261-1c Results: pb8c_261-cc Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-9,, 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.810000 conc units: pg/g total toxicity: 20296.» F1: 1.0000 F2: 5.0000

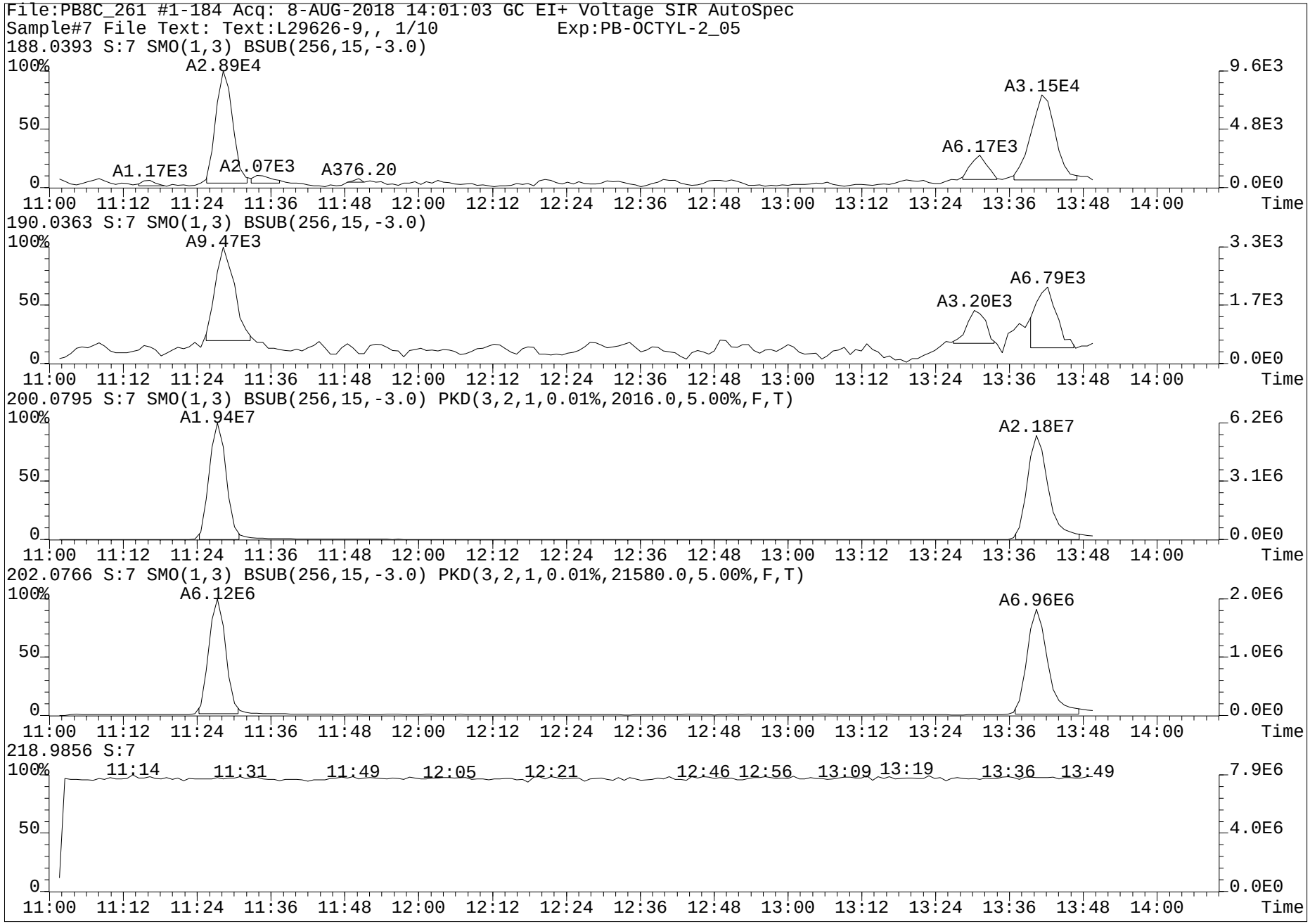
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	1	9.37e+03	1.93	n	13:30	0.712	1	0.5859	-	y
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	2.6511	-	n
3	Unk	CL2-PCB-9	0	*	*	n	NotFnd	*	*	2.6214	-	n
4	Unk	CL2-PCB-7	1	6.66e+04	1.28	n	16:07	3.806	4	2.6341	-	n
5	Unk	CL2-PCB-6	1	2.52e+05	1.59	y	16:22	13.988	14	2.5559	-	n
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	2.9428	-	n
7	Unk	CL2-PCB-8	1	4.13e+05	1.38	y	16:48	20.963	21	2.3397	-	y
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	2.7058	-	n
9	Unk	CL2-PCB-11	1	1.28e+05	1.71	y	19:22	7.771	8	2.7891	-	y
10	Unk	CL2-PCB-12/13	1	8.87e+04	1.79	y	19:40	5.324	5	2.7661	-	n
11	Unk	CL3-PCB-30/18	1	1.79e+06	1.06	y	19:01	115.616	116	1.0565	-	n
12	Unk	CL3-PCB-17	1	9.03e+05	0.99	y	19:26	68.357	68	1.2359	-	n
13	Unk	CL3-PCB-27	1	4.20e+05	1.12	y	19:40	22.301	22	0.8658	-	y
14	Unk	CL3-PCB-24	1	1.91e+04	0.89	y	19:48	1.113	1	0.9499	-	y
15	Unk	CL3-PCB-16	1	3.57e+05	1.15	y	19:55	30.669	31	1.4009	-	n
16	Unk	CL3-PCB-32	1	9.47e+05	1.03	y	20:28	55.800	56	1.4004	-	n
17	Unk	CL3-PCB-34	1	2.89e+04	0.95	y	21:46	1.806	2	1.4831	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.4891	-	n
19	Unk	CL3-PCB-26/29	1	1.52e+06	1.00	y	22:15	92.886	93	1.4522	-	n
20	Unk	CL3-PCB-25	1	7.59e+05	1.04	y	22:29	39.662	40	1.2406	-	n
21	Unk	CL3-PCB-31	1	3.86e+06	1.00	y	22:49	220.544	221	1.3560	-	n
22	Unk	CL3-PCB-28/20	1	4.57e+06	1.03	y	23:07	274.162	274	1.4243	-	n
23	Unk	CL3-PCB-21/33	1	1.59e+06	1.01	y	23:22	92.356	92	1.3759	-	n
24	Unk	CL3-PCB-22	1	1.01e+06	0.96	y	23:46	67.123	67	1.5776	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.3440	-	n
26	Unk	CL3-PCB-39	1	4.11e+04	0.96	y	25:48	2.504	3	1.4471	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.4836	-	n
28	Unk	CL3-PCB-35	1	2.65e+04	0.64	n	26:52	1.660	2	1.4873	-	n
29	Unk	CL4-PCB-50/53	1	9.70e+05	0.75	y	22:30	72.829	73	1.0362	-	y
30	Unk	CL4-PCB-45/51	1	9.56e+05	0.73	y	23:14	74.809	75	1.0796	-	y
31	Unk	CL4-PCB-46	1	2.14e+05	0.76	y	23:31	18.797	19	1.2122	-	y
32	Unk	CL4-PCB-52	1	1.18e+07	0.79	y	25:00	852.658	853	0.9983	-	y
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.8357	-	y
34	Unk	CL4-PCB-43	1	2.44e+05	0.83	y	25:13	21.246	21	1.2016	-	y
35	Unk	CL4-PCB-69/49	1	6.14e+06	0.79	y	25:30	402.628	403	0.9056	-	y
36	Unk	CL4-PCB-48	1	1.11e+06	0.73	y	25:48	85.739	86	1.0678	-	y
37	Unk	CL4-PCB-44/47/65	1	7.21e+06	0.80	y	26:02	512.495	512	0.9814	-	y
38	Unk	CL4-PCB-59/62/75	1	1.27e+06	0.74	y	26:22	73.860	74	0.8024	-	y
39	Unk	CL4-PCB-42	1	1.56e+06	0.79	y	26:35	123.320	123	1.0927	-	y
40	Unk	CL4-PCB-41/40/71	1	2.79e+06	0.77	y	27:04	218.300	218	1.0788	-	y
41	Unk	CL4-PCB-64	1	3.32e+06	0.80	y	27:19	186.771	187	0.7769	-	y
42	Unk	CL4-PCB-72	1	2.66e+05	0.66	y	28:12	16.192	16	2.2555	-	n
43	Unk	CL4-PCB-68	1	1.48e+05	0.77	y	28:30	9.085	9	2.2811	-	n
44	Unk	CL4-PCB-57	1	6.52e+04	0.51	n	28:56	4.176	4	2.3734	-	n

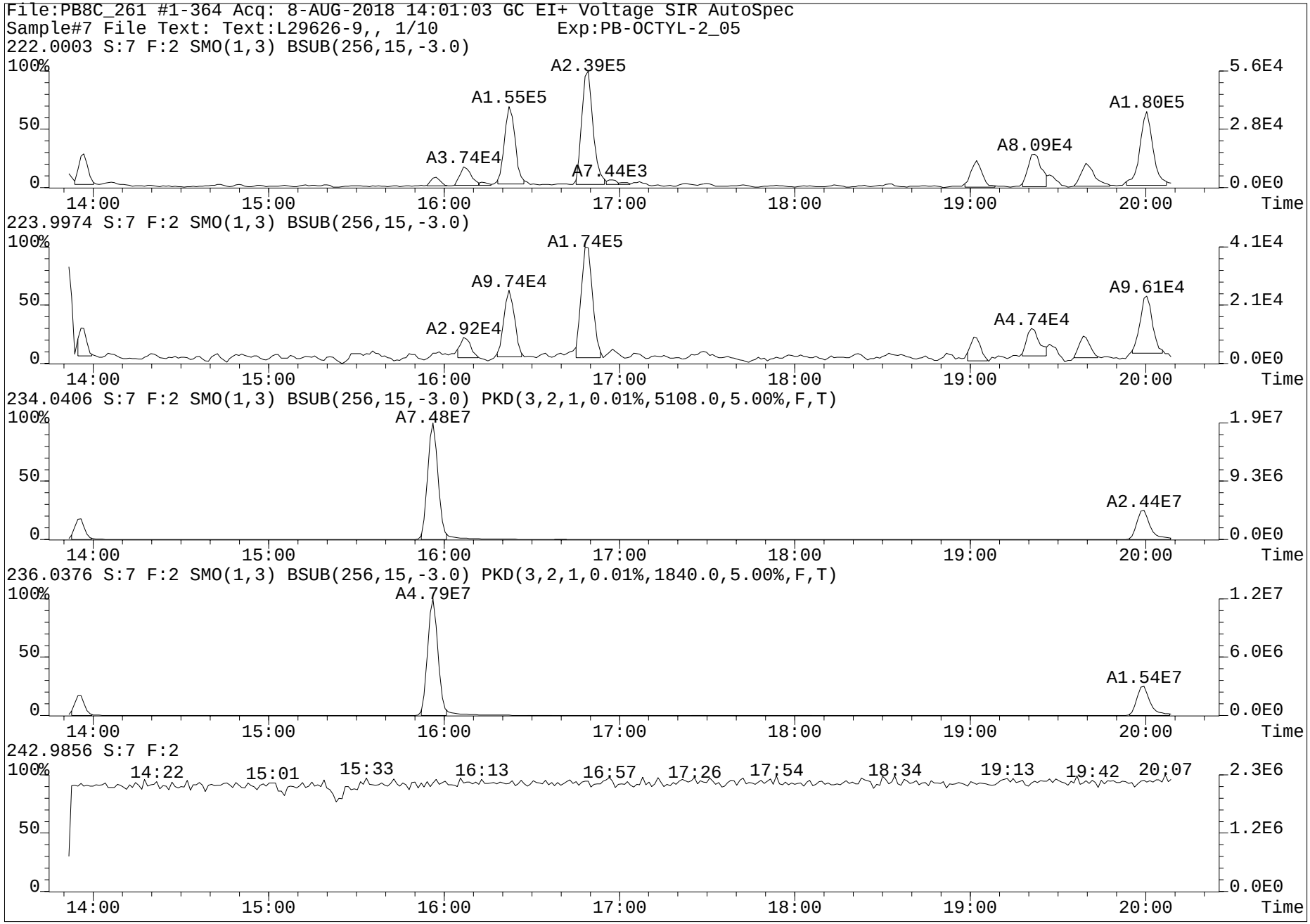
45	Unk	CL4-PCB-58	1	6.38e+04	0.79	y	29:10	4.096	4	2.3774	-	y
46	Unk	CL4-PCB-67	1	3.46e+05	0.79	y	29:22	19.260	19	2.0645	-	n
47	Unk	CL4-PCB-63	1	3.02e+05	0.70	y	29:38	20.730	21	2.5423	-	n
48	Unk	CL4-PCB-61/70/74/76	1	1.23e+07	0.77	y	30:00	790.284	790	2.3812	-	y
49	Unk	CL4-PCB-66	1	8.18e+06	0.77	y	30:20	561.477	561	2.5413	-	n
50	Unk	CL4-PCB-55	1	2.40e+05	0.84	y	30:30	18.495	18	2.8530	-	y
51	Unk	CL4-PCB-56	1	2.99e+06	0.79	y	31:02	208.258	208	2.5802	-	n
52	Unk	CL4-PCB-60	1	1.49e+06	0.79	y	31:15	101.911	102	2.5331	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	2.2881	-	n
54	Unk	CL4-PCB-79	1	2.46e+05	0.81	y	33:15	14.134	14	2.1262	-	n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	2.5589	-	n
56	Unk	CL5-PCB-96	1	9.30e+04	1.49	y	26:21	5.982	6	0.6824	-	n
57	Unk	CL5-PCB-103	1	2.64e+05	1.54	y	28:21	20.456	20	2.0912	-	n
58	Unk	CL5-PCB-94	1	7.66e+04	1.06	n	28:36	7.281	7	2.5639	-	n
59	Unk	L5-PCB-95/100/93/102/98	1	1.18e+07	1.64	y	29:05	997.125	997	2.2796	-	y
60	Unk	CL5-PCB-88/91	1	1.96e+06	1.59	y	29:57	174.784	175	2.4014	-	n
61	Unk	CL5-PCB-84	1	2.20e+06	1.61	y	30:12	220.425	220	2.7025	-	n
62	Unk	CL5-PCB-89	1	1.09e+05	1.28	n	30:41	10.540	11	2.6018	-	y
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.8627	-	n
64	Unk	CL5-PCB-92	1	4.53e+06	1.56	y	31:32	419.671	420	2.4976	-	n
65	Unk	CL5-PCB-113/90/101	1	1.61e+07	1.52	y	32:07	1272.655	1273	2.1318	-	n
66	Unk	CL5-PCB-83/99	1	8.25e+06	1.57	y	32:42	774.184	774	2.5322	-	y
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.8305	-	n
68	Unk	CB-109/119/86/97/125/87	1	8.18e+06	1.58	y	33:18	651.889	652	2.1518	-	y
69	Unk	CL5-PCB-117/116/85	1	2.43e+06	1.43	y	34:00	189.671	190	2.1066	-	n
70	Unk	CL5-PCB-110/115	1	1.51e+07	1.61	y	34:11	1051.501	1052	1.8804	-	n
71	Unk	CL5-PCB-82	1	1.04e+06	1.43	y	34:31	107.164	107	2.7871	-	n
72	Unk	CL5-PCB-111	1	4.28e+04	2.38	n	34:55	3.011	3	1.9003	-	n
73	Unk	CL5-PCB-120	1	9.52e+04	1.72	y	35:25	6.447	6	1.8279	-	n
74	Unk	CL5-PCB-108/124	1	5.40e+05	1.71	y	36:37	38.927	39	5.2553	-	n
75	Unk	CL5-PCB-107	1	9.66e+05	1.49	y	36:52	65.158	65	4.9234	-	y
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	4.7964	-	n
77	Unk	CL5-PCB-122	1	1.87e+05	1.41	y	37:42	14.869	15	5.8007	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	5.6088	-	n
79	Unk	CL6-PCB-152	1	2.65e+04	1.89	n	32:04	1.720	2	0.7049	-	n
80	Unk	CL6-PCB-150	1	7.18e+04	1.56	n	32:15	5.043	5	0.7616	-	n
81	Unk	CL6-PCB-136	1	2.33e+06	1.22	y	32:37	158.443	158	0.7392	-	n
82	Unk	CL6-PCB-145	0	*	*	n	NotFnd	*	*	0.7985	-	n
83	Unk	CL6-PCB-148	1	7.72e+04	1.74	n	34:31	7.324	7	1.0295	-	n
84	Unk	CL6-PCB-151/135/154	1	6.14e+06	1.23	y	35:11	560.269	560	0.9893	-	y
85	Unk	CL6-PCB-144	1	5.94e+05	1.34	y	35:43	55.966	56	1.0226	-	y
86	Unk	CL6-PCB-147/149	1	1.29e+07	1.27	y	36:05	1115.481	1115	7.1368	-	y
87	Unk	CL6-PCB-134/143	1	8.63e+05	1.38	y	36:19	82.287	82	7.8915	-	y
88	Unk	CL6-PCB-139/140	1	3.15e+05	1.24	y	36:43	27.331	27	7.1866	-	n
89	Unk	CL6-PCB-131	1	1.45e+05	1.16	y	36:56	14.305	14	8.1644	-	n
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	8.1974	-	n
91	Unk	CL6-PCB-132	1	3.33e+06	1.26	y	37:26	344.392	344	8.5596	-	n
92	Unk	CL6-PCB-133	1	6.12e+05	1.19	y	37:57	60.334	60	8.1569	-	n
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	6.6803	-	n
94	Unk	CL6-PCB-146	1	4.07e+06	1.24	y	38:37	335.466	335	6.8243	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	5.7882	-	n
96	Unk	CL6-PCB-153/168	1	1.48e+07	1.23	y	39:16	1152.431	1152	6.4498	-	n
97	Unk	CL6-PCB-141	1	1.47e+06	1.31	y	39:28	134.896	135	7.6082	-	n

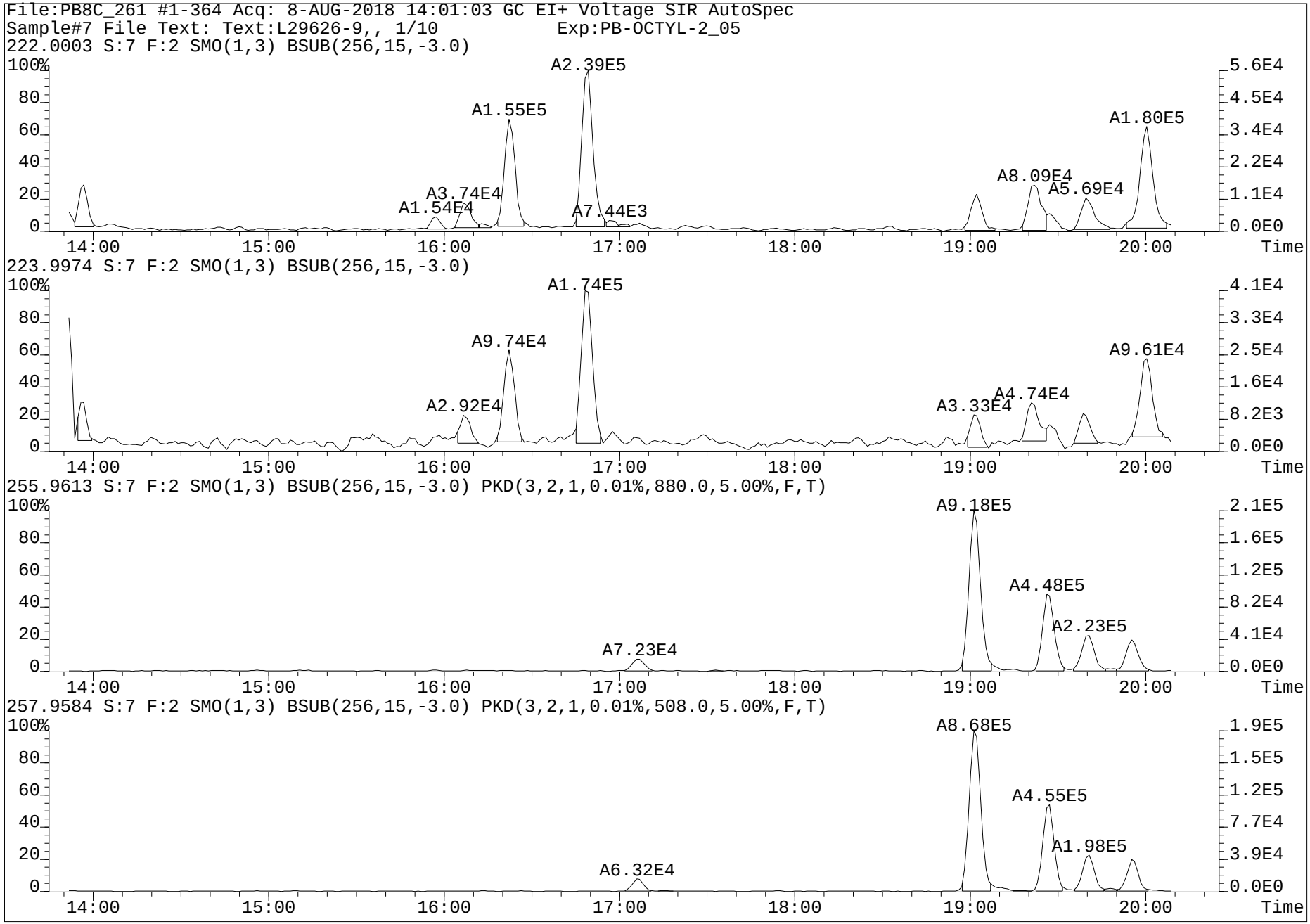
SDL x 1/2

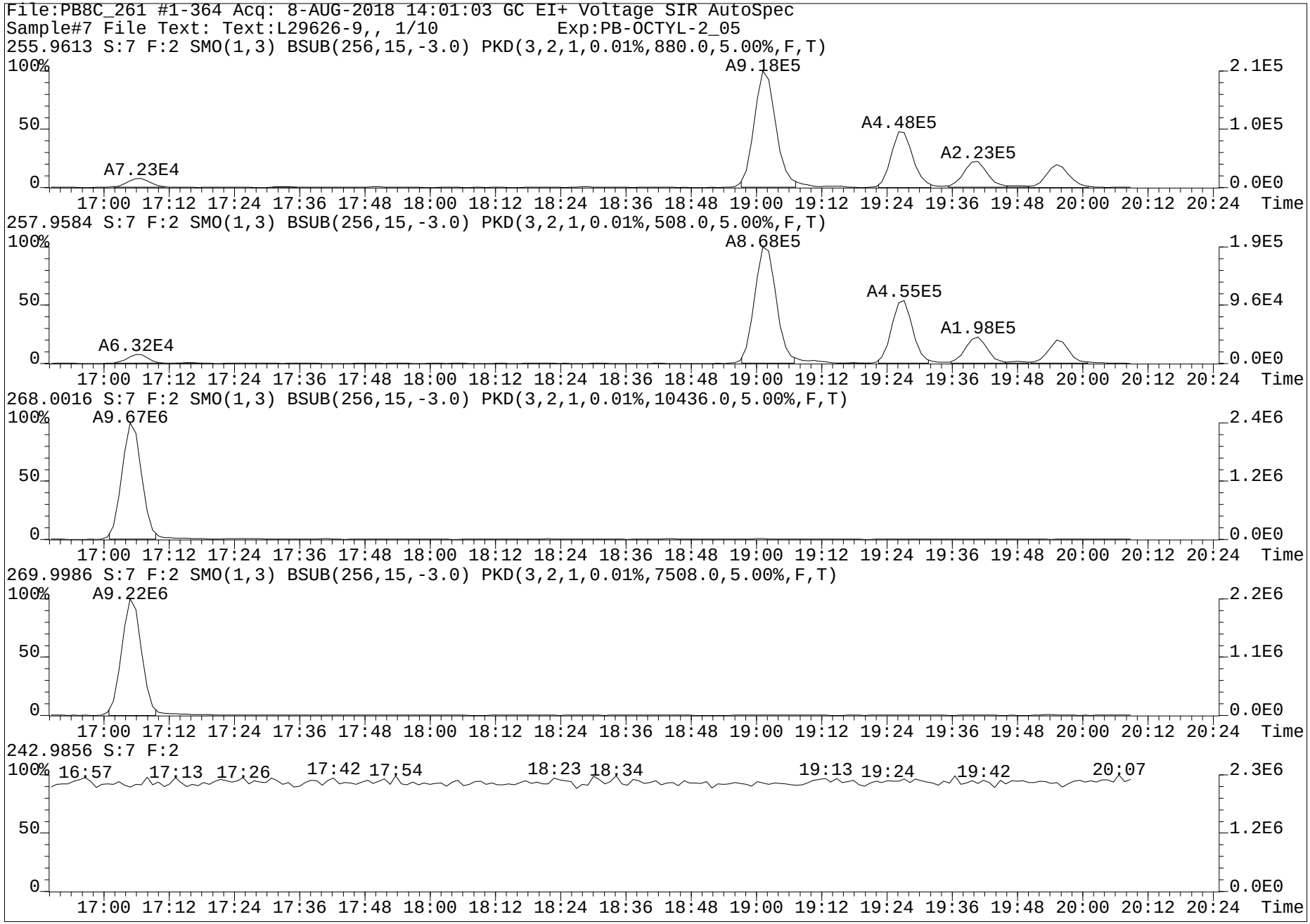
98	Unk	CL6-PCB-130	1	1.02e+06	1.30	y	39:54	117.771	118	9.5303	-	n
99	Unk	CL6-PCB-137	1	7.53e+05	1.09	y	40:08	79.229	79	8.7088	-	n
100	Unk	CL6-PCB-164	1	1.41e+06	1.29	y	40:16	108.529	109	6.3848	-	n
101	Unk	CL6-PCB-138/163/129/160	1	1.33e+07	1.25	y	40:35	1236.567	1237	7.6669	SDL	n
102	Unk	CL6-PCB-158	1	1.66e+06	1.25	y	41:00	119.699	120	5.9768	-	n
103	Unk	CL6-PCB-128/166	1	2.26e+06	1.23	y	41:55	215.083	215	7.8804	x1/2	n
104	Unk	CL6-PCB-159	1	8.13e+04	~~1.05~~ 1.23	~~n~~ y	42:53	~~6.629~~ 7.235	7	6.7444	-	y
105	Unk	CL6-PCB-162	1	5.18e+04	~~1.17~~ 0.94	~~y~~ n	43:13	~~3.857~~ 3.358	4	6.1598	-	y
106	Unk	CL7-PCB-179	1	1.80e+06	1.04	y	38:12	142.766	143	0.9491	-	n
107	Unk	CL7-PCB-184	0	*	*	n	NotFnd	*	*	0.9314	-	n
108	Unk	CL7-PCB-176	1	4.44e+05	1.00	y	39:07	36.695	37	0.9919	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	1.0548	-	n
110	Unk	CL7-PCB-178	1	1.47e+06	0.98	y	41:03	177.682	178	1.4501	-	n
111	Unk	CL7-PCB-175	1	1.58e+05	0.95	y	41:41	19.040	19	1.4492	-	n
112	Unk	CL7-PCB-187	1	5.26e+06	1.03	y	41:59	561.578	562	1.2798	-	n
113	Unk	CL7-PCB-182	0	*	*	n	NotFnd	*	*	1.4184	-	n
114	Unk	CL7-PCB-183/185	1	1.85e+06	0.99	y	42:38	225.462	225	1.4629	-	n
115	Unk	CL7-PCB-174	1	1.30e+06	1.00	y	42:53	151.088	151	1.3973	-	n
116	Unk	CL7-PCB-177	1	2.99e+06	1.07	y	43:20	263.695	264	1.0574	-	n
117	Unk	CL7-PCB-181	1	2.33e+04	1.68	n	43:45	2.789	3	1.4364	-	n
118	Unk	CL7-PCB-171/173	1	6.40e+05	1.16	y	44:00	82.406	82	1.5449	-	n
119	Unk	CL7-PCB-172	1	2.43e+05	1.07	y	45:42	32.162	32	1.5898	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	1.2857	-	n
121	Unk	CL7-PCB-180/193	1	4.87e+06	1.06	y	46:22	564.183	564	1.4121	-	n
122	Unk	CL7-PCB-191	1	1.69e+05	0.91	y	46:45	16.253	16	1.1533	-	n
123	Unk	CL7-PCB-170	1	1.02e+06	1.03	y	47:42	129.574	130	1.5717	-	n
124	Unk	CL7-PCB-190	1	4.39e+05	1.12	y	48:16	42.226	42	1.1526	-	n
125	Unk	CL8-PCB-201	1	3.22e+05	1.02	n	44:24	31.561	32	0.8564	-	y
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.8460	-	n
127	Unk	CL8-PCB-197/200	1	1.40e+05	0.80	y	45:23	12.959	13	0.8090	-	y
128	Unk	CL8-PCB-198/199	1	1.01e+06	0.94	y	48:25	129.942	130	1.1289	-	n
129	Unk	CL8-PCB-196	1	3.96e+05	0.94	y	49:06	50.414	50	1.1123	-	y
130	Unk	CL8-PCB-203	1	3.45e+05	1.13	n	49:19	41.483	41	1.0519	-	n
131	Unk	CL8-PCB-195	1	1.51e+05	0.91	y	50:43	18.940	19	1.3757	-	n
132	Unk	CL8-PCB-194	1	3.28e+05	0.93	y	53:10	36.852	37	1.2334	-	n
133	Unk	CL9-PCB-207	1	1.32e+04	0.82	y	51:24	1.376	1	2.0706	-	n
134	IS	13C-CL1-PCB-1	1	2.56e+07	3.17	y	11:27	418.383	0	3.8784	20.1	n
135	IS	13C-CL1-PCB-3	1	2.87e+07	3.12	y	13:41	526.479	0	4.3444	25.3	n
136	IS	13C-CL2-PCB-4	1	1.99e+07	1.61	y	13:55	538.901	0	1.8893	25.9	n
137	IS	13C-CL2-PCB-15	1	3.98e+07	1.58	y	19:59	721.860	0	1.2669	34.7	n
138	IS	13C-CL3-PCB-19	1	1.89e+07	1.05	y	17:05	559.424	0	5.3363	26.9	n
139	IS	13C-CL3-PCB-37	1	3.65e+07	1.03	y	27:17	802.690	0	6.6285	38.6	n
140	REF	13C-CL4-CHECK	1	2.88e+07	0.79	y	20:15	661.699	0	1.7727	31.8	n
141	IS	13C-CL4-PCB-81	1	3.17e+07	0.77	y	34:19	810.840	0	2.0122	39.0	n
142	IS	13C-CL4-PCB-77	1	3.11e+07	0.74	y	34:54	781.690	0	1.9787	37.6	n
143	IS	13C-CL5-PCB-104	1	2.60e+07	1.59	y	25:56	670.756	0	0.3301	32.3	n
144	IS	13C-CL5-PCB-123	1	2.82e+07	1.61	y	36:58	746.955	0	1.3280	35.9	n
145	IS	13C-CL5-PCB-118	1	2.75e+07	1.55	y	37:19	755.847	0	1.3772	36.4	n
146	IS	13C-CL5-PCB-114	1	2.56e+07	1.58	y	37:52	732.542	0	1.4353	35.2	n
147	IS	13C-CL5-PCB-105	1	3.21e+07	1.56	y	38:33	890.273	0	1.3906	42.8	n
148	IS	13C-CL5-PCB-126	1	2.38e+07	1.56	y	41:48	786.933	0	1.6623	37.9	n

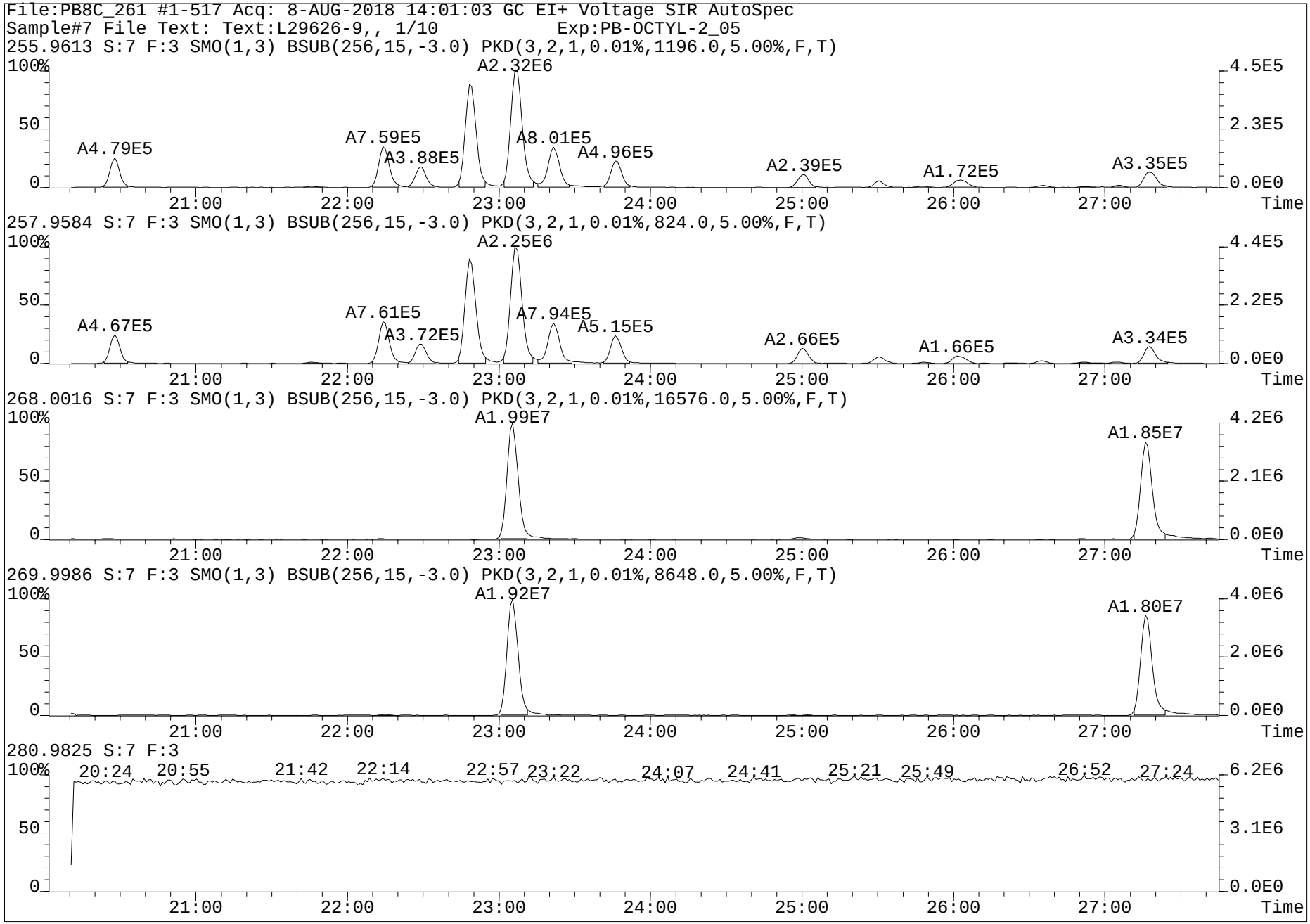
149	IS	13C-CL6-PCB-155	1	2.89e+07	1.26	y	31:50	731.226	0	0.2377	35.2	n
150	IS	13C-CL6-PCB-167	1	2.39e+07	1.24	y	43:43	840.907	0	0.5474	40.4	n
151	IS	13C-CL6-PCB-156/157	1	4.68e+07	1.26	y	44:56	1609.969	0	0.5339	38.7	n
152	IS	13C-CL6-PCB-169	1	2.17e+07	1.31	y	48:20	739.675	0	0.5301	35.6	n
153	IS	13C-CL7-PCB-188	1	2.38e+07	1.08	y	37:48	795.844	0	0.4024	38.3	n
154	IS	13C-CL7-PCB-180	1	1.79e+07	1.06	y	46:21	880.196	0	0.5926	42.3	n
155	IS	13C-CL7-PCB-170	1	1.44e+07	1.03	y	47:41	863.273	0	0.7209	41.5	n
156	IS	13C-CL8-PCB-202	1	2.52e+07	0.89	y	43:25	881.280	0	0.3118	42.4	n
157	IS	13C-CL8-PCB-205	1	2.13e+07	0.87	y	53:39	842.087	0	0.6591	40.5	n
158	IS	13C-CL9-PCB-208	1	1.72e+07	0.78	y	50:25	823.638	0	0.6047	39.6	n
159	IS	13C-CL9-PCB-206	1	1.48e+07	0.77	y	55:27	845.954	0	0.7248	40.7	n
160	RS/RT	13C-CL2-PCB-9	1	1.23e+08	1.56	y	15:56	19.420	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	6.81e+07	0.79	y	24:59	18.903	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	6.17e+07	1.61	y	32:06	20.157	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	5.01e+07	1.25	y	40:33	20.724	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	3.80e+07	0.87	y	53:09	19.442	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.91e+07	1.04	y	23:05	767.541	0	5.9095	36.9	n
166	C/Up	13C-CL5-PCB-111	1	2.53e+07	1.61	y	34:55	731.424	0	0.4370	35.2	n
167	C/UP	13C-CL7-PCB-178	1	1.67e+07	1.06	y	41:01	822.488	0	0.5956	39.6	n
168	IS	13C-CL4-PCB-54	1	2.88e+07	0.79	y	20:15	661.699	0	1.7727	31.8	n
169	Unk	CL7-PCB-189	1	7.26e+04	0.80	n	50:59	6.398	0	1.0610	-	y
170	IS	13C-CL7-PCB-189	1	2.39e+07	1.02	y	50:58	919.680	0	0.8889	44.2	n
171	Unk	CL10-PCB-209	1	4.20e+04	2.42	n	57:08	4.864	0	1.0908	-	n
172	IS	13C-CL10-PCB-209	1	1.70e+07	1.19	y	57:06	847.774	0	0.4907	40.8	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

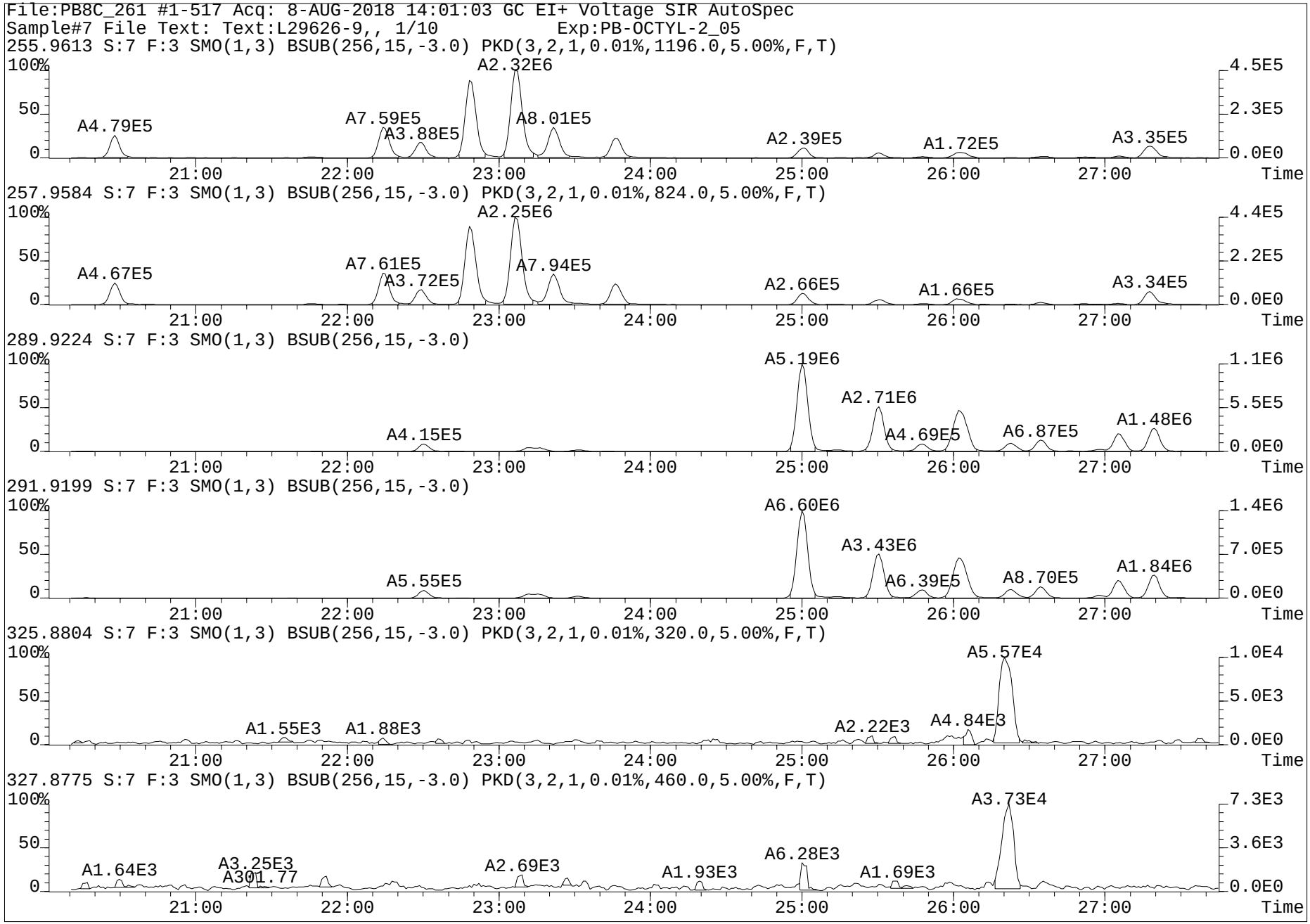

File:PB8C_261 #1-184 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
188.0393 S:7 SMO(1,3) BSUB(256,15,-3.0)
A2.89E4
A3.15E4
A6.17E3
A1.17E3
A2.07E3
A376.20
190.0363 S:7 SMO(1,3) BSUB(256,15,-3.0)
A9.47E3
A6.79E3
A3.20E3
200.0795 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2016.0,5.00%,F,T)
A1.94E7
A2.18E7
202.0766 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21580.0,5.00%,F,T)
A6.12E6
A6.96E6
218.9856 S:7
11:14
11:31
11:49
12:05
12:21
12:46
12:56
13:09
13:19
13:36
13:49
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
9.6E3
4.8E3
0.0E0
3.3E3
1.7E3
6.2E6
3.1E6
2.0E6
1.0E6
7.9E6
4.0E6

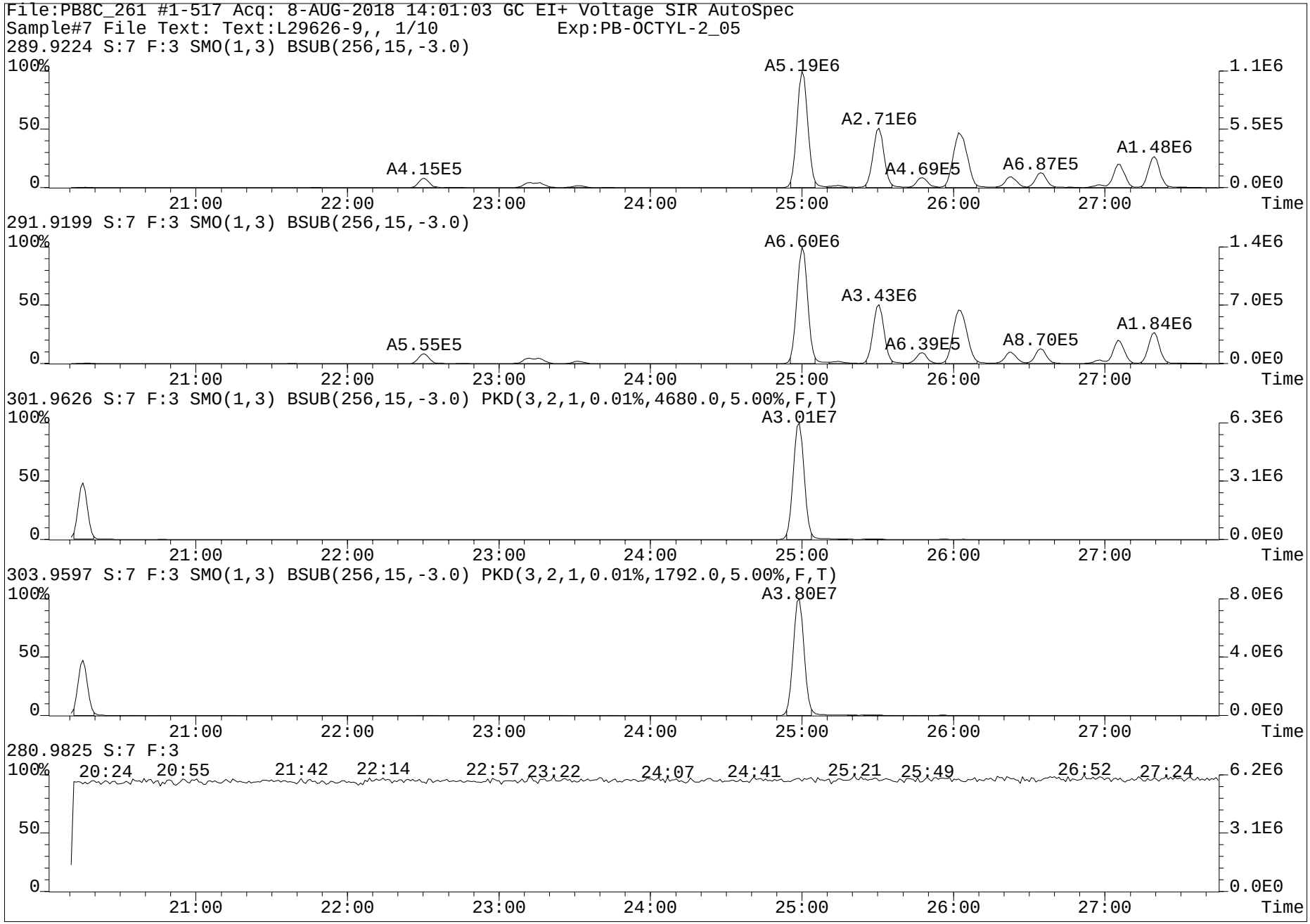

File:PB8C_261 #1-364 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A2.39E5
A1.55E5
A1.80E5
A8.09E4
A3.74E4
A7.44E3
223.9974 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.74E5
A9.74E4
A9.61E4
A4.74E4
A2.92E4
234.0406 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5108.0,5.00%,F,T)
A7.48E7
A2.44E7
236.0376 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1840.0,5.00%,F,T)
A4.79E7
A1.54E7
242.9856 S:7 F:2
14:22
15:01
15:33
16:13
16:57
17:26
17:54
18:34
19:13
19:42
20:07
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
5.6E4
2.8E4
0.0E0
4.1E4
2.1E4
1.9E7
9.3E6
1.2E7
6.0E6
2.3E6
1.2E6

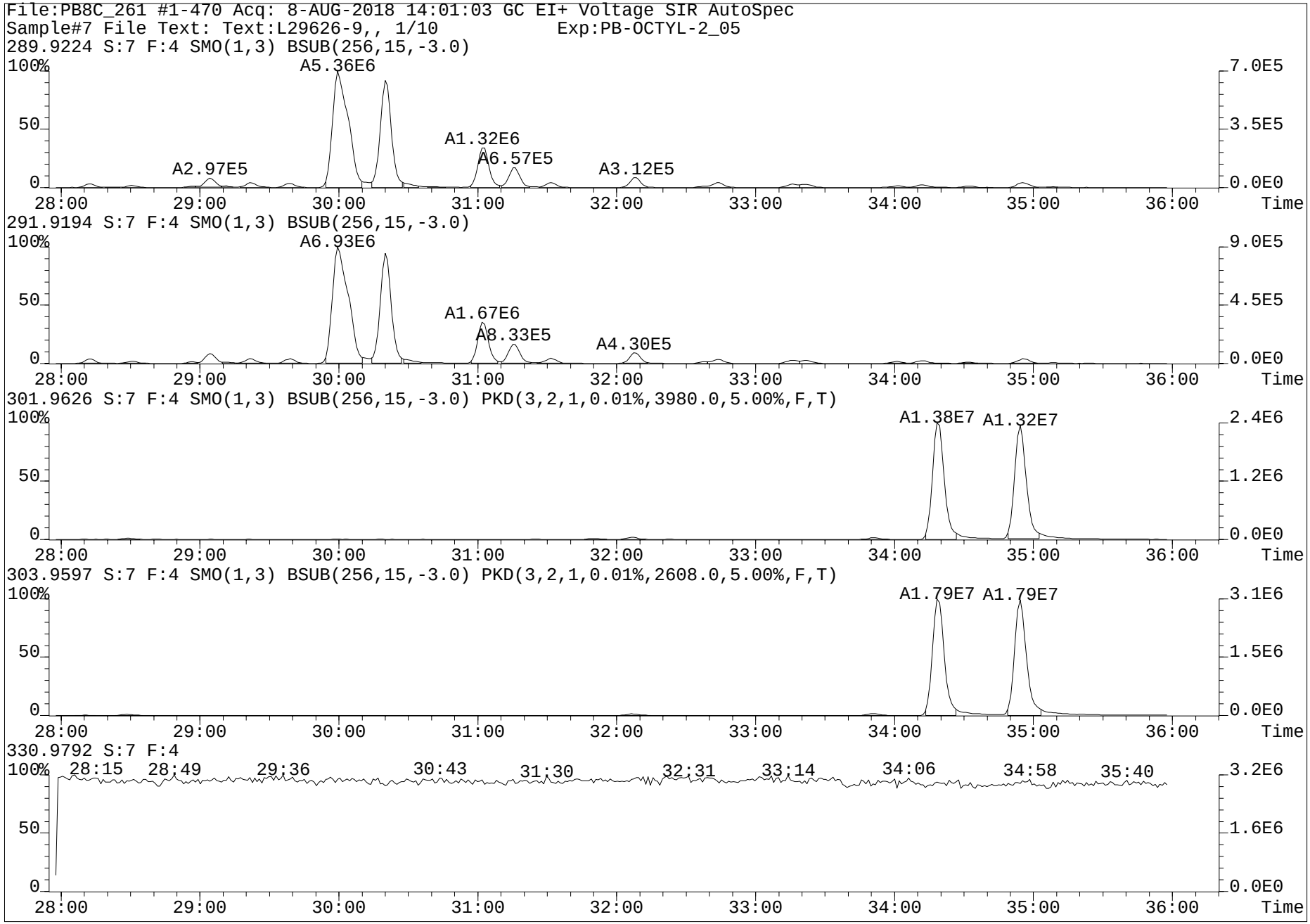

File:PB8C_261 #1-364 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
222.0003 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A2.39E5
A1.55E5
A1.80E5
A8.09E4
A5.69E4
A3.74E4
A1.54E4
A7.44E3
223.9974 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.74E5
A9.74E4
A9.61E4
A4.74E4
A2.92E4
A3.33E4
255.9613 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,880.0,5.00%,F,T)
A9.18E5
A4.48E5
A2.23E5
A7.23E4
257.9584 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,508.0,5.00%,F,T)
A8.68E5
A4.55E5
A1.98E5
A6.32E4
Time

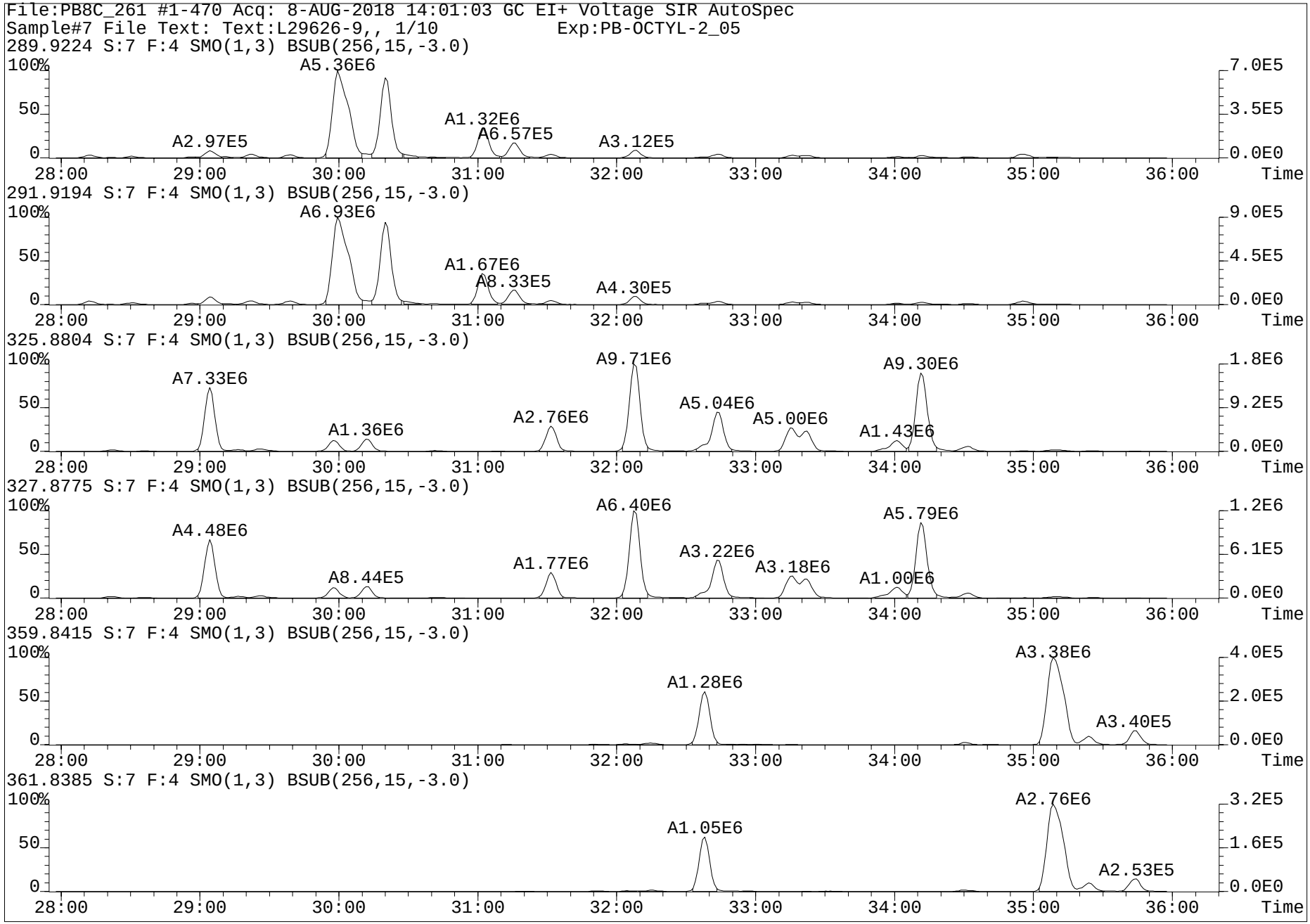

File:PB8C_261 #1-364 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,880.0,5.00%,F,T)
A9.18E5
A4.48E5
A2.23E5
A7.23E4
257.9584 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,508.0,5.00%,F,T)
A8.68E5
A4.55E5
A1.98E5
A6.32E4
268.0016 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10436.0,5.00%,F,T)
A9.67E6
269.9986 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7508.0,5.00%,F,T)
A9.22E6
242.9856 S:7 F:2
16:57 17:13 17:26 17:42 17:54 18:23 18:34 19:13 19:24 19:42 20:07
100%
50
0
2.1E5
1.0E5
0.0E0
1.9E5
9.6E4
2.4E6
1.2E6
2.2E6
1.1E6
2.3E6
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

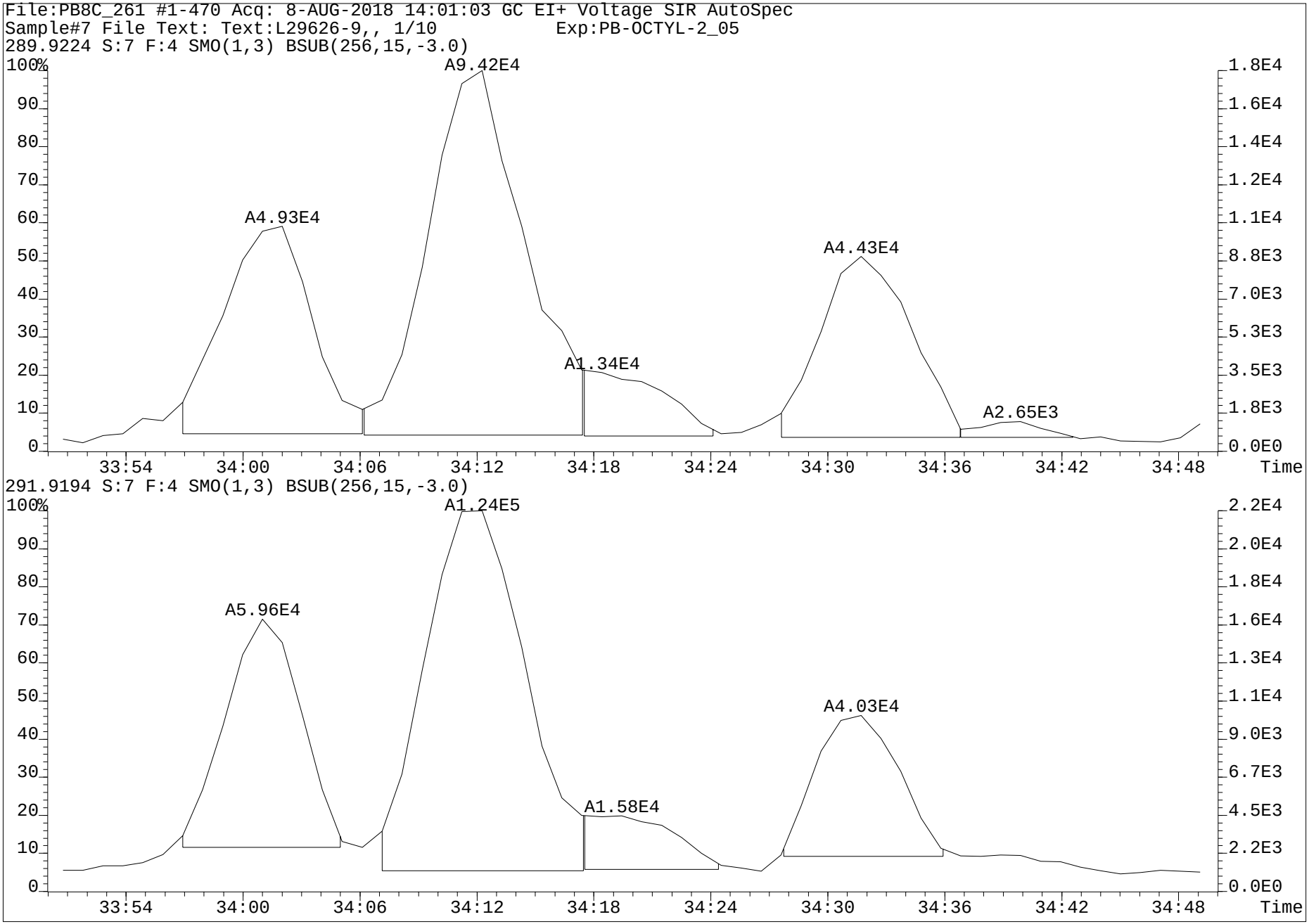

File:PB8C_261 #1-517 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1196.0,5.00%,F,T)
A2.32E6
A4.79E5
A7.59E5
A3.88E5
A8.01E5
A4.96E5
A2.39E5
A1.72E5
A3.35E5
257.9584 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A2.25E6
A4.67E5
A7.61E5
A3.72E5
A7.94E5
A5.15E5
A2.66E5
A1.66E5
A3.34E5
268.0016 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16576.0,5.00%,F,T)
A1.99E7
A1.85E7
269.9986 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8648.0,5.00%,F,T)
A1.92E7
A1.80E7
280.9825 S:7 F:3
20:24 20:55 21:42 22:14 22:57 23:22 24:07 24:41 25:21 25:49 26;52 27:24
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
4.5E5 2.3E5 0.0E0
4.4E5 2.2E5 0.0E0
4.2E6 2.1E6 0.0E0
4.0E6 2.0E6 0.0E0
6.2E6 3.1E6 0.0E0

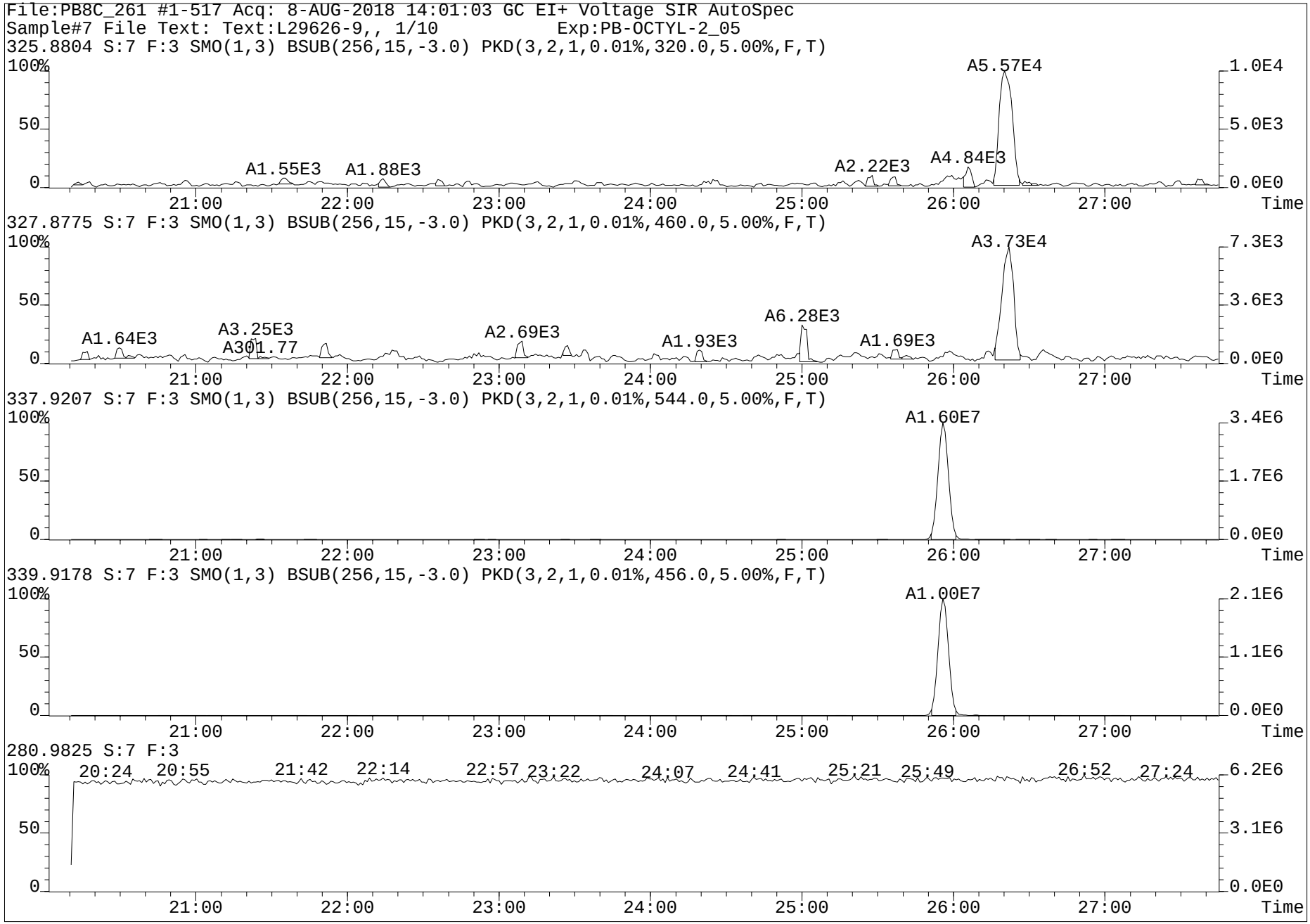

File:PB8C_261 #1-517 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
255.9613 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1196.0,5.00%,F,T)
A2.32E6
A4.79E5
A7.59E5
A3.88E5
A8.01E5
A2.39E5
A1.72E5
A3.35E5
257.9584 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A2.25E6
A4.67E5
A7.61E5
A3.72E5
A7.94E5
A2.66E5
A1.66E5
A3.34E5
289.9224 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.19E6
A2.71E6
A4.15E5
A4.69E5
A6.87E5
A1.48E6
291.9199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.60E6
A3.43E6
A5.55E5
A6.39E5
A8.70E5
A1.84E6
325.8804 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A5.57E4
A1.55E3
A1.88E3
A2.22E3
A4.84E3
327.8775 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A3.73E4
A1.64E3
A3.25E3
A3.01.77
A2.69E3
A1.93E3
A6.28E3
A1.69E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
4.5E5
2.3E5
0.0E0
4.4E5
2.2E5
1.1E6
5.5E5
1.4E6
7.0E5
1.0E4
5.0E3
7.3E3
3.6E3

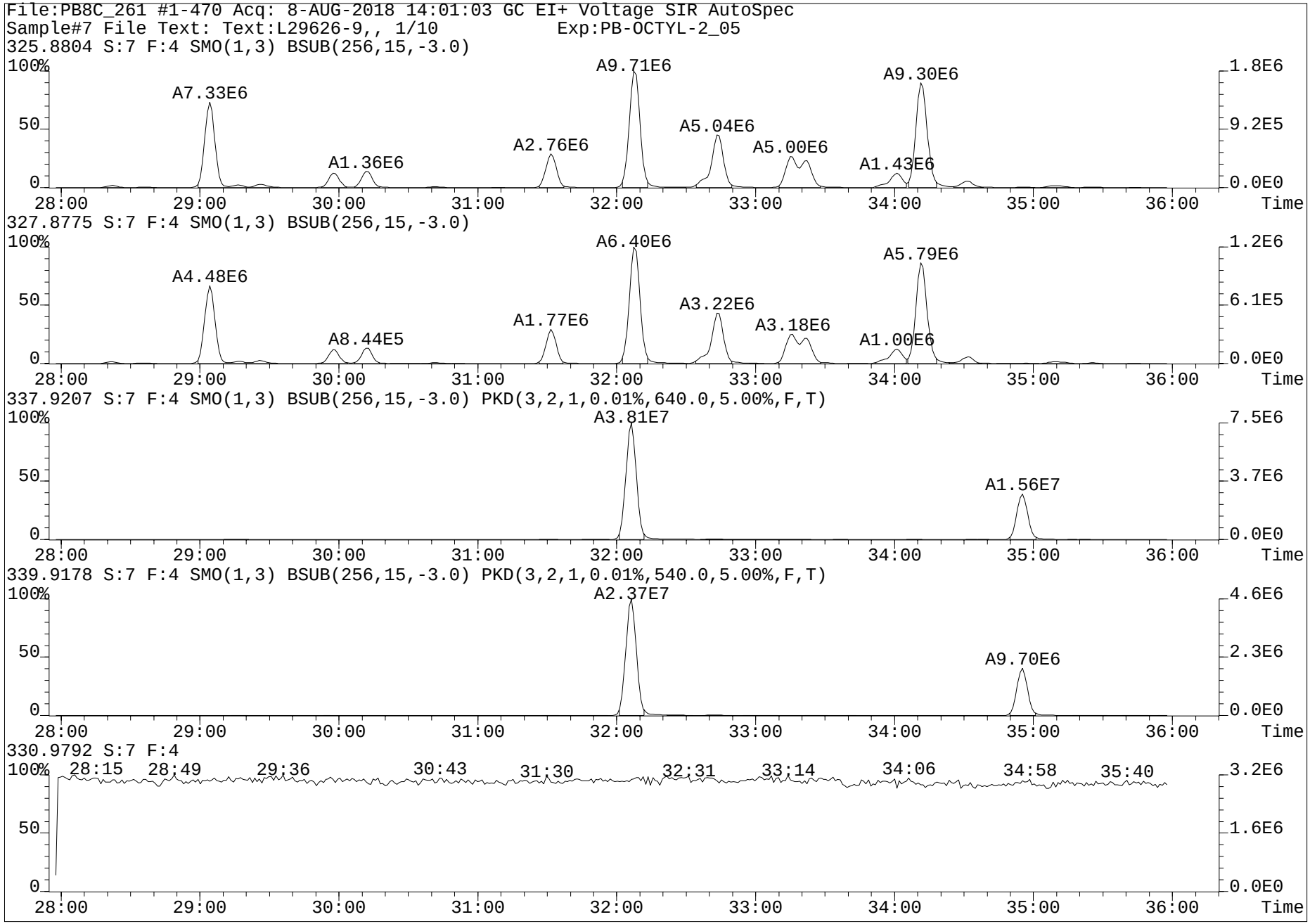

File:PB8C_261 #1-517 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A5.19E6
A2.71E6
A4.15E5
A4.69E5
A6.87E5
A1.48E6
291.9199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0)
A6.60E6
A3.43E6
A5.55E5
A6.39E5
A8.70E5
A1.84E6
301.9626 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4680.0,5.00%,F,T)
A3.01E7
303.9597 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1792.0,5.00%,F,T)
A3.80E7
280.9825 S:7 F:3
20:24 20:55 21:42 22:14 22:57 23:22 24:07 24:41 25:21 25:49 26;52 27:24
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.1E6 5.5E5 0.0E0
1.4E6 7.0E5 0.0E0
6.3E6 3.1E6 0.0E0
8.0E6 4.0E6 0.0E0
6.2E6 3.1E6 0.0E0

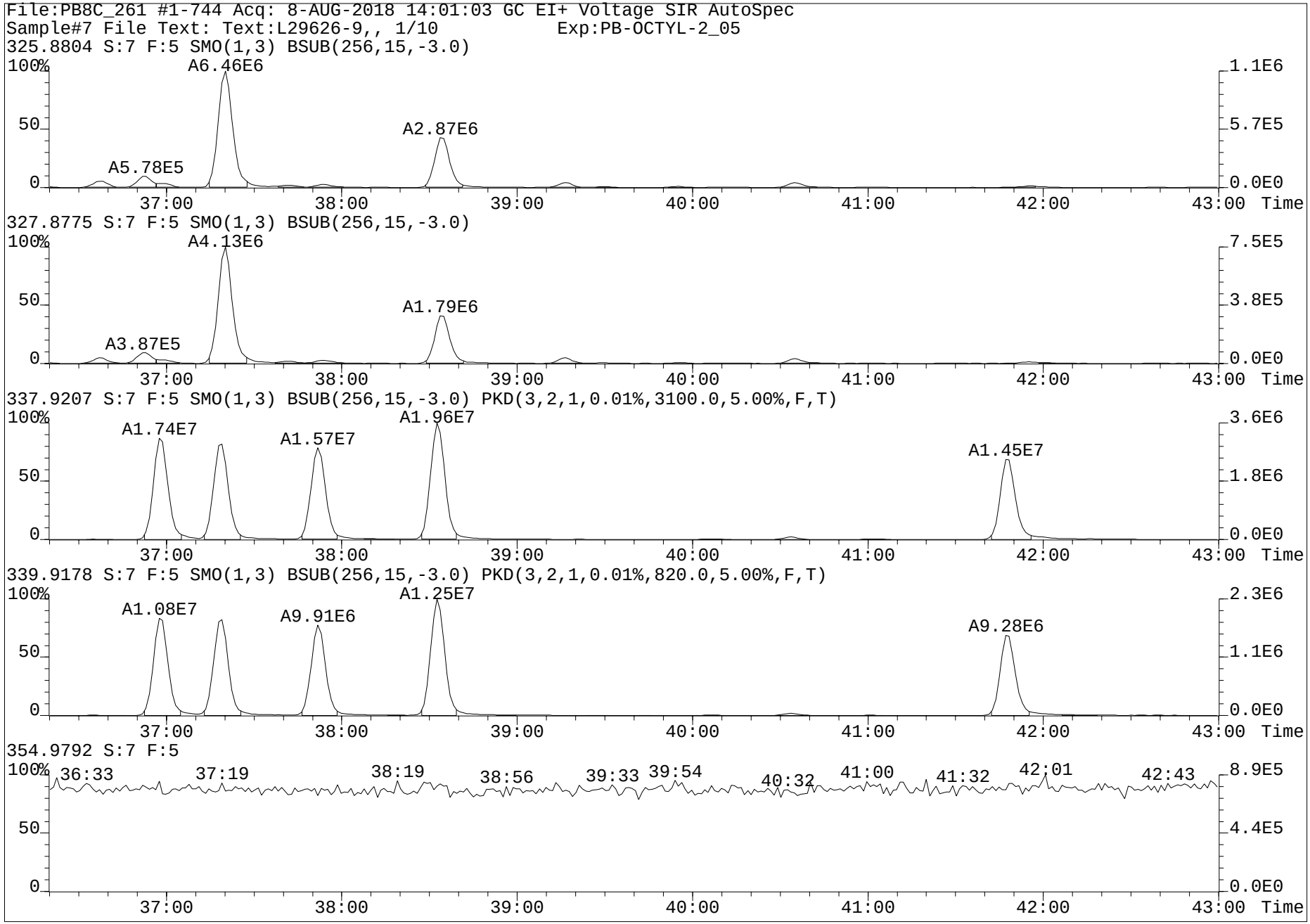

File:PB8C_261 #1-470 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.36E6
A2.97E5
A1.32E6
A6.57E5
A3.12E5
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.93E6
A1.67E6
A8.33E5
A4.30E5
301.9626 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3980.0,5.00%,F,T)
A1.38E7
A1.32E7
303.9597 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2608.0,5.00%,F,T)
A1.79E7
A1.79E7
330.9792 S:7 F:4
28:15
28:49
29:36
30:43
31:30
32:31
33:14
34:06
34:58
35:40
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
7.0E5
3.5E5
0.0E0
9.0E5
4.5E5
2.4E6
1.2E6
3.1E6
1.5E6
3.2E6
1.6E6

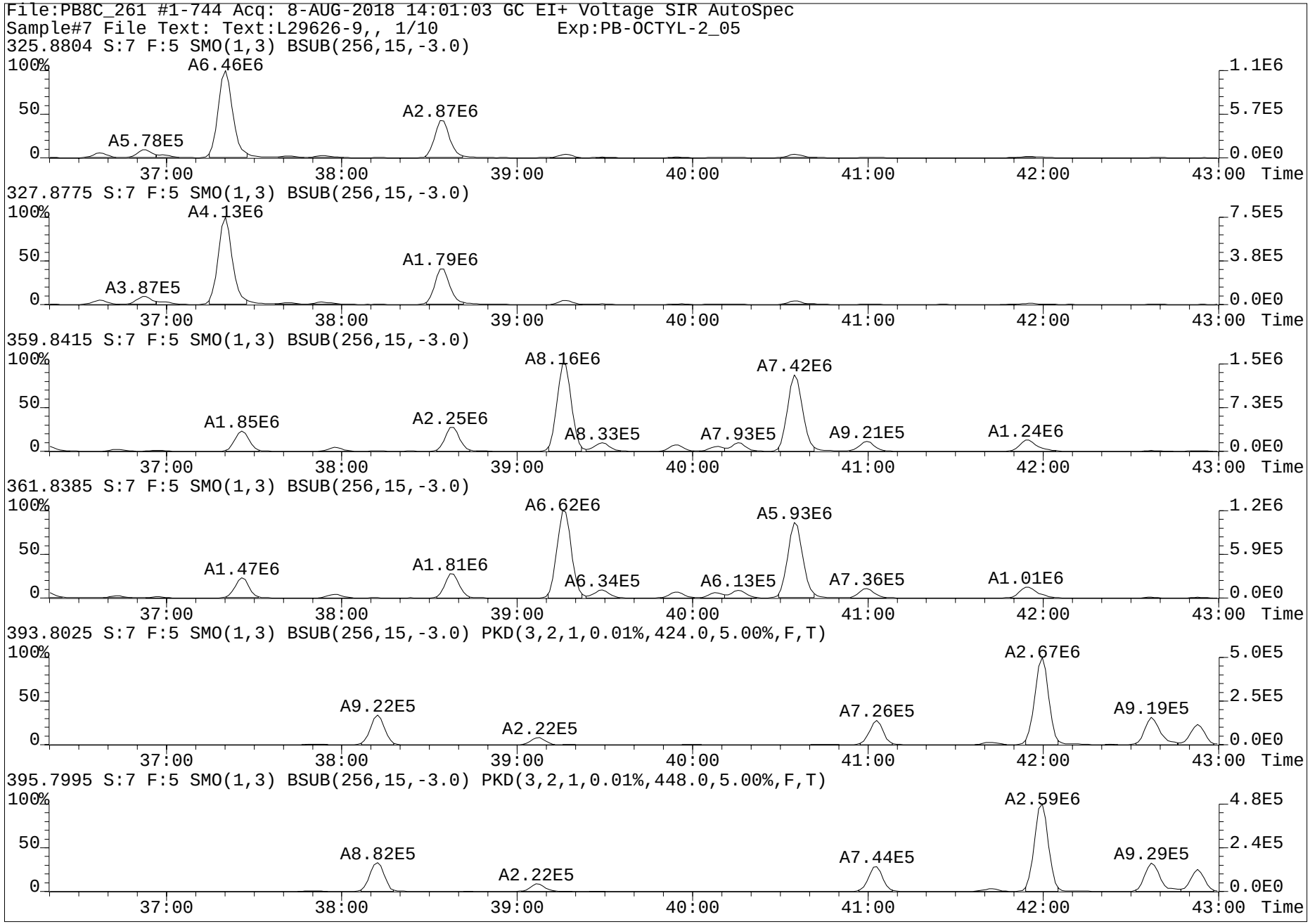

File:PB8C_261 #1-470 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.36E6
A2.97E5
A1.32E6
A6.57E5
A3.12E5
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.93E6
A1.67E6
A8.33E5
A4.30E5
325.8804 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.71E6
A9.30E6
A7.33E6
A5.04E6
A2.76E6
A5.00E6
A1.36E6
A1.43E6
327.8775 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.40E6
A5.79E6
A4.48E6
A3.22E6
A1.77E6
A3.18E6
A8.44E5
A1.00E6
359.8415 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.38E6
A1.28E6
A3.40E5
361.8385 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.76E6
A1.05E6
A2.53E5
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time

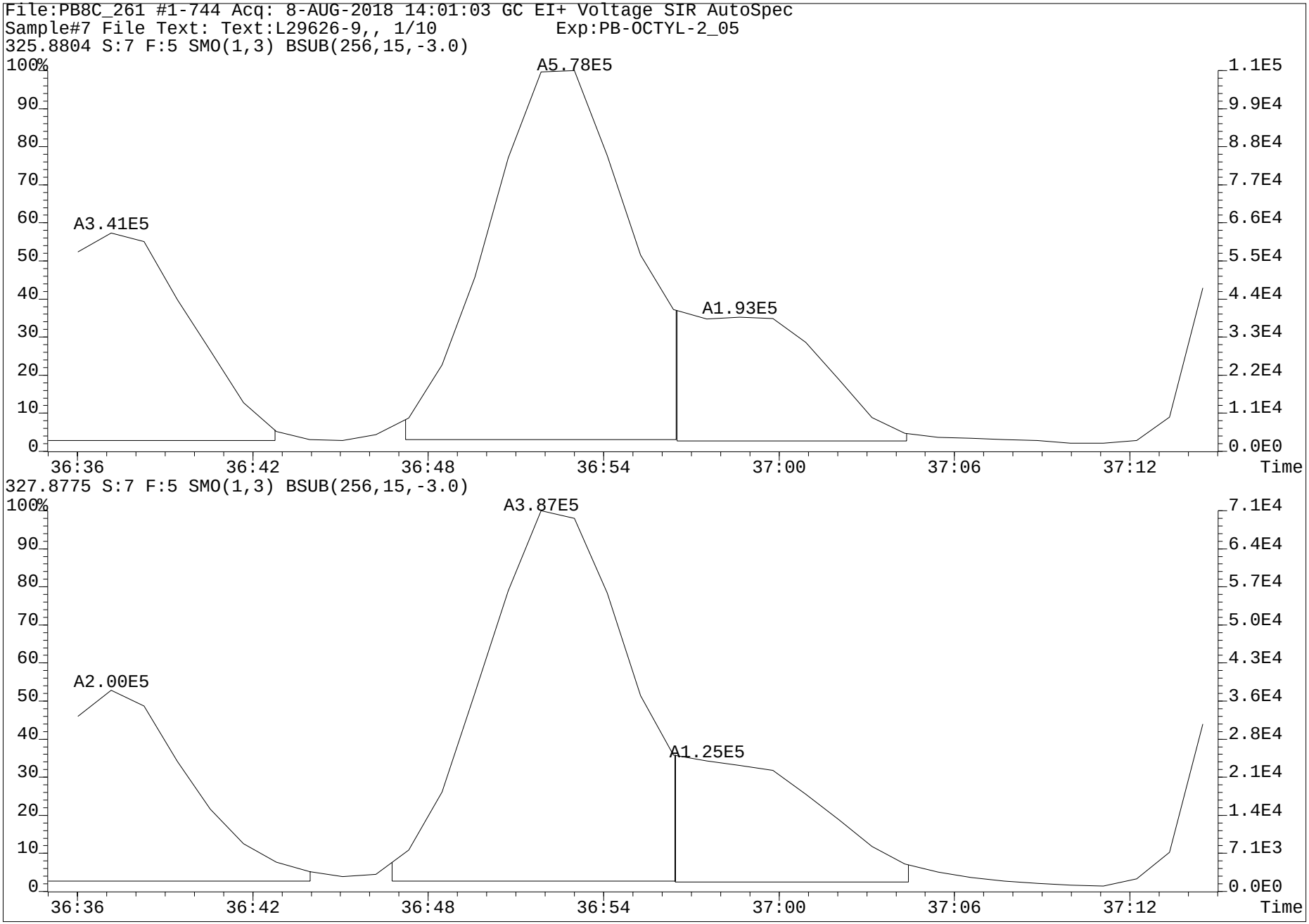

File:PB8C_261 #1-470 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
289.9224 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.93E4
A9.42E4
A1.34E4
A4.43E4
A2.65E3
291.9194 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.96E4
A1.24E5
A1.58E4
A4.03E4
Time

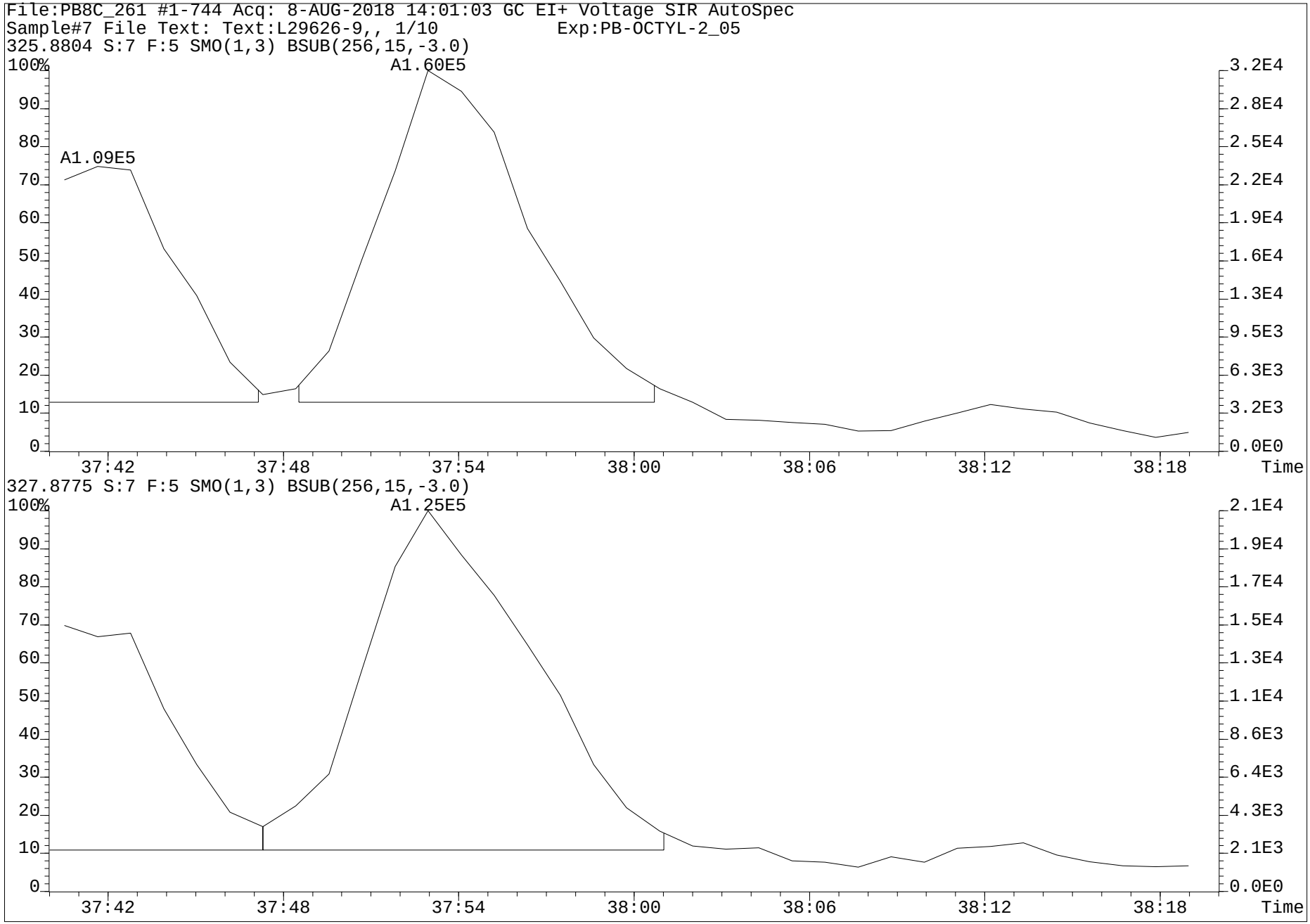

File:PB8C_261 #1-517 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A5.57E4
A1.55E3
A1.88E3
A2.22E3
A4.84E3
327.8775 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A3.73E4
A1.64E3
A3.25E3
A301.77
A2.69E3
A1.93E3
A6.28E3
A1.69E3
337.9207 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A1.60E7
339.9178 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A1.00E7
280.9825 S:7 F:3
20:24
20:55
21:42
22:14
22:57
23:22
24:07
24:41
25:21
25:49
26;52
27:24
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.0E4
5.0E3
0.0E0
7.3E3
3.6E3
3.4E6
1.7E6
2.1E6
1.1E6
6.2E6
3.1E6

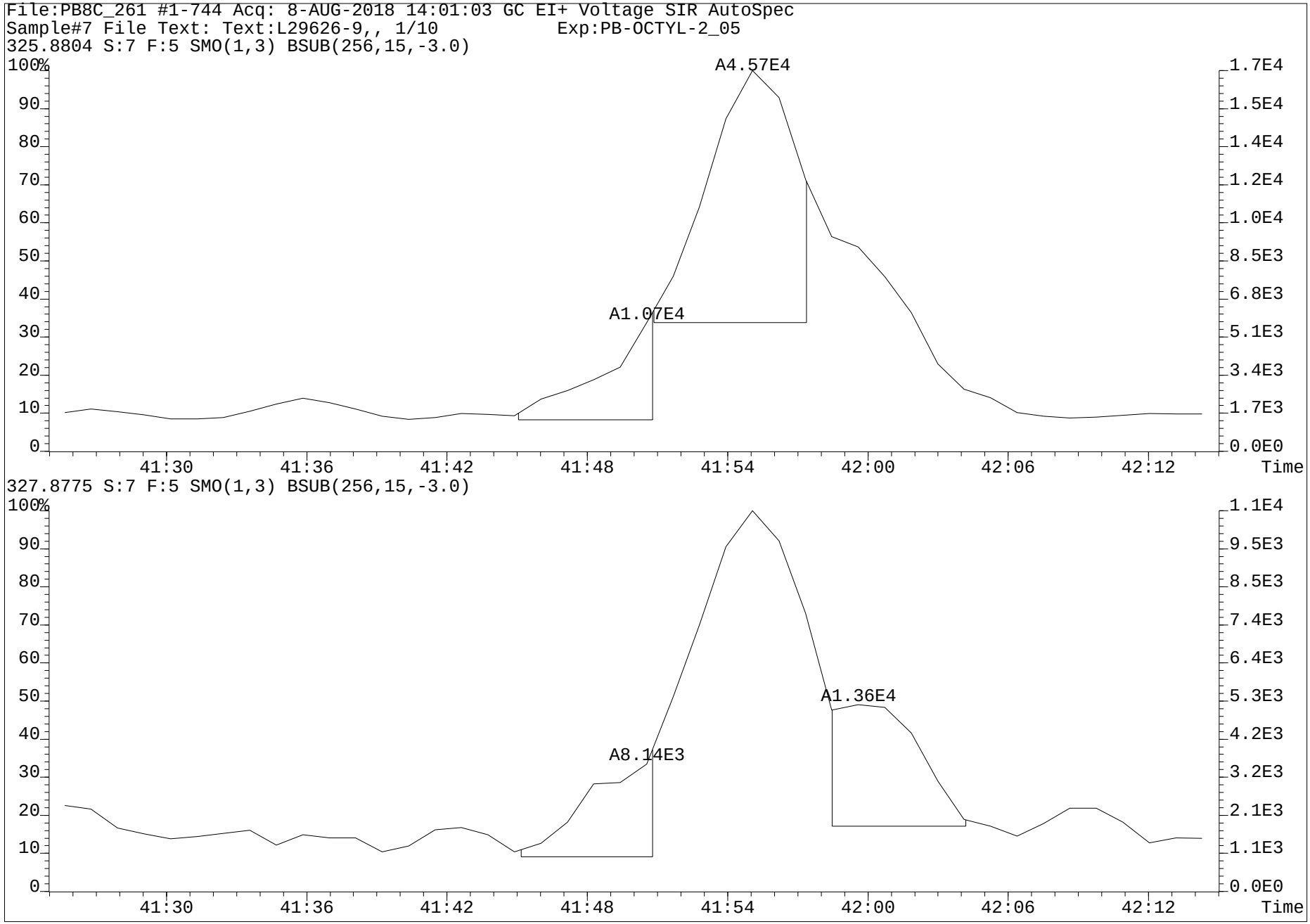

File:PB8C_261 #1-470 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A7.33E6
A1.36E6
A2.76E6
A9.71E6
A5.04E6
A5.00E6
A1.43E6
A9.30E6
327.8775 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A4.48E6
A8.44E5
A1.77E6
A6.40E6
A3.22E6
A3.18E6
A1.00E6
A5.79E6
337.9207 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
A3.81E7
A1.56E7
339.9178 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
A2.37E7
A9.70E6
330.9792 S:7 F:4
28:15
28:49
29:36
30:43
31:30
32:31
33:14
34:06
34:58
35:40
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
1.8E6
9.2E5
0.0E0
1.2E6
6.1E5
0.0E0
7.5E6
3.7E6
0.0E0
4.6E6
2.3E6
0.0E0
3.2E6
1.6E6
0.0E0

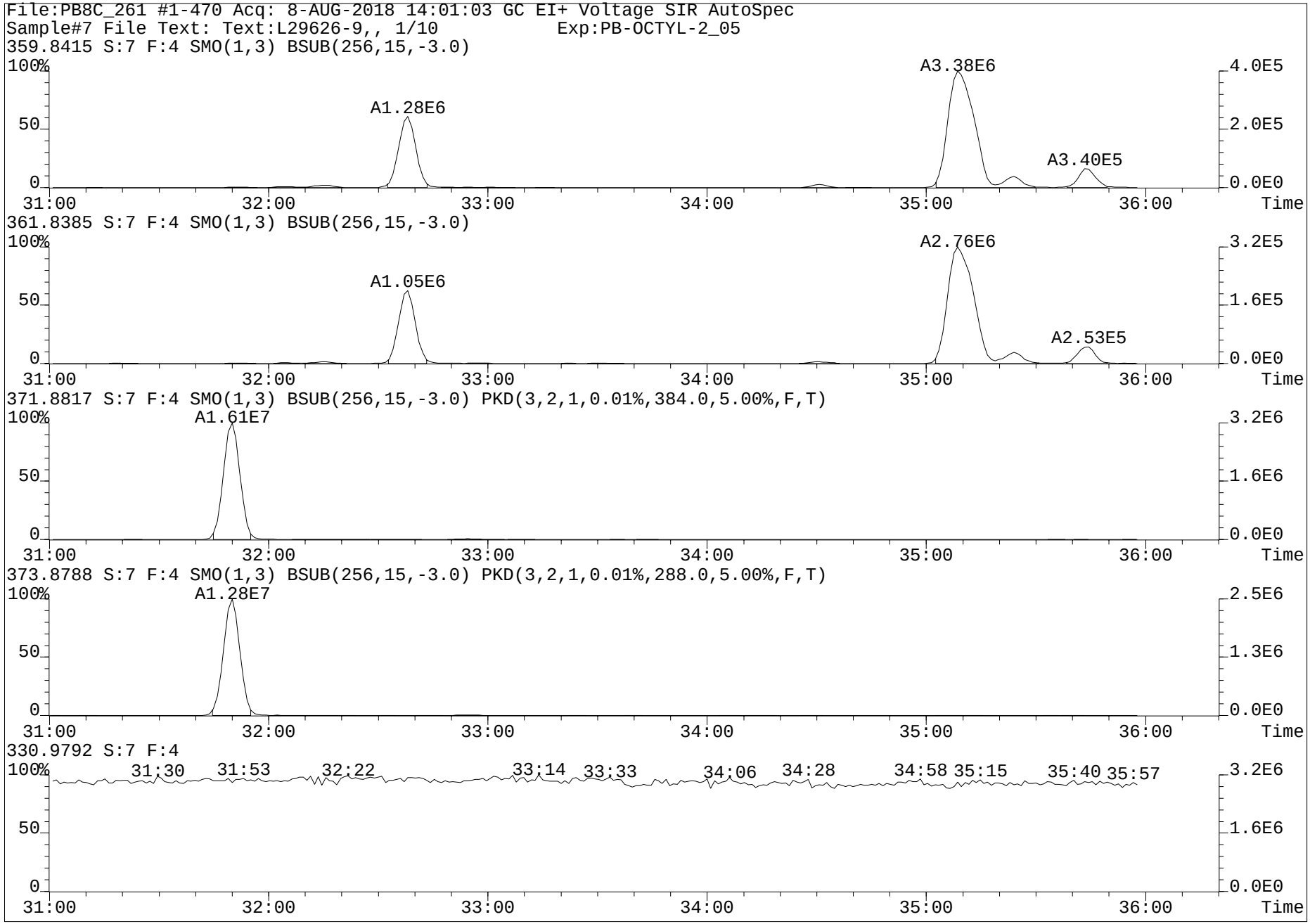

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.46E6
A2.87E6
A5.78E5
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.13E6
A1.79E6
A3.87E5
337.9207 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3100.0,5.00%,F,T)
A1.74E7
A1.57E7
A1.96E7
A1.45E7
339.9178 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,820.0,5.00%,F,T)
A1.08E7
A9.91E6
A1.25E7
A9.28E6
354.9792 S:7 F:5
36:33
37:19
38:19
38:56
39:33
39:54
40:32
41:00
41:32
42:01
42:43
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
1.1E6
5.7E5
0.0E0
7.5E5
3.8E5
3.6E6
1.8E6
2.3E6
1.1E6
8.9E5
4.4E5

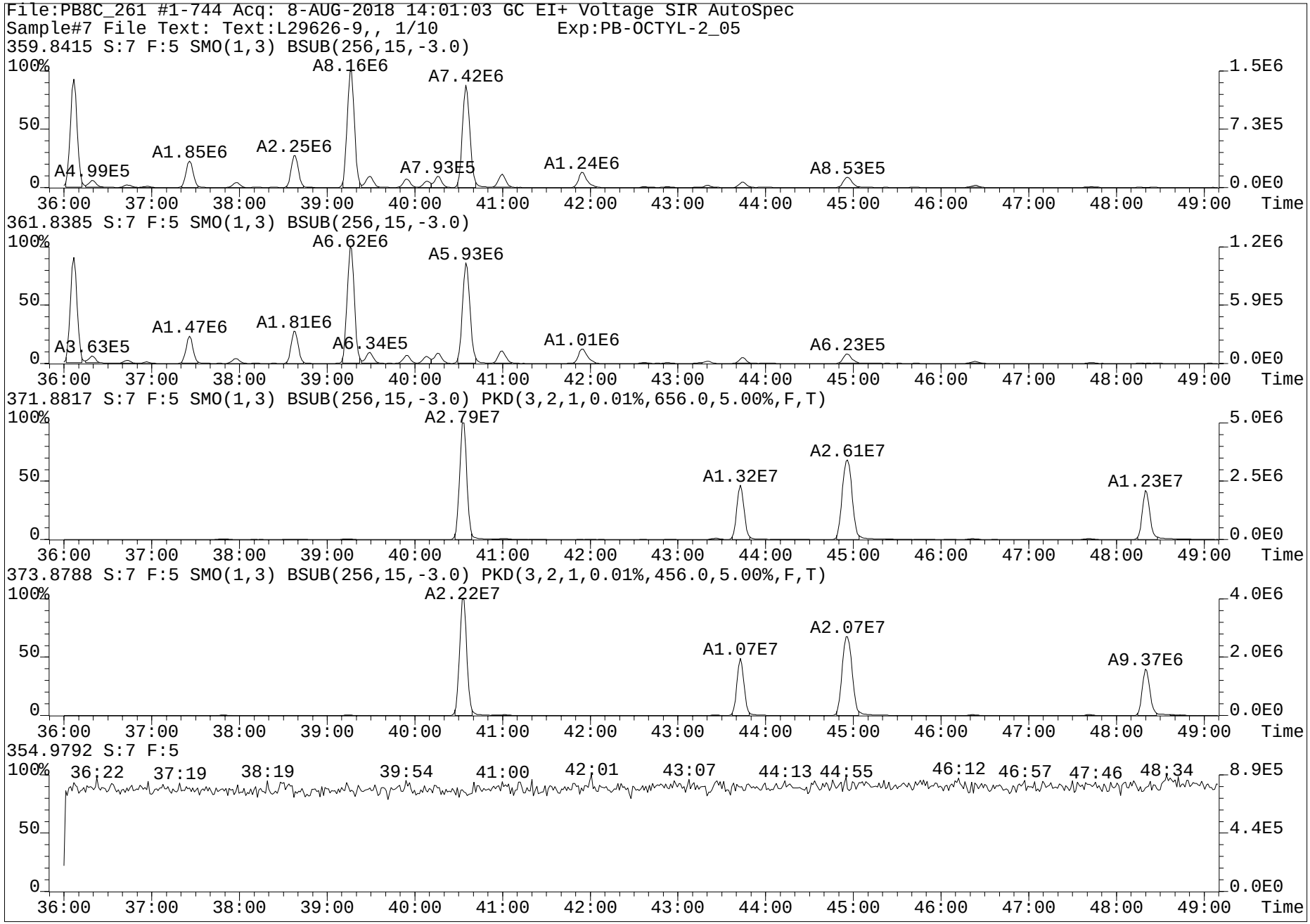

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.46E6
A2.87E6
A5.78E5
1.1E6
5.7E5
0.0E0
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.13E6
A1.79E6
A3.87E5
7.5E5
3.8E5
0.0E0
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.16E6
A7.42E6
A1.85E6
A2.25E6
A8.33E5
A7.93E5
A9.21E5
A1.24E6
1.5E6
7.3E5
0.0E0
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A6.62E6
A5.93E6
A1.47E6
A1.81E6
A6.34E5
A6.13E5
A7.36E5
A1.01E6
1.2E6
5.9E5
0.0E0
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A2.67E6
A9.22E5
A2.22E5
A7.26E5
A9.19E5
5.0E5
2.5E5
0.0E0
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A2.59E6
A8.82E5
A2.22E5
A7.44E5
A9.29E5
4.8E5
2.4E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

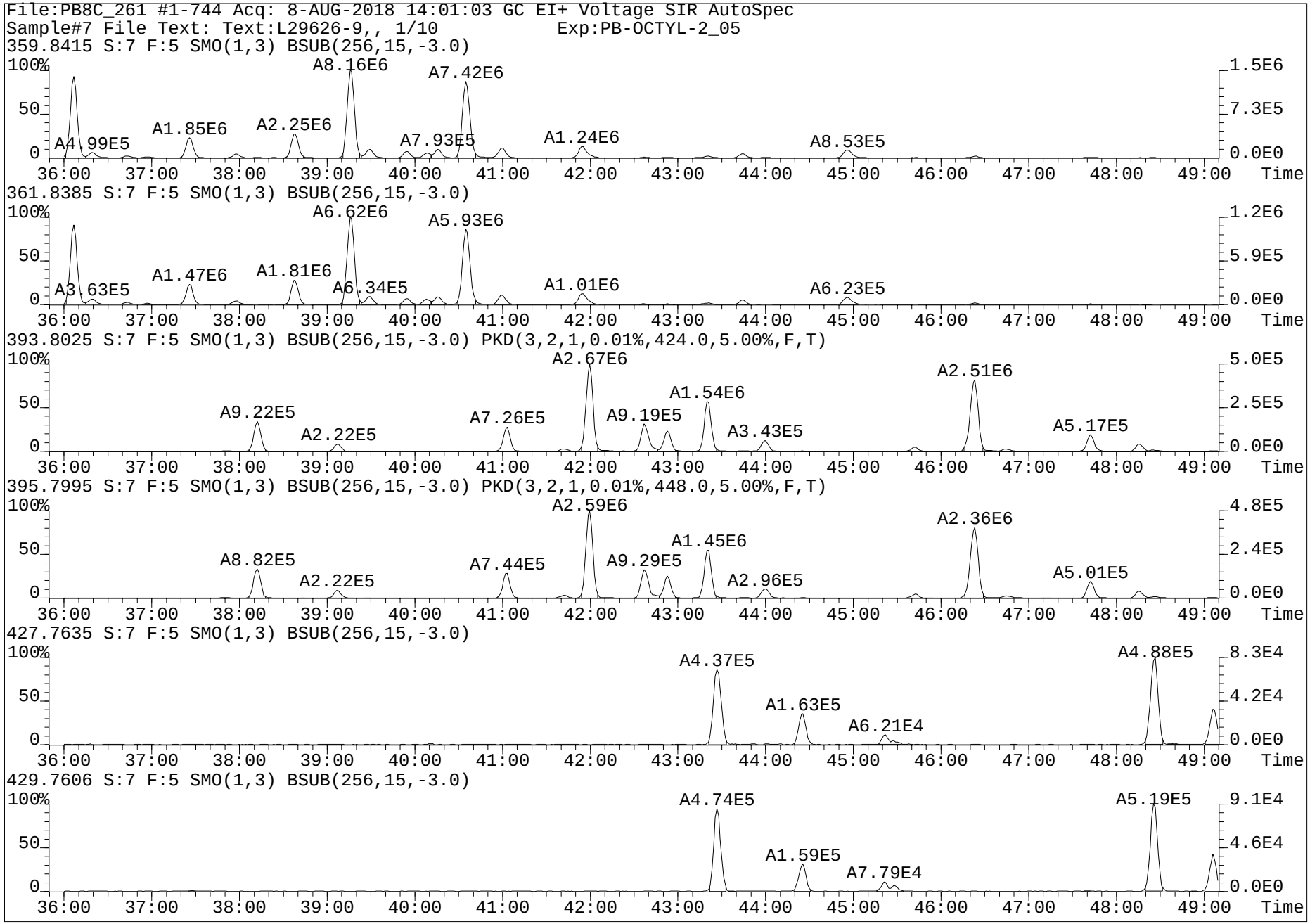

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A5.78E5
A3.41E5
A1.93E5
100%
90
80
70
60
50
40
30
20
10
0
1.1E5
9.9E4
8.8E4
7.7E4
6.6E4
5.5E4
4.4E4
3.3E4
2.2E4
1.1E4
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.87E5
A2.00E5
A1.25E5
100%
90
80
70
60
50
40
30
20
10
0
7.1E4
6.4E4
5.7E4
5.0E4
4.3E4
3.6E4
2.8E4
2.1E4
1.4E4
7.1E3
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time

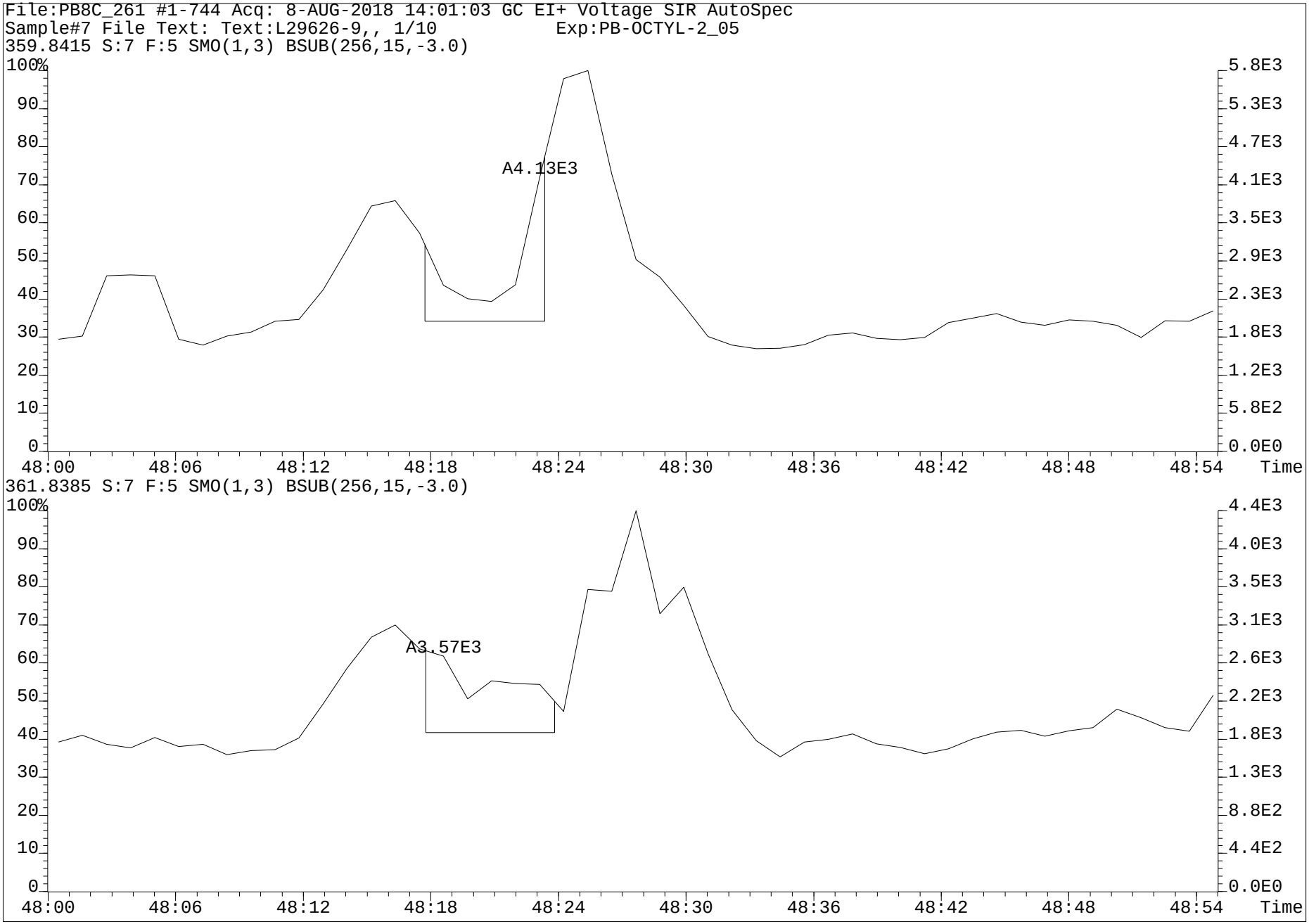

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.60E5
A1.09E5
100%
90
80
70
60
50
40
30
20
10
0
3.2E4
2.8E4
2.5E4
2.2E4
1.9E4
1.6E4
1.3E4
9.5E3
6.3E3
3.2E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.25E5
100%
90
80
70
60
50
40
30
20
10
0
2.1E4
1.9E4
1.7E4
1.5E4
1.3E4
1.1E4
8.6E3
6.4E3
4.3E3
2.1E3
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

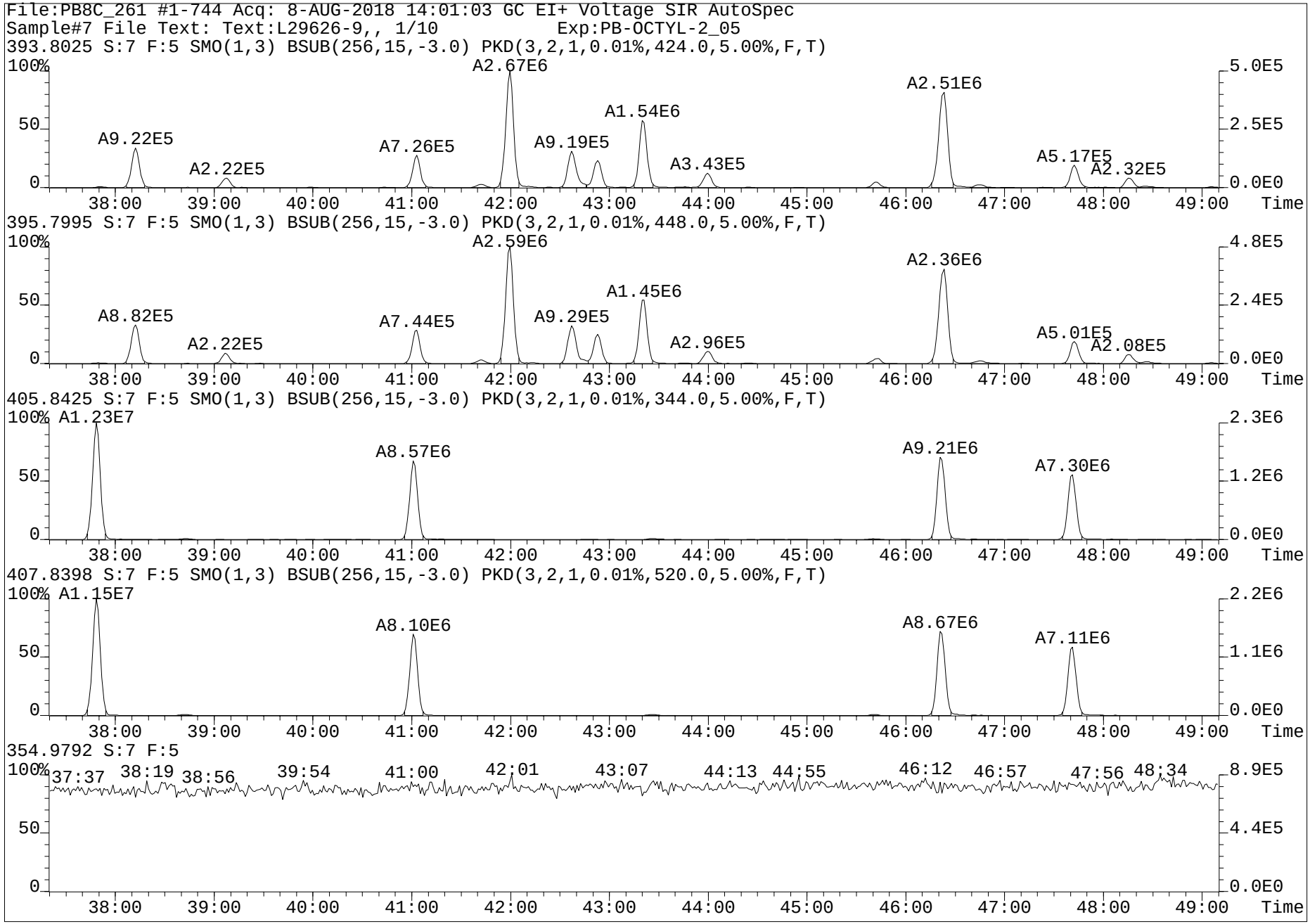

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
325.8804 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.57E4
A1.07E4
327.8775 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.36E4
A8.14E3
Time

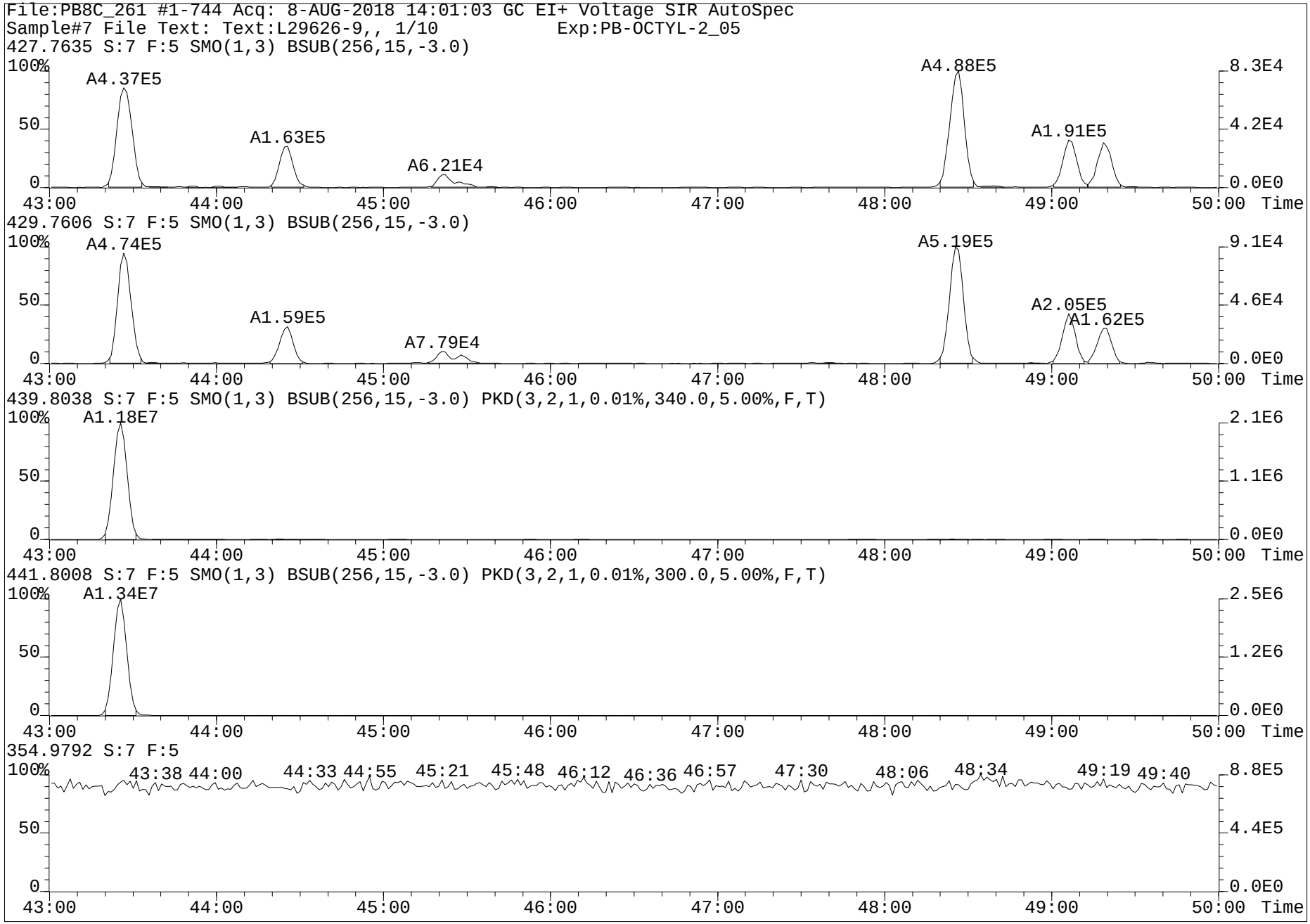

File:PB8C_261 #1-470 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.28E6
A3.38E6
A3.40E5
361.8385 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.05E6
A2.76E6
A2.53E5
371.8817 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A1.61E7
373.8788 S:7 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
A1.28E7
330.9792 S:7 F:4
31:30 31:53 32:22 33:14 33:33 34:06 34:28 34:58 35:15 35:40 35:57
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
4.0E5 2.0E5 0.0E0
3.2E5 1.6E5 0.0E0
3.2E6 1.6E6 0.0E0
2.5E6 1.3E6 0.0E0
3.2E6 1.6E6 0.0E0

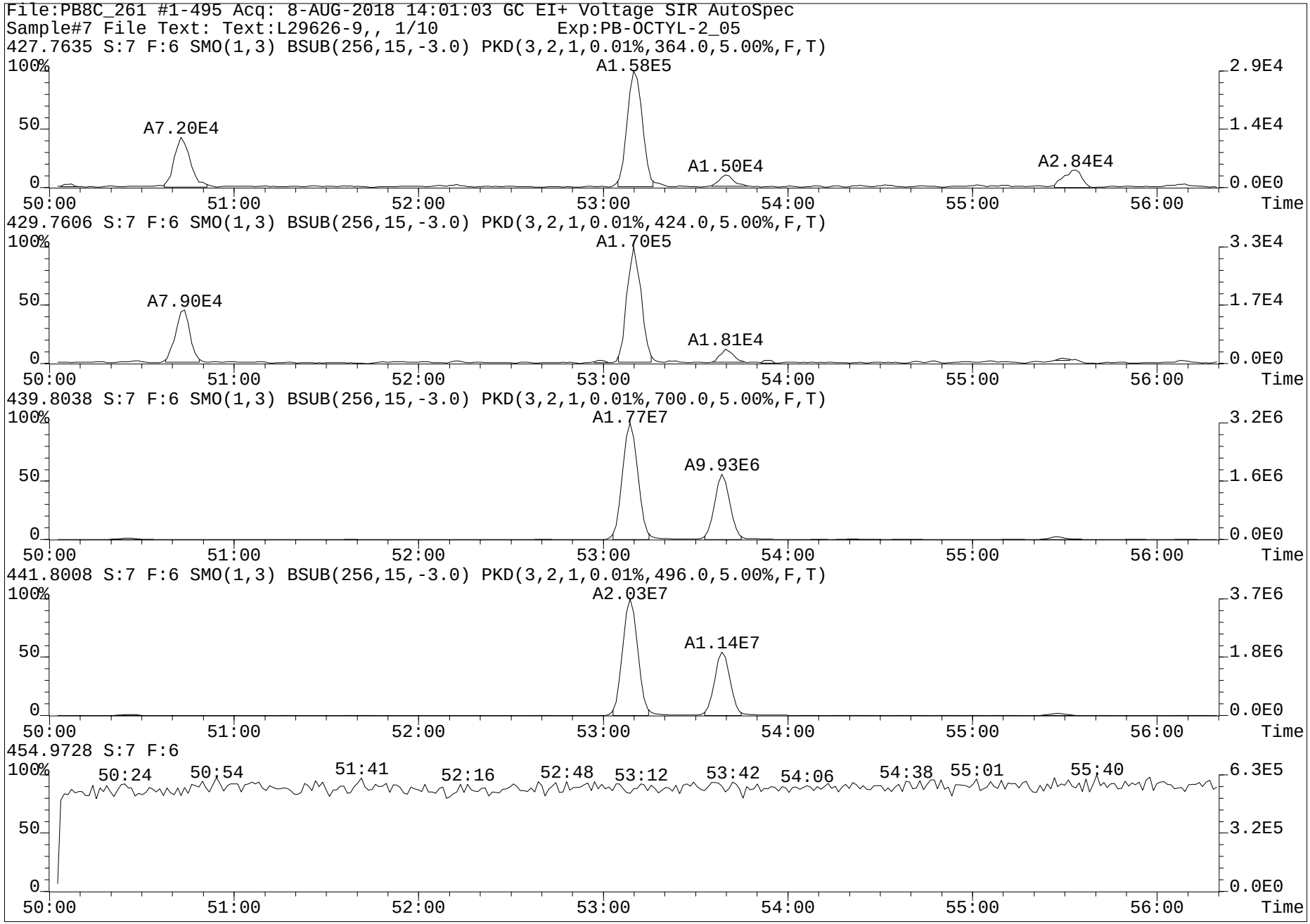

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.99E5
A1.85E6
A2.25E6
A8.16E6
A7.42E6
A7.93E5
A1.24E6
A8.53E5
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.63E5
A1.47E6
A1.81E6
A6.62E6
A6.34E5
A5.93E6
A1.01E6
A6.23E5
371.8817 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,656.0,5.00%,F,T)
A2.79E7
A1.32E7
A2.61E7
A1.23E7
373.8788 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A2.22E7
A1.07E7
A2.07E7
A9.37E6
354.9792 S:7 F:5
36:22
37:19
38:19
39:54
41:00
42:01
43:07
44:13
44:55
46:12
46:57
47:46
48:34
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
1.5E6
7.3E5
0.0E0
1.2E6
5.9E5
0.0E0
5.0E6
2.5E6
0.0E0
4.0E6
2.0E6
0.0E0
8.9E5
4.4E5
0.0E0

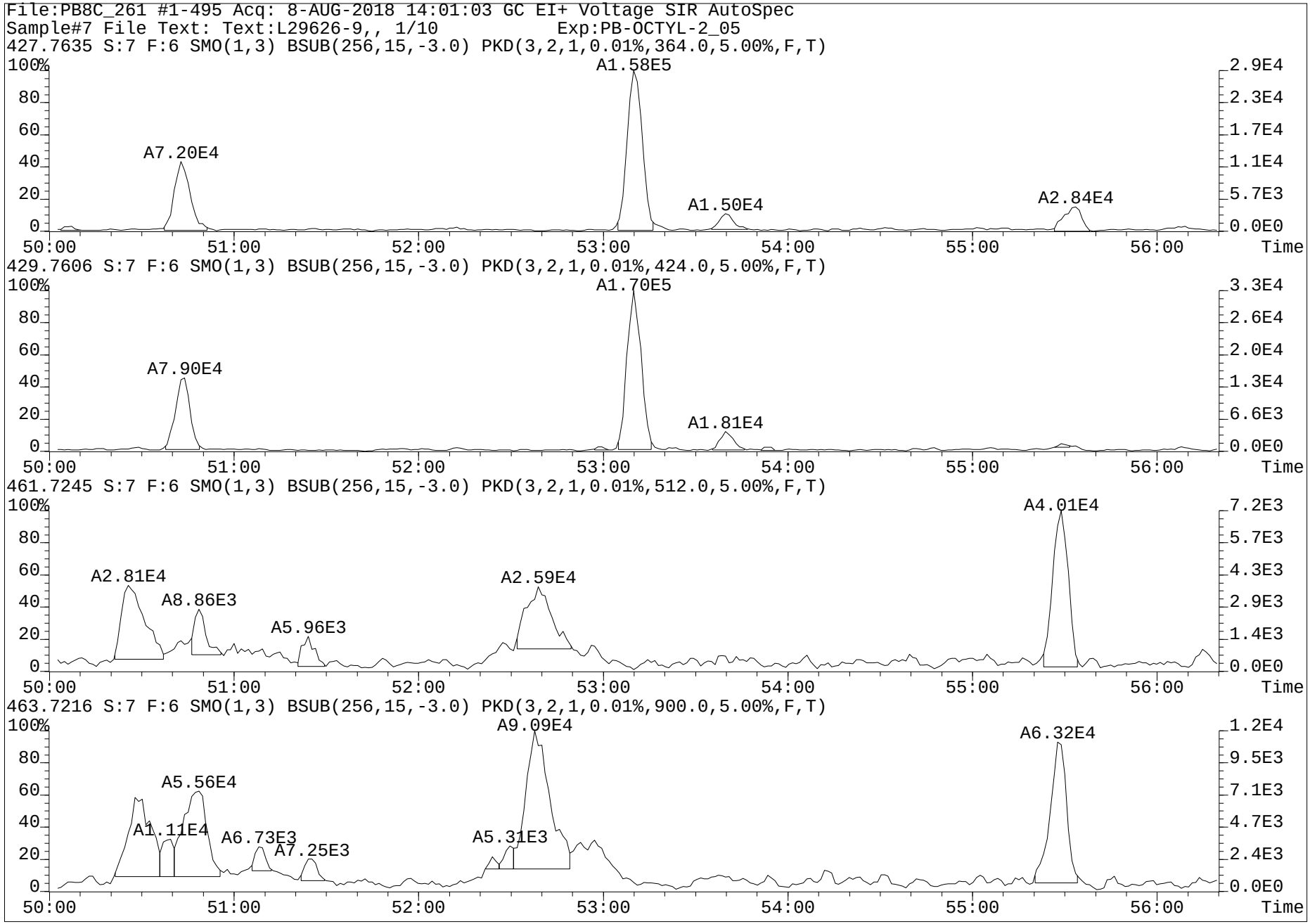

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.99E5
A1.85E6
A2.25E6
A8.16E6
A7.93E5
A7.42E6
A1.24E6
A8.53E5
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.63E5
A1.47E6
A1.81E6
A6.62E6
A6.34E5
A5.93E6
A1.01E6
A6.23E5
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A9.22E5
A2.22E5
A7.26E5
A2.67E6
A9.19E5
A1.54E6
A3.43E5
A2.51E6
A5.17E5
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A8.82E5
A2.22E5
A7.44E5
A2.59E6
A9.29E5
A1.45E6
A2.96E5
A2.36E6
A5.01E5
427.7635 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.37E5
A1.63E5
A6.21E4
A4.88E5
429.7606 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.74E5
A1.59E5
A7.79E4
A5.19E5
100%
50
0
1.5E6
7.3E5
0.0E0
1.2E6
5.9E5
5.0E5
2.5E5
4.8E5
2.4E5
8.3E4
4.2E4
9.1E4
4.6E4
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

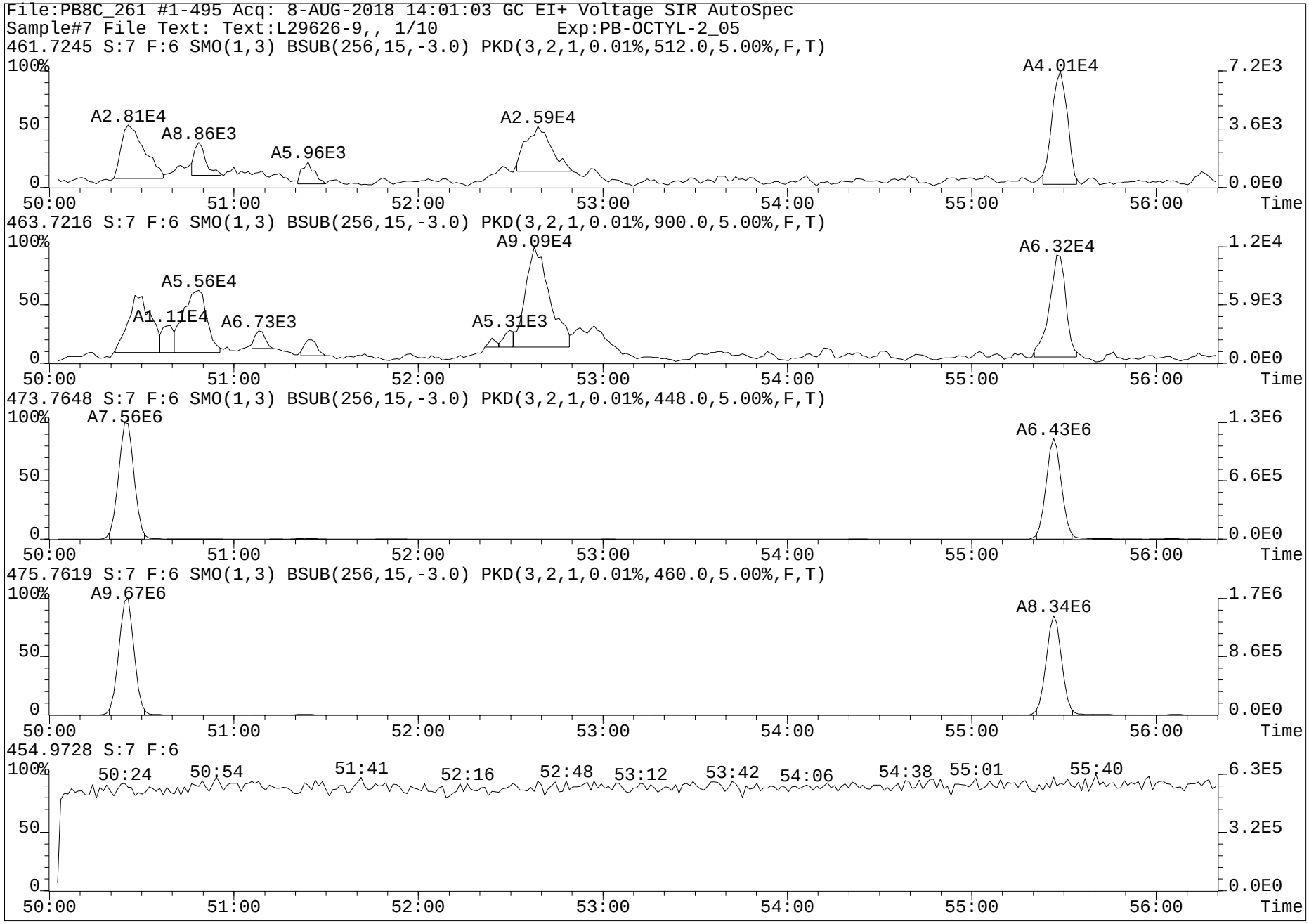

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
359.8415 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.13E3
361.8385 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.57E3
Time

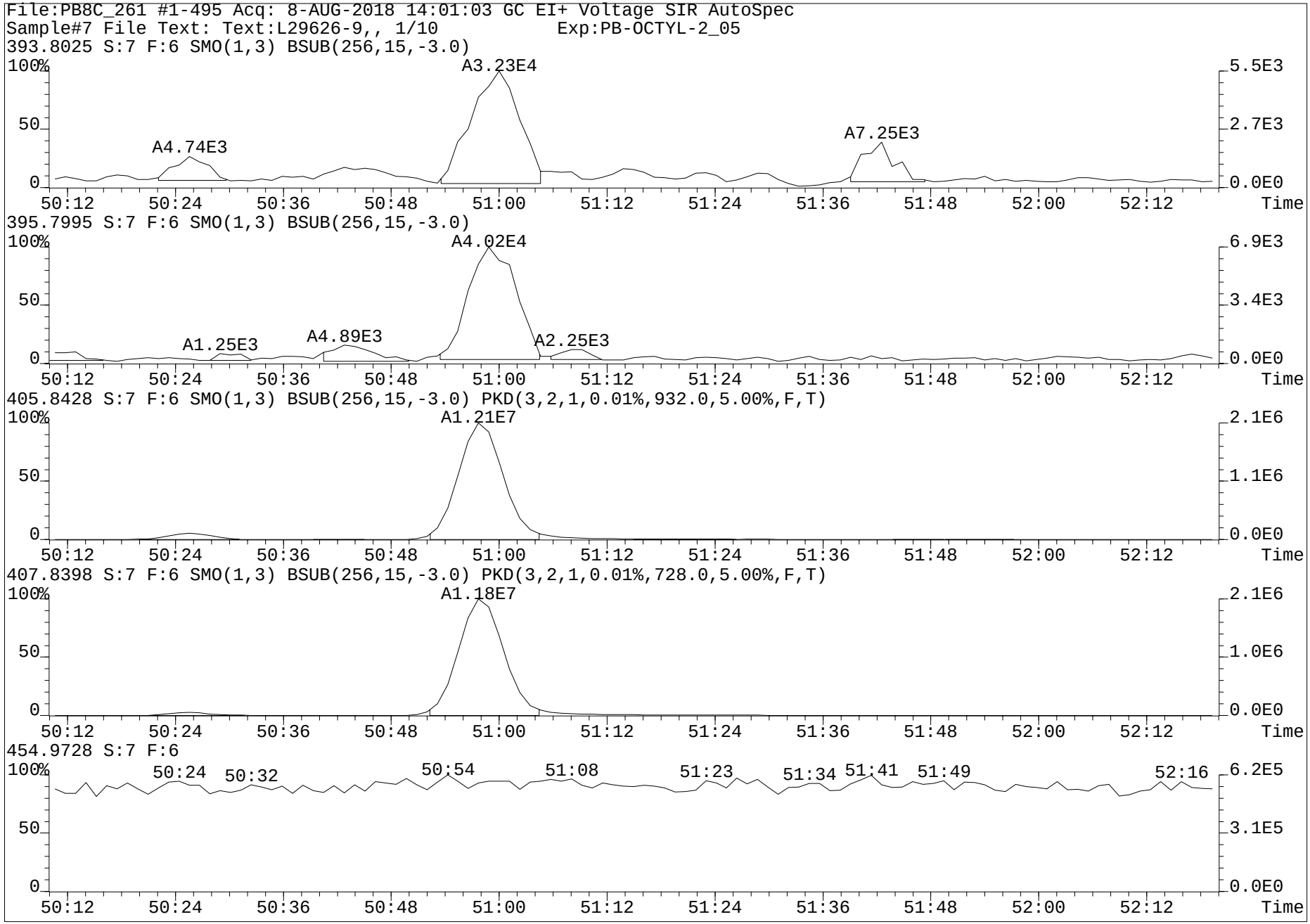

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A9.22E5
A2.22E5
A7.26E5
A2.67E6
A9.19E5
A1.54E6
A3.43E5
A2.51E6
A5.17E5
A2.32E5
395.7995 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A8.82E5
A2.22E5
A7.44E5
A2.59E6
A9.29E5
A1.45E6
A2.96E5
A2.36E6
A5.01E5
A2.08E5
405.8425 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,344.0,5.00%,F,T)
A1.23E7
A8.57E6
A9.21E6
A7.30E6
407.8398 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A1.15E7
A8.10E6
A8.67E6
A7.11E6
354.9792 S:7 F:5
37:37 38:19 38:56 39:54 41:00 42:01 43:07 44:13 44:55 46:12 46:57 47:56 48:34
100%
50
0
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
5.0E5
2.5E5
0.0E0
4.8E5
2.4E5
2.3E6
1.2E6
2.2E6
1.1E6
8.9E5
4.4E5

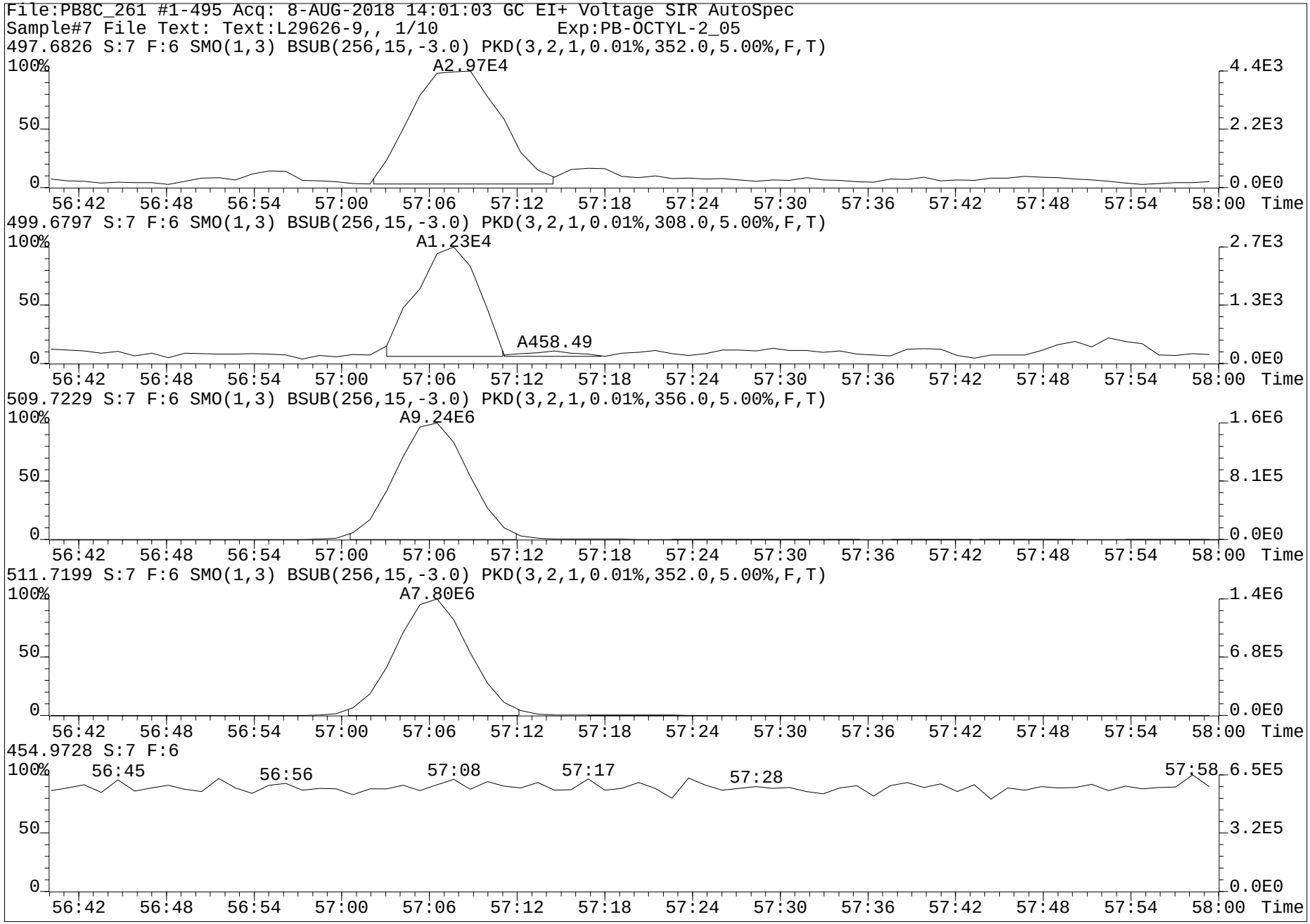

File:PB8C_261 #1-744 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.37E5
A1.63E5
A6.21E4
A4.88E5
A1.91E5
429.7606 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.74E5
A1.59E5
A7.79E4
A5.19E5
A2.05E5
A1.62E5
439.8038 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A1.18E7
441.8008 S:7 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A1.34E7
354.9792 S:7 F:5
43:38 44:00 44:33 44:55 45:21 45:48 46:12 46:36 46:57 47:30 48:06 48:34 49:19 49:40
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
8.3E4 4.2E4 0.0E0
9.1E4 4.6E4 0.0E0
2.1E6 1.1E6 0.0E0
2.5E6 1.2E6 0.0E0
8.8E5 4.4E5 0.0E0


File:PB8C_261 #1-495 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,364.0,5.00%,F,T)
A1.58E5
A7.20E4
A1.50E4
A2.84E4
429.7606 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A1.70E5
A7.90E4
A1.81E4
439.8038 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,700.0,5.00%,F,T)
A1.77E7
A9.93E6
441.8008 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A2.03E7
A1.14E7
454.9728 S:7 F:6
50:24
50:54
51:41
52:16
52:48
53:12
53:42
54:06
54:38
55:01
55:40
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
2.9E4
1.4E4
0.0E0
3.3E4
1.7E4
3.2E6
1.6E6
3.7E6
1.8E6
6.3E5
3.2E5


File:PB8C_261 #1-495 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
427.7635 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,364.0,5.00%,F,T)
A1.58E5
A7.20E4
A1.50E4
A2.84E4
429.7606 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A1.70E5
A7.90E4
A1.81E4
461.7245 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,512.0,5.00%,F,T)
A4.01E4
A2.81E4
A8.86E3
A5.96E3
A2.59E4
463.7216 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
A9.09E4
A6.32E4
A5.56E4
A1.11E4
A6.73E3
A7.25E3
A5.31E3
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
2.9E4
2.3E4
1.7E4
1.1E4
5.7E3
0.0E0
3.3E4
2.6E4
2.0E4
1.3E4
6.6E3
7.2E3
5.7E3
4.3E3
2.9E3
1.4E3
1.2E4
9.5E3
7.1E3
4.7E3
2.4E3


File:PB8C_261 #1-495 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
461.7245 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,512.0,5.00%,F,T)
A2.81E4
A8.86E3
A5.96E3
A2.59E4
A4.01E4
463.7216 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
A5.56E4
A1.11E4
A6.73E3
A9.09E4
A5.31E3
A6.32E4
473.7648 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A7.56E6
A6.43E6
475.7619 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A9.67E6
A8.34E6
454.9728 S:7 F:6
50:24
50:54
51:41
52:16
52:48
53:12
53:42
54:06
54:38
55:01
55:40
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
7.2E3
3.6E3
0.0E0
1.2E4
5.9E3
1.3E6
6.6E5
1.7E6
8.6E5
6.3E5
3.2E5


File:PB8C_261 #1-495 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
393.8025 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0)
A3.23E4
A4.74E3
A7.25E3
5.5E3
2.7E3
0.0E0
395.7995 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0)
A4.02E4
A1.25E3
A4.89E3
A2.25E3
6.9E3
3.4E3
0.0E0
405.8428 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,932.0,5.00%,F,T)
A1.21E7
2.1E6
1.1E6
0.0E0
407.8398 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,728.0,5.00%,F,T)
A1.18E7
2.1E6
1.0E6
0.0E0
454.9728 S:7 F:6
50:24
50:32
50:54
51:08
51:23
51:34
51:41
51:49
52:16
6.2E5
3.1E5
0.0E0
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time

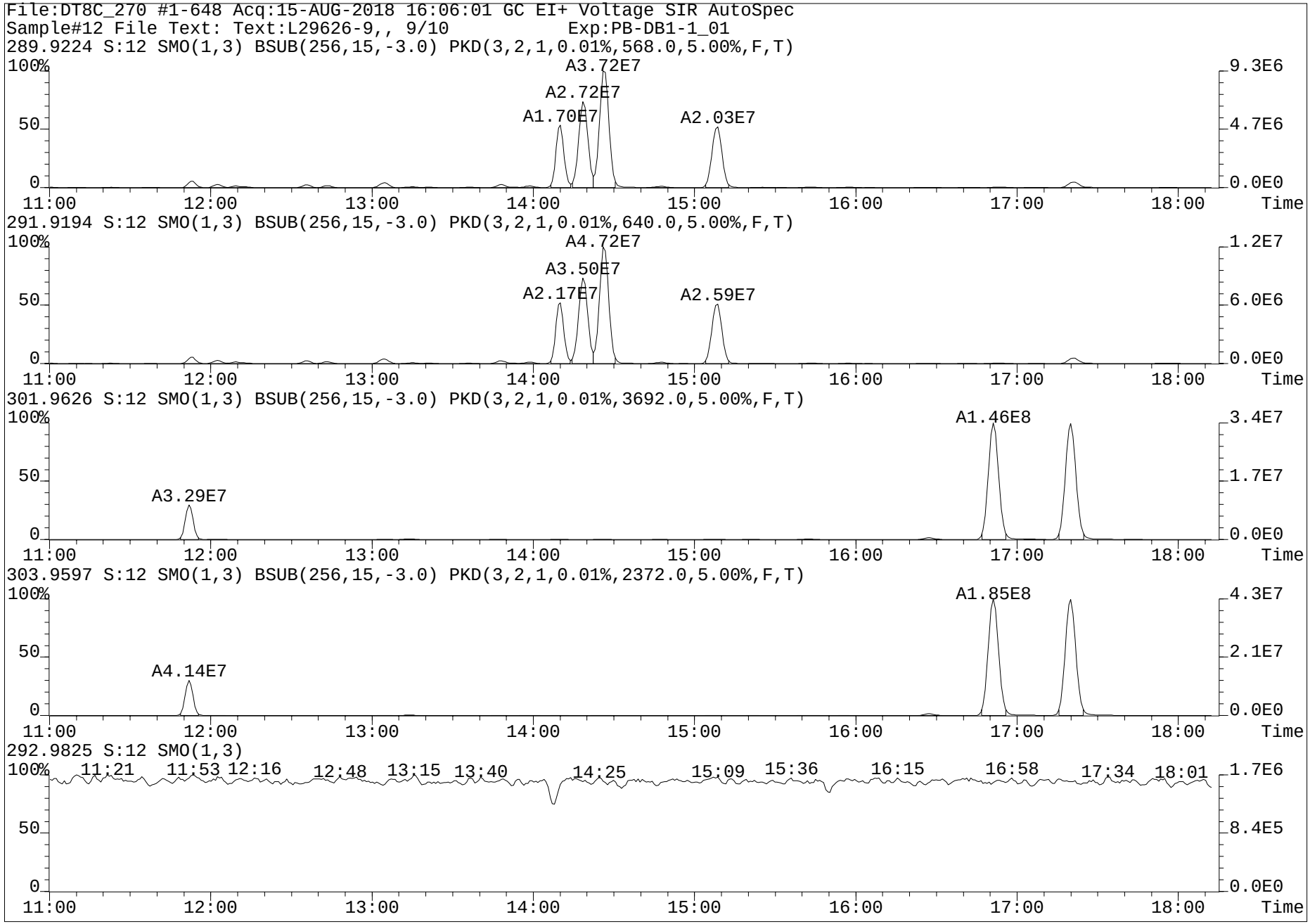

File:PB8C_261 #1-495 Acq: 8-AUG-2018 14:01:03 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:L29626-9,, 1/10 Exp:PB-OCTYL-2_05
497.6826 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A2.97E4
499.6797 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A1.23E4
A458.49
509.7229 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A9.24E6
511.7199 S:7 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A7.80E6
454.9728 S:7 F:6
56:45
56:56
57:08
57:17
57:28
57:58
100%
50
0
4.4E3
2.2E3
0.0E0
2.7E3
1.3E3
1.6E6
8.1E5
1.4E6
6.8E5
6.5E5
3.2E5
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

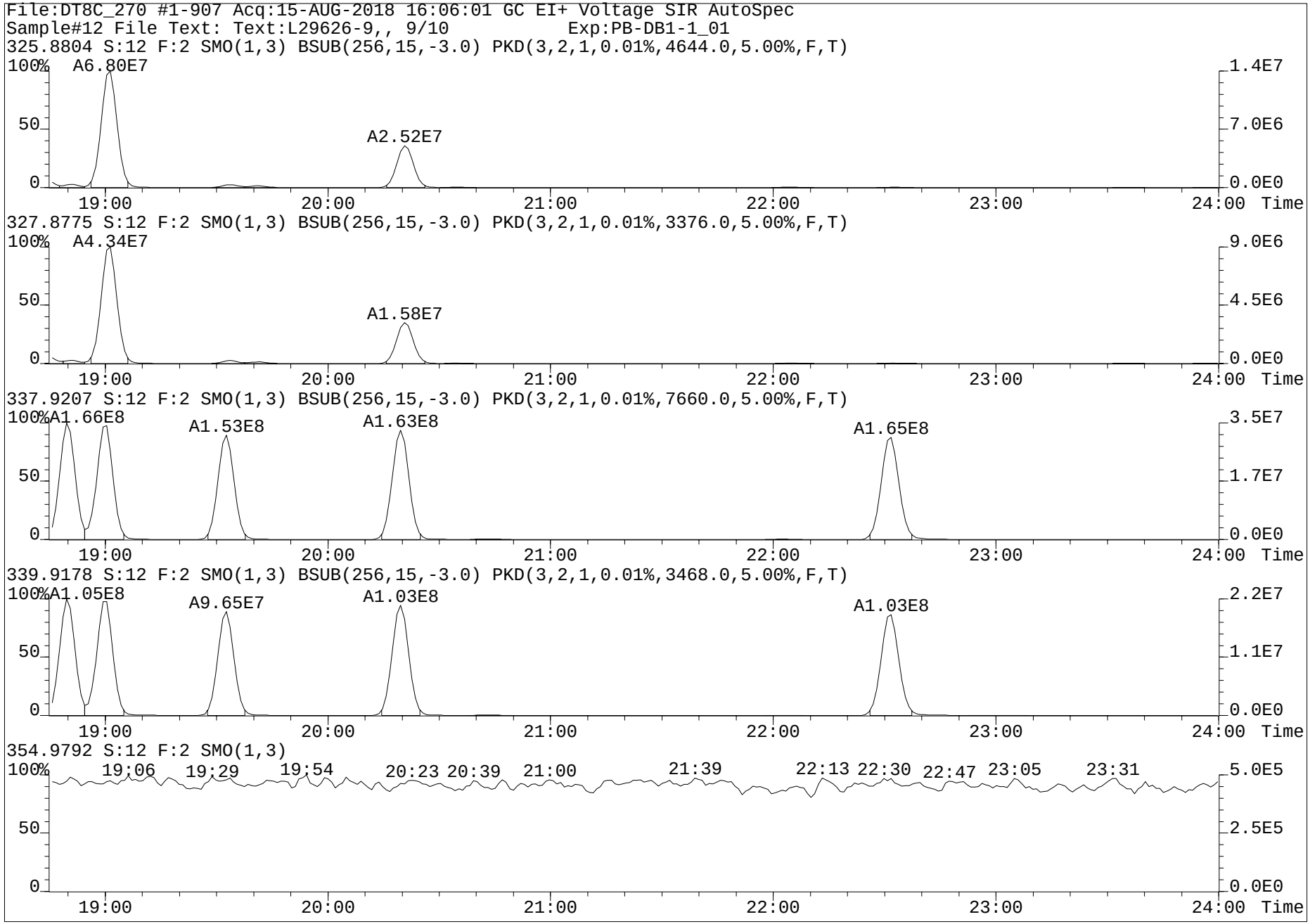
Run #18 Filename DT8C_270 S: 12 I: 1 Acquired: 15-AUG-18 16:06:01 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: L29626-9,, 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 4.810000 conc units: pg/g total toxicity: 2016.70 F1: 1.0000 F2: 5.0000

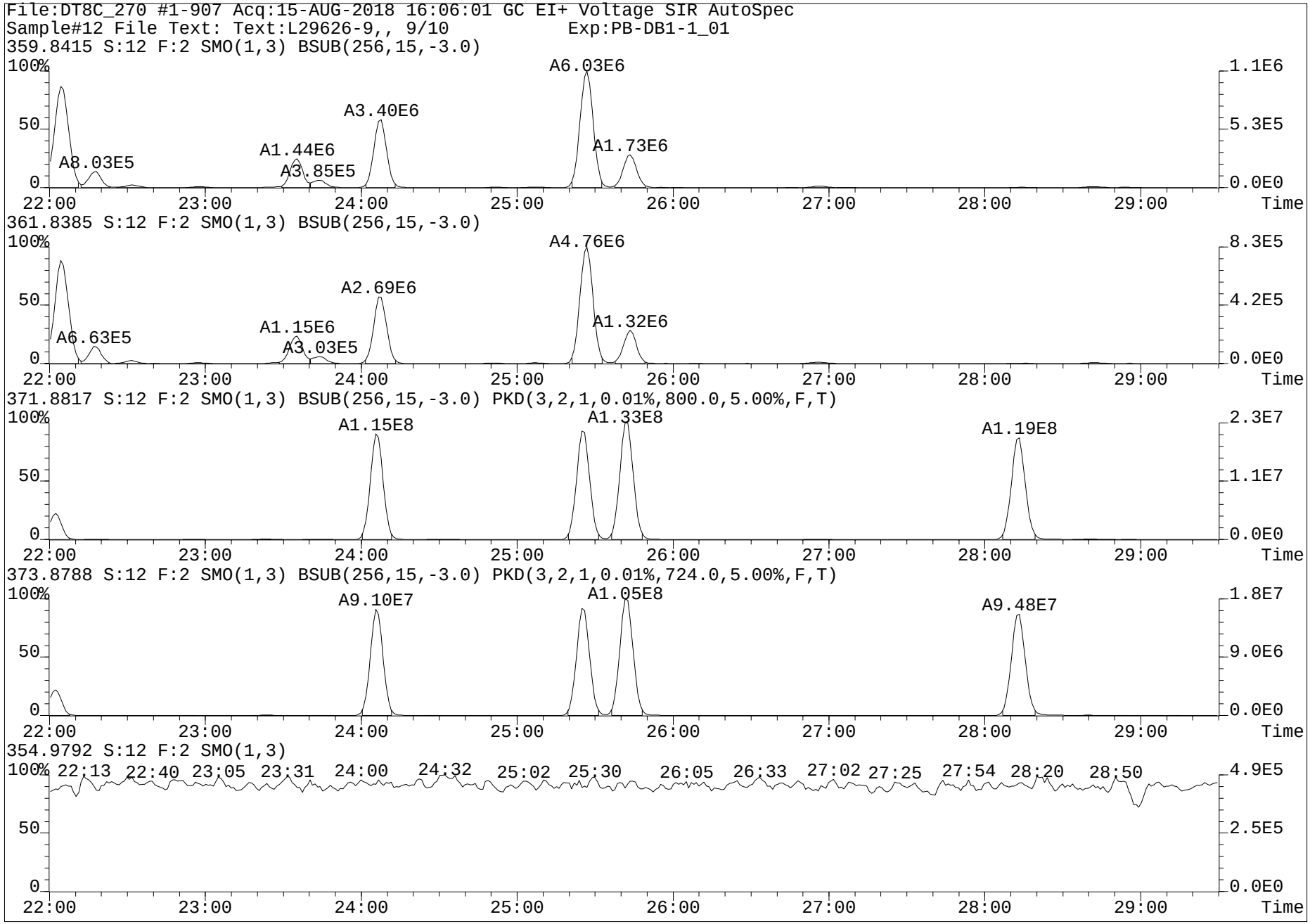
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.70e+05	0.71	y	16:53	2.228	2	0.0786	-	n
2	Unk	CL4-PCB-77	1	4.65e+06	0.81	y	17:21	27.134	27	0.0780	-	n
3	Unk	CL5-PCB-123	1	2.92e+06	1.72	y	18:51	21.836	22	0.7167	-	n
4	Unk	CL5-PCB-118	1	1.11e+08	1.57	y	19:01	781.747	782	0.7017	-	n
5	Unk	CL5-PCB-114	1	2.66e+06	1.50	y	19:34	19.479	19	0.7255	-	n
6	Unk	CL5-PCB-105	1	4.10e+07	1.59	y	20:21	307.312	307	0.7521	-	n
7	Unk	CL5-PCB-126	1	2.63e+05	1.43	y	22:33	1.921	2	0.7983	-	n
8	Unk	CL6-PCB-167	1	6.09e+06	1.26	y	24:07	53.303	53	0.1706	-	y
9	Unk	CL6-PCB-156	1	1.08e+07	1.27	y	25:26	91.309	91	0.1699	-	n
10	Unk	CL6-PCB-157	1	3.05e+06	1.31	y	25:43	24.093	24	0.1616	-	y
11	Unk	CL6-PCB-169	1	2.02e+04	1.36	y	28:13	0.182	0	0.1902	-	y
12	Unk	CL7-PCB-180	1	2.48e+06	1.01	y	26:56	518.710	519	2.7073	-	n
13	Unk	CL7-PCB-170	1	1.15e+06	0.97	y	28:42	161.535	162	1.8464	-	n
14	Unk	CL7-PCB-189	1	4.90e+05	1.11	y	31:02	5.915	6	0.1629	-	n
15	IS	13C-CL4-PCB-81	1	3.31e+08	0.79	y	16:51	7463.868	0	1.1045	359.0	n
16	IS	13C-CL4-PCB-77	1	3.38e+08	0.80	y	17:20	7731.604	0	1.1213	371.9	n
17	IS	13C-CL5-PCB-123	1	2.70e+08	1.58	y	18:50	6656.000	0	2.8593	320.2	n
18	IS	13C-CL5-PCB-118	1	2.75e+08	1.58	y	18:59	6586.189	0	2.7801	316.8	n
19	IS	13C-CL5-PCB-114	1	2.50e+08	1.59	y	19:33	6555.281	0	3.0457	315.3	n
20	IS	13C-CL5-PCB-105	1	2.66e+08	1.58	y	20:20	6907.577	0	3.0113	332.3	n
21	IS	13C-CL5-PCB-126	1	2.69e+08	1.60	y	22:32	7717.246	0	3.3330	371.2	n
22	IS	13C-CL6-PCB-167	1	2.06e+08	1.26	y	24:06	7515.710	0	0.7307	361.5	n
23	IS	13C-CL6-PCB-156	1	2.16e+08	1.28	y	25:25	7722.630	0	0.7175	371.5	n
24	IS	13C-CL6-PCB-157	1	2.38e+08	1.27	y	25:42	7650.921	0	0.6434	368.0	n
25	IS	13C-CL6-PCB-169	1	2.14e+08	1.26	y	28:13	8043.273	0	0.7524	386.9	n
26	IS	13C-CL7-PCB-180	1	1.04e+07	1.07	y	26:55	503.123	0	0.6430	24.2	n
27	IS	13C-CL7-PCB-170	1	1.60e+07	1.03	y	28:40	953.027	0	0.7878	45.8	n
28	IS	13C-CL7-PCB-189	1	1.73e+08	1.04	y	31:01	7864.407	0	0.6006	378.3	n
29	IS	13C-CL10-PCB-209	1	3.40e+06	1.11	y	34:37	133.772	0	0.4405	6.4	n
30	RS	13C-CL4-PCB-52	1	7.42e+07	0.79	y	11:52	38.630	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.60e+07	1.59	y	15:42	40.900	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	4.77e+07	1.27	y	22:02	38.617	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	6.12e+07	1.62	y	17:04	1836.986	0	0.4321	88.4	n
34	C/Up	13C-CL7-PCB-178	1	3.43e+06	1.04	y	22:55	169.804	0	0.6563	8.2	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

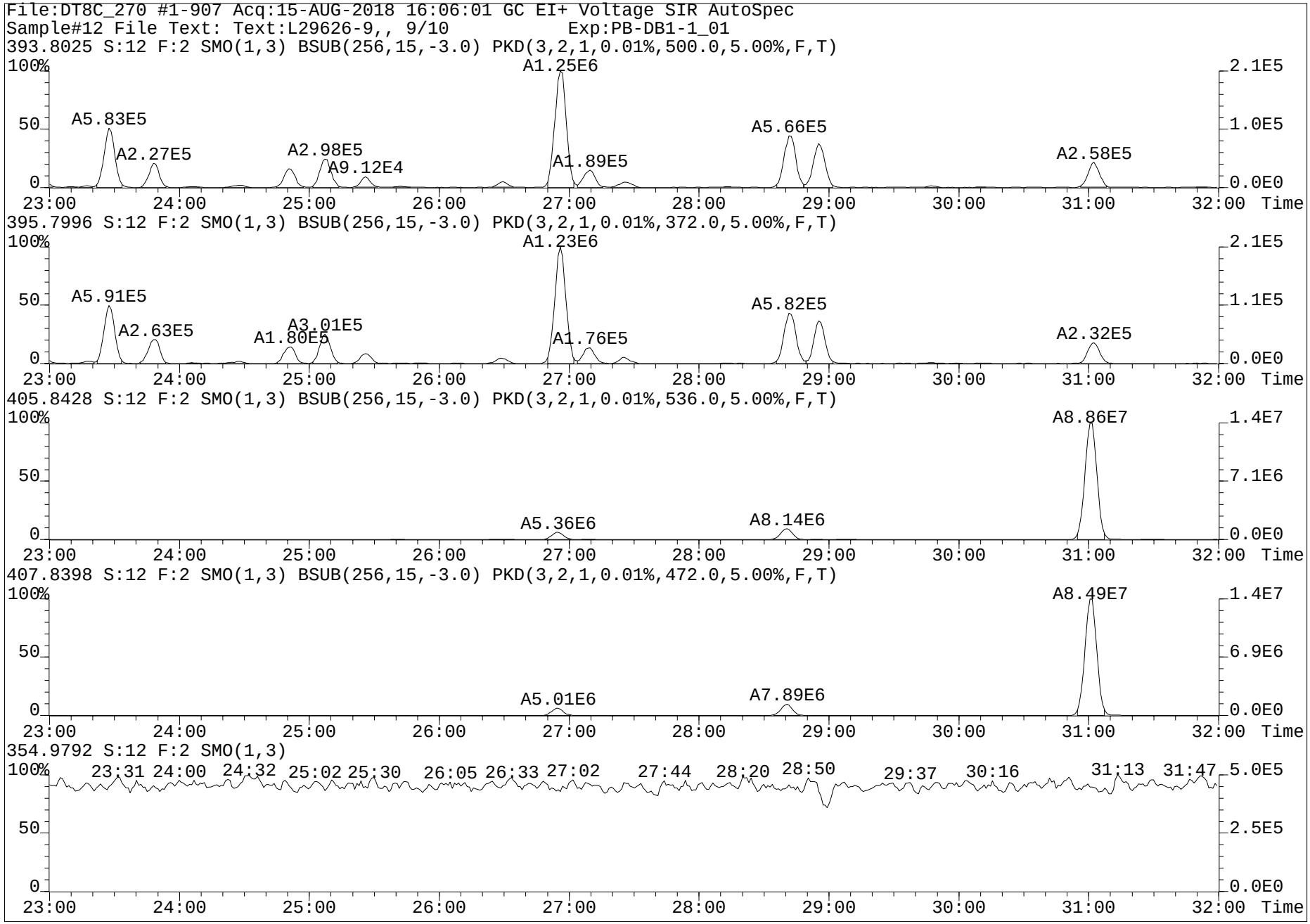
SV BW 17 Aug 2018

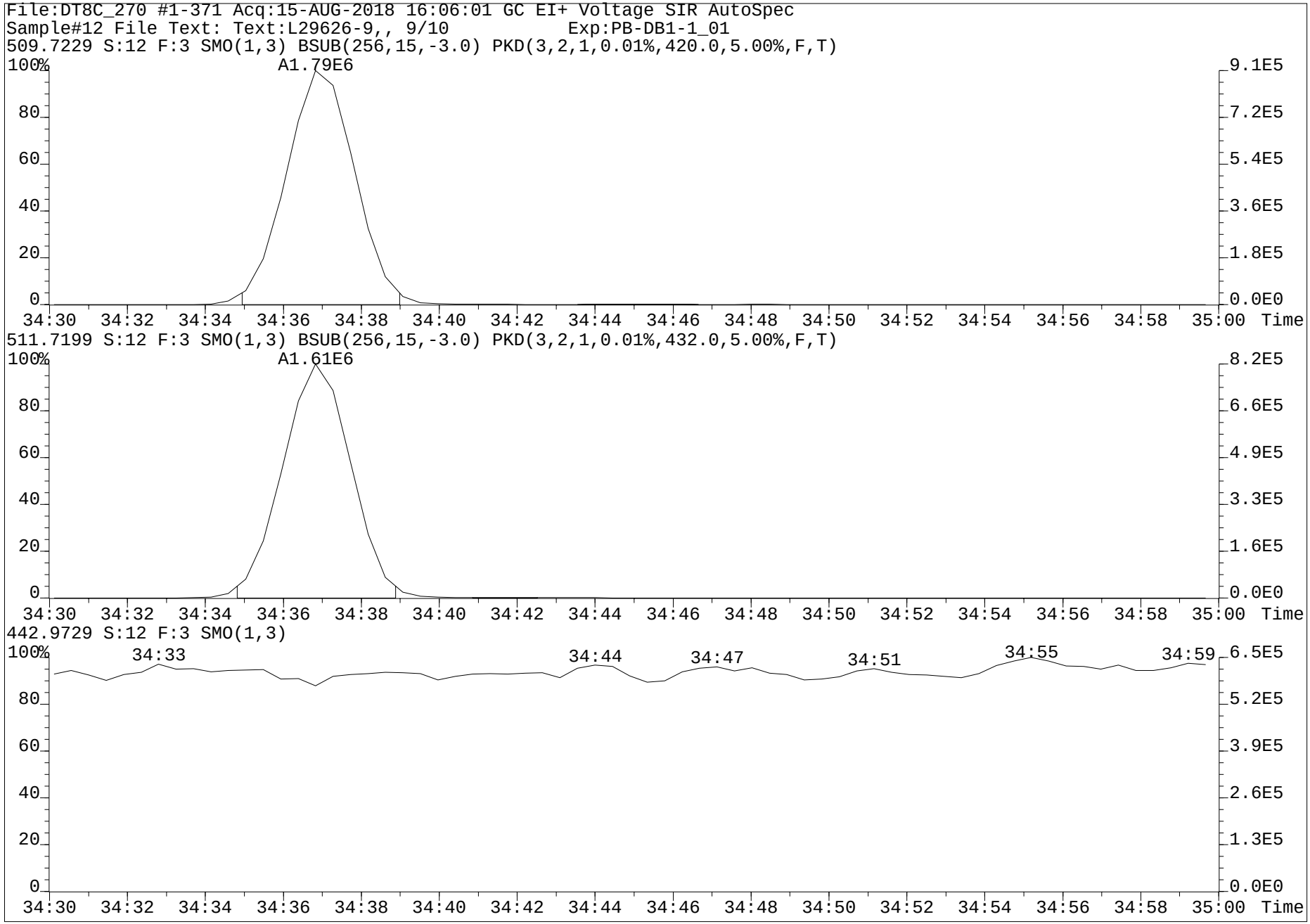
PV by RA 17AUG2018

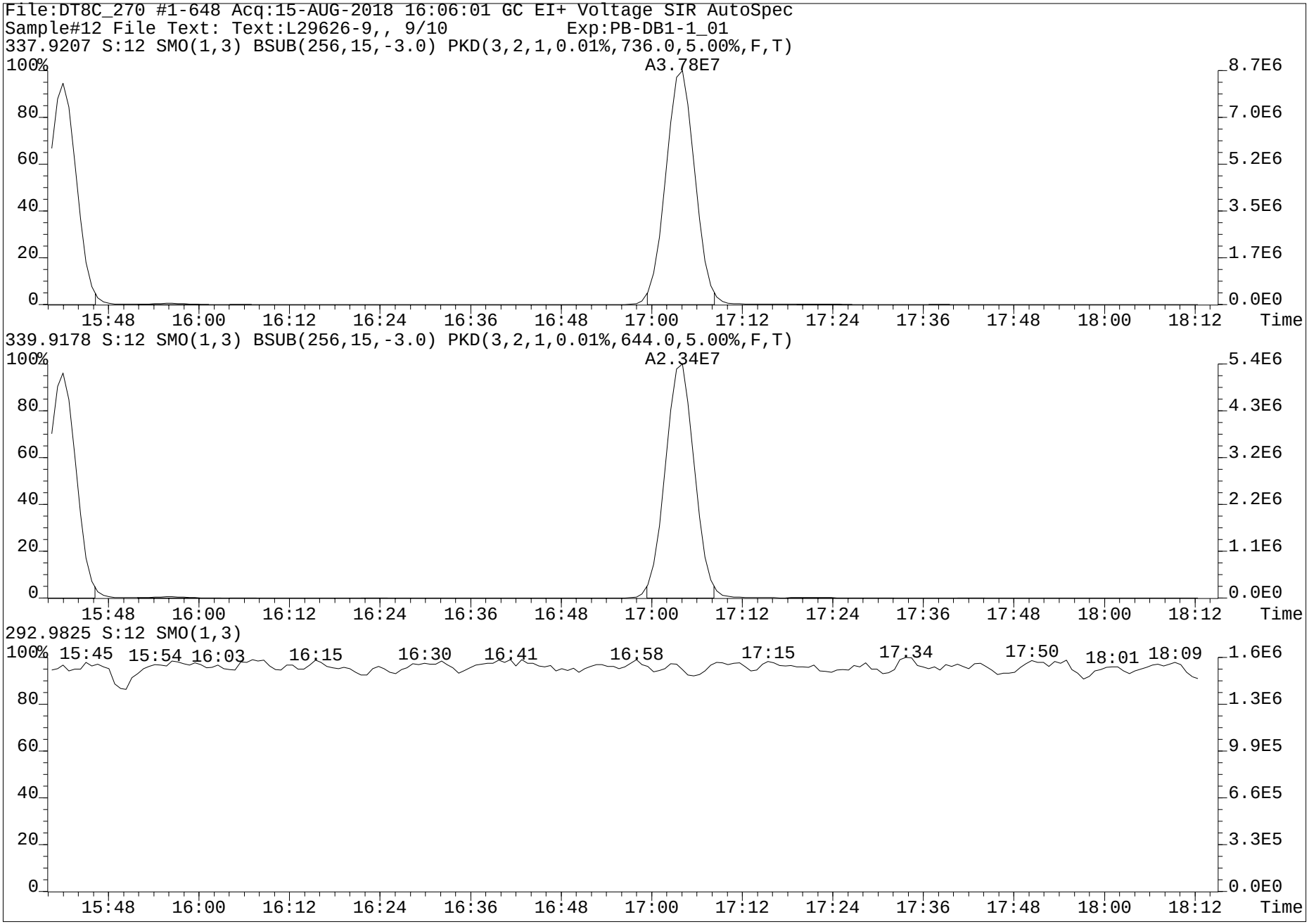

File:DT8C_270 #1-648 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
289.9224 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,568.0,5.00%,F,T)
A3.72E7
A2.72E7
A1.70E7
A2.03E7
291.9194 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
A4.72E7
A3.50E7
A2.17E7
A2.59E7
301.9626 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3692.0,5.00%,F,T)
A1.46E8
A3.29E7
303.9597 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2372.0,5.00%,F,T)
A1.85E8
A4.14E7
292.9825 S:12 SMO(1,3)
11:21 11:53 12:16 12:48 13:15 13:40 14:25 15:09 15:36 16:15 16:58 17:34 18:01
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
9.3E6 4.7E6 0.0E0
1.2E7 6.0E6 0.0E0
3.4E7 1.7E7 0.0E0
4.3E7 2.1E7 0.0E0
1.7E6 8.4E5 0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
325.8804 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4644.0,5.00%,F,T)
A6.80E7
A2.52E7
327.8775 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3376.0,5.00%,F,T)
A4.34E7
A1.58E7
337.9207 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7660.0,5.00%,F,T)
A1.66E8
A1.53E8
A1.63E8
A1.65E8
339.9178 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3468.0,5.00%,F,T)
A1.05E8
A9.65E7
A1.03E8
A1.03E8
354.9792 S:12 F:2 SMO(1,3)
19:06
19:29
19:54
20:23
20:39
21:00
21:39
22:13
22:30
22:47
23:05
23:31
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
1.4E7
7.0E6
0.0E0
9.0E6
4.5E6
3.5E7
1.7E7
2.2E7
1.1E7
5.0E5
2.5E5


File:DT8C_270 #1-907 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
359.8415 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0)
A8.03E5
A1.44E6
A3.85E5
A3.40E6
A6.03E6
A1.73E6
361.8385 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.63E5
A1.15E6
A3.03E5
A2.69E6
A4.76E6
A1.32E6
371.8817 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,800.0,5.00%,F,T)
A1.15E8
A1.33E8
A1.19E8
373.8788 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,724.0,5.00%,F,T)
A9.10E7
A1.05E8
A9.48E7
354.9792 S:12 F:2 SMO(1,3)
22:13 22:40 23:05 23:31 24:00 24:32 25:02 25:30 26:05 26:33 27:02 27:25 27:54 28:20 28:50
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
1.1E6 5.3E5 0.0E0
8.3E5 4.2E5 0.0E0
2.3E7 1.1E7 0.0E0
1.8E7 9.0E6 0.0E0
4.9E5 2.5E5 0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
393.8025 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,500.0,5.00%,F,T)
A5.83E5
A2.27E5
A2.98E5
A9.12E4
A1.25E6
A1.89E5
A5.66E5
A2.58E5
395.7996 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A5.91E5
A2.63E5
A1.80E5
A3.01E5
A1.23E6
A1.76E5
A5.82E5
A2.32E5
405.8428 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,536.0,5.00%,F,T)
A5.36E6
A8.14E6
A8.86E7
407.8398 S:12 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,472.0,5.00%,F,T)
A5.01E6
A7.89E6
A8.49E7
354.9792 S:12 F:2 SMO(1,3)
23:31 24:00 24:32 25:02 25:30 26:05 26:33 27:02 27:44 28:20 28:50 29:37 30:16 31:13 31:47
100%
50
0
2.1E5
1.0E5
0.0E0
1.1E5
1.4E7
7.1E6
6.9E6
5.0E5
2.5E5
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time


File:DT8C_270 #1-371 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
509.7229 S:12 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A1.79E6
511.7199 S:12 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A1.61E6
442.9729 S:12 F:3 SMO(1,3)
34:33
34:44
34:47
34:51
34:55
34:59
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 16:06:01 GC EI+ Voltage SIR AutoSpec
Sample#12 File Text: Text:L29626-9,, 9/10 Exp:PB-DB1-1_01
337.9207 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,736.0,5.00%,F,T)
A3.78E7
339.9178 S:12 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,644.0,5.00%,F,T)
A2.34E7
292.9825 S:12 SMO(1,3)
15:45 15:54 16:03 16:15 16:30 16:41 16:58 17:15 17:34 17:50 18:01 18:09
Time

Run #11 Filename PB8C_260 S: 4 I: 1 Acquired: 7-AUG-18 22:56:44 Processed: 8-AUG-18 07:42:31
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-101,,BLK 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.000000 conc units: pg/g total toxicity: 8.99 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	2.04e+04	5.13	n	11:30	1.029	1	0.5003	-	n
2	Unk	CL1-PCB-3	1	2.02e+04	6.89	n	13:42	1.045	1	0.6468	-	n
3	Unk	CL2-PCB-4	0	*	*	n	NotFnd	*	*	4.0804	-	n
4	Unk	CL2-PCB-15	0	*	*	n	NotFnd	*	*	4.1021	-	n
5	Unk	CL3-PCB-19	0	*	*	n	NotFnd	*	*	1.0560	-	n
6	Unk	CL3-PCB-37	1	1.48e+04	1.64	n	27:19	1.016	1	1.5117	-	y
7	Unk	CL4-PCB-54	0	*	*	n	NotFnd	*	*	0.8441	-	n
8	Unk	CL4-PCB-81	0	*	*	n	NotFnd	*	*	1.1612	-	n
9	Unk	CL4-PCB-77	1	1.44e+04	1.47	n	34:57	1.050	1	1.1865	-	n
10	Unk	CL5-PCB-104	0	*	*	n	NotFnd	*	*	0.8446	-	n
11	Unk	CL5-PCB-123	0	*	*	n	NotFnd	*	*	1.3057	-	n
12	Unk	CL5-PCB-118	1	1.95e+04	1.58	y	37:22	1.619	2	1.2272	-	n
13	Unk	CL5-PCB-114	0	*	*	n	NotFnd	*	*	1.2613	-	n
14	Unk	CL5-PCB-105	0	*	*	n	NotFnd	*	*	1.0166	-	n
15	Unk	CL5-PCB-126	0	*	*	n	NotFnd	*	*	1.4083	-	n
16	Unk	CL6-PCB-155	0	*	*	n	NotFnd	*	*	0.8217	-	n
17	Unk	CL6-PCB-167	1	8.18e+03	0.68	n	43:43	0.698	1	1.0539	-	y
18	Unk	CL6-PCB-156/157	1	1.03e+04	0.96	n	44:56	0.861	1	1.3531	-	y
19	Unk	CL6-PCB-169	0	*	*	n	NotFnd	*	*	1.0827	-	n
20	Unk	CL7-PCB-188	0	*	*	n	NotFnd	*	*	0.9998	-	n
21	Unk	CL7-PCB-189	0	*	*	n	NotFnd	*	*	1.2151	-	n
22	Unk	CL8-PCB-202	1	3.00e+03	1.68	n	43:25	0.349	0	1.0093	-	y
23	Unk	CL8-PCB-205	0	*	*	n	NotFnd	*	*	1.2041	-	n
24	Unk	CL9-PCB-208	0	*	*	n	NotFnd	*	*	1.4667	-	n
25	Unk	CL9-PCB-206	0	*	*	n	NotFnd	*	*	1.6786	-	n
26	Unk	CL10-PCB-209	1	1.21e+04	1.19	y	57:09	1.321	1	0.9773	-	n
27	IS	13C-CL1-PCB-1	1	3.69e+07	3.17	y	11:28	484.040	0	3.5155	24.2	n
28	IS	13C-CL1-PCB-3	1	3.58e+07	3.17	y	13:42	492.190	0	3.6899	24.6	n
29	IS	13C-CL2-PCB-4	1	2.46e+07	1.58	y	13:56	532.450	0	1.8522	26.6	n
30	IS	13C-CL2-PCB-15	1	3.59e+07	1.56	y	20:01	497.983	0	1.1879	24.9	n
31	IS	13C-CL3-PCB-19	1	2.22e+07	1.04	y	17:06	585.066	0	6.1334	29.3	n
32	IS	13C-CL3-PCB-37	1	2.91e+07	1.01	y	27:18	582.495	0	8.1973	29.1	n
33	REF	13C-CL4-CHECK	1	2.67e+07	0.79	y	20:16	611.202	0	1.8459	30.6	n
34	IS	13C-CL4-PCB-81	1	2.62e+07	0.76	y	34:20	685.399	0	2.2987	34.3	n
35	IS	13C-CL4-PCB-77	1	2.66e+07	0.75	y	34:56	686.104	0	2.2623	34.3	n
36	IS	13C-CL5-PCB-104	1	2.24e+07	1.59	y	25:57	608.573	0	0.2486	30.4	n
37	IS	13C-CL5-PCB-123	1	2.34e+07	1.57	y	36:59	672.347	0	2.2378	33.6	n
38	IS	13C-CL5-PCB-118	1	2.31e+07	1.56	y	37:20	678.054	0	2.2831	33.9	n
39	IS	13C-CL5-PCB-114	1	2.23e+07	1.56	y	37:53	659.618	0	2.3011	33.0	n
40	IS	13C-CL5-PCB-105	1	2.82e+07	1.58	y	38:34	804.883	0	2.2221	40.2	n
41	IS	13C-CL5-PCB-126	1	2.10e+07	1.58	y	41:49	671.315	0	2.4884	33.6	n
42	IS	13C-CL6-PCB-155	1	2.26e+07	1.28	y	31:51	553.116	0	0.2260	27.7	n
43	IS	13C-CL6-PCB-167	1	2.11e+07	1.31	y	43:44	667.454	0	0.3227	33.4	n
44	IS	13C-CL6-PCB-156/157	1	4.33e+07	1.25	y	44:57	1315.607	0	0.3094	32.9	n

SV Bu
15 Aug 2018

PV by RA 09AUG2018

www.axysanalytical.com

45	IS	13C-CL6-PCB-169	1	2.19e+07	1.26	y	48:22	670.898	0	0.3115	33.5	n
46	REF	13C-CL7-CHECK	1	2.10e+07	1.04	y	37:49	513.884	0	0.2957	25.7	n
47	IS	13C-CL7-PCB-189	1	2.10e+07	1.03	y	50:59	639.170	0	1.1312	32.0	n
48	IS	13C-CL8-PCB-202	1	1.97e+07	0.87	y	43:26	507.833	0	0.2536	25.4	n
49	IS	13C-CL8-PCB-205	1	2.11e+07	0.93	y	53:39	647.570	0	0.4932	32.4	n
50	IS	13C-CL9-PCB-208	1	1.74e+07	0.74	y	50:26	594.369	0	0.3708	29.7	n
51	IS	13C-CL9-PCB-206	1	1.47e+07	0.85	y	55:27	616.932	0	0.4555	30.8	n
52	IS	13C-CL10-PCB-209	1	1.72e+07	1.18	y	57:07	575.755	0	0.3398	28.8	n
53	RS	13C-CL2-PCB-9	1	1.35e+08	1.57	y	15:57	14.687	0	-	-	n
54	RS	13C-CL4-PCB-52	1	5.91e+07	0.78	y	25:00	12.859	0	-	-	n
55	RS	13C-CL5-PCB-101	1	4.99e+07	1.63	y	32:07	12.839	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	4.92e+07	1.25	y	40:34	13.836	0	-	-	n
57	RS	13C-CL8-PCB-194	1	4.34e+07	0.87	y	53:10	15.391	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.08e+07	1.03	y	23:07	613.215	0	8.1476	30.7	n
59	C/Up	13C-CL5-PCB-111	1	2.19e+07	1.62	y	34:56	656.394	0	0.4006	32.8	n
60	C/Up	13C-CL7-PCB-178	1	1.51e+07	1.03	y	41:02	645.198	0	0.5054	32.3	n
61	IS	13C-CL4-PCB-54	1	2.67e+07	0.79	y	20:16	611.202	0	1.8459	30.6	n
62	IS	13C-CL7-PCB-188	1	2.10e+07	1.04	y	37:49	513.884	0	0.2957	25.7	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #3 Filename PB8C_260 S: 4 I: 1 Acquired: 7-AUG-18 22:56:44 Processed: 8-AUG-18 07:48:21
Run: pb8c_260-ac Analyte: 1668xb-s8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-101,,BLK 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.000000 conc units: pg/g total toxicity: 25.30 F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	0	*	*	n	NotFnd	*	*	0.6038	-	n
2	Unk	CL2-PCB-10	0	*	*	n	NotFnd	*	*	3.1490	-	n
3	Unk	CL2-PCB-9	0	*	*	n	NotFnd	*	*	3.1443	-	n
4	Unk	CL2-PCB-7	0	*	*	n	NotFnd	*	*	3.1153	-	n
5	Unk	CL2-PCB-6	0	*	*	n	NotFnd	*	*	3.0733	-	n
6	Unk	CL2-PCB-5	0	*	*	n	NotFnd	*	*	3.5343	-	n
7	Unk	CL2-PCB-8	0	*	*	n	NotFnd	*	*	2.7959	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	3.2231	-	n
9	Unk	CL2-PCB-11	1	8.27e+04	1.08	n	19:23	4.766	5	3.3636	-	y
10	Unk	CL2-PCB-12/13	0	*	*	n	NotFnd	*	*	3.3292	-	n
11	Unk	CL3-PCB-30/18	1	1.31e+04	0.31	n	19:01	0.878	1	0.9755	-	y
12	Unk	CL3-PCB-17	0	*	*	n	NotFnd	*	*	1.1344	-	n
13	Unk	CL3-PCB-27	0	*	*	n	NotFnd	*	*	0.8037	-	n
14	Unk	CL3-PCB-24	0	*	*	n	NotFnd	*	*	0.8779	-	n
15	Unk	CL3-PCB-16	0	*	*	n	NotFnd	*	*	1.2741	-	n
16	Unk	CL3-PCB-32	0	*	*	n	NotFnd	*	*	1.1616	-	n
17	Unk	CL3-PCB-34	0	*	*	n	NotFnd	*	*	1.2497	-	n
18	Unk	CL3-PCB-23	0	*	*	n	NotFnd	*	*	1.2331	-	n
19	Unk	CL3-PCB-26/29	0	*	*	n	NotFnd	*	*	1.2082	-	n
20	Unk	CL3-PCB-25	0	*	*	n	NotFnd	*	*	1.0198	-	n
21	Unk	CL3-PCB-31	1	1.42e+04	0.95	y	22:50	0.823	1	1.1189	-	y
22	Unk	CL3-PCB-28/20	1	3.52e+04	0.82	n	23:07	2.176	2	1.1966	-	n
23	Unk	CL3-PCB-21/33	1	9.88e+03	1.37	n	23:23	0.577	1	1.1317	-	y
24	Unk	CL3-PCB-22	0	*	*	n	NotFnd	*	*	1.3370	-	n
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	1.1258	-	n
26	Unk	CL3-PCB-39	0	*	*	n	NotFnd	*	*	1.2119	-	n
27	Unk	CL3-PCB-38	0	*	*	n	NotFnd	*	*	1.2391	-	n
28	Unk	CL3-PCB-35	0	*	*	n	NotFnd	*	*	1.2156	-	n
29	Unk	CL4-PCB-50/53	0	*	*	n	NotFnd	*	*	1.2486	-	n
30	Unk	CL4-PCB-45/51	0	*	*	n	NotFnd	*	*	1.2804	-	n
31	Unk	CL4-PCB-46	0	*	*	n	NotFnd	*	*	1.4419	-	n
32	Unk	CL4-PCB-52	1	1.81e+04	1.11	n	25:01	1.497	1	1.2135	-	y
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.9273	-	n
34	Unk	CL4-PCB-43	0	*	*	n	NotFnd	*	*	1.5762	-	n
35	Unk	CL4-PCB-69/49	1	7.86e+03	1.13	n	25:31	0.582	1	1.0877	-	y
36	Unk	CL4-PCB-48	0	*	*	n	NotFnd	*	*	1.2898	-	n
37	Unk	CL4-PCB-44/47/65	1	2.16e+04	0.41	n	26:04	1.725	2	1.1717	-	y
38	Unk	CL4-PCB-59/62/75	0	*	*	n	NotFnd	*	*	0.9672	-	n
39	Unk	CL4-PCB-42	0	*	*	n	NotFnd	*	*	1.2863	-	n
40	Unk	CL4-PCB-41/40/71	0	*	*	n	NotFnd	*	*	1.2938	-	n
41	Unk	CL4-PCB-64	1	8.68e+03	0.83	y	27:20	0.546	1	0.9253	-	y
42	Unk	CL4-PCB-72	0	*	*	n	NotFnd	*	*	0.9912	-	n
43	Unk	CL4-PCB-68	0	*	*	n	NotFnd	*	*	0.9888	-	n
44	Unk	CL4-PCB-57	0	*	*	n	NotFnd	*	*	1.0284	-	n

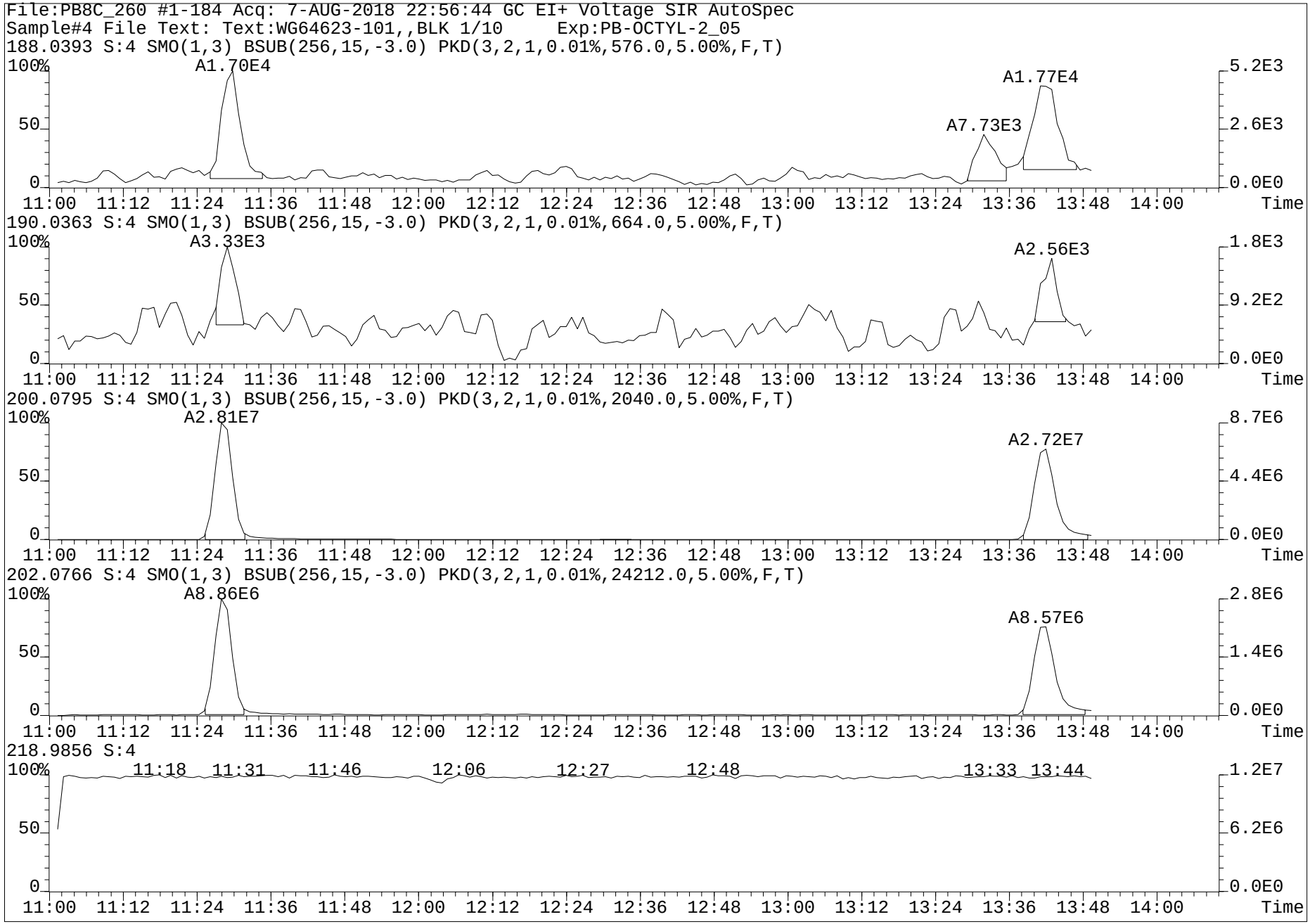
www.axysanalytical.com

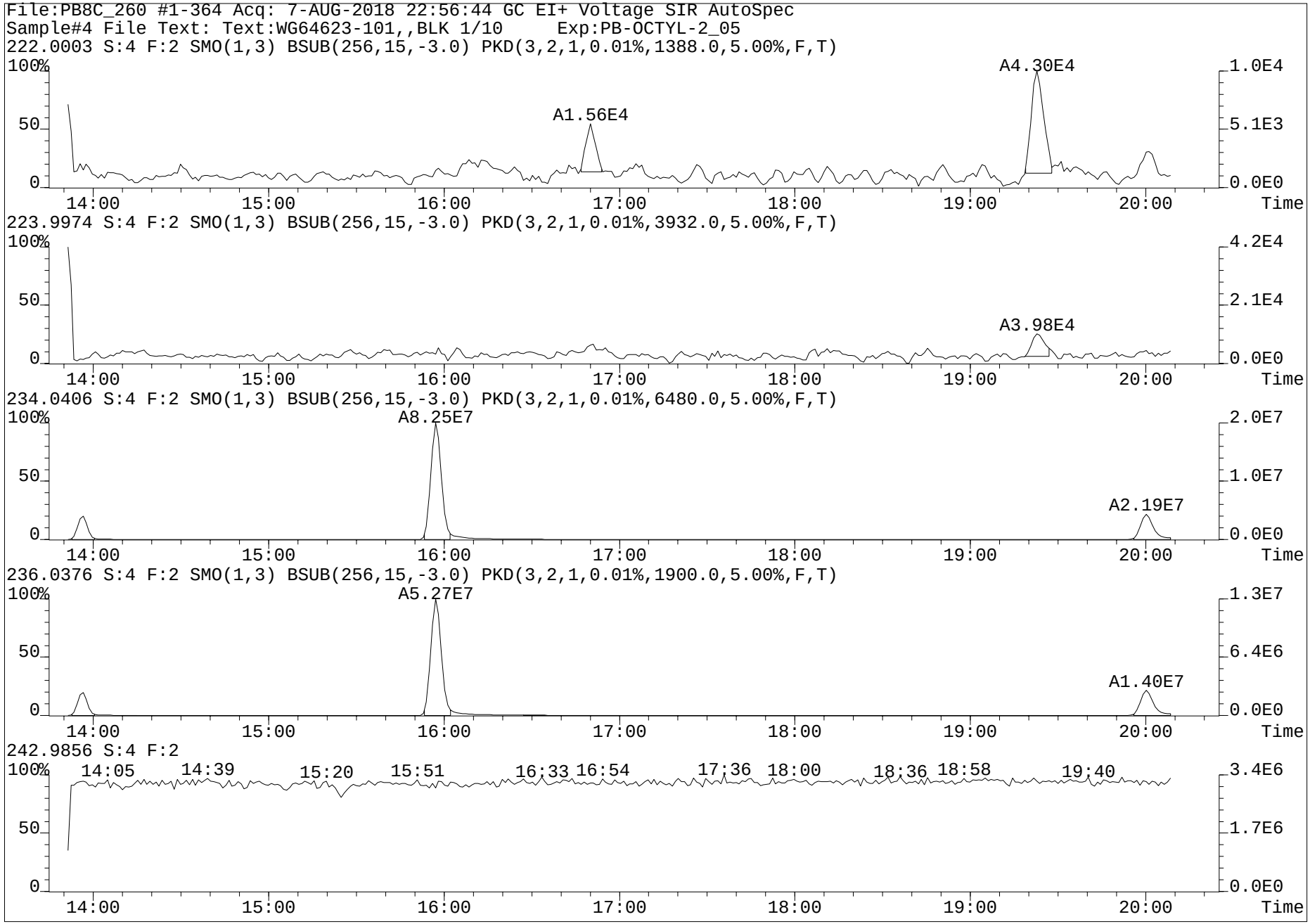
45	Unk	CL4-PCB-58	0	*	*	n	NotFnd	*	*	1.0522	-	n
46	Unk	CL4-PCB-67	0	*	*	n	NotFnd	*	*	0.8818	-	n
47	Unk	CL4-PCB-63	0	*	*	n	NotFnd	*	*	1.0102	-	n
48	Unk	CL4-PCB-61/70/74/76	1	2.64e+04	0.86	y	30:01	1.854	2	1.0197	-	y
49	Unk	CL4-PCB-66	1	1.23e+04	0.92	n	30:20	0.926	1	1.0947	-	y
50	Unk	CL4-PCB-55	0	*	*	n	NotFnd	*	*	1.2134	-	n
51	Unk	CL4-PCB-56	1	4.76e+03	0.29	n	31:03	0.367	0	1.1215	-	n
52	Unk	CL4-PCB-60	0	*	*	n	NotFnd	*	*	1.1065	-	n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	0.9905	-	n
54	Unk	CL4-PCB-79	0	*	*	n	NotFnd	*	*	0.9049	-	n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	1.0668	-	n
56	Unk	CL5-PCB-96	0	*	*	n	NotFnd	*	*	0.8704	-	n
57	Unk	CL5-PCB-103	0	*	*	n	NotFnd	*	*	1.2770	-	n
58	Unk	CL5-PCB-94	0	*	*	n	NotFnd	*	*	1.5623	-	n
59	Unk	L5-PCB-95/100/93/102/98	0	*	*	n	NotFnd	*	*	1.3995	-	n
60	Unk	CL5-PCB-88/91	0	*	*	n	NotFnd	*	*	1.4538	-	n
61	Unk	CL5-PCB-84	0	*	*	n	NotFnd	*	*	1.6609	-	n
62	Unk	CL5-PCB-89	0	*	*	n	NotFnd	*	*	1.5761	-	n
63	Unk	CL5-PCB-121	0	*	*	n	NotFnd	*	*	1.1340	-	n
64	Unk	CL5-PCB-92	0	*	*	n	NotFnd	*	*	1.4873	-	n
65	Unk	CL5-PCB-113/90/101	1	1.27e+04	1.46	y	32:08	1.155	1	1.2916	-	n
66	Unk	CL5-PCB-83/99	0	*	*	n	NotFnd	*	*	1.5296	-	n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	1.0658	-	n
68	Unk	CB-109/119/86/97/125/87	1	7.32e+03	1.32	y	33:15	0.662	1	1.2884	-	y
69	Unk	CL5-PCB-117/116/85	0	*	*	n	NotFnd	*	*	1.2691	-	n
70	Unk	CL5-PCB-110/115	1	1.75e+04	1.40	y	34:12	1.379	1	1.1240	-	n
71	Unk	CL5-PCB-82	0	*	*	n	NotFnd	*	*	1.7039	-	n
72	Unk	CL5-PCB-111	0	*	*	n	NotFnd	*	*	1.1858	-	n
73	Unk	CL5-PCB-120	0	*	*	n	NotFnd	*	*	1.1347	-	n
74	Unk	CL5-PCB-108/124	0	*	*	n	NotFnd	*	*	1.1747	-	n
75	Unk	CL5-PCB-107	0	*	*	n	NotFnd	*	*	1.1427	-	n
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	1.1766	-	n
77	Unk	CL5-PCB-122	0	*	*	n	NotFnd	*	*	1.2997	-	n
78	Unk	CL5-PCB-127	0	*	*	n	NotFnd	*	*	1.2038	-	n
79	Unk	CL6-PCB-152	1	2.35e+03	0.50	n	32:04	0.186	0	0.9131	-	n
80	Unk	CL6-PCB-150	0	*	*	n	NotFnd	*	*	0.9602	-	n
81	Unk	CL6-PCB-136	0	*	*	n	NotFnd	*	*	0.9487	-	n
82	Unk	CL6-PCB-145	0	*	*	n	NotFnd	*	*	1.0033	-	n
83	Unk	CL6-PCB-148	0	*	*	n	NotFnd	*	*	1.3472	-	n
84	Unk	CL6-PCB-151/135/154	0	*	*	n	NotFnd	*	*	1.3114	-	n
85	Unk	CL6-PCB-144	0	*	*	n	NotFnd	*	*	1.3305	-	n
86	Unk	CL6-PCB-147/149	1	1.11e+04	2.21	n	36:06	1.170	1	1.3560	-	y
87	Unk	CL6-PCB-134/143	0	*	*	n	NotFnd	*	*	1.4854	-	n
88	Unk	CL6-PCB-139/140	0	*	*	n	NotFnd	*	*	1.3744	-	n
89	Unk	CL6-PCB-131	0	*	*	n	NotFnd	*	*	1.5441	-	n
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	1.5256	-	n
91	Unk	CL6-PCB-132	0	*	*	n	NotFnd	*	*	1.6232	-	n
92	Unk	CL6-PCB-133	0	*	*	n	NotFnd	*	*	1.5424	-	n
93	Unk	CL6-PCB-165	0	*	*	n	NotFnd	*	*	1.2452	-	n
94	Unk	CL6-PCB-146	0	*	*	n	NotFnd	*	*	1.2842	-	n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	1.0745	-	n
96	Unk	CL6-PCB-153/168	0	*	*	n	NotFnd	*	*	1.1769	-	n
97	Unk	CL6-PCB-141	0	*	*	n	NotFnd	*	*	1.4163	-	n

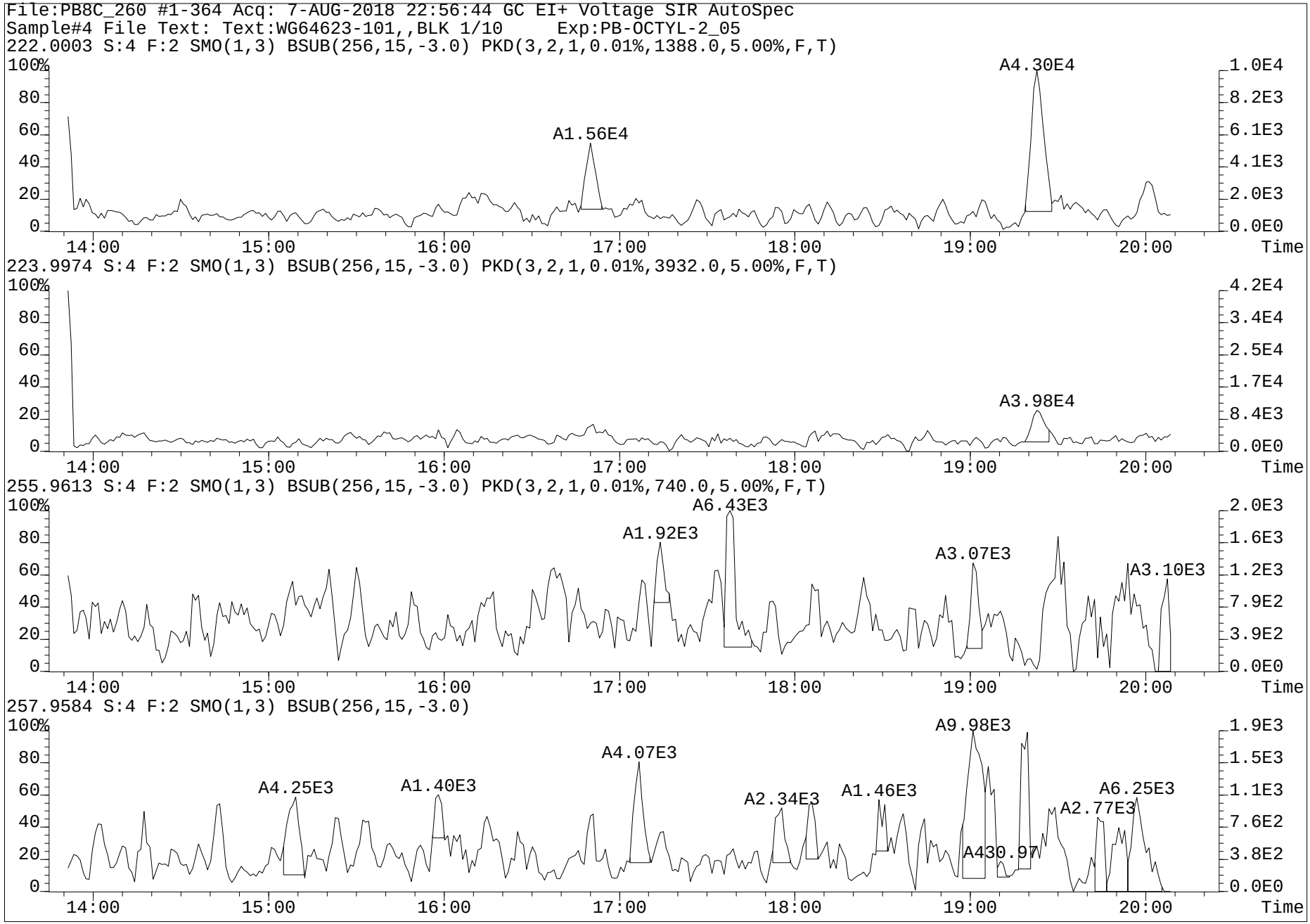
98	Unk	CL6-PCB-130	0	*	*	n	NotFnd	*	*	1.6524	-	n
99	Unk	CL6-PCB-137	0	*	*	n	NotFnd	*	*	1.5875	-	n
100	Unk	CL6-PCB-164	0	*	*	n	NotFnd	*	*	1.0835	-	n
101	Unk	CL6-PCB-138/163/129/160	1	2.15e+04	0.65	n	40:37	2.145	2	1.2891	-	n
102	Unk	CL6-PCB-158	0	*	*	n	NotFnd	*	*	1.0057	-	n
103	Unk	CL6-PCB-128/166	0	*	*	n	NotFnd	*	*	1.2824	-	n
104	Unk	CL6-PCB-159	0	*	*	n	NotFnd	*	*	1.0868	-	n
105	Unk	CL6-PCB-162	0	*	*	n	NotFnd	*	*	1.0308	-	n
106	Unk	CL7-PCB-179	0	*	*	n	NotFnd	*	*	0.9949	-	n
107	Unk	CL7-PCB-184	0	*	*	n	NotFnd	*	*	0.9782	-	n
108	Unk	CL7-PCB-176	0	*	*	n	NotFnd	*	*	1.0145	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	1.0795	-	n
110	Unk	CL7-PCB-178	0	*	*	n	NotFnd	*	*	1.3526	-	n
111	Unk	CL7-PCB-175	0	*	*	n	NotFnd	*	*	1.3176	-	n
112	Unk	CL7-PCB-187	0	*	*	n	NotFnd	*	*	1.1884	-	n
113	Unk	CL7-PCB-182	0	*	*	n	NotFnd	*	*	1.2655	-	n
114	Unk	CL7-PCB-183/185	0	*	*	n	NotFnd	*	*	1.2670	-	n
115	Unk	CL7-PCB-174	0	*	*	n	NotFnd	*	*	1.3103	-	n
116	Unk	CL7-PCB-177	0	*	*	n	NotFnd	*	*	1.0779	-	n
117	Unk	CL7-PCB-181	0	*	*	n	NotFnd	*	*	1.2748	-	n
118	Unk	CL7-PCB-171/173	0	*	*	n	NotFnd	*	*	1.3516	-	n
119	Unk	CL7-PCB-172	0	*	*	n	NotFnd	*	*	1.3984	-	n
120	Unk	CL7-PCB-192	0	*	*	n	NotFnd	*	*	1.1415	-	n
121	Unk	CL7-PCB-180/193	0	*	*	n	NotFnd	*	*	1.2889	-	n
122	Unk	CL7-PCB-191	0	*	*	n	NotFnd	*	*	1.0249	-	n
123	Unk	CL7-PCB-170	1	1.15e+04	0.74	n	47:43	1.482	1	1.3883	-	y
124	Unk	CL7-PCB-190	0	*	*	n	NotFnd	*	*	1.0420	-	n
125	Unk	CL8-PCB-201	0	*	*	n	NotFnd	*	*	0.8602	-	n
126	Unk	CL8-PCB-204	0	*	*	n	NotFnd	*	*	0.8784	-	n
127	Unk	CL8-PCB-197/200	1	4.19e+03	0.90	y	45:25	0.404	0	0.8528	-	n
128	Unk	CL8-PCB-198/199	0	*	*	n	NotFnd	*	*	1.2214	-	n
129	Unk	CL8-PCB-196	0	*	*	n	NotFnd	*	*	1.1829	-	n
130	Unk	CL8-PCB-203	0	*	*	n	NotFnd	*	*	1.1146	-	n
131	Unk	CL8-PCB-195	0	*	*	n	NotFnd	*	*	1.6054	-	n
132	Unk	CL8-PCB-194	0	*	*	n	NotFnd	*	*	1.4924	-	n
133	Unk	CL9-PCB-207	0	*	*	n	NotFnd	*	*	1.2530	-	n
134	IS	13C-CL1-PCB-1	1	3.69e+07	3.17	y	11:28	530.968	0	3.8563	26.5	n
135	IS	13C-CL1-PCB-3	1	3.58e+07	3.17	y	13:42	575.361	0	4.3135	28.8	n
136	IS	13C-CL2-PCB-4	1	2.46e+07	1.58	y	13:56	573.867	0	1.9963	28.7	n
137	IS	13C-CL2-PCB-15	1	3.59e+07	1.56	y	20:01	566.805	0	1.3521	28.3	n
138	IS	13C-CL3-PCB-19	1	2.22e+07	1.04	y	17:06	576.145	0	6.0399	28.8	n
139	IS	13C-CL3-PCB-37	1	2.91e+07	1.01	y	27:18	704.802	0	9.9185	35.2	n
140	REF	13C-CL4-CHECK	1	2.67e+07	0.79	y	20:16	695.693	0	2.1011	34.8	n
141	IS	13C-CL4-PCB-81	1	2.62e+07	0.76	y	34:20	715.168	0	2.3985	35.8	n
142	IS	13C-CL4-PCB-77	1	2.66e+07	0.75	y	34:56	736.847	0	2.4296	36.8	n
143	IS	13C-CL5-PCB-104	1	2.24e+07	1.59	y	25:57	676.867	0	0.2765	33.8	n
144	IS	13C-CL5-PCB-123	1	2.34e+07	1.57	y	36:59	705.415	0	2.3479	35.3	n
145	IS	13C-CL5-PCB-118	1	2.31e+07	1.56	y	37:20	709.549	0	2.3892	35.5	n
146	IS	13C-CL5-PCB-114	1	2.23e+07	1.56	y	37:53	718.183	0	2.5054	35.9	n
147	IS	13C-CL5-PCB-105	1	2.82e+07	1.58	y	38:34	901.340	0	2.4884	45.1	n
148	IS	13C-CL5-PCB-126	1	2.10e+07	1.58	y	41:49	771.026	0	2.8580	38.6	n

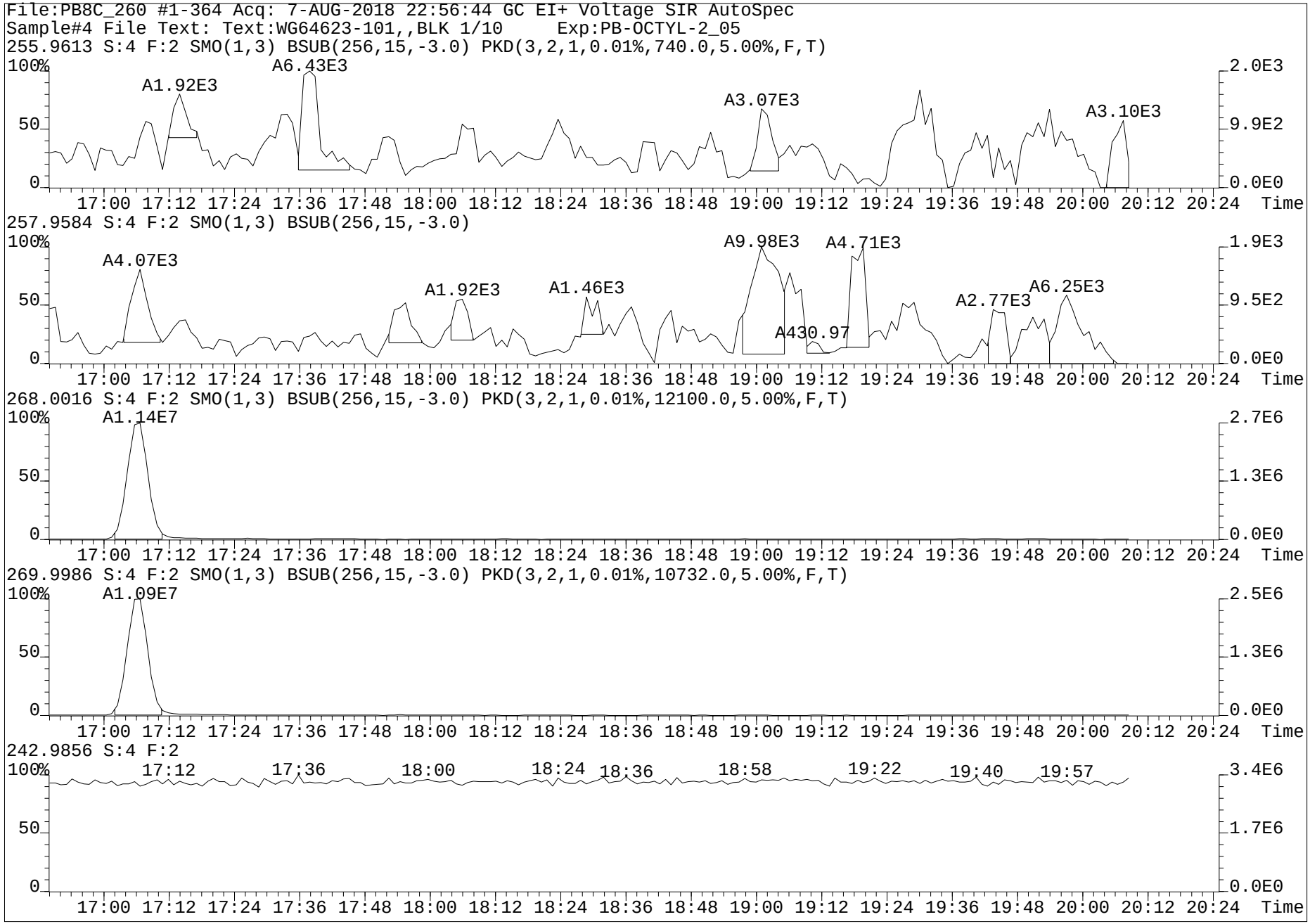
www.axysanalytical.com

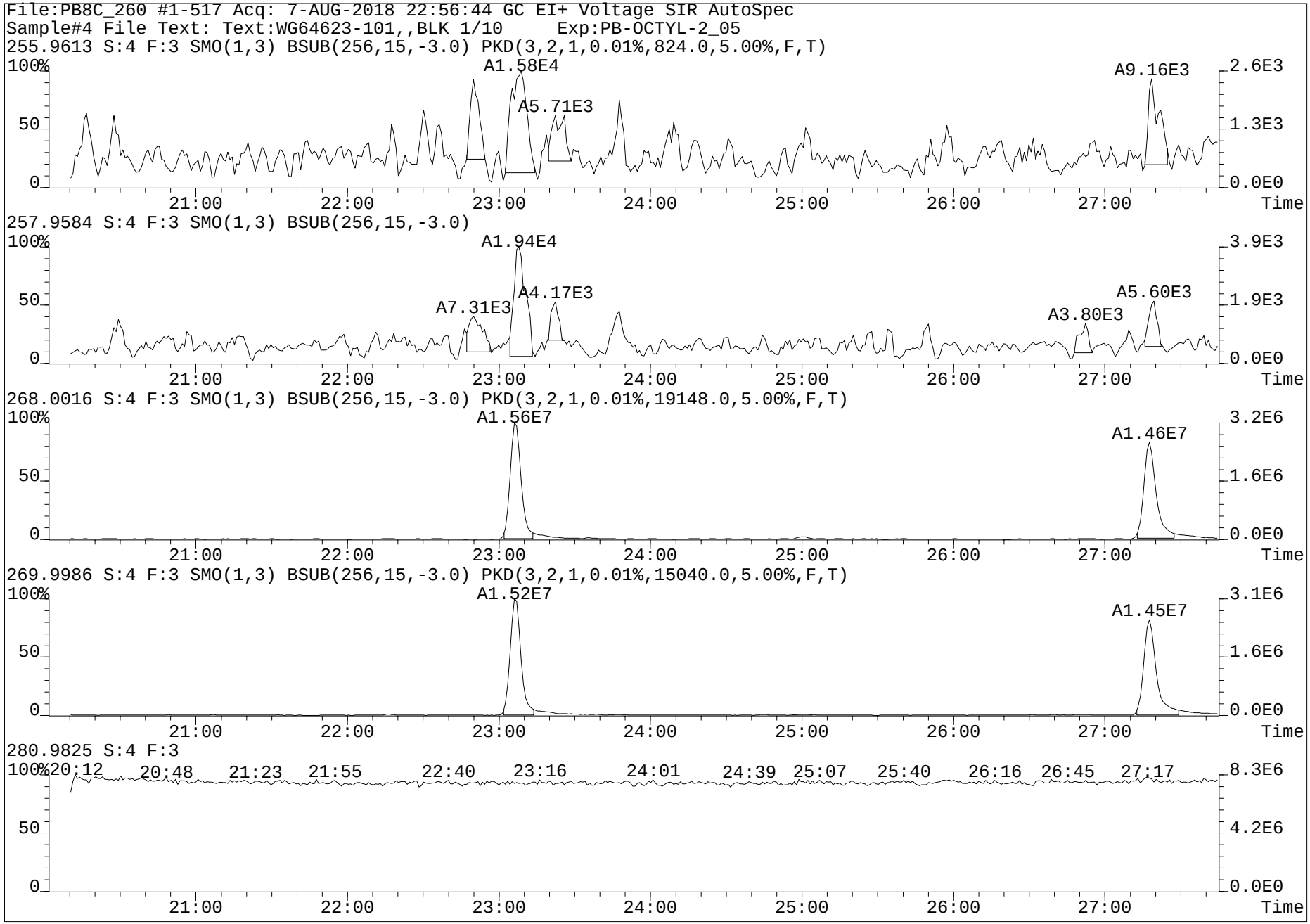
149	IS	13C-CL6-PCB-155	1	2.26e+07	1.28	y	31:51	617.617	0	0.2523	30.9	n
150	IS	13C-CL6-PCB-167	1	2.11e+07	1.31	y	43:44	692.830	0	0.3350	34.6	n
151	IS	13C-CL6-PCB-156/157	1	4.33e+07	1.25	y	44:57	1395.765	0	0.3282	34.9	n
152	IS	13C-CL6-PCB-169	1	2.19e+07	1.26	y	48:22	713.220	0	0.3312	35.7	n
153	IS	13C-CL7-PCB-188	1	2.10e+07	1.04	y	37:49	630.873	0	0.3630	31.5	n
154	IS	13C-CL7-PCB-180	1	1.64e+07	1.01	y	46:23	658.924	0	0.4854	32.9	n
155	IS	13C-CL7-PCB-170	1	1.40e+07	1.05	y	47:42	666.676	0	0.5784	33.3	n
156	IS	13C-CL8-PCB-202	1	1.97e+07	0.87	y	43:26	592.938	0	0.2961	29.6	n
157	IS	13C-CL8-PCB-205	1	2.11e+07	0.93	y	53:39	721.667	0	0.5496	36.1	n
158	IS	13C-CL9-PCB-208	1	1.74e+07	0.74	y	50:26	679.838	0	0.4242	34.0	n
159	IS	13C-CL9-PCB-206	1	1.47e+07	0.85	y	55:27	718.423	0	0.5304	35.9	n
160	RS/RT	13C-CL2-PCB-9	1	1.35e+08	1.57	y	15:57	16.917	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	5.91e+07	0.78	y	25:00	12.795	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	4.99e+07	1.63	y	32:07	12.984	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	4.92e+07	1.25	y	40:34	14.473	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	4.34e+07	0.87	y	53:10	15.551	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.08e+07	1.03	y	23:07	672.307	0	8.9327	33.6	n
166	C/Up	13C-CL5-PCB-111	1	2.19e+07	1.62	y	34:56	762.470	0	0.4653	38.1	n
167	C/UP	13C-CL7-PCB-178	1	1.51e+07	1.03	y	41:02	705.395	0	0.5526	35.3	n
168	IS	13C-CL4-PCB-54	1	2.67e+07	0.79	y	20:16	695.693	0	2.1011	34.8	n
169	Unk	CL7-PCB-189	0	*	*	n	NotFnd	*	*	1.2894	-	n
170	IS	13C-CL7-PCB-189	1	2.10e+07	1.03	y	50:59	707.216	0	1.2516	35.4	n
171	Unk	CL10-PCB-209	1	1.21e+04	1.19	y	57:09	1.341	0	0.9923	-	n
172	IS	13C-CL10-PCB-209	1	1.72e+07	1.18	y	57:07	737.165	0	0.4350	36.9	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

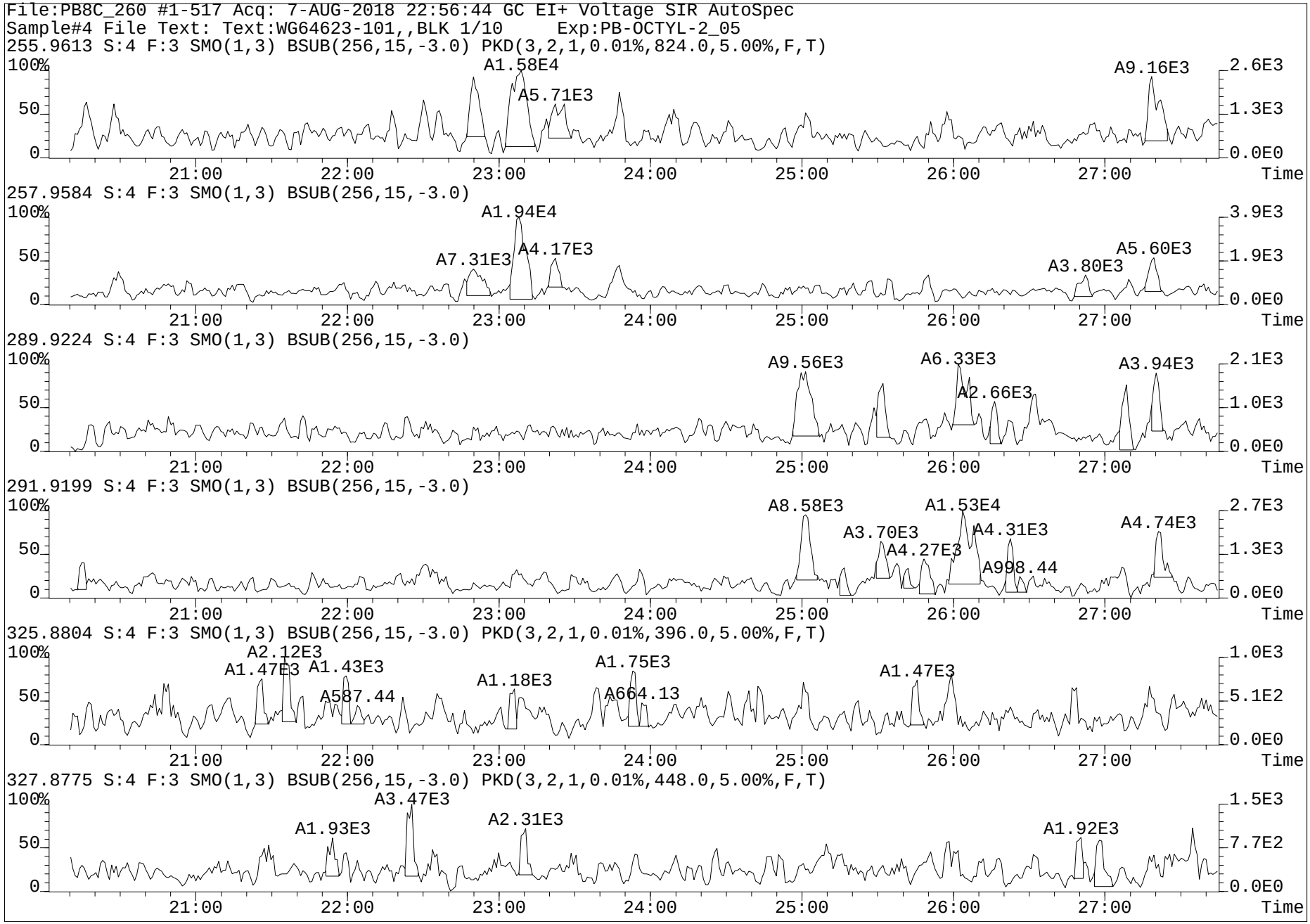

File:PB8C_260 #1-184 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
188.0393 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,576.0,5.00%,F,T)
A1.70E4
A1.77E4
A7.73E3
190.0363 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A3.33E3
A2.56E3
200.0795 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2040.0,5.00%,F,T)
A2.81E7
A2.72E7
202.0766 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,24212.0,5.00%,F,T)
A8.86E6
A8.57E6
218.9856 S:4
11:18 11:31 11:46 12:06 12:27 12:48 13:33 13:44
100%
50
0
5.2E3
2.6E3
0.0E0
1.8E3
9.2E2
8.7E6
4.4E6
2.8E6
1.4E6
1.2E7
6.2E6
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

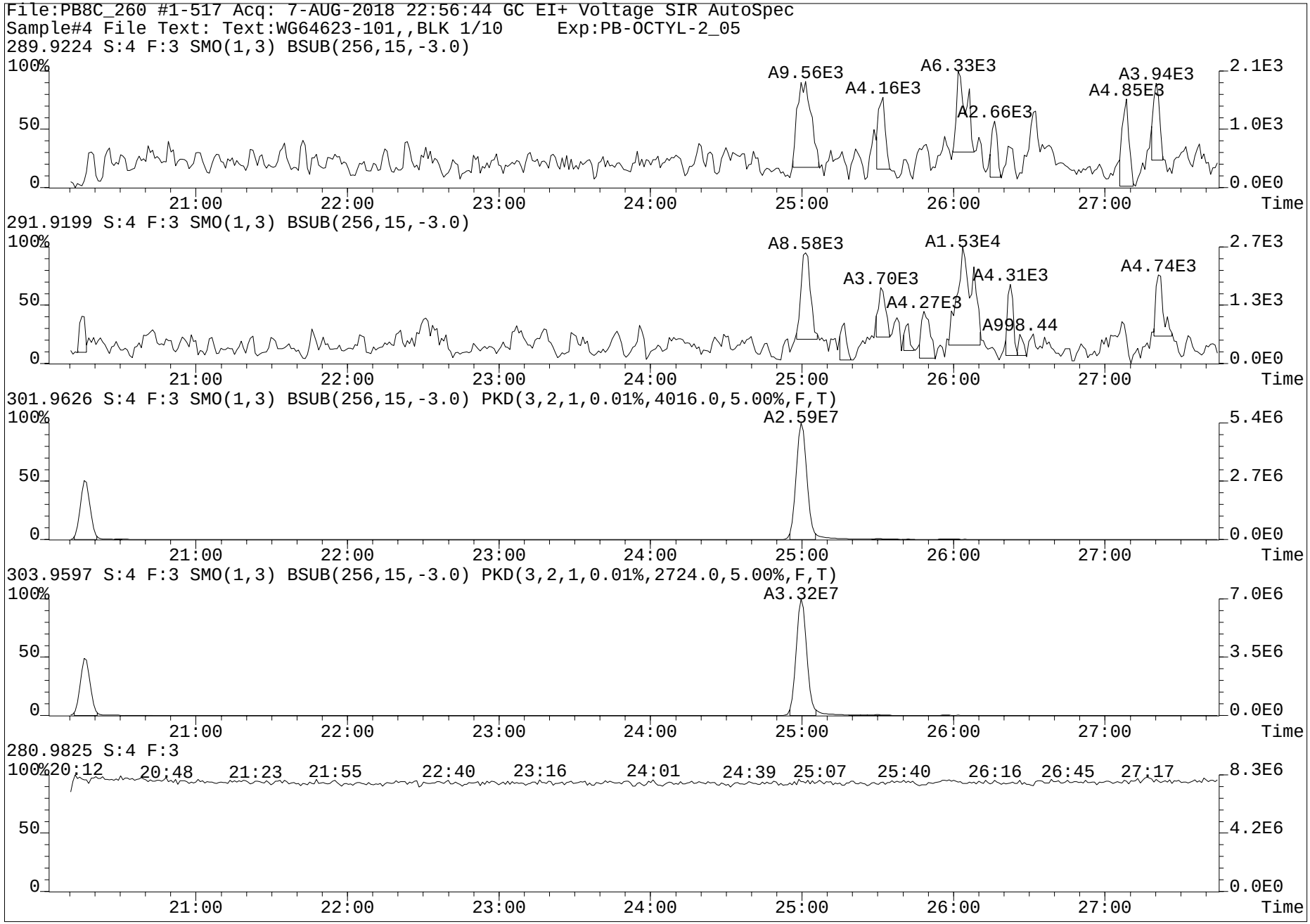

File:PB8C_260 #1-364 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
222.0003 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A1.56E4
A4.30E4
223.9974 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3932.0,5.00%,F,T)
A3.98E4
234.0406 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6480.0,5.00%,F,T)
A8.25E7
A2.19E7
236.0376 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1900.0,5.00%,F,T)
A5.27E7
A1.40E7
242.9856 S:4 F:2
14:05
14:39
15:20
15:51
16:33
16:54
17:36
18:00
18:36
18:58
19:40
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
1.0E4
5.1E3
0.0E0
4.2E4
2.1E4
2.0E7
1.0E7
1.3E7
6.4E6
3.4E6
1.7E6

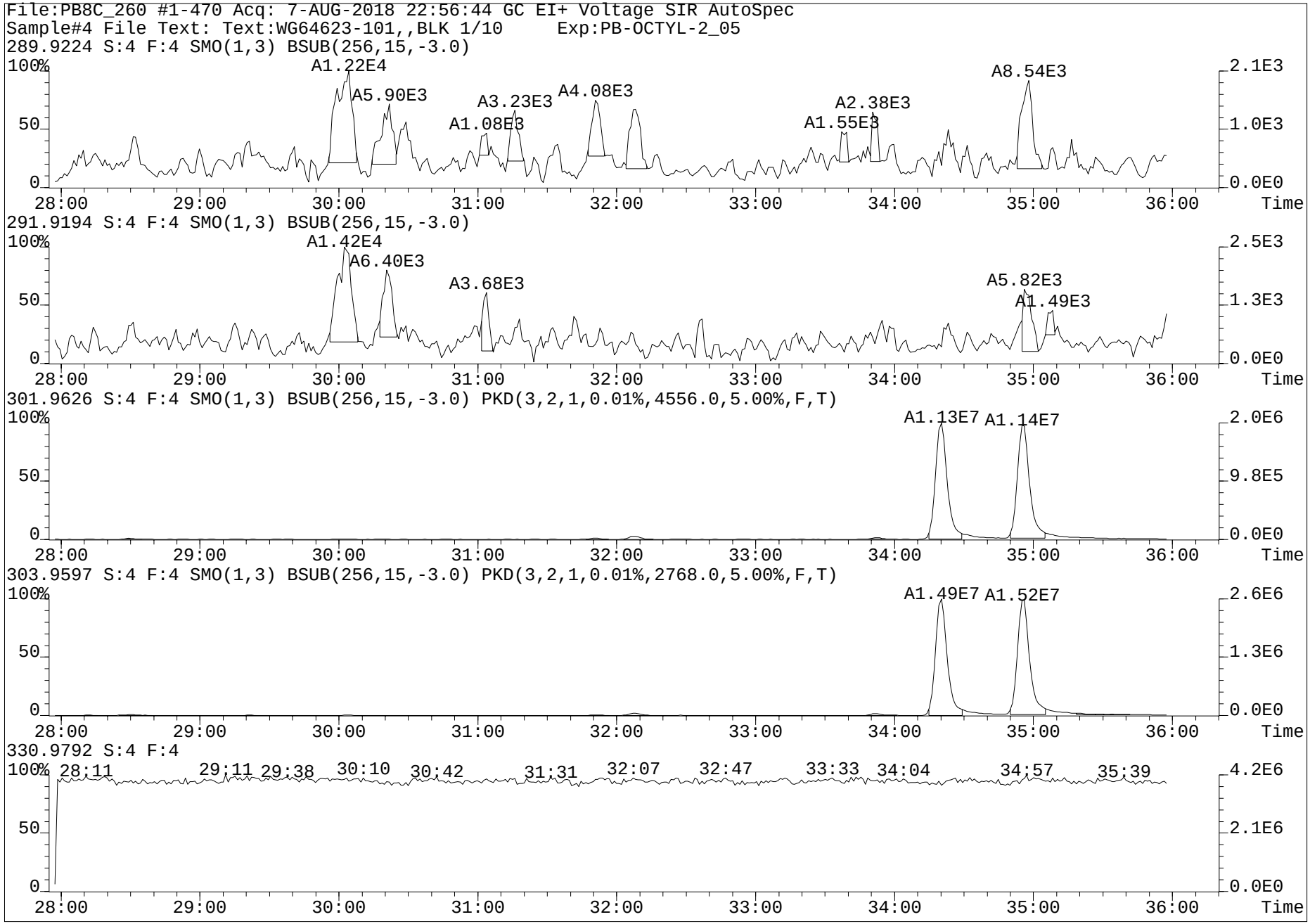

File:PB8C_260 #1-364 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
222.0003 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A4.30E4
A1.56E4
223.9974 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3932.0,5.00%,F,T)
A3.98E4
255.9613 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,740.0,5.00%,F,T)
A6.43E3
A1.92E3
A3.07E3
A3.10E3
257.9584 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0)
A9.98E3
A4.07E3
A4.25E3
A1.40E3
A2.34E3
A1.46E3
A6.25E3
A2.77E3
A430.97
100%
80
60
40
20
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
1.0E4
8.2E3
6.1E3
4.1E3
2.0E3
0.0E0
4.2E4
3.4E4
2.5E4
1.7E4
8.4E3
2.0E3
1.6E3
1.2E3
7.9E2
3.9E2
1.9E3
1.5E3
1.1E3
7.6E2
3.8E2

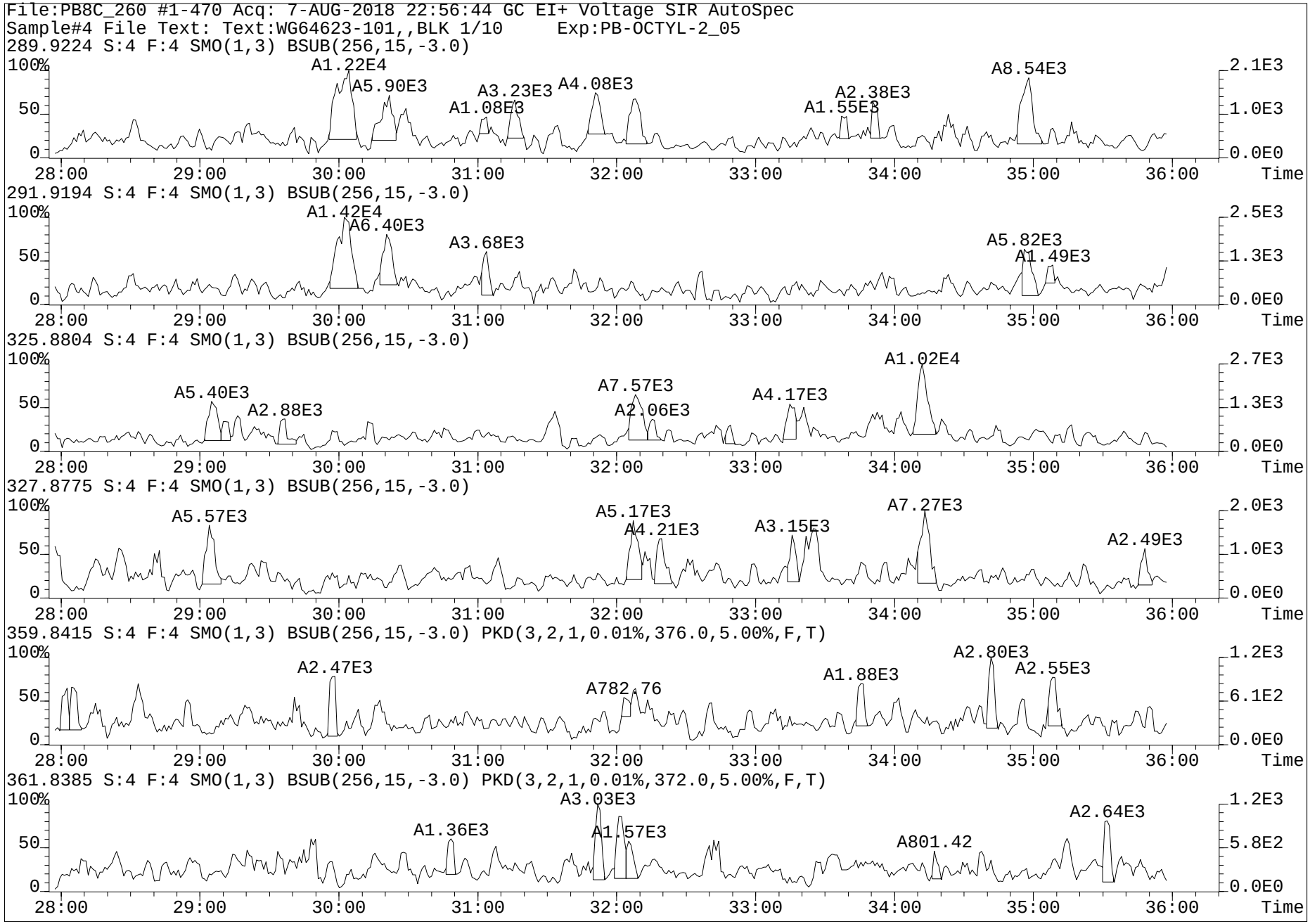

File:PB8C_260 #1-364 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
255.9613 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,740.0,5.00%,F,T)
A1.92E3
A6.43E3
A3.07E3
A3.10E3
257.9584 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.07E3
A1.92E3
A1.46E3
A9.98E3
A4.71E3
A430.97
A2.77E3
A6.25E3
268.0016 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12100.0,5.00%,F,T)
A1.14E7
269.9986 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10732.0,5.00%,F,T)
A1.09E7
242.9856 S:4 F:2
17:12
17:36
18:00
18:24
18:36
18:58
19:22
19:40
19:57
Time

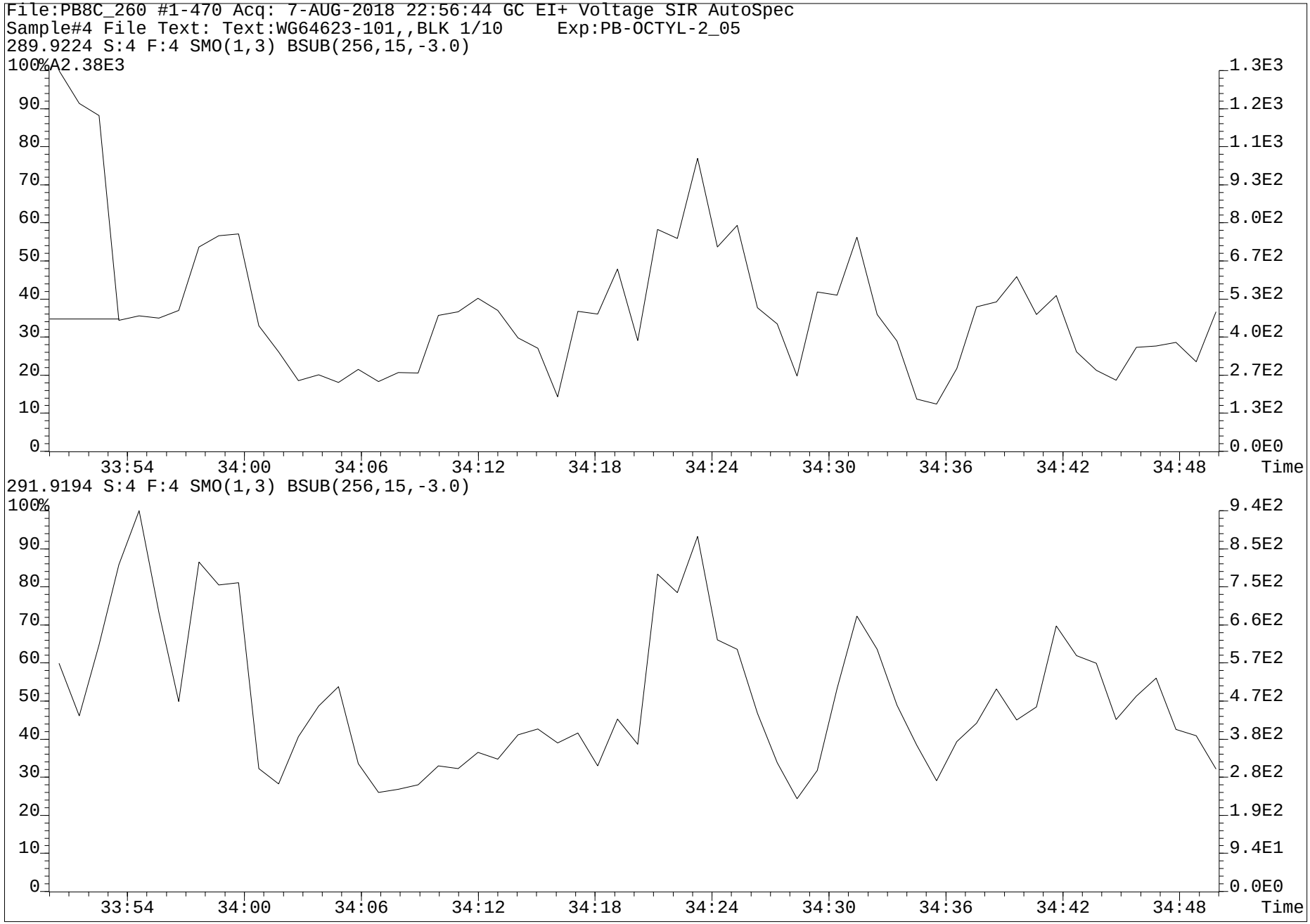

File:PB8C_260 #1-517 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
255.9613 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A1.58E4
A5.71E3
A9.16E3
257.9584 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.94E4
A7.31E3
A4.17E3
A3.80E3
A5.60E3
268.0016 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19148.0,5.00%,F,T)
A1.56E7
A1.46E7
269.9986 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15040.0,5.00%,F,T)
A1.52E7
A1.45E7
280.9825 S:4 F:3
20:12 20:48 21:23 21:55 22:40 23:16 24:01 24:39 25:07 25:40 26:16 26:45 27:17
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
2.6E3
1.3E3
0.0E0
3.9E3
1.9E3
3.2E6
1.6E6
3.1E6
1.6E6
8.3E6
4.2E6

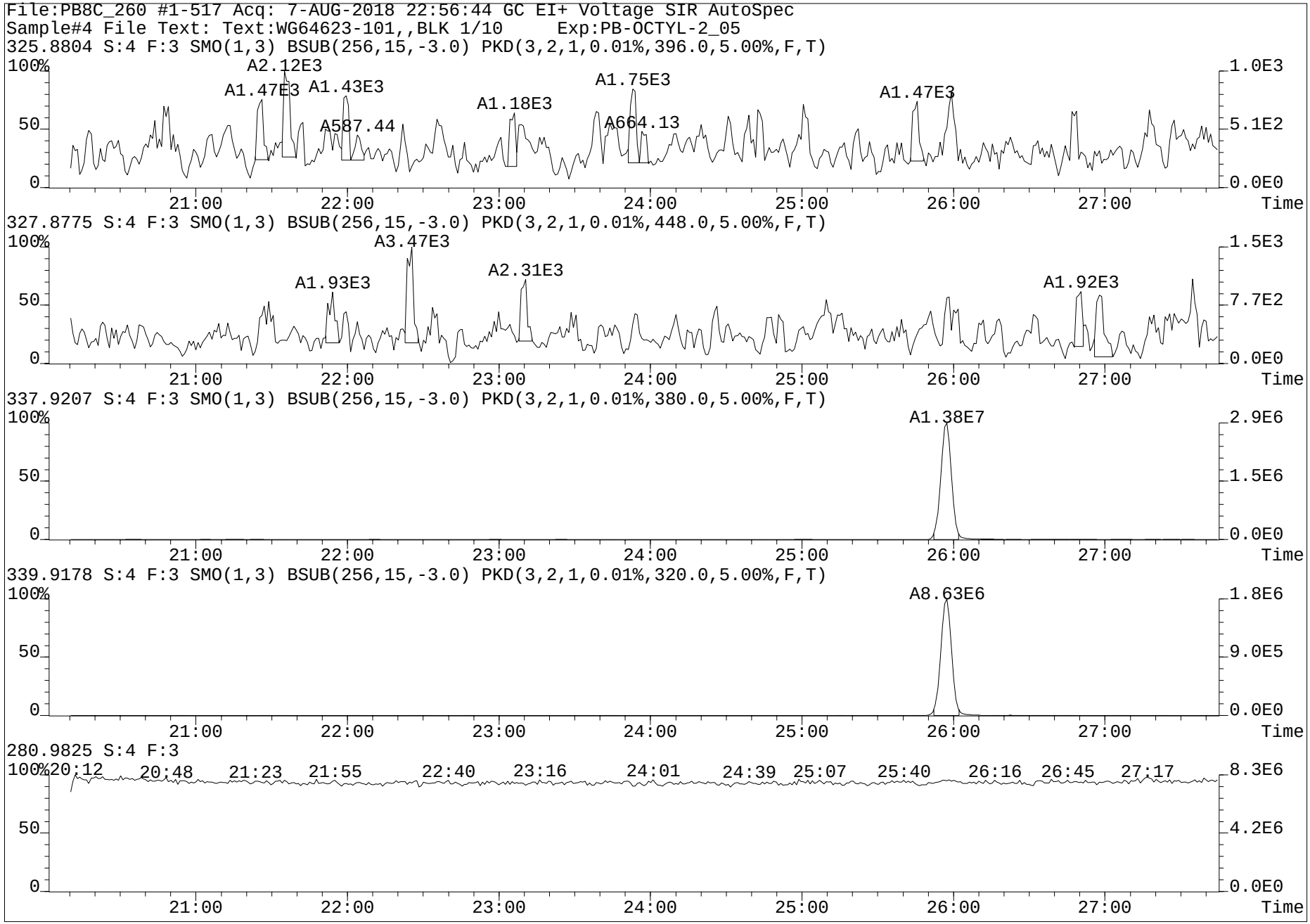

File:PB8C_260 #1-517 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
255.9613 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A1.58E4
A5.71E3
A9.16E3
257.9584 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.94E4
A7.31E3
A4.17E3
A3.80E3
A5.60E3
289.9224 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A9.56E3
A6.33E3
A2.66E3
A3.94E3
291.9199 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A8.58E3
A1.53E4
A3.70E3
A4.31E3
A4.27E3
A998.44
A4.74E3
325.8804 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A2.12E3
A1.47E3
A1.43E3
A587.44
A1.18E3
A1.75E3
A664.13
A1.47E3
327.8775 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A3.47E3
A1.93E3
A2.31E3
A1.92E3
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
2.6E3
1.3E3
0.0E0
3.9E3
1.9E3
2.1E3
1.0E3
2.7E3
1.3E3
1.0E3
5.1E2
1.5E3
7.7E2

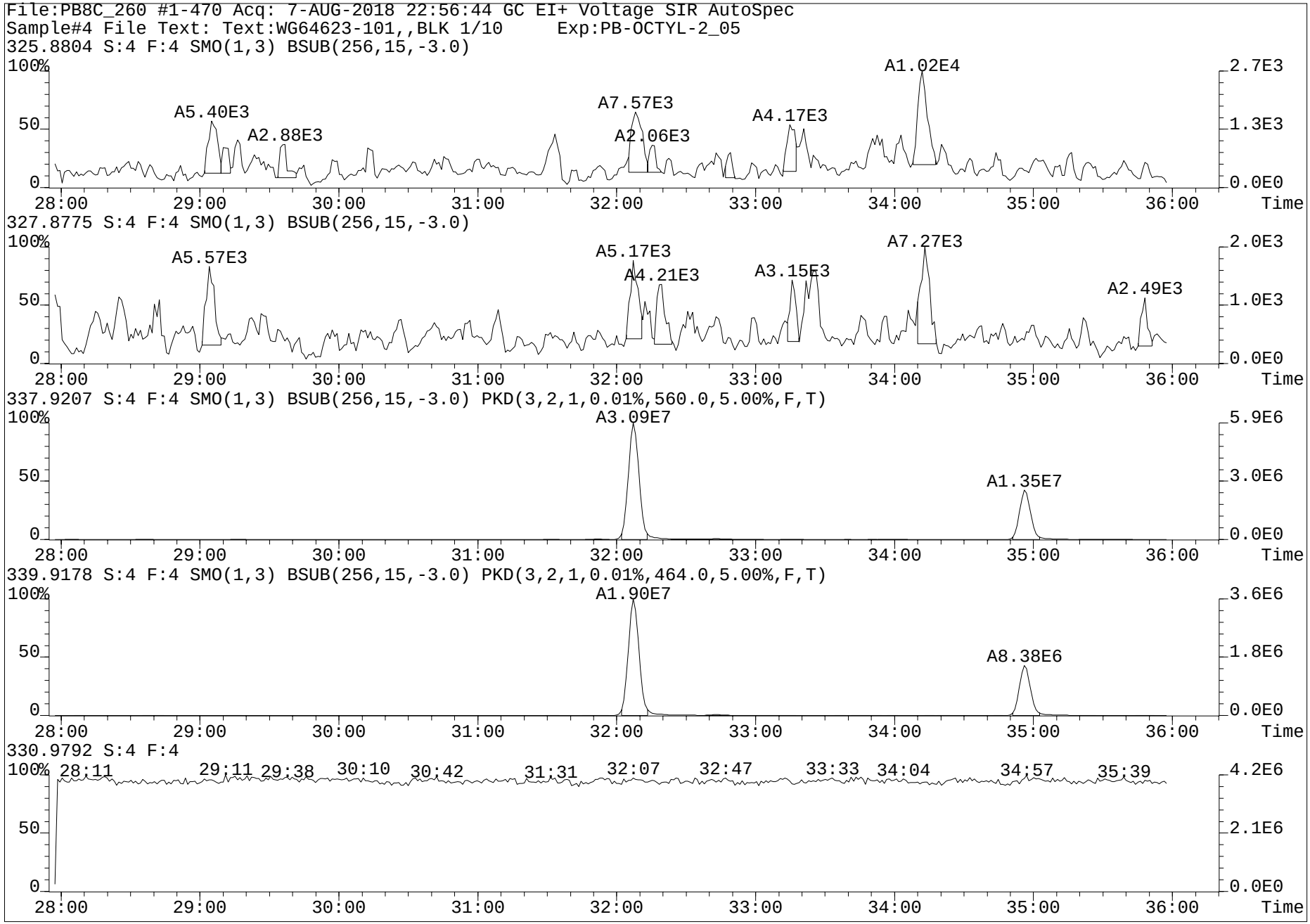

File:PB8C_260 #1-517 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
289.9224 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A9.56E3
A4.16E3
A6.33E3
A2.66E3
A3.94E3
A4.85E3
291.9199 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0)
A8.58E3
A3.70E3
A4.27E3
A1.53E4
A4.31E3
A998.44
A4.74E3
301.9626 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4016.0,5.00%,F,T)
A2.59E7
303.9597 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2724.0,5.00%,F,T)
A3.32E7
280.9825 S:4 F:3
20:12 20:48 21:23 21:55 22:40 23:16 24:01 24:39 25:07 25:40 26:16 26:45 27:17
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
2.1E3
1.0E3
0.0E0
2.7E3
1.3E3
5.4E6
2.7E6
7.0E6
3.5E6
8.3E6
4.2E6

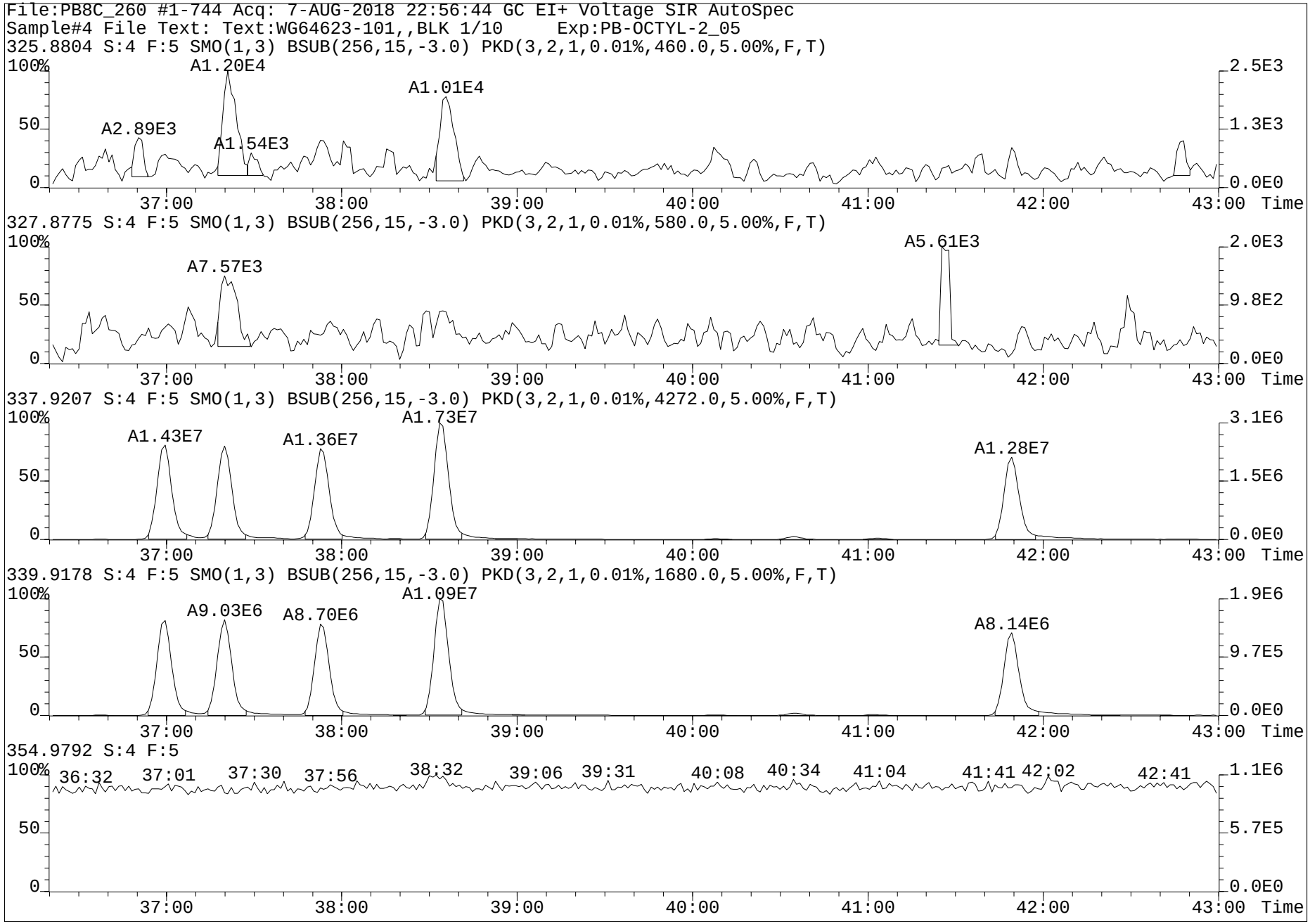

File:PB8C_260 #1-470 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
289.9224 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.22E4
A5.90E3
A3.23E3
A1.08E3
A4.08E3
A2.38E3
A1.55E3
A8.54E3
291.9194 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.42E4
A6.40E3
A3.68E3
A5.82E3
A1.49E3
301.9626 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4556.0,5.00%,F,T)
A1.13E7
A1.14E7
303.9597 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2768.0,5.00%,F,T)
A1.49E7
A1.52E7
330.9792 S:4 F:4
28:11
29:11
29:38
30:10
30:42
31:31
32:07
32:47
33:33
34:04
34:57
35:39
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
2.1E3
1.0E3
0.0E0
2.5E3
1.3E3
2.0E6
9.8E5
2.6E6
1.3E6
4.2E6
2.1E6

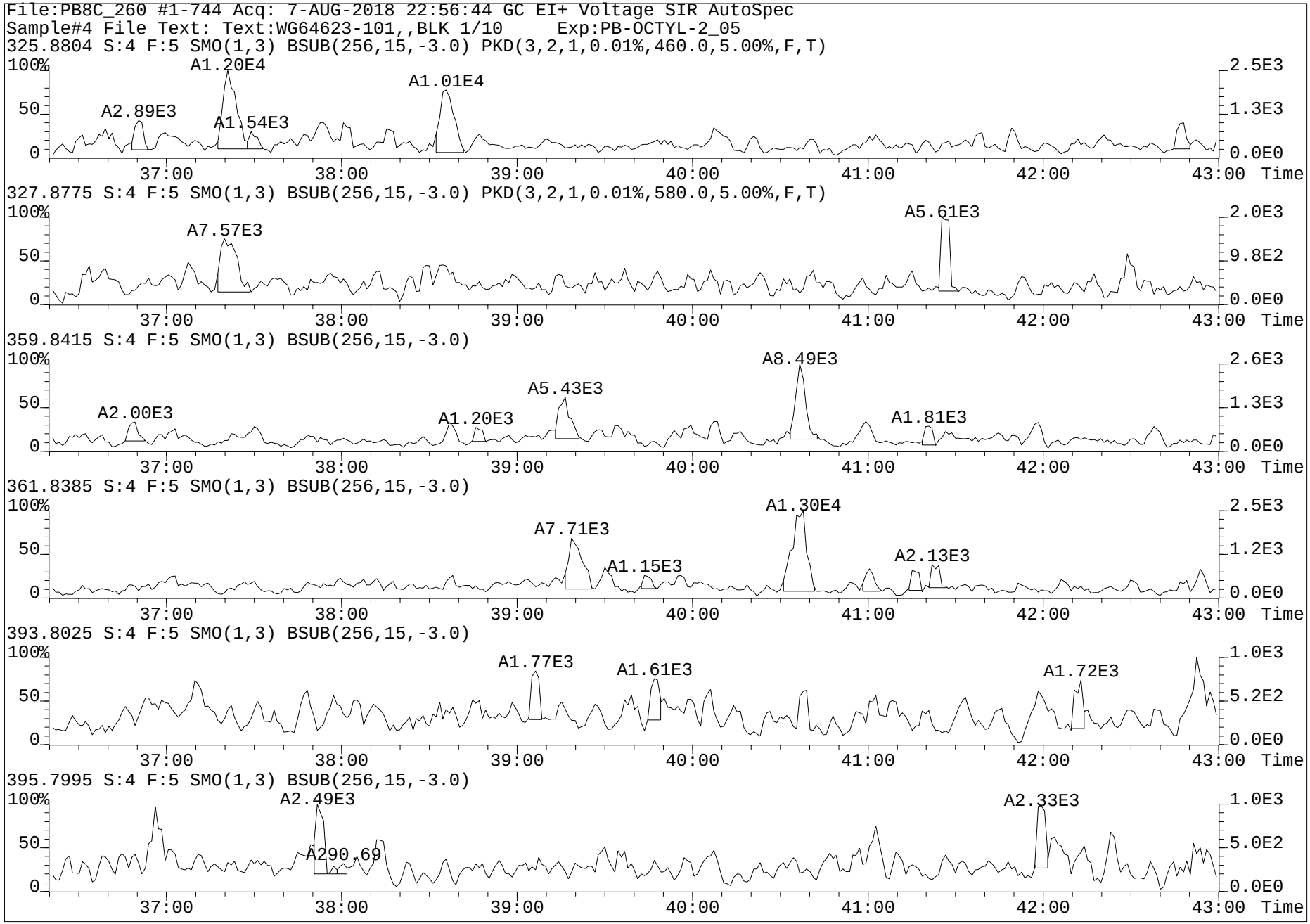

File:PB8C_260 #1-470 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
289.9224 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.22E4
A5.90E3
A3.23E3
A1.08E3
A4.08E3
A2.38E3
A1.55E3
A8.54E3
291.9194 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.42E4
A6.40E3
A3.68E3
A5.82E3
A1.49E3
325.8804 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.40E3
A2.88E3
A7.57E3
A2.06E3
A4.17E3
A1.02E4
327.8775 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.57E3
A5.17E3
A4.21E3
A3.15E3
A7.27E3
A2.49E3
359.8415 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A2.47E3
A782.76
A1.88E3
A2.80E3
A2.55E3
361.8385 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A3.03E3
A1.36E3
A1.57E3
A801.42
A2.64E3
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
2.1E3
1.0E3
0.0E0
2.5E3
1.3E3
0.0E0
2.7E3
1.3E3
0.0E0
2.0E3
1.0E3
0.0E0
1.2E3
6.1E2
0.0E0
1.2E3
5.8E2
0.0E0

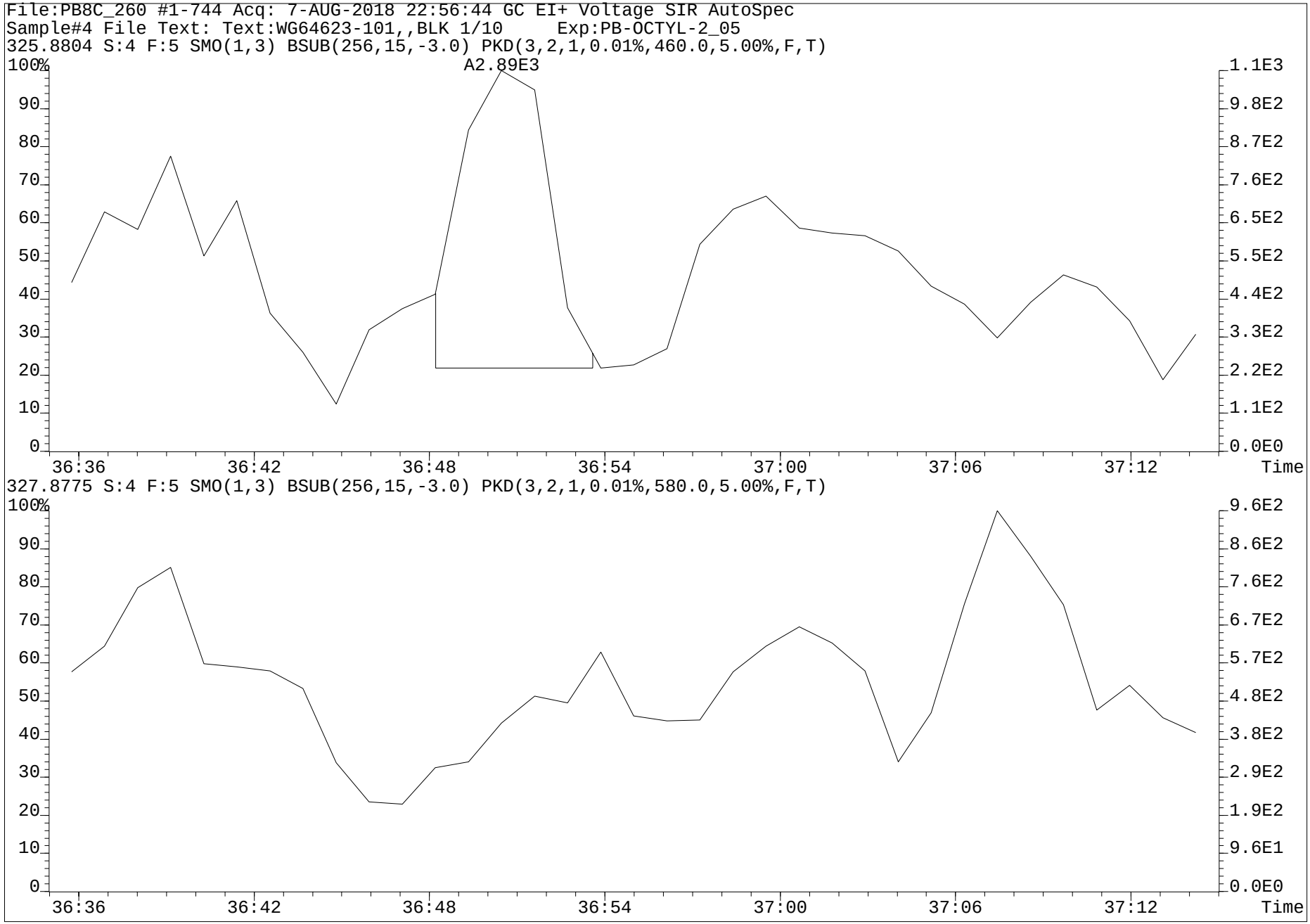

File:PB8C_260 #1-470 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
289.9224 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
100%A2.38E3
1.3E3
1.2E3
1.1E3
9.3E2
8.0E2
6.7E2
5.3E2
4.0E2
2.7E2
1.3E2
0.0E0
33:54
34:00
34:06
34:12
34:18
34:24
34:30
34:36
34:42
34:48
Time
291.9194 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
100%
9.4E2
8.5E2
7.5E2
6.6E2
5.7E2
4.7E2
3.8E2
2.8E2
1.9E2
9.4E1
0.0E0
33:54
34:00
34:06
34:12
34:18
34:24
34:30
34:36
34:42
34:48
Time

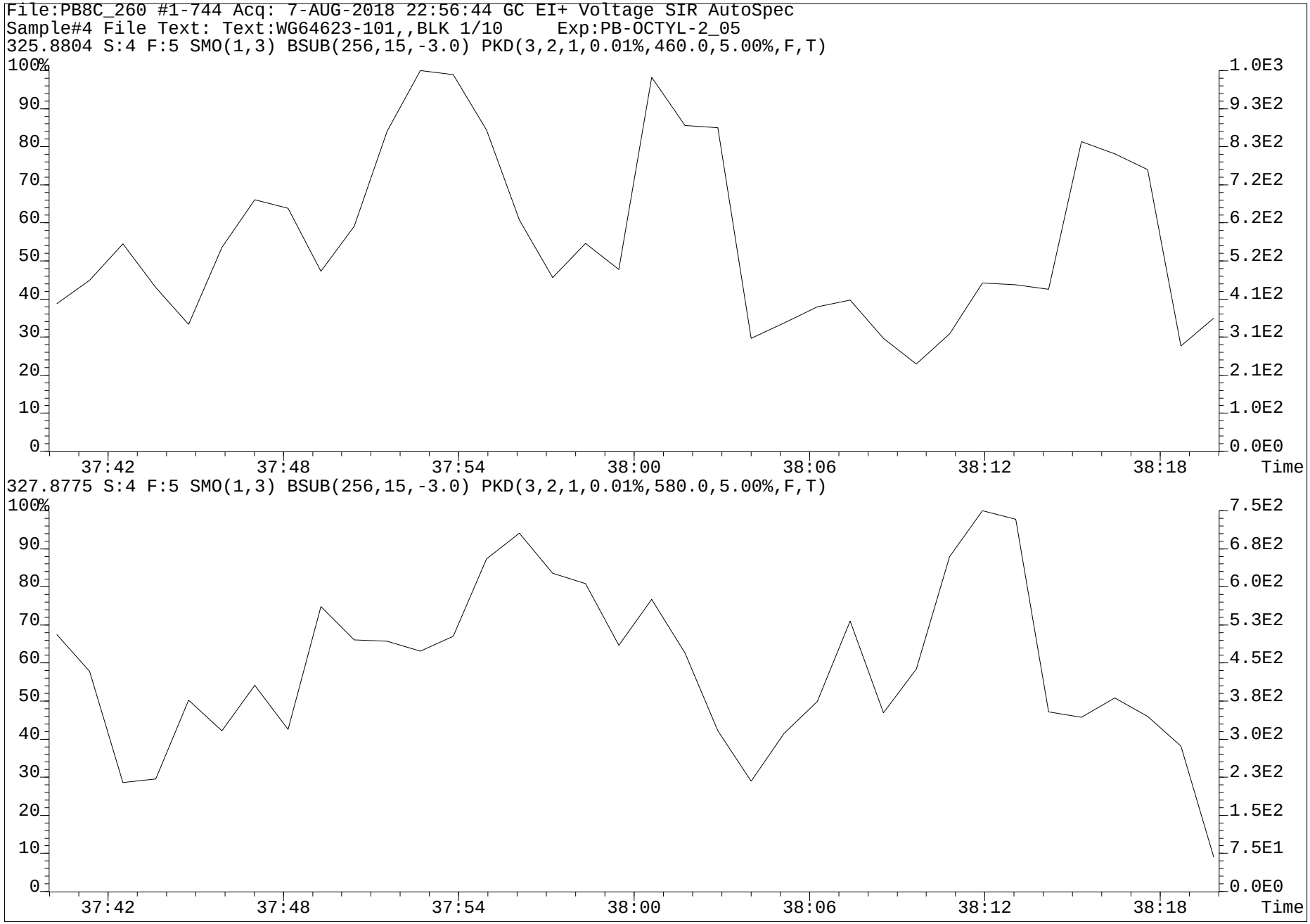

File:PB8C_260 #1-517 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A2.12E3
A1.47E3
A1.43E3
A1.18E3
A1.75E3
A1.47E3
A587.44
A664.13
327.8775 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A3.47E3
A1.93E3
A2.31E3
A1.92E3
337.9207 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.38E7
339.9178 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A8.63E6
280.9825 S:4 F:3
20:12
20:48
21:23
21:55
22:40
23:16
24:01
24:39
25:07
25:40
26:16
26:45
27:17
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.0E3
5.1E2
0.0E0
1.5E3
7.7E2
2.9E6
1.5E6
1.8E6
9.0E5
8.3E6
4.2E6

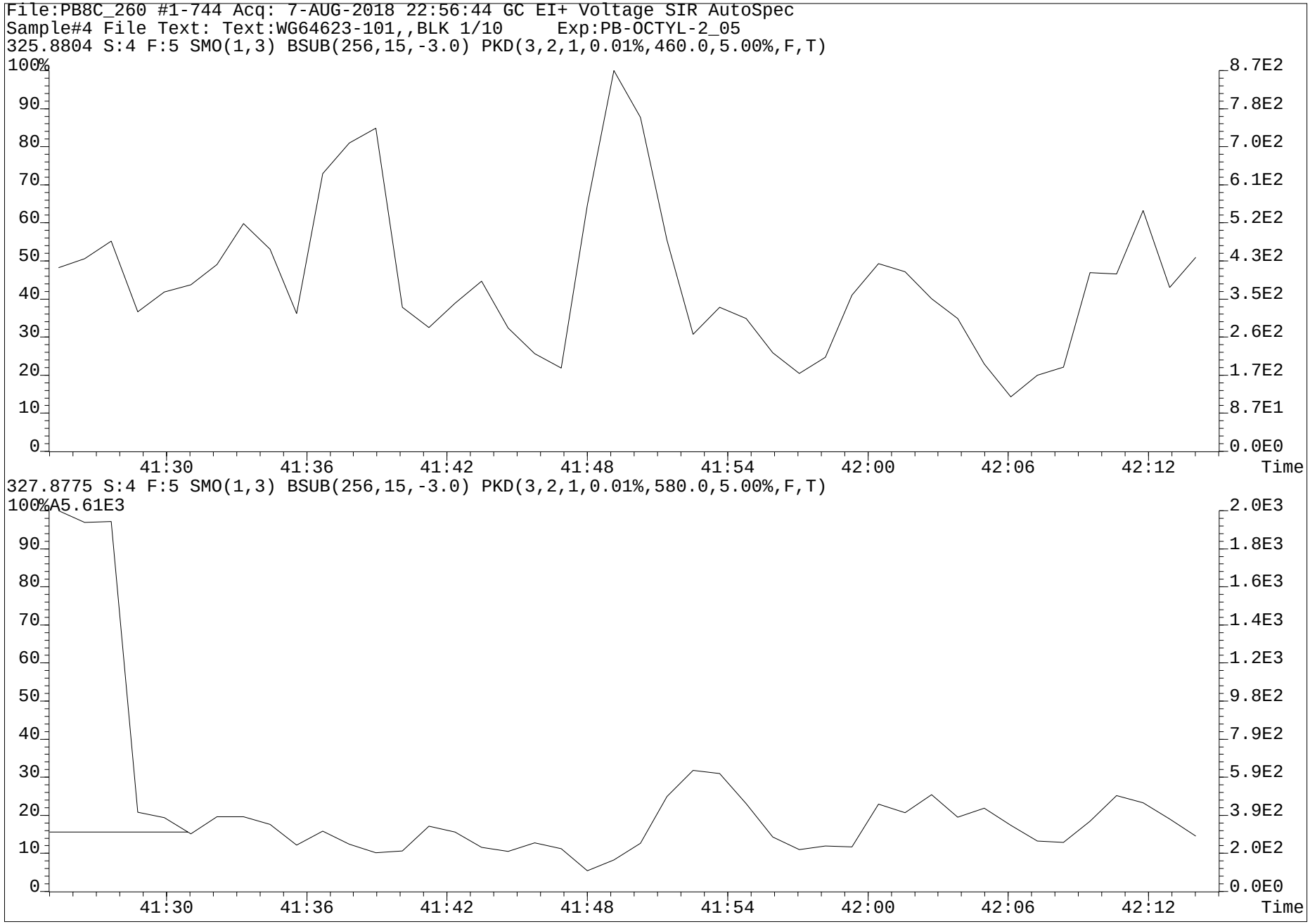

File:PB8C_260 #1-470 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.40E3
A2.88E3
A7.57E3
A2.06E3
A4.17E3
A1.02E4
327.8775 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.57E3
A5.17E3
A4.21E3
A3.15E3
A7.27E3
A2.49E3
337.9207 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A3.09E7
A1.35E7
339.9178 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A1.90E7
A8.38E6
330.9792 S:4 F:4
28:11
29:11
29:38
30:10
30:42
31:31
32:07
32:47
33:33
34:04
34:57
35:39
Time

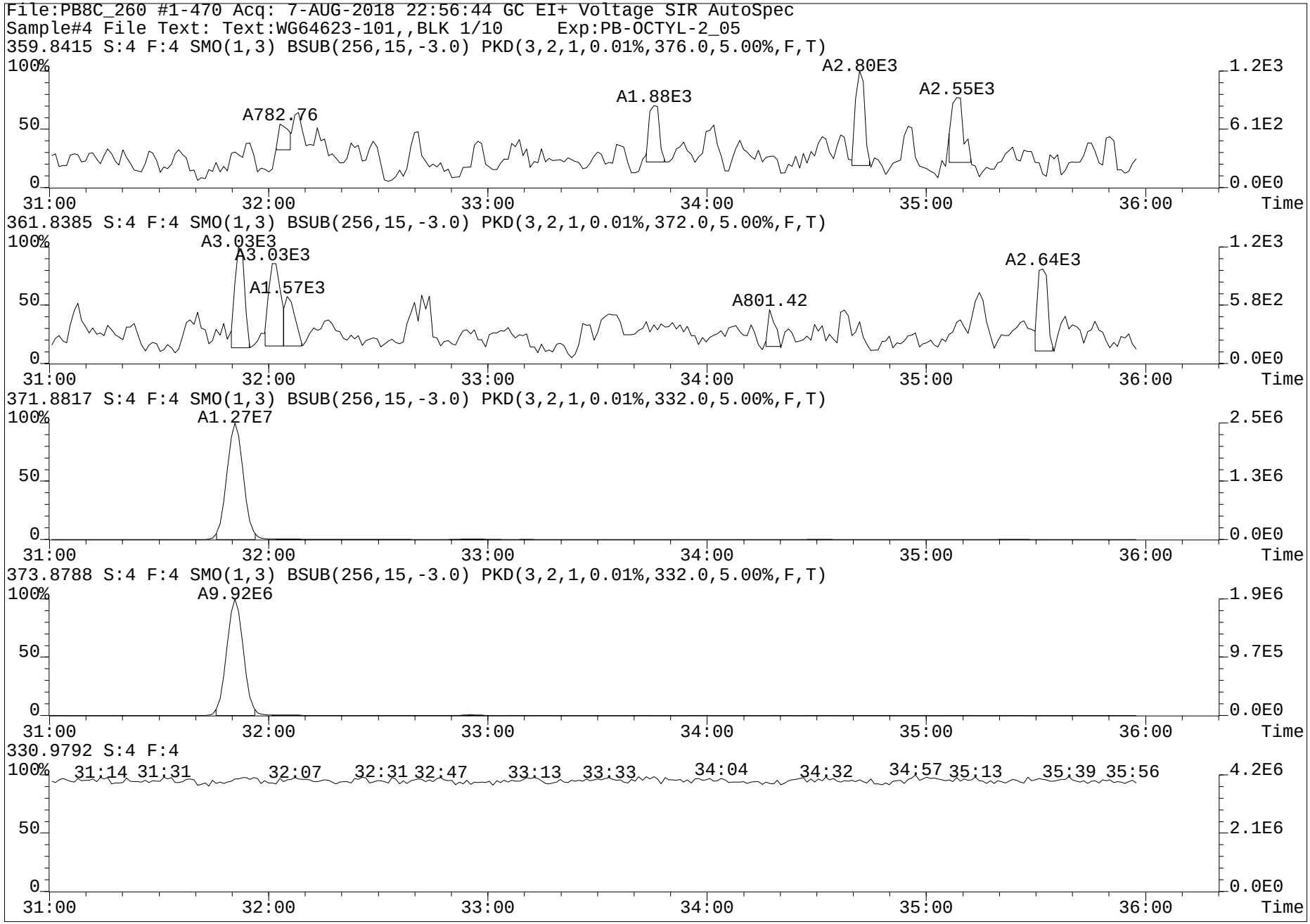

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A1.20E4
A1.01E4
A2.89E3
A1.54E3
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
A5.61E3
A7.57E3
337.9207 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4272.0,5.00%,F,T)
A1.73E7
A1.43E7
A1.36E7
A1.28E7
339.9178 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1680.0,5.00%,F,T)
A1.09E7
A9.03E6
A8.70E6
A8.14E6
354.9792 S:4 F:5
36:32 37:01 37:30 37:56 38:32 39:06 39:31 40:08 40:34 41:04 41:41 42:02 42:41
100%
50
0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
2.5E3
1.3E3
0.0E0
2.0E3
9.8E2
3.1E6
1.5E6
1.9E6
9.7E5
1.1E6
5.7E5

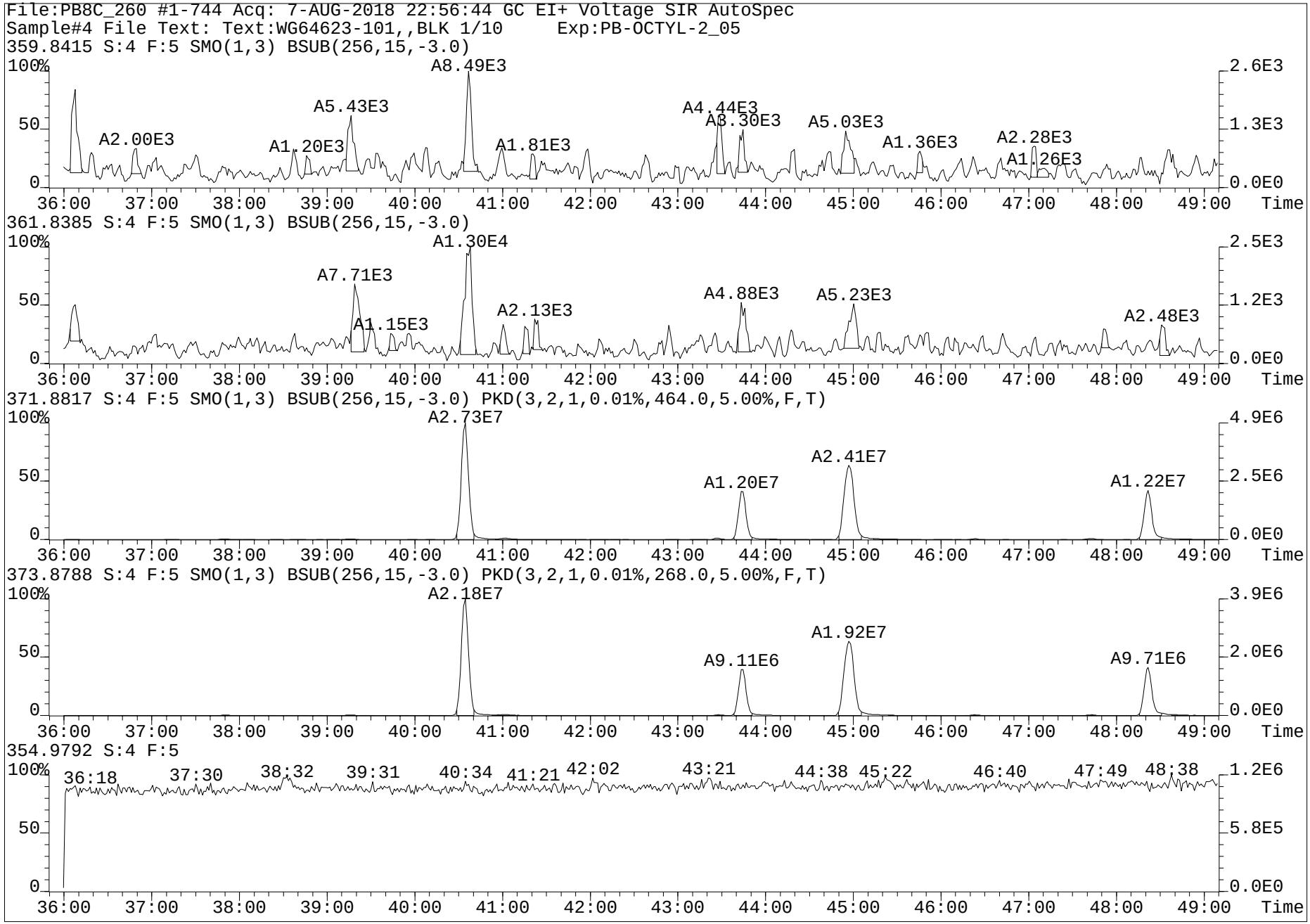

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A1.20E4
A1.01E4
A2.89E3
A1.54E3
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
A5.61E3
A7.57E3
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.49E3
A5.43E3
A2.00E3
A1.20E3
A1.81E3
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.30E4
A7.71E3
A1.15E3
A2.13E3
393.8025 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.77E3
A1.61E3
A1.72E3
395.7995 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.49E3
A2.33E3
A290.69
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
2.5E3
1.3E3
0.0E0
2.0E3
9.8E2
2.6E3
1.2E3
1.0E3
5.2E2
5.0E2

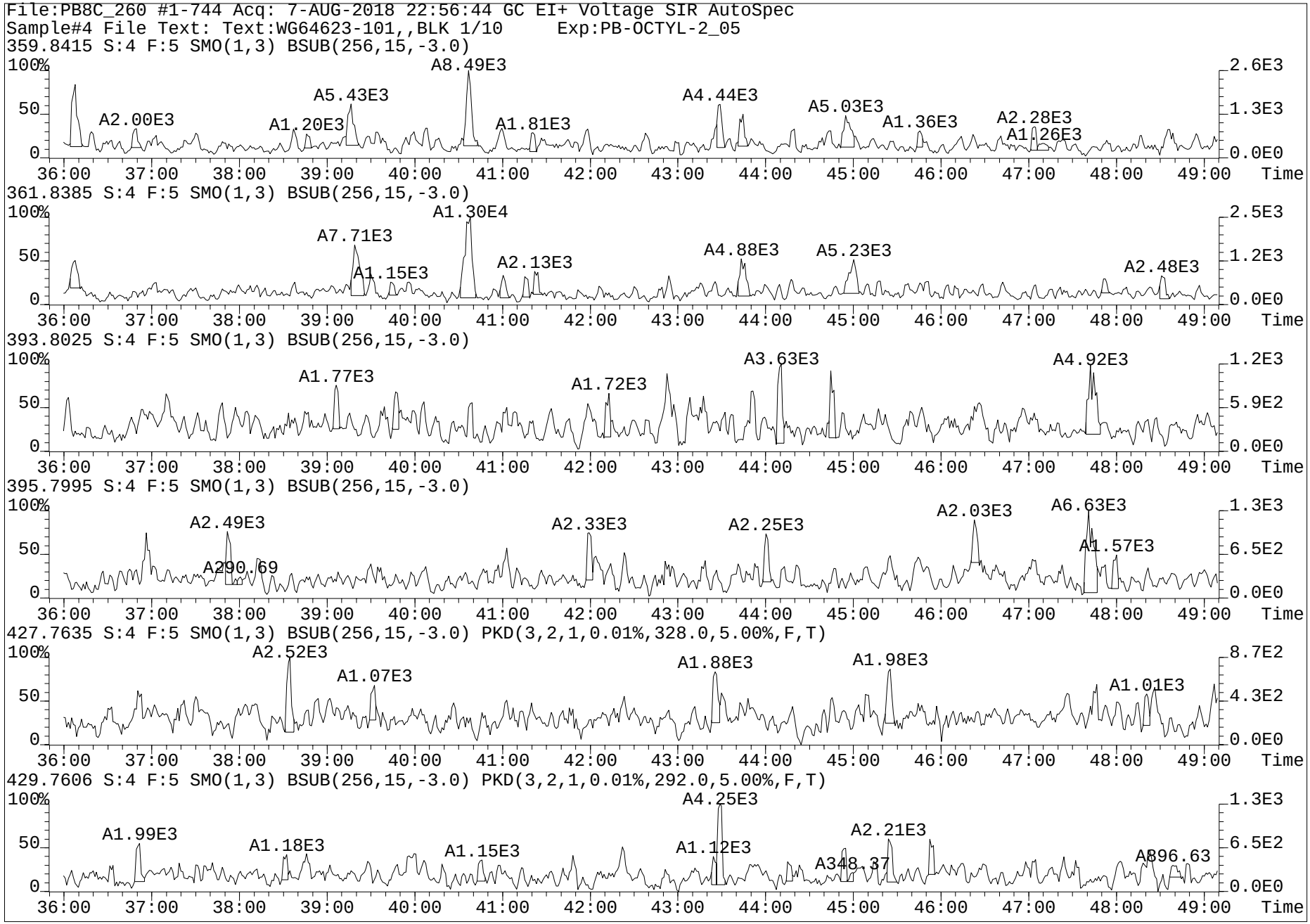

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
A2.89E3
100%
90
80
70
60
50
40
30
20
10
0
1.1E3
9.8E2
8.7E2
7.6E2
6.5E2
5.5E2
4.4E2
3.3E2
2.2E2
1.1E2
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
100%
90
80
70
60
50
40
30
20
10
0
9.6E2
8.6E2
7.6E2
6.7E2
5.7E2
4.8E2
3.8E2
2.9E2
1.9E2
9.6E1
0.0E0
36:36
36:42
36:48
36:54
37:00
37:06
37:12
Time

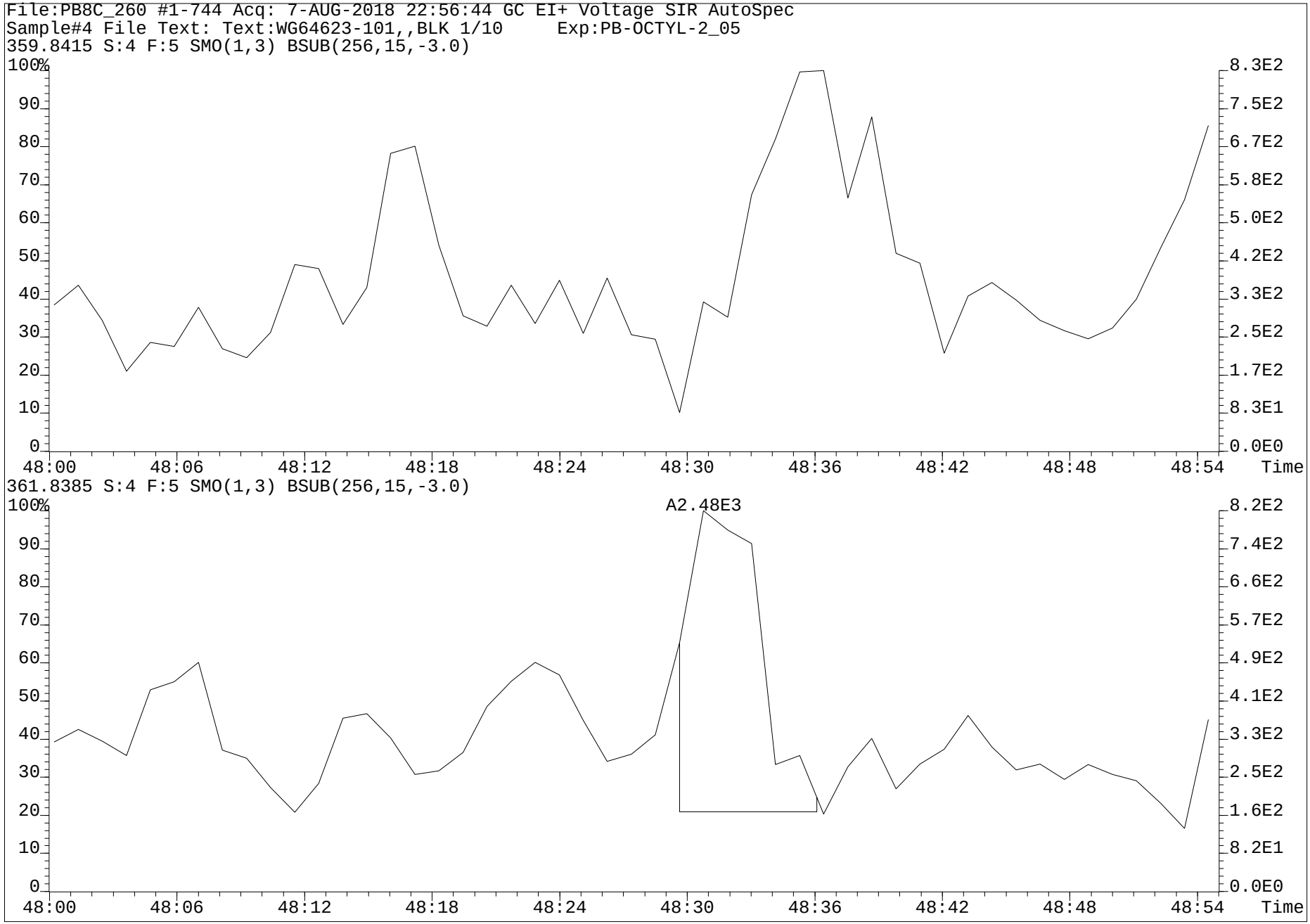

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
100%
90
80
70
60
50
40
30
20
10
0
1.0E3
9.3E2
8.3E2
7.2E2
6.2E2
5.2E2
4.1E2
3.1E2
2.1E2
1.0E2
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
100%
90
80
70
60
50
40
30
20
10
0
7.5E2
6.8E2
6.0E2
5.3E2
4.5E2
3.8E2
3.0E2
2.3E2
1.5E2
7.5E1
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

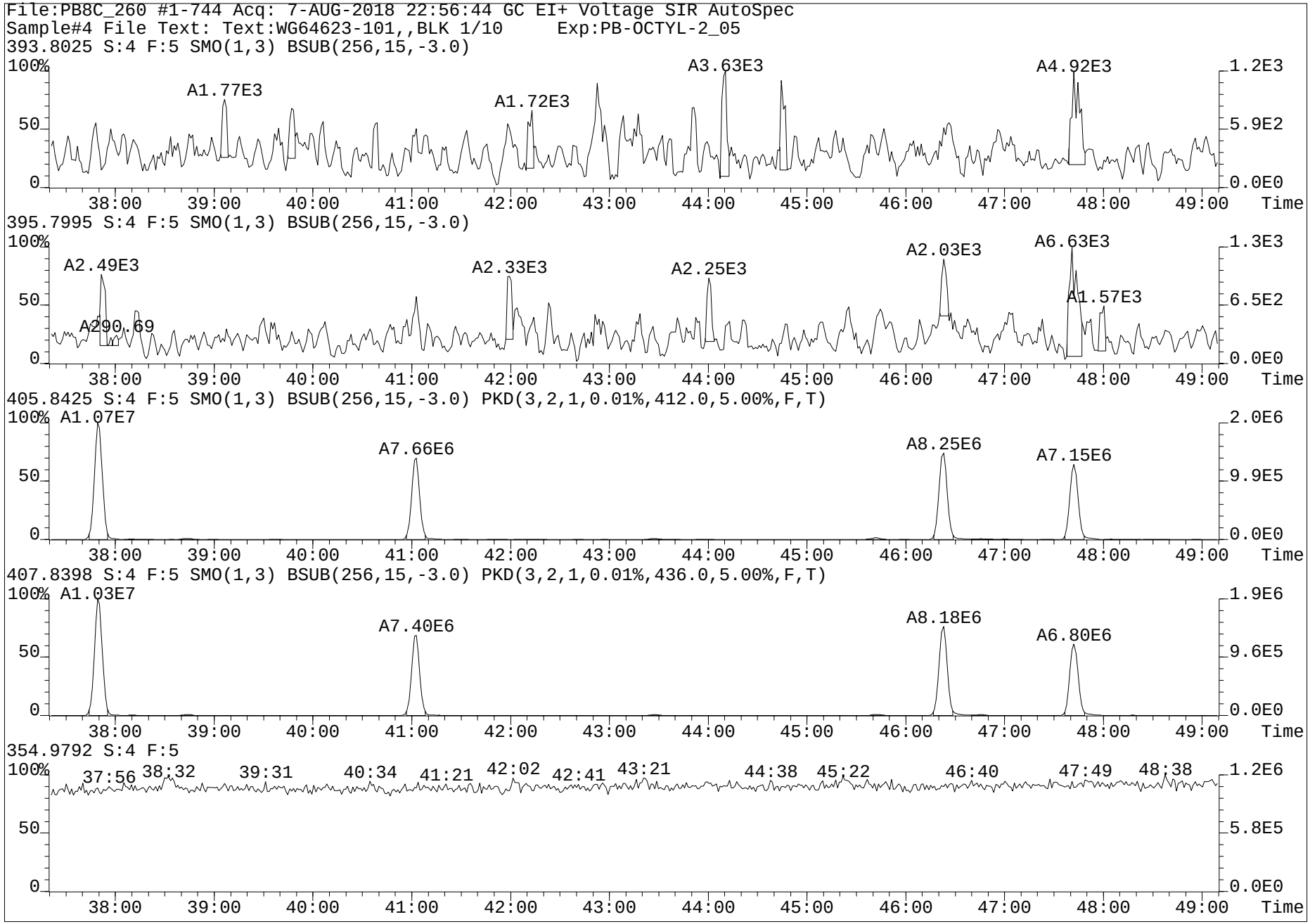

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
100%
90
80
70
60
50
40
30
20
10
0
8.7E2
7.8E2
7.0E2
6.1E2
5.2E2
4.3E2
3.5E2
2.6E2
1.7E2
8.7E1
0.0E0
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
100%A5.61E3
90
80
70
60
50
40
30
20
10
0
2.0E3
1.8E3
1.6E3
1.4E3
1.2E3
9.8E2
7.9E2
5.9E2
3.9E2
2.0E2
0.0E0
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time

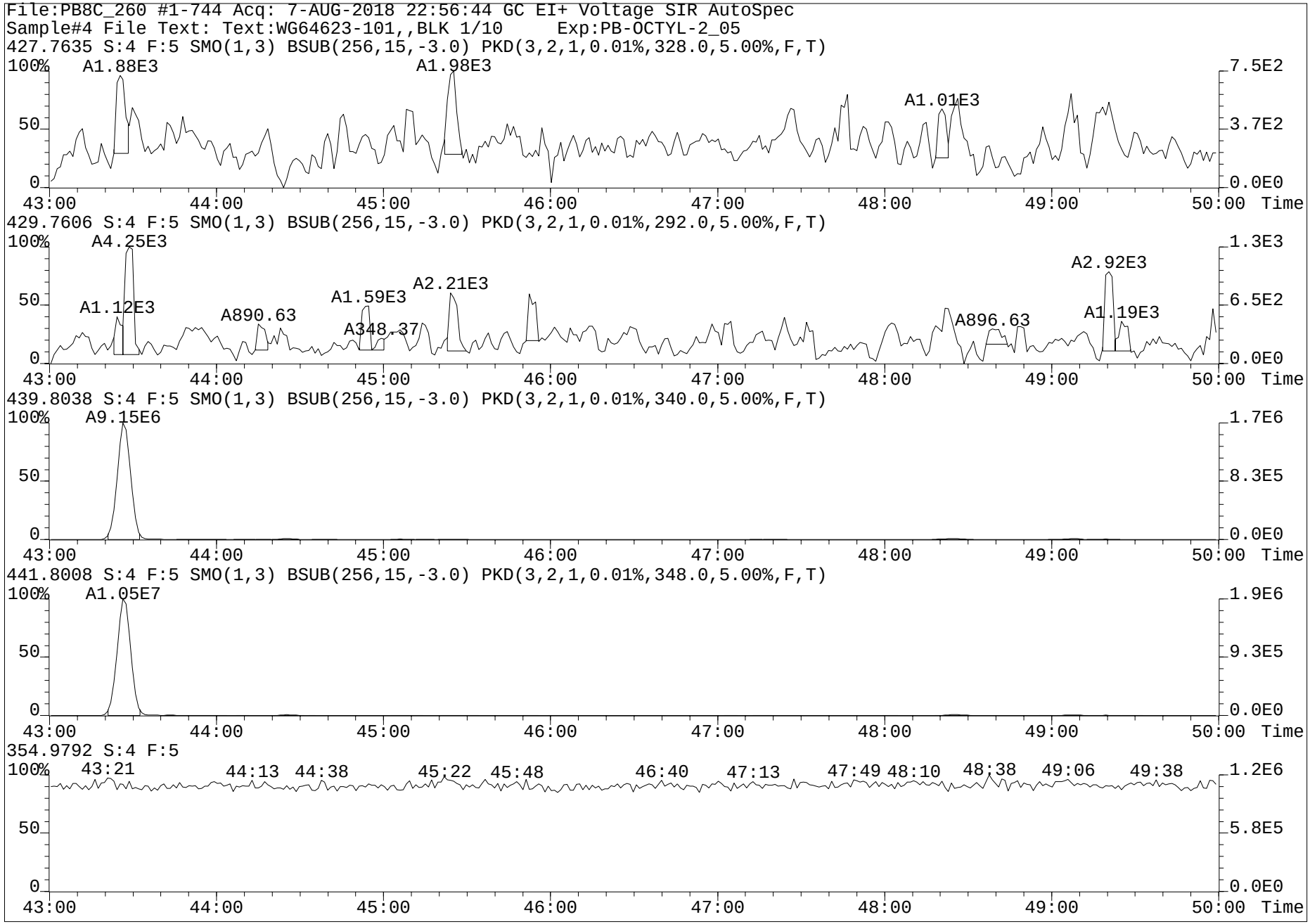

File:PB8C_260 #1-470 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
359.8415 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A782.76
A1.88E3
A2.80E3
A2.55E3
361.8385 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A3.03E3
A3.03E3
A1.57E3
A801.42
A2.64E3
371.8817 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A1.27E7
373.8788 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A9.92E6
330.9792 S:4 F:4
31:14 31:31 32:07 32:31 32:47 33:13 33:33 34:04 34:32 34:57 35:13 35:39 35:56
100%
50
0
31:00
32:00
33:00
34:00
35:00
36:00
Time
1.2E3
6.1E2
0.0E0
5.8E2
2.5E6
1.3E6
1.9E6
9.7E5
4.2E6
2.1E6

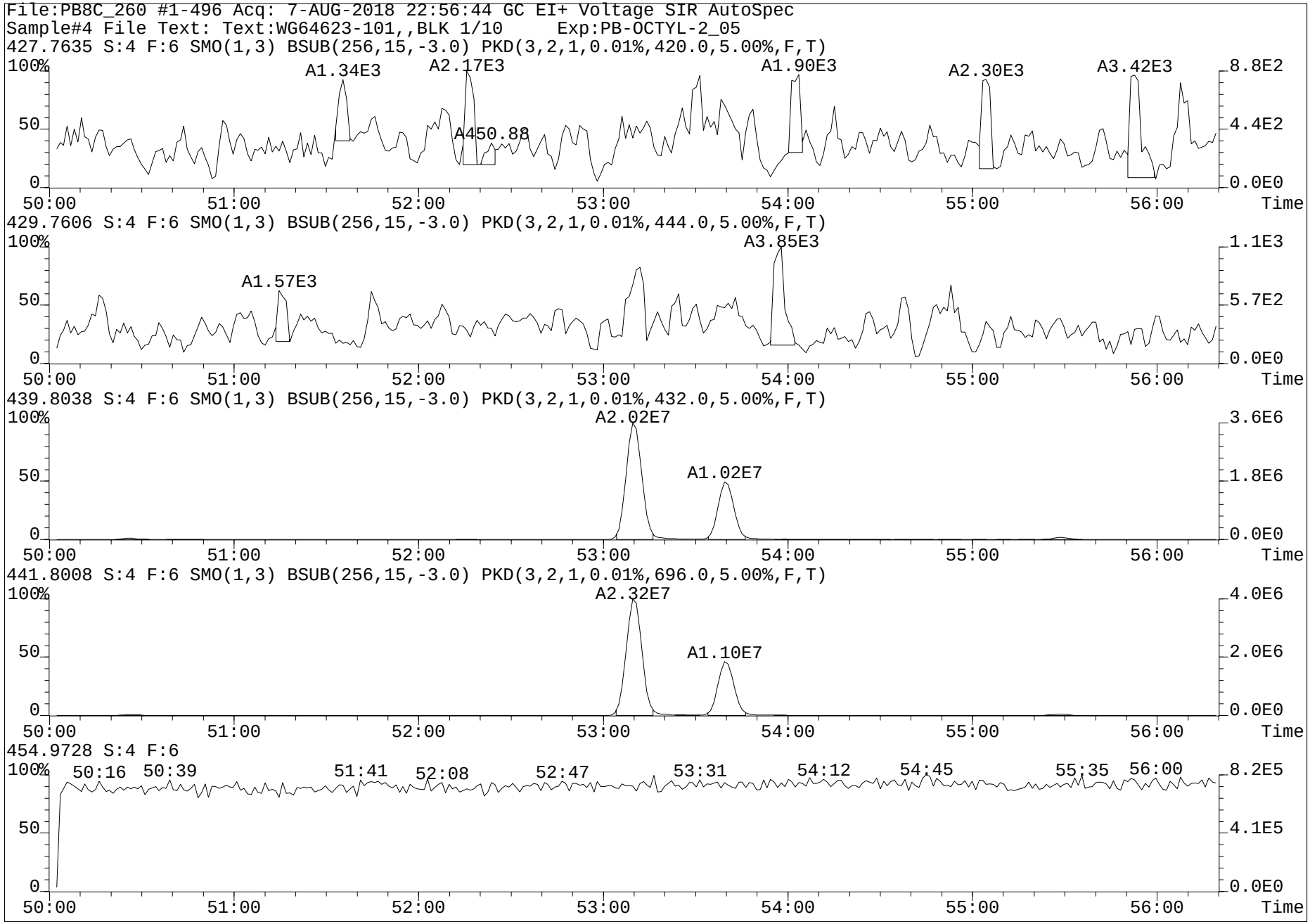

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.00E3
A5.43E3
A8.49E3
A1.20E3
A1.81E3
A4.44E3
A3.30E3
A5.03E3
A1.36E3
A2.28E3
A1.26E3
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.30E4
A7.71E3
A1.15E3
A2.13E3
A4.88E3
A5.23E3
A2.48E3
371.8817 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A2.73E7
A1.20E7
A2.41E7
A1.22E7
373.8788 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,268.0,5.00%,F,T)
A2.18E7
A9.11E6
A1.92E7
A9.71E6
354.9792 S:4 F:5
36:18
37:30
38:32
39:31
40:34
41:21
42:02
43:21
44:38
45:22
46:40
47:49
48:38
Time

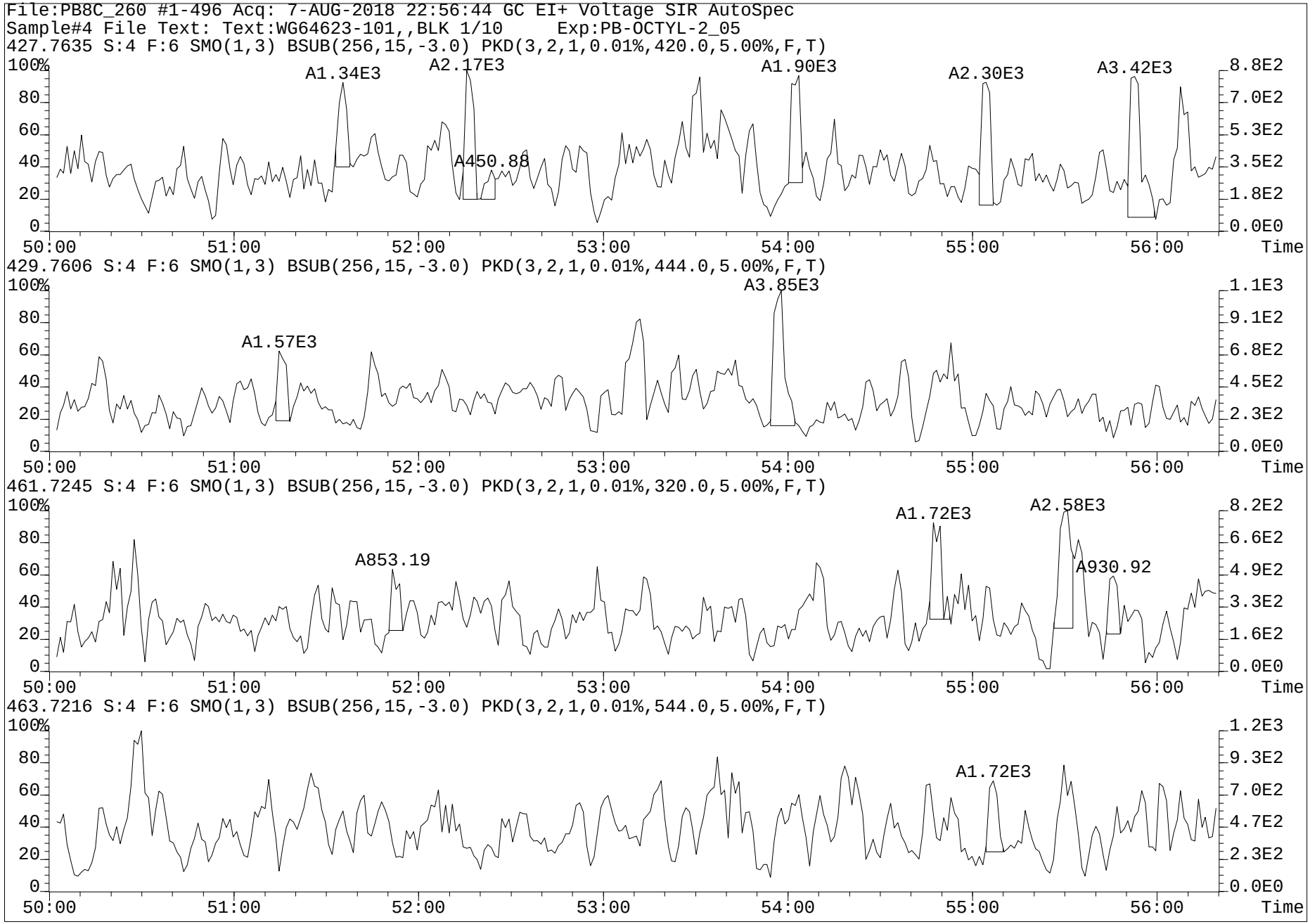

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.00E3
A5.43E3
A8.49E3
A1.20E3
A1.81E3
A4.44E3
A5.03E3
A1.36E3
A2.28E3
A1.26E3
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.30E4
A7.71E3
A1.15E3
A2.13E3
A4.88E3
A5.23E3
A2.48E3
393.8025 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.77E3
A1.72E3
A3.63E3
A4.92E3
395.7995 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.49E3
A290.69
A2.33E3
A2.25E3
A2.03E3
A6.63E3
A1.57E3
427.7635 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A2.52E3
A1.07E3
A1.88E3
A1.98E3
A1.01E3
429.7606 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A4.25E3
A1.99E3
A1.18E3
A1.15E3
A1.12E3
A2.21E3
A348.37
A896.63
100%
50
0
2.6E3
1.3E3
0.0E0
2.5E3
1.2E3
1.2E3
5.9E2
1.3E3
6.5E2
8.7E2
4.3E2
6.5E2
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

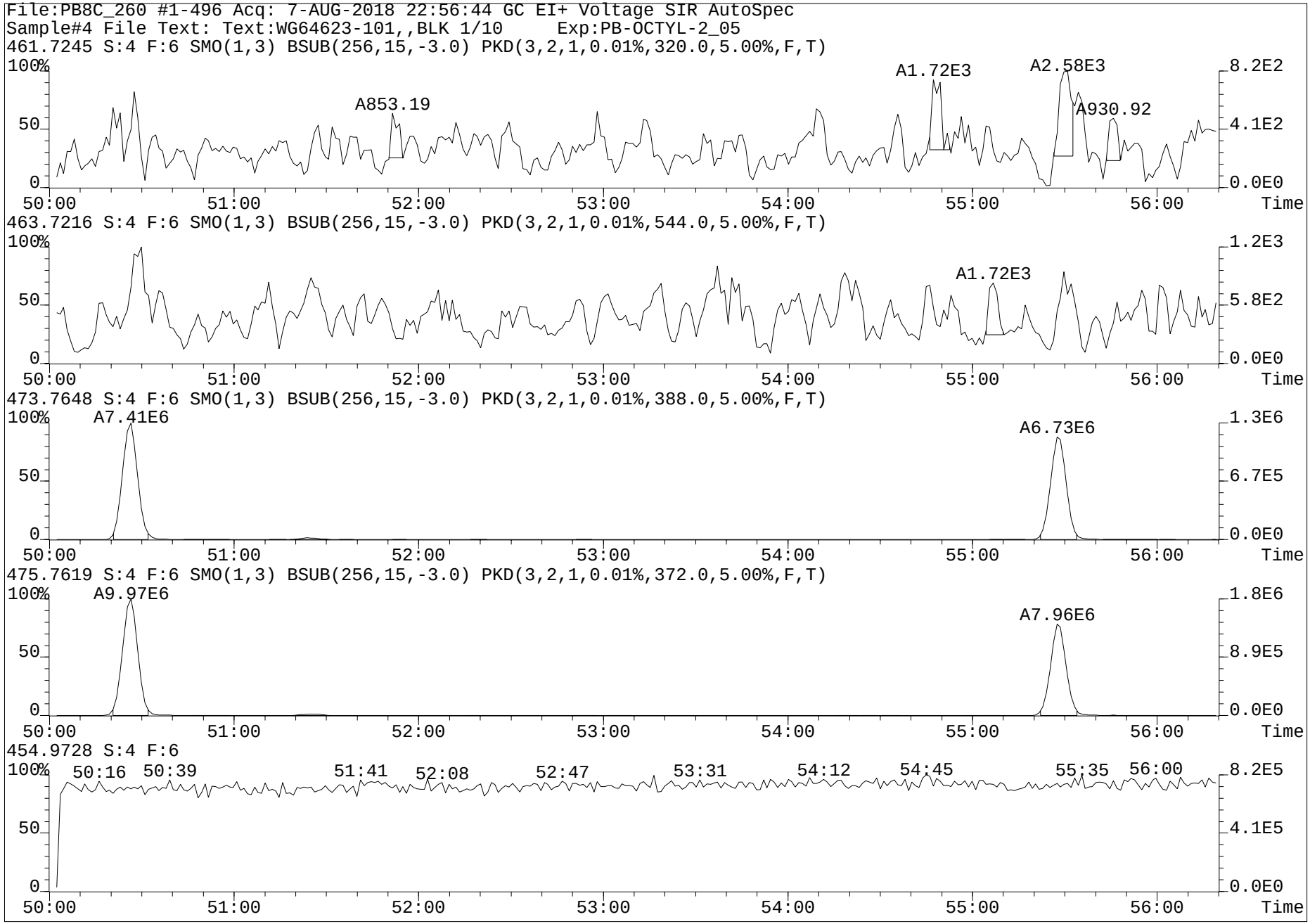

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
8.3E2
7.5E2
6.7E2
5.8E2
5.0E2
4.2E2
3.3E2
2.5E2
1.7E2
8.3E1
0.0E0
48:00
48:06
48:12
48:18
48:24
48:30
48:36
48:42
48:48
48:54
Time
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.48E3
100%
90
80
70
60
50
40
30
20
10
0
8.2E2
7.4E2
6.6E2
5.7E2
4.9E2
4.1E2
3.3E2
2.5E2
1.6E2
8.2E1
0.0E0
48:00
48:06
48:12
48:18
48:24
48:30
48:36
48:42
48:48
48:54
Time

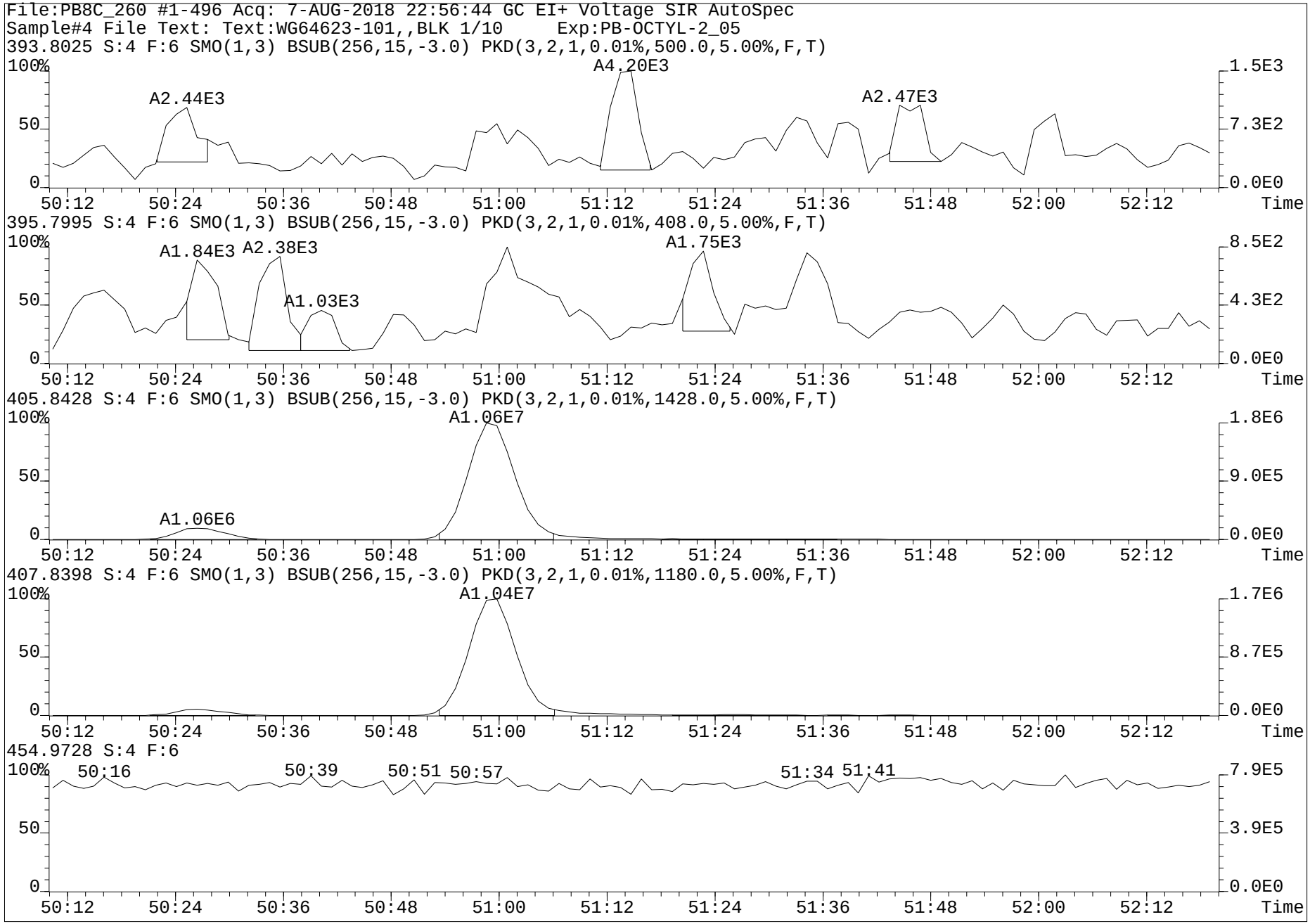

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
393.8025 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.77E3
A1.72E3
A3.63E3
A4.92E3
395.7995 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.49E3
A290.69
A2.33E3
A2.25E3
A2.03E3
A6.63E3
A1.57E3
405.8425 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A1.07E7
A7.66E6
A8.25E6
A7.15E6
407.8398 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A1.03E7
A7.40E6
A8.18E6
A6.80E6
354.9792 S:4 F:5
37:56 38:32 39:31 40:34 41:21 42:02 42:41 43:21 44:38 45:22 46:40 47:49 48:38
Time

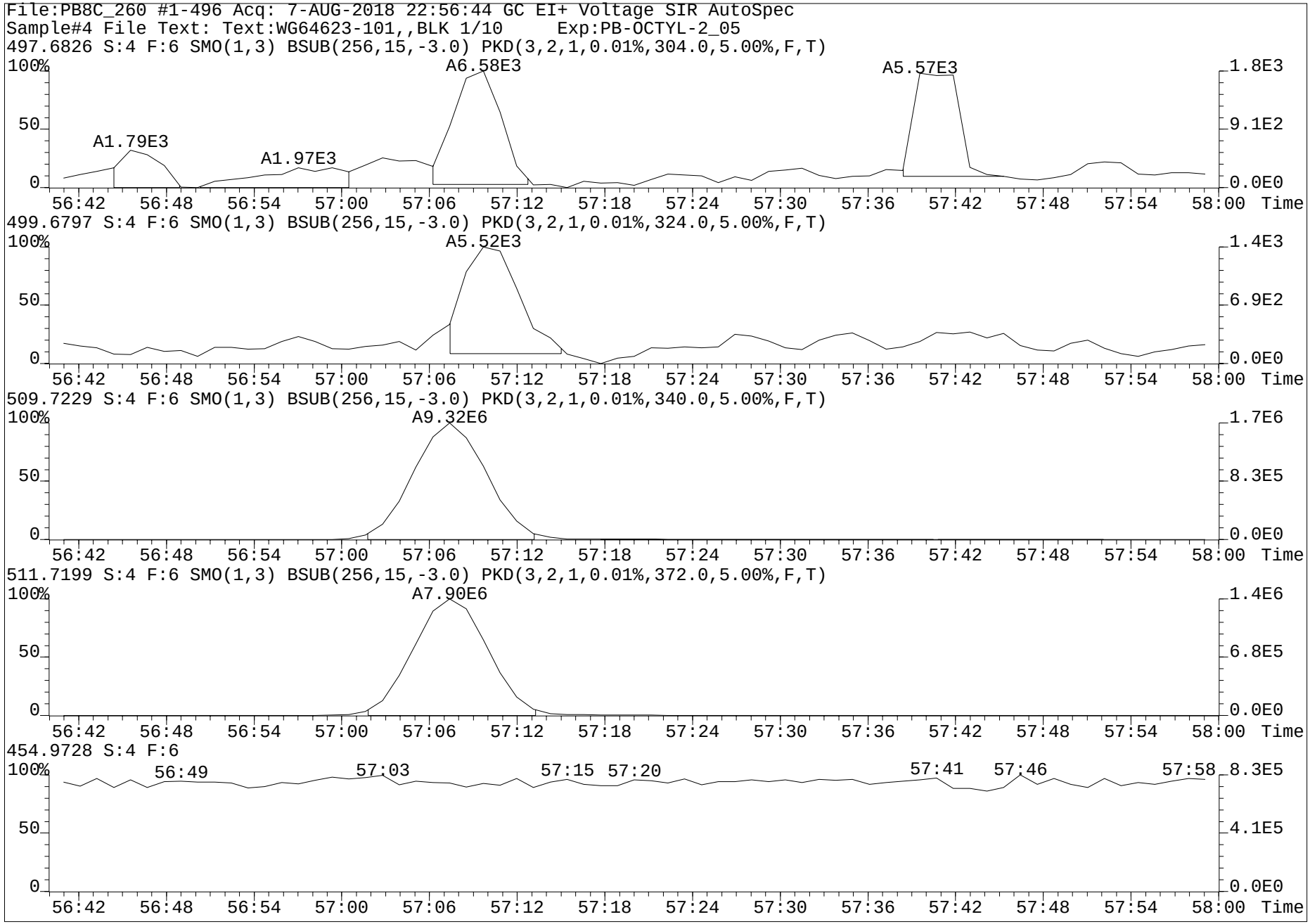

File:PB8C_260 #1-744 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
427.7635 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A1.88E3
A1.98E3
A1.01E3
429.7606 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A4.25E3
A1.12E3
A890.63
A1.59E3
A348.37
A2.21E3
A896.63
A2.92E3
A1.19E3
439.8038 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A9.15E6
441.8008 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.05E7
354.9792 S:4 F:5
43:21
44:13
44:38
45:22
45:48
46:40
47:13
47:49
48:10
48:38
49:06
49:38
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
7.5E2
3.7E2
0.0E0
1.3E3
6.5E2
1.7E6
8.3E5
1.9E6
9.3E5
1.2E6
5.8E5


File:PB8C_260 #1-496 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
427.7635 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A1.34E3
A2.17E3
A450.88
A1.90E3
A2.30E3
A3.42E3
8.8E2
4.4E2
0.0E0
429.7606 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A1.57E3
A3.85E3
1.1E3
5.7E2
0.0E0
439.8038 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A2.02E7
A1.02E7
3.6E6
1.8E6
0.0E0
441.8008 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
A2.32E7
A1.10E7
4.0E6
2.0E6
0.0E0
454.9728 S:4 F:6
50:16
50:39
51:41
52:08
52:47
53:31
54:12
54:45
55:35
56:00
8.2E5
4.1E5
0.0E0
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time


File:PB8C_260 #1-496 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
427.7635 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A1.34E3
A2.17E3
A450.88
A1.90E3
A2.30E3
A3.42E3
429.7606 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A1.57E3
A3.85E3
461.7245 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A853.19
A1.72E3
A2.58E3
A930.92
463.7216 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A1.72E3
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
8.8E2
7.0E2
5.3E2
3.5E2
1.8E2
0.0E0
1.1E3
9.1E2
6.8E2
4.5E2
2.3E2
8.2E2
6.6E2
4.9E2
3.3E2
1.6E2
1.2E3
9.3E2
7.0E2
4.7E2


File:PB8C_260 #1-496 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
461.7245 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A853.19
A1.72E3
A2.58E3
A930.92
463.7216 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A1.72E3
473.7648 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A7.41E6
A6.73E6
475.7619 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A9.97E6
A7.96E6
454.9728 S:4 F:6
50:16 50:39 51:41 52:08 52:47 53:31 54:12 54:45 55:35 56:00
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
8.2E2 4.1E2 0.0E0
1.2E3 5.8E2 0.0E0
1.3E6 6.7E5 0.0E0
1.8E6 8.9E5 0.0E0
8.2E5 4.1E5 0.0E0


File:PB8C_260 #1-496 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
393.8025 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,500.0,5.00%,F,T)
A2.44E3
A4.20E3
A2.47E3
395.7995 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A1.84E3
A2.38E3
A1.03E3
A1.75E3
405.8428 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1428.0,5.00%,F,T)
A1.06E7
A1.06E6
407.8398 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1180.0,5.00%,F,T)
A1.04E7
454.9728 S:4 F:6
50:16
50:39
50:51
50:57
51:34
51:41
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
1.5E3
7.3E2
0.0E0
8.5E2
4.3E2
1.8E6
9.0E5
1.7E6
8.7E5
7.9E5
3.9E5

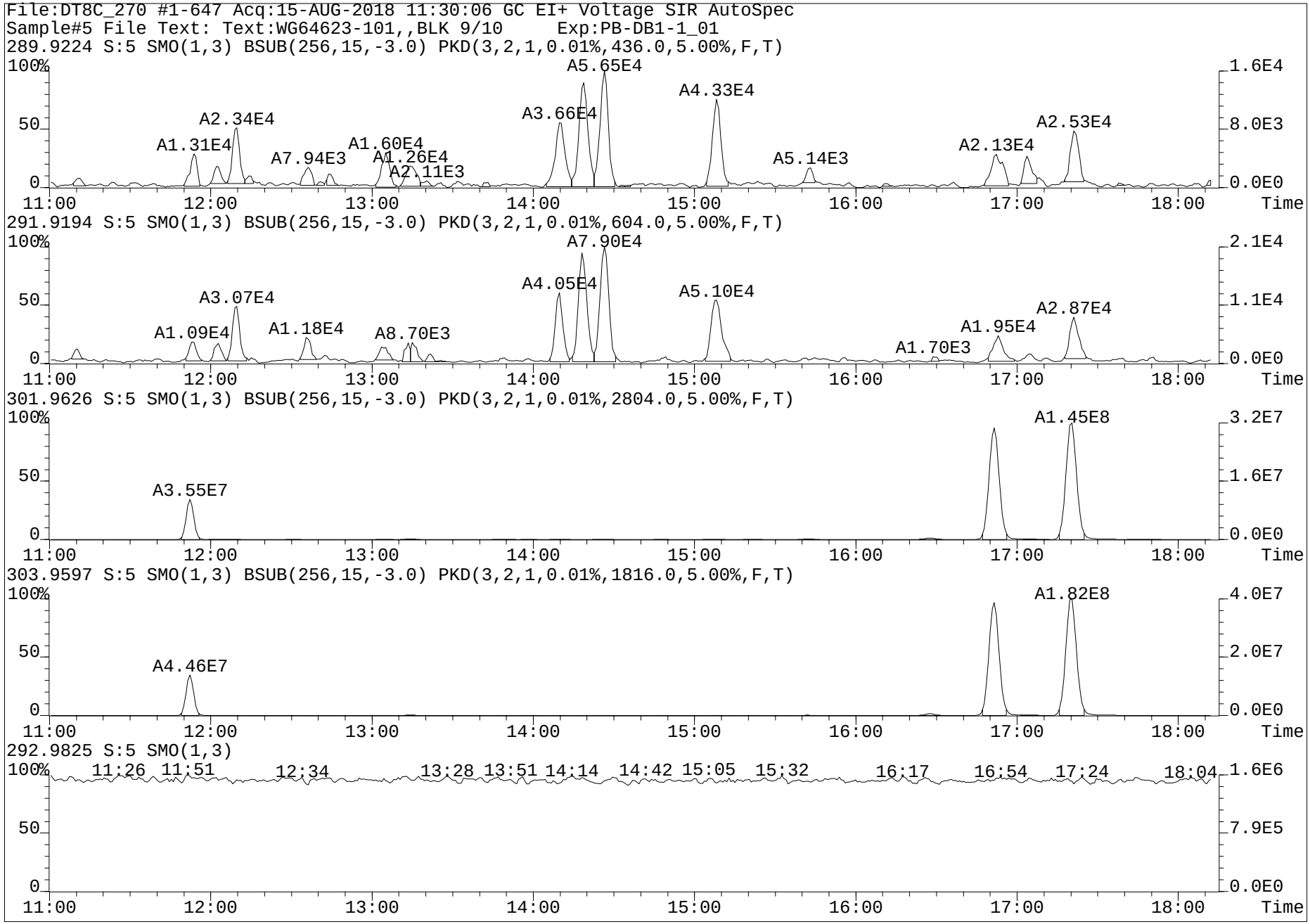

File:PB8C_260 #1-496 Acq: 7-AUG-2018 22:56:44 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:WG64623-101,,BLK 1/10 Exp:PB-OCTYL-2_05
497.6826 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A1.79E3
A1.97E3
A6.58E3
A5.57E3
499.6797 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A5.52E3
509.7229 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A9.32E6
511.7199 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A7.90E6
454.9728 S:4 F:6
56:49
57:03
57:15
57:20
57:41
57:46
57:58
100%
50
0
1.8E3
9.1E2
0.0E0
1.4E3
6.9E2
1.7E6
8.3E5
1.4E6
6.8E5
4.1E5
56:42
56:48
56:54
57:00
57:06
57:12
57:18
57:24
57:30
57:36
57:42
57:48
57:54
58:00
Time

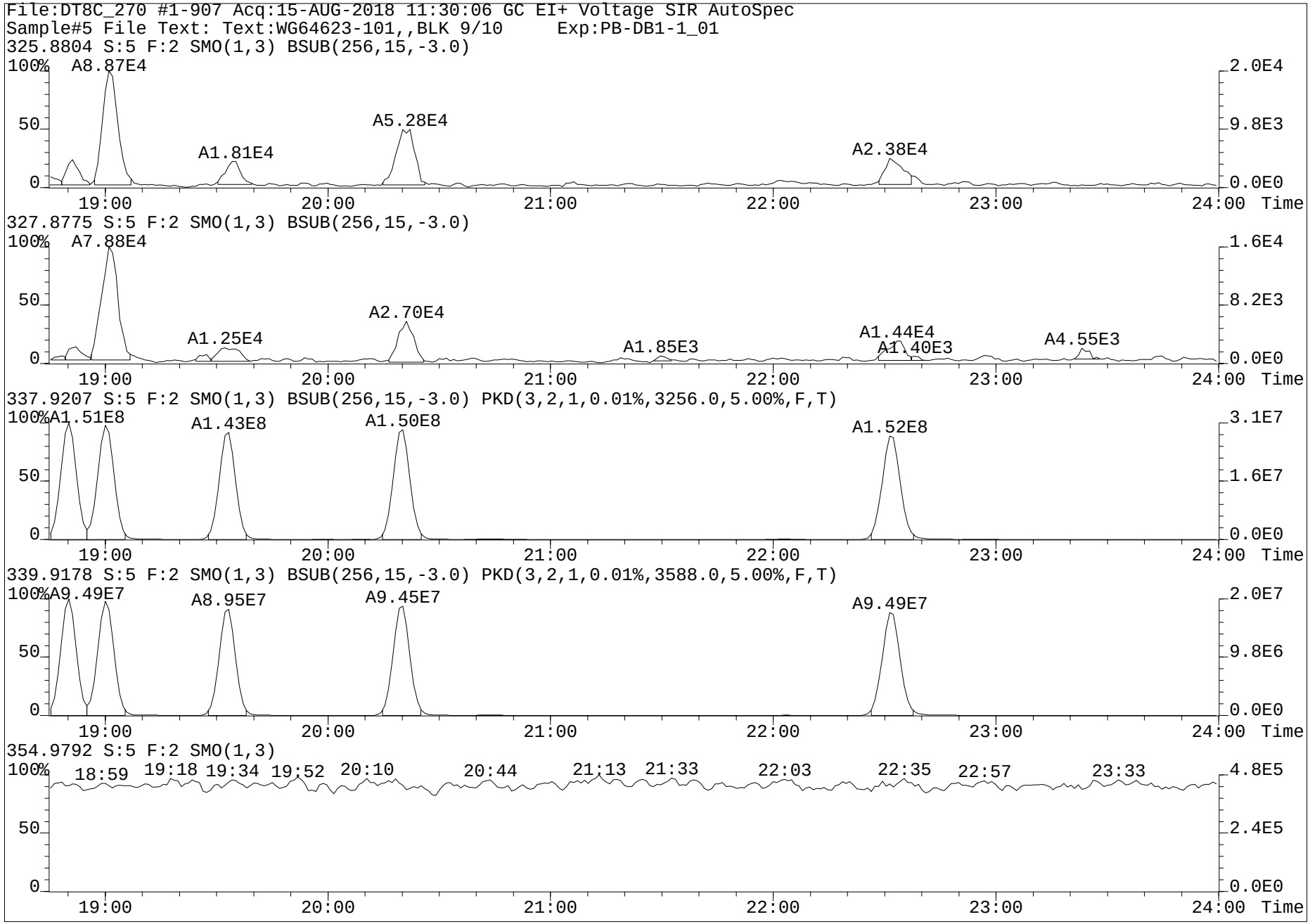
Run #11 Filename DT8C_270 S: 5 I: 1 Acquired: 15-AUG-18 11:30:06 Processed: 17-AUG-18 09:04:13
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-101,,BLK 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 5.000000 conc units: pg/g total toxicity: 4.34 F1: 1.0000 F2: 5.0000

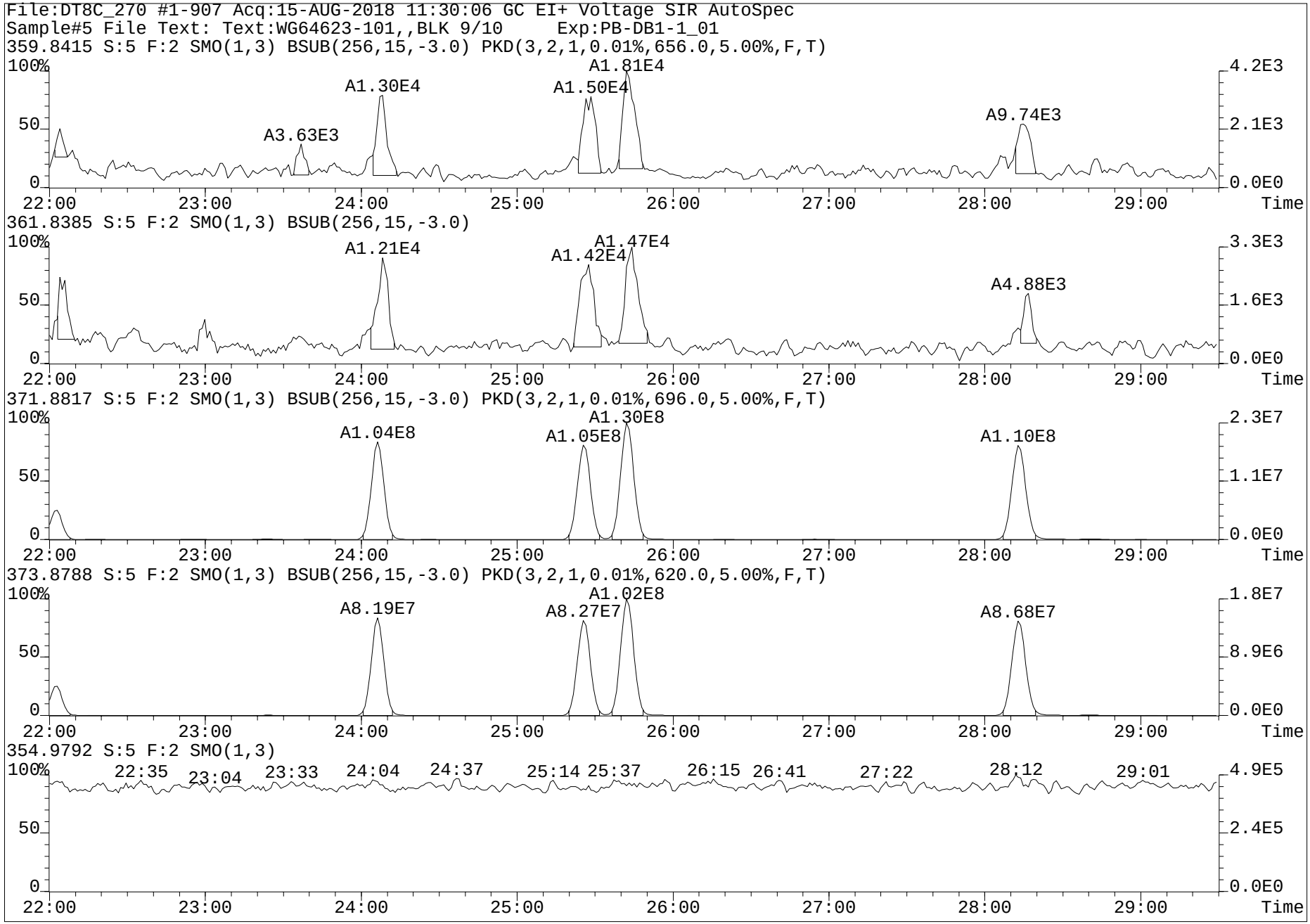
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	4.09e+04	1.09	n	16:52	0.261	0	0.0717	-	n
2	Unk	CL4-PCB-77	1	5.40e+04	0.88	y	17:21	0.314	0	0.0683	-	n
3	Unk	CL5-PCB-123	1	2.34e+04	2.16	n	18:51	0.185	0	~~0.1140~~ 0.2	-	y
4	Unk	CL5-PCB-118	1	1.68e+05	1.13	n	19:01	1.265	1	0.1111	-	y
5	Unk	CL5-PCB-114	1	3.07e+04	1.45	y	19:34	0.232	0	0.1129	-	y
6	Unk	CL5-PCB-105	1	7.98e+04	1.95	n	20:20	0.627	1	0.1200	-	y
7	Unk	CL5-PCB-126	1	3.82e+04	1.65	y	22:32	0.292	0	0.1252	-	y
8	Unk	CL6-PCB-167	1	2.51e+04	1.07	y	24:07	0.234	0	0.1602	-	y
9	Unk	CL6-PCB-156	1	2.92e+04	1.06	y	25:27	0.274	0	0.1669	-	y
10	Unk	CL6-PCB-157	1	3.28e+04	1.23	y	25:43	0.256	0	0.1397	-	y
11	Unk	CL6-PCB-169	1	1.46e+04	1.99	n	28:15	0.137	0	0.1768	-	y
12	Unk	CL7-PCB-180	0	*	*	n	NotFnd	*	*	1.4801	-	n
13	Unk	CL7-PCB-170	0	*	*	n	NotFnd	*	*	1.1699	-	n
14	Unk	CL7-PCB-189	1	2.05e+04	1.24	n	31:03	0.265	0	0.2050	-	n
15	IS	13C-CL4-PCB-81	1	3.01e+08	0.79	y	16:51	6036.945	0	0.7445	301.8	n
16	IS	13C-CL4-PCB-77	1	3.26e+08	0.80	y	17:20	6653.505	0	0.7558	332.7	n
17	IS	13C-CL5-PCB-123	1	2.46e+08	1.59	y	18:50	5605.951	0	1.6166	280.3	n
18	IS	13C-CL5-PCB-118	1	2.46e+08	1.59	y	19:00	5461.681	0	1.5718	273.1	n
19	IS	13C-CL5-PCB-114	1	2.32e+08	1.59	y	19:33	5643.023	0	1.7220	282.2	n
20	IS	13C-CL5-PCB-105	1	2.44e+08	1.58	y	20:20	5869.293	0	1.7025	293.5	n
21	IS	13C-CL5-PCB-126	1	2.47e+08	1.60	y	22:31	6568.449	0	1.8844	328.4	n
22	IS	13C-CL6-PCB-167	1	1.86e+08	1.27	y	24:06	5739.143	0	0.5440	287.0	n
23	IS	13C-CL6-PCB-156	1	1.88e+08	1.27	y	25:25	5677.720	0	0.5342	283.9	n
24	IS	13C-CL6-PCB-157	1	2.32e+08	1.27	y	25:42	6296.683	0	0.4790	314.8	n
25	IS	13C-CL6-PCB-169	1	1.97e+08	1.27	y	28:13	6256.191	0	0.5602	312.8	n
26	IS	13C-CL7-PCB-180	1	2.18e+07	1.04	y	26:55	892.501	0	0.6182	44.6	n
27	IS	13C-CL7-PCB-170	1	2.96e+07	1.06	y	28:41	1486.169	0	0.7575	74.3	n
28	IS	13C-CL7-PCB-189	1	1.56e+08	1.05	y	31:01	5979.400	0	0.5775	299.0	n
29	IS	13C-CL10-PCB-209	1	7.58e+06	1.15	y	34:37	251.850	0	0.3691	12.6	n
30	RS	13C-CL4-PCB-52	1	8.01e+07	0.80	y	11:52	40.125	0	-	-	n
31	RS	13C-CL5-PCB-101	1	5.82e+07	1.62	y	15:42	40.836	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	5.43e+07	1.27	y	22:03	42.281	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	8.22e+07	1.60	y	17:04	2286.737	0	0.2821	114.3	n
34	C/Up	13C-CL7-PCB-178	1	8.05e+06	1.02	y	22:55	337.122	0	0.6310	16.9	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

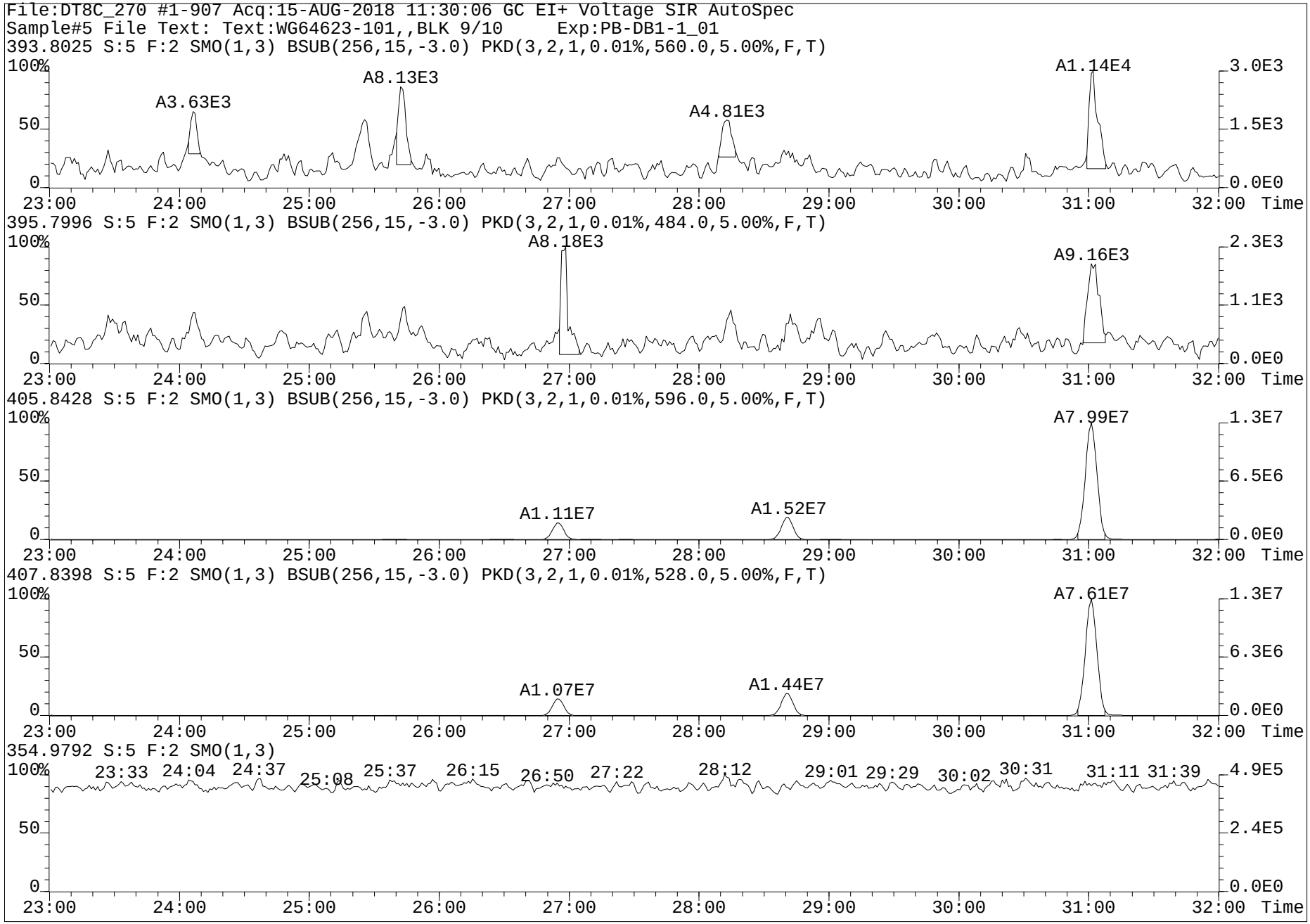
SV BJ
17 Aug 2018

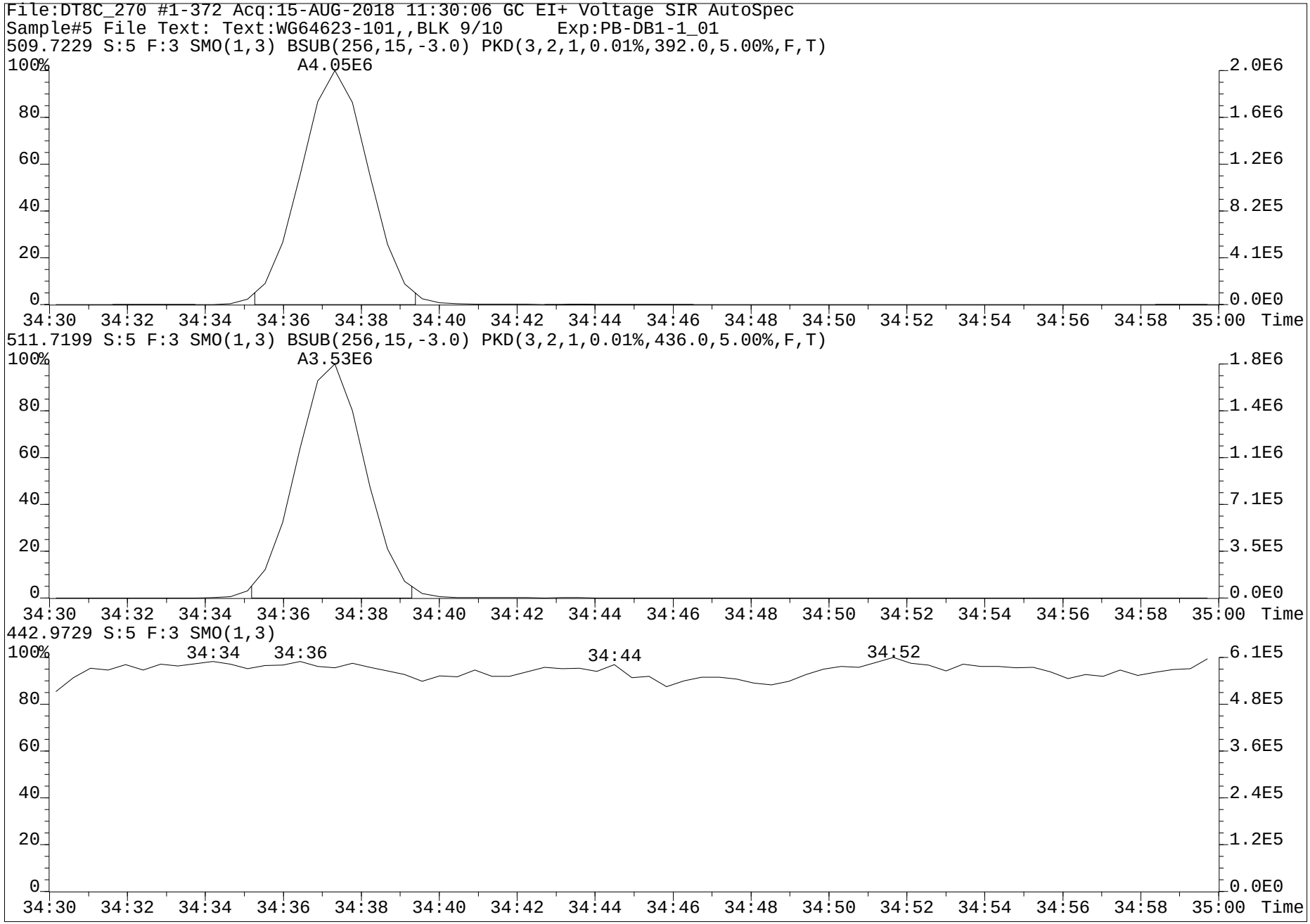
PV by RA 17AUG2018

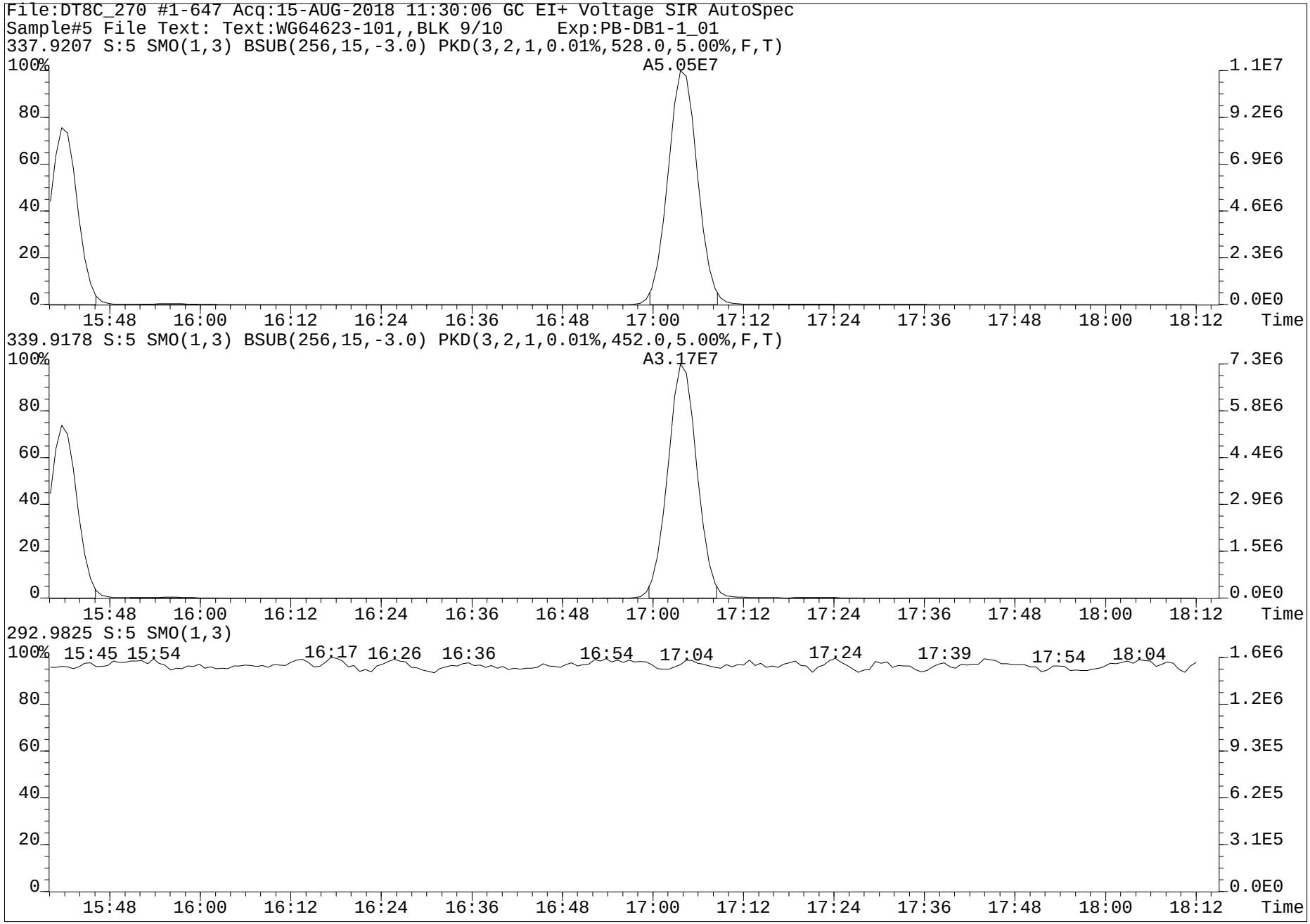

File:DT8C_270 #1-647 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
289.9224 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A1.31E4
A2.34E4
A7.94E3
A1.60E4
A1.26E4
A2.11E3
A3.66E4
A5.65E4
A4.33E4
A5.14E3
A2.13E4
A2.53E4
291.9194 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,604.0,5.00%,F,T)
A1.09E4
A3.07E4
A1.18E4
A8.70E3
A4.05E4
A7.90E4
A5.10E4
A1.70E3
A1.95E4
A2.87E4
301.9626 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2804.0,5.00%,F,T)
A3.55E7
A1.45E8
303.9597 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1816.0,5.00%,F,T)
A4.46E7
A1.82E8
292.9825 S:5 SMO(1,3)
11:26 11:51 12:34 13:28 13:51 14:14 14:42 15:05 15:32 16:17 16:54 17:24 18:04
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
1.6E4 8.0E3 0.0E0
2.1E4 1.1E4 0.0E0
3.2E7 1.6E7 0.0E0
4.0E7 2.0E7 0.0E0
1.6E6 7.9E5 0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
325.8804 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0)
A8.87E4
A1.81E4
A5.28E4
A2.38E4
2.0E4
9.8E3
0.0E0
327.8775 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0)
A7.88E4
A1.25E4
A2.70E4
A1.85E3
A1.44E4
A1.40E3
A4.55E3
1.6E4
8.2E3
0.0E0
337.9207 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3256.0,5.00%,F,T)
A1.51E8
A1.43E8
A1.50E8
A1.52E8
3.1E7
1.6E7
0.0E0
339.9178 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3588.0,5.00%,F,T)
A9.49E7
A8.95E7
A9.45E7
A9.49E7
2.0E7
9.8E6
0.0E0
354.9792 S:5 F:2 SMO(1,3)
18:59
19:18
19:34
19:52
20:10
20:44
21:13
21:33
22:03
22:35
22:57
23:33
4.8E5
2.4E5
0.0E0
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
359.8415 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,656.0,5.00%,F,T)
A1.81E4
A1.30E4
A1.50E4
A3.63E3
A9.74E3
4.2E3
2.1E3
0.0E0
361.8385 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.47E4
A1.21E4
A1.42E4
A4.88E3
3.3E3
1.6E3
0.0E0
371.8817 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
A1.30E8
A1.04E8
A1.05E8
A1.10E8
2.3E7
1.1E7
0.0E0
373.8788 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,620.0,5.00%,F,T)
A1.02E8
A8.19E7
A8.27E7
A8.68E7
1.8E7
8.9E6
0.0E0
354.9792 S:5 F:2 SMO(1,3)
22:35
23:04
23:33
24:04
24:37
25:14
25:37
26:15
26:41
27:22
28:12
29:01
4.9E5
2.4E5
0.0E0
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
393.8025 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A3.63E3
A8.13E3
A4.81E3
A1.14E4
395.7996 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A8.18E3
A9.16E3
405.8428 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
A1.11E7
A1.52E7
A7.99E7
407.8398 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A1.07E7
A1.44E7
A7.61E7
354.9792 S:5 F:2 SMO(1,3)
23:33 24:04 24:37 25:08 25:37 26:15 26:50 27:22 28:12 29:01 29:29 30:02 30:31 31:11 31:39
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
3.0E3
1.5E3
0.0E0
2.3E3
1.1E3
1.3E7
6.5E6
6.3E6
4.9E5
2.4E5


File:DT8C_270 #1-372 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
509.7229 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A4.05E6
511.7199 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A3.53E6
442.9729 S:5 F:3 SMO(1,3)
34:34
34:36
34:44
34:52
Time


File:DT8C_270 #1-647 Acq:15-AUG-2018 11:30:06 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:WG64623-101,,BLK 9/10 Exp:PB-DB1-1_01
337.9207 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A5.05E7
339.9178 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A3.17E7
292.9825 S:5 SMO(1,3)
15:45 15:54 16:17 16:26 16:36 16:54 17:04 17:24 17:39 17:54 18:04
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

www.axysanalytical.com

Run #9 Filename PB8C_260 S: 2 I: 1 Acquired: 7-AUG-18 20:49:32 Processed: 8-AUG-18 07:42:30
Run: pb8c_260-a Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-102,,SPM 1/10 Comments: 1,WG64623,1.0/20uL
sample size: 20.000000 ✓ conc units: ng/mL ✓ total toxicity: 1353.14 F1: 1.0000 F2: 5.0000 ✓

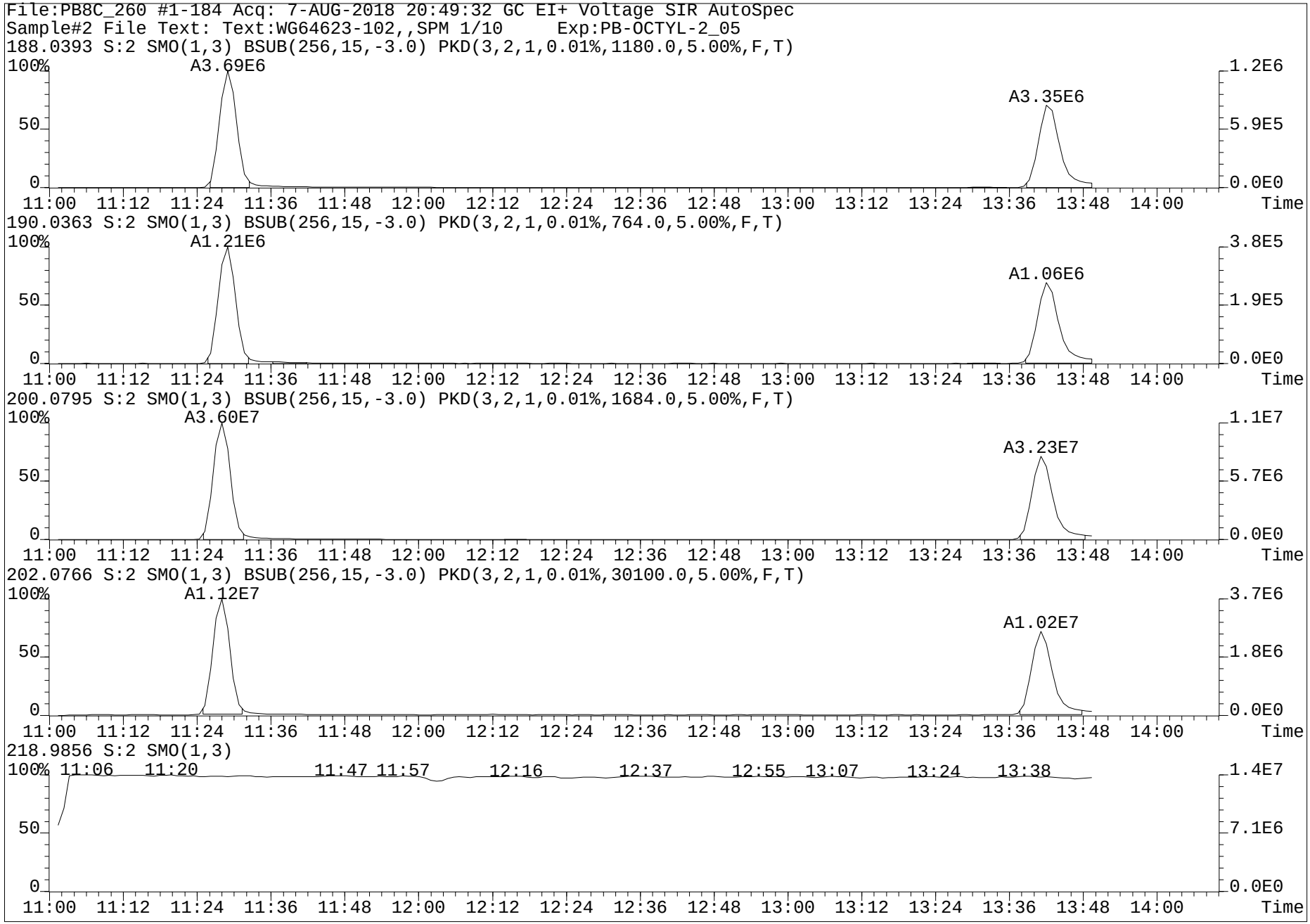
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	4.90e+06	3.06	y	11:29	48.448	48	0.1493	-	n
2	Unk	CL1-PCB-3	1	4.41e+06	3.15	y	13:43	48.075	48	0.2068	-	n
3	Unk	CL2-PCB-4	1	2.62e+06	1.52	y	13:57	45.978	46	1.2771	-	n
4	Unk	CL2-PCB-15	1	3.51e+06	1.54	y	20:01	46.847	47	1.3197	-	n
5	Unk	CL3-PCB-19	1	2.83e+06	1.03	y	17:07	50.506	51	0.3233	-	n
6	Unk	CL3-PCB-37	1	3.14e+06	1.08	y	27:19	49.421	49	0.3957	-	n
7	Unk	CL4-PCB-54	1	3.40e+06	0.80	y	20:17	50.333	50	0.2850	-	n
8	Unk	CL4-PCB-81	1	2.97e+06	0.77	y	34:21	50.044	50	0.3569	-	n
9	Unk	CL4-PCB-77	1	3.02e+06	0.80	y	34:57	49.514	50	0.3590	-	n
10	Unk	CL5-PCB-104	1	2.65e+06	1.56	y	25:58	49.861	50	0.2469	-	n
11	Unk	CL5-PCB-123	1	2.55e+06	1.54	y	37:01	48.259	48	0.3206	-	n
12	Unk	CL5-PCB-118	1	2.76e+06	1.52	y	37:21	49.596	50	0.3152	-	y
13	Unk	CL5-PCB-114	1	2.67e+06	1.59	y	37:54	50.526	51	0.3212	-	n
14	Unk	CL5-PCB-105	1	3.16e+06	1.57	y	38:35	46.858	47	0.2455	-	n
15	Unk	CL5-PCB-126	1	2.51e+06	1.46	y	41:50	49.402	49	0.3557	-	y
16	Unk	CL6-PCB-155	1	2.61e+06	1.31	y	31:52	50.037	50	0.2027	-	n
17	Unk	CL6-PCB-167	1	2.82e+06	1.21	y	43:45	52.679	53	0.3731	-	n
18	Unk	CL6-PCB-156/157	1	5.76e+06	1.26	y	44:58	103.513	104	0.4811	-	n
19	Unk	CL6-PCB-169	1	2.83e+06	1.29	y	48:23	51.971	52	0.3947	-	n
20	Unk	CL7-PCB-188	1	2.40e+06	1.02	y	37:51	50.542	51	0.2403	-	n
21	Unk	CL7-PCB-189	1	2.61e+06	1.03	y	51:00	49.081	49	0.2918	-	n
22	Unk	CL8-PCB-202	1	2.15e+06	0.88	y	43:28	55.622	56	0.2063	-	n
23	Unk	CL8-PCB-205	1	2.45e+06	0.87	y	53:41	49.892	50	0.2566	-	n
24	Unk	CL9-PCB-208	1	2.02e+06	0.78	y	50:27	52.386	52	0.3706	-	n
25	Unk	CL9-PCB-206	1	1.74e+06	0.80	y	55:29	51.349	51	0.4183	-	n
26	Unk	CL10-PCB-209	1	2.21e+06	1.21	y	57:08	52.395	52	0.2432	-	n
27	IS	13C-CL1-PCB-1	1	4.72e+07	3.21	y	11:28	139.049	0	0.9596	27.8	n
28	IS	13C-CL1-PCB-3	1	4.24e+07	3.18	y	13:42	131.215	0	1.0072	26.2	n
29	IS	13C-CL2-PCB-4	1	2.87e+07	1.58	y	13:56	139.396	0	0.3889	27.9	n
30	IS	13C-CL2-PCB-15	1	4.12e+07	1.58	y	20:00	128.536	0	0.2494	25.7	n
31	IS	13C-CL3-PCB-19	1	2.62e+07	1.05	y	17:06	154.771	0	1.3954	31.0	n
32	IS	13C-CL3-PCB-37	1	3.18e+07	1.04	y	27:18	139.887	0	2.1028	28.0	n
33	REF	13C-CL4-CHECK	1	3.20e+07	0.80	y	20:16	160.334	0	0.4439	32.1	n
34	IS	13C-CL4-PCB-81	1	2.89e+07	0.75	y	34:20	166.012	0	0.4864	33.2	n
35	IS	13C-CL4-PCB-77	1	2.96e+07	0.75	y	34:56	167.674	0	0.4787	33.5	n
36	IS	13C-CL5-PCB-104	1	2.50e+07	1.57	y	25:56	149.834	0	0.0600	30.0	n
37	IS	13C-CL5-PCB-123	1	2.69e+07	1.58	y	36:59	171.004	0	0.4289	34.2	n
38	IS	13C-CL5-PCB-118	1	2.66e+07	1.60	y	37:20	172.479	0	0.4376	34.5	n
39	IS	13C-CL5-PCB-114	1	2.49e+07	1.58	y	37:53	162.882	0	0.4410	32.6	n
40	IS	13C-CL5-PCB-105	1	3.28e+07	1.57	y	38:33	207.182	0	0.4259	41.4	n
41	IS	13C-CL5-PCB-126	1	2.44e+07	1.58	y	41:49	172.162	0	0.4769	34.4	n
42	IS	13C-CL6-PCB-155	1	2.55e+07	1.26	y	31:50	139.515	0	0.0538	27.9	n
43	IS	13C-CL6-PCB-167	1	2.40e+07	1.26	y	43:43	170.089	0	0.1123	34.0	n
44	IS	13C-CL6-PCB-156/157	1	5.06e+07	1.27	y	44:57	343.179	0	0.1076	34.3	n

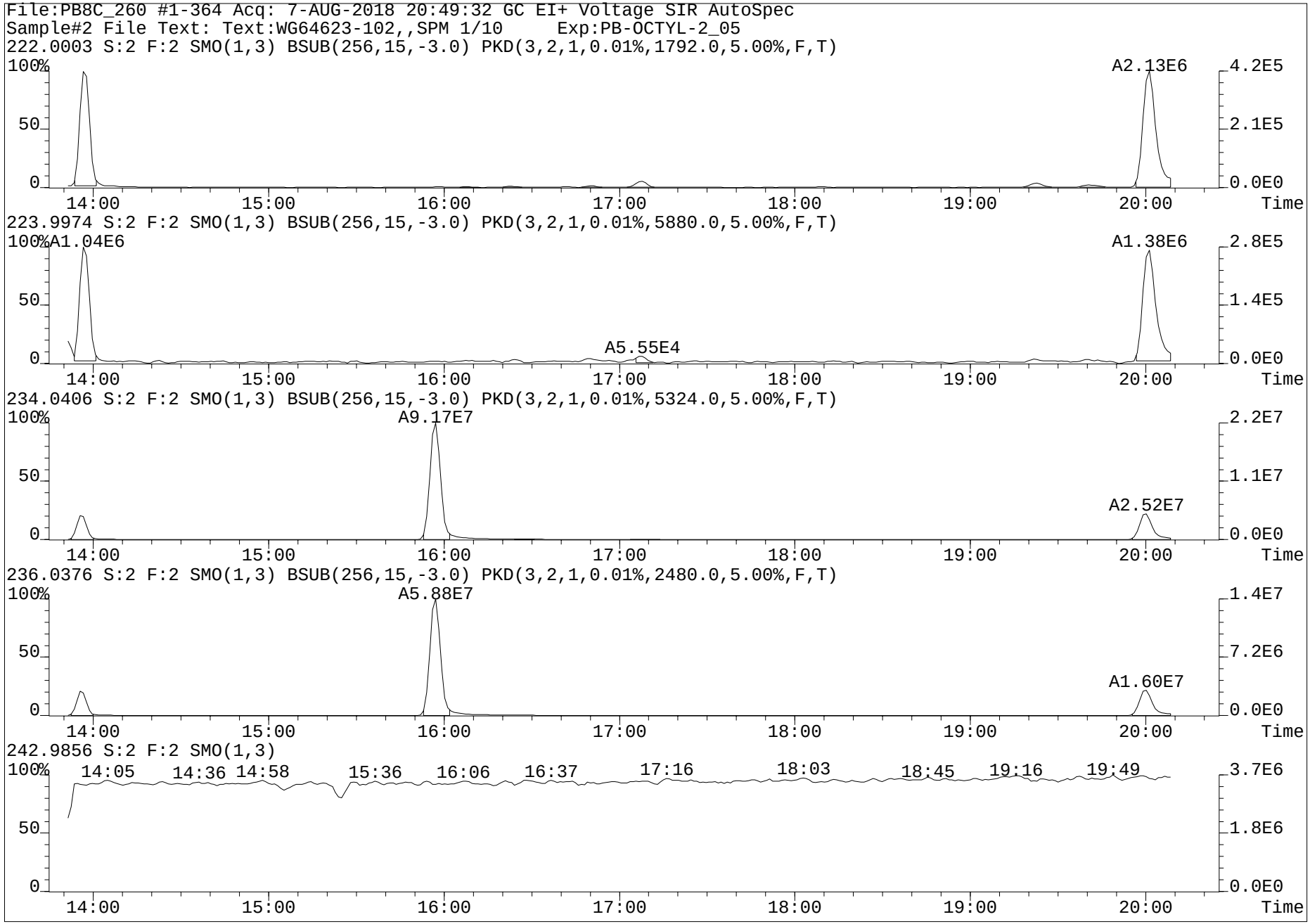
SV BJ
15 Aug 2018

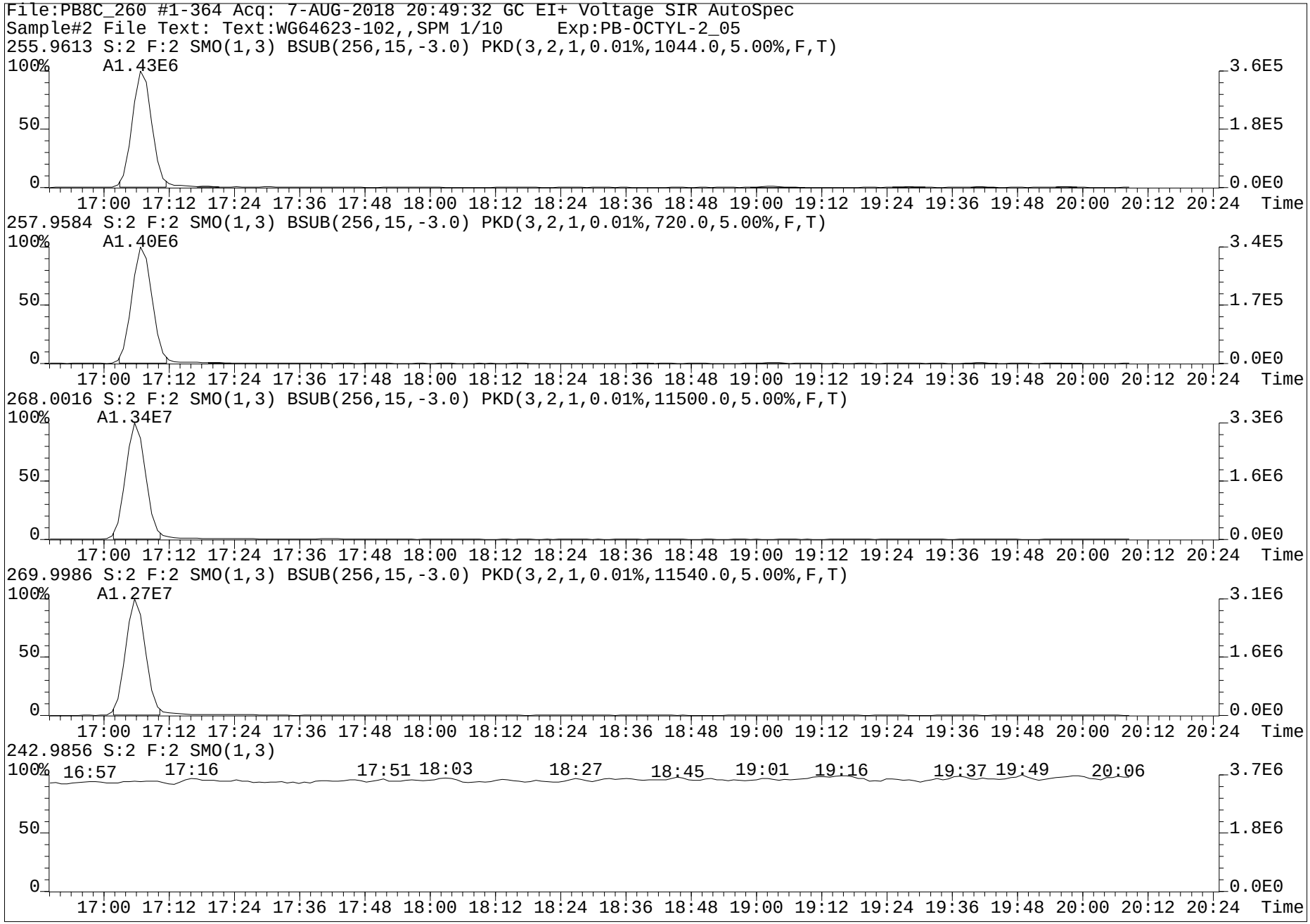
PV by RA 09AUG2018

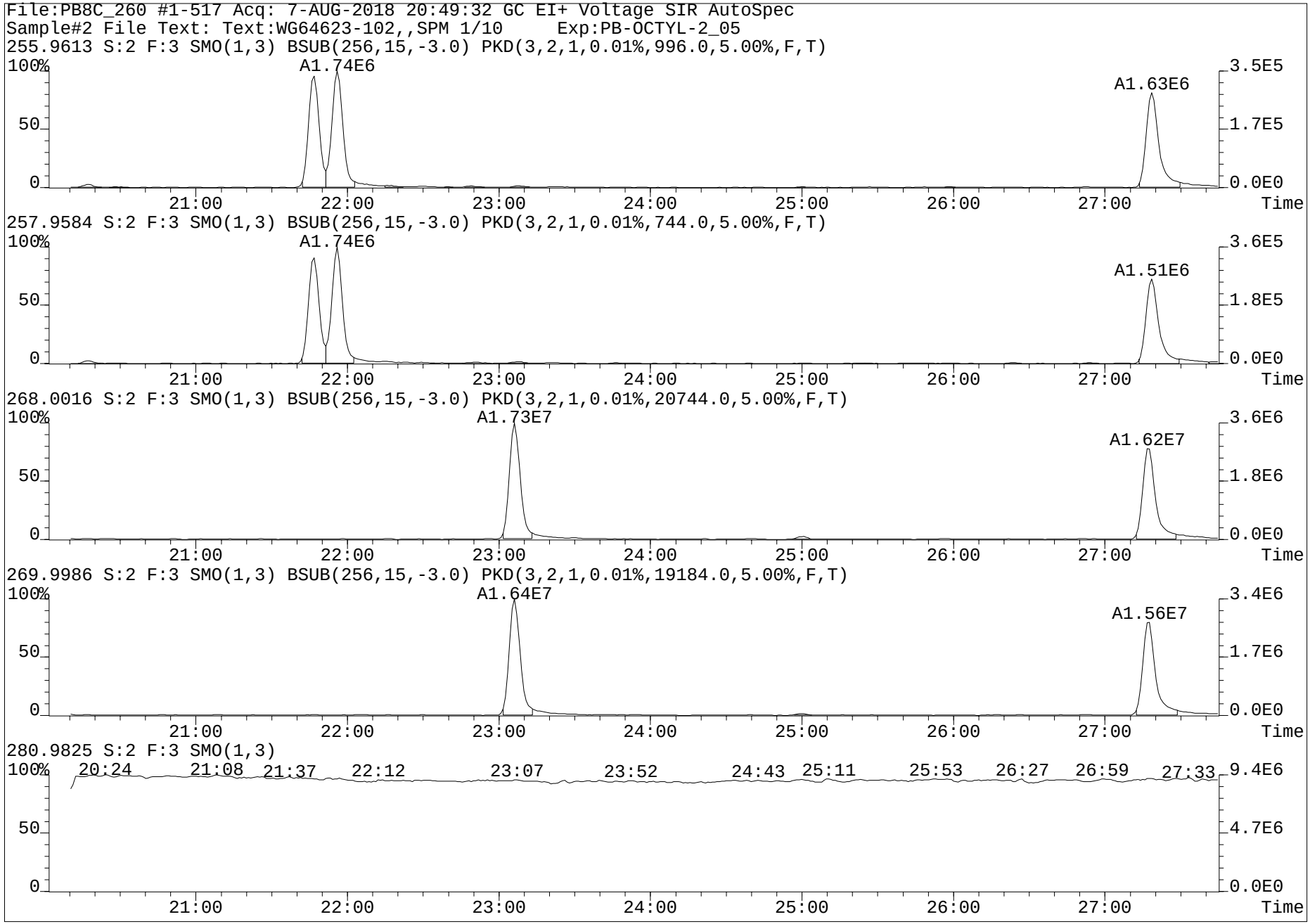
www.axysanalytical.com

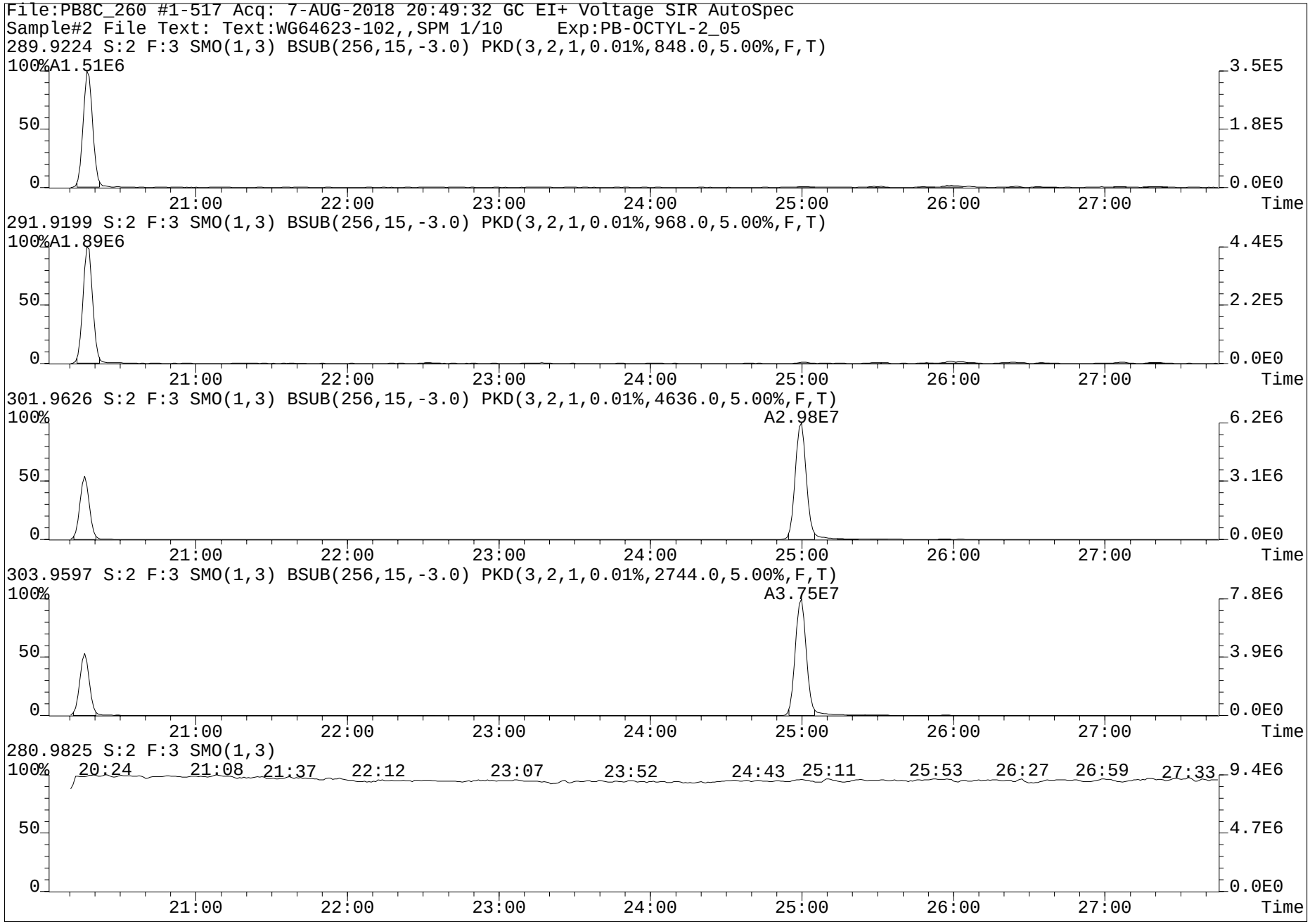
45	IS	13C-CL6-PCB-169	1	2.58e+07	1.27	y	48:22	176.665	0	0.1084	35.3	n
46	REF	13C-CL7-CHECK	1	2.44e+07	1.04	y	37:49	128.277	0	0.0754	25.7	n
47	IS	13C-CL7-PCB-189	1	2.51e+07	1.03	y	50:59	164.607	0	0.2010	32.9	n
48	IS	13C-CL8-PCB-202	1	2.22e+07	0.88	y	43:26	123.447	0	0.0497	24.7	n
49	IS	13C-CL8-PCB-205	1	2.49e+07	0.90	y	53:40	164.069	0	0.1036	32.8	n
50	IS	13C-CL9-PCB-208	1	2.04e+07	0.77	y	50:25	150.104	0	0.0938	30.0	n
51	IS	13C-CL9-PCB-206	1	1.69e+07	0.80	y	55:28	153.273	0	0.1152	30.7	n
52	IS	13C-CL10-PCB-209	1	1.98e+07	1.19	y	57:07	142.617	0	0.0709	28.5	n
53	RS	13C-CL2-PCB-9	1	1.51e+08	1.56	y	15:57	4.085	0	-	-	n
54	RS	13C-CL4-PCB-52	1	6.73e+07	0.79	y	25:00	3.663	0	-	-	n
55	RS	13C-CL5-PCB-101	1	5.65e+07	1.61	y	32:07	3.633	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.50e+07	1.29	y	40:33	3.870	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.04e+07	0.89	y	53:10	4.463	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.37e+07	1.05	y	23:06	147.330	0	2.0900	29.5	n
59	C/Up	13C-CL5-PCB-111	1	2.47e+07	1.62	y	34:56	163.416	0	0.0892	32.7	n
60	C/Up	13C-CL7-PCB-178	1	1.70e+07	1.06	y	41:02	162.387	0	0.1357	32.5	n
61	IS	13C-CL4-PCB-54	1	3.20e+07	0.80	y	20:16	160.334	0	0.4439	32.1	n
62	IS	13C-CL7-PCB-188	1	2.44e+07	1.04	y	37:49	128.277	0	0.0754	25.7	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

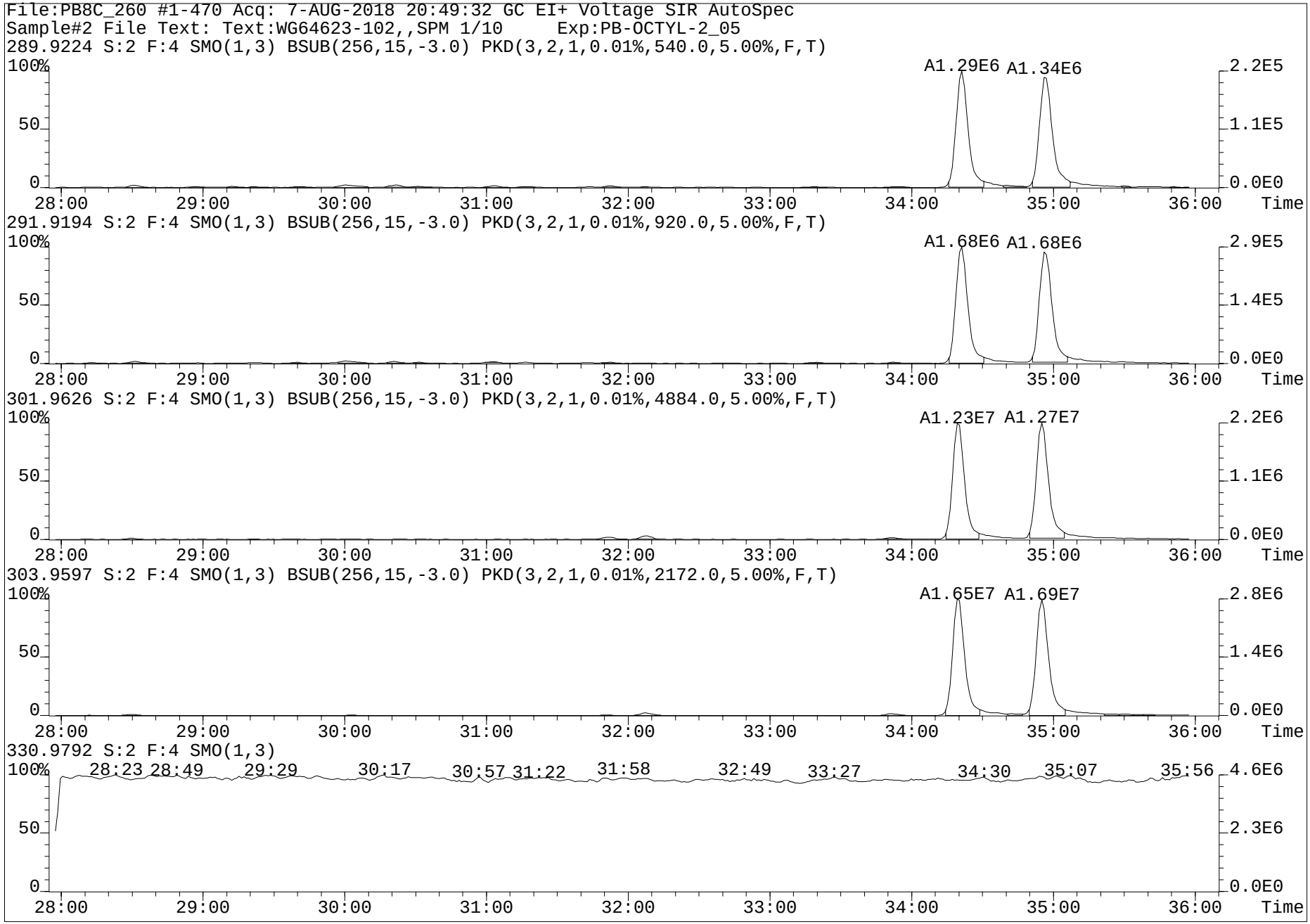

File:PB8C_260 #1-184 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
188.0393 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1180.0,5.00%,F,T)
A3.69E6
A3.35E6
1.2E6
5.9E5
0.0E0
190.0363 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,764.0,5.00%,F,T)
A1.21E6
A1.06E6
3.8E5
1.9E5
0.0E0
200.0795 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1684.0,5.00%,F,T)
A3.60E7
A3.23E7
1.1E7
5.7E6
0.0E0
202.0766 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,30100.0,5.00%,F,T)
A1.12E7
A1.02E7
3.7E6
1.8E6
0.0E0
218.9856 S:2 SMO(1,3)
1.4E7
7.1E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

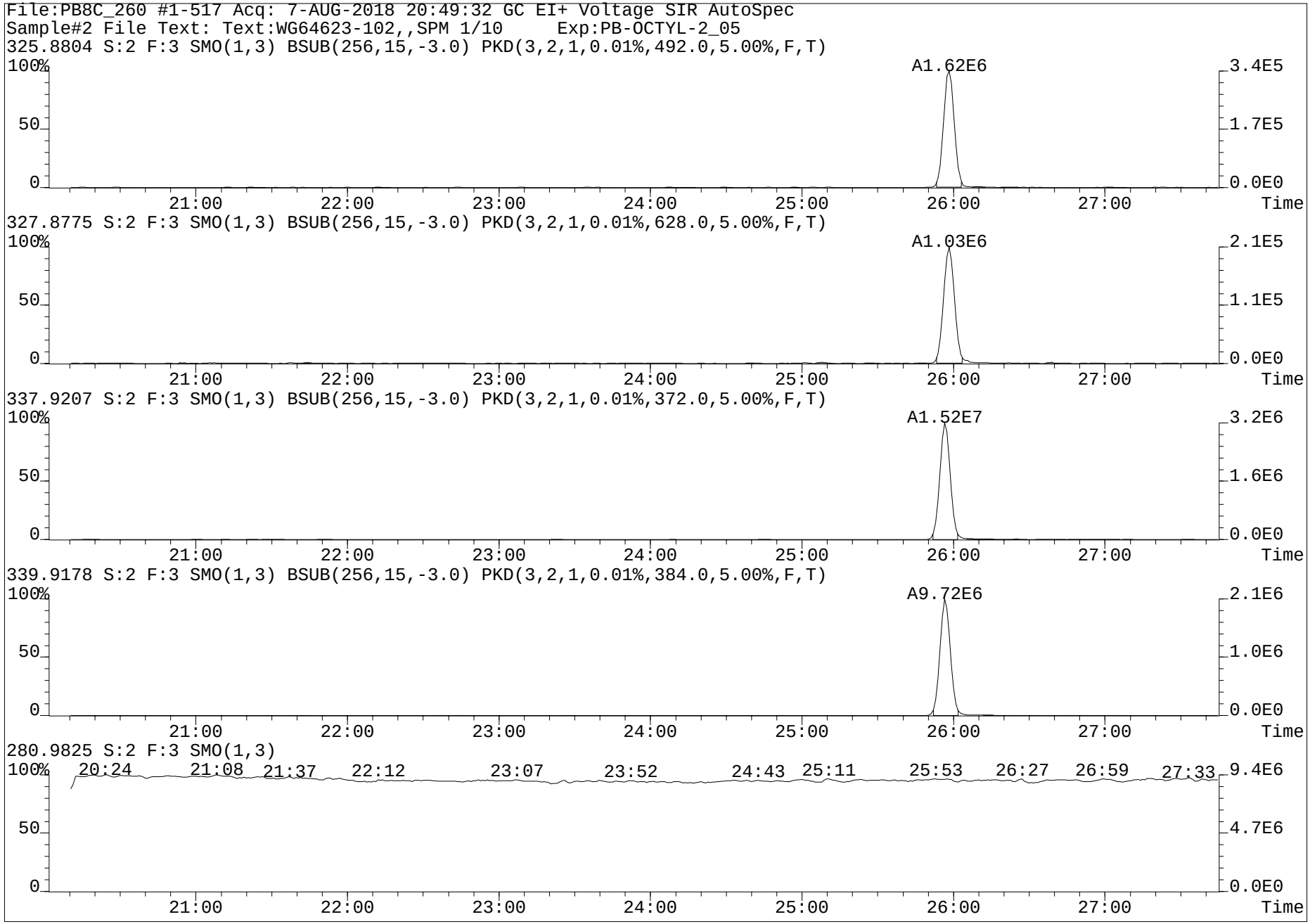

File:PB8C_260 #1-364 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
222.0003 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1792.0,5.00%,F,T)
A2.13E6
223.9974 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5880.0,5.00%,F,T)
A1.04E6
A5.55E4
A1.38E6
234.0406 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5324.0,5.00%,F,T)
A9.17E7
A2.52E7
236.0376 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2480.0,5.00%,F,T)
A5.88E7
A1.60E7
242.9856 S:2 F:2 SMO(1,3)
14:05 14:36 14:58 15:36 16:06 16:37 17:16 18:03 18:45 19:16 19:49
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
4.2E5 2.1E5 0.0E0
2.8E5 1.4E5 0.0E0
2.2E7 1.1E7 0.0E0
1.4E7 7.2E6 0.0E0
3.7E6 1.8E6 0.0E0

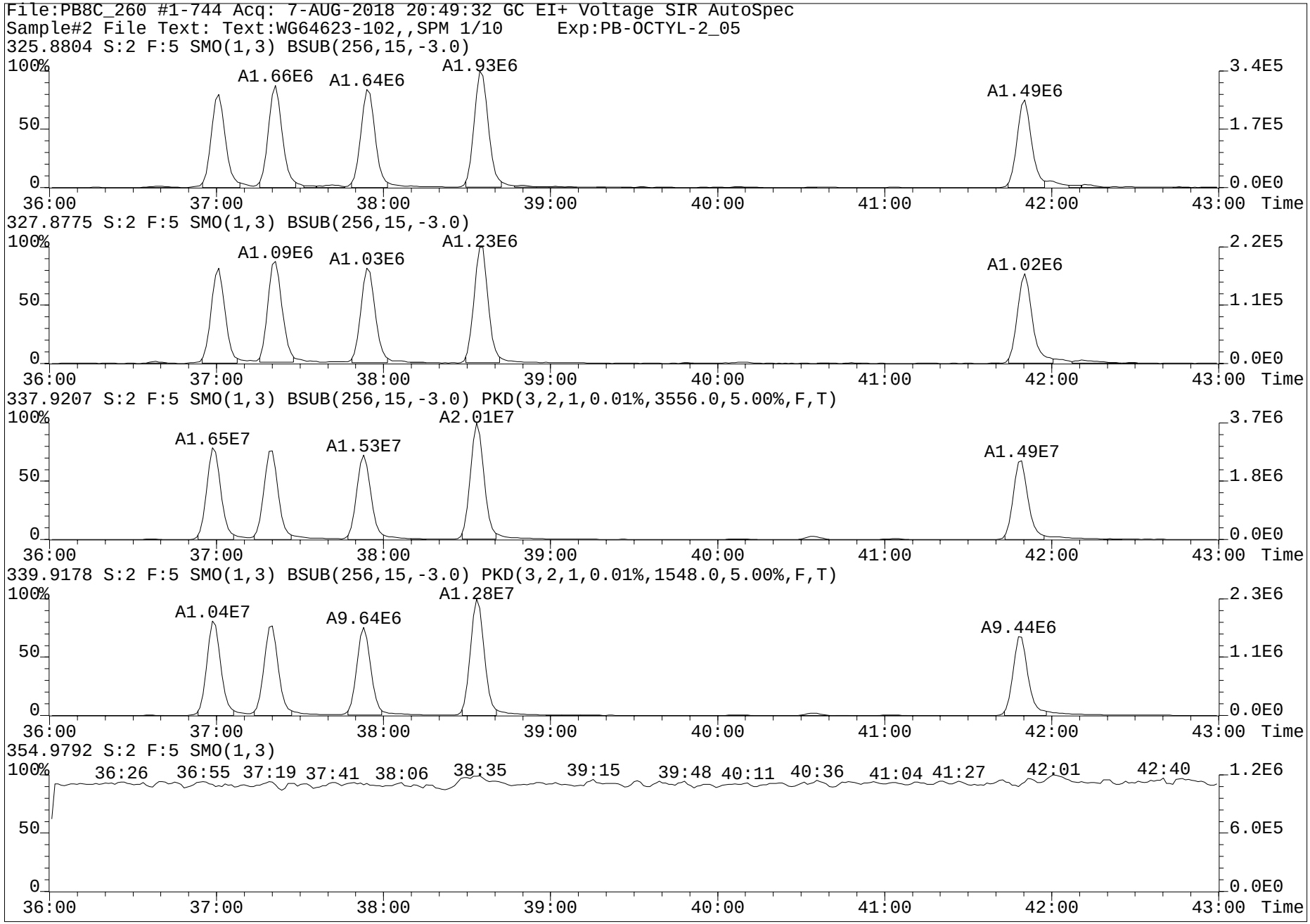

File:PB8C_260 #1-364 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
255.9613 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1044.0,5.00%,F,T)
100% A1.43E6
3.6E5
1.8E5
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
257.9584 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,720.0,5.00%,F,T)
100% A1.40E6
3.4E5
1.7E5
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
268.0016 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11500.0,5.00%,F,T)
100% A1.34E7
3.3E6
1.6E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
269.9986 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11540.0,5.00%,F,T)
100% A1.27E7
3.1E6
1.6E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
242.9856 S:2 F:2 SMO(1,3)
100% 16:57 17:16 17:51 18:03 18:27 18:45 19:01 19:16 19:37 19:49 20:06
3.7E6
1.8E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

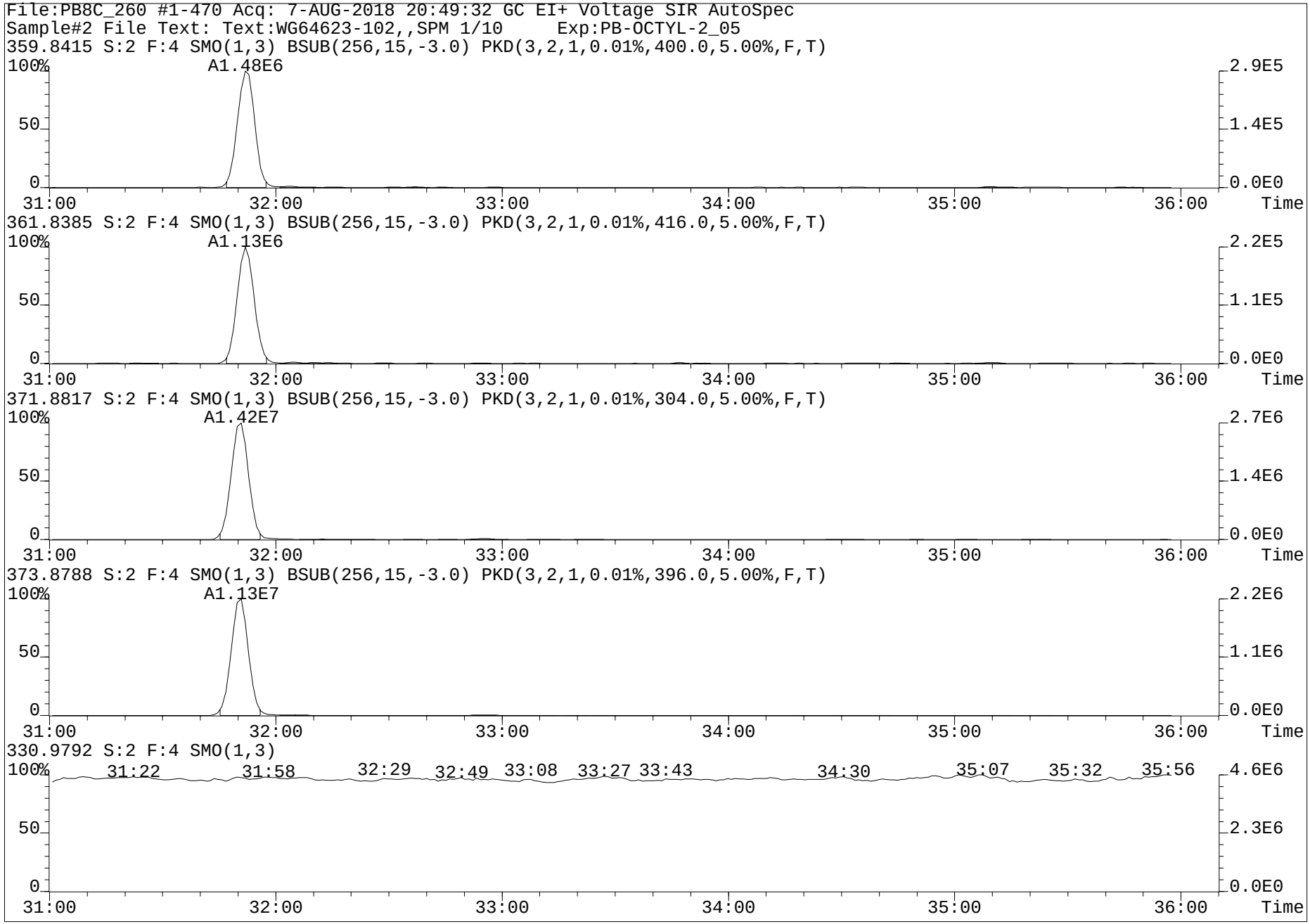

File:PB8C_260 #1-517 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
255.9613 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,996.0,5.00%,F,T)
A1.74E6
A1.63E6
257.9584 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,744.0,5.00%,F,T)
A1.74E6
A1.51E6
268.0016 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,20744.0,5.00%,F,T)
A1.73E7
A1.62E7
269.9986 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19184.0,5.00%,F,T)
A1.64E7
A1.56E7
280.9825 S:2 F:3 SMO(1,3)
20:24 21:08 21:37 22:12 23:07 23:52 24:43 25:11 25:53 26:27 26:59 27:33
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
3.5E5 1.7E5 0.0E0
3.6E5 1.8E5 0.0E0
3.6E6 1.8E6 0.0E0
3.4E6 1.7E6 0.0E0
9.4E6 4.7E6 0.0E0

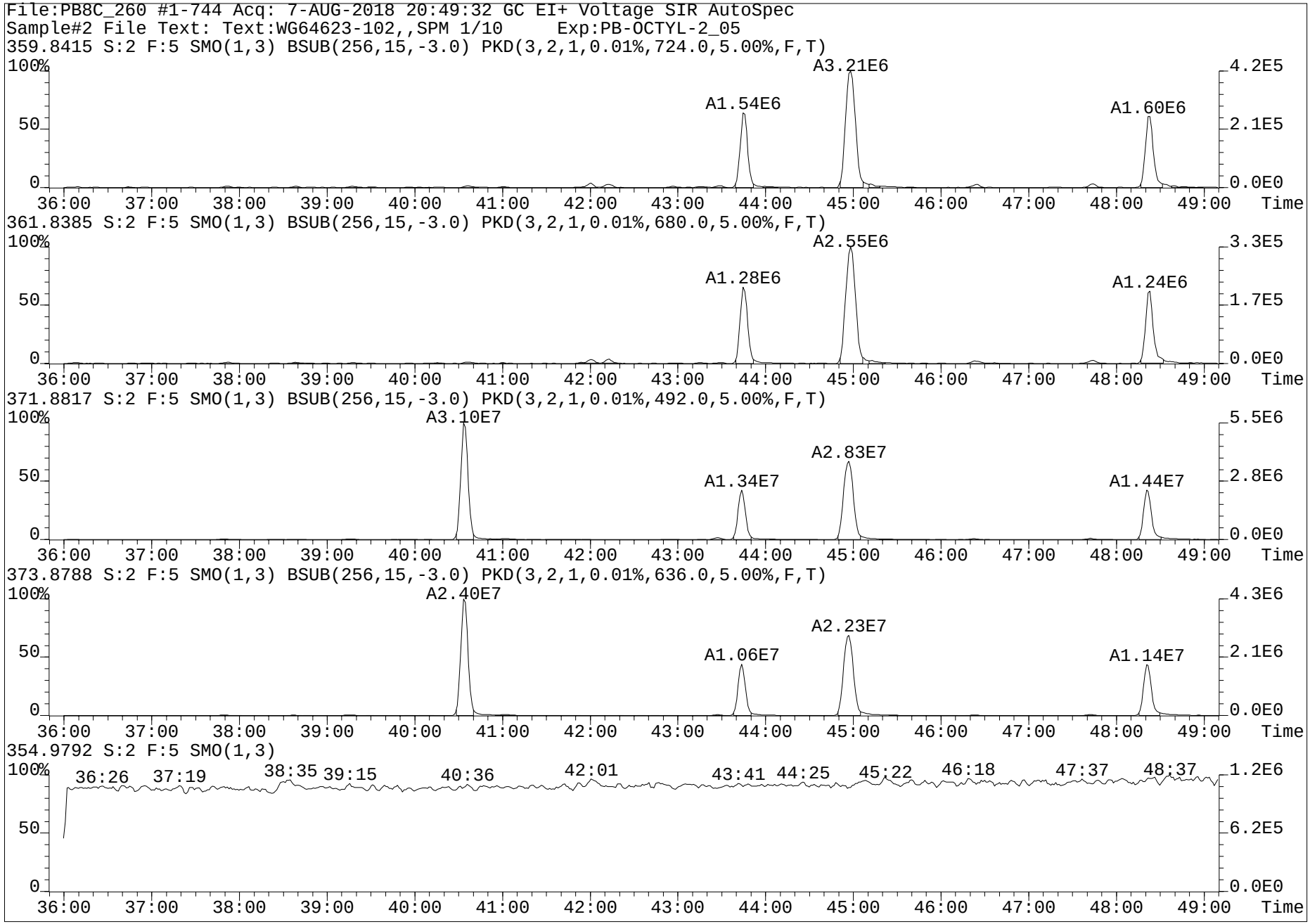

File:PB8C_260 #1-517 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,848.0,5.00%,F,T)
100%A1.51E6
3.5E5
1.8E5
0.0E0
291.9199 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,968.0,5.00%,F,T)
100%A1.89E6
4.4E5
2.2E5
0.0E0
301.9626 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4636.0,5.00%,F,T)
100%
A2.98E7
6.2E6
3.1E6
0.0E0
303.9597 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2744.0,5.00%,F,T)
100%
A3.75E7
7.8E6
3.9E6
0.0E0
280.9825 S:2 F:3 SMO(1,3)
100%
20:24
21:08
21:37
22:12
23:07
23:52
24:43
25:11
25:53
26:27
26:59
27:33
9.4E6
4.7E6
0.0E0
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

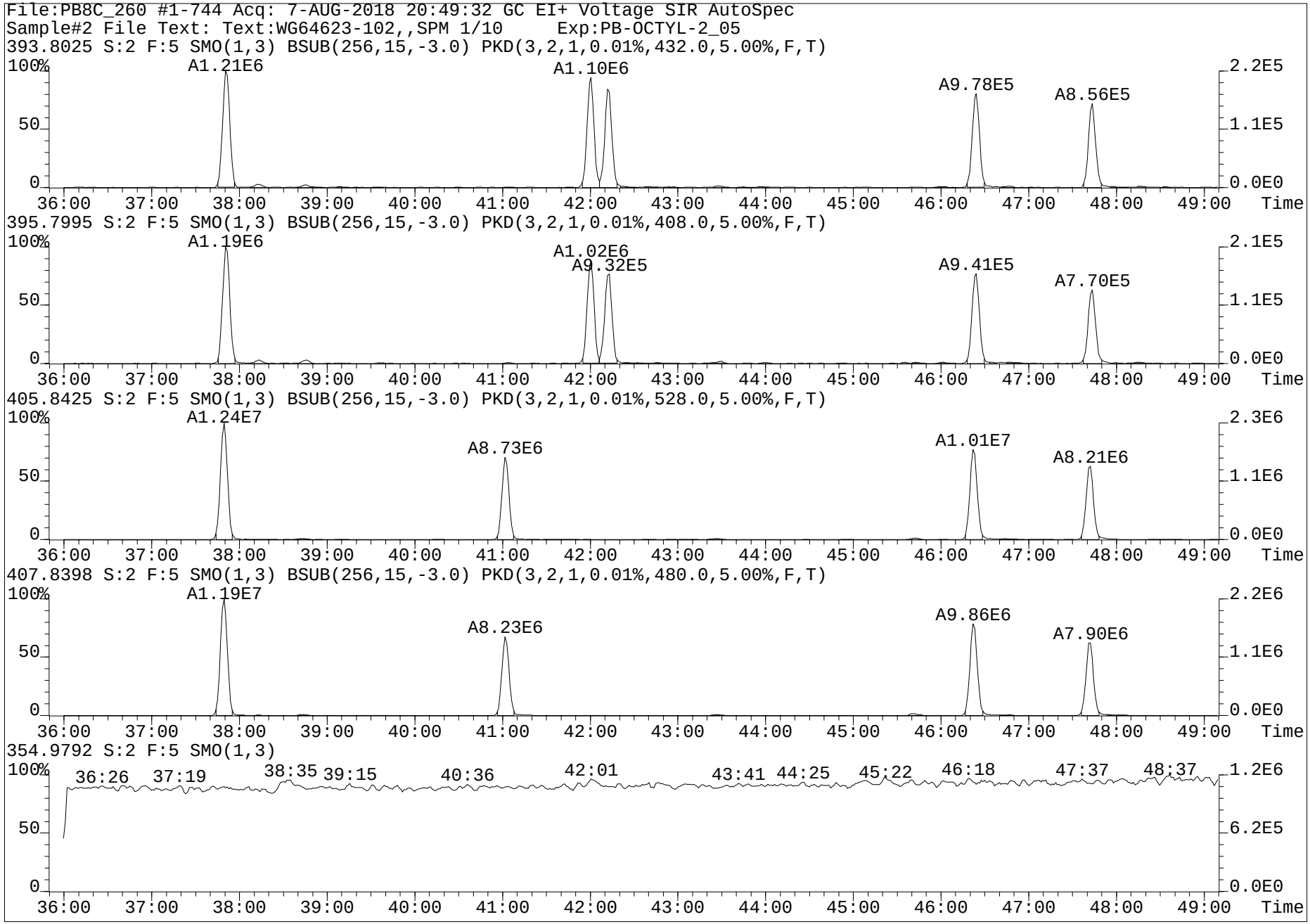

File:PB8C_260 #1-470 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
A1.29E6 A1.34E6
291.9194 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,920.0,5.00%,F,T)
A1.68E6 A1.68E6
301.9626 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4884.0,5.00%,F,T)
A1.23E7 A1.27E7
303.9597 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2172.0,5.00%,F,T)
A1.65E7 A1.69E7
330.9792 S:2 F:4 SMO(1,3)
28:23 28:49 29:29 30:17 30:57 31:22 31:58 32:49 33:27 34:30 35:07 35:56
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.2E5 1.1E5 0.0E0
2.9E5 1.4E5 0.0E0
2.2E6 1.1E6 0.0E0
2.8E6 1.4E6 0.0E0
4.6E6 2.3E6 0.0E0

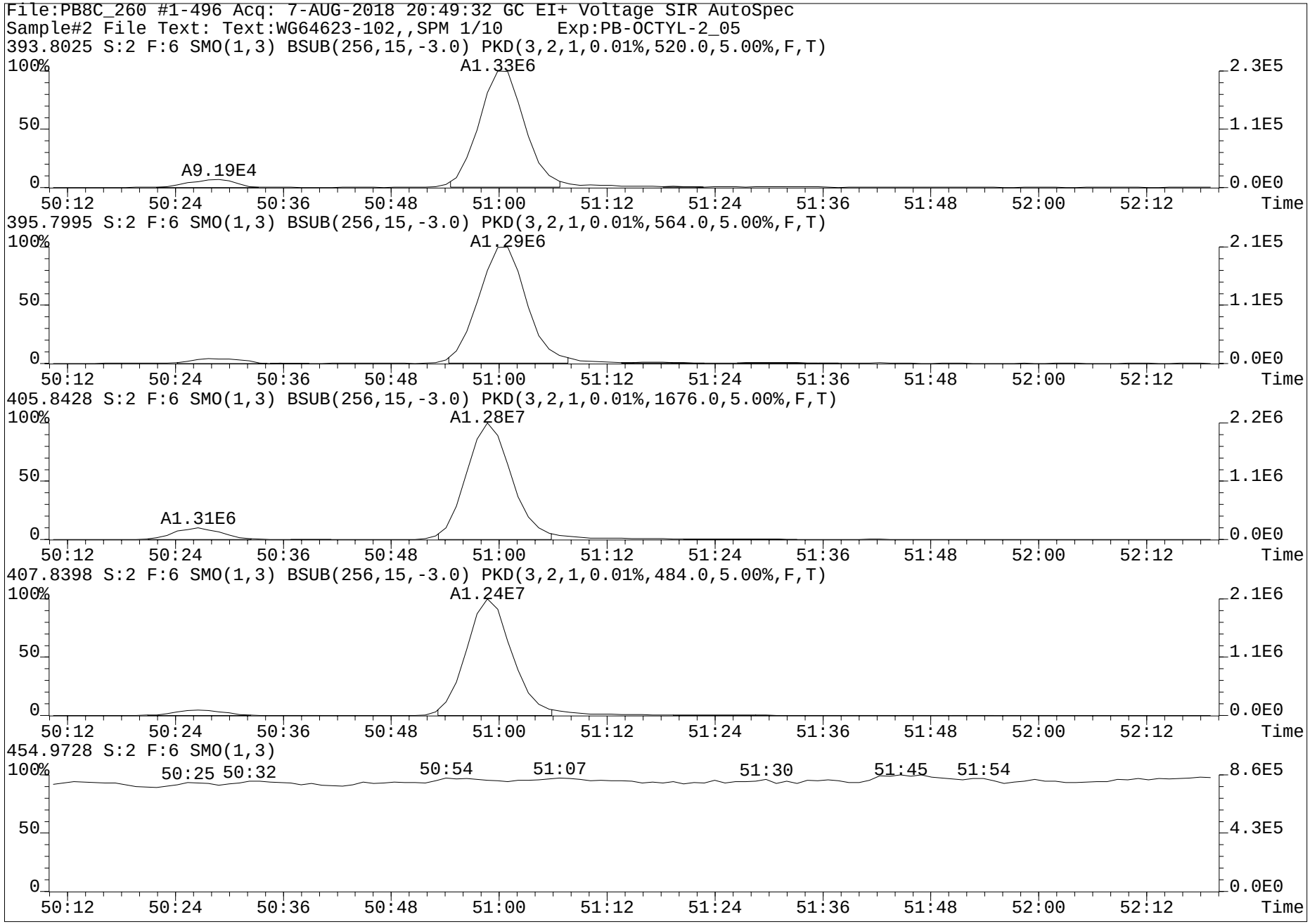

File:PB8C_260 #1-517 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A1.62E6
327.8775 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,628.0,5.00%,F,T)
A1.03E6
337.9207 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A1.52E7
339.9178 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A9.72E6
280.9825 S:2 F:3 SMO(1,3)
20:24 21:08 21:37 22:12 23:07 23:52 24:43 25:11 25:53 26:27 26:59 27:33
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
3.4E5 1.7E5 0.0E0
2.1E5 1.1E5 0.0E0
3.2E6 1.6E6 0.0E0
2.1E6 1.0E6 0.0E0
9.4E6 4.7E6 0.0E0

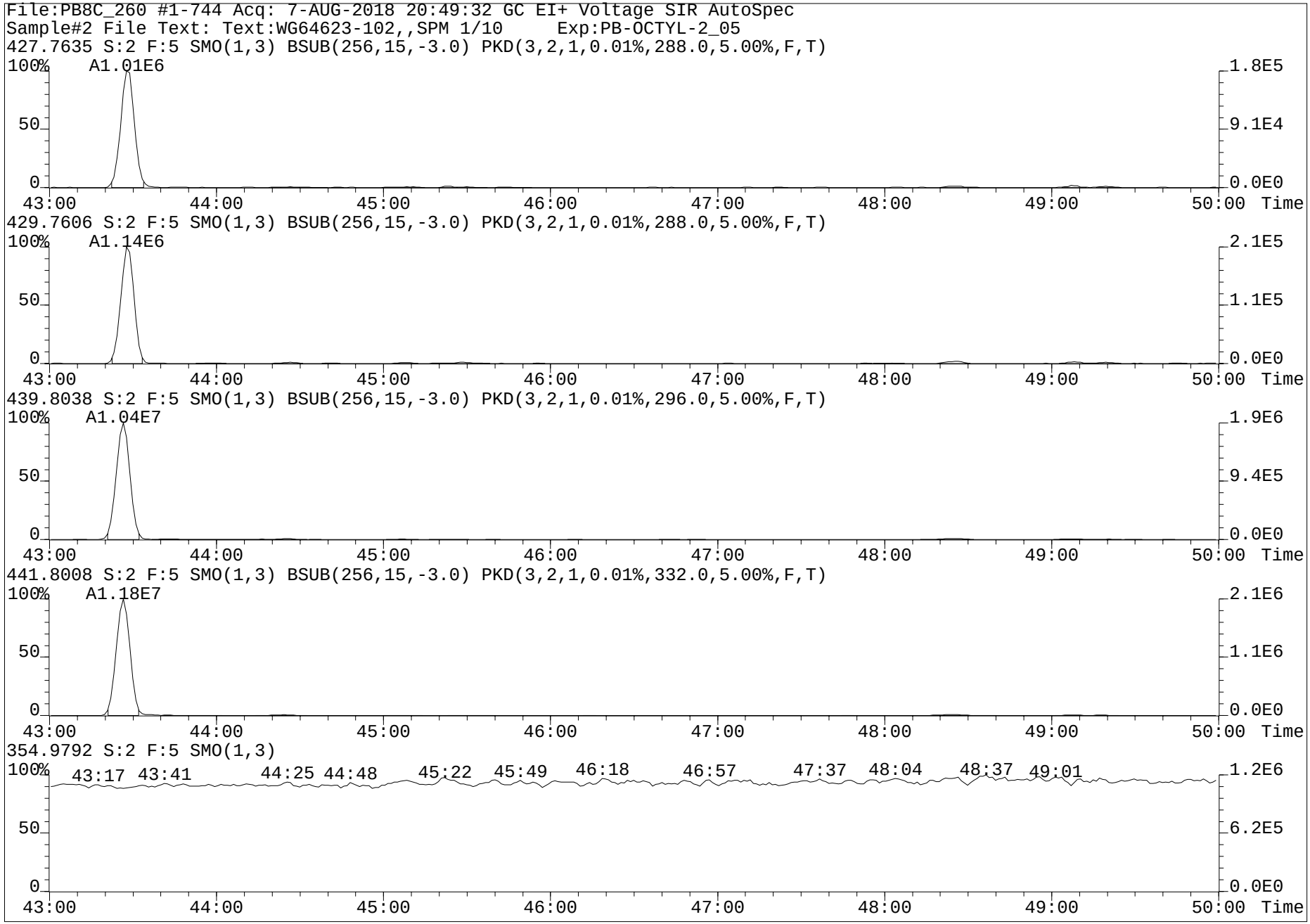

File:PB8C_260 #1-744 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.66E6
A1.64E6
A1.93E6
A1.49E6
327.8775 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.09E6
A1.03E6
A1.23E6
A1.02E6
337.9207 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3556.0,5.00%,F,T)
A1.65E7
A1.53E7
A2.01E7
A1.49E7
339.9178 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1548.0,5.00%,F,T)
A1.04E7
A9.64E6
A1.28E7
A9.44E6
354.9792 S:2 F:5 SMO(1,3)
36:26 36:55 37:19 37:41 38:06 38:35 39:15 39:48 40:11 40:36 41:04 41:27 42:01 42:40
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
3.4E5
1.7E5
0.0E0
2.2E5
1.1E5
3.7E6
1.8E6
2.3E6
1.1E6
1.2E6
6.0E5

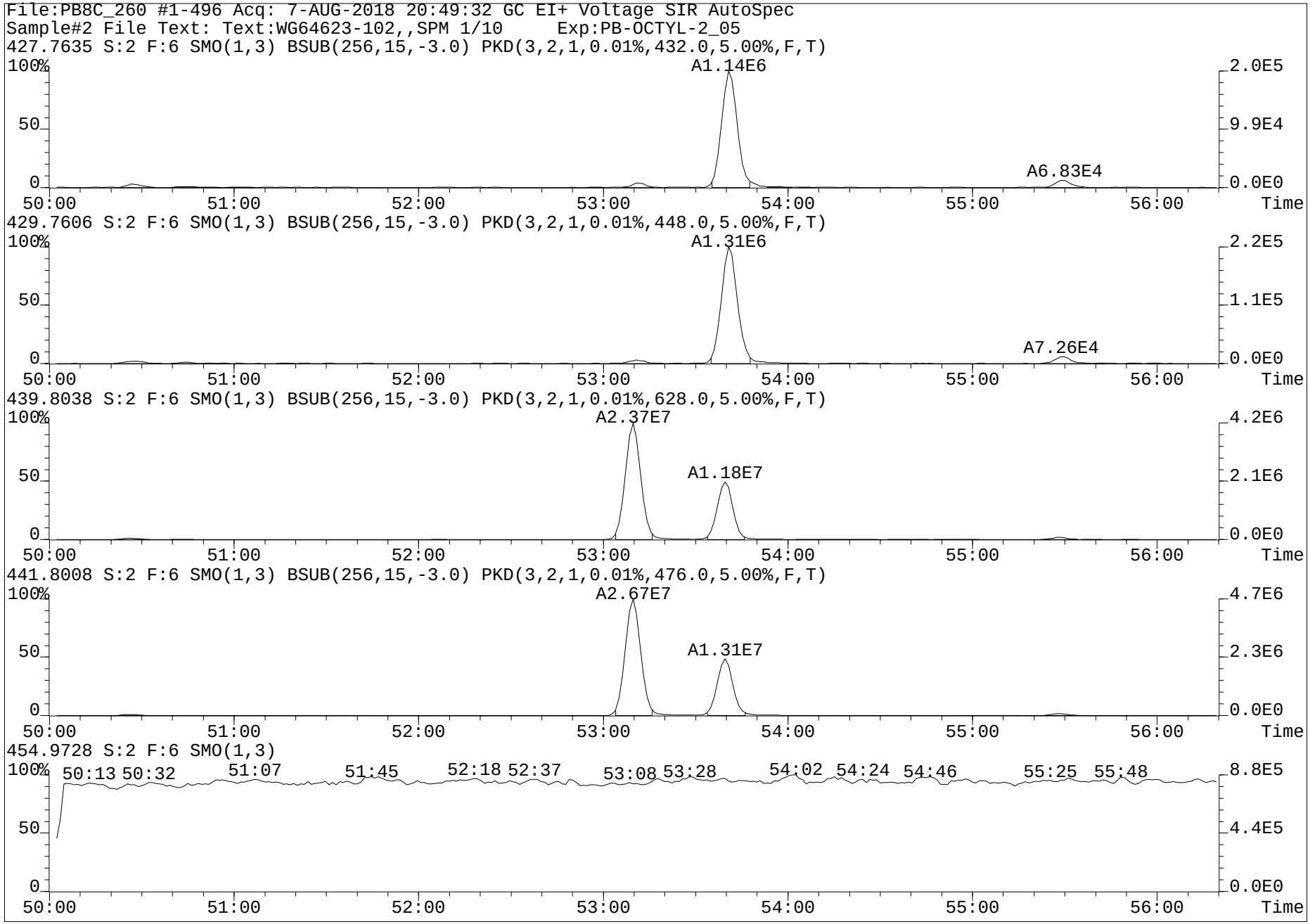

File:PB8C_260 #1-470 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
A1.48E6
2.9E5
1.4E5
0.0E0
361.8385 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A1.13E6
2.2E5
1.1E5
0.0E0
371.8817 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A1.42E7
2.7E6
1.4E6
0.0E0
373.8788 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A1.13E7
2.2E6
1.1E6
0.0E0
330.9792 S:2 F:4 SMO(1,3)
31:22 31:58 32:29 32:49 33:08 33:27 33:43 34:30 35:07 35:32 35:56
4.6E6
2.3E6
0.0E0
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time

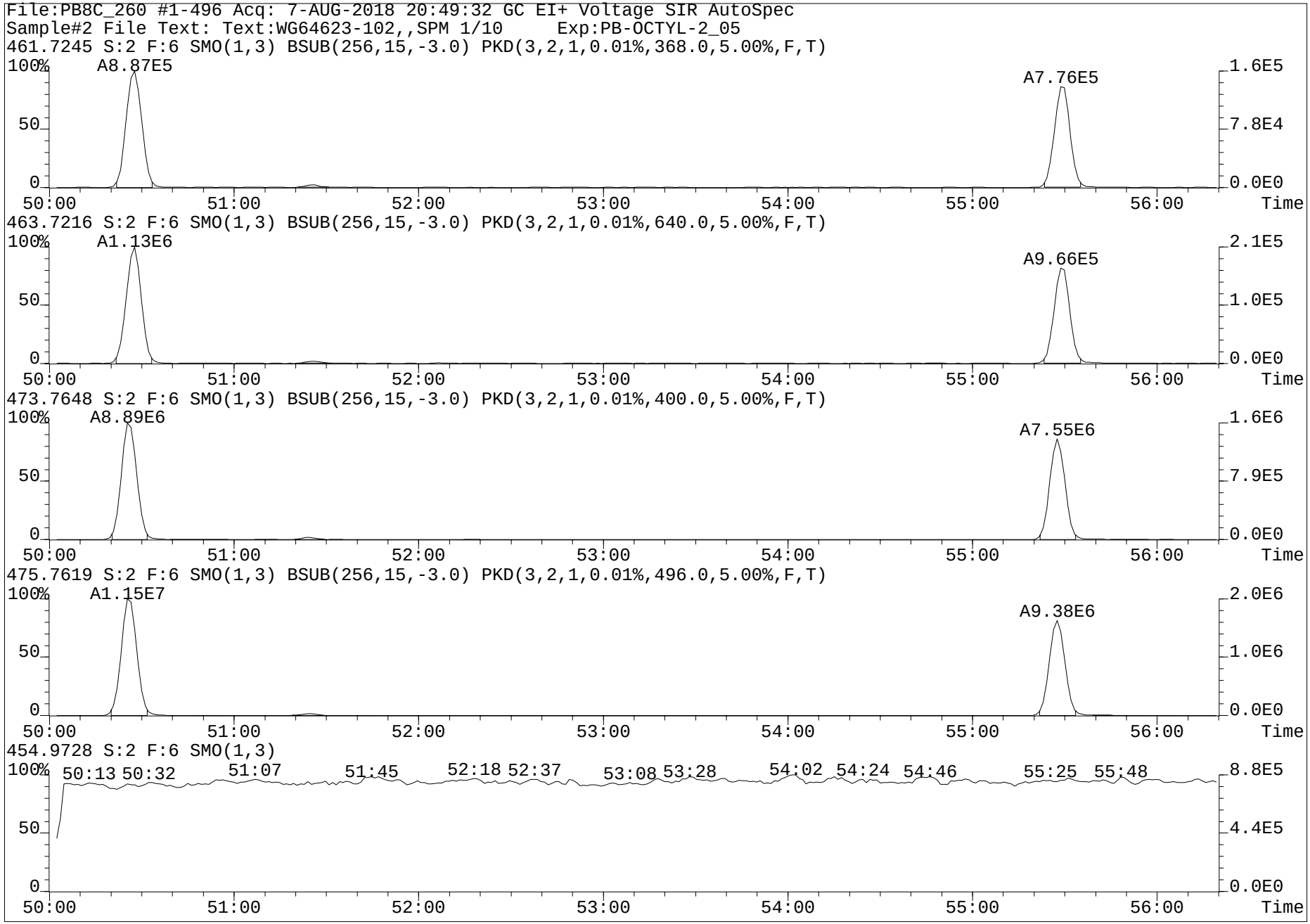

File:PB8C_260 #1-744 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,724.0,5.00%,F,T)
A1.54E6
A3.21E6
A1.60E6
361.8385 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,680.0,5.00%,F,T)
A1.28E6
A2.55E6
A1.24E6
371.8817 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A3.10E7
A1.34E7
A2.83E7
A1.44E7
373.8788 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,636.0,5.00%,F,T)
A2.40E7
A1.06E7
A2.23E7
A1.14E7
354.9792 S:2 F:5 SMO(1,3)
36:26 37:19 38:35 39:15 40:36 42:01 43:41 44:25 45:22 46:18 47:37 48:37
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
4.2E5
2.1E5
0.0E0
3.3E5
1.7E5
5.5E6
2.8E6
4.3E6
2.1E6
1.2E6
6.2E5

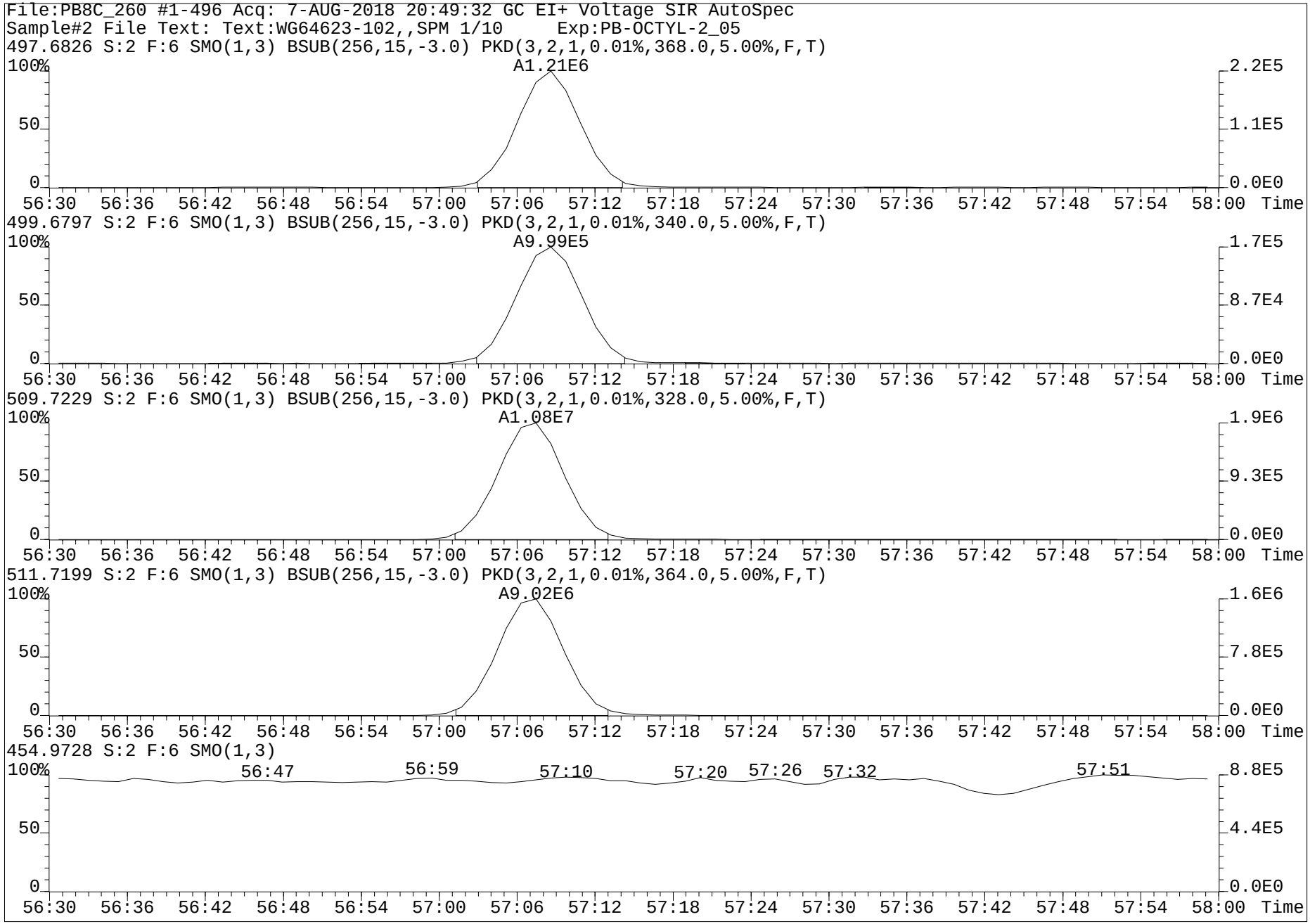

File:PB8C_260 #1-744 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
393.8025 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A1.21E6
A1.10E6
A9.78E5
A8.56E5
395.7995 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A1.19E6
A1.02E6
A9.32E5
A9.41E5
A7.70E5
405.8425 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A1.24E7
A8.73E6
A1.01E7
A8.21E6
407.8398 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,480.0,5.00%,F,T)
A1.19E7
A8.23E6
A9.86E6
A7.90E6
354.9792 S:2 F:5 SMO(1,3)
36:26 37:19 38:35 39:15 40:36 42:01 43:41 44:25 45:22 46:18 47:37 48:37
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
2.2E5
1.1E5
0.0E0
2.1E5
2.3E6
1.1E6
2.2E6
1.2E6
6.2E5

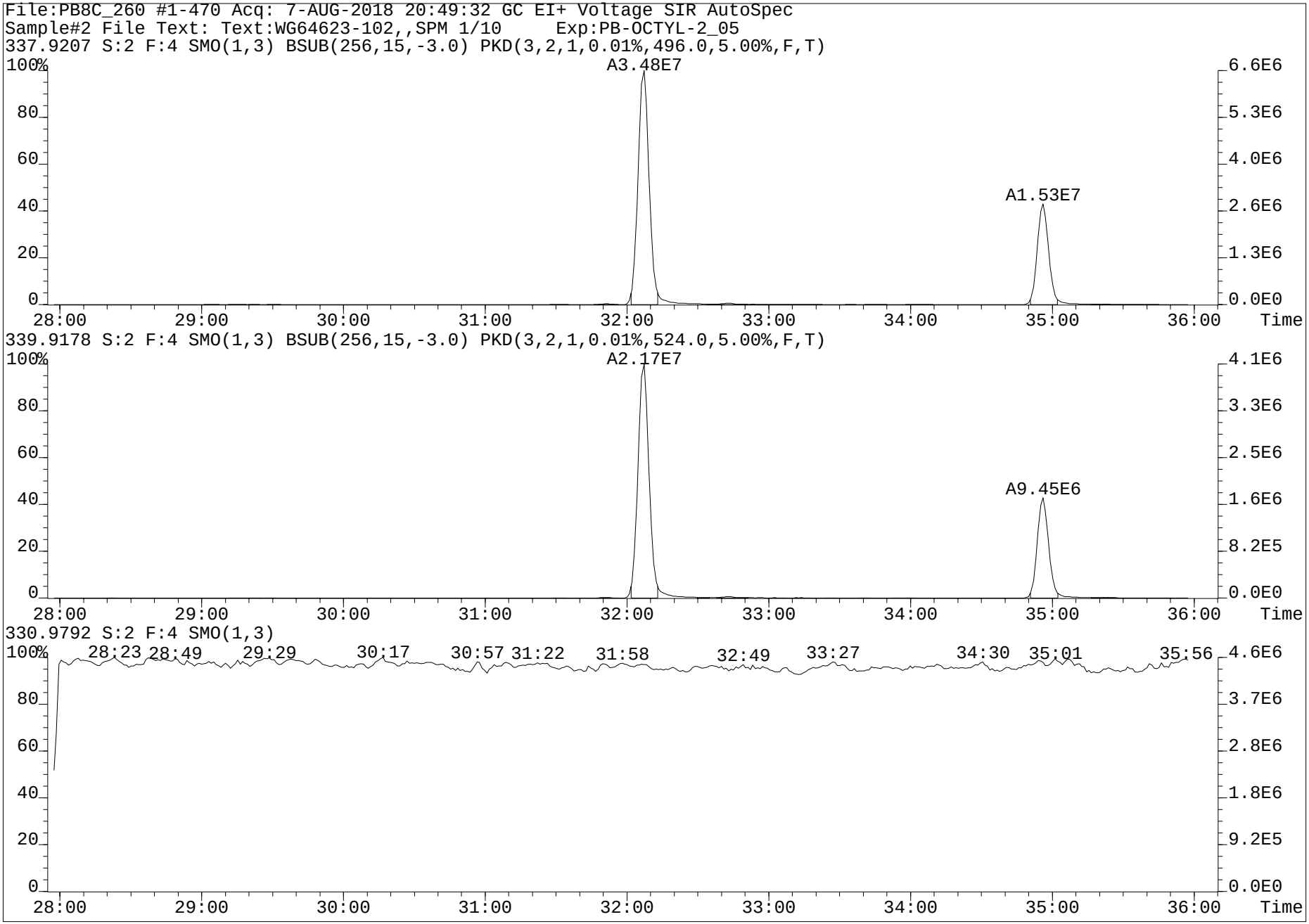

File:PB8C_260 #1-496 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
393.8025 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A1.33E6
A9.19E4
395.7995 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,564.0,5.00%,F,T)
A1.29E6
405.8428 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1676.0,5.00%,F,T)
A1.28E7
A1.31E6
407.8398 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A1.24E7
454.9728 S:2 F:6 SMO(1,3)
50:25 50:32 50:54 51:07 51:30 51:45 51:54
100%
50
0
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12 Time
2.3E5
1.1E5
0.0E0
2.1E5
2.2E6
1.1E6
2.1E6
8.6E5
4.3E5


File:PB8C_260 #1-744 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
427.7635 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
100% A1.01E6
1.8E5
9.1E4
0.0E0
429.7606 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,288.0,5.00%,F,T)
100% A1.14E6
2.1E5
1.1E5
0.0E0
439.8038 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
100% A1.04E7
1.9E6
9.4E5
0.0E0
441.8008 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
100% A1.18E7
2.1E6
1.1E6
0.0E0
354.9792 S:2 F:5 SMO(1,3)
100%
43:17 43:41 44:25 44:48 45:22 45:49 46:18 46:57 47:37 48:04 48:37 49:01
1.2E6
6.2E5
0.0E0
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_260 #1-496 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
427.7635 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A1.14E6
A6.83E4
2.0E5
9.9E4
0.0E0
429.7606 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A1.31E6
A7.26E4
2.2E5
1.1E5
0.0E0
439.8038 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,628.0,5.00%,F,T)
A2.37E7
A1.18E7
4.2E6
2.1E6
0.0E0
441.8008 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,476.0,5.00%,F,T)
A2.67E7
A1.31E7
4.7E6
2.3E6
0.0E0
454.9728 S:2 F:6 SMO(1,3)
50:13 50:32 51:07 51:45 52:18 52:37 53:08 53:28 54:02 54:24 54:46 55:25 55:48
8.8E5
4.4E5
0.0E0
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time


File:PB8C_260 #1-496 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
461.7245 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
100% A8.87E5
A7.76E5
1.6E5
7.8E4
0.0E0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
463.7216 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
100% A1.13E6
A9.66E5
2.1E5
1.0E5
0.0E0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
473.7648 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
100% A8.89E6
A7.55E6
1.6E6
7.9E5
0.0E0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
475.7619 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
100% A1.15E7
A9.38E6
2.0E6
1.0E6
0.0E0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
454.9728 S:2 F:6 SMO(1,3)
100% 50:13 50:32 51:07 51:45 52:18 52:37 53:08 53:28 54:02 54:24 54:46 55:25 55:48
8.8E5
4.4E5
0.0E0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time


File:PB8C_260 #1-496 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
497.6826 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A1.21E6
499.6797 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A9.99E5
509.7229 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A1.08E7
511.7199 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,364.0,5.00%,F,T)
A9.02E6
454.9728 S:2 F:6 SMO(1,3)
56:47
56:59
57:10
57:20
57:26
57:32
57:51
100%
50
0
2.2E5
1.1E5
0.0E0
1.7E5
8.7E4
1.9E6
9.3E5
1.6E6
7.8E5
8.8E5
4.4E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_260 #1-470 Acq: 7-AUG-2018 20:49:32 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 1/10 Exp:PB-OCTYL-2_05
337.9207 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A3.48E7
A1.53E7
339.9178 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A2.17E7
A9.45E6
330.9792 S:2 F:4 SMO(1,3)
28:23 28:49 29:29 30:17 30:57 31:22 31:58 32:49 33:27 34:30 35:01 35:56
Time

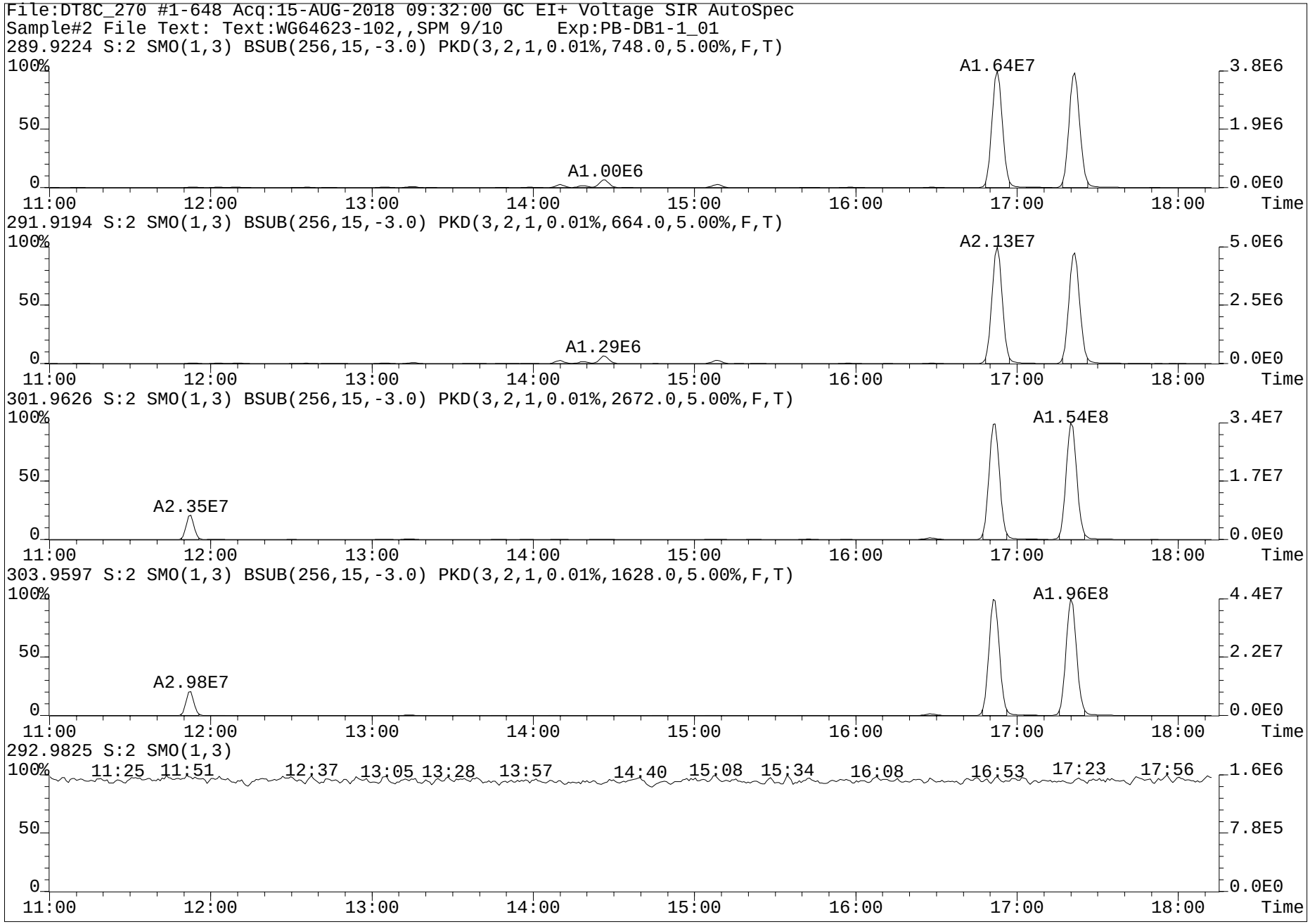
www.axysanalytical.com

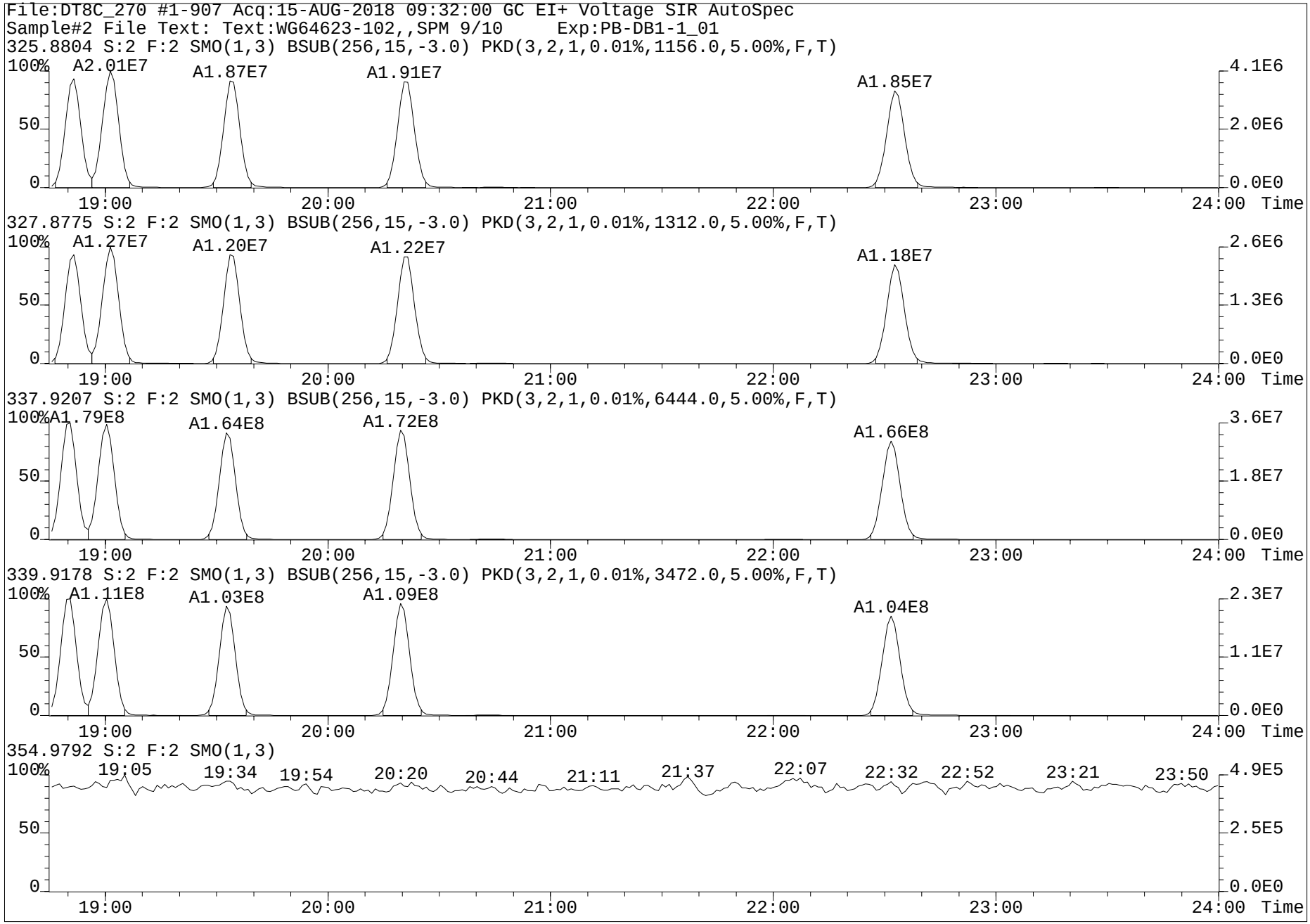
Run #8 Filename DT8C_270 S: 2 I: 1 Acquired: 15-AUG-18 09:32:00 Processed: 17-AUG-18 09:04:13
Run: dt8c_270-ara Analyte: 1668a-db1-s5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-102,,SPM 9/10 Comments: 1,WG64623,1.0/20uL
sample size: 20.000000 conc units: ng/mL total toxicity: 733.18 F1: 1.0000 F2: 5.0000

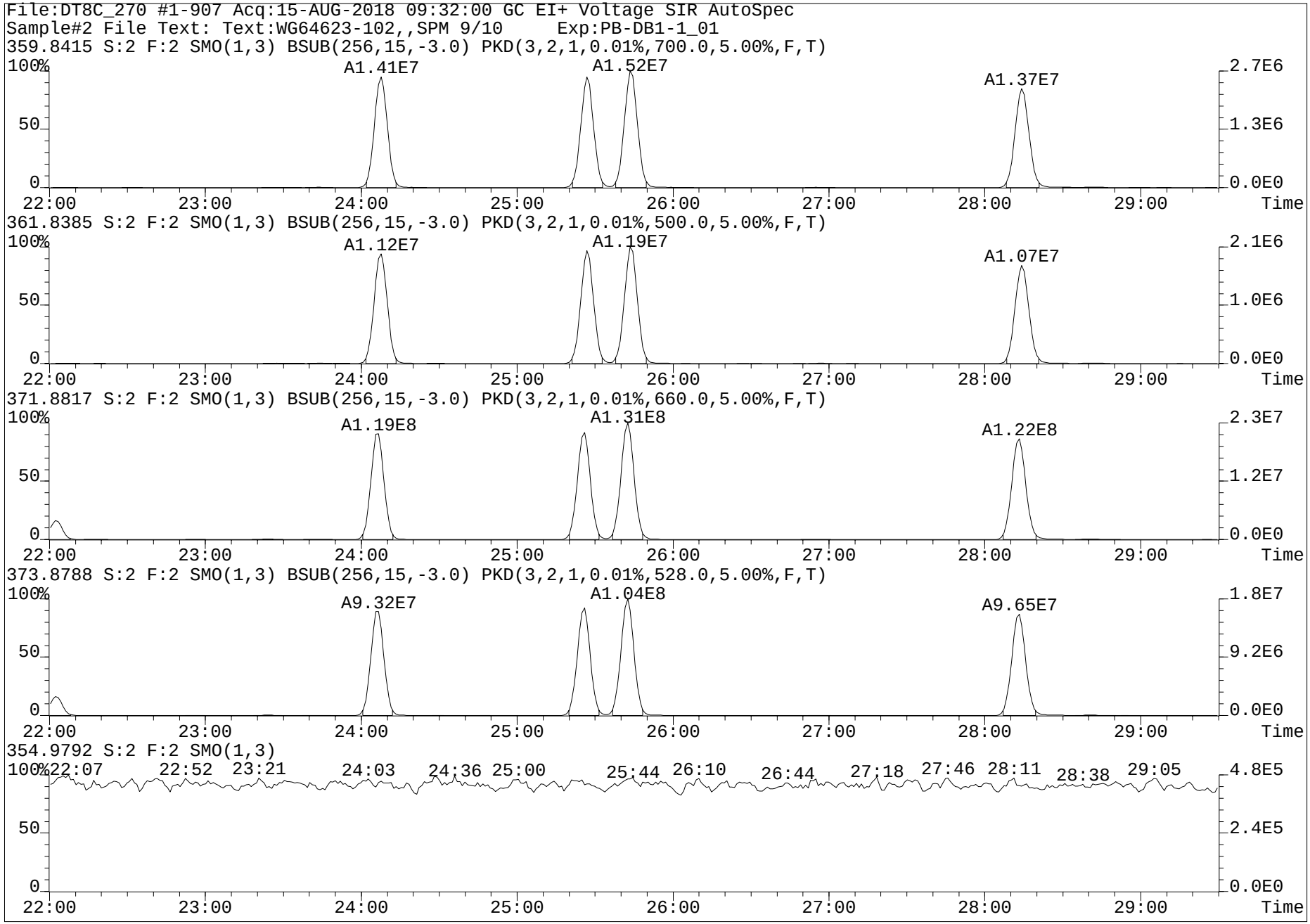
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.77e+07	0.77	y	16:53	52.835	53	0.0218	-	n
2	Unk	CL4-PCB-77	1	3.84e+07	0.79	y	17:21	51.925	52	0.0214	-	n
3	Unk	CL5-PCB-123	1	3.03e+07	1.56	y	18:51	50.443	50	0.0510	-	n
4	Unk	CL5-PCB-118	1	3.28e+07	1.58	y	19:01	53.171	53	0.0490	-	n
5	Unk	CL5-PCB-114	1	3.07e+07	1.55	y	19:34	50.387	50	0.0498	-	n
6	Unk	CL5-PCB-105	1	3.13e+07	1.56	y	20:21	53.465	53	0.0531	-	n
7	Unk	CL5-PCB-126	1	3.03e+07	1.57	y	22:33	52.823	53	0.0583	-	n
8	Unk	CL6-PCB-167	1	2.54e+07	1.26	y	24:08	51.942	52	0.0349	-	n
9	Unk	CL6-PCB-156	1	2.55e+07	1.24	y	25:27	51.823	52	0.0345	-	n
10	Unk	CL6-PCB-157	1	2.71e+07	1.27	y	25:43	52.069	52	0.0327	-	n
11	Unk	CL6-PCB-169	1	2.44e+07	1.28	y	28:14	51.793	52	0.0387	-	n
12	Unk	CL7-PCB-180	1	1.08e+06	0.97	y	26:56	53.768	54	0.7836	-	n
13	Unk	CL7-PCB-170	1	1.75e+06	0.96	y	28:42	54.961	55	0.4992	-	n
14	Unk	CL7-PCB-189	1	1.80e+07	1.00	y	31:02	51.778	52	0.0476	-	n
15	IS	13C-CL4-PCB-81	1	3.43e+08	0.78	y	16:52	2587.996	0	0.2689	517.6	n
16	IS	13C-CL4-PCB-77	1	3.51e+08	0.79	y	17:20	2687.190	0	0.2730	537.4	n
17	IS	13C-CL5-PCB-123	1	2.91e+08	1.60	y	18:50	2509.058	0	0.8716	501.8	n
18	IS	13C-CL5-PCB-118	1	2.87e+08	1.59	y	19:00	2399.235	0	0.8474	479.8	n
19	IS	13C-CL5-PCB-114	1	2.68e+08	1.59	y	19:33	2456.108	0	0.9284	491.2	n
20	IS	13C-CL5-PCB-105	1	2.81e+08	1.58	y	20:20	2549.883	0	0.9179	510.0	n
21	IS	13C-CL5-PCB-126	1	2.71e+08	1.59	y	22:32	2717.708	0	1.0159	543.5	n
22	IS	13C-CL6-PCB-167	1	2.12e+08	1.28	y	24:06	2470.039	0	0.1841	494.0	n
23	IS	13C-CL6-PCB-156	1	2.16e+08	1.26	y	25:26	2473.658	0	0.1808	494.7	n
24	IS	13C-CL6-PCB-157	1	2.35e+08	1.27	y	25:42	2412.128	0	0.1621	482.4	n
25	IS	13C-CL6-PCB-169	1	2.18e+08	1.26	y	28:13	2618.965	0	0.1895	523.8	n
26	IS	13C-CL7-PCB-180	1	1.04e+07	1.05	y	26:55	161.568	0	0.1946	32.3	n
27	IS	13C-CL7-PCB-170	1	1.73e+07	1.07	y	28:41	327.777	0	0.2385	65.6	n
28	IS	13C-CL7-PCB-189	1	1.75e+08	1.05	y	31:01	2534.573	0	0.1818	506.9	n
29	IS	13C-CL10-PCB-209	1	2.76e+06	1.12	y	34:37	34.653	0	0.1604	6.9	n
30	RS	13C-CL4-PCB-52	1	5.33e+07	0.79	y	11:52	6.674	0	-	-	n
31	RS	13C-CL5-PCB-101	1	3.85e+07	1.60	y	15:42	6.766	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	3.59e+07	1.26	y	22:02	6.995	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	9.33e+07	1.61	y	17:04	978.762	0	0.1080	195.8	n
34	C/Up	13C-CL7-PCB-178	1	3.21e+06	1.05	y	22:55	50.715	0	0.1986	10.1	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

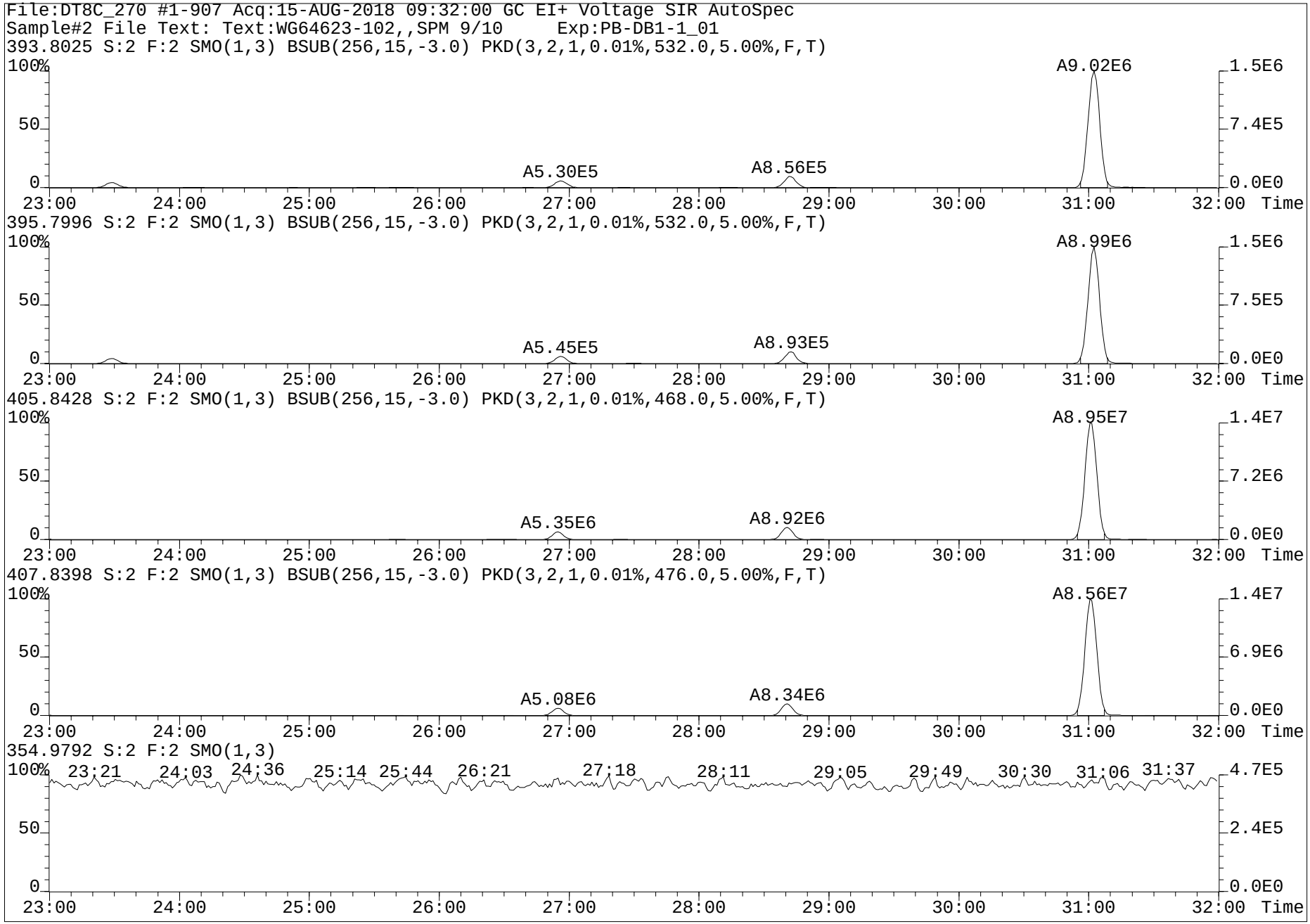
SV BJ
17 Aug 2018

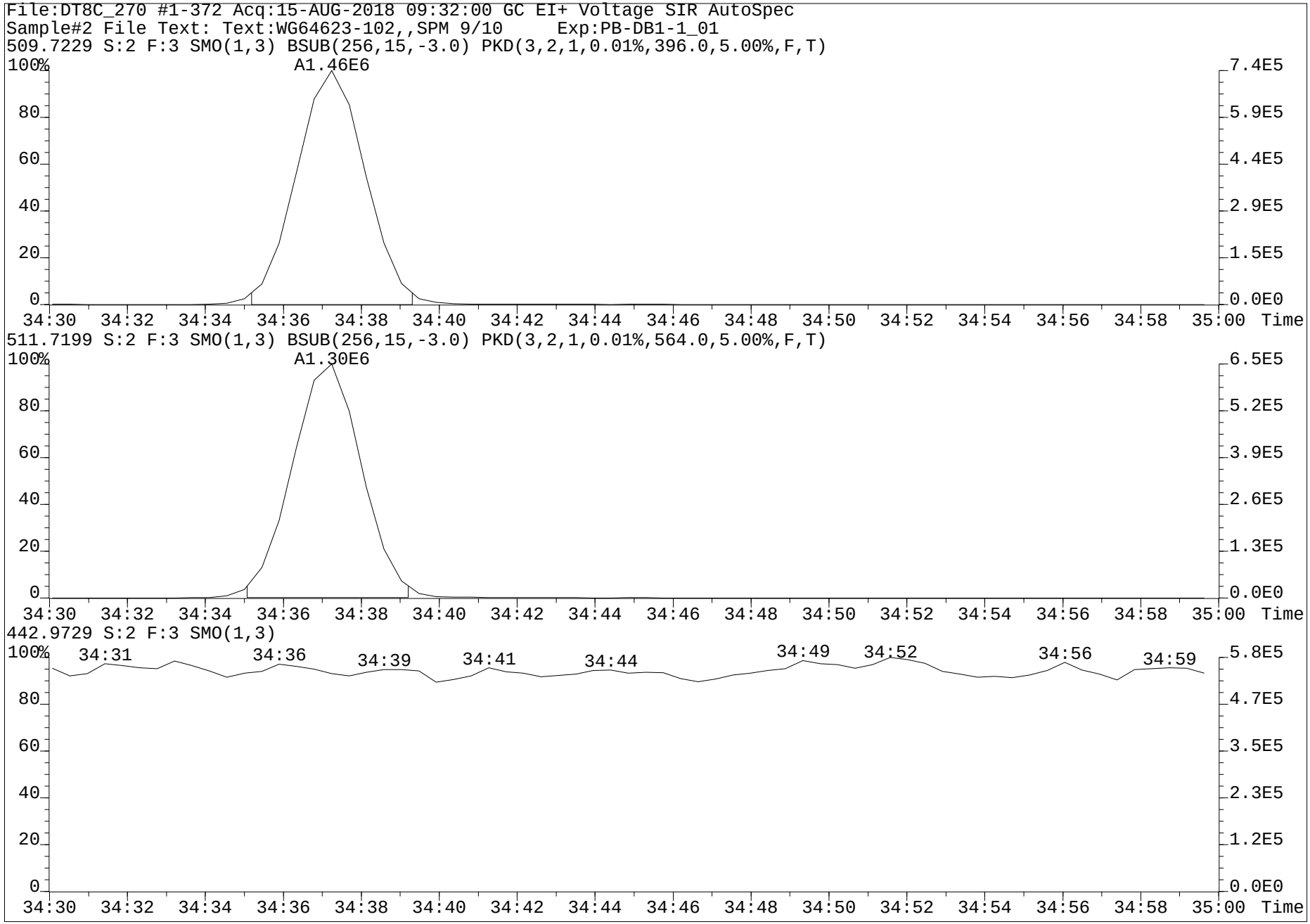
PV by RA 17AUG 2018

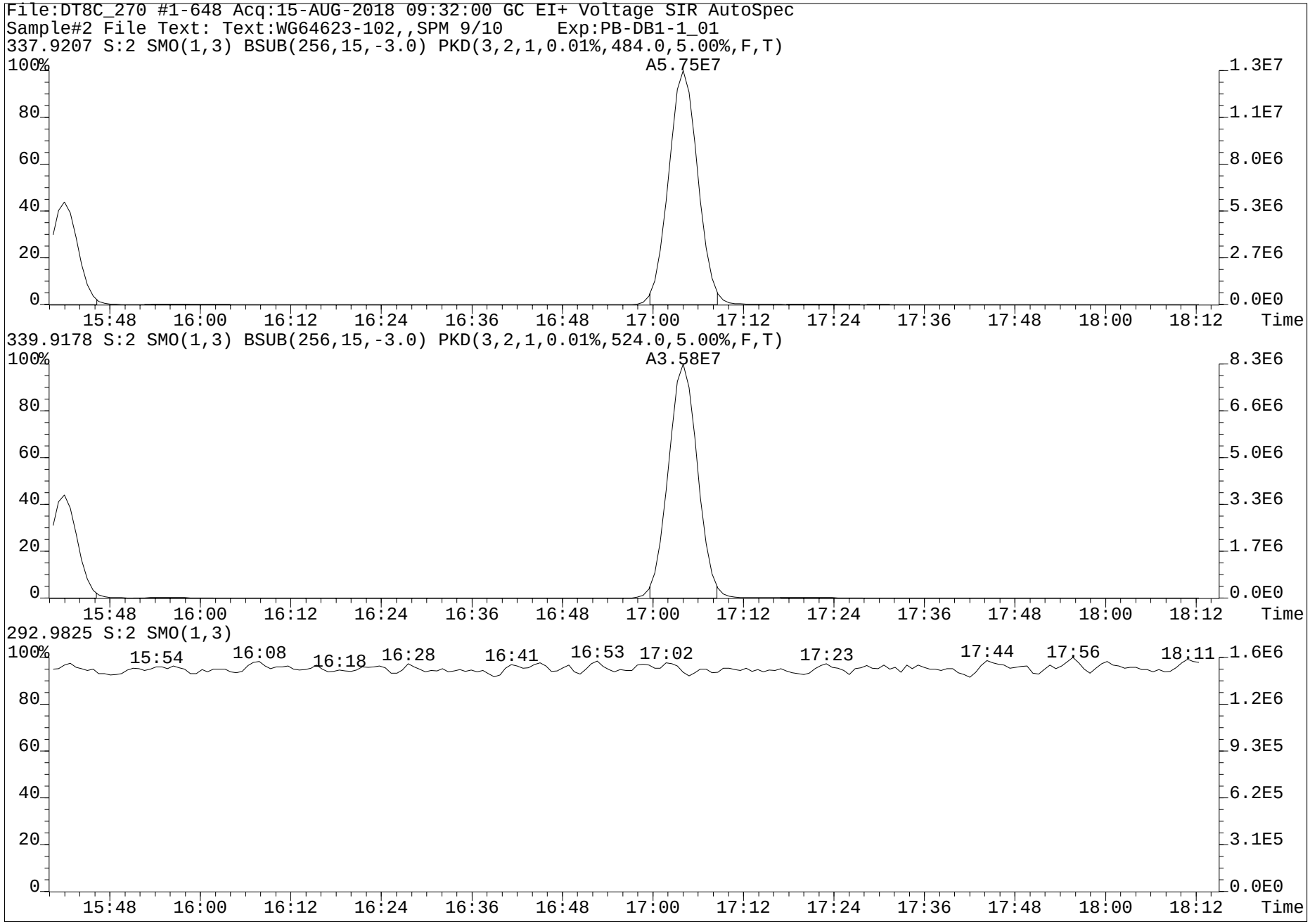

File:DT8C_270 #1-648 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
289.9224 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,748.0,5.00%,F,T)
A1.64E7
A1.00E6
3.8E6
1.9E6
0.0E0
291.9194 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A2.13E7
A1.29E6
5.0E6
2.5E6
0.0E0
301.9626 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2672.0,5.00%,F,T)
A1.54E8
A2.35E7
3.4E7
1.7E7
0.0E0
303.9597 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1628.0,5.00%,F,T)
A1.96E8
A2.98E7
4.4E7
2.2E7
0.0E0
292.9825 S:2 SMO(1,3)
11:25 11:51 12:37 13:05 13:28 13:57 14:40 15:08 15:34 16:08 16:53 17:23 17:56
1.6E6
7.8E5
0.0E0
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
325.8804 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1156.0,5.00%,F,T)
A2.01E7
A1.87E7
A1.91E7
A1.85E7
327.8775 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1312.0,5.00%,F,T)
A1.27E7
A1.20E7
A1.22E7
A1.18E7
337.9207 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6444.0,5.00%,F,T)
A1.79E8
A1.64E8
A1.72E8
A1.66E8
339.9178 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3472.0,5.00%,F,T)
A1.11E8
A1.03E8
A1.09E8
A1.04E8
354.9792 S:2 F:2 SMO(1,3)
19:05
19:34
19:54
20:20
20:44
21:11
21:37
22:07
22:32
22:52
23:21
23:50
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
4.1E6
2.0E6
0.0E0
2.6E6
1.3E6
0.0E0
3.6E7
1.8E7
0.0E0
2.3E7
1.1E7
0.0E0
4.9E5
2.5E5
0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
359.8415 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,700.0,5.00%,F,T)
A1.41E7
A1.52E7
A1.37E7
361.8385 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,500.0,5.00%,F,T)
A1.12E7
A1.19E7
A1.07E7
371.8817 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,660.0,5.00%,F,T)
A1.19E8
A1.31E8
A1.22E8
373.8788 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
A9.32E7
A1.04E8
A9.65E7
354.9792 S:2 F:2 SMO(1,3)
22:07 22:52 23:21 24:03 24:36 25:00 25:44 26:10 26:44 27:18 27:46 28:11 28:38 29:05
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
2.7E6 1.3E6 0.0E0
2.1E6 1.0E6 0.0E0
2.3E7 1.2E7 0.0E0
1.8E7 9.2E6 0.0E0
4.8E5 2.4E5 0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
393.8025 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,532.0,5.00%,F,T)
A9.02E6
A5.30E5
A8.56E5
395.7996 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,532.0,5.00%,F,T)
A8.99E6
A5.45E5
A8.93E5
405.8428 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A8.95E7
A5.35E6
A8.92E6
407.8398 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,476.0,5.00%,F,T)
A8.56E7
A5.08E6
A8.34E6
354.9792 S:2 F:2 SMO(1,3)
23:21 24:03 24:36 25:14 25:44 26:21 27:18 28:11 29:05 29:49 30:30 31:06 31:37
100%
50
0
1.5E6
7.4E5
0.0E0
1.5E6
7.5E5
0.0E0
1.4E7
7.2E6
0.0E0
1.4E7
6.9E6
0.0E0
4.7E5
2.4E5
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time


File:DT8C_270 #1-372 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
509.7229 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A1.46E6
511.7199 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,564.0,5.00%,F,T)
A1.30E6
442.9729 S:2 F:3 SMO(1,3)
34:31
34:36
34:39
34:41
34:44
34:49
34:52
34:56
34:59
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 09:32:00 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:WG64623-102,,SPM 9/10 Exp:PB-DB1-1_01
337.9207 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A5.75E7
339.9178 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A3.58E7
292.9825 S:2 SMO(1,3)
15:54
16:08
16:18
16:28
16:41
16:53
17:02
17:23
17:44
17:56
18:11
Time

www.axysanalytical.com

Run #11 Filename PB8C_261 S: 10 I: 1 Acquired: 8-AUG-18 17:12:02 Processed: 9-AUG-18 07:04:56
Run: pb8c_261-c Analyte: 1668a-s8 Cal: pb8c_220-7a Results: pb8c_261-c Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-104,,CRM 1/10 Comments: 1,WG64623,1.0/~~400uL~~ 20µL
sample size: 8.840000 conc units: pg/g total toxicity: 266180» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	1.32e+07	3.10	y	11:30	376.043	376	0.3812	-	n
2	Unk	CL1-PCB-3	1	1.45e+06	3.04	y	13:43	42.600	43	0.4722	-	n
3	Unk	CL2-PCB-4	1	1.41e+08	1.54	y	13:57	6805.116	6805	7.1372	-	n
4	Unk	CL2-PCB-15	1	1.39e+07	1.58	y	20:02	468.180	468	6.5249	-	y
5	Unk	CL3-PCB-19	1	5.32e+07	1.04	y	17:08	3218.698	3219	1.1590	-	n
6	Unk	CL3-PCB-37	1	2.37e+07	1.04	y	27:21	874.706	875	11.8045	-	n
7	Unk	CL4-PCB-54	1	2.71e+06	0.78	y	20:18	105.478	105	0.4463	-	n
8	Unk	CL4-PCB-81	1	4.39e+06	0.73	y	34:22	176.414	176	111.2435	-	y
9	Unk	CL4-PCB-77	1	3.57e+07	0.77	y	34:58	1422.844	1423	113.6800	-	n
10	Unk	CL5-PCB-104	1	3.60e+05	1.57	y	25:59	15.529	16	0.4972	-	y
11	Unk	CL5-PCB-123	1	9.10e+07	1.58	y	37:02	4322.031	4322	276.6516	-	y
12	Unk	CL5-PCB-118	1	3.36e+09	1.55	y	37:22	150578.324	1505»	264.4880	-	n
13	Unk	CL5-PCB-114	1	1.22e+08	1.54	y	37:55	5629.849	5630	274.3093	-	n
14	Unk	CL5-PCB-105	1	1.29e+09	1.55	y	38:37	58938.359	58938	271.7196	-	n
15	Unk	CL5-PCB-126	1	7.11e+06	1.60	y	41:51	343.642	344	298.2578	-	y
16	Unk	CL6-PCB-155	1	7.24e+05	1.47	n	31:53	34.175	34	0.9040	-	n
17	Unk	CL6-PCB-167	1	1.13e+08	1.26	y	43:47	5205.681	5206	150.6153	-	n
18	Unk	CL6-PCB-156/157	1	2.55e+08	1.26	y	44:58	11613.934	11614	198.3365	-	n
19	Unk	CL6-PCB-169	1	2.32e+06	1.85	n	48:24	112.777	113	165.5664	-	y
20	Unk	CL7-PCB-188	1	1.58e+06	1.05	y	37:52	77.453	77	1.7163	-	n
21	Unk	CL7-PCB-189	1	1.76e+07	1.04	y	51:02	1017.480	1017	5.3145	-	n
22	Unk	CL8-PCB-202	1	4.60e+07	0.88	y	43:29	2788.339	2788	1.2124	-	n
23	Unk	CL8-PCB-205	1	1.15e+07	0.88	y	53:43	715.738	716	3.7586	-	n
24	Unk	CL9-PCB-208	1	2.96e+07	0.78	y	50:29	1968.875	1969	1.8302	-	n
25	Unk	CL9-PCB-206	1	6.00e+07	0.79	y	55:31	4371.232	4371	2.1225	-	n
26	Unk	CL10-PCB-209	1	7.84e+07	1.17	y	57:10	4956.662	4957	0.8907	-	n
27	IS	13C-CL1-PCB-1	1	3.71e+07	3.29	y	11:29	239.988	0	2.4393	21.2	n
28	IS	13C-CL1-PCB-3	1	3.55e+07	3.13	y	13:42	241.606	0	2.5603	21.4	n
29	IS	13C-CL2-PCB-4	1	2.36e+07	1.56	y	13:56	252.244	0	0.7952	22.3	n
30	IS	13C-CL2-PCB-15	1	3.70e+07	1.56	y	20:01	253.898	0	0.5100	22.4	n
31	IS	13C-CL3-PCB-19	1	1.75e+07	1.05	y	17:07	226.901	0	2.7360	20.1	n
32	IS	13C-CL3-PCB-37	1	3.07e+07	1.04	y	27:18	235.888	0	2.3283	20.9	n
33	REF	13C-CL4-CHECK	1	2.76e+07	0.81	y	20:17	241.693	0	0.9123	21.4	n
34	IS	13C-CL4-PCB-81	1	2.74e+07	0.76	y	34:21	274.969	0	0.9585	24.3	n
35	IS	13C-CL4-PCB-77	1	2.76e+07	0.77	y	34:57	272.687	0	0.9434	24.1	n
36	IS	13C-CL5-PCB-104	1	2.46e+07	1.60	y	25:58	245.201	0	0.1459	21.7	n
37	IS	13C-CL5-PCB-123	1	2.43e+07	1.54	y	37:00	256.318	0	0.5706	22.7	n
38	IS	13C-CL5-PCB-118	1	2.41e+07	1.59	y	37:21	259.975	0	0.5821	23.0	n
39	IS	13C-CL5-PCB-114	1	2.32e+07	1.55	y	37:54	252.054	0	0.5867	22.3	n
40	IS	13C-CL5-PCB-105	1	2.40e+07	1.57	y	38:35	251.813	0	0.5665	22.3	n
41	IS	13C-CL5-PCB-126	1	2.24e+07	1.57	y	41:50	263.094	0	0.6344	23.3	n
42	IS	13C-CL6-PCB-155	1	2.35e+07	1.24	y	31:52	212.238	0	0.2085	18.8	n
43	IS	13C-CL6-PCB-167	1	2.20e+07	1.28	y	43:45	257.985	0	0.5753	22.8	n
44	IS	13C-CL6-PCB-156/157	1	4.52e+07	1.22	y	44:58	507.395	0	0.5516	22.4	n

SV GJ
15 Aug 2018

PV by RA 09AUG2018

45	IS	13C-CL6-PCB-169	1	2.21e+07	1.23	y	48:23	249.389	0	0.5554	22.0	n
46	REF	13C-CL7-CHECK	1	2.36e+07	1.03	y	37:50	255.527	0	0.4419	22.6	n
47	IS	13C-CL7-PCB-189	1	1.84e+07	1.01	y	51:01	247.949	0	1.1389	21.9	n
48	IS	13C-CL8-PCB-202	1	2.14e+07	0.89	y	43:28	244.027	0	0.2630	21.6	n
49	IS	13C-CL8-PCB-205	1	1.83e+07	0.89	y	53:41	248.352	0	0.6537	22.0	n
50	IS	13C-CL9-PCB-208	1	1.80e+07	0.78	y	50:27	271.852	0	0.3105	24.0	n
51	IS	13C-CL9-PCB-206	1	1.55e+07	0.77	y	55:30	287.772	0	0.3813	25.4	n
52	IS	13C-CL10-PCB-209	1	1.68e+07	1.18	y	57:08	248.762	0	0.1631	22.0	n
53	RS	13C-CL2-PCB-9	1	1.55e+08	1.58	y	15:58	9.514	0	-	-	n
54	RS	13C-CL4-PCB-52	1	8.71e+07	0.79	y	25:00	10.725	0	-	-	n
55	RS	13C-CL5-PCB-101	1	7.70e+07	1.58	y	32:08	11.200	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	7.53e+07	1.26	y	40:36	11.982	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.55e+07	0.88	y	53:12	11.129	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	3.59e+07	1.06	y	23:07	273.998	0	2.3142	24.2	n
59	C/Up	13C-CL5-PCB-111	1	2.40e+07	1.58	y	34:58	263.478	0	0.3378	23.3	n
60	C/Up	13C-CL7-PCB-178	1	1.75e+07	1.05	y	41:04	276.524	0	0.6256	24.4	n
61	IS	13C-CL4-PCB-54	1	2.76e+07	0.81	y	20:17	241.693	0	0.9123	21.4	n
62	IS	13C-CL7-PCB-188	1	2.36e+07	1.03	y	37:50	255.527	0	0.4419	22.6	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

www.axysanalytical.com

Run #4 Filename PB8C_261 S: 10 I: 1 Acquired: 8-AUG-18 17:12:02 Processed: 9-AUG-18 07:06:42
Run: pb8c_261-cc Analyte: 1668xb-s8 Cal: pb8c_261-1c Results: pb8c_261-cc Version: V3.6 6-JAN-2000 17:51:42
Sample text: WG64623-104,,CRM 1/10 Comments: 1,WG64623,1.0/~~400uL~~ 20µL
sample size: 8.840000 conc units: pg/g total toxicity: 275492» F1: 1.0000 F2: 5.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-2	1	4.77e+05	3.23	y	13:32	14.749	15	0.4551	-	n
2	Unk	CL2-PCB-10	1	8.44e+06	1.65	y	14:08	259.981	260	5.2689	-	n
3	Unk	CL2-PCB-9	1	1.21e+07	1.56	y	15:58	367.079	367	5.2098	-	y
4	Unk	CL2-PCB-7	1	5.73e+06	1.58	y	16:08	175.273	175	5.2351	-	y
5	Unk	CL2-PCB-6	1	1.33e+08	1.52	y	16:23	3938.180	3938	5.0797	-	n
6	Unk	CL2-PCB-5	1	1.30e+06	1.86	n	16:42	44.298	44	5.8485	-	n
7	Unk	CL2-PCB-8	1	1.69e+08	1.53	y	16:50	4593.480	4593	4.6500	-	n
8	Unk	CL2-PCB-14	0	*	*	n	NotFnd	*	*	5.3776	-	n
9	Unk	CL2-PCB-11	1	1.27e+06	1.47	y	19:23	41.151	41	5.5432	-	y
10	Unk	CL2-PCB-12/13	1	5.92e+06	1.59	y	19:41	190.122	190	5.4975	-	n
11	Unk	CL3-PCB-30/18	1	7.24e+08	1.05	y	19:03	29284.693	29285	0.8452	-	n
12	Unk	CL3-PCB-17	1	2.57e+08	1.06	y	19:29	12152.605	12153	0.9887	-	n
13	Unk	CL3-PCB-27	1	1.06e+08	1.06	y	19:42	3526.502	3527	0.6926	-	n
14	Unk	CL3-PCB-24	1	6.03e+06	1.04	y	19:50	219.281	219	0.7599	-	n
15	Unk	CL3-PCB-16	1	7.36e+07	1.05	y	19:57	3944.840	3945	1.1206	-	n
16	Unk	CL3-PCB-32	1	3.85e+08	1.03	y	20:29	14184.024	14184	10.8820	-	n
17	Unk	CL3-PCB-34	1	2.34e+07	1.02	y	21:48	911.293	911	11.5248	-	n
18	Unk	CL3-PCB-23	1	1.46e+06	1.07	y	21:57	57.227	57	11.5713	-	n
19	Unk	CL3-PCB-26/29	1	8.06e+08	1.02	y	22:16	30789.608	30790	11.2842	-	n
20	Unk	CL3-PCB-25	1	2.84e+08	1.02	y	22:30	9279.212	9279	9.6404	-	n
21	Unk	CL3-PCB-31	1	1.03e+09	1.01	y	22:50	36616.671	36617	10.5367	-	n
22	Unk	CL3-PCB-28/20	1	1.19e+09	1.02	y	23:08	44508.486	44508	11.0675	-	n
23	Unk	CL3-PCB-21/33	1	1.16e+08	1.02	y	23:23	4205.974	4206	10.6914	-	n
24	Unk	CL3-PCB-22	1	1.70e+08	1.02	y	23:47	7043.735	7044	12.2587	-	y
25	Unk	CL3-PCB-36	0	*	*	n	NotFnd	*	*	10.4437	-	n
26	Unk	CL3-PCB-39	1	1.15e+07	0.95	y	25:49	438.057	438	11.2451	-	n
27	Unk	CL3-PCB-38	1	4.19e+06	1.02	y	26:24	163.618	164	11.5281	-	y
28	Unk	CL3-PCB-35	0	*	*	n	NotFnd	*	*	11.5571	-	n
29	Unk	CL4-PCB-50/53	1	2.55e+08	0.78	y	22:32	11576.987	11577	0.6244	-	n
30	Unk	CL4-PCB-45/51	1	2.76e+08	0.78	y	23:14	13067.385	13067	0.6505	-	y
31	Unk	CL4-PCB-46	1	5.69e+07	0.79	y	23:32	3020.223	3020	0.7304	-	y
32	Unk	CL4-PCB-52	1	3.63e+09	0.78	y	25:01	158494.149	1584»	0.6015	-	y
33	Unk	CL4-PCB-73	0	*	*	n	NotFnd	*	*	0.5035	-	n
34	Unk	CL4-PCB-43	1	1.08e+08	0.77	y	25:16	5662.690	5663	0.7240	-	n
35	Unk	CL4-PCB-69/49	1	3.18e+09	0.78	y	25:32	125905.579	1259»	0.5457	-	n
36	Unk	CL4-PCB-48	1	2.71e+08	0.78	y	25:49	12666.864	12667	0.6434	-	n
37	Unk	CL4-PCB-44/47/65	1	3.49e+09	0.78	y	26:04	149990.577	1499»	0.5913	-	n
38	Unk	CL4-PCB-59/62/75	1	3.64e+08	0.78	y	26:24	12789.122	12789	0.4835	-	n
39	Unk	CL4-PCB-42	1	8.19e+08	0.78	y	26:36	39157.928	39158	0.6584	-	n
40	Unk	CL4-PCB-41/40/71	1	1.25e+09	0.78	y	27:07	58969.789	58970	0.6500	-	y
41	Unk	CL4-PCB-64	1	1.72e+09	0.78	y	27:21	58414.340	58414	0.4681	-	n
42	Unk	CL4-PCB-72	1	7.58e+07	0.77	y	28:14	2787.644	2788	95.3348	-	n
43	Unk	CL4-PCB-68	1	5.21e+07	0.78	y	28:32	1938.497	1938	96.4160	-	n
44	Unk	CL4-PCB-57	1	2.31e+07	0.73	y	28:58	892.214	892	100.3170	-	n

www.axysanalytical.com

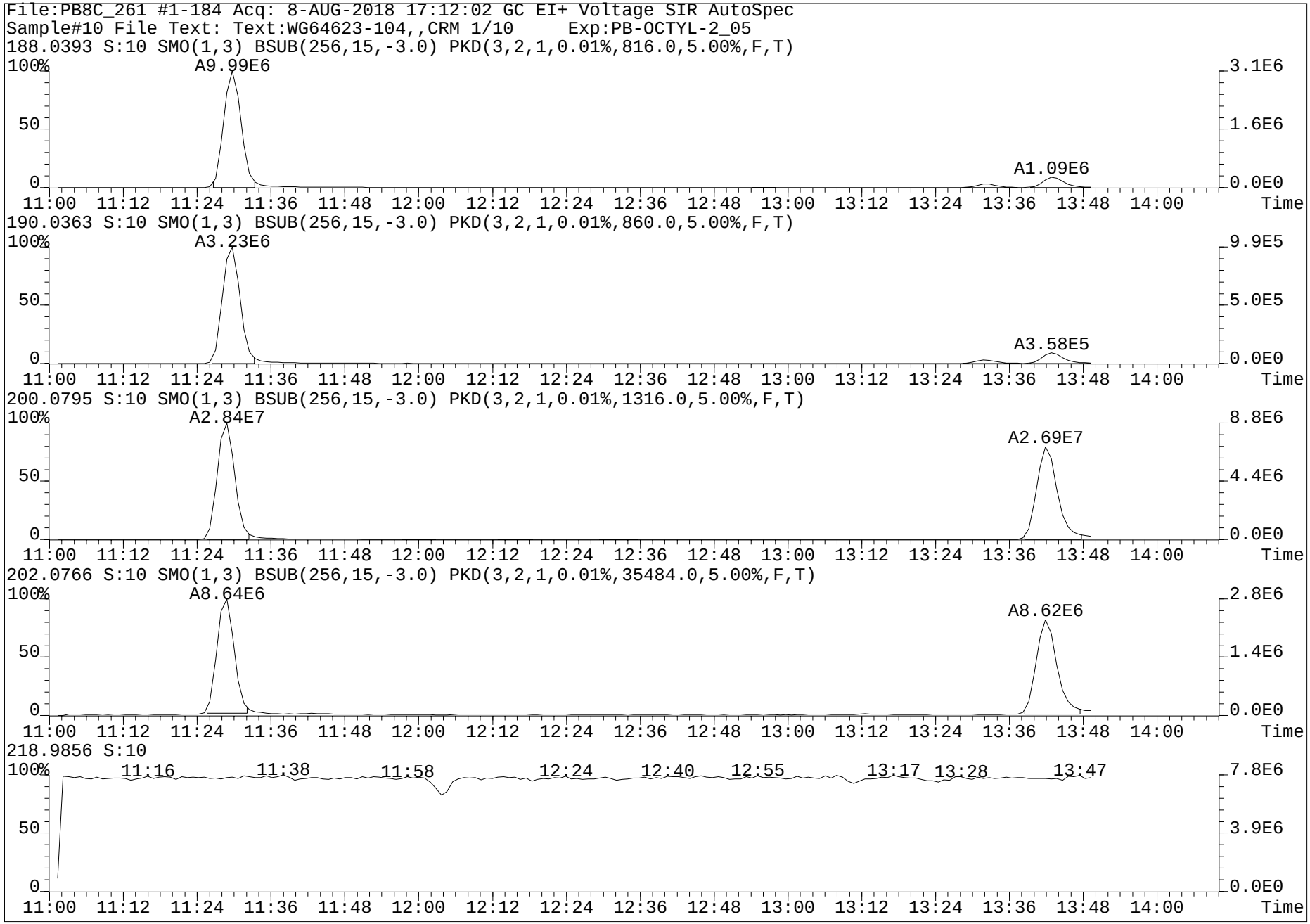
45	Unk	CL4-PCB-58	1	2.01e+07	0.74	y	29:13	779.148	779	100.4855	- n
46	Unk	CL4-PCB-67	1	2.69e+07	0.69	y	29:24	906.192	906	87.2633	- n
47	Unk	CL4-PCB-63	1	2.75e+08	0.76	y	29:41	11396.967	11397	107.4557	- n
48	Unk	CL4-PCB-61/70/74/76	1	3.53e+09	0.78	y	30:03	136923.735	1369»	100.6492	- y
49	Unk	CL4-PCB-66	1	3.99e+09	0.77	y	30:22	165346.582	1653»	107.4156	- n
50	Unk	CL4-PCB-55	0	*	*	n	NotFnd	*	*	120.5899	- n
51	Unk	CL4-PCB-56	1	5.30e+08	0.77	y	31:04	22283.712	22284	109.0570	- n
52	Unk	CL4-PCB-60	1	6.54e+08	0.77	y	31:17	26998.603	26999	107.0696	- n
53	Unk	CL4-PCB-80	0	*	*	n	NotFnd	*	*	96.7116	- n
54	Unk	CL4-PCB-79	1	6.36e+07	0.74	y	33:18	2206.051	2206	89.8686	- n
55	Unk	CL4-PCB-78	0	*	*	n	NotFnd	*	*	108.1572	- n
56	Unk	CL5-PCB-96	1	1.87e+07	1.56	y	26:22	759.044	759	0.5258	- y
57	Unk	CL5-PCB-103	1	2.81e+07	1.59	y	28:24	1371.410	1371	19.2891	- n
58	Unk	CL5-PCB-94	1	1.32e+07	1.60	y	28:37	792.045	792	23.6493	- n
59	Unk	L5-PCB-95/100/93/102/98	1	1.46e+09	1.59	y	29:08	77796.065	77796	21.0267	- y
60	Unk	CL5-PCB-88/91	1	5.13e+08	1.55	y	29:59	28792.234	28792	22.1501	- n
61	Unk	CL5-PCB-84	1	4.41e+08	1.59	y	30:13	27892.981	27893	24.9270	- n
62	Unk	CL5-PCB-89	1	3.14e+07	1.59	y	30:43	1909.174	1909	23.9981	- n
63	Unk	CL5-PCB-121	1	1.53e+06	1.57	y	31:09	66.741	67	17.1813	- n
64	Unk	CL5-PCB-92	1	5.26e+08	1.56	y	31:33	30698.176	30698	23.0375	- n
65	Unk	CL5-PCB-113/90/101	1	3.01e+09	1.57	y	32:09	149801.560	1498»	19.6633	- n
66	Unk	CL5-PCB-83/99	1	2.38e+09	1.57	y	32:45	140684.045	1406»	23.3563	- n
67	Unk	CL5-PCB-112	0	*	*	n	NotFnd	*	*	16.8844	- n
68	Unk	CB-109/119/86/97/125/87	1	2.40e+09	1.55	y	33:21	120842.754	1208»	19.8481	- y
69	Unk	CL5-PCB-117/116/85	1	1.14e+09	1.58	y	34:02	55942.244	55942	19.4309	- n
70	Unk	CL5-PCB-110/115	1	3.62e+09	1.57	y	34:13	158946.571	1589»	17.3443	- n
71	Unk	CL5-PCB-82	1	3.80e+08	1.58	y	34:33	24739.885	24740	25.7073	- n
72	Unk	CL5-PCB-111	1	5.16e+06	1.59	y	34:59	229.318	229	17.5280	- y
73	Unk	CL5-PCB-120	1	1.93e+07	1.62	y	35:28	823.004	823	16.8605	- y
74	Unk	CL5-PCB-108/124	1	6.93e+07	1.54	y	36:39	3150.823	3151	261.0966	- n
75	Unk	CL5-PCB-107	1	3.69e+08	1.56	y	36:54	15715.709	15716	244.6079	- y
76	Unk	CL5-PCB-106	0	*	*	n	NotFnd	*	*	238.2972	- n
77	Unk	CL5-PCB-122	1	2.40e+07	1.59	y	37:44	1204.662	1205	288.1942	- n
78	Unk	CL5-PCB-127	1	4.05e+06	1.54	y	40:11	196.405	196	278.6604	- y
79	Unk	CL6-PCB-152	1	1.52e+06	1.23	y	32:06	57.913	58	0.8549	- n
80	Unk	CL6-PCB-150	1	3.00e+06	1.28	y	32:16	123.000	123	0.9236	- n
81	Unk	CL6-PCB-136	1	1.22e+08	1.24	y	32:40	4842.261	4842	0.8965	- n
82	Unk	CL6-PCB-145	1	7.20e+05	0.98	n	32:57	30.974	31	0.9684	- n
83	Unk	CL6-PCB-148	1	3.72e+06	1.34	y	34:32	206.221	206	1.2486	- y
84	Unk	CL6-PCB-151/135/154	1	4.40e+08	1.26	y	35:12	23468.396	23468	1.1998	- y
85	Unk	CL6-PCB-144	1	5.65e+07	1.25	y	35:46	3115.807	3116	1.2402	- n
86	Unk	CL6-PCB-147/149	1	1.09e+09	1.25	y	36:09	54857.210	54857	176.8376	- n
87	Unk	CL6-PCB-134/143	1	7.06e+07	1.26	y	36:21	3940.552	3941	195.5384	- n
88	Unk	CL6-PCB-139/140	1	3.81e+07	1.25	y	36:45	1934.881	1935	178.0719	- n
89	Unk	CL6-PCB-131	1	1.59e+07	1.26	y	36:58	916.960	917	202.3014	- n
90	Unk	CL6-PCB-142	0	*	*	n	NotFnd	*	*	203.1190	- n
91	Unk	CL6-PCB-132	1	3.70e+08	1.25	y	37:28	22369.868	22370	212.0935	- n
92	Unk	CL6-PCB-133	1	4.07e+07	1.28	y	37:59	2347.792	2348	202.1140	- y
93	Unk	CL6-PCB-165	1	3.26e+06	1.26	y	38:25	154.161	154	165.5267	- n
94	Unk	CL6-PCB-146	1	4.15e+08	1.25	y	38:40	20009.078	20009	169.0944	- n
95	Unk	CL6-PCB-161	0	*	*	n	NotFnd	*	*	143.4229	- n
96	Unk	CL6-PCB-153/168	1	2.17e+09	1.25	y	39:19	99151.758	99152	159.8147	- y
97	Unk	CL6-PCB-141	1	2.65e+08	1.26	y	39:31	14258.991	14259	188.5201	- n

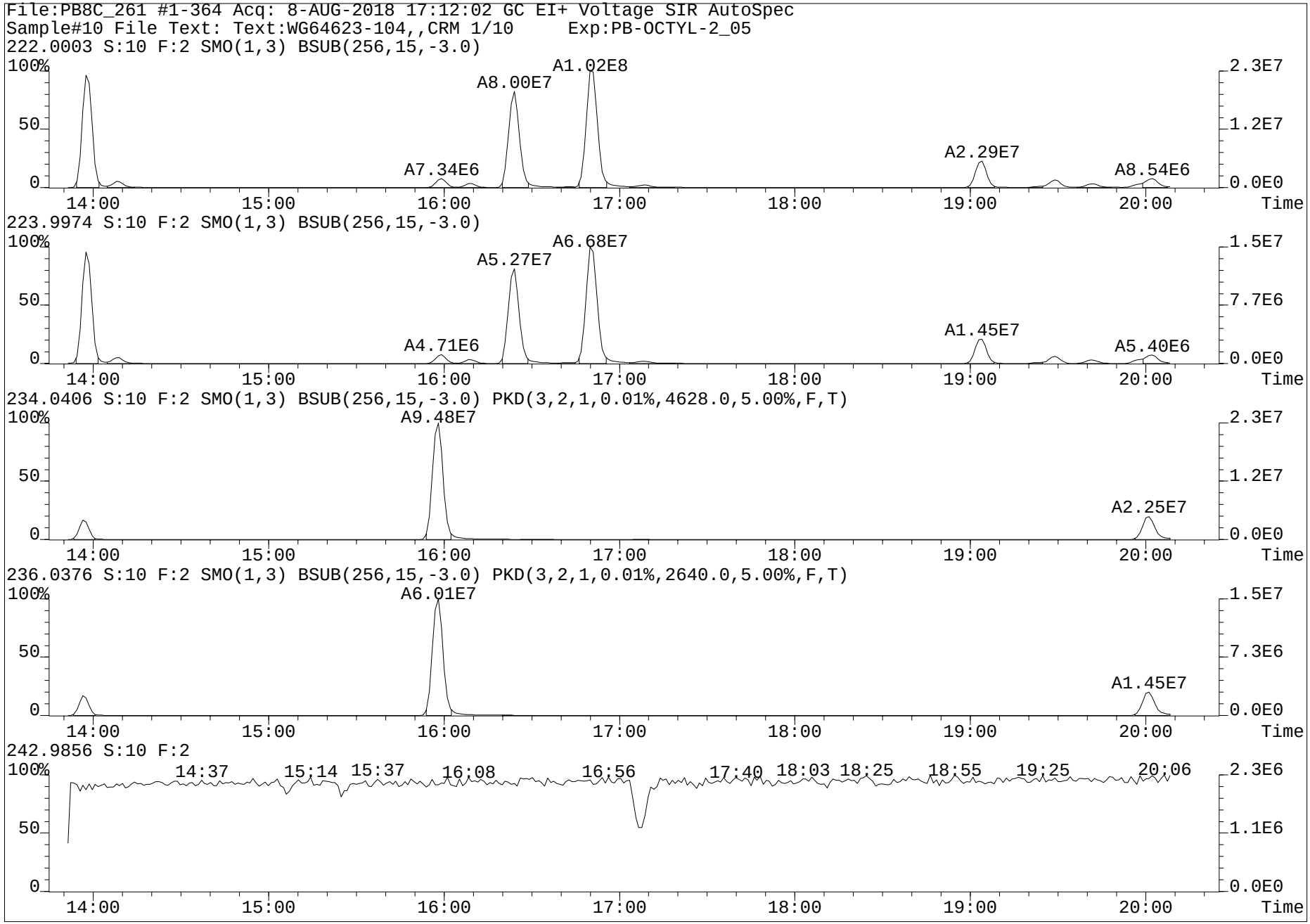
www.axysanalytical.com

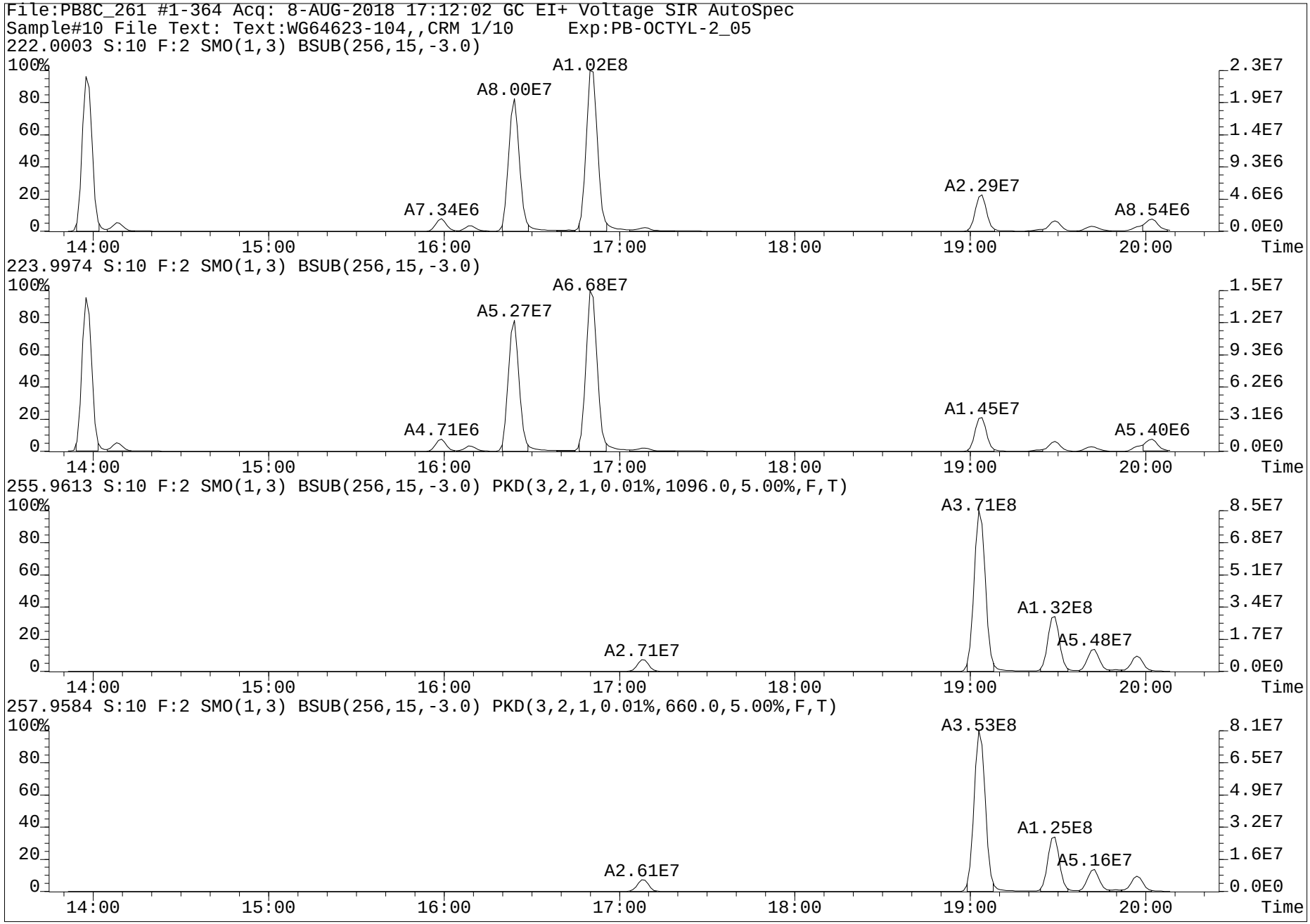
98	Unk	CL6-PCB-130	1	1.43e+08	1.25	y	39:56	9645.417	9645	236.1450	-	y
99	Unk	CL6-PCB-137	1	1.02e+08	1.24	y	40:10	6274.532	6275	215.7909	-	n
100	Unk	CL6-PCB-164	1	1.03e+08	1.27	y	40:17	4639.491	4639	158.2042	-	y
101	Unk	CL6-PCB-138/163/129/160	1	2.30e+09	1.27	y	40:37	124775.071	1247»	189.9730	-	n
102	Unk	CL6-PCB-158	1	2.38e+08	1.26	y	41:02	10058.321	10058	148.0946	-	n
103	Unk	CL6-PCB-128/166	1	3.63e+08	1.26	y	41:57	20216.150	20216	195.2642	-	n
104	Unk	CL6-PCB-159	1	1.70e+07	1.20	y	42:56	812.390	812	167.1147	-	n
105	Unk	CL6-PCB-162	1	1.35e+07	1.23	y	43:16	588.372	588	152.6303	-	y
106	Unk	CL7-PCB-179	1	1.26e+08	1.04	y	38:14	6171.495	6171	1.7450	-	n
107	Unk	CL7-PCB-184	1	1.24e+06	1.01	y	38:46	59.641	60	1.7125	-	n
108	Unk	CL7-PCB-176	1	3.73e+07	1.04	y	39:09	1904.764	1905	1.8236	-	n
109	Unk	CL7-PCB-186	0	*	*	n	NotFnd	*	*	1.9394	-	n
110	Unk	CL7-PCB-178	1	8.49e+07	1.05	y	41:05	6333.724	6334	2.6662	-	n
111	Unk	CL7-PCB-175	1	1.52e+07	1.07	y	41:45	1136.708	1137	2.6646	-	n
112	Unk	CL7-PCB-187	1	6.34e+08	1.04	y	42:02	41788.347	41788	2.3531	-	n
113	Unk	CL7-PCB-182	1	5.52e+06	1.02	y	42:15	402.897	403	2.6079	-	n
114	Unk	CL7-PCB-183/185	1	2.60e+08	1.04	y	42:40	19602.798	19603	2.6896	-	n
115	Unk	CL7-PCB-174	1	2.22e+08	1.05	y	42:55	15956.918	15957	2.5690	-	n
116	Unk	CL7-PCB-177	1	2.00e+08	1.03	y	43:23	10897.498	10897	1.9441	-	n
117	Unk	CL7-PCB-181	1	3.62e+06	0.96	y	43:47	267.307	267	2.6409	-	n
118	Unk	CL7-PCB-171/173	1	9.38e+07	1.04	y	44:02	7454.163	7454	2.8405	-	n
119	Unk	CL7-PCB-172	1	7.86e+07	1.03	y	45:44	6432.077	6432	2.9230	-	n
120	Unk	CL7-PCB-192	1	1.38e+06	0.92	y	46:02	91.164	91	2.3639	-	n
121	Unk	CL7-PCB-180/193	1	9.47e+08	1.04	y	46:25	57155.554	57156	2.1601	-	n
122	Unk	CL7-PCB-191	1	1.79e+07	1.08	y	46:47	1064.900	1065	2.1205	-	n
123	Unk	CL7-PCB-170	1	2.99e+08	1.04	y	47:45	19095.118	19095	2.2685	-	n
124	Unk	CL7-PCB-190	1	9.04e+07	1.04	y	48:18	5359.702	5360	2.1192	-	n
125	Unk	CL8-PCB-201	1	2.55e+07	0.89	y	44:26	1589.501	1590	1.2565	-	y
126	Unk	CL8-PCB-204	1	7.54e+05	1.04	n	45:08	46.502	47	1.2411	-	y
127	Unk	CL8-PCB-197/200	1	3.17e+07	0.90	y	45:27	1867.314	1867	1.1868	-	y
128	Unk	CL8-PCB-198/199	1	2.07e+08	0.89	y	48:27	17008.048	17008	1.6562	-	y
129	Unk	CL8-PCB-196	1	8.15e+07	0.89	y	49:08	6609.931	6610	1.6319	-	n
130	Unk	CL8-PCB-203	1	1.27e+08	0.90	y	49:20	9741.369	9741	1.5432	-	y
131	Unk	CL8-PCB-195	1	5.70e+07	0.89	y	50:45	4556.735	4557	4.7759	-	n
132	Unk	CL8-PCB-194	1	1.58e+08	0.89	y	53:13	11302.907	11303	4.2819	-	n
133	Unk	CL9-PCB-207	1	1.38e+07	0.79	y	51:27	750.535	751	1.5338	-	n
134	IS	13C-CL1-PCB-1	1	3.71e+07	3.29	y	11:29	261.422	0	2.6571	23.1	n
135	IS	13C-CL1-PCB-3	1	3.55e+07	3.13	y	13:42	280.868	0	2.9764	24.8	n
136	IS	13C-CL2-PCB-4	1	2.36e+07	1.56	y	13:56	275.411	0	0.8682	24.3	n
137	IS	13C-CL2-PCB-15	1	3.70e+07	1.56	y	20:01	289.838	0	0.5822	25.6	n
138	IS	13C-CL3-PCB-19	1	1.75e+07	1.05	y	17:07	222.926	0	2.6880	19.7	n
139	IS	13C-CL3-PCB-37	1	3.07e+07	1.04	y	27:18	287.803	0	2.8407	25.4	n
140	REF	13C-CL4-CHECK	1	2.76e+07	0.81	y	20:17	269.081	0	1.0157	23.8	n
141	IS	13C-CL4-PCB-81	1	2.74e+07	0.76	y	34:21	297.895	0	1.0385	26.3	n
142	IS	13C-CL4-PCB-77	1	2.76e+07	0.77	y	34:57	295.174	0	1.0212	26.1	n
143	IS	13C-CL5-PCB-104	1	2.46e+07	1.60	y	25:58	276.871	0	0.1648	24.5	n
144	IS	13C-CL5-PCB-123	1	2.43e+07	1.54	y	37:00	280.619	0	0.6246	24.8	n
145	IS	13C-CL5-PCB-118	1	2.41e+07	1.59	y	37:21	289.291	0	0.6478	25.6	n
146	IS	13C-CL5-PCB-114	1	2.32e+07	1.55	y	37:54	290.038	0	0.6751	25.6	n
147	IS	13C-CL5-PCB-105	1	2.40e+07	1.57	y	38:35	290.713	0	0.6541	25.7	n
148	IS	13C-CL5-PCB-126	1	2.24e+07	1.57	y	41:50	324.226	0	0.7819	28.7	n

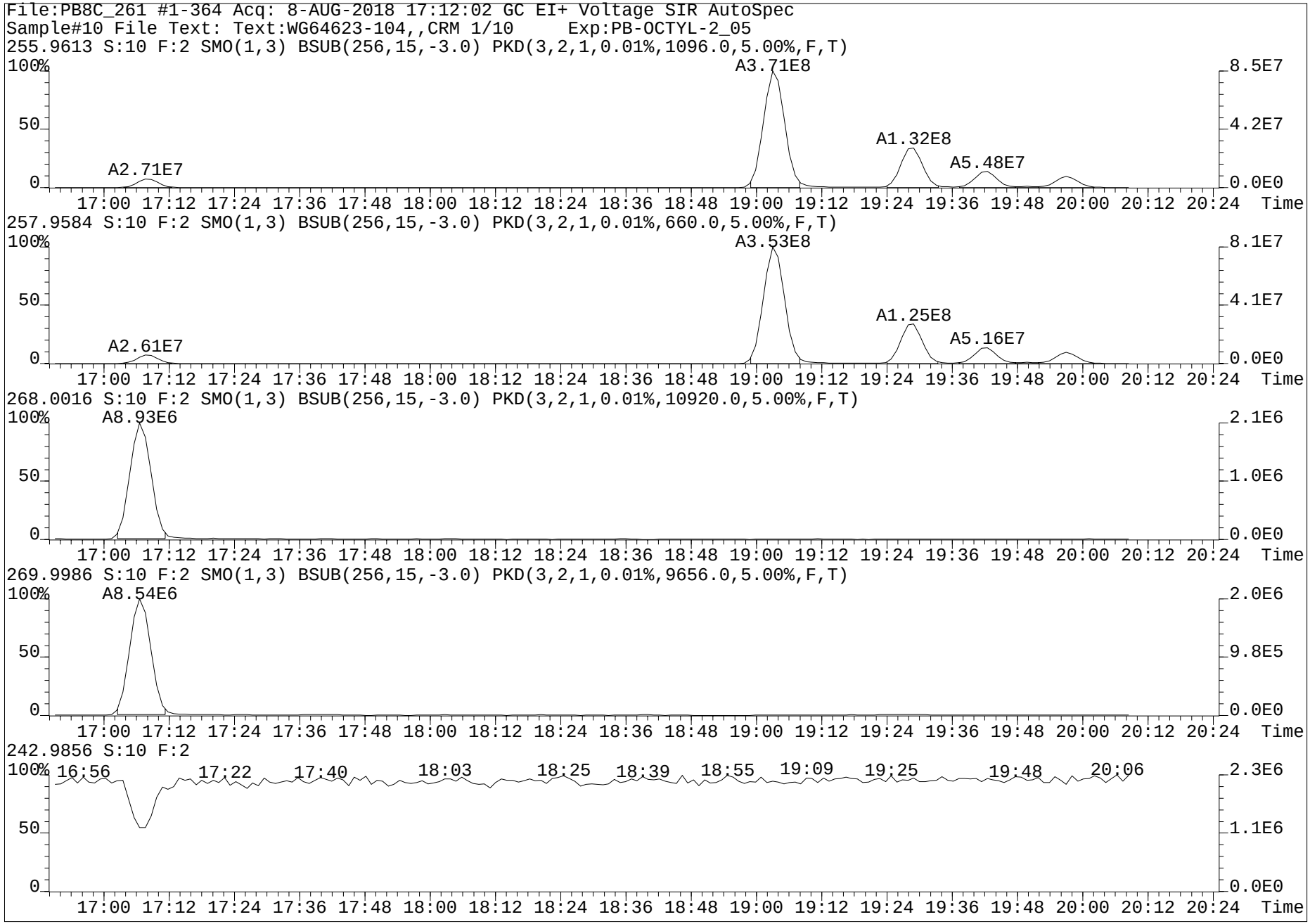
www.axysanalytical.com

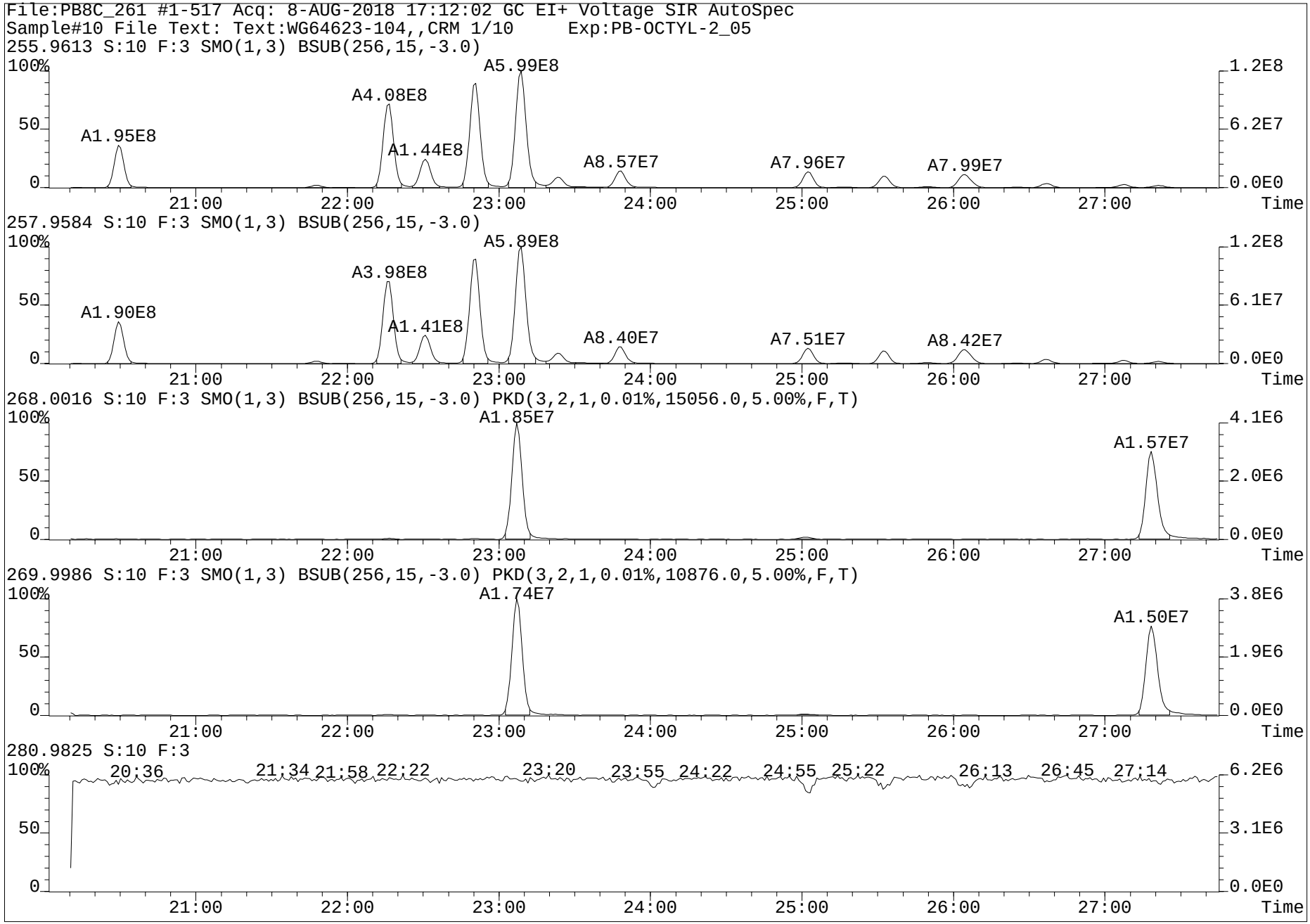
149	IS	13C-CL6-PCB-155	1	2.35e+07	1.24	y	31:52	215.455	0	0.2116	19.0	n
150	IS	13C-CL6-PCB-167	1	2.20e+07	1.28	y	43:45	281.397	0	0.6275	24.9	n
151	IS	13C-CL6-PCB-156/157	1	4.52e+07	1.22	y	44:58	563.052	0	0.6121	24.9	n
152	IS	13C-CL6-PCB-169	1	2.21e+07	1.23	y	48:23	272.836	0	0.6076	24.1	n
153	IS	13C-CL7-PCB-188	1	2.36e+07	1.03	y	37:50	294.489	0	0.5093	26.0	n
154	IS	13C-CL7-PCB-180	1	1.87e+07	1.03	y	46:24	342.456	0	0.7500	30.3	n
155	IS	13C-CL7-PCB-170	1	1.56e+07	1.02	y	47:43	348.979	0	0.9124	30.8	n
156	IS	13C-CL8-PCB-202	1	2.14e+07	0.89	y	43:28	278.276	0	0.2999	24.6	n
157	IS	13C-CL8-PCB-205	1	1.83e+07	0.89	y	53:41	270.091	0	0.7110	23.9	n
158	IS	13C-CL9-PCB-208	1	1.80e+07	0.78	y	50:27	320.112	0	0.3656	28.3	n
159	IS	13C-CL9-PCB-206	1	1.55e+07	0.77	y	55:30	330.700	0	0.4382	29.2	n
160	RS/RT	13C-CL2-PCB-9	1	1.55e+08	1.58	y	15:58	13.343	0	-	-	n
161	RS/RT	13C-CL4-PCB-52	1	8.71e+07	0.79	y	25:00	13.153	0	-	-	n
162	RS/RT	13C-CL5-PCB-101	1	7.70e+07	1.58	y	32:08	13.673	0	-	-	n
163	RS/RT	13C-CL6-PCB-138	1	7.53e+07	1.26	y	40:36	16.937	0	-	-	n
164	RS/RT	13C-CL8-PCB-194	1	5.55e+07	0.88	y	53:12	15.449	0	-	-	n
165	C/Up	13C-CL3-PCB-28	1	3.59e+07	1.06	y	23:07	299.858	0	2.5326	26.5	n
166	C/Up	13C-CL5-PCB-111	1	2.40e+07	1.58	y	34:58	303.089	0	0.3886	26.8	n
167	C/UP	13C-CL7-PCB-178	1	1.75e+07	1.05	y	41:04	312.380	0	0.7067	27.6	n
168	IS	13C-CL4-PCB-54	1	2.76e+07	0.81	y	20:17	269.081	0	1.0157	23.8	n
169	Unk	CL7-PCB-189	1	1.76e+07	1.04	y	51:02	1094.090	0	5.7146	-	n
170	IS	13C-CL7-PCB-189	1	1.84e+07	1.01	y	51:01	264.104	0	1.2132	23.3	n
171	Unk	CL10-PCB-209	1	7.84e+07	1.17	y	57:10	5004.699	0	0.8993	-	n
172	IS	13C-CL10-PCB-209	1	1.68e+07	1.18	y	57:08	311.716	0	0.2044	27.6	n
173	LM	CL1-LOCK	-	-			-	-	-	-	-	n
174	LM	CL2-LOCK	-	-			-	-	-	-	-	n
175	LM	CL3-LOCK	-	-			-	-	-	-	-	n
176	LM	CL3-LOCK	-	-			-	-	-	-	-	n
177	LM	CL4-LOCK	-	-			-	-	-	-	-	n
178	LM	CL4-LOCK	-	-			-	-	-	-	-	n
179	LM	CL5-LOCK	-	-			-	-	-	-	-	n
180	LM	CL5-LOCK	-	-			-	-	-	-	-	n
181	LM	CL5-LOCK	-	-			-	-	-	-	-	n
182	LM	CL6-LOCK	-	-			-	-	-	-	-	n
183	LM	CL6-LOCK	-	-			-	-	-	-	-	n
184	LM	CL7-LOCK	-	-			-	-	-	-	-	n
185	LM	CL7-LOCK	-	-			-	-	-	-	-	n
186	LM	CL8-LOCK	-	-			-	-	-	-	-	n
187	LM	CL8-LOCK	-	-			-	-	-	-	-	n
188	LM	CL9-LOCK	-	-			-	-	-	-	-	n
189	LM	CL10-LOCK	-	-			-	-	-	-	-	n

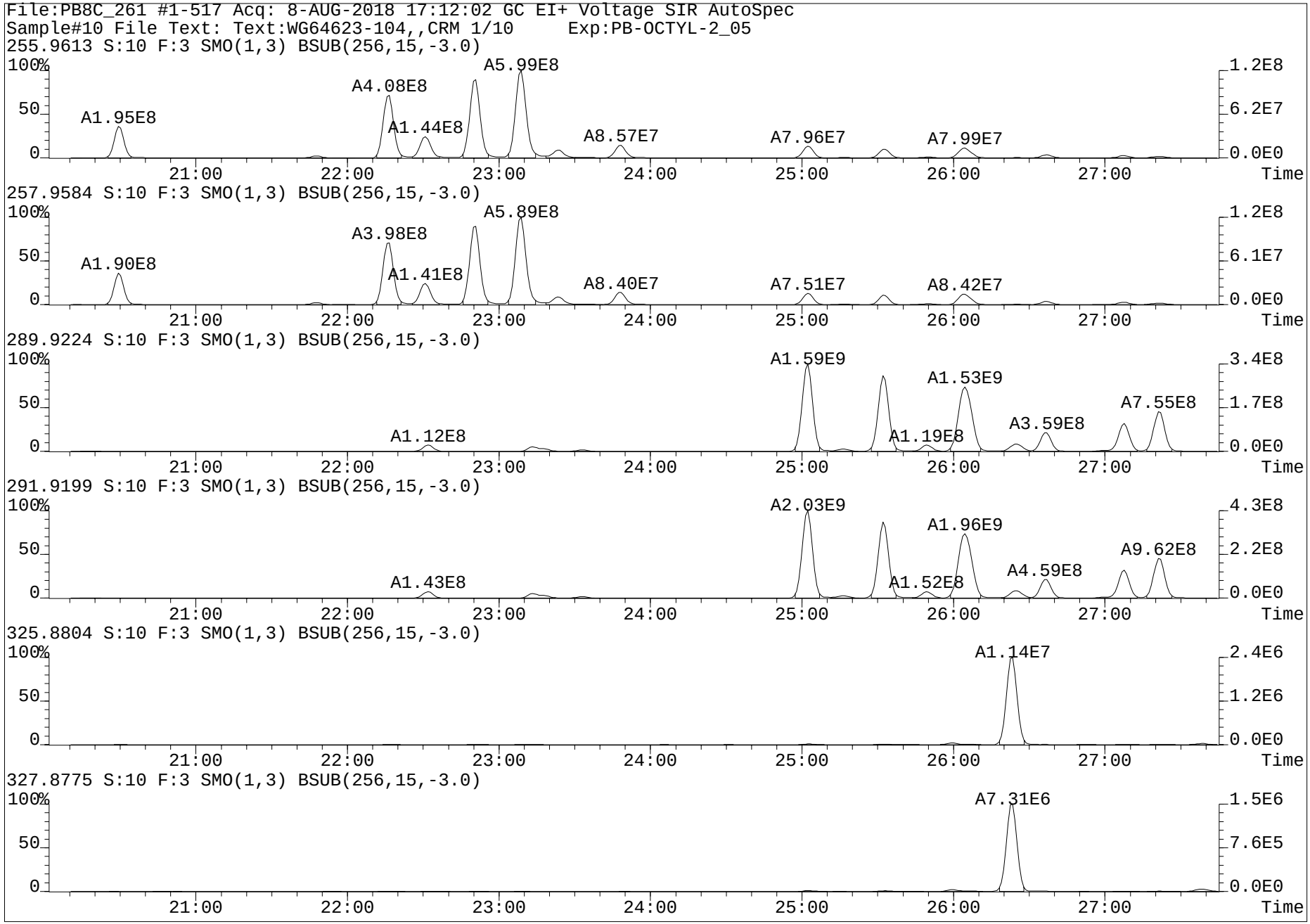

File:PB8C_261 #1-184 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
188.0393 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,816.0,5.00%,F,T)
A9.99E6
A1.09E6
190.0363 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,860.0,5.00%,F,T)
A3.23E6
A3.58E5
200.0795 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1316.0,5.00%,F,T)
A2.84E7
A2.69E7
202.0766 S:10 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,35484.0,5.00%,F,T)
A8.64E6
A8.62E6
218.9856 S:10
11:16
11:38
11:58
12:24
12:40
12:55
13:17
13:28
13:47
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
3.1E6
1.6E6
0.0E0
9.9E5
5.0E5
8.8E6
4.4E6
2.8E6
1.4E6
7.8E6
3.9E6

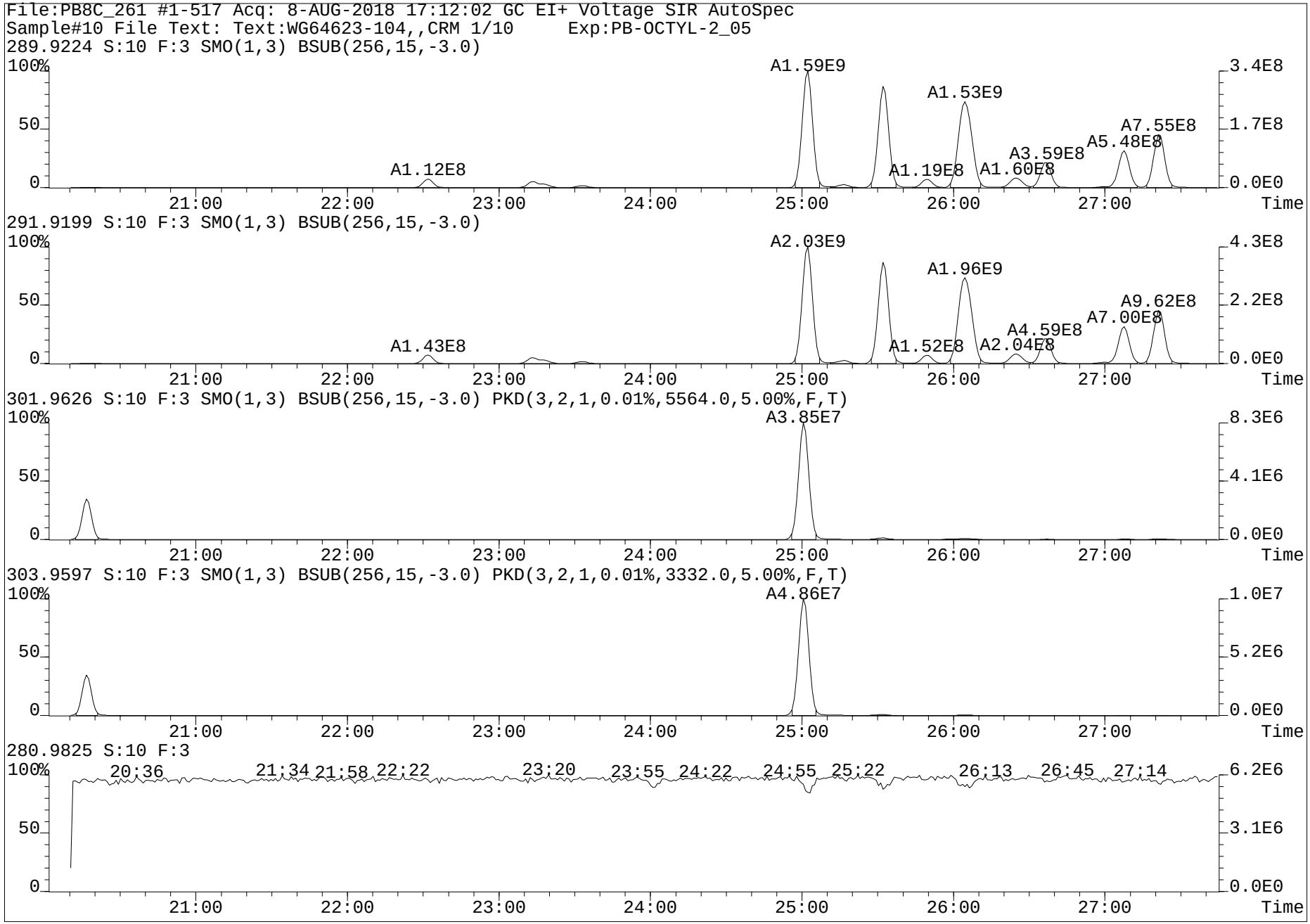

File:PB8C_261 #1-364 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
222.0003 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.02E8
A8.00E7
A7.34E6
A2.29E7
A8.54E6
223.9974 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.68E7
A5.27E7
A4.71E6
A1.45E7
A5.40E6
234.0406 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4628.0,5.00%,F,T)
A9.48E7
A2.25E7
236.0376 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2640.0,5.00%,F,T)
A6.01E7
A1.45E7
242.9856 S:10 F:2
14:37
15:14
15:37
16:08
16:56
17:40
18:03
18:25
18:55
19:25
20:06
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
2.3E7
1.2E7
0.0E0
1.5E7
7.7E6
7.3E6
2.3E6
1.1E6

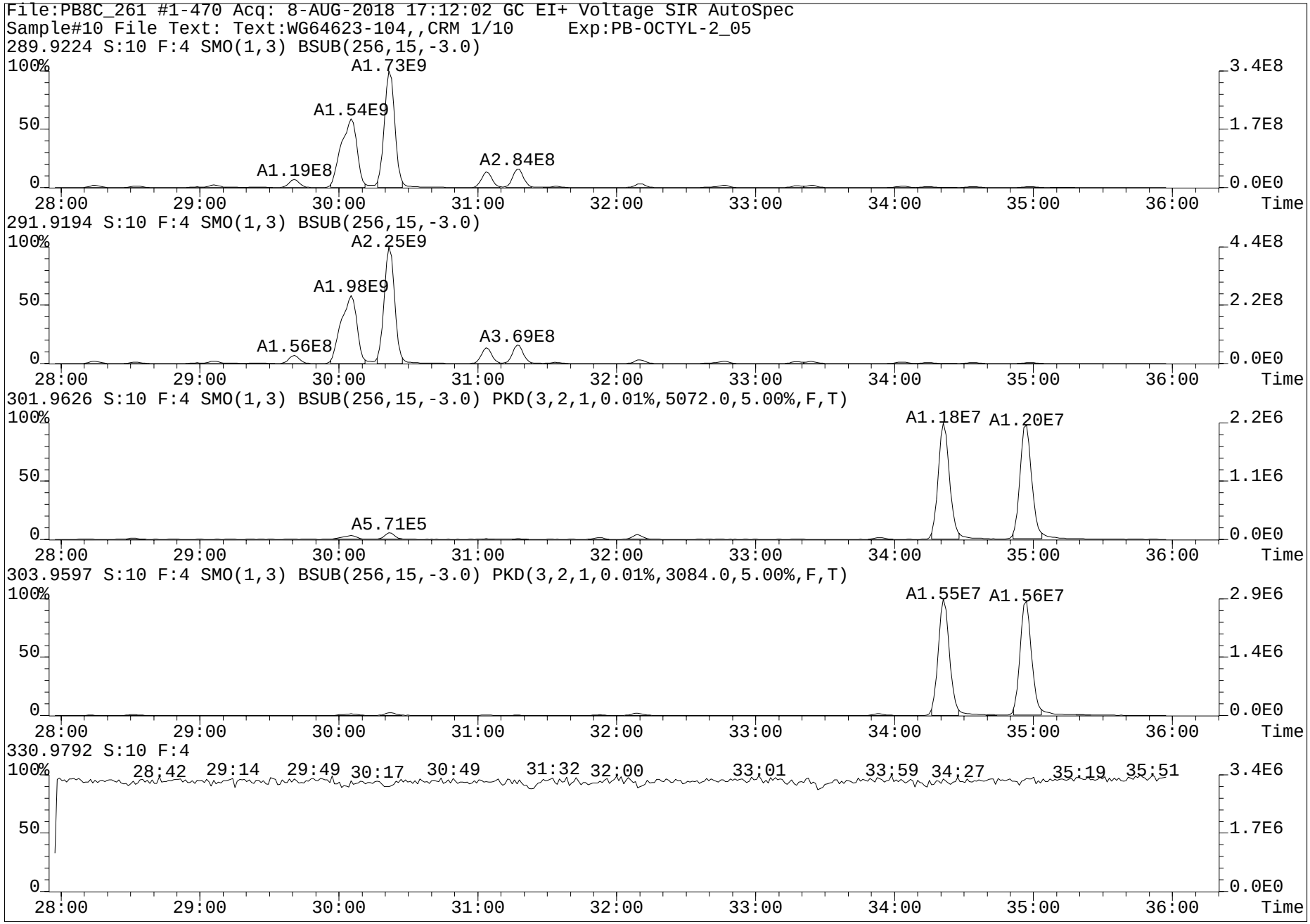

File:PB8C_261 #1-364 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
222.0003 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.02E8
A8.00E7
A7.34E6
A2.29E7
A8.54E6
223.9974 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0)
A6.68E7
A5.27E7
A4.71E6
A1.45E7
A5.40E6
255.9613 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1096.0,5.00%,F,T)
A3.71E8
A1.32E8
A5.48E7
A2.71E7
257.9584 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,660.0,5.00%,F,T)
A3.53E8
A1.25E8
A5.16E7
A2.61E7
Time

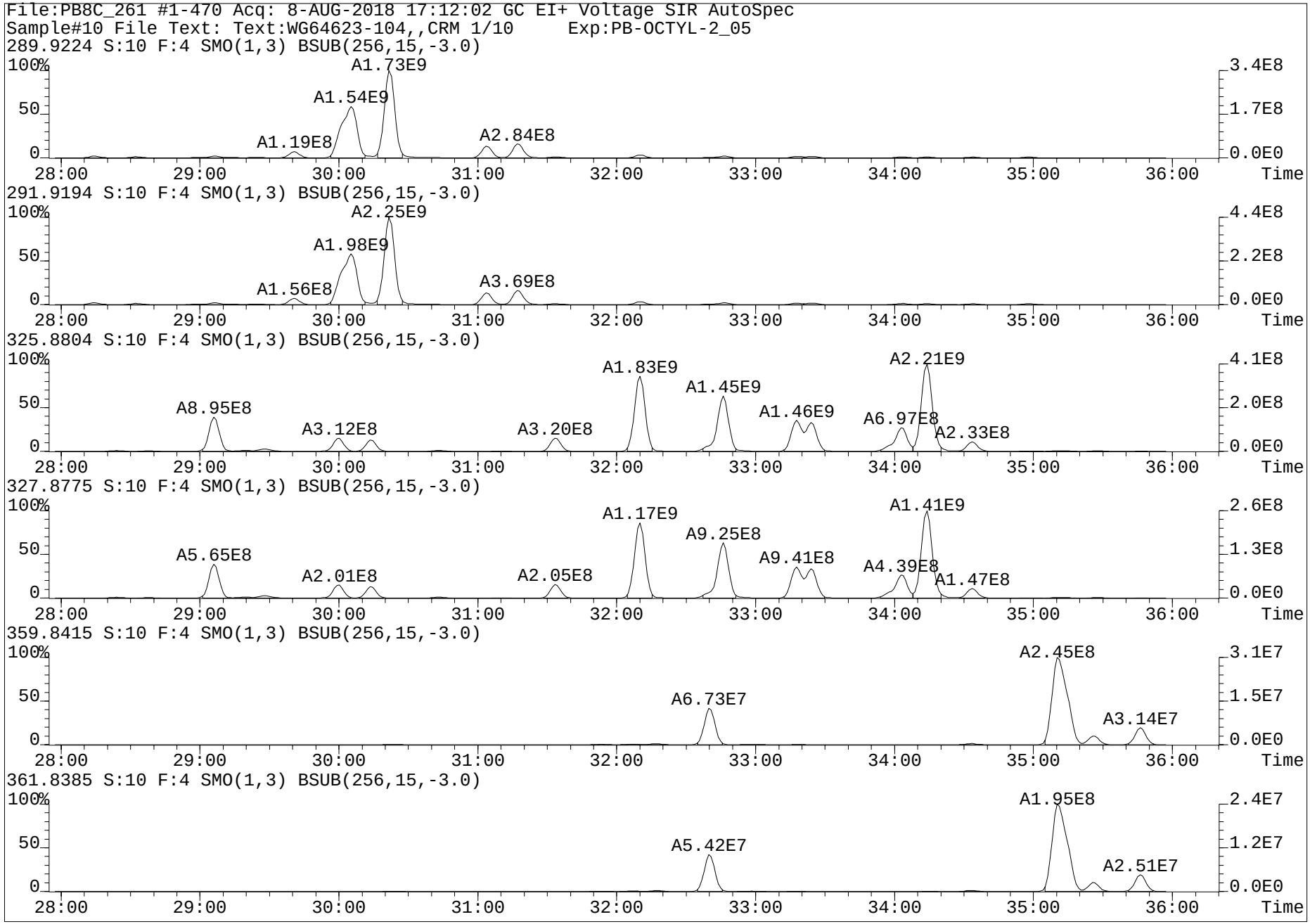

File:PB8C_261 #1-364 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1096.0,5.00%,F,T)
A3.71E8
A1.32E8
A5.48E7
A2.71E7
257.9584 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,660.0,5.00%,F,T)
A3.53E8
A1.25E8
A5.16E7
A2.61E7
268.0016 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10920.0,5.00%,F,T)
A8.93E6
269.9986 S:10 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9656.0,5.00%,F,T)
A8.54E6
242.9856 S:10 F:2
16:56 17:22 17:40 18:03 18:25 18:39 18:55 19:09 19:25 19:48 20:06
Time

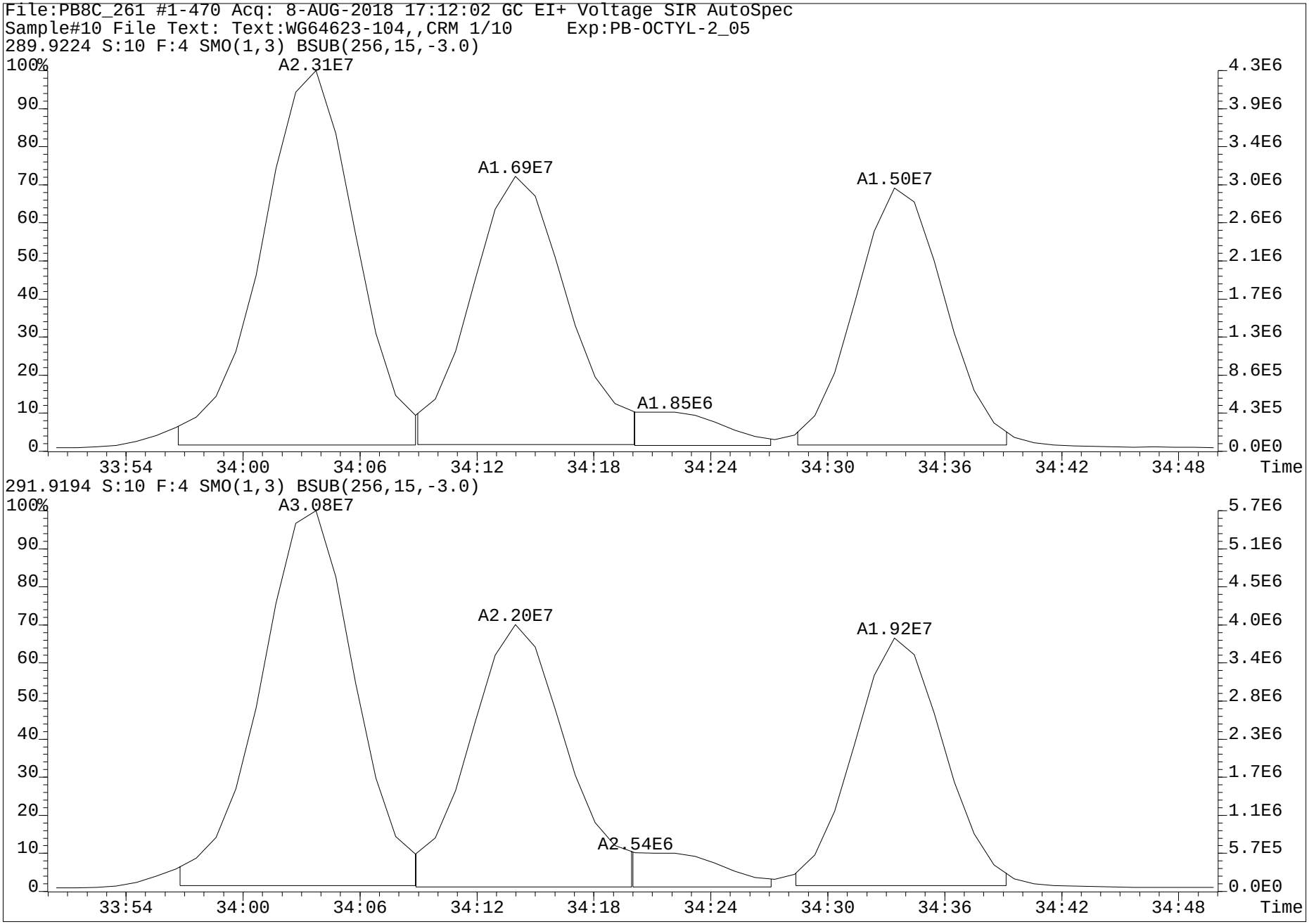

File:PB8C_261 #1-517 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.95E8
A4.08E8
A1.44E8
A5.99E8
A8.57E7
A7.96E7
A7.99E7
257.9584 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.90E8
A3.98E8
A1.41E8
A5.89E8
A8.40E7
A7.51E7
A8.42E7
268.0016 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15056.0,5.00%,F,T)
A1.85E7
A1.57E7
269.9986 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10876.0,5.00%,F,T)
A1.74E7
A1.50E7
280.9825 S:10 F:3
20:36
21:34
21:58
22:22
23:20
23:55
24:22
24:55
25:22
26:13
26:45
27:14
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.2E8
6.2E7
0.0E0
6.1E7
4.1E6
2.0E6
3.8E6
1.9E6
6.2E6
3.1E6

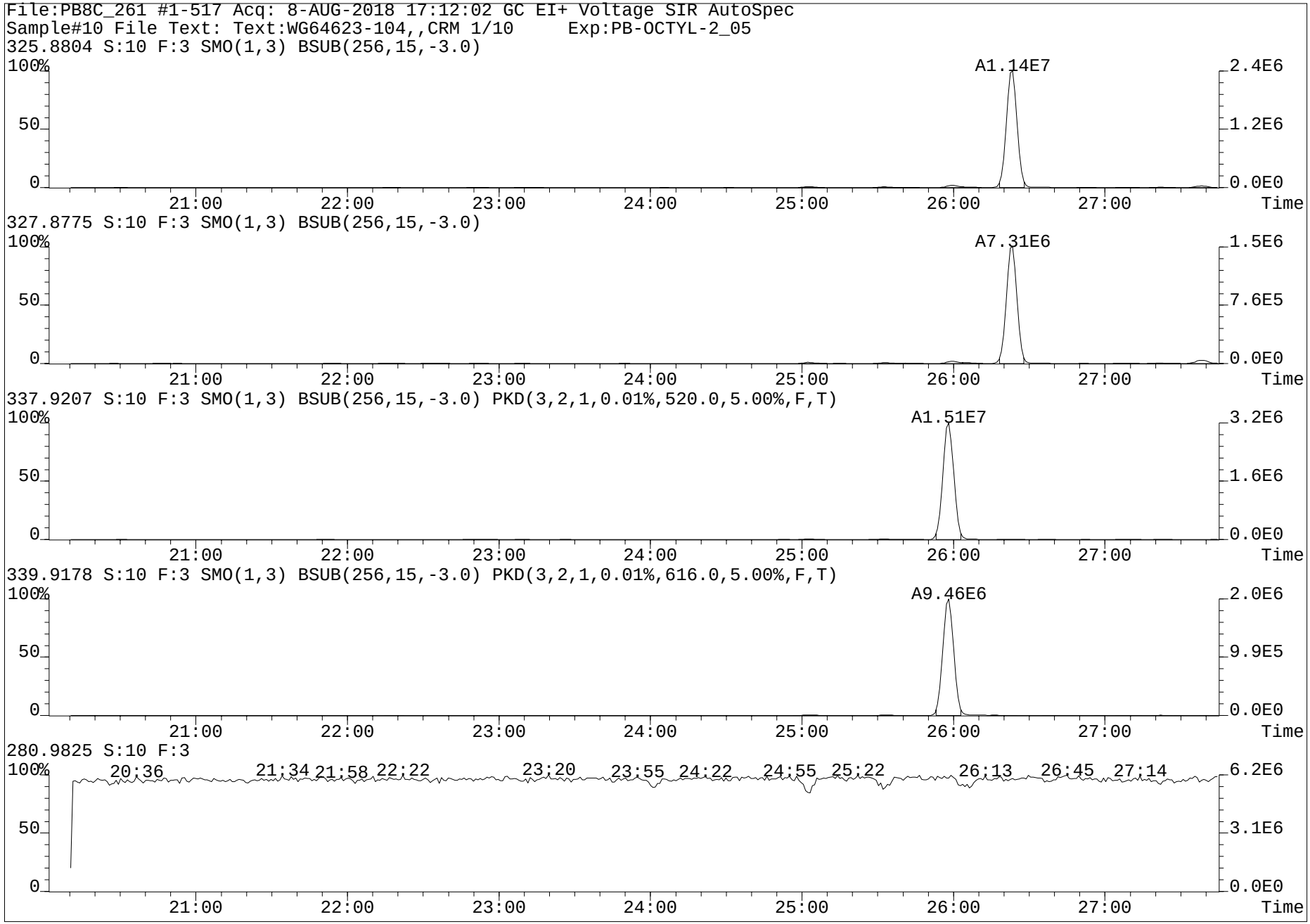

File:PB8C_261 #1-517 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
255.9613 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.95E8
A4.08E8
A1.44E8
A5.99E8
A8.57E7
A7.96E7
A7.99E7
257.9584 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.90E8
A3.98E8
A1.41E8
A5.89E8
A8.40E7
A7.51E7
A8.42E7
289.9224 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.12E8
A1.59E9
A1.53E9
A1.19E8
A3.59E8
A7.55E8
291.9199 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.43E8
A2.03E9
A1.96E9
A1.52E8
A4.59E8
A9.62E8
325.8804 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.14E7
327.8775 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A7.31E6
Time

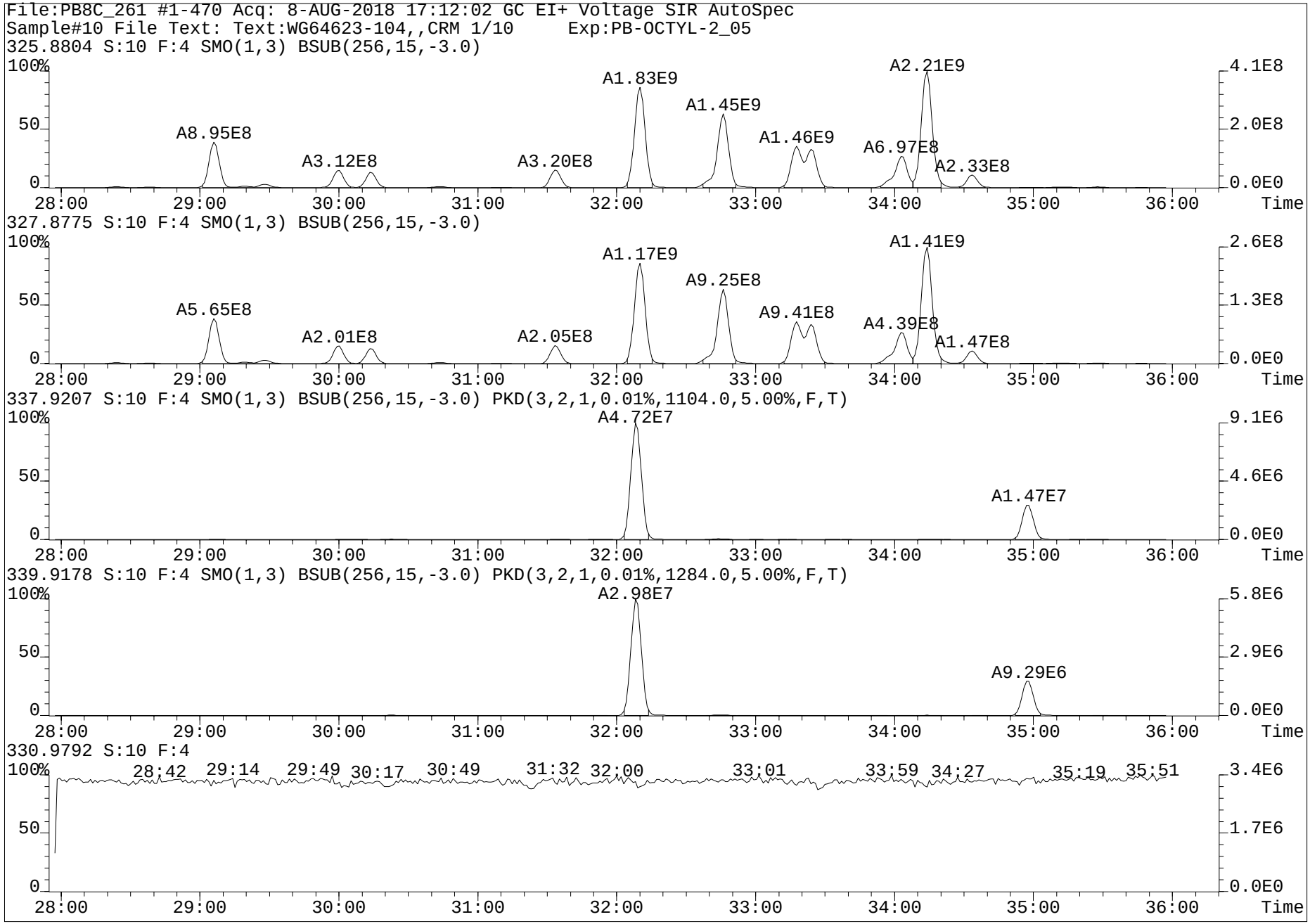

File:PB8C_261 #1-517 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.59E9
A1.53E9
A7.55E8
A5.48E8
A3.59E8
A1.60E8
A1.19E8
A1.12E8
291.9199 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.03E9
A1.96E9
A9.62E8
A7.00E8
A4.59E8
A2.04E8
A1.52E8
A1.43E8
301.9626 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5564.0,5.00%,F,T)
A3.85E7
303.9597 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3332.0,5.00%,F,T)
A4.86E7
280.9825 S:10 F:3
20:36
21:34
21:58
22:22
23:20
23:55
24:22
24:55
25:22
26:13
26:45
27:14
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
3.4E8
1.7E8
0.0E0
4.3E8
2.2E8
8.3E6
4.1E6
1.0E7
5.2E6
6.2E6
3.1E6

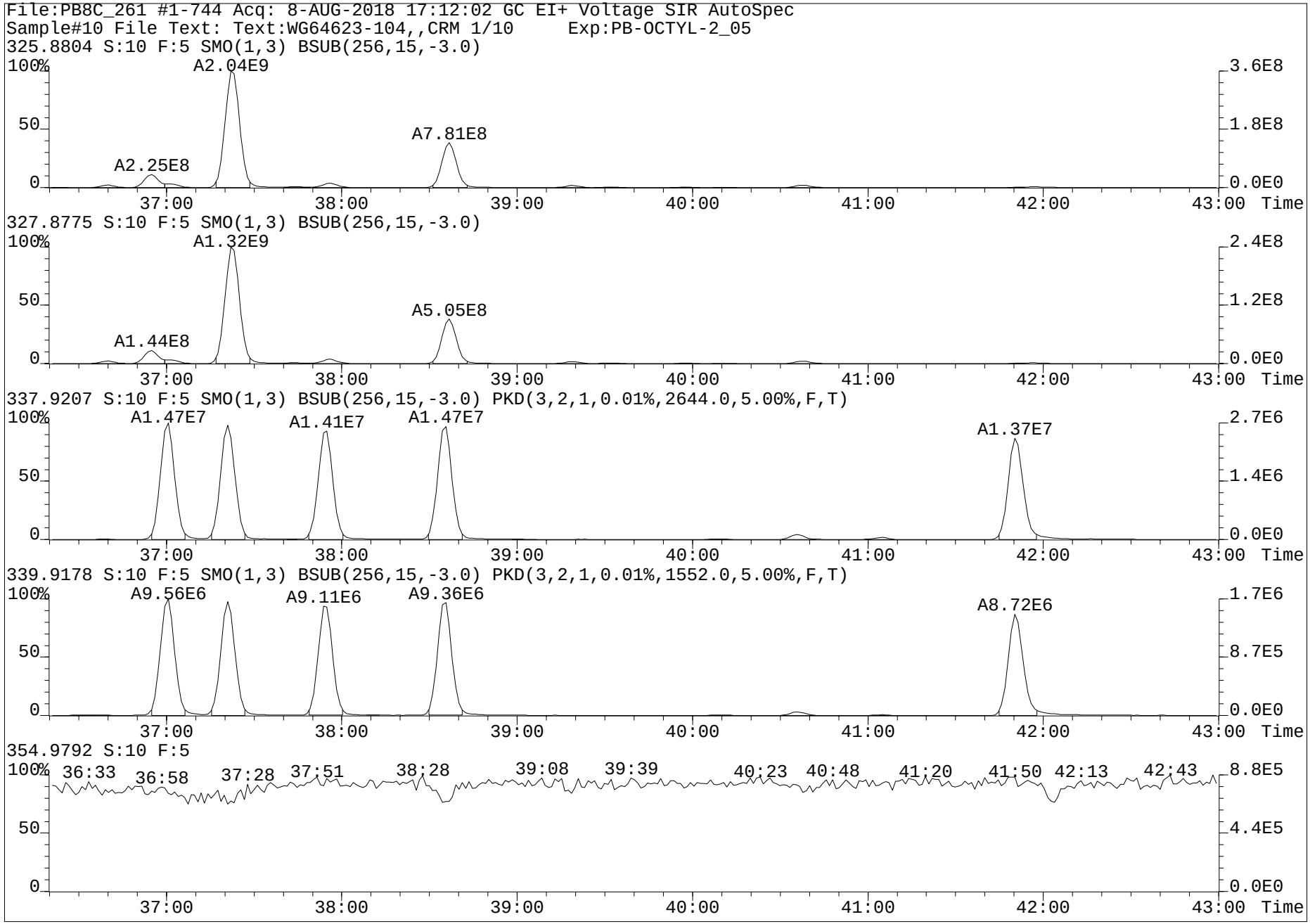

File:PB8C_261 #1-470 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.73E9
A1.54E9
A1.19E8
A2.84E8
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.25E9
A1.98E9
A1.56E8
A3.69E8
301.9626 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5072.0,5.00%,F,T)
A1.18E7
A1.20E7
A5.71E5
303.9597 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3084.0,5.00%,F,T)
A1.55E7
A1.56E7
330.9792 S:10 F:4
28:42 29:14 29:49 30:17 30:49 31:32 32:00 33:01 33:59 34:27 35:19 35:51
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
3.4E8 1.7E8 0.0E0
4.4E8 2.2E8 0.0E0
2.2E6 1.1E6 0.0E0
2.9E6 1.4E6 0.0E0
3.4E6 1.7E6 0.0E0

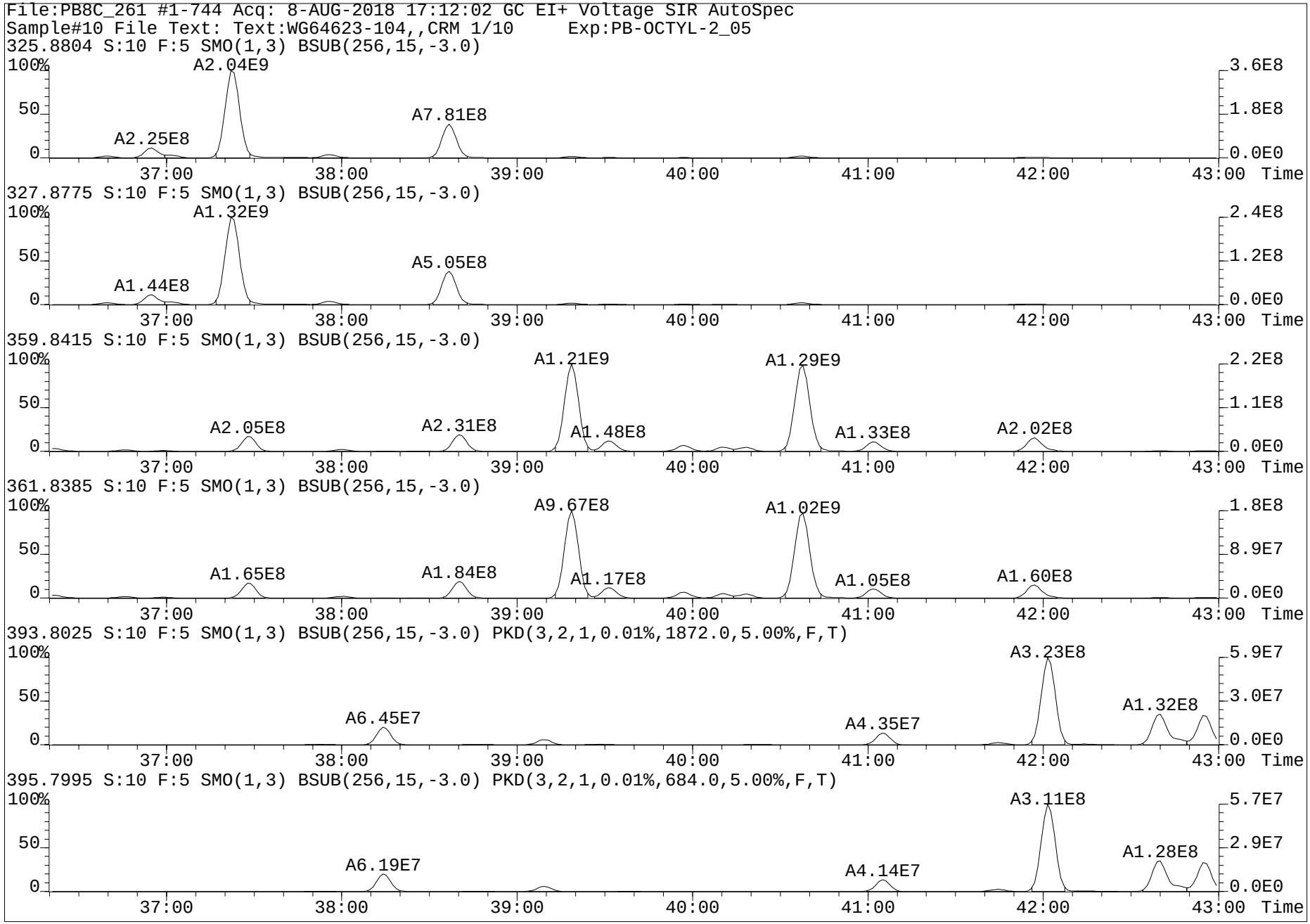

File:PB8C_261 #1-470 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.73E9
A1.54E9
A1.19E8
A2.84E8
3.4E8
1.7E8
0.0E0
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.25E9
A1.98E9
A1.56E8
A3.69E8
4.4E8
2.2E8
0.0E0
325.8804 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.83E9
A2.21E9
A1.45E9
A8.95E8
A1.46E9
A6.97E8
A3.12E8
A3.20E8
A2.33E8
4.1E8
2.0E8
0.0E0
327.8775 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.17E9
A1.41E9
A9.25E8
A5.65E8
A9.41E8
A4.39E8
A2.01E8
A2.05E8
A1.47E8
2.6E8
1.3E8
0.0E0
359.8415 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.45E8
A6.73E7
A3.14E7
3.1E7
1.5E7
0.0E0
361.8385 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.95E8
A5.42E7
A2.51E7
2.4E7
1.2E7
0.0E0
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time

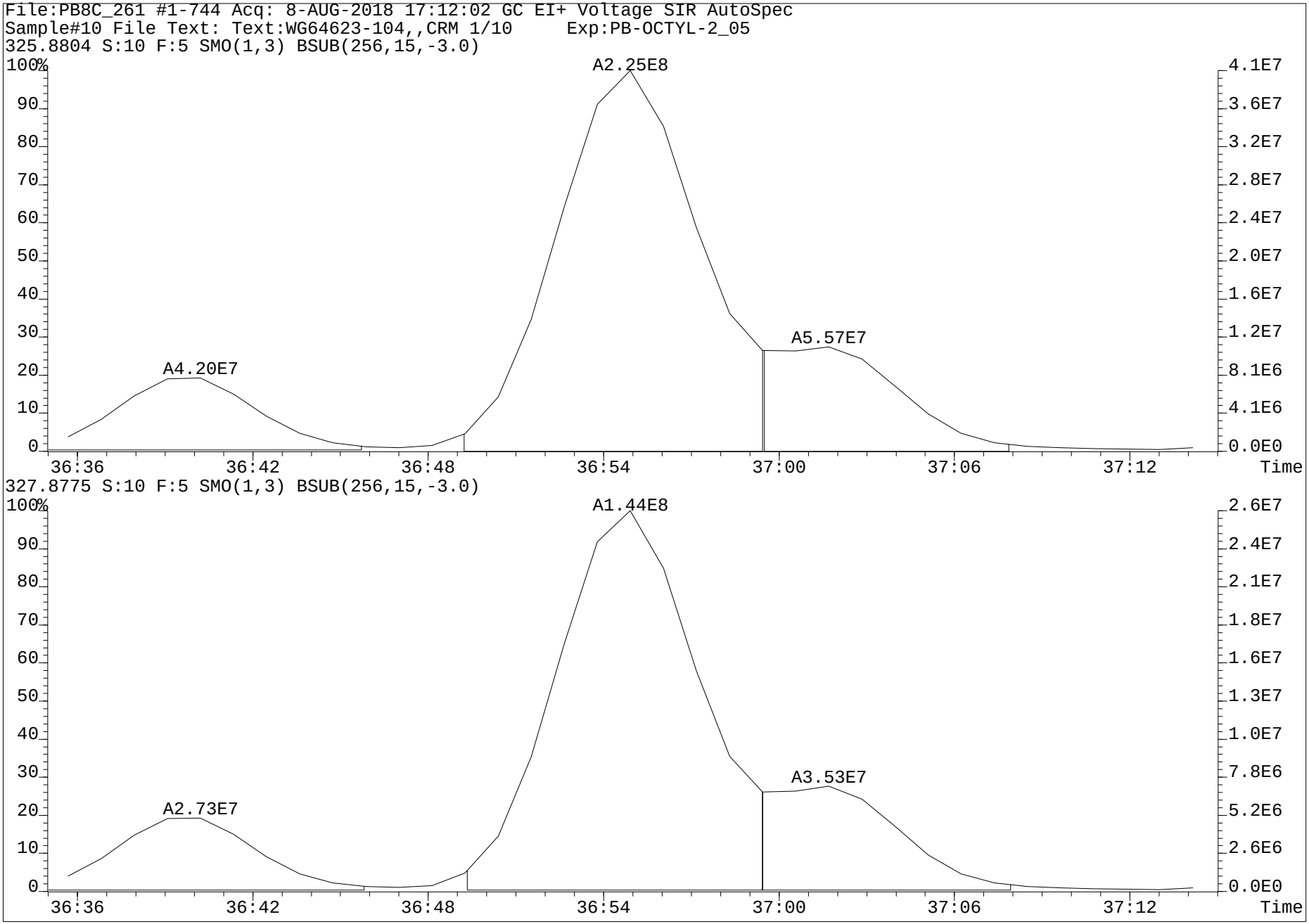

File:PB8C_261 #1-470 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
289.9224 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.31E7
A1.69E7
A1.50E7
A1.85E6
291.9194 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.08E7
A2.20E7
A1.92E7
A2.54E6
Time

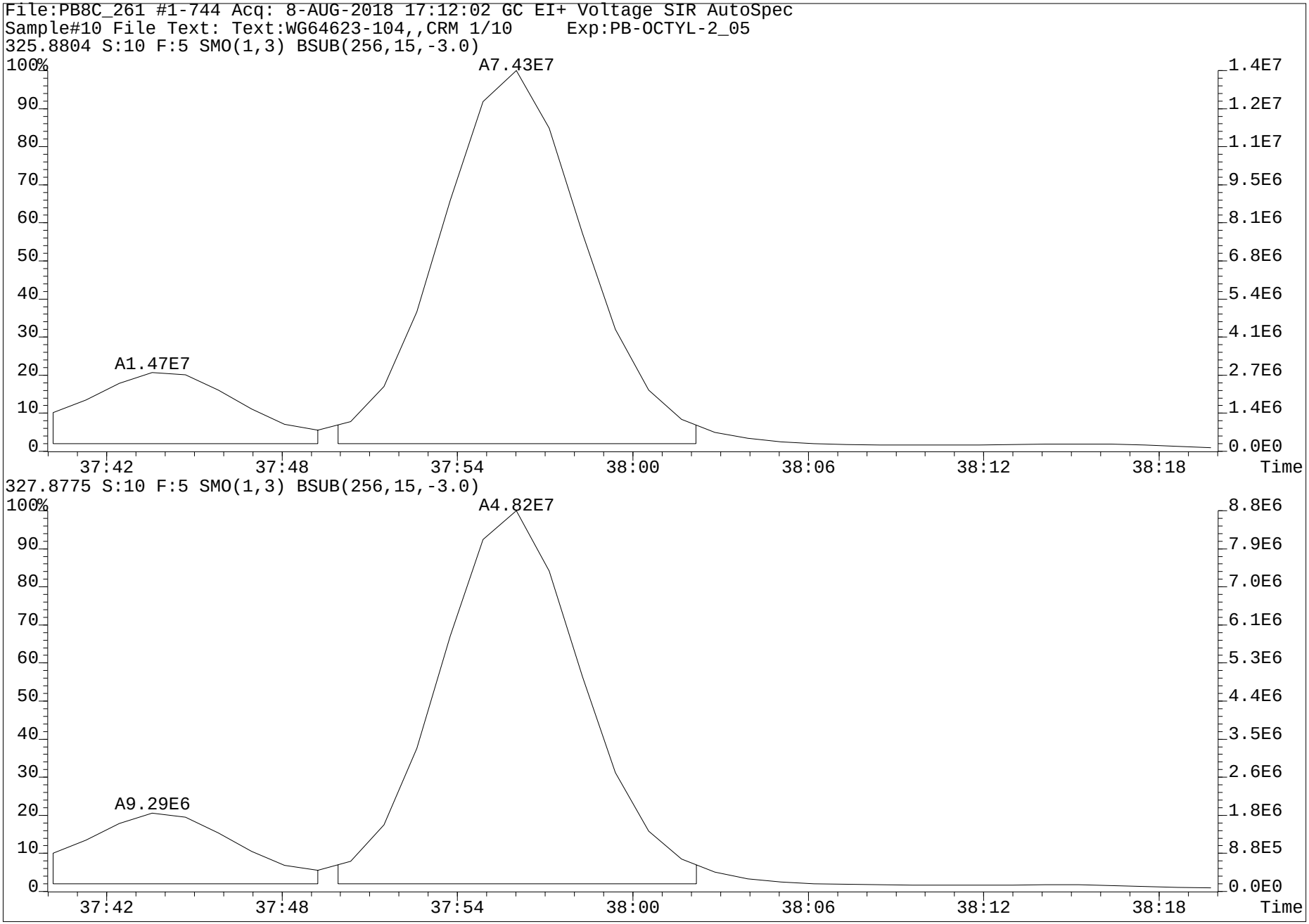

File:PB8C_261 #1-517 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.14E7
327.8775 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0)
A7.31E6
337.9207 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A1.51E7
339.9178 S:10 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,616.0,5.00%,F,T)
A9.46E6
280.9825 S:10 F:3
20:36 21:34 21:58 22:22 23:20 23:55 24:22 24:55 25:22 26:13 26:45 27:14
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
2.4E6 1.2E6 0.0E0
1.5E6 7.6E5 0.0E0
3.2E6 1.6E6 0.0E0
2.0E6 9.9E5 0.0E0
6.2E6 3.1E6 0.0E0

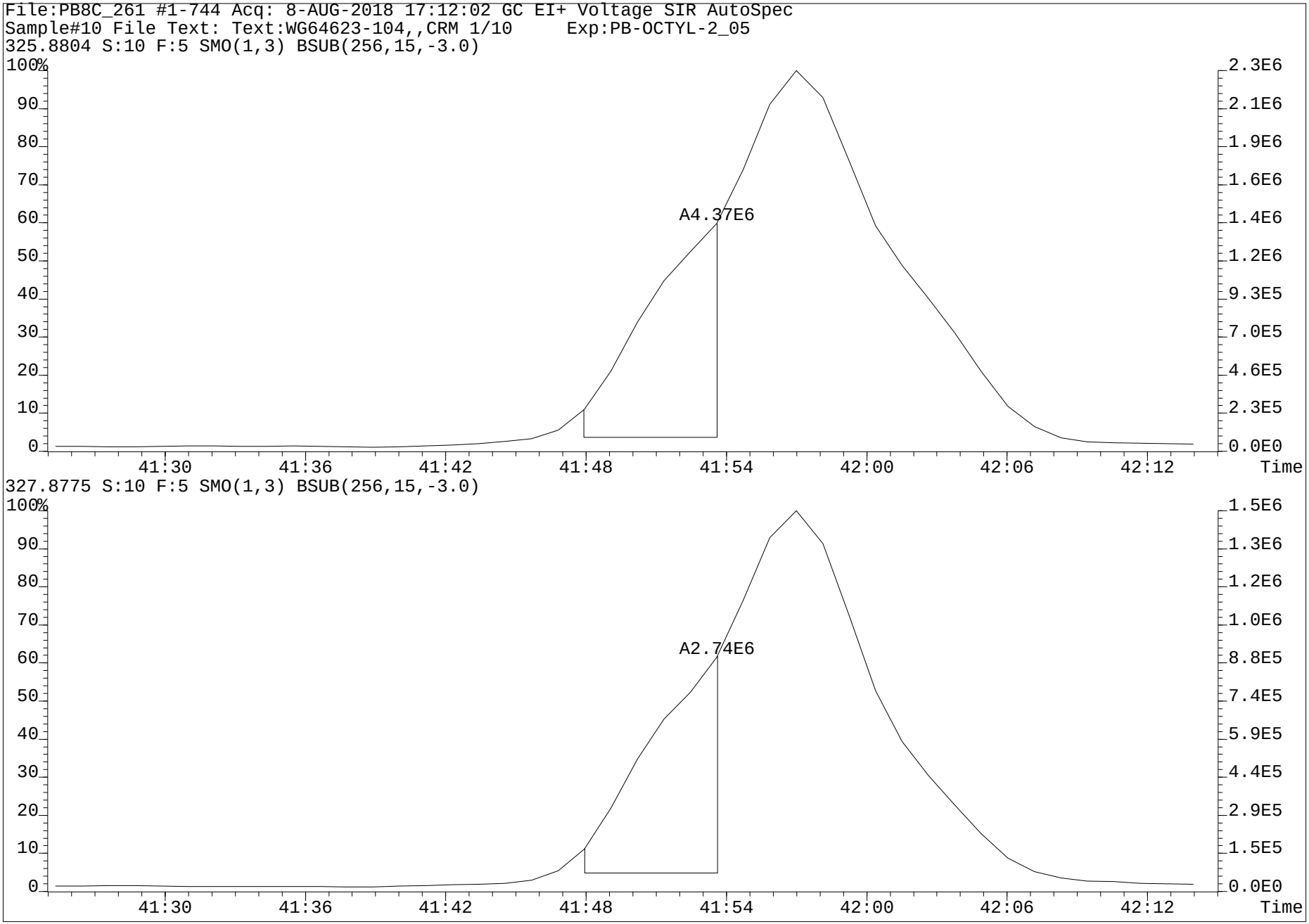

File:PB8C_261 #1-470 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A8.95E8
A3.12E8
A3.20E8
A1.83E9
A1.45E9
A1.46E9
A6.97E8
A2.21E9
A2.33E8
327.8775 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.65E8
A2.01E8
A2.05E8
A1.17E9
A9.25E8
A9.41E8
A4.39E8
A1.41E9
A1.47E8
337.9207 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1104.0,5.00%,F,T)
A4.72E7
A1.47E7
339.9178 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1284.0,5.00%,F,T)
A2.98E7
A9.29E6
330.9792 S:10 F:4
28:42 29:14 29:49 30:17 30:49 31:32 32:00 33:01 33:59 34:27 35:19 35:51
Time

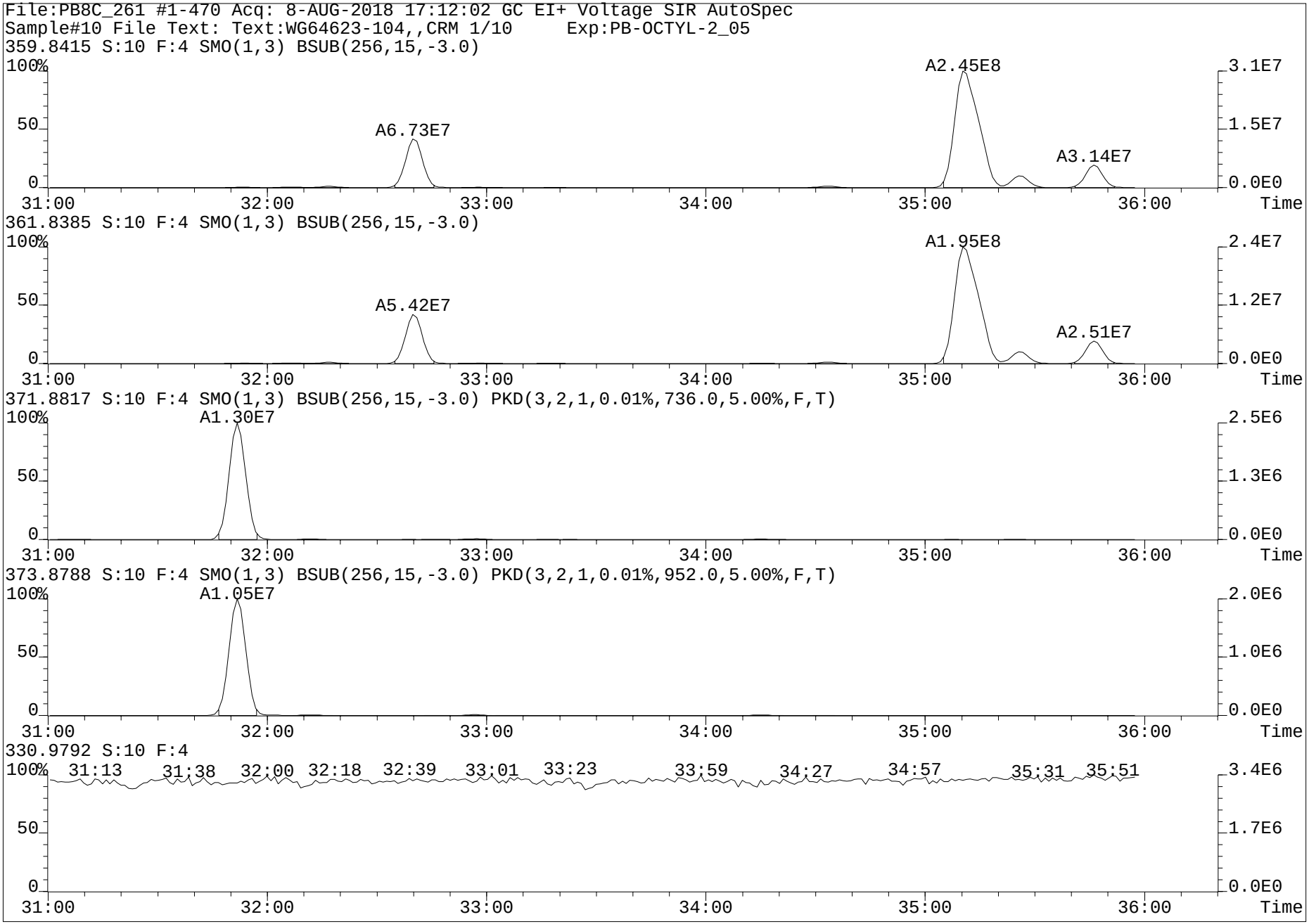

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.04E9
A7.81E8
A2.25E8
3.6E8
1.8E8
0.0E0
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.32E9
A5.05E8
A1.44E8
2.4E8
1.2E8
0.0E0
337.9207 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2644.0,5.00%,F,T)
A1.47E7
A1.41E7
A1.47E7
A1.37E7
2.7E6
1.4E6
0.0E0
339.9178 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1552.0,5.00%,F,T)
A9.56E6
A9.11E6
A9.36E6
A8.72E6
1.7E6
8.7E5
0.0E0
354.9792 S:10 F:5
36:33
36:58
37:28
37:51
38:28
39:08
39:39
40:23
40:48
41:20
41:50
42:13
42:43
8.8E5
4.4E5
0.0E0
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

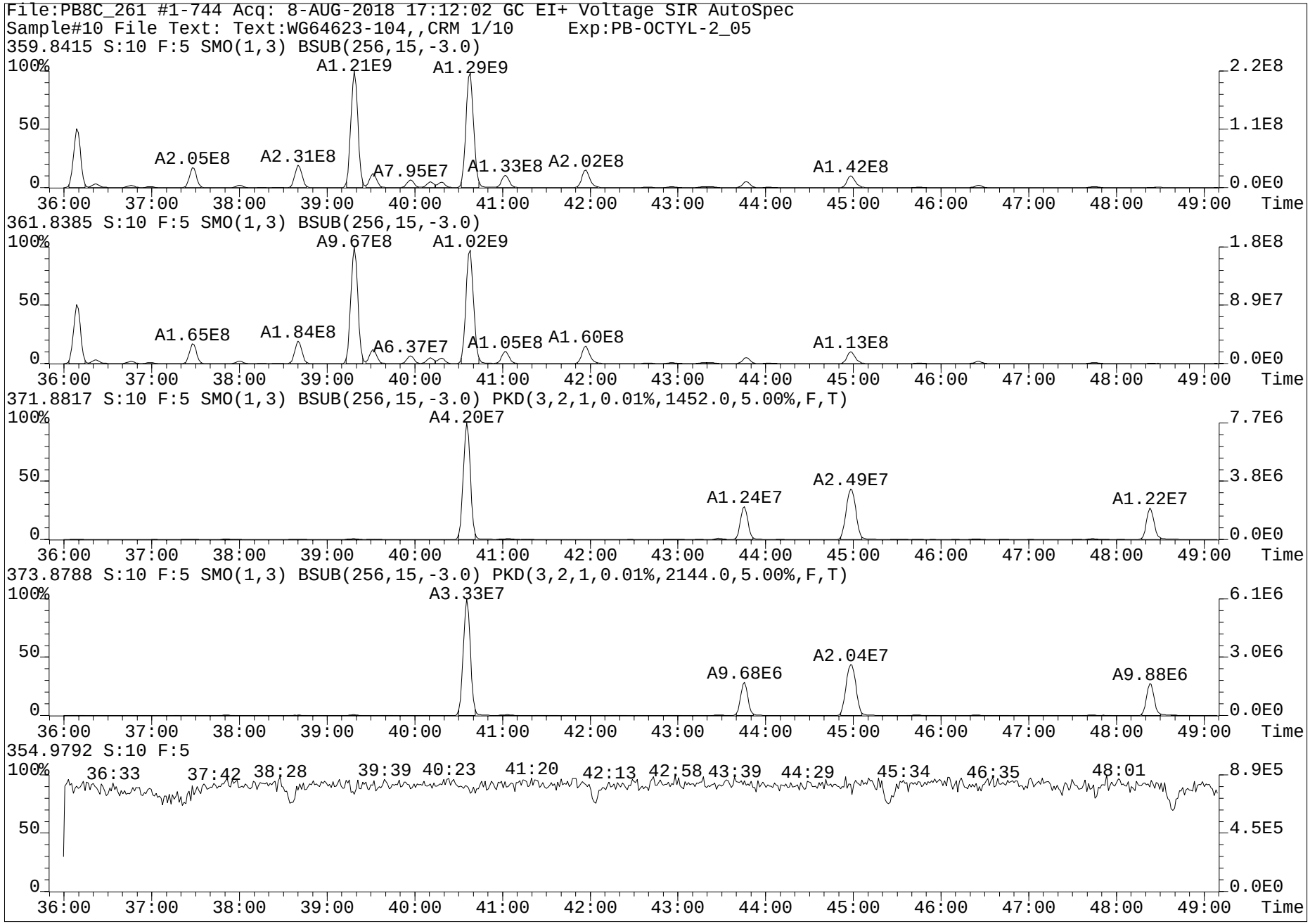

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.04E9
A7.81E8
A2.25E8
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.32E9
A5.05E8
A1.44E8
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.21E9
A1.29E9
A2.05E8
A2.31E8
A1.48E8
A1.33E8
A2.02E8
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.67E8
A1.02E9
A1.65E8
A1.84E8
A1.17E8
A1.05E8
A1.60E8
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1872.0,5.00%,F,T)
A3.23E8
A1.32E8
A6.45E7
A4.35E7
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,684.0,5.00%,F,T)
A3.11E8
A1.28E8
A6.19E7
A4.14E7
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
3.6E8
1.8E8
0.0E0
2.4E8
1.2E8
2.2E8
1.1E8
1.8E8
8.9E7
5.9E7
3.0E7
5.7E7
2.9E7

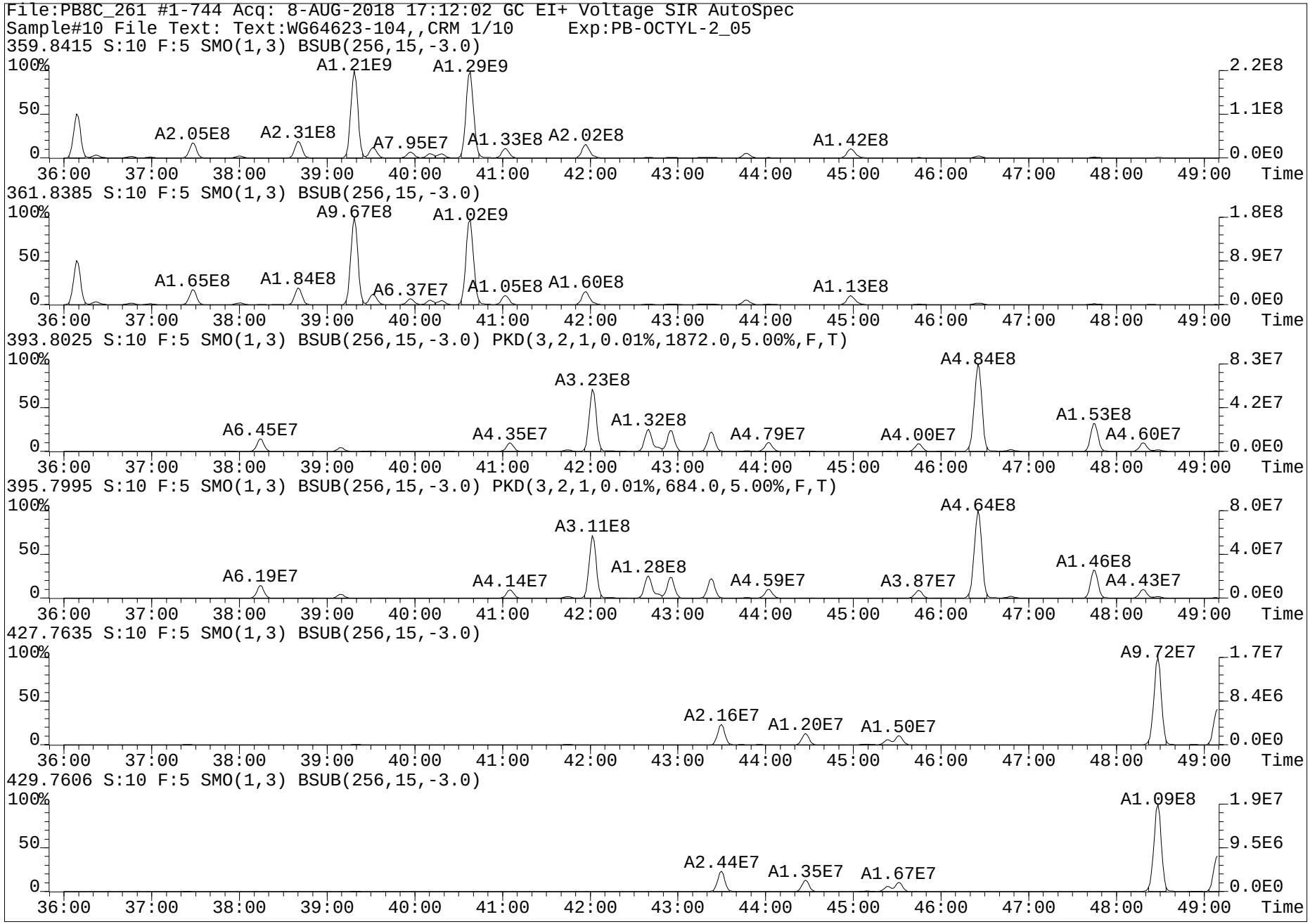

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.25E8
A4.20E7
A5.57E7
Time
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.44E8
A2.73E7
A3.53E7
Time

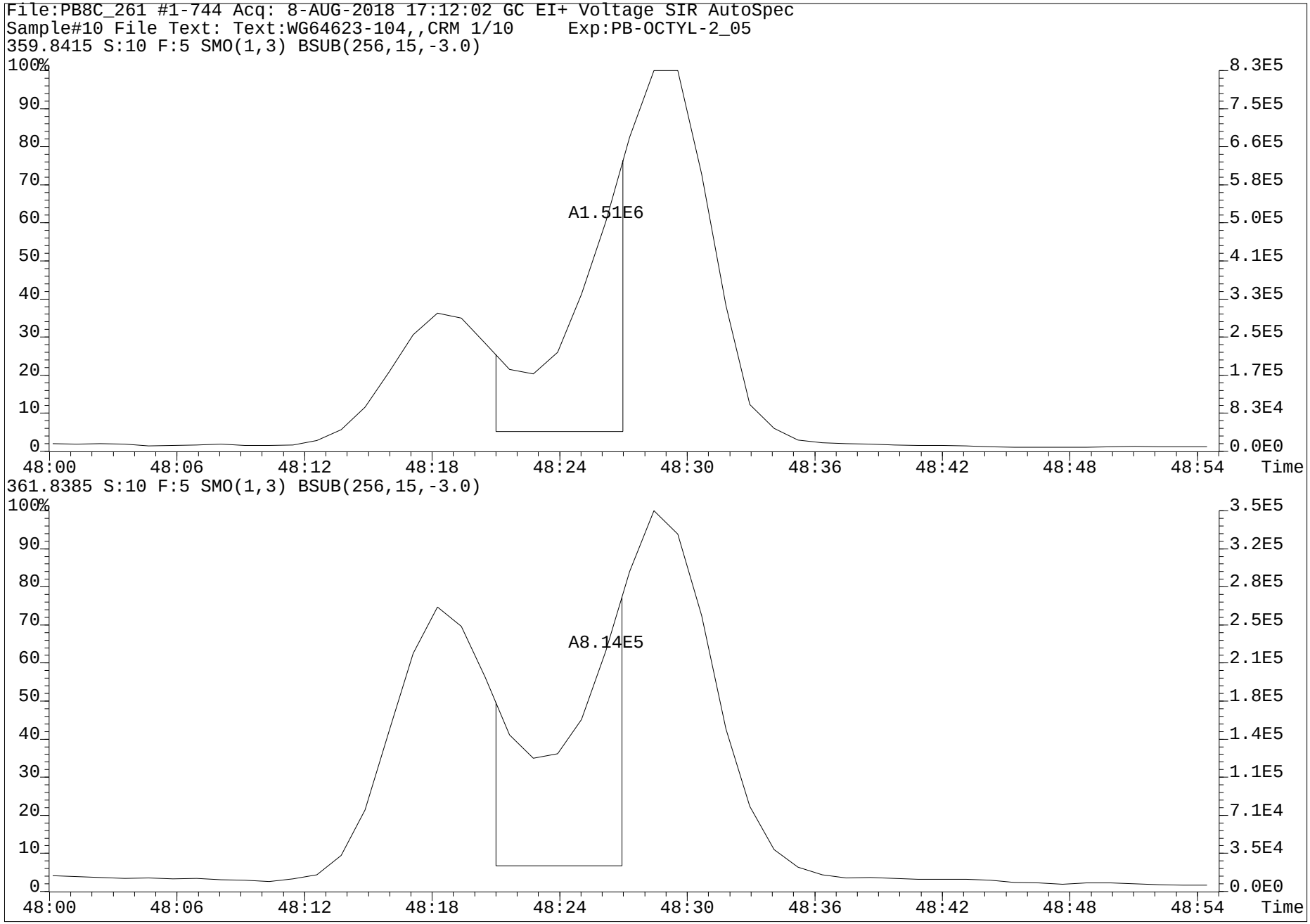

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A7.43E7
A1.47E7
100%
90
80
70
60
50
40
30
20
10
0
1.4E7
1.2E7
1.1E7
9.5E6
8.1E6
6.8E6
5.4E6
4.1E6
2.7E6
1.4E6
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.82E7
A9.29E6
100%
90
80
70
60
50
40
30
20
10
0
8.8E6
7.9E6
7.0E6
6.1E6
5.3E6
4.4E6
3.5E6
2.6E6
1.8E6
8.8E5
0.0E0
37:42
37:48
37:54
38:00
38:06
38:12
38:18
Time

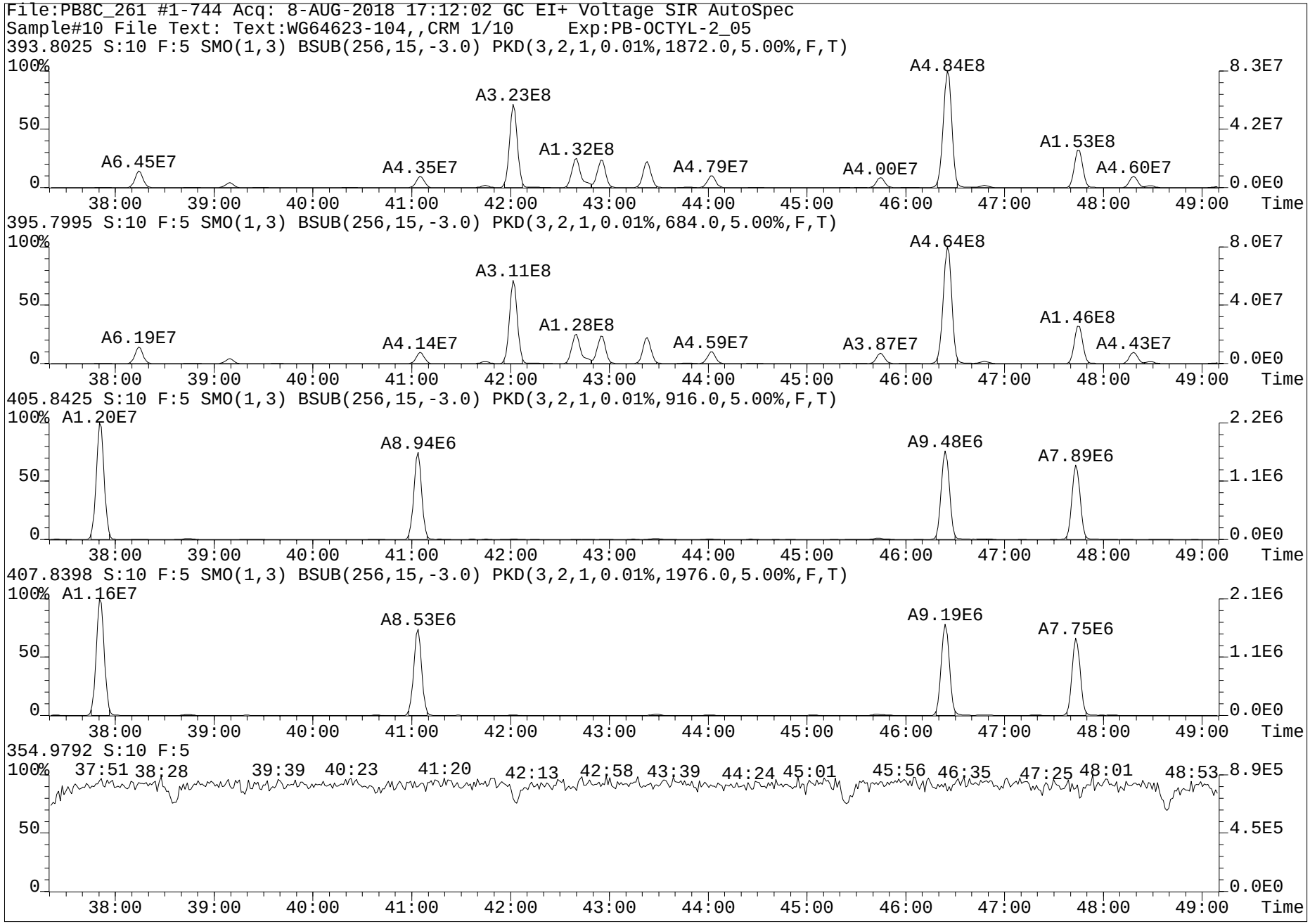

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
325.8804 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
2.3E6
2.1E6
1.9E6
1.6E6
1.4E6
1.2E6
9.3E5
7.0E5
4.6E5
2.3E5
0.0E0
A4.37E6
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time
327.8775 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
100%
90
80
70
60
50
40
30
20
10
0
1.5E6
1.3E6
1.2E6
1.0E6
8.8E5
7.4E5
5.9E5
4.4E5
2.9E5
1.5E5
0.0E0
A2.74E6
41:30
41:36
41:42
41:48
41:54
42:00
42:06
42:12
Time

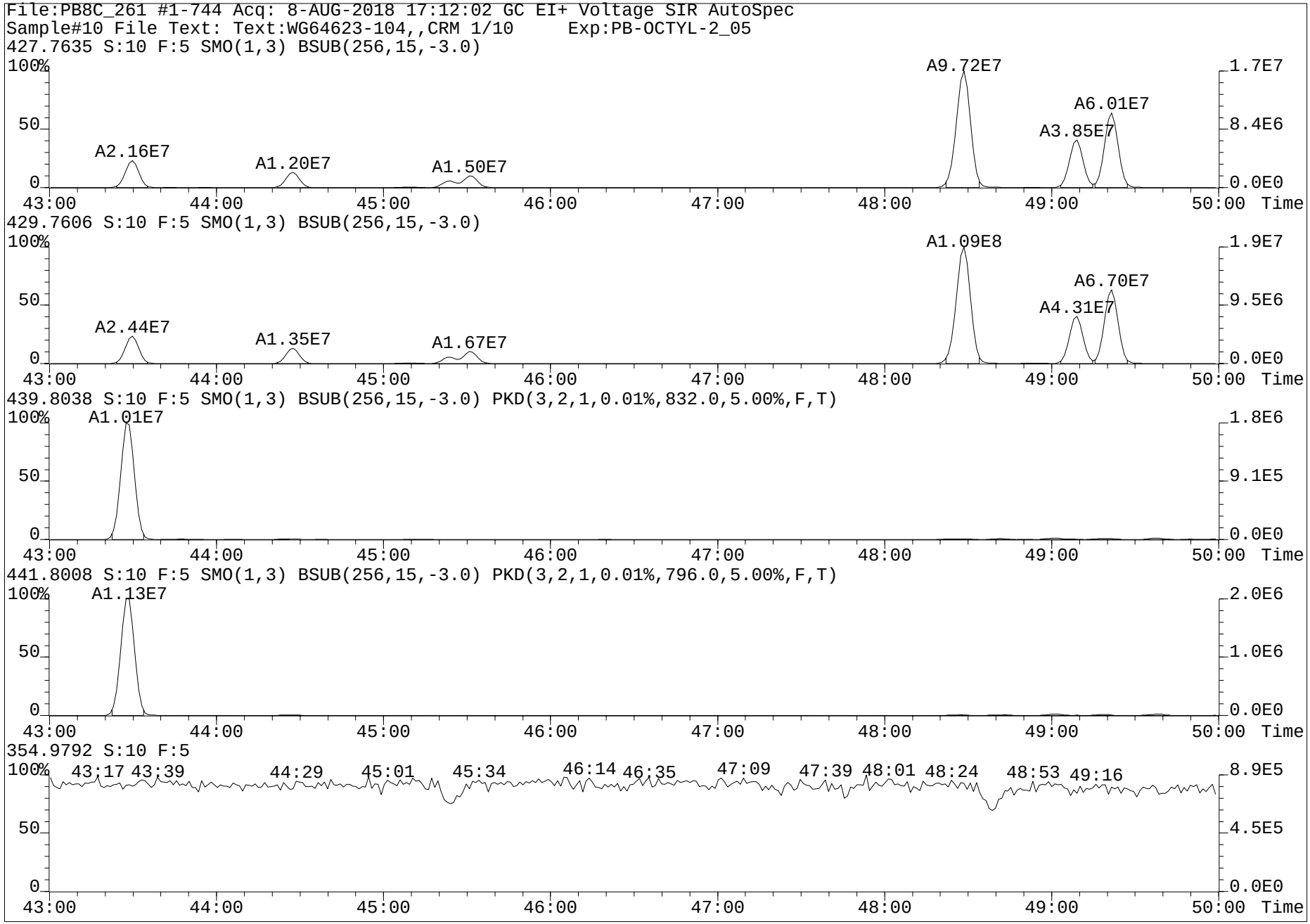

File:PB8C_261 #1-470 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A6.73E7
A2.45E8
A3.14E7
361.8385 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0)
A5.42E7
A1.95E8
A2.51E7
371.8817 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,736.0,5.00%,F,T)
A1.30E7
373.8788 S:10 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,952.0,5.00%,F,T)
A1.05E7
330.9792 S:10 F:4
31:13 31:38 32:00 32:18 32:39 33:01 33:23 33:59 34:27 34:57 35:31 35:51
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
3.1E7 1.5E7 0.0E0
2.4E7 1.2E7 0.0E0
2.5E6 1.3E6 0.0E0
2.0E6 1.0E6 0.0E0
3.4E6 1.7E6 0.0E0

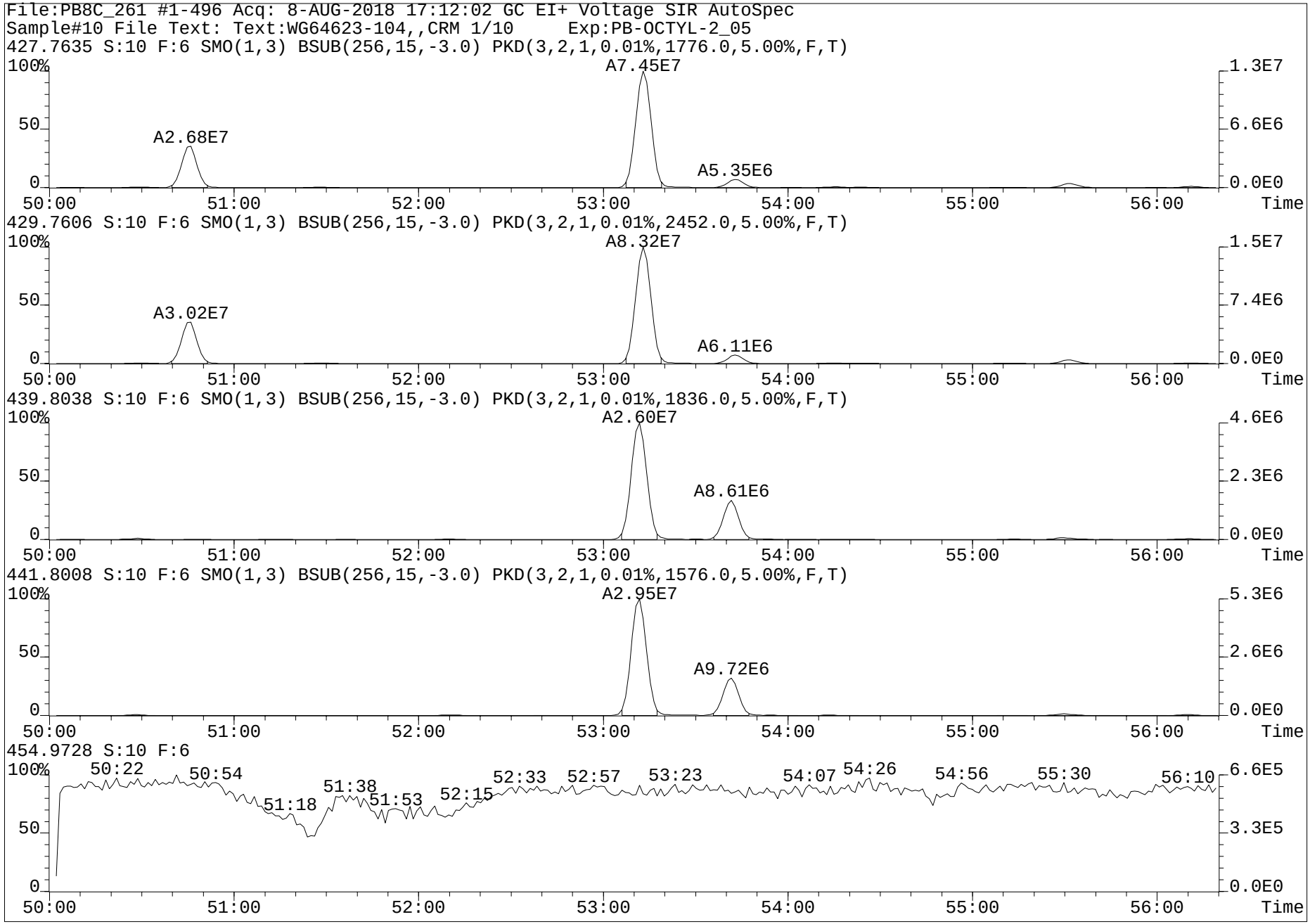

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.21E9
A1.29E9
A2.05E8
A2.31E8
A7.95E7
A1.33E8
A2.02E8
A1.42E8
2.2E8
1.1E8
0.0E0
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.67E8
A1.02E9
A1.65E8
A1.84E8
A6.37E7
A1.05E8
A1.60E8
A1.13E8
1.8E8
8.9E7
0.0E0
371.8817 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1452.0,5.00%,F,T)
A4.20E7
A1.24E7
A2.49E7
A1.22E7
7.7E6
3.8E6
0.0E0
373.8788 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2144.0,5.00%,F,T)
A3.33E7
A9.68E6
A2.04E7
A9.88E6
6.1E6
3.0E6
0.0E0
354.9792 S:10 F:5
36:33
37:42
38:28
39:39
40:23
41:20
42:13
42:58
43:39
44:29
45:34
46:35
48:01
8.9E5
4.5E5
0.0E0
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time

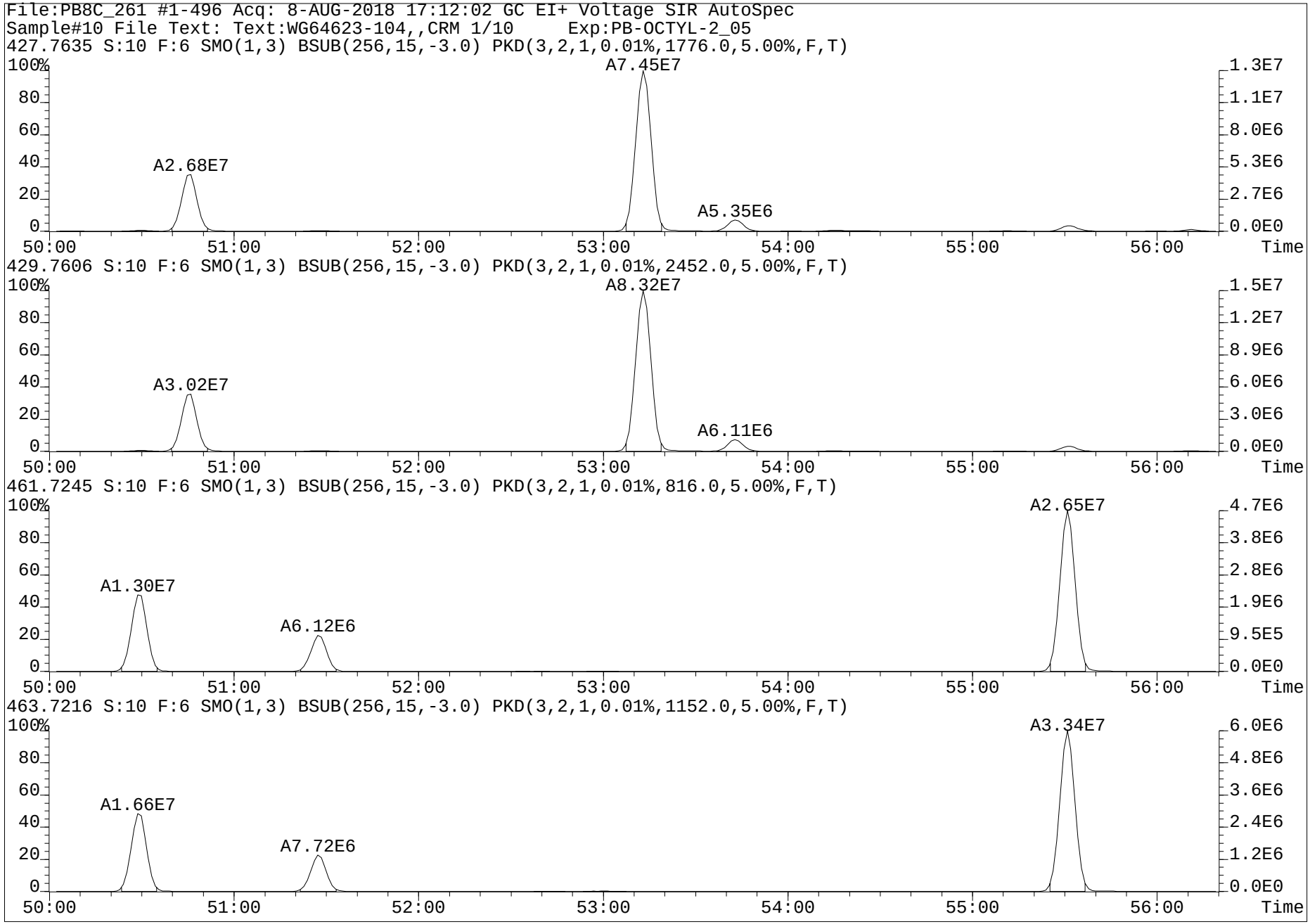

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.21E9
A1.29E9
A2.05E8
A2.31E8
A7.95E7
A1.33E8
A2.02E8
A1.42E8
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.67E8
A1.02E9
A1.65E8
A1.84E8
A6.37E7
A1.05E8
A1.60E8
A1.13E8
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1872.0,5.00%,F,T)
A4.84E8
A3.23E8
A1.53E8
A6.45E7
A1.32E8
A4.35E7
A4.79E7
A4.00E7
A4.60E7
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,684.0,5.00%,F,T)
A4.64E8
A3.11E8
A1.46E8
A6.19E7
A1.28E8
A4.14E7
A4.59E7
A3.87E7
A4.43E7
427.7635 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A9.72E7
A2.16E7
A1.20E7
A1.50E7
429.7606 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.09E8
A2.44E7
A1.35E7
A1.67E7
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
2.2E8
1.1E8
0.0E0
1.8E8
8.9E7
8.3E7
4.2E7
8.0E7
4.0E7
1.7E7
8.4E6
1.9E7
9.5E6

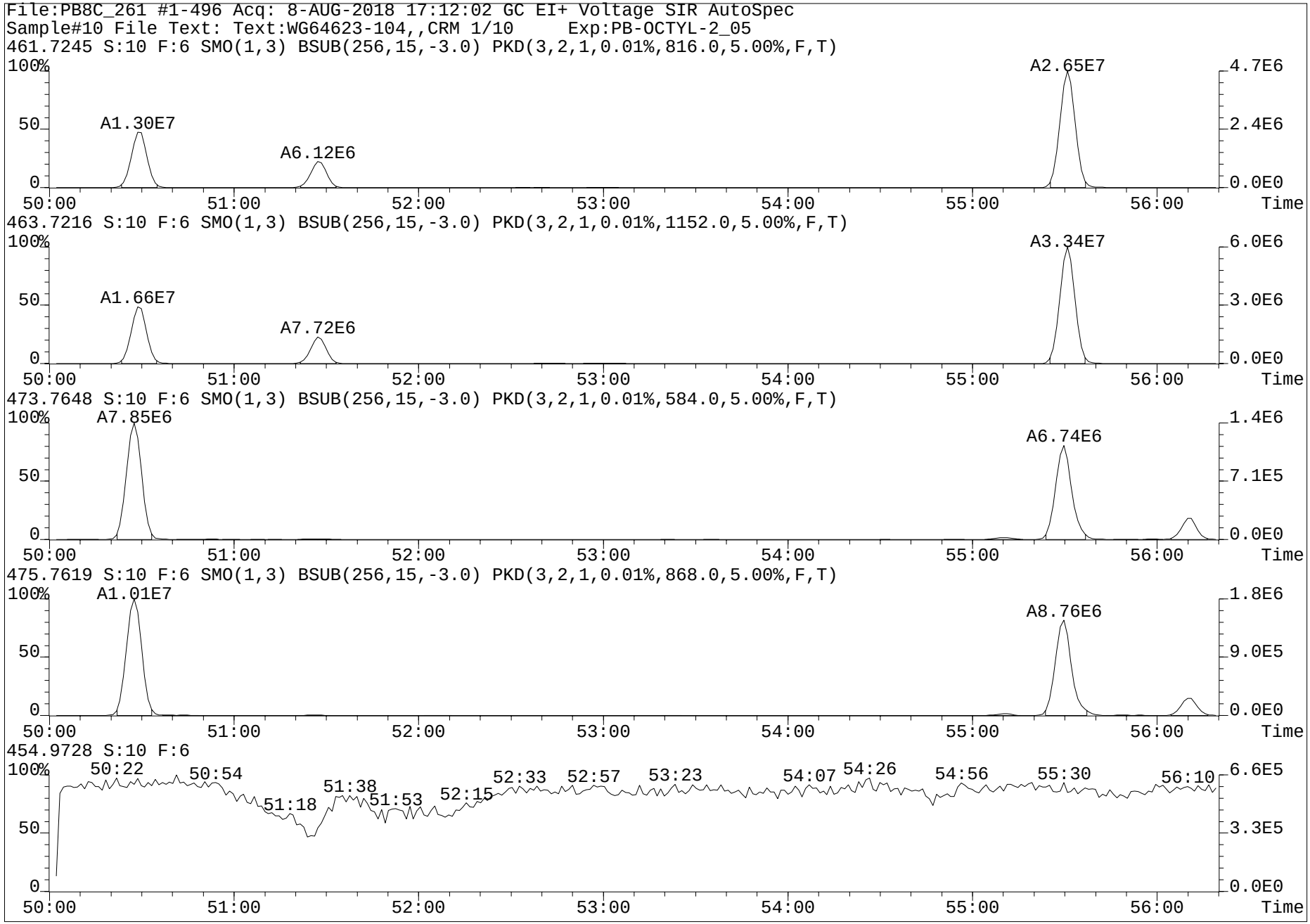

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
359.8415 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.51E6
361.8385 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A8.14E5
Time

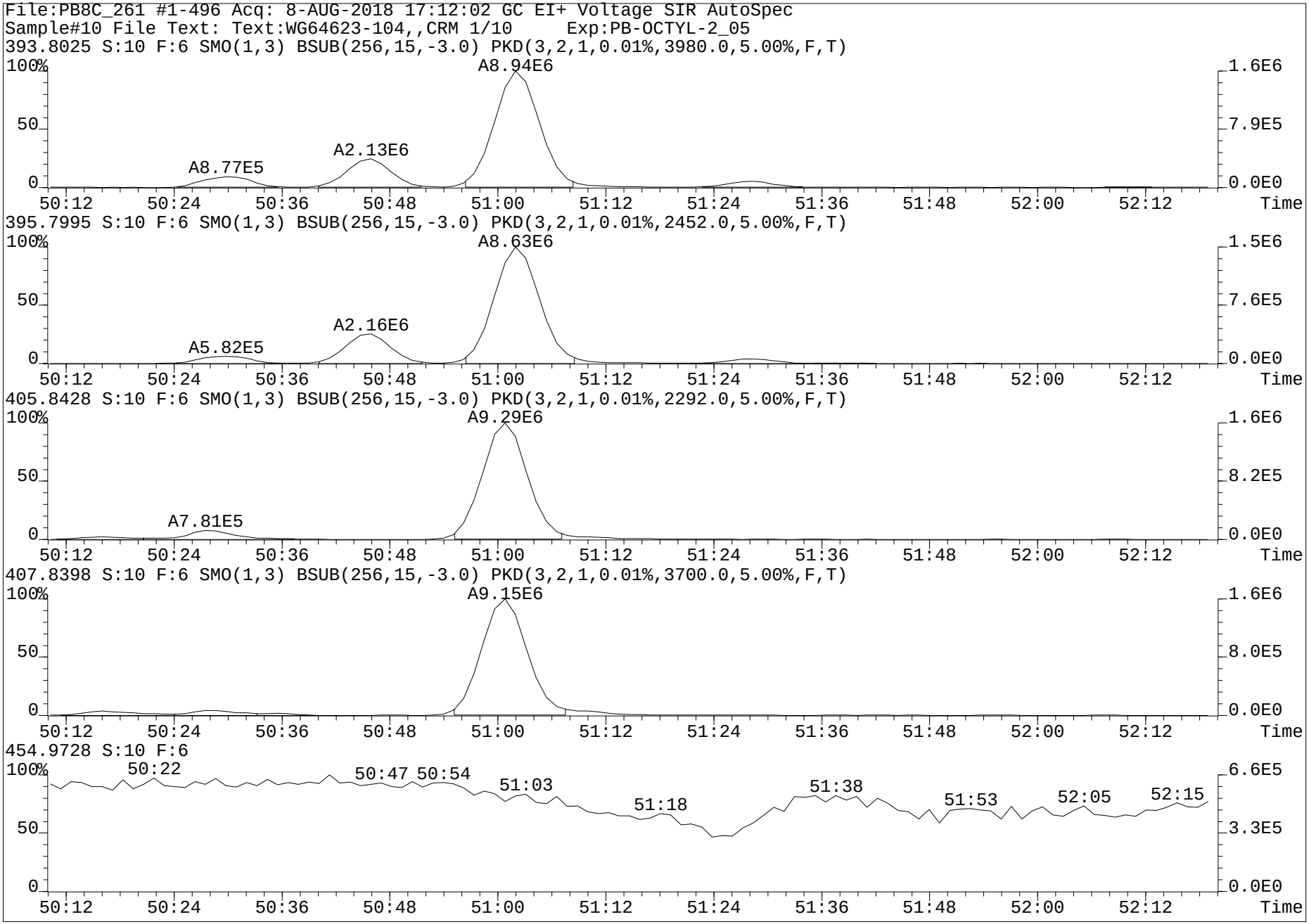

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
393.8025 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1872.0,5.00%,F,T)
A6.45E7
A4.35E7
A3.23E8
A1.32E8
A4.79E7
A4.00E7
A4.84E8
A1.53E8
A4.60E7
395.7995 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,684.0,5.00%,F,T)
A6.19E7
A4.14E7
A3.11E8
A1.28E8
A4.59E7
A3.87E7
A4.64E8
A1.46E8
A4.43E7
405.8425 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,916.0,5.00%,F,T)
A1.20E7
A8.94E6
A9.48E6
A7.89E6
407.8398 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1976.0,5.00%,F,T)
A1.16E7
A8.53E6
A9.19E6
A7.75E6
354.9792 S:10 F:5
37:51 38:28 39:39 40:23 41:20 42:13 42:58 43:39 44:24 45:01 45:56 46:35 47:25 48:01 48:53
100%
50
0
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
8.3E7
4.2E7
0.0E0
8.0E7
4.0E7
2.2E6
1.1E6
2.1E6
8.9E5
4.5E5

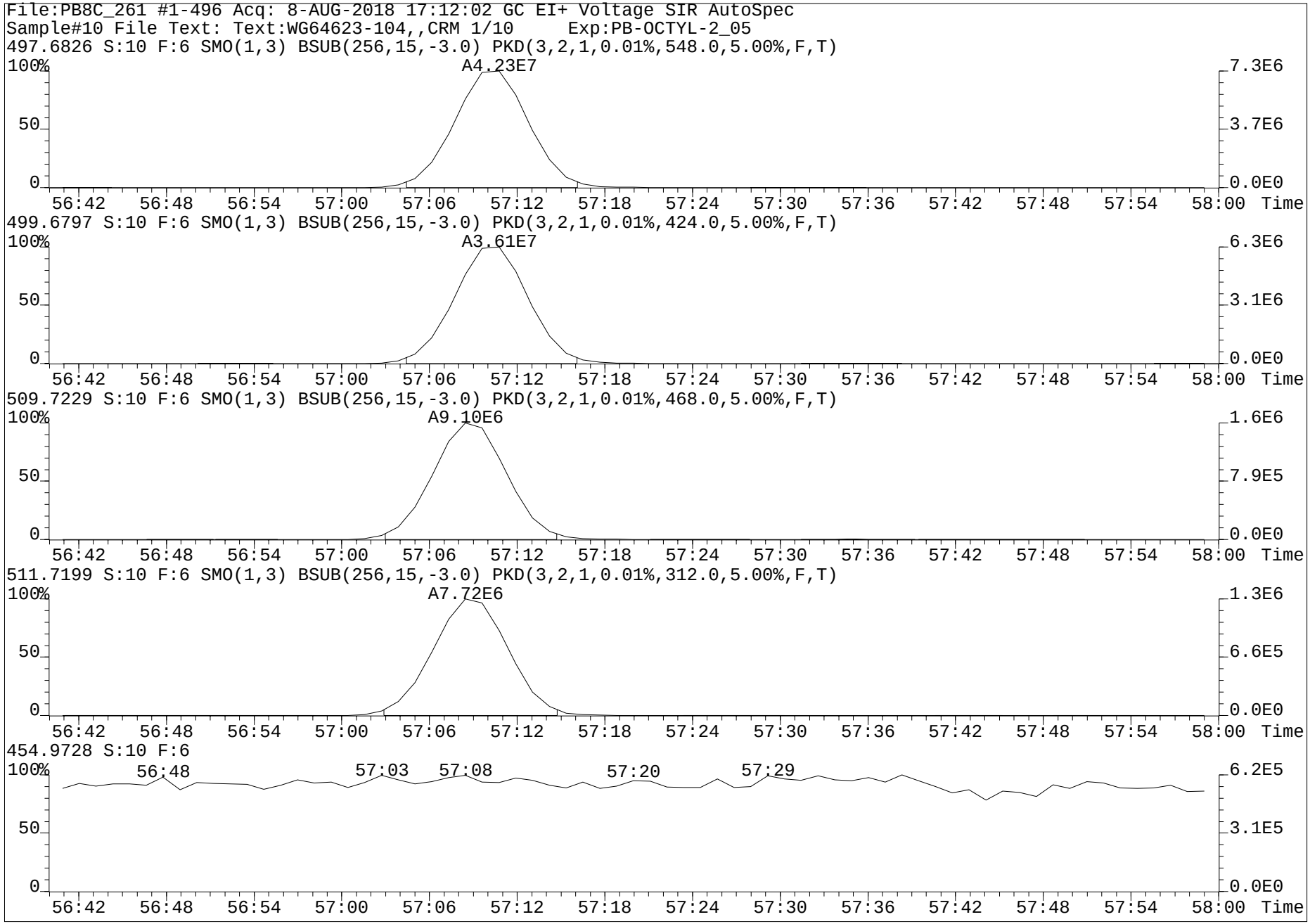

File:PB8C_261 #1-744 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.16E7
A1.20E7
A1.50E7
A9.72E7
A3.85E7
A6.01E7
429.7606 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.44E7
A1.35E7
A1.67E7
A1.09E8
A4.31E7
A6.70E7
439.8038 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,832.0,5.00%,F,T)
A1.01E7
441.8008 S:10 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,796.0,5.00%,F,T)
A1.13E7
354.9792 S:10 F:5
43:17 43:39 44:29 45:01 45:34 46:14 46:35 47:09 47:39 48:01 48:24 48:53 49:16
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
1.7E7
8.4E6
0.0E0
1.9E7
9.5E6
1.8E6
9.1E5
2.0E6
1.0E6
8.9E5
4.5E5


File:PB8C_261 #1-496 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1776.0,5.00%,F,T)
A7.45E7
A2.68E7
A5.35E6
1.3E7
6.6E6
0.0E0
429.7606 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2452.0,5.00%,F,T)
A8.32E7
A3.02E7
A6.11E6
1.5E7
7.4E6
0.0E0
439.8038 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1836.0,5.00%,F,T)
A2.60E7
A8.61E6
4.6E6
2.3E6
0.0E0
441.8008 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1576.0,5.00%,F,T)
A2.95E7
A9.72E6
5.3E6
2.6E6
0.0E0
454.9728 S:10 F:6
50:22
50:54
51:18
51:38
51:53
52:15
52:33
52:57
53:23
54:07
54:26
54:56
55:30
56:10
6.6E5
3.3E5
0.0E0
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time


File:PB8C_261 #1-496 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
427.7635 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1776.0,5.00%,F,T)
A7.45E7
A2.68E7
A5.35E6
429.7606 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2452.0,5.00%,F,T)
A8.32E7
A3.02E7
A6.11E6
461.7245 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,816.0,5.00%,F,T)
A2.65E7
A1.30E7
A6.12E6
463.7216 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A3.34E7
A1.66E7
A7.72E6
Time


File:PB8C_261 #1-496 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
461.7245 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,816.0,5.00%,F,T)
A1.30E7
A6.12E6
A2.65E7
463.7216 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A1.66E7
A7.72E6
A3.34E7
473.7648 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,584.0,5.00%,F,T)
A7.85E6
A6.74E6
475.7619 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,868.0,5.00%,F,T)
A1.01E7
A8.76E6
454.9728 S:10 F:6
50:22
50:54
51:18
51:38
51:53
52:15
52:33
52:57
53:23
54:07
54:26
54:56
55:30
56:10
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
4.7E6
2.4E6
0.0E0
6.0E6
3.0E6
1.4E6
7.1E5
1.8E6
9.0E5
6.6E5
3.3E5


File:PB8C_261 #1-496 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
393.8025 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3980.0,5.00%,F,T)
A8.94E6
A2.13E6
A8.77E5
1.6E6
7.9E5
0.0E0
395.7995 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2452.0,5.00%,F,T)
A8.63E6
A2.16E6
A5.82E5
1.5E6
7.6E5
0.0E0
405.8428 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2292.0,5.00%,F,T)
A9.29E6
A7.81E5
1.6E6
8.2E5
0.0E0
407.8398 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3700.0,5.00%,F,T)
A9.15E6
1.6E6
8.0E5
0.0E0
454.9728 S:10 F:6
50:22
50:47
50:54
51:03
51:18
51:38
51:53
52:05
52:15
6.6E5
3.3E5
0.0E0
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time


File:PB8C_261 #1-496 Acq: 8-AUG-2018 17:12:02 GC EI+ Voltage SIR AutoSpec
Sample#10 File Text: Text:WG64623-104,,CRM 1/10 Exp:PB-OCTYL-2_05
497.6826 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A4.23E7
7.3E6
3.7E6
0.0E0
499.6797 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A3.61E7
6.3E6
3.1E6
0.0E0
509.7229 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A9.10E6
1.6E6
7.9E5
0.0E0
511.7199 S:10 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
A7.72E6
1.3E6
6.6E5
0.0E0
454.9728 S:10 F:6
56:48
57:03
57:08
57:20
57:29
6.2E5
3.1E5
0.0E0
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

www.axysanalytical.com

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 278
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

Tune : XX
List : BA
Check :
LIMS :
Logfile:

Date -list : 07-JUL-2018
-liner : 03-JUL-2018
-septum: 06-JUL-2018
-guard : NEW 03-JUL-2018
-column: NEW 03-JUN-2018
-t line: NEW 03-JUN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_220	1	1	PB108A-CAL,,/01-7	1,,1.0uL CS-0.2 Sens	7-JUL-18 17:42:35
2	PB8C_220	2	2	PB108A-CAL,,/01-7	1,,1.0uL CS-0.2 Sens	7-JUL-18 18:49:19
3	PB8C_220	3	3	PB108B-CAL,,/01-6	1,,1.0uL CS-1	7-JUL-18 19:53:17
4	PB8C_220	4	4	PB108C-CAL,,/01-8	1,,1.0uL CS-1	7-JUL-18 20:57:02
5	PB8C_220A	1	5	PB108G-CAL,,/01-7	1,,1.0uL CS-5	7-JUL-18 22:17:06
6	PB8C_220A	2	6	PB108F-CAL,,/01-8	1,,1.0uL CS-4	7-JUL-18 23:20:51
7	PB8C_220A	3	7	PB108E-CAL,,/01-6	1,,1.0uL CS-3	8-JUL-18 00:24:37
8	PB8C_220A	4	8	PB108D-CAL,,/01-7	1,,1.0uL CS-2	8-JUL-18 01:28:19
9	PB8C_220A	5	9	PB109A-CAL,,/01-23	1,,1.0uL CAL WIN/RES	8-JUL-18 02:32:13
10	PB8C_220A	6	10	PB108H-CAL,,/01-8	1,,1.0uL CS-6	8-JUL-18 03:35:55
11	PB8C_220A	7	11	TOLUENE,,	1,,1.0uL	8-JUL-18 04:39:38
12	PB8C_220A	8	12	TOLUENE,,	1,,1.0uL	8-JUL-18 05:43:22
13	PB8C_220A	9	13	TOLUENE,,	1,,1.0uL	8-JUL-18 06:47:04
14	PB8C_220A	10	14	TOLUENE,,	1,,1.0uL	8-JUL-18 07:50:47

Run: pb8c_220-» Analyte: 1668A-C8 Cal: pb8c_220-» Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42

Name	Mean RRF	S. D.	%RSD	PB8C_220 S1 RRF#1	SD	PB8C_220 S4 RRF#2	SD	B8C_220A S4 RRF#3	SD	B8C_220A S3 RRF#4	SD	B8C_220A S2 RRF#5	SD	B8C_220A S1 RRF#6	SD	B8C_220A S6 RRF#7	SD
CL1-PCB-1	1.0723	0.037	3.46 %	1.07	-0.2	1.05	-0.7	1.11	1.1	1.09	0.5	1.10	0.9	1.02	-1.5	*	*
CL1-PCB-3	1.0818	0.038	3.55 %	1.11	0.8	1.01	-1.9	1.07	-0.2	1.09	0.3	1.10	0.4	1.10	0.6	*	*
CL2-PCB-4	0.9928	0.041	4.14 %	0.97	-0.5	0.94	-1.3	0.98	-0.4	0.99	-0.1	1.03	0.8	1.05	1.5	*	*
CL2-PCB-15	0.9096	0.041	4.50 %	0.85	-1.6	0.89	-0.6	0.90	-0.1	0.92	0.4	0.93	0.6	0.96	1.3	*	*
CL3-PCB-19	1.0699	0.023	2.11 %	1.08	0.3	1.05	-0.8	1.05	-1.0	1.05	-0.7	1.08	0.6	1.11	1.8	1.06	-0.3
CL3-PCB-37	0.9983	0.033	3.27 %	0.98	-0.6	0.98	-0.7	1.00	0.2	0.99	-0.3	1.03	0.9	1.05	1.7	0.96	-1.1
CL4-PCB-54	1.0556	0.029	2.71 %	1.04	-0.4	1.02	-1.4	1.06	0.0	1.07	0.4	1.08	0.7	1.10	1.6	1.03	-0.9
CL4-PCB-81	1.0281	0.034	3.35 %	1.02	-0.3	0.96	-2.0	1.04	0.4	1.02	-0.2	1.05	0.5	1.07	1.2	1.04	0.3
CL4-PCB-77	1.0282	0.021	1.99 %	1.05	0.9	1.01	-1.0	1.01	-1.1	1.02	-0.5	1.03	0.2	1.06	1.7	1.03	-0.1
CL5-PCB-104	1.0659	0.024	2.30 %	1.03	-1.4	1.05	-0.6	1.08	0.7	1.05	-0.7	1.06	0.0	1.11	1.6	1.07	0.4
CL5-PCB-123	0.9804	0.031	3.19 %	0.94	-1.4	0.94	-1.2	0.98	0.0	0.98	0.1	0.99	0.2	1.03	1.5	1.00	0.8
CL5-PCB-118	1.0445	0.035	3.33 %	1.08	0.9	0.98	-1.9	1.05	0.2	1.03	-0.4	1.04	-0.3	1.09	1.2	1.05	0.2
CL5-PCB-114	1.0592	0.038	3.55 %	1.00	-1.5	1.01	-1.3	1.07	0.4	1.07	0.2	1.07	0.3	1.11	1.2	1.08	0.6
CL5-PCB-105	1.0269	0.035	3.45 %	1.03	0.1	0.95	-2.1	1.04	0.3	1.03	0.0	1.03	0.2	1.07	1.2	1.04	0.4
CL5-PCB-126	1.0434	0.027	2.59 %	1.01	-1.2	1.01	-1.1	1.06	0.6	1.03	-0.4	1.05	0.2	1.09	1.6	1.05	0.3
CL6-PCB-155	1.0209	0.042	4.12 %	1.07	1.2	0.96	-1.6	0.98	-1.0	1.01	-0.3	1.04	0.4	1.06	1.0	1.03	0.2
CL6-PCB-167	1.1130	0.052	4.66 %	1.03	-1.5	1.05	-1.3	1.14	0.4	1.12	0.2	1.14	0.5	1.17	1.1	1.14	0.6
CL6-PCB-156/157	1.1005	0.025	2.24 %	1.08	-1.0	1.07	-1.2	1.12	0.8	1.10	0.1	1.11	0.4	1.14	1.5	1.08	-0.7
CL6-PCB-169	1.0547	0.024	2.32 %	1.05	0.0	1.01	-2.0	1.06	0.3	1.05	-0.2	1.06	0.3	1.09	1.4	1.06	0.2
CL7-PCB-188	0.9751	0.028	2.92 %	0.96	-0.4	0.94	-1.1	0.96	-0.6	0.96	-0.4	1.00	0.9	1.03	1.8	0.97	-0.1
CL7-PCB-189	1.0594	0.062	5.82 %	1.16	1.6	0.95	-1.7	1.09	0.5	1.03	-0.5	1.06	0.0	1.08	0.3	1.05	-0.2
CL8-PCB-202	0.8732	0.027	3.15 %	0.89	0.7	0.83	-1.7	0.86	-0.5	0.86	-0.5	0.88	0.2	0.91	1.3	0.89	0.5
CL8-PCB-205	0.9877	0.034	3.45 %	0.97	-0.6	0.92	-1.9	1.00	0.5	0.99	0.2	0.99	0.1	1.03	1.3	1.00	0.4
CL9-PCB-208	0.9452	0.024	2.57 %	0.95	0.1	0.90	-1.8	0.94	-0.1	0.94	-0.4	0.96	0.6	0.98	1.5	0.95	0.1
CL9-PCB-206	1.0015	0.045	4.45 %	1.09	2.0	0.96	-1.0	1.00	0.0	0.99	-0.4	0.99	-0.2	1.02	0.3	0.97	-0.8
CL10-PCB-209	1.0641	0.070	6.55 %	1.22	2.2	1.04	-0.3	1.07	0.1	1.01	-0.8	1.04	-0.3	1.05	-0.2	1.02	-0.7
13C-CL1-PCB-1	1.1277	0.085	7.50 %	1.06	-0.8	1.05	-0.9	1.08	-0.5	1.09	-0.5	1.14	0.2	1.18	0.6	1.29	1.9
13C-CL1-PCB-3	1.0743	0.114	10.62 %	0.99	-0.7	1.00	-0.6	1.00	-0.6	1.02	-0.5	1.07	-0.1	1.13	0.5	1.31	2.1
13C-CL2-PCB-4	0.6832	0.058	8.43 %	0.64	-0.8	0.65	-0.6	0.65	-0.5	0.65	-0.5	0.67	-0.1	0.72	0.6	0.80	2.0
13C-CL2-PCB-15	1.0653	0.119	11.14 %	1.02	-0.4	1.01	-0.5	0.99	-0.7	1.00	-0.5	1.02	-0.4	1.10	0.3	1.32	2.2
13C-CL3-PCB-19	0.5621	0.053	9.41 %	0.53	-0.7	0.52	-0.7	0.54	-0.5	0.54	-0.5	0.56	-0.1	0.58	0.3	0.67	2.1
13C-CL3-PCB-37	1.6911	0.217	12.83 %	1.63	-0.3	1.63	-0.3	1.52	-0.8	1.60	-0.4	1.56	-0.6	1.74	0.2	2.16	2.2
13C-CL4-CHECK	1.4805	0.106	7.14 %	1.40	-0.8	1.41	-0.7	1.42	-0.5	1.43	-0.5	1.48	0.0	1.53	0.5	1.70	2.0
13C-CL4-PCB-81	1.2919	0.177	13.70 %	1.27	-0.1	1.22	-0.4	1.15	-0.8	1.21	-0.5	1.18	-0.6	1.34	0.3	1.67	2.1
13C-CL4-PCB-77	1.3127	0.175	13.30 %	1.30	-0.1	1.23	-0.5	1.18	-0.7	1.25	-0.4	1.19	-0.7	1.35	0.2	1.69	2.1
13C-CL5-PCB-104	1.4743	0.133	9.00 %	1.36	-0.8	1.32	-1.1	1.40	-0.6	1.45	-0.2	1.52	0.3	1.57	0.7	1.70	1.7
13C-CL5-PCB-123	1.3928	0.167	11.99 %	1.34	-0.3	1.34	-0.3	1.26	-0.8	1.30	-0.5	1.30	-0.6	1.46	0.4	1.74	2.1
13C-CL5-PCB-118	1.3651	0.164	11.98 %	1.31	-0.3	1.32	-0.3	1.25	-0.7	1.26	-0.6	1.28	-0.5	1.42	0.3	1.71	2.1
13C-CL5-PCB-114	1.3545	0.156	11.51 %	1.29	-0.4	1.29	-0.4	1.21	-0.9	1.25	-0.7	1.30	-0.3	1.49	0.9	1.64	1.9
13C-CL5-PCB-105	1.4027	0.139	9.92 %	1.41	0.0	1.40	0.0	1.29	-0.8	1.31	-0.7	1.30	-0.7	1.43	0.2	1.69	2.1
13C-CL5-PCB-126	1.2525	0.176	14.04 %	1.23	-0.1	1.21	-0.2	1.11	-0.8	1.16	-0.5	1.13	-0.7	1.29	0.2	1.62	2.1
13C-CL6-PCB-155	1.6632	0.150	9.04 %	1.50	-1.1	1.51	-1.0	1.59	-0.5	1.60	-0.4	1.74	0.5	1.79	0.9	1.90	1.6
13C-CL6-PCB-167	1.2839	0.133	10.33 %	1.21	-0.5	1.20	-0.6	1.18	-0.8	1.22	-0.5	1.26	-0.2	1.37	0.6	1.55	2.0
13C-CL6-PCB-156/157	1.3393	0.163	12.15 %	1.25	-0.6	1.24	-0.6	1.21	-0.8	1.25	-0.5	1.31	-0.2	1.47	0.8	1.65	1.9
13C-CL6-PCB-169	1.3300	0.145	10.91 %	1.22	-0.8	1.30	-0.2	1.23	-0.7	1.29	-0.3	1.27	-0.4	1.38	0.3	1.64	2.1

13C-CL7-CHECK	1.8857	0.206	10.91	%	1.80	-0.4	1.63	-1.2	1.75	-0.7	1.76	-0.6	1.96	0.4	2.12	1.2	2.18	1.4
13C-CL7-PCB-189	1.5160	0.164	10.79	%	1.48	-0.2	1.39	-0.8	1.40	-0.7	1.42	-0.6	1.47	-0.3	1.60	0.5	1.85	2.0
13C-CL8-PCB-202	1.7840	0.163	9.16	%	1.69	-0.6	1.54	-1.5	1.71	-0.4	1.72	-0.4	1.88	0.6	1.91	0.8	2.03	1.5
13C-CL8-PCB-205	1.5039	0.120	7.96	%	1.42	-0.7	1.43	-0.6	1.42	-0.7	1.41	-0.8	1.52	0.2	1.61	0.9	1.72	1.8
13C-CL9-PCB-208	1.3475	0.131	9.73	%	1.26	-0.7	1.25	-0.8	1.28	-0.5	1.25	-0.8	1.36	0.1	1.44	0.7	1.60	1.9
13C-CL9-PCB-206	1.0972	0.093	8.51	%	1.02	-0.8	1.03	-0.7	1.04	-0.6	1.04	-0.6	1.11	0.1	1.18	0.9	1.26	1.8
13C-CL10-PCB-209	1.3778	0.113	8.22	%	1.29	-0.8	1.28	-0.9	1.29	-0.8	1.31	-0.6	1.42	0.3	1.50	1.1	1.55	1.5
13C-CL2-PCB-9	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL4-PCB-52	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL5-PCB-101	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL6-PCB-138	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL8-PCB-194	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL3-PCB-28	1.7014	0.043	2.52	%	1.74	0.9	1.76	1.4	1.69	-0.2	1.73	0.8	1.67	-0.7	1.66	-1.0	1.65	-1.1
13C-CL5-PCB-111	1.3387	0.122	9.12	%	1.28	-0.5	1.28	-0.5	1.25	-0.7	1.29	-0.4	1.29	-0.4	1.39	0.4	1.60	2.1
13C-CL7-PCB-178	0.9497	0.024	2.57	%	0.94	-0.5	0.91	-1.8	0.94	-0.4	0.96	0.3	0.98	1.2	0.96	0.5	0.97	0.7
13C-CL4-PCB-54	1.4805	0.106	7.14	%	1.40	-0.8	1.41	-0.7	1.42	-0.5	1.43	-0.5	1.48	0.0	1.53	0.5	1.70	2.0
13C-CL7-PCB-188	1.8857	0.206	10.91	%	1.80	-0.4	1.63	-1.2	1.75	-0.7	1.76	-0.6	1.96	0.4	2.12	1.2	2.18	1.4
CL1-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL2-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL3-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL3,4,5-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL4,5-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL5-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL6-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL6,7-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL7-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL8-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL8,9-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL10-LOCK	-	-	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-

www.axysanalytical.com

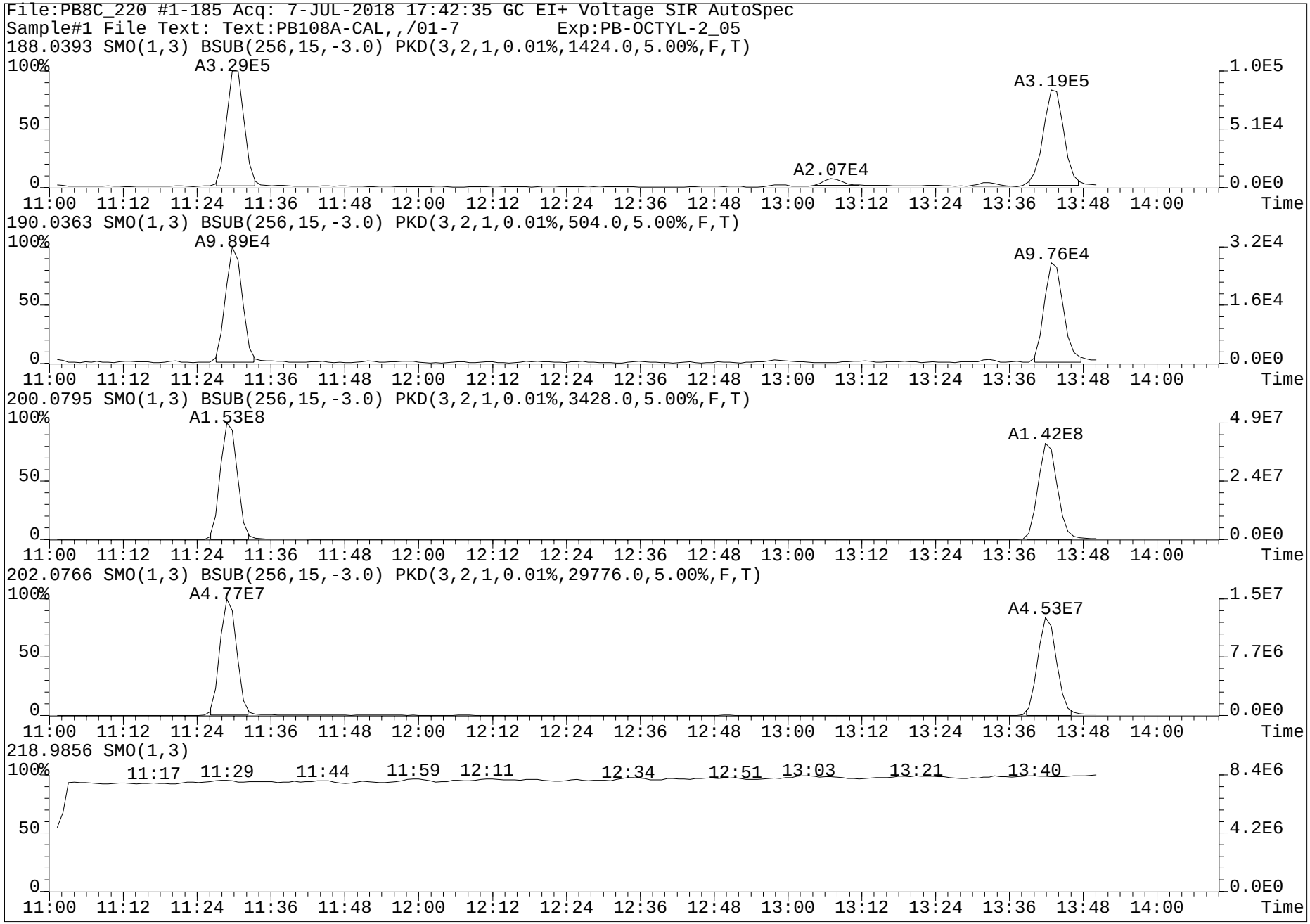
Run #1 Filename PB8C_220 S: 1 I: 1 Acquired: 7-JUL-18 17:42:35 Processed: 9-JUL-18 08:10:01
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108A-CAL,,,01-7 Comments: 1,,1.0uL CS-0.2 Sens F1: 0.20 F2: 1.00

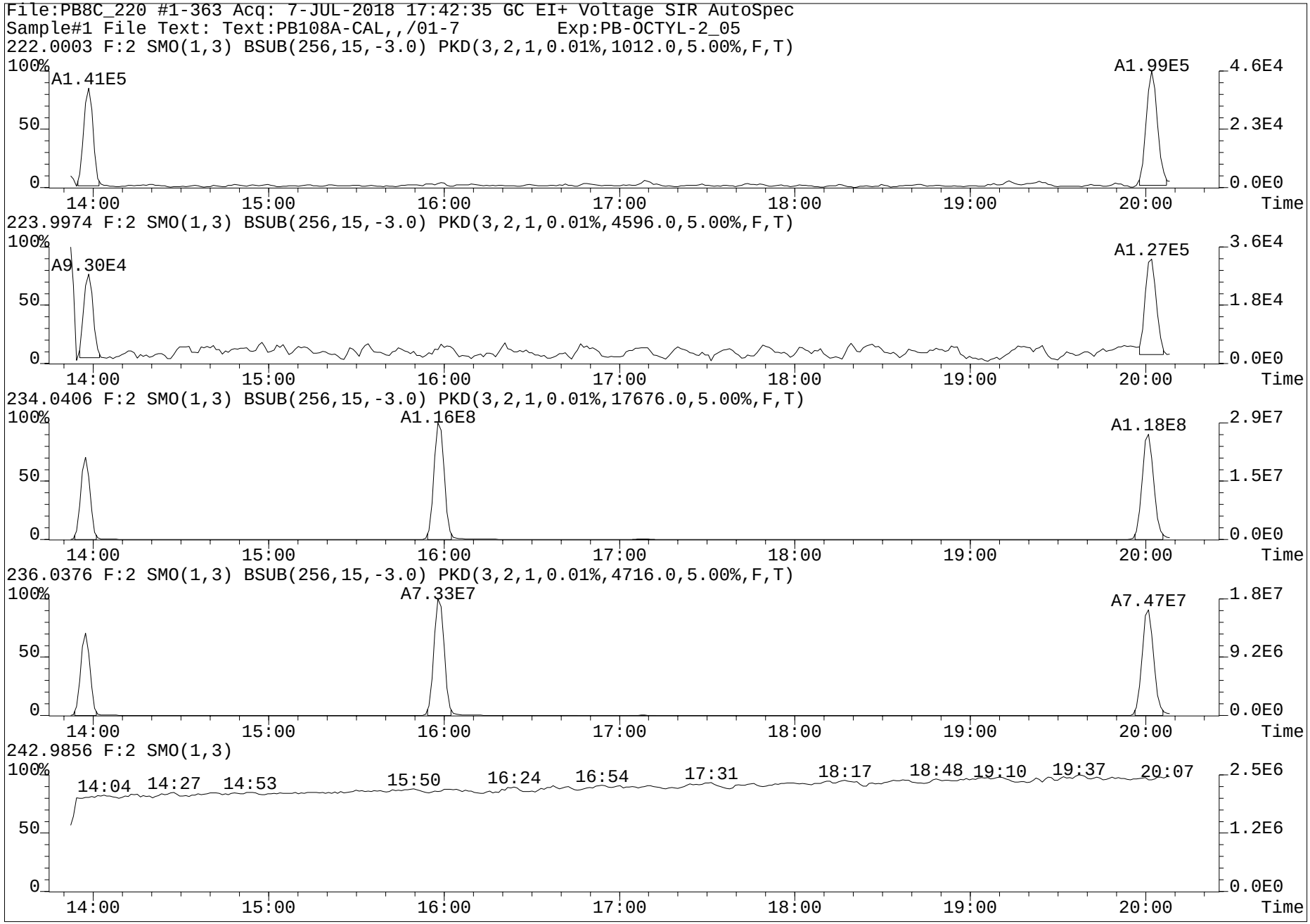
	Typ	Name	Amount	Resp	RA		RT		RF	RRF		Modified?
1	Unk	CL1-PCB-1	0.20	4.28e+05	3.33	y	11:30		-	1.0652	y	n
2	Unk	CL1-PCB-3	0.20	4.17e+05	3.27	y	13:43		-	1.1131	y	n
3	Unk	CL2-PCB-4	0.20	2.34e+05	1.52	y	13:58		-	0.9717	y	n
4	Unk	CL2-PCB-15	0.20	3.26e+05	1.56	y	20:02		-	0.8460	y	n
5	Unk	CL3-PCB-19	0.20	2.15e+05	0.99	y	17:08		-	1.0773	y	n
6	Unk	CL3-PCB-37	0.20	3.01e+05	0.99	y	27:19		-	0.9774	y	n
7	Unk	CL4-PCB-54	0.20	2.75e+05	0.74	y	20:18		-	1.0447	y	n
8	Unk	CL4-PCB-81	0.20	2.43e+05	0.83	y	34:22		-	1.0191	y	n
9	Unk	CL4-PCB-77	0.20	2.57e+05	0.79	y	34:57		-	1.0457	y	n
10	Unk	CL5-PCB-104	0.20	2.32e+05	1.57	y	26:00		-	1.0327	y	n
11	Unk	CL5-PCB-123	0.20	2.07e+05	1.67	y	37:01		-	0.9373	y	n
12	Unk	CL5-PCB-118	0.20	2.33e+05	1.47	y	37:22		-	1.0768	y	n
13	Unk	CL5-PCB-114	0.20	2.14e+05	1.41	y	37:55		-	1.0046	y	n
14	Unk	CL5-PCB-105	0.20	2.39e+05	1.52	y	38:35		-	1.0291	y	n
15	Unk	CL5-PCB-126	0.20	2.06e+05	1.49	y	41:51		-	1.0100	y	n
16	Unk	CL6-PCB-155	0.20	2.48e+05	1.42	y	31:54		-	1.0694	y	n
17	Unk	CL6-PCB-167	0.20	1.93e+05	1.02	n	43:45		-	1.0331	y	n
18	Unk	CL6-PCB-156/157	0.40	4.15e+05	1.24	y	44:59		-	1.0762	y	n
19	Unk	CL6-PCB-169	0.20	1.98e+05	1.39	y	48:23		-	1.0548	y	n
20	Unk	CL7-PCB-188	0.20	2.05e+05	0.94	y	37:52		-	0.9648	y	n
21	Unk	CL7-PCB-189	0.20	2.01e+05	1.10	y	51:01		-	1.1571	y	n
22	Unk	CL8-PCB-202	0.20	1.78e+05	0.79	y	43:30		-	0.8926	y	n
23	Unk	CL8-PCB-205	0.20	1.61e+05	0.85	y	53:42		-	0.9679	y	n
24	Unk	CL9-PCB-208	0.20	1.41e+05	0.82	y	50:29		-	0.9466	y	n
25	Unk	CL9-PCB-206	0.20	1.31e+05	0.76	y	55:31		-	1.0917	y	n
26	Unk	CL10-PCB-209	0.20	1.84e+05	1.08	y	57:10		-	1.2152	y	n
27	IS	13C-CL1-PCB-1	100.00	2.01e+08	3.21	y	11:29		-	1.0633	y	n
28	IS	13C-CL1-PCB-3	100.00	1.87e+08	3.14	y	13:42		-	0.9916	y	n
29	IS	13C-CL2-PCB-4	100.00	1.21e+08	1.57	y	13:57		-	0.6380	y	n
30	IS	13C-CL2-PCB-15	100.00	1.92e+08	1.58	y	20:01		-	1.0187	y	n
31	IS	13C-CL3-PCB-19	100.00	9.96e+07	1.05	y	17:07		-	0.5272	y	n
32	IS	13C-CL3-PCB-37	100.00	1.54e+08	1.04	y	27:19		-	1.6350	y	n
33	REF	13C-CL4-CHECK	100.00	1.32e+08	0.79	y	20:17		-	1.3970	y	n
34	IS	13C-CL4-PCB-81	100.00	1.19e+08	0.77	y	34:20		-	1.2666	y	n
35	IS	13C-CL4-PCB-77	100.00	1.23e+08	0.74	y	34:56		-	1.3036	y	n
36	IS	13C-CL5-PCB-104	100.00	1.13e+08	1.59	y	25:58		-	1.3639	y	n
37	IS	13C-CL5-PCB-123	100.00	1.11e+08	1.59	y	36:59		-	1.3394	y	n
38	IS	13C-CL5-PCB-118	100.00	1.08e+08	1.53	y	37:20		-	1.3105	y	n
39	IS	13C-CL5-PCB-114	100.00	1.07e+08	1.57	y	37:54		-	1.2918	y	n
40	IS	13C-CL5-PCB-105	100.00	1.16e+08	1.58	y	38:34		-	1.4067	y	n
41	IS	13C-CL5-PCB-126	100.00	1.02e+08	1.55	y	41:49		-	1.2328	y	n
42	IS	13C-CL6-PCB-155	100.00	1.16e+08	1.27	y	31:52		-	1.5030	y	n
43	IS	13C-CL6-PCB-167	100.00	9.35e+07	1.26	y	43:44		-	1.2123	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.93e+08	1.28	y	44:57		-	1.2497	y	n

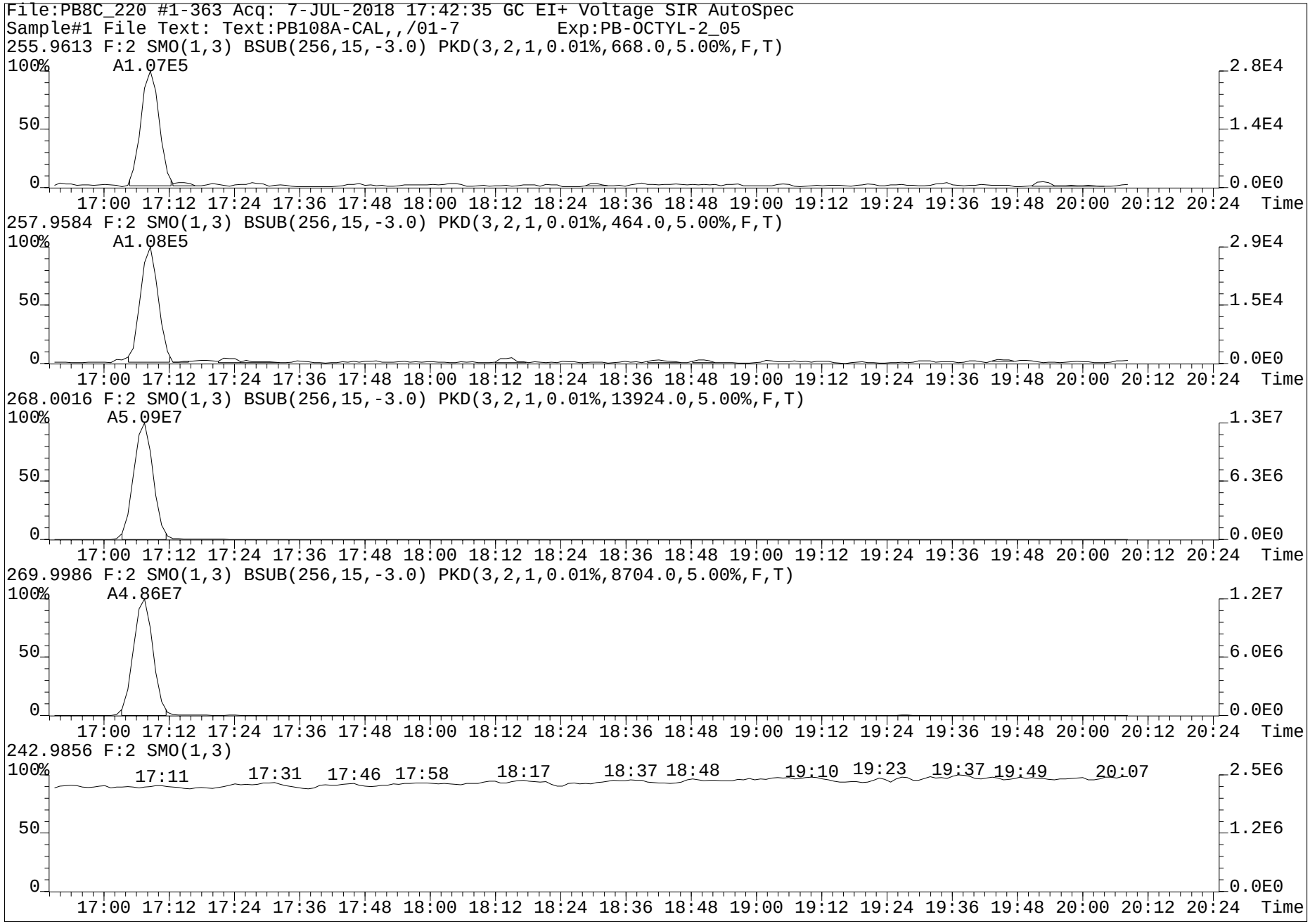
PV by RA 09JUL2018
SVP 9-JUL-18

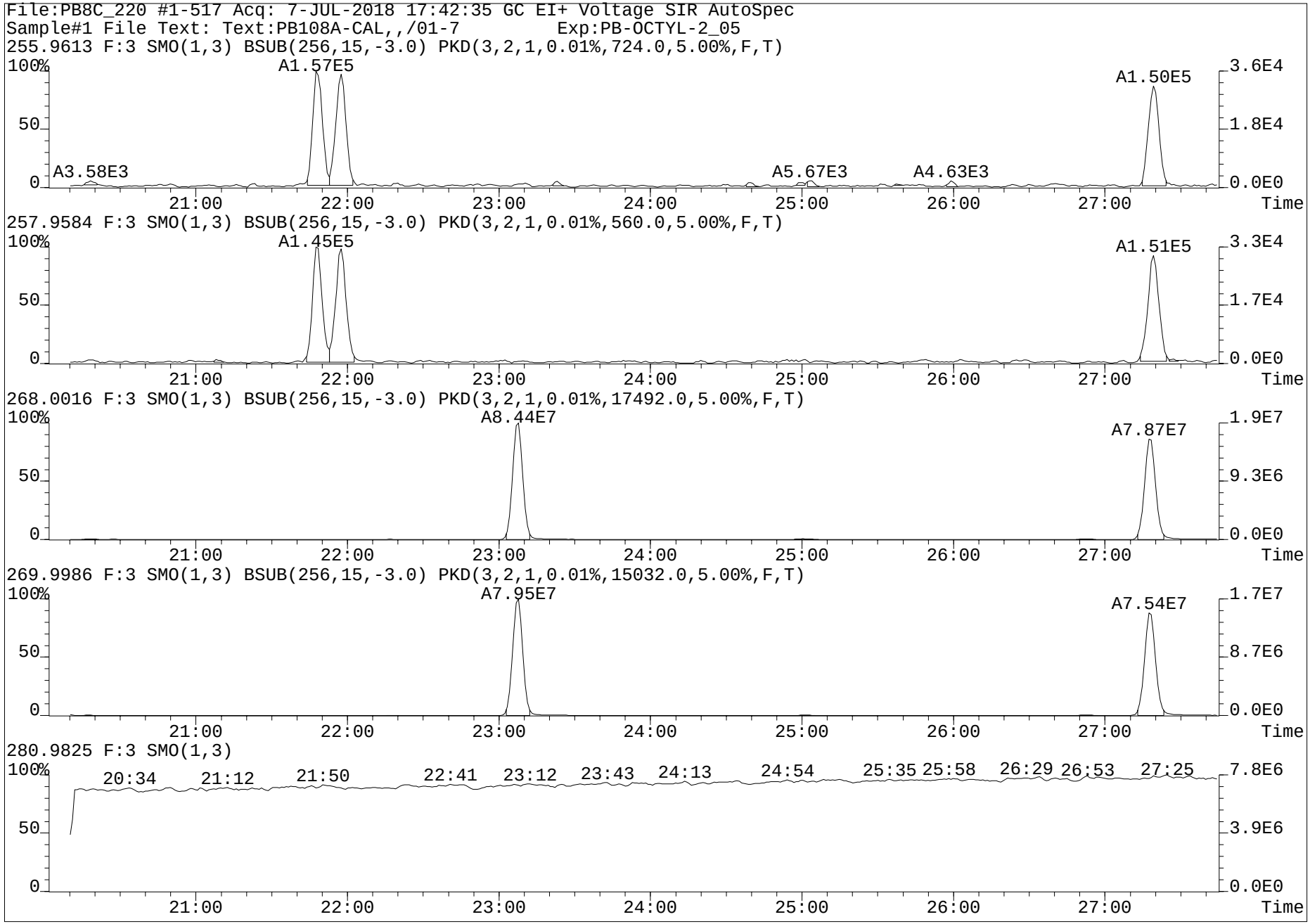
www.axysanalytical.com

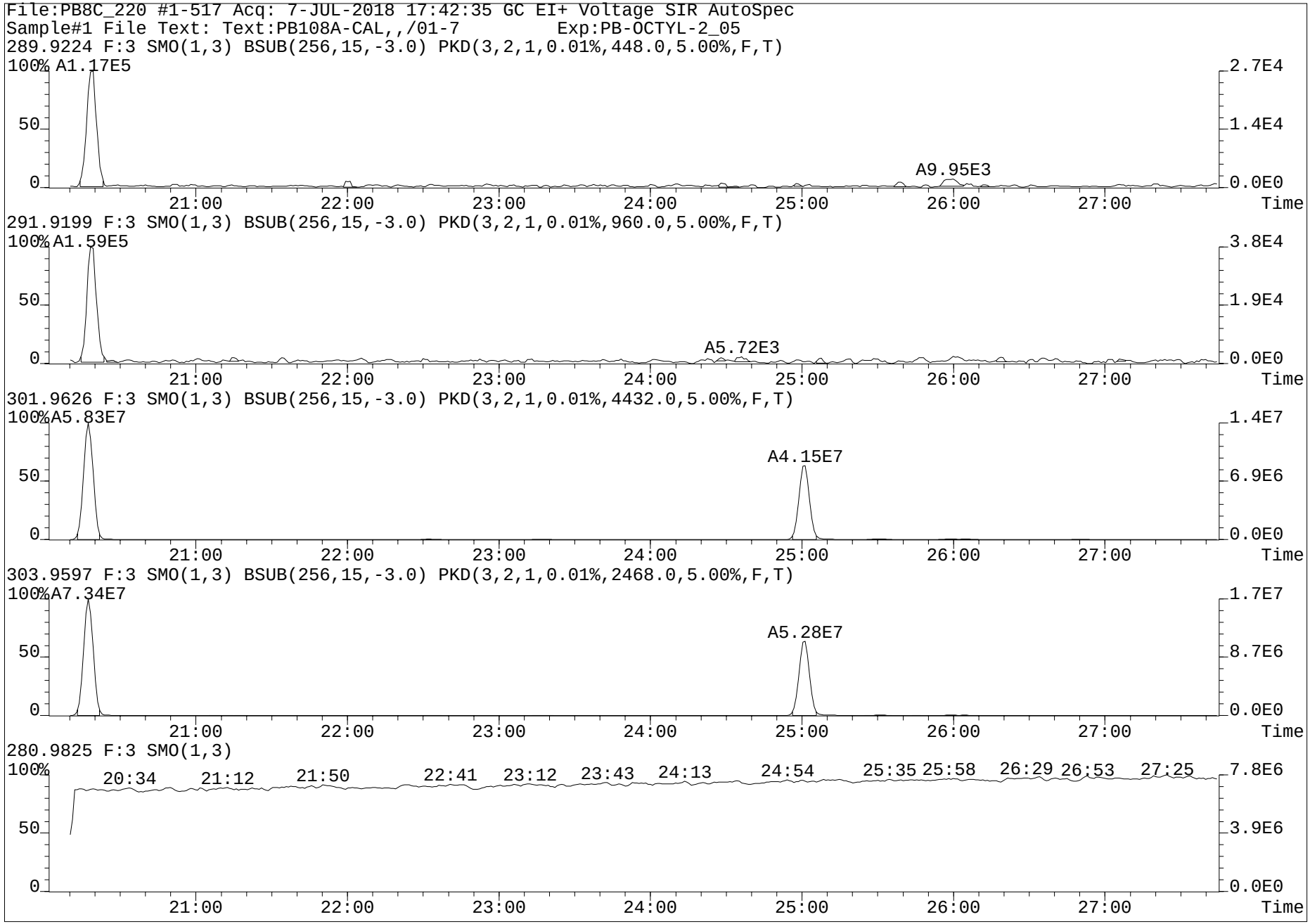
45	IS	13C-CL6-PCB-169	100.00	9.40e+07	1.27	y	48:22	-	1.2192	y	n
46	REF	13C-CL7-CHECK	100.00	1.06e+08	1.05	y	37:51	-	1.8025	y	n
47	IS	13C-CL7-PCB-189	100.00	8.71e+07	1.02	y	51:00	-	1.4781	y	n
48	IS	13C-CL8-PCB-202	100.00	9.98e+07	0.91	y	43:28	-	1.6936	y	n
49	IS	13C-CL8-PCB-205	100.00	8.34e+07	0.87	y	53:40	-	1.4159	y	n
50	IS	13C-CL9-PCB-208	100.00	7.44e+07	0.77	y	50:27	-	1.2622	y	n
51	IS	13C-CL9-PCB-206	100.00	6.00e+07	0.76	y	55:29	-	1.0193	y	n
52	IS	13C-CL10-PCB-209	100.00	7.59e+07	1.19	y	57:09	-	1.2886	y	n
53	RS	13C-CL2-PCB-9	100.00	1.89e+08	1.58	y	15:58	1.89e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	9.43e+07	0.79	y	25:01	9.43e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	8.25e+07	1.57	y	32:08	8.25e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	7.71e+07	1.23	y	40:35	7.71e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	5.89e+07	0.90	y	53:10	5.89e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.64e+08	1.06	y	23:07	-	1.7383	y	n
59	C/Up	13C-CL5-PCB-111	100.00	1.06e+08	1.60	y	34:57	-	1.2784	y	n
60	C/Up	13C-CL7-PCB-178	100.00	7.22e+07	1.01	y	41:03	-	0.9370	y	n
61	IS	13C-CL4-PCB-54	100.00	1.32e+08	0.79	y	20:17	-	1.3970	y	n
62	IS	13C-CL7-PCB-188	100.00	1.06e+08	1.05	y	37:51	-	1.8025	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

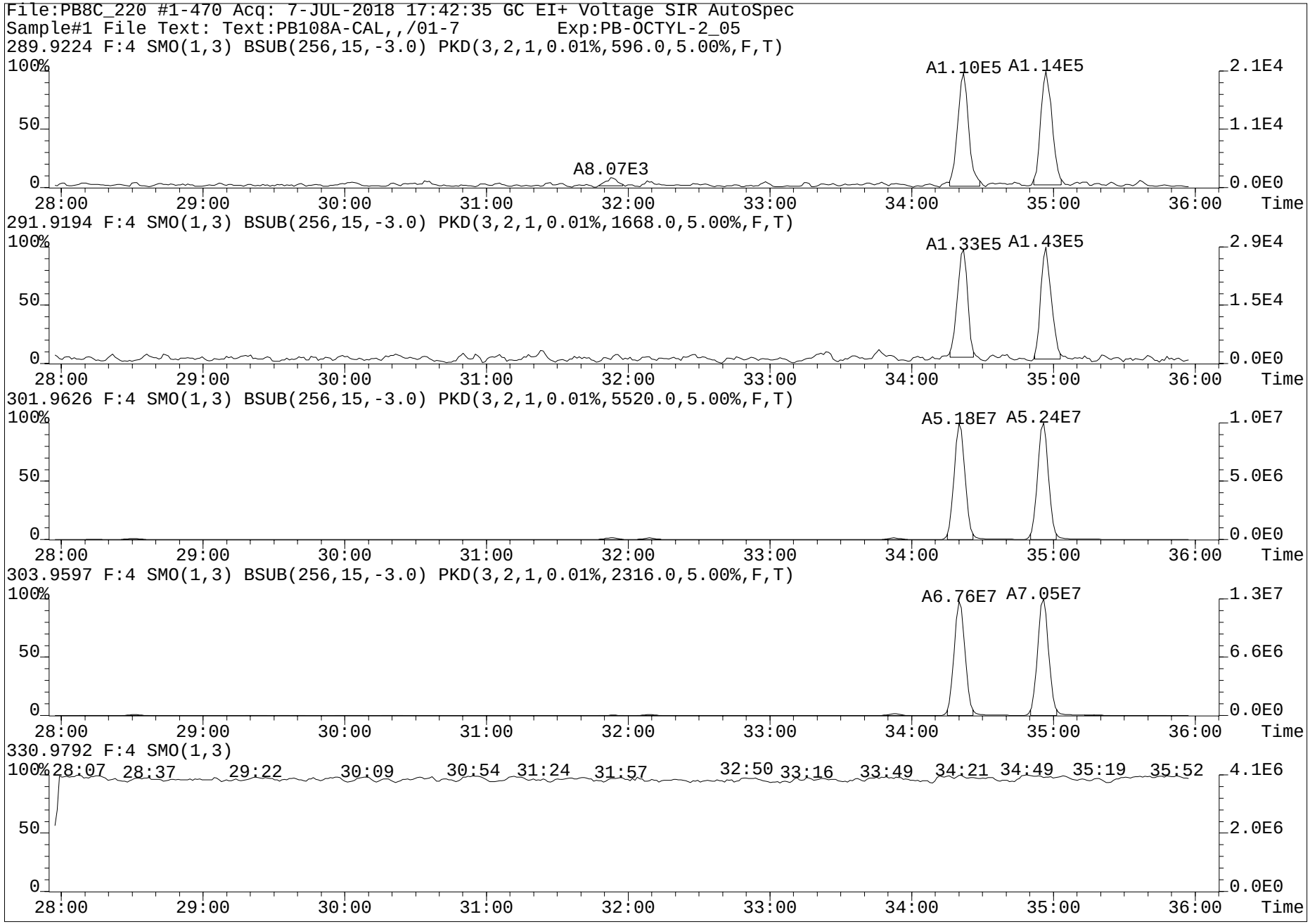

File:PB8C_220 #1-185 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
188.0393 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1424.0,5.00%,F,T)
A3.29E5
A3.19E5
A2.07E4
190.0363 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
A9.89E4
A9.76E4
200.0795 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3428.0,5.00%,F,T)
A1.53E8
A1.42E8
202.0766 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,29776.0,5.00%,F,T)
A4.77E7
A4.53E7
218.9856 SMO(1,3)
11:17 11:29 11:44 11:59 12:11 12:34 12:51 13:03 13:21 13:40
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

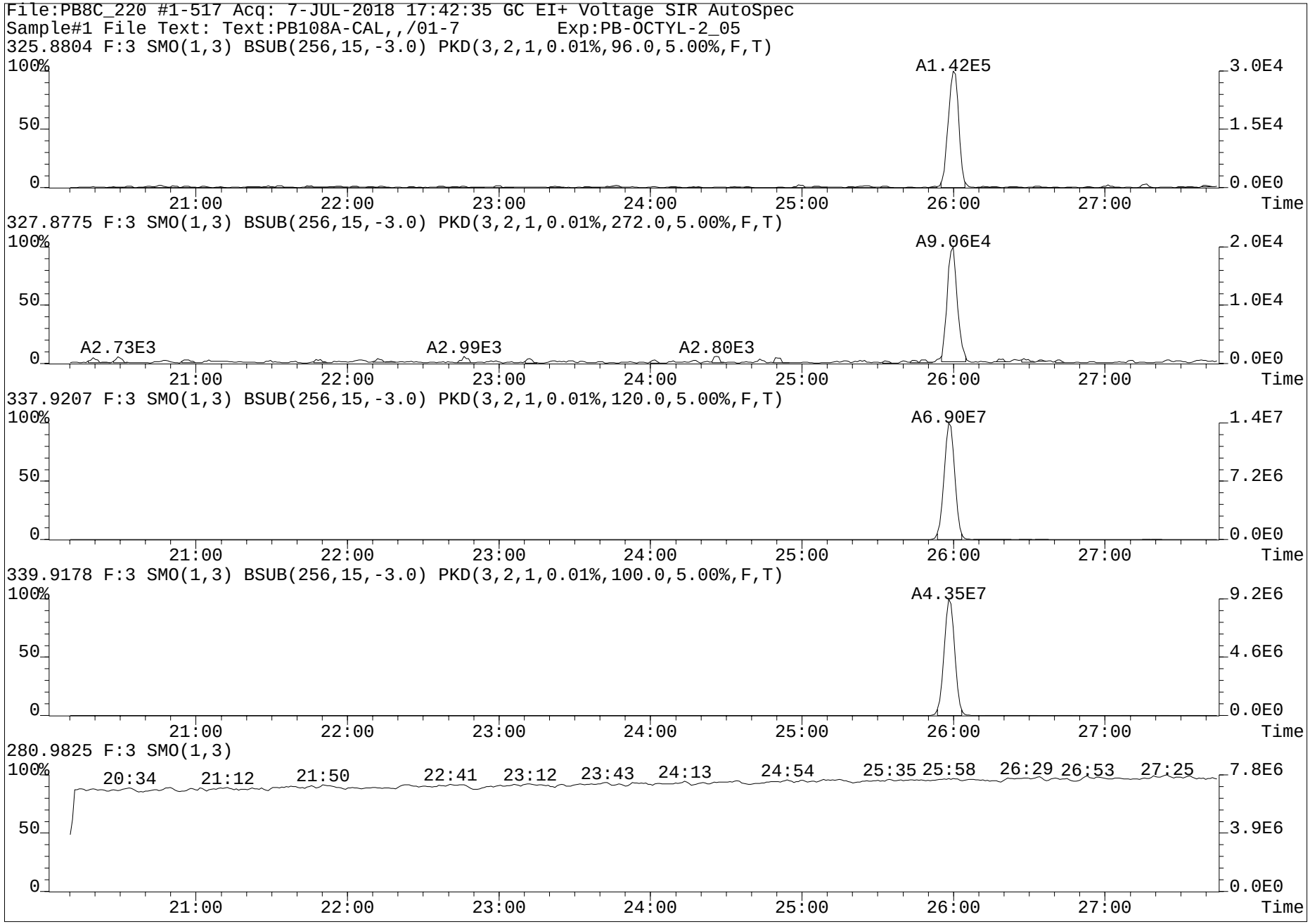

File:PB8C_220 #1-363 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1012.0,5.00%,F,T)
A1.41E5
A1.99E5
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4596.0,5.00%,F,T)
A9.30E4
A1.27E5
234.0406 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17676.0,5.00%,F,T)
A1.16E8
A1.18E8
236.0376 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4716.0,5.00%,F,T)
A7.33E7
A7.47E7
242.9856 F:2 SMO(1,3)
14:04 14:27 14:53 15:50 16:24 16:54 17:31 18:17 18:48 19:10 19:37 20:07
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
4.6E4 2.3E4 0.0E0
3.6E4 1.8E4 0.0E0
2.9E7 1.5E7 0.0E0
1.8E7 9.2E6 0.0E0
2.5E6 1.2E6 0.0E0

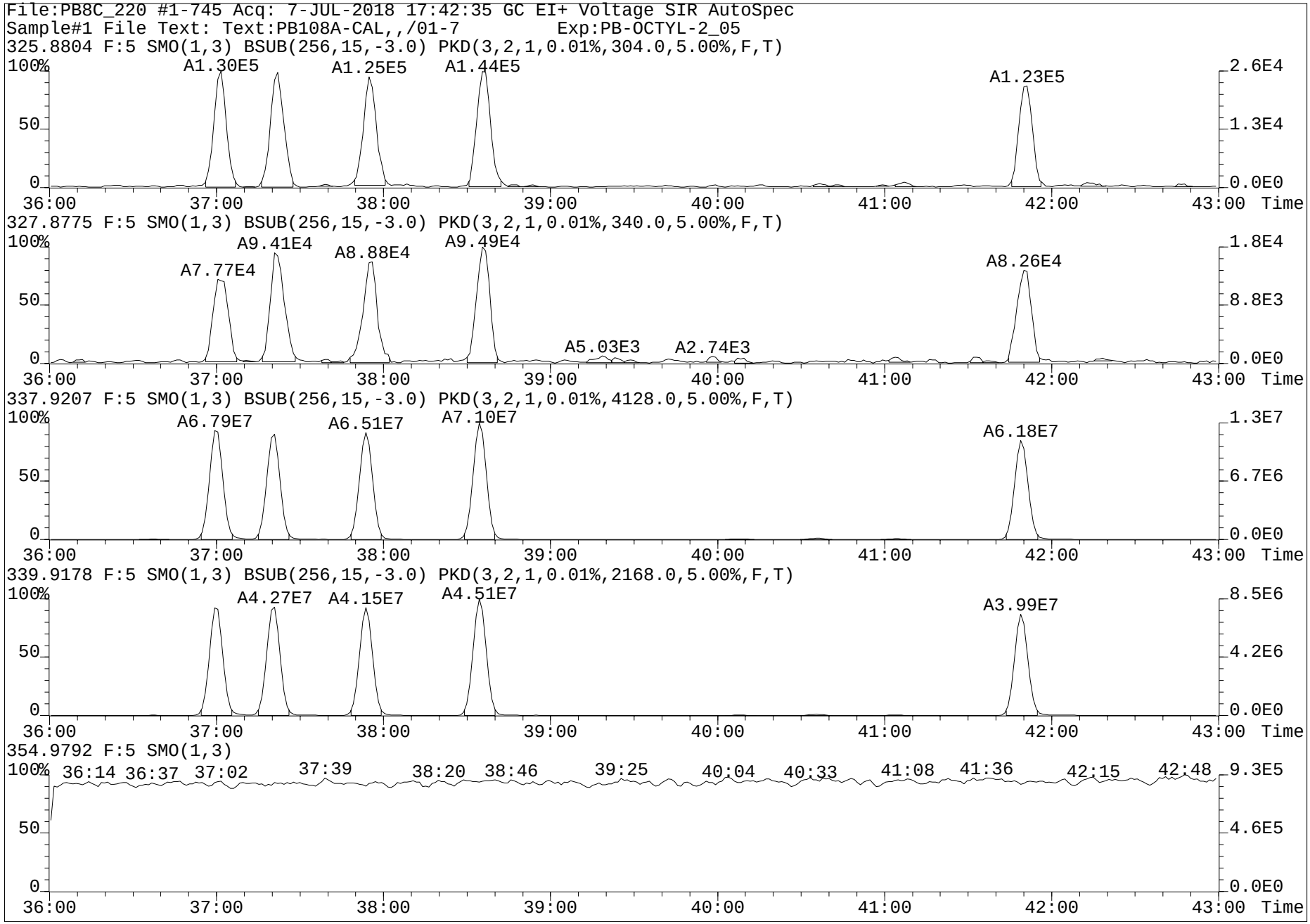

File:PB8C_220 #1-363 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,668.0,5.00%,F,T)
100% A1.07E5
2.8E4
1.4E4
0.0E0
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
100% A1.08E5
2.9E4
1.5E4
0.0E0
268.0016 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13924.0,5.00%,F,T)
100% A5.09E7
1.3E7
6.3E6
0.0E0
269.9986 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8704.0,5.00%,F,T)
100% A4.86E7
1.2E7
6.0E6
0.0E0
242.9856 F:2 SMO(1,3)
100%
17:11 17:31 17:46 17:58 18:17 18:37 18:48 19:10 19:23 19:37 19:49 20:07
2.5E6
1.2E6
0.0E0
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

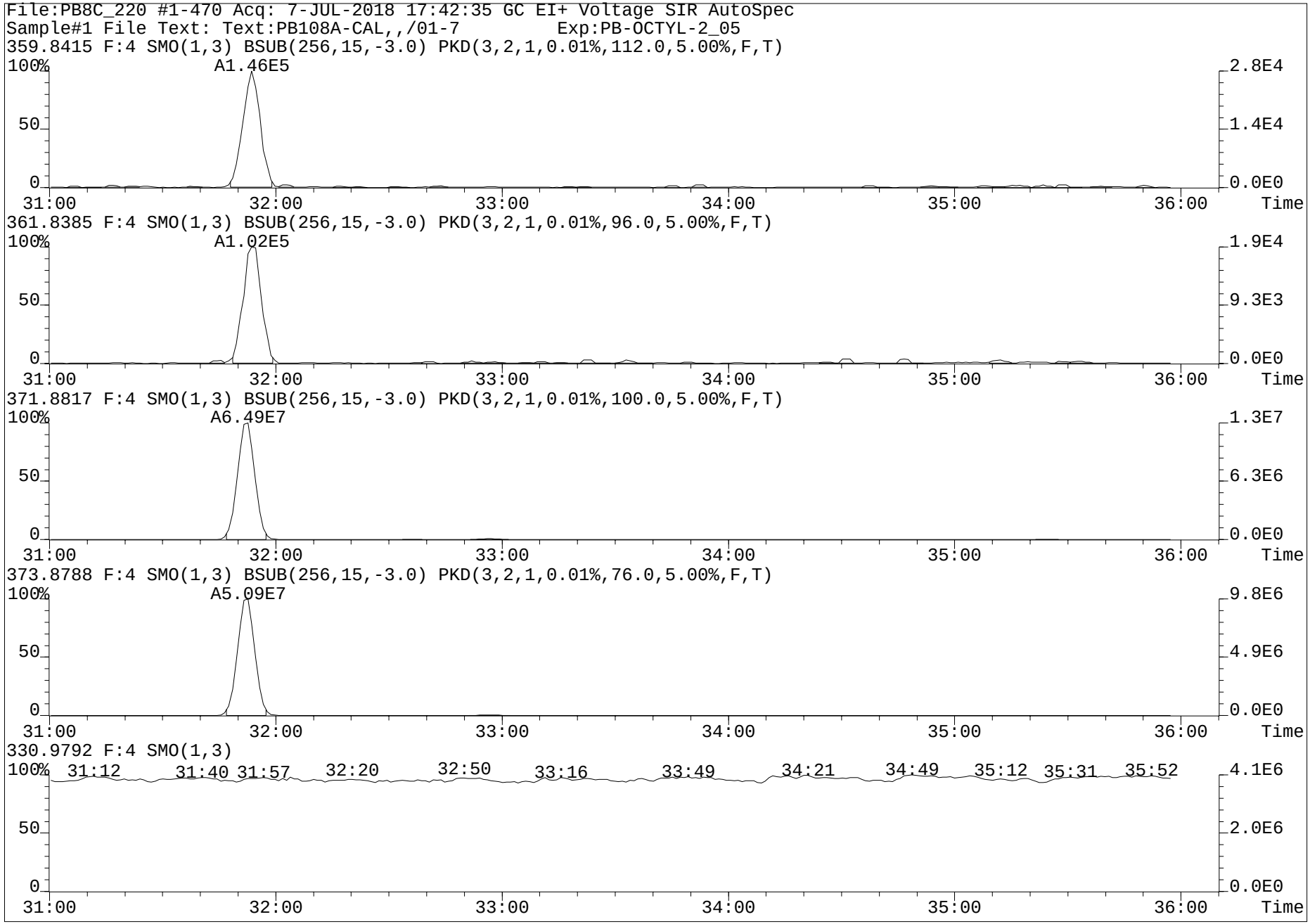

File:PB8C_220 #1-517 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,724.0,5.00%,F,T)
A1.57E5
A1.50E5
A3.58E3
A5.67E3
A4.63E3
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A1.45E5
A1.51E5
268.0016 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17492.0,5.00%,F,T)
A8.44E7
A7.87E7
269.9986 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15032.0,5.00%,F,T)
A7.95E7
A7.54E7
280.9825 F:3 SMO(1,3)
20:34 21:12 21:50 22:41 23:12 23:43 24:13 24:54 25:35 25:58 26:29 26:53 27:25
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
3.6E4 1.8E4 0.0E0
3.3E4 1.7E4 0.0E0
1.9E7 9.3E6 0.0E0
1.7E7 8.7E6 0.0E0
7.8E6 3.9E6 0.0E0

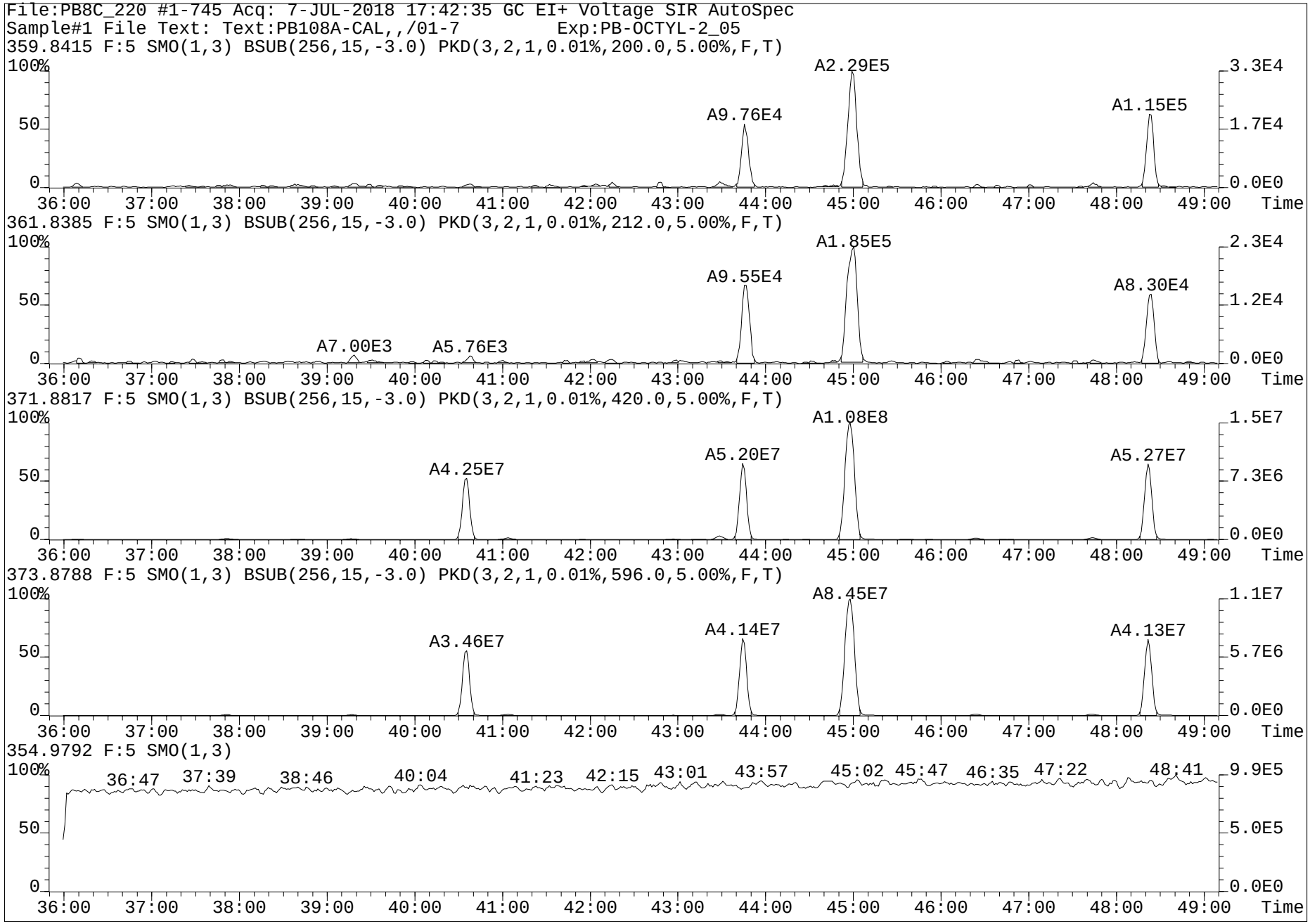

File:PB8C_220 #1-517 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
100% A1.17E5
A9.95E3
2.7E4
1.4E4
0.0E0
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,960.0,5.00%,F,T)
100% A1.59E5
A5.72E3
3.8E4
1.9E4
0.0E0
301.9626 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4432.0,5.00%,F,T)
100% A5.83E7
A4.15E7
1.4E7
6.9E6
0.0E0
303.9597 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2468.0,5.00%,F,T)
100% A7.34E7
A5.28E7
1.7E7
8.7E6
0.0E0
280.9825 F:3 SMO(1,3)
100%
20:34 21:12 21:50 22:41 23:12 23:43 24:13 24:54 25:35 25:58 26:29 26:53 27:25
7.8E6
3.9E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

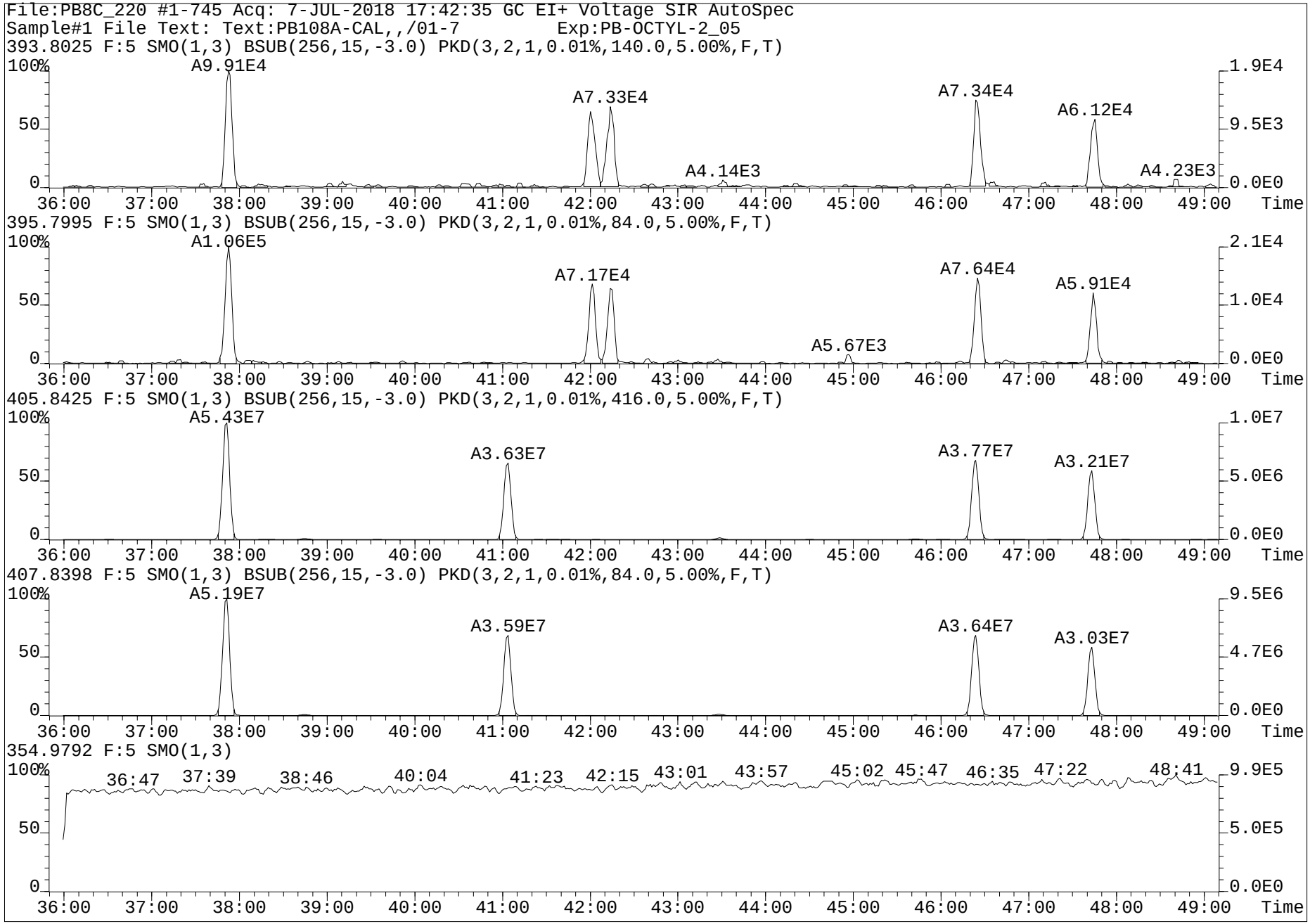

File:PB8C_220 #1-470 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
A1.10E5
A1.14E5
A8.07E3
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1668.0,5.00%,F,T)
A1.33E5
A1.43E5
301.9626 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5520.0,5.00%,F,T)
A5.18E7
A5.24E7
303.9597 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2316.0,5.00%,F,T)
A6.76E7
A7.05E7
330.9792 F:4 SMO(1,3)
28:07 28:37 29:22 30:09 30:54 31:24 31:57 32:50 33:16 33:49 34:21 34:49 35:19 35:52
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.1E4
1.1E4
0.0E0
2.9E4
1.5E4
1.0E7
5.0E6
1.3E7
6.6E6
4.1E6
2.0E6

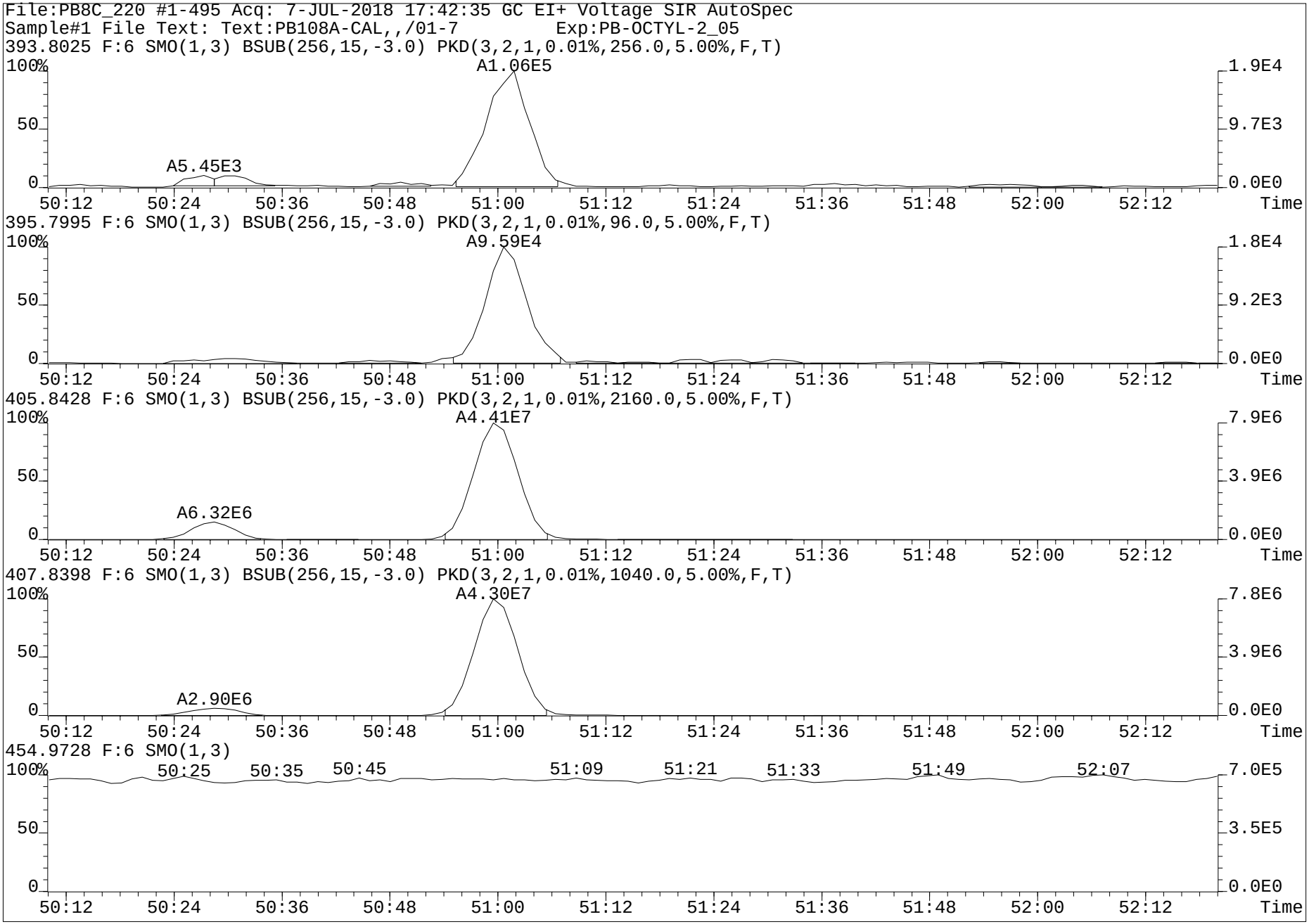

File:PB8C_220 #1-517 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A1.42E5
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,272.0,5.00%,F,T)
A9.06E4
A2.73E3
A2.99E3
A2.80E3
337.9207 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
A6.90E7
339.9178 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
A4.35E7
280.9825 F:3 SMO(1,3)
20:34 21:12 21:50 22:41 23:12 23:43 24:13 24:54 25:35 25:58 26:29 26:53 27:25
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
3.0E4
1.5E4
0.0E0
2.0E4
1.0E4
1.4E7
7.2E6
9.2E6
4.6E6
7.8E6
3.9E6

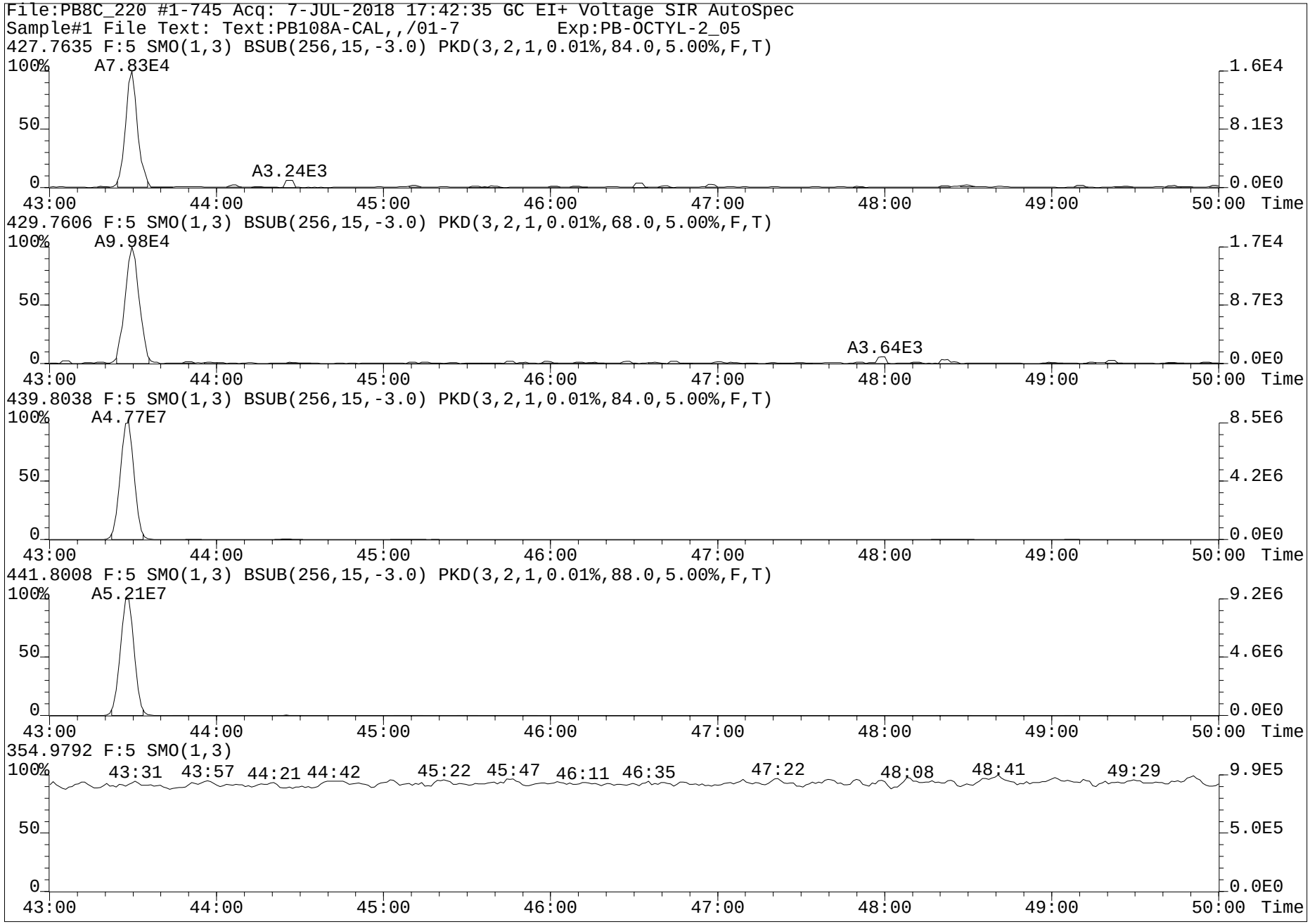

File:PB8C_220 #1-745 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A1.30E5
A1.25E5
A1.44E5
A1.23E5
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A7.77E4
A9.41E4
A8.88E4
A9.49E4
A5.03E3
A2.74E3
A8.26E4
337.9207 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4128.0,5.00%,F,T)
A6.79E7
A6.51E7
A7.10E7
A6.18E7
339.9178 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2168.0,5.00%,F,T)
A4.27E7
A4.15E7
A4.51E7
A3.99E7
354.9792 F:5 SMO(1,3)
36:14 36:37 37:02 37:39 38:20 38:46 39:25 40:04 40:33 41:08 41:36 42:15 42:48
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
2.6E4
1.3E4
0.0E0
1.8E4
8.8E3
1.3E7
6.7E6
8.5E6
4.2E6
9.3E5
4.6E5

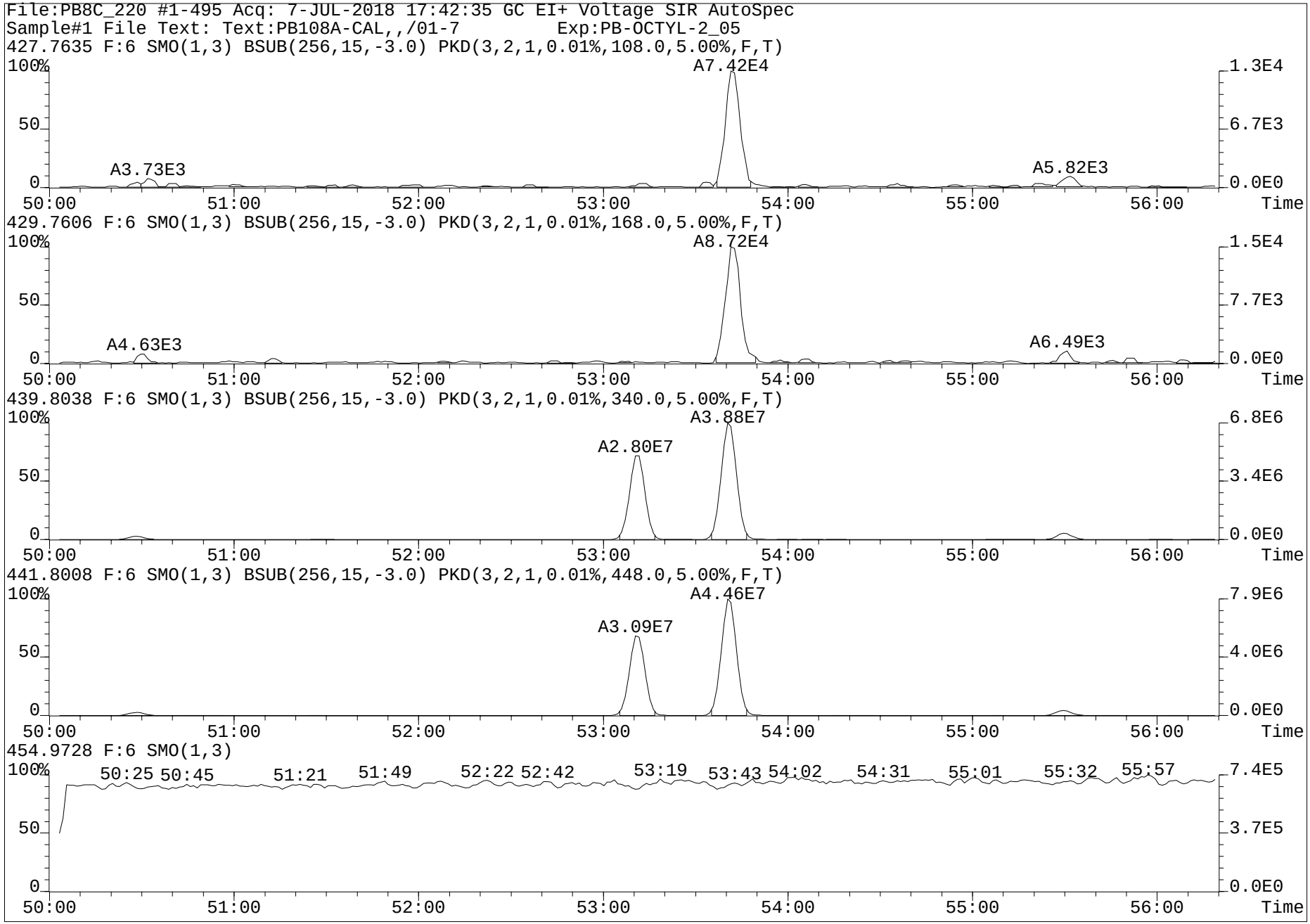

File:PB8C_220 #1-470 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A1.46E5
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A1.02E5
371.8817 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
A6.49E7
373.8788 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,76.0,5.00%,F,T)
A5.09E7
330.9792 F:4 SMO(1,3)
31:12 31:40 31:57 32:20 32:50 33:16 33:49 34:21 34:49 35:12 35:31 35:52
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
2.8E4
1.4E4
0.0E0
1.9E4
9.3E3
1.3E7
6.3E6
9.8E6
4.9E6
4.1E6
2.0E6

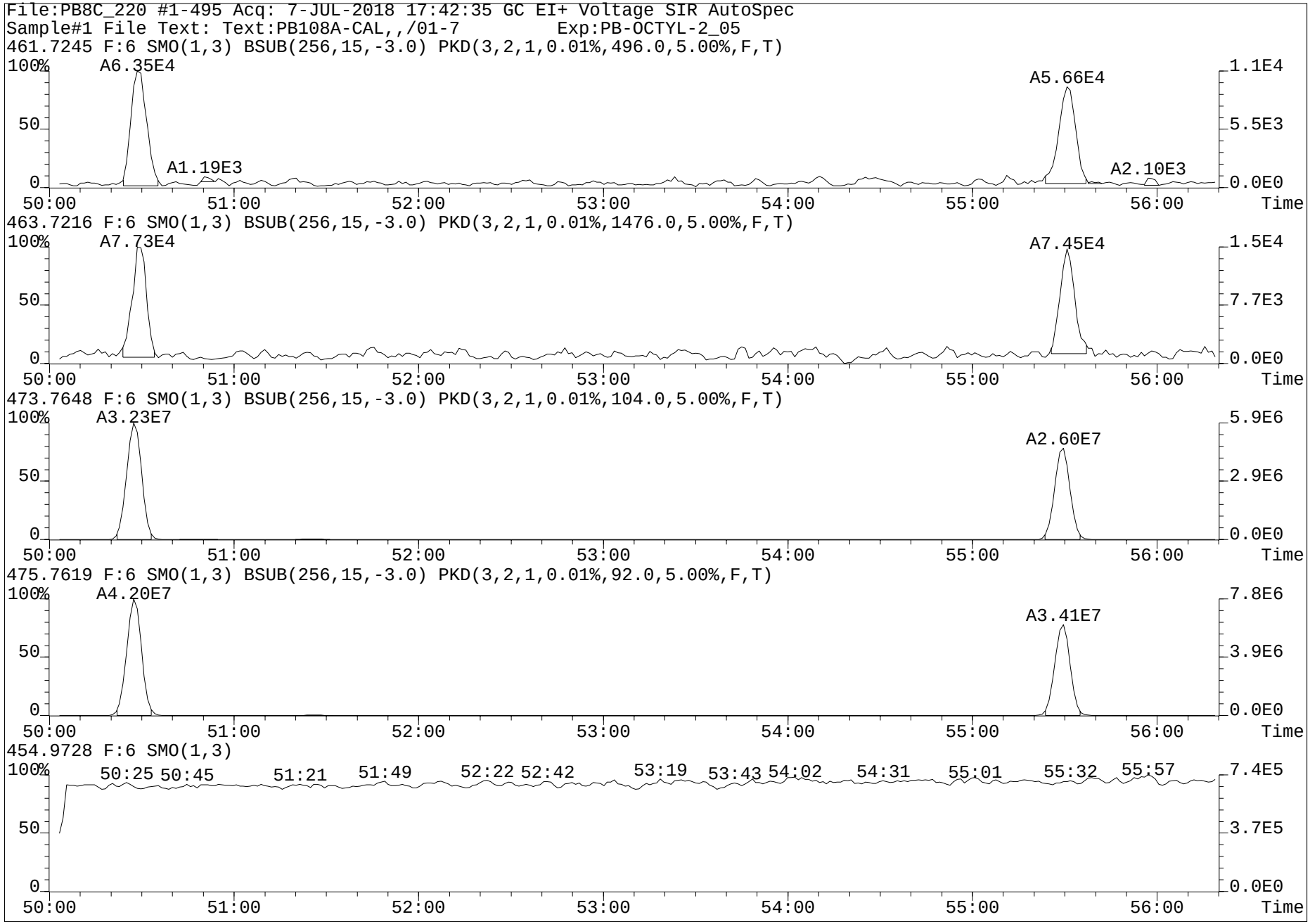

File:PB8C_220 #1-745 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,200.0,5.00%,F,T)
A9.76E4
A2.29E5
A1.15E5
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,212.0,5.00%,F,T)
A7.00E3
A5.76E3
A9.55E4
A1.85E5
A8.30E4
371.8817 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A4.25E7
A5.20E7
A1.08E8
A5.27E7
373.8788 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
A3.46E7
A4.14E7
A8.45E7
A4.13E7
354.9792 F:5 SMO(1,3)
36:47
37:39
38:46
40:04
41:23
42:15
43:01
43:57
45:02
45:47
46:35
47:22
48:41
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
3.3E4
1.7E4
0.0E0
2.3E4
1.2E4
1.5E7
7.3E6
1.1E7
5.7E6
9.9E5
5.0E5

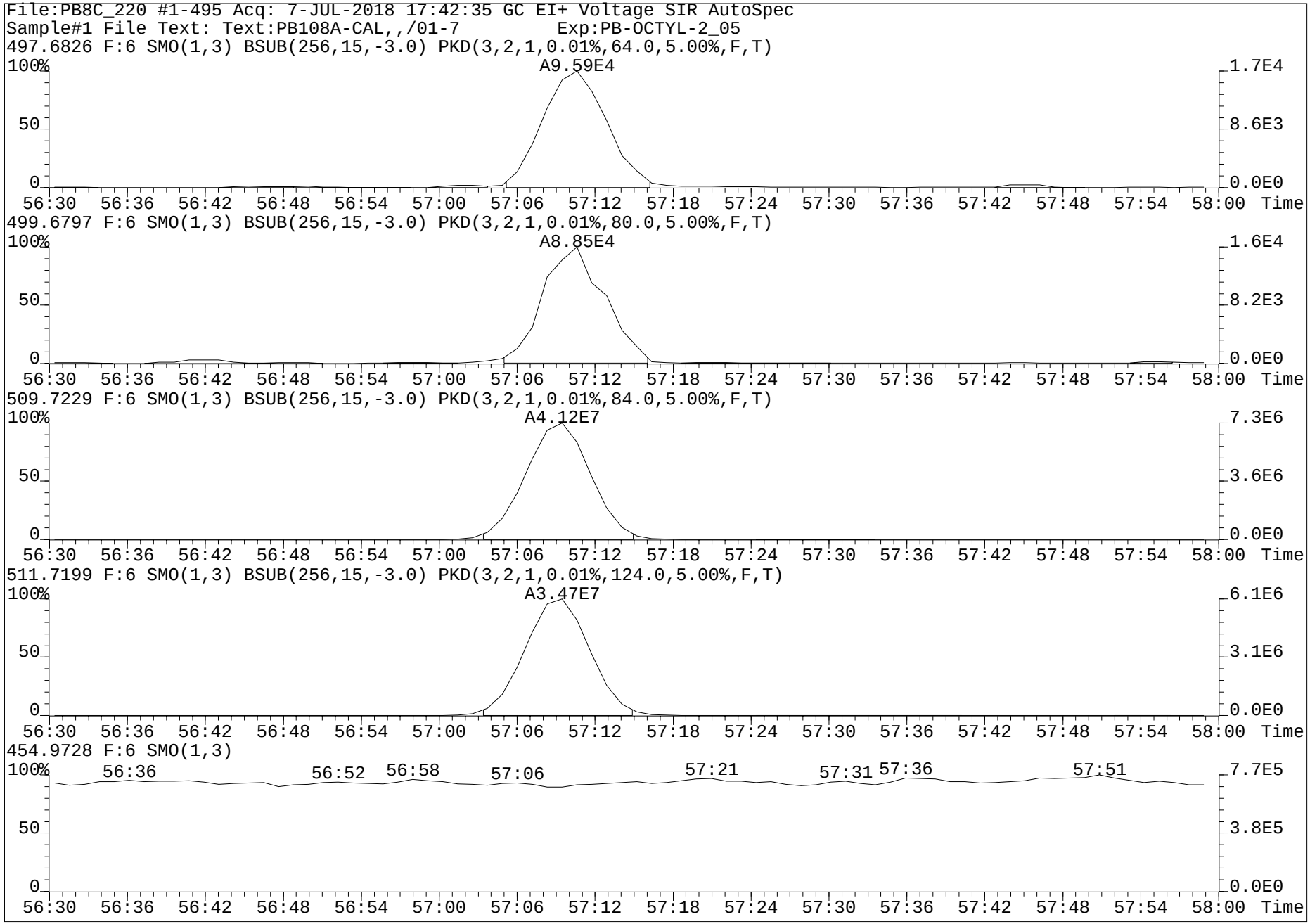

File:PB8C_220 #1-745 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,140.0,5.00%,F,T)
A9.91E4
A7.33E4
A4.14E3
A7.34E4
A6.12E4
A4.23E3
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A1.06E5
A7.17E4
A5.67E3
A7.64E4
A5.91E4
405.8425 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A5.43E7
A3.63E7
A3.77E7
A3.21E7
407.8398 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A5.19E7
A3.59E7
A3.64E7
A3.03E7
354.9792 F:5 SMO(1,3)
36:47 37:39 38:46 40:04 41:23 42:15 43:01 43:57 45:02 45:47 46:35 47:22 48:41
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
1.9E4
9.5E3
0.0E0
2.1E4
1.0E4
1.0E7
5.0E6
9.5E6
4.7E6
9.9E5
5.0E5

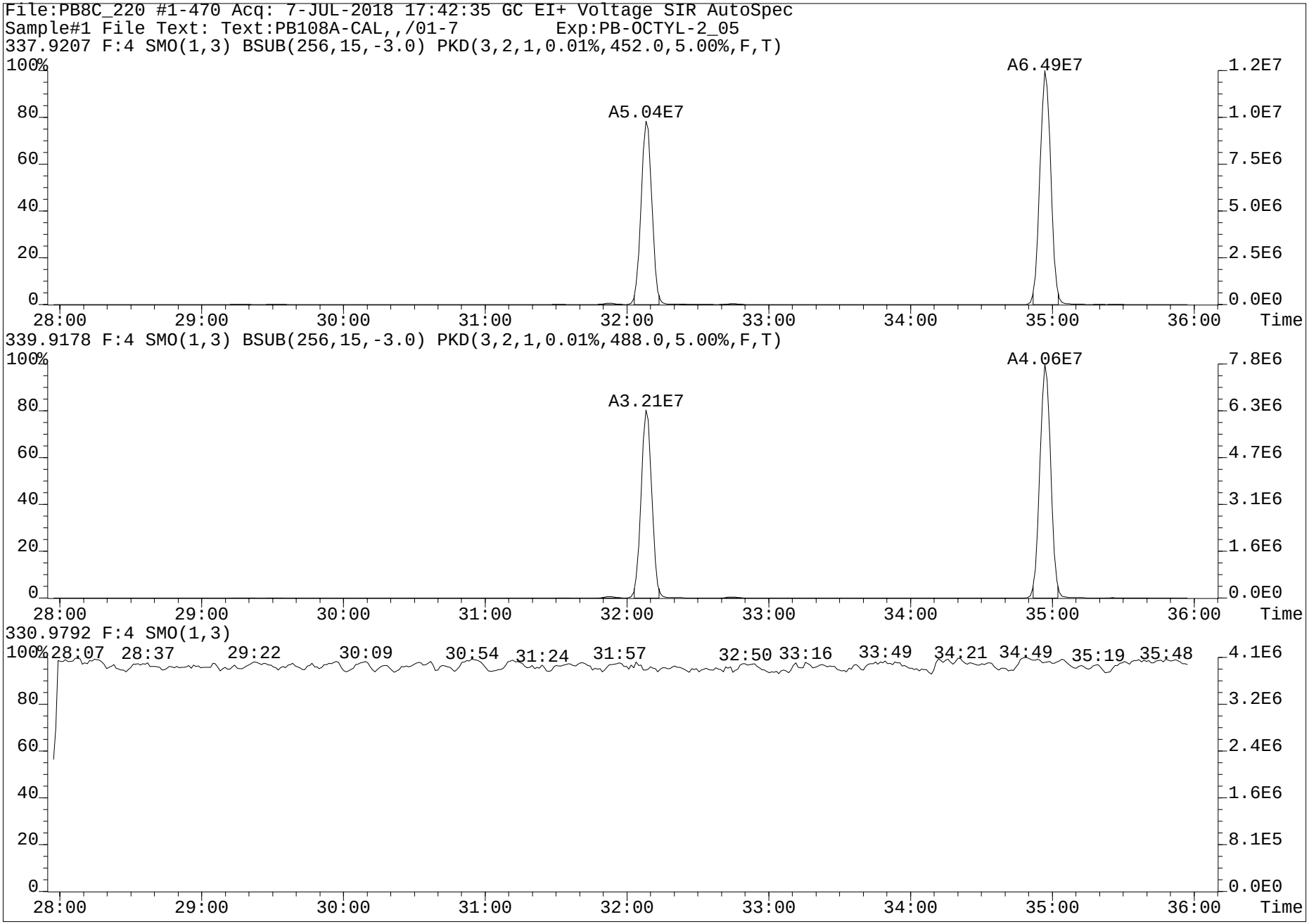

File:PB8C_220 #1-495 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,256.0,5.00%,F,T)
A1.06E5
A5.45E3
395.7995 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A9.59E4
405.8428 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2160.0,5.00%,F,T)
A4.41E7
A6.32E6
407.8398 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1040.0,5.00%,F,T)
A4.30E7
A2.90E6
454.9728 F:6 SMO(1,3)
100%
50
0
1.9E4
9.7E3
0.0E0
1.8E4
9.2E3
7.9E6
3.9E6
7.8E6
7.0E5
3.5E5
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
50:25
50:35
50:45
51:09
51:21
51:33
51:49
52:07


File:PB8C_220 #1-745 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
100% A7.83E4
A3.24E3
1.6E4
8.1E3
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,68.0,5.00%,F,T)
100% A9.98E4
A3.64E3
1.7E4
8.7E3
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
100% A4.77E7
8.5E6
4.2E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
100% A5.21E7
9.2E6
4.6E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 F:5 SMO(1,3)
100% 43:31 43:57 44:21 44:42 45:22 45:47 46:11 46:35 47:22 48:08 48:41 49:29
9.9E5
5.0E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220 #1-495 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A7.42E4
A3.73E3
A5.82E3
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,168.0,5.00%,F,T)
A8.72E4
A4.63E3
A6.49E3
439.8038 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A3.88E7
A2.80E7
441.8008 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A4.46E7
A3.09E7
454.9728 F:6 SMO(1,3)
50:25 50:45 51:21 51:49 52:22 52:42 53:19 53:43 54:02 54:31 55:01 55:32 55:57
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
1.3E4 6.7E3 0.0E0
1.5E4 7.7E3 0.0E0
6.8E6 3.4E6 0.0E0
7.9E6 4.0E6 0.0E0
7.4E5 3.7E5 0.0E0


File:PB8C_220 #1-495 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A6.35E4
A5.66E4
A1.19E3
A2.10E3
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1476.0,5.00%,F,T)
A7.73E4
A7.45E4
473.7648 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A3.23E7
A2.60E7
475.7619 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A4.20E7
A3.41E7
454.9728 F:6 SMO(1,3)
50:25 50:45 51:21 51:49 52:22 52:42 53:19 53:43 54:02 54:31 55:01 55:32 55:57
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
1.1E4 5.5E3 0.0E0
1.5E4 7.7E3 0.0E0
5.9E6 2.9E6 0.0E0
7.8E6 3.9E6 0.0E0
7.4E5 3.7E5 0.0E0


File:PB8C_220 #1-495 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
497.6826 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,64.0,5.00%,F,T)
A9.59E4
499.6797 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A8.85E4
509.7229 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A4.12E7
511.7199 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,124.0,5.00%,F,T)
A3.47E7
454.9728 F:6 SMO(1,3)
56:36
56:52
56:58
57:06
57:21
57:31
57:36
57:51
100%
50
0
1.7E4
8.6E3
0.0E0
1.6E4
8.2E3
7.3E6
3.6E6
6.1E6
3.1E6
7.7E5
3.8E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220 #1-470 Acq: 7-JUL-2018 17:42:35 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108A-CAL,,/01-7 Exp:PB-OCTYL-2_05
337.9207 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A5.04E7
A6.49E7
339.9178 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A3.21E7
A4.06E7
330.9792 F:4 SMO(1,3)
28:07 28:37 29:22 30:09 30:54 31:24 31:57 32:50 33:16 33:49 34:21 34:49 35:19 35:48
Time

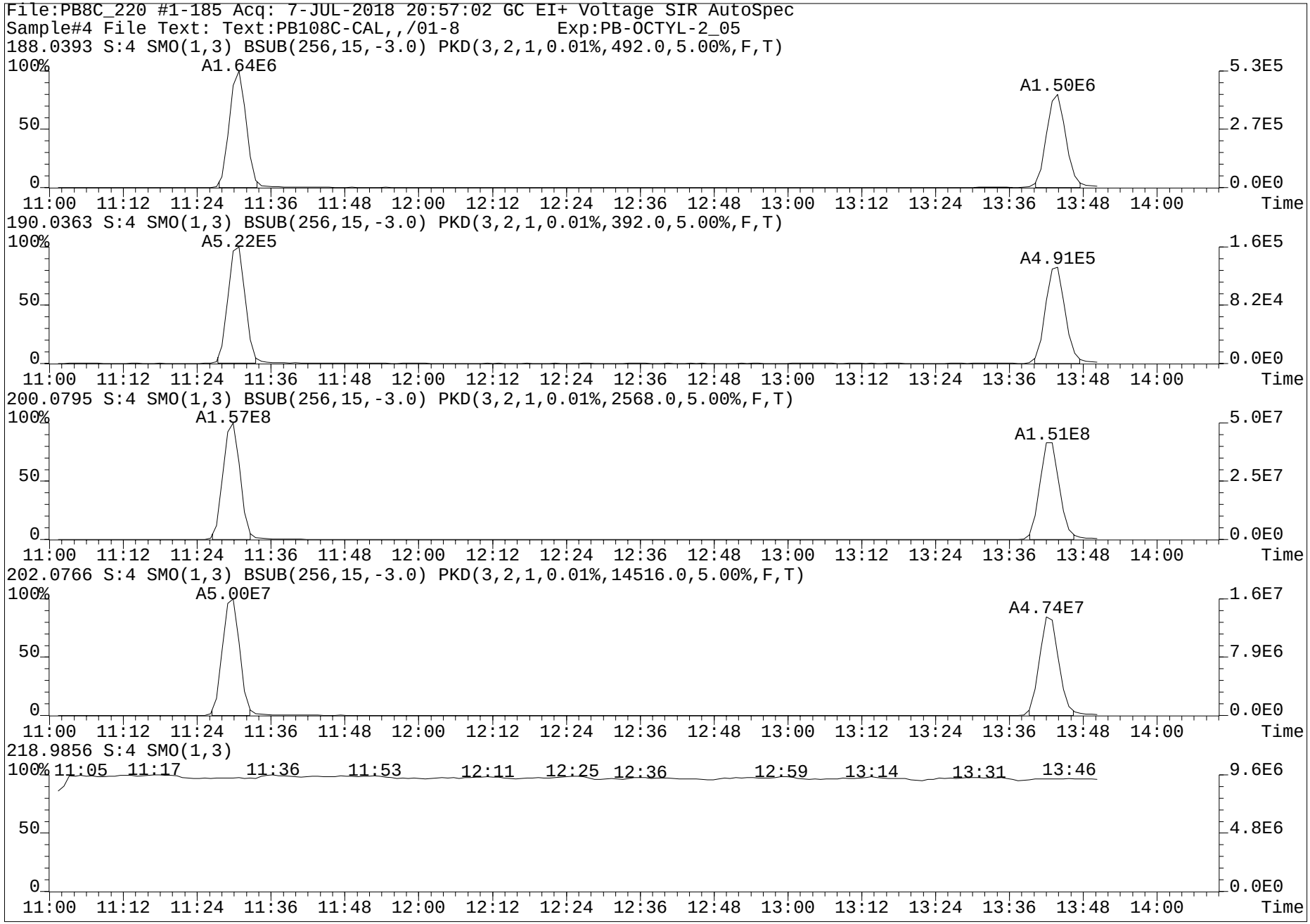
www.axysanalytical.com

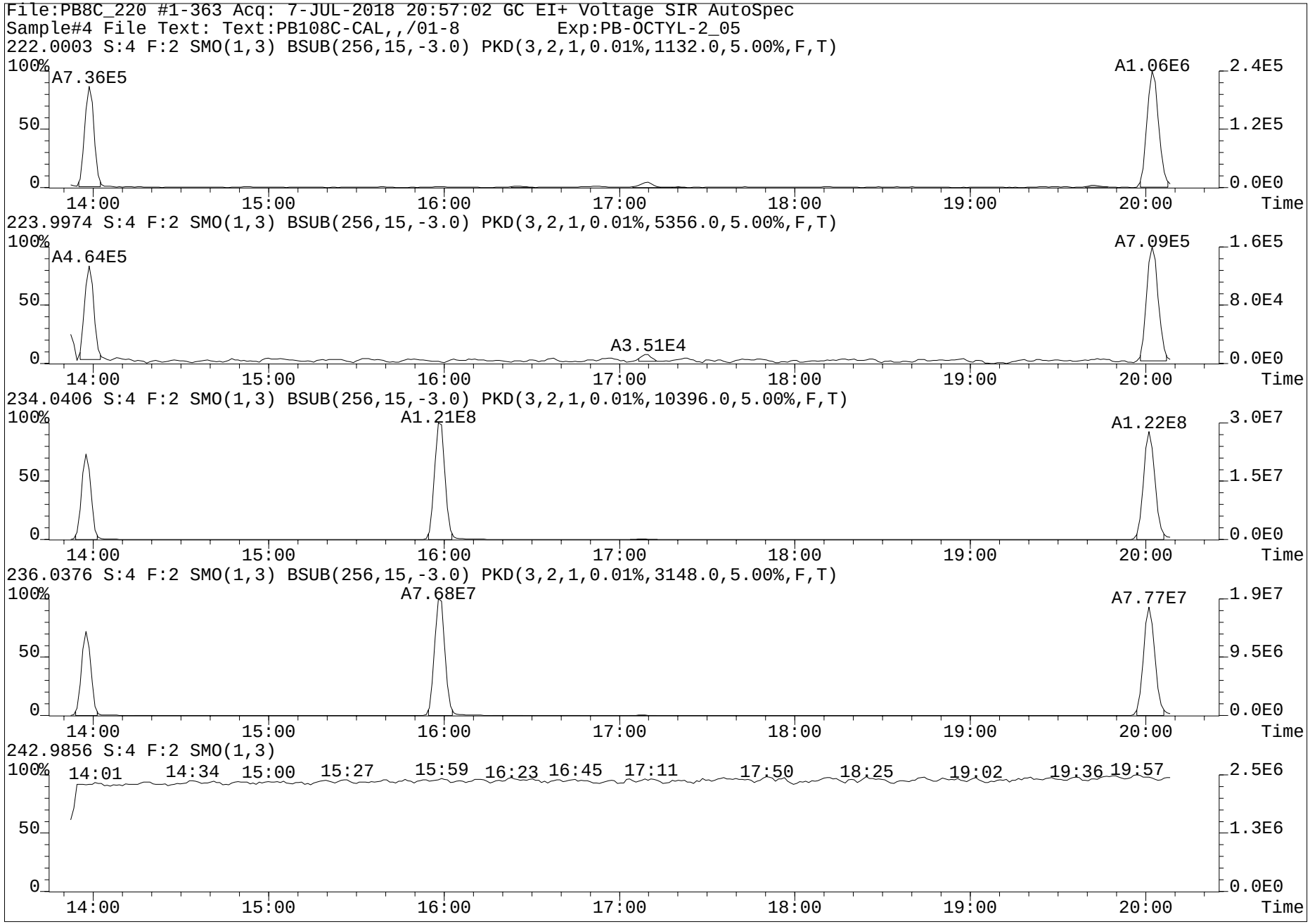
Run #2 Filename PB8C_220 S: 4 I: 1 Acquired: 7-JUL-18 20:57:02 Processed: 9-JUL-18 08:10:02
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108C-CAL,,/01-8 Comments: 1,,1.0uL CS-1 F1: 1.00 F2: 1.00

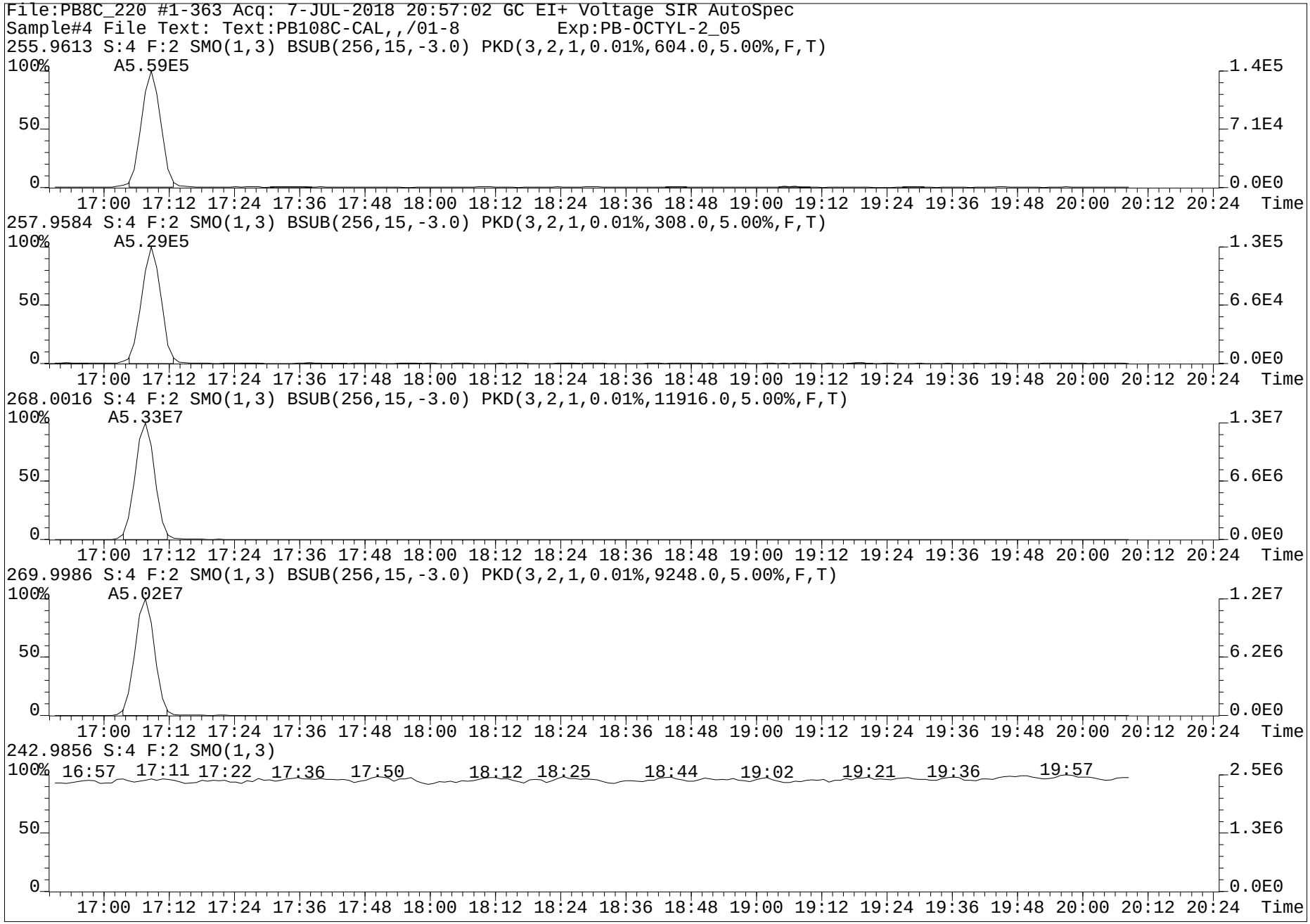
	Typ	Name	Amount	Resp	RA		RT		RF	RRF		Modified?
1	Unk	CL1-PCB-1	1.00	2.17e+06	3.15	y	11:31		-	1.0459	y	n
2	Unk	CL1-PCB-3	1.00	2.00e+06	3.06	y	13:44		-	1.0080	y	n
3	Unk	CL2-PCB-4	1.00	1.20e+06	1.59	y	13:59		-	0.9382	y	n
4	Unk	CL2-PCB-15	1.00	1.77e+06	1.49	y	20:02		-	0.8859	y	n
5	Unk	CL3-PCB-19	1.00	1.09e+06	1.06	y	17:09		-	1.0515	y	n
6	Unk	CL3-PCB-37	1.00	1.56e+06	1.03	y	27:20		-	0.9762	y	n
7	Unk	CL4-PCB-54	1.00	1.40e+06	0.80	y	20:19		-	1.0153	y	n
8	Unk	CL4-PCB-81	1.00	1.15e+06	0.30	y	34:23		-	0.9599	y	n
9	Unk	CL4-PCB-77	1.00	1.22e+06	0.78	y	34:58		-	1.0077	y	n
10	Unk	CL5-PCB-104	1.00	1.15e+06	1.68	y	26:00		-	1.0501	y	n
11	Unk	CL5-PCB-123	1.00	1.05e+06	1.51	y	37:03		-	0.9443	y	n
12	Unk	CL5-PCB-118	1.00	1.07e+06	1.51	y	37:23		-	0.9800	y	n
13	Unk	CL5-PCB-114	1.00	1.08e+06	1.55	y	37:57		-	1.0100	y	n
14	Unk	CL5-PCB-105	1.00	1.10e+06	1.53	y	38:37		-	0.9530	y	n
15	Unk	CL5-PCB-126	1.00	1.02e+06	1.62	y	41:52		-	1.0135	y	n
16	Unk	CL6-PCB-155	1.00	1.12e+06	1.26	y	31:55		-	0.9556	y	n
17	Unk	CL6-PCB-167	1.00	9.71e+05	1.22	y	43:48		-	1.0479	y	n
18	Unk	CL6-PCB-156/157	2.00	2.05e+06	1.23	y	45:00		-	1.0710	y	n
19	Unk	CL6-PCB-169	1.00	1.01e+06	1.32	y	48:25		-	1.0065	y	n
20	Unk	CL7-PCB-188	1.00	9.87e+05	1.02	y	37:54		-	0.9425	y	n
21	Unk	CL7-PCB-189	1.00	8.53e+05	0.99	y	51:03		-	0.9535	y	n
22	Unk	CL8-PCB-202	1.00	8.20e+05	0.94	y	43:31		-	0.8265	y	n
23	Unk	CL8-PCB-205	1.00	8.52e+05	0.91	y	53:44		-	0.9236	y	n
24	Unk	CL9-PCB-208	1.00	7.22e+05	0.78	y	50:31		-	0.9012	y	n
25	Unk	CL9-PCB-206	1.00	6.33e+05	0.82	y	55:33		-	0.9570	y	n
26	Unk	CL10-PCB-209	1.00	8.57e+05	1.14	y	57:13		-	1.0431	y	n
27	IS	13C-CL1-PCB-1	100.00	2.07e+08	3.14	y	11:30		-	1.0483	y	n
28	IS	13C-CL1-PCB-3	100.00	1.98e+08	3.16	y	13:43		-	1.0022	y	n
29	IS	13C-CL2-PCB-4	100.00	1.28e+08	1.59	y	13:57		-	0.6473	y	n
30	IS	13C-CL2-PCB-15	100.00	1.99e+08	1.57	y	20:01		-	1.0092	y	n
31	IS	13C-CL3-PCB-19	100.00	1.03e+08	1.06	y	17:03		-	0.5238	y	n
32	IS	13C-CL3-PCB-37	100.00	1.60e+08	1.05	y	27:18		-	1.6258	y	n
33	REF	13C-CL4-CHECK	100.00	1.38e+08	0.80	y	20:18		-	1.4092	y	n
34	IS	13C-CL4-PCB-81	100.00	1.20e+08	0.72	y	34:21		-	1.2171	y	n
35	IS	13C-CL4-PCB-77	100.00	1.21e+08	0.76	y	34:57		-	1.2339	y	n
36	IS	13C-CL5-PCB-104	100.00	1.09e+08	1.56	y	25:59		-	1.3221	y	n
37	IS	13C-CL5-PCB-123	100.00	1.11e+08	1.59	y	37:01		-	1.3399	y	n
38	IS	13C-CL5-PCB-118	100.00	1.09e+08	1.59	y	37:22		-	1.3231	y	n
39	IS	13C-CL5-PCB-114	100.00	1.07e+08	1.62	y	37:55		-	1.2919	y	n
40	IS	13C-CL5-PCB-105	100.00	1.16e+08	1.58	y	38:36		-	1.3988	y	n
41	IS	13C-CL5-PCB-126	100.00	1.00e+08	1.59	y	41:51		-	1.2134	y	n
42	IS	13C-CL6-PCB-155	100.00	1.17e+08	1.25	y	31:53		-	1.5096	y	n
43	IS	13C-CL6-PCB-167	100.00	9.26e+07	1.26	y	43:46		-	1.1986	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.91e+08	1.22	y	44:59		-	1.2370	y	n

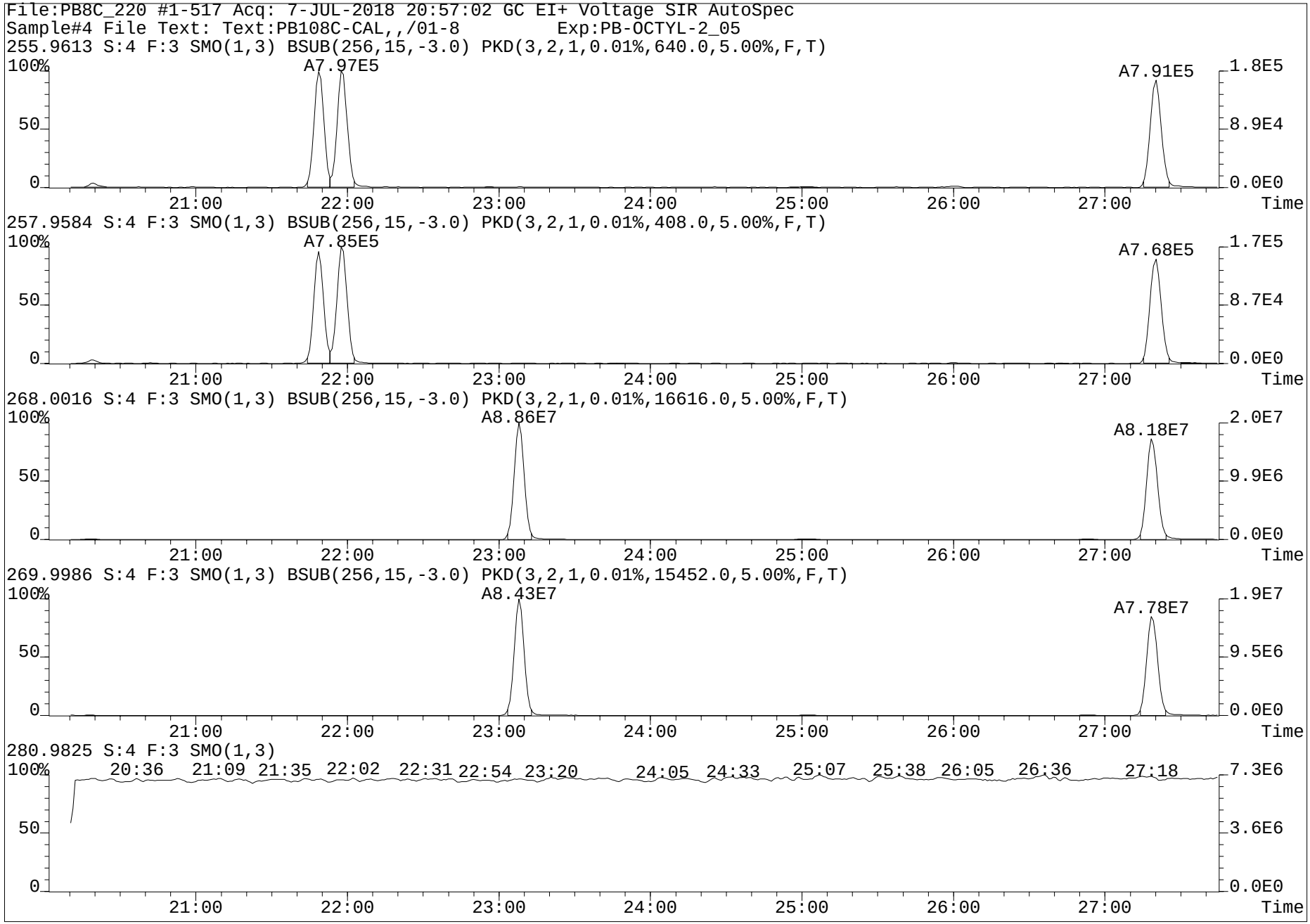
PV by RA 09JUL2018
9-JUL-18

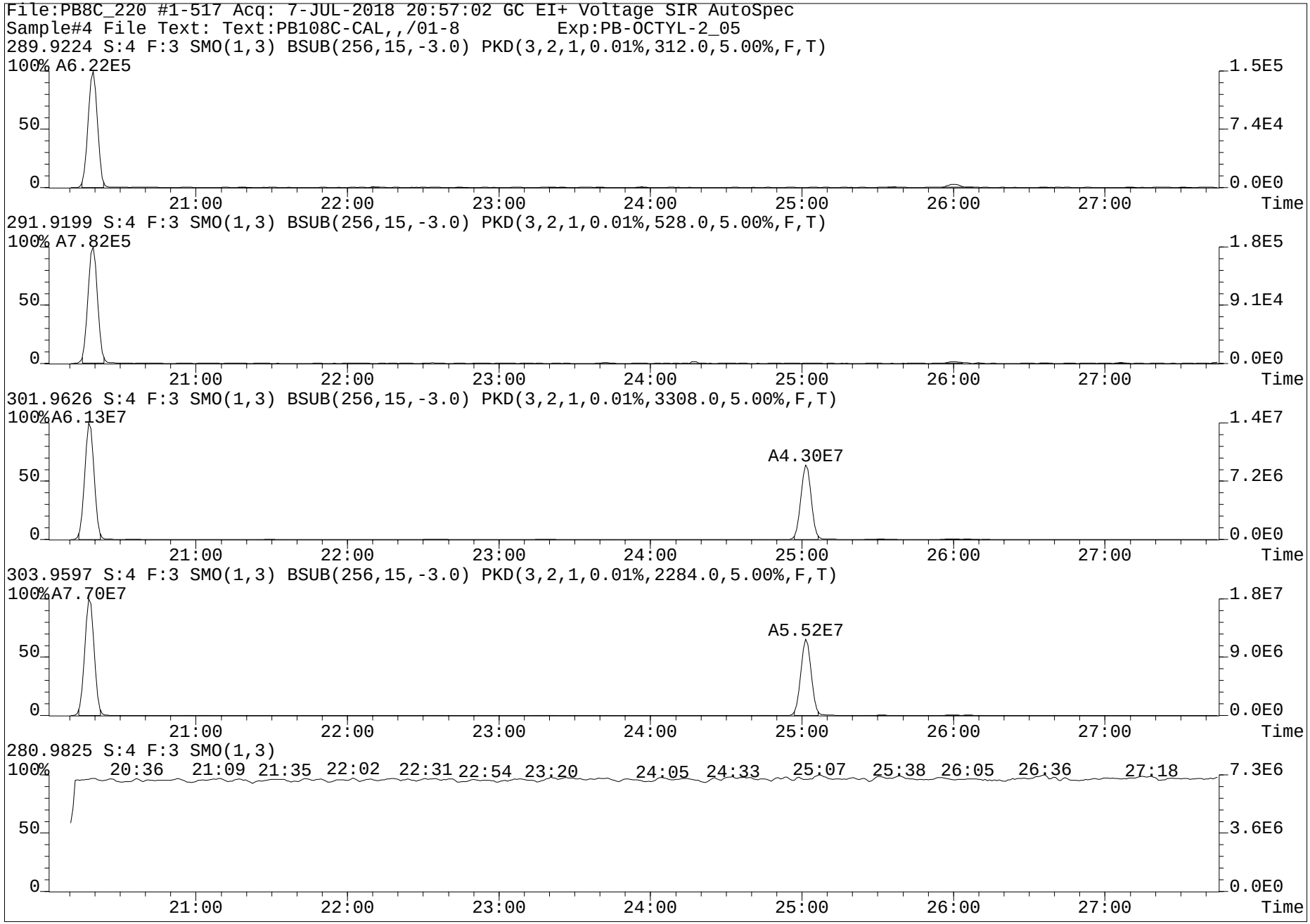
45	IS	13C-CL6-PCB-169	100.00	1.00e+08	1.24	y	48:24	-	1.2989	y	n
46	REF	13C-CL7-CHECK	100.00	1.05e+08	1.04	y	37:52	-	1.6286	y	n
47	IS	13C-CL7-PCB-189	100.00	8.94e+07	1.04	y	51:02	-	1.3907	y	n
48	IS	13C-CL8-PCB-202	100.00	9.92e+07	0.91	y	43:30	-	1.5435	y	n
49	IS	13C-CL8-PCB-205	100.00	9.22e+07	0.89	y	53:43	-	1.4345	y	n
50	IS	13C-CL9-PCB-208	100.00	8.01e+07	0.75	y	50:30	-	1.2463	y	n
51	IS	13C-CL9-PCB-206	100.00	6.62e+07	0.76	y	55:31	-	1.0293	y	n
52	IS	13C-CL10-PCB-209	100.00	8.22e+07	1.15	y	57:11	-	1.2781	y	n
53	RS	13C-CL2-PCB-9	100.00	1.98e+08	1.57	y	15:59	1.98e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	9.82e+07	0.78	y	25:01	9.82e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	8.27e+07	1.56	y	32:09	8.27e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	7.73e+07	1.27	y	40:37	7.73e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	6.43e+07	0.87	y	53:13	6.43e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.73e+08	1.05	y	23:08	-	1.7608	y	n
59	C/Up	13C-CL5-PCB-111	100.00	1.06e+08	1.62	y	34:58	-	1.2824	y	n
60	C/Up	13C-CL7-PCB-178	100.00	7.00e+07	1.03	y	41:05	-	0.9055	y	n
61	IS	13C-CL4-PCB-54	100.00	1.38e+08	0.80	y	20:18	-	1.4092	y	n
62	IS	13C-CL7-PCB-188	100.00	1.05e+08	1.04	y	37:52	-	1.6286	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

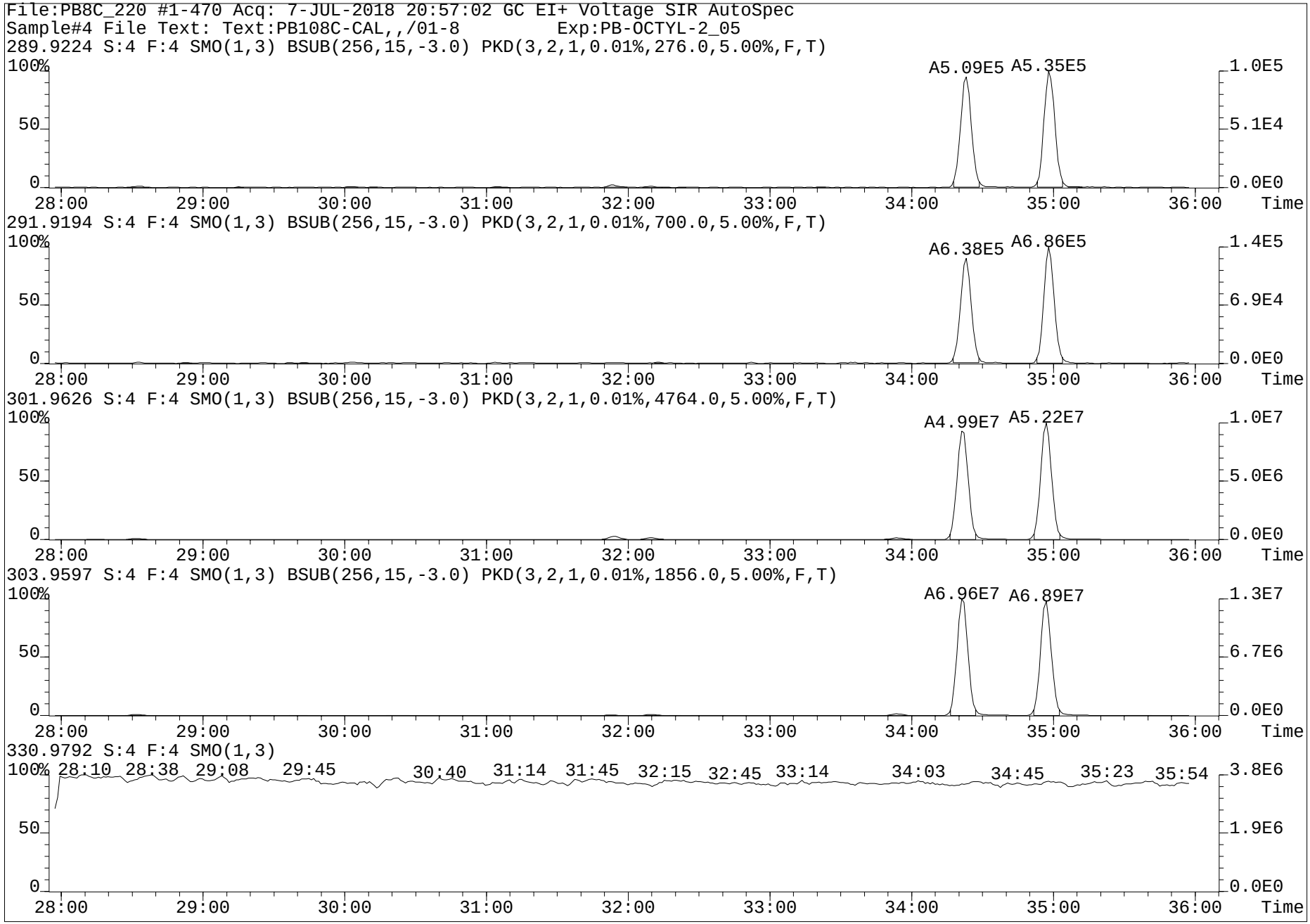

File:PB8C_220 #1-185 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
188.0393 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A1.64E6
A1.50E6
5.3E5
2.7E5
0.0E0
190.0363 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A5.22E5
A4.91E5
1.6E5
8.2E4
0.0E0
200.0795 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2568.0,5.00%,F,T)
A1.57E8
A1.51E8
5.0E7
2.5E7
0.0E0
202.0766 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14516.0,5.00%,F,T)
A5.00E7
A4.74E7
1.6E7
7.9E6
0.0E0
218.9856 S:4 SMO(1,3)
11:05 11:17 11:36 11:53 12:11 12:25 12:36 12:59 13:14 13:31 13:46
9.6E6
4.8E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

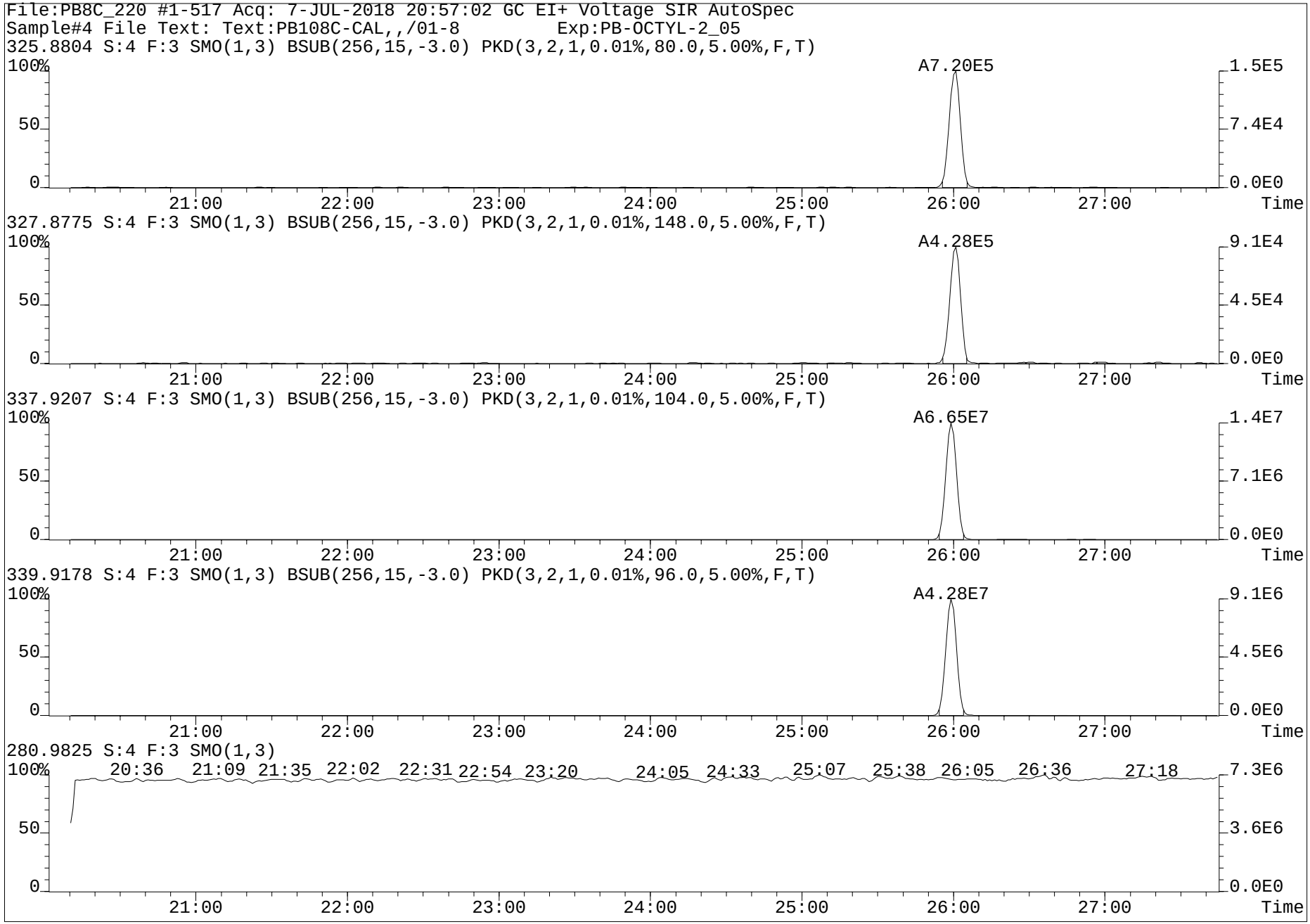

File:PB8C_220 #1-363 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
222.0003 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1132.0,5.00%,F,T)
A7.36E5
A1.06E6
223.9974 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5356.0,5.00%,F,T)
A4.64E5
A3.51E4
A7.09E5
234.0406 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10396.0,5.00%,F,T)
A1.21E8
A1.22E8
236.0376 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3148.0,5.00%,F,T)
A7.68E7
A7.77E7
242.9856 S:4 F:2 SMO(1,3)
14:01 14:34 15:00 15:27 15:59 16:23 16:45 17:11 17:50 18:25 19:02 19:36 19:57
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
2.4E5 1.2E5 0.0E0
1.6E5 8.0E4 0.0E0
3.0E7 1.5E7 0.0E0
1.9E7 9.5E6 0.0E0
2.5E6 1.3E6 0.0E0

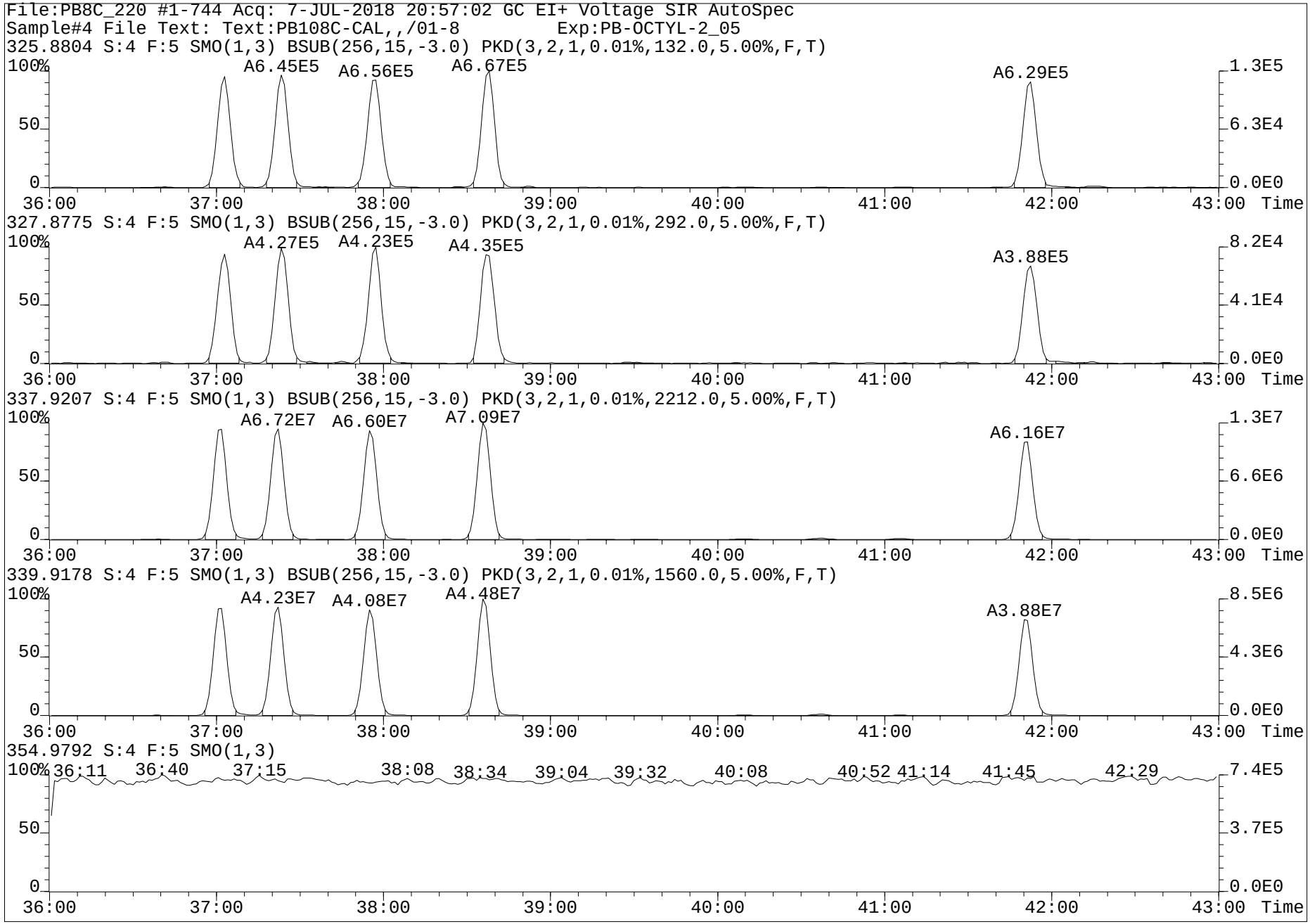

File:PB8C_220 #1-363 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,604.0,5.00%,F,T)
100% A5.59E5
1.4E5
7.1E4
0.0E0
257.9584 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
100% A5.29E5
1.3E5
6.6E4
0.0E0
268.0016 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11916.0,5.00%,F,T)
100% A5.33E7
1.3E7
6.6E6
0.0E0
269.9986 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9248.0,5.00%,F,T)
100% A5.02E7
1.2E7
6.2E6
0.0E0
242.9856 S:4 F:2 SMO(1,3)
100% 16:57 17:11 17:22 17:36 17:50 18:12 18:25 18:44 19:02 19:21 19:36 19:57
2.5E6
1.3E6
0.0E0
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

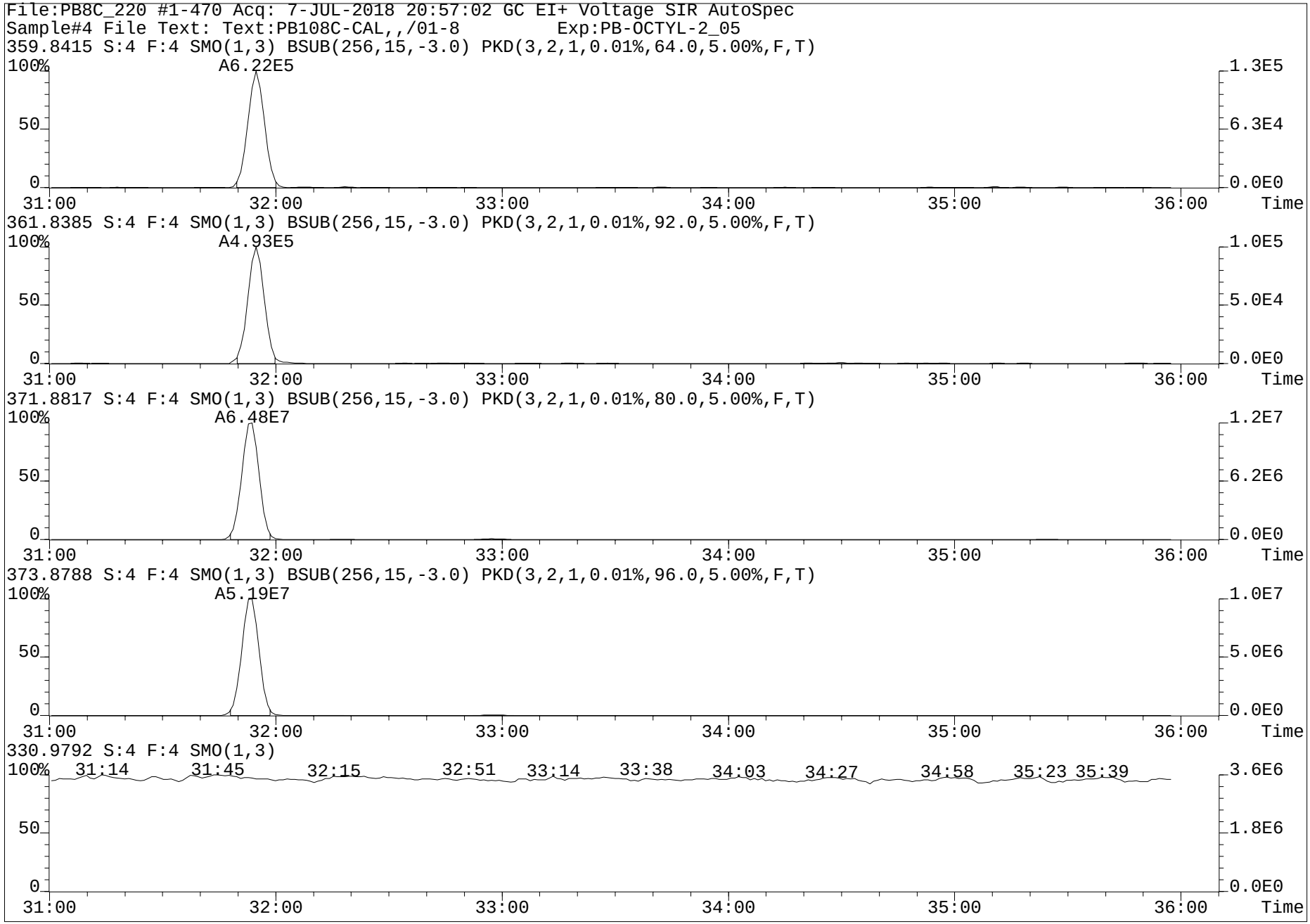

File:PB8C_220 #1-517 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
A7.97E5
A7.91E5
257.9584 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A7.85E5
A7.68E5
268.0016 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16616.0,5.00%,F,T)
A8.86E7
A8.18E7
269.9986 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15452.0,5.00%,F,T)
A8.43E7
A7.78E7
280.9825 S:4 F:3 SMO(1,3)
20:36 21:09 21:35 22:02 22:31 22:54 23:20 24:05 24:33 25:07 25:38 26:05 26:36 27:18
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.8E5
8.9E4
0.0E0
1.7E5
8.7E4
2.0E7
9.9E6
1.9E7
9.5E6
7.3E6
3.6E6

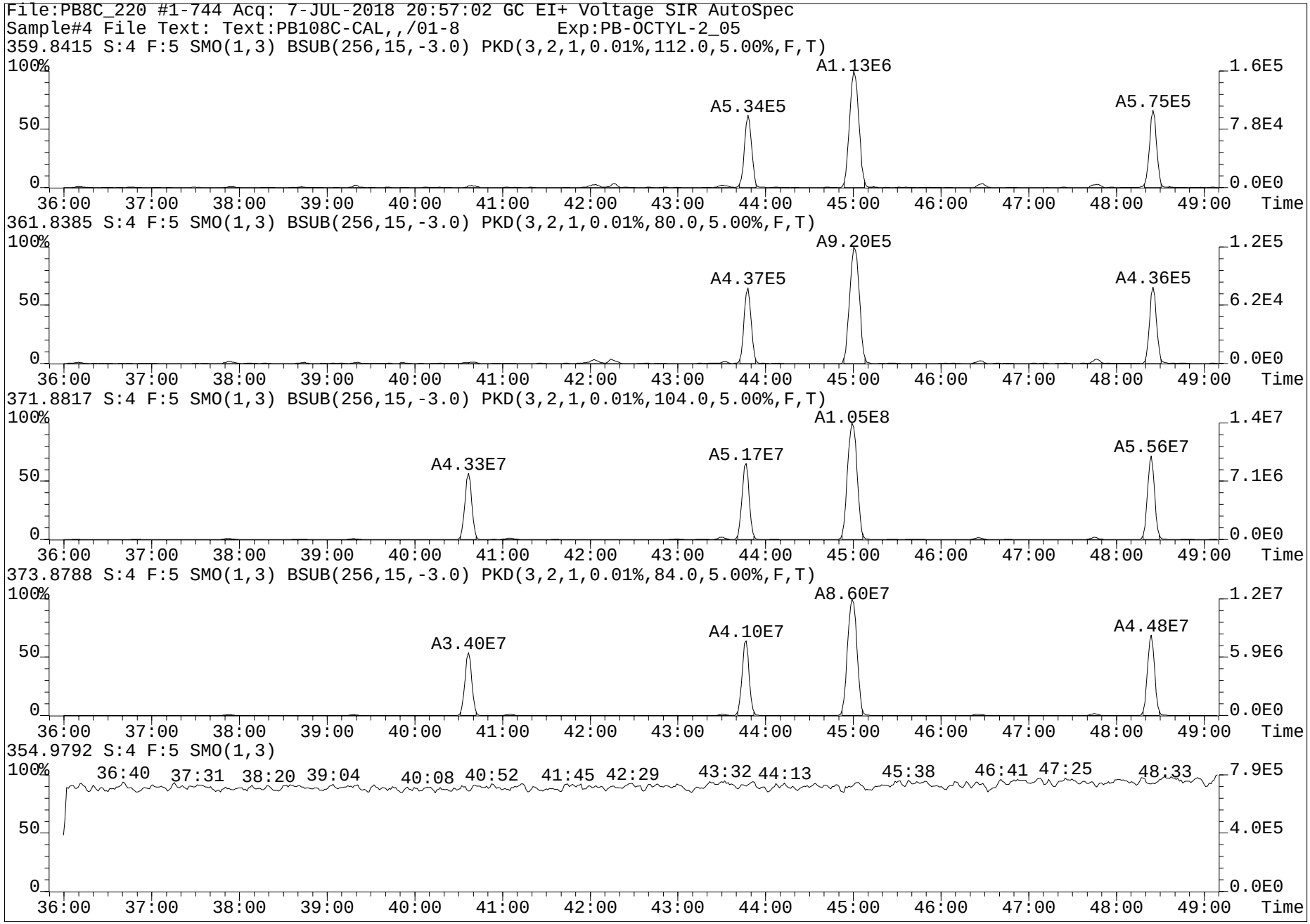

File:PB8C_220 #1-517 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
100% A6.22E5
1.5E5
7.4E4
0.0E0
291.9199 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,528.0,5.00%,F,T)
100% A7.82E5
1.8E5
9.1E4
0.0E0
301.9626 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3308.0,5.00%,F,T)
100%A6.13E7
A4.30E7
1.4E7
7.2E6
0.0E0
303.9597 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2284.0,5.00%,F,T)
100%A7.70E7
A5.52E7
1.8E7
9.0E6
0.0E0
280.9825 S:4 F:3 SMO(1,3)
100%
20:36 21:09 21:35 22:02 22:31 22:54 23:20 24:05 24:33 25:07 25:38 26:05 26:36 27:18
7.3E6
3.6E6
0.0E0
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

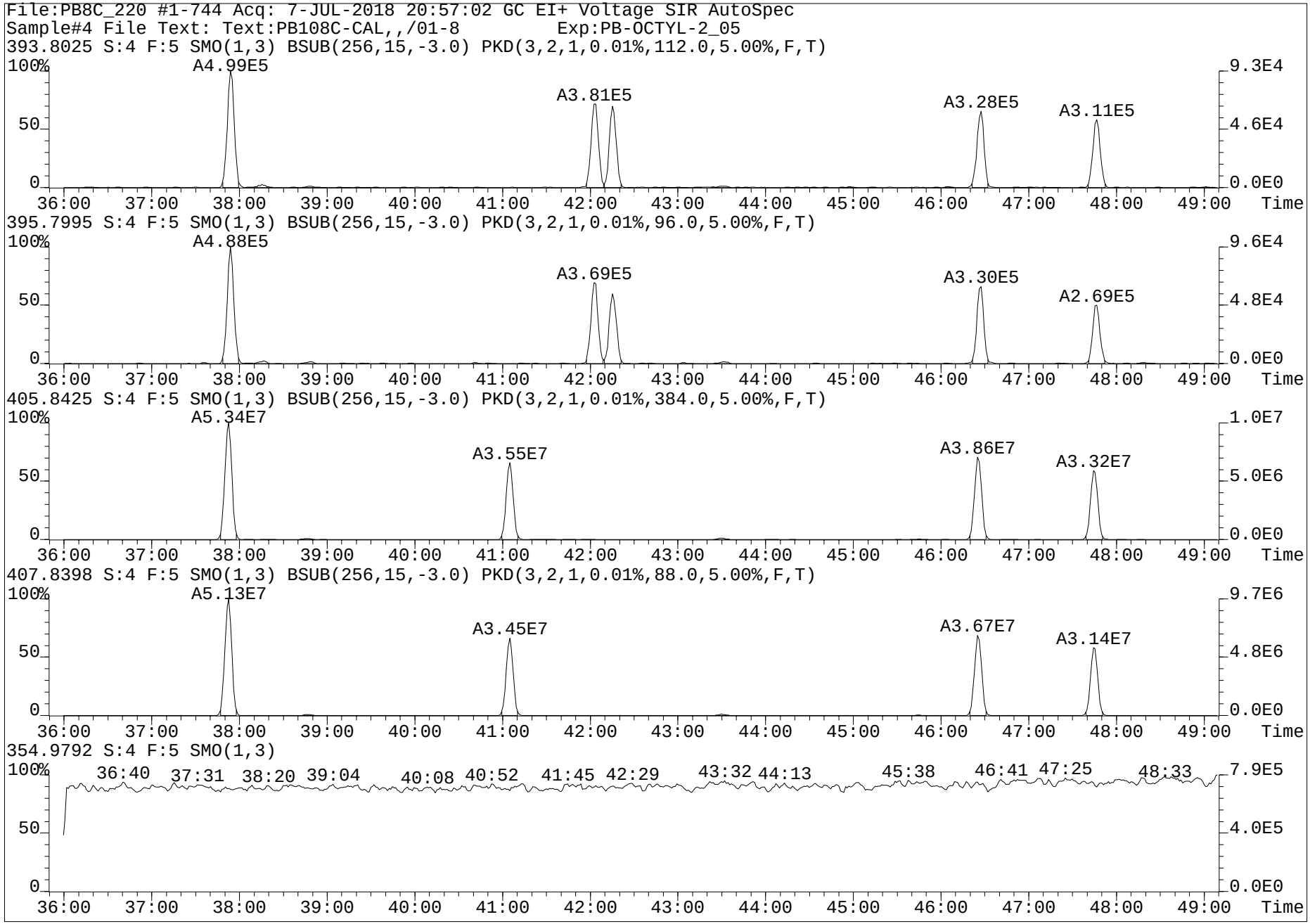

File:PB8C_220 #1-470 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,276.0,5.00%,F,T)
A5.09E5 A5.35E5
291.9194 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,700.0,5.00%,F,T)
A6.38E5 A6.86E5
301.9626 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4764.0,5.00%,F,T)
A4.99E7 A5.22E7
303.9597 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1856.0,5.00%,F,T)
A6.96E7 A6.89E7
330.9792 S:4 F:4 SMO(1,3)
28:10 28:38 29:08 29:45 30:40 31:14 31:45 32:15 32:45 33:14 34:03 34:45 35:23 35:54
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
1.0E5
5.1E4
0.0E0
1.4E5
6.9E4
1.0E7
5.0E6
1.3E7
6.7E6
3.8E6
1.9E6

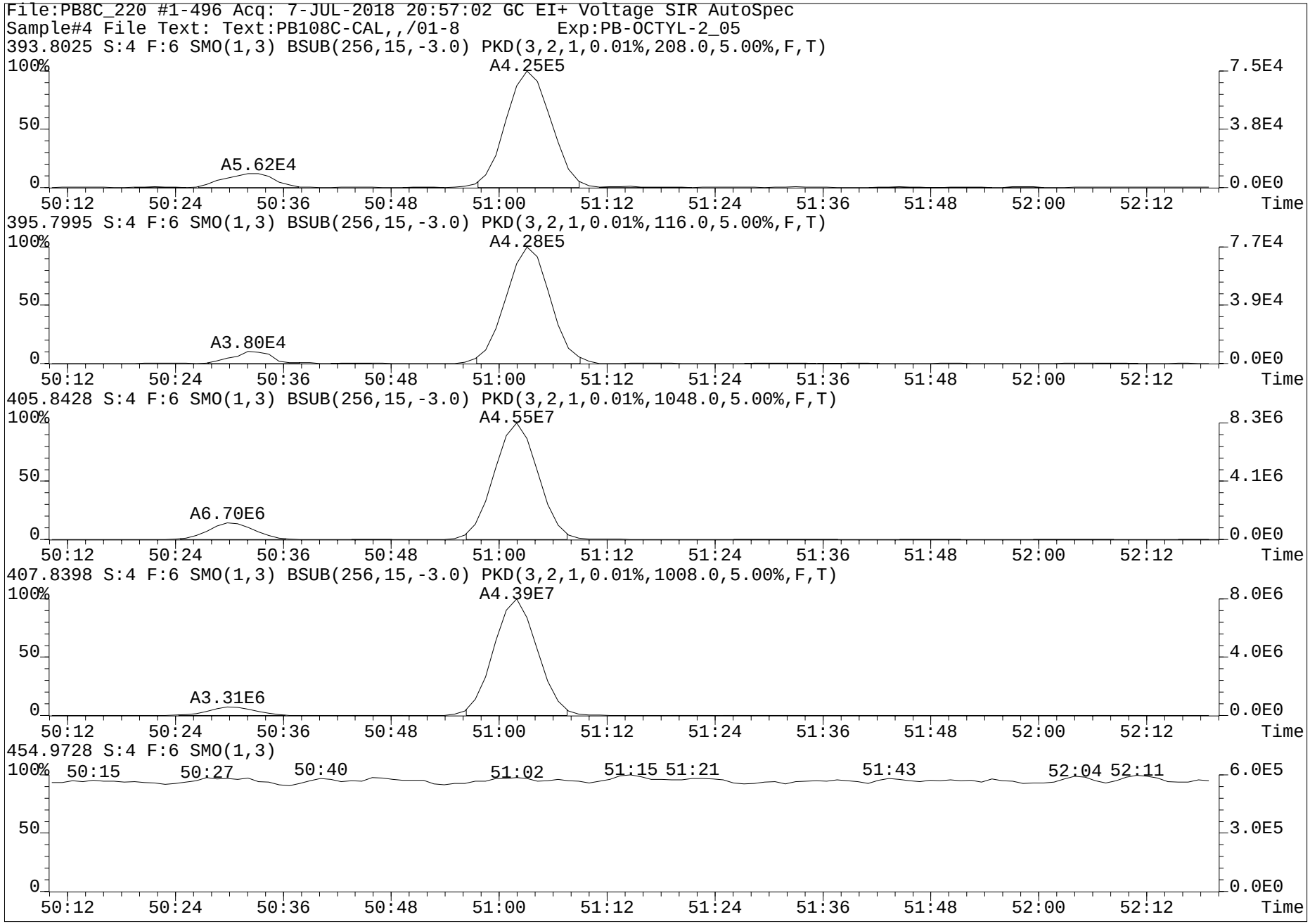

File:PB8C_220 #1-517 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A7.20E5
1.5E5
7.4E4
0.0E0
327.8775 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,148.0,5.00%,F,T)
A4.28E5
9.1E4
4.5E4
0.0E0
337.9207 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A6.65E7
1.4E7
7.1E6
0.0E0
339.9178 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.28E7
9.1E6
4.5E6
0.0E0
280.9825 S:4 F:3 SMO(1,3)
20:36 21:09 21:35 22:02 22:31 22:54 23:20 24:05 24:33 25:07 25:38 26:05 26:36 27:18
7.3E6
3.6E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

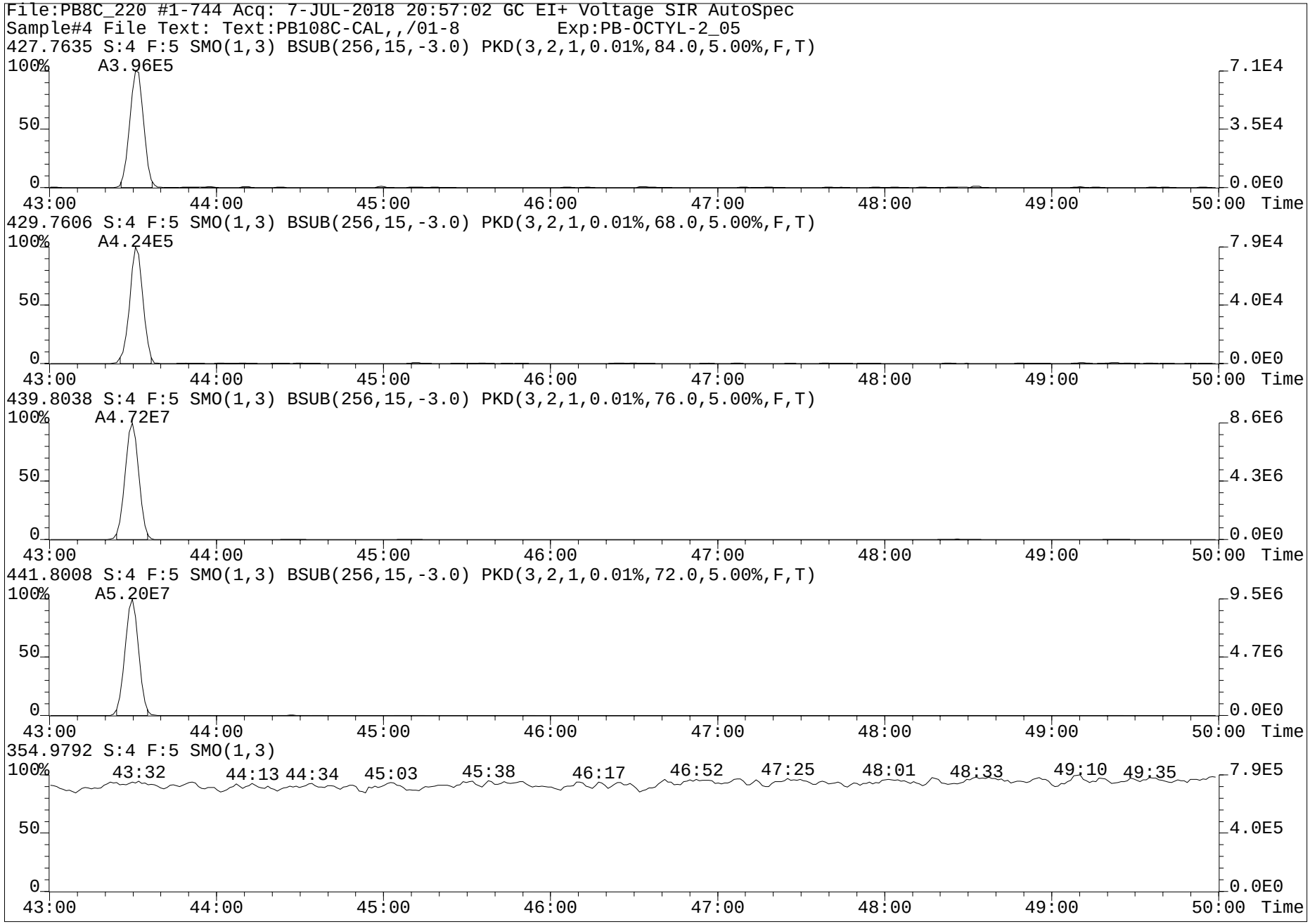

File:PB8C_220 #1-744 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,132.0,5.00%,F,T)
A6.45E5
A6.56E5
A6.67E5
A6.29E5
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A4.27E5
A4.23E5
A4.35E5
A3.88E5
337.9207 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2212.0,5.00%,F,T)
A6.72E7
A6.60E7
A7.09E7
A6.16E7
339.9178 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1560.0,5.00%,F,T)
A4.23E7
A4.08E7
A4.48E7
A3.88E7
354.9792 S:4 F:5 SMO(1,3)
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
1.3E5
6.3E4
0.0E0
8.2E4
4.1E4
1.3E7
6.6E6
8.5E6
4.3E6
7.4E5
3.7E5

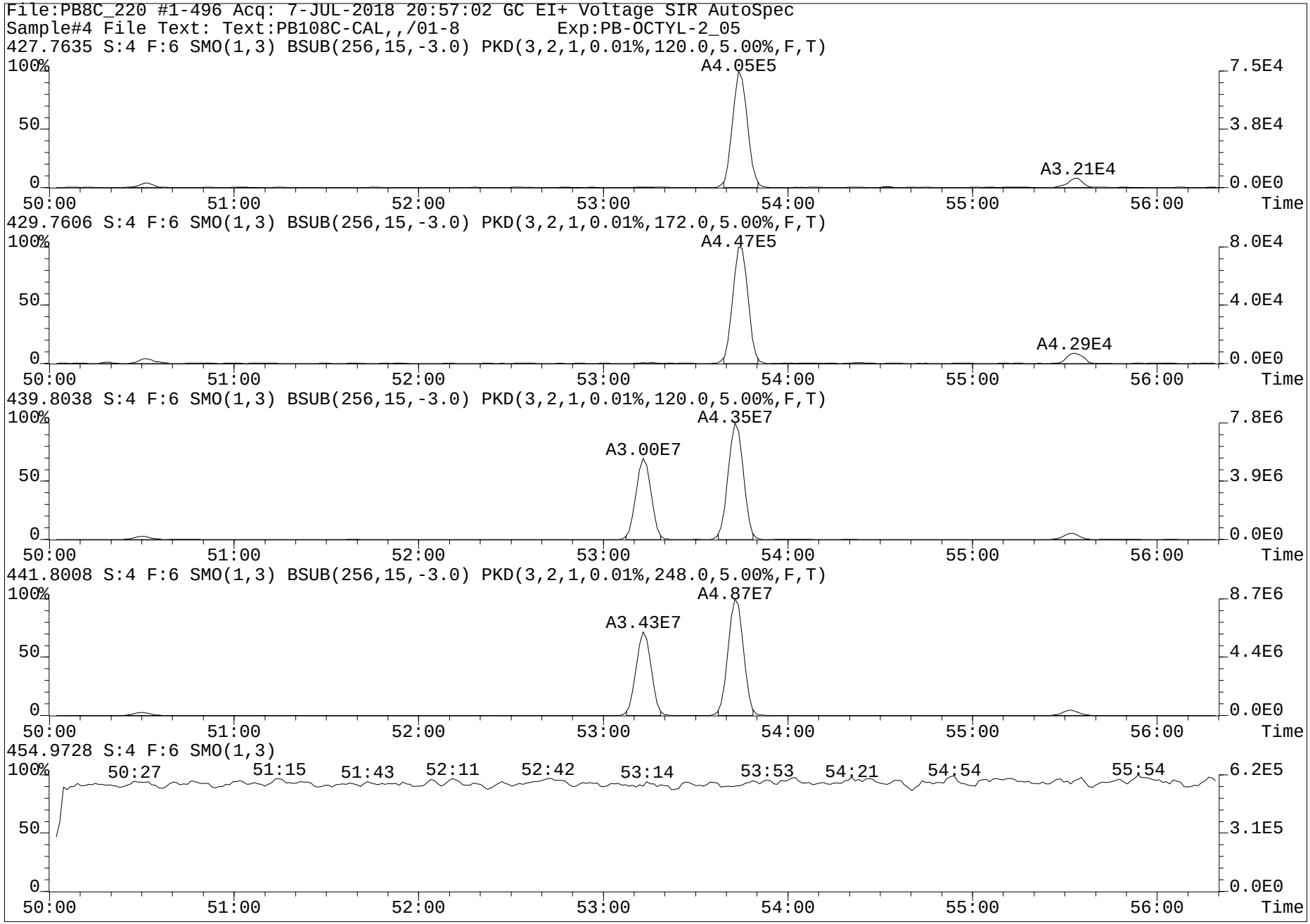

File:PB8C_220 #1-470 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,64.0,5.00%,F,T)
100% A6.22E5
1.3E5
6.3E4
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
361.8385 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
100% A4.93E5
1.0E5
5.0E4
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
371.8817 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
100% A6.48E7
1.2E7
6.2E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
373.8788 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
100% A5.19E7
1.0E7
5.0E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
330.9792 S:4 F:4 SMO(1,3)
100% 31:14 31:45 32:15 32:51 33:14 33:38 34:03 34:27 34:58 35:23 35:39
3.6E6
1.8E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time

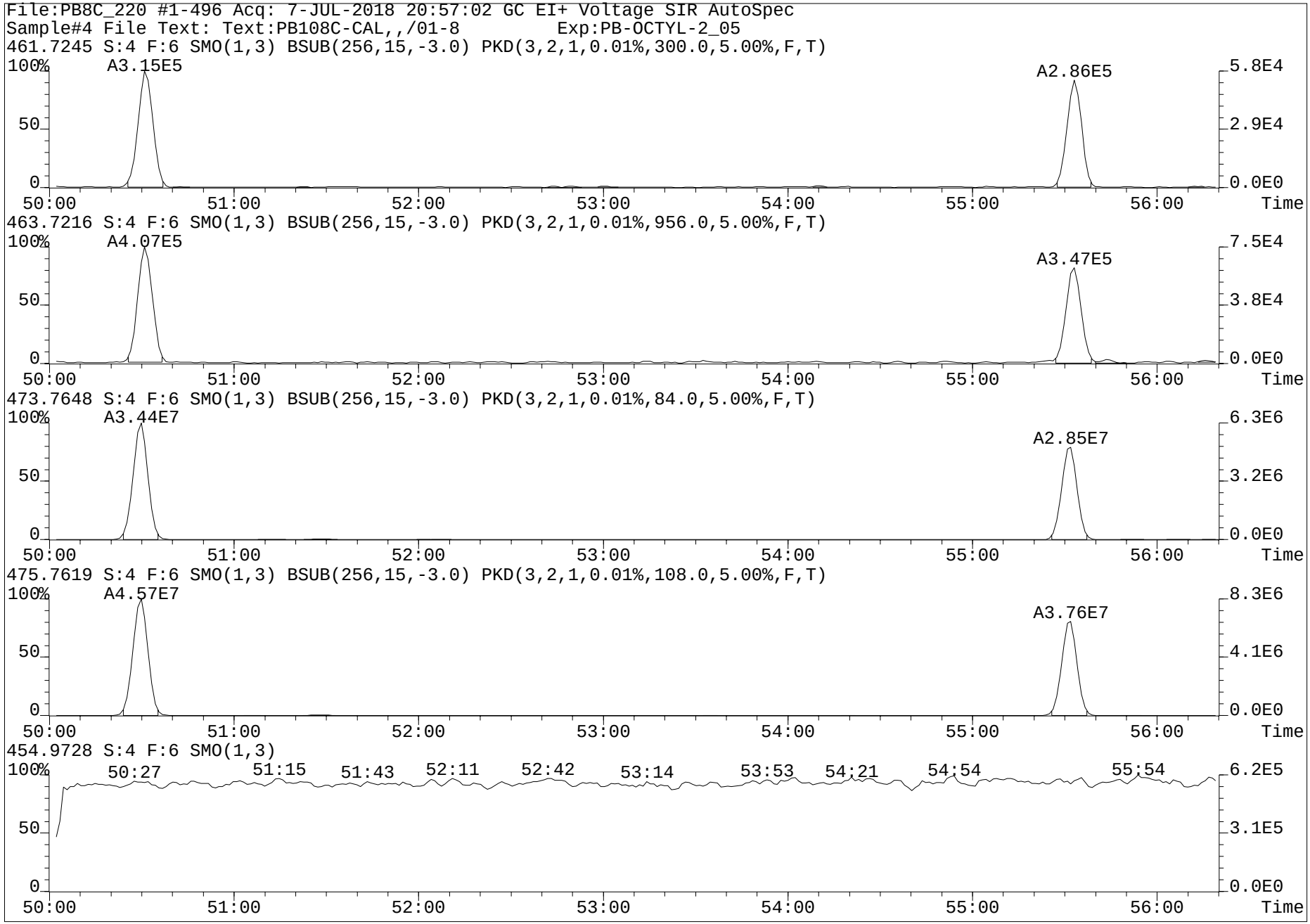

File:PB8C_220 #1-744 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A5.34E5
A1.13E6
A5.75E5
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A4.37E5
A9.20E5
A4.36E5
371.8817 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A4.33E7
A5.17E7
A1.05E8
A5.56E7
373.8788 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.40E7
A4.10E7
A8.60E7
A4.48E7
354.9792 S:4 F:5 SMO(1,3)
36:40 37:31 38:20 39:04 40:08 40:52 41:45 42:29 43:32 44:13 45:38 46:41 47:25 48:33
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
1.6E5
7.8E4
0.0E0
1.2E5
6.2E4
1.4E7
7.1E6
1.2E7
5.9E6
7.9E5
4.0E5

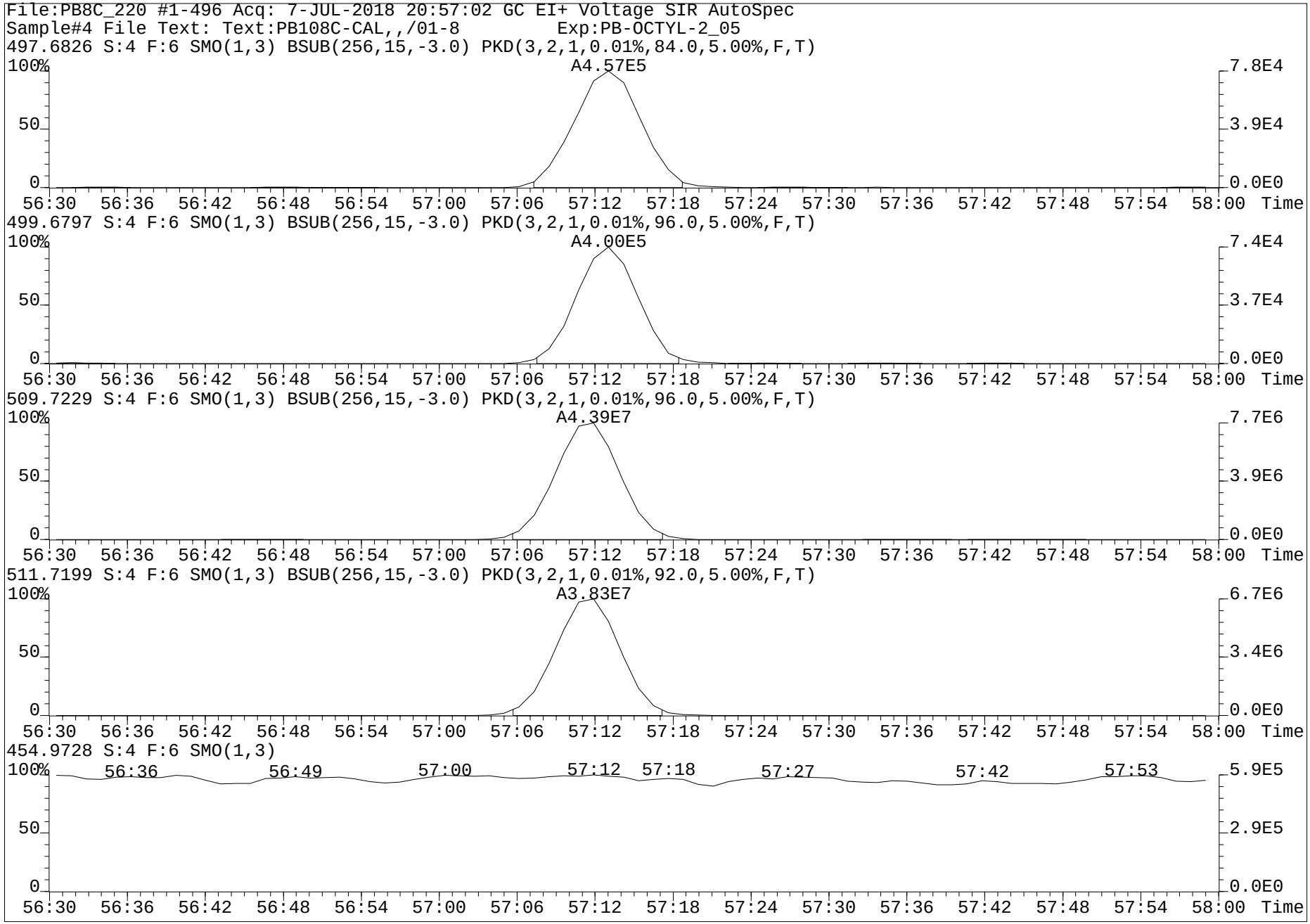

File:PB8C_220 #1-744 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A4.99E5
A3.81E5
A3.28E5
A3.11E5
9.3E4
4.6E4
0.0E0
395.7995 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.88E5
A3.69E5
A3.30E5
A2.69E5
9.6E4
4.8E4
0.0E0
405.8425 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A5.34E7
A3.55E7
A3.86E7
A3.32E7
1.0E7
5.0E6
0.0E0
407.8398 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A5.13E7
A3.45E7
A3.67E7
A3.14E7
9.7E6
4.8E6
0.0E0
354.9792 S:4 F:5 SMO(1,3)
36:40 37:31 38:20 39:04 40:08 40:52 41:45 42:29 43:32 44:13 45:38 46:41 47:25 48:33
7.9E5
4.0E5
0.0E0
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

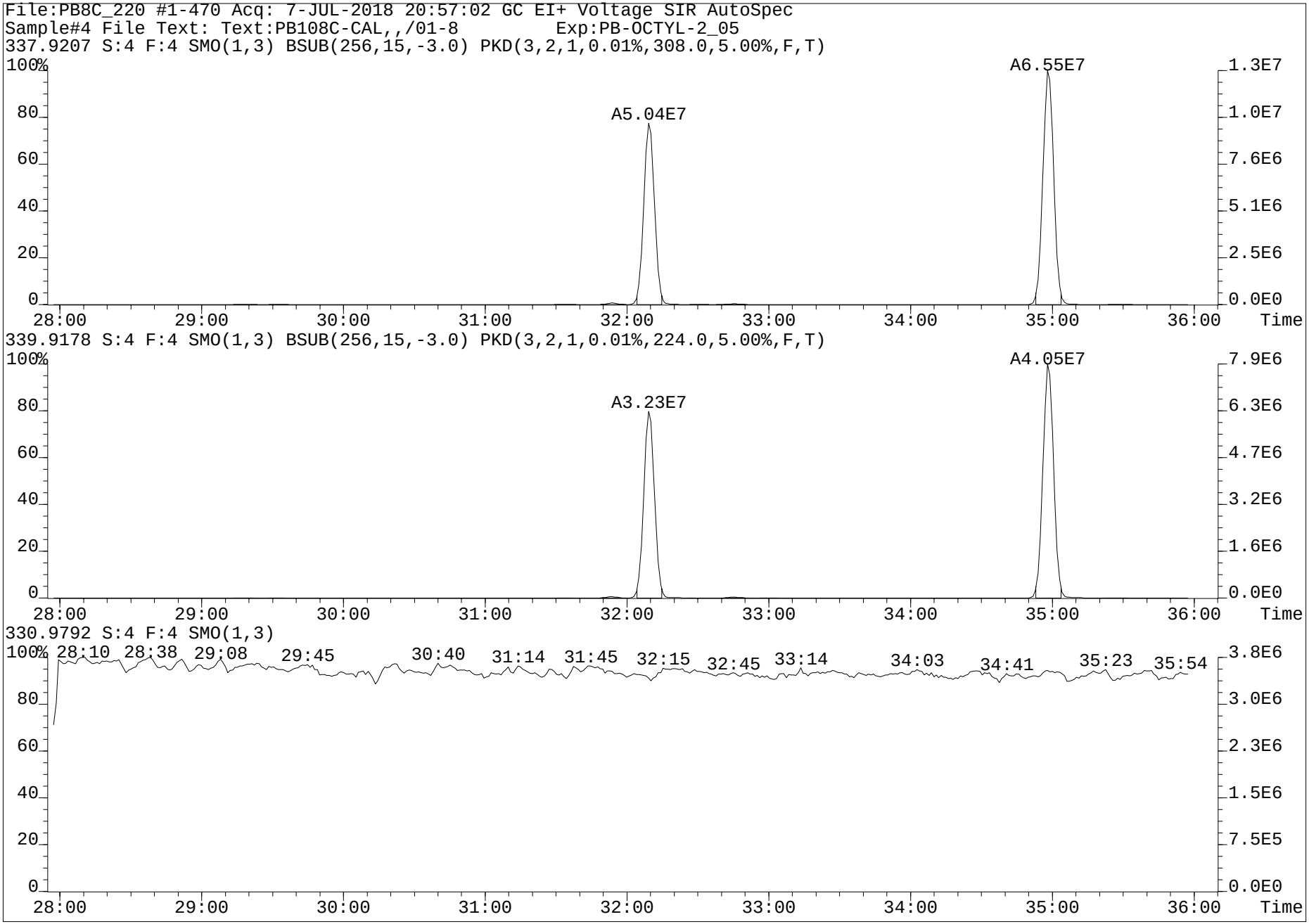

File:PB8C_220 #1-496 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,208.0,5.00%,F,T)
A4.25E5
A5.62E4
395.7995 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,116.0,5.00%,F,T)
A4.28E5
A3.80E4
405.8428 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1048.0,5.00%,F,T)
A4.55E7
A6.70E6
407.8398 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1008.0,5.00%,F,T)
A4.39E7
A3.31E6
454.9728 S:4 F:6 SMO(1,3)
50:15 50:27 50:40 51:02 51:15 51:21 51:43 52:04 52:11
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12 Time


File:PB8C_220 #1-744 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
100% A3.96E5
7.1E4
3.5E4
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,68.0,5.00%,F,T)
100% A4.24E5
7.9E4
4.0E4
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,76.0,5.00%,F,T)
100% A4.72E7
8.6E6
4.3E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,72.0,5.00%,F,T)
100% A5.20E7
9.5E6
4.7E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 S:4 F:5 SMO(1,3)
100% 43:32 44:13 44:34 45:03 45:38 46:17 46:52 47:25 48:01 48:33 49:10 49:35
7.9E5
4.0E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220 #1-496 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
A4.05E5
A3.21E4
429.7606 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,172.0,5.00%,F,T)
A4.47E5
A4.29E4
439.8038 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
A4.35E7
A3.00E7
441.8008 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,248.0,5.00%,F,T)
A4.87E7
A3.43E7
454.9728 S:4 F:6 SMO(1,3)
50:27
51:15
51:43
52:11
52:42
53:14
53:53
54:21
54:54
55:54
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
7.5E4
3.8E4
0.0E0
8.0E4
4.0E4
7.8E6
3.9E6
8.7E6
4.4E6
6.2E5
3.1E5


File:PB8C_220 #1-496 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
461.7245 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A3.15E5
A2.86E5
463.7216 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,956.0,5.00%,F,T)
A4.07E5
A3.47E5
473.7648 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.44E7
A2.85E7
475.7619 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A4.57E7
A3.76E7
454.9728 S:4 F:6 SMO(1,3)
50:27
51:15
51:43
52:11
52:42
53:14
53:53
54:21
54:54
55:54
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
5.8E4
2.9E4
0.0E0
7.5E4
3.8E4
6.3E6
3.2E6
8.3E6
4.1E6
6.2E5
3.1E5


File:PB8C_220 #1-496 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
497.6826 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A4.57E5
7.8E4
3.9E4
0.0E0
499.6797 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.00E5
7.4E4
3.7E4
0.0E0
509.7229 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.39E7
7.7E6
3.9E6
0.0E0
511.7199 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A3.83E7
6.7E6
3.4E6
0.0E0
454.9728 S:4 F:6 SMO(1,3)
56:36
56:49
57:00
57:12
57:18
57:27
57:42
57:53
5.9E5
2.9E5
0.0E0
100%
50
0
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

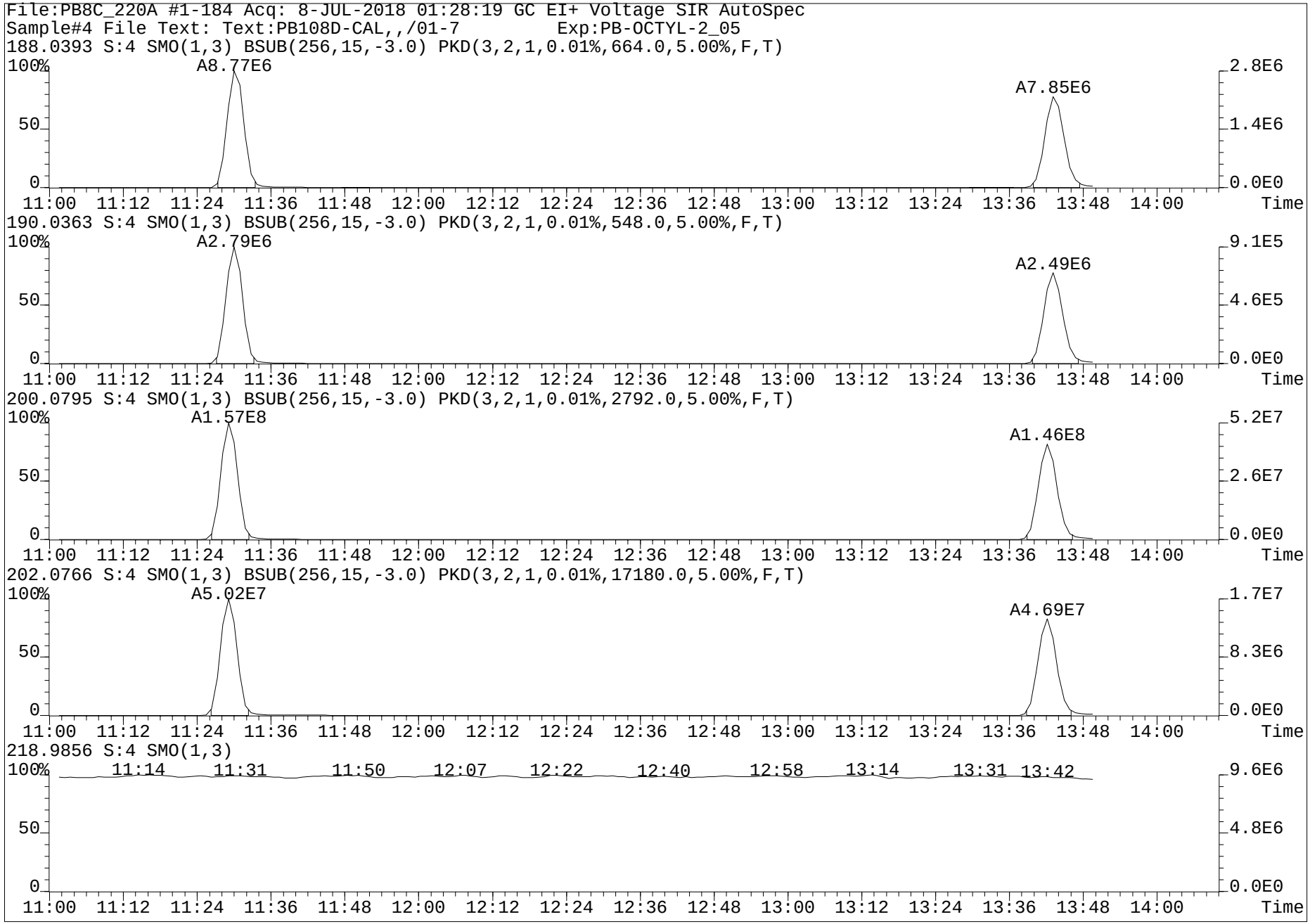

File:PB8C_220 #1-470 Acq: 7-JUL-2018 20:57:02 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108C-CAL,,/01-8 Exp:PB-OCTYL-2_05
337.9207 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A5.04E7
A6.55E7
339.9178 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,224.0,5.00%,F,T)
A3.23E7
A4.05E7
330.9792 S:4 F:4 SMO(1,3)
28:10 28:38 29:08 29:45 30:40 31:14 31:45 32:15 32:45 33:14 34:03 34:41 35:23 35:54
Time

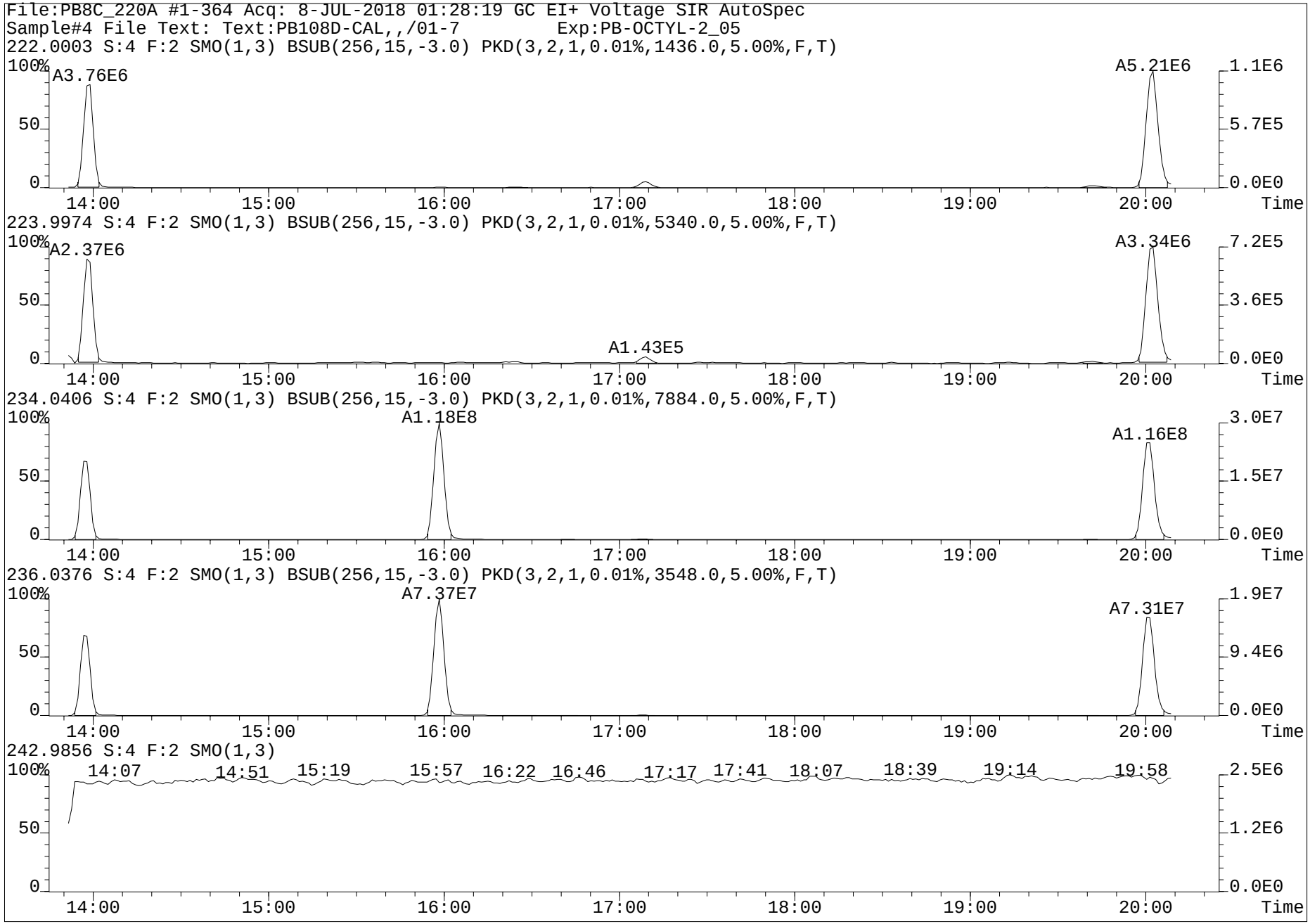
Run #3 Filename PB8C_220A S: 4 I: 1 Acquired: 8-JUL-18 01:28:19 Processed: 9-JUL-18 08:10:02
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB10CD-CAL,,/01-7 Comments: 1,,1.0uL CS-2 F1: 5.00 F2: 1.00

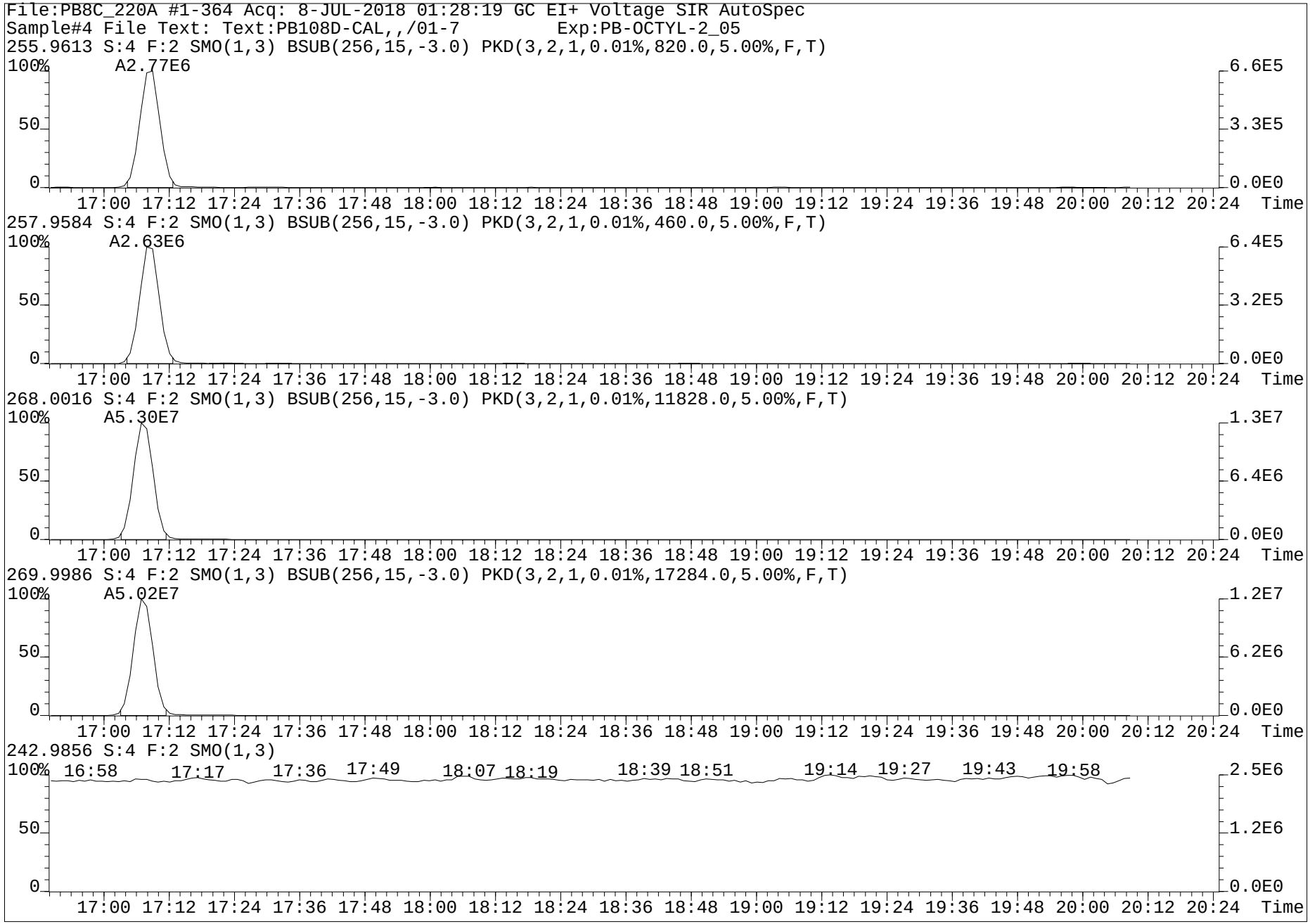
	Typ	Name	Amount	Resp	RA		RT	RF	RRF		Modified?
1	Unk	CL1-PCB-1	5.00	1.16e+07	3.15	y	11:30	-	1.1126	y	n
2	Unk	CL1-PCB-3	5.00	1.03e+07	3.15	y	13:43	-	1.0738	y	n
3	Unk	CL2-PCB-4	5.00	6.13e+06	1.58	y	13:58	-	0.9783	y	n
4	Unk	CL2-PCB-15	5.00	8.55e+06	1.56	y	20:02	-	0.9047	y	n
5	Unk	CL3-PCB-19	5.00	5.40e+06	1.05	y	17:08	-	1.0471	y	n
6	Unk	CL3-PCB-37	5.00	7.27e+06	1.03	y	27:20	-	1.0035	y	n
7	Unk	CL4-PCB-54	5.00	7.14e+06	0.76	y	20:19	-	1.0551	y	n
8	Unk	CL4-PCB-81	5.00	5.71e+06	0.78	y	34:22	-	1.0414	y	n
9	Unk	CL4-PCB-77	5.00	5.67e+06	0.77	y	34:58	-	1.0054	y	n
10	Unk	CL5-PCB-104	5.00	6.02e+06	1.56	y	26:00	-	1.0834	y	n
11	Unk	CL5-PCB-123	5.00	4.93e+06	1.60	y	37:02	-	0.9817	y	n
12	Unk	CL5-PCB-118	5.00	5.21e+06	1.59	y	37:23	-	1.0499	y	n
13	Unk	CL5-PCB-114	5.00	5.18e+06	1.60	y	37:56	-	1.0730	y	n
14	Unk	CL5-PCB-105	5.00	5.30e+06	1.53	y	38:37	-	1.0365	y	n
15	Unk	CL5-PCB-126	5.00	4.67e+06	1.53	y	41:52	-	1.0596	y	n
16	Unk	CL6-PCB-155	5.00	5.62e+06	1.24	y	31:55	-	0.9808	y	n
17	Unk	CL6-PCB-167	5.00	4.82e+06	1.22	y	43:48	-	1.1359	y	n
18	Unk	CL6-PCB-156/157	10.00	9.72e+06	1.25	y	45:01	-	1.1196	y	n
19	Unk	CL6-PCB-169	5.00	4.67e+06	1.23	y	48:25	-	1.0612	y	n
20	Unk	CL7-PCB-188	5.00	4.82e+06	1.02	y	37:54	-	0.9570	y	n
21	Unk	CL7-PCB-189	5.00	4.41e+06	1.07	y	51:03	-	1.0881	y	n
22	Unk	CL8-PCB-202	5.00	4.25e+06	0.39	y	43:31	-	0.9592	y	n
23	Unk	CL8-PCB-205	5.00	4.12e+06	0.91	y	53:44	-	1.0047	y	n
24	Unk	CL9-PCB-208	5.00	3.47e+06	0.79	y	50:31	-	0.9428	y	n
25	Unk	CL9-PCB-206	5.00	3.00e+06	0.79	y	55:33	-	1.0020	y	n
26	Unk	CL10-PCB-209	5.00	3.99e+06	1.16	y	57:13	-	1.0699	y	n
27	IS	13C-CL1-PCB-1	100.00	2.08e+08	3.13	y	11:29	-	1.0827	y	n
28	IS	13C-CL1-PCB-3	100.00	1.93e+08	3.11	y	13:42	-	1.0042	y	n
29	IS	13C-CL2-PCB-4	100.00	1.25e+08	1.57	y	13:57	-	0.6532	y	n
30	IS	13C-CL2-PCB-15	100.00	1.89e+08	1.58	y	20:01	-	0.9850	y	n
31	IS	13C-CL3-PCB-19	100.00	1.03e+08	1.06	y	17:07	-	0.5382	y	n
32	IS	13C-CL3-PCB-37	100.00	1.45e+08	1.04	y	27:19	-	1.5215	y	n
33	REF	13C-CL4-CHECK	100.00	1.35e+08	0.80	y	20:18	-	1.4228	y	n
34	IS	13C-CL4-PCB-81	100.00	1.10e+08	0.76	y	34:21	-	1.1523	y	n
35	IS	13C-CL4-PCB-77	100.00	1.13e+08	0.72	y	34:57	-	1.1843	y	n
36	IS	13C-CL5-PCB-104	100.00	1.11e+08	1.55	y	25:58	-	1.3976	y	n
37	IS	13C-CL5-PCB-123	100.00	1.01e+08	1.55	y	37:01	-	1.2640	y	n
38	IS	13C-CL5-PCB-118	100.00	9.93e+07	1.58	y	37:21	-	1.2484	y	n
39	IS	13C-CL5-PCB-114	100.00	9.65e+07	1.60	y	37:55	-	1.2139	y	n
40	IS	13C-CL5-PCB-105	100.00	1.02e+08	1.59	y	38:36	-	1.2857	y	n
41	IS	13C-CL5-PCB-126	100.00	8.81e+07	1.54	y	41:50	-	1.1085	y	n
42	IS	13C-CL6-PCB-155	100.00	1.15e+08	1.27	y	31:53	-	1.5940	y	n
43	IS	13C-CL6-PCB-167	100.00	8.46e+07	1.26	y	43:46	-	1.1807	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.74e+08	1.27	y	44:59	-	1.2091	y	n

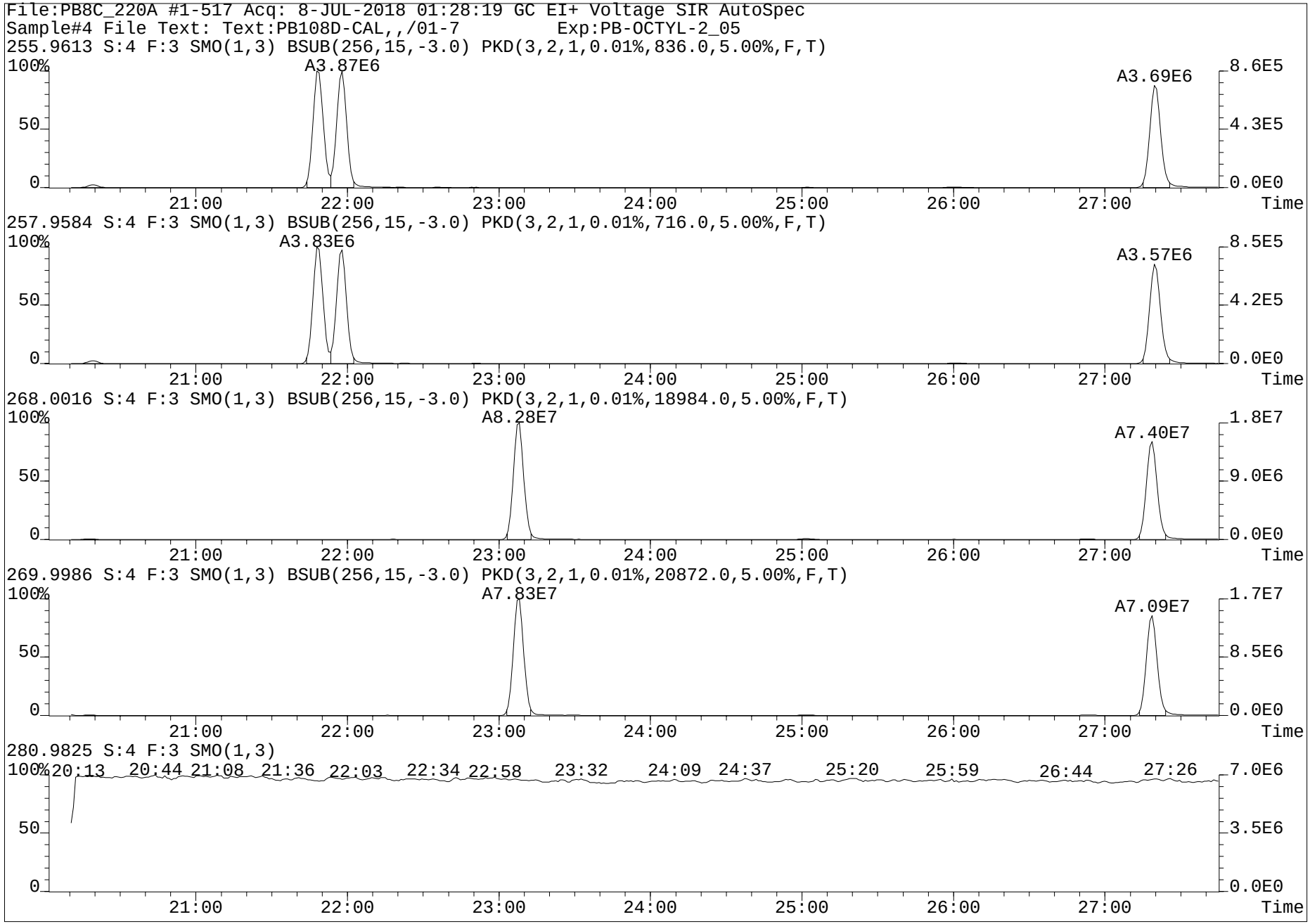
PV by RA 09JUL2018
SVP 9-JUL-18

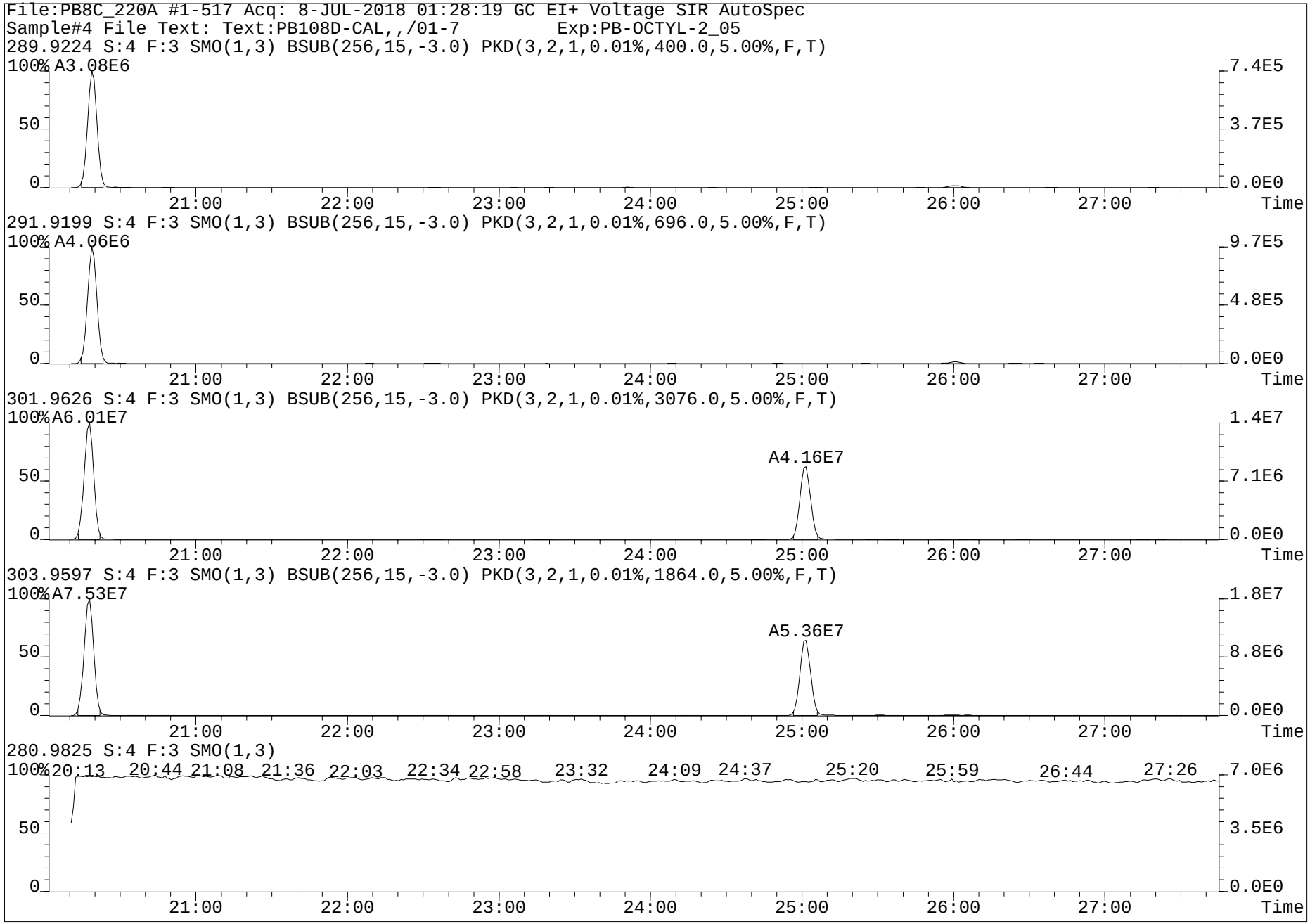
45	IS	13C-CL6-PCB-169	100.00	8.80e+07	1.25	y	48:23	-	1.2258	y	n
46	REF	13C-CL7-CHECK	100.00	1.01e+08	1.06	y	37:52	-	1.7465	y	n
47	IS	13C-CL7-PCB-189	100.00	8.10e+07	1.02	y	51:02	-	1.4040	y	n
48	IS	13C-CL8-PCB-202	100.00	9.88e+07	0.90	y	43:29	-	1.7129	y	n
49	IS	13C-CL8-PCB-205	100.00	8.20e+07	0.87	y	53:43	-	1.4218	y	n
50	IS	13C-CL9-PCB-208	100.00	7.37e+07	0.78	y	50:20	-	1.2775	y	n
51	IS	13C-CL9-PCB-206	100.00	5.99e+07	0.78	y	55:31	-	1.0376	y	n
52	IS	13C-CL10-PCB-209	100.00	7.45e+07	1.19	y	57:11	-	1.2919	y	n
53	RS	13C-CL2-PCB-9	100.00	1.92e+08	1.60	y	15:58	1.92e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	9.52e+07	0.77	y	25:01	9.52e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	7.95e+07	1.61	y	32:09	7.95e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	7.18e+07	1.28	y	40:36	7.18e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	5.77e+07	0.87	y	53:13	5.77e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.61e+08	1.06	y	23:08	-	1.6925	y	n
59	C/Up	13C-CL5-PCB-111	100.00	9.94e+07	1.63	y	34:58	-	1.2493	y	n
60	C/Up	13C-CL7-PCB-178	100.00	6.76e+07	1.03	y	41:04	-	0.9409	y	n
61	IS	13C-CL4-PCB-54	100.00	1.35e+08	0.80	y	20:18	-	1.4228	y	n
62	IS	13C-CL7-PCB-188	100.00	1.01e+08	1.06	y	37:52	-	1.7465	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

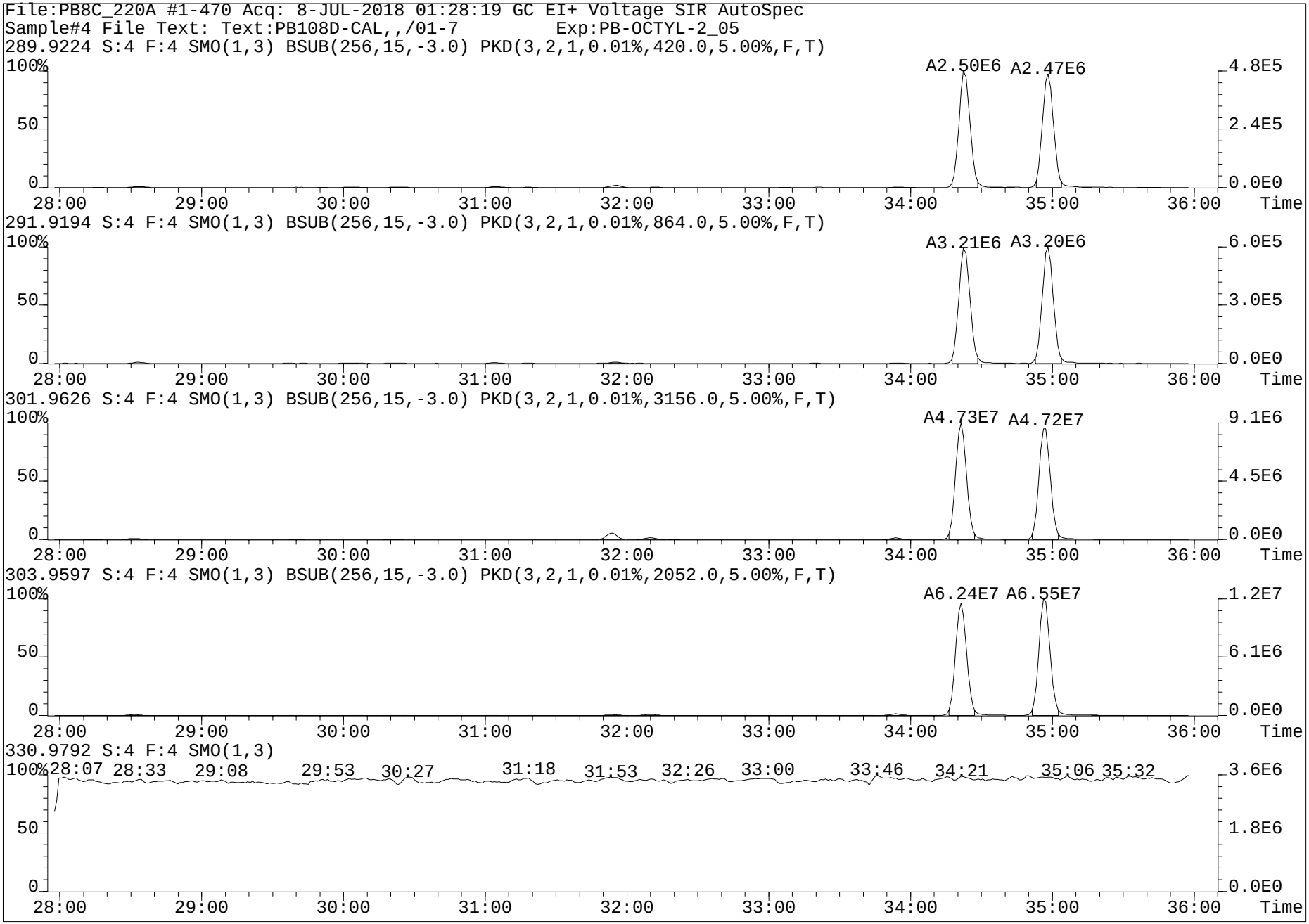

File:PB8C_220A #1-184 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
188.0393 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A8.77E6
A7.85E6
190.0363 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A2.79E6
A2.49E6
200.0795 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2792.0,5.00%,F,T)
A1.57E8
A1.46E8
202.0766 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17180.0,5.00%,F,T)
A5.02E7
A4.69E7
218.9856 S:4 SMO(1,3)
11:14 11:31 11:50 12:07 12:22 12:40 12:58 13:14 13:31 13:42
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

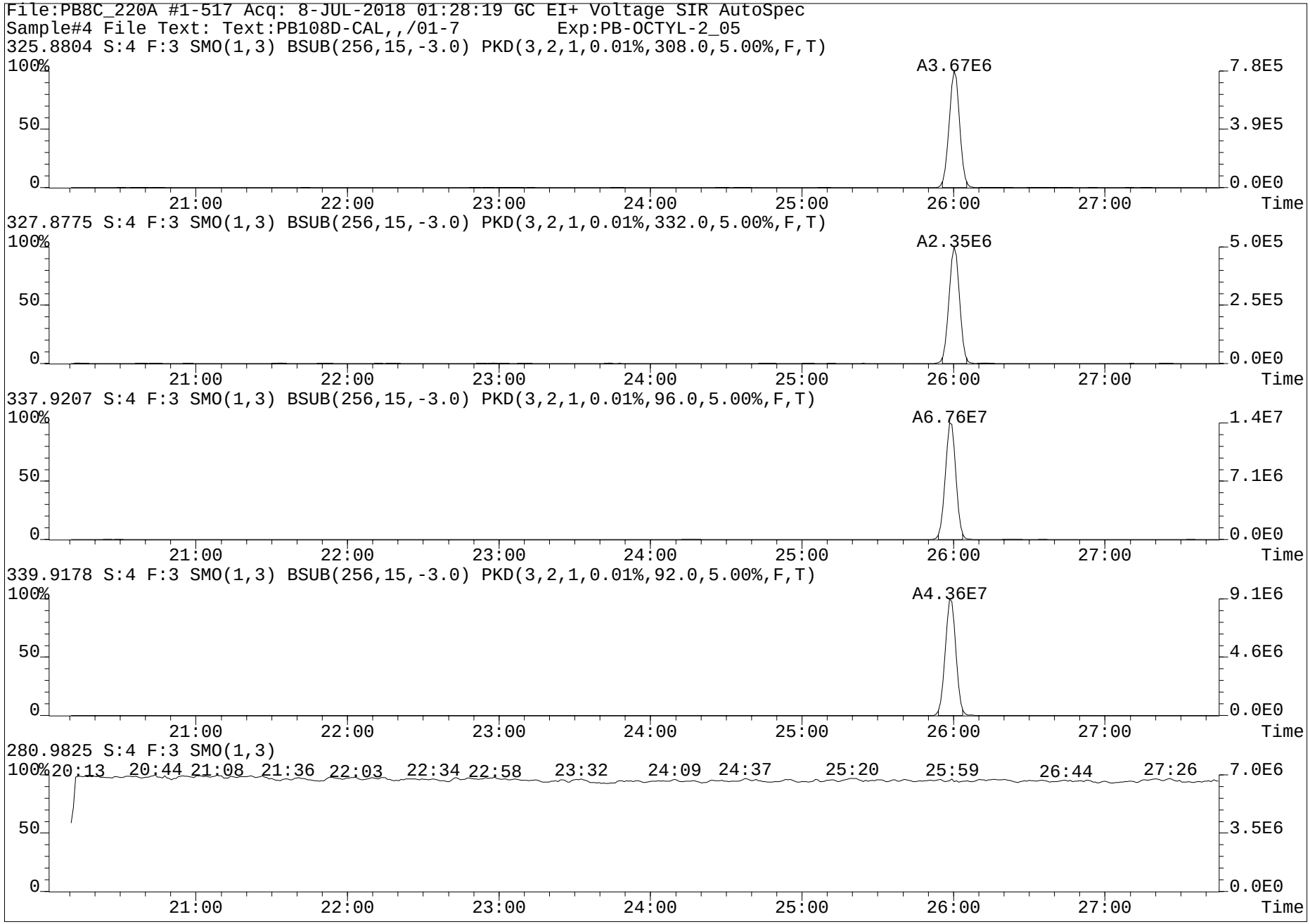

File:PB8C_220A #1-364 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
222.0003 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1436.0,5.00%,F,T)
A3.76E6
A5.21E6
223.9974 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5340.0,5.00%,F,T)
A2.37E6
A3.34E6
A1.43E5
234.0406 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7884.0,5.00%,F,T)
A1.18E8
A1.16E8
236.0376 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3548.0,5.00%,F,T)
A7.37E7
A7.31E7
242.9856 S:4 F:2 SMO(1,3)
14:07 14:51 15:19 15:57 16:22 16:46 17:17 17:41 18:07 18:39 19:14 19:58
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.1E6 5.7E5 0.0E0
7.2E5 3.6E5 0.0E0
3.0E7 1.5E7 0.0E0
1.9E7 9.4E6 0.0E0
2.5E6 1.2E6 0.0E0

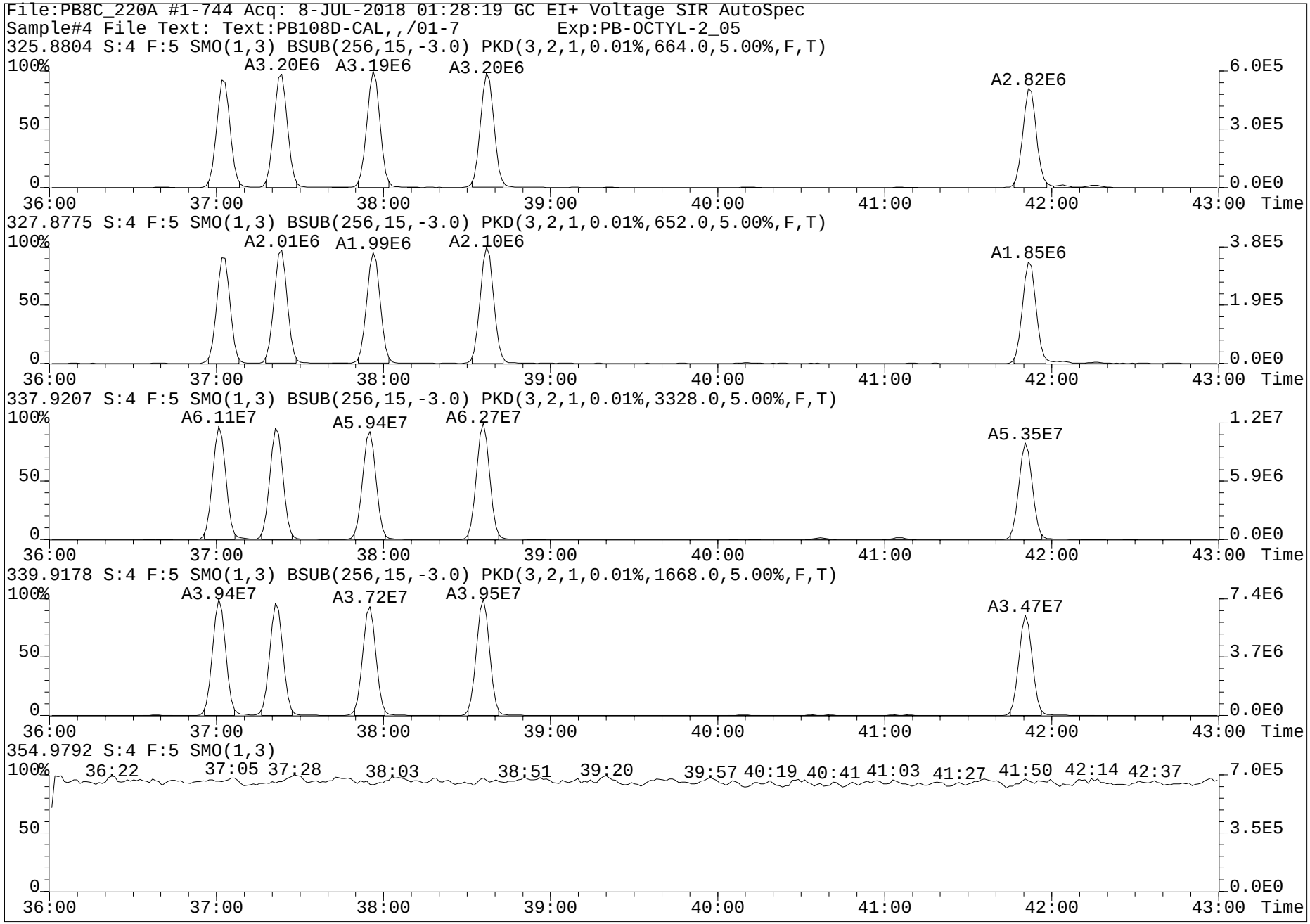

File:PB8C_220A #1-364 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,820.0,5.00%,F,T)
100% A2.77E6
6.6E5
3.3E5
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
257.9584 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,460.0,5.00%,F,T)
100% A2.63E6
6.4E5
3.2E5
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
268.0016 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11828.0,5.00%,F,T)
100% A5.30E7
1.3E7
6.4E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
269.9986 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17284.0,5.00%,F,T)
100% A5.02E7
1.2E7
6.2E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
242.9856 S:4 F:2 SMO(1,3)
100% 16:58 17:17 17:36 17:49 18:07 18:19 18:39 18:51 19:14 19:27 19:43 19:58
2.5E6
1.2E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

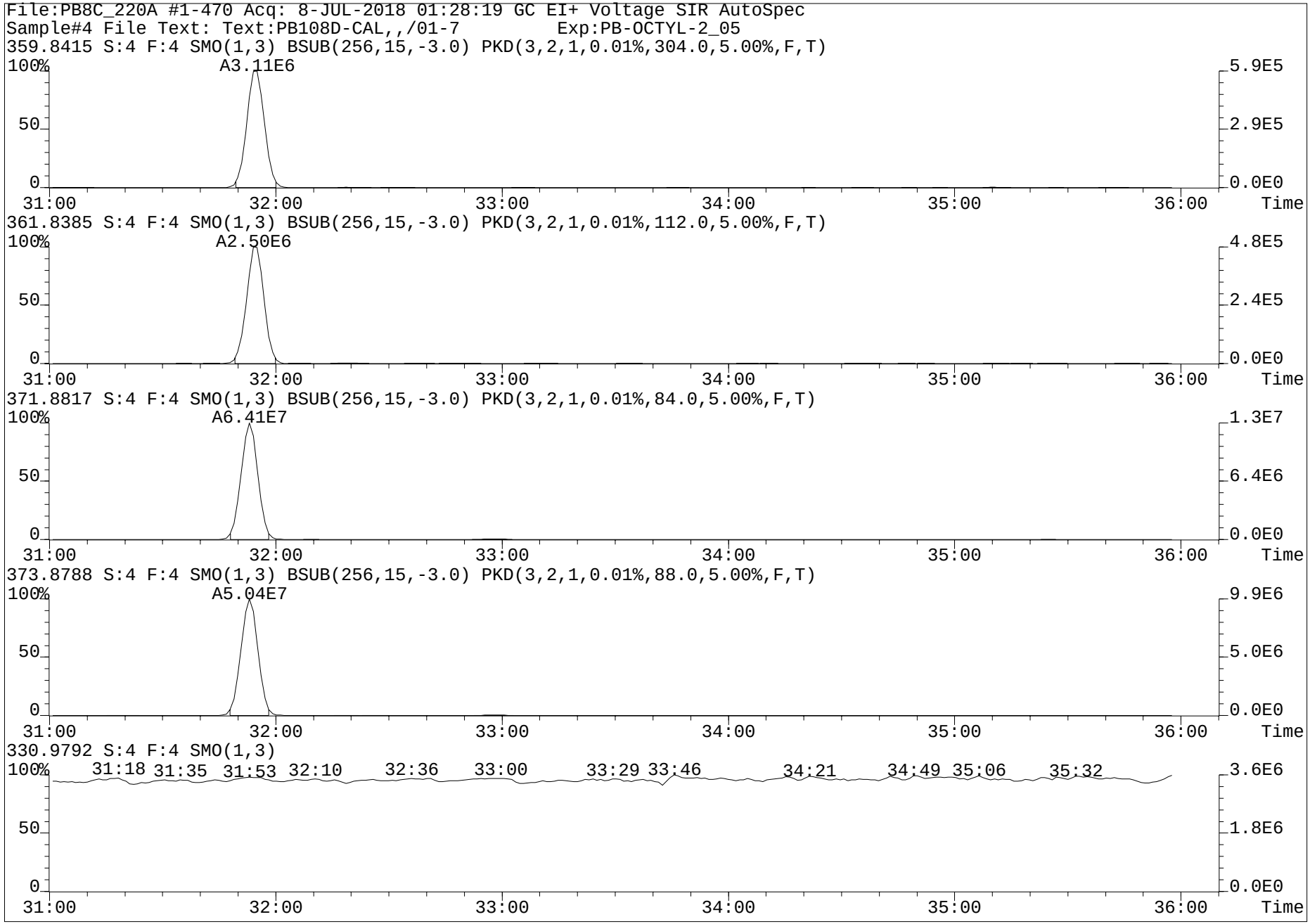

File:PB8C_220A #1-517 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,836.0,5.00%,F,T)
A3.87E6
A3.69E6
257.9584 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,716.0,5.00%,F,T)
A3.83E6
A3.57E6
268.0016 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,18984.0,5.00%,F,T)
A8.28E7
A7.40E7
269.9986 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,20872.0,5.00%,F,T)
A7.83E7
A7.09E7
280.9825 S:4 F:3 SMO(1,3)
20:13 20:44 21:08 21:36 22:03 22:34 22:58 23:32 24:09 24:37 25:20 25:59 26:44 27:26
100%
50
0
8.6E5
4.3E5
0.0E0
8.5E5
4.2E5
1.8E7
9.0E6
1.7E7
8.5E6
7.0E6
3.5E6
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

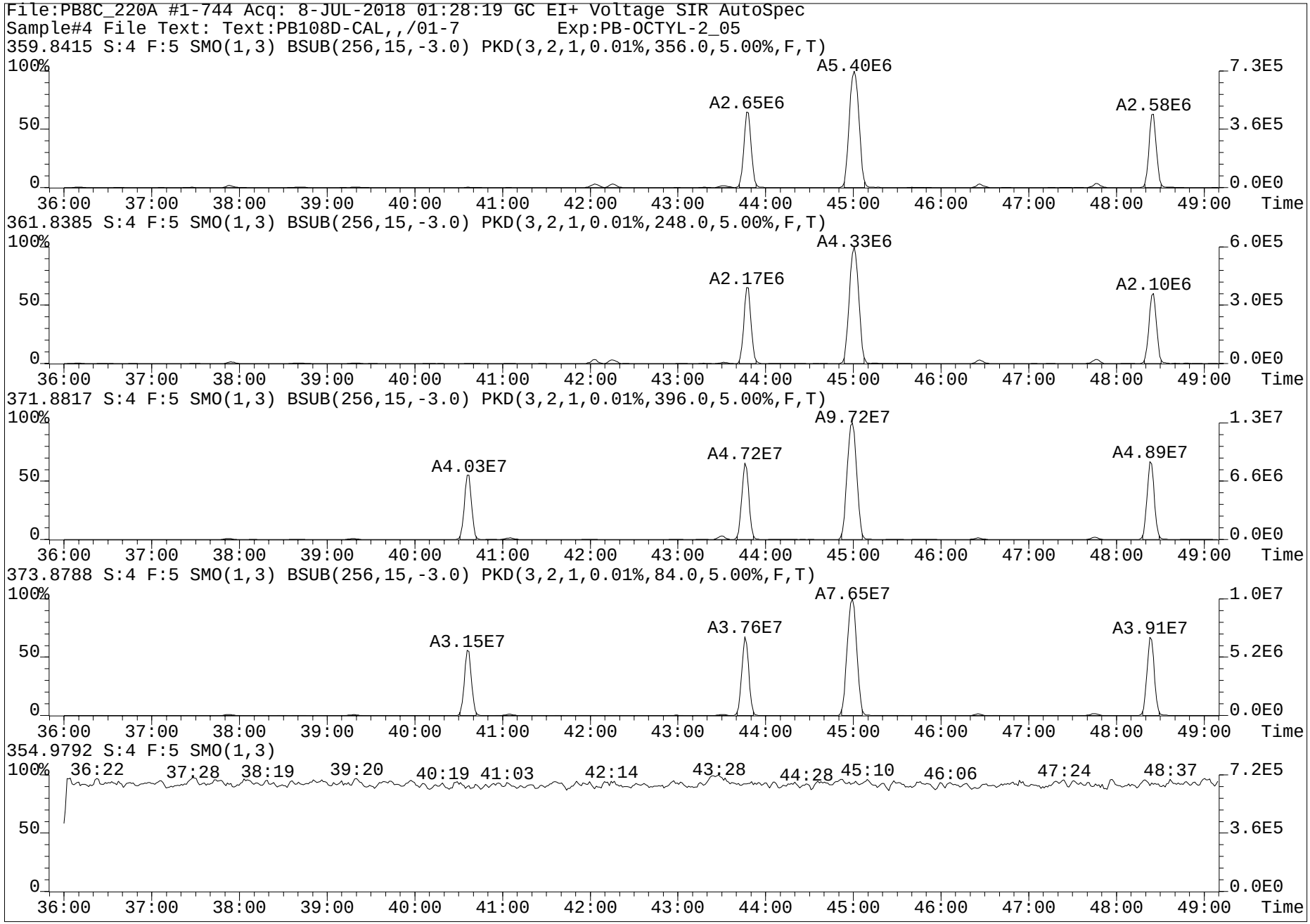

File:PB8C_220A #1-517 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
100% A3.08E6
7.4E5
3.7E5
0.0E0
291.9199 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
100% A4.06E6
9.7E5
4.8E5
0.0E0
301.9626 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3076.0,5.00%,F,T)
100% A6.01E7
A4.16E7
1.4E7
7.1E6
0.0E0
303.9597 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1864.0,5.00%,F,T)
100% A7.53E7
A5.36E7
1.8E7
8.8E6
0.0E0
280.9825 S:4 F:3 SMO(1,3)
100% 20:13 20:44 21:08 21:36 22:03 22:34 22:58 23:32 24:09 24:37 25:20 25:59 26:44 27:26
7.0E6
3.5E6
0.0E0
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

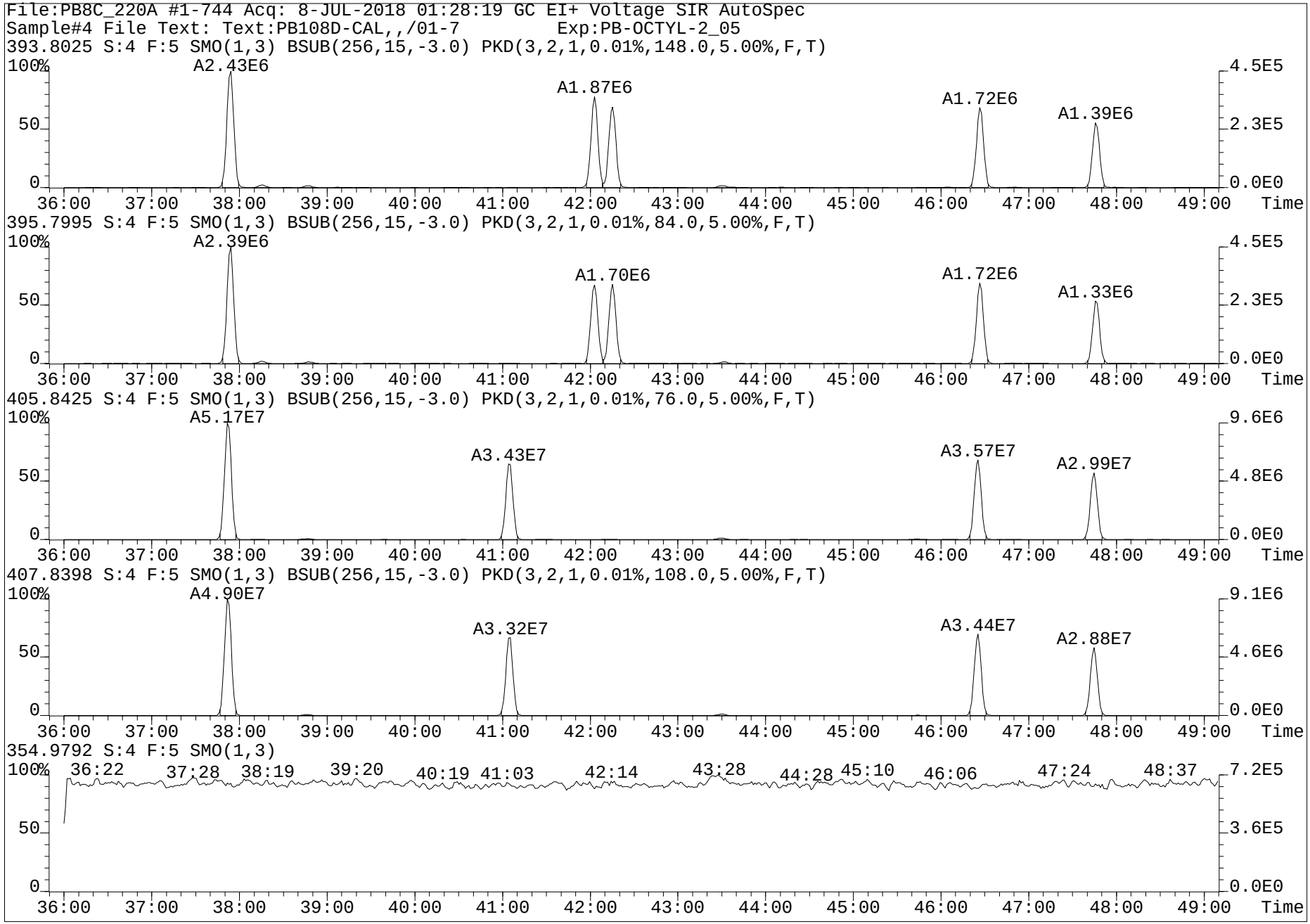

File:PB8C_220A #1-470 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A2.50E6 A2.47E6
291.9194 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,864.0,5.00%,F,T)
A3.21E6 A3.20E6
301.9626 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3156.0,5.00%,F,T)
A4.73E7 A4.72E7
303.9597 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2052.0,5.00%,F,T)
A6.24E7 A6.55E7
330.9792 S:4 F:4 SMO(1,3)
28:07 28:33 29:08 29:53 30:27 31:18 31:53 32:26 33:00 33:46 34:21 35:06 35:32
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
4.8E5 2.4E5 0.0E0
6.0E5 3.0E5 0.0E0
9.1E6 4.5E6 0.0E0
1.2E7 6.1E6 0.0E0
3.6E6 1.8E6 0.0E0

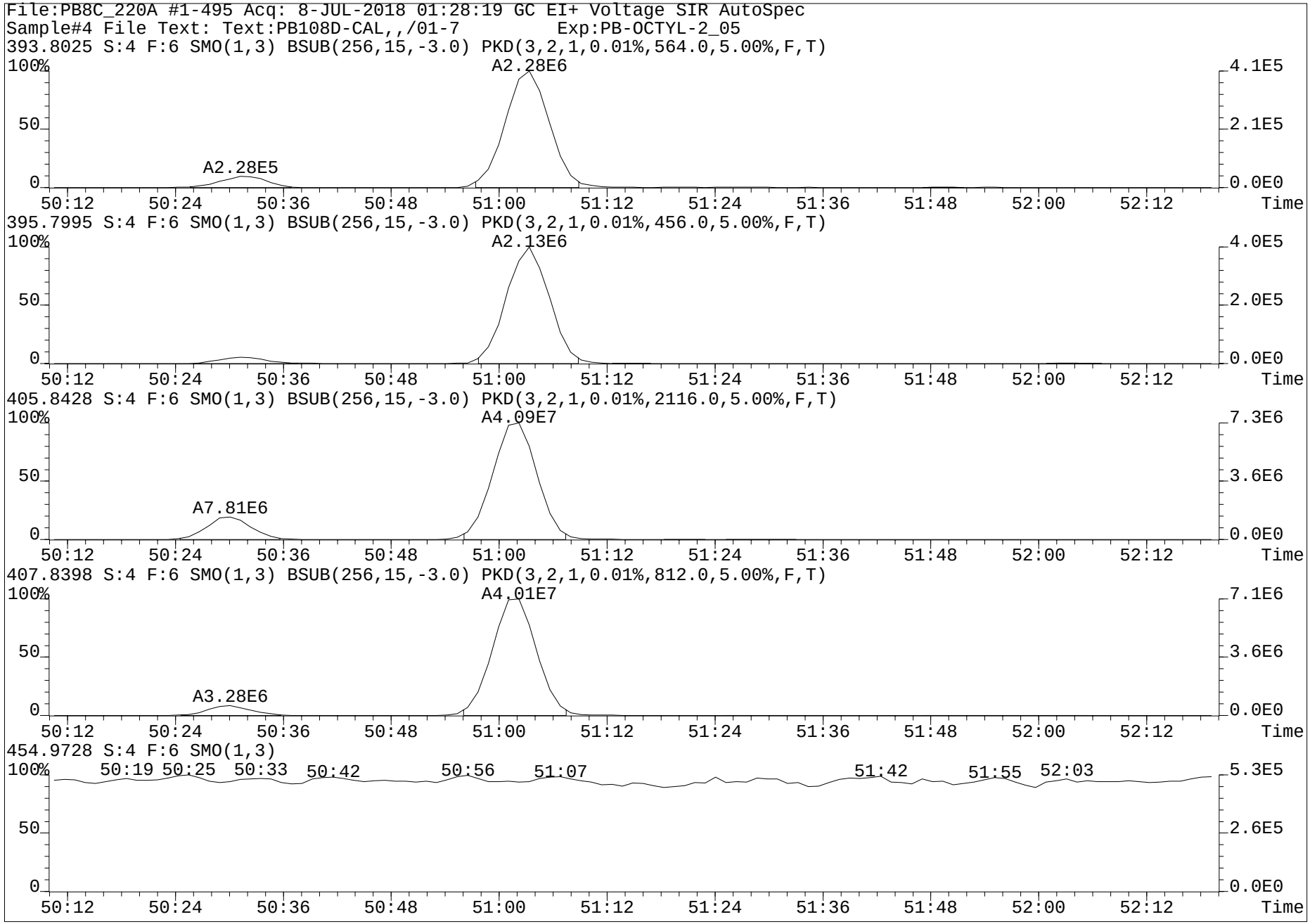

File:PB8C_220A #1-517 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A3.67E6
7.8E5
3.9E5
0.0E0
327.8775 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A2.35E6
5.0E5
2.5E5
0.0E0
337.9207 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A6.76E7
1.4E7
7.1E6
0.0E0
339.9178 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A4.36E7
9.1E6
4.6E6
0.0E0
280.9825 S:4 F:3 SMO(1,3)
20:13 20:44 21:08 21:36 22:03 22:34 22:58 23:32 24:09 24:37 25:20 25:59 26:44 27:26
7.0E6
3.5E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

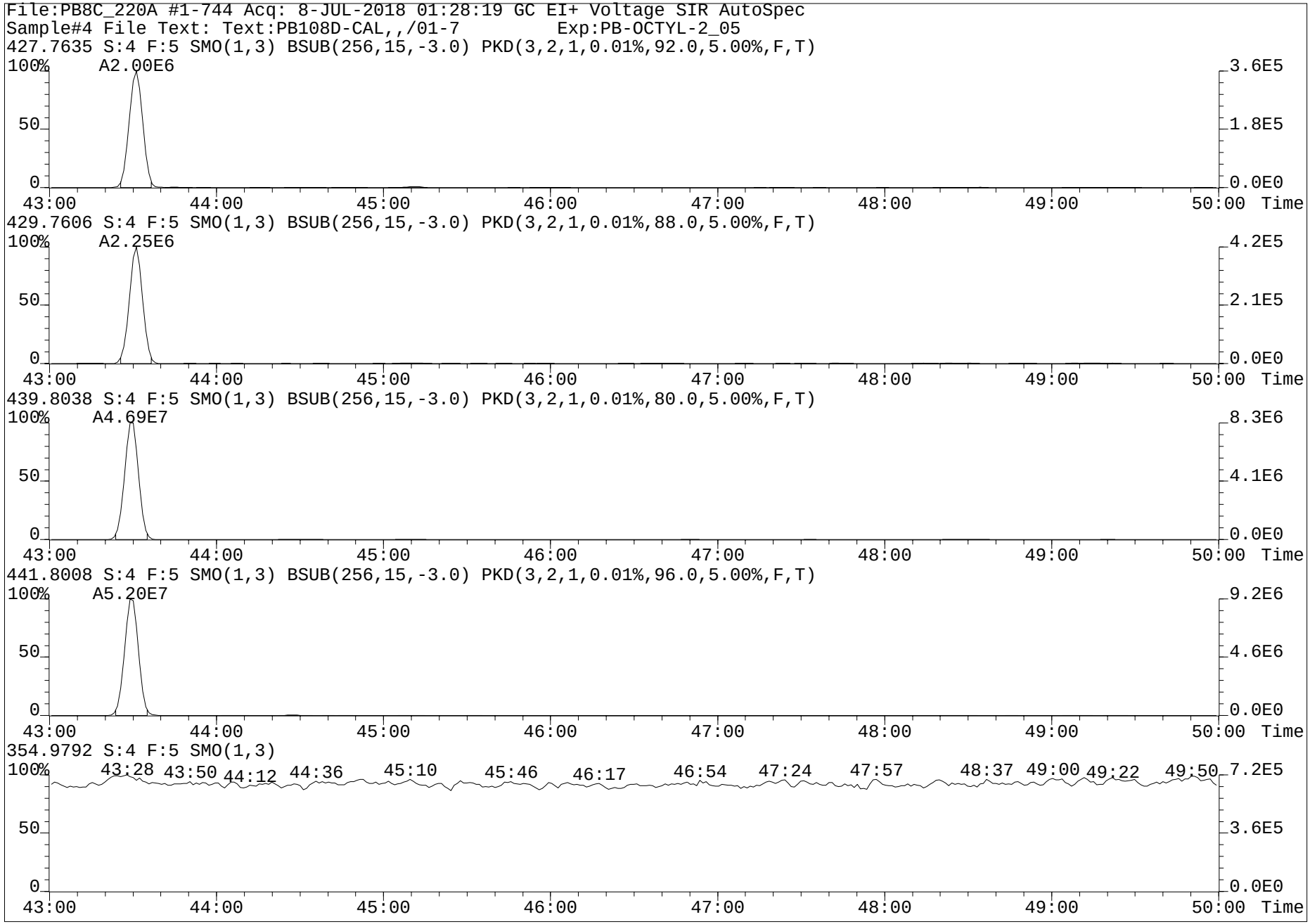

File:PB8C_220A #1-744 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A3.20E6 A3.19E6 A3.20E6 A2.82E6
327.8775 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,652.0,5.00%,F,T)
A2.01E6 A1.99E6 A2.10E6 A1.85E6
337.9207 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3328.0,5.00%,F,T)
A6.11E7 A5.94E7 A6.27E7 A5.35E7
339.9178 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1668.0,5.00%,F,T)
A3.94E7 A3.72E7 A3.95E7 A3.47E7
354.9792 S:4 F:5 SMO(1,3)
36:22 37:05 37:28 38:03 38:51 39:20 39:57 40:19 40:41 41:03 41:27 41:50 42:14 42:37
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
6.0E5 3.0E5 0.0E0
3.8E5 1.9E5 0.0E0
1.2E7 5.9E6 0.0E0
7.4E6 3.7E6 0.0E0
7.0E5 3.5E5 0.0E0

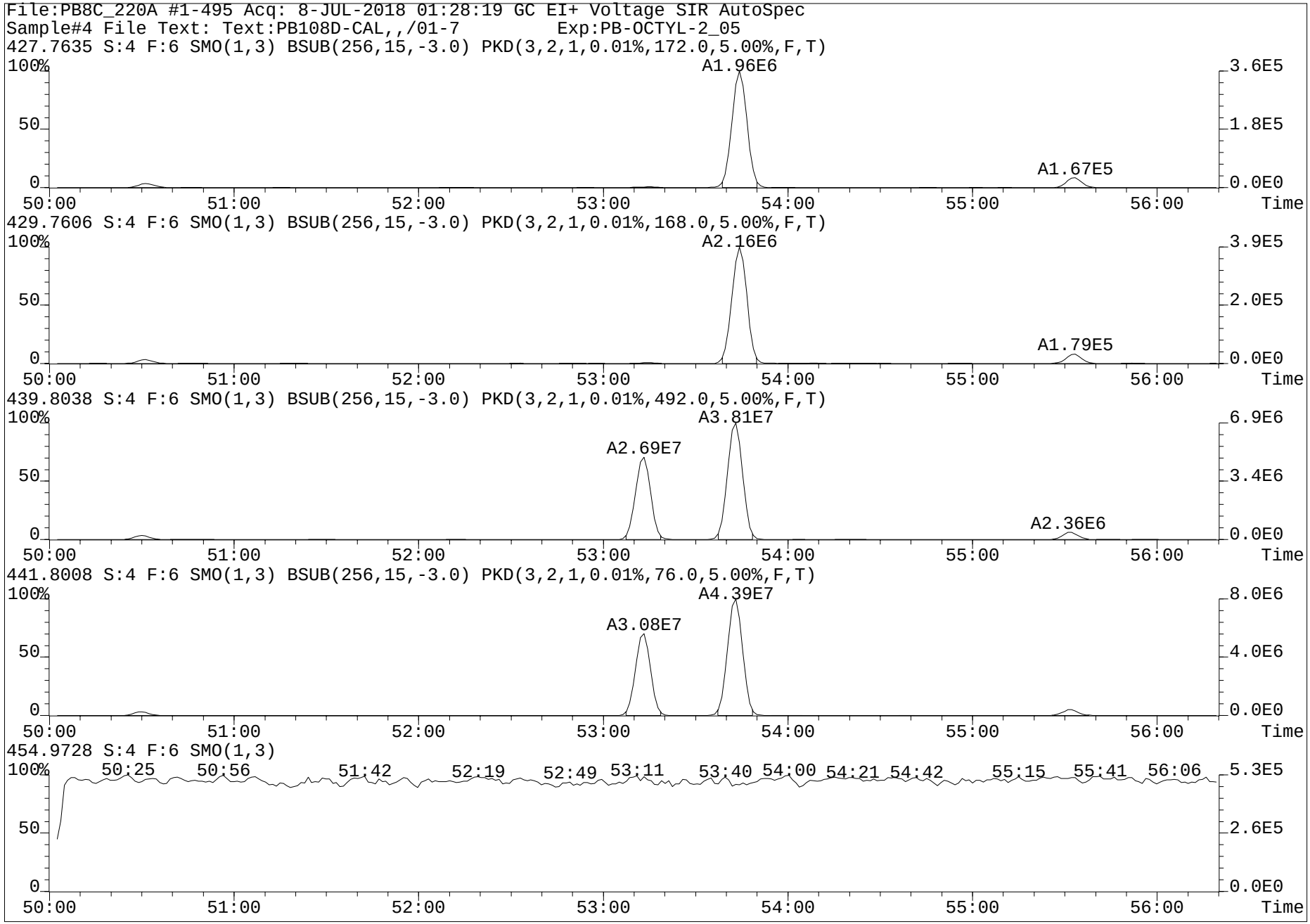

File:PB8C_220A #1-470 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A3.11E6
361.8385 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A2.50E6
371.8817 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A6.41E7
373.8788 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A5.04E7
330.9792 S:4 F:4 SMO(1,3)
31:18 31:35 31:53 32:10 32:36 33:00 33:29 33:46 34:21 34:49 35:06 35:32
100%
50
0
5.9E5
2.9E5
0.0E0
4.8E5
2.4E5
1.3E7
6.4E6
9.9E6
5.0E6
3.6E6
1.8E6
31:00
32:00
33:00
34:00
35:00
36:00
Time

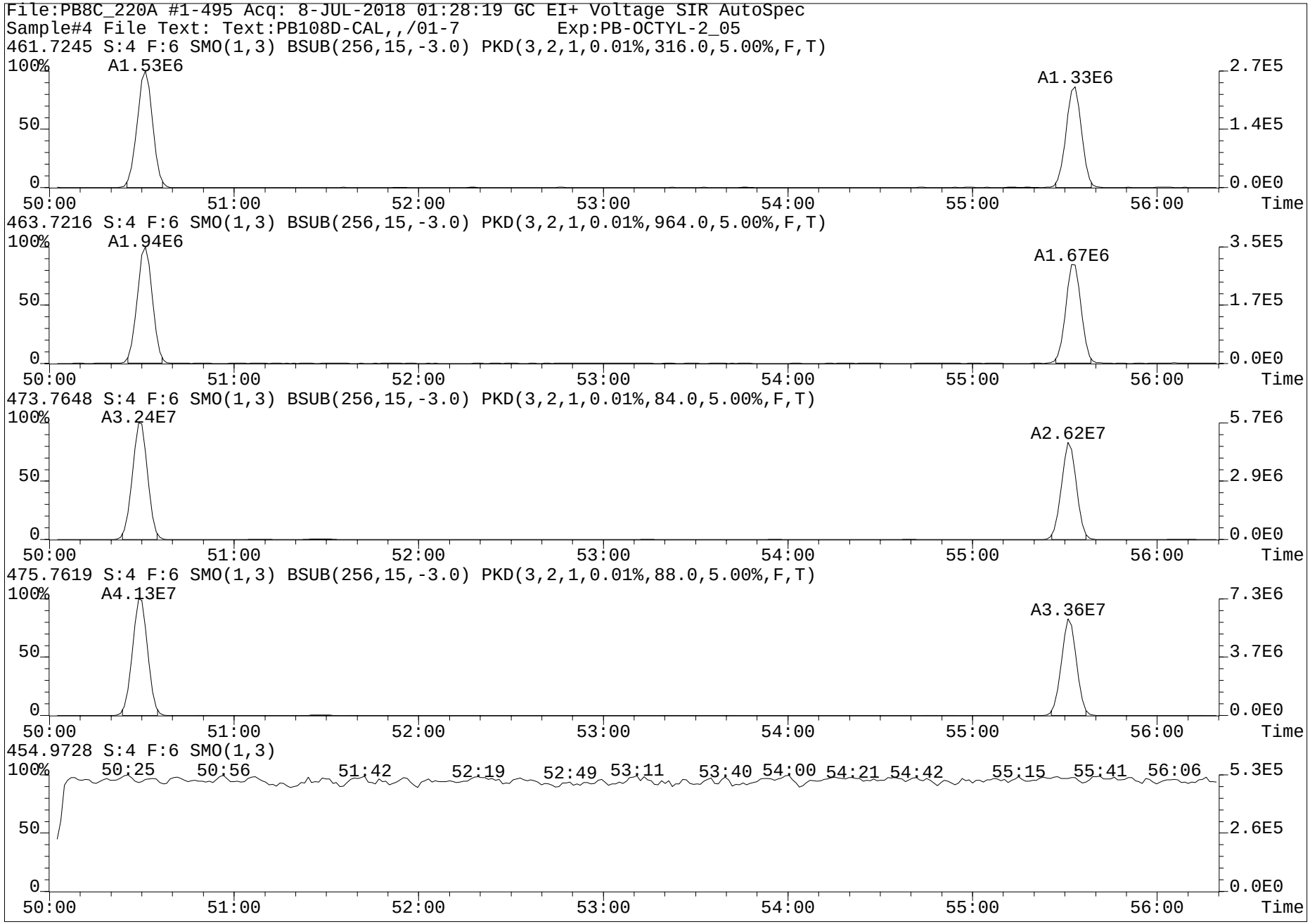

File:PB8C_220A #1-744 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A2.65E6
A5.40E6
A2.58E6
361.8385 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,248.0,5.00%,F,T)
A2.17E6
A4.33E6
A2.10E6
371.8817 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A4.03E7
A4.72E7
A9.72E7
A4.89E7
373.8788 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.15E7
A3.76E7
A7.65E7
A3.91E7
354.9792 S:4 F:5 SMO(1,3)
36:22 37:28 38:19 39:20 40:19 41:03 42:14 43:28 44:28 45:10 46:06 47:24 48:37
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
7.3E5
3.6E5
0.0E0
6.0E5
3.0E5
1.3E7
6.6E6
1.0E7
5.2E6
7.2E5

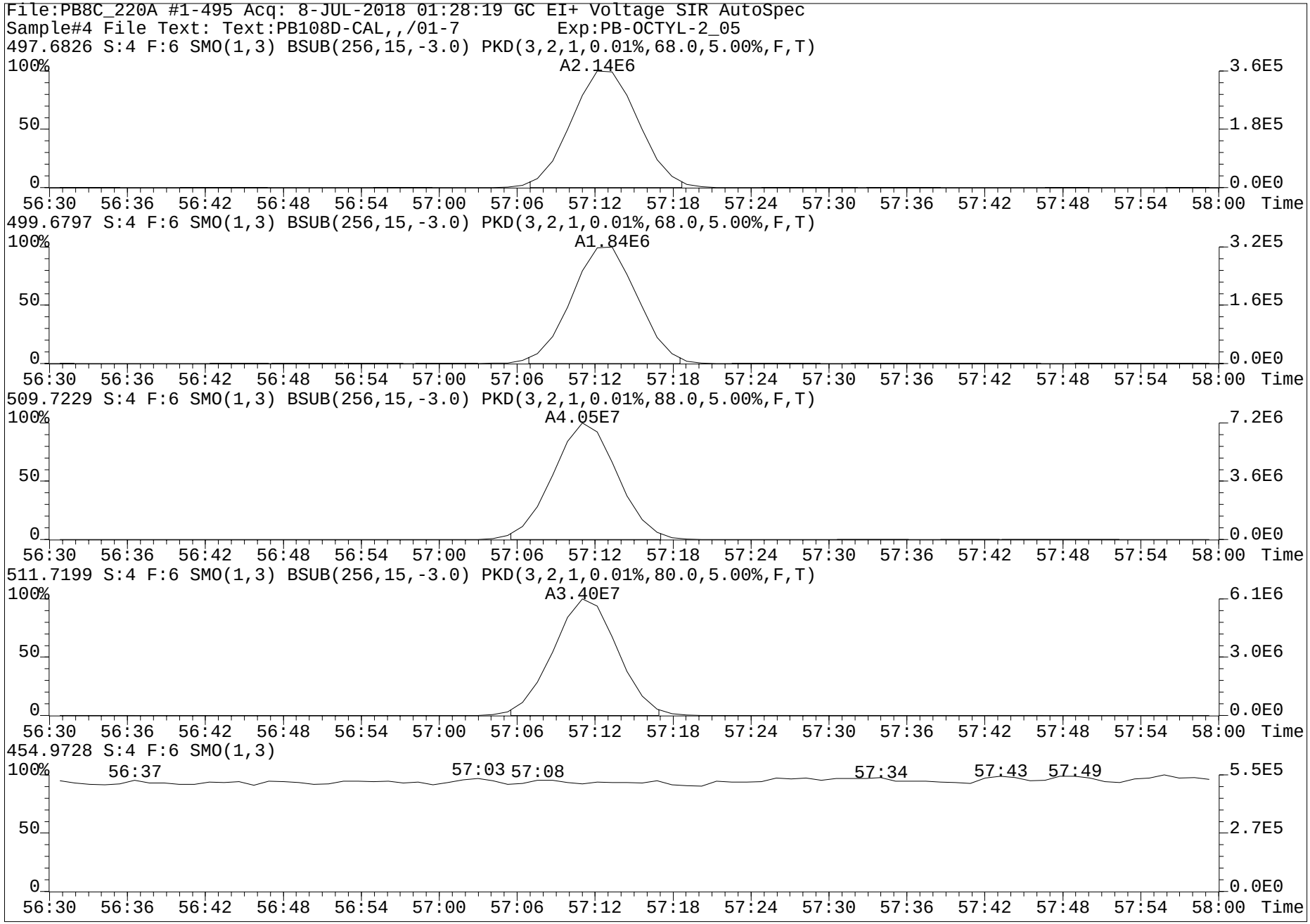

File:PB8C_220A #1-744 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,148.0,5.00%,F,T)
A2.43E6
A1.87E6
A1.72E6
A1.39E6
395.7995 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A2.39E6
A1.70E6
A1.72E6
A1.33E6
405.8425 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,76.0,5.00%,F,T)
A5.17E7
A3.43E7
A3.57E7
A2.99E7
407.8398 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A4.90E7
A3.32E7
A3.44E7
A2.88E7
354.9792 S:4 F:5 SMO(1,3)
36:22
37:28
38:19
39:20
40:19
41:03
42:14
43:28
44:28
45:10
46:06
47:24
48:37
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
4.5E5
2.3E5
0.0E0
9.6E6
4.8E6
9.1E6
4.6E6
7.2E5
3.6E5

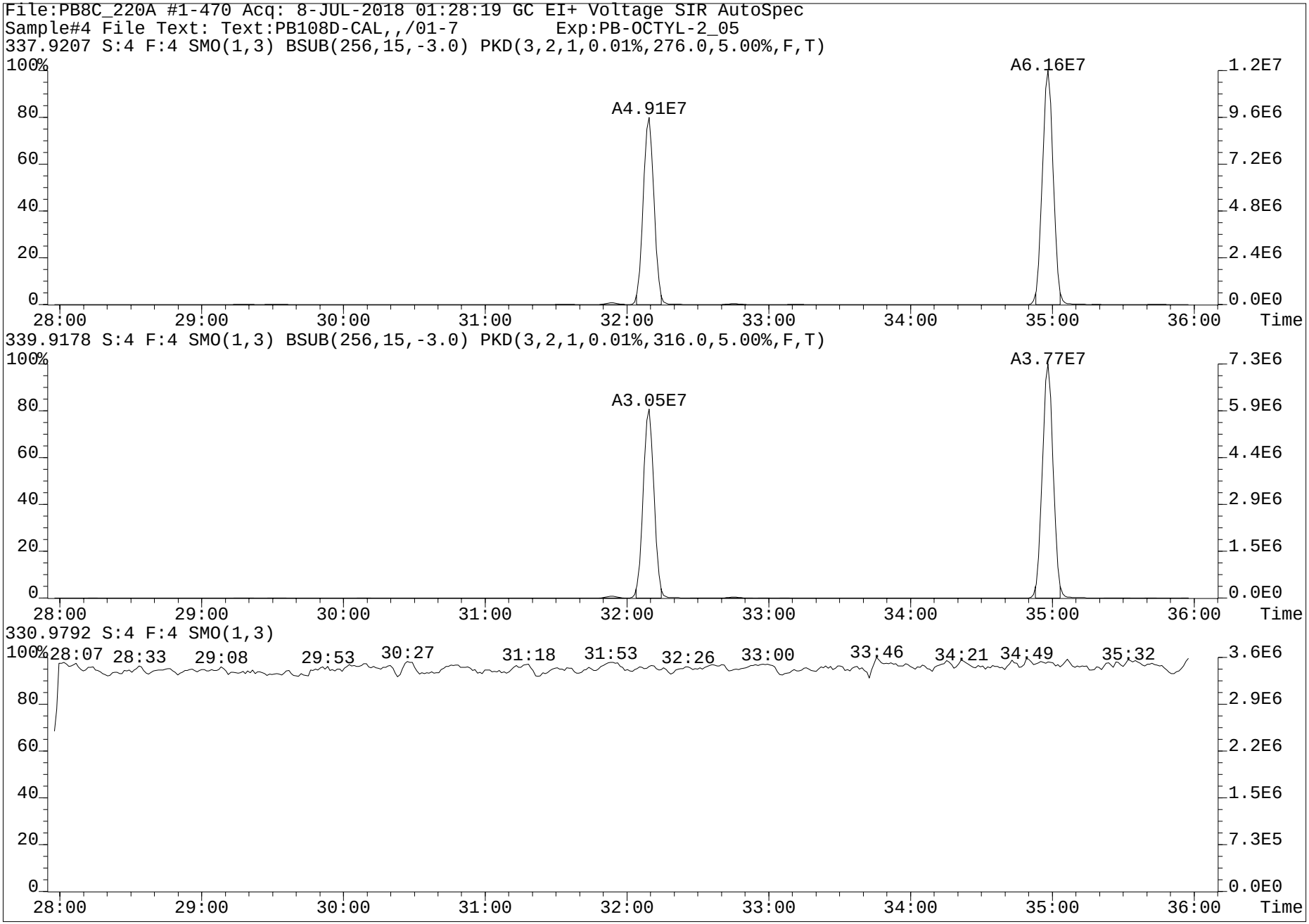

File:PB8C_220A #1-495 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,564.0,5.00%,F,T)
A2.28E6
A2.28E5
4.1E5
2.1E5
0.0E0
395.7995 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A2.13E6
4.0E5
2.0E5
0.0E0
405.8428 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2116.0,5.00%,F,T)
A4.09E7
A7.81E6
7.3E6
3.6E6
0.0E0
407.8398 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,812.0,5.00%,F,T)
A4.01E7
A3.28E6
7.1E6
3.6E6
0.0E0
454.9728 S:4 F:6 SMO(1,3)
50:19 50:25 50:33 50:42 50:56 51:07 51:42 51:55 52:03
5.3E5
2.6E5
0.0E0
100%
50
0
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12 Time


File:PB8C_220A #1-744 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
100% A2.00E6
3.6E5
1.8E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
100% A2.25E6
4.2E5
2.1E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
100% A4.69E7
8.3E6
4.1E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 S:4 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
100% A5.20E7
9.2E6
4.6E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 S:4 F:5 SMO(1,3)
100% 43:28 43:50 44:12 44:36 45:10 45:46 46:17 46:54 47:24 47:57 48:37 49:00 49:22 49:50
7.2E5
3.6E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220A #1-495 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,172.0,5.00%,F,T)
A1.96E6
A1.67E5
429.7606 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,168.0,5.00%,F,T)
A2.16E6
A1.79E5
439.8038 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A3.81E7
A2.69E7
A2.36E6
441.8008 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,76.0,5.00%,F,T)
A4.39E7
A3.08E7
454.9728 S:4 F:6 SMO(1,3)
50:25 50:56 51:42 52:19 52:49 53:11 53:40 54:00 54:21 54:42 55:15 55:41 56:06
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.6E5 1.8E5 0.0E0
3.9E5 2.0E5 0.0E0
6.9E6 3.4E6 0.0E0
8.0E6 4.0E6 0.0E0
5.3E5 2.6E5 0.0E0


File:PB8C_220A #1-495 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
461.7245 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A1.53E6
A1.33E6
463.7216 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,964.0,5.00%,F,T)
A1.94E6
A1.67E6
473.7648 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.24E7
A2.62E7
475.7619 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A4.13E7
A3.36E7
454.9728 S:4 F:6 SMO(1,3)
50:25 50:56 51:42 52:19 52:49 53:11 53:40 54:00 54:21 54:42 55:15 55:41 56:06
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
2.7E5 1.4E5 0.0E0
3.5E5 1.7E5 0.0E0
5.7E6 2.9E6 0.0E0
7.3E6 3.7E6 0.0E0
5.3E5 2.6E5 0.0E0


File:PB8C_220A #1-495 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
497.6826 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,68.0,5.00%,F,T)
A2.14E6
499.6797 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,68.0,5.00%,F,T)
A1.84E6
509.7229 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A4.05E7
511.7199 S:4 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A3.40E7
454.9728 S:4 F:6 SMO(1,3)
56:37
57:03
57:08
57:34
57:43
57:49
100%
50
0
3.6E5
1.8E5
0.0E0
3.2E5
1.6E5
7.2E6
3.6E6
6.1E6
3.0E6
5.5E5
2.7E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time

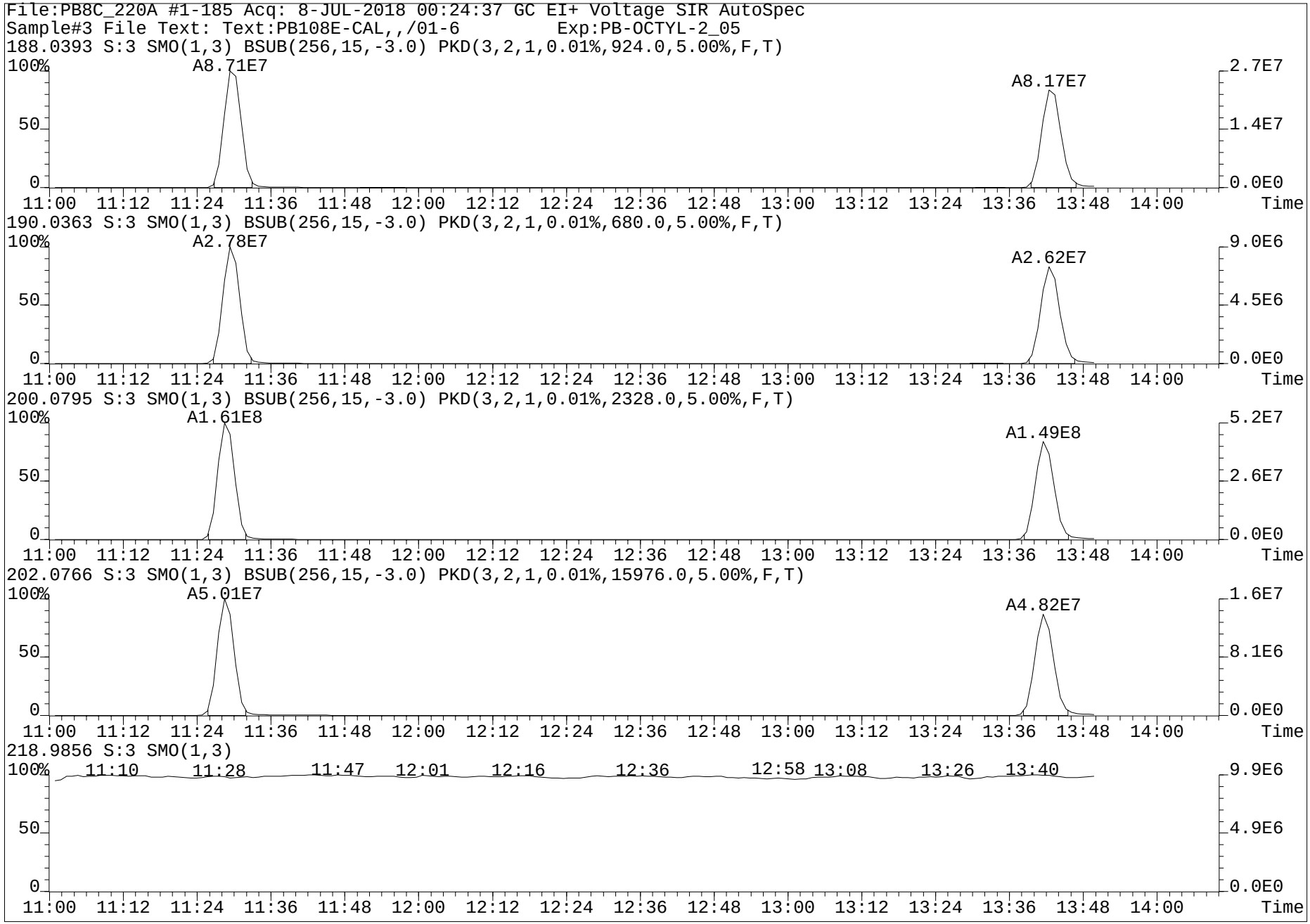

File:PB8C_220A #1-470 Acq: 8-JUL-2018 01:28:19 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108D-CAL,,/01-7 Exp:PB-OCTYL-2_05
337.9207 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,276.0,5.00%,F,T)
A4.91E7
A6.16E7
339.9178 S:4 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,316.0,5.00%,F,T)
A3.05E7
A3.77E7
330.9792 S:4 F:4 SMO(1,3)
28:07 28:33 29:08 29:53 30:27 31:18 31:53 32:26 33:00 33:46 34:21 34:49 35:32
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time

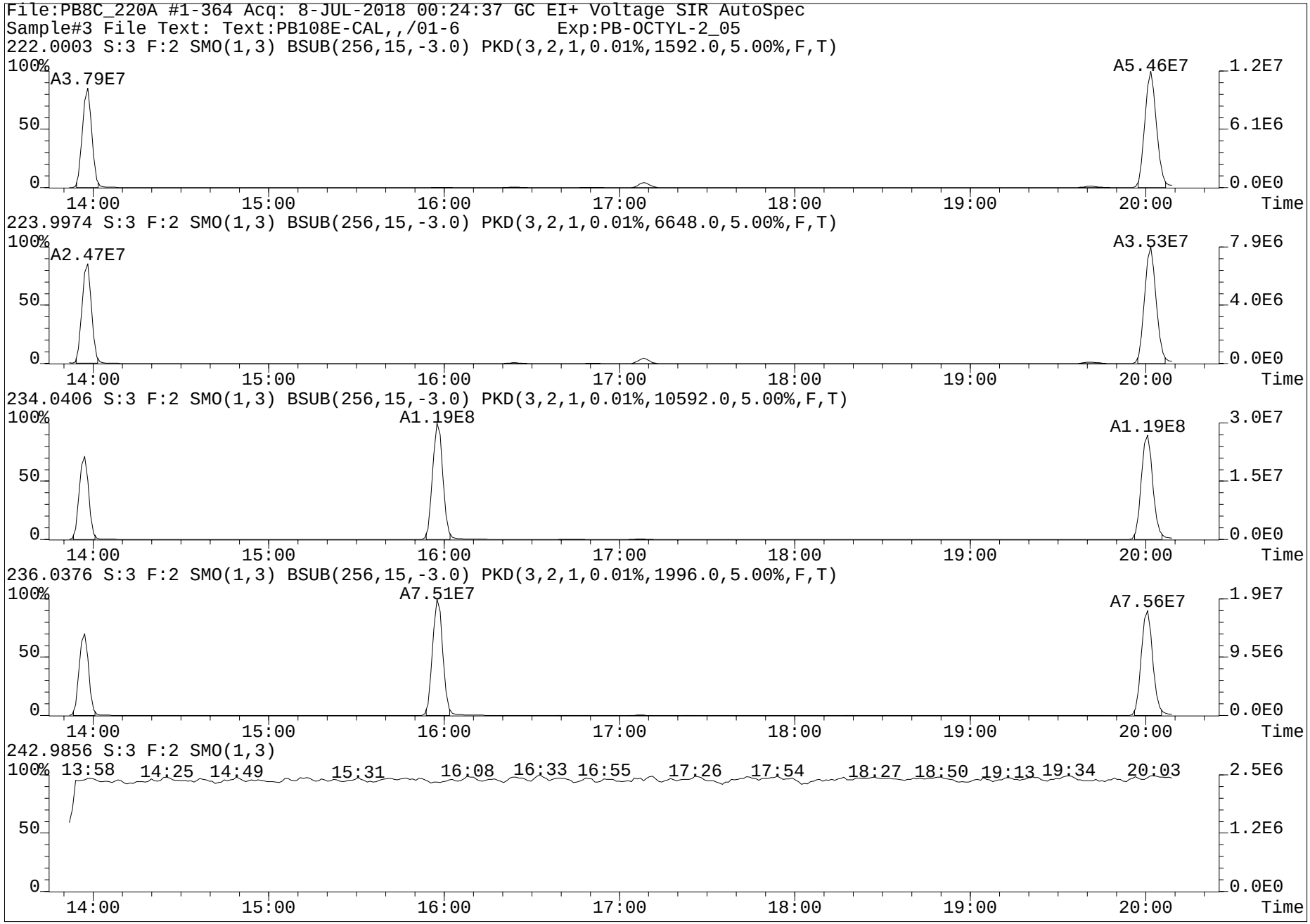
Run #4 Filename PB8C_220A S: 3 I: 1 Acquired: 8-JUL-18 00:24:37 Processed: 9-JUL-18 08:10:02
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108E-CAL,,,01-6 Comments: 1,,1.0uL CS-3 F1: 50.00 F2: 1.00

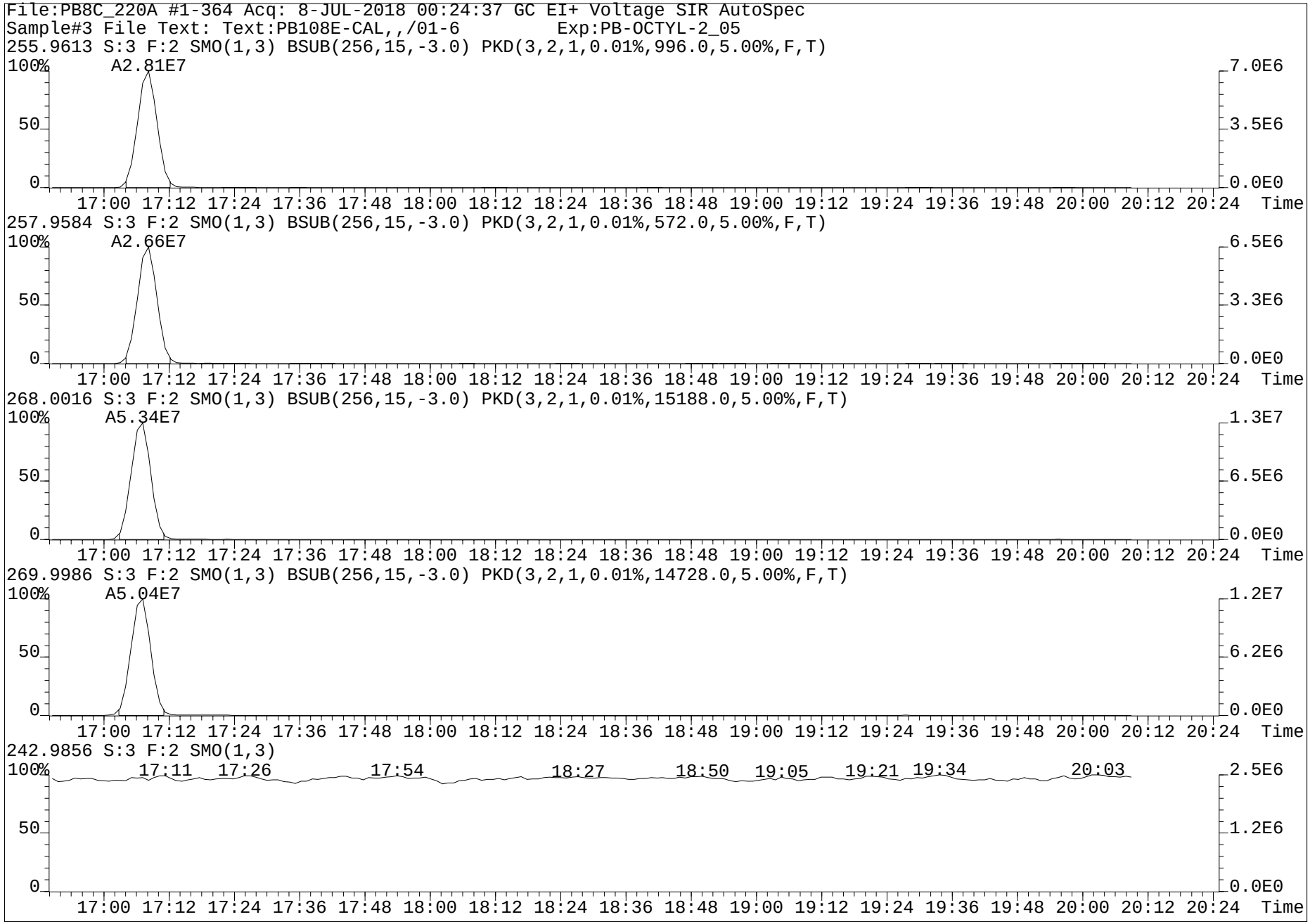
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL1-PCB-1	50.00	1.15e+08	3.14	y 11:29	-	1.0897	y	n
2	Unk	CL1-PCB-3	50.00	1.08e+08	3.12	y 13:42	-	1.0936	y	n
3	Unk	CL2-PCB-4	50.00	6.26e+07	1.54	y 13:58	-	0.9894	y	n
4	Unk	CL2-PCB-15	50.00	8.99e+07	1.55	y 20:02	-	0.9243	y	n
5	Unk	CL3-PCB-19	50.00	5.48e+07	1.06	y 17:08	-	1.0550	y	n
6	Unk	CL3-PCB-37	50.00	7.53e+07	1.02	y 27:19	-	0.9881	y	n
7	Unk	CL4-PCB-54	50.00	7.25e+07	0.78	y 20:18	-	1.0662	y	n
8	Unk	CL4-PCB-81	50.00	5.89e+07	0.77	y 34:22	-	1.0207	y	n
9	Unk	CL4-PCB-77	50.00	6.03e+07	0.80	y 34:58	-	1.0183	y	n
10	Unk	CL5-PCB-104	50.00	6.04e+07	1.57	y 26:00	-	1.0497	y	n
11	Unk	CL5-PCB-123	50.00	5.09e+07	1.55	y 37:02	-	0.9839	y	n
12	Unk	CL5-PCB-118	50.00	5.19e+07	1.53	y 37:23	-	1.0321	y	n
13	Unk	CL5-PCB-114	50.00	5.28e+07	1.56	y 37:55	-	1.0668	y	n
14	Unk	CL5-PCB-105	50.00	5.34e+07	1.57	y 38:37	-	1.0272	y	n
15	Unk	CL5-PCB-126	50.00	4.79e+07	1.56	y 41:52	-	1.0337	y	n
16	Unk	CL6-PCB-155	50.00	5.76e+07	1.28	y 31:54	-	1.0086	y	n
17	Unk	CL6-PCB-167	50.00	4.88e+07	1.26	y 43:47	-	1.1217	y	n
18	Unk	CL6-PCB-156/157	100.00	9.86e+07	1.25	y 45:00	-	1.1032	y	n
19	Unk	CL6-PCB-169	50.00	4.81e+07	1.26	y 48:24	-	1.0506	y	n
20	Unk	CL7-PCB-188	50.00	4.92e+07	1.05	y 37:53	-	0.9635	y	n
21	Unk	CL7-PCB-189	50.00	4.23e+07	1.03	y 51:02	-	1.0308	y	n
22	Unk	CL8-PCB-202	50.00	4.28e+07	0.83	y 43:30	-	0.8582	y	n
23	Unk	CL8-PCB-205	50.00	4.05e+07	0.90	y 53:43	-	0.9934	y	n
24	Unk	CL9-PCB-208	50.00	3.39e+07	0.78	y 50:30	-	0.9365	y	n
25	Unk	CL9-PCB-206	50.00	2.98e+07	0.78	y 55:32	-	0.9854	y	n
26	Unk	CL10-PCB-209	50.00	3.85e+07	1.16	y 57:12	-	1.0100	y	n
27	IS	13C-CL1-PCB-1	100.00	2.11e+08	3.21	y 11:28	-	1.0884	y	n
28	IS	13C-CL1-PCB-3	100.00	1.97e+08	3.09	y 13:42	-	1.0178	y	n
29	IS	13C-CL2-PCB-4	100.00	1.26e+08	1.60	y 13:57	-	0.6527	y	n
30	IS	13C-CL2-PCB-15	100.00	1.95e+08	1.58	y 20:01	-	1.0045	y	n
31	IS	13C-CL3-PCB-19	100.00	1.04e+08	1.06	y 17:07	-	0.5358	y	n
32	IS	13C-CL3-PCB-37	100.00	1.52e+08	1.05	y 27:18	-	1.6010	y	n
33	REF	13C-CL4-CHECK	100.00	1.36e+08	0.79	y 20:17	-	1.4238	y	n
34	IS	13C-CL4-PCB-81	100.00	1.15e+08	0.72	y 34:21	-	1.2120	y	n
35	IS	13C-CL4-PCB-77	100.00	1.19e+08	0.77	y 34:56	-	1.2454	y	n
36	IS	13C-CL5-PCB-104	100.00	1.15e+08	1.57	y 25:58	-	1.4462	y	n
37	IS	13C-CL5-PCB-123	100.00	1.04e+08	1.57	y 37:01	-	1.3014	y	n
38	IS	13C-CL5-PCB-118	100.00	1.01e+08	1.55	y 37:21	-	1.2637	y	n
39	IS	13C-CL5-PCB-114	100.00	9.91e+07	1.58	y 37:54	-	1.2452	y	n
40	IS	13C-CL5-PCB-105	100.00	1.04e+08	1.54	y 38:35	-	1.3067	y	n
41	IS	13C-CL5-PCB-126	100.00	9.26e+07	1.57	y 41:50	-	1.1644	y	n
42	IS	13C-CL6-PCB-155	100.00	1.14e+08	1.27	y 31:52	-	1.6038	y	n
43	IS	13C-CL6-PCB-167	100.00	8.70e+07	1.23	y 43:46	-	1.2216	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.79e+08	1.27	y 44:59	-	1.2545	y	n

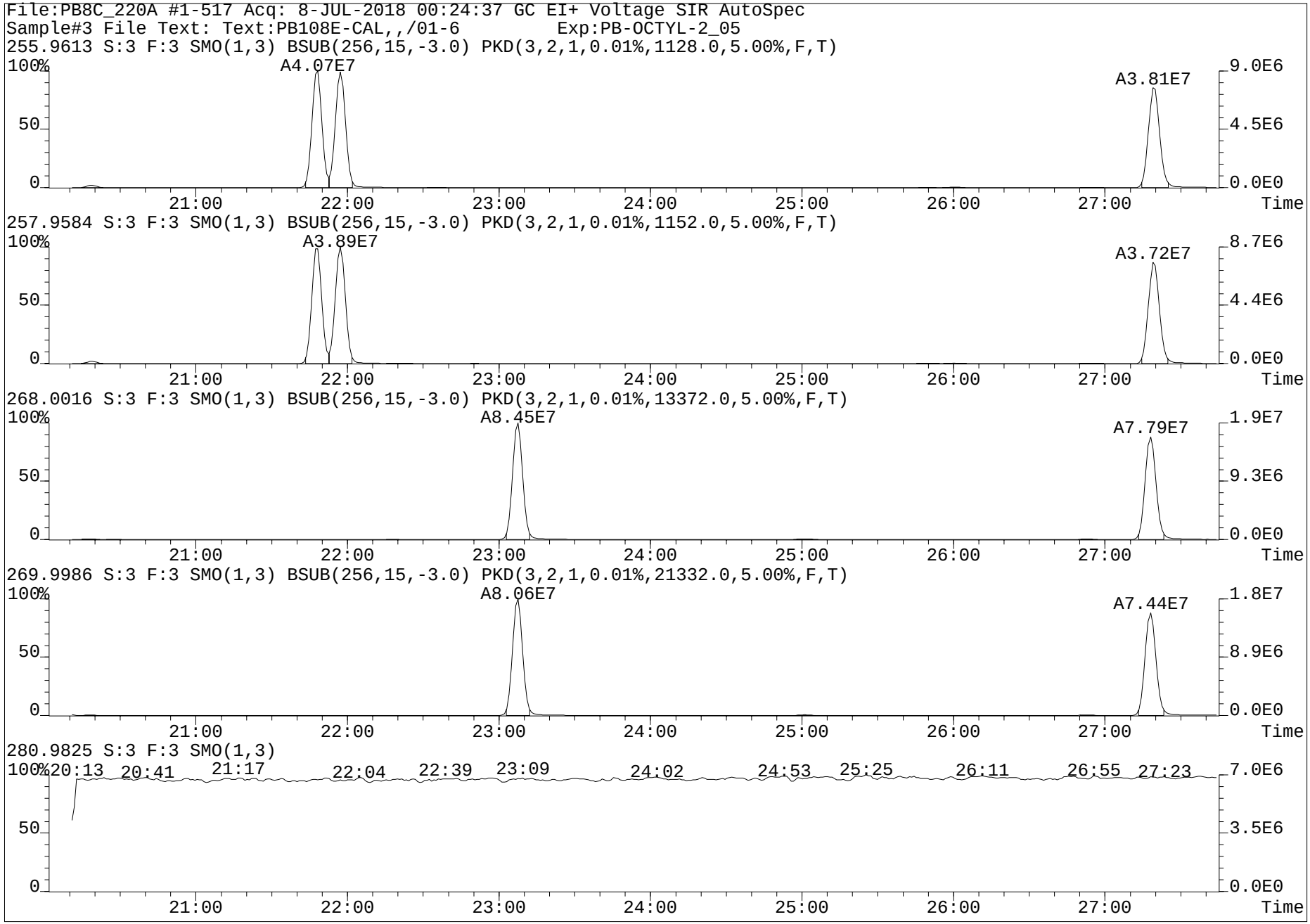
PV by RA 09JUL2018
SV JR 9-JUL-18

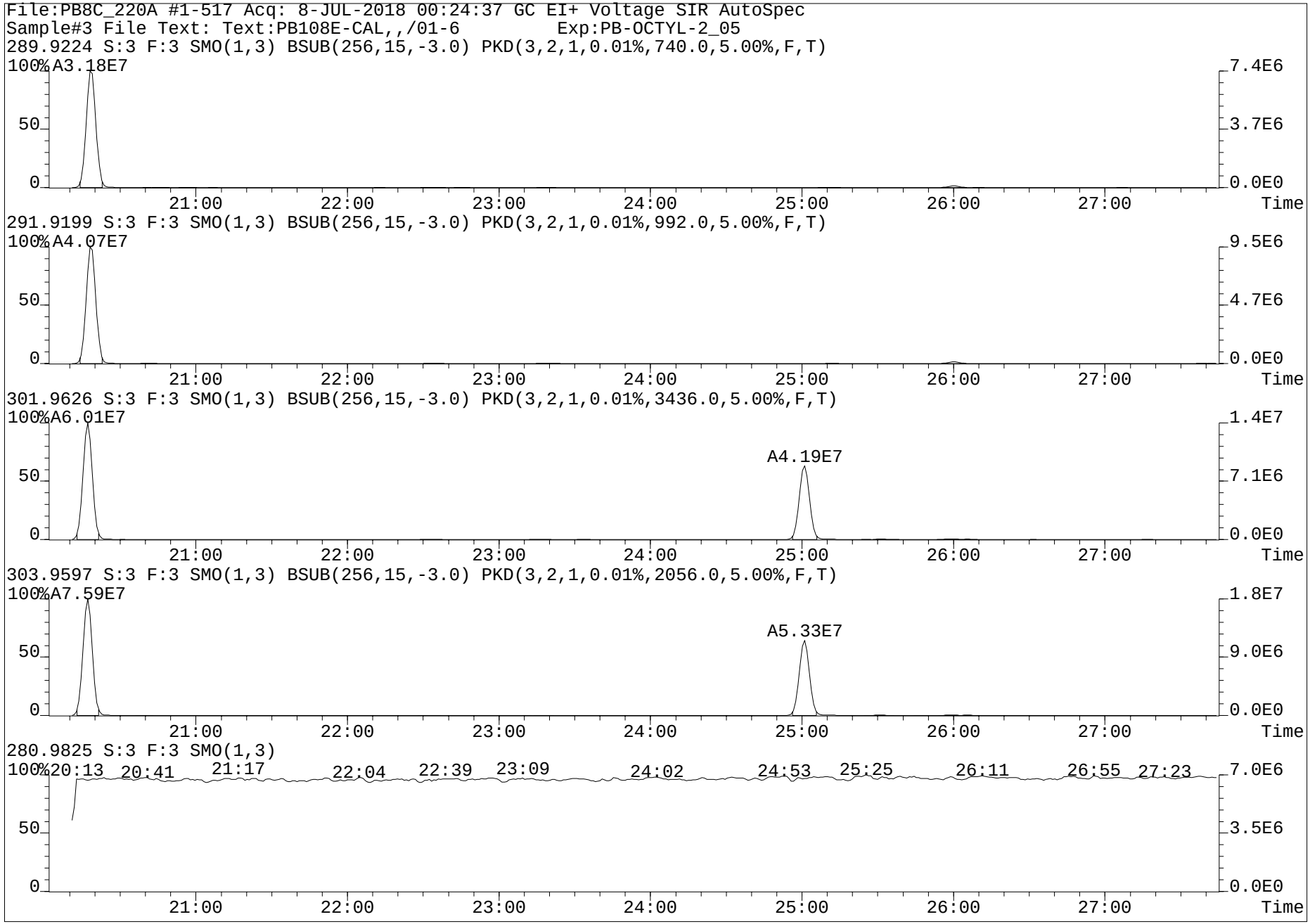
45	IS	13C-CL6-PCB-169	100.00	9.17e+07	1.24	y	48:23	-	1.2862	y	n
46	REF	13C-CL7-CHECK	100.00	1.02e+08	1.07	y	37:52	-	1.7619	y	n
47	IS	13C-CL7-PCB-189	100.00	8.21e+07	1.05	y	51:01	-	1.4159	y	n
48	IS	13C-CL8-PCB-202	100.00	9.98e+07	0.90	y	43:29	-	1.7202	y	n
49	IS	13C-CL8-PCB-205	100.00	8.15e+07	0.88	y	53:42	-	1.4059	y	n
50	IS	13C-CL9-PCB-208	100.00	7.24e+07	0.78	y	50:29	-	1.2486	y	n
51	IS	13C-CL9-PCB-206	100.00	6.04e+07	0.79	y	55:31	-	1.0420	y	n
52	IS	13C-CL10-PCB-209	100.00	7.62e+07	1.17	y	57:11	-	1.3140	y	n
53	RS	13C-CL2-PCB-9	100.00	1.94e+08	1.58	y	15:58	1.94e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	9.52e+07	0.79	y	25:01	9.52e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	7.95e+07	1.61	y	32:09	7.95e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	7.13e+07	1.26	y	40:36	7.13e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	5.80e+07	0.88	y	53:12	5.80e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.65e+08	1.05	y	23:07	-	1.7345	y	n
59	C/Up	13C-CL5-PCB-111	100.00	1.02e+08	1.63	y	34:58	-	1.2857	y	n
60	C/Up	13C-CL7-PCB-178	100.00	6.82e+07	1.04	y	41:04	-	0.9572	y	n
61	IS	13C-CL4-PCB-54	100.00	1.36e+08	0.79	y	20:17	-	1.4288	y	n
62	IS	13C-CL7-PCB-188	100.00	1.02e+08	1.07	y	37:52	-	1.7619	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

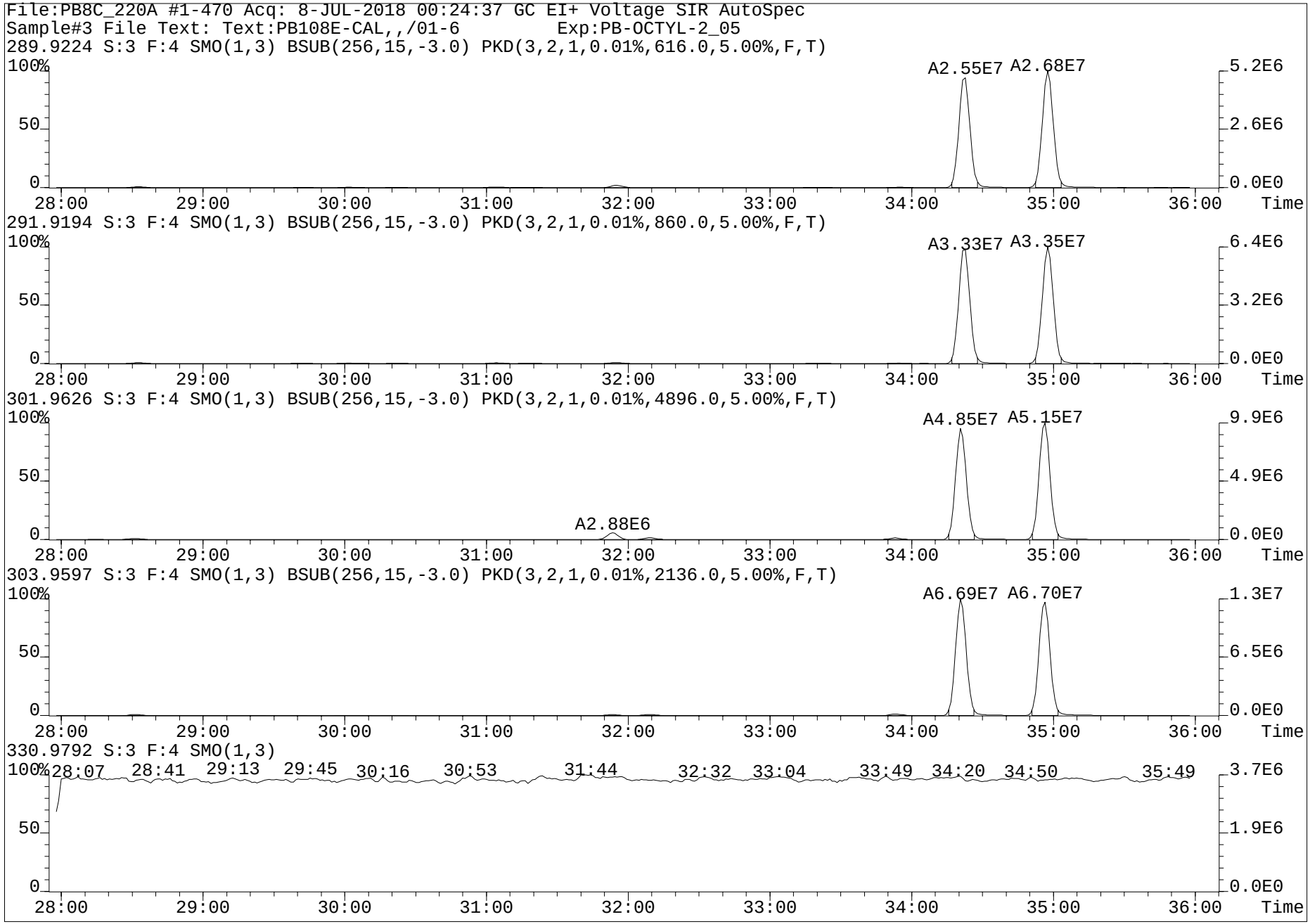

File:PB8C_220A #1-185 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
188.0393 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,924.0,5.00%,F,T)
A8.71E7
A8.17E7
190.0363 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,680.0,5.00%,F,T)
A2.78E7
A2.62E7
200.0795 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2328.0,5.00%,F,T)
A1.61E8
A1.49E8
202.0766 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15976.0,5.00%,F,T)
A5.01E7
A4.82E7
218.9856 S:3 SMO(1,3)
100%
50
0
2.7E7
1.4E7
0.0E0
9.0E6
4.5E6
5.2E7
2.6E7
1.6E7
8.1E6
9.9E6
4.9E6
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
11:10 11:28 11:47 12:01 12:16 12:36 12:58 13:08 13:26 13:40
Time

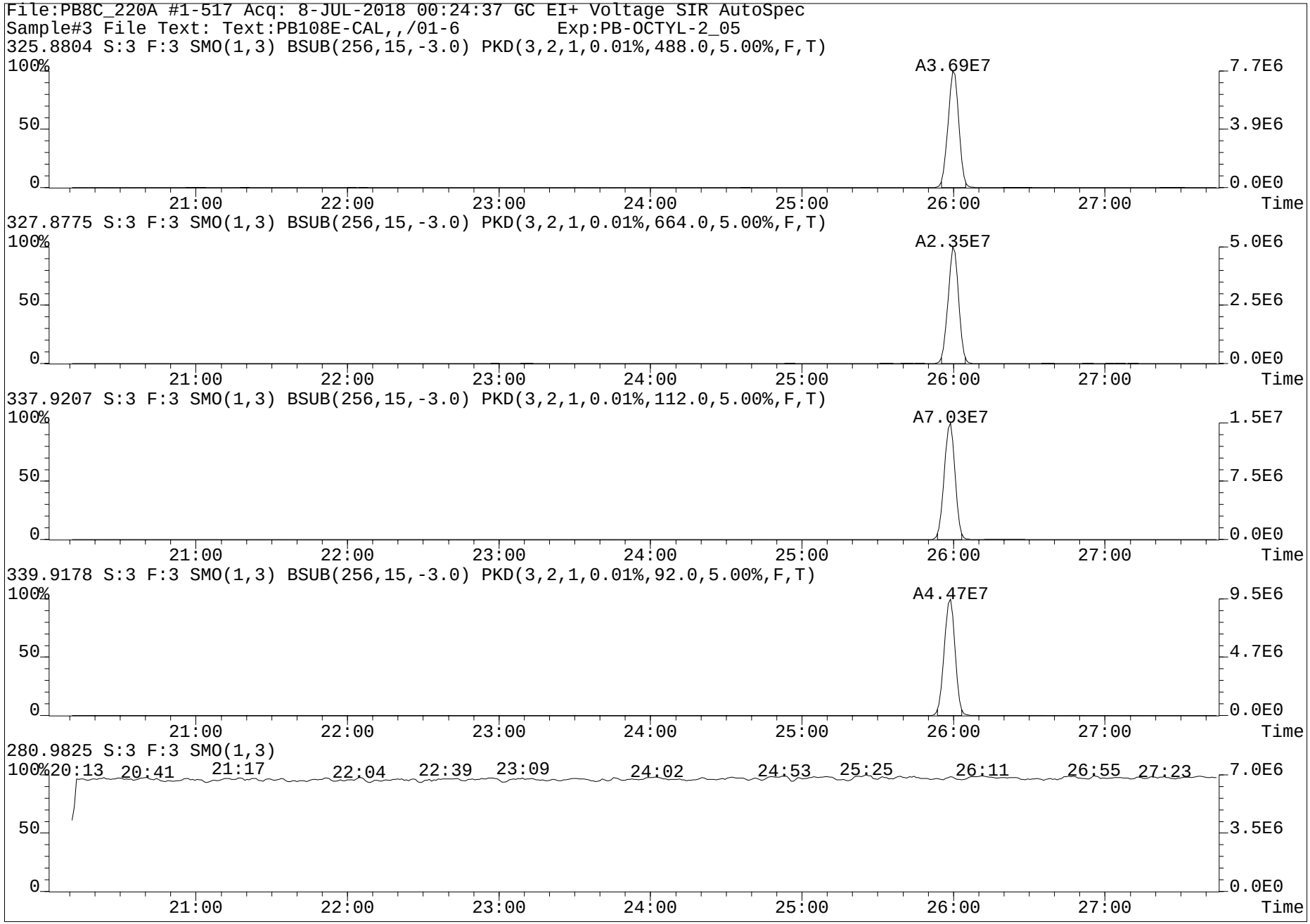

File:PB8C_220A #1-364 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
222.0003 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1592.0,5.00%,F,T)
A3.79E7
A5.46E7
223.9974 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6648.0,5.00%,F,T)
A2.47E7
A3.53E7
234.0406 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10592.0,5.00%,F,T)
A1.19E8
A1.19E8
236.0376 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1996.0,5.00%,F,T)
A7.51E7
A7.56E7
242.9856 S:3 F:2 SMO(1,3)
13:58 14:25 14:49 15:31 16:08 16:33 16:55 17:26 17:54 18:27 18:50 19:13 19:34 20:03
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.2E7 6.1E6 0.0E0
7.9E6 4.0E6 0.0E0
3.0E7 1.5E7 0.0E0
1.9E7 9.5E6 0.0E0
2.5E6 1.2E6 0.0E0

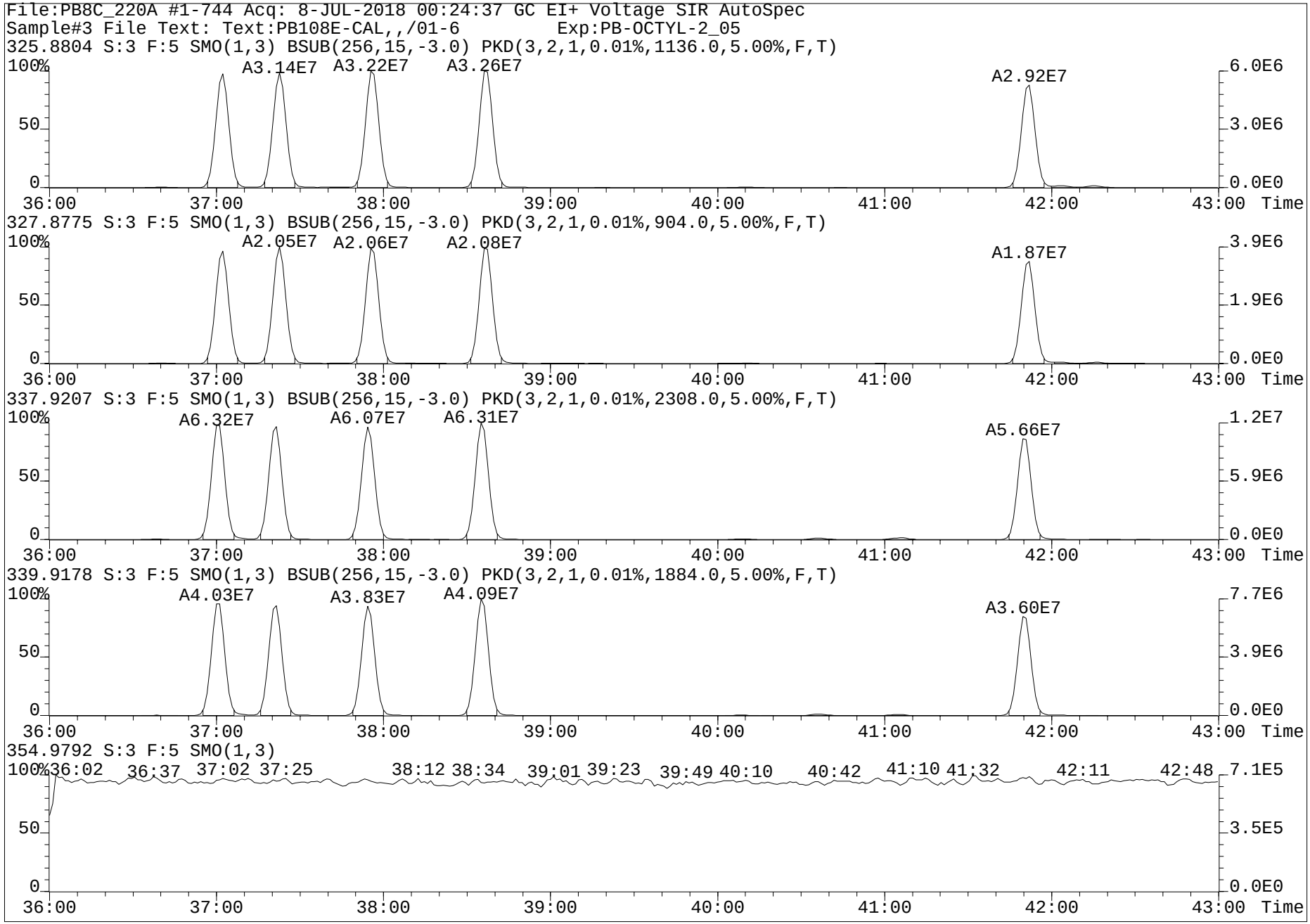

File:PB8C_220A #1-364 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
255.9613 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,996.0,5.00%,F,T)
100% A2.81E7
7.0E6
3.5E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
257.9584 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,572.0,5.00%,F,T)
100% A2.66E7
6.5E6
3.3E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
268.0016 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15188.0,5.00%,F,T)
100% A5.34E7
1.3E7
6.5E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
269.9986 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14728.0,5.00%,F,T)
100% A5.04E7
1.2E7
6.2E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
242.9856 S:3 F:2 SMO(1,3)
100% 17:11 17:26 17:54 18:27 18:50 19:05 19:21 19:34 20:03
2.5E6
1.2E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

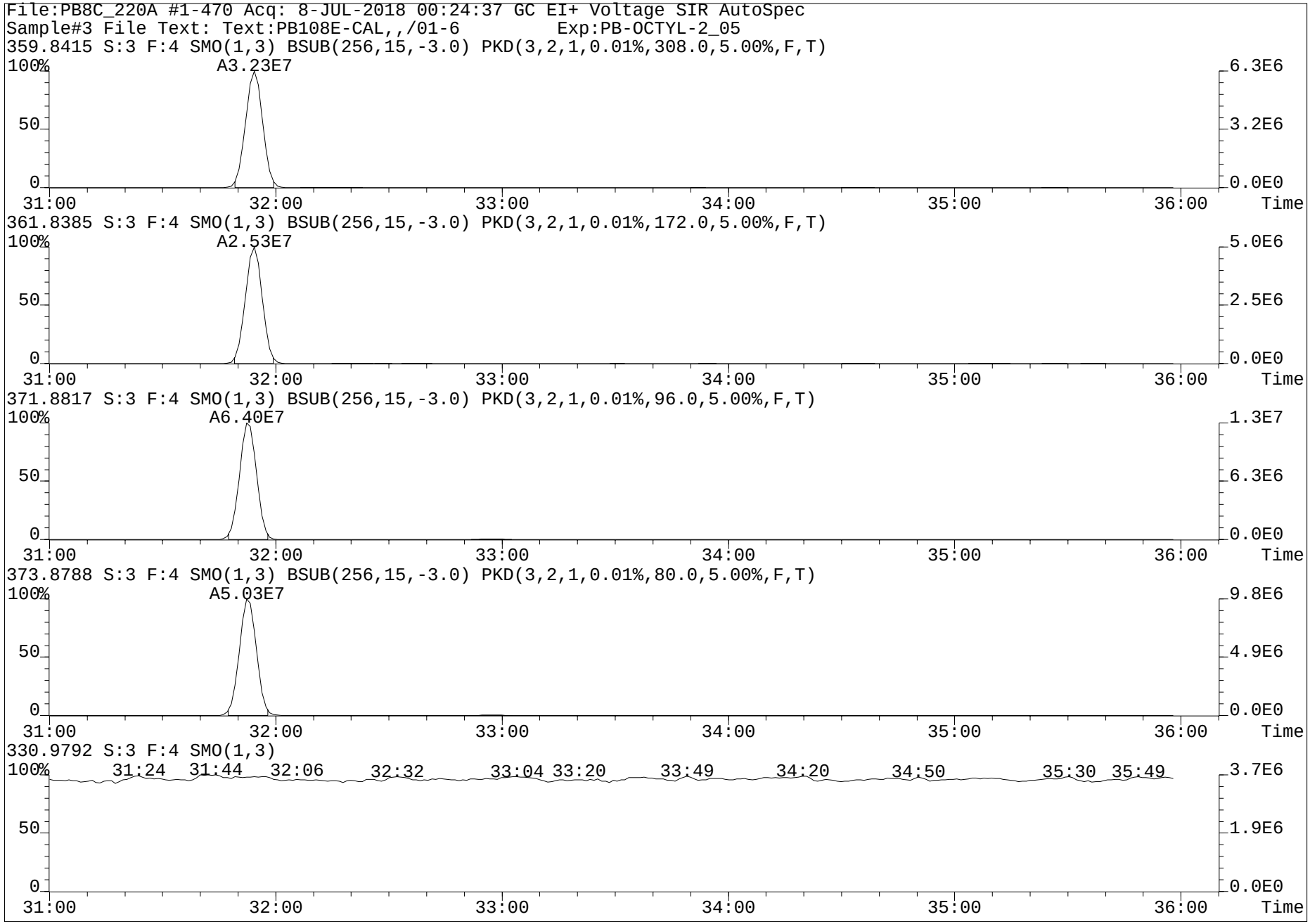

File:PB8C_220A #1-517 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
255.9613 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1128.0,5.00%,F,T)
A4.07E7
A3.81E7
257.9584 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A3.89E7
A3.72E7
268.0016 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13372.0,5.00%,F,T)
A8.45E7
A7.79E7
269.9986 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21332.0,5.00%,F,T)
A8.06E7
A7.44E7
280.9825 S:3 F:3 SMO(1,3)
20:13 20:41 21:17 22:04 22:39 23:09 24:02 24:53 25:25 26:11 26:55 27:23
100%
50
0
9.0E6
4.5E6
0.0E0
8.7E6
4.4E6
1.9E7
9.3E6
1.8E7
8.9E6
7.0E6
3.5E6
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

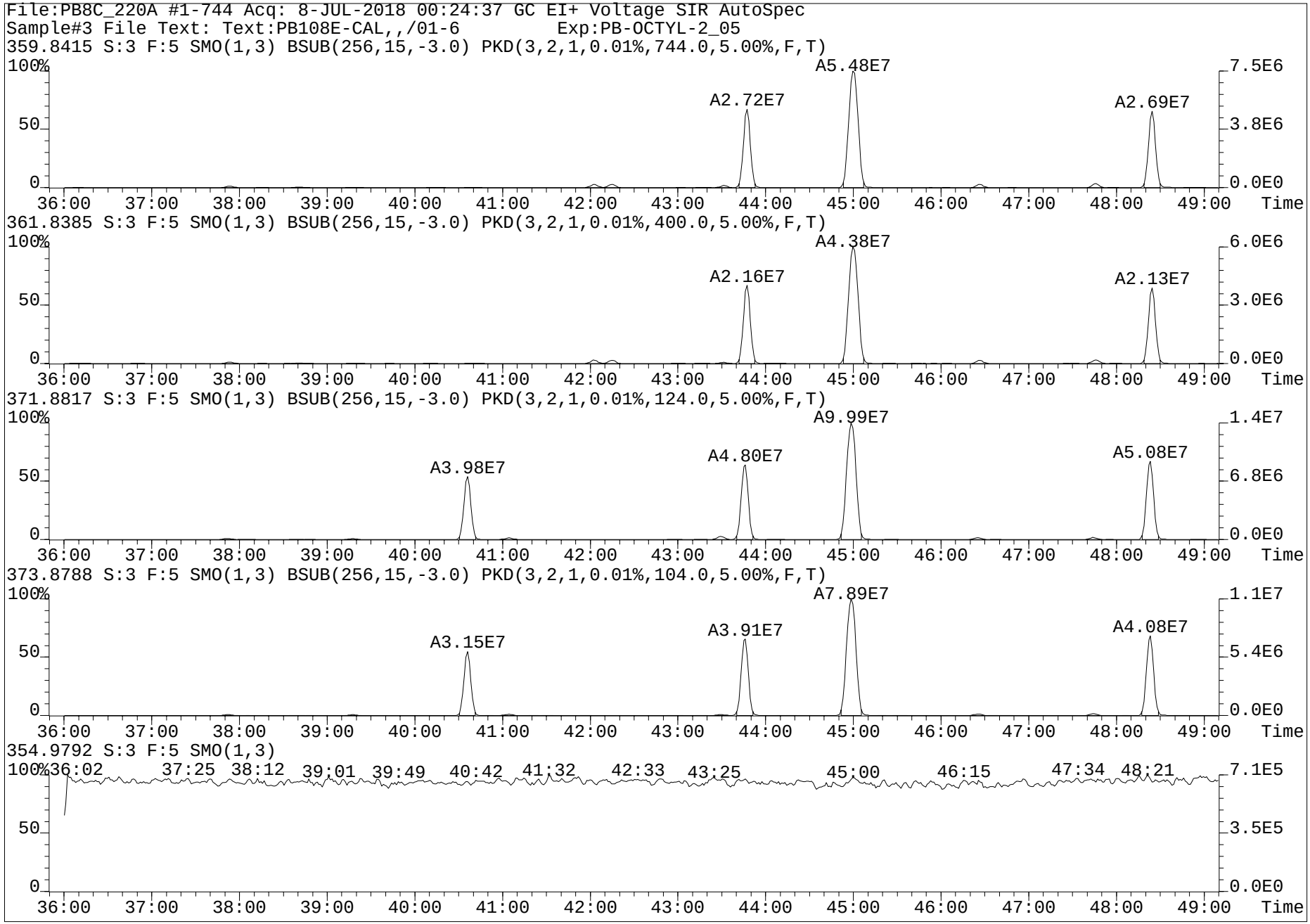

File:PB8C_220A #1-517 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
289.9224 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,740.0,5.00%,F,T)
100% A3.18E7
7.4E6
3.7E6
0.0E0
291.9199 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,992.0,5.00%,F,T)
100% A4.07E7
9.5E6
4.7E6
0.0E0
301.9626 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3436.0,5.00%,F,T)
100% A6.01E7
A4.19E7
1.4E7
7.1E6
0.0E0
303.9597 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2056.0,5.00%,F,T)
100% A7.59E7
A5.33E7
1.8E7
9.0E6
0.0E0
280.9825 S:3 F:3 SMO(1,3)
100% 20:13 20:41 21:17 22:04 22:39 23:09 24:02 24:53 25:25 26:11 26:55 27:23
7.0E6
3.5E6
0.0E0
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

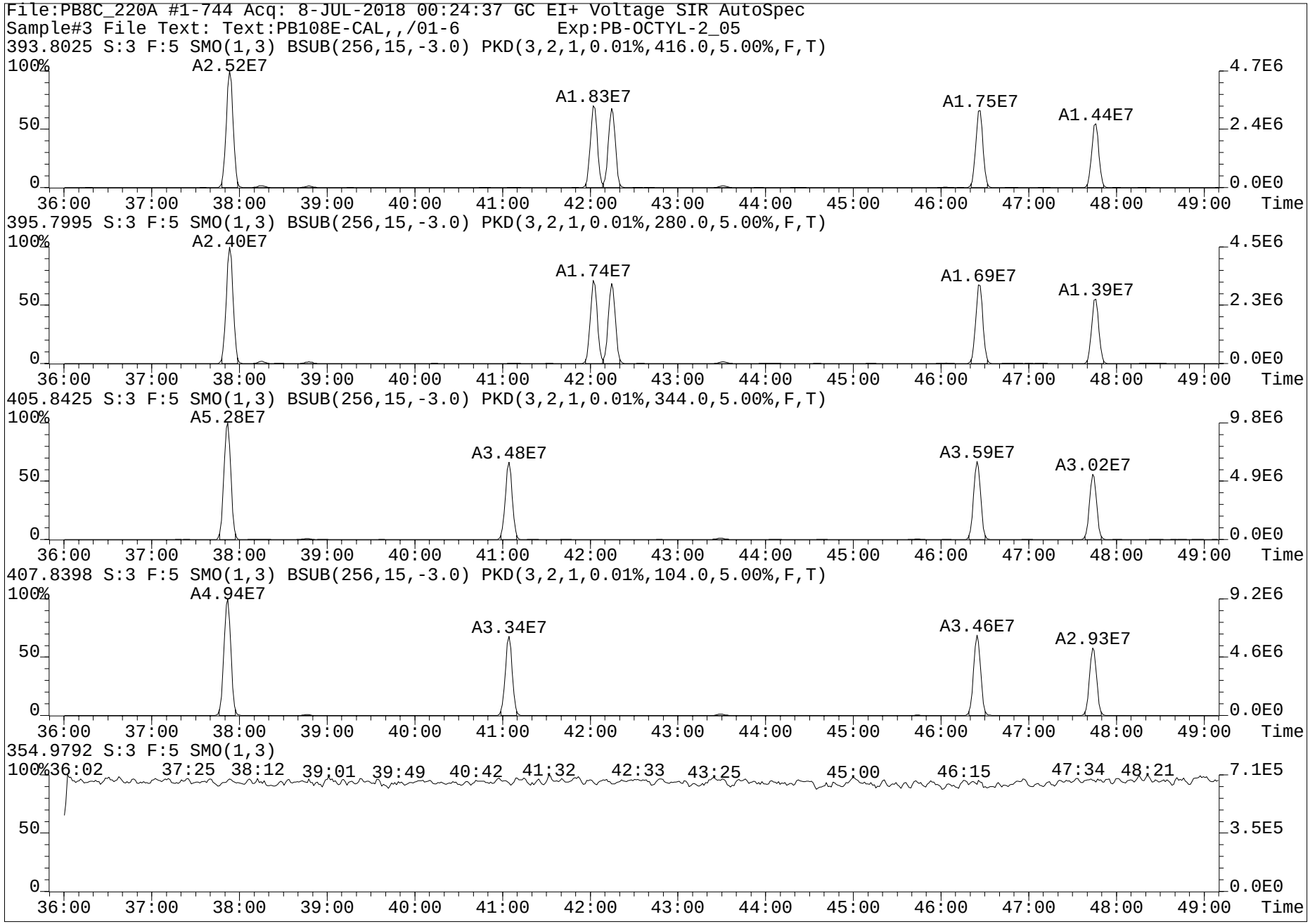

File:PB8C_220A #1-470 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
289.9224 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,616.0,5.00%,F,T)
A2.55E7
A2.68E7
291.9194 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,860.0,5.00%,F,T)
A3.33E7
A3.35E7
301.9626 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4896.0,5.00%,F,T)
A4.85E7
A5.15E7
A2.88E6
303.9597 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2136.0,5.00%,F,T)
A6.69E7
A6.70E7
330.9792 S:3 F:4 SMO(1,3)
28:07 28:41 29:13 29:45 30:16 30:53 31:44 32:32 33:04 33:49 34:20 34:50 35:49
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
5.2E6
2.6E6
0.0E0
6.4E6
3.2E6
9.9E6
4.9E6
1.3E7
6.5E6
3.7E6
1.9E6

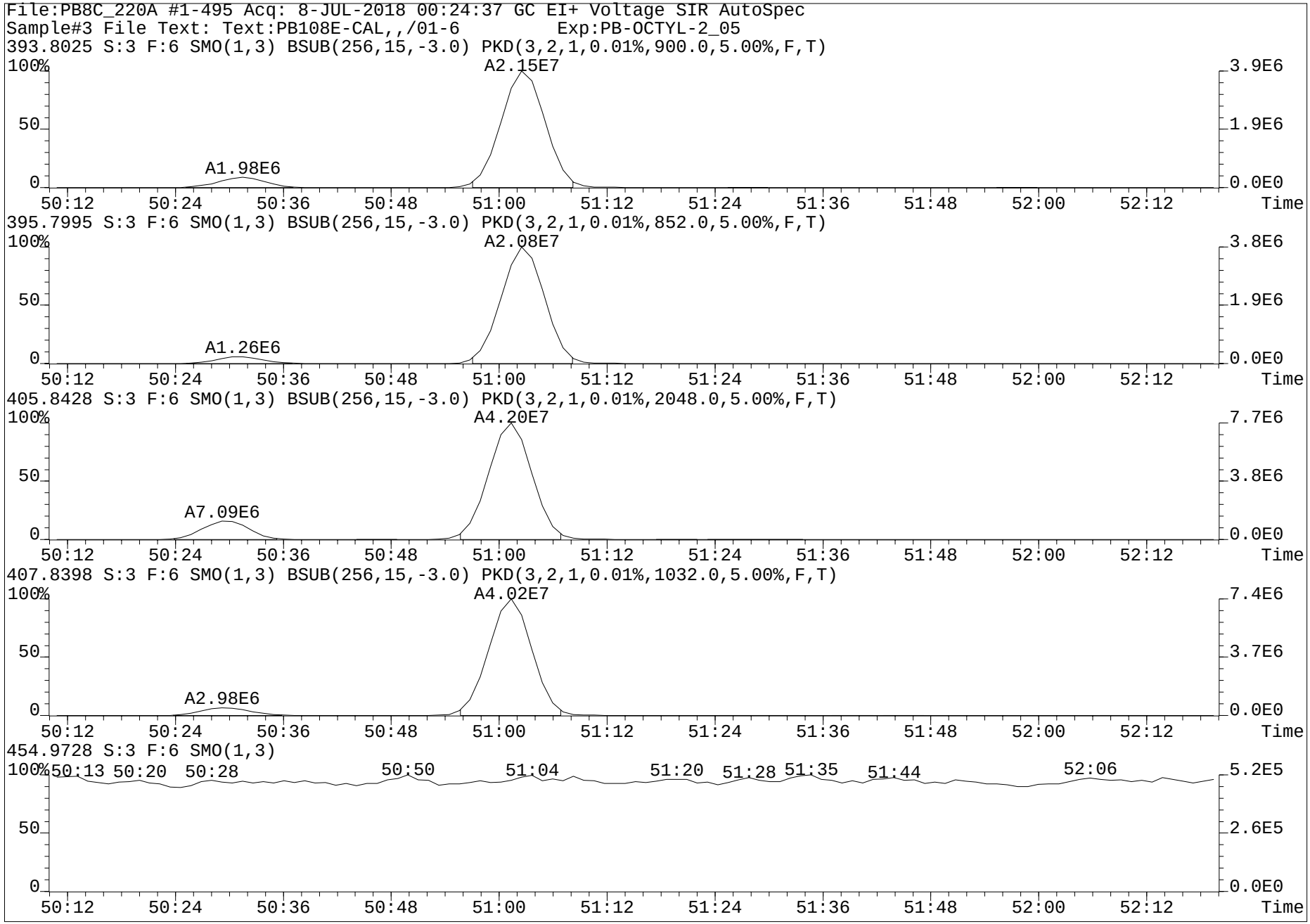

File:PB8C_220A #1-517 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
325.8804 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A3.69E7
7.7E6
3.9E6
0.0E0
327.8775 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A2.35E7
5.0E6
2.5E6
0.0E0
337.9207 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A7.03E7
1.5E7
7.5E6
0.0E0
339.9178 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A4.47E7
9.5E6
4.7E6
0.0E0
280.9825 S:3 F:3 SMO(1,3)
20:13 20:41 21:17 22:04 22:39 23:09 24:02 24:53 25:25 26:11 26:55 27:23
7.0E6
3.5E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

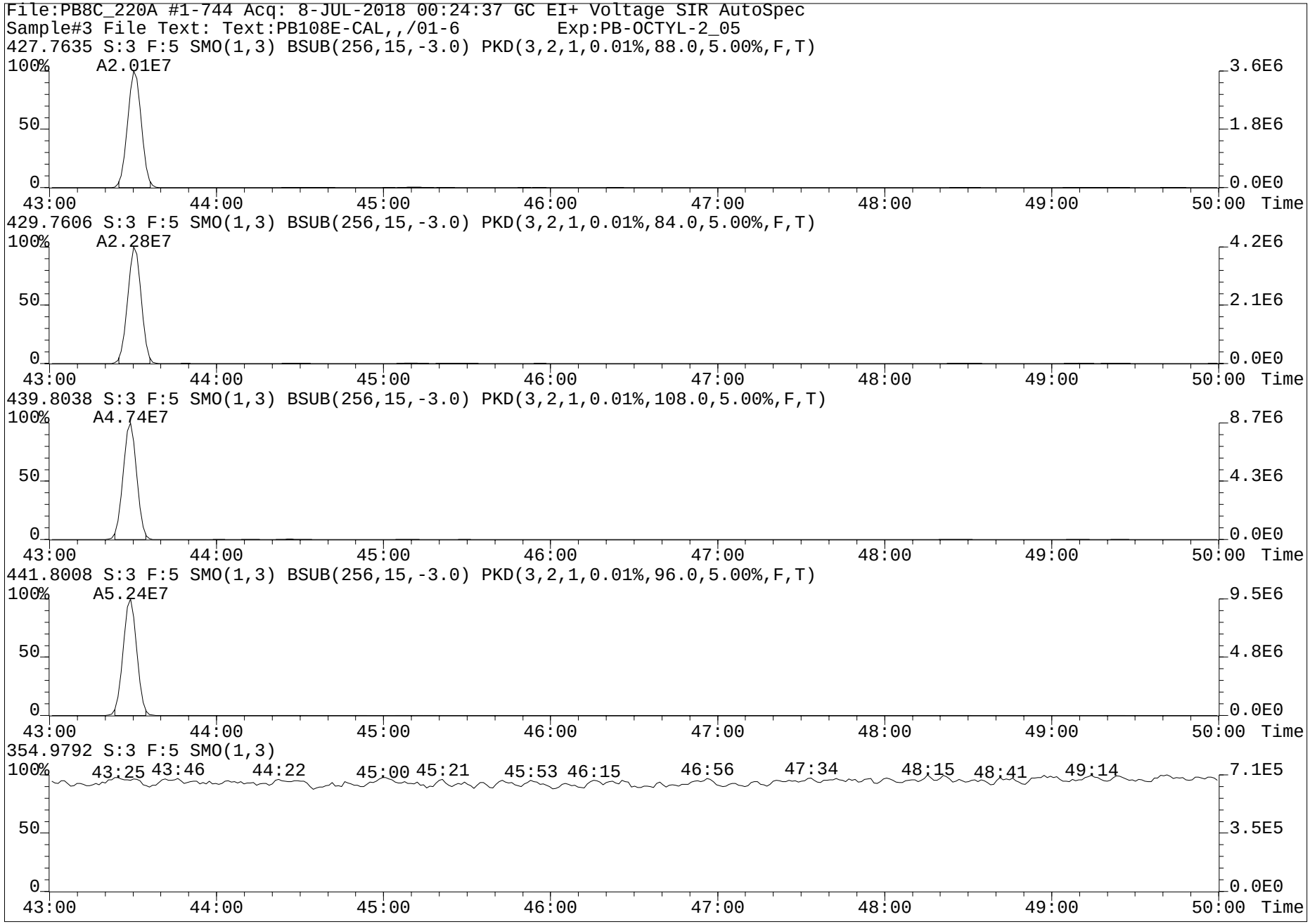

File:PB8C_220A #1-744 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
325.8804 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1136.0,5.00%,F,T)
A3.14E7
A3.22E7
A3.26E7
A2.92E7
327.8775 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,904.0,5.00%,F,T)
A2.05E7
A2.06E7
A2.08E7
A1.87E7
337.9207 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2308.0,5.00%,F,T)
A6.32E7
A6.07E7
A6.31E7
A5.66E7
339.9178 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1884.0,5.00%,F,T)
A4.03E7
A3.83E7
A4.09E7
A3.60E7
354.9792 S:3 F:5 SMO(1,3)
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
6.0E6
3.0E6
0.0E0
3.9E6
1.9E6
1.2E7
5.9E6
7.7E6
3.9E6
7.1E5
3.5E5

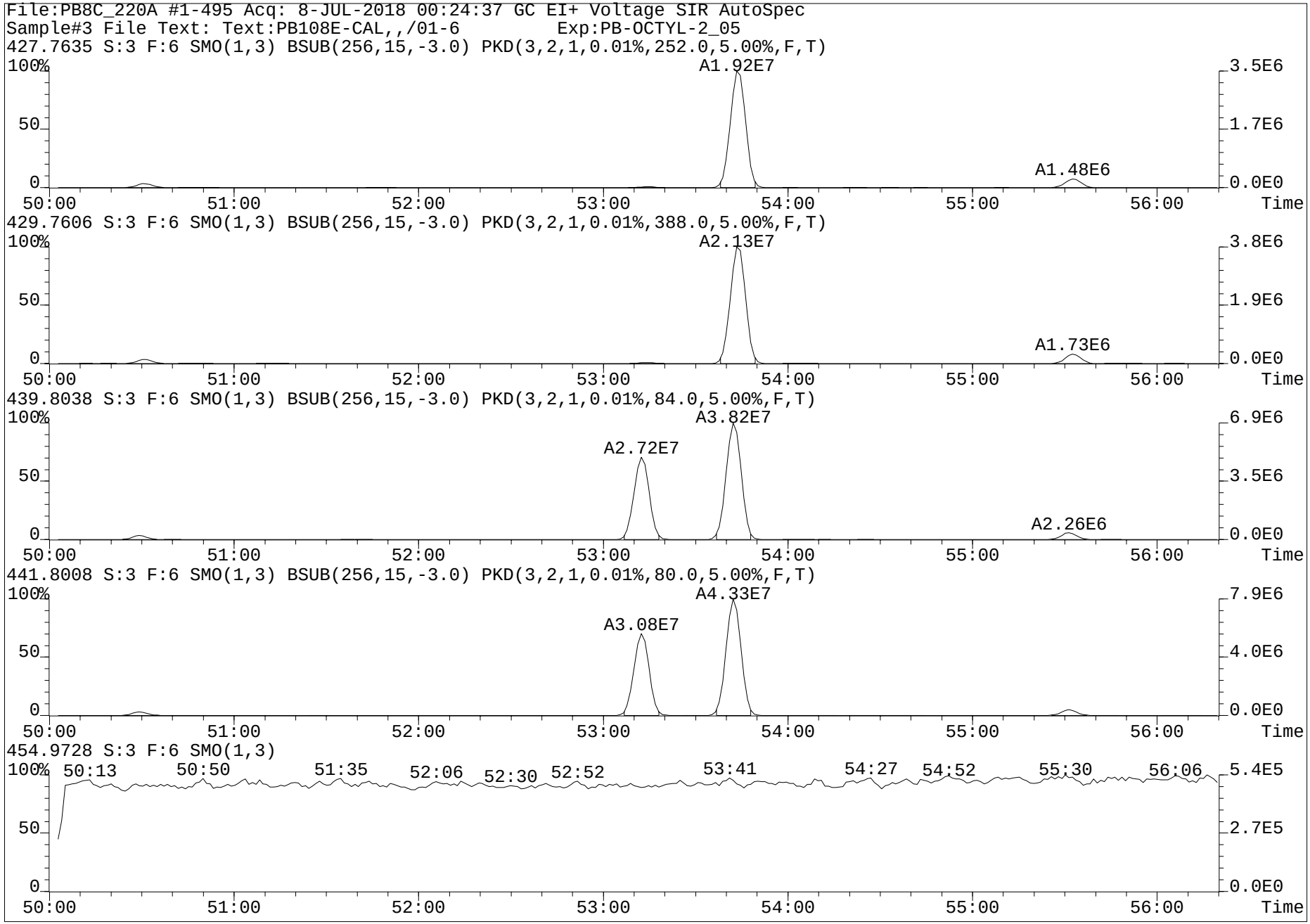

File:PB8C_220A #1-470 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
359.8415 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
100% A3.23E7
6.3E6
3.2E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
361.8385 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,172.0,5.00%,F,T)
100% A2.53E7
5.0E6
2.5E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
371.8817 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
100% A6.40E7
1.3E7
6.3E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
373.8788 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
100% A5.03E7
9.8E6
4.9E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time
330.9792 S:3 F:4 SMO(1,3)
100% 31:24 31:44 32:06 32:32 33:04 33:20 33:49 34:20 34:50 35:30 35:49
3.7E6
1.9E6
0.0E0
31:00 32:00 33:00 34:00 35:00 36:00 Time

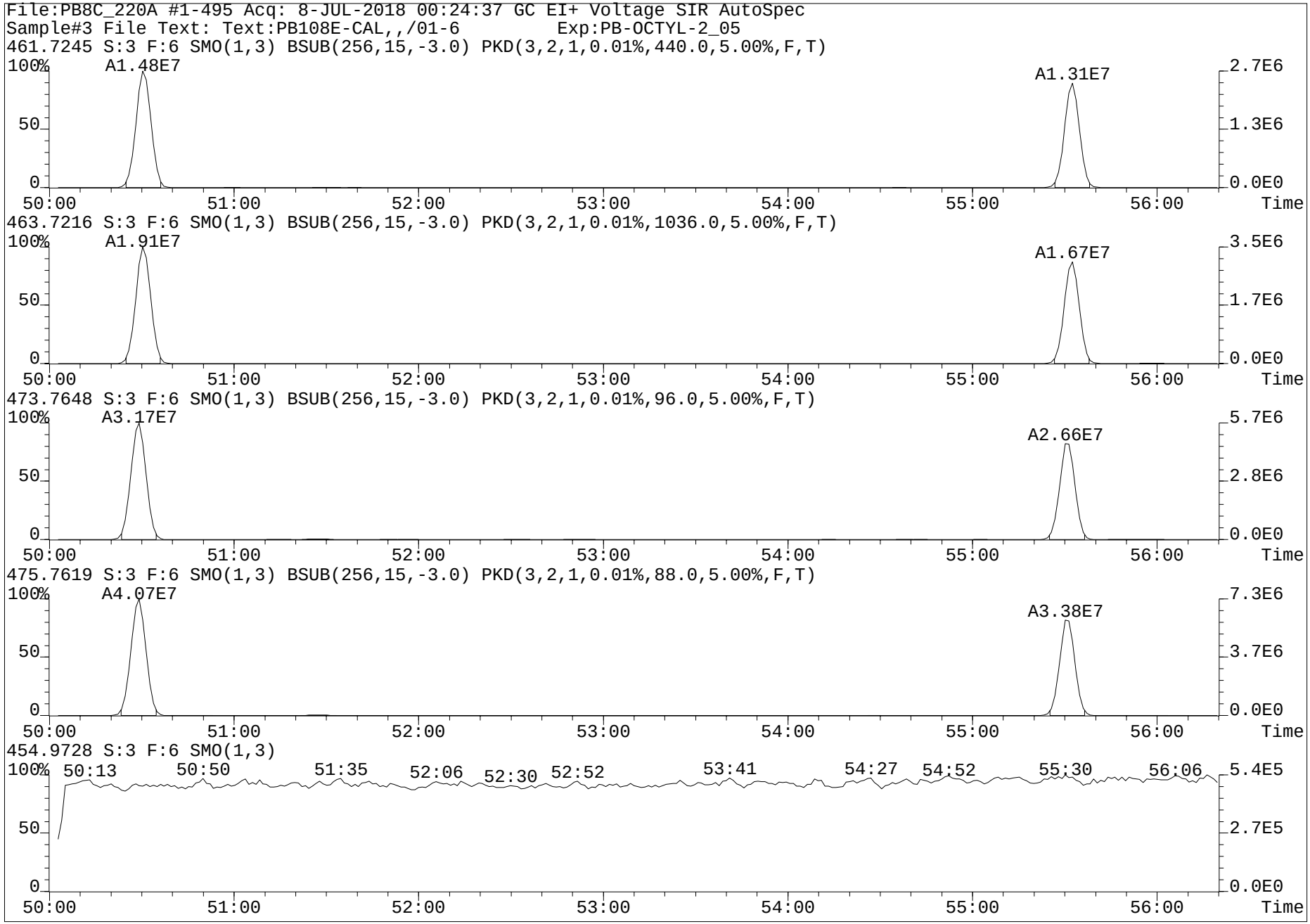

File:PB8C_220A #1-744 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
359.8415 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,744.0,5.00%,F,T)
A2.72E7
A5.48E7
A2.69E7
361.8385 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,400.0,5.00%,F,T)
A2.16E7
A4.38E7
A2.13E7
371.8817 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,124.0,5.00%,F,T)
A3.98E7
A4.80E7
A9.99E7
A5.08E7
373.8788 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A3.15E7
A3.91E7
A7.89E7
A4.08E7
354.9792 S:3 F:5 SMO(1,3)
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
7.5E6
3.8E6
0.0E0
6.0E6
3.0E6
1.4E7
6.8E6
1.1E7
5.4E6
7.1E5
3.5E5

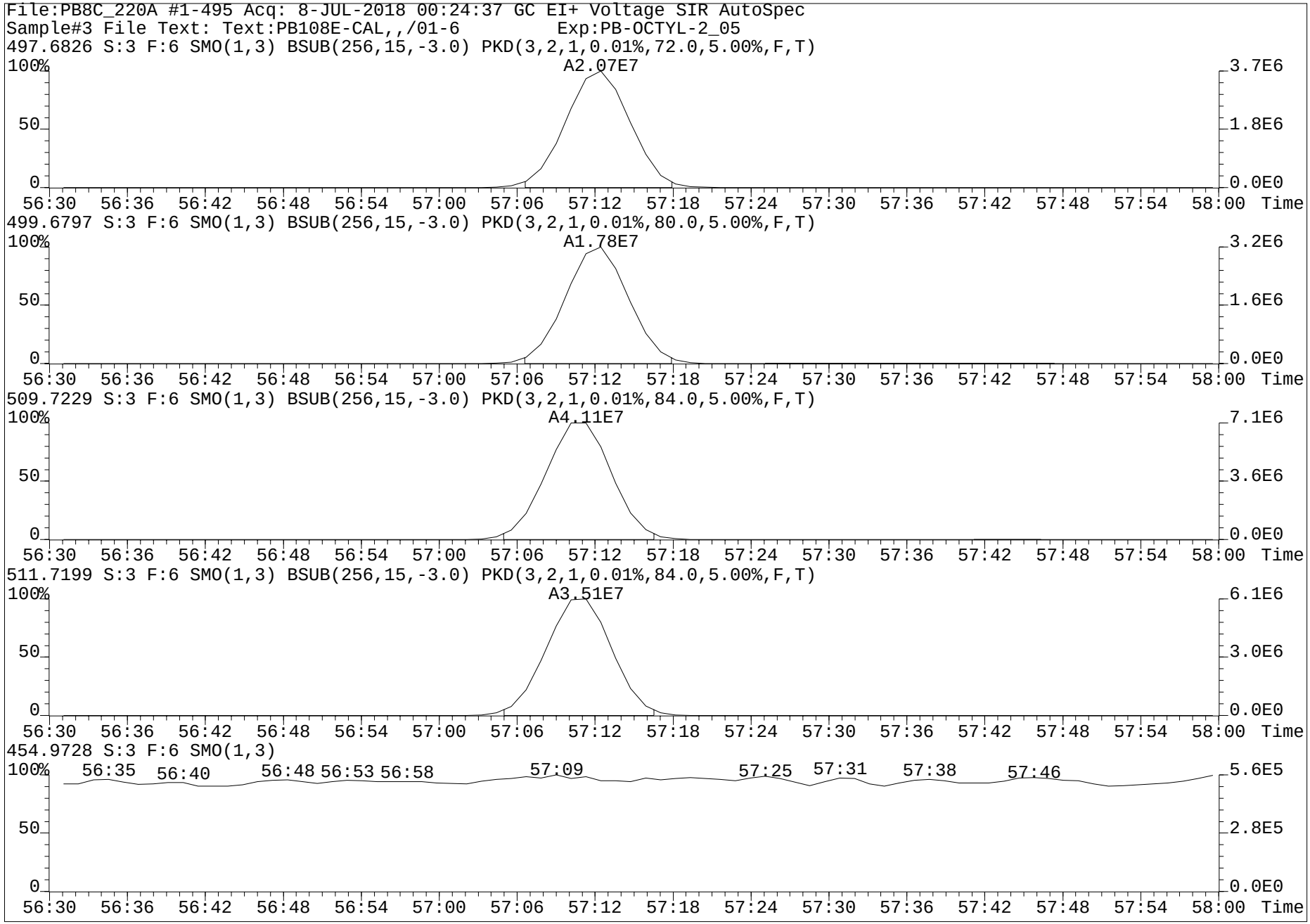

File:PB8C_220A #1-744 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
393.8025 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A2.52E7
A1.83E7
A1.75E7
A1.44E7
395.7995 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,280.0,5.00%,F,T)
A2.40E7
A1.74E7
A1.69E7
A1.39E7
405.8425 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,344.0,5.00%,F,T)
A5.28E7
A3.48E7
A3.59E7
A3.02E7
407.8398 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A4.94E7
A3.34E7
A3.46E7
A2.93E7
354.9792 S:3 F:5 SMO(1,3)
36:02 37:25 38:12 39:01 39:49 40:42 41:32 42:33 43:25 45:00 46:15 47:34 48:21
100%
50
0
4.7E6
2.4E6
0.0E0
4.5E6
2.3E6
9.8E6
4.9E6
9.2E6
4.6E6
7.1E5
3.5E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

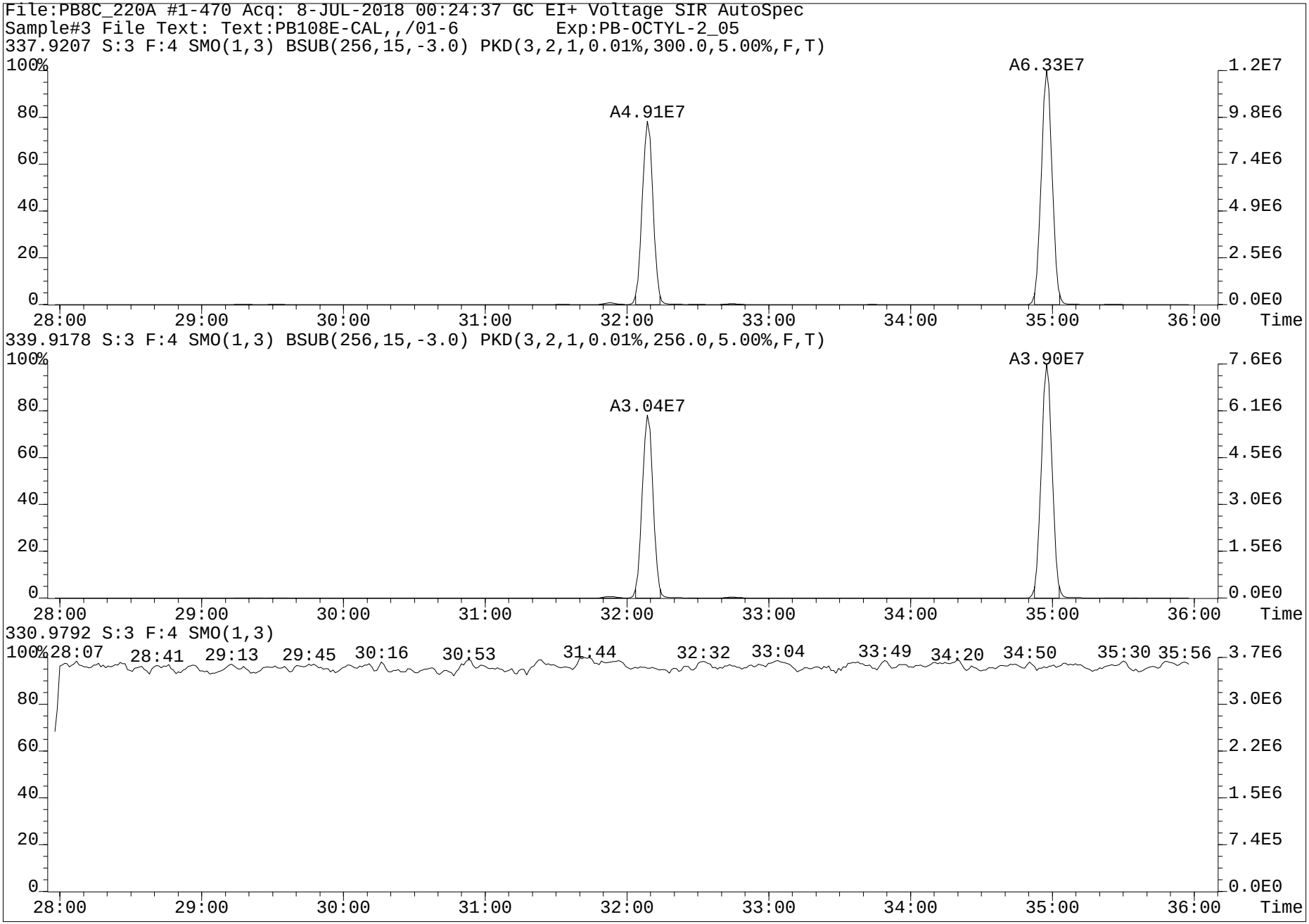

File:PB8C_220A #1-495 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
393.8025 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
A2.15E7
A1.98E6
395.7995 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,852.0,5.00%,F,T)
A2.08E7
A1.26E6
405.8428 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2048.0,5.00%,F,T)
A4.20E7
A7.09E6
407.8398 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1032.0,5.00%,F,T)
A4.02E7
A2.98E6
454.9728 S:3 F:6 SMO(1,3)
50:13 50:20 50:28 50:50 51:04 51:20 51:28 51:35 51:44 52:06
100%
50
0
3.9E6
1.9E6
0.0E0
3.8E6
7.7E6
3.8E6
7.4E6
3.7E6
5.2E5
2.6E5
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12
Time


File:PB8C_220A #1-744 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
427.7635 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
100% A2.01E7
3.6E6
1.8E6
0.0E0
429.7606 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
100% A2.28E7
4.2E6
2.1E6
0.0E0
439.8038 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
100% A4.74E7
8.7E6
4.3E6
0.0E0
441.8008 S:3 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
100% A5.24E7
9.5E6
4.8E6
0.0E0
354.9792 S:3 F:5 SMO(1,3)
100%
43:25 43:46 44:22 45:00 45:21 45:53 46:15 46:56 47:34 48:15 48:41 49:14
7.1E5
3.5E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220A #1-495 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
427.7635 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A1.92E7
A1.48E6
429.7606 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A2.13E7
A1.73E6
439.8038 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.82E7
A2.72E7
A2.26E6
441.8008 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A4.33E7
A3.08E7
454.9728 S:3 F:6 SMO(1,3)
50:13 50:50 51:35 52:06 52:30 52:52 53:41 54:27 54:52 55:30 56:06
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.5E6 1.7E6 0.0E0
3.8E6 1.9E6 0.0E0
6.9E6 3.5E6 0.0E0
7.9E6 4.0E6 0.0E0
5.4E5 2.7E5 0.0E0


File:PB8C_220A #1-495 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
461.7245 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A1.48E7
A1.31E7
463.7216 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1036.0,5.00%,F,T)
A1.91E7
A1.67E7
473.7648 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A3.17E7
A2.66E7
475.7619 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A4.07E7
A3.38E7
454.9728 S:3 F:6 SMO(1,3)
50:13
50:50
51:35
52:06
52:30
52:52
53:41
54:27
54:52
55:30
56:06
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
2.7E6
1.3E6
0.0E0
3.5E6
1.7E6
5.7E6
2.8E6
7.3E6
3.7E6
5.4E5
2.7E5


File:PB8C_220A #1-495 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
497.6826 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,72.0,5.00%,F,T)
A2.07E7
499.6797 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A1.78E7
509.7229 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A4.11E7
511.7199 S:3 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.51E7
454.9728 S:3 F:6 SMO(1,3)
56:35 56:40 56:48 56:53 56:58 57:09 57:25 57:31 57:38 57:46
100%
50
0
3.7E6
1.8E6
0.0E0
3.2E6
1.6E6
7.1E6
3.6E6
6.1E6
3.0E6
5.6E5
2.8E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220A #1-470 Acq: 8-JUL-2018 00:24:37 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108E-CAL,,/01-6 Exp:PB-OCTYL-2_05
337.9207 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A4.91E7
A6.33E7
339.9178 S:3 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,256.0,5.00%,F,T)
A3.04E7
A3.90E7
330.9792 S:3 F:4 SMO(1,3)
28:07 28:41 29:13 29:45 30:16 30:53 31:44 32:32 33:04 33:49 34:20 34:50 35:30 35:56
Time

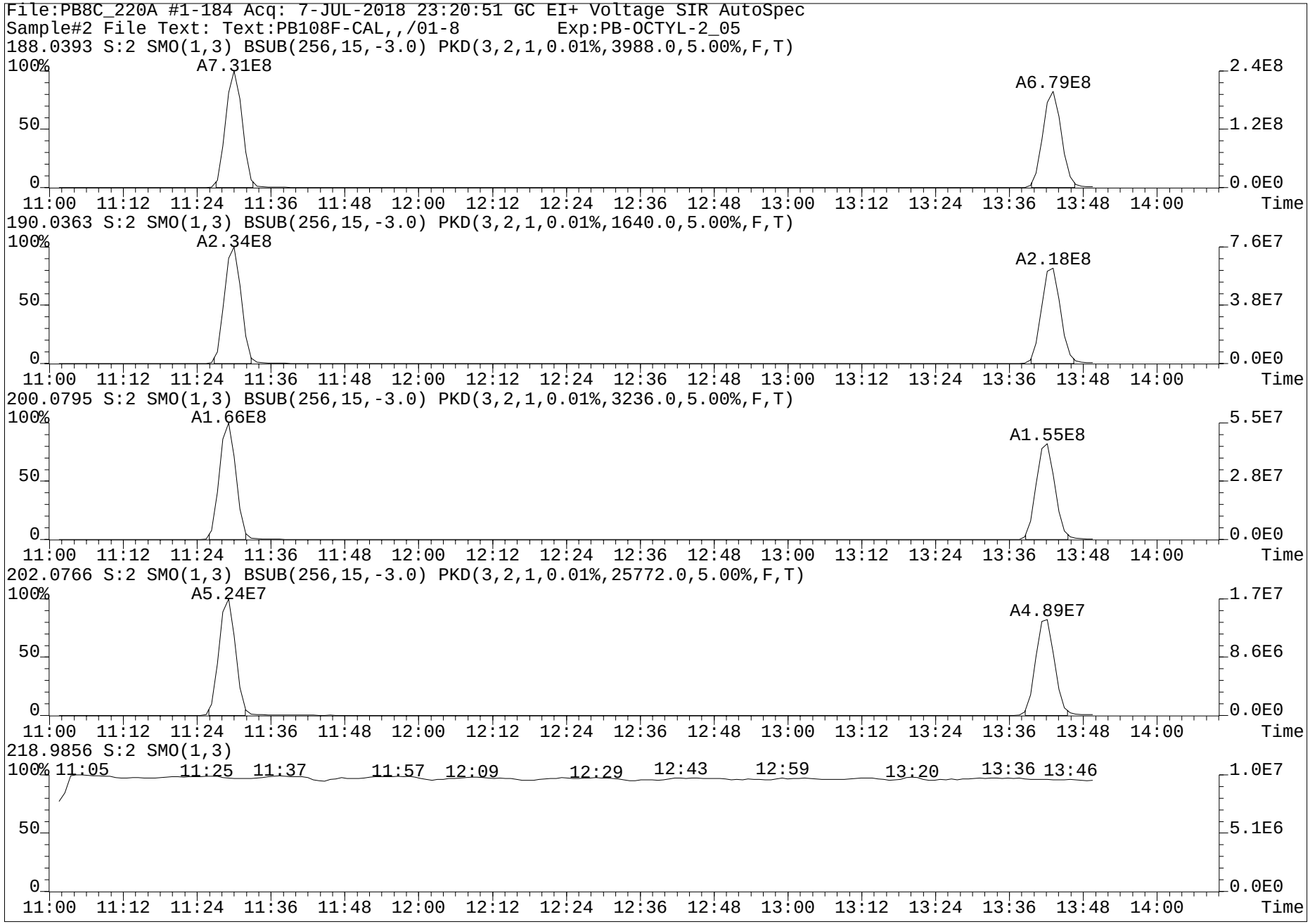
www.axysanalytical.com

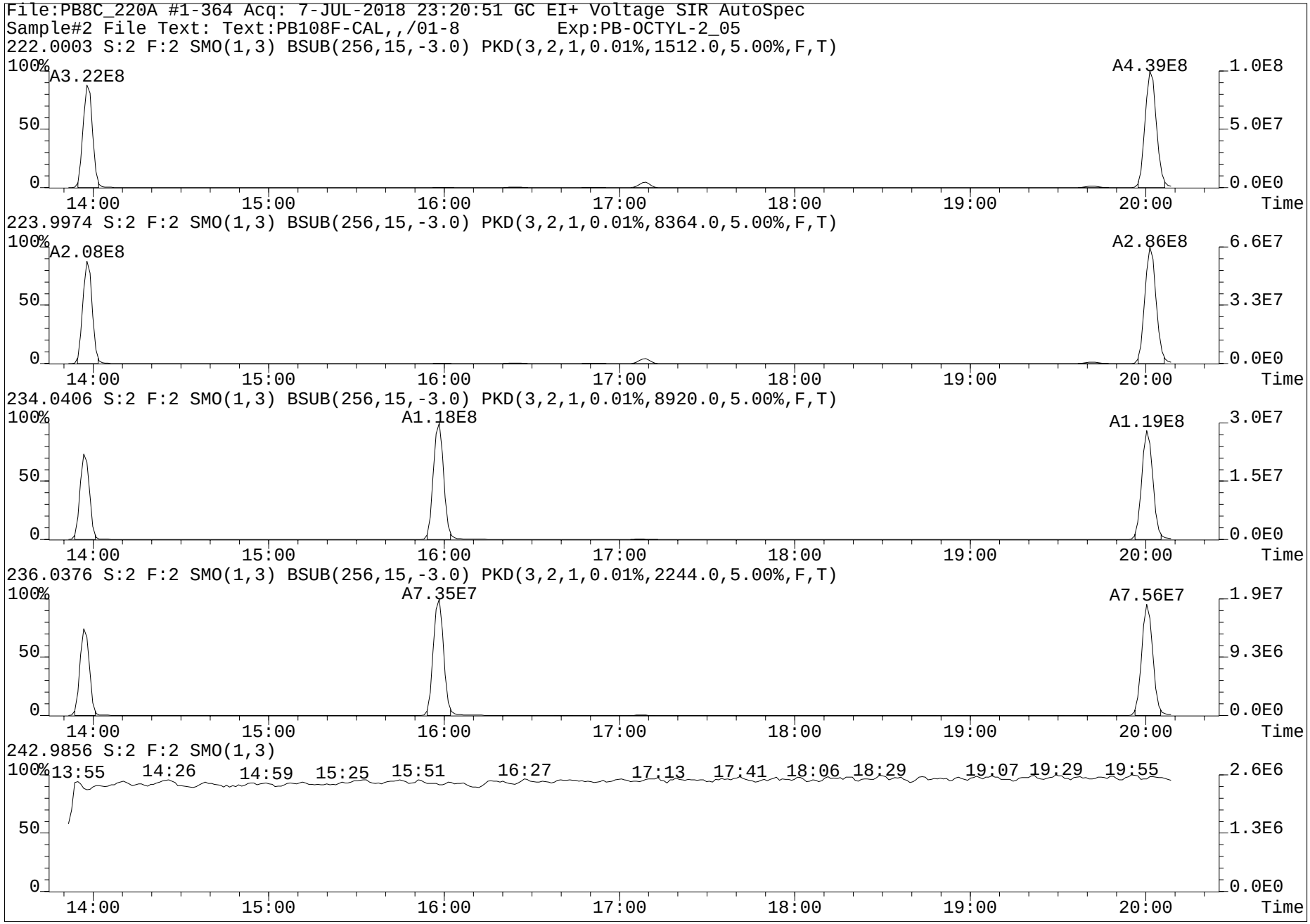
Run #5 Filename PB8C_220A S: 2 I: 1 Acquired: 7-JUL-18 23:20:51 Processed: 9-JUL-18 08:10:02
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108F-CAL,,/01-8 Comments: 1,,1.0uL CS-4 F1: 400.00 F2: 1.00

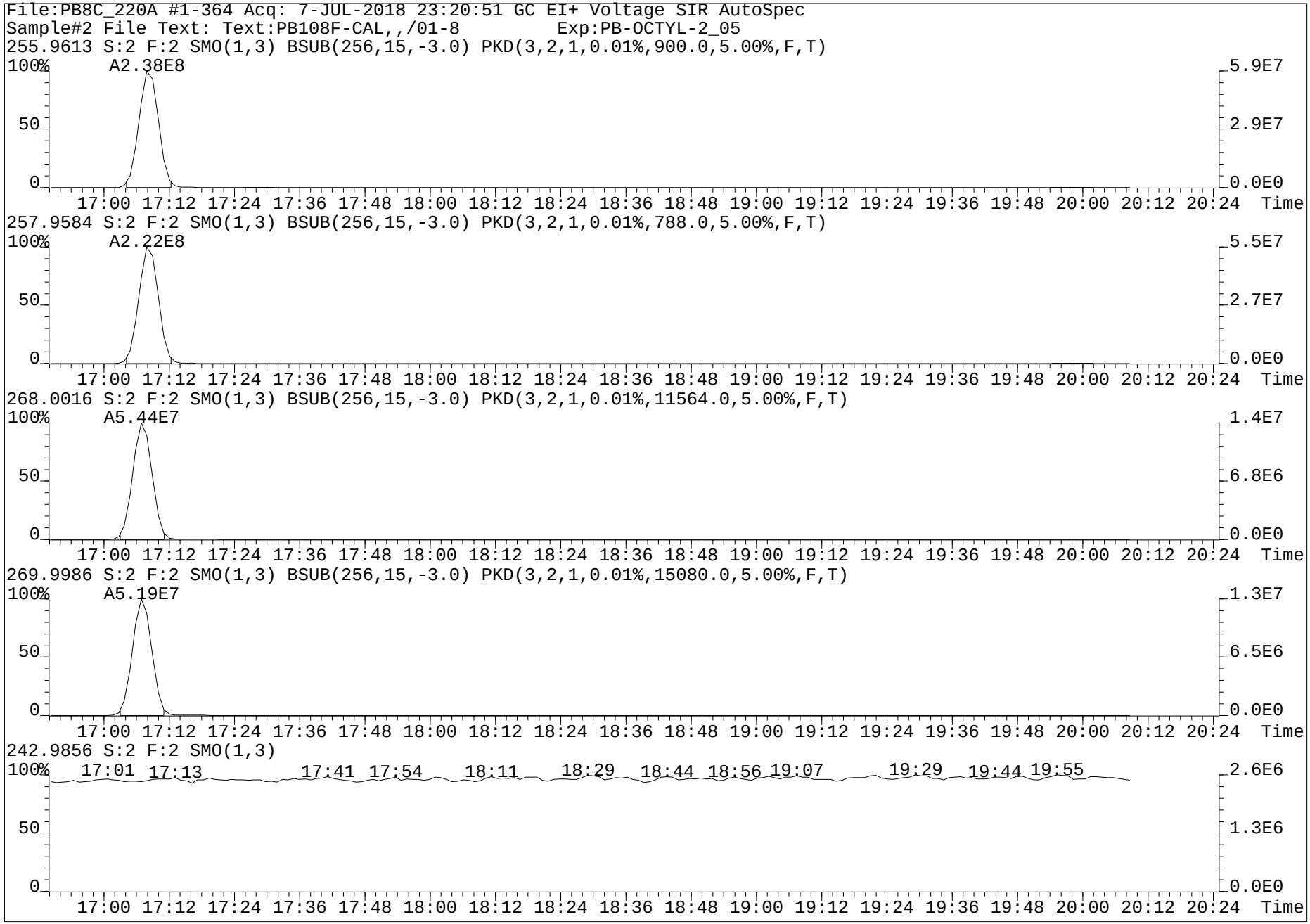
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL1-PCB-1	400.00	9.65e+08	3.12	y 11:30	-	1.1043	y	n
2	Unk	CL1-PCB-3	400.00	8.97e+08	3.12	y 13:43	-	1.0987	y	n
3	Unk	CL2-PCB-4	400.00	5.30e+08	1.54	y 13:58	-	1.0259	y	n
4	Unk	CL2-PCB-15	400.00	7.24e+08	1.54	y 20:01	-	0.9322	y	n
5	Unk	CL3-PCB-19	400.00	4.60e+08	1.07	y 17:08	-	1.0826	y	n
6	Unk	CL3-PCB-37	400.00	6.06e+08	1.03	y 27:19	-	1.0267	y	n
7	Unk	CL4-PCB-54	400.00	6.03e+08	0.79	y 20:19	-	1.0755	y	n
8	Unk	CL4-PCB-81	400.00	4.70e+08	0.77	y 34:22	-	1.0467	y	n
9	Unk	CL4-PCB-77	400.00	4.65e+08	0.77	y 34:58	-	1.0321	y	n
10	Unk	CL5-PCB-104	400.00	5.07e+08	1.56	y 26:00	-	1.0650	y	n
11	Unk	CL5-PCB-123	400.00	4.03e+08	1.55	y 37:02	-	0.9853	y	n
12	Unk	CL5-PCB-118	400.00	4.16e+08	1.52	y 37:22	-	1.0357	y	n
13	Unk	CL5-PCB-114	400.00	4.38e+08	1.57	y 37:56	-	1.0718	y	n
14	Unk	CL5-PCB-105	400.00	4.23e+08	1.53	y 38:37	-	1.0333	y	n
15	Unk	CL5-PCB-126	400.00	3.73e+08	1.54	y 41:52	-	1.0494	y	n
16	Unk	CL6-PCB-155	400.00	4.99e+08	1.26	y 31:54	-	1.0367	y	n
17	Unk	CL6-PCB-167	400.00	3.96e+08	1.25	y 43:47	-	1.1388	y	n
18	Unk	CL6-PCB-156/157	800.00	8.02e+08	1.25	y 45:00	-	1.1115	y	n
19	Unk	CL6-PCB-169	400.00	3.72e+08	1.26	y 48:24	-	1.0628	y	n
20	Unk	CL7-PCB-188	400.00	4.20e+08	1.04	y 37:54	-	1.0002	y	n
21	Unk	CL7-PCB-189	400.00	3.34e+08	1.05	y 51:03	-	1.0588	y	n
22	Unk	CL8-PCB-202	400.00	3.53e+08	0.89	y 43:31	-	0.8786	y	n
23	Unk	CL8-PCB-205	400.00	3.24e+08	0.83	y 53:44	-	0.9913	y	n
24	Unk	CL9-PCB-208	400.00	2.79e+08	0.79	y 50:31	-	0.9586	y	n
25	Unk	CL9-PCB-206	400.00	2.35e+08	0.77	y 55:32	-	0.9904	y	n
26	Unk	CL10-PCB-209	400.00	3.16e+08	1.17	y 57:12	-	1.0413	y	n
27	IS	13C-CL1-PCB-1	100.00	2.18e+08	3.17	y 11:29	-	1.1420	y	n
28	IS	13C-CL1-PCB-3	100.00	2.04e+08	3.17	y 13:42	-	1.0673	y	n
29	IS	13C-CL2-PCB-4	100.00	1.29e+08	1.58	y 13:57	-	0.6749	y	n
30	IS	13C-CL2-PCB-15	100.00	1.94e+08	1.57	y 20:00	-	1.0157	y	n
31	IS	13C-CL3-PCB-19	100.00	1.06e+08	1.05	y 17:07	-	0.5557	y	n
32	IS	13C-CL3-PCB-37	100.00	1.48e+08	1.06	y 27:18	-	1.5582	y	n
33	REF	13C-CL4-CHECK	100.00	1.40e+08	0.80	y 20:17	-	1.4801	y	n
34	IS	13C-CL4-PCB-81	100.00	1.12e+08	0.73	y 34:21	-	1.1846	y	n
35	IS	13C-CL4-PCB-77	100.00	1.13e+08	0.71	y 34:56	-	1.1884	y	n
36	IS	13C-CL5-PCB-104	100.00	1.19e+08	1.57	y 25:58	-	1.5164	y	n
37	IS	13C-CL5-PCB-123	100.00	1.02e+08	1.56	y 37:01	-	1.3009	y	n
38	IS	13C-CL5-PCB-118	100.00	1.00e+08	1.58	y 37:21	-	1.2790	y	n
39	IS	13C-CL5-PCB-114	100.00	1.02e+08	1.61	y 37:55	-	1.3010	y	n
40	IS	13C-CL5-PCB-105	100.00	1.02e+08	1.60	y 38:36	-	1.3037	y	n
41	IS	13C-CL5-PCB-126	100.00	8.88e+07	1.60	y 41:50	-	1.1309	y	n
42	IS	13C-CL6-PCB-155	100.00	1.20e+08	1.24	y 31:53	-	1.7401	y	n
43	IS	13C-CL6-PCB-167	100.00	8.68e+07	1.24	y 43:46	-	1.2559	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.80e+08	1.26	y 44:59	-	1.3052	y	n

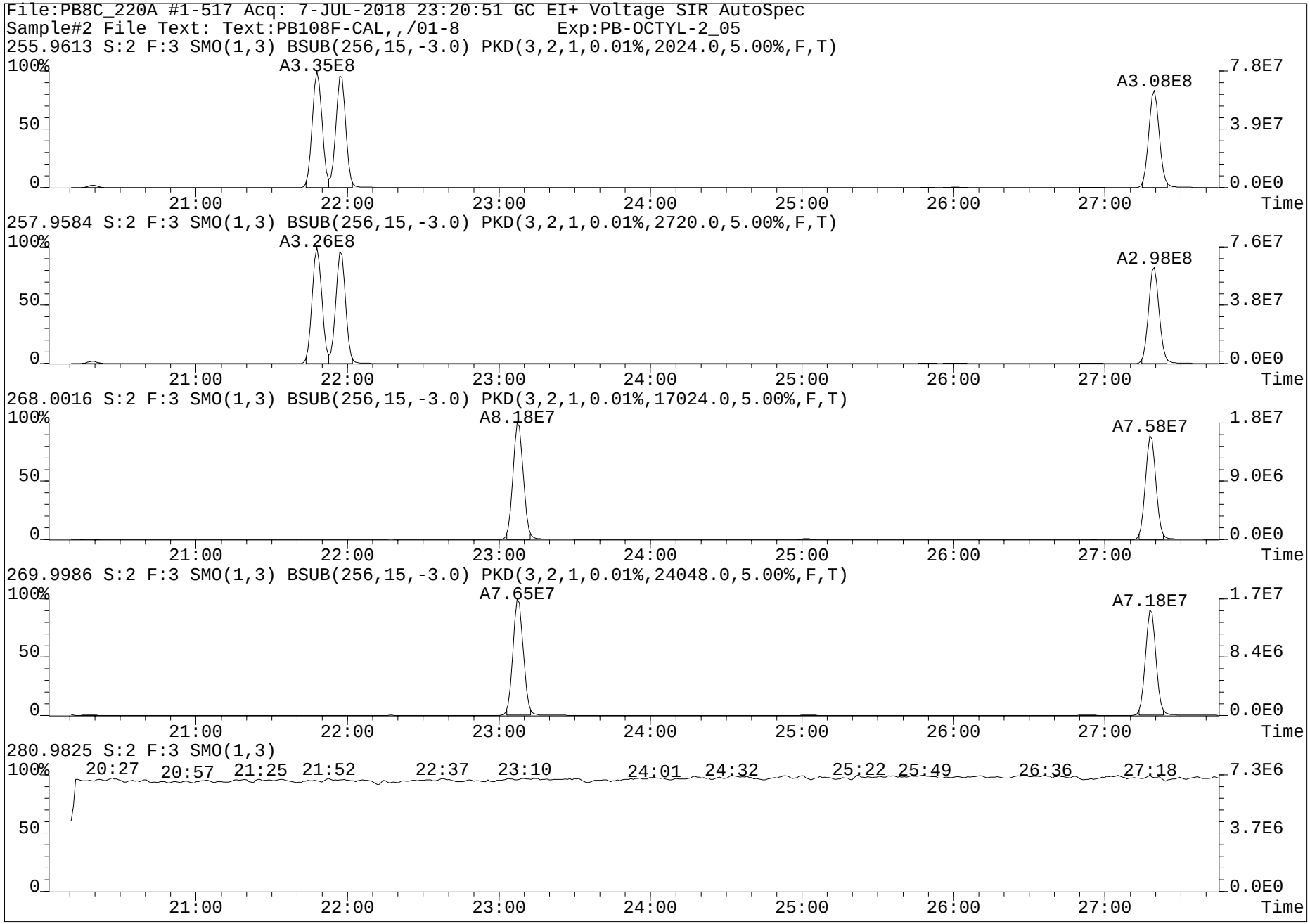
PV by RA 09JUL2018
9-JUL-18

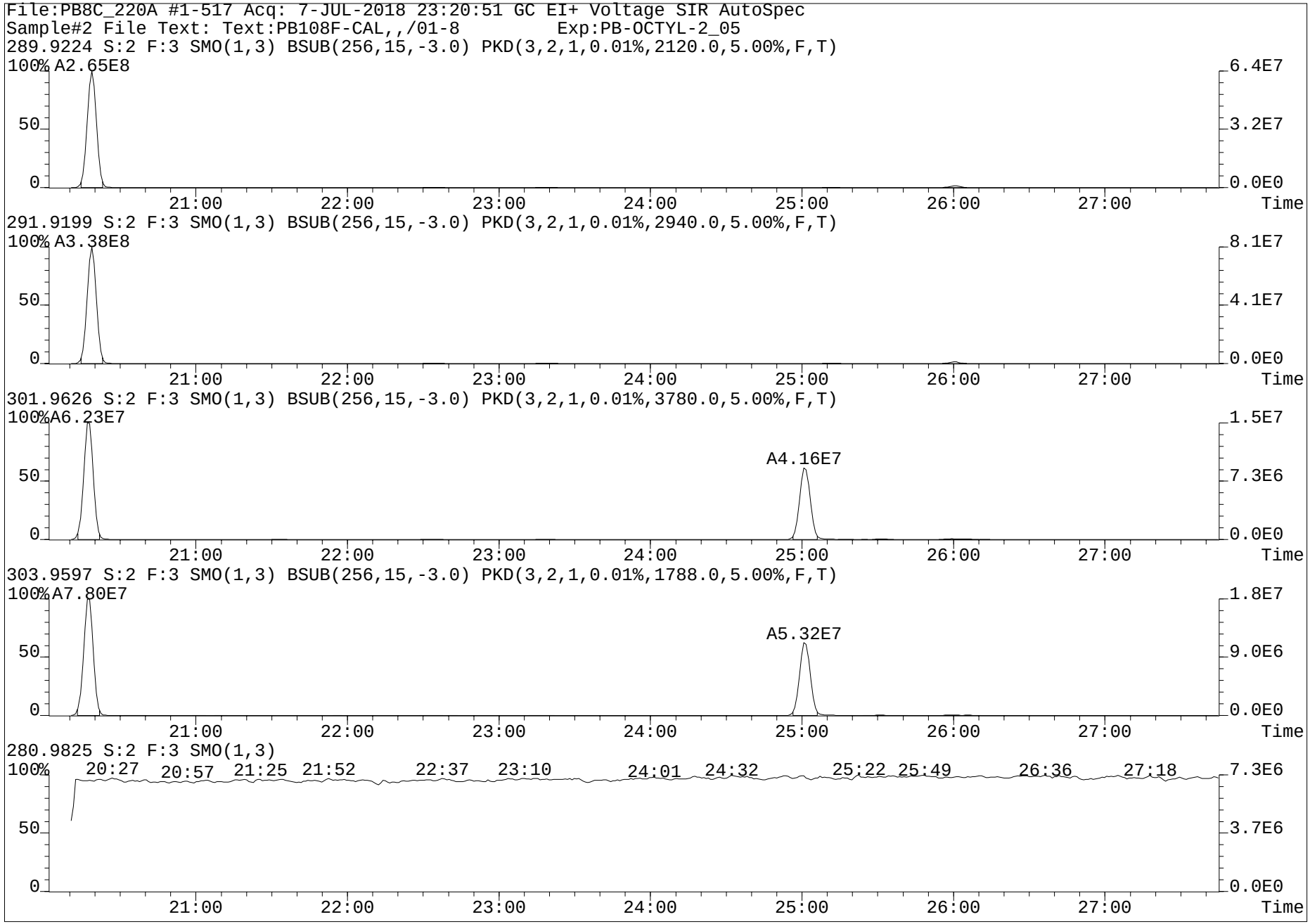
45	IS	13C-CL6-PCB-169	100.00	8.75e+07	1.25	y	48:23	-	1.2655	y	n
46	REF	13C-CL7-CHECK	100.00	1.05e+08	1.02	y	37:52	-	1.9613	y	n
47	IS	13C-CL7-PCB-189	100.00	7.88e+07	1.05	y	51:01	-	1.4730	y	n
48	IS	13C-CL8-PCB-202	100.00	1.00e+08	0.89	y	43:29	-	1.8774	y	n
49	IS	13C-CL8-PCB-205	100.00	8.16e+07	0.88	y	53:43	-	1.5242	y	n
50	IS	13C-CL9-PCB-208	100.00	7.28e+07	0.78	y	50:29	-	1.3601	y	n
51	IS	13C-CL9-PCB-206	100.00	5.93e+07	0.79	y	55:31	-	1.1075	y	n
52	IS	13C-CL10-PCB-209	100.00	7.58e+07	1.16	y	57:11	-	1.4168	y	n
53	RS	13C-CL2-PCB-9	100.00	1.91e+08	1.60	y	15:58	1.91e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	9.48e+07	0.78	y	25:01	9.48e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	7.85e+07	1.57	y	32:09	7.85e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	6.91e+07	1.25	y	40:36	6.91e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	5.35e+07	0.87	y	53:13	5.35e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.58e+08	1.07	y	23:07	-	1.6702	y	n
59	C/Up	13C-CL5-PCB-111	100.00	1.01e+08	1.58	y	34:58	-	1.2913	y	n
60	C/Up	13C-CL7-PCB-178	100.00	6.78e+07	1.06	y	41:04	-	0.9800	y	n
61	IS	13C-CL4-PCB-54	100.00	1.40e+08	0.80	y	20:17	-	1.4801	y	n
62	IS	13C-CL7-PCB-188	100.00	1.05e+08	1.02	y	37:52	-	1.9613	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

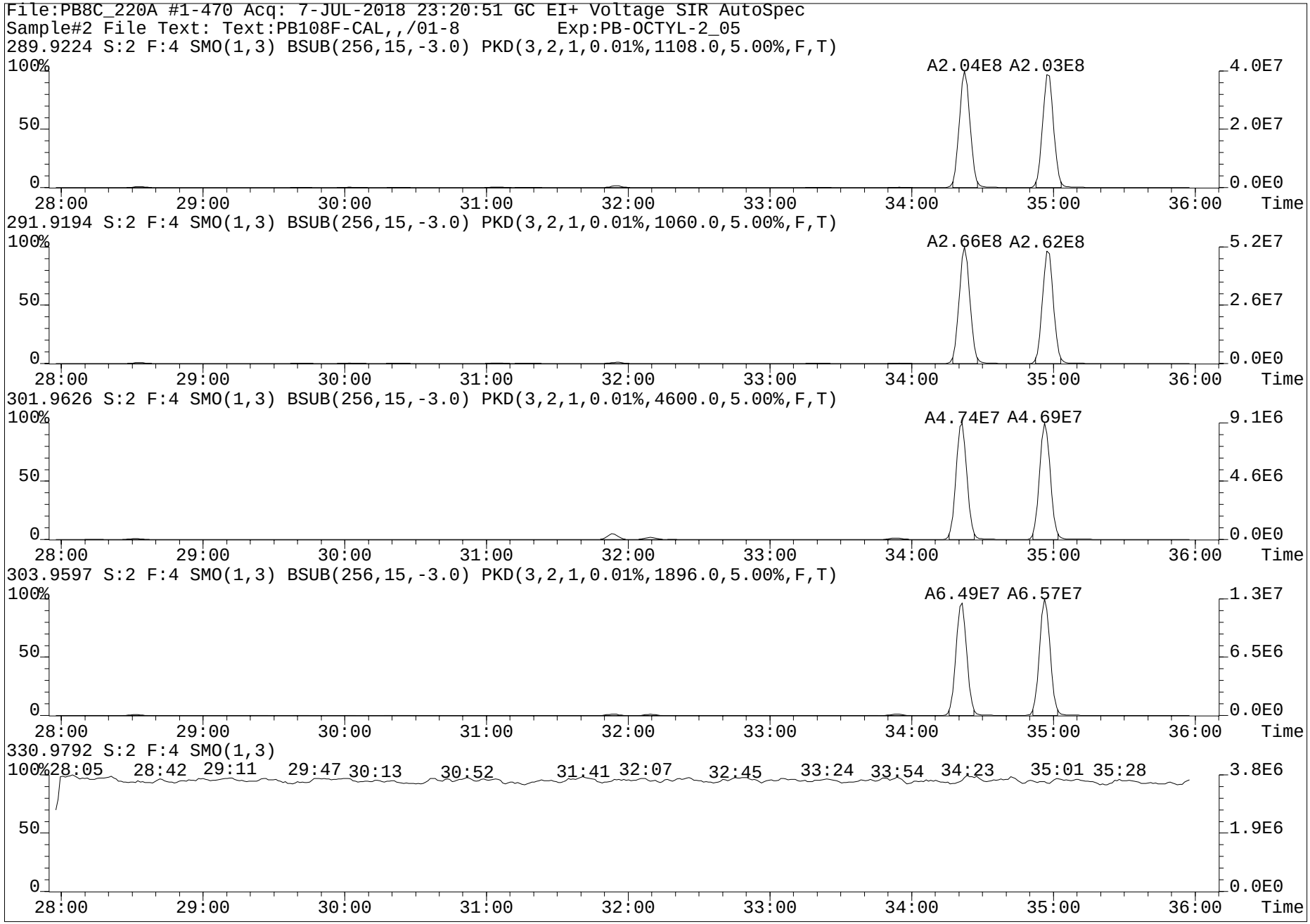

File:PB8C_220A #1-184 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
188.0393 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3988.0,5.00%,F,T)
A7.31E8
A6.79E8
190.0363 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1640.0,5.00%,F,T)
A2.34E8
A2.18E8
200.0795 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3236.0,5.00%,F,T)
A1.66E8
A1.55E8
202.0766 S:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,25772.0,5.00%,F,T)
A5.24E7
A4.89E7
218.9856 S:2 SMO(1,3)
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

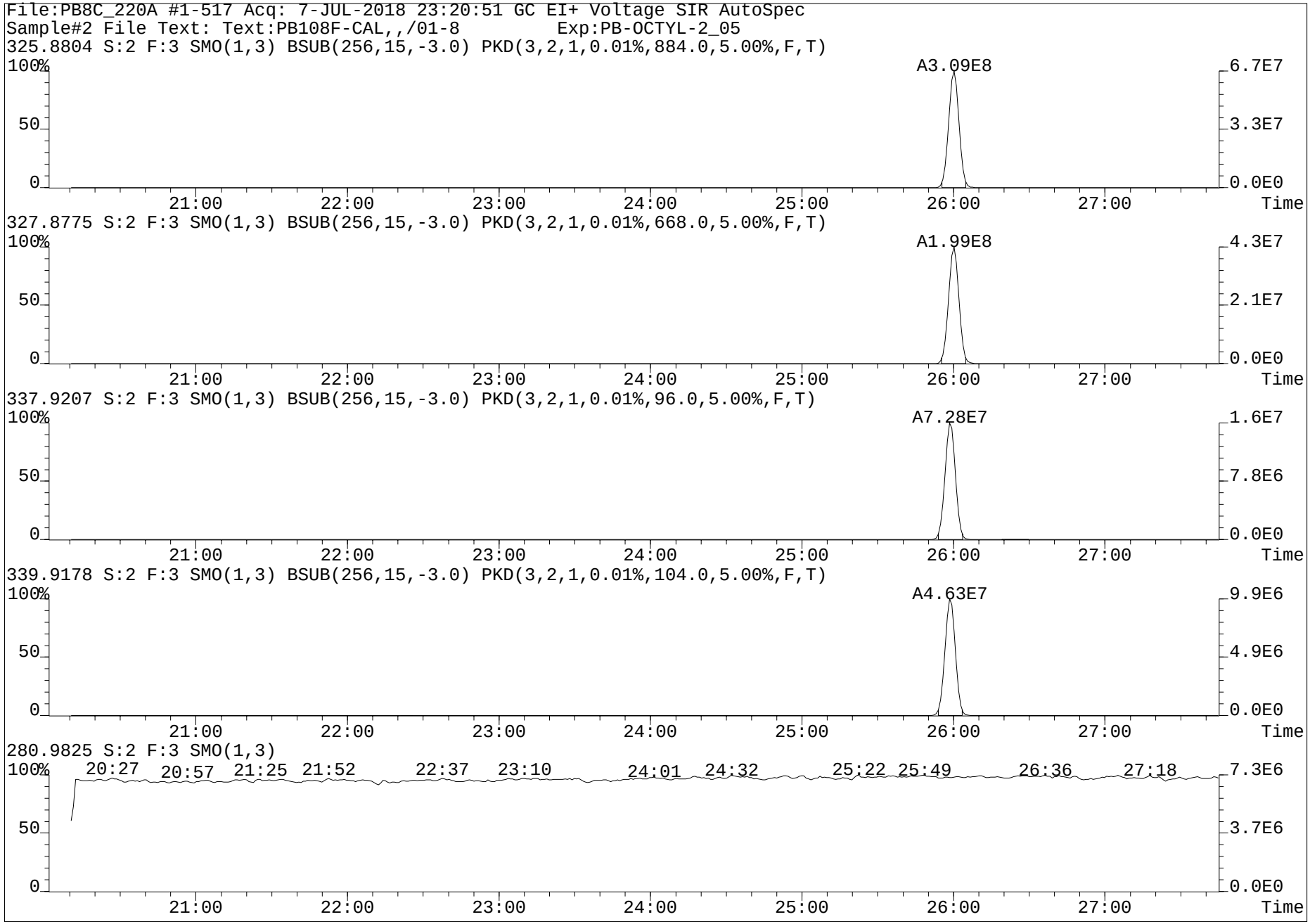

File:PB8C_220A #1-364 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
222.0003 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1512.0,5.00%,F,T)
A3.22E8
A4.39E8
223.9974 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8364.0,5.00%,F,T)
A2.08E8
A2.86E8
234.0406 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8920.0,5.00%,F,T)
A1.18E8
A1.19E8
236.0376 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2244.0,5.00%,F,T)
A7.35E7
A7.56E7
242.9856 S:2 F:2 SMO(1,3)
13:55 14:26 14:59 15:25 15:51 16:27 17:13 17:41 18:06 18:29 19:07 19:29 19:55
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.0E8
5.0E7
0.0E0
6.6E7
3.3E7
3.0E7
1.5E7
1.9E7
9.3E6
2.6E6
1.3E6

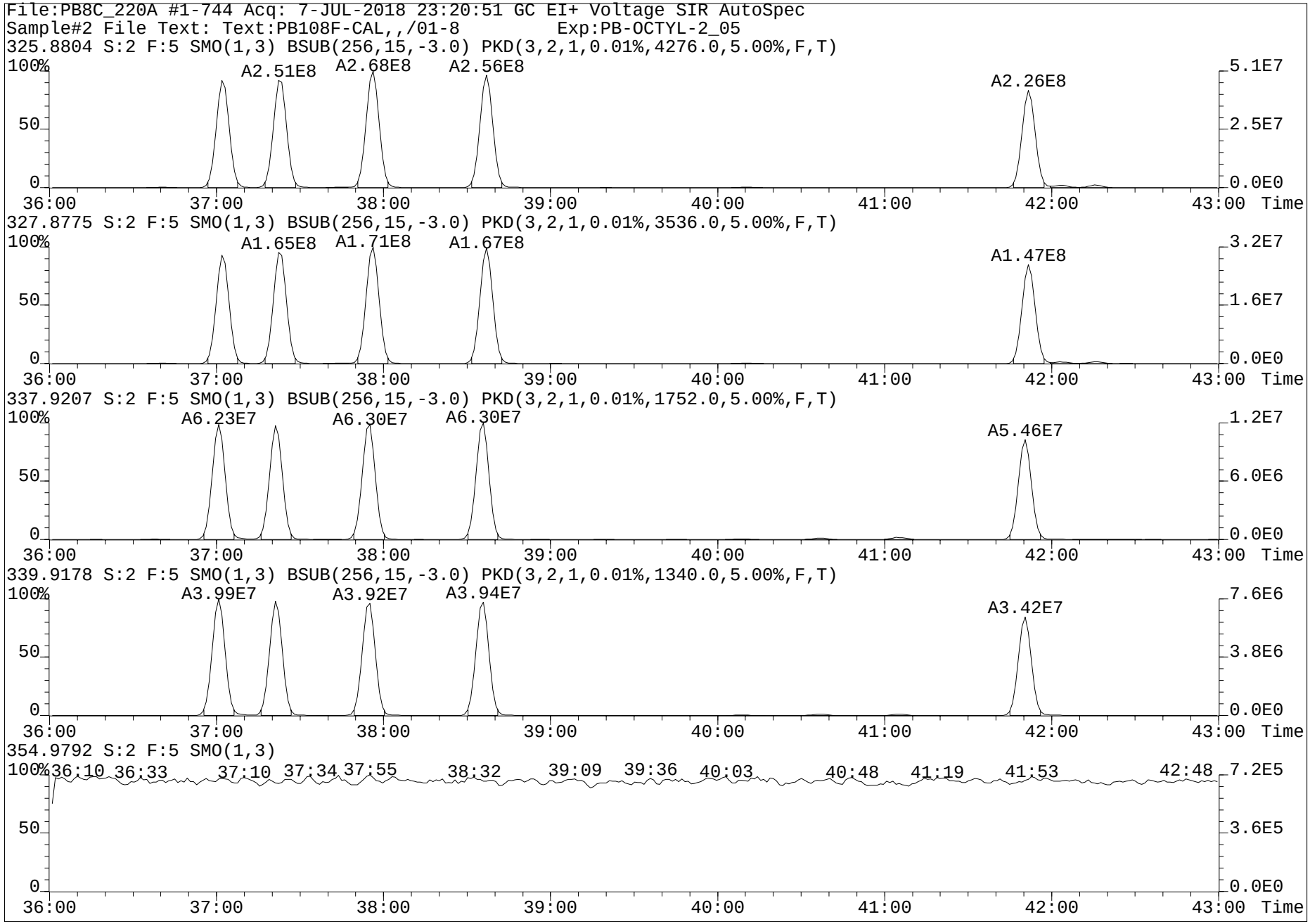

File:PB8C_220A #1-364 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
100% A2.38E8
5.9E7
2.9E7
0.0E0
257.9584 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,788.0,5.00%,F,T)
100% A2.22E8
5.5E7
2.7E7
0.0E0
268.0016 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11564.0,5.00%,F,T)
100% A5.44E7
1.4E7
6.8E6
0.0E0
269.9986 S:2 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15080.0,5.00%,F,T)
100% A5.19E7
1.3E7
6.5E6
0.0E0
242.9856 S:2 F:2 SMO(1,3)
100% 17:01 17:13 17:41 17:54 18:11 18:29 18:44 18:56 19:07 19:29 19:44 19:55
2.6E6
1.3E6
0.0E0
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

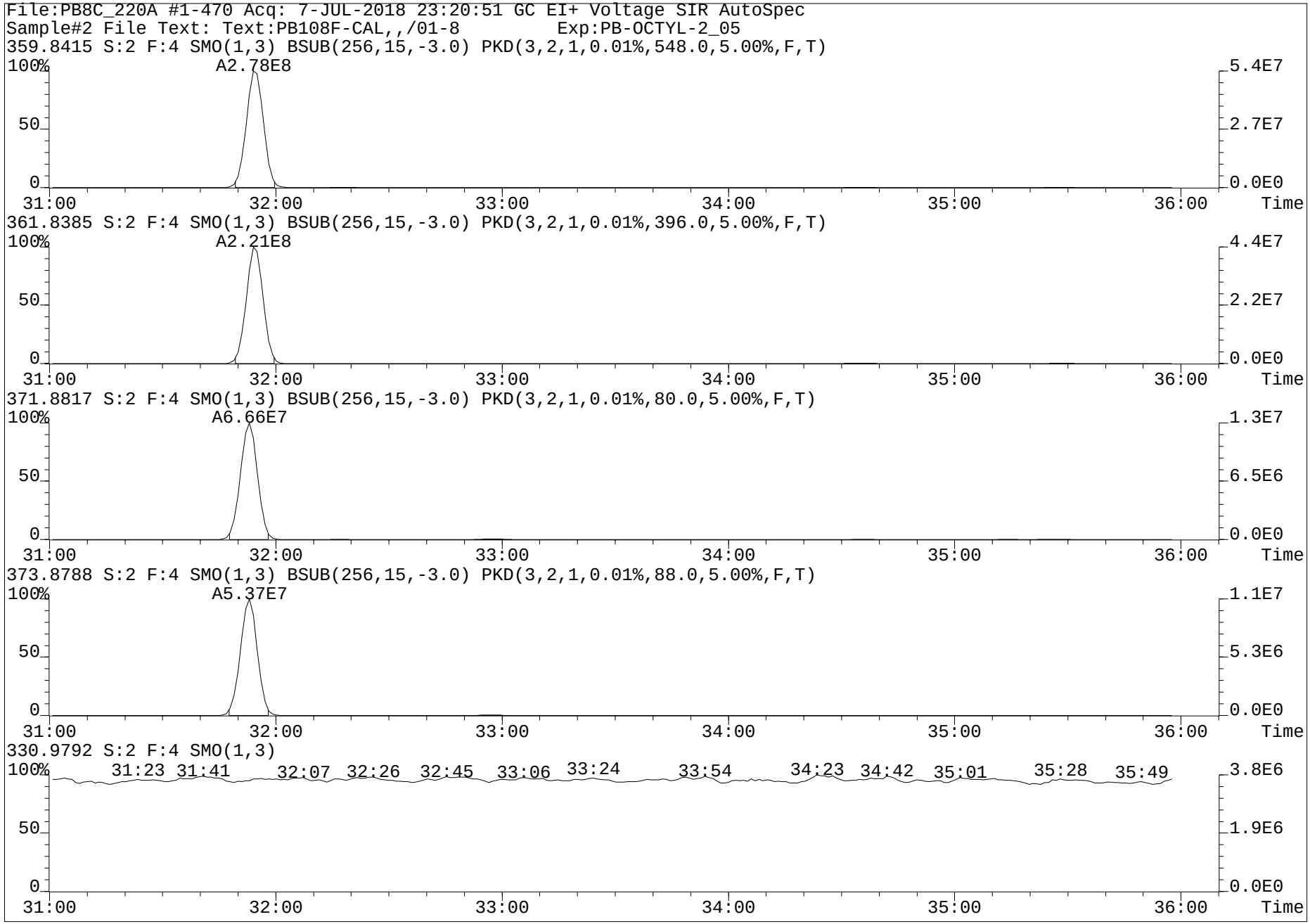

File:PB8C_220A #1-517 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2024.0,5.00%,F,T)
A3.35E8
A3.08E8
257.9584 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2720.0,5.00%,F,T)
A3.26E8
A2.98E8
268.0016 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17024.0,5.00%,F,T)
A8.18E7
A7.58E7
269.9986 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,24048.0,5.00%,F,T)
A7.65E7
A7.18E7
280.9825 S:2 F:3 SMO(1,3)
20:27 20:57 21:25 21:52 22:37 23:10 24:01 24:32 25:22 25:49 26:36 27:18
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
7.8E7 3.9E7 0.0E0
7.6E7 3.8E7 0.0E0
1.8E7 9.0E6 0.0E0
1.7E7 8.4E6 0.0E0
7.3E6 3.7E6 0.0E0

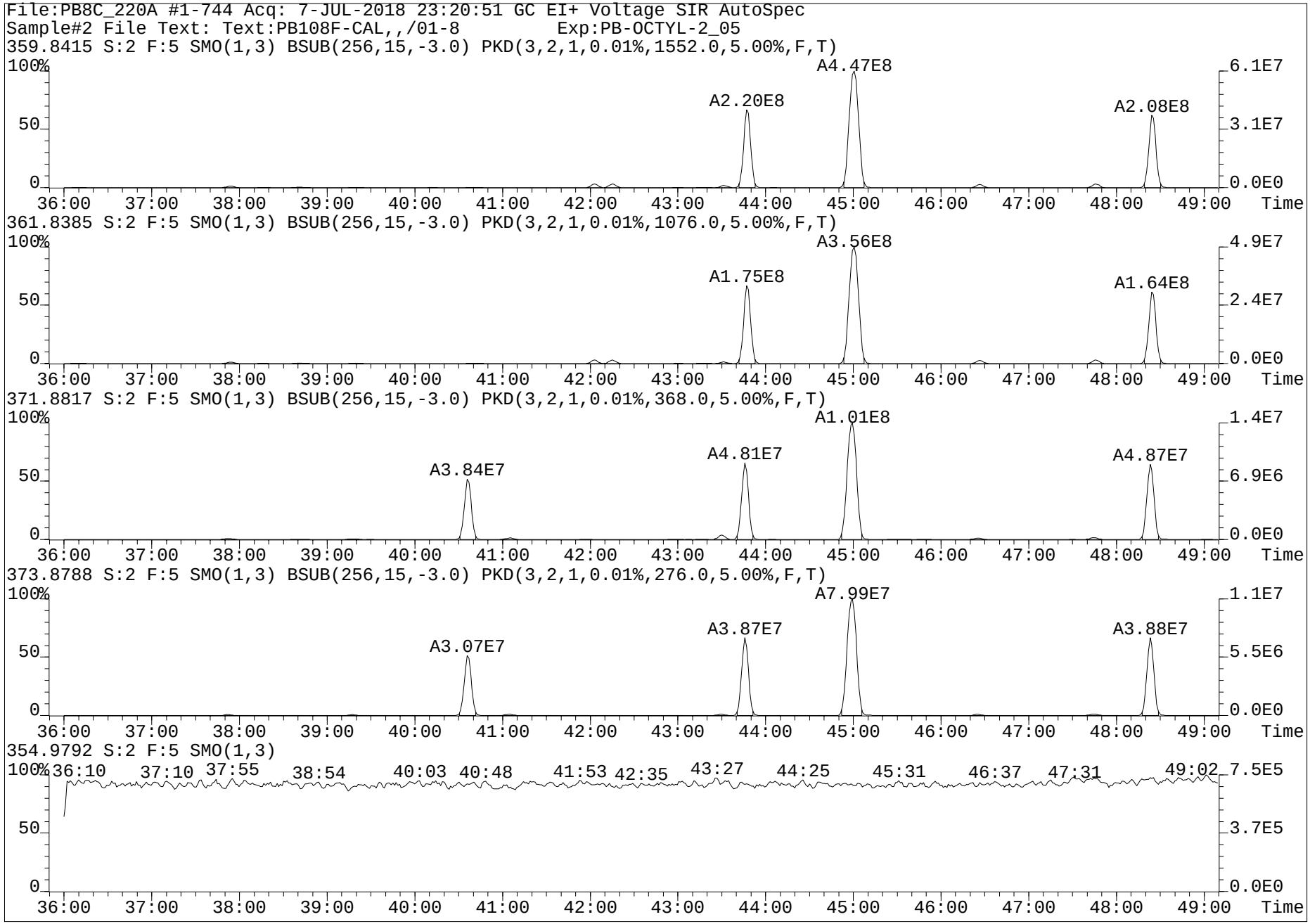

File:PB8C_220A #1-517 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2120.0,5.00%,F,T)
100% A2.65E8
6.4E7
3.2E7
0.0E0
291.9199 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2940.0,5.00%,F,T)
100% A3.38E8
8.1E7
4.1E7
0.0E0
301.9626 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3780.0,5.00%,F,T)
100% A6.23E7
A4.16E7
1.5E7
7.3E6
0.0E0
303.9597 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1788.0,5.00%,F,T)
100% A7.80E7
A5.32E7
1.8E7
9.0E6
0.0E0
280.9825 S:2 F:3 SMO(1,3)
100%
20:27 20:57 21:25 21:52 22:37 23:10 24:01 24:32 25:22 25:49 26:36 27:18
7.3E6
3.7E6
0.0E0
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

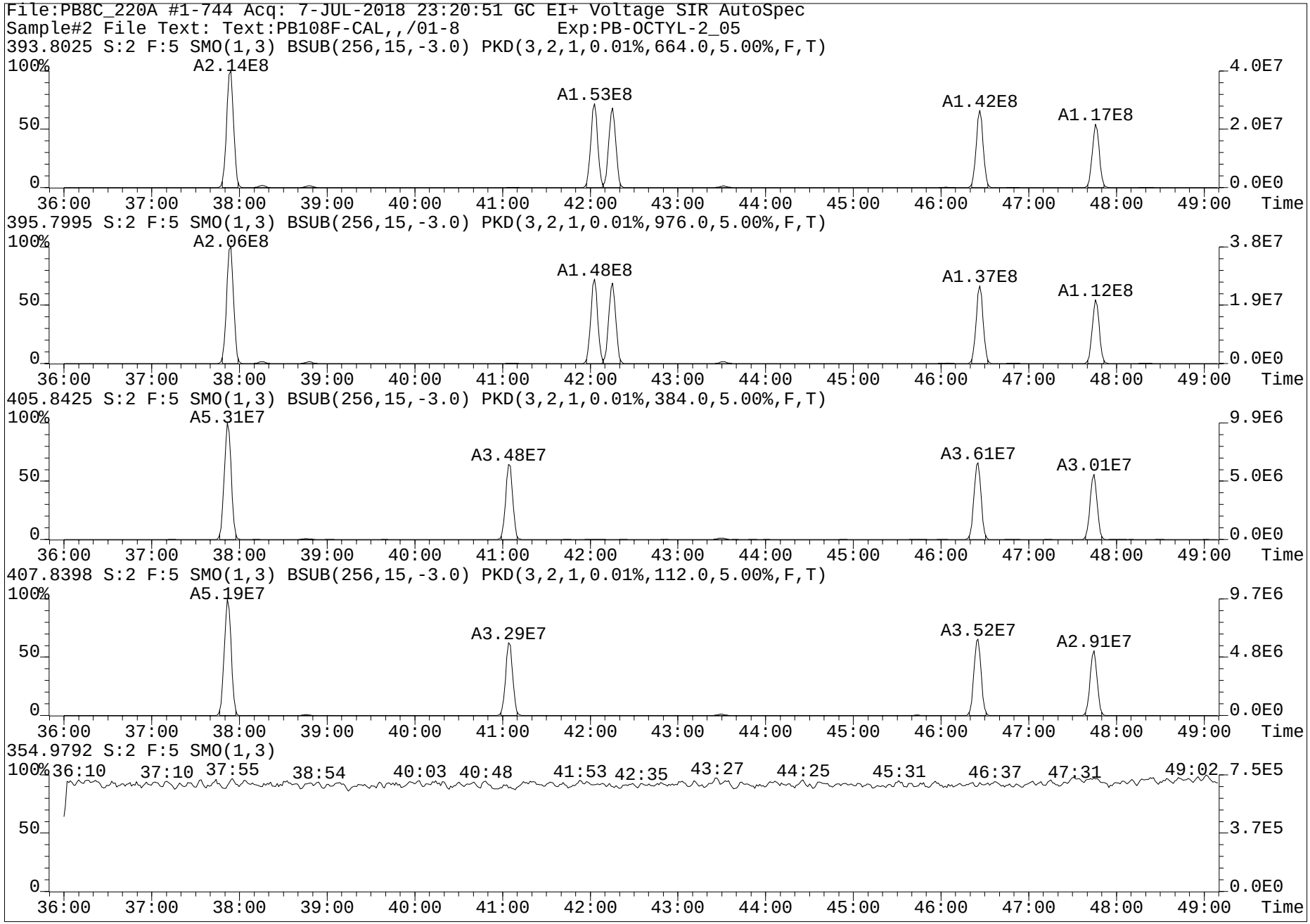

File:PB8C_220A #1-470 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1108.0,5.00%,F,T)
A2.04E8 A2.03E8
291.9194 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1060.0,5.00%,F,T)
A2.66E8 A2.62E8
301.9626 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4600.0,5.00%,F,T)
A4.74E7 A4.69E7
303.9597 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1896.0,5.00%,F,T)
A6.49E7 A6.57E7
330.9792 S:2 F:4 SMO(1,3)
28:05 28:42 29:11 29:47 30:13 30:52 31:41 32:07 32:45 33:24 33:54 34:23 35:01 35:28
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
4.0E7
2.0E7
0.0E0
5.2E7
2.6E7
9.1E6
4.6E6
1.3E7
6.5E6
3.8E6
1.9E6

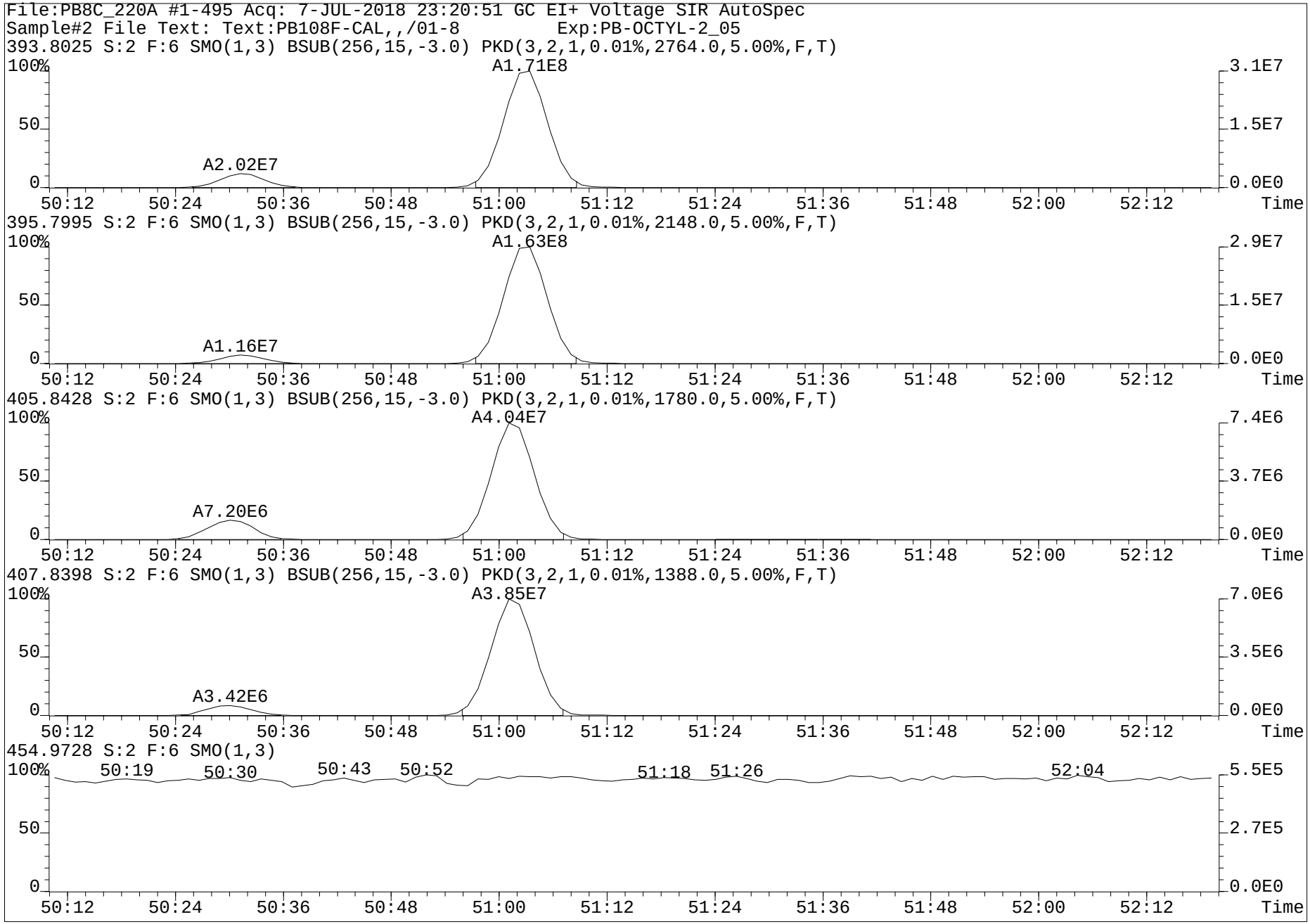

File:PB8C_220A #1-517 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,884.0,5.00%,F,T)
A3.09E8
6.7E7
3.3E7
0.0E0
327.8775 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,668.0,5.00%,F,T)
A1.99E8
4.3E7
2.1E7
0.0E0
337.9207 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A7.28E7
1.6E7
7.8E6
0.0E0
339.9178 S:2 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A4.63E7
9.9E6
4.9E6
0.0E0
280.9825 S:2 F:3 SMO(1,3)
20:27 20:57 21:25 21:52 22:37 23:10 24:01 24:32 25:22 25:49 26:36 27:18
7.3E6
3.7E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

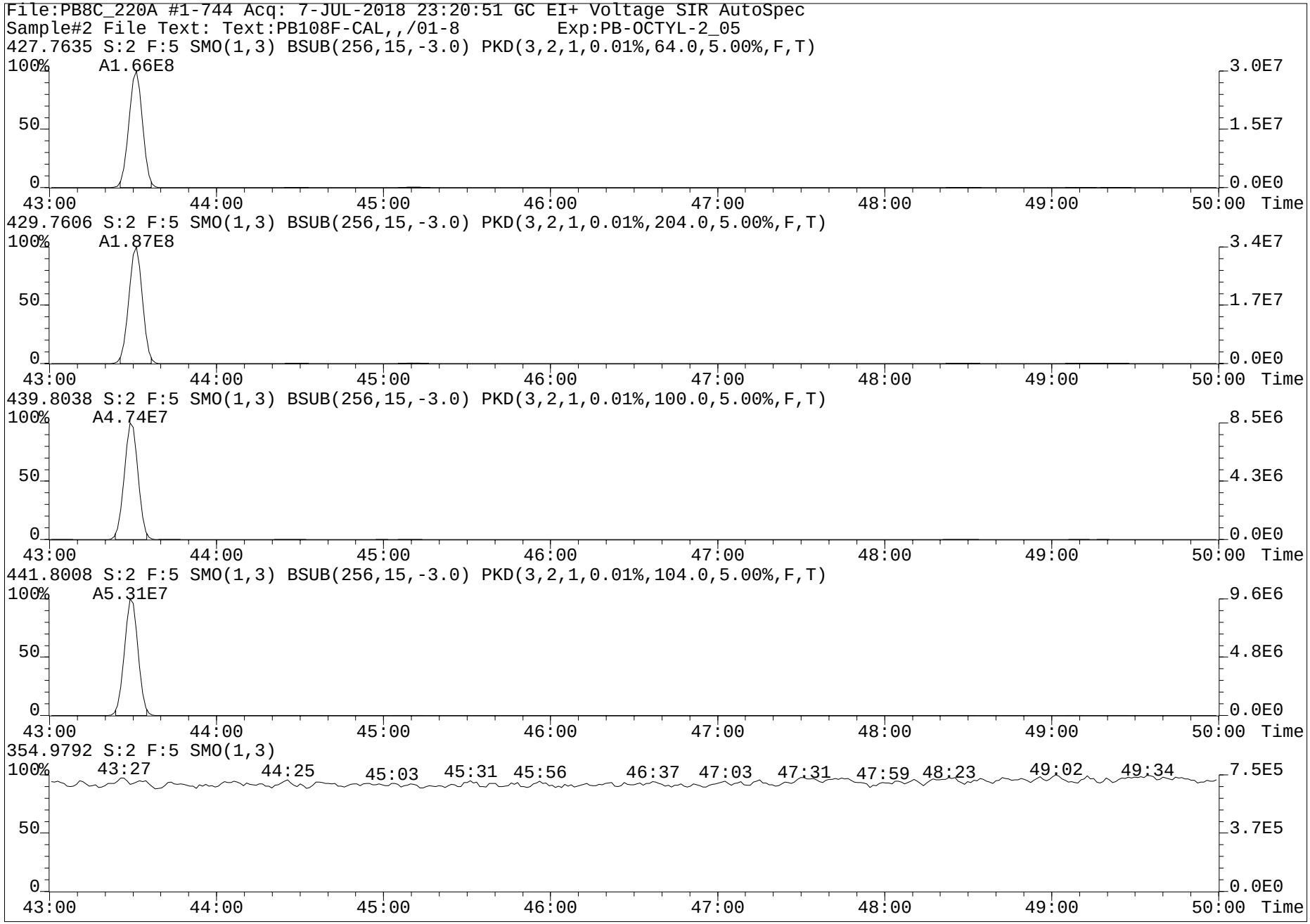

File:PB8C_220A #1-744 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4276.0,5.00%,F,T)
A2.51E8
A2.68E8
A2.56E8
A2.26E8
327.8775 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3536.0,5.00%,F,T)
A1.65E8
A1.71E8
A1.67E8
A1.47E8
337.9207 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1752.0,5.00%,F,T)
A6.23E7
A6.30E7
A6.30E7
A5.46E7
339.9178 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1340.0,5.00%,F,T)
A3.99E7
A3.92E7
A3.94E7
A3.42E7
354.9792 S:2 F:5 SMO(1,3)
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
5.1E7
2.5E7
0.0E0
3.2E7
1.6E7
1.2E7
6.0E6
7.6E6
3.8E6
7.2E5
3.6E5

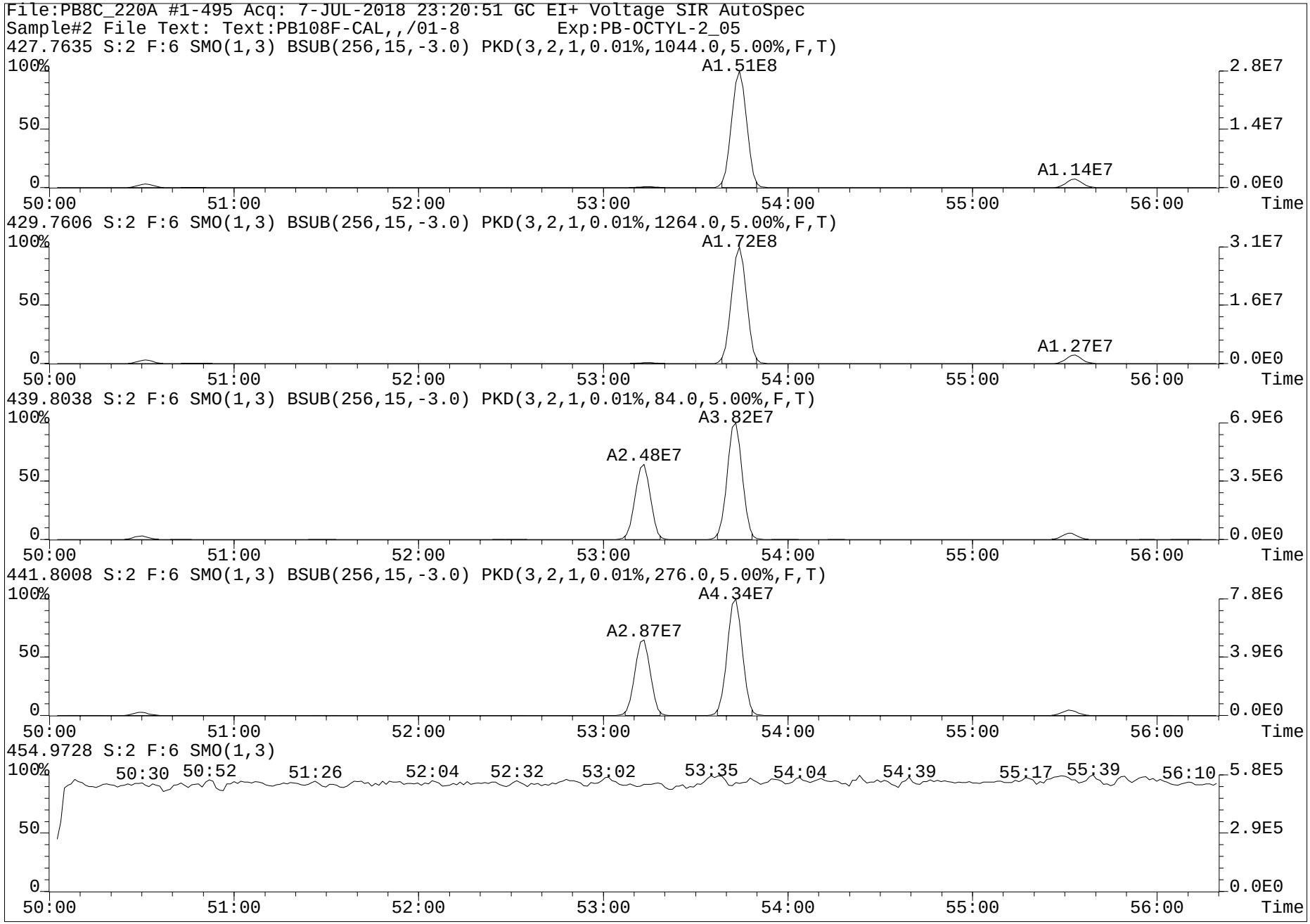

File:PB8C_220A #1-470 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A2.78E8
361.8385 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A2.21E8
371.8817 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A6.66E7
373.8788 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A5.37E7
330.9792 S:2 F:4 SMO(1,3)
31:23 31:41 32:07 32:26 32:45 33:06 33:24 33:54 34:23 34:42 35:01 35:28 35:49
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
5.4E7 2.7E7 0.0E0
4.4E7 2.2E7 0.0E0
1.3E7 6.5E6 0.0E0
1.1E7 5.3E6 0.0E0
3.8E6 1.9E6 0.0E0

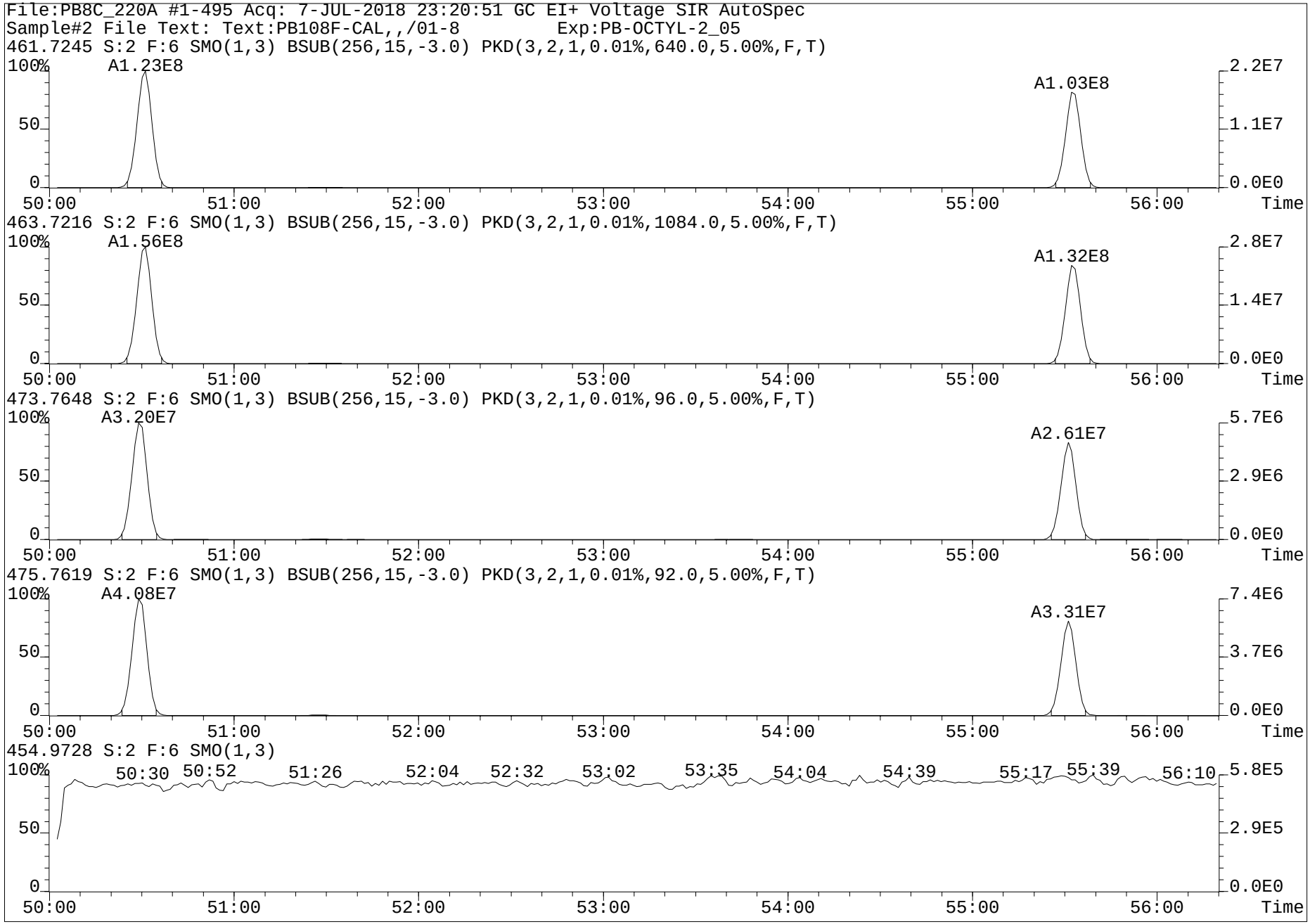

File:PB8C_220A #1-744 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1552.0,5.00%,F,T)
A2.20E8
A4.47E8
A2.08E8
361.8385 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1076.0,5.00%,F,T)
A1.75E8
A3.56E8
A1.64E8
371.8817 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A3.84E7
A4.81E7
A1.01E8
A4.87E7
373.8788 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,276.0,5.00%,F,T)
A3.07E7
A3.87E7
A7.99E7
A3.88E7
354.9792 S:2 F:5 SMO(1,3)
36:10 37:10 37:55 38:54 40:03 40:48 41:53 42:35 43:27 44:25 45:31 46:37 47:31 49:02
100%
50
0
6.1E7
3.1E7
0.0E0
4.9E7
2.4E7
1.4E7
6.9E6
1.1E7
5.5E6
7.5E5
3.7E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

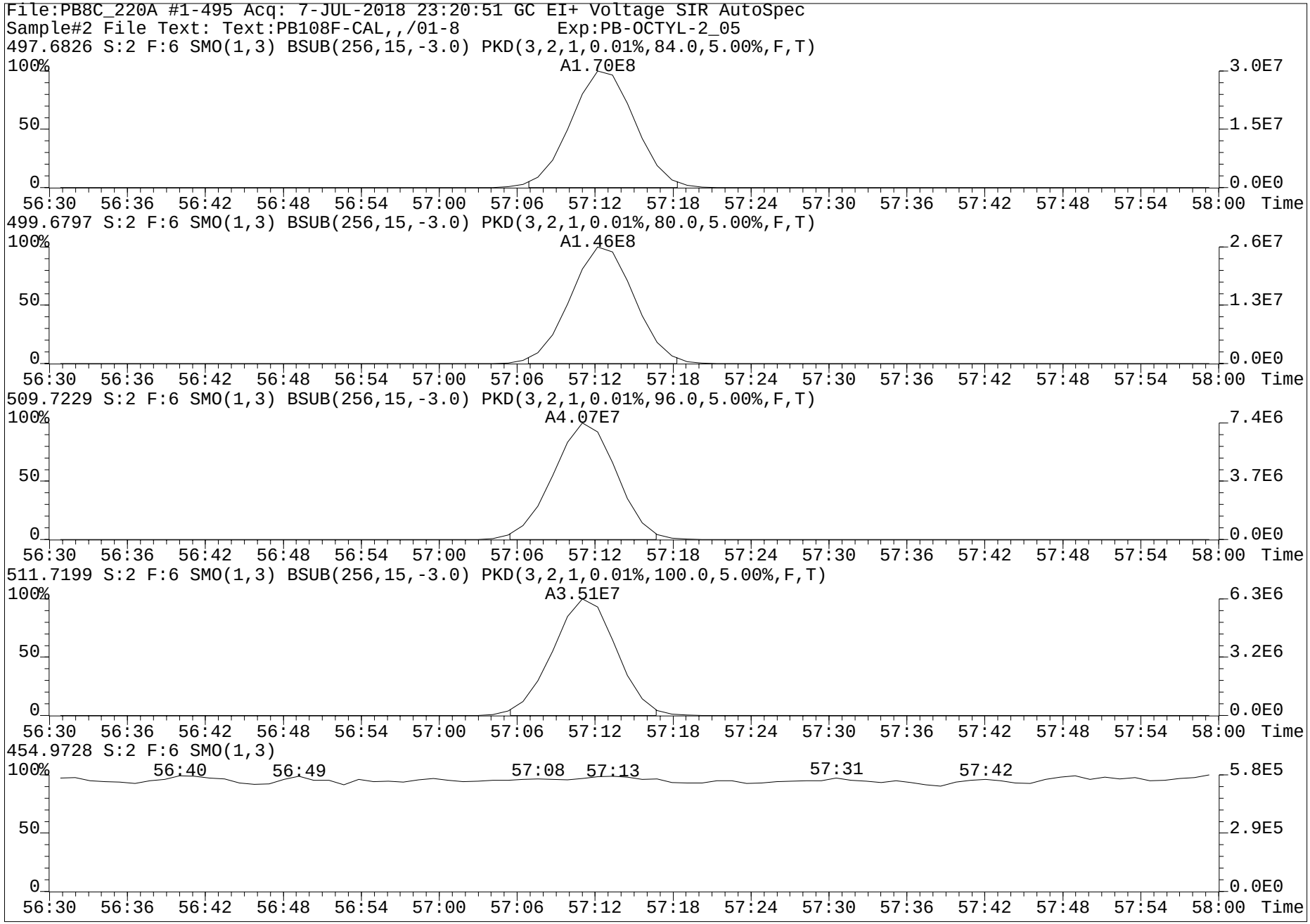

File:PB8C_220A #1-744 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,664.0,5.00%,F,T)
A2.14E8
A1.53E8
A1.42E8
A1.17E8
395.7995 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,976.0,5.00%,F,T)
A2.06E8
A1.48E8
A1.37E8
A1.12E8
405.8425 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A5.31E7
A3.48E7
A3.61E7
A3.01E7
407.8398 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A5.19E7
A3.29E7
A3.52E7
A2.91E7
354.9792 S:2 F:5 SMO(1,3)
36:10 37:10 37:55 38:54 40:03 40:48 41:53 42:35 43:27 44:25 45:31 46:37 47:31 49:02
100%
50
0
4.0E7
2.0E7
0.0E0
3.8E7
1.9E7
9.9E6
5.0E6
9.7E6
4.8E6
7.5E5
3.7E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

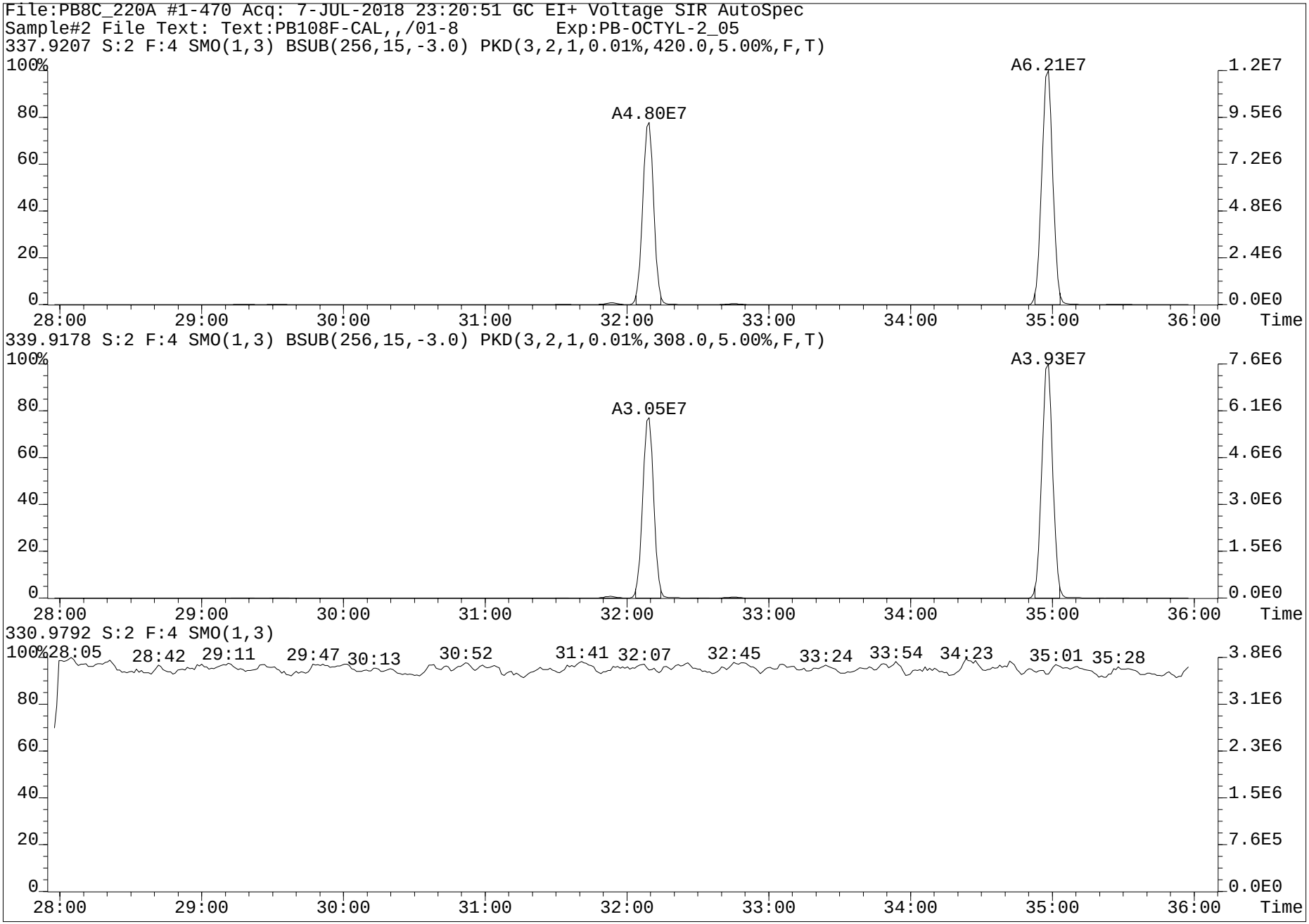

File:PB8C_220A #1-495 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2764.0,5.00%,F,T)
A1.71E8
A2.02E7
395.7995 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2148.0,5.00%,F,T)
A1.63E8
A1.16E7
405.8428 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1780.0,5.00%,F,T)
A4.04E7
A7.20E6
407.8398 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A3.85E7
A3.42E6
454.9728 S:2 F:6 SMO(1,3)
50:19
50:30
50:43
50:52
51:18
51:26
52:04
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
3.1E7
1.5E7
0.0E0
2.9E7
7.4E6
3.7E6
7.0E6
3.5E6
5.5E5
2.7E5


File:PB8C_220A #1-744 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,64.0,5.00%,F,T)
100% A1.66E8
3.0E7
1.5E7
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,204.0,5.00%,F,T)
100% A1.87E8
3.4E7
1.7E7
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
100% A4.74E7
8.5E6
4.3E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 S:2 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
100% A5.31E7
9.6E6
4.8E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 S:2 F:5 SMO(1,3)
100% 43:27 44:25 45:03 45:31 45:56 46:37 47:03 47:31 47:59 48:23 49:02 49:34
7.5E5
3.7E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220A #1-495 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1044.0,5.00%,F,T)
A1.51E8
A1.14E7
429.7606 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1264.0,5.00%,F,T)
A1.72E8
A1.27E7
439.8038 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A3.82E7
A2.48E7
441.8008 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,276.0,5.00%,F,T)
A4.34E7
A2.87E7
454.9728 S:2 F:6 SMO(1,3)
50:30 50:52 51:26 52:04 52:32 53:02 53:35 54:04 54:39 55:17 55:39 56:10
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
2.8E7 1.4E7 0.0E0
3.1E7 1.6E7 0.0E0
6.9E6 3.5E6 0.0E0
7.8E6 3.9E6 0.0E0
5.8E5 2.9E5 0.0E0


File:PB8C_220A #1-495 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
461.7245 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,640.0,5.00%,F,T)
A1.23E8
A1.03E8
463.7216 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1084.0,5.00%,F,T)
A1.56E8
A1.32E8
473.7648 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A3.20E7
A2.61E7
475.7619 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A4.08E7
A3.31E7
454.9728 S:2 F:6 SMO(1,3)
50:30 50:52 51:26 52:04 52:32 53:02 53:35 54:04 54:39 55:17 55:39 56:10
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
2.2E7 1.1E7 0.0E0
2.8E7 1.4E7 0.0E0
5.7E6 2.9E6 0.0E0
7.4E6 3.7E6 0.0E0
5.8E5 2.9E5 0.0E0


File:PB8C_220A #1-495 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
497.6826 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A1.70E8
499.6797 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A1.46E8
509.7229 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.07E7
511.7199 S:2 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
A3.51E7
454.9728 S:2 F:6 SMO(1,3)
56:40
56:49
57:08
57:13
57:31
57:42
100%
50
0
3.0E7
1.5E7
0.0E0
2.6E7
1.3E7
7.4E6
3.7E6
6.3E6
3.2E6
5.8E5
2.9E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220A #1-470 Acq: 7-JUL-2018 23:20:51 GC EI+ Voltage SIR AutoSpec
Sample#2 File Text: Text:PB108F-CAL,,/01-8 Exp:PB-OCTYL-2_05
337.9207 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A4.80E7
A6.21E7
339.9178 S:2 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,308.0,5.00%,F,T)
A3.05E7
A3.93E7
330.9792 S:2 F:4 SMO(1,3)
28:05
28:42
29:11
29:47
30:13
30:52
31:41
32:07
32:45
33:24
33:54
34:23
35:01
35:28
Time

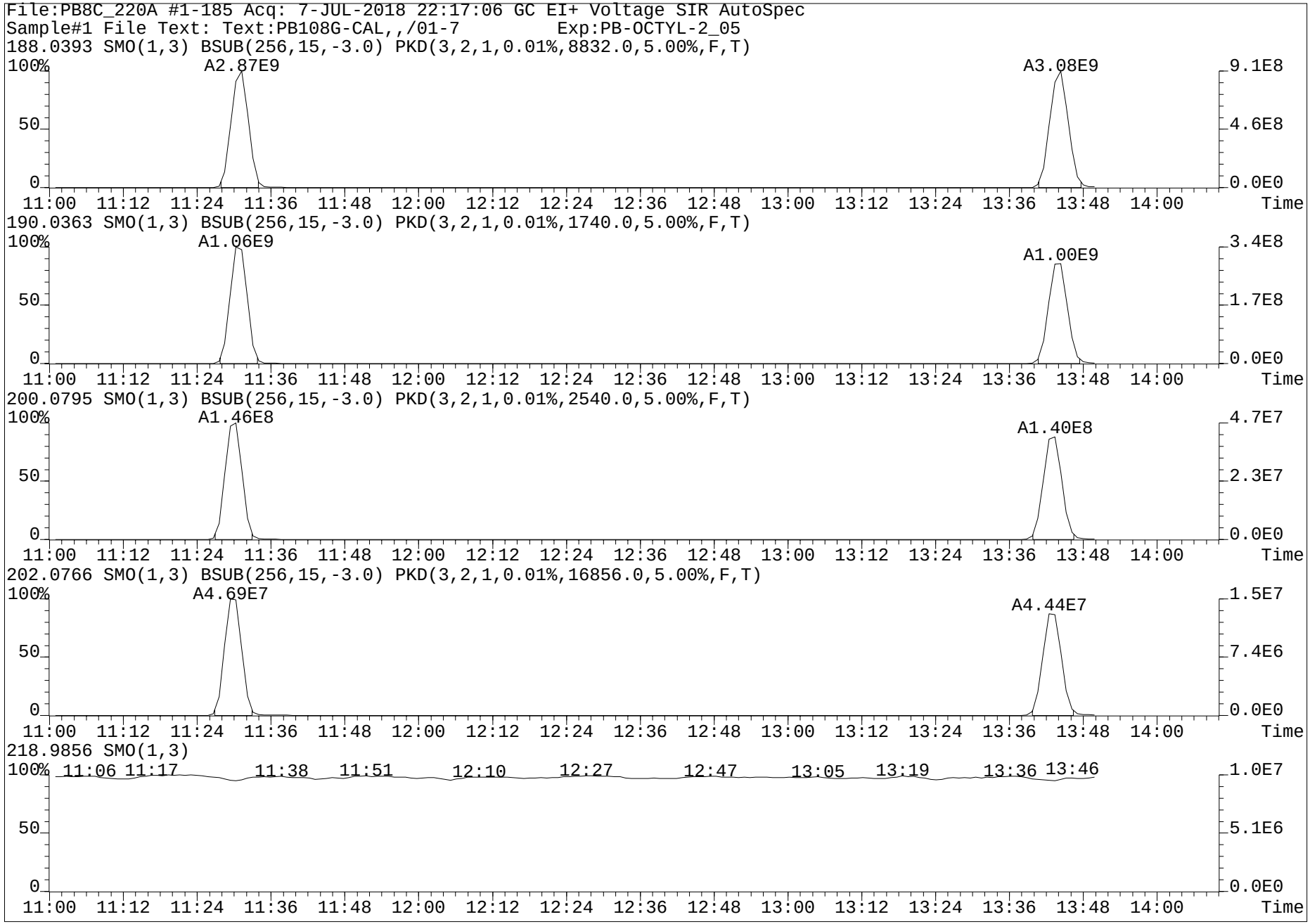
Run #6 Filename PB8C_220A S: 1 I: 1 Acquired: 7-JUL-18 22:17:06 Processed: 9-JUL-18 08:10:02
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108G-CAL,,/01-7 Comments: 1,,1.0uL CS-5 F1: 2000.00 F2: 1.00

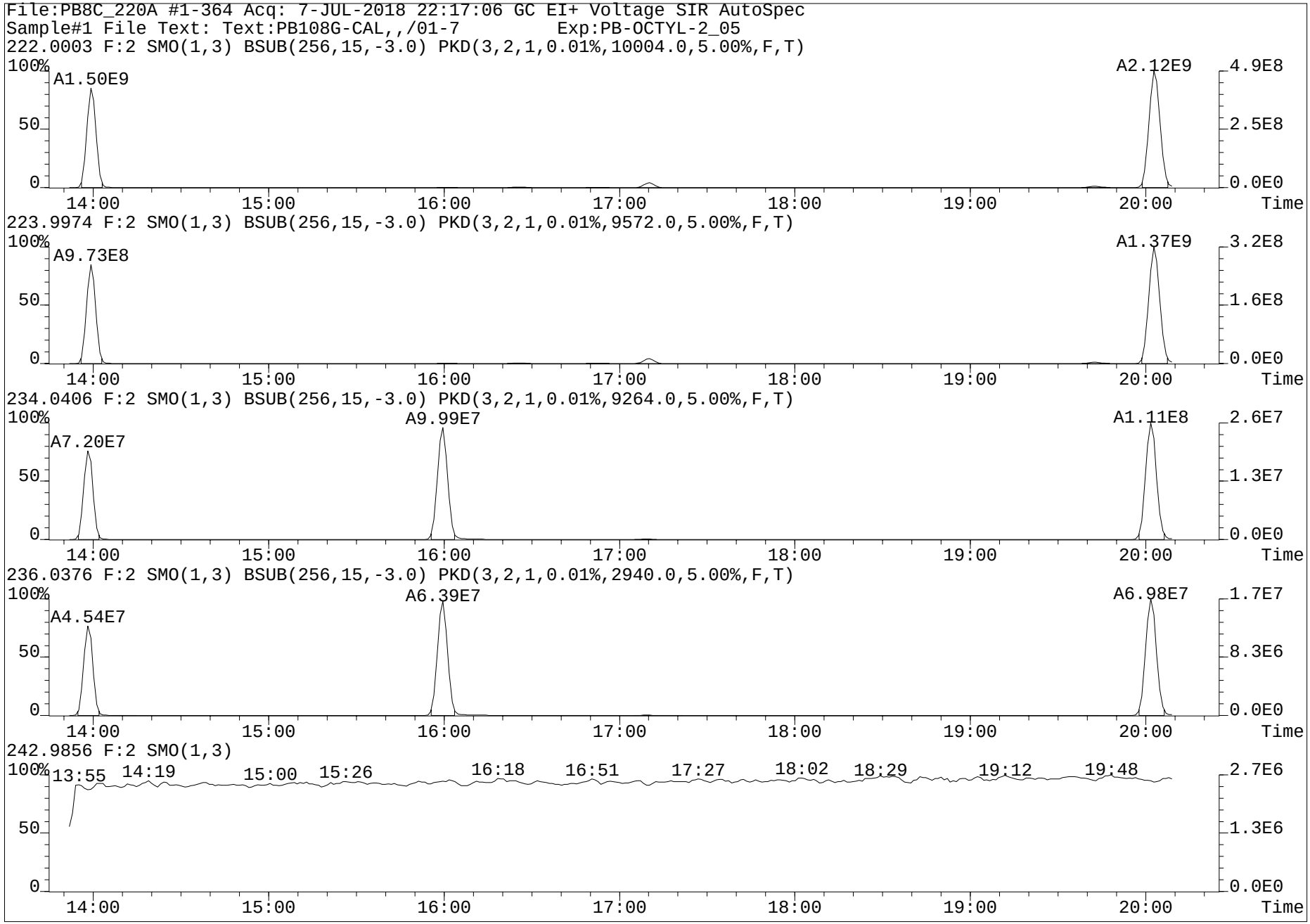
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL1-PCB-1	2000.00	3.93e+09	2.71	y 11:31	-	1.0159	y	n
2	Unk	CL1-PCB-3	2000.00	4.08e+09	3.06	y 13:44	-	1.1037	y	n
3	Unk	CL2-PCB-4	2000.00	2.47e+09	1.54	y 13:59	-	1.0535	y	n
4	Unk	CL2-PCB-15	2000.00	3.49e+09	1.54	y 20:03	-	0.9646	y	n
5	Unk	CL3-PCB-19	2000.00	2.11e+09	1.07	y 17:09	-	1.1116	y	n
6	Unk	CL3-PCB-37	2000.00	3.02e+09	1.04	y 27:21	-	1.0548	y	n
7	Unk	CL4-PCB-54	2000.00	2.77e+09	0.78	y 20:20	-	1.1011	y	n
8	Unk	CL4-PCB-81	2000.00	2.36e+09	0.77	y 34:24	-	1.0689	y	n
9	Unk	CL4-PCB-77	2000.00	2.36e+09	0.77	y 34:59	-	1.0622	y	n
10	Unk	CL5-PCB-104	2000.00	2.37e+09	1.55	y 26:01	-	1.1060	y	n
11	Unk	CL5-PCB-123	2000.00	2.05e+09	1.55	y 37:03	-	1.0264	y	n
12	Unk	CL5-PCB-118	2000.00	2.10e+09	1.56	y 37:24	-	1.0863	y	n
13	Unk	CL5-PCB-114	2000.00	2.25e+09	1.56	y 37:57	-	1.1053	y	n
14	Unk	CL5-PCB-105	2000.00	2.08e+09	1.56	y 38:33	-	1.0685	y	n
15	Unk	CL5-PCB-126	2000.00	1.92e+09	1.55	y 41:53	-	1.0873	y	n
16	Unk	CL6-PCB-155	2000.00	2.33e+09	1.24	y 31:55	-	1.0643	y	n
17	Unk	CL6-PCB-167	2000.00	1.96e+09	1.25	y 43:48	-	1.1716	y	n
18	Unk	CL6-PCB-156/157	4000.00	4.07e+09	1.25	y 45:01	-	1.1381	y	n
19	Unk	CL6-PCB-169	2000.00	1.83e+09	1.27	y 48:25	-	1.0882	y	n
20	Unk	CL7-PCB-188	2000.00	2.08e+09	1.05	y 37:54	-	1.0260	y	n
21	Unk	CL7-PCB-189	2000.00	1.65e+09	1.05	y 51:04	-	1.0782	y	n
22	Unk	CL8-PCB-202	2000.00	1.66e+09	0.90	y 43:31	-	0.9093	y	n
23	Unk	CL8-PCB-205	2000.00	1.58e+09	0.90	y 53:45	-	1.0316	y	n
24	Unk	CL9-PCB-208	2000.00	1.35e+09	0.79	y 50:31	-	0.9817	y	n
25	Unk	CL9-PCB-206	2000.00	1.15e+09	0.78	y 55:33	-	1.0170	y	n
26	Unk	CL10-PCB-209	2000.00	1.51e+09	1.17	y 57:13	-	1.0522	y	n
27	IS	13C-CL1-PCB-1	100.00	1.93e+08	3.12	y 11:30	-	1.1803	y	n
28	IS	13C-CL1-PCB-3	100.00	1.85e+08	3.17	y 13:43	-	1.1284	y	n
29	IS	13C-CL2-PCB-4	100.00	1.17e+08	1.59	y 13:58	-	0.7167	y	n
30	IS	13C-CL2-PCB-15	100.00	1.81e+08	1.59	y 20:02	-	1.1033	y	n
31	IS	13C-CL3-PCB-19	100.00	9.51e+07	1.06	y 17:08	-	0.5806	y	n
32	IS	13C-CL3-PCB-37	100.00	1.43e+08	1.06	y 27:19	-	1.7378	y	n
33	REF	13C-CL4-CHECK	100.00	1.26e+08	0.79	y 20:19	-	1.5291	y	n
34	IS	13C-CL4-PCB-81	100.00	1.11e+08	0.74	y 34:22	-	1.3422	y	n
35	IS	13C-CL4-PCB-77	100.00	1.11e+08	0.74	y 34:57	-	1.3476	y	n
36	IS	13C-CL5-PCB-104	100.00	1.07e+08	1.58	y 26:00	-	1.5706	y	n
37	IS	13C-CL5-PCB-123	100.00	9.97e+07	1.57	y 37:02	-	1.4594	y	n
38	IS	13C-CL5-PCB-118	100.00	9.68e+07	1.56	y 37:22	-	1.4173	y	n
39	IS	13C-CL5-PCB-114	100.00	1.02e+08	1.58	y 37:55	-	1.4930	y	n
40	IS	13C-CL5-PCB-105	100.00	9.74e+07	1.59	y 38:36	-	1.4266	y	n
41	IS	13C-CL5-PCB-126	100.00	8.83e+07	1.57	y 41:51	-	1.2929	y	n
42	IS	13C-CL6-PCB-155	100.00	1.09e+08	1.23	y 31:54	-	1.7918	y	n
43	IS	13C-CL6-PCB-167	100.00	8.35e+07	1.25	y 43:47	-	1.3684	y	n
44	IS	13C-CL6-PCB-156/157	200.00	1.79e+08	1.27	y 45:00	-	1.4653	y	n

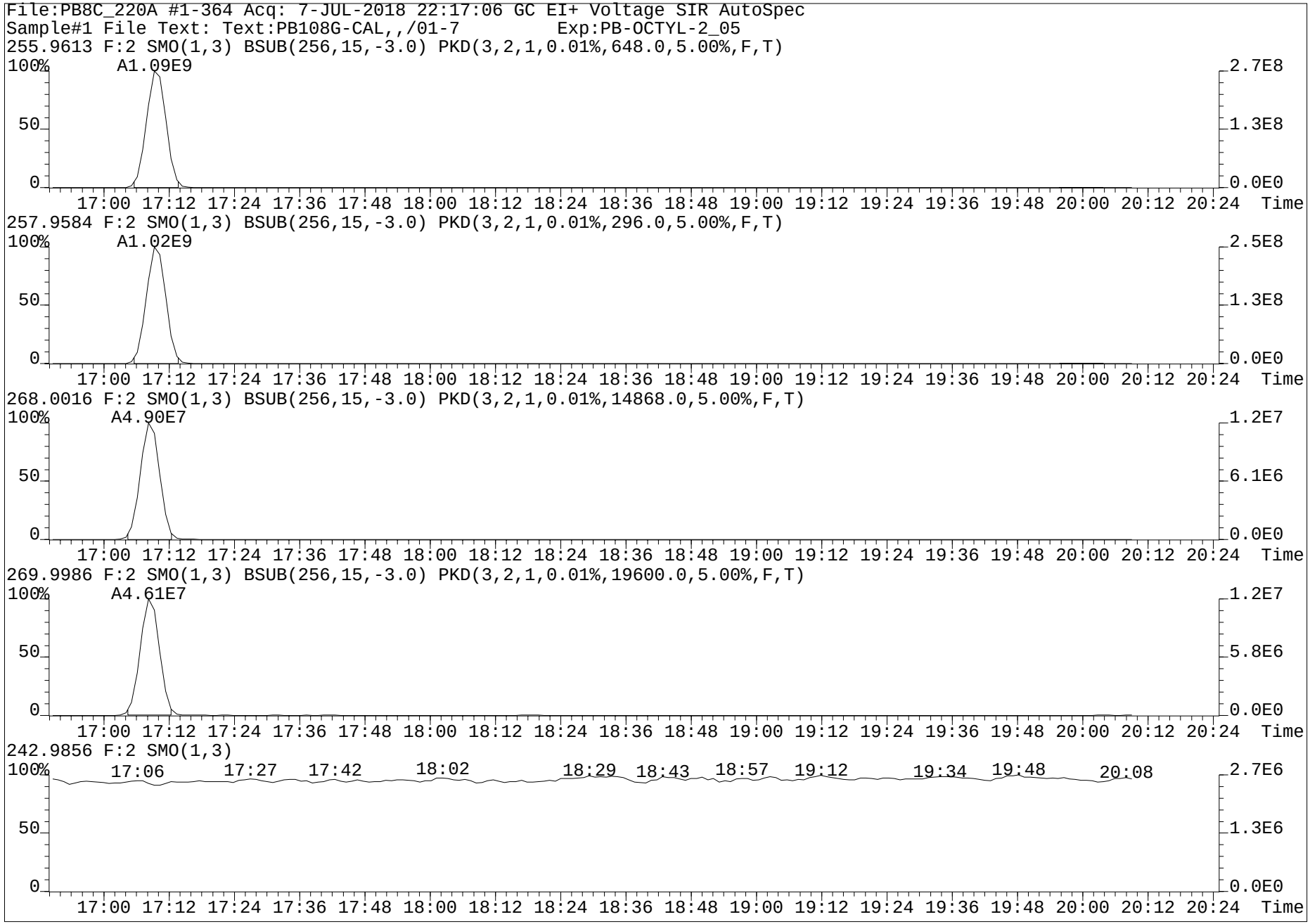
PV by RA 09JUL2018
SV: PV 9-JUL-18

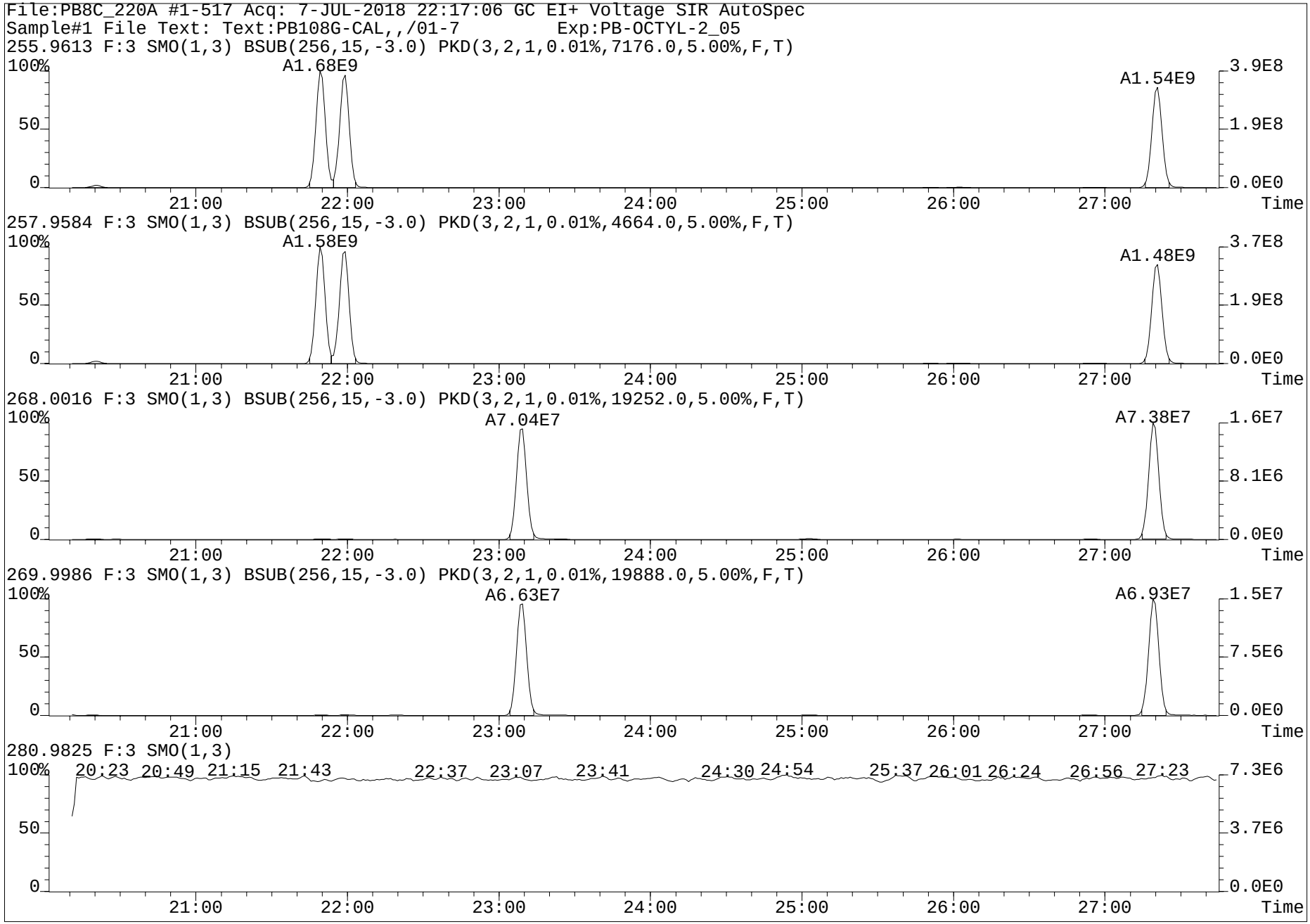
www.axysanalytical.com

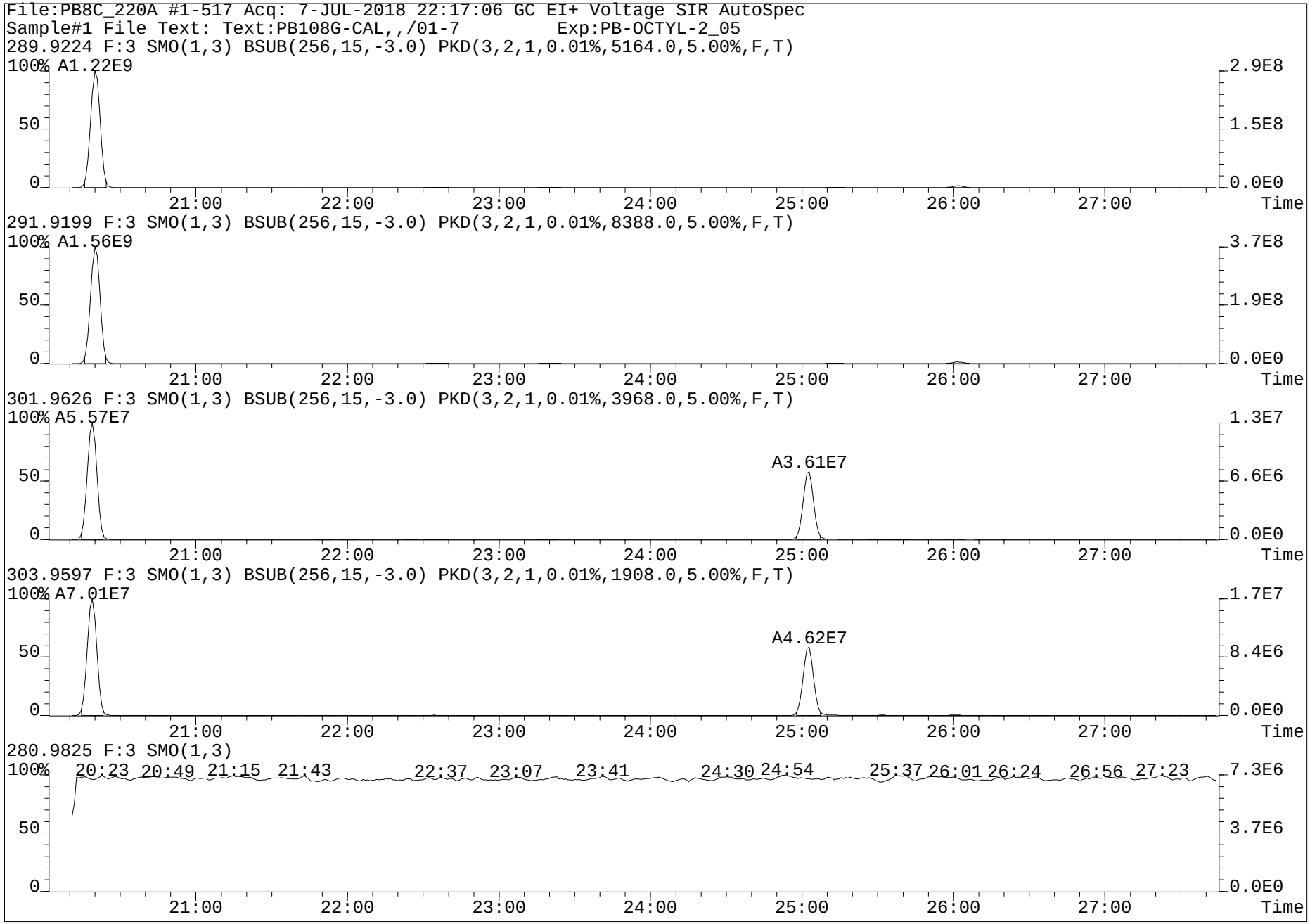
45	IS	13C-CL6-PCB-169	100.00	8.41e+07	1.25	y	48:24	-	1.3775	y	n
46	REF	13C-CL7-CHECK	100.00	1.01e+08	1.05	y	37:53	-	2.1226	y	n
47	IS	13C-CL7-PCB-189	100.00	7.64e+07	1.01	y	51:02	-	1.5997	y	n
48	IS	13C-CL8-PCB-202	100.00	9.13e+07	0.90	y	43:30	-	1.9120	y	n
49	IS	13C-CL8-PCB-205	100.00	7.67e+07	0.89	y	53:43	-	1.6067	y	n
50	IS	13C-CL9-PCB-208	100.00	6.89e+07	0.77	y	50:30	-	1.4418	y	n
51	IS	13C-CL9-PCB-206	100.00	5.64e+07	0.79	y	55:31	-	1.1803	y	n
52	IS	13C-CL10-PCB-209	100.00	7.18e+07	1.18	y	57:11	-	1.5029	y	n
53	RS	13C-CL2-PCB-9	100.00	1.64e+08	1.56	y	15:59	1.64e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	8.23e+07	0.78	y	25:03	8.23e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	6.83e+07	1.59	y	32:10	6.83e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	6.10e+07	1.25	y	40:37	6.10e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	4.78e+07	0.88	y	53:13	4.78e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.37e+08	1.06	y	23:09	-	1.6601	y	n
59	C/Up	13C-CL5-PCB-111	100.00	9.46e+07	1.57	y	34:59	-	1.3854	y	n
60	C/Up	13C-CL7-PCB-178	100.00	5.86e+07	1.05	y	41:05	-	0.9608	y	n
61	IS	13C-CL4-PCB-54	100.00	1.26e+08	0.79	y	20:19	-	1.5291	y	n
62	IS	13C-CL7-PCB-188	100.00	1.01e+08	1.05	y	37:53	-	2.1226	y	n
63	LM	CL1-LOCK	0.00	-			-	-	-	n	n
64	LM	CL2-LOCK	0.00	-			-	-	-	n	n
65	LM	CL3-LOCK	0.00	-			-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-			-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-			-	-	-	n	n
68	LM	CL5-LOCK	0.00	-			-	-	-	n	n
69	LM	CL6-LOCK	0.00	-			-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-			-	-	-	n	n
71	LM	CL7-LOCK	0.00	-			-	-	-	n	n
72	LM	CL8-LOCK	0.00	-			-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-			-	-	-	n	n
74	LM	CL10-LOCK	0.00	-			-	-	-	n	n

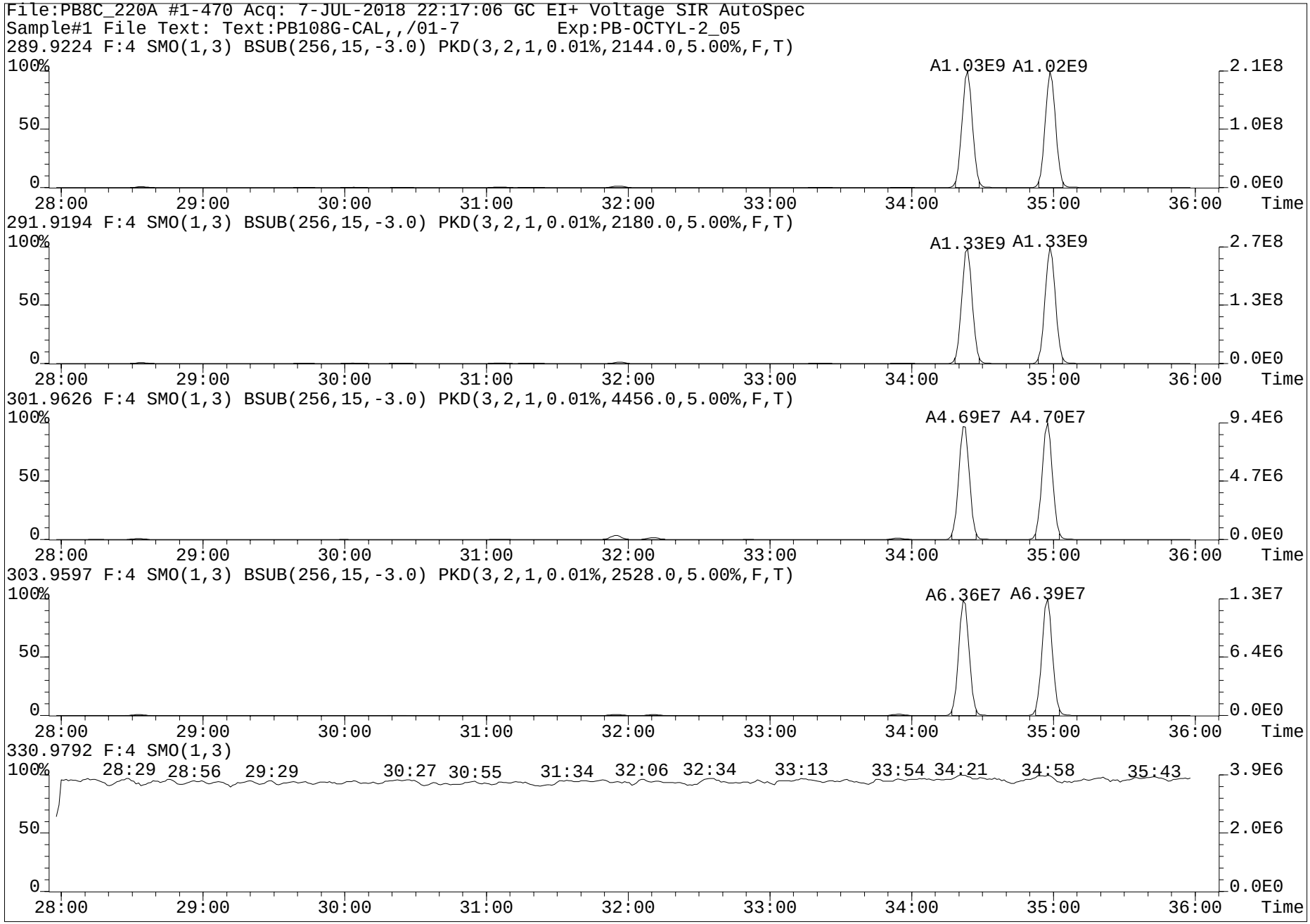

File:PB8C_220A #1-185 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
188.0393 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8832.0,5.00%,F,T)
A2.87E9
A3.08E9
190.0363 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1740.0,5.00%,F,T)
A1.06E9
A1.00E9
200.0795 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2540.0,5.00%,F,T)
A1.46E8
A1.40E8
202.0766 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16856.0,5.00%,F,T)
A4.69E7
A4.44E7
218.9856 SMO(1,3)
11:06 11:17 11:38 11:51 12:10 12:27 12:47 13:05 13:19 13:36 13:46
100%
50
0
9.1E8
4.6E8
0.0E0
3.4E8
1.7E8
4.7E7
2.3E7
1.5E7
7.4E6
1.0E7
5.1E6
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

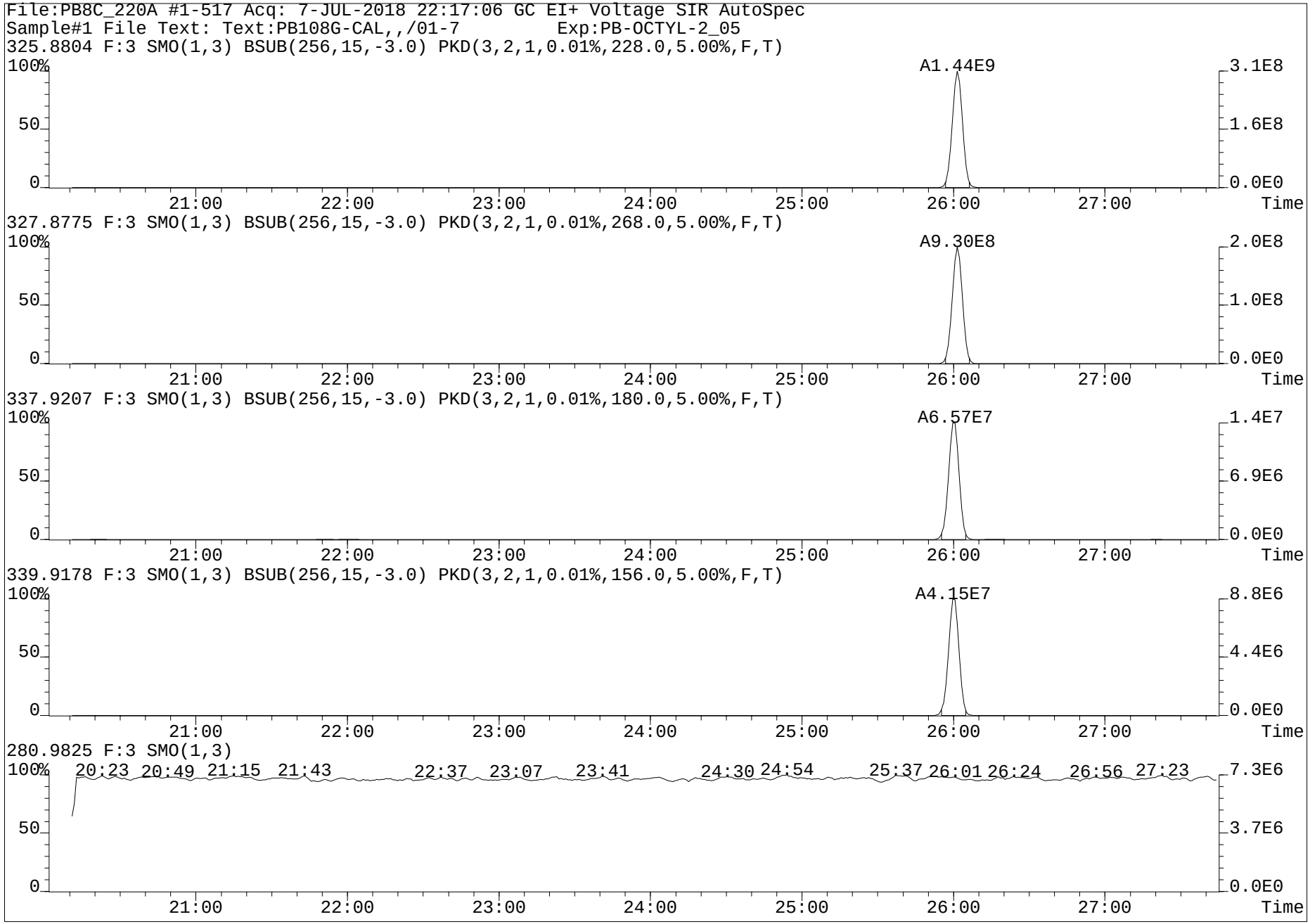

File:PB8C_220A #1-364 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10004.0,5.00%,F,T)
A1.50E9
A2.12E9
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9572.0,5.00%,F,T)
A9.73E8
A1.37E9
234.0406 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9264.0,5.00%,F,T)
A7.20E7
A9.99E7
A1.11E8
236.0376 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2940.0,5.00%,F,T)
A4.54E7
A6.39E7
A6.98E7
242.9856 F:2 SMO(1,3)
13:55 14:19 15:00 15:26 16:18 16:51 17:27 18:02 18:29 19:12 19:48
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
4.9E8 2.5E8 0.0E0
3.2E8 1.6E8 0.0E0
2.6E7 1.3E7 0.0E0
1.7E7 8.3E6 0.0E0
2.7E6 1.3E6 0.0E0

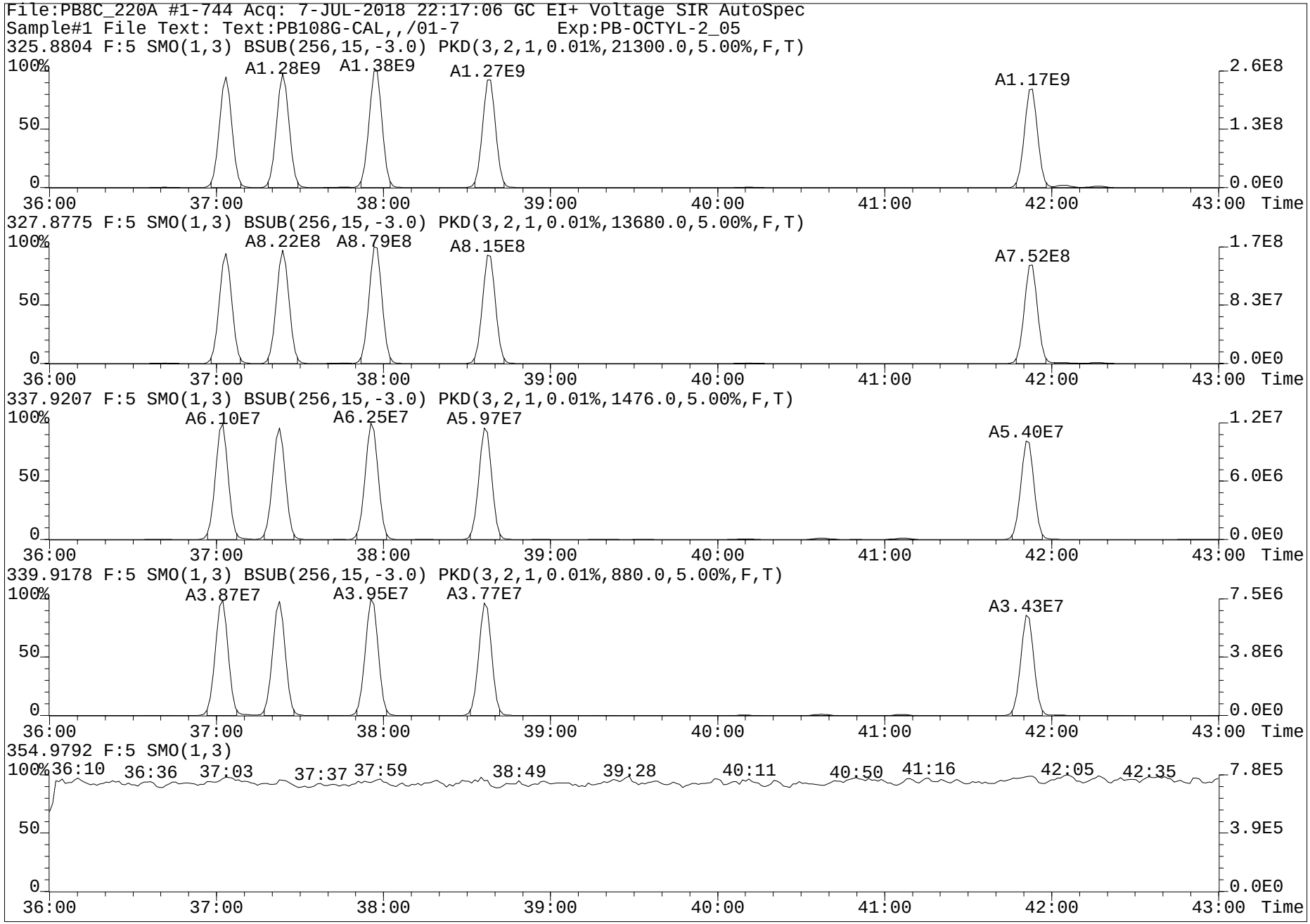

File:PB8C_220A #1-364 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,648.0,5.00%,F,T)
100% A1.09E9
2.7E8
1.3E8
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,296.0,5.00%,F,T)
100% A1.02E9
2.5E8
1.3E8
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
268.0016 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14868.0,5.00%,F,T)
100% A4.90E7
1.2E7
6.1E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
269.9986 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19600.0,5.00%,F,T)
100% A4.61E7
1.2E7
5.8E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
242.9856 F:2 SMO(1,3)
100% 17:06 17:27 17:42 18:02 18:29 18:43 18:57 19:12 19:34 19:48 20:08
2.7E6
1.3E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

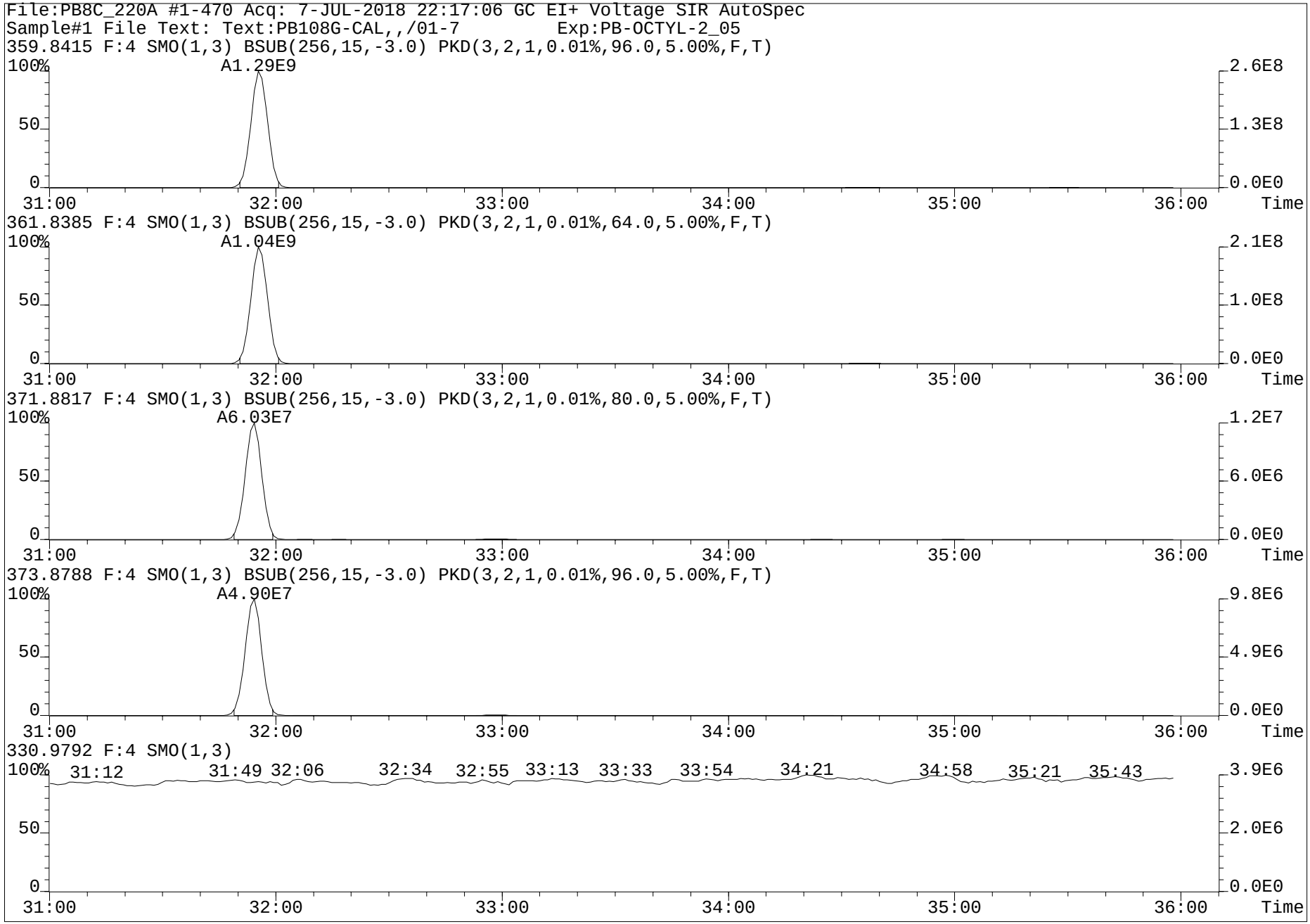

File:PB8C_220A #1-517 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7176.0,5.00%,F,T)
A1.68E9
A1.54E9
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4664.0,5.00%,F,T)
A1.58E9
A1.48E9
268.0016 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19252.0,5.00%,F,T)
A7.04E7
A7.38E7
269.9986 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,19888.0,5.00%,F,T)
A6.63E7
A6.93E7
280.9825 F:3 SMO(1,3)
20:23 20:49 21:15 21:43 22:37 23:07 23:41 24:30 24:54 25:37 26:01 26:24 26:56 27:23
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
3.9E8 1.9E8 0.0E0
3.7E8 1.9E8 0.0E0
1.6E7 8.1E6 0.0E0
1.5E7 7.5E6 0.0E0
7.3E6 3.7E6 0.0E0

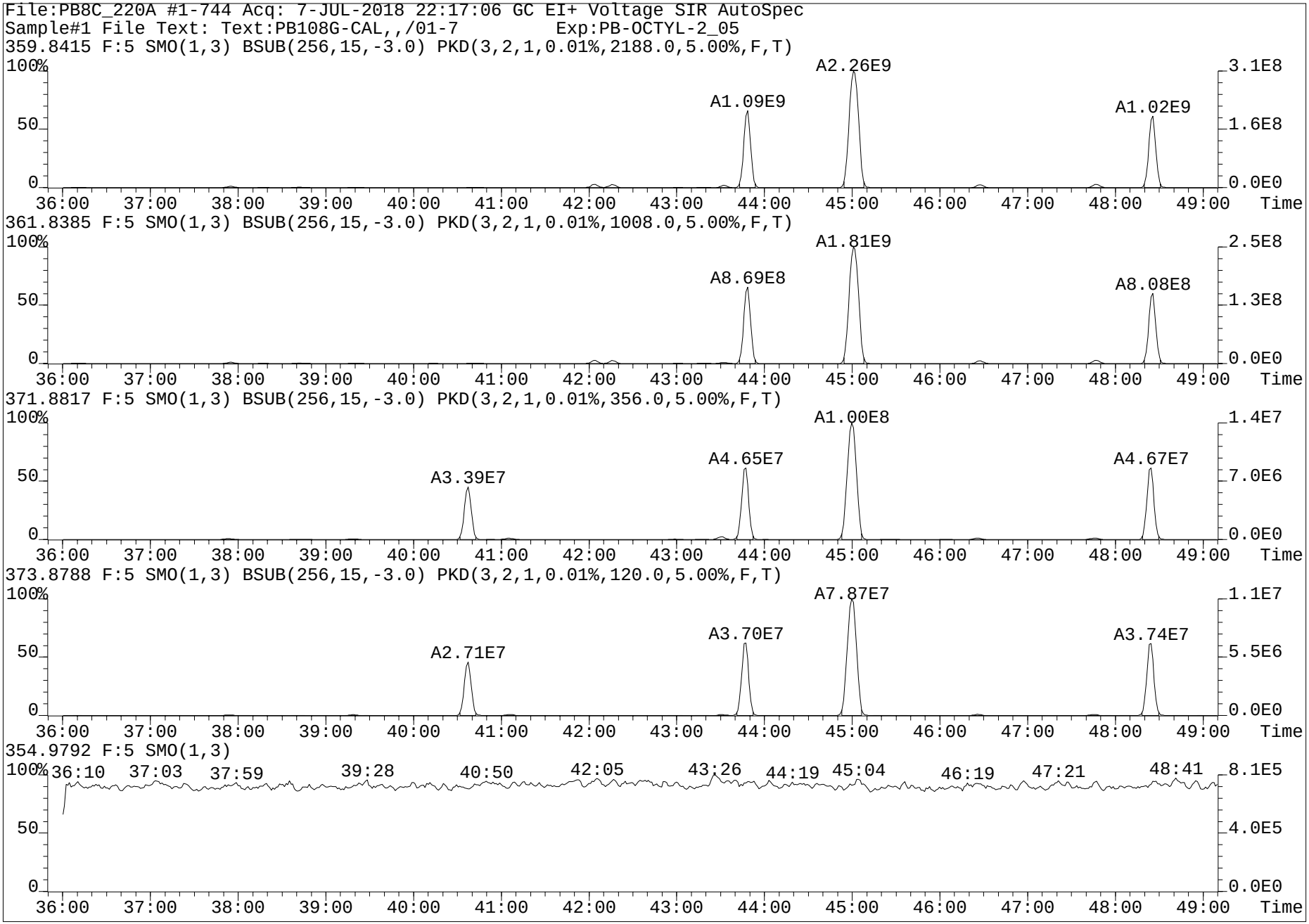

File:PB8C_220A #1-517 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5164.0,5.00%,F,T)
100% A1.22E9
2.9E8
1.5E8
0.0E0
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8388.0,5.00%,F,T)
100% A1.56E9
3.7E8
1.9E8
0.0E0
301.9626 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3968.0,5.00%,F,T)
100% A5.57E7
A3.61E7
1.3E7
6.6E6
0.0E0
303.9597 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1908.0,5.00%,F,T)
100% A7.01E7
A4.62E7
1.7E7
8.4E6
0.0E0
280.9825 F:3 SMO(1,3)
100% 20:23 20:49 21:15 21:43 22:37 23:07 23:41 24:30 24:54 25:37 26:01 26:24 26:56 27:23
7.3E6
3.7E6
0.0E0
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

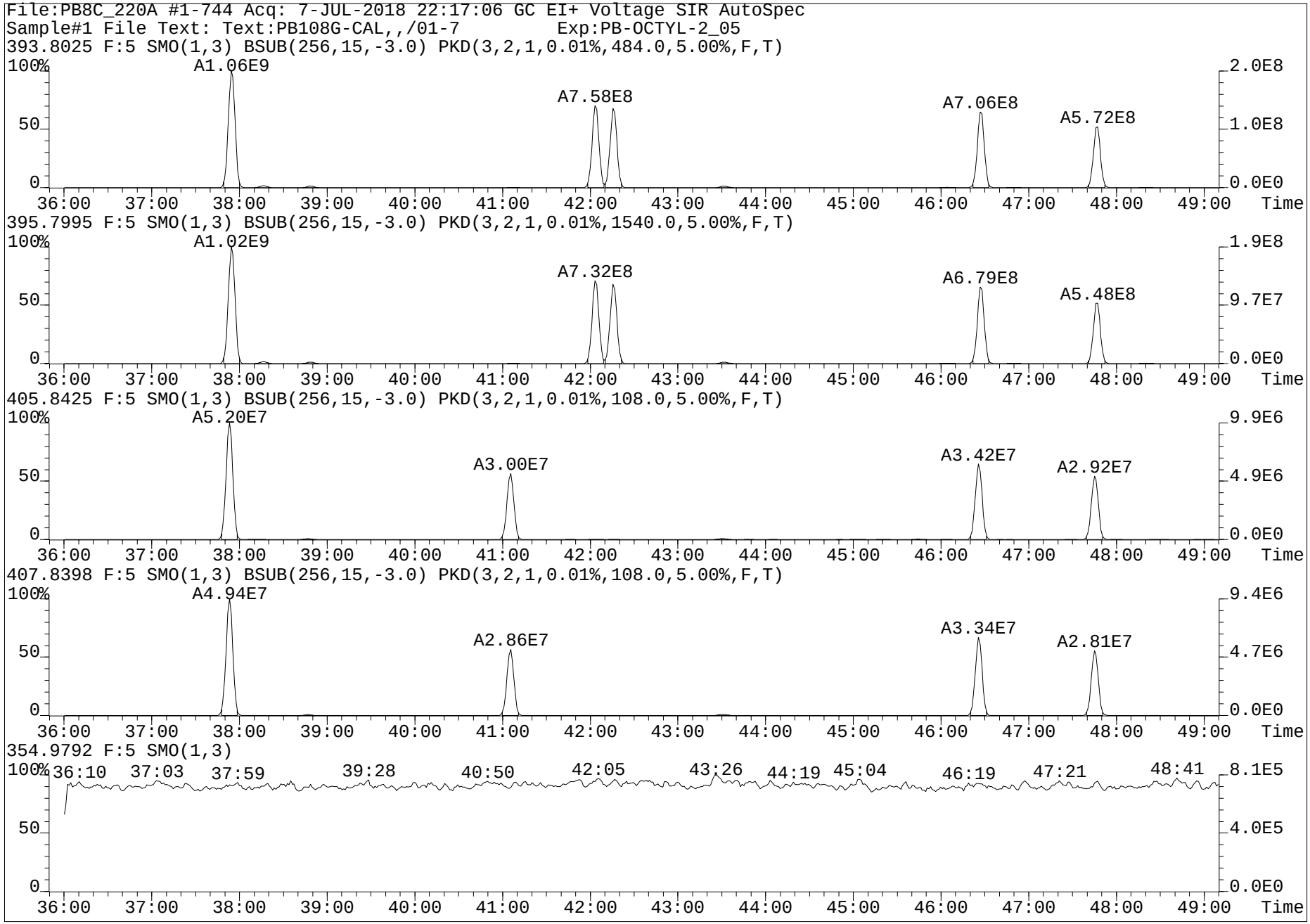

File:PB8C_220A #1-470 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2144.0,5.00%,F,T)
A1.03E9 A1.02E9
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2180.0,5.00%,F,T)
A1.33E9 A1.33E9
301.9626 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4456.0,5.00%,F,T)
A4.69E7 A4.70E7
303.9597 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2528.0,5.00%,F,T)
A6.36E7 A6.39E7
330.9792 F:4 SMO(1,3)
28:29 28:56 29:29 30:27 30:55 31:34 32:06 32:34 33:13 33:54 34:21 34:58 35:43
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
2.1E8 1.0E8 0.0E0
2.7E8 1.3E8 0.0E0
9.4E6 4.7E6 0.0E0
1.3E7 6.4E6 0.0E0
3.9E6 2.0E6 0.0E0

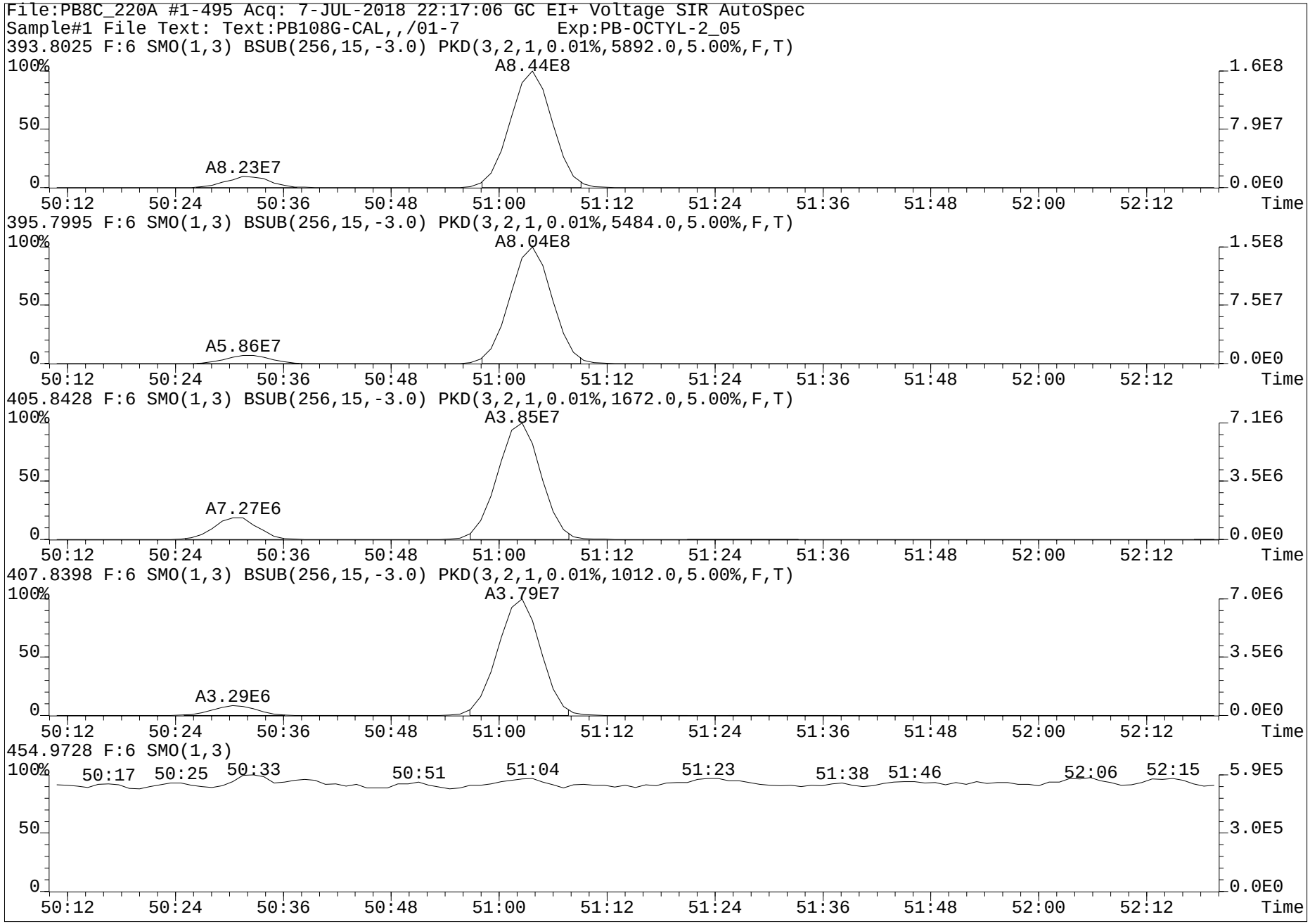

File:PB8C_220A #1-517 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,228.0,5.00%,F,T)
A1.44E9
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,268.0,5.00%,F,T)
A9.30E8
337.9207 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,180.0,5.00%,F,T)
A6.57E7
339.9178 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,156.0,5.00%,F,T)
A4.15E7
280.9825 F:3 SMO(1,3)
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
3.1E8
1.6E8
0.0E0
2.0E8
1.0E8
1.4E7
6.9E6
8.8E6
4.4E6
7.3E6
3.7E6

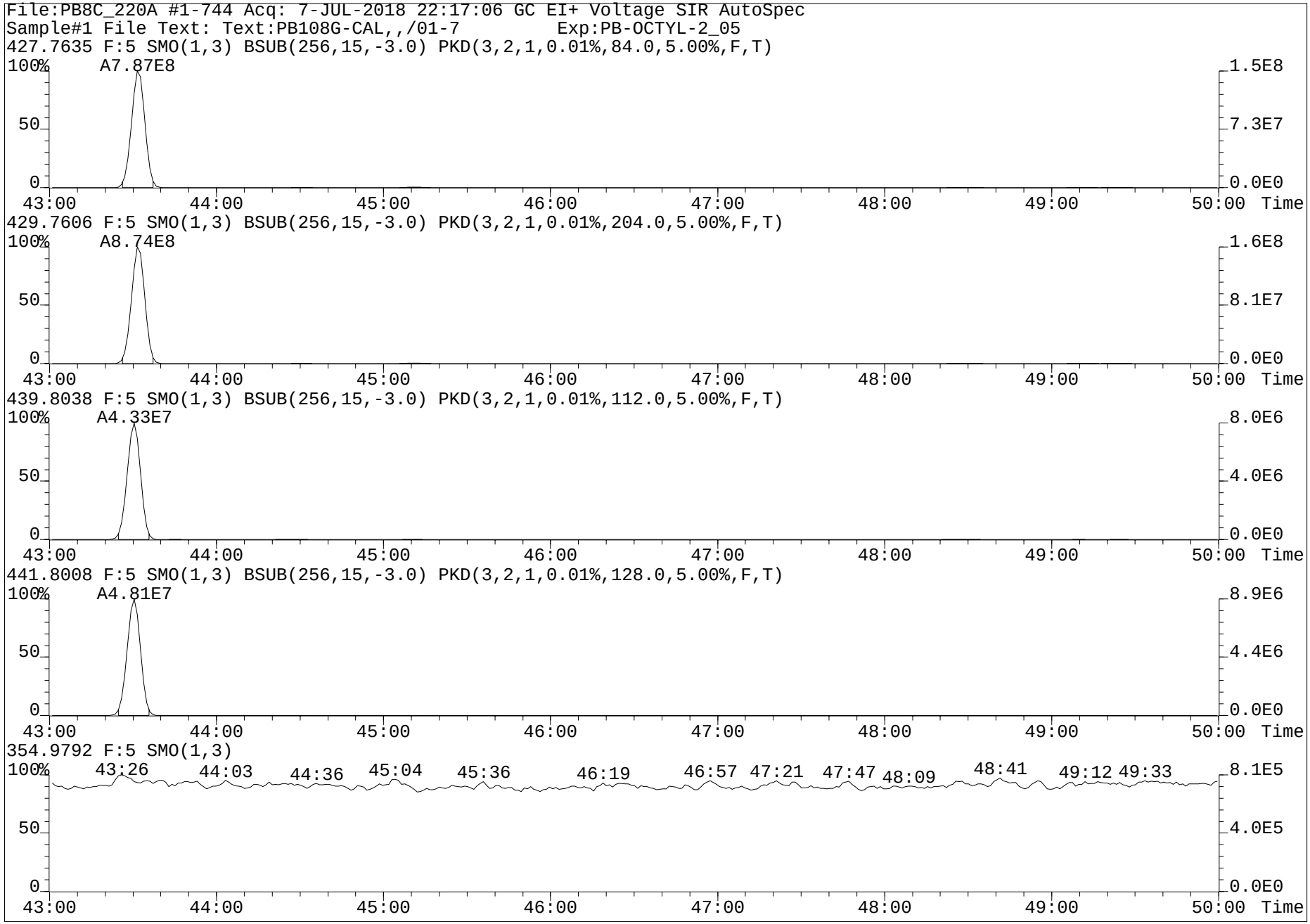

File:PB8C_220A #1-744 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21300.0,5.00%,F,T)
A1.28E9
A1.38E9
A1.27E9
A1.17E9
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13680.0,5.00%,F,T)
A8.22E8
A8.79E8
A8.15E8
A7.52E8
337.9207 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1476.0,5.00%,F,T)
A6.10E7
A6.25E7
A5.97E7
A5.40E7
339.9178 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,880.0,5.00%,F,T)
A3.87E7
A3.95E7
A3.77E7
A3.43E7
354.9792 F:5 SMO(1,3)
36:10
36:36
37:03
37:37
37:59
38:49
39:28
40:11
40:50
41:16
42:05
42:35
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
2.6E8
1.3E8
0.0E0
1.7E8
8.3E7
1.2E7
6.0E6
7.5E6
3.8E6
7.8E5
3.9E5

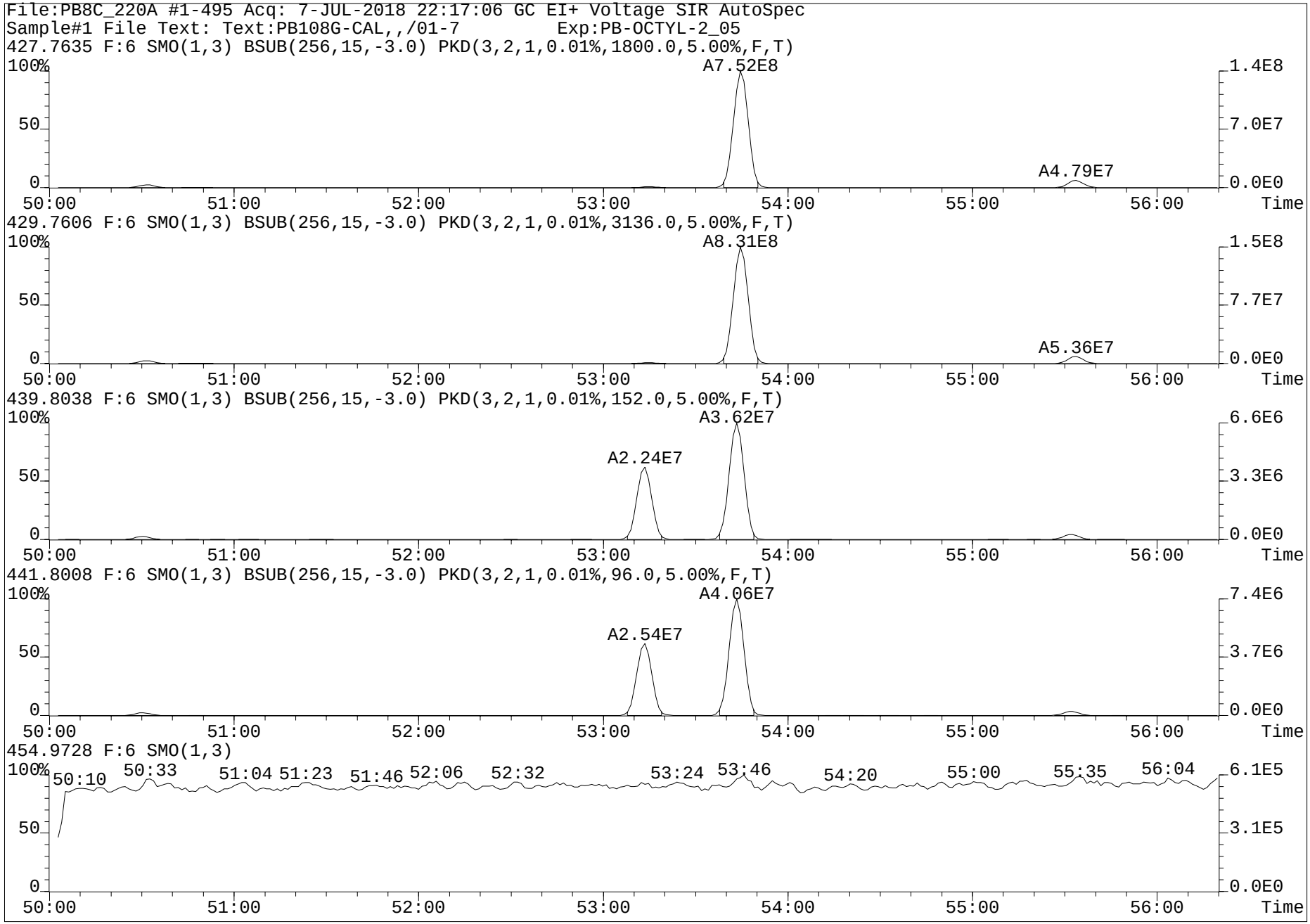

File:PB8C_220A #1-470 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A1.29E9
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,64.0,5.00%,F,T)
A1.04E9
371.8817 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A6.03E7
373.8788 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.90E7
330.9792 F:4 SMO(1,3)
31:12 31:49 32:06 32:34 32:55 33:13 33:33 33:54 34:21 34:58 35:21 35:43
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
2.6E8
1.3E8
0.0E0
2.1E8
1.0E8
1.2E7
6.0E6
9.8E6
4.9E6
3.9E6
2.0E6

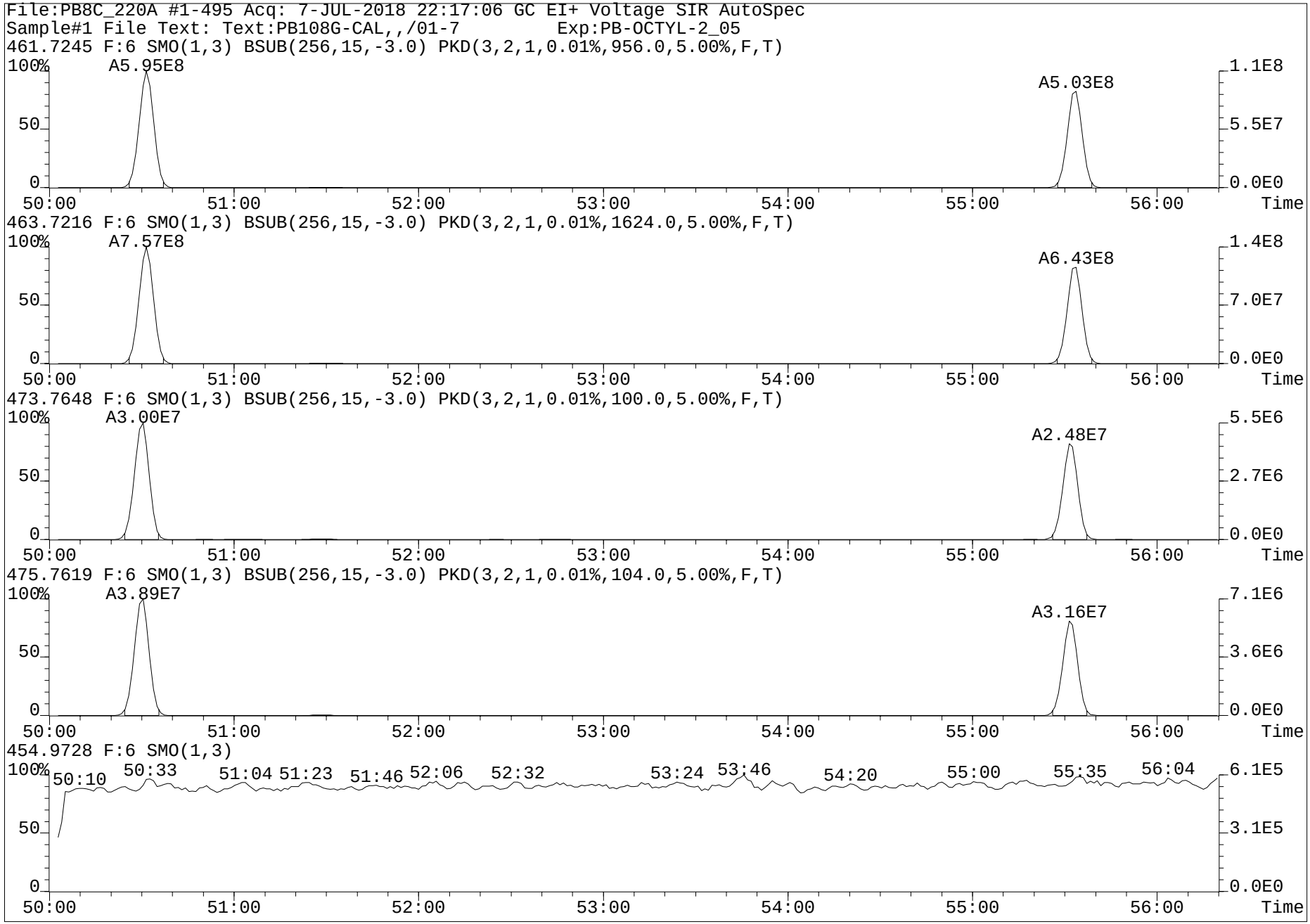

File:PB8C_220A #1-744 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2188.0,5.00%,F,T)
A1.09E9
A2.26E9
A1.02E9
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1008.0,5.00%,F,T)
A8.69E8
A1.81E9
A8.08E8
371.8817 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,356.0,5.00%,F,T)
A3.39E7
A4.65E7
A1.00E8
A4.67E7
373.8788 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
A2.71E7
A3.70E7
A7.87E7
A3.74E7
354.9792 F:5 SMO(1,3)
36:10 37:03 37:59 39:28 40:50 42:05 43:26 44:19 45:04 46:19 47:21 48:41
100%
50
0
3.1E8
1.6E8
0.0E0
2.5E8
1.3E8
1.4E7
7.0E6
1.1E7
5.5E6
8.1E5
4.0E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

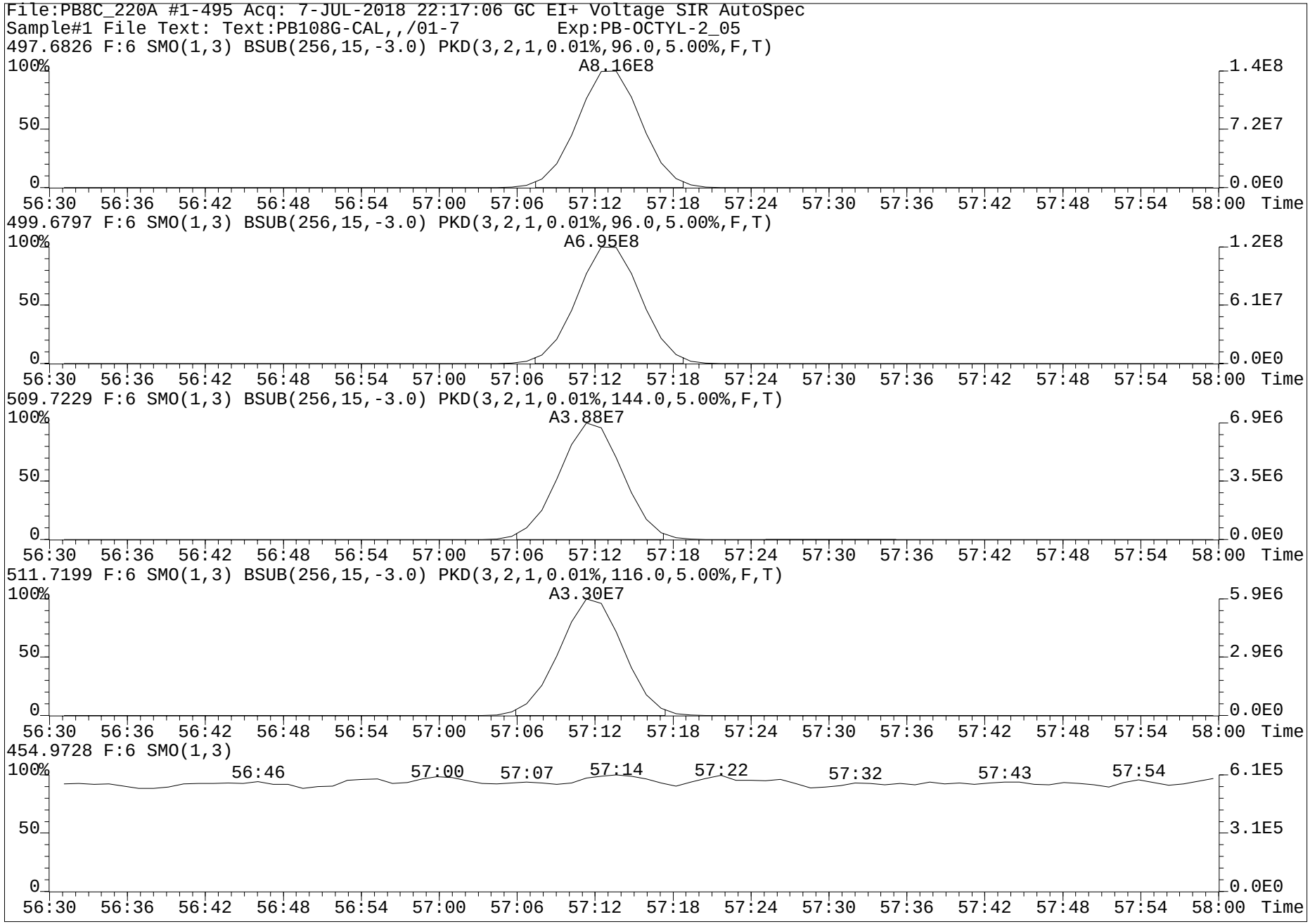

File:PB8C_220A #1-744 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A1.06E9
A7.58E8
A7.06E8
A5.72E8
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1540.0,5.00%,F,T)
A1.02E9
A7.32E8
A6.79E8
A5.48E8
405.8425 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A5.20E7
A3.00E7
A3.42E7
A2.92E7
407.8398 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A4.94E7
A2.86E7
A3.34E7
A2.81E7
354.9792 F:5 SMO(1,3)
36:10 37:03 37:59 39:28 40:50 42:05 43:26 44:19 45:04 46:19 47:21 48:41
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

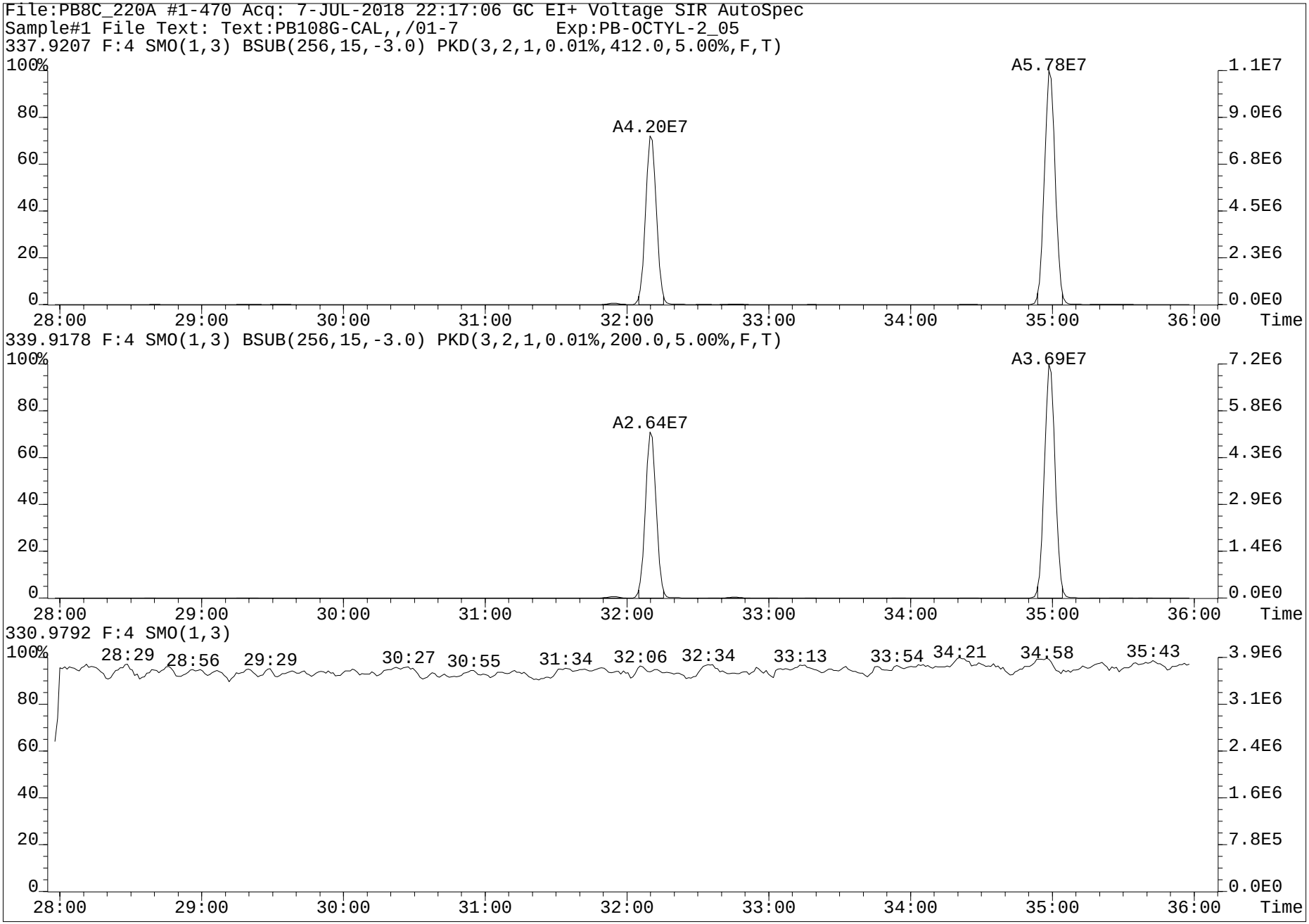

File:PB8C_220A #1-495 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
393.8025 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5892.0,5.00%,F,T)
A8.44E8
A8.23E7
1.6E8
7.9E7
0.0E0
395.7995 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5484.0,5.00%,F,T)
A8.04E8
A5.86E7
1.5E8
7.5E7
0.0E0
405.8428 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1672.0,5.00%,F,T)
A3.85E7
A7.27E6
7.1E6
3.5E6
0.0E0
407.8398 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1012.0,5.00%,F,T)
A3.79E7
A3.29E6
7.0E6
3.5E6
0.0E0
454.9728 F:6 SMO(1,3)
50:17 50:25 50:33 50:51 51:04 51:23 51:38 51:46 52:06 52:15
5.9E5
3.0E5
0.0E0
100%
50
0
50:12 50:24 50:36 50:48 51:00 51:12 51:24 51:36 51:48 52:00 52:12 Time


File:PB8C_220A #1-744 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
100% A7.87E8
1.5E8
7.3E7
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,204.0,5.00%,F,T)
100% A8.74E8
1.6E8
8.1E7
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
100% A4.33E7
8.0E6
4.0E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,128.0,5.00%,F,T)
100% A4.81E7
8.9E6
4.4E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 F:5 SMO(1,3)
100% 43:26 44:03 44:36 45:04 45:36 46:19 46:57 47:21 47:47 48:09 48:41 49:12 49:33
8.1E5
4.0E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220A #1-495 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1800.0,5.00%,F,T)
A7.52E8
A4.79E7
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3136.0,5.00%,F,T)
A8.31E8
A5.36E7
439.8038 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,152.0,5.00%,F,T)
A3.62E7
A2.24E7
441.8008 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A4.06E7
A2.54E7
454.9728 F:6 SMO(1,3)
50:10 50:33 51:04 51:23 51:46 52:06 52:32 53:24 53:46 54:20 55:00 55:35 56:04
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
1.4E8 7.0E7 0.0E0
1.5E8 7.7E7 0.0E0
6.6E6 3.3E6 0.0E0
7.4E6 3.7E6 0.0E0
6.1E5 3.1E5 0.0E0


File:PB8C_220A #1-495 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,956.0,5.00%,F,T)
A5.95E8
A5.03E8
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1624.0,5.00%,F,T)
A7.57E8
A6.43E8
473.7648 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
A3.00E7
A2.48E7
475.7619 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A3.89E7
A3.16E7
454.9728 F:6 SMO(1,3)
50:10 50:33 51:04 51:23 51:46 52:06 52:32 53:24 53:46 54:20 55:00 55:35 56:04
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
1.1E8 5.5E7 0.0E0
1.4E8 7.0E7 0.0E0
5.5E6 2.7E6 0.0E0
7.1E6 3.6E6 0.0E0
6.1E5 3.1E5 0.0E0


File:PB8C_220A #1-495 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
497.6826 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A8.16E8
1.4E8
7.2E7
0.0E0
499.6797 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A6.95E8
1.2E8
6.1E7
0.0E0
509.7229 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,144.0,5.00%,F,T)
A3.88E7
6.9E6
3.5E6
0.0E0
511.7199 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,116.0,5.00%,F,T)
A3.30E7
5.9E6
2.9E6
0.0E0
454.9728 F:6 SMO(1,3)
56:46
57:00
57:07
57:14
57:22
57:32
57:43
57:54
6.1E5
3.1E5
0.0E0
100%
50
0
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220A #1-470 Acq: 7-JUL-2018 22:17:06 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108G-CAL,,/01-7 Exp:PB-OCTYL-2_05
337.9207 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A4.20E7
A5.78E7
339.9178 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,200.0,5.00%,F,T)
A2.64E7
A3.69E7
330.9792 F:4 SMO(1,3)
28:29
28:56
29:29
30:27
30:55
31:34
32:06
32:34
33:13
33:54
34:21
34:58
35:43
Time

www.axysanalytical.com

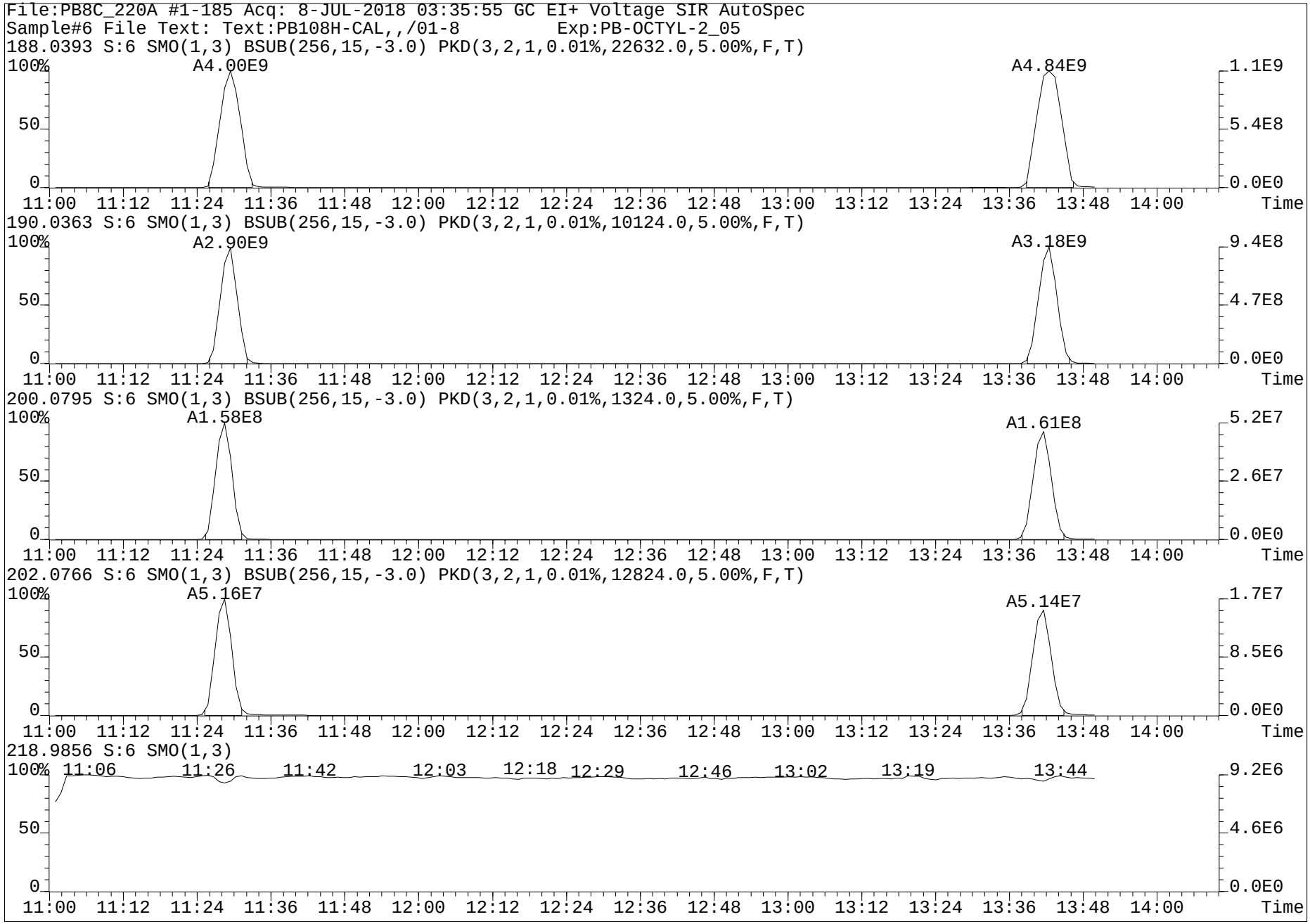
Run #7 Filename PB8C_220A S: 6 I: 1 Acquired: 8-JUL-18 03:35:55 Processed: 9-JUL-18 08:10:03
Run: pb8c_220-7a Analyte: 1668A-C8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108H-CAL,,/01-8 Comments: 1,,1.0uL CS-6 F1: 6000.00 F2: 1.00

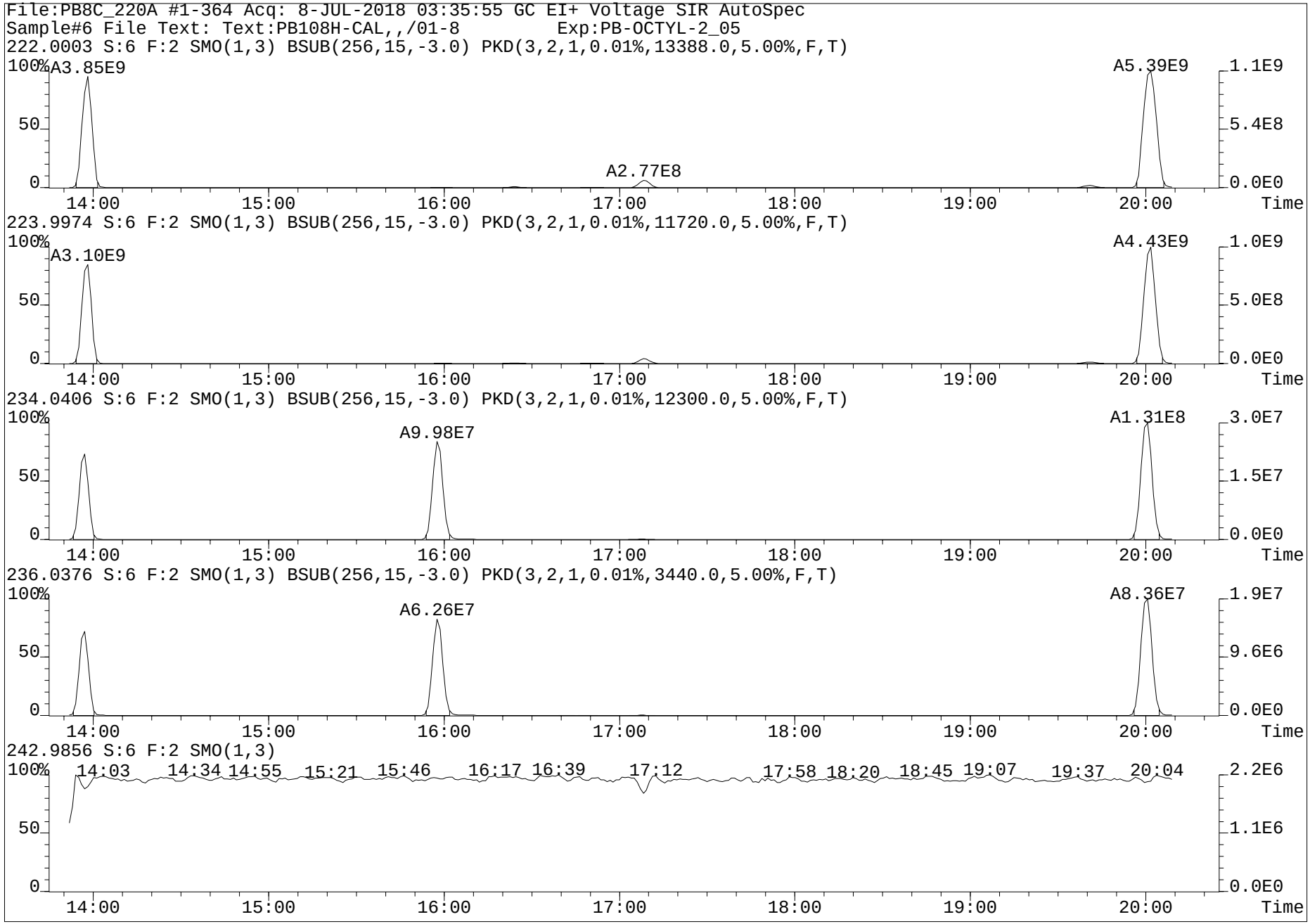
	Typ	Name	Amount	Resp	RA		RT		RF	RRF		Modified?
1	Unk	CL1-PCB-1	6000.00	*	*	n	NotF»		-	*	n	n
2	Unk	CL1-PCB-3	6000.00	*	*	n	NotF»		-	*	n	n
3	Unk	CL2-PCB-4	6000.00	*	*	n	NotF»		-	*	n	n
4	Unk	CL2-PCB-15	6000.00	*	*	n	NotF»		-	*	n	n
5	Unk	CL3-PCB-19	6000.00	6.99e+09	1.04	y	17:08		-	1.0642	y	n
6	Unk	CL3-PCB-37	6000.00	1.04e+10	1.02	y	27:19		-	0.9617	y	n
7	Unk	CL4-PCB-54	6000.00	8.75e+09	0.85	y	20:19		-	1.0311	y	n
8	Unk	CL4-PCB-81	6000.00	8.67e+09	0.78	y	34:22		-	1.0397	y	n
9	Unk	CL4-PCB-77	6000.00	8.65e+09	0.81	y	34:58		-	1.0260	y	n
10	Unk	CL5-PCB-104	6000.00	8.03e+09	1.52	y	26:00		-	1.0747	y	n
11	Unk	CL5-PCB-123	6000.00	7.68e+09	1.55	y	37:02		-	1.0040	y	n
12	Unk	CL5-PCB-118	6000.00	7.90e+09	1.55	y	37:23		-	1.0506	y	n
13	Unk	CL5-PCB-114	6000.00	7.81e+09	1.56	y	37:56		-	1.0828	y	n
14	Unk	CL5-PCB-105	6000.00	7.72e+09	1.56	y	38:37		-	1.0407	y	n
15	Unk	CL5-PCB-126	6000.00	7.49e+09	1.57	y	41:52		-	1.0503	y	n
16	Unk	CL6-PCB-155	6000.00	8.20e+09	1.28	y	31:54		-	1.0311	y	n
17	Unk	CL6-PCB-167	6000.00	7.42e+09	1.25	y	43:47		-	1.1423	y	n
18	Unk	CL6-PCB-156/157	12000.00	1.50e+10	1.21	y	45:01		-	1.0842	y	n
19	Unk	CL6-PCB-169	6000.00	7.26e+09	1.26	y	48:24		-	1.0592	y	n
20	Unk	CL7-PCB-188	6000.00	6.95e+09	1.04	y	37:54		-	0.9718	y	n
21	Unk	CL7-PCB-189	6000.00	6.38e+09	1.05	y	51:03		-	1.0494	y	n
22	Unk	CL8-PCB-202	6000.00	5.92e+09	0.88	y	43:31		-	0.8878	y	n
23	Unk	CL8-PCB-205	6000.00	5.65e+09	0.90	y	53:44		-	1.0016	y	n
24	Unk	CL9-PCB-208	6000.00	4.97e+09	0.79	y	50:30		-	0.9487	y	n
25	Unk	CL9-PCB-206	6000.00	4.02e+09	0.78	y	55:32		-	0.9668	y	n
26	Unk	CL10-PCB-209	6000.00	5.18e+09	1.18	y	57:12		-	1.0168	y	n
27	IS	13C-CL1-PCB-1	100.00	2.09e+08	3.06	y	11:23		-	1.2887	y	n
28	IS	13C-CL1-PCB-3	100.00	2.13e+08	3.14	y	13:41		-	1.3089	y	n
29	IS	13C-CL2-PCB-4	100.00	1.30e+08	1.59	y	13:57		-	0.7996	y	n
30	IS	13C-CL2-PCB-15	100.00	2.14e+08	1.57	y	20:00		-	1.3205	y	n
31	IS	13C-CL3-PCB-19	100.00	1.09e+08	1.05	y	17:07		-	0.6738	y	n
32	IS	13C-CL3-PCB-37	100.00	1.80e+08	1.04	y	27:18		-	2.1582	y	n
33	REF	13C-CL4-CHECK	100.00	1.41e+08	0.80	y	20:17		-	1.6964	y	n
34	IS	13C-CL4-PCB-81	100.00	1.39e+08	0.74	y	34:21		-	1.6685	y	n
35	IS	13C-CL4-PCB-77	100.00	1.40e+08	0.77	y	34:56		-	1.6856	y	n
36	IS	13C-CL5-PCB-104	100.00	1.25e+08	1.53	y	25:59		-	1.7034	y	n
37	IS	13C-CL5-PCB-123	100.00	1.28e+08	1.58	y	37:01		-	1.7445	y	n
38	IS	13C-CL5-PCB-118	100.00	1.25e+08	1.57	y	37:21		-	1.7139	y	n
39	IS	13C-CL5-PCB-114	100.00	1.20e+08	1.59	y	37:55		-	1.6448	y	n
40	IS	13C-CL5-PCB-105	100.00	1.24e+08	1.58	y	38:36		-	1.6904	y	n
41	IS	13C-CL5-PCB-126	100.00	1.19e+08	1.56	y	41:51		-	1.6248	y	n
42	IS	13C-CL6-PCB-155	100.00	1.33e+08	1.28	y	31:53		-	1.8992	y	n
43	IS	13C-CL6-PCB-167	100.00	1.08e+08	1.27	y	43:46		-	1.5499	y	n
44	IS	13C-CL6-PCB-156/157	200.00	2.31e+08	1.26	y	44:59		-	1.6540	y	n

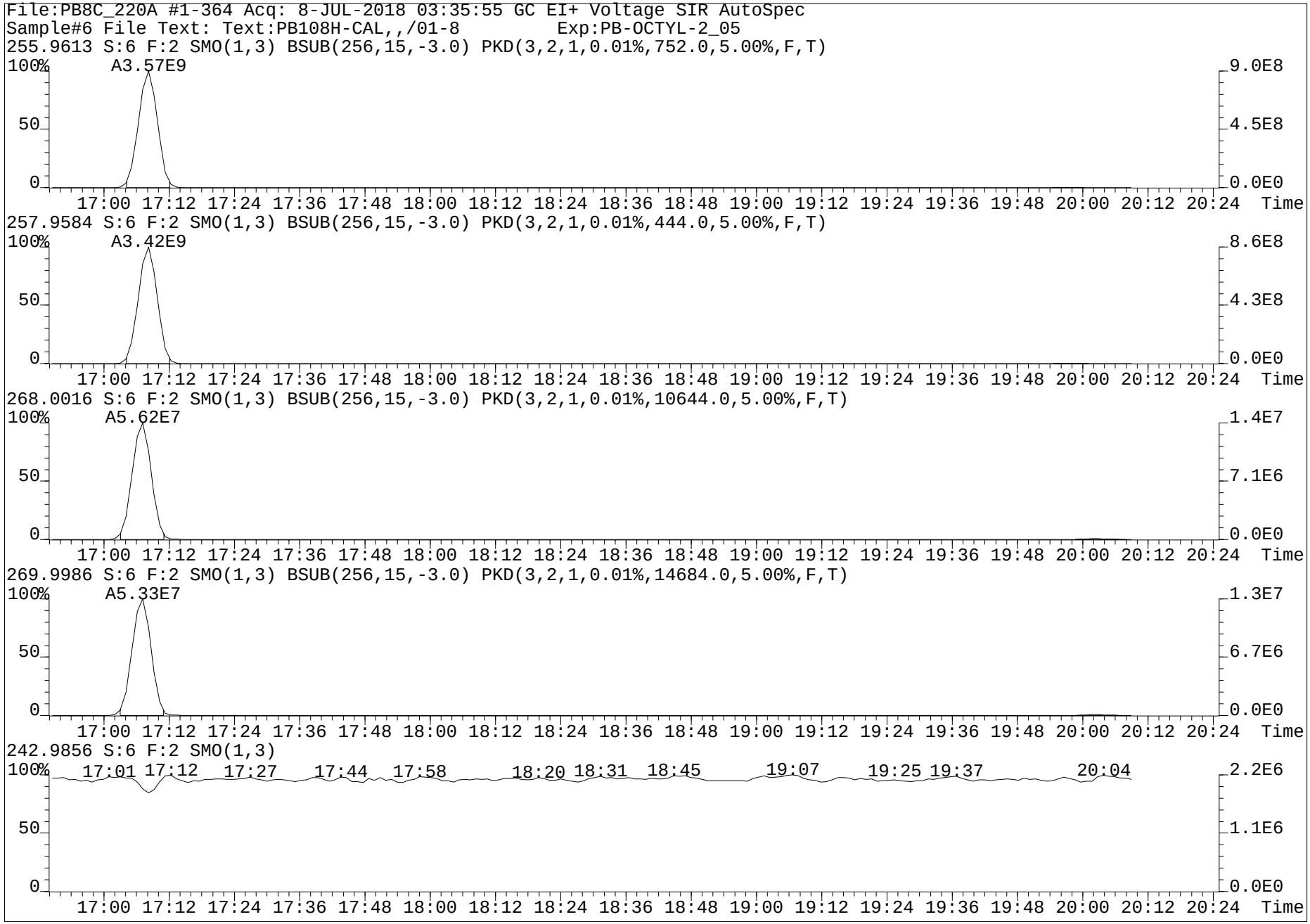
PV by RA 09JUL2018
SV: JA 9-JUL-18

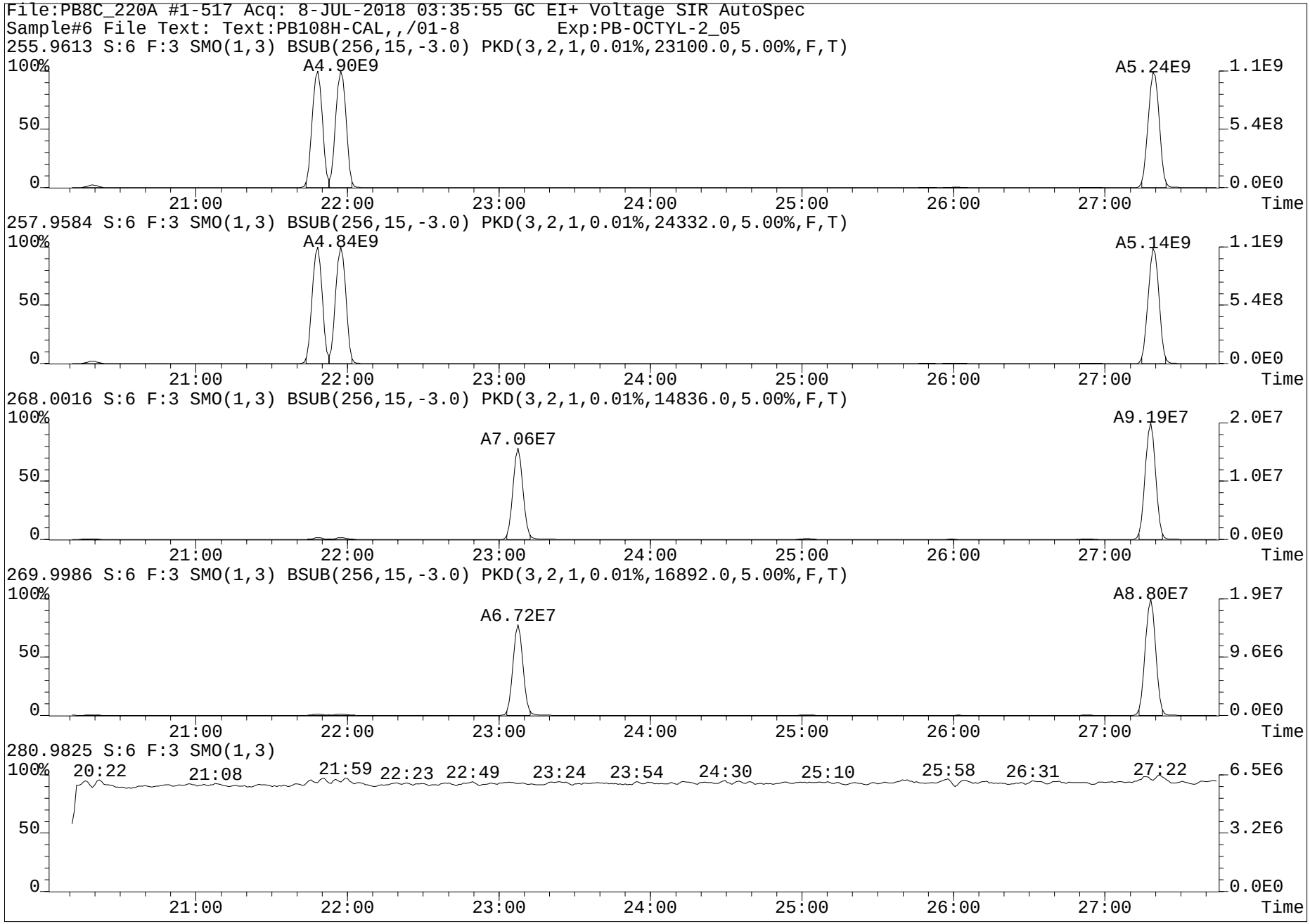
www.axysanalytical.com

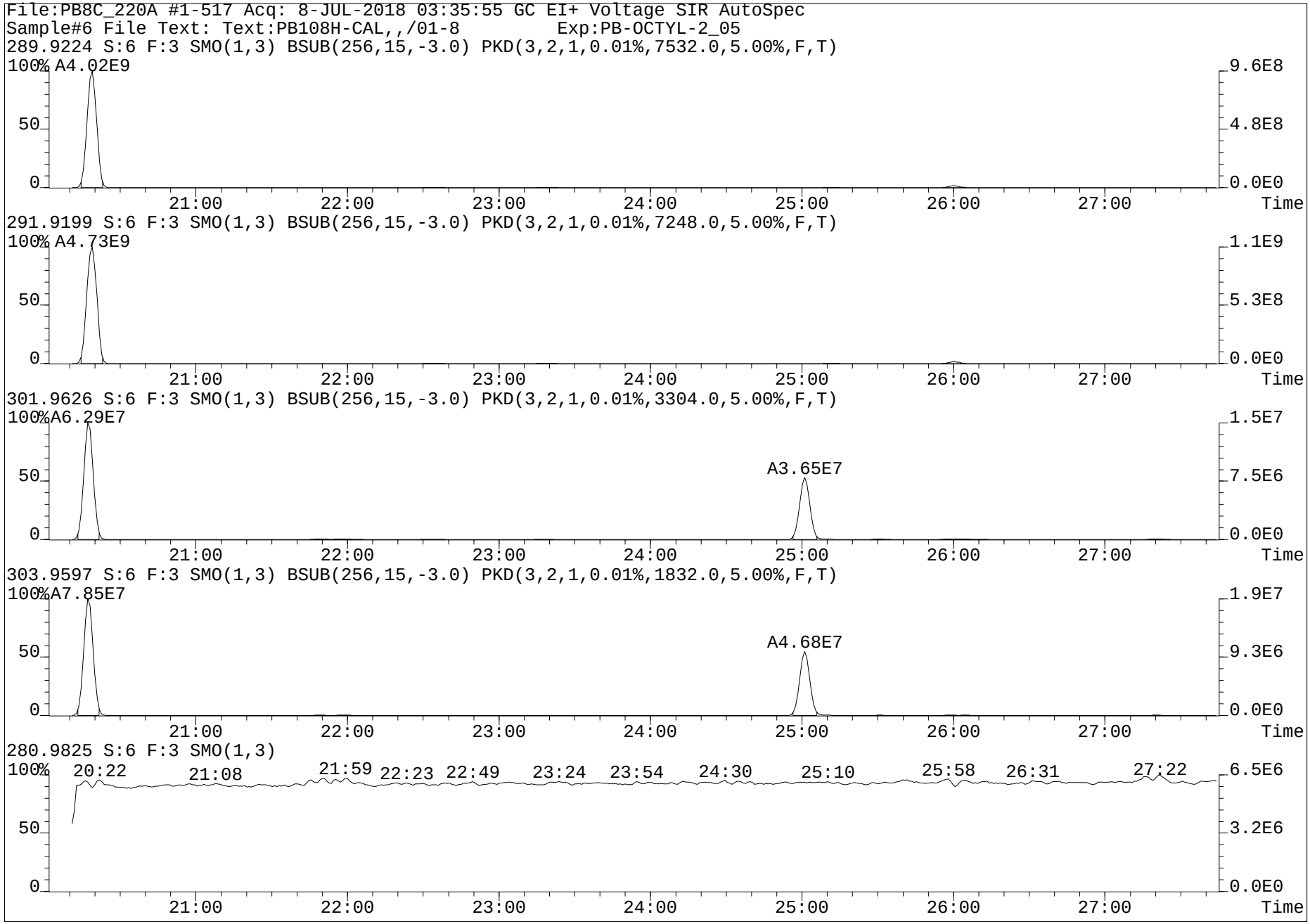
45	IS	13C-CL6-PCB-169	100.00	1.14e+08	1.27 y	48:23	-	1.6366	y	n
46	REF	13C-CL7-CHECK	100.00	1.19e+08	1.05 y	37:52	-	2.1763	y	n
47	IS	13C-CL7-PCB-189	100.00	1.01e+08	1.05 y	51:01	-	1.8505	y	n
48	IS	13C-CL8-PCB-202	100.00	1.11e+08	0.91 y	43:29	-	2.0286	y	n
49	IS	13C-CL8-PCB-205	100.00	9.41e+07	0.86 y	53:43	-	1.7186	y	n
50	IS	13C-CL9-PCB-208	100.00	8.74e+07	0.79 y	50:29	-	1.5963	y	n
51	IS	13C-CL9-PCB-206	100.00	6.92e+07	0.79 y	55:31	-	1.2645	y	n
52	IS	13C-CL10-PCB-209	100.00	8.50e+07	1.18 y	57:11	-	1.5524	y	n
53	RS	13C-CL2-PCB-9	100.00	1.62e+08	1.60 y	15:58	1.62e+06	-	n	n
54	RS	13C-CL4-PCB-52	100.00	8.33e+07	0.78 y	25:01	8.33e+05	-	n	n
55	RS	13C-CL5-PCB-101	100.00	7.31e+07	1.63 y	32:09	7.31e+05	-	n	n
56	RS/RT	13C-CL6-PCB-138	100.00	6.98e+07	1.26 y	40:36	6.98e+05	-	n	n
57	RS	13C-CL8-PCB-194	100.00	5.47e+07	0.89 y	53:12	5.47e+05	-	n	n
58	C/UP	13C-CL3-PCB-28	100.00	1.38e+08	1.05 y	23:08	-	1.6532	y	n
59	C/Up	13C-CL5-PCB-111	100.00	1.17e+08	1.62 y	34:58	-	1.5984	y	n
60	C/Up	13C-CL7-PCB-178	100.00	6.75e+07	1.03 y	41:04	-	0.9662	y	n
61	IS	13C-CL4-PCB-54	100.00	1.41e+08	0.80 y	20:17	-	1.6964	y	n
62	IS	13C-CL7-PCB-188	100.00	1.19e+08	1.05 y	37:52	-	2.1763	y	n
63	LM	CL1-LOCK	0.00	-		-	-	-	n	n
64	LM	CL2-LOCK	0.00	-		-	-	-	n	n
65	LM	CL3-LOCK	0.00	-		-	-	-	n	n
66	LM	CL3,4,5-LOCK	0.00	-		-	-	-	n	n
67	LM	CL4,5-LOCK	0.00	-		-	-	-	n	n
68	LM	CL5-LOCK	0.00	-		-	-	-	n	n
69	LM	CL6-LOCK	0.00	-		-	-	-	n	n
70	LM	CL6,7-LOCK	0.00	-		-	-	-	n	n
71	LM	CL7-LOCK	0.00	-		-	-	-	n	n
72	LM	CL8-LOCK	0.00	-		-	-	-	n	n
73	LM	CL8,9-LOCK	0.00	-		-	-	-	n	n
74	LM	CL10-LOCK	0.00	-		-	-	-	n	n

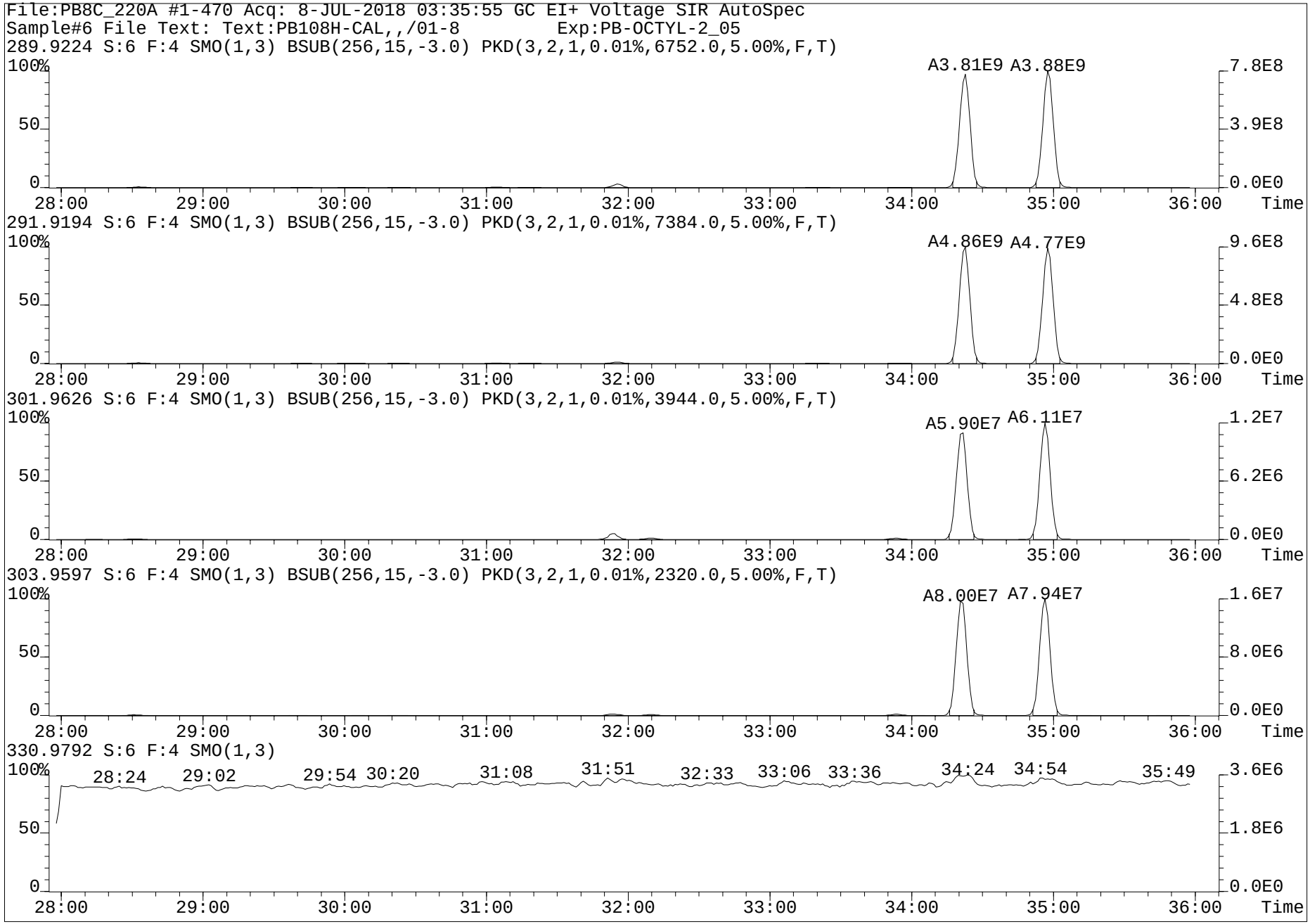

File:PB8C_220A #1-185 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
188.0393 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,22632.0,5.00%,F,T)
A4.00E9
A4.84E9
190.0363 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10124.0,5.00%,F,T)
A2.90E9
A3.18E9
200.0795 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1324.0,5.00%,F,T)
A1.58E8
A1.61E8
202.0766 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12824.0,5.00%,F,T)
A5.16E7
A5.14E7
218.9856 S:6 SMO(1,3)
11:06
11:26
11:42
12:03
12:18
12:29
12:46
13:02
13:19
13:44
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
1.1E9
5.4E8
0.0E0
9.4E8
4.7E8
5.2E7
2.6E7
1.7E7
8.5E6
9.2E6
4.6E6

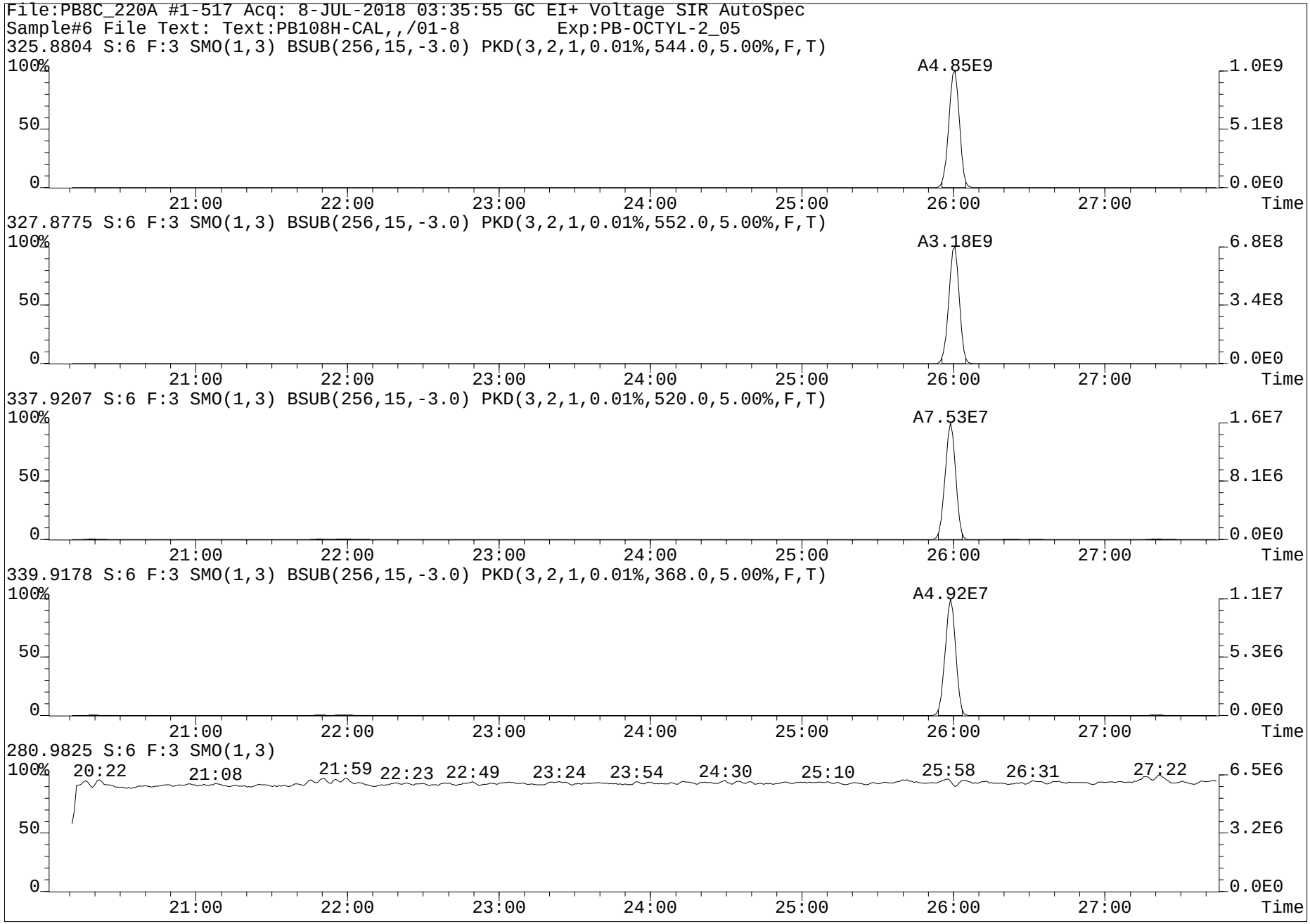

File:PB8C_220A #1-364 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
222.0003 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13388.0,5.00%,F,T)
A3.85E9
A2.77E8
A5.39E9
223.9974 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11720.0,5.00%,F,T)
A3.10E9
A4.43E9
234.0406 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12300.0,5.00%,F,T)
A9.98E7
A1.31E8
236.0376 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3440.0,5.00%,F,T)
A6.26E7
A8.36E7
242.9856 S:6 F:2 SMO(1,3)
14:03 14:34 14:55 15:21 15:46 16:17 16:39 17:12 17:58 18:20 18:45 19:07 19:37 20:04
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.1E9 5.4E8 0.0E0
1.0E9 5.0E8 0.0E0
3.0E7 1.5E7 0.0E0
1.9E7 9.6E6 0.0E0
2.2E6 1.1E6 0.0E0

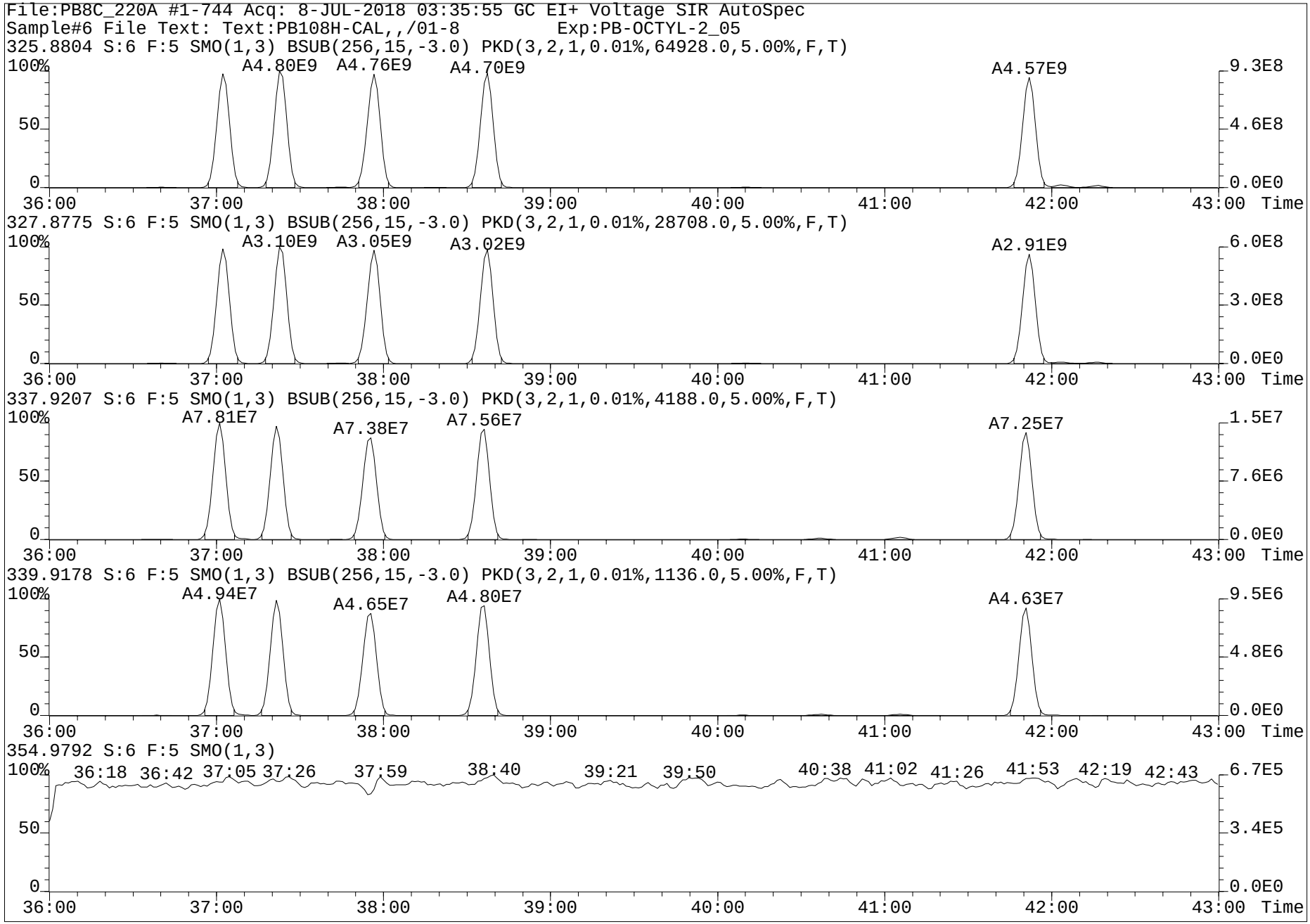

File:PB8C_220A #1-364 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,752.0,5.00%,F,T)
100% A3.57E9
9.0E8
4.5E8
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
257.9584 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
100% A3.42E9
8.6E8
4.3E8
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
268.0016 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10644.0,5.00%,F,T)
100% A5.62E7
1.4E7
7.1E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
269.9986 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14684.0,5.00%,F,T)
100% A5.33E7
1.3E7
6.7E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
242.9856 S:6 F:2 SMO(1,3)
100% 17:01 17:12 17:27 17:44 17:58 18:20 18:31 18:45 19:07 19:25 19:37 20:04
2.2E6
1.1E6
0.0E0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

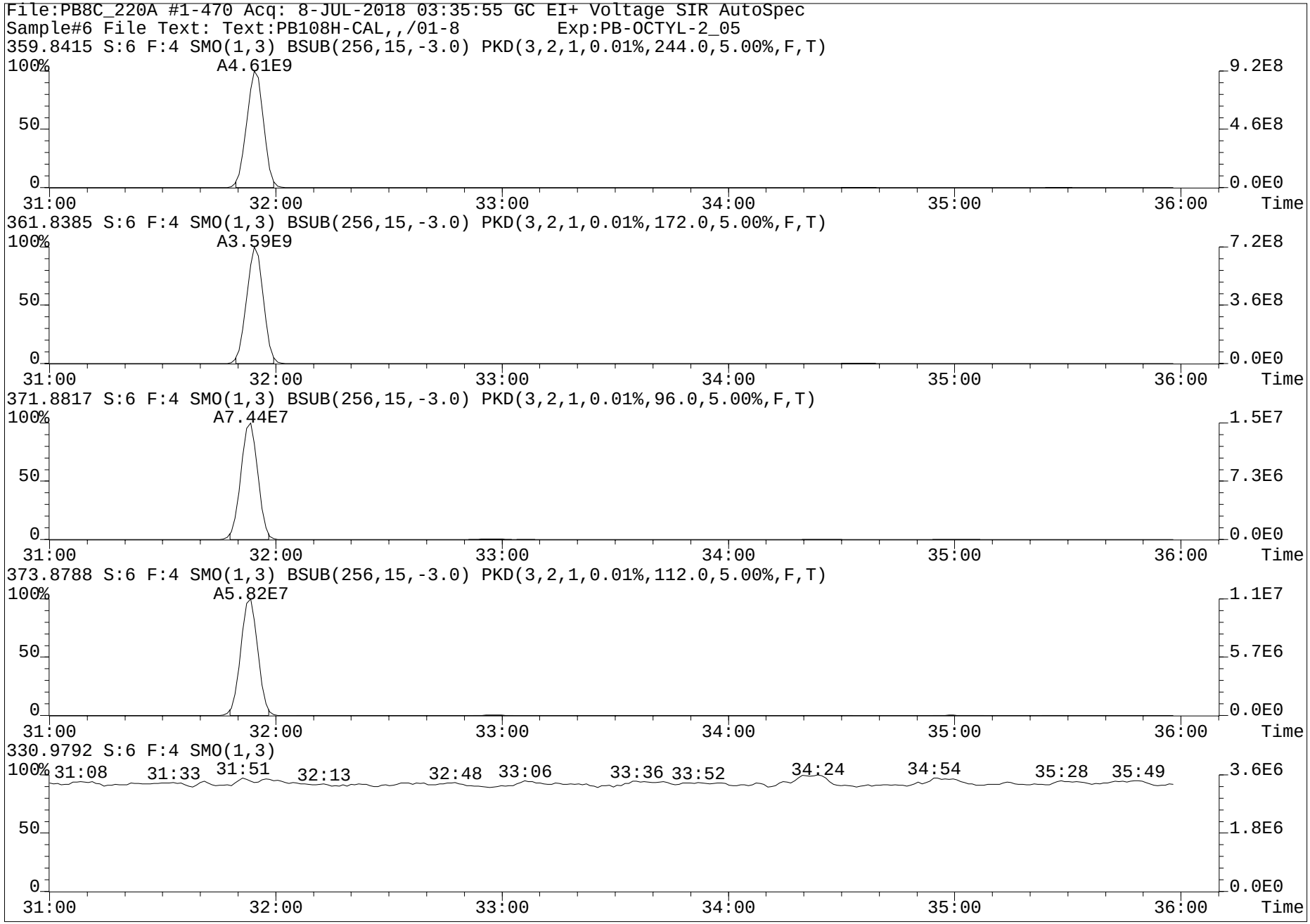

File:PB8C_220A #1-517 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
255.9613 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,23100.0,5.00%,F,T)
A4.90E9
A5.24E9
257.9584 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,24332.0,5.00%,F,T)
A4.84E9
A5.14E9
268.0016 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14836.0,5.00%,F,T)
A7.06E7
A9.19E7
269.9986 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16892.0,5.00%,F,T)
A6.72E7
A8.80E7
280.9825 S:6 F:3 SMO(1,3)
20:22 21:08 21:59 22:23 22:49 23:24 23:54 24:30 25:10 25:58 26:31 27:22
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.1E9
5.4E8
0.0E0
2.0E7
1.0E7
1.9E7
9.6E6
6.5E6
3.2E6

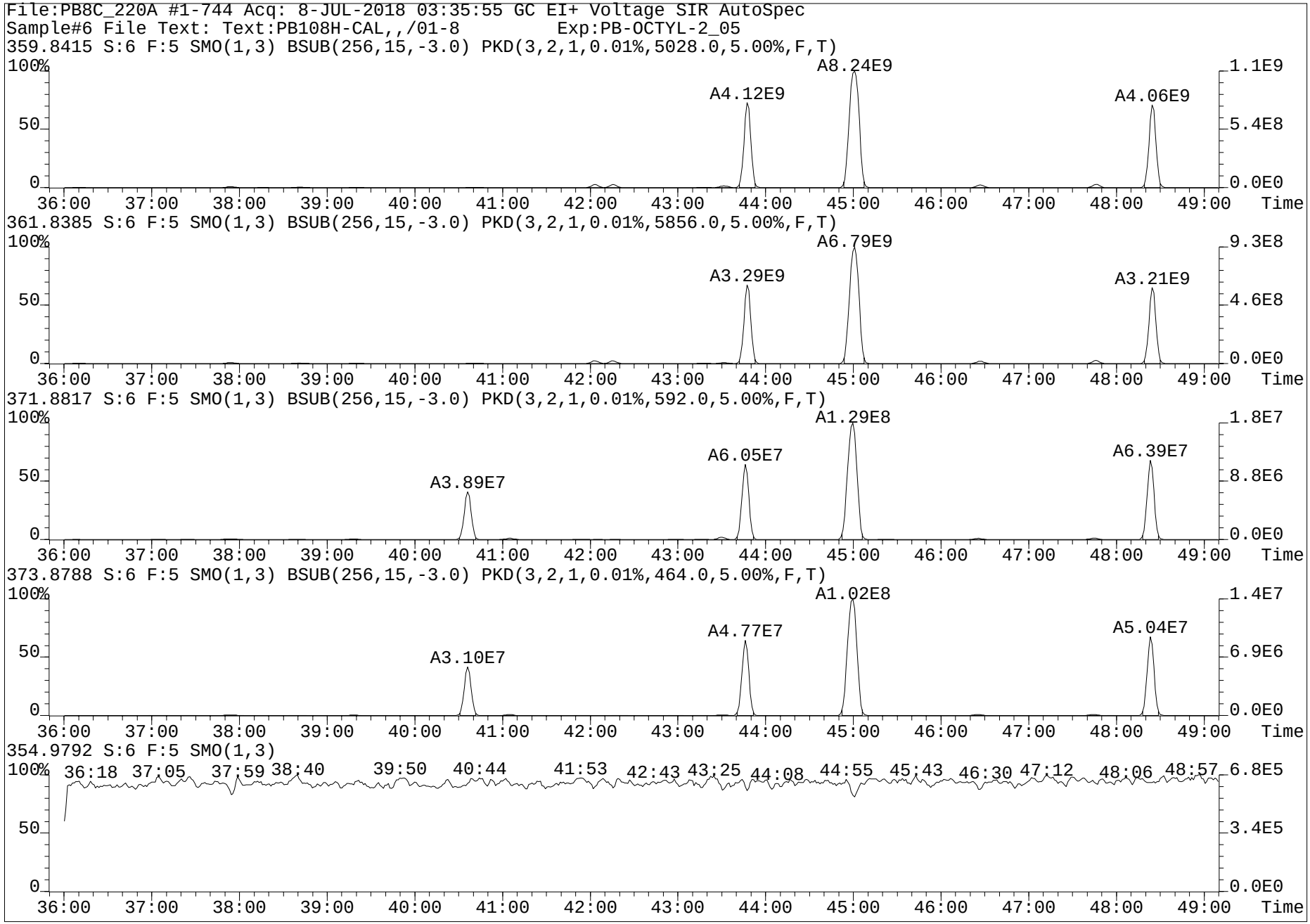

File:PB8C_220A #1-517 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7532.0,5.00%,F,T)
100% A4.02E9
9.6E8
4.8E8
0.0E0
291.9199 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7248.0,5.00%,F,T)
100% A4.73E9
1.1E9
5.3E8
0.0E0
301.9626 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3304.0,5.00%,F,T)
100%A6.29E7
A3.65E7
1.5E7
7.5E6
0.0E0
303.9597 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1832.0,5.00%,F,T)
100%A7.85E7
A4.68E7
1.9E7
9.3E6
0.0E0
280.9825 S:6 F:3 SMO(1,3)
100%
20:22
21:08
21:59
22:23
22:49
23:24
23:54
24:30
25:10
25:58
26:31
27:22
6.5E6
3.2E6
0.0E0
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

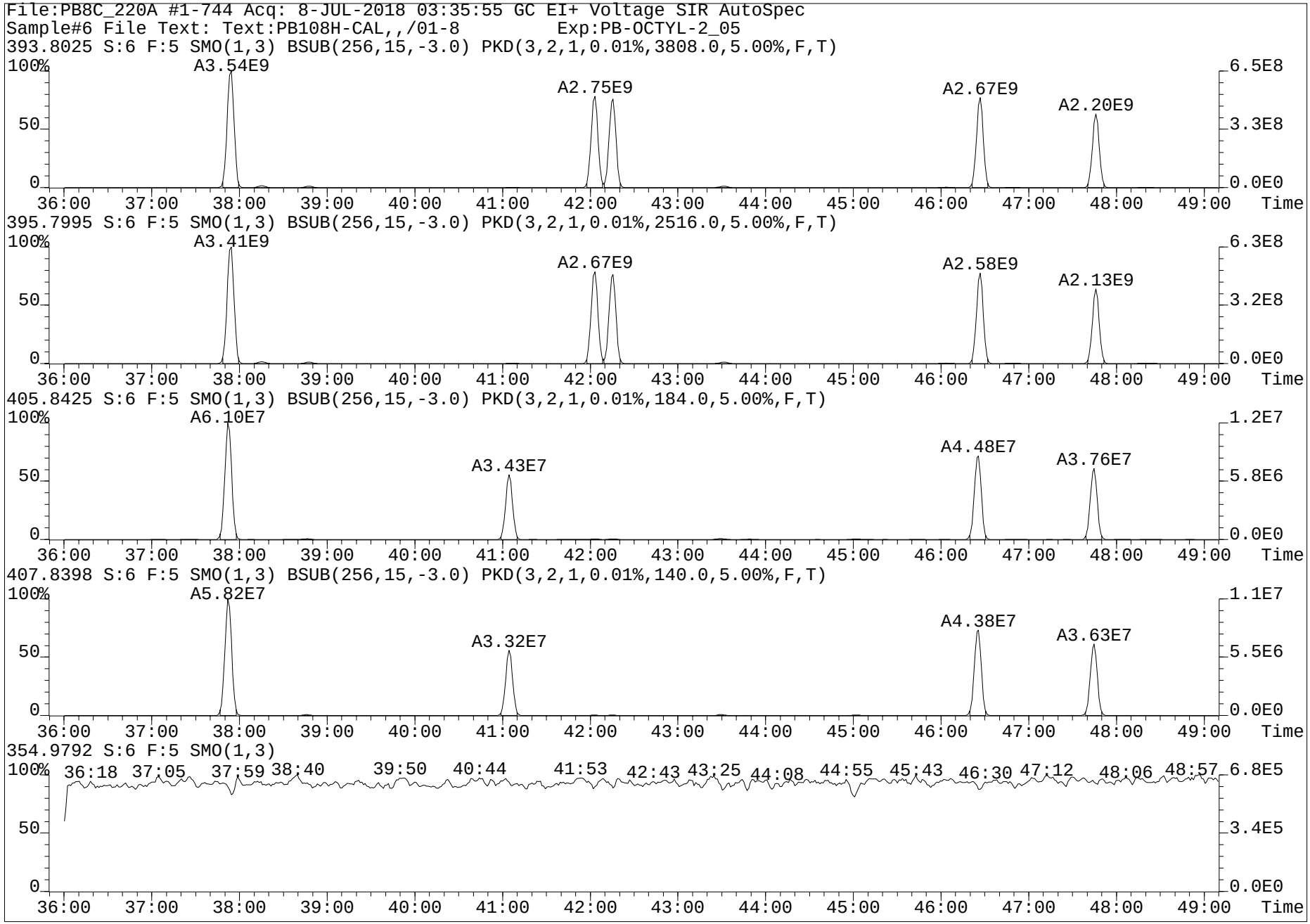

File:PB8C_220A #1-470 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
289.9224 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6752.0,5.00%,F,T)
A3.81E9 A3.88E9
7.8E8
3.9E8
0.0E0
291.9194 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7384.0,5.00%,F,T)
A4.86E9 A4.77E9
9.6E8
4.8E8
0.0E0
301.9626 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3944.0,5.00%,F,T)
A5.90E7 A6.11E7
1.2E7
6.2E6
0.0E0
303.9597 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2320.0,5.00%,F,T)
A8.00E7 A7.94E7
1.6E7
8.0E6
0.0E0
330.9792 S:6 F:4 SMO(1,3)
28:24 29:02 29:54 30:20 31:08 31:51 32:33 33:06 33:36 34:24 34:54 35:49
3.6E6
1.8E6
0.0E0
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time

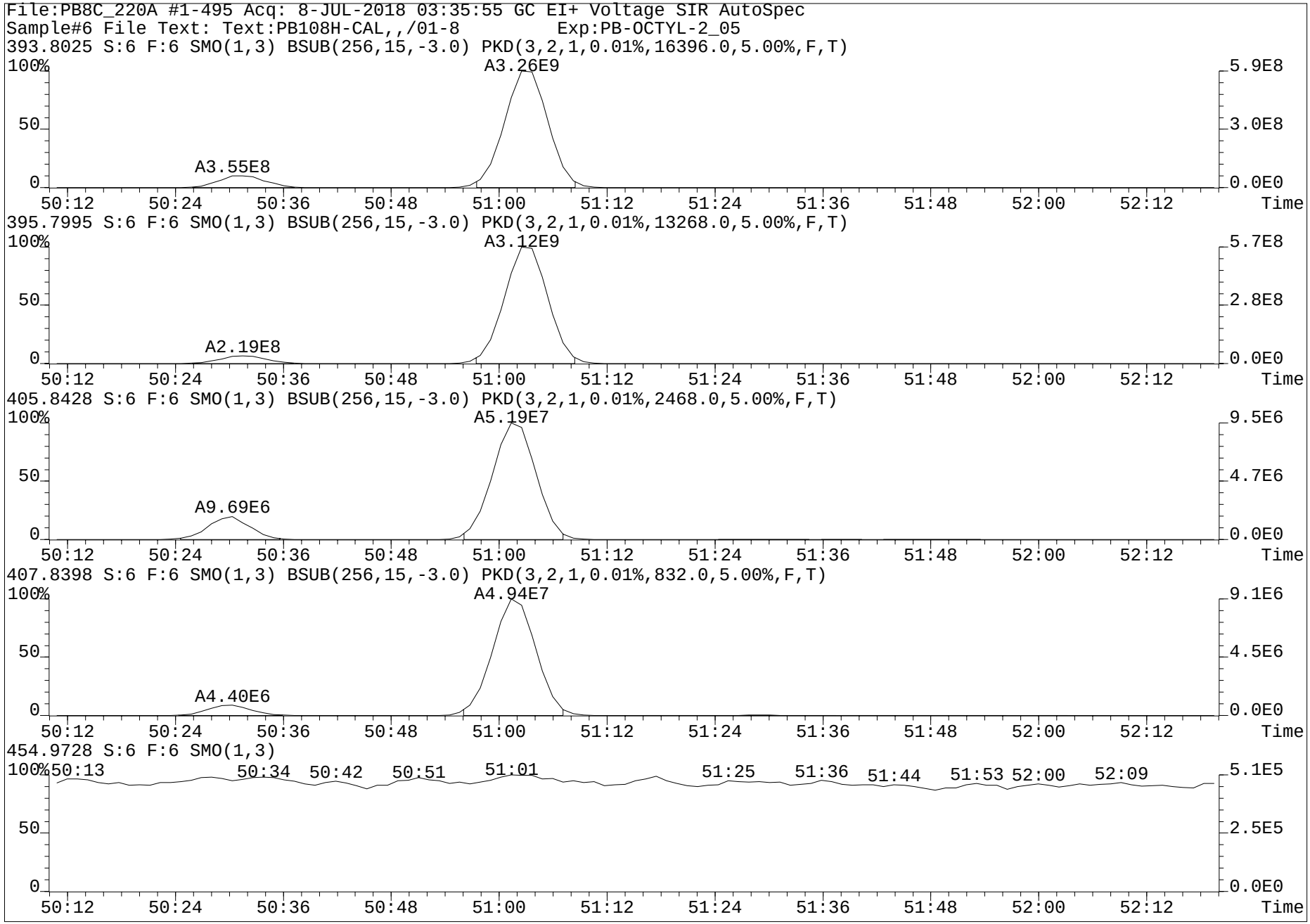

File:PB8C_220A #1-517 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A4.85E9
1.0E9
5.1E8
0.0E0
327.8775 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,552.0,5.00%,F,T)
A3.18E9
6.8E8
3.4E8
0.0E0
337.9207 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A7.53E7
1.6E7
8.1E6
0.0E0
339.9178 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A4.92E7
1.1E7
5.3E6
0.0E0
280.9825 S:6 F:3 SMO(1,3)
20:22 21:08 21:59 22:23 22:49 23:24 23:54 24:30 25:10 25:58 26:31 27:22
6.5E6
3.2E6
0.0E0
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time

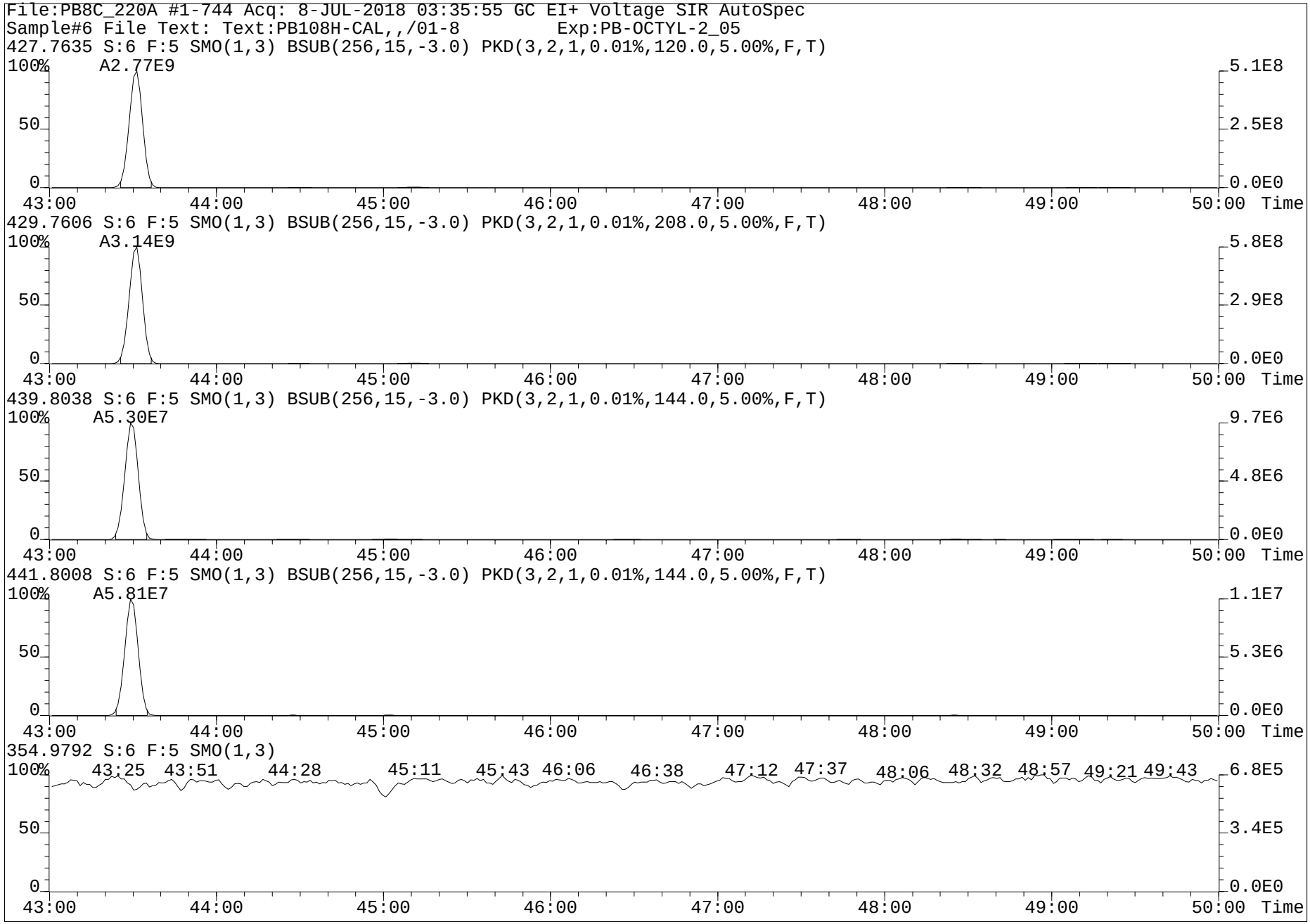

File:PB8C_220A #1-744 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
325.8804 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,64928.0,5.00%,F,T)
A4.80E9
A4.76E9
A4.70E9
A4.57E9
327.8775 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,28708.0,5.00%,F,T)
A3.10E9
A3.05E9
A3.02E9
A2.91E9
337.9207 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4188.0,5.00%,F,T)
A7.81E7
A7.38E7
A7.56E7
A7.25E7
339.9178 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1136.0,5.00%,F,T)
A4.94E7
A4.65E7
A4.80E7
A4.63E7
354.9792 S:6 F:5 SMO(1,3)
36:18 36:42 37:05 37:26 37:59 38:40 39:21 39:50 40:38 41:02 41:26 41:53 42:19 42:43
100%
50
0
9.3E8
4.6E8
0.0E0
6.0E8
3.0E8
1.5E7
7.6E6
9.5E6
4.8E6
6.7E5
3.4E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time

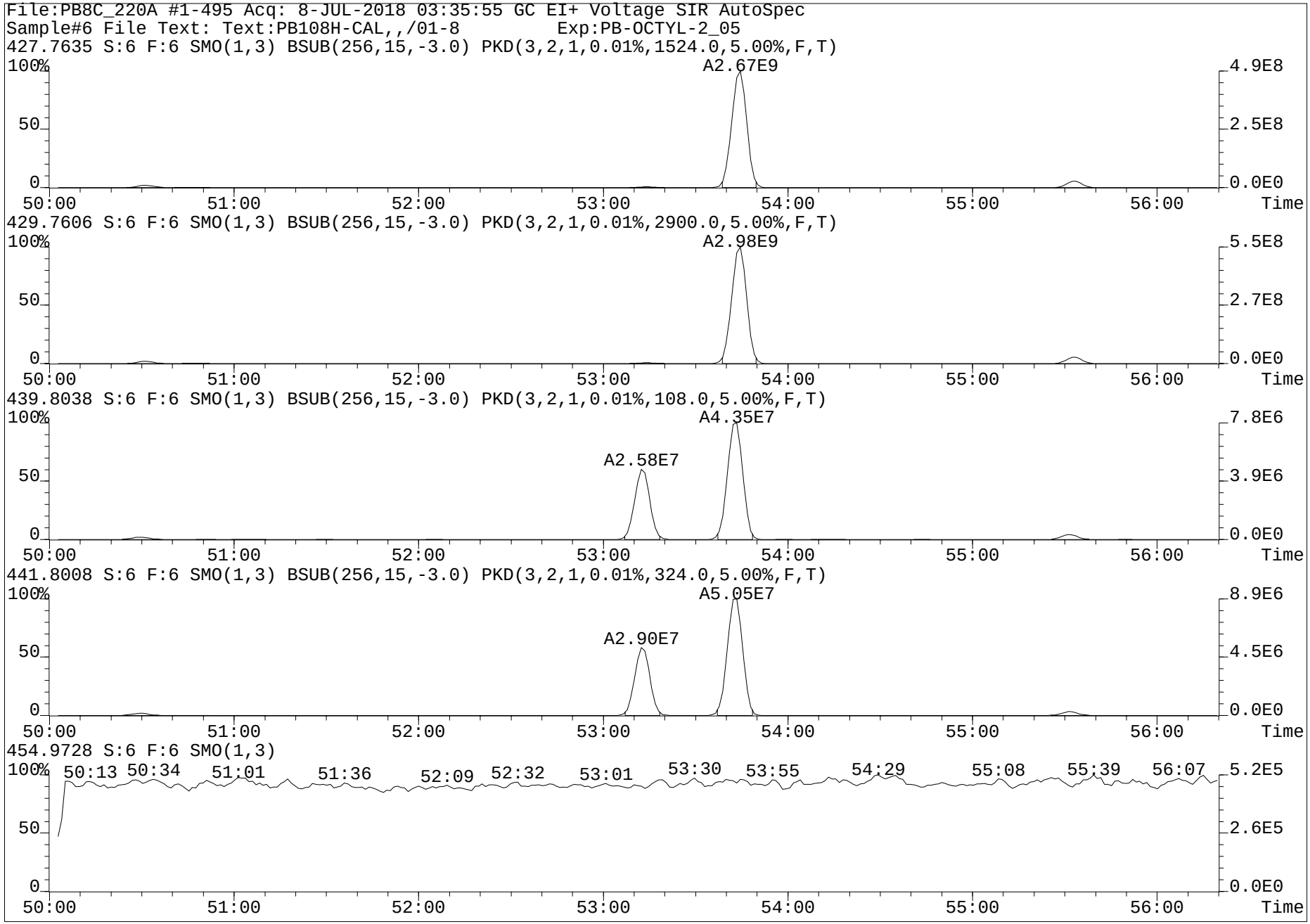

File:PB8C_220A #1-470 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,244.0,5.00%,F,T)
100%
A4.61E9
9.2E8
50
4.6E8
0
0.0E0
31:00
32:00
33:00
34:00
35:00
36:00
Time
361.8385 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,172.0,5.00%,F,T)
100%
A3.59E9
7.2E8
50
3.6E8
0
0.0E0
31:00
32:00
33:00
34:00
35:00
36:00
Time
371.8817 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
100%
A7.44E7
1.5E7
50
7.3E6
0
0.0E0
31:00
32:00
33:00
34:00
35:00
36:00
Time
373.8788 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
100%
A5.82E7
1.1E7
50
5.7E6
0
0.0E0
31:00
32:00
33:00
34:00
35:00
36:00
Time
330.9792 S:6 F:4 SMO(1,3)
100%
31:08
31:33
31:51
32:13
32:48
33:06
33:36
33:52
34:24
34:54
35:28
35:49
3.6E6
50
1.8E6
0
0.0E0
31:00
32:00
33:00
34:00
35:00
36:00
Time

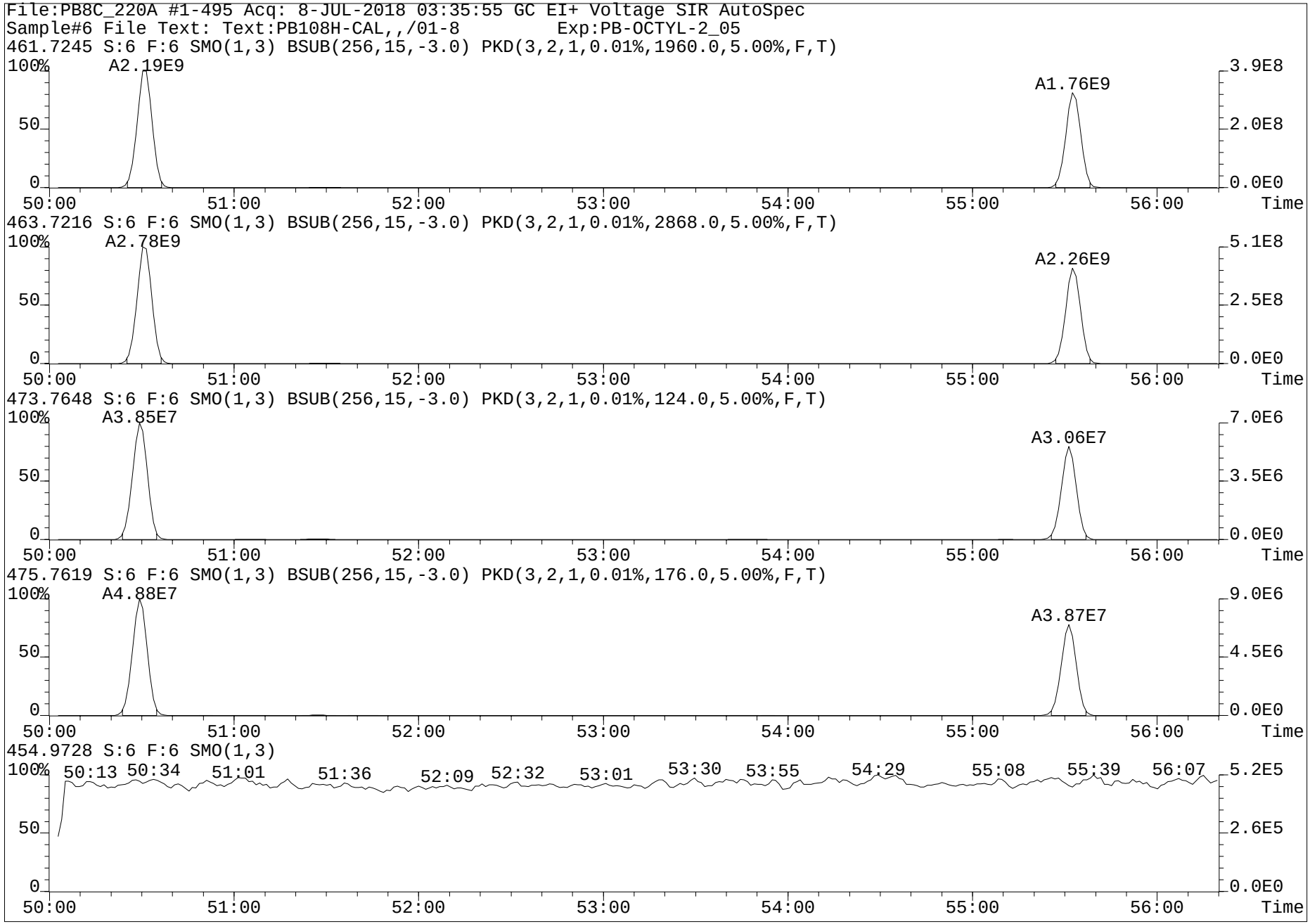

File:PB8C_220A #1-744 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
359.8415 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5028.0,5.00%,F,T)
A4.12E9
A8.24E9
A4.06E9
361.8385 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5856.0,5.00%,F,T)
A3.29E9
A6.79E9
A3.21E9
371.8817 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,592.0,5.00%,F,T)
A3.89E7
A6.05E7
A1.29E8
A6.39E7
373.8788 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A3.10E7
A4.77E7
A1.02E8
A5.04E7
354.9792 S:6 F:5 SMO(1,3)
36:18 37:05 37:59 38:40 39:50 40:44 41:53 42:43 43:25 44:08 44:55 45:43 46:30 47:12 48:06 48:57
100%
50
0
1.1E9
5.4E8
0.0E0
9.3E8
4.6E8
1.8E7
8.8E6
1.4E7
6.9E6
6.8E5
3.4E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

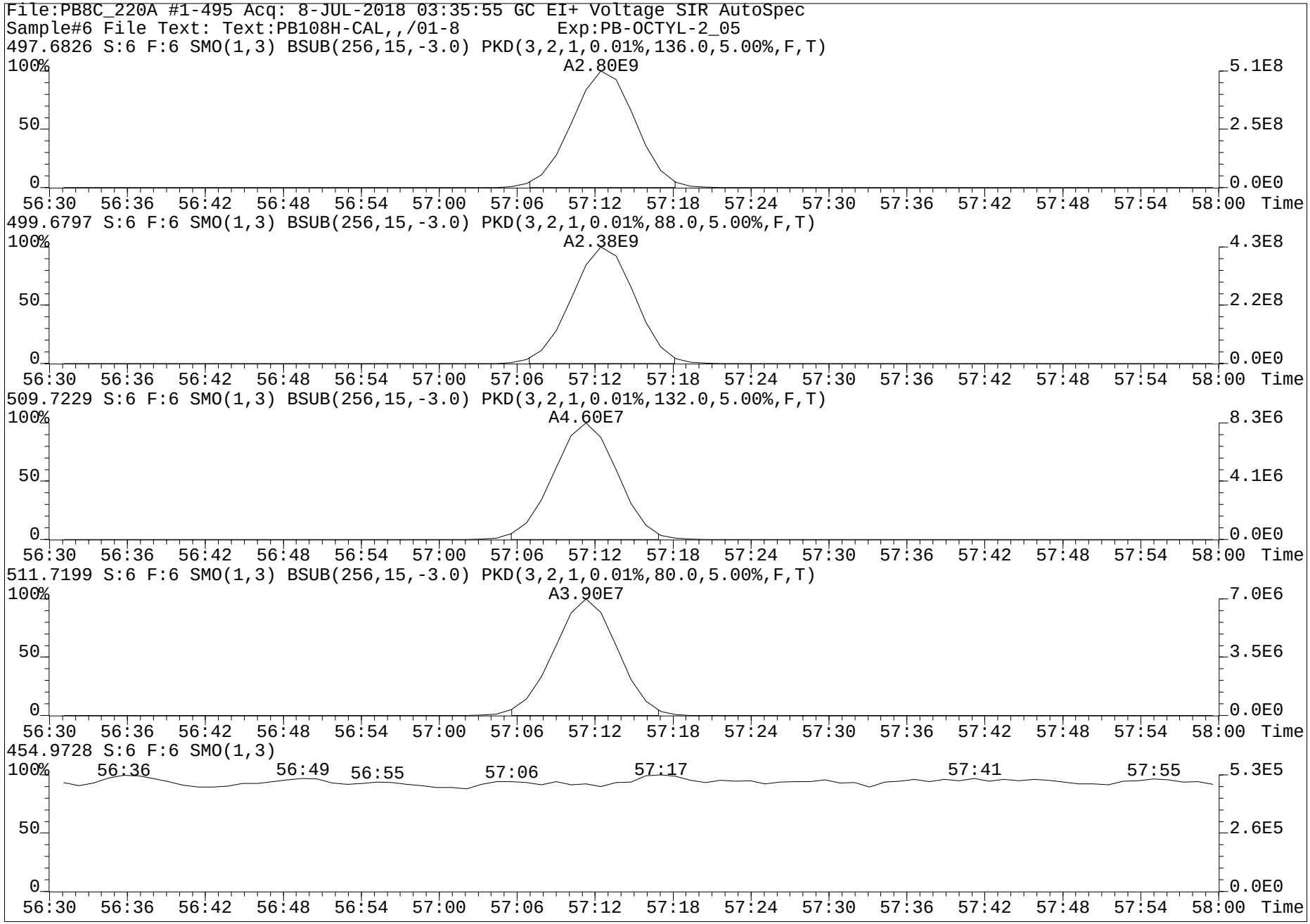

File:PB8C_220A #1-744 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3808.0,5.00%,F,T)
A3.54E9
A2.75E9
A2.67E9
A2.20E9
395.7995 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2516.0,5.00%,F,T)
A3.41E9
A2.67E9
A2.58E9
A2.13E9
405.8425 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,184.0,5.00%,F,T)
A6.10E7
A3.43E7
A4.48E7
A3.76E7
407.8398 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,140.0,5.00%,F,T)
A5.82E7
A3.32E7
A4.38E7
A3.63E7
354.9792 S:6 F:5 SMO(1,3)
36:18 37:05 37:59 38:40 39:50 40:44 41:53 42:43 43:25 44:08 44:55 45:43 46:30 47:12 48:06 48:57
100%
50
0
6.5E8
3.3E8
0.0E0
6.3E8
3.2E8
1.2E7
5.8E6
1.1E7
5.5E6
6.8E5
3.4E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

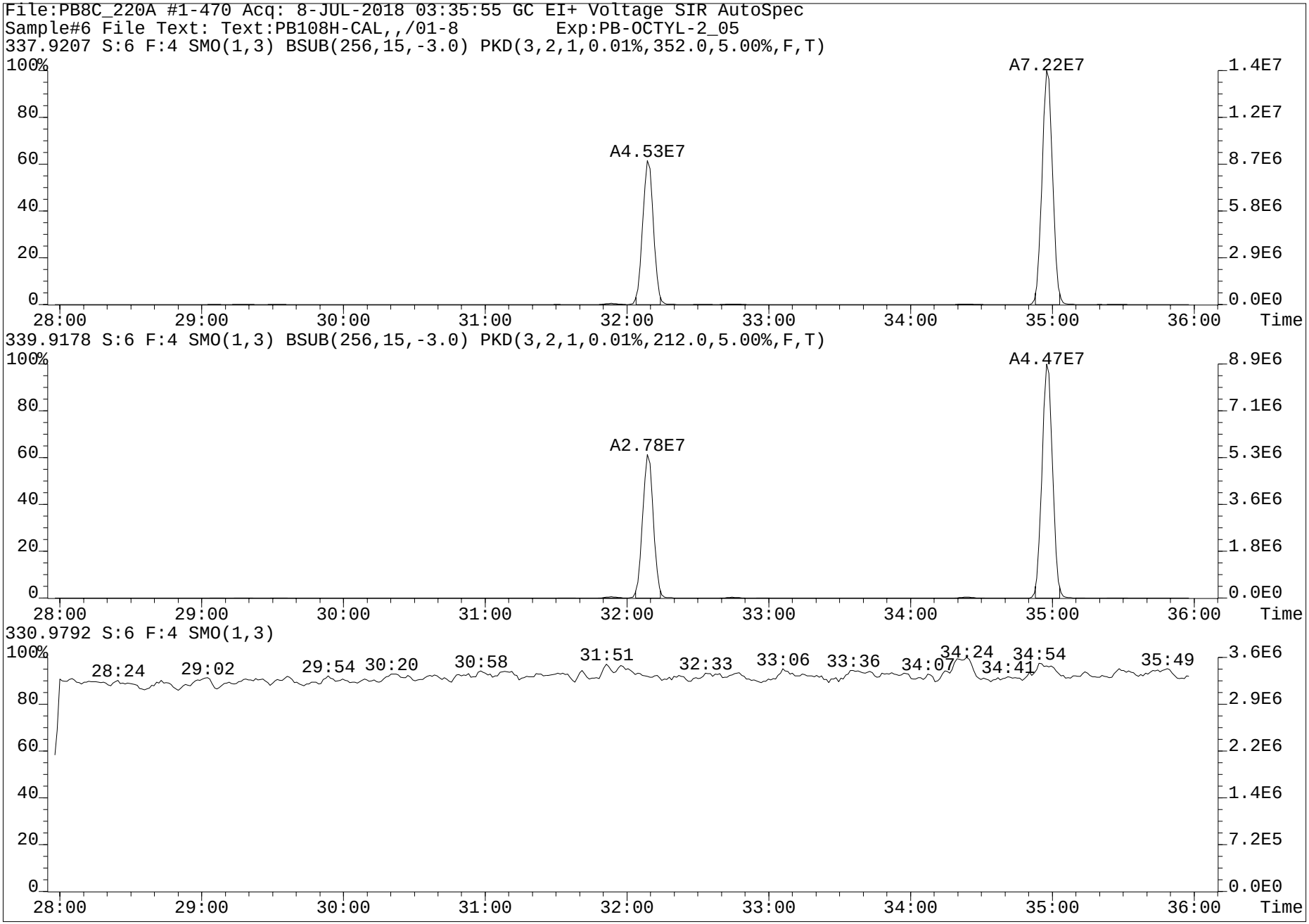

File:PB8C_220A #1-495 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
393.8025 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,16396.0,5.00%,F,T)
A3.26E9
A3.55E8
5.9E8
3.0E8
0.0E0
395.7995 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13268.0,5.00%,F,T)
A3.12E9
A2.19E8
5.7E8
2.8E8
0.0E0
405.8428 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2468.0,5.00%,F,T)
A5.19E7
A9.69E6
9.5E6
4.7E6
0.0E0
407.8398 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,832.0,5.00%,F,T)
A4.94E7
A4.40E6
9.1E6
4.5E6
0.0E0
454.9728 S:6 F:6 SMO(1,3)
50:13
50:34
50:42
50:51
51:01
51:25
51:36
51:44
51:53
52:00
52:09
5.1E5
2.5E5
0.0E0
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time


File:PB8C_220A #1-744 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
100% A2.77E9
5.1E8
2.5E8
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
429.7606 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,208.0,5.00%,F,T)
100% A3.14E9
5.8E8
2.9E8
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
439.8038 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,144.0,5.00%,F,T)
100% A5.30E7
9.7E6
4.8E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
441.8008 S:6 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,144.0,5.00%,F,T)
100% A5.81E7
1.1E7
5.3E6
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
354.9792 S:6 F:5 SMO(1,3)
100% 43:25 43:51 44:28 45:11 45:43 46:06 46:38 47:12 47:37 48:06 48:32 48:57 49:21 49:43
6.8E5
3.4E5
0.0E0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time


File:PB8C_220A #1-495 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
427.7635 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1524.0,5.00%,F,T)
A2.67E9
429.7606 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2900.0,5.00%,F,T)
A2.98E9
439.8038 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,108.0,5.00%,F,T)
A4.35E7
A2.58E7
441.8008 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A5.05E7
A2.90E7
454.9728 S:6 F:6 SMO(1,3)
50:13 50:34 51:01 51:36 52:09 52:32 53:01 53:30 53:55 54:29 55:08 55:39 56:07
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.9E8
2.5E8
0.0E0
5.5E8
2.7E8
7.8E6
3.9E6
8.9E6
4.5E6
5.2E5
2.6E5


File:PB8C_220A #1-495 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
461.7245 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1960.0,5.00%,F,T)
A2.19E9
A1.76E9
463.7216 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2868.0,5.00%,F,T)
A2.78E9
A2.26E9
473.7648 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,124.0,5.00%,F,T)
A3.85E7
A3.06E7
475.7619 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,176.0,5.00%,F,T)
A4.88E7
A3.87E7
454.9728 S:6 F:6 SMO(1,3)
50:13 50:34 51:01 51:36 52:09 52:32 53:01 53:30 53:55 54:29 55:08 55:39 56:07
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.9E8 2.0E8 0.0E0
5.1E8 2.5E8 0.0E0
7.0E6 3.5E6 0.0E0
9.0E6 4.5E6 0.0E0
5.2E5 2.6E5 0.0E0


File:PB8C_220A #1-495 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
497.6826 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,136.0,5.00%,F,T)
A2.80E9
499.6797 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A2.38E9
509.7229 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,132.0,5.00%,F,T)
A4.60E7
511.7199 S:6 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A3.90E7
454.9728 S:6 F:6 SMO(1,3)
56:36
56:49
56:55
57:06
57:17
57:41
57:55
100%
50
0
5.1E8
2.5E8
0.0E0
4.3E8
2.2E8
8.3E6
4.1E6
7.0E6
3.5E6
5.3E5
2.6E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220A #1-470 Acq: 8-JUL-2018 03:35:55 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108H-CAL,,/01-8 Exp:PB-OCTYL-2_05
337.9207 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A4.53E7
A7.22E7
339.9178 S:6 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,212.0,5.00%,F,T)
A2.78E7
A4.47E7
330.9792 S:6 F:4 SMO(1,3)
28:24
29:02
29:54
30:20
30:58
31:51
32:33
33:06
33:36
34:07
34:24
34:41
34:54
35:49
Time

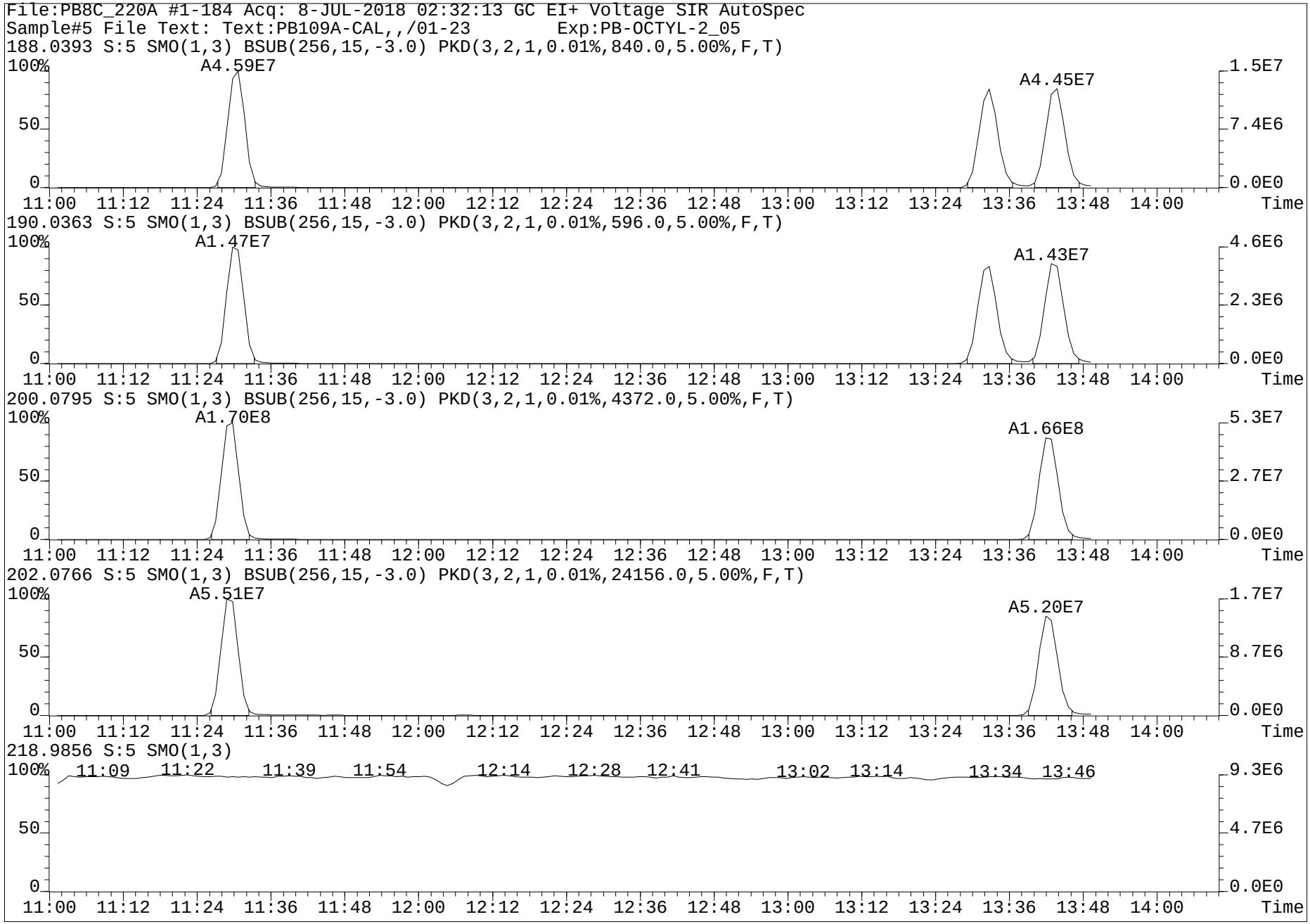
OPUSquan 9-JUL-2018 Page 1

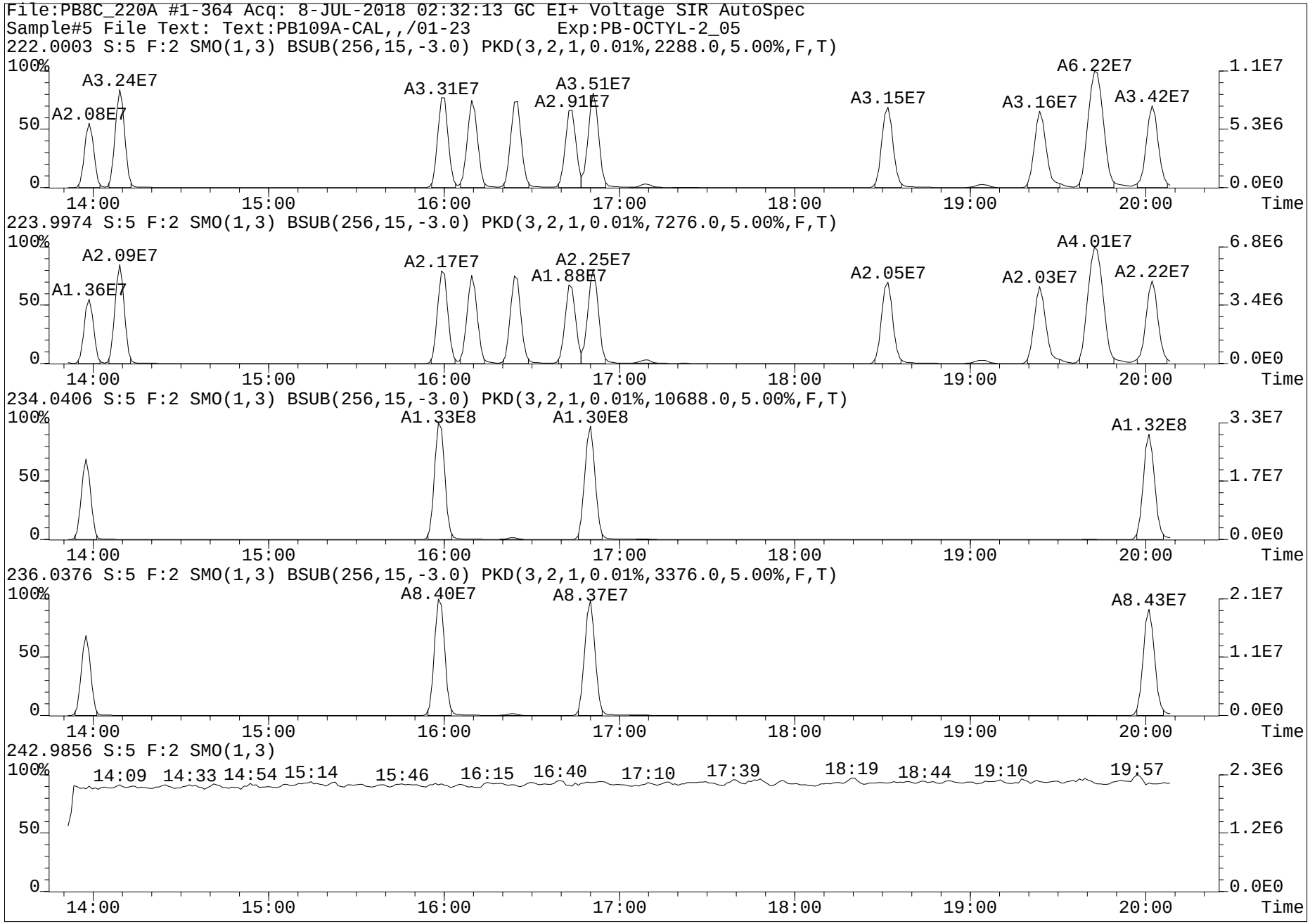
Run #8 Filename PB8C_220A S: 5 I: 1 Acquired: 8-JUL-18 02:32:13 Processed: 9-JUL-18 08:10:03
Run: pb8c_220-7a Analyte: 1668A-CV8 Cal: pb8c_220-7a Results: pb8c_220-7a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL CAL WIN/RES
sample size: 1.000000 conc units: ng/mL total toxicity: 1374.89 F1: 1.0000 F2: 1.0000

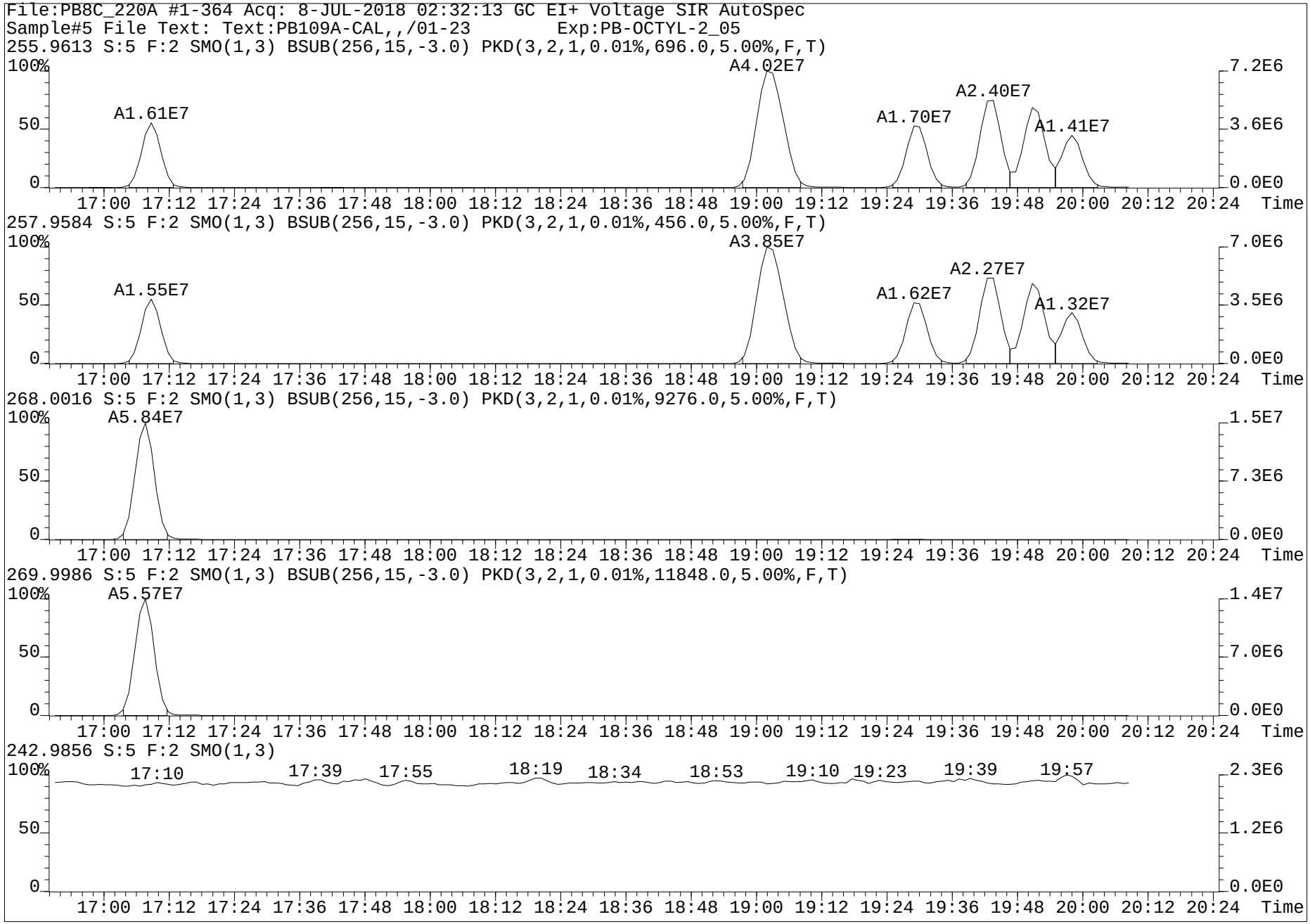
	Typ	Name	#Hom	Resp	R..		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	6.06e+07	3.13	y	11:30	25.076	25	0.0047	-	n
2	Unk	CL1-PCB-3	1	5.88e+07	3.11	y	13:44	24.954	25	0.0054	-	n
3	Unk	CL2-PCB-4	1	3.44e+07	1.53	y	13:59	25.591	26	0.0638	-	n
4	Unk	CL2-PCB-15	1	5.64e+07	1.54	y	20:02	28.724	29	0.0532	-	n
5	Unk	CL3-PCB-19	1	3.15e+07	1.04	y	17:09	25.845	26	0.0095	-	n
6	Unk	CL3-PCB-37	1	4.25e+07	1.04	y	27:19	25.228	25	0.0590	-	n
7	Unk	CL4-PCB-54	1	7.88e+07	0.79	y	20:18	51.528	52	0.0200	-	n
8	Unk	CL4-PCB-81	1	6.81e+07	0.77	y	34:22	51.289	51	5.5110	-	y
9	Unk	CL4-PCB-77	1	6.51e+07	0.77	y	34:58	48.379	48	5.4418	-	y
10	Unk	CL5-PCB-104	1	6.69e+07	1.56	y	26:01	51.888	52	0.0040	-	n
11	Unk	CL5-PCB-123	1	5.61e+07	1.55	y	37:03	51.648	52	0.5928	-	n
12	Unk	CL5-PCB-118	1	5.72e+07	1.58	y	37:23	50.417	50	0.5555	-	n
13	Unk	CL5-PCB-114	1	6.05e+07	1.56	y	37:57	53.260	53	0.5586	-	n
14	Unk	CL5-PCB-105	1	6.29e+07	1.53	y	38:38	54.374	54	0.5423	-	n
15	Unk	CL5-PCB-126	1	5.96e+07	1.56	y	41:52	56.440	56	0.6173	-	n
16	Unk	CL6-PCB-155	1	6.44e+07	1.23	y	31:55	49.877	50	0.0038	-	n
17	Unk	CL6-PCB-167	1	5.98e+07	1.26	y	43:47	55.881	56	0.2421	-	n
18	Unk	CL6-PCB-156/157	1	1.10e+08	1.25	y	45:00	103.483	103	0.3224	-	n
19	Unk	CL6-PCB-169	1	5.87e+07	1.29	y	48:25	55.970	56	0.2467	-	n
20	Unk	CL7-PCB-188	1	5.29e+07	1.06	y	37:54	49.160	49	0.0099	-	n
21	Unk	CL7-PCB-189	1	4.29e+07	1.04	y	51:03	49.277	49	0.0440	-	n
22	Unk	CL8-PCB-202	1	7.45e+07	0.90	y	43:31	80.824	81	0.0031	-	n
23	Unk	CL8-PCB-205	1	6.16e+07	0.91	y	53:44	77.180	77	0.0243	-	n
24	Unk	CL9-PCB-208	1	5.70e+07	0.73	y	50:31	82.397	82	0.0331	-	n
25	Unk	CL9-PCB-206	1	4.33e+07	0.78	y	55:33	74.119	74	0.0406	-	n
26	Unk	CL10-PCB-209	1	5.70e+07	1.16	y	57:13	72.078	72	0.0032	-	n
27	IS	13C-CL1-PCB-1	1	2.25e+08	3.09	y	11:29	92.181	0	0.1159	92.2	n
28	IS	13C-CL1-PCB-3	1	2.18e+08	3.19	y	13:42	93.535	0	0.1216	93.5	n
29	IS	13C-CL2-PCB-4	1	1.35e+08	1.59	y	13:57	91.303	0	0.0943	91.3	n
30	IS	13C-CL2-PCB-15	1	2.16e+08	1.56	y	20:01	93.444	0	0.0605	93.4	n
31	IS	13C-CL3-PCB-19	1	1.14e+08	1.05	y	17:08	93.576	0	0.1721	93.6	n
32	IS	13C-CL3-PCB-37	1	1.69e+08	1.06	y	27:18	92.898	0	0.2248	92.9	n
33	REF	13C-CL4-CHECK	1	1.45e+08	0.80	y	20:18	91.050	0	0.0398	91.1	n
34	IS	13C-CL4-PCB-81	1	1.29e+08	0.77	y	34:21	93.076	0	0.0519	93.1	n
35	IS	13C-CL4-PCB-77	1	1.31e+08	0.77	y	34:57	92.821	0	0.0511	92.8	n
36	IS	13C-CL5-PCB-104	1	1.21e+08	1.55	y	25:59	89.269	0	0.0018	89.3	n
37	IS	13C-CL5-PCB-123	1	1.11e+08	1.56	y	37:01	86.619	0	0.0551	86.6	n
38	IS	13C-CL5-PCB-118	1	1.09e+08	1.56	y	37:22	86.537	0	0.0563	86.5	n
39	IS	13C-CL5-PCB-114	1	1.07e+08	1.63	y	37:55	86.123	0	0.0567	86.1	n
40	IS	13C-CL5-PCB-105	1	1.13e+08	1.57	y	38:36	87.400	0	0.0547	87.4	n
41	IS	13C-CL5-PCB-126	1	1.01e+08	1.59	y	41:50	87.892	0	0.0613	87.9	n
42	IS	13C-CL6-PCB-155	1	1.27e+08	1.24	y	31:53	94.584	0	0.0022	94.6	n
43	IS	13C-CL6-PCB-167	1	9.62e+07	1.25	y	43:46	93.113	0	0.0267	93.1	n
44	IS	13C-CL6-PCB-156/157	1	1.93e+08	1.25	y	44:59	179.405	0	0.0256	89.7	n

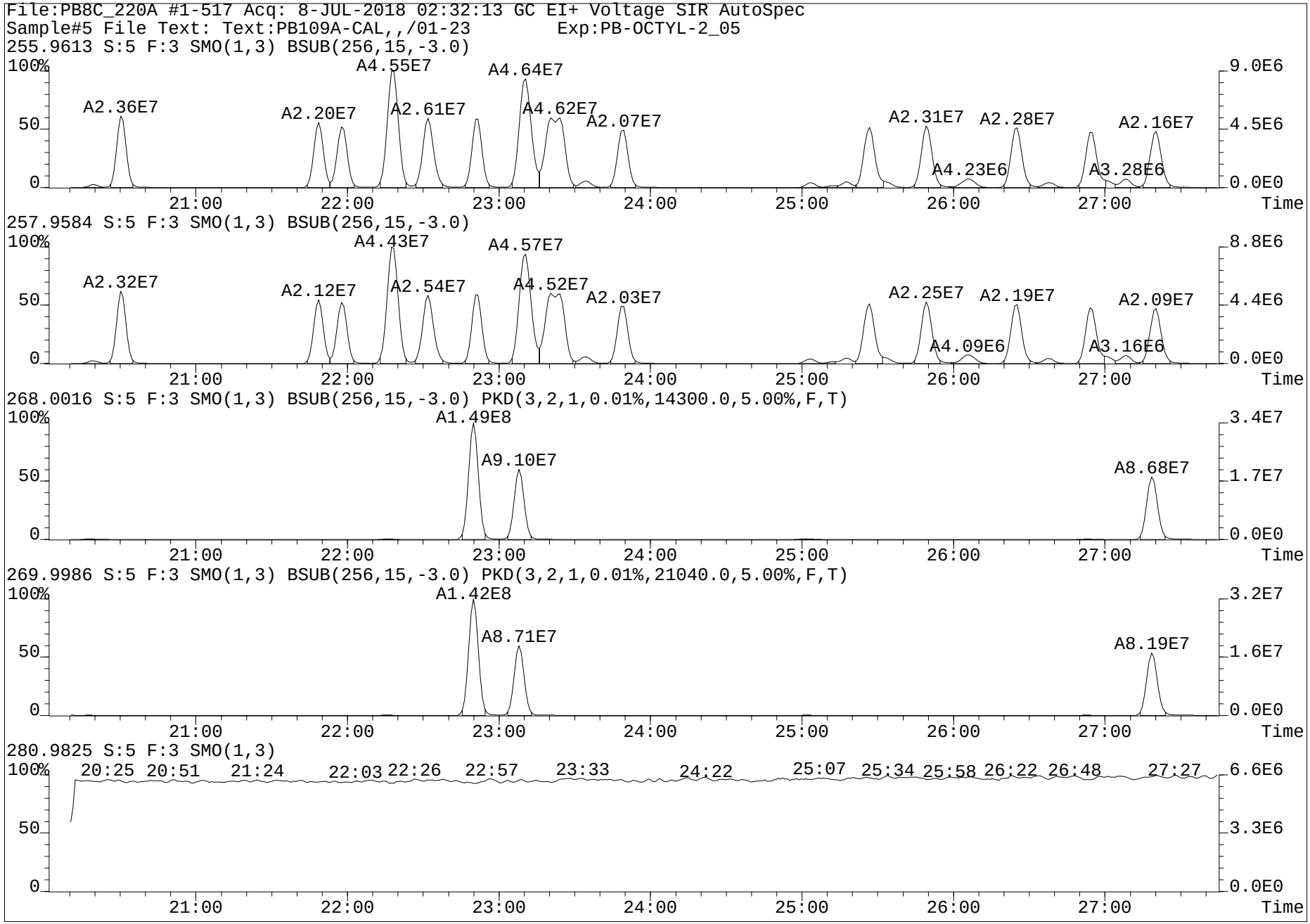
PV by RA 09JUL2018
SVP 9-JUL-18

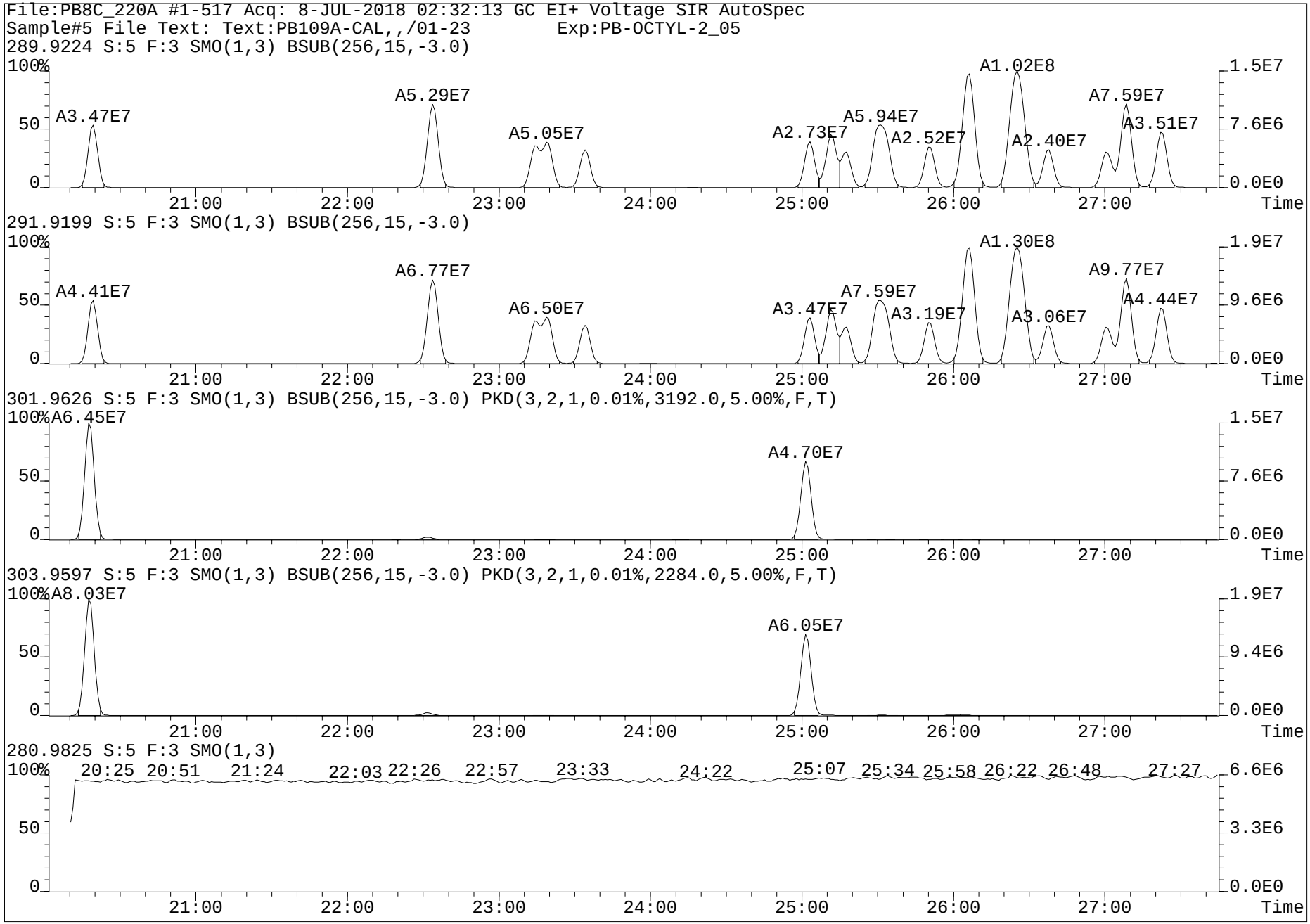
45	IS	13C-CL6-PCB-169	1	9.95e+07	1.25	y	48:24	92.982	0	0.0258	93.0	n
46	REF	13C-CL7-CHECK	1	1.10e+08	1.05	y	37:52	100.160	0	0.0044	100.2	n
47	IS	13C-CL7-PCB-189	1	8.21e+07	1.02	y	51:02	92.782	0	0.0632	92.8	n
48	IS	13C-CL8-PCB-202	1	1.05e+08	0.91	y	43:30	101.262	0	0.0031	101.3	n
49	IS	13C-CL8-PCB-205	1	8.08e+07	0.87	y	53:43	91.954	0	0.0089	92.0	n
50	IS	13C-CL9-PCB-208	1	7.32e+07	0.78	y	50:30	93.070	0	0.0034	93.1	n
51	IS	13C-CL9-PCB-206	1	5.84e+07	0.78	y	55:31	91.070	0	0.0041	91.1	n
52	IS	13C-CL10-PCB-209	1	7.44e+07	1.19	y	57:11	92.419	0	0.0030	92.4	n
53	RS	13C-CL2-PCB-9	1	2.17e+08	1.58	y	15:58	117.697	0	-	-	n
54	RS	13C-CL4-PCB-52	1	1.07e+08	0.78	y	25:01	116.902	0	-	-	n
55	RS	13C-CL5-PCB-101	1	9.19e+07	1.61	y	32:09	118.167	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	8.05e+07	1.24	y	40:37	113.219	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.84e+07	0.89	y	53:13	103.509	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	1.78e+08	1.05	y	23:08	97.420	0	0.2235	97.4	n
59	C/Up	13C-CL5-PCB-111	1	1.11e+08	1.58	y	34:58	90.090	0	0.0173	90.1	n
60	C/Up	13C-CL7-PCB-178	1	7.48e+07	1.05	y	41:05	97.936	0	0.0062	97.9	n
61	IS	13C-CL4-PCB-54	1	1.45e+08	0.80	y	20:18	91.050	0	0.0398	91.1	n
62	IS	13C-CL7-PCB-188	1	1.10e+08	1.05	y	37:52	100.160	0	0.0044	100.2	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

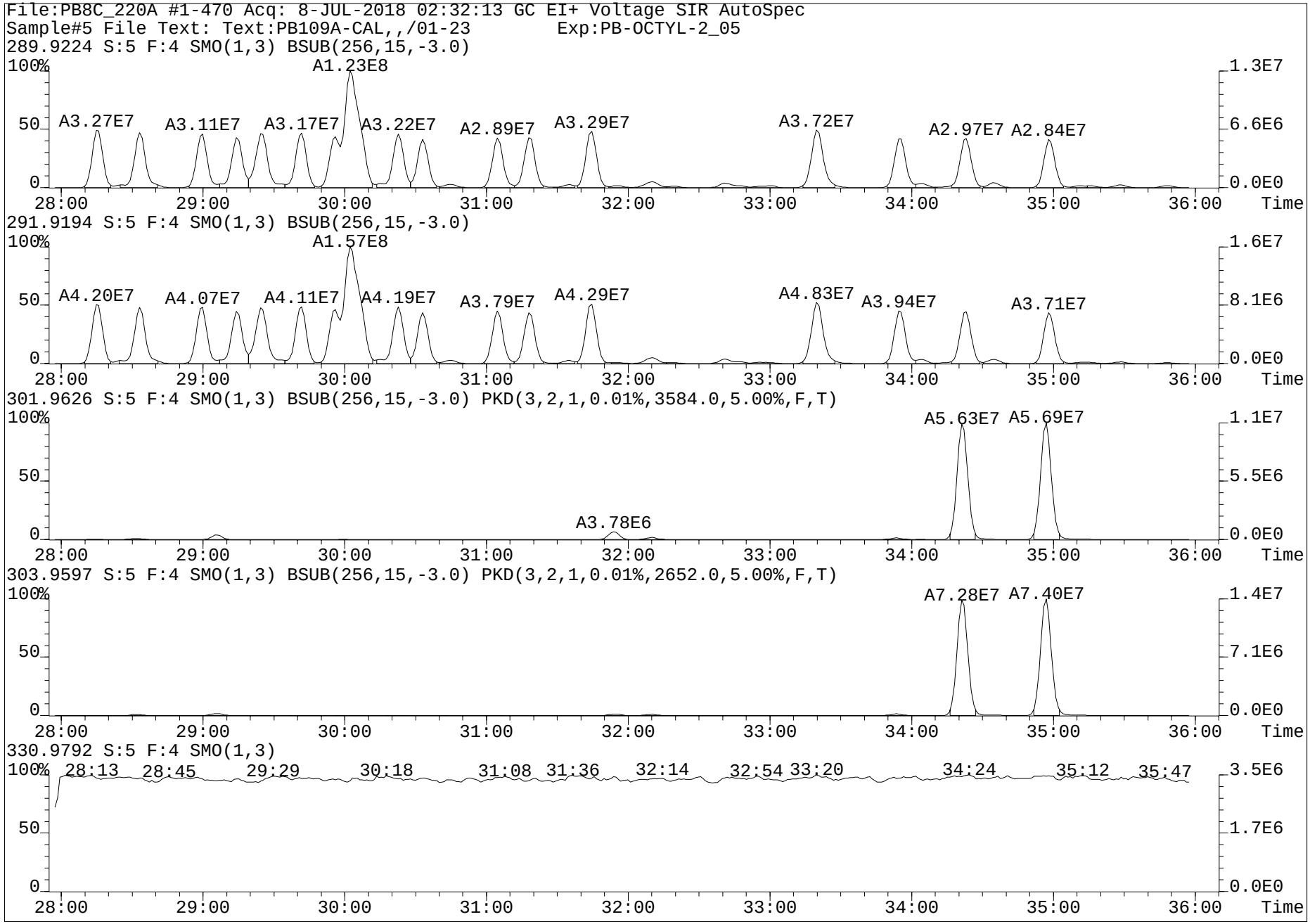

File:PB8C_220A #1-184 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
188.0393 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,840.0,5.00%,F,T)
A4.59E7
A4.45E7
190.0363 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
A1.47E7
A1.43E7
200.0795 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4372.0,5.00%,F,T)
A1.70E8
A1.66E8
202.0766 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,24156.0,5.00%,F,T)
A5.51E7
A5.20E7
218.9856 S:5 SMO(1,3)
11:09 11:22 11:39 11:54 12:14 12:28 12:41 13:02 13:14 13:34 13:46
100%
50
0
1.5E7
7.4E6
0.0E0
4.6E6
2.3E6
5.3E7
2.7E7
1.7E7
8.7E6
9.3E6
4.7E6
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

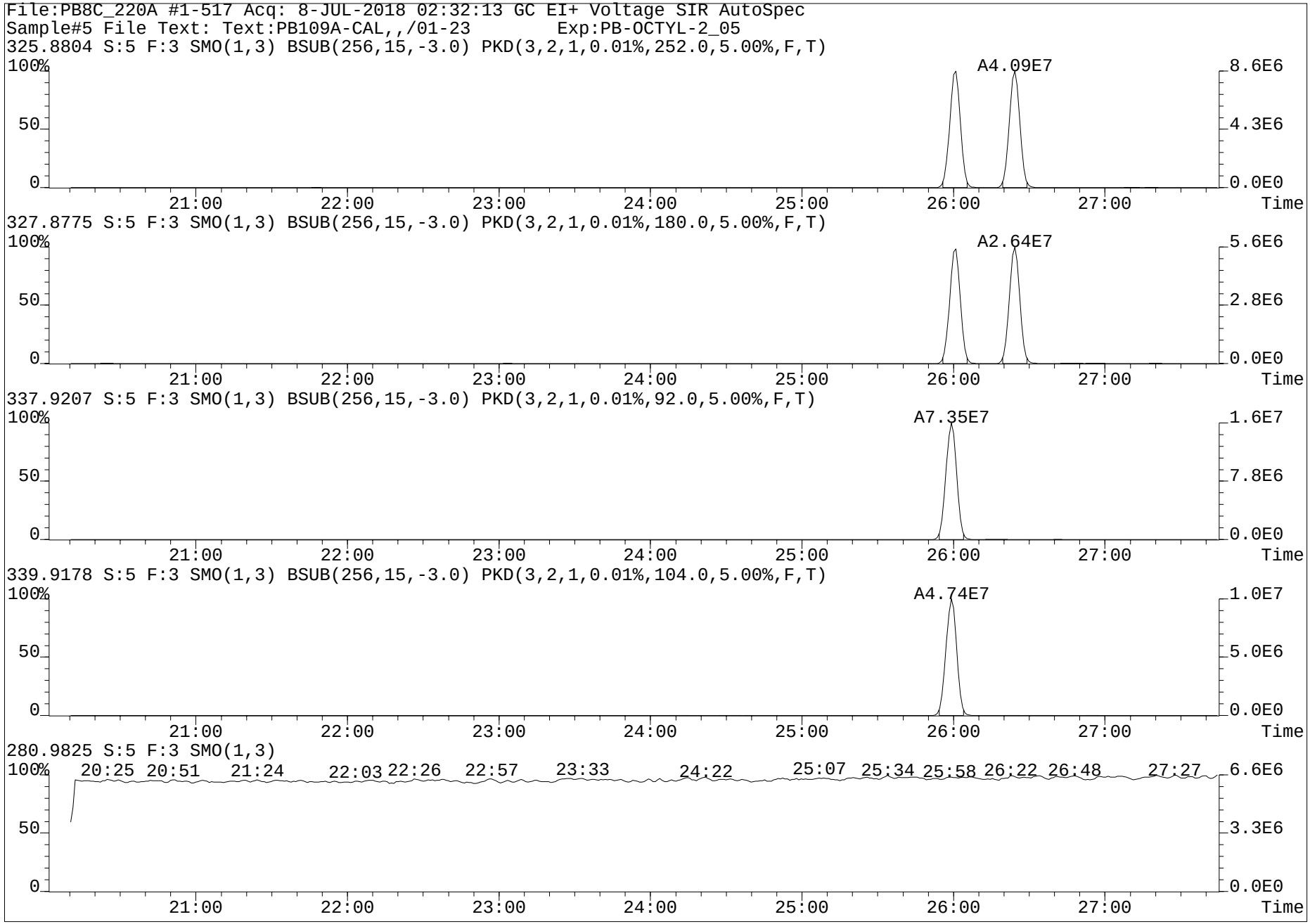

File:PB8C_220A #1-364 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2288.0,5.00%,F,T)
A3.24E7
A2.08E7
A3.31E7
A3.51E7
A2.91E7
A3.15E7
A6.22E7
A3.16E7
A3.42E7
223.9974 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7276.0,5.00%,F,T)
A2.09E7
A1.36E7
A2.17E7
A2.25E7
A1.88E7
A2.05E7
A4.01E7
A2.03E7
A2.22E7
234.0406 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10688.0,5.00%,F,T)
A1.33E8
A1.30E8
A1.32E8
236.0376 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3376.0,5.00%,F,T)
A8.40E7
A8.37E7
A8.43E7
242.9856 S:5 F:2 SMO(1,3)
14:09 14:33 14:54 15:14 15:46 16:15 16:40 17:10 17:39 18:19 18:44 19:10 19:57
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
1.1E7
5.3E6
0.0E0
6.8E6
3.4E6
3.3E7
1.7E7
2.1E7
1.1E7
2.3E6
1.2E6

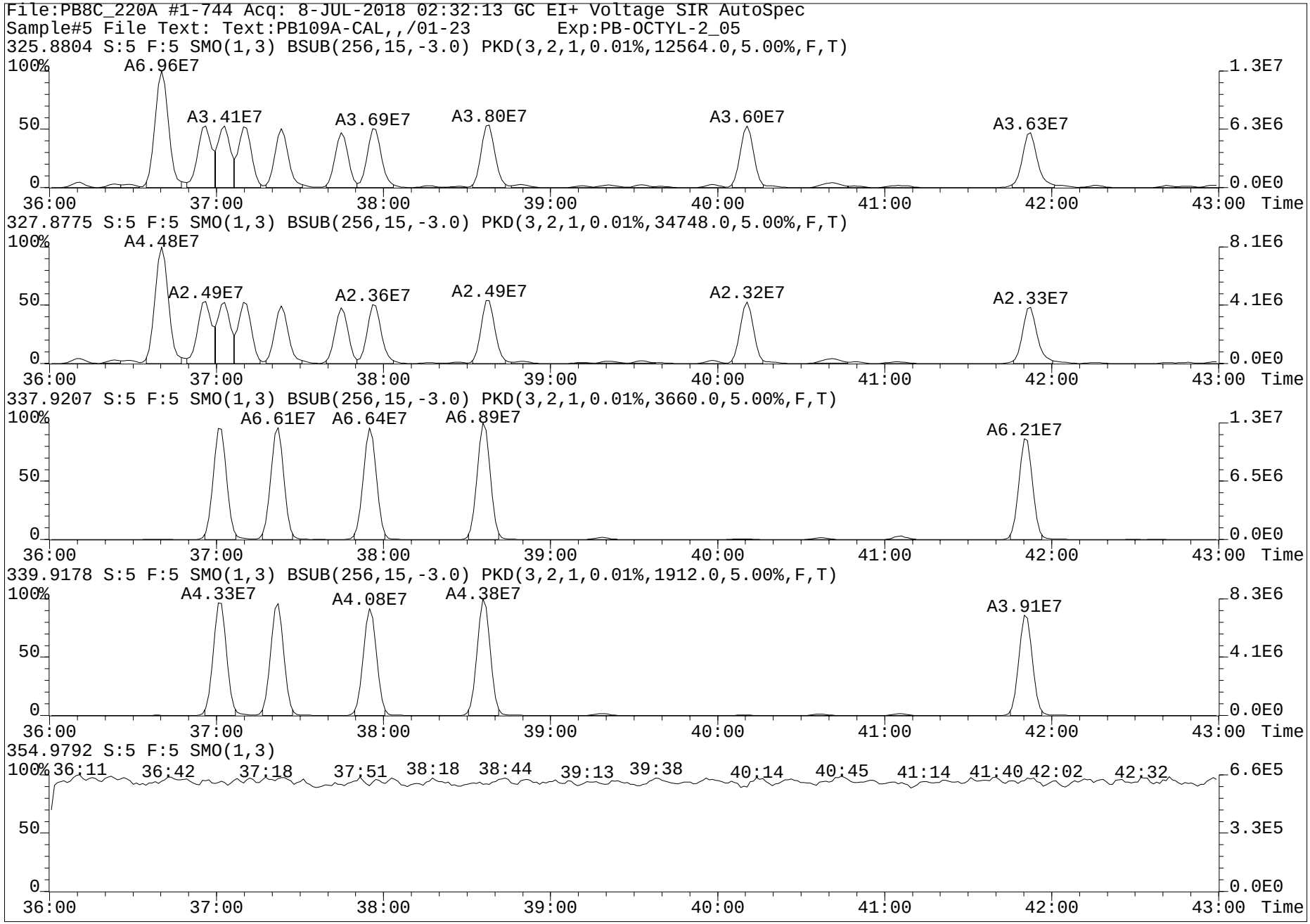

File:PB8C_220A #1-364 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,696.0,5.00%,F,T)
A1.61E7
A4.02E7
A1.70E7
A2.40E7
A1.41E7
257.9584 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A1.55E7
A3.85E7
A1.62E7
A2.27E7
A1.32E7
268.0016 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9276.0,5.00%,F,T)
A5.84E7
269.9986 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,11848.0,5.00%,F,T)
A5.57E7
242.9856 S:5 F:2 SMO(1,3)
17:10
17:39
17:55
18:19
18:34
18:53
19:10
19:23
19:39
19:57
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
7.2E6
3.6E6
0.0E0
7.0E6
3.5E6
1.5E7
7.3E6
1.4E7
7.0E6
2.3E6
1.2E6

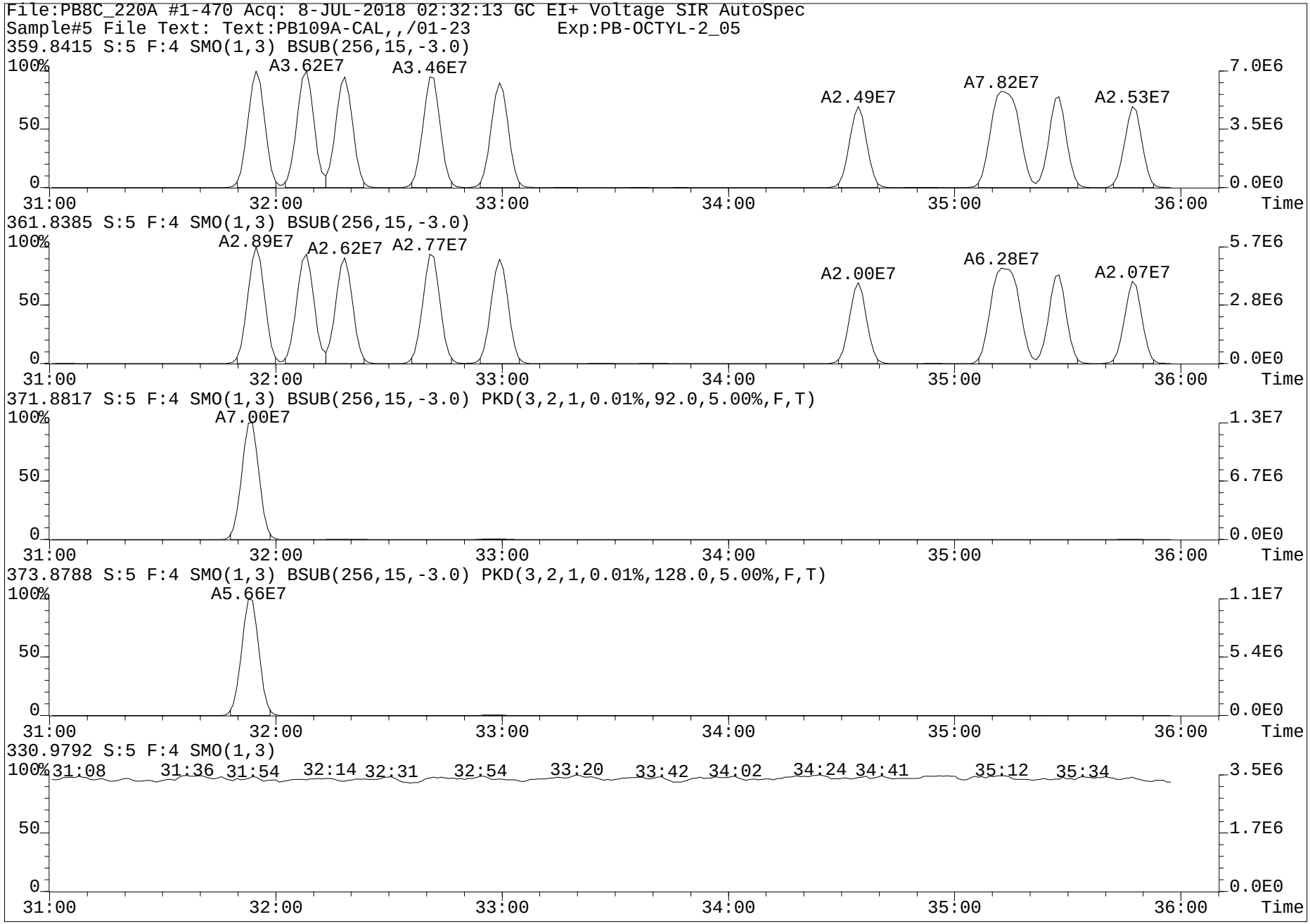

File:PB8C_220A #1-517 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.36E7
A2.20E7
A4.55E7
A2.61E7
A4.64E7
A4.62E7
A2.07E7
A2.31E7
A4.23E6
A2.28E7
A3.28E6
A2.16E7
257.9584 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.32E7
A2.12E7
A4.43E7
A2.54E7
A4.57E7
A4.52E7
A2.03E7
A2.25E7
A4.09E6
A2.19E7
A3.16E6
A2.09E7
268.0016 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14300.0,5.00%,F,T)
A1.49E8
A9.10E7
A8.68E7
269.9986 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21040.0,5.00%,F,T)
A1.42E8
A8.71E7
A8.19E7
280.9825 S:5 F:3 SMO(1,3)
20:25 20:51 21:24 22:03 22:26 22:57 23:33 24:22 25:07 25:34 25:58 26:22 26:48 27:27
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
9.0E6
4.5E6
0.0E0
8.8E6
4.4E6
3.4E7
1.7E7
3.2E7
1.6E7
6.6E6
3.3E6

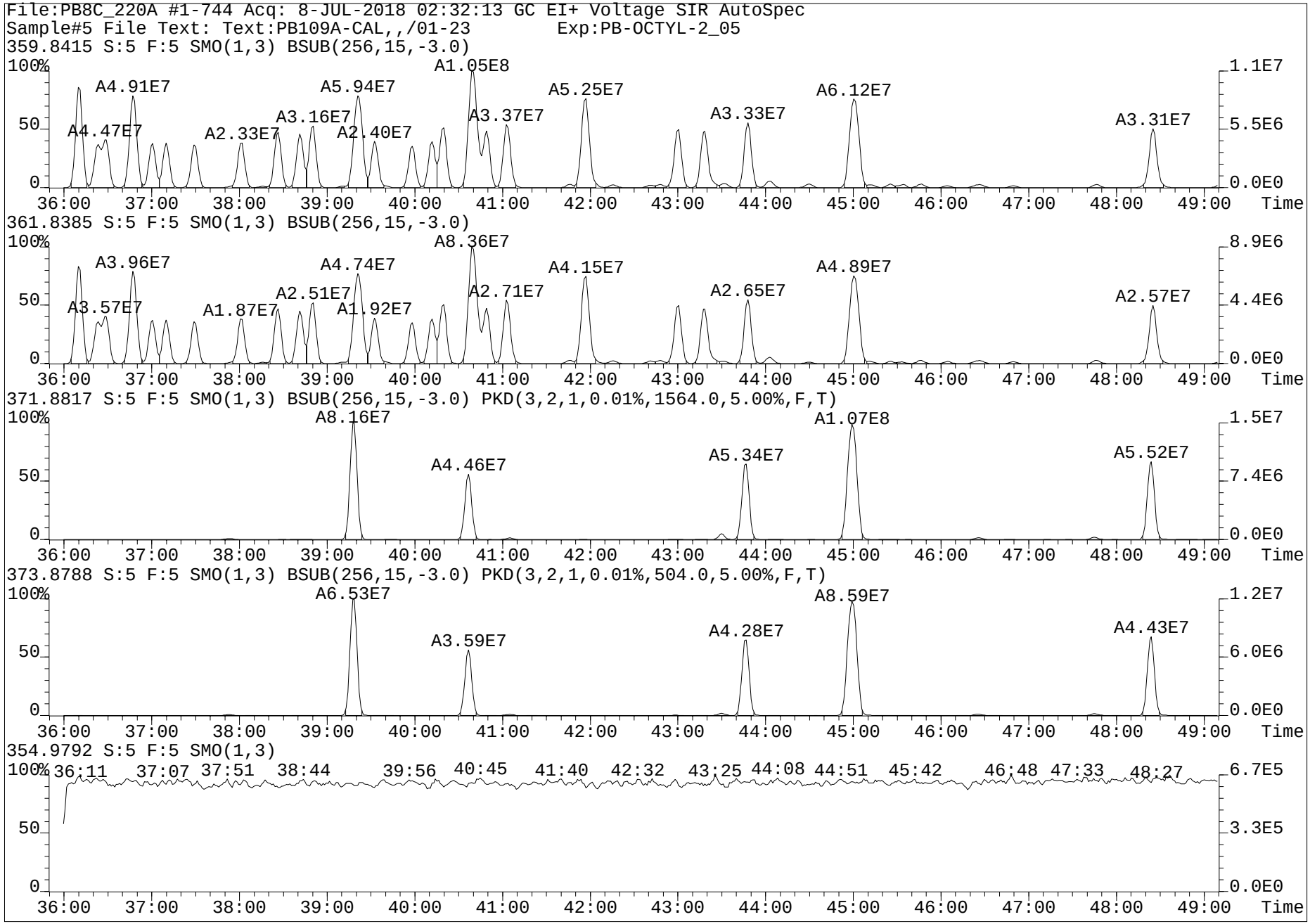

File:PB8C_220A #1-517 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.47E7
A5.29E7
A5.05E7
A2.73E7
A5.94E7
A2.52E7
A1.02E8
A2.40E7
A7.59E7
A3.51E7
291.9199 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.41E7
A6.77E7
A6.50E7
A3.47E7
A7.59E7
A3.19E7
A1.30E8
A3.06E7
A9.77E7
A4.44E7
301.9626 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3192.0,5.00%,F,T)
A6.45E7
A4.70E7
303.9597 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2284.0,5.00%,F,T)
A8.03E7
A6.05E7
280.9825 S:5 F:3 SMO(1,3)
20:25 20:51 21:24 22:03 22:26 22:57 23:33 24:22 25:07 25:34 25:58 26:22 26:48 27:27
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.5E7 7.6E6 0.0E0
1.9E7 9.6E6 0.0E0
1.5E7 7.6E6 0.0E0
1.9E7 9.4E6 0.0E0
6.6E6 3.3E6 0.0E0

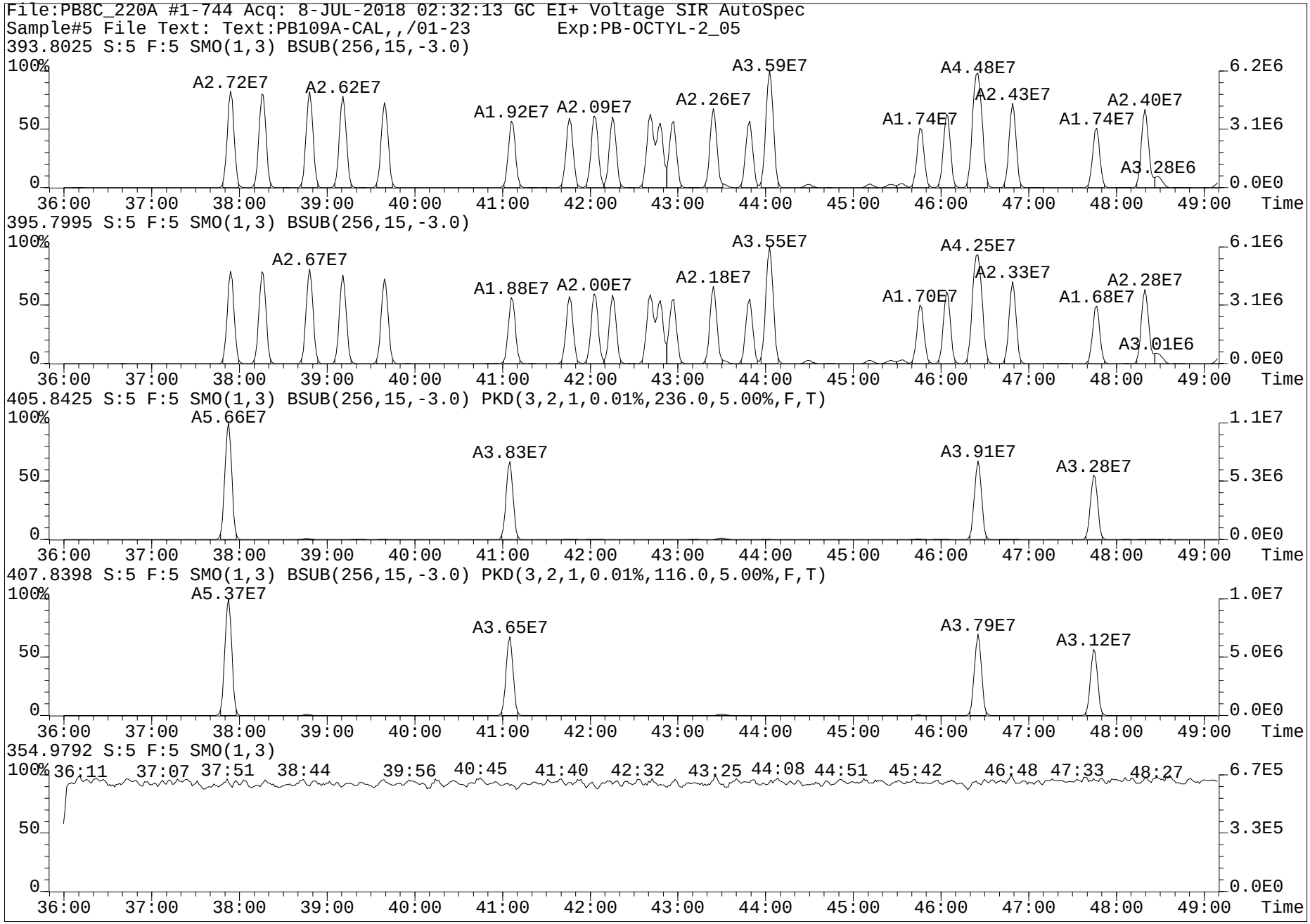

File:PB8C_220A #1-470 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.23E8
A3.27E7
A3.11E7
A3.17E7
A3.22E7
A2.89E7
A3.29E7
A3.72E7
A2.97E7
A2.84E7
291.9194 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.57E8
A4.20E7
A4.07E7
A4.11E7
A4.19E7
A3.79E7
A4.29E7
A4.83E7
A3.94E7
A3.71E7
301.9626 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3584.0,5.00%,F,T)
A5.63E7
A5.69E7
A3.78E6
303.9597 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2652.0,5.00%,F,T)
A7.28E7
A7.40E7
330.9792 S:5 F:4 SMO(1,3)
28:13
28:45
29:29
30:18
31:08
31:36
32:14
32:54
33:20
34:24
35:12
35:47
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
1.3E7
6.6E6
0.0E0
1.6E7
8.1E6
1.1E7
5.5E6
1.4E7
7.1E6
3.5E6
1.7E6

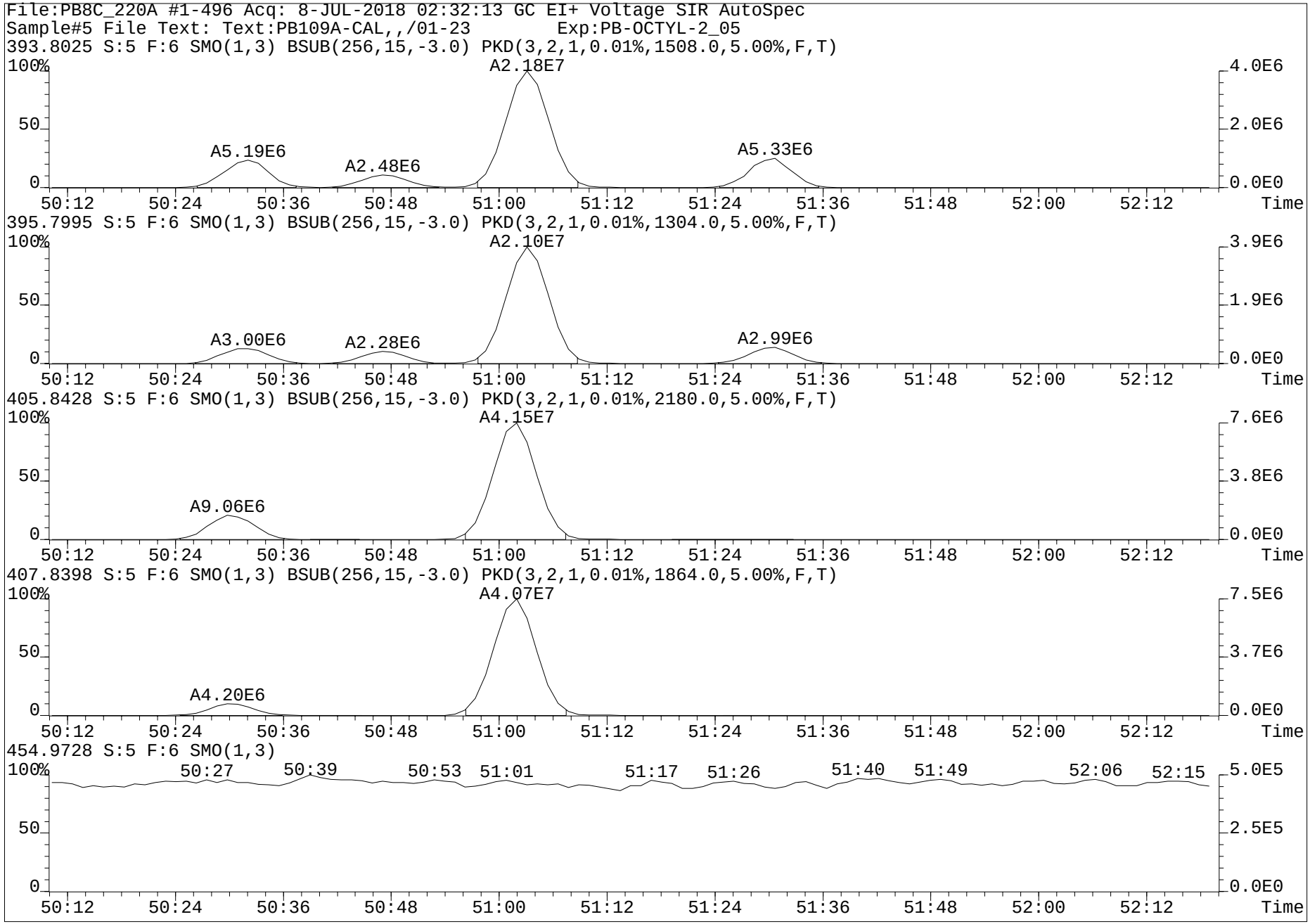

File:PB8C_220A #1-517 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A4.09E7
327.8775 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,180.0,5.00%,F,T)
A2.64E7
337.9207 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A7.35E7
339.9178 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,104.0,5.00%,F,T)
A4.74E7
280.9825 S:5 F:3 SMO(1,3)
20:25 20:51 21:24 22:03 22:26 22:57 23:33 24:22 25:07 25:34 25:58 26:22 26:48 27:27
100%
50
0
8.6E6
4.3E6
0.0E0
5.6E6
2.8E6
1.6E7
7.8E6
1.0E7
5.0E6
6.6E6
3.3E6
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

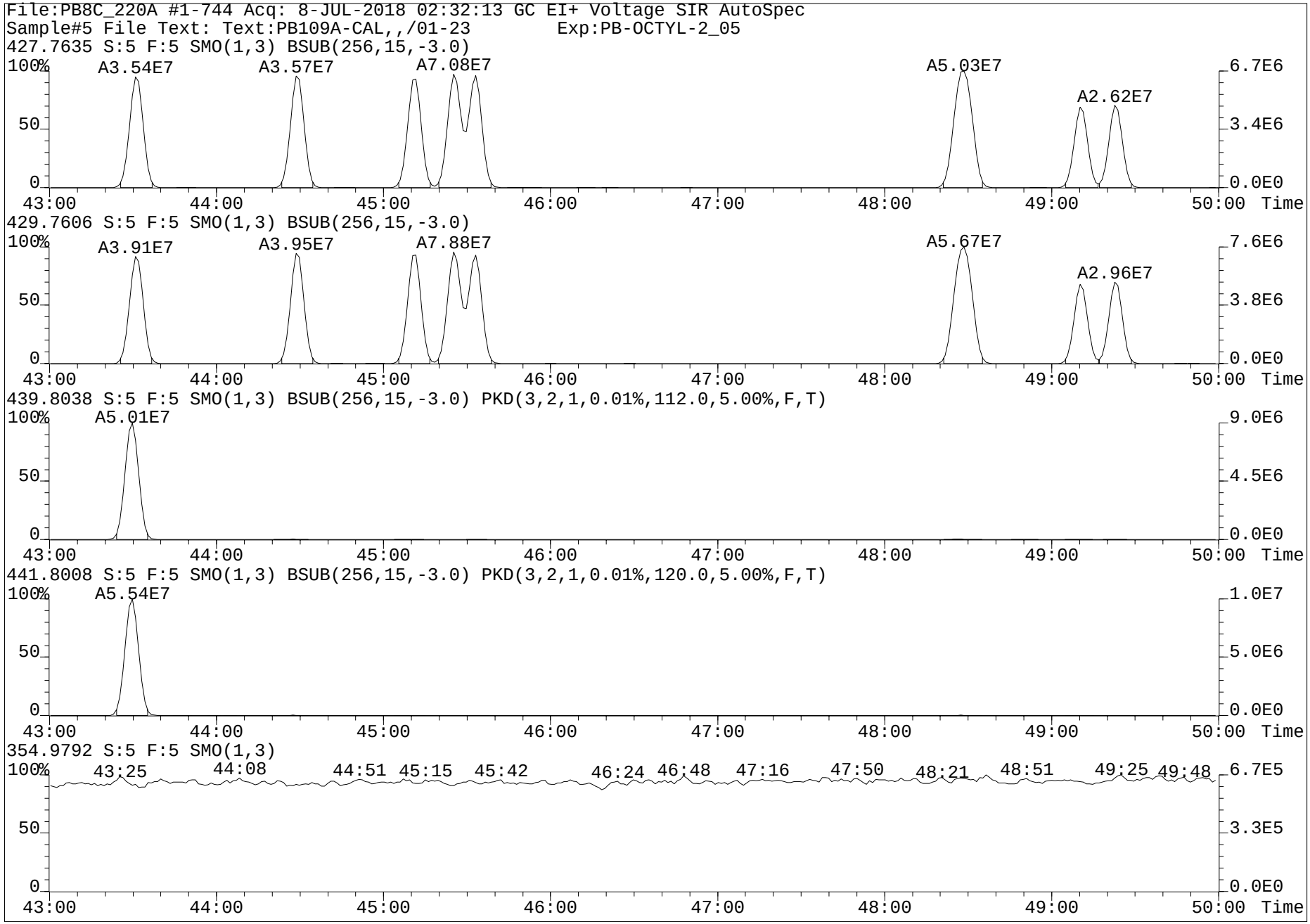

File:PB8C_220A #1-744 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12564.0,5.00%,F,T)
A6.96E7
A3.41E7
A3.69E7
A3.80E7
A3.60E7
A3.63E7
327.8775 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,34748.0,5.00%,F,T)
A4.48E7
A2.49E7
A2.36E7
A2.49E7
A2.32E7
A2.33E7
337.9207 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3660.0,5.00%,F,T)
A6.61E7
A6.64E7
A6.89E7
A6.21E7
339.9178 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1912.0,5.00%,F,T)
A4.33E7
A4.08E7
A4.38E7
A3.91E7
354.9792 S:5 F:5 SMO(1,3)
36:11
36:42
37:18
37:51
38:18
38:44
39:13
39:38
40:14
40:45
41:14
41:40
42:02
42:32
100%
50
0
1.3E7
6.3E6
0.0E0
8.1E6
4.1E6
6.5E6
8.3E6
6.6E5
3.3E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

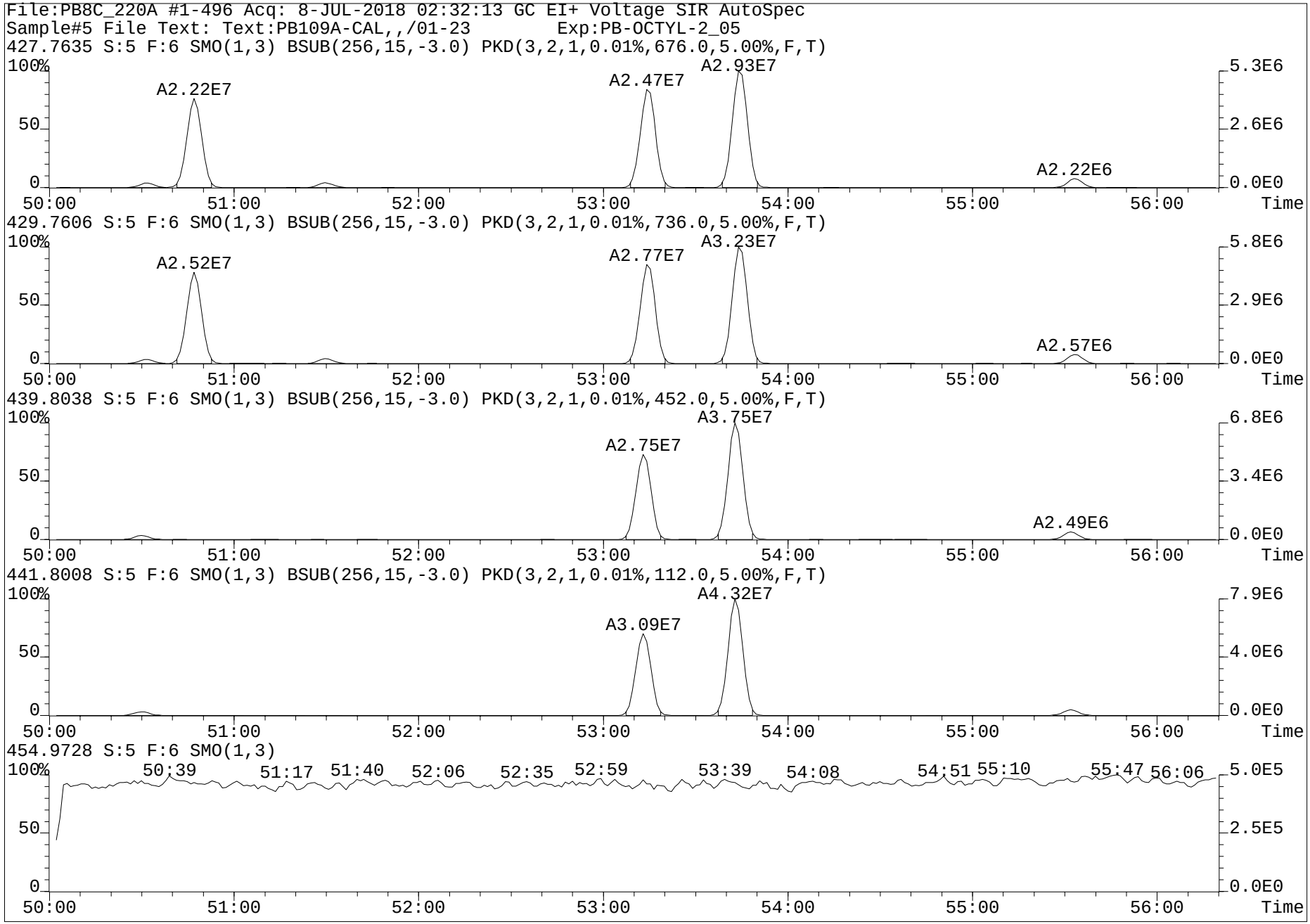

File:PB8C_220A #1-470 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A3.62E7
A3.46E7
A2.49E7
A7.82E7
A2.53E7
361.8385 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.89E7
A2.62E7
A2.77E7
A2.00E7
A6.28E7
A2.07E7
371.8817 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A7.00E7
373.8788 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,128.0,5.00%,F,T)
A5.66E7
330.9792 S:5 F:4 SMO(1,3)
31:08 31:36 31:54 32:14 32:31 32:54 33:20 33:42 34:02 34:24 34:41 35:12 35:34
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
7.0E6 3.5E6 0.0E0
5.7E6 2.8E6 0.0E0
1.3E7 6.7E6 0.0E0
1.1E7 5.4E6 0.0E0
3.5E6 1.7E6 0.0E0

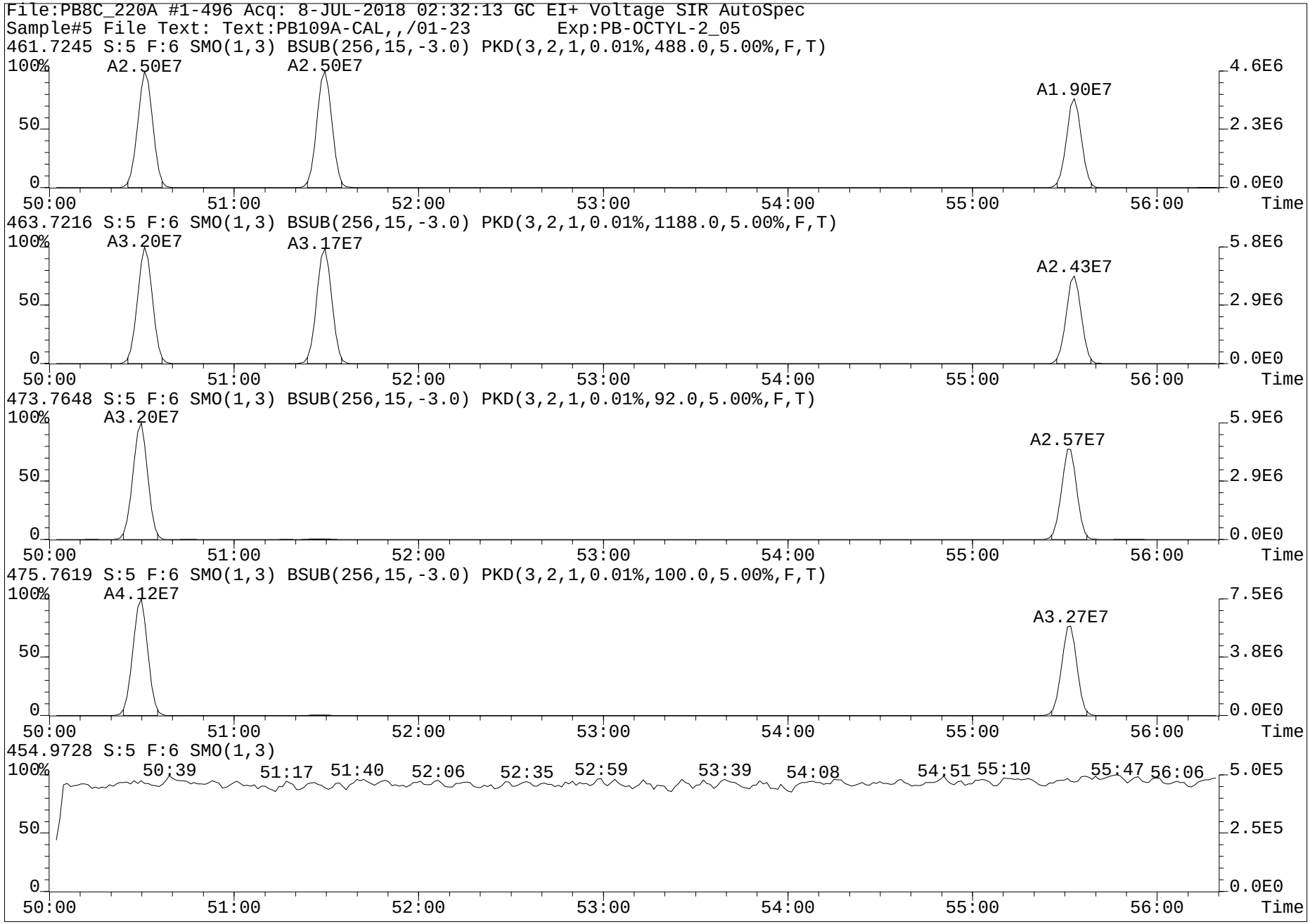

File:PB8C_220A #1-744 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.91E7
A4.47E7
A2.33E7
A3.16E7
A5.94E7
A2.40E7
A1.05E8
A3.37E7
A5.25E7
A3.33E7
A6.12E7
A3.31E7
361.8385 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.96E7
A3.57E7
A1.87E7
A2.51E7
A4.74E7
A1.92E7
A8.36E7
A2.71E7
A4.15E7
A2.65E7
A4.89E7
A2.57E7
371.8817 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1564.0,5.00%,F,T)
A8.16E7
A4.46E7
A5.34E7
A1.07E8
A5.52E7
373.8788 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
A6.53E7
A3.59E7
A4.28E7
A8.59E7
A4.43E7
354.9792 S:5 F:5 SMO(1,3)
36:11 37:07 37:51 38:44 39:56 40:45 41:40 42:32 43:25 44:08 44:51 45:42 46:48 47:33 48:27
100%
50
0
1.1E7
5.5E6
0.0E0
8.9E6
4.4E6
1.5E7
7.4E6
1.2E7
6.0E6
6.7E5
3.3E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

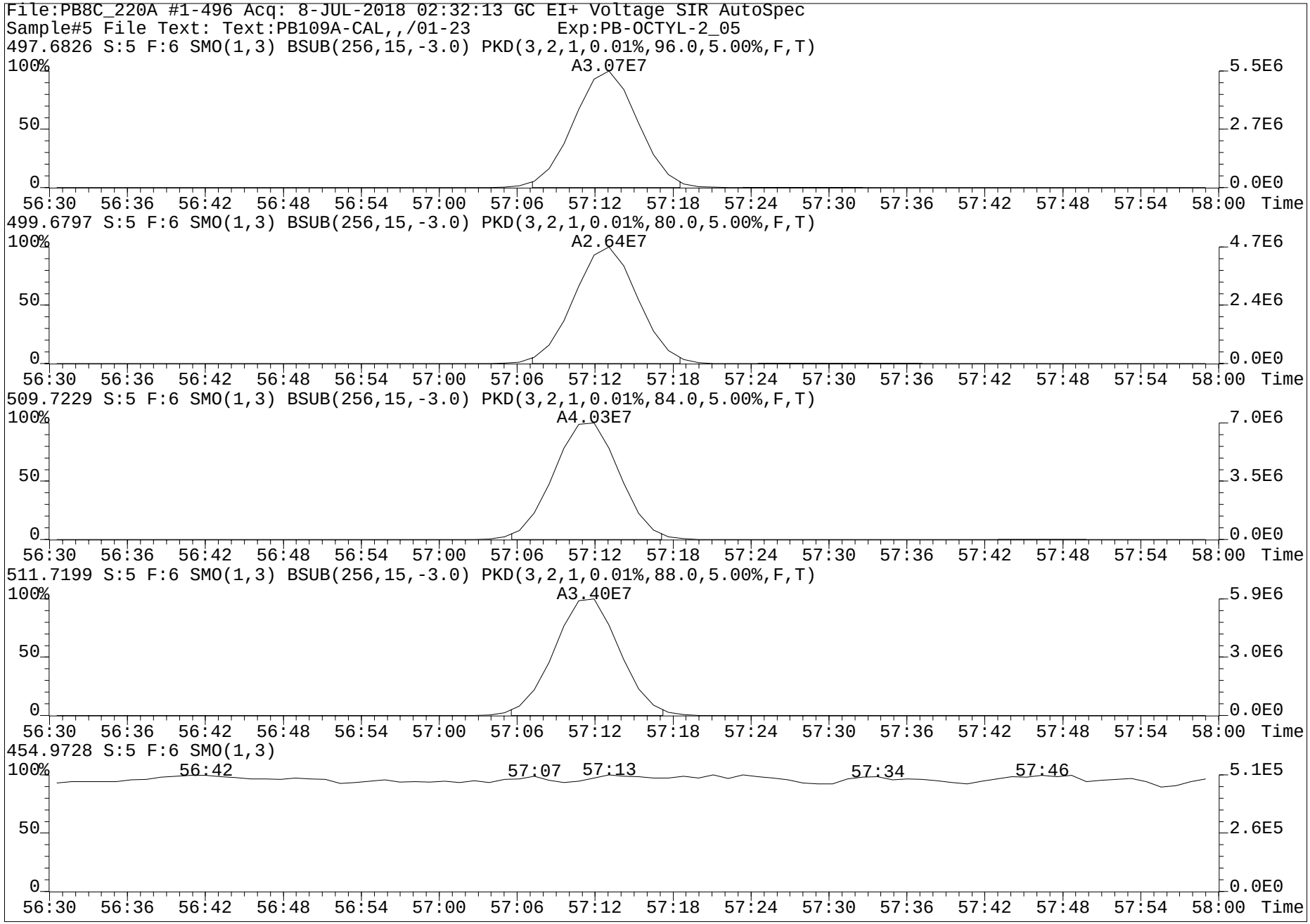

File:PB8C_220A #1-744 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.72E7
A2.62E7
A1.92E7
A2.09E7
A2.26E7
A3.59E7
A1.74E7
A4.48E7
A2.43E7
A1.74E7
A2.40E7
A3.28E6
395.7995 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.67E7
A1.88E7
A2.00E7
A2.18E7
A3.55E7
A1.70E7
A4.25E7
A2.33E7
A1.68E7
A2.28E7
A3.01E6
405.8425 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,236.0,5.00%,F,T)
A5.66E7
A3.83E7
A3.91E7
A3.28E7
407.8398 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,116.0,5.00%,F,T)
A5.37E7
A3.65E7
A3.79E7
A3.12E7
354.9792 S:5 F:5 SMO(1,3)
36:11 37:07 37:51 38:44 39:56 40:45 41:40 42:32 43:25 44:08 44:51 45:42 46:48 47:33 48:27
100%
50
0
6.2E6
3.1E6
0.0E0
6.1E6
1.1E7
5.3E6
1.0E7
5.0E6
6.7E5
3.3E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

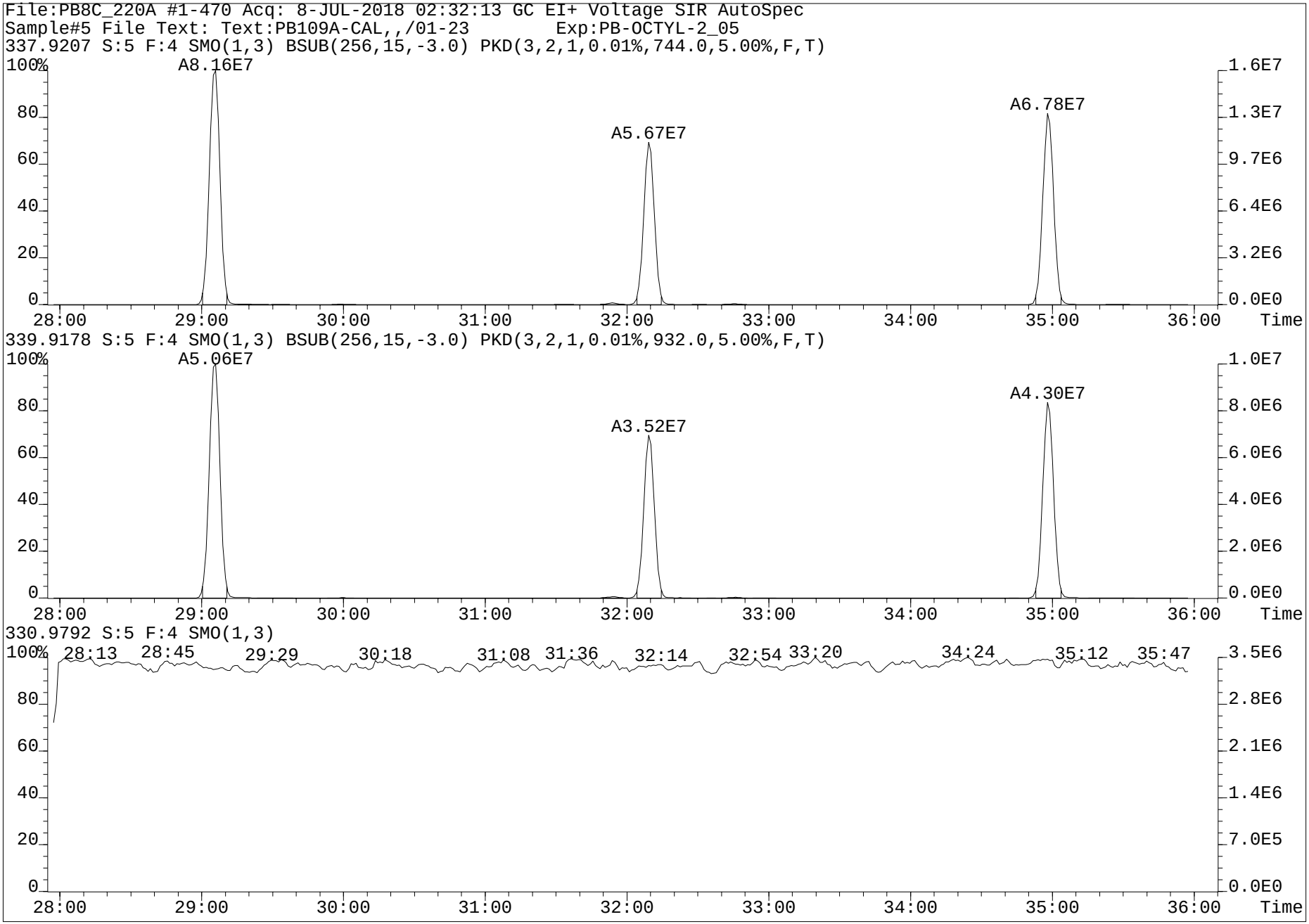

File:PB8C_220A #1-496 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1508.0,5.00%,F,T)
A2.18E7
A5.19E6
A2.48E6
A5.33E6
395.7995 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1304.0,5.00%,F,T)
A2.10E7
A3.00E6
A2.28E6
A2.99E6
405.8428 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2180.0,5.00%,F,T)
A4.15E7
A9.06E6
407.8398 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1864.0,5.00%,F,T)
A4.07E7
A4.20E6
454.9728 S:5 F:6 SMO(1,3)
50:27
50:39
50:53
51:01
51:17
51:26
51:40
51:49
52:06
52:15
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
4.0E6
2.0E6
0.0E0
3.9E6
1.9E6
0.0E0
7.6E6
3.8E6
0.0E0
7.5E6
3.7E6
0.0E0
5.0E5
2.5E5
0.0E0


File:PB8C_220A #1-744 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.54E7
A3.57E7
A7.08E7
A5.03E7
A2.62E7
429.7606 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.91E7
A3.95E7
A7.88E7
A5.67E7
A2.96E7
439.8038 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A5.01E7
441.8008 S:5 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,120.0,5.00%,F,T)
A5.54E7
354.9792 S:5 F:5 SMO(1,3)
43:25
44:08
44:51
45:15
45:42
46:24
46:48
47:16
47:50
48:21
48:51
49:25
49:48
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
6.7E6
3.4E6
0.0E0
7.6E6
3.8E6
9.0E6
4.5E6
1.0E7
5.0E6
6.7E5
3.3E5


File:PB8C_220A #1-496 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,676.0,5.00%,F,T)
A2.22E7
A2.47E7
A2.93E7
A2.22E6
429.7606 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,736.0,5.00%,F,T)
A2.52E7
A2.77E7
A3.23E7
A2.57E6
439.8038 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A2.75E7
A3.75E7
A2.49E6
441.8008 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,112.0,5.00%,F,T)
A3.09E7
A4.32E7
454.9728 S:5 F:6 SMO(1,3)
50:39
51:17
51:40
52:06
52:35
52:59
53:39
54:08
54:51
55:10
55:47
56:06
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
5.3E6
2.6E6
0.0E0
5.8E6
2.9E6
6.8E6
3.4E6
7.9E6
4.0E6
5.0E5
2.5E5


File:PB8C_220A #1-496 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
461.7245 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A2.50E7
A2.50E7
A1.90E7
463.7216 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1188.0,5.00%,F,T)
A3.20E7
A3.17E7
A2.43E7
473.7648 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,92.0,5.00%,F,T)
A3.20E7
A2.57E7
475.7619 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,100.0,5.00%,F,T)
A4.12E7
A3.27E7
454.9728 S:5 F:6 SMO(1,3)
50:39
51:17
51:40
52:06
52:35
52:59
53:39
54:08
54:51
55:10
55:47
56:06
Time


File:PB8C_220A #1-496 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
497.6826 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,96.0,5.00%,F,T)
A3.07E7
499.6797 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,80.0,5.00%,F,T)
A2.64E7
509.7229 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,84.0,5.00%,F,T)
A4.03E7
511.7199 S:5 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,88.0,5.00%,F,T)
A3.40E7
454.9728 S:5 F:6 SMO(1,3)
56:42
57:07
57:13
57:34
57:46
100%
50
0
5.5E6
2.7E6
4.7E6
2.4E6
7.0E6
3.5E6
5.9E6
3.0E6
5.1E5
2.6E5
0.0E0
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_220A #1-470 Acq: 8-JUL-2018 02:32:13 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
337.9207 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,744.0,5.00%,F,T)
A8.16E7
A5.67E7
A6.78E7
339.9178 S:5 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,932.0,5.00%,F,T)
A5.06E7
A3.52E7
A4.30E7
330.9792 S:5 F:4 SMO(1,3)
28:13 28:45 29:29 30:18 31:08 31:36 32:14 32:54 33:20 34:24 35:12 35:47
Time

www.axysanalytical.com

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 269
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

Tune : BA
List : BA
Check :
LIMS :
Logfile:

Date -list : 07-AUG-2018
-liner : 03-AUG-2018
-septum: 03-AUG-2018
-guard : NEW 03-AUG-2018
-column: NEW 03-JUN-2018
-t line: 45CM 03-JUN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_260	1	1	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	7-AUG-18 19:45:48
2	PB8C_260	2	2	WG64623-102,,SPM 1/10	1,WG64623,1.0/20uL	7-AUG-18 20:49:32
3	PB8C_260	3	3	PB053A-SUR,,/02	1,,1.0uL Inst Blank	7-AUG-18 21:53:10
4	PB8C_260	4	4	WG64623-101,,BLK 1/10	1,WG64623,1.0/20uL	7-AUG-18 22:56:44
5	PB8C_260	5	5	L29626-1,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 00:00:21
6	PB8C_260	6	6	L29626-2,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 01:03:57
7	PB8C_260	7	7	L29626-4,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 02:07:34
8	PB8C_260	8	8	WG64623-103,,DUP 1/10	1,WG64623,1.0/20uL	8-AUG-18 03:11:14
9	PB8C_260	9	9	L29626-6,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 04:14:54
10	PB8C_260	10	10	L29626-7,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 05:18:32
11	PB8C_260	11	11	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 06:22:20

www.axysanalytical.com

Run #8 Filename PB8C_260 S: 1 I: 1 Acquired: 7-AUG-18 19:45:48 Processed: 8-AUG-18 07:42:30
Run: pb8c_260-a Analyte: 1668a-cv8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res
sample size: 1.000000 conc units: ng/mL total toxicity: 1360.35 F1: 1.0000 F2: 1.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	4.18e+07	3.09	y	11:30	23.704	24	0.0106	-	n
2	Unk	CL1-PCB-3	1	4.11e+07	3.05	y	13:44	25.824	26	0.0146	-	n
3	Unk	CL2-PCB-4	1	2.42e+07	1.53	y	13:58	24.062	24	0.1514	-	n
4	Unk	CL2-PCB-15	1	3.92e+07	1.48	y	20:02	28.814	29	0.1439	-	n
5	Unk	CL3-PCB-19	1	2.53e+07	1.07	y	17:08	25.949	26	0.0145	-	n
6	Unk	CL3-PCB-37	1	3.15e+07	1.03	y	27:19	24.453	24	0.3245	-	n
7	Unk	CL4-PCB-54	1	6.52e+07	0.80	y	20:18	51.427	51	0.0233	-	n
8	Unk	CL4-PCB-81	1	5.53e+07	0.77	y	34:21	47.028	47	2.4845	-	y
9	Unk	CL4-PCB-77	1	5.48e+07	0.78	y	34:57	47.210	47	2.5995	-	y
10	Unk	CL5-PCB-104	1	5.54e+07	1.56	y	25:59	50.985	51	0.0129	-	n
11	Unk	CL5-PCB-123	1	5.47e+07	1.51	y	37:01	54.678	55	3.4166	-	n
12	Unk	CL5-PCB-118	1	5.05e+07	1.52	y	37:22	48.233	48	3.3104	-	n
13	Unk	CL5-PCB-114	1	5.20e+07	1.52	y	37:55	51.360	51	3.4644	-	n
14	Unk	CL5-PCB-105	1	5.06e+07	1.57	y	38:36	51.165	51	3.5426	-	n
15	Unk	CL5-PCB-126	1	4.33e+07	1.55	y	41:51	49.544	50	4.0917	-	n
16	Unk	CL6-PCB-155	1	5.26e+07	1.27	y	31:53	50.950	51	0.0103	-	n
17	Unk	CL6-PCB-167	1	5.30e+07	1.25	y	43:46	56.720	57	1.2473	-	n
18	Unk	CL6-PCB-156/157	1	9.78e+07	1.26	y	44:58	103.605	104	1.6804	-	n
19	Unk	CL6-PCB-169	1	4.78e+07	1.29	y	48:23	53.291	53	1.3323	-	n
20	Unk	CL7-PCB-188	1	4.24e+07	1.04	y	37:51	50.748	51	0.0416	-	n
21	Unk	CL7-PCB-189	1	3.82e+07	1.04	y	51:01	47.118	47	0.0631	-	n
22	Unk	CL8-PCB-202	1	6.07e+07	0.89	y	43:29	81.450	81	0.0137	-	n
23	Unk	CL8-PCB-205	1	5.75e+07	0.89	y	53:41	77.226	77	0.0605	-	n
24	Unk	CL9-PCB-208	1	5.31e+07	0.79	y	50:27	85.475	85	0.0312	-	n
25	Unk	CL9-PCB-206	1	3.98e+07	0.81	y	55:30	75.466	75	0.0384	-	n
26	Unk	CL10-PCB-209	1	4.72e+07	1.19	y	57:08	73.862	74	0.0157	-	n
27	IS	13C-CL1-PCB-1	1	1.64e+08	3.15	y	11:29	91.162	0	0.1342	91.2	n
28	IS	13C-CL1-PCB-3	1	1.47e+08	3.14	y	13:43	85.545	0	0.1409	85.5	n
29	IS	13C-CL2-PCB-4	1	1.01e+08	1.58	y	13:57	92.783	0	0.1249	92.8	n
30	IS	13C-CL2-PCB-15	1	1.50e+08	1.56	y	20:01	87.858	0	0.0801	87.9	n
31	IS	13C-CL3-PCB-19	1	9.13e+07	1.06	y	17:07	101.549	0	0.2374	101.5	n
32	IS	13C-CL3-PCB-37	1	1.29e+08	1.04	y	27:18	82.647	0	0.2772	82.6	n
33	REF	13C-CL4-CHECK	1	1.20e+08	0.80	y	20:17	87.855	0	0.1031	87.9	n
34	IS	13C-CL4-PCB-81	1	1.14e+08	0.75	y	34:20	95.837	0	0.0905	95.8	n
35	IS	13C-CL4-PCB-77	1	1.13e+08	0.74	y	34:56	93.113	0	0.0890	93.1	n
36	IS	13C-CL5-PCB-104	1	1.02e+08	1.60	y	25:57	89.910	0	0.0119	89.9	n
37	IS	13C-CL5-PCB-123	1	1.02e+08	1.57	y	36:59	95.312	0	0.1137	95.3	n
38	IS	13C-CL5-PCB-118	1	1.00e+08	1.60	y	37:20	95.561	0	0.1160	95.6	n
39	IS	13C-CL5-PCB-114	1	9.56e+07	1.57	y	37:54	91.845	0	0.1170	91.8	n
40	IS	13C-CL5-PCB-105	1	9.63e+07	1.59	y	38:34	89.298	0	0.1129	89.3	n
41	IS	13C-CL5-PCB-126	1	8.38e+07	1.55	y	41:49	87.068	0	0.1265	87.1	n
42	IS	13C-CL6-PCB-155	1	1.01e+08	1.24	y	31:51	89.556	0	0.0099	89.6	n
43	IS	13C-CL6-PCB-167	1	8.40e+07	1.24	y	43:44	96.337	0	0.0220	96.3	n
44	IS	13C-CL6-PCB-156/157	1	1.72e+08	1.27	y	44:57	188.514	0	0.0211	94.3	n

PV by RA 09AUG2018

45	IS	13C-CL6-PCB-169	1	8.50e+07	1.27	y	48:22	94.066	0	0.0213	94.1	n
46	REF	13C-CL7-CHECK	1	8.58e+07	1.06	y	37:50	81.456	0	0.0121	81.5	n
47	IS	13C-CL7-PCB-189	1	7.65e+07	1.04	y	50:59	90.378	0	0.0639	90.4	n
48	IS	13C-CL8-PCB-202	1	8.53e+07	0.88	y	43:27	85.647	0	0.0113	85.6	n
49	IS	13C-CL8-PCB-205	1	7.53e+07	0.88	y	53:40	89.732	0	0.0218	89.7	n
50	IS	13C-CL9-PCB-208	1	6.58e+07	0.78	y	50:26	87.428	0	0.0195	87.4	n
51	IS	13C-CL9-PCB-206	1	5.26e+07	0.76	y	55:28	85.873	0	0.0240	85.9	n
52	IS	13C-CL10-PCB-209	1	6.01e+07	1.19	y	57:07	78.104	0	0.0141	78.1	n
53	RS	13C-CL2-PCB-9	1	1.60e+08	1.56	y	15:58	86.817	0	-	-	n
54	RS	13C-CL4-PCB-52	1	9.24e+07	0.78	y	25:00	100.504	0	-	-	n
55	RS	13C-CL5-PCB-101	1	7.69e+07	1.60	y	32:08	98.879	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	6.79e+07	1.27	y	40:34	95.596	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.58e+07	0.90	y	53:10	98.966	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	1.43e+08	1.04	y	23:07	91.211	0	0.2755	91.2	n
59	C/Up	13C-CL5-PCB-111	1	8.86e+07	1.60	y	34:57	86.088	0	0.0243	86.1	n
60	C/Up	13C-CL7-PCB-178	1	5.90e+07	1.06	y	41:03	91.466	0	0.0186	91.5	n
61	IS	13C-CL4-PCB-54	1	1.20e+08	0.80	y	20:17	87.855	0	0.1031	87.9	n
62	IS	13C-CL7-PCB-188	1	8.58e+07	1.06	y	37:50	81.456	0	0.0121	81.5	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

OPUSquan 8-AUG-2018 Page 1

Run #1 Filename PB8C_260 S: 1 I: 1 Acquired: 7-AUG-18 19:45:48 Processed: 8-AUG-18 07:48:20
Run: pb8c_260-ac Analyte: 1668xb-c8 Cal: pb8c_260-1c Results: pb8c_260-ac Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res F1: 1.00 F2: 1.00

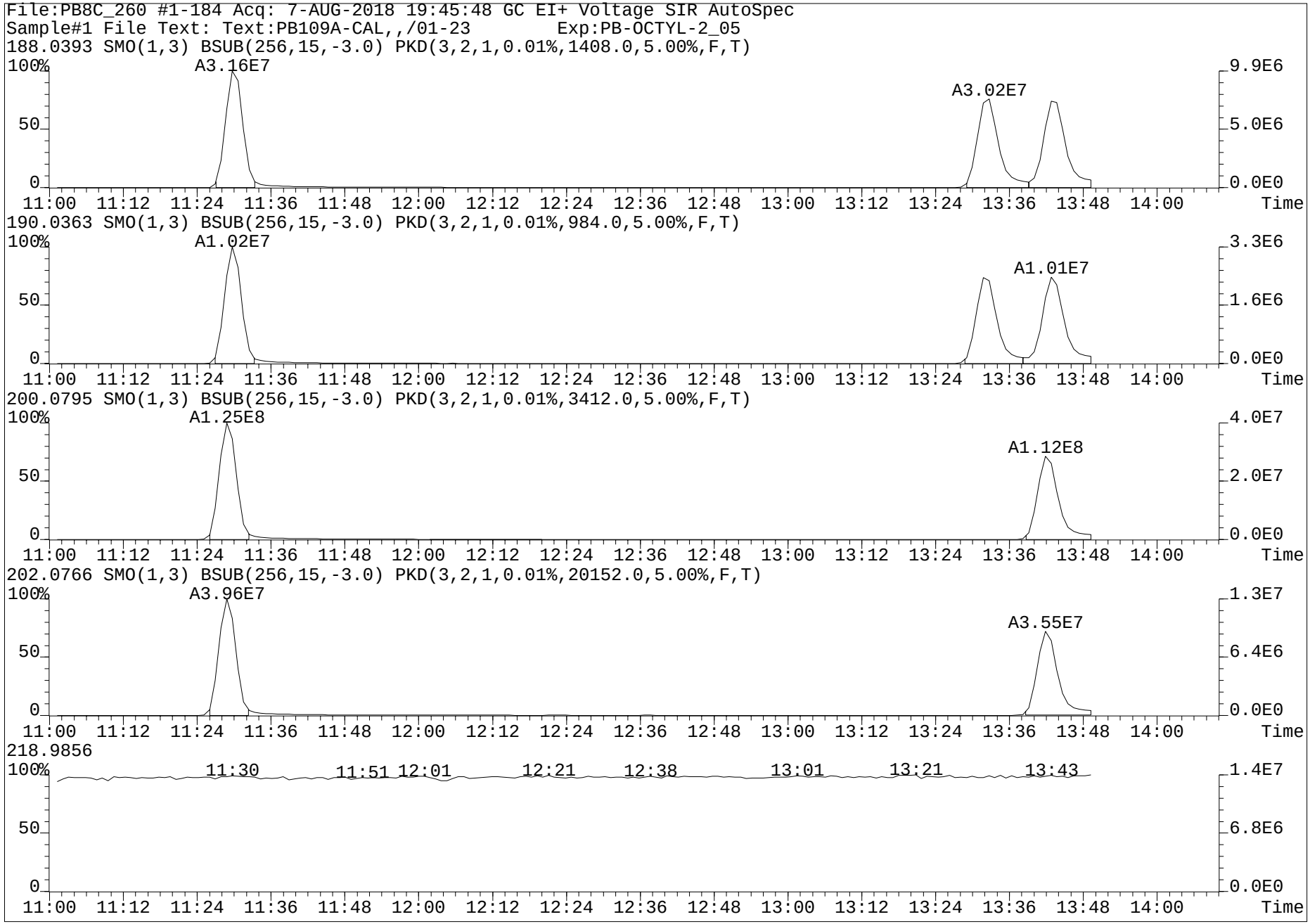
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL1-PCB-2	25.00	3.98e+07	3.15 y	13:33	-	1.0214	n	n
2	Unk	CL2-PCB-10	25.00	3.85e+07	1.53 y	14:09	-	1.2262	n	n
3	Unk	CL2-PCB-9	25.00	3.85e+07	1.54 y	15:59	-	1.2281	n	n
4	Unk	CL2-PCB-7	25.00	3.89e+07	1.55 y	16:09	-	1.2395	n	n
5	Unk	CL2-PCB-6	25.00	3.94e+07	1.55 y	16:24	-	1.2564	n	n
6	Unk	CL2-PCB-5	25.00	3.43e+07	1.54 y	16:43	-	1.0926	n	n
7	Unk	CL2-PCB-8	25.00	4.33e+07	1.53 y	16:51	-	1.3811	n	n
8	Unk	CL2-PCB-14	25.00	3.76e+07	1.55 y	18:32	-	1.1980	n	n
9	Unk	CL2-PCB-11	25.00	3.60e+07	1.52 y	19:24	-	1.1480	n	n
10	Unk	CL2-PCB-12/13	50.00	7.28e+07	1.52 y	19:43	-	1.1599	n	n
11	Unk	CL3-PCB-30/18	50.00	6.38e+07	1.05 y	19:02	-	1.1588	n	n
12	Unk	CL3-PCB-17	25.00	2.75e+07	1.05 y	19:29	-	0.9965	n	n
13	Unk	CL3-PCB-27	25.00	3.87e+07	1.06 y	19:42	-	1.4065	n	n
14	Unk	CL3-PCB-24	25.00	3.55e+07	1.06 y	19:50	-	1.2878	n	n
15	Unk	CL3-PCB-16	25.00	2.44e+07	1.03 y	19:57	-	0.8873	n	n
16	Unk	CL3-PCB-32	25.00	3.58e+07	1.02 y	20:29	-	1.2987	n	n
17	Unk	CL3-PCB-34	25.00	3.33e+07	1.03 y	21:48	-	1.2071	n	n
18	Unk	CL3-PCB-23	25.00	3.37e+07	1.02 y	21:57	-	1.2234	n	n
19	Unk	CL3-PCB-26/29	50.00	6.88e+07	1.03 y	22:16	-	1.2486	n	y
20	Unk	CL3-PCB-25	25.00	4.07e+07	1.03 y	22:31	-	1.4793	n	n
21	Unk	CL3-PCB-31	25.00	3.71e+07	1.02 y	22:50	-	1.3483	n	n
22	Unk	CL3-PCB-28/20	50.00	6.95e+07	1.03 y	23:10	-	1.2607	n	n
23	Unk	CL3-PCB-21/33	50.00	7.34e+07	1.04 y	23:21	-	1.3330	n	y
24	Unk	CL3-PCB-22	25.00	3.11e+07	1.04 y	23:47	-	1.1283	n	y
25	Unk	CL3-PCB-36	25.00	3.69e+07	1.04 y	25:26	-	1.3400	n	n
26	Unk	CL3-PCB-39	25.00	3.43e+07	1.05 y	25:48	-	1.2448	n	n
27	Unk	CL3-PCB-38	25.00	3.35e+07	1.03 y	26:24	-	1.2175	n	y
28	Unk	CL3-PCB-35	25.00	3.42e+07	1.02 y	26:54	-	1.2410	n	n
29	Unk	CL4-PCB-50/53	100.00	1.03e+08	0.79 y	22:33	-	0.8887	n	n
30	Unk	CL4-PCB-45/51	100.00	1.00e+08	0.78 y	23:15	-	0.8666	n	y
31	Unk	CL4-PCB-46	50.00	4.46e+07	0.78 y	23:32	-	0.7696	n	y
32	Unk	CL4-PCB-52	50.00	5.29e+07	0.80 y	25:01	-	0.9144	n	n
33	Unk	CL4-PCB-73	50.00	6.93e+07	0.79 y	25:09	-	1.1967	n	y
34	Unk	CL4-PCB-43	50.00	4.08e+07	0.79 y	25:16	-	0.7040	n	n
35	Unk	CL4-PCB-69/49	100.00	1.18e+08	0.79 y	25:29	-	1.0202	n	y
36	Unk	CL4-PCB-48	50.00	4.98e+07	0.79 y	25:49	-	0.8603	n	n
37	Unk	CL4-PCB-44/47/65	150.00	1.64e+08	0.79 y	26:04	-	0.9471	n	n
38	Unk	CL4-PCB-59/62/75	150.00	1.99e+08	0.79 y	26:23	-	1.1473	n	y
39	Unk	CL4-PCB-42	50.00	4.99e+07	0.79 y	26:36	-	0.8627	n	n
40	Unk	CL4-PCB-41/40/71	150.00	1.49e+08	0.79 y	27:05	-	0.8577	n	y
41	Unk	CL4-PCB-64	50.00	6.94e+07	0.79 y	27:21	-	1.1992	n	n
42	Unk	CL4-PCB-72	50.00	6.41e+07	0.78 y	28:14	-	1.1073	n	y
43	Unk	CL4-PCB-68	50.00	6.43e+07	0.77 y	28:32	-	1.1099	n	y
44	Unk	CL4-PCB-57	50.00	6.18e+07	0.77 y	28:58	-	1.0672	n	y

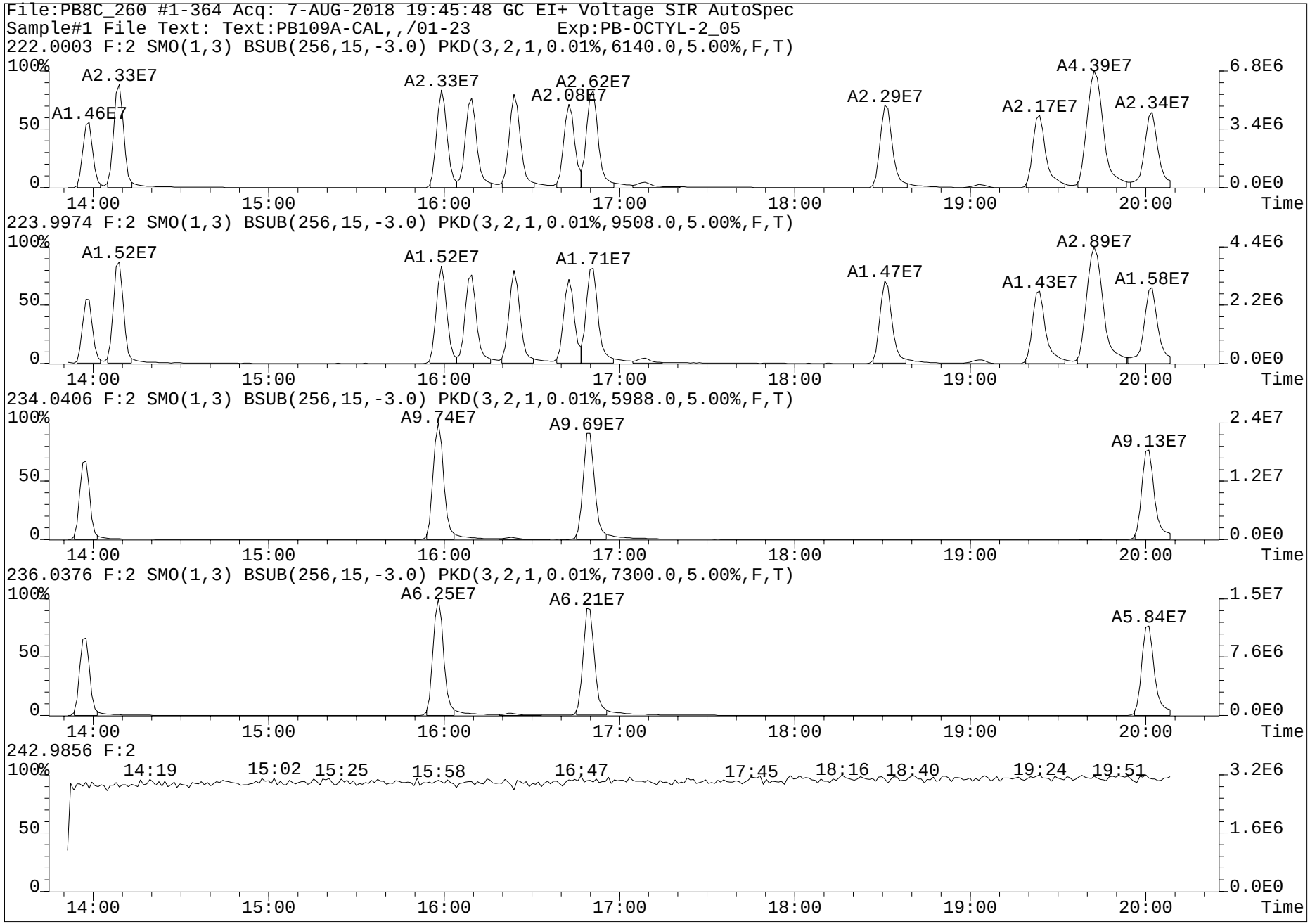
PV by RA 08AUG2018

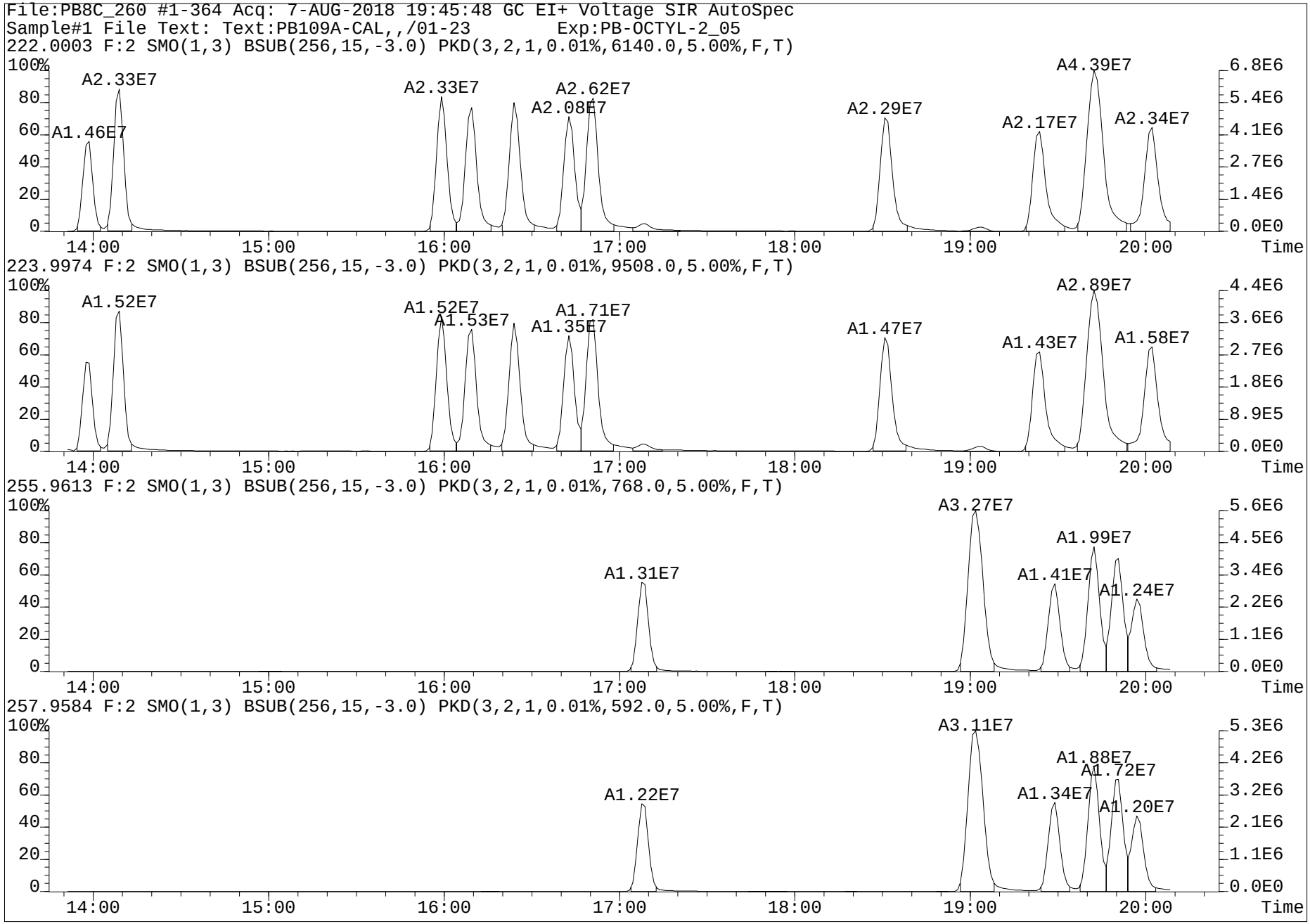
45	Unk	CL4-PCB-58	50.00	6.04e+07	0.78	y	29:13	-	1.0430	n	y
46	Unk	CL4-PCB-67	50.00	7.21e+07	0.77	y	29:23	-	1.2446	n	y
47	Unk	CL4-PCB-63	50.00	6.29e+07	0.77	y	29:40	-	1.0863	n	y
48	Unk	CL4-PCB-61/70/74/76	200.00	2.49e+08	0.77	y	30:00	-	1.0762	n	y
49	Unk	CL4-PCB-66	50.00	5.80e+07	0.77	y	30:21	-	1.0025	n	y
50	Unk	CL4-PCB-55	50.00	5.24e+07	0.79	y	30:31	-	0.9044	n	y
51	Unk	CL4-PCB-56	50.00	5.67e+07	0.77	y	31:04	-	0.9786	n	y
52	Unk	CL4-PCB-60	50.00	5.74e+07	0.77	y	31:17	-	0.9918	n	y
53	Unk	CL4-PCB-80	50.00	6.41e+07	0.76	y	31:42	-	1.1080	n	y
54	Unk	CL4-PCB-79	50.00	7.02e+07	0.82	y	33:19	-	1.2128	n	y
55	Unk	CL4-PCB-78	50.00	5.96e+07	0.78	y	33:54	-	1.0287	n	y
56	Unk	CL5-PCB-96	50.00	5.57e+07	1.57	y	26:22	-	1.1217	n	n
57	Unk	CL5-PCB-103	50.00	4.64e+07	1.56	y	28:23	-	0.9348	n	n
58	Unk	CL5-PCB-94	50.00	3.79e+07	1.58	y	28:37	-	0.7642	n	n
59	Unk	L5-PCB-95/100/93/102/98	250.00	2.12e+08	1.58	y	29:20	-	0.8531	n	y
60	Unk	CL5-PCB-88/91	100.00	8.15e+07	1.61	y	29:56	-	0.8212	n	y
61	Unk	CL5-PCB-84	50.00	3.57e+07	1.54	y	30:13	-	0.7188	n	n
62	Unk	CL5-PCB-89	50.00	3.76e+07	1.61	y	30:42	-	0.7575	n	y
63	Unk	CL5-PCB-121	50.00	5.22e+07	1.55	y	31:09	-	1.0527	n	n
64	Unk	CL5-PCB-92	50.00	3.98e+07	1.59	y	31:32	-	0.8027	n	y
65	Unk	CL5-PCB-113/90/101	150.00	1.38e+08	1.61	y	32:07	-	0.9243	n	n
66	Unk	CL5-PCB-83/99	100.00	7.75e+07	1.60	y	32:42	-	0.7805	n	y
67	Unk	CL5-PCB-112	50.00	5.56e+07	1.61	y	32:53	-	1.1202	n	y
68	Unk	CB-109/119/86/97/125/87	300.00	2.76e+08	1.58	y	33:18	-	0.9266	n	y
69	Unk	CL5-PCB-117/116/85	150.00	1.40e+08	1.59	y	34:00	-	0.9407	n	n
70	Unk	CL5-PCB-110/115	100.00	1.05e+08	1.57	y	34:15	-	1.0621	n	n
71	Unk	CL5-PCB-82	50.00	3.48e+07	1.59	y	34:32	-	0.7007	n	n
72	Unk	CL5-PCB-111	50.00	5.00e+07	1.61	y	34:58	-	1.0068	n	n
73	Unk	CL5-PCB-120	50.00	5.22e+07	1.55	y	35:27	-	1.0521	n	n
74	Unk	CL5-PCB-108/124	100.00	1.02e+08	1.54	y	36:39	-	1.0242	n	n
75	Unk	CL5-PCB-107	50.00	5.22e+07	1.52	y	36:54	-	1.0529	n	n
76	Unk	CL5-PCB-106	50.00	5.07e+07	1.52	y	37:09	-	1.0225	n	n
77	Unk	CL5-PCB-122	50.00	4.59e+07	1.54	y	37:43	-	0.9257	n	n
78	Unk	CL5-PCB-127	50.00	4.96e+07	1.54	y	40:09	-	0.9994	n	n
79	Unk	CL6-PCB-152	50.00	5.11e+07	1.24	y	32:05	-	1.1562	n	y
80	Unk	CL6-PCB-150	50.00	4.86e+07	1.25	y	32:16	-	1.0995	n	y
81	Unk	CL6-PCB-136	50.00	4.92e+07	1.27	y	32:39	-	1.1128	n	n
82	Unk	CL6-PCB-145	50.00	4.65e+07	1.26	y	32:57	-	1.0522	n	n
83	Unk	CL6-PCB-148	50.00	3.46e+07	1.27	y	34:32	-	0.7837	n	n
84	Unk	CL6-PCB-151/135/154	150.00	1.07e+08	1.26	y	35:16	-	0.8050	n	y
85	Unk	CL6-PCB-144	50.00	3.51e+07	1.24	y	35:45	-	0.7935	n	n
86	Unk	CL6-PCB-147/149	100.00	7.72e+07	1.25	y	36:07	-	0.8743	n	y
87	Unk	CL6-PCB-134/143	100.00	7.05e+07	1.27	y	36:23	-	0.7982	n	y
88	Unk	CL6-PCB-139/140	100.00	7.62e+07	1.26	y	36:45	-	0.8626	n	n
89	Unk	CL6-PCB-131	50.00	3.39e+07	1.26	y	36:57	-	0.7678	n	y
90	Unk	CL6-PCB-142	50.00	3.43e+07	1.24	y	37:07	-	0.7771	n	n
91	Unk	CL6-PCB-132	50.00	3.23e+07	1.27	y	37:27	-	0.7304	n	n
92	Unk	CL6-PCB-133	50.00	3.40e+07	1.24	y	37:58	-	0.7687	n	y
93	Unk	CL6-PCB-165	50.00	4.21e+07	1.25	y	38:24	-	0.9521	n	n
94	Unk	CL6-PCB-146	50.00	4.08e+07	1.25	y	38:39	-	0.9232	n	n
95	Unk	CL6-PCB-161	50.00	4.87e+07	1.27	y	38:47	-	1.1034	n	y
96	Unk	CL6-PCB-153/168	100.00	8.90e+07	1.26	y	39:19	-	1.0074	n	n
97	Unk	CL6-PCB-141	50.00	3.70e+07	1.27	y	39:30	-	0.8371	n	n

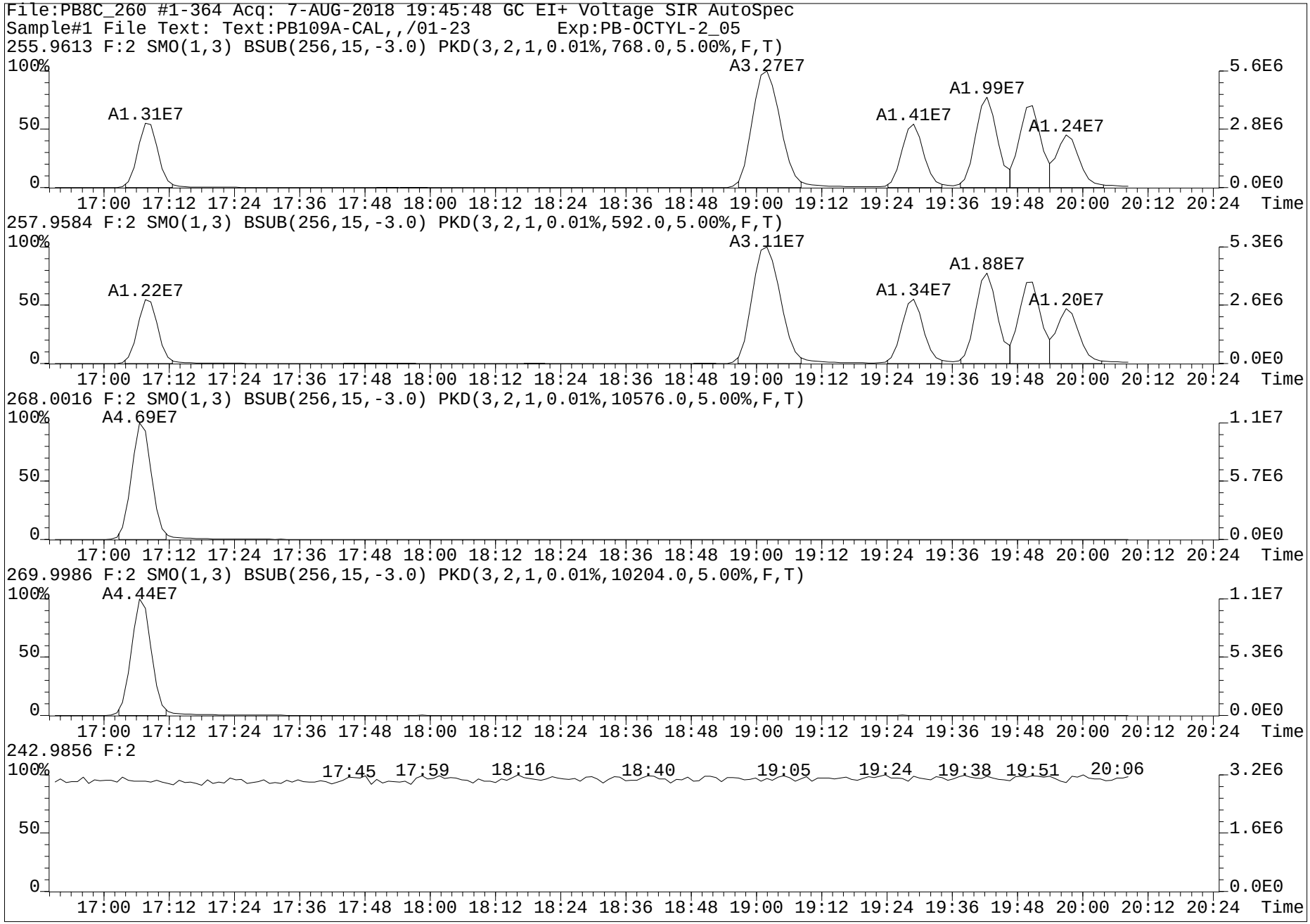
98	Unk	CL6-PCB-130	50.00	3.17e+07	1.28 y	39:56	-	0.7175	n	n
99	Unk	CL6-PCB-137	50.00	3.30e+07	1.27 y	40:08	-	0.7468	n	y
1»	Unk	CL6-PCB-164	50.00	4.83e+07	1.27 y	40:16	-	1.0942	n	y
1»	Unk	CL6-PCB-138/163/129/160	200.00	1.62e+08	1.26 y	40:40	-	0.9197	n	y
1»	Unk	CL6-PCB-158	50.00	5.21e+07	1.26 y	41:00	-	1.1789	n	y
1»	Unk	CL6-PCB-128/166	100.00	8.17e+07	1.23 y	41:55	-	0.9245	n	n
1»	Unk	CL6-PCB-159	50.00	4.82e+07	1.25 y	42:57	-	1.0909	n	n
1»	Unk	CL6-PCB-162	50.00	5.08e+07	1.20 y	43:16	-	1.1502	n	n
1»	Unk	CL7-PCB-179	50.00	4.18e+07	1.04 y	38:13	-	1.0314	n	n
1»	Unk	CL7-PCB-184	50.00	4.26e+07	1.05 y	38:45	-	1.0490	n	n
1»	Unk	CL7-PCB-176	50.00	4.10e+07	1.05 y	39:08	-	1.0115	n	n
1»	Unk	CL7-PCB-186	50.00	3.86e+07	1.04 y	39:37	-	0.9506	n	n
1»	Unk	CL7-PCB-178	50.00	3.08e+07	1.03 y	41:04	-	0.7587	n	n
1»	Unk	CL7-PCB-175	50.00	3.16e+07	1.05 y	41:43	-	0.7788	n	n
1»	Unk	CL7-PCB-187	50.00	3.50e+07	1.03 y	42:00	-	0.8635	n	n
1»	Unk	CL7-PCB-182	50.00	3.29e+07	1.05 y	42:13	-	0.8109	n	n
1»	Unk	CL7-PCB-183/185	100.00	6.57e+07	1.03 y	42:41	-	0.8099	n	y
1»	Unk	CL7-PCB-174	50.00	3.18e+07	1.04 y	42:54	-	0.7832	n	n
1»	Unk	CL7-PCB-177	50.00	3.86e+07	1.03 y	43:22	-	0.9520	n	n
1»	Unk	CL7-PCB-181	50.00	3.27e+07	1.04 y	43:46	-	0.8050	n	n
1»	Unk	CL7-PCB-171/173	100.00	6.16e+07	1.05 y	44:00	-	0.7593	n	n
1»	Unk	CL7-PCB-172	50.00	2.98e+07	1.03 y	45:43	-	0.7338	n	n
1»	Unk	CL7-PCB-192	50.00	3.65e+07	1.05 y	46:01	-	0.8990	n	n
1»	Unk	CL7-PCB-180/193	118.00	7.61e+07	1.05 y	46:22	-	1.0061	n	n
1»	Unk	CL7-PCB-191	50.00	4.06e+07	1.03 y	46:47	-	1.0013	n	y
1»	Unk	CL7-PCB-170	50.00	3.01e+07	1.06 y	47:43	-	1.1171	n	n
1»	Unk	CL7-PCB-190	50.00	3.99e+07	1.05 y	48:17	-	0.9848	n	y
1»	Unk	CL8-PCB-201	75.00	6.07e+07	0.90 y	44:26	-	1.0078	n	n
1»	Unk	CL8-PCB-204	75.00	5.95e+07	0.89 y	45:08	-	0.9868	n	n
1»	Unk	CL8-PCB-197/200	150.00	1.22e+08	0.91 y	45:26	-	1.0165	n	y
1»	Unk	CL8-PCB-198/199	150.00	8.55e+07	0.91 y	48:25	-	0.7097	n	n
1»	Unk	CL8-PCB-196	75.00	4.42e+07	0.88 y	49:07	-	0.7328	n	n
1»	Unk	CL8-PCB-203	75.00	4.69e+07	0.90 y	49:19	-	0.7777	n	y
1»	Unk	CL8-PCB-195	75.00	4.53e+07	0.89 y	50:44	-	0.7524	n	n
1»	Unk	CL8-PCB-194	75.00	4.88e+07	0.87 y	53:12	-	0.8094	n	n
1»	Unk	CL9-PCB-207	75.00	5.39e+07	0.78 y	51:26	-	1.2142	n	n
1»	IS	13C-CL1-PCB-1	100.00	1.64e+08	3.15 y	11:29	-	1.0280	n	n
1»	IS	13C-CL1-PCB-3	100.00	1.47e+08	3.14 y	13:43	-	0.9190	n	n
1»	IS	13C-CL2-PCB-4	100.00	1.01e+08	1.58 y	13:57	-	0.6339	n	n
1»	IS	13C-CL2-PCB-15	100.00	1.50e+08	1.56 y	20:01	-	0.9359	n	n
1»	IS	13C-CL3-PCB-19	100.00	9.13e+07	1.06 y	17:07	-	0.5708	n	n
1»	IS	13C-CL3-PCB-37	100.00	1.29e+08	1.04 y	27:18	-	1.3976	n	n
1»	REF	13C-CL4-CHECK	100.00	1.20e+08	0.80 y	20:17	-	1.3007	n	n
1»	IS	13C-CL4-PCB-81	100.00	1.14e+08	0.75 y	34:20	-	1.2381	n	n
1»	IS	13C-CL4-PCB-77	100.00	1.13e+08	0.74 y	34:56	-	1.2223	n	n
1»	IS	13C-CL5-PCB-104	100.00	1.02e+08	1.60 y	25:57	-	1.3255	n	n
1»	IS	13C-CL5-PCB-123	100.00	1.02e+08	1.57 y	36:59	-	1.3275	n	n
1»	IS	13C-CL5-PCB-118	100.00	1.00e+08	1.60 y	37:20	-	1.3045	n	n
1»	IS	13C-CL5-PCB-114	100.00	9.56e+07	1.57 y	37:54	-	1.2441	n	n
1»	IS	13C-CL5-PCB-105	100.00	9.63e+07	1.59 y	38:34	-	1.2525	n	n
1»	IS	13C-CL5-PCB-126	100.00	8.38e+07	1.55 y	41:49	-	1.0905	n	n

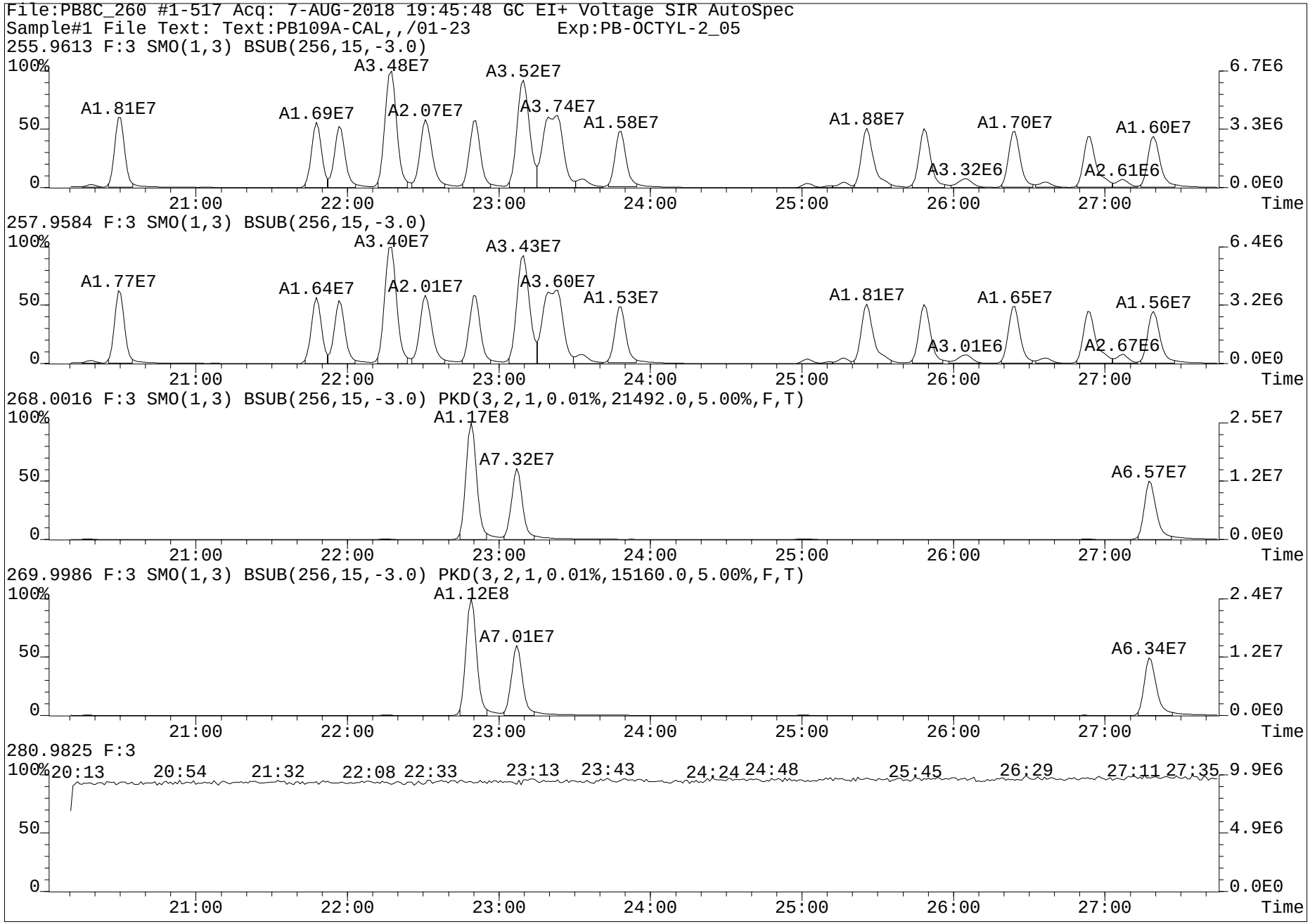
1»	IS	13C-CL6-PCB-155	100.00	1.01e+08	1.24 y	31:51	-	1.4895	n	n
1»	IS	13C-CL6-PCB-167	100.00	8.40e+07	1.24 y	43:44	-	1.2369	n	n
1»	IS	13C-CL6-PCB-156/157	200.00	1.72e+08	1.27 y	44:57	-	1.2624	n	n
1»	IS	13C-CL6-PCB-169	100.00	8.50e+07	1.27 y	48:22	-	1.2510	n	n
1»	IS	13C-CL7-PCB-188	100.00	8.58e+07	1.06 y	37:50	-	1.5360	n	n
1»	IS	13C-CL7-PCB-180	100.00	6.41e+07	1.06 y	46:23	-	1.1487	n	n
1»	IS	13C-CL7-PCB-170	100.00	5.38e+07	1.06 y	47:42	-	0.9640	n	n
1»	IS	13C-CL8-PCB-202	100.00	8.53e+07	0.88 y	43:27	-	1.5280	n	n
1»	IS	13C-CL8-PCB-205	100.00	7.53e+07	0.88 y	53:40	-	1.3495	n	n
1»	IS	13C-CL9-PCB-208	100.00	6.58e+07	0.78 y	50:26	-	1.1781	n	n
1»	IS	13C-CL9-PCB-206	100.00	5.26e+07	0.76 y	55:28	-	0.9422	n	n
1»	RS/RT	13C-CL2-PCB-9	100.00	1.60e+08	1.56 y	15:58	1.60e+06	-	n	n
1»	RS/RT	13C-CL4-PCB-52	100.00	9.24e+07	0.78 y	25:00	9.24e+05	-	n	n
1»	RS/RT	13C-CL5-PCB-101	100.00	7.69e+07	1.60 y	32:08	7.69e+05	-	n	n
1»	RS/RT	13C-CL6-PCB-138	100.00	6.79e+07	1.27 y	40:34	6.79e+05	-	n	n
1»	RS/RT	13C-CL8-PCB-194	100.00	5.58e+07	0.90 y	53:10	5.58e+05	-	n	n
1»	C/Up	13C-CL3-PCB-28	100.00	1.43e+08	1.04 y	23:07	-	1.5519	n	n
1»	C/Up	13C-CL5-PCB-111	100.00	8.86e+07	1.60 y	34:57	-	1.1525	n	n
1»	C/UP	13C-CL7-PCB-178	100.00	5.90e+07	1.06 y	41:03	-	0.8686	n	n
1»	IS	13C-CL4-PCB-54	100.00	1.20e+08	0.80 y	20:17	-	1.3007	n	n
1»	Unk	CL7-PCB-189	50.00	3.82e+07	1.04 y	51:01	-	0.9983	n	n
1»	IS	13C-CL7-PCB-189	100.00	7.65e+07	1.04 y	50:59	-	1.3701	n	n
1»	Unk	CL10-PCB-209	75.00	4.72e+07	1.19 y	57:08	-	1.0479	n	n
1»	IS	13C-CL10-PCB-209	100.00	6.01e+07	1.19 y	57:07	-	1.0761	n	n
1»	LM	CL1-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL2-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL3-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL3-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL4-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL4-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL6-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL6-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL7-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL7-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL8-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL8-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL9-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL10-LOCK	0.00	-		-	-	-	n	n

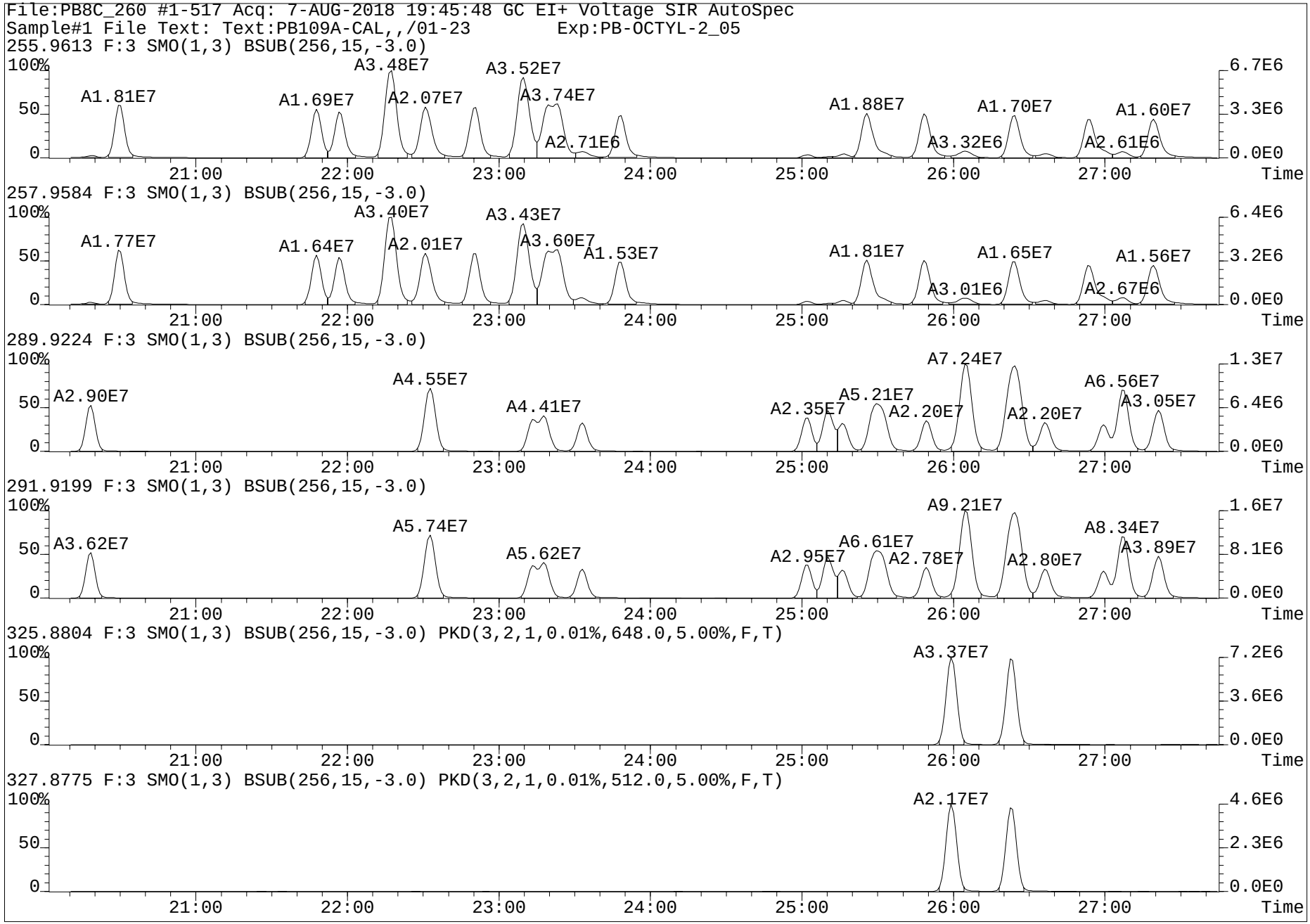

File:PB8C_260 #1-184 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
188.0393 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1408.0,5.00%,F,T)
A3.16E7
A3.02E7
190.0363 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,984.0,5.00%,F,T)
A1.02E7
A1.01E7
200.0795 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3412.0,5.00%,F,T)
A1.25E8
A1.12E8
202.0766 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,20152.0,5.00%,F,T)
A3.96E7
A3.55E7
218.9856
11:30
11:51
12:01
12:21
12:38
13:01
13:21
13:43
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
9.9E6
5.0E6
0.0E0
3.3E6
1.6E6
4.0E7
2.0E7
1.3E7
6.4E6
1.4E7
6.8E6

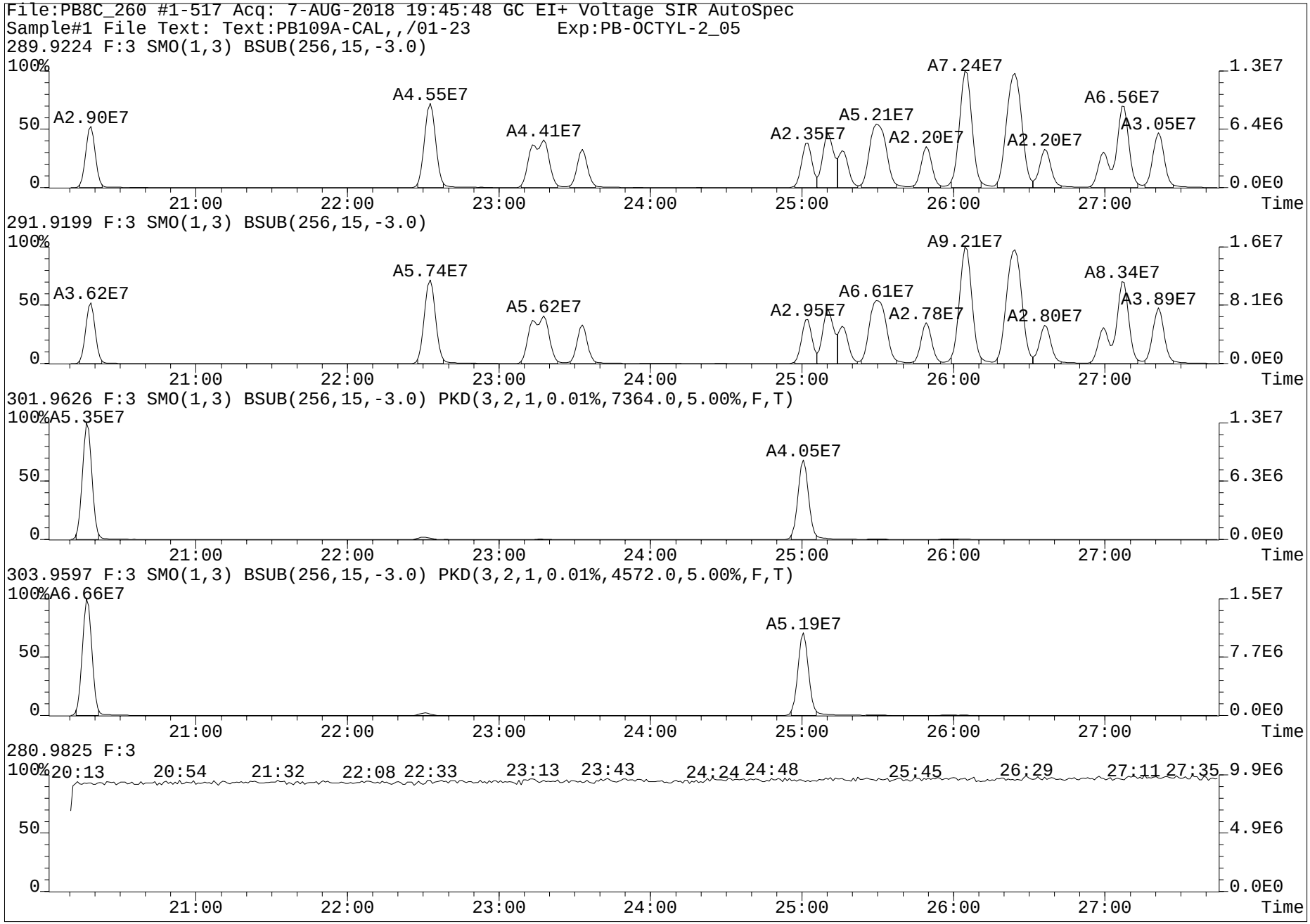

File:PB8C_260 #1-364 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6140.0,5.00%,F,T)
A1.46E7
A2.33E7
A2.33E7
A2.08E7
A2.62E7
A2.29E7
A2.17E7
A4.39E7
A2.34E7
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9508.0,5.00%,F,T)
A1.52E7
A1.52E7
A1.71E7
A1.47E7
A1.43E7
A2.89E7
A1.58E7
234.0406 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5988.0,5.00%,F,T)
A9.74E7
A9.69E7
A9.13E7
236.0376 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7300.0,5.00%,F,T)
A6.25E7
A6.21E7
A5.84E7
242.9856 F:2
14:19
15:02
15:25
15:58
16;47
17:45
18;16
18;40
19:24
19:51
100%
50
0
6.8E6
3.4E6
0.0E0
4.4E6
2.2E6
2.4E7
1.2E7
1.5E7
7.6E6
3.2E6
1.6E6
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time

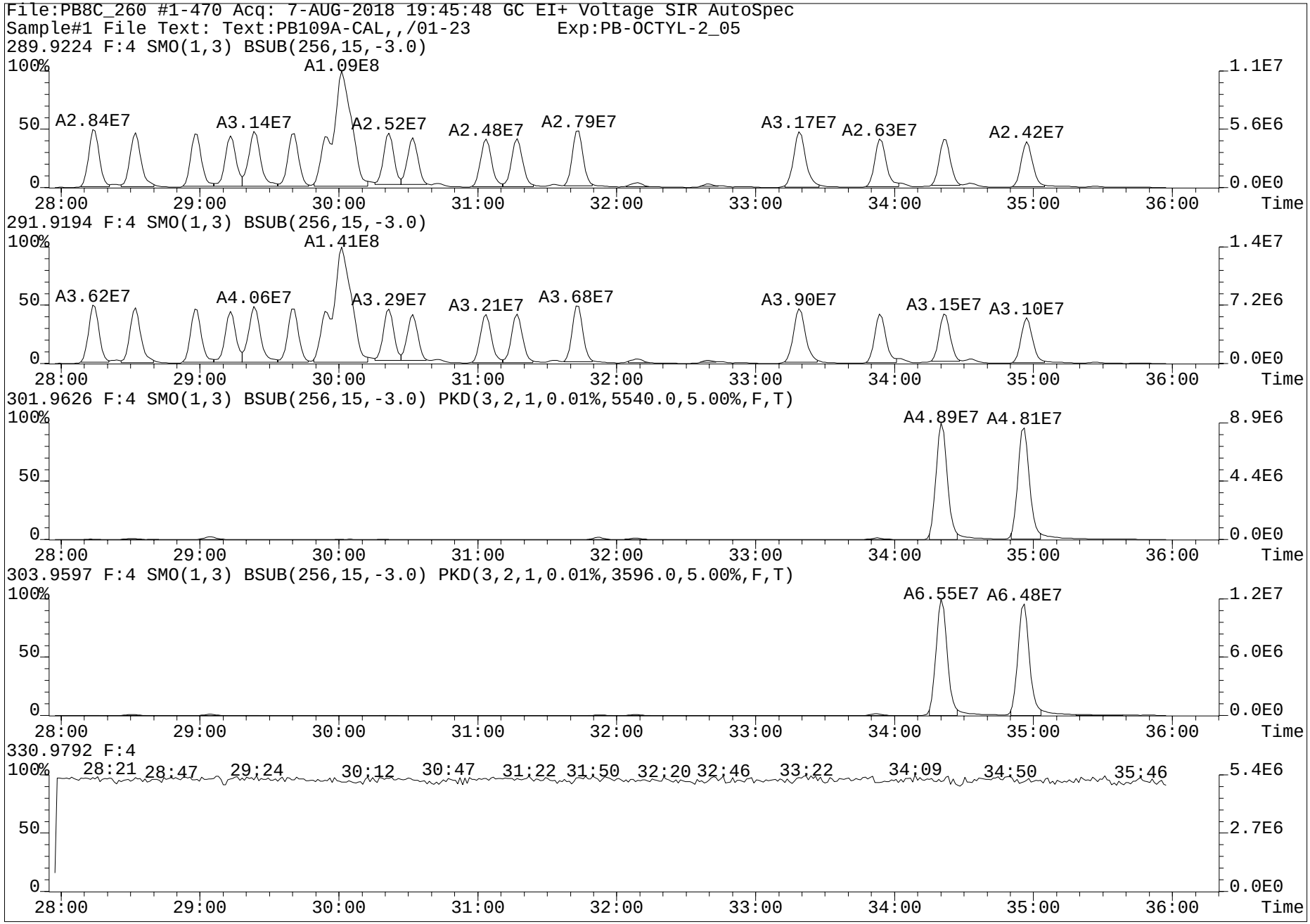

File:PB8C_260 #1-364 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6140.0,5.00%,F,T)
A1.46E7
A2.33E7
A2.33E7
A2.62E7
A2.08E7
A2.29E7
A2.17E7
A4.39E7
A2.34E7
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9508.0,5.00%,F,T)
A1.52E7
A1.52E7
A1.53E7
A1.71E7
A1.35E7
A1.47E7
A1.43E7
A2.89E7
A1.58E7
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,768.0,5.00%,F,T)
A1.31E7
A3.27E7
A1.99E7
A1.41E7
A1.24E7
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,592.0,5.00%,F,T)
A1.22E7
A3.11E7
A1.88E7
A1.72E7
A1.34E7
A1.20E7
Time

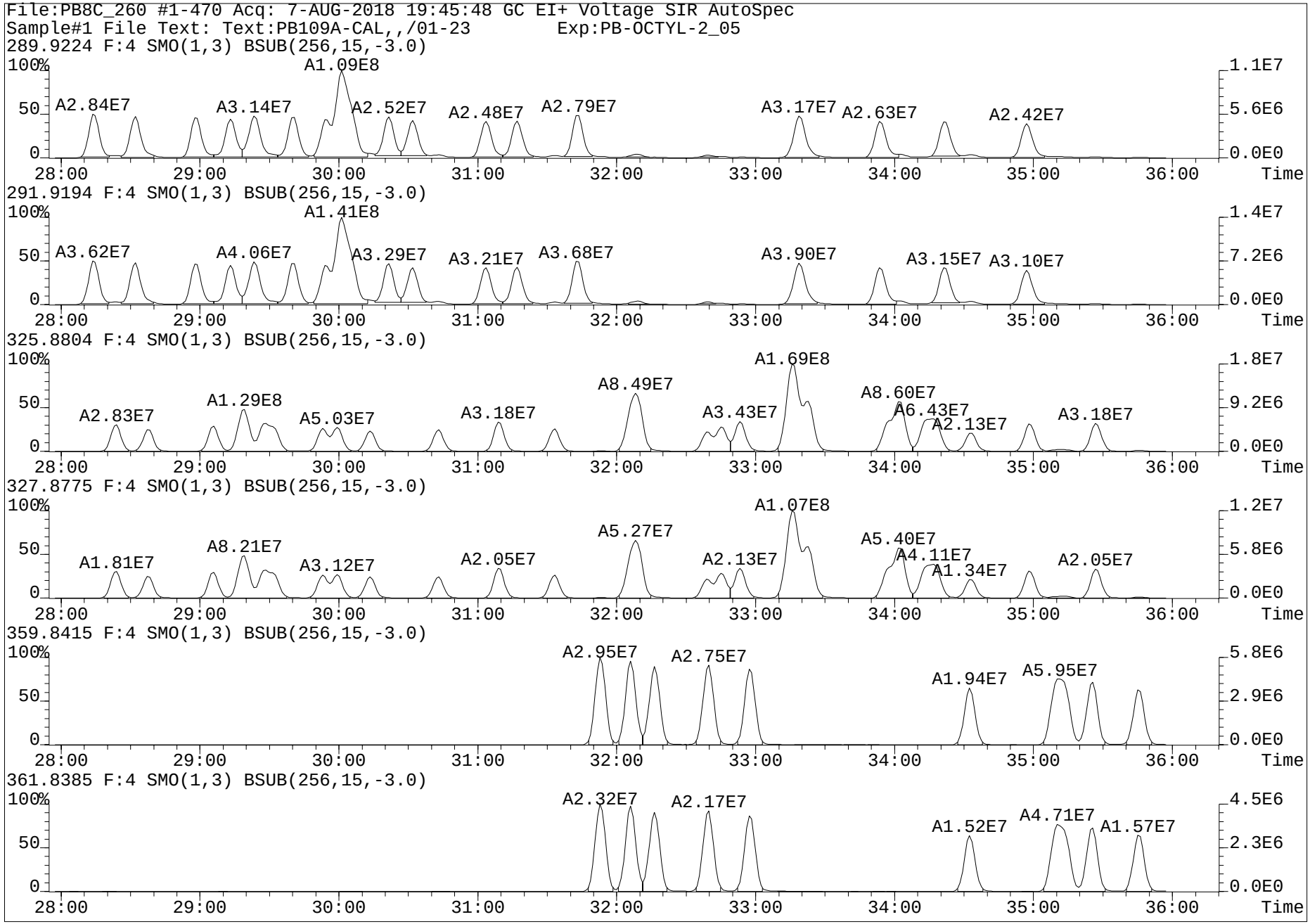

File:PB8C_260 #1-364 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,768.0,5.00%,F,T)
A1.31E7
A3.27E7
A1.41E7
A1.99E7
A1.24E7
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,592.0,5.00%,F,T)
A1.22E7
A3.11E7
A1.34E7
A1.88E7
A1.20E7
268.0016 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10576.0,5.00%,F,T)
A4.69E7
269.9986 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10204.0,5.00%,F,T)
A4.44E7
242.9856 F:2
17:45 17:59 18:16 18:40 19:05 19:24 19:38 19:51 20:06
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time

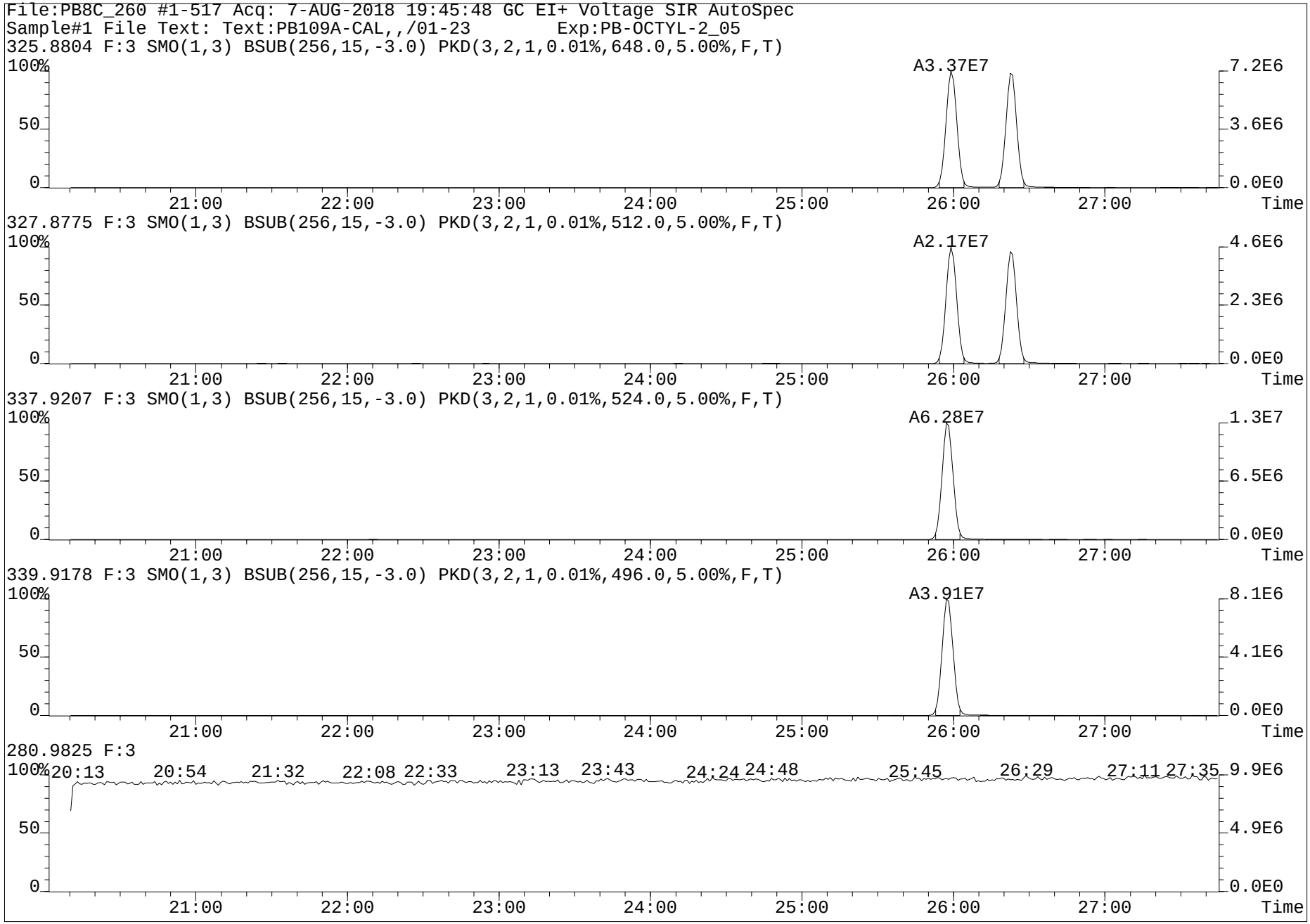

File:PB8C_260 #1-517 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.81E7
A1.69E7
A3.48E7
A2.07E7
A3.52E7
A3.74E7
A1.58E7
A1.88E7
A3.32E6
A1.70E7
A2.61E6
A1.60E7
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.77E7
A1.64E7
A3.40E7
A2.01E7
A3.43E7
A3.60E7
A1.53E7
A1.81E7
A3.01E6
A1.65E7
A2.67E6
A1.56E7
268.0016 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,21492.0,5.00%,F,T)
A1.17E8
A7.32E7
A6.57E7
269.9986 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15160.0,5.00%,F,T)
A1.12E8
A7.01E7
A6.34E7
280.9825 F:3
20:13
20:54
21:32
22:08
22:33
23:13
23:43
24:24
24:48
25:45
26:29
27:11
27:35
100%
50
0
6.7E6
3.3E6
6.4E6
3.2E6
2.5E7
1.2E7
2.4E7
9.9E6
4.9E6
0.0E0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

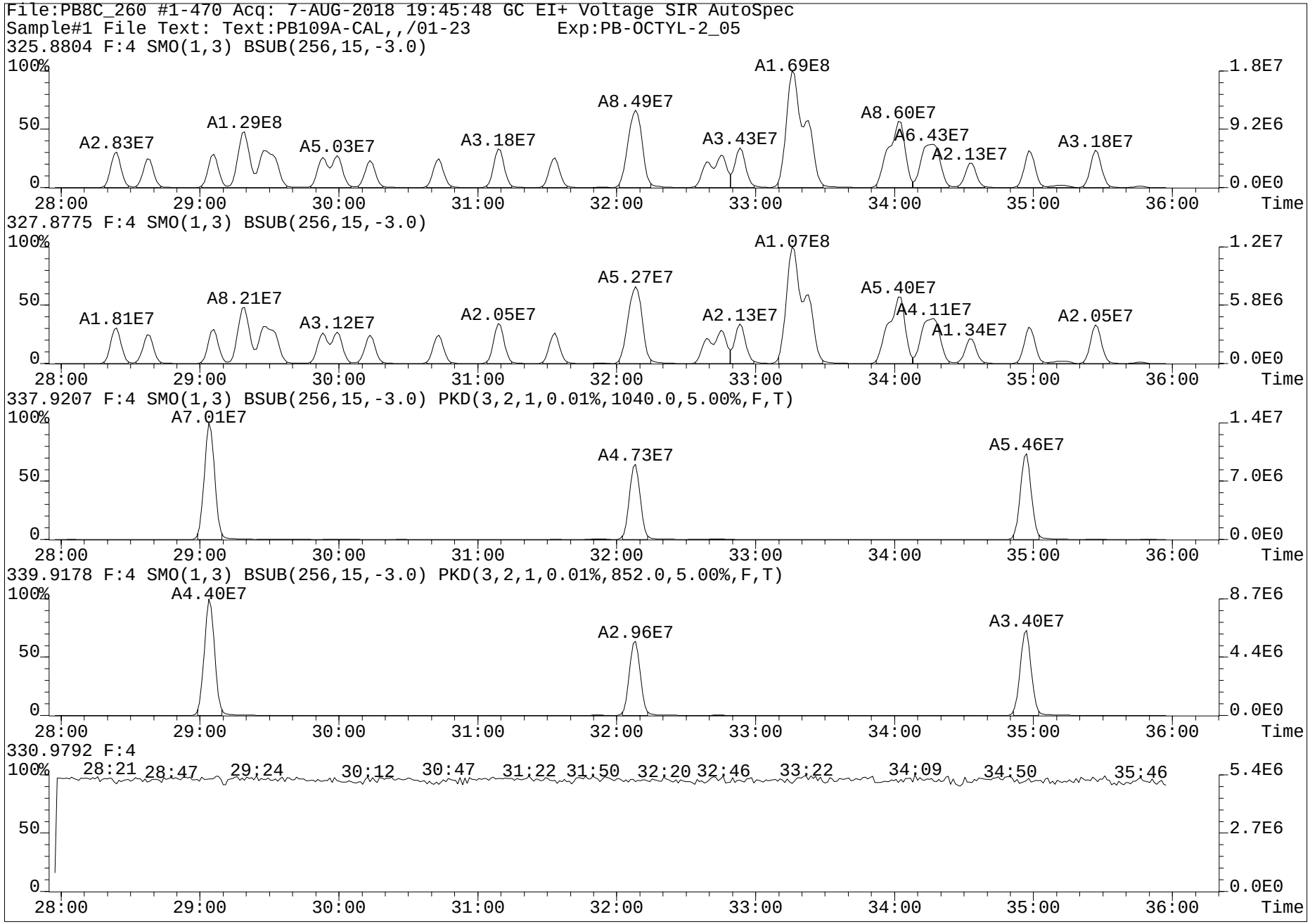

File:PB8C_260 #1-517 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.81E7
A1.69E7
A3.48E7
A2.07E7
A3.52E7
A3.74E7
A2.71E6
A1.88E7
A3.32E6
A1.70E7
A2.61E6
A1.60E7
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.77E7
A1.64E7
A3.40E7
A2.01E7
A3.43E7
A3.60E7
A1.53E7
A1.81E7
A3.01E6
A1.65E7
A2.67E6
A1.56E7
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.90E7
A4.55E7
A4.41E7
A2.35E7
A5.21E7
A2.20E7
A7.24E7
A2.20E7
A6.56E7
A3.05E7
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.62E7
A5.74E7
A5.62E7
A2.95E7
A6.61E7
A2.78E7
A9.21E7
A2.80E7
A8.34E7
A3.89E7
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,648.0,5.00%,F,T)
A3.37E7
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,512.0,5.00%,F,T)
A2.17E7
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
6.7E6
3.3E6
0.0E0
6.4E6
3.2E6
1.3E7
6.4E6
1.6E7
8.1E6
7.2E6
3.6E6
4.6E6
2.3E6

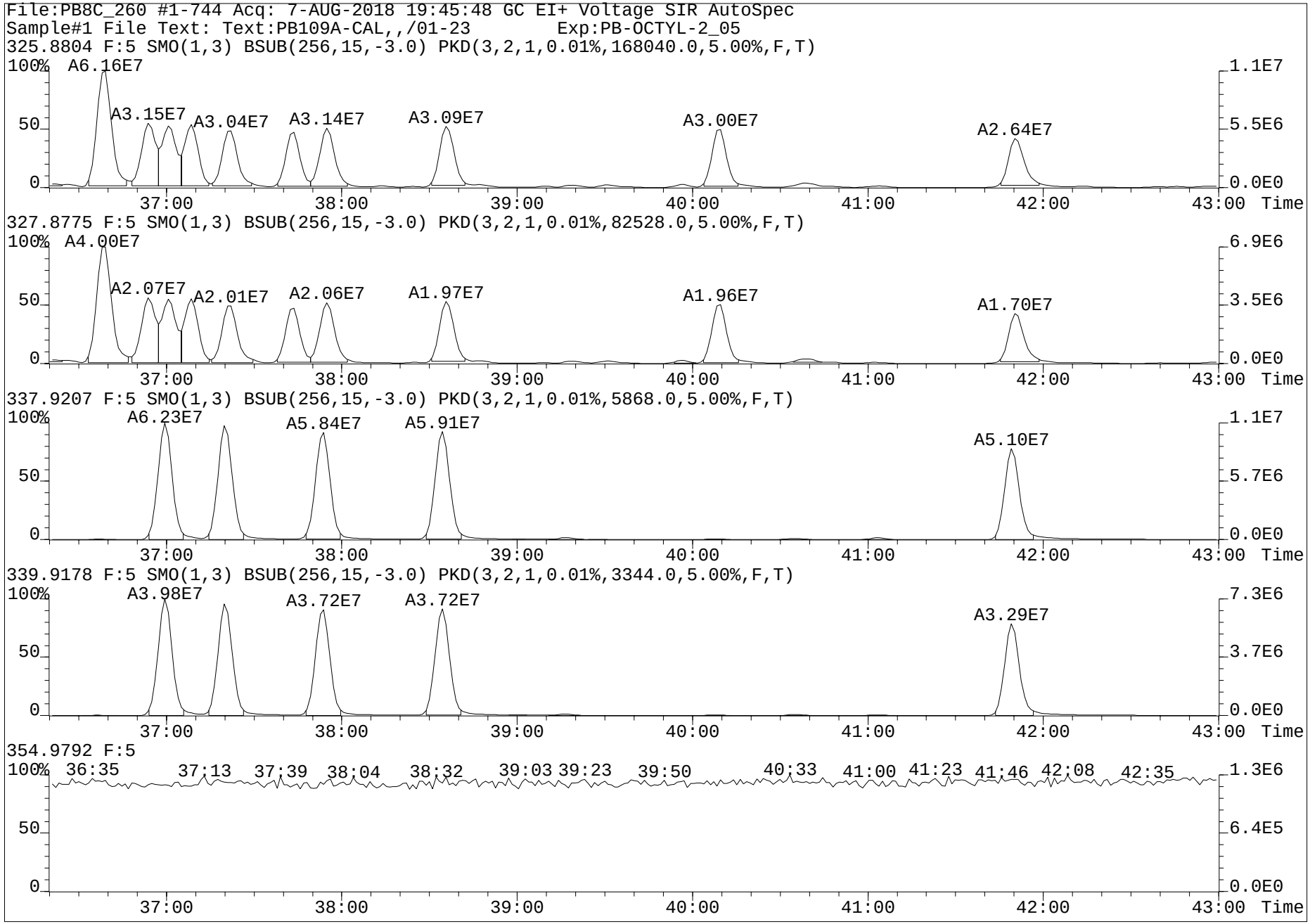

File:PB8C_260 #1-517 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.90E7
A4.55E7
A4.41E7
A2.35E7
A5.21E7
A2.20E7
A7.24E7
A2.20E7
A6.56E7
A3.05E7
1.3E7
6.4E6
0.0E0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.62E7
A5.74E7
A5.62E7
A2.95E7
A6.61E7
A2.78E7
A9.21E7
A2.80E7
A8.34E7
A3.89E7
1.6E7
8.1E6
0.0E0
301.9626 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7364.0,5.00%,F,T)
A5.35E7
A4.05E7
1.3E7
6.3E6
0.0E0
303.9597 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4572.0,5.00%,F,T)
A6.66E7
A5.19E7
1.5E7
7.7E6
0.0E0
280.9825 F:3
20:13
20:54
21:32
22:08
22:33
23:13
23:43
24:24
24:48
25:45
26:29
27:11
27:35
9.9E6
4.9E6
0.0E0

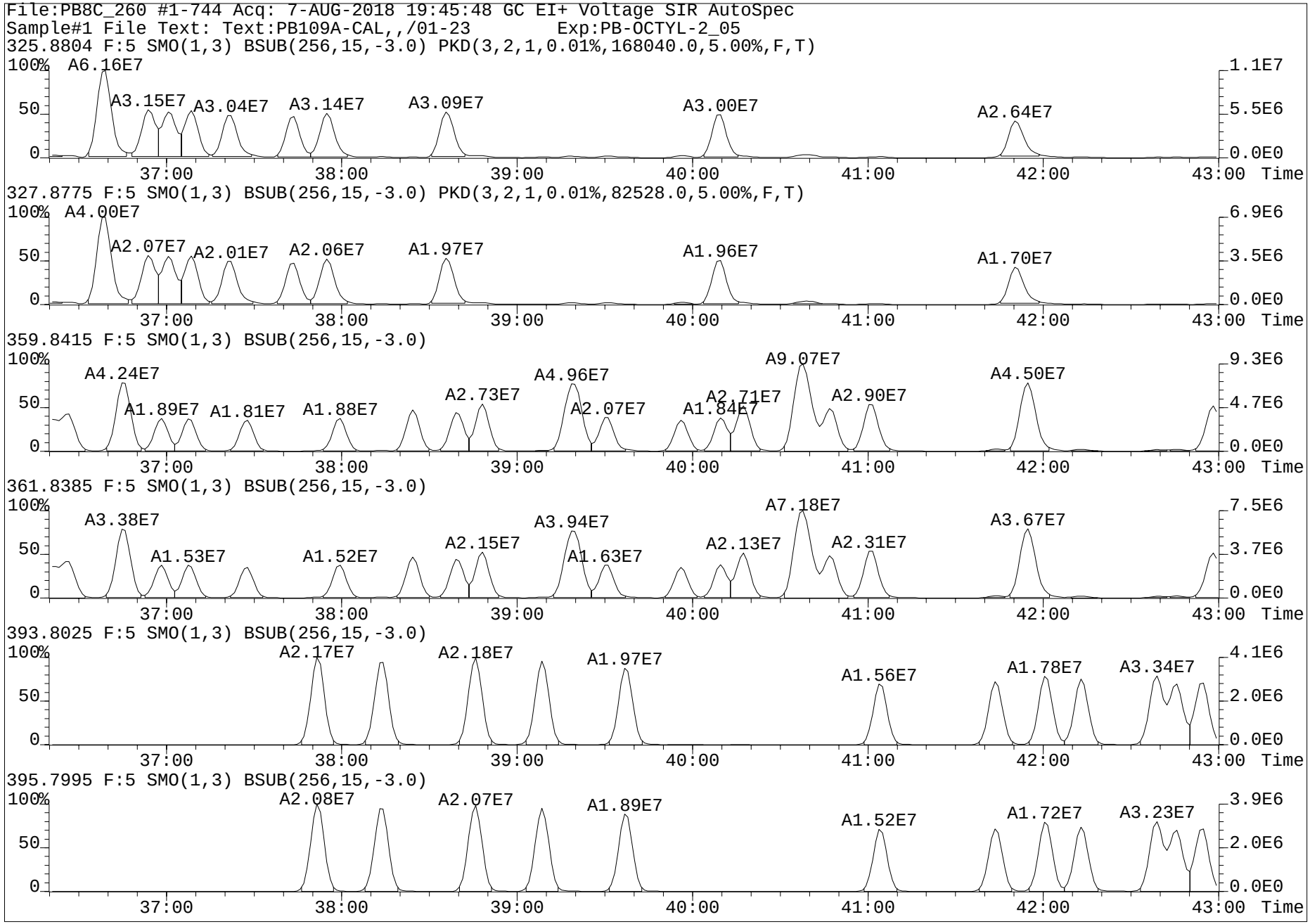

File:PB8C_260 #1-470 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.09E8
A2.84E7
A3.14E7
A2.52E7
A2.48E7
A2.79E7
A3.17E7
A2.63E7
A2.42E7
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.41E8
A3.62E7
A4.06E7
A3.29E7
A3.21E7
A3.68E7
A3.90E7
A3.15E7
A3.10E7
301.9626 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5540.0,5.00%,F,T)
A4.89E7
A4.81E7
303.9597 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3596.0,5.00%,F,T)
A6.55E7
A6.48E7
330.9792 F:4
28:21
28:47
29:24
30:12
30:47
31:22
31:50
32:20
32:46
33:22
34:09
34:50
35:46
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
1.1E7
5.6E6
0.0E0
1.4E7
7.2E6
8.9E6
4.4E6
1.2E7
6.0E6
5.4E6
2.7E6

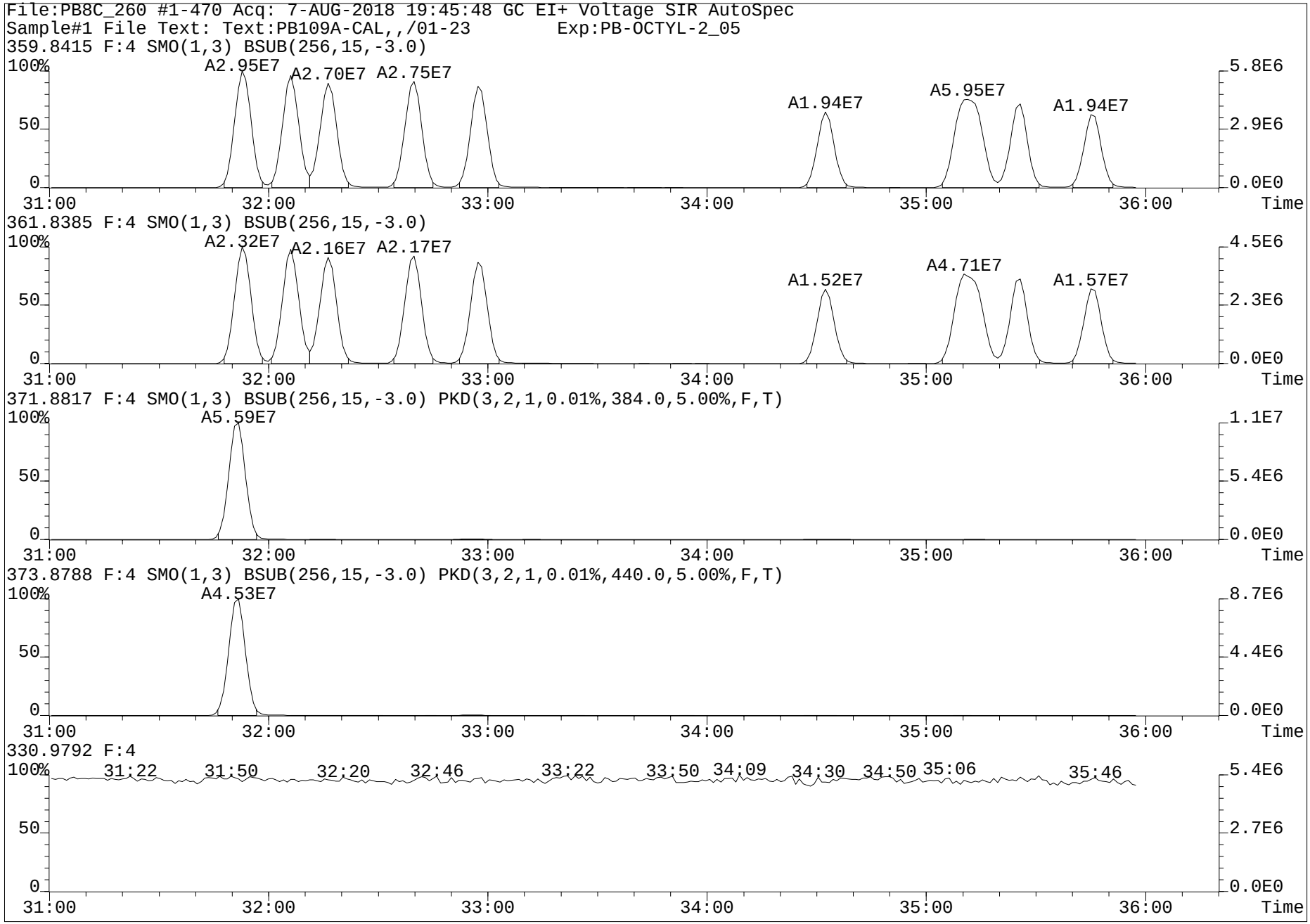

File:PB8C_260 #1-470 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.09E8
A2.84E7
A3.14E7
A2.52E7
A2.48E7
A2.79E7
A3.17E7
A2.63E7
A2.42E7
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.41E8
A3.62E7
A4.06E7
A3.29E7
A3.21E7
A3.68E7
A3.90E7
A3.15E7
A3.10E7
325.8804 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.69E8
A8.49E7
A1.29E8
A2.83E7
A5.03E7
A3.18E7
A3.43E7
A8.60E7
A6.43E7
A2.13E7
A3.18E7
327.8775 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.07E8
A5.27E7
A8.21E7
A1.81E7
A3.12E7
A2.05E7
A2.13E7
A5.40E7
A4.11E7
A1.34E7
A2.05E7
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.95E7
A2.75E7
A1.94E7
A5.95E7
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.32E7
A2.17E7
A1.52E7
A4.71E7
A1.57E7
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
1.1E7
5.6E6
0.0E0
1.4E7
7.2E6
0.0E0
1.8E7
9.2E6
0.0E0
1.2E7
5.8E6
0.0E0
5.8E6
2.9E6
0.0E0
4.5E6
2.3E6
0.0E0

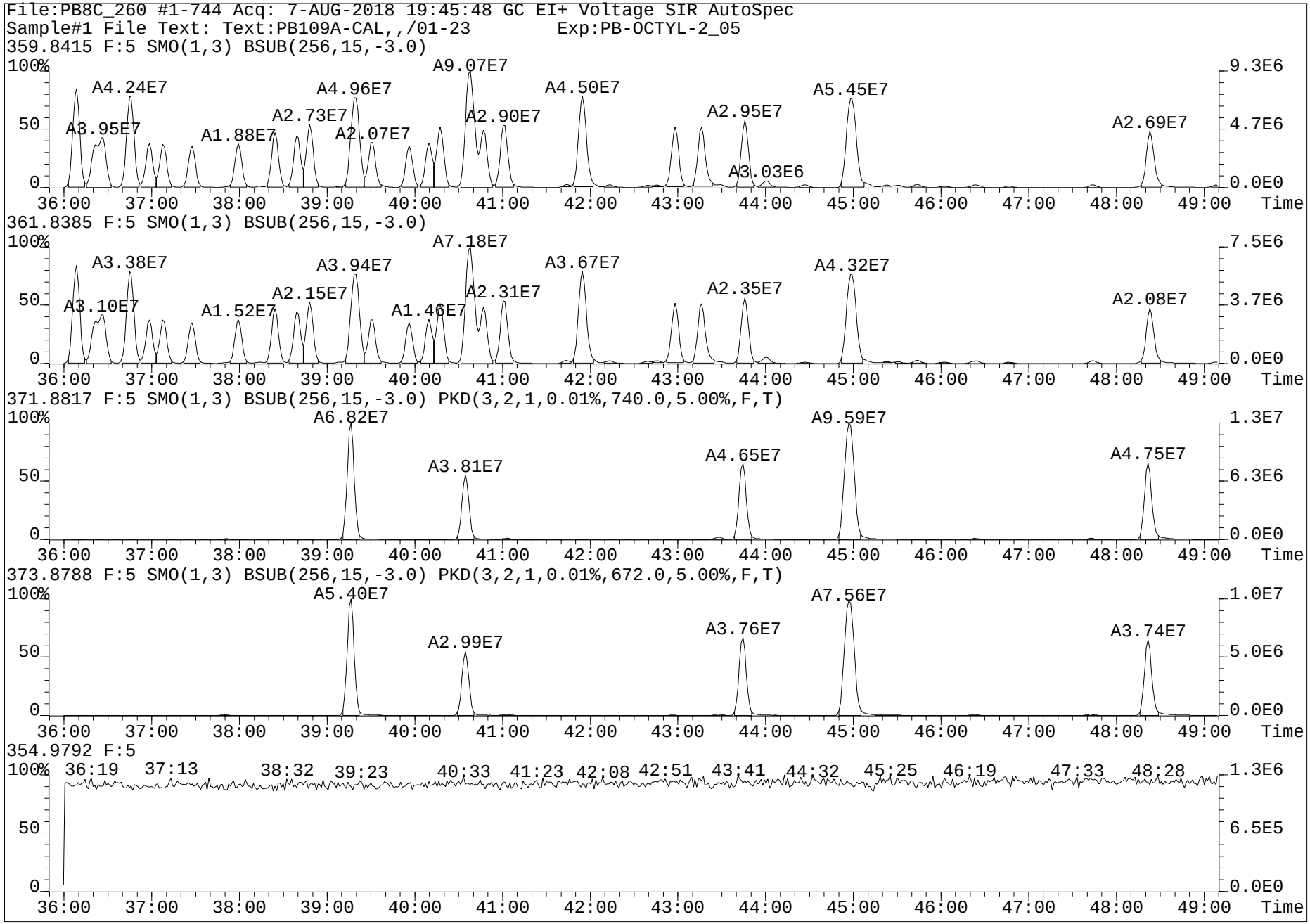

File:PB8C_260 #1-517 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,648.0,5.00%,F,T)
A3.37E7
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,512.0,5.00%,F,T)
A2.17E7
337.9207 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A6.28E7
339.9178 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A3.91E7
280.9825 F:3
20:13 20:54 21:32 22:08 22:33 23:13 23:43 24:24 24:48 25:45 26:29 27:11 27:35
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time
7.2E6
3.6E6
0.0E0
4.6E6
2.3E6
1.3E7
6.5E6
8.1E6
4.1E6
9.9E6
4.9E6

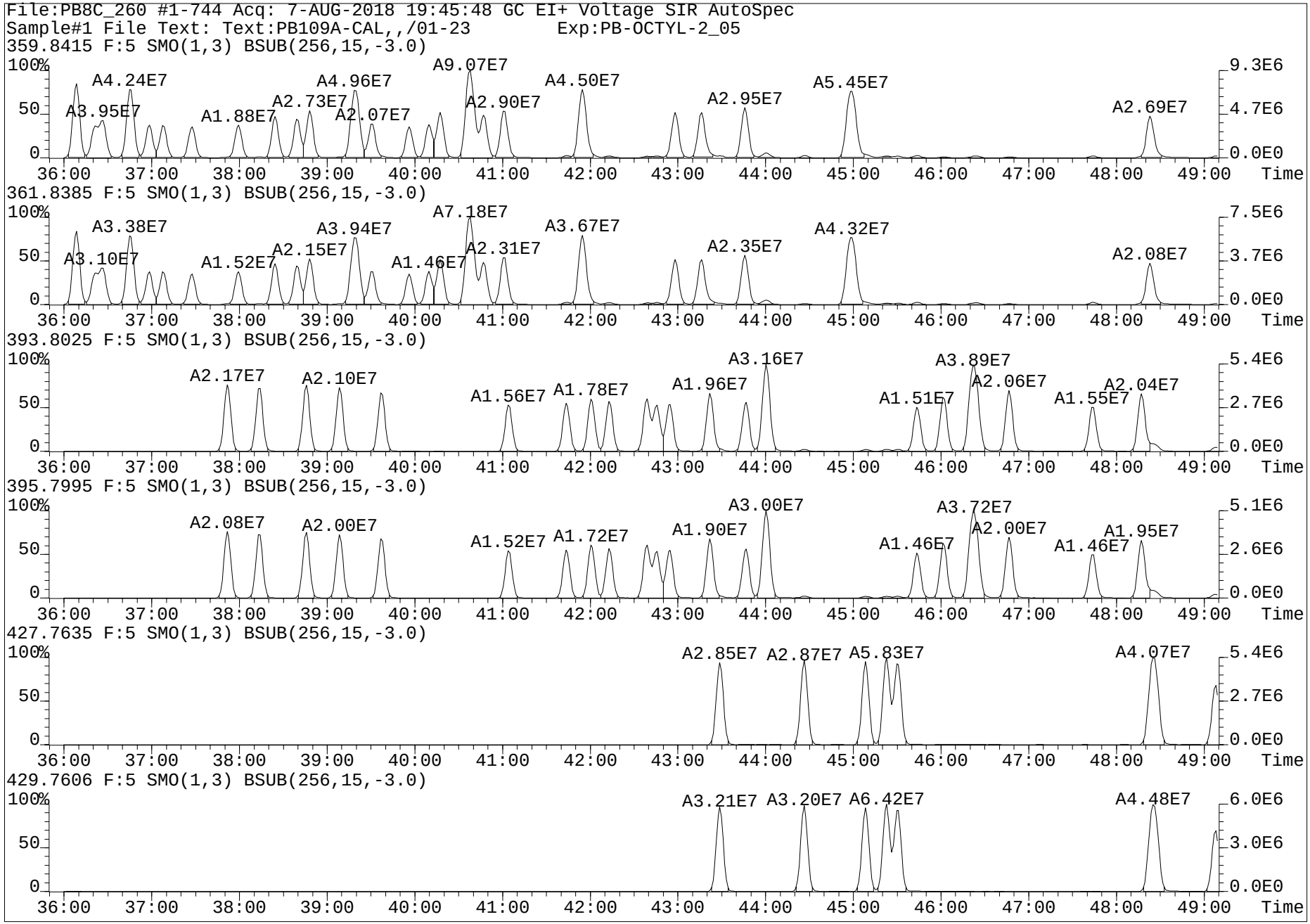

File:PB8C_260 #1-470 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.83E7
A1.29E8
A5.03E7
A3.18E7
A8.49E7
A3.43E7
A1.69E8
A8.60E7
A6.43E7
A2.13E7
A3.18E7
327.8775 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.81E7
A8.21E7
A3.12E7
A2.05E7
A5.27E7
A2.13E7
A1.07E8
A5.40E7
A4.11E7
A1.34E7
A2.05E7
337.9207 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1040.0,5.00%,F,T)
A7.01E7
A4.73E7
A5.46E7
339.9178 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,852.0,5.00%,F,T)
A4.40E7
A2.96E7
A3.40E7
330.9792 F:4
28:21 28:47 29:24 30:12 30:47 31:22 31:50 32:20 32:46 33:22 34:09 34:50 35:46
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
1.8E7 9.2E6 0.0E0
1.2E7 5.8E6 0.0E0
1.4E7 7.0E6 0.0E0
8.7E6 4.4E6 0.0E0
5.4E6 2.7E6 0.0E0

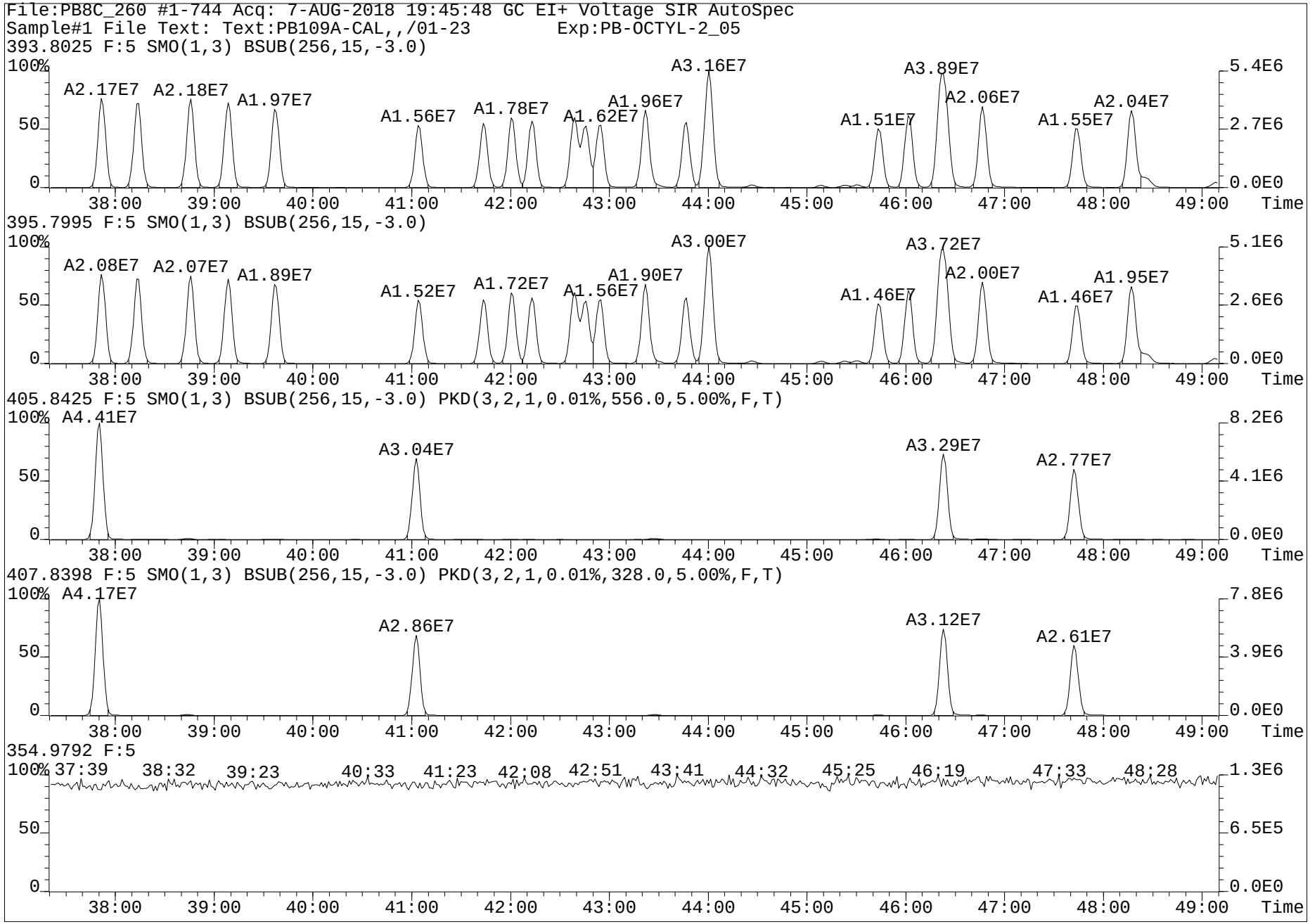

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,168040.0,5.00%,F,T)
100% A6.16E7
A3.15E7
A3.04E7
A3.14E7
A3.09E7
A3.00E7
A2.64E7
1.1E7
5.5E6
0.0E0
37:00
38:00
39:00
40:00
41:00
42:00
43:00 Time
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,82528.0,5.00%,F,T)
100% A4.00E7
A2.07E7
A2.01E7
A2.06E7
A1.97E7
A1.96E7
A1.70E7
6.9E6
3.5E6
0.0E0
337.9207 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5868.0,5.00%,F,T)
100% A6.23E7
A5.84E7
A5.91E7
A5.10E7
1.1E7
5.7E6
0.0E0
339.9178 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3344.0,5.00%,F,T)
100% A3.98E7
A3.72E7
A3.72E7
A3.29E7
7.3E6
3.7E6
0.0E0
354.9792 F:5
100% 36:35
37:13
37:39
38:04
38:32
39:03
39:23
39:50
40:33
41:00
41:23
41:46
42:08
42:35
1.3E6
6.4E5
0.0E0

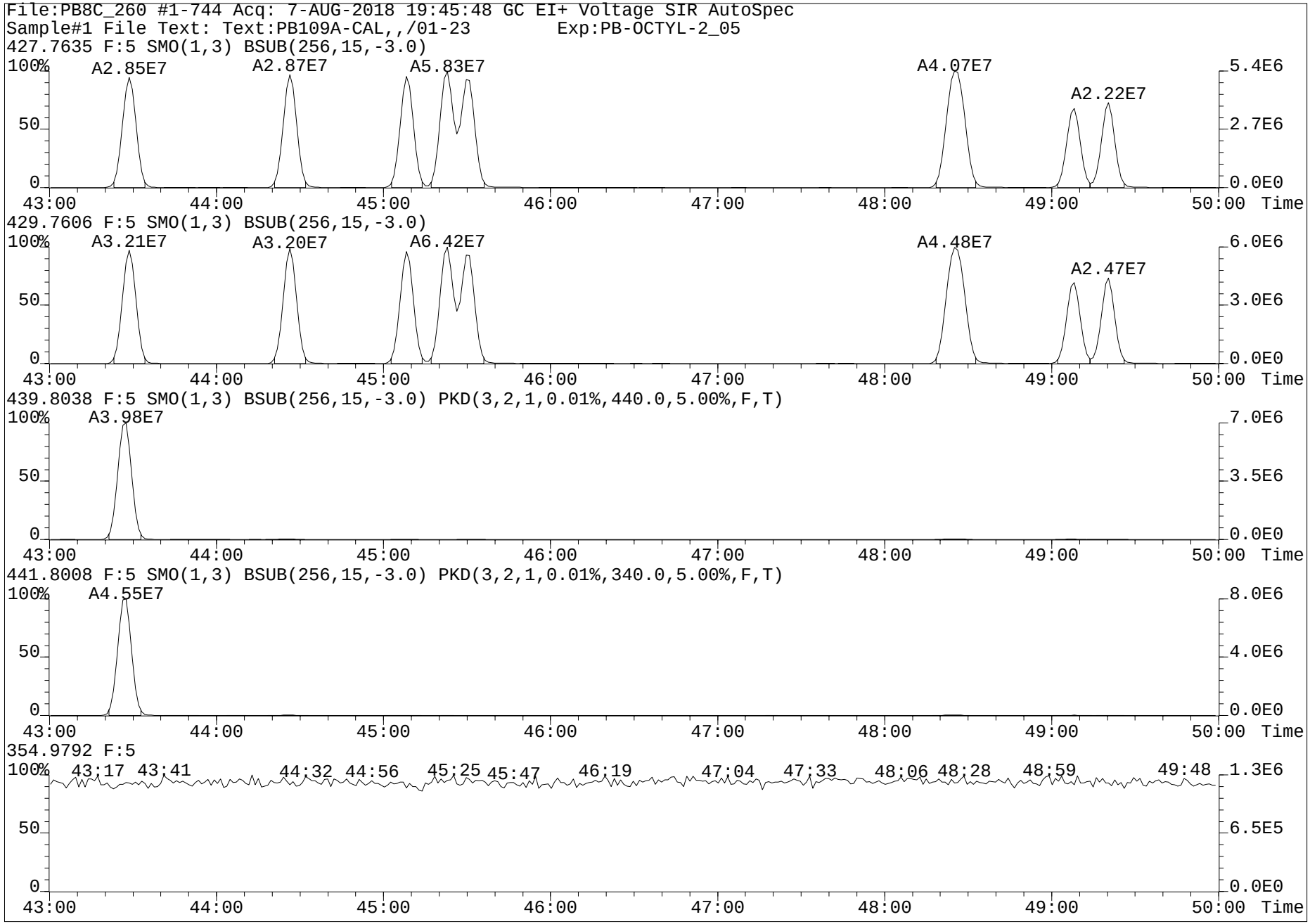

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,168040.0,5.00%,F,T)
A6.16E7
A3.15E7
A3.04E7
A3.14E7
A3.09E7
A3.00E7
A2.64E7
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,82528.0,5.00%,F,T)
A4.00E7
A2.07E7
A2.01E7
A2.06E7
A1.97E7
A1.96E7
A1.70E7
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.24E7
A1.89E7
A1.81E7
A1.88E7
A2.73E7
A4.96E7
A2.07E7
A1.84E7
A2.71E7
A9.07E7
A2.90E7
A4.50E7
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.38E7
A1.53E7
A1.52E7
A2.15E7
A3.94E7
A1.63E7
A2.13E7
A7.18E7
A2.31E7
A3.67E7
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.17E7
A2.18E7
A1.97E7
A1.56E7
A1.78E7
A3.34E7
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.08E7
A2.07E7
A1.89E7
A1.52E7
A1.72E7
A3.23E7
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
1.1E7
5.5E6
0.0E0
6.9E6
3.5E6
9.3E6
4.7E6
7.5E6
3.7E6
4.1E6
2.0E6
3.9E6

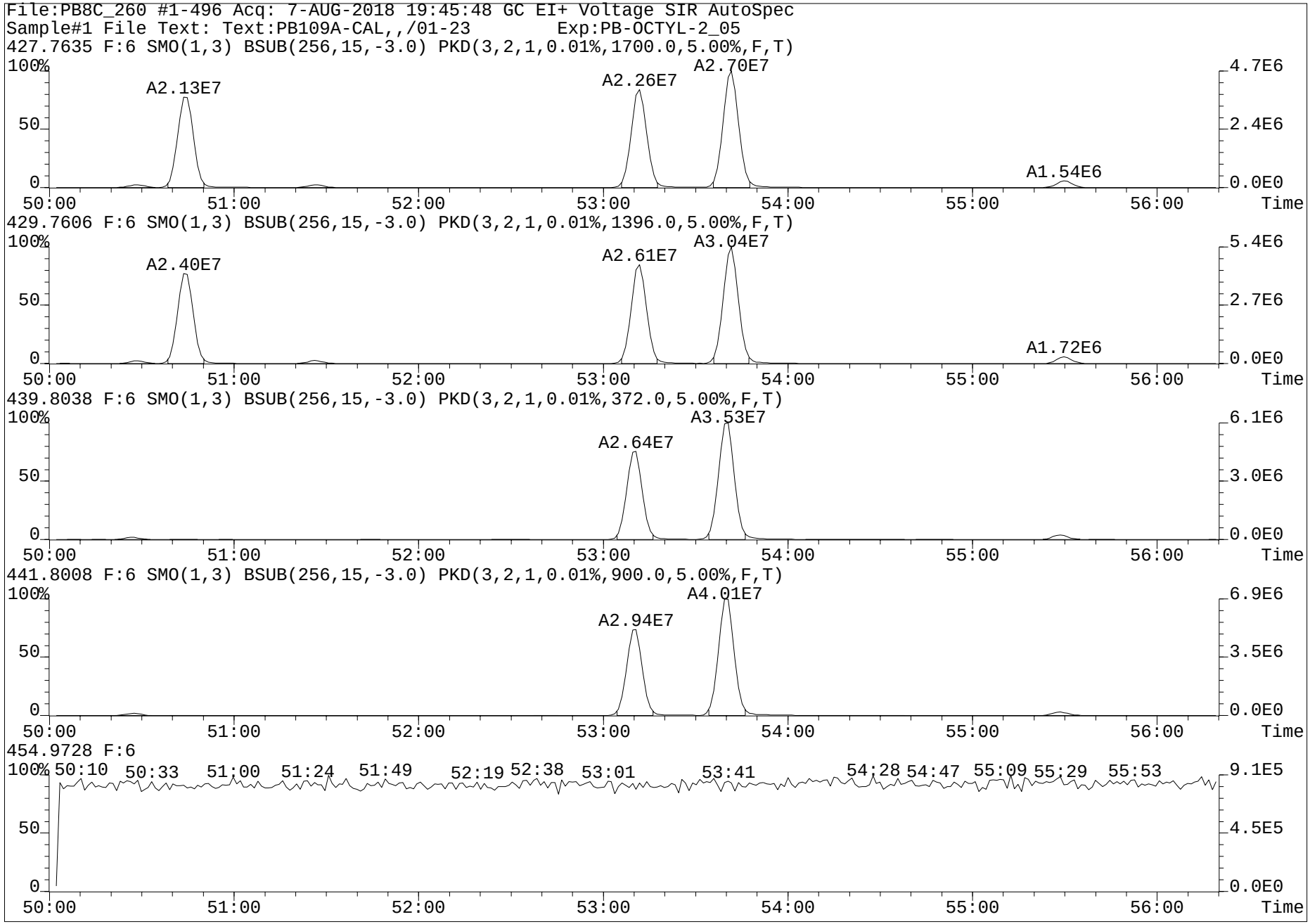

File:PB8C_260 #1-470 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.95E7
A2.70E7
A2.75E7
A1.94E7
A5.95E7
A1.94E7
5.8E6
2.9E6
0.0E0
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.32E7
A2.16E7
A2.17E7
A1.52E7
A4.71E7
A1.57E7
4.5E6
2.3E6
0.0E0
371.8817 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,384.0,5.00%,F,T)
A5.59E7
1.1E7
5.4E6
0.0E0
373.8788 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A4.53E7
8.7E6
4.4E6
0.0E0
330.9792 F:4
31:22
31:50
32:20
32:46
33:22
33:50
34:09
34:30
34:50
35:06
35:46
5.4E6
2.7E6
0.0E0
100%
50
0
31:00
32:00
33:00
34:00
35:00
36:00
Time

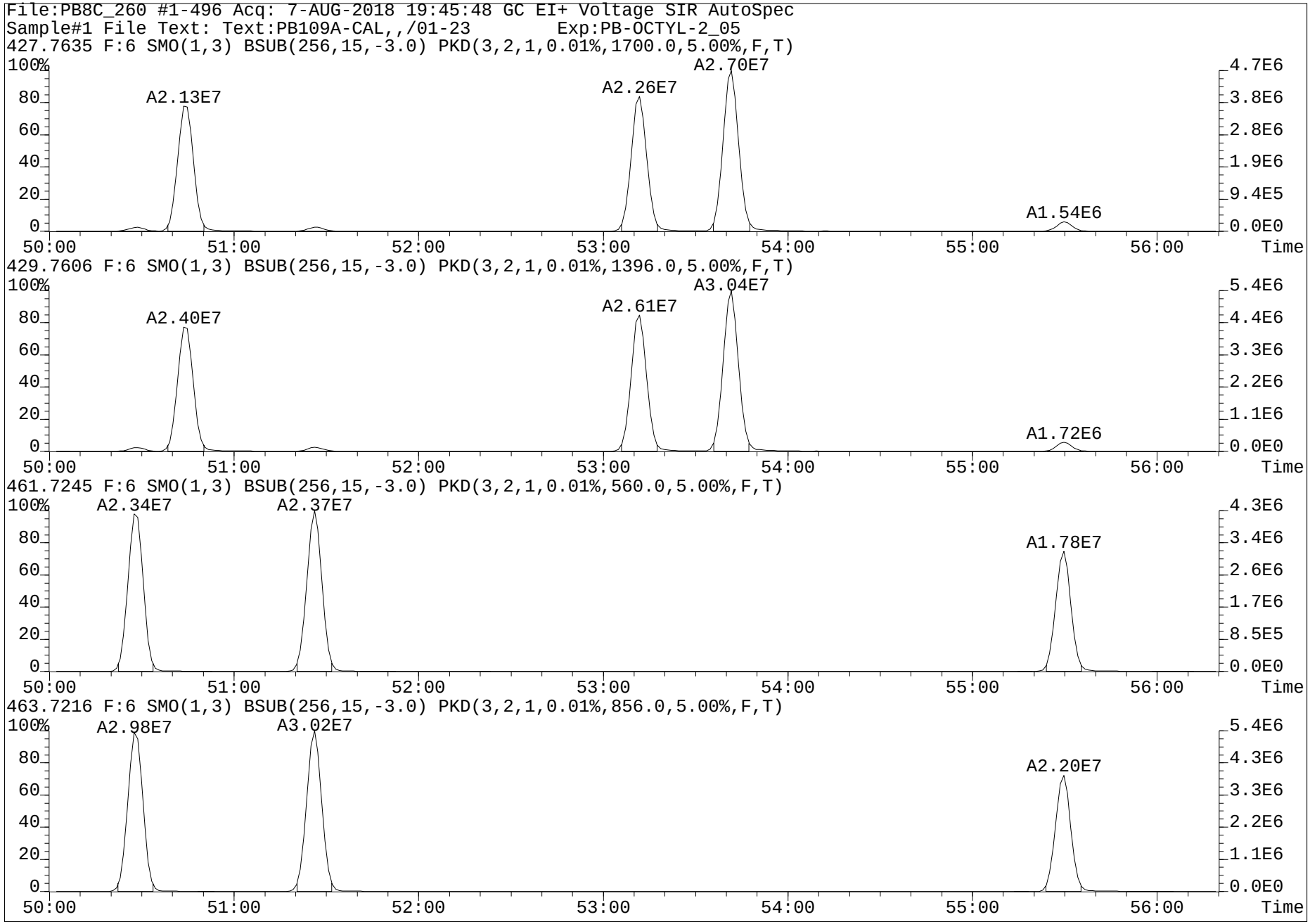

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.24E7
A3.95E7
A1.88E7
A2.73E7
A4.96E7
A2.07E7
A9.07E7
A2.90E7
A4.50E7
A2.95E7
A3.03E6
A5.45E7
A2.69E7
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.38E7
A3.10E7
A1.52E7
A2.15E7
A3.94E7
A1.46E7
A7.18E7
A2.31E7
A3.67E7
A2.35E7
A4.32E7
A2.08E7
371.8817 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,740.0,5.00%,F,T)
A6.82E7
A3.81E7
A4.65E7
A9.59E7
A4.75E7
373.8788 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,672.0,5.00%,F,T)
A5.40E7
A2.99E7
A3.76E7
A7.56E7
A3.74E7
354.9792 F:5
36:19 37:13 38:32 39:23 40:33 41:23 42:08 42:51 43:41 44:32 45:25 46:19 47:33 48:28
100%
50
0
9.3E6
4.7E6
0.0E0
7.5E6
3.7E6
1.3E7
6.3E6
1.0E7
5.0E6
1.3E6
6.5E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

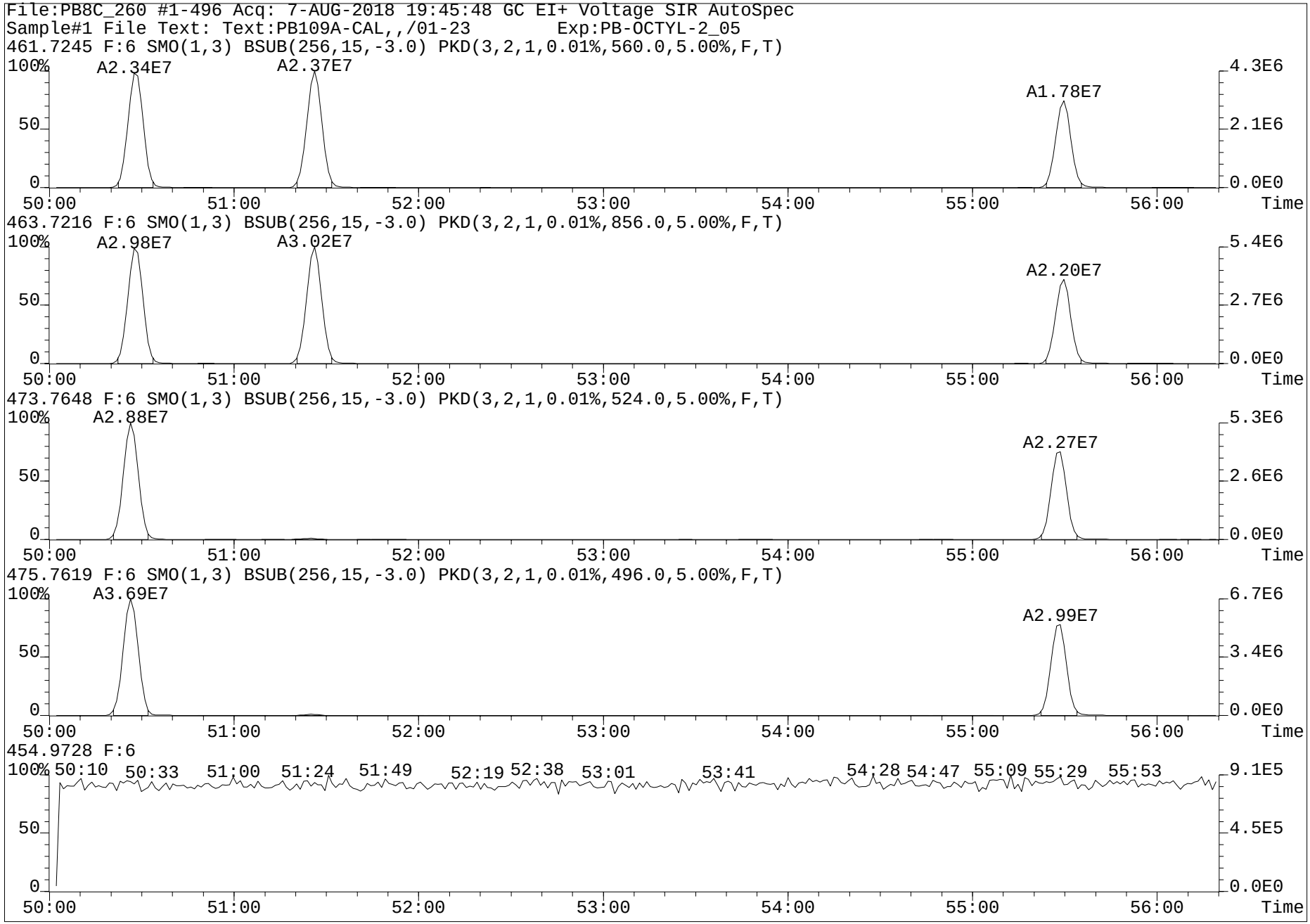

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.24E7
A3.95E7
A1.88E7
A2.73E7
A4.96E7
A2.07E7
A9.07E7
A2.90E7
A4.50E7
A2.95E7
A5.45E7
A2.69E7
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.38E7
A3.10E7
A1.52E7
A2.15E7
A3.94E7
A1.46E7
A7.18E7
A2.31E7
A3.67E7
A2.35E7
A4.32E7
A2.08E7
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.17E7
A2.10E7
A1.56E7
A1.78E7
A1.96E7
A3.16E7
A1.51E7
A3.89E7
A2.06E7
A1.55E7
A2.04E7
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.08E7
A2.00E7
A1.52E7
A1.72E7
A1.90E7
A3.00E7
A1.46E7
A3.72E7
A2.00E7
A1.46E7
A1.95E7
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.85E7
A2.87E7
A5.83E7
A4.07E7
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.21E7
A3.20E7
A6.42E7
A4.48E7
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
9.3E6
4.7E6
0.0E0
7.5E6
3.7E6
5.4E6
2.7E6
5.1E6
2.6E6
6.0E6
3.0E6

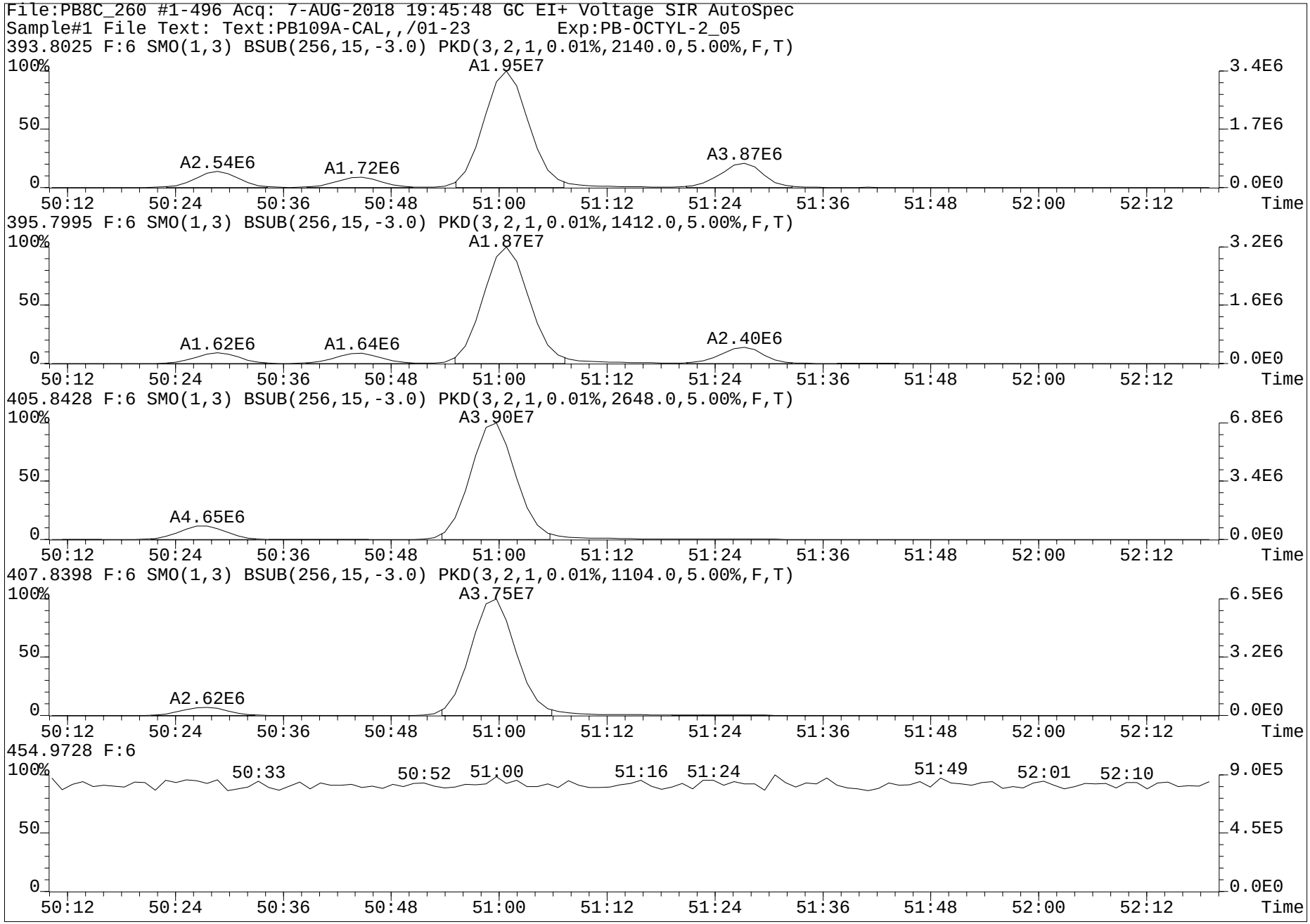

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.17E7 A2.18E7 A1.97E7 A1.56E7 A1.78E7 A1.62E7 A1.96E7 A3.16E7 A1.51E7 A3.89E7 A2.06E7 A1.55E7 A2.04E7
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.08E7 A2.07E7 A1.89E7 A1.52E7 A1.72E7 A1.56E7 A1.90E7 A3.00E7 A1.46E7 A3.72E7 A2.00E7 A1.46E7 A1.95E7
405.8425 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,556.0,5.00%,F,T)
A4.41E7 A3.04E7 A3.29E7 A2.77E7
407.8398 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A4.17E7 A2.86E7 A3.12E7 A2.61E7
354.9792 F:5
37:39 38:32 39:23 40:33 41:23 42:08 42:51 43:41 44:32 45:25 46:19 47:33 48:28
100%
50
0
5.4E6
2.7E6
0.0E0
5.1E6
2.6E6
8.2E6
4.1E6
7.8E6
3.9E6
1.3E6
6.5E5
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

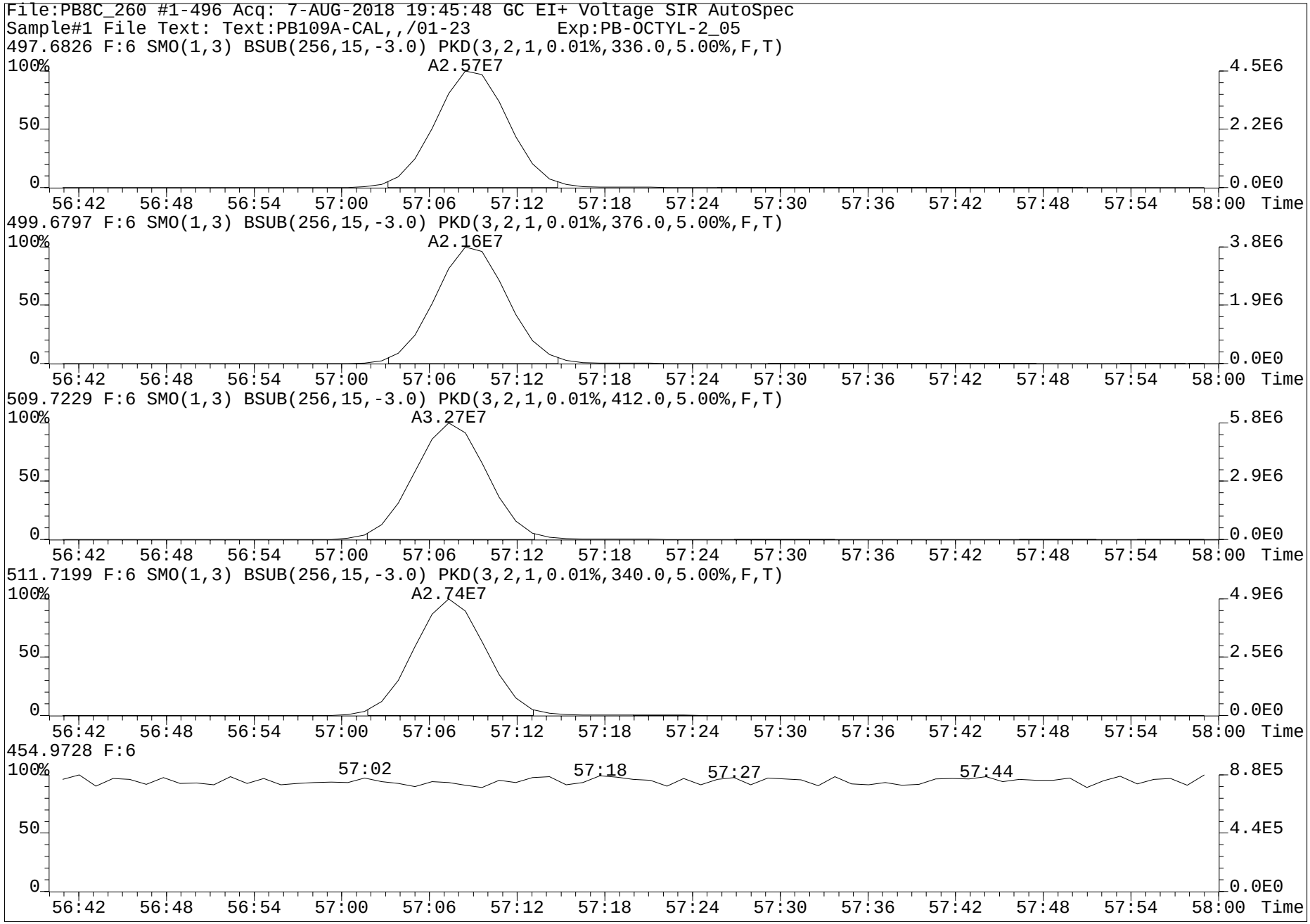

File:PB8C_260 #1-744 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.85E7
A2.87E7
A5.83E7
A4.07E7
A2.22E7
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.21E7
A3.20E7
A6.42E7
A4.48E7
A2.47E7
439.8038 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A3.98E7
441.8008 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A4.55E7
354.9792 F:5
43:17 43:41 44:32 44:56 45:25 45:47 46:19 47:04 47:33 48:06 48:28 48:59 49:48
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
5.4E6
2.7E6
0.0E0
6.0E6
3.0E6
7.0E6
3.5E6
8.0E6
4.0E6
1.3E6
6.5E5


File:PB8C_260 #1-496 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1700.0,5.00%,F,T)
A2.13E7
A2.26E7
A2.70E7
A1.54E6
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1396.0,5.00%,F,T)
A2.40E7
A2.61E7
A3.04E7
A1.72E6
439.8038 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A2.64E7
A3.53E7
441.8008 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,900.0,5.00%,F,T)
A2.94E7
A4.01E7
454.9728 F:6
50:10 50:33 51:00 51:24 51:49 52:19 52:38 53:01 53:41 54:28 54:47 55:09 55:29 55:53
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.7E6 2.4E6 0.0E0
5.4E6 2.7E6 0.0E0
6.1E6 3.0E6 0.0E0
6.9E6 3.5E6 0.0E0
9.1E5 4.5E5 0.0E0


File:PB8C_260 #1-496 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1700.0,5.00%,F,T)
A2.13E7
A2.26E7
A2.70E7
A1.54E6
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1396.0,5.00%,F,T)
A2.40E7
A2.61E7
A3.04E7
A1.72E6
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A2.34E7
A2.37E7
A1.78E7
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,856.0,5.00%,F,T)
A2.98E7
A3.02E7
A2.20E7
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
4.7E6
3.8E6
2.8E6
1.9E6
9.4E5
0.0E0
5.4E6
4.4E6
3.3E6
2.2E6
1.1E6
0.0E0
4.3E6
3.4E6
2.6E6
1.7E6
8.5E5
0.0E0
5.4E6
4.3E6
3.3E6
2.2E6
1.1E6
0.0E0


File:PB8C_260 #1-496 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A2.34E7
A2.37E7
A1.78E7
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,856.0,5.00%,F,T)
A2.98E7
A3.02E7
A2.20E7
473.7648 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,524.0,5.00%,F,T)
A2.88E7
A2.27E7
475.7619 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A3.69E7
A2.99E7
454.9728 F:6
50:10 50:33 51:00 51:24 51:49 52:19 52:38 53:01 53:41 54:28 54:47 55:09 55:29 55:53
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.3E6 2.1E6 0.0E0
5.4E6 2.7E6 0.0E0
5.3E6 2.6E6 0.0E0
6.7E6 3.4E6 0.0E0
9.1E5 4.5E5 0.0E0


File:PB8C_260 #1-496 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2140.0,5.00%,F,T)
A1.95E7
A2.54E6
A1.72E6
A3.87E6
395.7995 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1412.0,5.00%,F,T)
A1.87E7
A1.62E6
A1.64E6
A2.40E6
405.8428 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2648.0,5.00%,F,T)
A3.90E7
A4.65E6
407.8398 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1104.0,5.00%,F,T)
A3.75E7
A2.62E6
454.9728 F:6
50:33
50:52
51:00
51:16
51:24
51:49
52:01
52:10
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
3.4E6
1.7E6
0.0E0
3.2E6
1.6E6
6.8E6
3.4E6
6.5E6
3.2E6
9.0E5
4.5E5


File:PB8C_260 #1-496 Acq: 7-AUG-2018 19:45:48 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
497.6826 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,336.0,5.00%,F,T)
A2.57E7
499.6797 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A2.16E7
509.7229 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A3.27E7
511.7199 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A2.74E7
454.9728 F:6
57:02
57:18
57:27
57:44
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time
4.5E6
2.2E6
0.0E0
3.8E6
1.9E6
5.8E6
2.9E6
4.9E6
2.5E6
8.8E5
4.4E5

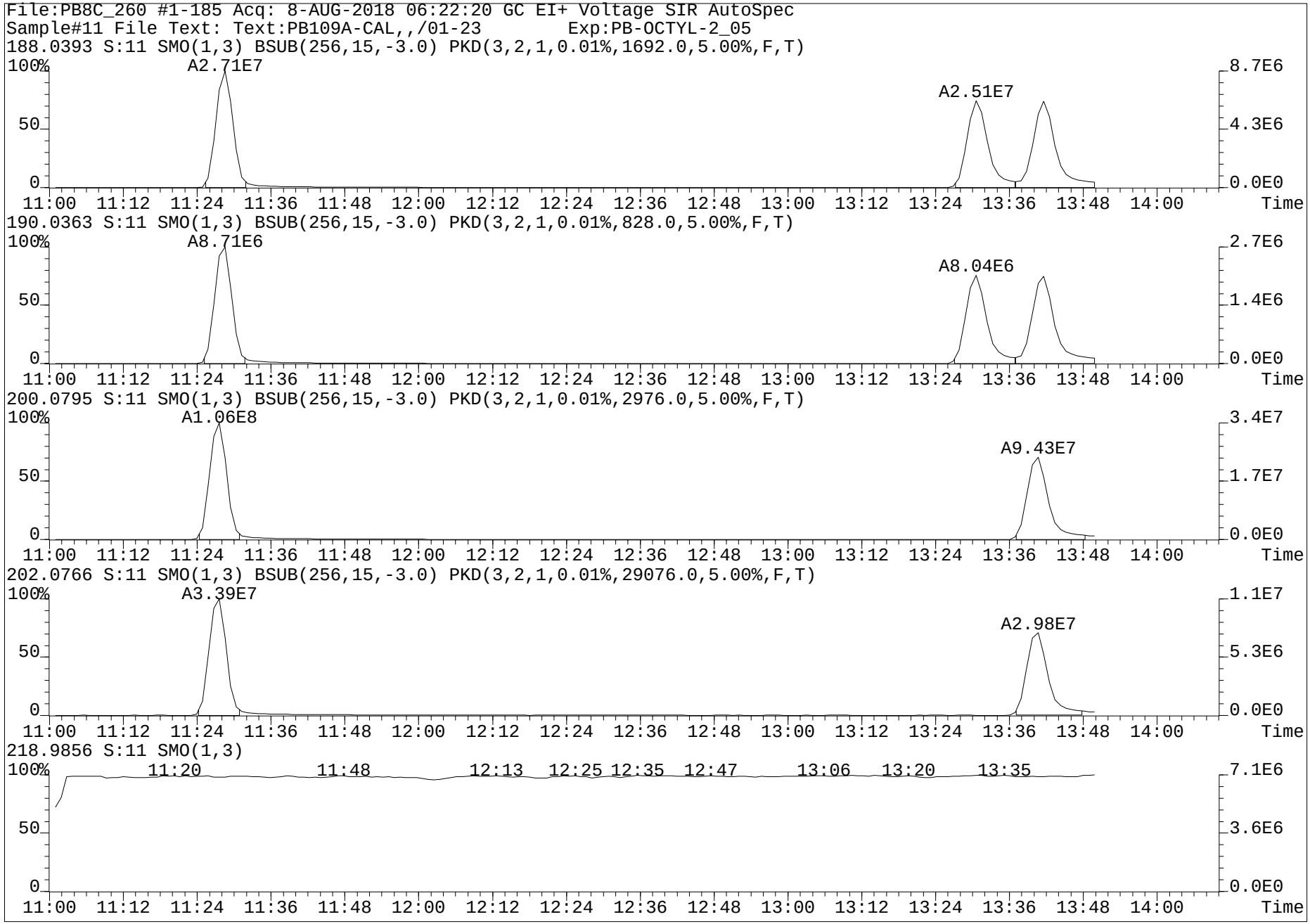
www.axysanalytical.com

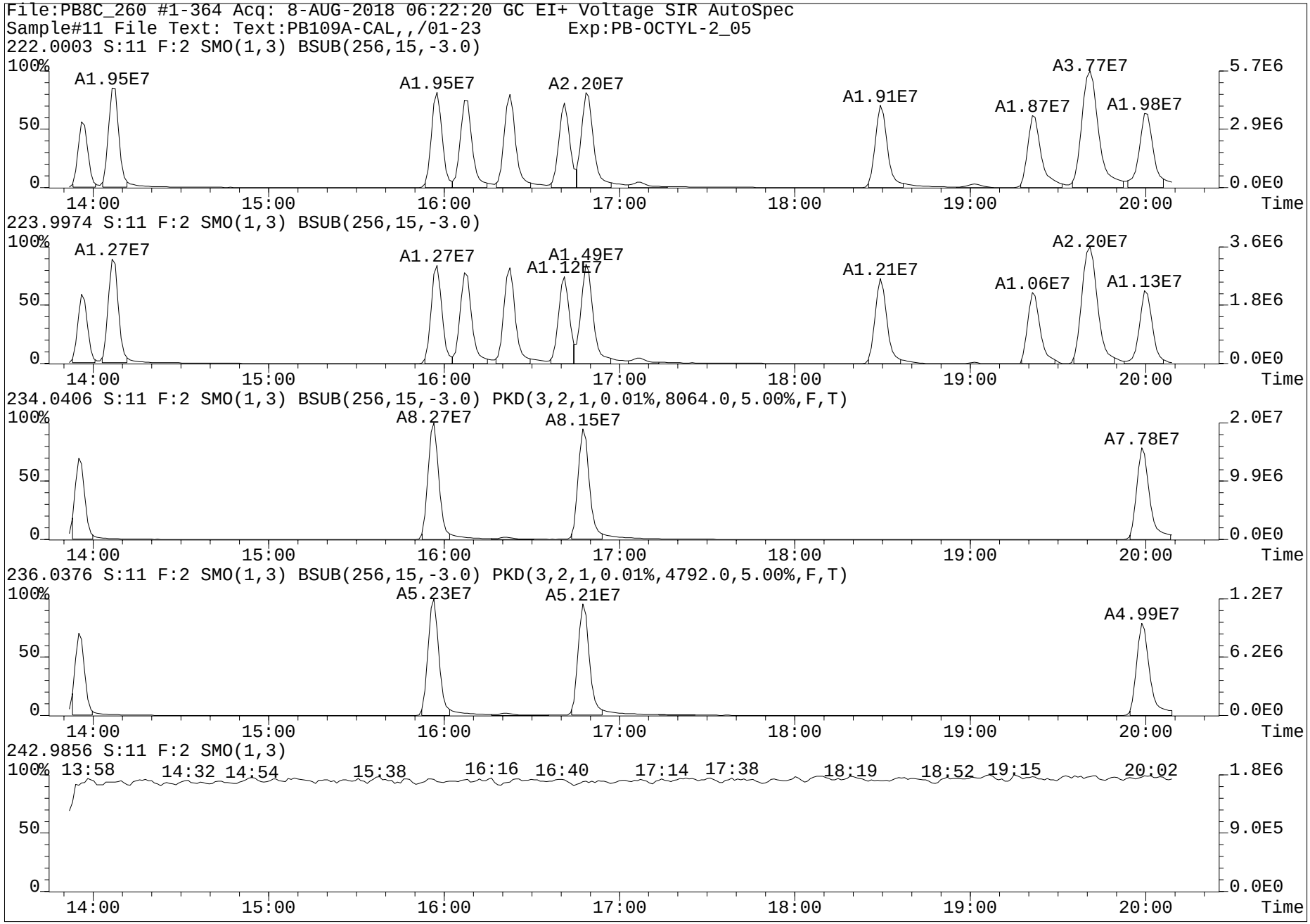
Run #18 Filename PB8C_260 S: 11 I: 1 Acquired: 8-AUG-18 06:22:20 Processed: 8-AUG-18 07:42:32
Run: pb8c_260-a Analyte: 1668a-cv8 Cal: pb8c_220-7a Results: pb8c_260-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res
sample size: 1.000000 conc units: ng/mL total toxicity: 1365.34 F1: 1.0000 F2: 1.0000

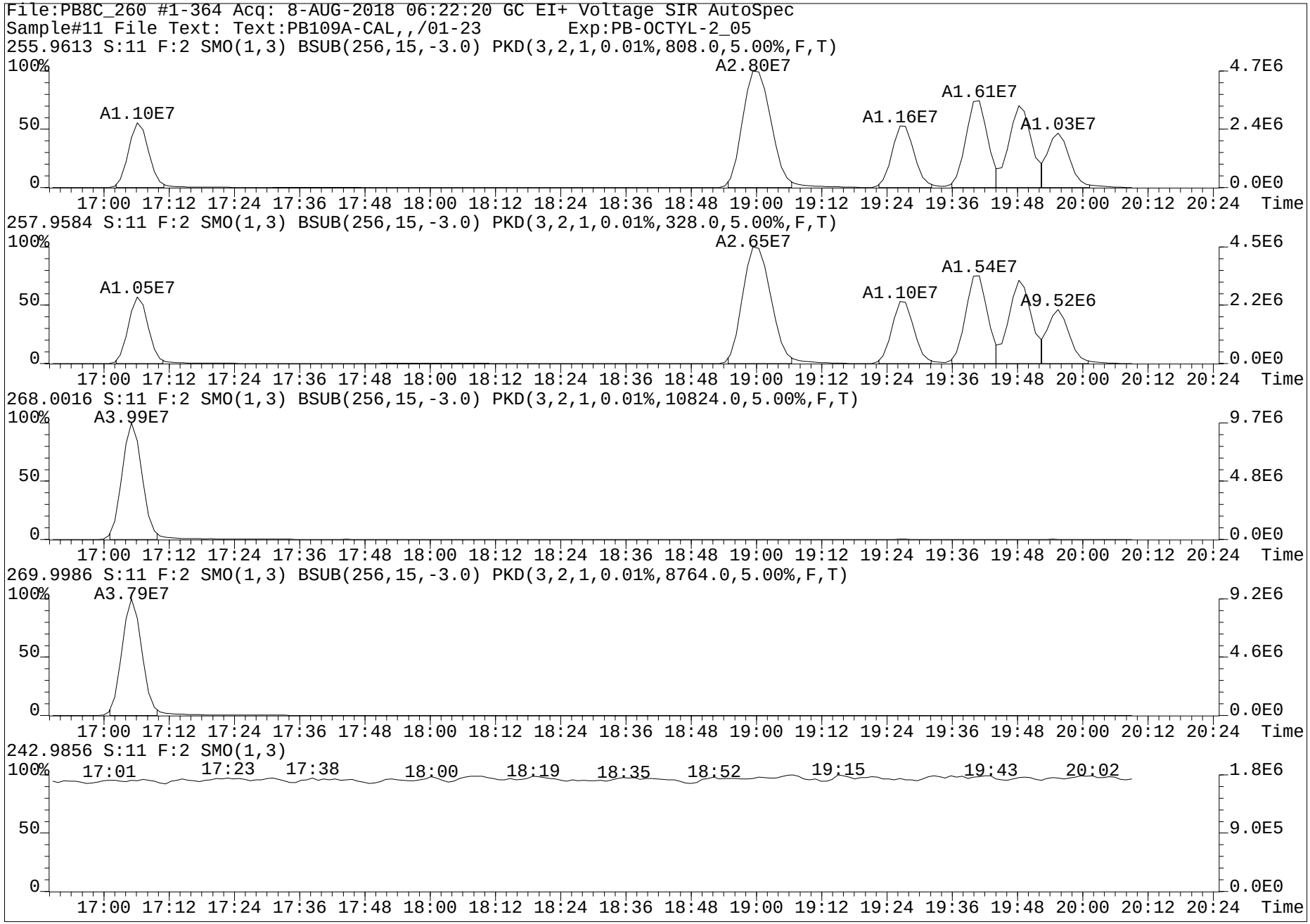
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.58e+07	3.11	y	11:28	23.797	24	0.0133	-	n
2	Unk	CL1-PCB-3	1	3.61e+07	3.10	y	13:42	26.894	27	0.0186	-	n
3	Unk	CL2-PCB-4	1	2.01e+07	1.53	y	13:56	24.724	25	0.1136	-	n
4	Unk	CL2-PCB-15	1	3.11e+07	1.76	y	20:00	26.721	27	0.1105	-	y
5	Unk	CL3-PCB-19	1	2.15e+07	1.04	y	17:06	25.883	26	0.0141	-	n
6	Unk	CL3-PCB-37	1	2.58e+07	1.01	y	27:18	24.026	24	0.4174	-	n
7	Unk	CL4-PCB-54	1	5.48e+07	0.80	y	20:16	52.156	52	0.0201	-	n
8	Unk	CL4-PCB-81	1	4.60e+07	0.77	y	34:20	47.464	47	2.6650	-	y
9	Unk	CL4-PCB-77	1	4.34e+07	0.79	y	34:55	44.887	45	2.7428	-	y
10	Unk	CL5-PCB-104	1	4.69e+07	1.54	y	25:57	51.230	51	0.0073	-	n
11	Unk	CL5-PCB-123	1	4.56e+07	1.53	y	36:59	55.928	56	3.5228	-	n
12	Unk	CL5-PCB-118	1	4.10e+07	1.54	y	37:20	48.723	49	3.5106	-	n
13	Unk	CL5-PCB-114	1	4.27e+07	1.53	y	37:53	52.087	52	3.5214	-	n
14	Unk	CL5-PCB-105	1	4.29e+07	1.54	y	38:35	54.087	54	3.6559	-	n
15	Unk	CL5-PCB-126	1	3.62e+07	1.60	y	41:50	54.251	54	4.5487	-	n
16	Unk	CL6-PCB-155	1	4.42e+07	1.24	y	31:51	51.511	52	0.0076	-	n
17	Unk	CL6-PCB-167	1	3.96e+07	1.23	y	43:44	56.620	57	2.0252	-	n
18	Unk	CL6-PCB-156/157	1	7.43e+07	1.28	y	44:57	104.238	104	2.7205	-	y
19	Unk	CL6-PCB-169	1	3.56e+07	1.21	y	48:21	52.139	52	2.2307	-	n
20	Unk	CL7-PCB-188	1	3.37e+07	1.04	y	37:50	50.745	51	0.0267	-	n
21	Unk	CL7-PCB-189	1	3.04e+07	1.02	y	50:59	47.189	47	0.0565	-	n
22	Unk	CL8-PCB-202	1	4.60e+07	0.90	y	43:27	79.628	80	0.0107	-	n
23	Unk	CL8-PCB-205	1	4.56e+07	0.88	y	53:40	76.421	76	0.0627	-	n
24	Unk	CL9-PCB-208	1	4.00e+07	0.79	y	50:27	84.576	85	0.0460	-	n
25	Unk	CL9-PCB-206	1	3.12e+07	0.80	y	55:28	75.902	76	0.0526	-	n
26	Unk	CL10-PCB-209	1	3.73e+07	1.17	y	57:08	73.515	74	0.0119	-	n
27	IS	13C-CL1-PCB-1	1	1.40e+08	3.13	y	11:27	92.133	0	0.2213	92.1	n
28	IS	13C-CL1-PCB-3	1	1.24e+08	3.17	y	13:41	85.544	0	0.2323	85.5	n
29	IS	13C-CL2-PCB-4	1	8.19e+07	1.59	y	13:56	88.787	0	0.1465	88.8	n
30	IS	13C-CL2-PCB-15	1	1.28e+08	1.56	y	20:00	88.830	0	0.0940	88.8	n
31	IS	13C-CL3-PCB-19	1	7.78e+07	1.05	y	17:05	102.472	0	0.2713	102.5	n
32	IS	13C-CL3-PCB-37	1	1.08e+08	1.05	y	27:17	81.655	0	0.3263	81.7	n
33	REF	13C-CL4-CHECK	1	9.96e+07	0.81	y	20:15	86.366	0	0.0816	86.4	n
34	IS	13C-CL4-PCB-81	1	9.43e+07	0.75	y	34:19	93.734	0	0.0793	93.7	n
35	IS	13C-CL4-PCB-77	1	9.40e+07	0.76	y	34:54	91.997	0	0.0780	92.0	n
36	IS	13C-CL5-PCB-104	1	8.58e+07	1.55	y	25:56	88.248	0	0.0082	88.2	n
37	IS	13C-CL5-PCB-123	1	8.31e+07	1.57	y	36:58	90.494	0	0.1729	90.5	n
38	IS	13C-CL5-PCB-118	1	8.06e+07	1.57	y	37:19	89.541	0	0.1764	89.5	n
39	IS	13C-CL5-PCB-114	1	7.74e+07	1.54	y	37:52	86.706	0	0.1777	86.7	n
40	IS	13C-CL5-PCB-105	1	7.72e+07	1.56	y	38:33	83.513	0	0.1716	83.5	n
41	IS	13C-CL5-PCB-126	1	6.40e+07	1.60	y	41:48	77.499	0	0.1922	77.5	n
42	IS	13C-CL6-PCB-155	1	8.41e+07	1.24	y	31:50	94.314	0	0.0070	94.3	n
43	IS	13C-CL6-PCB-167	1	6.28e+07	1.25	y	43:43	91.296	0	0.0350	91.3	n
44	IS	13C-CL6-PCB-156/157	1	1.29e+08	1.25	y	44:56	180.387	0	0.0336	90.2	n

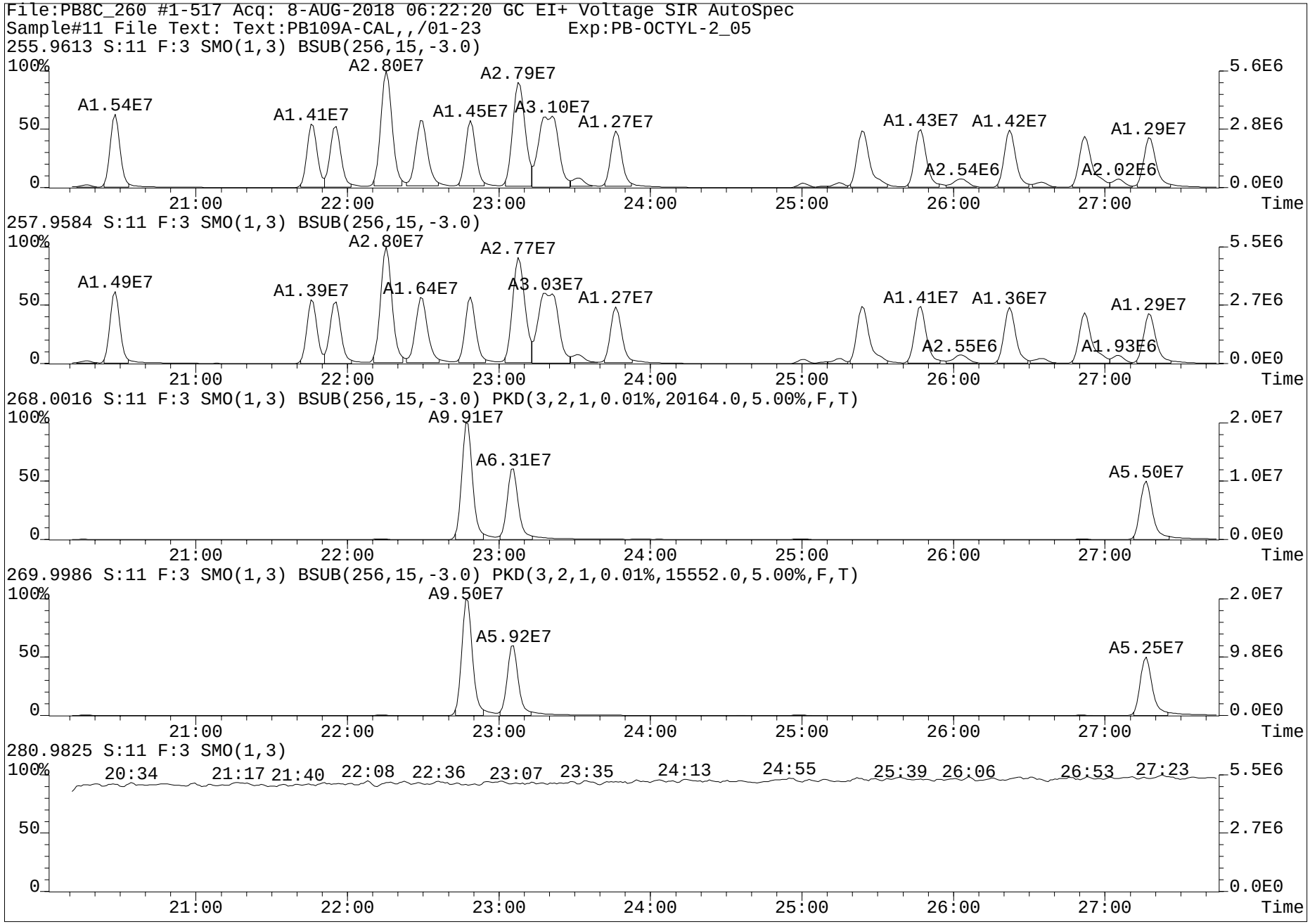
PV by RA 09AUG2018

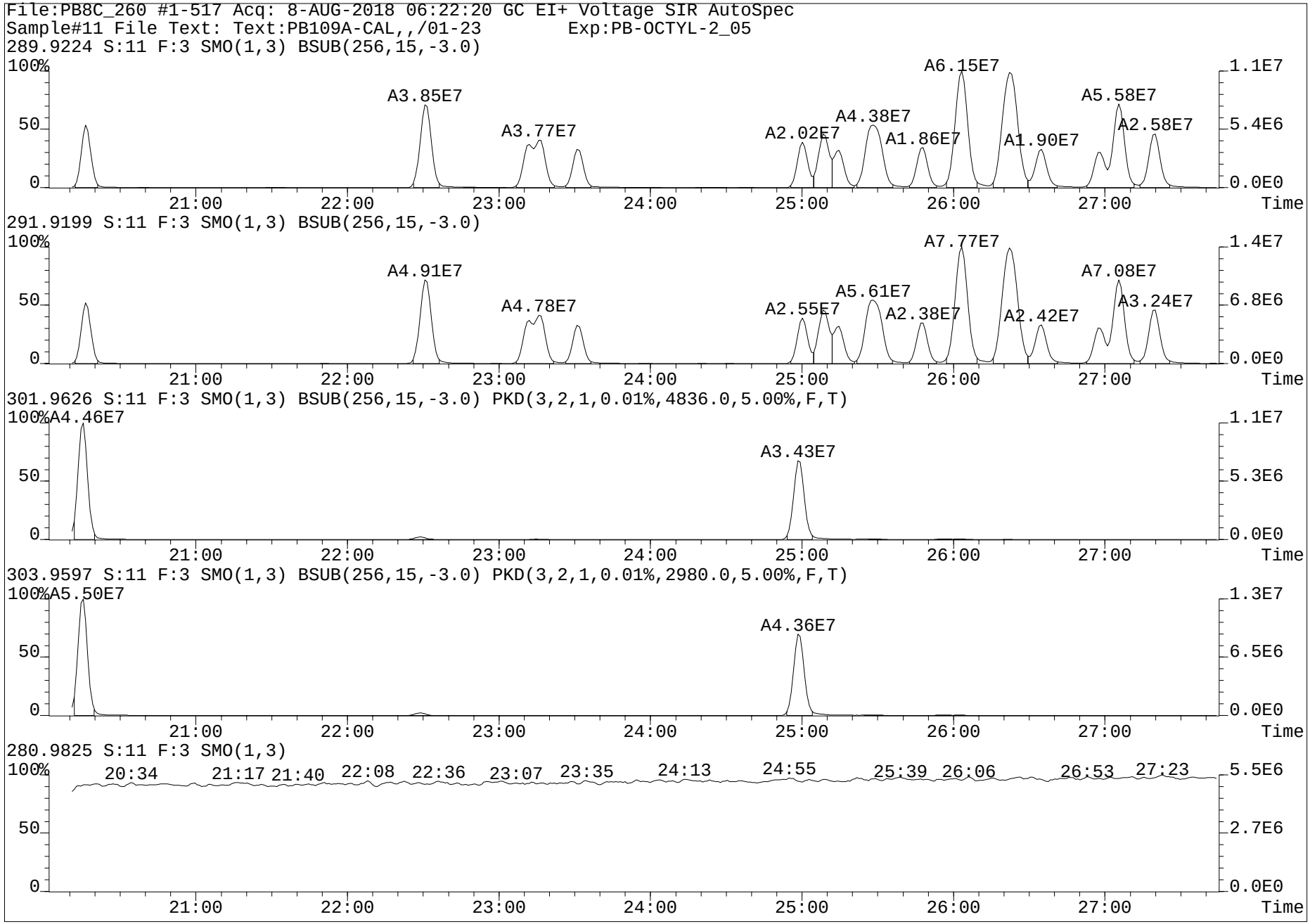
45	IS	13C-CL6-PCB-169	1	6.47e+07	1.28	y	48:20	90.692	0	0.0338	90.7	n
46	REF	13C-CL7-CHECK	1	6.82e+07	1.05	y	37:49	83.059	0	0.0102	83.1	n
47	IS	13C-CL7-PCB-189	1	6.07e+07	1.03	y	50:58	92.070	0	0.0749	92.1	n
48	IS	13C-CL8-PCB-202	1	6.62e+07	0.89	y	43:26	85.277	0	0.0092	85.3	n
49	IS	13C-CL8-PCB-205	1	6.05e+07	0.88	y	53:39	92.394	0	0.0266	92.4	n
50	IS	13C-CL9-PCB-208	1	5.00e+07	0.78	y	50:25	85.300	0	0.0161	85.3	n
51	IS	13C-CL9-PCB-206	1	4.10e+07	0.76	y	55:27	85.930	0	0.0197	85.9	n
52	IS	13C-CL10-PCB-209	1	4.77e+07	1.14	y	57:06	79.631	0	0.0106	79.6	n
53	RS	13C-CL2-PCB-9	1	1.35e+08	1.58	y	15:56	73.291	0	-	-	n
54	RS	13C-CL4-PCB-52	1	7.79e+07	0.79	y	24:58	84.735	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.59e+07	1.58	y	32:06	84.815	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.36e+07	1.27	y	40:33	75.426	0	-	-	n
57	RS	13C-CL8-PCB-194	1	4.35e+07	0.88	y	53:09	77.128	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	1.22e+08	1.07	y	23:06	92.317	0	0.3243	92.3	n
59	C/Up	13C-CL5-PCB-111	1	7.72e+07	1.61	y	34:55	87.434	0	0.0440	87.4	n
60	C/Up	13C-CL7-PCB-178	1	4.55e+07	1.02	y	41:01	89.480	0	0.0160	89.5	n
61	IS	13C-CL4-PCB-54	1	9.96e+07	0.81	y	20:15	86.366	0	0.0816	86.4	n
62	IS	13C-CL7-PCB-188	1	6.82e+07	1.05	y	37:49	83.059	0	0.0102	83.1	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

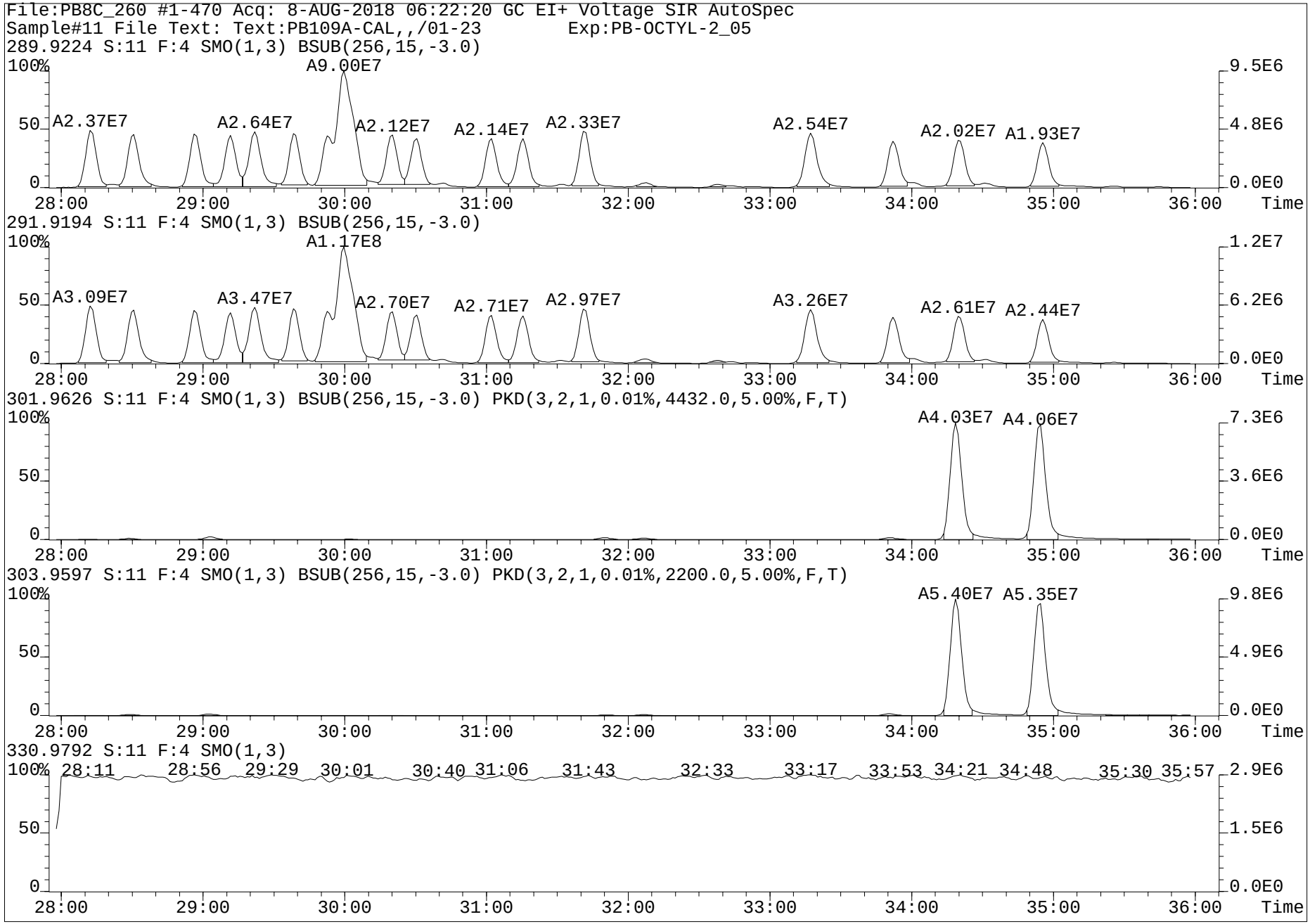

File:PB8C_260 #1-185 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
188.0393 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1692.0,5.00%,F,T)
A2.71E7
A2.51E7
8.7E6
4.3E6
0.0E0
190.0363 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,828.0,5.00%,F,T)
A8.71E6
A8.04E6
2.7E6
1.4E6
0.0E0
200.0795 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2976.0,5.00%,F,T)
A1.06E8
A9.43E7
3.4E7
1.7E7
0.0E0
202.0766 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,29076.0,5.00%,F,T)
A3.39E7
A2.98E7
1.1E7
5.3E6
0.0E0
218.9856 S:11 SMO(1,3)
11:20
11:48
12:13
12:25
12:35
12:47
13:06
13:20
13:35
7.1E6
3.6E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

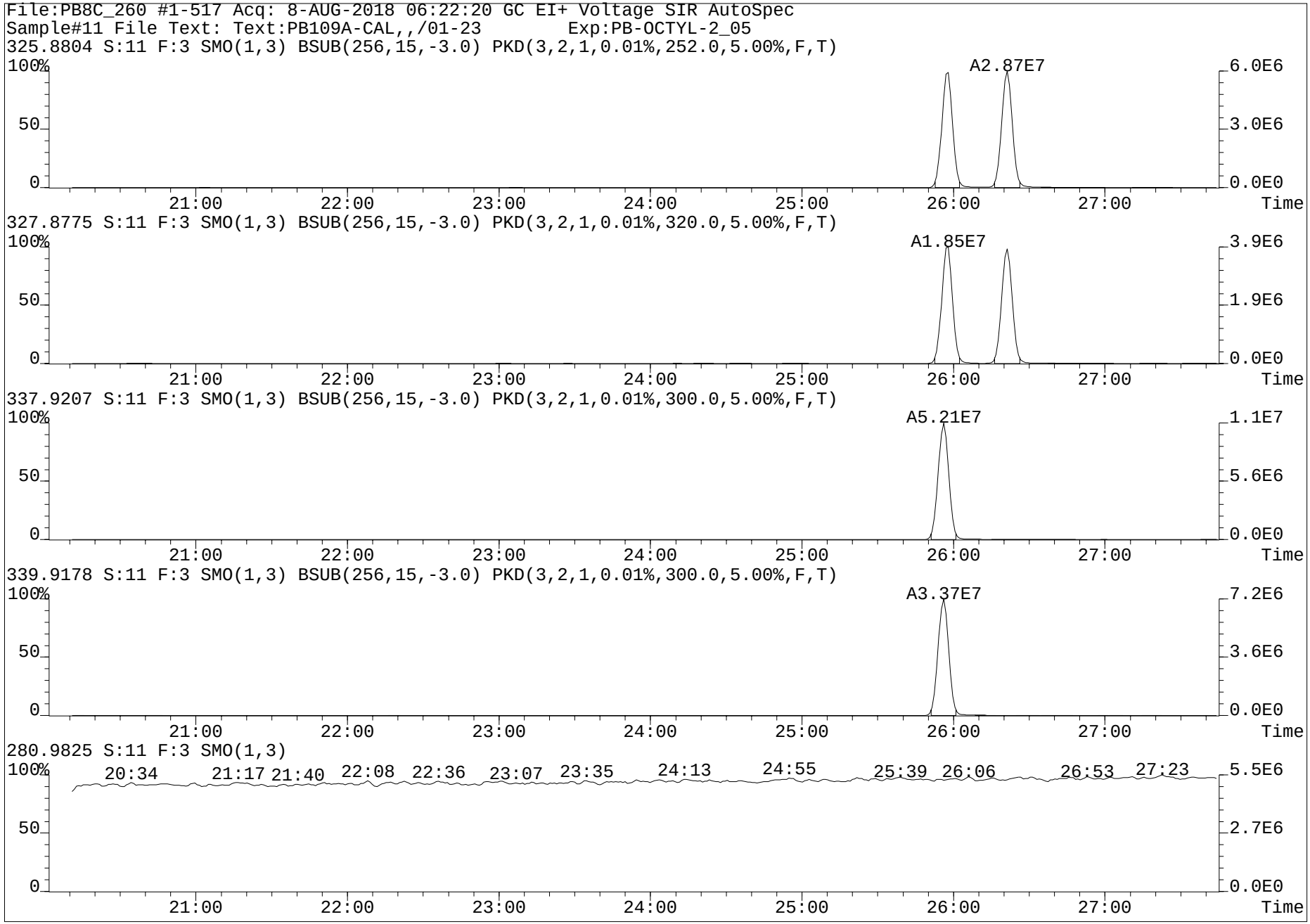

File:PB8C_260 #1-364 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.95E7
A1.95E7
A2.20E7
A1.91E7
A1.87E7
A3.77E7
A1.98E7
223.9974 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0)
A1.27E7
A1.27E7
A1.49E7
A1.12E7
A1.21E7
A1.06E7
A2.20E7
A1.13E7
234.0406 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8064.0,5.00%,F,T)
A8.27E7
A8.15E7
A7.78E7
236.0376 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4792.0,5.00%,F,T)
A5.23E7
A5.21E7
A4.99E7
242.9856 S:11 F:2 SMO(1,3)
13:58
14:32
14:54
15:38
16:16
16:40
17:14
17:38
18:19
18:52
19:15
20:02
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
5.7E6
2.9E6
0.0E0
3.6E6
1.8E6
2.0E7
9.9E6
1.2E7
6.2E6
9.0E5

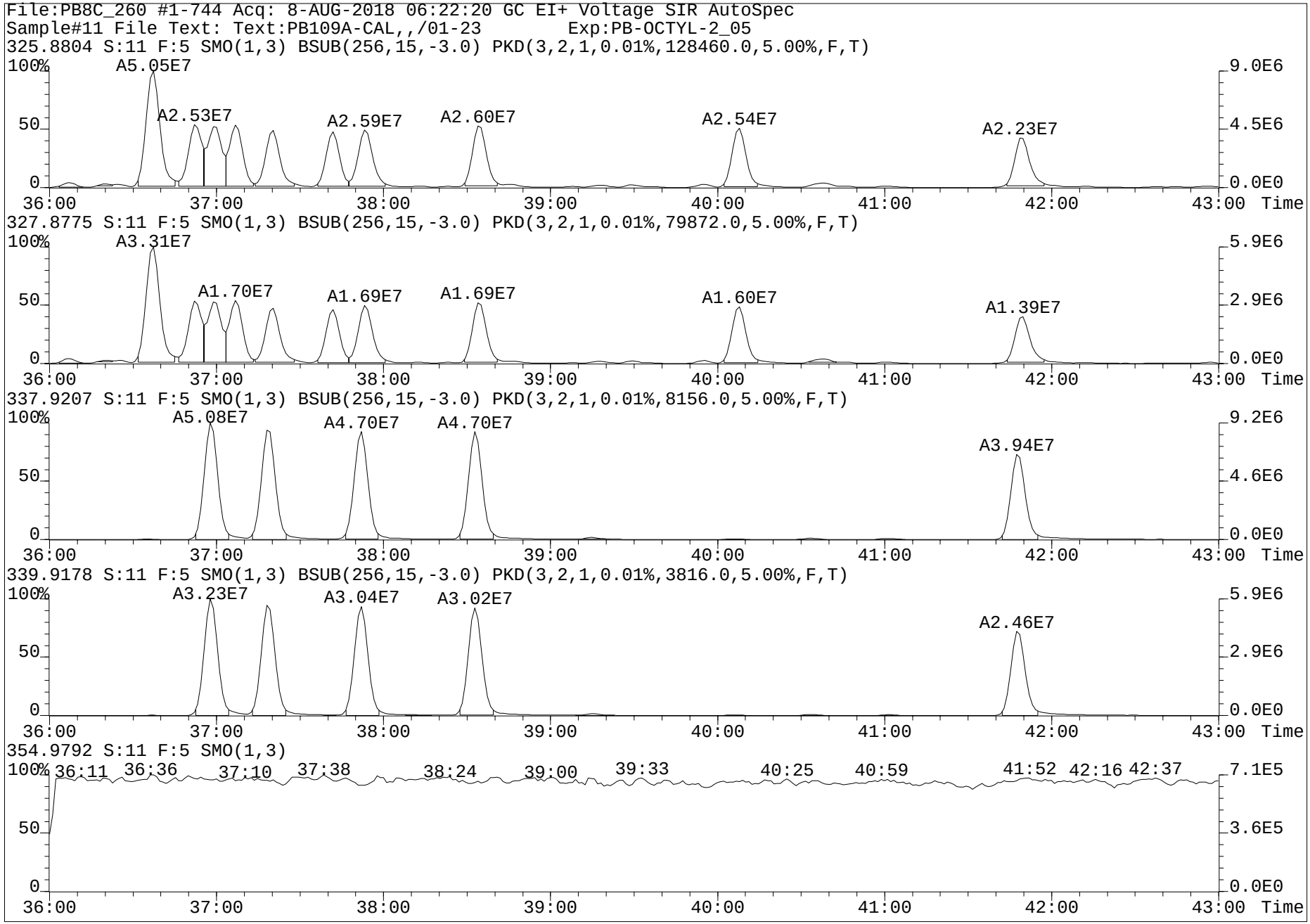

File:PB8C_260 #1-364 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,808.0,5.00%,F,T)
A1.10E7
A2.80E7
A1.16E7
A1.61E7
A1.03E7
257.9584 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A1.05E7
A2.65E7
A1.10E7
A1.54E7
A9.52E6
268.0016 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10824.0,5.00%,F,T)
A3.99E7
269.9986 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8764.0,5.00%,F,T)
A3.79E7
242.9856 S:11 F:2 SMO(1,3)
17:01
17:23
17:38
18:00
18:19
18:35
18:52
19:15
19:43
20:02
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
4.7E6
2.4E6
0.0E0
4.5E6
2.2E6
9.7E6
4.8E6
9.2E6
4.6E6
1.8E6
9.0E5

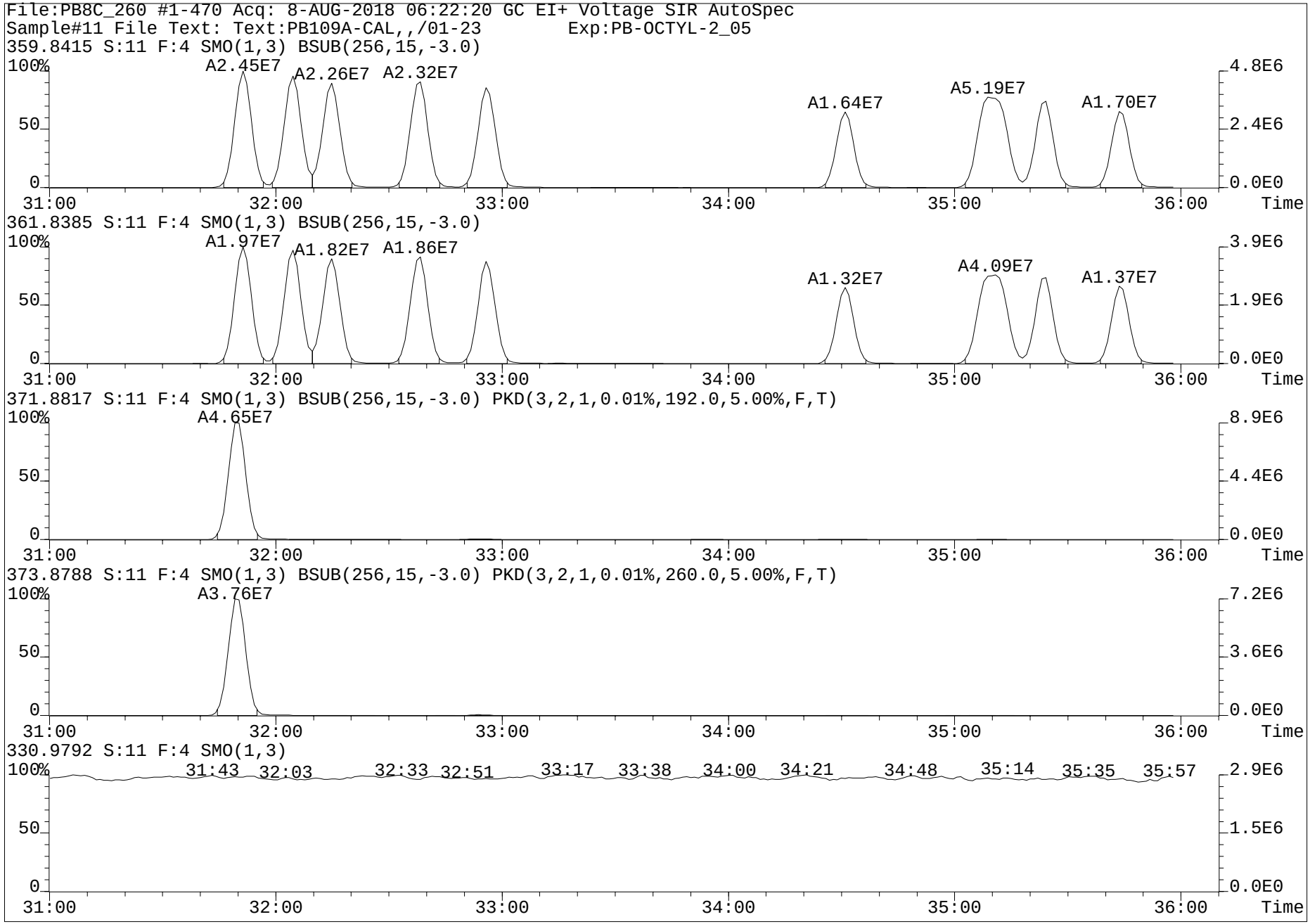

File:PB8C_260 #1-517 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.54E7
A2.80E7
A1.41E7
A2.79E7
A1.45E7
A3.10E7
A1.27E7
A1.43E7
A1.42E7
A1.29E7
A2.54E6
A2.02E6
257.9584 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.49E7
A2.80E7
A1.39E7
A2.77E7
A1.64E7
A3.03E7
A1.27E7
A1.41E7
A1.36E7
A1.29E7
A2.55E6
A1.93E6
268.0016 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,20164.0,5.00%,F,T)
A9.91E7
A6.31E7
A5.50E7
269.9986 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,15552.0,5.00%,F,T)
A9.50E7
A5.92E7
A5.25E7
280.9825 S:11 F:3 SMO(1,3)
20:34
21:17
21:40
22:08
22:36
23:07
23:35
24:13
24:55
25:39
26:06
26:53
27:23
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.6E6
2.8E6
0.0E0
5.5E6
2.7E6
2.0E7
1.0E7
9.8E6

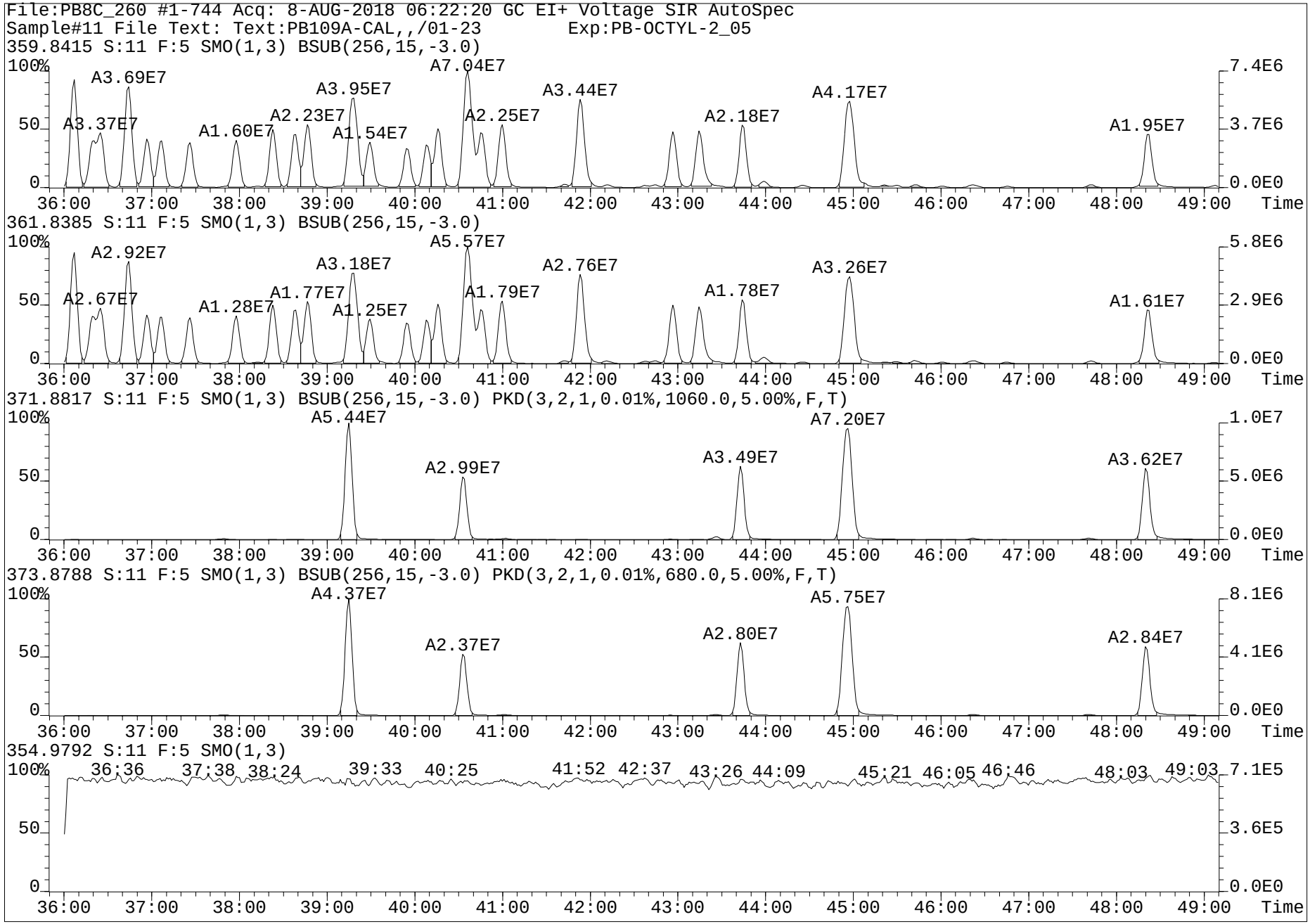

File:PB8C_260 #1-517 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.85E7
A3.77E7
A2.02E7
A4.38E7
A1.86E7
A6.15E7
A1.90E7
A5.58E7
A2.58E7
291.9199 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A4.91E7
A4.78E7
A2.55E7
A5.61E7
A2.38E7
A7.77E7
A2.42E7
A7.08E7
A3.24E7
301.9626 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4836.0,5.00%,F,T)
A4.46E7
A3.43E7
303.9597 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2980.0,5.00%,F,T)
A5.50E7
A4.36E7
280.9825 S:11 F:3 SMO(1,3)
20:34
21:17
21:40
22:08
22:36
23:07
23:35
24:13
24:55
25:39
26:06
26:53
27:23
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
1.1E7
5.4E6
0.0E0
1.4E7
6.8E6
1.1E7
5.3E6
1.3E7
6.5E6
5.5E6
2.7E6

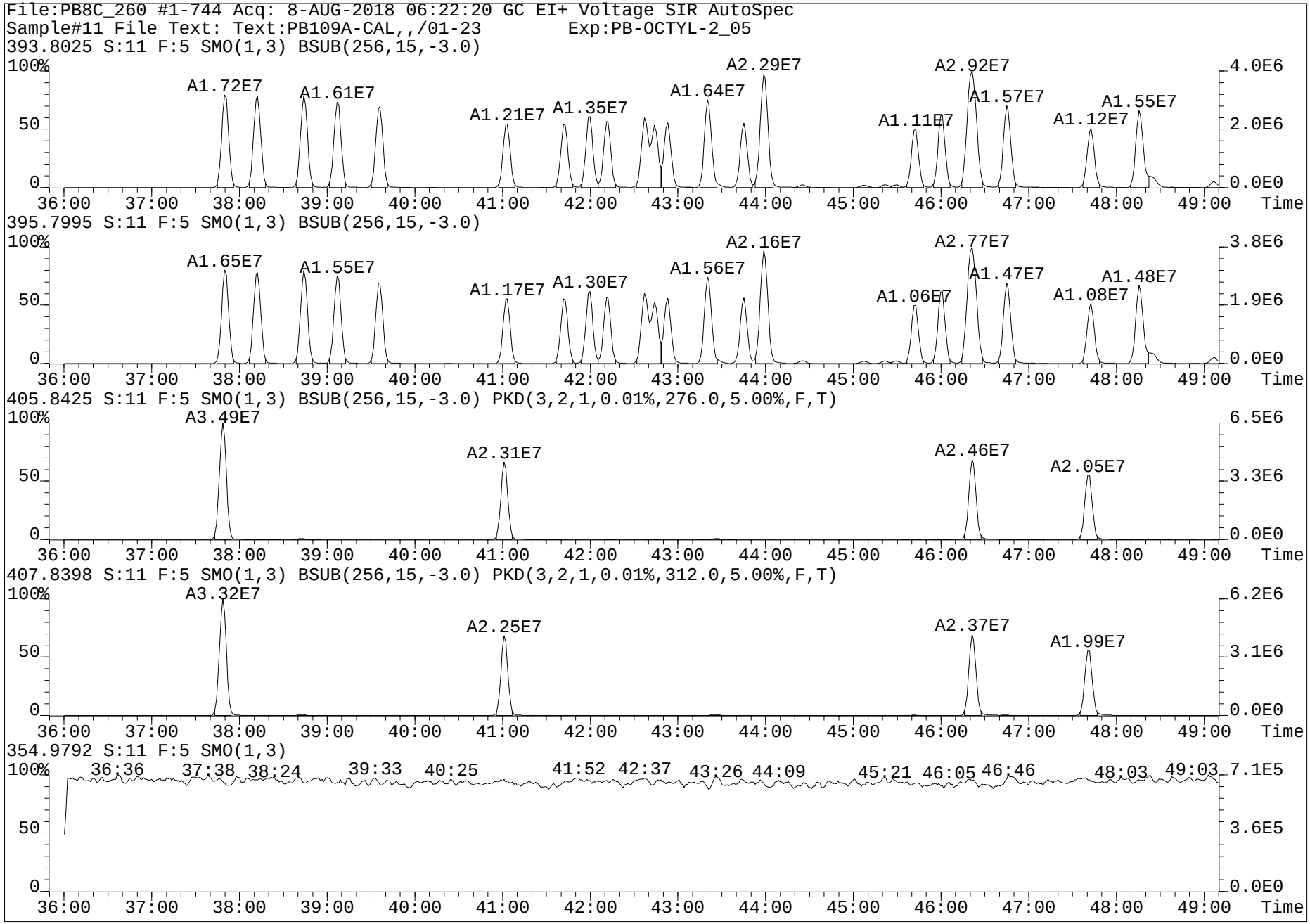

File:PB8C_260 #1-470 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.00E7
A2.37E7
A2.64E7
A2.12E7
A2.14E7
A2.33E7
A2.54E7
A2.02E7
A1.93E7
291.9194 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.17E8
A3.09E7
A3.47E7
A2.70E7
A2.71E7
A2.97E7
A3.26E7
A2.61E7
A2.44E7
301.9626 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4432.0,5.00%,F,T)
A4.03E7
A4.06E7
303.9597 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2200.0,5.00%,F,T)
A5.40E7
A5.35E7
330.9792 S:11 F:4 SMO(1,3)
28:11 28:56 29:29 30:01 30:40 31:06 31:43 32:33 33:17 33:53 34:21 34:48 35:30 35:57
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
9.5E6 4.8E6 0.0E0
1.2E7 6.2E6 0.0E0
7.3E6 3.6E6 0.0E0
9.8E6 4.9E6 0.0E0
2.9E6 1.5E6 0.0E0

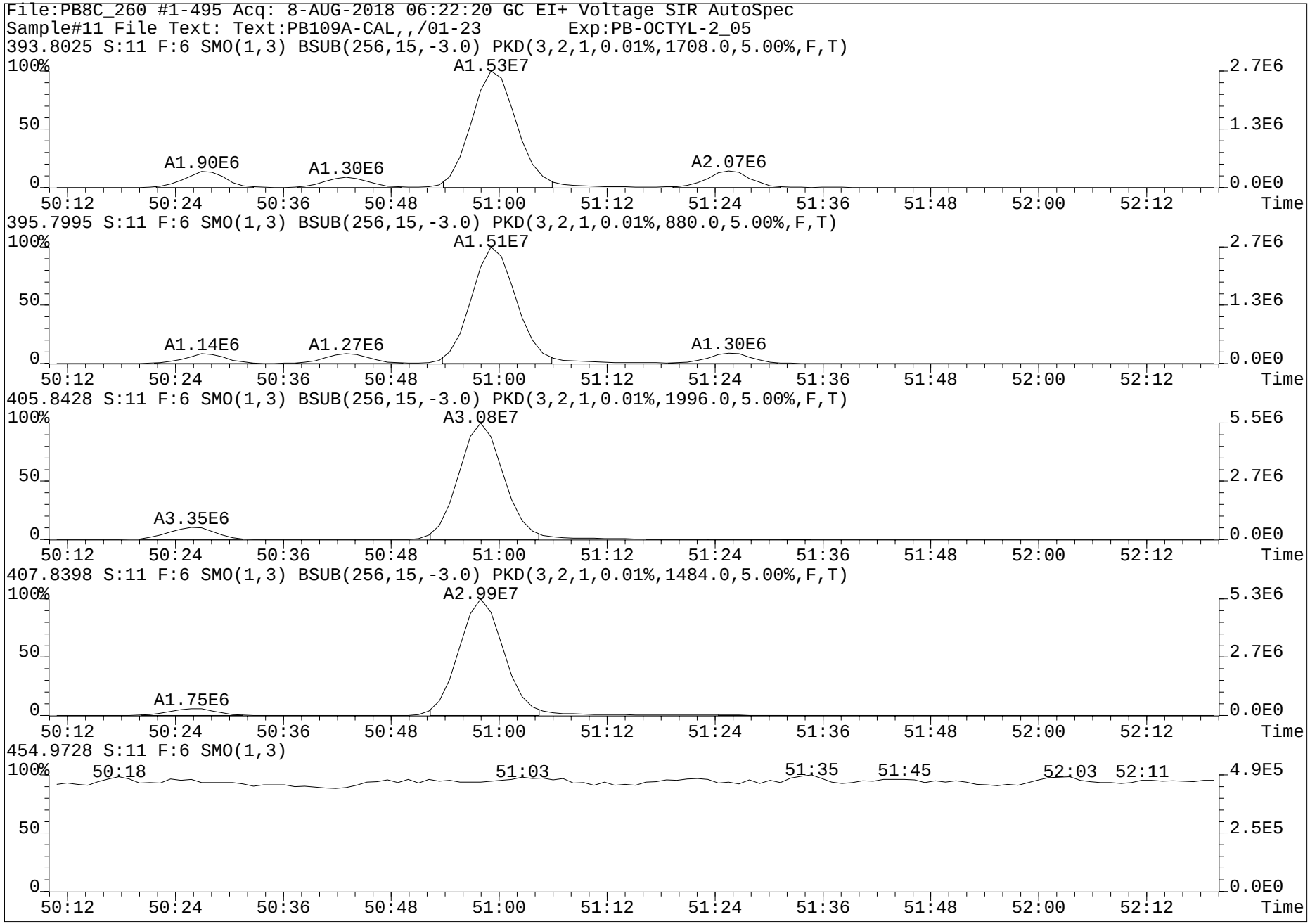

File:PB8C_260 #1-517 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,252.0,5.00%,F,T)
A2.87E7
327.8775 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A1.85E7
337.9207 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A5.21E7
339.9178 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A3.37E7
280.9825 S:11 F:3 SMO(1,3)
20:34 21:17 21:40 22:08 22:36 23:07 23:35 24:13 24:55 25:39 26:06 26:53 27:23
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
6.0E6
3.0E6
0.0E0
3.9E6
1.9E6
1.1E7
5.6E6
7.2E6
3.6E6
5.5E6
2.7E6

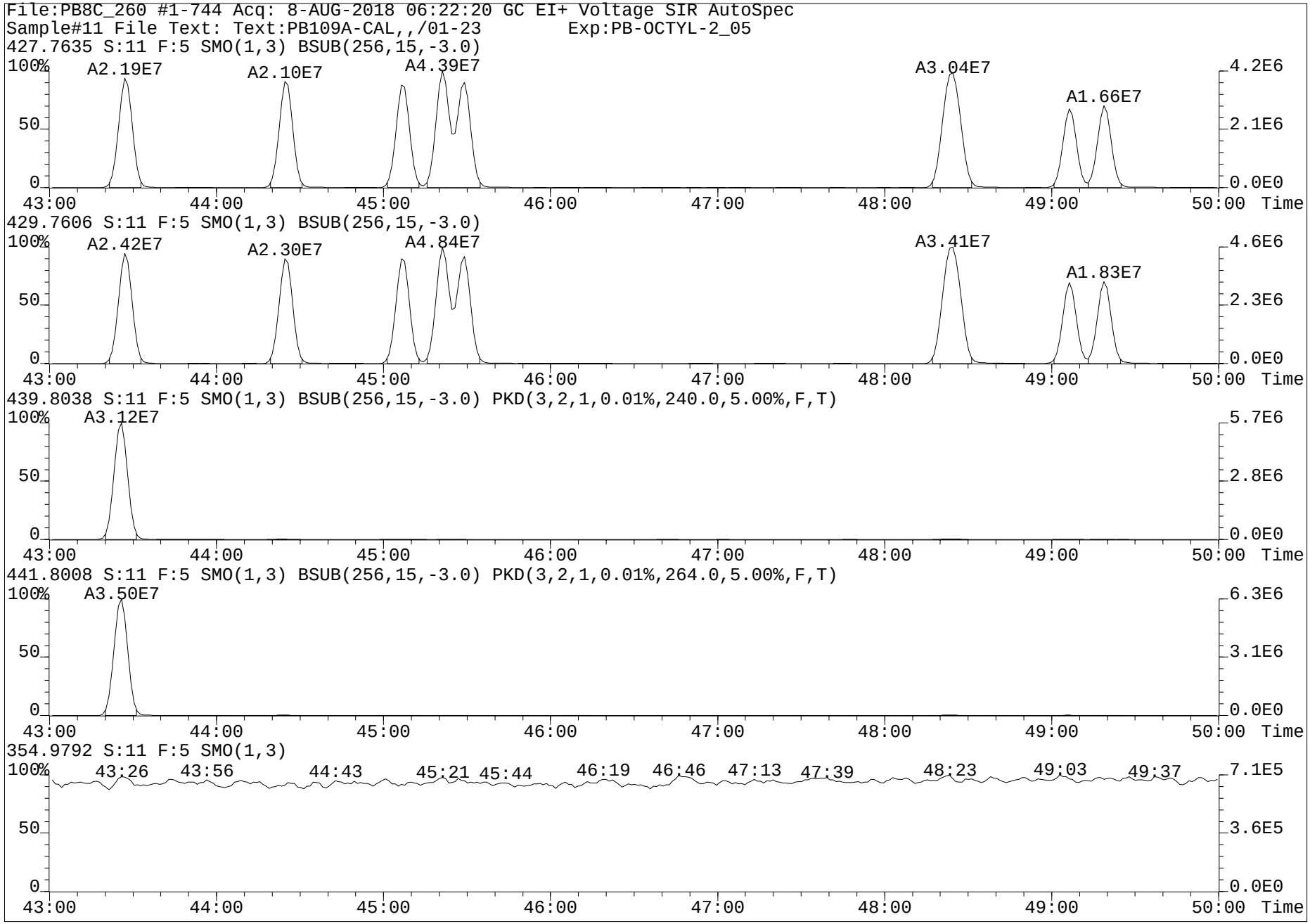

File:PB8C_260 #1-744 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,128460.0,5.00%,F,T)
A5.05E7
A2.53E7
A2.59E7
A2.60E7
A2.54E7
A2.23E7
327.8775 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,79872.0,5.00%,F,T)
A3.31E7
A1.70E7
A1.69E7
A1.69E7
A1.60E7
A1.39E7
337.9207 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8156.0,5.00%,F,T)
A5.08E7
A4.70E7
A4.70E7
A3.94E7
339.9178 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3816.0,5.00%,F,T)
A3.23E7
A3.04E7
A3.02E7
A2.46E7
354.9792 S:11 F:5 SMO(1,3)
36:11 36:36 37:10 37:38 38:24 39:00 39:33 40:25 40:59 41:52 42:16 42:37
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
9.0E6
4.5E6
0.0E0
5.9E6
2.9E6
0.0E0
9.2E6
4.6E6
0.0E0
5.9E6
2.9E6
0.0E0
7.1E5
3.6E5
0.0E0

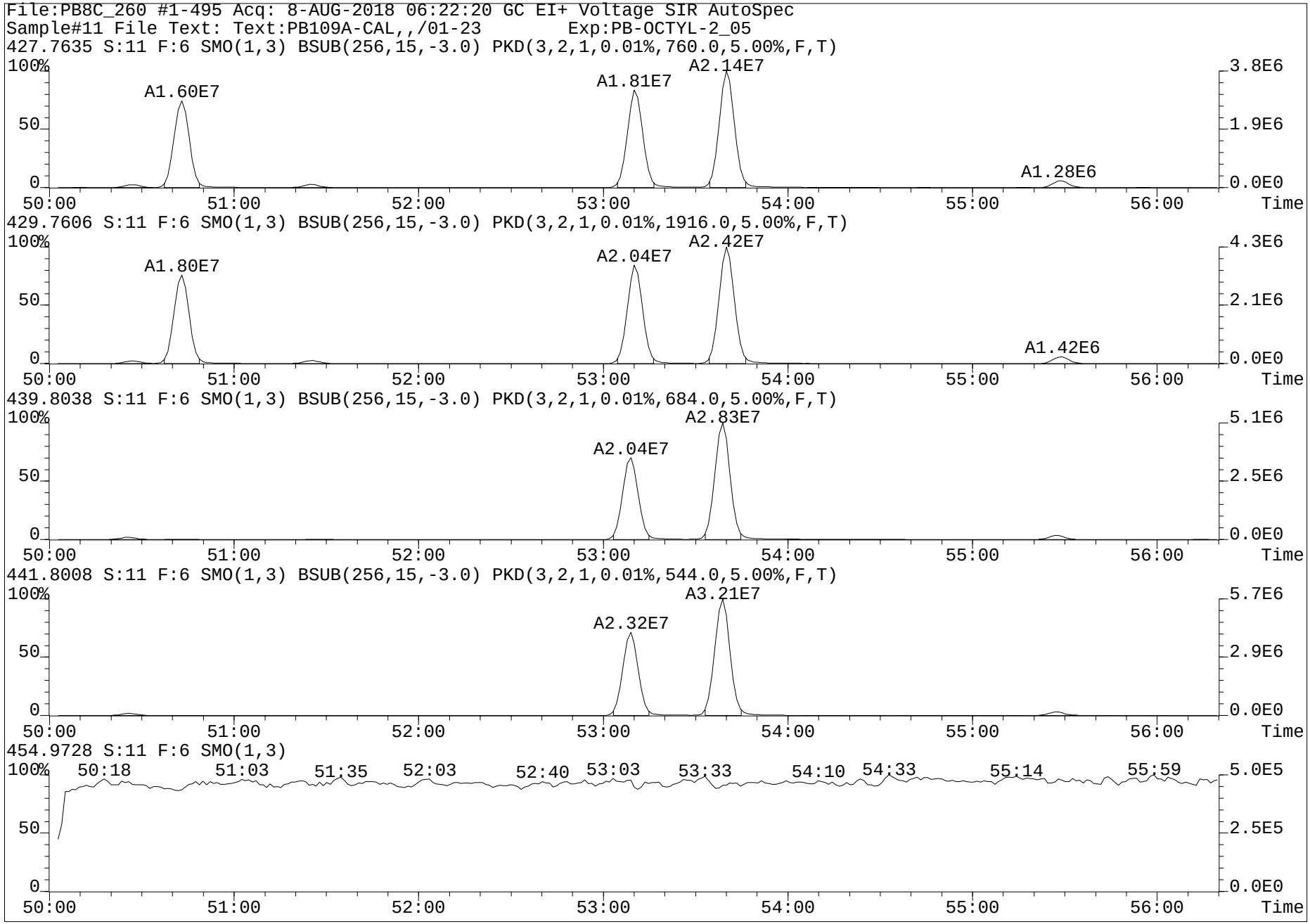

File:PB8C_260 #1-470 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.45E7
A2.26E7
A2.32E7
A1.64E7
A5.19E7
A1.70E7
361.8385 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.97E7
A1.82E7
A1.86E7
A1.32E7
A4.09E7
A1.37E7
371.8817 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,192.0,5.00%,F,T)
A4.65E7
373.8788 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,260.0,5.00%,F,T)
A3.76E7
330.9792 S:11 F:4 SMO(1,3)
31:43 32:03 32:33 32:51 33:17 33:38 34:00 34:21 34:48 35:14 35:35 35:57
100%
50
0
31:00 32:00 33:00 34:00 35:00 36:00 Time
4.8E6 2.4E6 0.0E0
3.9E6 1.9E6 0.0E0
8.9E6 4.4E6 0.0E0
7.2E6 3.6E6 0.0E0
2.9E6 1.5E6 0.0E0

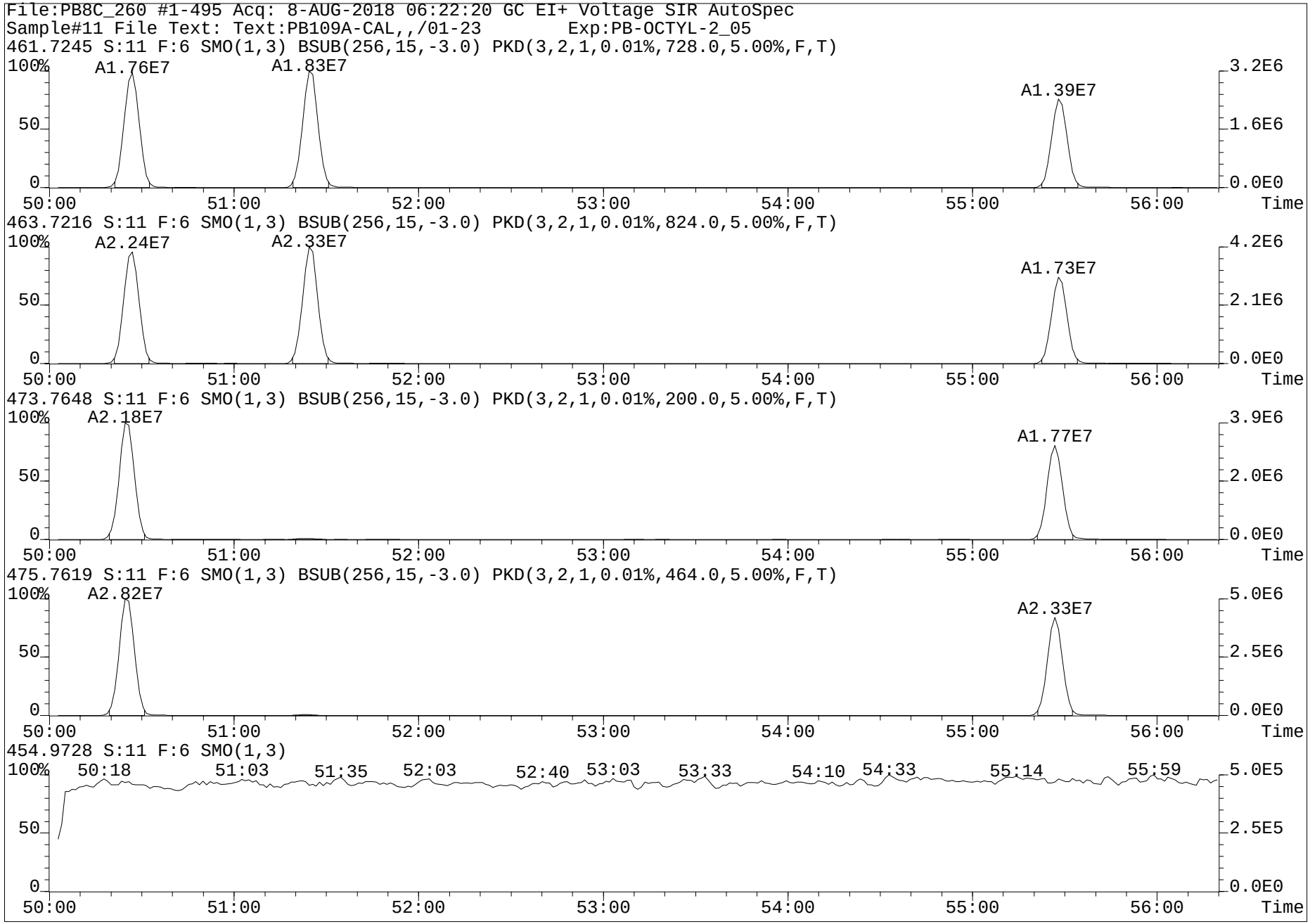

File:PB8C_260 #1-744 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.69E7
A3.37E7
A1.60E7
A2.23E7
A3.95E7
A1.54E7
A7.04E7
A2.25E7
A3.44E7
A2.18E7
A4.17E7
A1.95E7
361.8385 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.92E7
A2.67E7
A1.28E7
A1.77E7
A3.18E7
A1.25E7
A5.57E7
A1.79E7
A2.76E7
A1.78E7
A3.26E7
A1.61E7
371.8817 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1060.0,5.00%,F,T)
A5.44E7
A2.99E7
A3.49E7
A7.20E7
A3.62E7
373.8788 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,680.0,5.00%,F,T)
A4.37E7
A2.37E7
A2.80E7
A5.75E7
A2.84E7
354.9792 S:11 F:5 SMO(1,3)
36:36 37:38 38:24 39:33 40:25 41:52 42:37 43:26 44:09 45:21 46:05 46:46 48:03 49:03
100%
50
0
7.4E6
3.7E6
0.0E0
5.8E6
2.9E6
1.0E7
5.0E6
8.1E6
4.1E6
7.1E5
3.6E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

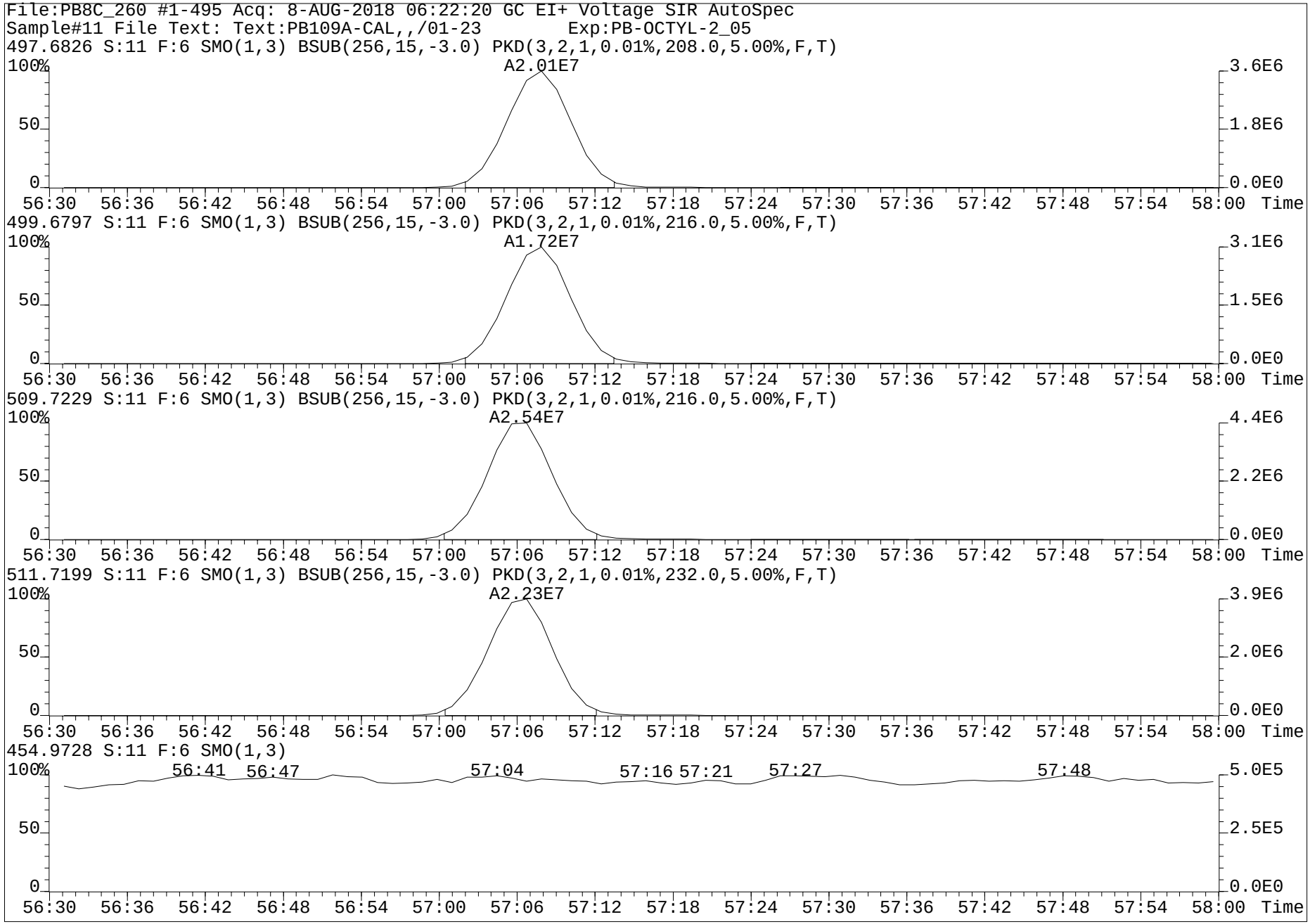

File:PB8C_260 #1-744 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.72E7
A1.61E7
A1.21E7
A1.35E7
A1.64E7
A2.29E7
A1.11E7
A2.92E7
A1.57E7
A1.12E7
A1.55E7
395.7995 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.65E7
A1.55E7
A1.17E7
A1.30E7
A1.56E7
A2.16E7
A1.06E7
A2.77E7
A1.47E7
A1.08E7
A1.48E7
405.8425 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,276.0,5.00%,F,T)
A3.49E7
A2.31E7
A2.46E7
A2.05E7
407.8398 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,312.0,5.00%,F,T)
A3.32E7
A2.25E7
A2.37E7
A1.99E7
354.9792 S:11 F:5 SMO(1,3)
36:36 37:38 38:24 39:33 40:25 41:52 42:37 43:26 44:09 45:21 46:05 46:46 48:03 49:03
100%
50
0
4.0E6
2.0E6
0.0E0
3.8E6
1.9E6
6.5E6
3.3E6
6.2E6
3.1E6
7.1E5
3.6E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

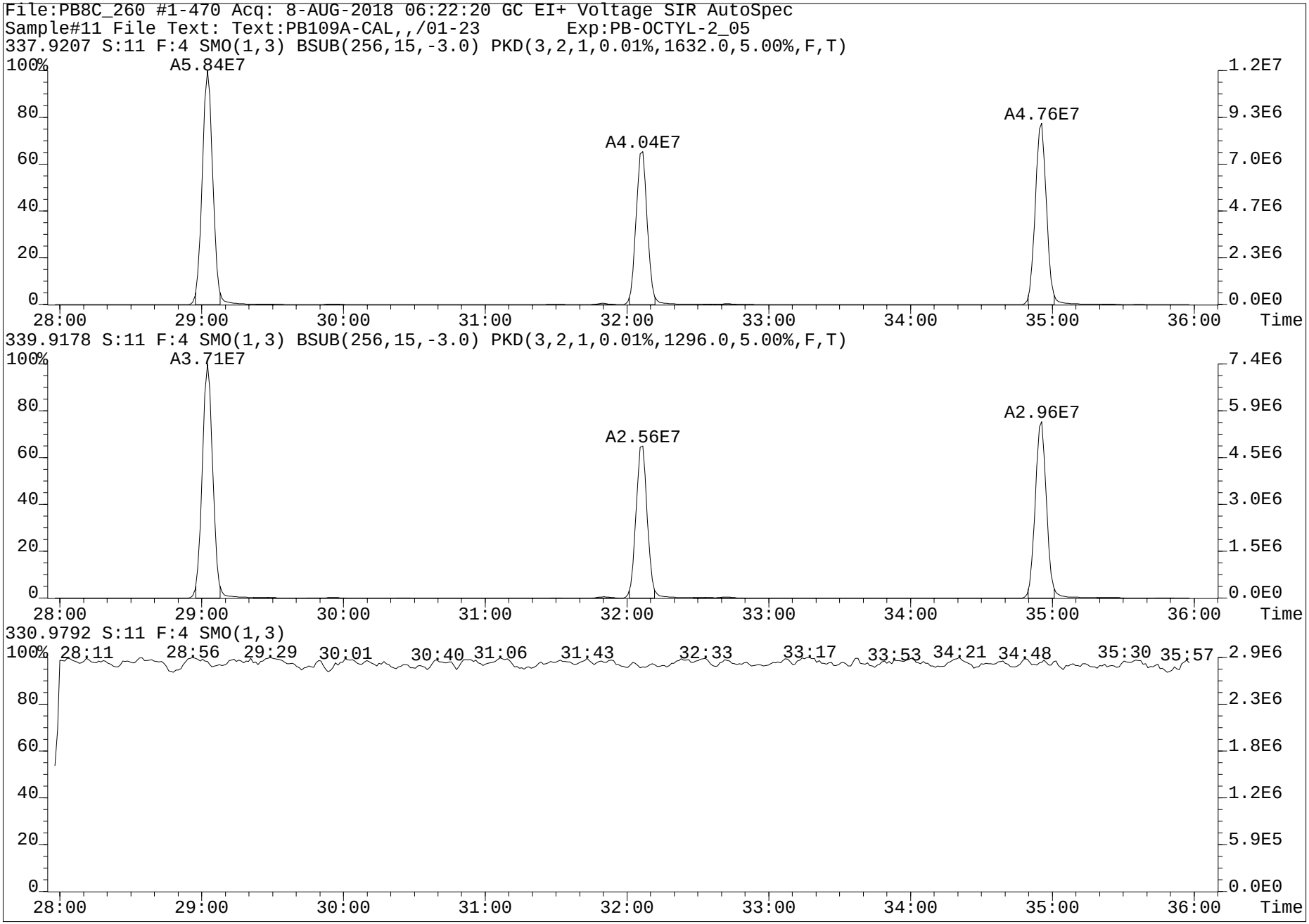

File:PB8C_260 #1-495 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1708.0,5.00%,F,T)
A1.53E7
A1.90E6
A1.30E6
A2.07E6
395.7995 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,880.0,5.00%,F,T)
A1.51E7
A1.14E6
A1.27E6
A1.30E6
405.8428 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1996.0,5.00%,F,T)
A3.08E7
A3.35E6
407.8398 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1484.0,5.00%,F,T)
A2.99E7
A1.75E6
454.9728 S:11 F:6 SMO(1,3)
50:18
51:03
51:35
51:45
52:03
52:11
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
2.7E6
1.3E6
0.0E0
5.5E6
2.7E6
0.0E0
5.3E6
2.7E6
0.0E0
4.9E5
2.5E5
0.0E0


File:PB8C_260 #1-744 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.19E7
A2.10E7
A4.39E7
A3.04E7
A1.66E7
429.7606 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.42E7
A2.30E7
A4.84E7
A3.41E7
A1.83E7
439.8038 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,240.0,5.00%,F,T)
A3.12E7
441.8008 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,264.0,5.00%,F,T)
A3.50E7
354.9792 S:11 F:5 SMO(1,3)
43:26 43:56 44:43 45:21 45:44 46:19 46:46 47:13 47:39 48:23 49:03 49:37
100%
50
0
43:00 44:00 45:00 46:00 47:00 48:00 49:00 50:00 Time
4.2E6 2.1E6 0.0E0
4.6E6 2.3E6 0.0E0
5.7E6 2.8E6 0.0E0
6.3E6 3.1E6 0.0E0
7.1E5 3.6E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,760.0,5.00%,F,T)
A1.60E7
A1.81E7
A2.14E7
A1.28E6
429.7606 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1916.0,5.00%,F,T)
A1.80E7
A2.04E7
A2.42E7
A1.42E6
439.8038 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,684.0,5.00%,F,T)
A2.04E7
A2.83E7
441.8008 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A2.32E7
A3.21E7
454.9728 S:11 F:6 SMO(1,3)
50:18 51:03 51:35 52:03 52:40 53:03 53:33 54:10 54:33 55:14 55:59
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.8E6 1.9E6 0.0E0
4.3E6 2.1E6 0.0E0
5.1E6 2.5E6 0.0E0
5.7E6 2.9E6 0.0E0
5.0E5 2.5E5 0.0E0


File:PB8C_260 #1-495 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
461.7245 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,728.0,5.00%,F,T)
A1.76E7
A1.83E7
A1.39E7
463.7216 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A2.24E7
A2.33E7
A1.73E7
473.7648 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,200.0,5.00%,F,T)
A2.18E7
A1.77E7
475.7619 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A2.82E7
A2.33E7
454.9728 S:11 F:6 SMO(1,3)
50:18
51:03
51:35
52:03
52:40
53:03
53:33
54:10
54:33
55:14
55:59
100%
50
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time
3.2E6
1.6E6
0.0E0
4.2E6
2.1E6
3.9E6
2.0E6
5.0E6
2.5E6
5.0E5
2.5E5


File:PB8C_260 #1-495 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
497.6826 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,208.0,5.00%,F,T)
A2.01E7
499.6797 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,216.0,5.00%,F,T)
A1.72E7
509.7229 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,216.0,5.00%,F,T)
A2.54E7
511.7199 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,232.0,5.00%,F,T)
A2.23E7
454.9728 S:11 F:6 SMO(1,3)
56:41 56:47 57:04 57:16 57:21 57:27 57:48
100%
50
0
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time
3.6E6
1.8E6
0.0E0
3.1E6
1.5E6
4.4E6
2.2E6
3.9E6
2.0E6
5.0E5
2.5E5


File:PB8C_260 #1-470 Acq: 8-AUG-2018 06:22:20 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
337.9207 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1632.0,5.00%,F,T)
A5.84E7
A4.04E7
A4.76E7
339.9178 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1296.0,5.00%,F,T)
A3.71E7
A2.56E7
A2.96E7
330.9792 S:11 F:4 SMO(1,3)
28:11 28:56 29:29 30:01 30:40 31:06 31:43 32:33 33:17 33:53 34:21 34:48 35:30 35:57
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time

www.axysanalytical.com

Experiment : PB-OCTYL-2_05
GC Program : PB-OCTYL-2_02
Column type : OCTYL
Serial # : 60165-04B/55632
kPa : 269
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 270
-s resv: 160
-re_ent: 270
-cap_1 : 270
-cap_2 : 270

Tune : SY
List : BA
Check :
LIMS :
Logfile:

Date -list : 08-AUG-2018
-liner : 03-AUG-2018
-septum: 03-AUG-2018
-guard : NEW 03-AUG-2018
-column: NEW 03-JUN-2018
-t line: 45CM 03-JUN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	PB8C_261	1	1	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 07:38:49
2	PB8C_261	2	2	WG64446-102,,SPM	1,WG64446,1.0/20uL	8-AUG-18 08:42:25
3	PB8C_261	3	3	PB053A-SUR,,/02	1,,1.0uL Inst Blank	8-AUG-18 09:46:02
4	PB8C_261	4	4	WG64446-101,,BLK	1,WG64446,1.0/20uL	8-AUG-18 10:49:49
5	PB8C_261	5	5	WG64784-101,,BLK	1,WG64784,2.0/20uL	8-AUG-18 11:53:38
6	PB8C_261	6	6	L13328-90,,PRF	1,WG64784,2.0/20uL	8-AUG-18 12:57:22
7	PB8C_261	7	7	L29626-9,, 1/10	1,WG64623,1.0/20uL	8-AUG-18 14:01:03
8	PB8C_261	8	8	L29579-21,,	1,WG64446,1.0/20uL	8-AUG-18 15:04:42
9	PB8C_261	9	9	L29579-22,,	1,WG64446,1.0/20uL	8-AUG-18 16:08:22
10	PB8C_261	10	10	WG64623-104,,CRM 1/10	1,WG64623,1.0/~~100uL~~ 20µL	8-AUG-18 17:12:02
11	PB8C_261	11	11	PB109A-CAL,,/01-23	1,,1.0uL Cal Win/Res	8-AUG-18 18:15:40

BJ 16 Aug 2018

Run #8 Filename PB8C_261 S: 1 I: 1 Acquired: 8-AUG-18 07:38:49 Processed: 9-AUG-18 07:04:55
Run: pb8c_261-c Analyte: 1668a-cv8 Cal: pb8c_220-7a Results: pb8c_261-c Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res
sample size: 1.000000 conc units: ng/mL total toxicity: 1361.40 F1: 1.0000 F2: 1.0000

	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.47e+07	3.07	y	11:29	23.774	24	0.0080	-	n
2	Unk	CL1-PCB-3	1	3.40e+07	3.07	y	13:43	25.925	26	0.0111	-	n
3	Unk	CL2-PCB-4	1	1.96e+07	1.55	y	13:58	24.047	24	0.0965	-	n
4	Unk	CL2-PCB-15	1	3.23e+07	1.53	y	20:02	28.928	29	0.0916	-	n
5	Unk	CL3-PCB-19	1	2.08e+07	1.06	y	17:07	25.926	26	0.0171	-	n
6	Unk	CL3-PCB-37	1	2.51e+07	1.04	y	27:19	24.177	24	0.2531	-	n
7	Unk	CL4-PCB-54	1	5.36e+07	0.78	y	20:17	50.997	51	0.0228	-	n
8	Unk	CL4-PCB-81	1	4.30e+07	0.79	y	34:21	46.770	47	2.5400	-	y
9	Unk	CL4-PCB-77	1	4.38e+07	0.77	y	34:57	46.909	47	2.5690	-	y
10	Unk	CL5-PCB-104	1	4.50e+07	1.54	y	25:59	50.788	51	0.0106	-	n
11	Unk	CL5-PCB-123	1	3.92e+07	1.56	y	37:00	49.340	49	2.5464	-	n
12	Unk	CL5-PCB-118	1	4.06e+07	1.55	y	37:21	49.700	50	2.4963	-	n
13	Unk	CL5-PCB-114	1	4.07e+07	1.55	y	37:54	51.244	51	2.6373	-	n
14	Unk	CL5-PCB-105	1	4.27e+07	1.59	y	38:35	53.777	54	2.6089	-	n
15	Unk	CL5-PCB-126	1	3.67e+07	1.53	y	41:50	54.280	54	3.1676	-	n
16	Unk	CL6-PCB-155	1	4.31e+07	1.23	y	31:51	51.302	51	0.0118	-	y
17	Unk	CL6-PCB-167	1	3.74e+07	1.29	y	43:44	56.783	57	1.7080	-	n
18	Unk	CL6-PCB-156/157	1	6.97e+07	1.31	y	44:57	104.371	104	2.2654	-	y
19	Unk	CL6-PCB-169	1	3.39e+07	1.35	y	48:22	52.591	53	1.8140	-	n
20	Unk	CL7-PCB-188	1	3.27e+07	1.05	y	37:51	50.466	50	0.0233	-	n
21	Unk	CL7-PCB-189	1	2.85e+07	1.04	y	51:00	46.499	46	0.0722	-	n
22	Unk	CL8-PCB-202	1	4.43e+07	0.90	y	43:27	79.805	80	0.0165	-	n
23	Unk	CL8-PCB-205	1	4.25e+07	0.89	y	53:41	76.524	77	0.0427	-	n
24	Unk	CL9-PCB-208	1	3.77e+07	0.78	y	50:27	85.869	86	0.0833	-	n
25	Unk	CL9-PCB-206	1	2.97e+07	0.80	y	55:29	76.325	76	0.0972	-	n
26	Unk	CL10-PCB-209	1	3.53e+07	1.18	y	57:08	74.280	74	0.0195	-	n
27	IS	13C-CL1-PCB-1	1	1.36e+08	3.15	y	11:28	91.801	0	0.1383	91.8	n
28	IS	13C-CL1-PCB-3	1	1.21e+08	3.17	y	13:42	86.021	0	0.1452	86.0	n
29	IS	13C-CL2-PCB-4	1	8.22e+07	1.59	y	13:57	91.588	0	0.1480	91.6	n
30	IS	13C-CL2-PCB-15	1	1.23e+08	1.58	y	20:01	87.600	0	0.0949	87.6	n
31	IS	13C-CL3-PCB-19	1	7.52e+07	1.06	y	17:06	101.783	0	0.2978	101.8	n
32	IS	13C-CL3-PCB-37	1	1.04e+08	1.06	y	27:18	81.962	0	0.2957	82.0	n
33	REF	13C-CL4-CHECK	1	9.96e+07	0.79	y	20:16	89.822	0	0.0598	89.8	n
34	IS	13C-CL4-PCB-81	1	8.93e+07	0.76	y	34:20	92.304	0	0.0810	92.3	n
35	IS	13C-CL4-PCB-77	1	9.09e+07	0.75	y	34:55	92.382	0	0.0797	92.4	n
36	IS	13C-CL5-PCB-104	1	8.32e+07	1.58	y	25:57	88.562	0	0.0109	88.6	n
37	IS	13C-CL5-PCB-123	1	8.10e+07	1.57	y	36:59	91.340	0	0.1322	91.3	n
38	IS	13C-CL5-PCB-118	1	7.81e+07	1.56	y	37:19	89.866	0	0.1349	89.9	n
39	IS	13C-CL5-PCB-114	1	7.50e+07	1.59	y	37:53	86.904	0	0.1359	86.9	n
40	IS	13C-CL5-PCB-105	1	7.74e+07	1.58	y	38:34	86.619	0	0.1313	86.6	n
41	IS	13C-CL5-PCB-126	1	6.47e+07	1.58	y	41:49	81.145	0	0.1470	81.1	n
42	IS	13C-CL6-PCB-155	1	8.24e+07	1.27	y	31:50	98.507	0	0.0106	98.5	n
43	IS	13C-CL6-PCB-167	1	5.92e+07	1.23	y	43:43	91.680	0	0.0285	91.7	n
44	IS	13C-CL6-PCB-156/157	1	1.21e+08	1.27	y	44:56	180.230	0	0.0273	90.1	n

PV by RA 09AUG2018

45	IS	13C-CL6-PCB-169	1	6.11e+07	1.26	y	48:21	91.406	0	0.0275	91.4	n
46	REF	13C-CL7-CHECK	1	6.65e+07	1.05	y	37:49	86.770	0	0.0107	86.8	n
47	IS	13C-CL7-PCB-189	1	5.78e+07	1.02	y	50:59	93.883	0	0.0555	93.9	n
48	IS	13C-CL8-PCB-202	1	6.36e+07	0.89	y	43:26	87.692	0	0.0117	87.7	n
49	IS	13C-CL8-PCB-205	1	5.62e+07	0.88	y	53:39	91.951	0	0.0218	92.0	n
50	IS	13C-CL9-PCB-208	1	4.65e+07	0.78	y	50:26	84.924	0	0.0222	84.9	n
51	IS	13C-CL9-PCB-206	1	3.88e+07	0.76	y	55:27	87.019	0	0.0273	87.0	n
52	IS	13C-CL10-PCB-209	1	4.47e+07	1.21	y	57:07	79.804	0	0.0162	79.8	n
53	RS	13C-CL2-PCB-9	1	1.31e+08	1.57	y	15:58	71.304	0	-	-	n
54	RS	13C-CL4-PCB-52	1	7.49e+07	0.79	y	25:00	81.539	0	-	-	n
55	RS	13C-CL5-PCB-101	1	6.37e+07	1.60	y	32:07	81.912	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	5.03e+07	1.27	y	40:34	70.742	0	-	-	n
57	RS	13C-CL8-PCB-194	1	4.06e+07	0.89	y	53:09	72.038	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	1.16e+08	1.03	y	23:07	91.376	0	0.2939	91.4	n
59	C/Up	13C-CL5-PCB-111	1	7.41e+07	1.61	y	34:56	86.931	0	0.0618	86.9	n
60	C/Up	13C-CL7-PCB-178	1	4.23e+07	1.06	y	41:02	88.522	0	0.0166	88.5	n
61	IS	13C-CL4-PCB-54	1	9.96e+07	0.79	y	20:16	89.822	0	0.0598	89.8	n
62	IS	13C-CL7-PCB-188	1	6.65e+07	1.05	y	37:49	86.770	0	0.0107	86.8	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

Run #1 Filename PB8C_261 S: 1 I: 1 Acquired: 8-AUG-18 07:38:49 Processed: 9-AUG-18 07:06:41
Run: pb8c_261-cc Analyte: 1668xb-c8 Cal: pb8c_261-1c Results: pb8c_261-cc Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res F1: 1.00 F2: 1.00

	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL1-PCB-2	25.00	3.24e+07	3.13 y	13:32	-	1.0079	n	n
2	Unk	CL2-PCB-10	25.00	3.10e+07	1.55 y	14:08	-	1.2115	n	n
3	Unk	CL2-PCB-9	25.00	3.14e+07	1.52 y	15:59	-	1.2252	n	n
4	Unk	CL2-PCB-7	25.00	3.12e+07	1.55 y	16:09	-	1.2193	n	n
5	Unk	CL2-PCB-6	25.00	3.22e+07	1.54 y	16:24	-	1.2566	n	n
6	Unk	CL2-PCB-5	25.00	2.79e+07	1.54 y	16:42	-	1.0914	n	n
7	Unk	CL2-PCB-8	25.00	3.51e+07	1.55 y	16:50	-	1.3727	n	n
8	Unk	CL2-PCB-14	25.00	3.04e+07	1.52 y	18:31	-	1.1870	n	n
9	Unk	CL2-PCB-11	25.00	2.95e+07	1.56 y	19:23	-	1.1515	n	n
10	Unk	CL2-PCB-12/13	50.00	5.94e+07	1.55 y	19:43	-	1.1611	n	n
11	Unk	CL3-PCB-30/18	50.00	5.19e+07	1.06 y	19:01	-	1.1606	n	n
12	Unk	CL3-PCB-17	25.00	2.22e+07	1.09 y	19:28	-	0.9922	n	n
13	Unk	CL3-PCB-27	25.00	3.17e+07	1.07 y	19:42	-	1.4163	n	n
14	Unk	CL3-PCB-24	25.00	2.89e+07	1.05 y	19:49	-	1.2909	n	n
15	Unk	CL3-PCB-16	25.00	1.96e+07	1.10 y	19:57	-	0.8753	n	n
16	Unk	CL3-PCB-32	25.00	2.85e+07	1.01 y	20:29	-	1.2743	n	n
17	Unk	CL3-PCB-34	25.00	2.69e+07	1.02 y	21:46	-	1.2033	n	y
18	Unk	CL3-PCB-23	25.00	2.68e+07	1.01 y	21:56	-	1.1984	n	n
19	Unk	CL3-PCB-26/29	50.00	5.50e+07	1.01 y	22:16	-	1.2289	n	n
20	Unk	CL3-PCB-25	25.00	3.22e+07	1.01 y	22:31	-	1.4385	n	n
21	Unk	CL3-PCB-31	25.00	2.94e+07	1.02 y	22:50	-	1.3161	n	n
22	Unk	CL3-PCB-28/20	50.00	5.61e+07	1.03 y	23:08	-	1.2530	n	y
23	Unk	CL3-PCB-21/33	50.00	5.80e+07	1.02 y	23:20	-	1.2971	n	y
24	Unk	CL3-PCB-22	25.00	2.53e+07	1.01 y	23:47	-	1.1312	n	n
25	Unk	CL3-PCB-36	25.00	2.97e+07	1.02 y	25:25	-	1.3278	n	n
26	Unk	CL3-PCB-39	25.00	2.76e+07	1.02 y	25:48	-	1.2332	n	n
27	Unk	CL3-PCB-38	25.00	2.69e+07	1.00 y	26:23	-	1.2029	n	n
28	Unk	CL3-PCB-35	25.00	2.68e+07	1.03 y	26:54	-	1.1999	n	n
29	Unk	CL4-PCB-50/53	100.00	8.46e+07	0.78 y	22:31	-	0.9070	n	y
30	Unk	CL4-PCB-45/51	100.00	8.12e+07	0.79 y	23:15	-	0.8706	n	y
31	Unk	CL4-PCB-46	50.00	3.62e+07	0.79 y	23:32	-	0.7753	n	n
32	Unk	CL4-PCB-52	50.00	4.39e+07	0.78 y	25:01	-	0.9415	n	n
33	Unk	CL4-PCB-73	50.00	5.25e+07	0.78 y	25:09	-	1.1247	n	n
34	Unk	CL4-PCB-43	50.00	3.65e+07	0.78 y	25:15	-	0.7822	n	n
35	Unk	CL4-PCB-69/49	100.00	9.68e+07	0.78 y	25:29	-	1.0378	n	n
36	Unk	CL4-PCB-48	50.00	4.11e+07	0.79 y	25:48	-	0.8802	n	n
37	Unk	CL4-PCB-44/47/65	150.00	1.34e+08	0.79 y	26:04	-	0.9577	n	n
38	Unk	CL4-PCB-59/62/75	150.00	1.64e+08	0.78 y	26:23	-	1.1713	n	n
39	Unk	CL4-PCB-42	50.00	4.01e+07	0.79 y	26:36	-	0.8601	n	n
40	Unk	CL4-PCB-41/40/71	150.00	1.22e+08	0.78 y	27:04	-	0.8712	n	y
41	Unk	CL4-PCB-64	50.00	5.64e+07	0.78 y	27:20	-	1.2097	n	n
42	Unk	CL4-PCB-72	50.00	5.22e+07	0.77 y	28:13	-	1.1186	n	y
43	Unk	CL4-PCB-68	50.00	5.16e+07	0.77 y	28:31	-	1.1060	n	y
44	Unk	CL4-PCB-57	50.00	4.96e+07	0.77 y	28:57	-	1.0630	n	y

PV by RA 09AUG2018

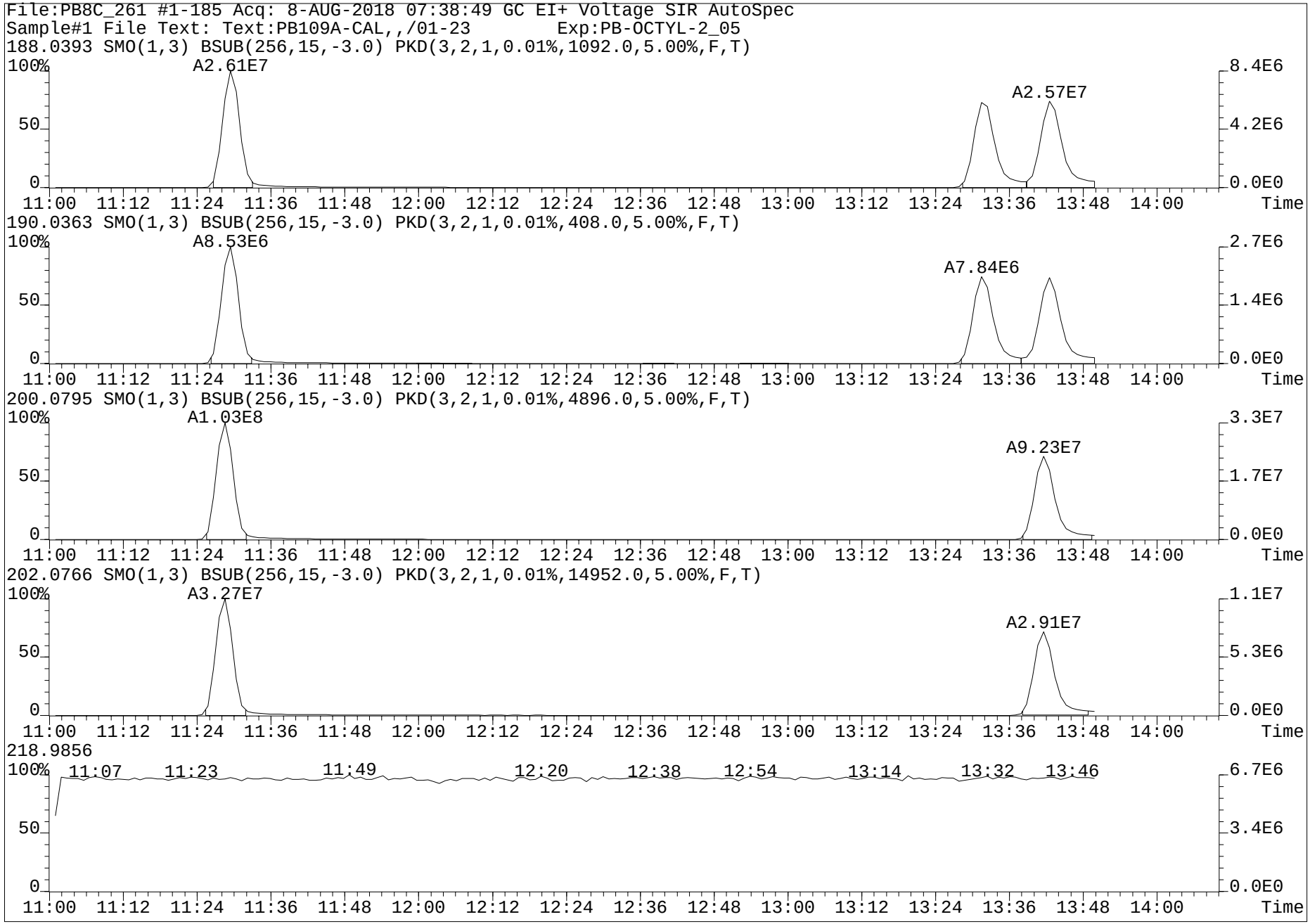
45	Unk	CL4-PCB-58	50.00	4.95e+07	0.77 y	29:12	-	1.0612	n	y
46	Unk	CL4-PCB-67	50.00	5.70e+07	0.77 y	29:23	-	1.2220	n	y
47	Unk	CL4-PCB-63	50.00	4.63e+07	0.76 y	29:39	-	0.9924	n	y
48	Unk	CL4-PCB-61/70/74/76	200.00	1.98e+08	0.79 y	30:00	-	1.0595	n	y
49	Unk	CL4-PCB-66	50.00	4.63e+07	0.76 y	30:20	-	0.9928	n	y
50	Unk	CL4-PCB-55	50.00	4.12e+07	0.77 y	30:30	-	0.8843	n	y
51	Unk	CL4-PCB-56	50.00	4.56e+07	0.79 y	31:02	-	0.9778	n	y
52	Unk	CL4-PCB-60	50.00	4.65e+07	0.76 y	31:15	-	0.9960	n	y
53	Unk	CL4-PCB-80	50.00	5.14e+07	0.76 y	31:42	-	1.1026	n	y
54	Unk	CL4-PCB-79	50.00	5.53e+07	0.78 y	33:18	-	1.1866	n	y
55	Unk	CL4-PCB-78	50.00	4.60e+07	0.76 y	33:53	-	0.9859	n	y
56	Unk	CL5-PCB-96	50.00	4.57e+07	1.56 y	26:22	-	1.1586	n	n
57	Unk	CL5-PCB-103	50.00	3.79e+07	1.59 y	28:22	-	0.9616	n	y
58	Unk	CL5-PCB-94	50.00	3.10e+07	1.58 y	28:37	-	0.7843	n	n
59	Unk	L5-PCB-95/100/93/102/98	250.00	1.74e+08	1.58 y	29:19	-	0.8821	n	y
60	Unk	CL5-PCB-88/91	100.00	6.61e+07	1.59 y	29:55	-	0.8374	n	y
61	Unk	CL5-PCB-84	50.00	2.94e+07	1.63 y	30:12	-	0.7441	n	n
62	Unk	CL5-PCB-89	50.00	3.05e+07	1.61 y	30:42	-	0.7729	n	n
63	Unk	CL5-PCB-121	50.00	4.26e+07	1.62 y	31:08	-	1.0796	n	n
64	Unk	CL5-PCB-92	50.00	3.18e+07	1.56 y	31:32	-	0.8051	n	n
65	Unk	CL5-PCB-113/90/101	150.00	1.12e+08	1.59 y	32:07	-	0.9433	n	n
66	Unk	CL5-PCB-83/99	100.00	6.27e+07	1.59 y	32:41	-	0.7942	n	y
67	Unk	CL5-PCB-112	50.00	4.34e+07	1.57 y	32:52	-	1.0986	n	y
68	Unk	CB-109/119/86/97/125/87	300.00	2.21e+08	1.60 y	33:17	-	0.9345	n	y
69	Unk	CL5-PCB-117/116/85	150.00	1.13e+08	1.58 y	33:59	-	0.9546	n	n
70	Unk	CL5-PCB-110/115	100.00	8.44e+07	1.57 y	34:15	-	1.0694	n	n
71	Unk	CL5-PCB-82	50.00	2.85e+07	1.58 y	34:32	-	0.7215	n	n
72	Unk	CL5-PCB-111	50.00	4.18e+07	1.58 y	34:58	-	1.0582	n	n
73	Unk	CL5-PCB-120	50.00	4.34e+07	1.55 y	35:26	-	1.1001	n	n
74	Unk	CL5-PCB-108/124	100.00	8.17e+07	1.54 y	36:38	-	1.0345	n	n
75	Unk	CL5-PCB-107	50.00	4.36e+07	1.53 y	36:53	-	1.1043	n	n
76	Unk	CL5-PCB-106	50.00	4.47e+07	1.53 y	37:08	-	1.1335	n	n
77	Unk	CL5-PCB-122	50.00	3.70e+07	1.55 y	37:43	-	0.9373	n	n
78	Unk	CL5-PCB-127	50.00	3.83e+07	1.58 y	40:08	-	0.9693	n	n
79	Unk	CL6-PCB-152	50.00	4.28e+07	1.26 y	32:05	-	1.3195	n	n
80	Unk	CL6-PCB-150	50.00	3.96e+07	1.26 y	32:15	-	1.2213	n	n
81	Unk	CL6-PCB-136	50.00	4.08e+07	1.27 y	32:38	-	1.2582	n	n
82	Unk	CL6-PCB-145	50.00	3.77e+07	1.26 y	32:57	-	1.1648	n	n
83	Unk	CL6-PCB-148	50.00	2.93e+07	1.25 y	34:31	-	0.9034	n	n
84	Unk	CL6-PCB-151/135/154	150.00	9.14e+07	1.26 y	35:16	-	0.9402	n	y
85	Unk	CL6-PCB-144	50.00	2.95e+07	1.29 y	35:45	-	0.9095	n	n
86	Unk	CL6-PCB-147/149	100.00	6.44e+07	1.26 y	36:07	-	0.9938	n	n
87	Unk	CL6-PCB-134/143	100.00	5.82e+07	1.25 y	36:23	-	0.8988	n	y
88	Unk	CL6-PCB-139/140	100.00	6.40e+07	1.23 y	36:44	-	0.9869	n	n
89	Unk	CL6-PCB-131	50.00	2.81e+07	1.25 y	36:57	-	0.8687	n	n
90	Unk	CL6-PCB-142	50.00	2.80e+07	1.26 y	37:07	-	0.8652	n	n
91	Unk	CL6-PCB-132	50.00	2.68e+07	1.30 y	37:26	-	0.8286	n	n
92	Unk	CL6-PCB-133	50.00	2.82e+07	1.29 y	37:58	-	0.8695	n	n
93	Unk	CL6-PCB-165	50.00	3.44e+07	1.24 y	38:23	-	1.0617	n	n
94	Unk	CL6-PCB-146	50.00	3.37e+07	1.28 y	38:38	-	1.0393	n	n
95	Unk	CL6-PCB-161	50.00	3.97e+07	1.30 y	38:46	-	1.2254	n	y
96	Unk	CL6-PCB-153/168	100.00	7.13e+07	1.27 y	39:18	-	1.0997	n	n
97	Unk	CL6-PCB-141	50.00	3.02e+07	1.28 y	39:29	-	0.9322	n	n

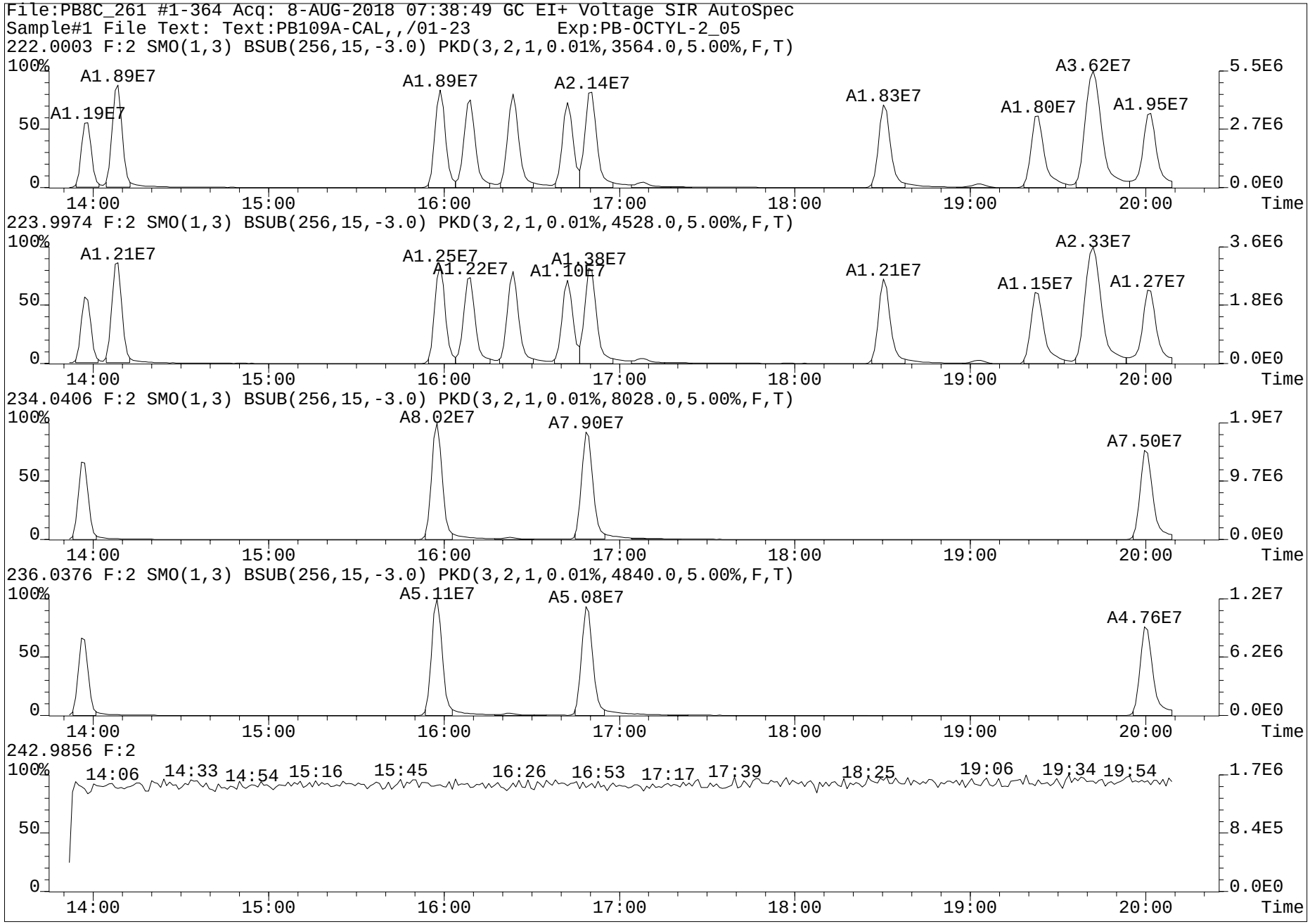
www.axysanalytical.com

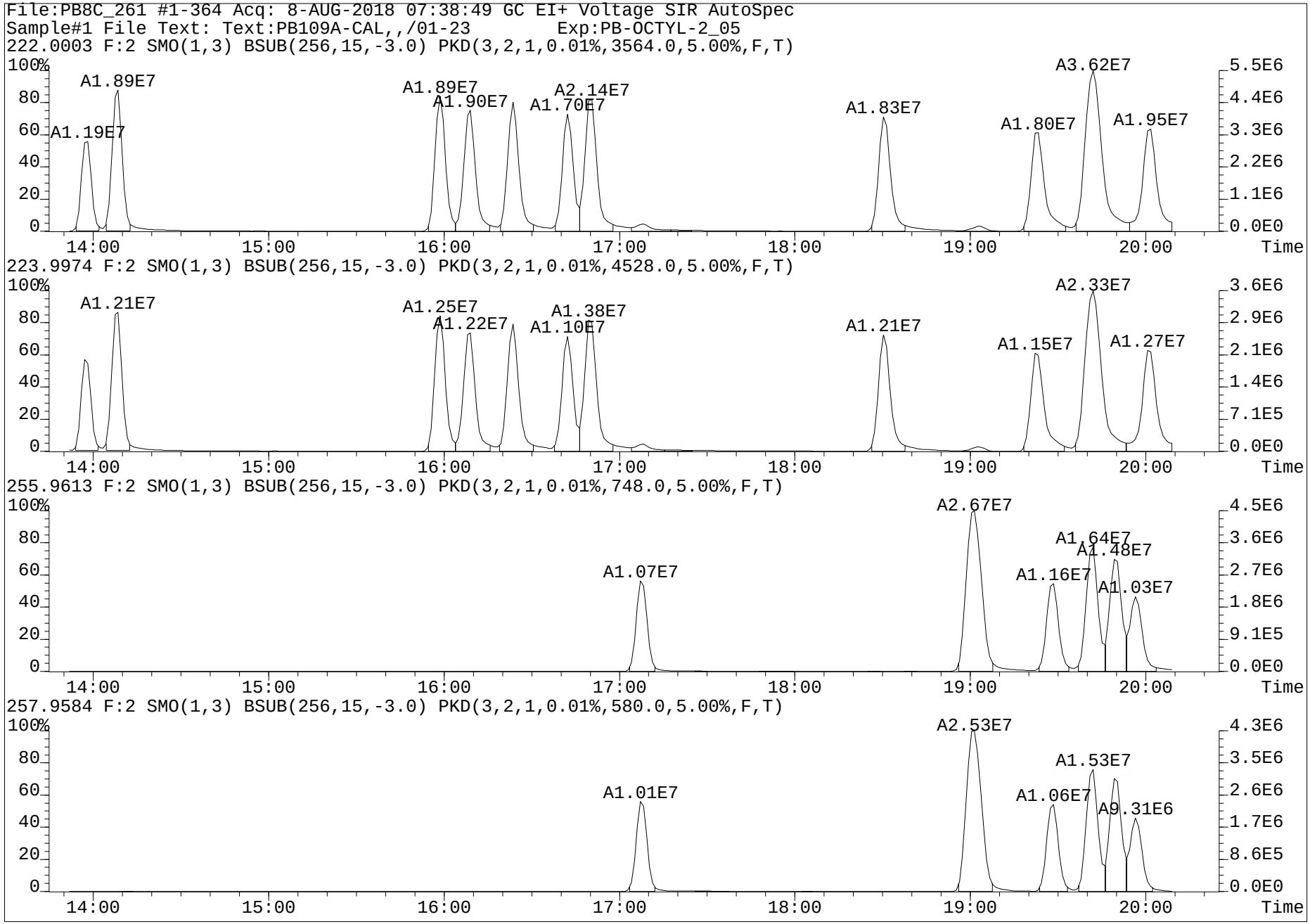
98	Unk	CL6-PCB-130	50.00	2.41e+07	1.27	y	39:55	-	0.7442	n	y
99	Unk	CL6-PCB-137	50.00	2.64e+07	1.25	y	40:08	-	0.8144	n	n
1»	Unk	CL6-PCB-164	50.00	3.60e+07	1.29	y	40:16	-	1.1109	n	n
1»	Unk	CL6-PCB-138/163/129/160	200.00	1.20e+08	1.24	y	40:40	-	0.9251	n	y
1»	Unk	CL6-PCB-158	50.00	3.84e+07	1.25	y	41:00	-	1.1867	n	n
1»	Unk	CL6-PCB-128/166	100.00	5.83e+07	1.27	y	41:53	-	0.9000	n	y
1»	Unk	CL6-PCB-159	50.00	3.41e+07	1.28	y	42:56	-	1.0516	n	y
1»	Unk	CL6-PCB-162	50.00	3.73e+07	1.27	y	43:16	-	1.1514	n	n
1»	Unk	CL7-PCB-179	50.00	3.42e+07	1.05	y	38:12	-	1.1006	n	n
1»	Unk	CL7-PCB-184	50.00	3.49e+07	1.05	y	38:44	-	1.1215	n	n
1»	Unk	CL7-PCB-176	50.00	3.27e+07	1.06	y	39:07	-	1.0532	n	n
1»	Unk	CL7-PCB-186	50.00	3.08e+07	1.05	y	39:36	-	0.9903	n	n
1»	Unk	CL7-PCB-178	50.00	2.24e+07	1.06	y	41:03	-	0.7204	n	n
1»	Unk	CL7-PCB-175	50.00	2.24e+07	1.04	y	41:43	-	0.7208	n	n
1»	Unk	CL7-PCB-187	50.00	2.54e+07	1.03	y	42:00	-	0.8162	n	n
1»	Unk	CL7-PCB-182	50.00	2.29e+07	1.06	y	42:11	-	0.7365	n	y
1»	Unk	CL7-PCB-183/185	100.00	4.44e+07	1.05	y	42:41	-	0.7141	n	y
1»	Unk	CL7-PCB-174	50.00	2.32e+07	1.05	y	42:53	-	0.7476	n	n
1»	Unk	CL7-PCB-177	50.00	3.07e+07	1.04	y	43:20	-	0.9880	n	y
1»	Unk	CL7-PCB-181	50.00	2.26e+07	1.06	y	43:45	-	0.7273	n	n
1»	Unk	CL7-PCB-171/173	100.00	4.20e+07	1.03	y	43:59	-	0.6762	n	n
1»	Unk	CL7-PCB-172	50.00	2.04e+07	1.05	y	45:43	-	0.6571	n	n
1»	Unk	CL7-PCB-192	50.00	2.53e+07	1.06	y	46:01	-	0.8125	n	n
1»	Unk	CL7-PCB-180/193	118.00	5.35e+07	1.04	y	46:21	-	1.0042	n	n
1»	Unk	CL7-PCB-191	50.00	2.82e+07	1.04	y	46:45	-	0.9058	n	n
1»	Unk	CL7-PCB-170	50.00	2.10e+07	1.04	y	47:43	-	1.1324	n	n
1»	Unk	CL7-PCB-190	50.00	2.82e+07	1.05	y	48:15	-	0.9063	n	y
1»	Unk	CL8-PCB-201	75.00	4.10e+07	0.90	y	44:25	-	0.9130	n	n
1»	Unk	CL8-PCB-204	75.00	4.15e+07	0.89	y	45:07	-	0.9243	n	n
1»	Unk	CL8-PCB-197/200	150.00	8.68e+07	0.89	y	45:25	-	0.9666	n	y
1»	Unk	CL8-PCB-198/199	150.00	6.22e+07	0.89	y	48:24	-	0.6926	n	n
1»	Unk	CL8-PCB-196	75.00	3.16e+07	0.89	y	49:06	-	0.7030	n	y
1»	Unk	CL8-PCB-203	75.00	3.34e+07	0.89	y	49:19	-	0.7433	n	n
1»	Unk	CL8-PCB-195	75.00	3.20e+07	0.88	y	50:43	-	0.7132	n	n
1»	Unk	CL8-PCB-194	75.00	3.57e+07	0.88	y	53:11	-	0.7954	n	n
1»	Unk	CL9-PCB-207	75.00	3.99e+07	0.81	y	51:25	-	1.2473	n	n
1»	IS	13C-CL1-PCB-1	100.00	1.36e+08	3.15	y	11:28	-	1.0352	n	n
1»	IS	13C-CL1-PCB-3	100.00	1.21e+08	3.17	y	13:42	-	0.9242	n	n
1»	IS	13C-CL2-PCB-4	100.00	8.22e+07	1.59	y	13:57	-	0.6257	n	n
1»	IS	13C-CL2-PCB-15	100.00	1.23e+08	1.58	y	20:01	-	0.9332	n	n
1»	IS	13C-CL3-PCB-19	100.00	7.52e+07	1.06	y	17:06	-	0.5722	n	n
1»	IS	13C-CL3-PCB-37	100.00	1.04e+08	1.06	y	27:18	-	1.3860	n	n
1»	REF	13C-CL4-CHECK	100.00	9.96e+07	0.79	y	20:16	-	1.3298	n	n
1»	IS	13C-CL4-PCB-81	100.00	8.93e+07	0.76	y	34:20	-	1.1925	n	n
1»	IS	13C-CL4-PCB-77	100.00	9.09e+07	0.75	y	34:55	-	1.2127	n	n
1»	IS	13C-CL5-PCB-104	100.00	8.32e+07	1.58	y	25:57	-	1.3057	n	n
1»	IS	13C-CL5-PCB-123	100.00	8.10e+07	1.57	y	36:59	-	1.2722	n	n
1»	IS	13C-CL5-PCB-118	100.00	7.81e+07	1.56	y	37:19	-	1.2268	n	n
1»	IS	13C-CL5-PCB-114	100.00	7.50e+07	1.59	y	37:53	-	1.1771	n	n
1»	IS	13C-CL5-PCB-105	100.00	7.74e+07	1.58	y	38:34	-	1.2150	n	n
1»	IS	13C-CL5-PCB-126	100.00	6.47e+07	1.58	y	41:49	-	1.0164	n	n

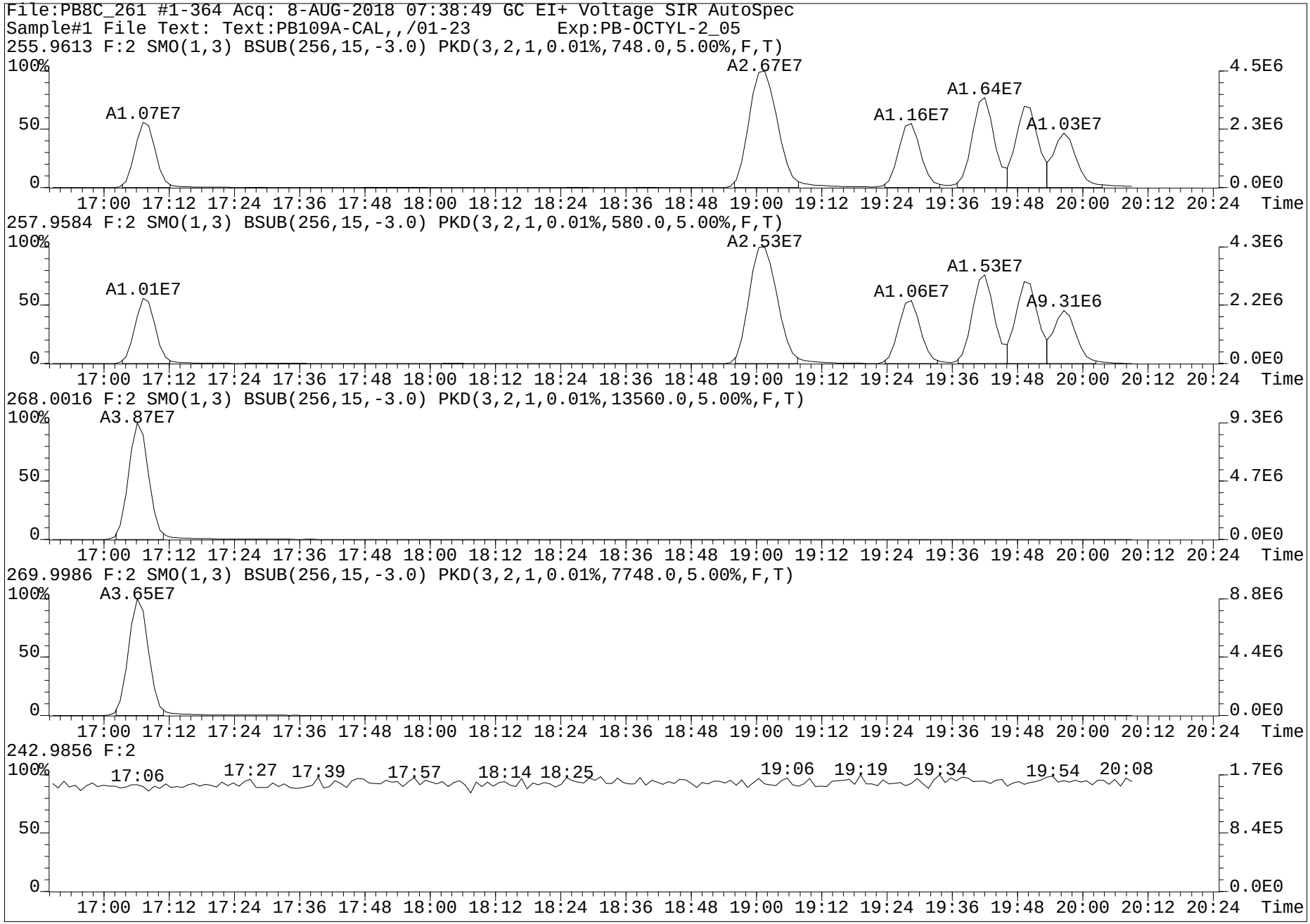
www.axysanalytical.com

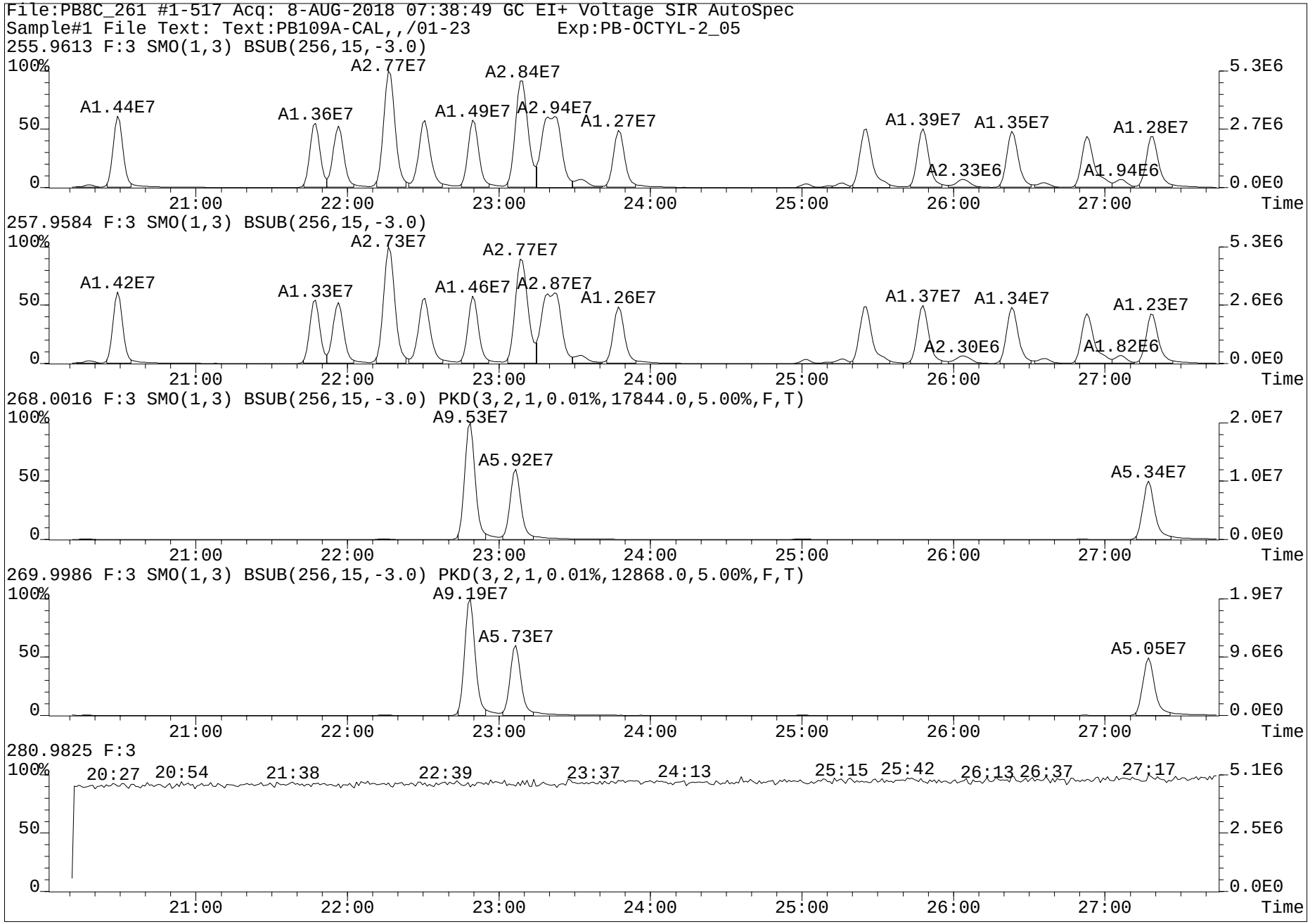
1»	IS	13C-CL6-PCB-155	100.00	8.24e+07	1.27 y	31:50	-	1.6384	n	n
1»	IS	13C-CL6-PCB-167	100.00	5.92e+07	1.23 y	43:43	-	1.1771	n	n
1»	IS	13C-CL6-PCB-156/157	200.00	1.21e+08	1.27 y	44:56	-	1.2069	n	n
1»	IS	13C-CL6-PCB-169	100.00	6.11e+07	1.26 y	48:21	-	1.2157	n	n
1»	IS	13C-CL7-PCB-188	100.00	6.65e+07	1.05 y	37:49	-	1.6362	n	n
1»	IS	13C-CL7-PCB-180	100.00	4.52e+07	1.04 y	46:22	-	1.1112	n	n
1»	IS	13C-CL7-PCB-170	100.00	3.71e+07	1.07 y	47:41	-	0.9134	n	n
1»	IS	13C-CL8-PCB-202	100.00	6.36e+07	0.89 y	43:26	-	1.5645	n	n
1»	IS	13C-CL8-PCB-205	100.00	5.62e+07	0.88 y	53:39	-	1.3829	n	n
1»	IS	13C-CL9-PCB-208	100.00	4.65e+07	0.78 y	50:26	-	1.1444	n	n
1»	IS	13C-CL9-PCB-206	100.00	3.88e+07	0.76 y	55:27	-	0.9548	n	n
1»	RS/RT	13C-CL2-PCB-9	100.00	1.31e+08	1.57 y	15:58	1.31e+06	-	n	n
1»	RS/RT	13C-CL4-PCB-52	100.00	7.49e+07	0.79 y	24:60	7.49e+05	-	n	n
1»	RS/RT	13C-CL5-PCB-101	100.00	6.37e+07	1.60 y	32:07	6.37e+05	-	n	n
1»	RS/RT	13C-CL6-PCB-138	100.00	5.03e+07	1.27 y	40:34	5.03e+05	-	n	n
1»	RS/RT	13C-CL8-PCB-194	100.00	4.06e+07	0.89 y	53:09	4.06e+05	-	n	n
1»	C/Up	13C-CL3-PCB-28	100.00	1.16e+08	1.03 y	23:07	-	1.5547	n	n
1»	C/Up	13C-CL5-PCB-111	100.00	7.41e+07	1.61 y	34:56	-	1.1638	n	n
1»	C/UP	13C-CL7-PCB-178	100.00	4.23e+07	1.06 y	41:02	-	0.8407	n	n
1»	IS	13C-CL4-PCB-54	100.00	9.96e+07	0.79 y	20:16	-	1.3298	n	n
1»	Unk	CL7-PCB-189	50.00	2.85e+07	1.04 y	50:60	-	0.9852	n	n
1»	IS	13C-CL7-PCB-189	100.00	5.78e+07	1.02 y	50:59	-	1.4233	n	n
1»	Unk	CL10-PCB-209	75.00	3.53e+07	1.18 y	57:08	-	1.0539	n	n
1»	IS	13C-CL10-PCB-209	100.00	4.47e+07	1.21 y	57:07	-	1.0996	n	n
1»	LM	CL1-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL2-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL3-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL3-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL4-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL4-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL5-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL6-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL6-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL7-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL7-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL8-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL8-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL9-LOCK	0.00	-		-	-	-	n	n
1»	LM	CL10-LOCK	0.00	-		-	-	-	n	n

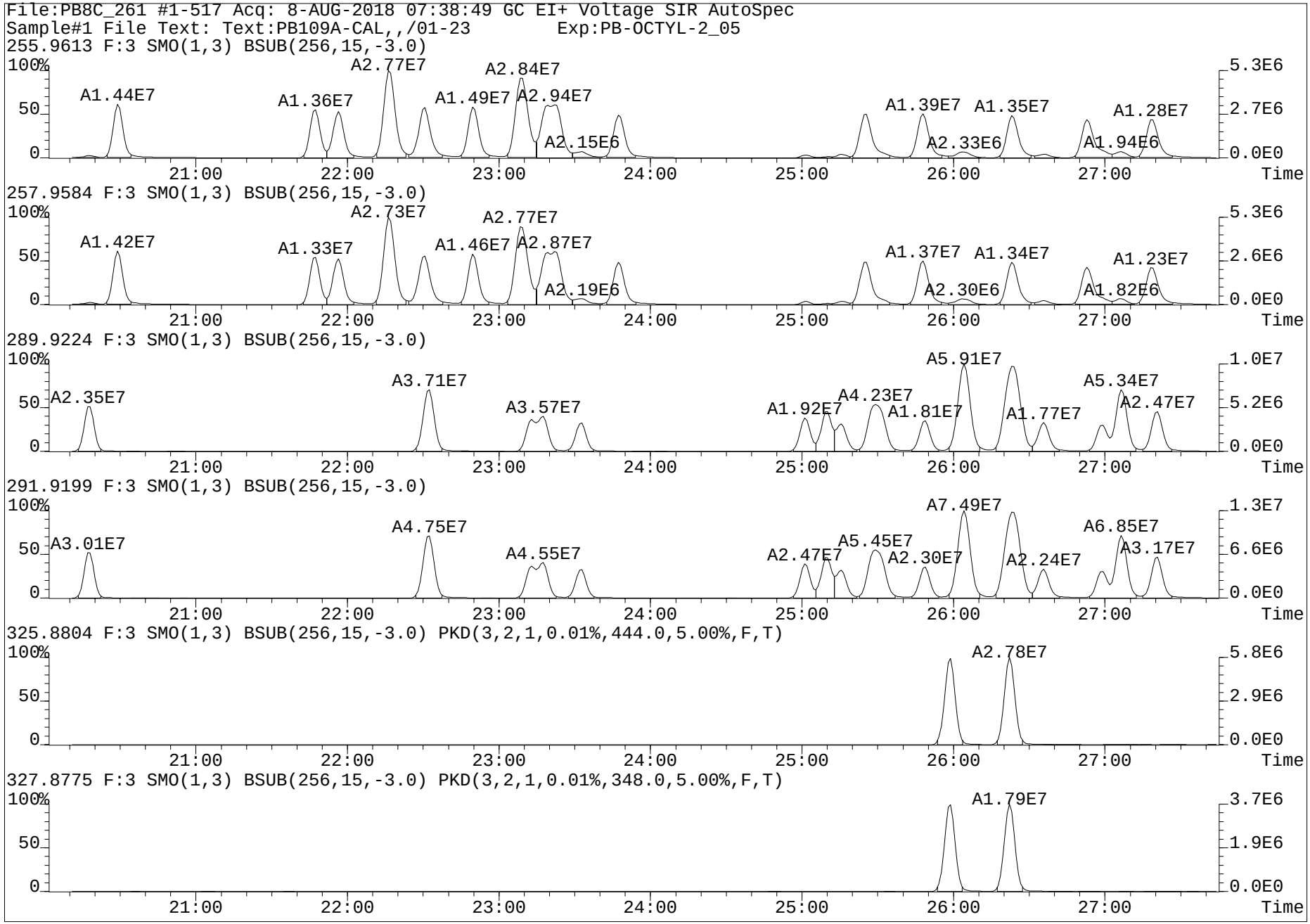

File:PB8C_261 #1-185 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
188.0393 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1092.0,5.00%,F,T)
A2.61E7
A2.57E7
190.0363 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A8.53E6
A7.84E6
200.0795 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4896.0,5.00%,F,T)
A1.03E8
A9.23E7
202.0766 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,14952.0,5.00%,F,T)
A3.27E7
A2.91E7
218.9856
11:07 11:23 11:49 12:20 12:38 12:54 13:14 13:32 13:46
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time
8.4E6
4.2E6
0.0E0
2.7E6
1.4E6
3.3E7
1.7E7
1.1E7
5.3E6
6.7E6
3.4E6

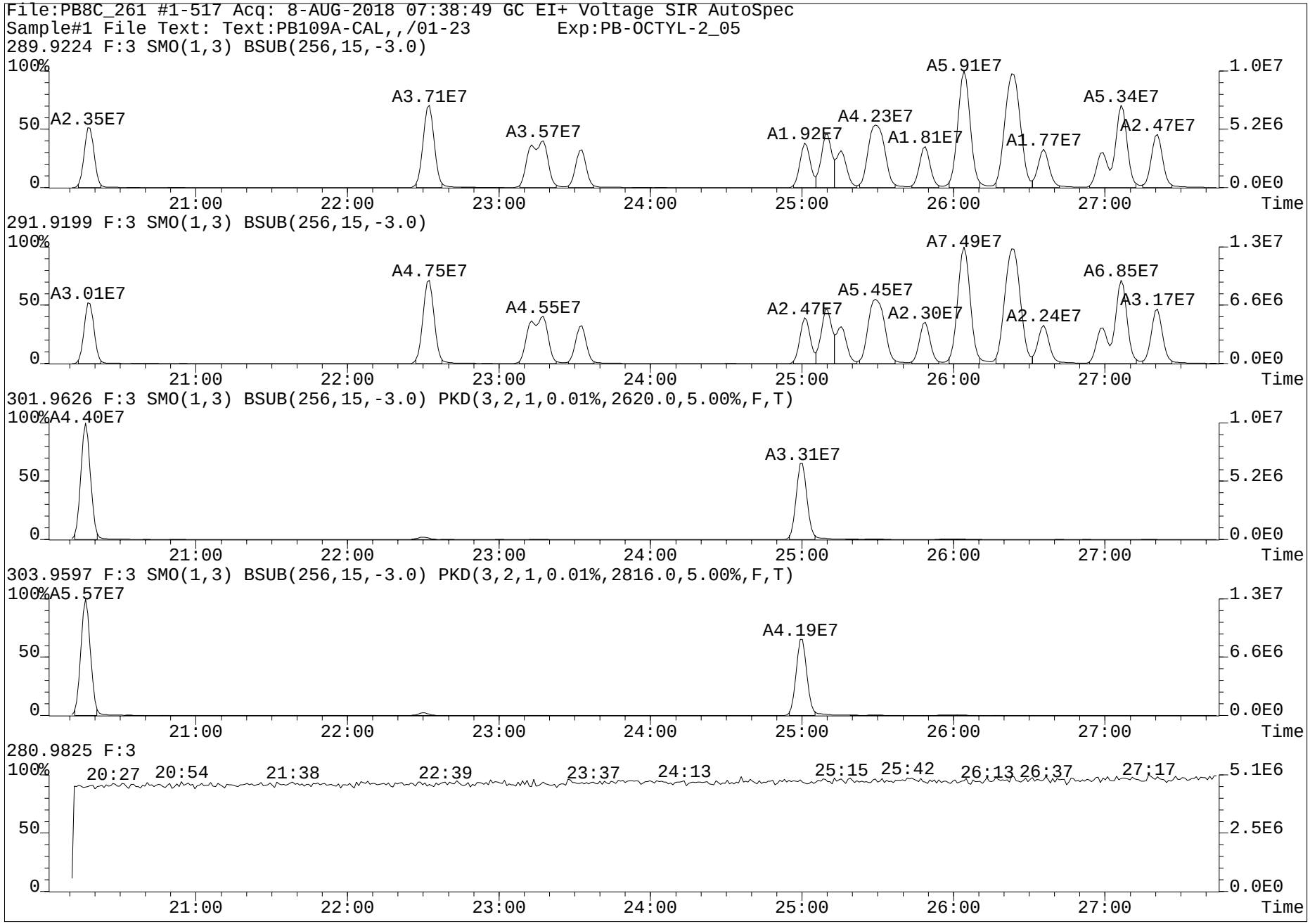

File:PB8C_261 #1-364 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3564.0,5.00%,F,T)
A1.89E7
A1.19E7
A1.89E7
A2.14E7
A1.83E7
A3.62E7
A1.80E7
A1.95E7
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4528.0,5.00%,F,T)
A1.21E7
A1.25E7
A1.22E7
A1.38E7
A1.10E7
A1.21E7
A2.33E7
A1.15E7
A1.27E7
234.0406 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8028.0,5.00%,F,T)
A8.02E7
A7.90E7
A7.50E7
236.0376 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4840.0,5.00%,F,T)
A5.11E7
A5.08E7
A4.76E7
242.9856 F:2
14:06
14:33
14:54
15:16
15:45
16:26
16:53
17:17
17:39
18:25
19:06
19:34
19:54
100%
50
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
5.5E6
2.7E6
0.0E0
3.6E6
1.8E6
1.9E7
9.7E6
1.2E7
6.2E6
1.7E6
8.4E5

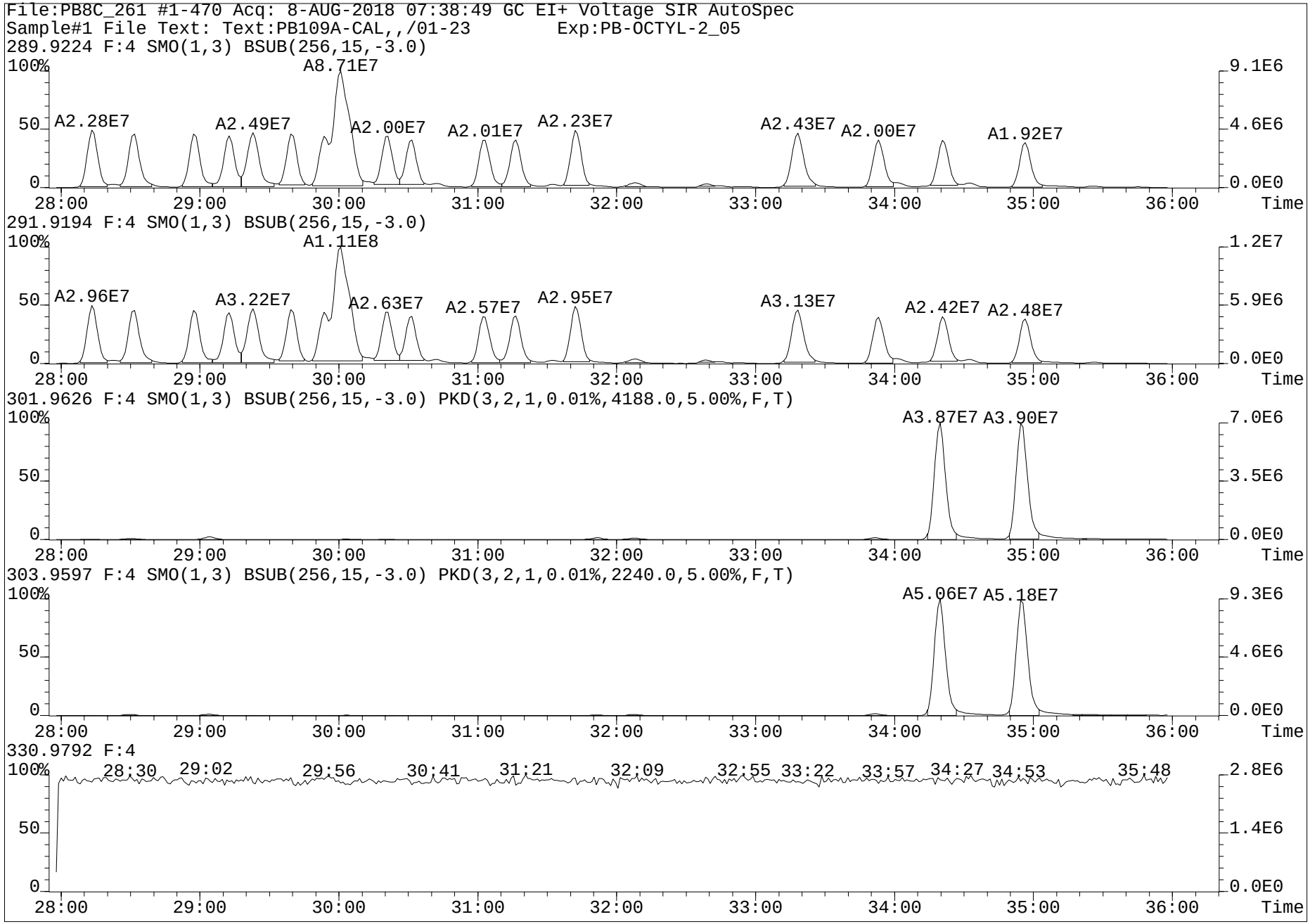

File:PB8C_261 #1-364 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3564.0,5.00%,F,T)
A1.89E7
A1.19E7
A1.89E7
A1.90E7
A1.70E7
A2.14E7
A1.83E7
A1.80E7
A3.62E7
A1.95E7
223.9974 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4528.0,5.00%,F,T)
A1.21E7
A1.25E7
A1.22E7
A1.10E7
A1.38E7
A1.21E7
A1.15E7
A2.33E7
A1.27E7
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,748.0,5.00%,F,T)
A1.07E7
A2.67E7
A1.16E7
A1.64E7
A1.48E7
A1.03E7
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
A1.01E7
A2.53E7
A1.06E7
A1.53E7
A9.31E6
100%
80
60
40
20
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
Time
5.5E6
4.4E6
3.3E6
2.2E6
1.1E6
0.0E0
3.6E6
2.9E6
2.1E6
1.4E6
7.1E5
4.5E6
3.6E6
2.7E6
1.8E6
9.1E5
4.3E6
3.5E6
2.6E6
1.7E6
8.6E5

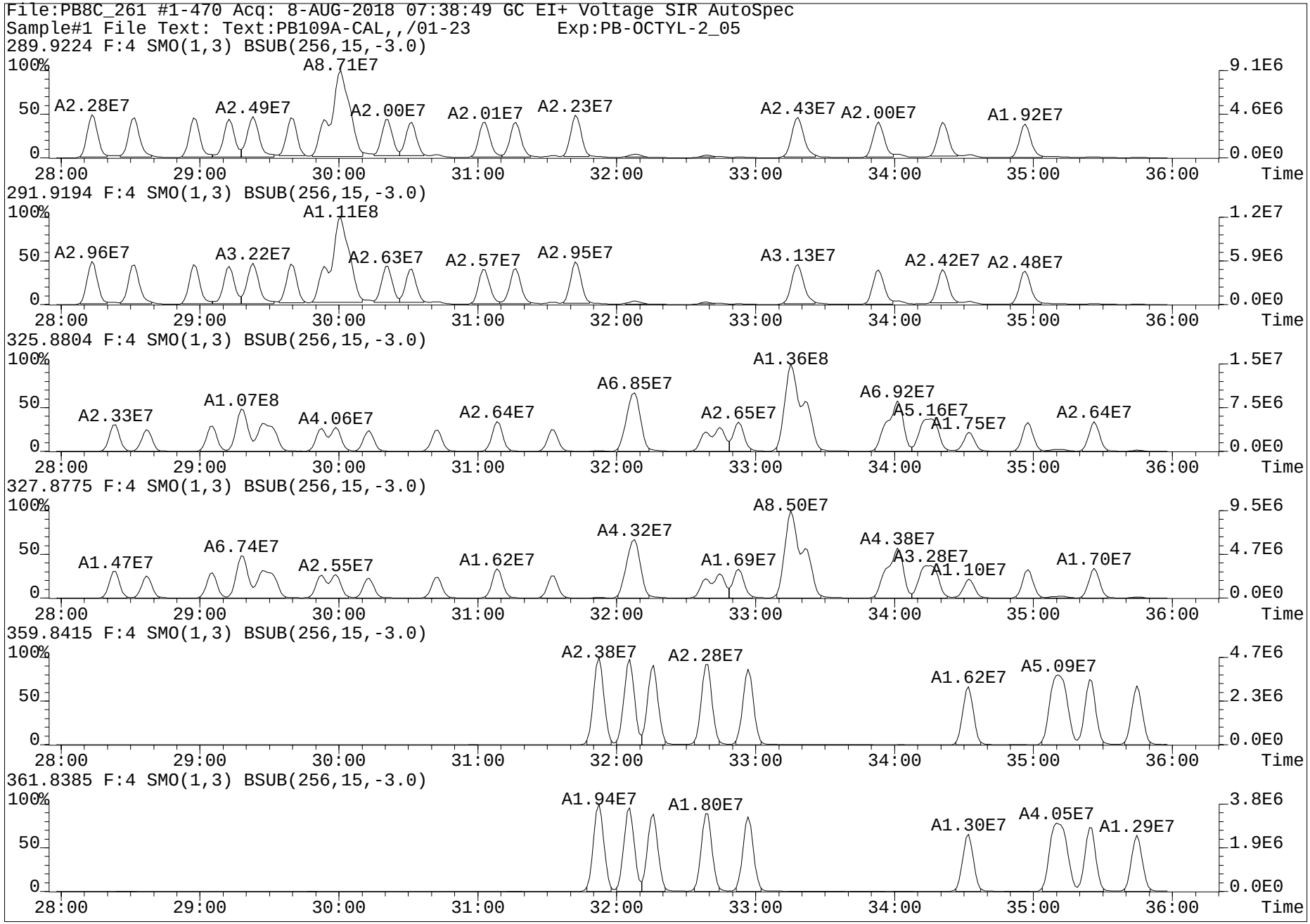

File:PB8C_261 #1-364 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,748.0,5.00%,F,T)
A1.07E7
A2.67E7
A1.16E7
A1.64E7
A1.03E7
257.9584 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,580.0,5.00%,F,T)
A1.01E7
A2.53E7
A1.06E7
A1.53E7
A9.31E6
268.0016 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13560.0,5.00%,F,T)
A3.87E7
269.9986 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7748.0,5.00%,F,T)
A3.65E7
242.9856 F:2
17:06
17:27
17:39
17:57
18:14
18:25
19:06
19:19
19:34
19:54
20:08
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
4.5E6
2.3E6
0.0E0
4.3E6
2.2E6
9.3E6
4.7E6
8.8E6
4.4E6
1.7E6
8.4E5

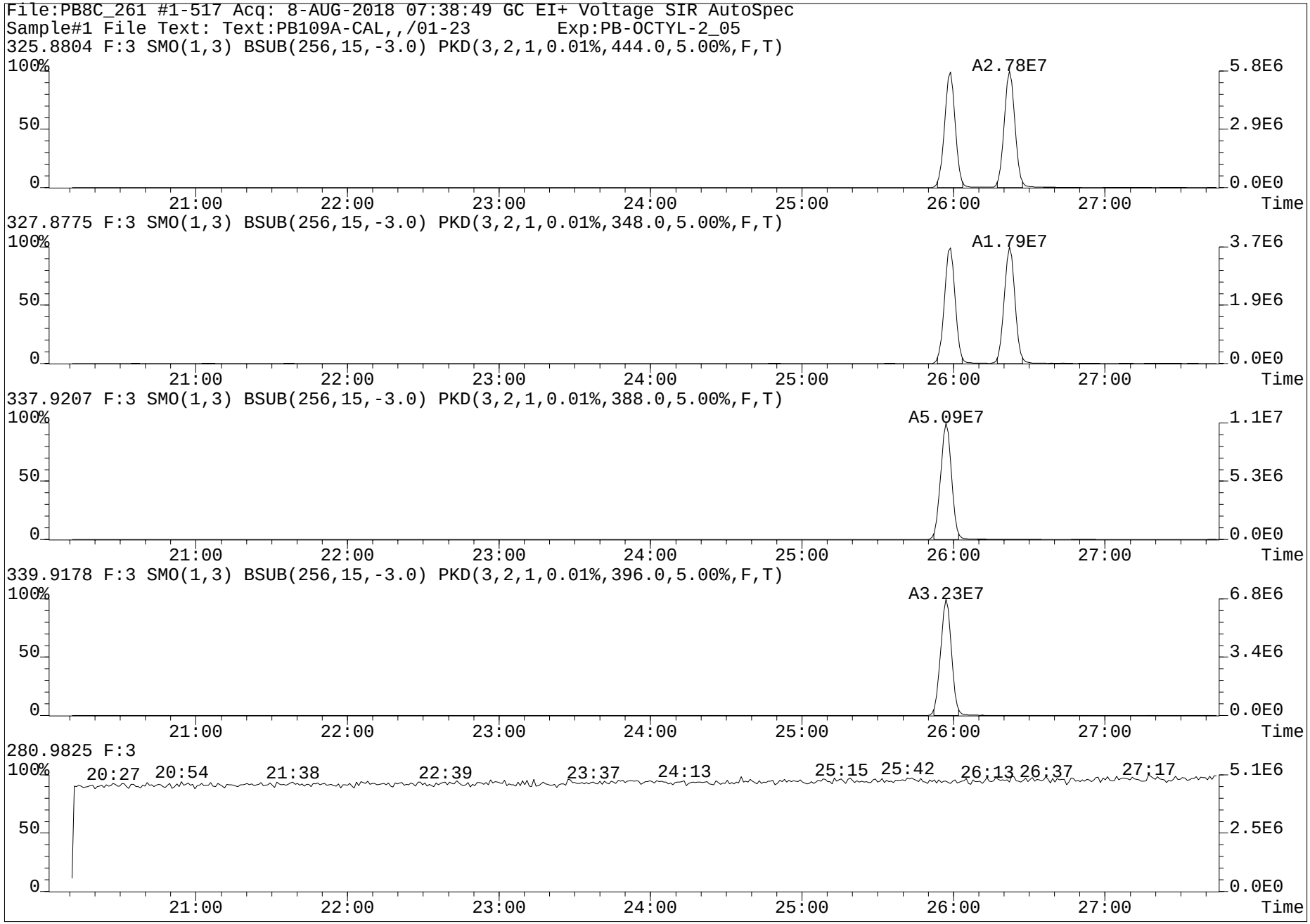

File:PB8C_261 #1-517 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.44E7
A2.77E7
A1.36E7
A2.84E7
A1.49E7
A2.94E7
A1.27E7
A1.39E7
A1.35E7
A1.28E7
A2.33E6
A1.94E6
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.42E7
A2.73E7
A1.33E7
A2.77E7
A1.46E7
A2.87E7
A1.26E7
A1.37E7
A1.34E7
A1.23E7
A2.30E6
A1.82E6
268.0016 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,17844.0,5.00%,F,T)
A9.53E7
A5.92E7
A5.34E7
269.9986 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12868.0,5.00%,F,T)
A9.19E7
A5.73E7
A5.05E7
280.9825 F:3
20:27
20:54
21:38
22:39
23:37
24:13
25:15
25:42
26:13
26:37
27:17
100%
50
0
5.3E6
2.7E6
0.0E0
2.6E6
2.0E7
1.0E7
1.9E7
9.6E6
5.1E6
2.5E6
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

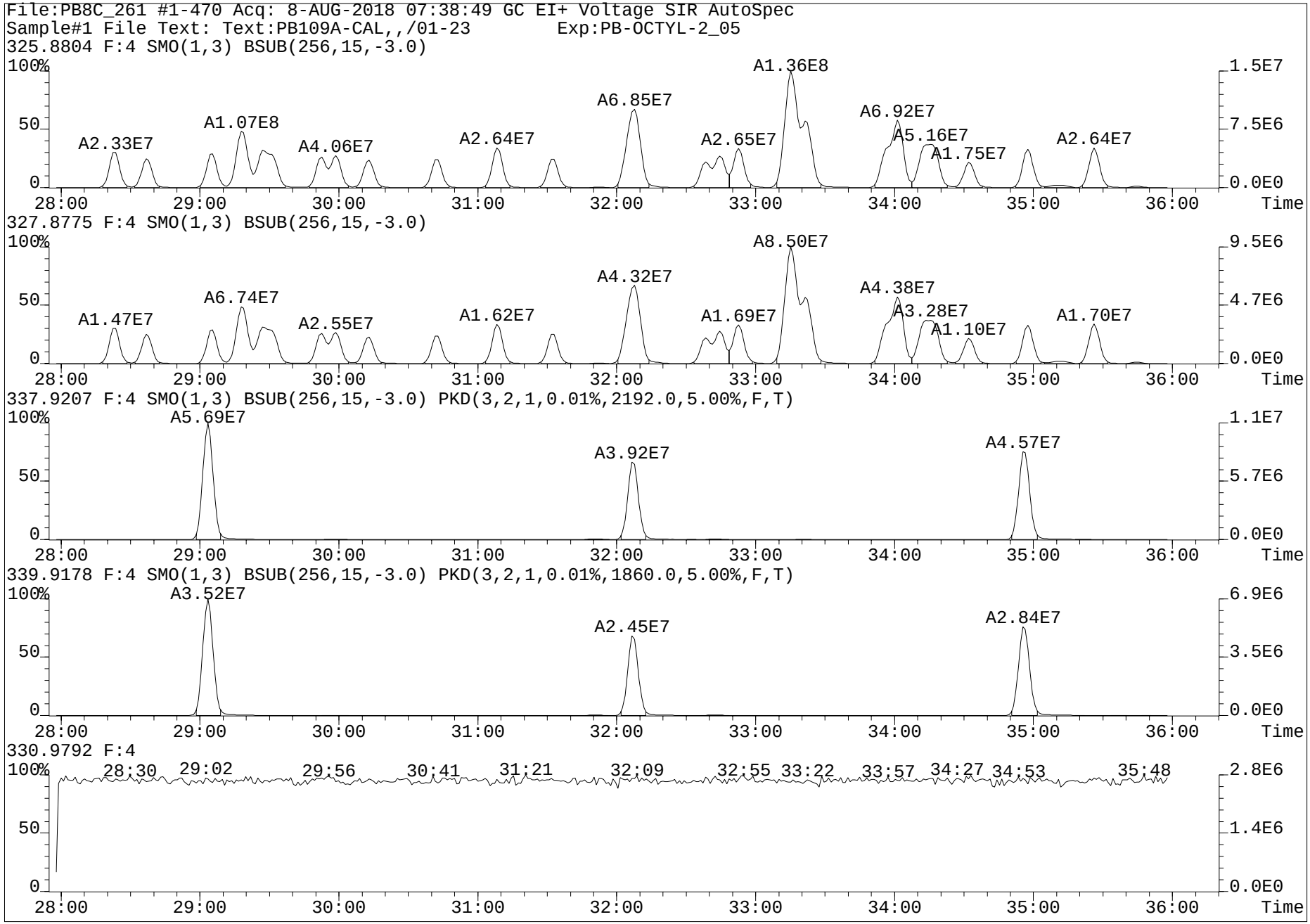

File:PB8C_261 #1-517 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.44E7
A1.36E7
A2.77E7
A1.49E7
A2.84E7
A2.94E7
A2.15E6
A1.39E7
A2.33E6
A1.35E7
A1.28E7
A1.94E6
257.9584 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.42E7
A1.33E7
A2.73E7
A1.46E7
A2.77E7
A2.87E7
A2.19E6
A1.37E7
A2.30E6
A1.34E7
A1.23E7
A1.82E6
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.35E7
A3.71E7
A3.57E7
A1.92E7
A4.23E7
A1.81E7
A5.91E7
A1.77E7
A5.34E7
A2.47E7
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.01E7
A4.75E7
A4.55E7
A2.47E7
A5.45E7
A2.30E7
A7.49E7
A2.24E7
A6.85E7
A3.17E7
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A2.78E7
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.79E7
100%
50
0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time
5.3E6
2.7E6
0.0E0
5.3E6
2.6E6
0.0E0
1.0E7
5.2E6
0.0E0
1.3E7
6.6E6
0.0E0
5.8E6
2.9E6
0.0E0
3.7E6
1.9E6
0.0E0

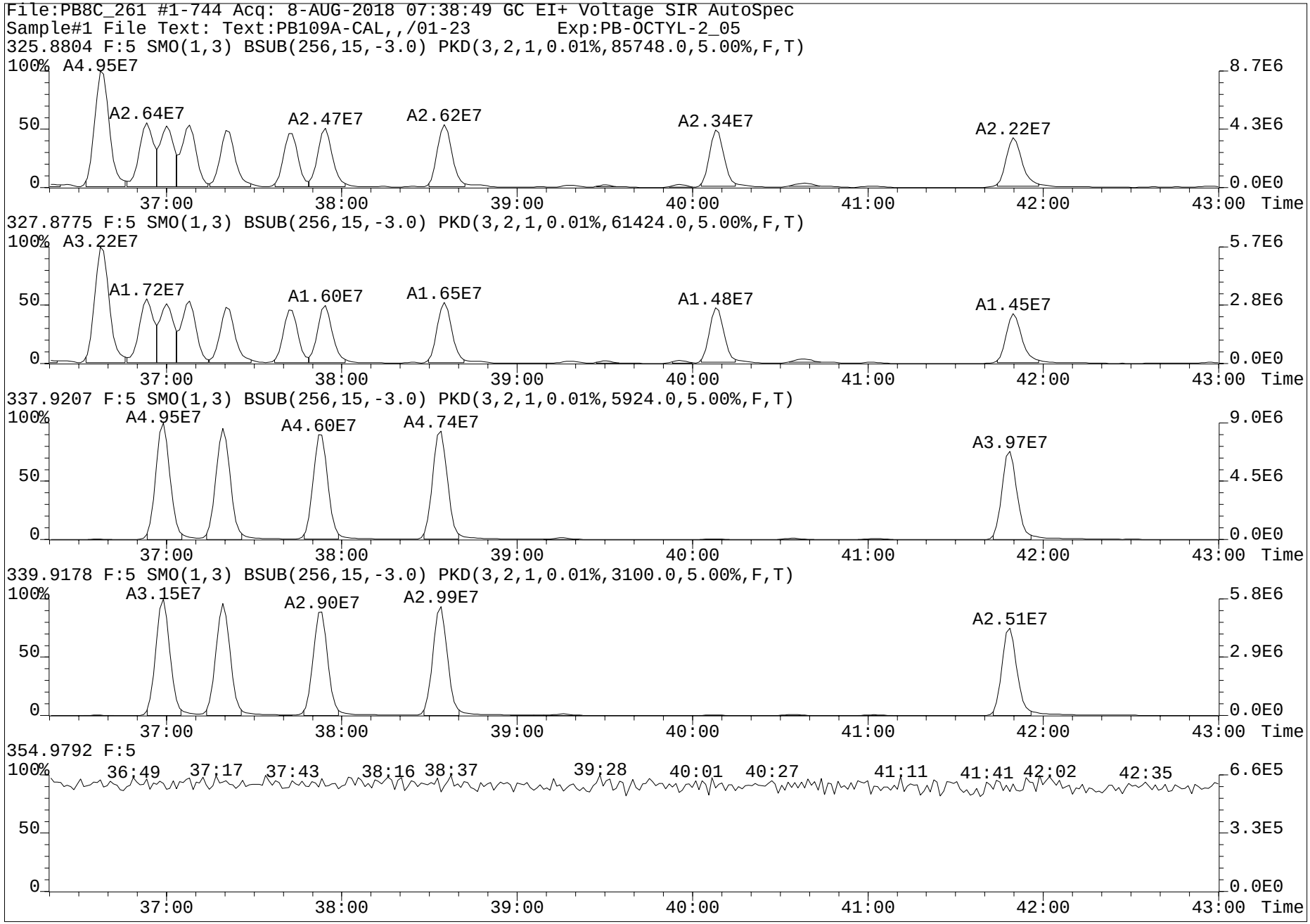

File:PB8C_261 #1-517 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.35E7
A3.71E7
A3.57E7
A1.92E7
A4.23E7
A1.81E7
A5.91E7
A1.77E7
A5.34E7
A2.47E7
291.9199 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.01E7
A4.75E7
A4.55E7
A2.47E7
A5.45E7
A2.30E7
A7.49E7
A2.24E7
A6.85E7
A3.17E7
301.9626 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2620.0,5.00%,F,T)
A4.40E7
A3.31E7
303.9597 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2816.0,5.00%,F,T)
A5.57E7
A4.19E7
280.9825 F:3
20:27
20:54
21:38
22:39
23:37
24:13
25:15
25:42
26:13
26:37
27:17
100%
50
0
1.0E7
5.2E6
0.0E0
1.3E7
6.6E6
5.1E6
2.5E6
21:00
22:00
23:00
24:00
25:00
26:00
27:00
Time

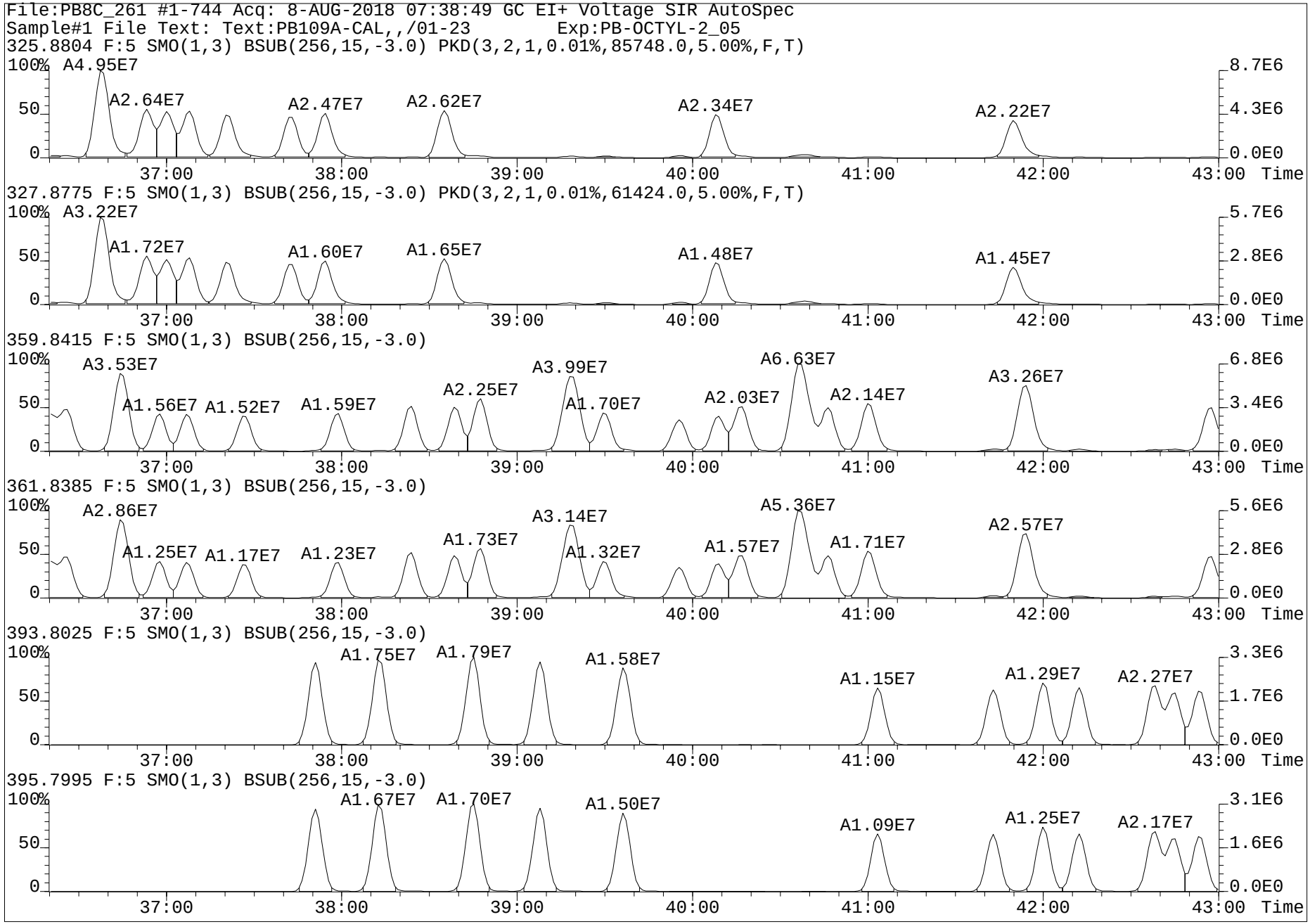

File:PB8C_261 #1-470 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0)
A8.71E7
A2.28E7
A2.49E7
A2.00E7
A2.01E7
A2.23E7
A2.43E7
A2.00E7
A1.92E7
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.11E8
A2.96E7
A3.22E7
A2.63E7
A2.57E7
A2.95E7
A3.13E7
A2.42E7
A2.48E7
301.9626 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4188.0,5.00%,F,T)
A3.87E7
A3.90E7
303.9597 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2240.0,5.00%,F,T)
A5.06E7
A5.18E7
330.9792 F:4
28:30
29:02
29:56
30:41
31:21
32:09
32:55
33:22
33:57
34:27
34:53
35:48
100%
50
0
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
Time
9.1E6
4.6E6
0.0E0
1.2E7
5.9E6
7.0E6
3.5E6
9.3E6
4.6E6
2.8E6
1.4E6

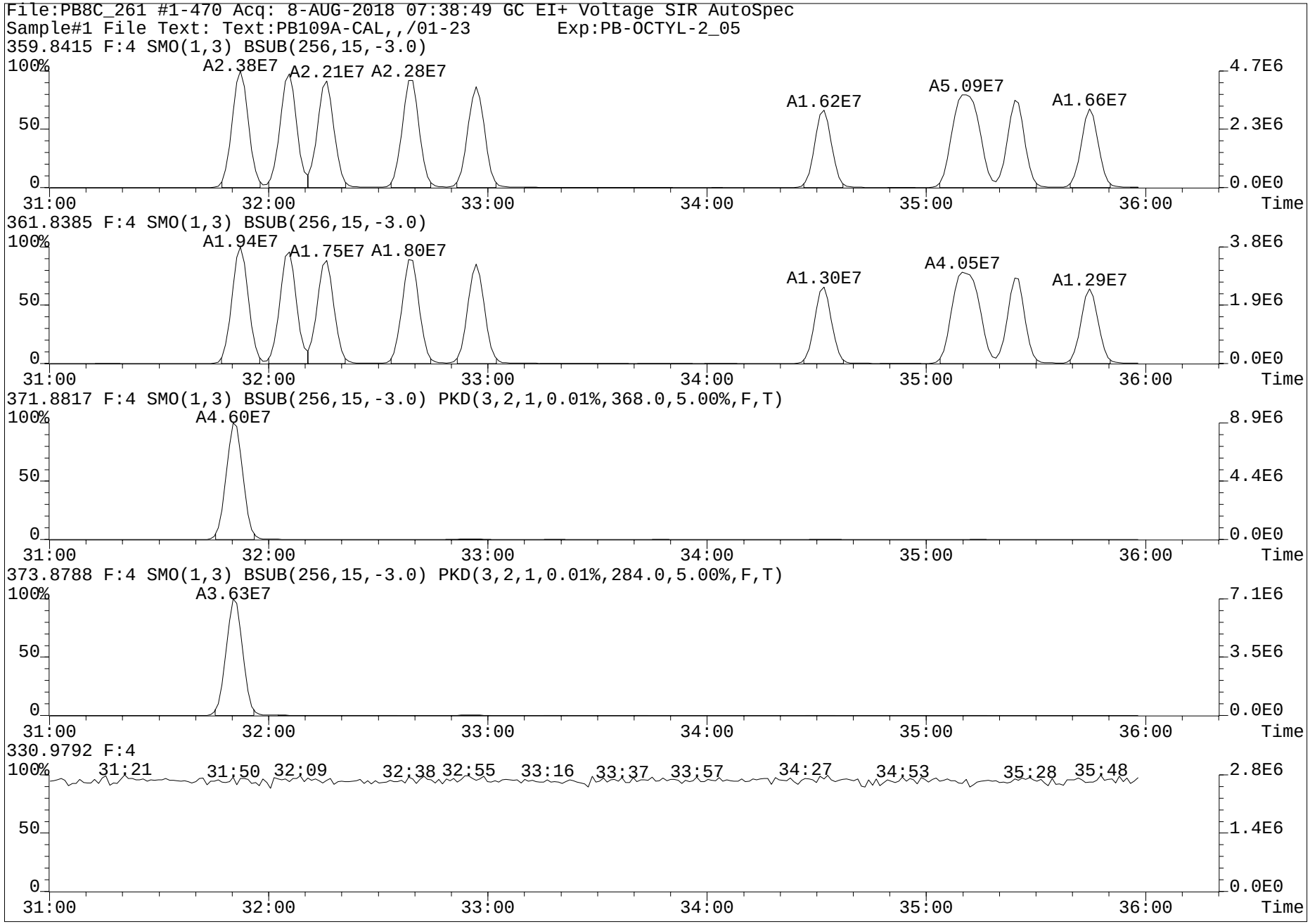

File:PB8C_261 #1-470 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.28E7 A2.49E7 A8.71E7 A2.00E7 A2.01E7 A2.23E7 A2.43E7 A2.00E7 A1.92E7
291.9194 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.96E7 A3.22E7 A1.11E8 A2.63E7 A2.57E7 A2.95E7 A3.13E7 A2.42E7 A2.48E7
325.8804 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.33E7 A1.07E8 A4.06E7 A2.64E7 A6.85E7 A2.65E7 A1.36E8 A6.92E7 A5.16E7 A1.75E7 A2.64E7
327.8775 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.47E7 A6.74E7 A2.55E7 A1.62E7 A4.32E7 A1.69E7 A8.50E7 A4.38E7 A3.28E7 A1.10E7 A1.70E7
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.38E7 A2.28E7 A1.62E7 A5.09E7
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.94E7 A1.80E7 A1.30E7 A4.05E7 A1.29E7
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
9.1E6 4.6E6 0.0E0
1.2E7 5.9E6 0.0E0
1.5E7 7.5E6 0.0E0
9.5E6 4.7E6 0.0E0
4.7E6 2.3E6 0.0E0
3.8E6 1.9E6 0.0E0

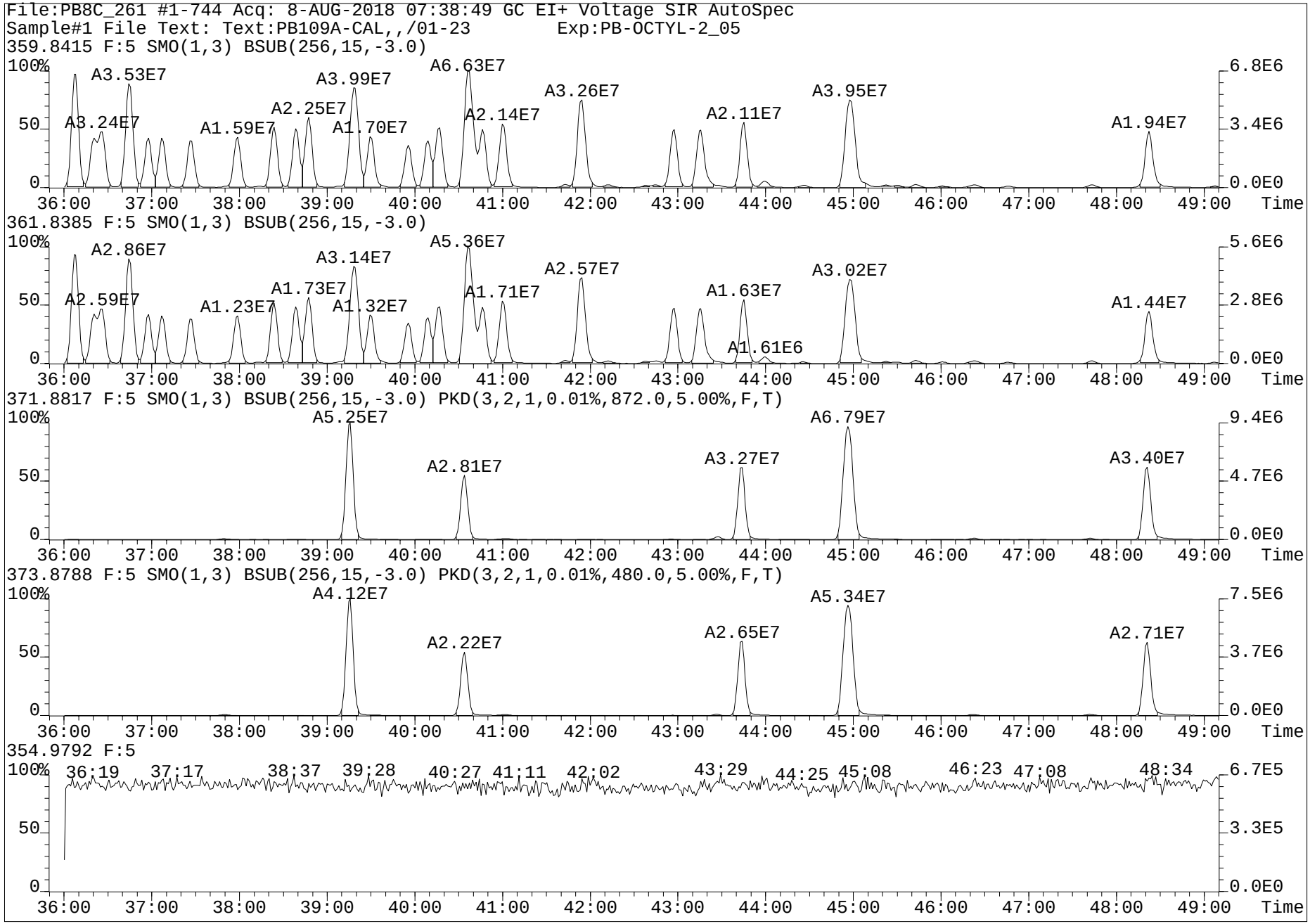

File:PB8C_261 #1-517 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A2.78E7
327.8775 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.79E7
337.9207 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A5.09E7
339.9178 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A3.23E7
280.9825 F:3
20:27 20:54 21:38 22:39 23:37 24:13 25:15 25:42 26:13 26:37 27:17
100%
50
0
5.8E6
2.9E6
3.7E6
1.9E6
1.1E7
5.3E6
6.8E6
3.4E6
5.1E6
2.5E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

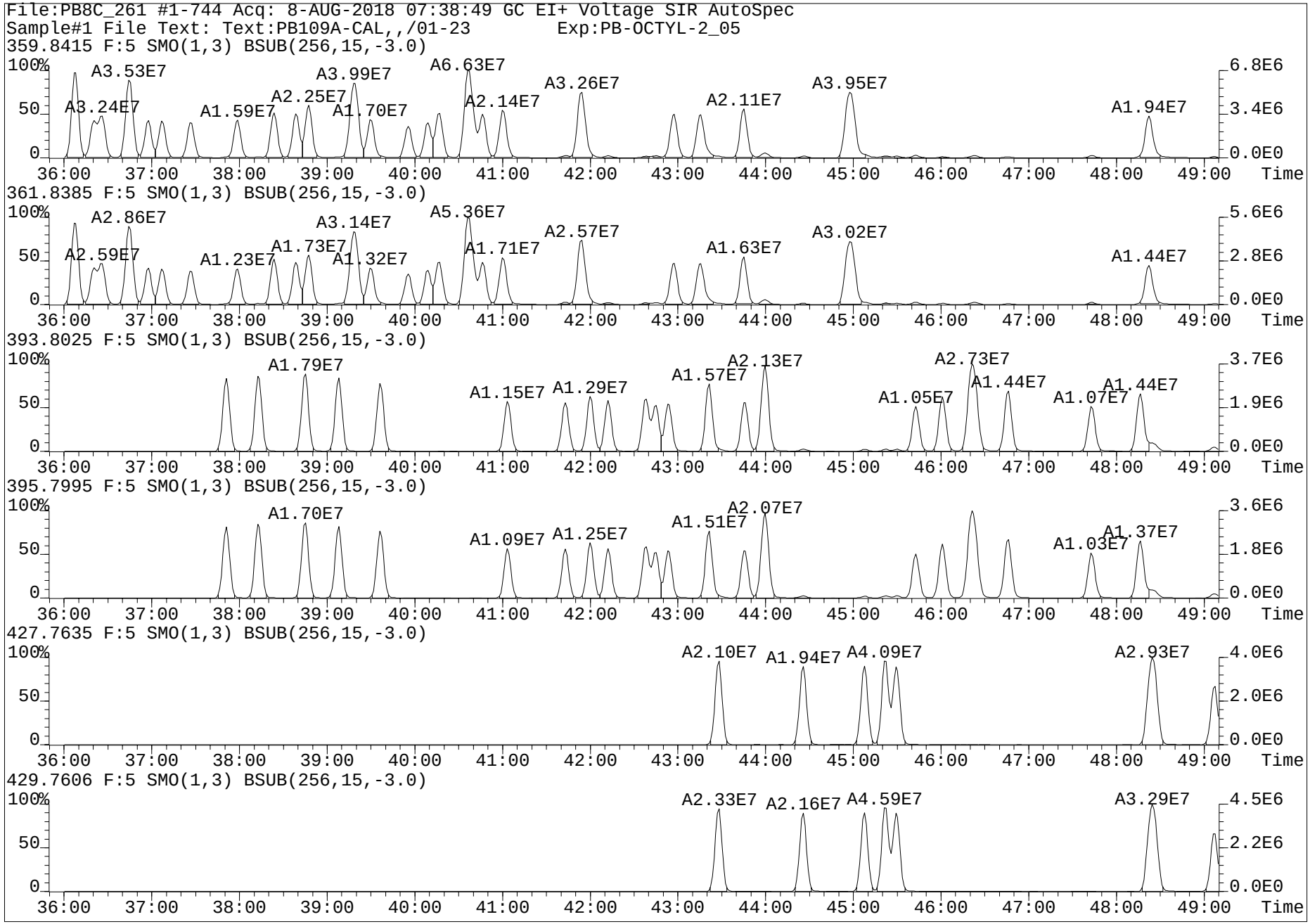

File:PB8C_261 #1-470 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.33E7
A1.07E8
A4.06E7
A2.64E7
A6.85E7
A1.36E8
A2.65E7
A6.92E7
A5.16E7
A1.75E7
A2.64E7
327.8775 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.47E7
A6.74E7
A2.55E7
A1.62E7
A4.32E7
A8.50E7
A1.69E7
A4.38E7
A3.28E7
A1.10E7
A1.70E7
337.9207 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2192.0,5.00%,F,T)
A5.69E7
A3.92E7
A4.57E7
339.9178 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1860.0,5.00%,F,T)
A3.52E7
A2.45E7
A2.84E7
330.9792 F:4
28:30 29:02 29:56 30:41 31:21 32:09 32:55 33:22 33:57 34:27 34:53 35:48
100%
50
0
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time
1.5E7
7.5E6
0.0E0
9.5E6
4.7E6
1.1E7
5.7E6
6.9E6
3.5E6
2.8E6
1.4E6

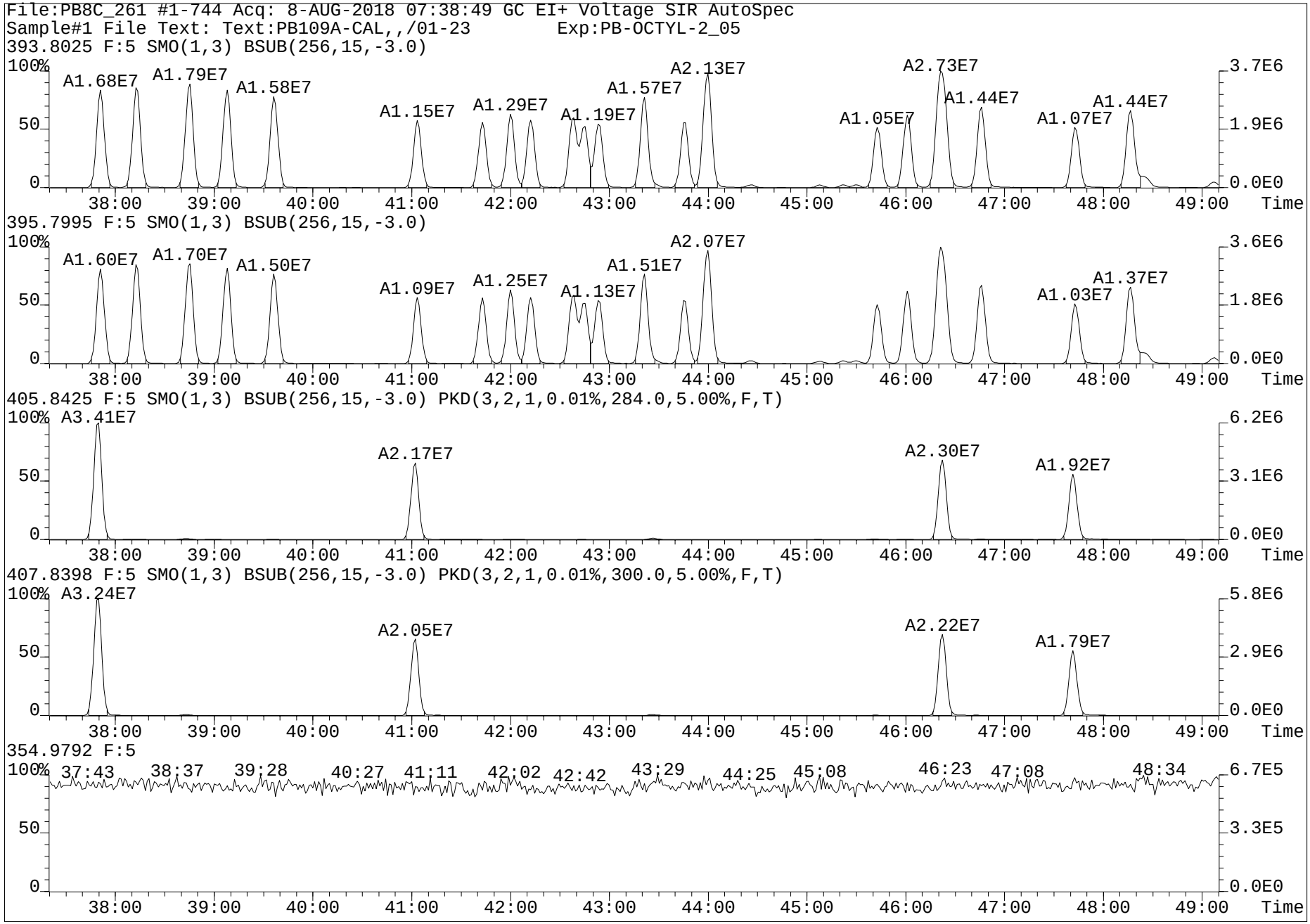

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,85748.0,5.00%,F,T)
100% A4.95E7
A2.64E7
A2.47E7
A2.62E7
A2.34E7
A2.22E7
8.7E6
4.3E6
0.0E0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,61424.0,5.00%,F,T)
100% A3.22E7
A1.72E7
A1.60E7
A1.65E7
A1.48E7
A1.45E7
5.7E6
2.8E6
0.0E0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
337.9207 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5924.0,5.00%,F,T)
100% A4.95E7
A4.60E7
A4.74E7
A3.97E7
9.0E6
4.5E6
0.0E0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
339.9178 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3100.0,5.00%,F,T)
100% A3.15E7
A2.90E7
A2.99E7
A2.51E7
5.8E6
2.9E6
0.0E0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time
354.9792 F:5
100% 36:49 37:17 37:43 38:16 38:37 39:28 40:01 40:27 41:11 41:41 42:02 42:35
6.6E5
3.3E5
0.0E0
37:00 38:00 39:00 40:00 41:00 42:00 43:00 Time

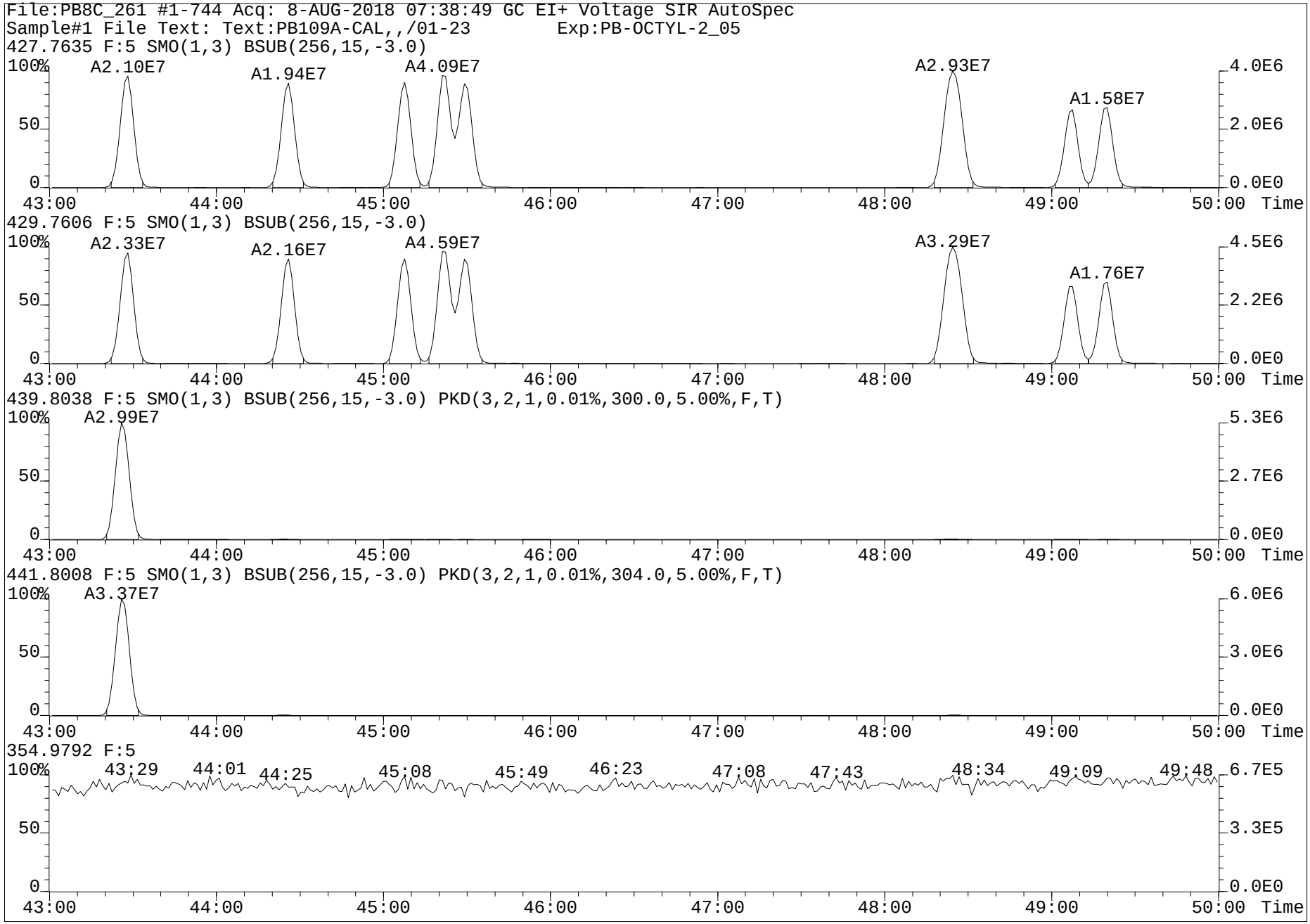

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,85748.0,5.00%,F,T)
A4.95E7
A2.64E7
A2.47E7
A2.62E7
A2.34E7
A2.22E7
327.8775 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,61424.0,5.00%,F,T)
A3.22E7
A1.72E7
A1.60E7
A1.65E7
A1.48E7
A1.45E7
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.53E7
A1.56E7
A1.52E7
A1.59E7
A2.25E7
A3.99E7
A1.70E7
A2.03E7
A6.63E7
A2.14E7
A3.26E7
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.86E7
A1.25E7
A1.17E7
A1.23E7
A1.73E7
A3.14E7
A1.32E7
A1.57E7
A5.36E7
A1.71E7
A2.57E7
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.75E7
A1.79E7
A1.58E7
A1.15E7
A1.29E7
A2.27E7
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.67E7
A1.70E7
A1.50E7
A1.09E7
A1.25E7
A2.17E7
100%
50
0
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time
8.7E6
4.3E6
0.0E0
5.7E6
2.8E6
6.8E6
3.4E6
5.6E6
3.3E6
1.7E6
3.1E6
1.6E6

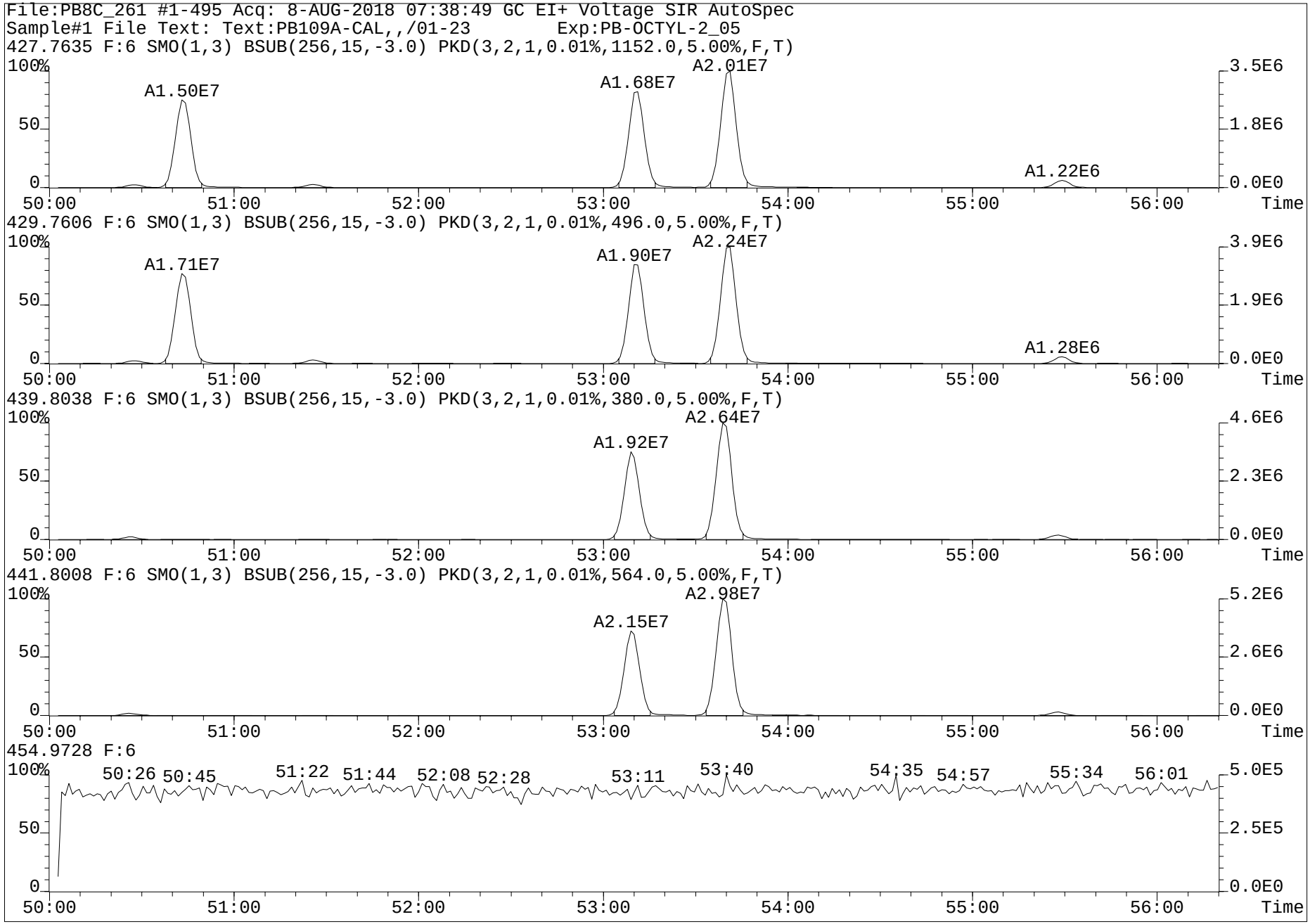

File:PB8C_261 #1-470 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.38E7
A2.21E7
A2.28E7
A1.62E7
A5.09E7
A1.66E7
4.7E6
2.3E6
0.0E0
361.8385 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.94E7
A1.75E7
A1.80E7
A1.30E7
A4.05E7
A1.29E7
3.8E6
1.9E6
0.0E0
371.8817 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A4.60E7
8.9E6
4.4E6
0.0E0
373.8788 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,284.0,5.00%,F,T)
A3.63E7
7.1E6
3.5E6
0.0E0
330.9792 F:4
31:21
31:50
32:09
32:38
32:55
33:16
33:37
33:57
34:27
34:53
35:28
35:48
2.8E6
1.4E6
0.0E0
100%
50
0
31:00
32:00
33:00
34:00
35:00
36:00
Time

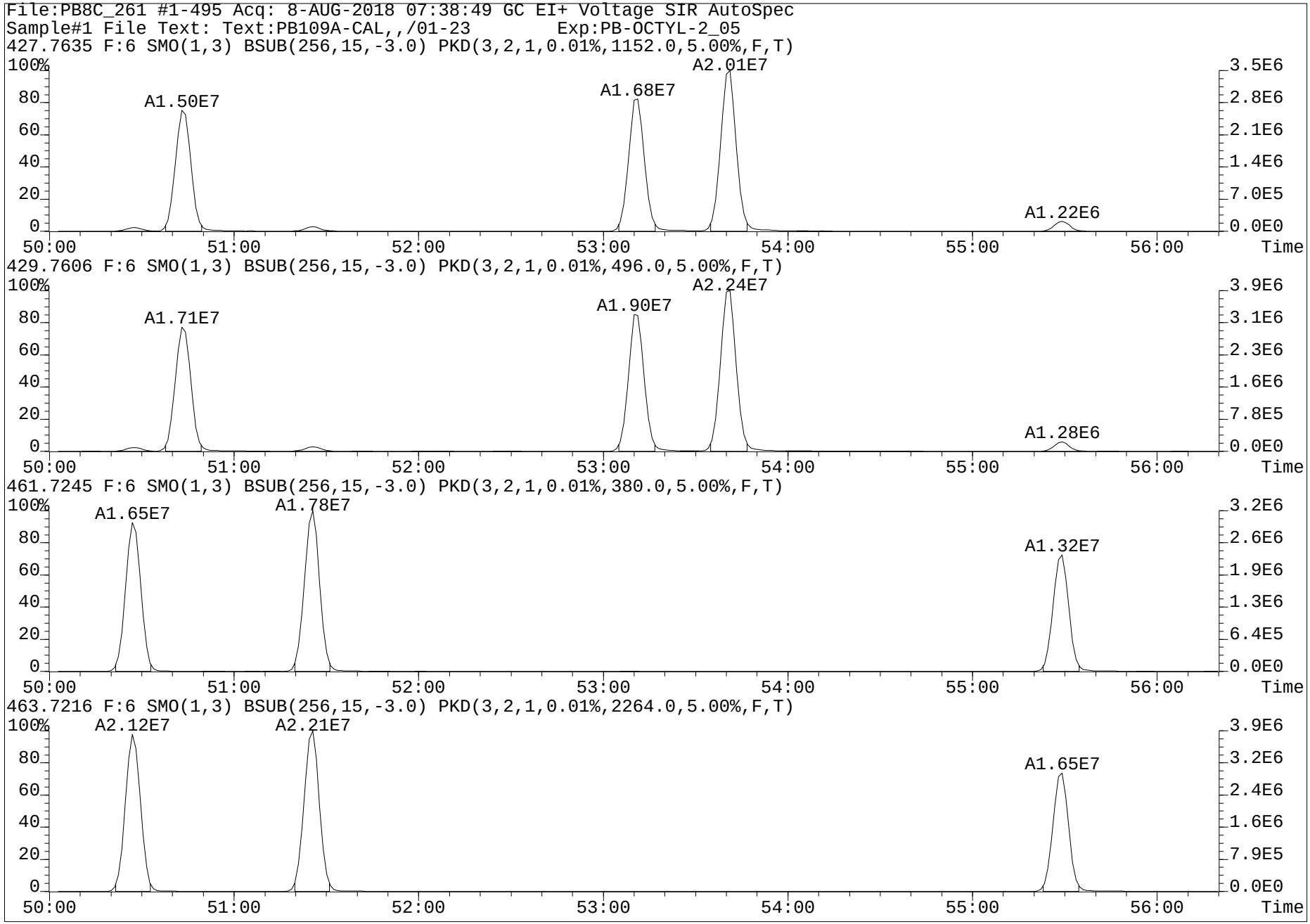

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.53E7
A3.99E7
A6.63E7
A3.26E7
A3.95E7
A3.24E7
A2.25E7
A2.14E7
A2.11E7
A1.59E7
A1.70E7
A1.94E7
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.86E7
A5.36E7
A3.14E7
A2.57E7
A3.02E7
A2.59E7
A1.73E7
A1.71E7
A1.63E7
A1.23E7
A1.32E7
A1.44E7
A1.61E6
371.8817 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,872.0,5.00%,F,T)
A5.25E7
A6.79E7
A2.81E7
A3.27E7
A3.40E7
373.8788 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,480.0,5.00%,F,T)
A4.12E7
A5.34E7
A2.22E7
A2.65E7
A2.71E7
354.9792 F:5
36:19 37:17 38:37 39:28 40:27 41:11 42:02 43:29 44:25 45:08 46:23 47:08 48:34
100%
50
0
6.8E6
3.4E6
0.0E0
5.6E6
2.8E6
9.4E6
4.7E6
7.5E6
3.7E6
6.7E5
3.3E5
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

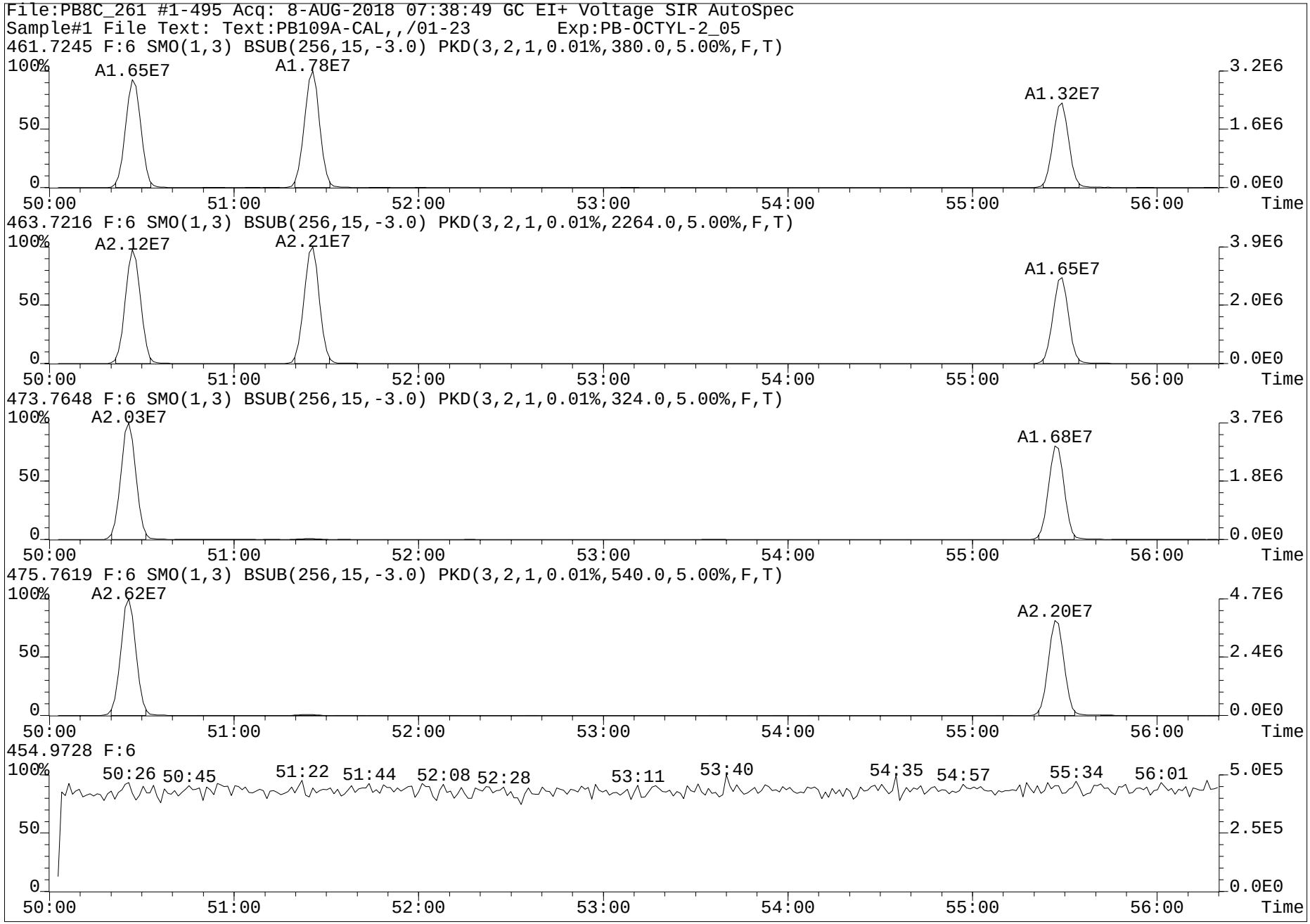

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.53E7
A3.24E7
A1.59E7
A2.25E7
A3.99E7
A1.70E7
A6.63E7
A2.14E7
A3.26E7
A2.11E7
A3.95E7
A1.94E7
6.8E6
3.4E6
0.0E0
361.8385 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.86E7
A2.59E7
A1.23E7
A1.73E7
A3.14E7
A1.32E7
A5.36E7
A1.71E7
A2.57E7
A1.63E7
A3.02E7
A1.44E7
5.6E6
2.8E6
0.0E0
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.79E7
A1.15E7
A1.29E7
A1.57E7
A2.13E7
A1.05E7
A2.73E7
A1.44E7
A1.07E7
A1.44E7
3.7E6
1.9E6
0.0E0
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.70E7
A1.09E7
A1.25E7
A1.51E7
A2.07E7
A1.03E7
A1.37E7
3.6E6
1.8E6
0.0E0
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.10E7
A1.94E7
A4.09E7
A2.93E7
4.0E6
2.0E6
0.0E0
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.33E7
A2.16E7
A4.59E7
A3.29E7
4.5E6
2.2E6
0.0E0
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

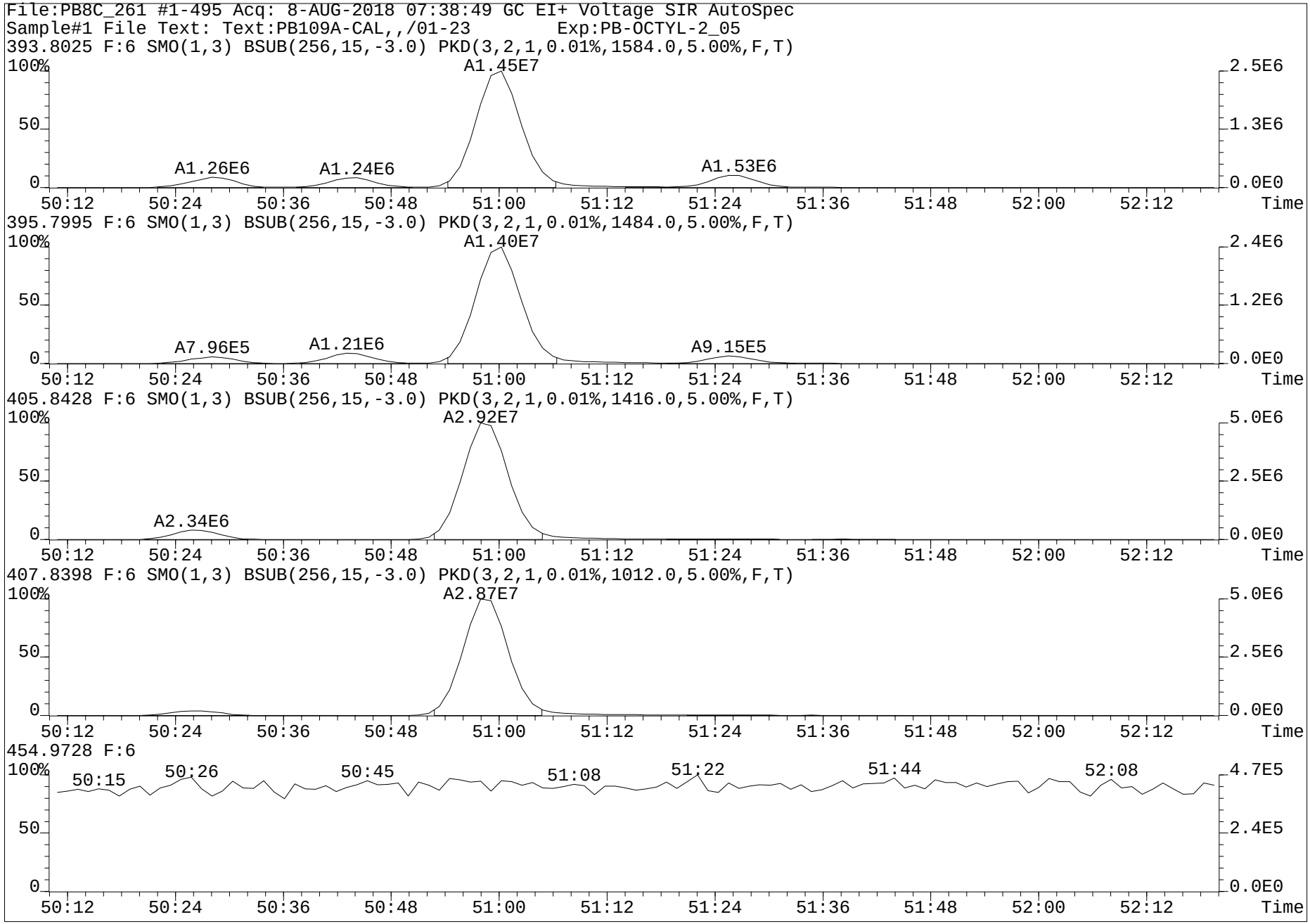

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.68E7 A1.79E7 A1.58E7 A1.15E7 A1.29E7 A1.19E7 A1.57E7 A2.13E7 A1.05E7 A2.73E7 A1.44E7 A1.07E7 A1.44E7
3.7E6 1.9E6 0.0E0
395.7995 F:5 SMO(1,3) BSUB(256,15,-3.0)
A1.60E7 A1.70E7 A1.50E7 A1.09E7 A1.25E7 A1.13E7 A1.51E7 A2.07E7 A1.03E7 A1.37E7
3.6E6 1.8E6 0.0E0
405.8425 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,284.0,5.00%,F,T)
A3.41E7 A2.17E7 A2.30E7 A1.92E7
6.2E6 3.1E6 0.0E0
407.8398 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A3.24E7 A2.05E7 A2.22E7 A1.79E7
5.8E6 2.9E6 0.0E0
354.9792 F:5
37:43 38:37 39:28 40:27 41:11 42:02 42:42 43:29 44:25 45:08 46:23 47:08 48:34
6.7E5 3.3E5 0.0E0
100% 50 0
38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time

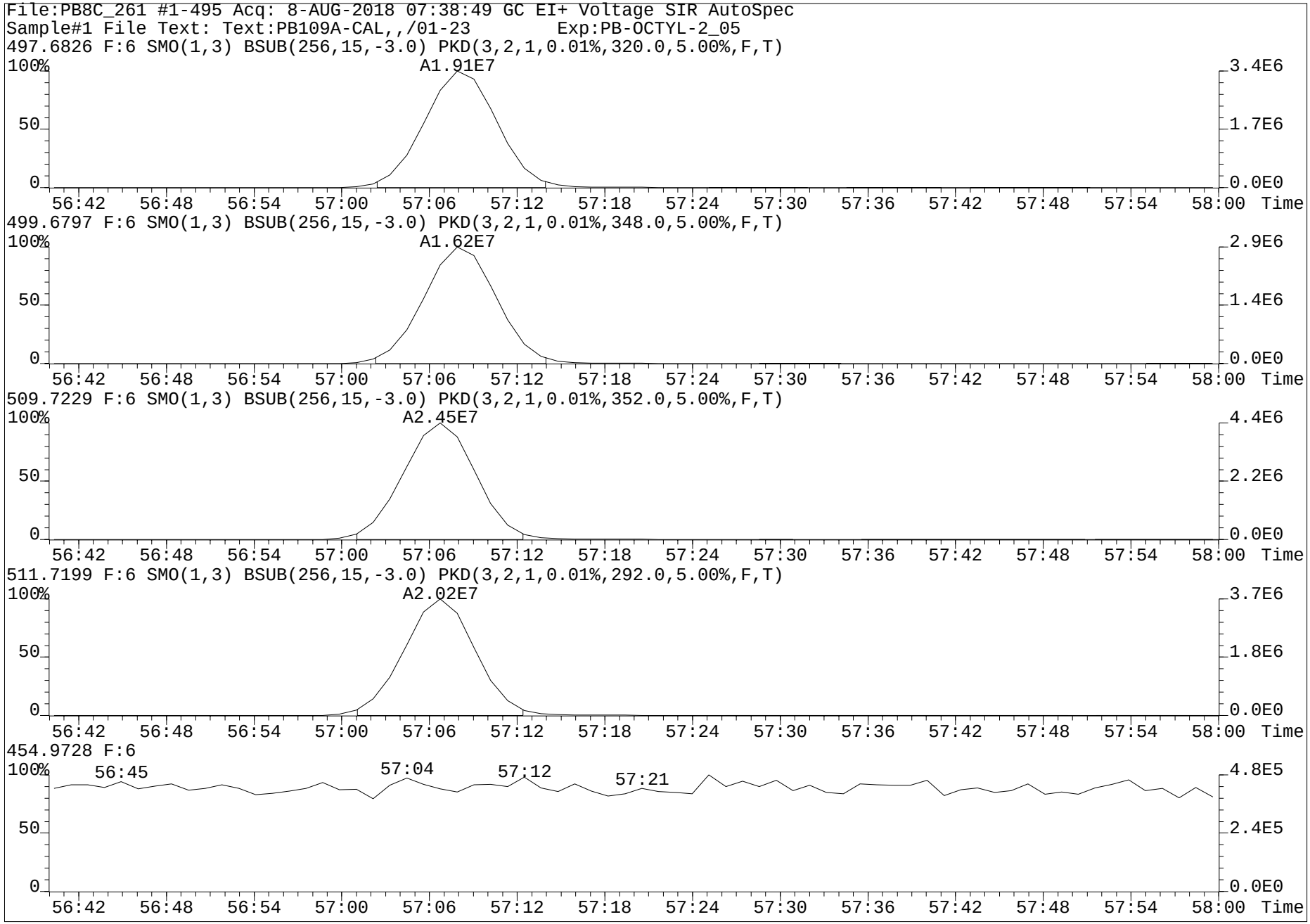

File:PB8C_261 #1-744 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.10E7
A1.94E7
A4.09E7
A2.93E7
A1.58E7
429.7606 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.33E7
A2.16E7
A4.59E7
A3.29E7
A1.76E7
439.8038 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,300.0,5.00%,F,T)
A2.99E7
441.8008 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,304.0,5.00%,F,T)
A3.37E7
354.9792 F:5
43:29
44:01
44:25
45:08
45:49
46:23
47:08
47:43
48:34
49:09
49:48
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time
4.0E6
2.0E6
0.0E0
4.5E6
2.2E6
5.3E6
2.7E6
6.0E6
3.0E6
6.7E5
3.3E5


File:PB8C_261 #1-495 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A1.50E7
A1.68E7
A2.01E7
A1.22E6
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A1.71E7
A1.90E7
A2.24E7
A1.28E6
439.8038 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.92E7
A2.64E7
441.8008 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,564.0,5.00%,F,T)
A2.15E7
A2.98E7
454.9728 F:6
50:26 50:45 51:22 51:44 52:08 52:28 53:11 53:40 54:35 54:57 55:34 56:01
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.5E6 1.8E6 0.0E0
3.9E6 1.9E6 0.0E0
4.6E6 2.3E6 0.0E0
5.2E6 2.6E6 0.0E0
5.0E5 2.5E5 0.0E0


File:PB8C_261 #1-495 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1152.0,5.00%,F,T)
A1.50E7
A1.68E7
A2.01E7
A1.22E6
429.7606 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A1.71E7
A1.90E7
A2.24E7
A1.28E6
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.65E7
A1.78E7
A1.32E7
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2264.0,5.00%,F,T)
A2.12E7
A2.21E7
A1.65E7
100%
80
60
40
20
0
50:00
51:00
52:00
53:00
54:00
55:00
56:00
Time


File:PB8C_261 #1-495 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
461.7245 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A1.65E7
A1.78E7
A1.32E7
463.7216 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2264.0,5.00%,F,T)
A2.12E7
A2.21E7
A1.65E7
473.7648 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,324.0,5.00%,F,T)
A2.03E7
A1.68E7
475.7619 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
A2.62E7
A2.20E7
454.9728 F:6
50:26 50:45 51:22 51:44 52:08 52:28 53:11 53:40 54:35 54:57 55:34 56:01
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
3.2E6 1.6E6 0.0E0
3.9E6 2.0E6 0.0E0
3.7E6 1.8E6 0.0E0
4.7E6 2.4E6 0.0E0
5.0E5 2.5E5 0.0E0


File:PB8C_261 #1-495 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1584.0,5.00%,F,T)
A1.45E7
A1.26E6
A1.24E6
A1.53E6
395.7995 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1484.0,5.00%,F,T)
A1.40E7
A7.96E5
A1.21E6
A9.15E5
405.8428 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1416.0,5.00%,F,T)
A2.92E7
A2.34E6
407.8398 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1012.0,5.00%,F,T)
A2.87E7
454.9728 F:6
50:15
50:26
50:45
51:08
51:22
51:44
52:08
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
2.5E6
1.3E6
0.0E0
2.4E6
1.2E6
5.0E6
2.5E6
4.7E5
2.4E5


File:PB8C_261 #1-495 Acq: 8-AUG-2018 07:38:49 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
497.6826 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
A1.91E7
499.6797 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.62E7
509.7229 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,352.0,5.00%,F,T)
A2.45E7
511.7199 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,292.0,5.00%,F,T)
A2.02E7
454.9728 F:6
56:45
57:04
57:12
57:21
100%
50
0
56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time
3.4E6
1.7E6
0.0E0
2.9E6
1.4E6
4.4E6
2.2E6
3.7E6
1.8E6
4.8E5
2.4E5

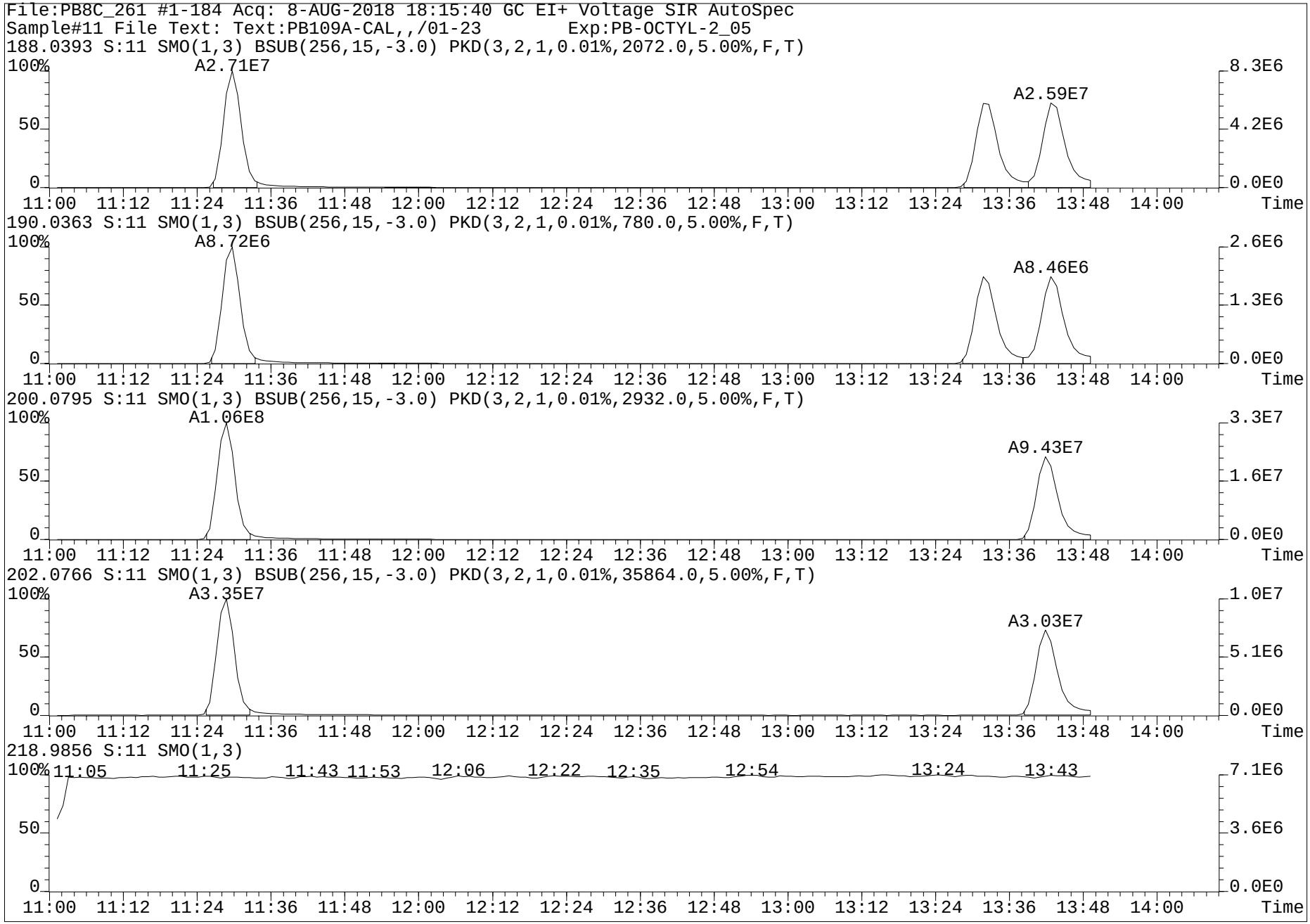
Run #12 Filename PB8C_261 S: 11 I: 1 Acquired: 8-AUG-18 18:15:40 Processed: 9-AUG-18 07:04:56
Run: pb8c_261-c Analyte: 1668a-cv8 Cal: pb8c_220-7a Results: pb8c_261-c Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB109A-CAL,,/01-23 Comments: 1,,1.0uL Cal Win/Res
sample size: 1.000000 conc units: ng/mL total toxicity: 1346.22 F1: 1.0000 F2: 1.0000

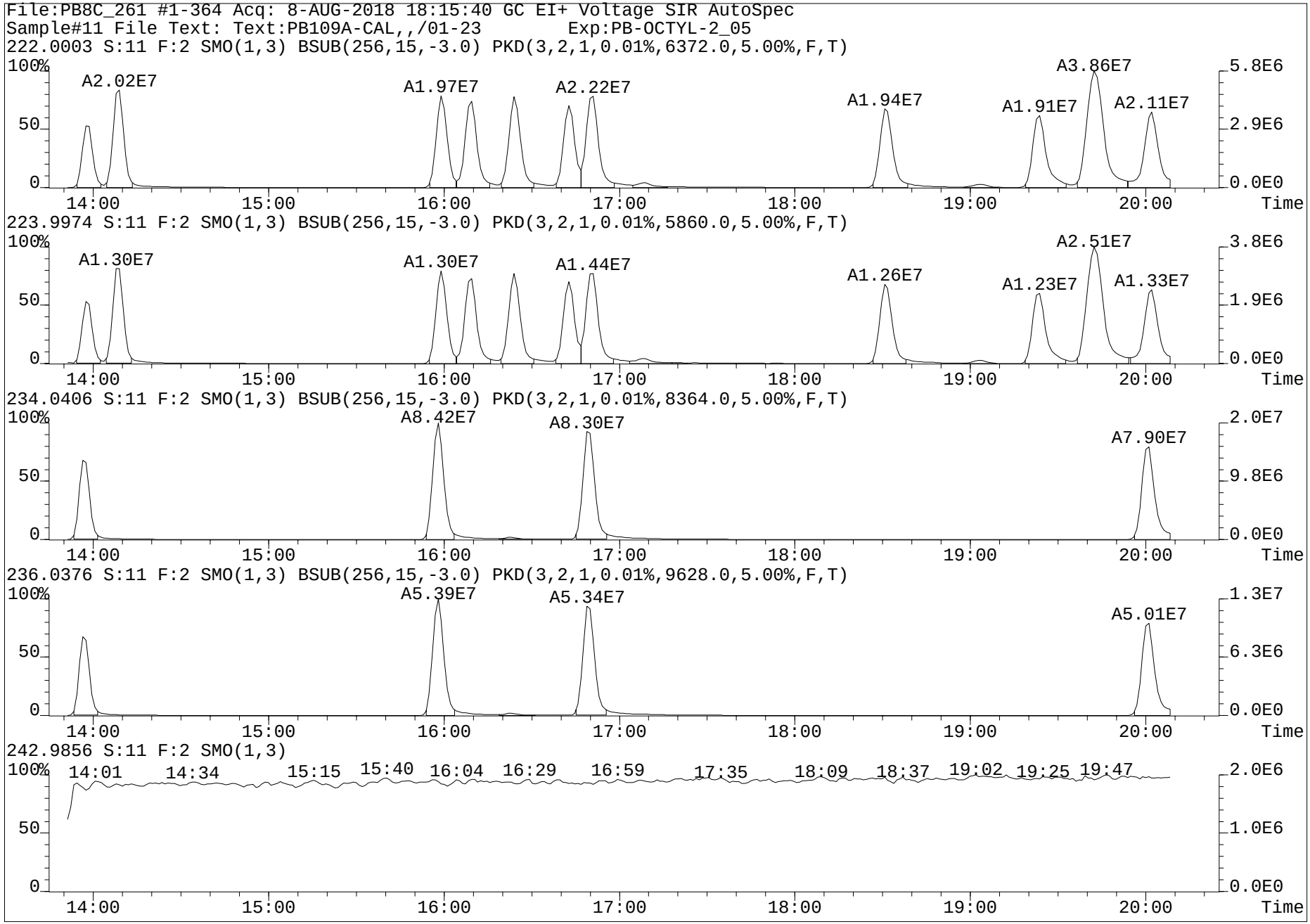
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL1-PCB-1	1	3.58e+07	3.11	y	11:30	23.910	24	0.0156	-	n
2	Unk	CL1-PCB-3	1	3.44e+07	3.06	y	13:43	25.507	26	0.0215	-	n
3	Unk	CL2-PCB-4	1	2.07e+07	1.57	y	13:58	23.984	24	0.1420	-	n
4	Unk	CL2-PCB-15	1	3.44e+07	1.59	y	20:02	29.286	29	0.1322	-	n
5	Unk	CL3-PCB-19	1	2.18e+07	1.07	y	17:08	25.788	26	0.0296	-	n
6	Unk	CL3-PCB-37	1	2.73e+07	1.01	y	27:19	23.669	24	0.2290	-	y
7	Unk	CL4-PCB-54	1	5.73e+07	0.78	y	20:17	50.928	51	0.0315	-	y
8	Unk	CL4-PCB-81	1	5.23e+07	0.76	y	34:22	47.452	47	6.0520	-	y
9	Unk	CL4-PCB-77	1	5.12e+07	0.78	y	34:58	45.969	46	6.2474	-	y
10	Unk	CL5-PCB-104	1	5.12e+07	1.55	y	25:59	50.675	51	0.0301	-	n
11	Unk	CL5-PCB-123	1	4.79e+07	1.55	y	37:02	49.476	49	2.5234	-	n
12	Unk	CL5-PCB-118	1	5.08e+07	1.54	y	37:23	49.682	50	2.3789	-	n
13	Unk	CL5-PCB-114	1	5.01e+07	1.53	y	37:56	51.271	51	2.5247	-	n
14	Unk	CL5-PCB-105	1	4.99e+07	1.56	y	38:37	51.861	52	2.5811	-	n
15	Unk	CL5-PCB-126	1	4.64e+07	1.52	y	41:52	50.084	50	2.7174	-	n
16	Unk	CL6-PCB-155	1	5.21e+07	1.24	y	31:53	50.199	50	0.0167	-	n
17	Unk	CL6-PCB-167	1	5.55e+07	1.25	y	43:47	56.051	56	1.6118	-	n
18	Unk	CL6-PCB-156/157	1	1.03e+08	1.27	y	44:59	102.473	102	2.1118	-	n
19	Unk	CL6-PCB-169	1	4.85e+07	1.33	y	48:24	51.950	52	1.7450	-	n
20	Unk	CL7-PCB-188	1	4.57e+07	1.05	y	37:51	49.441	49	0.0346	-	y
21	Unk	CL7-PCB-189	1	3.91e+07	1.02	y	51:02	46.584	47	0.0524	-	n
22	Unk	CL8-PCB-202	1	6.14e+07	0.90	y	43:29	84.574	85	0.0169	-	n
23	Unk	CL8-PCB-205	1	5.71e+07	0.90	y	53:43	75.775	76	0.0838	-	n
24	Unk	CL9-PCB-208	1	5.46e+07	0.79	y	50:29	83.175	83	0.1696	-	n
25	Unk	CL9-PCB-206	1	3.92e+07	0.80	y	55:31	73.723	74	0.2163	-	n
26	Unk	CL10-PCB-209	1	4.83e+07	1.17	y	57:10	72.726	73	0.0209	-	n
27	IS	13C-CL1-PCB-1	1	1.40e+08	3.17	y	11:29	89.705	0	0.2682	89.7	n
28	IS	13C-CL1-PCB-3	1	1.25e+08	3.11	y	13:42	83.938	0	0.2815	83.9	n
29	IS	13C-CL2-PCB-4	1	8.70e+07	1.60	y	13:57	92.124	0	0.2053	92.1	n
30	IS	13C-CL2-PCB-15	1	1.29e+08	1.58	y	20:01	87.662	0	0.1317	87.7	n
31	IS	13C-CL3-PCB-19	1	7.91e+07	1.04	y	17:07	101.799	0	0.3183	101.8	n
32	IS	13C-CL3-PCB-37	1	1.16e+08	1.04	y	27:18	83.741	0	0.3164	83.7	n
33	REF	13C-CL4-CHECK	1	1.07e+08	0.80	y	20:17	88.199	0	0.0931	88.2	n
34	IS	13C-CL4-PCB-81	1	1.07e+08	0.78	y	34:21	101.649	0	0.0884	101.6	n
35	IS	13C-CL4-PCB-77	1	1.08e+08	0.76	y	34:57	101.136	0	0.0870	101.1	n
36	IS	13C-CL5-PCB-104	1	9.47e+07	1.58	y	25:58	84.541	0	0.0089	84.5	n
37	IS	13C-CL5-PCB-123	1	9.88e+07	1.57	y	37:00	93.362	0	0.1455	93.4	n
38	IS	13C-CL5-PCB-118	1	9.79e+07	1.56	y	37:21	94.377	0	0.1484	94.4	n
39	IS	13C-CL5-PCB-114	1	9.22e+07	1.57	y	37:54	89.557	0	0.1496	89.6	n
40	IS	13C-CL5-PCB-105	1	9.37e+07	1.56	y	38:35	87.880	0	0.1445	87.9	n
41	IS	13C-CL5-PCB-126	1	8.89e+07	1.60	y	41:50	93.364	0	0.1618	93.4	n
42	IS	13C-CL6-PCB-155	1	1.02e+08	1.27	y	31:52	83.102	0	0.0102	83.1	n
43	IS	13C-CL6-PCB-167	1	8.90e+07	1.27	y	43:45	94.264	0	0.0334	94.3	n
44	IS	13C-CL6-PCB-156/157	1	1.82e+08	1.28	y	44:58	184.751	0	0.0320	92.4	n

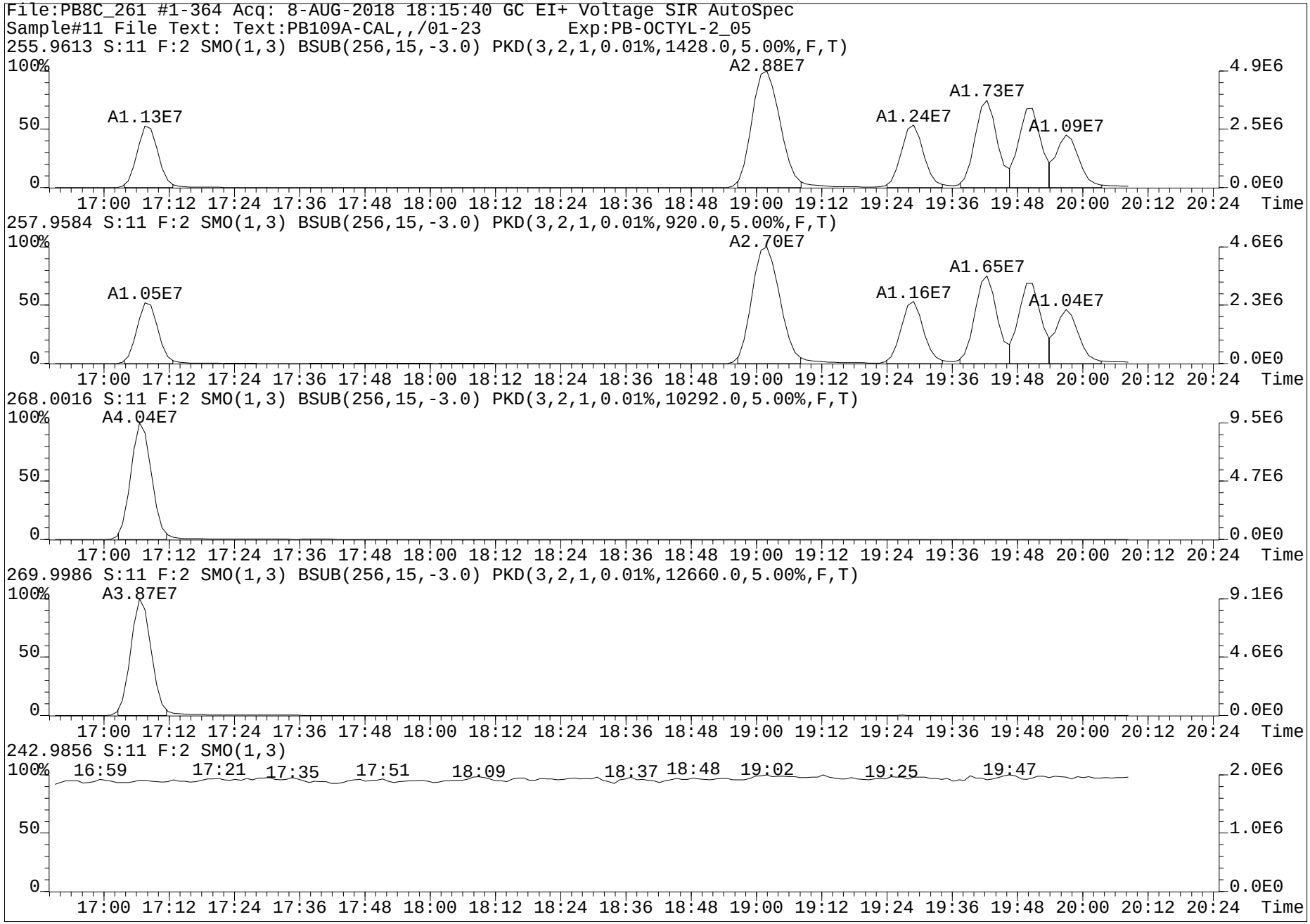
PV by RA 09AUG2018

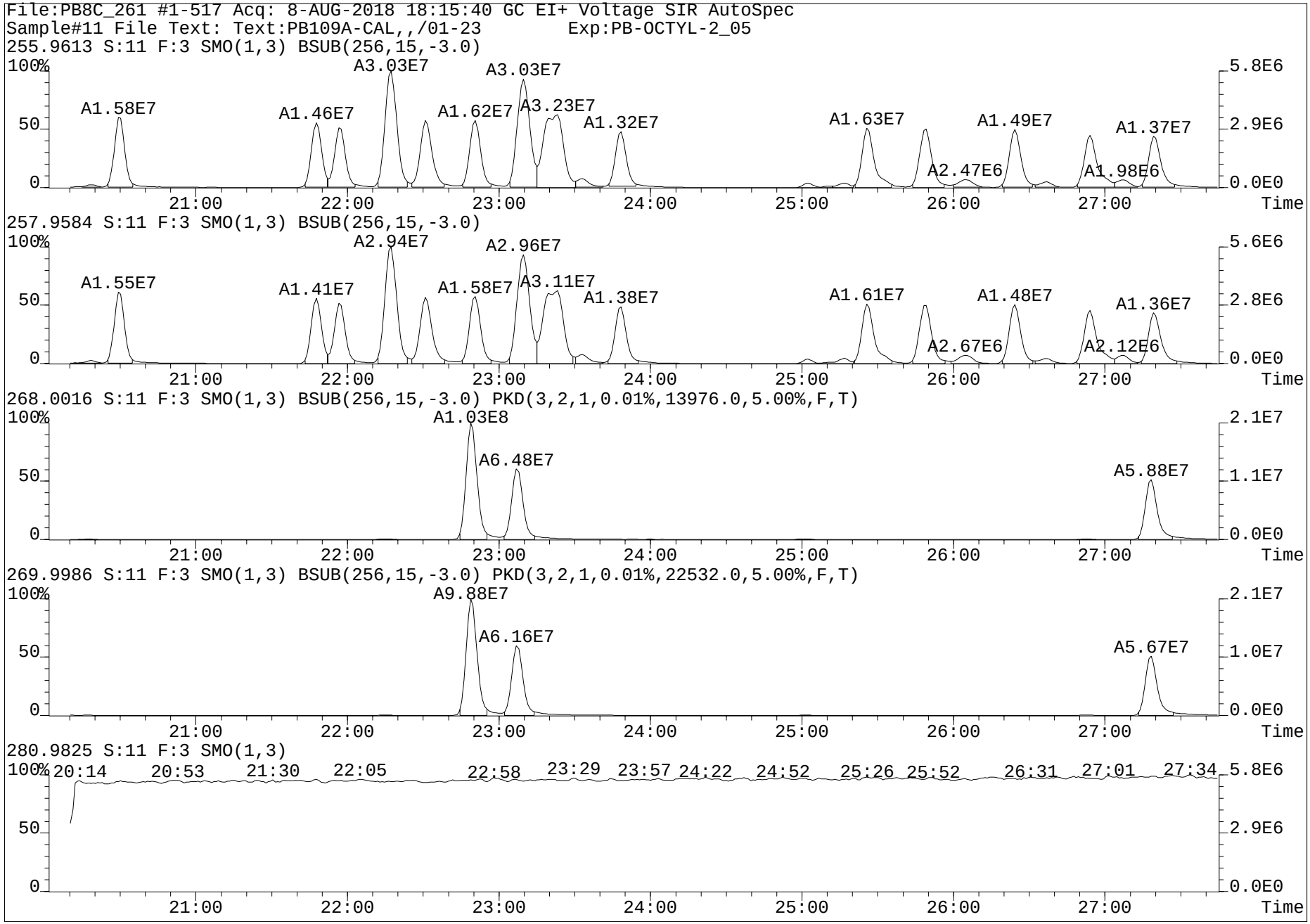
www.axysanalytical.com

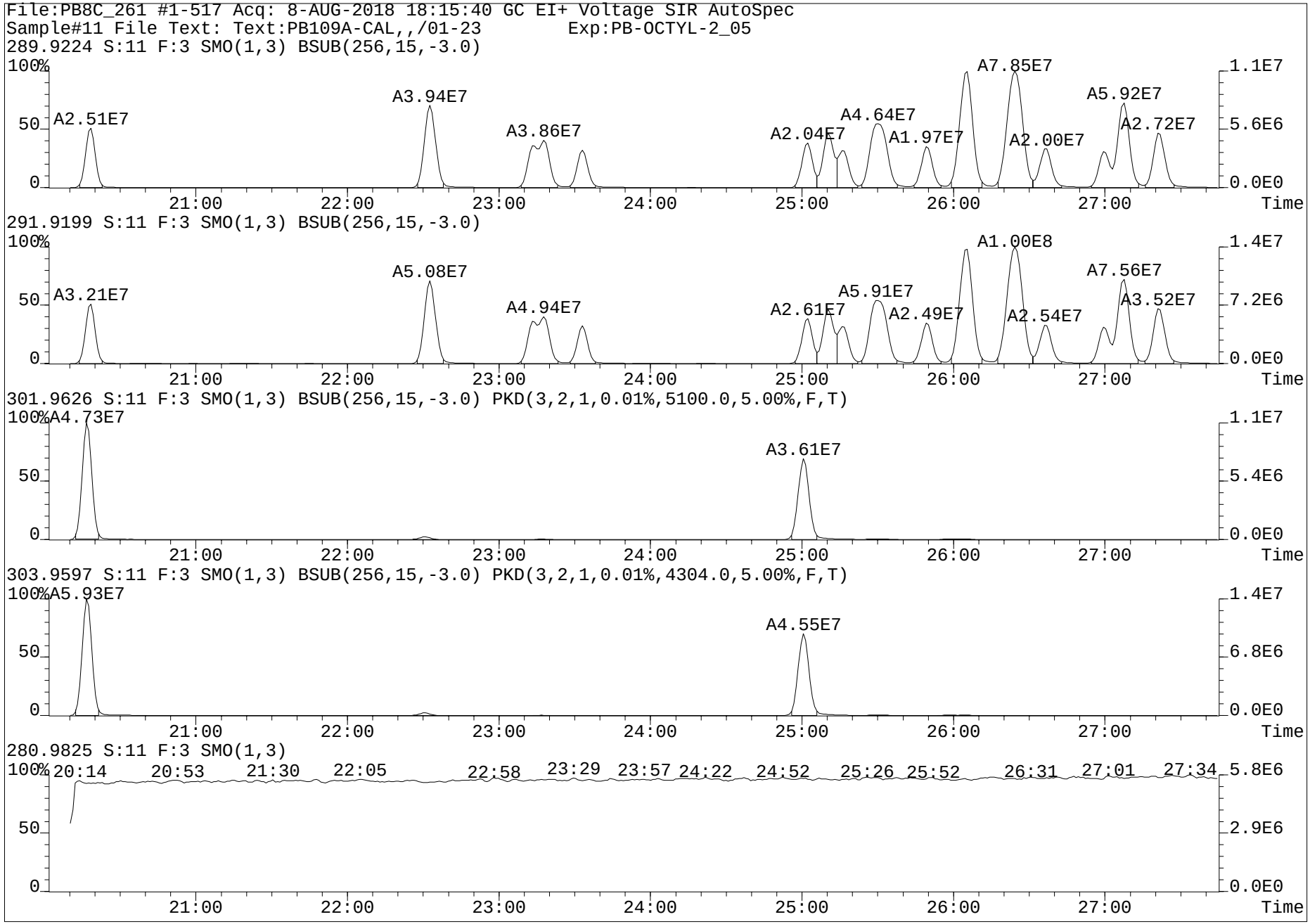
45	IS	13C-CL6-PCB-169	1	8.86e+07	1.25	y	48:23	90.592	0	0.0322	90.6	n
46	REF	13C-CL7-CHECK	1	9.49e+07	1.06	y	37:50	90.572	0	0.0245	90.6	n
47	IS	13C-CL7-PCB-189	1	7.93e+07	1.03	y	51:00	94.142	0	0.0874	94.1	n
48	IS	13C-CL8-PCB-202	1	8.32e+07	0.91	y	43:27	83.903	0	0.0133	83.9	n
49	IS	13C-CL8-PCB-205	1	7.62e+07	0.89	y	53:41	91.247	0	0.0545	91.2	n
50	IS	13C-CL9-PCB-208	1	6.94e+07	0.78	y	50:27	92.713	0	0.0351	92.7	n
51	IS	13C-CL9-PCB-206	1	5.31e+07	0.78	y	55:29	87.174	0	0.0430	87.2	n
52	IS	13C-CL10-PCB-209	1	6.24e+07	1.18	y	57:08	81.571	0	0.0162	81.6	n
53	RS	13C-CL2-PCB-9	1	1.38e+08	1.56	y	15:58	74.999	0	-	-	n
54	RS	13C-CL4-PCB-52	1	8.16e+07	0.79	y	25:00	88.811	0	-	-	n
55	RS	13C-CL5-PCB-101	1	7.60e+07	1.62	y	32:08	97.727	0	-	-	n
56	RS/RT	13C-CL6-PCB-138	1	7.35e+07	1.23	y	40:35	103.451	0	-	-	n
57	RS	13C-CL8-PCB-194	1	5.56e+07	0.86	y	53:11	98.479	0	-	-	n
58	C/UP	13C-CL3-PCB-28	1	1.26e+08	1.05	y	23:07	91.024	0	0.3145	91.0	n
59	C/Up	13C-CL5-PCB-111	1	9.29e+07	1.59	y	34:57	91.308	0	0.0381	91.3	n
60	C/Up	13C-CL7-PCB-178	1	6.21e+07	1.03	y	41:03	88.958	0	0.0348	89.0	n
61	IS	13C-CL4-PCB-54	1	1.07e+08	0.80	y	20:17	88.199	0	0.0931	88.2	n
62	IS	13C-CL7-PCB-188	1	9.49e+07	1.06	y	37:50	90.572	0	0.0245	90.6	n
63	LM	CL1-LOCK	-	-			-	-	-	-	-	n
64	LM	CL2-LOCK	-	-			-	-	-	-	-	n
65	LM	CL3-LOCK	-	-			-	-	-	-	-	n
66	LM	CL3,4,5-LOCK	-	-			-	-	-	-	-	n
67	LM	CL4,5-LOCK	-	-			-	-	-	-	-	n
68	LM	CL5-LOCK	-	-			-	-	-	-	-	n
69	LM	CL6-LOCK	-	-			-	-	-	-	-	n
70	LM	CL6,7-LOCK	-	-			-	-	-	-	-	n
71	LM	CL7-LOCK	-	-			-	-	-	-	-	n
72	LM	CL8-LOCK	-	-			-	-	-	-	-	n
73	LM	CL8,9-LOCK	-	-			-	-	-	-	-	n
74	LM	CL10-LOCK	-	-			-	-	-	-	-	n

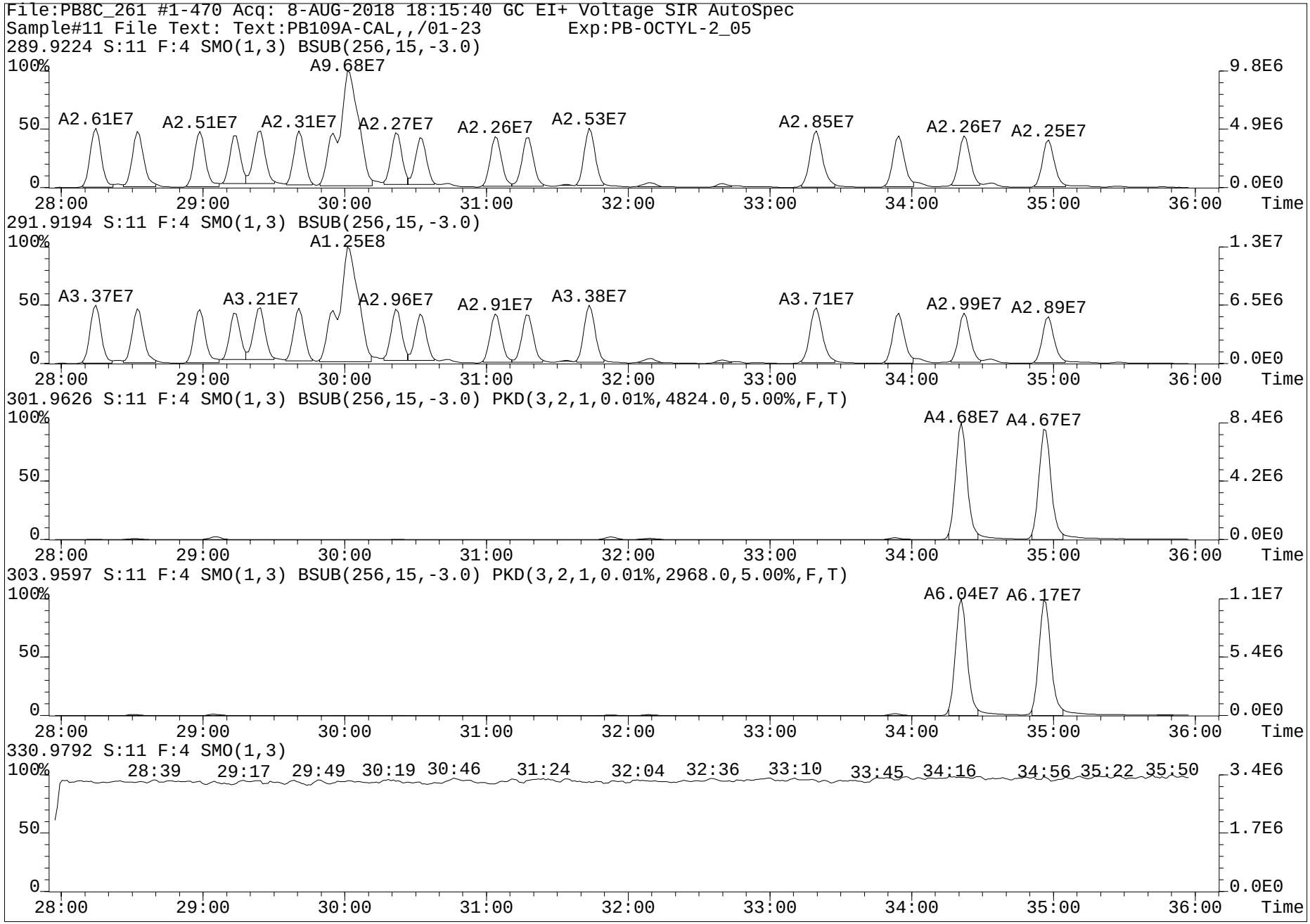

File:PB8C_261 #1-184 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
188.0393 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2072.0,5.00%,F,T)
A2.71E7
A2.59E7
8.3E6
4.2E6
0.0E0
190.0363 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,780.0,5.00%,F,T)
A8.72E6
A8.46E6
2.6E6
1.3E6
0.0E0
200.0795 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2932.0,5.00%,F,T)
A1.06E8
A9.43E7
3.3E7
1.6E7
0.0E0
202.0766 S:11 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,35864.0,5.00%,F,T)
A3.35E7
A3.03E7
1.0E7
5.1E6
0.0E0
218.9856 S:11 SMO(1,3)
11:05 11:25 11:43 11:53 12:06 12:22 12:35 12:54 13:24 13:43
7.1E6
3.6E6
0.0E0
100%
50
0
11:00 11:12 11:24 11:36 11:48 12:00 12:12 12:24 12:36 12:48 13:00 13:12 13:24 13:36 13:48 14:00
Time

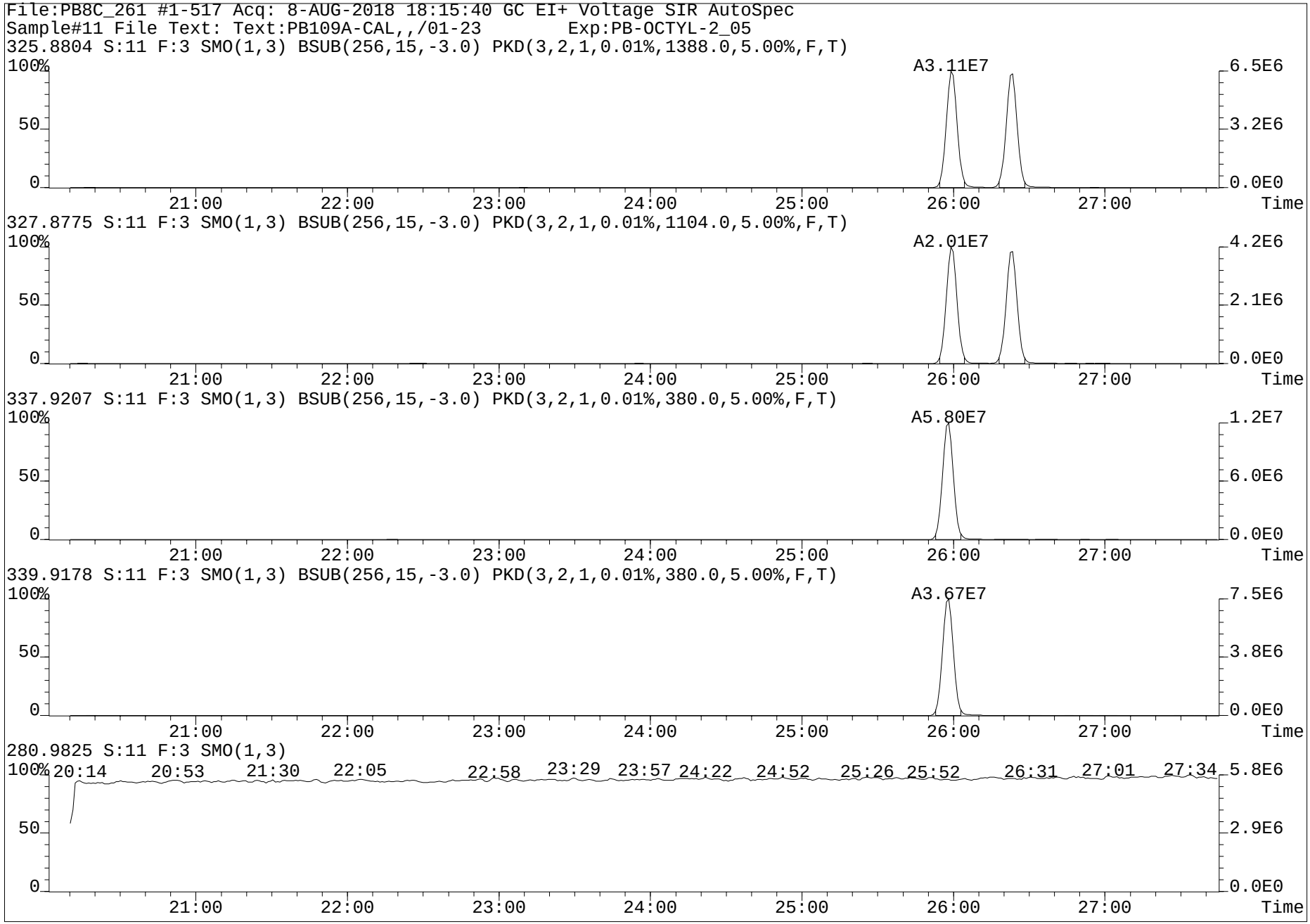

File:PB8C_261 #1-364 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
222.0003 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6372.0,5.00%,F,T)
A2.02E7
A1.97E7
A2.22E7
A1.94E7
A1.91E7
A3.86E7
A2.11E7
223.9974 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5860.0,5.00%,F,T)
A1.30E7
A1.30E7
A1.44E7
A1.26E7
A1.23E7
A2.51E7
A1.33E7
234.0406 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8364.0,5.00%,F,T)
A8.42E7
A8.30E7
A7.90E7
236.0376 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,9628.0,5.00%,F,T)
A5.39E7
A5.34E7
A5.01E7
242.9856 S:11 F:2 SMO(1,3)
14:01 14:34 15:15 15:40 16:04 16:29 16:59 17:35 18:09 18:37 19:02 19:25 19:47
100%
50
0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 Time
5.8E6 2.9E6 0.0E0
3.8E6 1.9E6 0.0E0
2.0E7 9.8E6 0.0E0
1.3E7 6.3E6 0.0E0
2.0E6 1.0E6 0.0E0

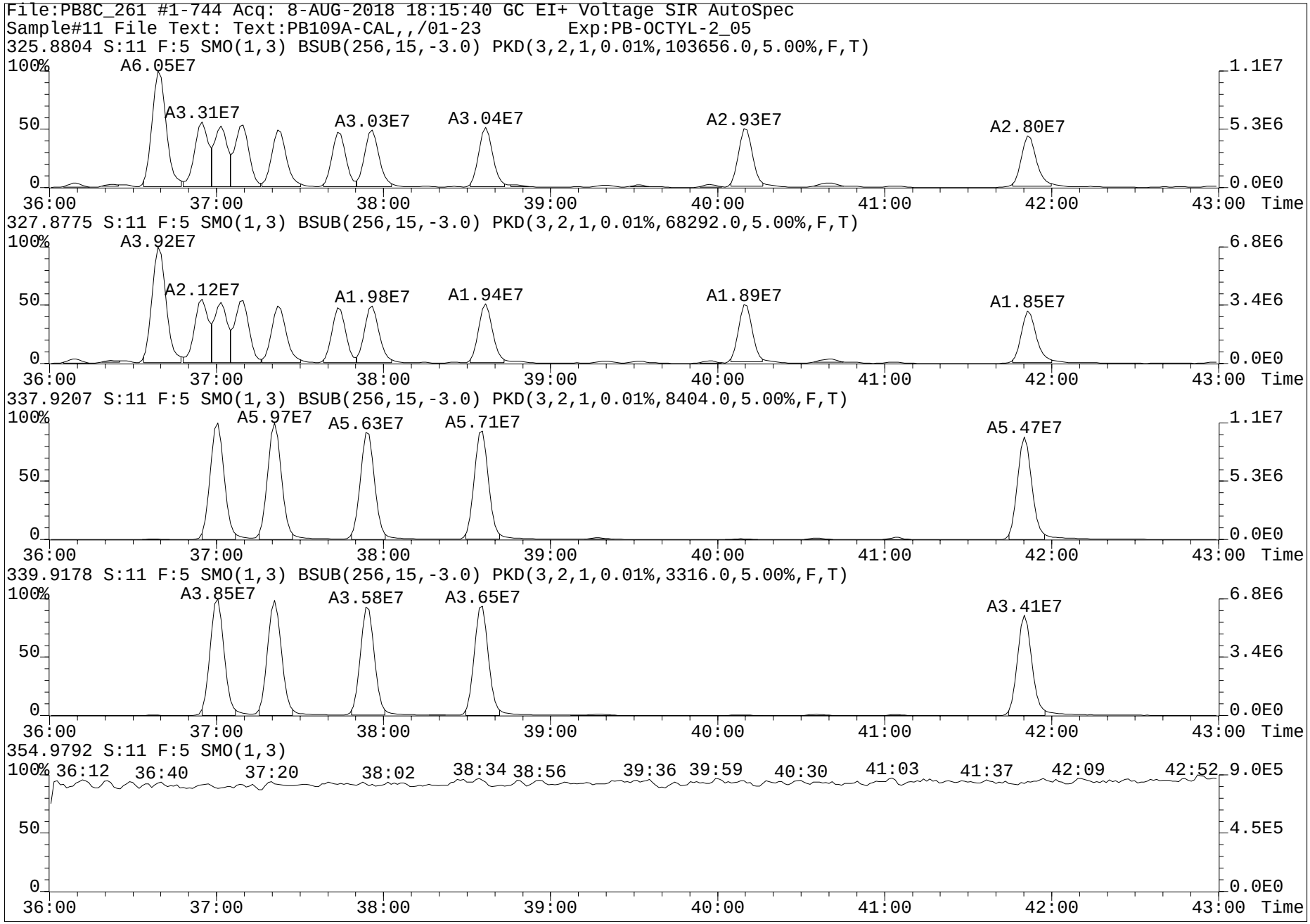

File:PB8C_261 #1-364 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1428.0,5.00%,F,T)
A1.13E7
A2.88E7
A1.24E7
A1.73E7
A1.09E7
257.9584 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,920.0,5.00%,F,T)
A1.05E7
A2.70E7
A1.16E7
A1.65E7
A1.04E7
268.0016 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,10292.0,5.00%,F,T)
A4.04E7
269.9986 S:11 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,12660.0,5.00%,F,T)
A3.87E7
242.9856 S:11 F:2 SMO(1,3)
16:59 17:21 17:35 17:51 18:09 18:37 18:48 19:02 19:25 19:47
100%
50
0
17:00 17:12 17:24 17:36 17:48 18:00 18:12 18:24 18:36 18:48 19:00 19:12 19:24 19:36 19:48 20:00 20:12 20:24 Time
4.9E6
2.5E6
0.0E0
4.6E6
2.3E6
9.5E6
4.7E6
9.1E6
4.6E6
2.0E6
1.0E6

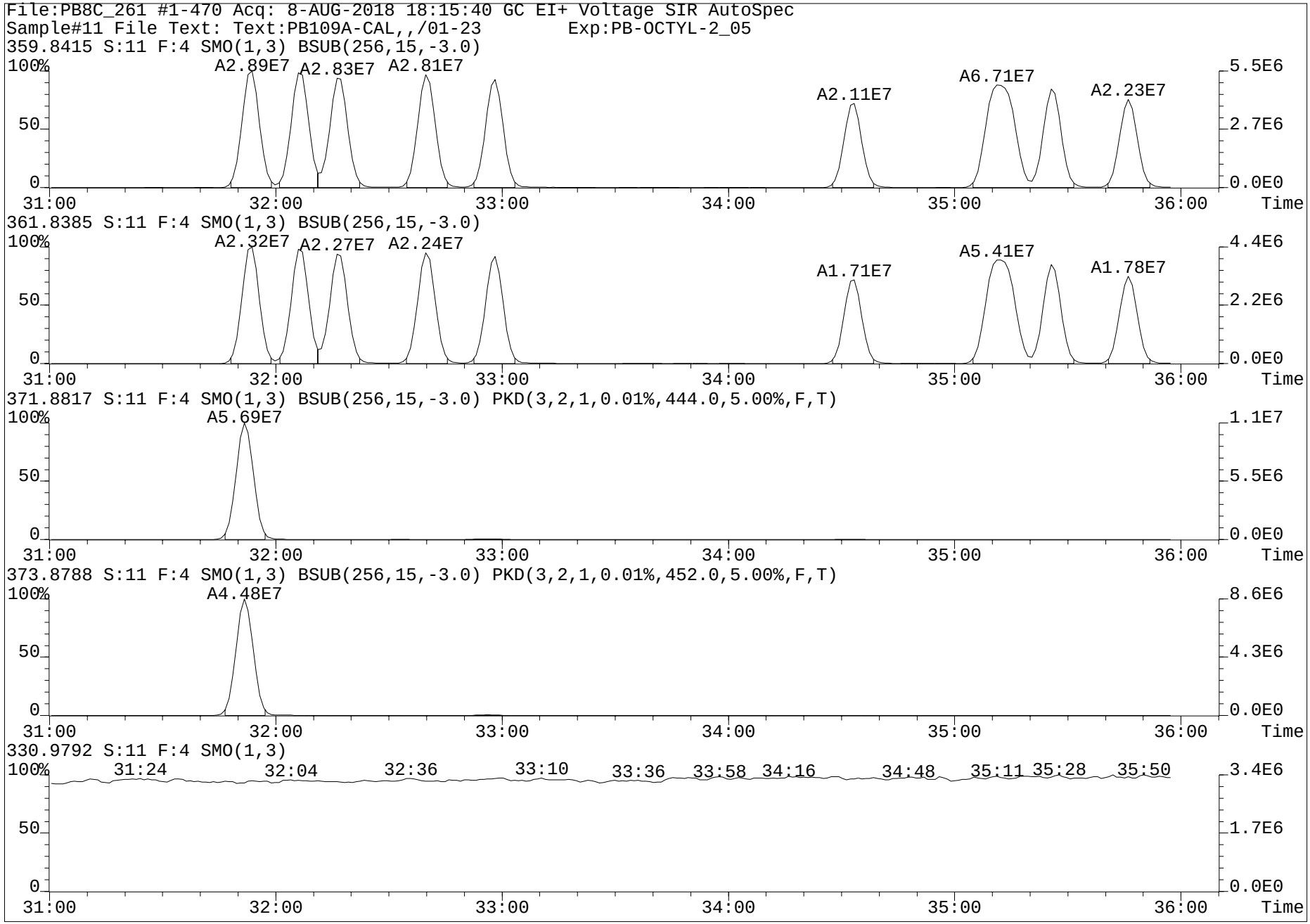

File:PB8C_261 #1-517 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
255.9613 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.58E7
A1.46E7
A3.03E7
A1.62E7
A3.03E7
A3.23E7
A1.32E7
A1.63E7
A2.47E6
A1.49E7
A1.98E6
A1.37E7
257.9584 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A1.55E7
A1.41E7
A2.94E7
A1.58E7
A2.96E7
A3.11E7
A1.38E7
A1.61E7
A2.67E6
A1.48E7
A2.12E6
A1.36E7
268.0016 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,13976.0,5.00%,F,T)
A1.03E8
A6.48E7
A5.88E7
269.9986 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,22532.0,5.00%,F,T)
A9.88E7
A6.16E7
A5.67E7
280.9825 S:11 F:3 SMO(1,3)
20:14 20:53 21:30 22:05 22:58 23:29 23:57 24:22 24:52 25:26 25:52 26:31 27:01 27:34
100%
50
0
5.8E6
2.9E6
0.0E0
5.6E6
2.8E6
2.1E7
1.1E7
1.0E7
21:00 22:00 23:00 24:00 25:00 26:00 27:00
Time

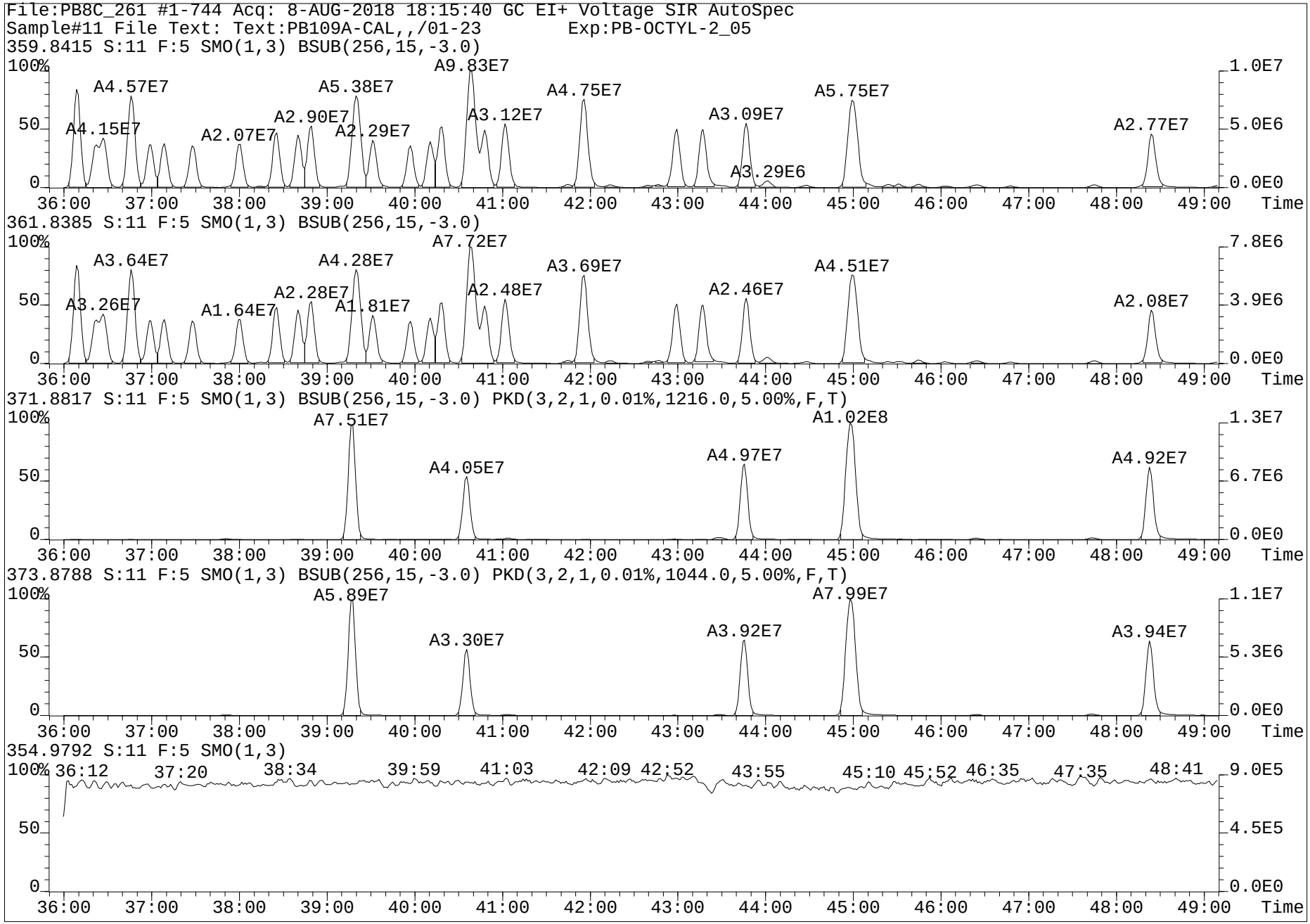

File:PB8C_261 #1-517 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A2.51E7
A3.94E7
A3.86E7
A2.04E7
A4.64E7
A1.97E7
A7.85E7
A2.00E7
A5.92E7
A2.72E7
291.9199 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0)
A3.21E7
A5.08E7
A4.94E7
A2.61E7
A5.91E7
A2.49E7
A1.00E8
A2.54E7
A7.56E7
A3.52E7
301.9626 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5100.0,5.00%,F,T)
A4.73E7
A3.61E7
303.9597 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4304.0,5.00%,F,T)
A5.93E7
A4.55E7
280.9825 S:11 F:3 SMO(1,3)
20:14 20:53 21:30 22:05 22:58 23:29 23:57 24:22 24:52 25:26 25:52 26:31 27:01 27:34
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
1.1E7 5.6E6 0.0E0
1.4E7 7.2E6 0.0E0
1.1E7 5.4E6 0.0E0
1.4E7 6.8E6 0.0E0
5.8E6 2.9E6 0.0E0

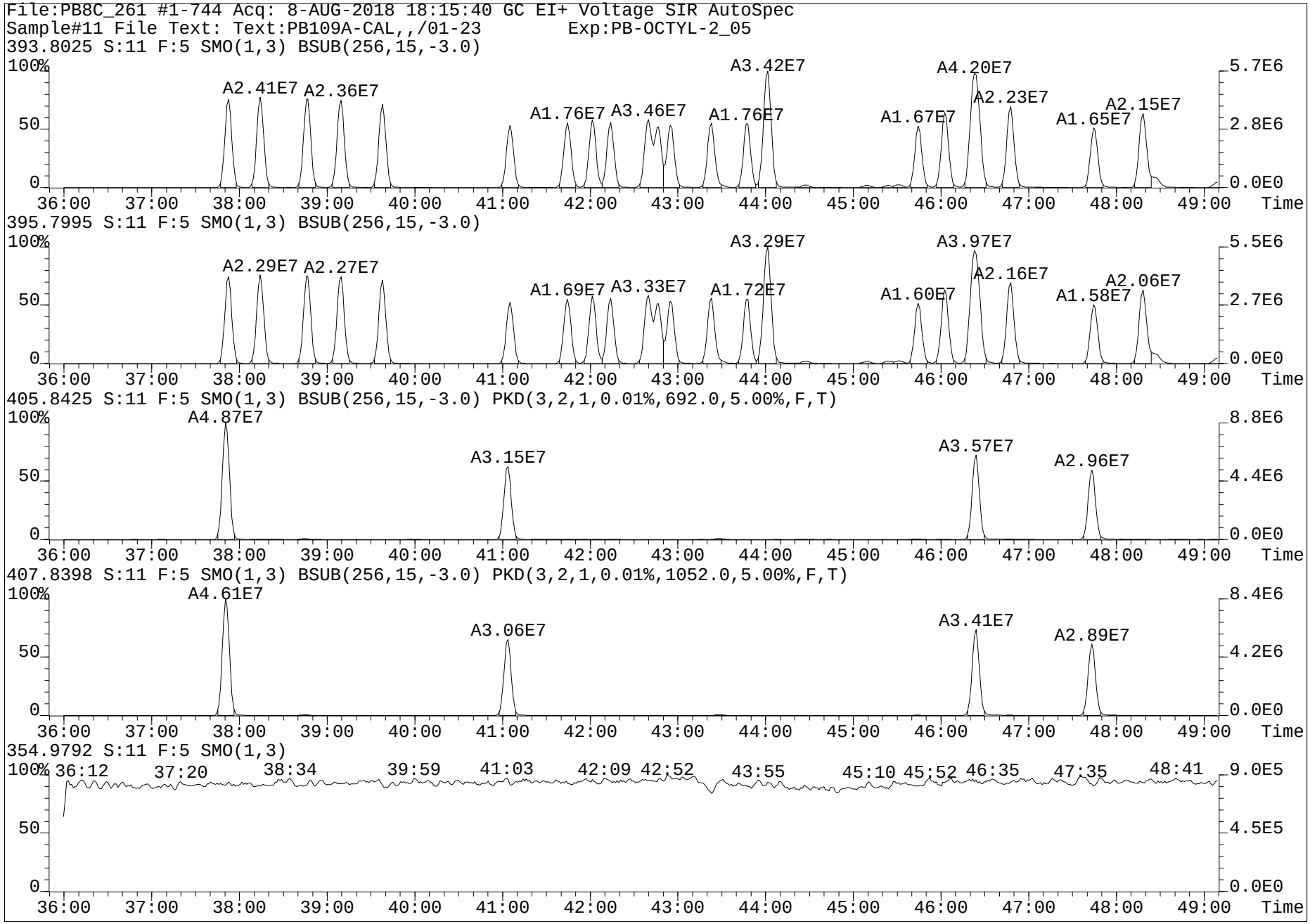

File:PB8C_261 #1-470 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
289.9224 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A9.68E7
A2.61E7
A2.51E7
A2.31E7
A2.27E7
A2.26E7
A2.53E7
A2.85E7
A2.26E7
A2.25E7
291.9194 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A1.25E8
A3.37E7
A3.21E7
A2.96E7
A2.91E7
A3.38E7
A3.71E7
A2.99E7
A2.89E7
301.9626 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4824.0,5.00%,F,T)
A4.68E7
A4.67E7
303.9597 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2968.0,5.00%,F,T)
A6.04E7
A6.17E7
330.9792 S:11 F:4 SMO(1,3)
28:39 29:17 29:49 30:19 30:46 31:24 32:04 32:36 33:10 33:45 34:16 34:56 35:22 35:50
100%
50
0
9.8E6
4.9E6
0.0E0
1.3E7
6.5E6
8.4E6
4.2E6
1.1E7
5.4E6
3.4E6
1.7E6
28:00 29:00 30:00 31:00 32:00 33:00 34:00 35:00 36:00 Time

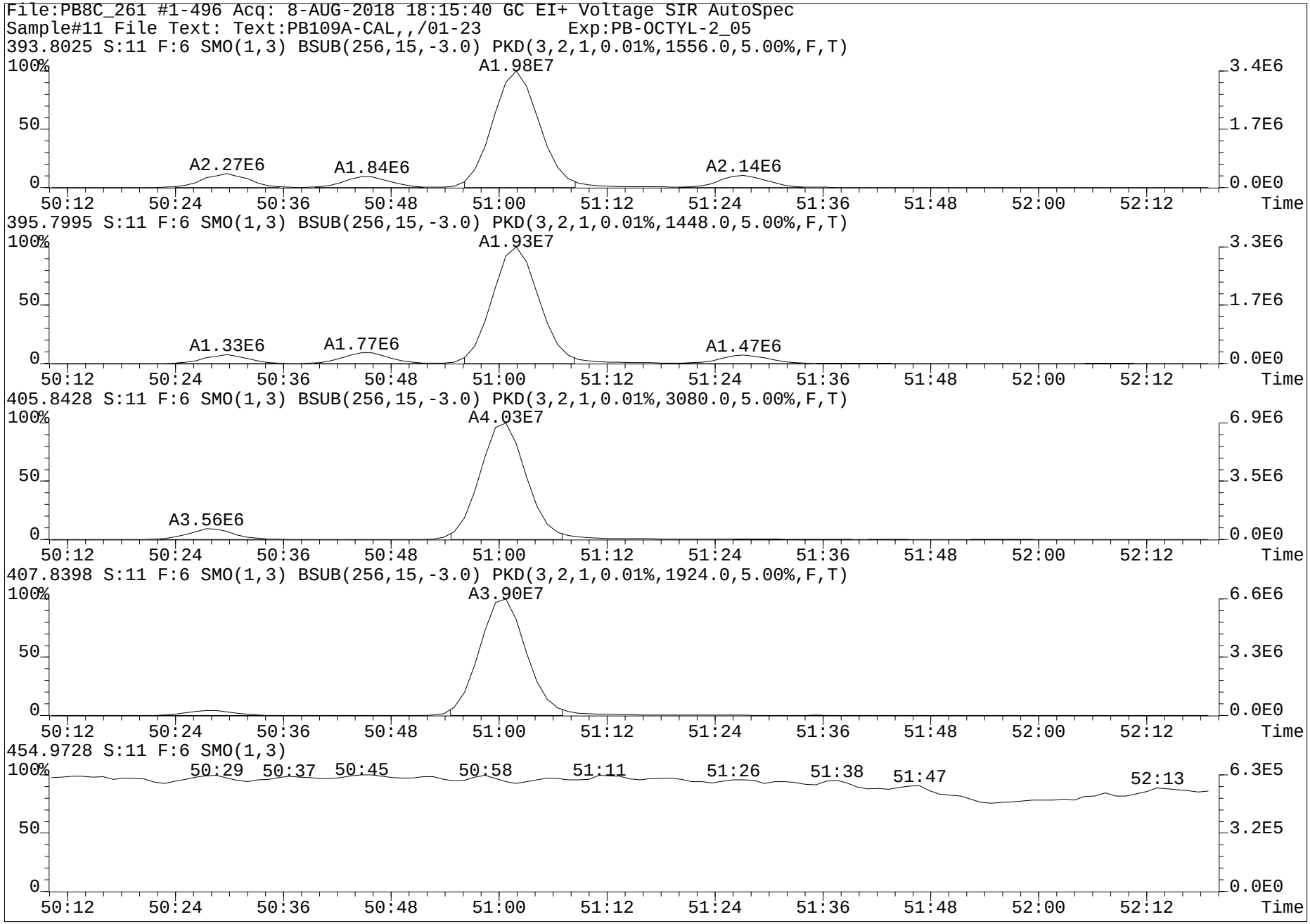

File:PB8C_261 #1-517 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1388.0,5.00%,F,T)
A3.11E7
327.8775 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1104.0,5.00%,F,T)
A2.01E7
337.9207 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A5.80E7
339.9178 S:11 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A3.67E7
280.9825 S:11 F:3 SMO(1,3)
20:14 20:53 21:30 22:05 22:58 23:29 23:57 24:22 24:52 25:26 25:52 26:31 27:01 27:34
100%
50
0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 Time
6.5E6 3.2E6 0.0E0
4.2E6 2.1E6 0.0E0
1.2E7 6.0E6 0.0E0
7.5E6 3.8E6 0.0E0
5.8E6 2.9E6 0.0E0

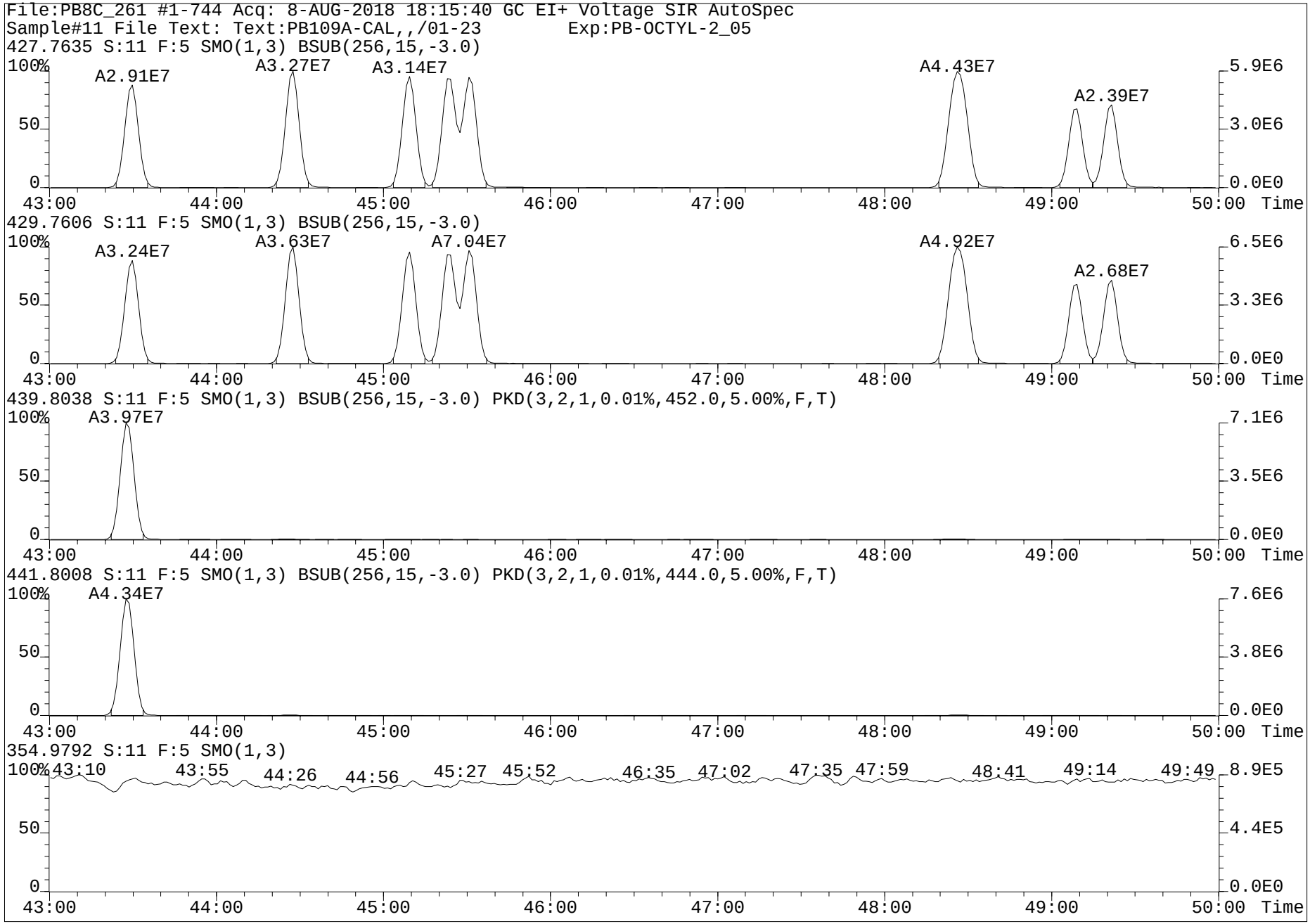

File:PB8C_261 #1-744 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
325.8804 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,103656.0,5.00%,F,T)
A6.05E7
A3.31E7
A3.03E7
A3.04E7
A2.93E7
A2.80E7
327.8775 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,68292.0,5.00%,F,T)
A3.92E7
A2.12E7
A1.98E7
A1.94E7
A1.89E7
A1.85E7
337.9207 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8404.0,5.00%,F,T)
A5.97E7
A5.63E7
A5.71E7
A5.47E7
339.9178 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3316.0,5.00%,F,T)
A3.85E7
A3.58E7
A3.65E7
A3.41E7
354.9792 S:11 F:5 SMO(1,3)
36:12
36:40
37:20
38:02
38:34
38:56
39:36
39:59
40:30
41:03
41:37
42:09
42:52
100%
50
0
1.1E7
5.3E6
0.0E0
6.8E6
3.4E6
9.0E5
4.5E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
Time

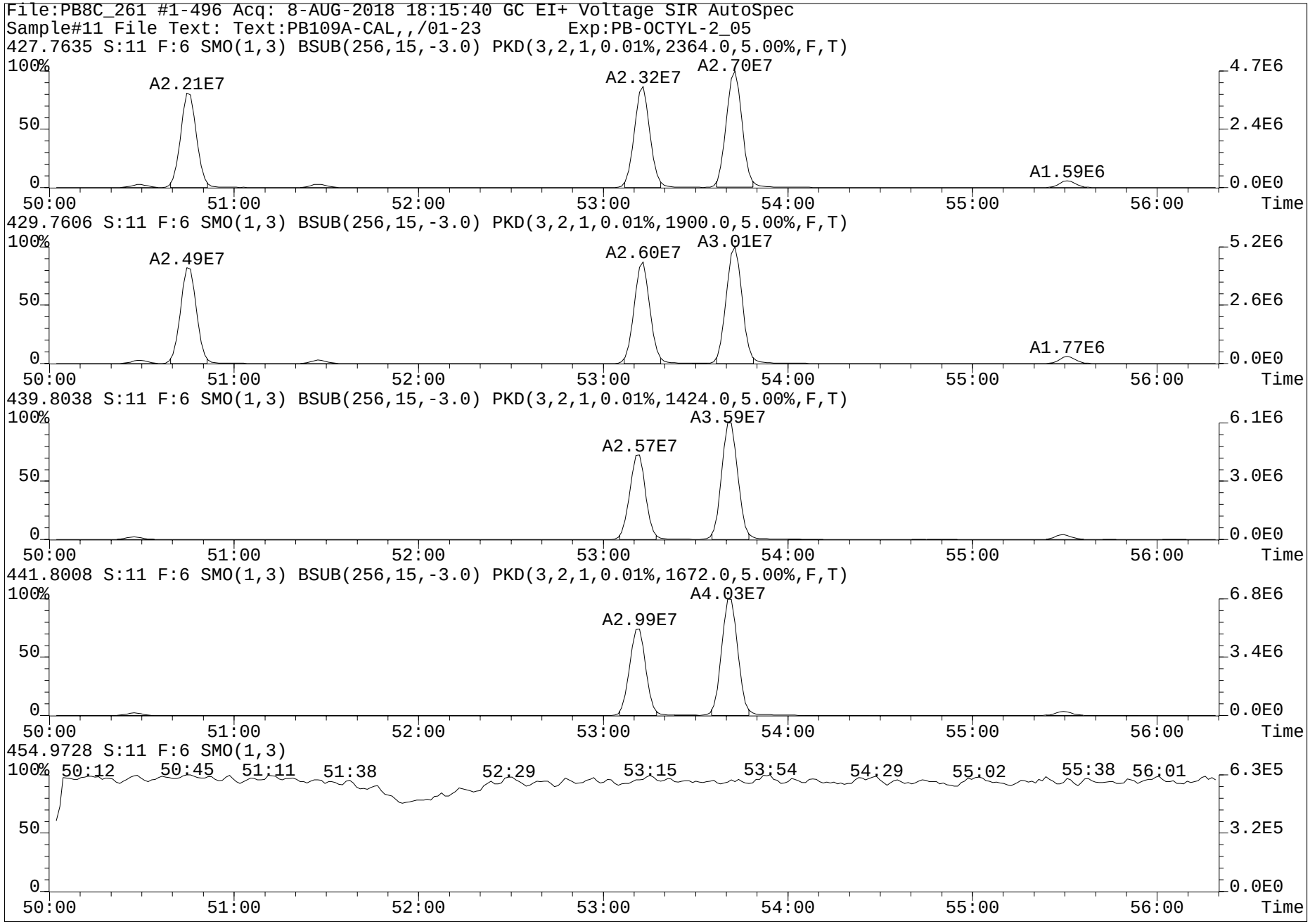

File:PB8C_261 #1-470 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.89E7
A2.83E7
A2.81E7
A2.11E7
A6.71E7
A2.23E7
361.8385 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0)
A2.32E7
A2.27E7
A2.24E7
A1.71E7
A5.41E7
A1.78E7
371.8817 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A5.69E7
373.8788 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A4.48E7
330.9792 S:11 F:4 SMO(1,3)
31:24
32:04
32:36
33:10
33:36
33:58
34:16
34:48
35:11
35:28
35:50
100%
50
0
31:00
32:00
33:00
34:00
35:00
36:00
Time
5.5E6
2.7E6
0.0E0
4.4E6
2.2E6
1.1E7
5.5E6
8.6E6
4.3E6
3.4E6
1.7E6

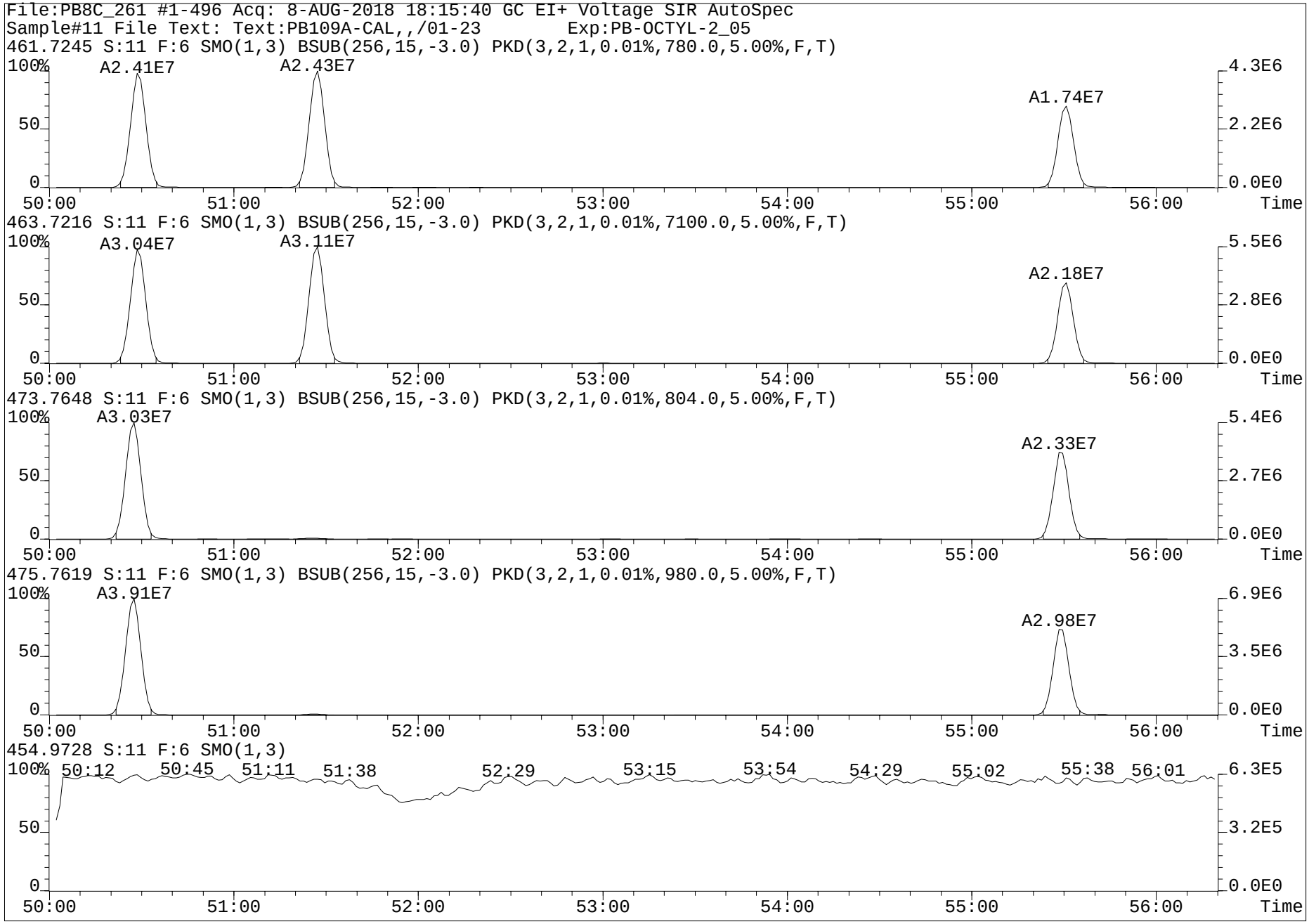

File:PB8C_261 #1-744 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
359.8415 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A4.57E7
A4.15E7
A2.07E7
A2.90E7
A5.38E7
A2.29E7
A9.83E7
A3.12E7
A4.75E7
A3.09E7
A3.29E6
A5.75E7
A2.77E7
361.8385 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.64E7
A3.26E7
A1.64E7
A2.28E7
A4.28E7
A1.81E7
A7.72E7
A2.48E7
A3.69E7
A2.46E7
A4.51E7
A2.08E7
371.8817 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1216.0,5.00%,F,T)
A7.51E7
A4.05E7
A4.97E7
A1.02E8
A4.92E7
373.8788 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1044.0,5.00%,F,T)
A5.89E7
A3.30E7
A3.92E7
A7.99E7
A3.94E7
354.9792 S:11 F:5 SMO(1,3)
36:12
37:20
38:34
39:59
41:03
42:09
42:52
43:55
45:10
45:52
46:35
47:35
48:41
100%
50
0
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
Time
1.0E7
5.0E6
0.0E0
7.8E6
3.9E6
1.3E7
6.7E6
1.1E7
5.3E6
9.0E5
4.5E5

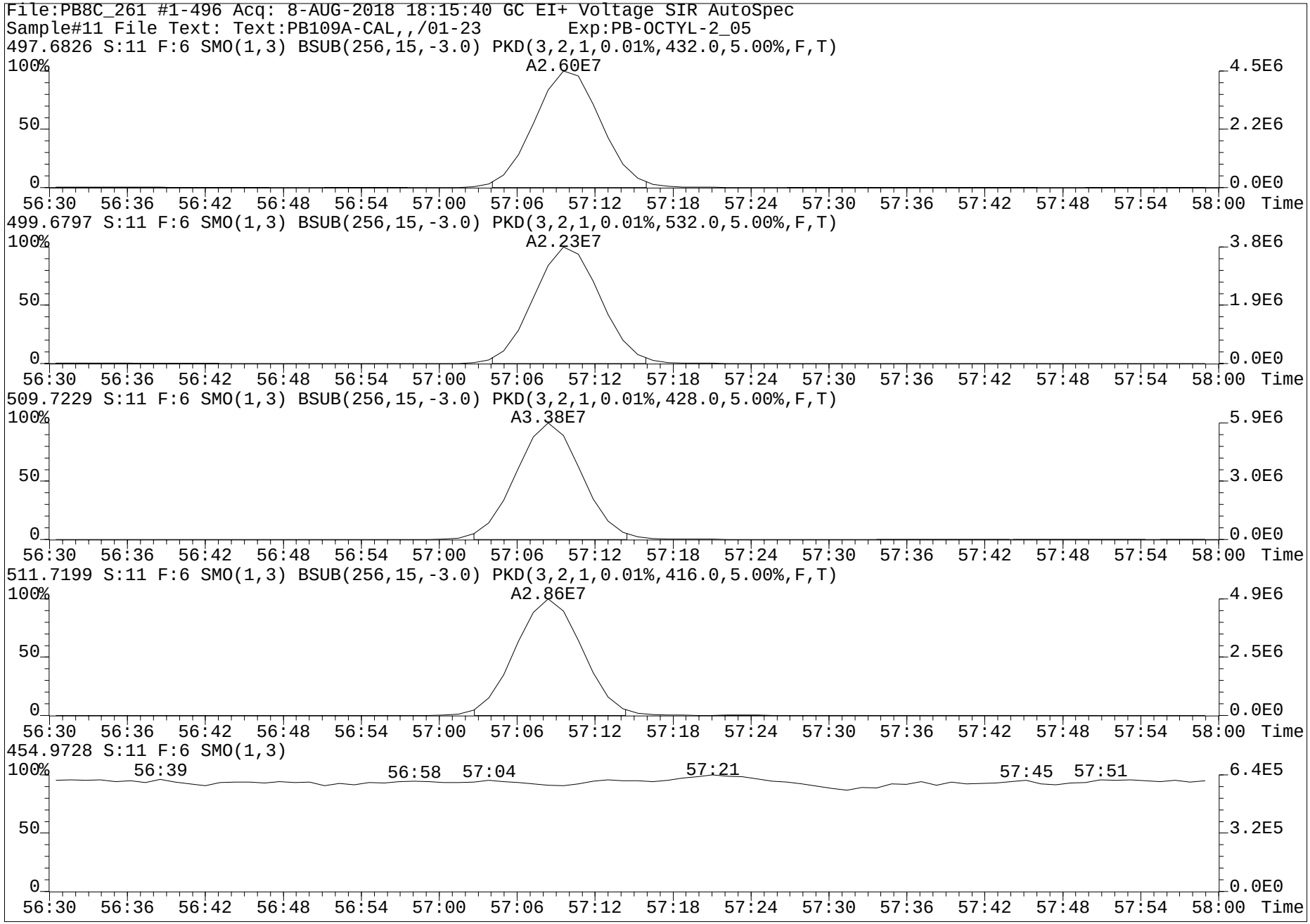

File:PB8C_261 #1-744 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.41E7 A2.36E7 A1.76E7 A3.46E7 A1.76E7 A3.42E7 A1.67E7 A4.20E7 A2.23E7 A1.65E7 A2.15E7
395.7995 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.29E7 A2.27E7 A1.69E7 A3.33E7 A1.72E7 A3.29E7 A1.60E7 A3.97E7 A2.16E7 A1.58E7 A2.06E7
405.8425 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,692.0,5.00%,F,T)
A4.87E7 A3.15E7 A3.57E7 A2.96E7
407.8398 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1052.0,5.00%,F,T)
A4.61E7 A3.06E7 A3.41E7 A2.89E7
354.9792 S:11 F:5 SMO(1,3)
36:12 37:20 38:34 39:59 41:03 42:09 42:52 43:55 45:10 45:52 46:35 47:35 48:41
100%
50
0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 44:00 45:00 46:00 47:00 48:00 49:00 Time
5.7E6 2.8E6 0.0E0
5.5E6 2.7E6 0.0E0
8.8E6 4.4E6 0.0E0
8.4E6 4.2E6 0.0E0
9.0E5 4.5E5 0.0E0

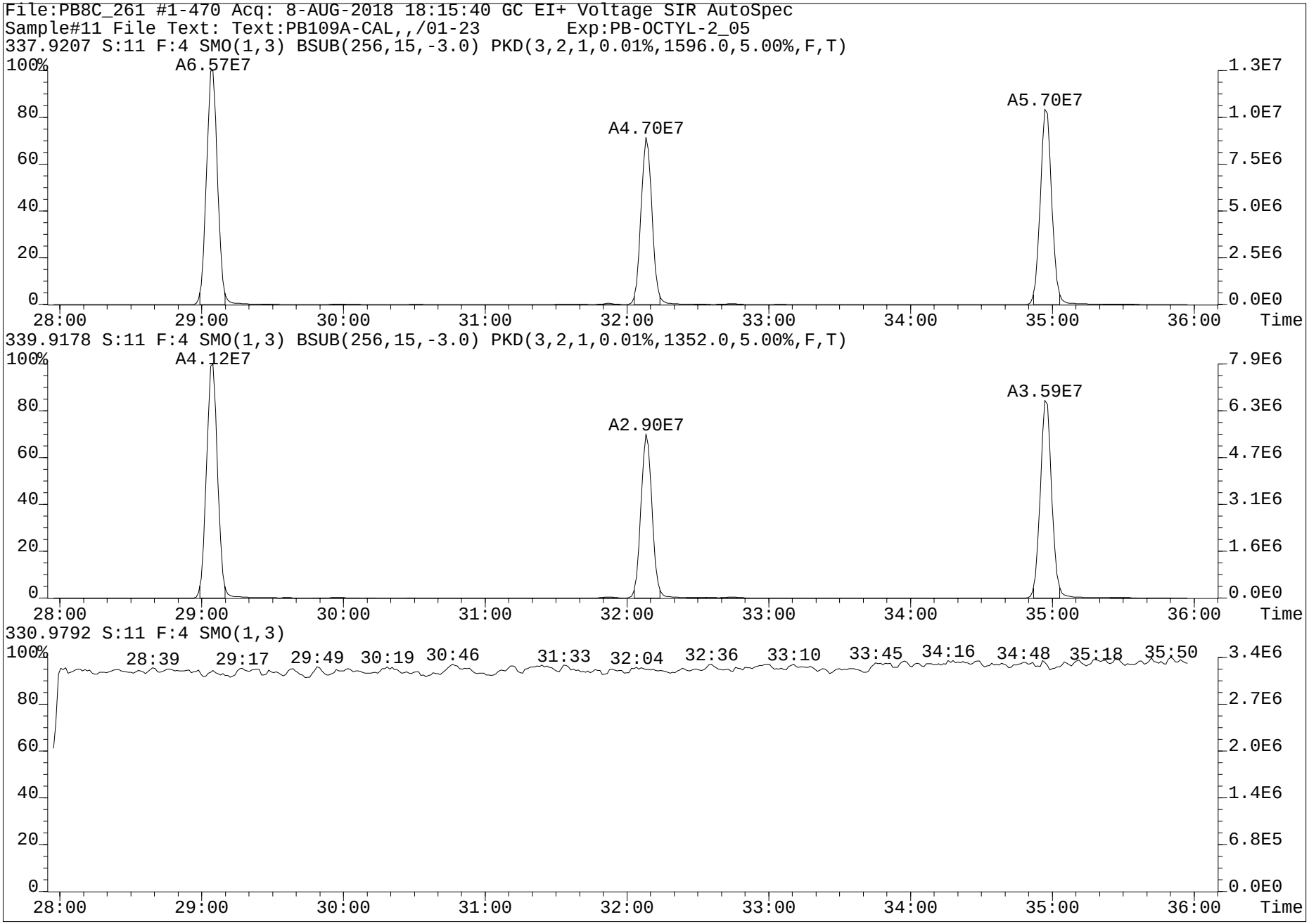

File:PB8C_261 #1-496 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
393.8025 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1556.0,5.00%,F,T)
A1.98E7
A2.27E6
A1.84E6
A2.14E6
395.7995 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1448.0,5.00%,F,T)
A1.93E7
A1.33E6
A1.77E6
A1.47E6
405.8428 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3080.0,5.00%,F,T)
A4.03E7
A3.56E6
407.8398 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1924.0,5.00%,F,T)
A3.90E7
454.9728 S:11 F:6 SMO(1,3)
50:29
50:37
50:45
50:58
51:11
51:26
51:38
51:47
52:13
100%
50
0
50:12
50:24
50:36
50:48
51:00
51:12
51:24
51:36
51:48
52:00
52:12
Time
3.4E6
1.7E6
0.0E0
3.3E6
6.9E6
3.5E6
6.6E6
3.3E6
6.3E5
3.2E5


File:PB8C_261 #1-744 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A2.91E7
A3.27E7
A3.14E7
A4.43E7
A2.39E7
5.9E6
3.0E6
0.0E0
429.7606 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0)
A3.24E7
A3.63E7
A7.04E7
A4.92E7
A2.68E7
6.5E6
3.3E6
0.0E0
439.8038 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A3.97E7
7.1E6
3.5E6
0.0E0
441.8008 S:11 F:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A4.34E7
7.6E6
3.8E6
0.0E0
354.9792 S:11 F:5 SMO(1,3)
43:10
43:55
44:26
44:56
45:27
45:52
46:35
47:02
47:35
47:59
48:41
49:14
49:49
8.9E5
4.4E5
0.0E0
100%
50
0
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
Time


File:PB8C_261 #1-496 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
427.7635 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2364.0,5.00%,F,T)
A2.21E7
A2.32E7
A2.70E7
A1.59E6
429.7606 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1900.0,5.00%,F,T)
A2.49E7
A2.60E7
A3.01E7
A1.77E6
439.8038 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1424.0,5.00%,F,T)
A2.57E7
A3.59E7
441.8008 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1672.0,5.00%,F,T)
A2.99E7
A4.03E7
454.9728 S:11 F:6 SMO(1,3)
50:12 50:45 51:11 51:38 52:29 53:15 53:54 54:29 55:02 55:38 56:01
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.7E6 2.4E6 0.0E0
5.2E6 2.6E6 0.0E0
6.1E6 3.0E6 0.0E0
6.8E6 3.4E6 0.0E0
6.3E5 3.2E5 0.0E0


File:PB8C_261 #1-496 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
461.7245 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,780.0,5.00%,F,T)
A2.41E7
A2.43E7
A1.74E7
463.7216 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7100.0,5.00%,F,T)
A3.04E7
A3.11E7
A2.18E7
473.7648 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,804.0,5.00%,F,T)
A3.03E7
A2.33E7
475.7619 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,980.0,5.00%,F,T)
A3.91E7
A2.98E7
454.9728 S:11 F:6 SMO(1,3)
50:12 50:45 51:11 51:38 52:29 53:15 53:54 54:29 55:02 55:38 56:01
100%
50
0
50:00 51:00 52:00 53:00 54:00 55:00 56:00 Time
4.3E6 2.2E6 0.0E0
5.5E6 2.8E6 0.0E0
5.4E6 2.7E6 0.0E0
6.9E6 3.5E6 0.0E0
6.3E5 3.2E5 0.0E0


File:PB8C_261 #1-496 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
497.6826 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A2.60E7
499.6797 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,532.0,5.00%,F,T)
A2.23E7
509.7229 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A3.38E7
511.7199 S:11 F:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A2.86E7
454.9728 S:11 F:6 SMO(1,3)
56:39
56:58
57:04
57:21
57:45
57:51
100%
50
0
4.5E6
2.2E6
0.0E0
3.8E6
1.9E6
5.9E6
3.0E6
4.9E6
2.5E6
6.4E5
3.2E5
56:30 56:36 56:42 56:48 56:54 57:00 57:06 57:12 57:18 57:24 57:30 57:36 57:42 57:48 57:54 58:00 Time


File:PB8C_261 #1-470 Acq: 8-AUG-2018 18:15:40 GC EI+ Voltage SIR AutoSpec
Sample#11 File Text: Text:PB109A-CAL,,/01-23 Exp:PB-OCTYL-2_05
337.9207 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1596.0,5.00%,F,T)
A6.57E7
A4.70E7
A5.70E7
339.9178 S:11 F:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1352.0,5.00%,F,T)
A4.12E7
A2.90E7
A3.59E7
330.9792 S:11 F:4 SMO(1,3)
28:39 29:17 29:49 30:19 30:46 31:33 32:04 32:36 33:10 33:45 34:16 34:48 35:18 35:50
Time

Experiment : PB-DB1-1_01
GC Program : PB-DB1-1_01
Column type : DB1
Serial # : US5410581H/240η
kPa : 288
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 280
-s resv: 160
-re_ent: 290
-cap_1 : 290
-cap_2 : 290

Tune : EW
List : RLS
Check :
LIMS :
Logfile:

Date -list : 14-AUG-2018
-liner : 14-AUG-2018
-septum: 14-AUG-2018
-guard : 50cm 14-AUG-2018
-column: 15cm 14-AUG-2018
-t line: NEW 02-JAN-2018

#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DT8C_269C	1	1	Toluene,,	1,,1.0uL	14-AUG-18 20:43:52
2	DT8C_269C	2	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 21:23:13
3	DT8C_269C	3	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 22:02:35
4	DT8C_269C	4	2	PB108A-CAL,,/01-07	1,,1.0uL CS-0.2/SENS	14-AUG-18 22:41:57
5	DT8C_269C	5	3	PB108C-CAL,,/01-08	1,,1.0uL CS-1	14-AUG-18 23:21:23
6	DT8C_269C	6	4	PB108D-CAL,,/01-07	1,,1.0uL CS-2	15-AUG-18 00:00:45
7	DT8C_269C	7	5	PB108G-CAL,,/01-07	1,,1.0uL CS-5	15-AUG-18 00:40:07
8	DT8C_269C	8	6	PB108F-CAL,,/01-08	1,,1.0uL CS-4	15-AUG-18 01:19:29
9	DT8C_269C	9	7	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 01:58:52

Run: dt8c_269c» Analyte: 1668a-db1» Cal: dt8c_269c-6a Results: dt8c_269c-6a Version: V3.6 6-JAN-2000 17:51:42

Name	Mean RRF	S. D.	%RSD	T8C_269C S5 RRF#1	SD	T8C_269C S6 RRF#2	SD	T8C_269C S9 RRF#3	SD	T8C_269C S8 RRF#4	SD	T8C_269C S7 RRF#5	SD	T8C_269C S3 RRF#6	SD
CL4-PCB-81	1.0418	0.070	6.68 %	1.06	0.3	1.04	0.0	1.07	0.4	1.06	0.2	1.11	1.0	0.91	-1.9
CL4-PCB-77	1.0541	0.037	3.51 %	1.02	-0.8	1.04	-0.3	1.06	0.2	1.08	0.6	1.11	1.5	1.01	-1.2
CL5-PCB-123	1.0294	0.044	4.30 %	0.98	-1.1	1.03	0.0	1.01	-0.5	1.05	0.5	1.10	1.7	1.00	-0.7
CL5-PCB-118	1.0770	0.048	4.47 %	1.03	-1.0	1.02	-1.1	1.08	0.1	1.06	-0.3	1.12	0.8	1.15	1.4
CL5-PCB-114	1.1371	0.050	4.37 %	1.10	-0.8	1.09	-1.0	1.12	-0.2	1.12	-0.3	1.19	1.0	1.21	1.4
CL5-PCB-105	1.0421	0.071	6.79 %	1.03	-0.2	1.04	0.0	1.07	0.4	1.07	0.3	1.13	1.2	0.92	-1.8
CL5-PCB-126	1.0582	0.082	7.77 %	1.07	0.1	1.05	-0.1	1.09	0.4	1.09	0.4	1.14	1.0	0.90	-1.9
CL6-PCB-167	1.1523	0.052	4.49 %	1.07	-1.5	1.11	-0.8	1.16	0.1	1.18	0.5	1.22	1.3	1.17	0.4
CL6-PCB-156	1.1387	0.044	3.83 %	1.07	-1.5	1.14	0.1	1.15	0.2	1.16	0.5	1.20	1.4	1.11	-0.7
CL6-PCB-157	1.1063	0.074	6.69 %	1.04	-0.9	1.06	-0.7	1.09	-0.2	1.09	-0.2	1.12	0.2	1.25	1.9
CL6-PCB-169	1.0798	0.029	2.72 %	1.05	-1.0	1.05	-1.0	1.06	-0.5	1.09	0.4	1.12	1.4	1.10	0.7
CL7-PCB-180	0.9595	0.031	3.22 %	0.93	-1.1	0.94	-0.6	0.96	0.1	0.97	0.5	1.01	1.7	0.94	-0.6
CL7-PCB-170	0.9217	0.038	4.14 %	0.89	-0.7	0.88	-1.0	0.93	0.3	0.95	0.6	0.98	1.6	0.89	-0.7
CL7-PCB-189	0.9933	0.031	3.10 %	1.03	1.2	0.96	-1.1	0.97	-0.6	1.00	0.2	1.03	1.1	0.97	-0.8
13C-CL4-PCB-81	1.2425	0.103	8.29 %	1.18	-0.6	1.18	-0.6	1.18	-0.6	1.26	0.1	1.44	2.0	1.21	-0.3
13C-CL4-PCB-77	1.2238	0.102	8.32 %	1.15	-0.7	1.16	-0.6	1.17	-0.5	1.23	0.1	1.42	2.0	1.19	-0.3
13C-CL5-PCB-123	1.5065	0.122	8.11 %	1.44	-0.6	1.43	-0.6	1.44	-0.5	1.51	0.0	1.75	2.0	1.47	-0.3
13C-CL5-PCB-118	1.5494	0.129	8.33 %	1.46	-0.7	1.45	-0.8	1.48	-0.6	1.56	0.1	1.79	1.9	1.56	0.1
13C-CL5-PCB-114	1.4143	0.117	8.24 %	1.34	-0.7	1.32	-0.8	1.36	-0.5	1.43	0.2	1.64	1.9	1.39	-0.2
13C-CL5-PCB-105	1.4304	0.115	8.00 %	1.35	-0.7	1.36	-0.6	1.36	-0.6	1.45	0.2	1.65	1.9	1.41	-0.2
13C-CL5-PCB-126	1.2924	0.115	8.87 %	1.21	-0.7	1.21	-0.7	1.24	-0.5	1.31	0.1	1.51	1.9	1.28	-0.1
13C-CL6-PCB-167	1.1948	0.088	7.35 %	1.14	-0.6	1.14	-0.6	1.16	-0.4	1.22	0.3	1.36	1.9	1.15	-0.5
13C-CL6-PCB-156	1.2168	0.074	6.09 %	1.17	-0.6	1.17	-0.6	1.17	-0.6	1.23	0.2	1.36	1.9	1.19	-0.3
13C-CL6-PCB-157	1.3570	0.129	9.53 %	1.28	-0.6	1.27	-0.6	1.29	-0.5	1.37	0.1	1.61	2.0	1.32	-0.3
13C-CL6-PCB-169	1.1604	0.086	7.38 %	1.10	-0.7	1.12	-0.4	1.13	-0.4	1.17	0.1	1.33	2.0	1.11	-0.6
13C-CL7-PCB-180	0.8981	0.062	6.87 %	0.86	-0.6	0.86	-0.6	0.88	-0.3	0.92	0.4	1.01	1.9	0.85	-0.7
13C-CL7-PCB-170	0.7329	0.051	6.97 %	0.70	-0.6	0.71	-0.5	0.72	-0.3	0.75	0.2	0.83	1.9	0.69	-0.8
13C-CL7-PCB-189	0.9614	0.070	7.31 %	0.91	-0.7	0.94	-0.3	0.94	-0.4	0.97	0.2	1.10	1.9	0.91	-0.7
13C-CL10-PCB-209	1.1081	0.121	10.94 %	1.05	-0.5	1.04	-0.5	1.06	-0.4	1.13	0.2	1.35	2.0	1.03	-0.7
13C-CL4-PCB-52	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL5-PCB-101	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL6-PCB-138	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
13C-CL5-PCB-111	1.2361	0.017	1.36 %	1.22	-0.9	1.21	-1.4	1.24	0.3	1.23	-0.1	1.25	1.0	1.25	1.1
13C-CL7-PCB-178	0.8799	0.009	1.06 %	0.88	-0.5	0.87	-0.6	0.89	0.6	0.89	1.5	0.88	0.3	0.87	-1.3
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-
Lock_Mass	-	-	- %	-	-	-	-	-	-	-	-	-	-	-	-

SV BJ 17 Aug 2018

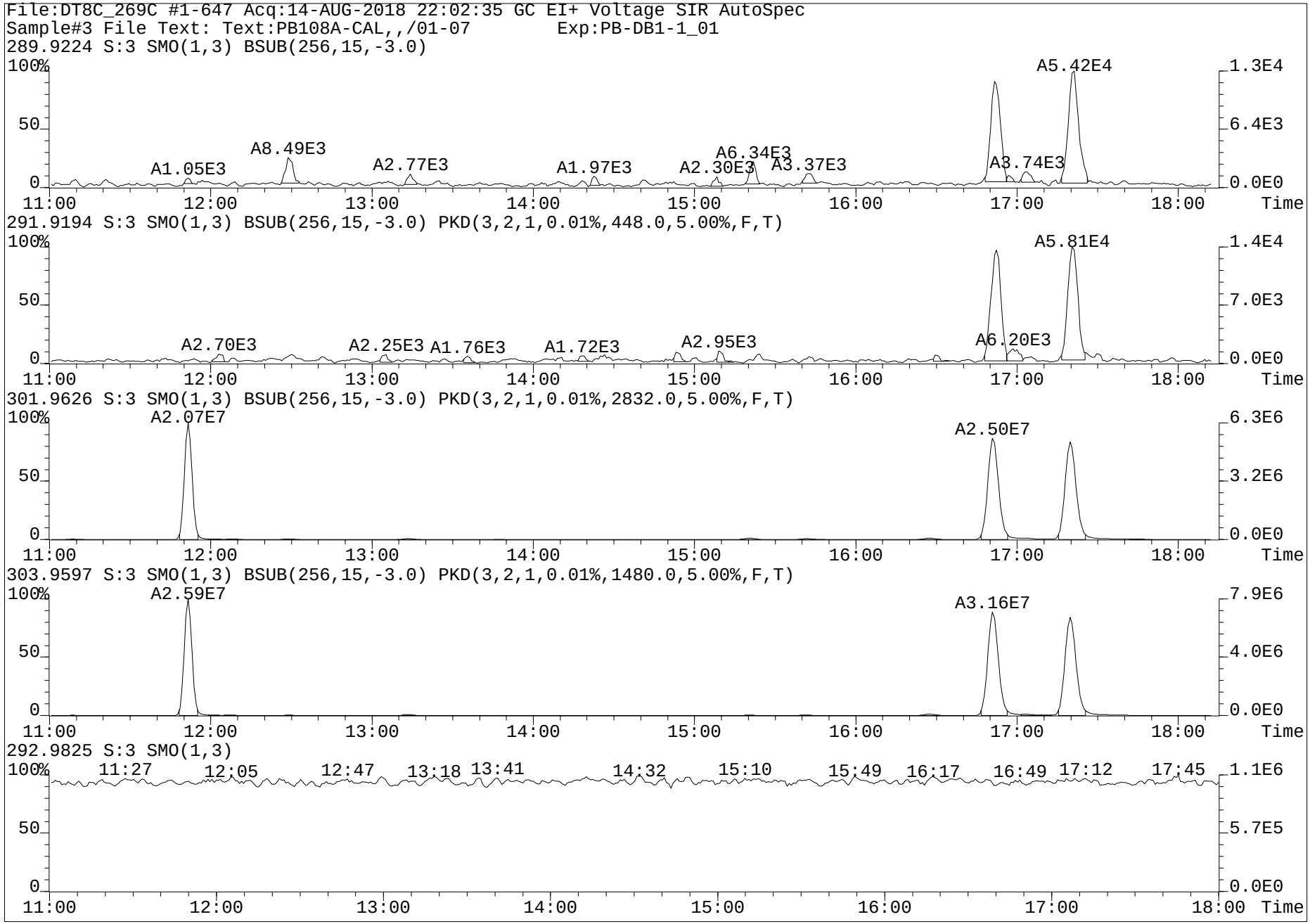
PV by RA 17AUG2018

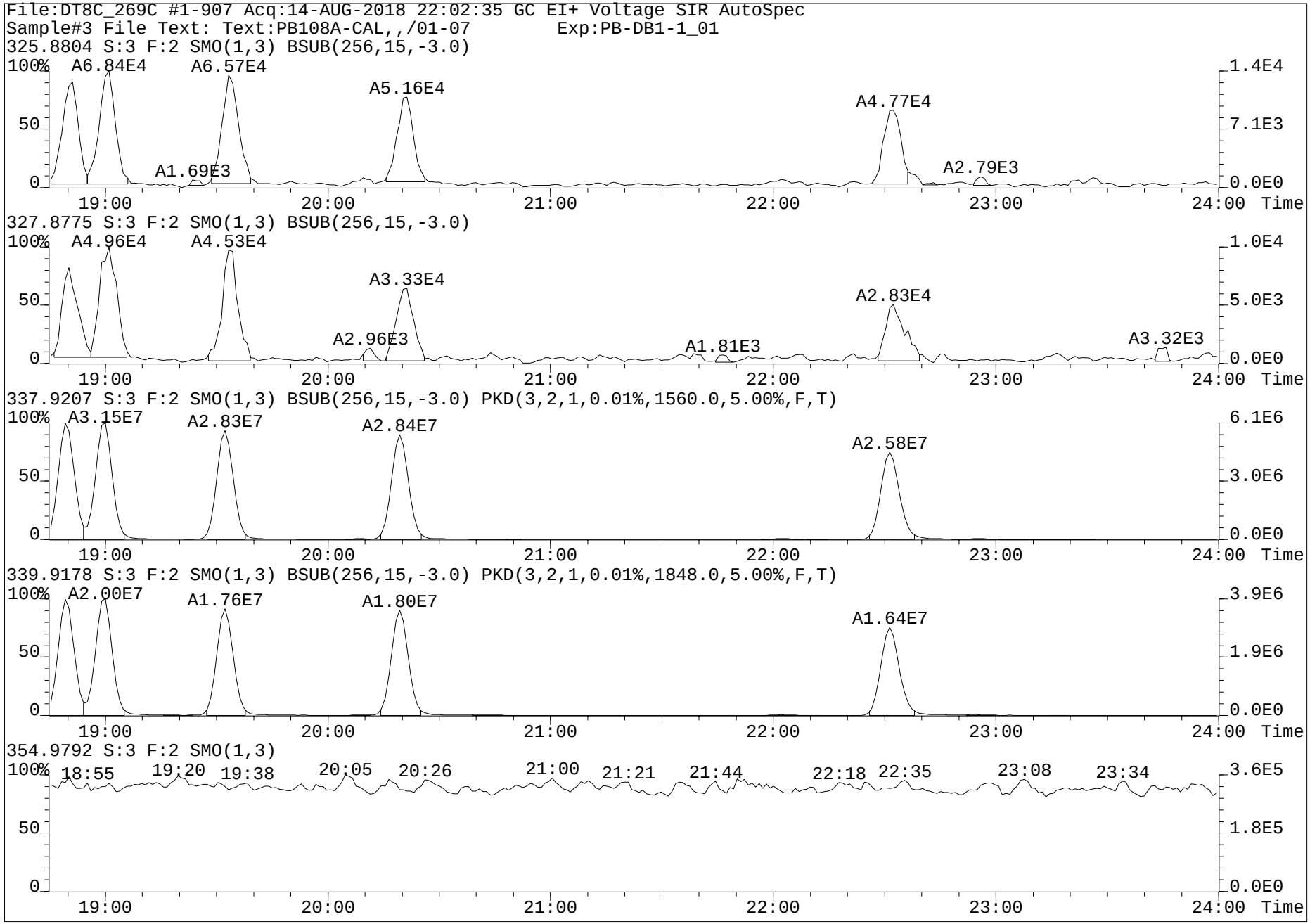
Run #6 Filename DT8C_269C S: 3 I: 1 Acquired: 14-AUG-18 22:02:35 Processed: 17-AUG-18 07:04:41
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: dt8c_269c-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108A-CAL,,/01-07 Comments: 1,,1.0uL CS-0.2/SENS F1: 0.20 F2: 1.00

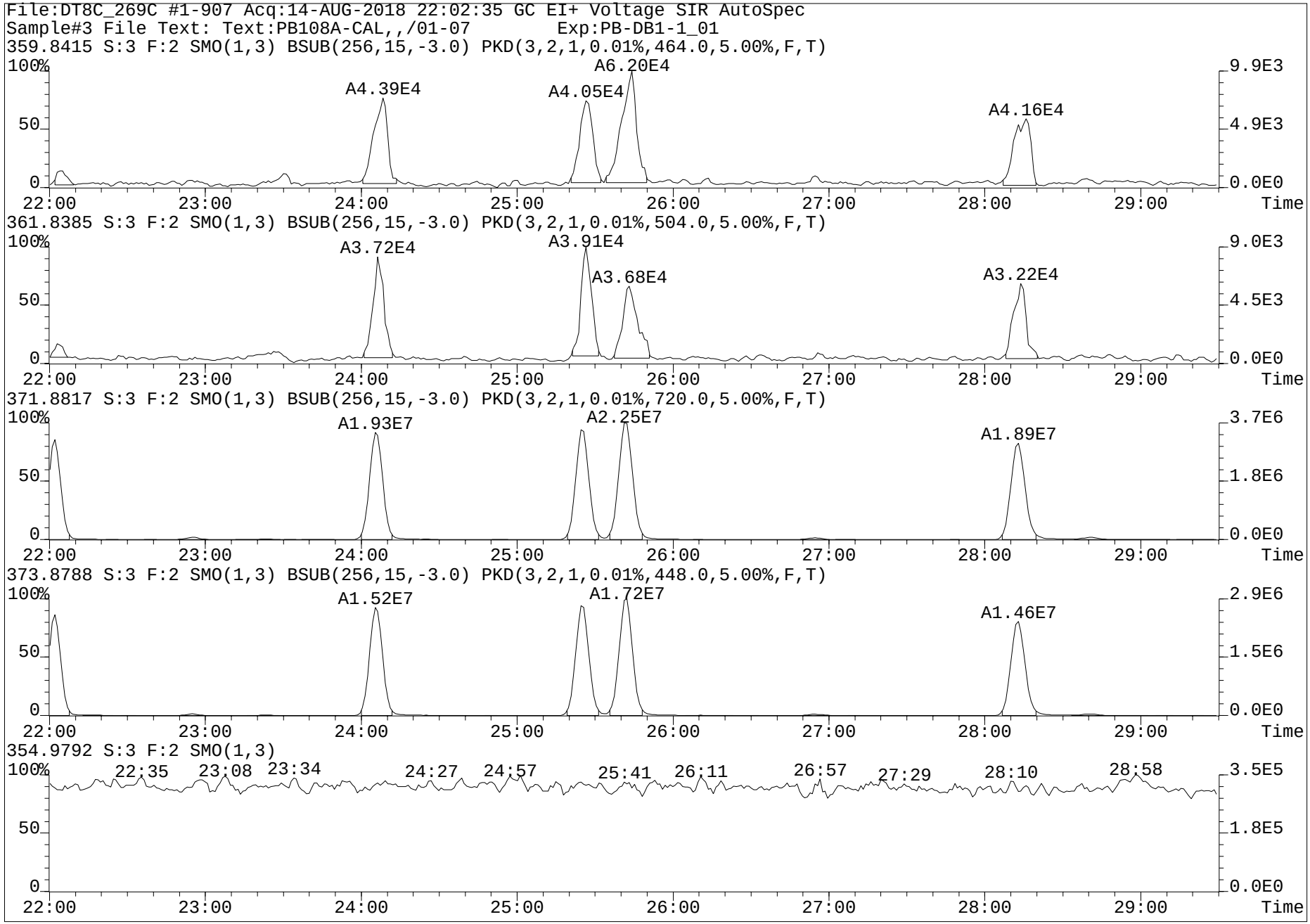
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	0.20	1.03e+05	0.79 y	16:52	-	0.9074	y	y
2	Unk	CL4-PCB-77	0.20	1.12e+05	0.93 n	17:20	-	1.0099	y	y
3	Unk	CL5-PCB-123	0.20	9.65e+04	1.66 y	18:50	-	0.9971	y	n
4	Unk	CL5-PCB-118	0.20	1.18e+05	1.38 y	19:00	-	1.1456	y	n
5	Unk	CL5-PCB-114	0.20	1.11e+05	1.45 y	19:33	-	1.2084	y	n
6	Unk	CL5-PCB-105	0.20	8.49e+04	1.55 y	20:20	-	0.9154	y	n
7	Unk	CL5-PCB-126	0.20	7.60e+04	1.68 y	22:31	-	0.9026	y	y
8	Unk	CL6-PCB-167	0.20	8.11e+04	1.18 y	24:07	-	1.1735	y	n
9	Unk	CL6-PCB-156	0.20	7.96e+04	1.03 n	25:27	-	1.1070	y	n
10	Unk	CL6-PCB-157	0.20	9.88e+04	1.68 n	25:42	-	1.2455	y	n
11	Unk	CL6-PCB-169	0.20	7.38e+04	1.29 y	28:14	-	1.1003	y	n
12	Unk	CL7-PCB-180	0.20	4.84e+04	1.15 y	26:55	-	0.9419	y	y
13	Unk	CL7-PCB-170	0.20	3.73e+04	0.80 n	28:41	-	0.8937	y	y
14	Unk	CL7-PCB-189	0.20	5.32e+04	0.94 y	31:01	-	0.9676	y	y
15	IS	13C-CL4-PCB-81	100.00	5.66e+07	0.79 y	16:51	-	1.2136	y	n
16	IS	13C-CL4-PCB-77	100.00	5.56e+07	0.79 y	17:20	-	1.1923	y	n
17	IS	13C-CL5-PCB-123	100.00	4.84e+07	1.59 y	18:49	-	1.4670	y	n
18	IS	13C-CL5-PCB-118	100.00	5.15e+07	1.58 y	19:00	-	1.5626	y	n
19	IS	13C-CL5-PCB-114	100.00	4.59e+07	1.61 y	19:32	-	1.3927	y	n
20	IS	13C-CL5-PCB-105	100.00	4.64e+07	1.58 y	20:19	-	1.4068	y	n
21	IS	13C-CL5-PCB-126	100.00	4.21e+07	1.57 y	22:31	-	1.2771	y	n
22	IS	13C-CL6-PCB-167	100.00	3.46e+07	1.27 y	24:05	-	1.1465	y	n
23	IS	13C-CL6-PCB-156	100.00	3.59e+07	1.26 y	25:25	-	1.1919	y	n
24	IS	13C-CL6-PCB-157	100.00	3.97e+07	1.31 y	25:42	-	1.3154	y	n
25	IS	13C-CL6-PCB-169	100.00	3.35e+07	1.30 y	28:13	-	1.1123	y	n
26	IS	13C-CL7-PCB-180	100.00	2.57e+07	1.04 y	26:54	-	0.8521	y	n
27	IS	13C-CL7-PCB-170	100.00	2.09e+07	1.06 y	28:40	-	0.6926	y	n
28	IS	13C-CL7-PCB-189	100.00	2.75e+07	1.03 y	31:00	-	0.9112	y	n
29	IS	13C-CL10-PCB-209	100.00	3.10e+07	1.14 y	34:36	-	1.0291	y	n
30	RS	13C-CL4-PCB-52	100.00	4.66e+07	0.80 y	11:52	4.66e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	3.30e+07	1.60 y	15:41	3.30e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	3.02e+07	1.26 y	22:02	3.02e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	4.14e+07	1.60 y	17:03	-	1.2543	y	n
34	C/Up	13C-CL7-PCB-178	100.00	2.62e+07	1.03 y	22:55	-	0.8678	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

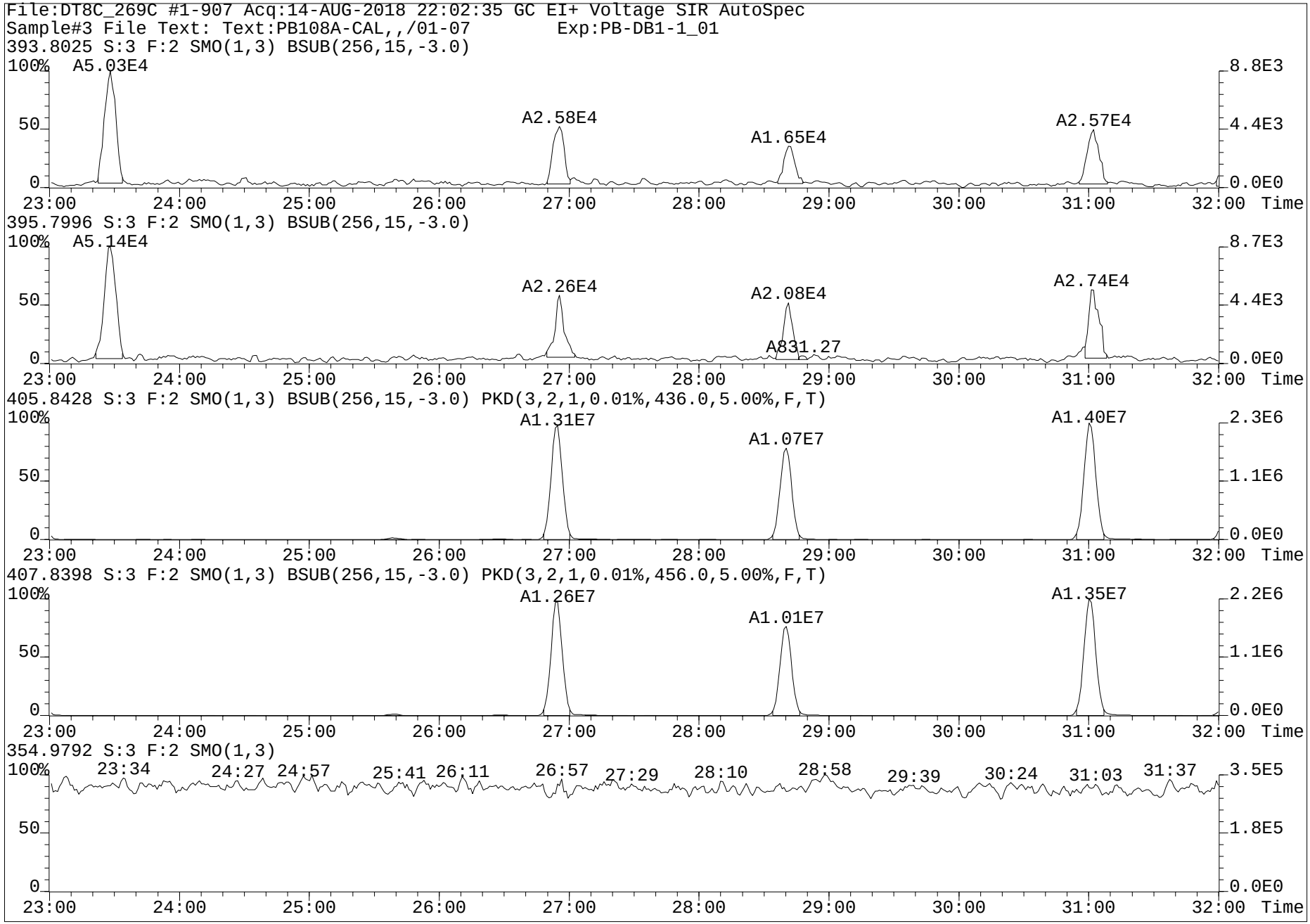
SJ BJ 17 Aug 2018

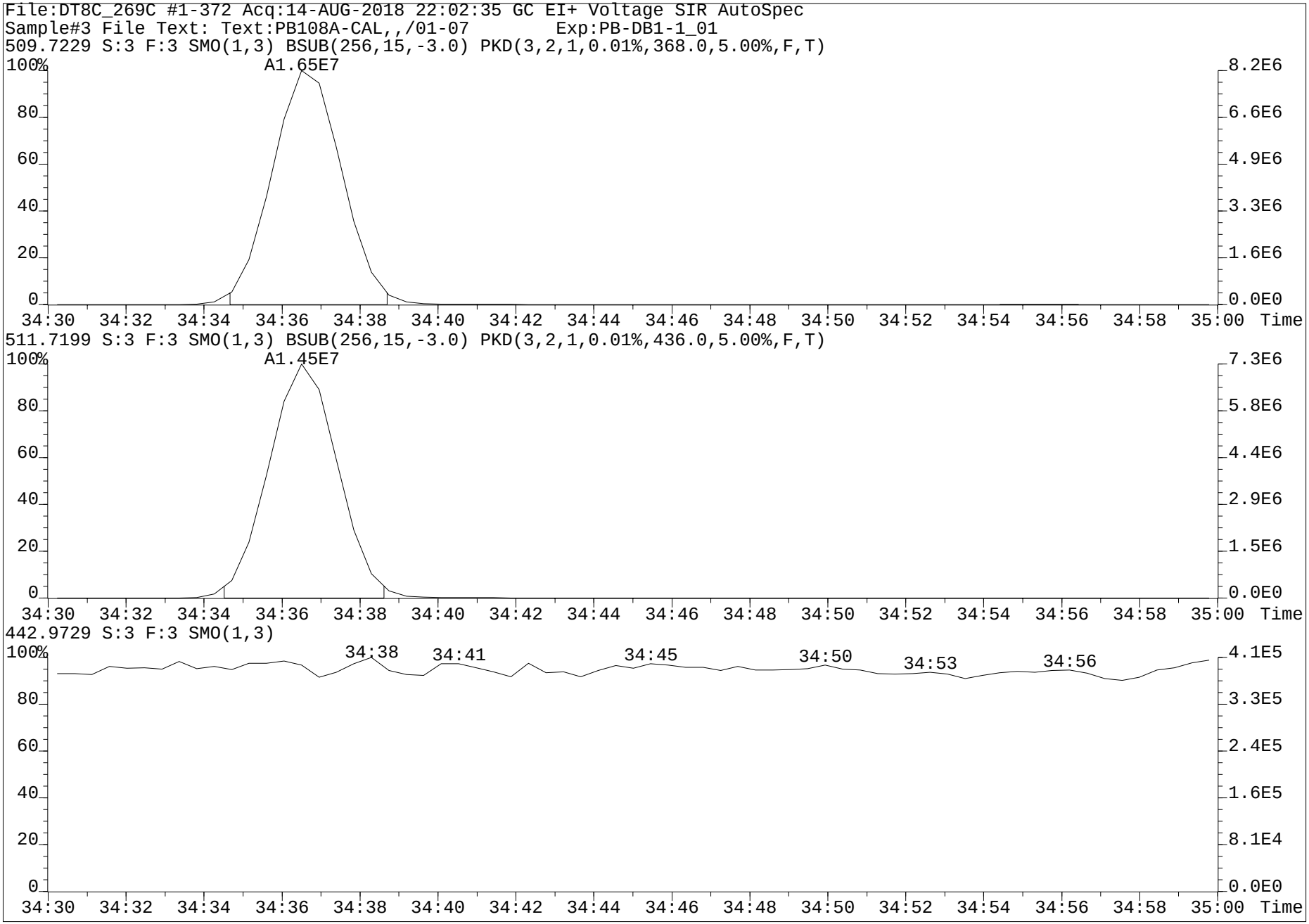
PV by RA 17AUG2018

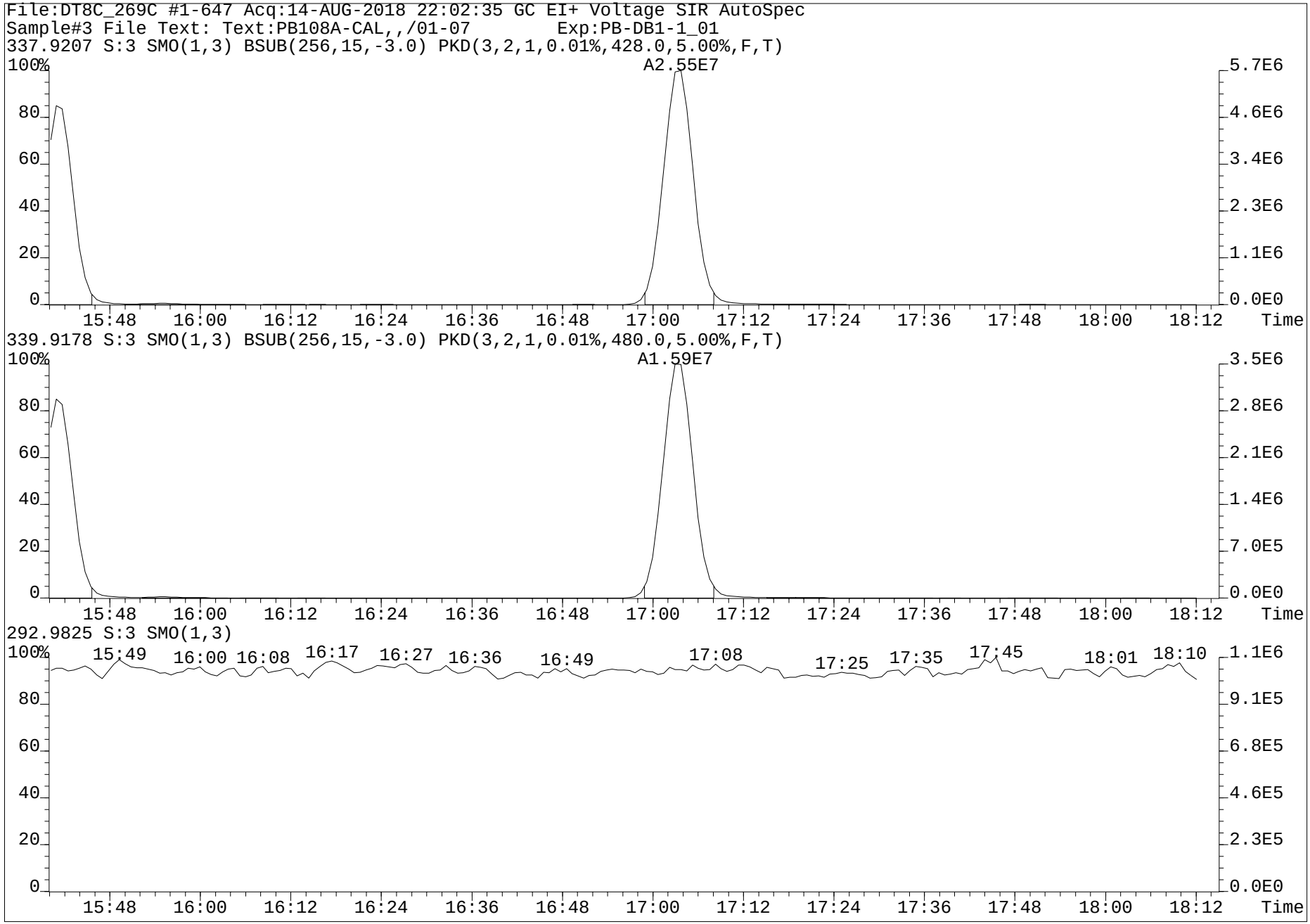

File:DT8C_269C #1-647 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
289.9224 S:3 SMO(1,3) BSUB(256,15,-3.0)
A1.05E3
A8.49E3
A2.77E3
A1.97E3
A2.30E3
A6.34E3
A3.37E3
A3.74E3
A5.42E4
291.9194 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A2.70E3
A2.25E3
A1.76E3
A1.72E3
A2.95E3
A6.20E3
A5.81E4
301.9626 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2832.0,5.00%,F,T)
A2.07E7
A2.50E7
303.9597 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1480.0,5.00%,F,T)
A2.59E7
A3.16E7
292.9825 S:3 SMO(1,3)
11:27
12:05
12:47
13:18
13:41
14:32
15:10
15:49
16:17
16:49
17:12
17:45
100%
50
0
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
Time
1.3E4
6.4E3
0.0E0
1.4E4
7.0E3
6.3E6
3.2E6
7.9E6
4.0E6
1.1E6
5.7E5


File:DT8C_269C #1-907 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
325.8804 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0)
100% A6.84E4 A6.57E4 A5.16E4 A4.77E4 A1.69E3 A2.79E3
1.4E4 7.1E3 0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
327.8775 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0)
100% A4.96E4 A4.53E4 A3.33E4 A2.83E4 A2.96E3 A1.81E3 A3.32E3
1.0E4 5.0E3 0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
337.9207 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1560.0,5.00%,F,T)
100% A3.15E7 A2.83E7 A2.84E7 A2.58E7
6.1E6 3.0E6 0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
339.9178 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1848.0,5.00%,F,T)
100% A2.00E7 A1.76E7 A1.80E7 A1.64E7
3.9E6 1.9E6 0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time
354.9792 S:3 F:2 SMO(1,3)
100% 18:55 19:20 19:38 20:05 20:26 21:00 21:21 21:44 22:18 22:35 23:08 23:34
3.6E5 1.8E5 0.0E0
19:00 20:00 21:00 22:00 23:00 24:00 Time


File:DT8C_269C #1-907 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
359.8415 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A4.39E4
A4.05E4
A6.20E4
A4.16E4
361.8385 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
A3.72E4
A3.91E4
A3.68E4
A3.22E4
371.8817 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,720.0,5.00%,F,T)
A1.93E7
A2.25E7
A1.89E7
373.8788 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A1.52E7
A1.72E7
A1.46E7
354.9792 S:3 F:2 SMO(1,3)
22:35
23:08
23:34
24:27
24:57
25:41
26:11
26:57
27:29
28:10
28:58
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time
9.9E3
4.9E3
0.0E0
9.0E3
4.5E3
0.0E0
3.7E6
1.8E6
0.0E0
2.9E6
1.5E6
0.0E0
3.5E5
1.8E5
0.0E0


File:DT8C_269C #1-907 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
393.8025 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.03E4
A2.58E4
A1.65E4
A2.57E4
395.7996 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0)
A5.14E4
A2.26E4
A2.08E4
A831.27
A2.74E4
405.8428 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A1.31E7
A1.07E7
A1.40E7
407.8398 S:3 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A1.26E7
A1.01E7
A1.35E7
354.9792 S:3 F:2 SMO(1,3)
23:34
24:27
24:57
25:41
26:11
26:57
27:29
28:10
28:58
29:39
30:24
31:03
31:37
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
Time


File:DT8C_269C #1-372 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
509.7229 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
100%
A1.65E7
8.2E6
6.6E6
4.9E6
3.3E6
1.6E6
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time
511.7199 S:3 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
100%
A1.45E7
7.3E6
5.8E6
4.4E6
2.9E6
1.5E6
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time
442.9729 S:3 F:3 SMO(1,3)
100%
34:38
34:41
34:45
34:50
34:53
34:56
4.1E5
3.3E5
2.4E5
1.6E5
8.1E4
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time

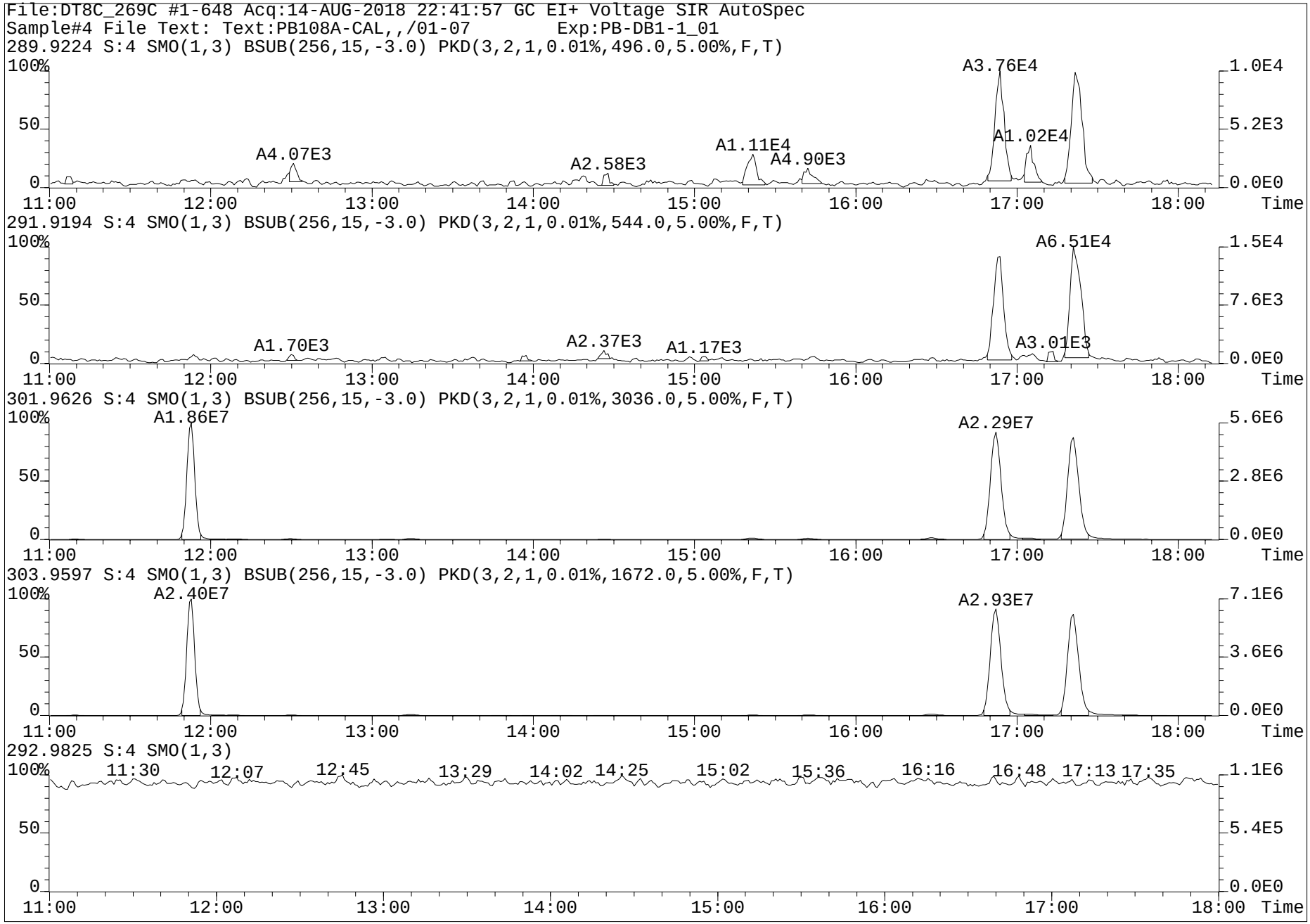

File:DT8C_269C #1-647 Acq:14-AUG-2018 22:02:35 GC EI+ Voltage SIR AutoSpec
Sample#3 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
337.9207 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A2.55E7
339.9178 S:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,480.0,5.00%,F,T)
A1.59E7
292.9825 S:3 SMO(1,3)
15:49 16:00 16:08 16:17 16:27 16:36 16:49 17:08 17:25 17:35 17:45 18:01 18:10
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12
Time

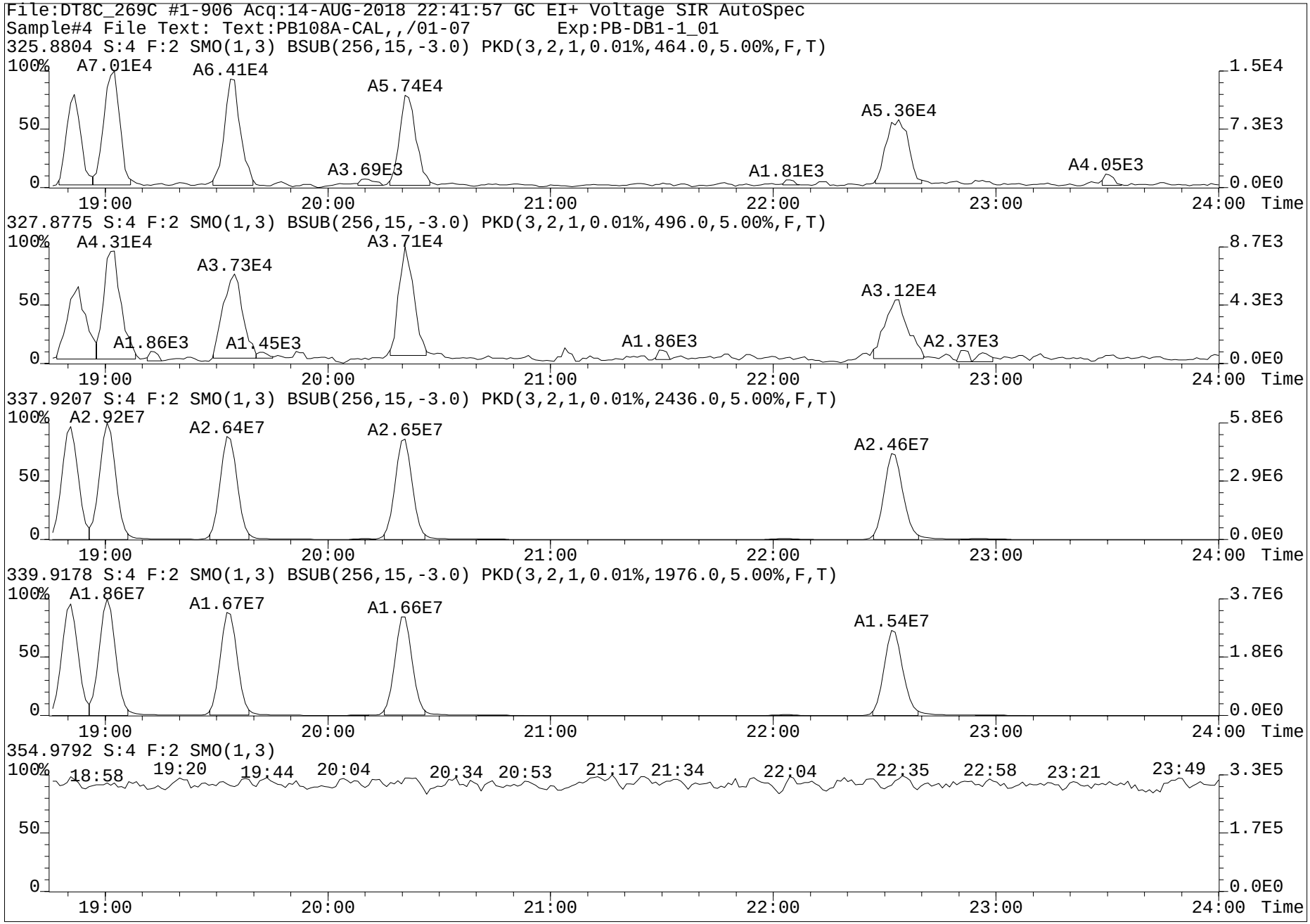
Run #7 Filename DT8C_269C S: 4 I: 1 Acquired: 14-AUG-18 22:41:57 Processed: 17-AUG-18 07:04:41
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: dt8c_269c-6a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108A-CAL,,/01-07 Comments: 1,,1.0uL CS-0.2/SENS
sample size: 1.000000 conc units: ng/mL total toxicity: 2.72 F1: 0.2000 F2: 1.0000

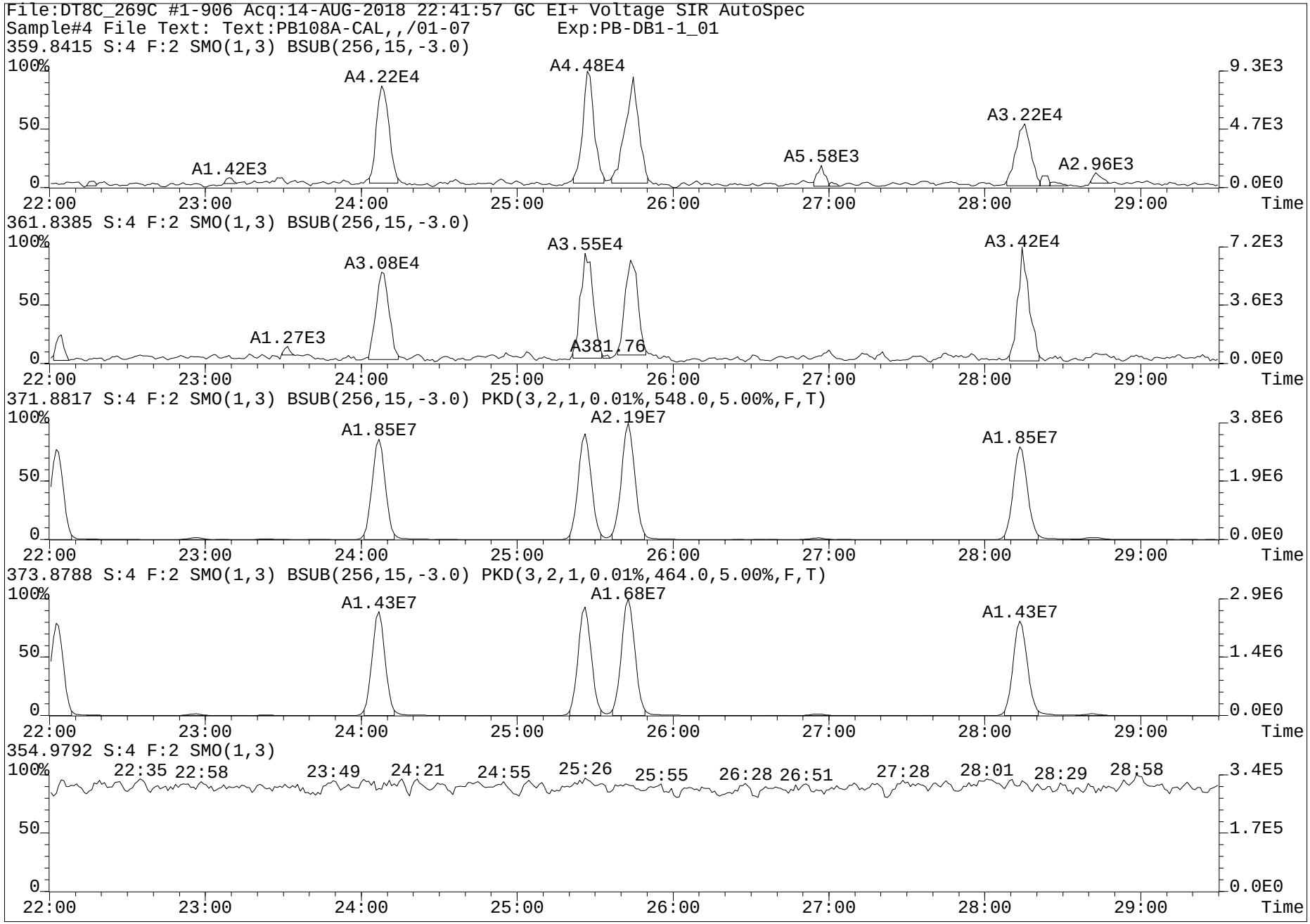
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	9.49e+04	0.66	y	16:53	0.174	0	0.0213	-	n
2	Unk	CL4-PCB-77	1	1.11e+05	0.70	y	17:22	0.202	0	0.0223	-	n
3	Unk	CL5-PCB-123	1	7.91e+04	1.58	y	18:52	0.169	0	0.0254	-	n
4	Unk	CL5-PCB-118	1	1.13e+05	1.62	y	19:02	0.220	0	0.0234	-	n
5	Unk	CL5-PCB-114	1	1.01e+05	1.72	y	19:34	0.207	0	0.0251	-	n
6	Unk	CL5-PCB-105	1	9.45e+04	1.55	y	20:22	0.210	0	0.0283	-	n
7	Unk	CL5-PCB-126	1	8.48e+04	1.72	y	22:33	0.200	0	0.0325	-	n
8	Unk	CL6-PCB-167	1	7.30e+04	1.37	y	24:08	0.193	0	0.0305	-	y
9	Unk	CL6-PCB-156	1	8.03e+04	1.26	y	25:27	0.203	0	0.0295	-	y
10	Unk	CL6-PCB-157	1	8.23e+04	1.37	y	25:44	0.193	0	0.0278	-	y
11	Unk	CL6-PCB-169	1	6.63e+04	0.94	n	28:14	0.188	0	0.0356	-	y
12	Unk	CL7-PCB-180	1	3.95e+04	1.14	y	26:56	0.166	0	0.0496	-	y
13	Unk	CL7-PCB-170	1	4.12e+04	0.75	n	28:42	0.219	0	0.0648	-	y
14	Unk	CL7-PCB-189	1	4.85e+04	0.81	n	31:03	0.180	0	0.0453	-	y
15	IS	13C-CL4-PCB-81	1	5.22e+07	0.78	y	16:52	98.602	0	0.0744	98.6	n
16	IS	13C-CL4-PCB-77	1	5.20e+07	0.78	y	17:21	99.657	0	0.0756	99.7	n
17	IS	13C-CL5-PCB-123	1	4.54e+07	1.60	y	18:51	98.265	0	0.0987	98.3	n
18	IS	13C-CL5-PCB-118	1	4.78e+07	1.57	y	19:01	100.445	0	0.0959	100.4	n
19	IS	13C-CL5-PCB-114	1	4.31e+07	1.58	y	19:33	99.309	0	0.1051	99.3	n
20	IS	13C-CL5-PCB-105	1	4.31e+07	1.60	y	20:20	98.178	0	0.1039	98.2	n
21	IS	13C-CL5-PCB-126	1	4.01e+07	1.59	y	22:33	101.016	0	0.1150	101.0	n
22	IS	13C-CL6-PCB-167	1	3.29e+07	1.30	y	24:07	98.222	0	0.0409	98.2	n
23	IS	13C-CL6-PCB-156	1	3.48e+07	1.28	y	25:26	102.055	0	0.0402	102.1	n
24	IS	13C-CL6-PCB-157	1	3.86e+07	1.31	y	25:43	101.693	0	0.0360	101.7	n
25	IS	13C-CL6-PCB-169	1	3.27e+07	1.29	y	28:13	100.745	0	0.0421	100.7	n
26	IS	13C-CL7-PCB-180	1	2.49e+07	1.04	y	26:55	98.836	0	0.0499	98.8	n
27	IS	13C-CL7-PCB-170	1	2.04e+07	1.07	y	28:41	99.334	0	0.0612	99.3	n
28	IS	13C-CL7-PCB-189	1	2.72e+07	1.03	y	31:01	101.020	0	0.0466	101.0	n
29	IS	13C-CL10-PCB-209	1	3.06e+07	1.14	y	34:37	98.765	0	0.0331	98.8	n
30	RS	13C-CL4-PCB-52	1	4.26e+07	0.77	y	11:53	106.694	0	-	-	n
31	RS	13C-CL5-PCB-101	1	3.07e+07	1.59	y	15:42	107.740	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	2.80e+07	1.29	y	22:03	109.030	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	3.84e+07	1.61	y	17:04	101.150	0	0.0300	101.1	n
34	C/Up	13C-CL7-PCB-178	1	2.46e+07	1.04	y	22:55	99.976	0	0.0510	100.0	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

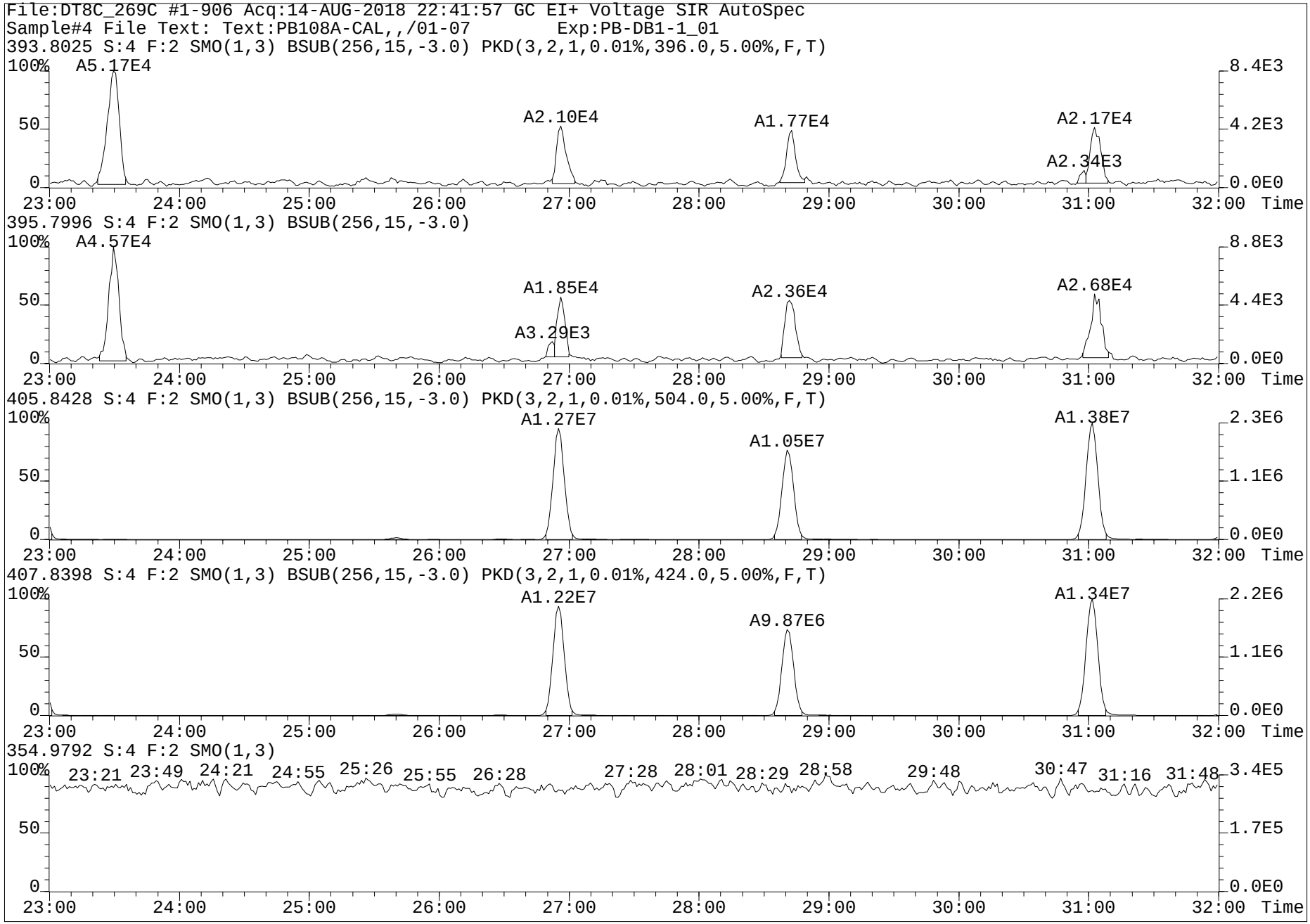
SV Ru
17 Aug 2018

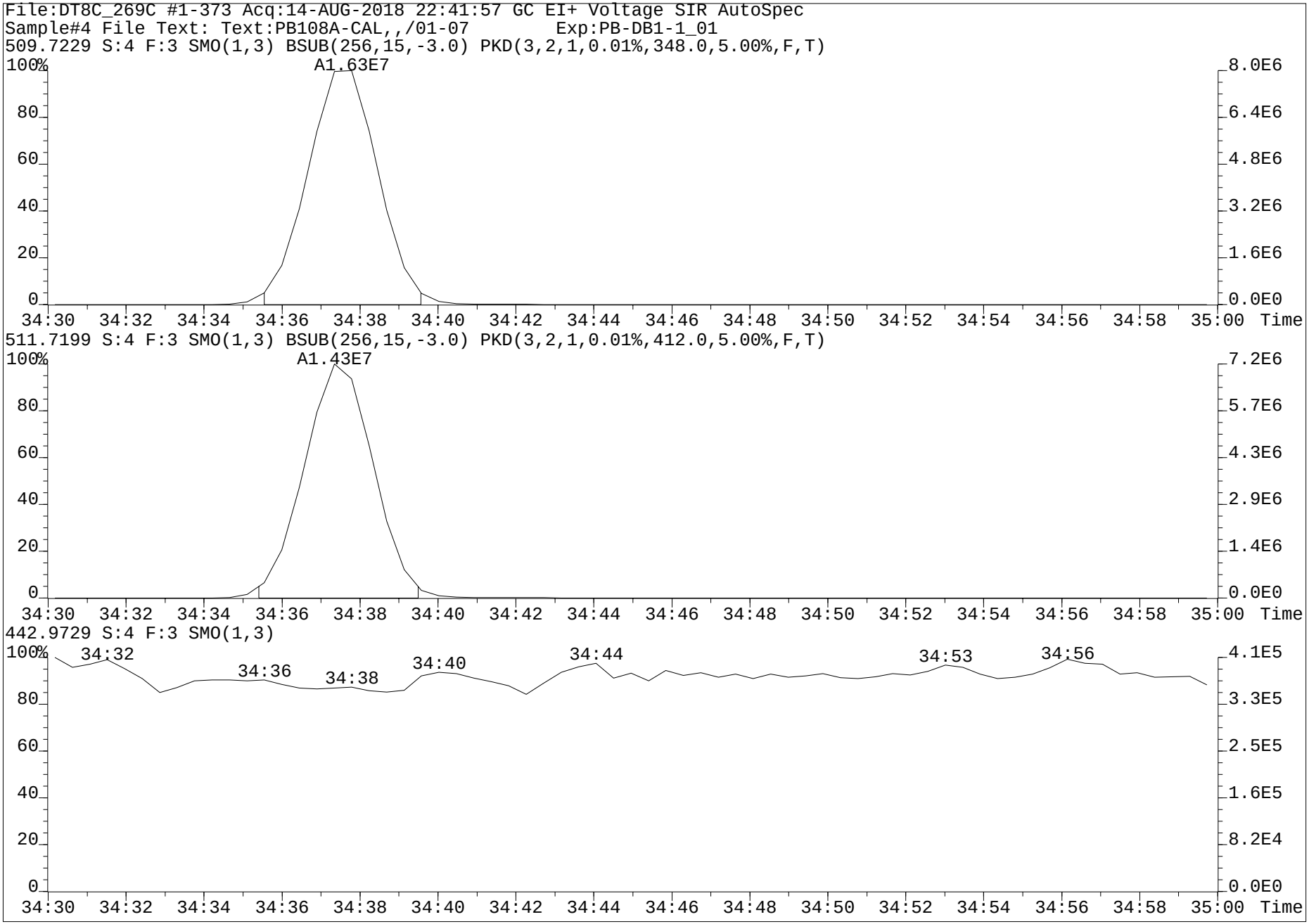
PV by RA 17 AUG 2018

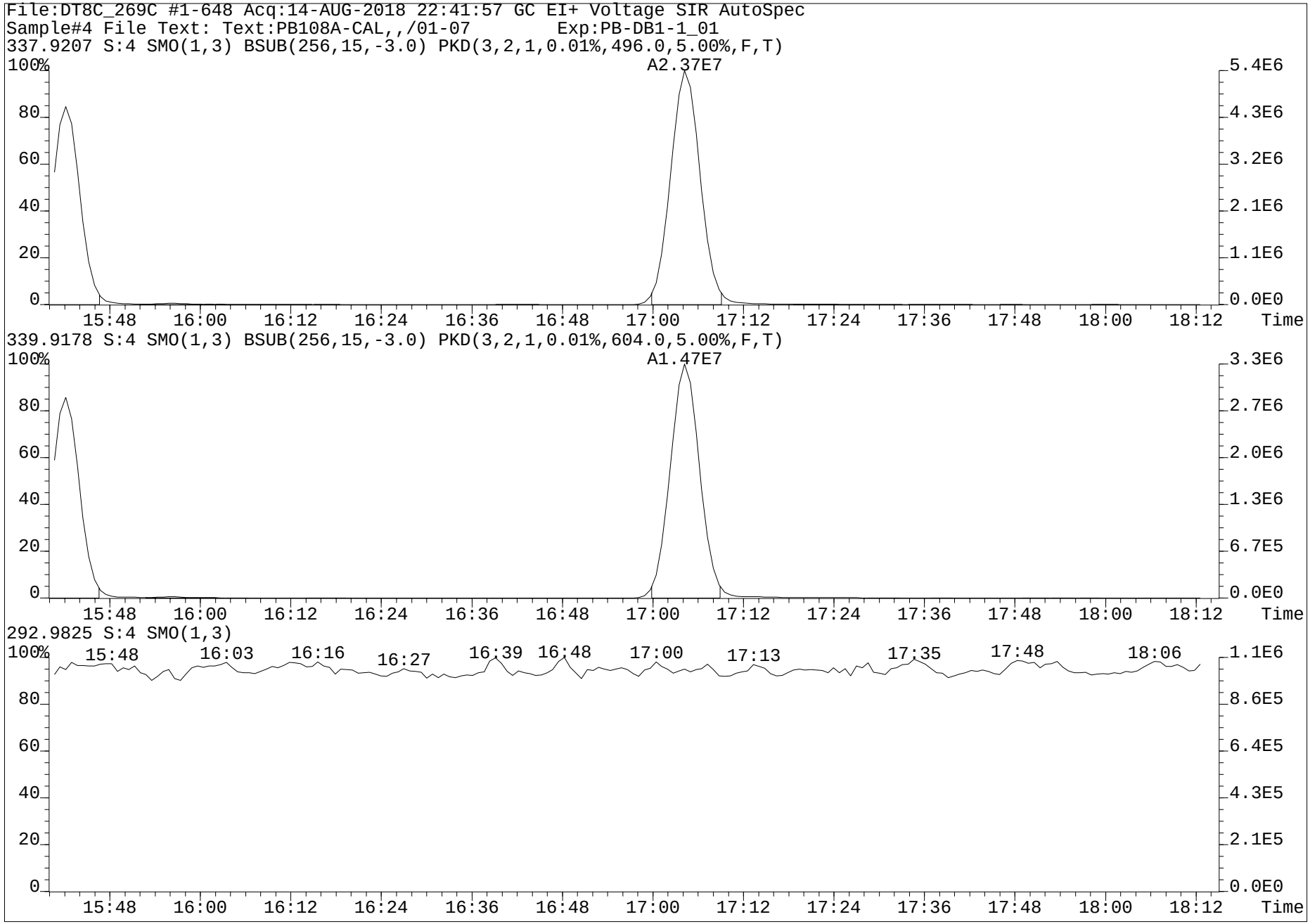

File:DT8C_269C #1-648 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
289.9224 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A4.07E3
A2.58E3
A1.11E4
A4.90E3
A3.76E4
A1.02E4
291.9194 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A1.70E3
A2.37E3
A1.17E3
A6.51E4
A3.01E3
301.9626 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3036.0,5.00%,F,T)
A1.86E7
A2.29E7
303.9597 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1672.0,5.00%,F,T)
A2.40E7
A2.93E7
292.9825 S:4 SMO(1,3)
11:30
12:07
12:45
13:29
14:02
14:25
15:02
15:36
16:16
16:48
17:13
17:35
Time


File:DT8C_269C #1-906 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
325.8804 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A7.01E4
A6.41E4
A5.74E4
A5.36E4
A3.69E3
A1.81E3
A4.05E3
327.8775 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A4.31E4
A3.73E4
A3.71E4
A3.12E4
A1.86E3
A1.45E3
A1.86E3
A2.37E3
337.9207 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2436.0,5.00%,F,T)
A2.92E7
A2.64E7
A2.65E7
A2.46E7
339.9178 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1976.0,5.00%,F,T)
A1.86E7
A1.67E7
A1.66E7
A1.54E7
354.9792 S:4 F:2 SMO(1,3)
18:58
19:20
19:44
20:04
20:34
20:53
21:17
21:34
22:04
22:35
22:58
23:21
23:49
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
1.5E4
7.3E3
0.0E0
8.7E3
4.3E3
0.0E0
5.8E6
2.9E6
0.0E0
3.7E6
1.8E6
0.0E0
3.3E5
1.7E5
0.0E0


File:DT8C_269C #1-906 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
359.8415 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0)
A4.22E4
A4.48E4
A3.22E4
A1.42E3
A5.58E3
A2.96E3
361.8385 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0)
A3.08E4
A3.55E4
A3.42E4
A1.27E3
A381.76
371.8817 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,548.0,5.00%,F,T)
A1.85E7
A2.19E7
A1.85E7
373.8788 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A1.43E7
A1.68E7
A1.43E7
354.9792 S:4 F:2 SMO(1,3)
22:35 22:58 23:49 24:21 24:55 25:26 25:55 26:28 26:51 27:28 28:01 28:29 28:58
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
9.3E3 4.7E3 0.0E0
7.2E3 3.6E3 0.0E0
3.8E6 1.9E6 0.0E0
2.9E6 1.4E6 0.0E0
3.4E5 1.7E5 0.0E0


File:DT8C_269C #1-906 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
393.8025 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
100% A5.17E4
A2.10E4
A1.77E4
A2.17E4
A2.34E3
8.4E3
4.2E3
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
395.7996 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0)
100% A4.57E4
A1.85E4
A3.29E3
A2.36E4
A2.68E4
8.8E3
4.4E3
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
405.8428 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,504.0,5.00%,F,T)
100% A1.27E7
A1.05E7
A1.38E7
2.3E6
1.1E6
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
407.8398 S:4 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
100% A1.22E7
A9.87E6
A1.34E7
2.2E6
1.1E6
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
354.9792 S:4 F:2 SMO(1,3)
100% 23:21 23:49 24:21 24:55 25:26 25:55 26:28 27:28 28:01 28:29 28:58 29:48 30:47 31:16 31:48
3.4E5
1.7E5
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time


File:DT8C_269C #1-373 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
509.7229 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,348.0,5.00%,F,T)
A1.63E7
511.7199 S:4 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A1.43E7
442.9729 S:4 F:3 SMO(1,3)
34:32
34:36
34:38
34:40
34:44
34:53
34:56
Time

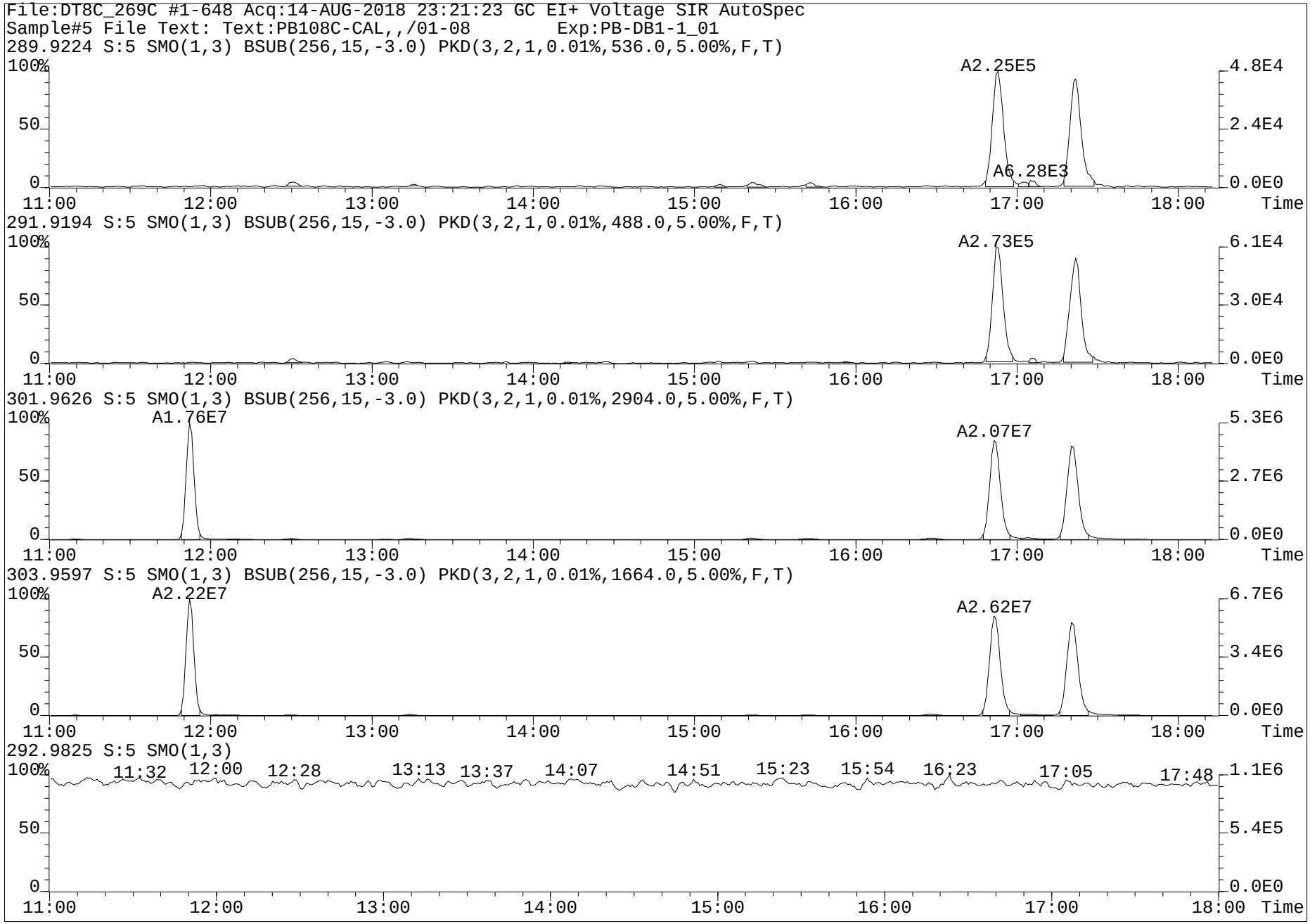

File:DT8C_269C #1-648 Acq:14-AUG-2018 22:41:57 GC EI+ Voltage SIR AutoSpec
Sample#4 File Text: Text:PB108A-CAL,,/01-07 Exp:PB-DB1-1_01
337.9207 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,496.0,5.00%,F,T)
A2.37E7
339.9178 S:4 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,604.0,5.00%,F,T)
A1.47E7
292.9825 S:4 SMO(1,3)
15:48 16:03 16:16 16:27 16:39 16:48 17:00 17:13 17:35 17:48 18:06
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

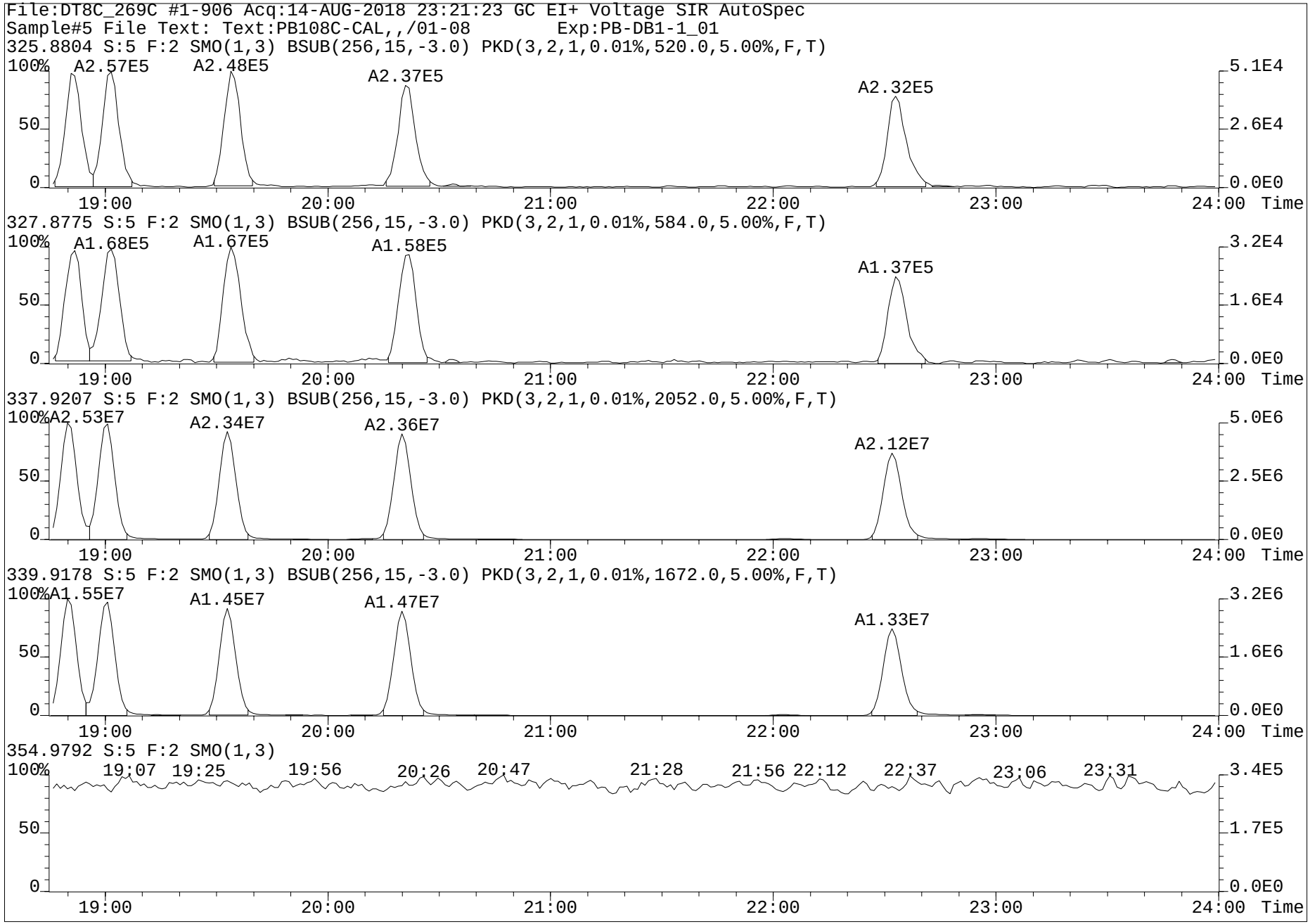
Run #2 Filename DT8C_269C S: 5 I: 1 Acquired: 14-AUG-18 23:21:23 Processed: 15-AUG-18 10:17:11
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108C-CAL,,/01-08 Comments: 1,,1.0uL CS-1 F1: 1.00 F2: 1.00

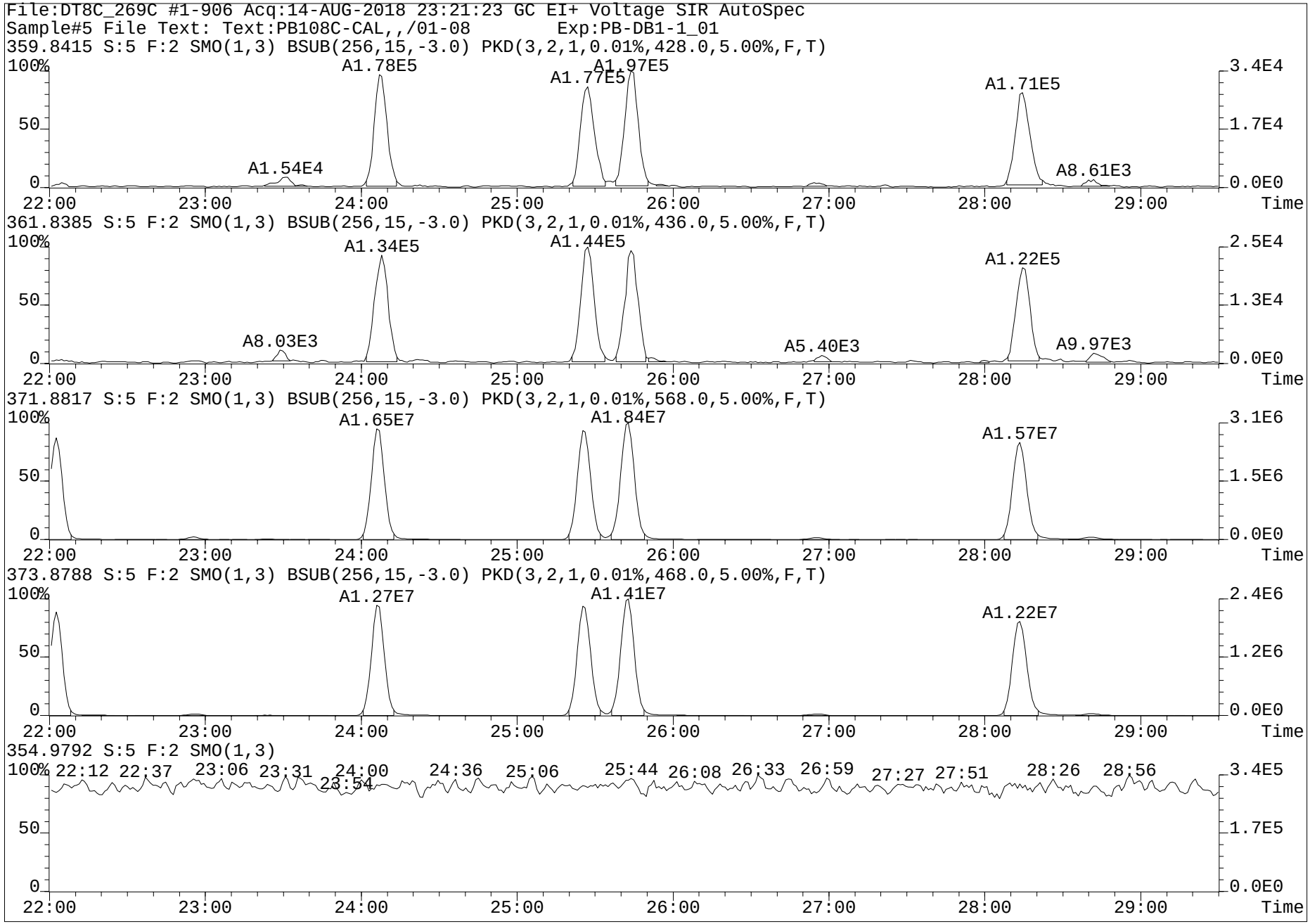
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	1.00	4.98e+05	0.82 y	16:53	-	1.0608	y	n
2	Unk	CL4-PCB-77	1.00	4.71e+05	0.83 y	17:22	-	1.0233	y	n
3	Unk	CL5-PCB-123	1.00	4.00e+05	1.63 y	18:52	-	0.9823	y	n
4	Unk	CL5-PCB-118	1.00	4.25e+05	1.53 y	19:02	-	1.0295	y	n
5	Unk	CL5-PCB-114	1.00	4.15e+05	1.49 y	19:34	-	1.0953	y	n
6	Unk	CL5-PCB-105	1.00	3.95e+05	1.50 y	20:21	-	1.0313	y	n
7	Unk	CL5-PCB-126	1.00	3.68e+05	1.70 y	22:34	-	1.0698	y	n
8	Unk	CL6-PCB-167	1.00	3.13e+05	1.32 y	24:08	-	1.0732	y	n
9	Unk	CL6-PCB-156	1.00	3.21e+05	1.22 y	25:27	-	1.0747	y	n
10	Unk	CL6-PCB-157	1.00	3.37e+05	1.41 y	25:44	-	1.0387	y	n
11	Unk	CL6-PCB-169	1.00	2.93e+05	1.39 y	28:14	-	1.0498	y	n
12	Unk	CL7-PCB-180	1.00	2.03e+05	1.01 y	26:56	-	0.9266	y	n
13	Unk	CL7-PCB-170	1.00	1.60e+05	0.99 y	28:42	-	0.8931	y	n
14	Unk	CL7-PCB-189	1.00	2.39e+05	1.00 y	31:03	-	1.0302	y	n
15	IS	13C-CL4-PCB-81	100.00	4.69e+07	0.79 y	16:52	-	1.1764	y	n
16	IS	13C-CL4-PCB-77	100.00	4.60e+07	0.79 y	17:21	-	1.1538	y	n
17	IS	13C-CL5-PCB-123	100.00	4.08e+07	1.63 y	18:50	-	1.4370	y	n
18	IS	13C-CL5-PCB-118	100.00	4.13e+07	1.57 y	19:00	-	1.4559	y	n
19	IS	13C-CL5-PCB-114	100.00	3.79e+07	1.61 y	19:33	-	1.3365	y	n
20	IS	13C-CL5-PCB-105	100.00	3.83e+07	1.60 y	20:20	-	1.3491	y	n
21	IS	13C-CL5-PCB-126	100.00	3.44e+07	1.60 y	22:32	-	1.2135	y	n
22	IS	13C-CL6-PCB-167	100.00	2.91e+07	1.30 y	24:06	-	1.1450	y	n
23	IS	13C-CL6-PCB-156	100.00	2.99e+07	1.27 y	25:26	-	1.1747	y	n
24	IS	13C-CL6-PCB-157	100.00	3.25e+07	1.30 y	25:42	-	1.2766	y	n
25	IS	13C-CL6-PCB-169	100.00	2.79e+07	1.29 y	28:13	-	1.0971	y	n
26	IS	13C-CL7-PCB-180	100.00	2.19e+07	1.04 y	26:55	-	0.8605	y	n
27	IS	13C-CL7-PCB-170	100.00	1.79e+07	1.04 y	28:41	-	0.7029	y	n
28	IS	13C-CL7-PCB-189	100.00	2.32e+07	1.02 y	31:01	-	0.9111	y	n
29	IS	13C-CL10-PCB-209	100.00	2.66e+07	1.12 y	34:37	-	1.0458	y	n
30	RS	13C-CL4-PCB-52	100.00	3.99e+07	0.79 y	11:52	3.99e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	2.84e+07	1.60 y	15:42	2.84e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	2.54e+07	1.27 y	22:03	2.54e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	3.46e+07	1.60 y	17:04	-	1.2216	y	n
34	C/Up	13C-CL7-PCB-178	100.00	2.23e+07	1.06 y	22:55	-	0.8753	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

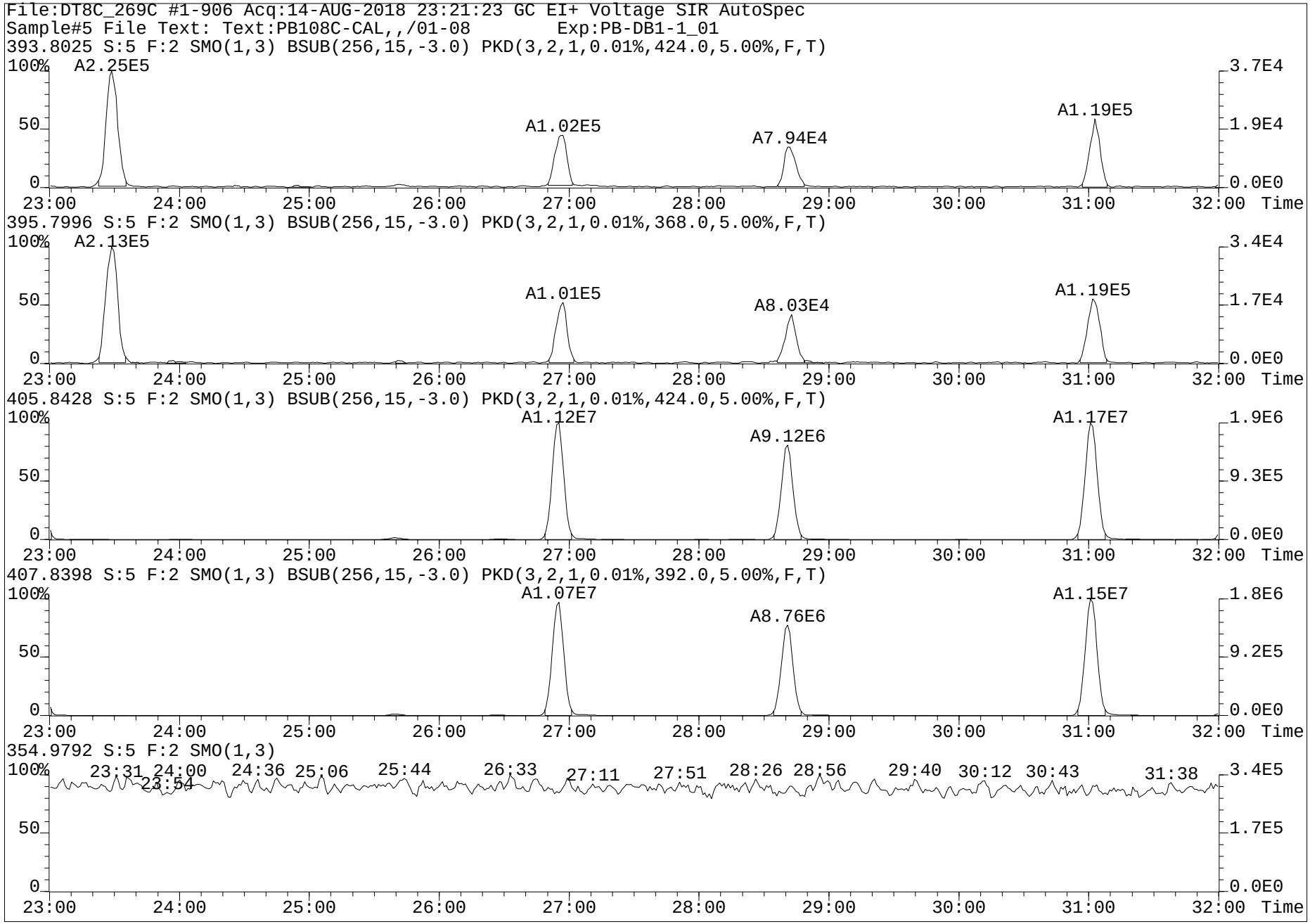
SV BJ
17 Aug 2018

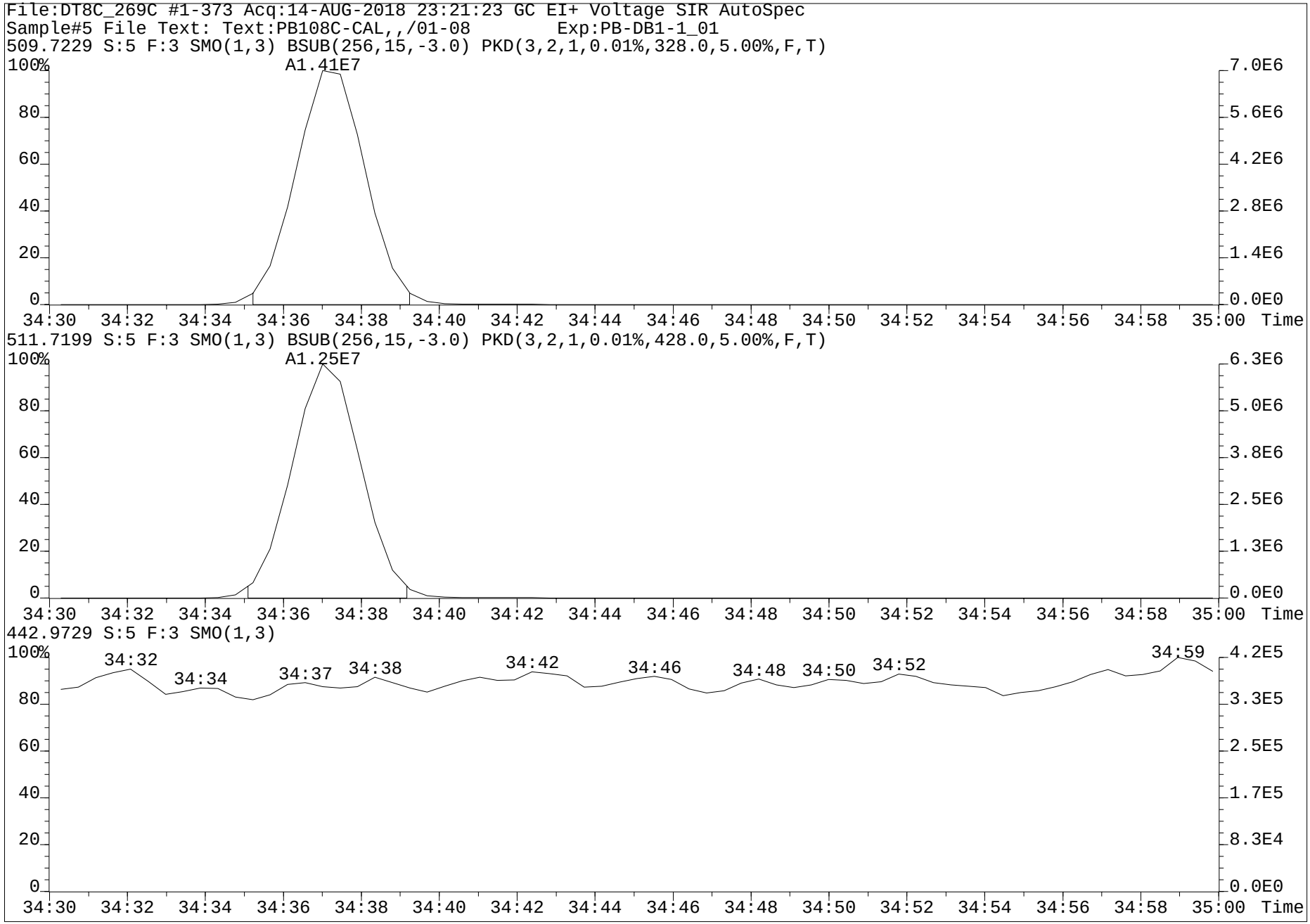
PV by RA 15AUG2018

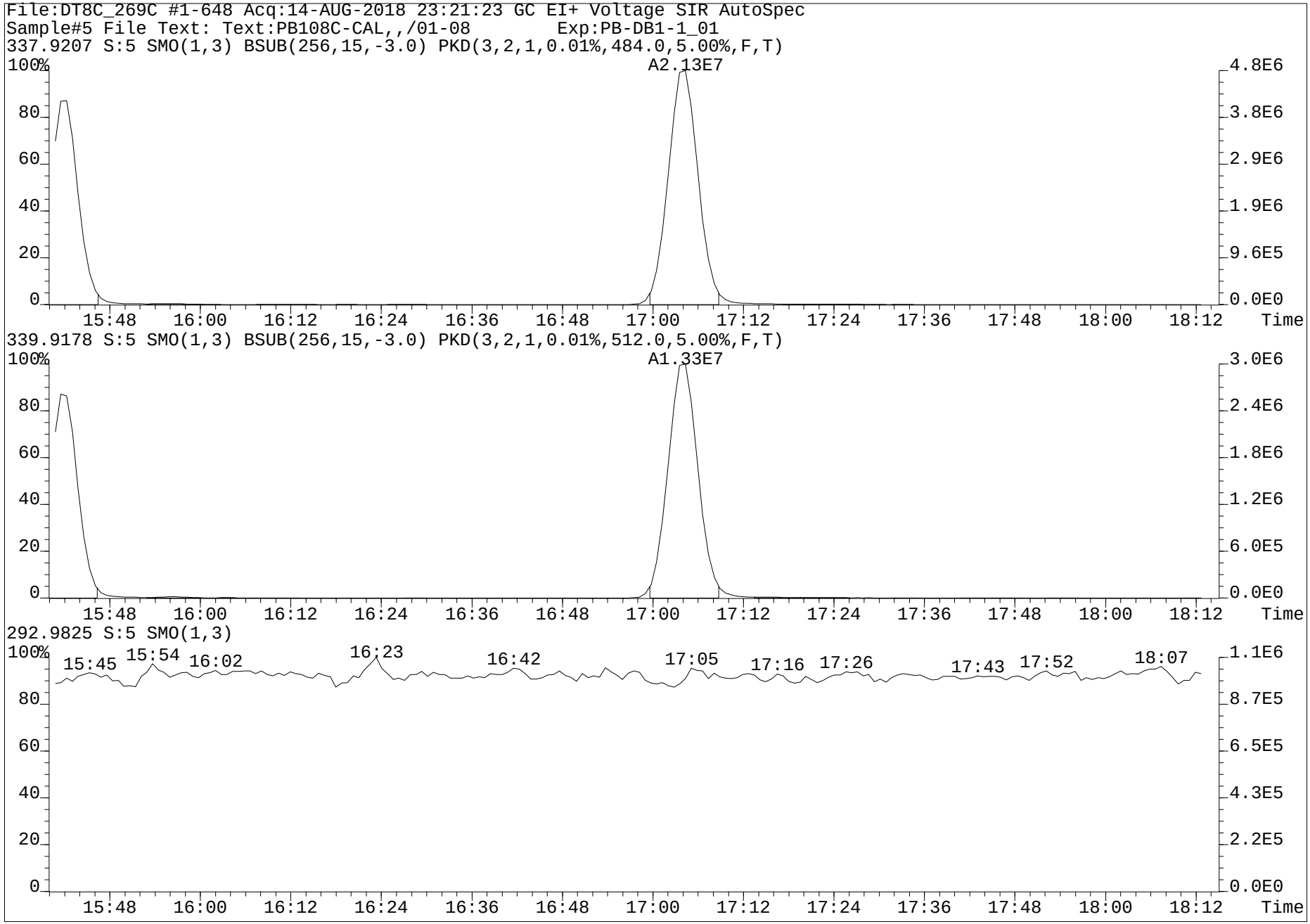

File:DT8C_269C #1-648 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
289.9224 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,536.0,5.00%,F,T)
A2.25E5
A6.28E3
291.9194 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,488.0,5.00%,F,T)
A2.73E5
301.9626 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2904.0,5.00%,F,T)
A1.76E7
A2.07E7
303.9597 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1664.0,5.00%,F,T)
A2.22E7
A2.62E7
292.9825 S:5 SMO(1,3)
11:32 12:00 12:28 13:13 13:37 14:07 14:51 15:23 15:54 16:23 17:05 17:48
Time


File:DT8C_269C #1-906 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
325.8804 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A2.57E5
A2.48E5
A2.37E5
A2.32E5
327.8775 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,584.0,5.00%,F,T)
A1.68E5
A1.67E5
A1.58E5
A1.37E5
337.9207 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2052.0,5.00%,F,T)
A2.53E7
A2.34E7
A2.36E7
A2.12E7
339.9178 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1672.0,5.00%,F,T)
A1.55E7
A1.45E7
A1.47E7
A1.33E7
354.9792 S:5 F:2 SMO(1,3)
19:07
19:25
19:56
20:26
20:47
21:28
21:56
22:12
22:37
23:06
23:31
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
5.1E4
2.6E4
0.0E0
3.2E4
1.6E4
0.0E0
5.0E6
2.5E6
0.0E0
3.2E6
1.6E6
0.0E0
3.4E5
1.7E5
0.0E0


File:DT8C_269C #1-906 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
359.8415 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A1.78E5
A1.77E5
A1.97E5
A1.71E5
A1.54E4
A8.61E3
361.8385 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,436.0,5.00%,F,T)
A1.34E5
A1.44E5
A1.22E5
A8.03E3
A5.40E3
A9.97E3
371.8817 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,568.0,5.00%,F,T)
A1.65E7
A1.84E7
A1.57E7
373.8788 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A1.27E7
A1.41E7
A1.22E7
354.9792 S:5 F:2 SMO(1,3)
22:12 22:37 23:06 23:31 23:54 24:36 25:06 25:44 26:08 26:33 26:59 27:27 27:51 28:26 28:56
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
3.4E4 1.7E4 0.0E0
2.5E4 1.3E4 0.0E0
3.1E6 1.5E6 0.0E0
2.4E6 1.2E6 0.0E0
3.4E5 1.7E5 0.0E0


File:DT8C_269C #1-906 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
393.8025 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A2.25E5
A1.02E5
A7.94E4
A1.19E5
395.7996 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A2.13E5
A1.01E5
A8.03E4
A1.19E5
405.8428 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,424.0,5.00%,F,T)
A1.12E7
A9.12E6
A1.17E7
407.8398 S:5 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A1.07E7
A8.76E6
A1.15E7
354.9792 S:5 F:2 SMO(1,3)
23:31 24:00 24:36 25:06 25:44 26:33 27:11 27:51 28:26 28:56 29:40 30:12 30:43 31:38
23:54
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
3.7E4
1.9E4
0.0E0
3.4E4
1.7E4
1.9E6
9.3E5
1.8E6
9.2E5
3.4E5
1.7E5


File:DT8C_269C #1-373 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
509.7229 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,328.0,5.00%,F,T)
A1.41E7
511.7199 S:5 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A1.25E7
442.9729 S:5 F:3 SMO(1,3)
34:32
34:34
34:37
34:38
34:42
34:46
34:48
34:50
34:52
34:59
Time

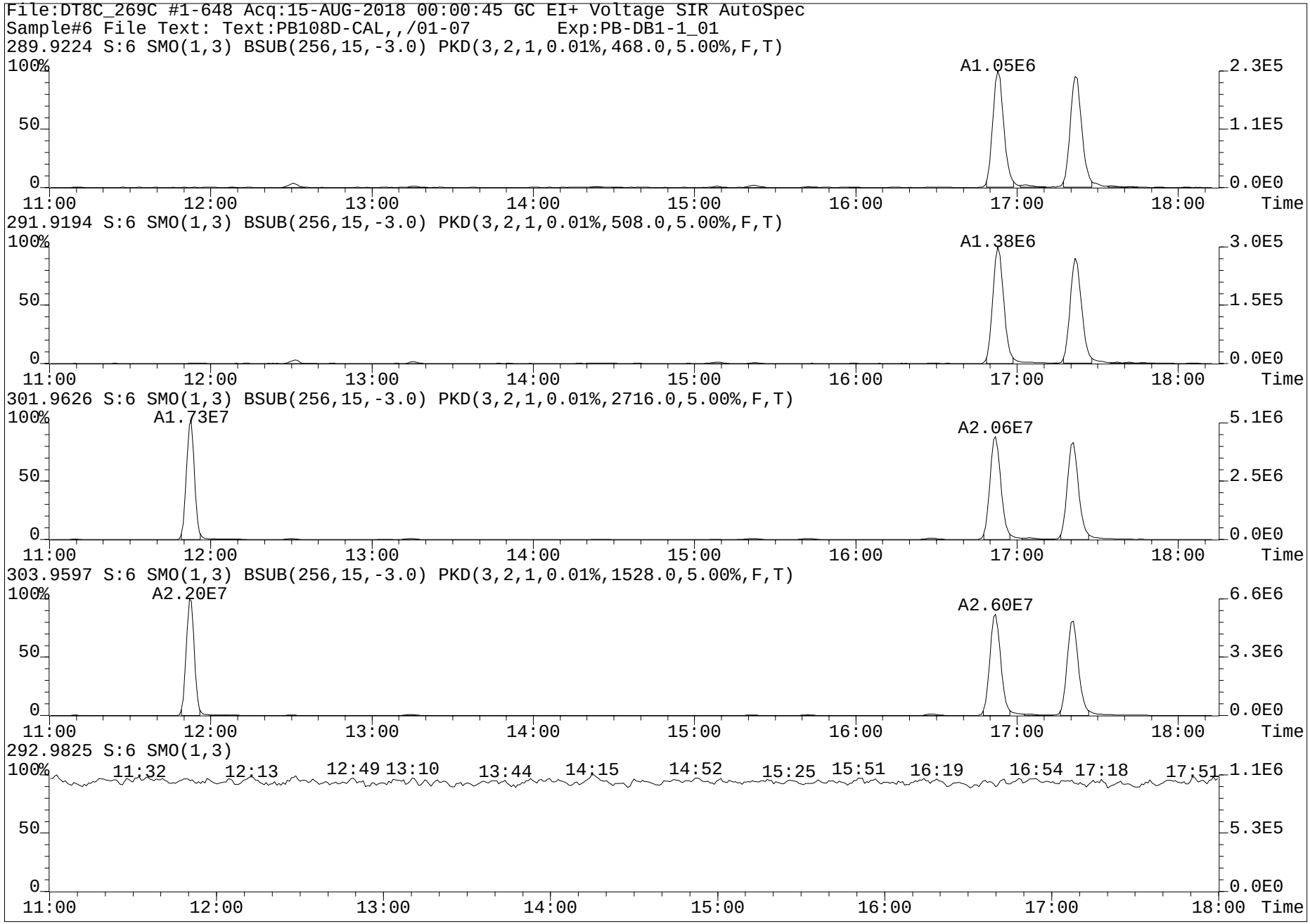

File:DT8C_269C #1-648 Acq:14-AUG-2018 23:21:23 GC EI+ Voltage SIR AutoSpec
Sample#5 File Text: Text:PB108C-CAL,,/01-08 Exp:PB-DB1-1_01
337.9207 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A2.13E7
339.9178 S:5 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,512.0,5.00%,F,T)
A1.33E7
292.9825 S:5 SMO(1,3)
15:45
15:54
16:02
16:23
16:42
17:05
17:16
17:26
17:43
17:52
18:07
Time

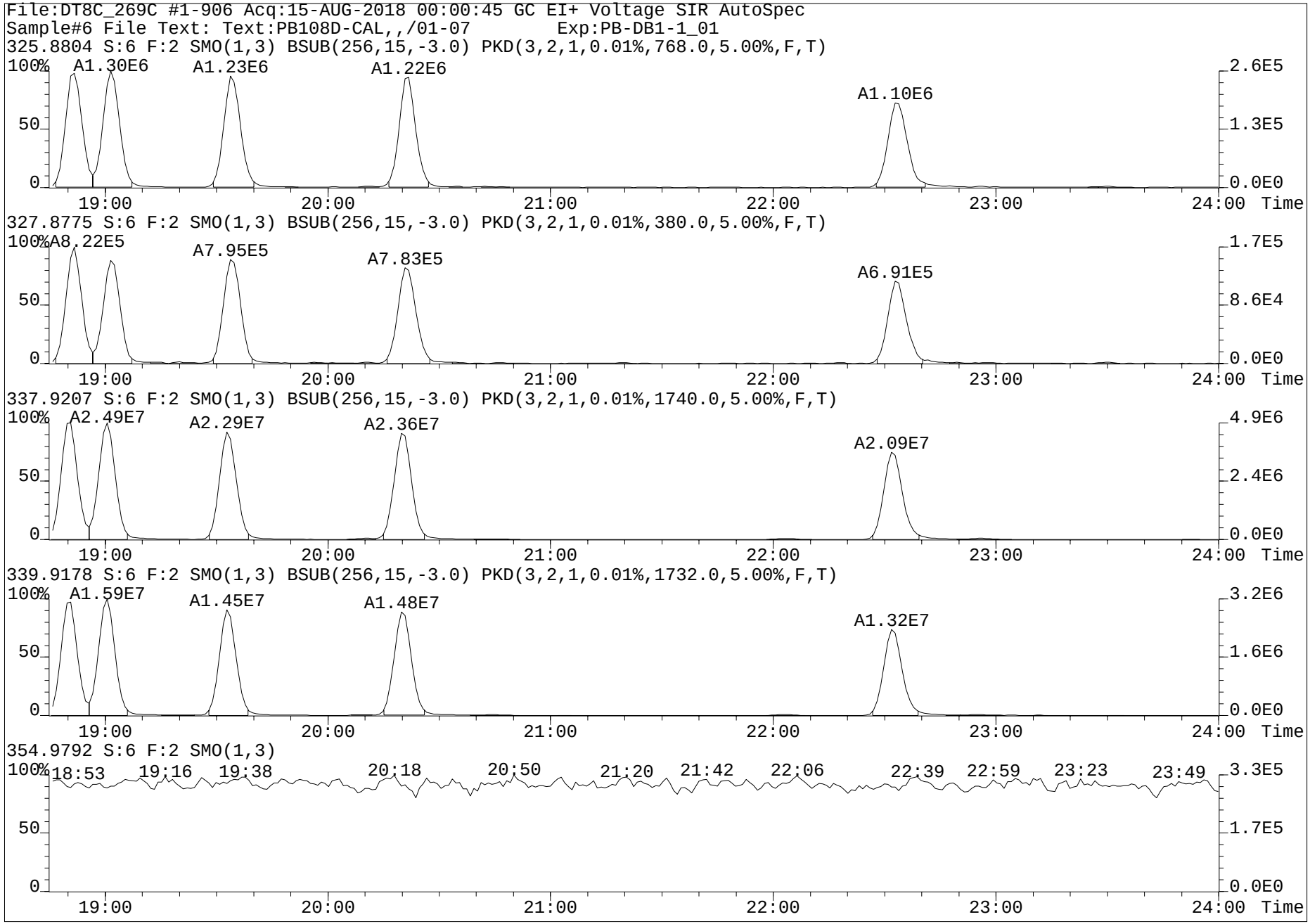
Run #3 Filename DT8C_269C S: 6 I: 1 Acquired: 15-AUG-18 00:00:45 Processed: 15-AUG-18 10:17:11
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108D-CAL,,/01-07 Comments: 1,,1.0uL CS-2 F1: 5.00 F2: 1.00

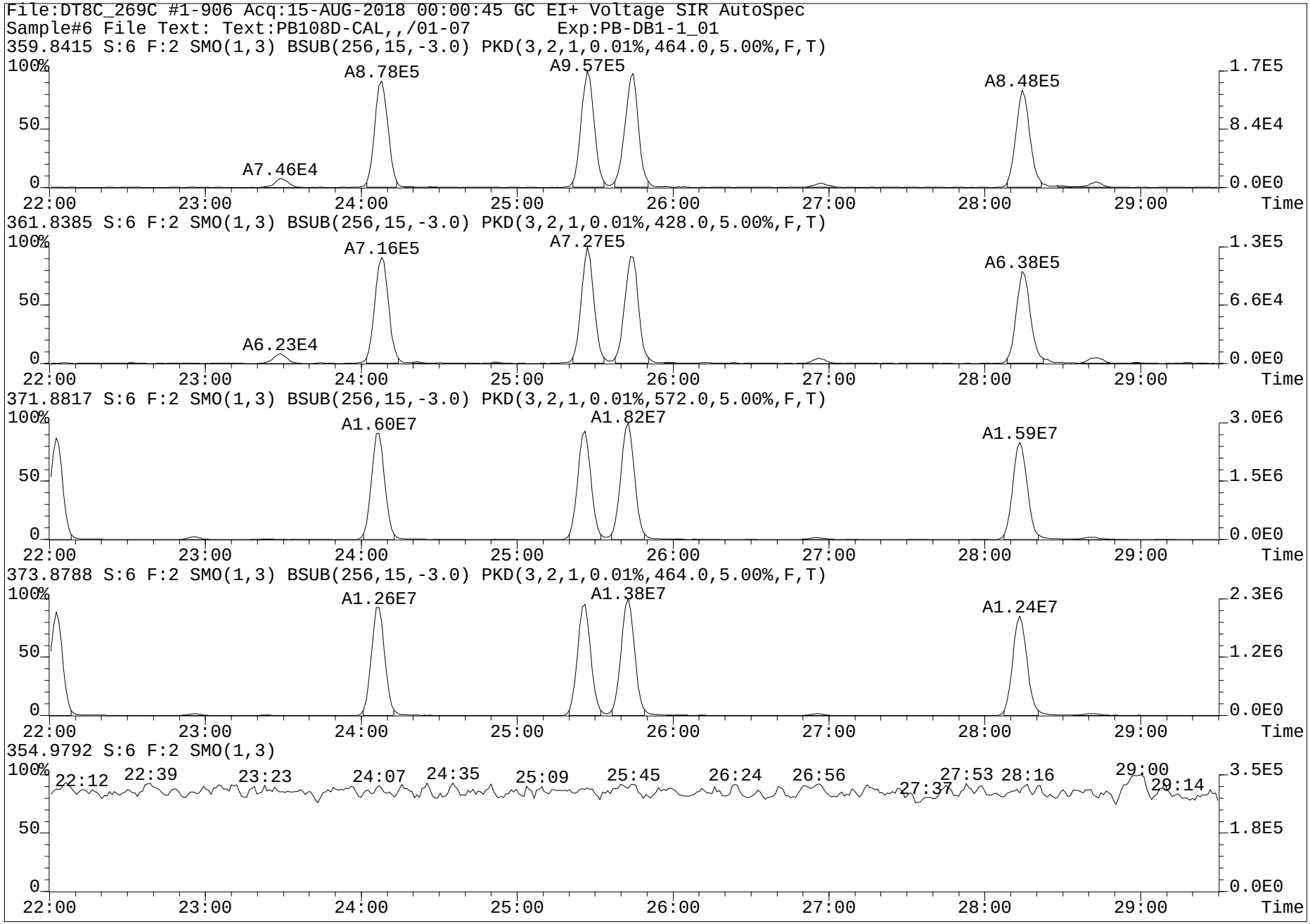
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	5.00	2.43e+06	0.76 y	16:53	-	1.0431	y	n
2	Unk	CL4-PCB-77	5.00	2.39e+06	0.80 y	17:22	-	1.0429	y	n
3	Unk	CL5-PCB-123	5.00	2.08e+06	1.53 y	18:52	-	1.0315	y	n
4	Unk	CL5-PCB-118	5.00	2.09e+06	1.65 y	19:01	-	1.0249	y	n
5	Unk	CL5-PCB-114	5.00	2.03e+06	1.55 y	19:34	-	1.0860	y	n
6	Unk	CL5-PCB-105	5.00	2.00e+06	1.56 y	20:21	-	1.0424	y	n
7	Unk	CL5-PCB-126	5.00	1.79e+06	1.59 y	22:34	-	1.0516	y	n
8	Unk	CL6-PCB-167	5.00	1.59e+06	1.23 y	24:08	-	1.1125	y	n
9	Unk	CL6-PCB-156	5.00	1.68e+06	1.32 y	25:27	-	1.1412	y	n
10	Unk	CL6-PCB-157	5.00	1.69e+06	1.31 y	25:44	-	1.0557	y	n
11	Unk	CL6-PCB-169	5.00	1.49e+06	1.33 y	28:14	-	1.0503	y	n
12	Unk	CL7-PCB-180	5.00	1.02e+06	1.00 y	26:56	-	0.9401	y	n
13	Unk	CL7-PCB-170	5.00	7.89e+05	0.95 y	28:42	-	0.8840	y	n
14	Unk	CL7-PCB-189	5.00	1.13e+06	0.95 y	31:03	-	0.9598	y	n
15	IS	13C-CL4-PCB-81	100.00	4.66e+07	0.79 y	16:52	-	1.1839	y	n
16	IS	13C-CL4-PCB-77	100.00	4.58e+07	0.79 y	17:21	-	1.1638	y	n
17	IS	13C-CL5-PCB-123	100.00	4.04e+07	1.59 y	18:50	-	1.4315	y	n
18	IS	13C-CL5-PCB-118	100.00	4.08e+07	1.56 y	19:01	-	1.4475	y	n
19	IS	13C-CL5-PCB-114	100.00	3.73e+07	1.58 y	19:33	-	1.3235	y	n
20	IS	13C-CL5-PCB-105	100.00	3.84e+07	1.59 y	20:20	-	1.3607	y	n
21	IS	13C-CL5-PCB-126	100.00	3.41e+07	1.59 y	22:32	-	1.2073	y	n
22	IS	13C-CL6-PCB-167	100.00	2.87e+07	1.27 y	24:07	-	1.1394	y	n
23	IS	13C-CL6-PCB-156	100.00	2.95e+07	1.27 y	25:26	-	1.1729	y	n
24	IS	13C-CL6-PCB-157	100.00	3.21e+07	1.32 y	25:43	-	1.2741	y	n
25	IS	13C-CL6-PCB-169	100.00	2.83e+07	1.28 y	28:13	-	1.1249	y	n
26	IS	13C-CL7-PCB-180	100.00	2.17e+07	1.02 y	26:55	-	0.8633	y	n
27	IS	13C-CL7-PCB-170	100.00	1.79e+07	1.03 y	28:41	-	0.7096	y	n
28	IS	13C-CL7-PCB-189	100.00	2.36e+07	1.05 y	31:01	-	0.9392	y	n
29	IS	13C-CL10-PCB-209	100.00	2.63e+07	1.14 y	34:37	-	1.0441	y	n
30	RS	13C-CL4-PCB-52	100.00	3.93e+07	0.79 y	11:52	3.93e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	2.82e+07	1.63 y	15:42	2.82e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	2.52e+07	1.29 y	22:03	2.52e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	3.42e+07	1.61 y	17:04	-	1.2126	y	n
34	C/Up	13C-CL7-PCB-178	100.00	2.20e+07	1.04 y	22:55	-	0.8742	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

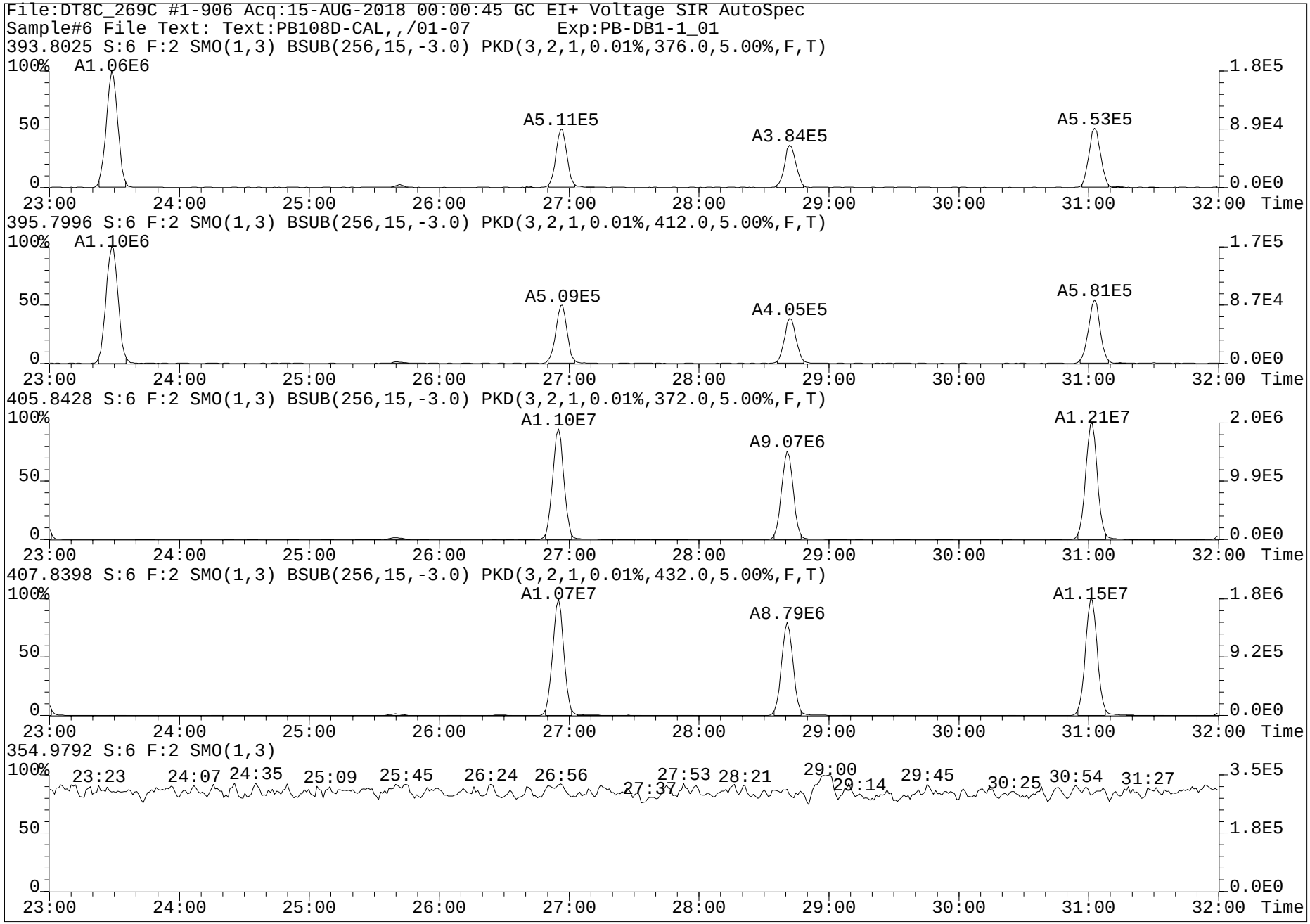
SV RW
17 Aug 2018

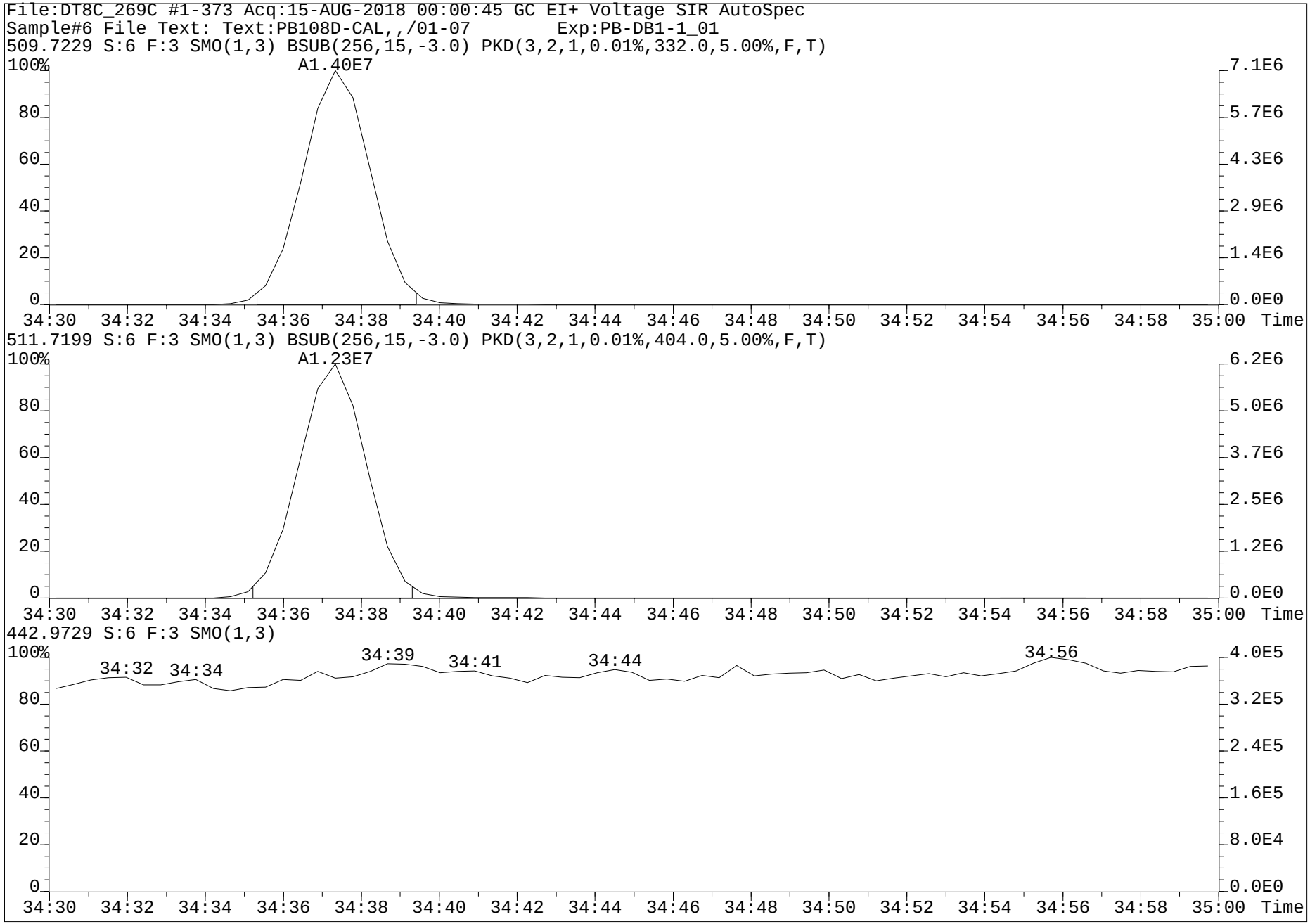
PV by RA 15AUG2018

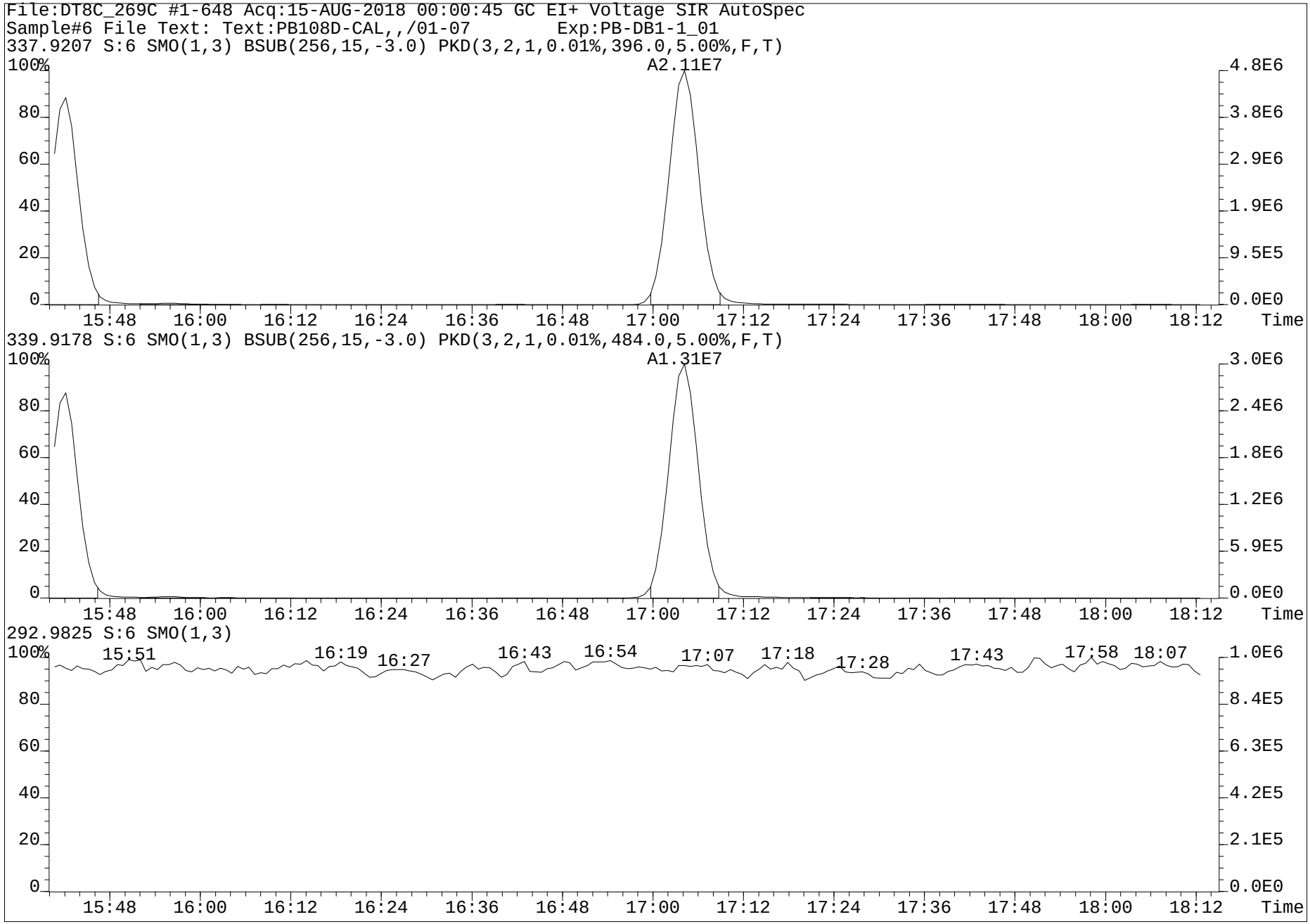

File:DT8C_269C #1-648 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
289.9224 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,468.0,5.00%,F,T)
A1.05E6
291.9194 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,508.0,5.00%,F,T)
A1.38E6
301.9626 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2716.0,5.00%,F,T)
A1.73E7
A2.06E7
303.9597 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1528.0,5.00%,F,T)
A2.20E7
A2.60E7
292.9825 S:6 SMO(1,3)
11:32 12:13 12:49 13:10 13:44 14:15 14:52 15:25 15:51 16:19 16:54 17:18 17:51
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
2.3E5
1.1E5
0.0E0
3.0E5
1.5E5
5.1E6
2.5E6
6.6E6
3.3E6
1.1E6
5.3E5


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
325.8804 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,768.0,5.00%,F,T)
A1.30E6
A1.23E6
A1.22E6
A1.10E6
327.8775 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,380.0,5.00%,F,T)
A8.22E5
A7.95E5
A7.83E5
A6.91E5
337.9207 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1740.0,5.00%,F,T)
A2.49E7
A2.29E7
A2.36E7
A2.09E7
339.9178 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1732.0,5.00%,F,T)
A1.59E7
A1.45E7
A1.48E7
A1.32E7
354.9792 S:6 F:2 SMO(1,3)
18:53
19:16
19:38
20:18
20:50
21:20
21:42
22:06
22:39
22:59
23:23
23:49
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
2.6E5
1.3E5
0.0E0
1.7E5
8.6E4
4.9E6
2.4E6
3.2E6
1.6E6
3.3E5
1.7E5


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
359.8415 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A8.78E5
A9.57E5
A8.48E5
A7.46E4
361.8385 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A7.16E5
A7.27E5
A6.38E5
A6.23E4
371.8817 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,572.0,5.00%,F,T)
A1.60E7
A1.82E7
A1.59E7
373.8788 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,464.0,5.00%,F,T)
A1.26E7
A1.38E7
A1.24E7
354.9792 S:6 F:2 SMO(1,3)
22:12 22:39 23:23 24:07 24:35 25:09 25:45 26:24 26:56 27:37 27:53 28:16 29:00 29:14
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
1.7E5
8.4E4
0.0E0
1.3E5
6.6E4
3.0E6
1.5E6
2.3E6
1.2E6
3.5E5
1.8E5


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
393.8025 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,376.0,5.00%,F,T)
A1.06E6
A5.11E5
A3.84E5
A5.53E5
395.7996 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A1.10E6
A5.09E5
A4.05E5
A5.81E5
405.8428 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,372.0,5.00%,F,T)
A1.10E7
A9.07E6
A1.21E7
407.8398 S:6 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,432.0,5.00%,F,T)
A1.07E7
A8.79E6
A1.15E7
354.9792 S:6 F:2 SMO(1,3)
23:23 24:07 24:35 25:09 25:45 26:24 26:56 27:37 27:53 28:21 29:00 29:14 29:45 30:25 30:54 31:27
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
1.8E5
8.9E4
0.0E0
1.7E5
8.7E4
2.0E6
9.9E5
1.8E6
9.2E5
3.5E5
1.8E5


File:DT8C_269C #1-373 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
509.7229 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,332.0,5.00%,F,T)
A1.40E7
511.7199 S:6 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A1.23E7
442.9729 S:6 F:3 SMO(1,3)
34:32
34:34
34:39
34:41
34:44
34:56
Time

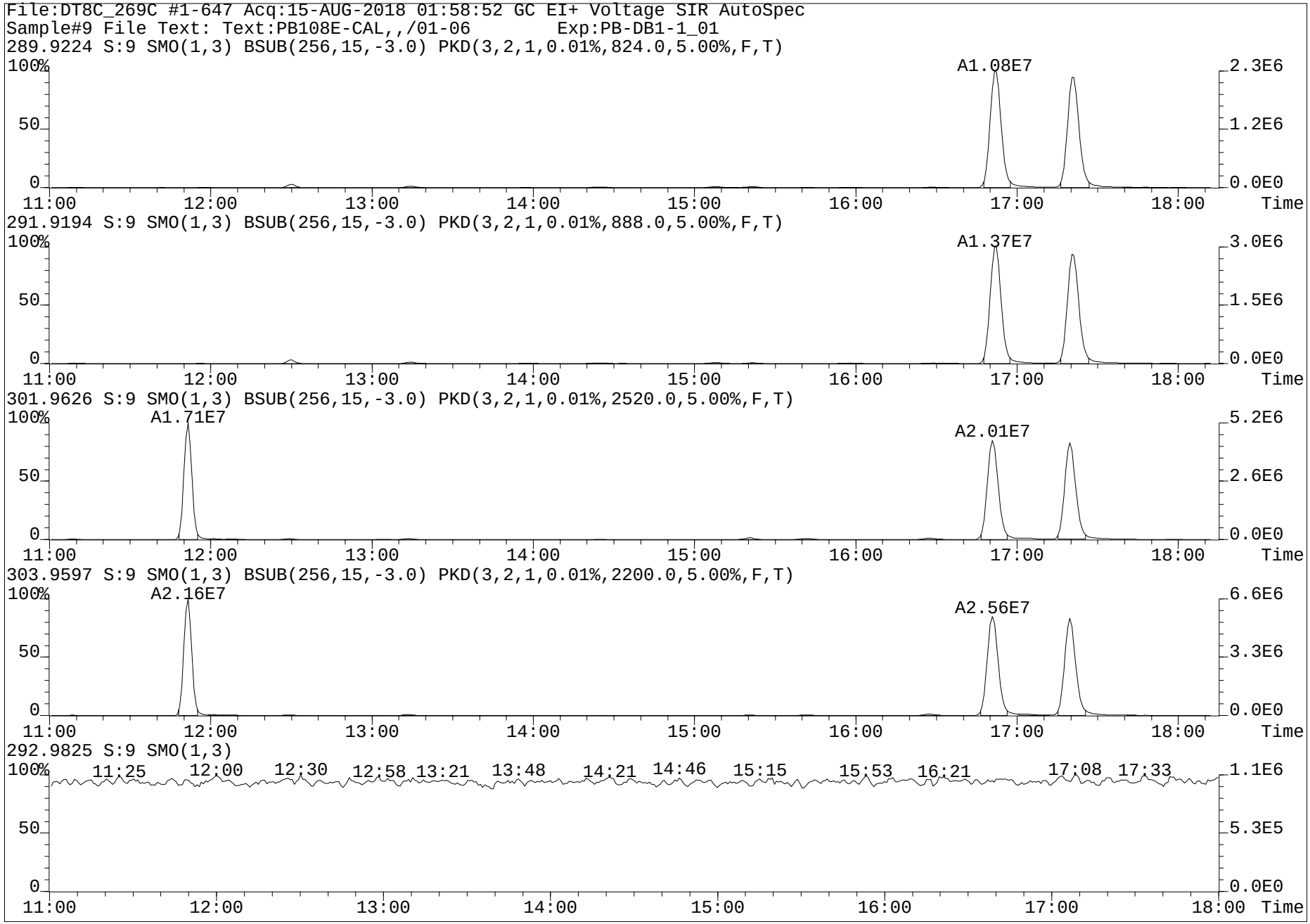

File:DT8C_269C #1-648 Acq:15-AUG-2018 00:00:45 GC EI+ Voltage SIR AutoSpec
Sample#6 File Text: Text:PB108D-CAL,,/01-07 Exp:PB-DB1-1_01
337.9207 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
A2.11E7
339.9178 S:6 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A1.31E7
292.9825 S:6 SMO(1,3)
15:51
16:19
16:27
16:43
16:54
17:07
17:18
17:28
17:43
17:58
18:07
Time

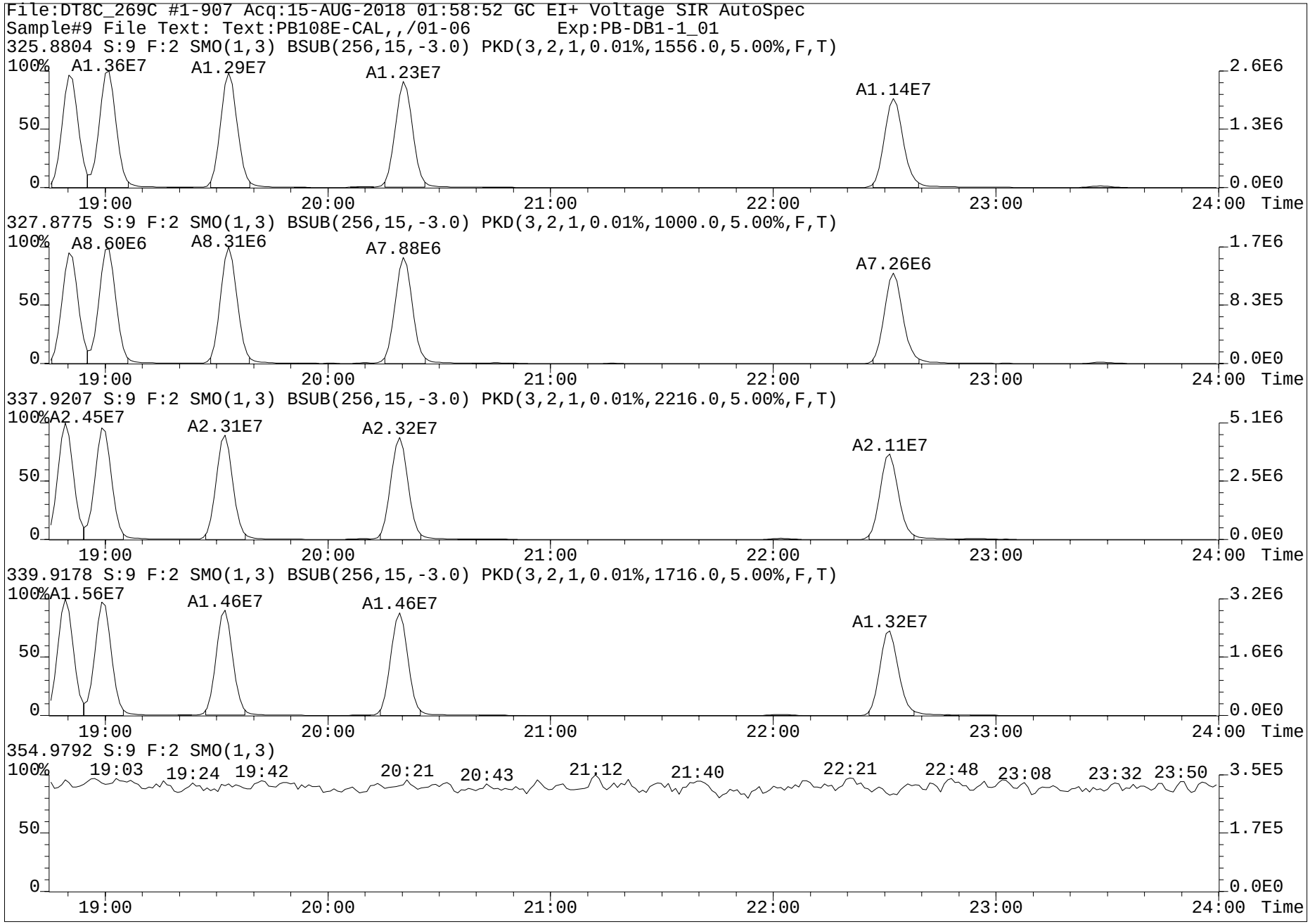
Run #4 Filename DT8C_269C S: 9 I: 1 Acquired: 15-AUG-18 01:58:52 Processed: 15-AUG-18 10:17:11
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108E-CAL,,/01-06 Comments: 1,,1.0uL CS-3/CAL F1: 50.00 F2: 1.00

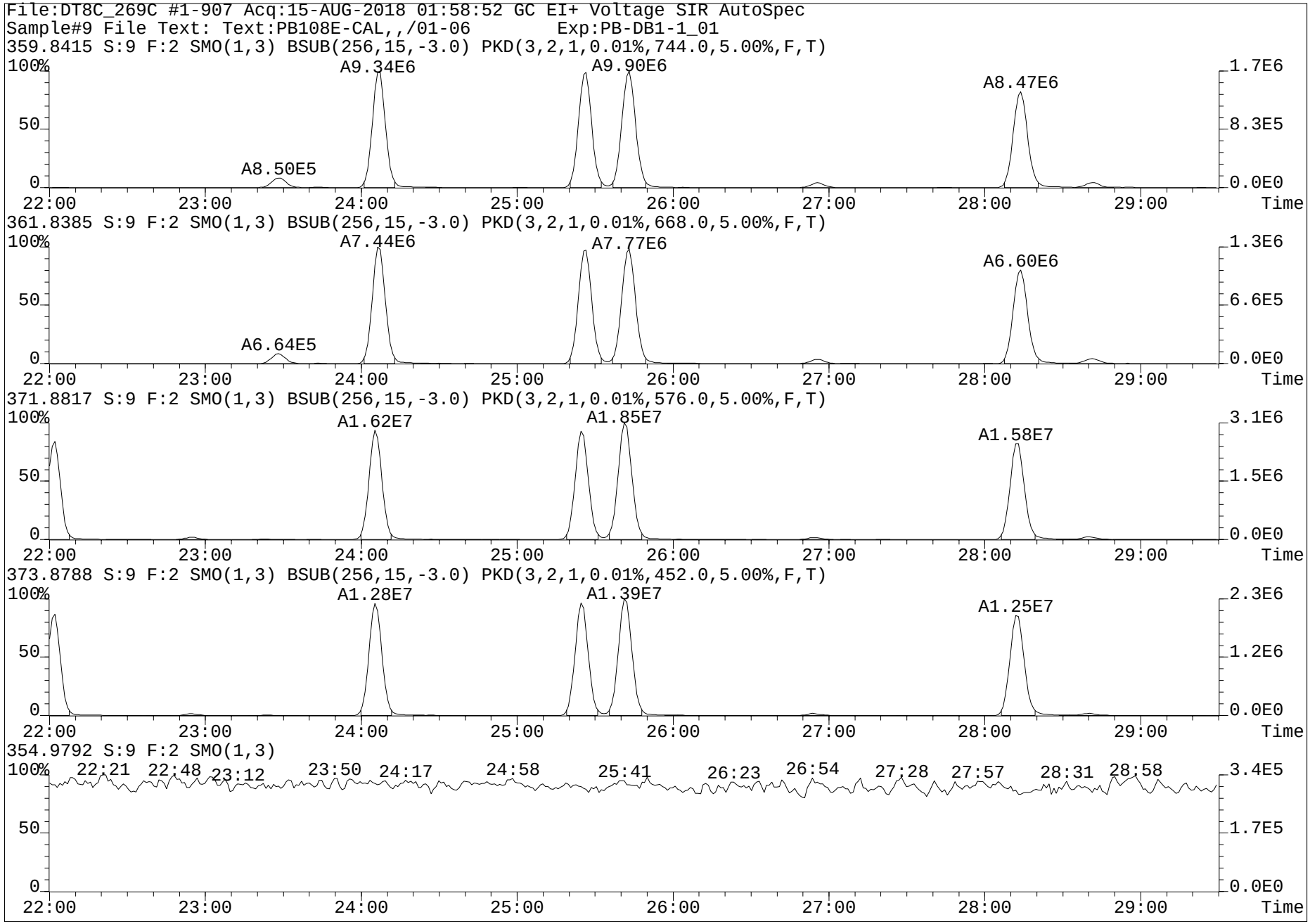
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	50.00	2.45e+07	0.78 y	16:52	-	1.0705	y	n
2	Unk	CL4-PCB-77	50.00	2.41e+07	0.79 y	17:21	-	1.0601	y	n
3	Unk	CL5-PCB-123	50.00	2.02e+07	1.59 y	18:50	-	1.0091	y	n
4	Unk	CL5-PCB-118	50.00	2.22e+07	1.58 y	19:01	-	1.0828	y	n
5	Unk	CL5-PCB-114	50.00	2.12e+07	1.55 y	19:33	-	1.1248	y	n
6	Unk	CL5-PCB-105	50.00	2.02e+07	1.57 y	20:20	-	1.0681	y	n
7	Unk	CL5-PCB-126	50.00	1.87e+07	1.57 y	22:32	-	1.0879	y	n
8	Unk	CL6-PCB-167	50.00	1.68e+07	1.25 y	24:07	-	1.1573	y	n
9	Unk	CL6-PCB-156	50.00	1.69e+07	1.26 y	25:26	-	1.1485	y	n
10	Unk	CL6-PCB-157	50.00	1.77e+07	1.27 y	25:43	-	1.0882	y	n
11	Unk	CL6-PCB-169	50.00	1.51e+07	1.28 y	28:14	-	1.0649	y	n
12	Unk	CL7-PCB-180	50.00	1.06e+07	1.00 y	26:55	-	0.9623	y	n
13	Unk	CL7-PCB-170	50.00	8.39e+06	1.02 y	28:41	-	0.9330	y	n
14	Unk	CL7-PCB-189	50.00	1.14e+07	1.00 y	31:01	-	0.9745	y	n
15	IS	13C-CL4-PCB-81	100.00	4.57e+07	0.79 y	16:51	-	1.1807	y	n
16	IS	13C-CL4-PCB-77	100.00	4.55e+07	0.79 y	17:20	-	1.1748	y	n
17	IS	13C-CL5-PCB-123	100.00	4.01e+07	1.57 y	18:49	-	1.4442	y	n
18	IS	13C-CL5-PCB-118	100.00	4.10e+07	1.57 y	18:59	-	1.4780	y	n
19	IS	13C-CL5-PCB-114	100.00	3.77e+07	1.58 y	19:32	-	1.3610	y	n
20	IS	13C-CL5-PCB-105	100.00	3.78e+07	1.59 y	20:19	-	1.3644	y	n
21	IS	13C-CL5-PCB-126	100.00	3.43e+07	1.59 y	22:31	-	1.2364	y	n
22	IS	13C-CL6-PCB-167	100.00	2.90e+07	1.27 y	24:05	-	1.1559	y	n
23	IS	13C-CL6-PCB-156	100.00	2.93e+07	1.28 y	25:25	-	1.1699	y	n
24	IS	13C-CL6-PCB-157	100.00	3.25e+07	1.33 y	25:41	-	1.2943	y	n
25	IS	13C-CL6-PCB-169	100.00	2.83e+07	1.26 y	28:13	-	1.1285	y	n
26	IS	13C-CL7-PCB-180	100.00	2.20e+07	1.03 y	26:54	-	0.8788	y	n
27	IS	13C-CL7-PCB-170	100.00	1.80e+07	1.04 y	28:40	-	0.7166	y	n
28	IS	13C-CL7-PCB-189	100.00	2.35e+07	1.04 y	31:00	-	0.9365	y	n
29	IS	13C-CL10-PCB-209	100.00	2.65e+07	1.12 y	34:36	-	1.0561	y	n
30	RS	13C-CL4-PCB-52	100.00	3.87e+07	0.79 y	11:51	3.87e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	2.77e+07	1.62 y	15:41	2.77e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	2.51e+07	1.27 y	22:02	2.51e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	3.44e+07	1.62 y	17:03	-	1.2404	y	n
34	C/Up	13C-CL7-PCB-178	100.00	2.22e+07	1.04 y	22:54	-	0.8852	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

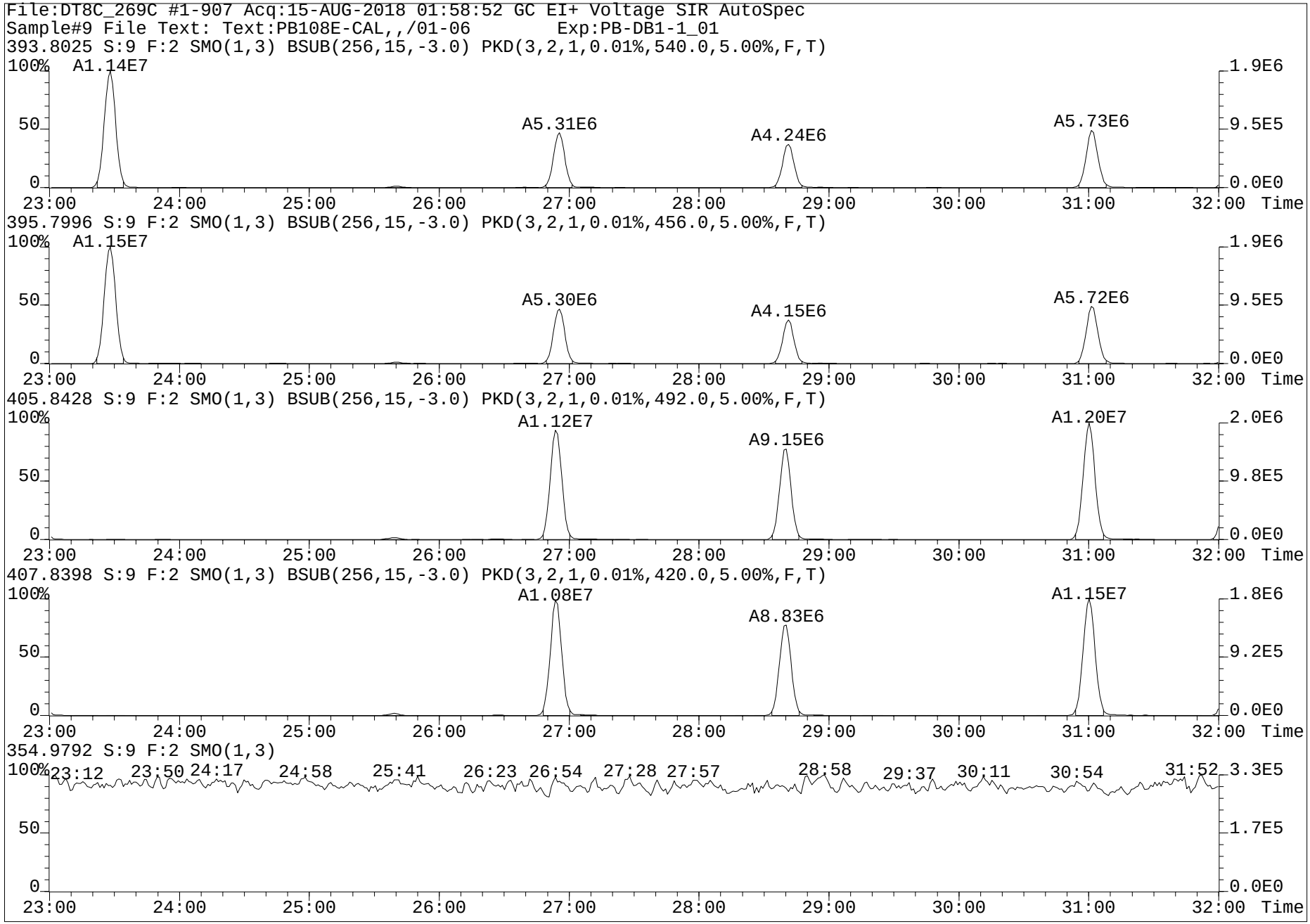
SV BL
17 Aug 2018

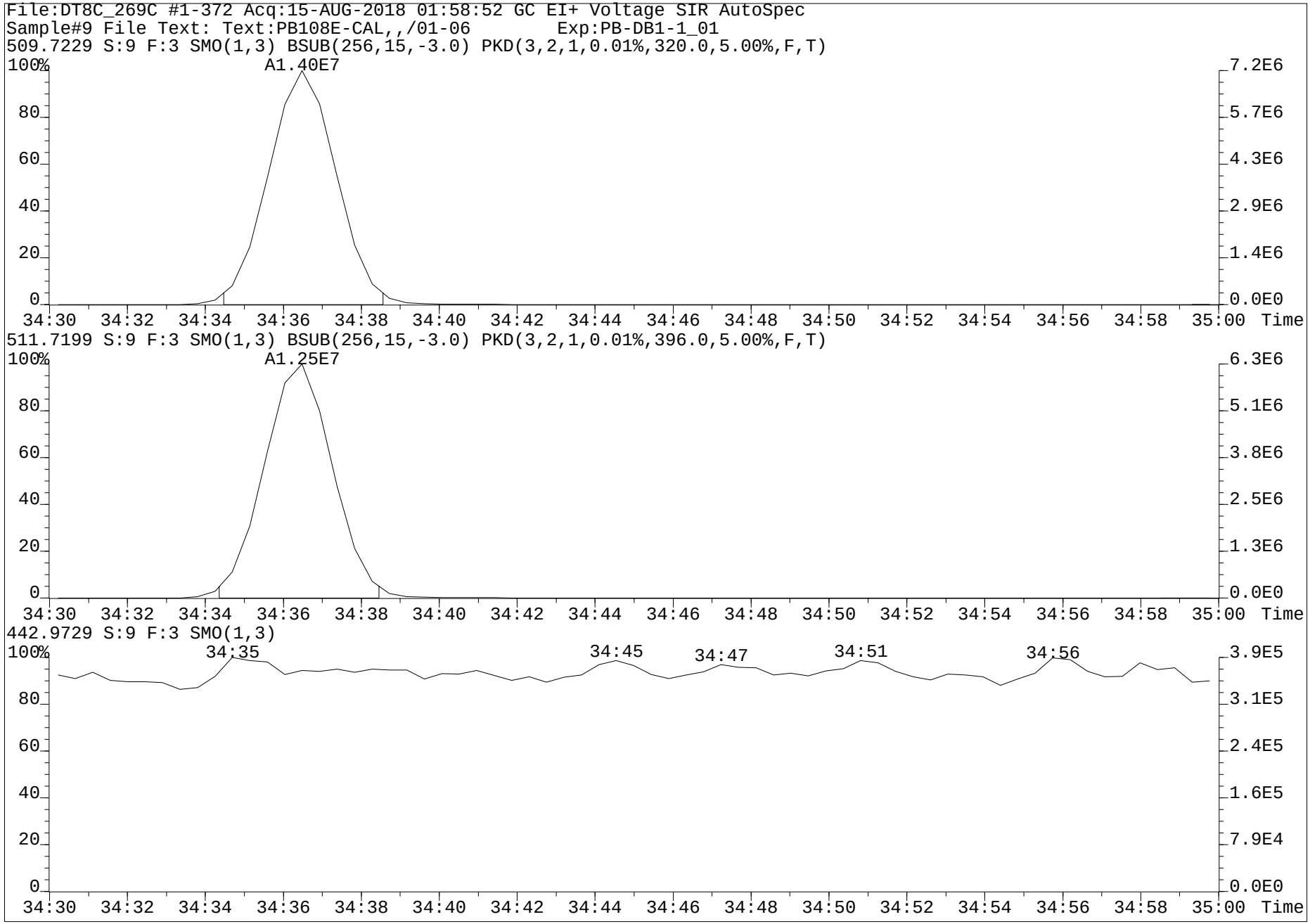
PV by RA 15 AUG 2018

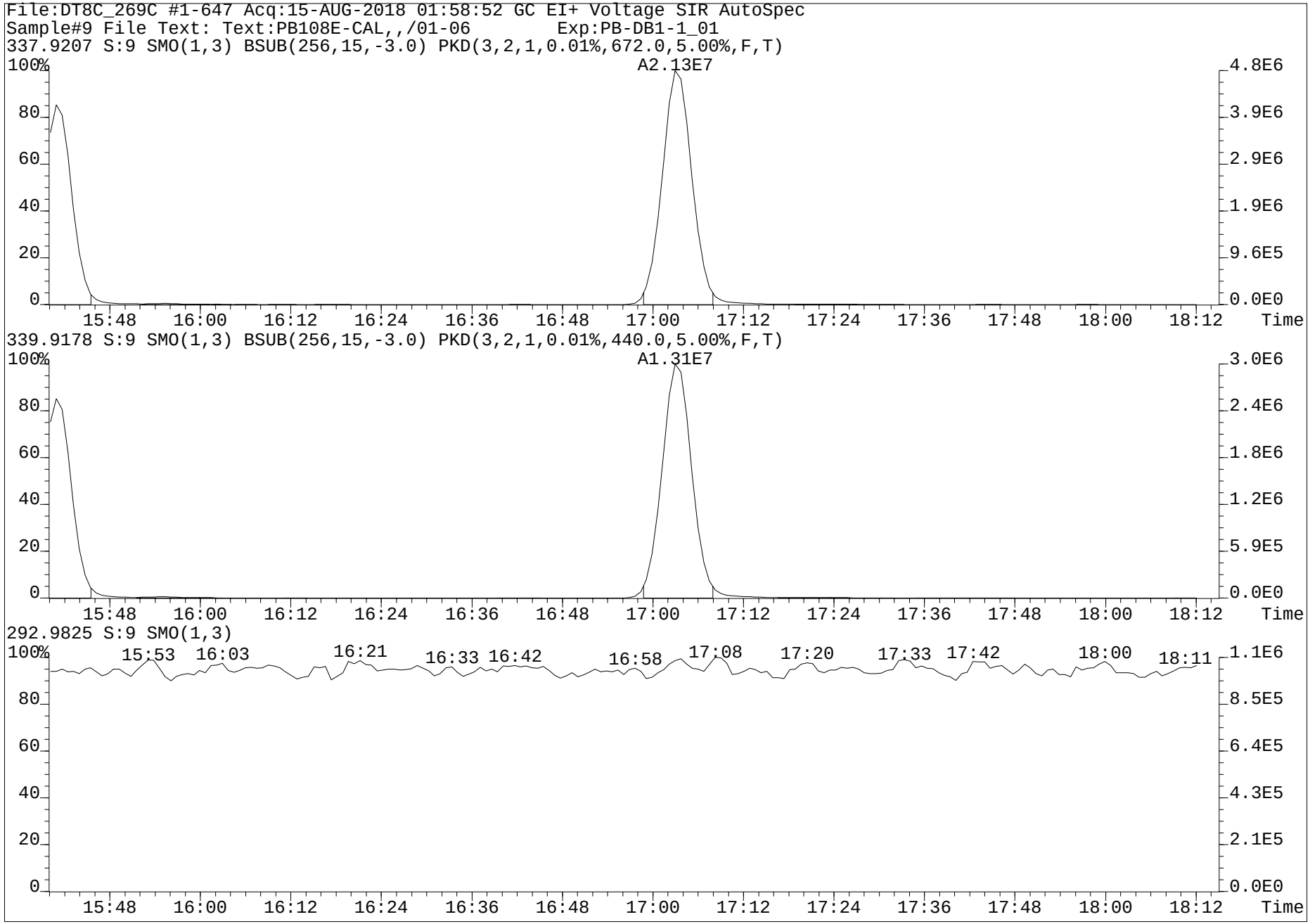

File:DT8C_269C #1-647 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
289.9224 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,824.0,5.00%,F,T)
A1.08E7
291.9194 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,888.0,5.00%,F,T)
A1.37E7
301.9626 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2520.0,5.00%,F,T)
A1.71E7
A2.01E7
303.9597 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2200.0,5.00%,F,T)
A2.16E7
A2.56E7
292.9825 S:9 SMO(1,3)
11:25 12:00 12:30 12:58 13:21 13:48 14:21 14:46 15:15 15:53 16:21 17:08 17:33
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
2.3E6 1.2E6 0.0E0
3.0E6 1.5E6 0.0E0
5.2E6 2.6E6 0.0E0
6.6E6 3.3E6 0.0E0
1.1E6 5.3E5 0.0E0


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
325.8804 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1556.0,5.00%,F,T)
A1.36E7
A1.29E7
A1.23E7
A1.14E7
327.8775 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1000.0,5.00%,F,T)
A8.60E6
A8.31E6
A7.88E6
A7.26E6
337.9207 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2216.0,5.00%,F,T)
A2.45E7
A2.31E7
A2.32E7
A2.11E7
339.9178 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1716.0,5.00%,F,T)
A1.56E7
A1.46E7
A1.46E7
A1.32E7
354.9792 S:9 F:2 SMO(1,3)
19:03
19:24
19:42
20:21
20:43
21:12
21:40
22:21
22:48
23:08
23:32
23:50
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
2.6E6
1.3E6
0.0E0
1.7E6
8.3E5
5.1E6
2.5E6
3.2E6
1.6E6
3.5E5
1.7E5


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
359.8415 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,744.0,5.00%,F,T)
A8.50E5
A9.34E6
A9.90E6
A8.47E6
361.8385 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,668.0,5.00%,F,T)
A6.64E5
A7.44E6
A7.77E6
A6.60E6
371.8817 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,576.0,5.00%,F,T)
A1.62E7
A1.85E7
A1.58E7
373.8788 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A1.28E7
A1.39E7
A1.25E7
354.9792 S:9 F:2 SMO(1,3)
22:21 22:48 23:12 23:50 24:17 24:58 25:41 26:23 26:54 27:28 27:57 28:31 28:58
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
1.7E6 8.3E5 0.0E0
1.3E6 6.6E5 0.0E0
3.1E6 1.5E6 0.0E0
2.3E6 1.2E6 0.0E0
3.4E5 1.7E5 0.0E0


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
393.8025 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
A1.14E7
A5.31E6
A4.24E6
A5.73E6
395.7996 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,456.0,5.00%,F,T)
A1.15E7
A5.30E6
A4.15E6
A5.72E6
405.8428 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A1.12E7
A9.15E6
A1.20E7
407.8398 S:9 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,420.0,5.00%,F,T)
A1.08E7
A8.83E6
A1.15E7
354.9792 S:9 F:2 SMO(1,3)
23:12 23:50 24:17 24:58 25:41 26:23 26:54 27:28 27:57 28:58 29:37 30:11 30:54 31:52
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
1.9E6
9.5E5
0.0E0
2.0E6
9.8E5
1.8E6
9.2E5
3.3E5
1.7E5


File:DT8C_269C #1-372 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
509.7229 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,320.0,5.00%,F,T)
100%
A1.40E7
7.2E6
5.7E6
4.3E6
2.9E6
1.4E6
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time
511.7199 S:9 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,396.0,5.00%,F,T)
100%
A1.25E7
6.3E6
5.1E6
3.8E6
2.5E6
1.3E6
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time
442.9729 S:9 F:3 SMO(1,3)
100%
34:35
34:45
34:47
34:51
34:56
3.9E5
3.1E5
2.4E5
1.6E5
7.9E4
0.0E0
80
60
40
20
0
34:30 34:32 34:34 34:36 34:38 34:40 34:42 34:44 34:46 34:48 34:50 34:52 34:54 34:56 34:58 35:00 Time


File:DT8C_269C #1-647 Acq:15-AUG-2018 01:58:52 GC EI+ Voltage SIR AutoSpec
Sample#9 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
337.9207 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,672.0,5.00%,F,T)
A2.13E7
339.9178 S:9 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,440.0,5.00%,F,T)
A1.31E7
292.9825 S:9 SMO(1,3)
15:53 16:03 16:21 16:33 16:42 16:58 17:08 17:20 17:33 17:42 18:00 18:11
Time

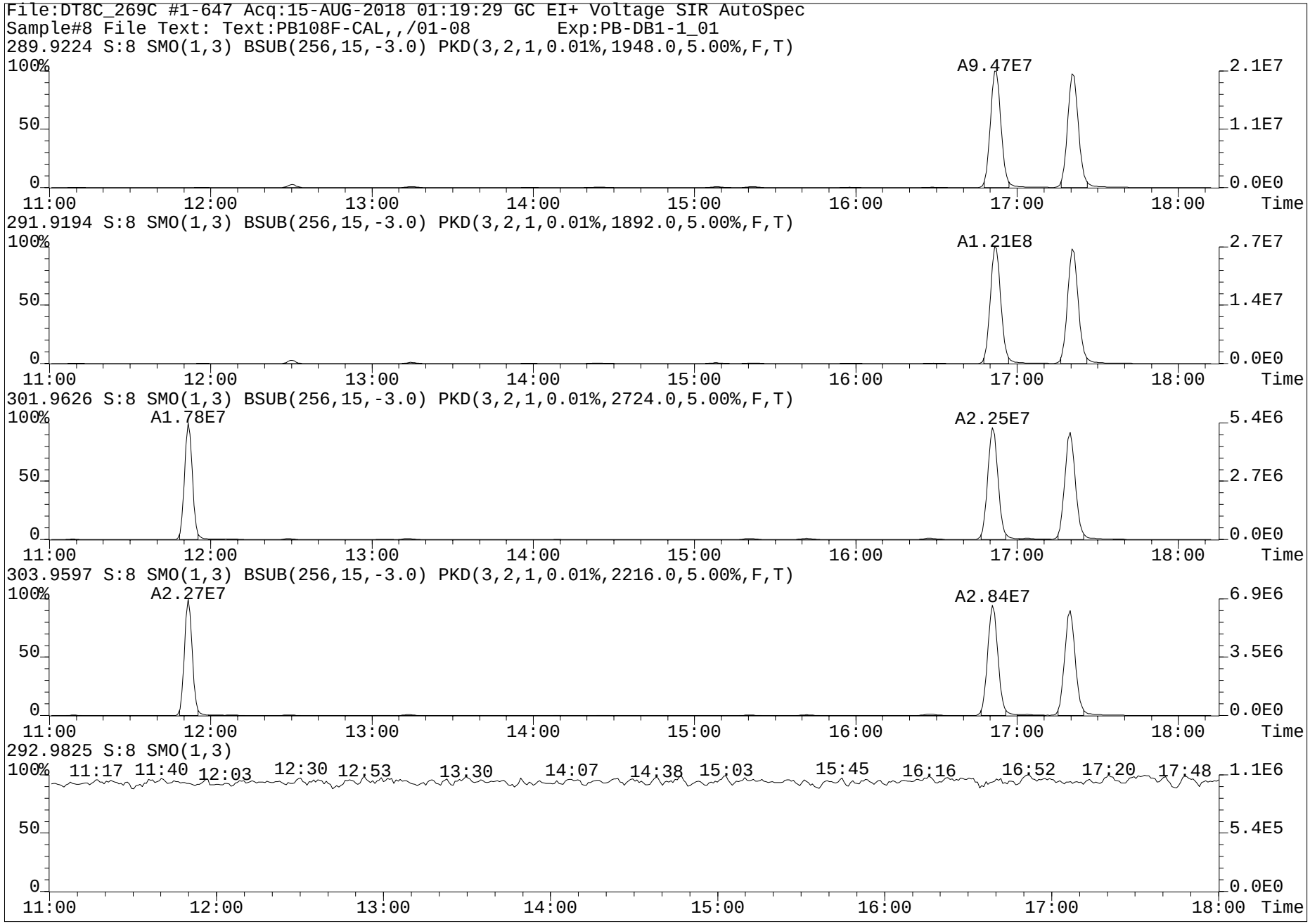
www.axysanalytical.com

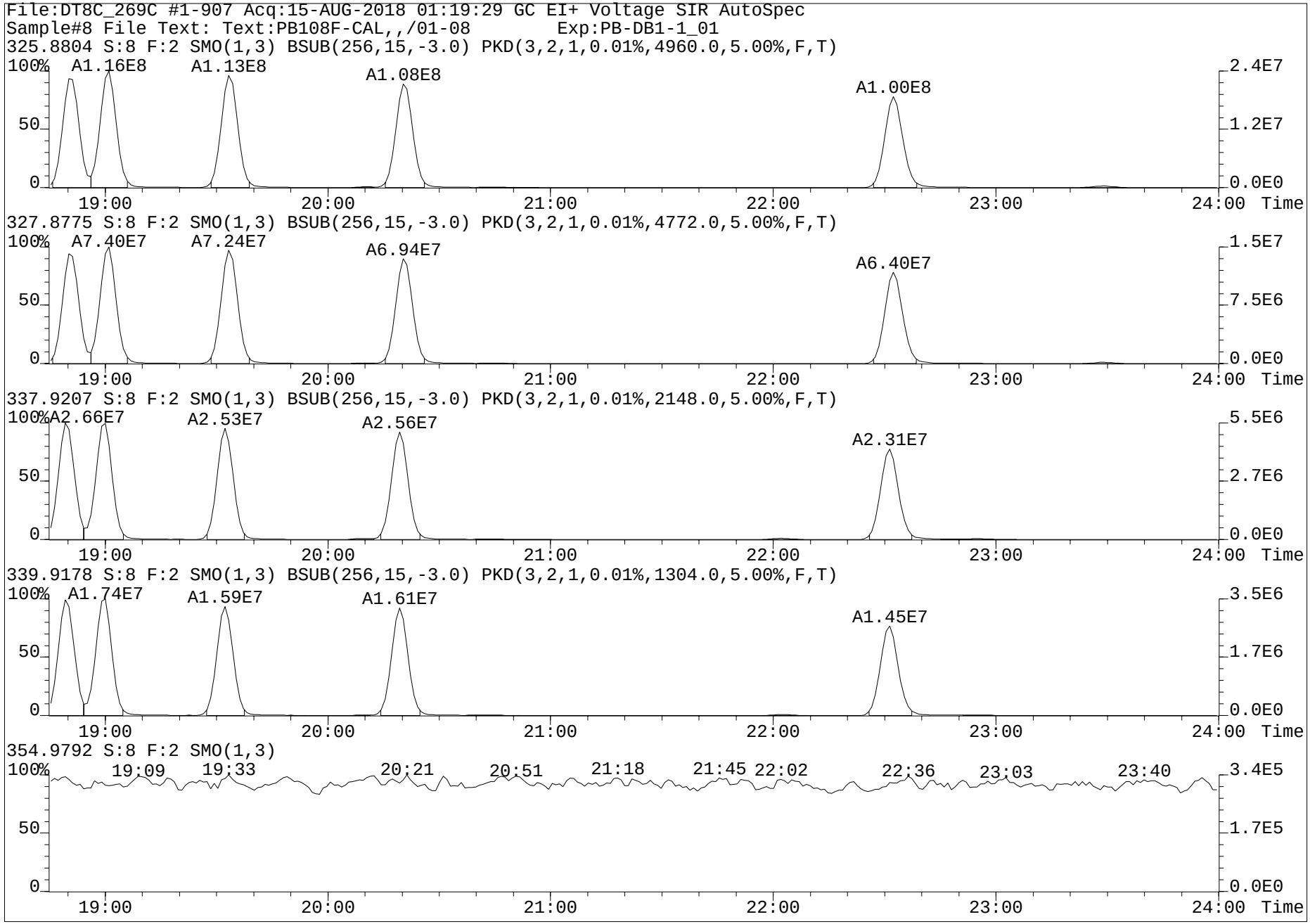
Run #5 Filename DT8C_269C S: 8 I: 1 Acquired: 15-AUG-18 01:19:29 Processed: 15-AUG-18 10:17:12
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108F-CAL,,/01-08 Comments: 1,,1.0uL CS-4 F1: 400.00 F2: 1.00

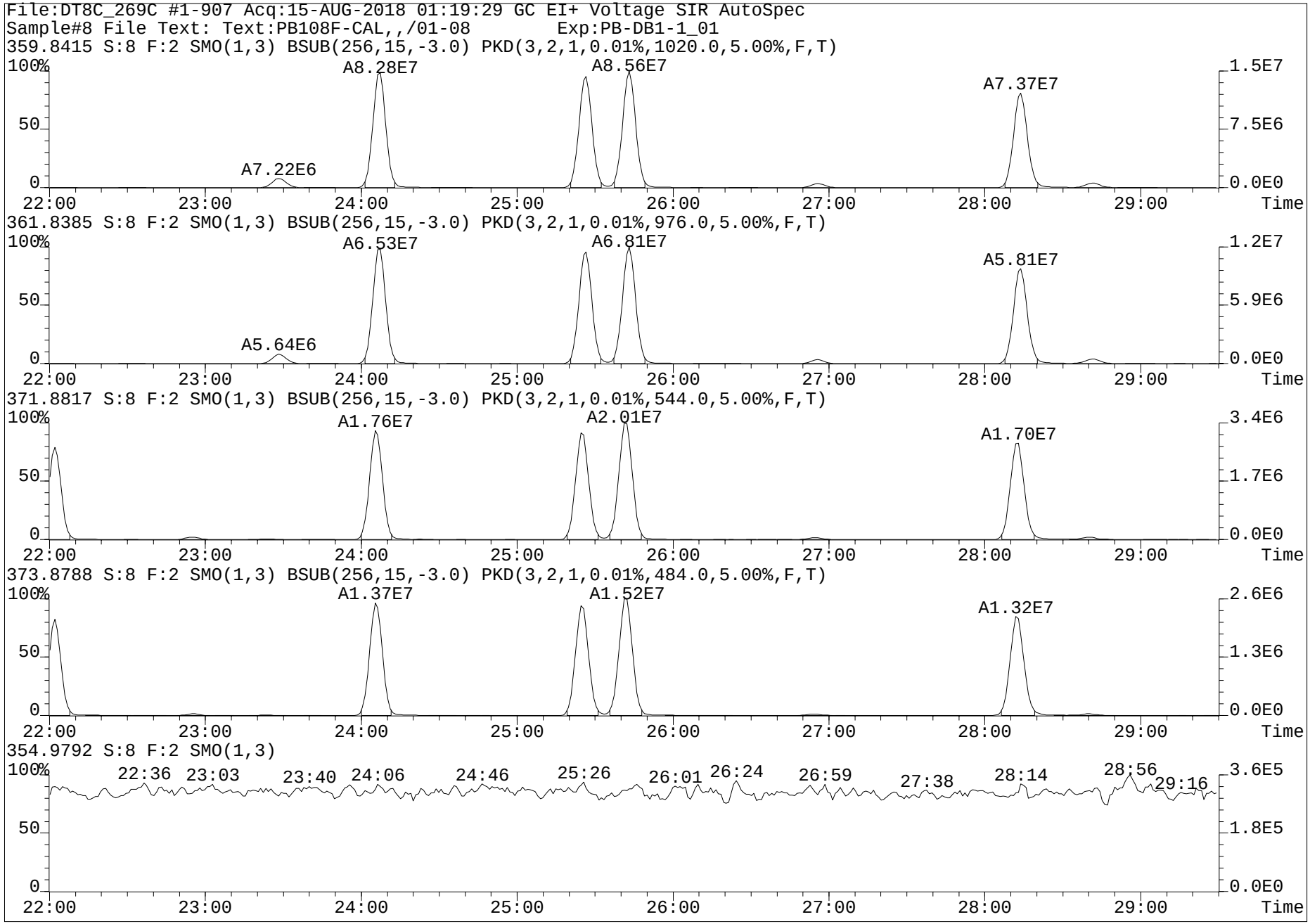
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	400.00	2.16e+08	0.78 y	16:52	-	1.0582	y	n
2	Unk	CL4-PCB-77	400.00	2.16e+08	0.78 y	17:21	-	1.0776	y	n
3	Unk	CL5-PCB-123	400.00	1.83e+08	1.58 y	18:51	-	1.0519	y	n
4	Unk	CL5-PCB-118	400.00	1.90e+08	1.57 y	19:01	-	1.0614	y	n
5	Unk	CL5-PCB-114	400.00	1.85e+08	1.56 y	19:33	-	1.1213	y	n
6	Unk	CL5-PCB-105	400.00	1.78e+08	1.56 y	20:20	-	1.0664	y	n
7	Unk	CL5-PCB-126	400.00	1.64e+08	1.57 y	22:32	-	1.0935	y	n
8	Unk	CL6-PCB-167	400.00	1.48e+08	1.27 y	24:07	-	1.1797	y	n
9	Unk	CL6-PCB-156	400.00	1.47e+08	1.27 y	25:26	-	1.1601	y	n
10	Unk	CL6-PCB-157	400.00	1.54e+08	1.26 y	25:43	-	1.0883	y	n
11	Unk	CL6-PCB-169	400.00	1.32e+08	1.27 y	28:14	-	1.0915	y	n
12	Unk	CL7-PCB-180	400.00	9.23e+07	1.00 y	26:56	-	0.9737	y	n
13	Unk	CL7-PCB-170	400.00	7.26e+07	0.98 y	28:41	-	0.9451	y	n
14	Unk	CL7-PCB-189	400.00	1.00e+08	0.99 y	31:02	-	0.9999	y	n
15	IS	13C-CL4-PCB-81	100.00	5.09e+07	0.79 y	16:51	-	1.2566	y	n
16	IS	13C-CL4-PCB-77	100.00	5.01e+07	0.79 y	17:20	-	1.2350	y	n
17	IS	13C-CL5-PCB-123	100.00	4.34e+07	1.59 y	18:49	-	1.5105	y	n
18	IS	13C-CL5-PCB-118	100.00	4.49e+07	1.58 y	19:00	-	1.5604	y	n
19	IS	13C-CL5-PCB-114	100.00	4.12e+07	1.59 y	19:32	-	1.4342	y	n
20	IS	13C-CL5-PCB-105	100.00	4.17e+07	1.59 y	20:19	-	1.4504	y	n
21	IS	13C-CL5-PCB-126	100.00	3.76e+07	1.60 y	22:31	-	1.3071	y	n
22	IS	13C-CL6-PCB-167	100.00	3.14e+07	1.28 y	24:05	-	1.2181	y	n
23	IS	13C-CL6-PCB-156	100.00	3.17e+07	1.29 y	25:25	-	1.2308	y	n
24	IS	13C-CL6-PCB-157	100.00	3.53e+07	1.33 y	25:42	-	1.3708	y	n
25	IS	13C-CL6-PCB-169	100.00	3.02e+07	1.29 y	28:12	-	1.1719	y	n
26	IS	13C-CL7-PCB-180	100.00	2.37e+07	1.06 y	26:54	-	0.9198	y	n
27	IS	13C-CL7-PCB-170	100.00	1.92e+07	1.04 y	28:40	-	0.7451	y	n
28	IS	13C-CL7-PCB-189	100.00	2.51e+07	1.02 y	31:00	-	0.9734	y	n
29	IS	13C-CL10-PCB-209	100.00	2.91e+07	1.13 y	34:36	-	1.1286	y	n
30	RS	13C-CL4-PCB-52	100.00	4.05e+07	0.78 y	11:52	4.05e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	2.87e+07	1.60 y	15:41	2.87e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	2.58e+07	1.29 y	22:02	2.58e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	3.55e+07	1.60 y	17:03	-	1.2342	y	n
34	C/Up	13C-CL7-PCB-178	100.00	2.30e+07	1.04 y	22:55	-	0.8939	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

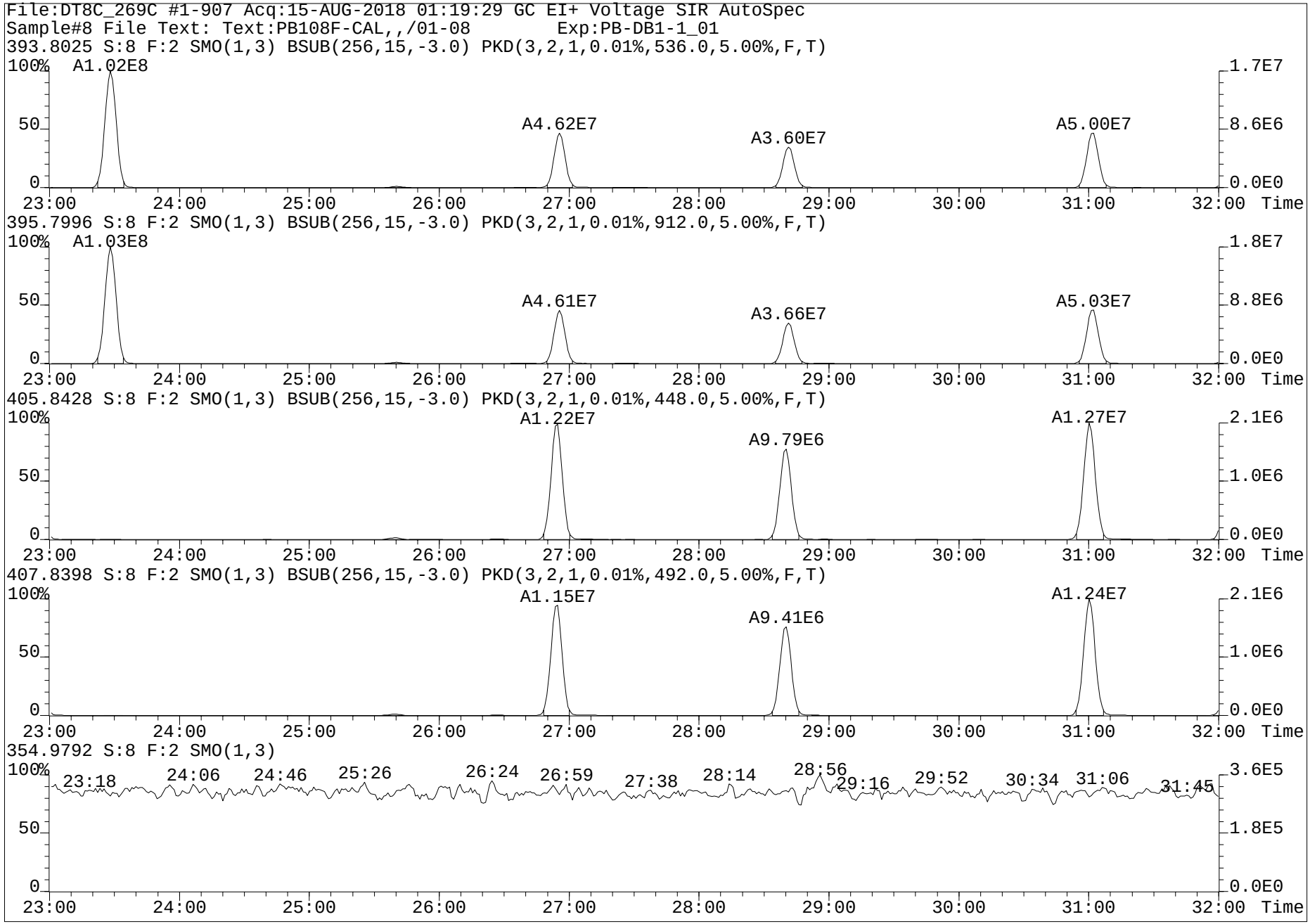
SV BJ
17 Aug 2018

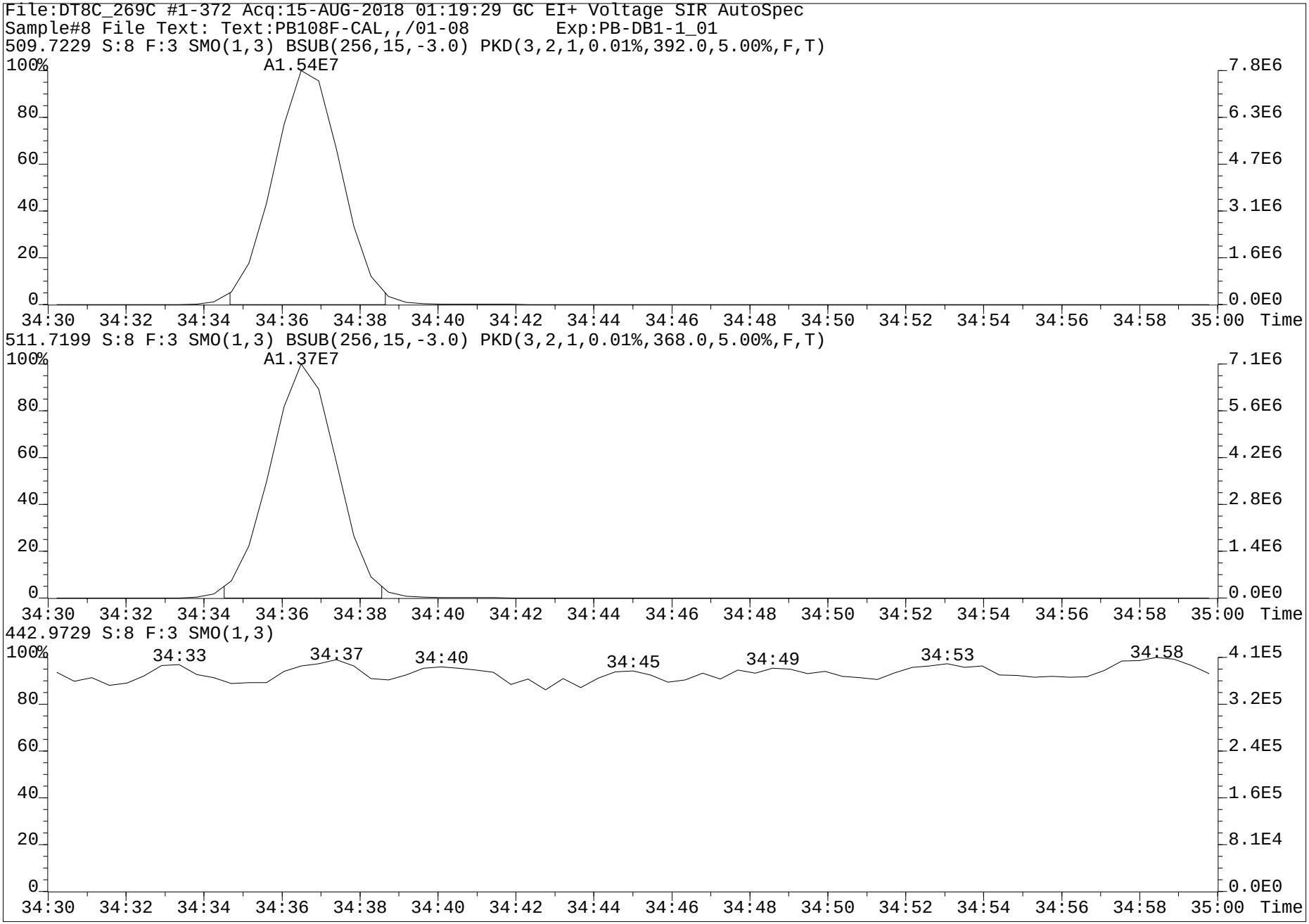
PV by RA 15AUG2018

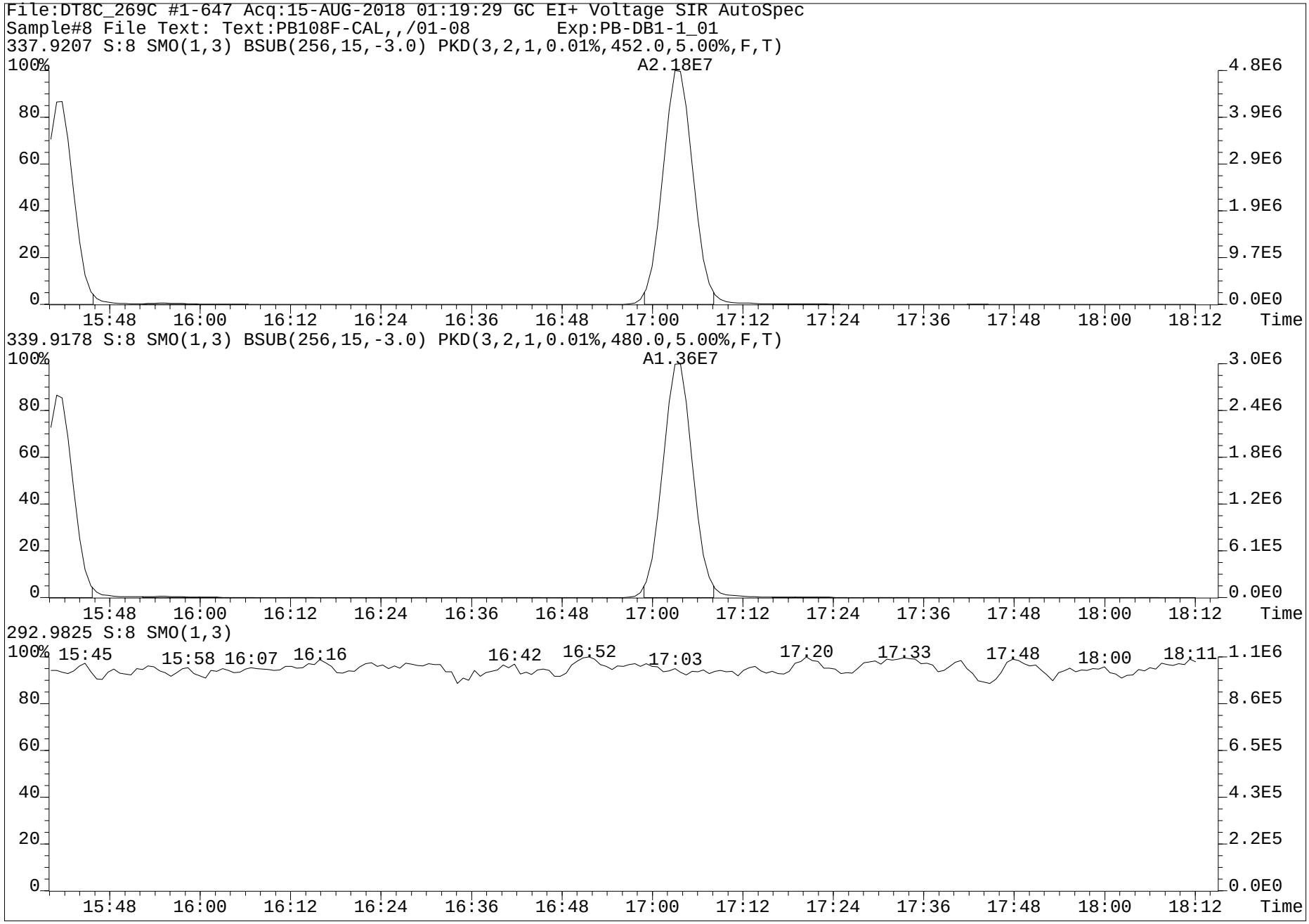

File:DT8C_269C #1-647 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
289.9224 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1948.0,5.00%,F,T)
A9.47E7
291.9194 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1892.0,5.00%,F,T)
A1.21E8
301.9626 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2724.0,5.00%,F,T)
A1.78E7
A2.25E7
303.9597 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2216.0,5.00%,F,T)
A2.27E7
A2.84E7
292.9825 S:8 SMO(1,3)
11:17 11:40 12:03 12:30 12:53 13:30 14:07 14:38 15:03 15:45 16:16 16:52 17:20 17:48
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
2.1E7
1.1E7
0.0E0
2.7E7
1.4E7
5.4E6
2.7E6
6.9E6
3.5E6
1.1E6
5.4E5


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
325.8804 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4960.0,5.00%,F,T)
A1.16E8
A1.13E8
A1.08E8
A1.00E8
327.8775 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4772.0,5.00%,F,T)
A7.40E7
A7.24E7
A6.94E7
A6.40E7
337.9207 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2148.0,5.00%,F,T)
A2.66E7
A2.53E7
A2.56E7
A2.31E7
339.9178 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1304.0,5.00%,F,T)
A1.74E7
A1.59E7
A1.61E7
A1.45E7
354.9792 S:8 F:2 SMO(1,3)
19:09
19:33
20:21
20:51
21:18
21:45
22:02
22:36
23:03
23:40
100%
50
0
19:00
20:00
21:00
22:00
23:00
24:00
Time
2.4E7
1.2E7
0.0E0
1.5E7
7.5E6
5.5E6
2.7E6
3.5E6
1.7E6
3.4E5
1.7E5


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
359.8415 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1020.0,5.00%,F,T)
A7.22E6
A8.28E7
A8.56E7
A7.37E7
361.8385 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,976.0,5.00%,F,T)
A5.64E6
A6.53E7
A6.81E7
A5.81E7
371.8817 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,544.0,5.00%,F,T)
A1.76E7
A2.01E7
A1.70E7
373.8788 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,484.0,5.00%,F,T)
A1.37E7
A1.52E7
A1.32E7
354.9792 S:8 F:2 SMO(1,3)
22:36
23:03
23:40
24:06
24:46
25:26
26:01
26:24
26:59
27:38
28:14
28:56
29:16
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time
1.5E7
7.5E6
0.0E0
1.2E7
5.9E6
3.4E6
1.7E6
2.6E6
1.3E6
3.6E5
1.8E5


File:DT8C_269C #1-907 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
393.8025 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,536.0,5.00%,F,T)
A1.02E8
A4.62E7
A3.60E7
A5.00E7
395.7996 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,912.0,5.00%,F,T)
A1.03E8
A4.61E7
A3.66E7
A5.03E7
405.8428 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,448.0,5.00%,F,T)
A1.22E7
A9.79E6
A1.27E7
407.8398 S:8 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A1.15E7
A9.41E6
A1.24E7
354.9792 S:8 F:2 SMO(1,3)
23:18
24:06
24:46
25:26
26:24
26:59
27:38
28:14
28:56
29:16
29:52
30:34
31:06
31:45
100%
50
0
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
Time
1.7E7
8.6E6
0.0E0
1.8E7
8.8E6
2.1E6
1.0E6
3.6E5
1.8E5


File:DT8C_269C #1-372 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
509.7229 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,392.0,5.00%,F,T)
A1.54E7
511.7199 S:8 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,368.0,5.00%,F,T)
A1.37E7
442.9729 S:8 F:3 SMO(1,3)
34:33
34:37
34:40
34:45
34:49
34:53
34:58
Time

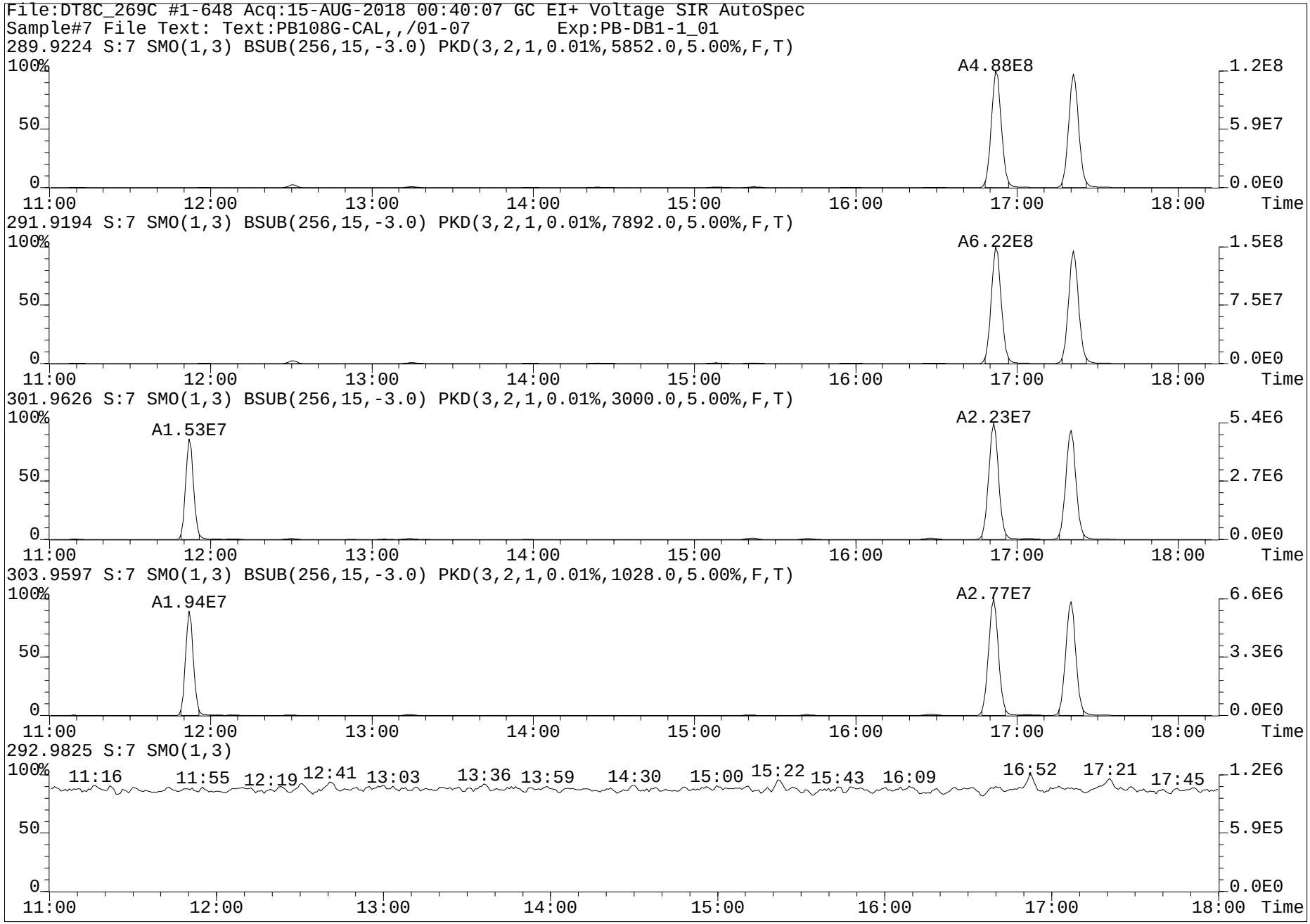

File:DT8C_269C #1-647 Acq:15-AUG-2018 01:19:29 GC EI+ Voltage SIR AutoSpec
Sample#8 File Text: Text:PB108F-CAL,,/01-08 Exp:PB-DB1-1_01
337.9207 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,452.0,5.00%,F,T)
A2.18E7
339.9178 S:8 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,480.0,5.00%,F,T)
A1.36E7
292.9825 S:8 SMO(1,3)
15:45 15:58 16:07 16:16 16:42 16:52 17:03 17:20 17:33 17:48 18:00 18:11
15:48 16:00 16:12 16:24 16:36 16:48 17:00 17:12 17:24 17:36 17:48 18:00 18:12 Time

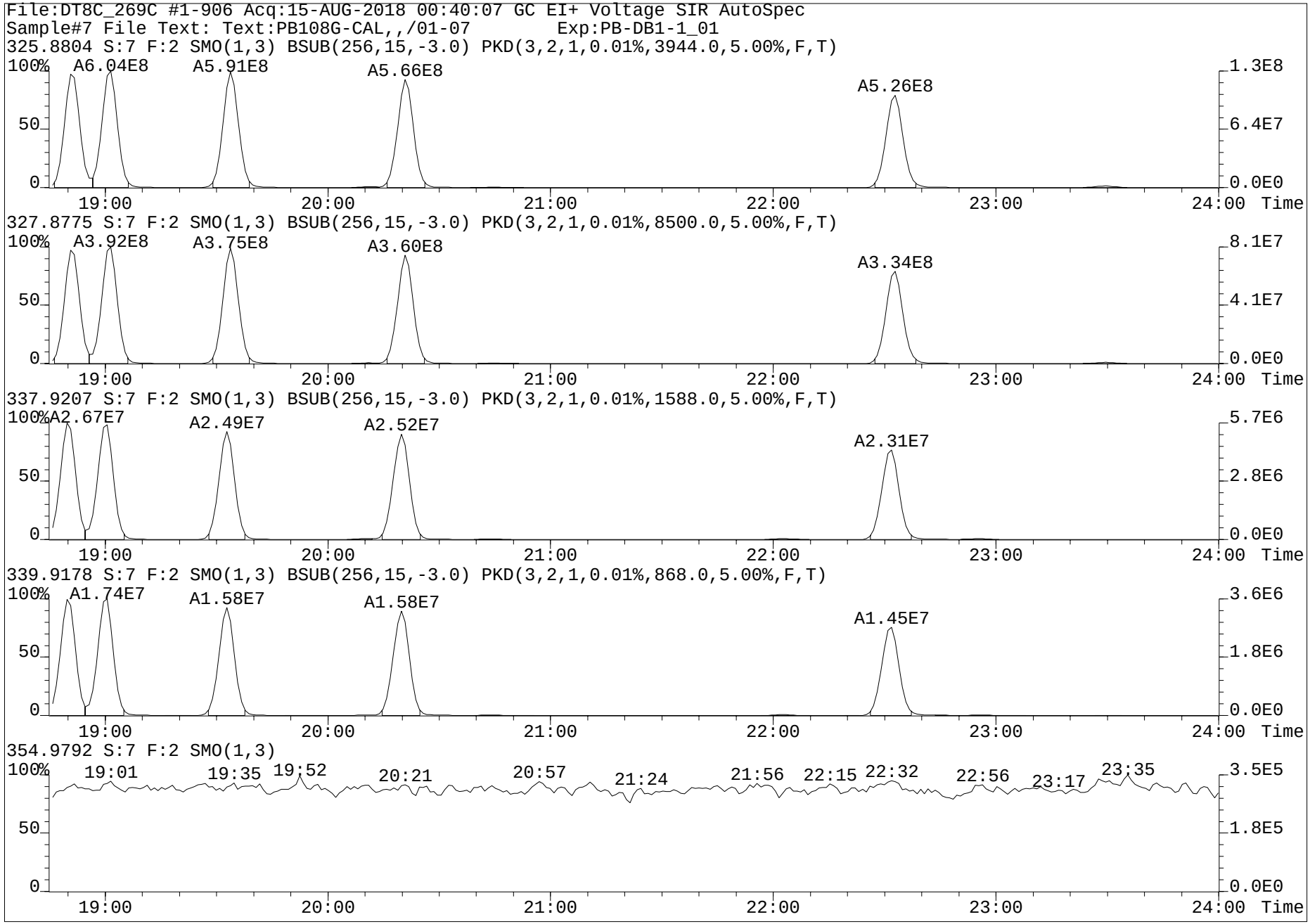
Run #6 Filename DT8C_269C S: 7 I: 1 Acquired: 15-AUG-18 00:40:07 Processed: 15-AUG-18 10:17:12
Run: dt8c_269c-6a Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108G-CAL,,/01-07 Comments: 1,,1.0uL CS-5 F1: 2000.00 F2: 1.00

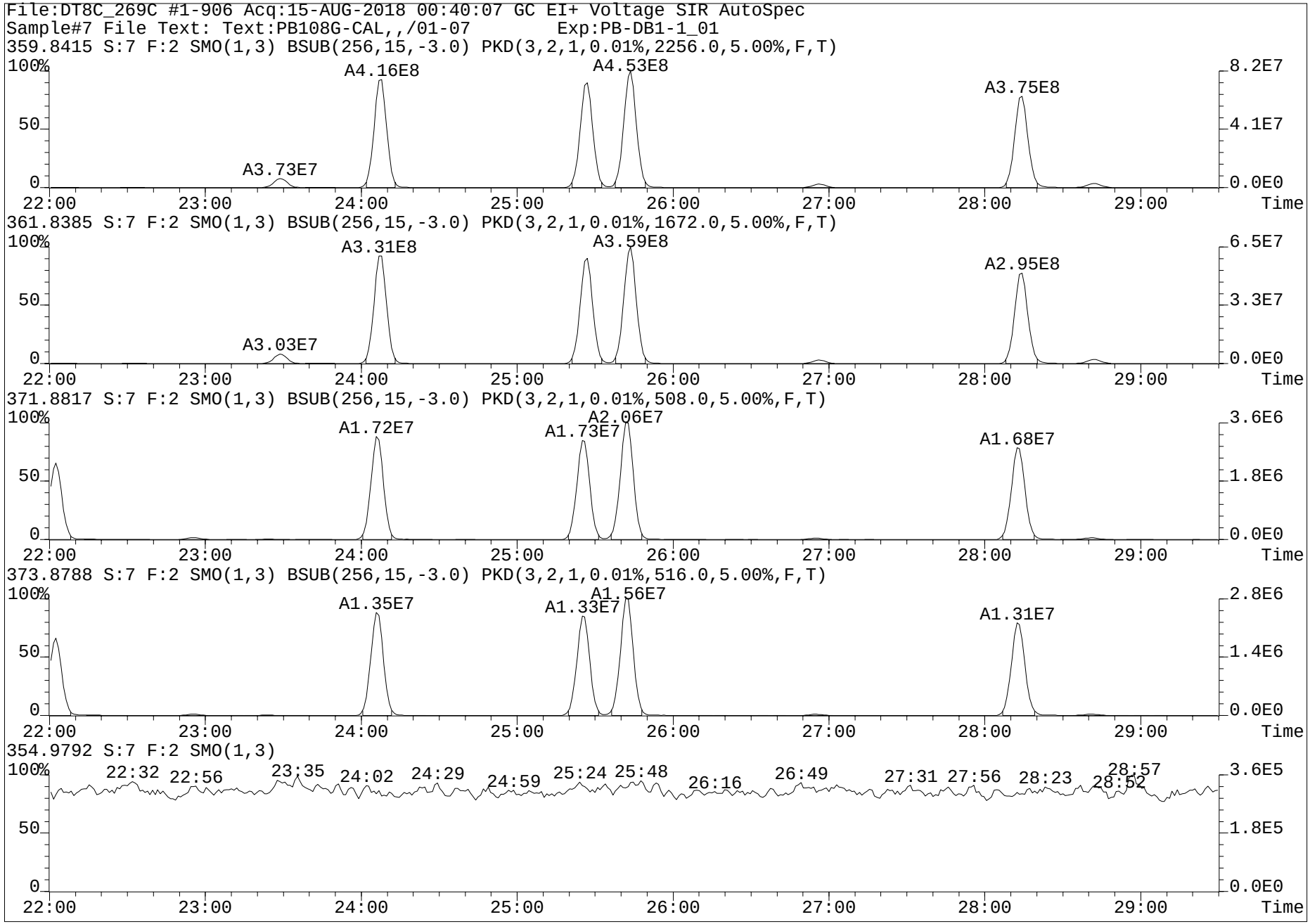
	Typ	Name	Amount	Resp	RA	RT	RF	RRF		Modified?
1	Unk	CL4-PCB-81	2000.00	1.11e+09	0.78 y	16:52	-	1.1106	y	n
2	Unk	CL4-PCB-77	2000.00	1.10e+09	0.79 y	17:21	-	1.1108	y	n
3	Unk	CL5-PCB-123	2000.00	9.60e+08	1.60 y	18:51	-	1.1044	y	n
4	Unk	CL5-PCB-118	2000.00	9.95e+08	1.54 y	19:01	-	1.1177	y	n
5	Unk	CL5-PCB-114	2000.00	9.66e+08	1.58 y	19:34	-	1.1870	y	n
6	Unk	CL5-PCB-105	2000.00	9.27e+08	1.57 y	20:21	-	1.1292	y	n
7	Unk	CL5-PCB-126	2000.00	8.60e+08	1.57 y	22:33	-	1.1436	y	n
8	Unk	CL6-PCB-167	2000.00	7.47e+08	1.26 y	24:07	-	1.2178	y	n
9	Unk	CL6-PCB-156	2000.00	7.35e+08	1.26 y	25:27	-	1.2009	y	n
10	Unk	CL6-PCB-157	2000.00	8.12e+08	1.26 y	25:43	-	1.1213	y	n
11	Unk	CL6-PCB-169	2000.00	6.70e+08	1.27 y	28:14	-	1.1218	y	n
12	Unk	CL7-PCB-180	2000.00	4.62e+08	1.00 y	26:56	-	1.0124	y	n
13	Unk	CL7-PCB-170	2000.00	3.67e+08	1.00 y	28:42	-	0.9815	y	n
14	Unk	CL7-PCB-189	2000.00	5.07e+08	1.00 y	31:02	-	1.0280	y	n
15	IS	13C-CL4-PCB-81	100.00	5.00e+07	0.81 y	16:51	-	1.4436	y	n
16	IS	13C-CL4-PCB-77	100.00	4.93e+07	0.78 y	17:20	-	1.4234	y	n
17	IS	13C-CL5-PCB-123	100.00	4.35e+07	1.59 y	18:50	-	1.7487	y	n
18	IS	13C-CL5-PCB-118	100.00	4.45e+07	1.56 y	19:00	-	1.7920	y	n
19	IS	13C-CL5-PCB-114	100.00	4.07e+07	1.58 y	19:33	-	1.6378	y	n
20	IS	13C-CL5-PCB-105	100.00	4.10e+07	1.59 y	20:20	-	1.6513	y	n
21	IS	13C-CL5-PCB-126	100.00	3.76e+07	1.59 y	22:32	-	1.5129	y	n
22	IS	13C-CL6-PCB-167	100.00	3.07e+07	1.28 y	24:06	-	1.3640	y	n
23	IS	13C-CL6-PCB-156	100.00	3.06e+07	1.29 y	25:25	-	1.3609	y	n
24	IS	13C-CL6-PCB-157	100.00	3.62e+07	1.32 y	25:42	-	1.6110	y	n
25	IS	13C-CL6-PCB-169	100.00	2.99e+07	1.29 y	28:12	-	1.3276	y	n
26	IS	13C-CL7-PCB-180	100.00	2.28e+07	1.04 y	26:55	-	1.0142	y	n
27	IS	13C-CL7-PCB-170	100.00	1.87e+07	1.04 y	28:41	-	0.8308	y	n
28	IS	13C-CL7-PCB-189	100.00	2.47e+07	1.06 y	31:01	-	1.0970	y	n
29	IS	13C-CL10-PCB-209	100.00	3.02e+07	1.13 y	34:37	-	1.3451	y	n
30	RS	13C-CL4-PCB-52	100.00	3.46e+07	0.79 y	11:52	3.46e+05	-	n	n
31	RS	13C-CL5-PCB-101	100.00	2.49e+07	1.59 y	15:42	2.49e+05	-	n	n
32	RS/RT	13C-CL6-PCB-138	100.00	2.25e+07	1.28 y	22:02	2.25e+05	-	n	n
33	C/Up	13C-CL5-PCB-111	100.00	3.12e+07	1.59 y	17:04	-	1.2535	y	n
34	C/Up	13C-CL7-PCB-178	100.00	1.99e+07	1.04 y	22:55	-	0.8830	y	n
35	Unk	Lock_Mass	0.00	-		-	-	-	n	n
36	Unk	Lock_Mass	0.00	-		-	-	-	n	n
37	Unk	Lock_Mass	0.00	-		-	-	-	n	n
38	Unk	Lock_Mass	0.00	-		-	-	-	n	n
39	Unk	Lock_Mass	0.00	-		-	-	-	n	n
40	Unk	Lock_Mass	0.00	-		-	-	-	n	n

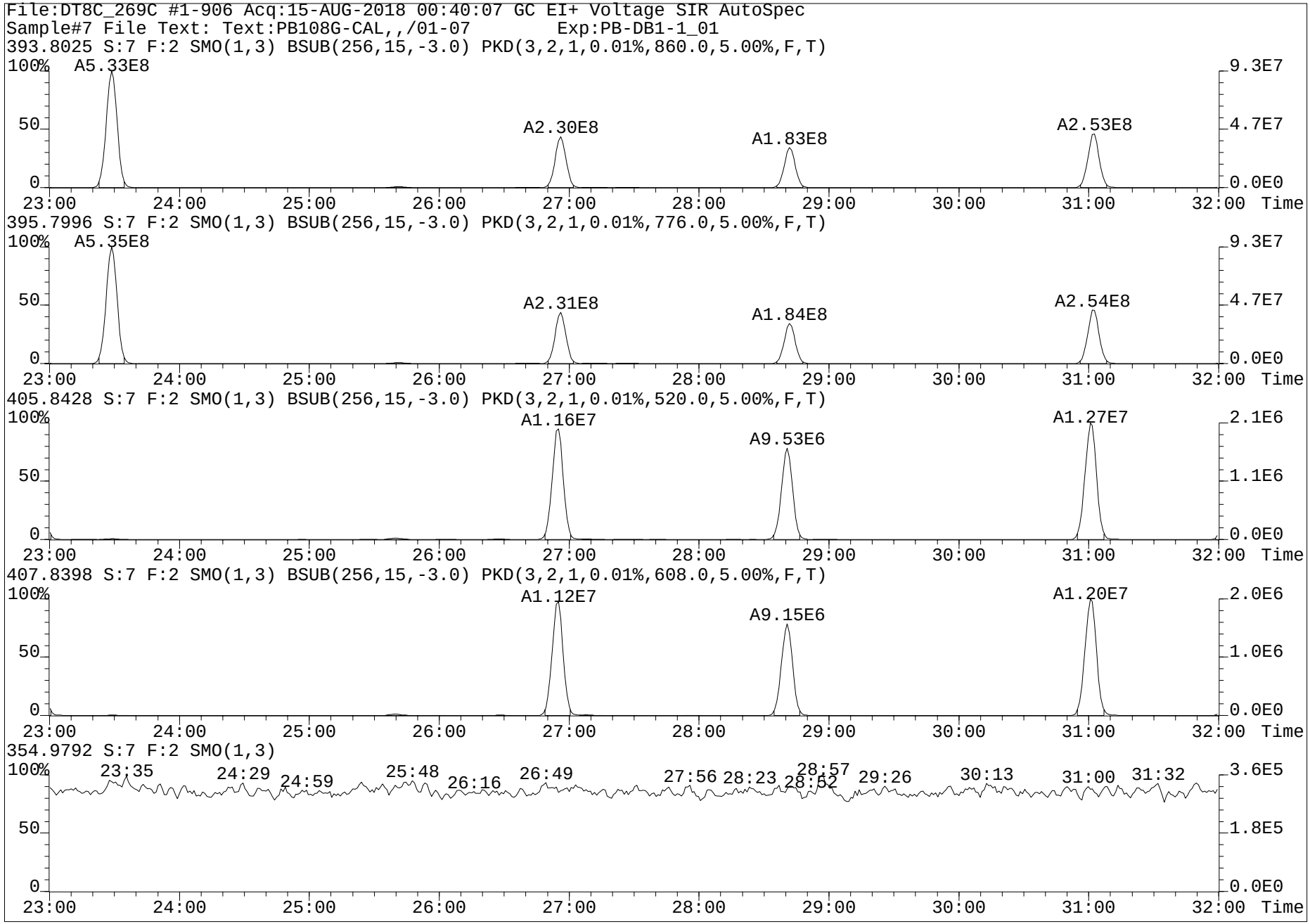
SV RJ
17 Aug 2018

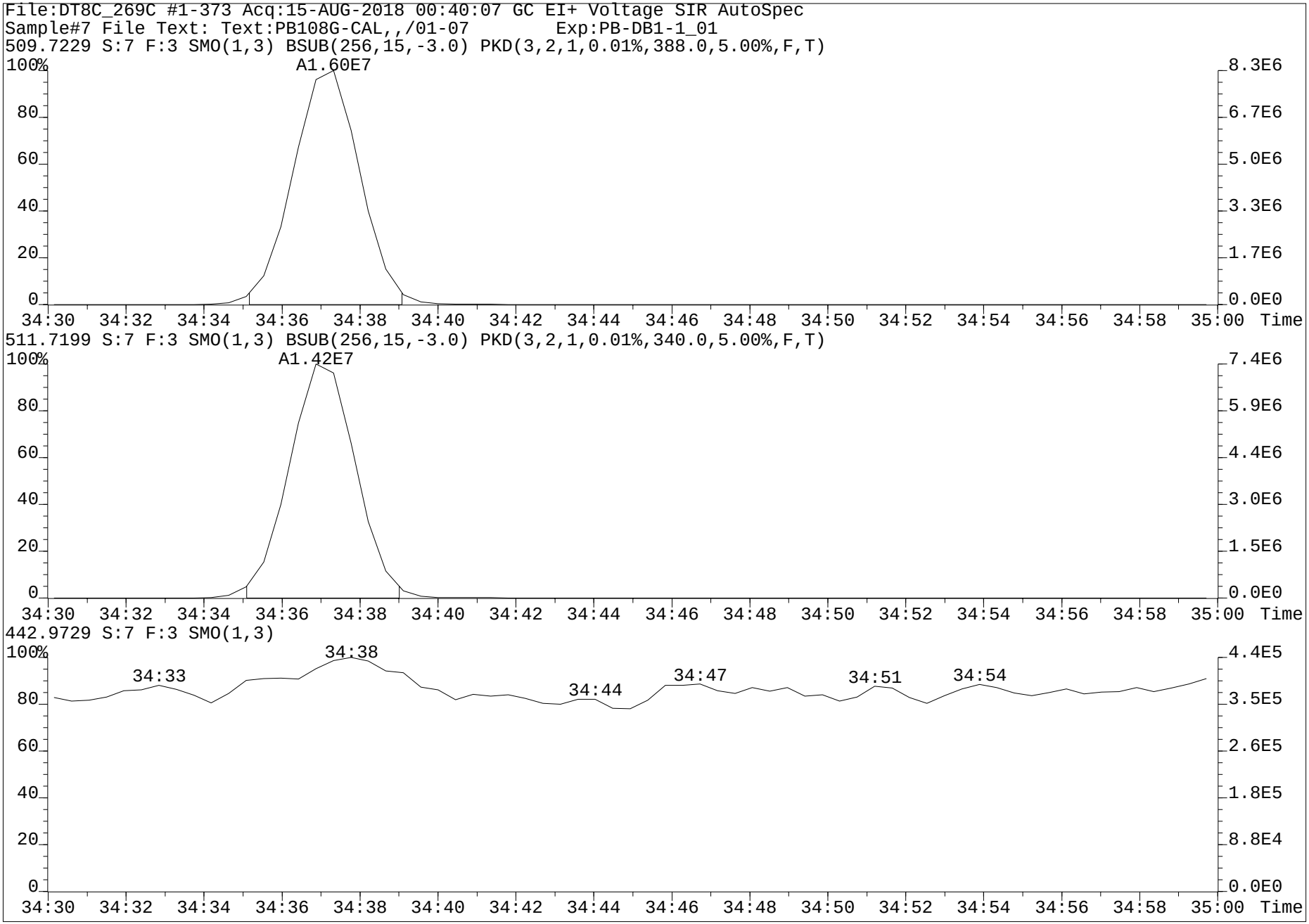
PV by RA 15AUG2018

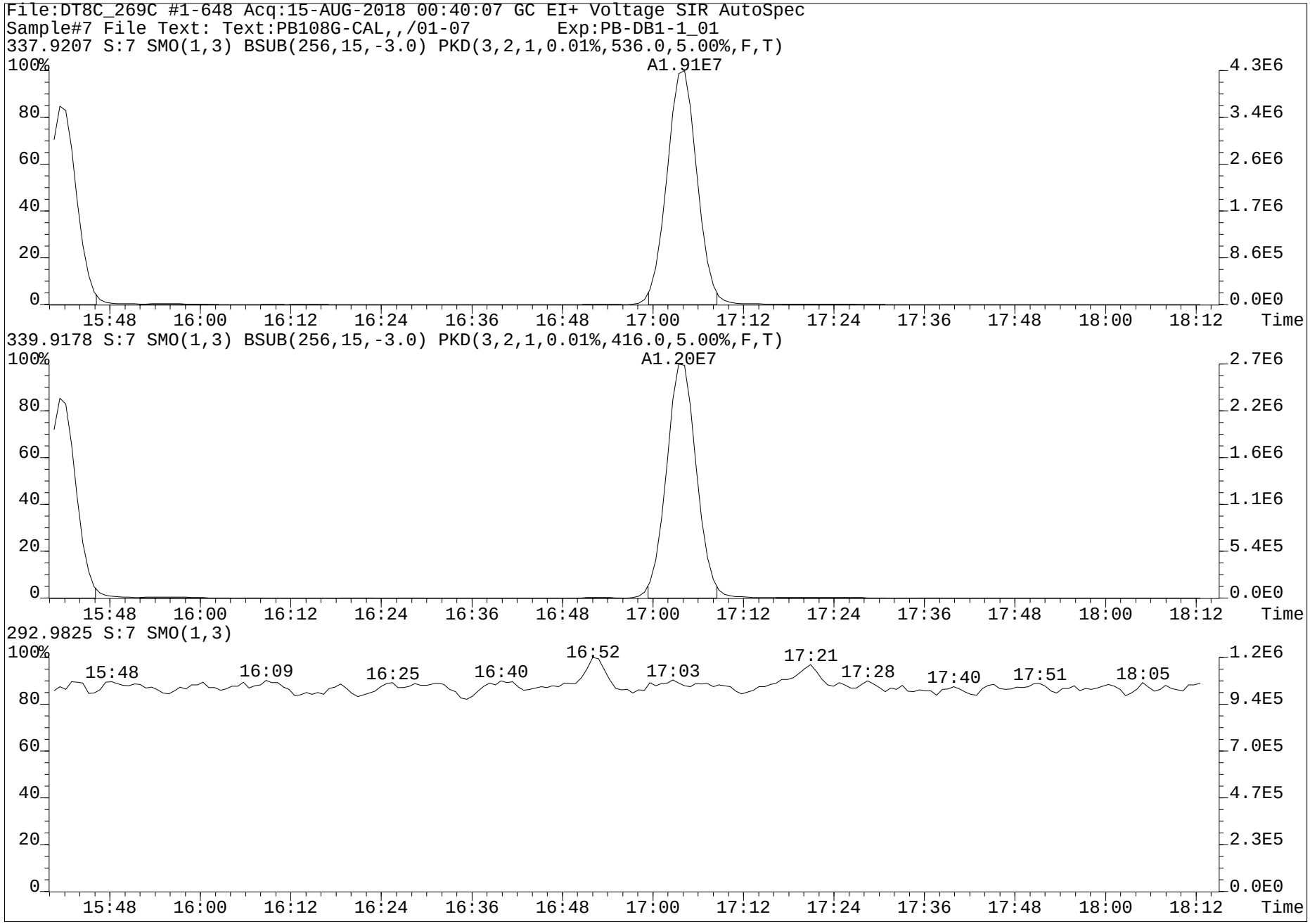

File:DT8C_269C #1-648 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
289.9224 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,5852.0,5.00%,F,T)
A4.88E8
291.9194 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,7892.0,5.00%,F,T)
A6.22E8
301.9626 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3000.0,5.00%,F,T)
A1.53E7
A2.23E7
303.9597 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1028.0,5.00%,F,T)
A1.94E7
A2.77E7
292.9825 S:7 SMO(1,3)
11:16 11:55 12:19 12:41 13:03 13:36 13:59 14:30 15:00 15:22 15:43 16:09 16:52 17:21 17:45
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time
1.2E8
5.9E7
0.0E0
1.5E8
7.5E7
5.4E6
2.7E6
6.6E6
3.3E6
1.2E6
5.9E5


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
325.8804 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3944.0,5.00%,F,T)
A6.04E8
A5.91E8
A5.66E8
A5.26E8
1.3E8
6.4E7
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00 Time
327.8775 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,8500.0,5.00%,F,T)
A3.92E8
A3.75E8
A3.60E8
A3.34E8
8.1E7
4.1E7
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00 Time
337.9207 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1588.0,5.00%,F,T)
A2.67E7
A2.49E7
A2.52E7
A2.31E7
5.7E6
2.8E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00 Time
339.9178 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,868.0,5.00%,F,T)
A1.74E7
A1.58E7
A1.58E7
A1.45E7
3.6E6
1.8E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00 Time
354.9792 S:7 F:2 SMO(1,3)
19:01
19:35
19:52
20:21
20:57
21:24
21:56
22:15
22:32
22:56
23:17
23:35
3.5E5
1.8E5
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00 Time


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
359.8415 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2256.0,5.00%,F,T)
A3.73E7
A4.16E8
A4.53E8
A3.75E8
361.8385 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1672.0,5.00%,F,T)
A3.03E7
A3.31E8
A3.59E8
A2.95E8
371.8817 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,508.0,5.00%,F,T)
A1.72E7
A1.73E7
A2.06E7
A1.68E7
373.8788 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,516.0,5.00%,F,T)
A1.35E7
A1.33E7
A1.56E7
A1.31E7
354.9792 S:7 F:2 SMO(1,3)
22:32 22:56 23:35 24:02 24:29 24:59 25:24 25:48 26:16 26:49 27:31 27:56 28:23 28:52 28:57
100%
50
0
8.2E7
4.1E7
0.0E0
6.5E7
3.3E7
3.6E6
1.8E6
2.8E6
1.4E6
3.6E5
1.8E5
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time


File:DT8C_269C #1-906 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
393.8025 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,860.0,5.00%,F,T)
A5.33E8
A2.30E8
A1.83E8
A2.53E8
395.7996 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,776.0,5.00%,F,T)
A5.35E8
A2.31E8
A1.84E8
A2.54E8
405.8428 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,520.0,5.00%,F,T)
A1.16E7
A9.53E6
A1.27E7
407.8398 S:7 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,608.0,5.00%,F,T)
A1.12E7
A9.15E6
A1.20E7
354.9792 S:7 F:2 SMO(1,3)
23:35
24:29
24:59
25:48
26:16
26:49
27:56
28:23
28:52
28:57
29:26
30:13
31:00
31:32
100%
50
0
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
Time
9.3E7
4.7E7
0.0E0
2.1E6
1.1E6
2.0E6
1.0E6
3.6E5
1.8E5


File:DT8C_269C #1-373 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
509.7229 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,388.0,5.00%,F,T)
A1.60E7
511.7199 S:7 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,340.0,5.00%,F,T)
A1.42E7
442.9729 S:7 F:3 SMO(1,3)
34:33
34:38
34:44
34:47
34:51
34:54
Time


File:DT8C_269C #1-648 Acq:15-AUG-2018 00:40:07 GC EI+ Voltage SIR AutoSpec
Sample#7 File Text: Text:PB108G-CAL,,/01-07 Exp:PB-DB1-1_01
337.9207 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,536.0,5.00%,F,T)
A1.91E7
339.9178 S:7 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,416.0,5.00%,F,T)
A1.20E7
292.9825 S:7 SMO(1,3)
15:48
16:09
16:25
16:40
16:52
17:03
17:21
17:28
17:40
17:51
18:05
Time

Experiment : PB-DB1-1_01
GC Program : PB-DB1-1_01
Column type : DB1
Serial # : US5410581H/240╖
kPa : 288
Vol injected: 1.0uL
PMT Voltage : 399

Temps -source: 280
-s resv: 160
-re_ent: 290
-cap_1 : 290
-cap_2 : 290

Tune : RLS
List : RLS
Check : RLS
LIMS :
Logfile:

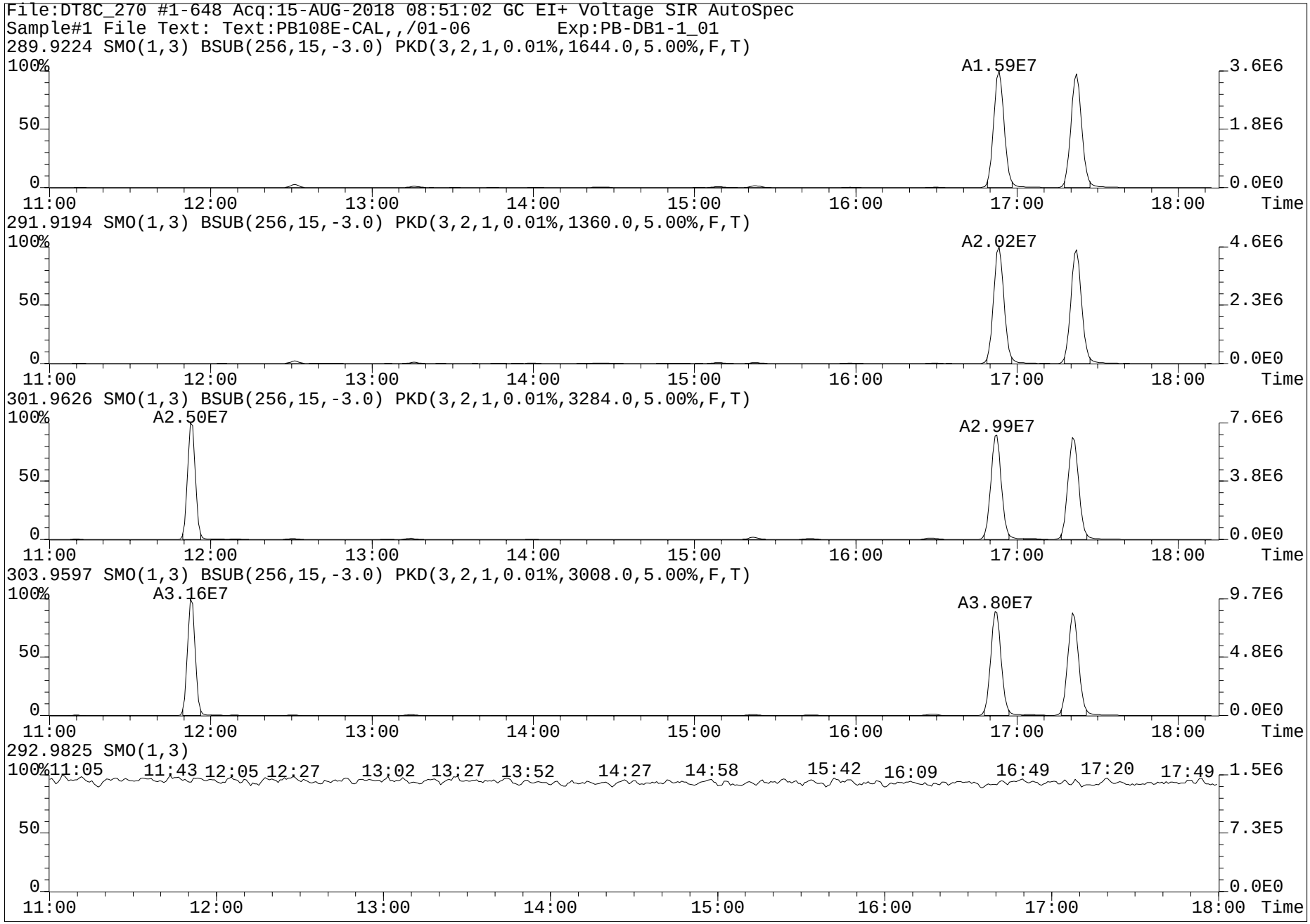
Date -list : 15-AUG-2018
-liner : 14-AUG-2018
-septum: 14-AUG-2018
-guard : 50cm 14-AUG-2018
-column: 15cm 14-AUG-2018
-t line: NEW 02-JAN-2018

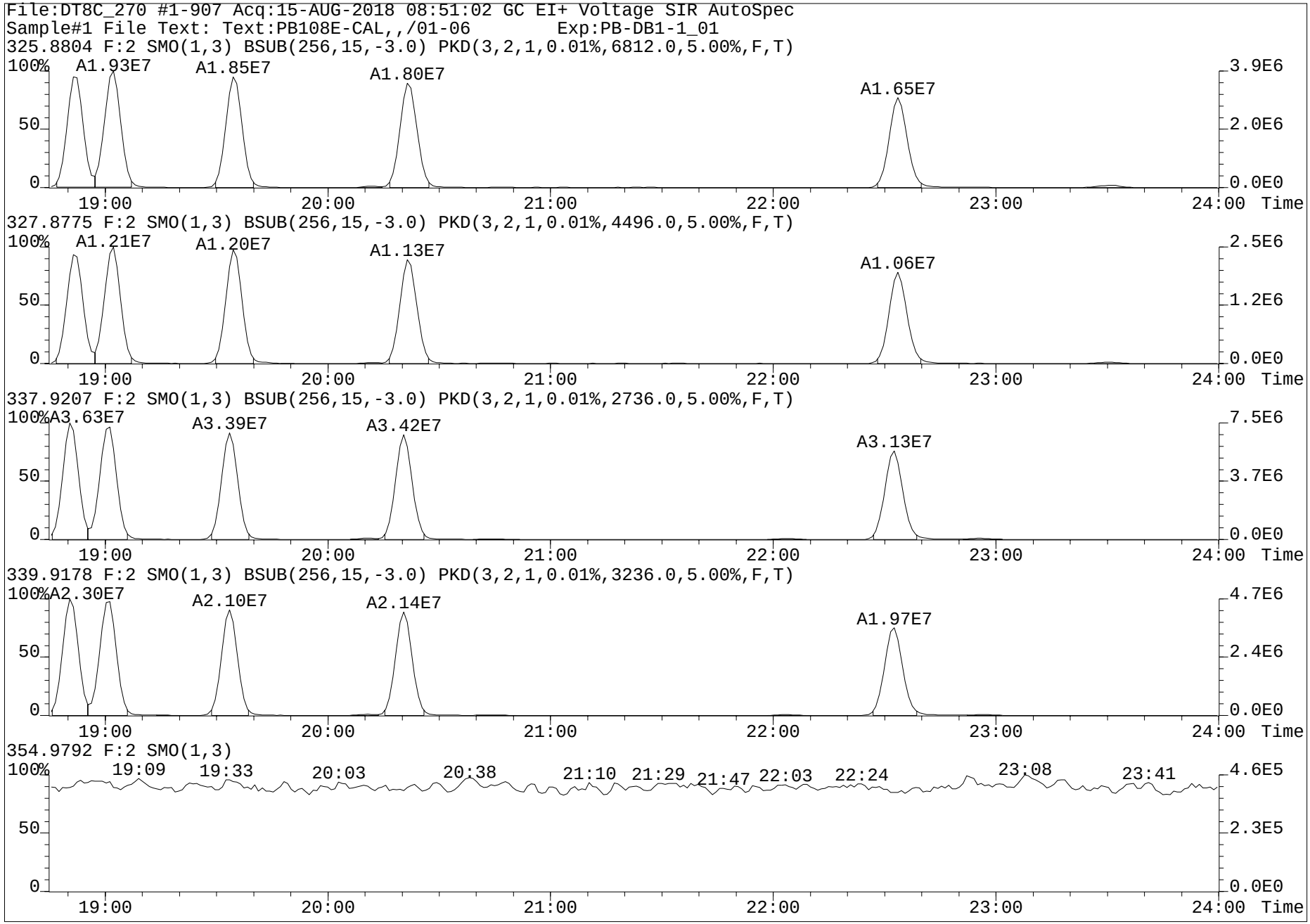
#	Data file	S	V	Sample Text	Comments	Acquisition Date/Time
1	DT8C_270	1	1	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 08:51:02
2	DT8C_270	2	2	WG64623-102,,SPM 9/10	1,WG64623,1.0/20uL	15-AUG-18 09:32:00
3	DT8C_270	3	3	PB053A-SUR,,/02	1,,1.0uL INST BLK	15-AUG-18 10:11:21
4	DT8C_270	4	4	PB053A-SUR,,/02	1,,1.0uL INST BLK	15-AUG-18 10:50:43
5	DT8C_270	5	5	WG64623-101,,BLK 9/10	1,WG64623,1.0/20uL	15-AUG-18 11:30:06
6	DT8C_270	6	6	L29626-1,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 12:09:33
7	DT8C_270	7	7	L29626-2,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 12:48:55
8	DT8C_270	8	8	L29626-4,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 13:28:16
9	DT8C_270	9	9	WG64623-103,,DUP 9/10	1,WG64623,1.0/20uL	15-AUG-18 14:07:43
10	DT8C_270	10	10	L29626-6,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 14:47:09
11	DT8C_270	11	11	L29626-7,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 15:26:35
12	DT8C_270	12	12	L29626-9,, 9/10	1,WG64623,1.0/20uL	15-AUG-18 16:06:01
13	DT8C_270	13	13	WG64623-104,,CRM 9/10	1,WG64623,1.0/400uL	15-AUG-18 16:45:27
14	DT8C_270	14	14	PB108E-CAL,,/01-06	1,,1.0uL CS-3/CAL	15-AUG-18 17:24:49

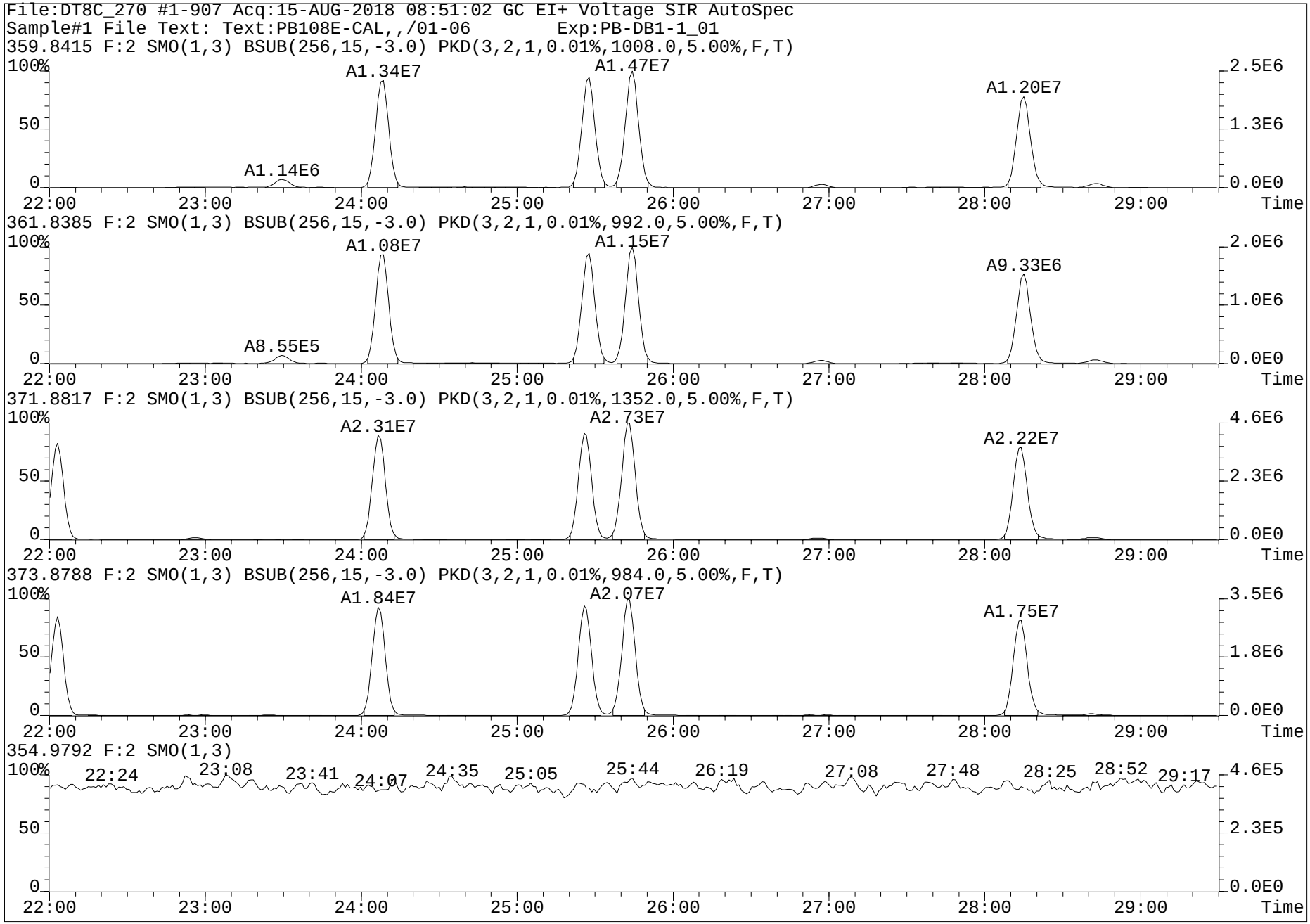
Run #7 Filename DT8C_270 S: 1 I: 1 Acquired: 15-AUG-18 08:51:02 Processed: 17-AUG-18 09:04:13
Run: dt8c_270-ara Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108E-CAL,,/01-06 Comments: 1,,1.0uL CS-3/CAL
sample size: 1.000000 conc units: ng/mL total toxicity: 698.62 F1: 50.0000 F2: 1.0000

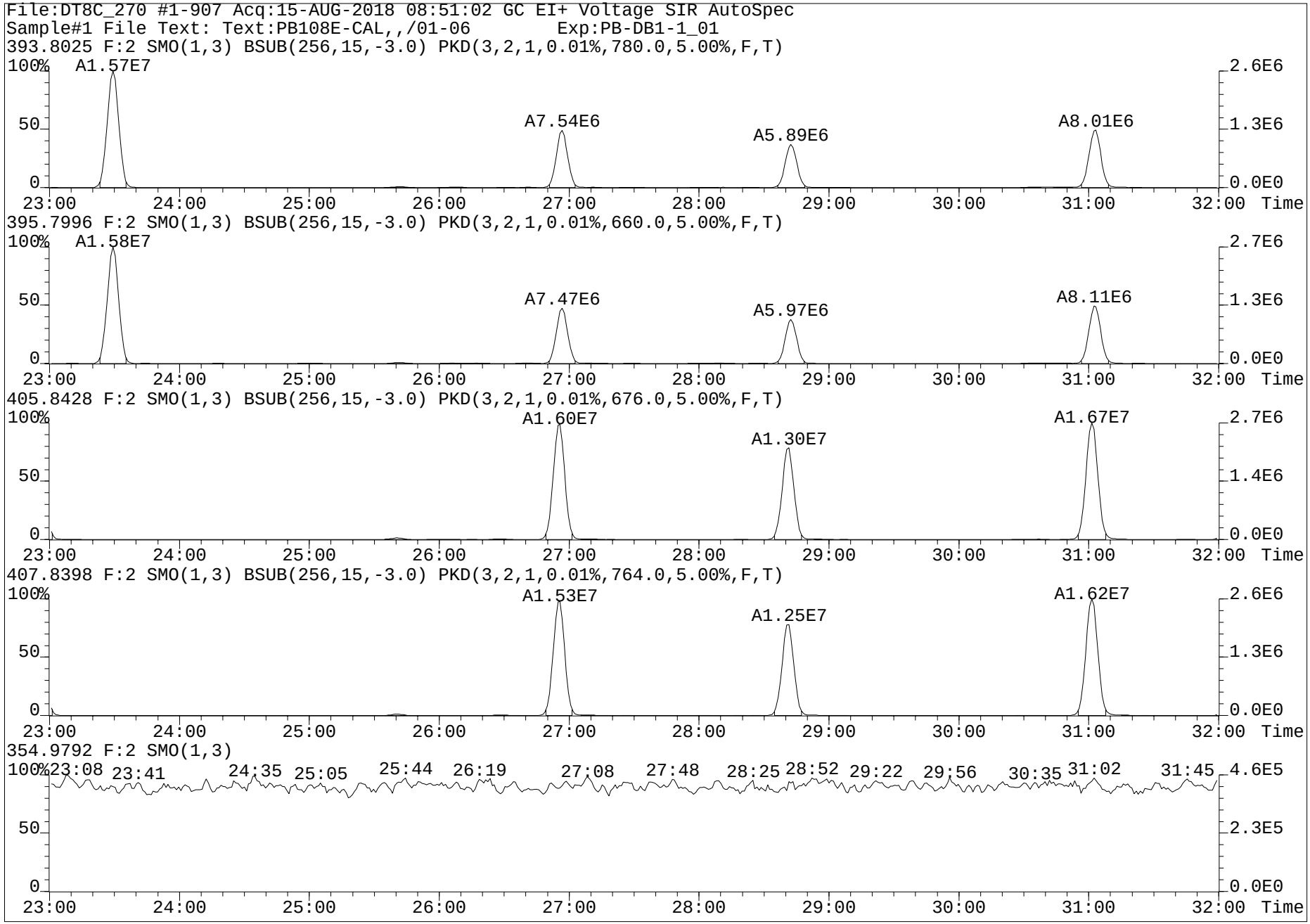
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.61e+07	0.79	y	16:53	51.024	51	0.0469	-	n
2	Unk	CL4-PCB-77	1	3.60e+07	0.79	y	17:22	50.306	50	0.0472	-	n
3	Unk	CL5-PCB-123	1	3.04e+07	1.58	y	18:52	49.832	50	0.2251	-	n
4	Unk	CL5-PCB-118	1	3.14e+07	1.59	y	19:02	48.161	48	0.2221	-	n
5	Unk	CL5-PCB-114	1	3.05e+07	1.54	y	19:34	48.837	49	0.2232	-	n
6	Unk	CL5-PCB-105	1	2.94e+07	1.59	y	20:21	50.646	51	0.2485	-	n
7	Unk	CL5-PCB-126	1	2.70e+07	1.56	y	22:34	50.100	50	0.2891	-	n
8	Unk	CL6-PCB-167	1	2.41e+07	1.24	y	24:08	50.433	50	0.0591	-	n
9	Unk	CL6-PCB-156	1	2.46e+07	1.26	y	25:27	50.325	50	0.0589	-	n
10	Unk	CL6-PCB-157	1	2.62e+07	1.28	y	25:44	49.426	49	0.0560	-	n
11	Unk	CL6-PCB-169	1	2.13e+07	1.29	y	28:15	49.725	50	0.0714	-	n
12	Unk	CL7-PCB-180	1	1.50e+07	1.01	y	26:57	49.996	50	0.0717	-	n
13	Unk	CL7-PCB-170	1	1.19e+07	0.99	y	28:42	50.478	50	0.0939	-	n
14	Unk	CL7-PCB-189	1	1.61e+07	0.99	y	31:03	49.331	49	0.0682	-	n
15	IS	13C-CL4-PCB-81	1	6.78e+07	0.79	y	16:52	96.347	0	0.0736	96.3	n
16	IS	13C-CL4-PCB-77	1	6.79e+07	0.78	y	17:21	97.956	0	0.0747	98.0	n
17	IS	13C-CL5-PCB-123	1	5.92e+07	1.58	y	18:50	100.419	0	0.1035	100.4	n
18	IS	13C-CL5-PCB-118	1	6.05e+07	1.56	y	19:01	99.800	0	0.1006	99.8	n
19	IS	13C-CL5-PCB-114	1	5.49e+07	1.62	y	19:33	99.108	0	0.1102	99.1	n
20	IS	13C-CL5-PCB-105	1	5.56e+07	1.60	y	20:20	99.344	0	0.1090	99.3	n
21	IS	13C-CL5-PCB-126	1	5.10e+07	1.59	y	22:33	100.868	0	0.1206	100.9	n
22	IS	13C-CL6-PCB-167	1	4.15e+07	1.26	y	24:06	97.386	0	0.0724	97.4	n
23	IS	13C-CL6-PCB-156	1	4.29e+07	1.26	y	25:26	98.837	0	0.0711	98.8	n
24	IS	13C-CL6-PCB-157	1	4.80e+07	1.32	y	25:42	99.032	0	0.0638	99.0	n
25	IS	13C-CL6-PCB-169	1	3.97e+07	1.27	y	28:14	95.947	0	0.0746	95.9	n
26	IS	13C-CL7-PCB-180	1	3.13e+07	1.05	y	26:55	97.646	0	0.0594	97.6	n
27	IS	13C-CL7-PCB-170	1	2.55e+07	1.04	y	28:41	97.461	0	0.0728	97.5	n
28	IS	13C-CL7-PCB-189	1	3.29e+07	1.03	y	31:01	95.852	0	0.0555	95.9	n
29	IS	13C-CL10-PCB-209	1	3.59e+07	1.14	y	34:38	90.848	0	0.0259	90.8	n
30	RS	13C-CL4-PCB-52	1	5.67e+07	0.79	y	11:52	141.858	0	-	-	n
31	RS	13C-CL5-PCB-101	1	3.91e+07	1.62	y	15:43	137.432	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	3.57e+07	1.28	y	22:03	139.009	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	4.87e+07	1.62	y	17:05	100.608	0	0.0483	100.6	n
34	C/Up	13C-CL7-PCB-178	1	3.07e+07	1.03	y	22:56	97.739	0	0.0606	97.7	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

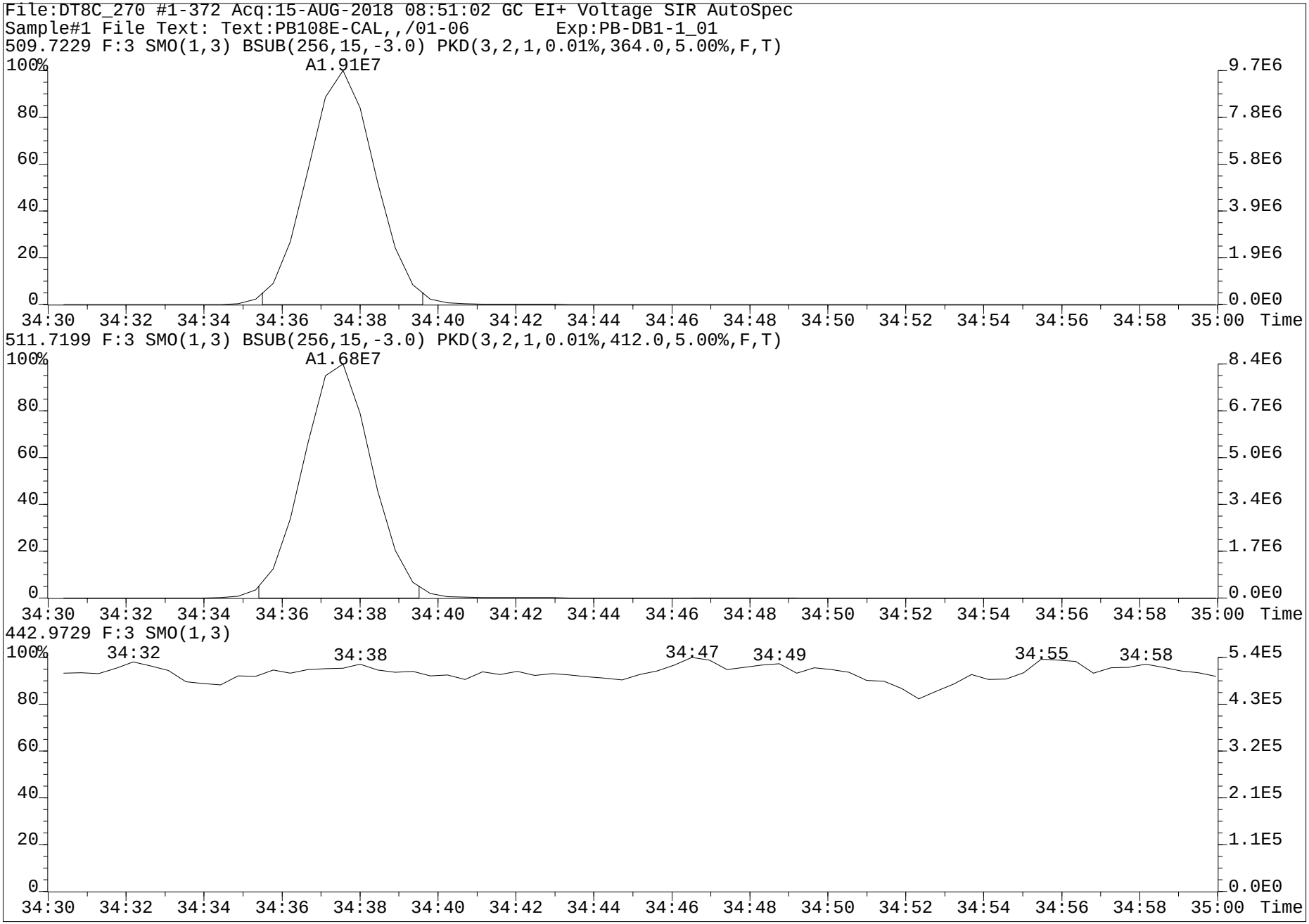
PI by RA 17AUG2018

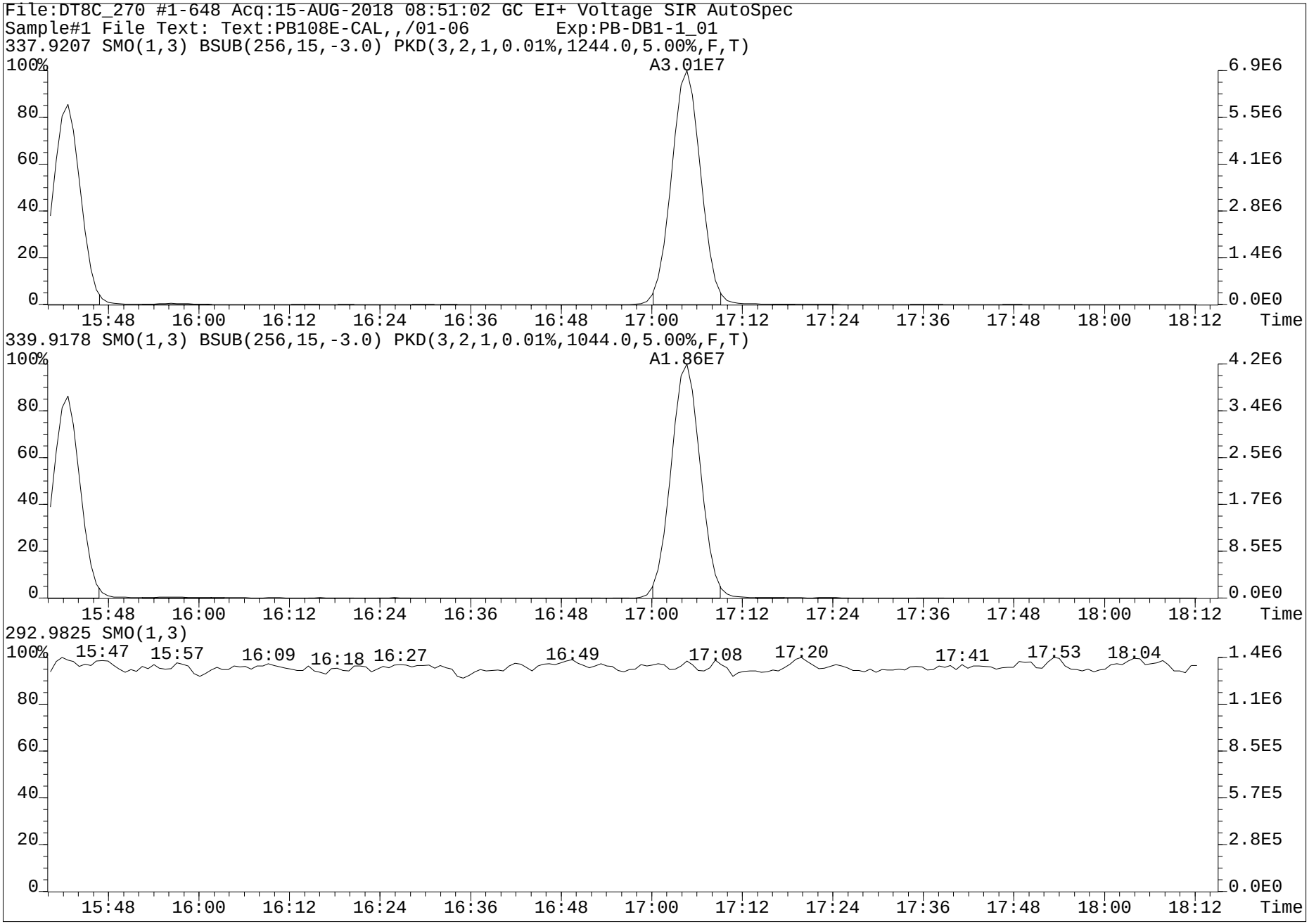

File:DT8C_270 #1-648 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
289.9224 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1644.0,5.00%,F,T)
A1.59E7
291.9194 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1360.0,5.00%,F,T)
A2.02E7
301.9626 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3284.0,5.00%,F,T)
A2.50E7
A2.99E7
303.9597 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3008.0,5.00%,F,T)
A3.16E7
A3.80E7
292.9825 SMO(1,3)
11:05 11:43 12:05 12:27 13:02 13:27 13:52 14:27 14:58 15:42 16:09 16:49 17:20 17:49
100%
50
0
3.6E6
1.8E6
0.0E0
4.6E6
2.3E6
7.6E6
3.8E6
9.7E6
4.8E6
1.5E6
7.3E5
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
325.8804 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,6812.0,5.00%,F,T)
100%
A1.93E7
A1.85E7
A1.80E7
A1.65E7
50
0
3.9E6
2.0E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00
Time
327.8775 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,4496.0,5.00%,F,T)
100%
A1.21E7
A1.20E7
A1.13E7
A1.06E7
50
0
2.5E6
1.2E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00
Time
337.9207 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2736.0,5.00%,F,T)
100%
A3.63E7
A3.39E7
A3.42E7
A3.13E7
50
0
7.5E6
3.7E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00
Time
339.9178 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3236.0,5.00%,F,T)
100%
A2.30E7
A2.10E7
A2.14E7
A1.97E7
50
0
4.7E6
2.4E6
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00
Time
354.9792 F:2 SMO(1,3)
100%
19:09
19:33
20:03
20:38
21:10
21:29
21:47
22:03
22:24
23:08
23:41
50
0
4.6E5
2.3E5
0.0E0
19:00
20:00
21:00
22:00
23:00
24:00
Time


File:DT8C_270 #1-907 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
359.8415 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1008.0,5.00%,F,T)
A1.34E7
A1.47E7
A1.20E7
A1.14E6
361.8385 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,992.0,5.00%,F,T)
A1.08E7
A1.15E7
A9.33E6
A8.55E5
371.8817 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1352.0,5.00%,F,T)
A2.31E7
A2.73E7
A2.22E7
373.8788 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,984.0,5.00%,F,T)
A1.84E7
A2.07E7
A1.75E7
354.9792 F:2 SMO(1,3)
22:24
23:08
23:41
24:07
24:35
25:05
25:44
26:19
27:08
27:48
28:25
28:52
29:17
100%
50
0
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
Time
2.5E6
1.3E6
0.0E0
2.0E6
1.0E6
0.0E0
4.6E6
2.3E6
0.0E0
3.5E6
1.8E6
0.0E0
4.6E5
2.3E5
0.0E0


File:DT8C_270 #1-907 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
393.8025 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,780.0,5.00%,F,T)
A1.57E7
A7.54E6
A5.89E6
A8.01E6
395.7996 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,660.0,5.00%,F,T)
A1.58E7
A7.47E6
A5.97E6
A8.11E6
405.8428 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,676.0,5.00%,F,T)
A1.60E7
A1.30E7
A1.67E7
407.8398 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,764.0,5.00%,F,T)
A1.53E7
A1.25E7
A1.62E7
354.9792 F:2 SMO(1,3)
23:08 23:41 24:35 25:05 25:44 26:19 27:08 27:48 28:25 28:52 29:22 29:56 30:35 31:02 31:45
100%
50
0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time
2.6E6
1.3E6
0.0E0
2.7E6
1.4E6
4.6E5
2.3E5


File:DT8C_270 #1-372 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
509.7229 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,364.0,5.00%,F,T)
A1.91E7
511.7199 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,412.0,5.00%,F,T)
A1.68E7
442.9729 F:3 SMO(1,3)
34:32
34:38
34:47
34:49
34:55
34:58
Time

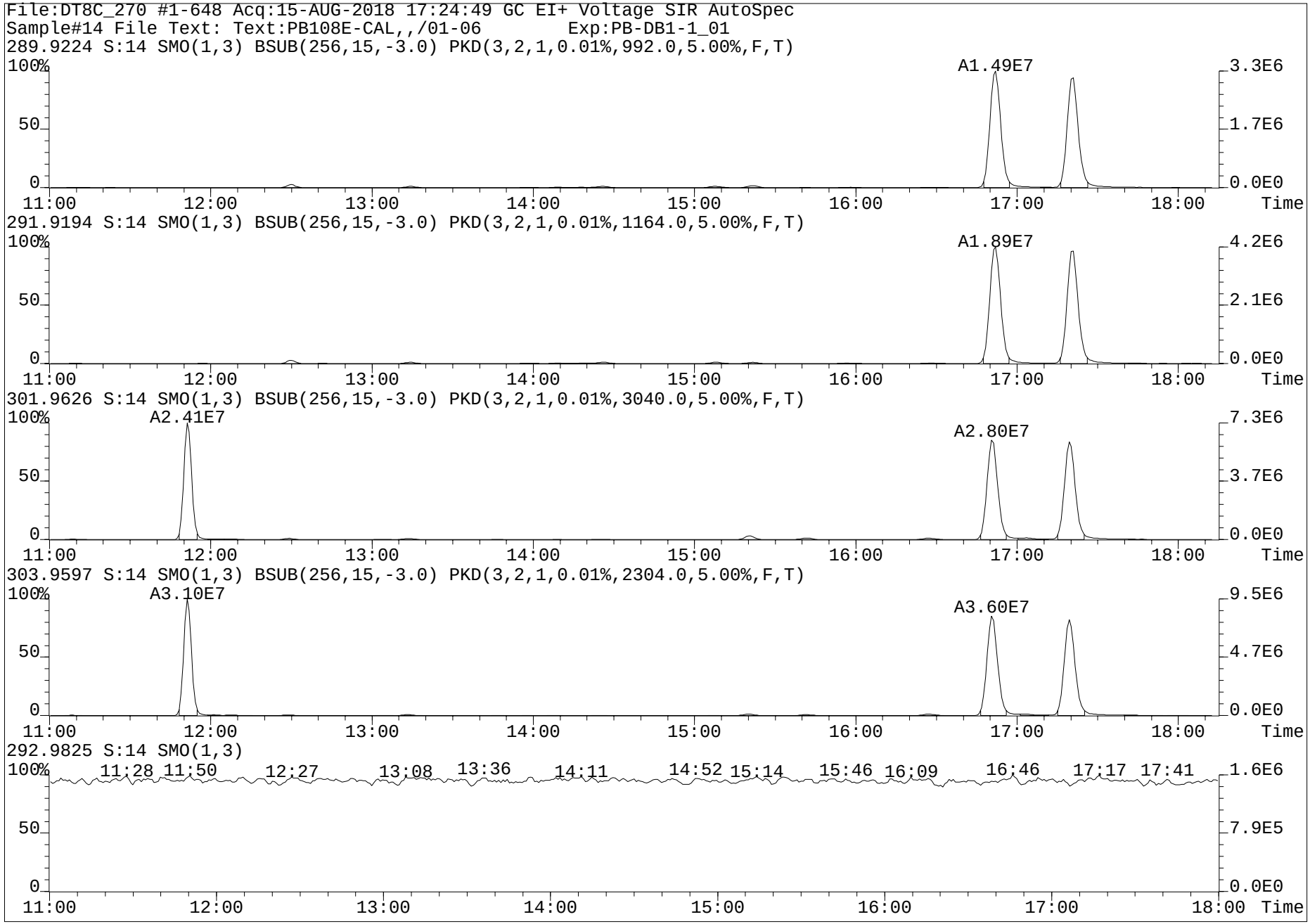

File:DT8C_270 #1-648 Acq:15-AUG-2018 08:51:02 GC EI+ Voltage SIR AutoSpec
Sample#1 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
337.9207 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1244.0,5.00%,F,T)
A3.01E7
339.9178 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1044.0,5.00%,F,T)
A1.86E7
292.9825 SMO(1,3)
15:47
15:57
16:09
16:18
16:27
16:49
17:08
17:20
17:41
17:53
18:04
Time

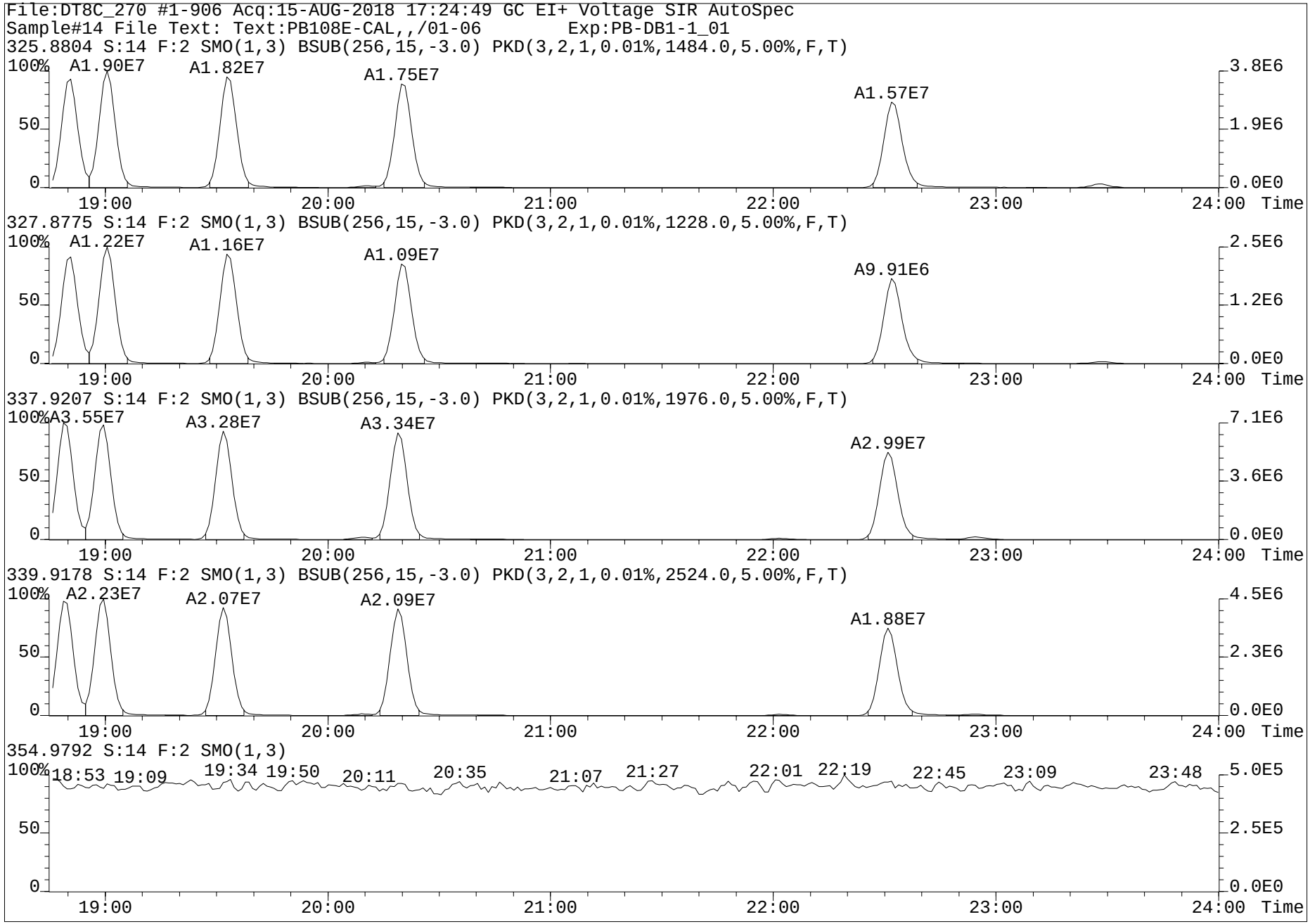
www.axysanalytical.com

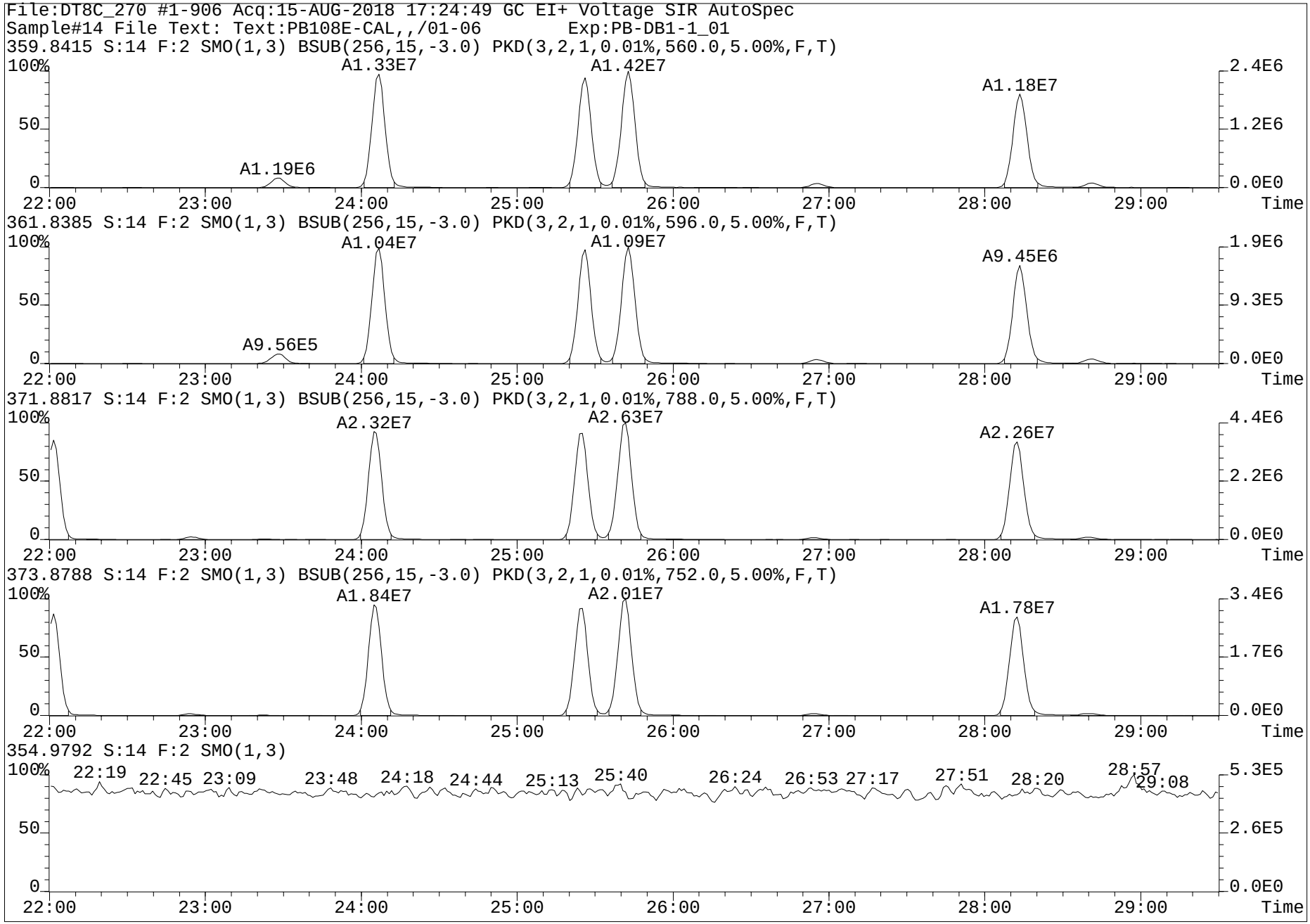
Run #20 Filename DT8C_270 S: 14 I: 1 Acquired: 15-AUG-18 17:24:49 Processed: 17-AUG-18 09:04:14
Run: dt8c_270-ara Analyte: 1668a-db1-c5 Cal: dt8c_269c-6a Results: dt8c_270-a Version: V3.6 6-JAN-2000 17:51:42
Sample text: PB108E-CAL,,/01-06 Comments: 1,,1.0uL CS-3/CAL
sample size: 1.000000 conc units: ng/mL total toxicity: 694.84 F1: 50.0000 F2: 1.0000

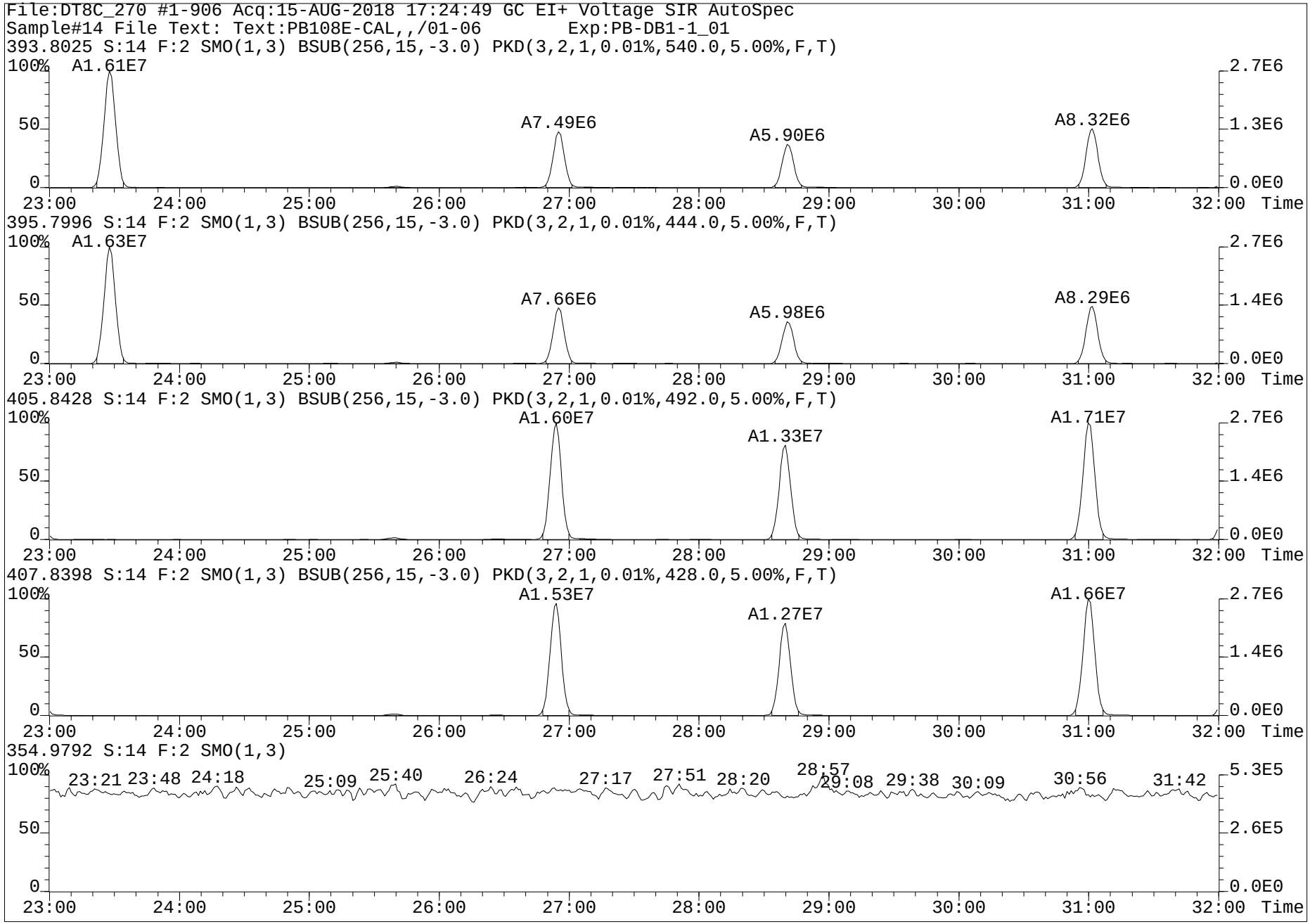
	Typ	Name	#Hom	Resp	RA		RT	Conc	Tox #1	DL	Rec	M?
1	Unk	CL4-PCB-81	1	3.38e+07	0.79	y	16:52	50.726	51	0.0393	-	n
2	Unk	CL4-PCB-77	1	3.34e+07	0.78	y	17:21	49.709	50	0.0400	-	n
3	Unk	CL5-PCB-123	1	2.89e+07	1.57	y	18:51	48.714	49	0.0572	-	n
4	Unk	CL5-PCB-118	1	3.12e+07	1.55	y	19:01	50.573	51	0.0547	-	n
5	Unk	CL5-PCB-114	1	2.98e+07	1.56	y	19:33	48.919	49	0.0554	-	n
6	Unk	CL5-PCB-105	1	2.85e+07	1.61	y	20:20	50.336	50	0.0612	-	n
7	Unk	CL5-PCB-126	1	2.56e+07	1.58	y	22:32	49.656	50	0.0737	-	n
8	Unk	CL6-PCB-167	1	2.37e+07	1.28	y	24:07	49.423	49	0.0345	-	n
9	Unk	CL6-PCB-156	1	2.35e+07	1.26	y	25:26	49.656	50	0.0357	-	n
10	Unk	CL6-PCB-157	1	2.51e+07	1.30	y	25:43	48.938	49	0.0336	-	n
11	Unk	CL6-PCB-169	1	2.13e+07	1.25	y	28:13	48.838	49	0.0410	-	n
12	Unk	CL7-PCB-180	1	1.52e+07	0.98	y	26:55	50.443	50	0.0481	-	n
13	Unk	CL7-PCB-170	1	1.19e+07	0.99	y	28:41	49.415	49	0.0611	-	n
14	Unk	CL7-PCB-189	1	1.66e+07	1.00	y	31:01	49.493	49	0.0455	-	n
15	IS	13C-CL4-PCB-81	1	6.40e+07	0.78	y	16:51	93.559	0	0.0641	93.6	n
16	IS	13C-CL4-PCB-77	1	6.38e+07	0.79	y	17:19	94.634	0	0.0651	94.6	n
17	IS	13C-CL5-PCB-123	1	5.77e+07	1.59	y	18:49	96.195	0	0.0780	96.2	n
18	IS	13C-CL5-PCB-118	1	5.73e+07	1.57	y	18:59	92.819	0	0.0758	92.8	n
19	IS	13C-CL5-PCB-114	1	5.36e+07	1.58	y	19:32	95.126	0	0.0831	95.1	n
20	IS	13C-CL5-PCB-105	1	5.43e+07	1.60	y	20:19	95.205	0	0.0821	95.2	n
21	IS	13C-CL5-PCB-126	1	4.87e+07	1.59	y	22:31	94.556	0	0.0909	94.6	n
22	IS	13C-CL6-PCB-167	1	4.16e+07	1.27	y	24:05	96.799	0	0.0481	96.8	n
23	IS	13C-CL6-PCB-156	1	4.16e+07	1.28	y	25:25	95.159	0	0.0473	95.2	n
24	IS	13C-CL6-PCB-157	1	4.64e+07	1.31	y	25:41	95.005	0	0.0424	95.0	n
25	IS	13C-CL6-PCB-169	1	4.04e+07	1.27	y	28:12	96.711	0	0.0496	96.7	n
26	IS	13C-CL7-PCB-180	1	3.13e+07	1.05	y	26:54	96.936	0	0.0383	96.9	n
27	IS	13C-CL7-PCB-170	1	2.61e+07	1.05	y	28:40	98.910	0	0.0469	98.9	n
28	IS	13C-CL7-PCB-189	1	3.38e+07	1.03	y	31:00	97.712	0	0.0357	97.7	n
29	IS	13C-CL10-PCB-209	1	3.97e+07	1.12	y	34:36	99.584	0	0.0274	99.6	n
30	RS	13C-CL4-PCB-52	1	5.51e+07	0.78	y	11:51	137.936	0	-	-	n
31	RS	13C-CL5-PCB-101	1	3.98e+07	1.62	y	15:41	139.874	0	-	-	n
32	RS/RT	13C-CL6-PCB-138	1	3.60e+07	1.26	y	22:02	140.061	0	-	-	n
33	C/Up	13C-CL5-PCB-111	1	4.89e+07	1.62	y	17:03	99.261	0	0.0225	99.3	n
34	C/Up	13C-CL7-PCB-178	1	3.15e+07	1.03	y	22:54	99.631	0	0.0390	99.6	n
35	Unk	Lock_Mass	-	-			-	-	-	-	-	n
36	Unk	Lock_Mass	-	-			-	-	-	-	-	n
37	Unk	Lock_Mass	-	-			-	-	-	-	-	n
38	Unk	Lock_Mass	-	-			-	-	-	-	-	n
39	Unk	Lock_Mass	-	-			-	-	-	-	-	n
40	Unk	Lock_Mass	-	-			-	-	-	-	-	n

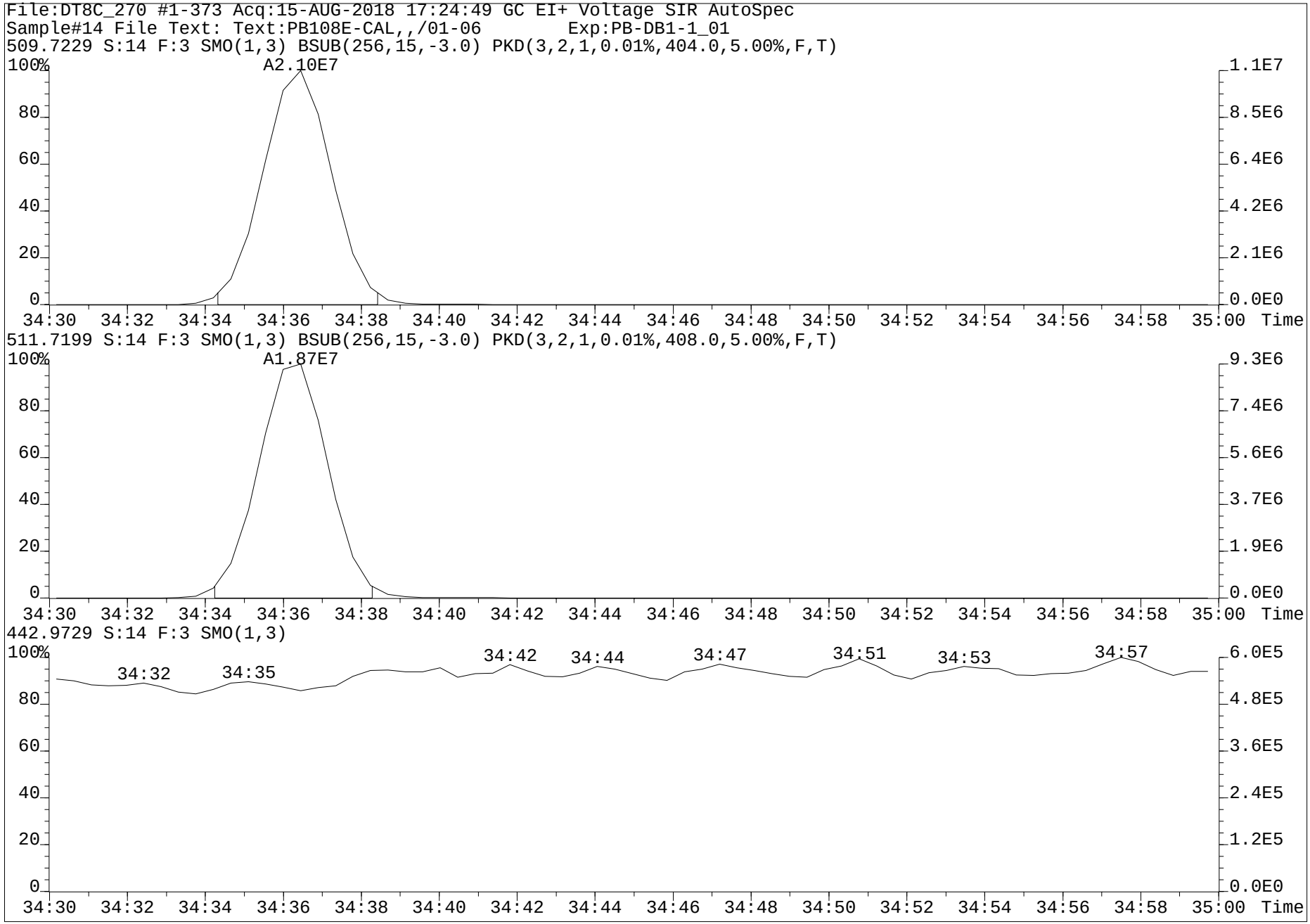
PV by RA 17AUG2018

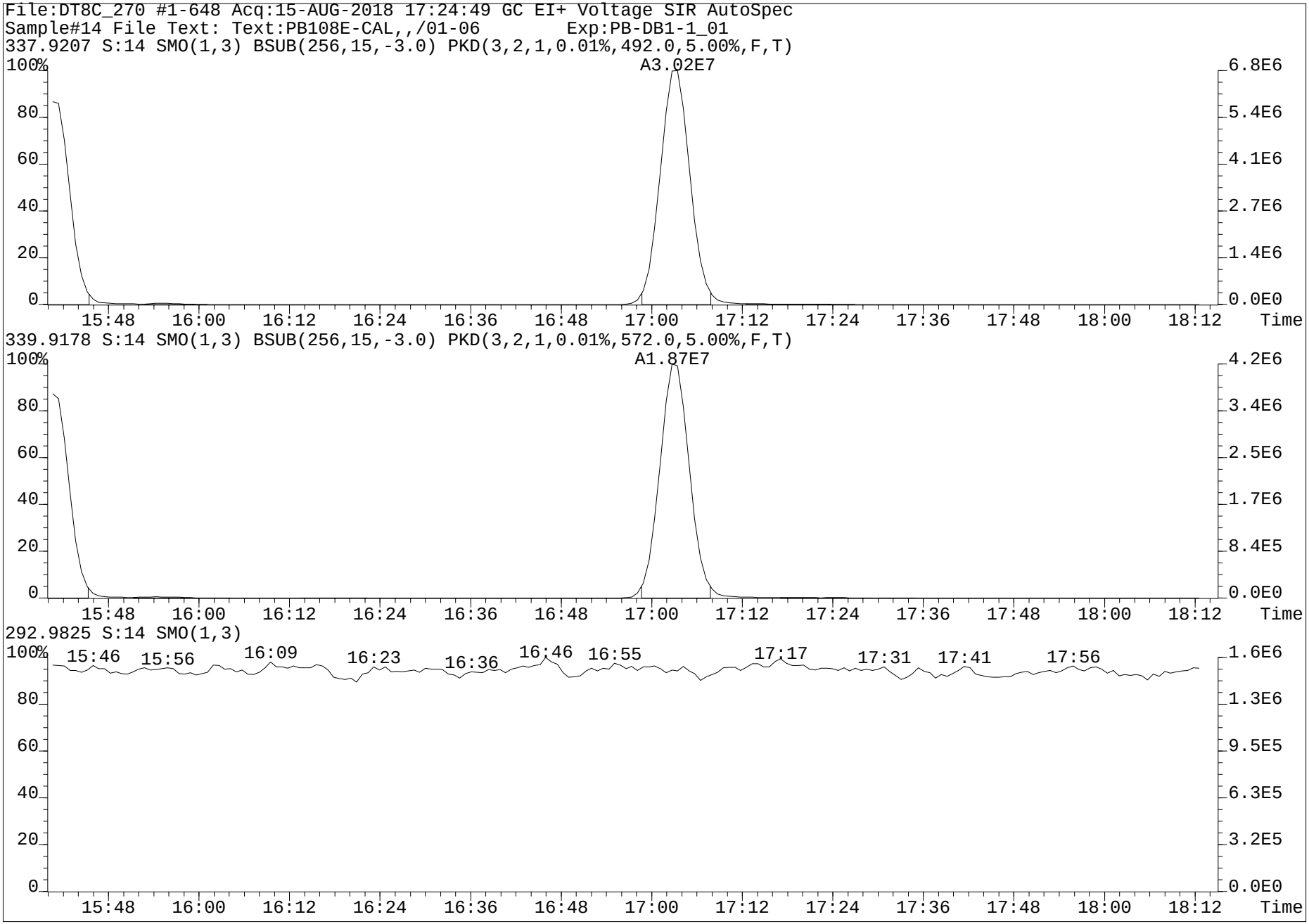

File:DT8C_270 #1-648 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
289.9224 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,992.0,5.00%,F,T)
A1.49E7
3.3E6
1.7E6
0.0E0
291.9194 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1164.0,5.00%,F,T)
A1.89E7
4.2E6
2.1E6
0.0E0
301.9626 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,3040.0,5.00%,F,T)
A2.41E7
A2.80E7
7.3E6
3.7E6
0.0E0
303.9597 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2304.0,5.00%,F,T)
A3.10E7
A3.60E7
9.5E6
4.7E6
0.0E0
292.9825 S:14 SMO(1,3)
11:28 11:50 12:27 13:08 13:36 14:11 14:52 15:14 15:46 16:09 16:46 17:17 17:41
1.6E6
7.9E5
0.0E0
100%
50
0
11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 Time


File:DT8C_270 #1-906 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
325.8804 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1484.0,5.00%,F,T)
A1.90E7
A1.82E7
A1.75E7
A1.57E7
327.8775 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1228.0,5.00%,F,T)
A1.22E7
A1.16E7
A1.09E7
A9.91E6
337.9207 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,1976.0,5.00%,F,T)
A3.55E7
A3.28E7
A3.34E7
A2.99E7
339.9178 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,2524.0,5.00%,F,T)
A2.23E7
A2.07E7
A2.09E7
A1.88E7
354.9792 S:14 F:2 SMO(1,3)
18:53 19:09 19:34 19:50 20:11 20:35 21:07 21:27 22:01 22:19 22:45 23:09 23:48
100%
50
0
19:00 20:00 21:00 22:00 23:00 24:00 Time
3.8E6 1.9E6 0.0E0
2.5E6 1.2E6 0.0E0
7.1E6 3.6E6 0.0E0
4.5E6 2.3E6 0.0E0
5.0E5 2.5E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
359.8415 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,560.0,5.00%,F,T)
A1.33E7
A1.42E7
A1.18E7
A1.19E6
361.8385 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,596.0,5.00%,F,T)
A1.04E7
A1.09E7
A9.45E6
A9.56E5
371.8817 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,788.0,5.00%,F,T)
A2.32E7
A2.63E7
A2.26E7
373.8788 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,752.0,5.00%,F,T)
A1.84E7
A2.01E7
A1.78E7
354.9792 S:14 F:2 SMO(1,3)
22:19 22:45 23:09 23:48 24:18 24:44 25:13 25:40 26:24 26:53 27:17 27:51 28:20 28:57 29:08
100%
50
0
22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 Time
2.4E6 1.2E6 0.0E0
1.9E6 9.3E5 0.0E0
4.4E6 2.2E6 0.0E0
3.4E6 1.7E6 0.0E0
5.3E5 2.6E5 0.0E0


File:DT8C_270 #1-906 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
393.8025 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,540.0,5.00%,F,T)
A1.61E7
A7.49E6
A5.90E6
A8.32E6
395.7996 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,444.0,5.00%,F,T)
A1.63E7
A7.66E6
A5.98E6
A8.29E6
405.8428 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A1.60E7
A1.33E7
A1.71E7
407.8398 S:14 F:2 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,428.0,5.00%,F,T)
A1.53E7
A1.27E7
A1.66E7
354.9792 S:14 F:2 SMO(1,3)
23:21 23:48 24:18 25:09 25:40 26:24 27:17 27:51 28:20 28:57 29:08 29:38 30:09 30:56 31:42
100%
50
0
2.7E6
1.3E6
1.4E6
5.3E5
2.6E5
0.0E0
23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 Time


File:DT8C_270 #1-373 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
509.7229 S:14 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,404.0,5.00%,F,T)
A2.10E7
511.7199 S:14 F:3 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,408.0,5.00%,F,T)
A1.87E7
442.9729 S:14 F:3 SMO(1,3)
34:32
34:35
34:42
34:44
34:47
34:51
34:53
34:57
Time


File:DT8C_270 #1-648 Acq:15-AUG-2018 17:24:49 GC EI+ Voltage SIR AutoSpec
Sample#14 File Text: Text:PB108E-CAL,,/01-06 Exp:PB-DB1-1_01
337.9207 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,492.0,5.00%,F,T)
A3.02E7
339.9178 S:14 SMO(1,3) BSUB(256,15,-3.0) PKD(3,2,1,0.01%,572.0,5.00%,F,T)
A1.87E7
292.9825 S:14 SMO(1,3)
15:46 15:56 16:09 16:23 16:36 16:46 16:55 17:17 17:31 17:41 17:56
Time

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
BFR	BTBPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	DBDPE	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	HBB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
	PBEB	SGS AXYS MLA-033	MLA-033		Y											Y							Y											
Bisphenols	Bisphenol A	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol AF	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol B	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol E	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol F	SGS AXYS MLA-113	MLA-113		Y																		Y											
	Bisphenol S	SGS AXYS MLA-113	MLA-113		Y																		Y											
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070	Y																													
OC Pesticides	"Organochlorine Pesticides" category (CA only)	EPA 608	MLA-007																					Y									
		EPA 625	MLA-007																					Y									
		EPA 8081	MLA-007			Y																											
	"Pesticides" category (CA only)	EPA 8270	MLA-007			Y																											
	2,4'-DDD	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y								Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y		Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y								Y
	2,4'-DDE	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y								Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y		Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y								Y
	2,4'-DDT	EPA 625	MLA-007																						Y								Y
		EPA 8270	MLA-007				Y						Y		Y																			
		EPA 1699	MLA-028				Y								Y										Y								Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y		Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y								Y
	4,4'-DDD	EPA 625	MLA-007																						Y				Y	Y		Y	Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y								Y										Y								Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y						Y		Y	Y							Y		Y						Y		Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y								Y
	4,4'-DDE	EPA 625	MLA-007																						Y				Y	Y		Y	Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	4,4'-DDT	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Aldrin	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Alpha-HCH	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Beta-HCH	EPA 625	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Chlordane, technical	EPA 625	MLA-007																													Y			
		EPA 8270	MLA-007				Y			Y	Y		Y	Y												Y				Y	Y		Y	Y	
		SGS AXYS MLA-007	MLA-007				Y							Y												Y								Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y												Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	cis-Nonachlor	EPA 8270	MLA-007				Y					Y		Y												Y								Y	
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Delta-HCH	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Dieldrin	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Endosulphan I	EPA 608	MLA-007																							Y				Y	Y		Y	Y	
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																					
		EPA 1699	MLA-028				Y							Y												Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y								Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y								Y										Y	
	Endosulphan II	EPA 608	MLA-007																							Y				Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endosulphan sulphate	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Endrin aldehyde	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007		Y		Y							Y									Y		Y									Y
	Endrin ketone	EPA 8081	MLA-007				Y			Y		Y		Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									
	Gamma-HCH (Lindane)	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Heptachlor epoxide	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Hexachlorobenzene	EPA 1625	MLA-007																						Y				Y					Y
		EPA 8270	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Methoxychlor	EPA 608	MLA-007																						Y				Y	Y		Y		Y
		EPA 8081	MLA-007				Y			Y	Y	Y	Y	Y																				
		EPA 1699	MLA-028				Y							Y											Y									Y
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y				Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y									Y
	Mirex	EPA 8270	MLA-007				Y			Y		Y		Y											Y				Y	Y		Y		Y
		EPA 1699	MLA-028				Y							Y											Y									Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Oxychlordane	EPA 8270	MLA-007				Y					Y													Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y									Y							Y		Y								Y	
	Toxaphene	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007				Y			Y		Y	Y	Y											Y				Y			Y	Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	trans-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	2-Methylnaphthalene	EPA 1625	MLA-021																															Y
		EPA 8270	MLA-021				Y			Y						Y									Y										
		SGS AXYS MLA-021	MLA-021		Y		Y									Y																		Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methyldibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	Acenaphthene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y								Y	Y									Y										Y
	Acenaphthylene	EPA 1625	MLA-021																						Y				Y	Y				Y
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benz[a]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y			Y	Y																					
		SGS AXYS MLA-021	MLA-021				Y							Y											Y									Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																	Y												
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																	Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Chrysene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Dibenz[a,h]anthracene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																			Y										
	Fluoranthene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Fluorene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Naphthalene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Perylene	SGS AXYS MLA-021	MLA-021		Y											Y								Y										
	Phenanthrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Pyrene	EPA 1625	MLA-021																						Y				Y	Y			Y
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y								Y		Y								Y
	Retene	SGS AXYS MLA-021	MLA-021		Y																			Y										
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033									Y																			Y			

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033									Y																		Y				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033									Y																			Y			
		SGS AXYS MLA-033	MLA-033	Y	Y											Y								Y										
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																					Y										
		EPA 8270	MLA-007			Y																												
	PCB Aroclor 1016	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007									Y																						
	PCB Aroclor 1221	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1232	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1242	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y			Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1248	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1254	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1260	EPA 1668	MLA-010				Y						Y	Y											Y							Y		Y	
		EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				Y			Y	Y	Y		Y																					
		SGS AXYS MLA-010	MLA-010				Y							Y											Y									Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y									Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 101/90/89	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 105/127	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 107/109	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 111/117	EPA 8270	MLA-007									Y																						
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																															
	PCB 118/106	EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 12/13	EPA 8270	MLA-007									Y																							
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																							
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH
	PCB 131/142	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 132/168	EPA 8270	MLA-007									Y																			
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 134/143	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
		SGS AXYS MLA-901	MLA-901	Y																											
	PCB 138/163/164	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 144/135	EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-007	MLA-007		Y											Y							Y								
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	
		EPA 8270	MLA-007									Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y						
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 149/139	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 158/160	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 16/32	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 170/190	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 172/192	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 174/181	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 177 2,2',3,3',4,5',6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 187/182	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 196/203	EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y						Y					Y			Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y			Y	Y	Y	Y		Y	Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 23/34	EPA 8270	MLA-007									Y																					
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 24/27	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 33/20/21	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 4/10	EPA 8270	MLA-007									Y																						
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 41/71/64/68	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 42/59	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									
	PCB 47/48/75	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 49/43	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 52/73	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 56/60	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 62/65	EPA 8270	MLA-007									Y																						
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66/80	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7/9	EPA 8270	MLA-007									Y																						
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 70/76	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 74/61	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 8/5	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 83/108	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 85/120	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 87/115/116	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 88/121	EPA 8270	MLA-007									Y																						
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y		Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y			Y	
		EPA 8270	MLA-007									Y																						

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y			Y									Y	
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 95/93	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 97/86	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
	PCB 98/102	EPA 8270	MLA-007									Y																						
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB congeners, total	EPA 1668	MLA-010							Y																		Y						
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010											Y							Y												Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010										Y						Y													Y
		SGS AXYS MLA-010	MLA-010										Y						Y													Y
	Total Dichlorobiphenyls	EPA 1668	MLA-010										Y						Y													Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	Total Heptachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	Total Hexachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y					Y		Y										Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	Total Monochlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Octachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total PCBs	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	Total Trichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
PCDDF	"Dioxins and Dibenzofurans" category (CA only)	EPA 1613	MLA-017																					Y										
		EPA 8290	MLA-017			Y																												
	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,7,8-TCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	2,3,7,8-TCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	OCDD	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	OCDF	EPA 1613	MLA-017									Y		Y							Y				Y		Y	Y	Y	Y	Y		Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y								Y	
	Total HpCDD	EPA 1613	MLA-017											Y							Y				Y							Y	Y
		EPA 8290	MLA-017				Y		Y		Y			Y	Y				Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HpCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y
		EPA 8290	MLA-017				Y		Y		Y			Y	Y				Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HxCDD	EPA 1613	MLA-017											Y							Y				Y							Y	Y
		EPA 8290	MLA-017				Y		Y		Y			Y	Y				Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total HxCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y
		EPA 8290	MLA-017				Y		Y		Y			Y	Y				Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y									Y	
	Total PCDD	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDD+PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PCDF	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											Y							Y													Y	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PeCDD	EPA 1613	MLA-017											Y							Y				Y							Y	Y
		EPA 8290	MLA-017				Y		Y		Y			Y	Y				Y	Y	Y					Y					Y			Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total PeCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDD	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
	Total TCDF	EPA 1613	MLA-017											Y							Y				Y							Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y								Y	
PFAS	4:2 Fluorotelomersulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	6:2 Fluorotelomersulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	8:2 Fluorotelomersulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																														Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Ethylperfluorooctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Methylperfluorooctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-110	MLA-110		Y							Y											Y								Y			
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		Y													
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y		Y				Y		Y	Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y						Y		Y	Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060																						Y		Y	Y	Y				Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y									Y		Y					Y			Y	Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y	Y														
		SGS AXYS MLA-042	MLA-042	Y																														
		SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y	Y								Y		Y	Y				Y			Y	Y
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epitetracycline (ETC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Acetaminophen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Albuterol	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Alprazolam	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Amlodipine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Amphetamine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Atenolol	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Atorvastatin	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Azithromycin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Benztropine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Betamethasone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Bisphenol A	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Caffeine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Carbadox	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Carbamazepine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cefotaxime	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Chlortetracycline (CTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cimetidine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Ciprofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Clarithromycin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Clinafloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Clonidine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cloxacillin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cocaine	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Codeine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cotinine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Dehydronifedipine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Demeclocycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diazepam	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Digoxigenin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Digoxin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diltiazem	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Diphenhydramine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Doxycycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Enalapril	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Enrofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Erythromycin	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Erythromycin anydrate	EPA 1694	MLA-075										Y																			Y		
	Flumequine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluocinonide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluoxetine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Furosemide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Gemfibrozil	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Glipizide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Glyburide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrocodone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Hydrocortisone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Ibuprofen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Lincomycin	EPA 1694	MLA-075										Y																			Y		

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025		CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Lomefloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Meprobamate	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metformin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Miconazole	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Minocycline	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Naproxen	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norgestimate	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ofloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ormetoprim	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxacillin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxolinic acid	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxycodone	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Paroxetine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin G	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin V	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Promethazine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propranolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ranitidine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Roxithromycin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sarafloxacin	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sertraline	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfachloropyridazine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadiazine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadimethoxine	EPA 1694	MLA-075										Y																			Y			
		SGS AXYS MLA-075	MLA-075		Y																			Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Sulfamerazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethizole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethoxazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfanilamide	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfathiazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tetracycline (TC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Theophylline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Thiabendazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triamterene	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclocarban	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclosan	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trimethoprim	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tylosin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Valsartan	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Verapamil	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Virginiamycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Warfarin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																		
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Acetylornithine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Alanine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Arginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asparagine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Aspartate	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																		
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Carnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Carnosine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	cholic acid	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Citrulline	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Creatinine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y							Y											
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																		

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																	
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Dopamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																	
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Glutamate	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Glutamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Glycine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Histamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Histidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Leucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Lysine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methionine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Proline	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Putrescine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Serine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Serotonin	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Spermidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Spermine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

SGS AXYS Analytical Services Ltd.
file ref.: ACC-101 Rev. 40

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	Taurine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Threonine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Valine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y																													
TOP	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorononanoate (PFNA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-111	MLA-111		Y																		Y										
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-111	MLA-111		Y																		Y										

Note * Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Note ** PFAS by LC-MS/MS compliant with US DoD QSM 5.1 table B-15

Legend

Y	Accreditation scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFAS	Per- and Polyfluoroalkyl Substances
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
TOP	Total Oxidizable Precursors
California DPH	California Department of Public Health, Lab ID 2911
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

ANAB DoD	ANSI-ASQ National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.1 Standard)
CALA	Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)
ANAB ISO 17025	ANSI-ASQ National Accreditation Board, certificate ADE-1861.01, (ISO/IEC 17025:2005 Standard)

ALS Environmental-Kelso

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

August 24, 2018

Analytical Report for Service Request No: K1806476

Amara Vandervort
Windward Environmental, LLC
200 West Mercer St., Suite 401
Seattle, WA 98119

RE: AOC3 Clam Collection / Task 4

Dear Amara,

Enclosed are the results of the sample(s) submitted to our laboratory July 11, 2018
For your reference, these analyses have been assigned our service request number **K1806476.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3356. You may also contact me via email at Kurt.Clarkson@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kurt Clarkson
Sr. Project Manager

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Case Narrative
Chain of Custody
Total Solids
Organochlorine Pesticides
Raw Data
    Total Solids
    Organochlorine Pesticides

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Windward Environmental, LLC
Project: AOC3 Clam Collection
Sample Matrix: Fish Tissue

Service Request: K1806476
Date Received: 07/11/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt:

Three fish tissue samples were received for analysis at ALS Environmental on 07/11/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored frozen at -20ºC upon receipt at the laboratory.

Semivolatiles by GC/MS:

Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 08/23/2018: The upper control criterion was exceeded for 2,4'-DDE, alpha-Chlordane, and Dieldrin in Continuing Calibration Verification (CCV) MS21\082318F006. The field samples analyzed in this sequence did not contain the analytes in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 08/23/2018: The upper control criterion was exceeded for alpha-Chlordane, cis-Nonachlor, and gamma-Chlordane in Laboratory Control Samples (LCS/DLCS) KQ1810706-01/02. The analytes in question were not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 08/23/2018: The lower control criterion was Slightly exceeded for S_4,4'-DDT-d4 (32, 33-150) and S_Endrin-13C12 (30, 34-160) in method blank KQ1810706-03 and S_4,4'-DDT-d4 (30, 33-150) in sample LDW18-S1-CLWB-Comp1. The analytes in question were not detected in the associated field samples. The error associated with reduced recovery indicated a potential low bias. The labeled standards that were out of control criterion met for the unlabeled standards in the CCV and LCS analyses. The data was flagged to indicate the problem.

Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 08/23/2018: The internal standard recovery of name in sample LDW18-S3-CLWB-Comp1 was outside control criteria because of suspected matrix interference. The standard met the DOD criteria when compared against the ICAL but failed the NELAP criteria when compared against the CCV. The results quantified using this internal standard were flagged to indicate the problem.

Approved by _____ Date 08/24/2018

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

K1806476

Project/Client Name:	**AOC3 Clam Collection**	Ship to:	**ALS-Kelso**		No.AOC320180703
Project Number:	Task 4	Attn:	Kurt Clarkson	Shipping Date:	5/15-5/18/18
Contact Name:	Amara Vandervort	Shipper:	FedEx	Airbill Number:	
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Composite/Bag ID]
					OC Pesticides							
		LDW18-S1-CLWB-Comp1	1	Tissue	X							
		LDW18-S2-CLWB-Comp1	1	Tissue	X							
		LDW18-S3-CLWB-Comp1	1	Tissue	X							
Total Number of Containers			3	Purchase Order / Statement of Work # PO 2018-0063								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Brandon Fisk		Print name:	
Signature:		Signature:	
Company: AKI	Company: ALS	Company:	Company:
Date/Time: 7/10/18 1252	Date/Time: 7-11-18 0950	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Wind Ward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

PC KC

Cooler Receipt and Preservation Form

Client ARI - Windward Env. Service Request *K18* 06476

Received: 7-11-18 Opened: 7-11-18 By: [illegible] Unloaded: 7-11-18 By: [illegible]

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.2	-0.4	N/A	N/A	-0.2	392		8117 6543 1290	

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: ***Frozen*** ***Partially Thawed*** ***Thawed***
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Collected:**	NA
Sample Matrix:	Fish Tissue	**Date Received:**	07/11/18
Analysis Method:	Freeze Dry	**Units:**	Percent
Prep Method:	None	**Basis:**	Wet

Total Solids

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
LDW18-S1-CLWB-Comp1	K1806476-001	**10.8**	-	1	07/23/18 15:23	
LDW18-S2-CLWB-Comp1	K1806476-002	**9.31**	-	1	07/23/18 15:23	
LDW18-S3-CLWB-Comp1	K1806476-003	**7.90**	-	1	07/23/18 15:23	

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Report

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Collected:**	NA
Sample Matrix:	Fish Tissue	**Date Received:**	07/11/18 09:50
Sample Name:	LDW18-S1-CLWB-Comp1	**Units:**	ug/Kg
Lab Code:	K1806476-001	**Basis:**	Wet

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	5.3	1	08/23/18 19:26	8/7/18	
2,4'-DDE	ND U	5.3	1	08/23/18 19:26	8/7/18	*
2,4'-DDT	ND U	2.1	1	08/23/18 19:26	8/7/18	
4,4'-DDD	ND U	2.1	1	08/23/18 19:26	8/7/18	
4,4'-DDE	ND U	5.3	1	08/23/18 19:26	8/7/18	
4,4'-DDT	ND U	2.1	1	08/23/18 19:26	8/7/18	
Aldrin	ND U	2.1	1	08/23/18 19:26	8/7/18	
alpha-Chlordane	ND U	2.1	1	08/23/18 19:26	8/7/18	*
beta-BHC	ND U	2.1	1	08/23/18 19:26	8/7/18	
cis-Nonachlor	ND U	2.1	1	08/23/18 19:26	8/7/18	*
Dieldrin	ND U	2.1	1	08/23/18 19:26	8/7/18	*
alpha-BHC	ND U	2.1	1	08/23/18 19:26	8/7/18	
gamma-BHC (Lindane)	ND U	2.1	1	08/23/18 19:26	8/7/18	
gamma-Chlordane	ND U	2.1	1	08/23/18 19:26	8/7/18	*
Heptachlor Epoxide	ND U	2.1	1	08/23/18 19:26	8/7/18	
Heptachlor	ND U	2.1	1	08/23/18 19:26	8/7/18	
Oxychlordane	ND U	5.3	1	08/23/18 19:26	8/7/18	
trans-Nonachlor	ND U	2.1	1	08/23/18 19:26	8/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	71	36 - 155	08/23/18 19:26	
S_4,4'-DDT-d4	30	33 - 150	08/23/18 19:26	*
S_Aldrin-13C12	36	31 - 151	08/23/18 19:26	
S_Endrin-13C12	79	34 - 160	08/23/18 19:26	
S_GBHCD6	53	25 - 151	08/23/18 19:26	
S_Heptachlor-13C10	49	10 - 243	08/23/18 19:26	
S_Heptachlrepox13C10	123	35 - 152	08/23/18 19:26	
S_Oxychlordane-13C10	74	10 - 223	08/23/18 19:26	

Analytical Report

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Collected:**	NA
Sample Matrix:	Fish Tissue	**Date Received:**	07/11/18 09:50
Sample Name:	LDW18-S2-CLWB-Comp1	**Units:**	ug/Kg
Lab Code:	K1806476-002	**Basis:**	Wet

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	6.0	1	08/23/18 19:54	8/7/18	
2,4'-DDE	ND U	6.0	1	08/23/18 19:54	8/7/18	*
2,4'-DDT	ND U	2.4	1	08/23/18 19:54	8/7/18	
4,4'-DDD	ND U	2.4	1	08/23/18 19:54	8/7/18	
4,4'-DDE	ND U	6.0	1	08/23/18 19:54	8/7/18	
4,4'-DDT	ND U	2.4	1	08/23/18 19:54	8/7/18	
Aldrin	ND U	2.4	1	08/23/18 19:54	8/7/18	
alpha-Chlordane	ND U	2.4	1	08/23/18 19:54	8/7/18	*
beta-BHC	ND U	2.4	1	08/23/18 19:54	8/7/18	
cis-Nonachlor	ND U	2.4	1	08/23/18 19:54	8/7/18	*
Dieldrin	ND U	2.4	1	08/23/18 19:54	8/7/18	*
alpha-BHC	ND U	2.4	1	08/23/18 19:54	8/7/18	
gamma-BHC (Lindane)	ND U	2.4	1	08/23/18 19:54	8/7/18	
gamma-Chlordane	ND U	2.4	1	08/23/18 19:54	8/7/18	*
Heptachlor Epoxide	ND U	2.4	1	08/23/18 19:54	8/7/18	
Heptachlor	ND U	2.4	1	08/23/18 19:54	8/7/18	
Oxychlordane	ND U	6.0	1	08/23/18 19:54	8/7/18	
trans-Nonachlor	ND U	2.4	1	08/23/18 19:54	8/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	66	36 - 155	08/23/18 19:54	
S_4,4'-DDT-d4	37	33 - 150	08/23/18 19:54	
S_Aldrin-13C12	44	31 - 151	08/23/18 19:54	
S_Endrin-13C12	109	34 - 160	08/23/18 19:54	
S_GBHCD6	67	25 - 151	08/23/18 19:54	
S_Heptachlor-13C10	78	10 - 243	08/23/18 19:54	
S_Heptachlrepox13C10	128	35 - 152	08/23/18 19:54	
S_Oxychlordane-13C10	81	10 - 223	08/23/18 19:54	

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Collected:**	NA
Sample Matrix:	Fish Tissue	**Date Received:**	07/11/18 09:50
Sample Name:	LDW18-S3-CLWB-Comp1	**Units:**	ug/Kg
Lab Code:	K1806476-003	**Basis:**	Wet

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	6.9	1	08/23/18 20:23	8/7/18	
2,4'-DDE	ND U	6.9	1	08/23/18 20:23	8/7/18	*
2,4'-DDT	ND U	2.8	1	08/23/18 20:23	8/7/18	
4,4'-DDD	ND U	2.8	1	08/23/18 20:23	8/7/18	
4,4'-DDE	ND U	6.9	1	08/23/18 20:23	8/7/18	
4,4'-DDT	ND U	2.8	1	08/23/18 20:23	8/7/18	
Aldrin	ND U	2.8	1	08/23/18 20:23	8/7/18	
alpha-Chlordane	ND U	2.8	1	08/23/18 20:23	8/7/18	*
beta-BHC	ND U	2.8	1	08/23/18 20:23	8/7/18	
cis-Nonachlor	ND U	2.8	1	08/23/18 20:23	8/7/18	*
Dieldrin	ND U	2.8	1	08/23/18 20:23	8/7/18	*
alpha-BHC	ND U	2.8	1	08/23/18 20:23	8/7/18	
gamma-BHC (Lindane)	ND U	2.8	1	08/23/18 20:23	8/7/18	
gamma-Chlordane	ND U	2.8	1	08/23/18 20:23	8/7/18	*
Heptachlor Epoxide	ND U	2.8	1	08/23/18 20:23	8/7/18	
Heptachlor	ND U	2.8	1	08/23/18 20:23	8/7/18	
Oxychlordane	ND U	6.9	1	08/23/18 20:23	8/7/18	
trans-Nonachlor	ND U	2.8	1	08/23/18 20:23	8/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	68	36 - 155	08/23/18 20:23	
S_4,4'-DDT-d4	44	33 - 150	08/23/18 20:23	
S_Aldrin-13C12	63	31 - 151	08/23/18 20:23	
S_Endrin-13C12	111	34 - 160	08/23/18 20:23	
S_GBHCD6	63	25 - 151	08/23/18 20:23	
S_Heptachlor-13C10	73	10 - 243	08/23/18 20:23	
S_Heptachlrepox13C10	92	35 - 152	08/23/18 20:23	
S_Oxychlordane-13C10	64	10 - 223	08/23/18 20:23	

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Collected:**	NA
Sample Matrix:	Fish Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1810706-03	**Basis:**	Wet

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	2.5	1	08/23/18 18:00	8/7/18	
2,4'-DDE	ND U	2.5	1	08/23/18 18:00	8/7/18	
2,4'-DDT	ND U	1.0	1	08/23/18 18:00	8/7/18	
4,4'-DDD	ND U	1.0	1	08/23/18 18:00	8/7/18	
4,4'-DDE	ND U	2.5	1	08/23/18 18:00	8/7/18	
4,4'-DDT	ND U	1.0	1	08/23/18 18:00	8/7/18	
Aldrin	ND U	1.0	1	08/23/18 18:00	8/7/18	
alpha-Chlordane	ND U	1.0	1	08/23/18 18:00	8/7/18	
beta-BHC	ND U	1.0	1	08/23/18 18:00	8/7/18	
cis-Nonachlor	ND U	1.0	1	08/23/18 18:00	8/7/18	
Dieldrin	ND U	1.0	1	08/23/18 18:00	8/7/18	
alpha-BHC	ND U	1.0	1	08/23/18 18:00	8/7/18	
gamma-BHC (Lindane)	ND U	1.0	1	08/23/18 18:00	8/7/18	
gamma-Chlordane	ND U	1.0	1	08/23/18 18:00	8/7/18	
Heptachlor Epoxide	ND U	1.0	1	08/23/18 18:00	8/7/18	
Heptachlor	ND U	1.0	1	08/23/18 18:00	8/7/18	
Oxychlordane	ND U	2.5	1	08/23/18 18:00	8/7/18	
trans-Nonachlor	ND U	1.0	1	08/23/18 18:00	8/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	37	36 - 155	08/23/18 18:00	
S_4,4'-DDT-d4	32	33 - 150	08/23/18 18:00	*
S_Aldrin-13C12	32	31 - 151	08/23/18 18:00	
S_Endrin-13C12	30	34 - 160	08/23/18 18:00	*
S_GBHCD6	34	25 - 151	08/23/18 18:00	
S_Heptachlor-13C10	26	10 - 243	08/23/18 18:00	
S_Heptachlrepox13C10	50	35 - 152	08/23/18 18:00	
S_Oxychlordane-13C10	27	10 - 223	08/23/18 18:00	

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection/Task 4
Sample Matrix: Fish Tissue

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_4,4'DDD-d4 36-155	S_4,4'-DDT-d4 33-150	S_Aldrin-13C12 31-151
LDW18-S1-CLWB-Comp1	K1806476-001	71	30*	36
LDW18-S2-CLWB-Comp1	K1806476-002	66	37	44
LDW18-S3-CLWB-Comp1	K1806476-003	68	44	63
Method Blank	KQ1810706-03	37	32*	32
Lab Control Sample	KQ1810706-01	45	39	29*
Duplicate Lab Control Sample	KQ1810706-02	34*	31*	27*

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection/Task 4
Sample Matrix: Fish Tissue

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_Endrin-13C12 34-160	S_GBHCD6 25-151	S_Heptachlor-13C10 10-243
LDW18-S1-CLWB-Comp1	K1806476-001	79	53	49
LDW18-S2-CLWB-Comp1	K1806476-002	109	67	78
LDW18-S3-CLWB-Comp1	K1806476-003	111	63	73
Method Blank	KQ1810706-03	30*	34	26
Lab Control Sample	KQ1810706-01	48	35	28
Duplicate Lab Control Sample	KQ1810706-02	32*	34	25

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection/Task 4
Sample Matrix: Fish Tissue

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_Heptachlrepox13C10 35-152	S_Oxychlordane-13C10 10-223
LDW18-S1-CLWB-Comp1	K1806476-001	123	74
LDW18-S2-CLWB-Comp1	K1806476-002	128	81
LDW18-S3-CLWB-Comp1	K1806476-003	92	64
Method Blank	KQ1810706-03	50	27
Lab Control Sample	KQ1810706-01	44	37
Duplicate Lab Control Sample	KQ1810706-02	40	32

Client: Windward Environmental, LLC **Service Request:**K1806476
Project: AOC3 Clam Collection/Task 4 **Date Analyzed:**08/23/18 17:32

Internal Standard Area and RT SUMMARY
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\082318\082318F006.D\ **Lab Code:**KQ1811734-01
Instrument ID: K-MSMS-01 **Analysis Lot:**603882
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	ICAL Result ==>	46,754	14.366
	Upper Limit ==>	93,508	14.87
	Lower Limit ==>	23,377	13.87
Associated Analyses			
Continuing Calibration Verification	KQ1811734-01	26979.3	14.366
Method Blank	KQ1810706-03	25876.9	14.366
Lab Control Sample	KQ1810706-01	24557.2	14.366
Duplicate Lab Control Sample	KQ1810706-02	25247.6	14.366
LDW18-S1-CLWB-Comp1	K1806476-001	36568.6	14.3917
LDW18-S2-CLWB-Comp1	K1806476-002	39188.4	14.4172
LDW18-S3-CLWB-Comp1	K1806476-003	58085.3*	14.4172

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Analyzed:**	08/23/18
Sample Matrix:	Fish Tissue	**Date Extracted:**	08/07/18

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Wet
		Analysis Lot:	603882

	Lab Control Sample KQ1810706-01			Duplicate Lab Control Sample KQ1810706-02					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	10.4	10.0	104	10.8	10.0	108	30-150	3	50
2,4'-DDE	8.97	10.0	90	9.43	10.0	94	30-150	5	50
2,4'-DDT	8.38	10.0	84	8.83	10.0	88	30-150	5	50
4,4'-DDD	8.54	10.0	85	9.27	10.0	93	30-150	8	50
4,4'-DDE	9.21	10.0	92	10.0	10.0	100	30-150	8	50
4,4'-DDT	10.1	10.0	101	9.99	10.0	100	30-150	1	50
alpha-BHC	8.26	10.0	83	8.63	10.0	86	30-150	4	50
alpha-Chlordane	15.1	10.0	151 *	16.3	10.0	163 *	30-150	8	50
beta-BHC	12.7	10.0	127	12.3	10.0	123	30-150	3	50
cis-Nonachlor	19.4	10.0	194 *	19.0	10.0	190 *	30-150	2	50
Dieldrin	7.95	10.0	80	10.5	10.0	105	30-150	27	50
gamma-BHC (Lindane)	9.48	10.0	95	9.35	10.0	93	30-150	1	50
gamma-Chlordane	15.2	10.0	152 *	13.6	10.0	136	30-150	11	50
Heptachlor Epoxide	8.96	10.0	90	8.94	10.0	89	30-150	<1	50
Oxychlordane	11.3	10.0	113	9.28	10.0	93	30-150	20	50
trans-Nonachlor	15.0	10.0	150	13.0	10.0	130	30-150	14	50

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Analyzed:**	08/23/18 18:00
Sample Matrix:	Fish Tissue	**Date Extracted:**	08/07/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1810706-03	**File ID:**	J:\MS21\Data\082318\082318F007.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	603882
Prep Method:	EPA 3541	**Extraction Lot:**	319299

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1810706-01	J:\MS21\Data\082318\082318F008.D\	08/23/18 18:29
Duplicate Lab Control Sample	KQ1810706-02	J:\MS21\Data\082318\082318F009.D\	08/23/18 18:57
LDW18-S1-CLWB-Comp1	K1806476-001	J:\MS21\Data\082318\082318F010.D\	08/23/18 19:26
LDW18-S2-CLWB-Comp1	K1806476-002	J:\MS21\Data\082318\082318F011.D\	08/23/18 19:54
LDW18-S3-CLWB-Comp1	K1806476-003	J:\MS21\Data\082318\082318F012.D\	08/23/18 20:23

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Analyzed:**	08/23/18 18:29
Sample Matrix:	Fish Tissue	**Date Extracted:**	08/07/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1810706-01	**File ID:**	J:\MS21\Data\082318\082318F008.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	603882
Prep Method:	EPA 3541	**Extraction Lot:**	319299

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1810706-03	J:\MS21\Data\082318\082318F007.D\	08/23/18 18:00
Duplicate Lab Control Sample	KQ1810706-02	J:\MS21\Data\082318\082318F009.D\	08/23/18 18:57
LDW18-S1-CLWB-Comp1	K1806476-001	J:\MS21\Data\082318\082318F010.D\	08/23/18 19:26
LDW18-S2-CLWB-Comp1	K1806476-002	J:\MS21\Data\082318\082318F011.D\	08/23/18 19:54
LDW18-S3-CLWB-Comp1	K1806476-003	J:\MS21\Data\082318\082318F012.D\	08/23/18 20:23

Client: Windward Environmental, LLC **Service Request:**K1806476
Project: AOC3 Clam Collection/Task 4 **Date Analyzed:**08/23/18 17:32

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\082318\082318F006.D\ **Analytical Method:** ALS SOP
Instrument ID: K-MSMS-01 **Analysis Lot:** 603882

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1811734-01	J:\MS21\Data\082318\082318F006.D\	08/23/18 17:32	
Method Blank	KQ1810706-03	J:\MS21\Data\082318\082318F007.D\	08/23/18 18:00	
Lab Control Sample	KQ1810706-01	J:\MS21\Data\082318\082318F008.D\	08/23/18 18:29	
Duplicate Lab Control Sample	KQ1810706-02	J:\MS21\Data\082318\082318F009.D\	08/23/18 18:57	
LDW18-S1-CLWB-Comp1	K1806476-001	J:\MS21\Data\082318\082318F010.D\	08/23/18 19:26	
LDW18-S2-CLWB-Comp1	K1806476-002	J:\MS21\Data\082318\082318F011.D\	08/23/18 19:54	
LDW18-S3-CLWB-Comp1	K1806476-003	J:\MS21\Data\082318\082318F012.D\	08/23/18 20:23	

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800383-01		J:\MS21\Data\080818\080818F007.D	08/08/2018 09:40
02	KC1800383-02		J:\MS21\Data\080818\080818F008.D	08/08/2018 10:07
03	KC1800383-03		J:\MS21\Data\080818\080818F009.D	08/08/2018 10:34
04	KC1800383-04		J:\MS21\Data\080818\080818F010.D	08/08/2018 11:01
05	KC1800383-05		J:\MS21\Data\080818\080818F011.D	08/08/2018 11:29
06	KC1800383-06		J:\MS21\Data\080818\080818F012.D	08/08/2018 11:56
07	KC1800383-07		J:\MS21\Data\080818\080818F013.D	08/08/2018 12:24
08	KC1800383-08		J:\MS21\Data\080818\080818F014.D	08/08/2018 12:51
09	KC1800383-09		J:\MS21\Data\080818\080818F015.D	08/08/2018 13:18
10	KC1800383-10		J:\MS21\Data\080818\080818F017.D	08/08/2018 13:55

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5477	02	1.0	0.5496	03	2.0	0.5262	04	5.0	0.4703
05	10	0.4637	06	20	0.4781	07	40	0.4704	08	60	0.4754
09	80	0.4787	10	100	0.5019						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4932	02	1.0	0.4756	03	2.0	0.4244	04	5.0	0.3937
05	10	0.3865	06	20	0.4	07	40	0.4142	08	60	0.4024
09	80	0.4056	10	100	0.4321						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8213	02	1.0	0.7949	03	2.0	0.8055	04	5.0	0.7268
05	10	0.6951	06	20	0.7234	07	40	0.7269	08	60	0.722
09	80	0.6962	10	100	0.754						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5588	02	1.0	0.5829	03	2.0	0.5159	04	5.0	0.4659
05	10	0.4382	06	20	0.4684	07	40	0.4609	08	60	0.4862
09	80	0.4835	10	100	0.5075						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.3817	02	1.0	0.3376	03	2.0	0.3532	04	5.0	0.296
05	10	0.3056	06	20	0.3178	07	40	0.3125	08	60	0.3218
09	80	0.3163	10	100	0.3435						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.7602	02	1.0	0.7698	03	2.0	0.7411	04	5.0	0.6687
05	10	0.6714	06	20	0.6892	07	40	0.6891	08	60	0.6963

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	80	0.6815	10	100	0.7118						

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.9343	02	1.0	1.201	03	2.0	1.209	04	5.0	0.9343
05	10	0.9082	06	20	0.8937	07	40	0.8465	08	60	0.8802
09	80	0.874	10	100	0.8685						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.253	02	1.0	1.499	03	2.0	1.305	04	5.0	1.086
05	10	1.041	06	20	1.128	07	40	1.102	08	60	1.145
09	80	1.11	10	100	1.086						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8296	02	1.0	1.085	03	2.0	0.945	04	5.0	0.9513
05	10	0.9422	06	20	0.9044	07	40	0.9338	08	60	0.9405
09	80	0.8842	10	100	1.017						

Heptachlor Epoxide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.176	02	1.0	1.461	03	2.0	1.286	04	5.0	1.075
05	10	1.105	06	20	1.188	07	40	1.183	08	60	1.286
09	80	1.246	10	100	1.266						

Oxychlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.431	02	1.0	1.162	03	2.0	1.033	04	5.0	1.006
05	10	1.061	06	20	1.018	07	40	0.8964	08	60	0.9452
09	80	0.9705	10	100	0.8801						

alpha-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.9738	02	1.0	0.9609	03	2.0	0.8298	04	5.0	0.724
05	10	0.7017	06	20	0.6645	07	40	0.668	08	60	0.6422
09	80	0.6586	10	100	0.6686						

alpha-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.93	02	1.0	2.749	03	2.0	2.442	04	5.0	2.512
05	10	2.393	06	20	2.712	07	40	2.423	08	60	2.595
09	80	2.684	10	100	2.333						

beta-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.095	02	1.0	1.083	03	2.0	0.8985	04	5.0	0.8112

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

beta-BHC

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	10	0.83	06	20	0.8367	07	40	0.812	08	60	0.8111
09	80	0.8247	10	100	0.8696						

cis-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.399	02	1.0	2.254	03	2.0	2.1	04	5.0	2.012
05	10	2.121	06	20	2.292	07	40	1.949	08	60	2.103
09	80	2.21	10	100	1.939						

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.7904	02	1.0	0.7526	03	2.0	0.6278	04	5.0	0.5925
05	10	0.5801	06	20	0.5771	07	40	0.562	08	60	0.5689
09	80	0.5759	10	100	0.5959						

gamma-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.243	02	1.0	3.899	03	2.0	3.356	04	5.0	2.789
05	10	2.748	06	20	2.996	07	40	2.679	08	60	2.774
09	80	3.067	10	100	2.591						

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.643	02	1.0	2.483	03	2.0	2.027	04	5.0	1.876
05	10	1.992	06	20	1.966	07	40	1.856	08	60	1.95
09	80	2.041	10	100	1.825						

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
2,4'-DDD	TRG	Average RF	% RSD	6.7	≤20	0.4962	0.01
2,4'-DDE	TRG	Average RF	% RSD	8.4	≤20	0.4228	0.01
2,4'-DDT	TRG	Average RF	% RSD	6.1	≤20	0.7466	0.01
4,4'-DDD	TRG	Average RF	% RSD	9.1	≤20	0.4968	0.01
4,4'-DDE	TRG	Average RF	% RSD	7.8	≤20	0.3286	0.01
4,4'-DDT	TRG	Average RF	% RSD	5.2	≤20	0.7079	0.01
Aldrin	TRG	Average RF	% RSD	14.1	≤20	0.955	0.01
Dieldrin	TRG	Average RF	% RSD	11.8	≤20	1.175	0.01
Heptachlor	TRG	Average RF	% RSD	7.4	≤20	0.9433	0.01
Heptachlor Epoxide	TRG	Average RF	% RSD	8.9	≤20	1.227	0.01
Oxychlordane	TRG	Average RF	% RSD	15.4	≤20	1.04	0.01
alpha-BHC	TRG	Average RF	% RSD	16.9	≤20	0.7492	0.01
alpha-Chlordane	TRG	Average RF	% RSD	7.4	≤20	2.577	0.01
beta-BHC	TRG	Average RF	% RSD	12.4	≤20	0.8872	0.01
cis-Nonachlor	TRG	Average RF	% RSD	7.1	≤20	2.138	0.01
gamma-BHC (Lindane)	TRG	Average RF	% RSD	13.0	≤20	0.6223	0.01
gamma-Chlordane	TRG	Average RF	% RSD	13.2	≤20	3.014	0.01
trans-Nonachlor	TRG	Average RF	% RSD	11.0	≤20	1.966	0.01

Client: Windward Environmental, LLC **Service Request:** K1806476
Project: AOC3 Clam Collection **Calibration Date:** 8/8/2018

Initial Calibration Verification Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800383-11		J:\MS21\Data\080818\080818F018.D	08/08/2018 14:19

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	18.2	4.962E-1	4.504E-1	-9.239	±25	Average RF
2,4'-DDE	20.0	18.9	4.228E-1	3.998E-1	-5.445	±25	Average RF
2,4'-DDT	20.0	18.2	7.466E-1	6.791E-1	-9.043	±25	Average RF
4,4'-DDD	20.0	19.2	4.968E-1	4.781E-1	-3.771	±25	Average RF
4,4'-DDE	20.0	18.9	3.286E-1	3.112E-1	-5.300	±25	Average RF
4,4'-DDT	20.0	19.5	7.079E-1	6.892E-1	-2.635	±25	Average RF
Aldrin	20.0	19.8	9.55E-1	9.467E-1	-0.872	±25	Average RF
alpha-Chlordane	20.0	24.0	2.577E0	3.09E0	19.88	±25	Average RF
beta-BHC	20.0	18.5	8.872E-1	8.215E-1	-7.405	±25	Average RF
cis-Nonachlor	20.0	20.0	2.138E0	2.143E0	0.226	±25	Average RF
Dieldrin	20.0	19.7	1.175E0	1.158E0	-1.531	±25	Average RF
alpha-BHC	20.0	17.6	7.492E-1	6.586E-1	-12.090	±25	Average RF
gamma-BHC (Lindane)	20.0	18.4	6.223E-1	5.718E-1	-8.119	±25	Average RF
gamma-Chlordane	20.0	21.4	3.014E0	3.224E0	6.96	±25	Average RF
Heptachlor Epoxide	20.0	19.3	1.227E0	1.187E0	-3.297	±25	Average RF
Heptachlor	20.0	19.5	9.433E-1	9.21E-1	-2.363	±25	Average RF
Oxychlordane	20.0	23.5	1.04E0	1.22E0	17.32	±25	Average RF
trans-Nonachlor	20.0	21.4	1.966E0	2.1E0	6.83	±25	Average RF

Client:	Windward Environmental, LLC	**Service Request:**	K1806476
Project:	AOC3 Clam Collection/Task 4	**Date Analyzed:**	08/23/18 17:32

Continuing Calibration Verification (CCV) Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Calibration Date:**	8/8/2018
File ID:	J:\MS21\Data\082318\082318F006.D\	**Calibration ID:**	KC1800383
Signal ID:	1	**Analysis Lot:**	603882
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	24.6	0.4962	0.6091	22.8	NA	±25	Average RF
2,4'-DDE	20.0	25.2	0.4228	0.5328	26.0*	NA	±25	Average RF
2,4'-DDT	20.0	21.3	0.7466	0.7937	6.3	NA	±25	Average RF
4,4'-DDD	20.0	19.1	0.4968	0.4749	-4.4	NA	±25	Average RF
4,4'-DDE	20.0	22.0	0.3286	0.3609	9.8	NA	±25	Average RF
4,4'-DDT	20.0	21.6	0.7079	0.7649	8.1	NA	±25	Average RF
Aldrin	20.0	17.9	0.955	0.8536	-10.6	NA	±25	Average RF
alpha-Chlordane	20.0	27.0	2.5772	3.4817	35.1*	NA	±25	Average RF
beta-BHC	20.0	17.2	0.8872	0.7635	-13.9	NA	±25	Average RF
cis-Nonachlor	20.0	23.1	2.138	2.4736	15.7	NA	±25	Average RF
Dieldrin	20.0	27.6	1.1755	1.6193	37.8*	NA	±25	Average RF
alpha-BHC	20.0	21.4	0.7492	0.8033	7.2	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	19.6	0.6223	0.6107	-1.9	NA	±25	Average RF
gamma-Chlordane	20.0	24.3	3.0141	3.6619	21.5	NA	±25	Average RF
Heptachlor Epoxide	20.0	17.5	1.2271	1.0755	-12.4	NA	±25	Average RF
Heptachlor	20.0	17.3	0.9433	0.8141	-13.7	NA	±25	Average RF
Oxychlordane	20.0	22.7	1.0403	1.1833	13.7	NA	±25	Average RF
trans-Nonachlor	20.0	24.0	1.9658	2.3631	20.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	2.71	NA	NA	54.1	NA	50-200	
S_4,4'-DDT-d4	5.00	2.05	NA	NA	40.9*	NA	50-200	
S_Aldrin-13C12	20.0	21.1	NA	NA	106	NA	50-200	
S_Endrin-13C12	20.0	11.7	NA	NA	58.5	NA	50-200	
S_GBHCD6	20.0	20.8	NA	NA	104	NA	50-200	
S_Heptachlor-13C10	20.0	19.1	NA	NA	95.6	NA	50-200	
S_Heptachlrepox13C10	20.0	24.9	NA	NA	124	NA	50-200	
S_Oxychlordane-13C10	20.0	19.5	NA	NA	97.7	NA	50-200	

Client: Windward Environmental, LLC **Service Request:**K1806476
Project: AOC3 Clam Collection/Task 4

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**603882
Instrument ID:K-MSMS-01

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS21\Data\082318\082318F006.D\	Continuing Calibration Verification	KQ1811734-01	8/23/2018	17:32:18	
J:\MS21\Data\082318\082318F007.D\	Method Blank	KQ1810706-03	8/23/2018	18:00:42	
J:\MS21\Data\082318\082318F008.D\	Lab Control Sample	KQ1810706-01	8/23/2018	18:29:06	
J:\MS21\Data\082318\082318F009.D\	Duplicate Lab Control Sample	KQ1810706-02	8/23/2018	18:57:40	
J:\MS21\Data\082318\082318F010.D\	LDW18-S1-CLWB-Comp1	K1806476-001	8/23/2018	19:26:10	
J:\MS21\Data\082318\082318F011.D\	LDW18-S2-CLWB-Comp1	K1806476-002	8/23/2018	19:54:50	
J:\MS21\Data\082318\082318F012.D\	LDW18-S3-CLWB-Comp1	K1806476-003	8/23/2018	20:23:31	

Prep Summary Report

Client: Windward Environmental, LLC **Service Request:**K1806476
Project: AOC3 Clam Collection/Task 4
Sample Matrix: Fish Tissue

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 319299
Analytical Method: ALS SOP **Extraction Date:** 08/07/18 16:44

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
LDW18-S1-CLWB-Comp1	K1806476-001	NA	7/11/18	0.9505 g	1 mL	
LDW18-S2-CLWB-Comp1	K1806476-002	NA	7/11/18	0.8397 g	1 mL	
LDW18-S3-CLWB-Comp1	K1806476-003	NA	7/11/18	0.7222 g	1 mL	
Lab Control Sample	KQ1810706-01LCS	NA	NA	2 g	1 mL	
Duplicate Lab Control Sample	KQ1810706-02DLCS	NA	NA	2 g	1 mL	
Method Blank	KQ1810706-03MB	NA	NA	2 g	1 mL	

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Benchsheet

Service Request #:	**K1806476**	**Run #:**	**599576**
Test:	**Frz Dry**	**Balance ID:**	**K-Balance-45**
Method:	**Frz Dry**		

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1806476-001	17.030	9.660	18.074	1.04	10.8	
	K1806476-002	16.985	9.443	17.864	0.879	9.31	
	K1806476-003	16.966	9.666	17.730	0.764	7.90	

	FreezeDryer ID	Date In	Time In	Date Out	Time Out	Thermometer ID
FreezeDry		07/23/18	15:23	07/24/18	09:45	

Cal EQID	Cal Start Value	Cal End Value	Start Date	Start Time	End Date	End Time

Comments: Data entered 7-24-18 L.J. Reviewed 7/24/18 A.B.

Benchsheet

Service Request #: K1806476
Test: Frz Dry
Method: Frz Dry

Run #: 599576
Balance ID: K-Balance-45

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1806476-001	17.030	9.660	18.074	0.000		
	K1806476-002	16.985	9.443	17.864	0.000		
	K1806476-003	16.966	9.666	17.730	0.000		

FreezeDryer ID	Date In	Time In	Date Out	Time Out			Thermometer ID
	7/23/18	1523	7/24/18	9:45			
Cal EQID	**Cal Start Value**	**Cal End Value**	**Start Date**	**Start Time**	**End Date**	**End Time**	

GBeaty 7/23/18

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 319299 **Prep WorkFlow:** OrgExtT(365) **Status:** Prepped
Team: Semivoa GCMS/KPRESCOTT **Prep Method:** EPA 3541 **Prep Date/Time:** 8/7/18 04:44 PM
Number of Copies to make: 1

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K1806476-001	LDW18-S1-CLWB-Comp1	.02	ALS SOP/OC_Pest		Fish Tissue	0.9505g	1.00mL	
2	K1806476-002	LDW18-S2-CLWB-Comp1	.02	ALS SOP/OC_Pest		Fish Tissue	0.8397g	1.00mL	
3	K1806476-003	LDW18-S3-CLWB-Comp1	.02	ALS SOP/OC_Pest		Fish Tissue	0.7222g	1.00mL	
4	KQ1810706-01	LCS		ALS SOP/OC_Pest		Tissue	2g	1.00mL	
5	KQ1810706-02	DLCS		ALS SOP/OC_Pest		Tissue	2g	1.00mL	
6	KQ1810706-03	MB		ALS SOP/OC_Pest		Tissue	2g	1.00mL	

Spiking Solutions

Name: Pesticide/OC_Pest Surrogate Inventory ID 190308 Logbook Ref: SVM59-28C Expires On: 01/17/2019

K1806476-001 100.00µL K1806476-002 100.00µL K1806476-003 100.00µL KQ1810706-01 100.00µL KQ1810706-02 100.00µL KQ1810706-03 100.00µL

Name: Pesticide/OC_Pest Spike Inventory ID 191960 Logbook Ref: SVM59-30D Expires On: 08/31/2018

KQ1810706-01 100.00µL KQ1810706-02 100.00µL

Preparation Steps

Step:	Extraction	Step:	Final Volume
Started:	8/7/18 16:44	Started:	8/10/18 14:44
Finished:	8/8/18 07:31	Finished:	8/10/18 14:44
By:	KPRESCOTT	By:	TPOTTSCHMIDT
Comments		Comments	

Comments: IS=SVM59-16A

Reviewed By: [signature] Date: 8/14/18

Chain of Custody

Relinquished By: TP Date: 8/10/18

Received By: eb Date: 8/23/18

Extracts Examined: Yes No

Preparation Information Benchsheet

Prep Run#: 319299 **Prep WorkFlow:** OrgExtT(365) **Status:** Draft
Team: Semivoa GCMS/KPRESCOTT **Prep Method:** EPA 3541 **Prep Date/Time:** 8/7/18 04:44 PM
Number of Copies to make: 1

#	Lab Code	Client ID	B#	√	Method /Test	Matrix	Amt. Ext. g	pH	Int. Vol mL	Final Vol mL	Surr Amt µL	Spike Amt µL
1	**K1806476-001**	LDW18-S1-CLWB-Comp1 9A	.02	✓	ALS SOP / OC_Pest	Fish Tissue	0.9505	N/A	10	1	100	-
2	**K1806476-002** *	LDW18-S2-CLWB-Comp1 9B	.02	✓	ALS SOP / OC_Pest	Fish Tissue	0.8397		10	1		-
3	**K1806476-003** *	LDW18-S3-CLWB-Comp1 9C	.02	✓	ALS SOP / OC_Pest	Fish Tissue	0.7227		10	1		-
4	**KQ1810706-01**	LCS 9D	-	-	ALS SOP / OC_Pest	Tissue	2.000		10	1		100
5	**KQ1810706-02**	DLCS 9E	-	-	ALS SOP / OC_Pest	Tissue	2.000		10	1		1
6	**KQ1810706-03**	MB 9F	-	-	ALS SOP / OC_Pest	Tissue	2.000		10	1		-

Page 40 of 201

Comments: No MS/DMS due to insufficient amount. KRP 08/07/18.
* Samples partially fell through sieve. Thin blue. KRP 08/08/18. ★ samples had a low collection volume from GPC. Was run again 8/9/18
Surrogate ID: SVM59-28C 0.05/0.2ug/mL XP: 01/17/19 100uL epp-2B Spike ID: SVM59-30D 200ug/mL XP: 08/21/18 100uL epp-2B

Witnessed By: —

Analyst: Kali Rae Prescott Assisted By: —

Additional Prep Information for ERA 3541
OC Pesticides by GCMS

Service Request K1806476 Workgroup KQ1810706

Sulfate Lot # 181892 DCM (GC^2) Lot # DT447 Glass Wool Lot # 21317499

Date/Time/Initials Weighed: 1627 08/07/18 KLP Balance ID: K-BALANCE-40 Calibration Verified ✓

Storage Location (if not extracted same day): —

Soxtherm/s unit I.D# K-SOX-09

Soxtherm Start (Time/Date/Initial): 1725 08/07/18 KLP

Soxtherm Stop (Time/Date/Initial): ~~1822~~ 0822 08/08/18 KLP

N-Evap (Time/Date/Initial): 11:32 8/8/18 TP N-Evap Therm. ID: X-SVM-010

Temp as measured: 21.0 °C Correction factor: 0.0 °C Adjusted temp: 21.0 °C

GPC Clean-up (3640): Start 14:48 8/8/18 TP (Time/Date/Initial)

S-Evap (Time/Date/Initial): 10:41 8-9-18 BW S-Evap Therm. ID: DWB-46

Temp as measured: 76 °C Correction factor: 0.0 °C Adjusted temp: 46 °C

Hexane Exchange for Carbon (Time/Date/Initial): 10:54 8/9/18 BW

Hexane Lot # 191323

N-Evap (Time/Date/Initial): 11:20 8/9/18 TP N-Evap Therm. ID: X-SVM-010

Temp as measured: 21.0 °C Correction factor: 0.0 °C Adjusted temp: 21.0 °C

Carbon Clean-up (Time/Date/Initial): 16:02 8/9/18 TP

Carbon Column Lot # 103840004 4:1 Hexane/DCM Lot # Ext002-325

N-Evap (Time/Date/Initial): 16:34 8/10/18 TP N-Evap Therm. ID: SVMP2-001

Temp as measured: 21.0 °C Correction factor: 0.0 °C Adjusted temp: 21.0 °C

Pipet Lots: Intermediate Volume 02717647 Final Volume 30408617

Extract Storage: Beers'

Completed (Time/Date/Initial): 14:00 8/10/18 TP

Comments/Observations: O.E.E. KLP 08/08/18.

Bench Sheet Review Check List	
☑	Hold Times Met (If no, Reason: Frozen)
☑	Prep date, dept, method, product code correct in stealth
☑	Spike information correct
☑	Weights/Volumes and units correct on raw and final bench sheets
☑	Sample IDs have been checked—Bottle numbers appended if required
☑	Names present for: Started by, Completed by, relinquished by, and witnessed by.
☐	Training has been circled
☑	Extract Storage recorded
☑	Additional Prep Sheet completely filled out (NA or line out Blanks)
☑	All clean-ups have been noted on additional prep sheet
☑	Signed service request with Form V, if applicable, has been attached

GPC RUNLOG

Run Date: 8/8/2018 **Calibration Date:** 8/6/2018

GPC #: 8 **Program Number:** OC PEST

Lab I.D.	Position	Test	Dilution	Comments
BLANK	1	PEST	NA	N/A
BLANK	2	PEST	NA	N/A
KQ1810706-3 MB	3	PEST	NA	N/A
KQ1810706-1 LCS	4	PEST	NA	N/A
KQ1810706-2 DLCS	5	PEST	NA	N/A
K1806476-001	6	PEST	NA	N/A
K1806476-002	7	PEST	NA	N/A
K1806476-003	8	PEST	NA	N/A

Final Volume Calculation

Intermediate Volume before GPC:	10	mL
Aliquot taken from intermediate volume:	10	mL
Aliquot diluted up to....	10	mL
Volume Injected onto column:	5	mL
GPC'd Extract brought to the Final Volume of:	0.5	mL
Calculated True Final Volume:	1	mL

Filter Lot # FC8051

Operator Date and Initial: TP 8/8/18

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F010.D\
Lab ID: K1806476-001
RunType: N/A
Matrix: Fish Tissue

Date Acquired: 8/23/18 19:26:10
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery		X
Duplicate Lab Control Sample Recovery		X
Method Blank	X	
Method Blank Surrogates		X
Internal Standards	X	
Surrogates		X
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Lab Control Sample Recovery	alpha-Chlordane	151	30	150	
	cis-Nonachlor	194	30	150	
	gamma-Chlordane	152	30	150	
	S_Aldrin-13C12	29	31	151	
Duplicate Lab Control Sample Recovery	alpha-Chlordane	163	30	150	
	cis-Nonachlor	190	30	150	
	S_4,4'DDD-d4	34	36	155	
	S_4,4'-DDT-d4	31	33	150	
	S_Aldrin-13C12	27	31	151	
	S_Endrin-13C12	32	34	160	
Method Blank Surrogates	S_4,4'-DDT-d4	32	33	150	
	S_Endrin-13C12	30	34	160	
Surrogates	S_4,4'-DDT-d4	30	33	150	

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F010.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 19:26:10	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-001	**Raw Units:**	ng/mL

Bottle ID:	K1806476-001.02	**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	K1806476
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.3917	+0.03	36568.6	73.6127	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec		% Rec Criteria	Rpt?
S_4,4'DDD-d4	15.9926	+0.03	8998.34	3.53883	71		36 - 155	Y
S_4,4'-DDT-d4	16.9349	+0.01	1956.58	1.5147	30	*	33 - 150	Y
S_Aldrin-13C12	12.4292		755.281	7.16685	36		31 - 151	Y
S_Endrin-13C12	15.4665	+0.03	786.571	15.7496	79		34 - 160	Y
S_GBHCD6	10.8747	+0.01	2853.28	10.6219	53		25 - 151	Y
S_Heptachlor-13C10	11.8196		2133.09	9.7908	49		10 - 243	Y
S_Heptachlrepox13C10	13.3157	+0.03	2215.68	24.511	123		35 - 152	Y
S_Oxychlordane-13C10	13.2093	+0.03	807.844	14.8724	74		10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	14.8854	+0.02	226.505	0.253648	0.27	U	Y
2,4'-DDE	0		0	0	0	U	Y
2,4'-DDT	0		0	0	0	U	Y
4,4'-DDD	16.0735	+0.03	774.276	0.865957	0.91	U	Y
4,4'-DDE	14.6185	+0.01	641.635	1.08498	1.1	U	Y
4,4'-DDT	17.0156	+0.01	108.711	0.392441	0.41	U	Y
Aldrin	0		0	0	0	U	Y
alpha-Chlordane	14.0821	+0.03	53.48	0.513742	0.54	U	Y
beta-BHC	0		0	0	0	U	Y
cis-Nonachlor	0		0	0	0	U	Y
Dieldrin	0		0	0	0	U	Y
alpha-BHC	0		0	0	0	U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/24/18 10:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F010.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 19:26:10	**Vial:**	5
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-001	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	0		0	0	0	U	Y
gamma-Chlordane	13.9028	+0.03	43.706	0.358993	0.38	U	Y
Heptachlor Epoxide	0		0	0	0	U	Y
Heptachlor	0		0	0	0	U	Y
Oxychlordane	0		0	0	0	U	Y
trans-Nonachlor	14.1076	+0.03	53.922	0.679096	0.71	U	Y

Prep Amount:	0.9505 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

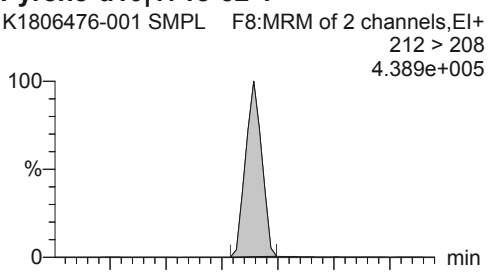
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

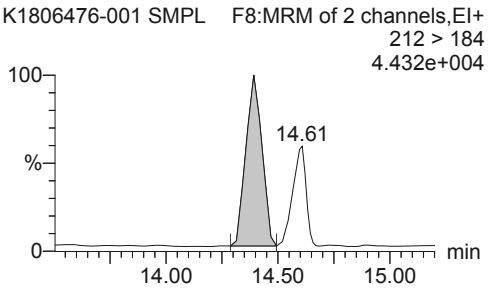
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

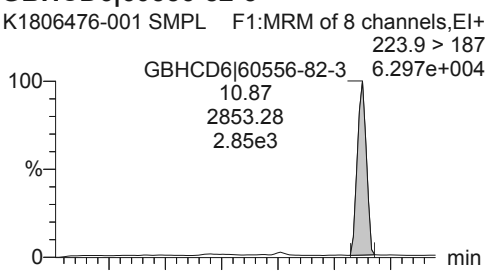
Name: 082318F010, Date: 23-Aug-2018, Time: 19:26:10, Description: K1806476-001

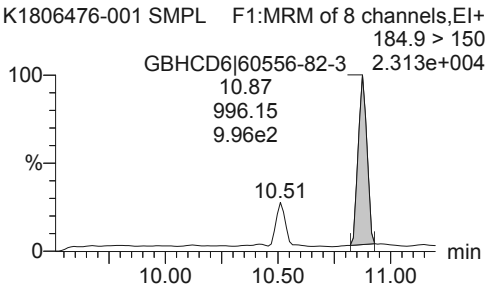
Pyrene-d10|1718-52-1



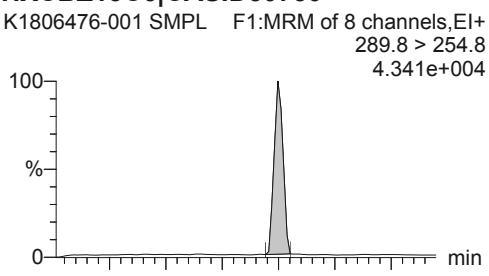


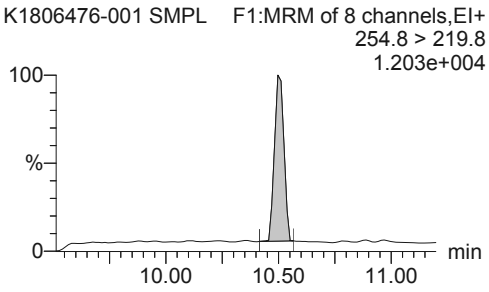
GBHCD6|60556-82-3



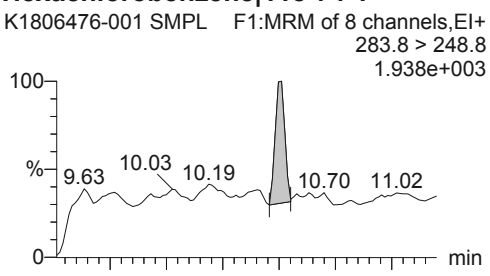


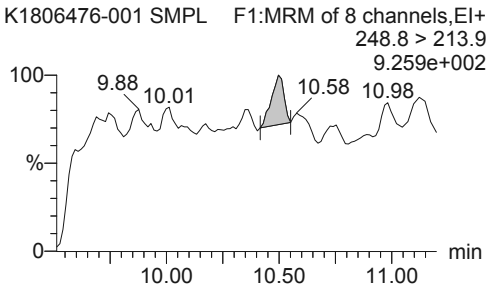
HXCBZ13C6|CASID30730



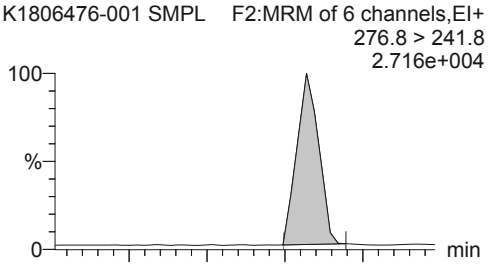


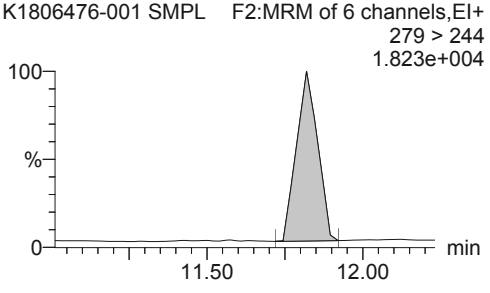
Hexachlorobenzene|118-74-1



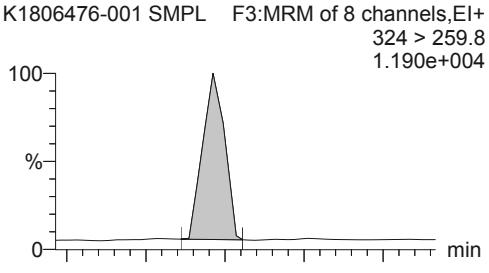


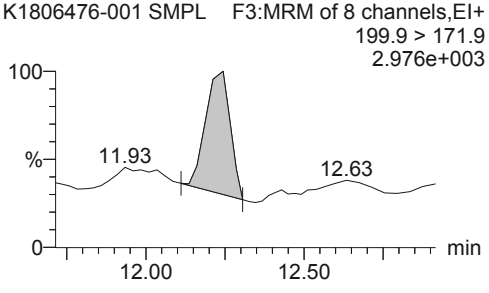
Heptachlor-13C10|CASID30731



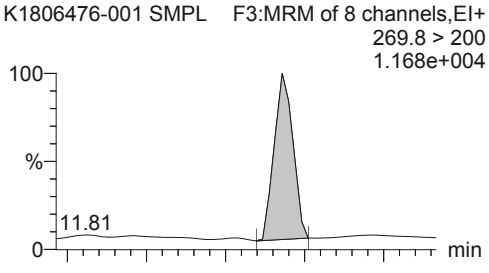


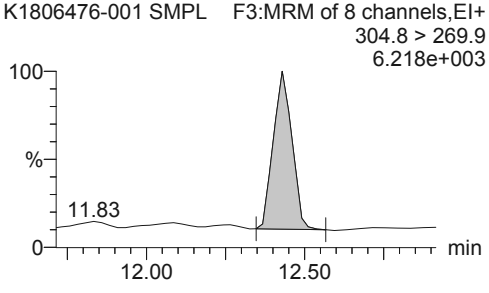
Chlorpyrifos-d10|CASID30732



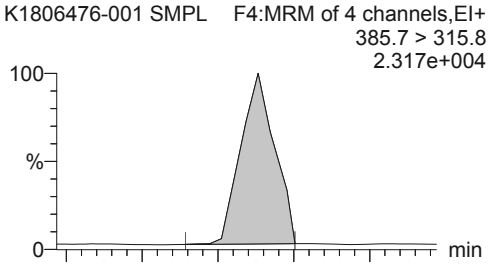


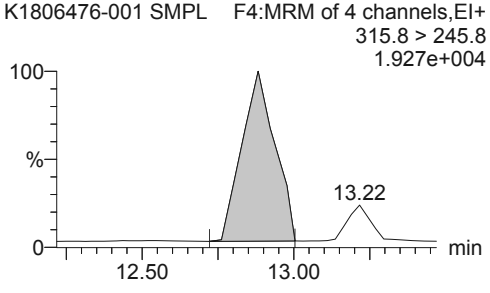
Aldrin-13C12|CASID30733





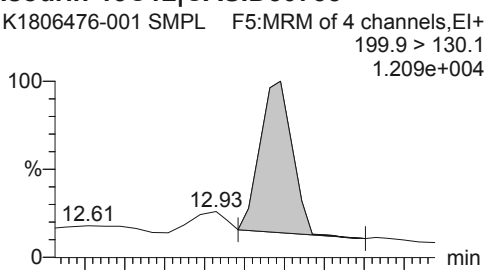
Ocstyrene13C8|CASID30734

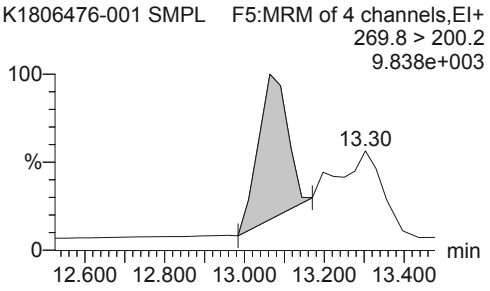




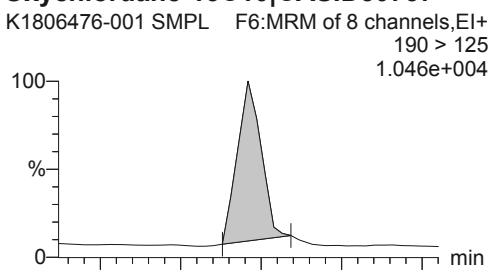
Name: 082318F010, Date: 23-Aug-2018, Time: 19:26:10, Description: K1806476-001

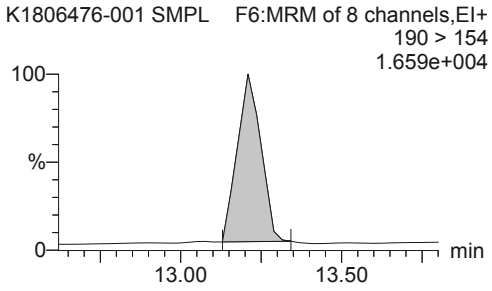
Isodrin-13C12|CASID30735



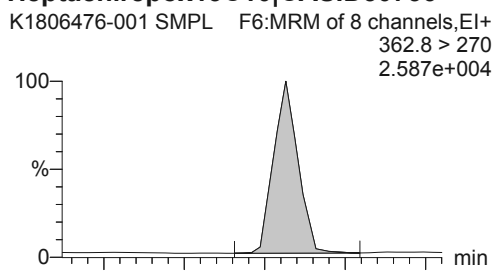


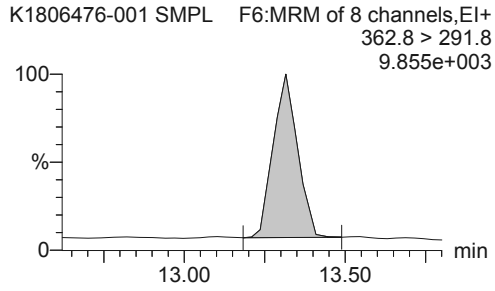
Oxychlordane-13C10|CASID30737



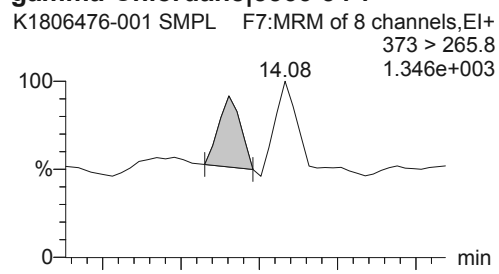


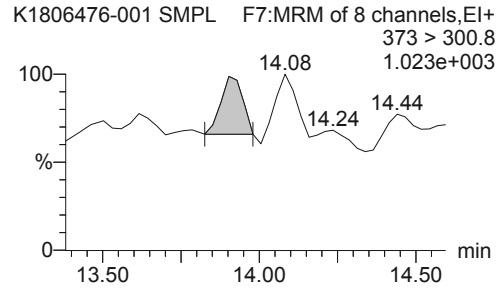
HeptachlrepoxI3C10|CASID30736



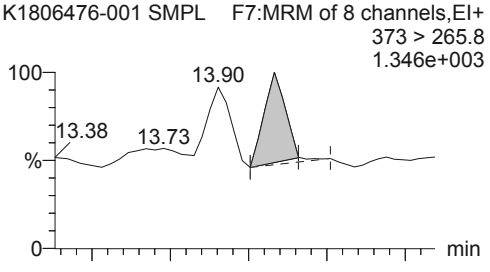


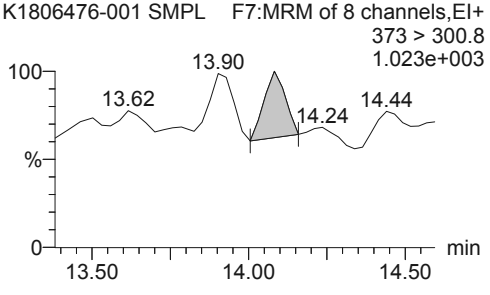
gamma-Chlordane|5566-34-7



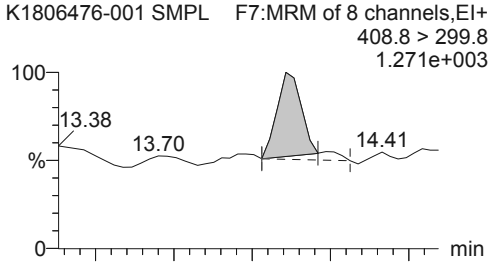


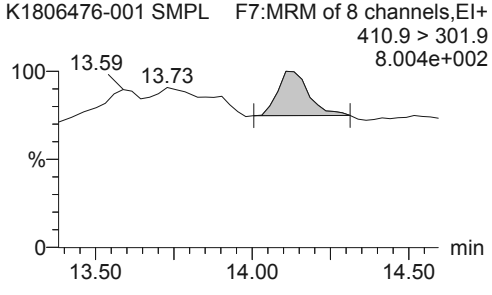
alpha-Chlordane|5103-71-9



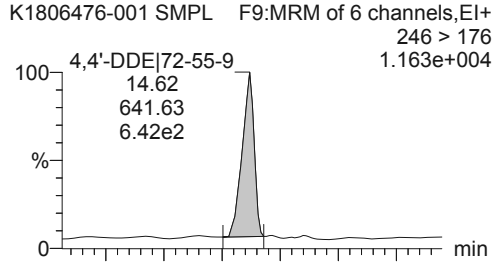


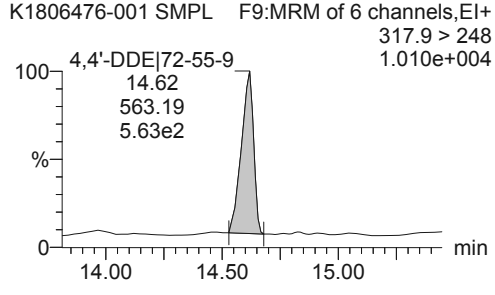
trans-Nonachlor|39765-80-5



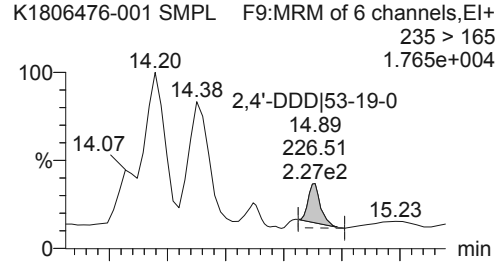


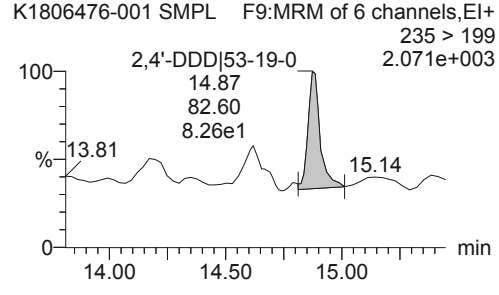
4,4'-DDE|72-55-9





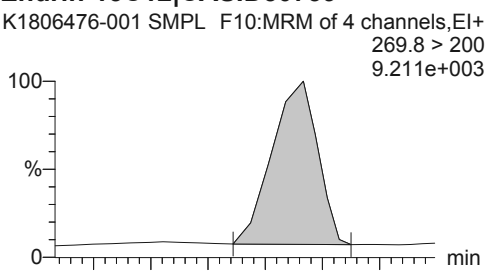
2,4'-DDD|53-19-0

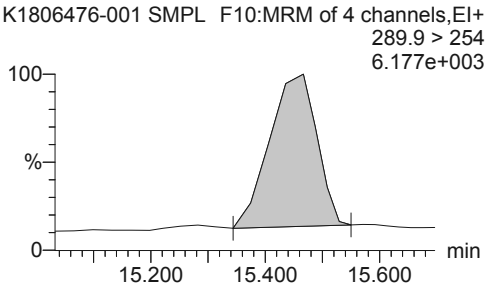




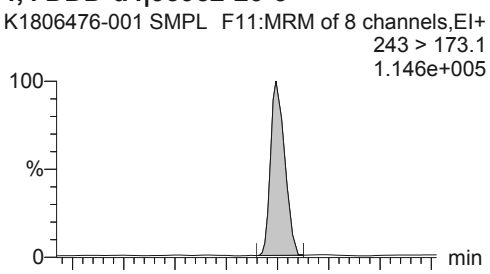
Name: 082318F010, Date: 23-Aug-2018, Time: 19:26:10, Description: K1806476-001

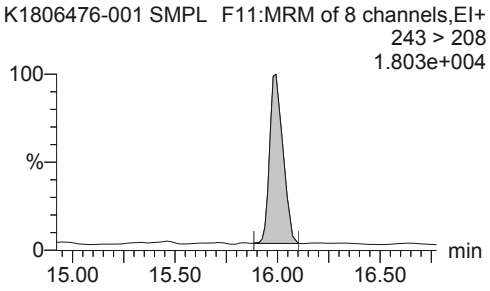
Endrin-13C12|CASID30739



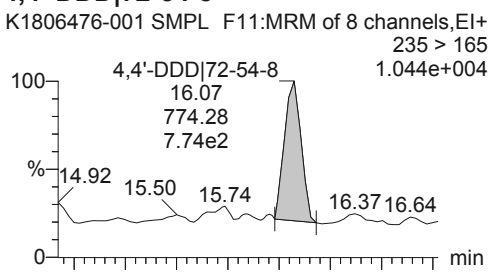


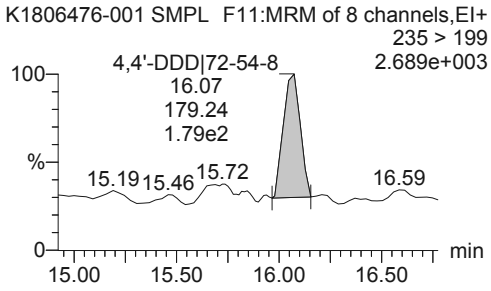
4,4'DDD-d4|93952-20-6



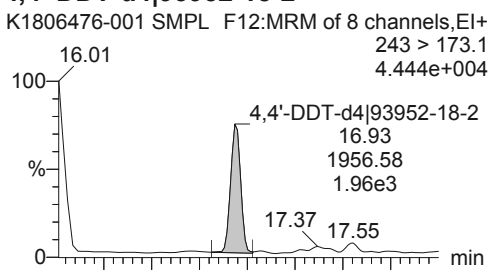


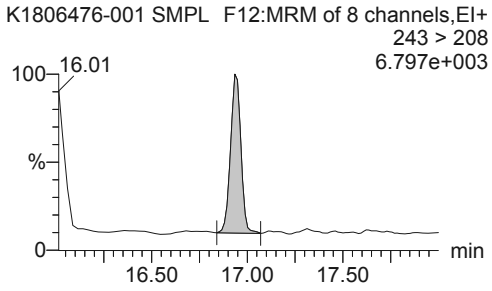
4,4'-DDD|72-54-8



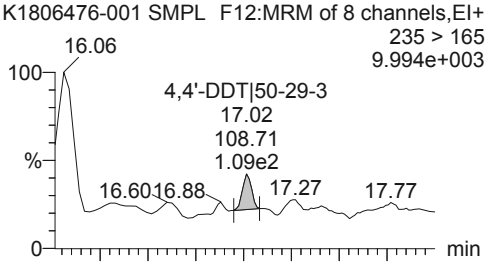


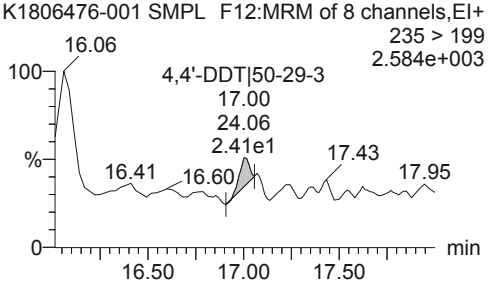
4,4'-DDT-d4|93952-18-2



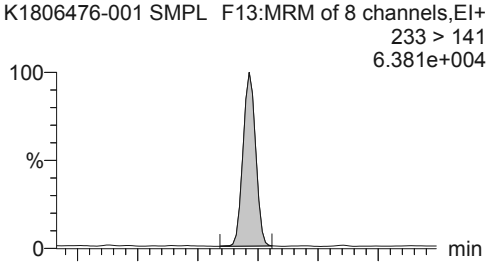


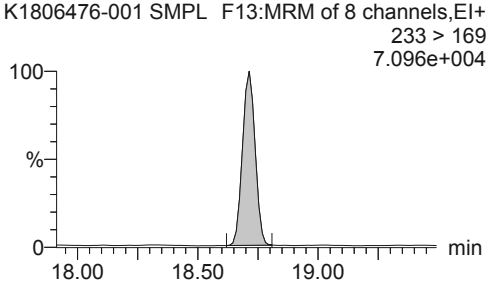
4,4'-DDT|50-29-3



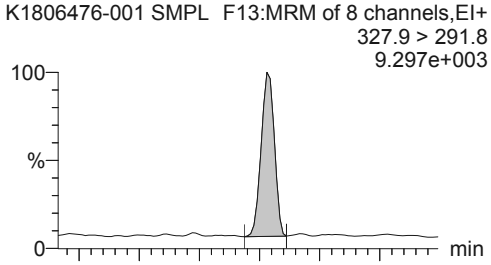


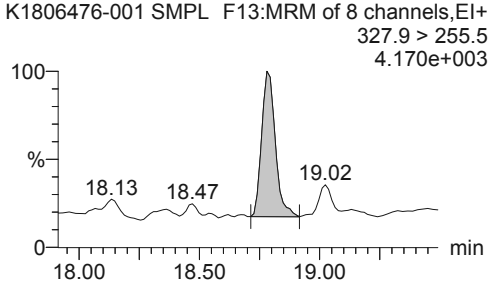
Mxchlord6|106031-79-2



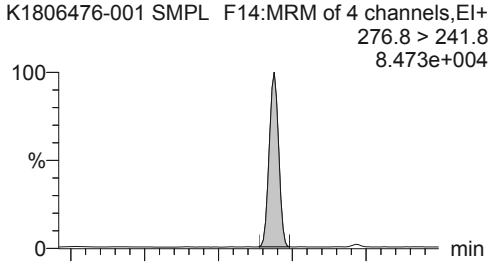


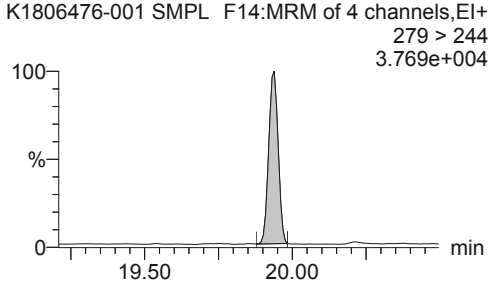
Endrinket13C12|CASID30741





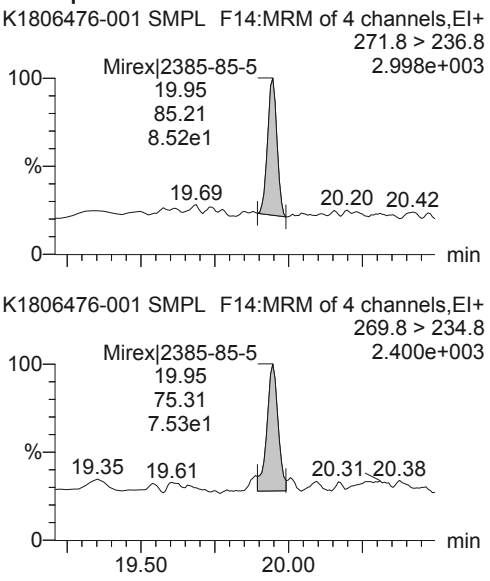
Mirex-13C10|CASID30743





Name: 082318F010, Date: 23-Aug-2018, Time: 19:26:10, Description: K1806476-001

Mirex|2385-85-5



1st 08/24/18
2nd 08/24/18

Name: 082318F010, Date: 23-Aug-2018, Time: 19:26:10, Description: K1806476-001

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.39	36568.617		bb		73.6	-26.4	9.752	10.217	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	2853.278	36568.617	bb		10.6	-46.9	3.616	2.864	NO
3	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	1940.732	36568.617	bb		6.1	-69.4	3.518	3.552	NO
4	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	66.033	1940.732	bd		0.6		3.369	3.991	NO
5	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	2133.088	36568.617	bb		9.8	-51.0	1.865	1.548	NO
6	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.21	903.640	36568.617	bb		3.0	-85.2	3.568	4.886	YES
7	Aldrin-13C12|CASID30733	269.8 > 200	12.43	755.281	36568.617	bb		7.2	-64.2	2.967	1.987	YES
8	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.88	2897.262	36568.617	bb		14.3	-28.3	2.181	1.233	YES
9	Isodrin-13C12|CASID30735	199.9 > 130.1	13.09	964.981	36568.617	MM	MP	16.3	-18.7	1.007	1.418	YES
10	Oxychlordane-13C10|CAS...	190 > 125	13.21	807.844	36568.617	bb		14.9	-25.6	0.636	0.605	NO
11	Heptachlrepox13C10|CAS...	362.8 > 270	13.32	2215.681	36568.617	MM	MP	24.5	22.6	2.149	2.770	NO
12	gamma-Chlordane|5566-3...	373 > 265.8	13.90	43.706	807.844	bb		0.4		2.108	1.620	NO
13	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	53.480	807.844	MM	BLC	0.5		1.575	1.781	NO
14	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	53.922	807.844	MM	BLC	0.7		1.517	2.335	YES
15	4,4'-DDE|72-55-9	246 > 176	14.62	641.635	8998.337	bb		1.1		1.653	1.139	YES
16	2,4'-DDD|53-19-0	235 > 165	14.89	226.505	8998.337	MM	BLC	0.3		2.709	2.742	NO
17	Endrin-13C12|CASID30739	269.8 > 200	15.47	786.571	36568.617	bb		15.7	-21.3	1.566	1.541	NO
18	4,4'DDD-d4|93952-20-6	243 > 173.1	15.99	8998.337	36568.617	bb		3.5	-29.2	6.924	6.936	NO
19	4,4'-DDD|72-54-8	235 > 165	16.07	774.276	8998.337	bb		0.9		4.083	4.320	NO
20	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.93	1956.583	36568.617	bd		1.5	-69.7	5.701	5.141	NO
21	4,4'-DDT|50-29-3	235 > 165	17.02	108.711	1956.583	MM	MP	0.4		3.729	4.518	NO
22	Mxchlord6|106031-79-2	233 > 141	18.71	3791.146	36568.617	bb		6.9	-65.3	0.917	0.895	NO
23	Endrinket13C12|CASID30...	327.9 > 291.8	18.78	546.955	36568.617	bb		12.4	-38.1	2.077	2.431	NO
24	Mirex-13C10|CASID30743	276.8 > 241.8	19.94	3076.414	36568.617	bb		2.6	-47.1	2.492	2.265	NO
25	Mirex|2385-85-5	271.8 > 236.8	19.95	85.210	3076.414	bb		0.1		1.678	1.132	YES

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F011.D\
Lab ID: K1806476-002
RunType: N/A
Matrix: Fish Tissue

Date Acquired: 8/23/18 19:54:50
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery		X
Duplicate Lab Control Sample Recovery		X
Method Blank	X	
Method Blank Surrogates		X
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Lab Control Sample Recovery	alpha-Chlordane	151	30	150	
	cis-Nonachlor	194	30	150	
	gamma-Chlordane	152	30	150	
	S_Aldrin-13C12	29	31	151	
Duplicate Lab Control Sample Recovery	alpha-Chlordane	163	30	150	
	cis-Nonachlor	190	30	150	
	S_4,4'DDD-d4	34	36	155	
	S_4,4'-DDT-d4	31	33	150	
	S_Aldrin-13C12	27	31	151	
	S_Endrin-13C12	32	34	160	
Method Blank Surrogates	S_4,4'-DDT-d4	32	33	150	
	S_Endrin-13C12	30	34	160	

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F011.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 19:54:50	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-002	**Raw Units:**	ng/mL

Bottle ID:	K1806476-002.02	**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	K1806476
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.4172	+0.05	39188.4	78.8863	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
S_4,4'DDD-d4	16.0197	+0.05	9020.31	3.31032	66	36 - 155	Y
S_4,4'-DDT-d4	16.9618	+0.04	2530.11	1.82776	37	33 - 150	Y
S_Aldrin-13C12	12.4497	+0.02	997.806	8.83522	44	31 - 151	Y
S_Endrin-13C12	15.4665	+0.03	1165.42	21.7754	109	34 - 160	Y
S_GBHCD6	10.8747	+0.01	3872.12	13.4511	67	25 - 151	Y
S_Heptachlor-13C10	11.8448	+0.03	3647.61	15.6232	78	10 - 243	Y
S_Heptachlrepox13C10	13.3157	+0.03	2473.53	25.5342	128	35 - 152	Y
S_Oxychlordane-13C10	13.2358	+0.05	946.568	16.2614	81	10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	0		0	0	0	U	Y
2,4'-DDE	0		0	0	0	U	Y
2,4'-DDT	0		0	0	0	U	Y
4,4'-DDD	16.0736	+0.03	1731.14	1.9314	2.3	U	Y
4,4'-DDE	14.6306	+0.02	1317.5	2.22241	2.6	U	Y
4,4'-DDT	0		0	0	0	U	Y
Aldrin	0		0	0	0	U	Y
alpha-Chlordane	14.1076	+0.05	72.121	0.591277	0.70	U	Y
beta-BHC	0		0	0	0	U	Y
cis-Nonachlor	15.8445	+0.03	27.294	0.269738	0.32	U	Y
Dieldrin	0		0	0	0	U	Y
alpha-BHC	0		0	0	0	U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/24/18 10:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F011.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 19:54:50	**Vial:**	6
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-002	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	0		0	0	0	U	Y
gamma-Chlordane	13.9284	+0.05	65.873	0.461773	0.55	U	Y
Heptachlor Epoxide	0		0	0	0	U	Y
Heptachlor	11.8448	+0.03	13.666	0.0794348	0.095	U	Y
Oxychlordane	0		0	0	0	U	Y
trans-Nonachlor	14.1076	+0.03	32.625	0.350664	0.42	U	Y

Prep Amount:	0.8397 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

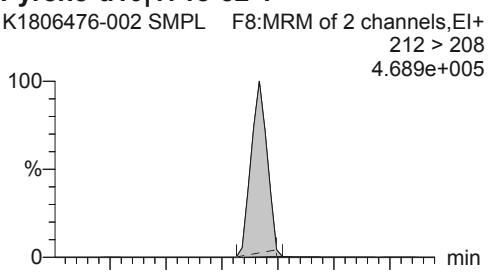
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

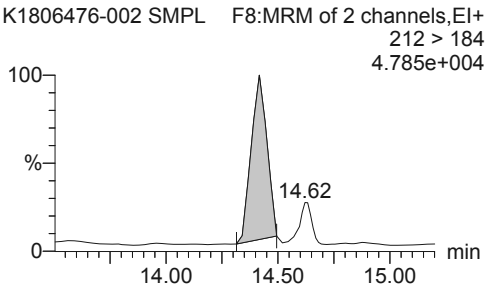
Printed: 8/24/18 10:15

\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

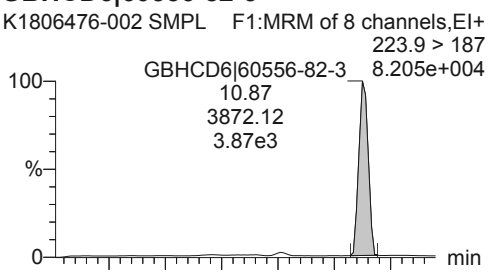
Name: 082318F011, Date: 23-Aug-2018, Time: 19:54:50, Description: K1806476-002

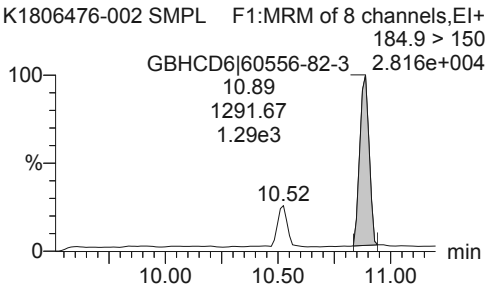
Pyrene-d10|1718-52-1



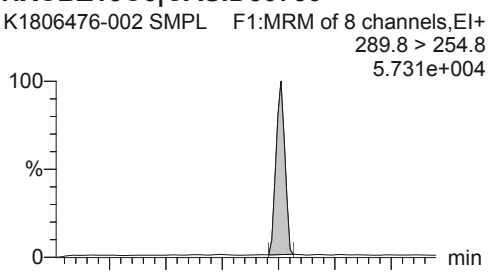


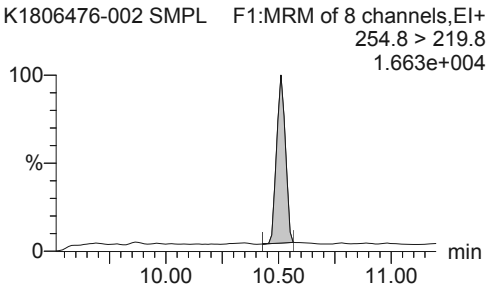
GBHCD6|60556-82-3



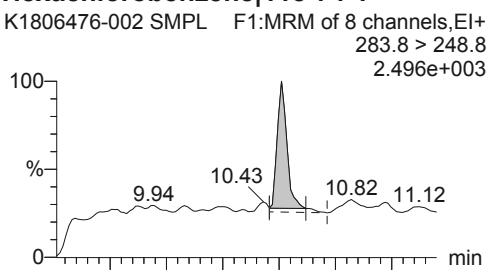


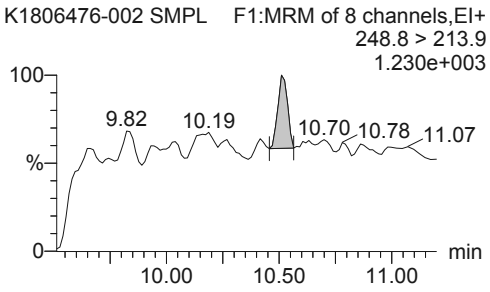
HXCBZ13C6|CASID30730



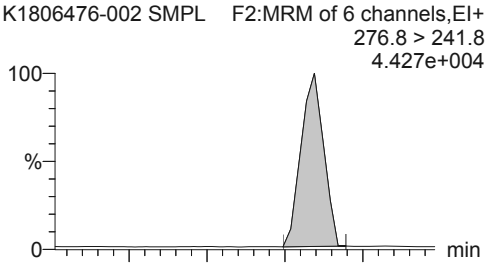


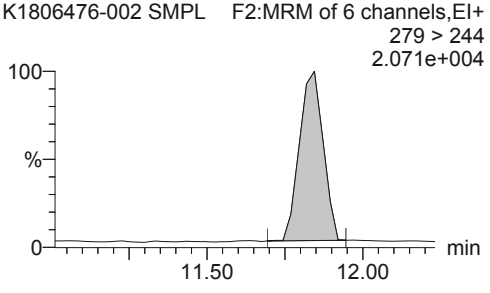
Hexachlorobenzene|118-74-1



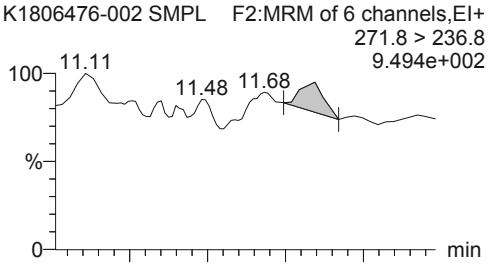


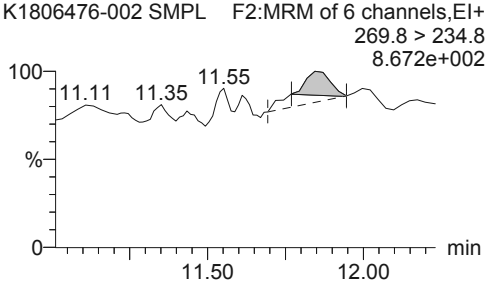
Heptachlor-13C10|CASID30731



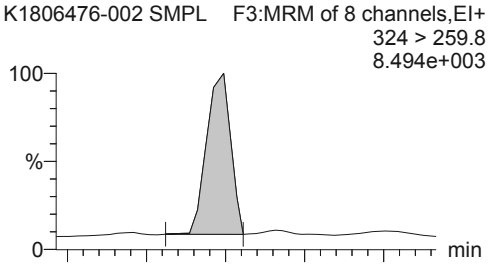


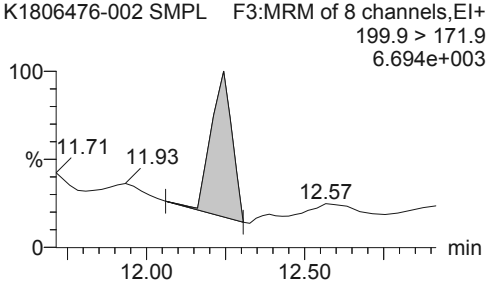
Heptachlor|76-44-8



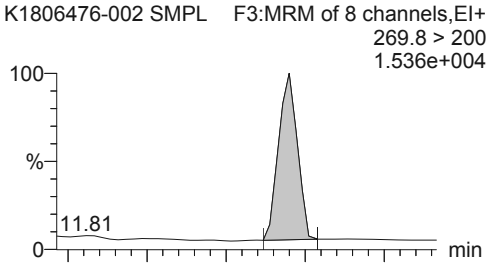


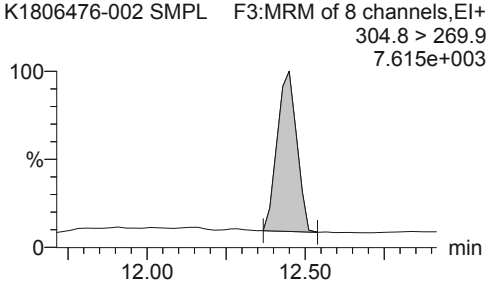
Chlorpyrifos-d10|CASID30732





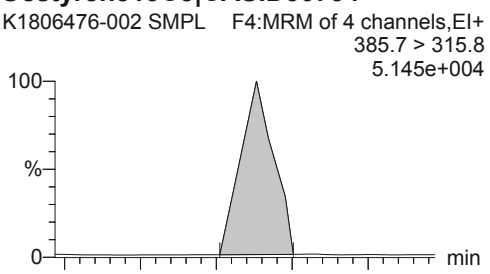
Aldrin-13C12|CASID30733

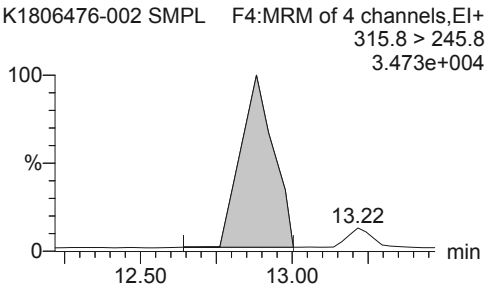




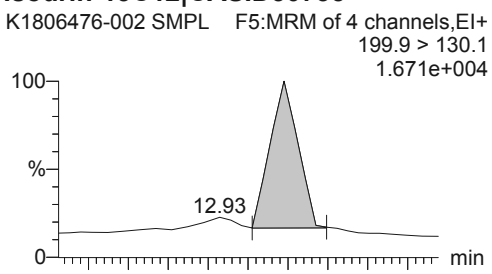
Name: 082318F011, Date: 23-Aug-2018, Time: 19:54:50, Description: K1806476-002

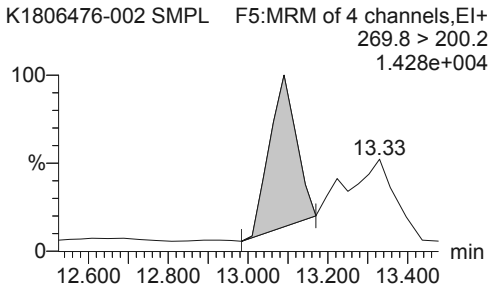
Ocstyrene13C8|CASID30734



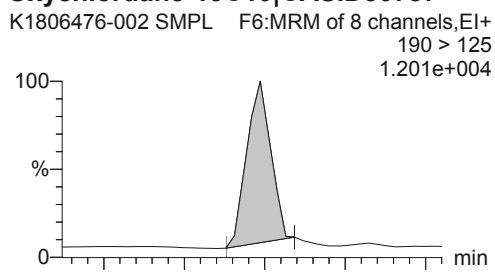


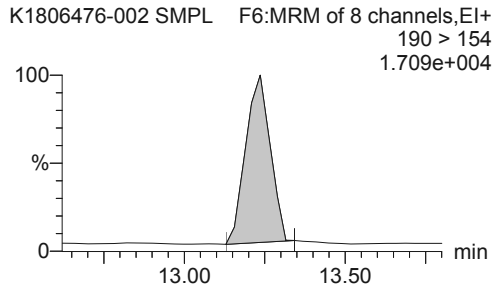
Isodrin-13C12|CASID30735



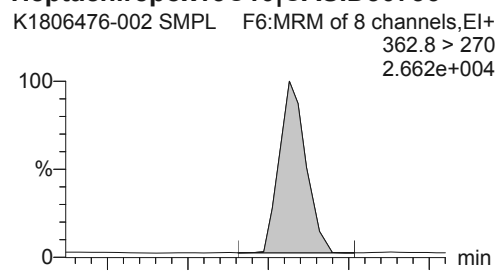


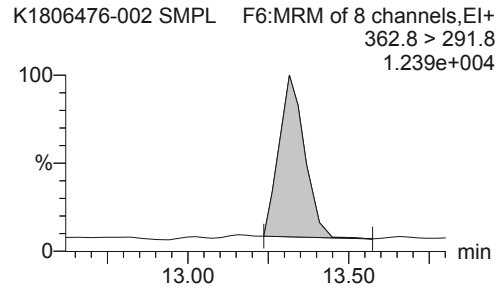
Oxychlordane-13C10|CASID30737



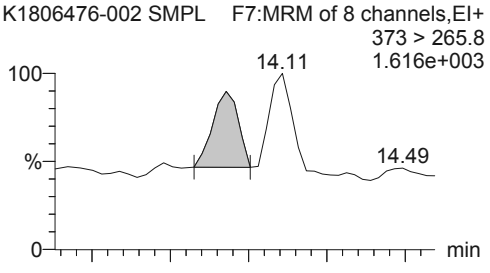


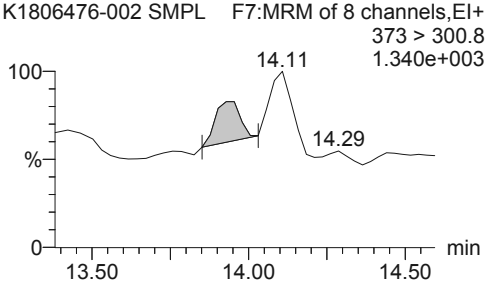
HeptachIrepox13C10|CASID30736



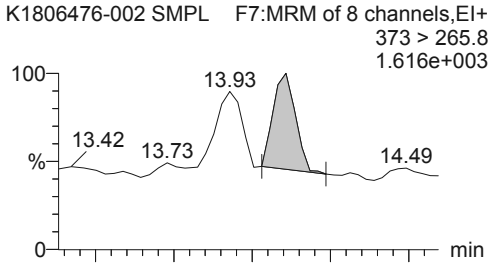


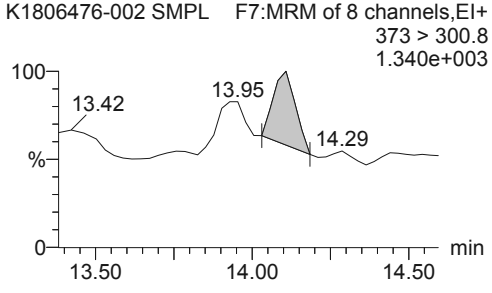
gamma-Chlordane|5566-34-7



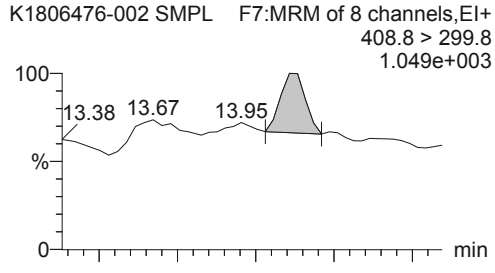


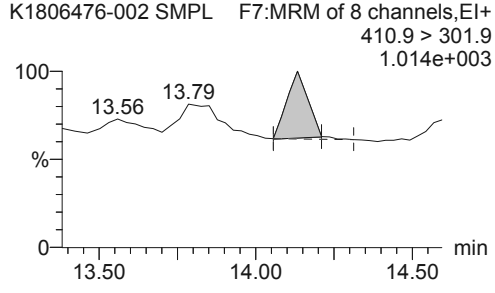
alpha-Chlordane|5103-71-9



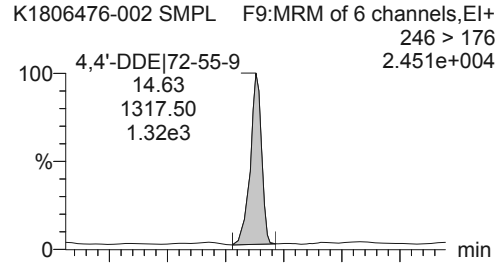


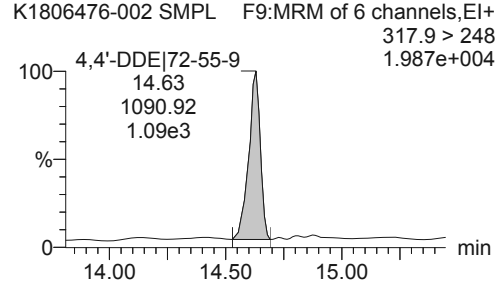
trans-Nonachlor|39765-80-5





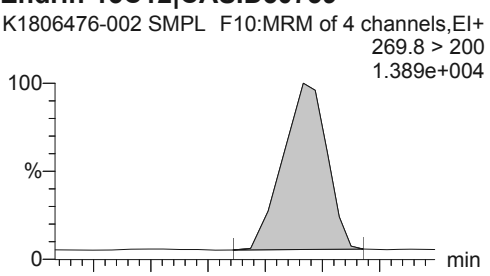
4,4'-DDE|72-55-9

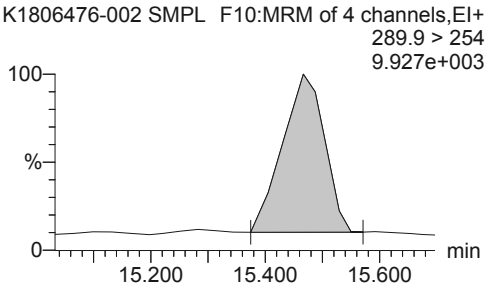




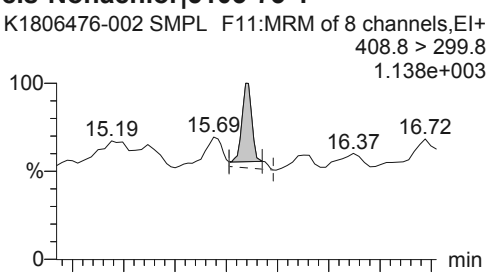
Name: 082318F011, Date: 23-Aug-2018, Time: 19:54:50, Description: K1806476-002

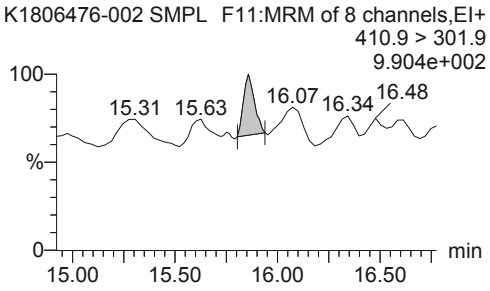
Endrin-13C12|CASID30739



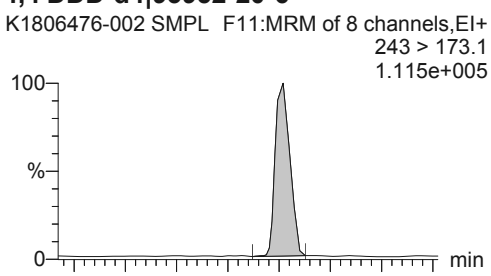


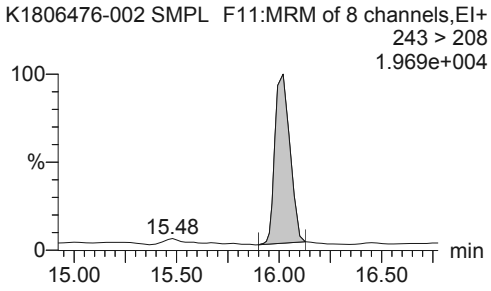
cis-Nonachlor|5103-73-1



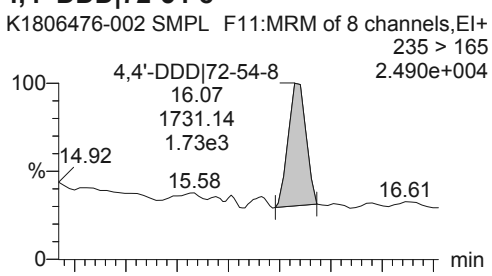


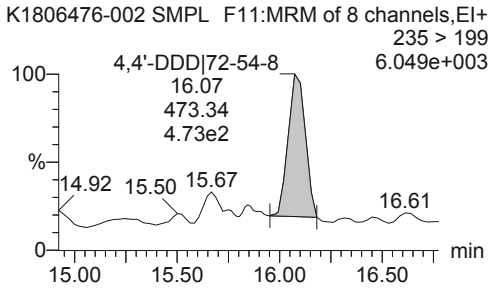
4,4'DDD-d4|93952-20-6



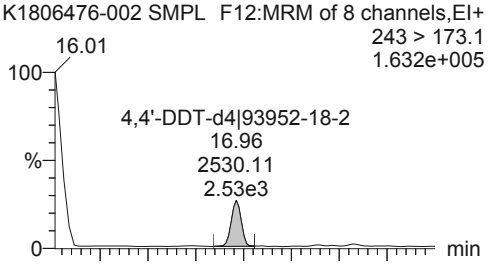


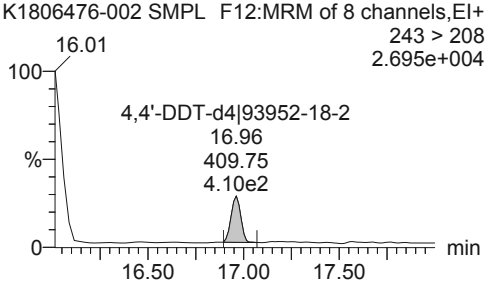
4,4'-DDD|72-54-8



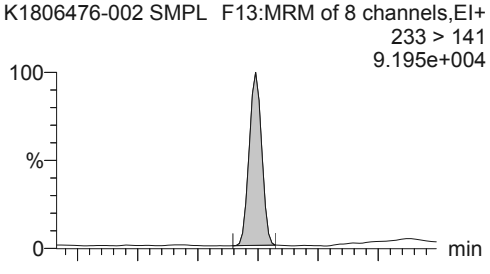


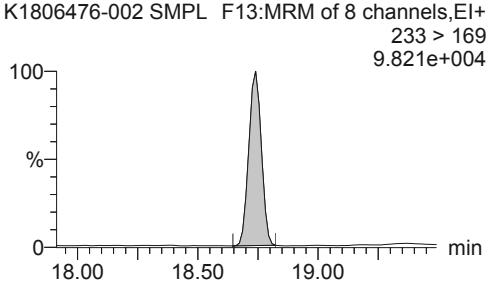
4,4'-DDT-d4|93952-18-2



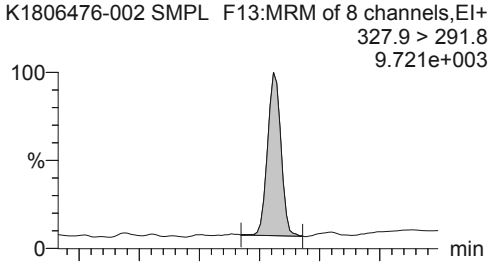


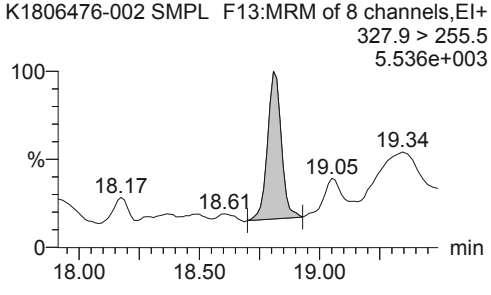
Mxchlord6|106031-79-2



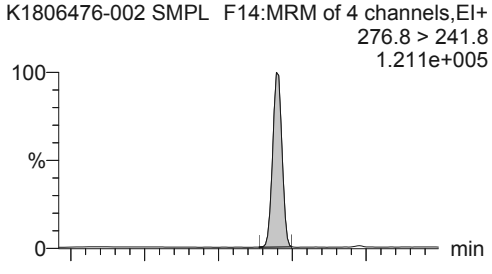


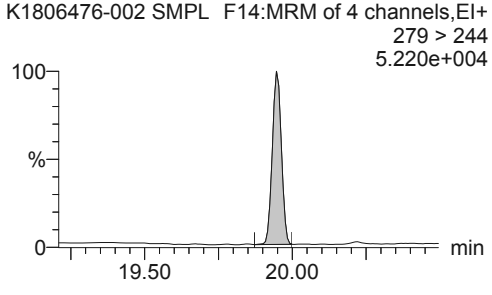
Endrinket13C12|CASID30741





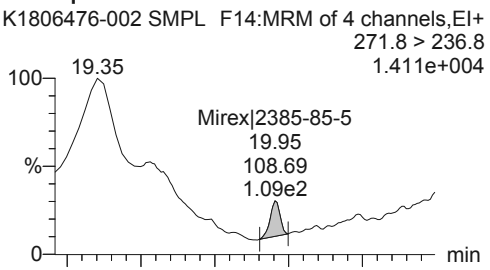
Mirex-13C10|CASID30743

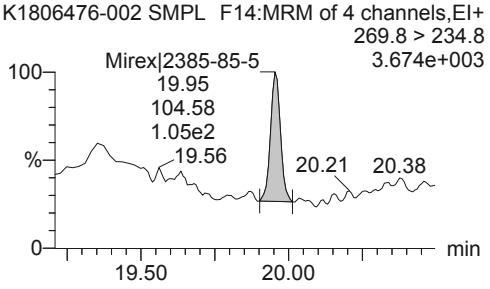




Name: 082318F011, Date: 23-Aug-2018, Time: 19:54:50, Description: K1806476-002

Mirex|2385-85-5





1st 08/24/18
2nd 08/24/18

Name: 082318F011, Date: 23-Aug-2018, Time: 19:54:50, Description: K1806476-002

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.42	39188.359		MM	BLC	78.9	-21.1	9.752	10.777	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	3872.123	39188.359	bb		13.5	-32.7	3.616	2.998	NO
3	HXCBZ13C6|CASID30730	289.8 > 254.8	10.51	2539.816	39188.359	bb		7.5	-62.7	3.518	3.549	NO
4	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	87.361	2539.816	MM	BLC	0.6		3.369	3.451	NO
5	Heptachlor-13C10|CASID...	276.8 > 241.8	11.84	3647.610	39188.359	bb		15.6	-21.9	1.865	2.088	NO
6	Heptachlor|76-44-8	271.8 > 236.8	11.84	13.666	3647.610	bb	BLC	0.1		1.536	1.276	NO
7	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.24	681.993	39188.359	bb		2.1	-89.6	3.568	1.622	YES
8	Aldrin-13C12|CASID30733	269.8 > 200	12.45	997.806	39188.359	bb		8.8	-55.8	2.967	2.022	YES
9	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.88	6348.044	39188.359	bb		29.3	46.6	2.181	1.491	YES
10	Isodrin-13C12|CASID30735	199.9 > 130.1	13.09	1129.268	39188.359	MM	MP	17.8	-11.2	1.007	1.177	NO
11	Oxychlordane-13C10|CAS...	190 > 125	13.24	946.568	39188.359	bb		16.3	-18.7	0.636	0.662	NO
12	Heptachlrepox13C10|CAS...	362.8 > 270	13.32	2473.528	39188.359	MM	MP	25.5	27.7	2.149	2.365	NO
13	gamma-Chlordane|5566-3...	373 > 265.8	13.93	65.873	946.568	bb		0.5		2.108	2.346	NO
14	alpha-Chlordane|5103-71-9	373 > 265.8	14.11	72.121	946.568	bb		0.6		1.575	1.588	NO
15	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	32.625	946.568	bb	BLC	0.4		1.517	1.093	NO
16	4,4'-DDE|72-55-9	246 > 176	14.63	1317.503	9020.313	bb		2.2		1.653	1.208	NO
17	Endrin-13C12|CASID30739	269.8 > 200	15.47	1165.423	39188.359	bb		21.8	8.9	1.566	1.542	NO
18	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.84	27.294	946.568	MM	BLC	0.3		1.628	1.303	NO
19	4,4'DDD-d4|93952-20-6	243 > 173.1	16.02	9020.313	39188.359	bb		3.3	-33.8	6.924	5.640	NO
20	4,4'-DDD|72-54-8	235 > 165	16.07	1731.140	9020.313	bb		1.9		4.083	3.657	NO
21	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.96	2530.114	39188.359	bb		1.8	-63.4	5.701	6.175	NO
22	Mxchlord6|106031-79-2	233 > 141	18.74	5376.477	39188.359	bb		9.2	-54.1	0.917	0.925	NO
23	Endrinket13C12|CASID30...	327.9 > 291.8	18.81	576.119	39188.359	bb		12.2	-39.1	2.077	1.887	NO
24	Mirex-13C10|CASID30743	276.8 > 241.8	19.95	4352.608	39188.359	bb		3.5	-30.2	2.492	2.410	NO
25	Mirex|2385-85-5	271.8 > 236.8	19.95	108.687	4352.608	bb		0.1		1.678	1.039	YES

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F012.D\
Lab ID: K1806476-003
RunType: N/A
Matrix: Fish Tissue

Date Acquired: 8/23/18 20:23:31
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery		X
Duplicate Lab Control Sample Recovery		X
Method Blank	X	
Method Blank Surrogates		X
Internal Standards		X
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Lab Control Sample Recovery	alpha-Chlordane	151	30	150	
	cis-Nonachlor	194	30	150	
	gamma-Chlordane	152	30	150	
	S_Aldrin-13C12	29	31	151	
Duplicate Lab Control Sample Recovery	alpha-Chlordane	163	30	150	
	cis-Nonachlor	190	30	150	
	S_4,4'DDD-d4	34	36	155	
	S_4,4'-DDT-d4	31	33	150	
	S_Aldrin-13C12	27	31	151	
	S_Endrin-13C12	32	34	160	
Method Blank Surrogates	S_4,4'-DDT-d4	32	33	150	
	S_Endrin-13C12	30	34	160	
Internal Standards	Pyrene-d10	58085.3	13490	53959	matrix

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F012.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 20:23:31	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-003	**Raw Units:**	ng/mL

Bottle ID:	K1806476-003.02	**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	K1806476
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.4172	+0.05	58085.3	116.926	* HIGH

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
S_4,4'DDD-d4	16.0197	+0.05	13735.3	3.40077	68	36 - 155	Y
S_4,4'-DDT-d4	16.9617	+0.04	4542.24	2.21381	44	33 - 150	Y
S_Aldrin-13C12	12.4497	+0.02	2108.51	12.5961	63	31 - 151	Y
S_Endrin-13C12	15.4665	+0.03	1766.17	22.2642	111	34 - 160	Y
S_GBHCD6	10.8747	+0.01	5333.73	12.5006	63	25 - 151	Y
S_Heptachlor-13C10	11.8448	+0.03	5054.73	14.6066	73	10 - 243	Y
S_Heptachlrepox13C10	13.3157	+0.03	2643.78	18.4129	92	35 - 152	Y
S_Oxychlordane-13C10	13.2358	+0.05	1104.76	12.8045	64	10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	14.8974	+0.04	422.479	0.309944	0.43	U	Y
2,4'-DDE	0		0	0	0	U	Y
2,4'-DDT	0		0	0	0	U	Y
4,4'-DDD	16.1004	+0.05	1528.44	1.11988	1.6	U	Y
4,4'-DDE	14.6306	+0.02	1336.36	1.4804	2.0	U	Y
4,4'-DDT	17.0427	+0.04	273.408	0.425148	0.59	U	Y
Aldrin	0		0	0	0	U	Y
alpha-Chlordane	14.1076	+0.05	43.561	0.305994	0.42	U	Y
beta-BHC	0		0	0	0	U	Y
cis-Nonachlor	15.8578	+0.04	35.062	0.296891	0.41	U	Y
Dieldrin	14.8974	+0.05	40.387	0.389059	0.54	U	Y
alpha-BHC	0		0	0	0	U	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/24/18 10:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F012.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 20:23:31	**Vial:**	7
Run Type:	N/A	**Dilution:**	1
Lab ID:	K1806476-003	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	0		0	0	0	U	Y
gamma-Chlordane	13.9284	+0.05	33.496	0.201187	0.28	U	Y
Heptachlor Epoxide	0		0	0	0	U	Y
Heptachlor	11.8448	+0.03	25.831	0.108348	0.15	U	Y
Oxychlordane	0		0	0	0	U	Y
trans-Nonachlor	14.1333	+0.05	50.887	0.468633	0.65	U	Y

Prep Amount:	0.7222 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

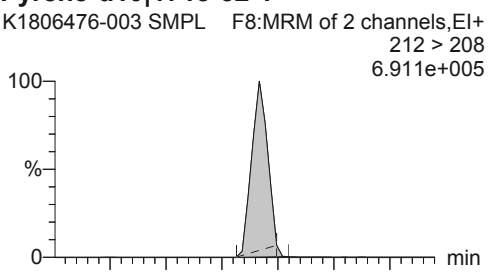
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

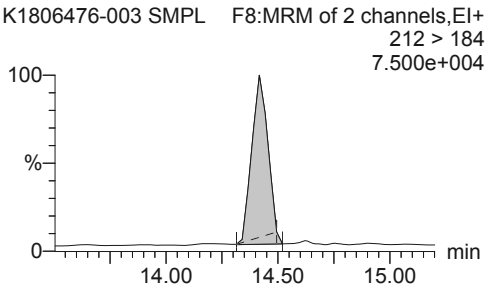
Printed: 8/24/18 10:15

\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

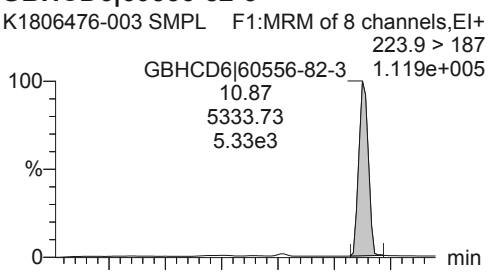
Name: 082318F012, Date: 23-Aug-2018, Time: 20:23:31, Description: K1806476-003

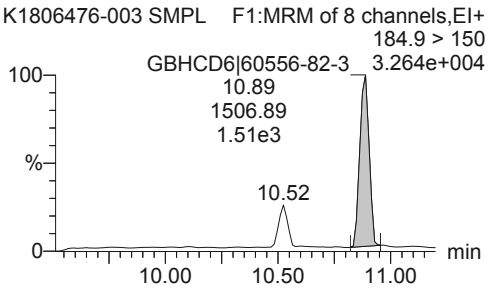
Pyrene-d10|1718-52-1



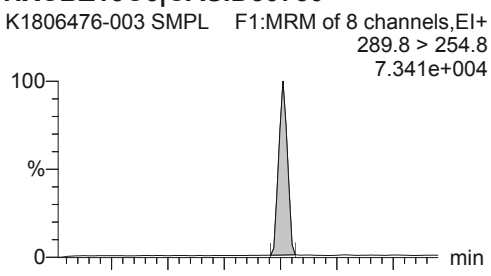


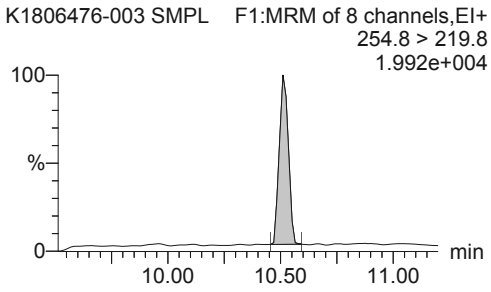
GBHCD6|60556-82-3



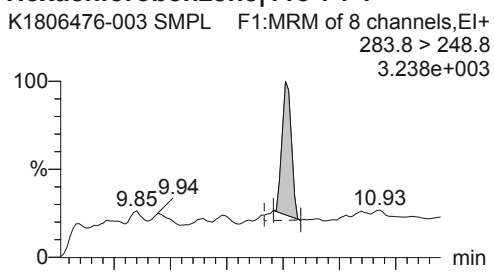


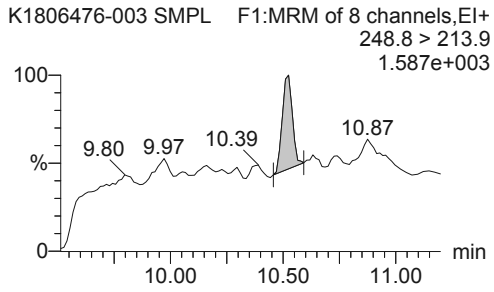
HXCBZ13C6|CASID30730



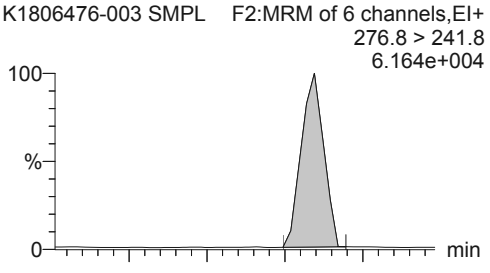


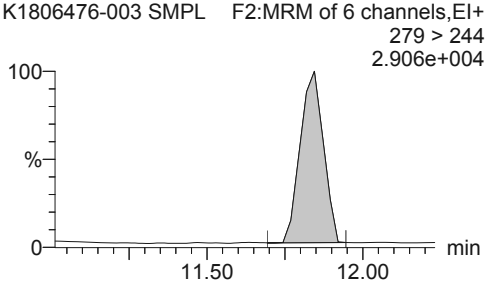
Hexachlorobenzene|118-74-1



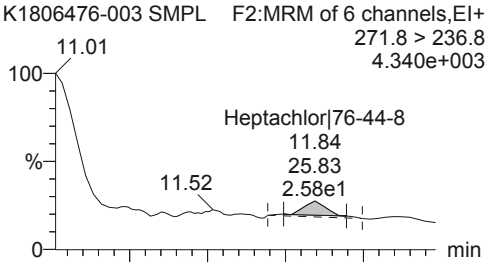


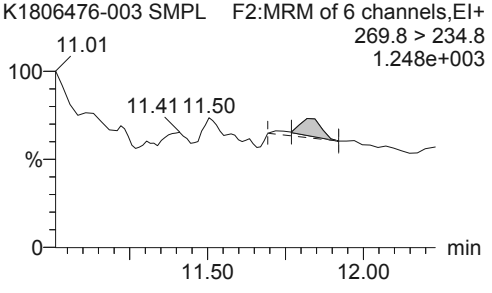
Heptachlor-13C10|CASID30731



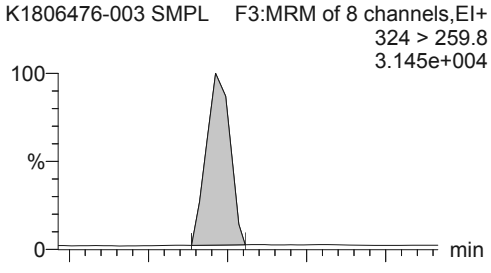


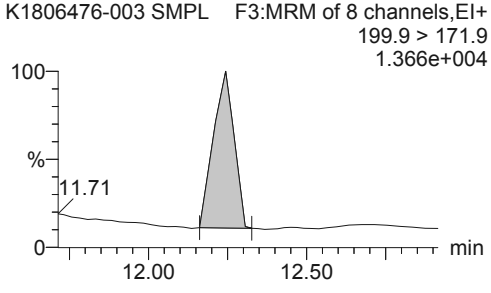
Heptachlor|76-44-8



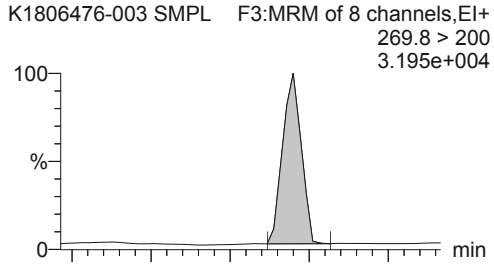


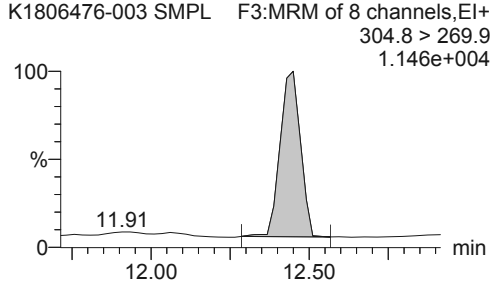
Chlorpyrifos-d10|CASID30732





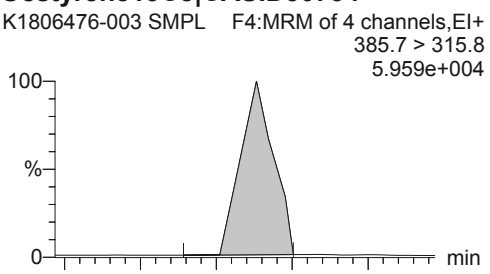
Aldrin-13C12|CASID30733

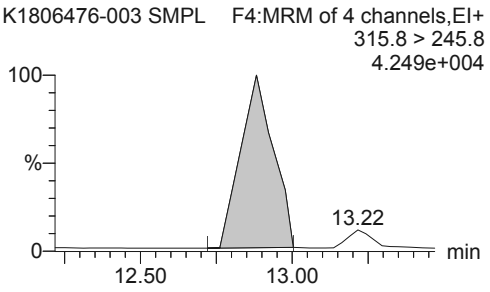




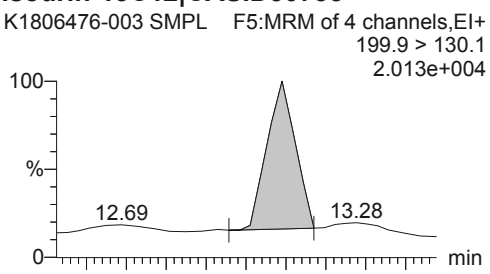
Name: 082318F012, Date: 23-Aug-2018, Time: 20:23:31, Description: K1806476-003

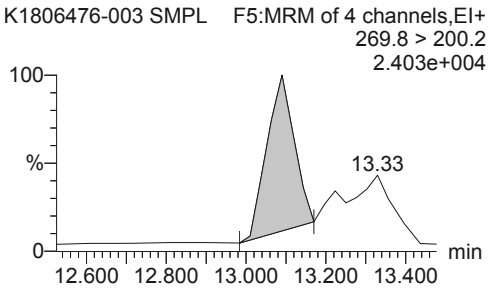
Ocstyrene13C8|CASID30734



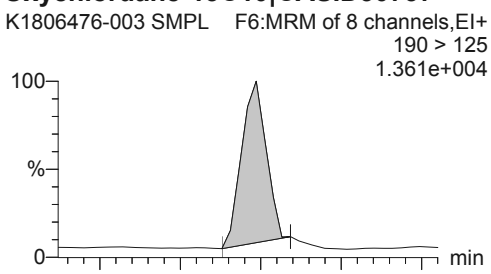


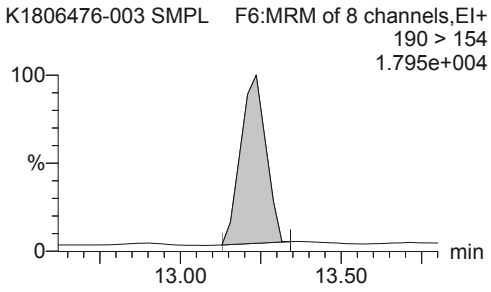
Isodrin-13C12|CASID30735



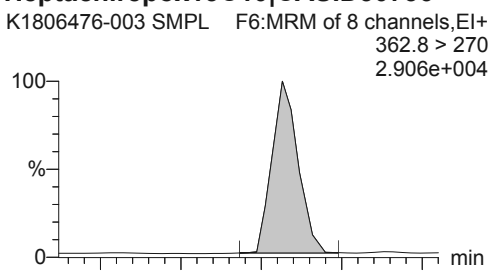


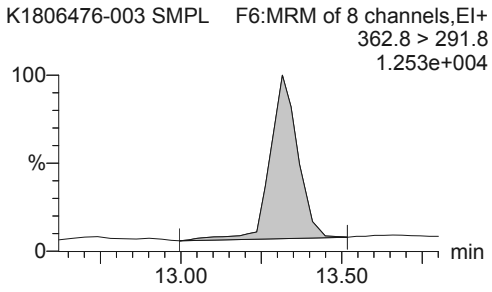
Oxychlordane-13C10|CASID30737



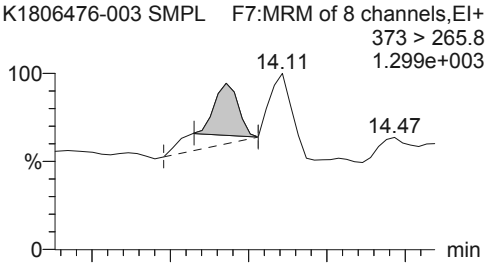


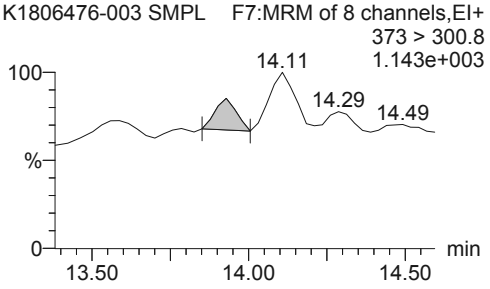
HeptachIrepox13C10|CASID30736



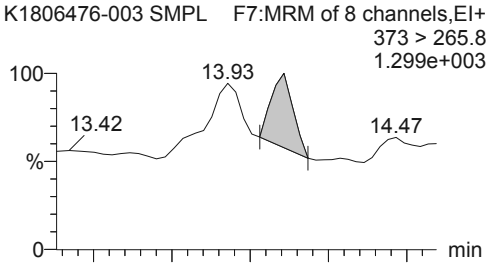


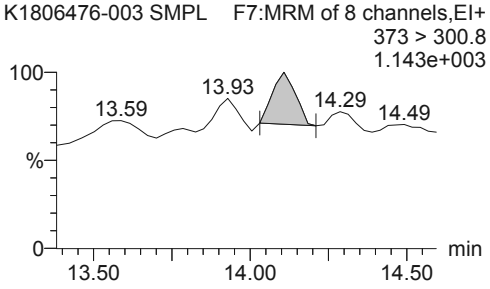
gamma-Chlordane|5566-34-7



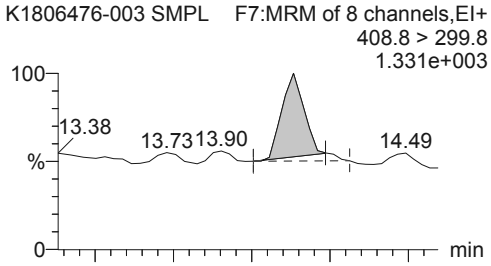


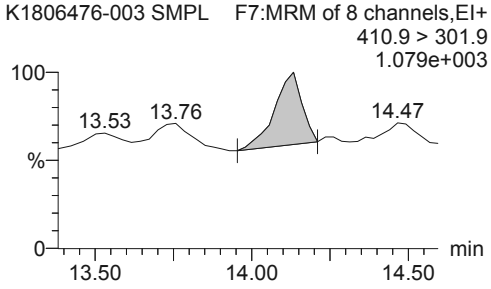
alpha-Chlordane|5103-71-9



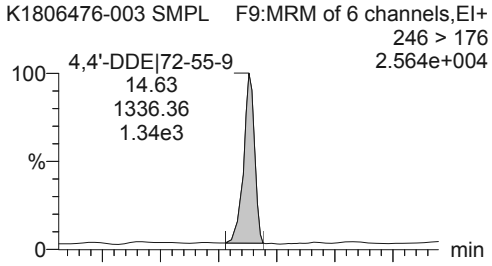


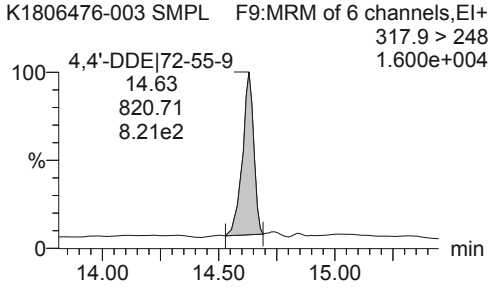
trans-Nonachlor|39765-80-5





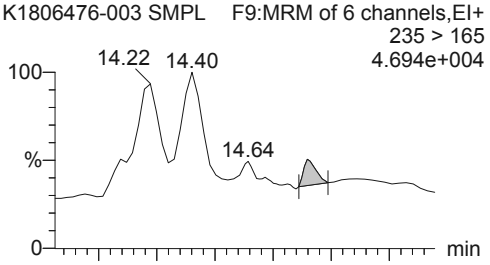
4,4'-DDE|72-55-9

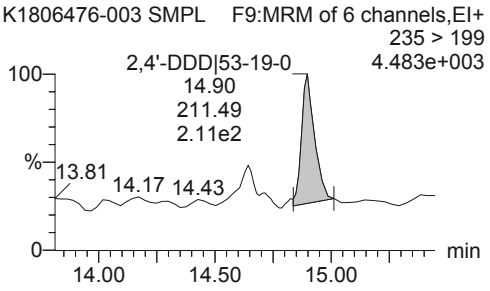




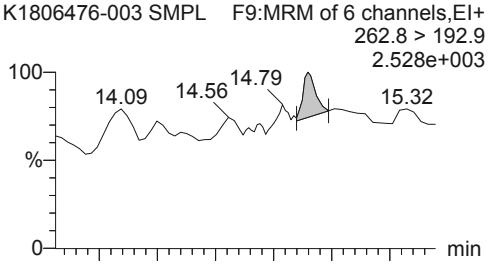
Name: 082318F012, Date: 23-Aug-2018, Time: 20:23:31, Description: K1806476-003

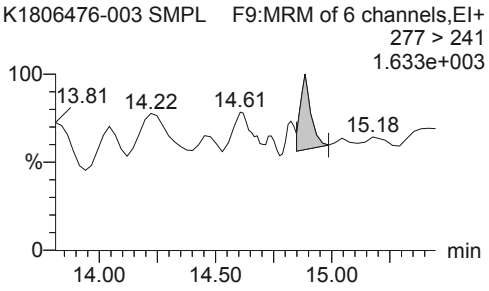
2,4'-DDD|53-19-0



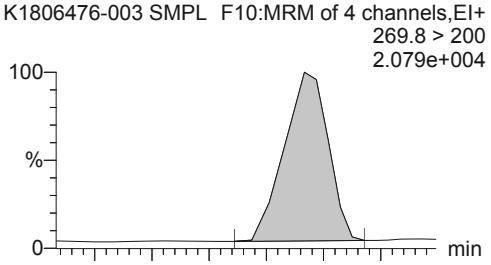


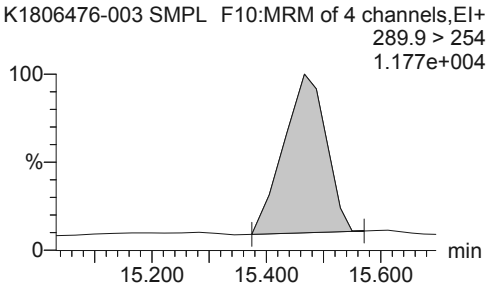
Dieldrin|60-57-1



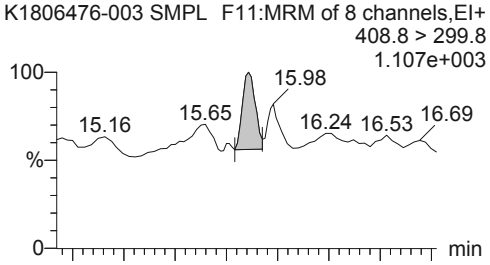


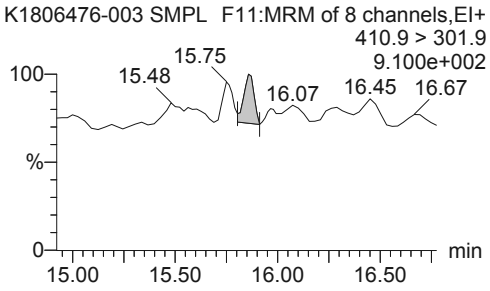
Endrin-13C12|CASID30739



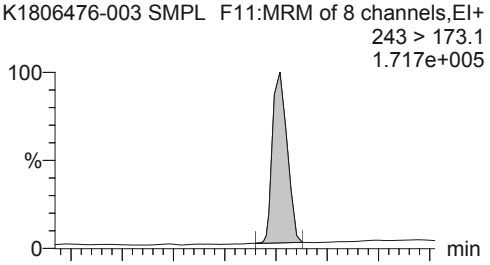


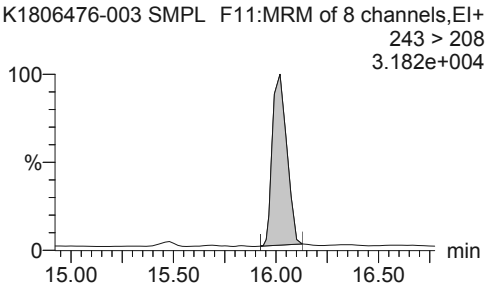
cis-Nonachlor|5103-73-1



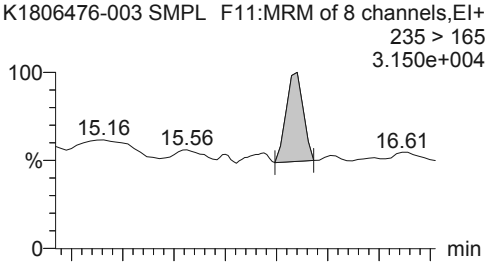


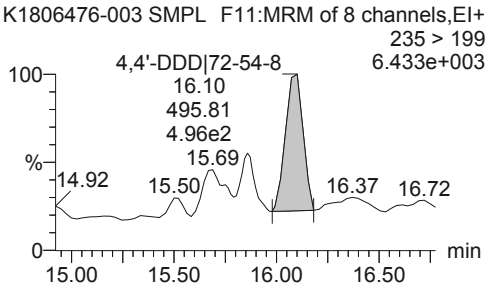
4,4'DDD-d4|93952-20-6



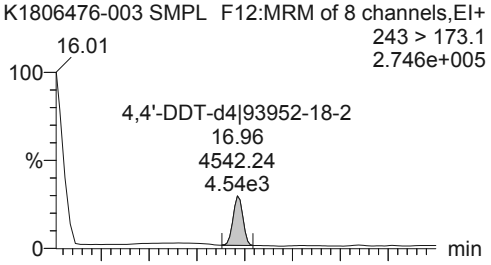


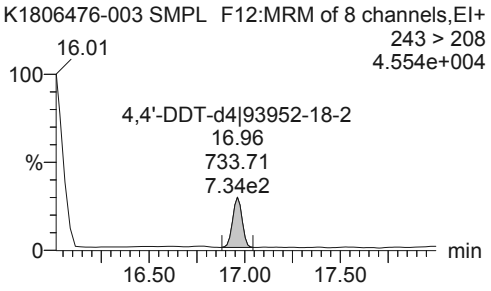
4,4'-DDD|72-54-8



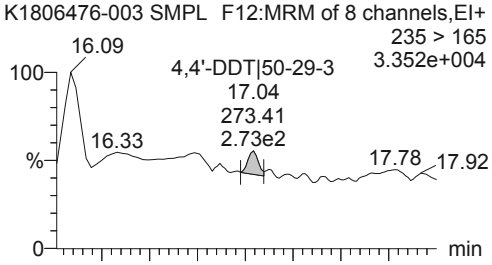


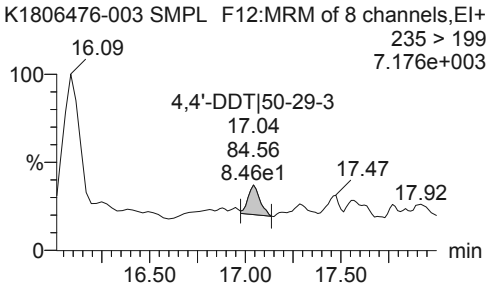
4,4'-DDT-d4|93952-18-2





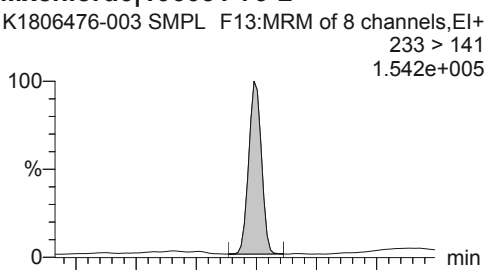
4,4'-DDT|50-29-3

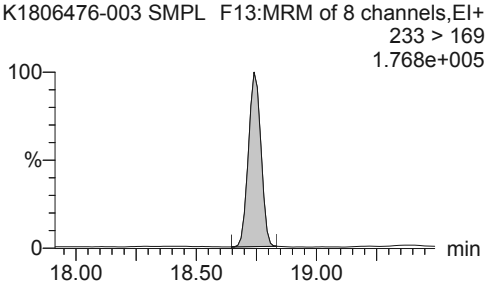




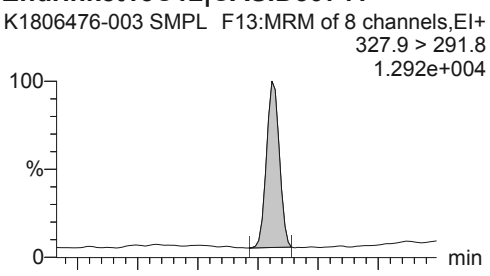
Name: 082318F012, Date: 23-Aug-2018, Time: 20:23:31, Description: K1806476-003

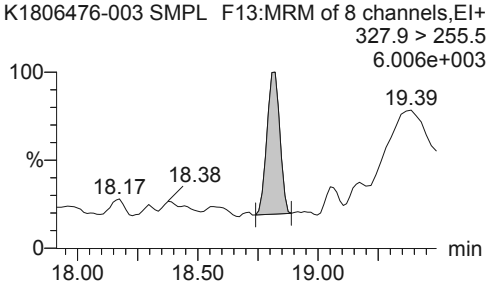
Mxchlord6|106031-79-2



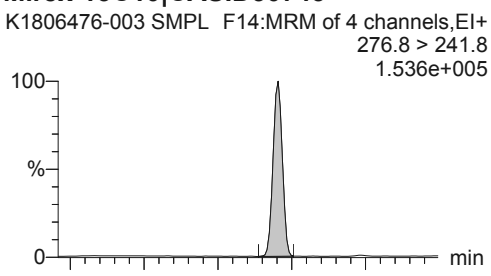


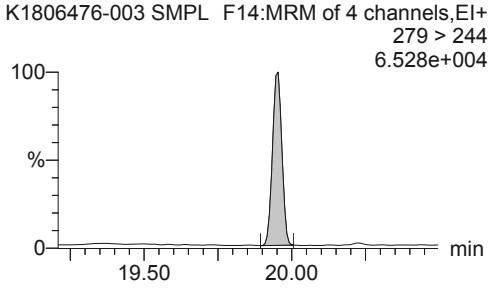
Endrinket13C12|CASID30741



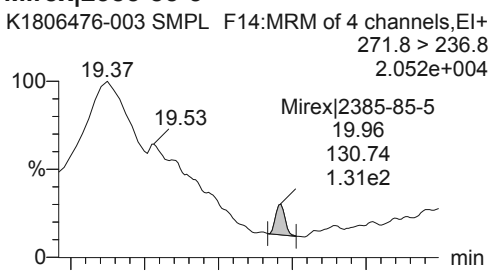


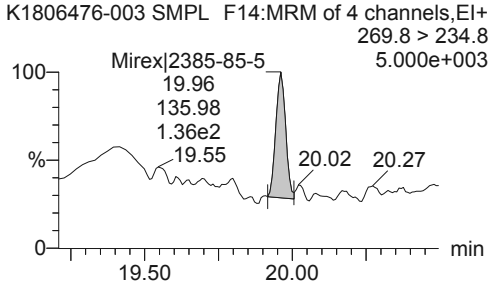
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/24/18
2nd 08/24/18

Name: 082318F012, Date: 23-Aug-2018, Time: 20:23:31, Description: K1806476-003

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.42	58085.336		MM	BLC	116.9	16.9	9.752	9.552	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	5333.725	58085.336	bb		12.5	-37.5	3.616	3.540	NO
3	HXCBZ13C6|CASID30730	289.8 > 254.8	10.51	3217.479	58085.336	bb		6.4	-68.1	3.518	3.621	NO
4	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	116.254	3217.479	MM	BLC	0.6		3.369	2.673	NO
5	Heptachlor-13C10|CASID...	276.8 > 241.8	11.84	5054.734	58085.336	bb		14.6	-27.0	1.865	2.082	NO
6	Heptachlor|76-44-8	271.8 > 236.8	11.84	25.831	5054.734	MM	BLC	0.1		1.536	2.694	YES
7	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.21	2655.576	58085.336	bb		5.5	-72.7	3.568	2.892	NO
8	Aldrin-13C12|CASID30733	269.8 > 200	12.45	2108.509	58085.336	bb		12.6	-37.0	2.967	2.642	NO
9	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.88	7374.387	58085.336	bb		23.0	14.9	2.181	1.411	YES
10	Isodrin-13C12|CASID30735	199.9 > 130.1	13.09	1393.342	58085.336	MM	MP	14.8	-26.1	1.007	0.824	NO
11	Oxychlordane-13C10|CAS...	190 > 125	13.24	1104.756	58085.336	bb		12.8	-36.0	0.636	0.711	NO
12	Heptachlrepox13C10|CAS...	362.8 > 270	13.32	2643.776	58085.336	MM	MP	18.4	-7.9	2.149	2.298	NO
13	gamma-Chlordane|5566-3...	373 > 265.8	13.93	33.496	1104.756	MM	BLC	0.2		2.108	2.095	NO
14	alpha-Chlordane|5103-71-9	373 > 265.8	14.11	43.561	1104.756	bb		0.3		1.575	1.532	NO
15	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.13	50.887	1104.756	MM	BLC	0.5		1.517	1.136	NO
16	4,4'-DDE|72-55-9	246 > 176	14.63	1336.360	13735.297	bb		1.5		1.653	1.628	NO
17	2,4'-DDD|53-19-0	235 > 165	14.90	422.479	13735.297	bb		0.3		2.709	1.998	NO
18	Dieldrin|60-57-1	262.8 > 192.9	14.90	40.387	1766.174	db		0.4		1.007	1.111	NO
19	Endrin-13C12|CASID30739	269.8 > 200	15.47	1766.174	58085.336	bb		22.3	11.3	1.566	1.941	NO
20	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.86	35.062	1104.756	bd		0.3		1.628	2.395	YES
21	4,4'DDD-d4|93952-20-6	243 > 173.1	16.02	13735.297	58085.336	bb		3.4	-32.0	6.924	5.475	NO
22	4,4'-DDD|72-54-8	235 > 165	16.10	1528.436	13735.297	bb		1.1		4.083	3.083	NO
23	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.96	4542.242	58085.336	bb		2.2	-55.7	5.701	6.191	NO
24	4,4'-DDT|50-29-3	235 > 165	17.04	273.408	4542.242	bd		0.4		3.729	3.233	NO
25	Mxchlord6|106031-79-2	233 > 141	18.74	9182.671	58085.336	bb		10.6	-47.1	0.917	0.878	NO
26	Endrinket13C12|CASID30...	327.9 > 291.8	18.81	748.736	58085.336	bb		10.7	-46.6	2.077	2.501	NO
27	Mirex-13C10|CASID30743	276.8 > 241.8	19.95	5514.134	58085.336	bb		3.0	-40.3	2.492	2.349	NO
28	Mirex|2385-85-5	271.8 > 236.8	19.96	130.742	5514.134	bb		0.1		1.678	0.961	YES

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F007.D\
Lab ID: KQ1810706-03
RunType: MB
Matrix: Fish Tissue

Date Acquired: 8/23/18 18:00:42
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates		X
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Surrogates	S_4,4'-DDT-d4	32	33	150	
	S_Endrin-13C12	30	34	160	

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F007.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:00:42	**Vial:**	2
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ1810706-03	**Raw Units:**	ng/mL

Bottle ID:		**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	KQ1810706
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.366		25876.9	52.0902	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec		% Rec Criteria	Rpt?
S_4,4'DDD-d4	15.9658		3319.07	1.84463	37		36 - 155	Y
S_4,4'-DDT-d4	16.9214		1440.69	1.57614	32	*	33 - 150	Y
S_Aldrin-13C12	12.4292		478.654	6.41857	32		31 - 151	Y
S_Endrin-13C12	15.4358		210.355	5.95225	30	*	34 - 160	Y
S_GBHCD6	10.8611		1298.32	6.83022	34		25 - 151	Y
S_Heptachlor-13C10	11.8196		792.611	5.14123	26		10 - 243	Y
S_Heptachlrepox13C10	13.289		634.973	9.92674	50		35 - 152	Y
S_Oxychlordane-13C10	13.1826		209.476	5.44985	27		10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	0		0	0	0	U	Y
2,4'-DDE	0		0	0	0	U	Y
2,4'-DDT	0		0	0	0	U	Y
4,4'-DDD	0		0	0	0	U	Y
4,4'-DDE	0		0	0	0	U	Y
4,4'-DDT	0		0	0	0	U	Y
Aldrin	0		0	0	0	U	Y
alpha-Chlordane	0		0	0	0	U	Y
beta-BHC	0		0	0	0	U	Y
cis-Nonachlor	0		0	0	0	U	Y
Dieldrin	0		0	0	0	U	Y
alpha-BHC	0		0	0	0	U	Y

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F007.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:00:42	**Vial:**	2
Run Type:	MB	**Dilution:**	1
Lab ID:	KQ1810706-03	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	0		0	0	0	U	Y
gamma-Chlordane	0		0	0	0	U	Y
Heptachlor Epoxide	0		0	0	0	U	Y
Heptachlor	0		0	0	0	U	Y
Oxychlordane	0		0	0	0	U	Y
trans-Nonachlor	0		0	0	0	U	Y

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

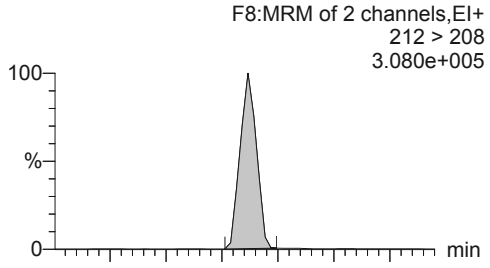
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

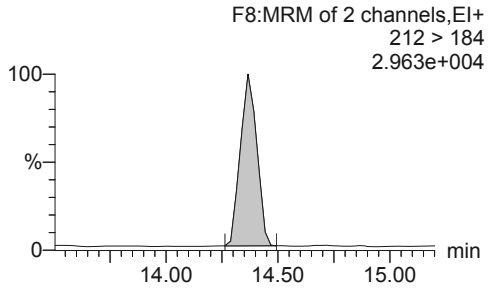
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

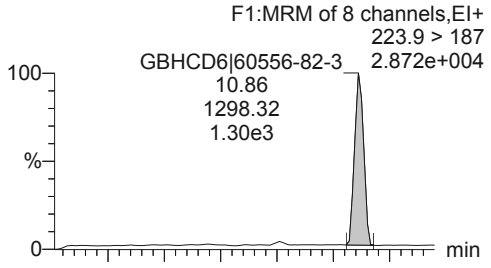
Name: 082318F007, Date: 23-Aug-2018, Time: 18:00:42, Description: KQ1810706-03 MB

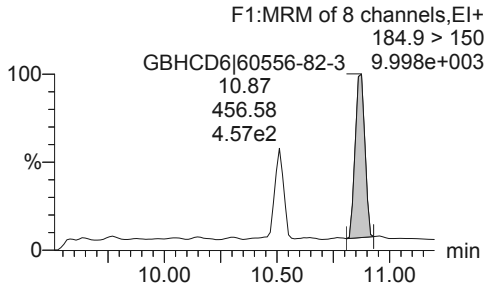
Pyrene-d10|1718-52-1



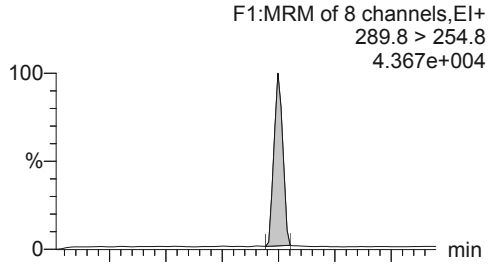


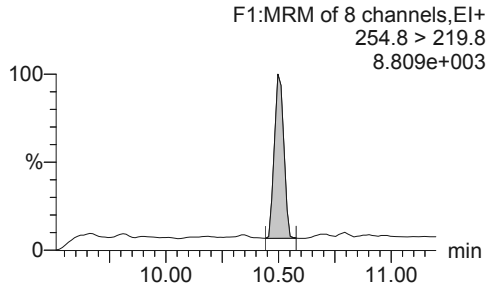
GBHCD6|60556-82-3



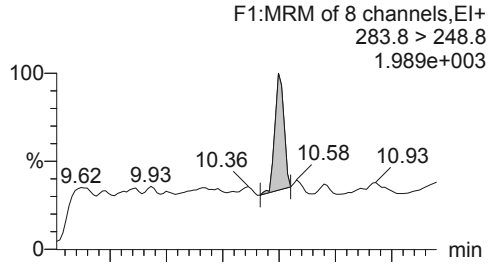


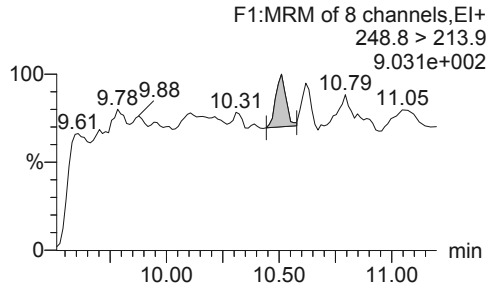
HXCBZ13C6|CASID30730



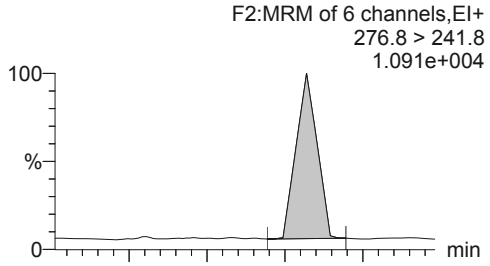


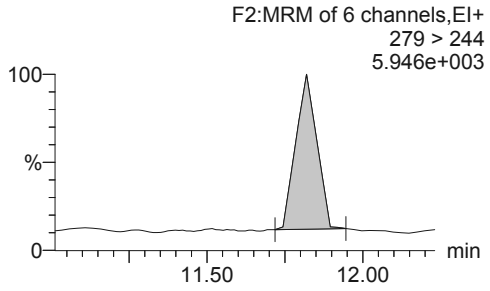
Hexachlorobenzene|118-74-1



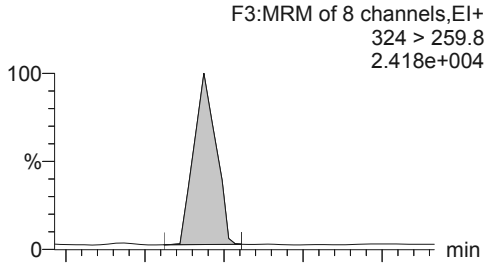


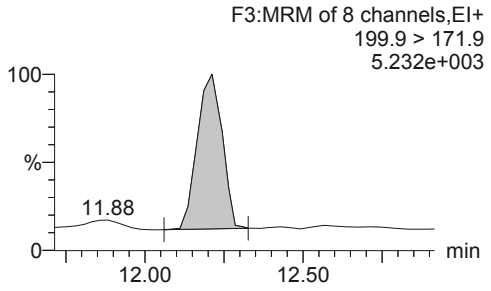
Heptachlor-13C10|CASID30731



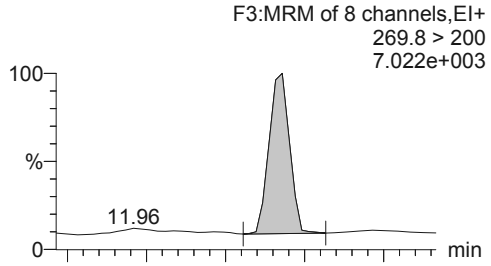


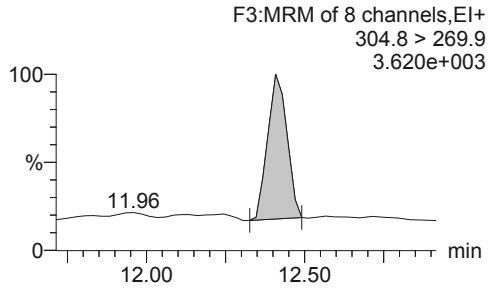
Chlorpyrifos-d10|CASID30732



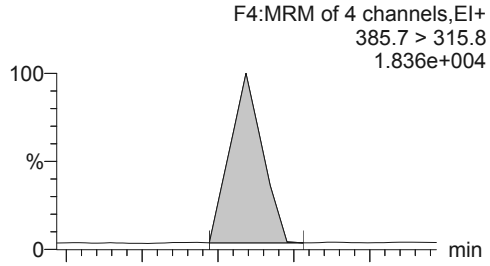


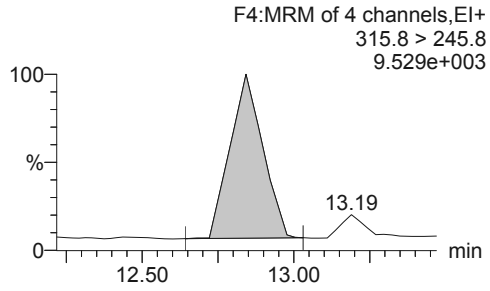
Aldrin-13C12|CASID30733





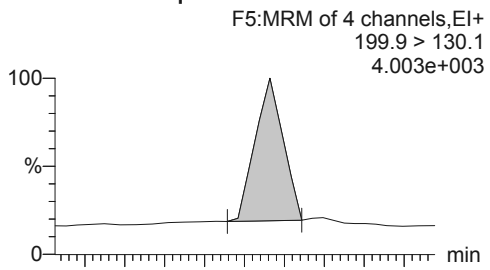
Ocstyrene13C8|CASID30734

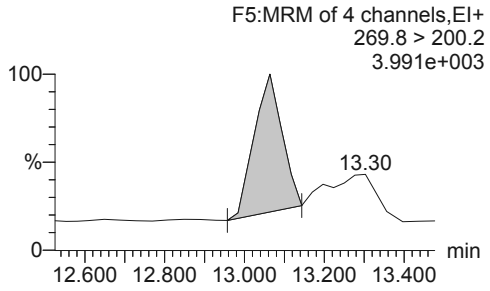




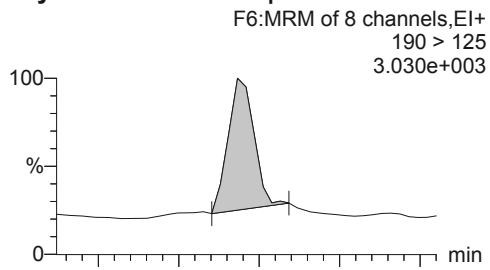
Name: 082318F007, Date: 23-Aug-2018, Time: 18:00:42, Description: KQ1810706-03 MB

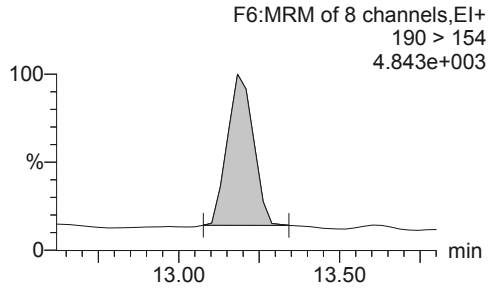
Isodrin-13C12|CASID30735



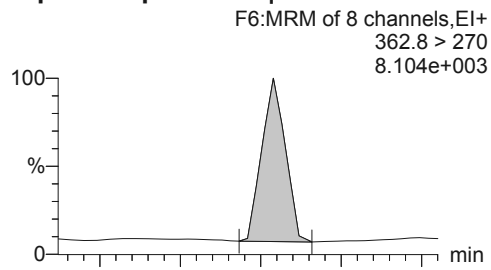


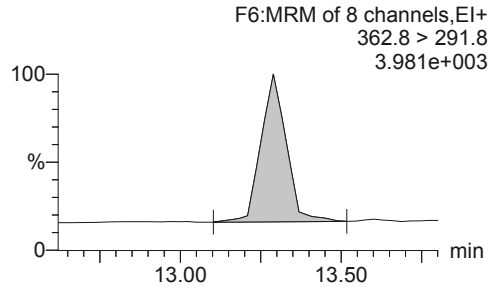
Oxychlordane-13C10|CASID30737



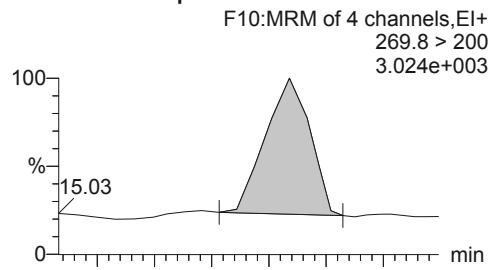


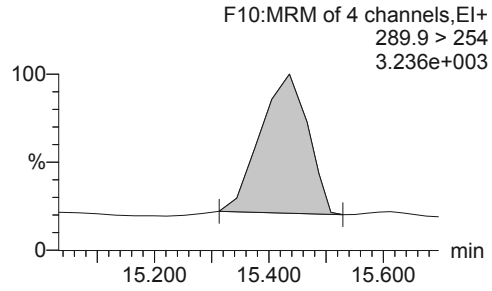
HeptachIrepox13C10|CASID30736



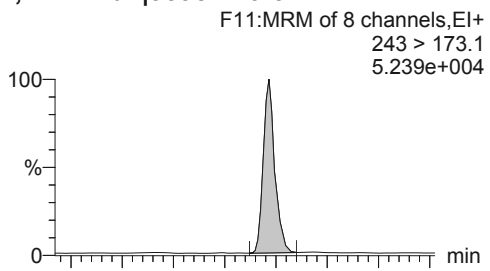


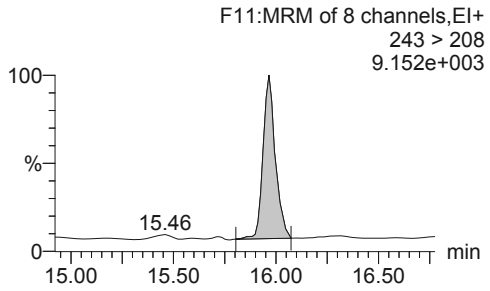
Endrin-13C12|CASID30739



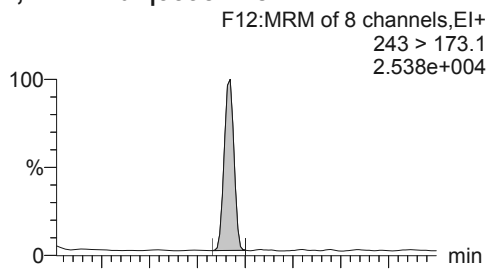


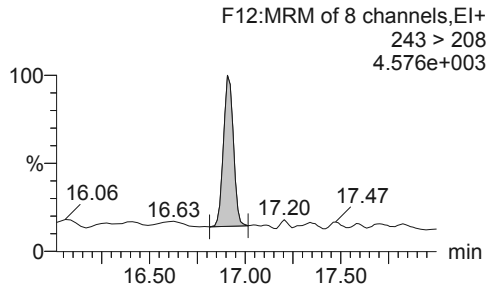
4,4'DDD-d4|93952-20-6



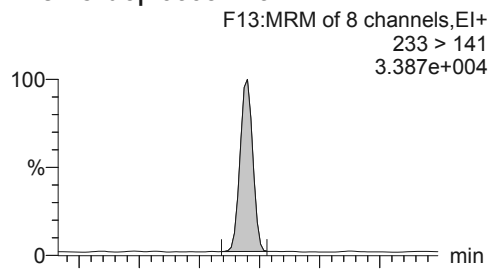


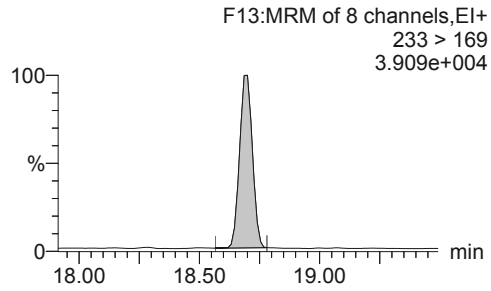
4,4'-DDT-d4|93952-18-2



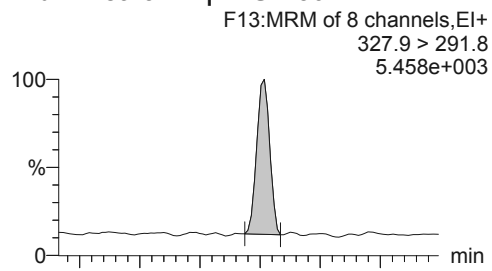


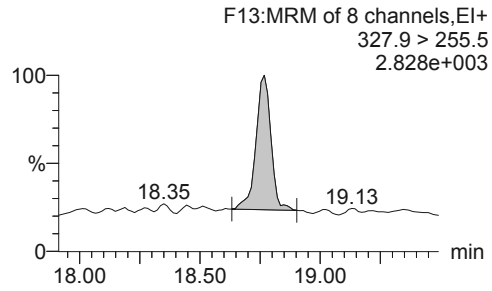
Mxchlord6|106031-79-2





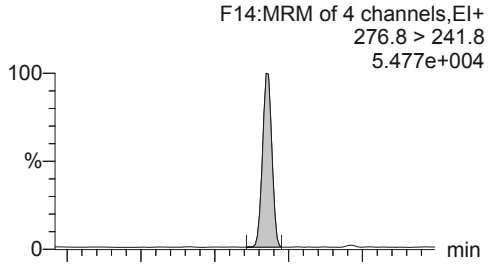
Endrinket13C12|CASID30741



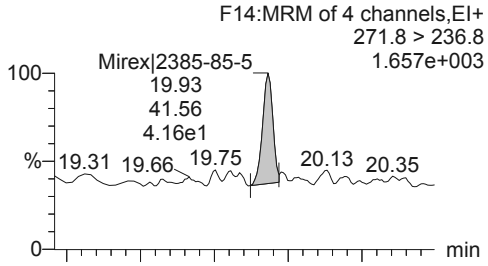


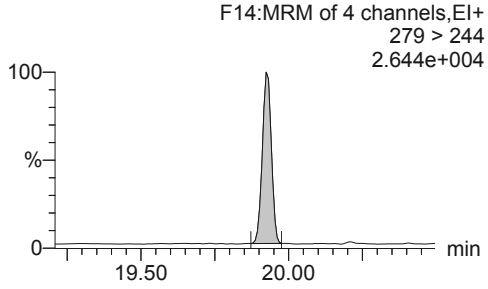
Name: 082318F007, Date: 23-Aug-2018, Time: 18:00:42, Description: KQ1810706-03 MB

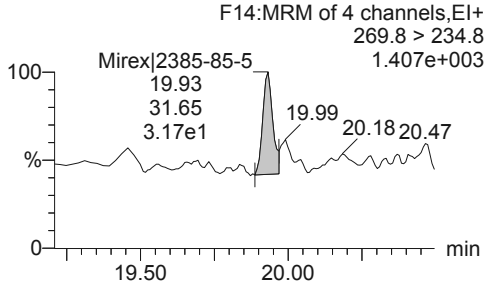
Mirex-13C10|CASID30743



Mirex|2385-85-5







	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	25876.857		bb		52.1	-47.9	9.752	10.513	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.86	1298.317	25876.857	bb		6.8	-65.8	3.616	2.843	NO
3	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	1930.703	25876.857	bb		8.6	-57.0	3.518	4.895	YES
4	Hexachlorobenzene|118-7...	283.8 > 248.8	10.50	60.870	1930.703	bb		0.6		3.369	4.331	NO
5	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	792.611	25876.857	bb		5.1	-74.3	1.865	1.945	NO
6	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	1915.615	25876.857	bb		8.8	-55.8	3.568	4.565	NO
7	Aldrin-13C12|CASID30733	269.8 > 200	12.43	478.654	25876.857	bb		6.4	-67.9	2.967	2.280	NO
8	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	2179.432	25876.857	bb		15.2	-23.8	2.181	1.967	NO
9	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	262.986	25876.857	MM	MP	6.3	-68.7	1.007	1.039	NO
10	Oxychlordane-13C10|CAS...	190 > 125	13.18	209.476	25876.857	bb		5.4	-72.8	0.636	0.539	NO
11	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	634.973	25876.857	MM	MP	9.9	-50.4	2.149	2.097	NO
12	Endrin-13C12|CASID30739	269.8 > 200	15.44	210.355	25876.857	bb		6.0	-70.2	1.566	0.859	YES
13	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	3319.067	25876.857	bb		1.8	-63.1	6.924	5.691	NO
14	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	1440.691	25876.857	bb		1.6	-68.5	5.701	6.186	NO
15	Mxchlord6|106031-79-2	233 > 141	18.70	2008.882	25876.857	bb		5.2	-74.0	0.917	0.856	NO
16	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	299.355	25876.857	bb		9.6	-52.1	2.077	1.936	NO
17	Mirex-13C10|CASID30743	276.8 > 241.8	19.92	1975.676	25876.857	bb		2.4	-52.0	2.492	2.188	NO
18	Mirex|2385-85-5	271.8 > 236.8	19.93	41.564	1975.676	bd		0.1		1.678	1.313	NO

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F008.D\
Lab ID: KQ1810706-01
RunType: LCS
Matrix: Fish Tissue

Date Acquired: 8/23/18 18:29:06
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates		X
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Surrogates	S_Aldrin-13C12	29	31	151	labeled out, unlabeled ok in CCV/LCS

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F008.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:29:06	**Vial:**	3
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ1810706-01	**Raw Units:**	ng/mL

Bottle ID:		**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	KQ1810706
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.366		24557.2	49.4338	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec		% Rec Criteria	Rpt?
S_4,4'DDD-d4	15.966	+0.00	3810.02	2.23128	45		36 - 155	Y
S_4,4'-DDT-d4	16.9216	+0.00	1669.84	1.925	39		33 - 150	Y
S_Aldrin-13C12	12.4292		413.217	5.83885	29	*	31 - 151	Y
S_Endrin-13C12	15.4358		322.354	9.61155	48		34 - 160	Y
S_GBHCD6	10.8611		1264.43	7.00941	35		25 - 151	Y
S_Heptachlor-13C10	11.8196		805.765	5.50741	28		10 - 243	Y
S_Heptachlrepox13C10	13.289		537.041	8.8469	44		35 - 152	Y
S_Oxychlordane-13C10	13.2093	+0.03	270.912	7.42696	37		10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	14.861		7896.72	20.8851	10.4		Y
2,4'-DDE	13.7289		5776.89	17.932	8.97		Y
2,4'-DDT	15.7099	+0.00	4176.58	16.7505	8.38		Y
4,4'-DDD	16.0467	+0.00	6463.35	17.0723	8.54		Y
4,4'-DDE	14.6063		4613.89	18.4261	9.21		Y
4,4'-DDT	17.0023	+0.00	4779.06	20.2147	10.1		Y
Aldrin	12.4292		384.714	19.4971	9.75		Y
alpha-Chlordane	14.0564		1053.75	30.1848	15.1		Y
beta-BHC	11.2569		1423.21	25.3734	12.7		Y
cis-Nonachlor	15.8176	+0.00	1125.18	38.8524	19.4		Y
Dieldrin	14.8488	0.00	301.397	15.9079	7.95		Y
alpha-BHC	10.4569		782.575	16.5219	8.26		Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/24/18 10:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F008.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:29:06	**Vial:**	3
Run Type:	LCS	**Dilution:**	1
Lab ID:	KQ1810706-01	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	10.9285		745.913	18.959	9.48		Y
gamma-Chlordane	13.8772		1238.24	30.3285	15.2		Y
Heptachlor Epoxide	13.3157	+0.03	590.678	17.926	8.96		Y
Heptachlor	11.8196		594.218	15.6356	7.82		Y
Oxychlordane	13.2093		318.674	22.6143	11.3		Y
trans-Nonachlor	14.0821		797.873	29.9639	15.0		Y

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

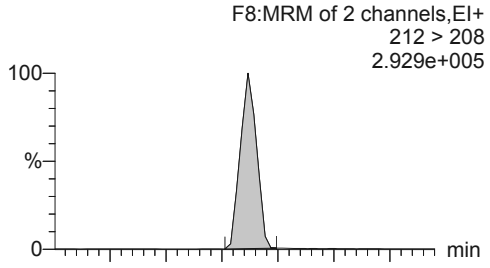
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

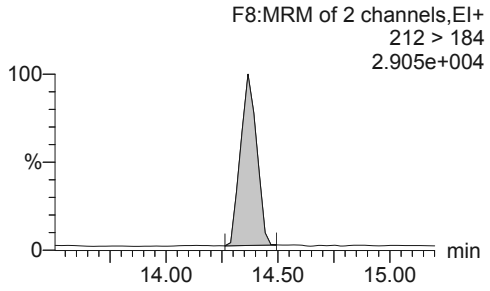
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

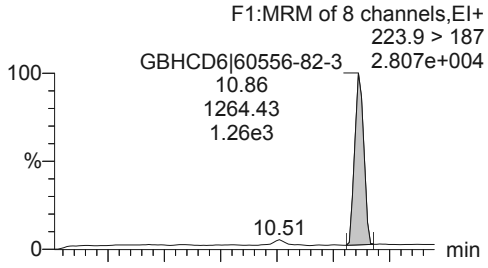
Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

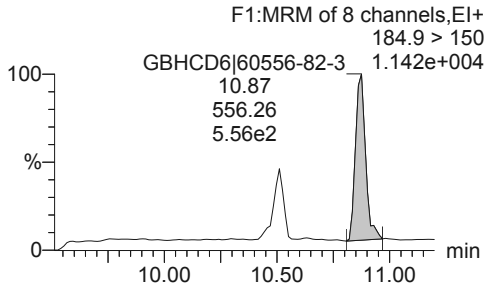
Pyrene-d10|1718-52-1



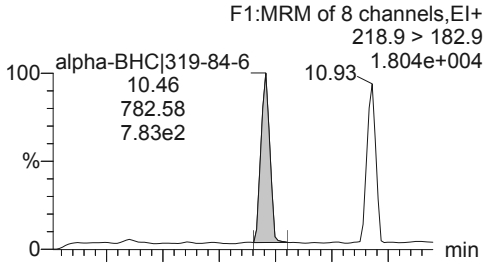


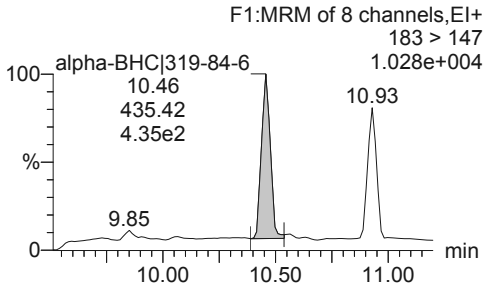
GBHCD6|60556-82-3



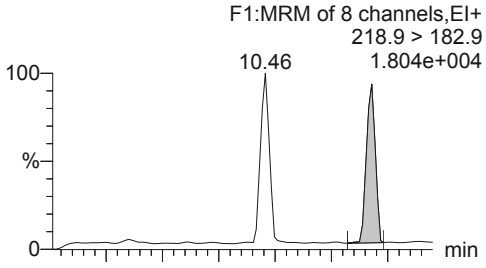


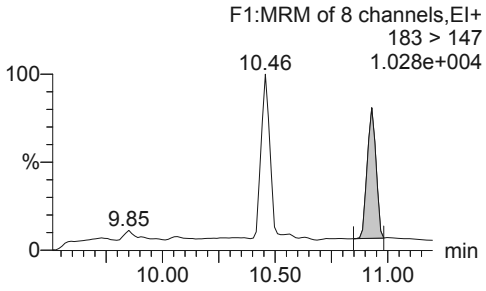
alpha-BHC|319-84-6



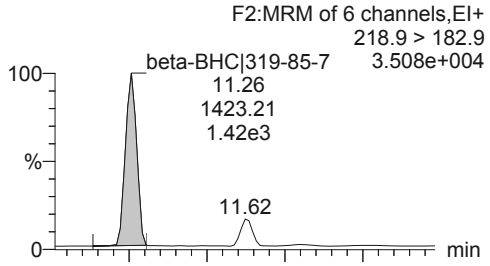


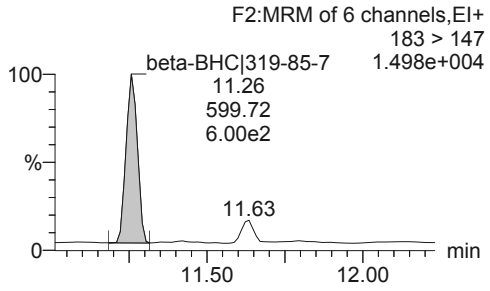
gamma-BHC|58-89-9



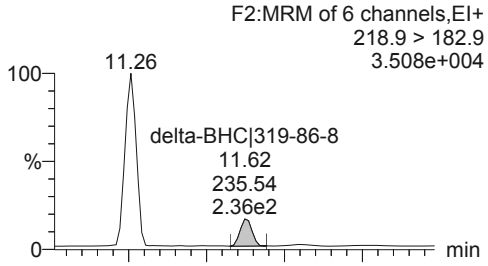


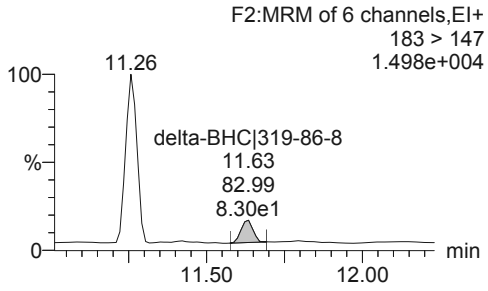
beta-BHC|319-85-7



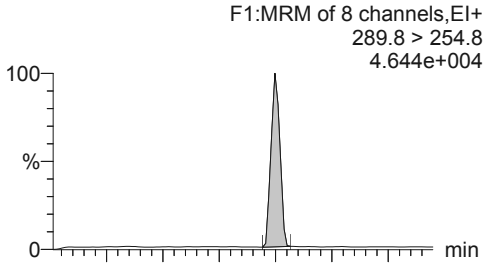


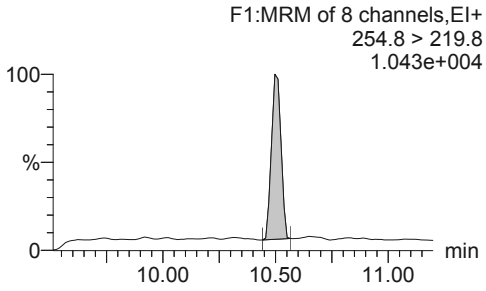
delta-BHC|319-86-8



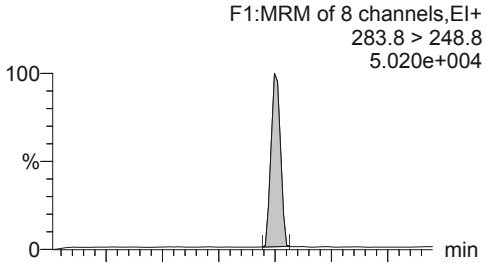


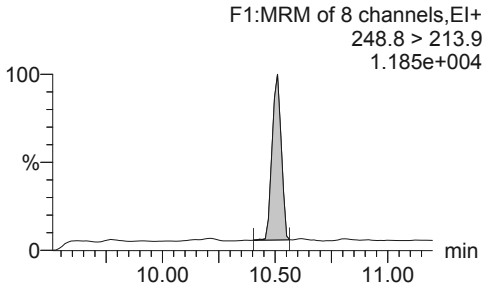
HXCBZ13C6|CASID30730





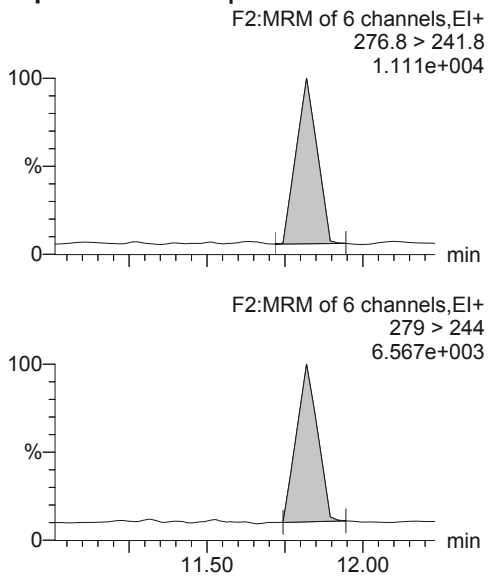
Hexachlorobenzene|118-74-1



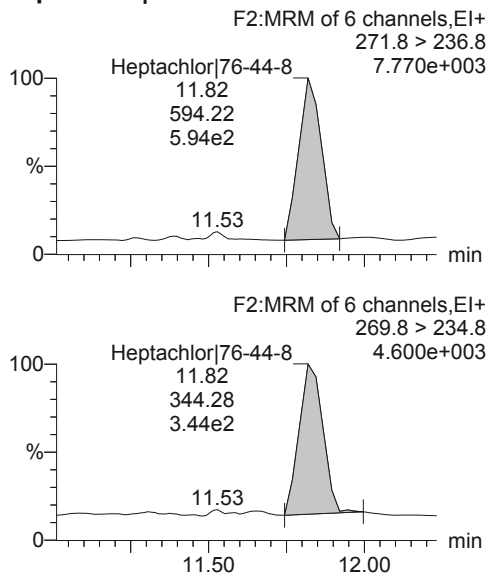


Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

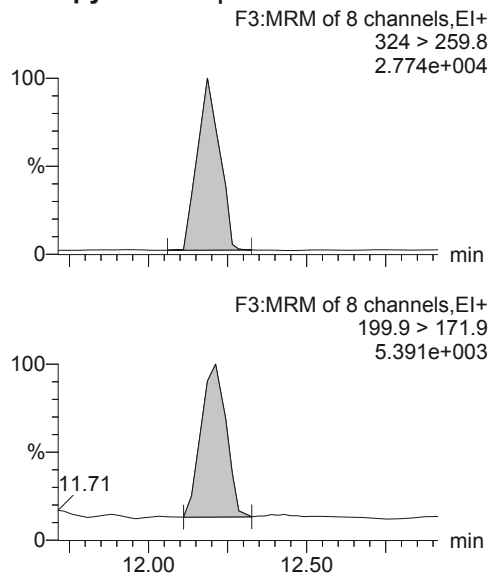
Heptachlor-13C10|CASID30731



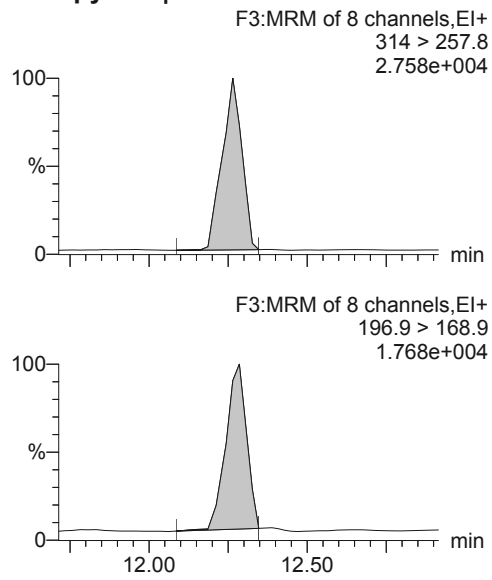
Heptachlor|76-44-8



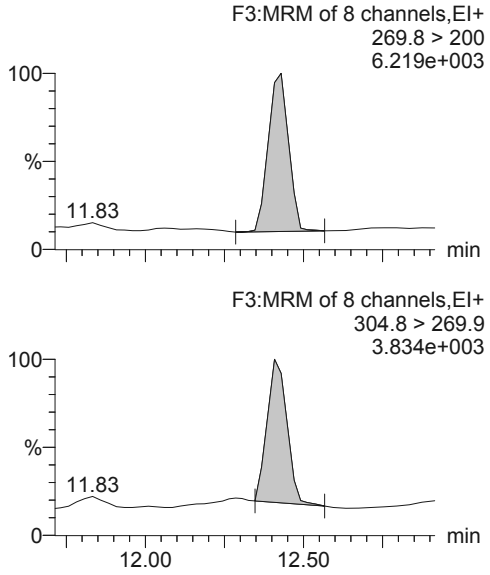
Chlorpyrifos-d10|CASID30732



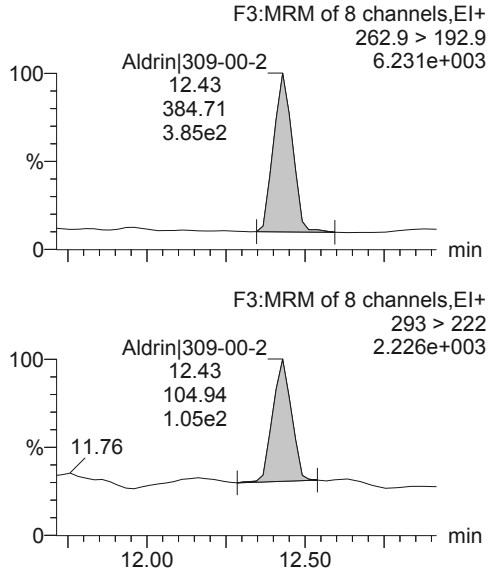
Chlorpyrifos|2921-88-2



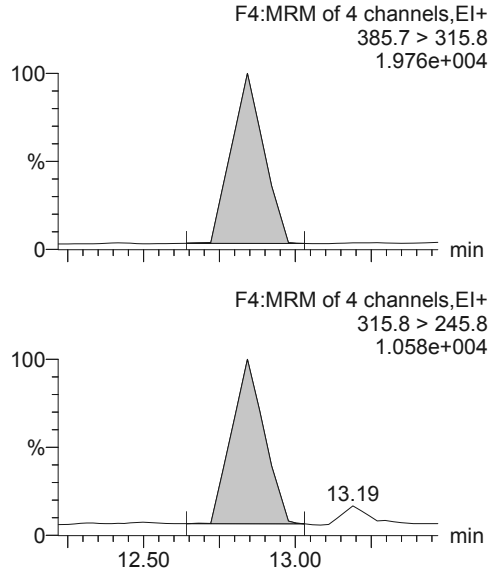
Aldrin-13C12|CASID30733



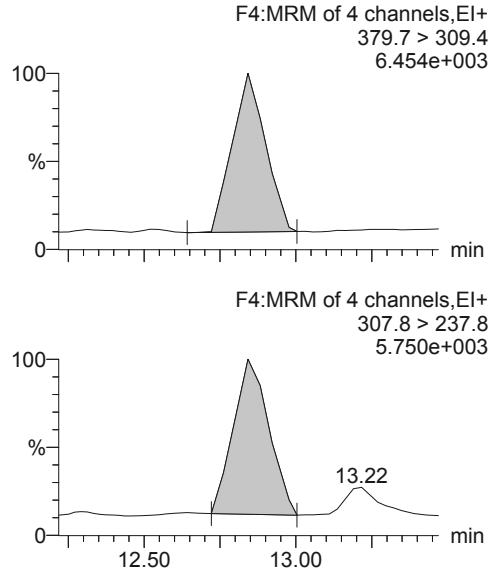
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

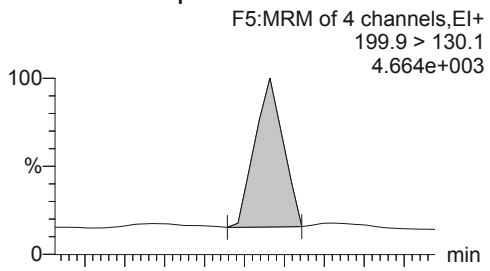


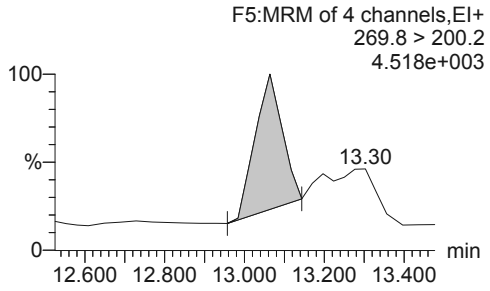
Octachlorostyrene|29082-74-4



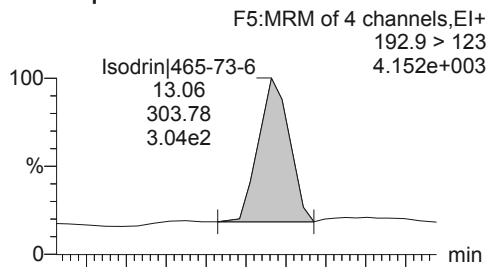
Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

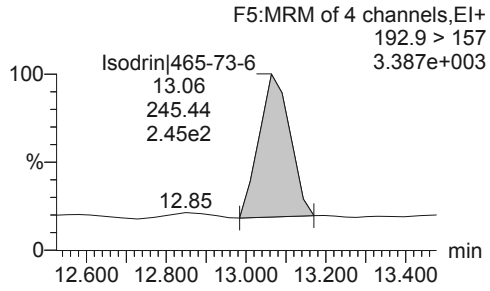
Isodrin-13C12|CASID30735



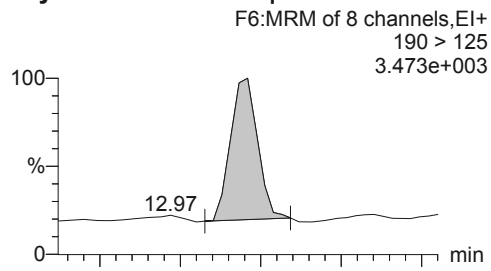


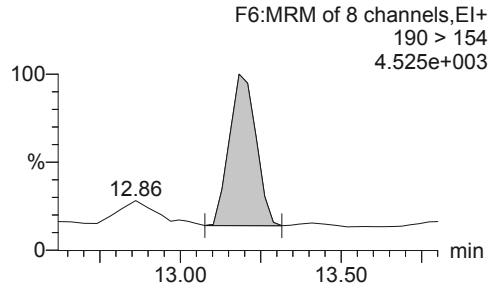
Isodrin|465-73-6



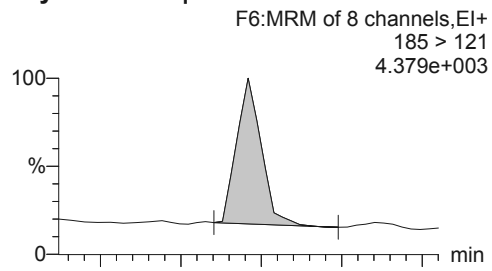


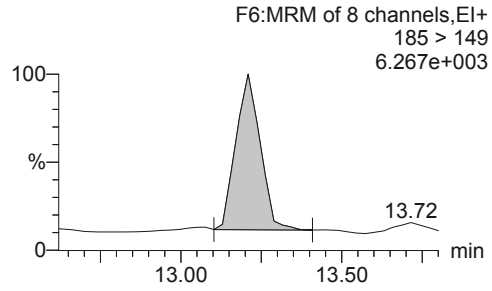
Oxychlordane-13C10|CASID30737



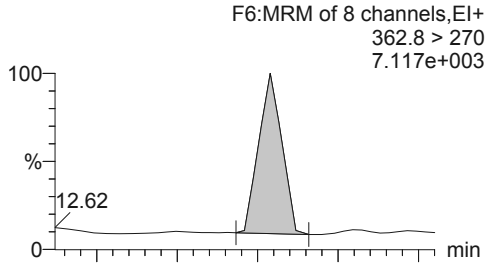


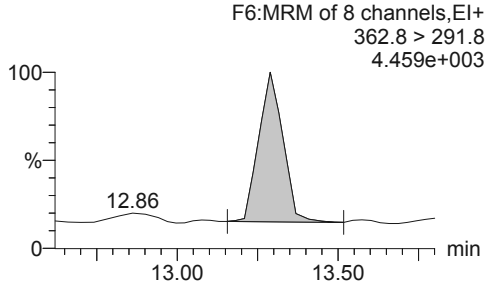
Oxychlordane|27304-13-8



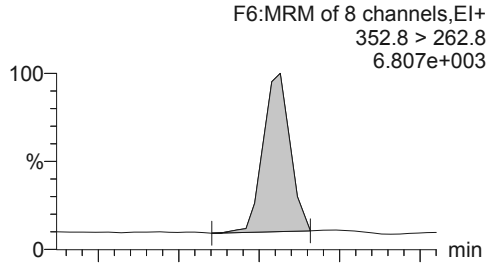


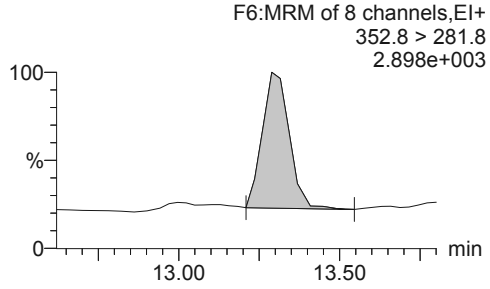
HeptachIrepox13C10|CASID30736



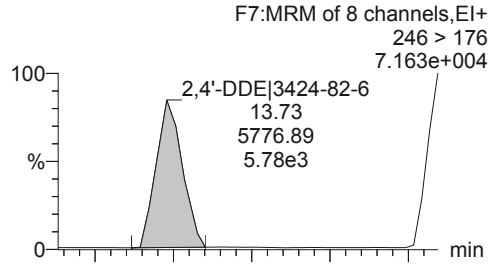


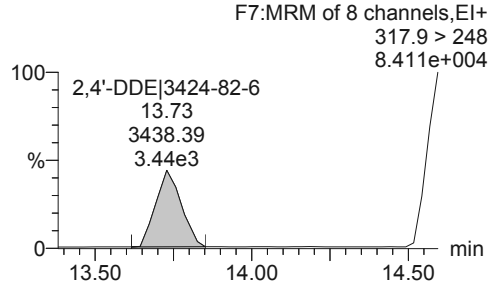
Heptachlor epoxide|1024-57-3



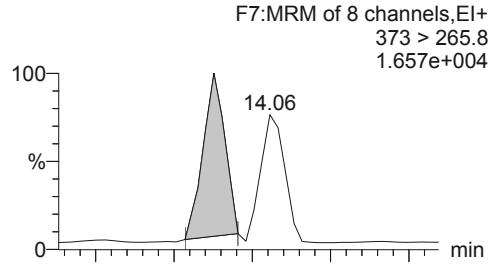


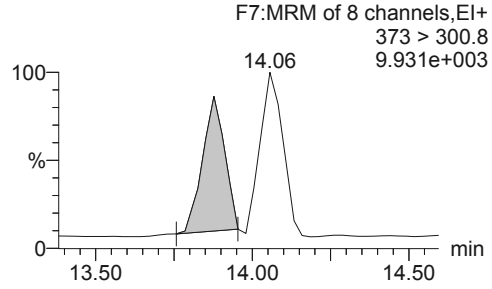
2,4'-DDE|3424-82-6





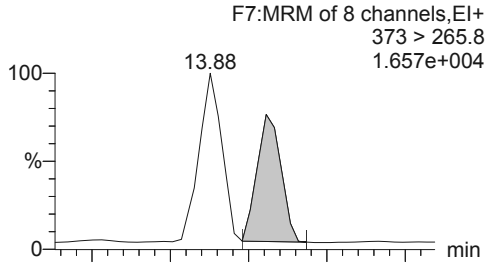
gamma-Chlordane|5566-34-7

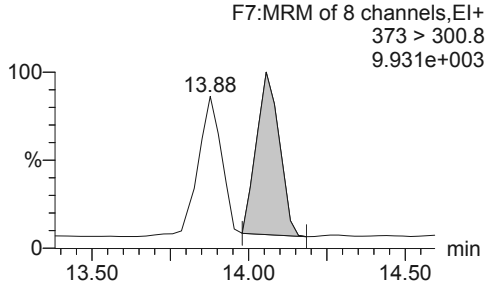




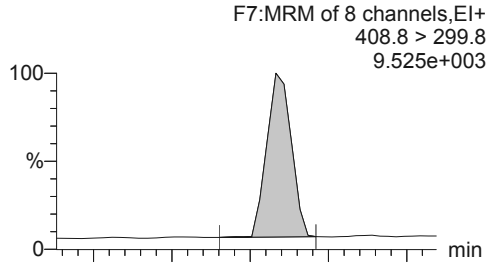
Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

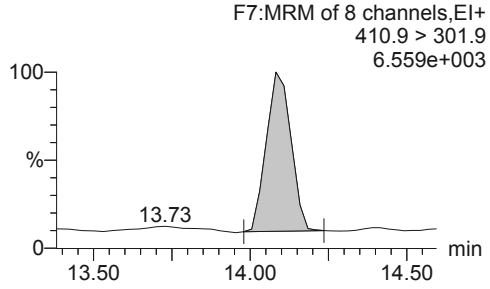
alpha-Chlordane|5103-71-9



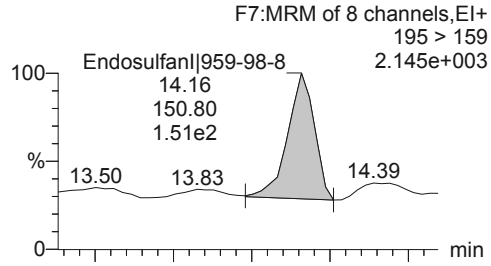


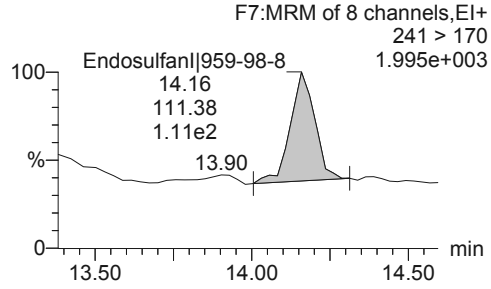
trans-Nonachlor|39765-80-5



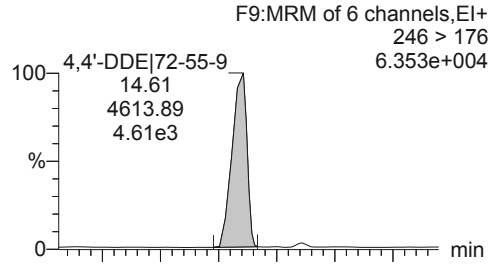


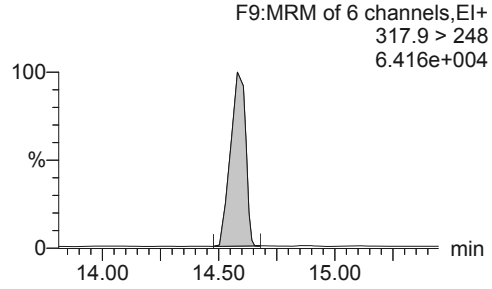
Endosulfanl|959-98-8



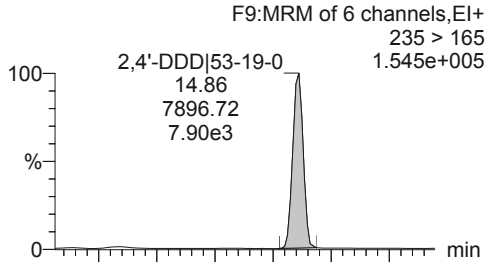


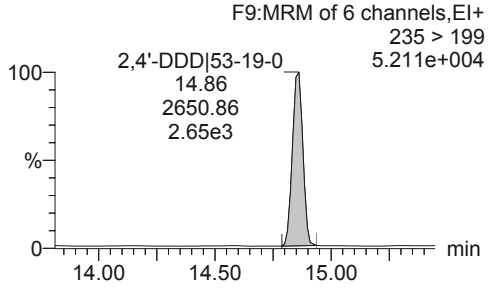
4,4'-DDE|72-55-9



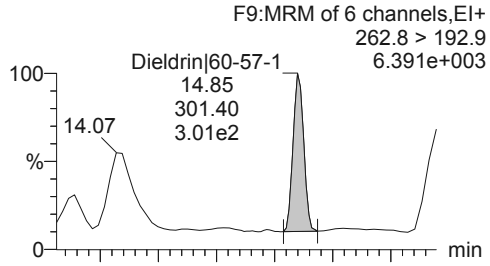


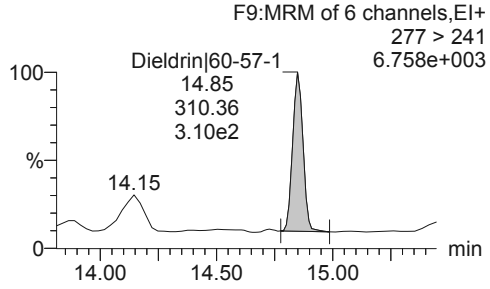
2,4'-DDD|53-19-0



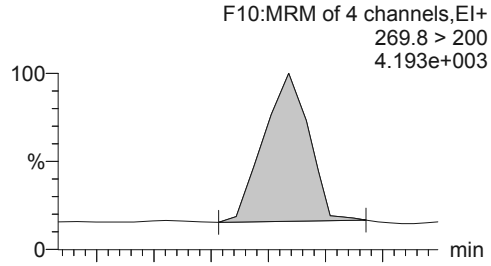


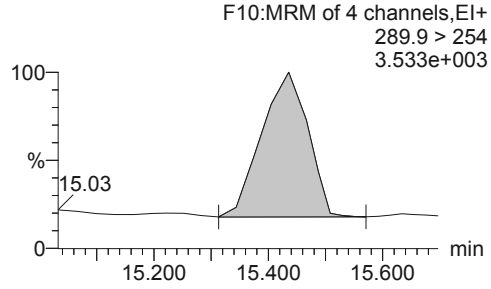
Dieldrin|60-57-1



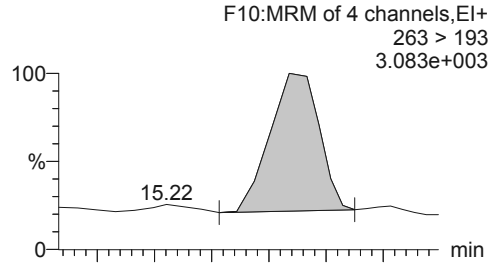


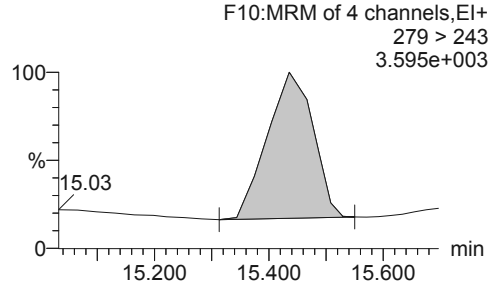
Endrin-13C12|CASID30739





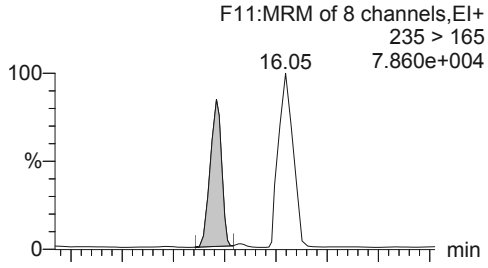
Endrin|72-20-8

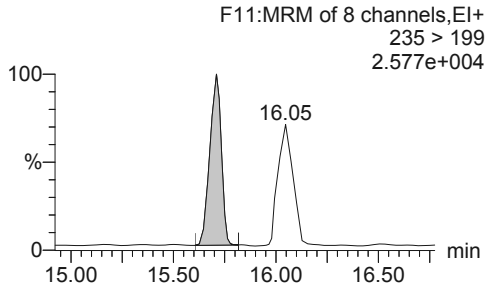




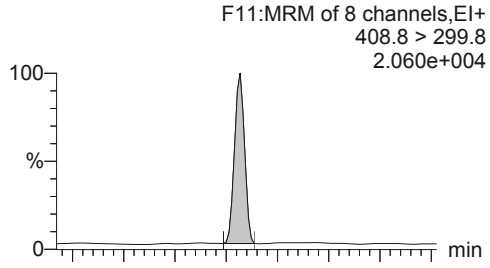
Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

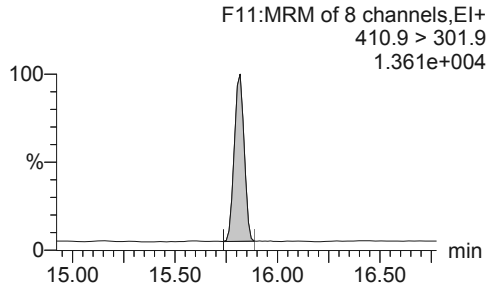
2,4-DDT|789-02-6



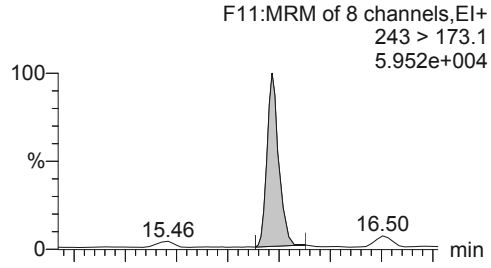


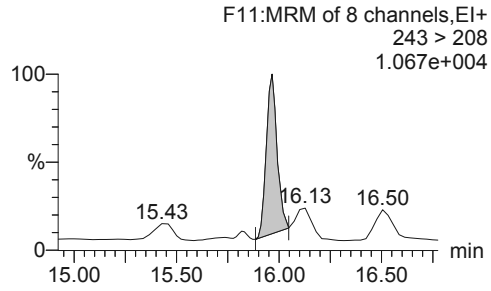
cis-Nonachlor|5103-73-1



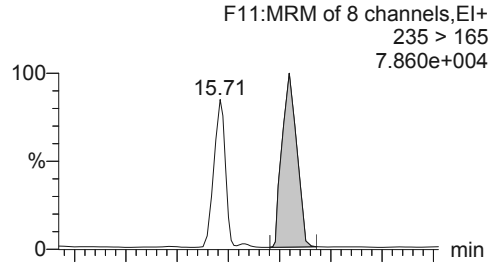


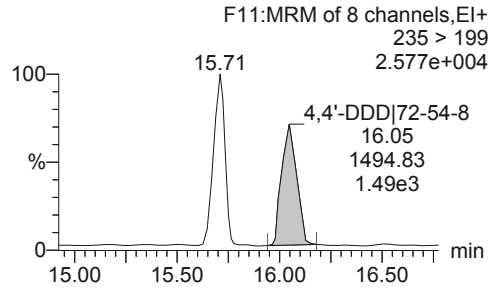
4,4'DDD-d4|93952-20-6



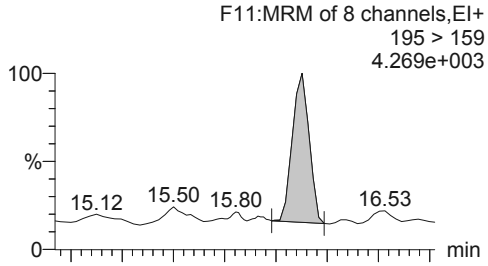


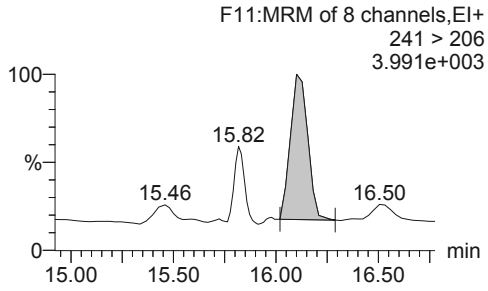
4,4'-DDD|72-54-8



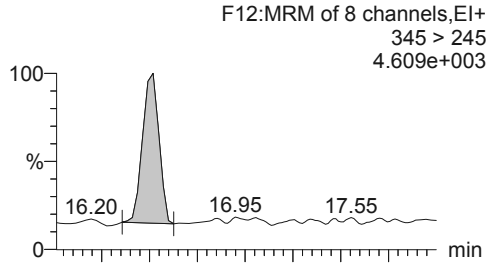


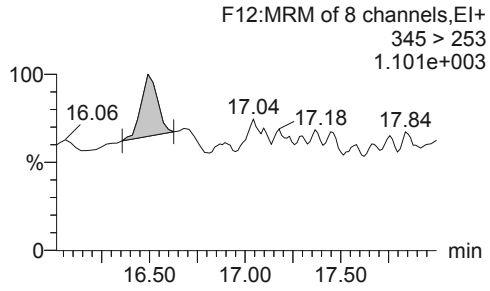
Endosulfanll|33213-65-9



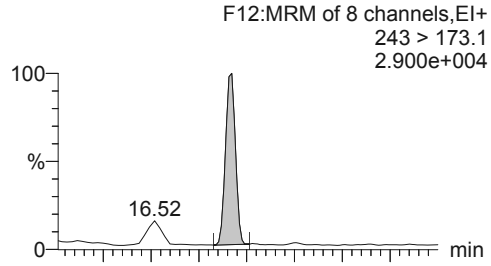


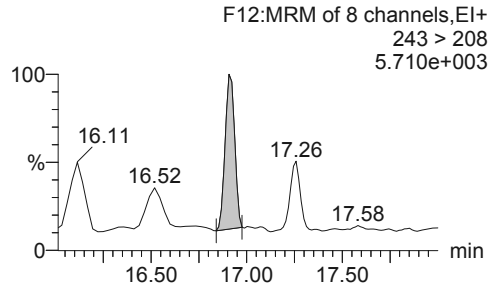
Endrin aldehyde|7421-93-4



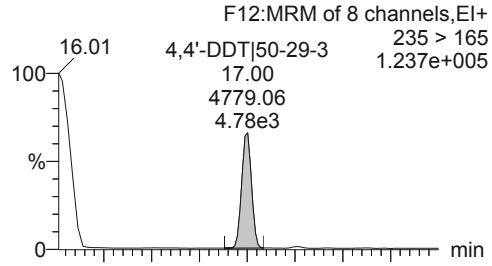


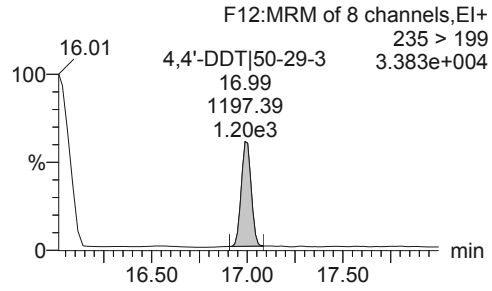
4,4'-DDT-d4|93952-18-2





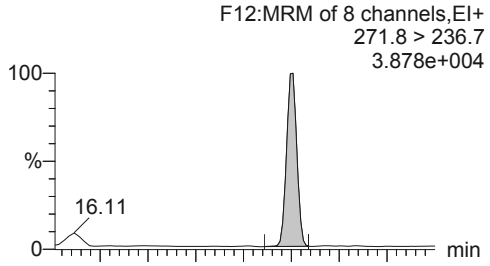
4,4'-DDT|50-29-3

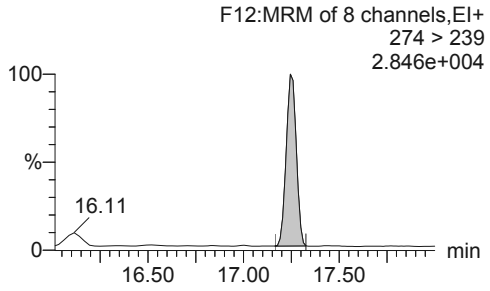




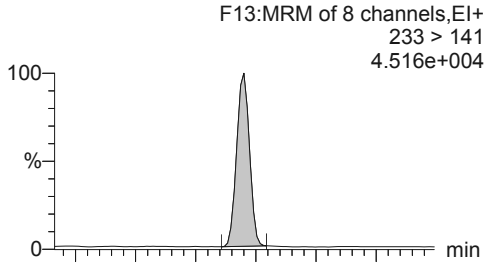
Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

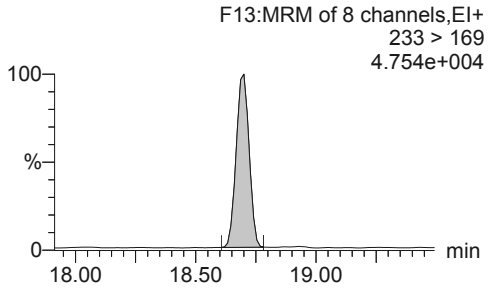
Endosulfan sulfate|1031-07-8



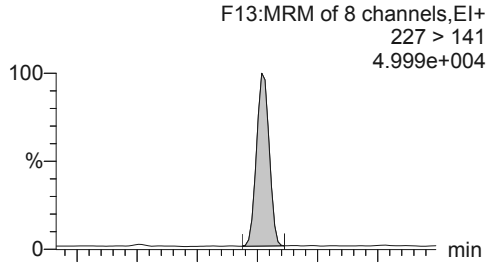


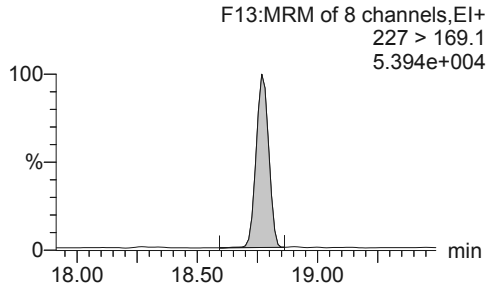
Mxchlord6|106031-79-2



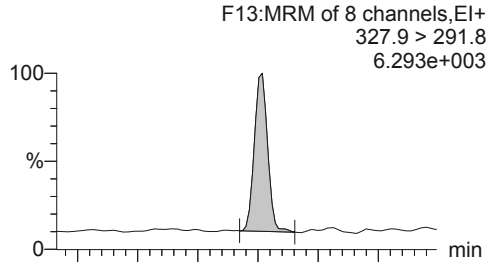


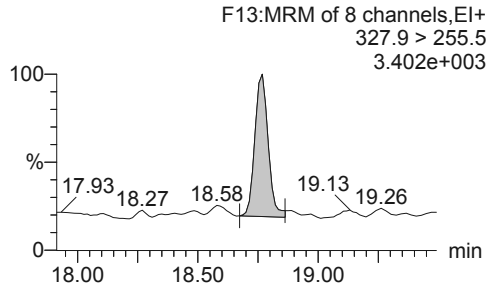
Methoxychlor|72-43-5



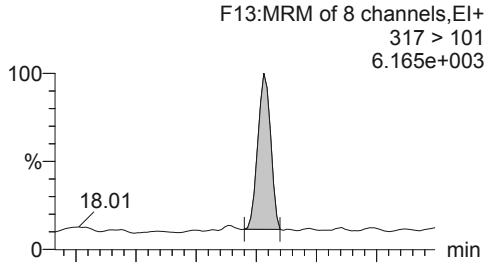


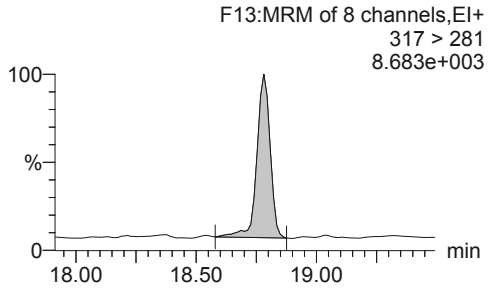
Endrinket13C12|CASID30741



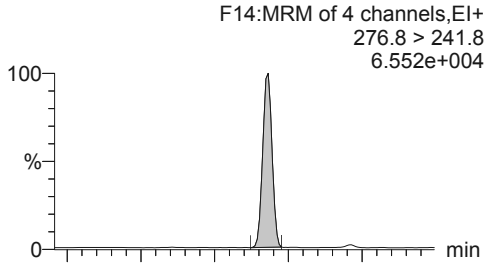


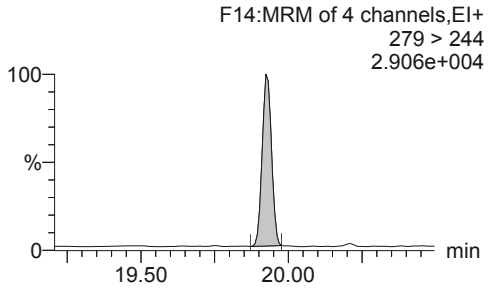
Endrin ketone|53494-70-5



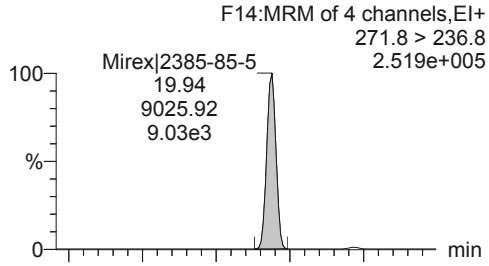


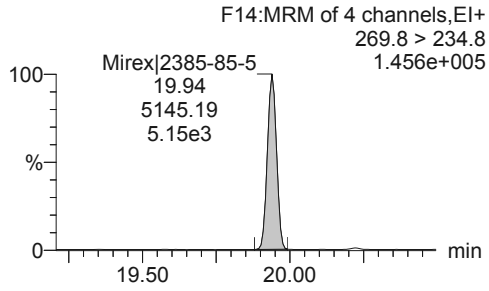
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/24/18
2nd 08/24/18

Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	24557.227		bb		49.4	-50.6	9.752	10.373	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.86	1264.431	24557.227	bb		7.0	-65.0	3.616	2.273	YES
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	782.575	1264.431	bb		16.5		2.895	1.797	YES
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	745.913	1264.431	bb		19.0		3.003	2.156	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	1423.215	1264.431	bb		25.4		3.330	2.373	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.62	235.535	1264.431	bb		4.1		3.180	2.838	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	2079.691	24557.227	bb		9.8	-51.2	3.518	4.372	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.50	2376.908	2079.691	bb		20.1		3.369	4.577	YES
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	805.765	24557.227	bb		5.5	-72.5	1.865	1.763	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.82	594.218	805.765	bb		15.6		1.536	1.726	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	2202.593	24557.227	bb		10.7	-46.4	3.568	5.115	YES
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	1937.914	2202.593	bb		15.3		1.305	1.554	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	413.217	24557.227	bb		5.8	-70.8	2.967	1.831	YES
14	Aldrin|309-00-2	262.9 > 192.9	12.43	384.714	413.217	bb		19.5		3.364	3.666	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	2360.629	24557.227	bb		17.4	-13.0	2.181	1.914	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	735.787	2360.629	MM	MP	18.5		0.633	1.073	YES
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	323.142	24557.227	MM	MP	8.1	-59.5	1.007	1.186	NO
18	Isodrin|465-73-6	192.9 > 123	13.06	303.782	323.142	MM	MP	21.7		1.026	1.238	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	270.912	24557.227	bb		7.4	-62.9	0.636	0.725	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	318.674	270.912	MM	MP	22.6		0.819	0.658	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	537.041	24557.227	MM	MP	8.8	-55.8	2.149	1.636	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	590.678	537.041	MM	MP	17.9		2.451	2.738	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	5776.894	3810.018	bb		17.9		2.971	1.680	YES
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	1238.243	270.912	bb		30.3		2.108	1.993	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.06	1053.746	270.912	bb		30.2		1.575	1.365	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.08	797.873	270.912	bb		30.0		1.517	1.484	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	150.801	322.354	db		16.7		1.459	1.354	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	4613.888	3810.018	bb		18.4		1.653	0.970	YES
29	2,4'-DDD|53-19-0	235 > 165	14.86	7896.721	3810.018	bb		20.9		2.709	2.979	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.85	301.397	322.354	bb		15.9		1.007	0.971	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	322.354	24557.227	bb		9.6	-51.9	1.566	1.182	NO
32	Endrin|72-20-8	263 > 193	15.44	240.787	322.354	bb		17.2		1.231	0.870	NO
33	2,4-DDT|789-02-6	235 > 165	15.71	4176.583	1669.835	bb		16.8		2.729	2.592	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	1125.175	270.912	bb		38.9		1.628	1.575	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	3810.018	24557.227	bb		2.2	-55.4	6.924	6.525	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	6463.345	3810.018	bb		17.1		4.083	4.324	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	341.393	322.354	bb		27.8		0.786	1.060	YES
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	388.942	322.354	bb		31.1		6.264	10.199	YES
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	1669.835	24557.227	bb		1.9	-61.5	5.701	5.818	NO

1st 08/24/18
2nd 08/24/18

Name: 082318F008, Date: 23-Aug-2018, Time: 18:29:06, Description: KQ1810706-01 LCS

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	4779.062	1669.835	bb		20.2		3.729	3.991	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	2355.241	322.354	bb		19.4		1.651	1.395	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	2721.589	24557.227	bb		7.4	-62.9	0.917	0.941	NO
43	Methoxychlor|72-43-5	227 > 141	18.77	2971.461	2721.589	bb		21.3		0.836	0.933	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	357.790	24557.227	bb		12.1	-39.7	2.077	2.053	NO
45	Endrin ketone|53494-70-5	317 > 101	18.78	334.036	357.790	bb		18.4		0.687	0.655	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	2352.368	24557.227	bb		3.0	-39.8	2.492	2.276	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	9025.923	2352.368	bb		17.8		1.678	1.754	NO

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F009.D\
Lab ID: KQ1810706-02
RunType: DLCS
Matrix: Fish Tissue

Date Acquired: 8/23/18 18:57:40
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates		X
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	2,4'-DDE	26		25	CCV+ND
	alpha-Chlordane	35		25	CCV+ND
	Dieldrin	38		25	CCV+ND
	S_4,4'-DDT-d4	41	50	200	labeled out, unlabeled ok in CCV/LCS
Surrogates	S_4,4'DDD-d4	34	36	155	labeled out, unlabeled ok in CCV/LCS
	S_4,4'-DDT-d4	31	33	150	labeled out, unlabeled ok in CCV/LCS
	S_Aldrin-13C12	27	31	151	labeled out, unlabeled ok in CCV/LCS
	S_Endrin-13C12	32	34	160	labeled out, unlabeled ok in CCV/LCS

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F009.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:57:40	**Vial:**	4
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ1810706-02	**Raw Units:**	ng/mL

Bottle ID:		**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**	319299	**Report Group:**	KQ1810706
Analysis	ALS SOP	**Prep Method:**	EPA 3541		
		Prep Date:	8/7/18		

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.366		25247.6	50.8234	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec		% Rec Criteria	Rpt?
S_4,4'DDD-d4	15.9658		2998.54	1.70803	34	*	36 - 155	Y
S_4,4'-DDT-d4	16.9214		1385.77	1.55385	31	*	33 - 150	Y
S_Aldrin-13C12	12.4292		386.165	5.3074	27	*	31 - 151	Y
S_Endrin-13C12	15.4358		222.828	6.46234	32	*	34 - 160	Y
S_GBHCD6	10.8611		1270.32	6.84952	34		25 - 151	Y
S_Heptachlor-13C10	11.8196		744.487	4.94944	25		10 - 243	Y
S_Heptachlrepox13C10	13.289		503.231	8.06327	40		35 - 152	Y
S_Oxychlordane-13C10	13.2093	+0.03	242.812	6.4746	32		10 - 223	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
2,4'-DDD	14.8611	+0.00	6401.19	21.5113	10.8		Y
2,4'-DDE	13.7289		4782.54	18.863	9.43		Y
2,4'-DDT	15.7098	+0.00	3653.42	17.6558	8.83		Y
4,4'-DDD	16.0466	+0.00	5522.95	18.5363	9.27		Y
4,4'-DDE	14.6063		3949.17	20.0397	10.0		Y
4,4'-DDT	17.0022	+0.00	3919.34	19.9765	9.99		Y
Aldrin	12.4292		354.208	19.2086	9.60		Y
alpha-Chlordane	14.0564		1018.65	32.5563	16.3		Y
beta-BHC	11.2569		1389.03	24.6492	12.3		Y
cis-Nonachlor	15.8175		988.798	38.0946	19.0		Y
Dieldrin	14.8611	+0.01	273.879	20.912	10.5		Y
alpha-BHC	10.4569		821.148	17.2558	8.63		Y

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F009.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 18:57:40	**Vial:**	4
Run Type:	DLCS	**Dilution:**	1
Lab ID:	KQ1810706-02	**Raw Units:**	ng/mL

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
gamma-BHC (Lindane)	10.9285		738.786	18.6908	9.35		Y
gamma-Chlordane	13.8772		994.523	27.178	13.6		Y
Heptachlor Epoxide	13.3157	+0.03	551.886	17.874	8.94		Y
Heptachlor	11.8196		529.092	15.0679	7.53		Y
Oxychlordane	13.2093		234.485	18.5657	9.28		Y
trans-Nonachlor	14.0821		621.149	26.0266	13.0		Y

Prep Amount:	2 g	**Dilution:**	1
Prep Final Amount:	1.00 mL	**Basis Factor:**	100.00

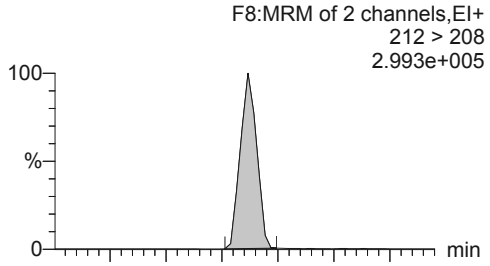
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

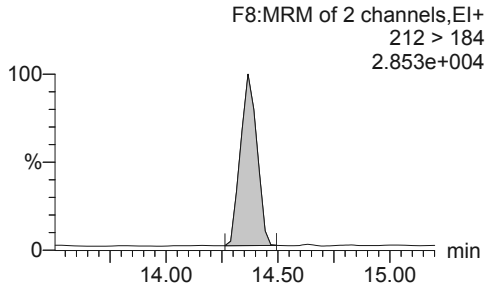
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

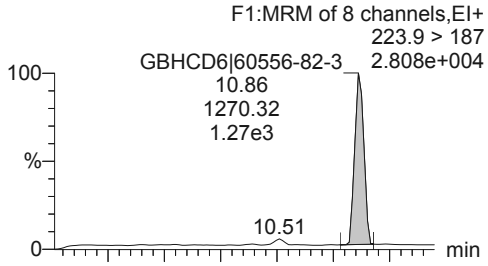
Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

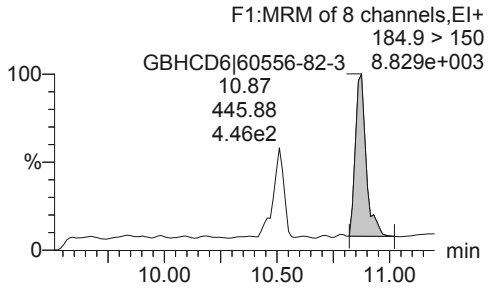
Pyrene-d10|1718-52-1



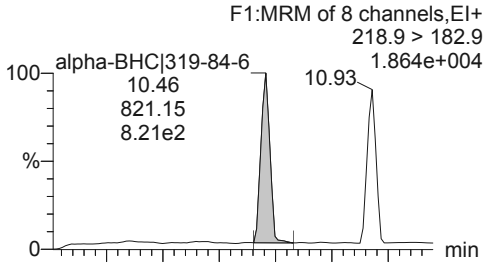


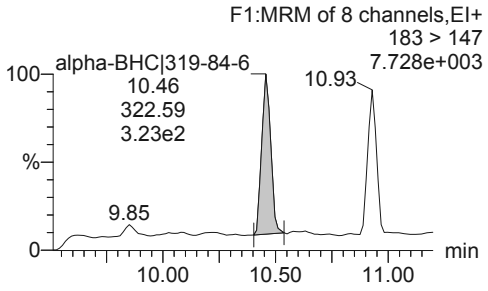
GBHCD6|60556-82-3



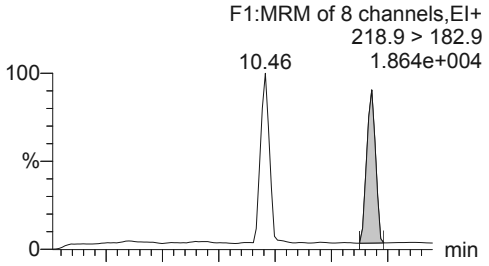


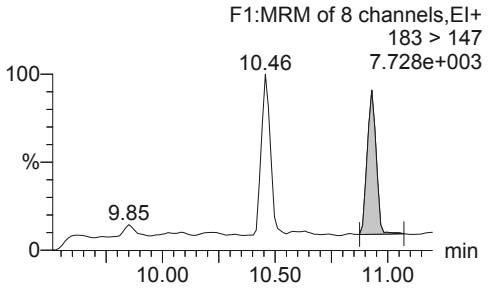
alpha-BHC|319-84-6



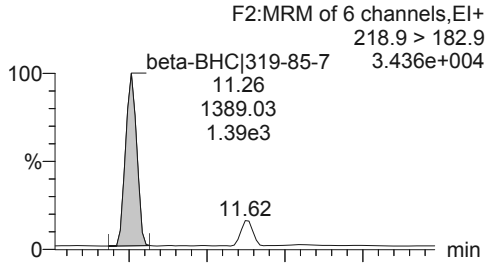


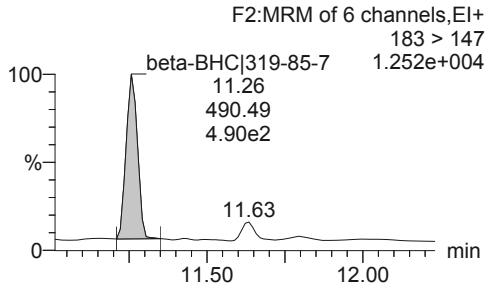
gamma-BHC|58-89-9



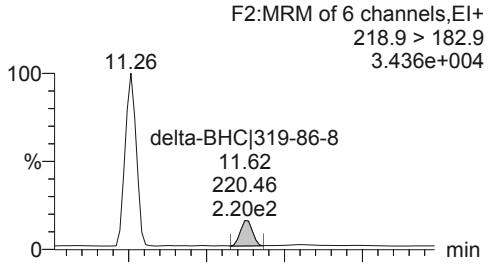


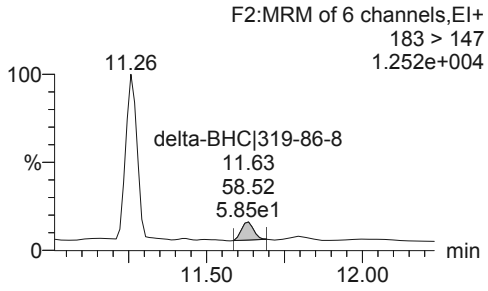
beta-BHC|319-85-7



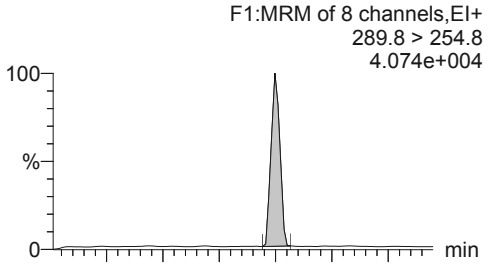


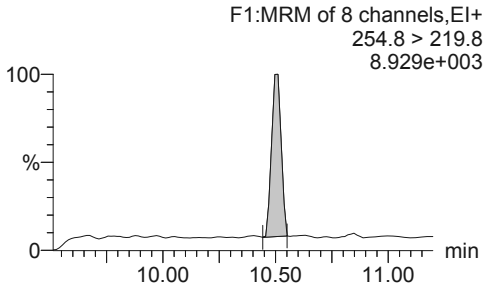
delta-BHC|319-86-8



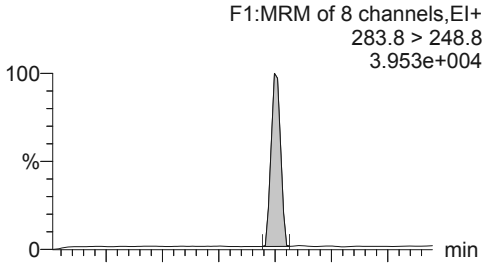


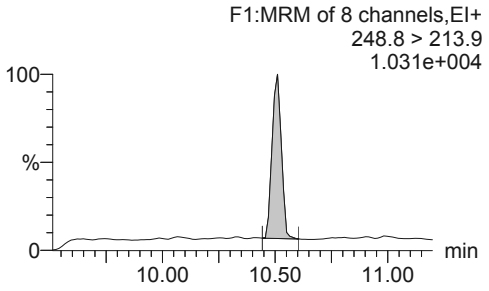
HXCBZ13C6|CASID30730





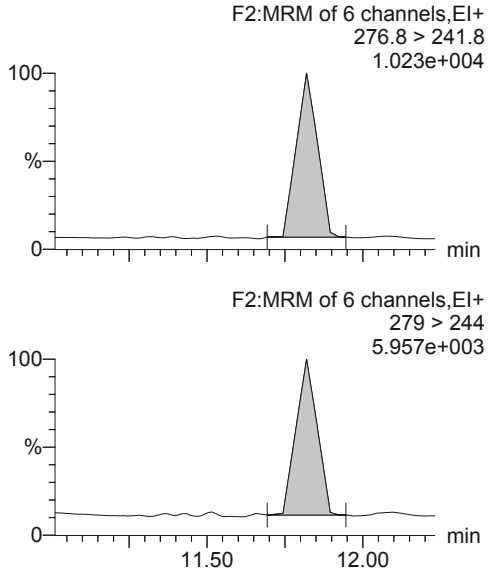
Hexachlorobenzene|118-74-1



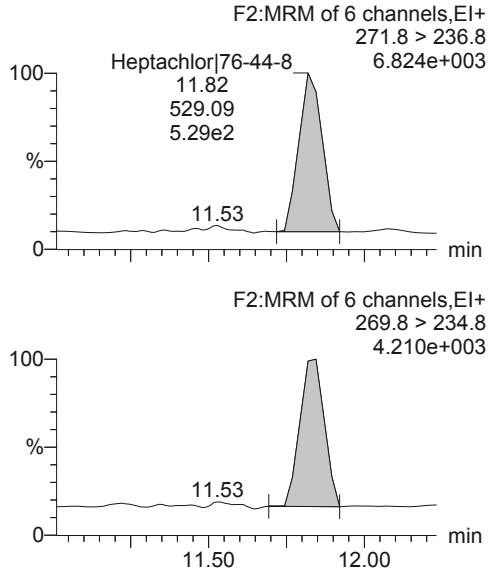


Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

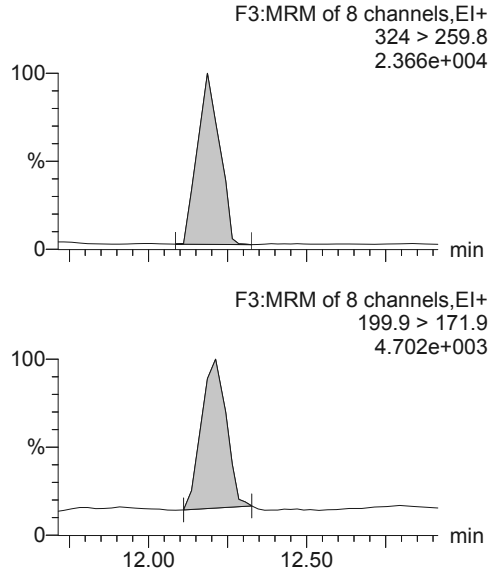
Heptachlor-13C10|CASID30731



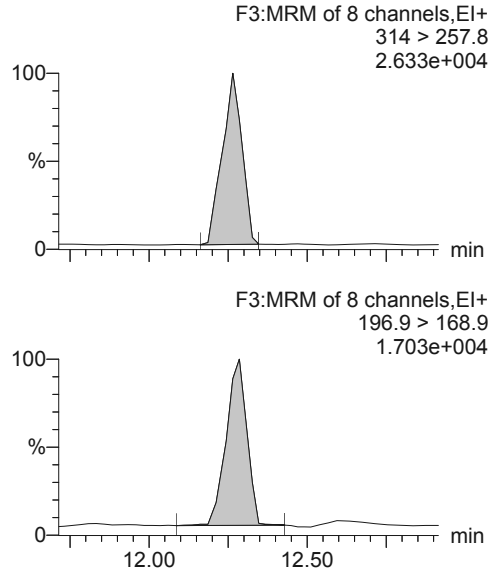
Heptachlor|76-44-8



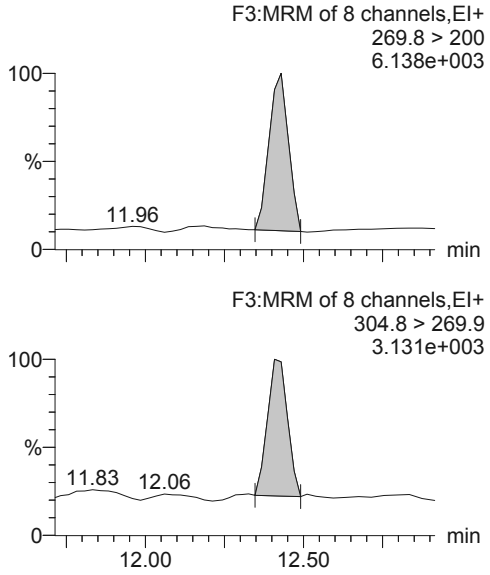
Chlorpyrifos-d10|CASID30732



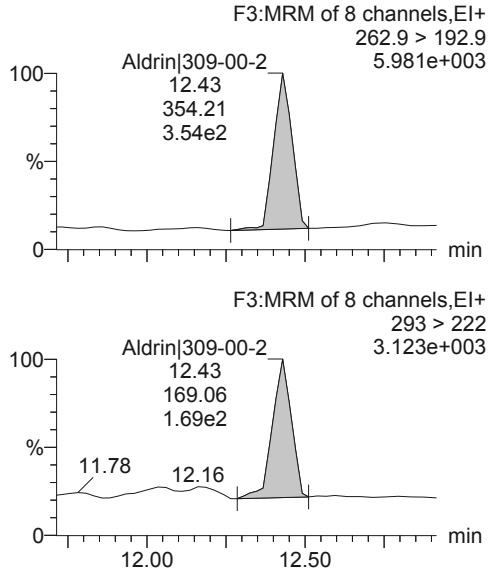
Chlorpyrifos|2921-88-2



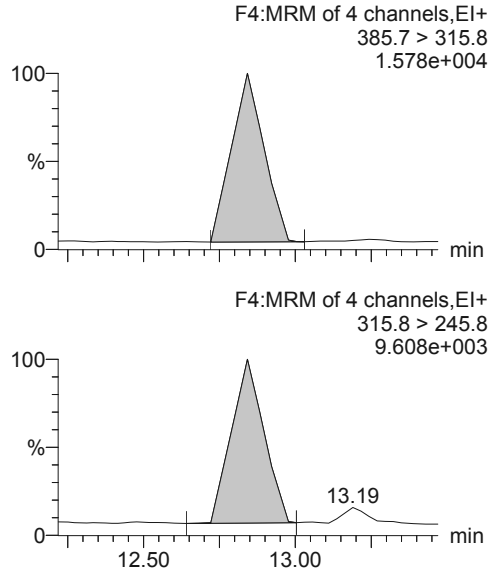
Aldrin-13C12|CASID30733



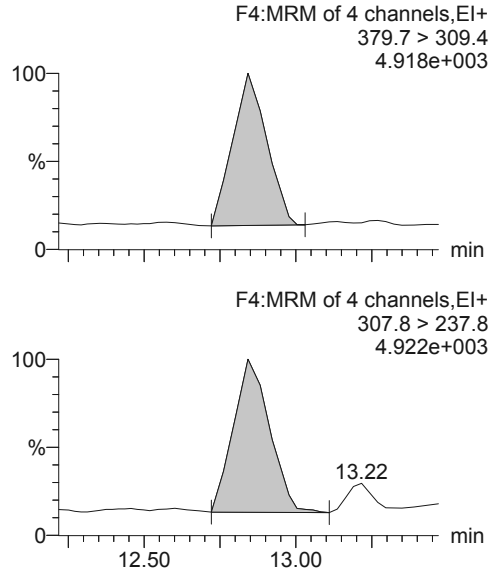
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

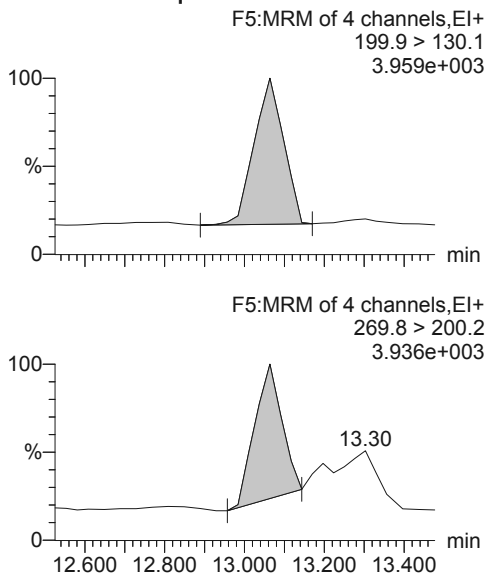


Octachlorostyrene|29082-74-4

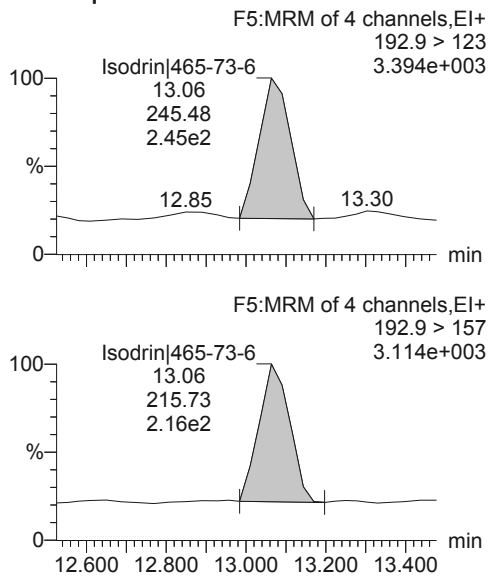


Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

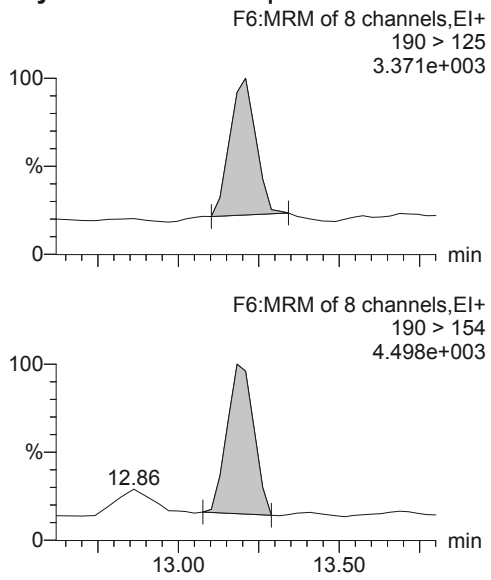
Isodrin-13C12|CASID30735



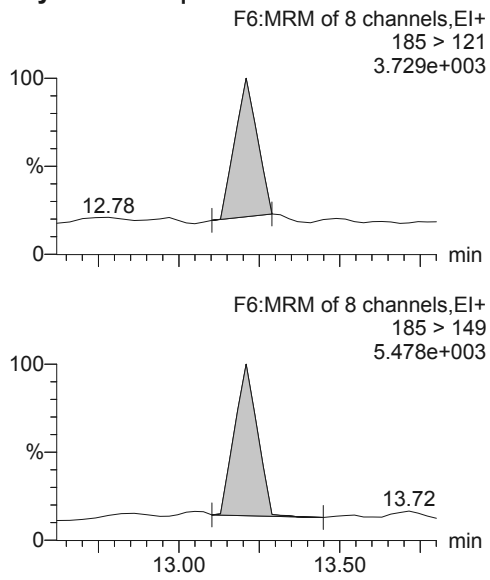
Isodrin|465-73-6



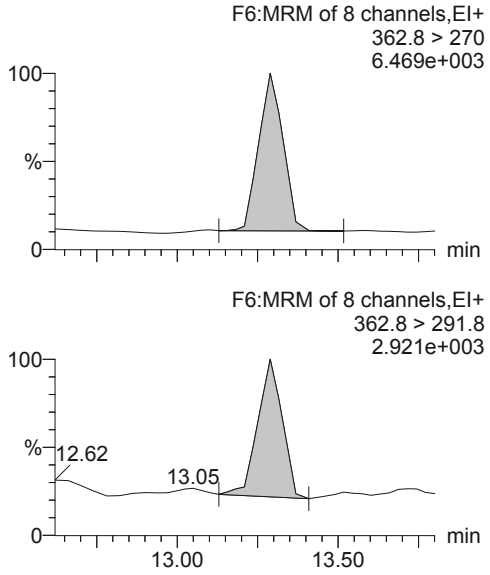
Oxychlordane-13C10|CASID30737



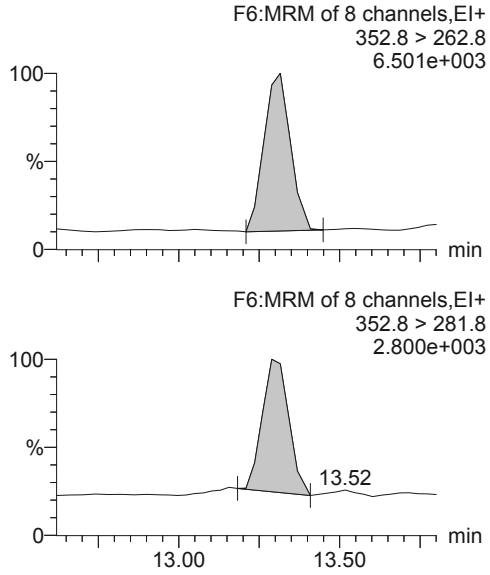
Oxychlordane|27304-13-8



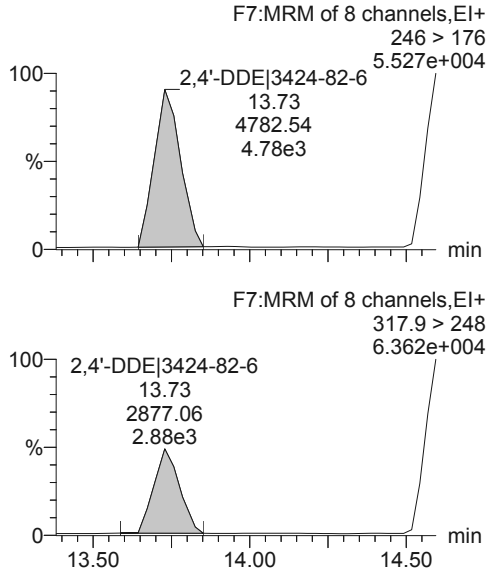
HeptachIrepox13C10|CASID30736



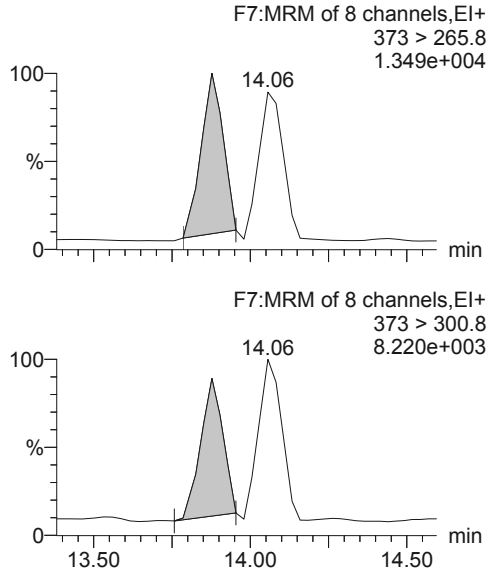
Heptachlor epoxide|1024-57-3



2,4'-DDE|3424-82-6

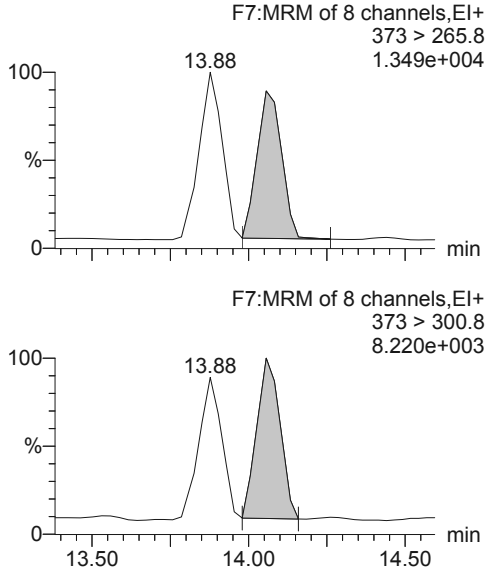


gamma-Chlordane|5566-34-7

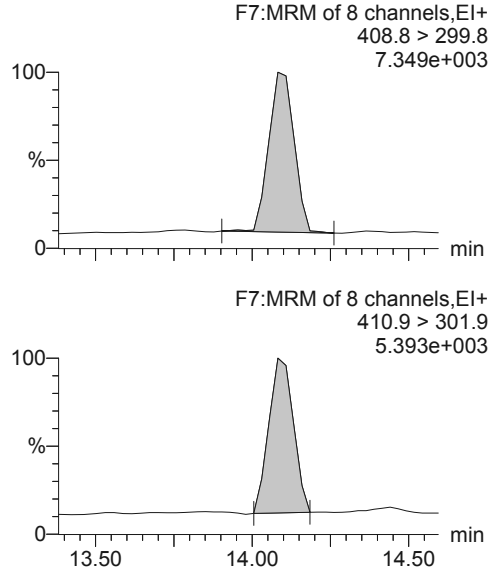


Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

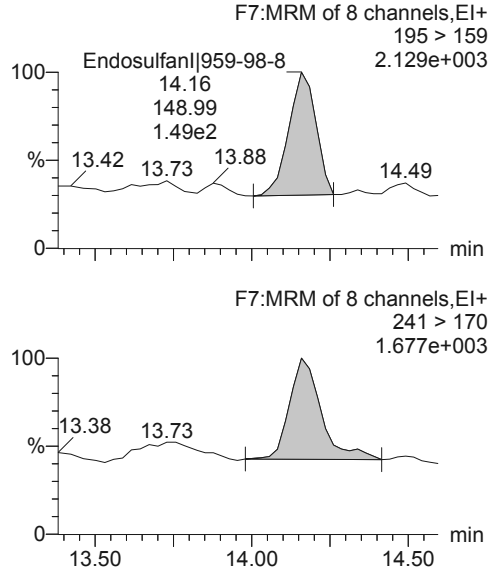
alpha-Chlordane|5103-71-9



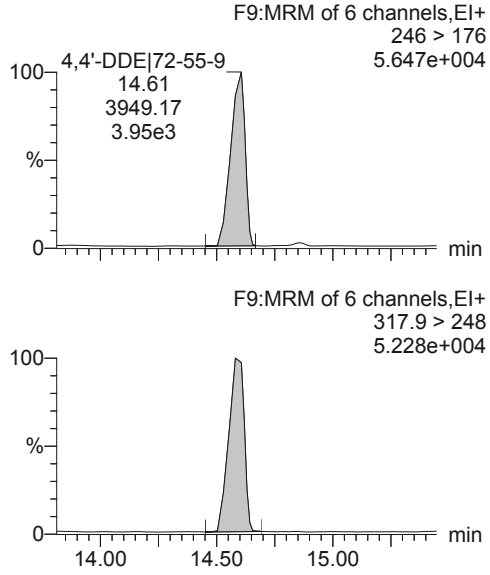
trans-Nonachlor|39765-80-5



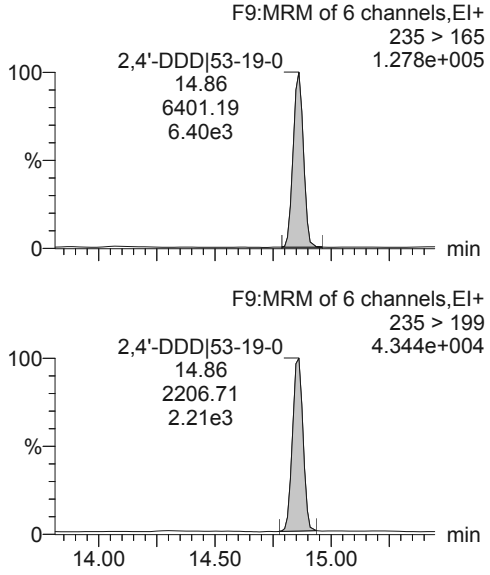
Endosulfanl|959-98-8



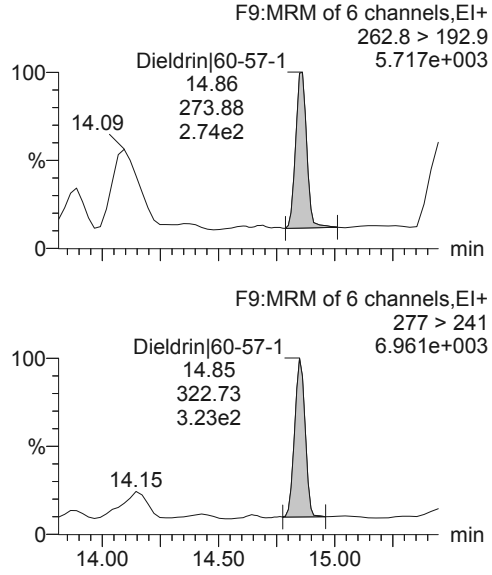
4,4'-DDE|72-55-9



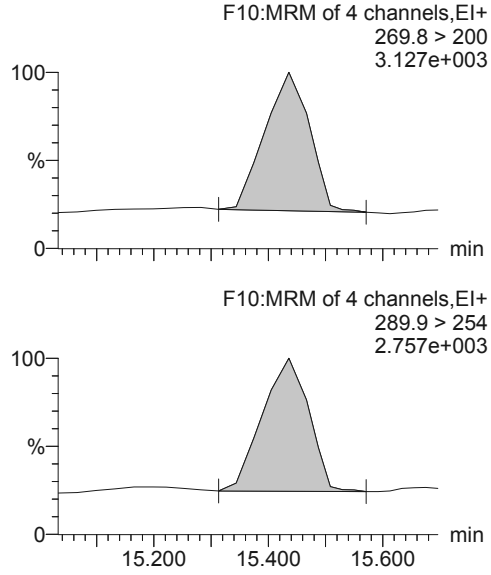
2,4'-DDD|53-19-0



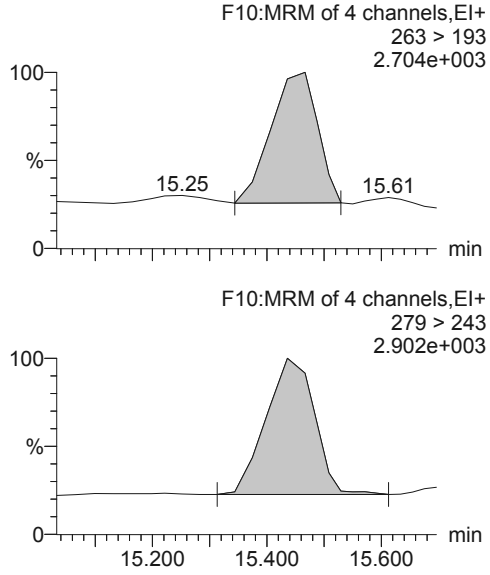
Dieldrin|60-57-1



Endrin-13C12|CASID30739

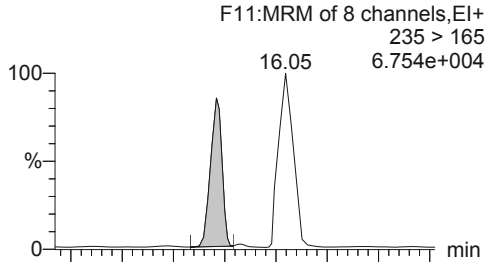


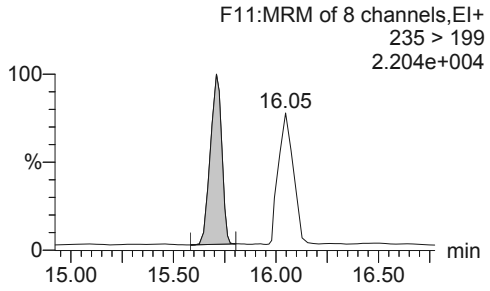
Endrin|72-20-8



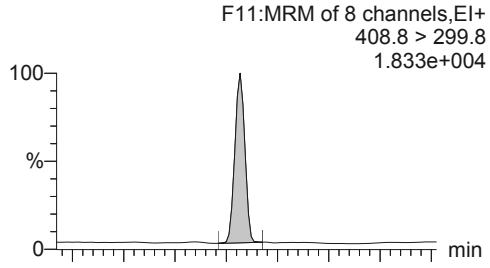
Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

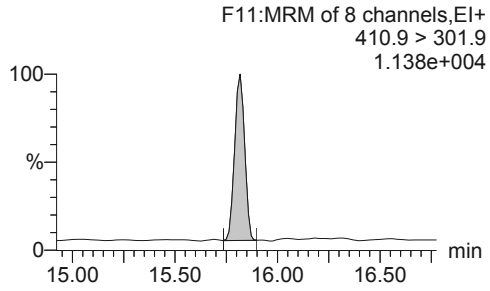
2,4-DDT|789-02-6



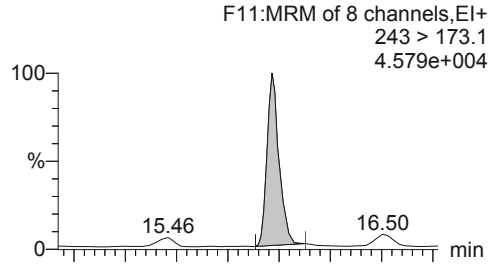


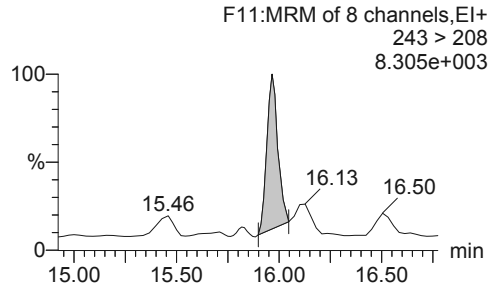
cis-Nonachlor|5103-73-1



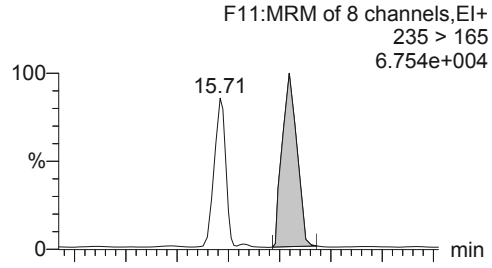


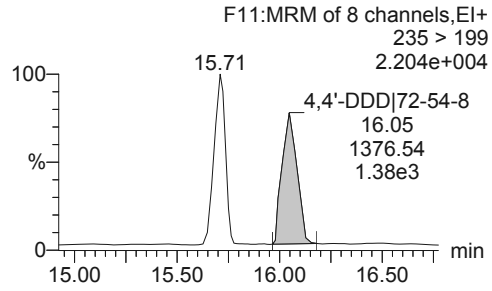
4,4'DDD-d4|93952-20-6



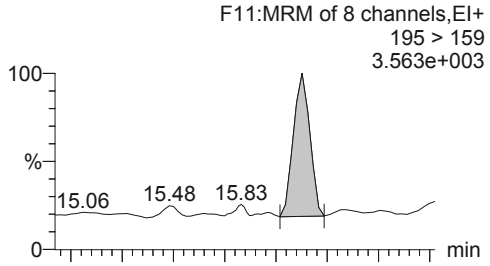


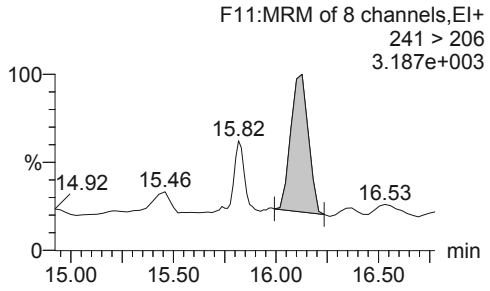
4,4'-DDD|72-54-8



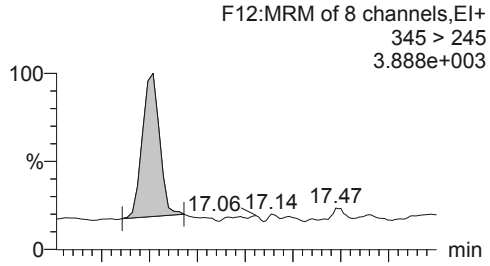


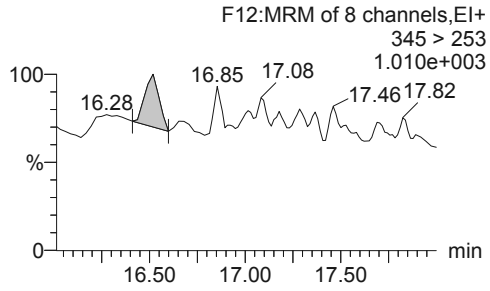
Endosulfanll|33213-65-9



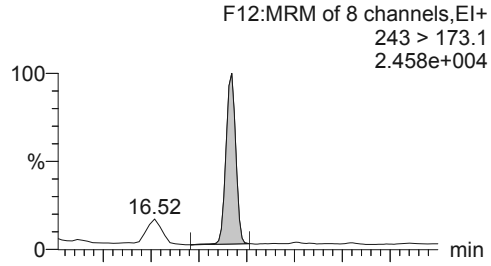


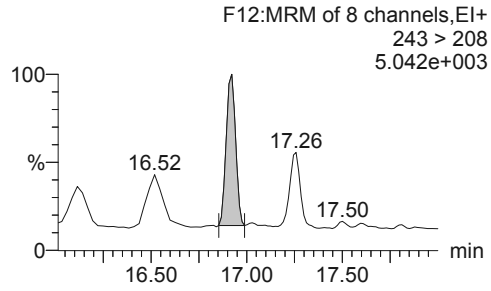
Endrin aldehyde|7421-93-4



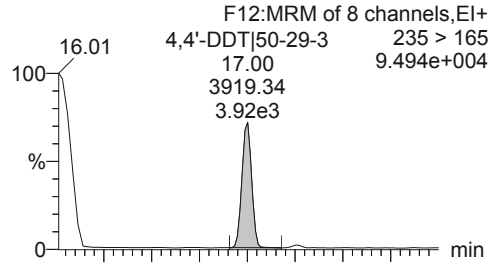


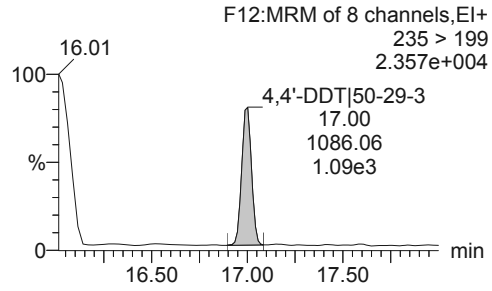
4,4'-DDT-d4|93952-18-2





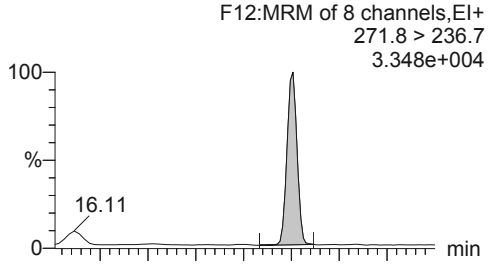
4,4'-DDT|50-29-3

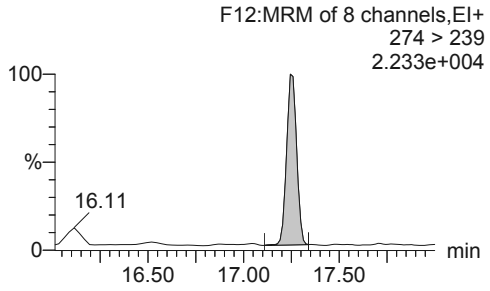




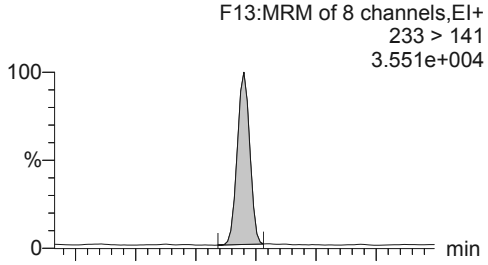
Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

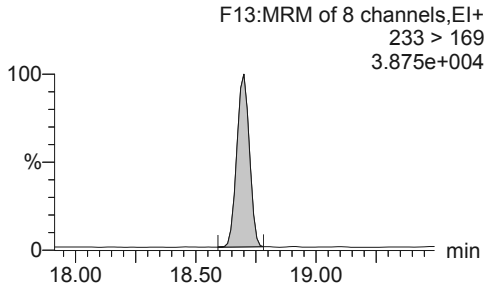
Endosulfan sulfate|1031-07-8



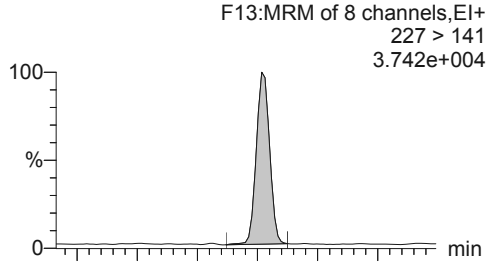


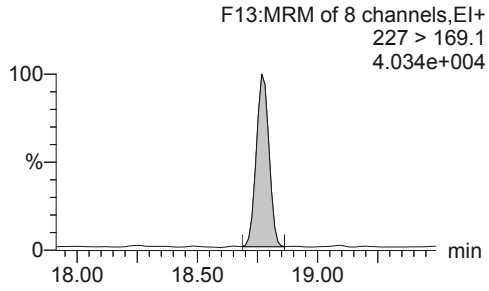
Mxchlord6|106031-79-2



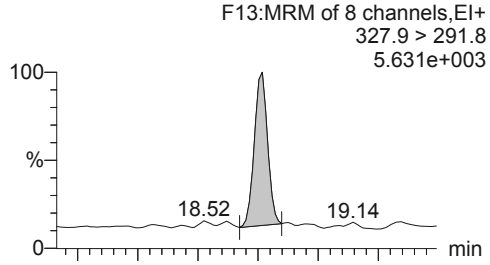


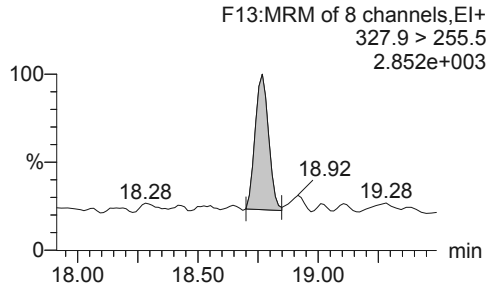
Methoxychlor|72-43-5



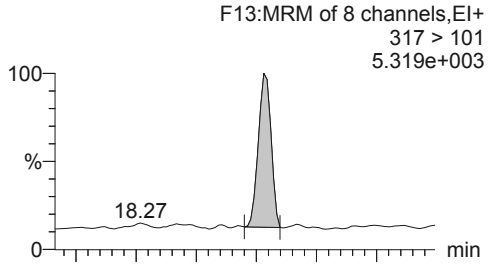


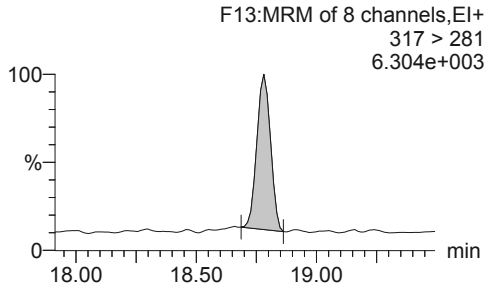
Endrinket13C12|CASID30741



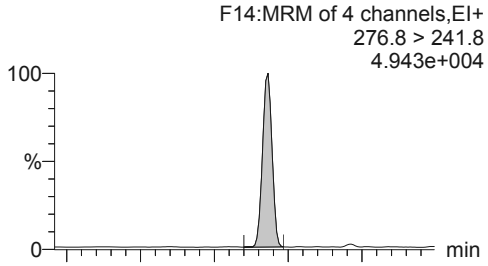


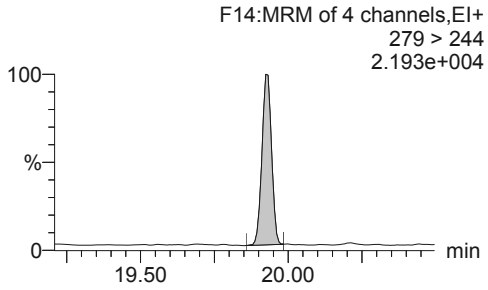
Endrin ketone|53494-70-5



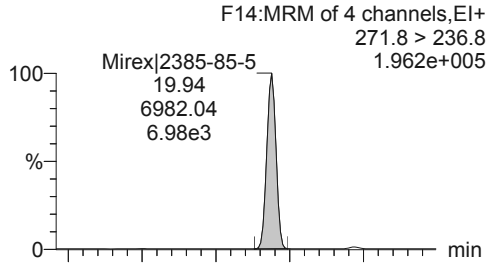


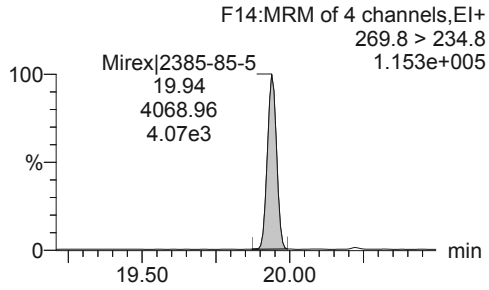
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/24/18
2nd 08/24/18

Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	25247.563		bb		50.8	-49.2	9.752	10.650	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.86	1270.323	25247.563	bb		6.8	-65.8	3.616	2.849	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	821.148	1270.323	bb		17.3		2.895	2.546	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	738.786	1270.323	bb		18.7		3.003	2.531	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	1389.033	1270.323	bb		24.6		3.330	2.832	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.62	220.462	1270.323	bb		3.9		3.180	3.767	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	1800.486	25247.563	bb		8.2	-58.9	3.518	4.467	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.50	1879.477	1800.486	bb		18.4		3.369	4.143	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	744.487	25247.563	bb		4.9	-75.3	1.865	1.816	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.82	529.092	744.487	bb		15.1		1.536	1.659	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	1870.298	25247.563	bb		8.8	-55.8	3.568	5.154	YES
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	1834.786	1870.298	bb		17.1		1.305	1.516	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	386.165	25247.563	bb		5.3	-73.5	2.967	2.177	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	354.208	386.165	bb		19.2		3.364	2.095	YES
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	1872.545	25247.563	bb		13.4	-32.9	2.181	1.691	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	551.146	1872.545	MM	MP	17.5		0.633	0.931	YES
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	280.153	25247.563	MM	MP	6.8	-65.8	1.007	1.178	NO
18	Isodrin|465-73-6	192.9 > 123	13.06	245.476	280.153	MM	MP	20.2		1.026	1.138	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	242.812	25247.563	bb		6.5	-67.6	0.636	0.663	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	234.485	242.812	MM	MP	18.6		0.819	0.609	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	503.231	25247.563	MM	MP	8.1	-59.7	2.149	2.512	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	551.886	503.231	MM	MP	17.9		2.451	2.742	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	4782.542	2998.538	bb		18.9		2.971	1.662	YES
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	994.523	242.812	bb		27.2		2.108	1.897	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.06	1018.649	242.812	bb		32.6		1.575	1.583	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.08	621.149	242.812	bb		26.0		1.517	1.449	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	148.994	222.828	bb		23.9		1.459	1.316	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	3949.170	2998.538	bb		20.0		1.653	0.998	YES
29	2,4'-DDD|53-19-0	235 > 165	14.86	6401.190	2998.538	bb		21.5		2.709	2.901	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	273.879	222.828	bb		20.9		1.007	0.849	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	222.828	25247.563	bb		6.5	-67.7	1.566	1.139	NO
32	Endrin|72-20-8	263 > 193	15.47	188.889	222.828	bb		19.5		1.231	0.858	YES
33	2,4-DDT|789-02-6	235 > 165	15.71	3653.418	1385.772	bb		17.7		2.729	2.685	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	988.798	242.812	bb		38.1		1.628	1.633	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	2998.538	25247.563	bb		1.7	-65.8	6.924	6.672	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	5522.949	2998.538	bb		18.5		4.083	4.012	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	268.678	222.828	bb		31.6		0.786	1.093	YES
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	327.533	222.828	bb		37.8		6.264	12.682	YES
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	1385.772	25247.563	bb		1.6	-68.9	5.701	5.696	NO

1st 08/24/18
2nd 08/24/18

Name: 082318F009, Date: 23-Aug-2018, Time: 18:57:40, Description: KQ1810706-02 DLCS

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	3919.338	1385.772	bb		20.0		3.729	3.609	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	1972.071	222.828	bb		23.5		1.651	1.506	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	2077.065	25247.563	bb		5.5	-72.4	0.917	0.908	NO
43	Methoxychlor|72-43-5	227 > 141	18.77	2320.729	2077.065	bb		21.8		0.836	0.969	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	310.147	25247.563	bb		10.2	-49.1	2.077	2.204	NO
45	Endrin ketone|53494-70-5	317 > 101	18.78	283.075	310.147	bb		18.0		0.687	0.778	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	1802.032	25247.563	bb		2.2	-55.1	2.492	2.272	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	6982.042	1802.032	bb		18.0		1.678	1.716	NO

1st 08/24/18
2nd 08/24/18

Validation Report

Data File: J:\MS21\Data\082318\082318F006.D\
Lab ID: KQ1811734-01
RunType: CCV
Matrix: Fish Tissue

Date Acquired: 8/23/18 17:32:18
Batch ID: 603882
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

1st 08/24/18
2nd 08/24/18

Quantitation Report

Data File:	J:\MS21\Data\082318\082318F006.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 17:32:18	**Vial:**	1
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ1811734-01	**Raw Units:**	ng/mL

Bottle ID:		**Tier:**	IV	**Matrix:**	Fish Tissue
Prod Code:	OC_Pest	**Collect Date:**		**Receive Date:**	7/11/18

Analysis Lot:	603882	**Prep Lot:**		**Report Group:**	KQ1811734
Analysis	ALS SOP	**Prep Method:**			
		Prep Date:			

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18351

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.366		26979.3	54.3094	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
S_4,4'DDD-d4	15.9658		5078.6	2.70719	Y
S_4,4'-DDT-d4	16.9214		1949.04	2.04516	Y
S_Aldrin-13C12	12.4292		1643.17	21.134	Y
S_Endrin-13C12	15.4358		431.187	11.7024	Y
S_GBHCD6	10.8611		4122.37	20.8009	Y
S_Heptachlor-13C10	11.8196		3073.89	19.1239	Y
S_Heptachlrepox13C10	13.289		1659.26	24.8798	Y
S_Oxychlordane-13C10	13.1826		783	19.5386	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
2,4'-DDD	14.861		12373.9	24.5516	Y
2,4'-DDE	13.7289		10823.5	25.205	Y
2,4'-DDT	15.7097		6187.71	21.2612	Y
4,4'-DDD	16.0465		9647.95	19.1185	Y
4,4'-DDE	14.6063		7331.63	21.966	Y
4,4'-DDT	17.0021		5963.46	21.611	Y
Aldrin	12.4292		1402.58	17.8754	Y
alpha-Chlordane	14.0564		2726.16	27.0191	Y
beta-BHC	11.2569		3147.54	17.2119	Y
cis-Nonachlor	15.8175		1936.86	23.1399	Y
Dieldrin	14.8489		698.226	27.551	Y
alpha-BHC	10.4569		3311.69	21.4452	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/24/18 10:15
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/24/18

2nd 08/24/18

Data File:	J:\MS21\Data\082318\082318F006.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/23/18 17:32:18	**Vial:**	1
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ1811734-01	**Raw Units:**	ng/mL

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
gamma-BHC (Lindane)	10.9285		2517.64	19.6277	Y
gamma-Chlordane	13.8772		2867.25	24.2983	Y
Heptachlor Epoxide	13.289		1784.57	17.5291	Y
Heptachlor	11.8196		2502.33	17.2598	Y
Oxychlordane	13.2093		926.488	22.748	Y
trans-Nonachlor	14.0821		1850.34	24.0427	Y

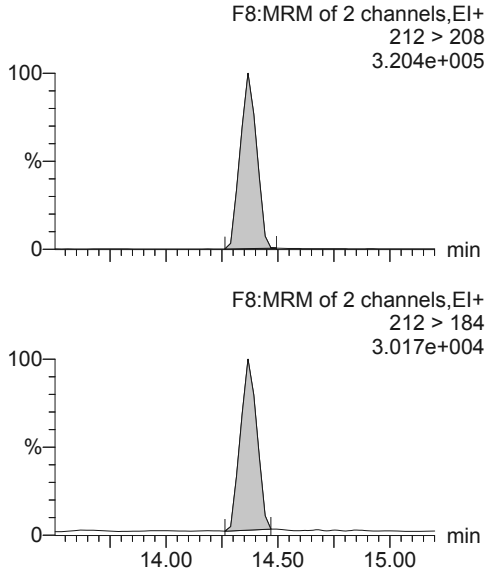
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

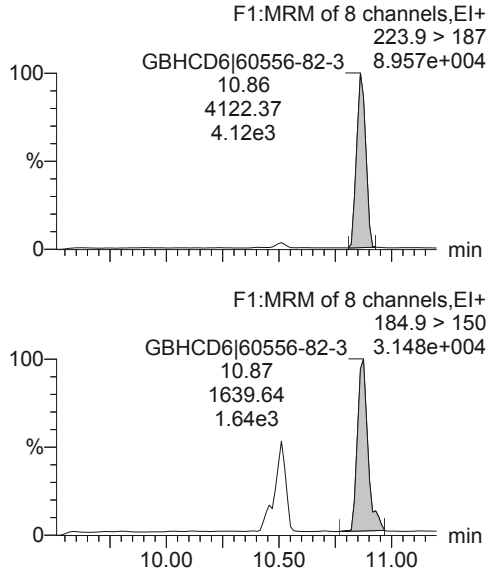
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

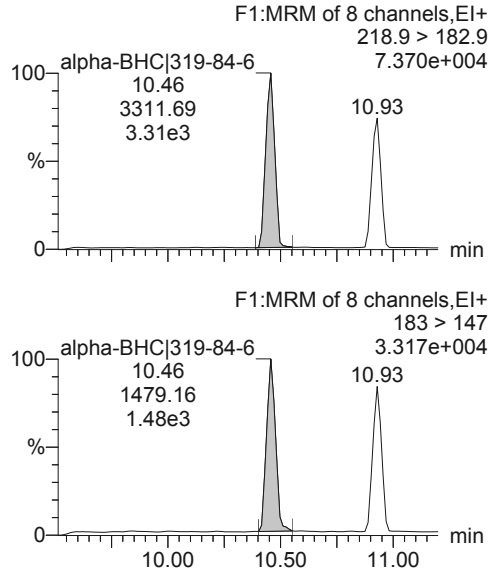
Pyrene-d10|1718-52-1



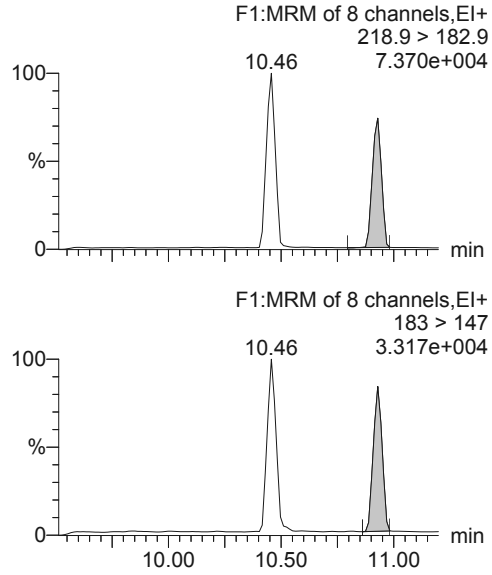
GBHCD6|60556-82-3



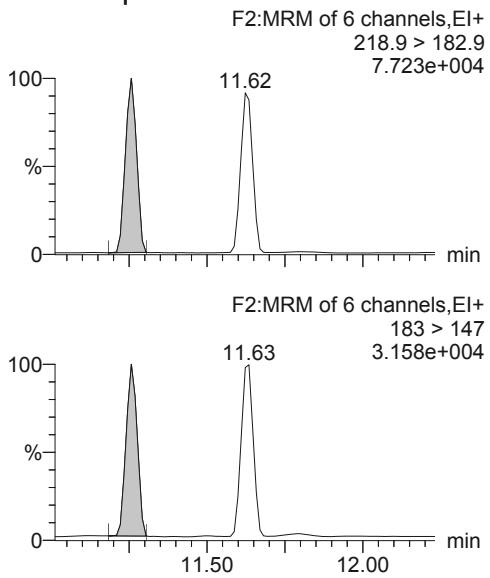
alpha-BHC|319-84-6



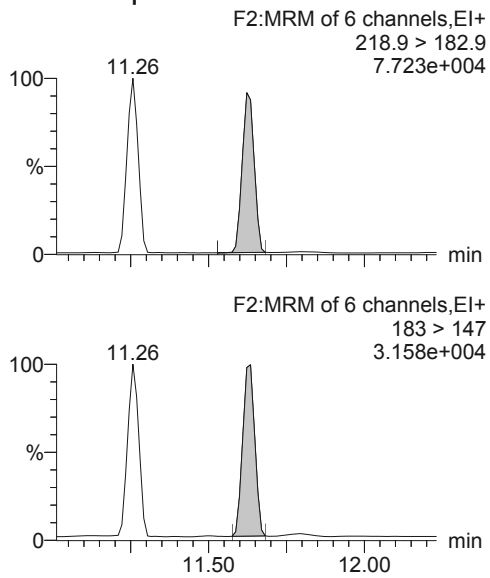
gamma-BHC|58-89-9



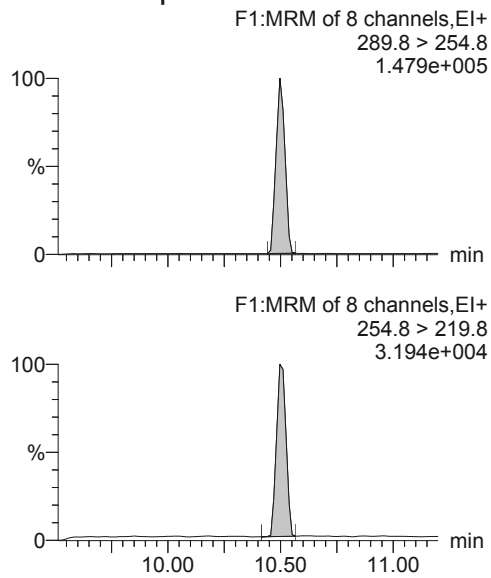
beta-BHC|319-85-7



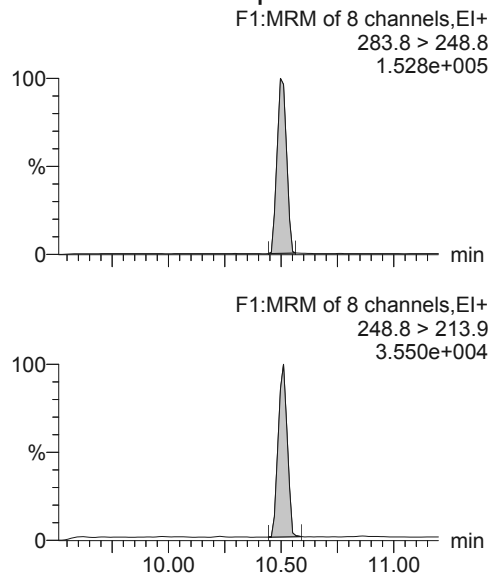
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

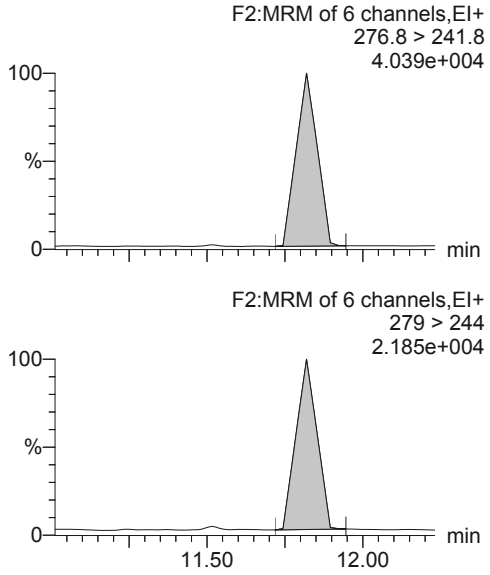


Hexachlorobenzene|118-74-1

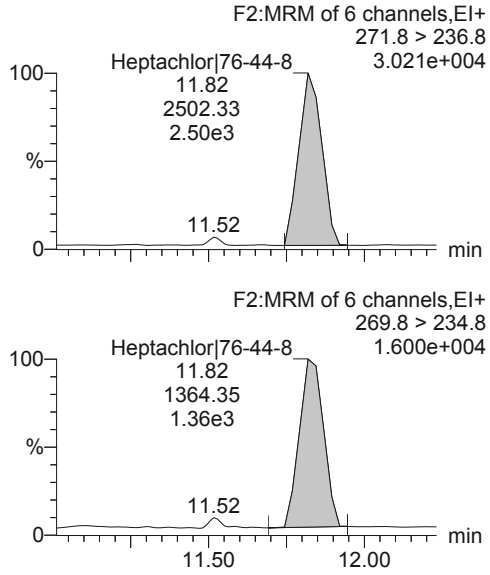


Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

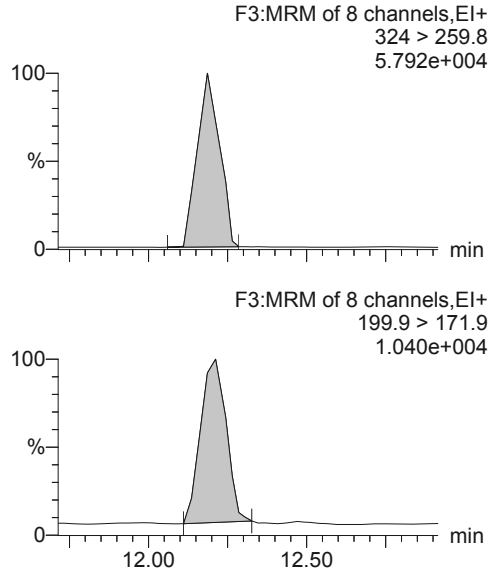
Heptachlor-13C10|CASID30731



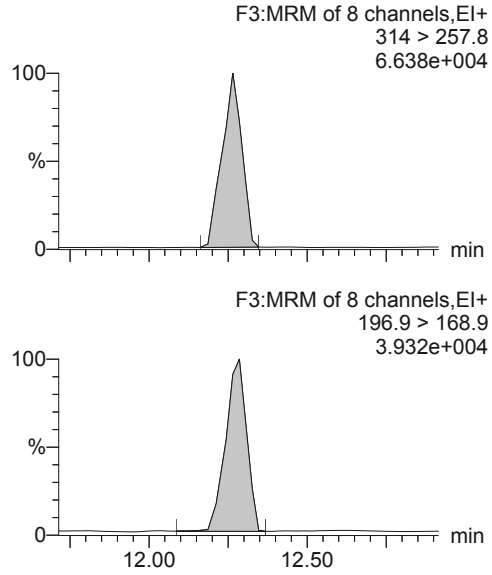
Heptachlor|76-44-8



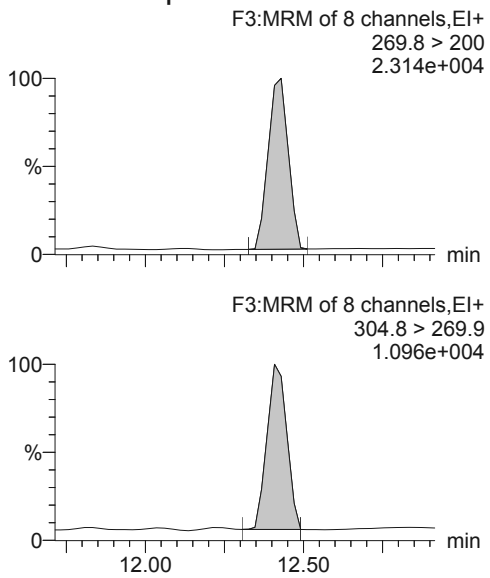
Chlorpyrifos-d10|CASID30732



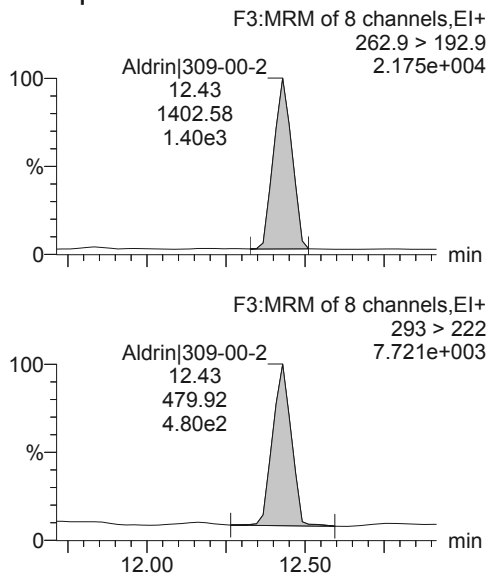
Chlorpyrifos|2921-88-2



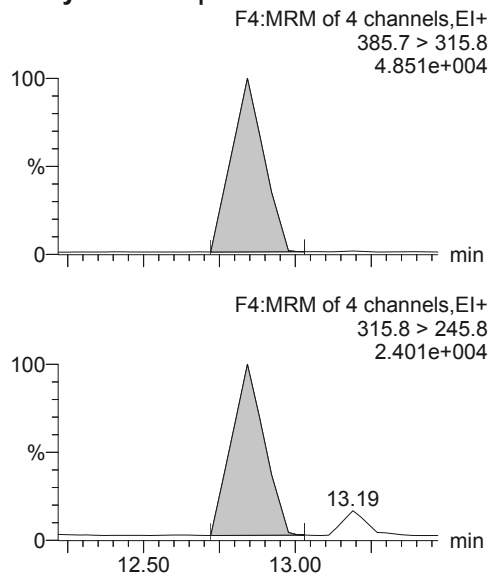
Aldrin-13C12|CASID30733



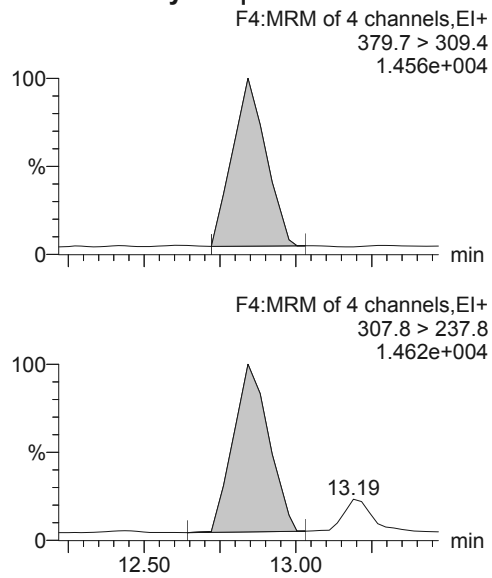
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

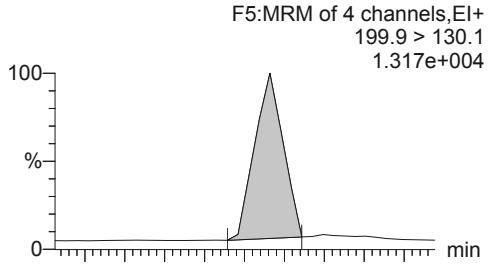


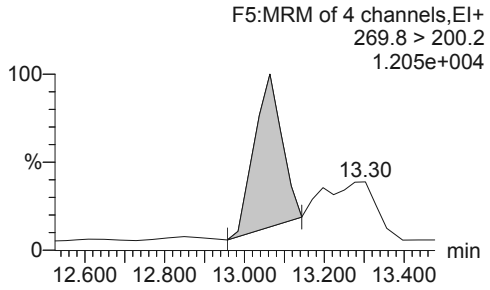
Octachlorostyrene|29082-74-4



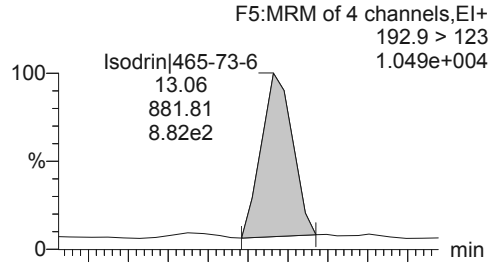
Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

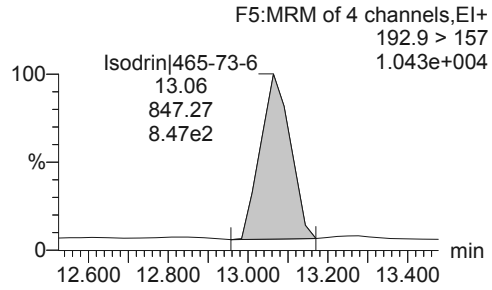
Isodrin-13C12|CASID30735



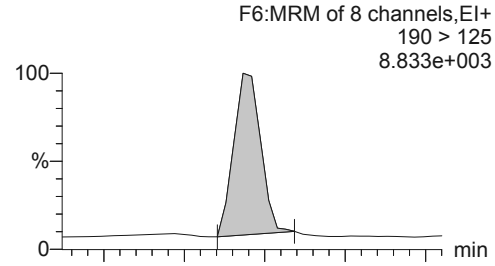


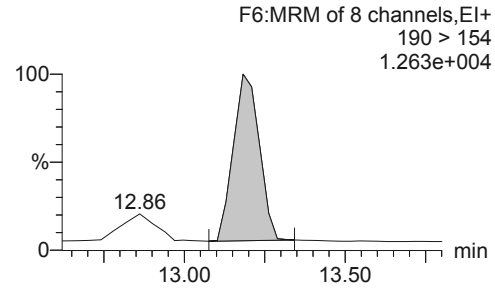
Isodrin|465-73-6



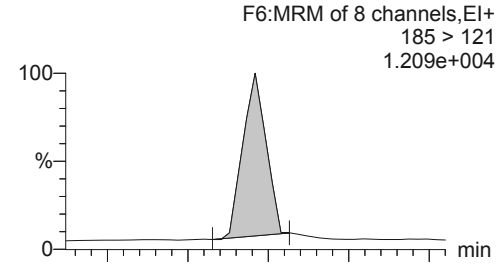


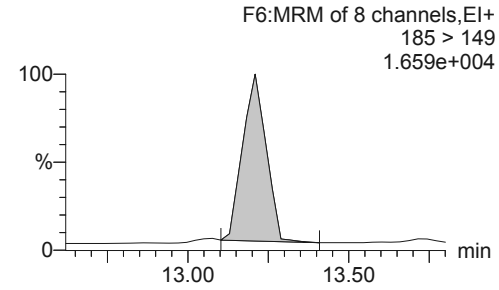
Oxychlordane-13C10|CASID30737



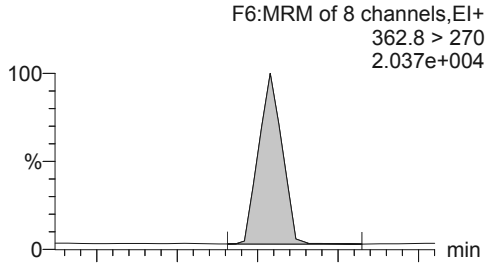


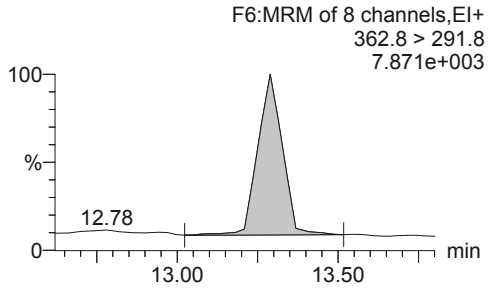
Oxychlordane|27304-13-8



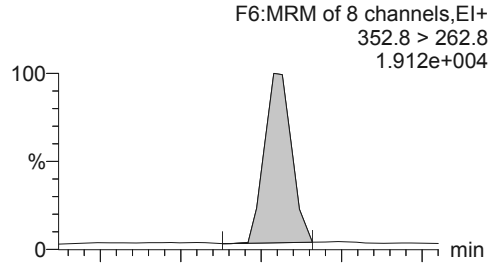


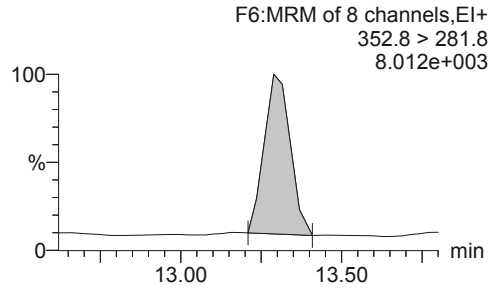
HeptachIrepox13C10|CASID30736



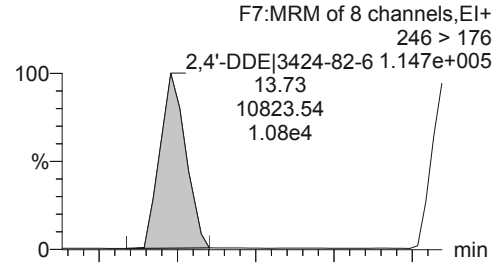


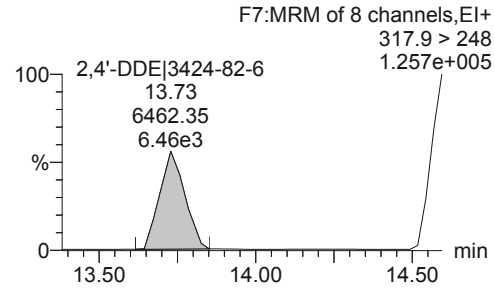
Heptachlor epoxide|1024-57-3



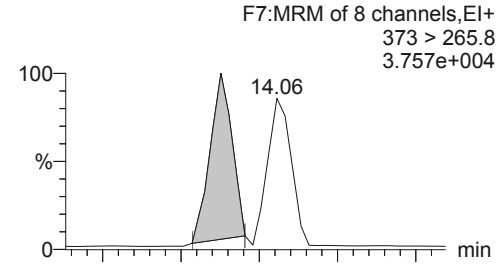


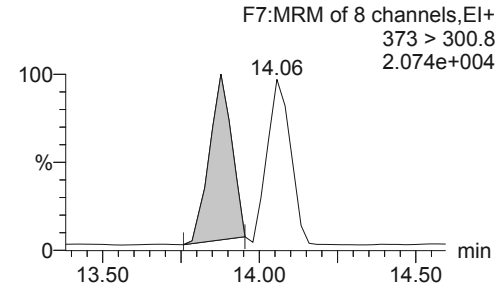
2,4'-DDE|3424-82-6





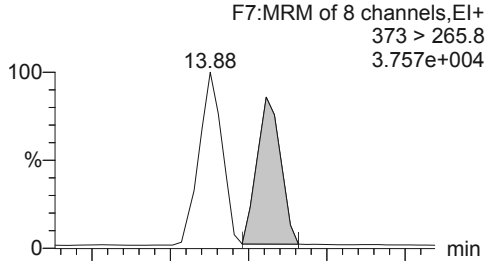
gamma-Chlordane|5566-34-7

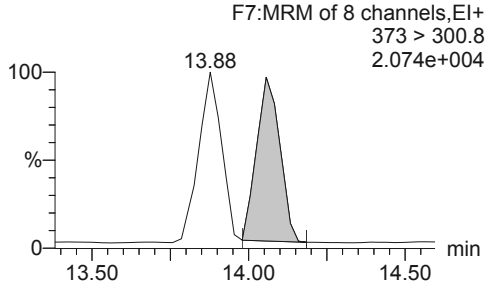




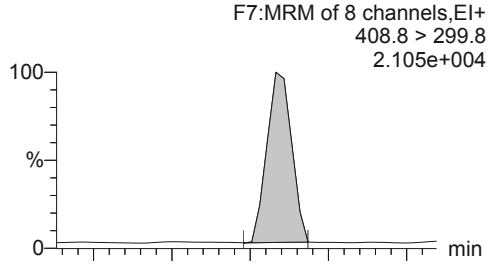
Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

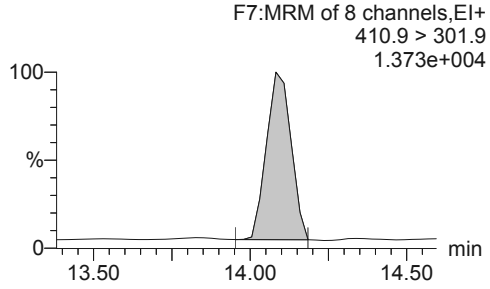
alpha-Chlordane|5103-71-9



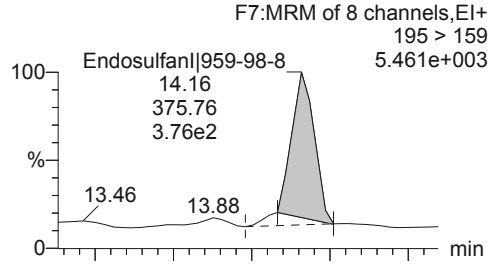


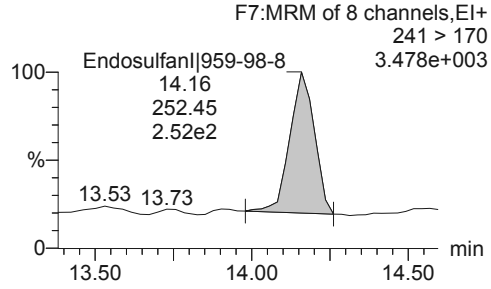
trans-Nonachlor|39765-80-5



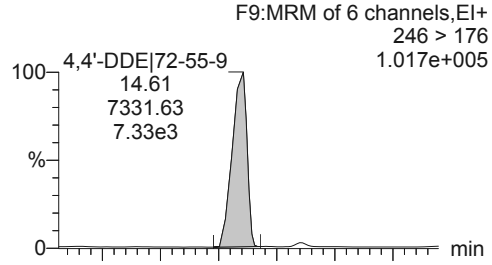


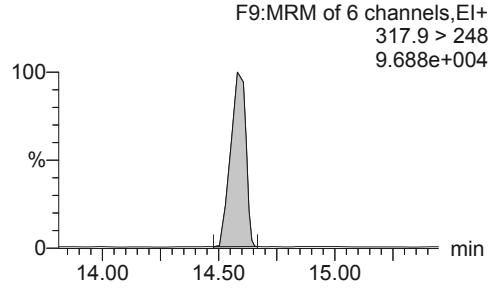
Endosulfanl|959-98-8



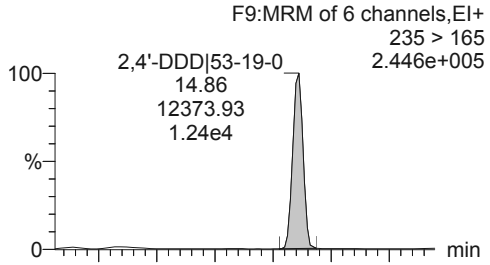


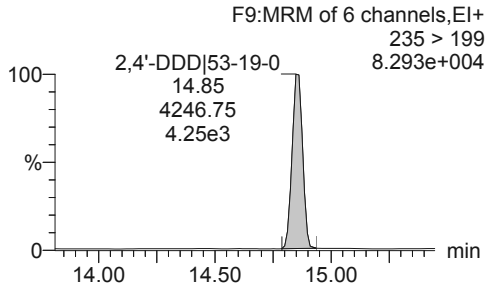
4,4'-DDE|72-55-9



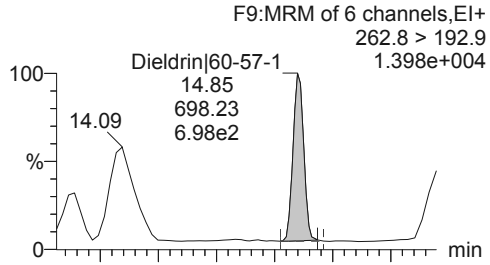


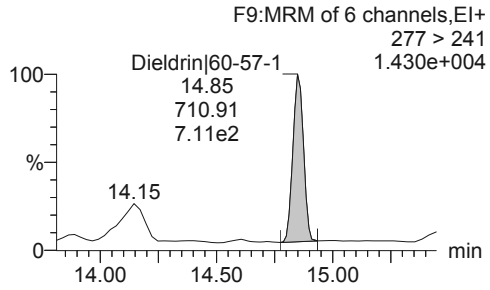
2,4'-DDD|53-19-0



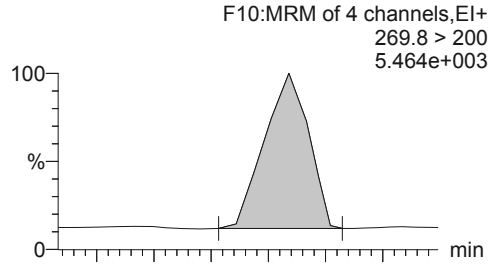


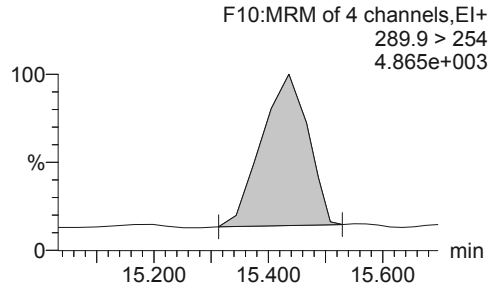
Dieldrin|60-57-1



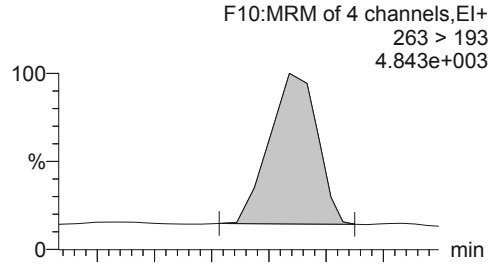


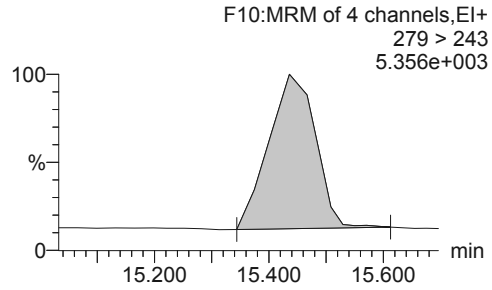
Endrin-13C12|CASID30739





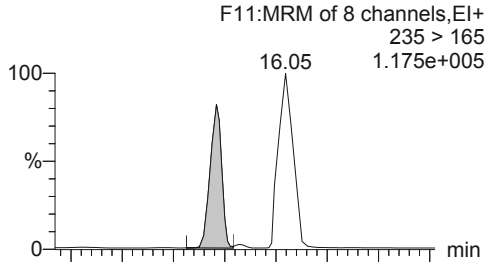
Endrin|72-20-8

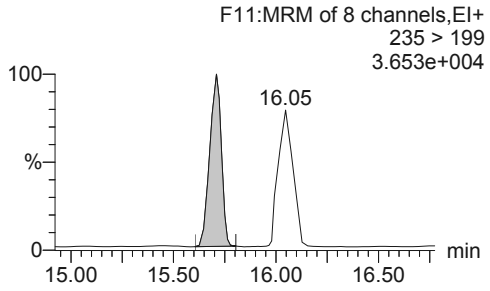




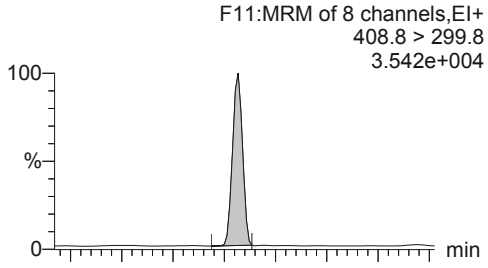
Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

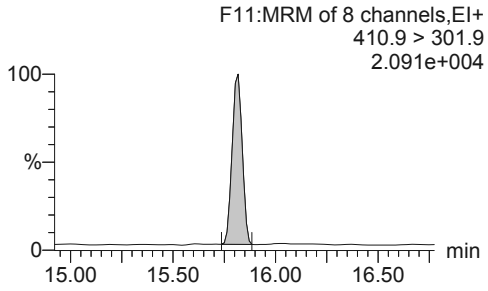
2,4-DDT|789-02-6



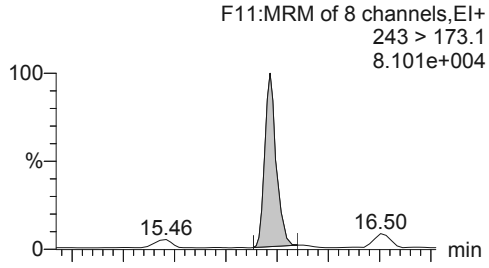


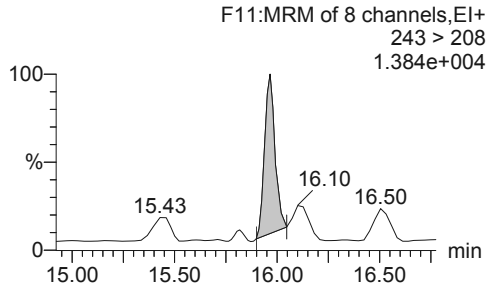
cis-Nonachlor|5103-73-1



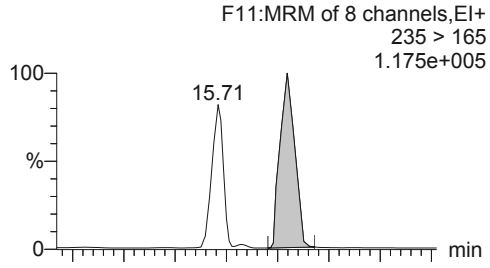


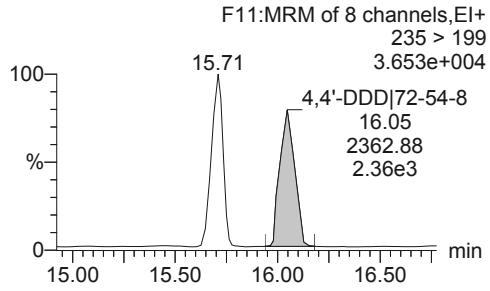
4,4'DDD-d4|93952-20-6



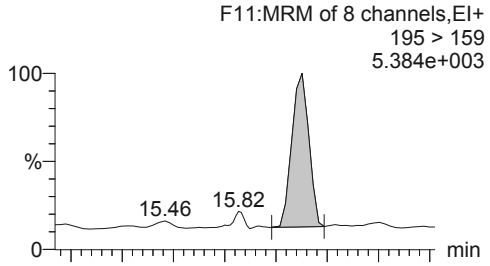


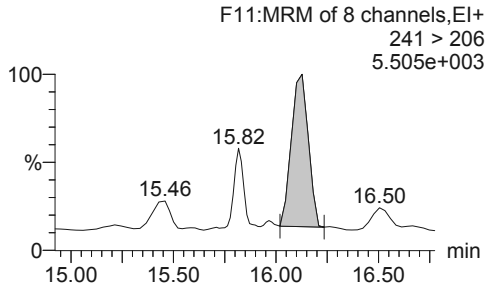
4,4'-DDD|72-54-8



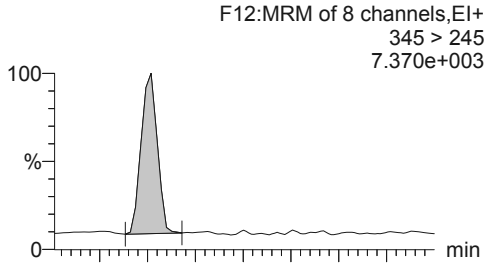


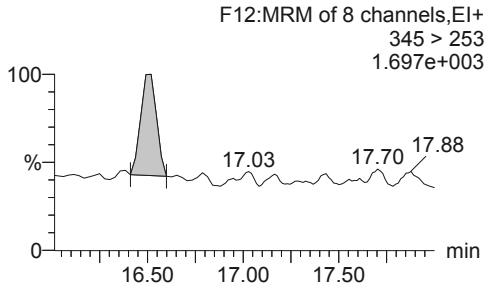
Endosulfanll|33213-65-9



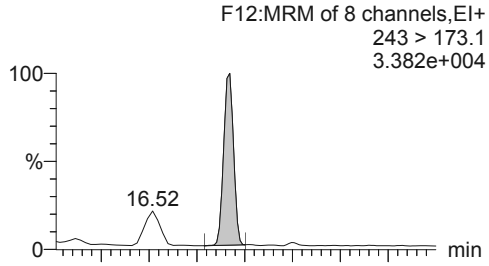


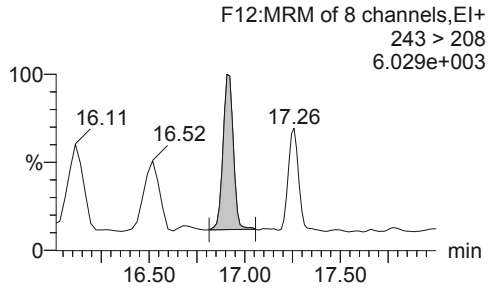
Endrin aldehyde|7421-93-4



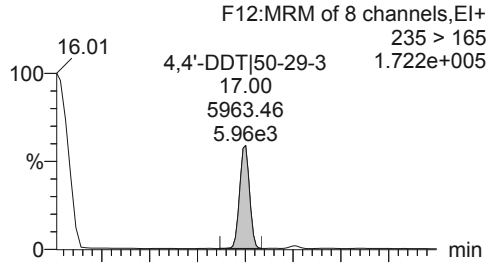


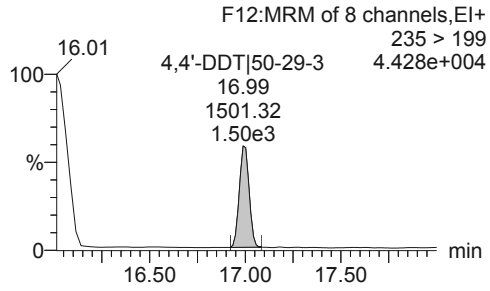
4,4'-DDT-d4|93952-18-2





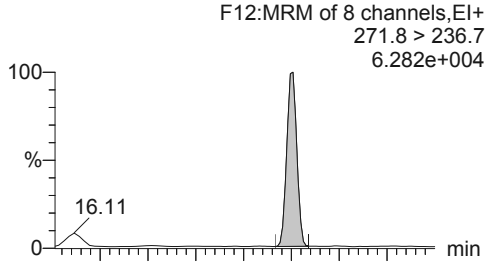
4,4'-DDT|50-29-3

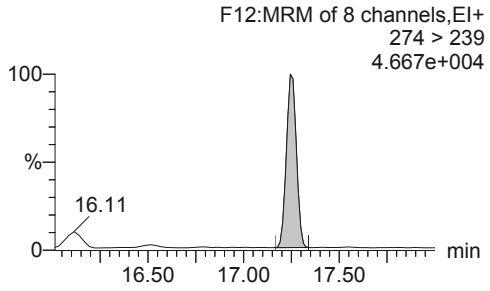




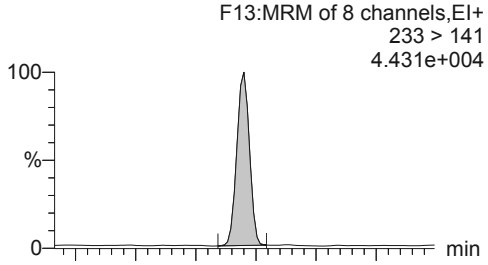
Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

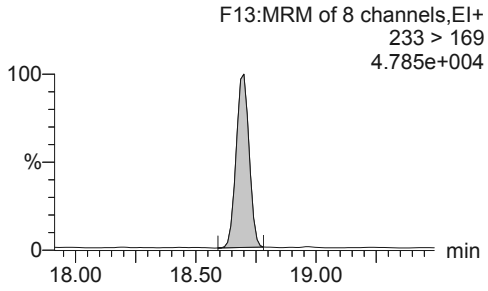
Endosulfan sulfate|1031-07-8



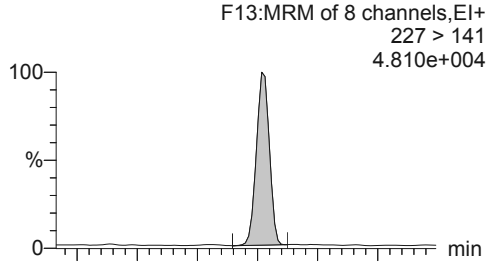


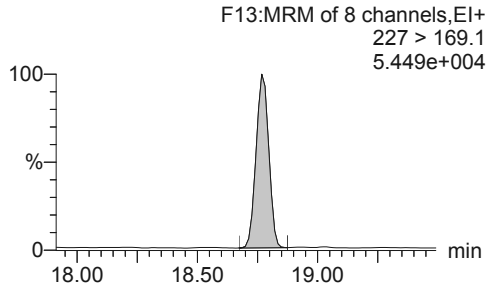
Mxchlord6|106031-79-2



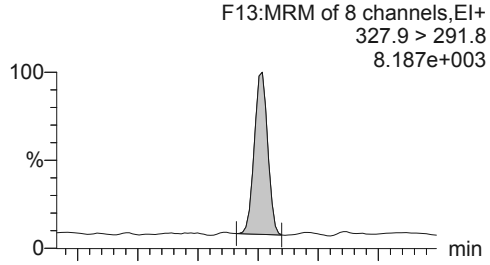


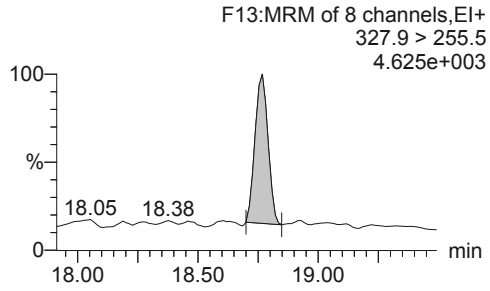
Methoxychlor|72-43-5



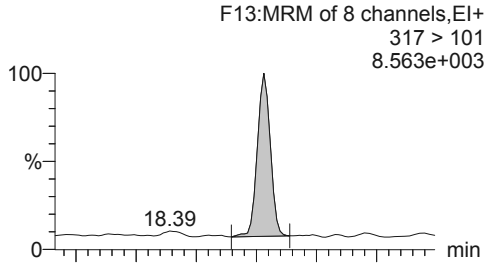


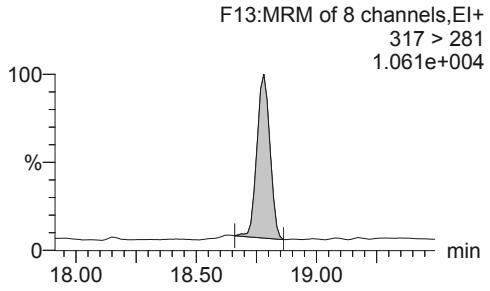
Endrinket13C12|CASID30741



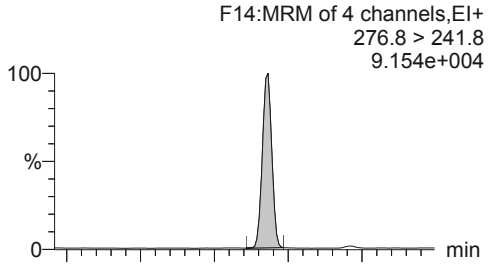


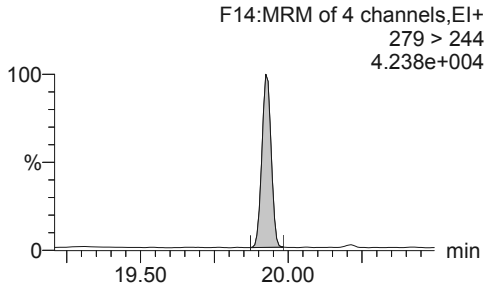
Endrin ketone|53494-70-5



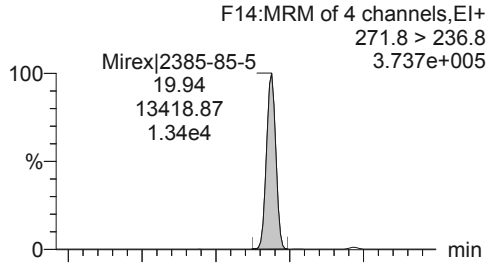


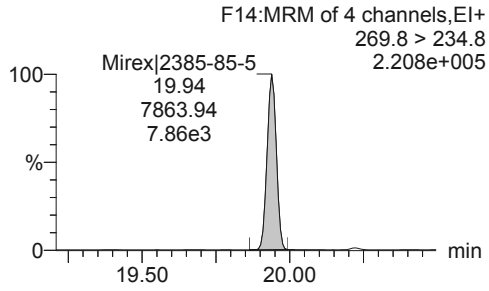
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/24/18
2nd 08/24/18

Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	26979.281		bb		54.3	-45.7	9.752	10.836	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.86	4122.367	26979.281	bb		20.8	4.0	3.616	2.514	YES
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	3311.688	4122.367	bb		21.4	7.2	2.895	2.239	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	2517.636	4122.367	bb		19.6	-1.9	3.003	2.025	YES
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	3147.542	4122.367	bb		17.2	-13.9	3.330	2.476	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.62	3092.378	4122.367	bb		16.7	-16.6	3.180	2.247	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	6660.207	26979.281	bb		28.4	42.2	3.518	4.378	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.50	7353.779	6660.207	bb		19.4	-2.8	3.369	4.571	YES
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	3073.887	26979.281	bb		19.1	-4.4	1.865	1.891	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.82	2502.333	3073.887	bb		17.3	-13.7	1.536	1.834	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	4658.898	26979.281	bb		20.6	3.1	3.568	5.152	YES
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	4731.470	4658.898	bb		17.7	-11.4	1.305	1.610	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	1643.172	26979.281	bb		21.1	5.7	2.967	2.213	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	1402.583	1643.172	bb		17.9	-10.6	3.364	2.922	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5901.175	26979.281	bb		39.6	98.0	2.181	2.028	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	1767.364	5901.175	MM	MP	17.8	-10.9	0.633	0.934	YES
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1019.775	26979.281	MM	MP	23.3	16.5	1.007	1.217	NO
18	Isodrin|465-73-6	192.9 > 123	13.06	881.812	1019.775	MM	MP	19.9	-0.3	1.026	1.041	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.18	783.000	26979.281	bb		19.5	-2.3	0.636	0.703	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	926.488	783.000	MM	MP	22.7	13.7	0.819	0.698	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	1659.260	26979.281	MM	MP	24.9	24.4	2.149	2.631	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.29	1784.571	1659.260	MM	MP	17.5	-12.4	2.451	2.624	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	10823.540	5078.598	bb		25.2	26.0	2.971	1.675	YES
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	2867.248	783.000	bb		24.3	21.5	2.108	1.792	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.06	2726.158	783.000	bb		27.0	35.1	1.575	1.647	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.08	1850.343	783.000	bb		24.0	20.2	1.517	1.566	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	375.755	431.187	MM	BLC	31.2	56.0	1.459	1.488	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	7331.625	5078.598	bb		22.0	9.8	1.653	1.010	YES
29	2,4'-DDD|53-19-0	235 > 165	14.86	12373.934	5078.598	bb		24.6	22.8	2.709	2.914	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.85	698.226	431.187	MM	BLC	27.6	37.8	1.007	0.982	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	431.187	26979.281	bb		11.7	-41.5	1.566	1.100	NO
32	Endrin|72-20-8	263 > 193	15.44	401.705	431.187	bb		21.4	7.0	1.231	0.903	NO
33	2,4-DDT|789-02-6	235 > 165	15.71	6187.708	1949.043	bd		21.3	6.3	2.729	2.669	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	1936.856	783.000	bb		23.1	15.7	1.628	1.690	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	5078.598	26979.281	bb		2.7	-45.9	6.924	6.941	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	9647.953	5078.598	bb		19.1	-4.4	4.083	4.083	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	449.685	431.187	bb		27.4	36.8	0.786	0.991	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	653.042	431.187	bb		39.0	94.9	6.264	7.027	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	1949.043	26979.281	bb		2.0	-59.1	5.701	5.956	NO

Name: 082318F006, Date: 23-Aug-2018, Time: 17:32:18, Description: 20ng/mL CCV SVM59-45B

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	5963.458	1949.043	bb		21.6	8.1	3.729	3.972	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	3754.018	431.187	bb		23.2	15.8	1.651	1.356	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	2632.192	26979.281	bb		6.5	-67.3	0.917	0.904	NO
43	Methoxychlor|72-43-5	227 > 141	18.77	2938.693	2632.192	bb		21.8	8.8	0.836	0.900	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	482.322	26979.281	bb		14.8	-26.0	2.077	1.978	NO
45	Endrin ketone|53494-70-5	317 > 101	18.78	493.157	482.322	bb		20.2	0.9	0.687	0.801	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	3317.209	26979.281	bb		3.9	-22.7	2.492	2.212	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	13418.871	3317.209	bb		18.8	-6.0	1.678	1.706	NO

	File Name	File Text	MS File	Inlet File	MS Tune File
1	080818F001	1.0 UG/ML DFTPP SVM59-31D	dftppmrm	dftpp	2018_06_12_MRM_Scan
2	080818F003	20 ng/ml D/E Cal Std SVM59-31B	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
3	080818F006	IB	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
4	080818F007	OC PEST ICAL .5ng/mL SVM59-32A	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
5	080818F008	OC PEST ICAL 1ng/mL SVM59-32B	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
6	080818F009	OC PEST ICAL 2ng/mL SVM59-32C	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
7	080818F010	OC PEST ICAL 5ng/mL SVM59-32D	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
8	080818F011	OC PEST ICAL 10ng/mL SVM59-32E	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
9	080818F012	OC PEST ICAL 20ng/mL SVM59-32F	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
10	080818F013	OC PEST ICAL 40ng/mL SVM59-32G	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
11	080818F014	OC PEST ICAL 60ng/mL SVM59-32H	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
12	080818F015	OC PEST ICAL 80ng/mL SVM59-32I	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
13	080818F017	OC PEST ICAL 100ng/mL SVM59-32J	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
14	080818F018	OC PEST ICV 20ng/mL SVM59-32K	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
15	080818F019	IB	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
16	080818F020	K1803253-015	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
17	080818F021	1.0 UG/ML DFTPP SVM59-16B	dftppmrm	dftpp	2018_06_12_MRM_Scan
18	080818F022	20 ng/ml D/E Cal Std SVM59-16C	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
19	080818F023	20ng/mL CCV SVM59-18L	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
20	080818F024	KQ1810142-04MB	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
21	080818F025	KQ1810142-03 LCS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
22	080818F026	KQ1810142_K1804985-010MS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
23	080818F027	KQ1810142_K1804985-010DMS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
24	080818F028	K1804347-001re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
25	080818F029	K1804347-008re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
26	080818F030	K1804347-015re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
27	080818F031	K1804532-008re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
28	080818F032	K1804985-010re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
29	080818F033	KQ1809809-04 MB	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
30	080818F034	KQ1809809-03 LCS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
31	080818F035	KQ1809809_K1804214-016MSre	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
32	080818F036	KQ1809809_K1804214-016DMSre	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
33	080818F037	K1804214-016re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
34	080818F038	K1804985-001re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
35	080818F039	K1804985-002re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
36	080818F040	K1804985-003re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
37	080818F041	K1805180-002re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
38	080818F042	K1805180-004re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
39	080818F043	K1805180-008re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
40	080818F044	K1805180-011re	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan

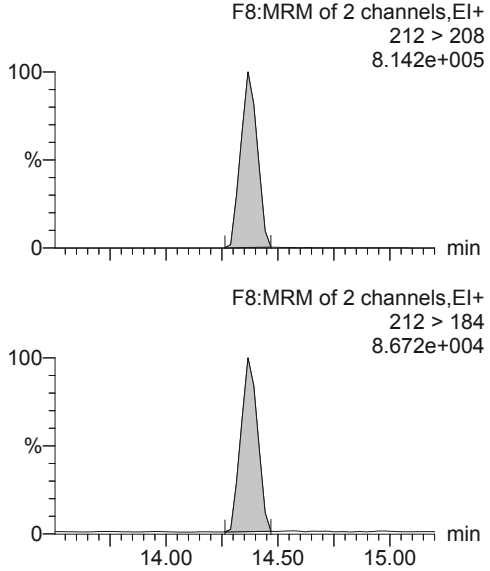
OC Pest ICAL KC1800383

AUG 0 8 2018 8/13/18

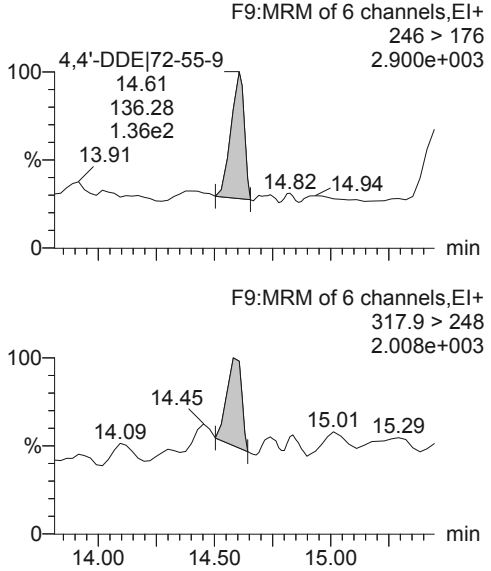
Method: C:\MassLynx\PesticidesEI.PRO\MethDB\ocpesticides_08082018.mdb 08 Aug 2018 15:52:05
Calibration: C:\MassLynx\PesticidesEI.PRO\CurveDB\080818 OC PEST ICAL.cdb 08 Aug 2018 16:10:20

Name: 080818F003, Date: 08-Aug-2018, Time: 08:36:27, Description: 20 ng/ml D/E Cal Std SVM59-31B

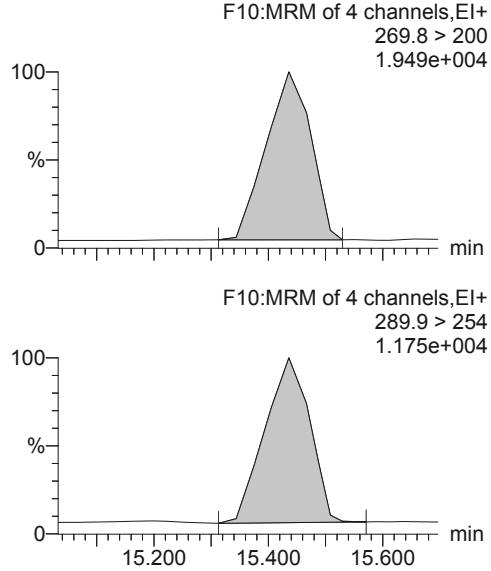
Pyrene-d10|1718-52-1



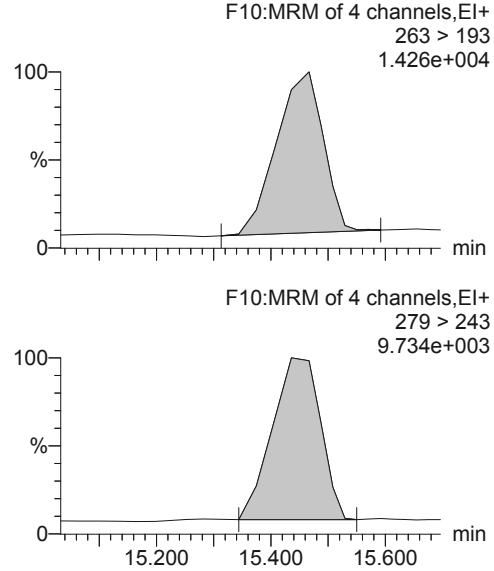
4,4'-DDE|72-55-9



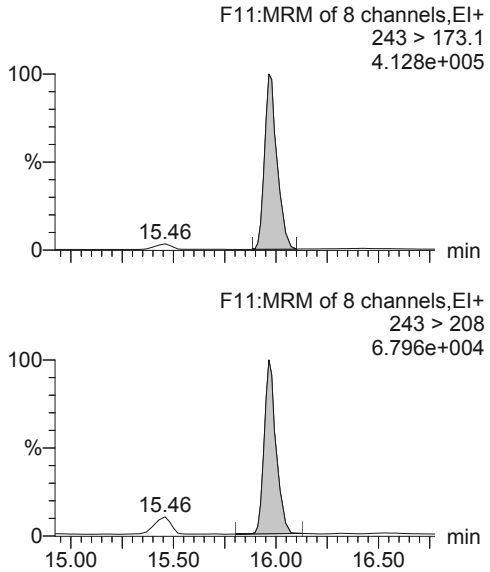
Endrin-13C12|CASID30739



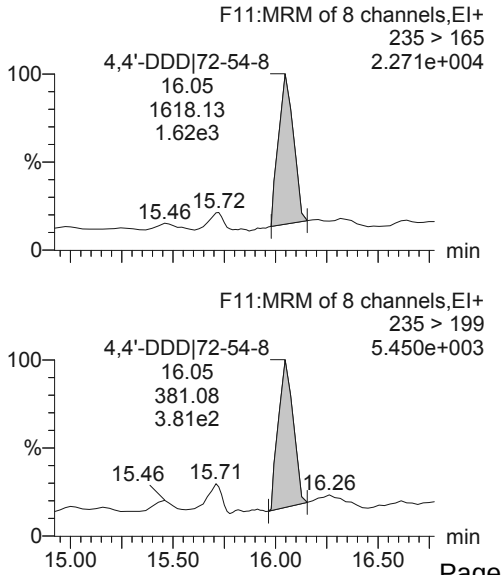
Endrin|72-20-8



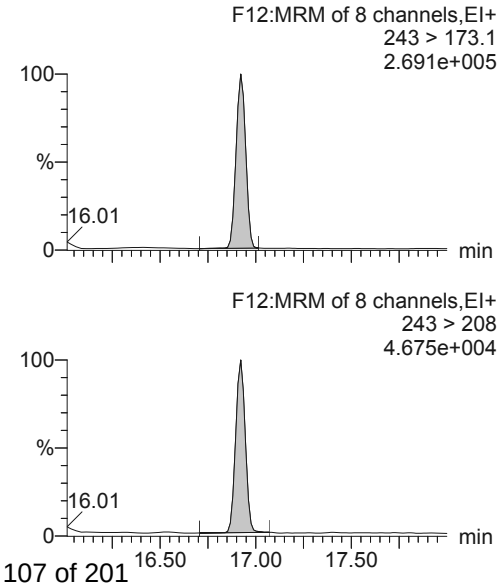
4,4'DDD-d4|93952-20-6



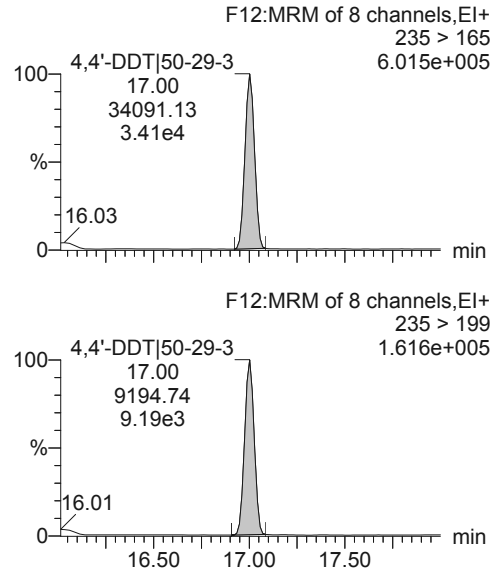
4,4'-DDD|72-54-8



4,4'-DDT-d4|93952-18-2



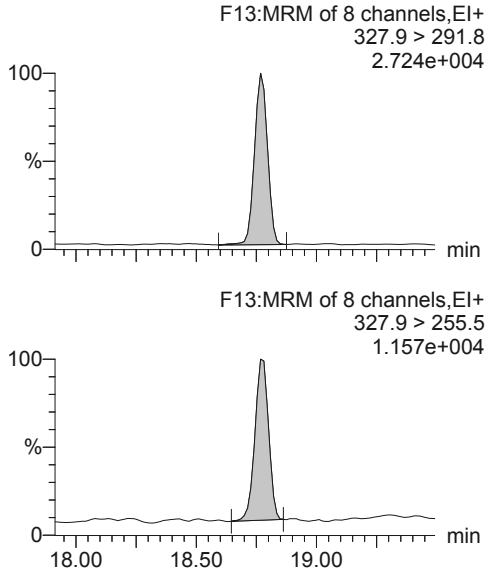
4,4'-DDT|50-29-3



1st 08/08/18
2nd 08/13/18

Name: 080818F003, Date: 08-Aug-2018, Time: 08:36:27, Description: 20 ng/ml D/E Cal Std SVM59-31B

Endrinket13C12|CASID30741



	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	69247.750		bb		139.4	39.4	9.752	9.383	NO
2	4,4'-DDE|72-55-9	246 > 176	14.61	136.284	28543.900	bb		0.1	-99.6	1.653	1.838	NO
3	Endrin-13C12|CASID30739	269.8 > 200	15.44	1678.455	69247.750	bb		17.7	-11.3	1.566	1.680	NO
4	Endrin|72-20-8	263 > 193	15.47	1233.204	1678.455	bb		16.9	-15.6	1.231	1.412	NO
5	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	28543.900	69247.750	bb		5.9	18.6	6.924	6.454	NO
6	4,4'-DDD|72-54-8	235 > 165	16.05	1618.131	28543.900	bb		0.6	-97.1	4.083	4.246	NO
7	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	15251.477	69247.750	bb		6.2	24.7	5.701	5.811	NO
8	4,4'-DDT|50-29-3	235 > 165	17.00	34091.133	15251.477	bb		15.8	-21.1	3.729	3.708	NO
9	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1643.693	69247.750	bb		19.7	-1.7	2.077	2.381	NO

DDT breakdown = 4.9%
Endrin breakdown = <1%

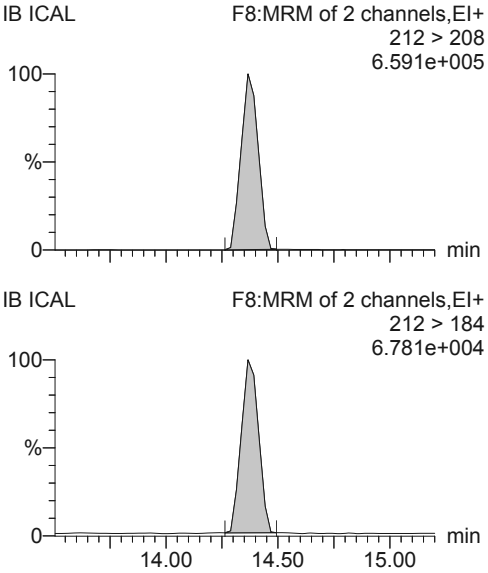
Dataset: C:\MassLynx\PesticidesEI.PRO\080818 IB.qld
Last Altered: Wednesday, August 08, 2018 16:33:20 Pacific Daylight Time
Printed: Wednesday, August 08, 2018 16:35:49 Pacific Daylight Time

1st 08/08/18
2nd 08/13/18

Method: C:\MassLynx\PesticidesEI.PRO\MethDB\ocpesticides_08082018.mdb 08 Aug 2018 15:52:05
Calibration: 08 Aug 2018 16:33:20

Name: 080818F006, Date: 08-Aug-2018, Time: 09:15:40, Description: IB

Pyrene-d10|1718-52-1

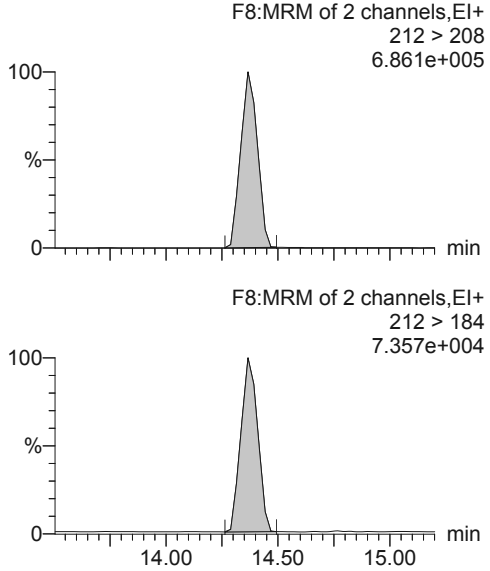


	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	57809.676		bb		100.0	0.0	9.752	9.698	NO

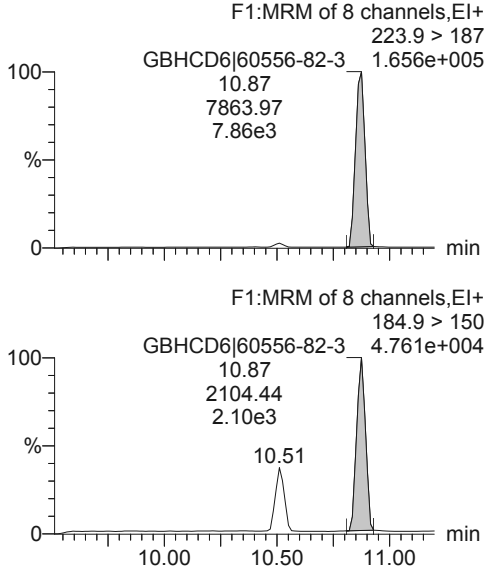
Method: C:\MassLynx\PesticidesEI.PRO\MethDB\ocpesticides_08082018.mdb 08 Aug 2018 15:52:05
Calibration: C:\MassLynx\PesticidesEI.PRO\CurveDB\080818 OC PEST ICAL.cdb 08 Aug 2018 16:10:20

Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

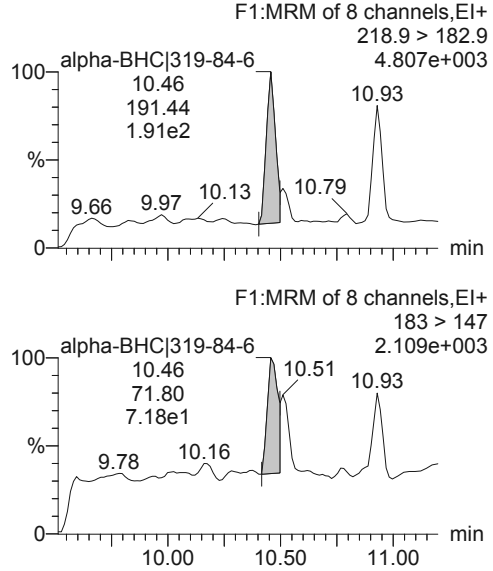
Pyrene-d10|1718-52-1



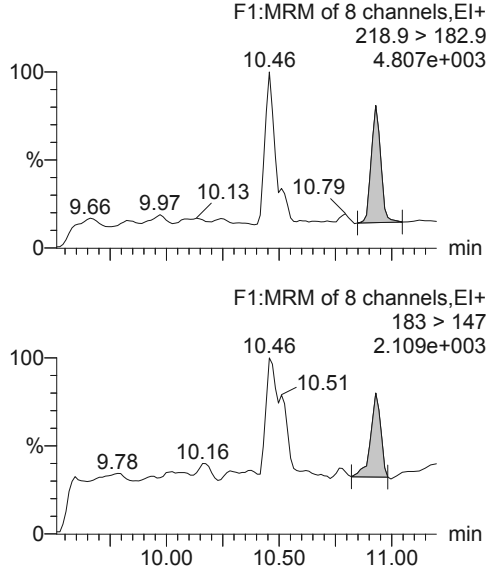
GBHCD6|60556-82-3



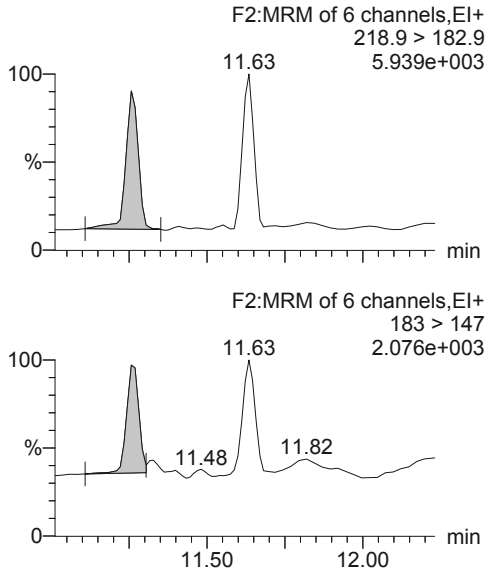
alpha-BHC|319-84-6



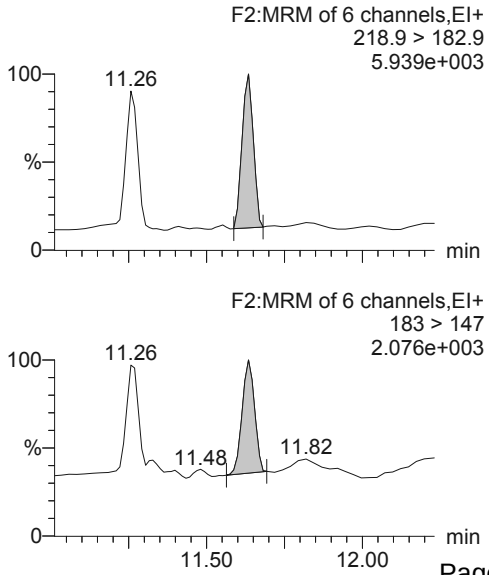
gamma-BHC|58-89-9



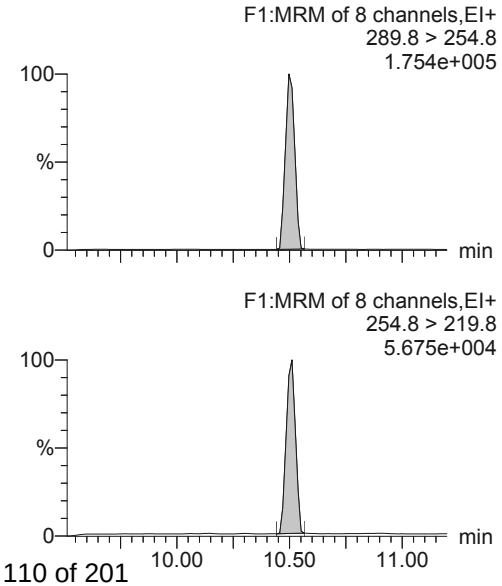
beta-BHC|319-85-7



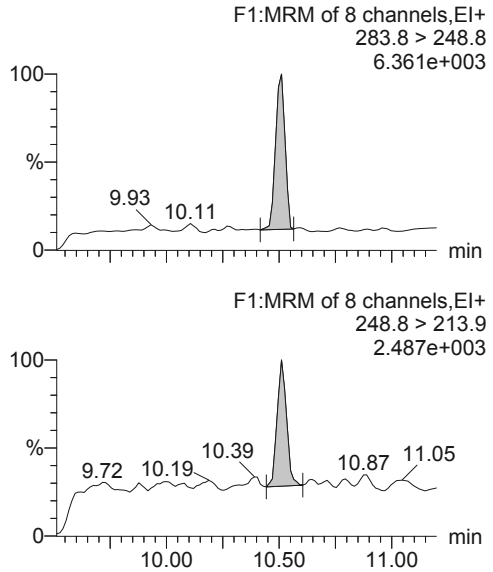
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

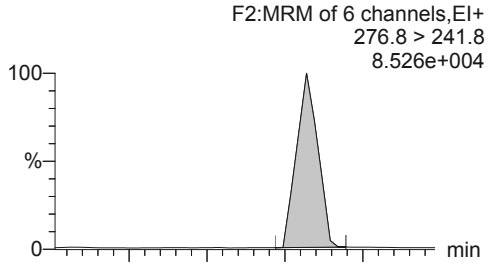


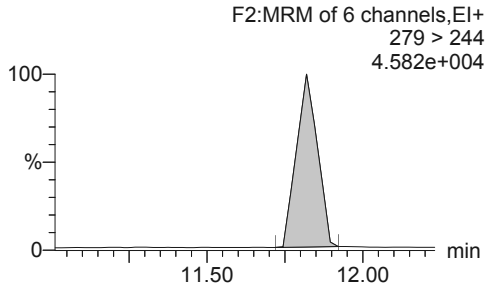
Hexachlorobenzene|118-74-1



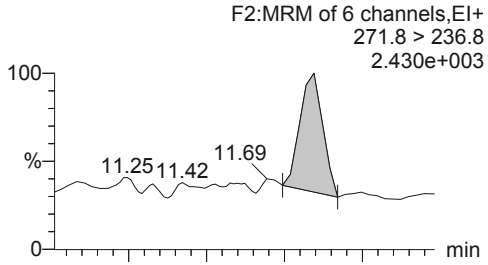
Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

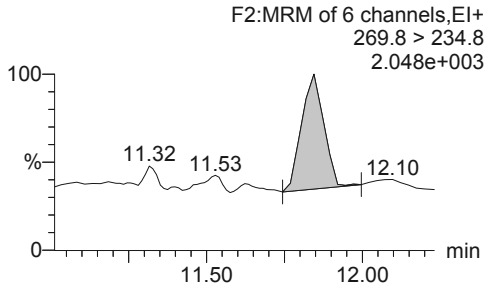
Heptachlor-13C10|CASID30731



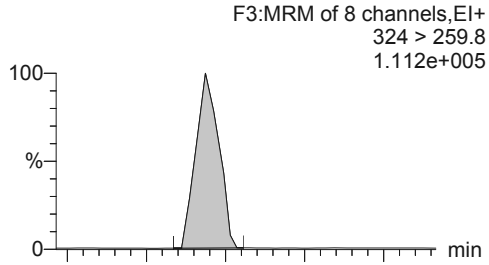


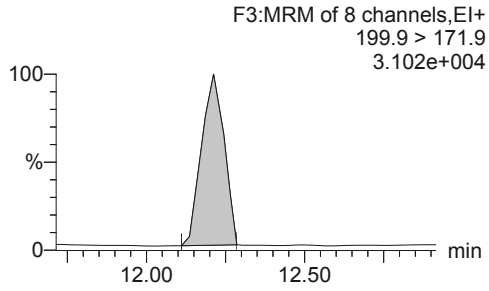
Heptachlor|76-44-8



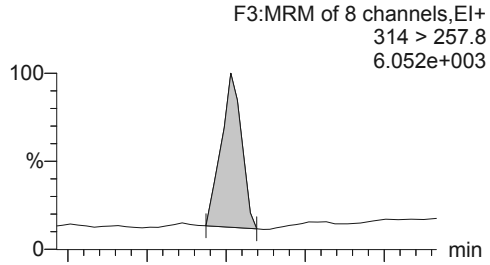


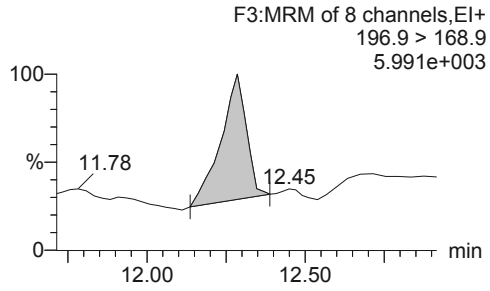
Chlorpyrifos-d10|CASID30732



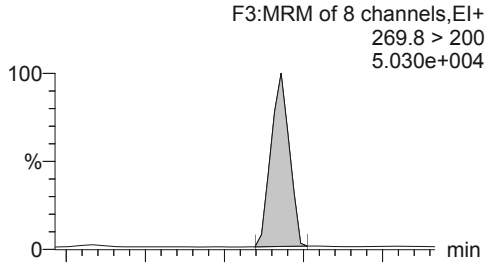


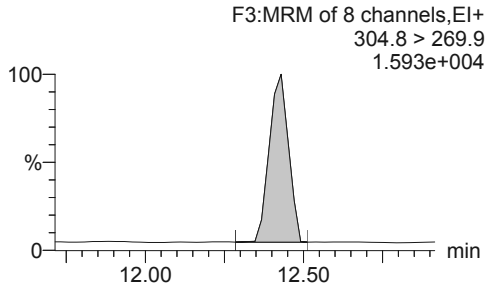
Chlorpyrifos|2921-88-2



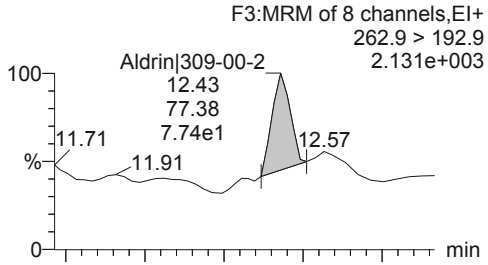


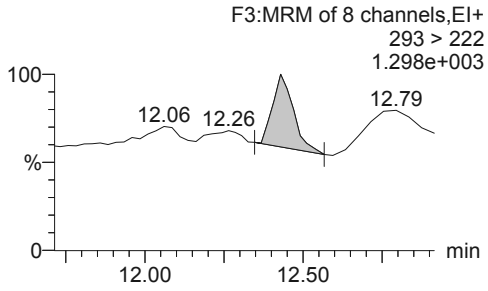
Aldrin-13C12|CASID30733



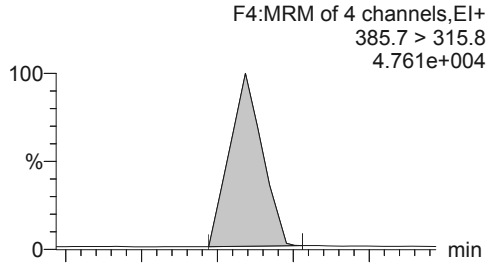


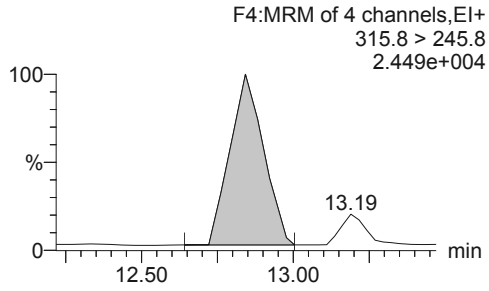
Aldrin|309-00-2



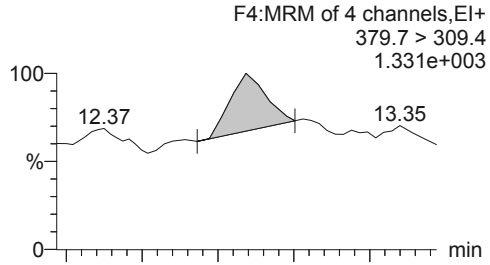


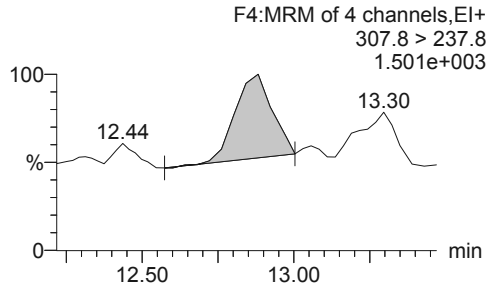
Ocstyrene13C8|CASID30734





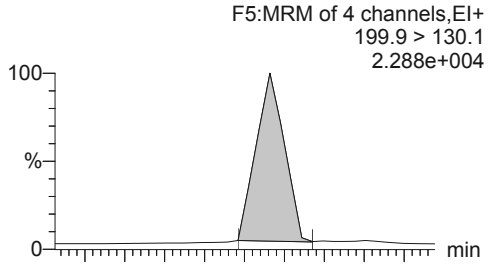
Octachlorostyrene|29082-74-4

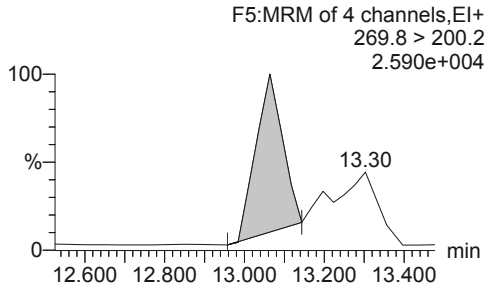




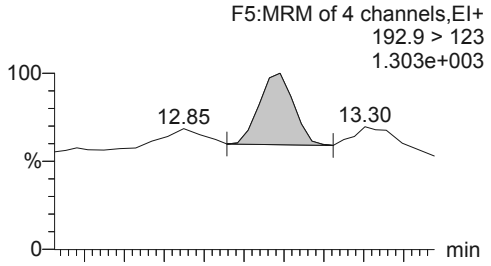
Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

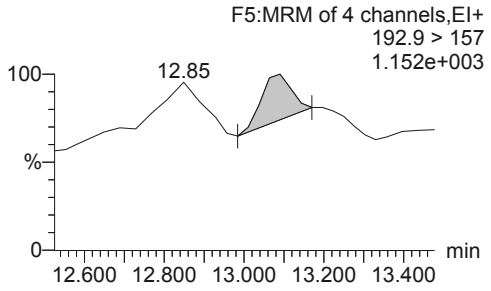
Isodrin-13C12|CASID30735



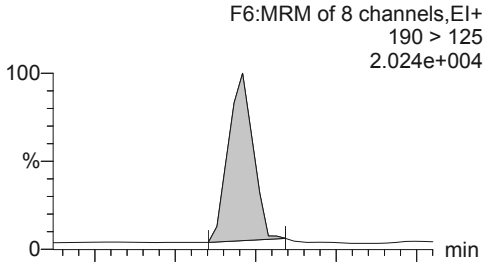


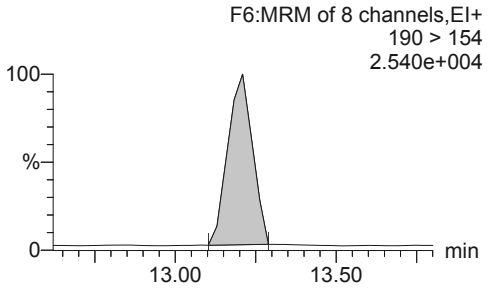
Isodrin|465-73-6



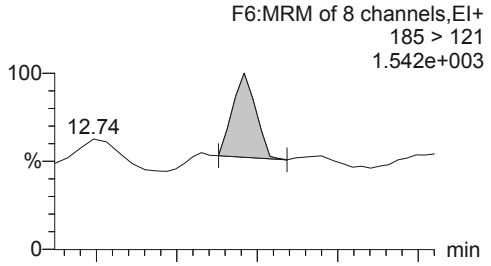


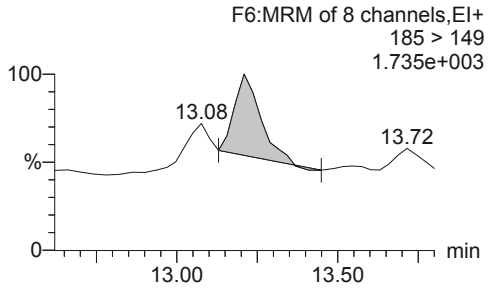
Oxychlordane-13C10|CASID30737



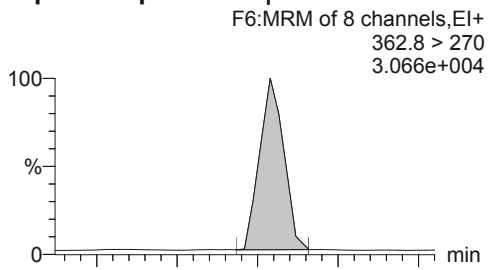


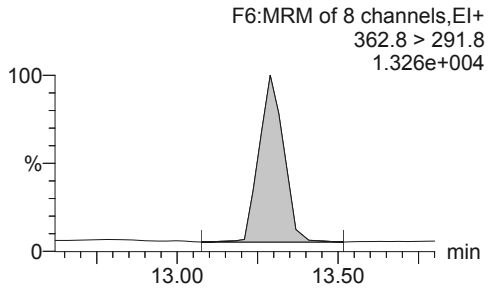
Oxychlordane|27304-13-8



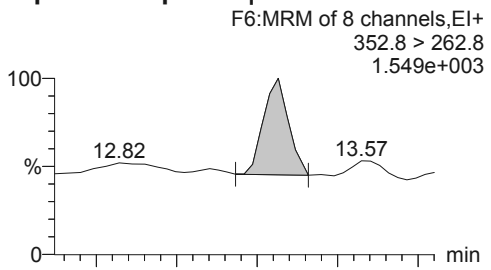


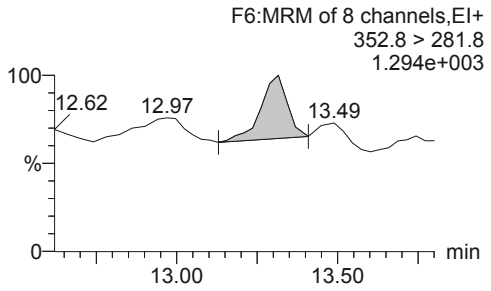
HeptachIrepox13C10|CASID30736



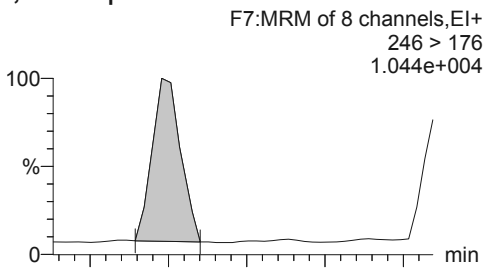


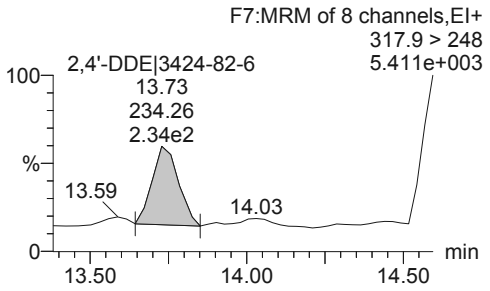
Heptachlor epoxide|1024-57-3



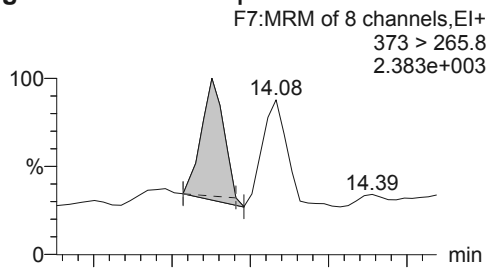


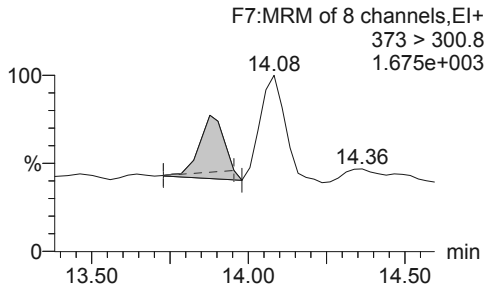
2,4'-DDE|3424-82-6





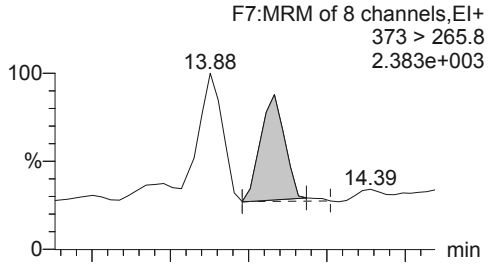
gamma-Chlordane|5566-34-7

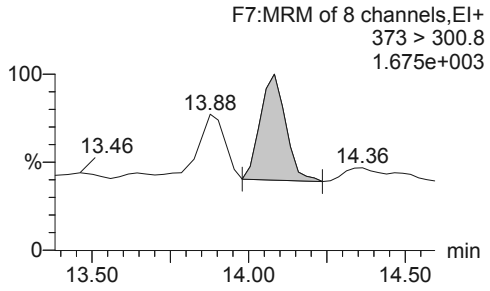




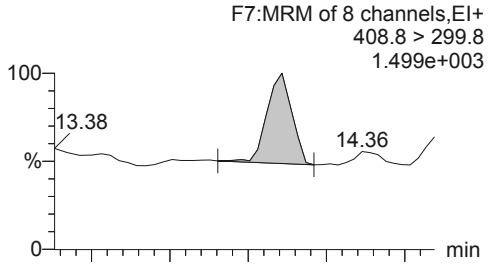
Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

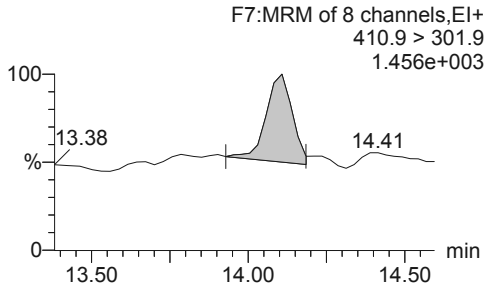
alpha-Chlordane|5103-71-9



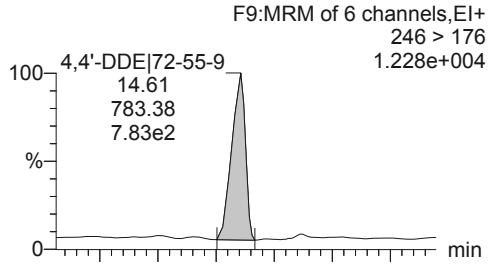


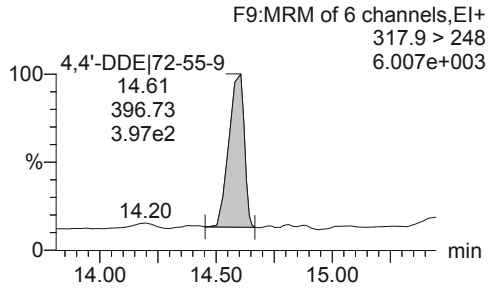
trans-Nonachlor|39765-80-5



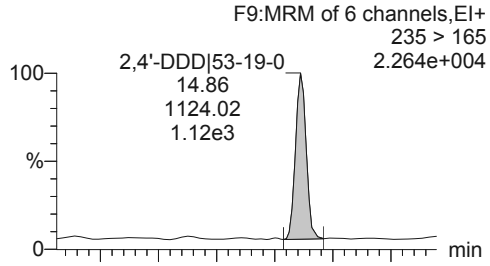


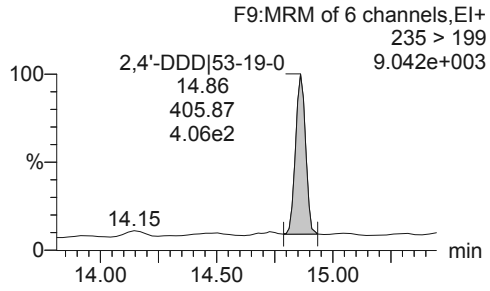
4,4'-DDE|72-55-9



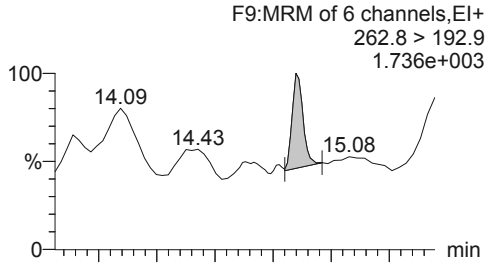


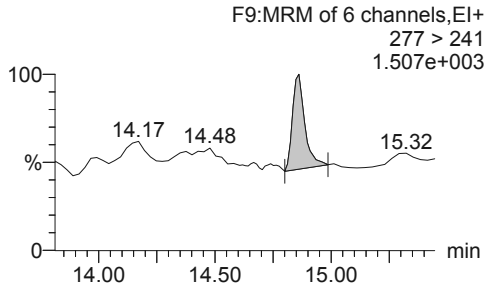
2,4'-DDD|53-19-0



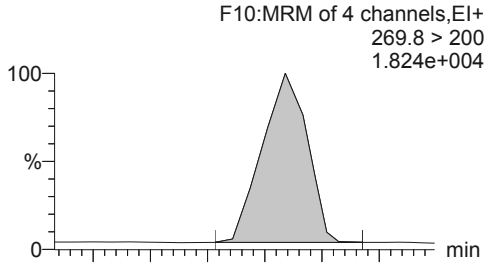


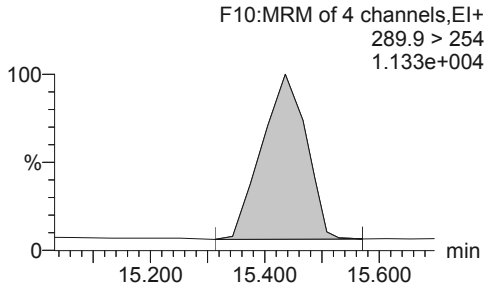
Dieldrin|60-57-1



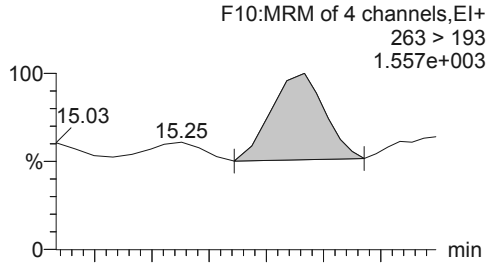


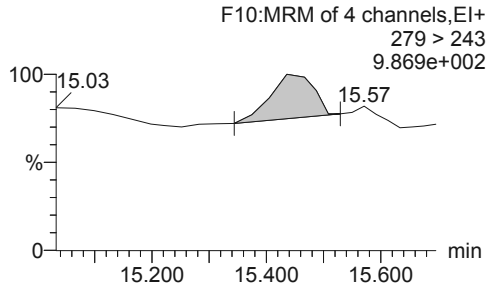
Endrin-13C12|CASID30739



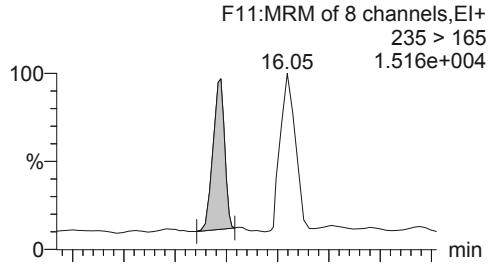


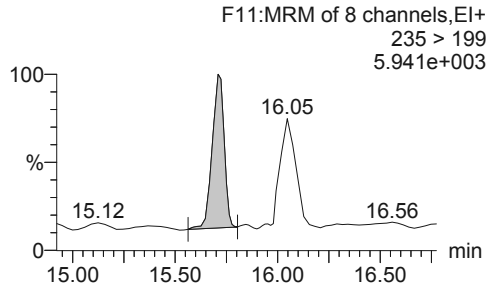
Endrin|72-20-8





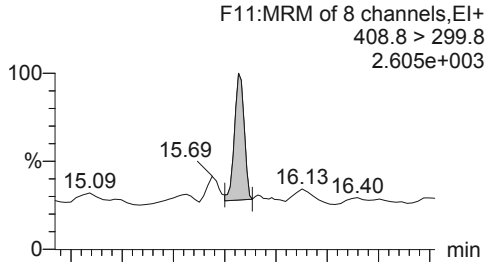
2,4-DDT|789-02-6

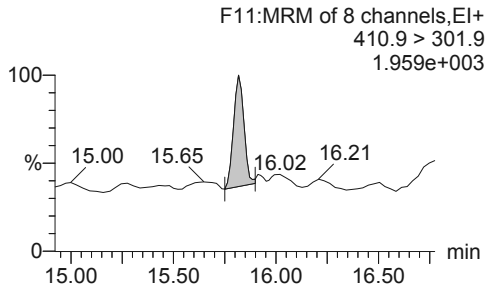




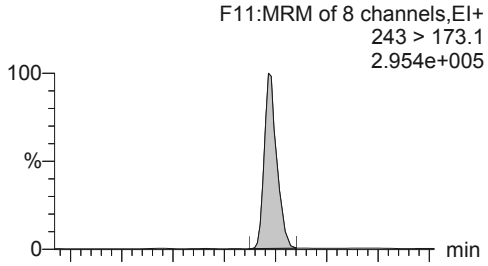
Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

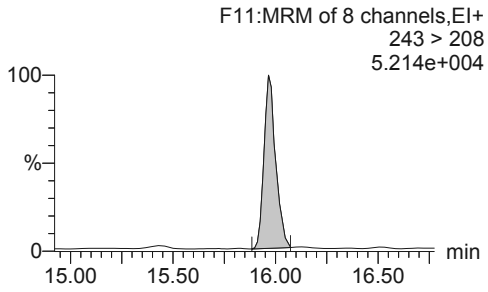
cis-Nonachlor|5103-73-1



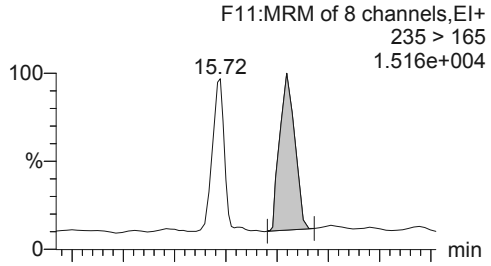


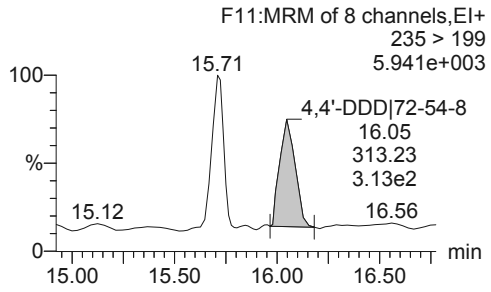
4,4'DDD-d4|93952-20-6



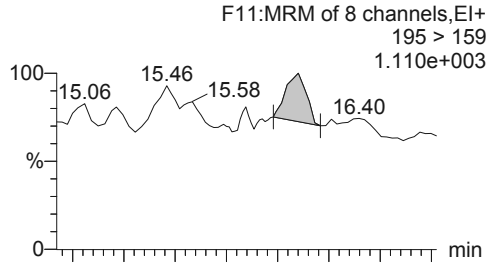


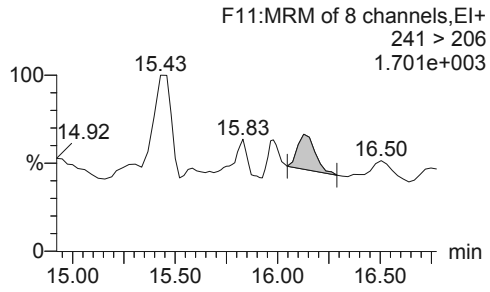
4,4'-DDD|72-54-8



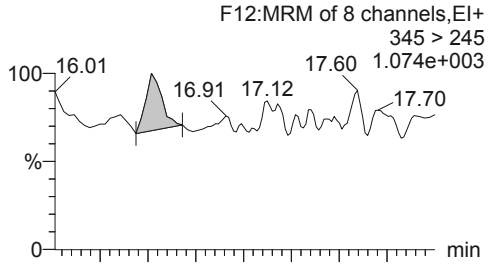


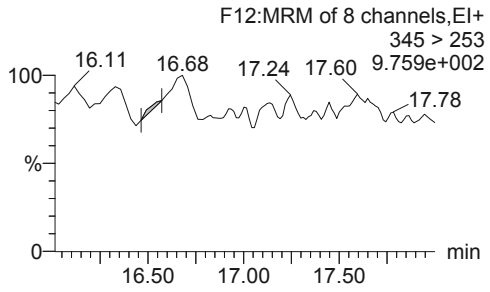
EndosulfanII|33213-65-9



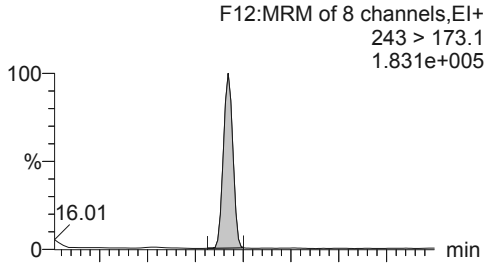


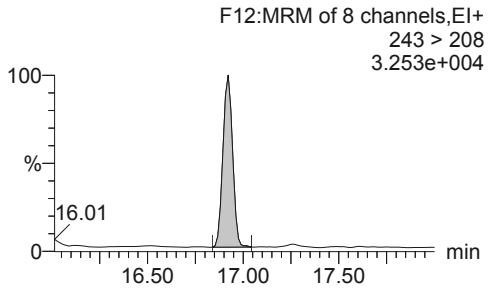
Endrin aldehyde|7421-93-4



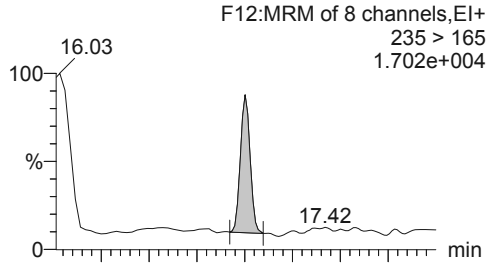


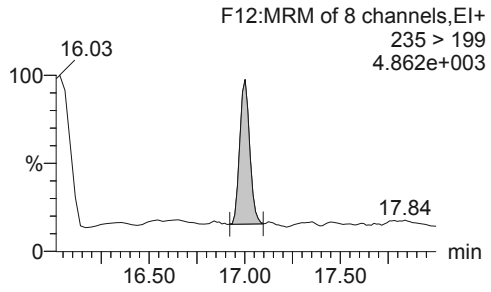
4,4'-DDT-d4|93952-18-2



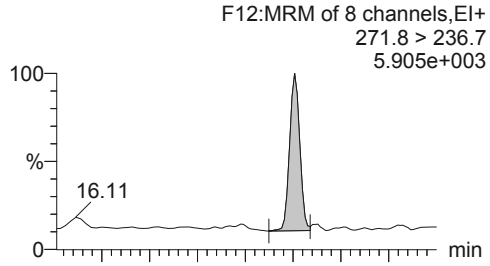


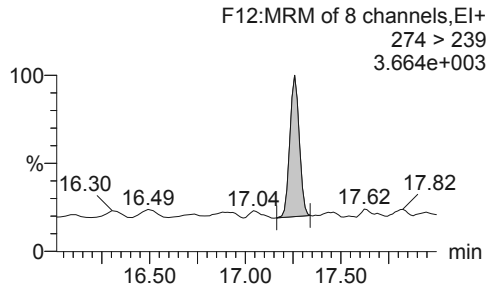
4,4'-DDT|50-29-3





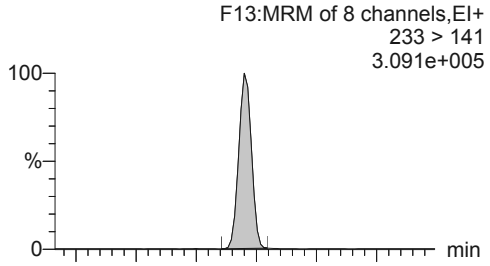
Endosulfan sulfate|1031-07-8

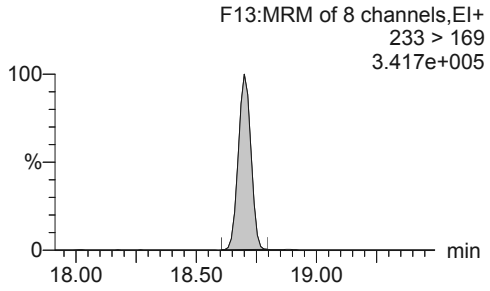




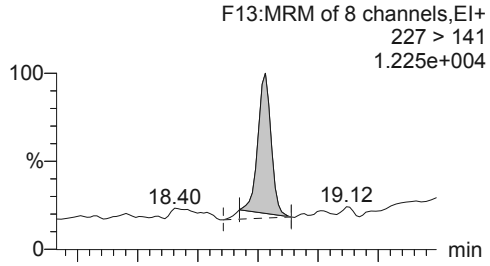
Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

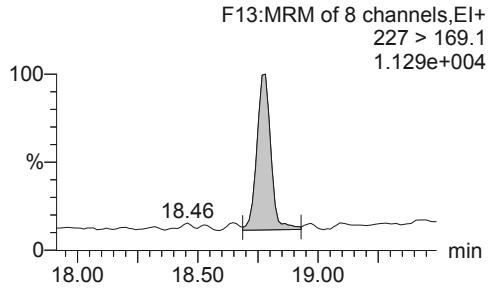
Mxchlord6|106031-79-2



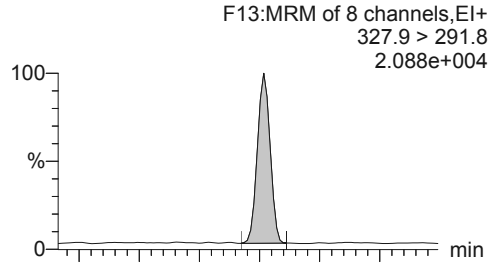


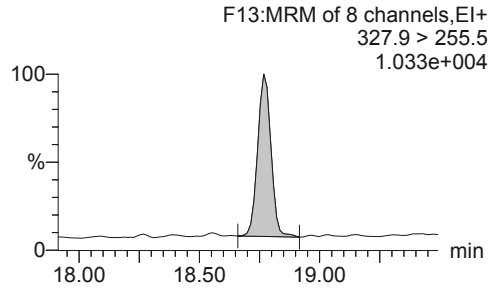
Methoxychlor|72-43-5



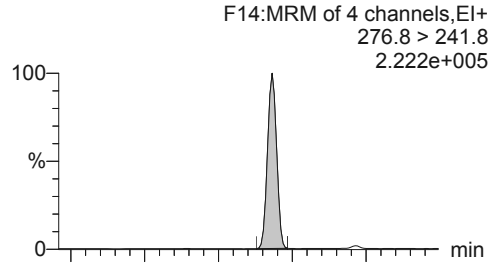


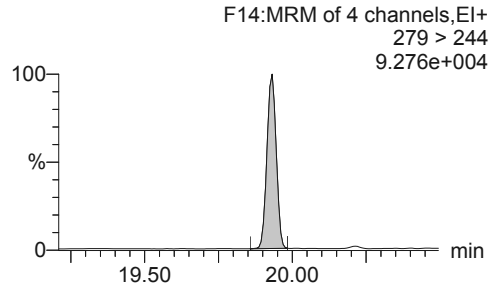
Endrinket13C12|CASID30741



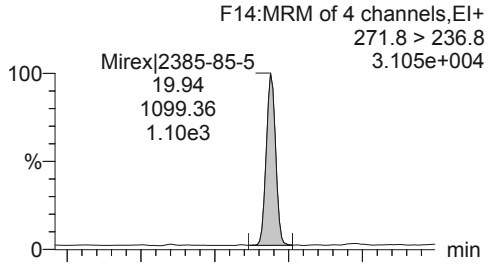


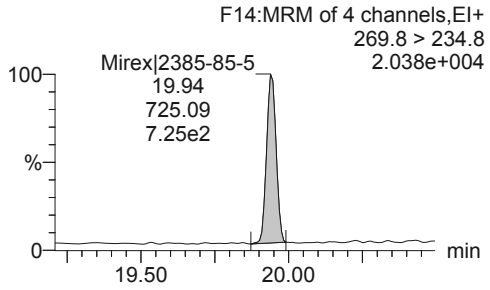
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/08/18
2nd 08/13/18

Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	58866.184		bb		118.5	18.5	9.752	9.331	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7863.971	58866.184	bb		18.2	-9.1	3.616	3.737	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	191.441	7863.971	bd		0.6	30.0	2.895	2.666	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	155.392	7863.971	bb		0.6	27.0	3.003	2.979	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	215.288	7863.971	bb		0.6	23.4	3.330	3.714	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	216.171	7863.971	bb		0.6	22.3	3.180	3.530	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8265.585	58866.184	bb		16.2	-19.1	3.518	3.141	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	270.157	8265.585	bb		0.6	15.1	3.369	3.155	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	6639.043	58866.184	bb		18.9	-5.3	1.865	1.895	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	137.692	6639.043	bb		0.4	-12.1	1.536	1.253	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	9297.566	58866.184	bb		18.9	-5.7	3.568	3.727	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	392.832	9297.566	bb		0.7	47.4	1.305	0.994	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	3312.875	58866.184	bb		19.5	-2.4	2.967	3.107	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	77.379	3312.875	bb		0.5	-2.2	3.364	1.905	YES
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5814.821	58866.184	bb		17.9	-10.6	2.181	1.910	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	59.468	5814.821	MMX	MP	0.6	21.6	0.633	0.591	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1788.591	58866.184	MM	MP	18.7	-6.4	1.007	0.993	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	52.586	1788.591	MM	MP	0.7	35.6	1.026	1.953	YES
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1704.830	58866.184	bb		19.5	-2.5	0.636	0.782	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	60.975	1704.830	MM	MP	0.7	37.5	0.819	0.810	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2590.046	58866.184	MM	MP	17.8	-11.0	2.149	2.333	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	76.142	2590.046	MM	MP	0.5	-4.2	2.451	1.723	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	1012.113	20521.111	bb		0.6	16.7	2.971	4.321	YES
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	138.219	1704.830	MM	BLC	0.5	7.6	2.108	2.437	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	124.868	1704.830	MM	BLC	0.6	13.7	1.575	1.334	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	70.020	1704.830	bb		0.4	-16.4	1.517	1.004	YES
27	4,4'-DDE|72-55-9	246 > 176	14.61	783.376	20521.111	bb		0.6	16.2	1.653	1.975	NO
28	2,4'-DDD|53-19-0	235 > 165	14.86	1124.022	20521.111	bb		0.6	10.4	2.709	2.769	NO
29	Dieldrin|60-57-1	262.8 > 192.9	14.85	49.942	1594.416	db		0.5	6.6	1.007	1.012	NO
30	Endrin-13C12|CASID30739	269.8 > 200	15.44	1594.416	58866.184	bb		19.8	-0.8	1.566	1.669	NO
31	Endrin|72-20-8	263 > 193	15.47	82.596	1594.416	bbX		1.2	138.0	1.231	3.827	YES
32	2,4-DDT|789-02-6	235 > 165	15.72	842.100	10253.363	bb		0.6	10.0	2.729	2.433	NO
33	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	102.238	1704.830	db		0.6	12.2	1.628	1.415	NO
34	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	20521.111	58866.184	bb		5.0	0.3	6.924	6.125	NO
35	4,4'-DDD|72-54-8	235 > 165	16.05	1146.817	20521.111	bb		0.6	12.5	4.083	3.661	NO
36	EndosulfanII|33213-65-9	195 > 159	16.10	34.715	1594.416	bb		0.6	14.3	0.786	1.031	YES
37	Endrin aldehyde|7421-93-4	345 > 245	16.52	33.805	1594.416	bbX		0.5	9.2	6.264	17.515	YES
38	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	10253.363	58866.184	bb		4.9	-1.4	5.701	5.607	NO
39	4,4'-DDT|50-29-3	235 > 165	17.00	779.510	10253.363	bb		0.5	7.4	3.729	3.268	NO

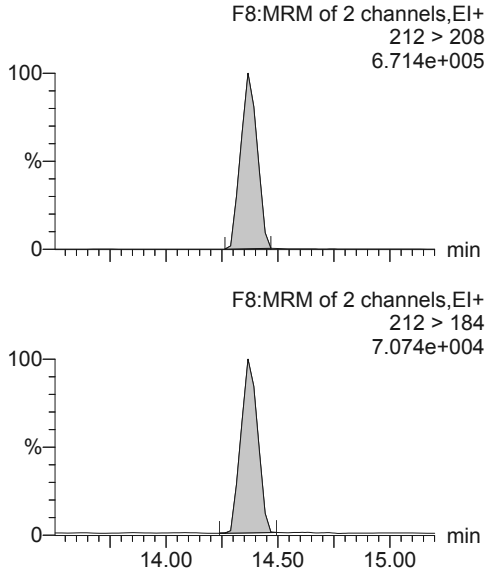
1st 08/08/18
2nd 08/13/18

Name: 080818F007, Date: 08-Aug-2018, Time: 09:40:03, Description: OC PEST ICAL .5ng/mL SVM59-32A

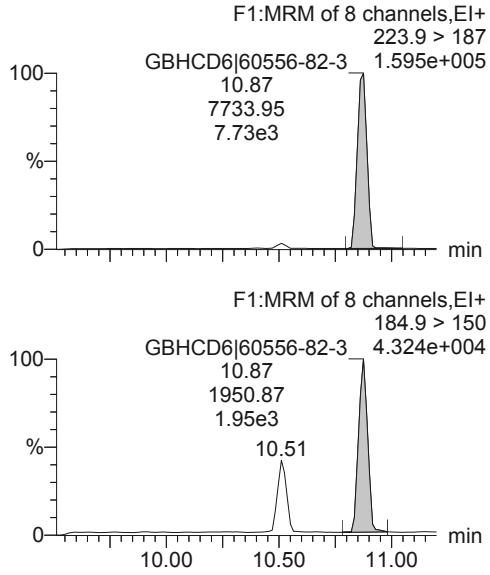
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	323.185	1594.416	bd		0.5	7.8	1.651	1.940	NO
41	Mxchlord6|106031-79-2	233 > 141	18.70	18585.438	58866.184	bb		21.1	5.7	0.917	0.910	NO
42	Methoxychlor|72-43-5	227 > 141	18.78	606.036	18585.438	MM	BLC	0.6	27.1	0.836	0.909	NO
43	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1226.835	58866.184	bb		17.3	-13.7	2.077	2.024	NO
44	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7839.963	58866.184	bb		4.2	-16.3	2.492	2.366	NO
45	Mirex|2385-85-5	271.8 > 236.8	19.94	1099.362	7839.963	bb		0.7	30.4	1.678	1.516	NO

Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

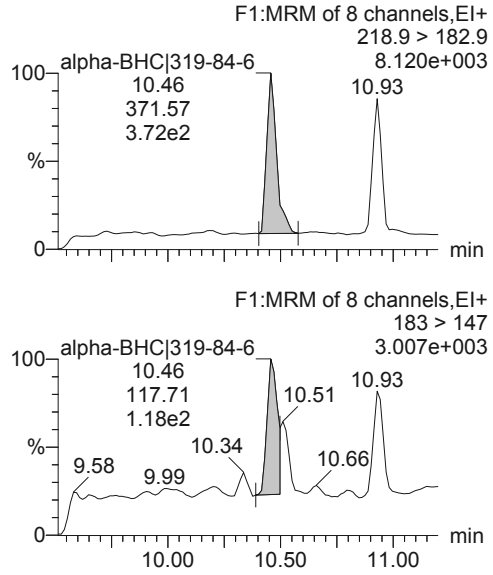
Pyrene-d10|1718-52-1



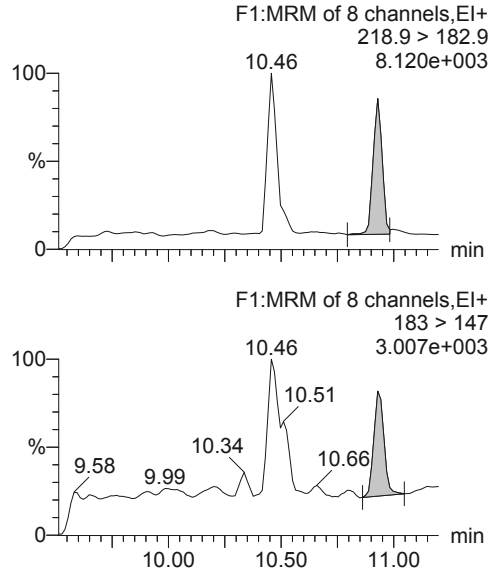
GBHCD6|60556-82-3



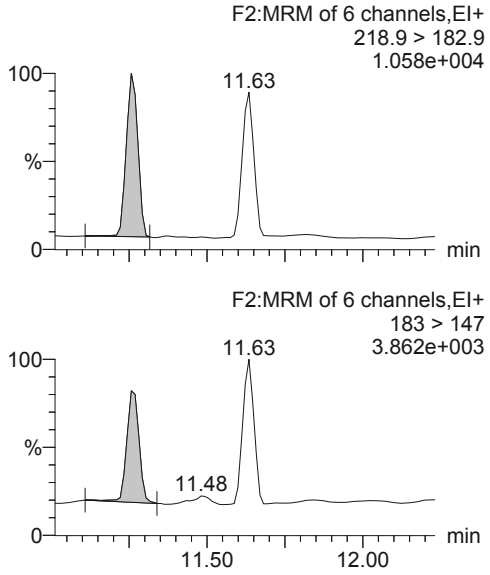
alpha-BHC|319-84-6



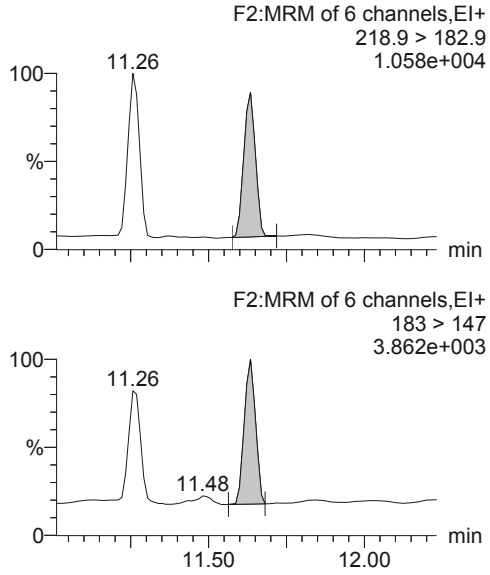
gamma-BHC|58-89-9



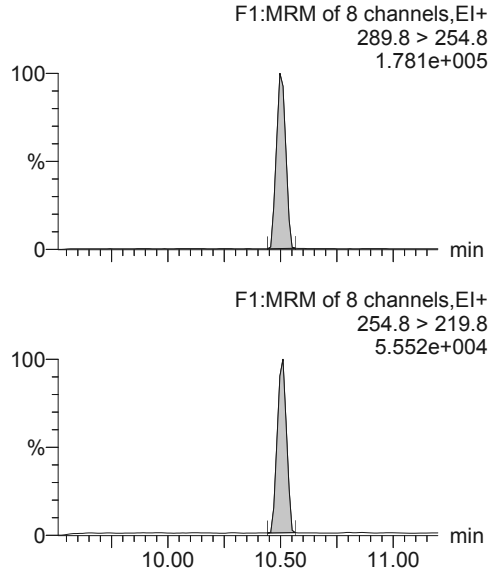
beta-BHC|319-85-7



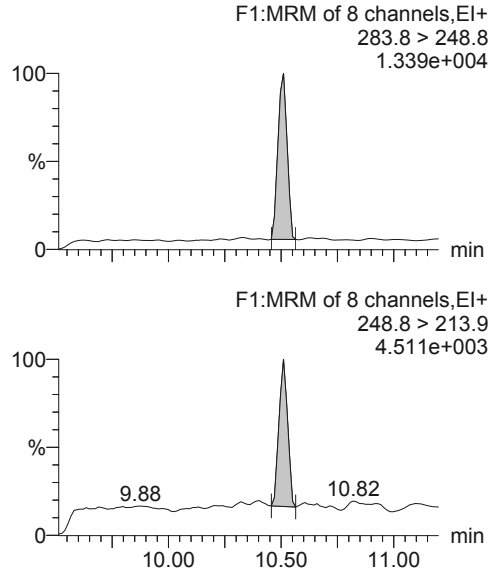
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

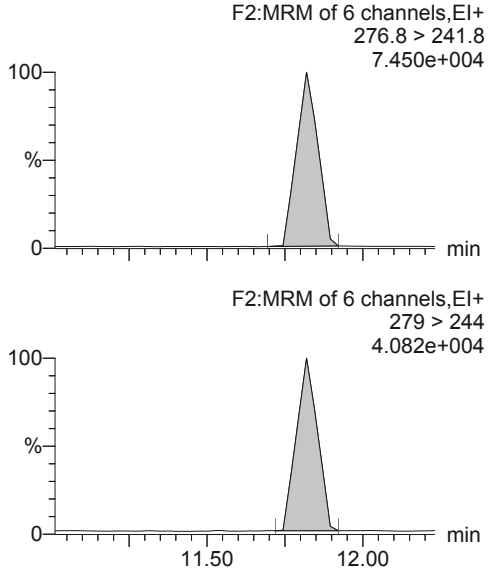


Hexachlorobenzene|118-74-1

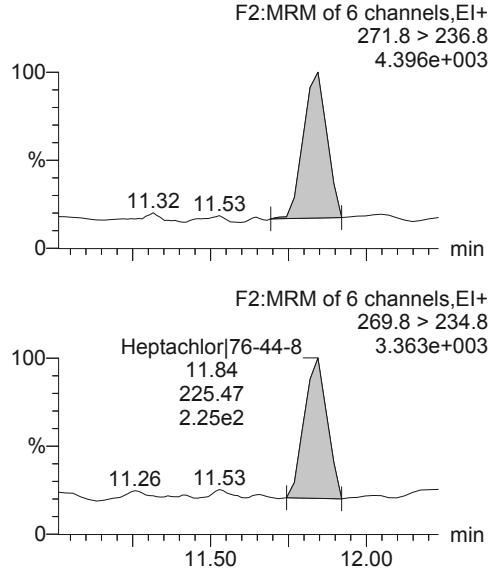


Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

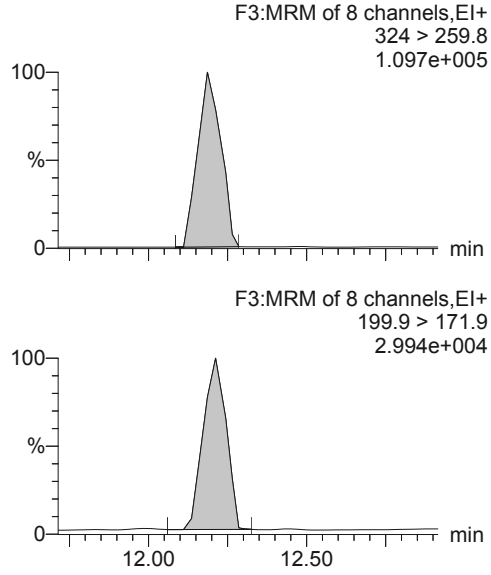
Heptachlor-13C10|CASID30731



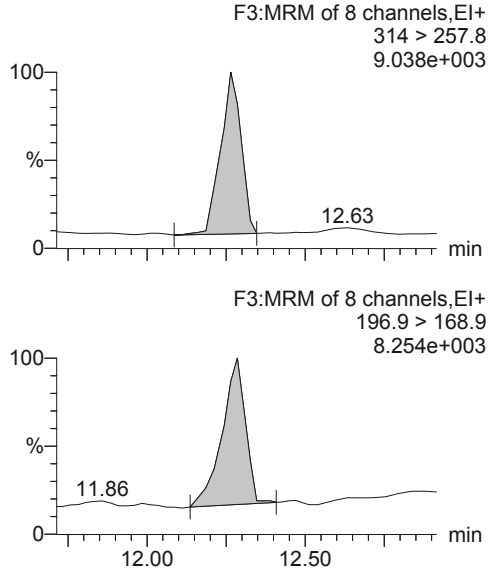
Heptachlor|76-44-8



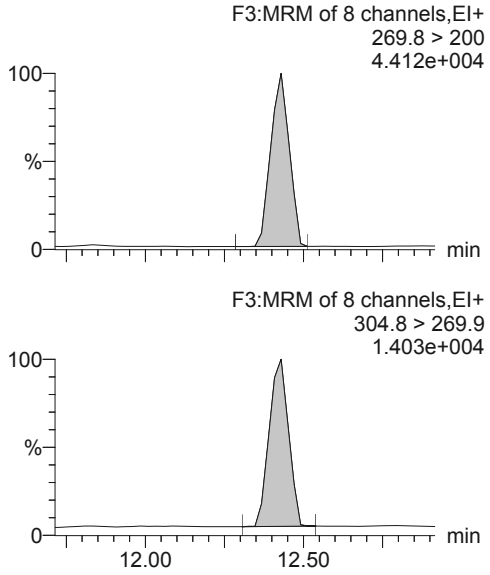
Chlorpyrifos-d10|CASID30732



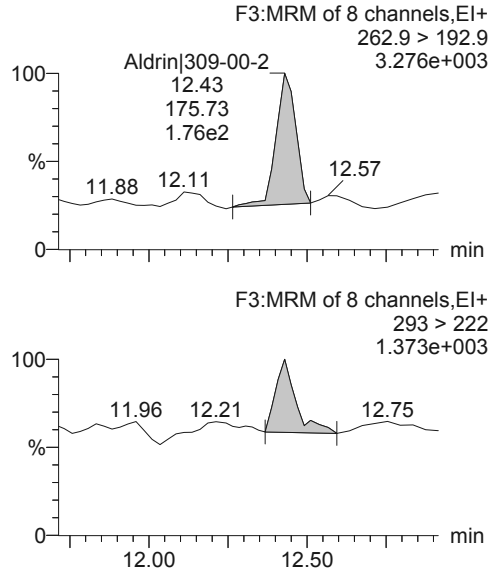
Chlorpyrifos|2921-88-2



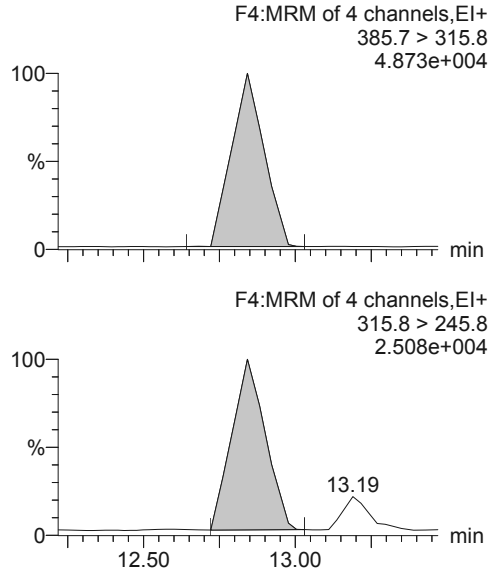
Aldrin-13C12|CASID30733



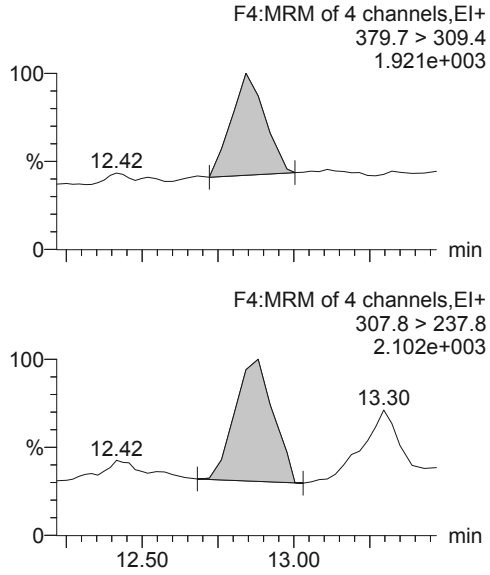
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

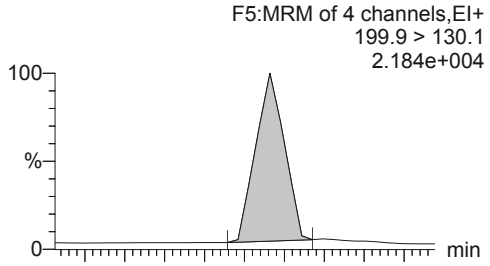


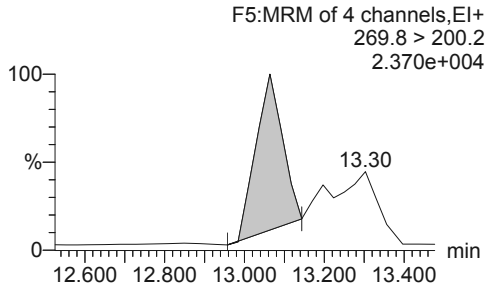
Octachlorostyrene|29082-74-4



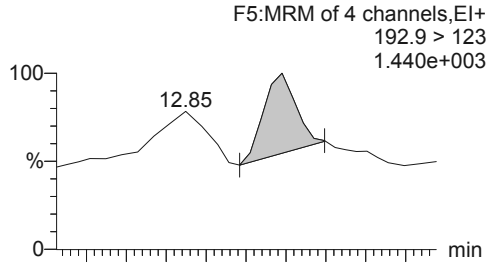
Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

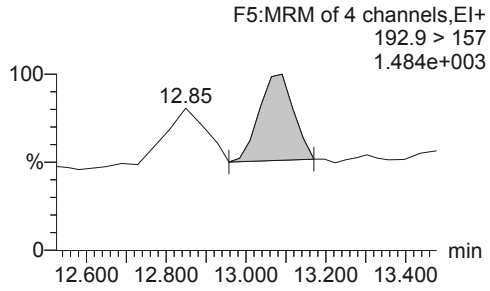
Isodrin-13C12|CASID30735



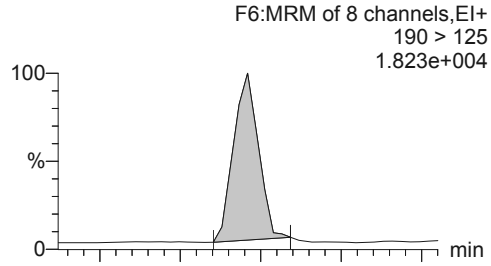


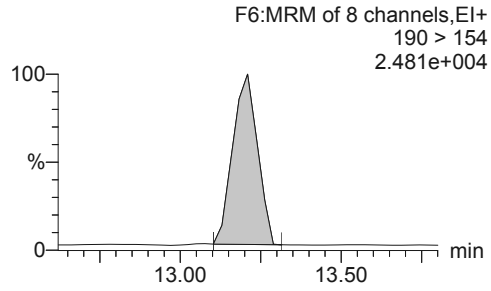
Isodrin|465-73-6



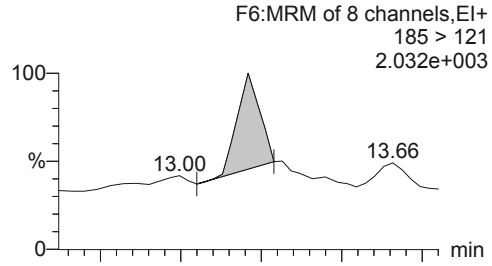


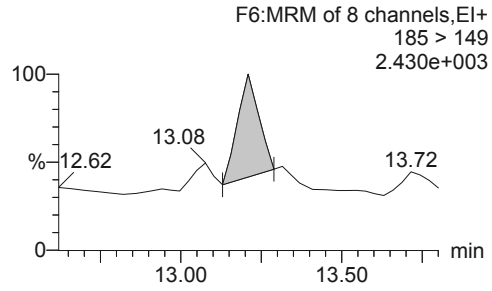
Oxychlordane-13C10|CASID30737



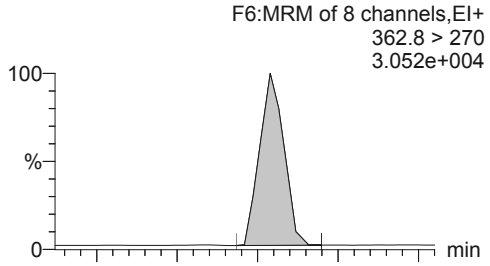


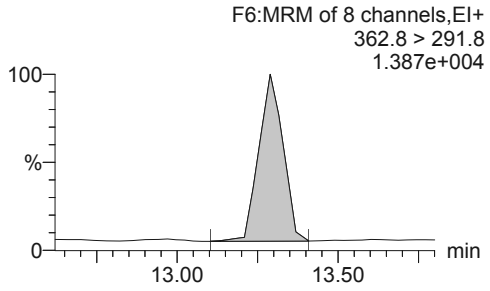
Oxychlordane|27304-13-8



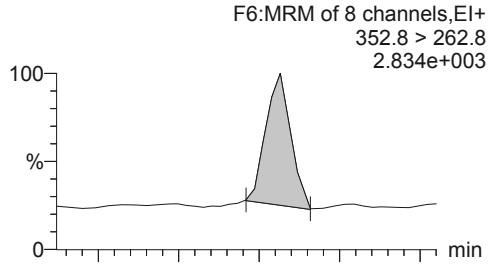


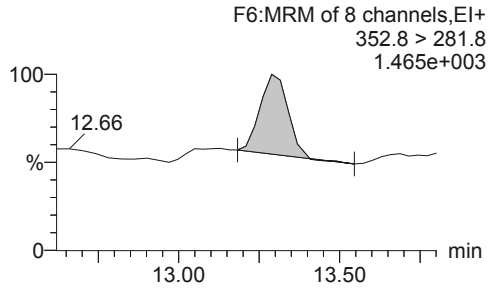
HeptachIrepox13C10|CASID30736



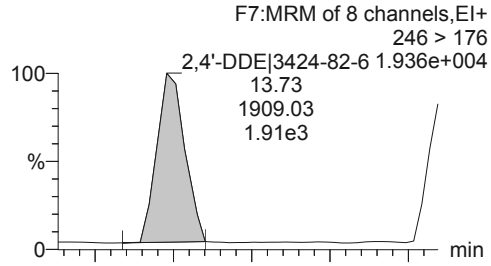


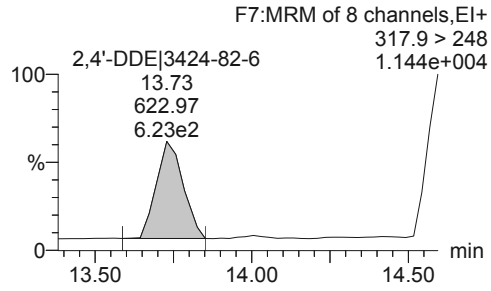
Heptachlor epoxide|1024-57-3



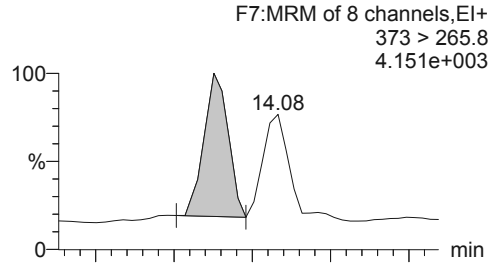


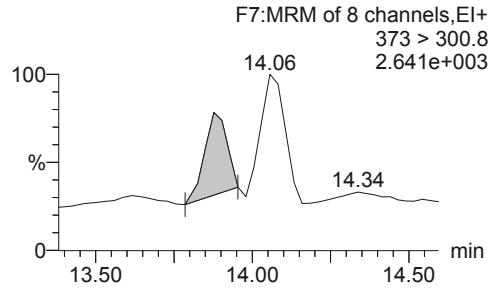
2,4'-DDE|3424-82-6





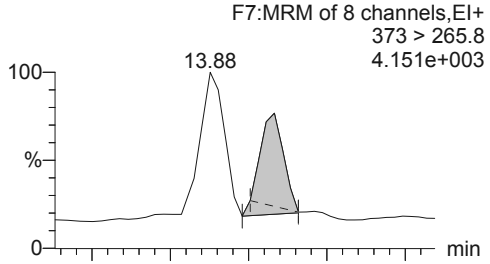
gamma-Chlordane|5566-34-7

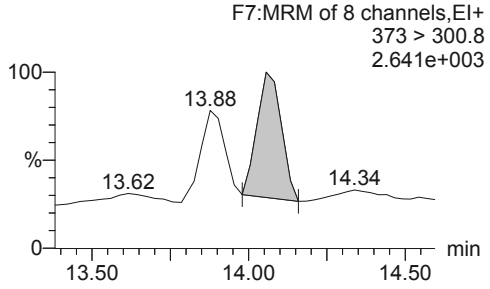




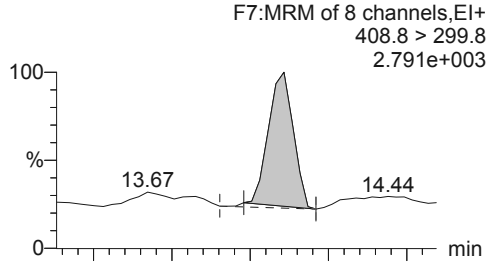
Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

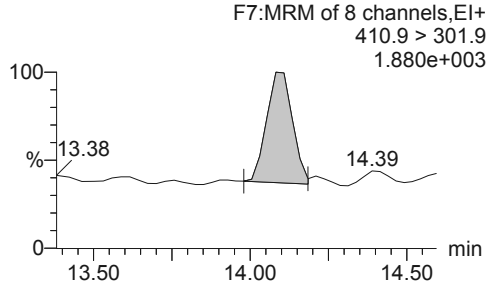
alpha-Chlordane|5103-71-9



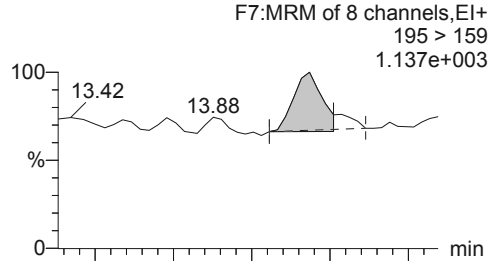


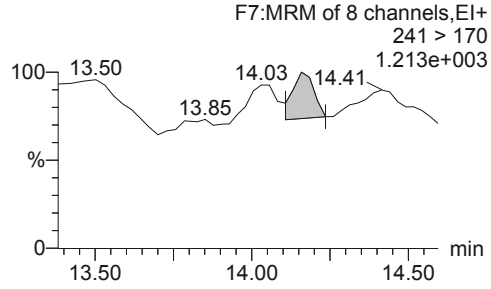
trans-Nonachlor|39765-80-5



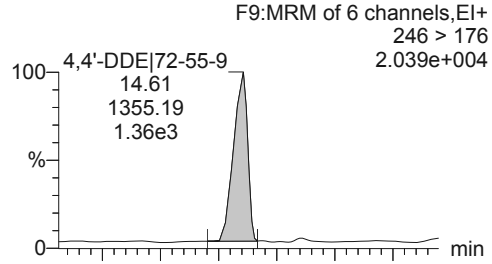


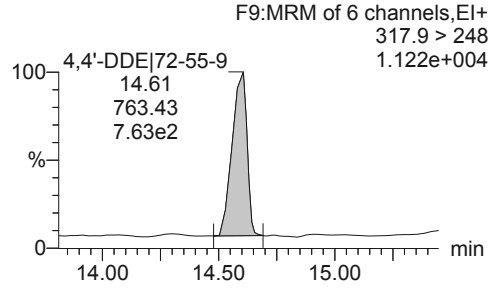
Endosulfanl|959-98-8



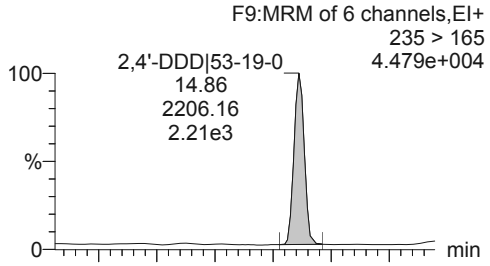


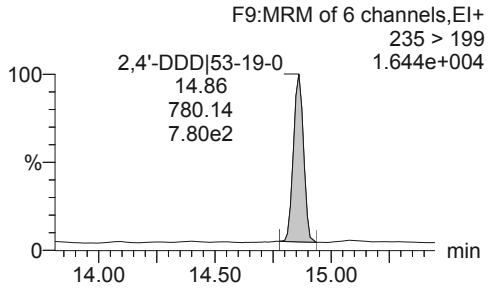
4,4'-DDE|72-55-9



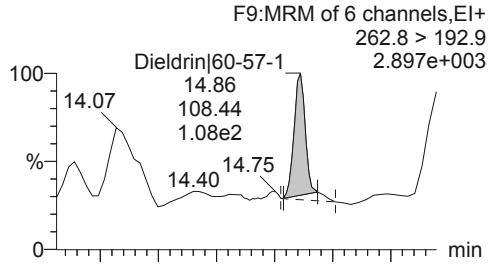


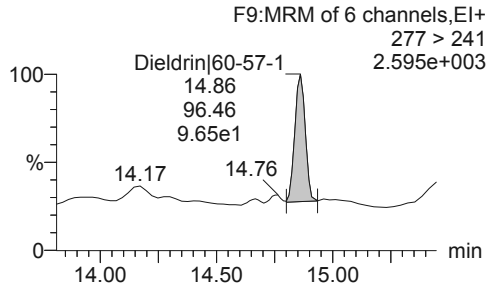
2,4'-DDD|53-19-0



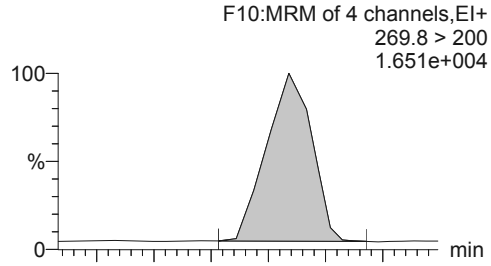


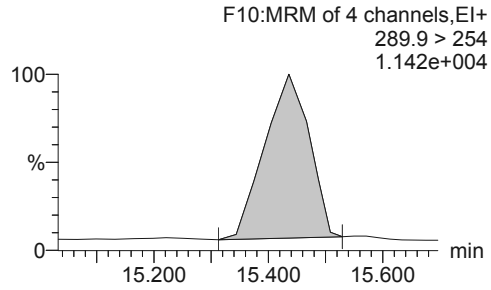
Dieldrin|60-57-1



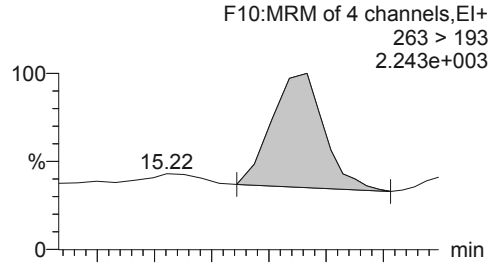


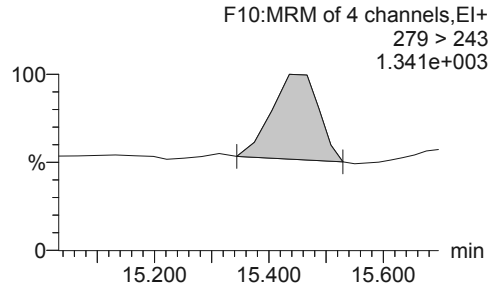
Endrin-13C12|CASID30739





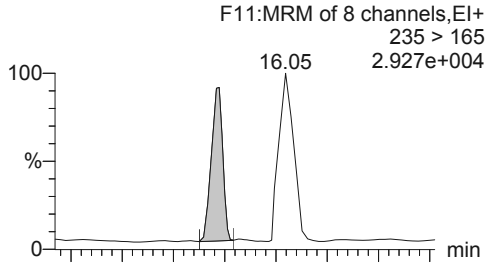
Endrin|72-20-8



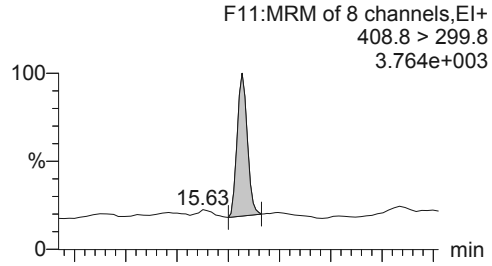


Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

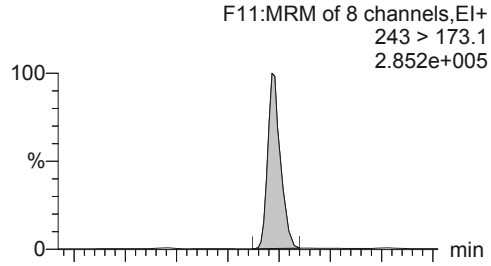
2,4-DDT|789-02-6



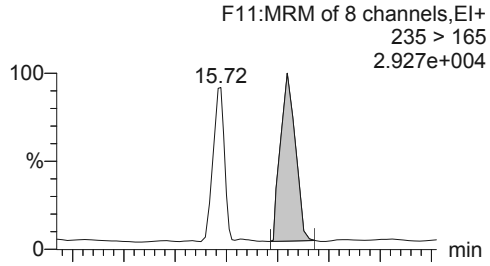
cis-Nonachlor|5103-73-1



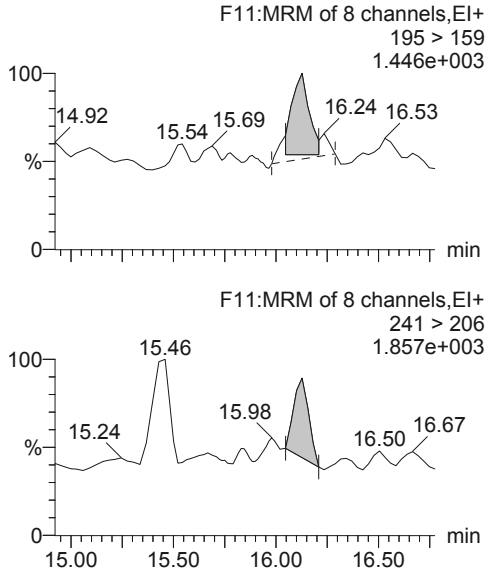
4,4'DDD-d4|93952-20-6



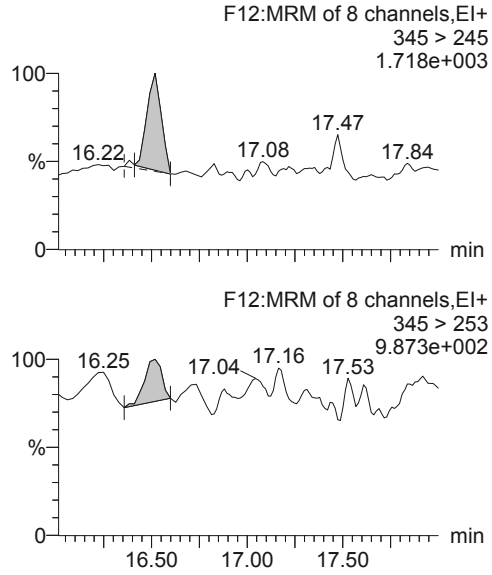
4,4'-DDD|72-54-8



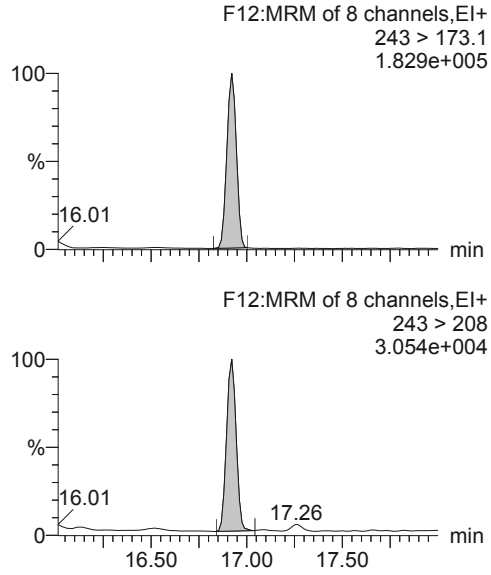
Endosulfanll|33213-65-9



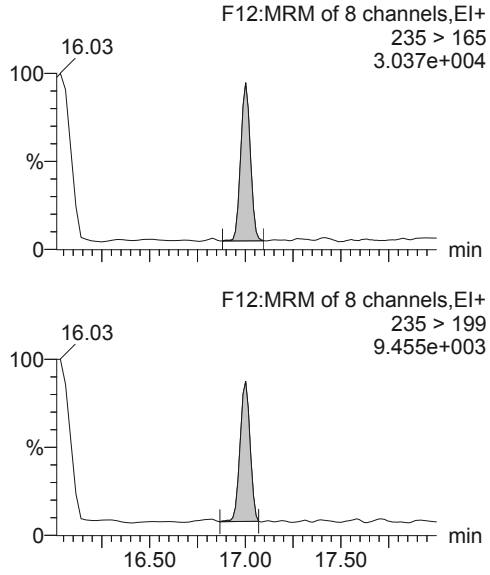
Endrin aldehyde|7421-93-4



4,4'-DDT-d4|93952-18-2

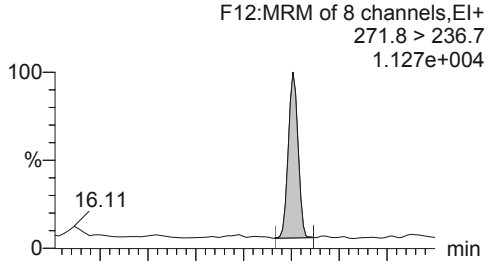


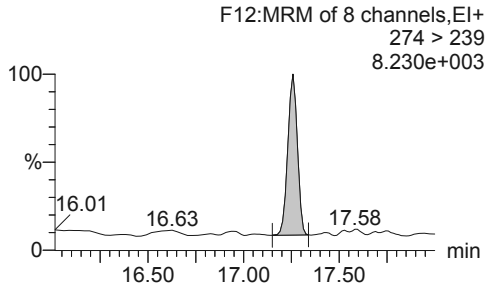
4,4'-DDT|50-29-3



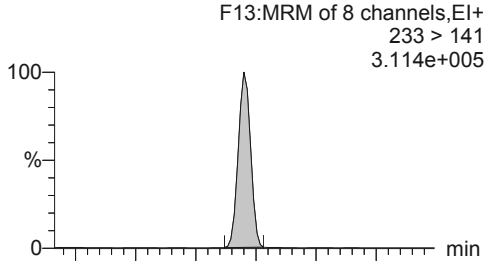
Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

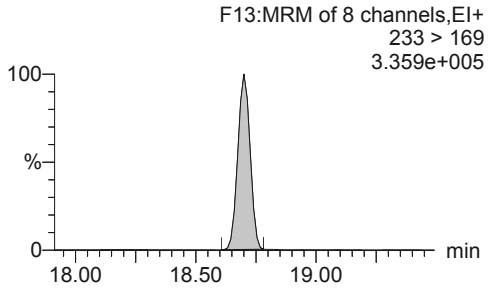
Endosulfan sulfate|1031-07-8



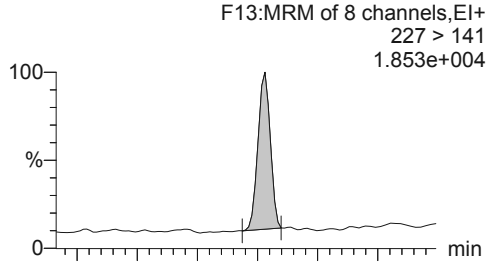


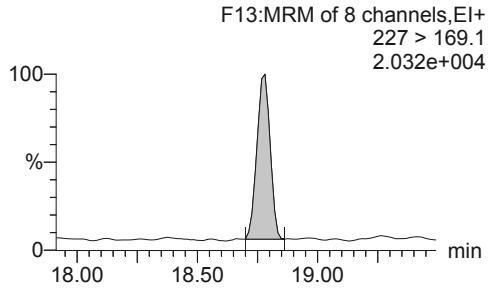
Mxchlord6|106031-79-2



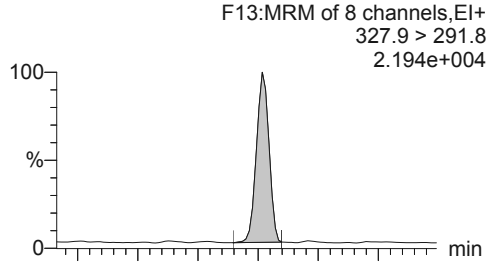


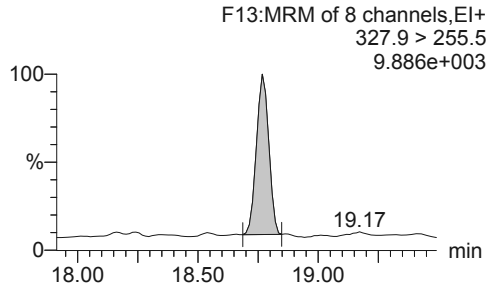
Methoxychlor|72-43-5



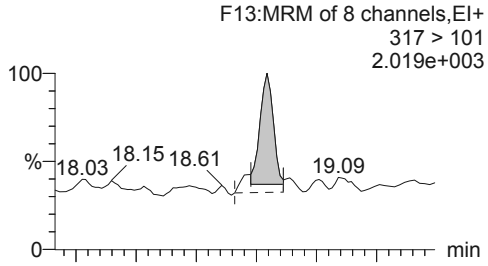


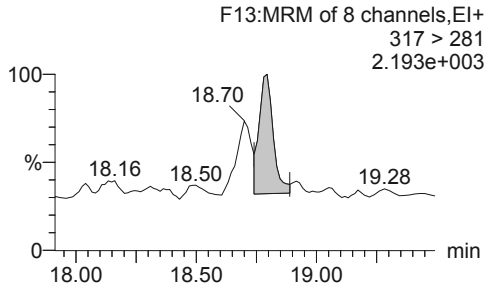
Endrinket13C12|CASID30741



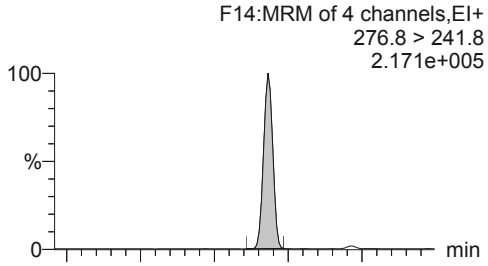


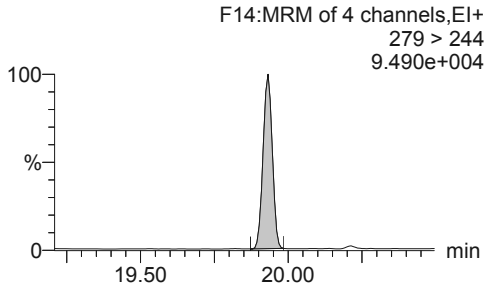
Endrin ketone|53494-70-5



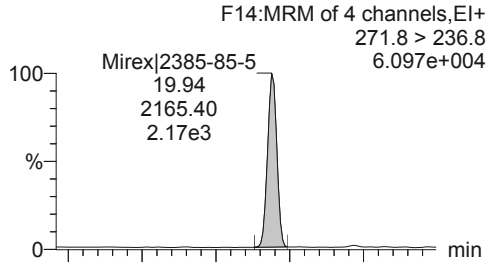


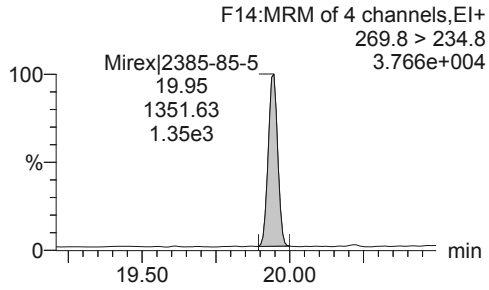
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/08/18
2nd 08/13/18

Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	56945.566		bb		114.6	14.6	9.752	9.439	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7733.951	56945.566	bb		18.5	-7.6	3.616	3.964	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	371.575	7733.951	bb		1.3	28.3	2.895	3.157	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	291.045	7733.951	bd		1.2	20.9	3.003	3.097	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	418.877	7733.951	bb		1.2	22.1	3.330	3.773	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	374.025	7733.951	bb		1.1	7.6	3.180	2.824	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8415.317	56945.566	bb		17.0	-14.9	3.518	3.271	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	589.380	8415.317	bb		1.2	23.3	3.369	3.533	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5814.637	56945.566	bb		17.1	-14.3	1.865	1.868	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	315.407	5814.637	bb		1.2	15.0	1.536	1.399	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	9167.158	56945.566	bb		19.2	-3.9	3.568	3.743	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	619.656	9167.158	bb		1.2	17.9	1.305	1.067	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2925.537	56945.566	bb		17.8	-10.9	2.967	3.113	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	175.729	2925.537	bb		1.3	25.8	3.364	4.156	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5950.009	56945.566	bb		18.9	-5.4	2.181	1.919	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	141.812	5950.009	MM	MP	1.4	41.7	0.633	0.670	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1731.304	56945.566	MM	MP	18.7	-6.3	1.007	1.068	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	61.672	1731.304	MM	MP	0.8	-17.9	1.026	0.853	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1543.409	56945.566	bb		18.2	-8.8	0.636	0.723	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	89.658	1543.409	MM	MP	1.1	11.7	0.819	0.820	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2595.948	56945.566	MM	MP	18.4	-7.8	2.149	2.275	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	189.634	2595.948	MM	MP	1.2	19.1	2.451	2.856	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	1909.028	20069.678	bb		1.1	12.5	2.971	3.064	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	300.913	1543.409	bb		1.3	29.4	2.108	2.985	YES
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	212.137	1543.409	MM	BLC	1.1	6.7	1.575	1.256	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	191.623	1543.409	MM	BLC	1.3	26.3	1.517	1.704	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	39.688	1446.515	MM	BLC	1.0	-1.8	1.459	1.592	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	1355.186	20069.678	bb		1.0	2.7	1.653	1.775	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	2206.163	20069.678	bb		1.1	10.8	2.709	2.828	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	108.440	1446.515	MM	BLC	1.3	27.5	1.007	1.124	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1446.515	56945.566	bb		18.6	-7.0	1.566	1.507	NO
32	Endrin|72-20-8	263 > 193	15.47	153.305	1446.515	bbX		2.4	143.5	1.231	2.478	YES
33	2,4-DDT|789-02-6	235 > 165	15.72	1628.152	10240.865	bb		1.1	6.5	2.729	2.643	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	173.974	1543.409	bb		1.1	5.4	1.628	1.384	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	20069.678	56945.566	bb		5.1	1.4	6.924	6.773	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	2339.813	20069.678	bb		1.2	17.3	4.083	4.293	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	64.738	1446.515	MM	BLC	1.2	17.4	0.786	0.922	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	81.228	1446.515	MM	BLC	1.4	44.5	6.264	3.280	YES
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	10240.865	56945.566	bb		5.1	1.8	5.701	6.015	NO

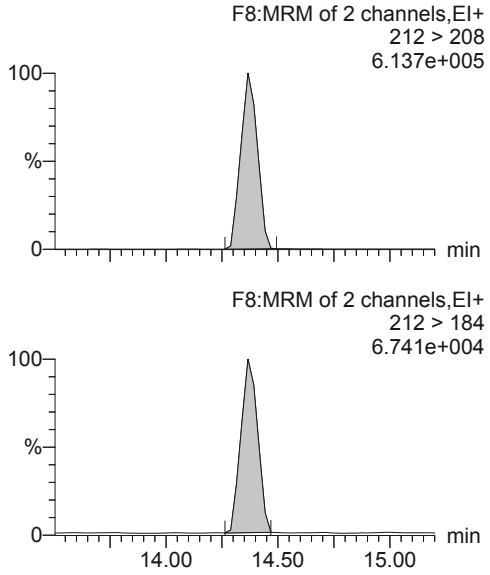
1st 08/08/18
2nd 08/13/18

Name: 080818F008, Date: 08-Aug-2018, Time: 10:07:15, Description: OC PEST ICAL 1ng/mL SVM59-32B

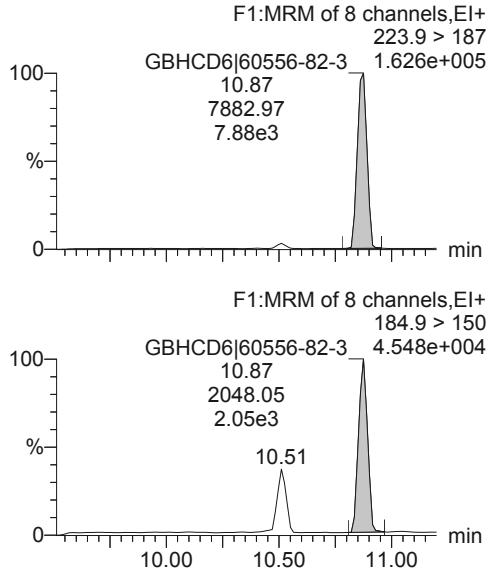
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	1576.679	10240.865	bb		1.1	8.7	3.729	3.484	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	620.621	1446.515	bb		1.1	14.1	1.651	1.432	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	18230.314	56945.566	bb		21.4	7.2	0.917	0.930	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	975.036	18230.314	bb		1.0	4.2	0.836	0.807	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1274.754	56945.566	bb		18.5	-7.3	2.077	2.397	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	81.036	1274.754	MM	BLC	1.3	25.5	0.687	0.797	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7752.288	56945.566	bb		4.3	-14.4	2.492	2.298	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	2165.398	7752.288	bb		1.3	29.9	1.678	1.602	NO

Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

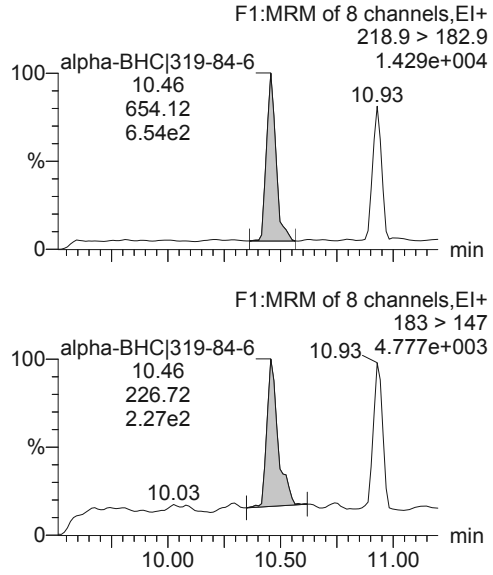
Pyrene-d10|1718-52-1



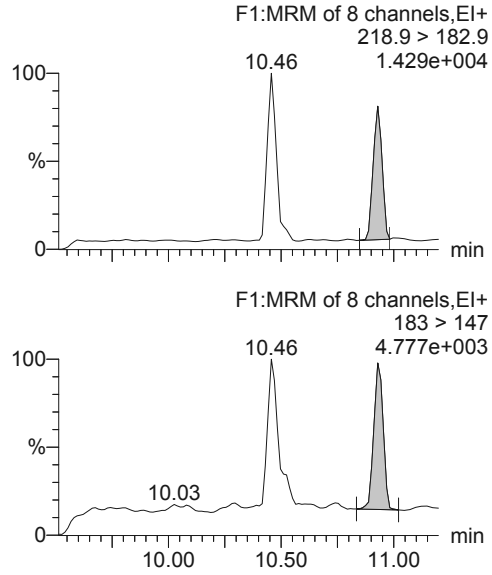
GBHCD6|60556-82-3



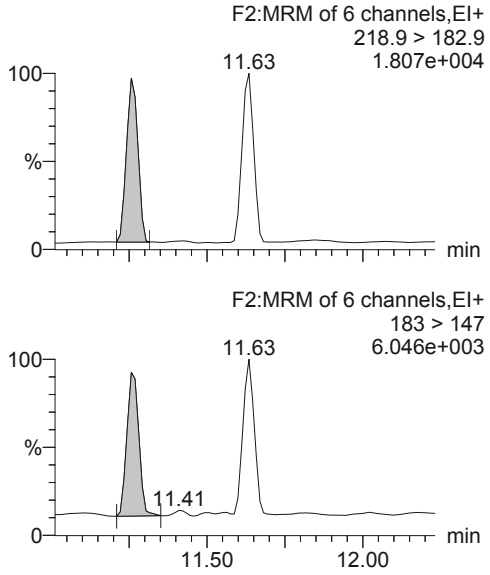
alpha-BHC|319-84-6



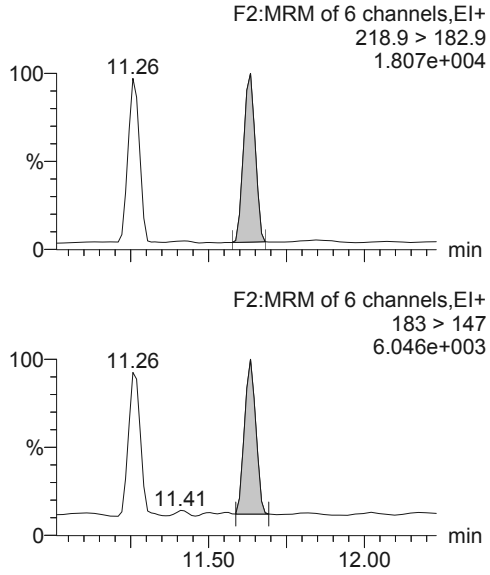
gamma-BHC|58-89-9



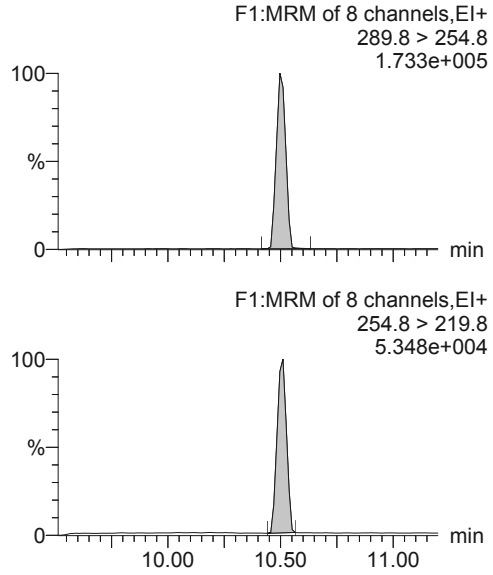
beta-BHC|319-85-7



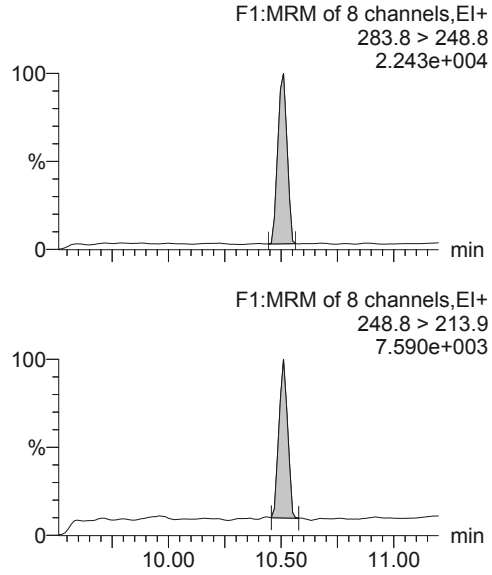
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

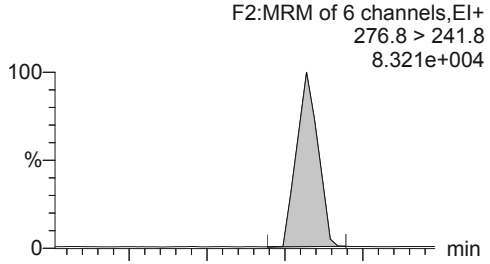


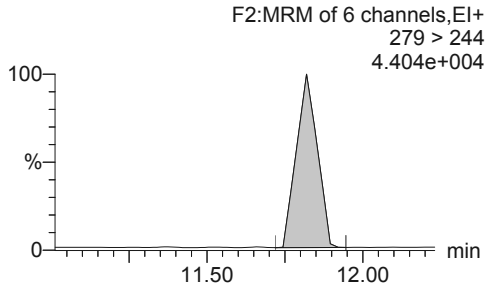
Hexachlorobenzene|118-74-1



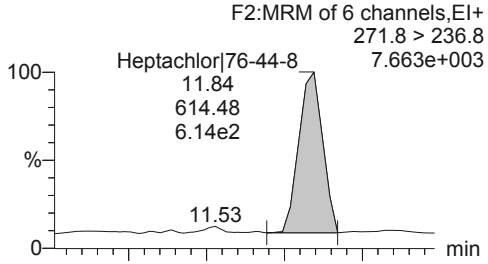
Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

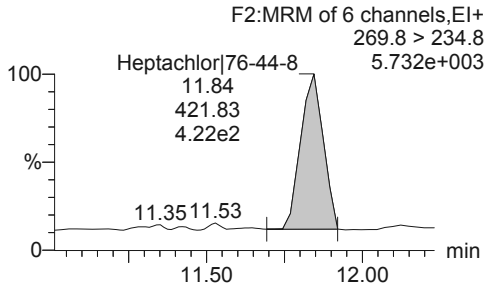
Heptachlor-13C10|CASID30731



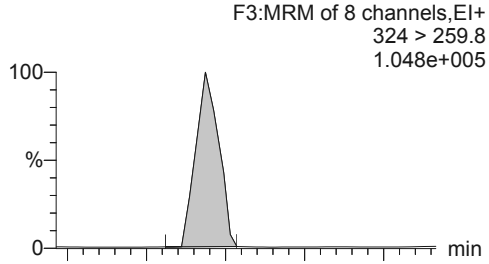


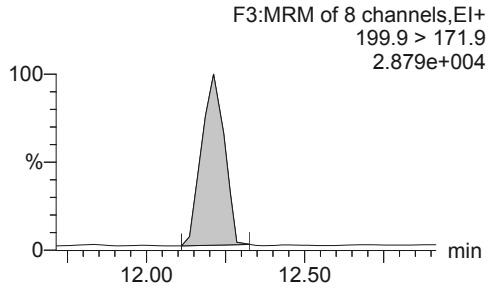
Heptachlor|76-44-8



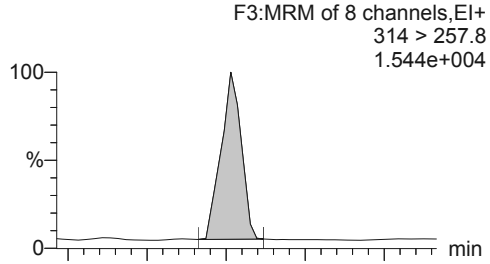


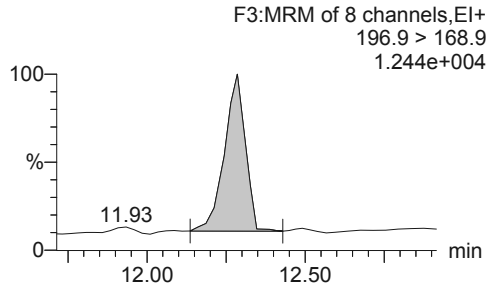
Chlorpyrifos-d10|CASID30732



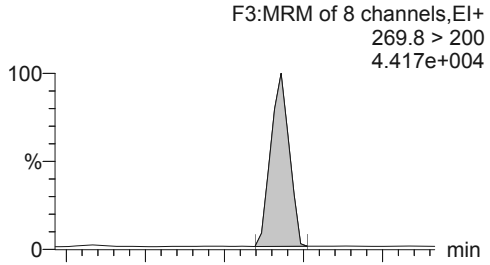


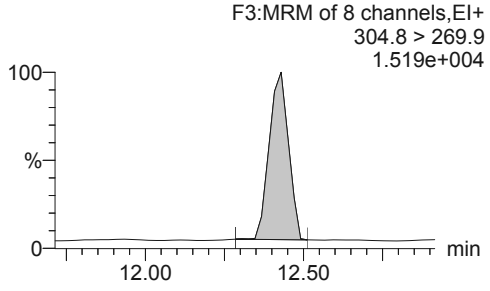
Chlorpyrifos|2921-88-2



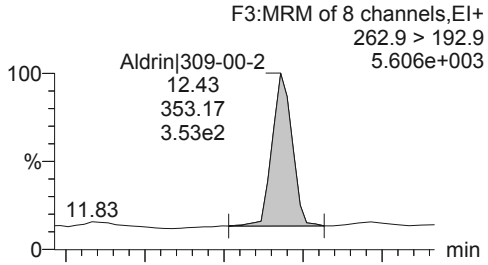


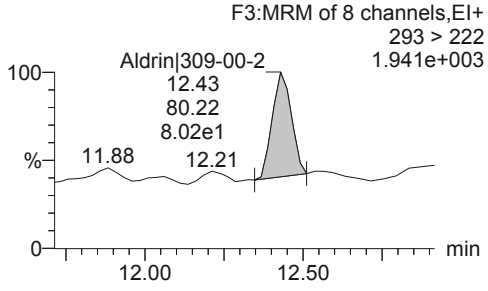
Aldrin-13C12|CASID30733



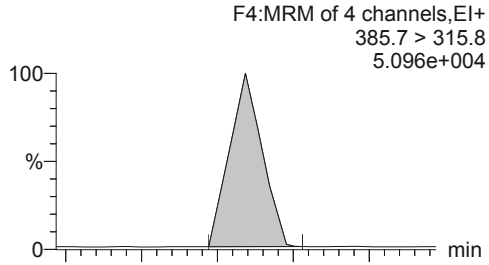


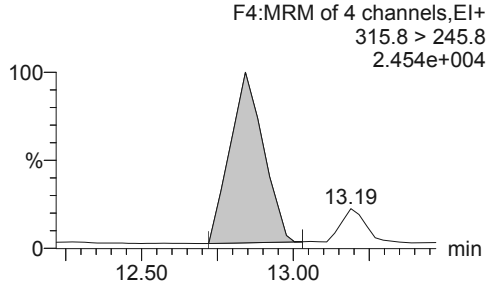
Aldrin|309-00-2



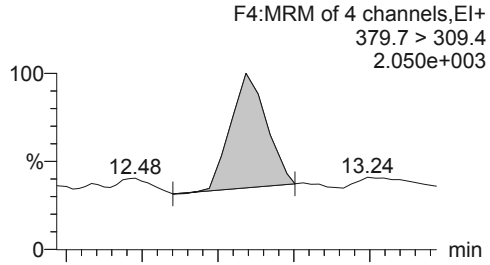


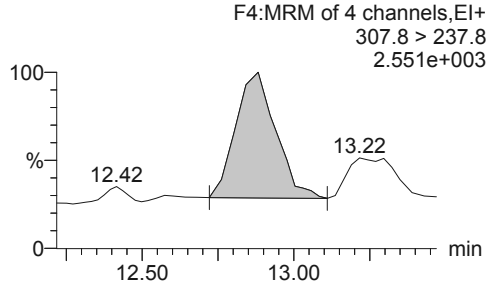
Ocstyrene13C8|CASID30734





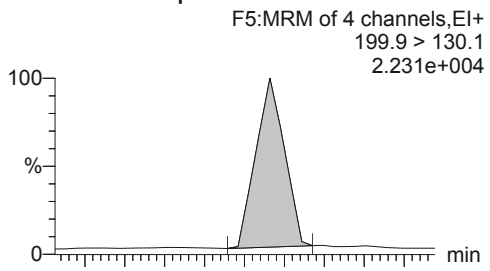
Octachlorostyrene|29082-74-4

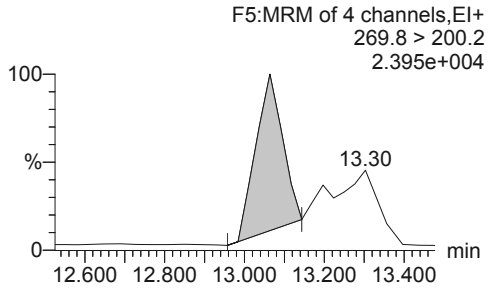




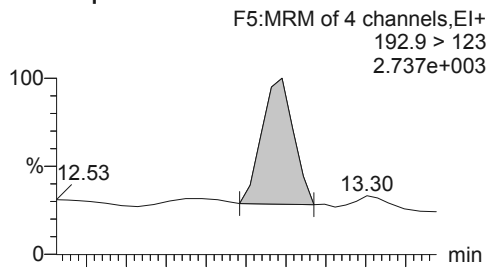
Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

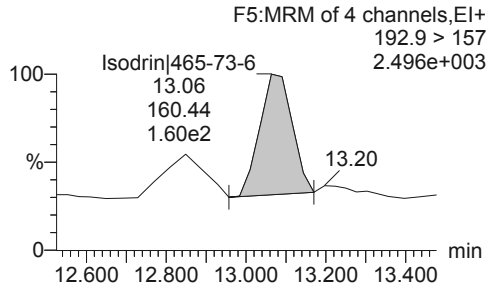
Isodrin-13C12|CASID30735



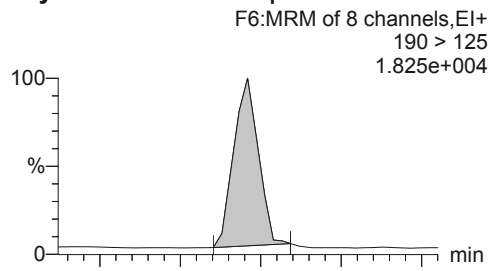


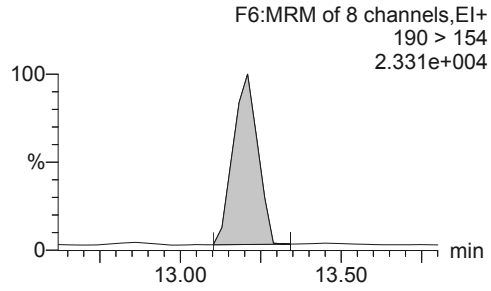
Isodrin|465-73-6



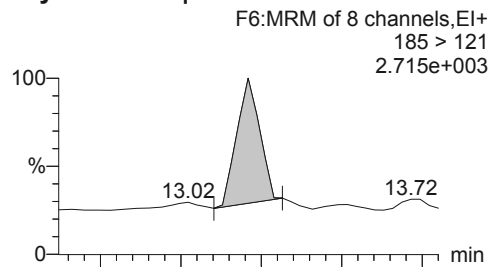


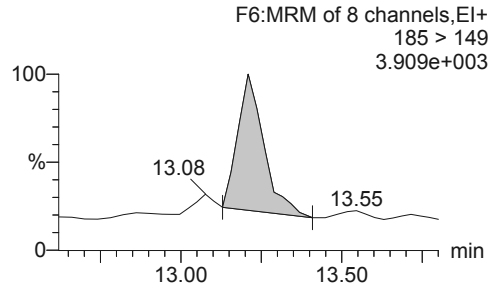
Oxychlordane-13C10|CASID30737



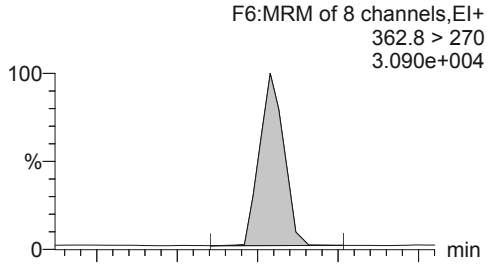


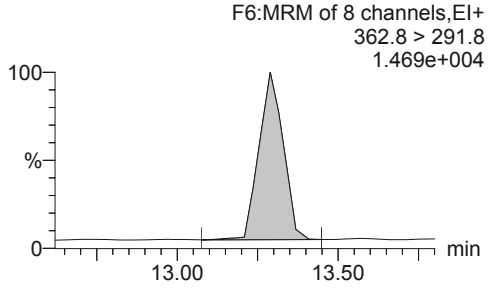
Oxychlordane|27304-13-8



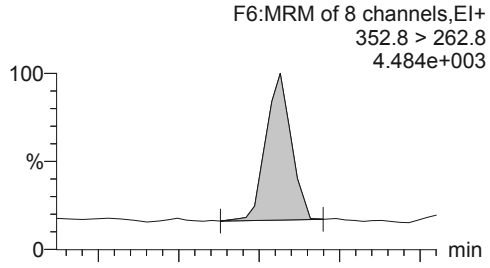


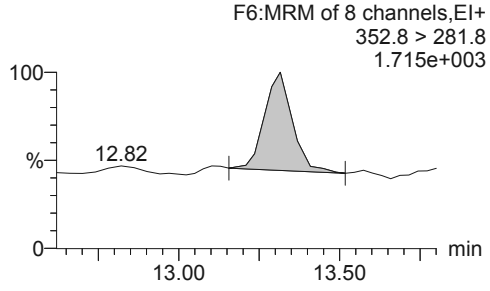
HeptachIrepox13C10|CASID30736



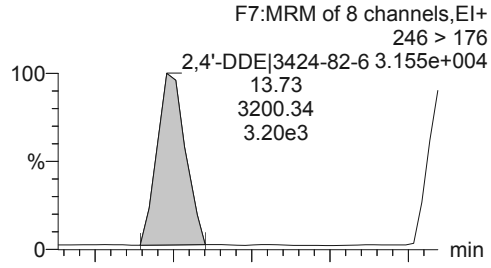


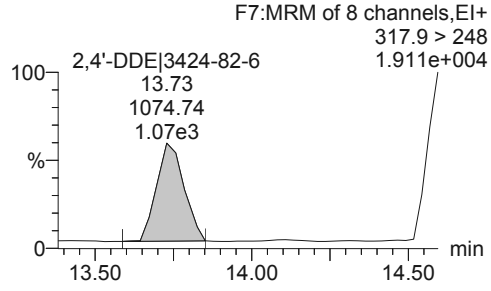
Heptachlor epoxide|1024-57-3



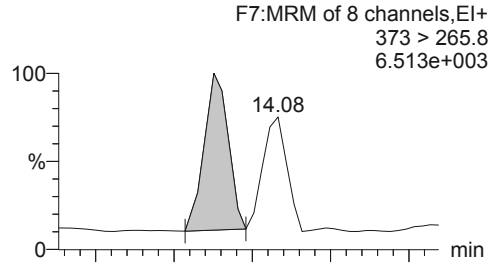


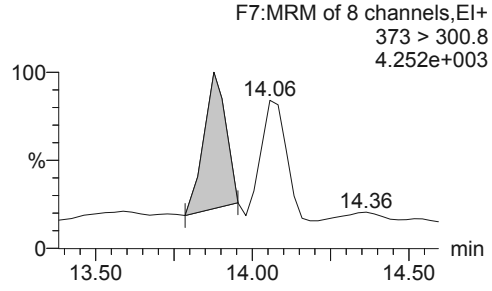
2,4'-DDE|3424-82-6





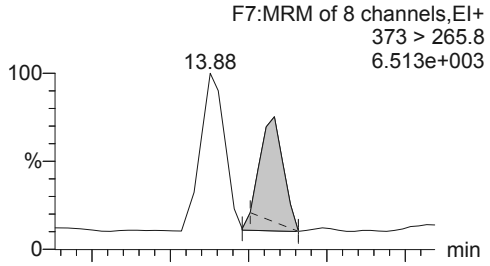
gamma-Chlordane|5566-34-7

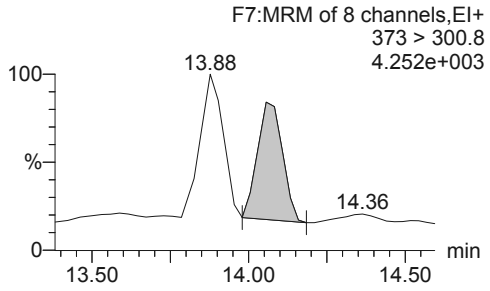




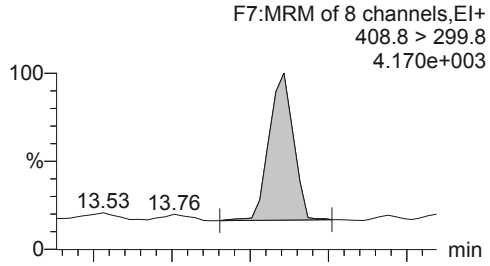
Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

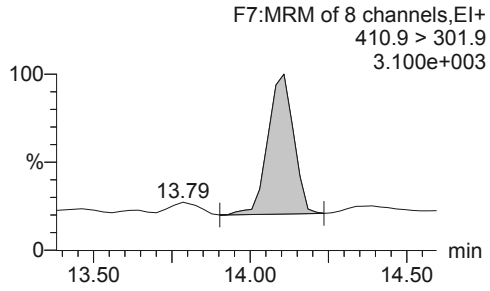
alpha-Chlordane|5103-71-9



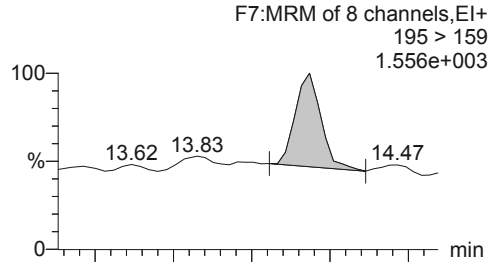


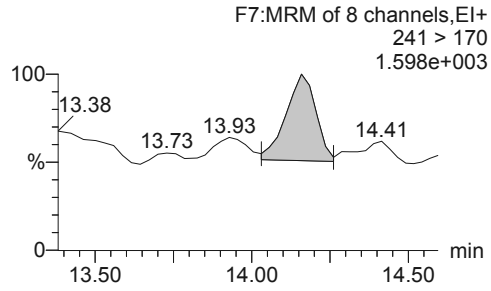
trans-Nonachlor|39765-80-5



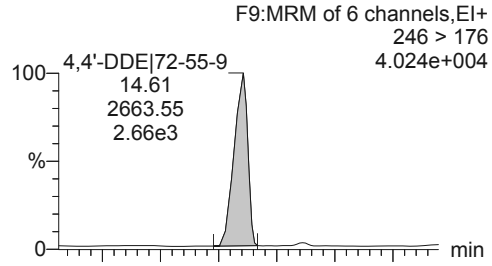


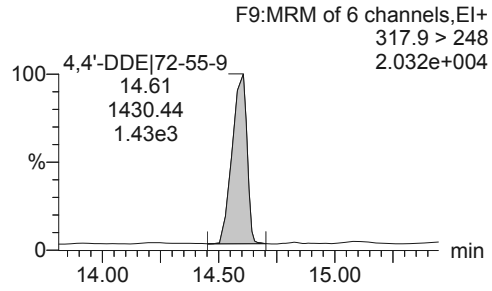
Endosulfanl|959-98-8



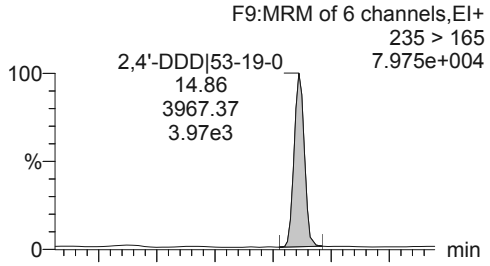


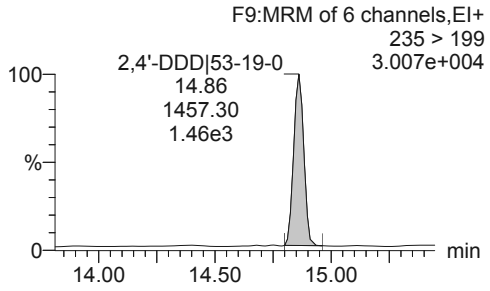
4,4'-DDE|72-55-9



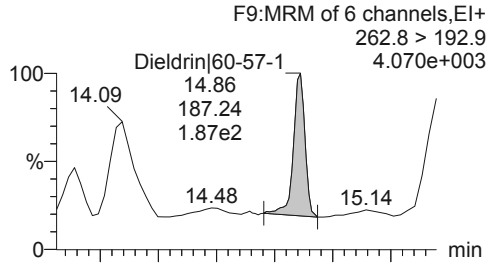


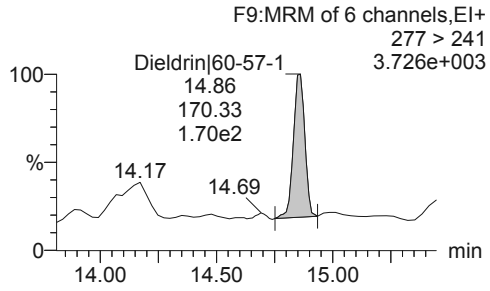
2,4'-DDD|53-19-0



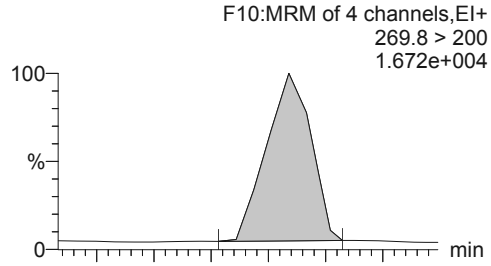


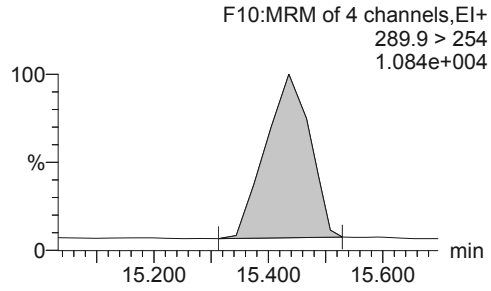
Dieldrin|60-57-1



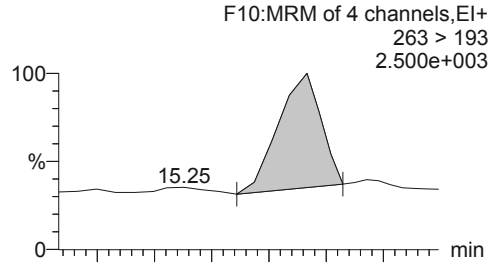


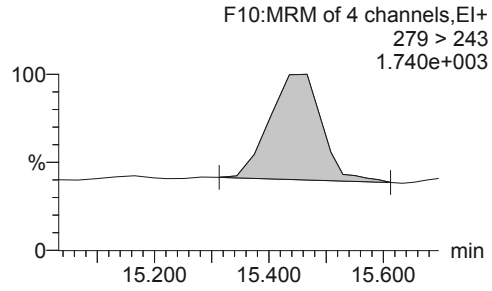
Endrin-13C12|CASID30739





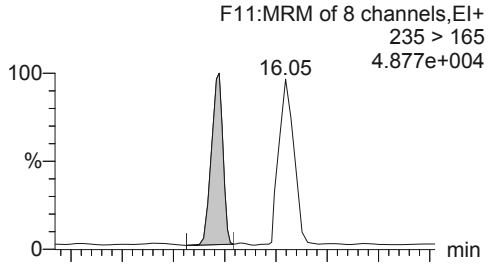
Endrin|72-20-8



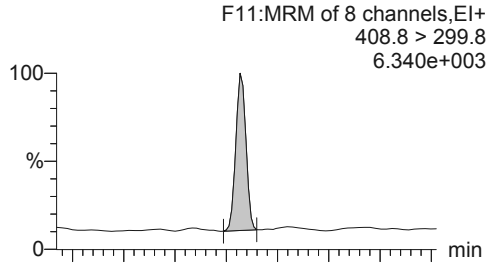


Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

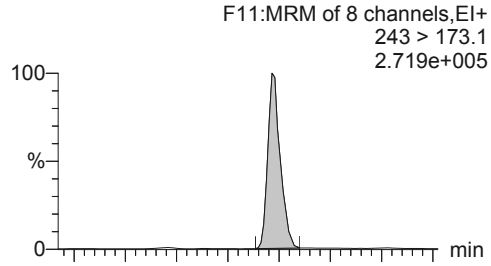
2,4-DDT|789-02-6



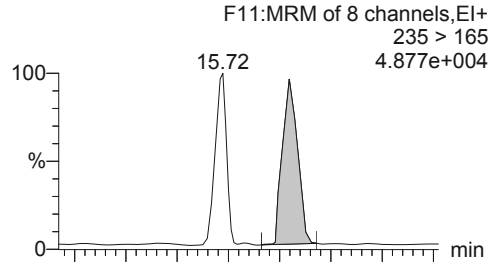
cis-Nonachlor|5103-73-1



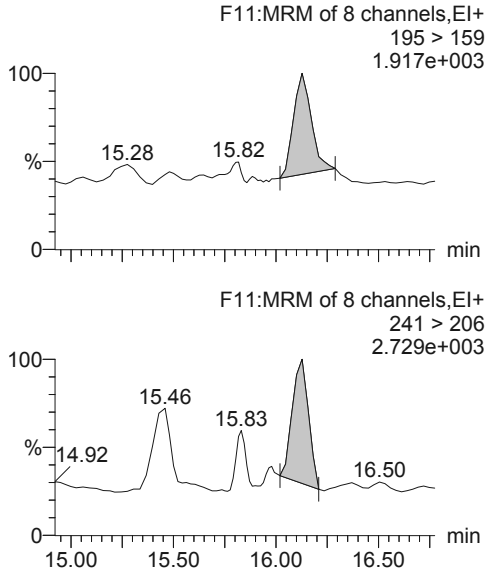
4,4'DDD-d4|93952-20-6



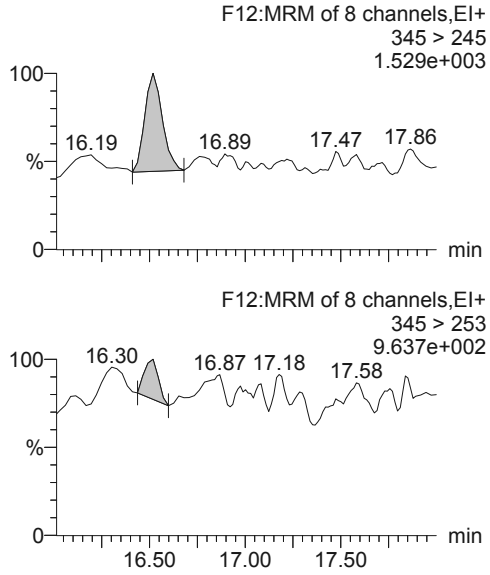
4,4'-DDD|72-54-8



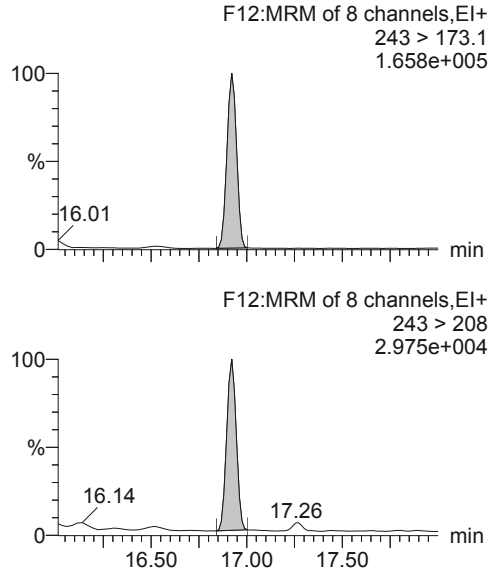
Endosulfanll|33213-65-9



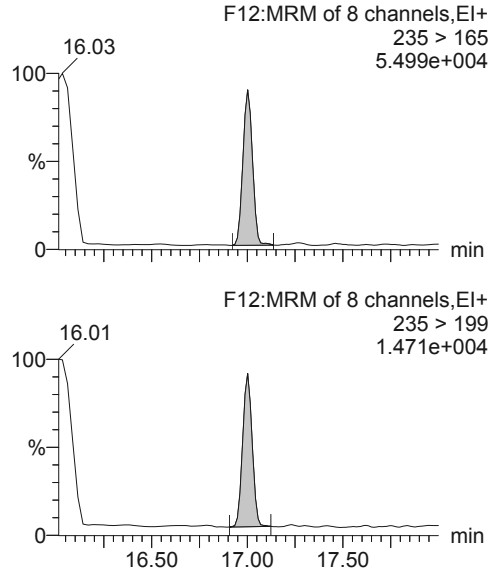
Endrin aldehyde|7421-93-4



4,4'-DDT-d4|93952-18-2

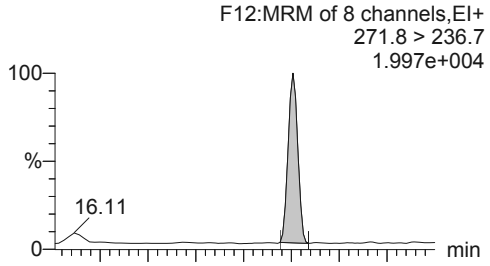


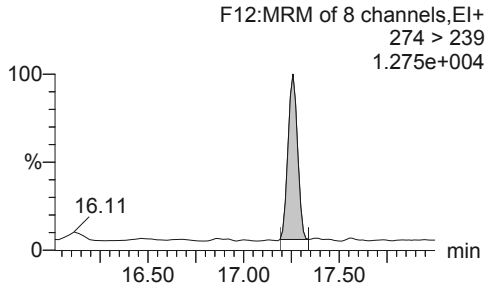
4,4'-DDT|50-29-3



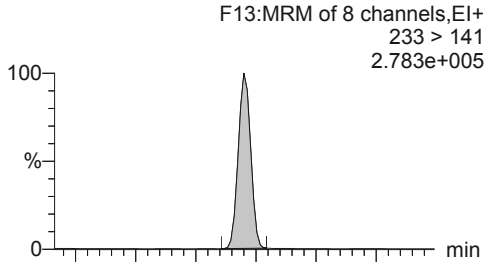
Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

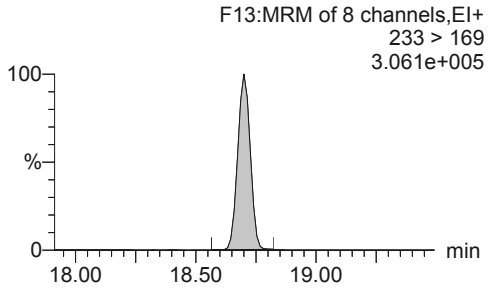
Endosulfan sulfate|1031-07-8



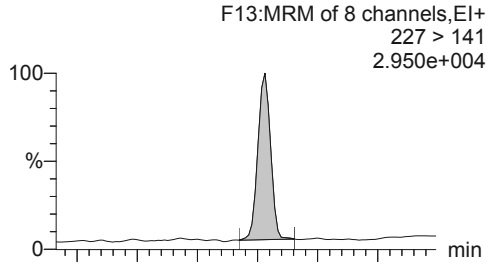


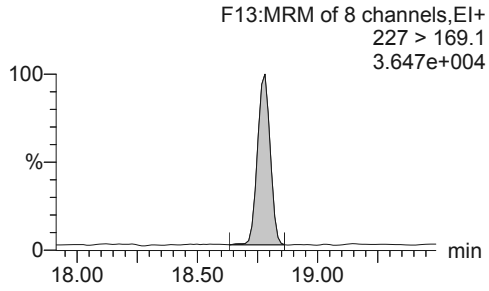
Mxchlord6|106031-79-2



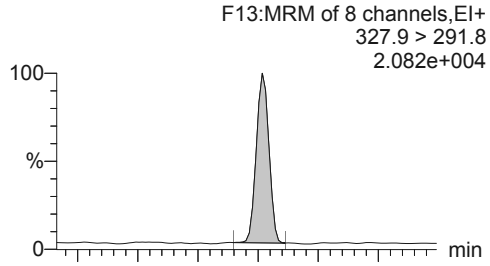


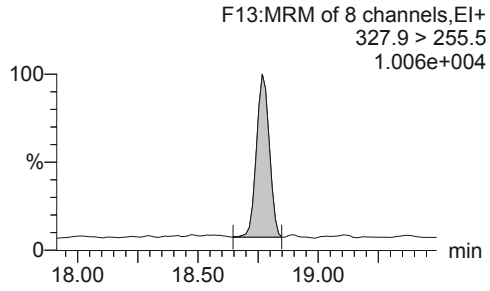
Methoxychlor|72-43-5



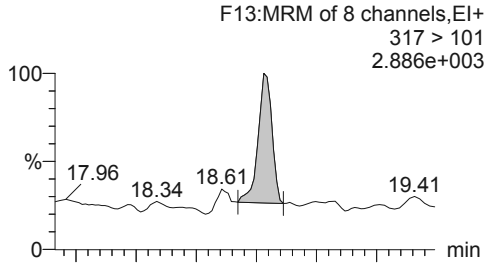


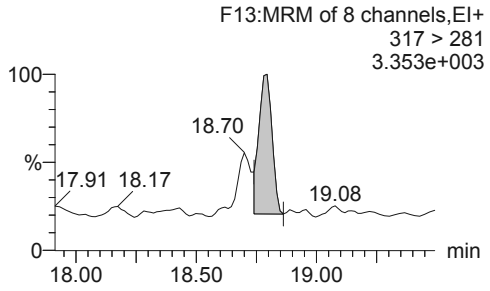
Endrinket13C12|CASID30741



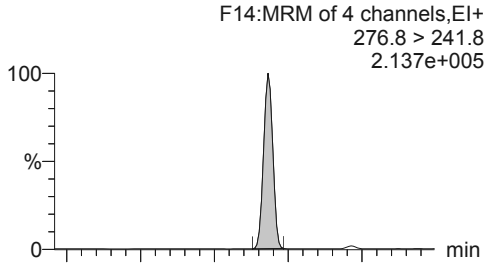


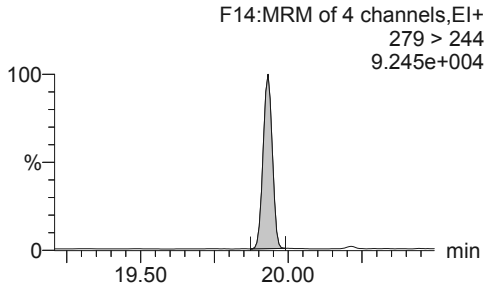
Endrin ketone|53494-70-5



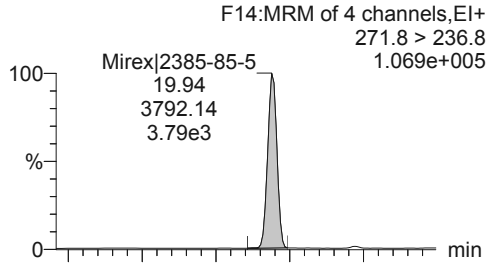


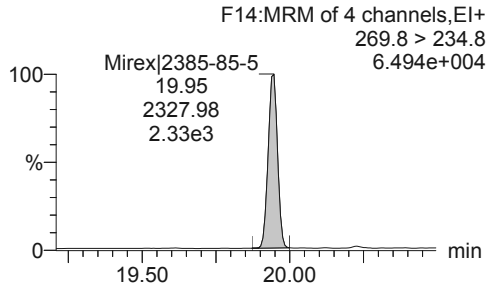
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	52540.984		bb		105.8	5.8	9.752	9.110	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7882.965	52540.984	bb		20.4	2.1	3.616	3.849	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	654.122	7882.965	bb		2.2	10.8	2.895	2.885	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	494.928	7882.965	bb		2.0	0.9	3.003	2.571	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	708.284	7882.965	bb		2.0	1.3	3.330	3.243	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	743.792	7882.965	bb		2.1	4.9	3.180	3.341	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8220.159	52540.984	bb		18.0	-9.9	3.518	3.255	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	1026.709	8220.159	bb		2.2	10.0	3.369	3.396	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	6502.386	52540.984	bb		20.8	3.9	1.865	1.935	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	614.479	6502.386	bb		2.0	0.2	1.536	1.457	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	8723.026	52540.984	bb		19.8	-0.9	3.568	3.735	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	1081.071	8723.026	bb		2.2	8.1	1.305	1.279	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2920.360	52540.984	bb		19.3	-3.6	2.967	2.868	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	353.165	2920.360	bb		2.5	26.6	3.364	4.403	YES
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	6236.929	52540.984	bb		21.5	7.4	2.181	2.054	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	181.666	6236.929	MM	MP	1.7	-13.4	0.633	0.654	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1768.025	52540.984	MM	MP	20.7	3.7	1.007	1.070	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	179.387	1768.025	MM	MP	2.3	17.0	1.026	1.118	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1533.734	52540.984	bb		19.7	-1.7	0.636	0.770	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	158.480	1533.734	MM	MP	2.0	-0.7	0.819	0.560	YES
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2635.602	52540.984	MM	MP	20.3	1.5	2.149	2.177	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	338.810	2635.602	MM	MP	2.1	4.8	2.451	3.551	YES
23	2,4'-DDE|3424-82-6	246 > 176	13.73	3200.340	18850.438	bb		2.0	0.4	2.971	2.978	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	514.647	1533.734	bb		2.2	11.3	2.108	1.930	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	374.570	1533.734	MM	BLC	1.9	-5.2	1.575	1.434	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	310.885	1533.734	bb		2.1	3.1	1.517	1.333	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	77.872	1435.089	bb		1.9	-2.9	1.459	0.900	YES
28	4,4'-DDE|72-55-9	246 > 176	14.61	2663.552	18850.438	bb		2.1	7.5	1.653	1.862	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	3967.367	18850.438	bb		2.1	6.0	2.709	2.722	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	187.236	1435.089	bb		2.2	11.0	1.007	1.099	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1435.089	52540.984	bb		20.0	-0.0	1.566	1.591	NO
32	Endrin|72-20-8	263 > 193	15.47	140.422	1435.089	bb		2.2	12.4	1.231	1.278	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	3031.923	9409.711	bb		2.2	7.9	2.729	2.813	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	322.073	1533.734	bb		2.0	-1.8	1.628	1.451	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	18850.438	52540.984	bb		5.2	3.2	6.924	6.246	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	3890.040	18850.438	bb		2.1	3.8	4.083	3.803	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	110.000	1435.089	bb		2.0	0.6	0.786	0.632	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	90.130	1435.089	bb		1.6	-19.2	6.264	4.954	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	9409.711	52540.984	bb		5.1	1.4	5.701	5.711	NO

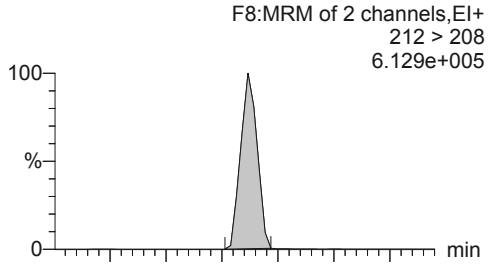
1st 08/08/18
2nd 08/13/18

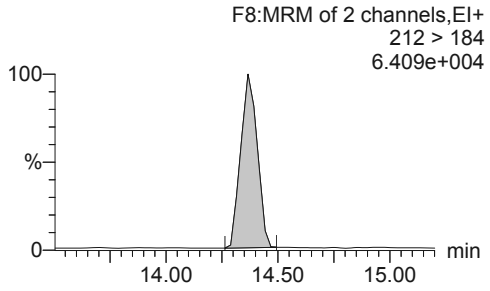
Name: 080818F009, Date: 08-Aug-2018, Time: 10:34:33, Description: OC PEST ICAL 2ng/mL SVM59-32C

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	2789.267	9409.711	bb		2.1	4.7	3.729	3.814	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	1115.284	1435.089	bb		2.1	3.3	1.651	1.624	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	16459.006	52540.984	bb		21.0	4.9	0.917	0.904	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	1689.136	16459.006	bb		2.0	-0.0	0.836	0.791	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1209.029	52540.984	bb		19.1	-4.7	2.077	2.116	NO
45	Endrin ketone|53494-70-5	317 > 101	18.78	141.169	1209.029	bb		2.3	15.3	0.687	0.836	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7621.907	52540.984	bb		4.6	-8.8	2.492	2.326	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	3792.141	7621.907	bb		2.3	15.7	1.678	1.629	NO

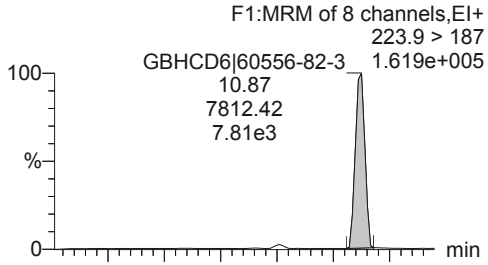
Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

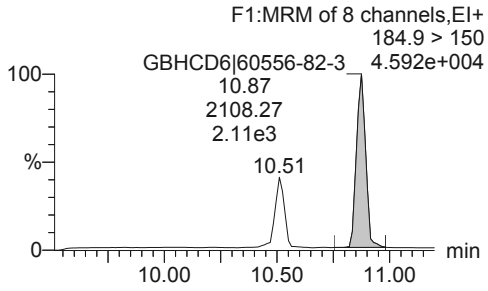
Pyrene-d10|1718-52-1



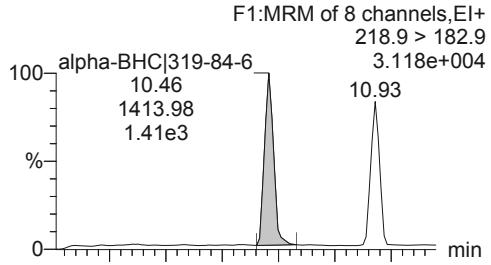


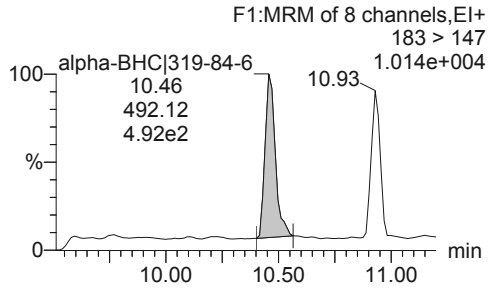
GBHCD6|60556-82-3



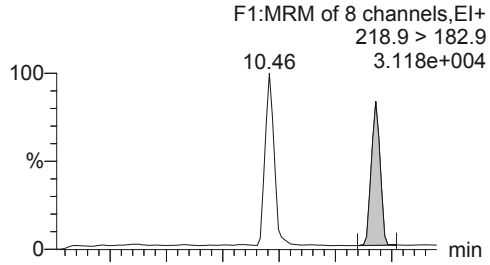


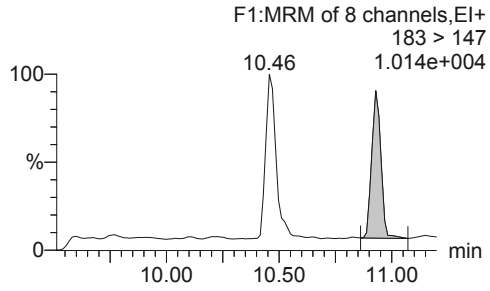
alpha-BHC|319-84-6



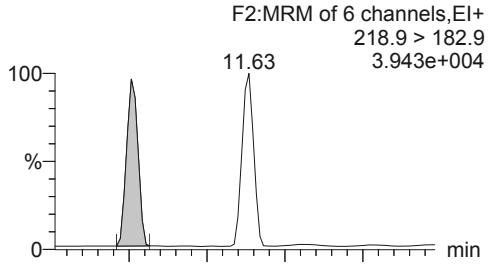


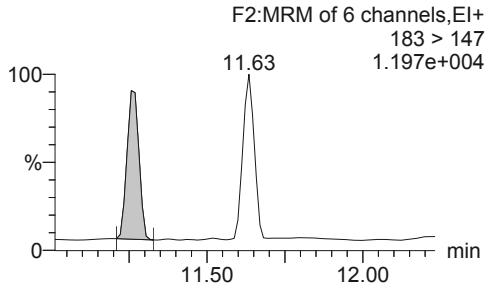
gamma-BHC|58-89-9



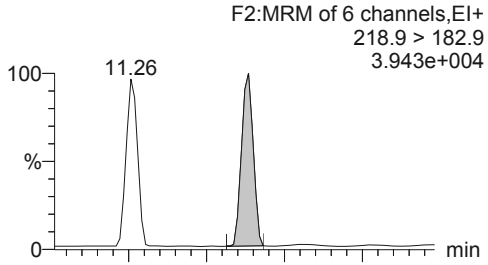


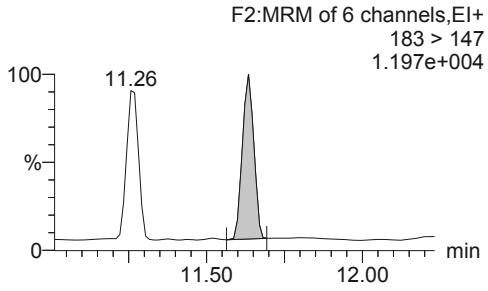
beta-BHC|319-85-7



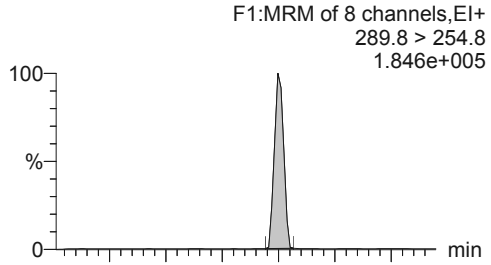


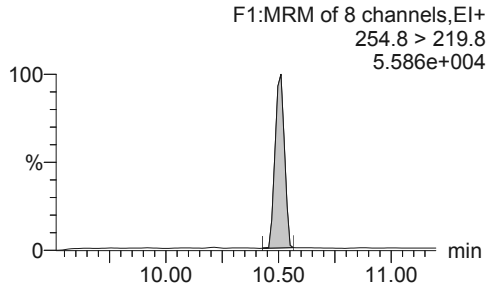
delta-BHC|319-86-8



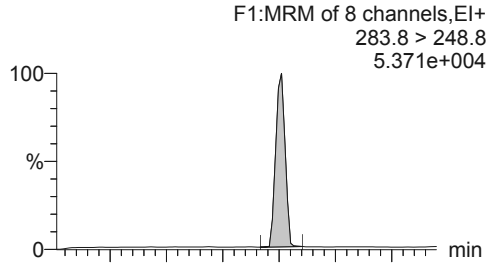


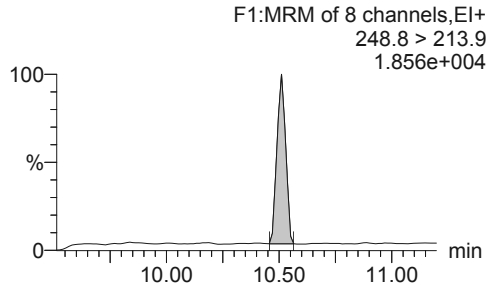
HXCBZ13C6|CASID30730





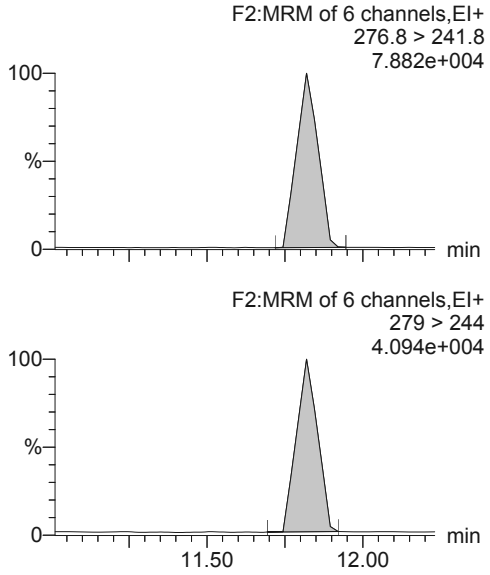
Hexachlorobenzene|118-74-1



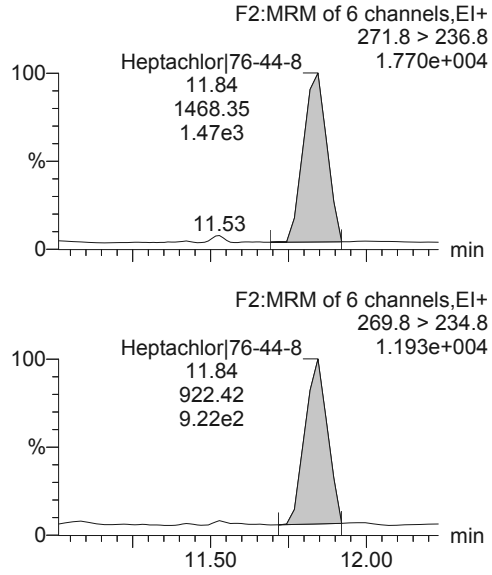


Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

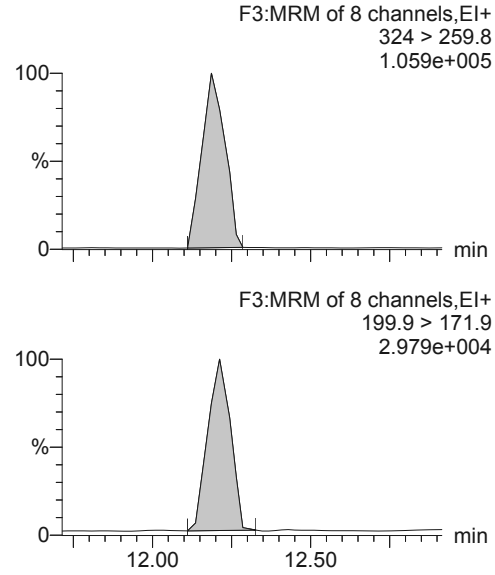
Heptachlor-13C10|CASID30731



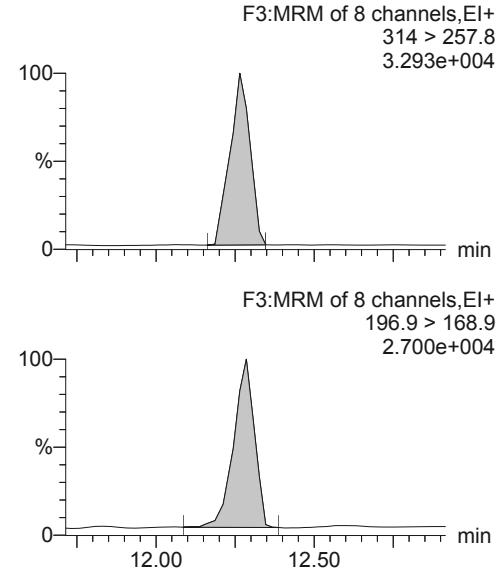
Heptachlor|76-44-8



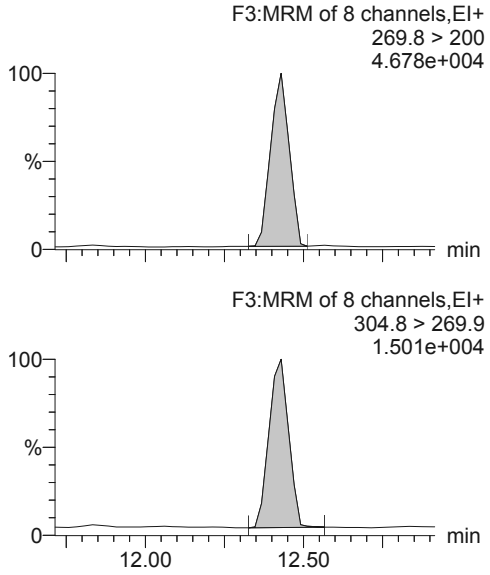
Chlorpyrifos-d10|CASID30732



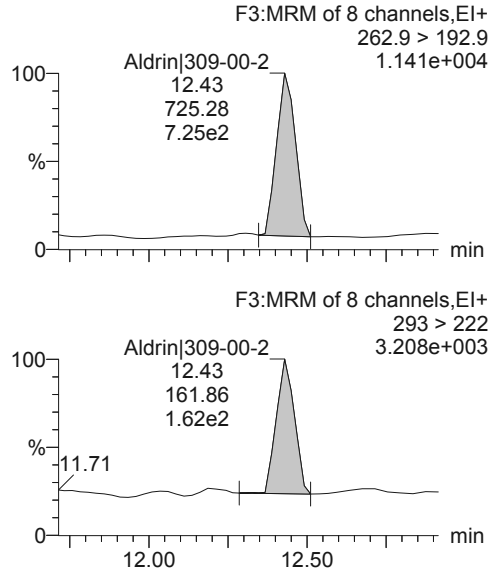
Chlorpyrifos|2921-88-2



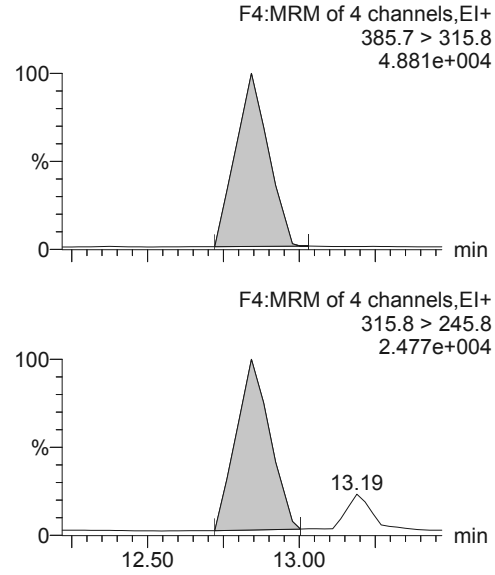
Aldrin-13C12|CASID30733



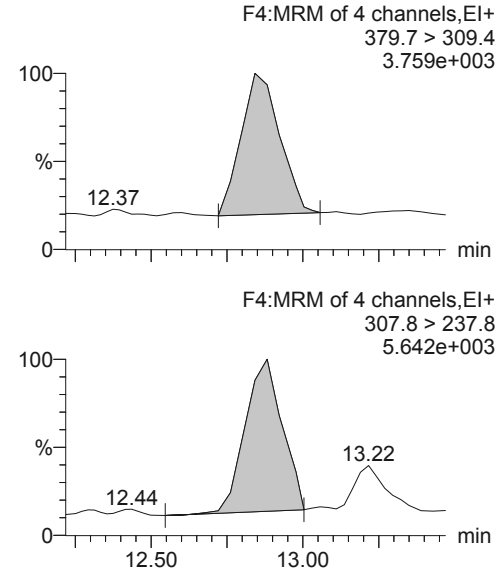
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

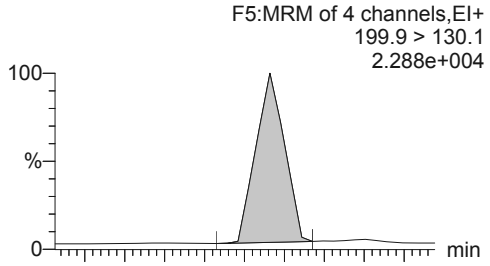


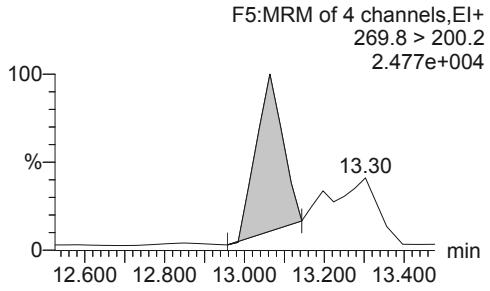
Octachlorostyrene|29082-74-4



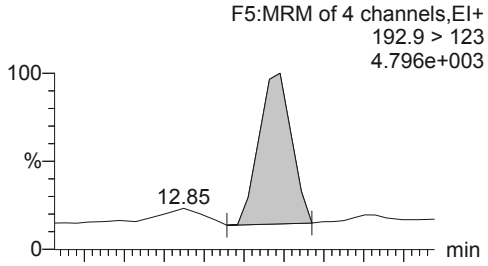
Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

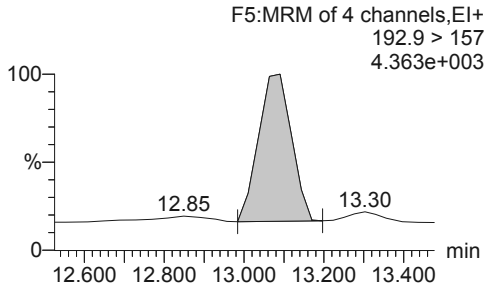
Isodrin-13C12|CASID30735



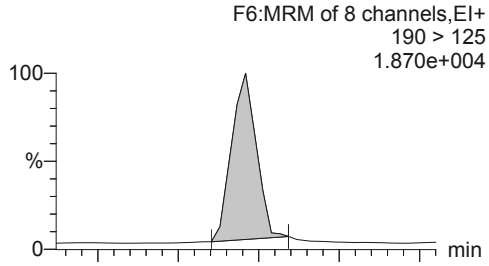


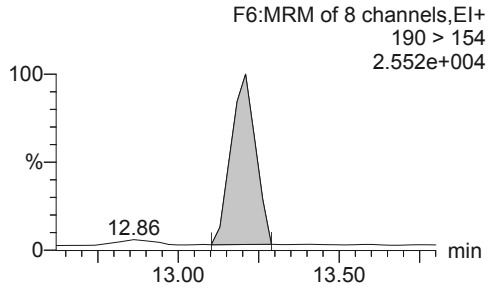
Isodrin|465-73-6



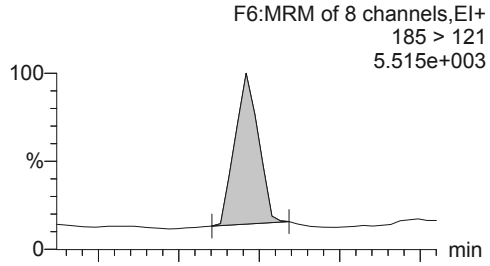


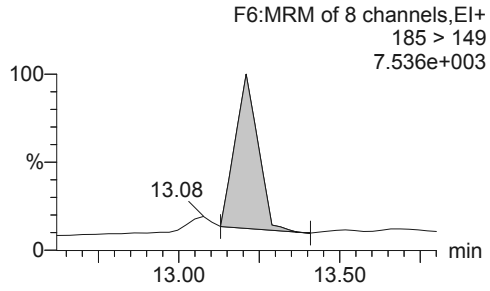
Oxychlordane-13C10|CASID30737



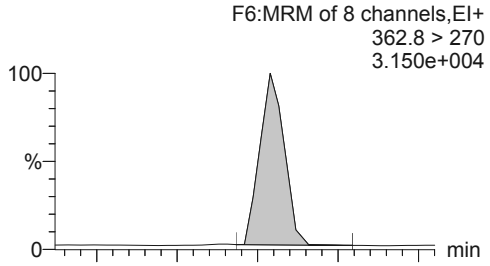


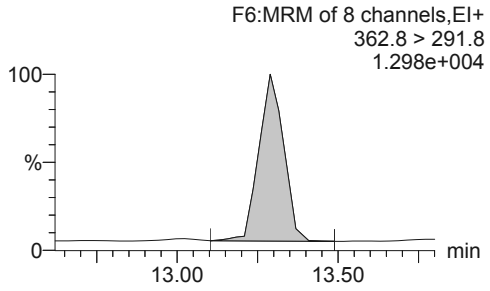
Oxychlordane|27304-13-8



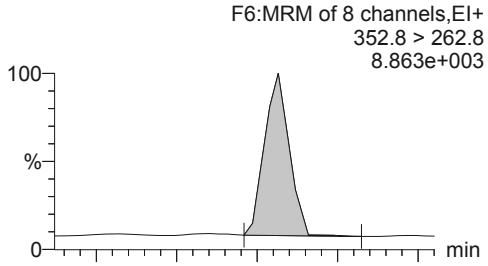


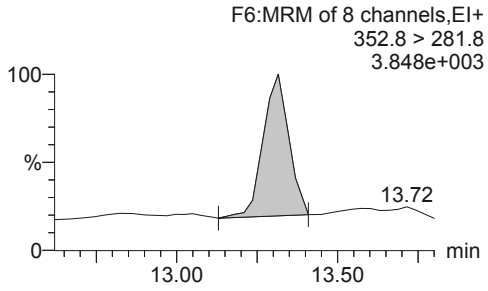
HeptachlrepoxI3C10|CASID30736



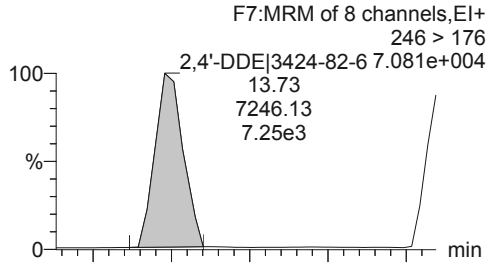


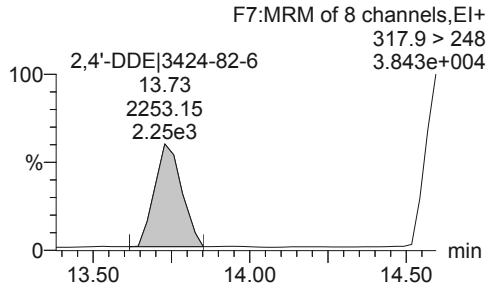
Heptachlor epoxide|1024-57-3



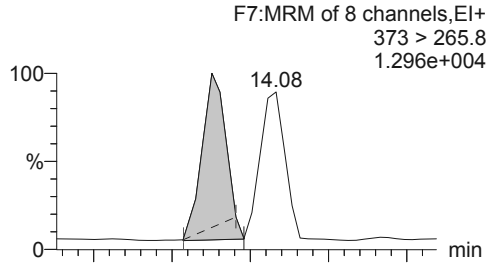


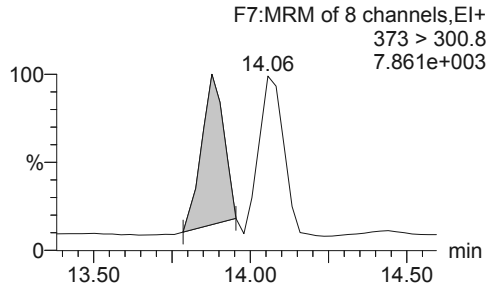
2,4'-DDE|3424-82-6





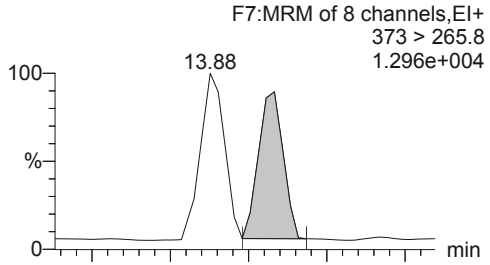
gamma-Chlordane|5566-34-7

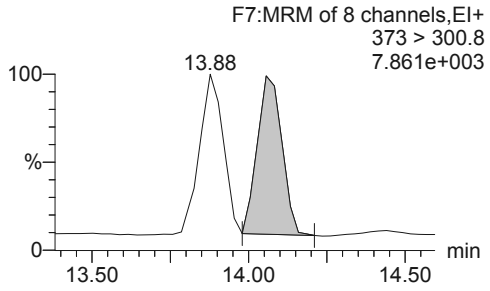




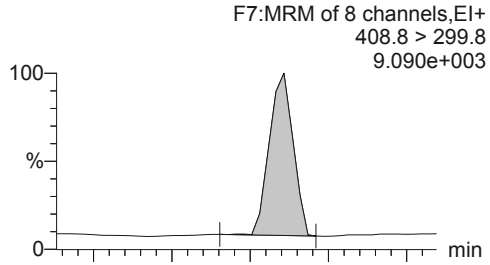
Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

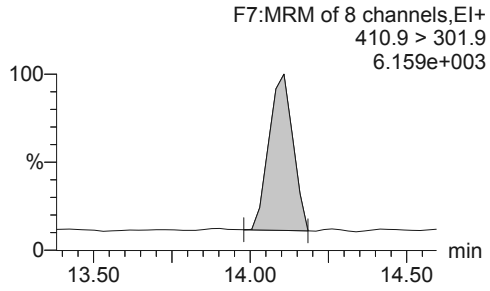
alpha-Chlordane|5103-71-9



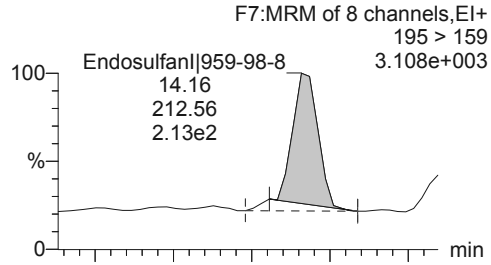


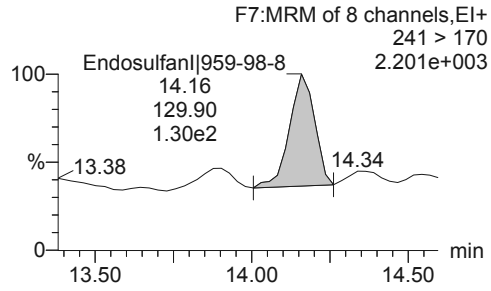
trans-Nonachlor|39765-80-5



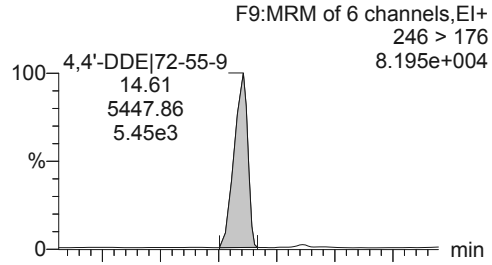


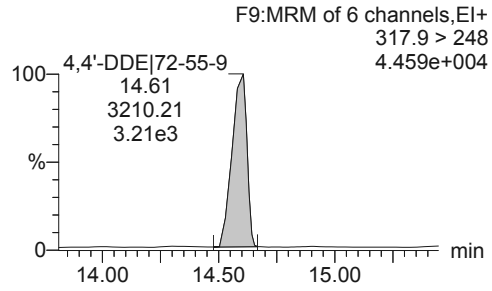
Endosulfanl|959-98-8



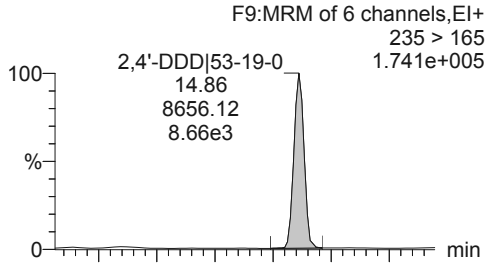


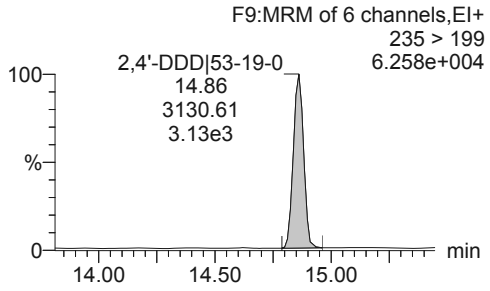
4,4'-DDE|72-55-9



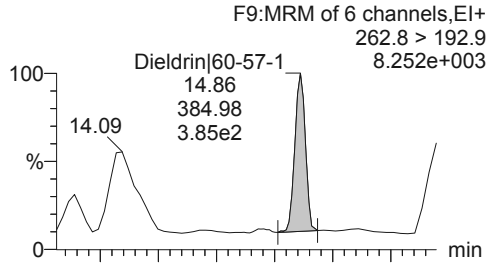


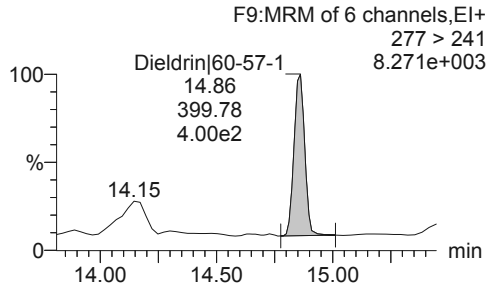
2,4'-DDD|53-19-0



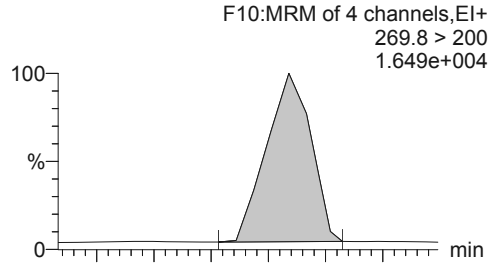


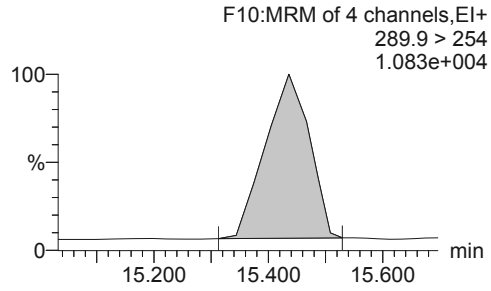
Dieldrin|60-57-1



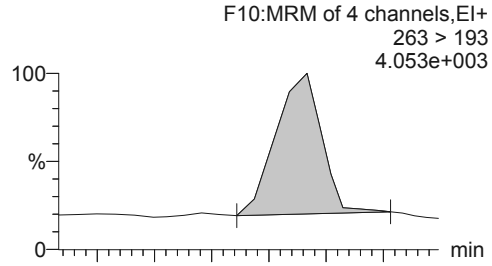


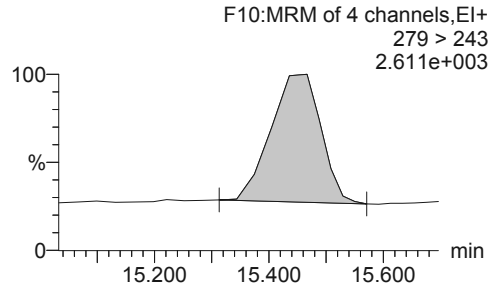
Endrin-13C12|CASID30739





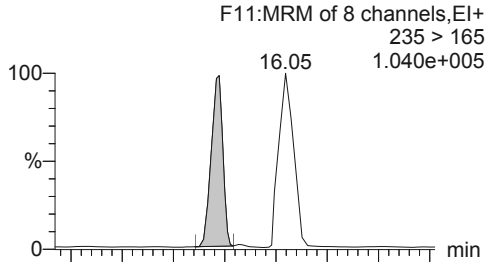
Endrin|72-20-8



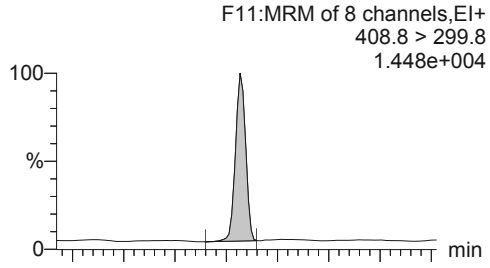


Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

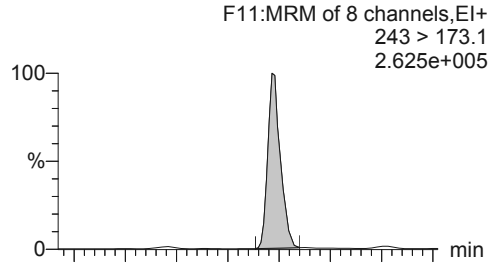
2,4-DDT|789-02-6



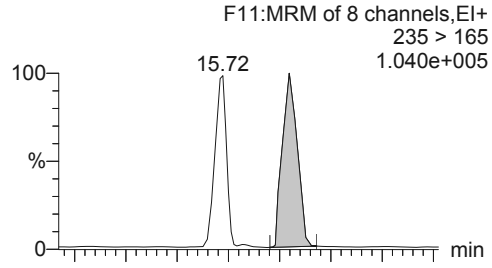
cis-Nonachlor|5103-73-1



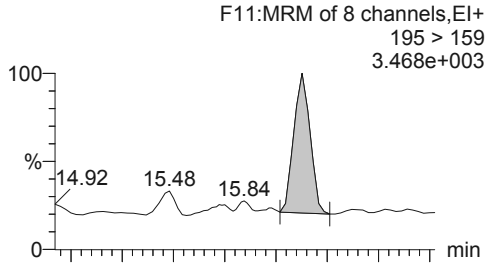
4,4'DDD-d4|93952-20-6



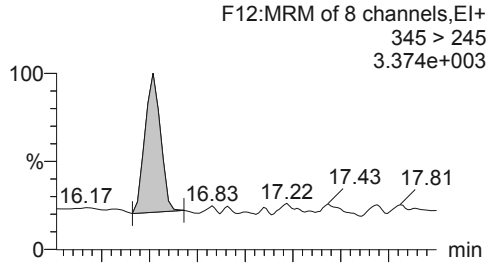
4,4'-DDD|72-54-8



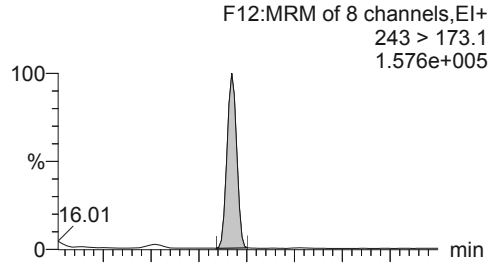
EndosulfanII|33213-65-9



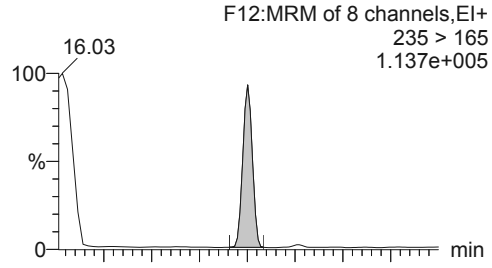
Endrin aldehyde|7421-93-4



4,4'-DDT-d4|93952-18-2

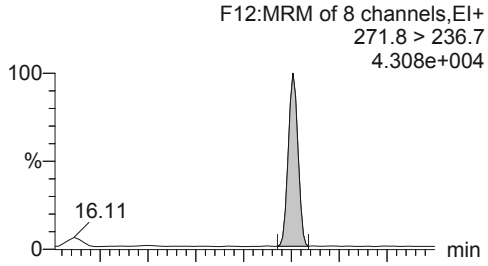


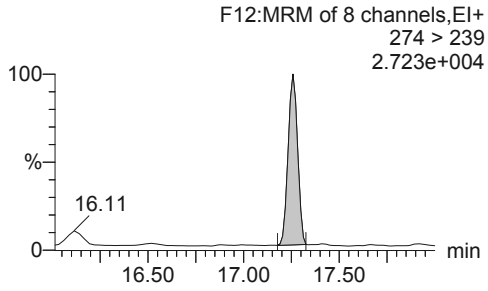
4,4'-DDT|50-29-3



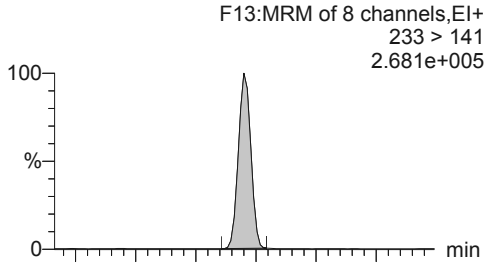
Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

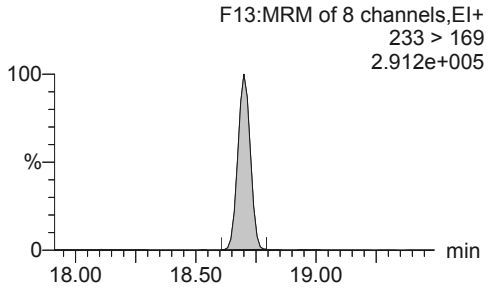
Endosulfan sulfate|1031-07-8



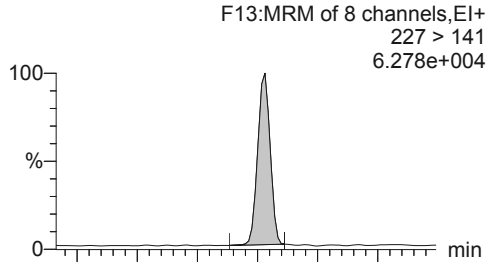


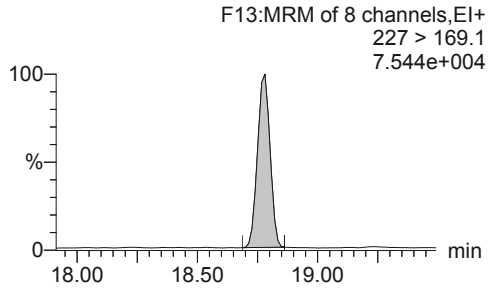
Mxchlord6|106031-79-2



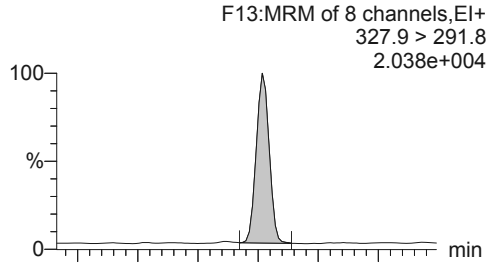


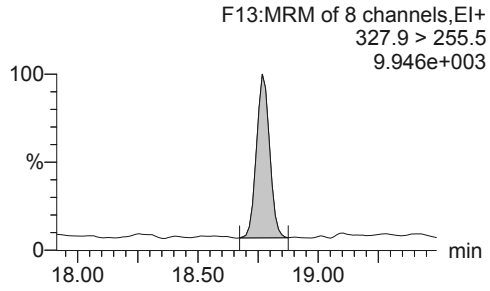
Methoxychlor|72-43-5



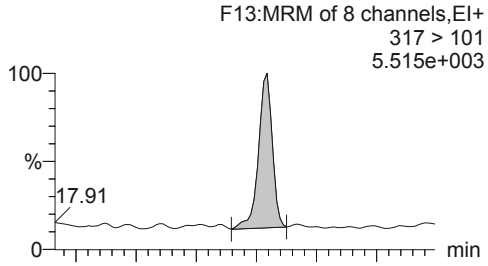


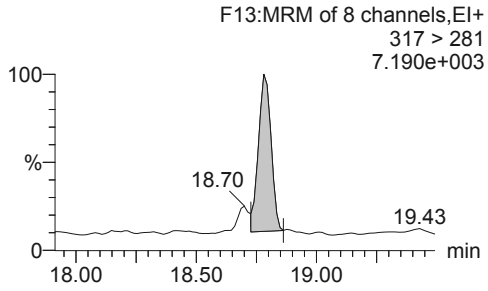
Endrinket13C12|CASID30741



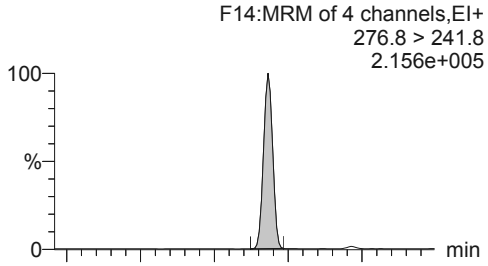


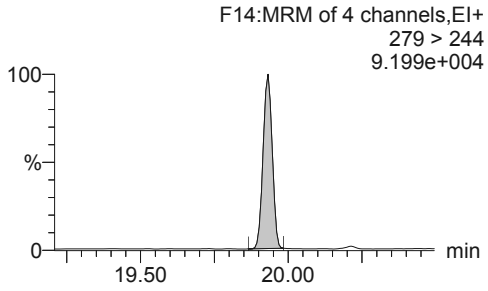
Endrin ketone|53494-70-5



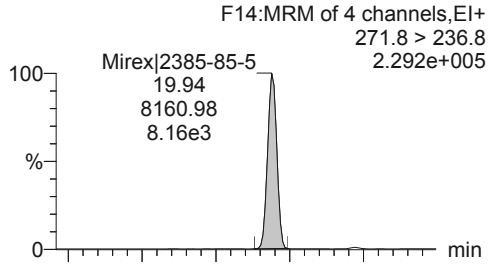


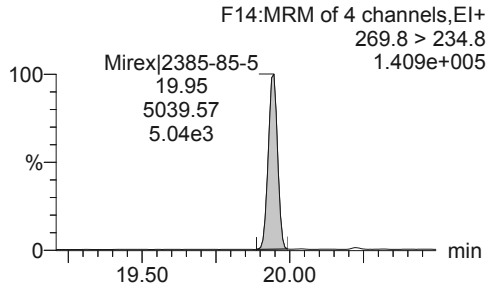
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	52111.254		bb		104.9	4.9	9.752	9.636	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7812.423	52111.254	bb		20.4	2.0	3.616	3.706	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	1413.985	7812.423	bb		4.8	-3.4	2.895	2.873	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	1157.198	7812.423	bb		4.8	-4.8	3.003	2.874	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	1584.442	7812.423	bb		4.6	-8.6	3.330	3.530	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	1670.872	7812.423	bb		4.8	-4.9	3.180	3.520	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8682.792	52111.254	bb		19.2	-4.0	3.518	3.303	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	2522.790	8682.792	bb		5.1	2.3	3.369	3.162	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	6174.219	52111.254	bb		19.9	-0.6	1.865	1.970	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	1468.349	6174.219	bb		5.0	0.8	1.536	1.592	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	8866.546	52111.254	bb		20.3	1.6	3.568	3.688	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	2351.260	8866.546	bb		4.6	-7.5	1.305	1.210	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	3105.039	52111.254	bb		20.7	3.4	2.967	3.024	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	725.276	3105.039	bb		4.9	-2.2	3.364	4.481	YES
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5973.857	52111.254	bb		20.8	3.8	2.181	1.932	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	444.388	5973.857	MM	MP	4.4	-11.5	0.633	0.647	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1819.180	52111.254	MM	MP	21.5	7.6	1.007	1.063	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	385.946	1819.180	MM	MP	4.9	-2.2	1.026	1.107	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1566.410	52111.254	bb		20.2	1.2	0.636	0.720	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	393.973	1566.410	MM	MP	4.8	-3.3	0.819	0.726	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2689.695	52111.254	MM	MP	20.9	4.4	2.149	2.457	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	722.592	2689.695	MM	MP	4.4	-12.4	2.451	2.540	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	7246.134	18406.402	bb		4.7	-6.9	2.971	3.216	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	1092.241	1566.410	MM	BLC	4.6	-7.5	2.108	1.993	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	983.889	1566.410	bb		4.9	-2.5	1.575	1.532	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	734.538	1566.410	bb		4.8	-4.6	1.517	1.525	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	212.555	1418.022	MM	BLC	5.4	7.3	1.459	1.636	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	5447.856	18406.402	bb		4.5	-9.9	1.653	1.697	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	8656.119	18406.402	bb		4.7	-5.2	2.709	2.765	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	384.976	1418.022	bb		4.6	-7.6	1.007	0.963	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1418.022	52111.254	bb		19.9	-0.4	1.566	1.578	NO
32	Endrin|72-20-8	263 > 193	15.47	299.329	1418.022	bb		4.8	-3.0	1.231	1.556	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	6533.759	8989.945	bb		4.9	-2.7	2.729	2.876	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	787.976	1566.410	bb		4.7	-5.9	1.628	1.696	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	18406.402	52111.254	bb		5.1	1.6	6.924	6.525	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	8575.264	18406.402	bb		4.7	-6.2	4.083	4.412	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	252.946	1418.022	bb		4.7	-6.4	0.786	0.848	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	249.983	1418.022	bb		4.5	-9.2	6.264	10.930	YES
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	8989.945	52111.254	bb		4.9	-2.3	5.701	6.080	NO

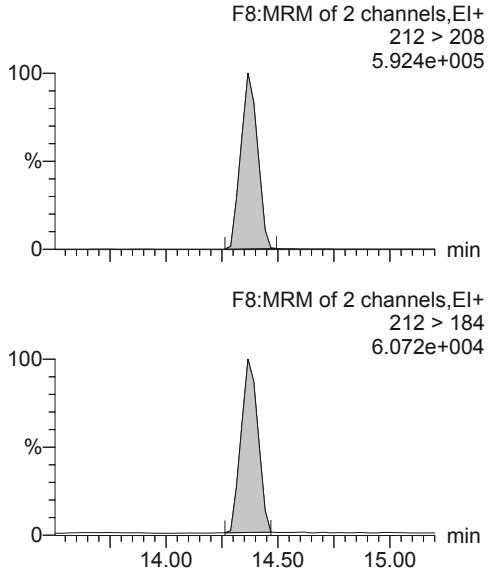
1st 08/08/18
2nd 08/13/18

Name: 080818F010, Date: 08-Aug-2018, Time: 11:01:40, Description: OC PEST ICAL 5ng/mL SVM59-32D

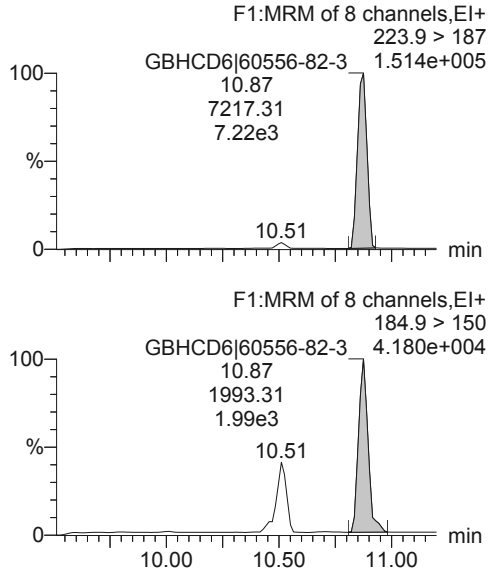
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	6011.495	8989.945	bb		4.7	-5.5	3.729	3.770	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	2471.044	1418.022	bb		4.6	-7.3	1.651	1.637	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	15863.635	52111.254	bb		20.4	1.9	0.917	0.925	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	3641.468	15863.635	bb		4.5	-10.5	0.836	0.815	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1213.722	52111.254	bb		19.3	-3.6	2.077	2.091	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	319.841	1213.722	bb		5.2	4.1	0.687	0.821	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7623.636	52111.254	bb		4.6	-8.0	2.492	2.355	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	8160.982	7623.636	bb		5.0	-0.5	1.678	1.619	NO

Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

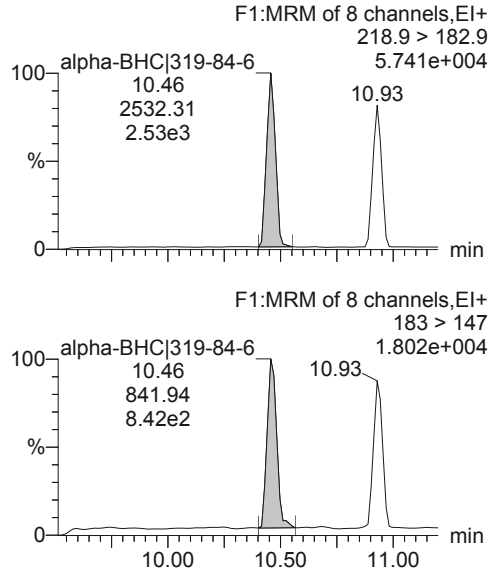
Pyrene-d10|1718-52-1



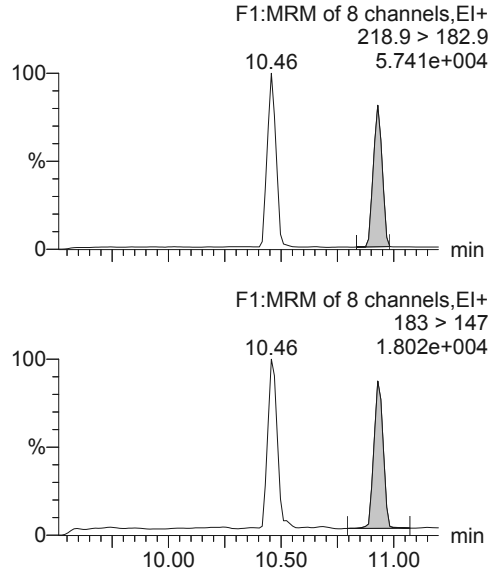
GBHCD6|60556-82-3



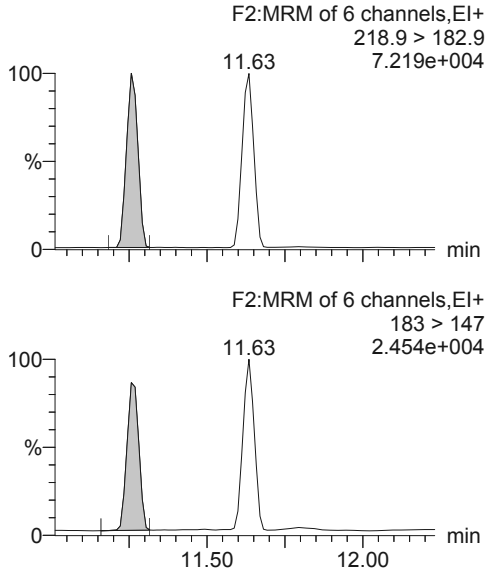
alpha-BHC|319-84-6



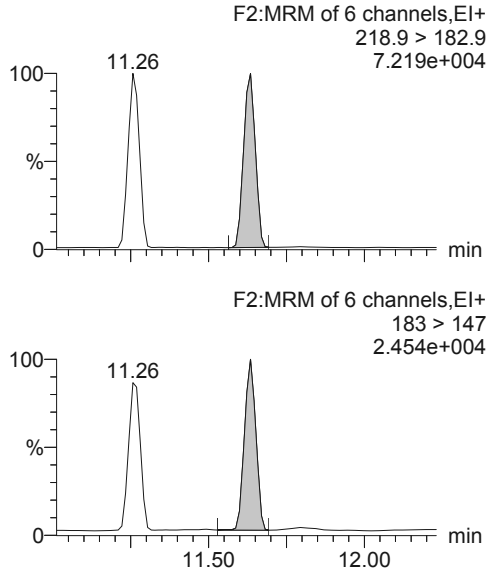
gamma-BHC|58-89-9



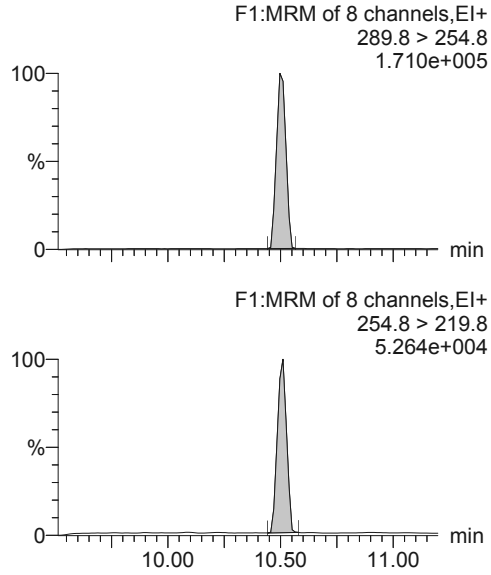
beta-BHC|319-85-7



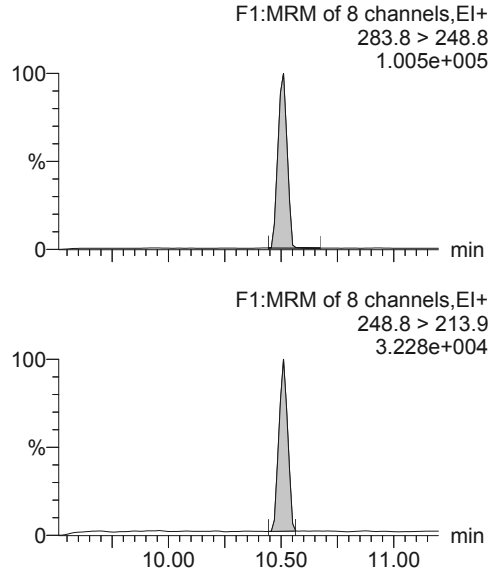
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

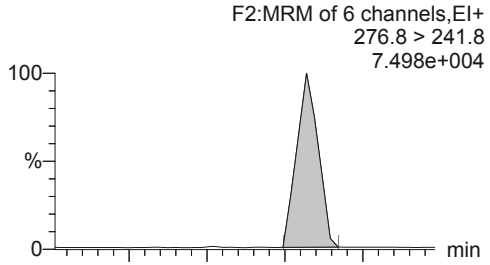


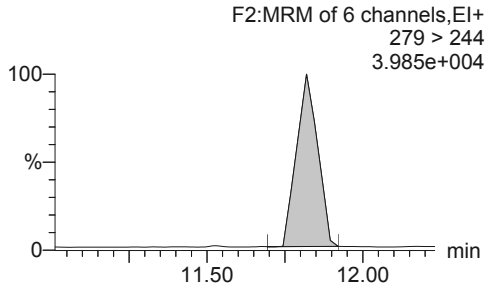
Hexachlorobenzene|118-74-1



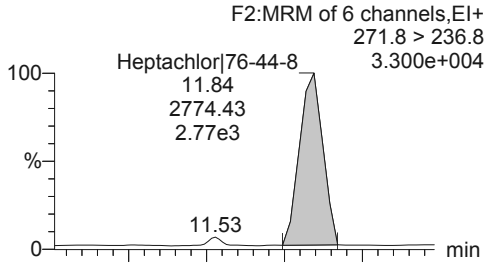
Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

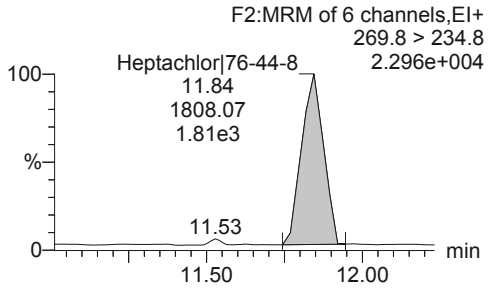
Heptachlor-13C10|CASID30731



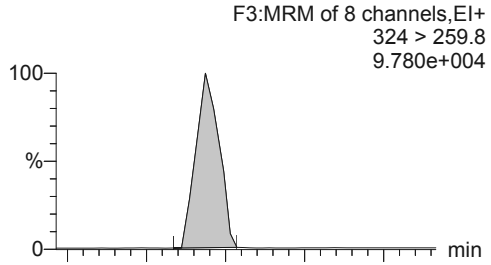


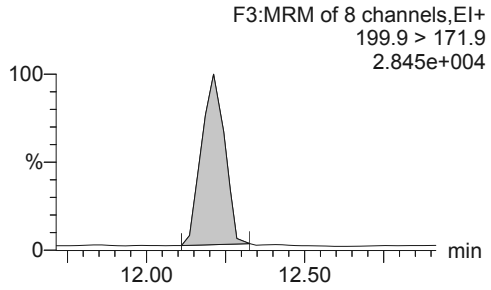
Heptachlor|76-44-8



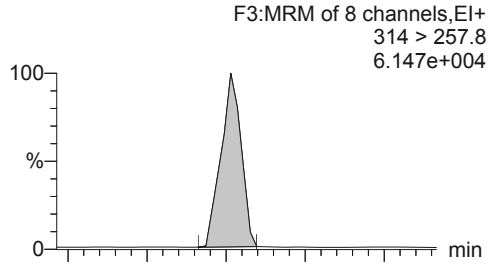


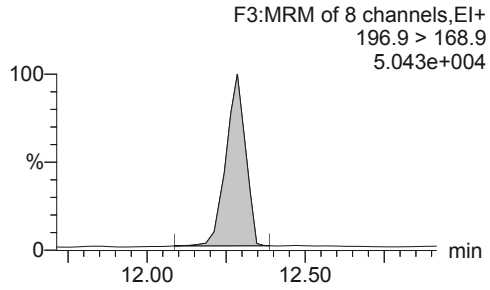
Chlorpyrifos-d10|CASID30732



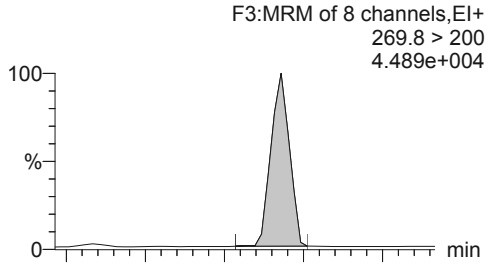


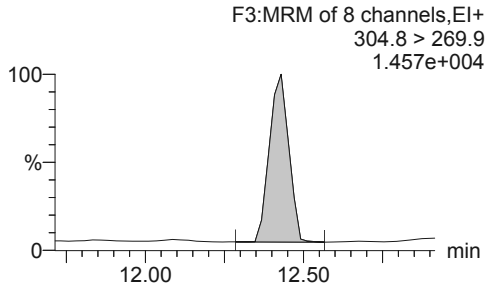
Chlorpyrifos|2921-88-2



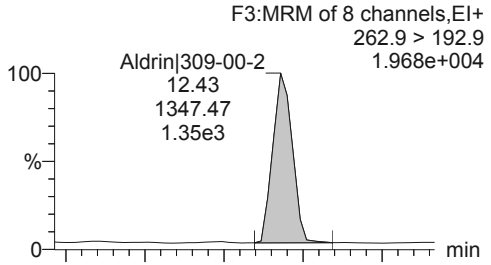


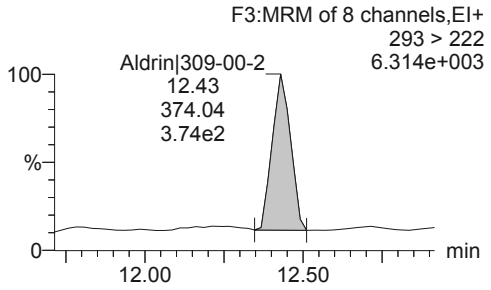
Aldrin-13C12|CASID30733



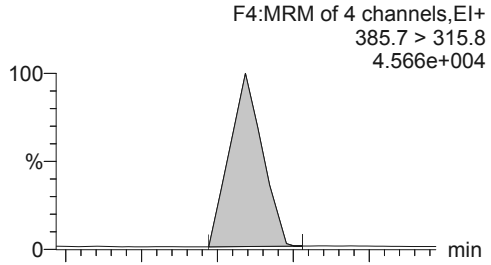


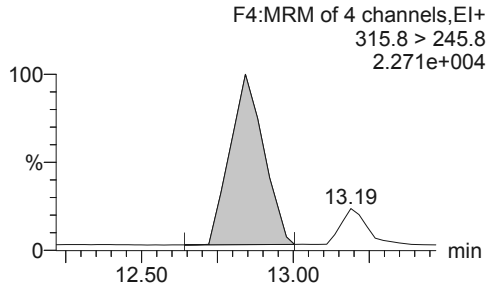
Aldrin|309-00-2



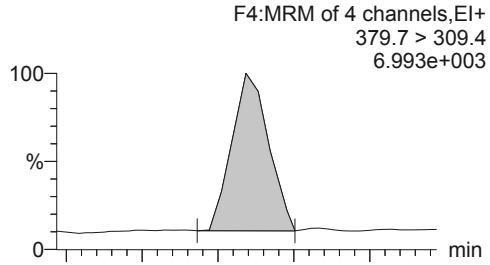


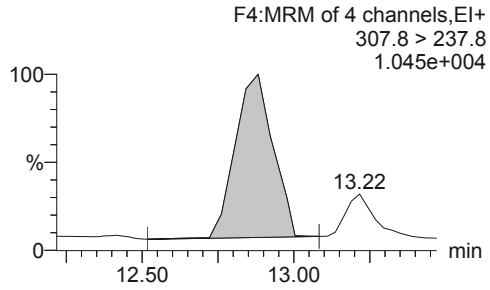
Ocstyrene13C8|CASID30734





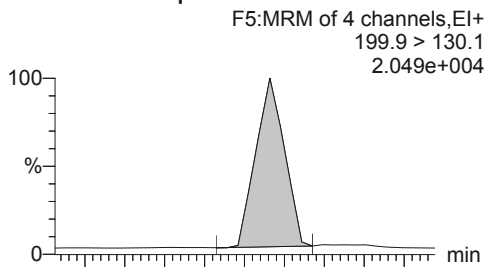
Octachlorostyrene|29082-74-4

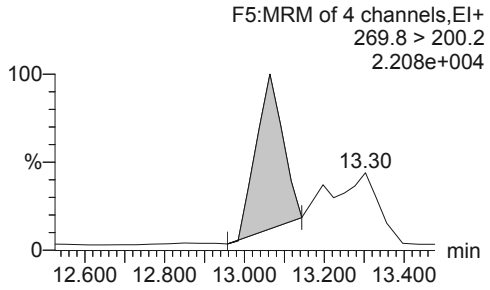




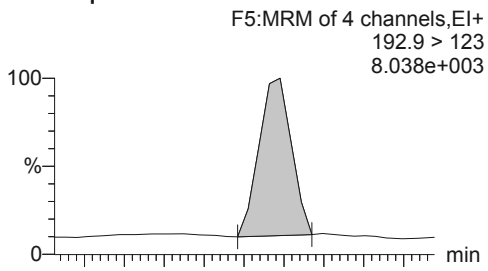
Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

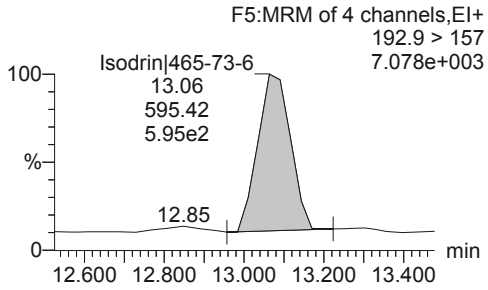
Isodrin-13C12|CASID30735



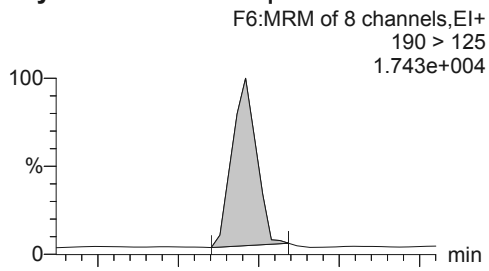


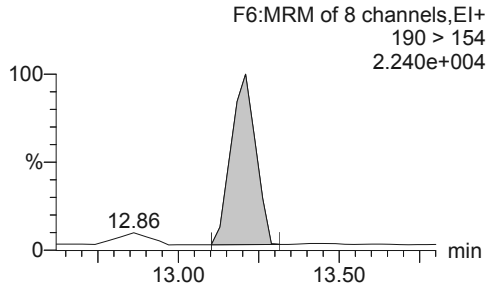
Isodrin|465-73-6



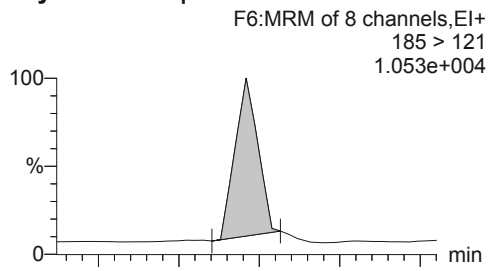


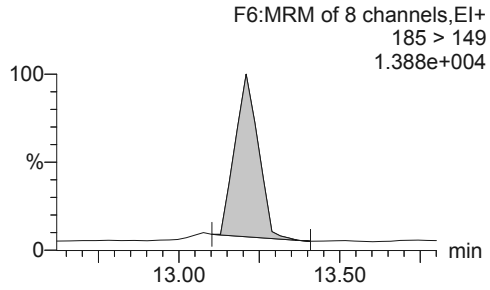
Oxychlordane-13C10|CASID30737



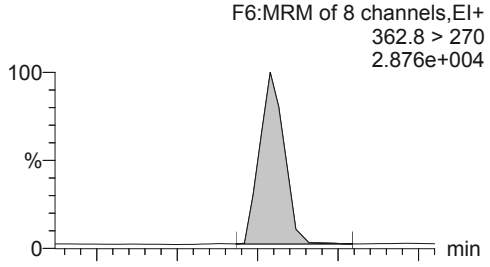


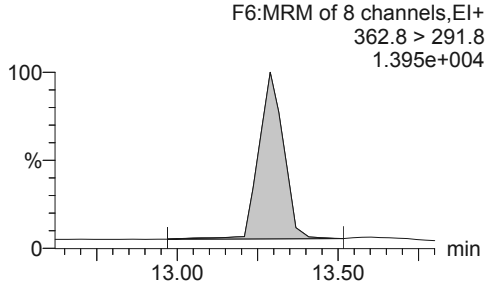
Oxychlordane|27304-13-8



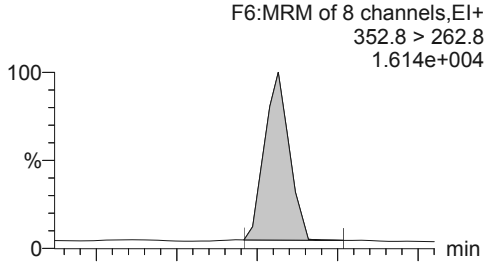


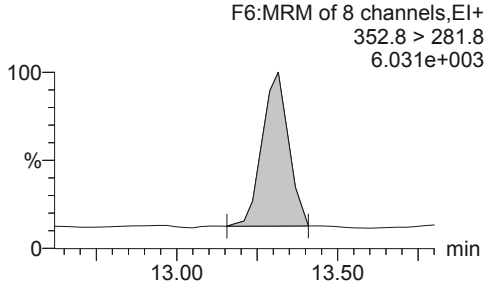
HeptachIrepox13C10|CASID30736



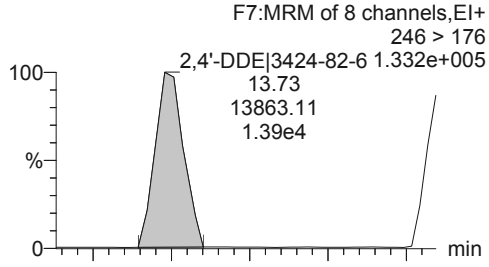


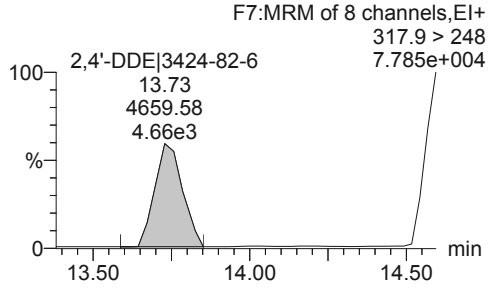
Heptachlor epoxide|1024-57-3



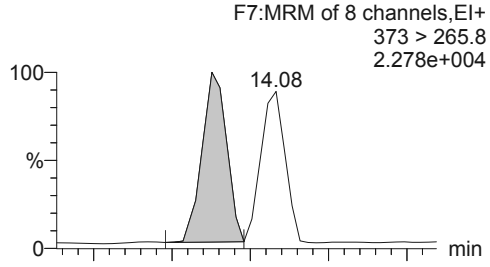


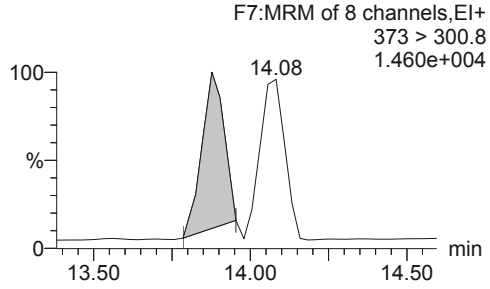
2,4'-DDE|3424-82-6





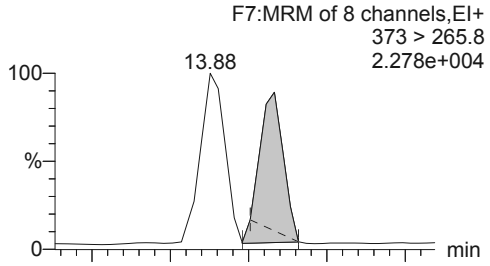
gamma-Chlordane|5566-34-7

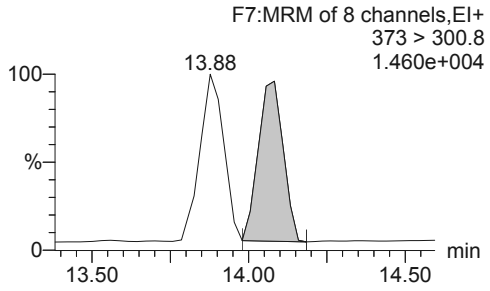




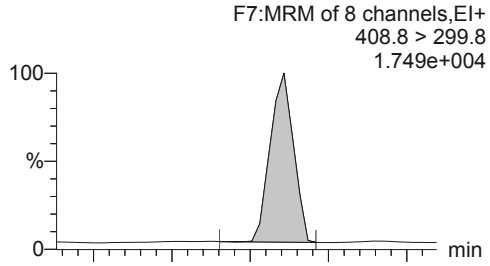
Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

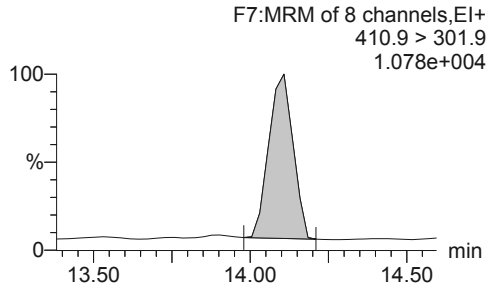
alpha-Chlordane|5103-71-9



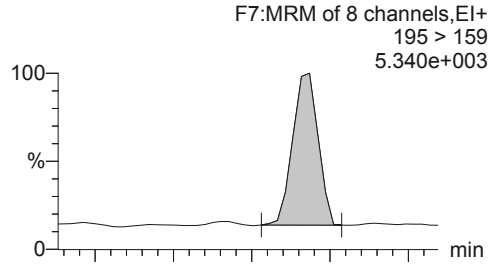


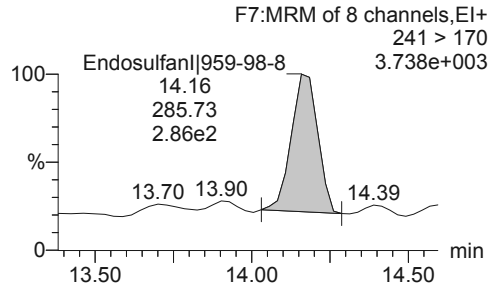
trans-Nonachlor|39765-80-5



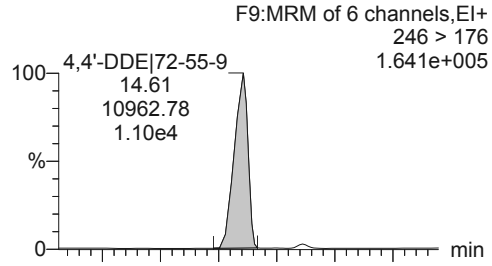


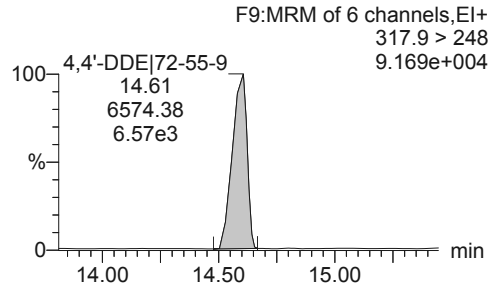
Endosulfanl|959-98-8



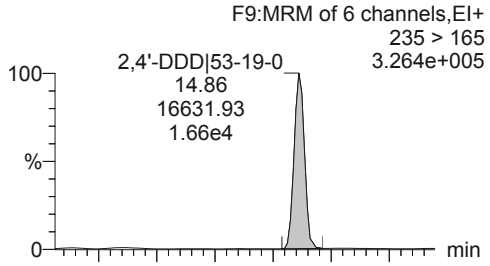


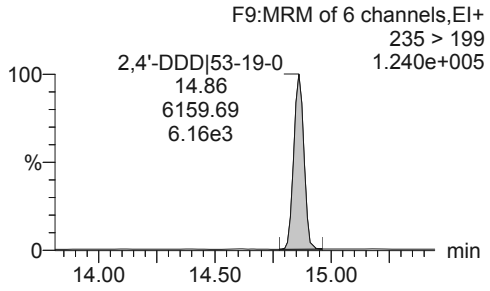
4,4'-DDE|72-55-9



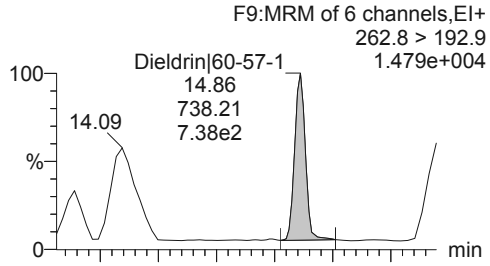


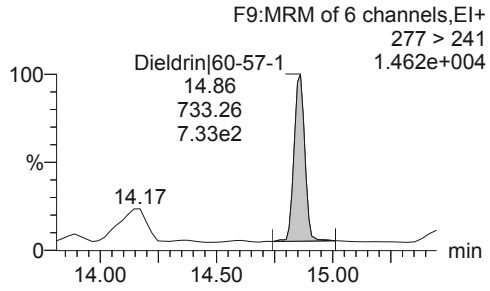
2,4'-DDD|53-19-0



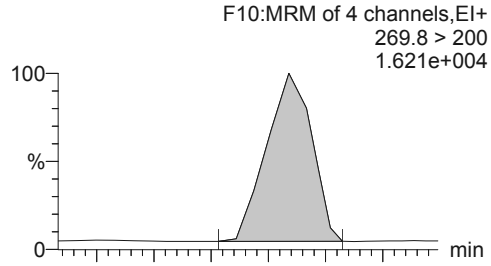


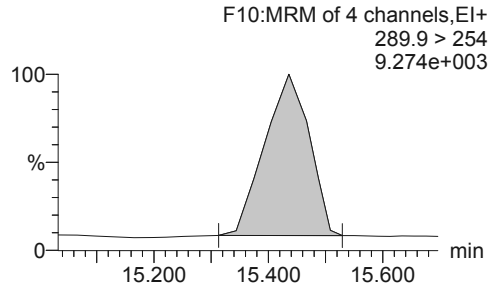
Dieldrin|60-57-1



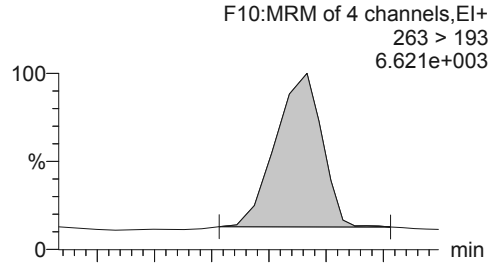


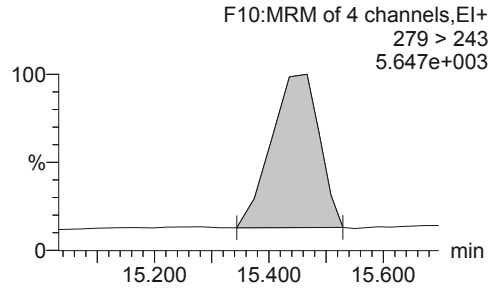
Endrin-13C12|CASID30739





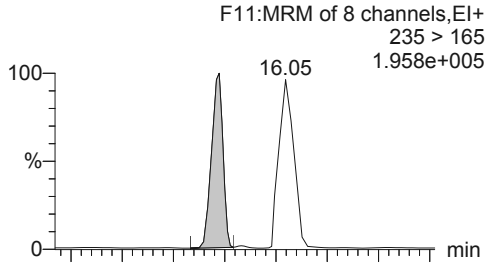
Endrin|72-20-8

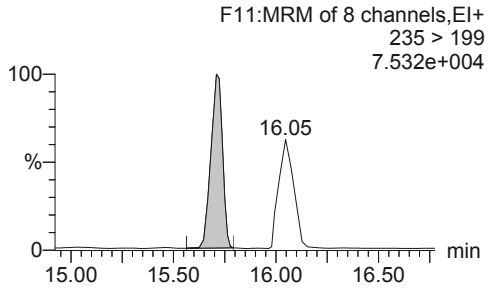




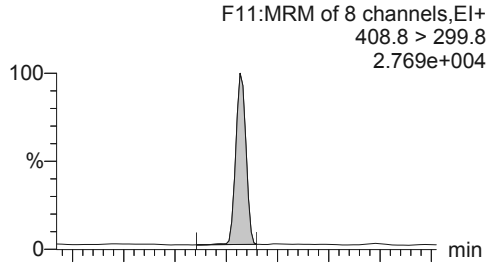
Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

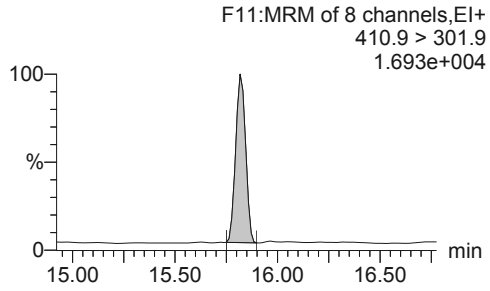
2,4-DDT|789-02-6



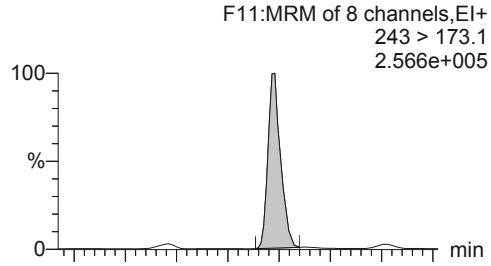


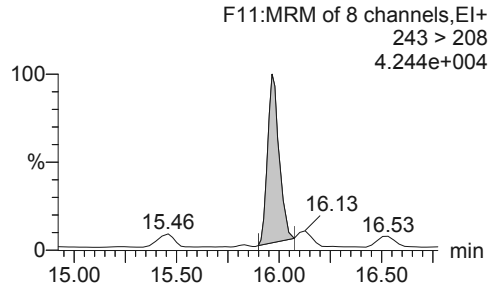
cis-Nonachlor|5103-73-1



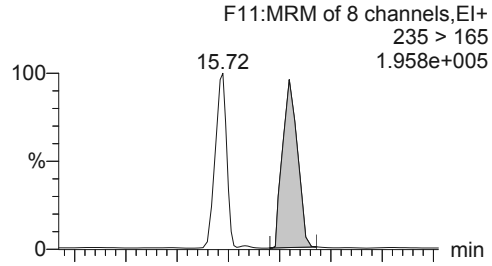


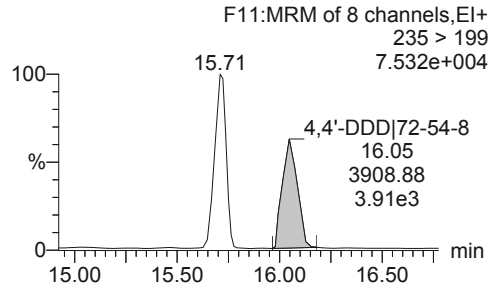
4,4'DDD-d4|93952-20-6



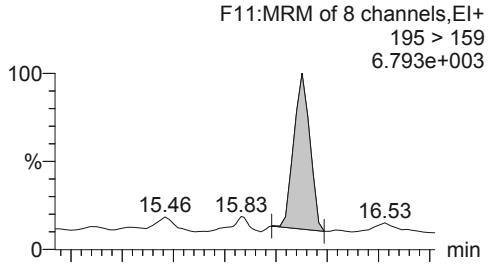


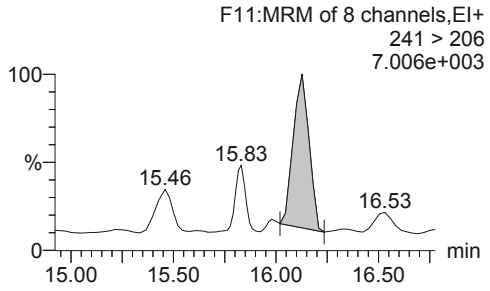
4,4'-DDD|72-54-8



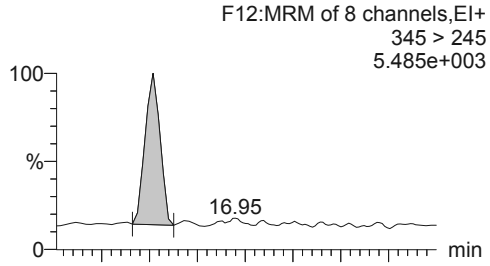


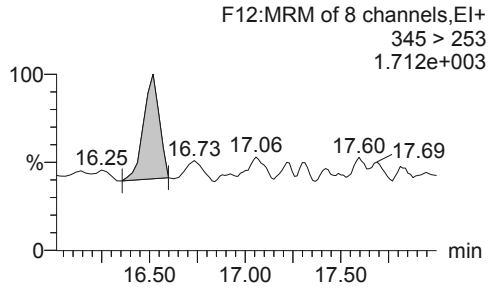
Endosulfanll|33213-65-9



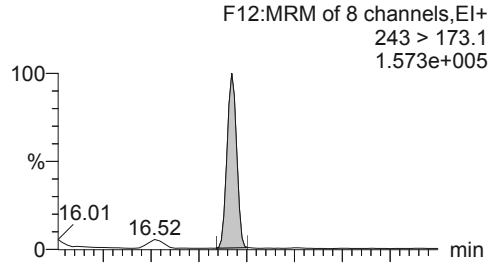


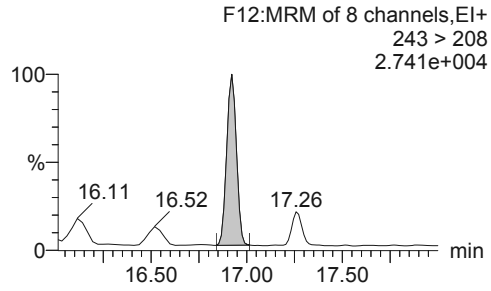
Endrin aldehyde|7421-93-4



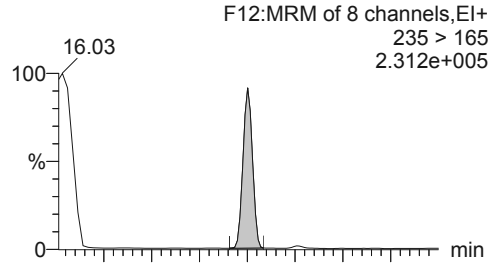


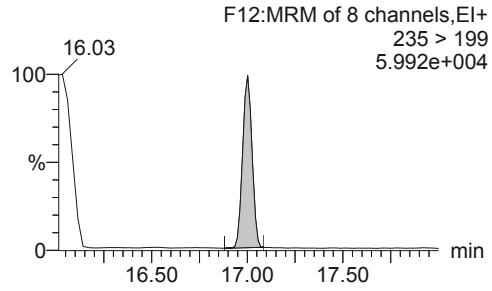
4,4'-DDT-d4|93952-18-2





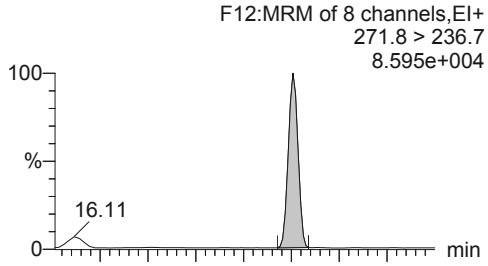
4,4'-DDT|50-29-3

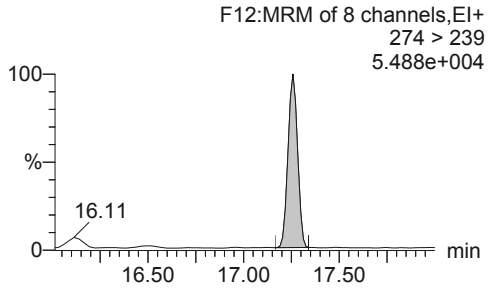




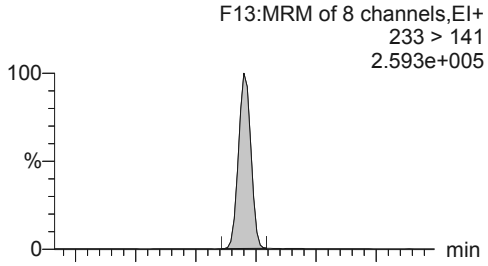
Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

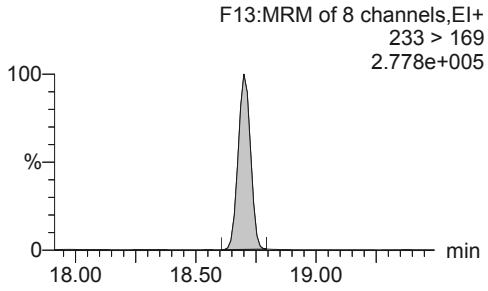
Endosulfan sulfate|1031-07-8



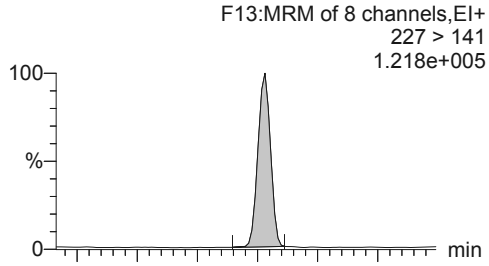


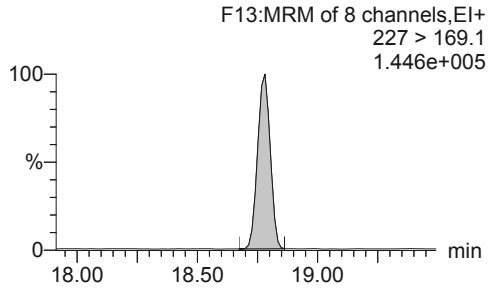
Mxchlord6|106031-79-2



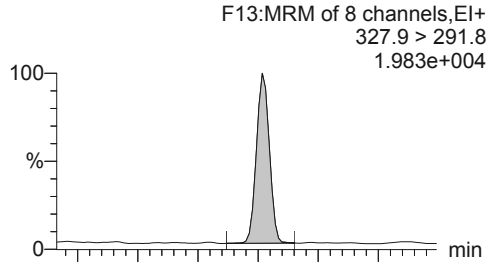


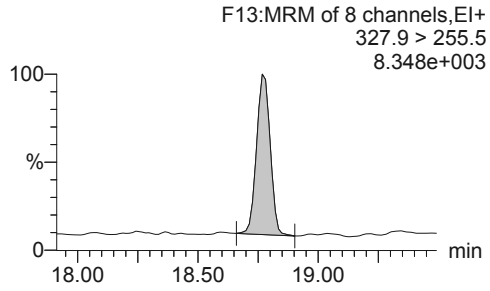
Methoxychlor|72-43-5



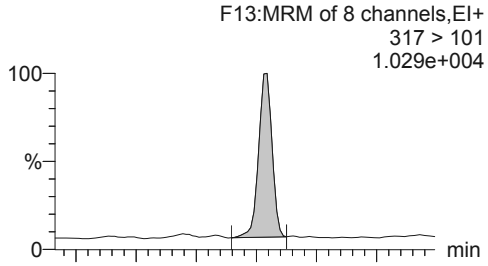


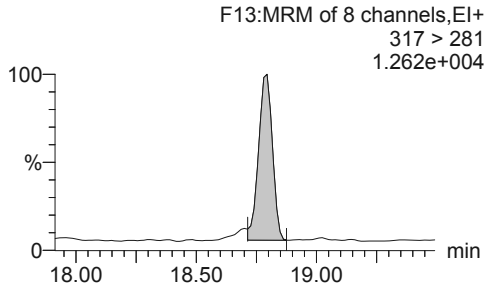
Endrinket13C12|CASID30741



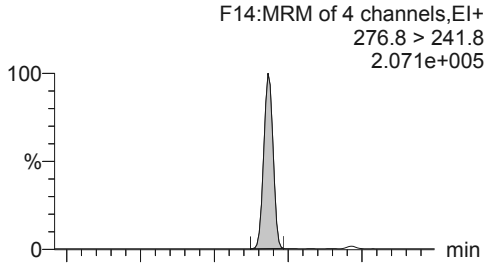


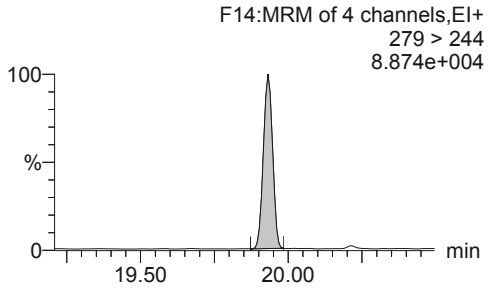
Endrin ketone|53494-70-5



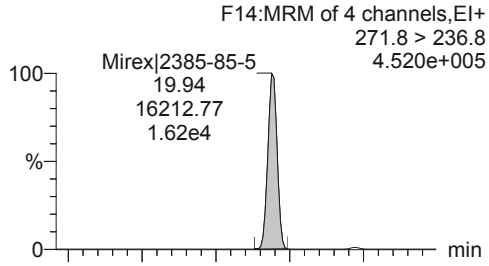


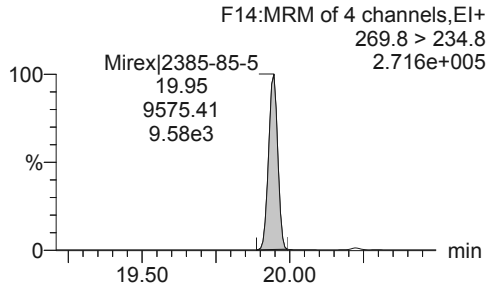
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	50915.992		bb		102.5	2.5	9.752	9.746	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7217.307	50915.992	bb		19.3	-3.5	3.616	3.621	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	2532.312	7217.307	bb		9.4	-6.3	2.895	3.008	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	2093.219	7217.307	bb		9.3	-6.8	3.003	2.906	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	2995.205	7217.307	bb		9.4	-6.4	3.330	3.314	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	3089.655	7217.307	bb		9.5	-4.8	3.180	3.066	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8180.756	50915.992	bb		18.5	-7.4	3.518	3.373	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	4666.142	8180.756	bb		10.0	0.4	3.369	3.303	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5888.975	50915.992	bb		19.4	-2.9	1.865	1.924	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	2774.427	5888.975	bb		10.0	-0.1	1.536	1.535	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	8212.873	50915.992	bb		19.3	-3.7	3.568	3.513	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	4452.439	8212.873	bb		9.5	-5.5	1.305	1.276	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2967.475	50915.992	bb		20.2	1.1	2.967	3.020	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	1347.470	2967.475	bb		9.5	-4.9	3.364	3.602	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5599.097	50915.992	bb		19.9	-0.5	2.181	1.980	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	875.122	5599.097	MM	MP	9.3	-7.1	0.633	0.629	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1622.886	50915.992	MM	MP	19.6	-1.8	1.007	1.081	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	673.431	1622.886	MM	MP	9.6	-4.3	1.026	1.131	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1447.626	50915.992	bb		19.1	-4.3	0.636	0.755	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	767.979	1447.626	MM	MP	10.2	2.0	0.819	0.715	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2465.611	50915.992	MM	MP	19.6	-2.1	2.149	2.121	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	1361.924	2465.611	MM	MP	9.0	-10.0	2.451	2.730	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	13863.107	17935.771	bb		9.1	-8.6	2.971	2.975	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	1989.279	1447.626	bb		9.1	-8.8	2.108	1.878	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	1732.107	1447.626	MM	BLC	9.3	-7.1	1.575	1.424	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	1441.955	1447.626	bb		10.1	1.3	1.517	1.607	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	433.399	1418.386	bb		10.9	9.4	1.459	1.517	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	10962.783	17935.771	bb		9.3	-7.0	1.653	1.668	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	16631.930	17935.771	bb		9.3	-6.6	2.709	2.700	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	738.210	1418.386	bb		8.9	-11.4	1.007	1.007	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1418.386	50915.992	bb		20.4	2.0	1.566	1.848	NO
32	Endrin|72-20-8	263 > 193	15.47	541.581	1418.386	bb		8.8	-12.3	1.231	1.136	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	12380.278	8905.460	bb		9.3	-6.9	2.729	2.571	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	1535.501	1447.626	bb		9.9	-0.8	1.628	1.695	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.98	17935.771	50915.992	bb		5.1	1.3	6.924	6.874	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	15718.260	17935.771	bb		8.8	-11.8	4.083	4.021	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	545.528	1418.386	bb		10.1	0.9	0.786	1.006	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	427.443	1418.386	bb		7.8	-22.4	6.264	4.435	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	8905.460	50915.992	bb		5.0	-1.0	5.701	5.783	NO

1st 08/08/18
2nd 08/13/18

Name: 080818F011, Date: 08-Aug-2018, Time: 11:29:26, Description: OC PEST ICAL 10ng/mL SVM59-32E

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	11958.082	8905.460	bb		9.5	-5.2	3.729	3.606	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	4972.292	1418.386	bb		9.3	-6.8	1.651	1.599	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	15249.327	50915.992	bb		20.1	0.3	0.917	0.935	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	7194.750	15249.327	bb		9.2	-8.1	0.836	0.833	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1180.457	50915.992	bb		19.2	-4.0	2.077	2.382	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	615.107	1180.457	bb		10.3	2.9	0.687	0.779	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7451.158	50915.992	bb		4.6	-8.0	2.492	2.361	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	16212.771	7451.158	bb		10.1	1.2	1.678	1.693	NO

1st 08/09/18
2nd 08/13/18

Validation Report

Data File: J:\MS21\Data\080818\080818F012.D\
Lab ID: KQ1810799-01
RunType: CCV
Matrix: Water

Date Acquired: 8/8/18 11:56:41
Batch ID: 601812
Analysis Method: ALS SOP/OC_Pest

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards	X	
Above Highest ICAL Level	X	

Primary Review: _____

Printed: 8/9/18 11:08
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

Secondary Review: _____

1st 08/09/18
2nd 08/13/18

Quantitation Report

Data File:	J:\MS21\Data\080818\080818F012.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/8/18 11:56:41	**Vial:**	1
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ1810799-01	**Raw Units:**	ng/mL

Bottle ID:		**Tier:**	IV	**Matrix:**	Water
Prod Code:	OC_Pest	**Collect Date:**	4/6/18	**Receive Date:**	4/9/18

Analysis Lot:	601812	**Prep Lot:**		**Report Group:**	KQ1810799
Analysis	ALS SOP	**Prep Method:**			
		Prep Date:			

Title:	Organochlorine Pesticides by GC/MS/MS	**Calibration ID:**	KC1800383
		Report List ID:	18469

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Pyrene-d10	14.366		46753.8	94.1155	OK

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
2,4'-DDD	14.861		30630.3	19.2697	Y
2,4'-DDE	13.7289		25629.3	18.9237	Y
2,4'-DDT	15.7232		23073.6	19.3793	Y
4,4'-DDD	16.0465		30012	18.8567	Y
4,4'-DDE	14.6063		20358.2	19.3393	Y
4,4'-DDT	17.0021		21980.8	19.4708	Y
Aldrin	12.4292		2430.24	18.7155	Y
alpha-BHC	10.4569		4634.24	17.74	Y
alpha-Chlordane	14.0821		3495.8	21.0437	Y
beta-BHC	11.2569		5834.61	18.8608	Y
Chlorpyrifos	12.2648		7949.31	18.2001	Y
cis-Nonachlor	15.8175		2955.33	21.445	Y
delta-BHC	11.6344		6095.68	19.4404	Y
Dieldrin	14.861		1375.2	19.1882	Y
Endosulfan I	14.1588		702.55	20.6289	Y
Endosulfan II	16.1275		899.415	19.3563	Y
Endosulfan Sulfate	17.2582		9250.7	20.1749	Y
Endrin	15.4665		1084.16	20.4255	Y
Endrin Aldehyde	16.5183		1008.59	21.291	Y
Endrin Ketone	18.7945		1053.26	18.7347	Y
gamma-BHC (Lindane)	10.9285		4024.24	18.5461	Y
gamma-Chlordane	13.8772		3862.23	19.8794	Y
Heptachlor	11.8448		4865.26	19.1755	Y
Heptachlor Epoxide	13.3157		2705.07	19.3691	Y

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Printed: 8/9/18 11:08
\\alprews001\starlims$\LIMSReps\QuantValidation.rpt

1st 08/09/18

2nd 08/13/18

Data File:	J:\MS21\Data\080818\080818F012.D\	**Instrument:**	K-MSMS-01
Acqu Date:	8/8/18 11:56:41	**Vial:**	1
Run Type:	CCV	**Dilution:**	1
Lab ID:	KQ1810799-01	**Raw Units:**	ng/mL

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Hexachlorobenzene	10.5108		8863.21	19.2197	Y
Isodrin	13.0903		1162.95	18.4769	Y
Methoxychlor	18.781		12828.6	19.2072	Y
Mirex	19.9389		29393.2	18.6184	Y
Octachlorostyrene	12.8419		1612.13	17.9215	Y
Oxychlordane	13.2093		1312.53	19.5735	Y
trans-Nonachlor	14.1076		2534.32	20.0008	Y

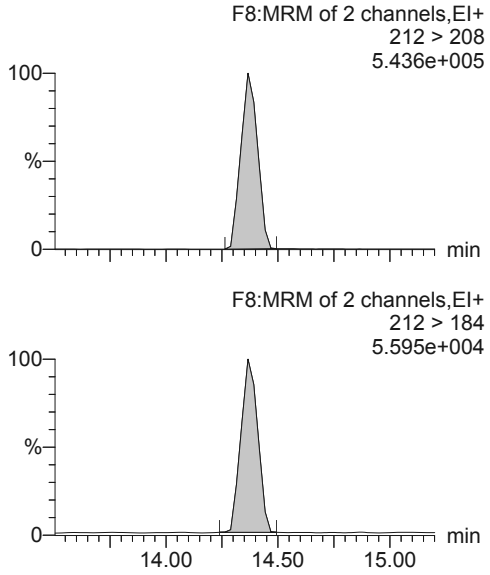
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

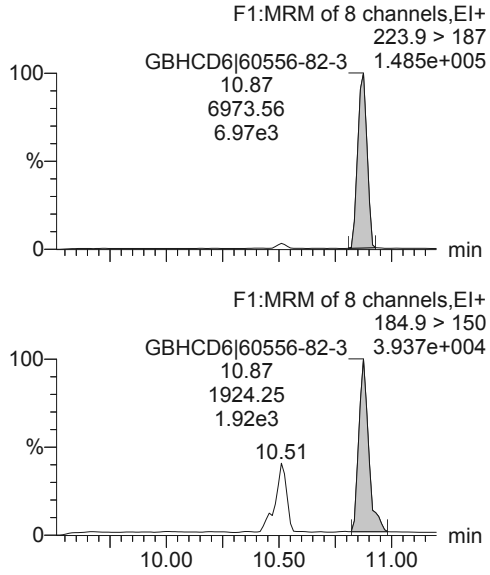
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

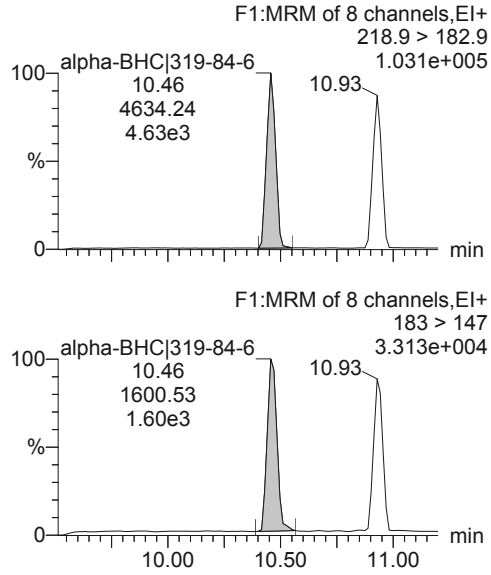
Pyrene-d10|1718-52-1



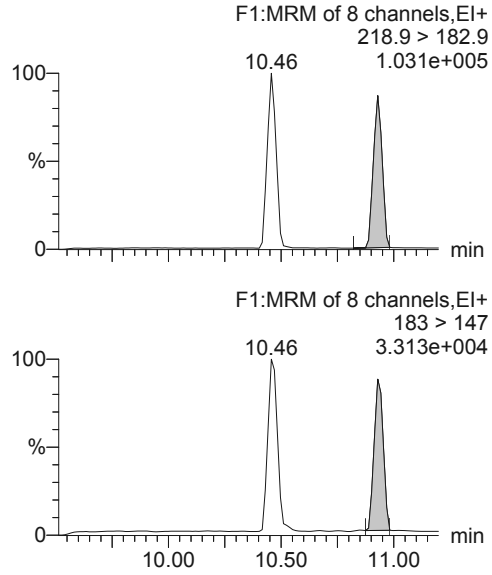
GBHCD6|60556-82-3



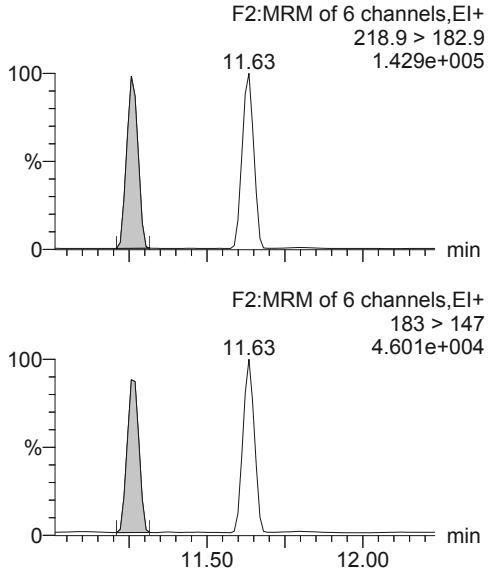
alpha-BHC|319-84-6



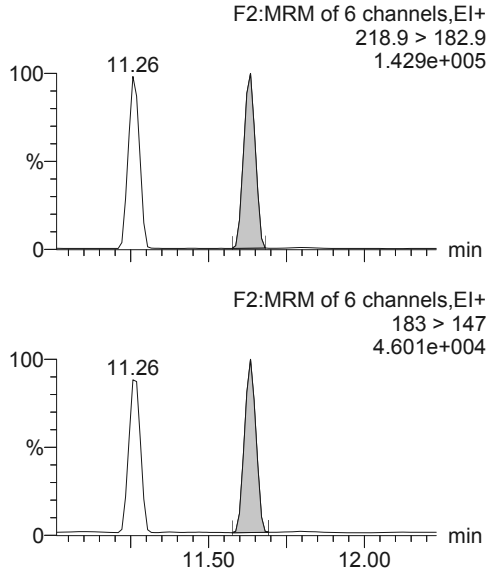
gamma-BHC|58-89-9



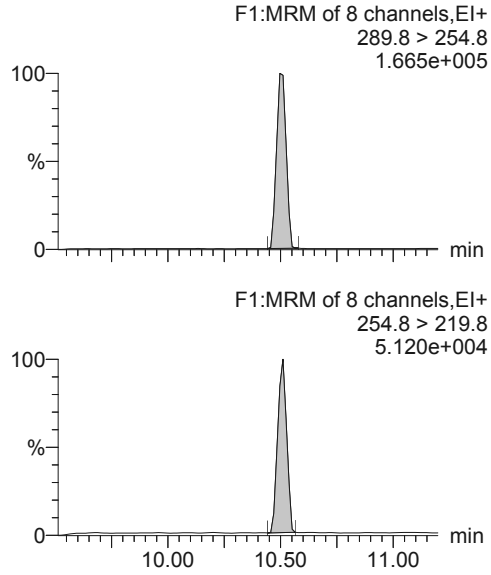
beta-BHC|319-85-7



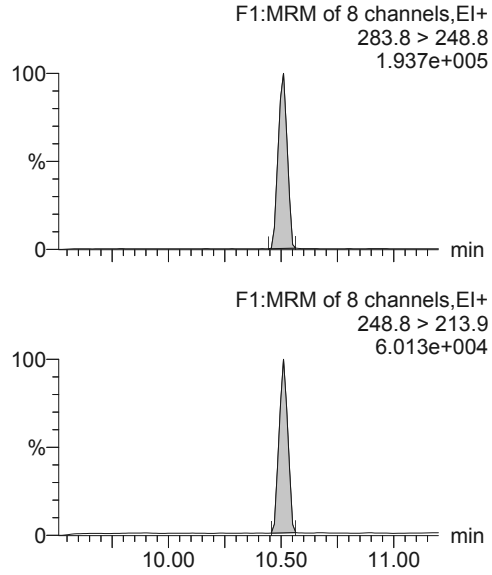
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

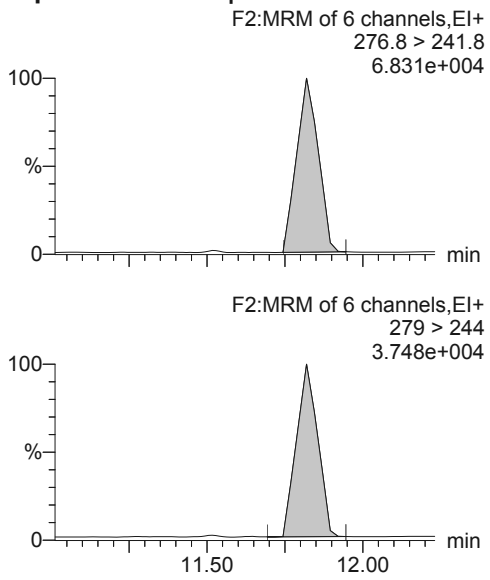


Hexachlorobenzene|118-74-1

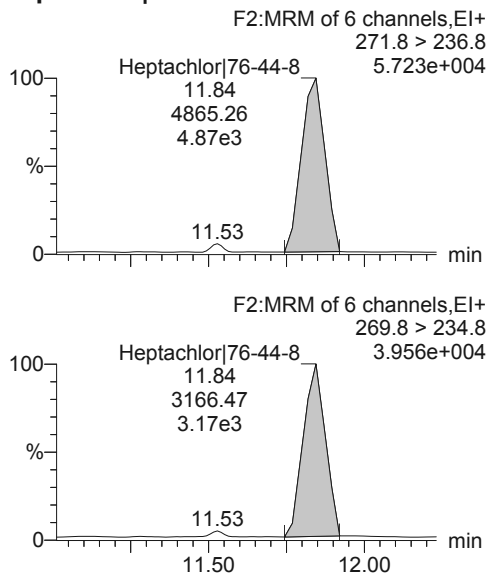


Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

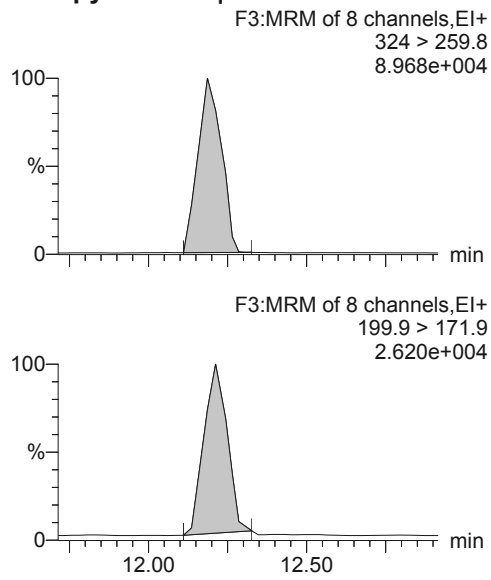
Heptachlor-13C10|CASID30731



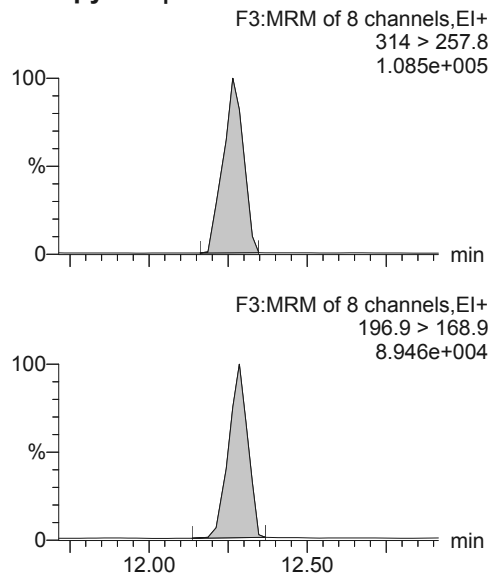
Heptachlor|76-44-8



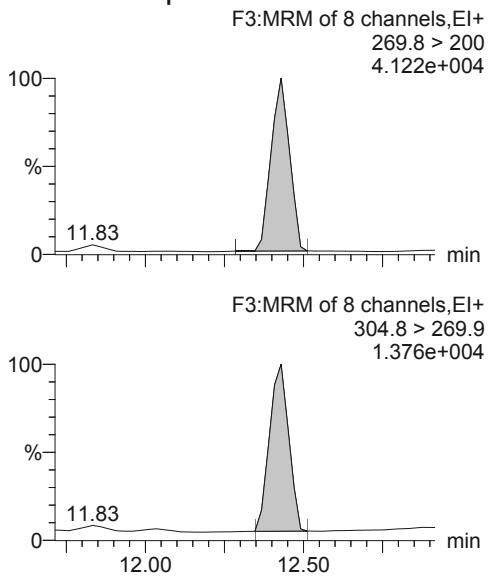
Chlorpyrifos-d10|CASID30732



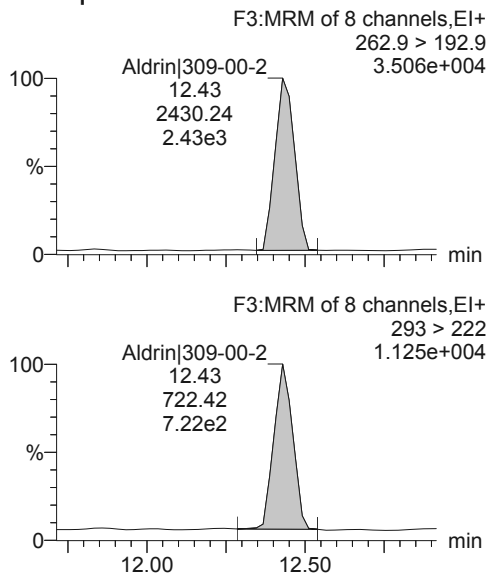
Chlorpyrifos|2921-88-2



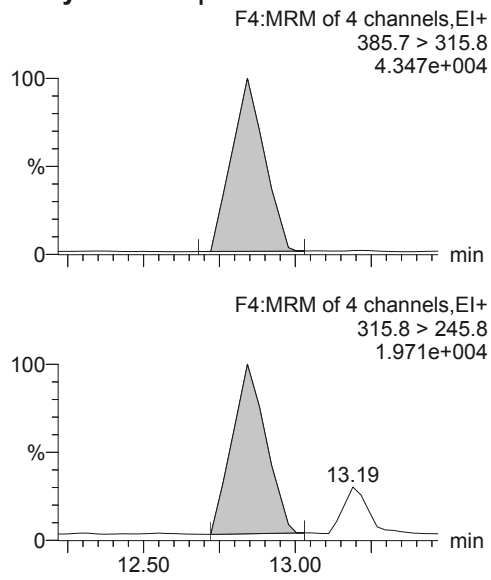
Aldrin-13C12|CASID30733



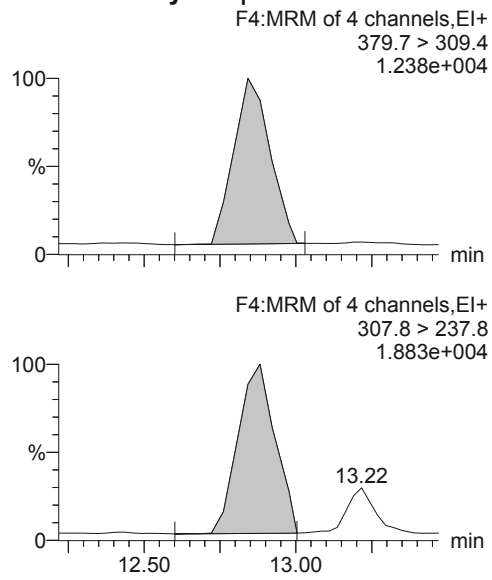
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

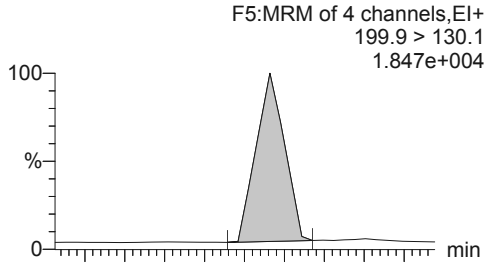


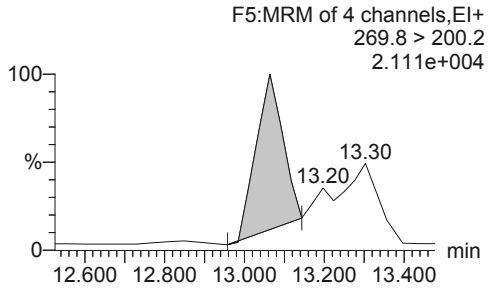
Octachlorostyrene|29082-74-4



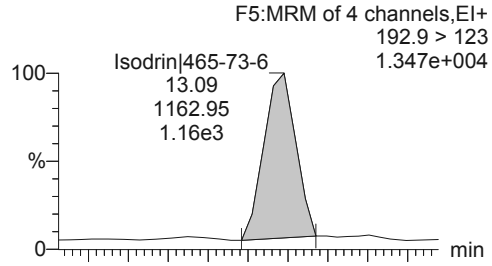
Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

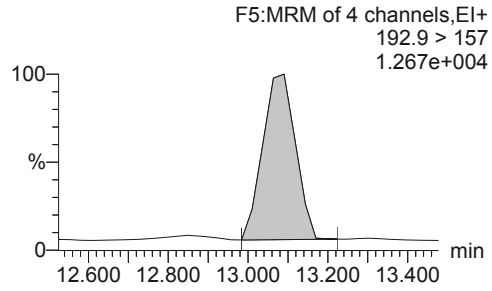
Isodrin-13C12|CASID30735



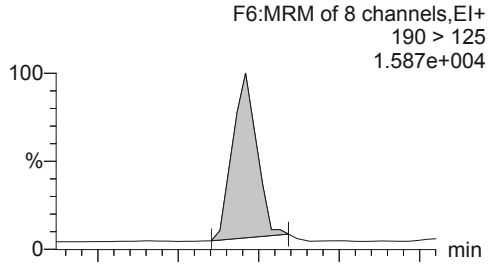


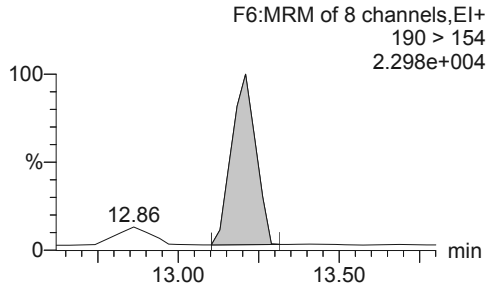
Isodrin|465-73-6



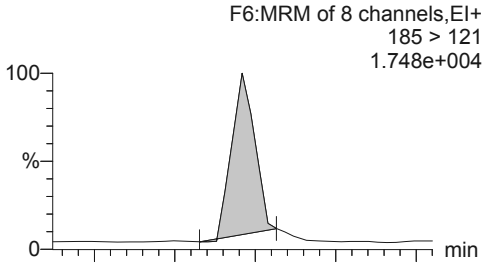


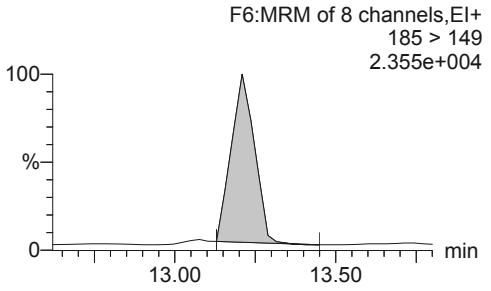
Oxychlordane-13C10|CASID30737



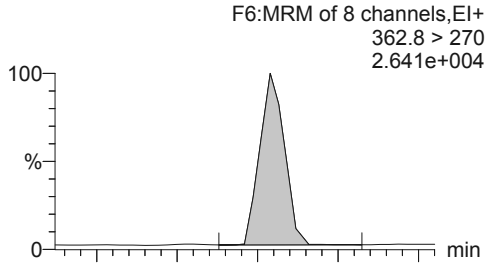


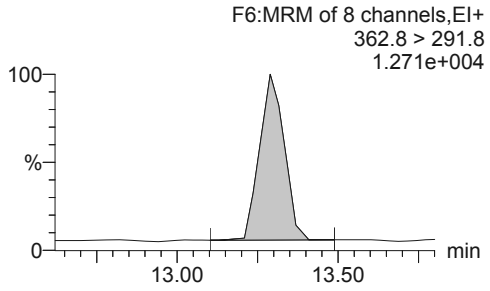
Oxychlordane|27304-13-8



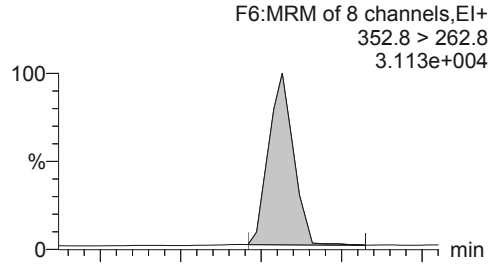


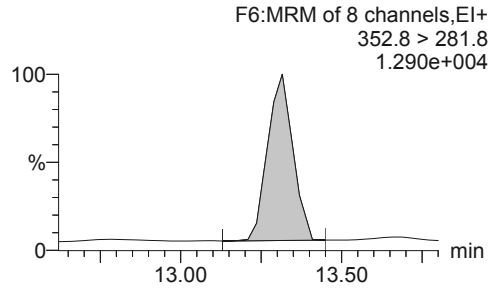
HeptachlrepoxI3C10|CASID30736



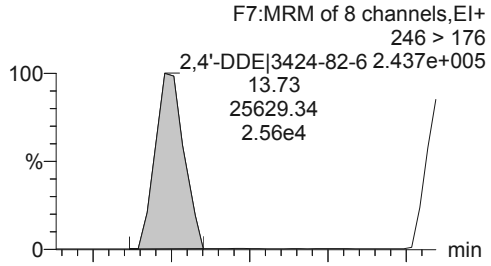


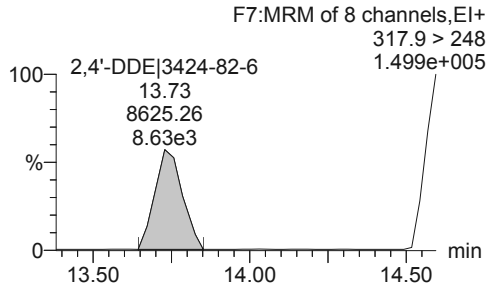
Heptachlor epoxide|1024-57-3



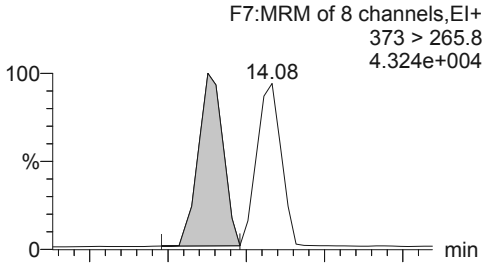


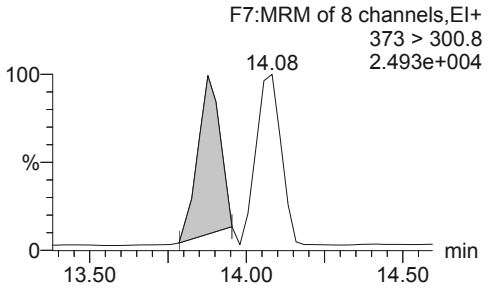
2,4'-DDE|3424-82-6





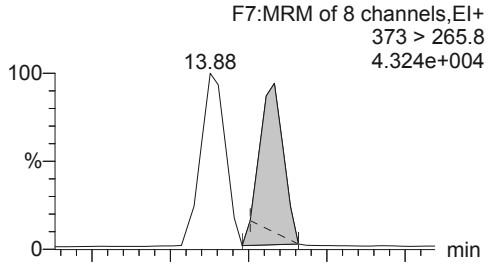
gamma-Chlordane|5566-34-7

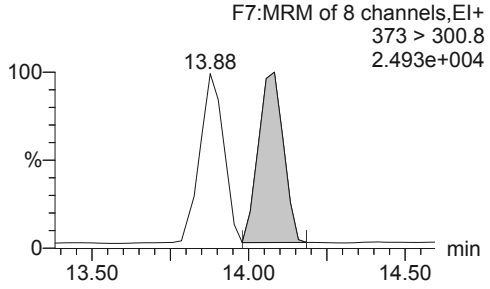




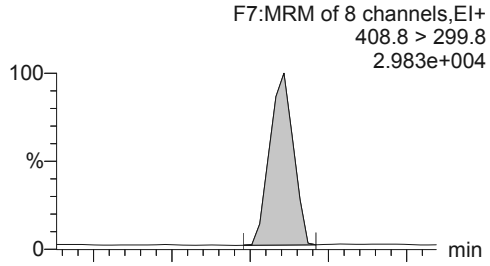
Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

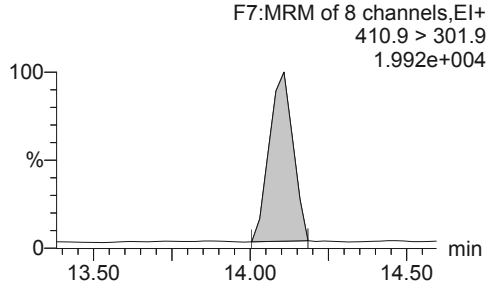
alpha-Chlordane|5103-71-9



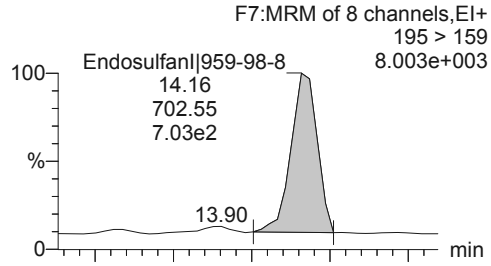


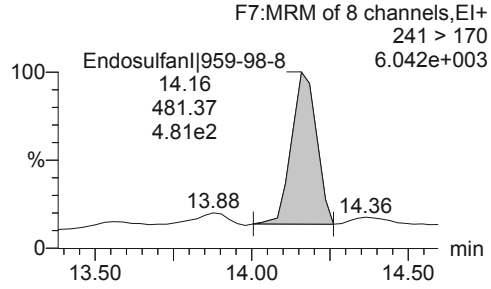
trans-Nonachlor|39765-80-5



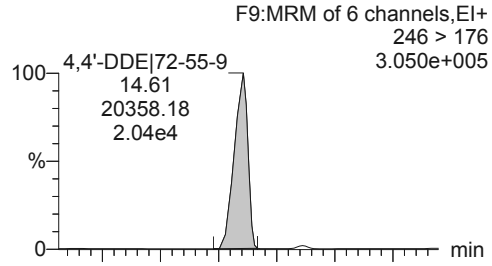


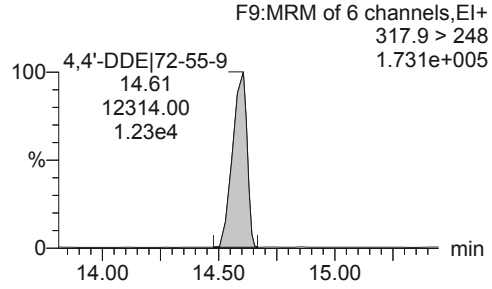
Endosulfanl|959-98-8



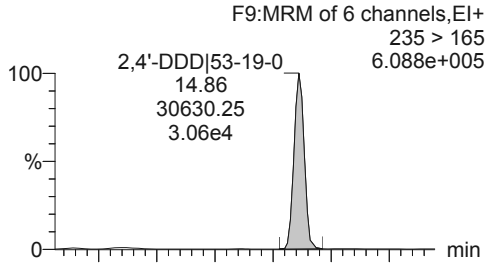


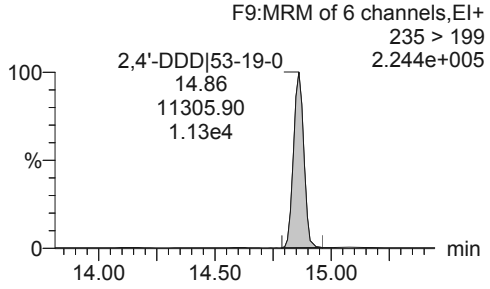
4,4'-DDE|72-55-9



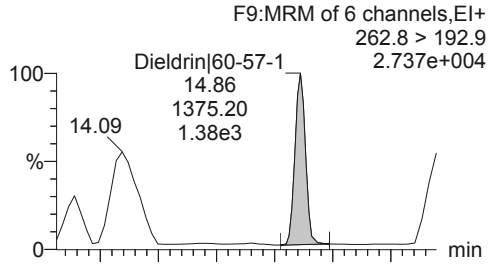


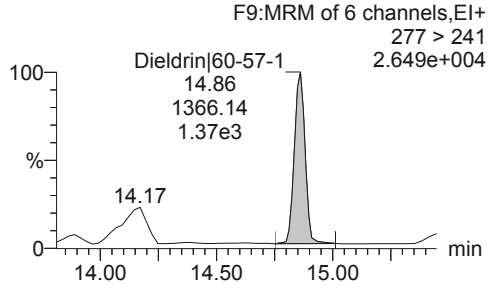
2,4'-DDD|53-19-0



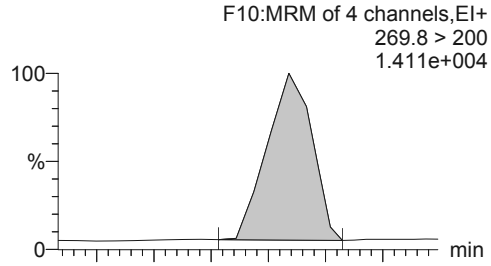


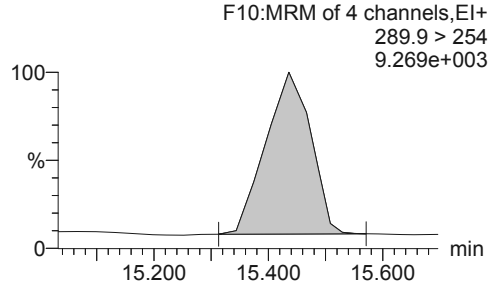
Dieldrin|60-57-1



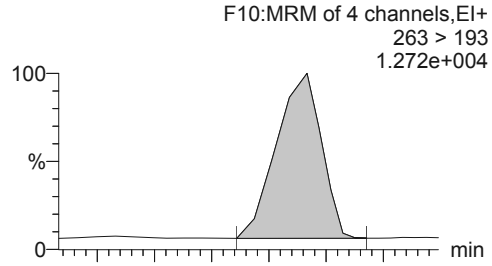


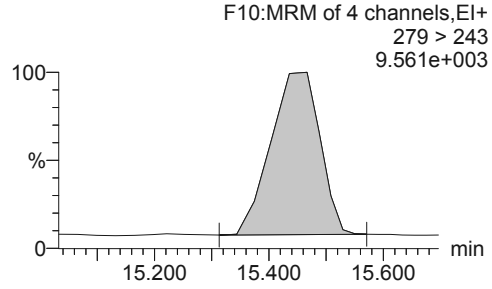
Endrin-13C12|CASID30739





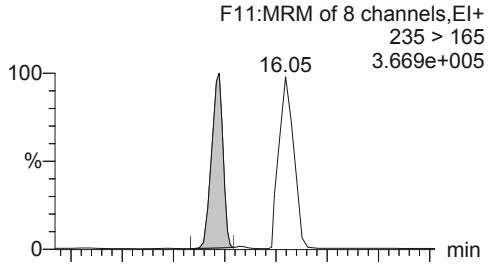
Endrin|72-20-8

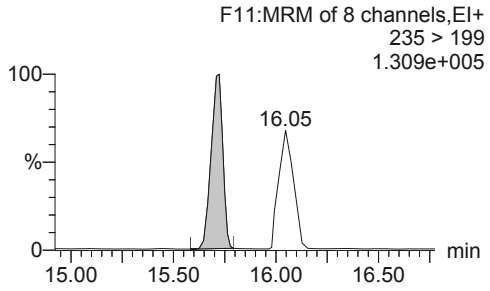




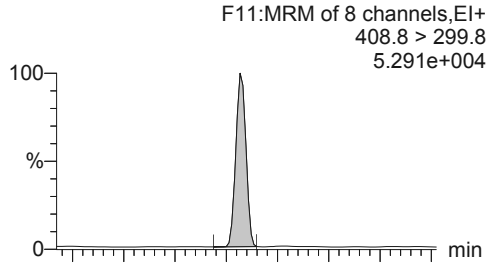
Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

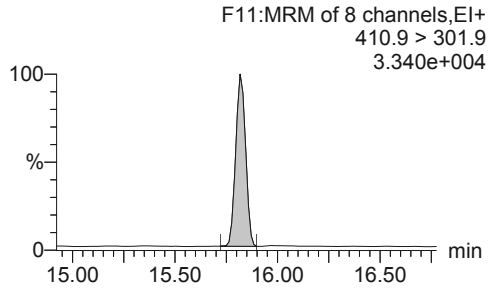
2,4-DDT|789-02-6



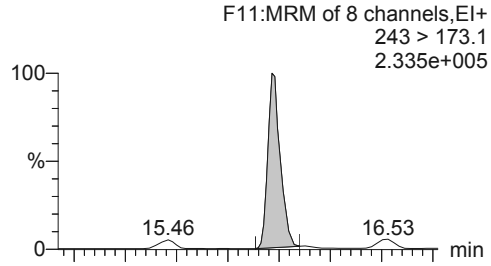


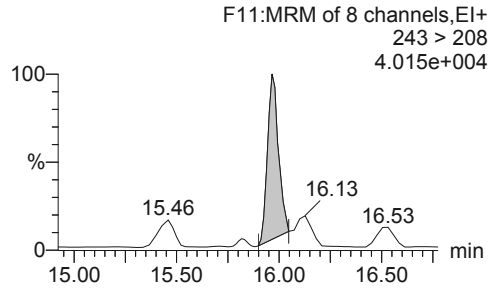
cis-Nonachlor|5103-73-1



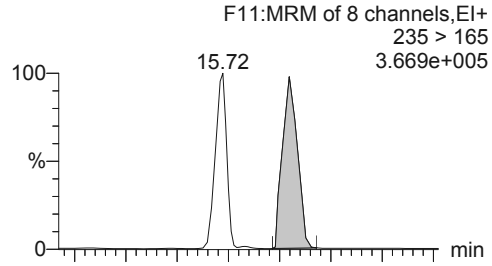


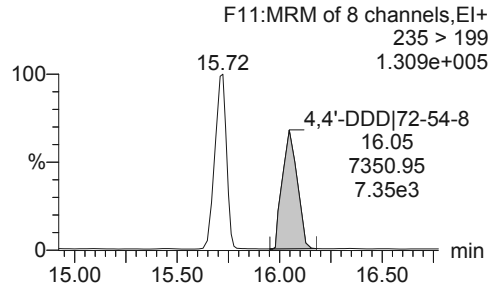
4,4'DDD-d4|93952-20-6



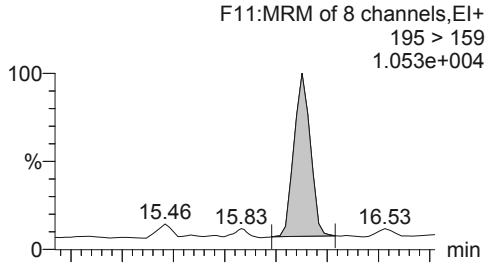


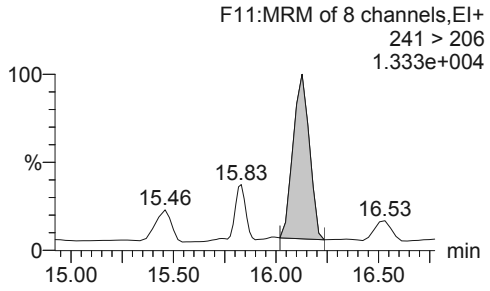
4,4'-DDD|72-54-8



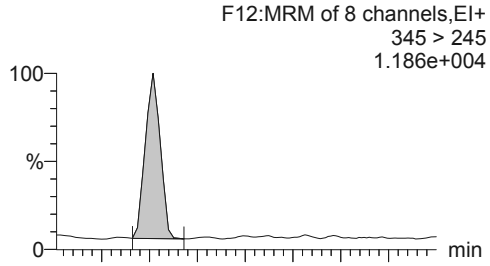


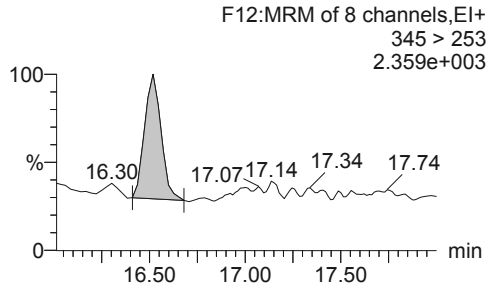
Endosulfanll|33213-65-9



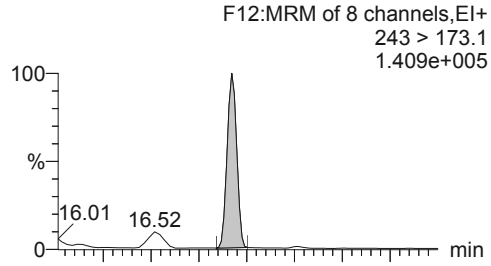


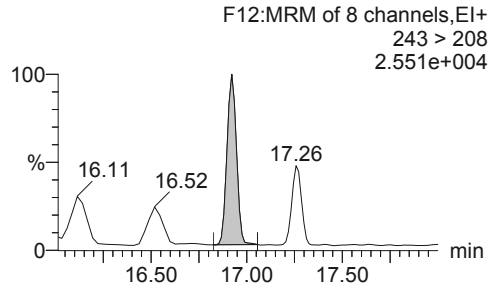
Endrin aldehyde|7421-93-4



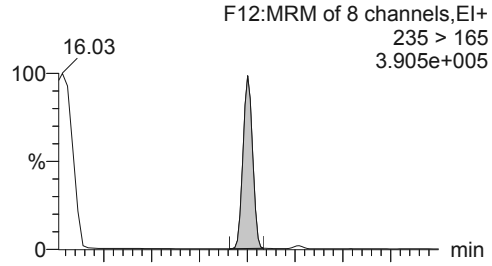


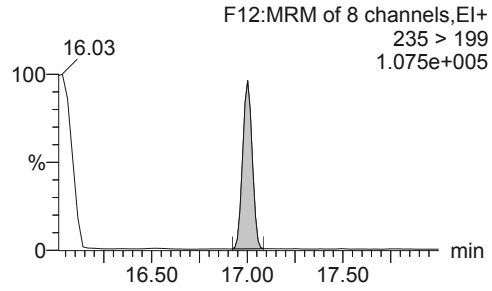
4,4'-DDT-d4|93952-18-2





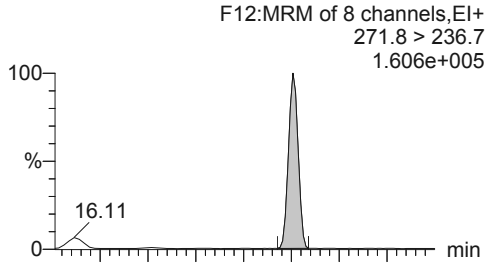
4,4'-DDT|50-29-3

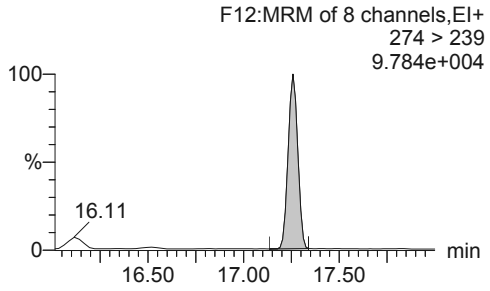




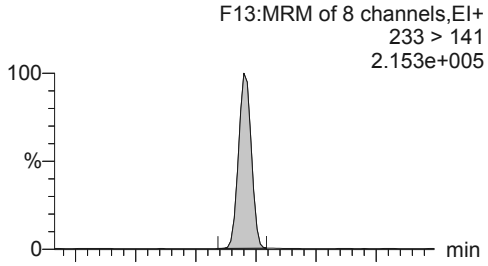
Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

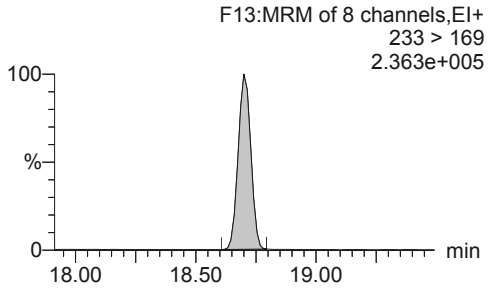
Endosulfan sulfate|1031-07-8



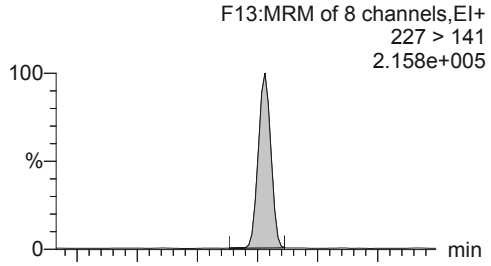


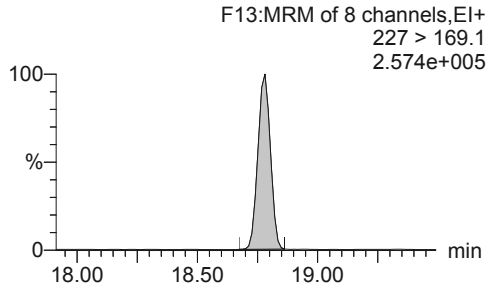
Mxchlord6|106031-79-2



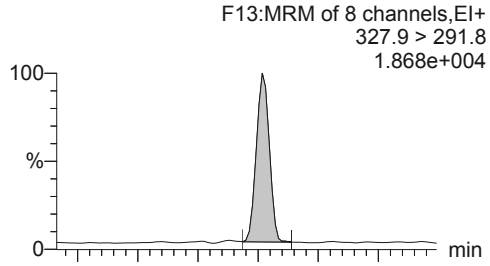


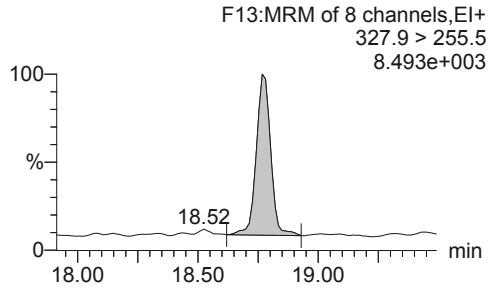
Methoxychlor|72-43-5



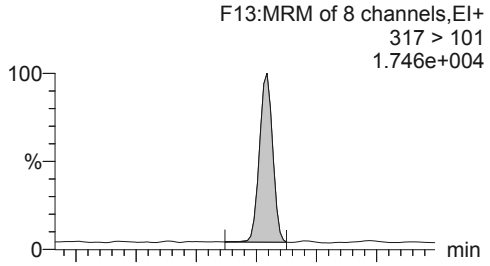


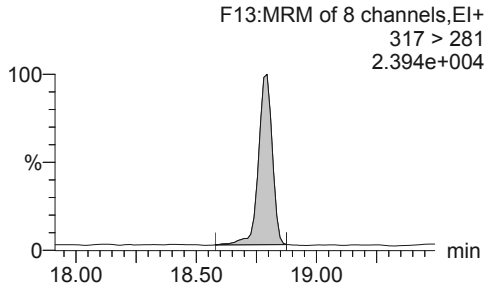
Endrinket13C12|CASID30741



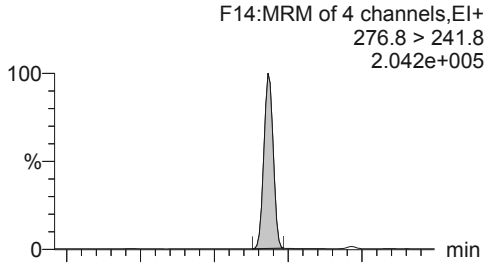


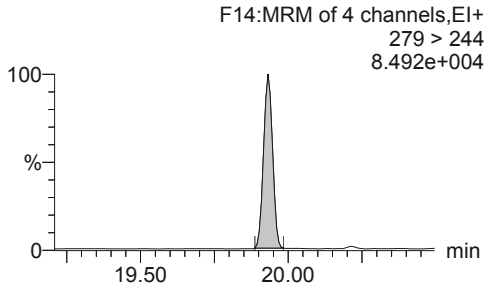
Endrin ketone|53494-70-5



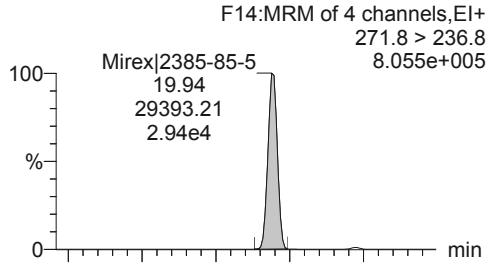


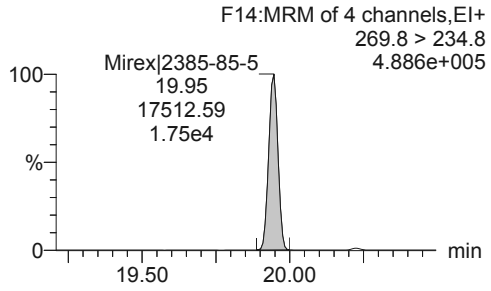
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	46753.809		bb		94.1	-5.9	9.752	9.752	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	6973.562	46753.809	bb		20.3	1.5	3.616	3.624	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	4634.243	6973.562	bb		17.7	-11.3	2.895	2.895	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	4024.245	6973.562	bb		18.5	-7.3	3.003	3.003	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	5834.609	6973.562	bb		18.9	-5.7	3.330	3.330	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	6095.680	6973.562	bb		19.4	-2.8	3.180	3.180	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8119.504	46753.809	bb		20.0	0.1	3.518	3.518	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	8863.213	8119.504	bb		19.2	-3.9	3.369	3.369	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5379.453	46753.809	bb		19.3	-3.4	1.865	1.865	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	4865.260	5379.453	bb		19.2	-4.1	1.536	1.536	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	7617.001	46753.809	bb		19.5	-2.7	3.568	3.568	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	7949.312	7617.001	bb		18.2	-9.0	1.305	1.305	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2719.306	46753.809	bb		20.2	0.9	2.967	2.967	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	2430.238	2719.306	bb		18.7	-6.4	3.364	3.364	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5349.391	46753.809	bb		20.7	3.6	2.181	2.181	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	1612.131	5349.391	MM	MP	17.9	-10.4	0.633	0.633	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1451.186	46753.809	MM	MP	19.1	-4.4	1.007	1.007	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	1162.947	1451.186	MM	MP	18.5	-7.6	1.026	1.026	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1289.158	46753.809	bb		18.6	-7.2	0.636	0.665	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	1312.532	1289.158	MM	MP	19.6	-2.1	0.819	0.699	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2276.188	46753.809	MM	MP	19.7	-1.5	2.149	2.149	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	2705.066	2276.188	MM	MP	19.4	-3.2	2.451	2.451	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.73	25629.342	16017.395	bb		18.9	-5.4	2.971	2.971	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	3862.226	1289.158	bb		19.9	-0.6	2.108	2.108	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	3495.800	1289.158	MM	BLC	21.0	5.2	1.575	1.575	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	2534.316	1289.158	bb		20.0	0.0	1.517	1.517	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	702.550	1219.384	bb		20.6	3.1	1.459	1.459	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	20358.180	16017.395	bb		19.3	-3.3	1.653	1.653	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	30630.254	16017.395	bb		19.3	-3.7	2.709	2.709	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	1375.204	1219.384	bb		19.2	-4.1	1.007	1.007	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1219.384	46753.809	bb		19.1	-4.5	1.566	1.566	NO
32	Endrin|72-20-8	263 > 193	15.47	1084.155	1219.384	bb		20.4	2.1	1.231	1.231	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	23073.582	7973.653	bb		19.4	-3.1	2.729	2.729	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	2955.334	1289.158	bb		21.4	7.2	1.628	1.628	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	16017.395	46753.809	bb		4.9	-1.5	6.924	6.924	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	30011.975	16017.395	bb		18.9	-5.7	4.083	4.083	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	899.415	1219.384	bb		19.4	-3.2	0.786	0.786	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	1008.591	1219.384	bb		21.3	6.5	6.264	6.079	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	7973.653	46753.809	bb		4.8	-3.4	5.701	5.701	NO

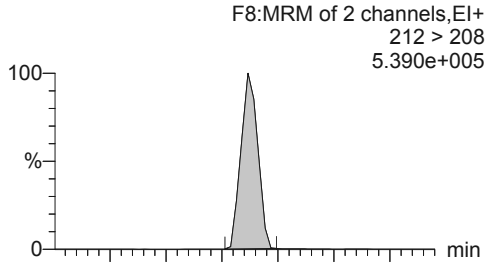
1st 08/08/18
2nd 08/13/18

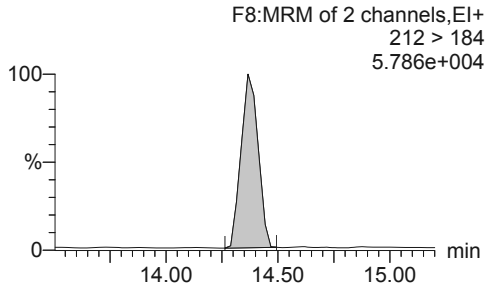
Name: 080818F012, Date: 08-Aug-2018, Time: 11:56:41, Description: OC PEST ICAL 20ng/mL SVM59-32F

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	21980.781	7973.653	bb		19.5	-2.6	3.729	3.729	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	9250.702	1219.384	bb		20.2	0.9	1.651	1.651	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	13015.029	46753.809	bb		18.6	-6.8	0.917	0.917	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	12828.564	13015.029	bb		19.2	-4.0	0.836	0.836	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1110.133	46753.809	bb		19.7	-1.7	2.077	2.077	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	1053.258	1110.133	bb		18.7	-6.3	0.687	0.689	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7340.105	46753.809	bb		4.9	-1.3	2.492	2.492	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	29393.211	7340.105	bb		18.6	-6.9	1.678	1.678	NO

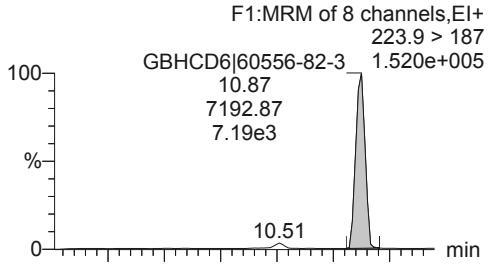
Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

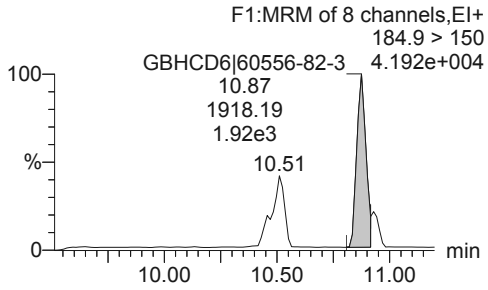
Pyrene-d10|1718-52-1



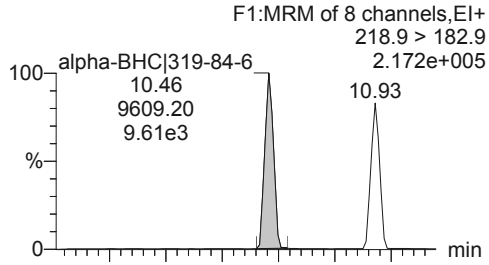


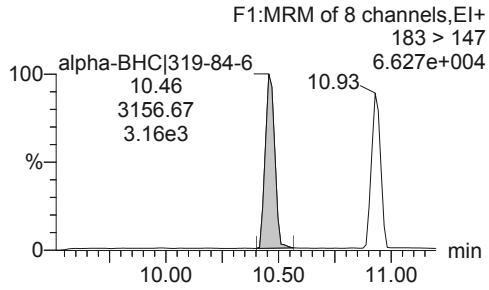
GBHCD6|60556-82-3



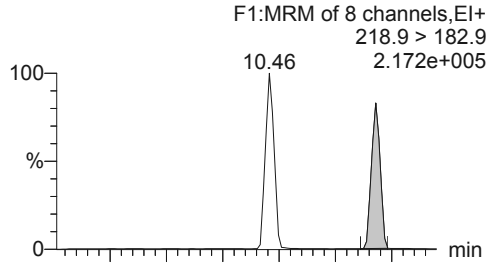


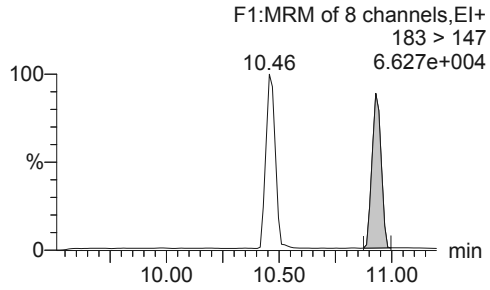
alpha-BHC|319-84-6



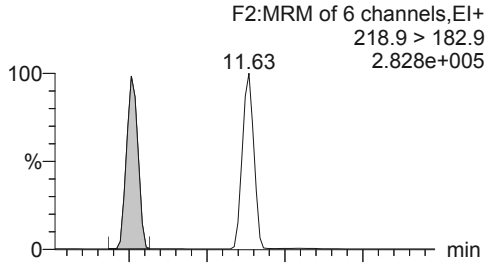


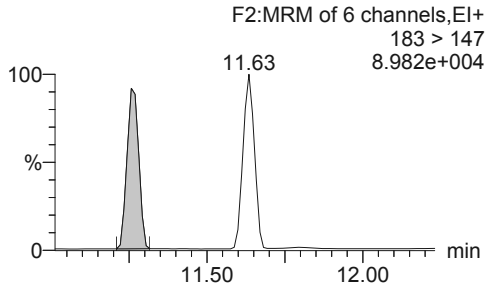
gamma-BHC|58-89-9



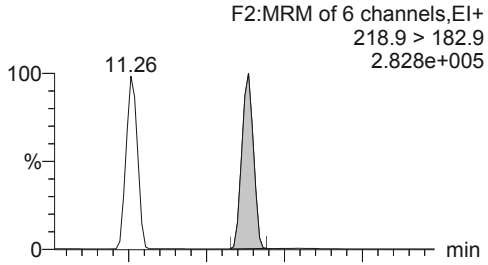


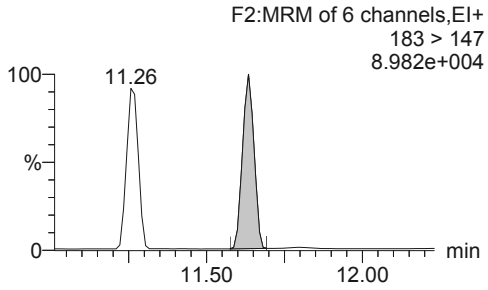
beta-BHC|319-85-7



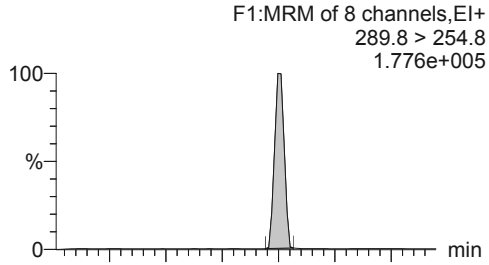


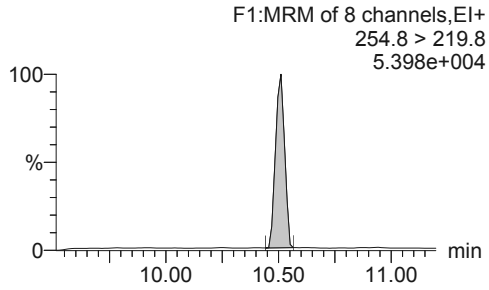
delta-BHC|319-86-8



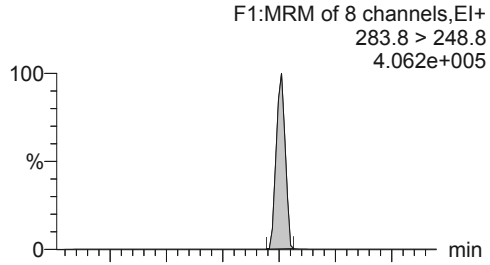


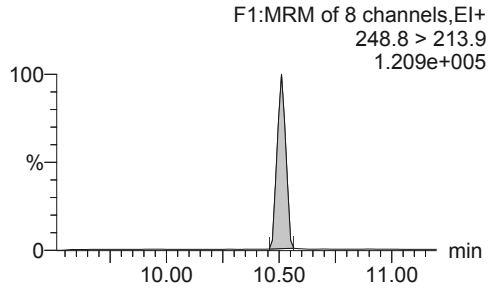
HXCBZ13C6|CASID30730





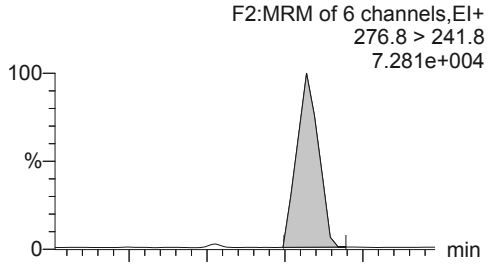
Hexachlorobenzene|118-74-1

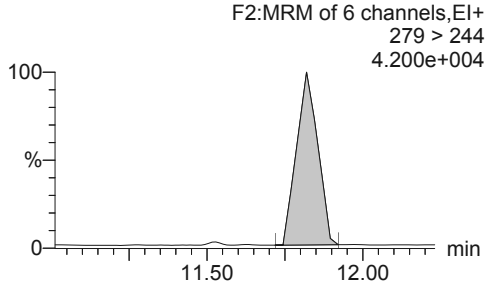




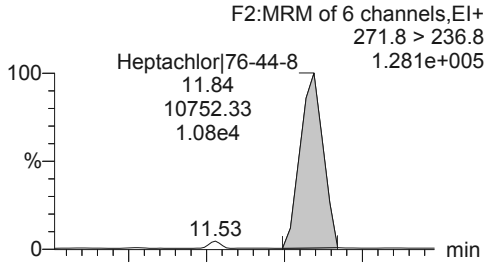
Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

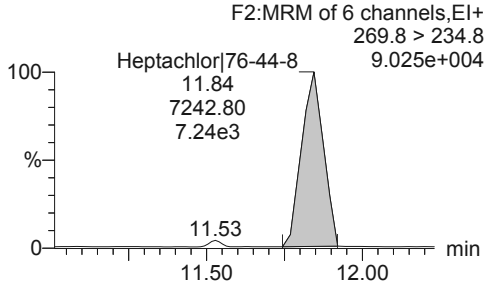
Heptachlor-13C10|CASID30731



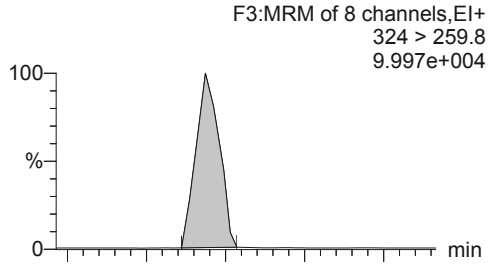


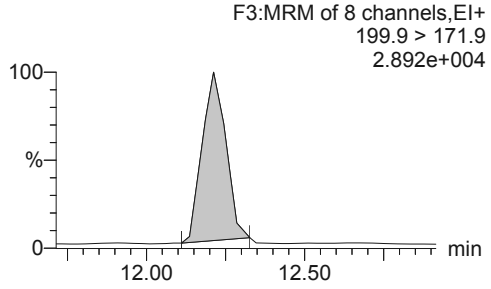
Heptachlor|76-44-8



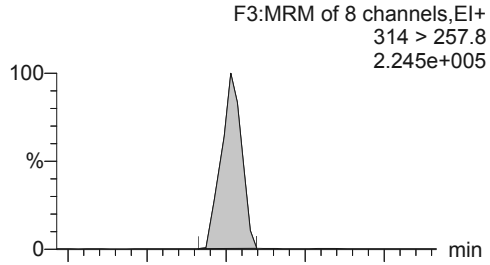


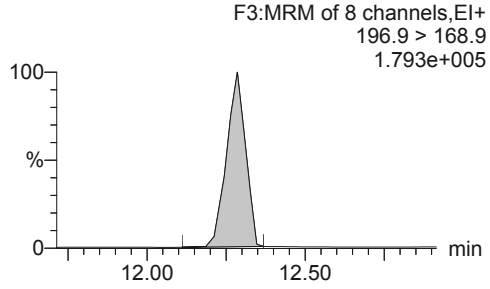
Chlorpyrifos-d10|CASID30732



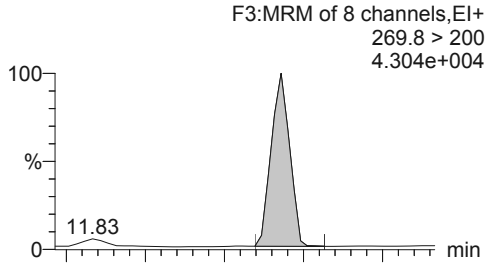


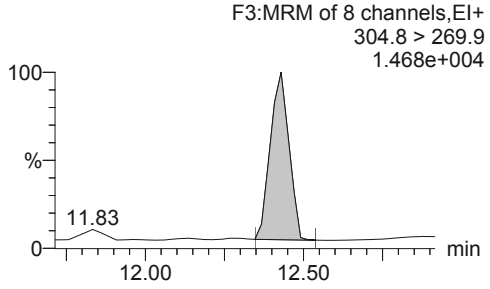
Chlorpyrifos|2921-88-2



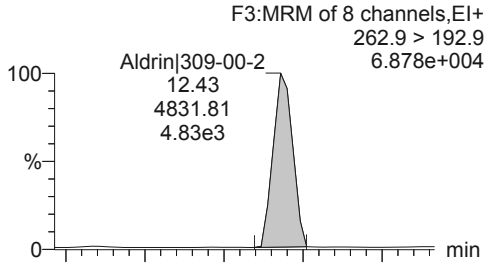


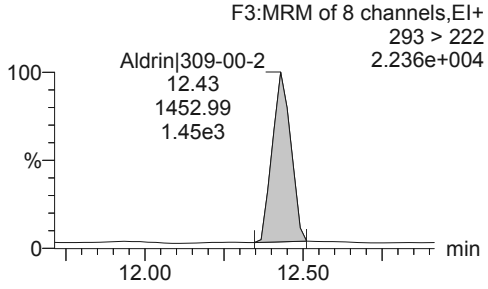
Aldrin-13C12|CASID30733



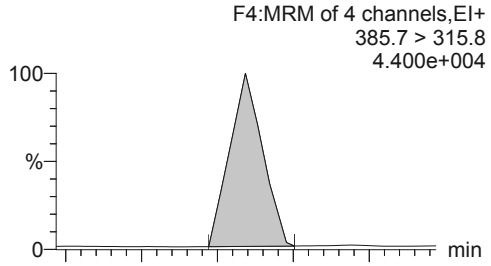


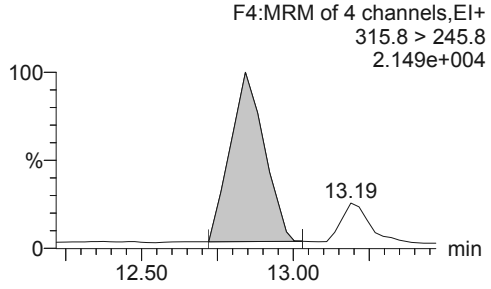
Aldrin|309-00-2



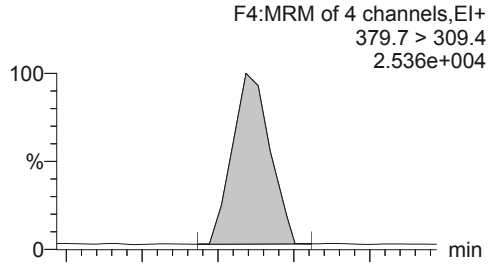


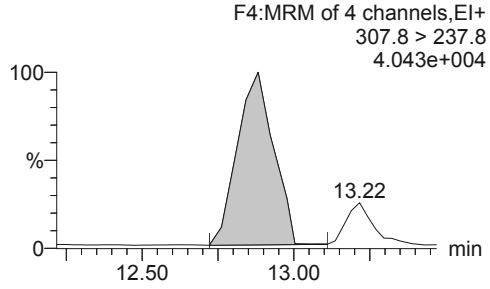
Ocstyrene13C8|CASID30734





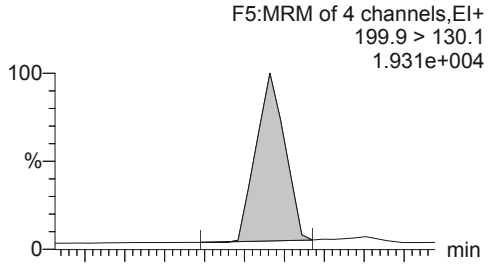
Octachlorostyrene|29082-74-4

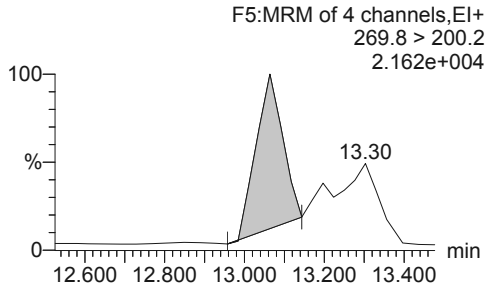




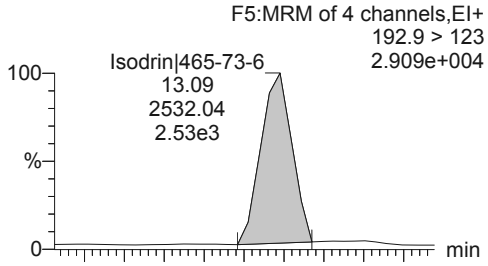
Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

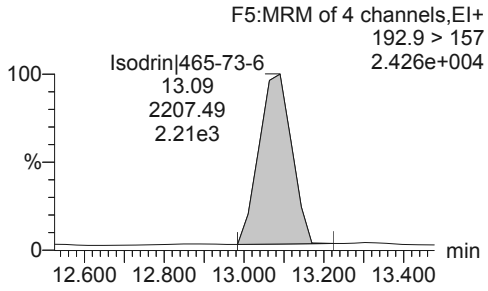
Isodrin-13C12|CASID30735



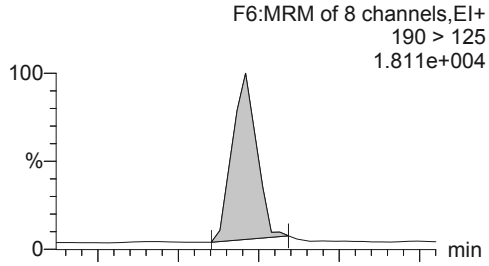


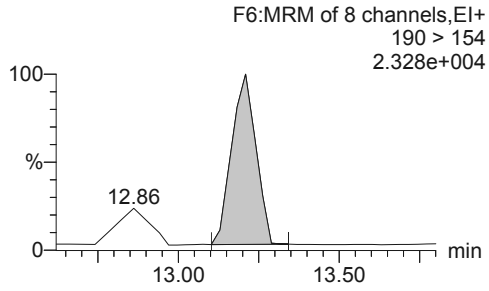
Isodrin|465-73-6



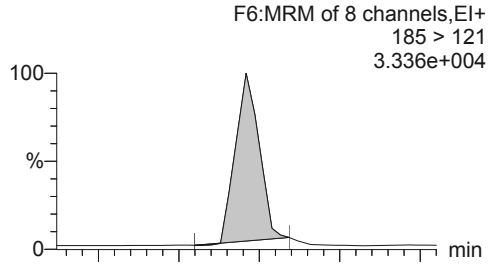


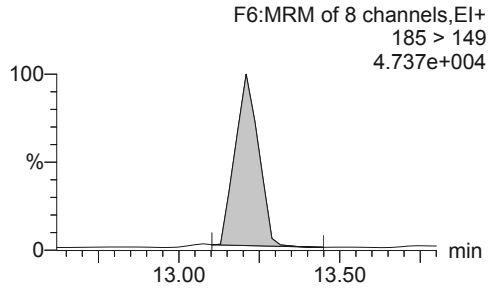
Oxychlordane-13C10|CASID30737



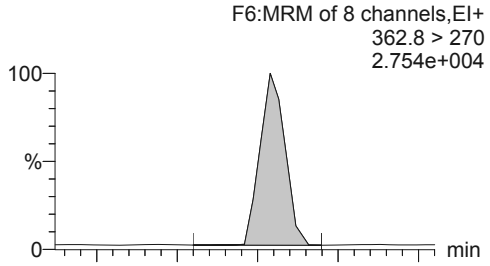


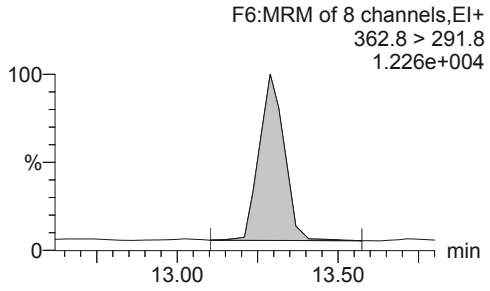
Oxychlordane|27304-13-8



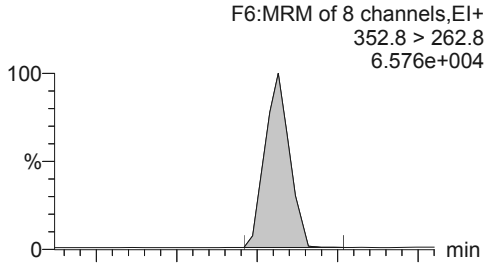


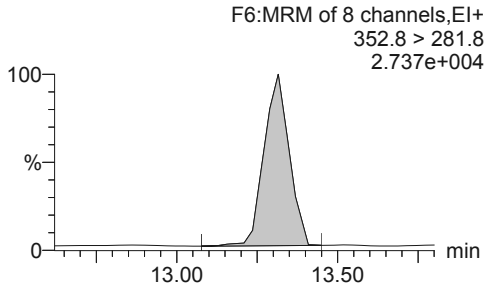
HeptachIrepox13C10|CASID30736



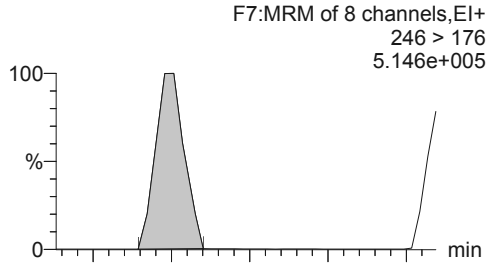


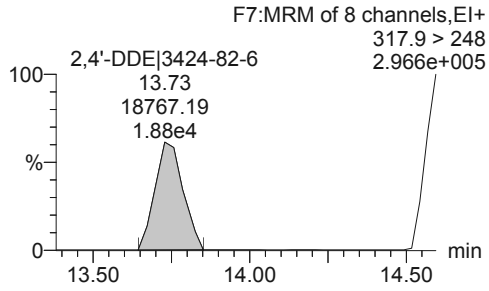
Heptachlor epoxide|1024-57-3



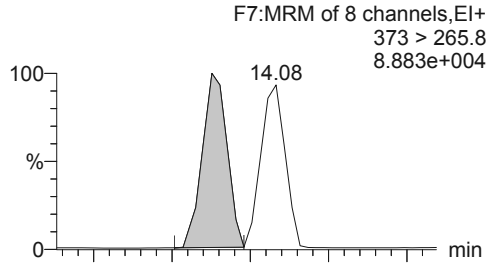


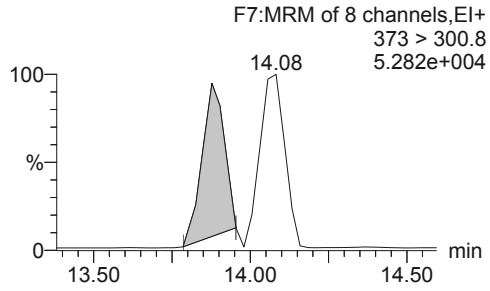
2,4'-DDE|3424-82-6





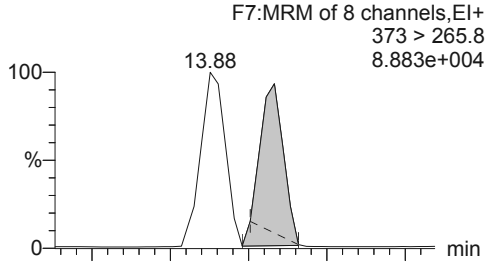
gamma-Chlordane|5566-34-7

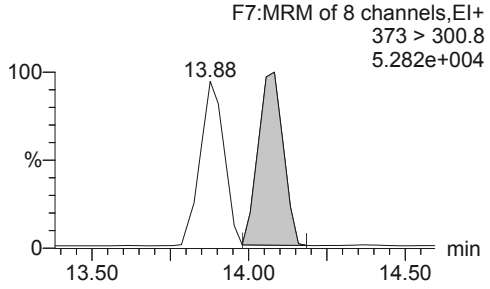




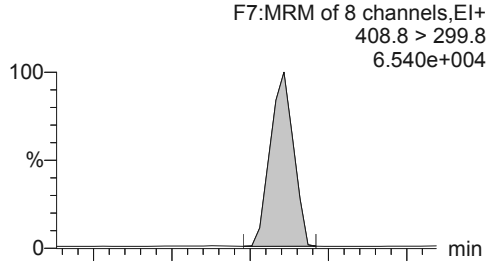
Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

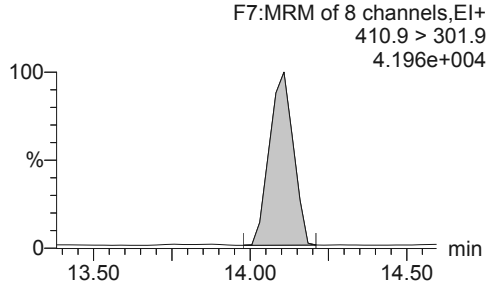
alpha-Chlordane|5103-71-9



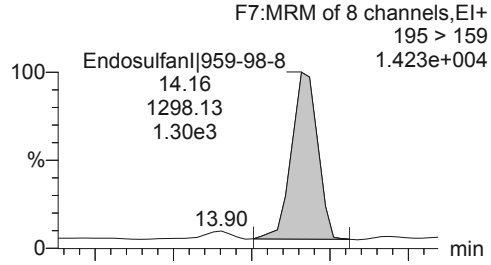


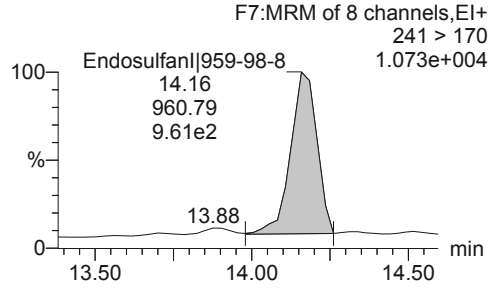
trans-Nonachlor|39765-80-5



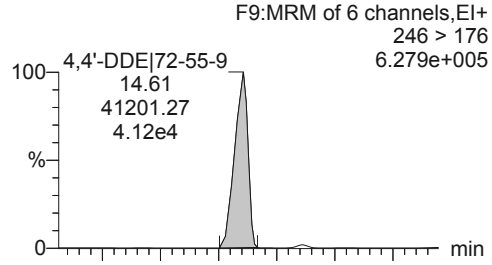


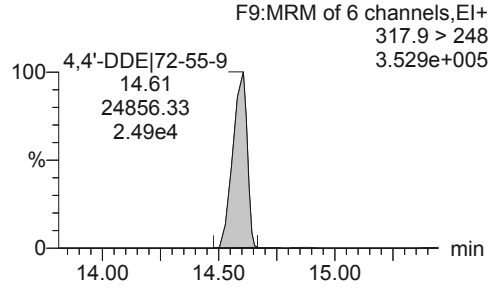
Endosulfanl|959-98-8



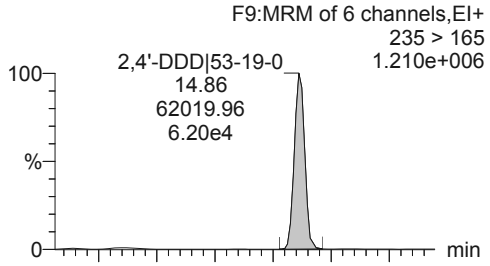


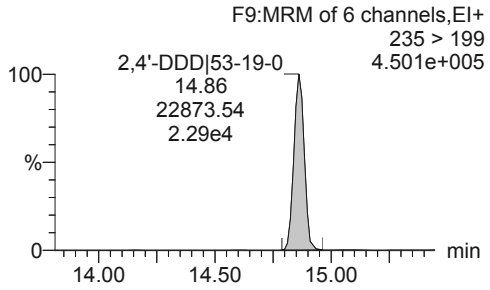
4,4'-DDE|72-55-9



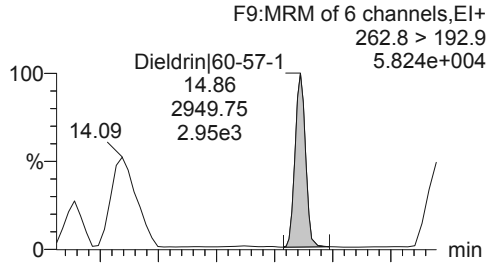


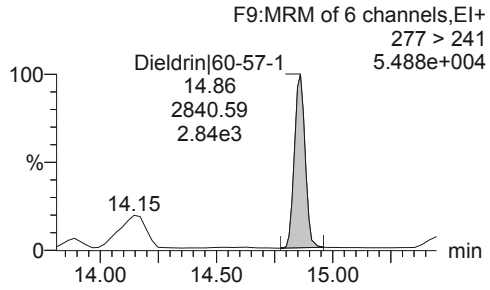
2,4'-DDD|53-19-0



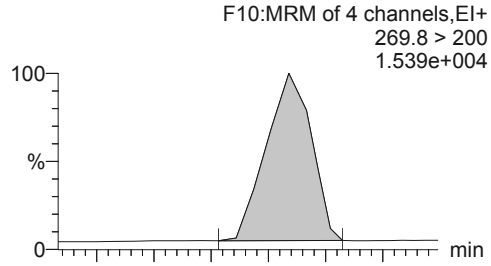


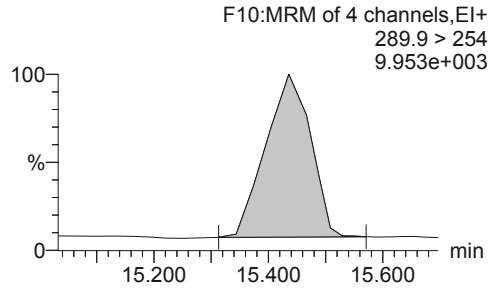
Dieldrin|60-57-1



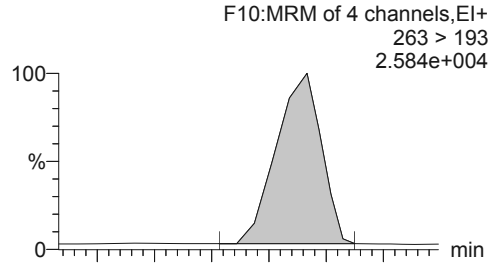


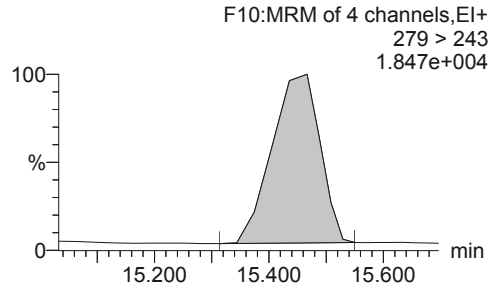
Endrin-13C12|CASID30739





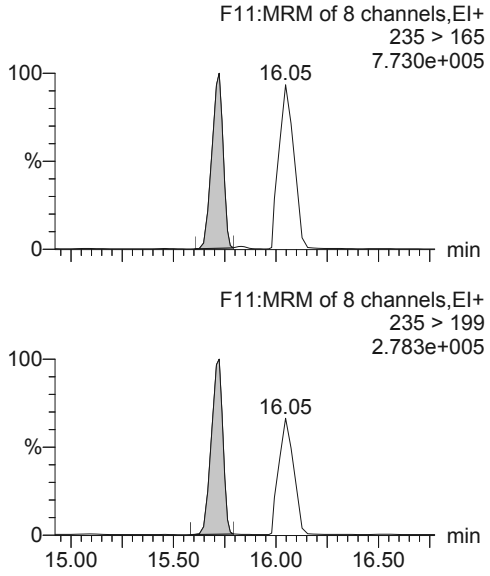
Endrin|72-20-8



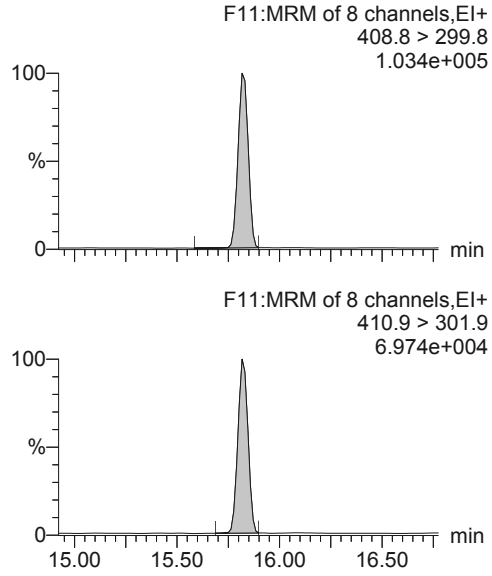


Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

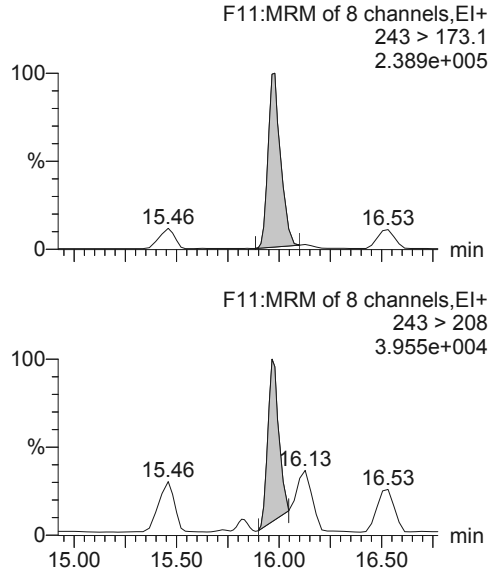
2,4-DDT|789-02-6



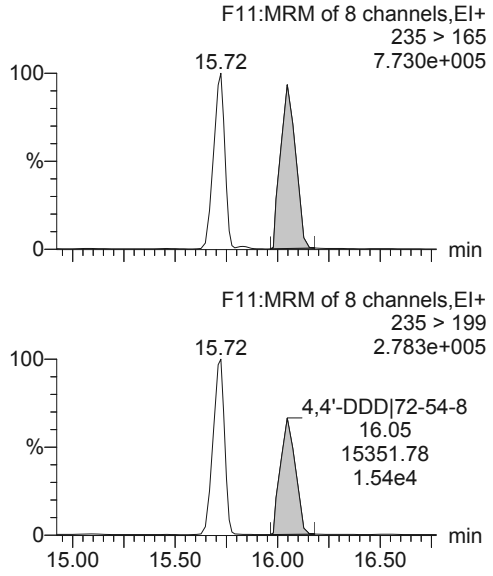
cis-Nonachlor|5103-73-1



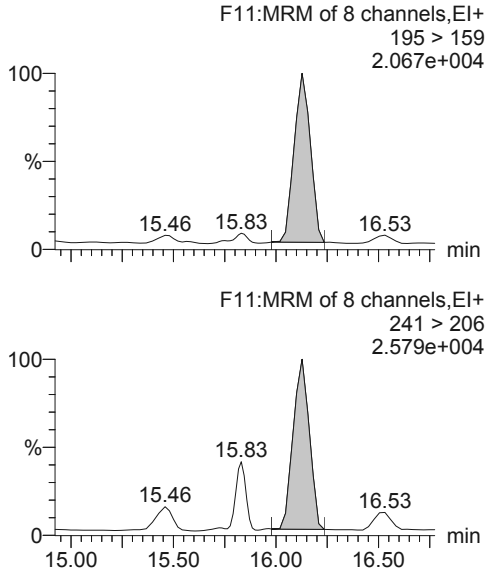
4,4'DDD-d4|93952-20-6



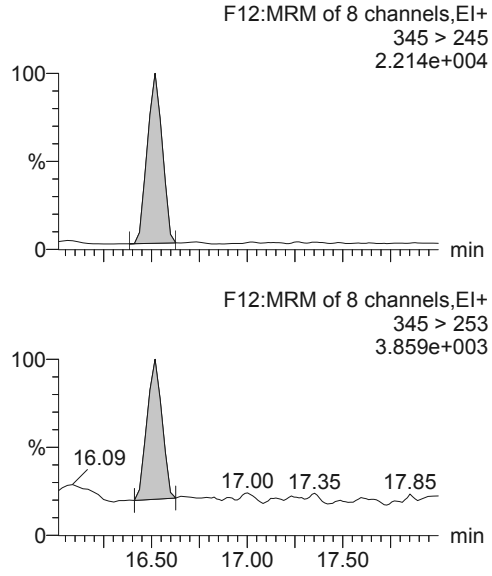
4,4'-DDD|72-54-8



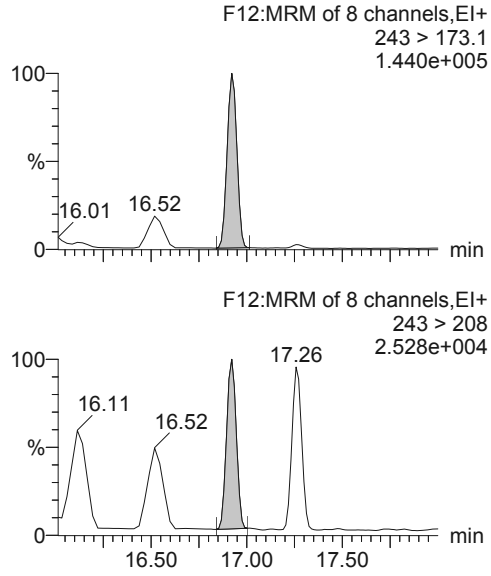
Endosulfanll|33213-65-9



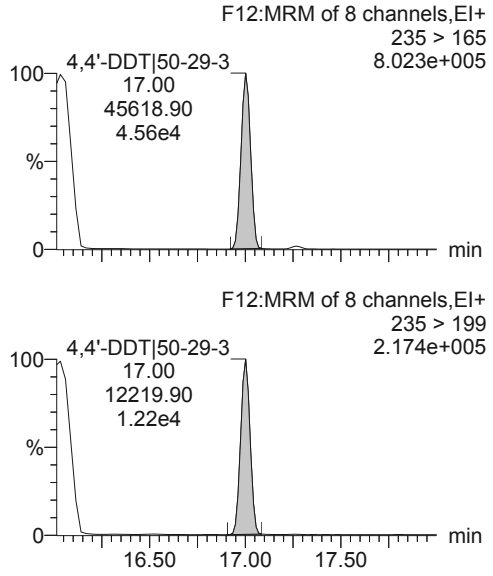
Endrin aldehyde|7421-93-4



4,4'-DDT-d4|93952-18-2

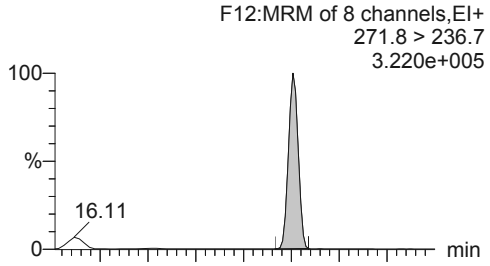


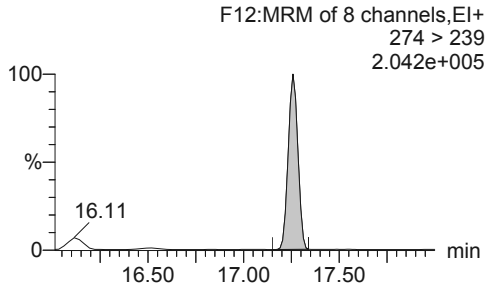
4,4'-DDT|50-29-3



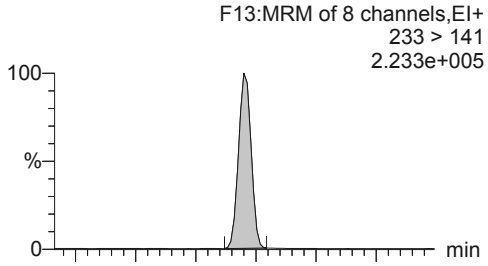
Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

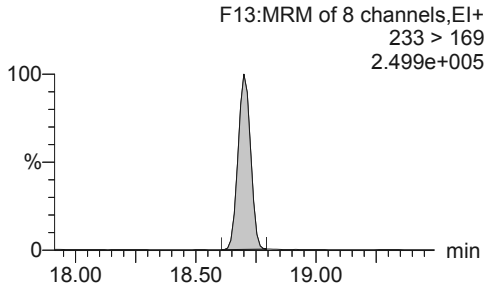
Endosulfan sulfate|1031-07-8



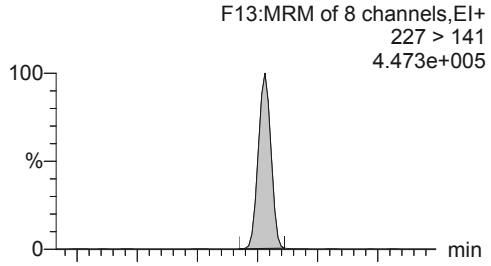


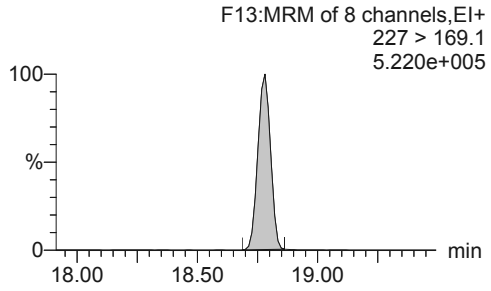
Mxchlord6|106031-79-2



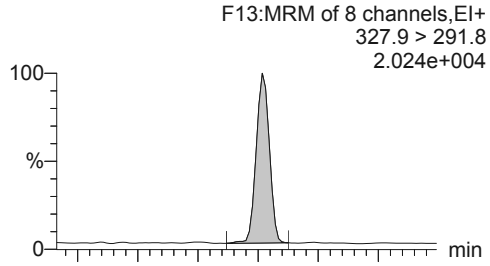


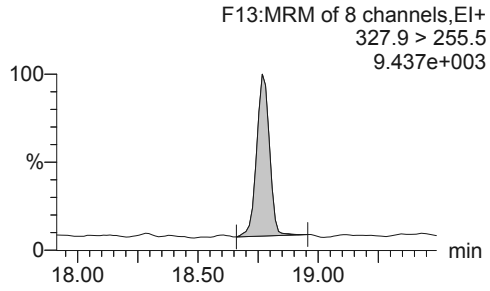
Methoxychlor|72-43-5



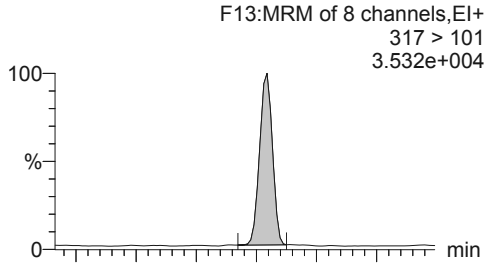


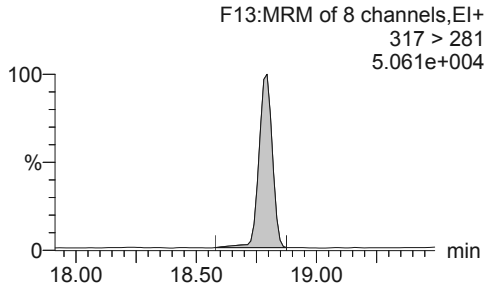
Endrinket13C12|CASID30741



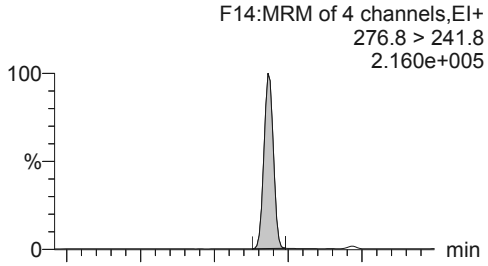


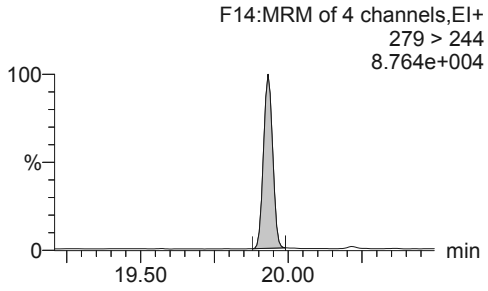
Endrin ketone|53494-70-5



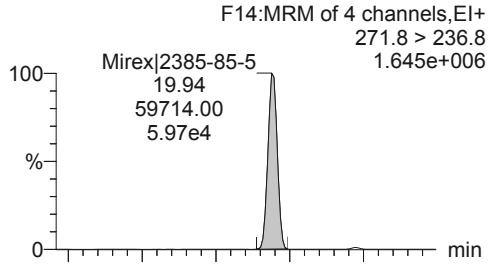


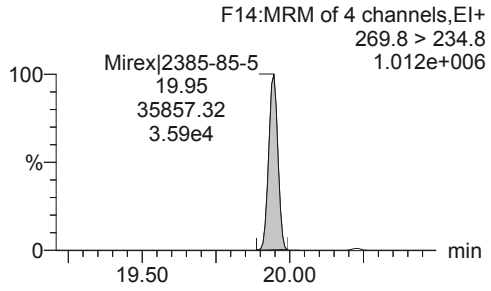
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	46663.629		bb		93.9	-6.1	9.752	9.293	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7192.867	46663.629	bb		21.0	4.9	3.616	3.750	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	9609.204	7192.867	bb		35.7	-10.8	2.895	3.044	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	8084.263	7192.867	bb		36.1	-9.7	3.003	2.957	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	11681.135	7192.867	bb		36.6	-8.5	3.330	3.274	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	12051.435	7192.867	bb		37.3	-6.8	3.180	3.181	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8679.256	46663.629	bb		21.4	7.2	3.518	3.526	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	18542.086	8679.256	bb		37.6	-6.0	3.369	3.497	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5757.548	46663.629	bb		20.7	3.5	1.865	1.777	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	10752.325	5757.548	bb		39.6	-1.0	1.536	1.485	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	8436.376	46663.629	bb		21.6	7.9	3.568	3.526	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	16597.082	8436.376	bb		34.3	-14.2	1.305	1.352	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2853.838	46663.629	bb		21.2	6.1	2.967	2.996	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	4831.809	2853.838	bb		35.5	-11.4	3.364	3.325	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5425.785	46663.629	bb		21.0	5.2	2.181	2.019	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	3525.931	5425.785	MM	MP	38.6	-3.4	0.633	0.644	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1526.870	46663.629	MM	MP	20.2	0.8	1.007	1.044	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	2532.037	1526.870	MM	MP	38.2	-4.4	1.026	1.147	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1493.183	46663.629	bb		21.5	7.7	0.636	0.762	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	2676.960	1493.183	MM	MP	34.5	-13.8	0.819	0.692	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2416.429	46663.629	MM	MP	20.9	4.7	2.149	2.332	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	5715.087	2416.429	MM	MP	38.5	-3.6	2.451	2.381	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.76	54608.945	16479.637	bb		39.2	-2.0	2.971	2.910	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	7999.366	1493.183	bb		35.5	-11.1	2.108	2.130	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	7234.988	1493.183	MM	BLC	37.6	-6.0	1.575	1.517	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	5541.682	1493.183	bb		37.8	-5.6	1.517	1.529	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	1298.134	1337.812	bb		34.7	-13.1	1.459	1.351	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	41201.273	16479.637	bb		38.0	-4.9	1.653	1.658	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	62019.957	16479.637	bb		37.9	-5.2	2.709	2.711	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	2949.750	1337.812	bb		37.5	-6.2	1.007	1.038	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1337.812	46663.629	bb		21.0	5.0	1.566	1.602	NO
32	Endrin|72-20-8	263 > 193	15.47	2273.282	1337.812	bb		39.0	-2.4	1.231	1.321	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	48116.379	8274.671	bb		38.9	-2.6	2.729	2.717	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	5819.609	1493.183	bb		36.5	-8.9	1.628	1.493	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.98	16479.637	46663.629	bb		5.1	1.6	6.924	7.393	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	60765.555	16479.637	bb		37.1	-7.2	4.083	3.958	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	1818.134	1337.812	bb		35.7	-10.8	0.786	0.802	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	1929.453	1337.812	bb		37.1	-7.2	6.264	6.967	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	8274.671	46663.629	bb		5.0	0.4	5.701	5.884	NO

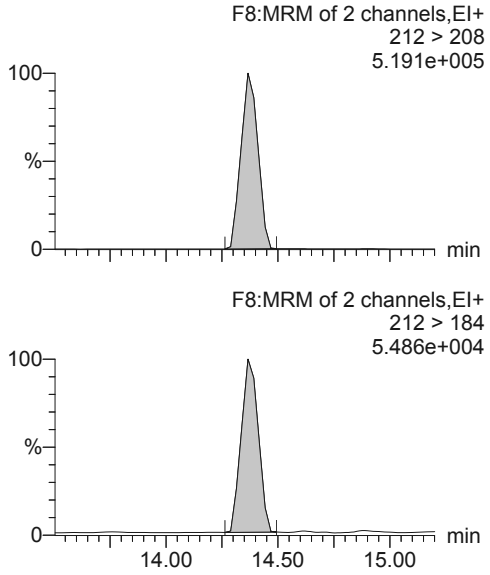
1st 08/08/18
2nd 08/13/18

Name: 080818F013, Date: 08-Aug-2018, Time: 12:24:03, Description: OC PEST ICAL 40ng/mL SVM59-32G

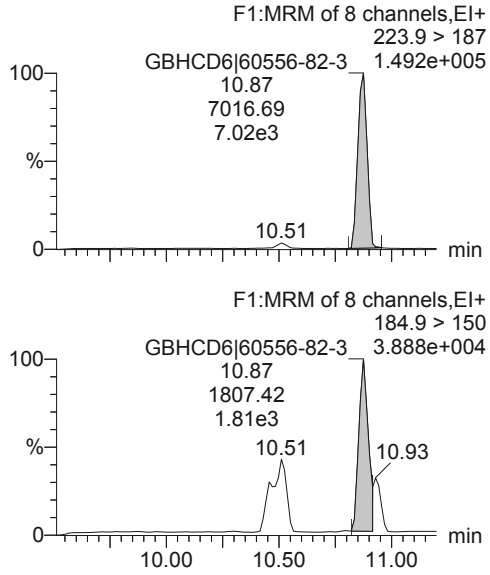
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	45618.902	8274.671	bb		38.9	-2.7	3.729	3.733	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	18734.111	1337.812	bb		37.2	-6.9	1.651	1.586	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	13384.991	46663.629	bb		19.2	-3.9	0.917	0.902	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	26713.994	13384.991	bb		38.9	-2.8	0.836	0.853	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1226.733	46663.629	bb		21.8	8.8	2.077	2.310	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	2104.556	1226.733	bb		33.9	-15.3	0.687	0.664	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7841.667	46663.629	bb		5.3	5.6	2.492	2.539	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	59713.996	7841.667	bb		35.4	-11.5	1.678	1.665	NO

Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

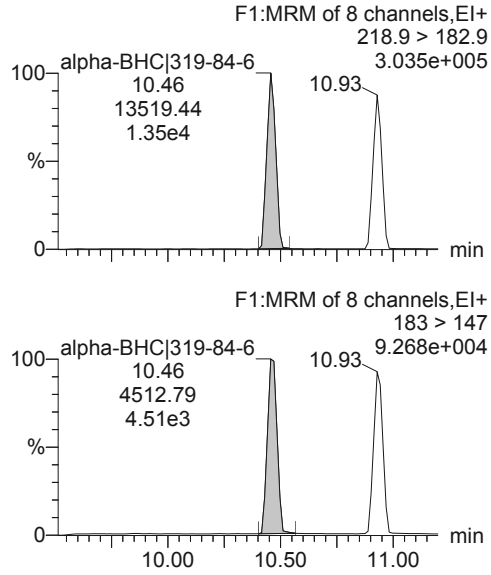
Pyrene-d10|1718-52-1



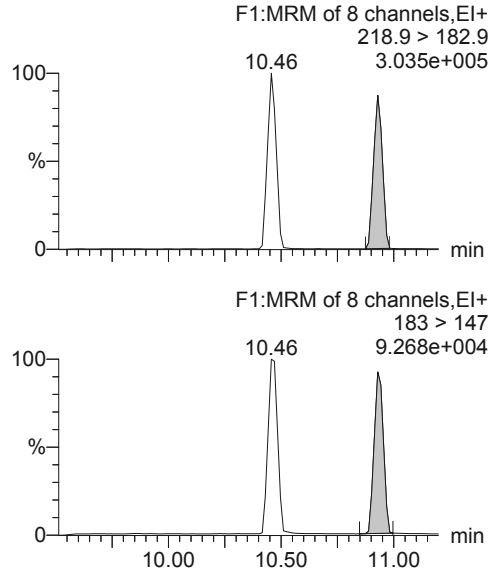
GBHCD6|60556-82-3



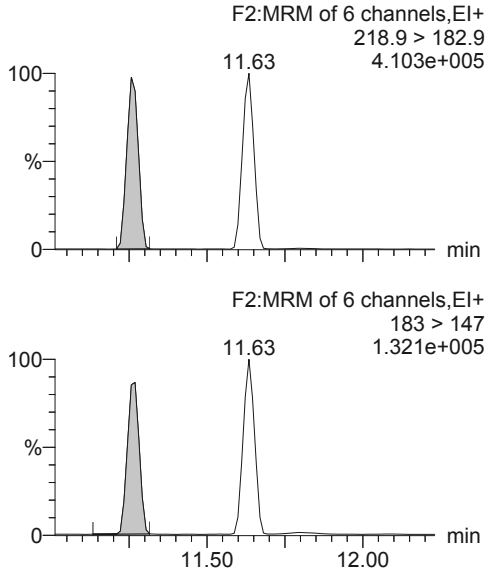
alpha-BHC|319-84-6



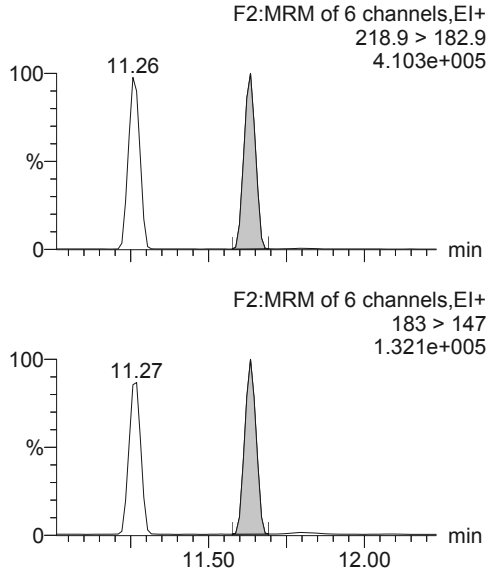
gamma-BHC|58-89-9



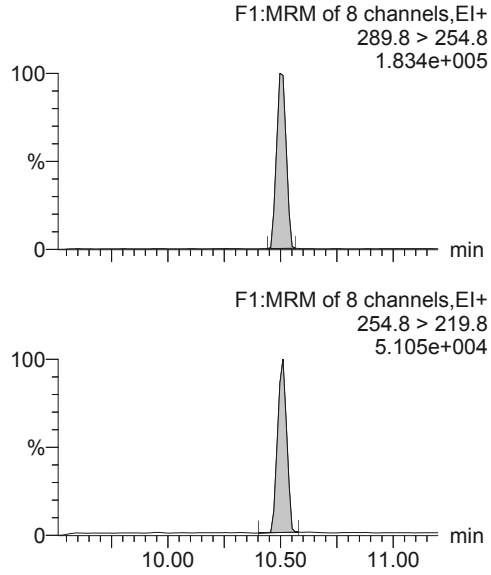
beta-BHC|319-85-7



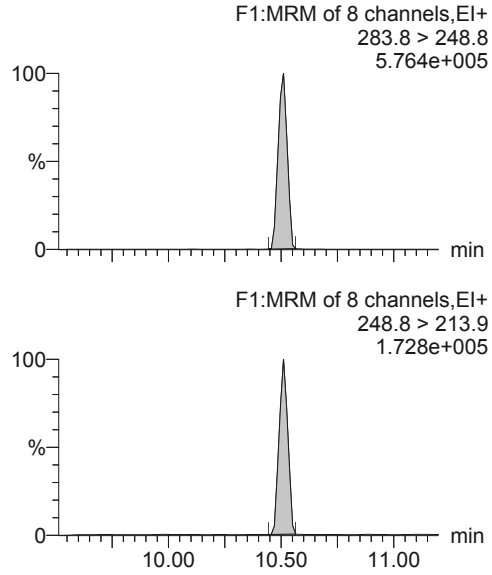
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

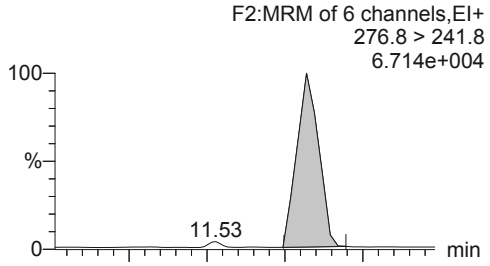


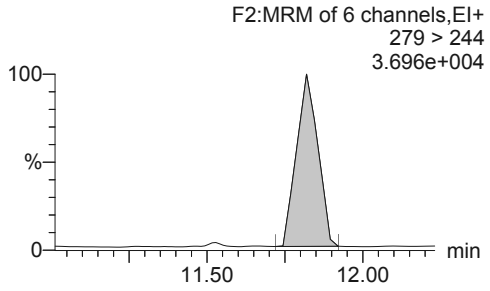
Hexachlorobenzene|118-74-1



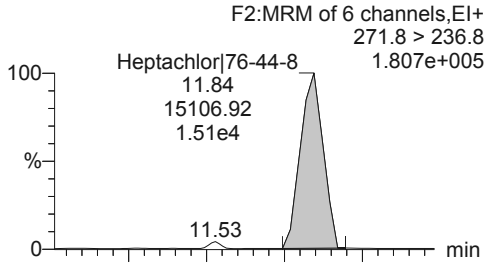
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

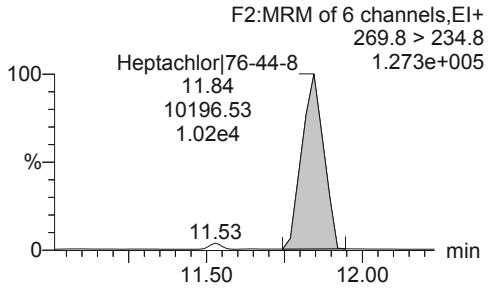
Heptachlor-13C10|CASID30731



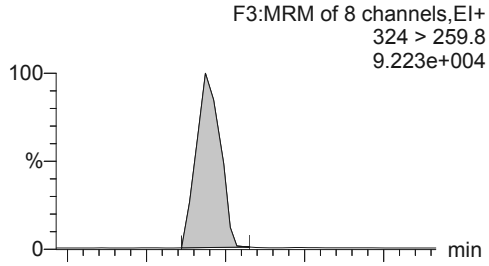


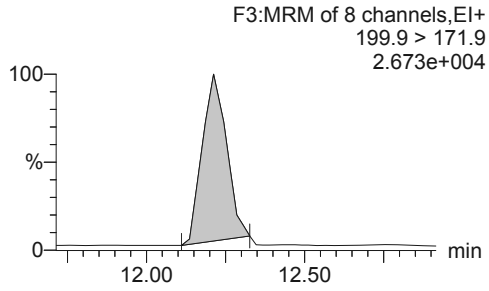
Heptachlor|76-44-8



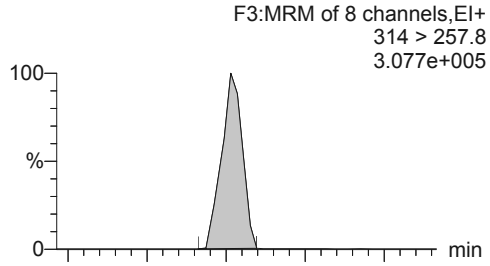


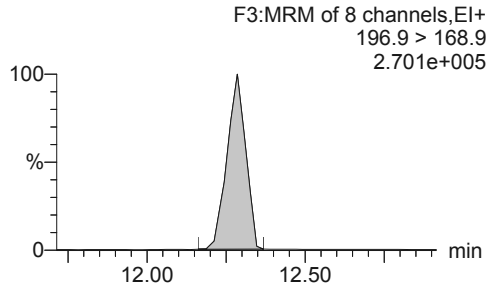
Chlorpyrifos-d10|CASID30732



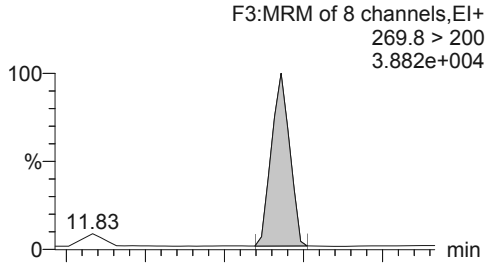


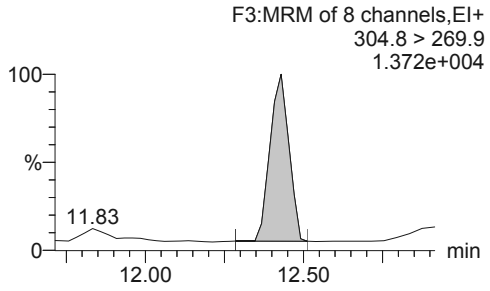
Chlorpyrifos|2921-88-2



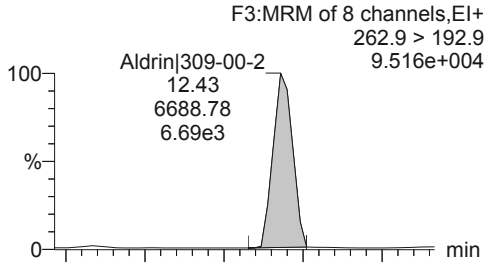


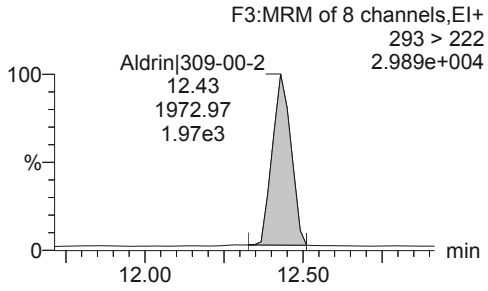
Aldrin-13C12|CASID30733



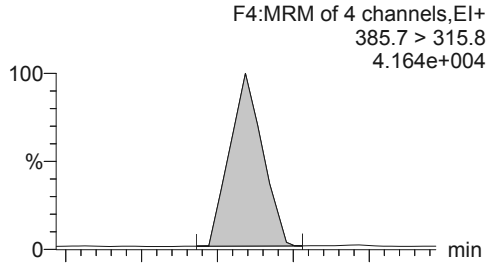


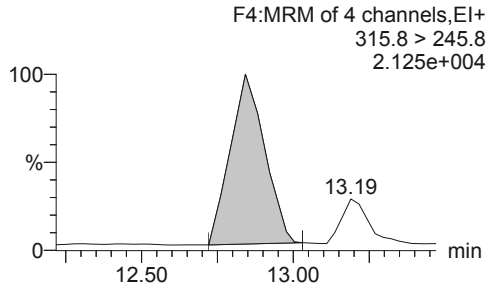
Aldrin|309-00-2



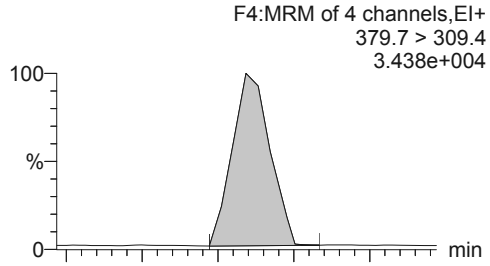


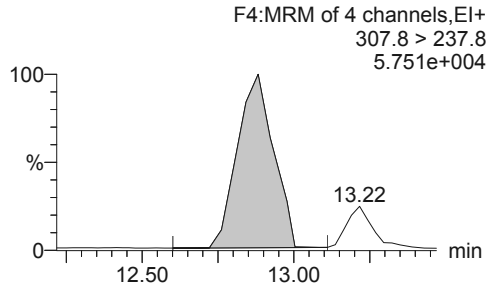
Ocstyrene13C8|CASID30734





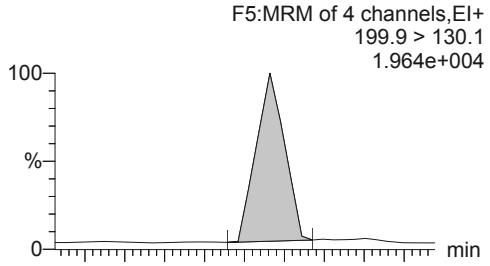
Octachlorostyrene|29082-74-4

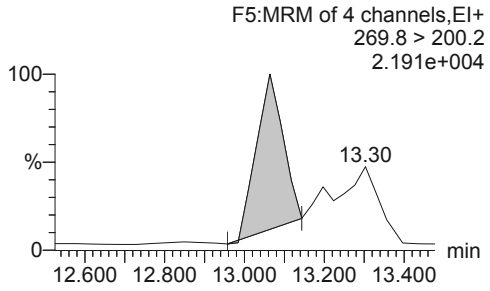




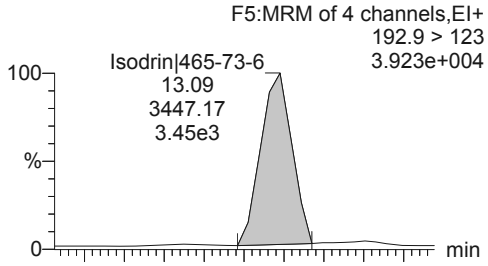
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

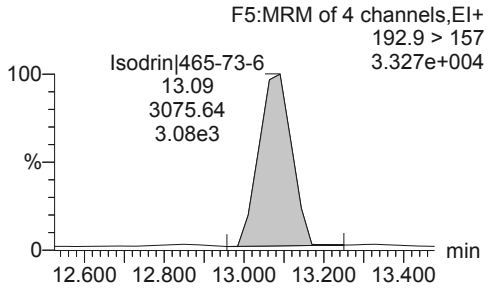
Isodrin-13C12|CASID30735



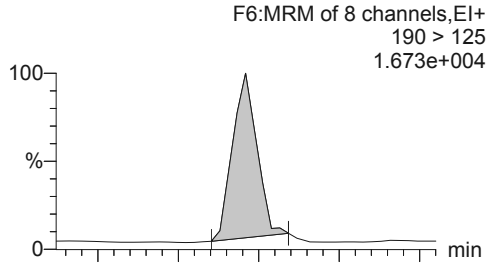


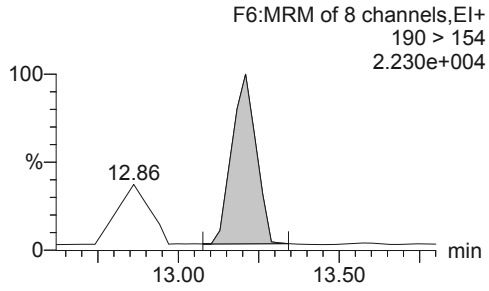
Isodrin|465-73-6



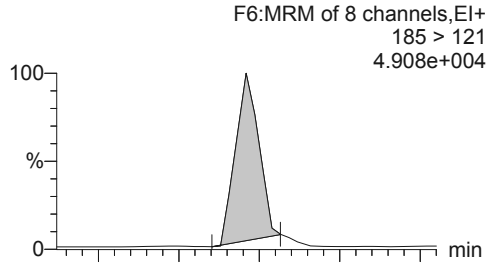


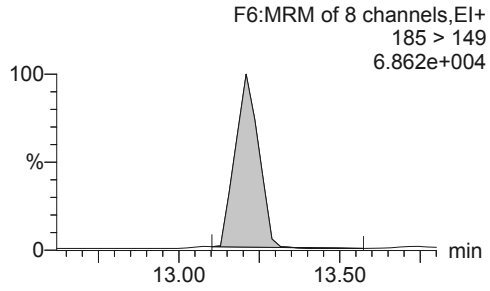
Oxychlordane-13C10|CASID30737



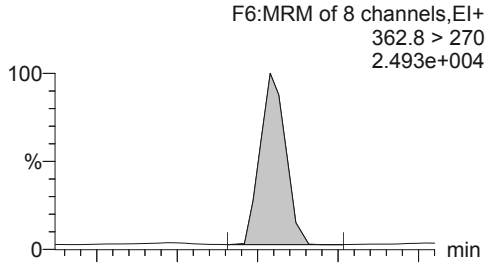


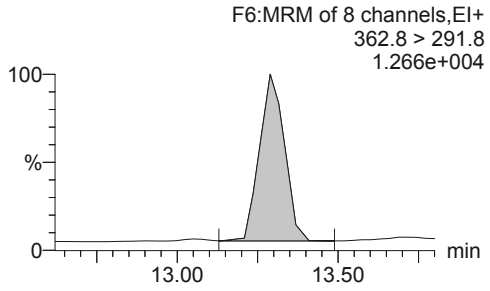
Oxychlordane|27304-13-8



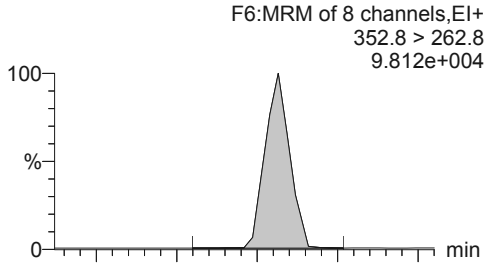


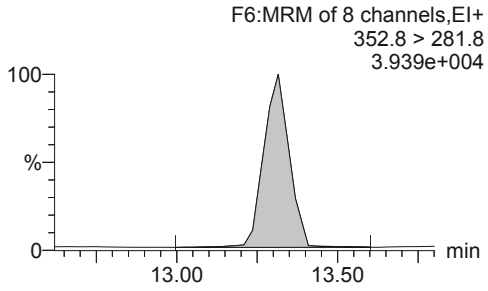
HeptachIrepox13C10|CASID30736



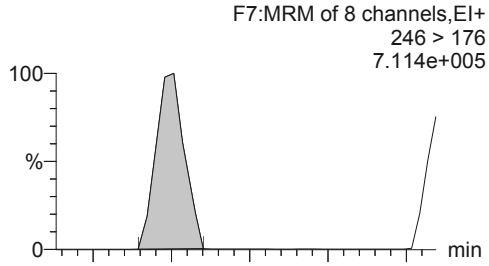


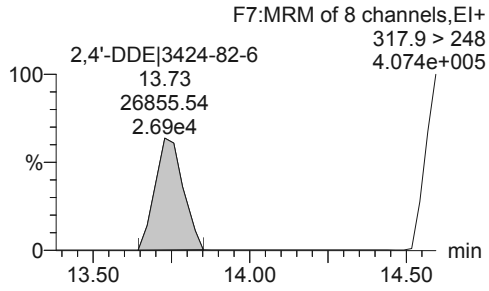
Heptachlor epoxide|1024-57-3



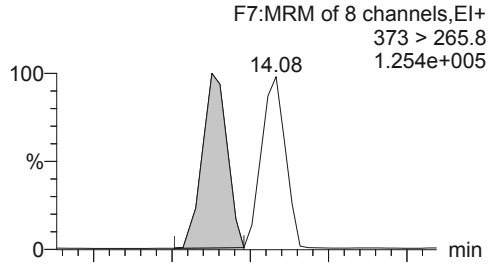


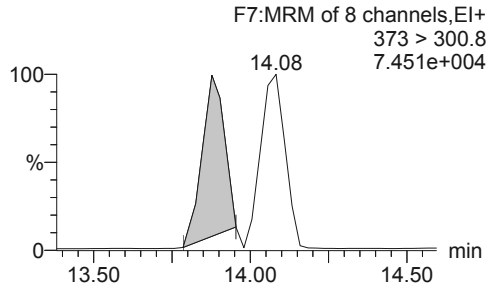
2,4'-DDE|3424-82-6





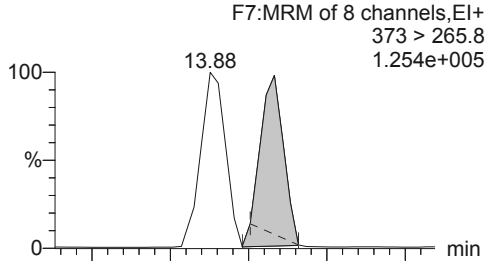
gamma-Chlordane|5566-34-7

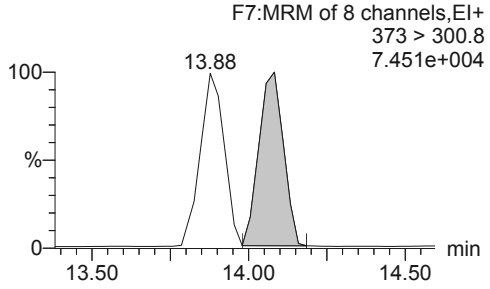




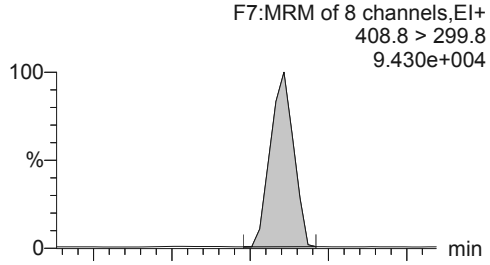
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

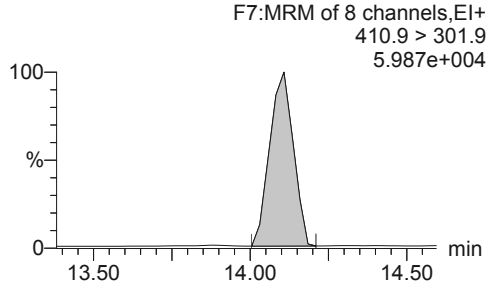
alpha-Chlordane|5103-71-9



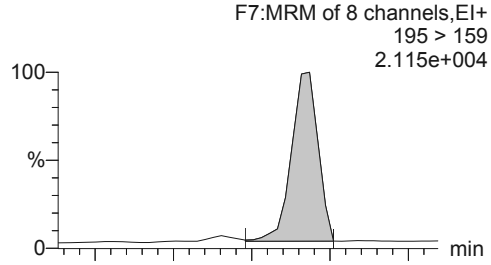


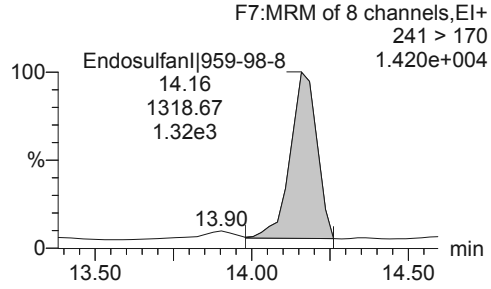
trans-Nonachlor|39765-80-5



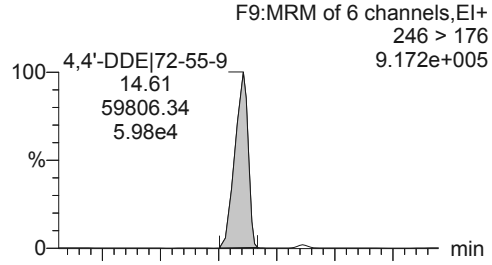


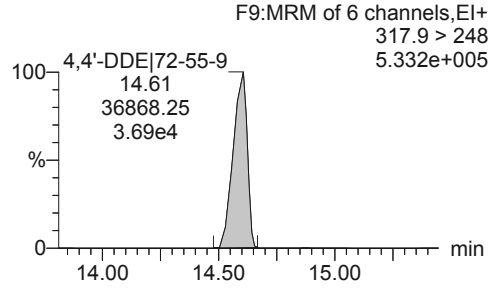
Endosulfanl|959-98-8



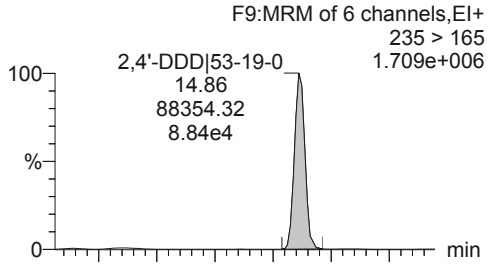


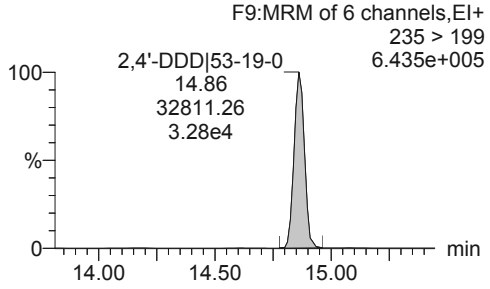
4,4'-DDE|72-55-9



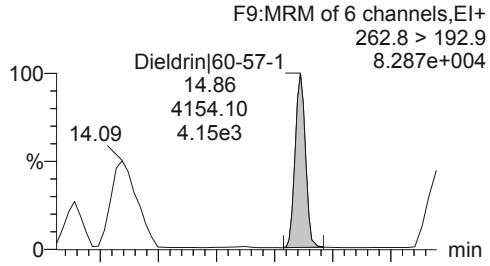


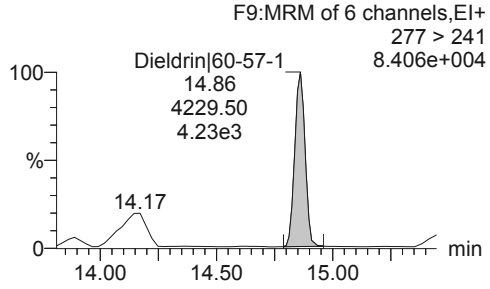
2,4'-DDD|53-19-0



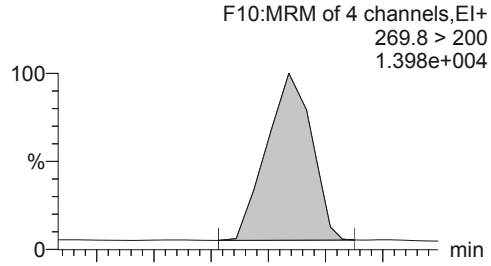


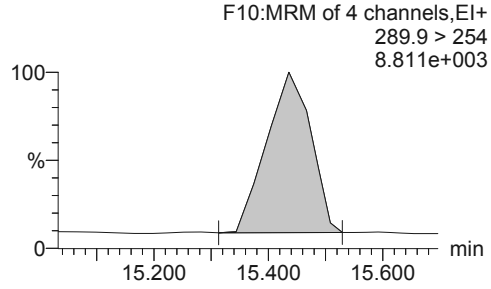
Dieldrin|60-57-1



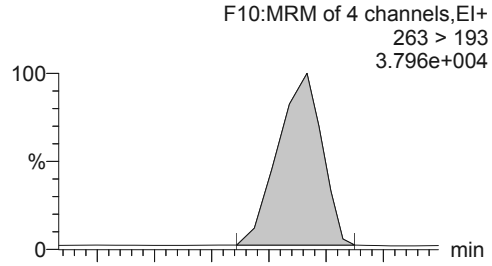


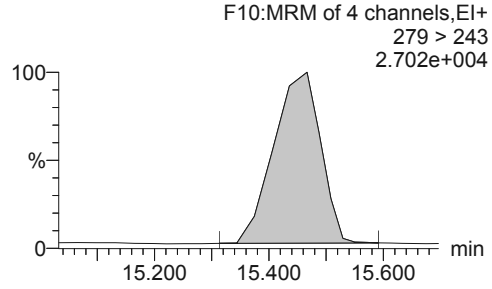
Endrin-13C12|CASID30739





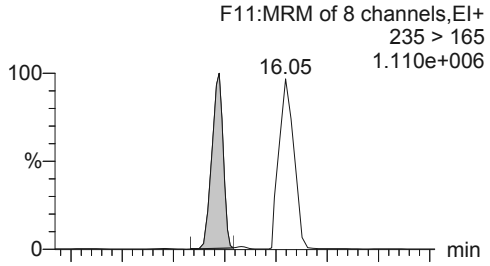
Endrin|72-20-8

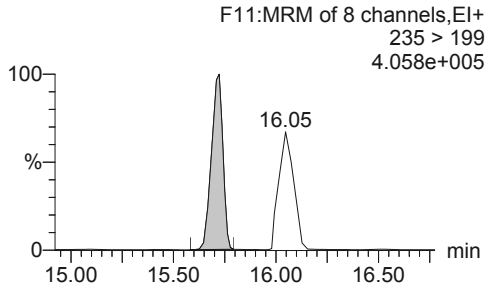




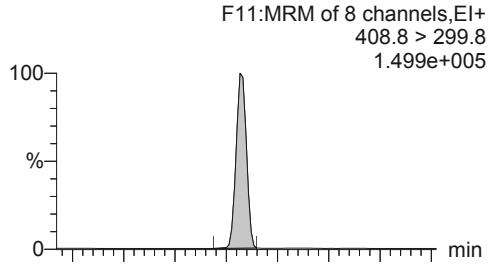
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

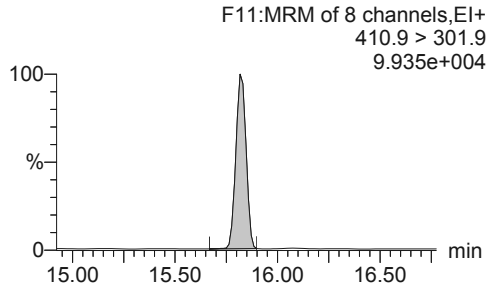
2,4-DDT|789-02-6



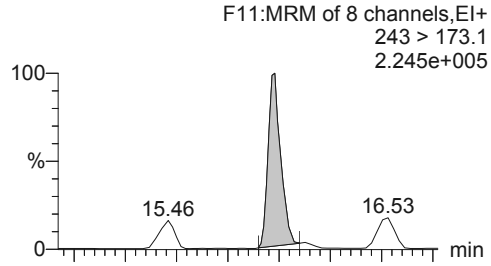


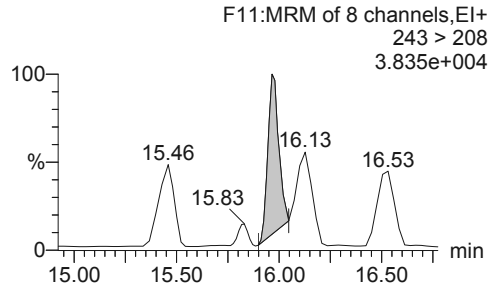
cis-Nonachlor|5103-73-1



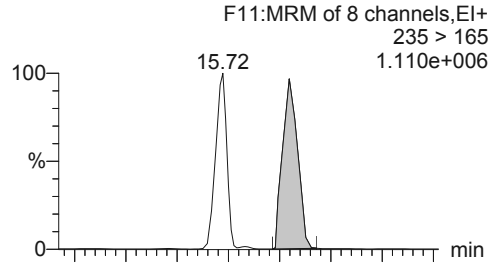


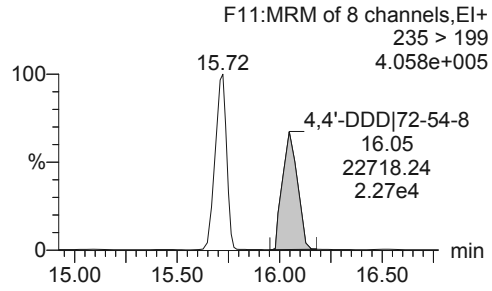
4,4'DDD-d4|93952-20-6



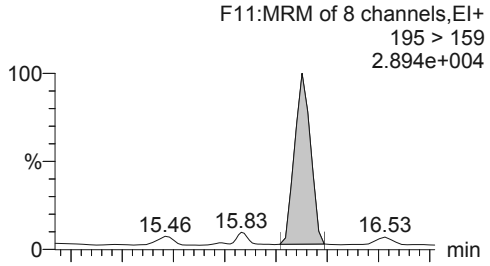


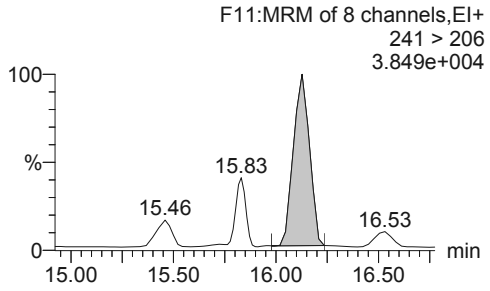
4,4'-DDD|72-54-8



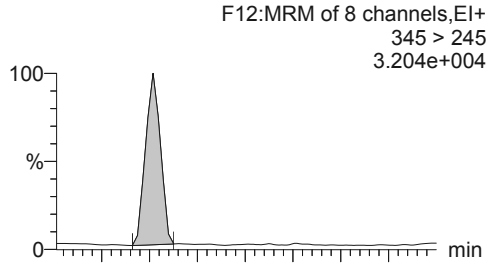


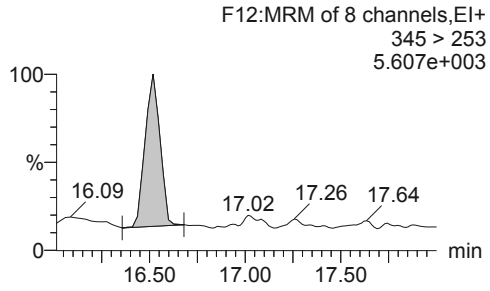
Endosulfanll|33213-65-9



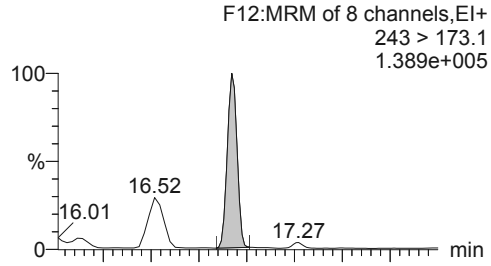


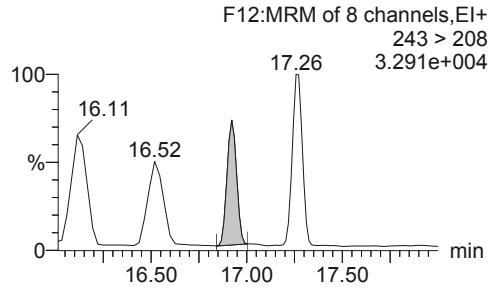
Endrin aldehyde|7421-93-4



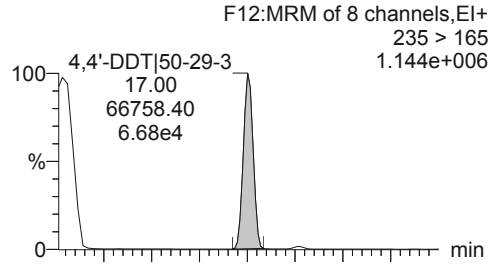


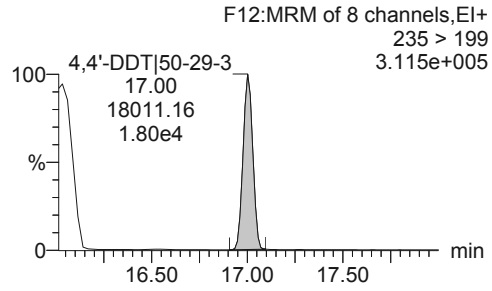
4,4'-DDT-d4|93952-18-2





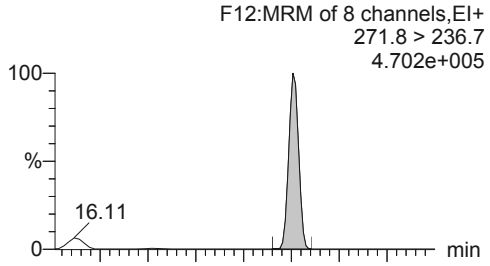
4,4'-DDT|50-29-3

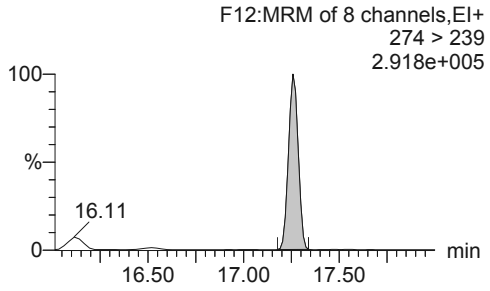




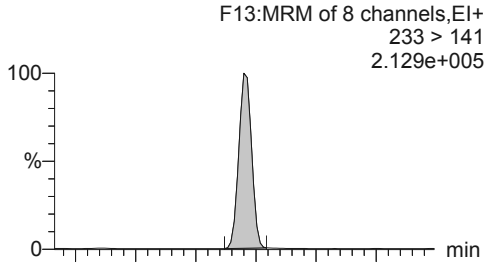
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

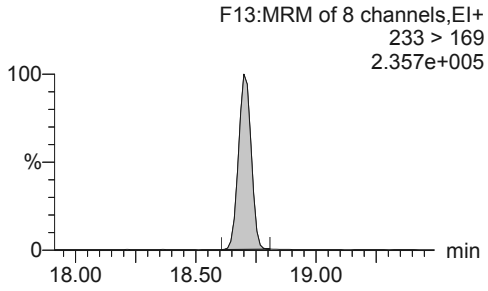
Endosulfan sulfate|1031-07-8



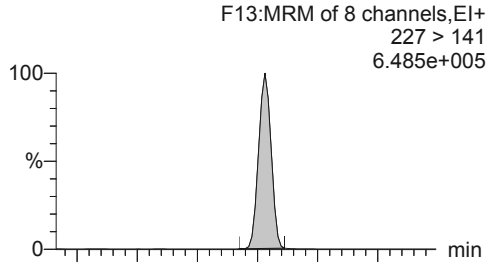


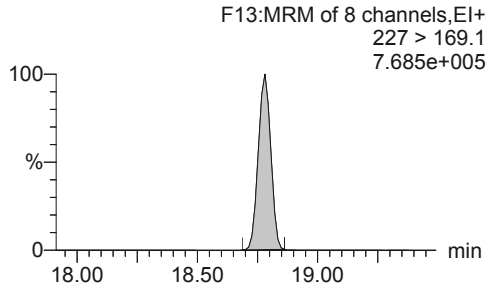
Mxchlord6|106031-79-2



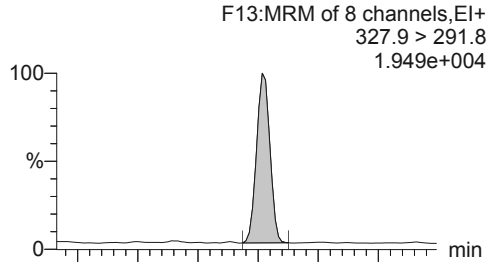


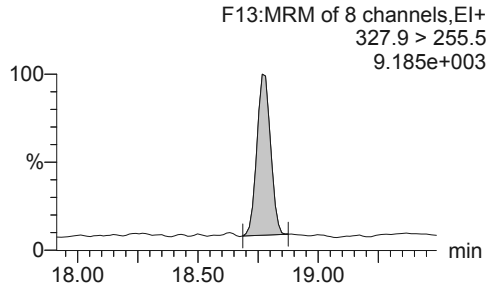
Methoxychlor|72-43-5



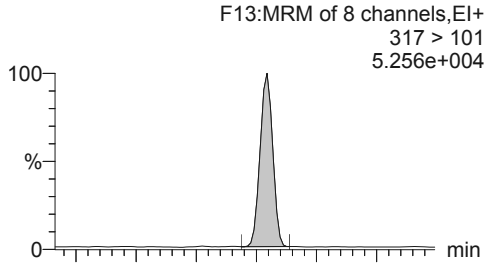


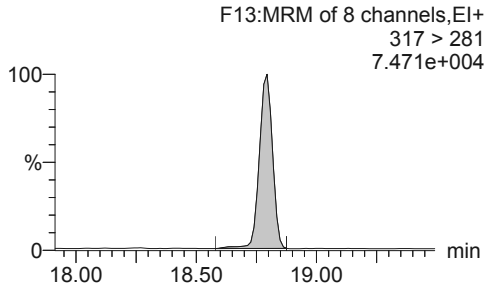
Endrinket13C12|CASID30741



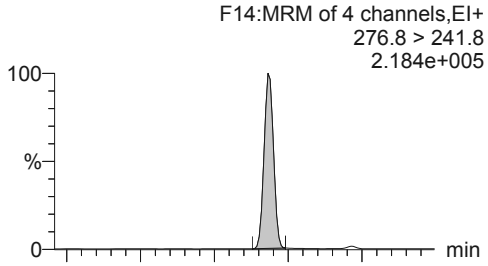


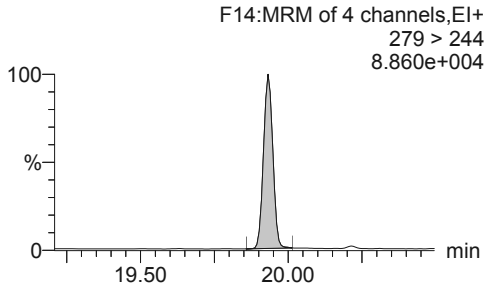
Endrin ketone|53494-70-5



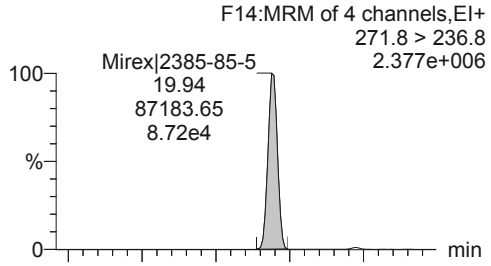


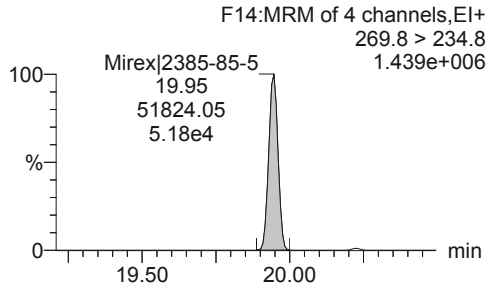
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	45178.703		bb		90.9	-9.1	9.752	9.496	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	7016.685	45178.703	bb		21.1	5.7	3.616	3.882	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	13519.436	7016.685	bb		51.4	-14.3	2.895	2.996	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	11974.820	7016.685	bb		54.8	-8.6	3.003	2.961	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	17074.041	7016.685	bb		54.9	-8.6	3.330	3.409	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	17388.631	7016.685	bb		55.1	-8.1	3.180	3.143	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	8944.280	45178.703	bb		22.8	14.1	3.518	3.843	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	26556.910	8944.280	bb		52.3	-12.9	3.369	3.487	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5354.310	45178.703	bb		19.9	-0.5	1.865	1.875	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	15106.916	5354.310	bb		59.8	-0.3	1.536	1.482	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	7992.529	45178.703	bb		21.1	5.6	3.568	3.557	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	23201.938	7992.529	bb		50.6	-15.6	1.305	1.269	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2533.176	45178.703	bb		19.5	-2.7	2.967	2.819	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	6688.777	2533.176	bb		55.3	-7.8	3.364	3.390	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	5123.977	45178.703	bb		20.5	2.7	2.181	1.908	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	4842.528	5123.977	MM	MP	56.2	-6.3	0.633	0.619	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1538.599	45178.703	MM	MP	21.0	4.9	1.007	1.035	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	3447.172	1538.599	MM	MP	51.7	-13.9	1.026	1.121	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1365.304	45178.703	bb		20.3	1.7	0.636	0.731	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	3871.239	1365.304	MM	MP	54.5	-9.1	0.819	0.686	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2214.987	45178.703	MM	MP	19.8	-0.8	2.149	2.066	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	8547.484	2214.987	MM	MP	62.9	4.8	2.451	2.411	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.76	74793.398	15488.107	bb		57.1	-4.8	2.971	2.785	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	11360.726	1365.304	bb		55.2	-8.0	2.108	2.038	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	10627.439	1365.304	MM	BLC	60.4	0.7	1.575	1.599	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	7986.738	1365.304	bb		59.5	-0.8	1.517	1.548	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	1995.737	1209.535	db		59.1	-1.5	1.459	1.513	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	59806.344	15488.107	bb		58.8	-2.1	1.653	1.622	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	88354.320	15488.107	bb		57.5	-4.2	2.709	2.693	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	4154.101	1209.535	bb		58.4	-2.6	1.007	0.982	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1209.535	45178.703	bb		19.6	-2.0	1.566	1.677	NO
32	Endrin|72-20-8	263 > 193	15.47	3310.062	1209.535	bb		62.9	4.8	1.231	1.331	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	69222.492	7990.100	bb		58.0	-3.3	2.729	2.678	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	8613.809	1365.304	bb		59.0	-1.6	1.628	1.524	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.98	15488.107	45178.703	bb		4.9	-1.4	6.924	7.320	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	90358.688	15488.107	bb		58.7	-2.1	4.083	3.977	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	2527.659	1209.535	bb		54.8	-8.6	0.786	0.744	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	2816.136	1209.535	bb		59.9	-0.1	6.264	6.474	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	7990.100	45178.703	bb		5.0	0.1	5.701	5.985	NO

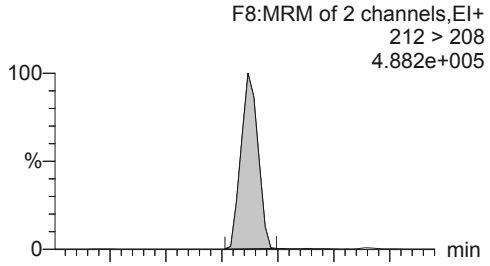
1st 08/08/18
2nd 08/13/18

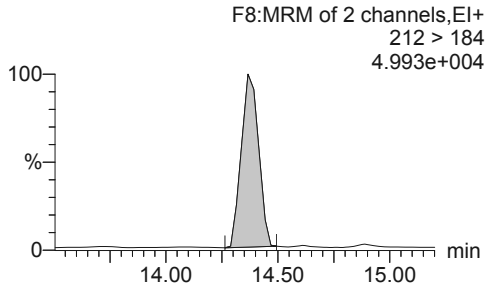
Name: 080818F014, Date: 08-Aug-2018, Time: 12:51:20, Description: OC PEST ICAL 60ng/mL SVM59-32H

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	66758.398	7990.100	bb		59.0	-1.6	3.729	3.707	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	27723.338	1209.535	bb		61.0	1.6	1.651	1.633	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	12948.815	45178.703	bb		19.2	-4.0	0.917	0.914	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	38377.879	12948.815	bb		57.8	-3.7	0.836	0.842	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1196.372	45178.703	bb		21.9	9.6	2.077	2.176	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	3115.571	1196.372	bb		51.4	-14.3	0.687	0.672	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7949.938	45178.703	bb		5.5	10.6	2.492	2.499	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	87183.648	7949.938	bb		51.0	-15.0	1.678	1.682	NO

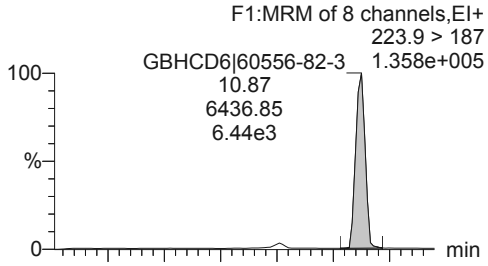
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

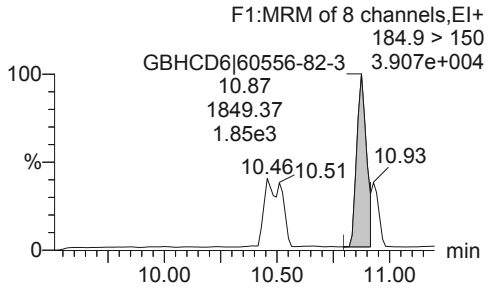
Pyrene-d10|1718-52-1



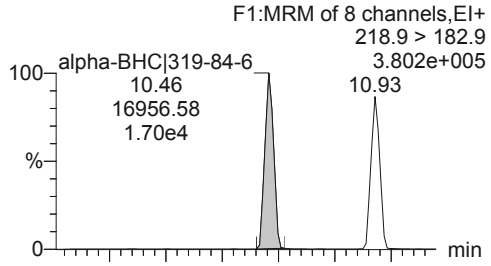


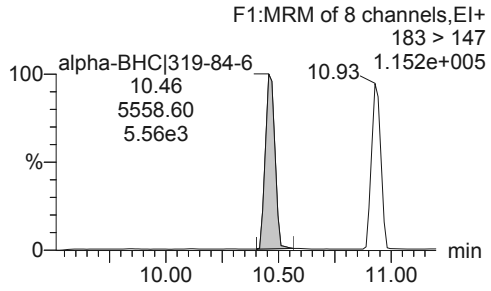
GBHCD6|60556-82-3



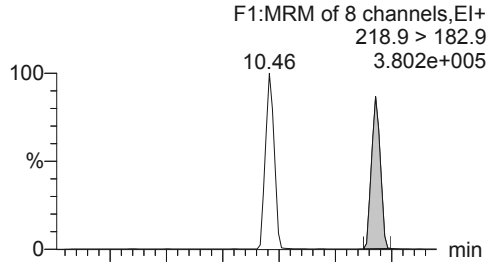


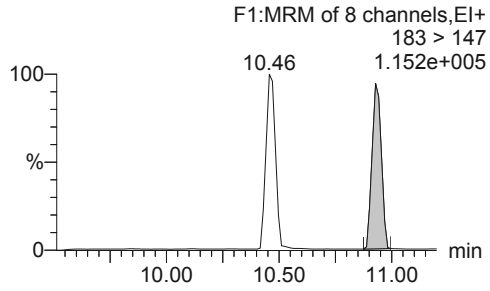
alpha-BHC|319-84-6



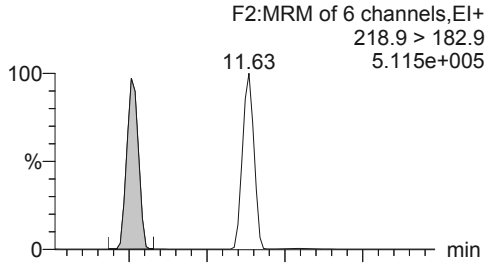


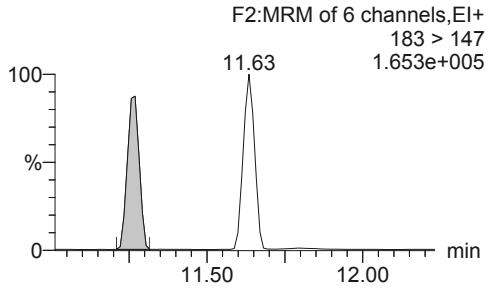
gamma-BHC|58-89-9



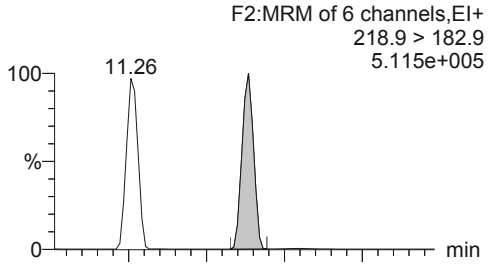


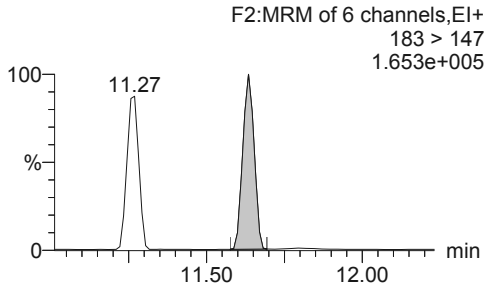
beta-BHC|319-85-7



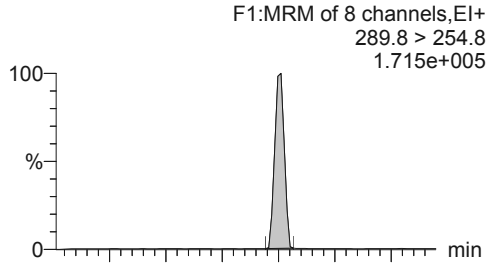


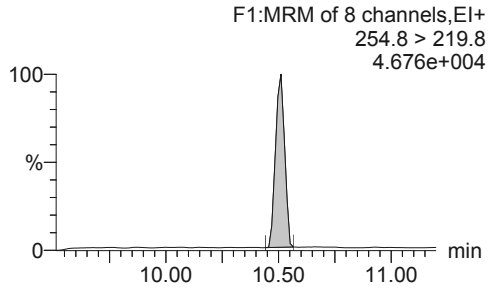
delta-BHC|319-86-8



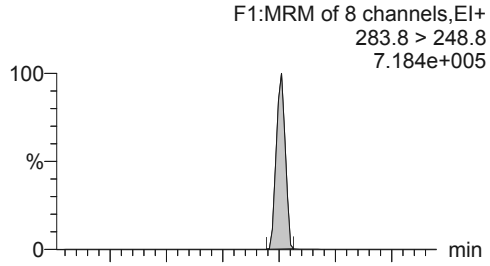


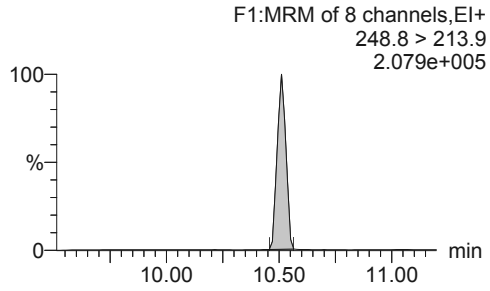
HXCBZ13C6|CASID30730





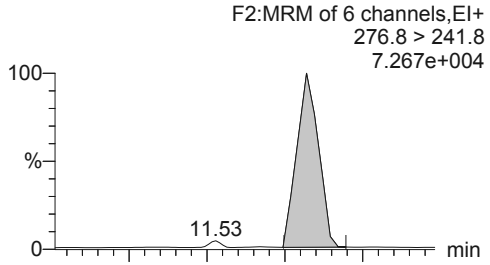
Hexachlorobenzene|118-74-1

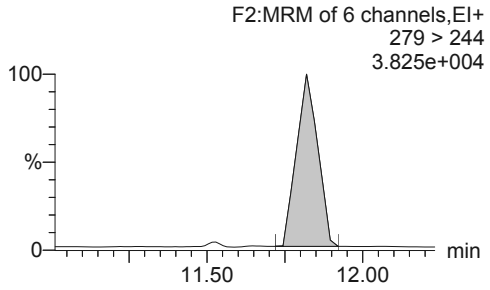




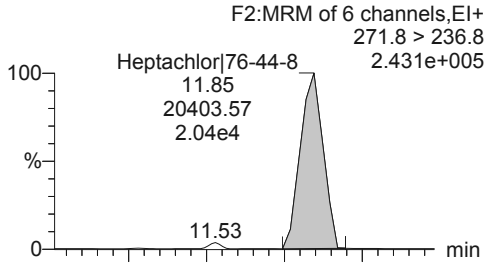
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

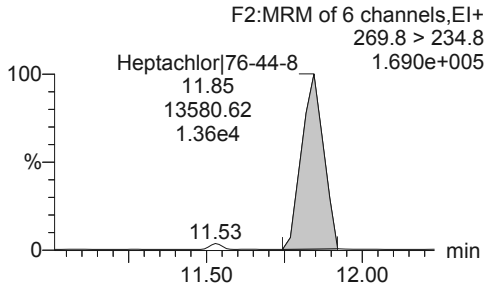
Heptachlor-13C10|CASID30731



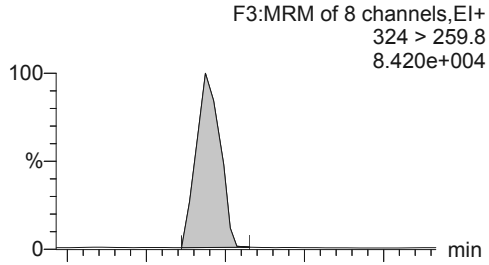


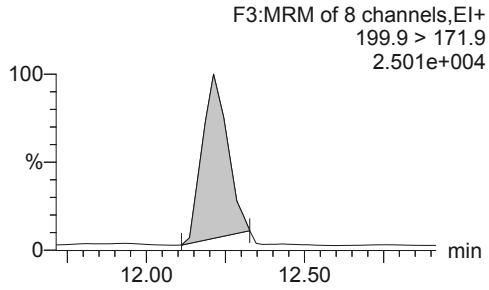
Heptachlor|76-44-8



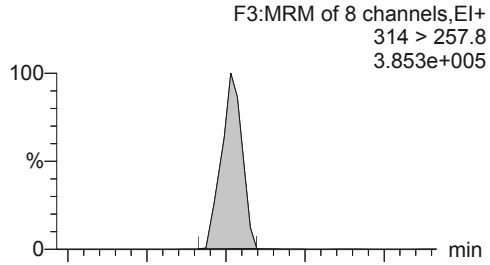


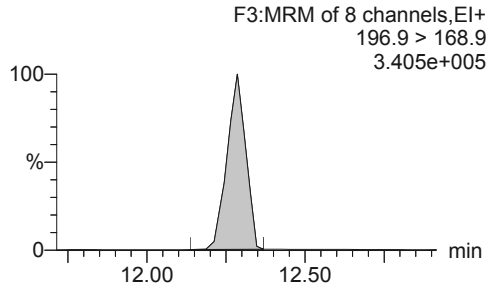
Chlorpyrifos-d10|CASID30732



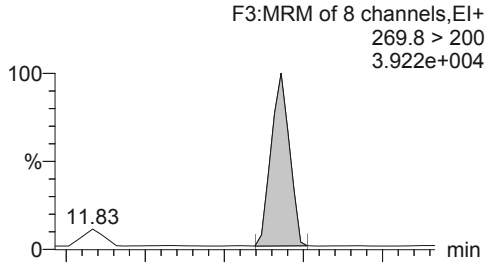


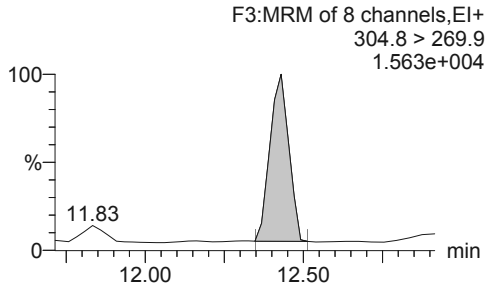
Chlorpyrifos|2921-88-2



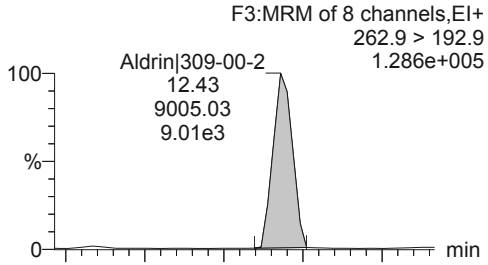


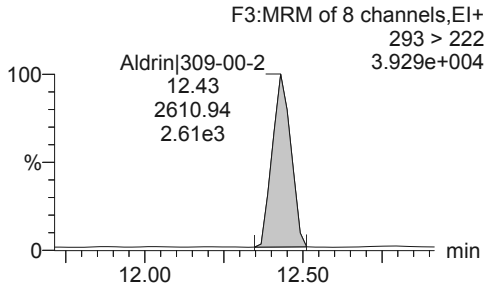
Aldrin-13C12|CASID30733



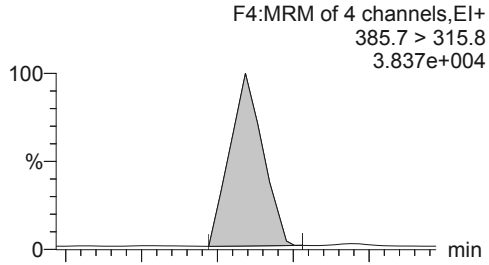


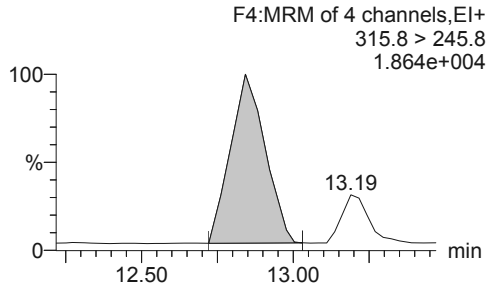
Aldrin|309-00-2



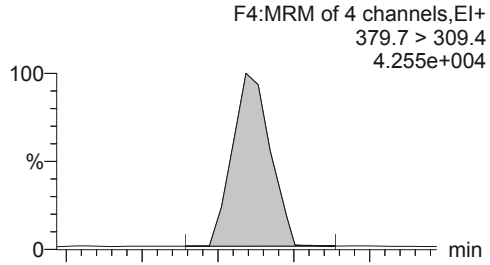


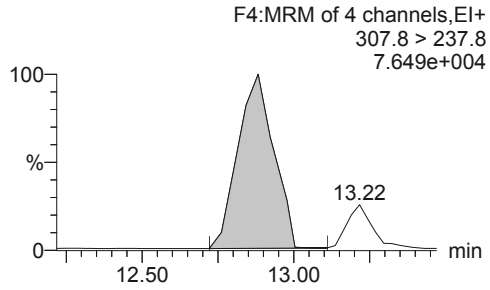
Ocstyrene13C8|CASID30734





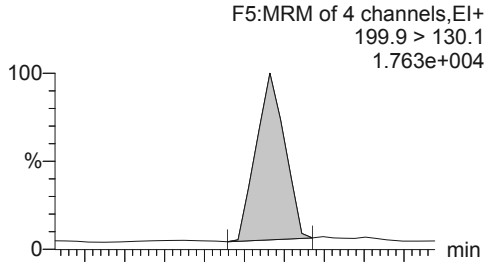
Octachlorostyrene|29082-74-4

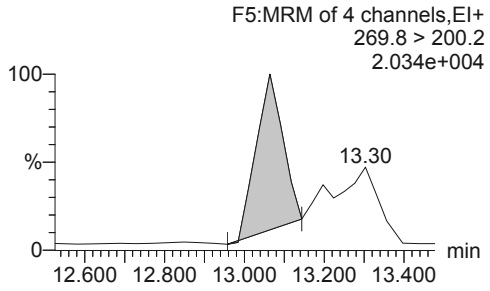




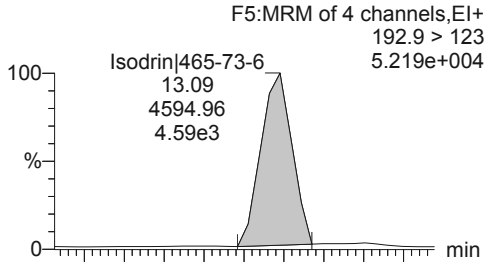
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32l

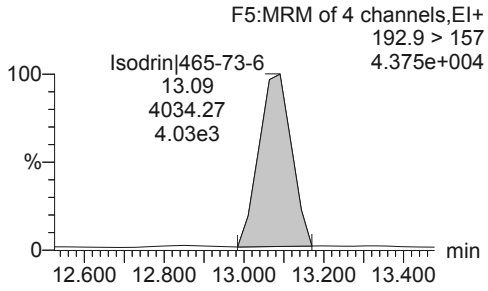
Isodrin-13C12|CASID30735



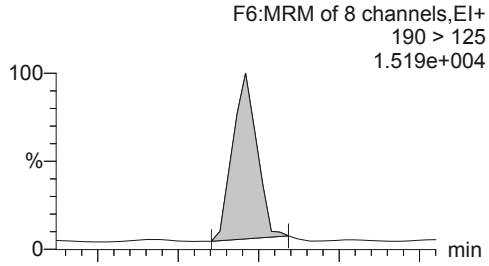


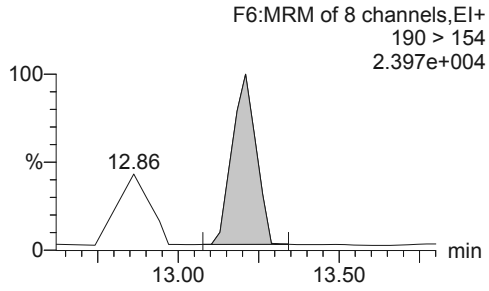
Isodrin|465-73-6



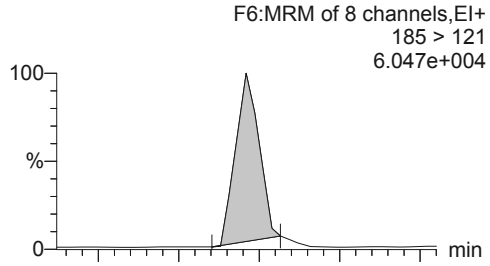


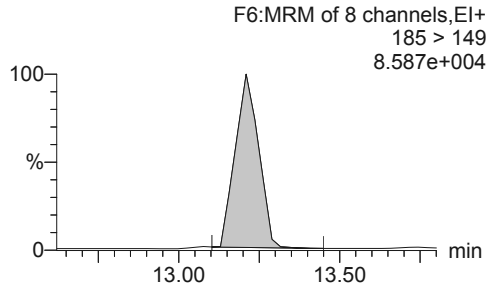
Oxychlordane-13C10|CASID30737



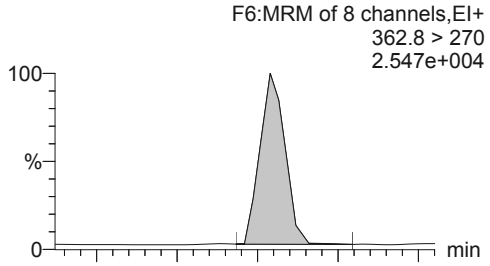


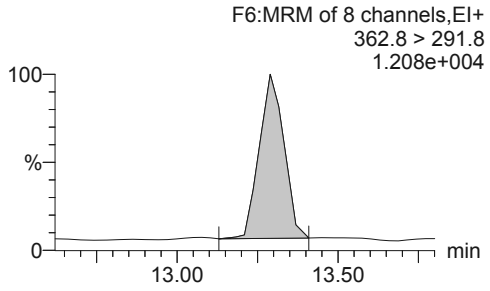
Oxychlordane|27304-13-8



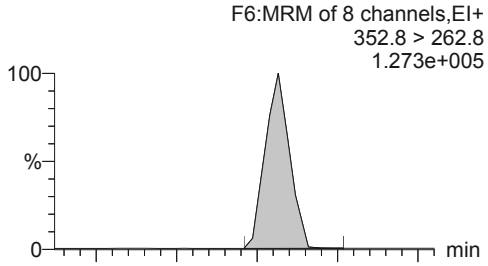


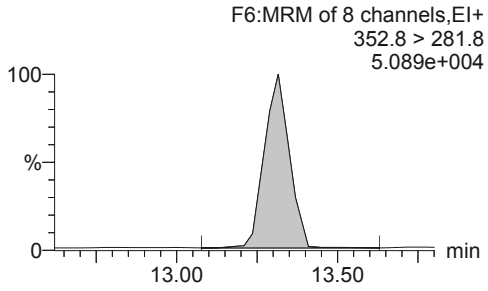
HeptachIrepox13C10|CASID30736



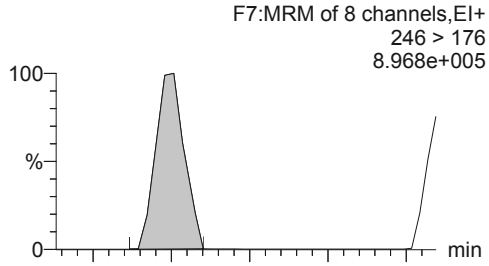


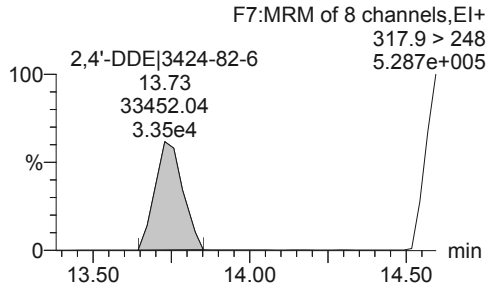
Heptachlor epoxide|1024-57-3



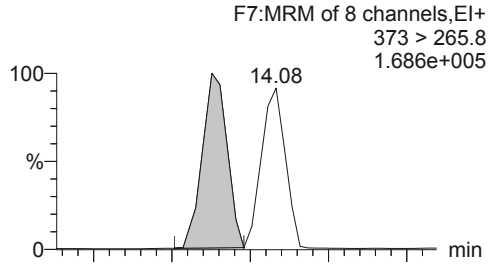


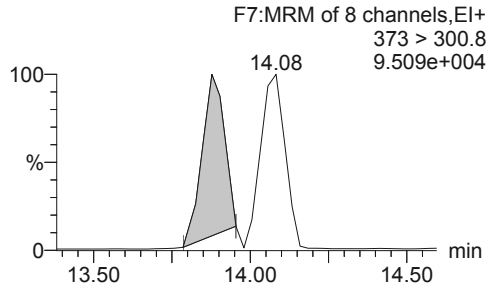
2,4'-DDE|3424-82-6





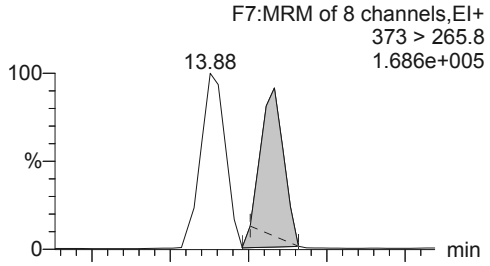
gamma-Chlordane|5566-34-7

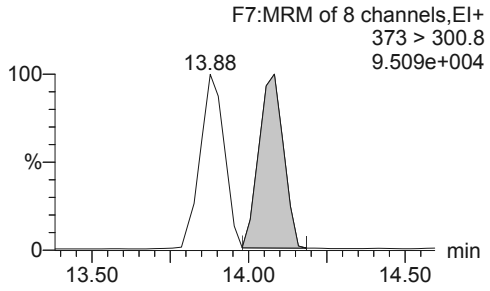




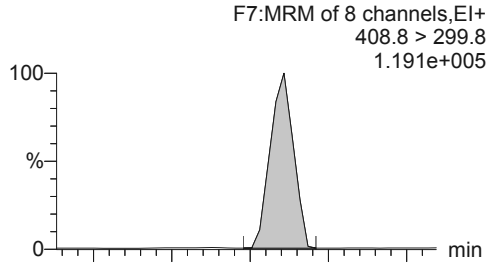
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

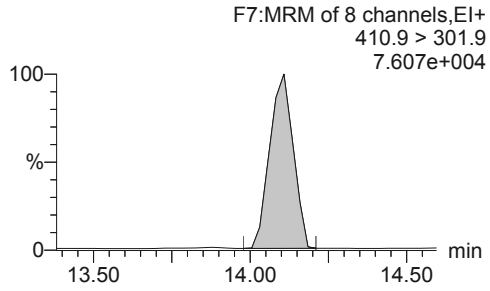
alpha-Chlordane|5103-71-9



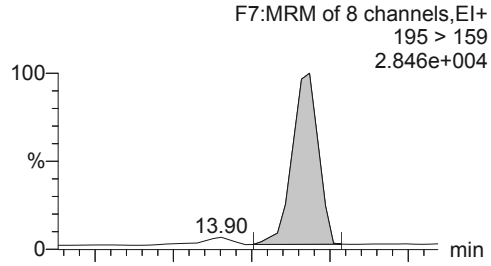


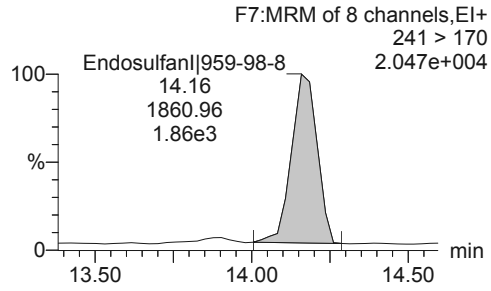
trans-Nonachlor|39765-80-5



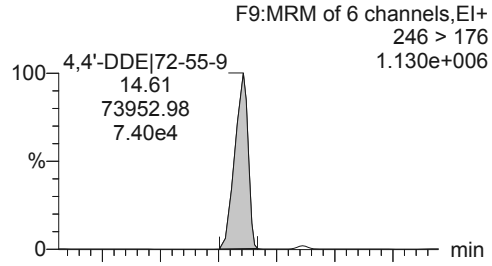


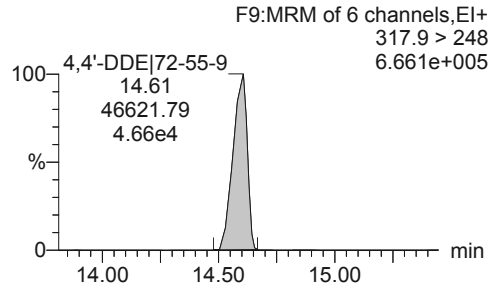
Endosulfanl|959-98-8



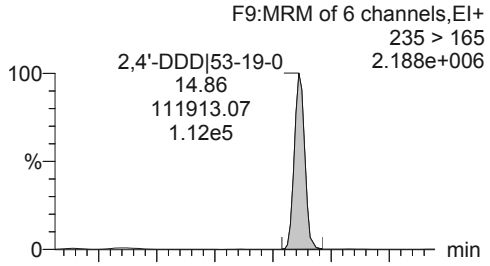


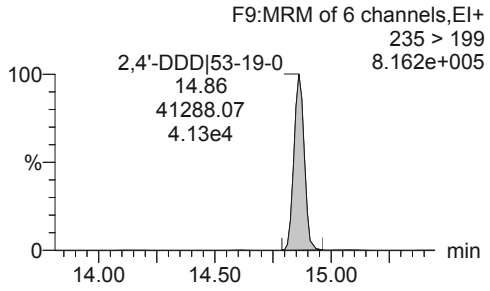
4,4'-DDE|72-55-9



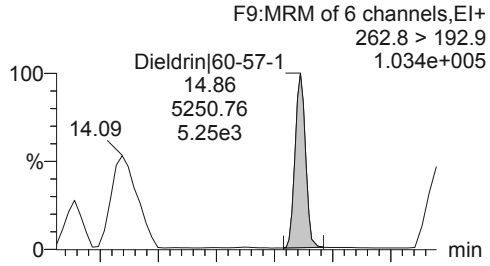


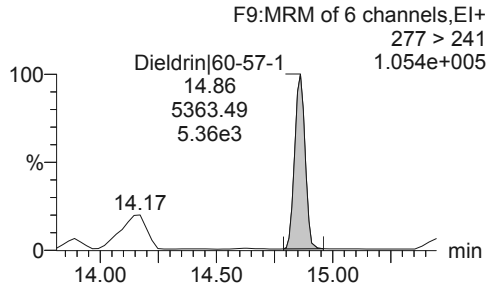
2,4'-DDD|53-19-0



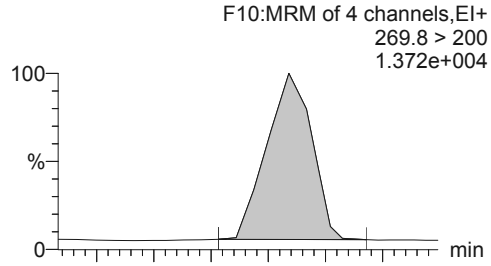


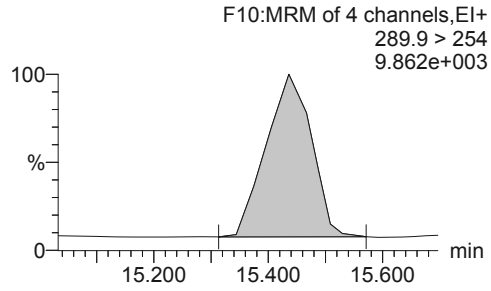
Dieldrin|60-57-1



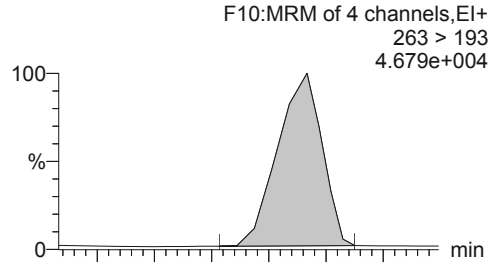


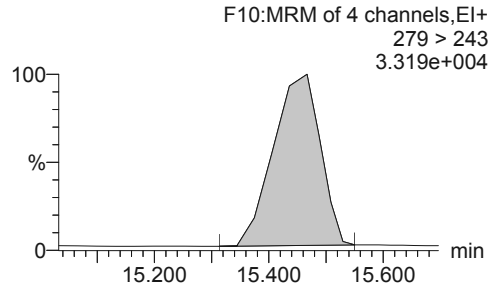
Endrin-13C12|CASID30739





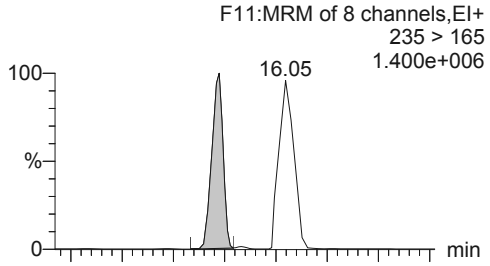
Endrin|72-20-8

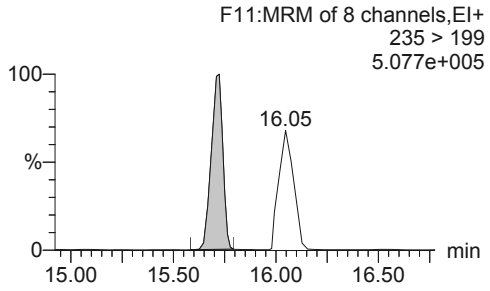




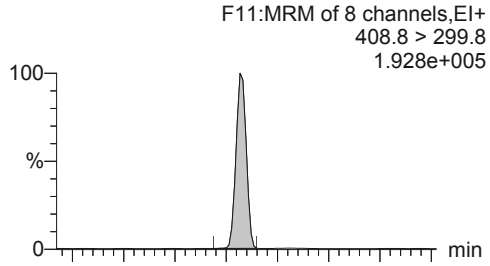
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

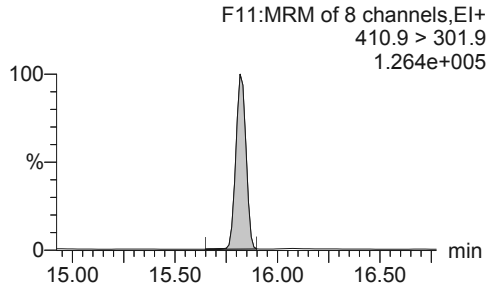
2,4-DDT|789-02-6



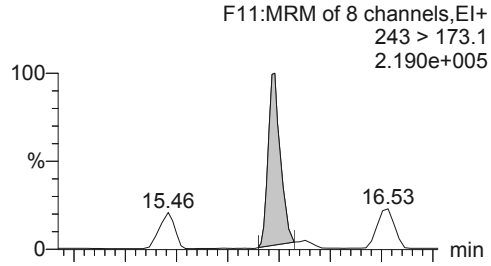


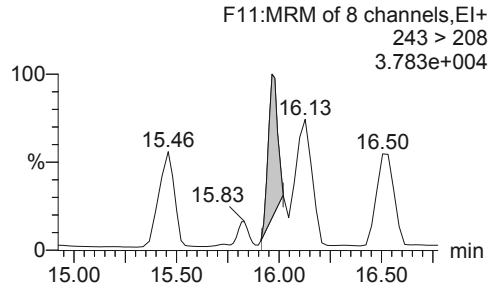
cis-Nonachlor|5103-73-1



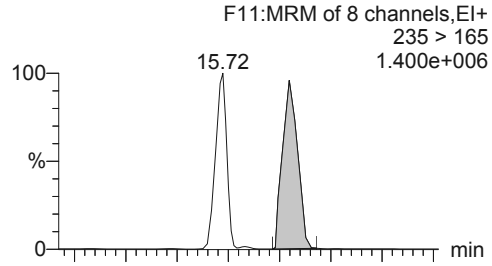


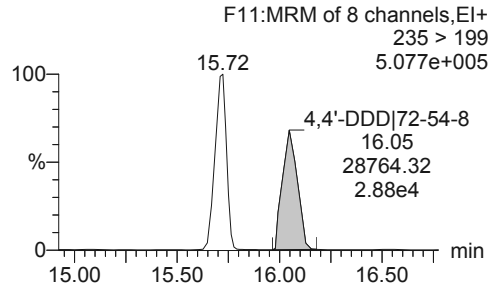
4,4'DDD-d4|93952-20-6



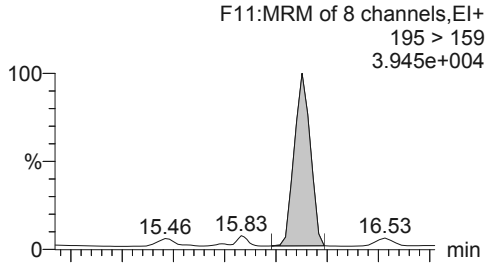


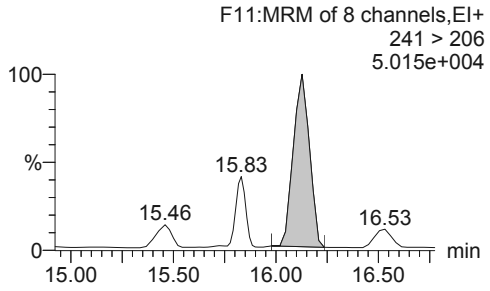
4,4'-DDD|72-54-8



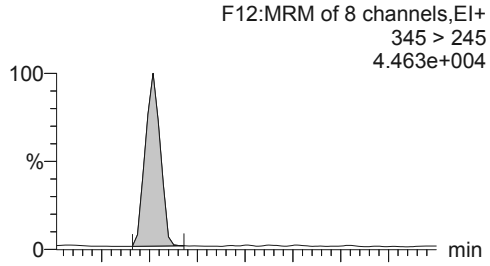


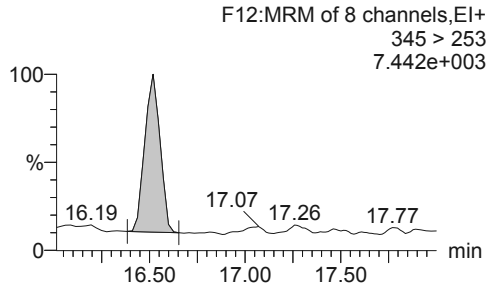
EndosulfanII|33213-65-9



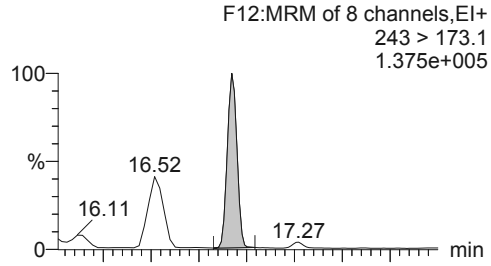


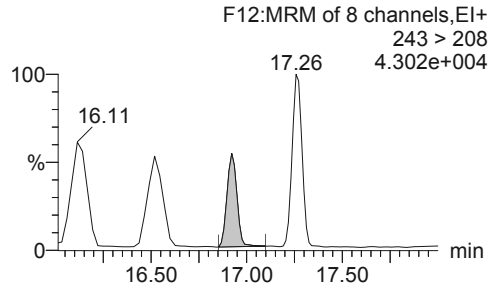
Endrin aldehyde|7421-93-4



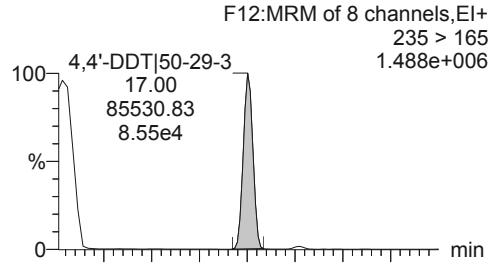


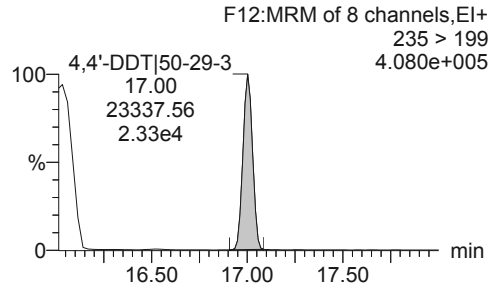
4,4'-DDT-d4|93952-18-2





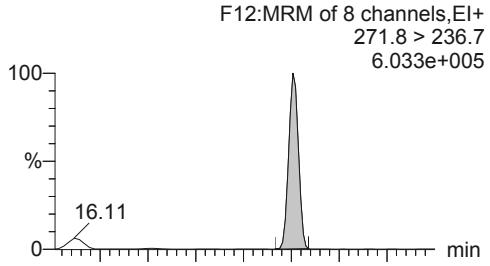
4,4'-DDT|50-29-3

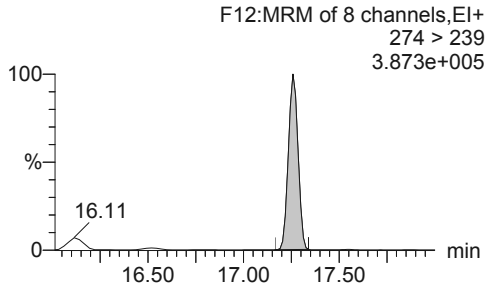




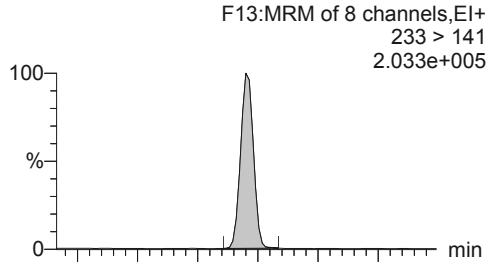
Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

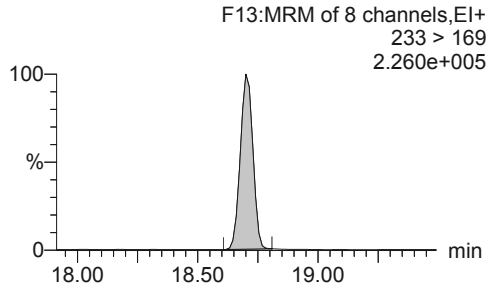
Endosulfan sulfate|1031-07-8



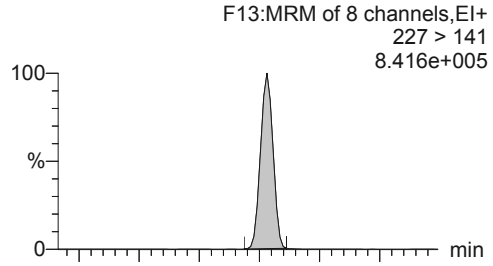


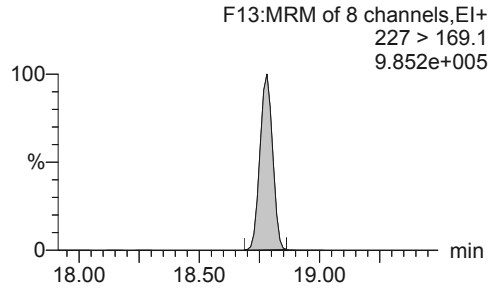
Mxchlord6|106031-79-2



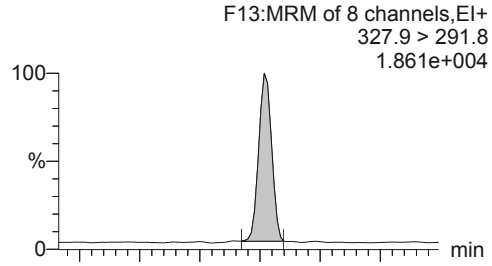


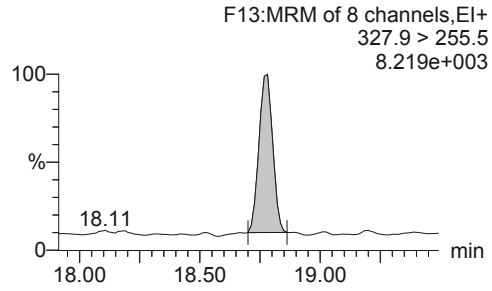
Methoxychlor|72-43-5



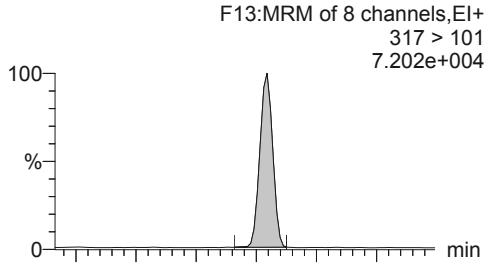


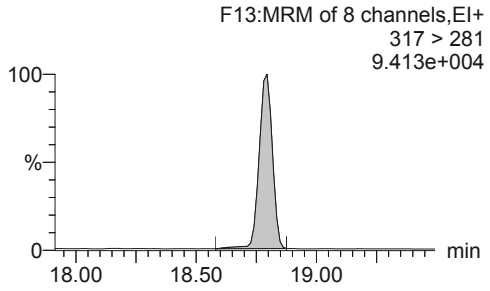
Endrinket13C12|CASID30741



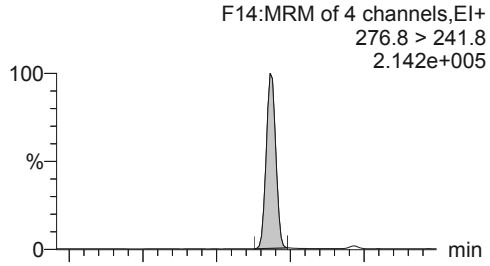


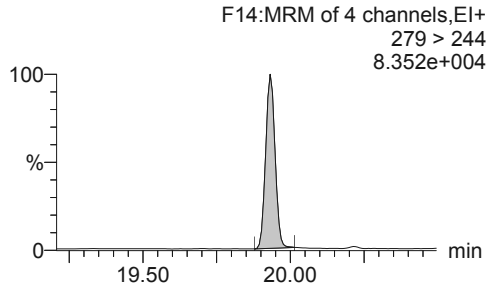
Endrin ketone|53494-70-5



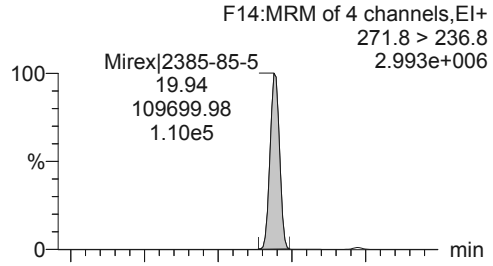


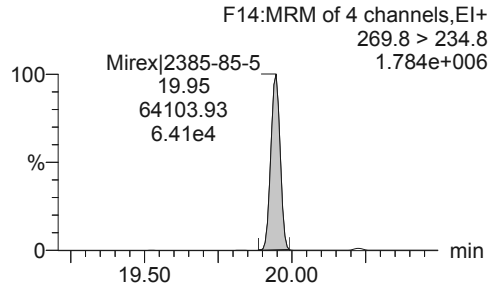
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	42604.047		bb		85.8	-14.2	9.752	9.719	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	6436.854	42604.047	bb		20.6	2.8	3.616	3.481	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	16956.582	6436.854	bb		70.3	-12.1	2.895	3.050	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	14827.917	6436.854	bb		74.0	-7.5	3.003	2.889	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	21232.584	6436.854	bb		74.4	-7.1	3.330	3.359	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	21721.348	6436.854	bb		75.1	-6.2	3.180	3.139	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.51	8324.104	42604.047	bb		22.5	12.6	3.518	3.902	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	32851.801	8324.104	bb		69.5	-13.1	3.369	3.572	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5769.072	42604.047	bb		22.7	13.6	1.865	1.961	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.85	20403.572	5769.072	bb		75.0	-6.3	1.536	1.502	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	7267.841	42604.047	bb		20.4	1.9	3.568	3.375	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.27	28847.209	7267.841	bb		69.2	-13.5	1.305	1.251	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2575.738	42604.047	bb		21.0	4.9	2.967	2.520	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	9005.026	2575.738	bb		73.2	-8.5	3.364	3.449	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	4743.830	42604.047	bb		20.2	0.8	2.181	2.004	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	6033.786	4743.830	MM	MP	75.6	-5.5	0.633	0.584	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1383.316	42604.047	MM	MP	20.0	0.0	1.007	0.999	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	4594.959	1383.316	MM	MP	76.6	-4.3	1.026	1.139	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1241.689	42604.047	bb		19.6	-1.9	0.636	0.623	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	4820.284	1241.689	MM	MP	74.6	-6.7	0.819	0.677	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2217.270	42604.047	MM	MP	21.1	5.3	2.149	2.226	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	11054.354	2217.270	MM	MP	81.3	1.6	2.451	2.453	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.76	94825.297	14612.130	bb		76.7	-4.1	2.971	2.835	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	15232.388	1241.689	bb		81.4	1.8	2.108	2.131	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	13328.729	1241.689	MM	BLC	83.3	4.1	1.575	1.574	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	10137.493	1241.689	bb		83.1	3.8	1.517	1.549	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	2670.798	1182.840	bb		80.8	1.1	1.459	1.435	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	73952.977	14612.130	bb		77.0	-3.7	1.653	1.586	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	111913.070	14612.130	bb		77.2	-3.5	2.709	2.711	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	5250.759	1182.840	bb		75.5	-5.6	1.007	0.979	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1182.840	42604.047	bb		20.3	1.6	1.566	1.416	NO
32	Endrin|72-20-8	263 > 193	15.47	4108.425	1182.840	bb		79.8	-0.3	1.231	1.340	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	87381.250	7844.527	bb		74.6	-6.8	2.729	2.681	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	10974.971	1241.689	bb		82.7	3.4	1.628	1.543	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.98	14612.130	42604.047	bb		4.9	-1.3	6.924	9.189	YES
36	4,4'-DDD|72-54-8	235 > 165	16.05	113038.484	14612.130	bb		77.9	-2.7	4.083	3.930	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	3501.094	1182.840	bb		77.7	-2.9	0.786	0.785	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	3966.446	1182.840	bb		86.3	7.9	6.264	6.446	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	7844.527	42604.047	bb		5.2	4.3	5.701	5.813	NO

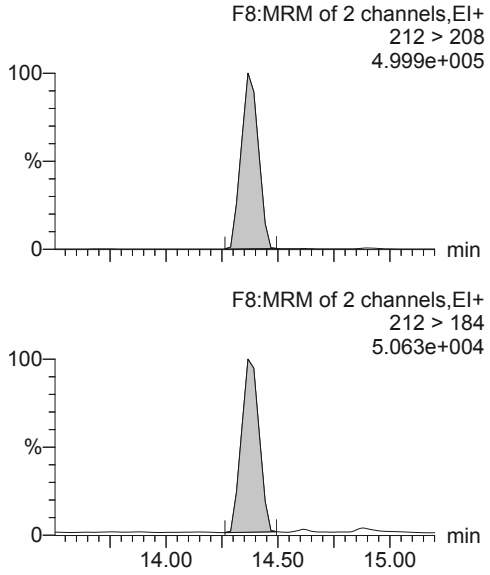
1st 08/08/18
2nd 08/13/18

Name: 080818F015, Date: 08-Aug-2018, Time: 13:18:52, Description: OC PEST ICAL 80ng/mL SVM59-32I

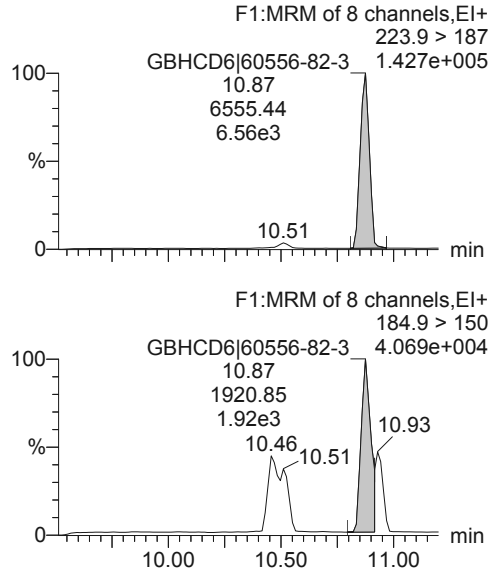
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	85530.828	7844.527	bb		77.0	-3.7	3.729	3.665	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	35153.277	1182.840	bb		79.0	-1.2	1.651	1.571	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	12398.881	42604.047	bb		19.5	-2.5	0.917	0.919	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	49877.672	12398.881	bb		78.4	-2.0	0.836	0.845	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1093.091	42604.047	bb		21.2	6.2	2.077	2.252	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	4351.136	1093.091	bb		78.6	-1.7	0.687	0.740	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	7886.438	42604.047	bb		5.8	16.4	2.492	2.612	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	109699.977	7886.438	bb		64.7	-19.2	1.678	1.711	NO

Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

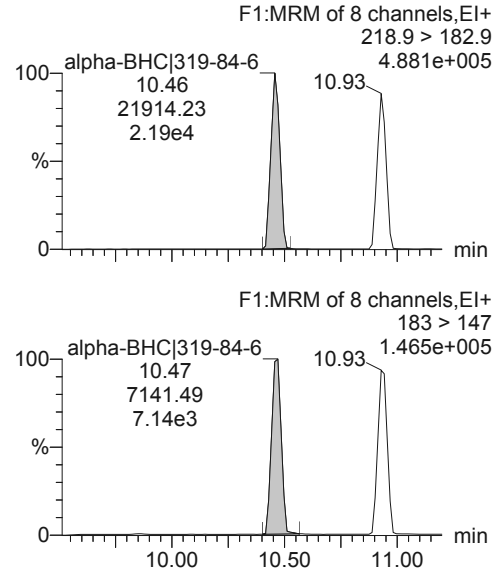
Pyrene-d10|1718-52-1



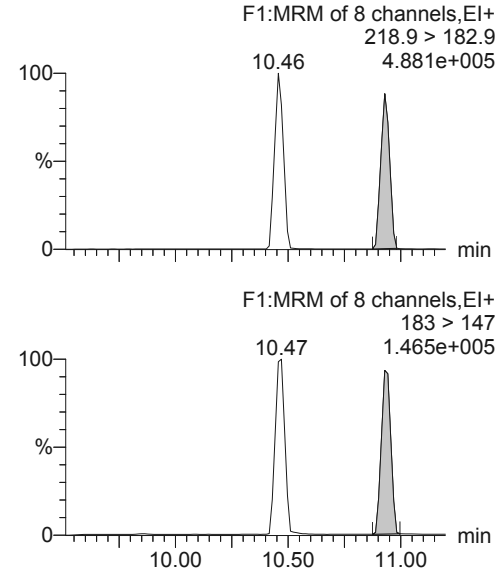
GBHCD6|60556-82-3



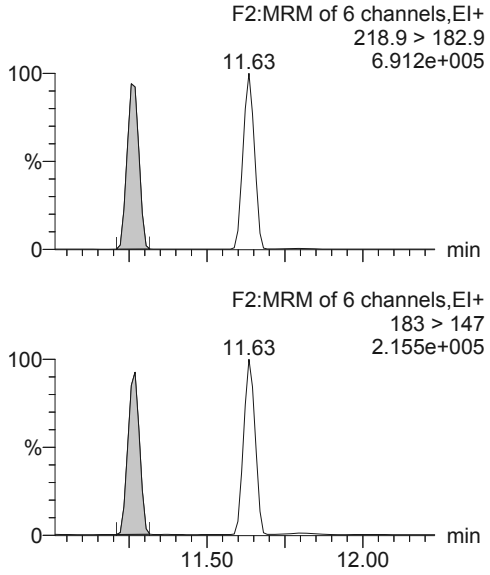
alpha-BHC|319-84-6



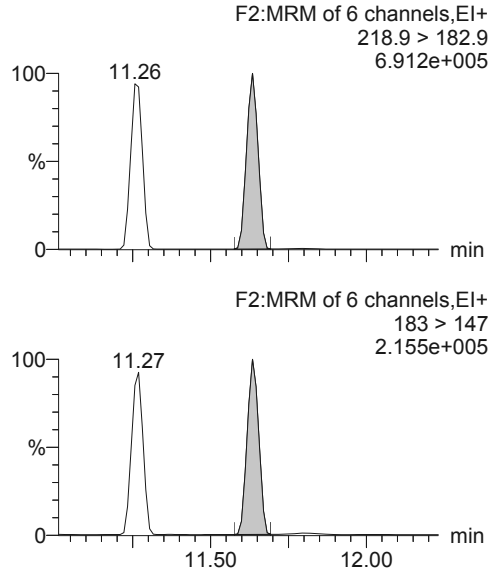
gamma-BHC|58-89-9



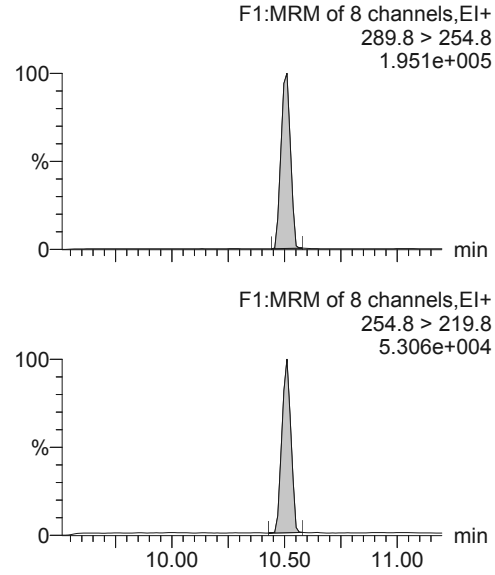
beta-BHC|319-85-7



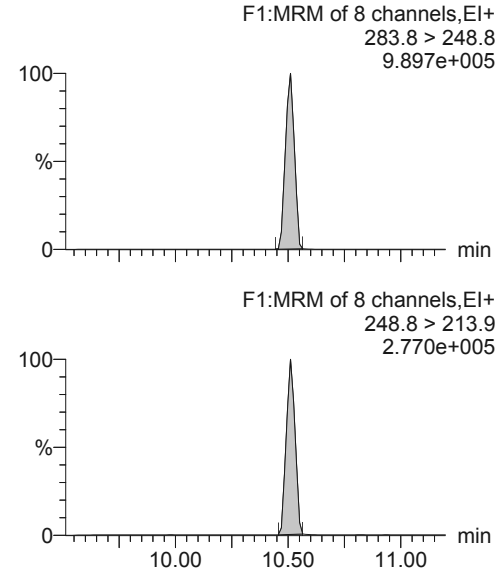
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

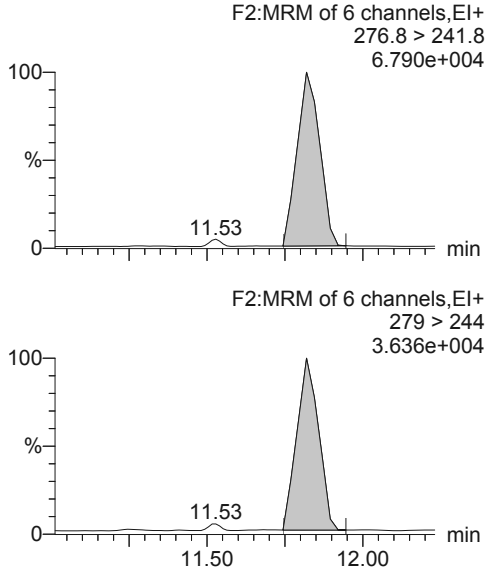


Hexachlorobenzene|118-74-1

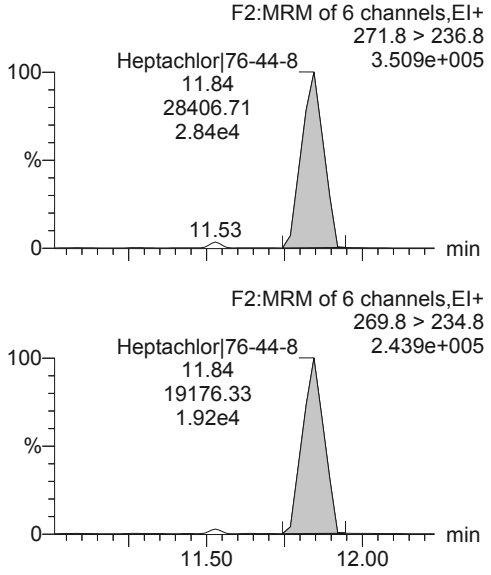


Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

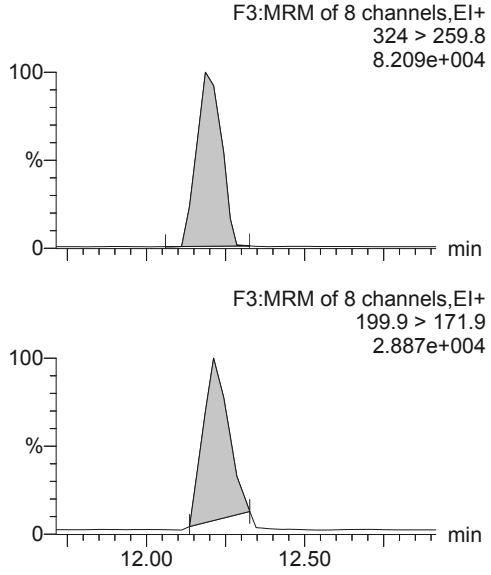
Heptachlor-13C10|CASID30731



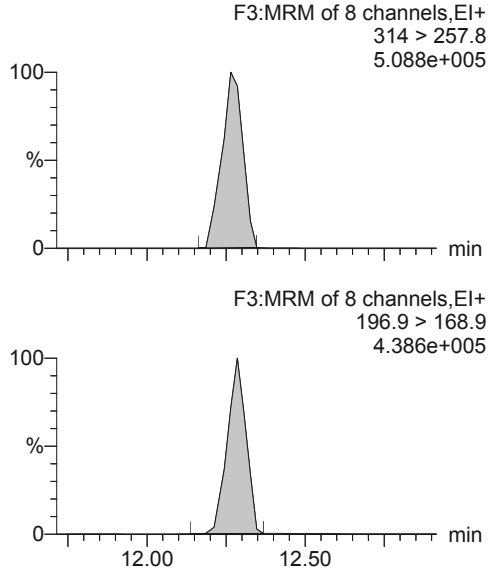
Heptachlor|76-44-8



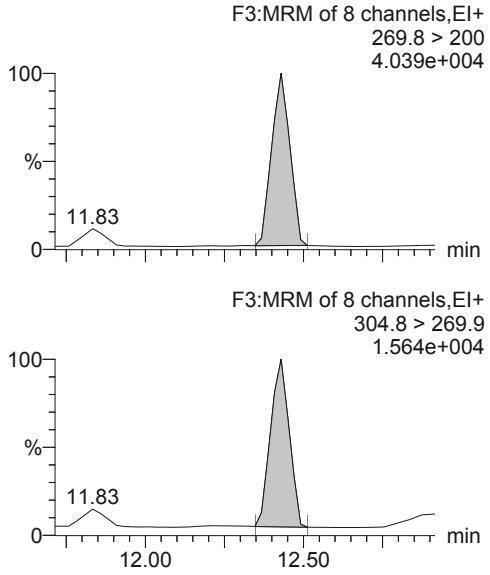
Chlorpyrifos-d10|CASID30732



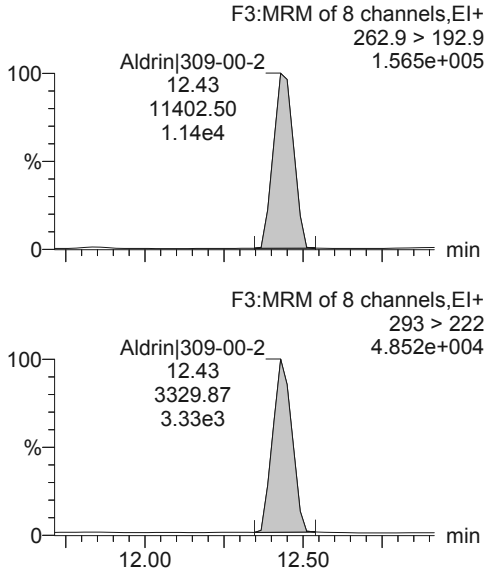
Chlorpyrifos|2921-88-2



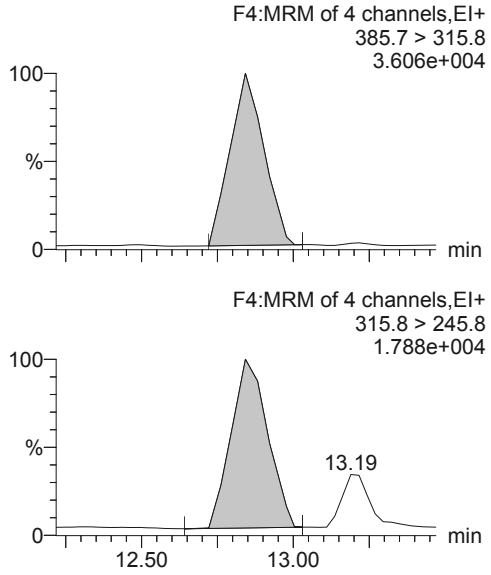
Aldrin-13C12|CASID30733



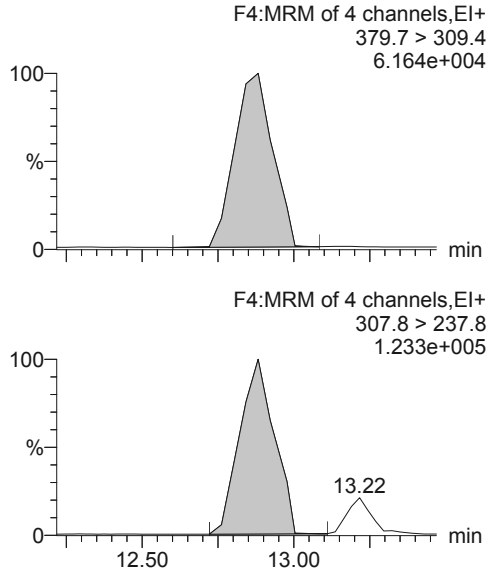
Aldrin|309-00-2



Ocstyrene13C8|CASID30734

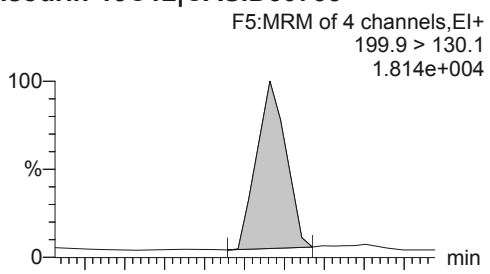


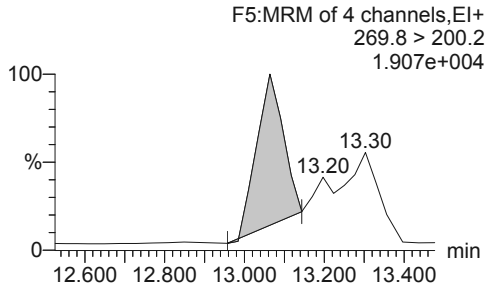
Octachlorostyrene|29082-74-4



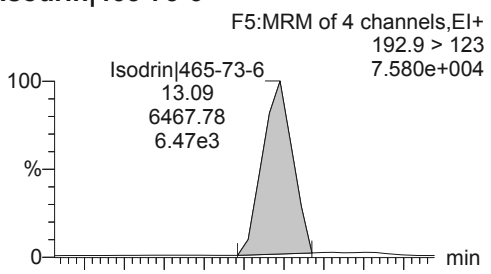
Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

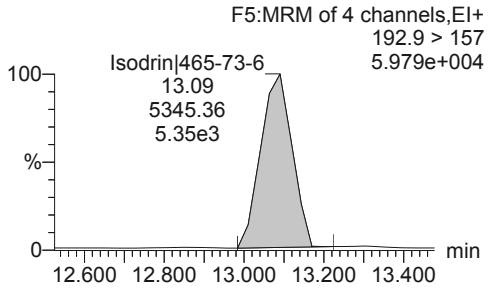
Isodrin-13C12|CASID30735



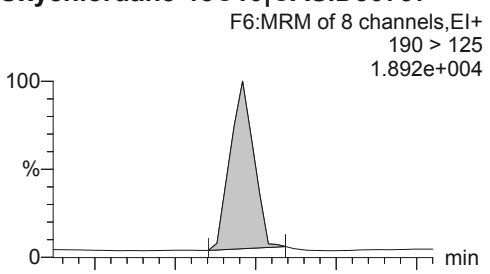


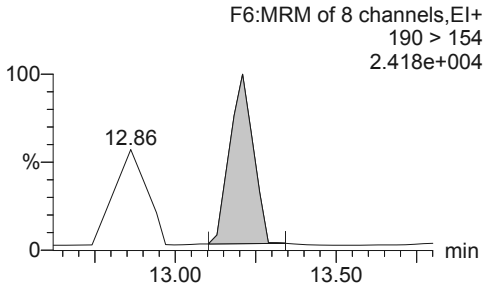
Isodrin|465-73-6



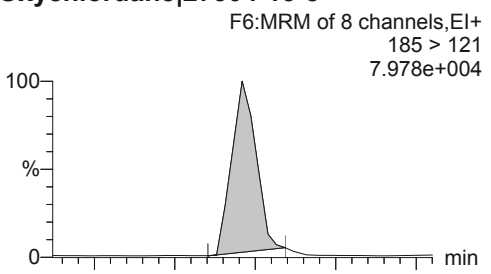


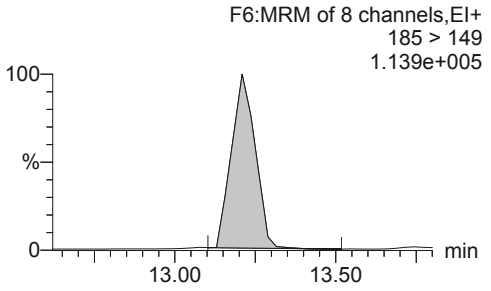
Oxychlordane-13C10|CASID30737



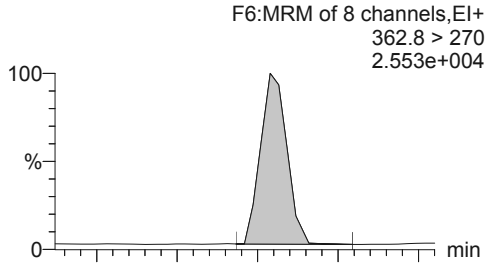


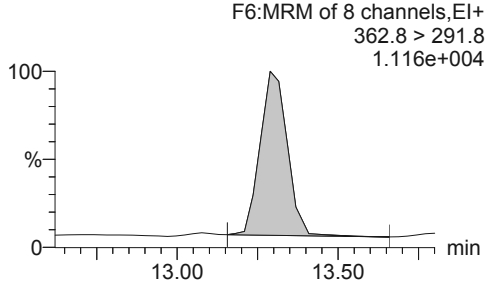
Oxychlordane|27304-13-8



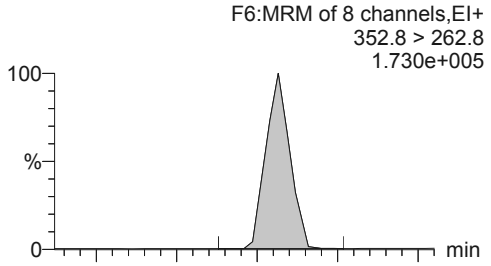


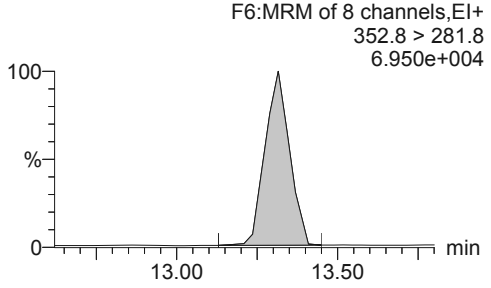
HeptachIrepox13C10|CASID30736



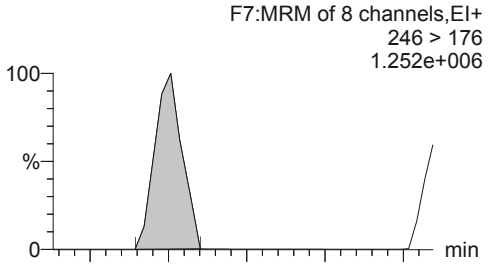


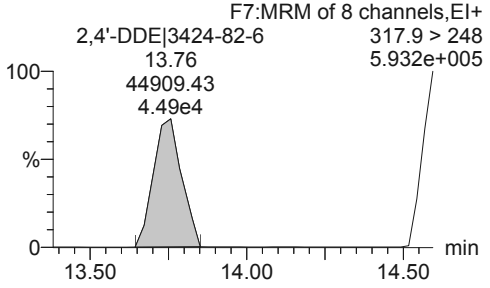
Heptachlor epoxide|1024-57-3



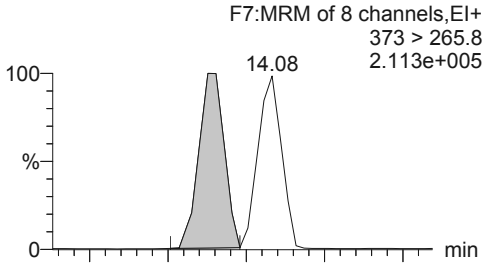


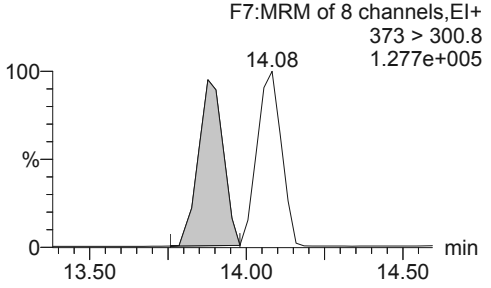
2,4'-DDE|3424-82-6





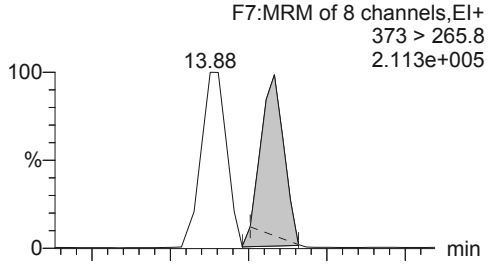
gamma-Chlordane|5566-34-7

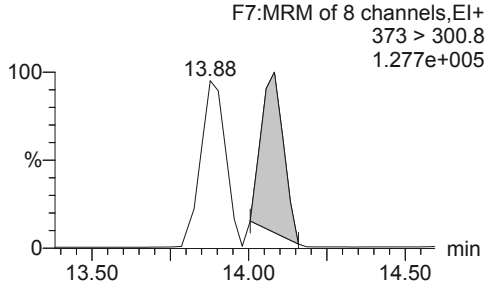




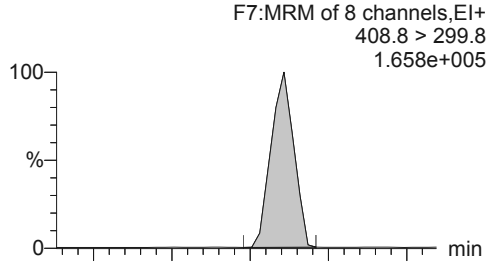
Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

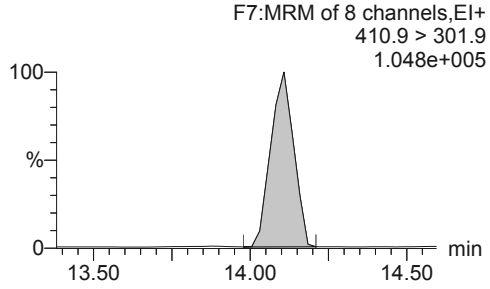
alpha-Chlordane|5103-71-9



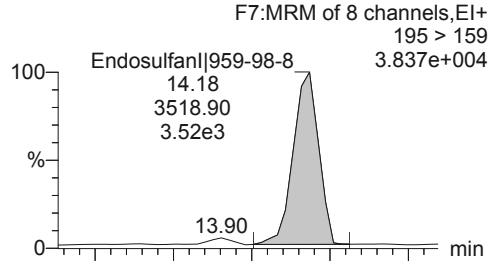


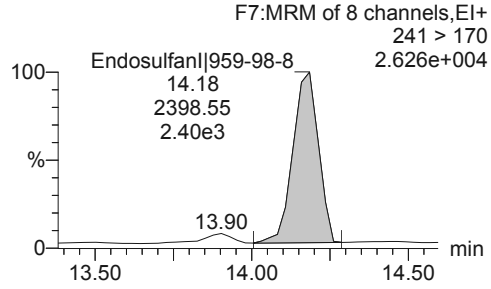
trans-Nonachlor|39765-80-5



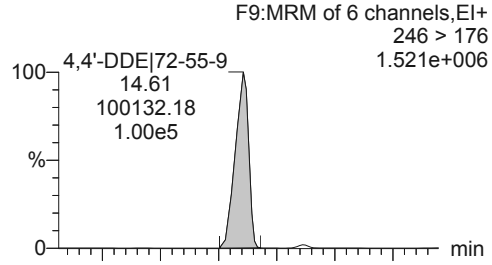


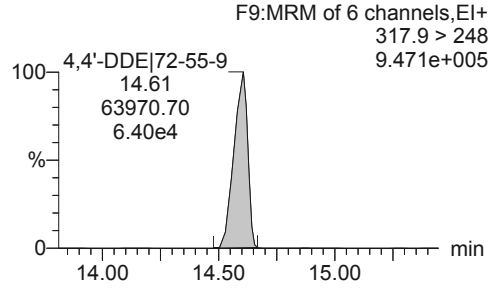
Endosulfanl|959-98-8



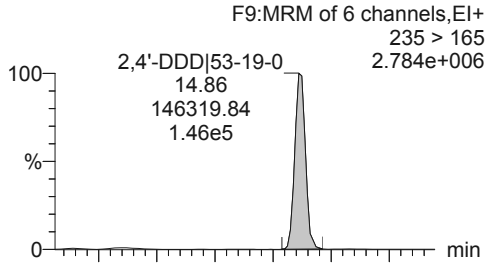


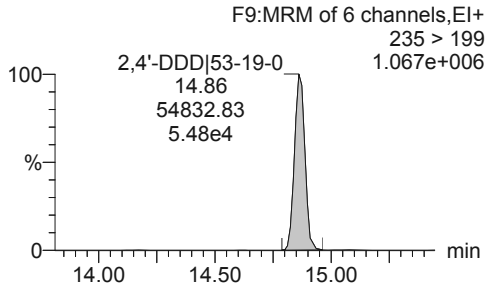
4,4'-DDE|72-55-9



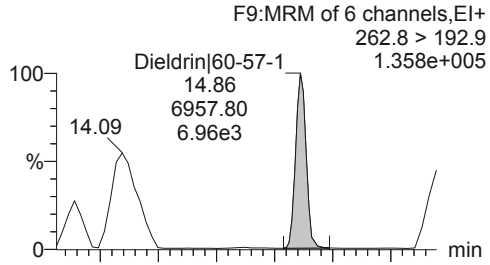


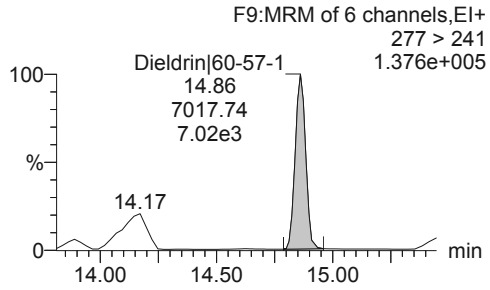
2,4'-DDD|53-19-0



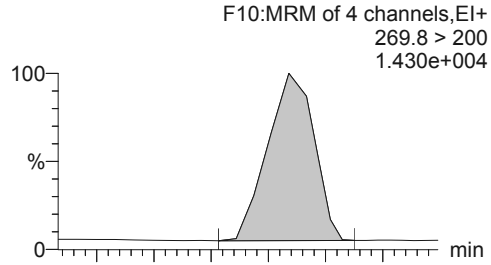


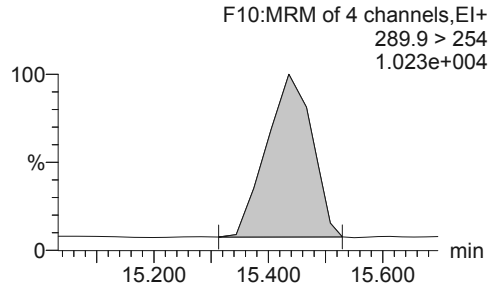
Dieldrin|60-57-1



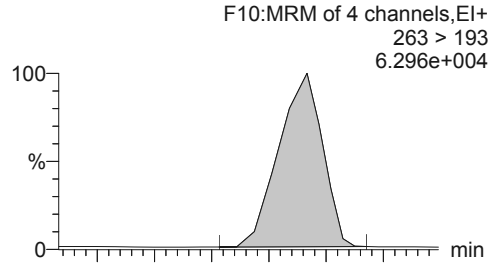


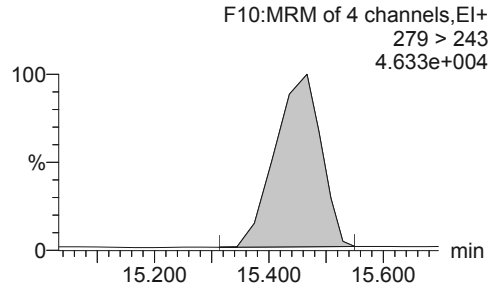
Endrin-13C12|CASID30739





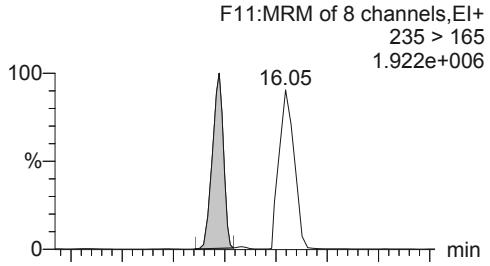
Endrin|72-20-8

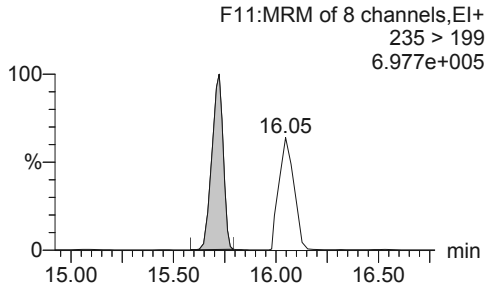




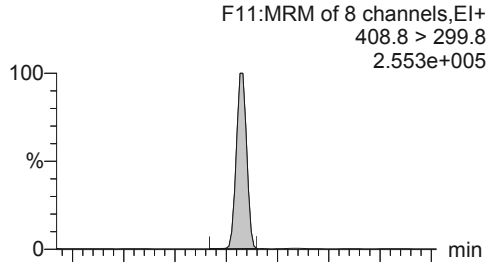
Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

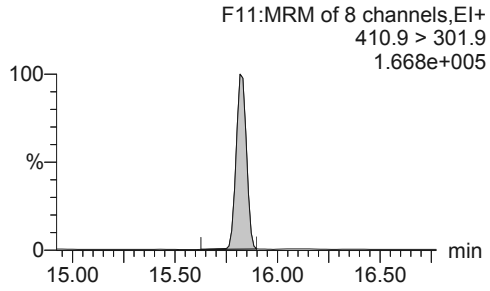
2,4-DDT|789-02-6



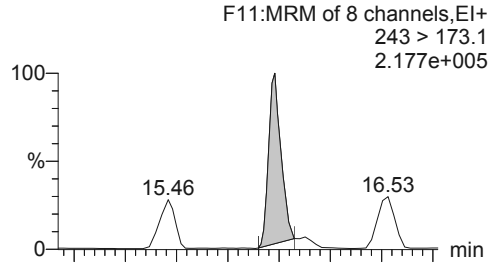


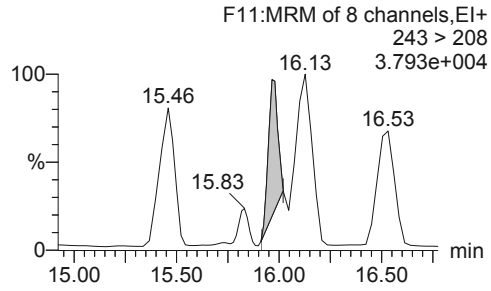
cis-Nonachlor|5103-73-1



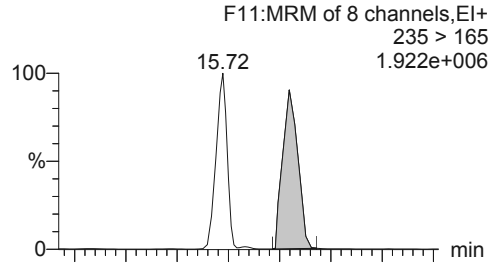


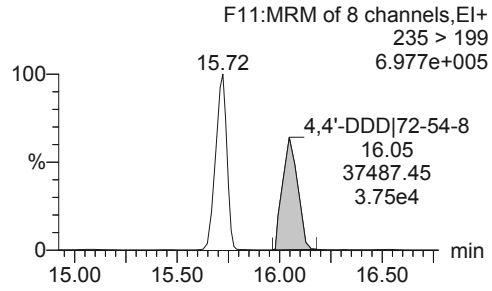
4,4'DDD-d4|93952-20-6



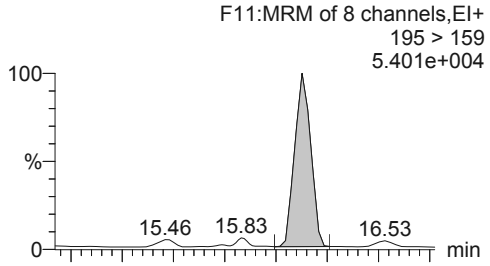


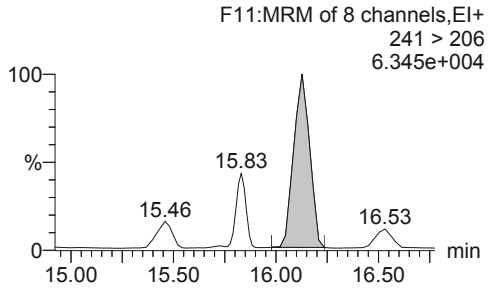
4,4'-DDD|72-54-8



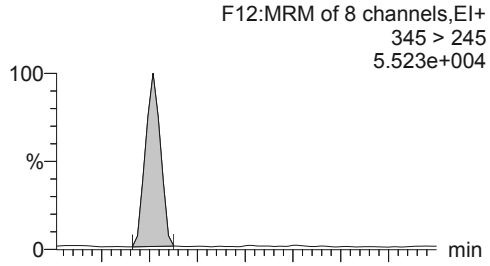


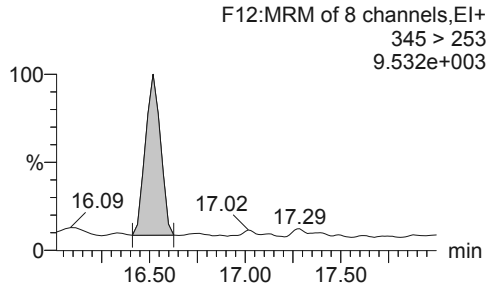
Endosulfanll|33213-65-9



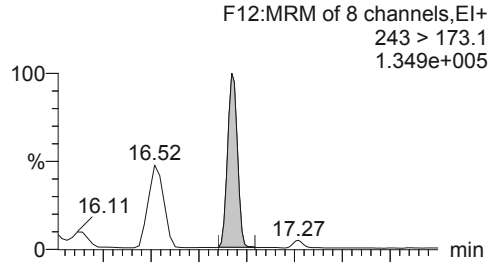


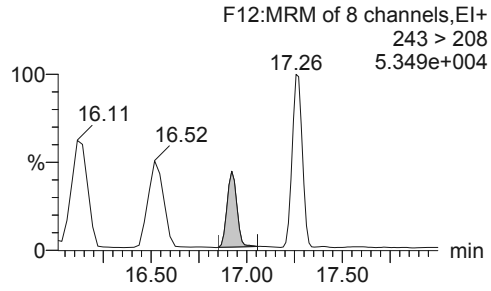
Endrin aldehyde|7421-93-4



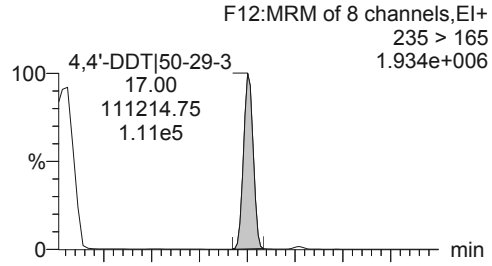


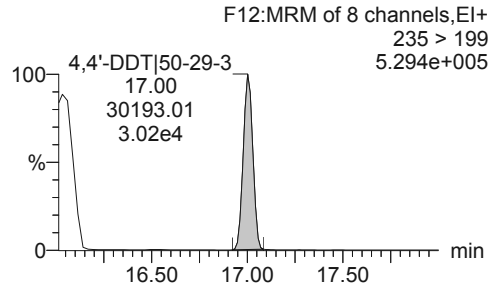
4,4'-DDT-d4|93952-18-2





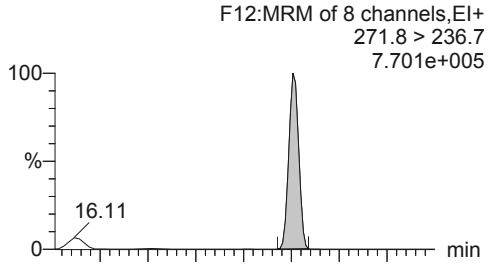
4,4'-DDT|50-29-3

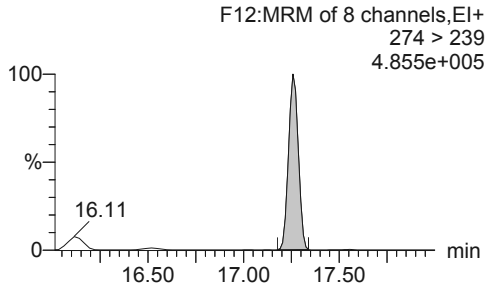




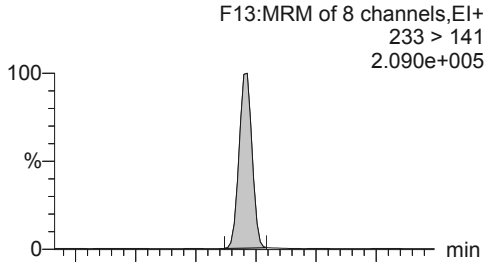
Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

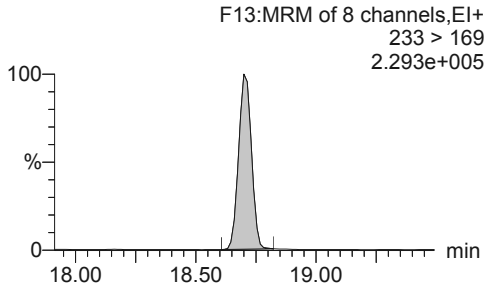
Endosulfan sulfate|1031-07-8



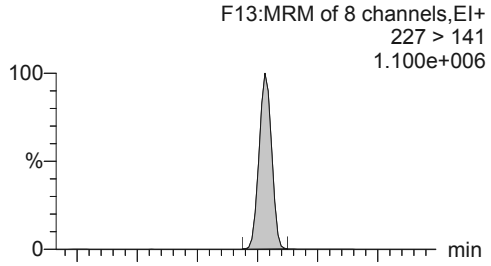


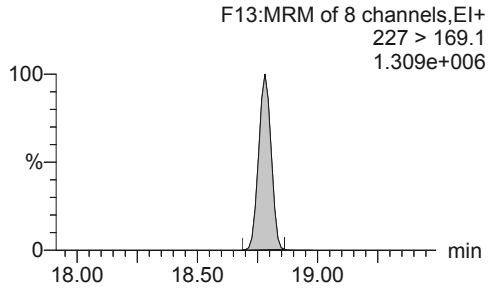
Mxchlord6|106031-79-2



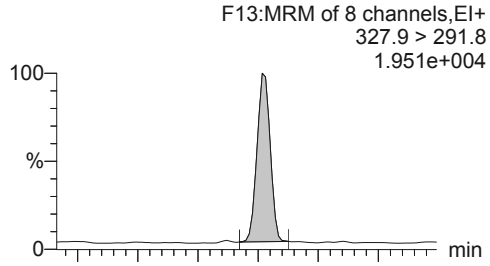


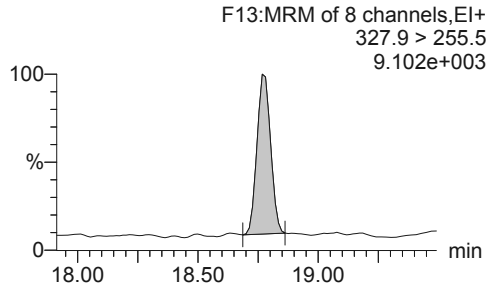
Methoxychlor|72-43-5



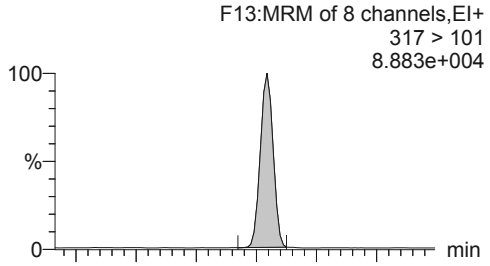


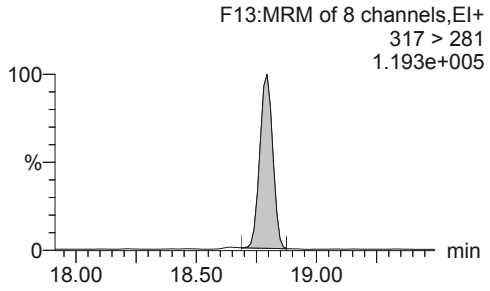
Endrinket13C12|CASID30741



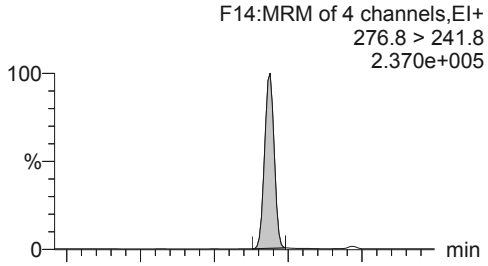


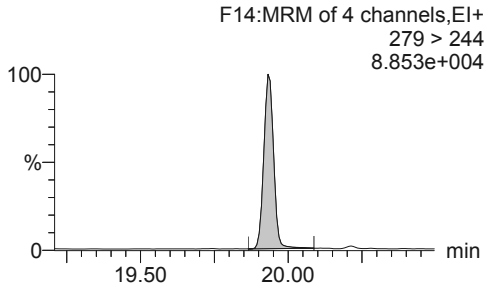
Endrin ketone|53494-70-5



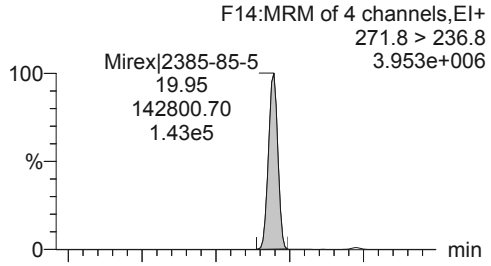


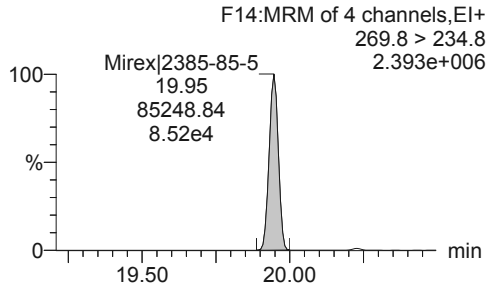
Mirex-13C10|CASID30743





Mirex|2385-85-5





1st 08/08/18
2nd 08/13/18

Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1° Ratio (Pred)	1° Ratio (Actual)	1° Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	44190.148		bb		89.0	-11.0	9.752	9.738	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	6555.437	44190.148	bb		20.2	1.0	3.616	3.413	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	21914.234	6555.437	bb		89.2	-10.8	2.895	3.069	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	19530.480	6555.437	bb		95.7	-4.3	3.003	2.932	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	28504.148	6555.437	bb		98.0	-2.0	3.330	3.364	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	29145.402	6555.437	bb		98.9	-1.1	3.180	3.183	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.51	9316.110	44190.148	bb		24.3	21.5	3.518	3.896	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	44853.355	9316.110	bb		84.8	-15.2	3.369	3.651	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5585.160	44190.148	bb		21.2	6.1	1.865	1.952	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	28406.711	5585.160	bb		107.8	7.8	1.536	1.481	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	7388.591	44190.148	bb		20.0	-0.2	3.568	3.018	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	38969.273	7388.591	bb		92.0	-8.0	1.305	1.315	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2625.833	44190.148	bb		20.6	3.1	2.967	2.592	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	11402.495	2625.833	bb		90.9	-9.1	3.364	3.424	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	4540.913	44190.148	bb		18.6	-7.0	2.181	1.907	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.88	8842.748	4540.913	MM	MP	115.8	15.8	0.633	0.547	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1461.733	44190.148	MM	MP	20.4	1.9	1.007	1.162	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	6467.784	1461.733	MM	MP	102.0	2.0	1.026	1.210	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1519.831	44190.148	bb		23.2	15.8	0.636	0.774	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	6688.252	1519.831	MM	MP	84.6	-15.4	0.819	0.697	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2344.717	44190.148	MM	MP	21.5	7.3	2.149	2.316	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	14839.972	2344.717	MM	MP	103.2	3.2	2.451	2.462	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.76	125965.320	14575.626	bb		102.2	2.2	2.971	2.805	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	19685.873	1519.831	bb		85.9	-14.1	2.108	1.789	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	17729.193	1519.831	MM	BLC	90.5	-9.5	1.575	1.873	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	13864.954	1519.831	bb		92.8	-7.2	1.517	1.571	NO
27	EndosulfanI|959-98-8	195 > 159	14.18	3518.896	1280.961	bb		98.4	-1.6	1.459	1.467	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	100132.180	14575.626	bb		104.5	4.5	1.653	1.565	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	146319.844	14575.626	bb		101.2	1.2	2.709	2.668	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	6957.803	1280.961	bb		92.4	-7.6	1.007	0.992	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1280.961	44190.148	bb		21.2	6.1	1.566	1.471	NO
32	Endrin|72-20-8	263 > 193	15.47	5500.677	1280.961	bb		98.7	-1.3	1.231	1.304	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	117804.953	7812.463	bb		101.0	1.0	2.729	2.696	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	14736.297	1519.831	bb		90.7	-9.3	1.628	1.545	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.98	14575.626	44190.148	bb		4.7	-5.1	6.924	9.526	YES
36	4,4'-DDD|72-54-8	235 > 165	16.05	147954.109	14575.626	bb		102.2	2.2	4.083	3.947	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	4818.674	1280.961	bb		98.7	-1.3	0.786	0.859	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	4938.913	1280.961	bb		99.2	-0.8	6.264	6.175	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	7812.463	44190.148	bb		5.0	0.1	5.701	5.858	NO

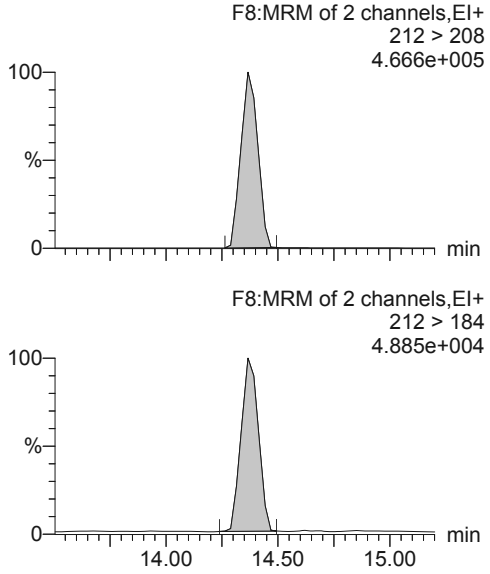
1st 08/08/18
2nd 08/13/18

Name: 080818F017, Date: 08-Aug-2018, Time: 13:55:40, Description: OC PEST ICAL 100ng/mL SVM59-32J

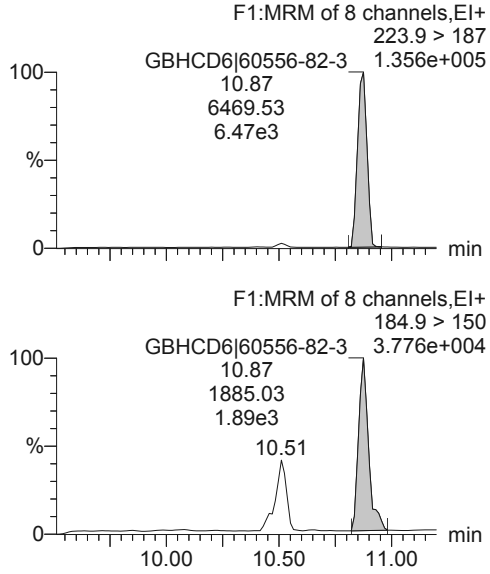
	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	111214.750	7812.463	bb		100.5	0.5	3.729	3.684	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	45512.504	1280.961	bb		94.5	-5.5	1.651	1.600	NO
42	Mxchlord6|106031-79-2	233 > 141	18.71	12822.886	44190.148	bb		19.4	-2.8	0.917	0.919	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	65672.289	12822.886	bb		99.8	-0.2	0.836	0.846	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1179.055	44190.148	bb		22.1	10.5	2.077	2.184	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	5368.180	1179.055	bb		89.9	-10.1	0.687	0.738	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.94	8742.354	44190.148	bb		6.2	24.3	2.492	2.619	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.95	142800.703	8742.354	bb		75.9	-24.1	1.678	1.675	NO

Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

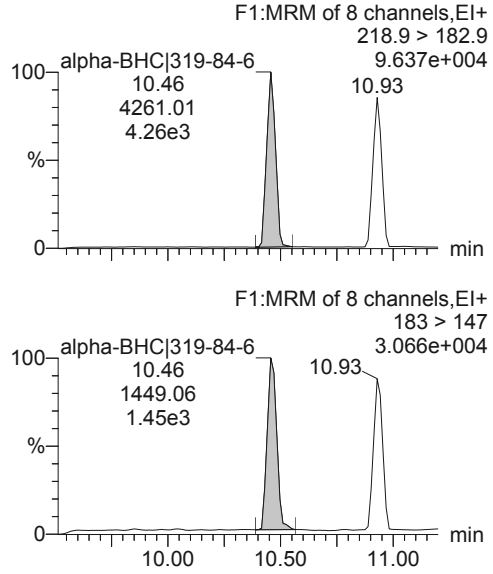
Pyrene-d10|1718-52-1



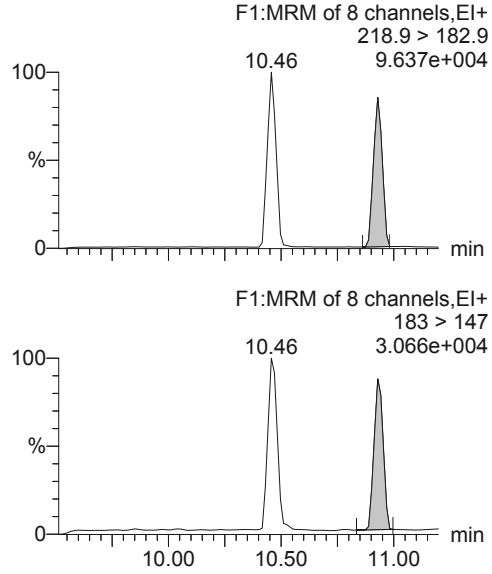
GBHCD6|60556-82-3



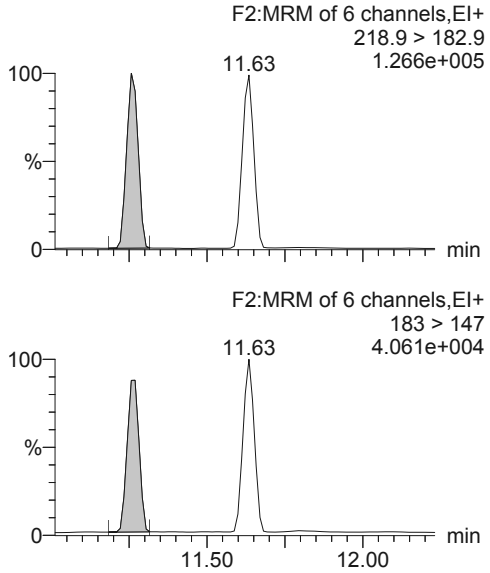
alpha-BHC|319-84-6



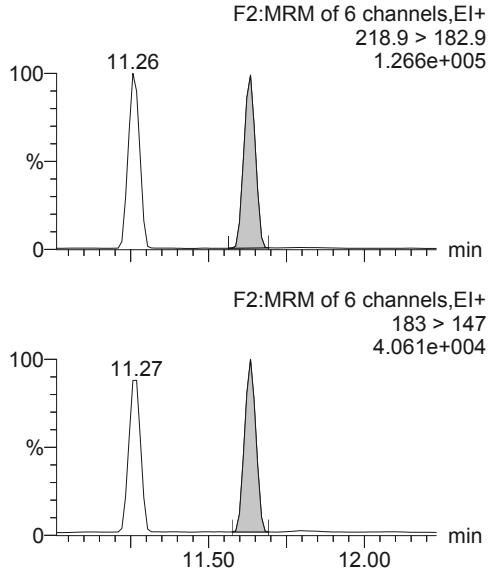
gamma-BHC|58-89-9



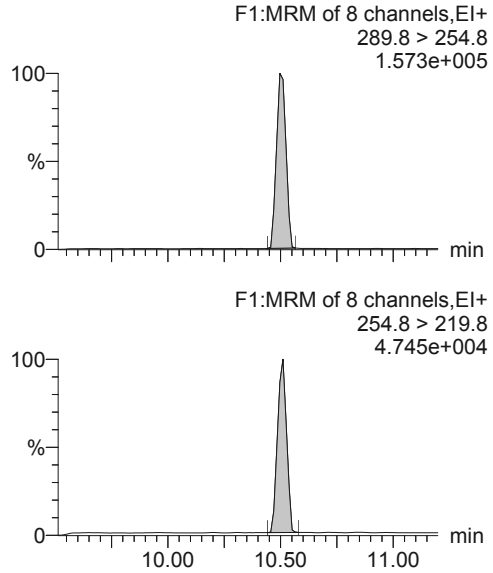
beta-BHC|319-85-7



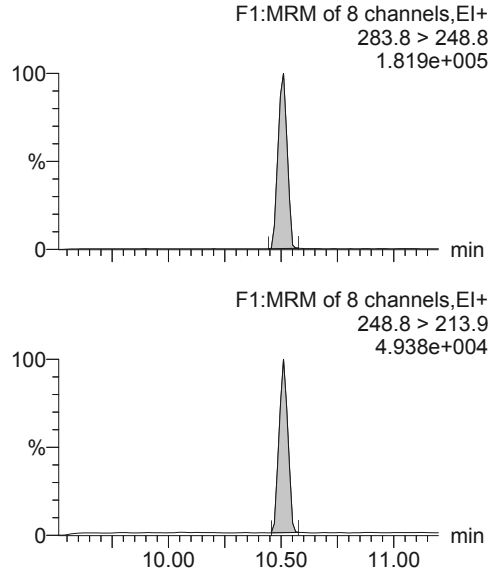
delta-BHC|319-86-8



HXCBZ13C6|CASID30730

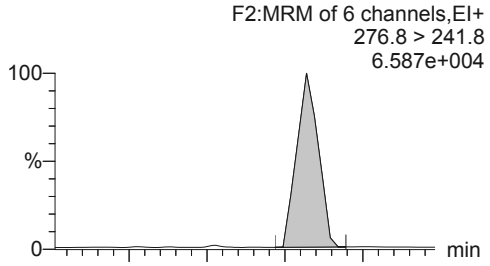


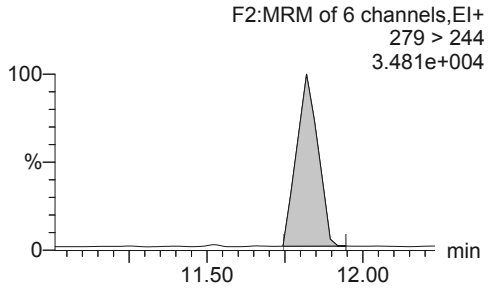
Hexachlorobenzene|118-74-1



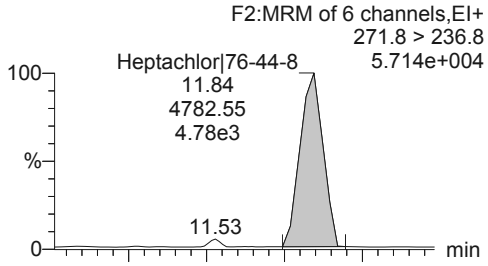
Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

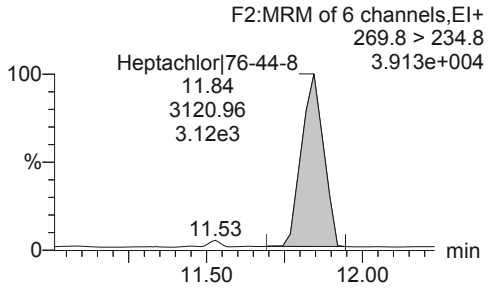
Heptachlor-13C10|CASID30731



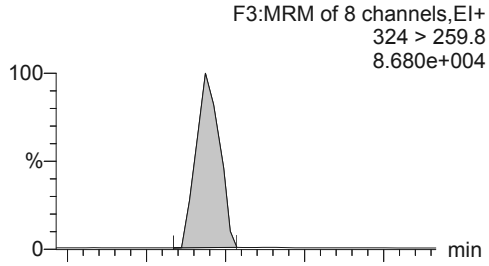


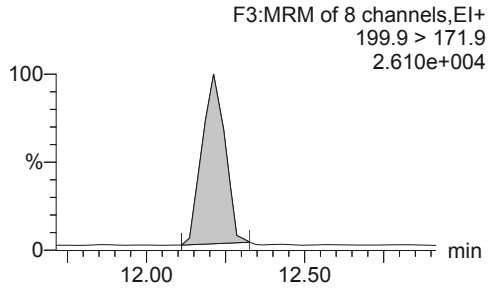
Heptachlor|76-44-8



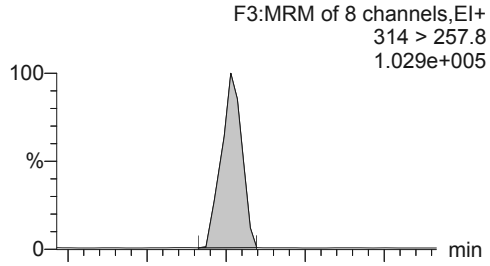


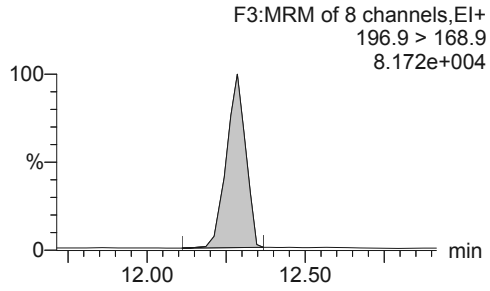
Chlorpyrifos-d10|CASID30732



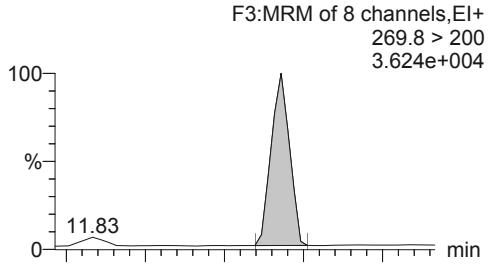


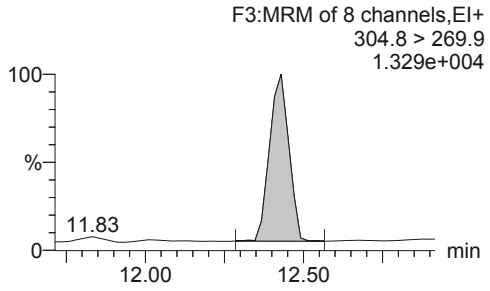
Chlorpyrifos|2921-88-2



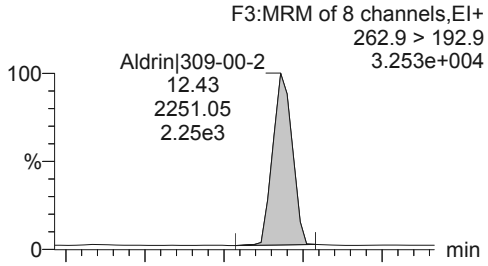


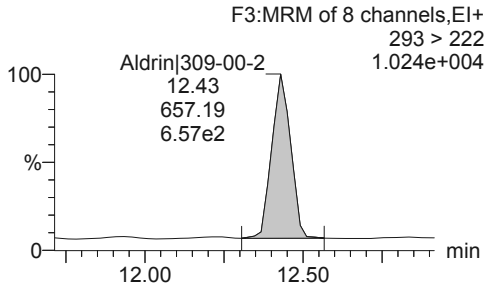
Aldrin-13C12|CASID30733



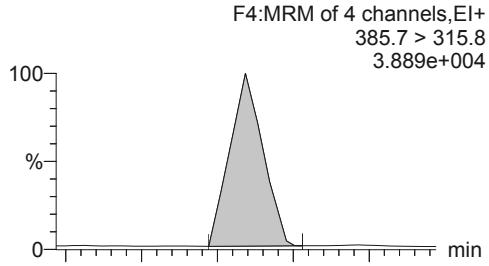


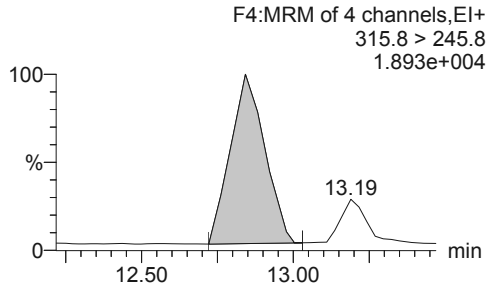
Aldrin|309-00-2



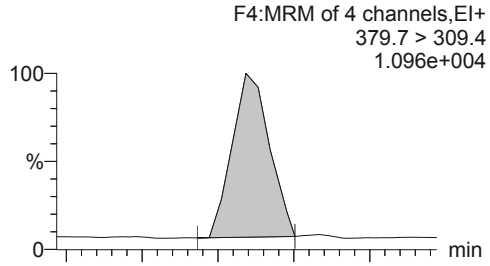


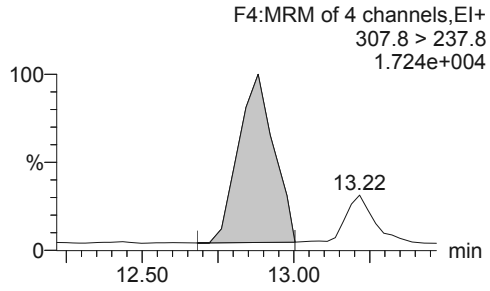
Ocstyrene13C8|CASID30734





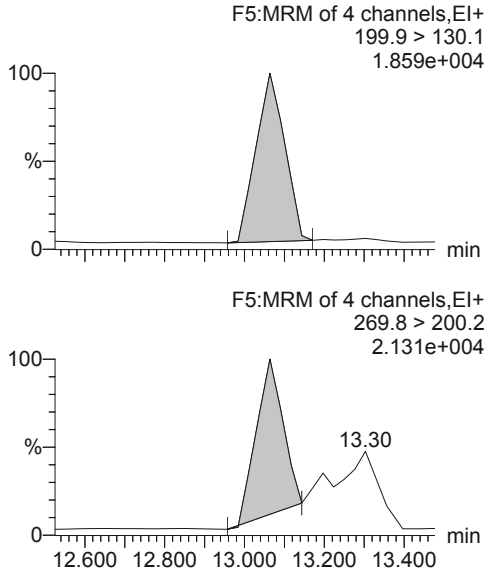
Octachlorostyrene|29082-74-4



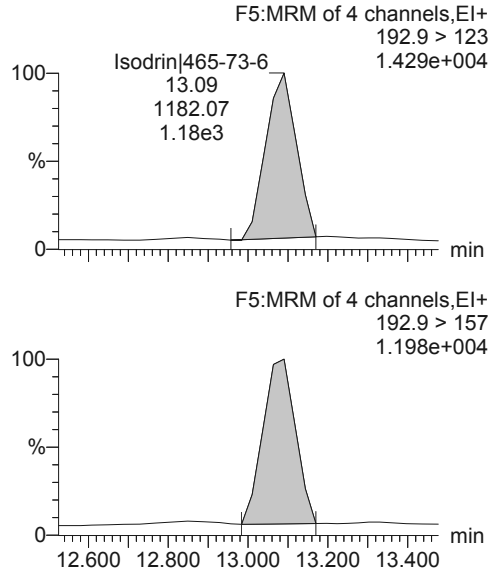


Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

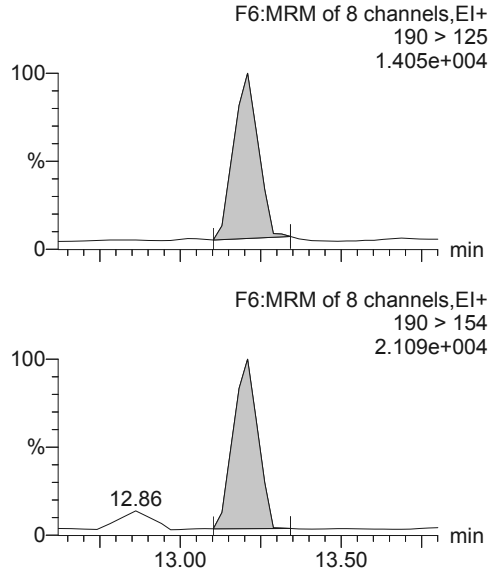
Isodrin-13C12|CASID30735



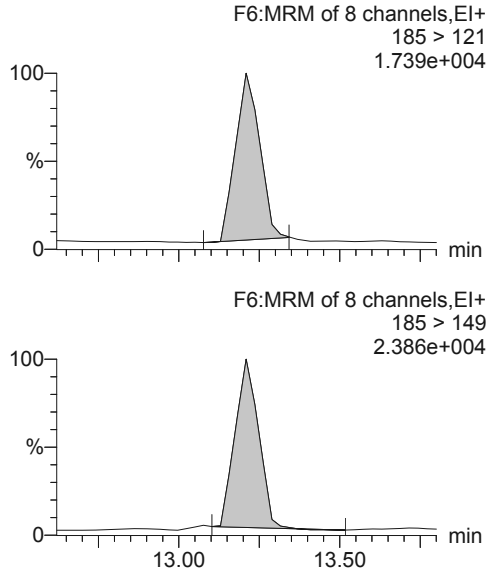
Isodrin|465-73-6



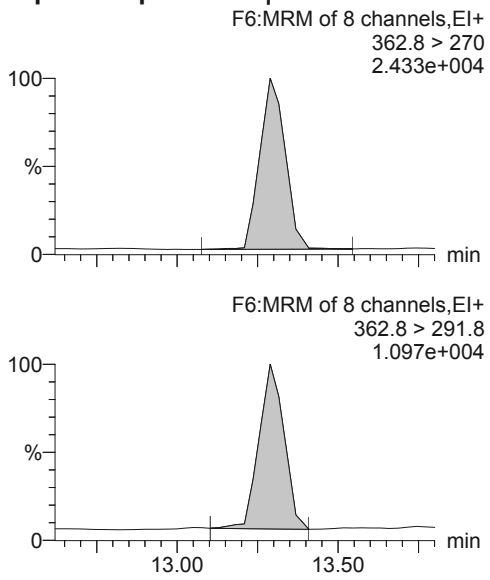
Oxychlordane-13C10|CASID30737



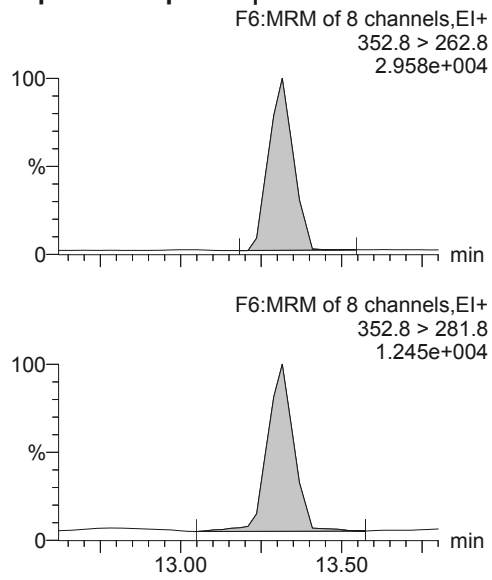
Oxychlordane|27304-13-8



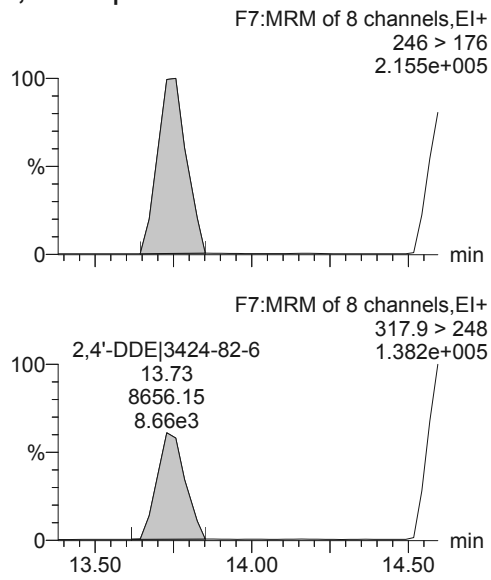
HeptachlrepoxI3C10|CASID30736



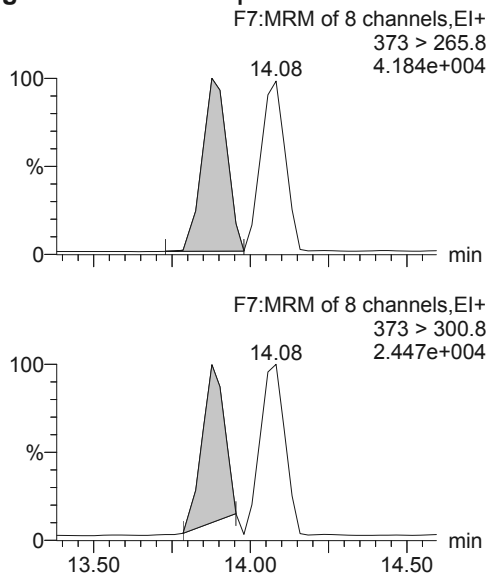
Heptachlor epoxide|1024-57-3



2,4'-DDE|3424-82-6

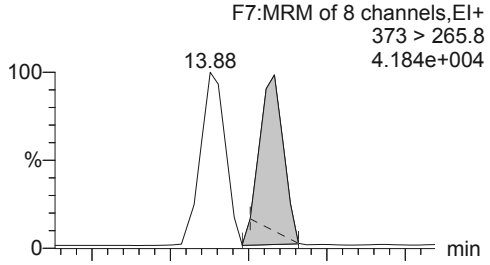


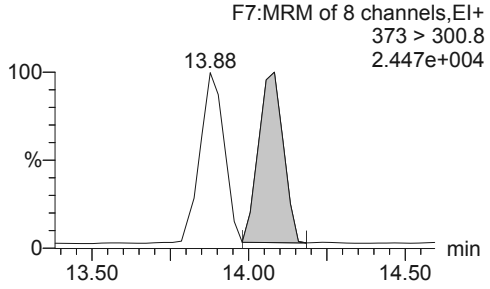
gamma-Chlordane|5566-34-7



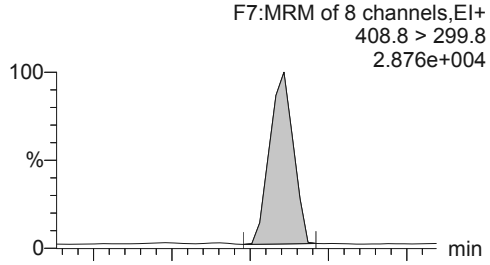
Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

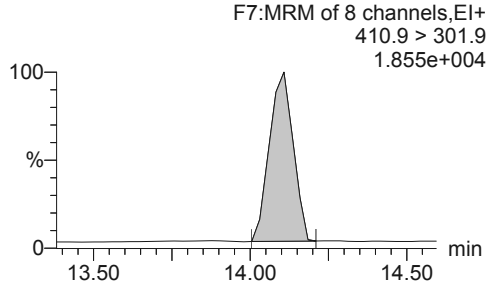
alpha-Chlordane|5103-71-9



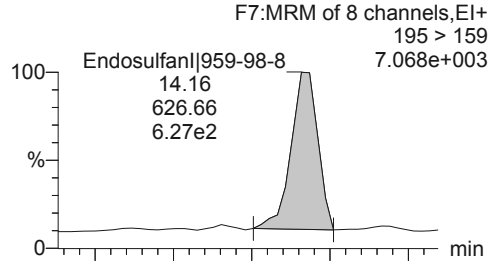


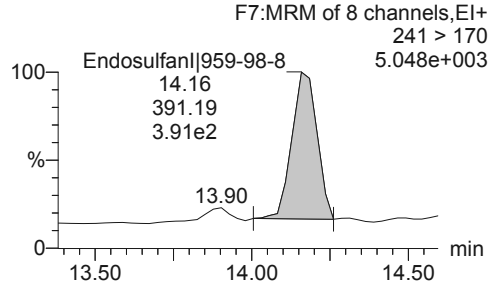
trans-Nonachlor|39765-80-5



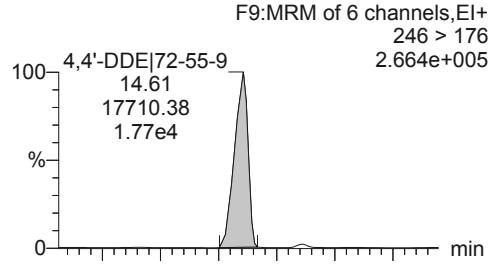


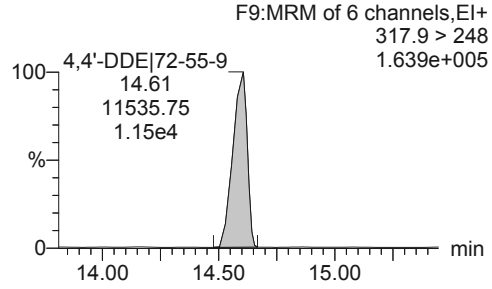
Endosulfanl|959-98-8



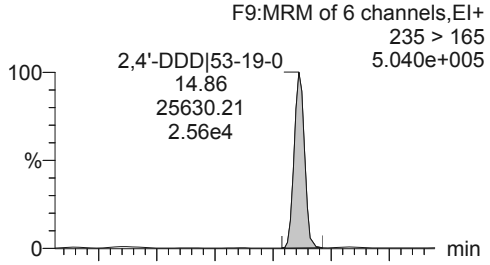


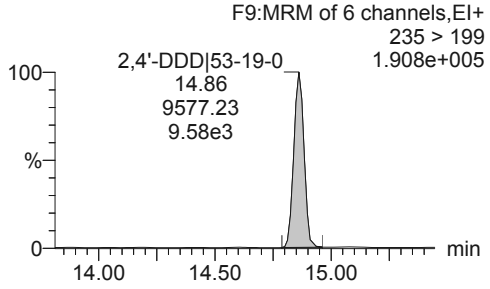
4,4'-DDE|72-55-9



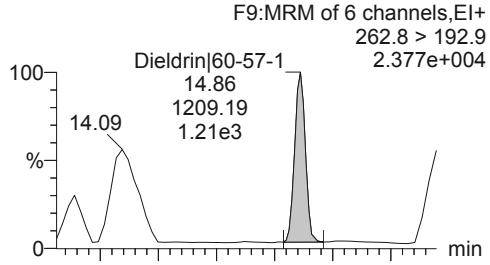


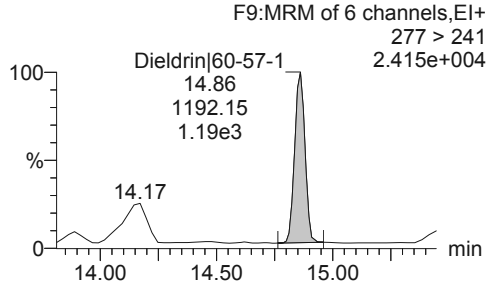
2,4'-DDD|53-19-0



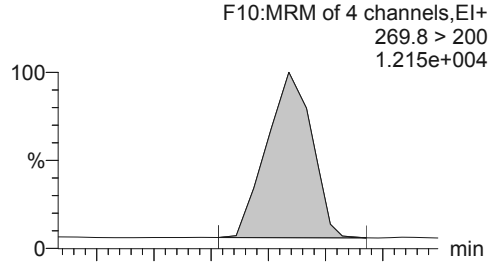


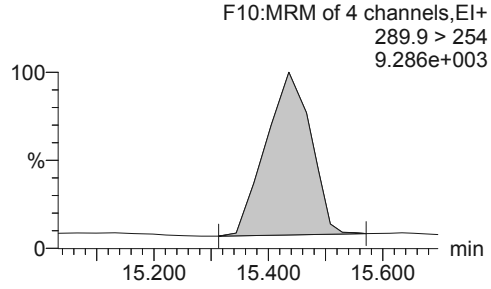
Dieldrin|60-57-1



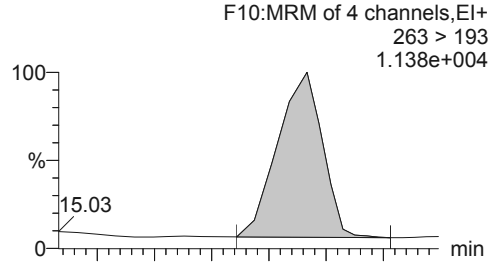


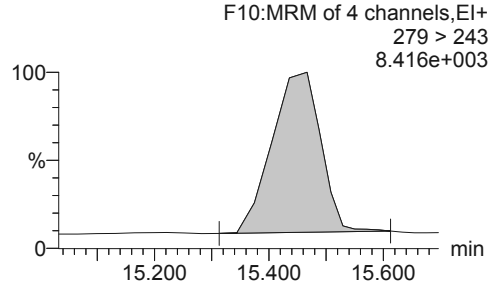
Endrin-13C12|CASID30739





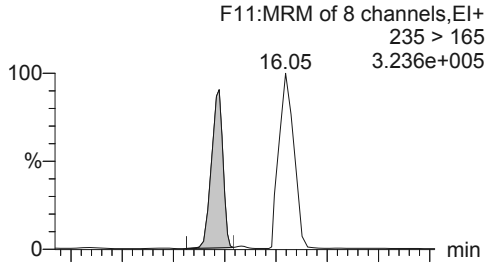
Endrin|72-20-8

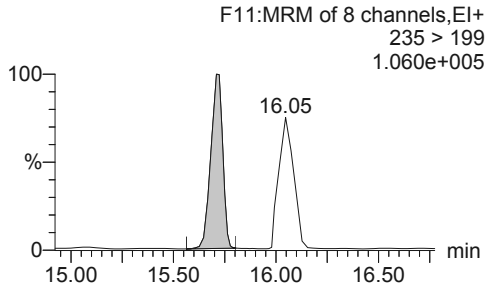




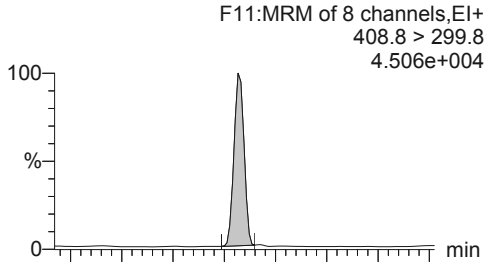
Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

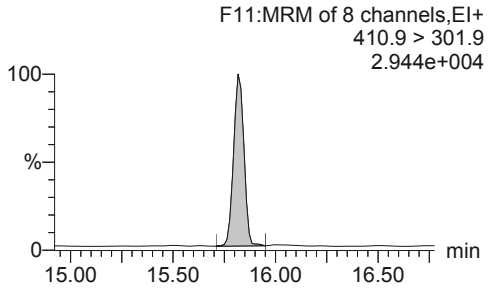
2,4-DDT|789-02-6



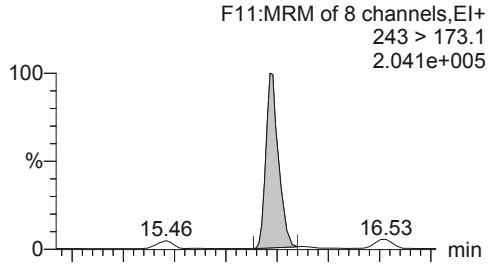


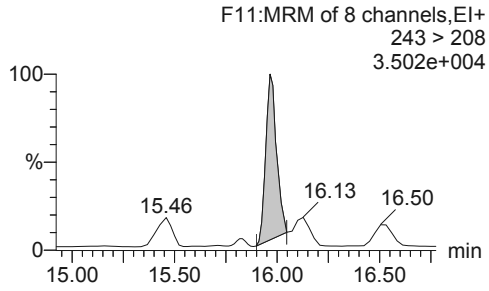
cis-Nonachlor|5103-73-1



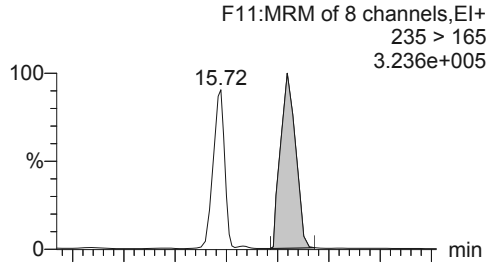


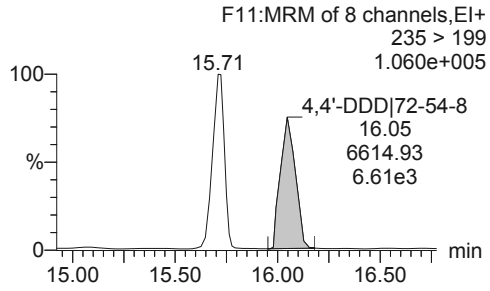
4,4'DDD-d4|93952-20-6



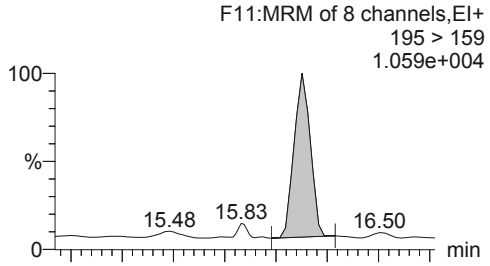


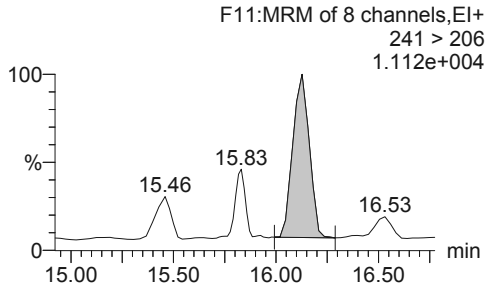
4,4'-DDD|72-54-8



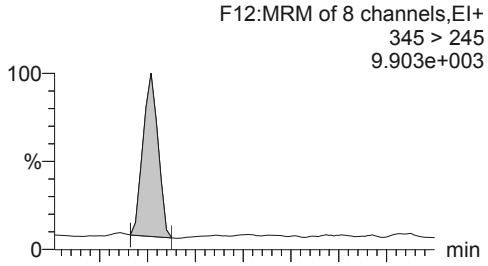


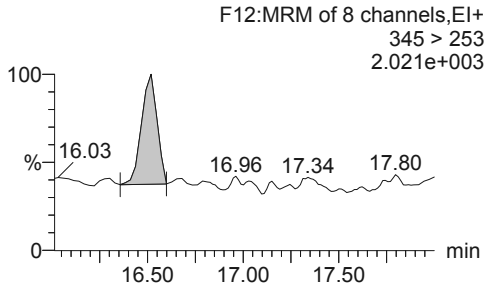
Endosulfanll|33213-65-9



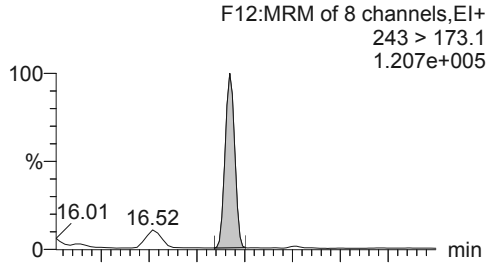


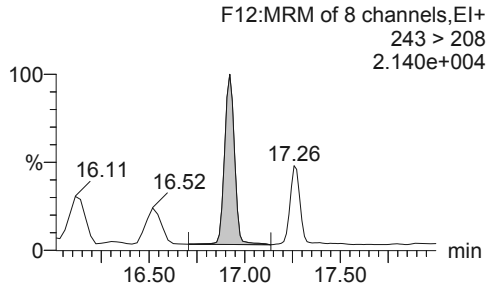
Endrin aldehyde|7421-93-4



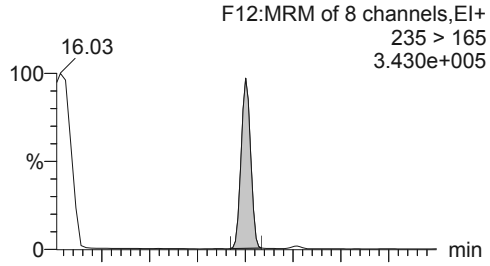


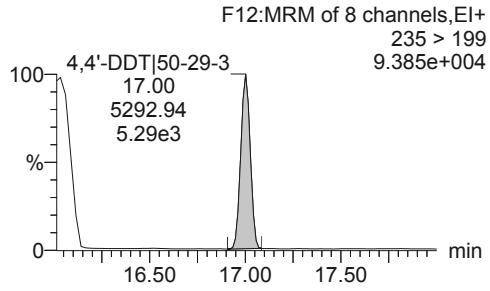
4,4'-DDT-d4|93952-18-2





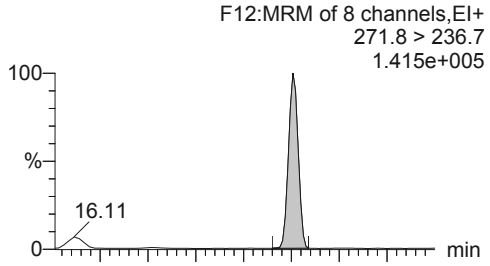
4,4'-DDT|50-29-3

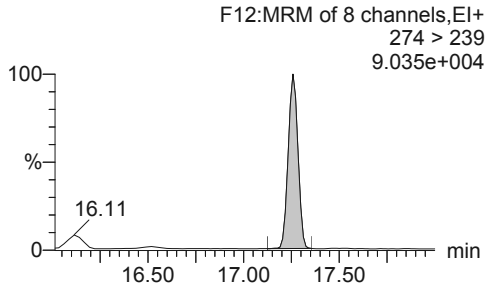




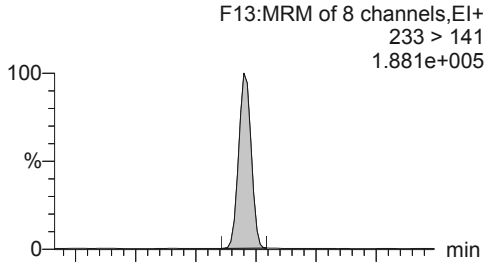
Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

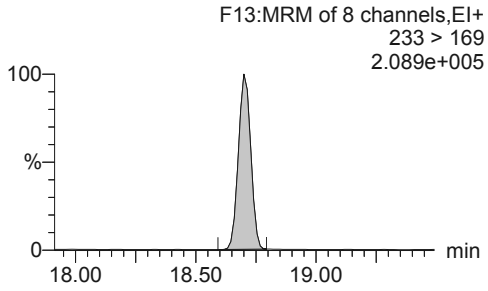
Endosulfan sulfate|1031-07-8



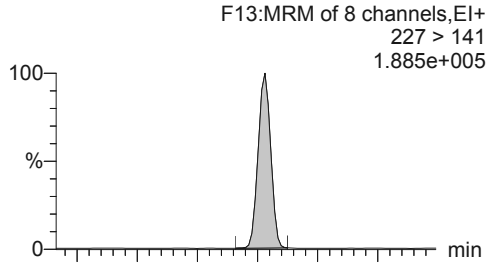


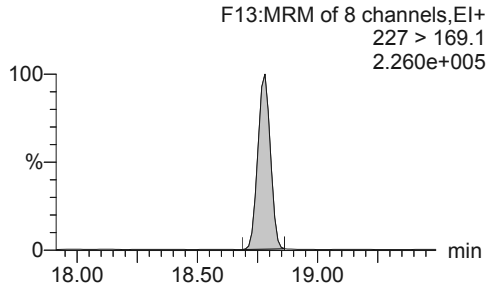
Mxchlord6|106031-79-2



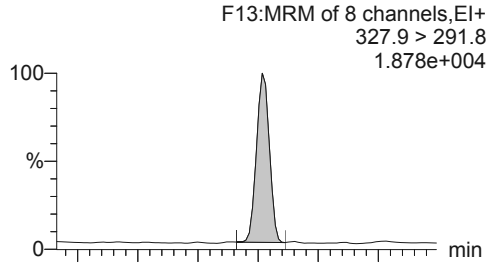


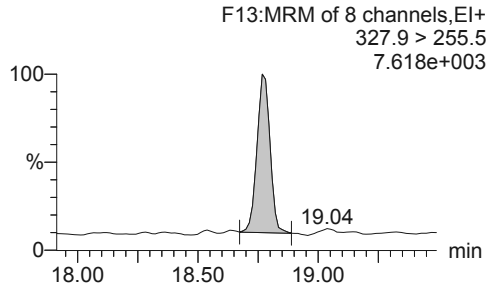
Methoxychlor|72-43-5



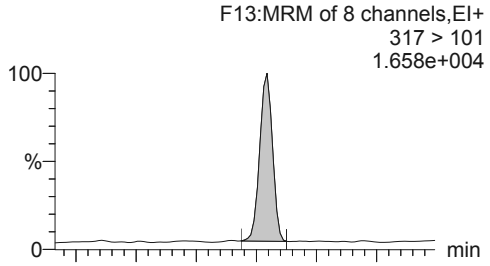


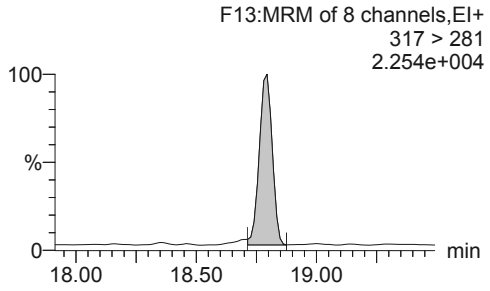
Endrinket13C12|CASID30741



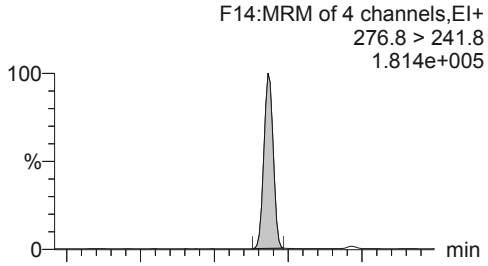


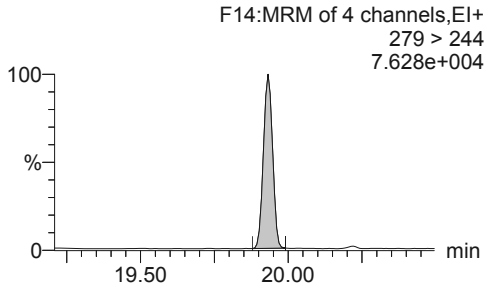
Endrin ketone|53494-70-5



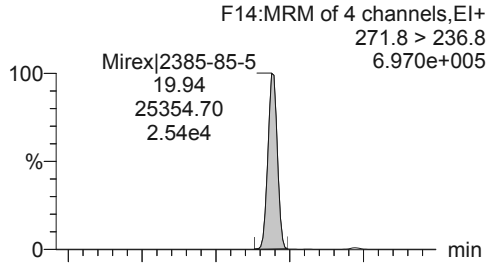


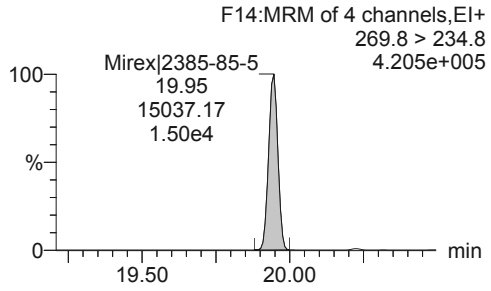
Mirex-13C10|CASID30743





Mirex|2385-85-5





Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
1	Pyrene-d10|1718-52-1	212 > 208	14.37	40543.078		bb		81.6	-18.4	9.752	9.443	NO
2	GBHCD6|60556-82-3	223.9 > 187	10.87	6469.532	40543.078	bb		21.7	8.6	3.616	3.432	NO
3	alpha-BHC|319-84-6	218.9 > 182.9	10.46	4261.009	6469.532	bb		17.6	-12.1	2.895	2.941	NO
4	gamma-BHC|58-89-9	218.9 > 182.9	10.93	3699.173	6469.532	bb		18.4	-8.1	3.003	2.991	NO
5	beta-BHC|319-85-7	218.9 > 182.9	11.26	5314.771	6469.532	bb		18.5	-7.4	3.330	3.433	NO
6	delta-BHC|319-86-8	218.9 > 182.9	11.63	5314.933	6469.532	bb		18.3	-8.6	3.180	3.171	NO
7	HXCBZ13C6|CASID30730	289.8 > 254.8	10.50	7553.617	40543.078	bb		21.5	7.3	3.518	3.504	NO
8	Hexachlorobenzene|118-7...	283.8 > 248.8	10.51	8405.554	7553.617	bb		19.6	-2.0	3.369	3.865	NO
9	Heptachlor-13C10|CASID...	276.8 > 241.8	11.82	5192.701	40543.078	bb		21.5	7.5	1.865	1.936	NO
10	Heptachlor|76-44-8	271.8 > 236.8	11.84	4782.553	5192.701	bb		19.5	-2.4	1.536	1.532	NO
11	Chlorpyrifos-d10|CASID30...	324 > 259.8	12.19	7376.414	40543.078	bb		21.7	8.6	3.568	3.490	NO
12	Chlorpyrifos|2921-88-2	314 > 257.8	12.26	7647.015	7376.414	bb		18.1	-9.6	1.305	1.364	NO
13	Aldrin-13C12|CASID30733	269.8 > 200	12.43	2377.782	40543.078	bb		20.4	1.8	2.967	2.672	NO
14	Aldrin|309-00-2	262.9 > 192.9	12.43	2251.049	2377.782	bb		19.8	-0.9	3.364	3.425	NO
15	Ocstyrene13C8|CASID307...	385.7 > 315.8	12.84	4821.567	40543.078	bb		21.5	7.6	2.181	2.017	NO
16	Octachlorostyrene|29082-...	379.7 > 309.4	12.84	1448.186	4821.567	MM	MP	17.9	-10.7	0.633	0.652	NO
17	Isodrin-13C12|CASID30735	199.9 > 130.1	13.06	1474.871	40543.078	MM	MP	22.4	12.1	1.007	1.017	NO
18	Isodrin|465-73-6	192.9 > 123	13.09	1182.074	1474.871	MM	MP	18.5	-7.6	1.026	1.120	NO
19	Oxychlordane-13C10|CAS...	190 > 125	13.21	1162.211	40543.078	bb		19.3	-3.5	0.636	0.652	NO
20	Oxychlordane|27304-13-8	185 > 121	13.21	1418.451	1162.211	MM	MP	23.5	17.3	0.819	0.737	NO
21	Heptachlrepox13C10|CAS...	362.8 > 270	13.29	2148.973	40543.078	MM	MP	21.4	7.2	2.149	2.327	NO
22	Heptachlor epoxide|1024-...	352.8 > 262.8	13.32	2550.120	2148.973	MM	MP	19.3	-3.3	2.451	2.291	NO
23	2,4'-DDE|3424-82-6	246 > 176	13.76	22750.832	14227.918	bb		18.9	-5.4	2.971	2.628	NO
24	gamma-Chlordane|5566-3...	373 > 265.8	13.88	3746.886	1162.211	bb		21.4	7.0	2.108	2.083	NO
25	alpha-Chlordane|5103-71-9	373 > 265.8	14.08	3590.691	1162.211	MM	BLC	24.0	19.9	1.575	1.667	NO
26	trans-Nonachlor|39765-80-5	408.8 > 299.8	14.11	2440.594	1162.211	bb		21.4	6.8	1.517	1.564	NO
27	EndosulfanI|959-98-8	195 > 159	14.16	626.661	1044.646	bb		21.5	7.4	1.459	1.602	NO
28	4,4'-DDE|72-55-9	246 > 176	14.61	17710.385	14227.918	bb		18.9	-5.3	1.653	1.535	NO
29	2,4'-DDD|53-19-0	235 > 165	14.86	25630.207	14227.918	bb		18.2	-9.2	2.709	2.676	NO
30	Dieldrin|60-57-1	262.8 > 192.9	14.86	1209.193	1044.646	bb		19.7	-1.5	1.007	1.014	NO
31	Endrin-13C12|CASID30739	269.8 > 200	15.44	1044.646	40543.078	bb		18.9	-5.7	1.566	1.336	NO
32	Endrin|72-20-8	263 > 193	15.47	965.586	1044.646	bb		21.2	6.2	1.231	1.278	NO
33	2,4-DDT|789-02-6	235 > 165	15.72	18559.904	6832.647	bb		18.2	-9.0	2.729	2.651	NO
34	cis-Nonachlor|5103-73-1	408.8 > 299.8	15.82	2490.389	1162.211	bb		20.0	0.2	1.628	1.498	NO
35	4,4'DDD-d4|93952-20-6	243 > 173.1	15.97	14227.918	40543.078	bb		5.0	0.9	6.924	7.160	NO
36	4,4'-DDD|72-54-8	235 > 165	16.05	27209.242	14227.918	bb		19.2	-3.8	4.083	4.113	NO
37	EndosulfanII|33213-65-9	195 > 159	16.13	901.509	1044.646	bb		22.6	13.2	0.786	0.942	NO
38	Endrin aldehyde|7421-93-4	345 > 245	16.52	836.936	1044.646	bb		20.6	3.1	6.264	7.061	NO
39	4,4'-DDT-d4|93952-18-2	243 > 173.1	16.92	6832.647	40543.078	bb		4.8	-4.6	5.701	5.568	NO

1st 08/08/18
2nd 08/13/18

Name: 080818F018, Date: 08-Aug-2018, Time: 14:19:00, Description: OC PEST ICV 20ng/mL SVM59-32K

	Name	Trace	RT	Area	IS Area	Primary Flags	Mod.Comment	ng/ml	%Dev	1º Ratio (Pred)	1º Ratio (Actual)	1º Ratio Flag
40	4,4'-DDT|50-29-3	235 > 165	17.00	18837.459	6832.647	bb		19.5	-2.6	3.729	3.559	NO
41	Endosulfan sulfate|1031-0...	271.8 > 236.7	17.26	8173.645	1044.646	bb		20.8	4.0	1.651	1.562	NO
42	Mxchlord6|106031-79-2	233 > 141	18.70	11137.241	40543.078	bb		18.4	-8.0	0.917	0.909	NO
43	Methoxychlor|72-43-5	227 > 141	18.78	11252.592	11137.241	bb		19.7	-1.6	0.836	0.837	NO
44	Endrinket13C12|CASID30...	327.9 > 291.8	18.77	1111.630	40543.078	bb		22.7	13.5	2.077	2.596	NO
45	Endrin ketone|53494-70-5	317 > 101	18.79	967.010	1111.630	bb		17.2	-14.1	0.687	0.714	NO
46	Mirex-13C10|CASID30743	276.8 > 241.8	19.93	6510.827	40543.078	bb		5.0	0.9	2.492	2.421	NO
47	Mirex|2385-85-5	271.8 > 236.8	19.94	25354.697	6510.827	bb		18.1	-9.5	1.678	1.686	NO

	File Name	File Text	MS File	Inlet File	MS Tune File
1	082318F001	1.0 UG/ML DFTPP SVM59-16B	dftppmrm	dftpp	2018_06_12_MRM_Scan
2	082318F004	IBNR	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
3	082318F005	20 ng/ml D/E Cal Std SVM59-42C	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
4	082318F006	20ng/mL CCV SVM59-45B	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
5	082318F007	KQ1810706-03 MB	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
6	082318F008	KQ1810706-01 LCS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
7	082318F009	KQ1810706-02 DLCS	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
8	082318F010	K1806476-001	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
9	082318F011	K1806476-002	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan
10	082318F012	K1806476-003	OCPestMRM_062218	ocpest_newptv	2018_06_12_MRM_Scan

Run #: 603882
CAL: KC1800383

AUG 2 4 2018

Alpha Analytical Lab

ALPHA ANALYTICAL

World Class Chemistry

www.alphalab.com

Lab Number: L1828580

Client: Analytical Resources, Inc.

ATTN: Susan Dunnihoo

Project Name: AOC3 BLACK CARBON

Project Number: TASK 4

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Table of Contents

Alpha Analytical Data Deliverable Package 1
- Table of Contents 2
- Sample Delivery Group 3
  - Sample Receipt and Login Checklist 4
  - LIMS Chain of Custody 5
    - Lims COC (LN01) 6
  - Container Tracking 10
    - Sample Receipt Tracking Report 11
  - Chain of Custody 15
    - External Chain of Custody 16
- Wet Chemistry Analysis 18
  - Organic Carbon Analysis 19
    - Sequence Logs 20
      - Sequence Log 21
    - Sample Raw Data 27
      - Wet Chemistry Raw Data 28
    - Work Group 83
      - QC Batch WG1144091 84
      - QC Batch WG1144092 85
    - Sample Preparation 86
      - Prep Logs 87
- Alpha Analytical Report 92
  - Standard Analytical Report 93
  - Summary 93
  - Alpha Analytical Report Cover Page 93
  - Sample Cross Reference Summary 94
  - Case Narrative 95
  - Inorganics Cover Page 97
  - Wet Chemistry Sample Results 98
  - Wet Chemistry Method Blank Report 122
  - Wet Chemistry LCS Report 123
  - Wet Chemistry Matrix Spike Report 124
  - Wet Chemistry Duplicate Report 125
  - Sample Receipt & Container Information Report 126
  - Glossary 128
  - References 130
  - Certification/Approval Program Summary 131
  - Chain of Custody 132

Sample Delivery Group Information

Sample Delivery Group Summary

Alpha Job Number : L1828580

Received : 25-JUL-2018
Reviewer : Bethany Bedard

Account Name : Analytical Resources, Inc.
Project Number : TASK 4
Project Name : AOC3 BLACK CARBON

Delivery Information

Samples Delivered By : Express Ship
FedEx (772803068440, 772803068521)

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Present/Intact/n/a	Ice	3.5	
B	Present/Intact/n/a	Ice	3.2	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between sample labels & COC?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

LIMS Chain of Custody

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Sep 07 2018, 01:28 pm

Login Number: L1828580
Account: ARILAB Analytical Resources, Inc.Project: TASK 4
Received: 25JUL18 Due Date: 08AUG18

Sample #	Client ID	Mat	PR	Collected
L1828580-01	LDW18-SSCL-A01	3	S0	16MAY18 14:00
2 reps for soot L1828580-01 DUP A2-DPKG-FULL Package Due Date: 09/07/18				
A2-DPKG-FULL,A2-SOOT				
L1828580-02	LDW18-SSCL-A02	3	S0	16MAY18 14:00
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-03	LDW18-SSCL-A03	3	S0	16MAY18 13:20
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-04	LDW18-SSCL-A04	3	S0	16MAY18 12:32
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-05	LDW18-SSCL-A05	3	S0	16MAY18 13:00
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-06	LDW18-SSCL-A06	3	S0	16MAY18 12:07
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-07	LDW18-SSCL-A07	3	S0	19MAY18 14:35
2 reps for soot Package Due Date: 09/07/18				

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Sep 07 2018, 01:28 pm

Login Number: L1828580
Account: ARILAB Analytical Resources, Inc.Project: TASK 4
Received: 25JUL18 Due Date: 08AUG18

Sample #	Client ID		Mat	PR	Collected
A2-SOOT					
L1828580-08	LDW18-SSCL-A08		3	S0	19MAY18 15:00
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-09	LDW18-SSCL-A09		3	S0	18MAY18 15:28
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-10	LDW18-SSCL-A10		3	S0	18MAY18 15:05
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-11	LDW18-SSCL-A11		3	S0	15MAY18 12:01
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-12	LDW18-SSCL-A12		3	S0	18MAY18 13:30
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-13	LDW18-SSCL-A13		3	S0	17MAY18 13:20
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Sep 07 2018, 01:28 pm

Login Number: L1828580
Account: ARILAB Analytical Resources, Inc.Project: TASK 4
Received: 25JUL18 Due Date: 08AUG18

Sample #	Client ID	Mat	PR	Collected
L1828580-14	LDW18-SSCL-A17	3	S0	18MAY18 13:36
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-15	LDW18-SSCL-A18	3	S0	18MAY18 13:57
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-16	LDW18-SSCL-A19	3	S0	17MAY18 14:04
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-17	LDW18-SSCL-A11-FD	3	S0	15MAY18 12:01
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-18	LDW18-SS-COMP01	3	S0	26FEB18 13:49
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-19	LDW18-SS-COMP02	3	S0	28FEB18 13:02
2 reps for soot Package Due Date: 09/07/18				
A2-SOOT				
L1828580-20	LDW18-SS-COMP03	3	S0	06MAR18 12:49
2 reps for soot Package Due Date: 09/07/18				

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Sep 07 2018, 01:28 pm

Login Number: L1828580
Account: ARILAB Analytical Resources, Inc.Project: TASK 4
Received: 25JUL18 Due Date: 08AUG18

Sample #	Client ID		Mat	PR	Collected
A2-SOOT					
L1828580-21	LDW18-SS-COMP04		3	S0	06MAR18 11:46
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-22	LDW18-SS-COMP05		3	S0	26FEB18 14:20
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-23	LDW18-SS-COMP06		3	S0	05MAR18 13:45
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					
L1828580-24	LDW18-SS-COMP07		3	S0	05MAR18 14:02
2 reps for soot Package Due Date: 09/07/18					
A2-SOOT					

Logged By: Sue ONeil

Container Tracking

ALPHA ANALYTICAL LABORATORIES
Container Tracking Report

Container ID	Type	Status	Transaction Date	From Response	From Location	From Operator	To Response	To Location	To Operator
L1828580-01A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-01A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-01A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-01A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-02A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-02A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-02A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-02A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-03A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-03A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-03A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-03A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-04A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-04A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-04A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-04A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-05A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-05A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-05A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-05A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-06A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-06A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-06A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-06A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-07A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery

Container ID	Type	Status	Transaction Date	From Response	From Location	From Operator	To Response	To Location	To Operator
L1828580-07A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-07A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-07A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-08A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-08A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-08A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-08A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-09A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-09A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-09A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-09A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-10A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-10A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-10A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-10A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-11A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-11A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-11A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-11A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-12A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-12A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-12A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-12A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-13A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-13A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery

Container ID	Type	Status	Transaction Date	From Response	From Location	From Operator	To Response	To Location	To Operator
L1828580-13A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-13A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-14A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-14A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-14A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-14A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-15A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-15A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-15A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-15A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-16A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-16A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-16A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-16A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-17A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-17A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-17A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-17A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-18A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-18A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-18A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-18A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-19A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-19A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-19A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard

Container ID	Type	Status	Transaction Date	From Response	From Location	From Operator	To Response	To Location	To Operator
L1828580-19A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-20A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-20A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-20A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-20A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-21A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-21A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-21A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-21A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-22A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-22A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-22A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-22A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-23A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-23A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-23A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-23A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil
L1828580-24A	Glass-A.25	INTACT	31-JUL-18	A2-CUSTODY-REFRIDGE	A2-WET CHEMISTRY	Grace Deloughery	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Grace Deloughery
L1828580-24A	Glass-A.25	INTACT	30-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-FRZ1-X4	Grace Deloughery	A2-WET CHEMISTRY	A2-WET CHEMISTRY	Grace Deloughery
L1828580-24A	Glass-A.25	INTACT	25-JUL-18	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Bethany Bedard	A2-CUSTODY-FRZ1-X4	A2-CUSTODY-FRZ1-X4	Bethany Bedard
L1828580-24A	Glass-A.25	INTACT	25-JUL-18	A2-LOGIN	A2-LOGIN	Sue ONeil	A2-CUSTODY-REFRIDGE	A2-CUSTODY-REFRIDGE	Sue ONeil

Chain of Custody

L1828580

1 of 6

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name:	AOC3 Black Carbon	Ship to:	Alpha Analytical	No. AOC3 2018-0092	
Project Number:	Task 4	Attn:	Susan O'Neil	Shipping Date:	
Contact Name:	Amara Vandervort	Shipper:	FedEx	Airbill Number:	
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

	Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Black Carbon							Comments / Instructions [Composite/Bag ID]
-01	5/16/2018	1400	LDW18-SSCL-A01	1	sediment	X							
-02	5/16/2018	1400	LDW18-SSCL-A02	1	sediment	X							
-03	5/16/2018	1320	LDW18-SSCL-A03	1	sediment	X							
-04	5/16/2018	1232	LDW18-SSCL-A04	1	sediment	X							
-05	5/16/2018	1300	LDW18-SSCL-A05	1	sediment	X							
-06	5/16/2018	1207	LDW18-SSCL-A06	1	sediment	X							
-07	5/19/2018	1435	LDW18-SSCL-A07	1	sediment	X							
-08	5/19/2018	1500	LDW18-SSCL-A08	1	sediment	X							
-09	5/18/2018	1528	LDW18-SSCL-A09	1	sediment	X							
-10	5/18/2018	1505	LDW18-SSCL-A10	1	sediment	X							
-11	5/15/2018	1201	LDW18-SSCL-A11	1	sediment	X							
-12	5/18/2018	1330	LDW18-SSCL-A12	1	sediment	X							
	Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0092								

1) Released by: Print name: Jacob Walter Signature: Company: ARI Date/Time: 07/24/18 0900	1) Rec'd by: Company: FedEx Date/Time:	2) Released by: Print name: Signature: Company: FedEx Date/Time:	2) Rec'd by: Company: AAL Date/Time: 7/25/18 10:03

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt:: 7/25/18	Laboratory W.O. #:
Condition upon receipt: Good	Time of receipt: 10:03
Cooler temperature: 3.5°c, 3.2°c	Received by:

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

L1828580

2 of 6

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: AOC3 Black Carbon
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: Alpha Analytical
Attn: Susan O'Neil
Shipper: FedEx
Form filled out by: B. Vandervort

No. AOC3 2018-0092
Shipping Date:
Airbill Number:
Turnaround requested: Standard

	Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Black Carbon							Comments / Instructions [Composite/Bag ID]
-13	5/17/2018	1320	LDW18-SSCL-A13	1	sediment	X							
-14	5/18/2018	1336	LDW18-SSCL-A17	1	sediment	X							
-15	5/18/2018	1357	LDW18-SSCL-A18	1	sediment	X							
-16	5/17/2018	1404	LDW18-SSCL-A19	1	sediment	X							
-17	05/15/2018	12:01	LDW18-SSCL-A11-FD	1	sediment	X							
-18	2/26/18	13:49	LDW18-SS-Comp01	1	sediment	X							
-19	2/28/18	13:02	LDW18-SS-Comp02	1	sediment	X							
-20	3/6/18	12:49	LDW18-SS-Comp03	1	sediment	X							
-21	3/6/18	11:46	LDW18-SS-Comp04	1	sediment	X							
-22	2/26/18	14:20	LDW18-SS-Comp05	1	sediment	X							
-23	3/5/18	13:45	LDW18-SS-Comp06	1	sediment	X							
-24	3/5/18	14:02	LDW18-SS-Comp07	1	sediment	X							
	Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0092								

1) Released by:
Print name: Jacob Walter
Signature:
Company: ARI
Date/Time: 07/24/18 0900

1) Rec'd by:
Company: Fedex
Date/Time:

2) Released by:
Print name:
Signature:
Company: Fedex
Date/Time:

2) Rec'd by:
Company: AAL
Date/Time: 7/25/18 10:03

* Distribution: White copies accompany shipment; yellow retained by consignor

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

Wet Chemistry

Organic Carbon Analysis

Sequence Logs

Date of report: 8/7/2018 3:10 PM
User ID: alpha

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
K1	1	10.170	8/7/2018 8:20:50 AM	17.699	28.556	0.567	14053	16717	32729	14863
BLANK	2		8/7/2018 8:25:30 AM	47	1729	189	14064	14300	16029	14253
K1	3	10.470	8/7/2018 8:30:10 AM	18.300	27.263	-.099	14058	16066	31828	14100
K1	4	10.330	8/7/2018 8:36:10 AM	17.628	27.594	-.134	14063	15935	31677	14064
ICV	5	10.410	8/7/2018 8:42:44 AM	0.997%	5.159%	-.254%	14064	15986	32241	14079
ICB	6	51.680	8/7/2018 8:47:24 AM	-.002%	0.015%	-.061%	14066	14079	15698	14052
HICV	7	51.220	8/7/2018 8:59:08 AM	-.005%	-.038%	-.049%	14036	14059	14926	14057
BLANK	8		8/7/2018 9:04:14 AM	-1	627	-4	14045	14040	14667	14041
HICV	9	52.130	8/7/2018 9:28:52 AM	2.984%	1.374%	-.182%	14135	41615	62822	13767
HICV	10	51.360	8/7/2018 9:35:43 AM	3.586%	1.051%	-.074%	14129	47051	63377	14080
SRM1650	11	.300	8/7/2018 9:42:23 AM	114.795%	20.999%	19.506%	13261	19936	23082	13752
MB	12	68.280	8/7/2018 9:47:59 AM	0.042%	0.023%	0.236%	13050	14651	16490	14116
SRM1650	13	.480	8/7/2018 9:53:21 AM	84.652%	-.768%	-6.653%	13994	21270	22572	13978
MB	14	59.500	8/7/2018 9:58:12 AM	0.0%	-.037%	-.049%	13991	14015	14804	13992
SRM1650	15	.390	8/7/2018 10:04:31 AM	76.133%	-4.692%	-5.718%	13986	19359	20257	14024
MB	16	50.530	8/7/2018 10:11:52 AM	0.0%	-.056%	-.051%	13983	14024	14642	14002
182858001	17	9.410	8/7/2018 10:19:19 AM	0.188%	-.061%	-.233%	13982	14362	15608	14022
182858001	18	9.130	8/7/2018 10:23:59 AM	0.163%	-.100%	-.252%	13988	14313	15464	14022
182858001D	19	8.850	8/7/2018 10:28:40 AM	0.162%	-.127%	-.260%	13988	14302	15396	14022
182858001D	20	9.530	8/7/2018 10:33:20 AM	0.175%	-.152%	-.238%	13988	14346	15349	14024
CCV	21	9.550	8/7/2018 10:38:00 AM	1.006%	5.967%	-.263%	13989	15754	32916	14011
CCB	22	45.270	8/7/2018 10:42:40 AM	0.001%	-.022%	-.049%	14001	14072	15203	14040
182858001MS	23	11.890	8/7/2018 10:48:59 AM	1.039%	4.853%	-.179%	13985	16262	33622	14029
182858001MS	24	12.760	8/7/2018 10:53:39 AM	0.946%	4.602%	-.168%	14002	16227	33870	14045
182858001MSD	25	14.530	8/7/2018 10:58:20 AM	1.678%	3.925%	-.141%	14007	18441	35613	14055
182858001MS	26	8.240	8/7/2018 11:03:00 AM	2.285%	7.246%	-.273%	14007	17436	35350	14044

Reported on 8/7/2018 3:10 PM by alpha

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
182858002	27	10.670	8/7/2018 11:07:41 AM	0.173%	0.310%	-.204%	14008	14404	16722	14049
182858002	28	8.090	8/7/2018 11:12:22 AM	0.162%	0.045%	-.276%	13991	14288	15793	14029
182858003	29	9.440	8/7/2018 11:17:02 AM	0.302%	0.098%	-.223%	13987	14566	16225	14032
182858003	30	9.870	8/7/2018 11:21:43 AM	0.259%	0.121%	-.210%	13984	14513	16248	14031
182858004	31	8.550	8/7/2018 11:26:24 AM	0.056%	-.188%	-.278%	13982	14121	15081	14012
182858004	32	9.520	8/7/2018 11:31:05 AM	0.089%	-.168%	-.242%	13981	14191	15153	14015
CCV	33	9.980	8/7/2018 11:47:47 AM	1.005%	5.719%	-.243%	13971	15816	33002	13998
CCB	34	77.410	8/7/2018 11:52:28 AM	0.0%	-.006%	-.032%	13986	14035	15303	14011
182858005	35	12.160	8/7/2018 12:00:42 PM	0.173%	0.150%	-.153%	13969	14429	16337	14028
182858005	36	13.110	8/7/2018 12:05:23 PM	-.011%	-.250%	-.189%	13972	13994	14493	13996
182858006	37	8.520	8/7/2018 12:10:04 PM	0.295%	0.211%	-.239%	13973	14496	16398	14022
182858006	38	9.570	8/7/2018 12:14:45 PM	0.072%	-.160%	-.237%	13970	14154	15134	14006
182858007	39	10.790	8/7/2018 12:19:26 PM	0.070%	-.125%	-.215%	13972	14164	15195	14005
182858007	40	10.310	8/7/2018 12:24:07 PM	0.068%	-.066%	-.225%	13972	14155	15370	14005
182858008	41	10.620	8/7/2018 12:28:49 PM	0.062%	-.124%	-.222%	13970	14143	15184	14001
182858008	42	7.670	8/7/2018 12:33:30 PM	0.227%	0.135%	-.305%	13969	14336	16027	14001
182858009	43	14.820	8/7/2018 12:38:11 PM	0.052%	-.005%	-.160%	13971	14162	15544	14001
182858009	44	10.700	8/7/2018 12:42:53 PM	0.060%	-.001%	-.210%	13971	14146	15547	14008
CCV	45	10.590	8/7/2018 1:04:09 PM	1.085%	5.242%	-.202%	13958	16081	32834	14001
CCB	46	75.980	8/7/2018 1:08:50 PM	0.0%	-.002%	-.032%	13977	14030	15394	14004
182858010	47	10.640	8/7/2018 1:19:42 PM	0.026%	0.156%	-.221%	13958	14063	15925	13989
182858010	48	10.130	8/7/2018 1:24:23 PM	0.021%	0.059%	-.199%	13965	14077	15645	14015
182858021	49	7.320	8/7/2018 1:29:05 PM	0.120%	0.054%	-.141%	13966	14252	15766	14071
182858021	50	6.050	8/7/2018 1:33:46 PM	0.124%	-.027%	0.156%	13962	14336	15694	14178
182858022	51	5.820	8/7/2018 1:38:28 PM	0.010%	-.284%	0.883%	13966	14451	15398	14417
182858022	52	5.370	8/7/2018 1:43:09 PM	0.010%	-.288%	2.542%	13968	14930	15906	14896
182858023	53	7.950	8/7/2018 1:47:51 PM	0.007%	-.201%	4.657%	13964	16236	17199	16202

Reported on 8/7/2018 3:10 PM by alpha

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
182858023	53	7.950	8/7/2018 1:47:51 PM	0.007%	-.201%	4.657%	13964	16236	17199	16202
182858023	54	7.750	8/7/2018 1:52:33 PM	-.004%	-.186%	8.129%	13961	17674	18679	17655
182858024	55	9.080	8/7/2018 1:57:15 PM	0.025%	-.107%	12.937%	13965	20776	21912	20712
182858024	56	7.480	8/7/2018 2:01:56 PM	0.074%	-.209%	21.789%	13964	23385	24357	23262
CCV	57	9.960	8/7/2018 2:07:42 PM	0.939%	5.828%	23.405%	13968	28893	46348	27197
CCB	58	112.65	8/7/2018 2:12:24 PM	0.012%	0.005%	2.899%	13978	32702	34259	32446
CCB	59	53.540	8/7/2018 2:20:18 PM	0.007%	-.045%	3.089%	13963	23489	24222	23397

Date of report: 8/8/2018 5:57 AM
User ID: Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
BLANK	1		8/7/2018 8:33:41 AM	-42	-68	-50	60947	60855	60787	60897
BLANK	2		8/7/2018 8:42:35 AM	-49	-133	-75	61010	60886	60753	60935
BLANK	3		8/7/2018 8:47:49 AM	-48	-39	-52	60931	60831	60792	60879
K1	4	9.790	8/7/2018 8:56:22 AM	20.174	-.282	-.022	60994	62844	62666	60917
BLANK	5		8/7/2018 9:04:15 AM	-22	-157	-74	60983	60887	60730	60909
K1	6	10.200	8/7/2018 9:09:29 AM	20.167	-.168	-.050	61037	62936	62811	60914
K1	7	9.550	8/7/2018 9:31:24 AM	21.120	-.050	0.007	60970	62897	62834	60915
ICV	8	10.380	8/7/2018 9:38:42 AM	0.943%	-12.141%	-.008%	61084	62917	62786	60966
ICB	9	49.500	8/7/2018 9:44:27 AM	-.001%	-2.297%	-.003%	61101	60913	60791	60957
HICV	10	48.390	8/7/2018 9:53:40 AM	3.702%	-1.670%	0.0%	61107	97346	97248	61047
SRM1650	11	.300	8/7/2018 9:59:41 AM	81.903%	232.877%	0.216%	61028	65955	65967	61007
MB	12	51.870	8/7/2018 10:04:56 A	-.004%	-1.453%	-.001%	61194	61019	60925	61100
SRM1650	13	.550	8/7/2018 10:10:10 A	61.063%	-127.024%	0.123%	61121	67878	67788	61102
MB	14	46.400	8/7/2018 10:15:25 A	0.007%	-1.033%	-.001%	60997	60937	60863	60910
SRM1650	15	.560	8/7/2018 10:22:32 A	80.806%	-247.065%	0.152%	61008	70142	70002	61000
182858011	16	8.970	8/7/2018 10:30:11 A	0.080%	-12.523%	-.001%	61018	61061	60940	60950
182858011	17	10.750	8/7/2018 10:35:26 A	0.117%	-6.371%	-.014%	61045	61108	61019	60887
182858011D	18	9.200	8/7/2018 10:40:41 A	0.099%	-8.934%	0.006%	60957	61078	60979	60929
182858011D	19	7.200	8/7/2018 10:45:56 A	0.215%	-23.973%	0.004%	60995	61231	61066	60952
182858011MS	20	10.920	8/7/2018 10:51:11 A	0.987%	-11.416%	0.008%	61105	63247	63117	61097
CCV	21	10.130	8/7/2018 11:01:51 A	1.032%	-1.352%	-.002%	61031	63039	62990	60954
CCB	22	74.240	8/7/2018 11:07:07 A	-.001%	-2.233%	0.001%	61144	61089	60929	61139
182858011MS	23	9.320	8/7/2018 11:14:01 A	1.199%	-2.205%	0.001%	61117	63290	63236	61059
182858011	24	9.250	8/7/2018 11:19:16 A	0.135%	-17.031%	0.005%	61124	61309	61155	61091
182858011	25	10.220	8/7/2018 11:24:31 A	0.179%	-12.197%	-.005%	61078	61319	61189	60984
182858011D	26	11.240	8/7/2018 11:29:47 A	0.153%	-20.962%	-.004%	61090	61313	61102	61000

Reported on 8/8/2018 5:57 AM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
182858011D	27	11.980	8/7/2018 11:35:02 A	0.143%	-10.177%	0.0%	61013	61260	61132	60948
182858012	28	13.240	8/7/2018 11:40:18 A	0.080%	-12.726%	-.004%	61070	61154	60992	60975
182858012	29	12.480	8/7/2018 11:45:34 A	0.078%	-5.818%	0.002%	60938	61051	60959	60888
182858013	30	14.820	8/7/2018 11:50:50 A	0.136%	-6.378%	0.005%	60858	61218	61110	60843
182858013	31	10.360	8/7/2018 11:56:06 A	0.144%	-10.843%	0.0%	60845	61052	60931	60784
182858014	32	8.990	8/7/2018 12:01:21 PM	0.279%	-10.819%	0.0%	60987	61397	61287	60923
CCV	33	9.460	8/7/2018 12:06:37 PM	1.046%	-23.314%	-.001%	60992	62893	62693	60921
CCB	34	82.070	8/7/2018 12:11:53 PM	0.006%	-1.786%	0.0%	61036	61059	60913	60988
182858014	35	12.220	8/7/2018 12:17:45 PM	0.258%	-10.986%	0.003%	60982	61550	61413	60945
182858015	36	9.850	8/7/2018 12:23:01 PM	0.192%	-10.570%	0.004%	61088	61399	61284	61050
182858015	37	7.340	8/7/2018 12:28:17 PM	0.268%	-11.944%	0.015%	60922	61296	61193	60932
182858016	38	7.500	8/7/2018 12:33:32 PM	0.177%	-10.228%	0.005%	60923	61116	61021	60882
182858016	39	10.470	8/7/2018 12:38:48 PM	0.143%	-2.224%	-.003%	60890	61077	61021	60808
182858017	40	9.660	8/7/2018 12:44:04 PM	0.157%	0.851%	-.001%	60887	61088	61055	60815
BLANK	41		8/7/2018 12:49:20 PM	-22	-117	-67	60970	60881	60764	60903
182858017	42	11.480	8/7/2018 12:54:36 PM	0.158%	4.176%	-.002%	60983	61246	61203	60906
182858018	43	9.910	8/7/2018 12:59:53 PM	0.409%	-11.611%	0.018%	60796	61639	61477	60846
182858018	44	10.280	8/7/2018 1:05:09 PM	0.617%	7.329%	0.001%	60862	62061	62038	60803
CCV	45	10.400	8/7/2018 1:17:54 PM	1.016%	-6.322%	0.003%	60925	62991	62865	60878
CCB	46	45.650	8/7/2018 1:23:10 PM	0.006%	-2.461%	0.0%	60914	60864	60704	60842
182858019	47	8.920	8/7/2018 1:36:20 PM	0.174%	-8.446%	0.004%	60950	61193	61060	60908
182858019	48	11.500	8/7/2018 1:41:37 PM	0.235%	7.385%	0.006%	60863	61361	61345	60841
182858020	49	8.800	8/7/2018 1:46:53 PM	0.059%	-2.646%	0.006%	60948	60991	60896	60915
182858020	50	8.430	8/7/2018 1:52:09 PM	0.139%	-5.362%	0.001%	60904	61053	60942	60844
182858015	51	9.280	8/7/2018 1:57:26 PM	0.190%	-8.709%	0.005%	60899	61191	61054	60862
182858015	52	7.640	8/7/2018 2:02:43 PM	0.281%	-29.585%	-.002%	60845	61179	60936	60772
182858018	53	10.430	8/7/2018 2:07:59 PM	0.403%	-8.012%	-.007%	60816	61526	61387	60703

Reported on 8/8/2018 5:57 AM by Alpha Analytical

Run Details				Results			Signals			
Run	Run #	Weight	Created on	Carbon	Hydrogen	Nitrogen	ZR	CR	HR	NR
182858018	53	10.430	8/7/2018 2:07:59 PM	0.403%	-8.012%	-.007%	60816	61526	61387	60703
182858018	54	9.030	8/7/2018 2:13:16 PM	0.154%	-11.074%	-.003%	60815	60988	60837	60735
182858020	55	9.070	8/7/2018 2:18:33 PM	0.048%	-8.760%	0.003%	60768	60779	60643	60720
182858020	56	5.650	8/7/2018 2:23:50 PM	0.099%	-24.973%	0.004%	60824	60857	60676	60772
CCV	57	10.030	8/7/2018 2:29:06 PM	1.021%	-5.600%	-.001%	60807	62780	62661	60733
CCB	58	71.400	8/7/2018 2:34:23 PM	-.007%	2.494%	0.0%	60881	60662	60714	60795
182858008	59	9.270	8/7/2018 2:41:25 PM	0.249%	1.773%	0.007%	60790	61204	61138	60765
182858008	60	10.260	8/7/2018 2:46:42 PM	0.214%	-18.692%	-.005%	60755	61075	60857	60659
182858011MS	61	7.080	8/7/2018 2:51:59 PM	1.525%	-12.576%	0.013%	60709	62862	62719	60702
182858011MS	62	5.760	8/7/2018 2:57:16 PM	1.970%	-36.625%	-.009%	60742	62916	62684	60644
182858004	63	10.360	8/7/2018 3:02:33 PM	0.038%	-7.934%	0.005%	60731	60751	60613	60700
182858004	64	8.610	8/7/2018 3:07:50 PM	0.026%	-6.523%	0.012%	60696	60712	60593	60696
182858005	65	7.400	8/7/2018 3:13:07 PM	0.139%	1.111%	0.005%	60739	60875	60803	60696
182858005	66	8.450	8/7/2018 3:18:24 PM	0.193%	-19.129%	-.001%	60740	60970	60774	60668
182858006	67	7.730	8/7/2018 3:23:41 PM	0.059%	-8.152%	0.002%	60752	60759	60635	60695
182858006	68	14.560	8/7/2018 3:28:58 PM	0.061%	-2.917%	-.002%	60874	60941	60832	60791
CCV	69	10.290	8/7/2018 3:35:01 PM	0.984%	-1.065%	-.001%	60894	62849	62763	60825
CCB	70	72.480	8/7/2018 3:40:18 PM	-.001%	-.491%	-.001%	60807	60667	60563	60713
182858023	71	6.460	8/7/2018 3:49:21 PM	-.010%	-16.752%	0.010%	60925	60859	60702	60901
182858023	72	8.180	8/7/2018 3:54:38 PM	0.002%	-4.354%	0.004%	60896	60828	60724	60853
CCV	73	10.130	8/7/2018 3:59:55 PM	1.028%	-8.925%	-.003%	60868	62866	62722	60784
CCB	74	77.150	8/7/2018 4:05:12 PM	0.003%	-1.065%	0.0%	60998	60932	60794	60919

Sample Raw Data

Date of report	8/7/2018 3:10:26PM
User ID	alpha

DATE & TIME	8/7/2018 8:20:50 AM		P_ID	080718SPP2	
RUN TYPE	K1		USER ID	alpha	
WEIGHT (mg)	10.170		MODE	CHN	
			SIGNALS		
			ZR	14053	AVERAGE RESULTS
KC	17.699		NR	14863	KC 17.992
KH	28.556		CR	16717	KH 28.157
KN	0.567		HR	32729	KN 5.605
BLANKS	54	1404	137		
K FACTORS	1.0%	5.03%	11.67%		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 8:25:30 AM		P_ID	080718SPP2	
RUN TYPE	BLANK		USER ID	alpha	
			MODE	CHN	
			SIGNALS		
			ZR	14064	AVERAGE RESULTS
CARBON	47		NR	14253	CARBON 50
HYDROGEN	1729		CR	14300	HYDROGEN 1404
NITROGEN	189		HR	16029	NITROGEN 163
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 8:30:10 AM		P_ID	080718SPP2	
RUN TYPE	K1		USER ID	alpha	
WEIGHT (mg)	10.470		MODE	CHN	
			SIGNALS		
			ZR	14058	AVERAGE RESULTS
KC	18.300		NR	14100	KC 18.146
KH	27.263		CR	16066	KH 27.710
KN	-.099		HR	31828	KN 5.605
BLANKS	50	1404	163		
K FACTORS	1.0%	5.03%	11.67%		
FILL TIME	22 Seconds				

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 8:36:10 AM		P_ID	080718SPP2	
RUN TYPE	K1		USER ID	alpha	
WEIGHT (mg)	10.330		MODE	CHN	
			SIGNALS		
			ZR	14063	AVERAGE RESULTS
KC	17.628		NR	14064	KC 17.887
KH	27.594		CR	15935	KH 27.652
KN	-.134		HR	31677	KN 5.605
BLANKS	50	1404	163		
K FACTORS	1.0%	5.03%	11.67%		
FILL TIME	22 Seconds				

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 8:42:44 AM	P_ID	080718SPP2
SAMPLE ID	ICV	USER ID	alpha
WEIGHT (mg)	10.410	MODE	CHN

		SIGNALS	
		ZR	14064
CARBON	0.997%	NR	14079
HYDROGEN	5.159%	CR	15986
NITROGEN	-.254%	HR	32241

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 8:47:24 AM	P_ID	080718SPP2
SAMPLE ID	ICB	USER ID	alpha
WEIGHT (mg)	51.680	MODE	CHN

		SIGNALS	
		ZR	14066
CARBON	-.002%	NR	14052
HYDROGEN	0.015%	CR	14079
NITROGEN	-.061%	HR	15698

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 8:59:08 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	51.220	MODE	CHN

		SIGNALS	
		ZR	14036
CARBON	-.005%	NR	14057
HYDROGEN	-.038%	CR	14059
NITROGEN	-.049%	HR	14926

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 25 Seconds

DATE & TIME	8/7/2018 9:04:14 AM	P_ID	080718SPP2
RUN TYPE	BLANK	USER ID	alpha
		MODE	CHN

		SIGNALS		AVERAGE RESULTS	
		ZR	14045		
CARBON	-1	NR	14041	CARBON	24
HYDROGEN	627	CR	14040	HYDROGEN	1404
NITROGEN	-4	HR	14667	NITROGEN	163

FILL TIME	23 Seconds

NUMBER	MESSAGE
16	HYDROGEN BLANK OUT OF TOLERANCE

DATE & TIME	8/7/2018 9:28:52 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	52.130	MODE	CHN

		SIGNALS	
		ZR	14135
CARBON	2.984%	NR	13767
HYDROGEN	1.374%	CR	41615
NITROGEN	-.182%	HR	62822

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	9 Seconds

DATE & TIME	8/7/2018 9:35:43 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	51.360	MODE	CHN

		SIGNALS	
		ZR	14129
CARBON	3.586%	NR	14080
HYDROGEN	1.051%	CR	47051
NITROGEN	-.074%	HR	63377

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	8 Seconds

DATE & TIME	8/7/2018 9:42:23 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.300	MODE	CHN

		SIGNALS	
		ZR	13261
CARBON	114.795%	NR	13752
HYDROGEN	20.999%	CR	19936
NITROGEN	19.506%	HR	23082

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME	8 Seconds

DATE & TIME	8/7/2018 9:47:59 AM	P_ID	080718SPP2
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	68.280	MODE	CHN

				SIGNALS	
				ZR	13050
CARBON	0.042%			NR	14116
HYDROGEN	0.023%			CR	14651
NITROGEN	0.236%			HR	16490
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	14 Seconds				

DATE & TIME	8/7/2018 9:53:21 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.480	MODE	CHN

				SIGNALS	
				ZR	13994
CARBON	84.652%			NR	13978
HYDROGEN	-.768%			CR	21270
NITROGEN	-6.653%			HR	22572
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 9:58:12 AM	P_ID	080718SPP2
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	59.500	MODE	CHN

				SIGNALS	
				ZR	13991
CARBON	0.0%			NR	13992
HYDROGEN	-.037%			CR	14015
NITROGEN	-.049%			HR	14804
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 10:04:31 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.390	MODE	CHN

				SIGNALS	
				ZR	13986
CARBON	76.133%			NR	14024
HYDROGEN	-4.692%			CR	19359
NITROGEN	-5.718%			HR	20257
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 10:11:52 AM			P_ID	080718SPP2
SAMPLE ID	MB			USER ID	alpha
WEIGHT (mg)	50.530			MODE	CHN

				SIGNALS	
				ZR	13983
CARBON	0.0%			NR	14002
HYDROGEN	-.056%			CR	14024
NITROGEN	-.051%			HR	14642
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:19:19 AM			P_ID	080718SPP2
SAMPLE ID	182858001			USER ID	alpha
WEIGHT (mg)	9.410			MODE	CHN

				SIGNALS	
				ZR	13982
CARBON	0.188%			NR	14022
HYDROGEN	-.061%			CR	14362
NITROGEN	-.233%			HR	15608
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:23:59 AM			P_ID	080718SPP2
SAMPLE ID	182858001			USER ID	alpha
WEIGHT (mg)	9.130			MODE	CHN

				SIGNALS	
				ZR	13988
CARBON	0.163%			NR	14022
HYDROGEN	-.100%			CR	14313
NITROGEN	-.252%			HR	15464
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:28:40 AM			P_ID	080718SPP2
SAMPLE ID	182858001D			USER ID	alpha
WEIGHT (mg)	8.850			MODE	CHN

				SIGNALS	
				ZR	13988
CARBON	0.162%			NR	14022
HYDROGEN	-.127%			CR	14302
NITROGEN	-.260%			HR	15396

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:33:20 AM	P_ID	080718SPP2
SAMPLE ID	182858001D	USER ID	alpha
WEIGHT (mg)	9.530	MODE	CHN

		SIGNALS	
		ZR	13988
CARBON	0.175%	NR	14024
HYDROGEN	-.152%	CR	14346
NITROGEN	-.238%	HR	15349

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:38:00 AM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.550	MODE	CHN

		SIGNALS	
		ZR	13989
CARBON	1.006%	NR	14011
HYDROGEN	5.967%	CR	15754
NITROGEN	-.263%	HR	32916

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:42:40 AM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	45.270	MODE	CHN

		SIGNALS	
		ZR	14001
CARBON	0.001%	NR	14040
HYDROGEN	-.022%	CR	14072
NITROGEN	-.049%	HR	15203

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:48:59 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	11.890	MODE	CHN

				SIGNALS	
				ZR	13985
CARBON	1.039%			NR	14029
HYDROGEN	4.853%			CR	16262
NITROGEN	-.179%			HR	33622
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:53:39 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	12.760	MODE	CHN

				SIGNALS	
				ZR	14002
CARBON	0.946%			NR	14045
HYDROGEN	4.602%			CR	16227
NITROGEN	-.168%			HR	33870
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:58:20 AM	P_ID	080718SPP2
SAMPLE ID	182858001MSD	USER ID	alpha
WEIGHT (mg)	14.530	MODE	CHN

				SIGNALS	
				ZR	14007
CARBON	1.678%			NR	14055
HYDROGEN	3.925%			CR	18441
NITROGEN	-.141%			HR	35613
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:03:00 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	8.240	MODE	CHN

				SIGNALS	
				ZR	14007
CARBON	2.285%			NR	14044
HYDROGEN	7.246%			CR	17436
NITROGEN	-.273%			HR	35350
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:07:41 AM	P_ID	080718SPP2
SAMPLE ID	182858002	USER ID	alpha
WEIGHT (mg)	10.670	MODE	CHN

		SIGNALS	
		ZR	14008
CARBON	0.173%	NR	14049
HYDROGEN	0.310%	CR	14404
NITROGEN	-.204%	HR	16722

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:12:22 AM	P_ID	080718SPP2
SAMPLE ID	182858002	USER ID	alpha
WEIGHT (mg)	8.090	MODE	CHN

		SIGNALS	
		ZR	13991
CARBON	0.162%	NR	14029
HYDROGEN	0.045%	CR	14288
NITROGEN	-.276%	HR	15793

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:17:02 AM	P_ID	080718SPP2
SAMPLE ID	182858003	USER ID	alpha
WEIGHT (mg)	9.440	MODE	CHN

		SIGNALS	
		ZR	13987
CARBON	0.302%	NR	14032
HYDROGEN	0.098%	CR	14566
NITROGEN	-.223%	HR	16225

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:21:43 AM	P_ID	080718SPP2
SAMPLE ID	182858003	USER ID	alpha
WEIGHT (mg)	9.870	MODE	CHN

		SIGNALS	
		ZR	13984
CARBON	0.259%	NR	14031
HYDROGEN	0.121%	CR	14513
NITROGEN	-.210%	HR	16248

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:26:24 AM	P_ID	080718SPP2
SAMPLE ID	182858004	USER ID	alpha
WEIGHT (mg)	8.550	MODE	CHN

		SIGNALS	
		ZR	13982
CARBON	0.056%	NR	14012
HYDROGEN	-.188%	CR	14121
NITROGEN	-.278%	HR	15081

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:31:05 AM	P_ID	080718SPP2
SAMPLE ID	182858004	USER ID	alpha
WEIGHT (mg)	9.520	MODE	CHN

		SIGNALS	
		ZR	13981
CARBON	0.089%	NR	14015
HYDROGEN	-.168%	CR	14191
NITROGEN	-.242%	HR	15153

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:47:47 AM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.980	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	1.005%	NR	13998
HYDROGEN	5.719%	CR	15816
NITROGEN	-.243%	HR	33002

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:52:28 AM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	77.410	MODE	CHN

				SIGNALS	
				ZR	13986
CARBON	0.0%			NR	14011
HYDROGEN	-.006%			CR	14035
NITROGEN	-.032%			HR	15303
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 12:00:42 PM	P_ID	080718SPP2
SAMPLE ID	182858005	USER ID	alpha
WEIGHT (mg)	12.160	MODE	CHN

				SIGNALS	
				ZR	13969
CARBON	0.173%			NR	14028
HYDROGEN	0.150%			CR	14429
NITROGEN	-.153%			HR	16337
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 12:05:23 PM	P_ID	080718SPP2
SAMPLE ID	182858005	USER ID	alpha
WEIGHT (mg)	13.110	MODE	CHN

				SIGNALS	
				ZR	13972
CARBON	-.011%			NR	13996
HYDROGEN	-.250%			CR	13994
NITROGEN	-.189%			HR	14493
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:10:04 PM	P_ID	080718SPP2
SAMPLE ID	182858006	USER ID	alpha
WEIGHT (mg)	8.520	MODE	CHN

				SIGNALS	
				ZR	13973
CARBON	0.295%			NR	14022
HYDROGEN	0.211%			CR	14496
NITROGEN	-.239%			HR	16398
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:14:45 PM			P_ID	080718SPP2
SAMPLE ID	182858006			USER ID	alpha
WEIGHT (mg)	9.570			MODE	CHN

				SIGNALS	
				ZR	13970
CARBON	0.072%			NR	14006
HYDROGEN	-.160%			CR	14154
NITROGEN	-.237%			HR	15134
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:19:26 PM			P_ID	080718SPP2
SAMPLE ID	182858007			USER ID	alpha
WEIGHT (mg)	10.790			MODE	CHN

				SIGNALS	
				ZR	13972
CARBON	0.070%			NR	14005
HYDROGEN	-.125%			CR	14164
NITROGEN	-.215%			HR	15195
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:24:07 PM			P_ID	080718SPP2
SAMPLE ID	182858007			USER ID	alpha
WEIGHT (mg)	10.310			MODE	CHN

				SIGNALS	
				ZR	13972
CARBON	0.068%			NR	14005
HYDROGEN	-.066%			CR	14155
NITROGEN	-.225%			HR	15370
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 12:28:49 PM			P_ID	080718SPP2
SAMPLE ID	182858008			USER ID	alpha
WEIGHT (mg)	10.620			MODE	CHN

				SIGNALS	
				ZR	13970
CARBON	0.062%			NR	14001
HYDROGEN	-.124%			CR	14143
NITROGEN	-.222%			HR	15184

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:33:30 PM	P_ID	080718SPP2
SAMPLE ID	182858008	USER ID	alpha
WEIGHT (mg)	7.670	MODE	CHN

		SIGNALS	
		ZR	13969
CARBON	0.227%	NR	14001
HYDROGEN	0.135%	CR	14336
NITROGEN	-.305%	HR	16027

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:38:11 PM	P_ID	080718SPP2
SAMPLE ID	182858009	USER ID	alpha
WEIGHT (mg)	14.820	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	0.052%	NR	14001
HYDROGEN	-.005%	CR	14162
NITROGEN	-.160%	HR	15544

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:42:53 PM	P_ID	080718SPP2
SAMPLE ID	182858009	USER ID	alpha
WEIGHT (mg)	10.700	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	0.060%	NR	14008
HYDROGEN	-.001%	CR	14146
NITROGEN	-.210%	HR	15547

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:04:09 PM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.590	MODE	CHN

				SIGNALS	
				ZR	13958
CARBON	1.085%			NR	14001
HYDROGEN	5.242%			CR	16081
NITROGEN	-.202%			HR	32834
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 1:08:50 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	75.980	MODE	CHN

				SIGNALS	
				ZR	13977
CARBON	0.0%			NR	14004
HYDROGEN	-.002%			CR	14030
NITROGEN	-.032%			HR	15394
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 1:19:42 PM	P_ID	080718SPP2
SAMPLE ID	182858010	USER ID	alpha
WEIGHT (mg)	10.640	MODE	CHN

				SIGNALS	
				ZR	13958
CARBON	0.026%			NR	13989
HYDROGEN	0.156%			CR	14063
NITROGEN	-.221%			HR	15925
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:24:23 PM	P_ID	080718SPP2
SAMPLE ID	182858010	USER ID	alpha
WEIGHT (mg)	10.130	MODE	CHN

				SIGNALS	
				ZR	13965
CARBON	0.021%			NR	14015
HYDROGEN	0.059%			CR	14077
NITROGEN	-.199%			HR	15645
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:29:05 PM	P_ID	080718SPP2
SAMPLE ID	182858021	USER ID	alpha
WEIGHT (mg)	7.320	MODE	CHN

		SIGNALS	
		ZR	13966
CARBON	0.120%	NR	14071
HYDROGEN	0.054%	CR	14252
NITROGEN	-.141%	HR	15766

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:33:46 PM	P_ID	080718SPP2
SAMPLE ID	182858021	USER ID	alpha
WEIGHT (mg)	6.050	MODE	CHN

		SIGNALS	
		ZR	13962
CARBON	0.124%	NR	14178
HYDROGEN	-.027%	CR	14336
NITROGEN	0.156%	HR	15694

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:38:28 PM	P_ID	080718SPP2
SAMPLE ID	182858022	USER ID	alpha
WEIGHT (mg)	5.820	MODE	CHN

		SIGNALS	
		ZR	13966
CARBON	0.010%	NR	14417
HYDROGEN	-.284%	CR	14451
NITROGEN	0.883%	HR	15398

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:43:09 PM	P_ID	080718SPP2
SAMPLE ID	182858022	USER ID	alpha
WEIGHT (mg)	5.370	MODE	CHN

		SIGNALS	
		ZR	13968
CARBON	0.010%	NR	14896
HYDROGEN	-.288%	CR	14930
NITROGEN	2.542%	HR	15906

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:47:51 PM	P_ID	080718SPP2
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	7.950	MODE	CHN

		SIGNALS	
		ZR	13964
CARBON	0.007%	NR	16202
HYDROGEN	-.201%	CR	16236
NITROGEN	4.657%	HR	17199

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:52:33 PM	P_ID	080718SPP2
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	7.750	MODE	CHN

		SIGNALS	
		ZR	13961
CARBON	-.004%	NR	17655
HYDROGEN	-.186%	CR	17674
NITROGEN	8.129%	HR	18679

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:57:15 PM	P_ID	080718SPP2
SAMPLE ID	182858024	USER ID	alpha
WEIGHT (mg)	9.080	MODE	CHN

		SIGNALS	
		ZR	13965
CARBON	0.025%	NR	20712
HYDROGEN	-.107%	CR	20776
NITROGEN	12.937%	HR	21912

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 2:01:56 PM	P_ID	080718SPP2
SAMPLE ID	182858024	USER ID	alpha
WEIGHT (mg)	7.480	MODE	CHN

				SIGNALS	
				ZR	13964
CARBON	0.074%			NR	23262
HYDROGEN	-.209%			CR	23385
NITROGEN	21.789%			HR	24357
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:07:42 PM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.960	MODE	CHN

				SIGNALS	
				ZR	13968
CARBON	0.939%			NR	27197
HYDROGEN	5.828%			CR	28893
NITROGEN	23.405%			HR	46348
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:12:24 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	112.650	MODE	CHN

				SIGNALS	
				ZR	13978
CARBON	0.012%			NR	32446
HYDROGEN	0.005%			CR	32702
NITROGEN	2.899%			HR	34259
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:20:18 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	53.540	MODE	CHN

				SIGNALS	
				ZR	13963
CARBON	0.007%			NR	23397
HYDROGEN	-.045%			CR	23489
NITROGEN	3.089%			HR	24222
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

Date of report	8/7/2018 3:11:09PM
User ID	alpha

DATE & TIME	8/7/2018 8:20:50 AM			P_ID	080718SPP2
RUN TYPE	K1			USER ID	alpha
WEIGHT (mg)	10.170			MODE	CHN

SIGNALS

						AVERAGE RESULTS	
				ZR	14053		
KC	17.699			NR	14863	KC	17.992
KH	28.556			CR	16717	KH	28.157
KN	0.567			HR	32729	KN	5.605
BLANKS	54	1404	137				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	21 Seconds						

DATE & TIME	8/7/2018 8:25:30 AM			P_ID	080718SPP2
RUN TYPE	BLANK			USER ID	alpha
				MODE	CHN

SIGNALS

						AVERAGE RESULTS	
				ZR	14064		
CARBON	47			NR	14253	CARBON	50
HYDROGEN	1729			CR	14300	HYDROGEN	1404
NITROGEN	189			HR	16029	NITROGEN	163
FILL TIME	21 Seconds						

DATE & TIME	8/7/2018 8:30:10 AM			P_ID	080718SPP2
RUN TYPE	K1			USER ID	alpha
WEIGHT (mg)	10.470			MODE	CHN

SIGNALS

						AVERAGE RESULTS	
				ZR	14058		
KC	18.300			NR	14100	KC	18.146
KH	27.263			CR	16066	KH	27.710
KN	-.099			HR	31828	KN	5.605
BLANKS	50	1404	163				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	22 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 8:36:10 AM			P_ID	080718SPP2
RUN TYPE	K1			USER ID	alpha
WEIGHT (mg)	10.330			MODE	CHN

SIGNALS

						AVERAGE RESULTS	
				ZR	14063		
KC	17.628			NR	14064	KC	17.887
KH	27.594			CR	15935	KH	27.652
KN	-.134			HR	31677	KN	5.605
BLANKS	50	1404	163				
K FACTORS	1.0%	5.03%	11.67%				
FILL TIME	22 Seconds						

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 8:42:44 AM	P_ID	080718SPP2
SAMPLE ID	ICV	USER ID	alpha
WEIGHT (mg)	10.410	MODE	CHN

		SIGNALS	
		ZR	14064
CARBON	0.997%	NR	14079
HYDROGEN	5.159%	CR	15986
NITROGEN	-.254%	HR	32241

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 8:47:24 AM	P_ID	080718SPP2
SAMPLE ID	ICB	USER ID	alpha
WEIGHT (mg)	51.680	MODE	CHN

		SIGNALS	
		ZR	14066
CARBON	-.002%	NR	14052
HYDROGEN	0.015%	CR	14079
NITROGEN	-.061%	HR	15698

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 8:59:08 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	51.220	MODE	CHN

		SIGNALS	
		ZR	14036
CARBON	-.005%	NR	14057
HYDROGEN	-.038%	CR	14059
NITROGEN	-.049%	HR	14926

BLANKS	50	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 25 Seconds

DATE & TIME	8/7/2018 9:04:14 AM	P_ID	080718SPP2
RUN TYPE	BLANK	USER ID	alpha
		MODE	CHN

			SIGNALS		
			ZR	14045	AVERAGE RESULTS
CARBON	-1		NR	14041	CARBON 24
HYDROGEN	627		CR	14040	HYDROGEN 1404
NITROGEN	-4		HR	14667	NITROGEN 163

FILL TIME 23 Seconds

NUMBER	MESSAGE
16	HYDROGEN BLANK OUT OF TOLERANCE

DATE & TIME	8/7/2018 9:28:52 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	52.130	MODE	CHN

				SIGNALS	
				ZR	14135
CARBON	2.984%			NR	13767
HYDROGEN	1.374%			CR	41615
NITROGEN	-.182%			HR	62822
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 9 Seconds

DATE & TIME	8/7/2018 9:35:43 AM	P_ID	080718SPP2
SAMPLE ID	HICV	USER ID	alpha
WEIGHT (mg)	51.360	MODE	CHN

				SIGNALS	
				ZR	14129
CARBON	3.586%			NR	14080
HYDROGEN	1.051%			CR	47051
NITROGEN	-.074%			HR	63377
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 8 Seconds

DATE & TIME	8/7/2018 9:42:23 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.300	MODE	CHN

				SIGNALS	
				ZR	13261
CARBON	114.795%			NR	13752
HYDROGEN	20.999%			CR	19936
NITROGEN	19.506%			HR	23082
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 8 Seconds

DATE & TIME	8/7/2018 9:47:59 AM	P_ID	080718SPP2
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	68.280	MODE	CHN

				SIGNALS	
				ZR	13050
CARBON	0.042%			NR	14116
HYDROGEN	0.023%			CR	14651
NITROGEN	0.236%			HR	16490
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	14 Seconds				

DATE & TIME	8/7/2018 9:53:21 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.480	MODE	CHN

				SIGNALS	
				ZR	13994
CARBON	84.652%			NR	13978
HYDROGEN	-.768%			CR	21270
NITROGEN	-6.653%			HR	22572
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 9:58:12 AM	P_ID	080718SPP2
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	59.500	MODE	CHN

				SIGNALS	
				ZR	13991
CARBON	0.0%			NR	13992
HYDROGEN	-.037%			CR	14015
NITROGEN	-.049%			HR	14804
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 10:04:31 AM	P_ID	080718SPP2
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.390	MODE	CHN

				SIGNALS	
				ZR	13986
CARBON	76.133%			NR	14024
HYDROGEN	-4.692%			CR	19359
NITROGEN	-5.718%			HR	20257
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	21 Seconds				

DATE & TIME	8/7/2018 10:11:52 AM	P_ID	080718SPP2
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	50.530	MODE	CHN

		SIGNALS	
		ZR	13983
CARBON	0.0%	NR	14002
HYDROGEN	-.056%	CR	14024
NITROGEN	-.051%	HR	14642

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:19:19 AM	P_ID	080718SPP2
SAMPLE ID	182858001	USER ID	alpha
WEIGHT (mg)	9.410	MODE	CHN

		SIGNALS	
		ZR	13982
CARBON	0.188%	NR	14022
HYDROGEN	-.061%	CR	14362
NITROGEN	-.233%	HR	15608

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:23:59 AM	P_ID	080718SPP2
SAMPLE ID	182858001	USER ID	alpha
WEIGHT (mg)	9.130	MODE	CHN

		SIGNALS	
		ZR	13988
CARBON	0.163%	NR	14022
HYDROGEN	-.100%	CR	14313
NITROGEN	-.252%	HR	15464

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:28:40 AM	P_ID	080718SPP2
SAMPLE ID	182858001D	USER ID	alpha
WEIGHT (mg)	8.850	MODE	CHN

		SIGNALS	
		ZR	13988
CARBON	0.162%	NR	14022
HYDROGEN	-.127%	CR	14302
NITROGEN	-.260%	HR	15396

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:33:20 AM	P_ID	080718SPP2
SAMPLE ID	182858001D	USER ID	alpha
WEIGHT (mg)	9.530	MODE	CHN

		SIGNALS	
		ZR	13988
CARBON	0.175%	NR	14024
HYDROGEN	-.152%	CR	14346
NITROGEN	-.238%	HR	15349

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 21 Seconds

DATE & TIME	8/7/2018 10:38:00 AM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.550	MODE	CHN

		SIGNALS	
		ZR	13989
CARBON	1.006%	NR	14011
HYDROGEN	5.967%	CR	15754
NITROGEN	-.263%	HR	32916

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:42:40 AM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	45.270	MODE	CHN

		SIGNALS	
		ZR	14001
CARBON	0.001%	NR	14040
HYDROGEN	-.022%	CR	14072
NITROGEN	-.049%	HR	15203

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 10:48:59 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	11.890	MODE	CHN

				SIGNALS	
				ZR	13985
CARBON	1.039%			NR	14029
HYDROGEN	4.853%			CR	16262
NITROGEN	-.179%			HR	33622
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 10:53:39 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	12.760	MODE	CHN

				SIGNALS	
				ZR	14002
CARBON	0.946%			NR	14045
HYDROGEN	4.602%			CR	16227
NITROGEN	-.168%			HR	33870
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 10:58:20 AM	P_ID	080718SPP2
SAMPLE ID	182858001MSD	USER ID	alpha
WEIGHT (mg)	14.530	MODE	CHN

				SIGNALS	
				ZR	14007
CARBON	1.678%			NR	14055
HYDROGEN	3.925%			CR	18441
NITROGEN	-.141%			HR	35613
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 11:03:00 AM	P_ID	080718SPP2
SAMPLE ID	182858001MS	USER ID	alpha
WEIGHT (mg)	8.240	MODE	CHN

				SIGNALS	
				ZR	14007
CARBON	2.285%			NR	14044
HYDROGEN	7.246%			CR	17436
NITROGEN	-.273%			HR	35350
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 11:07:41 AM	P_ID	080718SPP2
SAMPLE ID	182858002	USER ID	alpha
WEIGHT (mg)	10.670	MODE	CHN

		SIGNALS	
		ZR	14008
CARBON	0.173%	NR	14049
HYDROGEN	0.310%	CR	14404
NITROGEN	-.204%	HR	16722

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:12:22 AM	P_ID	080718SPP2
SAMPLE ID	182858002	USER ID	alpha
WEIGHT (mg)	8.090	MODE	CHN

		SIGNALS	
		ZR	13991
CARBON	0.162%	NR	14029
HYDROGEN	0.045%	CR	14288
NITROGEN	-.276%	HR	15793

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:17:02 AM	P_ID	080718SPP2
SAMPLE ID	182858003	USER ID	alpha
WEIGHT (mg)	9.440	MODE	CHN

		SIGNALS	
		ZR	13987
CARBON	0.302%	NR	14032
HYDROGEN	0.098%	CR	14566
NITROGEN	-.223%	HR	16225

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:21:43 AM	P_ID	080718SPP2
SAMPLE ID	182858003	USER ID	alpha
WEIGHT (mg)	9.870	MODE	CHN

		SIGNALS	
		ZR	13984
CARBON	0.259%	NR	14031
HYDROGEN	0.121%	CR	14513
NITROGEN	-.210%	HR	16248

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:26:24 AM	P_ID	080718SPP2
SAMPLE ID	182858004	USER ID	alpha
WEIGHT (mg)	8.550	MODE	CHN

		SIGNALS	
		ZR	13982
CARBON	0.056%	NR	14012
HYDROGEN	-.188%	CR	14121
NITROGEN	-.278%	HR	15081

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:31:05 AM	P_ID	080718SPP2
SAMPLE ID	182858004	USER ID	alpha
WEIGHT (mg)	9.520	MODE	CHN

		SIGNALS	
		ZR	13981
CARBON	0.089%	NR	14015
HYDROGEN	-.168%	CR	14191
NITROGEN	-.242%	HR	15153

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:47:47 AM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.980	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	1.005%	NR	13998
HYDROGEN	5.719%	CR	15816
NITROGEN	-.243%	HR	33002

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 11:52:28 AM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	77.410	MODE	CHN

				SIGNALS	
				ZR	13986
CARBON	0.0%			NR	14011
HYDROGEN	-.006%			CR	14035
NITROGEN	-.032%			HR	15303
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 12:00:42 PM	P_ID	080718SPP2
SAMPLE ID	182858005	USER ID	alpha
WEIGHT (mg)	12.160	MODE	CHN

				SIGNALS	
				ZR	13969
CARBON	0.173%			NR	14028
HYDROGEN	0.150%			CR	14429
NITROGEN	-.153%			HR	16337
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 12:05:23 PM	P_ID	080718SPP2
SAMPLE ID	182858005	USER ID	alpha
WEIGHT (mg)	13.110	MODE	CHN

				SIGNALS	
				ZR	13972
CARBON	-.011%			NR	13996
HYDROGEN	-.250%			CR	13994
NITROGEN	-.189%			HR	14493
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:10:04 PM	P_ID	080718SPP2
SAMPLE ID	182858006	USER ID	alpha
WEIGHT (mg)	8.520	MODE	CHN

				SIGNALS	
				ZR	13973
CARBON	0.295%			NR	14022
HYDROGEN	0.211%			CR	14496
NITROGEN	-.239%			HR	16398
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 12:14:45 PM	P_ID	080718SPP2
SAMPLE ID	182858006	USER ID	alpha
WEIGHT (mg)	9.570	MODE	CHN

		SIGNALS	
		ZR	13970
CARBON	0.072%	NR	14006
HYDROGEN	-.160%	CR	14154
NITROGEN	-.237%	HR	15134

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:19:26 PM	P_ID	080718SPP2
SAMPLE ID	182858007	USER ID	alpha
WEIGHT (mg)	10.790	MODE	CHN

		SIGNALS	
		ZR	13972
CARBON	0.070%	NR	14005
HYDROGEN	-.125%	CR	14164
NITROGEN	-.215%	HR	15195

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:24:07 PM	P_ID	080718SPP2
SAMPLE ID	182858007	USER ID	alpha
WEIGHT (mg)	10.310	MODE	CHN

		SIGNALS	
		ZR	13972
CARBON	0.068%	NR	14005
HYDROGEN	-.066%	CR	14155
NITROGEN	-.225%	HR	15370

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 22 Seconds

DATE & TIME	8/7/2018 12:28:49 PM	P_ID	080718SPP2
SAMPLE ID	182858008	USER ID	alpha
WEIGHT (mg)	10.620	MODE	CHN

		SIGNALS	
		ZR	13970
CARBON	0.062%	NR	14001
HYDROGEN	-.124%	CR	14143
NITROGEN	-.222%	HR	15184

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:33:30 PM	P_ID	080718SPP2
SAMPLE ID	182858008	USER ID	alpha
WEIGHT (mg)	7.670	MODE	CHN

		SIGNALS	
		ZR	13969
CARBON	0.227%	NR	14001
HYDROGEN	0.135%	CR	14336
NITROGEN	-.305%	HR	16027

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:38:11 PM	P_ID	080718SPP2
SAMPLE ID	182858009	USER ID	alpha
WEIGHT (mg)	14.820	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	0.052%	NR	14001
HYDROGEN	-.005%	CR	14162
NITROGEN	-.160%	HR	15544

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 12:42:53 PM	P_ID	080718SPP2
SAMPLE ID	182858009	USER ID	alpha
WEIGHT (mg)	10.700	MODE	CHN

		SIGNALS	
		ZR	13971
CARBON	0.060%	NR	14008
HYDROGEN	-.001%	CR	14146
NITROGEN	-.210%	HR	15547

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:04:09 PM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.590	MODE	CHN

				SIGNALS	
				ZR	13958
CARBON	1.085%			NR	14001
HYDROGEN	5.242%			CR	16081
NITROGEN	-.202%			HR	32834
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 1:08:50 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	75.980	MODE	CHN

				SIGNALS	
				ZR	13977
CARBON	0.0%			NR	14004
HYDROGEN	-.002%			CR	14030
NITROGEN	-.032%			HR	15394
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	22 Seconds				

DATE & TIME	8/7/2018 1:19:42 PM	P_ID	080718SPP2
SAMPLE ID	182858010	USER ID	alpha
WEIGHT (mg)	10.640	MODE	CHN

				SIGNALS	
				ZR	13958
CARBON	0.026%			NR	13989
HYDROGEN	0.156%			CR	14063
NITROGEN	-.221%			HR	15925
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 1:24:23 PM	P_ID	080718SPP2
SAMPLE ID	182858010	USER ID	alpha
WEIGHT (mg)	10.130	MODE	CHN

				SIGNALS	
				ZR	13965
CARBON	0.021%			NR	14015
HYDROGEN	0.059%			CR	14077
NITROGEN	-.199%			HR	15645
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 1:29:05 PM	P_ID	080718SPP2
SAMPLE ID	182858021	USER ID	alpha
WEIGHT (mg)	7.320	MODE	CHN

		SIGNALS	
		ZR	13966
CARBON	0.120%	NR	14071
HYDROGEN	0.054%	CR	14252
NITROGEN	-.141%	HR	15766
BLANKS	24 1404 163		
K FACTORS	17.887 27.652 5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:33:46 PM	P_ID	080718SPP2
SAMPLE ID	182858021	USER ID	alpha
WEIGHT (mg)	6.050	MODE	CHN

		SIGNALS	
		ZR	13962
CARBON	0.124%	NR	14178
HYDROGEN	-.027%	CR	14336
NITROGEN	0.156%	HR	15694
BLANKS	24 1404 163		
K FACTORS	17.887 27.652 5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:38:28 PM	P_ID	080718SPP2
SAMPLE ID	182858022	USER ID	alpha
WEIGHT (mg)	5.820	MODE	CHN

		SIGNALS	
		ZR	13966
CARBON	0.010%	NR	14417
HYDROGEN	-.284%	CR	14451
NITROGEN	0.883%	HR	15398
BLANKS	24 1404 163		
K FACTORS	17.887 27.652 5.605		

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:43:09 PM	P_ID	080718SPP2
SAMPLE ID	182858022	USER ID	alpha
WEIGHT (mg)	5.370	MODE	CHN

		SIGNALS	
		ZR	13968
CARBON	0.010%	NR	14896
HYDROGEN	-.288%	CR	14930
NITROGEN	2.542%	HR	15906

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:47:51 PM	P_ID	080718SPP2
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	7.950	MODE	CHN

		SIGNALS	
		ZR	13964
CARBON	0.007%	NR	16202
HYDROGEN	-.201%	CR	16236
NITROGEN	4.657%	HR	17199

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:52:33 PM	P_ID	080718SPP2
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	7.750	MODE	CHN

		SIGNALS	
		ZR	13961
CARBON	-.004%	NR	17655
HYDROGEN	-.186%	CR	17674
NITROGEN	8.129%	HR	18679

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 1:57:15 PM	P_ID	080718SPP2
SAMPLE ID	182858024	USER ID	alpha
WEIGHT (mg)	9.080	MODE	CHN

		SIGNALS	
		ZR	13965
CARBON	0.025%	NR	20712
HYDROGEN	-.107%	CR	20776
NITROGEN	12.937%	HR	21912

BLANKS	24	1404	163
K FACTORS	17.887	27.652	5.605

FILL	COMB	BOOST1	BOOST2
0	0	0	0

FILL TIME 23 Seconds

DATE & TIME	8/7/2018 2:01:56 PM	P_ID	080718SPP2
SAMPLE ID	182858024	USER ID	alpha
WEIGHT (mg)	7.480	MODE	CHN

				SIGNALS	
				ZR	13964
CARBON	0.074%			NR	23262
HYDROGEN	-.209%			CR	23385
NITROGEN	21.789%			HR	24357
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:07:42 PM	P_ID	080718SPP2
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.960	MODE	CHN

				SIGNALS	
				ZR	13968
CARBON	0.939%			NR	27197
HYDROGEN	5.828%			CR	28893
NITROGEN	23.405%			HR	46348
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:12:24 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	112.650	MODE	CHN

				SIGNALS	
				ZR	13978
CARBON	0.012%			NR	32446
HYDROGEN	0.005%			CR	32702
NITROGEN	2.899%			HR	34259
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

DATE & TIME	8/7/2018 2:20:18 PM	P_ID	080718SPP2
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	53.540	MODE	CHN

				SIGNALS	
				ZR	13963
CARBON	0.007%			NR	23397
HYDROGEN	-.045%			CR	23489
NITROGEN	3.089%			HR	24222
BLANKS	24	1404	163		
K FACTORS	17.887	27.652	5.605		
FILL	COMB	BOOST1	BOOST2		
0	0	0	0		
FILL TIME	23 Seconds				

Date of report	8/8/2018 5:57:29AM
User ID	Alpha Analytical

DATE & TIME	8/7/2018 8:33:41 AM		P_ID	080718SPP	
RUN TYPE	BLANK		USER ID	alpha	
			MODE	CHN	
		SIGNALS			
		ZR	60947	AVERAGE RESULTS	
CARBON	-42	NR	60897	CARBON	-3
HYDROGEN	-68	CR	60855	HYDROGEN	-84
NITROGEN	-50	HR	60787	NITROGEN	138566
FILL TIME	50 Seconds				

NUMBER	MESSAGE
17	NITROGEN BLANK OUT OF TOLERANCE

DATE & TIME	8/7/2018 8:42:35 AM		P_ID	080718SPP	
RUN TYPE	BLANK		USER ID	alpha	
			MODE	CHN	
		SIGNALS			
		ZR	61010	AVERAGE RESULTS	
CARBON	-49	NR	60935	CARBON	-49
HYDROGEN	-133	CR	60886	HYDROGEN	-133
NITROGEN	-75	HR	60753	NITROGEN	-75
FILL TIME	50 Seconds				

DATE & TIME	8/7/2018 8:47:49 AM		P_ID	080718SPP	
RUN TYPE	BLANK		USER ID	alpha	
			MODE	CHN	
		SIGNALS			
		ZR	60931	AVERAGE RESULTS	
CARBON	-48	NR	60879	CARBON	-48
HYDROGEN	-39	CR	60831	HYDROGEN	-39
NITROGEN	-52	HR	60792	NITROGEN	-52
FILL TIME	50 Seconds				

DATE & TIME	8/7/2018 8:56:22 AM		P_ID	080718SPP	
RUN TYPE	K1		USER ID	alpha	
WEIGHT (mg)	9.790		MODE	CHN	
		SIGNALS			
		ZR	60994	AVERAGE RESULTS	
KC	20.174	NR	60917	KC	18.715
KH	-.282	CR	62844	KH	0.073
KN	-.022	HR	62666	KN	64.794
BLANKS	-48 -39 -52				
K FACTORS	1.0% 5.03% 11.67%				
FILL TIME	50 Seconds				

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 9:04:15 AM	P_ID	080718SPP
RUN TYPE	BLANK	USER ID	alpha
		MODE	CHN

SIGNALS

ZR	60983
NR	60909
CR	60887
HR	60730

CARBON	-22
HYDROGEN	-157
NITROGEN	-74
FILL TIME	50 Seconds

AVERAGE RESULTS

CARBON	-35
HYDROGEN	-39
NITROGEN	-63

DATE & TIME	8/7/2018 9:09:29 AM	P_ID	080718SPP
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	10.200	MODE	CHN

SIGNALS

ZR	61037
NR	60914
CR	62936
HR	62811

KC	20.167
KH	-.168
KN	-.050
BLANKS	-35 -39 -63
K FACTORS	1.0% 5.03% 11.67%
FILL TIME	50 Seconds

AVERAGE RESULTS

KC	19.441
KH	0.073
KN	64.794

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 9:31:24 AM	P_ID	080718SPP
RUN TYPE	K1	USER ID	alpha
WEIGHT (mg)	9.550	MODE	CHN

SIGNALS

ZR	60970
NR	60915
CR	62897
HR	62834

KC	21.120
KH	-.050
KN	0.007
BLANKS	-35 -39 -63
K FACTORS	1.0% 5.03% 11.67%
FILL TIME	50 Seconds

AVERAGE RESULTS

KC	20.280
KH	0.073
KN	64.794

NUMBER	MESSAGE
8	CHECK FOR SAMPLE DROP

DATE & TIME	8/7/2018 9:38:42 AM	P_ID	080718SPP
SAMPLE ID	ICV	USER ID	alpha
WEIGHT (mg)	10.380	MODE	CHN

SIGNALS

ZR	61084
NR	60966
CR	62917
HR	62786

CARBON	0.943%
HYDROGEN	-12.141%
NITROGEN	-.008%
BLANKS	-35 -39 -63
K FACTORS	20.280 0.073 64.794
FILL	COMB BOOST1 BOOST2
1	2 1 1
FILL TIME	50 Seconds

DATE & TIME	8/7/2018 9:44:27 AM			P_ID	080718SPP
SAMPLE ID	ICB			USER ID	alpha
WEIGHT (mg)	49.500			MODE	CHN

				SIGNALS	
				ZR	61101
CARBON	-.001%			NR	60957
HYDROGEN	-2.297%			CR	60913
NITROGEN	-.003%			HR	60791
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	51 Seconds				

DATE & TIME	8/7/2018 9:53:40 AM			P_ID	080718SPP
SAMPLE ID	HICV			USER ID	alpha
WEIGHT (mg)	48.390			MODE	CHN

				SIGNALS	
				ZR	61107
CARBON	3.702%			NR	61047
HYDROGEN	-1.670%			CR	97346
NITROGEN	0.0%			HR	97248
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	51 Seconds				

DATE & TIME	8/7/2018 9:59:41 AM			P_ID	080718SPP
SAMPLE ID	SRM1650			USER ID	alpha
WEIGHT (mg)	.300			MODE	CHN

				SIGNALS	
				ZR	61028
CARBON	81.903%			NR	61007
HYDROGEN	232.877%			CR	65955
NITROGEN	0.216%			HR	65967
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	50 Seconds				

DATE & TIME	8/7/2018 10:04:56 AM			P_ID	080718SPP
SAMPLE ID	MB			USER ID	alpha
WEIGHT (mg)	51.870			MODE	CHN

				SIGNALS	
				ZR	61194
CARBON	-.004%			NR	61100
HYDROGEN	-1.453%			CR	61019
NITROGEN	-.001%			HR	60925

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 51 Seconds

DATE & TIME	8/7/2018 10:10:10 AM	P_ID	080718SPP
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.550	MODE	CHN

		SIGNALS	
		ZR	61121
CARBON	61.063%	NR	61102
HYDROGEN	-127.024%	CR	67878
NITROGEN	0.123%	HR	67788
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 51 Seconds

DATE & TIME	8/7/2018 10:15:25 AM	P_ID	080718SPP
SAMPLE ID	MB	USER ID	alpha
WEIGHT (mg)	46.400	MODE	CHN

		SIGNALS	
		ZR	60997
CARBON	0.007%	NR	60910
HYDROGEN	-1.033%	CR	60937
NITROGEN	-.001%	HR	60863
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 10:22:32 AM	P_ID	080718SPP
SAMPLE ID	SRM1650	USER ID	alpha
WEIGHT (mg)	.560	MODE	CHN

		SIGNALS	
		ZR	61008
CARBON	80.806%	NR	61000
HYDROGEN	-247.065%	CR	70142
NITROGEN	0.152%	HR	70002
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 10:30:11 AM	P_ID	080718SPP
SAMPLE ID	182858011	USER ID	alpha
WEIGHT (mg)	8.970	MODE	CHN

				SIGNALS	
				ZR	61018
	CARBON	0.080%		NR	60950
	HYDROGEN	-12.523%		CR	61061
	NITROGEN	-.001%		HR	60940
	BLANKS	-35	-39	-63	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	52 Seconds			

DATE & TIME	8/7/2018 10:35:26 AM	P_ID	080718SPP
SAMPLE ID	182858011	USER ID	alpha
WEIGHT (mg)	10.750	MODE	CHN

				SIGNALS	
				ZR	61045
	CARBON	0.117%		NR	60887
	HYDROGEN	-6.371%		CR	61108
	NITROGEN	-.014%		HR	61019
	BLANKS	-35	-39	-63	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	52 Seconds			

DATE & TIME	8/7/2018 10:40:41 AM	P_ID	080718SPP
SAMPLE ID	182858011D	USER ID	alpha
WEIGHT (mg)	9.200	MODE	CHN

				SIGNALS	
				ZR	60957
	CARBON	0.099%		NR	60929
	HYDROGEN	-8.934%		CR	61078
	NITROGEN	0.006%		HR	60979
	BLANKS	-35	-39	-63	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	52 Seconds			

DATE & TIME	8/7/2018 10:45:56 AM	P_ID	080718SPP
SAMPLE ID	182858011D	USER ID	alpha
WEIGHT (mg)	7.200	MODE	CHN

				SIGNALS	
				ZR	60995
	CARBON	0.215%		NR	60952
	HYDROGEN	-23.973%		CR	61231
	NITROGEN	0.004%		HR	61066
	BLANKS	-35	-39	-63	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	52 Seconds			

DATE & TIME	8/7/2018 10:51:11 AM	P_ID	080718SPP
SAMPLE ID	182858011MS	USER ID	alpha
WEIGHT (mg)	10.920	MODE	CHN

				SIGNALS	
				ZR	61105
CARBON	0.987%			NR	61097
HYDROGEN	-11.416%			CR	63247
NITROGEN	0.008%			HR	63117
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	51 Seconds				

DATE & TIME	8/7/2018 11:01:51 AM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.130	MODE	CHN

				SIGNALS	
				ZR	61031
CARBON	1.032%			NR	60954
HYDROGEN	-1.352%			CR	63039
NITROGEN	-.002%			HR	62990
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	52 Seconds				

DATE & TIME	8/7/2018 11:07:07 AM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	74.240	MODE	CHN

				SIGNALS	
				ZR	61144
CARBON	-.001%			NR	61139
HYDROGEN	-2.233%			CR	61089
NITROGEN	0.001%			HR	60929
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	52 Seconds				

DATE & TIME	8/7/2018 11:14:01 AM	P_ID	080718SPP
SAMPLE ID	182858011MS	USER ID	alpha
WEIGHT (mg)	9.320	MODE	CHN

		SIGNALS	
		ZR	61117
CARBON	1.199%	NR	61059
HYDROGEN	-2.205%	CR	63290
NITROGEN	0.001%	HR	63236

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 11:19:16 AM	P_ID	080718SPP
SAMPLE ID	182858011	USER ID	alpha
WEIGHT (mg)	9.250	MODE	CHN

		SIGNALS	
		ZR	61124
CARBON	0.135%	NR	61091
HYDROGEN	-17.031%	CR	61309
NITROGEN	0.005%	HR	61155
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 11:24:31 AM	P_ID	080718SPP
SAMPLE ID	182858011	USER ID	alpha
WEIGHT (mg)	10.220	MODE	CHN

		SIGNALS	
		ZR	61078
CARBON	0.179%	NR	60984
HYDROGEN	-12.197%	CR	61319
NITROGEN	-.005%	HR	61189
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 11:29:47 AM	P_ID	080718SPP
SAMPLE ID	182858011D	USER ID	alpha
WEIGHT (mg)	11.240	MODE	CHN

		SIGNALS	
		ZR	61090
CARBON	0.153%	NR	61000
HYDROGEN	-20.962%	CR	61313
NITROGEN	-.004%	HR	61102
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 11:35:02 AM	P_ID	080718SPP
SAMPLE ID	182858011D	USER ID	alpha
WEIGHT (mg)	11.980	MODE	CHN

				SIGNALS	
				ZR	61013
CARBON	0.143%			NR	60948
HYDROGEN	-10.177%			CR	61260
NITROGEN	0.0%			HR	61132
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	52 Seconds				

DATE & TIME	8/7/2018 11:40:18 AM	P_ID	080718SPP
SAMPLE ID	182858012	USER ID	alpha
WEIGHT (mg)	13.240	MODE	CHN

				SIGNALS	
				ZR	61070
CARBON	0.080%			NR	60975
HYDROGEN	-12.726%			CR	61154
NITROGEN	-.004%			HR	60992
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	52 Seconds				

DATE & TIME	8/7/2018 11:45:34 AM	P_ID	080718SPP
SAMPLE ID	182858012	USER ID	alpha
WEIGHT (mg)	12.480	MODE	CHN

				SIGNALS	
				ZR	60938
CARBON	0.078%			NR	60888
HYDROGEN	-5.818%			CR	61051
NITROGEN	0.002%			HR	60959
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 11:50:50 AM	P_ID	080718SPP
SAMPLE ID	182858013	USER ID	alpha
WEIGHT (mg)	14.820	MODE	CHN

				SIGNALS	
				ZR	60858
CARBON	0.136%			NR	60843
HYDROGEN	-6.378%			CR	61218
NITROGEN	0.005%			HR	61110
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 11:56:06 AM	P_ID	080718SPP
SAMPLE ID	182858013	USER ID	alpha
WEIGHT (mg)	10.360	MODE	CHN

		SIGNALS	
		ZR	60845
CARBON	0.144%	NR	60784
HYDROGEN	-10.843%	CR	61052
NITROGEN	0.0%	HR	60931

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 53 Seconds

DATE & TIME	8/7/2018 12:01:21 PM	P_ID	080718SPP
SAMPLE ID	182858014	USER ID	alpha
WEIGHT (mg)	8.990	MODE	CHN

		SIGNALS	
		ZR	60987
CARBON	0.279%	NR	60923
HYDROGEN	-10.819%	CR	61397
NITROGEN	0.0%	HR	61287

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 12:06:37 PM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	9.460	MODE	CHN

		SIGNALS	
		ZR	60992
CARBON	1.046%	NR	60921
HYDROGEN	-23.314%	CR	62893
NITROGEN	-.001%	HR	62693

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 12:11:53 PM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	82.070	MODE	CHN

		SIGNALS	
		ZR	61036
CARBON	0.006%	NR	60988
HYDROGEN	-1.786%	CR	61059
NITROGEN	0.0%	HR	60913

BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 53 Seconds

DATE & TIME	8/7/2018 12:17:45 PM	P_ID	080718SPP
SAMPLE ID	182858014	USER ID	alpha
WEIGHT (mg)	12.220	MODE	CHN

		SIGNALS	
		ZR	60982
CARBON	0.258%	NR	60945
HYDROGEN	-10.986%	CR	61550
NITROGEN	0.003%	HR	61413
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 12:23:01 PM	P_ID	080718SPP
SAMPLE ID	182858015	USER ID	alpha
WEIGHT (mg)	9.850	MODE	CHN

		SIGNALS	
		ZR	61088
CARBON	0.192%	NR	61050
HYDROGEN	-10.570%	CR	61399
NITROGEN	0.004%	HR	61284
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 52 Seconds

DATE & TIME	8/7/2018 12:28:17 PM	P_ID	080718SPP
SAMPLE ID	182858015	USER ID	alpha
WEIGHT (mg)	7.340	MODE	CHN

		SIGNALS	
		ZR	60922
CARBON	0.268%	NR	60932
HYDROGEN	-11.944%	CR	61296
NITROGEN	0.015%	HR	61193
BLANKS	-35	-39	-63
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 53 Seconds

DATE & TIME	8/7/2018 12:33:32 PM	P_ID	080718SPP
SAMPLE ID	182858016	USER ID	alpha
WEIGHT (mg)	7.500	MODE	CHN

				SIGNALS	
				ZR	60923
CARBON	0.177%			NR	60882
HYDROGEN	-10.228%			CR	61116
NITROGEN	0.005%			HR	61021
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 12:38:48 PM			P_ID	080718SPP
SAMPLE ID	182858016			USER ID	alpha
WEIGHT (mg)	10.470			MODE	CHN
				SIGNALS	
				ZR	60890
CARBON	0.143%			NR	60808
HYDROGEN	-2.224%			CR	61077
NITROGEN	-.003%			HR	61021
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 12:44:04 PM			P_ID	080718SPP
SAMPLE ID	182858017			USER ID	alpha
WEIGHT (mg)	9.660			MODE	CHN
				SIGNALS	
				ZR	60887
CARBON	0.157%			NR	60815
HYDROGEN	0.851%			CR	61088
NITROGEN	-.001%			HR	61055
BLANKS	-35	-39	-63		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 12:49:20 PM			P_ID	080718SPP		
RUN TYPE	BLANK			USER ID	alpha		
				MODE	CHN		
				SIGNALS			
				ZR	60970	AVERAGE RESULTS	
CARBON	-22			NR	60903	CARBON	-29
HYDROGEN	-117			CR	60881	HYDROGEN	-78
NITROGEN	-67			HR	60764	NITROGEN	-65
FILL TIME	53 Seconds						

DATE & TIME	8/7/2018 12:54:36 PM	P_ID	080718SPP
SAMPLE ID	182858017	USER ID	alpha
WEIGHT (mg)	11.480	MODE	CHN

				SIGNALS	
				ZR	60983
CARBON	0.158%			NR	60906
HYDROGEN	4.176%			CR	61246
NITROGEN	-.002%			HR	61203
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 12:59:53 PM	P_ID	080718SPP
SAMPLE ID	182858018	USER ID	alpha
WEIGHT (mg)	9.910	MODE	CHN

				SIGNALS	
				ZR	60796
CARBON	0.409%			NR	60846
HYDROGEN	-11.611%			CR	61639
NITROGEN	0.018%			HR	61477
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 1:05:09 PM	P_ID	080718SPP
SAMPLE ID	182858018	USER ID	alpha
WEIGHT (mg)	10.280	MODE	CHN

				SIGNALS	
				ZR	60862
CARBON	0.617%			NR	60803
HYDROGEN	7.329%			CR	62061
NITROGEN	0.001%			HR	62038
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 1:17:54 PM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.400	MODE	CHN

				SIGNALS	
				ZR	60925
CARBON	1.016%			NR	60878
HYDROGEN	-6.322%			CR	62991
NITROGEN	0.003%			HR	62865
BLANKS	-29	-78	-65		

K FACTORS	20.280	0.073	64.794
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	53 Seconds		

DATE & TIME	8/7/2018 1:23:10 PM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	45.650	MODE	CHN

		SIGNALS	
		ZR	60914
CARBON	0.006%	NR	60842
HYDROGEN	-2.461%	CR	60864
NITROGEN	0.0%	HR	60704
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	53 Seconds		

DATE & TIME	8/7/2018 1:36:20 PM	P_ID	080718SPP
SAMPLE ID	182858019	USER ID	alpha
WEIGHT (mg)	8.920	MODE	CHN

		SIGNALS	
		ZR	60950
CARBON	0.174%	NR	60908
HYDROGEN	-8.446%	CR	61193
NITROGEN	0.004%	HR	61060
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	53 Seconds		

DATE & TIME	8/7/2018 1:41:37 PM	P_ID	080718SPP
SAMPLE ID	182858019	USER ID	alpha
WEIGHT (mg)	11.500	MODE	CHN

		SIGNALS	
		ZR	60863
CARBON	0.235%	NR	60841
HYDROGEN	7.385%	CR	61361
NITROGEN	0.006%	HR	61345
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794
FILL	COMB	BOOST1	BOOST2
1	2	1	1
FILL TIME	53 Seconds		

DATE & TIME	8/7/2018 1:46:53 PM	P_ID	080718SPP
SAMPLE ID	182858020	USER ID	alpha
WEIGHT (mg)	8.800	MODE	CHN

				SIGNALS	
				ZR	60948
CARBON	0.059%			NR	60915
HYDROGEN	-2.646%			CR	60991
NITROGEN	0.006%			HR	60896
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 1:52:09 PM	P_ID	080718SPP
SAMPLE ID	182858020	USER ID	alpha
WEIGHT (mg)	8.430	MODE	CHN

				SIGNALS	
				ZR	60904
CARBON	0.139%			NR	60844
HYDROGEN	-5.362%			CR	61053
NITROGEN	0.001%			HR	60942
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 1:57:26 PM	P_ID	080718SPP
SAMPLE ID	182858015	USER ID	alpha
WEIGHT (mg)	9.280	MODE	CHN

				SIGNALS	
				ZR	60899
CARBON	0.190%			NR	60862
HYDROGEN	-8.709%			CR	61191
NITROGEN	0.005%			HR	61054
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 2:02:43 PM	P_ID	080718SPP
SAMPLE ID	182858015	USER ID	alpha
WEIGHT (mg)	7.640	MODE	CHN

				SIGNALS	
				ZR	60845
CARBON	0.281%			NR	60772
HYDROGEN	-29.585%			CR	61179
NITROGEN	-.002%			HR	60936
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 2:07:59 PM	P_ID	080718SPP
SAMPLE ID	182858018	USER ID	alpha
WEIGHT (mg)	10.430	MODE	CHN

				SIGNALS	
				ZR	60816
CARBON	0.403%			NR	60703
HYDROGEN	-8.012%			CR	61526
NITROGEN	-.007%			HR	61387
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 2:13:16 PM	P_ID	080718SPP
SAMPLE ID	182858018	USER ID	alpha
WEIGHT (mg)	9.030	MODE	CHN

				SIGNALS	
				ZR	60815
CARBON	0.154%			NR	60735
HYDROGEN	-11.074%			CR	60988
NITROGEN	-.003%			HR	60837
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	53 Seconds				

DATE & TIME	8/7/2018 2:18:33 PM	P_ID	080718SPP
SAMPLE ID	182858020	USER ID	alpha
WEIGHT (mg)	9.070	MODE	CHN

				SIGNALS	
				ZR	60768
CARBON	0.048%			NR	60720
HYDROGEN	-8.760%			CR	60779
NITROGEN	0.003%			HR	60643
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 2:23:50 PM	P_ID	080718SPP
SAMPLE ID	182858020	USER ID	alpha
WEIGHT (mg)	5.650	MODE	CHN

		SIGNALS	
		ZR	60824
CARBON	0.099%	NR	60772
HYDROGEN	-24.973%	CR	60857
NITROGEN	0.004%	HR	60676

BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 2:29:06 PM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.030	MODE	CHN

		SIGNALS	
		ZR	60807
CARBON	1.021%	NR	60733
HYDROGEN	-5.600%	CR	62780
NITROGEN	-.001%	HR	62661
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 53 Seconds

DATE & TIME	8/7/2018 2:34:23 PM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	71.400	MODE	CHN

		SIGNALS	
		ZR	60881
CARBON	-.007%	NR	60795
HYDROGEN	2.494%	CR	60662
NITROGEN	0.0%	HR	60714
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 2:41:25 PM	P_ID	080718SPP
SAMPLE ID	182858008	USER ID	alpha
WEIGHT (mg)	9.270	MODE	CHN

		SIGNALS	
		ZR	60790
CARBON	0.249%	NR	60765
HYDROGEN	1.773%	CR	61204
NITROGEN	0.007%	HR	61138
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 2:46:42 PM	P_ID	080718SPP
SAMPLE ID	182858008	USER ID	alpha
WEIGHT (mg)	10.260	MODE	CHN

				SIGNALS	
				ZR	60755
	CARBON	0.214%		NR	60659
	HYDROGEN	-18.692%		CR	61075
	NITROGEN	-.005%		HR	60857
	BLANKS	-29	-78	-65	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	54 Seconds			

DATE & TIME	8/7/2018 2:51:59 PM	P_ID	080718SPP
SAMPLE ID	182858011MSD	USER ID	alpha
WEIGHT (mg)	7.080	MODE	CHN

				SIGNALS	
				ZR	60709
	CARBON	1.525%		NR	60702
	HYDROGEN	-12.576%		CR	62862
	NITROGEN	0.013%		HR	62719
	BLANKS	-29	-78	-65	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	53 Seconds			

DATE & TIME	8/7/2018 2:57:16 PM	P_ID	080718SPP
SAMPLE ID	182858011MSD	USER ID	alpha
WEIGHT (mg)	5.760	MODE	CHN

				SIGNALS	
				ZR	60742
	CARBON	1.970%		NR	60644
	HYDROGEN	-36.625%		CR	62916
	NITROGEN	-.009%		HR	62684
	BLANKS	-29	-78	-65	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	53 Seconds			

DATE & TIME	8/7/2018 3:02:33 PM	P_ID	080718SPP
SAMPLE ID	182858004	USER ID	alpha
WEIGHT (mg)	10.360	MODE	CHN

				SIGNALS	
				ZR	60731
	CARBON	0.038%		NR	60700
	HYDROGEN	-7.934%		CR	60751
	NITROGEN	0.005%		HR	60613
	BLANKS	-29	-78	-65	
	K FACTORS	20.280	0.073	64.794	
	FILL	COMB	BOOST1	BOOST2	
	1	2	1	1	
	FILL TIME	54 Seconds			

DATE & TIME	8/7/2018 3:07:50 PM			P_ID	080718SPP
SAMPLE ID	182858004			USER ID	alpha
WEIGHT (mg)	8.610			MODE	CHN

				SIGNALS	
				ZR	60696
CARBON	0.026%			NR	60696
HYDROGEN	-6.523%			CR	60712
NITROGEN	0.012%			HR	60593
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 3:13:07 PM			P_ID	080718SPP
SAMPLE ID	182858005			USER ID	alpha
WEIGHT (mg)	7.400			MODE	CHN

				SIGNALS	
				ZR	60739
CARBON	0.139%			NR	60696
HYDROGEN	1.111%			CR	60875
NITROGEN	0.005%			HR	60803
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 3:18:24 PM			P_ID	080718SPP
SAMPLE ID	182858005			USER ID	alpha
WEIGHT (mg)	8.450			MODE	CHN

				SIGNALS	
				ZR	60740
CARBON	0.193%			NR	60668
HYDROGEN	-19.129%			CR	60970
NITROGEN	-.001%			HR	60774
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 3:23:41 PM			P_ID	080718SPP
SAMPLE ID	182858006			USER ID	alpha
WEIGHT (mg)	7.730			MODE	CHN

				SIGNALS	
				ZR	60752
CARBON	0.059%			NR	60695
HYDROGEN	-8.152%			CR	60759
NITROGEN	0.002%			HR	60635

BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 3:28:58 PM	P_ID	080718SPP
SAMPLE ID	182858006	USER ID	alpha
WEIGHT (mg)	14.560	MODE	CHN

		SIGNALS	
		ZR	60874
CARBON	0.061%	NR	60791
HYDROGEN	-2.917%	CR	60941
NITROGEN	-.002%	HR	60832
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 3:35:01 PM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.290	MODE	CHN

		SIGNALS	
		ZR	60894
CARBON	0.984%	NR	60825
HYDROGEN	-1.065%	CR	62849
NITROGEN	-.001%	HR	62763
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 53 Seconds

DATE & TIME	8/7/2018 3:40:18 PM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	72.480	MODE	CHN

		SIGNALS	
		ZR	60807
CARBON	-.001%	NR	60713
HYDROGEN	-.491%	CR	60667
NITROGEN	-.001%	HR	60563
BLANKS	-29	-78	-65
K FACTORS	20.280	0.073	64.794

FILL	COMB	BOOST1	BOOST2
1	2	1	1

FILL TIME 54 Seconds

DATE & TIME	8/7/2018 3:49:21 PM	P_ID	080718SPP
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	6.460	MODE	CHN

				SIGNALS	
				ZR	60925
CARBON	-.010%			NR	60901
HYDROGEN	-16.752%			CR	60859
NITROGEN	0.010%			HR	60702
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 3:54:38 PM	P_ID	080718SPP
SAMPLE ID	182858023	USER ID	alpha
WEIGHT (mg)	8.180	MODE	CHN

				SIGNALS	
				ZR	60896
CARBON	0.002%			NR	60853
HYDROGEN	-4.354%			CR	60828
NITROGEN	0.004%			HR	60724
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 3:59:55 PM	P_ID	080718SPP
SAMPLE ID	CCV	USER ID	alpha
WEIGHT (mg)	10.130	MODE	CHN

				SIGNALS	
				ZR	60868
CARBON	1.028%			NR	60784
HYDROGEN	-8.925%			CR	62866
NITROGEN	-.003%			HR	62722
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

DATE & TIME	8/7/2018 4:05:12 PM	P_ID	080718SPP
SAMPLE ID	CCB	USER ID	alpha
WEIGHT (mg)	77.150	MODE	CHN

				SIGNALS	
				ZR	60998
CARBON	0.003%			NR	60919
HYDROGEN	-1.065%			CR	60932
NITROGEN	0.0%			HR	60794
BLANKS	-29	-78	-65		
K FACTORS	20.280	0.073	64.794		
FILL	COMB	BOOST1	BOOST2		
1	2	1	1		
FILL TIME	54 Seconds				

Work Group

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Sep 07 2018, 10:47 am

Work Group: WG1144091 for Department: 7 Wet Chemistry

Created: 08-AUG-18 Due: Operator: SP

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1828580-01	LDW18-SSCL-A01	S	A2-SOOT	SOIL	DONE	U		0613 0808	S0	Glass-A.120
L1828580-02	LDW18-SSCL-A02	S	A2-SOOT	SOIL	DONE	U		0613 0808	S0	Glass-A.120
L1828580-03	LDW18-SSCL-A03	S	A2-SOOT	SOIL	DONE	U		0613 0808	S0	Glass-A.120
L1828580-04	LDW18-SSCL-A04	S	A2-SOOT	SOIL	DONE	U		0613 0808	S0	Glass-A.120
L1828580-07	LDW18-SSCL-A07	S	A2-SOOT	SOIL	DONE	U		0616 0808	S0	Glass-A.120
L1828580-09	LDW18-SSCL-A09	S	A2-SOOT	SOIL	DONE	U		0615 0808	S0	Glass-A.120
L1828580-10	LDW18-SSCL-A10	S	A2-SOOT	SOIL	DONE	U		0615 0808	S0	Glass-A.120
L1828580-21	LDW18-SS-COMP04	S	A2-SOOT	SOIL	DONE	U		0403 0808	S0	Glass-A.120
L1828580-22	LDW18-SS-COMP05	S	A2-SOOT	SOIL	DONE	U		0326 0808	S0	Glass-A.120
L1828580-23	LDW18-SS-COMP06	S	A2-SOOT	SOIL	DONE	U		0402 0808	S0	Glass-A.120
L1828580-24	LDW18-SS-COMP07	S	A2-SOOT	SOIL	DONE	U		0402 0808	S0	Glass-A.120
WG1144091-1	Laboratory Method Bl	S	A2-SOOT	SOIL	DONE	U				
WG1144091-2	Laboratory Control S	S	A2-SOOT	SOIL	DONE	U				
WG1144091-3	Duplicate Sample	S	A2-SOOT	SOIL	DONE	U				
WG1144091-4	Matrix Spike	S	A2-SOOT	SOIL	DONE	U				
WG1144091-5	Matrix Spike Duplica	S	A2-SOOT	SOIL	DONE	U				

Comments:

WG1144091-3	L1828580-01
WG1144091-4	L1828580-01
WG1144091-5	L1828580-01

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Sep 07 2018, 10:47 am

Work Group: WG1144092 for Department: 7 Wet Chemistry

Created: 08-AUG-18 Due: Operator: SP

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1828580-05	LDW18-SSCL-A05	S	A2-SOOT	SOIL	DONE	U	0613	0808	S0	Glass-A.120
L1828580-06	LDW18-SSCL-A06	S	A2-SOOT	SOIL	DONE	U	0613	0808	S0	Glass-A.120
L1828580-08	LDW18-SSCL-A08	S	A2-SOOT	SOIL	DONE	U	0616	0808	S0	Glass-A.120
L1828580-11	LDW18-SSCL-A11	S	A2-SOOT	SOIL	DONE	U	0612	0808	S0	Glass-A.120
L1828580-12	LDW18-SSCL-A12	S	A2-SOOT	SOIL	DONE	U	0615	0808	S0	Glass-A.120
L1828580-13	LDW18-SSCL-A13	S	A2-SOOT	SOIL	DONE	U	0614	0808	S0	Glass-A.120
L1828580-14	LDW18-SSCL-A17	S	A2-SOOT	SOIL	DONE	U	0615	0808	S0	Glass-A.120
L1828580-15	LDW18-SSCL-A18	S	A2-SOOT	SOIL	DONE	U	0615	0808	S0	Glass-A.120
L1828580-16	LDW18-SSCL-A19	S	A2-SOOT	SOIL	DONE	U	0614	0808	S0	Glass-A.120
L1828580-17	LDW18-SSCL-A11-FD	S	A2-SOOT	SOIL	DONE	U	0612	0808	S0	Glass-A.120
L1828580-18	LDW18-SS-COMP01	S	A2-SOOT	SOIL	DONE	U	0326	0808	S0	Glass-A.120
L1828580-19	LDW18-SS-COMP02	S	A2-SOOT	SOIL	DONE	U	0328	0808	S0	Glass-A.120
L1828580-20	LDW18-SS-COMP03	S	A2-SOOT	SOIL	DONE	U	0403	0808	S0	Glass-A.120
WG1144092-1	Laboratory Method Bl	S	A2-SOOT	SOIL	DONE	U				
WG1144092-2	Laboratory Control S	S	A2-SOOT	SOIL	DONE	U				
WG1144092-3	Duplicate Sample	S	A2-SOOT	SOIL	DONE	U				
WG1144092-4	Matrix Spike	S	A2-SOOT	SOIL	DONE	U				
WG1144092-5	Matrix Spike Duplica	S	A2-SOOT	SOIL	DONE	U				

Comments:

WG1144092-3	L1828580-11
WG1144092-4	L1828580-11
WG1144092-5	L1828580-11

Sample Preparation

TOC Instrument: TOC #1 TOC #2 (TOC #3)
(Circle one)

Date: 5/7/18
Analyst: _____ 2° Review: _____

CCV ID: WW032318A->E
SRM 1944 ID: ~~WS1814A~~ WS1814B
Filter Aid ID: WS120415A

ICV ID: WW032318F
Balance ID: 002288
Other SRM ID: WS111016A

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std					
K				1	10.17
Blank				2	49.75
K				3	10.47
K				4	10.33
0					
1000					
5000					
10000					
20000					
40000					
ICV				5	10.41
ICB				6	51.68
HICV	Out of QC/Std did not dig			7	51.22
HTCV				9	52.13
HTCV				10	51.36
SRM	1650			11	0.30
MB				12	68.28
SRM	1650			13	0.48
MB				14	59.50
SRM	1650			15	0.39
MB				16	50.53

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1828580	01			17	9.41
	01			18	9.13
~~CCV~~	01D			19	8.85
~~CCB~~	01D			20	9.53
CCV				21	9.55
CCB				22	45.27
L1828580	01MS	10.48		23	~~10~~ 11.89
	01MS	10.18		24	12.76
	01MSD	9.93		25	14.53
	01MSD	9.95		26	8.24
	02			27	10.67
	02			28	8.09
	03			29	9.44
	03			30	9.87
~~CCV~~	04			31	~~9.52~~ 8.55
~~CCB~~	04			32	~~29.52~~
CCV				33	9.98
CCB				34	77.41
L1828580	05			35	12.16
	05			36	13.11
	06			37	8.52
	06			38	9.57

* Auto slot 8 Accidental Blank

Title: Total Organic Carbon – Lloyd Kahn Log

TOC Instrument: (Circle one) TOC #1 TOC #2 TOC #3

Date: 5/7/18
Analyst: SP
2° Review: _____

CCV ID: ~~WS~~ WWC32318A → E
SRM 1944 ID: WS0515L4A
Filter Aid ID: WS#1204157

ICV ID: WWC32318F
Balance ID: 002288
Other SRM ID: WS1116LGA

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std					
K					
Blank					
K					
K					
0					
1000					
5000					
10000					
20000					
40000					
ICV					
ICB					
HICV					
11825580	07			39	10.79
	07			40	10.31
	08			41	10.62
	08			42	7.67
	09			43	14.82
↓	09			44	10.70
CCV				45	10.59
CCB				46	75.98

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
11825580	10			47	10.64
	10			48	10.13
~~CCV~~	21			49	7.32
~~CCB~~	21			50	6.05
	22			51	5.82
	22			52	5.37
	23			53	7.95
	23			54	7.75
	24			55	9.08
↓	24			56	7.48
CCV				57	9.96
CCB				58	112.65
CCB	~~04~~			59	~~10.36~~ 53.54
	04			2	8.61
~~CCV~~	05			3	7.40
~~CCB~~	05			4	8.45
	06			5	
	06			6	
	08			7	
	08			8	
	23			9	
	23			10	

Document Type: Form

Pre-Qualtrax Document ID: 107-02

TOC Instrument: TOC #1 (TOC #2) TOC #3 (Circle one)

Date: 8/7/18
Analyst: SP
2° Review: _____

CCV ID: WW032318A->E
SRM 1944 ID: WS081814A
Filter Aid ID: WS120415A

ICV ID: WW032318F
Balance ID: SB02288
Other SRM ID: WS111016A

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
~~Conditioning Std~~ BLK				1	70.16
~~K~~ BLK				2	63.09
Blank				3	60.80
K				4	9.79
~~K~~ BLANK				5	76.78
~~8~~ K				6	10.20
~~1000~~ K				7	9.55
5000					
10000					
20000					
40000					
ICV				8	10.38
ICB				9	49.50
HICV				10	48.39
SRM	1650			11	0.30
MB				12	51.87
SRM	1650			13	0.55
MB				14	46.40
SRM	1650			15	0.56
L1828580	11			16	8.97
	11			17	10.75
	11D			18	9.20

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1828580	11D			19	7.20
↓	11MS	10.00		20	10.92
CCV				21	10.13
CCB				22	74.24
L1828580	11MS	10.01		23	9.32
	12 11RR			24	9.25
	12 11RR			25	10.22
	13 11DRR			26	11.24
	13 11D RR			27	11.98
	14 12			28	13.24
	14 12			29	12.48
	15 13			30	14.82
	15 13			31	10.36
↓	16 14			32	8.99
CCV				33	9.46
CCB				34	82.07
L1828580	14			35	12.22
|	15			36	9.85
|	15			37	7.34
|	16			38	7.50
|	16			39	10.47
↓	17			40	9.66

Document Type: Form

Pre-Qualtrax Document ID: 107-02

TOC Instrument: TOC #1 TOC #2 TOC #3 (Circle one)

Date: 8/7/18 cont'
Analyst: SP
2° Review: _____

CCV ID: WWC32318A7E
SRM 1944 ID: WS181814A
Filter Aid ID: WS120415A

ICV ID: WWC32318F
Balance ID: 002288
Other SRM ID: WS110164

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std					
K					
Blank					
K					
K					
0					
1000					
5000					
10000					
20000					
40000					
ICV					
ICB					
HICV					
L1828550	17			42	11.48
↓	18			43 42	9.91
↓	18			44 43	10.28
↓	~~19~~			45 44	~~8.92~~
CCV				45 ~~46~~	10.40
CCB				~~46~~ 47	47.65
L1828550	19			~~47~~ 48	8.92
↓	19			~~48~~ 49	11.50

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
L1828580	20			~~50~~ 49	8.80
↓	20			~~51~~ 50	8.43
~~CCV~~	15RR			~~52~~ 51	9.28
~~CCB~~	15RR			~~53~~ 52	7.64
↓	15RR			~~54~~ 53	10.41
↓	15RR			~~55~~ 54	9.03
↓	~~14RR~~	20RR		55	9.07
↓	~~14RR~~	20RR		56	5.65
CCV				57	10.03
CCB				58	11.40
L1828580	~~20RR~~	08RR		59	9.27
↓	~~20RR~~	08RR		60	10.26
↓	11MSD	1004		61	7.08
↓	11MSD	9.99		62	5.76
~~CCV~~	04RR			63	~~8.55~~ 10.36
~~CCB~~	04RR			64	~~9.52~~ 8.61
↓	05RR			65	7.40
↓	05RR			66	8.45
↓	06RR			67	7.73
↓	06RR			68	14.56
CCV				69	10.29
CCB				70	72.48

Pre-Qualtrax Document ID: 107-02

Document Type: Form

TOC Instrument: TOC #1 TOC #2 TOC #3
(Circle one)

Date: 8/7/18
Analyst: SP
2° Review: _____

CCV ID: WWC322318A-E
SRM 1944 ID: WSC5151UA
Filter Aid ID: WS1204157A

ICV ID: WWC323152
Balance ID: 0702258
Other SRM ID: WS1116A

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
Conditioning Std					
K					
Blank					
K					
K					
0					
1000					
5000					
10000					
20000					
40000					
ICV					
ICB					
HICV					
US28550	23RR			71	6.46
↓	23RR			72	8.18
CCV				73	10.13
CCB				74	77.15

Login	SAMPLE	QC D/MS	TRAY LOCATION	AUTO SLOT	WEIGHT (mg)
CCV					
CCB					
CCV					
CCB					

Document Type: Form

Pre-Qualtrax Document ID: 107-02

Alpha Report

ANALYTICAL REPORT

Lab Number:	L1828580
Client:	Analytical Resources, Inc. 4611 S. 134th Place Suite 100 Tukwila, WA 98168-3240
ATTN:	Susan Dunnihoo
Phone:	(206) 695-6207
Project Name:	AOC3 BLACK CARBON
Project Number:	TASK 4
Report Date:	08/09/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1828580-01	LDW18-SSCL-A01	SEDIMENT	Not Specified	05/16/18 14:00	07/25/18
L1828580-02	LDW18-SSCL-A02	SEDIMENT	Not Specified	05/16/18 14:00	07/25/18
L1828580-03	LDW18-SSCL-A03	SEDIMENT	Not Specified	05/16/18 13:20	07/25/18
L1828580-04	LDW18-SSCL-A04	SEDIMENT	Not Specified	05/16/18 12:32	07/25/18
L1828580-05	LDW18-SSCL-A05	SEDIMENT	Not Specified	05/16/18 13:00	07/25/18
L1828580-06	LDW18-SSCL-A06	SEDIMENT	Not Specified	05/16/18 12:07	07/25/18
L1828580-07	LDW18-SSCL-A07	SEDIMENT	Not Specified	05/19/18 14:35	07/25/18
L1828580-08	LDW18-SSCL-A08	SEDIMENT	Not Specified	05/19/18 15:00	07/25/18
L1828580-09	LDW18-SSCL-A09	SEDIMENT	Not Specified	05/18/18 15:28	07/25/18
L1828580-10	LDW18-SSCL-A10	SEDIMENT	Not Specified	05/18/18 15:05	07/25/18
L1828580-11	LDW18-SSCL-A11	SEDIMENT	Not Specified	05/15/18 12:01	07/25/18
L1828580-12	LDW18-SSCL-A12	SEDIMENT	Not Specified	05/18/18 13:30	07/25/18
L1828580-13	LDW18-SSCL-A13	SEDIMENT	Not Specified	05/17/18 13:20	07/25/18
L1828580-14	LDW18-SSCL-A17	SEDIMENT	Not Specified	05/18/18 13:36	07/25/18
L1828580-15	LDW18-SSCL-A18	SEDIMENT	Not Specified	05/18/18 13:57	07/25/18
L1828580-16	LDW18-SSCL-A19	SEDIMENT	Not Specified	05/17/18 14:04	07/25/18
L1828580-17	LDW18-SSCL-A11-FD	SEDIMENT	Not Specified	05/15/18 12:01	07/25/18
L1828580-18	LDW18-SS-COMP01	SEDIMENT	Not Specified	02/26/18 13:49	07/25/18
L1828580-19	LDW18-SS-COMP02	SEDIMENT	Not Specified	02/28/18 13:02	07/25/18
L1828580-20	LDW18-SS-COMP03	SEDIMENT	Not Specified	03/06/18 12:49	07/25/18
L1828580-21	LDW18-SS-COMP04	SEDIMENT	Not Specified	03/06/18 11:46	07/25/18
L1828580-22	LDW18-SS-COMP05	SEDIMENT	Not Specified	02/26/18 14:20	07/25/18
L1828580-23	LDW18-SS-COMP06	SEDIMENT	Not Specified	03/05/18 13:45	07/25/18
L1828580-24	LDW18-SS-COMP07	SEDIMENT	Not Specified	03/05/18 14:02	07/25/18

Project Name: AOC3 BLACK CARBON **Lab Number:** L1828580
Project Number: TASK 4 **Report Date:** 08/09/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: AOC3 BLACK CARBON **Lab Number:** L1828580
Project Number: TASK 4 **Report Date:** 08/09/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

% SOOT

L1828580: Samples were frozen upon receipt to arrest the the holding time.

L1828580-04, -15, -20, -23, and -24: The Sample Replicate RPD is outside the acceptance criteria of 30%. A double-burn re-analysis was performed with a confirming result. The results of the original analysis are reported. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG1144091-5 MSD recoveries for % soot (rep 1) (218%) and % soot (rep 2) (175%), performed on L1828580-01, are outside the 75-125% acceptance criteria, possibly due to sample matrix. The associated SRM recoveries are within criteria indicating the sample batch was in control, and all sample results were accepted.

The WG1144091-4/-5 MS/MSD RPDs for % soot (rep 1) (47%) and % soot (rep 2) (83%), performed on L1828580-01, are outside the acceptance criteria of 25%. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

The WG1144092-4/-5 MS/MSD RPDs for % soot (rep 1) (43%) and % soot (rep 2) (49%), performed on L1828580-11, are outside the acceptance criteria of 25%. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 08/09/18

INORGANICS
&
MISCELLANEOUS

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-01
Client ID: LDW18-SSCL-A01
Sample Location: Not Specified

Date Collected: 05/16/18 14:00
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.188		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.163		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-02
Client ID: LDW18-SSCL-A02
Sample Location: Not Specified

Date Collected: 05/16/18 14:00
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.173		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.162		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-03
Client ID: LDW18-SSCL-A03
Sample Location: Not Specified

Date Collected: 05/16/18 13:20
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.302		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.259		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-04
Client ID: LDW18-SSCL-A04
Sample Location: Not Specified

Date Collected: 05/16/18 12:32
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.056		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.089		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-05
Client ID: LDW18-SSCL-A05
Sample Location: Not Specified

Sample Depth:
Matrix: Sediment

Date Collected: 05/16/18 13:00
Date Received: 07/25/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.139		%	0.010	NA	1	-	08/07/18 15:13	91,-	SP
% Soot (Rep 2)	0.193		%	0.010	NA	1	-	08/07/18 15:13	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-06
Client ID: LDW18-SSCL-A06
Sample Location: Not Specified

Sample Depth:
Matrix: Sediment

Date Collected: 05/16/18 12:07
Date Received: 07/25/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.059		%	0.010	NA	1	-	08/07/18 15:23	91,-	SP
% Soot (Rep 2)	0.061		%	0.010	NA	1	-	08/07/18 15:23	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-07
Client ID: LDW18-SSCL-A07
Sample Location: Not Specified

Date Collected: 05/19/18 14:35
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.070		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.068		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-08
Client ID: LDW18-SSCL-A08
Sample Location: Not Specified

Date Collected: 05/19/18 15:00
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.249		%	0.010	NA	1	-	08/07/18 14:41	91,-	SP
% Soot (Rep 2)	0.214		%	0.010	NA	1	-	08/07/18 14:41	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-09
Client ID: LDW18-SSCL-A09
Sample Location: Not Specified

Date Collected: 05/18/18 15:28
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.052		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.060		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-10
Client ID: LDW18-SSCL-A10
Sample Location: Not Specified

Date Collected: 05/18/18 15:05
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.026		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.021		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-11
Client ID: LDW18-SSCL-A11
Sample Location: Not Specified

Date Collected: 05/15/18 12:01
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.135		%	0.010	NA	1	-	08/07/18 11:19	91,-	SP
% Soot (Rep 2)	0.179		%	0.010	NA	1	-	08/07/18 11:19	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-12
Client ID: LDW18-SSCL-A12
Sample Location: Not Specified

Date Collected: 05/18/18 13:30
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.080		%	0.010	NA	1	-	08/07/18 11:40	91,-	SP
% Soot (Rep 2)	0.078		%	0.010	NA	1	-	08/07/18 11:40	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-13
Client ID: LDW18-SSCL-A13
Sample Location: Not Specified

Date Collected: 05/17/18 13:20
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.136		%	0.010	NA	1	-	08/07/18 11:50	91,-	SP
% Soot (Rep 2)	0.144		%	0.010	NA	1	-	08/07/18 11:50	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-14
Client ID: LDW18-SSCL-A17
Sample Location: Not Specified

Date Collected: 05/18/18 13:36
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.279		%	0.010	NA	1	-	08/07/18 12:01	91,-	SP
% Soot (Rep 2)	0.258		%	0.010	NA	1	-	08/07/18 12:01	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-15
Client ID: LDW18-SSCL-A18
Sample Location: Not Specified

Date Collected: 05/18/18 13:57
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.192		%	0.010	NA	1	-	08/07/18 12:23	91,-	SP
% Soot (Rep 2)	0.268		%	0.010	NA	1	-	08/07/18 12:23	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-16
Client ID: LDW18-SSCL-A19
Sample Location: Not Specified

Sample Depth:
Matrix: Sediment

Date Collected: 05/17/18 14:04
Date Received: 07/25/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.177		%	0.010	NA	1	-	08/07/18 12:33	91,-	SP
% Soot (Rep 2)	0.143		%	0.010	NA	1	-	08/07/18 12:33	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-17
Client ID: LDW18-SSCL-A11-FD
Sample Location: Not Specified

Date Collected: 05/15/18 12:01
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.157		%	0.010	NA	1	-	08/07/18 12:44	91,-	SP
% Soot (Rep 2)	0.158		%	0.010	NA	1	-	08/07/18 12:44	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-18
Client ID: LDW18-SS-COMP01
Sample Location: Not Specified

Date Collected: 02/26/18 13:49
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.409		%	0.010	NA	1	-	08/07/18 12:59	91,-	SP
% Soot (Rep 2)	0.617		%	0.010	NA	1	-	08/07/18 12:59	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-19
Client ID: LDW18-SS-COMP02
Sample Location: Not Specified

Date Collected: 02/28/18 13:02
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.174		%	0.010	NA	1	-	08/07/18 13:36	91,-	SP
% Soot (Rep 2)	0.235		%	0.010	NA	1	-	08/07/18 13:36	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-20
Client ID: LDW18-SS-COMP03
Sample Location: Not Specified

Date Collected: 03/06/18 12:49
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.059		%	0.010	NA	1	-	08/07/18 13:46	91,-	SP
% Soot (Rep 2)	0.139		%	0.010	NA	1	-	08/07/18 13:46	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-21
Client ID: LDW18-SS-COMP04
Sample Location: Not Specified

Date Collected: 03/06/18 11:46
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.120		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.124		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-22
Client ID: LDW18-SS-COMP05
Sample Location: Not Specified

Date Collected: 02/26/18 14:20
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.010		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.010		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-23
Client ID: LDW18-SS-COMP06
Sample Location: Not Specified

Date Collected: 03/05/18 13:45
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	ND		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	ND		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

SAMPLE RESULTS

Lab ID: L1828580-24
Client ID: LDW18-SS-COMP07
Sample Location: Not Specified

Date Collected: 03/05/18 14:02
Date Received: 07/25/18
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
% Soot (Rep 1)	0.025		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	0.074		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP

Project Name: AOC3 BLACK CARBON **Lab Number:** L1828580

Project Number: TASK 4 **Report Date:** 08/09/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-04,07,09-10,21-24 Batch: WG1144091-1										
% Soot (Rep 1)	ND		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
% Soot (Rep 2)	ND		%	0.010	NA	1	-	08/08/18 00:00	91,-	SP
General Chemistry - Mansfield Lab for sample(s): 05-06,08,11-20 Batch: WG1144092-1										
% Soot (Rep 1)	ND		%	0.010	NA	1	-	08/07/18 10:04	91,-	SP
% Soot (Rep 2)	ND		%	0.010	NA	1	-	08/07/18 10:04	91,-	SP

Lab Control Sample Analysis

Batch Quality Control

Project Name: AOC3 BLACK CARBON

Project Number: TASK 4

Lab Number: L1828580

Report Date: 08/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04,07,09-10,21-24 Batch: WG1144091-2								
% Soot (Rep 1)	108		-		75-125	-		25
% Soot (Rep 2)	98		-		75-125	-		25
General Chemistry - Mansfield Lab Associated sample(s): 05-06,08,11-20 Batch: WG1144092-2								
% Soot (Rep 1)	105		-		75-125	-		25
% Soot (Rep 2)	104		-		75-125	-		25

Matrix Spike Analysis
Batch Quality Control

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04,07,09-10,21-24 QC Batch ID: WG1144091-4 WG1144091-5 QC Sample: L1828580-01 Client ID: LDW18-SSCL-A01												
% Soot (Rep 1)	0.188	0.881	1.04	97		1.68	**218**	Q	75-125	**47**	Q	25
% Soot (Rep 2)	0.163	0.798	0.946	98		2.28	**175**	Q	75-125	**83**	Q	25
General Chemistry - Mansfield Lab Associated sample(s): 05-06,08,11-20 QC Batch ID: WG1144092-4 WG1144092-5 QC Sample: L1828580-11 Client ID: LDW18-SSCL-A11												
% Soot (Rep 1)	0.135	0.916	0.987	93		1.52	98		75-125	**43**	Q	25
% Soot (Rep 2)	0.179	1.07	1.20	95		1.97	103		75-125	**49**	Q	25

Lab Duplicate Analysis

Batch Quality Control

Project Name: AOC3 BLACK CARBON

Project Number: TASK 4

Lab Number: L1828580

Report Date: 08/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04,07,09-10,21-24 QC Batch ID: WG1144091-3 QC Sample: L1828580-01 Client ID: LDW18-SSCL-A01						
% Soot (Rep 1)	0.188	0.162	%	15		25
% Soot (Rep 2)	0.163	0.175	%	7		25
General Chemistry - Mansfield Lab Associated sample(s): 05-06,08,11-20 QC Batch ID: WG1144092-3 QC Sample: L1828580-11 Client ID: LDW18-SSCL-A11						
% Soot (Rep 1)	0.135	0.153	%	13		25
% Soot (Rep 2)	0.179	0.143	%	22		25

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Present/Intact
B	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828580-01A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-02A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-03A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-04A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-05A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-06A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-07A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-08A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-09A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-10A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-11A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-12A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-13A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-14A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-15A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-16A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-17A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-18A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-19A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-20A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-21A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-22A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)

*Values in parentheses indicate holding time in days

Project Name: AOC3 BLACK CARBON
Project Number: TASK 4

Lab Number: L1828580
Report Date: 08/09/18

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L1828580-23A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)
L1828580-24A	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Present/Intact		A2-SOOT(28)

*Values in parentheses indicate holding time in days

Project Name:	AOC3 BLACK CARBON	**Lab Number:**	L1828580
Project Number:	TASK 4	**Report Date:**	08/09/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AOC3 BLACK CARBON	**Lab Number:**	L1828580
Project Number:	TASK 4	**Report Date:**	08/09/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

91 Analysis of Soot following ES&T publications by Accardi-Dey and Gschwend, 2003; and Gustafsson (et. al.), 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L1805560

CHAIN-OF-CUSTODY/TEST REQUEST FORM

1 of 6

Project/Client Name: AOC3 Black Carbon
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: Alpha Analytical
Attn: Susan O'Neil
Shipper: FedEx
Form filled out by: A. Vandervort

No. AOC3 2018-0092
Shipping Date:
Airbill Number:
Turnaround requested: Standard

	Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Black Carbon							Comments / Instructions [Composite/Bag ID]
-01	5/16/2018	1400	LDW18-SSCL-A01	1	sediment	X							
-02	5/16/2018	1400	LDW18-SSCL-A02	1	sediment	X							
-03	5/16/2018	1320	LDW18-SSCL-A03	1	sediment	X							
-04	5/16/2018	1232	LDW18-SSCL-A04	1	sediment	X							
-05	5/16/2018	1300	LDW18-SSCL-A05	1	sediment	X							
-06	5/16/2018	1207	LDW18-SSCL-A06	1	sediment	X							
-07	5/19/2018	1435	LDW18-SSCL-A07	1	sediment	X							
-08	5/19/2018	1500	LDW18-SSCL-A08	1	sediment	X							
-09	5/18/2018	1528	LDW18-SSCL-A09	1	sediment	X							
-10	5/18/2018	1505	LDW18-SSCL-A10	1	sediment	X							
-11	5/15/2018	1201	LDW18-SSCL-A11	1	sediment	X							
-12	5/18/2018	1330	LDW18-SSCL-A12	1	sediment	X							
	Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0092								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Jacob Walter		Print name:	
Signature:		Signature:	
Company: ARI	Company: FedEx	Company: FedEx	Company: AAL
Date/Time: 07/24/18 0900	Date/Time:	Date/Time:	Date/Time: 7/25/18 10:03

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt:: 7/25/18	Laboratory W.O. #:
Condition upon receipt: Good	Time of receipt: 10:03
Cooler temperature: 3.5°c, 3.2°c	Received by:

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

L1828580

2 of 6

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: AOC3 Black Carbon
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: Alpha Analytical
Attn: Susan O'Neil
Shipper: FedEx
Form filled out by: B. Vandervort

No. AOC3 2018-0092
Shipping Date:
Airbill Number:
Turnaround requested: Standard

	Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Black Carbon							Comments / Instructions [Composite/Bag ID]
-13	5/17/2018	1320	LDW18-SSCL-A13	1	sediment	X							
-14	5/18/2018	1336	LDW18-SSCL-A17	1	sediment	X							
-15	5/18/2018	1357	LDW18-SSCL-A18	1	sediment	X							
-16	5/17/2018	1404	LDW18-SSCL-A19	1	sediment	X							
-17	05/15/2018	12:01	LDW18-SSCL-A11-FD	1	sediment	X							
-18	2/26/18	13:49	LDW18-SS-Comp01	1	sediment	X							
-19	2/28/18	13:02	LDW18-SS-Comp02	1	sediment	X							
-20	3/6/18	12:49	LDW18-SS-Comp03	1	sediment	X							
-21	3/6/18	11:46	LDW18-SS-Comp04	1	sediment	X							
-22	2/26/18	14:20	LDW18-SS-Comp05	1	sediment	X							
-23	3/5/18	13:45	LDW18-SS-Comp06	1	sediment	X							
-24	3/5/18	14:02	LDW18-SS-Comp07	1	sediment	X							
	Total Number of Containers			12	Purchase Order / Statement of Work # PO 2018-0092								

1) Released by:
Print name: Jacob Walter
Signature:
Company: ARI
Date/Time: 07/24/18 0900

1) Rec'd by:
Company: Fedex
Date/Time:

2) Released by:
Print name:
Signature:
Company: Fedex
Date/Time:

2) Rec'd by:
Company: AAL
Date/Time: 7/25/18 10:03

* Distribution: White copies accompany shipment; yellow retained by consignor

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

Brooks Applied Labs

Report of Inorganic Arsenic Analyses

Project: Duwamish AOC3 Clam Tissue
Samples Collected: June 21st 2018
Report Date: August 9, 2018

Prepared for:
Amara Vandervort
Windward Environmental
200 W Mercer St #401
Seattle WA 98119

Project ID: WIN-SE1701

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Table of Contents

Case Narrative 3
Report Information.....5
Sample Information 6
Batch Summary.....6
Sample Results 7
Accuracy & Precision Summary 9
Method Blanks & Reporting Limits 11
Instrument Calibration 13
Sample Containers.....15
Shipping Containers.....19
Chain-of-Custody Form(s).....21
Data Sequence 1800984, Batch B181796 25
Data Sequence 1801002, Batch B181797 57

Case Narrative

Revision 1: Several sample IDs were updated at the client's request. No other changes, with respect to the original report, were made.

Shipping and Receiving

On July 22, 2018, Brooks Applied Labs (BAL) received twenty-two (22) biota samples at 09:45 A.M. in a cooler with ice and at a temperature of 1.6 °C. The chain-of-custody (COC) forms requested the analysis for inorganic arsenic [As(In)]. Sample collection dates were not provided on the COC. The client was contacted and provided an updated COC. The samples were received and stored securely according to BAL standard operating procedures (SOP) and EPA methodology.

Preservation and Holding Time

All method and SOP requirements for preservation and holding time were satisfied.

Inorganic Arsenic in Biota by EPA Method 1632, Modified

Prior to analysis, samples are digested with 2 M hydrochloric acid (HCl) and heated for 16 hours. Then, an aliquot of biota digestate is placed in a specially-designed reaction vessel and 6 M HCl is added. To this, a 4% (m/v) sodium borohydride ($NaBH_4$) solution is added to convert the inorganic arsenic to volatile arsines. Arsines are purged from the sample onto a cooled glass trap. The trapped arsines are thermally desorbed, in order of increasing boiling points, into an inert gas stream that carries them into the quartz furnace of an atomic absorption spectrophotometer for detection. The first arsine (AsH_3) to be desorbed is represents total inorganic As in the sample.

The results were instrument blank-corrected as described in the calculations section of the relevant BAL SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the Sample Results page for sample-specific MDLs, MRLs, and other details. Some peaks were manually integrated by the analyst and approved by the BAL QA Department.

Sequence 1800984

Due to a power outage the instrument turned off after analytical run 61. The instrument was restarted and the closing continuing calibration verification (CCV) standard was analyzed at the start of the new run showing the instrument was in control. Instrument calibration, meeting all quality control criteria, was successfully achieved on the day of sample analysis.

Batch B181796

Samples 1828027-06, -07, -11 recovered over the high calibration standard and were reanalyzed at a lower volume. Sample 1828027-12 yielded a result below the MRL and was reanalyzed at full volume. All data was reported without qualification, aside from concentration qualifiers, and all associated quality control sample results met the acceptance criteria.

Instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported (**NR**).

To provide additional evidence of analytical precision at the instrument and spiking level accuracy at sample analysis, post preparation spikes (PS) were analyzed at appropriate spiking levels and met the acceptance criteria

Several peaks were manually integrated and approved by BAL QA Department.

Sequence 1801002

Instrument calibration, meeting all quality control criteria, was successfully achieved on the day of sample analysis.

Batch B181797

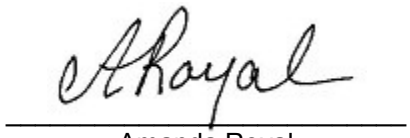
Sample 1828027-05 was reanalyzed by the analyst to investigate a lower result in relation to associated samples. The result was confirmed and was reported from the original result.

To provide additional evidence of analytical precision at the instrument and spiking level accuracy at sample analysis, post preparation spikes (PS) were analyzed at appropriate spiking levels and met the acceptance criteria

Several peaks were manually integrated and approved by BAL QA Department.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact us if you have any questions regarding this report.



Amanda Royal
Senior Project Manager
amanda@brooksapplied.com

Lydia Greaves
Client Services Manager
lydia@brooksapplied.com

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H Holding time and/or preservation requirements not met. Please see narrative for explanation.
J Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1 Estimated value. A full explanation is presented in the narrative.
M Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R Rejected, unusable value. A full explanation is presented in the narrative.
U Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
LDW18-C01-CLSP-Comp1	1828027-01	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C02-CLSP-Comp1	1828027-02	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C03-CLSP-Comp1	1828027-03	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C04-CLSP-Comp1	1828027-04	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C05-CLSP-Comp1	1828027-05	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C06-CLSP-Comp1	1828027-06	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C07-CLSP-Comp1	1828027-07	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C08-CLSP-Comp1	1828027-08	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C09-CLSP-Comp1	1828027-09	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C10-CLSP-Comp1	1828027-10	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C11-CLSP-Comp1	1828027-11	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C01-CLRM-Comp1	1828027-12	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C02-CLRM-Comp1	1828027-13	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C03-CLRM-Comp1	1828027-14	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C04-CLRM-Comp1	1828027-15	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C05-CLRM-Comp1	1828027-16	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C06-CLRM-Comp1	1828027-17	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C07-CLRM-Comp1	1828027-18	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C08-CLRM-Comp1	1828027-19	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C09-CLRM-Comp1	1828027-20	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C10-CLRM-Comp1	1828027-21	Tissue	Sample	06/21/2018	07/11/2018
LDW18-C11-CLRM-Comp1	1828027-22	Tissue	Sample	06/21/2018	07/11/2018

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
InorgAs	Biota	EPA 1632	07/23/2018	07/24/2018	B181796	1800984
InorgAs	Biota	EPA 1632	07/26/2018	07/27/2018	B181797	1801002

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
LDW18-C01-CLSP-Comp1										
1828027-01	InorgAs	Tissue	AR	38.3		0.779	1.95	mg/kg	B181797	1801002
LDW18-C02-CLSP-Comp1										
1828027-02	InorgAs	Tissue	AR	23.3		0.797	1.99	mg/kg	B181797	1801002
LDW18-C03-CLSP-Comp1										
1828027-03	InorgAs	Tissue	AR	19.5		0.772	1.93	mg/kg	B181797	1801002
LDW18-C04-CLSP-Comp1										
1828027-04	InorgAs	Tissue	AR	34.3		0.793	1.98	mg/kg	B181797	1801002
LDW18-C05-CLSP-Comp1										
1828027-05	InorgAs	Tissue	AR	9.06		0.781	1.95	mg/kg	B181797	1801002
LDW18-C06-CLSP-Comp1										
1828027-06	InorgAs	Tissue	AR	13.7		0.322	0.804	mg/kg	B181796	1800984
LDW18-C07-CLSP-Comp1										
1828027-07	InorgAs	Tissue	AR	24.5		0.817	2.04	mg/kg	B181796	1800984
LDW18-C08-CLSP-Comp1										
1828027-08	InorgAs	Tissue	AR	13.8		0.788	1.97	mg/kg	B181796	1800984
LDW18-C09-CLSP-Comp1										
1828027-09	InorgAs	Tissue	AR	24.5		0.793	1.98	mg/kg	B181796	1800984
LDW18-C10-CLSP-Comp1										
1828027-10	InorgAs	Tissue	AR	36.3		0.783	1.96	mg/kg	B181796	1800984
LDW18-C11-CLSP-Comp1										
1828027-11	InorgAs	Tissue	AR	306		7.77	19.4	mg/kg	B181796	1800984
LDW18-C01-CLRM-Comp1										
1828027-12	InorgAs	Tissue	AR	0.067		0.004	0.010	mg/kg	B181796	1800984
LDW18-C02-CLRM-Comp1										
1828027-13	InorgAs	Tissue	AR	0.045		0.004	0.010	mg/kg	B181796	1800984

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
LDW18-C03-CLRM-Comp1										
1828027-14	InorgAs	Tissue	AR	0.072		0.004	0.010	mg/kg	B181796	1800984
LDW18-C04-CLRM-Comp1										
1828027-15	InorgAs	Tissue	AR	0.167		0.004	0.010	mg/kg	B181796	1800984
LDW18-C05-CLRM-Comp1										
1828027-16	InorgAs	Tissue	AR	0.056		0.004	0.010	mg/kg	B181796	1800984
LDW18-C06-CLRM-Comp1										
1828027-17	InorgAs	Tissue	AR	0.052		0.004	0.010	mg/kg	B181796	1800984
LDW18-C07-CLRM-Comp1										
1828027-18	InorgAs	Tissue	AR	0.109		0.004	0.010	mg/kg	B181797	1801002
LDW18-C08-CLRM-Comp1										
1828027-19	InorgAs	Tissue	AR	0.064		0.004	0.010	mg/kg	B181797	1801002
LDW18-C09-CLRM-Comp1										
1828027-20	InorgAs	Tissue	AR	0.061		0.004	0.010	mg/kg	B181797	1801002
LDW18-C10-CLRM-Comp1										
1828027-21	InorgAs	Tissue	AR	0.095		0.004	0.010	mg/kg	B181797	1801002
LDW18-C11-CLRM-Comp1										
1828027-22	InorgAs	Tissue	AR	0.191		0.004	0.010	mg/kg	B181797	1801002

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Accuracy & Precision Summary

Batch: B181796
Lab Matrix: Biota
Method: EPA 1632

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B181796-BS1	**Blank Spike, (1827009)**						
	InorgAs		0.1000	0.104	mg/kg	104% 65-135	
B181796-BS2	**Blank Spike, (1827009)**						
	InorgAs		0.1000	0.103	mg/kg	103% 65-135	
B181796-DUP1	**Duplicate (1828027-11)**						
	InorgAs	305.6		316.1	mg/kg		3% 35
B181796-MS1	**Matrix Spike (1828027-11)**						
	InorgAs	305.6	0.09856	308.0	mg/kg	NR 65-135	
B181796-MSD1	**Matrix Spike Duplicate (1828027-11)**						
	InorgAs	305.6	0.1003	333.0	mg/kg	NR 65-135	N/C 35
B181796-PS1	**Post Spike (1828027-11)**						
	InorgAs	305.6	388.4	684.6	mg/kg	98% 65-135	
B181796-DUP2	**Duplicate (1828027-13)**						
	InorgAs	0.045		0.051	mg/kg		14% 35
B181796-MS2	**Matrix Spike (1828027-13)**						
	InorgAs	0.045	0.09841	0.141	mg/kg	98% 65-135	
B181796-MSD2	**Matrix Spike Duplicate (1828027-13)**						
	InorgAs	0.045	0.09889	0.140	mg/kg	97% 65-135	1% 35

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Accuracy & Precision Summary

Batch: B181797
Lab Matrix: Biota
Method: EPA 1632

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B181797-BS1	**Blank Spike, (1827009)**						
	InorgAs		0.1000	0.118	mg/kg	118% 65-135	
B181797-BS2	**Blank Spike, (1827009)**						
	InorgAs		0.1000	0.116	mg/kg	116% 65-135	
B181797-DUP1	**Duplicate (1828027-18)**						
	InorgAs	0.109		0.098	mg/kg		11% 35
B181797-MS1	**Matrix Spike (1828027-18)**						
	InorgAs	0.109	0.09787	0.188	mg/kg	80% 65-135	
B181797-MSD1	**Matrix Spike Duplicate (1828027-18)**						
	InorgAs	0.109	0.09808	0.190	mg/kg	83% 65-135	3% 35
B181797-PS1	**Post Spike (1828027-18)**						
	InorgAs	0.109	0.1496	0.251	mg/kg	95% 65-135	
B181797-DUP2	**Duplicate (1828027-20)**						
	InorgAs	0.061		0.058	mg/kg		6% 35
B181797-MS2	**Matrix Spike (1828027-20)**						
	InorgAs	0.061	0.09974	0.156	mg/kg	94% 65-135	
B181797-MSD2	**Matrix Spike Duplicate (1828027-20)**						
	InorgAs	0.061	0.09692	0.153	mg/kg	94% 65-135	0.2% 35

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Method Blanks & Reporting Limits

Batch: B181796
Matrix: Biota
Method: EPA 1632
Analyte: InorgAs

Sample	Result	Units
B181796-BLK1	-0.0002	mg/kg
B181796-BLK2	-0.0002	mg/kg
B181796-BLK3	-0.0002	mg/kg
B181796-BLK4	-0.0002	mg/kg

Average: 0.000
Limit: 0.008

MDL: 0.004
MRL: 0.010

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Method Blanks & Reporting Limits

Batch: B181797
Matrix: Biota
Method: EPA 1632
Analyte: InorgAs

Sample	Result	Units
B181797-BLK1	0.00	mg/kg
B181797-BLK2	0.00	mg/kg
B181797-BLK3	0.00	mg/kg
B181797-BLK4	0.00	mg/kg

Average: 0.000
Limit: 0.008

MDL: 0.004
MRL: 0.010

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Instrument Calibration

Sequence: 1800984
Instrument: HGAAS-2
Date: 07/24/2018
Analyte: InorgAs

Total Arsenic and Arsenic Speciation by HG-CT-AAS

Lab ID	True Value	Result	Units	REC & Limits	
1800984-IBL1		0.065	ng As		
1800984-IBL2		0.000	ng As		
1800984-IBL3		0.000	ng As		
1800984-CAL1	0.5000	0.537	ng As	107%	
1800984-CAL2	2.000	2.073	ng As	104%	
1800984-CAL3	10.00	10.09	ng As	101%	
1800984-CAL4	20.00	19.53	ng As	98%	
1800984-CAL5	30.00	27.55	ng As	92%	
1800984-ICV1	5.010	5.236	ng As	105%	80-120
1800984-CCV1	5.000	5.074	ng As	101%	80-120
1800984-CCB1		0.00	ng As		
1800984-CCV2	5.000	4.706	ng As	94%	80-120
1800984-CCB2		0.00	ng As		
1800984-CCV3	5.000	5.198	ng As	104%	80-120
1800984-CCB3		0.00	ng As		
1800984-CCV4	5.000	4.843	ng As	97%	80-120
1800984-CCB4		0.00	ng As		

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Instrument Calibration

Sequence: 1801002
Instrument: HGAAS-2
Date: 07/27/2018
Analyte: InorgAs

Total Arsenic and Arsenic Speciation by HG-CT-AAS

Lab ID	True Value	Result	Units	REC & Limits	
1801002-IBL1		0.000	ng As		
1801002-IBL2		0.000	ng As		
1801002-IBL3		0.000	ng As		
1801002-CAL1	0.5000	0.527	ng As	105%	
1801002-CAL2	2.000	2.164	ng As	108%	
1801002-CAL3	10.00	9.988	ng As	100%	
1801002-CAL4	20.00	19.44	ng As	97%	
1801002-CAL5	30.00	27.35	ng As	91%	
1801002-ICV1	5.010	5.236	ng As	105%	80-120
1801002-CCV1	5.000	5.139	ng As	103%	80-120
1801002-CCB1		0.00	ng As		
1801002-CCV2	5.000	5.156	ng As	103%	80-120
1801002-CCB2		0.00	ng As		
1801002-CCV3	5.000	5.252	ng As	105%	80-120
1801002-CCB3		0.00	ng As		

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Containers

Lab ID: 1828027-01
Sample: LDW18-C01-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-02
Sample: LDW18-C02-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-03
Sample: LDW18-C03-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-04
Sample: LDW18-C04-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-05
Sample: LDW18-C05-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-06
Sample: LDW18-C06-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Containers

Lab ID: 1828027-07
Sample: LDW18-C07-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-08
Sample: LDW18-C08-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-09
Sample: LDW18-C09-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-10
Sample: LDW18-C10-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-11
Sample: LDW18-C11-CLSP-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-12
Sample: LDW18-C01-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Containers

Lab ID: 1828027-13
Sample: LDW18-C02-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-14
Sample: LDW18-C03-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-15
Sample: LDW18-C04-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-16
Sample: LDW18-C05-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-17
Sample: LDW18-C06-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-18
Sample: LDW18-C07-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Sample Containers

Lab ID: 1828027-19
Sample: LDW18-C08-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-20
Sample: LDW18-C09-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-21
Sample: LDW18-C10-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Lab ID: 1828027-22
Sample: LDW18-C11-CLRM-Comp1
Report Matrix: Tissue
Sample Type: Sample
Collected: 06/21/2018
Received: 07/11/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	20mL	n/a	none	n/a		Cooler - 1828027

Project ID: WIN-SE1701
PM: Amanda Royal

Client PM: Amara Vandervort
Client Project: WIN-SE1701 (Duwamish AOC3 Baseline Water & Tissue)

Shipping Containers

Cooler - 1828027

Received: July 11, 2018 9:45
Tracking No: n/a via Courier
Coolant Type: Ice
Temperature: 1.6 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#8

Custody seals present? No
Custody seals intact? No
COC present? Yes

drop off
no CS
COC ✓
ice
IR#8
1.6°C
Client provided
20mL
low mass

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Clam Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **Brooks Applied Labs** No.AOC320180625
Attn: Amanda Royal Shipping Date:
Shipper: Airbill Number:
Form filled out by: A. Vandervort Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Inorganic Arsenic							Comments / Instructions [Composite/Bag ID]
		LDW18-C01-CLSP-Comp1	1	Tissue	X							
		LDW18-C02-CLSP-Comp1	1	Tissue	X							
		LDW18-C03-CLSP-Comp1	1	Tissue	X							
		LDW18-C04-CLSP-Comp1	1	Tissue	X							
		LDW18-C05-CLSP-Comp1	1	Tissue	X							
		LDW18-C06-CLSP-Comp1	1	Tissue	X							
		LDW18-C07-CLSP-Comp1	1	Tissue	X							
		LDW18-C08-CLSP-Comp1	1	Tissue	X							
		LDW18-C09-CLSP-Comp1	1	Tissue	X							
		LDW18-C010-CLSP-Comp1	1	Tissue	X							
		LDW18-C011-CLSP-Comp1	1	Tissue	X							
		LDW18-C01-CLRM-Comp1	1	Tissue	X							
		Total Number of Containers	12	Purchase Order / Statement of Work # PO 2018-0066								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Brandon Fisk		Print name:	
Signature:	Company: BAL	Signature:	Company:
Company: AKI	Date/Time: 7/11/18 945	Company:	Date/Time:
Date/Time: 7/11/18 0942		Date/Time:	

* Distribution: White copies accompany shipment; yellow retained by consignor.

temp: 1.6°C

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

CHAIN-OF-CUSTODY/TEST REQUEST FORM

Project/Client Name: **AOC3 Clam Collection**
Project Number: Task 4
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: **Brooks Applied Labs** No.AOC320180625
Attn: Amanda Royal Shipping Date:
Shipper: Airbill Number:
Form filled out by: A. Vandervort Turnaround requested: Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) Inorganic Arsenic							Comments / Instructions [Composite/Bag ID]
		LDW18-C02-CLRM-Comp1	1	Tissue	X							
		LDW18-C03-CLRM-Comp1	1	Tissue	X							
		LDW18-C04-CLRM-Comp1	1	Tissue	X							
		LDW18-C05-CLRM-Comp1	1	Tissue	X							
		LDW18-C06-CLRM-Comp1	1	Tissue	X							
		LDW18-C07-CLRM-Comp1	1	Tissue	X							
		LDW18-C08-CLRM-Comp1	1	Tissue	X							
		LDW18-C09-CLRM-Comp1	1	Tissue	X							
		LDW18-C010-CLRM-Comp1	1	Tissue	X							
		LDW18-C011-CLRM-Comp1	1	Tissue	X							
		Total Number of Containers	10	Purchase Order / Statement of Work # PO 2018-0066								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Brandon Fisk		Print name:	
Signature:		Signature:	
Company: ARI	Company: BAL	Company:	Company:
Date/Time: 7/11/18 0942	Date/Time: 7/11/18 945	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Windward environmental LLC
200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

CHAIN-OF-CUSTODY/TEST REQUEST FORM

BAL Report 1828027 Rev. 1

Project/Client Name:	**AOC3 Clam Collection**	Ship to:	**Brooks Applied Labs**	No.AOC320180625	
Project Number:	Task 4	Attn:	Amanda Royal	Shipping Date:	
Contact Name:	Amara Vandervort	Shipper:		Airbill Number:	
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Composite/Bag ID]
					Inorganic Arsenic							
6/21/2018	1014	LDW18-C01-CLSP-Comp1	1	Tissue	X							All samples homogenized on 7/9/18
6/21/2018	1005	LDW18-C02-CLSP-Comp1	1	Tissue	X							
6/21/2018	1022	LDW18-C03-CLSP-Comp1	1	Tissue	X							
6/21/2018	1029	LDW18-C04-CLSP-Comp1	1	Tissue	X							
6/21/2018	1038	LDW18-C05-CLSP-Comp1	1	Tissue	X							
6/21/2018	1046	LDW18-C06-CLSP-Comp1	1	Tissue	X							
6/21/2018	1056	LDW18-C07-CLSP-Comp1	1	Tissue	X							
6/21/2018	1111	LDW18-C08-CLSP-Comp1	1	Tissue	X							
6/21/2018	1120	LDW18-C09-CLSP-Comp1	1	Tissue	X							
6/21/2018	1128	LDW18-C010-CLSP-Comp1	1	Tissue	X							
6/21/2018	1135	LDW18-C011-CLSP-Comp1	1	Tissue	X							
6/21/2018	1014	LDW18-C01-CLRM-Comp1	1	Tissue	X							
		Total Number of Containers	12	Purchase Order / Statement of Work # PO 2018-0066								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name:		Print name:	
Signature:	Company:	Signature:	Company:
Company:		Company:	
Date/Time:	Date/Time:	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC

200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

CHAIN-OF-CUSTODY/TEST REQUEST FORM

BAL Report 1828027 Rev. 1

Project/Client Name:	**AOC3 Clam Collection**	Ship to:	**Brooks Applied Labs**		No.AOC320180625
Project Number:	Task 4	Attn:	Amanda Royal	Shipping Date:	
Contact Name:	Amara Vandervort	Shipper:		Airbill Number:	
Sampled By:	Windward	Form filled out by:	A. Vandervort	Turnaround requested:	Standard

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required)							Comments / Instructions [Composite/Bag ID]
					Inorganic Arsenic							
6/21/2018	1005	LDW18-C02-CLRM-Comp1	1	Tissue	X							
6/21/2018	1022	LDW18-C03-CLRM-Comp1	1	Tissue	X							
6/21/2018	1029	LDW18-C04-CLRM-Comp1	1	Tissue	X							
6/21/2018	1038	LDW18-C05-CLRM-Comp1	1	Tissue	X							
6/21/2018	1046	LDW18-C06-CLRM-Comp1	1	Tissue	X							
6/21/2018	1056	LDW18-C07-CLRM-Comp1	1	Tissue	X							
6/21/2018	1111	LDW18-C08-CLRM-Comp1	1	Tissue	X							
6/21/2018	1120	LDW18-C09-CLRM-Comp1	1	Tissue	X							
6/21/2018	1128	LDW18-C010-CLRM-Comp1	1	Tissue	X							
6/21/2018	1135	LDW18-C011-CLRM-Comp1	1	Tissue	X							
Total Number of Containers			10	Purchase Order / Statement of Work # PO 2018-0066								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name:		Print name:	
Signature:	Company:	Signature:	Company:
Company:		Company:	
Date/Time:	Date/Time:	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC

200 West Mercer Street
Suite 401
Seattle, WA 98119
Tel: (206) 378-1364
Fax: (206) 217-9343

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Brooks Applied Labs
As(In) Solid Prep by BAL-3300 (Mod. of EPA 1632)

Matrix: Sediment / (Biota) (circle one)

Batch #(s): B181796

Page 1 of 1

Prepared By: SDS

Prep Start Date/Time*: 7.23.18 14:30

Balance ID: BL-08

* Time when the first reagents are added.

Sample ID	Sample Mass / Volume (g) / (mL)	Notes
1828027-06	0.4976	—
1828027-07	0.4893	—
1828027-08	0.5075	—
1828027-09	0.5044	—
1828027-10	0.5106	—
1828027-11 Dup1	0.5149	—
1828027-12	0.5041	—
1828027-13 Dup2	0.5062	—
1828027-14	0.5100	—
1828027-15	0.5000	—
1828027-16	0.5141	—
1828027-17	0.5084	—

Sample ID	Sample Mass / Volume (g) / (mL)	Notes
B181796-BLK1	—	—
B181796-BLK2	—	—
B181796-BLK3	—	—
B181796-BLK4	—	—
B181796-BS1	—	—
B181796-BS2	—	—
B181796-DUP1	0.4991	—
B181796-DUP2	0.4997	—
B181796-MRL1	—	—
B181796-MS1	0.5073	—
B181796-MS2	0.5081	—
B181796-MSD1	0.4983	—
B181796-MSD2	0.5056	—

Batch QC ID	Sample Source	Spike Added (mL)	As Species	Spike ID	Spike Witness Initials/Date
MRL Check	Use 100ppb standard	0.025	III,V	1827009	AA 7.23.18
BS1	---	0.250			
BS2	---	0.250			
MS/MSD1	1828027-11	0.25			
MS/MSD2	1828027-13	0.25			

HCl ID:	1820018
Thermometer ID:	621
Oven ID:	OV-29
Pipette Set ID:	hydrid C
Final Volume of Prep:	10 mL

Target Digestion Temperature = 75-85 °C	
Temperature (M/C):	80 / 81
Date/Time On:	7.23.18 14:50
DateTime Off:	16 hr time

SRM, LIMS ID: NA

SRM1: NIST 1568b

Comments: DS1 7.23.18

SOP BAL-3300

As(In) ☑ As(III) ☐ MMA ☐ DMA ☐ Analysis Sheet

Sequence:	1800984	Batches:	B181838, 1796		
Analyst:	JRM	Date:	7/24/2018	Instrument ID:	HGAAS-2
Cal. Std. 10 ng/mL:	1827008	**As(In)/MMA/DMA** 6M HCl:	1826002	Pump purge time:	2.5min
ICV Std. 100 ng/mL:	1827007	**As(III)** 2.5M Tris-HCl:	N/A	Matrix:	Biota
Pipette Set ID:	HGAAS	4% NaBH4:	1827073	Noise:	6116
				Trap(s) #:	64

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
∪ 1	5	SEQ-IBL1	20			
2	5	SEQ-IBL2	20			
3	5	SEQ-IBL3	20			
∪ 4	5	SEQ-CAL1	0.05			10ng/mL
5	5	SEQ-CAL2	0.2			10ng/mL
6	5	SEQ-CAL3	1			10ng/mL
7	5	SEQ-CAL4	2			10ng/mL
8	5	SEQ-CAL5	3			10ng/mL
9	5	SEQ-ICV1	0.05			100ng/mL ICV
10	5	SEQ-CCV	0.5			10ng/mL
11	5	SEQ-CCB	--			
12	5	B181838-BLK1	2			
∪ 13	5	B181838-BLK2	2			
∪ 14	5	B181838-BLK3	2			
∪ 15	5	B181838-BLK4	2			
16	5	B181838-BS1	2			
∪ 17	5	B181838-MRL1	2			
18	5	B181838-SRM1	2			
19	5	1823032-07	2			
20	5	1823032-08	2			
∪ 21	5	1827026-01	2			
∪ 22	5	B181838-DUP1	2			
23	5	B181838-MS1	2			
24	5	B181838-MSD1	2			

JRM 7.24.18

Manual Integration Abbreviations

m. Modified due to split peak.
u. Unidentified peak selected.
m1. New start/stop selected.
m2. Start modified due to dip in baseline.
m3. Modified by adjusting As(In) peak (MMA/DMA).
m4. Modified DMA due to large peak tail.

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
U 25	5	1827026-02	2			
U 26	5	1827026-03	2			
27	5	1829047-01	2			
28	5	SEQ-CCV	0.5			10ng/mL
29	5	SEQ-CCB	--			
30	5	B181796-BLK1	2			
31	5	B181796-BLK2	2			
32	5	B181796-BLK3	2			
33	5	B181796-BLK4	2			
34	5	B181796-BS1	2			
35	5	B181796-BS2	2			
36	5	B181796-MRL1	2			
37	5	1828027-06	0.05			
38	5	1828027-06RE1	0.025			
39	5	1828027-07	0.025			
40	5	1828027-07RE1	0.01			
41	5	1828027-08	0.01			
42	5	1828027-09	0.01			
43	5	1828027-10	0.01			
44	5	1828027-11	0.01			
45	5	1828027-11RE1	0.1	100		
46	5	B181796-DUP1	0.1	100		
47	5	B181796-MS1	0.1	100		
48	5	B181796-MSD1	0.1	100		

2.24.18

Manual Integration Abbreviations

m. Modified due to split peak.
u. Unidentified peak selected.
m1. New start/stop selected.
m2. Start modified due to dip in baseline.
m3. Modified by adjusting As(In) peak (MMA/DMA).
m4. Modified DMA due to large peak tail.

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
49	5	B181796-PS1	0.05	100		50µl of 1827009
50	5	SEQ-CCV	0.5			10ng/mL
51	5	SEQ-CCB	--			
52	5	1828027-12	0.01			
53	5	1828027-12RE1	2			
54	5	1828027-13	2			
55	5	B181796-DUP2	2			
56	5	B181796-MS2	2			
57	5	B181796-MSD2	2			
58	5	1828027-14	2			
59	5	1828027-15	2			
60	5	1828027-16	2			
61	5	1828027-17	2			
62	5	WASTE				
63	5	SEQ-CCV	0.5			10ng/mL
64	5	SEQ-CCB	--			

2.24.18

Manual Integration Abbreviations

m. Modified due to split peak.
u. Unidentified peak selected.
m1. New start/stop selected.
m2. Start modified due to dip in baseline.
m3. Modified by adjusting As(In) peak (MMA/DMA).
m4. Modified DMA due to large peak tail.

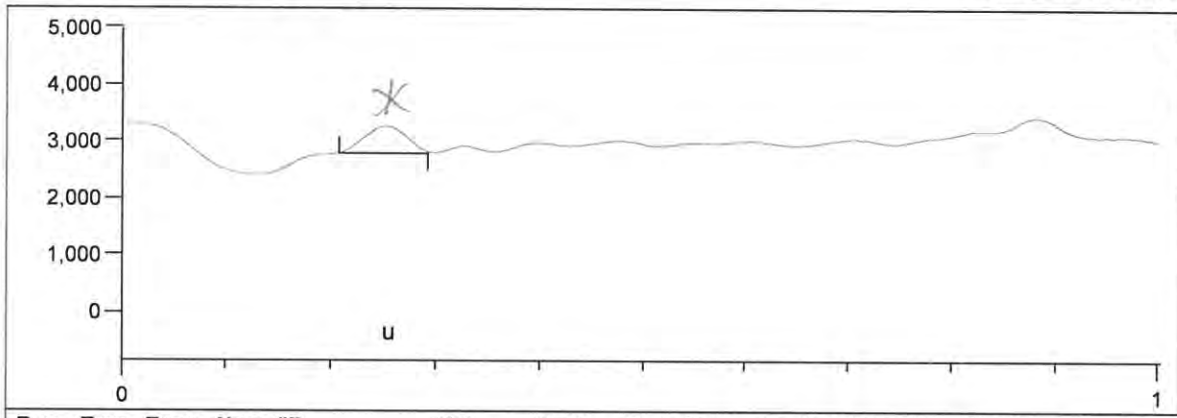
* Manual integrations reviewed and approved by QA
SWL 7/26/18

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

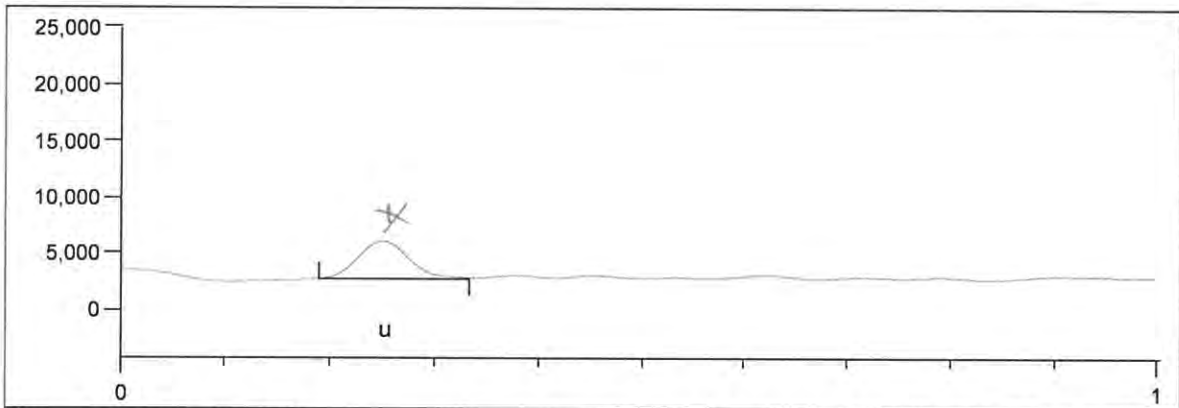
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 9:53 AM

Peak	rt	Area
u	0.25	12,375

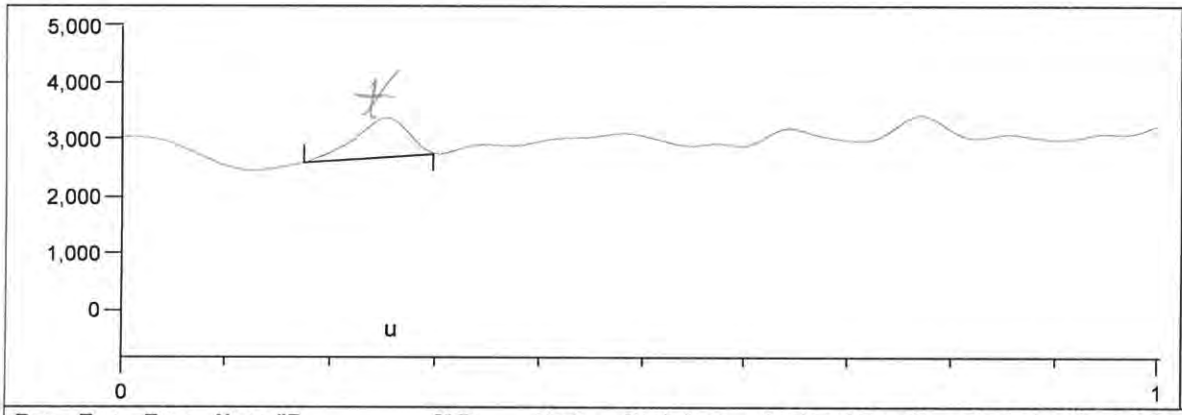
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
1		CB	SEQ-IBL1		u	12,375	0.0645		0.0645	< 0.4	accept
Notes											



Date: 7/24/18
Time: 10:05 AM

Peak	rt	Area
u	0.25	107,115

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
4		STD	SEQ-CAL1		u	107,115	0.537		107	80-120	accept
Notes											



Date: 7/24/18
Time: 10:39 AM

Peak	rt	Area
u	0.25	23,743

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
13		S	B181838-BLK2		u	23,743	0.102	0.00		< HS	accept
Notes											

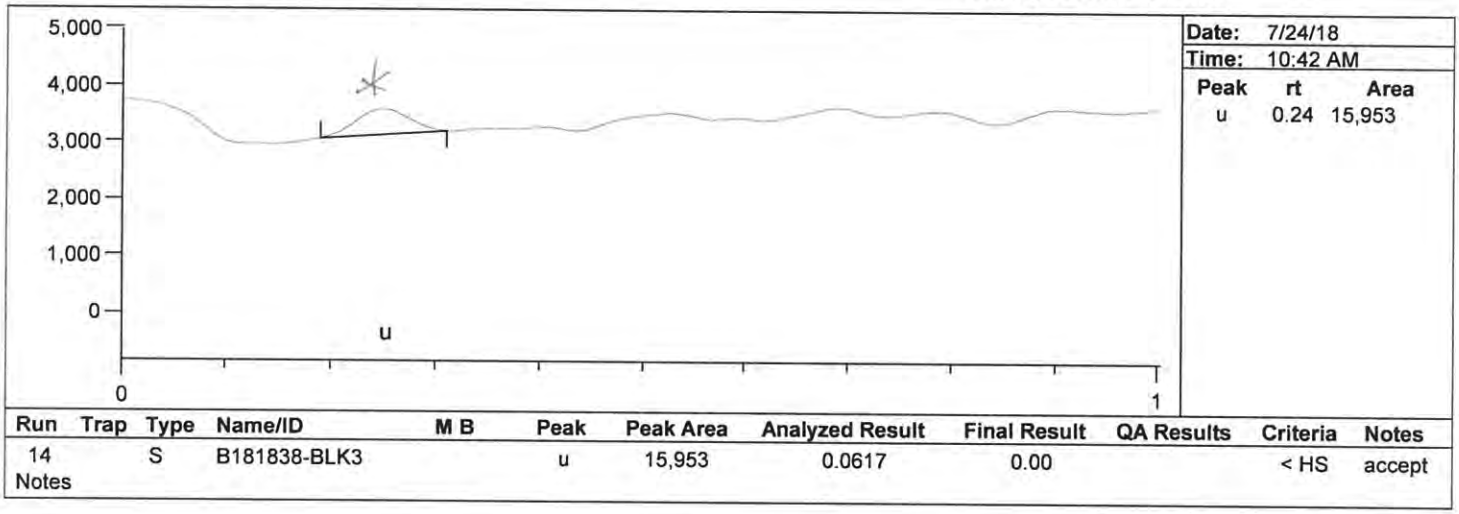
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

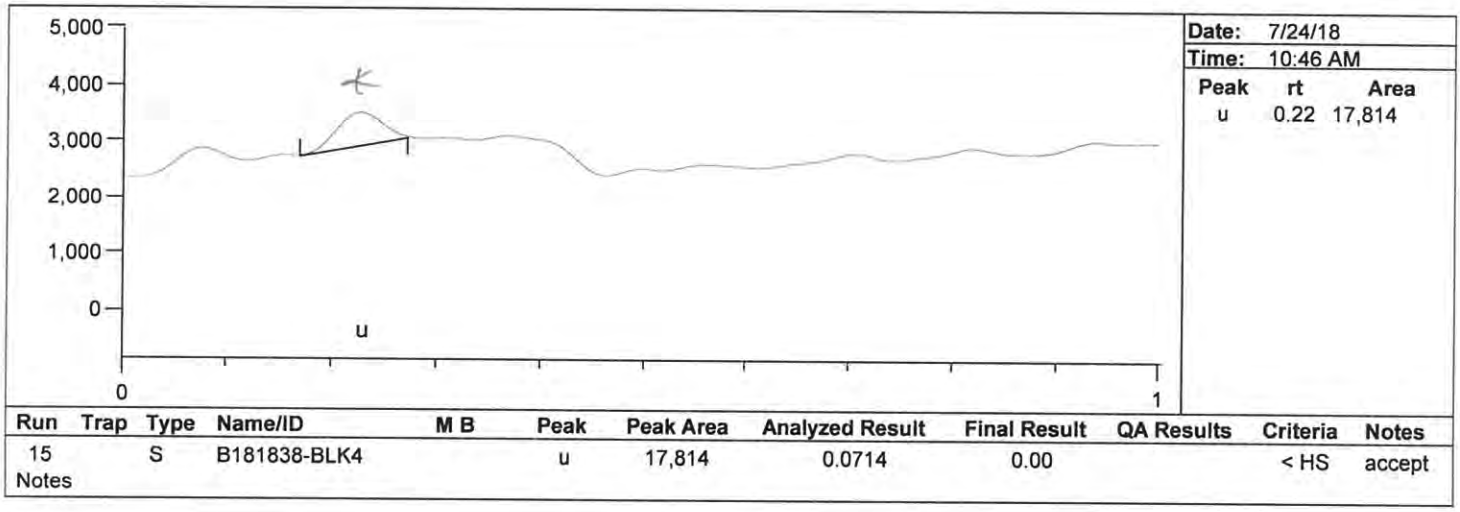
Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

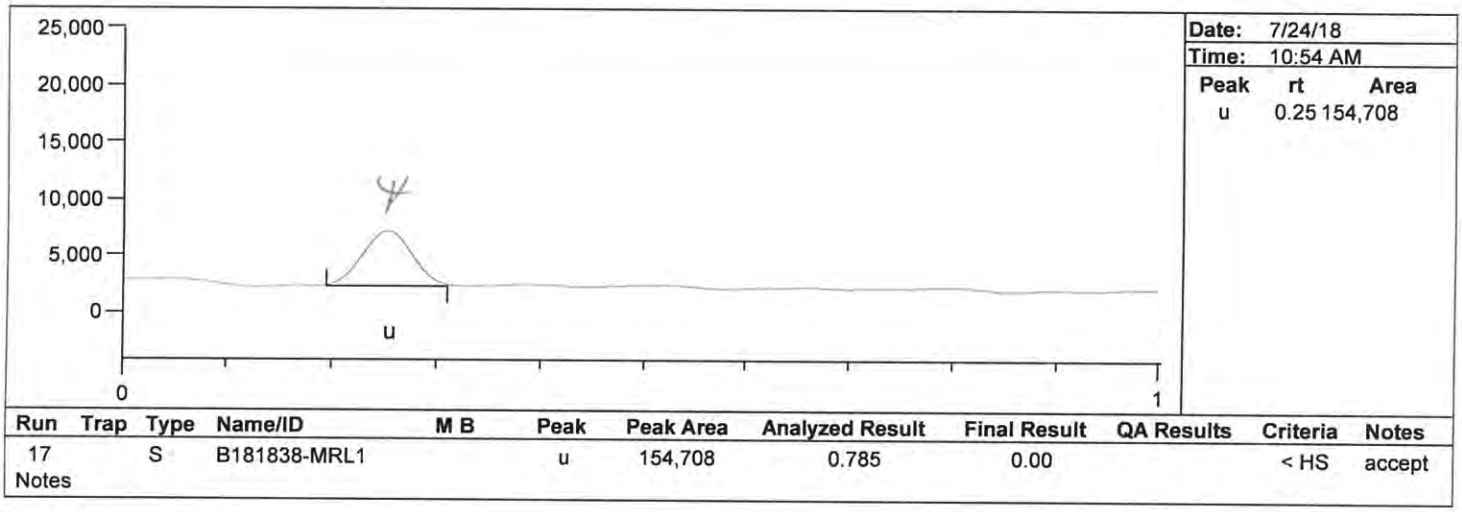
Date Analyzed: 7/24/18
Analyst Name: JRM



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
14		S	B181838-BLK3		u	15,953	0.0617	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
15		S	B181838-BLK4		u	17,814	0.0714	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
17		S	B181838-MRL1		u	154,708	0.785	0.00		< HS	accept
Notes											

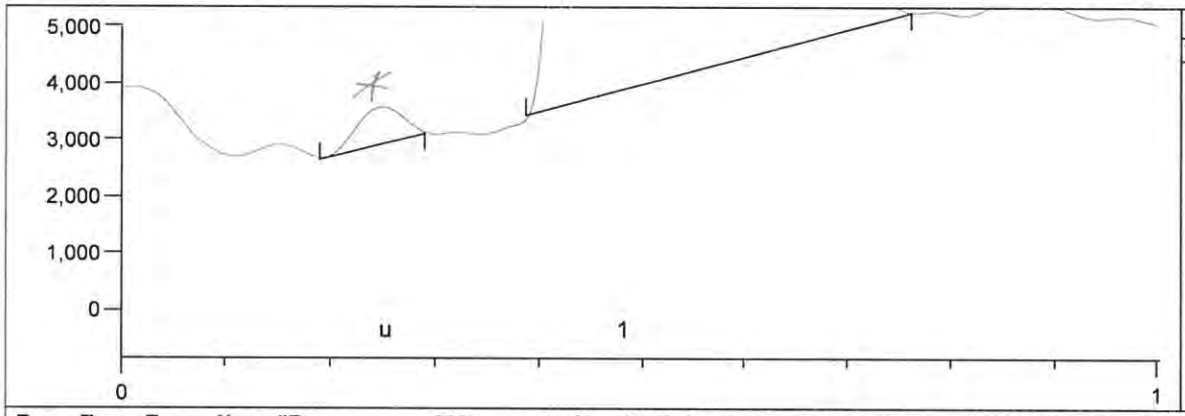
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

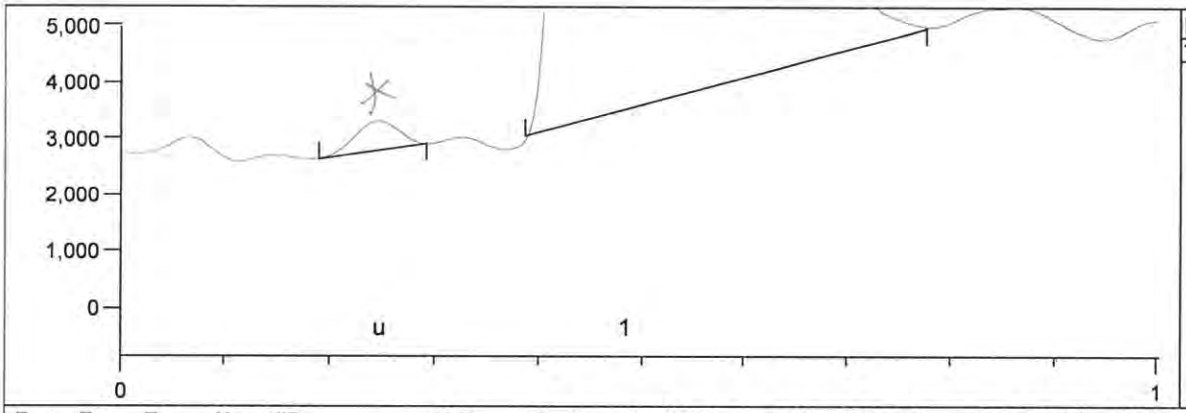
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:14 AM

Peak	rt	Area
1	0.47	5,947,783
u	0.24	20,298

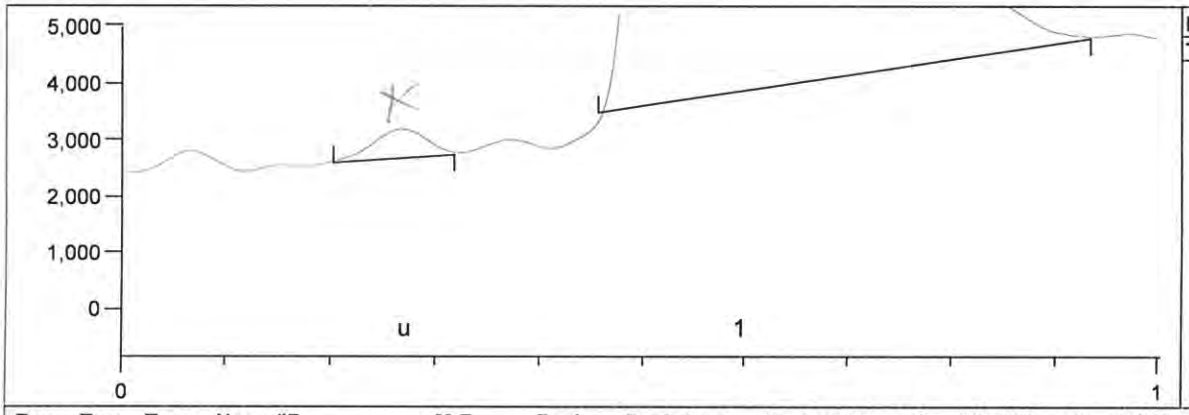
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
21		S	1827026-01		u	20,298	0.0843	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:18 AM

Peak	rt	Area
1	0.48	6,296,393
u	0.24	15,424

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
22		S	B181838-DUP1		u	15,424	0.0589	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:29 AM

Peak	rt	Area
1	0.59	5,893,174
u	0.26	16,627

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
25		S	1827026-02		u	16,627	0.0652	0.00		< HS	accept
Notes											

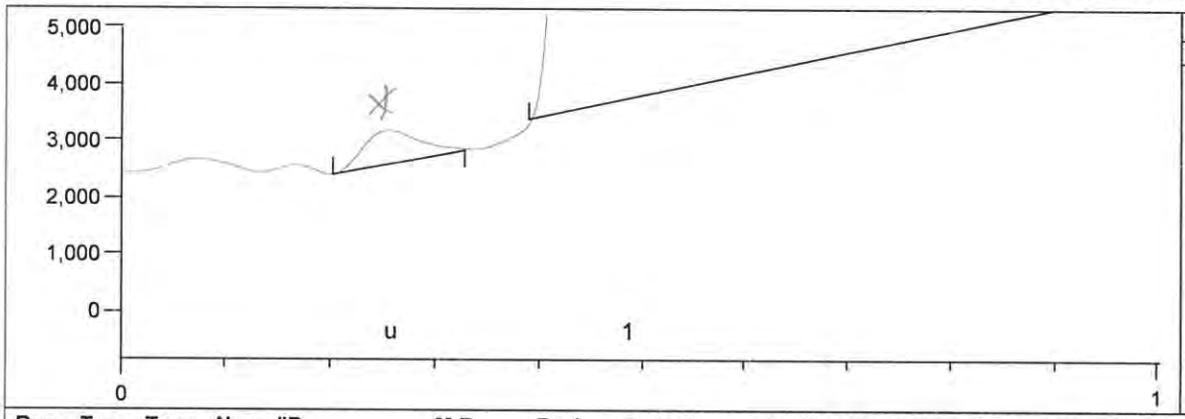
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:33 AM

Peak	rt	Area
1	0.48	10,608,553
u	0.25	21,998

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
26		S	1827026-03		u	21,998	0.0932	0.00		< HS	accept

Notes

JWC 7/26/18

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

QA Summary Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2
Date Analyzed: 7/24/18
Analyst Name: JRM

Bias and Precision

Type	Name/ID	Final Result	Units	Spike Level	Source Result	% REC	% REC Limit	RPD	RPD Limit	Notes
OPR	SEQ-ICV	5.24	ng	5		105	80-120			accept
	SEQ-CCV	5.07	ng	5		101	80-120			accept
	SEQ-CCV	4.71	ng	5		94.1	80-120			accept
	SEQ-CCV	5.20	ng	5		104	80-120			accept
	SEQ-CCV	4.84	ng	5		96.9	80-120			accept

Calibration

QA Sample Type	Name/ID	Analyzed Result	Units	Spike Level	% REC	% REC Limit	RSD	RSD Limit	Notes
Calibration	SEQ-CAL1	0.537	ng	0.5	107	80-120			accept
	SEQ-CAL2	2.07	ng	2.0	104	80-120			accept
	SEQ-CAL3	10.1	ng	10	101	80-120			accept
	SEQ-CAL4	19.5	ng	20	97.6	80-120			accept
	SEQ-CAL5	27.6	ng	30	91.8	80-120			accept
Calibration Factor		0.00000521	ng/PA				6.03	< 20	accept
Calibration Date		7/24/18							

Blank Summary

QA Sample Type	Name/ID	Analyzed Result	Units	Criteria	StDev	StDev Limit	Notes
CB	SEQ-IBL1	0.0645	ng	< 0.4			accept
	SEQ-IBL2	0.00	ng	< 0.4			accept
	SEQ-IBL3	0.00	ng	< 0.4			accept
Average		0.0215	ng	< 0.015	0.0373	< 10	accept

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

QA Summary Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

Date Analyzed: 7/24/18
Analyst Name: JRM

QA Comments:

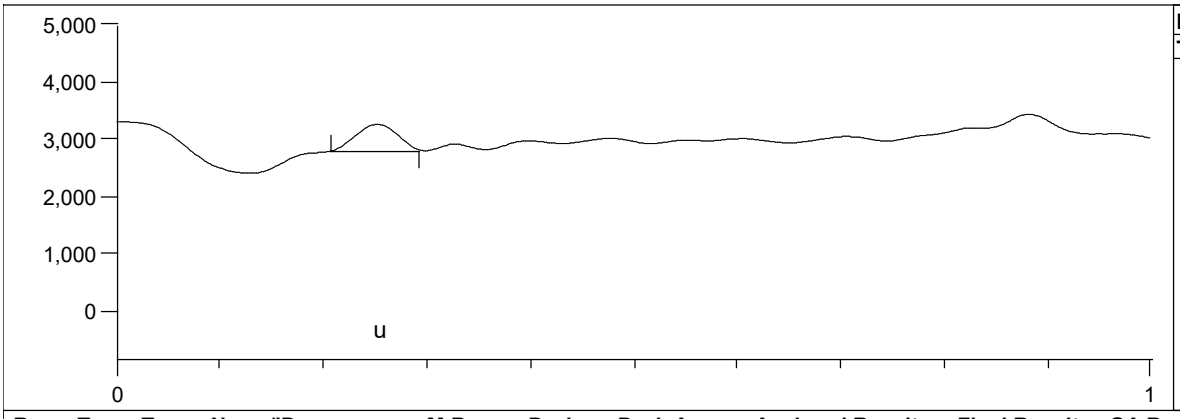
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

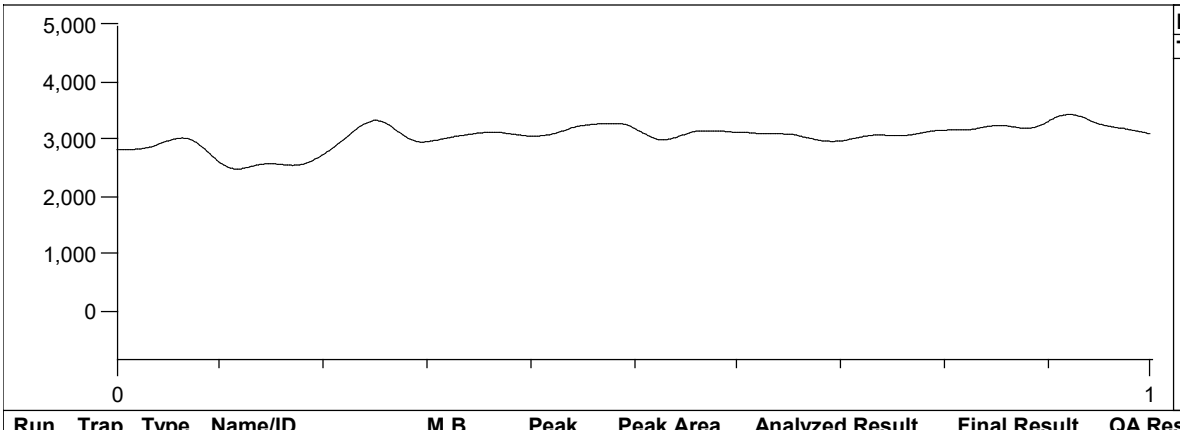
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 9:53 AM

Peak	rt	Area
u	0.25	12,375

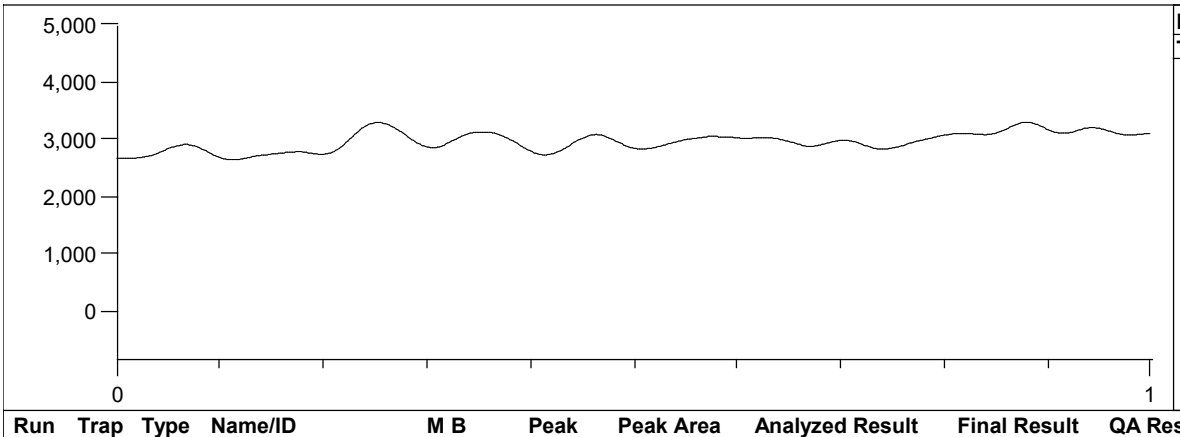
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
1		CB	SEQ-IBL1		u	12,375	0.0645		0.0645	< 0.4	accept
Notes											



Date: 7/24/18
Time: 9:57 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
2		CB	SEQ-IBL2			0	0.00		0.00	< 0.4	accept
Notes											



Date: 7/24/18
Time: 10:01 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
3		CB	SEQ-IBL3			0	0.00		0.00	< 0.4	accept
Notes											

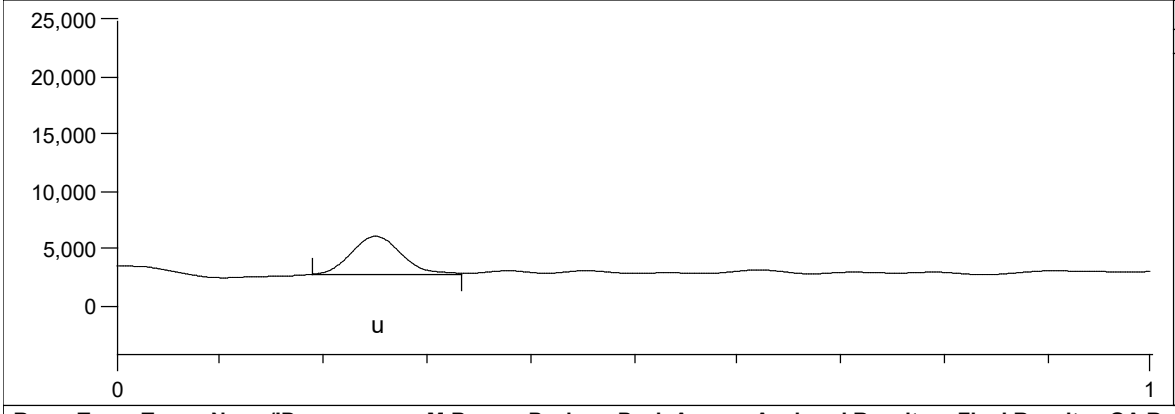
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

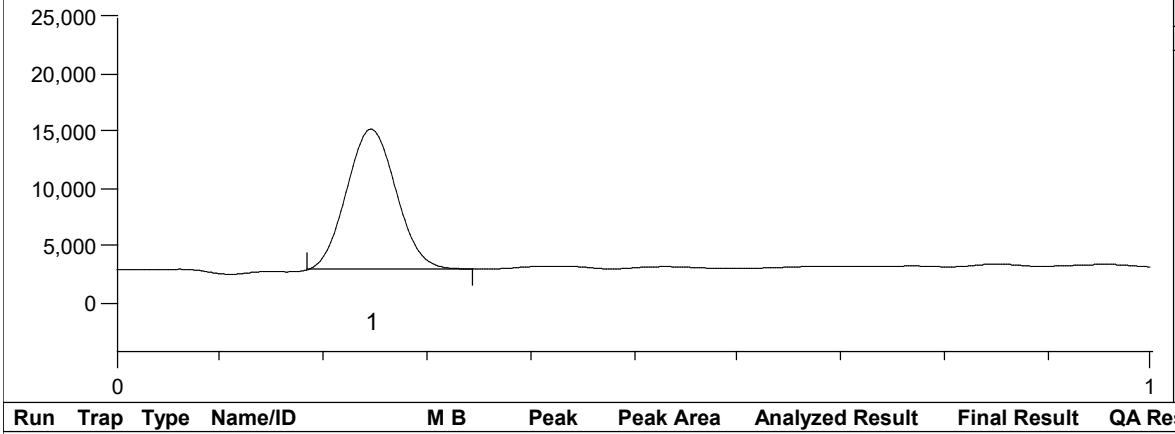
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 10:05 AM

Peak	rt	Area
u	0.25	107,115

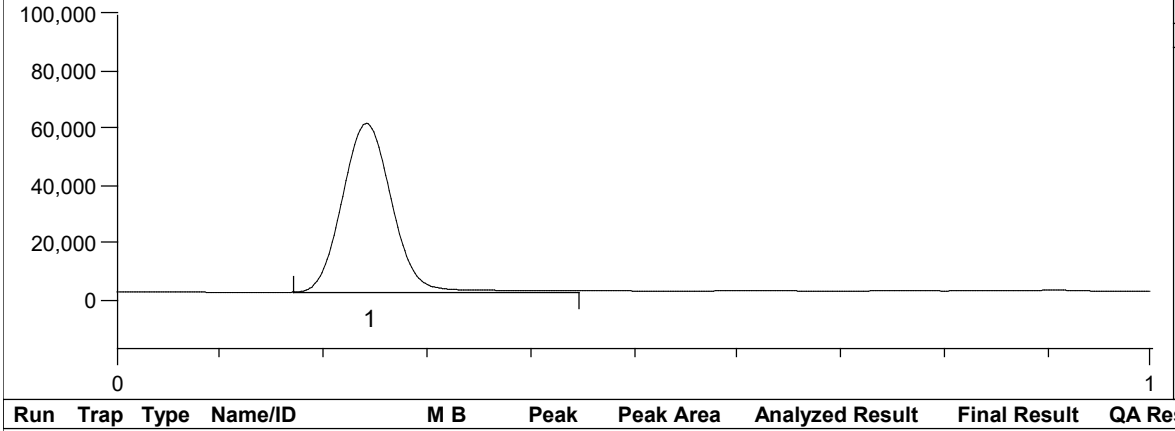
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
4		STD	SEQ-CAL1		u	107,115	0.537		107	80-120	accept
Notes											



Date: 7/24/18
Time: 10:09 AM

Peak	rt	Area
1	0.24	401,717

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
5		STD	SEQ-CAL2		1	401,717	2.07		104	80-120	accept
Notes											



Date: 7/24/18
Time: 10:12 AM

Peak	rt	Area
1	0.24	1,938,100

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
6		STD	SEQ-CAL3		1	1,938,100	10.1		101	80-120	accept
Notes											

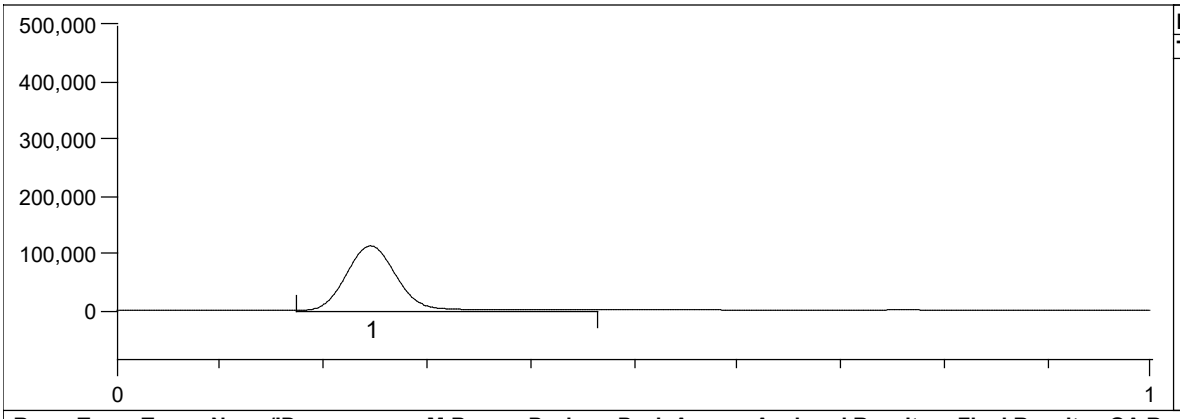
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

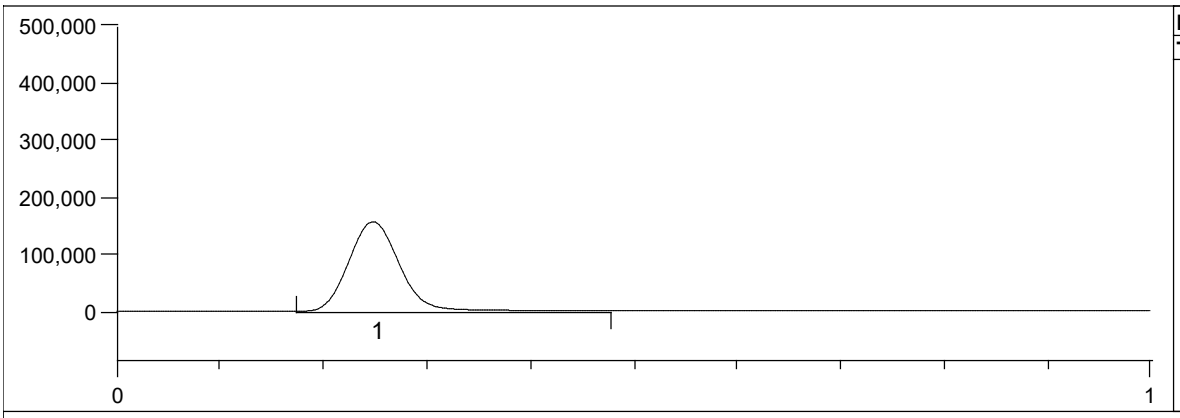
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 10:16 AM

Peak	rt	Area
1	0.24	3,748,800

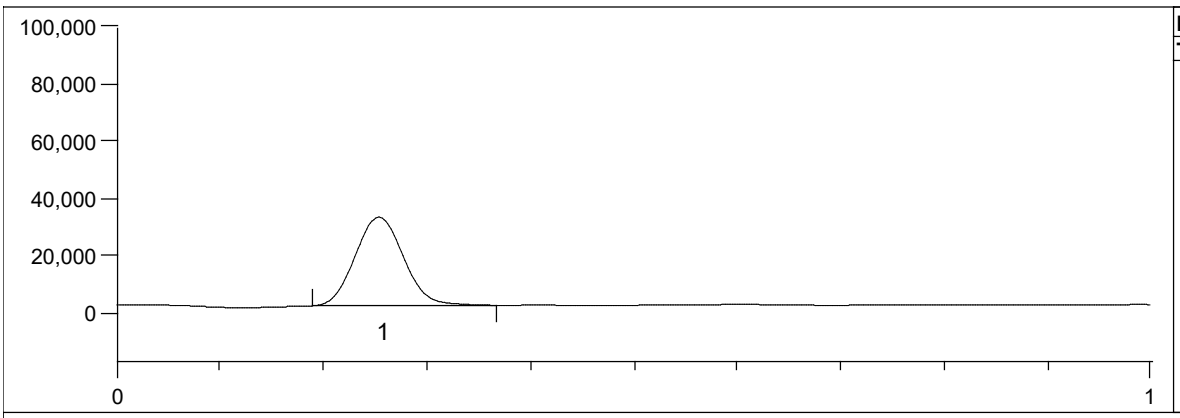
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
7		STD	SEQ-CAL4		1	3,748,800	19.5		97.6	80-120	accept
Notes											



Date: 7/24/18
Time: 10:20 AM

Peak	rt	Area
1	0.24	5,287,526

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
8		STD	SEQ-CAL5		1	5,287,526	27.6		91.8	80-120	accept
Notes											



Date: 7/24/18
Time: 10:24 AM

Peak	rt	Area
1	0.25	1,008,202

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
9		OPR	SEQ-ICV		1	1,008,202	5.24		105	80-120	accept
Notes											

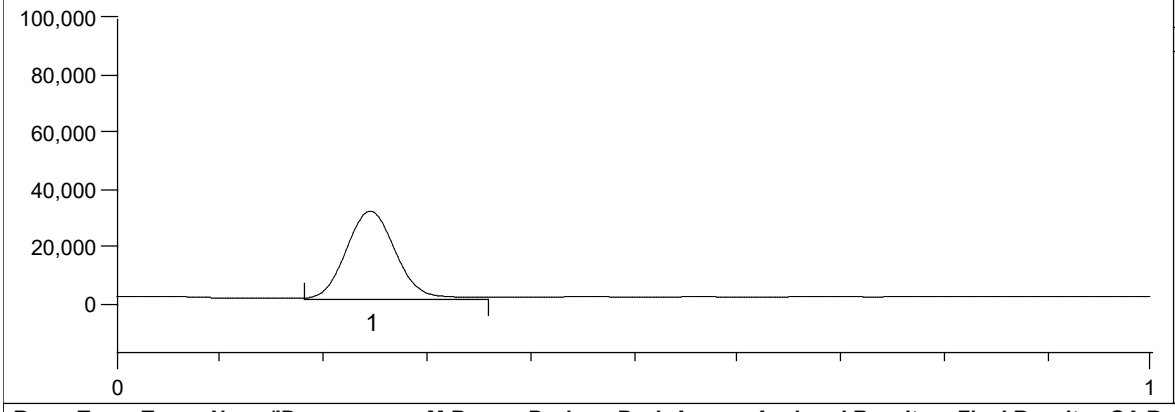
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

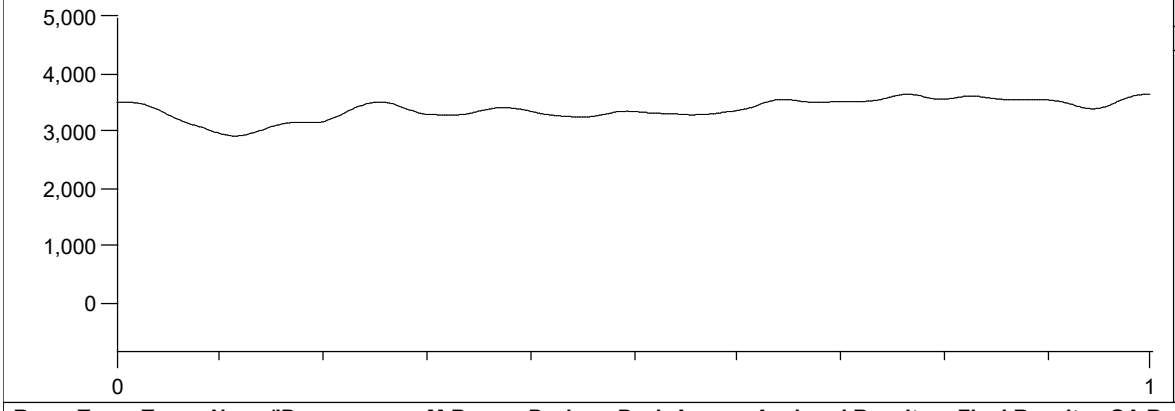
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 10:27 AM

Peak	rt	Area
1	0.24	977,158

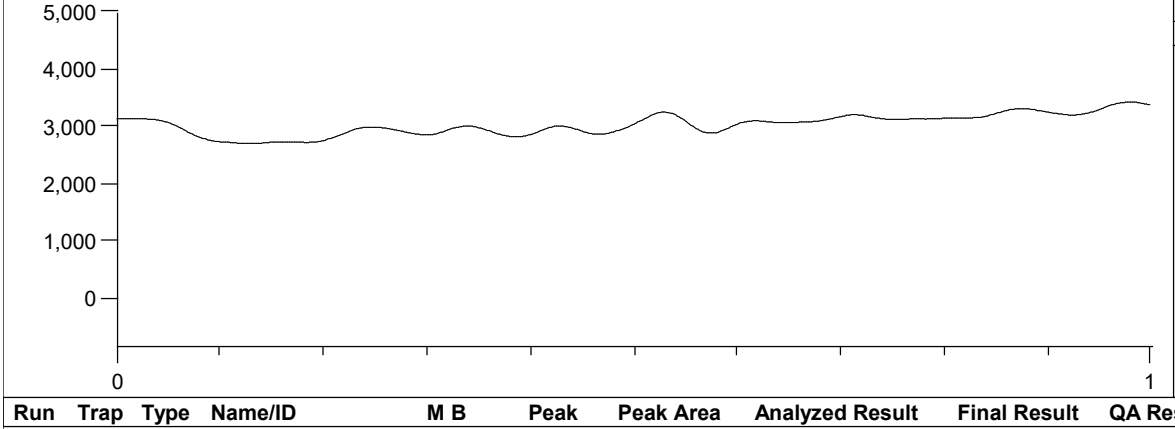
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
10		OPR	SEQ-CCV		1	977,158	5.07		101	80-120	accept
Notes											



Date: 7/24/18
Time: 10:31 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
11		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											



Date: 7/24/18
Time: 10:35 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
12		S	B181838-BLK1			0	-0.0215	0.00		< HS	accept
Notes											

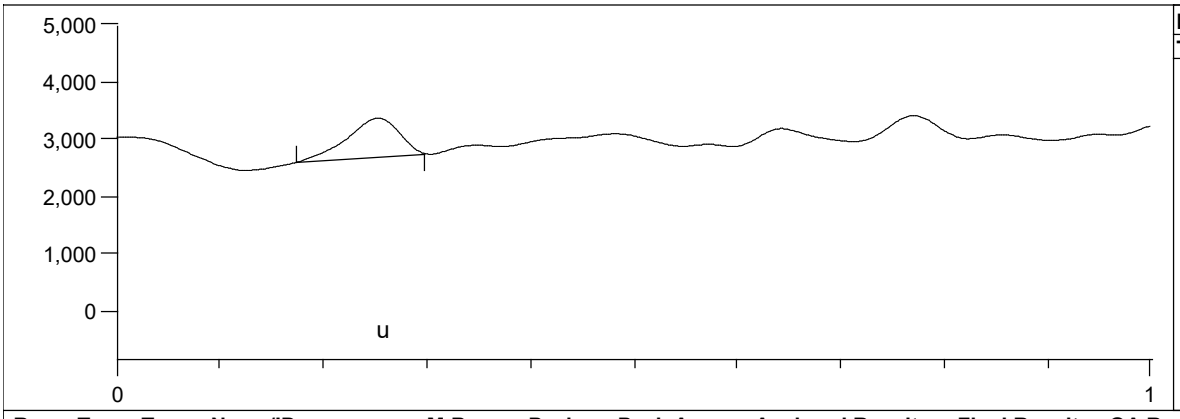
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

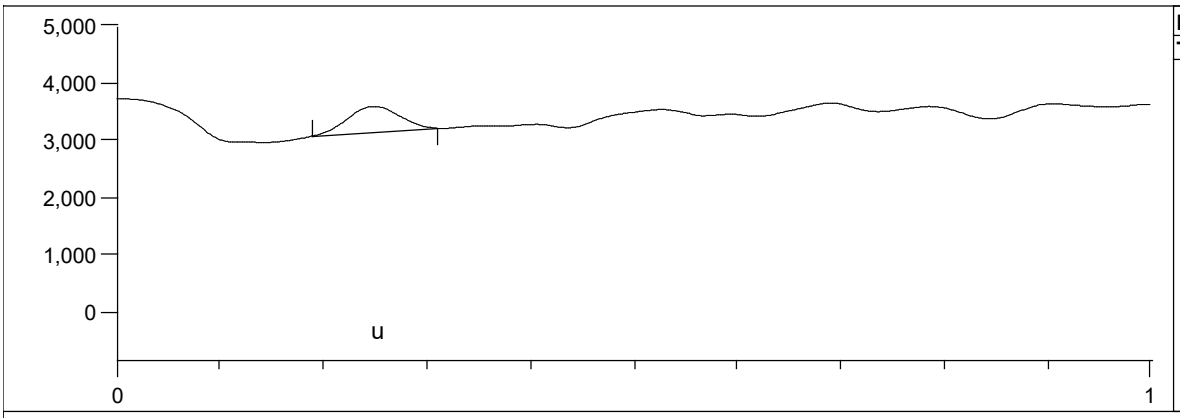
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 10:39 AM

Peak	rt	Area
u	0.25	23,743

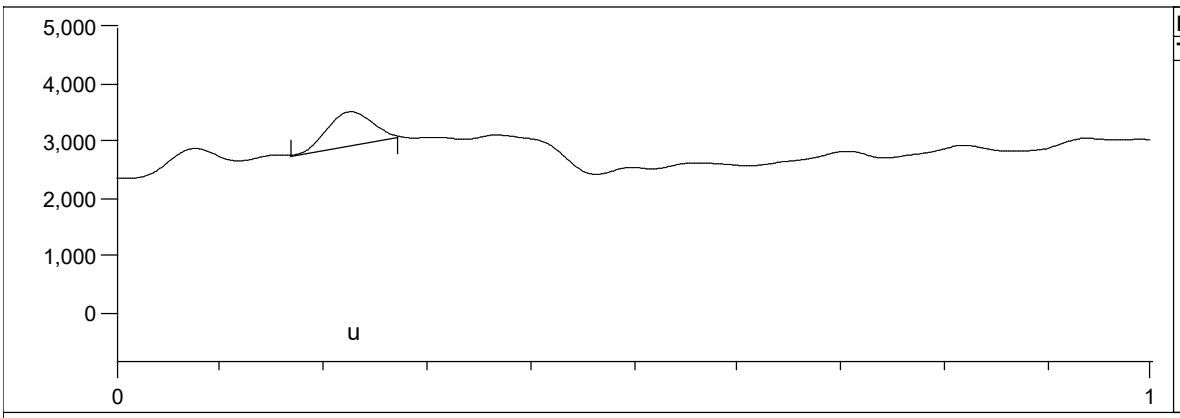
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
13		S	B181838-BLK2		u	23,743	0.102	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 10:42 AM

Peak	rt	Area
u	0.24	15,953

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
14		S	B181838-BLK3		u	15,953	0.0617	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 10:46 AM

Peak	rt	Area
u	0.22	17,814

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
15		S	B181838-BLK4		u	17,814	0.0714	0.00		< HS	accept
Notes											

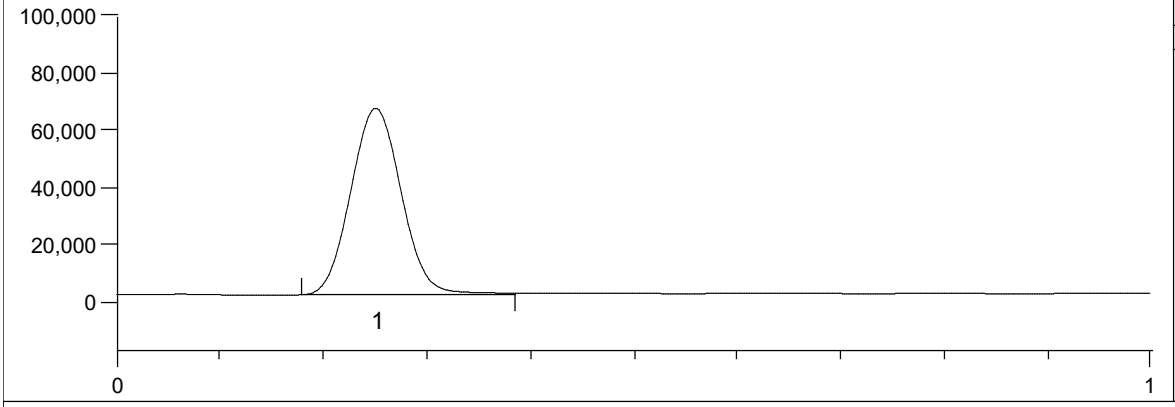
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

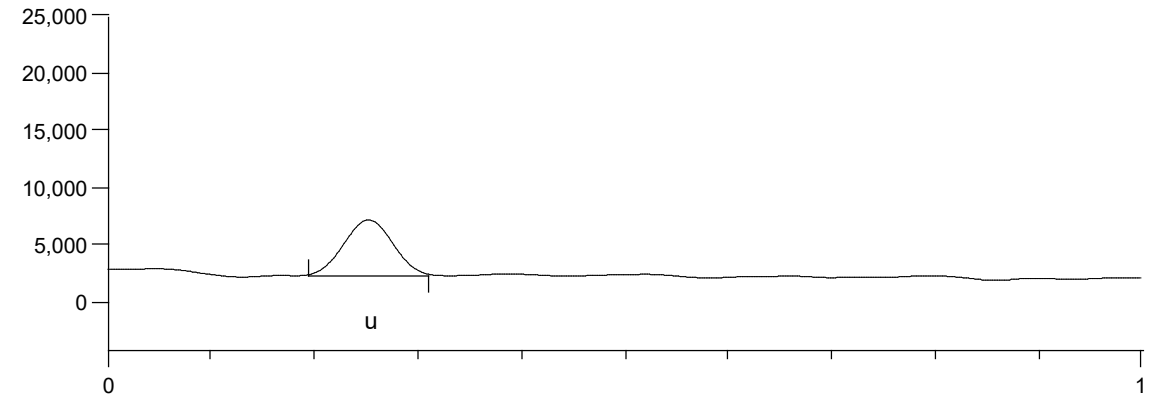
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 10:50 AM

Peak	rt	Area
1	0.25	2,191,078

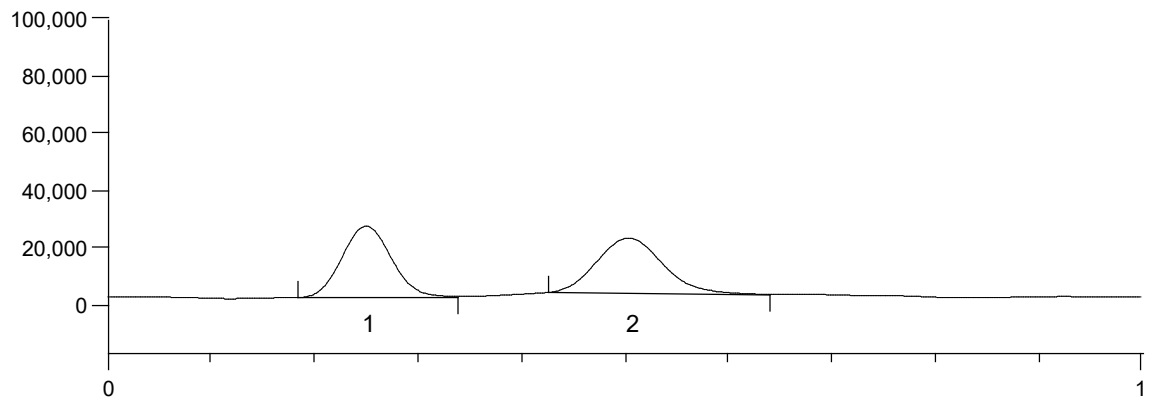
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
16		S	B181838-BS1		1	2,191,078	11.4	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 10:54 AM

Peak	rt	Area
u	0.25	154,708

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
17		S	B181838-MRL1		u	154,708	0.785	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 10:58 AM

Peak	rt	Area
1	0.25	817,112
2	0.50	839,689

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
18		S	B181838-SRM1		1	817,112	4.24	0.00		< HS	accept
Notes											

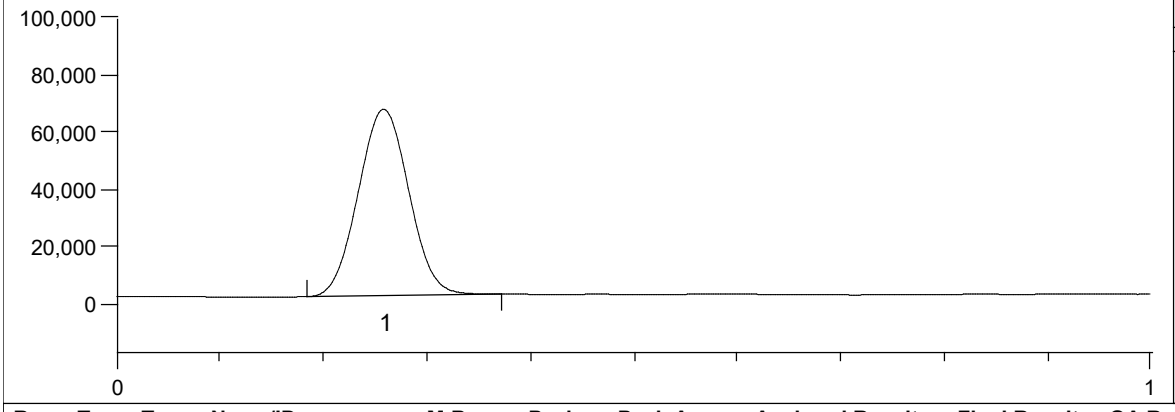
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

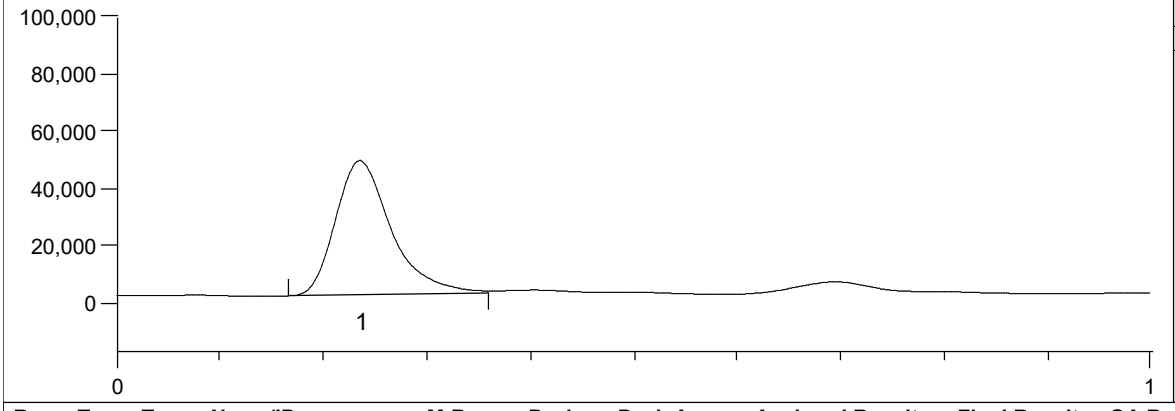
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:06 AM

Peak	rt	Area
1	0.26	2,222,514

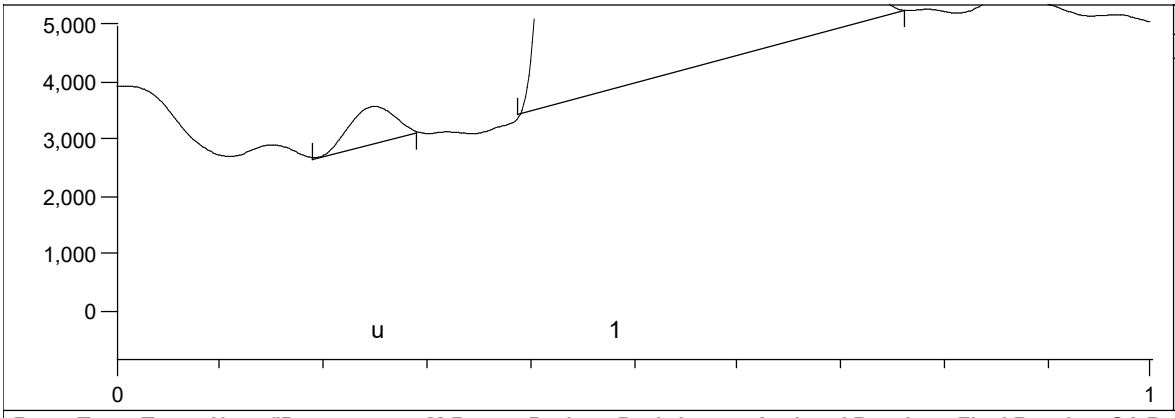
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
19		S	1823032-07		1	2,222,514	11.6	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:10 AM

Peak	rt	Area
1	0.23	1,723,203

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
20		S	1823032-08		1	1,723,203	8.96	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:14 AM

Peak	rt	Area
1	0.47	5,947,783
u	0.24	20,298

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
21		S	1827026-01		u	20,298	0.0843	0.00		< HS	accept
Notes											

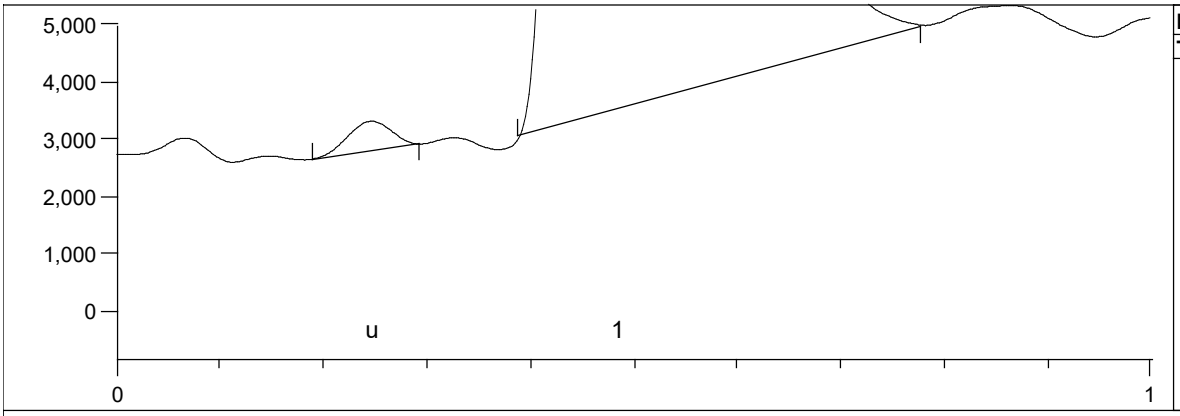
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

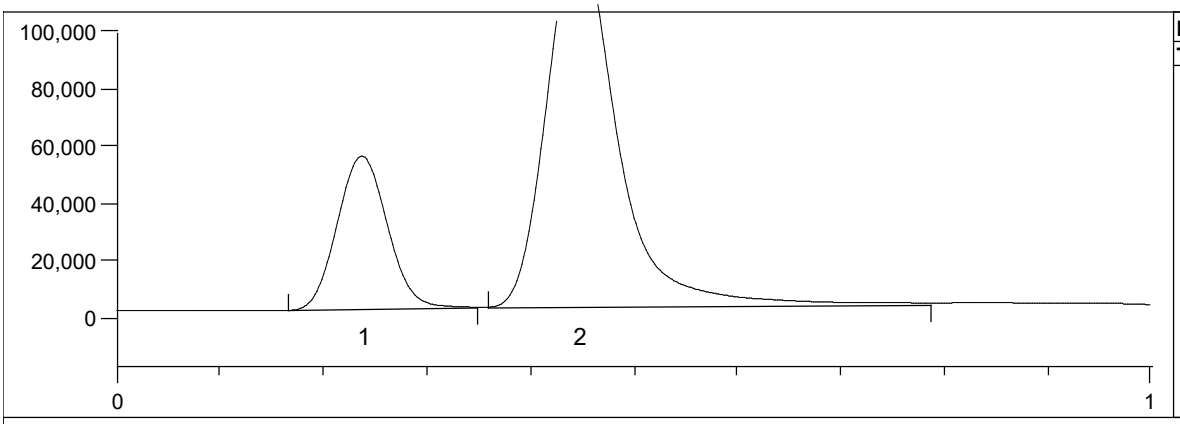
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:18 AM

Peak	rt	Area
1	0.48	6,296,393
u	0.24	15,424

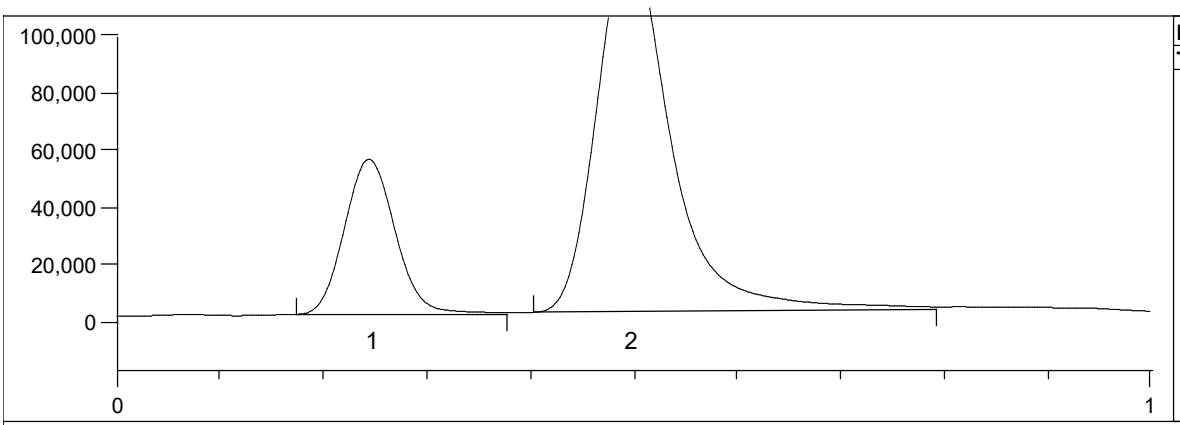
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
22		S	B181838-DUP1		u	15,424	0.0589	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:21 AM

Peak	rt	Area
1	0.23	1,803,988
2	0.44	6,062,027

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
23		S	B181838-MS1		1	1,803,988	9.39	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:25 AM

Peak	rt	Area
1	0.24	1,825,223
2	0.49	6,357,620

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
24		S	B181838-MSD1		1	1,825,223	9.50	0.00		< HS	accept
Notes											

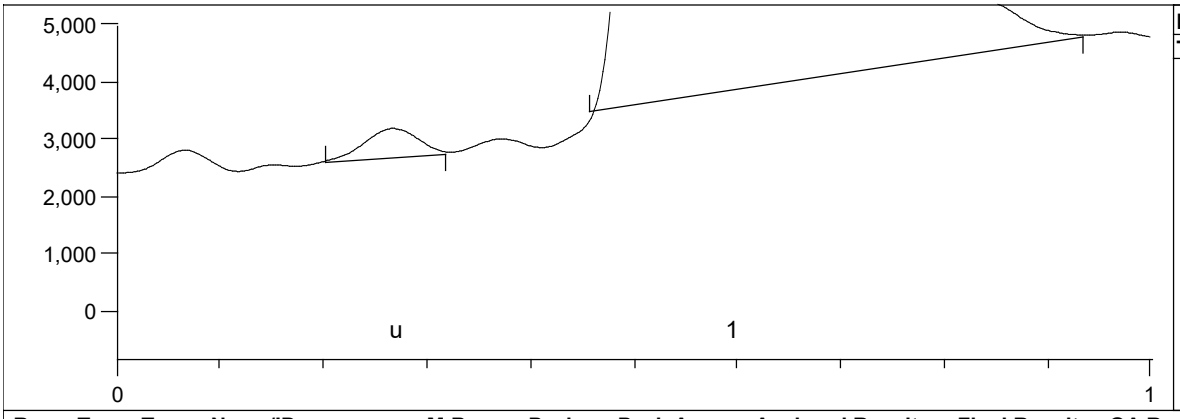
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

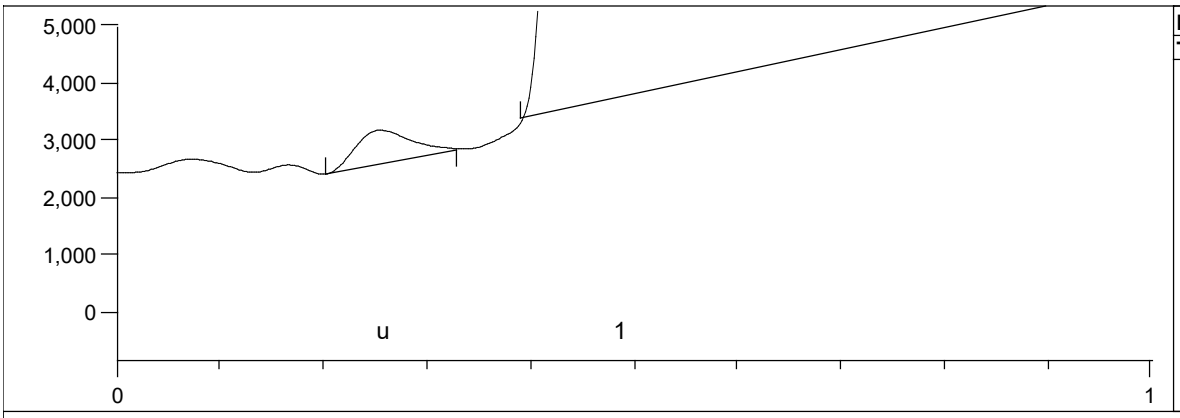
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:29 AM

Peak	rt	Area
1	0.59	5,893,174
u	0.26	16,627

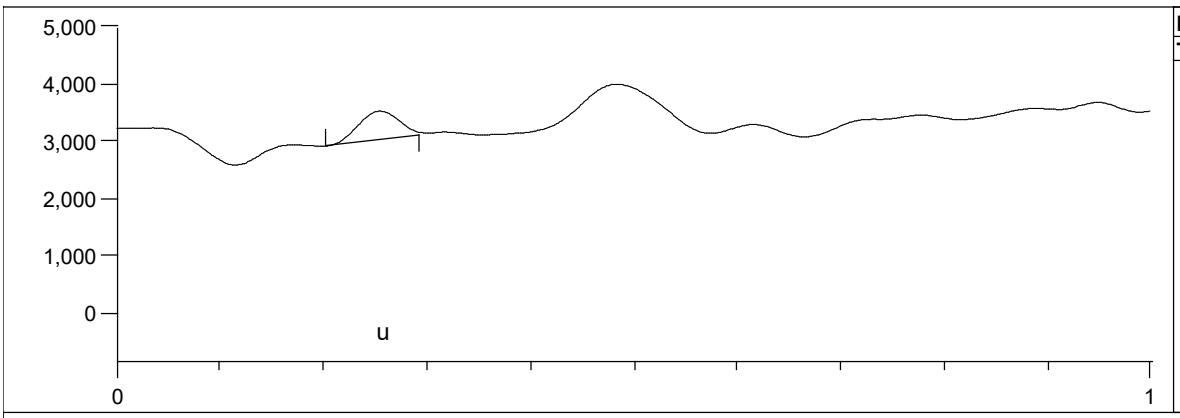
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
25		S	1827026-02		u	16,627	0.0652	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:33 AM

Peak	rt	Area
1	0.48	10,608,553
u	0.25	21,998

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
26		S	1827026-03		u	21,998	0.0932	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 11:37 AM

Peak	rt	Area
u	0.25	13,066

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
27		S	1829047-01		u	13,066	0.0466	0.00		< HS	accept
Notes											

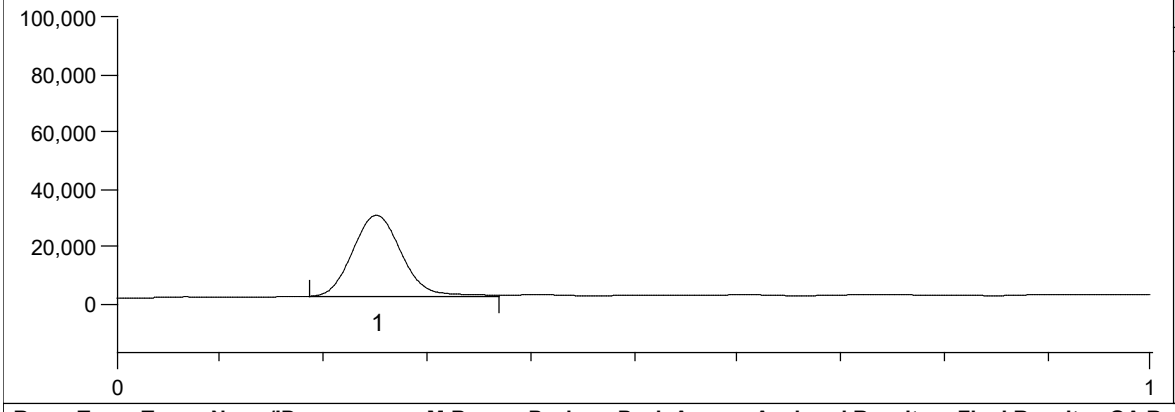
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

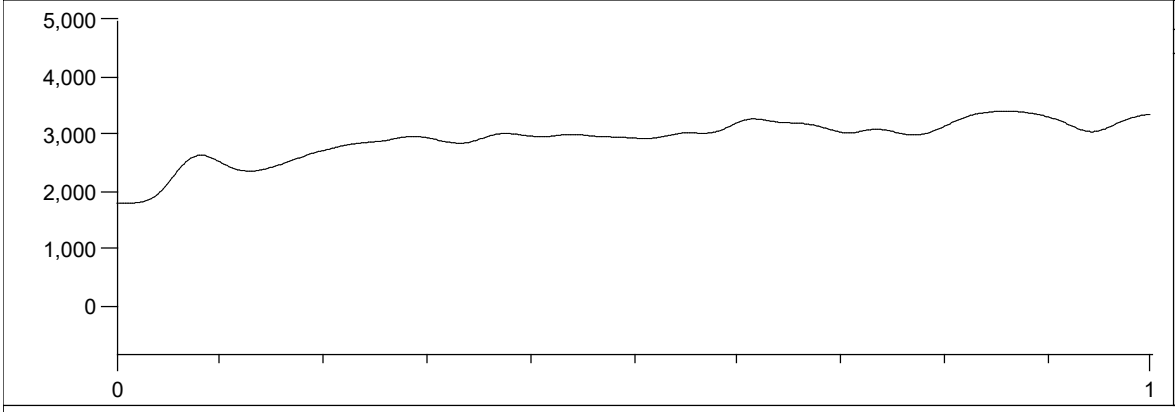
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 11:41 AM

Peak	rt	Area
1	0.25	906,620

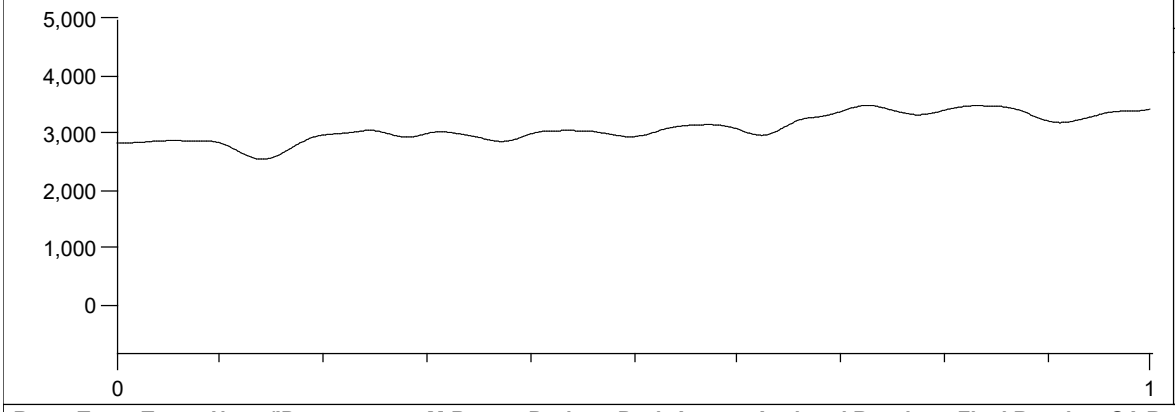
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
28		OPR	SEQ-CCV		1	906,620	4.71		94.1	80-120	accept
Notes											



Date: 7/24/18
Time: 11:44 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
29		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											



Date: 7/24/18
Time: 11:48 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
30		S	B181796-BLK1			0	-0.0215	0.00		< HS	accept
Notes											

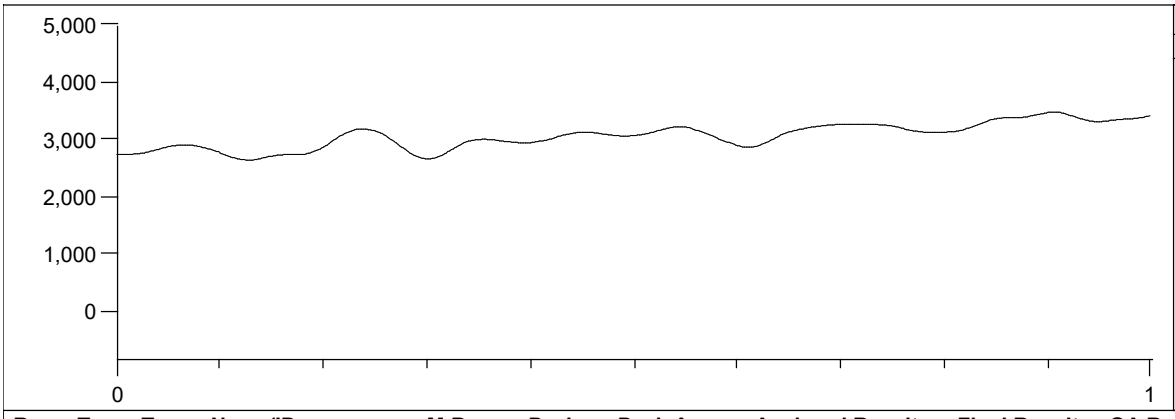
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

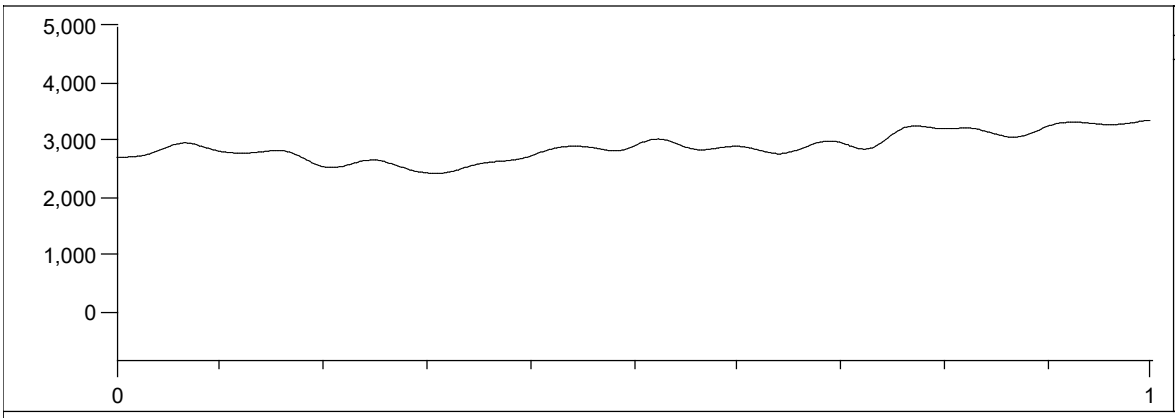
Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

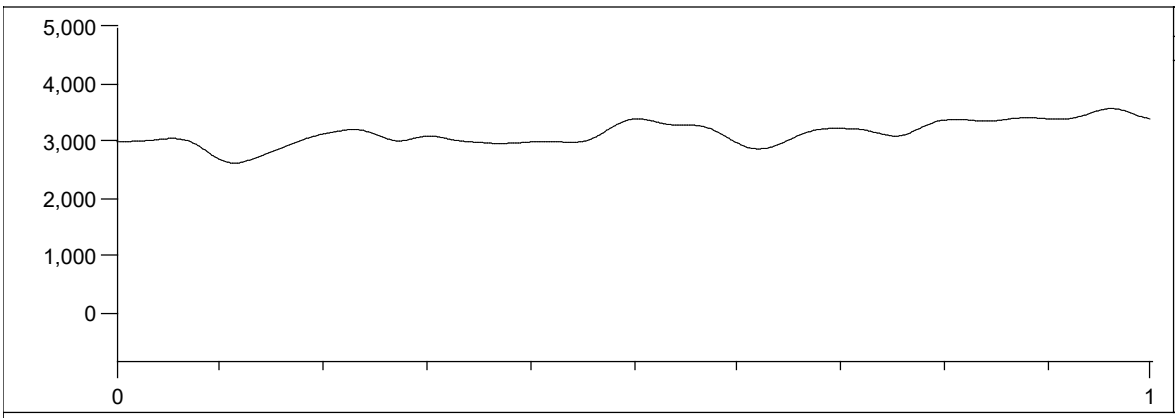
Date Analyzed: 7/24/18
Analyst Name: JRM



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
31		S	B181796-BLK2			0	-0.0215	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
32		S	B181796-BLK3			0	-0.0215	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
33		S	B181796-BLK4			0	-0.0215	0.00		< HS	accept
Notes											

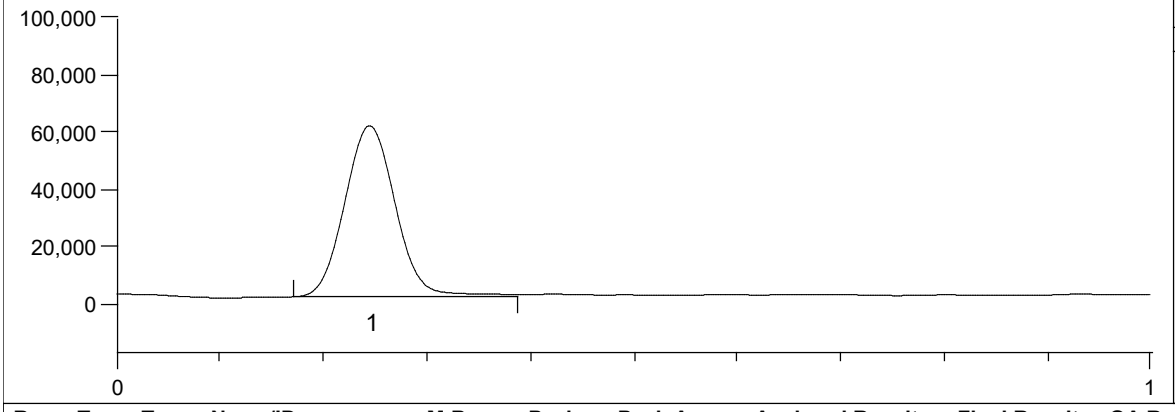
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

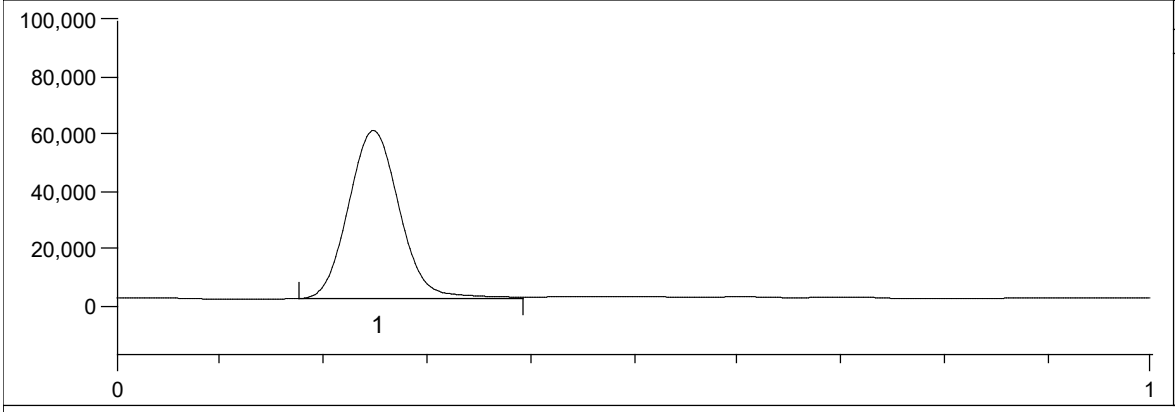
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 12:03 PM

Peak	rt	Area
1	0.24	1,992,457

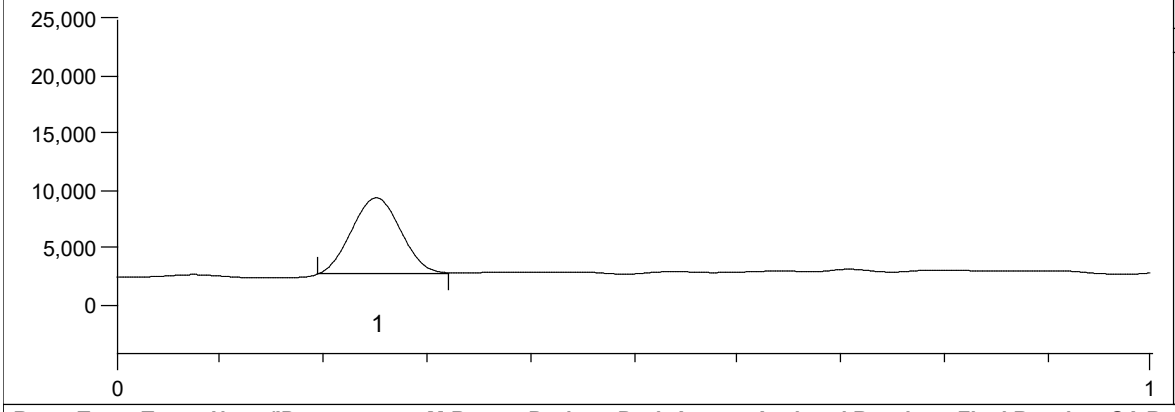
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
34		S	B181796-BS1		1	1,992,457	10.4	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 12:07 PM

Peak	rt	Area
1	0.24	1,983,812

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
35		S	B181796-BS2		1	1,983,812	10.3	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 12:11 PM

Peak	rt	Area
1	0.25	211,349

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
36		S	B181796-MRL1		1	211,349	1.08	0.00		< HS	accept
Notes											

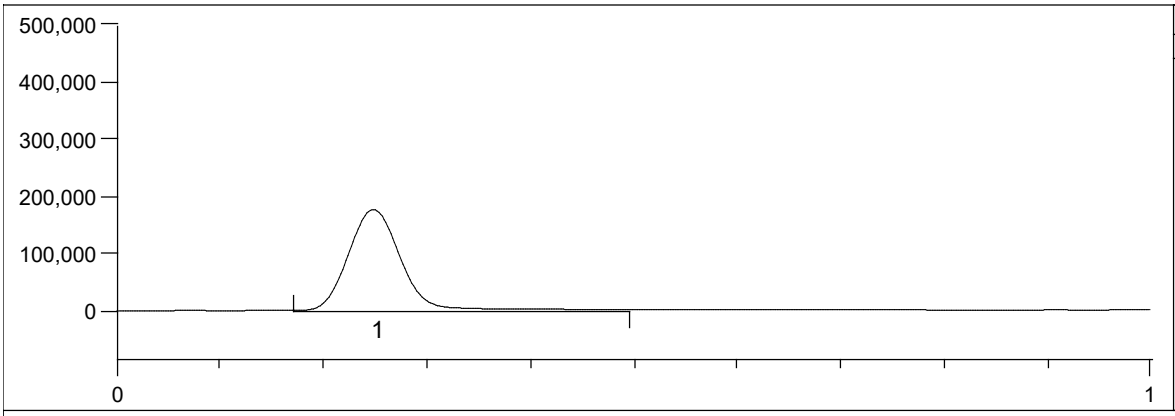
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

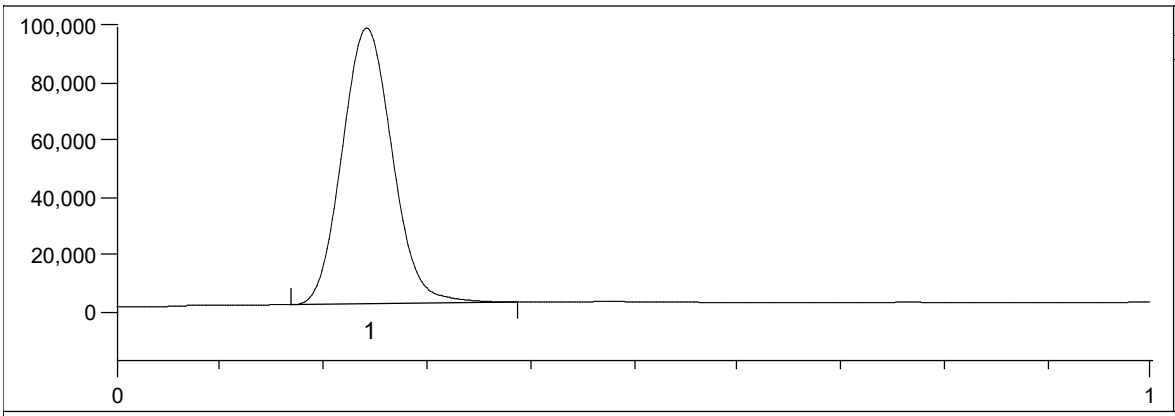
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 1:09 PM

Peak	rt	Area
1	0.24	6,115,590

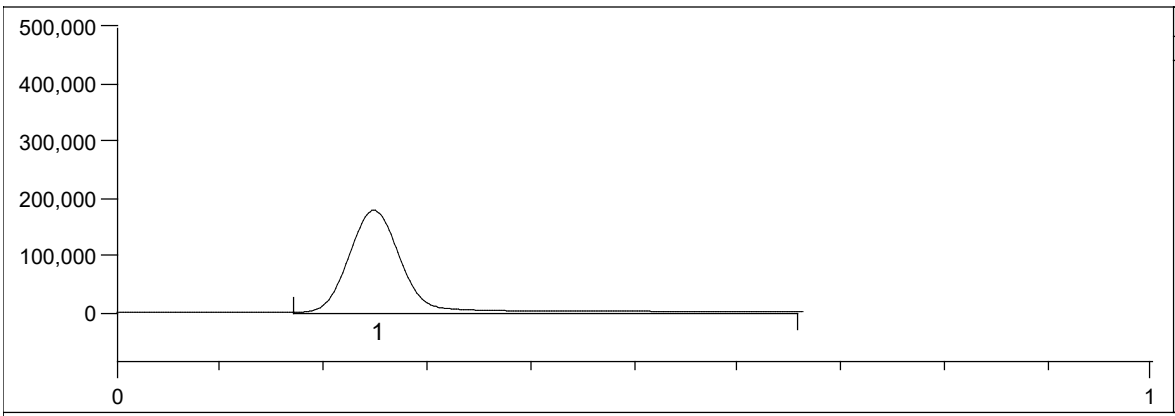
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
37		S	1828027-06		1	6,115,590	31.9	0.00		< HS	reject
Notes											



Date: 7/24/18
Time: 1:13 PM

Peak	rt	Area
1	0.24	3,264,250

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
38		S	1828027-06RE1		1	3,264,250	17.0	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:17 PM

Peak	rt	Area
1	0.24	6,254,017

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
39		S	1828027-07		1	6,254,017	32.6	0.00		< HS	reject
Notes											

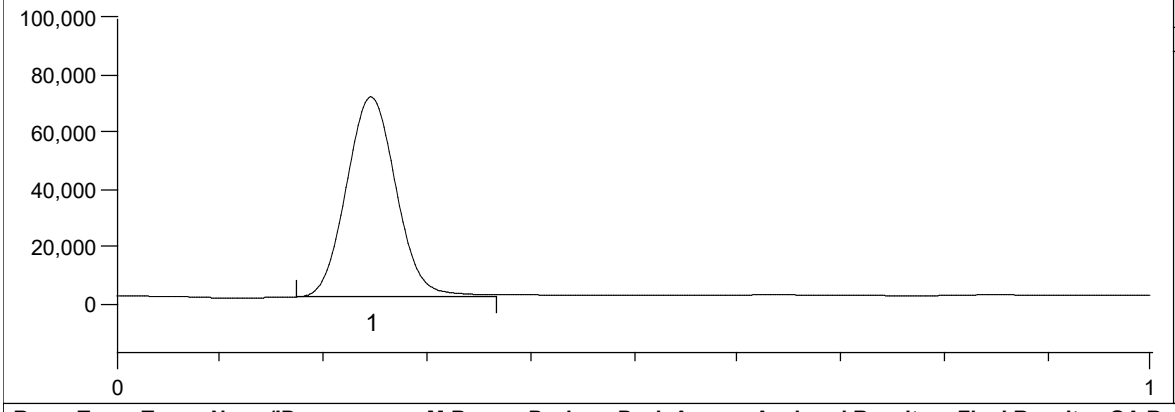
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

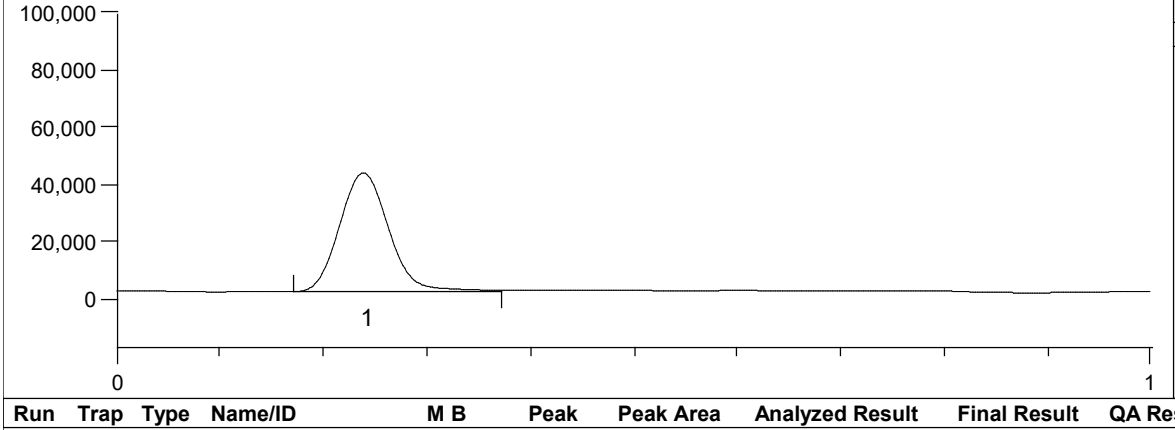
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 1:21 PM

Peak	rt	Area
1	0.24	2,303,413

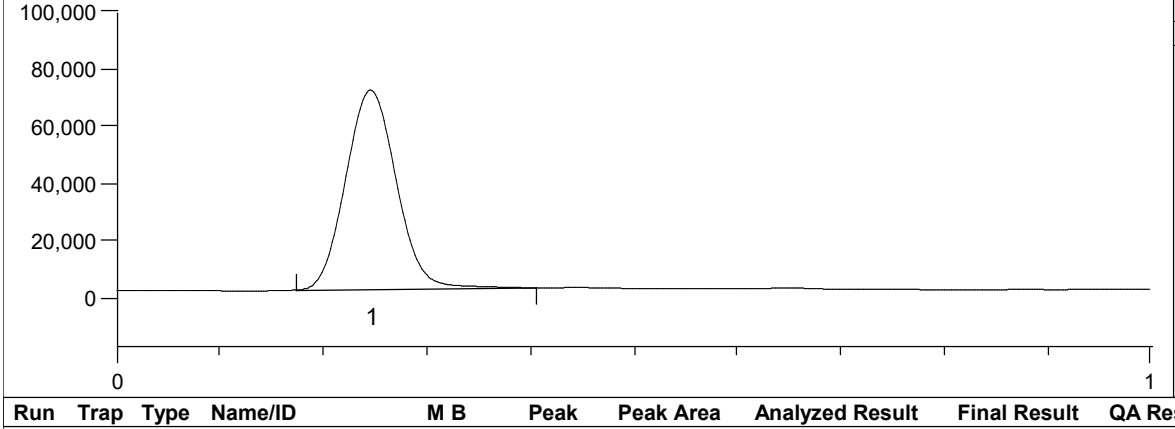
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
40		S	1828027-07RE1		1	2,303,413	12.0	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:25 PM

Peak	rt	Area
1	0.23	1,345,689

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
41		S	1828027-08		1	1,345,689	7.00	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:29 PM

Peak	rt	Area
1	0.24	2,374,687

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
42		S	1828027-09		1	2,374,687	12.4	0.00		< HS	accept
Notes											

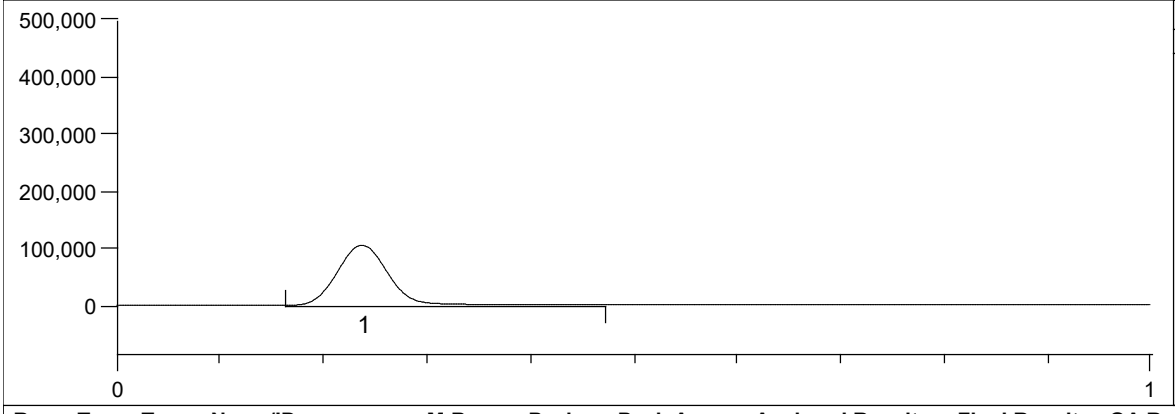
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

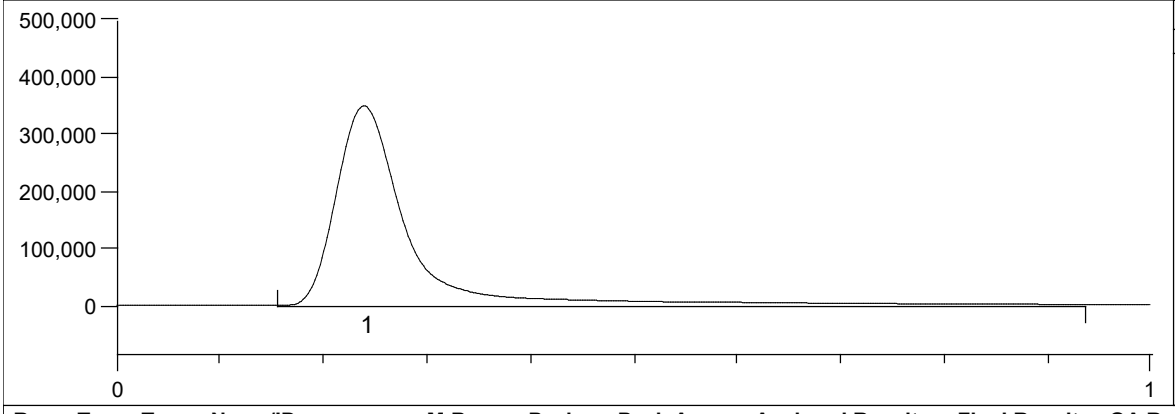
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 1:33 PM

Peak	rt	Area
1	0.23	3,556,277

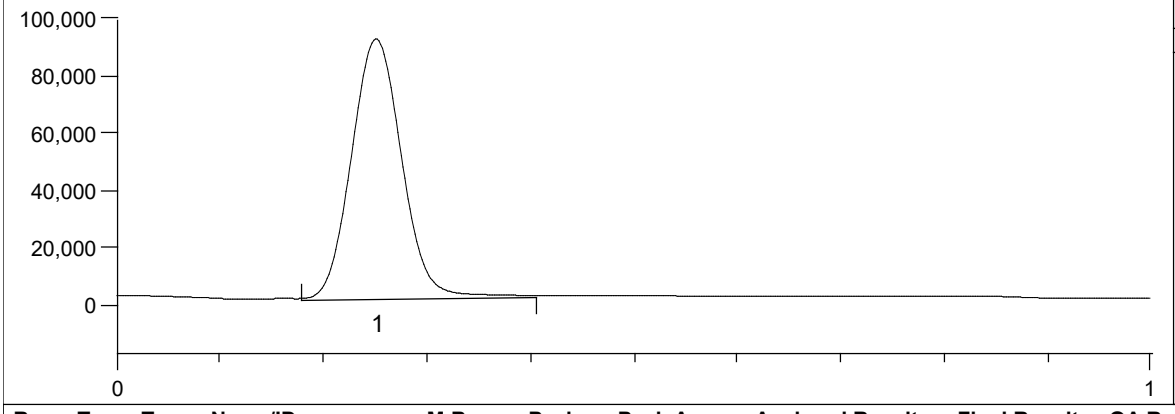
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
43		S	1828027-10		1	3,556,277	18.5	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:36 PM

Peak	rt	Area
1	0.23	16,420,032

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
44		S	1828027-11		1	16,420,032	85.6	0.00		< HS	reject
Notes											



Date: 7/24/18
Time: 1:44 PM

Peak	rt	Area
1	0.25	3,021,630

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
45		S	1828027-11RE1		1	3,021,630	15.7	0.00		< HS	accept
Notes											

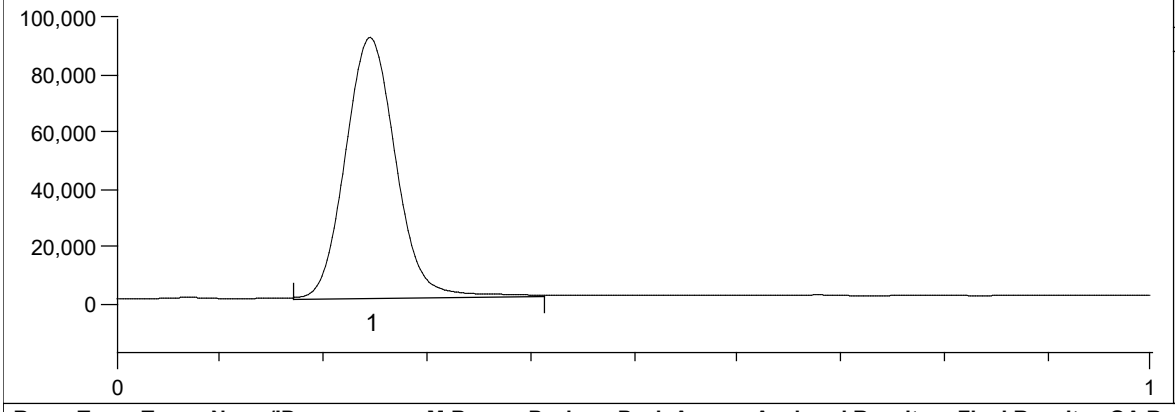
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

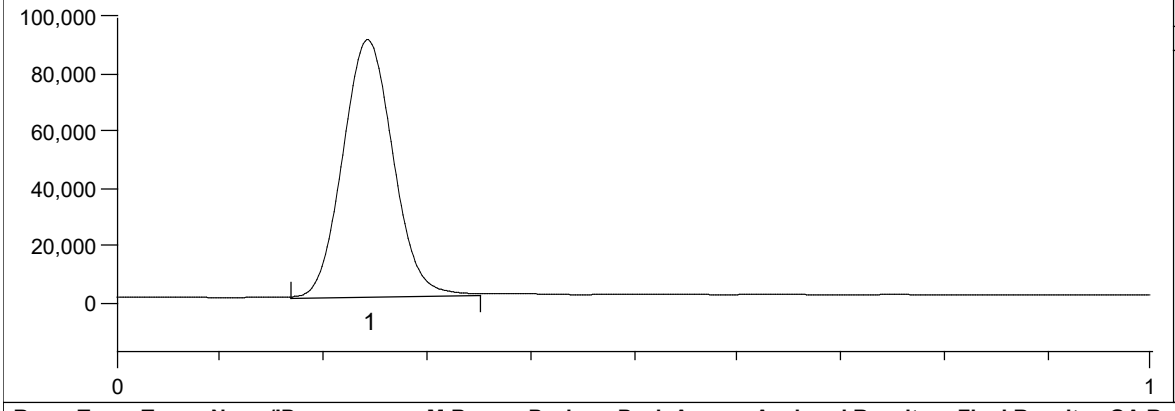
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 1:48 PM

Peak	rt	Area
1	0.24	3,029,586

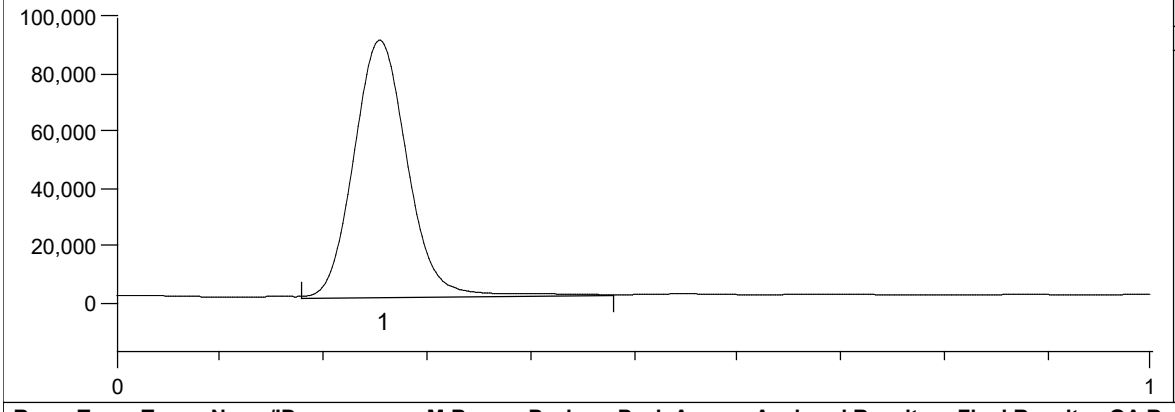
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
46		S	B181796-DUP1		1	3,029,586	15.8	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:51 PM

Peak	rt	Area
1	0.24	3,000,094

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
47		S	B181796-MS1		1	3,000,094	15.6	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 1:55 PM

Peak	rt	Area
1	0.25	3,186,436

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
48		S	B181796-MSD1		1	3,186,436	16.6	0.00		< HS	accept
Notes											

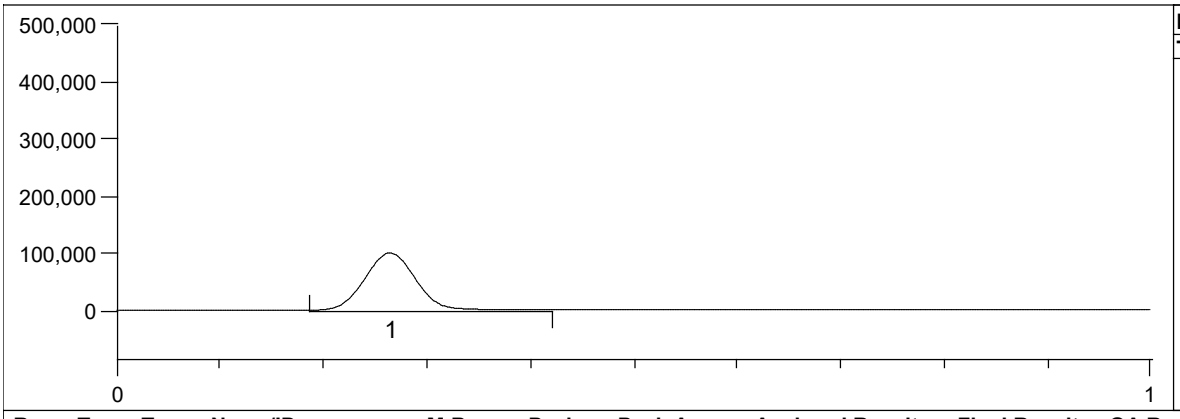
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

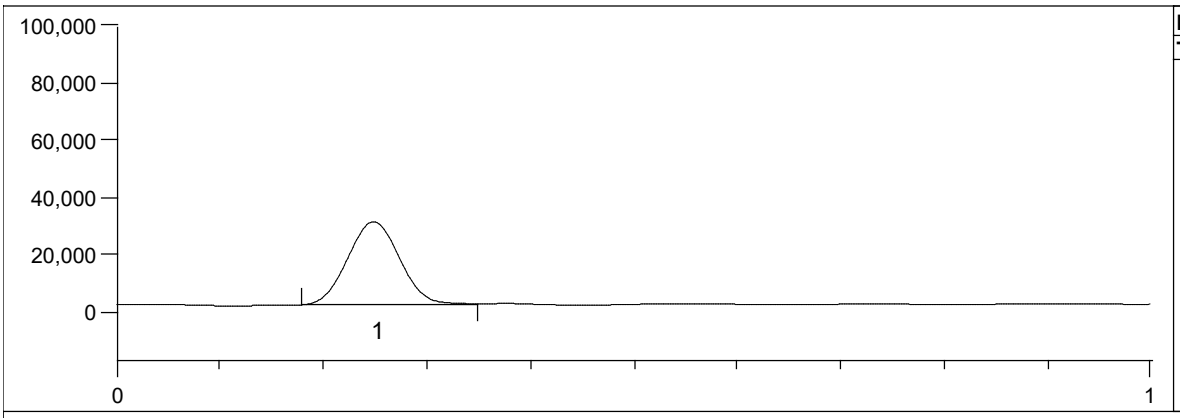
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 1:59 PM

Peak	rt	Area
1	0.26	3,384,061

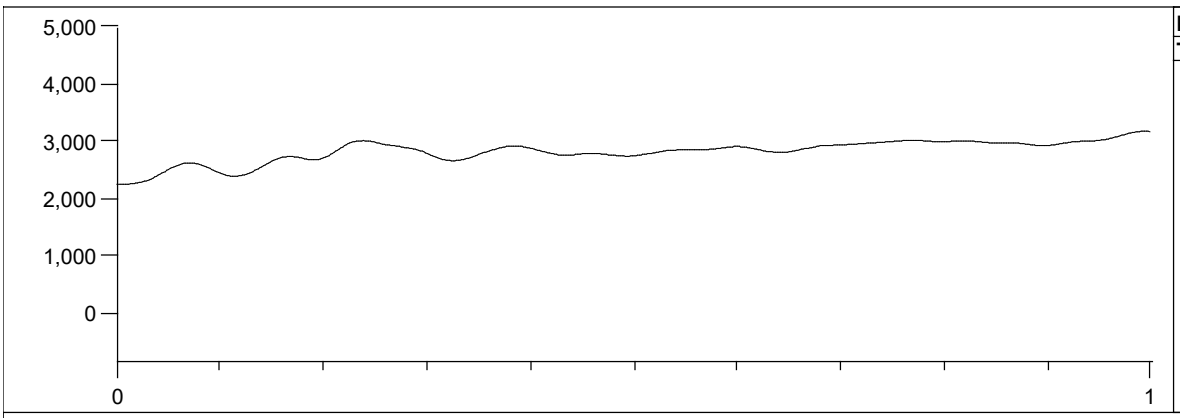
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
49		S	B181796-PS1		1	3,384,061	17.6	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:03 PM

Peak	rt	Area
1	0.24	1,000,774

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
50		OPR	SEQ-CCV		1	1,000,774	5.20		104	80-120	accept
Notes											



Date: 7/24/18
Time: 2:07 PM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
51		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											

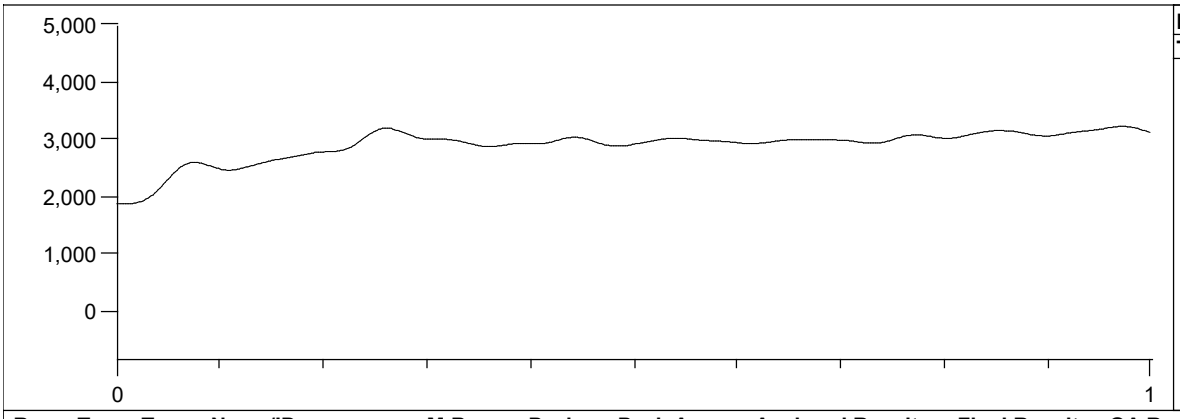
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

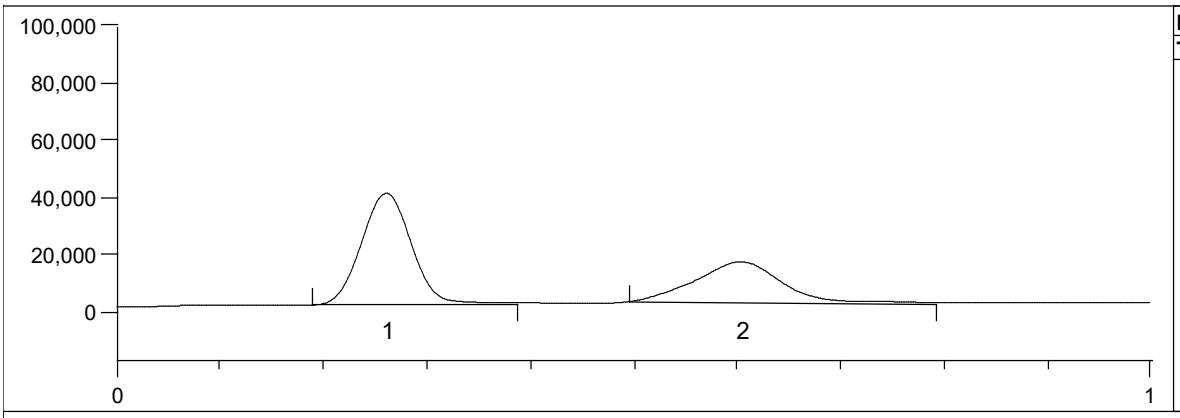
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 2:10 PM

Peak	rt	Area

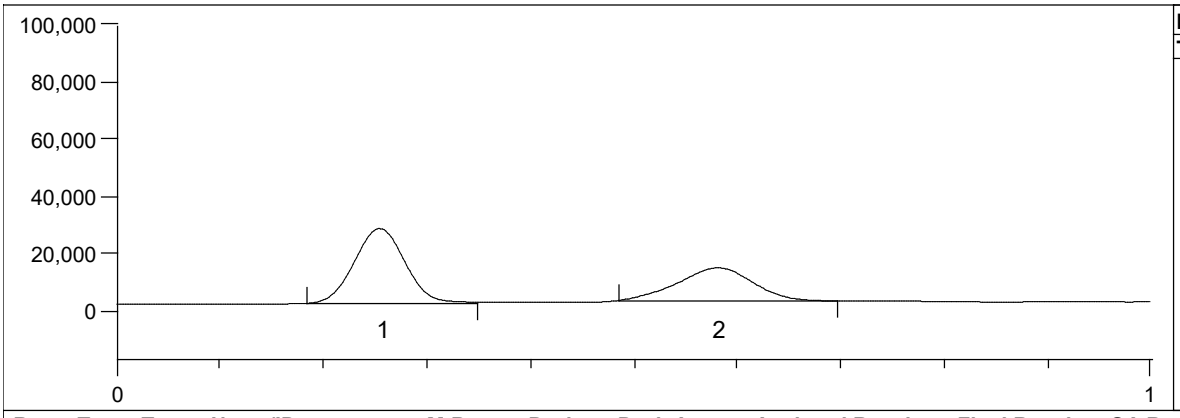
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
52		S	1828027-12			0	-0.0215	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:14 PM

Peak	rt	Area
1	0.26	1,291,819
2	0.60	786,599

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
53		S	1828027-12RE1		1	1,291,819	6.72	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:18 PM

Peak	rt	Area
1	0.25	868,571
2	0.58	561,233

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
54		S	1828027-13		1	868,571	4.51	0.00		< HS	accept
Notes											

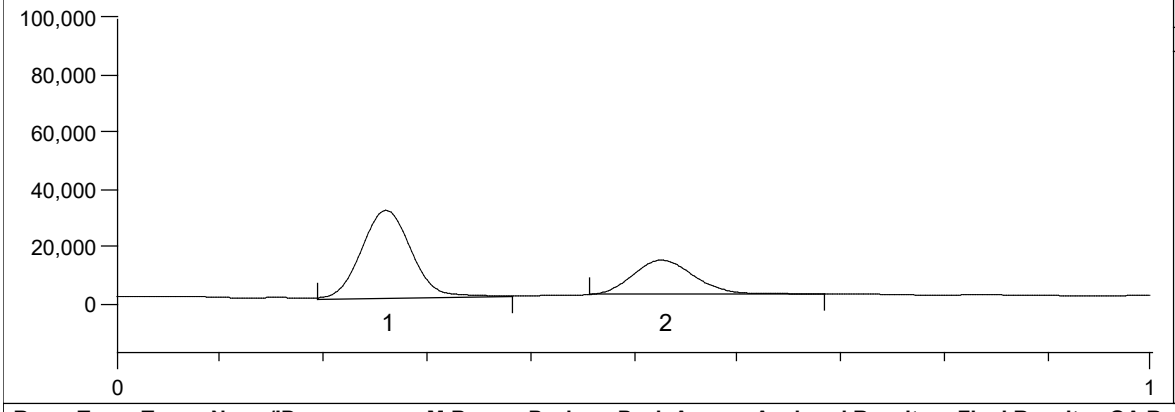
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

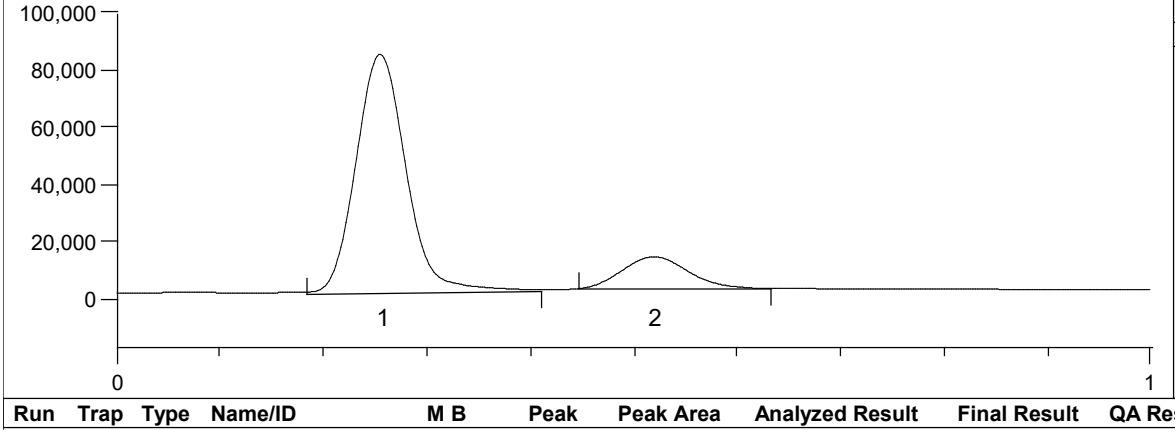
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 2:21 PM

Peak	rt	Area
1	0.26	988,882
2	0.52	491,136

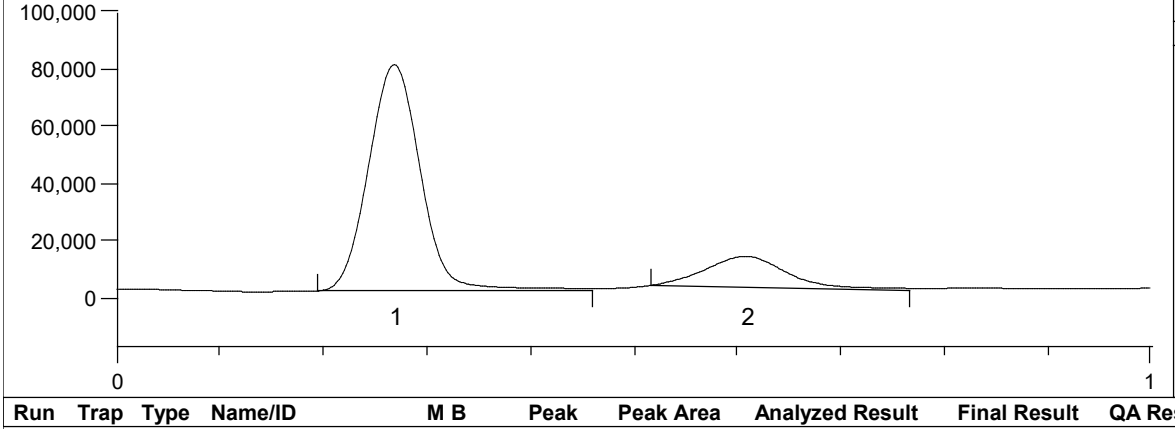
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
55		S	B181796-DUP2		1	988,882	5.14	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:25 PM

Peak	rt	Area
1	0.25	2,744,524
2	0.52	483,283

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
56		S	B181796-MS2		1	2,744,524	14.3	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:29 PM

Peak	rt	Area
1	0.27	2,718,188
2	0.60	530,120

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
57		S	B181796-MSD2		1	2,718,188	14.2	0.00		< HS	accept
Notes											

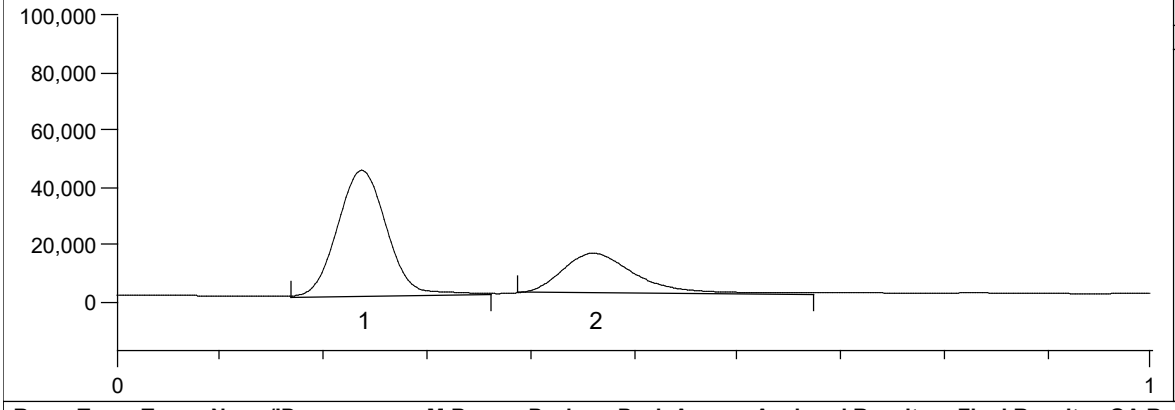
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

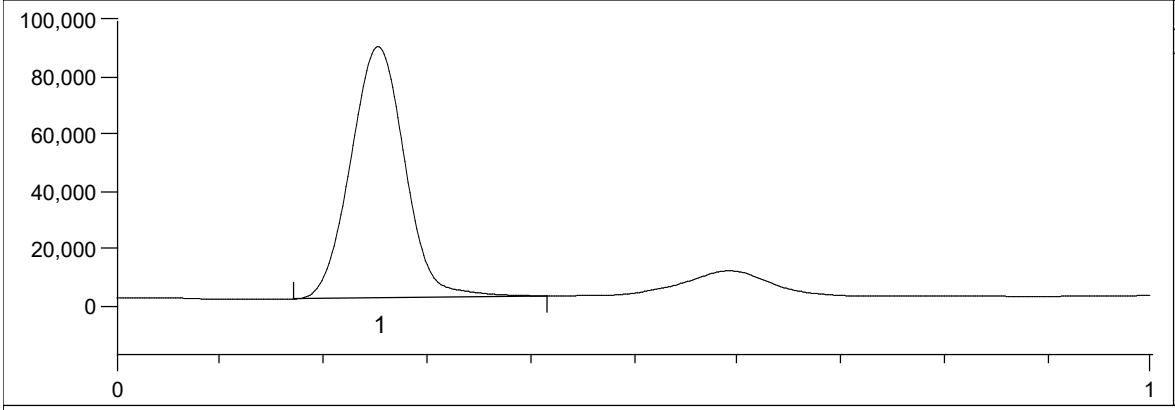
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 2:34 PM

Peak	rt	Area
1	0.23	1,421,482
2	0.46	645,674

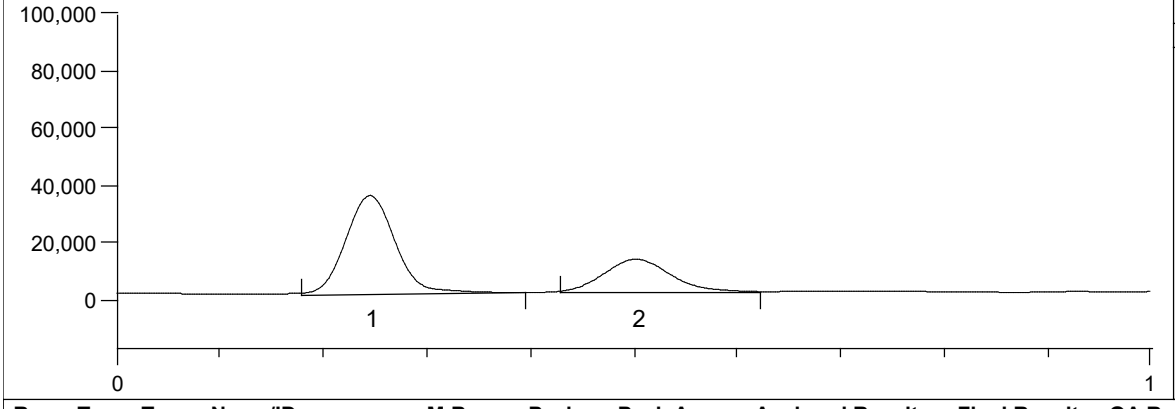
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
58		S	1828027-14		1	1,421,482	7.39	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:38 PM

Peak	rt	Area
1	0.25	3,203,216

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
59		S	1828027-15		1	3,203,216	16.7	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 2:42 PM

Peak	rt	Area
1	0.24	1,108,989
2	0.50	485,075

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
60		S	1828027-16		1	1,108,989	5.76	0.00		< HS	accept
Notes											

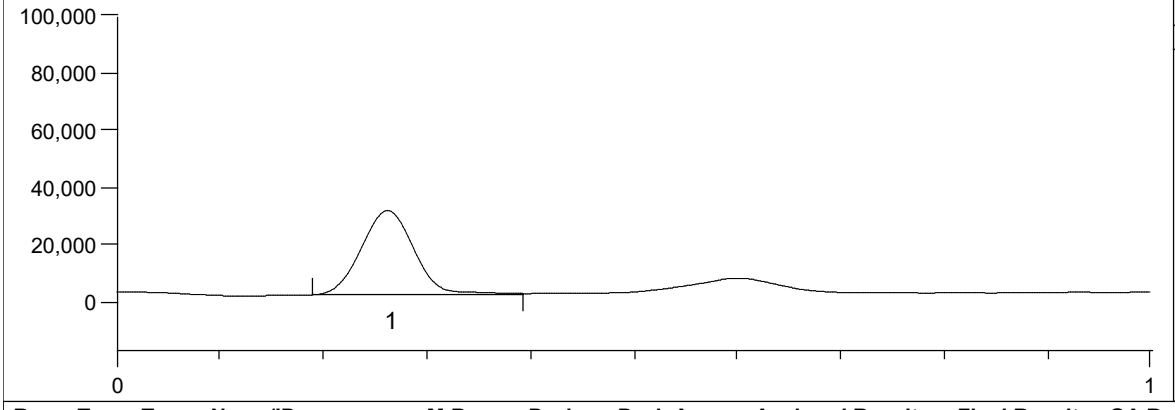
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

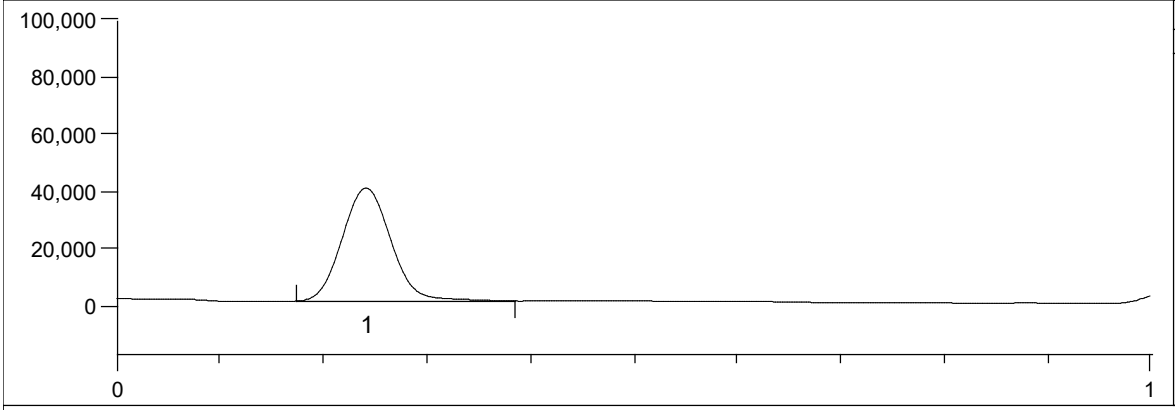
Date Analyzed: 7/24/18
Analyst Name: JRM



Date: 7/24/18
Time: 2:45 PM

Peak	rt	Area
1	0.26	1,022,965

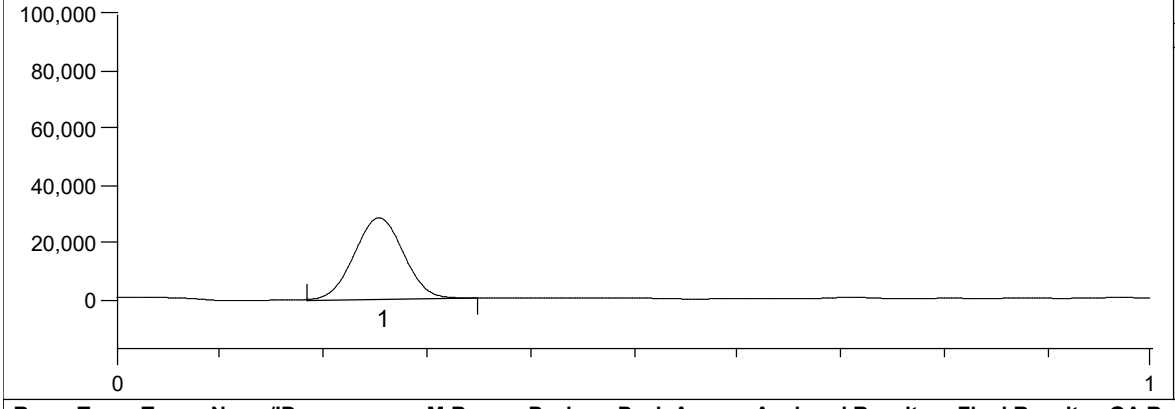
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
61		S	1828027-17		1	1,022,965	5.31	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 3:01 PM

Peak	rt	Area
1	0.24	1,282,441

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
62		S	WASTE		1	1,282,441	6.67	0.00		< HS	accept
Notes											



Date: 7/24/18
Time: 3:11 PM

Peak	rt	Area
1	0.25	932,883

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
63		OPR	SEQ-CCV		1	932,883	4.84		96.9	80-120	accept
Notes											

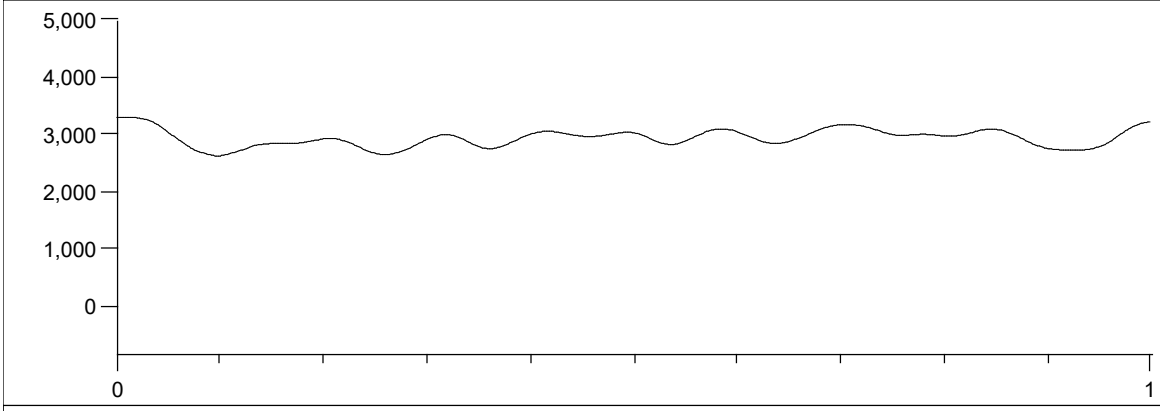
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181838, 1796
Method Number: BAL-3300

Project Number(s): 1800984
Instrument ID: HGAAS-2

Date Analyzed: 7/24/18
Analyst Name: JRM



Date:	7/24/18	
Time:	3:12 PM	
Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
64		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Brooks Applied Labs

As(In) Solid Prep by BAL-3300 (Mod. of EPA 1632)

Matrix: Sediment / (Biota) (circle one)

Batch #(s): B181797

Page 1 of 1

Prepared By: JRM

Prep Start Date/Time*: 7.26.18 14:45

Balance ID: BL-58

* Time when the first reagents are added.

Sample ID	Sample Mass / Volume (g) / (mL)	Notes
1828027-01	0.5137	
1828027-02	0.5016	
1828027-03	0.5184	
1828027-04	0.5045	
1828027-05	0.5120	
1828027-18	0.5013	
1828027-19	0.5123	
1828027-20	0.5010	
1828027-21	0.5151	
1828027-22	0.5078	

Sample ID	Sample Mass / Volume (g) / (mL)	Notes
B181797-BLK1	--	
B181797-BLK2	--	
B181797-BLK3	--	
B181797-BLK4	--	
B181797-MRL1	--	
B181797-BS1	--	
B181797-BS2	--	
B181797-DUP1	0.5008	
B181797-DUP2	0.5130	
B181797-MS1	0.5109	
B181797-MS2	0.5013	
B181797-MSD1	0.5078	
B181797-MSD2	0.5159	

Batch QC ID	Sample Source	Spike Added (mL)	As Species	Spike ID	Spike Witness Initials/Date
MRL Check	Use 100ppb standard	0.025	(III/V)	1827009	RAA 7.26.18
BS1	---	0.25	↓	↓	↓
MS/MSD1	1828027-18	↓	↓	↓	↓
MS/MSD2	1828027-20	↓	↓	↓	RAA 7.26.18

HCl ID:	1820008
Thermometer ID:	5702268
Oven ID:	OV-09
Pipette Set ID:	HGAAS
Final Volume of Prep:	10 mL

Target Digestion Temperature = 75-85 °C	
Temperature (M/C):	80°C / 80°C
Date/Time On:	7-26-18 14:55
DateTime Off:	7-27-18 06:55

SRM, LIMS ID:

SRM1: NIST 1568b

Comments: JRM 7.26.18

SOP BAL-3300

As(In) ☑ As(III) ☐ MMA ☐ DMA ☐ Analysis Sheet

Sequence:	1801002	Batches:	B181866, 1797		
Analyst:	JRM	Date:	7/27/2018	Instrument ID:	HGAAS-2
Cal. Std. 10 ng/mL:	1827008	**As(In)/MMA/DMA** 6M HCl:	1826002	Pump purge time:	2.5min
ICV Std. 100 ng/mL:	1827007	**As(III)** 2.5M Tris-HCl:	N/A	Matrix:	Biota
Pipette Set ID:	HGAAS	4% NaBH4:	1827073	Noise:	6299
				Trap(s) #:	64

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
1	5	SEQ-IBL1	20			
2	5	SEQ-IBL2	20			
3	5	SEQ-IBL3	20			
4	5	SEQ-CAL1	0.05			10ng/mL
5	5	SEQ-CAL2	0.2			10ng/mL
m1 6	5	SEQ-CAL3	1			10ng/mL
7	5	SEQ-CAL4	2			10ng/mL
8	5	SEQ-CAL5	3			10ng/mL
9	5	SEQ-ICV1	0.05			100ng/mL ICV
10	5	SEQ-CCV	0.5			10ng/mL
11	5	SEQ-CCB	--			
12	5	B181866-BLK1	2			
13	5	B181866-BLK2	2			
14	5	B181866-BLK3	2			
15	5	B181866-BLK4	2			
16	5	B181866-BS1	2			
17	5	B181866-MRL1	2			
18	5	B181866-SRM1	2			
19	5	1827014-02	\			
20	5	1827014-12	\			
21	5	1830002-04	2			
22	5	B181866-DUP1	2			
23	5	B181866-MS1	2			
24	5	B181866-MSD1	2			

JLM 7-27-18

Manual Integration Abbreviations

m. Modified due to split peak.
u. Unidentified peak selected.
m1. New start/stop selected.
m2. Start modified due to dip in baseline.
m3. Modified by adjusting As(In) peak (MMA/DMA).
m4. Modified DMA due to large peak tail.

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
25	5	SEQ-CCV	0.5			10ng/mL
26	5	SEQ-CCB	--			
27	5	B181797-BLK1	2			B181797
28	5	B181797-BLK2	2			
29	5	B181797-BLK3	2			
30	5	B181797-BLK4	2			
31	5	B181797-BS1	2			
32	5	B181797-BS2	2			
m\33	5	B181797-MRL1	2			
34	5	1828027-01	0.01			
35	5	1828027-02	0.01			
36	5	1828027-03	0.01			
37	5	1828027-04	0.01			
38	5	1828027-05	0.01			
39	5	1828027-05RE1	0.01			
40	5	1828027-18	2			
41	5	B181797-DUP1	2			
m\42	5	B181797-MS1	2			
43	5	B181797-MSD1	2			
44	5	B181797-PS1	2			75µl of 1827009 (27-18)
45	5	1828027-19	2			
m\46	5	1828027-20	2			
47	5	B181797-DUP2	2			
48	5	B181797-MS2	2			

7.27.18

Manual Integration Abbreviations

m. Modified due to split peak.
u. Unidentified peak selected.
m1. New start/stop selected.
m2. Start modified due to dip in baseline.
m3. Modified by adjusting As(In) peak (MMA/DMA).
m4. Modified DMA due to large peak tail.

Run #	Bubbler	Sample ID	Analyzed Volume (mL)	Dilution Factor	"Y" for Tris-HCl	Analysis Comments / for spiked QC: Source ID, standard ID, and spike volume
49	5	B181797-MSD2	2			
50	5	1828027-21	2			
51	5	1828027-22	2			
52	5	SEQ-CCV	0.5			10ng/mL
53	5	SEQ-CCB	--			

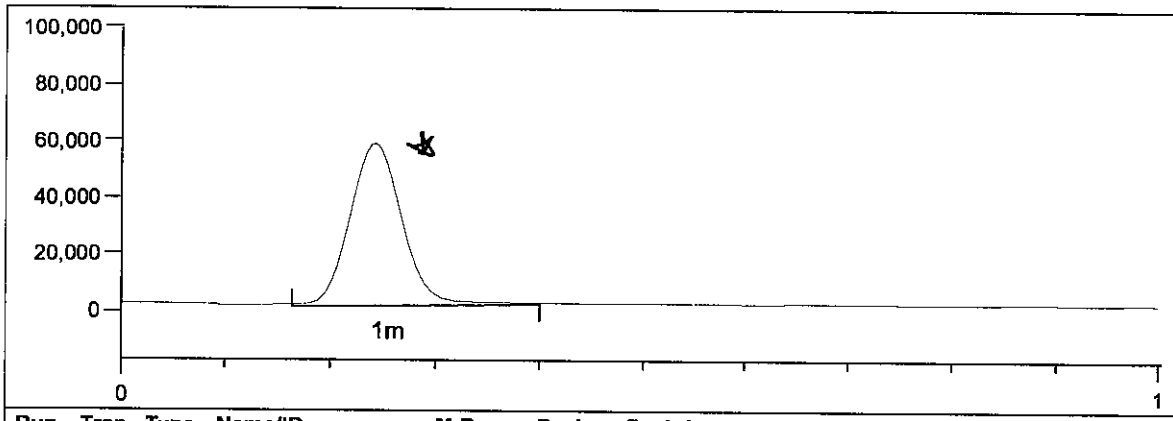
* Manual integrations reviewed + approved by QA
– SCG 7/27/18

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

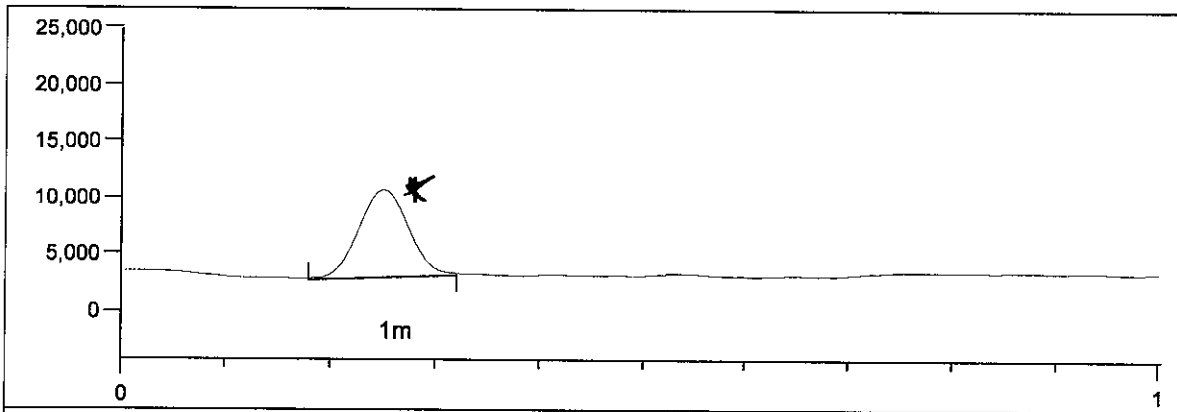
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 10:28 AM

Peak	rt	Area
1m	0.24	1,920,851

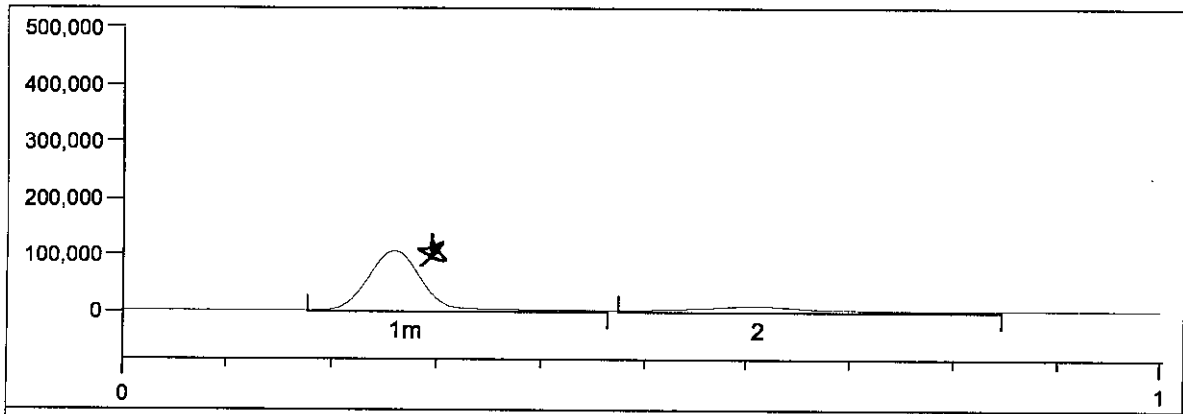
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
6		STD	SEQ-CAL3		1m	1,920,851	9.99		99.9	80-120	accept
Notes											



Date: 7/27/18
Time: 1:16 PM

Peak	rt	Area
1m	0.25	246,291

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
33		S	B181797-MRL1		1m	246,291	1.28	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:03 PM

Peak	rt	Area
1m	0.26	3,686,821
2	0.60	543,576

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
42		S	B181797-MS1		1m	3,686,821	19.2	0.00		< HS	accept
Notes											

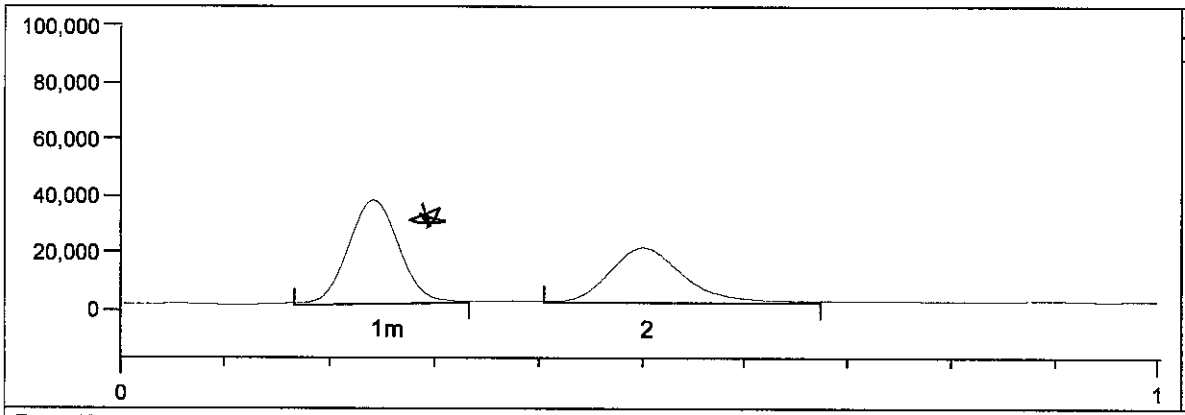
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 2:20 PM

Peak	rt	Area
1m	0.24	1,184,641
2	0.50	904,733

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
46		S	1828027-20		1m	1,184,641	6.16	0.00		< HS	accept

Notes

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

QA Summary Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

Date Analyzed: 7/27/18
Analyst Name: JRM

Bias and Precision

Type	Name/ID	Final Result	Units	Spike Level	Source Result	% REC	% REC Limit	RPD	RPD Limit	Notes
OPR	SEQ-ICV	5.24	ng	5		105	80-120			accept
	SEQ-CCV	5.14	ng	5		103	80-120			accept
	SEQ-CCV	5.16	ng	5		103	80-120			accept
	SEQ-CCV	5.25	ng	5		105	80-120			accept

Calibration

QA Sample Type	Name/ID	Analyzed Result	Units	Spike Level	% REC	% REC Limit	RSD	RSD Limit	Notes
Calibration	SEQ-CAL1	0.527	ng	0.5	105	80-120			accept
	SEQ-CAL2	2.16	ng	2.0	108	80-120			accept
	SEQ-CAL3	9.99	ng	10	99.9	80-120			accept
	SEQ-CAL4	19.4	ng	20	97.2	80-120			accept
	SEQ-CAL5	27.3	ng	30	91.2	80-120			accept
Calibration Factor		0.00000520	ng/PA				6.83	< 20	accept
Calibration Date		7/27/18							

Blank Summary

QA Sample Type	Name/ID	Analyzed Result	Units	Criteria	StDev	StDev Limit	Notes
CB	SEQ-IBL1	0.00	ng	< 0.4			accept
	SEQ-IBL2	0.00	ng	< 0.4			accept
	SEQ-IBL3	0.00	ng	< 0.4			accept
Average		0.00	ng	< 0.015	0.00	< 10	accept

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

QA Summary Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

Date Analyzed: 7/27/18
Analyst Name: JRM

QA Comments:

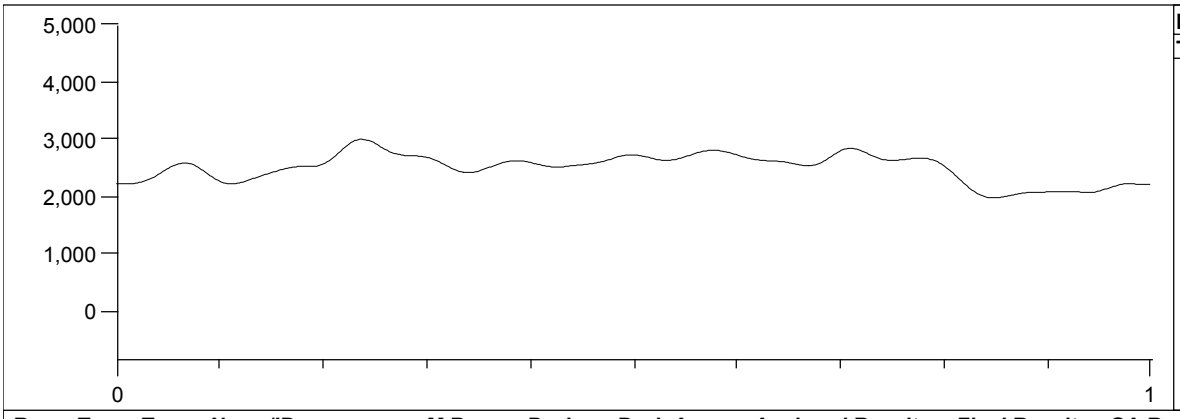
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

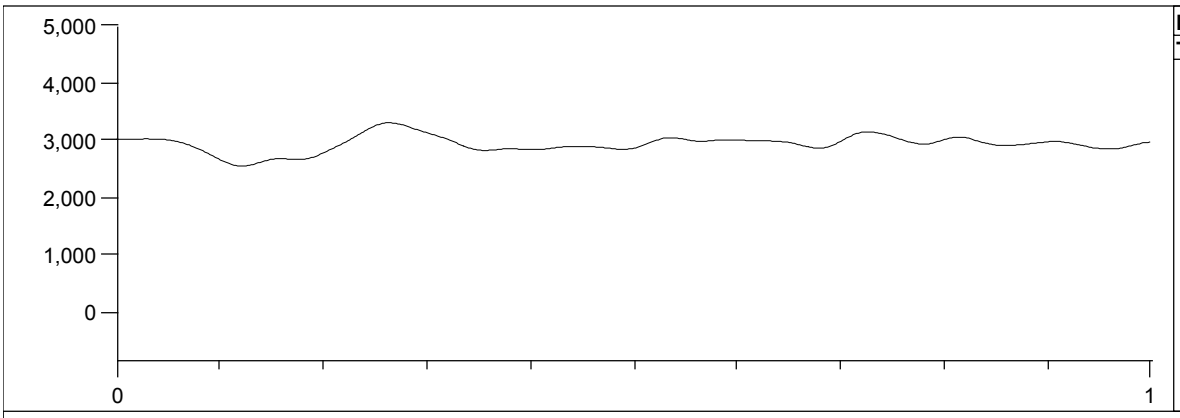
Project Number(s): 1801002
Instrument ID: HGAAS-2

Date Analyzed: 7/27/18
Analyst Name: JRM



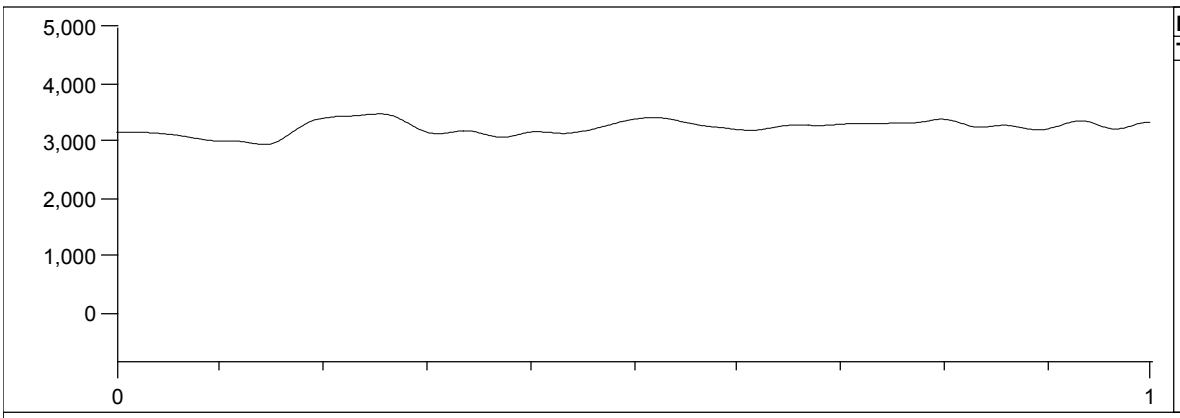
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
1		CB	SEQ-IBL1			0	0.00		0.00	< 0.4	accept

Notes



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
2		CB	SEQ-IBL2			0	0.00		0.00	< 0.4	accept

Notes



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
3		CB	SEQ-IBL3			0	0.00		0.00	< 0.4	accept

Notes

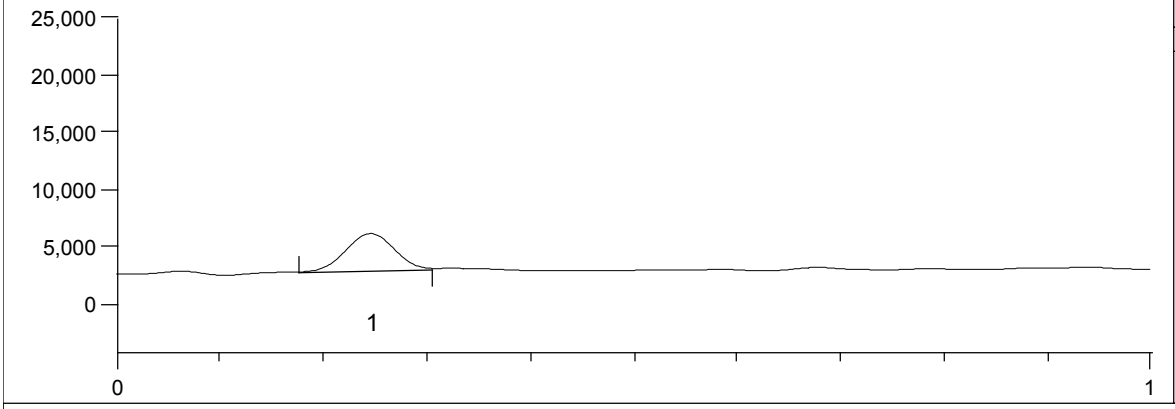
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

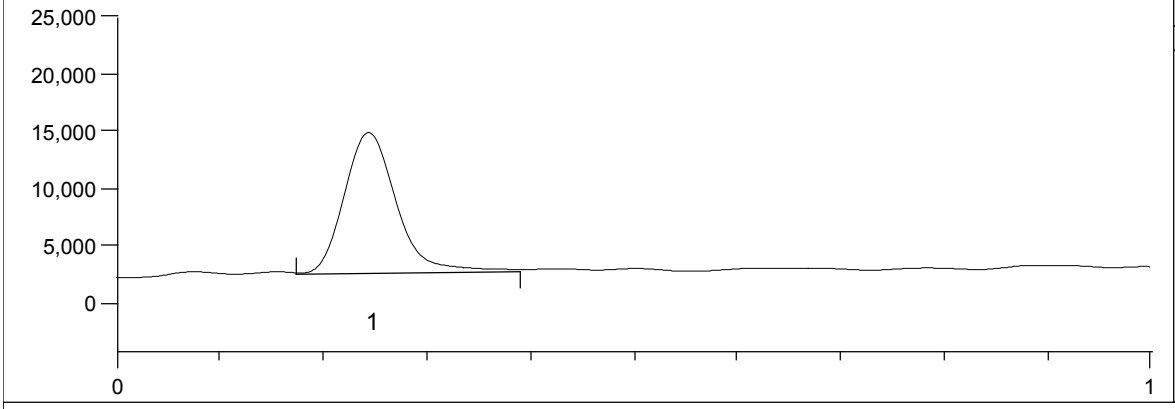
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 10:21 AM

Peak	rt	Area
1	0.24	101,404

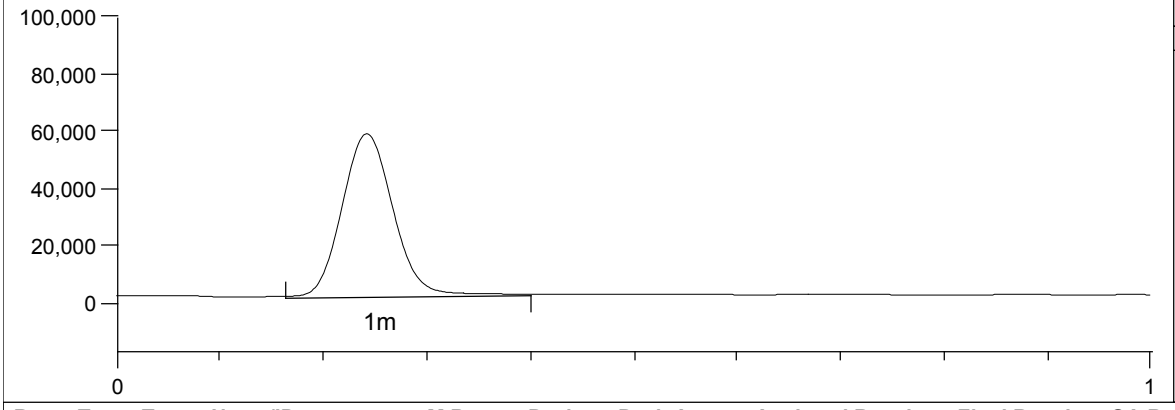
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
4		STD	SEQ-CAL1		1	101,404	0.527		105	80-120	accept
Notes											



Date: 7/27/18
Time: 10:24 AM

Peak	rt	Area
1	0.24	416,125

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
5		STD	SEQ-CAL2		1	416,125	2.16		108	80-120	accept
Notes											



Date: 7/27/18
Time: 10:28 AM

Peak	rt	Area
1m	0.24	1,920,851

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
6		STD	SEQ-CAL3		1m	1,920,851	9.99		99.9	80-120	accept
Notes											

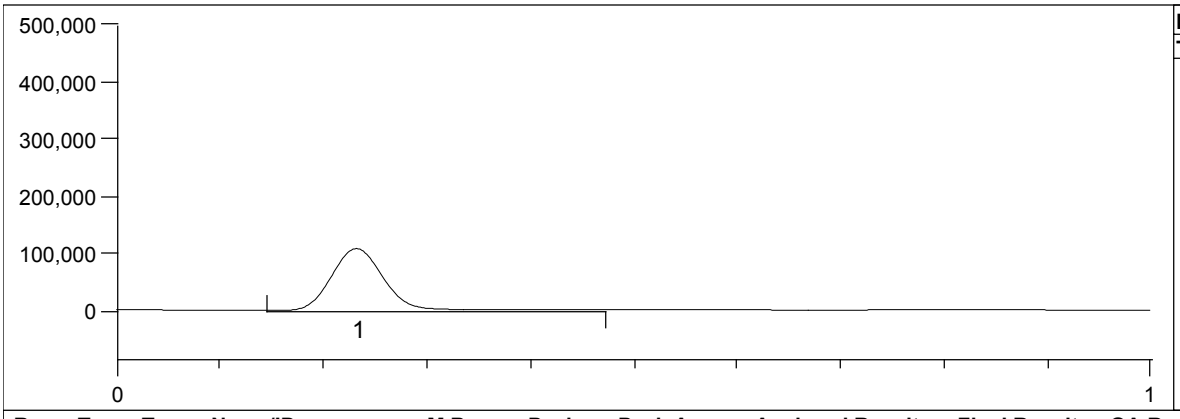
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

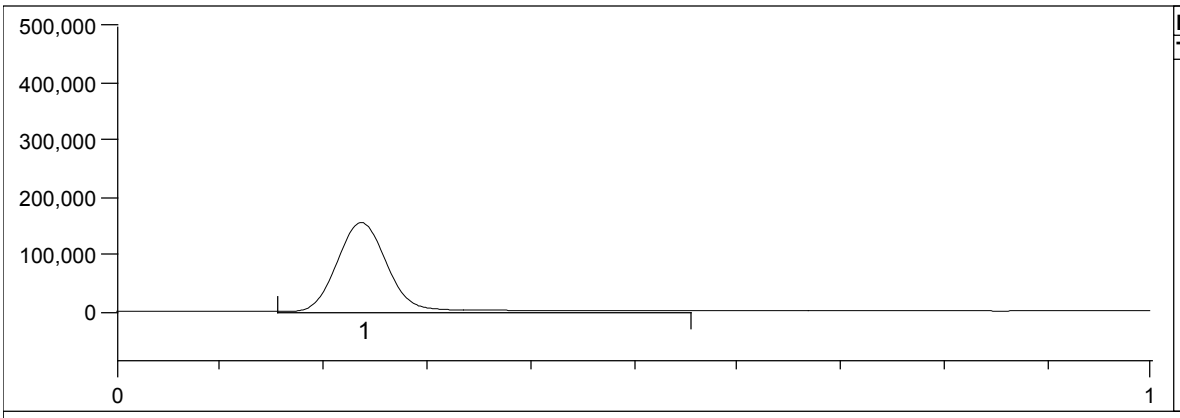
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 10:33 AM

Peak	rt	Area
1	0.23	3,737,862

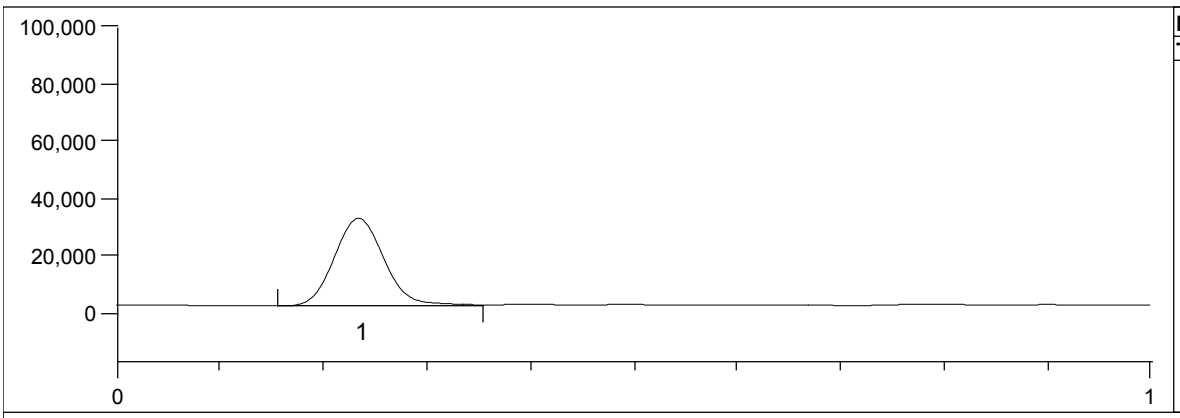
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
7		STD	SEQ-CAL4		1	3,737,862	19.4		97.2	80-120	accept
Notes											



Date: 7/27/18
Time: 10:36 AM

Peak	rt	Area
1	0.23	5,259,024

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
8		STD	SEQ-CAL5		1	5,259,024	27.3		91.2	80-120	accept
Notes											



Date: 7/27/18
Time: 10:41 AM

Peak	rt	Area
1	0.23	1,006,899

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
9		OPR	SEQ-ICV		1	1,006,899	5.24		105	80-120	accept
Notes											

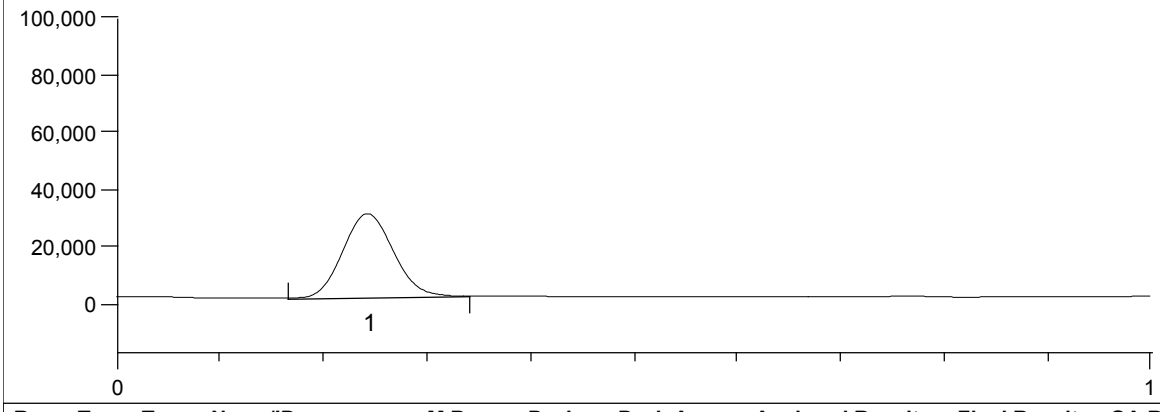
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

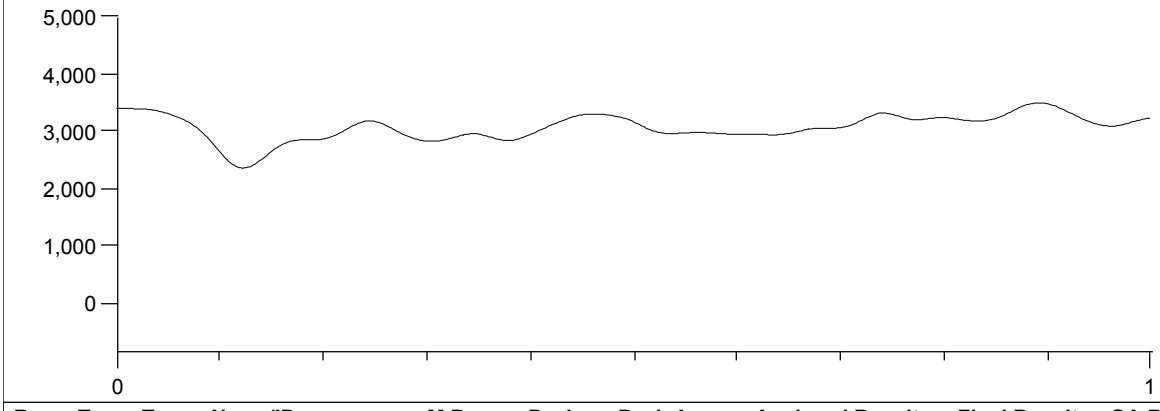
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 10:45 AM

Peak	rt	Area
1	0.24	988,291

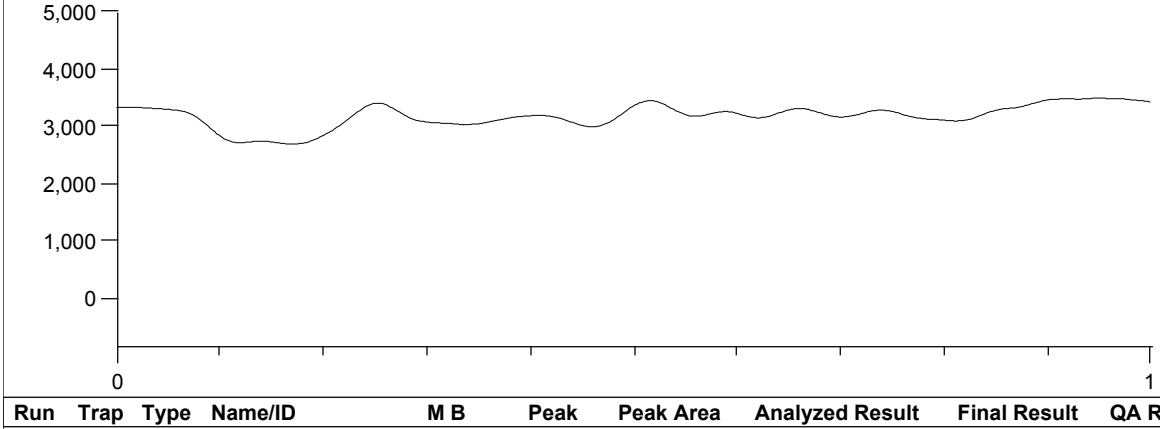
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
10		OPR	SEQ-CCV		1	988,291	5.14		103	80-120	accept
Notes											



Date: 7/27/18
Time: 10:49 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
11		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											



Date: 7/27/18
Time: 10:52 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
12		S	B181866-BLK1			0	0.00	0.00		< HS	accept
Notes											

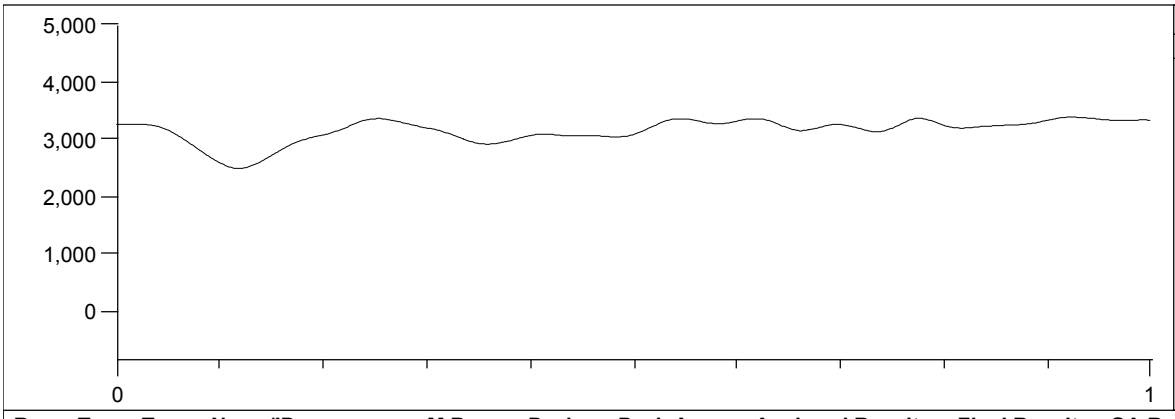
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

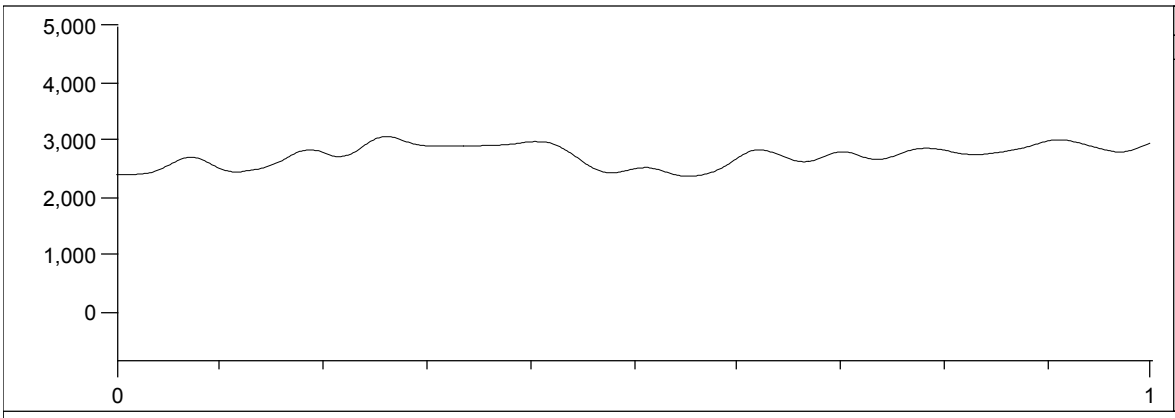
Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

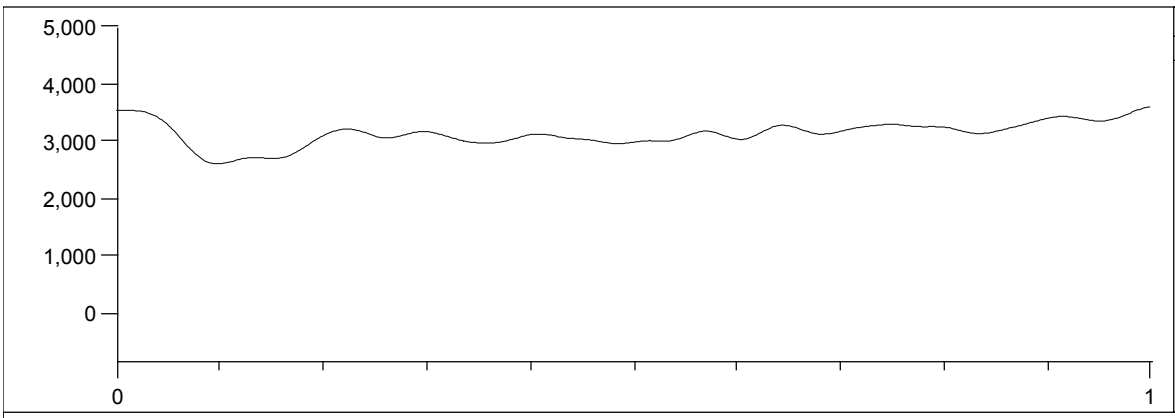
Date Analyzed: 7/27/18
Analyst Name: JRM



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
13		S	B181866-BLK2			0	0.00	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
14		S	B181866-BLK3			0	0.00	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
15		S	B181866-BLK4			0	0.00	0.00		< HS	accept
Notes											

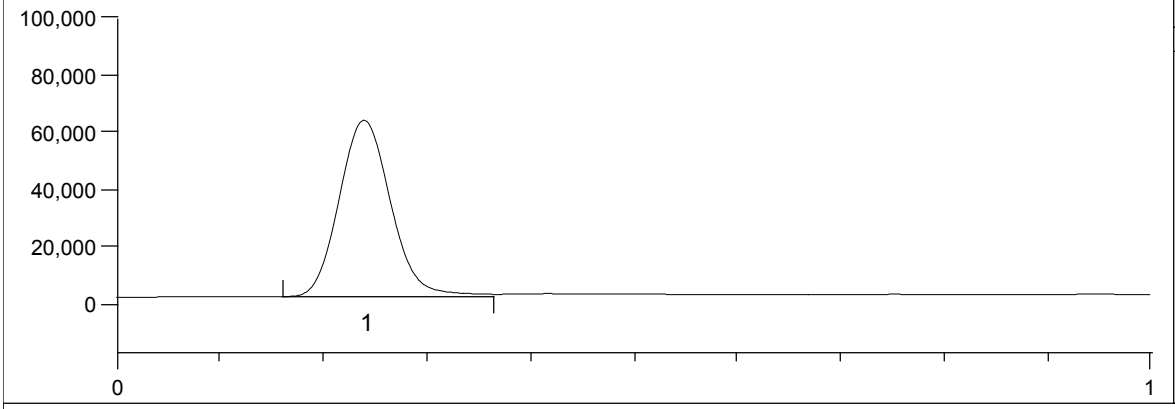
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

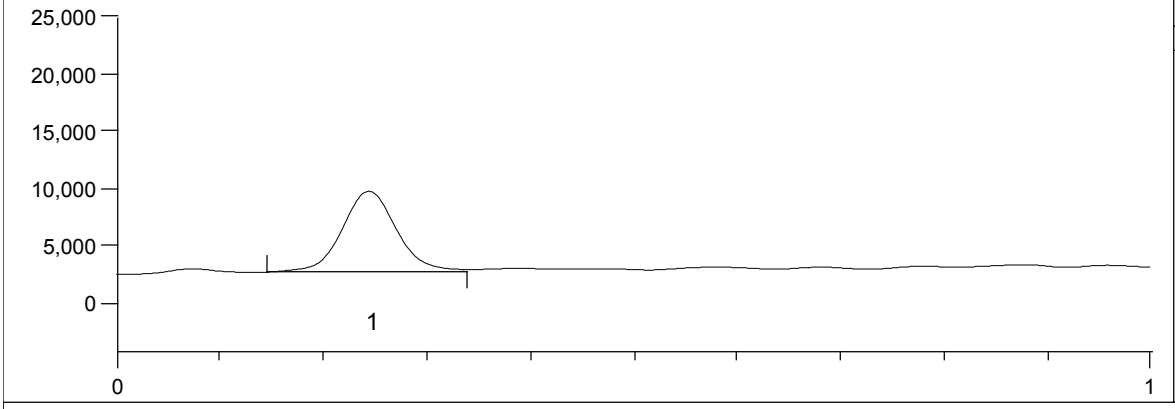
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 11:08 AM

Peak	rt	Area
1	0.23	2,094,223

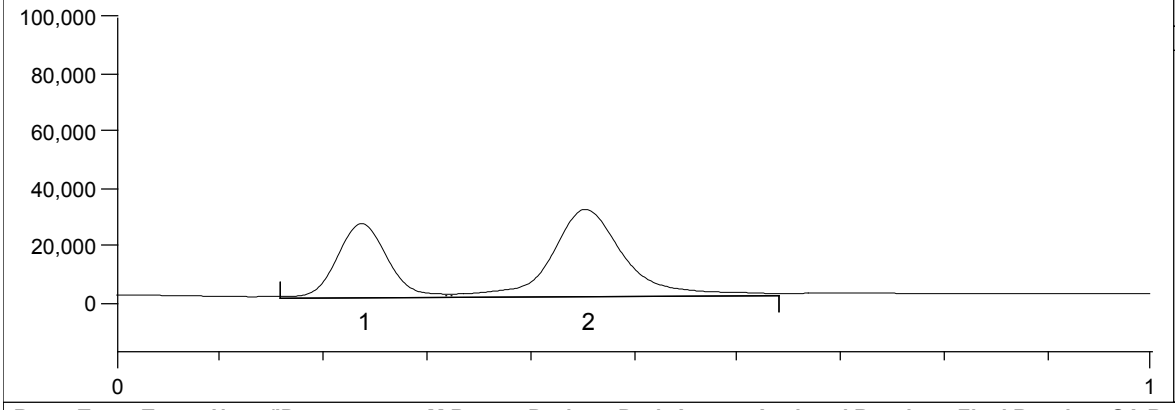
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
16		S	B181866-BS1		1	2,094,223	10.9	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:11 AM

Peak	rt	Area
1	0.24	247,633

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
17		S	B181866-MRL1		1	247,633	1.29	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:15 AM

Peak	rt	Area
1	0.23	821,737
2	0.45	1,375,907

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
18		S	B181866-SRM1		1	821,737	4.27	0.00		< HS	accept
Notes											

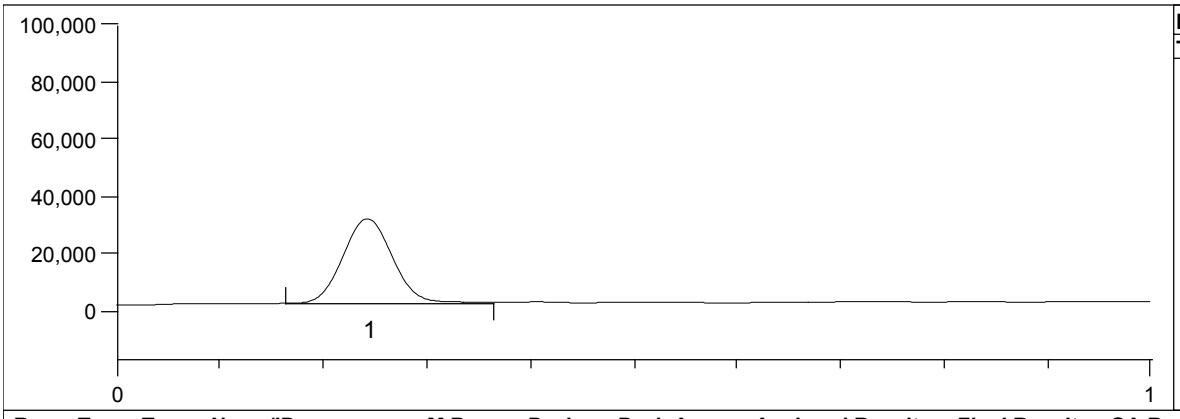
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

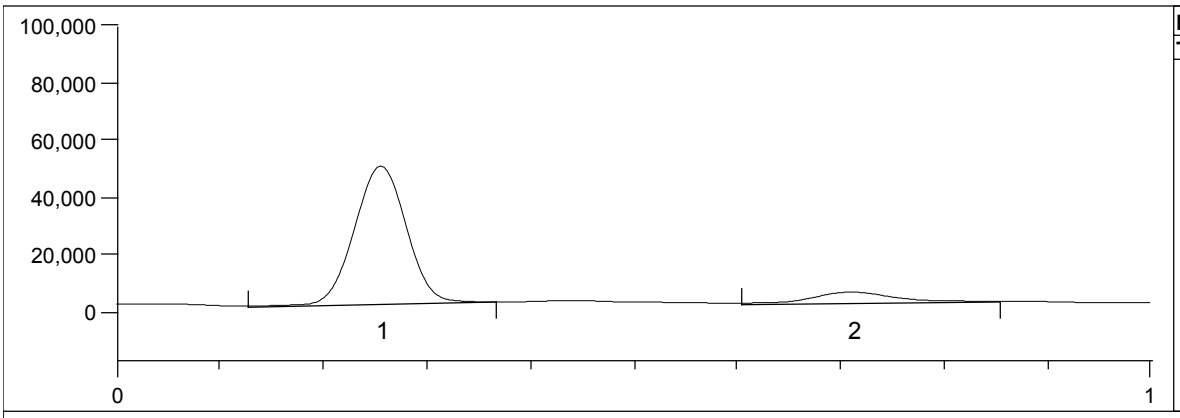
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 11:19 AM

Peak	rt	Area
1	0.24	968,877

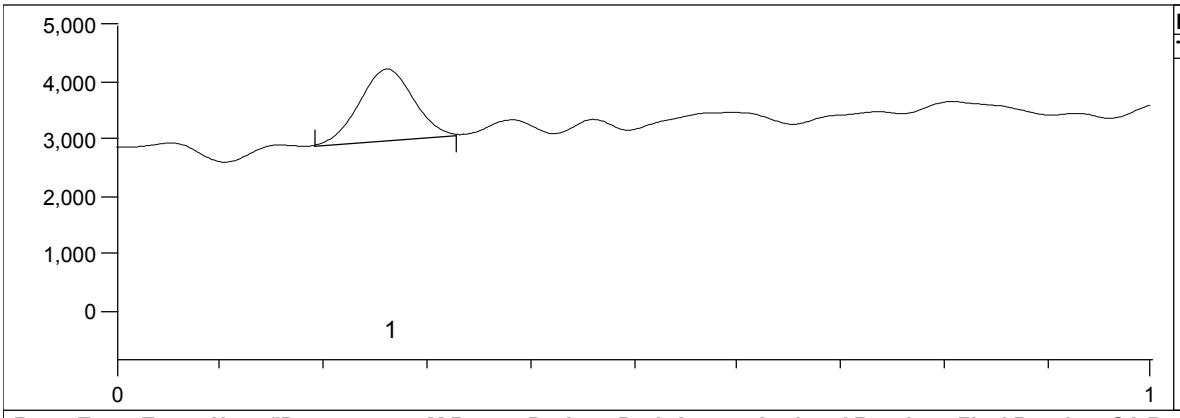
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
19		S	1827014-02		1	968,877	5.04	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:23 AM

Peak	rt	Area
1	0.25	1,676,876
2	0.71	188,758

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
20		S	1827014-12		1	1,676,876	8.72	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:27 AM

Peak	rt	Area
1	0.26	44,160

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
21		S	1830002-04		1	44,160	0.230	0.00		< HS	accept
Notes											

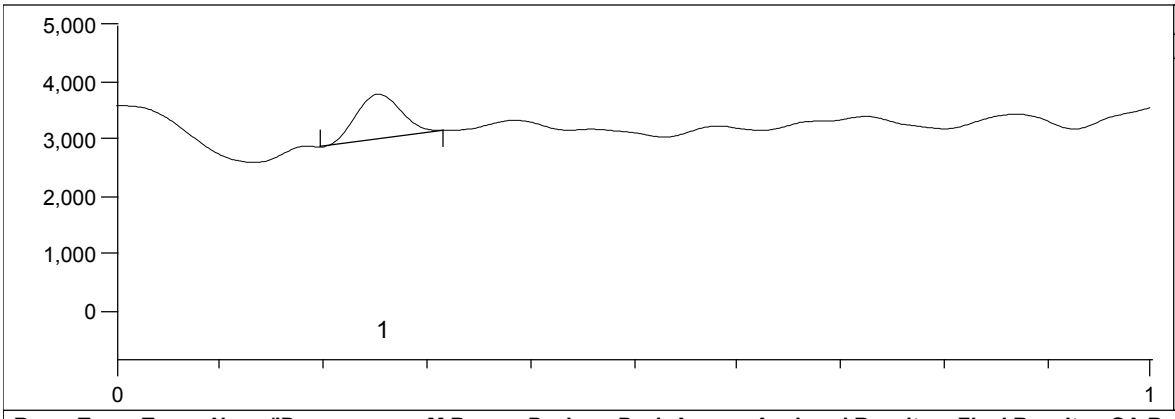
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

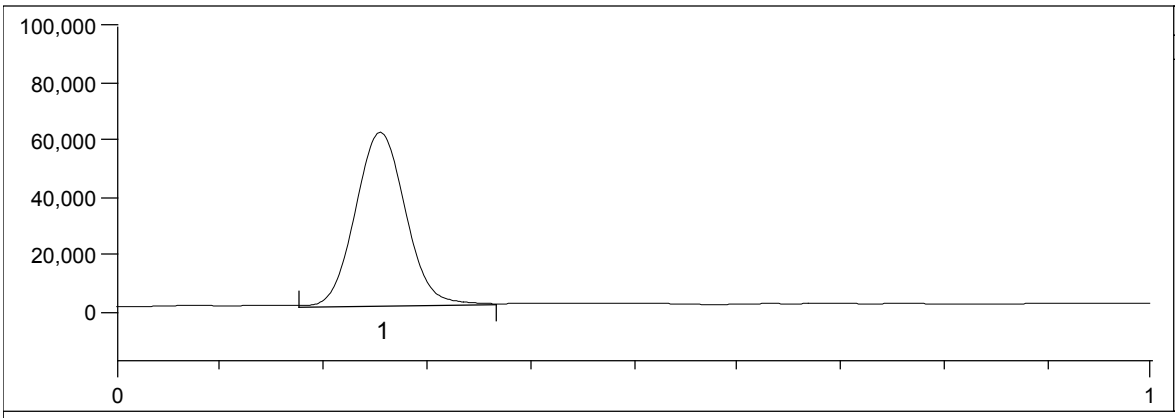
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 11:30 AM

Peak	rt	Area
1	0.25	24,507

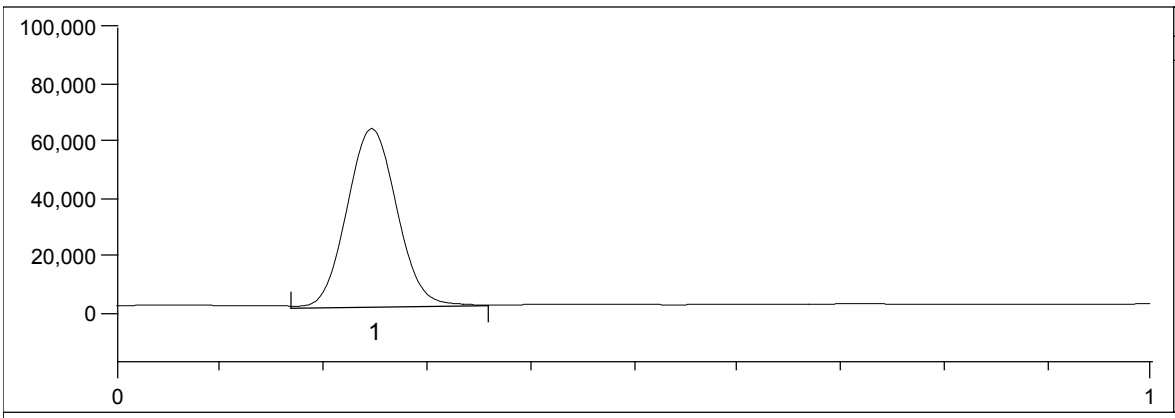
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
22		S	B181866-DUP1		1	24,507	0.127	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:34 AM

Peak	rt	Area
1	0.25	2,006,119

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
23		S	B181866-MS1		1	2,006,119	10.4	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 11:38 AM

Peak	rt	Area
1	0.24	2,052,498

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
24		S	B181866-MSD1		1	2,052,498	10.7	0.00		< HS	accept
Notes											

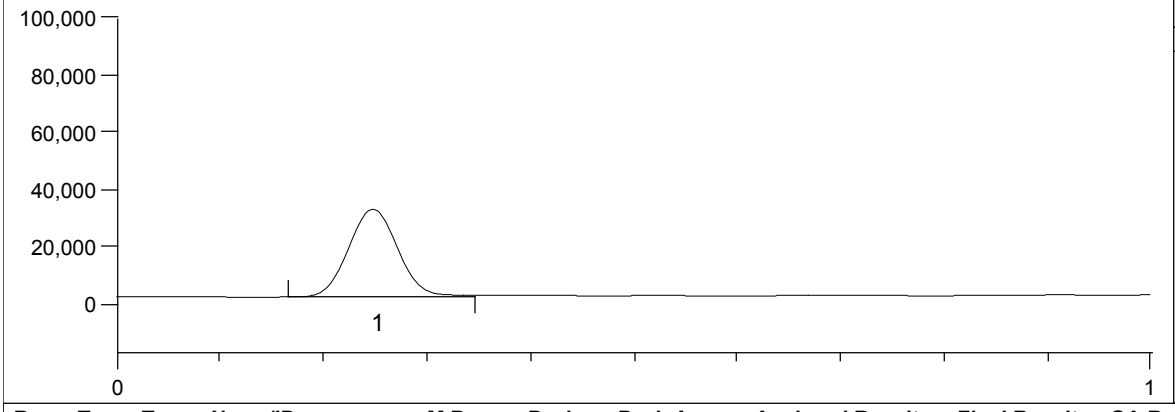
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

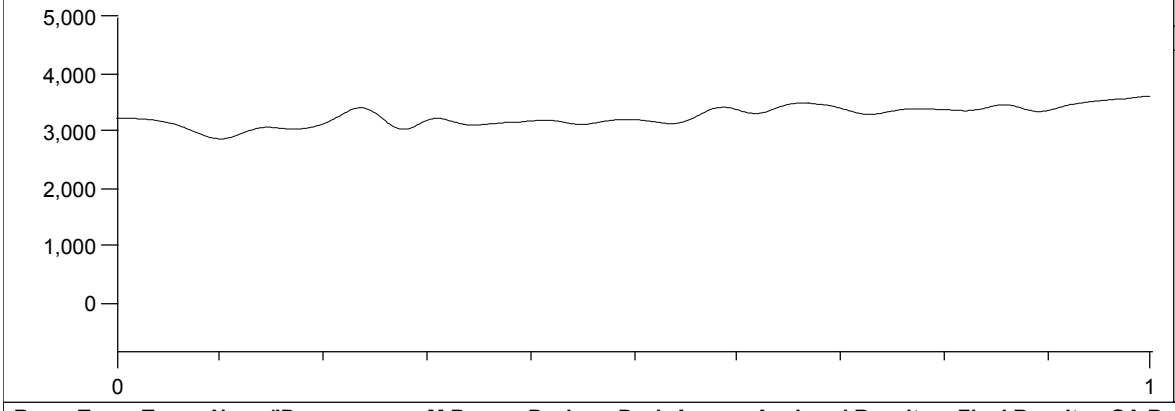
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 11:42 AM

Peak	rt	Area
1	0.24	991,561

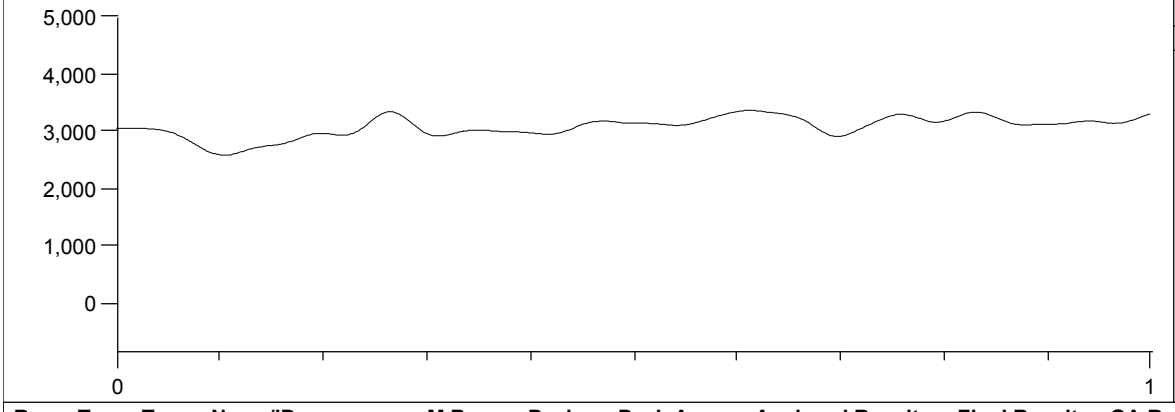
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
25		OPR	SEQ-CCV		1	991,561	5.16		103	80-120	accept
Notes											



Date: 7/27/18
Time: 11:45 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
26		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											



Date: 7/27/18
Time: 11:49 AM

Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
27		S	B181797-BLK1			0	0.00	0.00		< HS	accept
Notes											

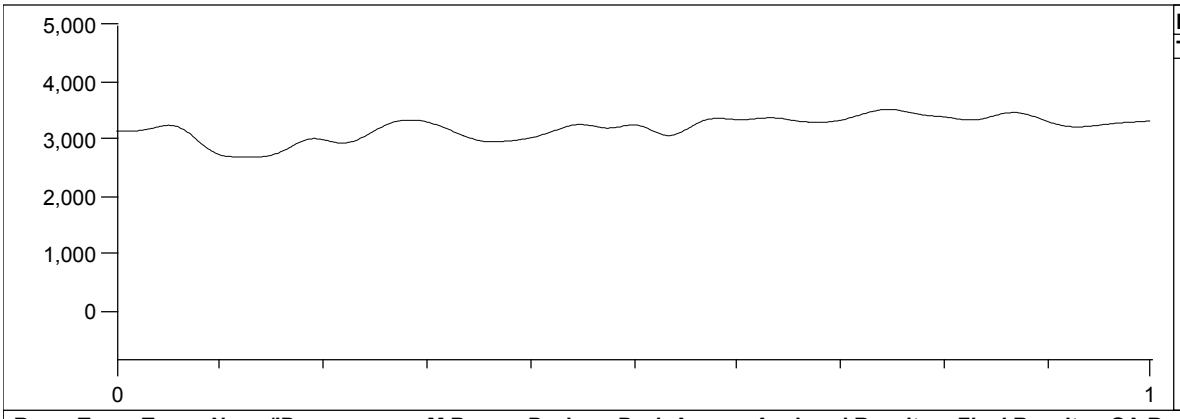
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

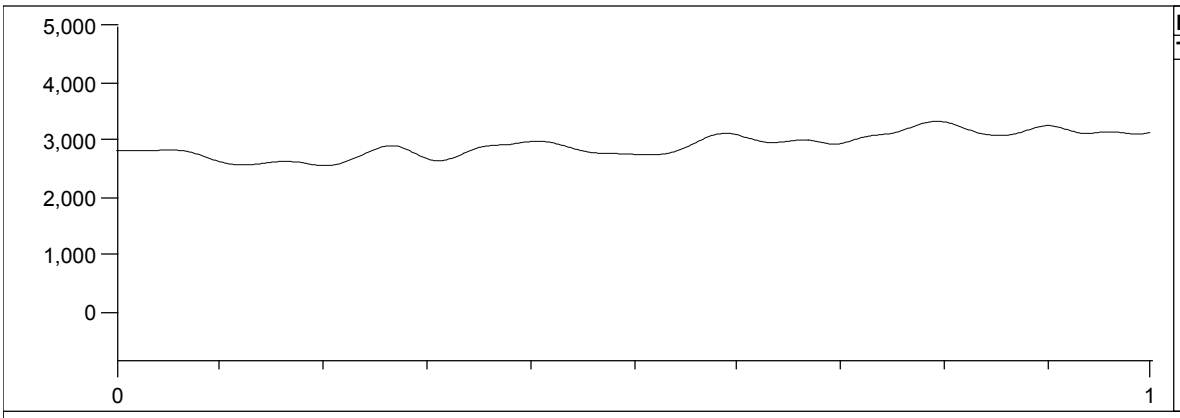
Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

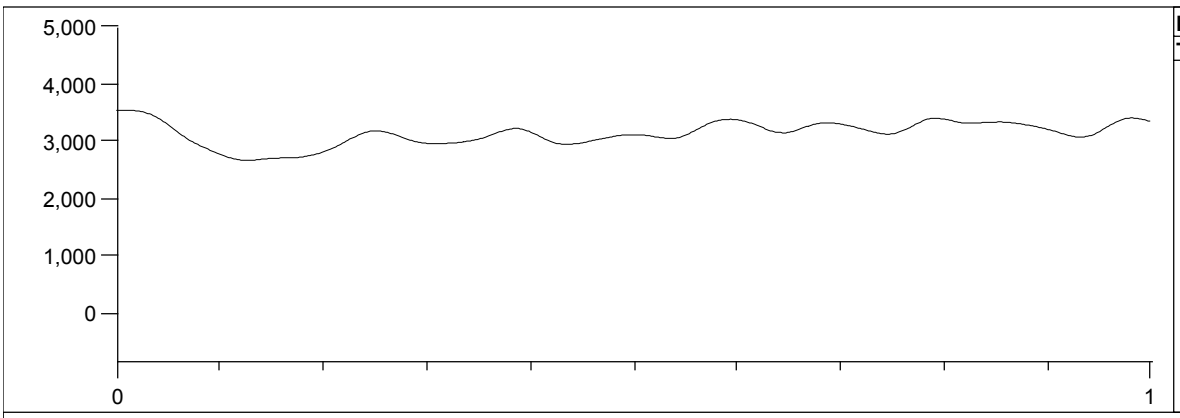
Date Analyzed: 7/27/18
Analyst Name: JRM



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
28		S	B181797-BLK2			0	0.00	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
29		S	B181797-BLK3			0	0.00	0.00		< HS	accept
Notes											



Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
30		S	B181797-BLK4			0	0.00	0.00		< HS	accept
Notes											

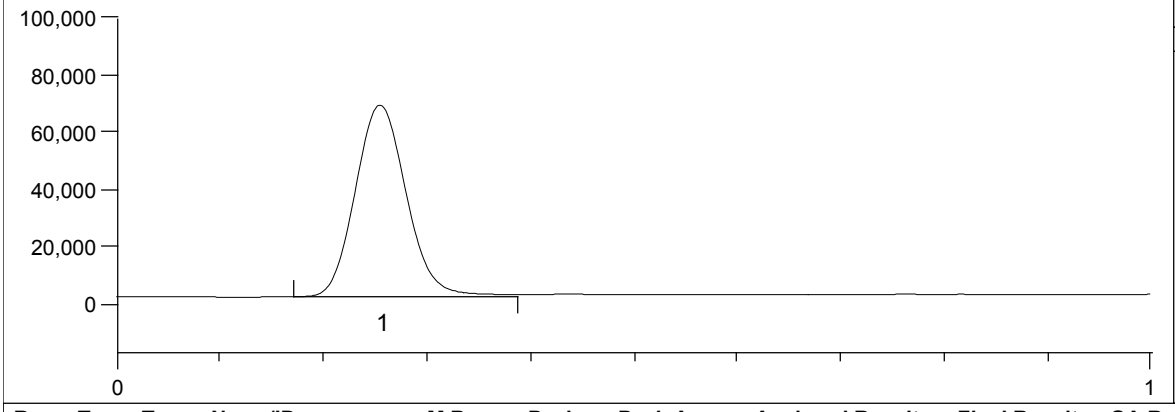
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

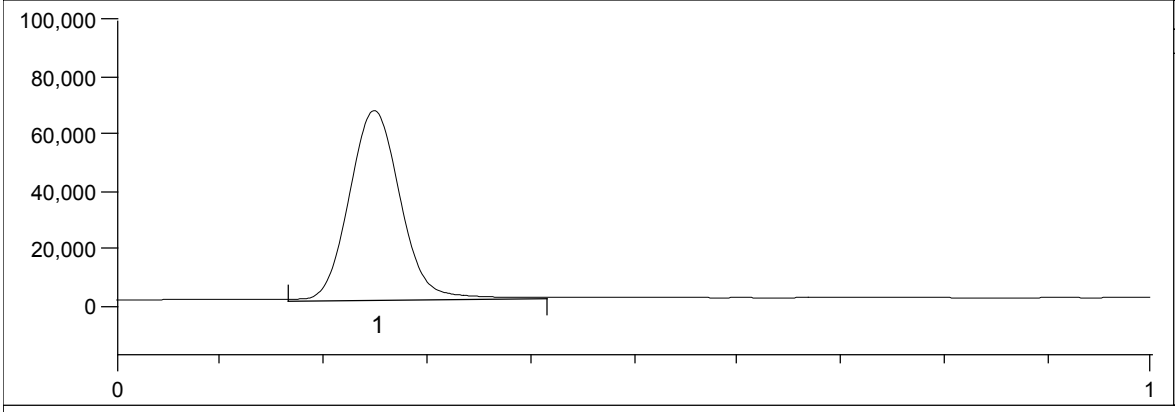
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 1:09 PM

Peak	rt	Area
1	0.25	2,260,255

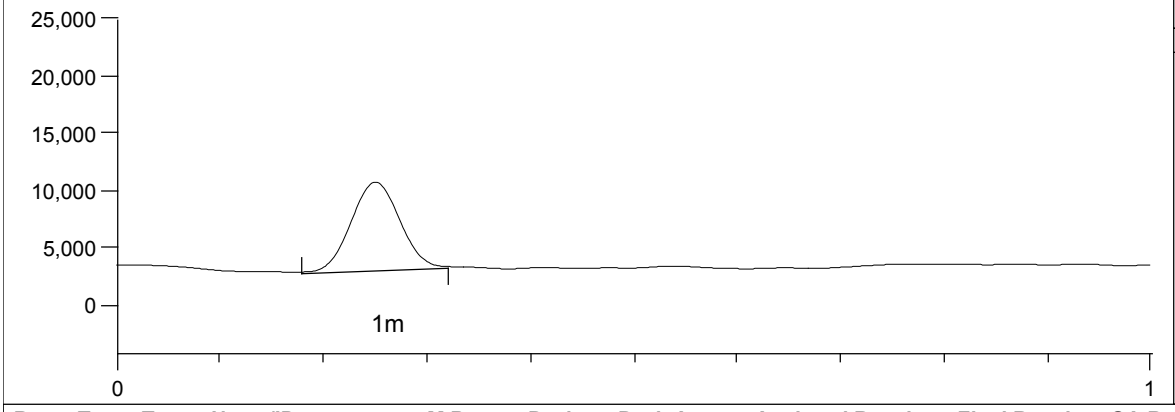
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
31		S	B181797-BS1		1	2,260,255	11.8	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:13 PM

Peak	rt	Area
1	0.24	2,223,589

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
32		S	B181797-BS2		1	2,223,589	11.6	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:16 PM

Peak	rt	Area
1m	0.25	246,291

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
33		S	B181797-MRL1		1m	246,291	1.28	0.00		< HS	accept
Notes											

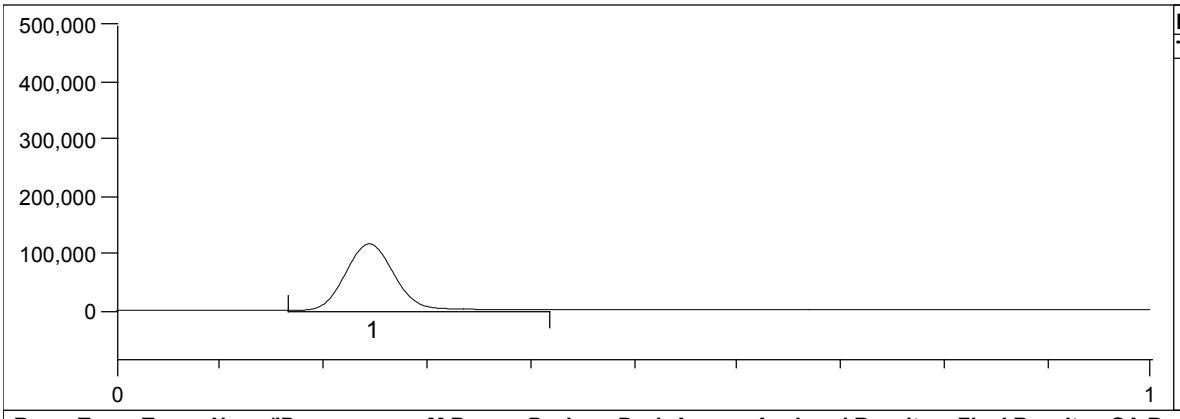
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

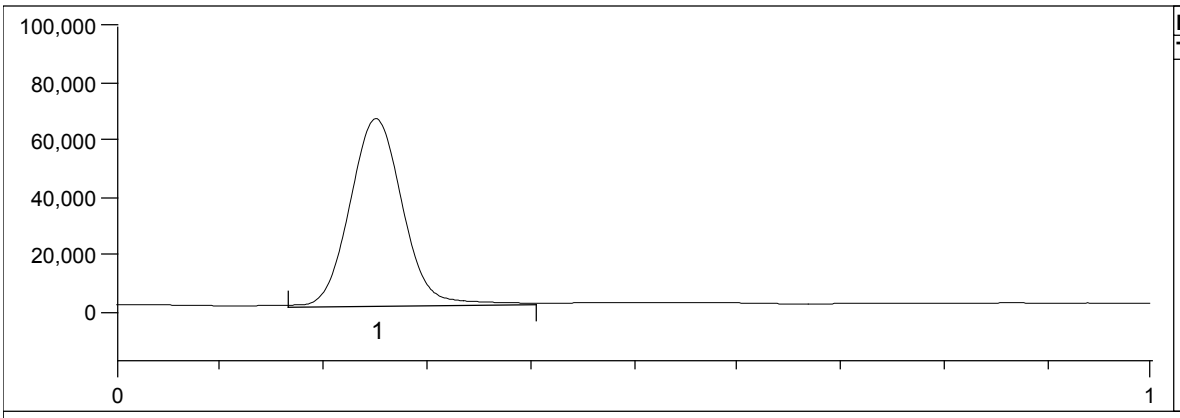
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 1:20 PM

Peak	rt	Area
1	0.24	3,785,770

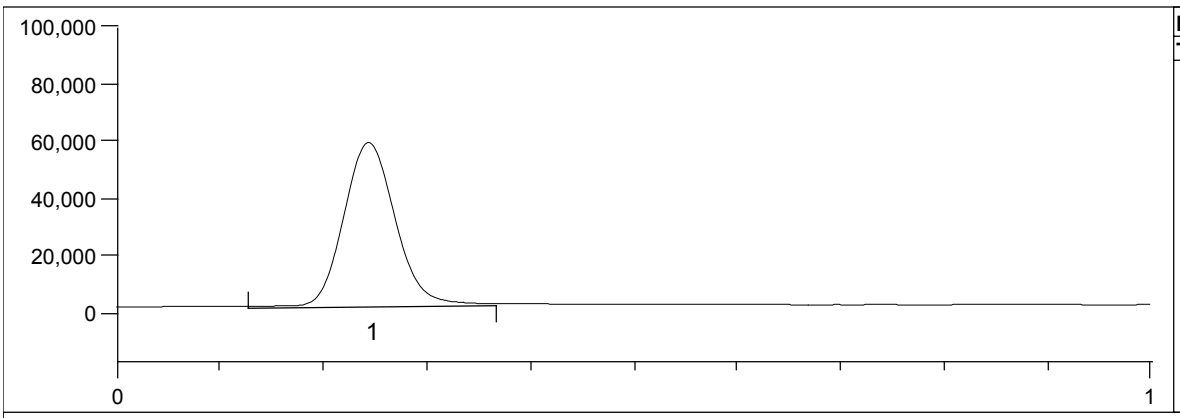
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
34		S	1828027-01		1	3,785,770	19.7	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:24 PM

Peak	rt	Area
1	0.25	2,252,411

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
35		S	1828027-02		1	2,252,411	11.7	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:31 PM

Peak	rt	Area
1	0.24	1,942,214

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
36		S	1828027-03		1	1,942,214	10.1	0.00		< HS	accept
Notes											

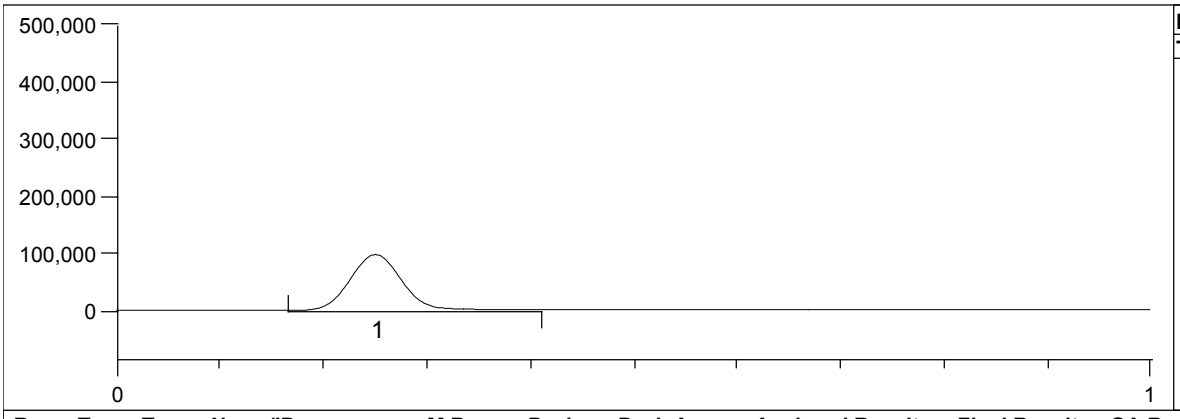
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

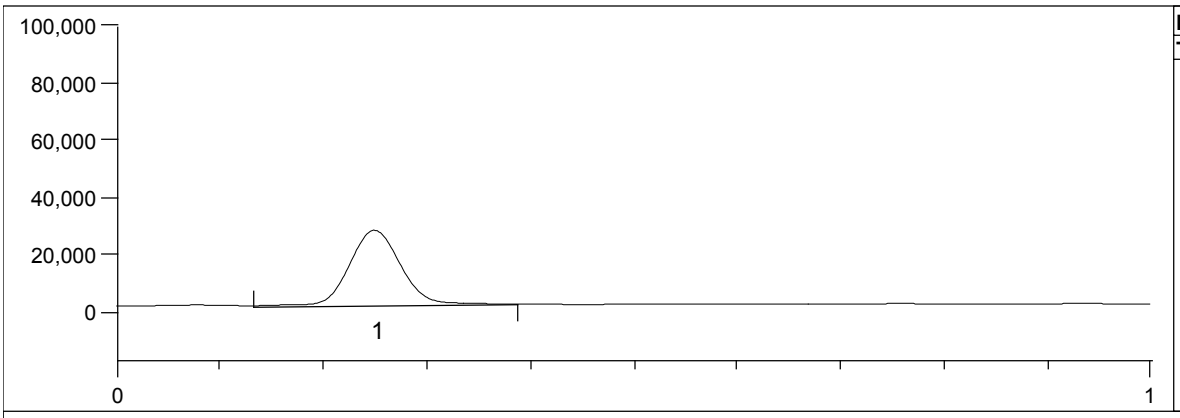
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 1:35 PM

Peak	rt	Area
1	0.25	3,327,356

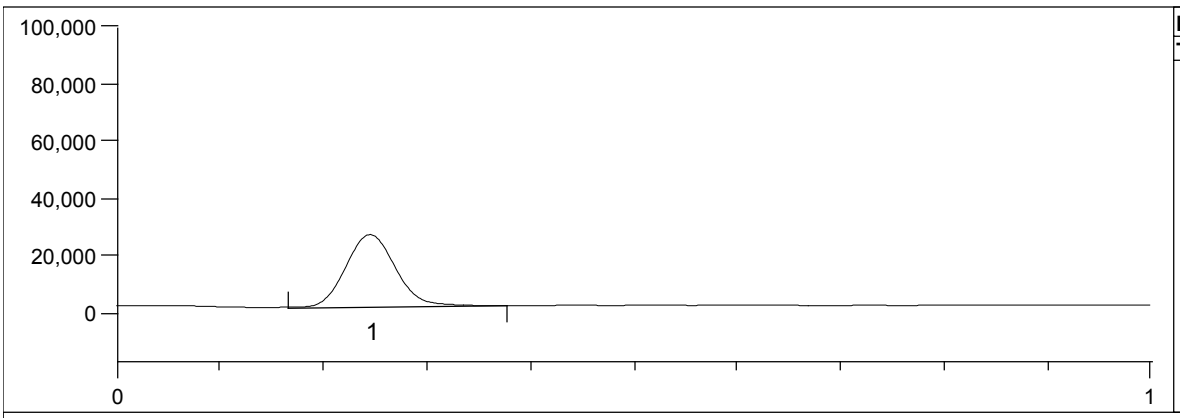
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
37		S	1828027-04		1	3,327,356	17.3	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:48 PM

Peak	rt	Area
1	0.24	892,352

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
38		S	1828027-05		1	892,352	4.64	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 1:52 PM

Peak	rt	Area
1	0.24	844,709

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
39		S	1828027-05RE1		1	844,709	4.39	0.00		< HS	accept
Notes											

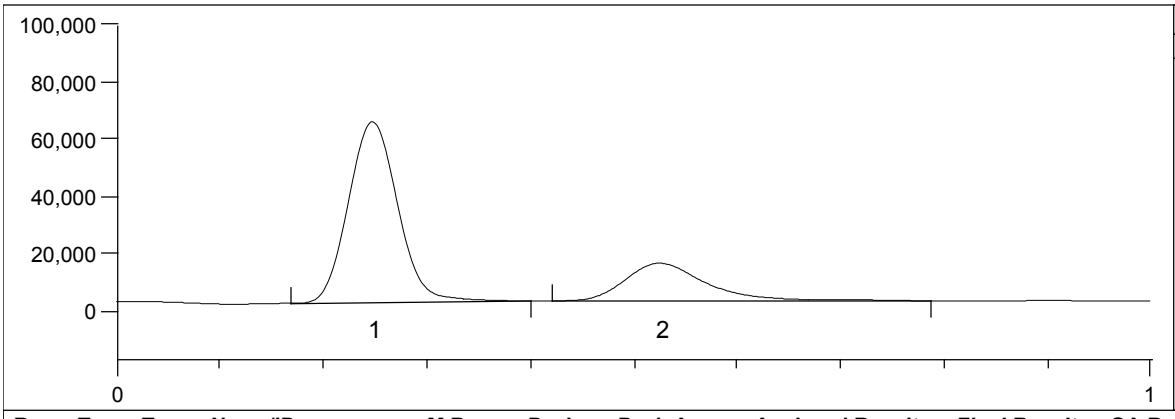
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

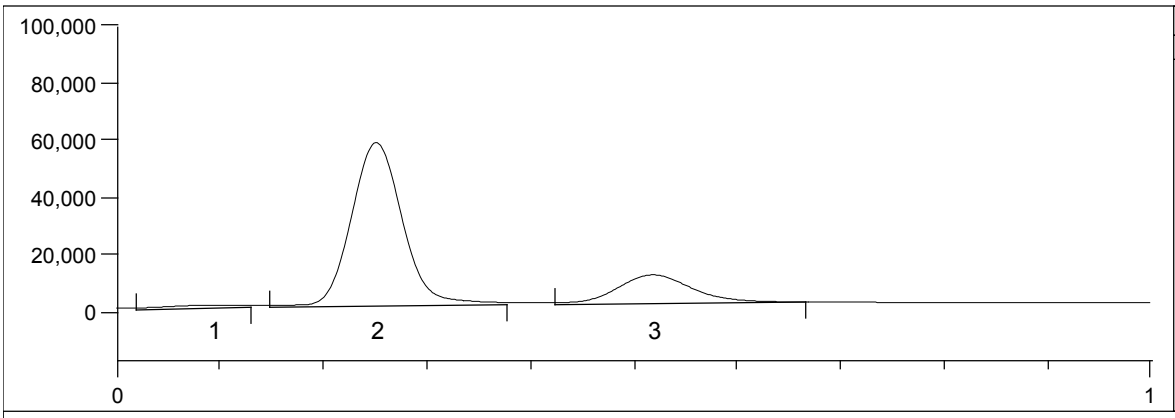
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 1:56 PM

Peak	rt	Area
1	0.24	2,100,535
2	0.52	717,612

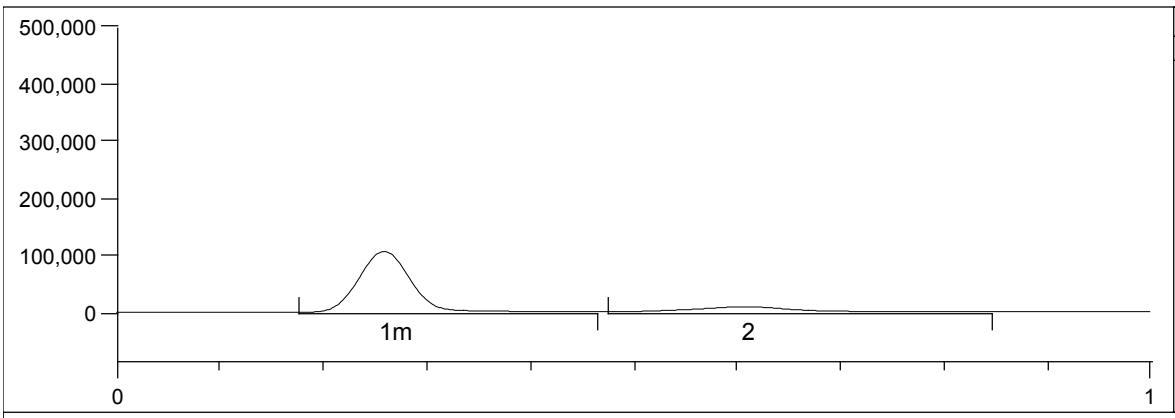
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
40		S	1828027-18		1	2,100,535	10.9	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:00 PM

Peak	rt	Area
1	0.09	15,768
2	0.25	1,889,667
3	0.52	472,148

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
41		S	B181797-DUP1		2	1,889,667	9.83	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:03 PM

Peak	rt	Area
1m	0.26	3,686,821
2	0.60	543,576

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
42		S	B181797-MS1		1m	3,686,821	19.2	0.00		< HS	accept
Notes											

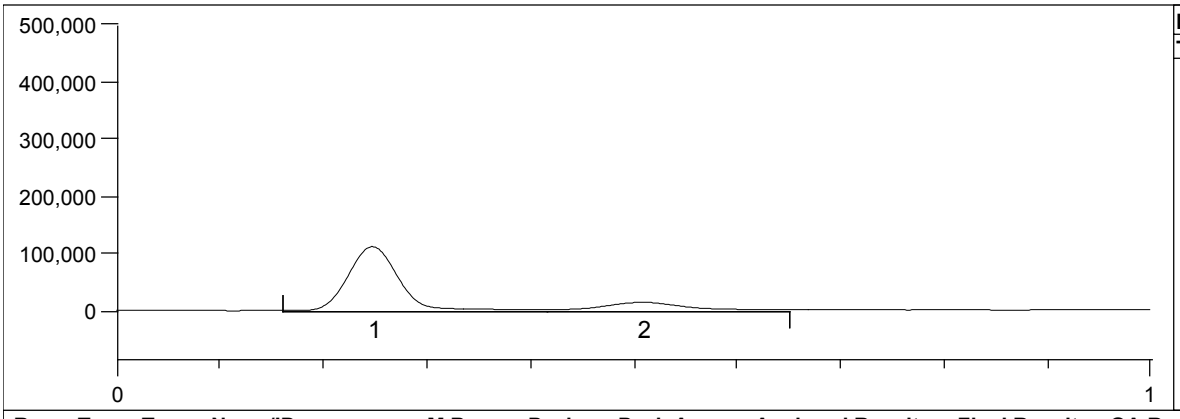
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

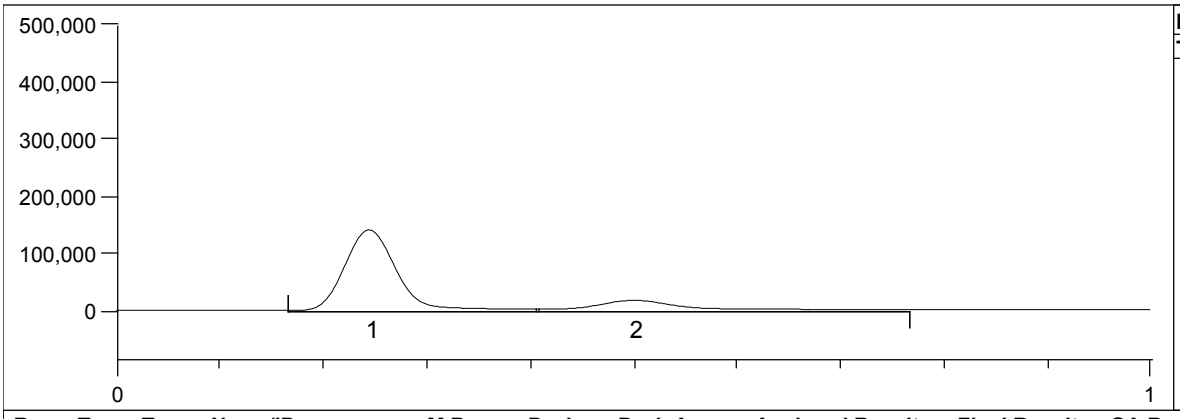
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 2:07 PM

Peak	rt	Area
1	0.24	3,733,570
2	0.51	676,141

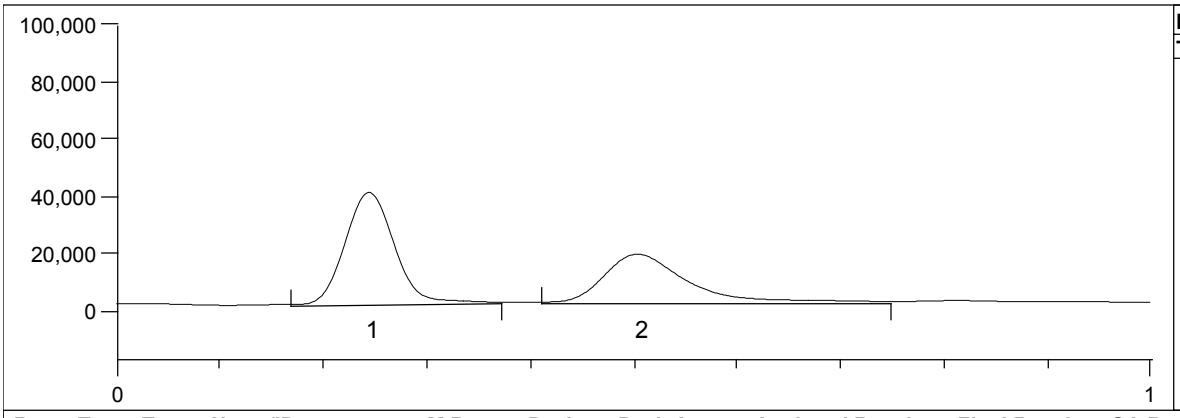
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
43		S	B181797-MSD1		1	3,733,570	19.4	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:11 PM

Peak	rt	Area
1	0.24	4,837,137
2	0.50	893,274

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
44		S	B181797-PS1		1	4,837,137	25.2	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:16 PM

Peak	rt	Area
1	0.24	1,266,354
2	0.50	885,563

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
45		S	1828027-19		1	1,266,354	6.58	0.00		< HS	accept
Notes											

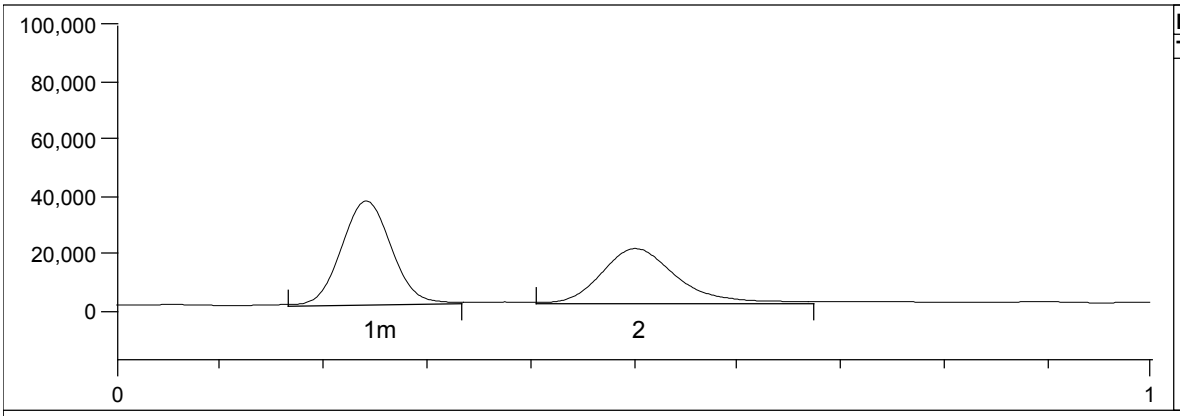
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

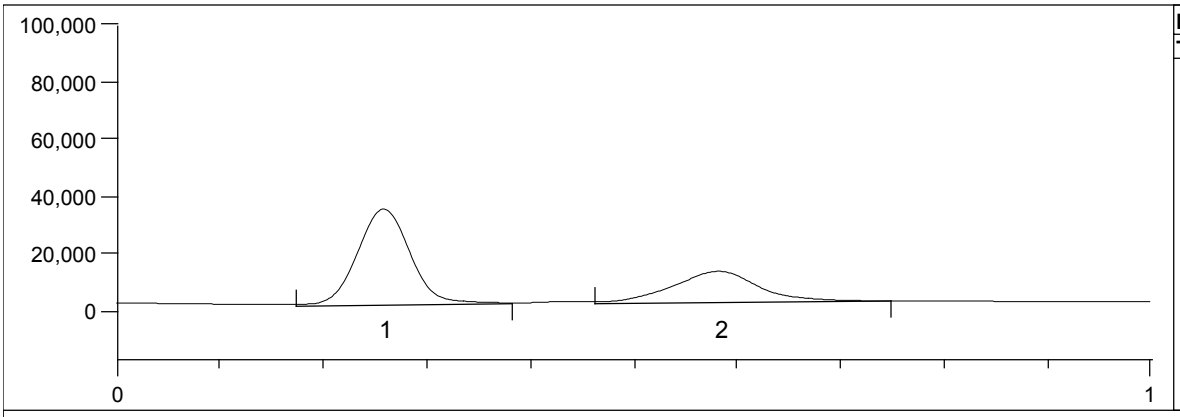
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 2:20 PM

Peak	rt	Area
1m	0.24	1,184,641
2	0.50	904,733

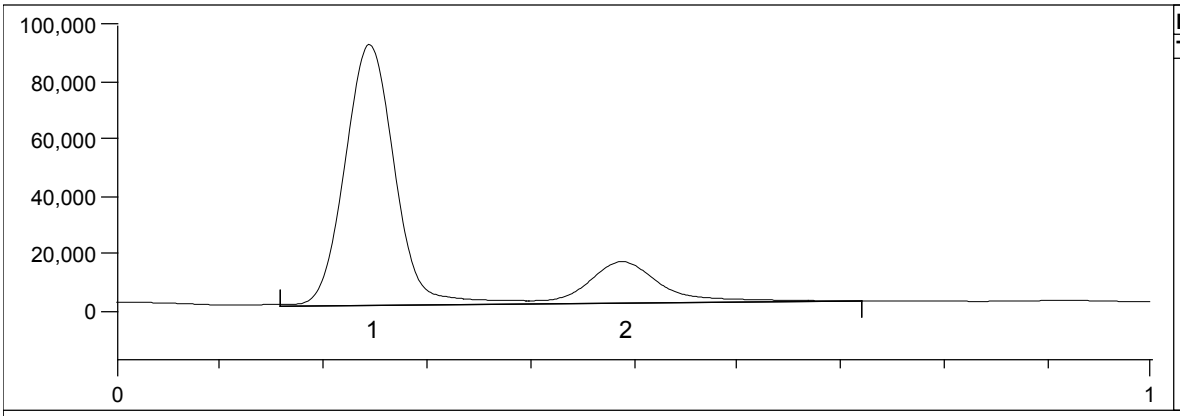
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
46		S	1828027-20		1m	1,184,641	6.16	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:23 PM

Peak	rt	Area
1	0.26	1,147,490
2	0.58	592,163

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
47		S	B181797-DUP2		1	1,147,490	5.97	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:27 PM

Peak	rt	Area
1	0.24	3,002,609
2	0.48	688,097

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
48		S	B181797-MS2		1	3,002,609	15.6	0.00		< HS	accept
Notes											

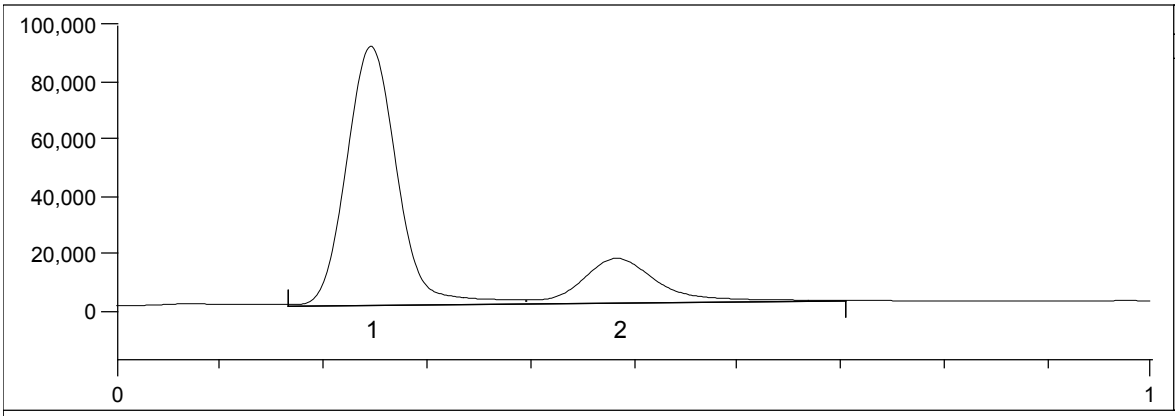
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

Project Number(s): 1801002
Instrument ID: HGAAS-2

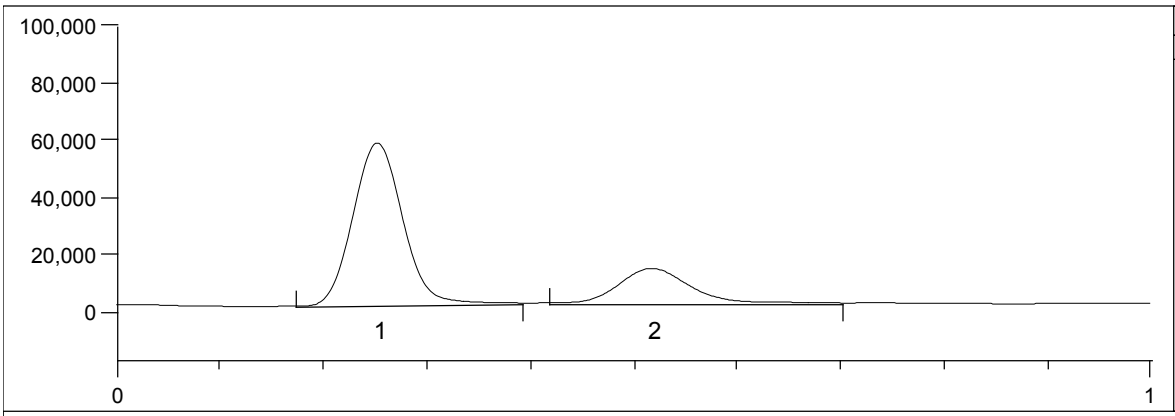
Date Analyzed: 7/27/18
Analyst Name: JRM



Date: 7/27/18
Time: 2:31 PM

Peak	rt	Area
1	0.24	3,032,720
2	0.48	765,636

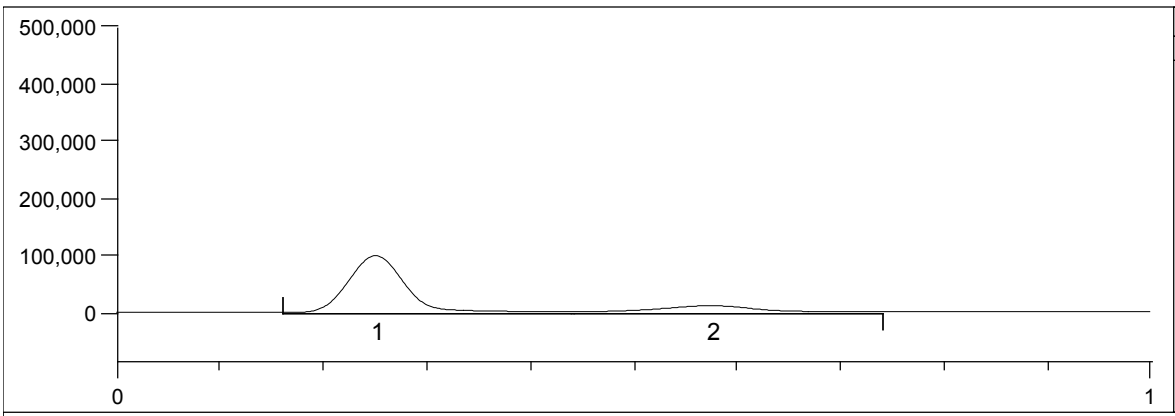
Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
49		S	B181797-MSD2		1	3,032,720	15.8	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:35 PM

Peak	rt	Area
1	0.25	1,886,298
2	0.51	556,598

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
50		S	1828027-21		1	1,886,298	9.81	0.00		< HS	accept
Notes											



Date: 7/27/18
Time: 2:39 PM

Peak	rt	Area
1	0.25	3,721,901
2	0.57	691,814

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
51		S	1828027-22		1	3,721,901	19.4	0.00		< HS	accept
Notes											

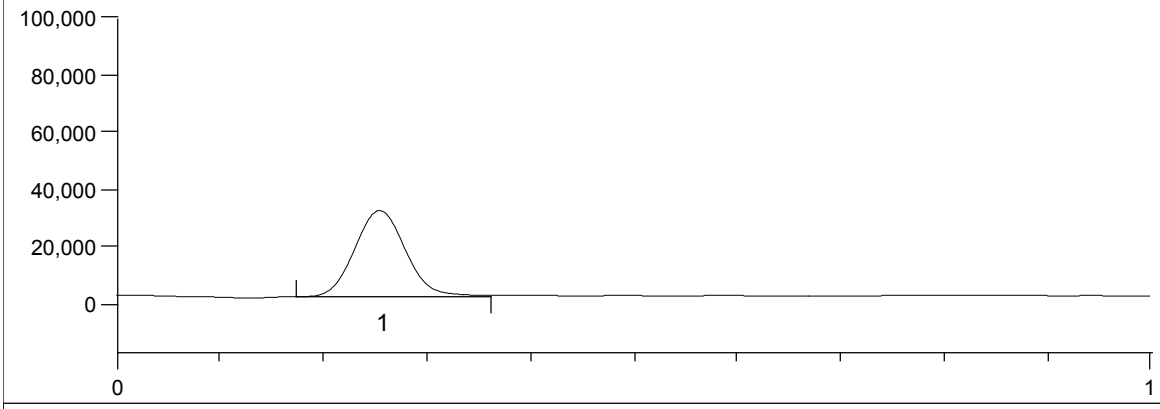
Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC

Peak Report

Batch Number: B181866, 1797
Method Number: BAL-3300

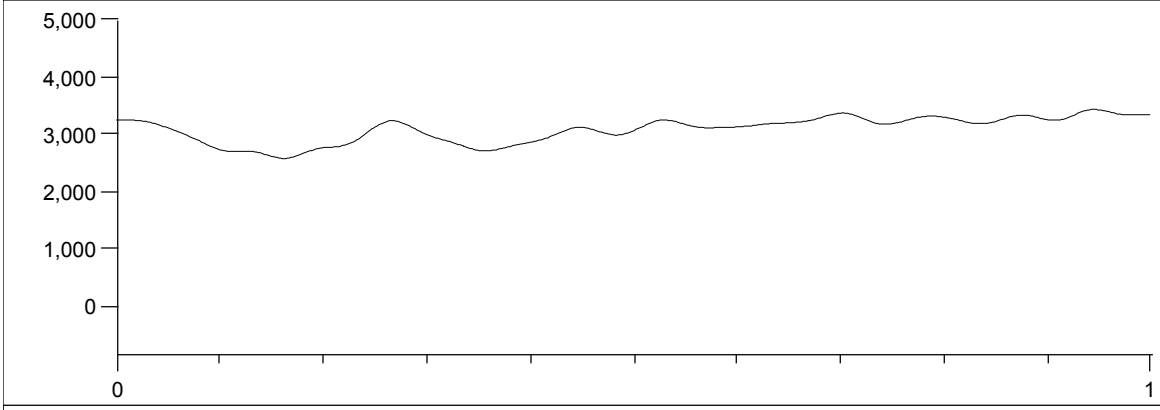
Project Number(s): 1801002
Instrument ID: HGAAS-2

Date Analyzed: 7/27/18
Analyst Name: JRM



Date:	7/27/18	
Time:	2:42 PM	
Peak	rt	Area
1	0.25	1,009,991

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
52		OPR	SEQ-CCV		1	1,009,991	5.25		105	80-120	accept
Notes											



Date:	7/27/18	
Time:	2:46 PM	
Peak	rt	Area

Run	Trap	Type	Name/ID	M B	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
53		CCB	SEQ-CCB			0	0.00		0.00	< 0.4	accept
Notes											

Mercury Guru ver 4.6 © 1995-2011 Brooks Rand LLC